NASA CR-135257

SSS-R-78-3420

SOLAR ELECTRIC PROPULSION THRUSTER INTERACTIONS WITH SOLAR ARRAYS

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(NASA-CR-135257) SOLAR ELECTRIC PROPULSION THRUSTER INTERACTIONS WITH SOLAR ARRAYS Contractor Report, Jul. 1976 - Jul. 1977 (Systems Science and Software) 258 p HC A12/MF A01 CSCL 21C G3/20

N78-13122

Unclas 53643

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SYSTEMS, SCIENCE AND SOFTWARE

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NASA LEWIS RESEARCH CENTER

CONTRACT NAS 3-20119

1. Report No	2. Government Accession No	3. Recipient's Catalog No
NASA CR-135257		

4. Title and Subtitle	5. Report Date
SOLAR ELECTRIC PROPULSION THRUSTER INTERACTIONS WITH SOLAR ARRAYS	August 1977
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
Donald E. Parks and Ira Katz	SSS-R-78-3420
9. Performing Organization Name and Address	10. Work Unit No.
Systems, Science and Software P. O. Box 1620 La Jolla, California 92038	YOS 7278
	11. Contract or Grant No.
	NAS 3-20119
12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
National Aeronautics and Space Administration Lewis Research Center Cleveland, Ohio 44135	Contractor Report July 1976 - July 1977
	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

This study investigates the effect of interactions of spacecraft-generated and naturally occurring plasmas with high voltage solar array components on an advanced Solar Electric Propulsion system proposed for the Halley's Comet rendezvous mission. The spacecraft-generated plasma consists of mercury ions and neutralizing electrons resulting from the operation of ion thrusters (the charge-exchange plasma) and associated hollow cathode neutralizers. Quantitative results are given for the parasitic currents and power coupled into solar arrays with voltage fixed as a function of position on the array.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Solar electric propulsion Thruster-solar array interactions Spacecraft-generated plasmas	Publicly Available

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price*
Unclassified	Unclassified	264	

* For sale by the National Technical Information Service, Springfield, Virginia 22161

NASA-C-168 (Rev. 10-75)

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SUMMARY

The purpose of this report is to assess the effect of interactions of spacecraft-generated and naturally occurring plasmas with high voltage solar array components on the performance of an advanced Solar Electric Propulsion system proposed for the Halley's Comet rendezvous mission. The spacecraft-generated plasma consists of mercury ions and neutralizing electrons resulting from the operation of ion thrusters and associated hollow cathode neutralizers. The natural environment of interest is the interplanetary medium, beyond the earth's magnetosphere, extending from approximately 0.65 AU to 4.5 AU.

Because large areas of the solar array are at high potential and not completely insulated from the surrounding plasma, the array can, under some conditions, collect excessive electron currents and degrade the power delivery capability of the SEP system.

The principle parts of the problems of assessment of the effect of spacecraft-generated plasmas are (1) the determination of the rate of production of plasma, (2) the quantitative description of the plasma as it expands away from the space region within which it is generated, and (3) the rate at which solar array components extract current from the plasma.

An analytical model of the interaction of the plasma and solar array is developed and applied to a quantitative assessment of a high voltage direct drive SEP system and to a conventional low voltage SEP system which employs reflectors to concentrate the solar radiation incident on the array.

The present calculations extend previous theories by considering that the voltage along the array varies with position, rather than having a single value, and by

introducing a model of plasma transport which permits wide departures from spherically symmetric expansion of the plasma cloud. In making estimates the voltage distribution on the solar panels is considered to be fixed; that is, the panel voltages are assumed not to shift as a result of collection of charged particles. The same assumption has been made in previous theoretical studies.

For direct drive systems one concludes that the total parasitic current passing through the low voltage end of the array is comparable in all uninsulated cases with the total beam current. The results suggest that the parasitic plasma currents may substantially impact the capability of the array to deliver the high voltage required to accelerate the thruster ions. The results also indicate that the adverse impact of parasitic currents is substantially reduced by insulating the low voltage ($\leq$ 500 volts) portions of the array, which are near the thruster assembly and are therefore exposed to the highest plasma current densities, and by reducing the charge exchange and neutralizer plasma generation rates. Implicit in the use of insulation is the assumption that abnormally large pinhole currents observed at high potentials do not persist below about 500 volts.

The results for the concentrator/conventional system involve extreme assumptions, and in the context of our model for the spacecraft-generated plasma, represent an extreme worst case. Even so, the parasitic currents collected and the so-called power/array are a small fraction of the beam power and beam current, respectively.

Parasitic currents arising from the interplanetary environment have a negligible impact on the performance of SEP systems. This conclusion however does not relate to the possible degradation of materials that may result from exposure to that environment.

1. INTRODUCTION

The purpose of this report is to assess the effect of interactions of spacecraft-generated and naturally occurring plasmas with high voltage solar array components on the performance of an advanced Solar Electric Propulsion system proposed for the Halley's Comet rendezvous mission. The spacecraft-generated plasma consists of mercury ions and neutralizing electrons resulting from the operation of ion thrusters and associated hollow cathode neutralizers. The natural environment of interest is the interplanetary medium, beyond the earth's magnetosphere, extending from approximately 0.65 AU to 4.5 AU.

The problems associated with the interaction of spacecraft-generated plasmas and high voltage solar arrays have been studied by Kaufman.[1] Because large areas of the solar array are at high potential and not completely insulated from the surrounding plasma, the array can, under some conditions, collect excessive electron currents and degrade the power delivery capability of the SEP system.

The principle parts of the problems of assessment of the effect of spacecraft-generated plasmas are (1) the determination of the rate of production of plasma, (2) the quantitative description of the plasma as it expands away from the space region within which it is generated, and (3) the rate at which solar array components extract current from the plasma.

The rate of generation of the charge-exchange ions has been studied theoretically by Poeschel, Hawthorne, et al. at the Hughes Research Laboratories,[2] as well as by Kaufman.[1] In particular, the results of Poeschel, et al. on charge exchange and neutralizer plasma production rates, were used as input for our calculation of the interactions

between thruster plasmas and solar arrays. Komatsu and Sellen,[3] having conducted extensive studies of charge-exchange plasma production and expansion from a thruster operating in a 5 ft x 11 ft chamber, assert that their results appear to confirm analytical models of charge-exchange ion production. Measurements of electron density are within a factor of two of the densities estimated from simple analytical models of plasma expansion.[1] The measurements however extend only over a small region located at about two thruster radii from the axis of the ion beam. Limited facility dimensions preclude firm conclusions regarding the density of charge-exchange plasma at large distances from the thruster and its interaction with long ($\sim$60 m) solar arrays.

Detailed studies of electron collection by a complex but small (1 ft^2) solar array have been conducted in a ground test facility by Kennerud.[4] The measurements were made for a solar panel with bare interconnectors exposed to plasmas with electron densities ranging up to about $10^4/cm^3$. For positive bias potentials ranging up to 10^4 volts, measured plasma leakage current was within a factor of three of predictions made by Kennerud on the basis of extensions of simple electrostatic probe theories.

It appears that the aforementioned studies have provided a basis for predicting the interaction of spacecraft-generated plasmas with high voltage solar arrays. Based on the preceding discussion, it also appears however that the status of theory and experiment does not justify complete confidence in predictions of the parasitic currents to large solar arrays and the effect of these currents on the power generated by such arrays.

In view of the limitations inherent in both theory and experiment, we have undertaken not only to estimate the

effects of spacecraft-generated plasmas on solar array performance but also to explore the sensitivity of our estimates to the parameters which characterize these plasmas. Estimates of the effect of parasitic currents from spacecraft-generated plasmas on the performance of SEP systems are given in Sections 5 and 6. The models invoked in Sections 3 and 4 to perform these estimates are simple variants of the models used by previously mentioned authors. Section 7 considers the effects of the natural environment on solar array performance.

The present calculations extend previous theories by considering that the voltage along the array varies with position, rather than having a single value, and by introducing a model of plasma transport which permits wide departures from spherically symmetric expansion of the plasma cloud. In making estimates the voltage distribution on the solar panels is considered to be fixed; that is, the panel voltages are assumed not to shift as a result of collection of charged particles. The same assumption has been made in previous theoretical studies.

2. STATEMENT OF THE PROBLEM

We consider a spacecraft configured as a direct drive planar array and shown schematically in Figure 2.1.[2] The x-y coordinate system is fixed in the plane of the solar array. The propulsion module can be rotated about the x-axis, which is directed along the long dimension of the array. Throughout most of the Halley's Comet rendezvous mission, the module is oriented such that the thruster ion beams are nearly parallel to the plane of the solar arrays; that is, are nearly parallel to the y-axis. Various orientations occur during the early part of the mission when the spacecraft is within about 1 astronomical unit from the sun. For present purposes we shall consider the ion beams as either parallel or perpendicular to the y-axis.

The spacecraft configuration proposed for the high voltage direct drive systems is adequately represented for our purposes by Figure 2.1. The conventional low voltage systems which employ reflectors to concentrate the solar radiation incident on the solar array are geometrically more complex than indicated in Figure 2.1 (see Figure 2.2). This added complexity however does not crucially impact the estimates of effects of parasitic currents on the performance of these low voltage systems.

The voltage distribution V(x) is taken to depend only on the position x along the array (it is independent of y). For the direct drive case, an array voltage reconfiguration is performed at 2.2 AU. The two voltage configurations for the direct drive case are given in Figures 2.3 and 2.4, including scale factors to determine voltage distribution as a function of heliocentric distance.[5] Figure 2.5 shows the voltage distribution for the concentrator/conventional (C/C) system.[5] The figures

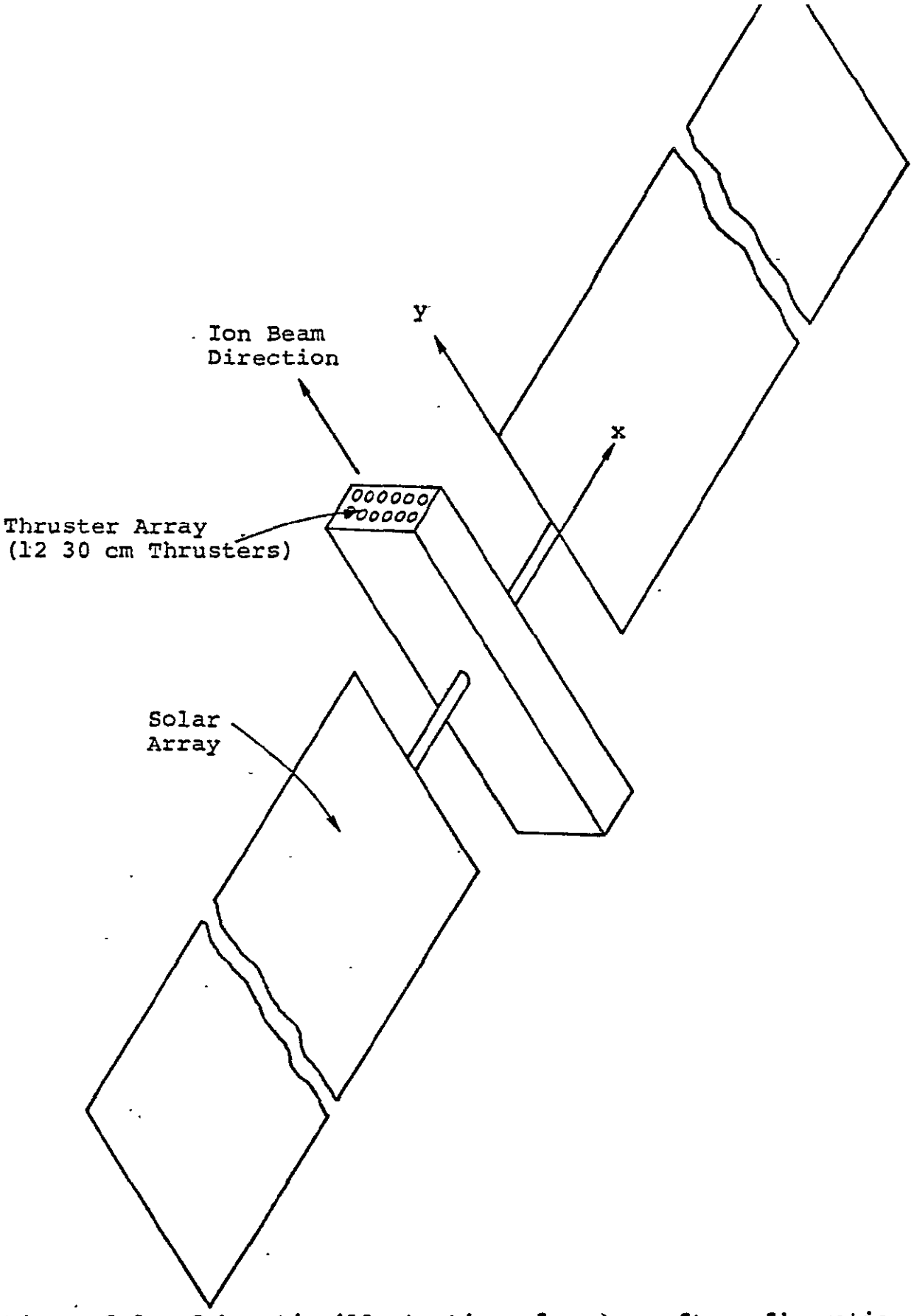


Figure 2.1. Schematic illustration of spacecraft configuration.

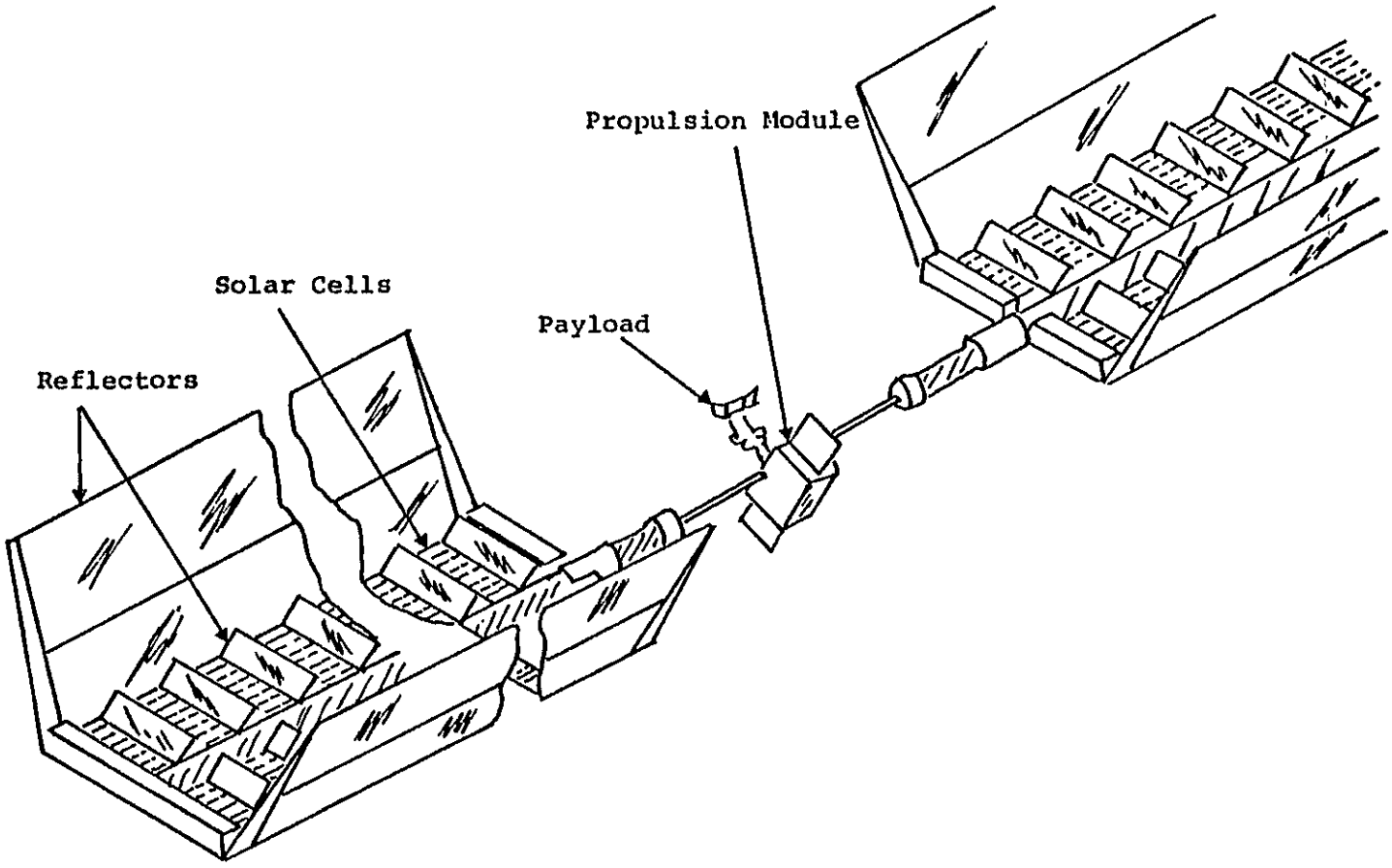
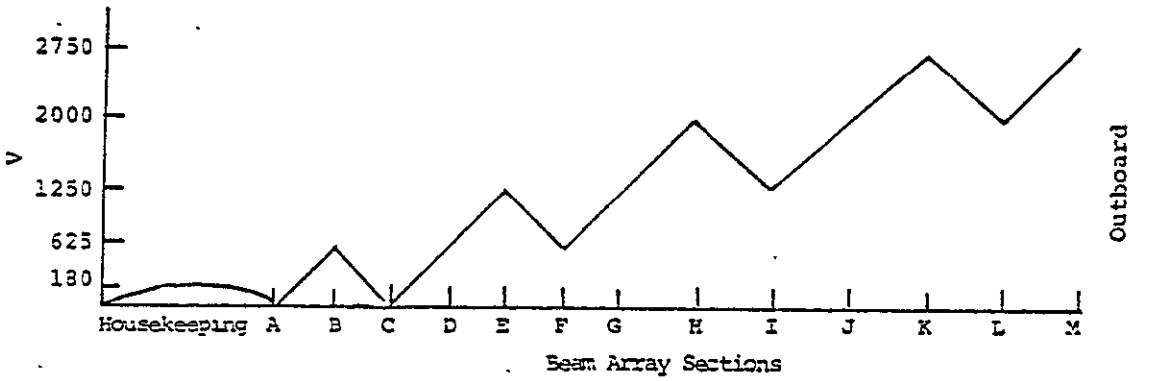


Figure 2.2. Solar electric propulsion with concentrating reflectors.

DIRECT DRIVE VOLTAGE DISTRIBUTION — CONFIGURATION I



Point	Distance* (m)	Point	Distance (m)	Point	Distance (m)
A	11.25	F	30.00	J	47.25
B	15.00	G	33.75	K	51.75
C	18.75	H	38.25	L	56.25
D	22.50	I	42.75	M	60.75
E	26.25				

At 1.0 AU — 12 thrusters on; beam = 2.5 amps; voltages as above.

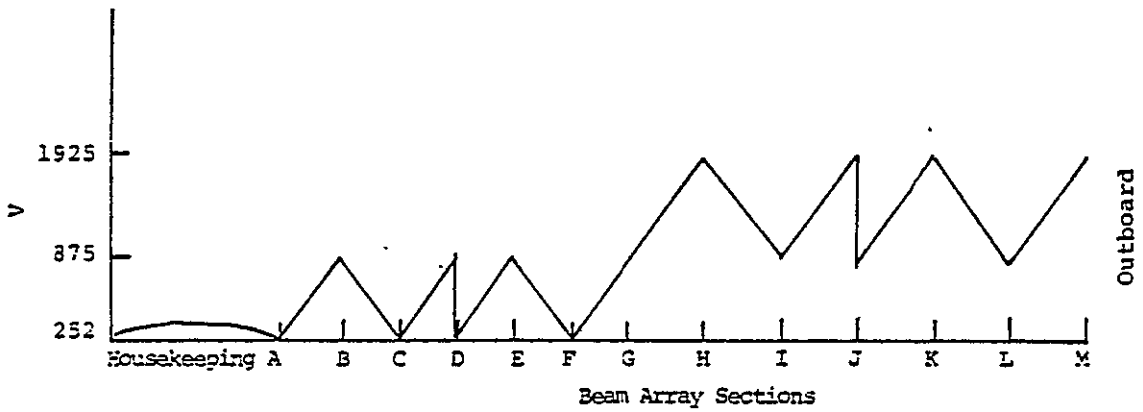
At 1.6 AU — 12 thrusters on; beam = 1.0 amps; 6 thrusters on; beam = 2.0 amps; voltage higher by factor of 1.25.

At 2.2 AU — 6 thrusters on; beam = 1.0 amps; voltages higher by factor of 1.4.

*From inboard end of array.

Figure 2.3. Direct drive voltage distribution — configuration I.

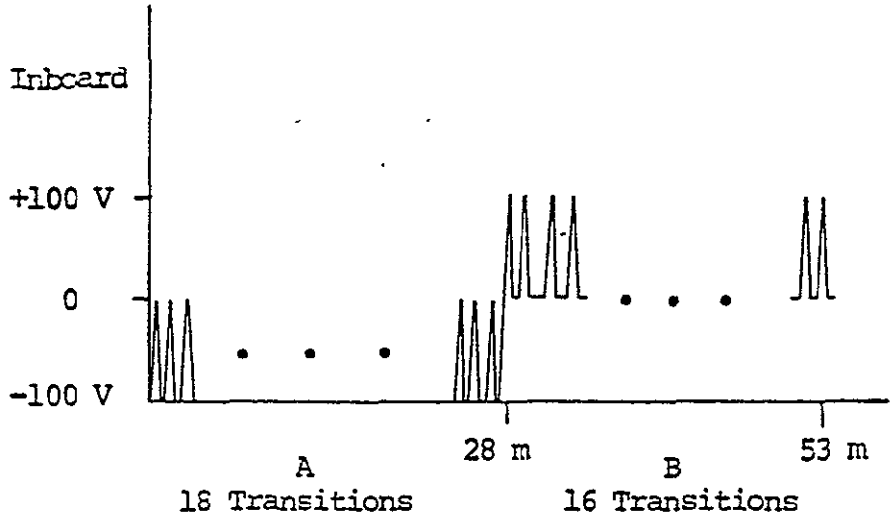
DIRECT DRIVE VOLTAGE DISTRIBUTION — CONFIGURATION II



At 2.2 AU	6 thrusters on; beam = 2.0 amps; voltages as above.
At 2.6 AU	6 thrusters on; beam = 1.33 amps; 4 thrusters on; beam = 2.0 amps; voltages higher by factor of 1.06.
At 3.4 AU	4 thrusters on; beam = 1.0 amps; 2 thrusters on; beam = 2.0 amps; voltages higher by factor of 1.14.
At 4.5 AU	2 thrusters on; beam = 1.25 amps; voltages higher by factor of 1.19.

Figure 2.4. Direct drive voltage distribution — configuration II.

CONCENTRATOR/CONVENTIONAL



Assumes reflectors are grounded at array center tap

		HOUSEKEEPING				THRUSTER				
AU	Thrusters	V_{OC} (V)	V_{MPP} (V)	I_{MPP} (A)	P (KW)	V_{OC} (V)	V_{MPP} (V)	I_{MPP} (A)	P (KW)	J_B (A)
1.0-1.8	8	133	100	16.5	1.65	240	200	133	26.6	2.0
2.1	8/6	146	122	11.5	1.4	292	243	92	22.4	1.5/2.0
2.6	6/4	164	136	7.9	1.08	327	272	63	17.2	1.33/2.0
3.8	4/2	200	167	3.4	0.56	400	334	26.7	8.9	1.0/2.0
4.4	2	210	175	2.6	0.45	420	350	20.4	7.2	1.6

Housekeeping occupies two inboard panels (two voltage transitions)

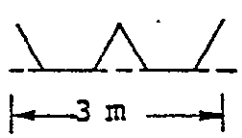


Figure 2.5. Concentrator/conventional voltage distribution.

also summarize assumed conditions of operation at various distances of the spacecraft from the sun.

Based on simple variants of previously referenced models of spacecraft-generated plasmas, we will estimate for the direct drive thrust system/flat solar array and conventional thrust/concentrator solar array

1. Parasitic currents collected by the array

and

2. Power coupled into the plasma for fixed array voltages.

The calculations assume that the voltage distribution on the array does not change as a result of current drawn from the plasma. Consequently the quantity designated in Section 5 as power coupled into the plasma does not accurately represent power loss as a result of parasitic currents; rather it is the power that would have to be supplied by extraneous means in order to maintain a constant voltage on the solar array. As pointed out by Kaufmann,[1] the power loss fractions can be substantially less than simply the fraction of array current that is collected from the plasma. It can also be substantially less than the power calculated on the assumption of fixed voltage distributions.

3. SPACECRAFT-GENERATED PLASMA

We determine the charge exchange plasma density in space from the plasma generation rate in the ion beam and the assumed manner in which the plasma expands. According to Poeschel, et al.[2] (see Figure 3.1), practically all of the charge exchange ions are produced within the first few tens of centimeters downstream from the thruster, and emerge from the ion beam with a predominantly radial drift velocity (perpendicular to the beam axis) corresponding to an energy of about 10 eV. The emerging charge exchange ions will also have velocity components parallel to the beam axis, caused either by the velocity distribution of neutrals or by the presence of small axial components of electric field. We denote the mean axial velocity by

$$v_z = \sqrt{\frac{8kT_n}{\pi M_n}} \tag{3.1}$$

where T_n and M_n are the effective temperature and mass of the neutral species. Accordingly, we assume that the charge exchange plasma spreads axially as it moves radially and for definiteness, we take the axial density profile at a given radial point to be Gaussian. The beam spreading becomes effective, however, only for radial distances $(r - r_{beam}) > (v_r/v_z)z_1$ sufficiently large compared to the axial dimension of the production volume (see Figure 3.2). Accordingly, the charge exchange plasma density is modeled as

$$n_x(r,z) = \frac{\dot{N}_x e^{-\frac{z^2}{\sigma^2}}}{2\pi^{3/2}\, r v_r \sigma} N_T \tag{3.2}$$

where N_T is the number of thrusters operating,

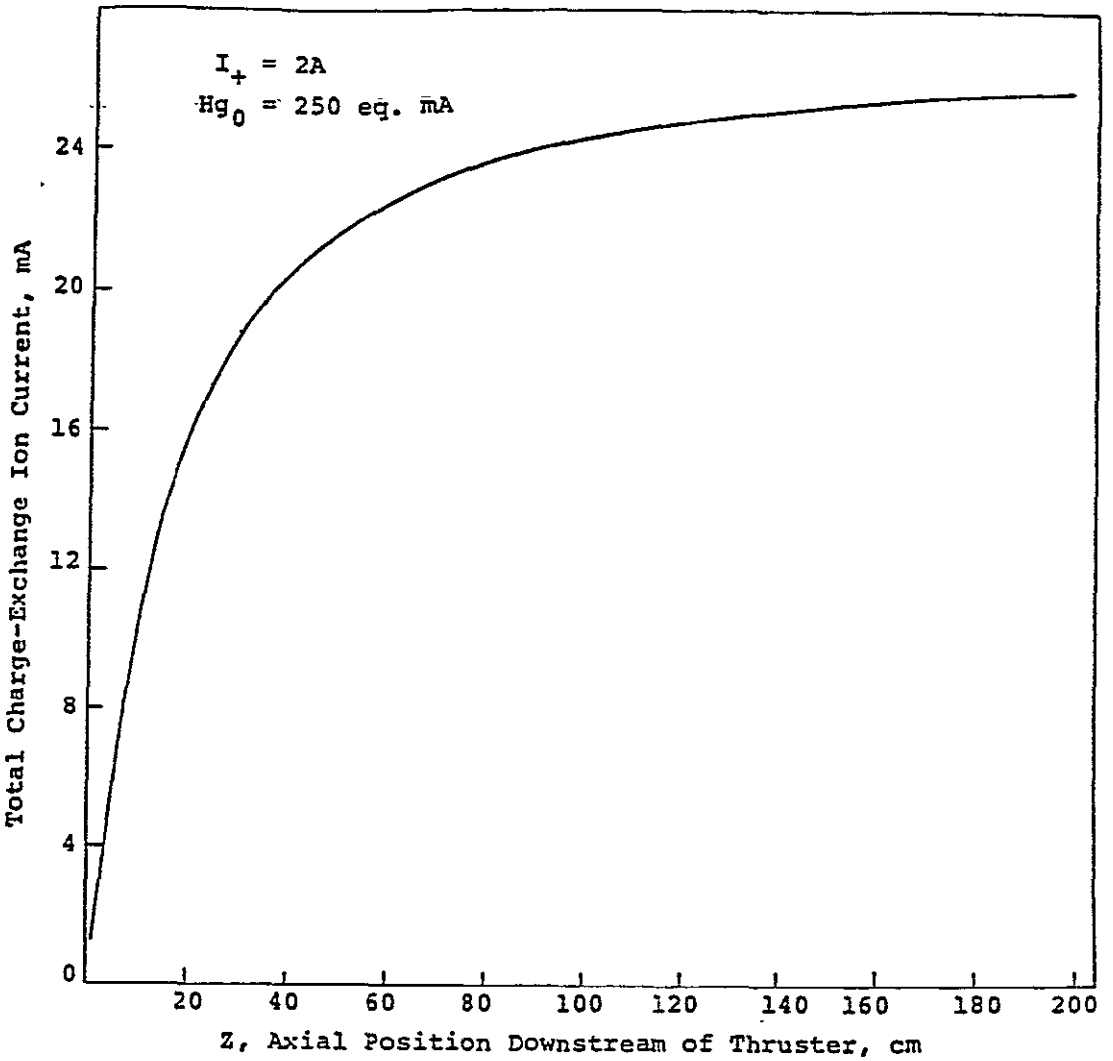


Figure 3.1. Total charge-exchange ion formation in interval from Z = 0 to distance Z downstream of a single thruster. Approximately ∿75 percent of the total charge-exchange ions generated are formed within a distance of one thruster diameter (30 cm) (from Reference 2).

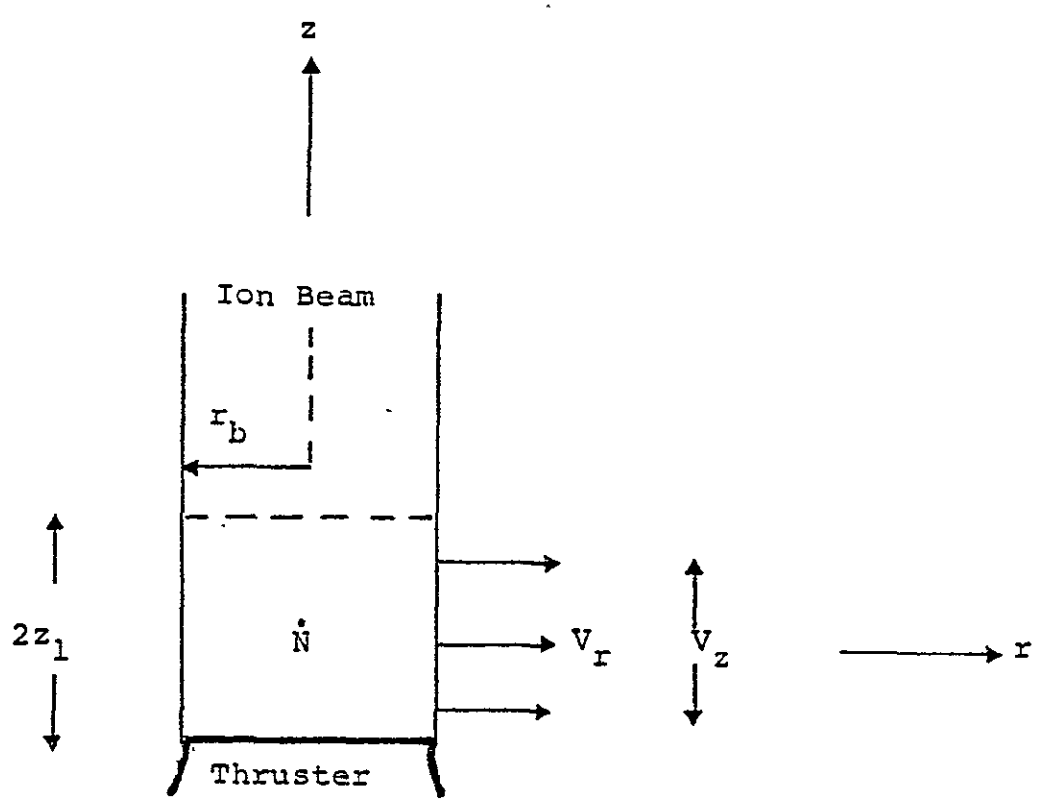


Figure 3.2. Geometry for modeling charge-exchange ion plasma.

$$\sigma = z_1 + (r - r_b) \frac{v_z}{v_r} \tag{3.3}$$

and $\dot{N}_x$ is the charge exchange ion production rate from one thruster.

The neutralizer also contributes plasma from which the array may draw electrons. We assume that this plasma expands spherically with a velocity given by the mean thermal velocity v_n of neutralizer ions and a total current ranging from about one to a few milliamperes.

$$n_n = \frac{\dot{N}_n}{4\pi R^2 v_n} N_T \tag{3.4}$$

where $R^2 = r^2 + z^2$.

Equations (3.2) and (3.3) assume that the total spacecraft-generated plasma density is proportional to the number of operating thrusters, an assumption which is valid for thrusters that are sufficiently far apart. Calculations performed at the Hughes Research Laboratories[2] indicate that about 75 percent of the total charge exchange ions generated by one thruster are formed within a downstream distance of one thruster diameter (30 cm). Here we consider a thruster array with centers separated by at least 60 cm, a separation large enough to justify neglecting effects of neutral efflux from one thruster passing through the ion beam of neighboring thrusters.

The calculations performed at HRL conclude that for a single thruster with an ion beam current of 2 amps, and a neutral mercury efflux of 250 ma equivalent, the total rate of charge-exchange ion production is 25 ma. Here we shall assume that $\dot{N}_x$ is proportional to beam current over the range (1 to 2.5 amps) of beam current of interest.

It is implicit in Eqs. (3.2) and (3.3) that the space points of interest are far enough removed from the thrusters to justify neglect of the finite separation of separate thrusters. This assumption is valid over most of the solar array, but not at the part of the low voltage end which is removed by only three to four meters from the thruster assembly. Accounting for the finite extent of the array would lead to decreased values of estimated parasitic currents collected by the array.

The total plasma electron current is the sum of the neutralizer and charge exchange plasma contributions. Assuming that both components of the plasma have the same electron temperature T_e this current is given by

$$j = (n_x + n_n)\ q\bar{v}/4 \tag{3.5}$$

where

$$\bar{v} = (8kT_e/\pi m_e)^{1/2} \tag{3.6}$$

and q and m are the electronic charge and mass, respectively. Positive ion currents are small and of no interest in the present context.

Electron temperatures which have been measured in thruster ion beams and in the nearby charge exchange plasmas are in the range of a few electron volts.[1,3] Here we assume T_e = 5 eV everywhere, although it is by no means clear that electrons should remain isothermal over distances of many tens of meters.

4. ELECTRON COLLECTION

Electron collection rates depend on the panel voltage distribution, the exposed metallic interconnect area, the properties of the plasma, and in general, on the geometry of the collection surface. A single cell of the array is shown schematically in Figure 4.1. We consider for the moment that the cell is one member of an infinite two-dimensional periodic array of identical elements, each with the interconnector and the material beneath the insulator at the same potential V. Except near the edge of the array, this is an excellent approximation since the typical solar cell dimension ℓ is small compared to the characteristic length $L_V = V/|dV/dx|$ over which the potential V varies. The spacecraft-generated plasma density and current have characteristic lengths of spatial variation $L_p = n/|\nabla n|$ which are also much greater than ℓ, except within the sheath between the cell surface and the main body of plasma.

The thickness d of the sheath separating the cell surface from the neutral spacecraft-generated plasma can be determined from the Child-Langmuir equation for plane geometry provided that its thickness is large compared to ℓ (and small compared to L_V and L_p). For $z \gg \ell$ potential variation in the x and y directions are small compared with variation in the z direction and the electric field will be very nearly equal to that which would be produced by an equipotential cell-surface at the average potential $\overline{V}$ defined by

$$\overline{V} = \int_{cell} V(x,y)\, dxdy / \int_{cell} dxdy \; . \qquad ((4.1)$$

The sheath thickness d is then determined from

$$j = 2.32 \times 10^{-6} \frac{\overline{V}^{3/2}}{d^2} \text{ amps/m}^2 \qquad (4.2)$$

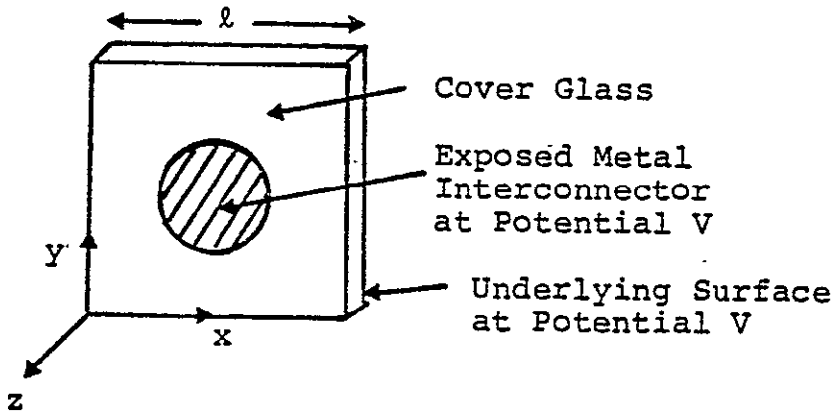


Figure 4.1. Schematic representation of solar cell with exposed interconnector.

where j is the local plasma current, d is in meters and $\overline{V}$ is in volts. For plasma electron currents in the range 10^{-3} amp/m^2 - 1 amp/m^2 and $\overline{V} \sim 10^2 - 10^3$ volts, d ranges from 8 m to 5 cm. In any case it is typical of the high voltage arrays considered here that the relevant sheath thicknesses are comparable to or larger than cell dimensions and it is reasonable to consider that the plasma sees the average local array potential; even then, however, an error would occur when $d \gtrsim L_V$. If d from Eq. (4.2) were small compared to cell dimensions then there could be non-overlapping sheaths around each exposed interconnector, and in the limit of small voltages, the current drawn from the plasma would be proportional to the interconnector area rather than the cell area. Here we shall explore only the worst case, namely where the interconnect collects the entire solar cell's share of the plasma current.

At a given position x along the array, the sheath thickness d permits an estimate of the effective width of the panel for electron collection

$$w_{eff} = w + \pi(d_1 + d_2)/2 \tag{4.3}$$

as illustrated in Figure 4.2 for the case $d_1 = d_2 = d$ where the plasma is uniform over the array width.

Throughout our calculation we assume that the required average voltage $\overline{V}$ is given by

$$\overline{V} = fV$$

where f is the fraction of cell area occupied by the exposed interconnector. This assumption, which implies that the insulator supports the full voltage drop between the solar cells and the plasma, is questionable. The actual voltage distribution on the insulator is not well-known, and its theoretical determination would involve poorly understood

mechanisms of charge transport from the insulator surface to the exposed interconnector.

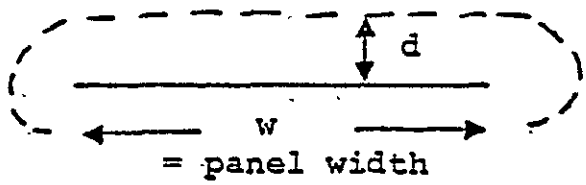


Figure 4.2. Collection by an array of cells. The effective collection area is greater than the panel area.

5. COMPUTATIONAL RESULTS

The quantities designated in the following tables as current/array (I) and power/array (P) are defined by

$$I = \int_{array} j(x,y)\ \varepsilon(x)\ dxdy \tag{5.1}$$

and

$$P = \int_{array} j(x,y)\ V(x)\ \varepsilon(x)\ dxdy \tag{5.2}$$

where

$$\varepsilon(x) = 1 + \frac{\pi(d_1 + d_2)}{2w} \tag{5.3}$$

(see Eq. (4.3)). We reiterate that P can be substantially greater than the actual loss of solar array power as a result of the surrounding spacecraft generated plasma.

Input parameters used to obtain results given in Tables 5.2 through 5.5 for direct drive and concentrator/conventional (C/C) systems are tabulated in Table 5.1. The results in Tables 5.6 and 5.7 also use the input parameters of Table 5.1, but here all portions of the array below 500 volts are assumed to be insulated from the surrounding plasma. For Tables 5.8, 5.9 and 5.10, the charge exchange ion generation rate has been reduced to 10 ma per 2 amps of thruster ion beam current and the neutralizer plasma generation rate has been reduced to 1 ma per neutralizer. Complete computer printouts of all of the cases considered are included as an appendix.

The notations BEAM || and BEAM $\perp$ mean that the thruster ion beams are parallel and perpendicular, respectively, to the plane of the arrays. The angles ($\angle$ = 5.7°, $\angle$ = 35°) labeling the Power and Current columns are computed

from

$$\angle = \tan^{-1} \sqrt{\frac{T_n}{T_i}} \tag{5.4}$$

where T_i = 10 eV. The effective neutral temperatures T_n = 0.1 eV and T_n = 5 eV give expansion angles of 5.7° and 35°, respectively, the former temperature being close to the temperature of the neutral efflux, the latter to the electron temperature.

For comparative purposes we have also listed in Table 5.11 total beam power, defined for the direct drive system as

$$P_B = J_B \, P_{max} \, N_T \tag{5.5}$$

where J_B is the ion beam current from a single thruster and P_{max} is the maximum value of potential on the array. For the concentrator/conventional system the beam power is taken as twice (2 arrays) the thruster power entry in Figure 2.5. The table also lists the total beam current.

In explanation of Table 5.5 for the C/C system, the computations incorporated the following simplifying assumptions:

1. Ion currents were neglected.
2. Electron currents to the negative potential portions of the panel were neglected.
3. The entire positively biased portion of the panel was assumed to be uniform at the maximum potential (100 volts at 1.0 AU; 275 volts at 4.4 AU).

Finally, in all computations it is assumed that collection of parasitic currents occurs on only one side of each array.

TABLE 5.1

Parameters Used for Direct Drive (C/C) Computational Results Tabulated in Tables 5.2 Through 5.7

Electron Temperature	5 eV
Charge Exchange Ion Radial Energy	10 eV
Ion Mass	200 AMU
r_{beam}	0.15 m
z_1	0.20 m
Panel Width w	8 m (9)
Distance of Panel Axis from Thruster Plane	1 m
Minimum Radius of Panel	3 m (39.5)
Maximum Radius of Panel	63 m (64.5)
Exposed Area Fraction f	0.1 (0.05)
Neutralizer Current $\dot{N}_n$	5 ma
$\dot{N}_x$ for 2 amp beam	25 ma

The calculations assume that $\dot{N}_x$ is proportional to ion current.

TABLE 5.2

Solar Electric Propulsion

Direct Drive Parasitic Current and Power Coupling
(Beam || to Array)

Distance (AU)	Thrusters	Config.	Power/Array (KW)		Current/Array (amps)	
			$\angle$=5.7°	$\angle$=35°	$\angle$=5.7°	$\angle$=35°
1.0	12	1	12.6	4.1	29.1	14.1
1.6	12	1	7.6	3.0	13.9	7.8
1.6	6	1	7.2	2.5	12.4	6.2
2.2	6	1	4.8	2.0	7.2	4.0
2.2	6	2	4.3	1.6	12.1	6.1
2.6	6	2	3.3	1.3	8.7	4.6
2.6	4	2	3.2	1.2	8.2	4.1
3.4	4	2	2.0	0.85	4.8	2.7
3.4	2	2	1.9	0.71	4.2	2.1
4.5	2	2	1.4	0.57	2.9	1.6

TABLE 5.3

Solar Electric Propulsion

Direct Drive Parasitic Current and Power Coupling
(Beam ⊥ to Panels)

Distance (AU)	Thrusters	Config.	Power/Array (KW) ∠=5.7°	Power/Array (KW) ∠=35°	Current/Array (amps) ∠=5.7°	Current/Array (amps) ∠=35°
1.0	12	1	15.7	4.3	31.9	16.3
1.6	12	1	9.3	3.1	15.1	8.7
1.6	6	1	8.8	2.6	13.6	7.1
2.2	6	1	5.8	2.0	7.9	4.5
2.2	6	2	5.2	1.6	11.3	7.0
2.6	6	2	3.9	1.3	8.2	5.2
2.6	4	2	3.8	1.2	7.7	4.7
3.4	4	2	2.3	0.88	4.5	3.0
3.4	2	2	2.2	0.74	4.0	2.4
4.5	2	2	1.6	0.59	2.8	1.8

TABLE 5.4

Solar Electric Propulsion

Direct Drive Power Coupling
(Beam || to Array)
Spherical Expansion

Distance (AU)	Thrusters	Config.	Power/Array (KW)	Current/Array (amps)
1.0	12	1	3.1	11.1
1.6	12	1	2.4	6.5
1.6	6	1	2.0	5.0
2.2	6	1	1.6	3.4
2.2	6	2	1.2	4.8
2.6	6	2	1.0	3.8
2.6	4	2	0.90	3.3
3.4	4	2	0.69	2.2
3.4	2	2	0.55	1.7
4.5	2	2	0.46	1.3

TABLE 5.5

Solar Electric Propulsion

Concentrator/Conventional
Parasitic Currents and Power Coupling
(Beam || Array)

Distance (AU)	Thrusters	Power/Array (KW)		Current/Array (amps)	
		$\angle$=5.7°	$\angle$=35°	$\angle$=5.7°	$\angle$=35°
1.0	8	0.18	0.049	1.8	0.49
4.4	2	0.090	0.031	0.52	0.18

TABLE 5.6

Solar Electric Propulsion

Direct Drive Power Coupling

Beam ||, ∠= 5.7° exp. Insulated for V ≤ 500 Volts

Distance (AU)	Thrusters	Config.	Power/Array (KW)	Current/Array (amps)
1.0	12	1	10.0	6.9
1.6	12	1	6.1	3.3
1.6	6	1	5.8	3.2
2.2	6	1	4.3	2.5
2.2	6	2	3.5	3.5
2.6	6	2	2.6	2.5
2.6	4	2	2.6	2.4
3.4	4	2	1.6	1.4
3.4	2	2	1.6	1.3
4.5	2	2	1.1	0.93

TABLE 5.7

Solar Electric Propulsion

Direct Drive Power Coupling

Beam ||, Spherical exp. Insulated for V $\leq$ 500 Volts

Distance (AU)	Thrusters	Config.	Power/Array (KW)	Current/Array (amps)
1.0	12	1	2.0	1.4
1.6	12	1	1.7	0.93
1.6	6	1	1.4	0.75
2.2	6	1	1.3	0.81
2.2	6	2	0.83	0.89
2.6	6	2	0.72	0.72
2.6	4	2	0.64	0.64
3.4	4	2	0.51	0.46
3.4	2	2	0.41	0.37
4.5	2	2	0.35	0.30

TABLE 5.8

Solar Electric Propulsion

Direct Drive Power Coupling
Beam ||, ∠= 5.7°, 10 ma/2 amp, 1 ma/neutralizer
Insulated for V ≤ 500 Volts

Distance (AU)	Thrusters	Config.	Power/Array (KW)	Current/Array (amps)
1.0	12	1	4.3	3.0
1.6	12	1	2.7	1.5
1.6	6	1	2.7	1.4
2.2	6	1	2.0	1.1
2.2	6	2	1.5	1.5
2.6	6	2	1.2	1.1
2.6	4	2	1.1	1.1
3.4	4	2	0.73	0.61
3.4	2	2	0.71	0.60
4.5	2	2	0.53	0.42

TABLE 5.9

Solar Electric Propulsion

Direct Drive

Beam ||, 5.7°, 10 ma/2 amp. 1 ma/neutralizer

Distance (AU)	Thrusters	Config.	Power/Array (KW)	Current/Array (amps)
1.0	12	1	5.3	11.3
1.6	12	1	3.3	5.2
1.6	6	1	3.2	4.9
2.2	6	1	2.2	2.7
2.2	6	2	1.8	4.7
2.6	6	2	1.4	3.3
2.6	4	2	1.4	3.2
3.4	4	2	0.87	1.8
3.4	2	2	0.85	1.7
4.5	2	2	0.63	1.1

TABLE 5.10

Solar Electric Propulsion

Direct Drive

Beam ||, Spherical exp., 10 ma/2 amp, 1 ma/neutralizer

Distance (AU)	Thrusters	Config.	Power/Array (KW)	Current/Array (amps)
1.0	12	1	1.2	3.9
1.6	12	1	0.94	2.1
1.6	6	1	0.83	1.8
2.2	6	1	0.66	1.1
2.2	6	2	0.47	1.7
2.6	6	2	0.39	1.3
2.6	4	2	0.37	1.2
3.4	4	2	0.27	0.73
3.4	2	2	0.24	0.62
4.5	2	2	0.19	0.45

TABLE 5.11

Solar Electric Propulsion

Beam Power and Current
Direct Drive

Distance (AU)	Thrusters	Config.	Beam Power (KW)	Total Beam Current (amps)
1.0	12	1	82.5	30
1.6	12	1	41.3	12
1.6	6	1	41.3	12
2.2	6	1	23.1	6
2.2	6	2	23.1	12
2.6	6	2	16.3	8
2.6	4	2	16.3	8
3.4	4	2	8.8	4
3.4	2	2	8.8	4
4.5	2	2	5.7	2.5
CONCENTRATOR/CONVENTIONAL				
1.0	8		53.2	16.0
4.4	2		14.4	3.2

6. DISCUSSION OF EFFECTS OF SPACECRAFT-GENERATED PLASMAS

Comparing the results of Tables 5.2 through 5.4 with Table 5.11, one concludes for direct drive systems that the total parasitic current passing through the low voltage end of the array is comparable in all uninsulated cases with the total beam current. The results suggest that the parasitic plasma currents may substantially impact the capability of the array to deliver the high voltage required to accelerate the thruster ions. The results in Tables 5.6 through 5.10 indicate that the adverse impact of parasitic currents is substantially reduced by insulating the low voltage ($\leq$ 500 volts) portions of the array, which are near the thruster assembly and are therefore exposed to the highest plasma current densities, and by reducing the charge exchange and neutralizer plasma generation rates. Implicit in the use of insulation is the assumption that abnormally large pinhole currents observed by Kennerud[4] at high potentials do not persist below about 500 volts.

The results presented here and the conclusions extracted therefrom are based on an analytical model which should be scrutinized by more careful theoretical analysis and/or by experiments which simulate the large length scales which are inherent in the proposed application of ion thrusters on deep space probes.

The results in Table 5.5 for the concentrator/conventional system invoke extreme assumptions, and in the context of our model for the spacecraft-generated plasma, represent an extreme worst case. Even so, the parasitic currents collected and the so-called power/array are a small fraction of the beam power and beam current, respectively.

7. EFFECTS OF THE NATURAL ENVIRONMENT

The components of the interplanetary environment which potentially impact the performance of solar electric propulsion for Halley's comet mission include electrons, protons and solar photons. The following analysis will show that the collection of charged particles associated with the environment has a negligible effect on the power delivery capability of solar arrays proposed for the Halley's Comet mission. This result however relates only to the beginning of life and does not preclude degradation of solar array materials by impact of interplanetary protons.

The particle fluxes at 0.3 AU are summarized in Table 7.1 and the accompanying footnotes.[6] The environment at 0.3 AU is somewhat more severe than at 0.65 AU, the distance of closest approach of the spacecraft to the sun (see Figure 7.1). The peak random electron current is

$$j_{e\ max} \sim 8 \times 10^{-4}\ \text{amp.m}^2.$$

The peak directed proton current is

$$j_{p\ max} \sim 8.8 \times 10^{-5}\ \text{amp/m}^2.$$

Thermalization of the ion energy would increase the mean electron energy from about 10 eV to about 500 eV, and yield a peak random current

$$j'_{e\ max} \sim 6 \times 10^{-3}\ \text{amp/m}^2.$$

Typical currents corresponding to these three peak currents would be smaller bv a factor of 25.[6]

TABLE 7.1

Fluxes at 0.3 AU

PARTICLES	ENVIRONMENT	ENERGY	INTEGRAL FLUX, J ($cm^{-2}s^{-1}$)(1)	
			TYPICAL	PEAK (4)
INTERPLANETARY PROTONS	SOLAR WIND (2)	0	2.2(9)	5.5(10)
		1 keV	2.2(9)	5.5(10)
		1.6 keV	7.2(8)	3.6(10)
	INTERMEDIATE ENERGY PROTONS	10 keV	6.0(6)	6.8(9)
		100 keV	1.5(4)	8.5(8)
		1 MeV	40	1.1(8)
		2.5 MeV	3.8	4.6(7)
	SOLAR PROTON EVENTS AND COSMIC RAYS	5 MeV	3.5	2.5(7)
		10 MeV	3.5	1.3(7)
		30 MeV	3.5	3.1(6)
		50 MeV	3.5	1.4(6)
		100 MeV	3.5	9.3(5)
		1 GeV	1.7	1.9(5)
		10 GeV	0.056	19
INTERPLANETARY ELECTRONS	SOLAR WIND (3)	0	2.0(10)	5.0(11)
		10 eV	2.0(10)	5.0(11)
		20 eV	1.4(10)	4.4(11)
	INTERMEDIATE ENERGY ELECTRONS	100 eV	5.6(8)	1.4(11)
		1 keV	5.6(6)	4.7(9)
		10 keV	5.6(4)	4.7(7)
		100 keV	5.6(2)	4.7(5)
		1 MeV	5.6	4.7(3)
		5 MeV	0.23	1.9(2)
		10 MeV	0.18	47
		100 MeV	0.16	0.47
		200 MeV	0.13	0.13
		1 GeV	0.06	0.06

NOTES FOR TABLE 7.1

(1) Except for the solar wind proton entries (see note 2), all fluxes and fluences are omnidirectional; the corresponding isotropic (or randomly directed) intensities (in cm^{-2} s^{-1} sr^{-1}) can be obtained by dividing the flux entries by 4π steradian. All entries are integral, i.e., including particles of all energies exceeding the entry in the energy column; parentheses indicate powers of ten.

(2) Solar wind protons flow outward from the sun at variable speeds near 400 km/s, so the corresponding energy is $\sim$900 eV and the flux and fluence entries are unidirectional.

(3) Solar wind electrons have approximately thermal spectra, with slightly variable characteristic energies near kT = 20 eV.

(4) Typical fluxes are those which are exceeded about half the time, whereas the peak values are the largest to which the fluxes can rise at some time, during residence of the spacecraft at 0.3 AU from the sun.

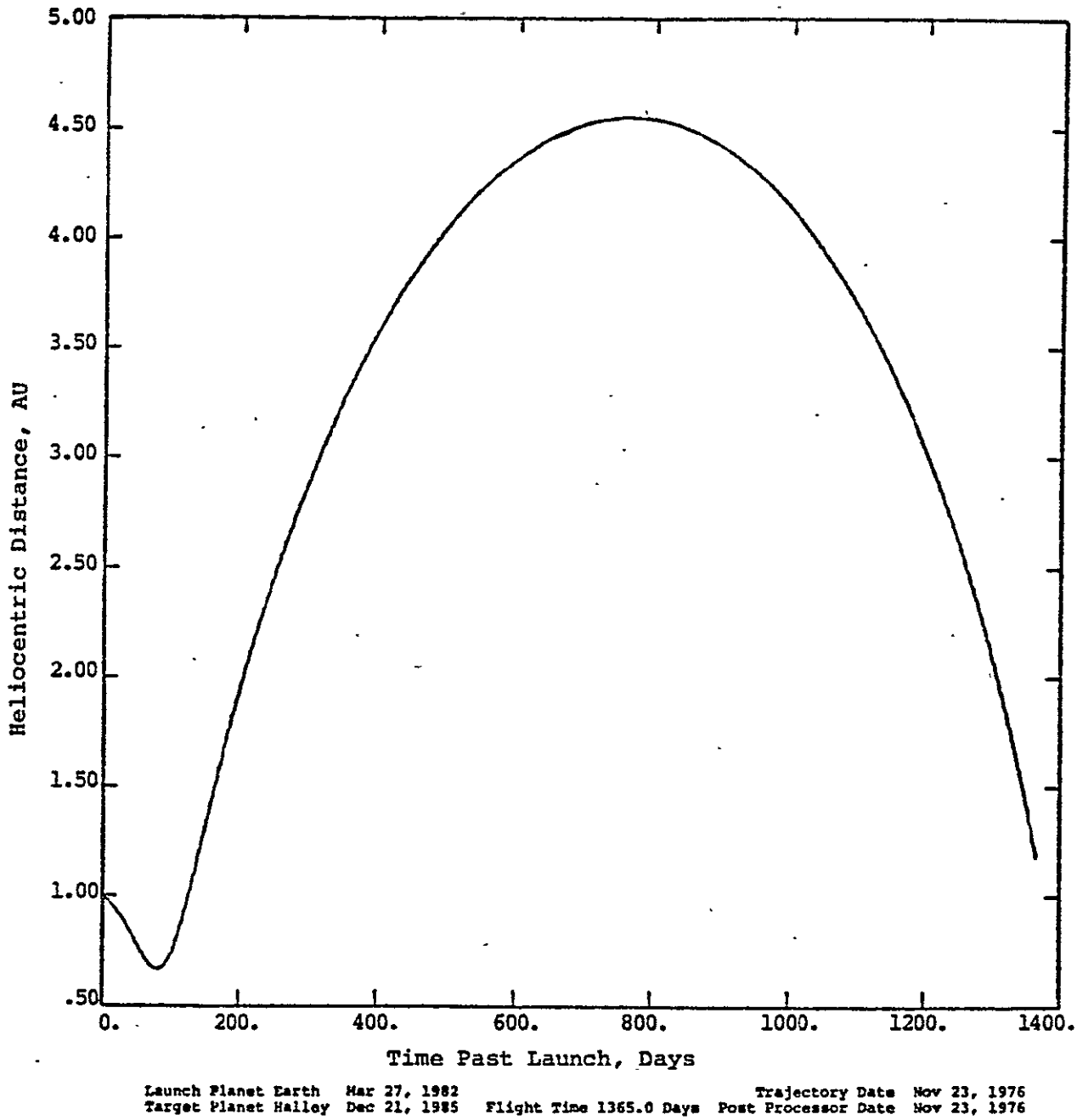


Figure 7.1. SEP Halley rendezvous (Reference 6).

In addition to the interplanetary charged particle fluxes, photoelectrons are generated at the surface of the solar array; on the illuminated side a probable upper bound on the photocurrent densities is

$$j_{v\ max} \sim 5 \times 10^{-4}\ \mathrm{amp/m^2}\ .$$

This figure is based on data presented by Feuerbacher and Fitton[7] for the integrated photoelectron flux under solar irradiation at 1 AU and extrapolated to 0.3 AU. These currents should be compared with the smallest random currents estimated for the charge exchange and neutralizer plasmas at 1 AU

$$(j_x + j_n)_{min} \sim 3 \times 10^{-3}\ \mathrm{amp/m^2}$$

which occurred at the extremities of the direct drive solar array for the case of twelve thrusters operating and a 35° expansion angle.

Even if the photoelectrons were accelerated by the array through a potential difference of 3 keV and their energy dissipated, the associated power

$$1.5\ \mathrm{watts/m^2},$$

would be negligible.

The peak random electron current $j_{e\ max}$ is small even in comparison with the least of the spacecraft-generated plasma currents and would not affect significantly the estimated power losses. The peak random current $j'_{e\ max}$, which requires a mechanism for converting directed ion energy to thermal electron energy, could substantially impact the power losses of a high voltage array, but would have an insignificant effect on a C/C array with a peak potential of

100 volts relative to the solar wind plasma. It is doubtful, however, that the ions substantially pump the electrons since electron fluxes are large and tend to maintain an isothermal electron distribution over distance scales which characterize the transition from directed to random ion energy.

We conclude that parasitic currents arising from the interplanetary environment have a negligible impact on the performance of SEP systems. This conclusion however does not relate to the possible degradation of materials that may result from exposure to that environment.

8. CONCLUSIONS AND RECOMMENDATIONS

The present study indicates potential problems in the performance of high voltage solar arrays as a result of their interaction with electric thruster-generated plasmas. The study also indicates, however, that the collection of parasitic plasma currents can be substantially reduced

a. by insulating the low voltage ($\lesssim$500 volts) portion of the array.

b. by maintaining the charge exchange ion and neutralizer currents at the lowest levels compatible with the mission requirements of the thruster system.

Theory is reasonably well confirmed on the spatial scale ($\sim$ few meters) of laboratory experiments. The theoretical foundations are not sufficiently firm, however, to permit one to confidently extrapolate the effects of spacecraft-generated plasmas to large ($\sim$60 m) solar arrays. <u>Experiments at low earth orbit to measure thruster interaction with a distant high voltage surface would provide a stringent test of theoretical models.</u>

Ground based experiments can be performed to improve our knowledge of collection of parasitic currents by geometrically complex, partially insulated surfaces at high potential. These experiments, conducted in a large plasma chamber, would include measurements of

a. sheath properties around a small ($\sim$1 m^2) solar panel exposed to various plasma environments in a large plasma chamber.

b. parasitic current through a single interconnector of a solar panel as a function of panel voltage and plasma environment.

c. near surface potential over a single cell of a panel as a function of bias voltage and plasma environment.

APPENDIX

DESCRIPTION OF COMPUTER OUTPUT

The quantities listed in the detailed computer printouts listed below are as follows:

DISTANCE	= distance of spacecraft from sun AU.
VMULT	= factor by which voltage profiles in Figures 2.3 - 2.5 are multiplied.
BCURR	= ion current of a single operating thruster (amps).
ZPAN	= distance of panel axis from thruster accelerating grids (cm).
FRACTION EXPOSED	= fractional area of panel occupied by bare exposed interconnectors.
RBEAM	= thruster ion beam radius (cm).
ZEMIT	= half-height of charge exchange ion production region (cm).
EQUIV CURRENT	= $\dot{N}_x$, the charge exchange ion production rate (ma).
ION TEMP	= equivalent energy of charge exchange ion in direction perpendicular to beam axis (eV).
EXPANSION ANGLE	= see Eq. (5.4) (degrees).
ION MASS	= 200 AMU for Hg.
ELECTRON TEMPERATURE	= electron temperature in charge exchange and neutralizer plasma (eV).
NEUTRALIZER CURRENT	= $\dot{N}_n$, ion production rate from neutralizer (ma).
RANG	= $2Z_1/\tan\angle - r_b$.
MINIMUM RADIUS	= minimum distance of solar panel from thruster array (cm). (For the C/C system, it is the minimum distance of the positive portion of the solar panel from the thruster array.)

MAXIMUM RADIUS	= distance of outboard end of solar panel from thruster array (cm).
PANEL WIDTH	= width of panel (cm).
NUMBER OF INTEGRATION POINTS	= number of divisions of length of panel for integrations in Eqs. (5.1) and (5.2).
NUMBER OF THRUSTERS	= number of operating thrusters.

The columns labeled

R volts

are the distance from the inboard end of panel (cm) (equivalent to x in Figure 2.1) and the corresponding voltages determined from Figures 2.3, 2.4, and 2.5 multiplied by VMULT. (For the C/C system R = 0 corresponds to the point of onset of positive panel voltage.) The voltage is assumed to vary linearly between the listed R values.

The remaining output consists of

RADIUS	= radial polar coordinate of a point on the solar array measured from the thruster array center in Figure 2.1.

Where a given value of R is listed only once, as in Table 5.3, $\angle = 5.7°$, the thruster ion beam is normal to the solar array, and the spacecraft-generated plasma density does not vary along the width of the array. Where a given value of R is listed four times, the beam is parallel to the array and the plasma density varies along the width of the array. The four values of position along the width of the array at each RADIUS are z_i = ZPAN + (i - 5/2)(PANEL WIDTH)/4.

NE	= plasma electron density that would exist at given point on panel in absence of sheath effects (cm^{-3}).
CURR DENS	= plasma electron current density that would exist at given point on panel in absence of sheath effects (amp/cm^2).

POT	= potential at given point on panel (volts).
POWER	= see Eq. (5.2) (watts/cm^2).
CURRENT	= total current collected by one array (amps).
PMAX	= maximum potential on array.
BEAM POWER	= see Eq. (5.5) (watts).

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5. Gooder, Su, Private Communication, NASA-Lewis Research Center, February 1977.

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COMPUTER PRINTOUT

TABLE 5.2

$\angle = 5.7°$

```
 DISTANCE =     1.0 AU
VHULT =    1.00
BCURR =     2.5 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     31.25 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1311+06	6.4250-06	53.	3.3882-04
450.	4.9715+07	1.4891-04	53.	7.8528-03
450.	2.1311+06	6.4250-06	53.	3.3882-04
450.	2.1268+06	6.4180-06	53.	3.3845-04
750.	9.6611+05	2.9695-06	158.	4.6978-04
750.	2.0157+07	6.0642-05	158.	9.5938-03
750.	9.6611+05	2.9695-06	158.	4.6978-04
750.	7.6636+05	2.3634-06	158.	3.7389-04
1050.	1.1525+06	3.5132-06	110.	3.6685-04
1050.	1.0877+07	3.2731-05	110.	3.6041-03
1050.	1.1525+06	3.5132-06	110.	3.6685-04
1050.	3.9129+05	1.2091-06	110.	1.3314-04
1350.	1.4381+06	4.3227-06	22.	9.5198-05
1350.	6.7984+06	2.0377-05	22.	4.4877-04
1350.	1.4381+06	4.3227-06	22.	9.5198-05
1350.	2.4391+05	7.3857-07	22.	1.6265-05

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1650.	1.5275+06	4.7611-06	375.	1.7854-03
1650.	4.6494+06	1.4241-05	375.	5.3402-03
1650.	1.5275+06	4.7611-06	375.	1.7854-03
1650.	1.9713+05	6.5904-07	375.	2.4714-04
1750.	1.4715+06	4.5901-06	375.	1.7213-03
1750.	3.3795+06	1.0374-05	375.	3.8976-03
1750.	1.4715+06	4.5901-06	375.	1.7213-03
1750.	2.1100+05	7.0293-07	375.	2.6360-04
2250.	1.3493+06	4.1146-06	125.	5.1432-04
2250.	2.5671+06	7.7862-06	125.	9.7328-04
2250.	1.3493+06	4.1146-06	125.	5.1432-04
2250.	2.5220+05	7.8866-07	125.	9.8582-05
2550.	1.2085+06	3.6663-06	625.	2.4165-03
2550.	2.0160+06	6.3547-06	625.	3.9717-03
2550.	1.2085+06	3.6663-06	625.	2.4165-03
2550.	2.9592+05	1.0079-06	625.	6.3121-04
2850.	1.0714+06	3.5734-06	1125.	4.0201-03
2850.	1.6251+06	5.3149-06	1125.	5.9793-03
2850.	1.0714+06	3.5734-06	1125.	4.0201-03
2850.	3.2932+05	1.1914-06	1125.	1.3404-03
3150.	9.4683+05	3.1171-06	875.	2.7293-03
3150.	1.3378+06	4.3426-06	675.	3.7998-03
3150.	9.4663+05	3.1171-06	875.	2.7293-03
3150.	3.5056+05	1.2235-06	875.	1.0705-03
3450.	8.3729+05	2.7744-06	875.	2.4276-03
3450.	1.1205+06	3.6638-06	875.	3.2058-03
3450.	8.3729+05	2.7744-06	875.	2.4276-03
3450.	3.5926+05	1.2516-06	875.	1.0952-03
3750.	7.4237+05	2.5777-06	1375.	3.5443-03
3750.	9.5215+05	3.2524-06	1375.	4.4720-03
3750.	7.4237+05	2.5777-06	1375.	3.5443-03
3750.	3.5665+05	1.3206-06	1375.	1.8161-03
4050.	6.6059+05	2.4013-06	1875.	4.5024-03
4050.	8.1908+05	2.9235-06	1875.	5.4816-03
4050.	6.6059+05	2.4013-06	1875.	4.5024-03
4050.	3.5116+05	1.3006-06	1875.	2.5512-03
4350.	5.9024+05	2.1266-06	1625.	3.4557-03
4350.	7.1207+05	2.5265-06	1625.	4.1055-03
4350.	5.9024+05	2.1266-06	1625.	3.4557-03
4350.	3.3940+05	1.2891-06	1625.	2.0948-03
4650.	5.2963+05	1.8859-06	1375.	2.5932-03
4650.	6.2475+05	2.1964-06	1375.	3.0200-03
4650.	5.2963+05	1.8859-06	1375.	2.5932-03
4650.	3.2499+05	1.2086-06	1375.	1.6618-03
4950.	4.7726+05	1.7892-06	1875.	3.3547-03
4950.	5.5256+05	2.0416-06	1875.	3.8284-03
4950.	4.7726+05	1.7892-06	1875.	3.3547-03
4950.	3.0920+05	1.2160-06	1875.	2.2800-03
5250.	4.3184+05	1.7025-06	2375.	4.0434-03
5250.	4.9219+05	1.9108-06	2375.	4.5360-03
5250.	4.3184+05	1.7025-06	2375.	4.0434-03
5250.	2.9289+05	1.2145-06	2375.	2.8643-03
5550.	3.9229+05	1.5955-06	2625.	4.1862-03
5550.	4.4121+05	1.7673-06	2625.	4.6393-03
5550.	3.9229+05	1.5955-06	2625.	4.1862-03
5550.	2.7664+05	1.1820-06	2625.	3.1027-03
5850.	3.5769+05	1.4139-06	2125.	3.0045-03
5850.	3.9775+05	1.5524-06	2125.	3.2989-03
5850.	3.5769+05	1.4139-06	2125.	3.0045-03
5850.	2.6082+05	1.0739-06	2125.	2.2821-03
6150.	3.2731+05	1.3367-06	2375.	3.1747-03
6150.	3.6042+05	1.4534-06	2375.	3.4516-03
6150.	3.2731+05	1.3367-06	2375.	3.1747-03
6150.	2.4566+05	1.0447-06	2375.	2.4812-03

POWER = 1.2548+04 CURRENT = 2.9074+01

PMAX 2750. VOLTS

BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

DISTANCE = 1.6 AU
VOLT = 1.25
BCURR = 1.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 12.50 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 385.00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 12

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3875.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1297+06	6.4303-06	66.	4.2387-04
450.	2.1163+07	6.3478-05	66.	4.1844-03
450.	2.1297+06	6.4303-06	66.	4.2387-04
450.	2.1288+06	6.4275-06	66.	4.2369-04
750.	8.4626+05	2.6197-06	198.	5.1806-04
750.	8.5227+06	2.5766-05	198.	5.0957-03
750.	8.4626+05	2.6197-06	198.	5.1806-04
750.	7.6636+05	2.3765-06	198.	4.6996-04
1050.	6.9556+05	2.1416-06	138.	2.9477-04
1050.	4.5654+06	1.3870-05	138.	1.9091-03
1050.	6.9558+05	2.1416-06	138.	2.9477-04
1050.	3.9112+05	1.2157-06	138.	1.6734-04
1350.	7.1717+05	2.1632-06	28.	5.9549-05
1350.	2.8613+06	8.5932-06	28.	2.3656-04
1350.	7.1717+05	2.1632-06	28.	5.9549-05
1350.	2.3948+05	7.2691-07	28.	2.0011-05

1650.	7.0599+05	2.2667-06	469.	1.0625-03
1650.	1.9548+06	6.1042-06	469.	2.8613-03
1650.	7.0599+05	2.2667-06	469.	1.0625-03
1650.	1.7385+05	5.9712-07	469.	2.7990-04
1950.	6.5660+05	2.1135-06	469.	9.9071-04
1950.	1.4196+06	4.4664-06	469.	2.0936-03
1950.	6.5660+05	2.1135-06	469.	9.9071-04
1950.	1.5242+05	5.2811-07	469.	2.4755-04
2250.	5.9082+05	1.8291-06	156.	2.8580-04
2250.	1.0779+06	3.3076-06	156.	5.1681-04
2250.	5.9082+05	1.8291-06	156.	2.8580-04
2250.	1.5197+05	4.8611-07	156.	7.5955-05
2550.	5.2317+05	1.7610-06	781.	1.3758-03
2550.	8.4618+05	2.7803-06	781.	2.1721-03
2550.	5.2317+05	1.7610-06	781.	1.3758-03
2550.	1.5815+05	5.8097-07	781.	4.5389-04
2850.	4.6039+05	1.6632-06	1406.	2.3389-03
2850.	6.8189+05	2.3878-06	1406.	3.3578-03
2850.	4.6039+05	1.6632-06	1406.	2.3389-03
2850.	1.6377+05	6.6064-07	1406.	9.2903-04
3150.	4.0480+05	1.4330-06	1094.	1.5673-03
3150.	5.6120+05	1.9402-06	1094.	2.1220-03
3150.	4.0480+05	1.4330-06	1094.	1.5673-03
3150.	1.6629+05	6.3989-07	1094.	6.9988-04
3450.	3.5665+05	1.2754-06	1094.	1.3949-03
3450.	4.6993+05	1.6450-06	1094.	1.7992-03
3450.	3.5665+05	1.2754-06	1094.	1.3949-03
3450.	1.6543+05	6.3696-07	1094.	6.9667-04
3750.	3.1534+05	1.2186-06	1719.	2.0945-03
3750.	3.9925+05	1.5041-06	1719.	2.5851-03
3750.	3.1534+05	1.2186-06	1719.	2.0945-03
3750.	1.6181+05	6.8135-07	1719.	1.1711-03
4050.	2.8001+05	1.1651-06	2344.	2.7307-03
4050.	3.4340+05	1.3899-06	2344.	3.2576-03
4050.	2.8001+05	1.1651-06	2344.	2.7307-03
4050.	1.5623+05	7.1206-07	2344.	1.6689-03
4350.	2.4977+05	1.0250-06	2031.	2.0820-03
4350.	2.9650+05	1.1966-06	2031.	2.4306-03
4350.	2.4977+05	1.0250-06	2031.	2.0820-03
4350.	1.4943+05	6.6174-07	2031.	1.3446-03
4650.	2.2381+05	9.0152-07	1719.	1.5495-03
4650.	2.6186+05	1.0343-06	1719.	1.7776-03
4650.	2.2381+05	9.0152-07	1719.	1.5495-03
4650.	1.4196+05	6.0947-07	1719.	1.0475-03
4950.	2.0146+05	8.8049-07	2344.	2.0636-03
4950.	2.3156+05	9.9062-07	2344.	2.3218-03
4950.	2.0146+05	8.8049-07	2344.	2.0636-03
4950.	1.3424+05	6.2839-07	2344.	1.4728-03
5250.	1.8212+05	8.6026-07	2969.	2.5539-03
5250.	2.0626+05	9.5272-07	2969.	2.8264-03
5250.	1.8212+05	8.6026-07	2969.	2.5539-03
5250.	1.2654+05	6.4153-07	2969.	1.9045-03
5550.	1.6531+05	8.1853-07	3281.	2.6858-03
5550.	1.8488+05	8.9569-07	3281.	2.9390-03
5550.	1.6531+05	8.1853-07	3281.	2.6858-03
5550.	1.1905+05	6.3113-07	3281.	2.0709-03
5850.	1.5063+05	7.1456-07	2656.	1.8980-03
5850.	1.6666+05	7.7617-07	2656.	2.0617-03
5850.	1.5063+05	7.1456-07	2656.	1.8980-03
5850.	1.1189+05	5.6220-07	2656.	1.4933-03
6150.	1.3776+05	6.8650-07	2969.	2.0380-03
6150.	1.5100+05	7.3899-07	2969.	2.1939-03
6150.	1.3776+05	6.8650-07	2969.	2.0380-03
6150.	1.0510+05	5.5410-07	2969.	1.6450-03

POWER = 7.6226+03 CURRENT = 1.3939+01

PMAX 3438. VOLTS

BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

DISTANCE = 1.6 AU
VMULT = 1.25
BCURR = 2.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 385.00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 6

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3625.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0653+06	3.2294-06	66.	2.1288-04
450.	2.0099+07	6.0291-05	66.	3.9742-03
450.	1.0653+06	3.2294-06	66.	2.1288-04
450.	1.0644+06	3.2266-06	66.	2.1269-04
750.	4.6306+05	1.4507-06	196.	2.6688-04
750.	8.1395+06	2.4615-05	196.	4.6678-03
750.	4.6308+05	1.4507-06	196.	2.6688-04
750.	3.8318+05	1.2058-06	196.	2.3846-04
1050.	5.0008+05	1.5476-06	136.	2.1302-04
1050.	4.3899+06	1.3282-05	136.	1.6281-03
1050.	5.0008+05	1.5476-06	136.	2.1302-04
1050.	1.9562+05	6.1762-07	136.	8.5011-05
1350.	5.9890+05	1.8079-06	28.	4.9770-05
1350.	2.7430+06	8.2388-06	28.	2.2660-04
1350.	5.9890+05	1.8079-06	28.	4.9770-05
1350.	1.2122+05	3.7016-07	28.	1.0190-05

ORIGINAL PAGE IS OF POOR QUALITY

1650.	6.2682+05	2.0210-06	469.	9.4735-04
1650.	1.6756+06	5.8622-06	469.	2.7479-03
1650.	6.2682+05	2.0210-06	469.	9.4735-04
1650.	9.4685+04	3.4014-07	469.	1.5944-04
1750.	5.9992+05	1.9374-06	469.	9.0815-04
1750.	1.3631+04	4.2924-06	469.	2.0121-03
1750.	5.9992+05	1.9374-06	469.	9.0815-04
1750.	9.5737+04	3.4360-07	469.	1.6106-04
2250.	5.4824+05	1.6995-06	156.	2.6555-04
2250.	1.0353+06	3.1786-06	156.	4.9665-04
2250.	5.4824+05	1.6995-06	156.	2.6555-04
2250.	1.0940+05	3.5400-07	156.	5.5312-05
2550.	4.9002+05	1.6555-06	781.	1.2934-03
2550.	8.1304+05	2.6762-06	781.	2.0908-03
2550.	4.9002+05	1.6555-06	781.	1.2934-03
2550.	1.2506+05	4.6987-07	781.	3.6708-04
2850.	4.3385+05	1.5755-06	1406.	2.2156-03
2850.	6.5536+05	2.3016-06	1406.	3.2366-03
2850.	4.3385+05	1.5755-06	1406.	2.2156-03
2850.	1.3724+05	5.6664-07	1406.	7.9711-04
3150.	3.8308+05	1.3620-06	1094.	1.4897-03
3150.	5.3948+05	1.8701-06	1094.	2.0454-03
3150.	3.8308+05	1.3620-06	1094.	1.4897-03
3150.	1.4457+05	5.6530-07	1094.	6.1829-04
3450.	3.3854+05	1.2159-06	1094.	1.3298-03
3450.	4.5183+05	1.5862-06	1094.	1.7349-03
3450.	3.3854+05	1.2158-06	1094.	1.3298-03
3450.	1.4732+05	5.7480-07	1094.	6.2869-04
3750.	3.0001+05	1.1660-06	1719.	2.0041-03
3750.	3.8393+05	1.4522-06	1719.	2.4960-03
3750.	3.0001+05	1.1660-06	1719.	2.0041-03
3750.	1.4646+05	6.2593-07	1719.	1.0756-03
4050.	2.6687+05	1.1180-06	2344.	2.6204-03
4050.	3.3026+05	1.3436-06	2344.	3.1490-03
4050.	2.6687+05	1.1180-06	2344.	2.6204-03
4050.	1.4309+05	6.6225-07	2344.	1.5521-03
4350.	2.3837+05	9.8450-07	2031.	1.9998-03
4350.	2.8711+05	1.1567-06	2031.	2.3495-03
4350.	2.3837+05	9.8450-07	2031.	1.9998-03
4350.	1.3804+05	6.1952-07	2031.	1.2584-03
4650.	2.1385+05	8.6649-07	1719.	1.4893-03
4650.	2.5189+05	9.9963-07	1719.	1.7181-03
4650.	2.1385+05	8.6649-07	1719.	1.4893-03
4650.	1.3197+05	5.7305-07	1719.	9.8493-04
4950.	1.9266+05	8.4805-07	2344.	1.9876-03
4950.	2.2278+05	9.5659-07	2344.	2.2467-03
4950.	1.9266+05	8.4805-07	2344.	1.9876-03
4950.	1.2544+05	5.9452-07	2344.	1.3934-03
5250.	1.7430+05	8.3303-07	2969.	2.4641-03
5250.	1.9844+05	9.2291-07	2969.	2.7399-03
5250.	1.7430+05	8.3303-07	2969.	2.4641-03
5250.	1.1072+05	6.0966-07	2969.	1.8106-03
5550.	1.5831+05	7.9067-07	3281.	2.5944-03
5550.	1.7738+05	8.8622-07	3281.	2.8488-03
5550.	1.5831+05	7.9067-07	3281.	2.5944-03
5550.	1.1200+05	6.0200-07	3281.	1.9753-03
5850.	1.4434+05	8.9014-07	2656.	1.8332-03
5850.	1.6036+05	7.6203-07	2656.	1.9976-03
5850.	1.4434+05	8.9014-07	2656.	1.8332-03
5850.	1.0559+05	5.3087-07	2656.	1.4261-03
6150.	1.3206+05	6.6372-07	2969.	1.9704-03
6150.	1.4531+05	7.1048-07	2969.	2.1270-03
6150.	1.3206+05	6.6372-07	2969.	1.9704-03
6150.	9.9404+04	5.3047-07	2969.	1.5748-03

POWER = 7.1802+03 CURRENT = 1.2376+01

PMAX 3438. VOLTS

BEAM POWER = 41260. WATTS

WXQT

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.2 AU
VMULT =    1.40
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =    .. 5. MILLIAMPS.
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6

 R          VOLTS
      0.        0.
    512.      252.
   1125.        0.
   1500.      875.
   1875.        0.
   2625.     1750.
   3000.      875.
   3825.     2800.
   4275.     1750.
   5175.     3650.
   5625.     2800.
   6075.     3650.

 RADIUS       NE        CURR DENS      POT                 POWER

     450.  1.0649+06  3.2319-06        74.                2.3861-04
     450.  1.0582+07  3.1792-05        74.                2.3471-03
     450.  1.0649+06  3.2319-06        74.                2.3861-04
     450.  1.0644+06  3.2305-06        74.                2.3850-04
     750.  4.2313+05  1.3339-06       221.                2.9544-04
     750.  4.2614+06  1.2960-05       221.                2.8705-03
     750.  4.2313+05  1.3339-06       221.                2.9544-04
     750.  3.8318+05  1.2111-06       221.                2.6825-04
    1050.  3.4779+05  1.0874-06       154.                1.6764-04
    1050.  2.2927+06  6.9775-06       154.                1.0757-03
    1050.  3.4779+05  1.0874-06       154.                1.6764-04
    1050.  1.9556+05  6.2034-07       154.                9.5632-05
    1350.  3.5858+05  1.0866-06        31.                3.3503-05
    1350.  1.4306+06  4.3067-06        31.                1.3278-04
    1350.  3.5858+05  1.0866-06        31.                3.3503-05
    1350.  1.1974+05  3.6638-07        31.                1.1296-05
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ORIGINAL PAGE IS
OF POOR QUALITY

1650.	3.5299+05	1.1754-06	525.	6.1707-04
1650.	9.7738+05	3.1240-06	525.	1.6391-03
1650.	3.5299+05	1.1754-06	525.	6.1707-04
1650.	8.6927+04	3.1941-07	525.	1.6769-04
1950.	3.2830+05	1.0973-06	525.	5.7607-04
1950.	7.0992+05	2.2928-06	525.	1.2037-03
1950.	3.2830+05	1.0973-06	525.	5.7607-04
1950.	7.6210+04	2.8357-07	525.	1.4888-04
2250.	2.9541+05	9.3143-07	175.	1.6300-04
2250.	5.3896+05	1.6766-06	175.	2.9340-04
2250.	2.9541+05	9.3143-07	175.	1.6300-04
2250.	7.5986+04	2.5161-07	175.	4.4031-05
2550.	2.6158+05	9.3353-07	675.	8.1684-04
2550.	4.2309+05	1.4576-06	875.	1.2754-03
2550.	2.6158+05	9.3353-07	875.	8.1684-04
2550.	7.9073+04	3.1965-07	875.	2.7970-04
2850.	2.3019+05	9.0875-07	1575.	1.4316-03
2850.	3.4095+05	1.2080-06	1575.	2.0266-03
2850.	2.3019+05	9.0875-07	1575.	1.4316-03
2850.	8.1886+04	3.7645-07	1575.	5.9290-04
3150.	2.0240+05	7.7655-07	1225.	9.5128-04
3150.	2.8060+05	1.0408-06	1225.	1.2750-03
3150.	2.0240+05	7.7655-07	1225.	9.5128-04
3150.	8.3146+04	3.5844-07	1225.	4.3909-04
3450.	1.7832+05	6.9405-07	1225.	8.5021-04
3450.	2.3497+05	8.6721-07	1225.	1.0868-03
3450.	1.7832+05	6.9405-07	1225.	8.5021-04
3450.	8.2717+04	3.5687-07	1225.	4.3717-04
3750.	1.5767+05	6.8371-07	1925.	1.3161-03
3750.	1.9963+05	8.3575-07	1925.	1.6088-03
3750.	1.5767+05	6.8371-07	1925.	1.3161-03
3750.	8.0906+04	3.9397-07	1925.	7.5839-04
4050.	1.4000+05	6.7102-07	2625.	1.7614-03
4050.	1.7170+05	7.9272-07	2625.	2.0814-03
4050.	1.4000+05	6.7102-07	2625.	1.7614-03
4050.	7.8117+04	4.2211-07	2625.	1.1060-03
4350.	1.2488+05	5.6754-07	2275.	1.3366-03
4350.	1.4925+05	6.8035-07	2275.	1.5478-03
4350.	1.2488+05	5.6754-07	2275.	1.3366-03
4350.	7.4714+04	3.8902-07	2275.	8.8502-04
4650.	1.1191+05	5.1344-07	1925.	9.6837-04
4650.	1.3093+05	5.8493-07	1925.	1.1260-03
4650.	1.1191+05	5.1344-07	1925.	9.8837-04
4650.	7.0979+04	3.5465-07	1925.	6.8270-04
4950.	1.0073+05	5.1528-07	2625.	1.3526-03
4950.	1.1579+05	5.7576-07	2625.	1.5114-03
4950.	1.0073+05	5.1528-07	2625.	1.3526-03
4950.	6.7118+04	3.7545-07	2625.	9.8555-04
5250.	9.1060+04	5.1532-07	3325.	1.7134-03
5250.	1.0313+05	5.6702-07	3325.	1.8853-03
5250.	9.1060+04	5.1532-07	3325.	1.7134-03
5250.	6.3270+04	3.9177-07	3325.	1.3026-03
5550.	8.2656+04	4.9675-07	3675.	1.8256-03
5550.	9.2440+04	5.4037-07	3675.	1.9858-03
5550.	8.2656+04	4.9675-07	3675.	1.8256-03
5550.	5.9527+04	3.8981-07	3675.	1.4326-03
5850.	7.5317+04	4.2855-07	2975.	1.2749-03
5850.	8.3329+04	4.6305-07	2975.	1.3776-03
5850.	7.5317+04	4.2855-07	2975.	1.2749-03
5850.	5.5944+04	3.4253-07	2975.	1.0190-03
6150.	6.8880+04	4.1734-07	3325.	1.3876-03
6150.	7.5502+04	4.4706-07	3325.	1.4865-03
6150.	6.8880+04	4.1734-07	3325.	1.3876-03
6150.	5.2551+04	3.4176-07	3325.	1.1364-03

POWER = 4.4041+03 CURRENT = 7.2334+00

PMAX 3650. VOLTS
MEAN POWER = 23100. WATTS.

WAUT

DISTANCE = 2.2 AU
VHOLT = 1.00
BCURR = 2.0 AMPS
ZPAR = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 385.00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 6

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3625.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	PUT	POWER
450.	1.0653+06	3.2227-06	53.	1.6995-04
450.	2.0099+07	6.0761-05	53.	3.1778-03
450.	1.0653+06	3.2227-06	53.	1.6995-04
450.	1.0644+06	3.2199-06	53.	1.6980-04
750.	4.6308+05	1.4405-06	158.	2.2790-04
750.	8.1395+06	2.4573-05	158.	3.8875-03
750.	4.6308+05	1.4405-06	158.	2.2790-04
750.	3.8318+05	1.1966-06	156.	1.8930-04
1050.	5.0008+05	1.5396-06	110.	1.6953-04
1050.	4.3899+06	1.3258-05	110.	1.4599-03
1050.	5.0008+05	1.5396-06	110.	1.6953-04
1050.	1.9562+05	6.1258-07	110.	6.7454-05

1350.	5.9890+05	1.8053-06	22.	3.9758-05
1350.	2.7430+06	8.2331-06	22.	1.8132-04
1350.	5.9890+05	1.8053-06	22.	3.9758-05
1350.	1.2122+05	3.6847-07	22.	8.1258-06
1650.	6.2682+05	2.0340-06	525.	1.0679-03
1650.	1.8756+06	5.8847-06	525.	3.0895-03
1650.	6.2682+05	2.0340-06	525.	1.0679-03
1650.	9.4685+04	3.4520-07	525.	1.8123-04
1950.	5.9992+05	1.9501-06	525.	1.0238-03
1950.	1.3631+06	4.3116-06	525.	2.2636-03
1950.	5.9992+05	1.9501-06	525.	1.0238-03
1950.	9.5737+04	3.4869-07	525.	1.8306-04
2250.	5.4824+05	1.7049-06	175.	2.9835-04
2250.	1.0353+06	3.1859-06	175.	5.5754-04
2250.	5.4824+05	1.7049-06	175.	2.9835-04
2250.	1.0940+05	3.5638-07	175.	6.2367-05
2550.	4.9002+05	1.6724-06	875.	1.4633-03
2550.	8.1304+05	2.6979-06	875.	2.3607-03
2550.	4.9002+05	1.6724-06	875.	1.4633-03
2550.	1.2500+05	4.7639-07	875.	4.1859-04
2850.	4.3385+05	1.4621-06	700.	1.0228-03
2850.	6.5536+05	2.1622-06	700.	1.5125-03
2850.	4.3385+05	1.4621-06	700.	1.0228-03
2850.	1.3724+05	5.0305-07	700.	3.5190-04
3150.	3.8306+05	1.2376-06	350.	4.3316-04
3150.	5.3948+05	1.7225-06	350.	6.0286-04
3150.	3.8308+05	1.2376-06	350.	4.3316-04
3150.	1.4457+05	4.8868-07	350.	1.7111-04
3450.	3.3854+05	1.0989-06	350.	3.8461-04
3450.	4.5183+05	1.4511-06	350.	5.0766-04
3450.	3.3854+05	1.0989-06	350.	3.8461-04
3450.	1.4732+05	4.9766-07	350.	1.7418-04
3750.	3.0001+05	1.0829-06	1050.	1.1371-03
3750.	3.8393+05	1.3582-06	1050.	1.4261-03
3750.	3.0001+05	1.0829-06	1050.	1.1371-03
3750.	1.4648+05	5.6787-07	1050.	5.9626-04
4050.	2.6687+05	1.0551-06	1750.	1.8464-03
4050.	3.3026+05	1.2735-06	1750.	2.2287-03
4050.	2.6687+05	1.0551-06	1750.	1.8464-03
4050.	1.4309+05	6.1613-07	1750.	1.0782-03
4350.	2.3837+05	9.1832-07	1400.	1.2856-03
4350.	2.8711+05	1.0841-06	1400.	1.5177-03
4350.	2.3837+05	9.1832-07	1400.	1.2856-03
4350.	1.3804+05	5.6916-07	1400.	7.9683-04
4650.	2.1385+05	7.9633-07	1050.	8.3615-04
4650.	2.5189+05	9.2348-07	1050.	9.6966-04
4650.	2.1385+05	7.9633-07	1050.	8.3615-04
4650.	1.3199+05	5.1793-07	1050.	5.4383-04
4950.	1.9266+05	7.9454-07	1750.	1.3904-03
4950.	2.2278+05	9.0106-07	1750.	1.5768-03
4950.	1.9266+05	7.9454-07	1750.	1.3904-03
4950.	1.2544+05	5.5135-07	1750.	9.6486-04
5250.	1.7430+05	6.9663-07	1399.	9.7475-04
5250.	1.9844+05	7.8079-07	1399.	1.0922-03
5250.	1.7430+05	6.9663-07	1399.	9.7475-04
5250.	1.1872+05	4.9996-07	1399.	6.9935-04
5550.	1.5831+05	6.7140-07	1750.	1.1750-03
5550.	1.7788+05	7.4180-07	1750.	1.2981-03
5550.	1.5831+05	6.7140-07	1750.	1.1750-03
5550.	1.1206+05	5.0166-07	1750.	8.7791-04
5850.	1.4434+05	5.6049-07	1050.	5.8851-04
5850.	1.6036+05	6.1537-07	1050.	6.4614-04
5850.	1.4434+05	5.6049-07	1050.	5.8851-04
5850.	1.0559+05	4.2598-07	1050.	4.4727-04
6150.	1.3206+05	5.4787-07	1400.	7.6702-04
6150.	1.4531+05	5.9496-07	1400.	8.3295-04
6150.	1.3206+05	5.4787-07	1400.	7.6702-04
6150.	9.9404+04	4.2996-07	1400.	6.0194-04

POWER = 4.3426+03 CURRENT = 1.2102+01

PMAX 1925. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXGT

```
DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     1.3 AMPS
ZPAR =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     16.62 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS    =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    400. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1675.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0650+06	3.2234-06	56.	1.8016-04
450.	1.3722+07	4.1172-05	56.	2.3014-03
450.	1.0650+06	3.2234-06	56.	1.8016-04
450.	1.0644+06	3.2215-06	56.	1.8006-04
750.	4.3631+05	1.3613-06	168.	2.2828-04
750.	5.5411+06	1.6771-05	168.	2.8124-03
750.	4.3631+05	1.3613-06	168.	2.2828-04
750.	3.8318+05	1.1966-06	168.	2.0104-04
1050.	3.9805+05	1.2315-06	117.	1.4374-04
1050.	2.9646+06	9.0360-06	117.	1.0549-03
1050.	3.9805+05	1.2315-06	117.	1.4374-04
1050.	1.9558+05	6.1370-07	117.	7.1631-05

ORIGINAL PAGE IS
OF POOR QUALITY

1350.	4.3789+05	1.3223-06	23.	3.0868-05
1350.	1.8637+06	5.5996-06	23.	1.3072-04
1350.	4.3789+05	1.3223-06	23.	3.0868-05
1350.	1.2023+05	3.6628-07	23.	8.5504-06
1650.	4.4336+05	1.4660-06	556.	6.1565-04
1650.	1.2736+04	4.0467-06	556.	2.2520-03
1650.	4.4336+05	1.4660-06	556.	6.1565-04
1650.	8.9487+04	3.3063-07	556.	1.8399-04
1950.	4.1794+05	1.3859-06	557.	7.7128-04
1950.	9.2548+05	2.9701-06	557.	1.6529-03
1950.	4.1794+05	1.3859-06	557.	7.7128-04
1950.	8.2654+04	3.0774-07	557.	1.7126-04
2250.	3.7684+05	1.1897-06	185.	2.2069-04
2250.	7.0277+05	2.1789-06	185.	4.0419-04
2250.	3.7684+05	1.1897-06	185.	2.2069-04
2250.	8.7011+04	2.8745-07	185.	5.3322-05
2550.	3.3697+05	1.1870-06	927.	1.1010-03
2550.	5.5177+05	1.8795-06	927.	1.7433-03
2550.	3.3697+05	1.1870-06	927.	1.1010-03
2550.	9.4228+04	3.7665-07	927.	3.4935-04
2850.	2.9740+05	1.0318-06	742.	7.6510-04
2850.	4.4470+05	1.5040-06	742.	1.1152-03
2850.	2.9740+05	1.0318-06	742.	7.6510-04
2850.	1.0015+05	3.8219-07	742.	2.6339-04
3150.	2.6202+05	8.6309-07	371.	3.2021-04
3150.	3.6603+05	1.1886-06	371.	4.4096-04
3150.	2.6202+05	8.6309-07	371.	3.2021-04
3150.	1.0342+05	3.5923-07	371.	1.3328-04
3450.	2.3119+05	7.6608-07	371.	2.8421-04
3450.	3.0653+05	1.0027-06	371.	3.7199-04
3450.	2.3119+05	7.6608-07	371.	2.8421-04
3450.	1.0404+05	3.6124-07	371.	1.3402-04
3750.	2.0464+05	7.7225-07	1113.	8.5952-04
3750.	2.6045+05	9.5966-07	1113.	1.0681-03
3750.	2.0464+05	7.7225-07	1113.	8.5952-04
3750.	1.0255+05	4.2013-07	1113.	4.6761-04
4050.	1.8187+05	7.6553-07	1855.	1.4201-03
4050.	2.2402+05	9.1595-07	1855.	1.6991-03
4050.	1.8187+05	7.6553-07	1855.	1.4201-03
4050.	9.9560+04	4.6174-07	1855.	8.5653-04
4350.	1.6234+05	6.6260-07	1484.	9.6330-04
4350.	1.9474+05	7.7639-07	1484.	1.1522-03
4350.	1.6234+05	6.6260-07	1484.	9.6330-04
4350.	9.5611+04	4.2168-07	1484.	6.2606-04
4650.	1.4555+05	5.7043-07	1113.	6.3489-04
4650.	1.7085+05	6.5737-07	1113.	7.3165-04
4650.	1.4555+05	5.7043-07	1113.	6.3489-04
4650.	9.1113+04	3.7943-07	1113.	4.2230-04
4950.	1.3107+05	5.6014-07	1855.	1.0762-03
4950.	1.5110+05	6.5390-07	1855.	1.2130-03
4950.	1.3107+05	5.6014-07	1855.	1.0762-03
4950.	8.6364+04	4.1103-07	1855.	7.6246-04
5250.	1.1853+05	5.0574-07	1483.	7.4988-04
5250.	1.3458+05	5.6366-07	1483.	8.3577-04
5250.	1.1853+05	5.0574-07	1483.	7.4988-04
5250.	8.1569+04	3.6943-07	1483.	5.4777-04
5550.	1.0762+05	4.9237-07	1855.	9.1334-04
5550.	1.2064+05	5.4130-07	1855.	1.0041-03
5550.	1.0762+05	4.9237-07	1855.	9.1334-04
5550.	7.6862+04	3.7397-07	1855.	6.9371-04
5850.	9.8094+04	4.0432-07	1113.	4.5001-04
5850.	1.0875+05	4.4206-07	1113.	4.9202-04
5850.	9.8094+04	4.0432-07	1113.	4.5001-04
5850.	7.2327+04	3.1159-07	1113.	3.4680-04
6150.	8.9730+04	4.0005-07	1484.	5.9367-04
6150.	9.8538+04	4.3269-07	1484.	6.4212-04
6150.	8.9730+04	4.0005-07	1484.	5.9367-04
6150.	6.5012+04	3.1806-07	1484.	4.7200-04

POWER = 3.3101+03 CURRENT = 8.6958+00

PMAX 2040. VOLTS

BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

EXQT

DISTANCE = 2.6 AU
VMULT = 1.06
GCURR = 2.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZENIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 385.00 CM

ORIGINAL PAGE IS
OF POOR QUALITY

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 4

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1675.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3625.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	PU1	POWER
450.	7.1021+05	2.1554-06	56.	1.2048-04
450.	1.3399+07	4.0204-05	56.	2.2474-03
450.	7.1021+05	2.1554-06	56.	1.2048-04
450.	7.0959+05	2.1535-06	56.	1.2038-04
750.	3.0872+05	9.7076-07	168.	1.6279-04
750.	5.4263+06	1.6425-05	168.	2.7545-03
750.	3.0872+05	9.7076-07	168.	1.6279-04
750.	2.5545+05	8.0717-07	166.	1.3536-04
1050.	3.3339+05	1.0346-06	117.	1.2076-04
1050.	2.9266+06	6.8629-06	117.	1.0345-03
1050.	3.3339+05	1.0346-06	117.	1.2076-04
1050.	1.3041+05	4.1354-07	117.	4.8269-05

1350.	3.9927+05	1.2062-06	23.	2.8158-05
1350.	1.8287+06	5.4945-06	23.	1.2827-04
1350.	3.9927+05	1.2062-06	23.	2.8158-05
1350.	8.0611+04	2.4719-07	23.	5.7705-06
1650.	4.1788+05	1.3658-06	556.	7.7118-04
1650.	1.2504+06	3.9746-06	556.	2.2119-03
1650.	4.1788+05	1.3856-06	556.	7.7118-04
1650.	6.3123+04	2.4170-07	556.	1.3451-04
1950.	3.9595+05	1.3272-06	557.	7.3970-04
1950.	9.0876+05	2.9183-06	557.	1.6240-03
1950.	3.9595+05	1.3272-06	557.	7.3970-04
1950.	6.3625+04	2.4409-07	557.	1.3584-04
2250.	3.6549+05	1.1468-06	185.	2.1310-04
2250.	6.9023+05	2.1467-06	185.	3.9711-04
2250.	3.6549+05	1.1468-06	185.	2.1310-04
2250.	7.2930+04	2.4304-07	185.	4.5084-05
2550.	3.2668+05	1.1535-06	927.	1.0699-03
2550.	5.4202+05	1.8463-06	927.	1.7143-03
2550.	3.2666+05	1.1535-06	927.	1.0699-03
2550.	8.3333+04	3.3842-07	927.	3.1388-04
2850.	2.8924+05	1.0054-06	742.	7.4553-04
2850.	4.3690+05	1.4792-06	742.	1.0968-03
2850.	2.8924+05	1.0054-06	742.	7.4553-04
2850.	9.1491+04	3.5263-07	742.	2.6148-04
3150.	2.5538+05	8.4222-07	371.	3.1246-04
3150.	3.5965+05	1.1667-06	371.	4.3358-04
3150.	2.5538+05	8.4222-07	371.	3.1246-04
3150.	9.6379+04	3.3646-07	371.	1.2483-04
3450.	2.2569+05	7.4873-07	371.	2.7778-04
3450.	3.0122+05	9.8603-07	371.	3.6582-04
3450.	2.2569+05	7.4873-07	371.	2.7778-04
3450.	9.8216+04	3.4241-07	371.	1.2704-04
3750.	2.0001+05	7.5657-07	1113.	8.4206-04
3750.	2.5595+05	9.4465-07	1113.	1.0519-03
3750.	2.0001+05	7.5657-07	1113.	8.4206-04
3750.	9.7656+04	4.0277-07	1113.	4.4828-04
4050.	1.7791+05	7.5127-07	1855.	1.3936-03
4050.	2.2017+05	9.0230-07	1855.	1.6738-03
4050.	1.7791+05	7.5127-07	1855.	1.3936-03
4050.	9.5396+04	4.4563-07	1855.	8.2701-04
4350.	1.5692+05	6.5050-07	1484.	9.6535-04
4350.	1.9140+05	7.6474-07	1484.	1.1349-03
4350.	1.5892+05	6.5050-07	1484.	9.6535-04
4350.	9.2025+04	4.0858-07	1484.	6.0633-04
4650.	1.4256+05	5.6012-07	1113.	6.2341-04
4650.	1.6793+05	6.4738-07	1113.	7.2053-04
4650.	1.4256+05	5.6012-07	1113.	6.2341-04
4650.	8.7993+04	3.6825-07	1113.	4.0987-04
4950.	1.2844+05	5.7039-07	1855.	1.0581-03
4950.	1.4852+05	6.4447-07	1855.	1.1955-03
4950.	1.2844+05	5.7039-07	1855.	1.0581-03
4950.	8.3626+04	4.0040-07	1855.	7.4275-04
5250.	1.1620+05	4.9726-07	1483.	7.3734-04
5250.	1.3229+05	5.5544-07	1483.	8.2358-04
5250.	1.1620+05	4.9726-07	1483.	7.3734-04
5250.	7.9147+04	3.6031-07	1483.	5.3425-04
5550.	1.0554+05	4.8449-07	1855.	8.9673-04
5550.	1.1859+05	5.3363-07	1855.	9.8989-04
5550.	1.0554+05	4.8449-07	1855.	8.9873-04
5550.	7.4704+04	3.6548-07	1855.	6.7796-04
5850.	9.6224+04	3.9767-07	1113.	4.4261-04
5850.	1.0691+05	4.3556-07	1113.	4.8478-04
5850.	9.6224+04	3.9767-07	1113.	4.4261-04
5850.	7.0393+04	3.0452-07	1113.	3.3893-04
6150.	8.8041+04	3.9375-07	1484.	5.8432-04
6150.	9.6871+04	4.2654-07	1484.	6.3298-04
6150.	8.8041+04	3.9375-07	1484.	5.8432-04
6150.	6.6269+04	3.1137-07	1484.	4.6207-04

POWER = 3.2058+03 CURRENT = 8.1918+00

PMAX 2040. VOLTS

BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

6XGT

DISTANCE = 3.4 AU
VMULT = 1.14
BCURR = 1.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 12.50 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 385.00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 400. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 4

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	PUT	POWER
450.	7.0990+05	2.1562-06	60.	1.2962-04
450.	7.0545+06	2.1200-05	60.	1.2745-03
450.	7.0990+05	2.1562-06	60.	1.2962-04
450.	7.0959+05	2.1553-06	60.	1.2957-04
750.	2.8209+05	8.9167-07	180.	1.9060-04
750.	2.8409+06	8.6474-06	180.	1.5596-03
750.	2.8209+05	8.9167-07	180.	1.9060-04
750.	2.5545+05	8.0960-07	180.	1.4601-04
1050.	2.3186+05	7.2652-07	126.	9.1201-05
1050.	1.5285+06	4.6557-06	126.	5.8443-04
1050.	2.3186+05	7.2652-07	126.	9.1201-05
1050.	1.3037+05	4.1474-07	126.	5.2063-05

1350.	2.3906+05	7.2491-07	25.	1.8200-05
1350.	9.5376+05	2.8721-06	25.	7.2106-05
1350.	2.3906+05	7.2491-07	25.	1.8200-05
1350.	7.9827+04	2.4453-07	25.	6.1391-06
1650.	2.3533+05	8.1165-07	598.	4.8577-04
1650.	6.5159+05	2.1280-06	598.	1.2736-03
1650.	2.3533+05	8.1165-07	598.	4.8577-04
1650.	5.7951+04	2.2666-07	598.	1.3578-04
1950.	2.1887+05	7.5858-07	599.	4.5401-04
1950.	4.7328+05	1.5683-06	599.	9.3863-04
1950.	2.1887+05	7.5858-07	599.	4.5401-04
1950.	5.0807+04	2.0209-07	599.	1.2095-04
2250.	1.9694+05	6.3221-07	199.	1.2613-04
2250.	3.5931+05	1.1329-06	199.	2.2602-04
2250.	1.9694+05	6.3221-07	199.	1.2613-04
2250.	5.0657+04	1.7345-07	199.	3.4603-05
2550.	1.7439+05	6.5779-07	997.	6.5615-04
2550.	2.8206+05	1.0168-06	997.	1.0143-03
2550.	1.7439+05	6.5779-07	997.	6.5615-04
2550.	5.2715+04	2.3256-07	997.	2.3200-04
2850.	1.5346+05	5.6701-07	797.	4.5217-04
2850.	2.2730+05	8.1126-07	797.	6.4695-04
2850.	1.5346+05	5.6701-07	797.	4.5217-04
2850.	5.4591+04	2.2773-07	797.	1.8161-04
3150.	1.3493+05	4.6379-07	399.	1.8505-04
3150.	1.8707+05	6.3038-07	399.	2.5152-04
3150.	1.3493+05	4.6379-07	399.	1.8505-04
3150.	5.5430+04	2.0441-07	399.	8.1558-05
3450.	1.1888+05	4.1210-07	399.	1.6443-04
3450.	1.5664+05	5.3339-07	399.	2.1282-04
3450.	1.1888+05	4.1210-07	399.	1.6443-04
3450.	5.5144+04	2.0345-07	399.	8.1177-05
3750.	1.0511+05	4.3566-07	1197.	5.2149-04
3750.	1.3308+05	5.3460-07	1197.	6.3979-04
3750.	1.0511+05	4.3566-07	1197.	5.2149-04
3750.	5.3937+04	2.4621-07	1197.	2.9711-04
4050.	9.3335+04	4.4663-07	1995.	8.9142-04
4050.	1.1447+05	5.2804-07	1995.	1.0534-03
4050.	9.3335+04	4.4663-07	1995.	8.9142-04
4050.	5.2076+04	2.6102-07	1995.	5.0064-04
4350.	8.3255+04	3.8296-07	1596.	6.1120-04
4350.	9.9499+04	4.4402-07	1596.	7.0866-04
4350.	8.3255+04	3.8296-07	1596.	6.1120-04
4350.	4.9609+04	2.5259-07	1596.	4.0314-04
4650.	7.4605+04	3.2532-07	1197.	3.8941-04
4650.	8.7287+04	3.7159-07	1197.	4.4479-04
4650.	7.4605+04	3.2532-07	1197.	3.8941-04
4650.	4.7319+04	2.2292-07	1197.	2.6663-04
4950.	6.7153+04	3.4306-07	1995.	6.8445-04
4950.	7.7193+04	3.8337-07	1995.	7.6482-04
4950.	6.7153+04	3.4308-07	1995.	6.8445-04
4950.	4.4745+04	2.4994-07	1995.	4.9863-04
5250.	6.0707+04	2.9588-07	1595.	4.7184-04
5250.	6.8754+04	3.2729-07	1595.	5.2192-04
5250.	6.0707+04	2.9588-07	1595.	4.7184-04
5250.	4.2180+04	2.2145-07	1595.	3.5314-04
5550.	5.5104+04	2.9366-07	1995.	5.8584-04
5550.	6.1627+04	3.2057-07	1995.	6.3955-04
5550.	5.5104+04	2.9366-07	1995.	5.8584-04
5550.	3.9685+04	2.2804-07	1995.	4.5494-04
5850.	5.0212+04	2.3402-07	1197.	2.8012-04
5850.	5.5553+04	2.5434-07	1197.	3.0444-04
5850.	5.0212+04	2.3402-07	1197.	2.8012-04
5850.	3.7296+04	1.8381-07	1197.	2.2002-04
6150.	4.5920+04	2.3684-07	1596.	3.7799-04
6150.	5.0335+04	2.5471-07	1596.	4.0652-04
6150.	4.5920+04	2.3684-07	1596.	3.7799-04
6150.	3.5034+04	1.9169-07	1596.	3.0594-04

POWER = 2.0145+03 CURRENT = 4.7629+00

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

EXIT

```
DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZLIMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS    =    200. AMU
ELECTRON TEMPERATURE =       5. EV
NEUTRALIZER CURRENT =       5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3625.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.5511+05	1.0855-06	60.	6.5257-05
450.	6.6997+06	2.0136-05	60.	1.2105-03
450.	3.5511+05	1.0855-06	60.	6.5257-05
450.	3.5480+05	1.0846-06	60.	6.5201-05
750.	1.5436+05	4.9713-07	180.	8.9658-05
750.	2.7132+06	8.2620-06	180.	1.4901-03
750.	1.5436+05	4.9713-07	180.	8.9658-05
750.	1.2773+05	4.1426-07	180.	7.4716-05
1050.	1.6669+05	5.2661-07	126.	6.6106-05
1050.	1.4633+06	4.4590-06	126.	5.5974-04
1050.	1.6669+05	5.2661-07	126.	6.6106-05
1050.	6.5205+04	2.1259-07	126.	2.6687-05

1350.	1.9963+05	6.0616-07	25.	1.5218-05
1350.	9.1434+04	2.7538-06	25.	6.9136-05
1350.	1.9963+05	6.0616-07	25.	1.5218-05
1350.	4.0405+04	1.2497-07	25.	3.1374-06
1650.	2.0894+05	7.2650-07	596.	4.3481-04
1650.	6.2520+05	2.0454-06	596.	1.2242-03
1650.	2.0894+05	7.2650-07	596.	4.3481-04
1650.	3.1562+04	1.3392-07	596.	8.0148-05
1950.	1.9997+05	6.9748-07	599.	4.1744-04
1950.	4.5438+05	1.5067-06	599.	9.0297-04
1950.	1.9997+05	6.9748-07	599.	4.1744-04
1950.	3.1912+04	1.3518-07	599.	8.0907-05
2250.	1.8275+05	5.6819-07	199.	1.1734-04
2250.	3.4511+05	1.0893-06	199.	2.1732-04
2250.	1.8275+05	5.6819-07	199.	1.1734-04
2250.	3.6465+04	1.2768-07	199.	2.5473-05
2550.	1.6334+05	6.2036-07	997.	6.1881-04
2550.	2.7101+05	9.6033-07	997.	9.7788-04
2550.	1.6334+05	6.2036-07	997.	6.1881-04
2550.	4.1666+04	1.9123-07	997.	1.9075-04
2850.	1.4462+05	5.3740-07	797.	4.2856-04
2850.	2.1845+05	7.8222-07	797.	6.2380-04
2850.	1.4462+05	5.3740-07	797.	4.2856-04
2850.	4.5746+04	1.9562-07	797.	1.5616-04
3150.	1.2769+05	4.4060-07	399.	1.7576-04
3150.	1.7983+05	6.0734-07	399.	2.4233-04
3150.	1.2769+05	4.4060-07	399.	1.7576-04
3150.	4.5190+04	1.8614-07	399.	7.1877-05
3450.	1.1285+05	3.9259-07	399.	1.5664-04
3450.	1.5061+05	5.1407-07	399.	2.0512-04
3450.	1.1285+05	3.9259-07	399.	1.5664-04
3450.	4.9108+04	1.8323-07	399.	7.3109-05
3750.	1.0000+05	4.1740-07	1197.	4.9963-04
3750.	1.2798+05	5.1657-07	1197.	6.1834-04
3750.	1.0000+05	4.1740-07	1197.	4.9963-04
3750.	4.8828+04	2.2872-07	1197.	2.7377-04
4050.	8.8955+04	4.2975-07	1995.	8.5735-04
4050.	1.1009+05	5.1135-07	1995.	1.0201-03
4050.	8.8955+04	4.2975-07	1995.	8.5735-04
4050.	4.7698+04	2.6254-07	1995.	5.2376-04
4350.	7.9456+04	3.6651-07	1596.	5.8815-04
4350.	9.5702+04	4.2985-07	1596.	6.6604-04
4350.	7.9456+04	3.6651-07	1596.	5.8815-04
4350.	4.6012+04	2.3721-07	1596.	3.7859-04
4650.	7.1282+04	3.1308-07	1197.	3.7476-04
4650.	8.3964+04	3.5953-07	1197.	4.3036-04
4650.	7.1282+04	3.1308-07	1197.	3.7476-04
4650.	4.3997+04	2.1007-07	1197.	2.5145-04
4950.	6.4221+04	3.3117-07	1995.	6.6069-04
4950.	7.4261+04	3.7167-07	1995.	7.4149-04
4950.	6.4221+04	3.3117-07	1995.	6.6069-04
4950.	4.1813+04	2.3730-07	1995.	4.7341-04
5250.	5.8100+04	2.8561-07	1595.	4.5545-04
5250.	6.6147+04	3.1717-07	1595.	5.0578-04
5250.	5.8100+04	2.8561-07	1595.	4.5545-04
5250.	3.9574+04	2.1067-07	1595.	3.3594-04
5550.	5.2771+04	2.8392-07	1995.	5.6643-04
5550.	5.9294+04	3.1130-07	1995.	6.2044-04
5550.	5.2771+04	2.8392-07	1995.	5.6643-04
5550.	3.7352+04	2.1780-07	1995.	4.3452-04
5850.	4.8112+04	2.2597-07	1197.	2.7048-04
5850.	5.3454+04	2.4638-07	1197.	2.9491-04
5850.	4.8112+04	2.2597-07	1197.	2.7048-04
5850.	3.5196+04	1.7547-07	1197.	2.1003-04
6150.	4.4021+04	2.2907-07	1596.	3.6560-04
6150.	4.8435+04	2.4734-07	1596.	3.9428-04
6150.	4.4021+04	2.2907-07	1596.	3.6560-04
6150.	3.3135+04	1.8362-07	1596.	2.9306-04

POWER = 1.8903+03 CURRENT = 4.2361+00

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

BXQT

DISTANCE = 4.5 AU
VMULT = 1.19
BCURR = 1.3 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RDEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 15.62 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 385.00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 2

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3625.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	PUT	POWER
450.	3.5499+05	1.0859-06	63.	6.8146-05
450.	4.3203+04	1.3004-05	63.	8.1604-04
450.	3.5499+05	1.0859-06	63.	6.8146-05
450.	3.5480+05	1.0853-06	63.	6.8109-05
750.	1.4437+05	4.6722-07	188.	8.7960-05
750.	1.7436+06	5.3372-06	188.	1.0048-03
750.	1.4437+05	4.6722-07	188.	8.7960-05
750.	1.2773+05	4.1534-07	186.	7.8192-05
1050.	1.2862+05	4.1015-07	131.	5.3745-05
1050.	9.3901+05	2.8708-06	131.	3.7697-04
1050.	1.2862+05	4.1015-07	131.	5.3745-05
1050.	6.5191+04	2.1312-07	131.	2.7927-05

ORIGINAL PAGE IS
OF POOR QUALITY

1350.	1.3955+05	4.2525-07	26.	1.1145-05
1350.	5.8624+05	1.7693-06	26.	4.6368-05
1350.	1.3955+05	4.2525-07	26.	1.1145-05
1350.	4.0037+04	1.2398-07	26.	3.2492-06
1650.	1.4046+05	5.0622-07	625.	3.1626-04
1650.	4.0065+04	1.3435-06	625.	8.3935-04
1650.	1.4045+05	5.0622-07	625.	3.1626-04
1650.	2.9622+04	1.2813-07	625.	8.0052-05
1950.	1.3207+05	4.7844-07	625.	2.9890-04
1950.	2.9107+05	9.9437-07	625.	6.2123-04
1950.	1.3207+05	4.7844-07	625.	2.9890-04
1950.	2.7031+04	1.1862-07	625.	7.4105-05
2250.	1.1954+05	3.9231-07	208.	8.1698-05
2250.	2.2102+04	7.0829-07	208.	1.4750-04
2250.	1.1954+05	3.9231-07	208.	8.1698-05
2250.	2.8113+04	1.0097-07	208.	2.1027-05
2550.	1.0623+05	4.2754-07	1041.	4.4517-04
2550.	1.7353+05	6.5932-07	1041.	6.8652-04
2550.	1.0623+05	4.2754-07	1041.	4.4517-04
2550.	3.0185+04	1.4863-07	1041.	1.5497-04
2850.	9.3703+04	3.6745-07	832.	3.0588-04
2850.	1.3985+05	5.2478-07	832.	4.3665-04
2850.	9.3703+04	3.6745-07	832.	3.0588-04
2850.	3.1908+04	1.4633-07	832.	1.4181-04
3150.	8.2523+04	2.9547-07	416.	1.2306-04
3150.	1.1511+05	4.0172-07	416.	1.6732-04
3150.	8.2523+04	2.9547-07	416.	1.2306-04
3150.	3.2834+04	1.2891-07	416.	5.3690-05
3450.	7.2793+04	2.6342-07	416.	1.0971-04
3450.	9.6394+04	3.4089-07	416.	1.4190-04
3450.	7.2793+04	2.6342-07	416.	1.0971-04
3450.	3.2956+04	1.2933-07	416.	5.3866-05
3750.	6.4416+04	2.9073-07	1249.	3.6327-04
3750.	8.1900+04	3.5552-07	1249.	4.4422-04
3750.	6.4418+04	2.9073-07	1249.	3.6327-04
3750.	3.2434+04	1.6660-07	1249.	2.0816-04
4050.	5.7240+04	3.0661-07	2082.	6.3894-04
4050.	7.0447+04	3.6114-07	2082.	7.5208-04
4050.	5.7240+04	3.0661-07	2082.	6.3894-04
4050.	3.1454+04	1.9461-07	2082.	4.0528-04
4350.	5.1085+04	2.6116-07	1666.	4.3510-04
4350.	6.1238+04	3.0160-07	1666.	5.0281-04
4350.	5.1085+04	2.6116-07	1666.	4.3510-04
4350.	3.0182+04	1.7357-07	1666.	2.8918-04
4650.	4.5797+04	2.1967-07	1249.	2.7447-04
4650.	5.3724+04	2.5024-07	1249.	3.1268-04
4650.	4.5797+04	2.1967-07	1249.	2.7447-04
4650.	2.8744+04	1.6149-07	1249.	1.8928-04
4950.	4.1238+04	2.3845-07	2082.	4.9668-04
4950.	4.7512+04	2.6567-07	2082.	5.5325-04
4950.	4.1238+04	2.3845-07	2082.	4.9668-04
4950.	2.7233+04	1.7500-07	2082.	3.6444-04
5250.	3.7290+04	2.0407-07	1665.	3.3969-04
5250.	4.2319+04	2.2515-07	1665.	3.7479-04
5250.	3.7290+04	2.0407-07	1665.	3.3969-04
5250.	2.5711+04	1.5374-07	1665.	2.5592-04
5550.	3.3857+04	2.0557-07	2082.	4.2810-04
5550.	3.7933+04	2.2366-07	2082.	4.6619-04
5550.	3.3857+04	2.0557-07	2082.	4.2810-04
5550.	2.4220+04	1.6006-07	2082.	3.3458-04
5850.	3.0857+04	1.6017-07	1249.	2.0013-04
5850.	3.4196+04	1.7373-07	1249.	2.1708-04
5850.	3.0857+04	1.6017-07	1249.	2.0013-04
5850.	2.2785+04	1.2646-07	1249.	1.5804-04
6150.	2.6225+04	1.6498-07	1666.	2.7466-04
6150.	3.0984+04	1.7708-07	1666.	2.9501-04
6150.	2.6225+04	1.6498-07	1666.	2.7466-04
6150.	2.1421+04	1.3425-07	1666.	2.2367-04

POWER = 1.3845+03 CURRENT = 2.9287+00

PMAX 2291. VOLTS

BEAM POWER = 5727. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.2

$\angle = 35°$

PRECEDING PAGE BLANK NOT FILMED

DISTANCE = 1.0 AU
VMULT = 1.00
BCURR = 2.5 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 31.25 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 12

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	8.4828+06	2.5470-05	53.	1.3431-03
450.	1.1353+07	3.4009-05	53.	1.7966-03
450.	8.4828+06	2.5470-05	53.	1.3431-03
450.	4.2057+06	1.2650-05	53.	6.6708-04
750.	3.6946+06	1.1205-05	158.	1.7727-03
750.	4.1256+06	1.2503-05	158.	1.9780-03
750.	3.6946+06	1.1205-05	158.	1.7727-03
750.	2.7059+06	8.2261-06	158.	1.3014-03
1050.	1.9958+06	6.0561-06	110.	6.6686-04
1050.	2.1134+06	6.4105-06	110.	7.0589-04
1050.	1.9958+06	6.0561-06	110.	6.6686-04
1050.	1.6888+06	5.1312-06	110.	5.6502-04
1350.	1.2374+06	3.7208-06	22.	8.1943-05
1350.	1.2814+06	3.8528-06	22.	8.4850-05
1350.	1.2374+06	3.7208-06	22.	8.1943-05
1350.	1.1161+06	3.3572-06	22.	7.3936-05

ORIGINAL PAGE IS
OF POOR QUALITY

1650.	8.3907+05	2.6526-06	375.	9.9471-04
1650.	8.5904+05	2.7140-06	375.	1.0177-03
1650.	8.3907+05	2.6526-06	375.	9.9471-04
1650.	7.8250+05	2.4705-06	375.	9.2943-04
1950.	6.0535+05	1.9321-06	375.	7.2453-04
1950.	6.1567+05	1.9640-06	375.	7.3649-04
1950.	6.0535+05	1.9321-06	375.	7.2453-04
1950.	5.7565+05	1.8402-06	375.	6.9009-04
2250.	4.5693+05	1.4128-06	125.	1.7660-04
2250.	4.6278+05	1.4306-06	125.	1.7882-04
2250.	4.5693+05	1.4128-06	125.	1.7660-04
2250.	4.3991+05	1.3610-06	125.	1.7013-04
2550.	3.5694+05	1.2047-06	625.	7.5292-04
2550.	3.6050+05	1.2160-06	625.	7.6000-04
2550.	3.5694+05	1.2047-06	625.	7.5292-04
2550.	3.4651+05	1.1715-06	625.	7.3217-04
2850.	2.8644+05	1.0477-06	1125.	1.1767-03
2850.	2.8873+05	1.0553-06	1125.	1.1872-03
2850.	2.8644+05	1.0477-06	1125.	1.1767-03
2850.	2.7971+05	1.0253-06	1125.	1.1535-03
3150.	2.3490+05	8.4501-07	875.	7.4008-04
3150.	2.3643+05	8.5087-07	875.	7.4451-04
3150.	2.3490+05	8.4581-07	875.	7.4008-04
3150.	2.3036+05	8.3085-07	875.	7.2699-04
3450.	1.9609+05	7.1739-07	875.	6.2772-04
3450.	1.9716+05	7.2095-07	875.	6.3063-04
3450.	1.9609+05	7.1739-07	875.	6.2772-04
3450.	1.9293+05	7.0686-07	875.	6.1850-04
3750.	1.6615+05	6.6612-07	1375.	9.1591-04
3750.	1.6692+05	6.6880-07	1375.	9.1961-04
3750.	1.6615+05	6.6612-07	1375.	9.1591-04
3750.	1.6386+05	6.5815-07	1375.	9.0495-04
4050.	1.4257+05	6.2421-07	1875.	1.1704-03
4050.	1.4314+05	6.2629-07	1875.	1.1743-03
4050.	1.4257+05	6.2421-07	1875.	1.1704-03
4050.	1.4089+05	6.1802-07	1675.	1.1588-03
4350.	1.2367+05	5.3536-07	1625.	8.6996-04
4350.	1.2410+05	5.3691-07	1625.	8.7248-04
4350.	1.2367+05	5.3536-07	1625.	8.6996-04
4350.	1.2241+05	5.3073-07	1625.	8.6244-04
4650.	1.0829+05	4.6049-07	1375.	6.3318-04
4650.	1.0862+05	4.6167-07	1375.	6.3480-04
4650.	1.0829+05	4.6049-07	1375.	6.3318-04
4650.	1.0732+05	4.5698-07	1375.	6.2835-04
4950.	9.5612+04	4.4795-07	1875.	8.3991-04
4950.	9.5866+04	4.4893-07	1875.	8.4174-04
4950.	9.5612+04	4.4795-07	1875.	8.3991-04
4950.	9.4856+04	4.4505-07	1875.	8.3447-04
5250.	8.5033+04	4.3674-07	2375.	1.0372-03
5250.	8.5233+04	4.3755-07	2375.	1.0392-03
5250.	8.5033+04	4.3674-07	2375.	1.0372-03
5250.	8.4434+04	4.3430-07	2375.	1.0315-03
5550.	7.6116+04	4.1370-07	2625.	1.0860-03
5550.	7.6277+04	4.1437-07	2625.	1.0877-03
5550.	7.6116+04	4.1370-07	2625.	1.0860-03
5550.	7.5636+04	4.1167-07	2625.	1.0806-03
5850.	6.8530+04	3.5562-07	2125.	7.5569-04
5850.	6.8661+04	3.5615-07	2125.	7.5682-04
5850.	6.8530+04	3.5562-07	2125.	7.5569-04
5850.	6.8141+04	3.5403-07	2125.	7.5231-04
6150.	6.2024+04	3.4131-07	2375.	8.1060-04
6150.	6.2131+04	3.4176-07	2375.	8.1168-04
6150.	6.2024+04	3.4131-07	2375.	8.1060-04
6150.	6.1706+04	3.3995-07	2375.	8.0739-04

POWER = 4.0803+03 CURRENT = 1.4112+01

PMAX 2750. VOLTS
BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

DISTANCE = 1.6 AU
VMULT = 1.25
BCURR = 1.0 AMPS
ZPAR = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 12.50 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 12

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.6704+06	1.4057-05	66.	9.2663-04
450.	5.8164+06	1.7501-05	66.	1.1536-03
450.	4.6704+06	1.4057-05	66.	9.2663-04
450.	2.9596+06	8.9228-06	66.	5.8817-04
750.	1.9376+06	5.9269-06	198.	1.1725-03
750.	2.1100+06	6.4503-06	198.	1.2756-03
750.	1.9376+06	5.9269-06	198.	1.1725-03
750.	1.5422+06	4.7318-06	198.	9.3574-04
1050.	1.0329+06	3.1637-06	138.	4.3646-04
1050.	1.0800+06	3.3062-06	138.	4.5507-04
1050.	1.0329+06	3.1637-06	138.	4.3546-04
1050.	9.1014+05	2.7920-06	138.	3.8430-04
1350.	6.3687+05	1.9220-06	28.	5.2910-05
1350.	6.5448+05	1.9749-06	28.	5.4366-05
1350.	6.3687+05	1.9220-06	28.	5.2910-05
1350.	5.8837+05	1.7763-06	28.	4.8899-05

1650.	4.3063+05	1.4073-06	469.	6.6059-04
1650.	4.3862+05	1.4343-06	469.	6.7232-04
1650.	4.3063+05	1.4073-06	469.	6.6059-04
1650.	4.0800+05	1.3384-06	469.	6.2736-04
1750.	3.1016+05	1.0306-06	469.	4.8311-04
1750.	3.1429+05	1.0437-06	469.	4.8922-04
1750.	3.1016+05	1.0306-06	469.	4.8311-04
1750.	2.9828+05	9.9312-07	469.	4.6552-04
2250.	2.3386+05	7.3860-07	156.	1.1541-04
2250.	2.3620+05	7.4579-07	156.	1.1653-04
2250.	2.3386+05	7.3860-07	156.	1.1541-04
2250.	2.2705+05	7.1767-07	156.	1.1214-04
2550.	1.8255+05	6.6179-07	781.	5.1718-04
2550.	1.8398+05	6.6670-07	781.	5.2046-04
2550.	1.8255+05	6.6179-07	781.	5.1718-04
2550.	1.7838+05	6.4819-07	781.	5.0640-04
2850.	1.4642+05	5.9944-07	1406.	8.4296-04
2850.	1.4733+05	6.0268-07	1406.	8.4752-04
2850.	1.4642+05	5.9944-07	1406.	8.4296-04
2850.	1.4373+05	5.8969-07	1406.	8.2954-04
3150.	1.2003+05	4.8009-07	1094.	5.2510-04
3150.	1.2064+05	4.8224-07	1094.	5.2745-04
3150.	1.2003+05	4.8009-07	1094.	5.2513-04
3150.	1.1821+05	4.7375-07	1094.	5.1816-04
3450.	1.0017+05	4.1023-07	1094.	4.4869-04
3450.	1.0060+05	4.1175-07	1094.	4.5035-04
3450.	1.0017+05	4.1023-07	1094.	4.4869-04
3450.	9.8900+04	4.0574-07	1094.	4.4378-04
3750.	8.4854+04	3.9675-07	1719.	6.3191-04
3750.	8.5161+04	3.9793-07	1719.	6.3393-04
3750.	8.4854+04	3.9675-07	1719.	6.3191-04
3750.	8.3943+04	3.9326-07	1719.	6.2591-04
4050.	7.2798+04	3.8484-07	2344.	9.0194-04
4050.	7.3024+04	3.8578-07	2344.	9.0417-04
4050.	7.2798+04	3.8484-07	2344.	9.0194-04
4050.	7.2126+04	3.8200-07	2344.	8.9546-04
4350.	6.3136+04	3.2863-07	2031.	6.6753-04
4350.	6.3306+04	3.2933-07	2031.	6.6875-04
4350.	6.3138+04	3.2863-07	2031.	6.6753-04
4350.	6.2632+04	3.2656-07	2031.	6.6392-04
4650.	5.5279+04	2.8073-07	1719.	4.8251-04
4650.	5.5410+04	2.8126-07	1719.	4.8341-04
4650.	5.5279+04	2.8073-07	1719.	4.8251-04
4650.	5.4891+04	2.7917-07	1719.	4.7962-04
4950.	4.8801+04	2.8279-07	2344.	6.6279-04
4950.	4.8902+04	2.8324-07	2344.	6.6364-04
4950.	4.8801+04	2.8279-07	2344.	6.6279-04
4950.	4.6496+04	2.8146-07	2344.	6.5967-04
5250.	4.3397+04	2.8367-07	2969.	8.4274-04
5250.	4.3477+04	2.8425-07	2969.	8.4367-04
5250.	4.3397+04	2.8367-07	2969.	8.4274-04
5250.	4.3156+04	2.8273-07	2969.	8.3935-04
5550.	3.8843+04	2.7331-07	3281.	8.9679-04
5550.	3.8908+04	2.7363-07	3281.	8.9785-04
5550.	3.8843+04	2.7331-07	3281.	8.9679-04
5550.	3.8651+04	2.7235-07	3281.	8.9363-04
5850.	3.4970+04	2.3183-07	2656.	6.1580-04
5850.	3.5022+04	2.3208-07	2656.	6.1646-04
5850.	3.4970+04	2.3183-07	2656.	6.1580-04
5850.	3.4814+04	2.3108-07	2656.	6.1381-04
6150.	3.1648+04	2.2623-07	2969.	6.7163-04
6150.	3.1691+04	2.2645-07	2969.	6.7228-04
6150.	3.1648+04	2.2623-07	2969.	6.7163-04
6150.	3.1521+04	2.2559-07	2969.	6.6971-04

POWER = 3.0034+03 CURRENT = 7.7736+00

PMAX 3438. VOLTS
BEAM POWER = .41250. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

DISTANCE = 1.6 AU
VMULT = 1.25
BCURR = 2.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 6

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.6060+04	1.0863-05	66.	7.1610-04
450.	4.7540+06	1.4306-05	66.	9.4317-04
450.	3.6060+04	1.0863-05	66.	7.1610-04
450.	1.8952+06	5.7255-06	66.	3.7741-04
750.	1.5545+06	4.7691-06	198.	9.4310-04
750.	1.7269+06	5.2911-06	198.	1.0463-03
750.	1.5545+06	4.7691-06	198.	9.4310-04
750.	1.1590+06	3.5700-06	198.	7.0599-04
1050.	8.3741+05	2.5717-06	138.	3.5397-04
1050.	8.8448+05	2.7143-06	138.	3.7360-04
1050.	8.3741+05	2.5717-06	138.	3.5397-04
1050.	7.1464+05	2.1994-06	138.	3.0273-04
1350.	5.1861+05	1.5667-06	28.	4.3128-05
1350.	5.3622+05	1.6196-06	28.	4.4585-05
1350.	5.1861+05	1.5667-06	28.	4.3128-05
1350.	4.7011+05	1.4209-06	28.	3.9114-05

1050.	3.5146+05	1.1608-06	469.	5.4412-04
1050.	3.4945+05	1.1859-06	469.	5.5590-04
1050.	3.5146+05	1.1608-06	469.	5.4412-04
1050.	3.2884+05	1.0895-06	469.	5.1072-04
1950.	2.5348+05	8.5124-07	469.	3.9902-04
1950.	2.5761+05	8.6433-07	469.	4.0516-04
1950.	2.5348+05	8.5124-07	469.	3.9902-04
1950.	2.4160+05	8.1360-07	469.	3.8133-04
2250.	1.9129+05	6.0753-07	156.	9.4927-05
2250.	1.9363+05	6.1475-07	156.	9.6054-05
2250.	1.9129+05	6.0753-07	156.	9.4927-05
2250.	1.8448+05	5.8654-07	156.	9.1647-05
2550.	1.4940+05	5.5181-07	781.	4.3110-04
2550.	1.5083+05	5.5656-07	781.	4.3481-04
2550.	1.4940+05	5.5181-07	781.	4.3110-04
2550.	1.4523+05	5.3766-07	781.	4.2020-04
2850.	1.1988+05	5.0472-07	1406.	7.0976-04
2850.	1.2080+05	5.0801-07	1406.	7.1439-04
2850.	1.1988+05	5.0472-07	1406.	7.0976-04
2850.	1.1719+05	4.9501-07	1406.	6.9611-04
3150.	9.9334+04	4.0363-07	1094.	4.4147-04
3150.	9.8916+04	4.0561-07	1094.	4.4385-04
3150.	9.8304+04	4.0363-07	1094.	4.4147-04
3150.	9.6489+04	3.9718-07	1094.	4.3442-04
3450.	8.2059+04	3.4558-07	1094.	3.7798-04
3450.	8.2487+04	3.4712-07	1094.	3.7968-04
3450.	8.2059+04	3.4558-07	1094.	3.7798-04
3450.	8.0792+04	3.4101-07	1094.	3.7299-04
3750.	6.9526+04	3.3736-07	1719.	5.7983-04
3750.	6.9833+04	3.3856-07	1719.	5.8190-04
3750.	6.9526+04	3.3736-07	1719.	5.7983-04
3750.	6.8816+04	3.3378-07	1719.	5.7369-04
4050.	5.9657+04	3.2971-07	2344.	7.7277-04
4050.	5.9883+04	3.3068-07	2344.	7.7502-04
4050.	5.9657+04	3.2971-07	2344.	7.7277-04
4050.	5.8986+04	3.2685-07	2344.	7.6606-04
4350.	5.1747-04	2.8133-07	2031.	5.7145-04
4350.	5.1917+04	2.8205-07	2031.	5.7291-04
4350.	5.1747+04	2.8133-07	2031.	5.7145-04
4350.	5.1242+04	2.7920-07	2031.	5.6712-04
4650.	4.5311+04	2.4000-07	1719.	4.1250-04
4650.	4.5441+04	2.4054-07	1719.	4.1343-04
4650.	4.5311+04	2.4000-07	1719.	4.1250-04
4650.	4.4923+04	2.3839-07	1719.	4.0974-04
4950.	4.0004+04	2.4354-07	2344.	5.7080-04
4950.	4.0106+04	2.4400-07	2344.	5.7188-04
4950.	4.0004+04	2.4354-07	2344.	5.7080-04
4950.	3.9702+04	2.4217-07	2344.	5.6757-04
5250.	3.5577+04	2.4591-07	2969.	7.3005-04
5250.	3.5657+04	2.4631-07	2969.	7.3123-04
5250.	3.5577+04	2.4591-07	2969.	7.3005-04
5250.	3.5330+04	2.4473-07	2969.	7.2653-04
5550.	3.1846+04	2.3753-07	3281.	7.7938-04
5550.	3.1910+04	2.3786-07	3281.	7.8049-04
5550.	3.1846+04	2.3753-07	3281.	7.7938-04
5550.	3.1654+04	2.3652-07	3281.	7.7609-04
5850.	2.8672+04	2.0097-07	2656.	5.3382-04
5850.	2.8724+04	2.0123-07	2656.	5.3462-04
5850.	2.8672+04	2.0097-07	2656.	5.3382-04
5850.	2.8516+04	2.0019-07	2656.	5.3176-04
6150.	2.5950+04	1.9676-07	2969.	5.8413-04
6150.	2.5992+04	1.9698-07	2969.	5.8480-04
6150.	2.5950+04	1.9676-07	2969.	5.8413-04
6150.	2.5822+04	1.9608-07	2969.	5.8213-04

POWER = 2.5197+03 CURRENT = 6.1936+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

QXQT

ORIGINAL PAGE IS
OF POOR QUALITY

DISTANCE = 2.2 AU
VMULT = 1.40
BCURR = 1.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM.
EQUIV CURRENT = 12.50 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

ORIGINAL PAGE IS
OF POOR QUALITY

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 6

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.3352+06	7.0535-06	74.	5.2074-04
450.	2.9092+06	6.7781-06	74.	6.4807-04
450.	2.3352+06	7.0535-06	74.	5.2074-04
450.	1.4798+06	4.4812-06	74.	3.3084-04
750.	9.6982+05	3.0009-06	221.	6.6465-04
750.	1.0550+06	3.2632-06	221.	7.2274-04
750.	9.6862+05	3.0037-06	221.	6.6465-04
750.	7.7109+05	2.3984-06	221.	5.3121-04
1050.	5.1646+05	1.6021-06	154.	2.4696-04
1050.	5.3999+05	1.6738-06	154.	2.5803-04
1050.	5.1646+05	1.6021-06	154.	2.4696-04
1050.	4.5537+05	1.4150-06	154.	2.1814-04
1350.	3.1844+05	9.6577-07	31.	2.9776-05
1350.	3.2724+05	9.9228-07	31.	3.0594-05
1350.	3.1844+05	9.6577-07	31.	2.9776-05
1350.	2.9419+05	8.9273-07	31.	2.7525-05

1650.	2.1532+05	7.3744-07	525.	3.8716-04
1650.	2.1931+05	7.5025-07	525.	3.9388-04
1650.	2.1532+05	7.3744-07	525.	3.8716-04
1650.	2.0400+05	7.0112-07	525.	3.6809-04
1950.	1.5508+05	5.4316-07	525.	2.8516-04
1950.	1.5714+05	5.4986-07	525.	2.8868-04
1950.	1.5508+05	5.4316-07	525.	2.8516-04
1950.	1.4914+05	5.2387-07	525.	2.7503-04
2250.	1.1693+05	3.7991-07	175.	6.6484-05
2250.	1.1810+05	3.8356-07	175.	6.7123-05
2250.	1.1693+05	3.7991-07	175.	6.6484-05
2250.	1.1353+05	3.6929-07	175.	6.4625-05
2550.	9.1276+04	3.6233-07	875.	3.1704-04
2550.	9.1988+04	3.6481-07	875.	3.1921-04
2550.	9.1276+04	3.6233-07	875.	3.1704-04
2550.	8.9191+04	3.5507-07	875.	3.1069-04
2850.	7.3209+04	3.4333-07	1575.	5.4075-04
2850.	7.3667+04	3.4509-07	1575.	5.4351-04
2850.	7.3209+04	3.4333-07	1575.	5.4075-04
2850.	7.1863+04	3.3816-07	1575.	5.3259-04
3150.	6.0013+04	2.7275-07	1225.	3.3412-04
3150.	6.0320+04	2.7391-07	1225.	3.3554-04
3150.	6.0013+04	2.7275-07	1225.	3.3412-04
3150.	5.9105+04	2.6933-07	1225.	3.2993-04
3450.	5.0084+04	2.3499-07	1225.	2.8787-04
3450.	5.0298+04	2.3581-07	1225.	2.8887-04
3450.	5.0084+04	2.3499-07	1225.	2.8787-04
3450.	4.9450+04	2.3256-07	1225.	2.8488-04
3750.	4.2427+04	2.3697-07	1925.	4.5616-04
3750.	4.2580+04	2.3762-07	1925.	4.5743-04
3750.	4.2427+04	2.3697-07	1925.	4.5616-04
3750.	4.1971+04	2.3501-07	1925.	4.5240-04
4050.	3.6399+04	2.3753-07	2625.	6.2351-04
4050.	3.6512+04	2.3807-07	2625.	6.2493-04
4050.	3.6399+04	2.3753-07	2625.	6.2351-04
4050.	3.6063+04	2.3593-07	2625.	6.1932-04
4350.	3.1569+04	2.0205-07	2275.	4.5966-04
4350.	3.1654+04	2.0245-07	2275.	4.6057-04
4350.	3.1569+04	2.0205-07	2275.	4.5966-04
4350.	3.1316+04	2.0086-07	2275.	4.5696-04
4650.	2.7640+04	1.7152-07	1925.	3.3017-04
4650.	2.7705+04	1.7181-07	1925.	3.3074-04
4650.	2.7640+04	1.7152-07	1925.	3.3017-04
4650.	2.7446+04	1.7062-07	1925.	3.2845-04
4950.	2.4400+04	1.7833-07	2625.	4.6811-04
4950.	2.4451+04	1.7859-07	2625.	4.6880-04
4950.	2.4400+04	1.7833-07	2625.	4.6811-04
4950.	2.4249+04	1.7755-07	2625.	4.6606-04
5250.	2.1699+04	1.8352-07	3325.	6.1020-04
5250.	2.1739+04	1.8375-07	3325.	6.1096-04
5250.	2.1699+04	1.8352-07	3325.	6.1020-04
5250.	2.1579+04	1.8283-07	3325.	6.0792-04
5550.	1.9422+04	1.7906-07	3675.	6.5805-04
5550.	1.9454+04	1.7926-07	3675.	6.5877-04
5550.	1.9422+04	1.7906-07	3675.	6.5805-04
5550.	1.9326+04	1.7848-07	3675.	6.5590-04
5850.	1.7485+04	1.5026-07	2975.	4.4701-04
5850.	1.7511+04	1.5041-07	2975.	4.4746-04
5850.	1.7485+04	1.5026-07	2975.	4.4701-04
5850.	1.7407+04	1.4980-07	2975.	4.4567-04
6150.	1.5824+04	1.4863-07	3325.	4.9419-04
6150.	1.5845+04	1.4876-07	3325.	4.9463-04
6150.	1.5824+04	1.4863-07	3325.	4.9419-04
6150.	1.5760+04	1.4823-07	3325.	4.9287-04

POWER = 1.9623+03 CURRENT = 4.0395+00

PMAX 3650. VOLTS
BEAM POWER = 23100. WATTS

EXT

ORIGINAL PAGE IS
OF POOR QUALITY

```
DISTANCE =     2.2 AU
VMULT =   1.00
BCURR =    2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    10.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3625.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.6060+04	1.0851-05	53.	5.7222-04
450.	4.7540+06	1.4294-05	53.	7.5378-04
450.	3.6060+04	1.0851-05	53.	5.7222-04
450.	1.8952+06	5.7165-06	53.	3.0145-04
750.	1.5545+06	4.7504-06	158.	7.5153-04
750.	1.7269+06	5.2715-06	158.	8.3396-04
750.	1.5545+06	4.7504-06	158.	7.5153-04
750.	1.1590+06	3.5539-06	158.	5.6224-04
1050.	8.3741+05	2.5612-06	110.	2.8203-04
1050.	8.8448+05	2.7036-06	110.	2.9770-04
1050.	8.3741+05	2.5612-06	110.	2.8203-04
1050.	7.1464+05	2.1898-06	110.	2.4112-04

1350.	5.1861+05	1.5642-06	22.	3.4446-05
1350.	5.3622+05	1.6171-06	22.	3.5613-05
1350.	5.1861+05	1.5642-06	22.	3.4446-05
1350.	4.7011+05	1.4185-06	22.	3.1240-05
1650.	3.5146+05	1.1705-06	525.	6.1453-04
1650.	3.5945+05	1.1968-06	525.	6.2776-04
1650.	3.5146+05	1.1705-06	525.	6.1453-04
1650.	3.2884+05	1.0990-06	525.	5.7696-04
1950.	2.5348+05	8.5951-07	525.	4.5124-04
1950.	2.5761+05	8.7266-07	525.	4.5816-04
1950.	2.5348+05	8.5951-07	525.	4.5124-04
1950.	2.4160+05	8.2156-07	525.	4.3133-04
2250.	1.9129+05	6.1069-07	175.	1.0687-04
2250.	1.9363+05	6.1792-07	175.	1.0814-04
2250.	1.9129+05	6.1069-07	175.	1.0687-04
2250.	1.8446+05	5.8964-07	175.	1.0319-04
2550.	1.4940+05	5.6112-07	875.	4.9098-04
2550.	1.5083+05	5.6573-07	875.	4.9519-04
2550.	1.4940+05	5.6112-07	875.	4.9096-04
2550.	1.4523+05	5.4705-07	875.	4.7867-04
2850.	1.1988+05	4.4510-07	700.	3.1136-04
2850.	1.2080+05	4.4816-07	700.	3.1350-04
2850.	1.1988+05	4.4510-07	700.	3.1136-04
2850.	1.1719+05	4.3606-07	700.	3.0504-04
3150.	9.8304+04	3.4061-07	350.	1.1921-04
3150.	9.8918+04	3.4260-07	350.	1.1991-04
3150.	9.8304+04	3.4061-07	350.	1.1921-04
3150.	9.6469+04	3.3475-07	350.	1.1716-04
3450.	8.2059+04	2.8801-07	350.	1.0080-04
3450.	8.2487+04	2.8940-07	350.	1.0129-04
3450.	8.2059+04	2.8801-07	350.	1.0080-04
3450.	8.0792+04	2.8389-07	350.	9.9361-05
3750.	6.9526+04	2.9736-07	1050.	3.1222-04
3750.	6.9833+04	2.9847-07	1050.	3.1339-04
3750.	6.9526+04	2.9736-07	1050.	3.1222-04
3750.	6.8616+04	2.9404-07	1050.	3.0875-04
4050.	5.9657+04	2.9994-07	1750.	5.2489-04
4050.	5.9863+04	3.0084-07	1750.	5.2646-04
4050.	5.9657+04	2.9994-07	1750.	5.2489-04
4050.	5.6986+04	2.9725-07	1750.	5.2018-04
4350.	5.1747+04	2.5050-07	1400.	3.5070-04
4350.	5.1917+04	2.5116-07	1400.	3.5163-04
4350.	5.1747+04	2.5050-07	1400.	3.5070-04
4350.	5.1242+04	2.4852-07	1400.	3.4792-04
4650.	4.5311+04	2.0771-07	1050.	2.1809-04
4650.	4.5441+04	2.0820-07	1050.	2.1861-04
4650.	4.5311+04	2.0771-07	1050.	2.1809-04
4650.	4.4923+04	2.0624-07	1050.	2.1655-04
4950.	4.0004+04	2.1916-07	1750.	3.8352-04
4950.	4.0106+04	2.1959-07	1750.	3.8428-04
4950.	4.0004+04	2.1916-07	1750.	3.8352-04
4950.	3.9702+04	2.1788-07	1750.	3.8128-04
5250.	3.5577+04	1.8574-07	1399.	2.5981-04
5250.	3.5657+04	1.8606-07	1399.	2.6027-04
5250.	3.5577+04	1.8574-07	1399.	2.5981-04
5250.	3.5338+04	1.8475-07	1399.	2.5844-04
5550.	3.1846+04	1.8403-07	1750.	3.2206-04
5550.	3.1910+04	1.8432-07	1750.	3.2255-04
5550.	3.1846+04	1.8403-07	1750.	3.2206-04
5550.	3.1654+04	1.8319-07	1750.	3.2059-04
5850.	2.8672+04	1.4318-07	1050.	1.5034-04
5850.	2.8724+04	1.4339-07	1050.	1.5056-04
5850.	2.8672+04	1.4318-07	1050.	1.5034-04
5850.	2.8516+04	1.4256-07	1050.	1.4969-04
6150.	2.5950+04	1.4541-07	1400.	2.0357-04
6150.	2.5992+04	1.4559-07	1400.	2.0383-04
6150.	2.5950+04	1.4541-07	1400.	2.0357-04
6150.	2.5822+04	1.4486-07	1400.	2.0280-04

POWER = 1.5571+03 CURRENT = 6.0562+00

PMAX 1925. VOLTS

BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

EXQT

DISTANCE = 2.6 AU
VMULT = 1.06
BCURR = 1.3 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 16.62 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 900. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 6

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.7546+06	8.2991-06	56.	4.6391-04
450.	3.5180+06	1.0590-05	56.	5.9197-04
450.	2.7546+06	8.2991-06	56.	4.6391-04
450.	1.6169+06	4.8825-06	56.	2.7293-04
750.	1.1621+06	3.5673-06	168.	5.9821-04
750.	1.2767+06	3.9145-06	168.	6.5645-04
750.	1.1621+06	3.5673-06	168.	5.9821-04
750.	8.9909+05	2.7697-06	168.	4.6447-04
1050.	6.2237+05	1.9125-06	117.	2.2323-04
1050.	6.5367+05	2.0074-06	117.	2.3431-04
1050.	6.2237+05	1.9125-06	117.	2.2323-04
1050.	5.4073+05	1.6649-06	117.	1.9433-04

1350.	3.8449+05	1.1618-06	23.	2.7122-05
1350.	3.9620+05	1.1970-06	23.	2.7943-05
1350.	3.8449+05	1.1618-06	23.	2.7122-05
1350.	3.5224+05	1.0649-06	23.	2.4858-05
1650.	2.6024+05	8.8569-07	556.	4.9289-04
1650.	2.6556+05	9.0267-07	556.	5.0233-04
1650.	2.6024+05	8.8569-07	556.	4.9289-04
1650.	2.4520+05	8.3754-07	556.	4.6609-04
1950.	1.8755+05	6.5208-07	557.	3.6288-04
1950.	1.9030+05	6.6075-07	557.	3.6782-04
1950.	1.8755+05	6.5208-07	557.	3.6288-04
1950.	1.7965+05	6.2652-07	557.	3.4866-04
2250.	1.4147+05	4.5779-07	185.	8.4920-05
2250.	1.4302+05	4.6263-07	185.	8.5819-05
2250.	1.4147+05	4.5779-07	185.	8.4920-05
2250.	1.3694+05	4.4369-07	185.	8.2305-05
2550.	1.1046+05	4.3303-07	927.	4.0164-04
2550.	1.1141+05	4.3630-07	927.	4.0467-04
2550.	1.1046+05	4.3303-07	927.	4.0164-04
2550.	1.0769+05	4.2344-07	927.	3.9274-04
2850.	8.8611+04	3.4277-07	742.	2.5416-04
2850.	8.9220+04	3.4465-07	742.	2.5571-04
2850.	8.8611+04	3.4277-07	742.	2.5416-04
2850.	8.6820+04	3.3662-07	742.	2.4961-04
3150.	7.2649+04	2.5914-07	371.	9.0142-05
3150.	7.3058+04	2.6048-07	371.	9.0639-05
3150.	7.2649+04	2.5914-07	371.	9.0142-05
3150.	7.1442+04	2.5518-07	371.	9.4673-05
3450.	6.0635+04	2.1960-07	371.	8.1471-05
3450.	6.0920+04	2.2054-07	371.	8.1820-05
3450.	6.0635+04	2.1960-07	371.	8.1471-05
3450.	5.9793+04	2.1681-07	371.	8.0437-05
3750.	5.1370+04	2.3394-07	1113.	2.6037-04
3750.	5.1574+04	2.3471-07	1113.	2.6123-04
3750.	5.1370+04	2.3394-07	1113.	2.6037-04
3750.	5.0764+04	2.3165-07	1113.	2.5763-04
4050.	4.4074+04	2.4093-07	1855.	4.4693-04
4050.	4.4224+04	2.4157-07	1855.	4.4811-04
4050.	4.4074+04	2.4093-07	1855.	4.4693-04
4050.	4.3628+04	2.3905-07	1855.	4.4343-04
4350.	3.8228+04	2.0029-07	1484.	2.9723-04
4350.	3.8341+04	2.0076-07	1484.	2.9792-04
4350.	3.8228+04	2.0029-07	1484.	2.9723-04
4350.	3.7892+04	1.9891-07	1484.	2.9518-04
4650.	3.3471+04	1.6493-07	1113.	1.8357-04
4650.	3.3558+04	1.6527-07	1113.	1.8395-04
4650.	3.3471+04	1.6493-07	1113.	1.8357-04
4650.	3.3213+04	1.6391-07	1113.	1.8243-04
4950.	2.9550+04	1.7773-07	1855.	3.2969-04
4950.	2.9617+04	1.7803-07	1855.	3.3025-04
4950.	2.9550+04	1.7773-07	1855.	3.2969-04
4950.	2.9348+04	1.7682-07	1855.	3.2800-04
5250.	2.6278+04	1.4982-07	1483.	2.2215-04
5250.	2.6332+04	1.5006-07	1483.	2.2250-04
5250.	2.6278+04	1.4982-07	1483.	2.2215-04
5250.	2.6119+04	1.4913-07	1483.	2.2113-04
5550.	2.3522+04	1.5007-07	1855.	2.7838-04
5550.	2.3564+04	1.5027-07	1855.	2.7875-04
5550.	2.3522+04	1.5007-07	1855.	2.7838-04
5550.	2.3394+04	1.4947-07	1855.	2.7727-04
5850.	2.1177+04	1.1490-07	1113.	1.2788-04
5850.	2.1211+04	1.1504-07	1113.	1.2804-04
5850.	2.1177+04	1.1490-07	1113.	1.2788-04
5850.	2.1073+04	1.1446-07	1113.	1.2740-04
6150.	1.9165+04	1.1819-07	1484.	1.7539-04
6150.	1.9194+04	1.1832-07	1484.	1.7559-04
6150.	1.9165+04	1.1819-07	1484.	1.7539-04
6150.	1.9081+04	1.1780-07	1484.	1.7482-04

POWER = 1.2856+03 CURRENT = 4.6259+00

PMAX 2040. VOLTS
BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.6 AU
VMULT =    1.06
dCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    400. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3625.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.4040+06	7.2467-06	56.	4.0508-04
450.	3.1694+06	9.5439-06	56.	5.3349-04
450.	2.4040+06	7.2467-06	56.	4.0508-04
450.	1.2634+06	3.8202-06	56.	2.1354-04
750.	1.0363+06	3.1860-06	168.	5.3428-04
750.	1.1512+06	3.5344-06	168.	5.9270-04
750.	1.0363+06	3.1860-06	168.	5.3428-04
750.	7.7266+05	2.3857-06	168.	4.0008-04
1050.	5.5827+05	1.7181-06	117.	2.0064-04
1050.	5.8965+05	1.8133-06	117.	2.1165-04
1050.	5.5827+05	1.7181-06	117.	2.0054-04
1050.	4.7642+05	1.4697-06	117.	1.7154-04

1350.	3.4574+05	1.0453-06	23.	2.4402-05
1350.	3.5748+05	1.0806-06	23.	2.5226-05
1350.	3.4574+05	1.0453-06	23.	2.4402-05
1350.	3.1341+05	9.4808-07	23.	2.2132-05
1650.	2.3431+05	8.0264-07	556.	4.4667-04
1650.	2.3963+05	8.1971-07	556.	4.5617-04
1650.	2.3431+05	8.0264-07	556.	4.4667-04
1650.	2.1922+05	7.5419-07	556.	4.1971-04
1950.	1.6899+05	5.9193-07	557.	3.2941-04
1950.	1.7174+05	6.0086-07	557.	3.3438-04
1950.	1.6899+05	5.9193-07	557.	3.2941-04
1950.	1.6107+05	5.6619-07	557.	3.1509-04
2250.	1.2752+05	4.1434-07	185.	7.6859-05
2250.	1.2908+05	4.1920-07	185.	7.7762-05
2250.	1.2752+05	4.1434-07	185.	7.6859-05
2250.	1.2299+05	4.0017-07	185.	7.4232-05
2550.	9.9603+04	3.9539-07	927.	3.6673-04
2550.	1.0055+05	3.9670-07	927.	3.6979-04
2550.	9.9603+04	3.9539-07	927.	3.6673-04
2550.	9.6823+04	3.8571-07	927.	3.5774-04
2850.	7.9922+04	3.1287-07	742.	2.3199-04
2850.	8.0532+04	3.1497-07	742.	2.3355-04
2850.	7.9922+04	3.1287-07	742.	2.3199-04
2850.	7.6126+04	3.0667-07	742.	2.2739-04
3150.	6.5536+04	2.3577-07	371.	8.7470-05
3150.	6.5946+04	2.3712-07	371.	8.7971-05
3150.	6.5536+04	2.3577-07	371.	8.7470-05
3150.	6.4326+04	2.3178-07	371.	8.5991-05
3450.	5.4706+04	1.9995-07	371.	7.4180-05
3450.	5.4991+04	2.0090-07	371.	7.4532-05
3450.	5.4706+04	1.9995-07	371.	7.4180-05
3450.	5.3861+04	1.9714-07	371.	7.3139-05
3750.	4.6351+04	2.1490-07	1113.	2.3919-04
3750.	4.6556+04	2.1568-07	1113.	2.4006-04
3750.	4.6351+04	2.1490-07	1113.	2.3919-04
3750.	4.5744+04	2.1259-07	1113.	2.3661-04
4050.	3.9771+04	2.2260-07	1855.	4.1293-04
4050.	3.9922+04	2.2325-07	1855.	4.1413-04
4050.	3.9771+04	2.2260-07	1855.	4.1293-04
4050.	3.9324+04	2.2068-07	1855.	4.0936-04
4350.	3.4498+04	1.8464-07	1484.	2.7430-04
4350.	3.4612+04	1.8531-07	1484.	2.7500-04
4350.	3.4498+04	1.8484-07	1484.	2.7430-04
4350.	3.4161+04	1.8343-07	1484.	2.7221-04
4650.	3.0207+04	1.5193-07	1113.	1.6909-04
4650.	3.0294+04	1.5227-07	1113.	1.6948-04
4650.	3.0207+04	1.5193-07	1113.	1.6909-04
4650.	2.9949+04	1.5069-07	1113.	1.6794-04
4950.	2.6669+04	1.6465-07	1855.	3.0542-04
4950.	2.6737+04	1.6496-07	1855.	3.0600-04
4950.	2.6669+04	1.6465-07	1855.	3.0542-04
4950.	2.6468+04	1.6372-07	1855.	3.0371-04
5250.	2.3718+04	1.3861-07	1483.	2.0552-04
5250.	2.3772+04	1.3864-07	1483.	2.0567-04
5250.	2.3718+04	1.3861-07	1483.	2.0552-04
5250.	2.3558+04	1.3790-07	1483.	2.0448-04
5550.	2.1231+04	1.3923-07	1855.	2.5828-04
5550.	2.1273+04	1.3944-07	1855.	2.5866-04
5550.	2.1231+04	1.3923-07	1855.	2.5828-04
5550.	2.1103+04	1.3862-07	1855.	2.5715-04
5850.	1.9115+04	1.0016-07	1113.	1.1815-04
5850.	1.9149+04	1.0031-07	1113.	1.1832-04
5850.	1.9115+04	1.0016-07	1113.	1.1815-04
5850.	1.9011+04	1.0571-07	1113.	1.1766-04
6150.	1.7300+04	1.0957-07	1484.	1.6260-04
6150.	1.7328+04	1.0970-07	1484.	1.6280-04
6150.	1.7300+04	1.0957-07	1484.	1.6260-04
6150.	1.7215+04	1.0918-07	1484.	1.6202-04

POWER = 1.1691+03 CURRENT = 4.1071+00

PMAX 2040. VOLTS

BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

QXUT

```
 DISTANCE =     3.4 AU
VHOLT =    1.14
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT. =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM


MINIMUM RADIUS =   300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1675.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.5568+06	4.7047-06	60.	2.8283-04
450.	1.9395+06	5.8547-06	60.	3.5197-04
450.	1.5568+06	4.7047-06	60.	2.8283-04
450.	9.8652+05	2.9893-06	60.	1.7971-04
750.	6.4586+05	2.0041-06	180.	3.6143-04
750.	7.0335+05	2.1791-06	180.	3.9300-04
750.	6.4586+05	2.0041-06	180.	3.6143-04
750.	5.1406+05	1.6020-06	180.	2.8893-04
1050.	3.4430+05	1.0700-06	126.	1.3432-04
1050.	3.5999+05	1.1178-06	126.	1.4032-04
1050.	3.4430+05	1.0700-06	126.	1.3432-04
1050.	3.0338+05	9.4515-07	126.	1.1865-04

1350.	2.1229+05	6.4429-07	25.	1.6176-05
1350.	2.1816+05	6.6198-07	25.	1.6620-05
1350.	2.1229+05	6.4429-07	25.	1.6176-05
1350.	1.9612+05	5.9559-07	25.	1.4953-05
1650.	1.4354+05	5.1365-07	598.	3.0736-04
1650.	1.4621+05	5.2229-07	598.	3.1259-04
1650.	1.4354+05	5.1365-07	598.	3.0736-04
1650.	1.3600+05	4.6875-07	598.	2.9252-04
1950.	1.0339+05	3.6071-07	599.	2.2785-04
1950.	1.0476+05	3.6530-07	599.	2.3060-04
1950.	1.0339+05	3.6071-07	599.	2.2785-04
1950.	9.9427+04	3.6748-07	599.	2.1994-04
2250.	7.7954+04	2.6036-07	199.	5.1941-05
2250.	7.8734+04	2.6263-07	199.	5.2434-05
2250.	7.7954+04	2.6036-07	199.	5.1941-05
2250.	7.6685+04	2.5317-07	199.	5.0508-05
2550.	6.0850+04	2.6249-07	997.	2.6183-04
2550.	6.1325+04	2.6422-07	997.	2.6356-04
2550.	6.0850+04	2.6249-07	997.	2.6183-04
2550.	5.9460+04	2.5741-07	997.	2.5676-04
2850.	4.8806+04	2.0692-07	797.	1.6501-04
2850.	4.9111+04	2.0802-07	797.	1.6589-04
2850.	4.8806+04	2.0692-07	797.	1.6501-04
2850.	4.7900+04	2.0367-07	797.	1.6242-04
3150.	4.0009+04	1.5248-07	399.	6.0839-05
3150.	4.0219+04	1.5317-07	399.	6.1117-05
3150.	4.0009+04	1.5248-07	399.	6.0839-05
3150.	3.9404+04	1.5042-07	399.	6.0017-05
3450.	3.3389+04	1.2984-07	399.	5.1808-05
3450.	3.3532+04	1.3033-07	399.	5.2004-05
3450.	3.3389+04	1.2984-07	399.	5.1808-05
3450.	3.2967+04	1.2839-07	399.	5.1228-05
3750.	2.8285+04	1.4753-07	1197.	1.7659-04
3750.	2.8387+04	1.4795-07	1197.	1.7709-04
3750.	2.8285+04	1.4753-07	1197.	1.7659-04
3750.	2.7981+04	1.4629-07	1197.	1.7510-04
4050.	2.4266+04	1.5809-07	1995.	3.1539-04
4050.	2.4341+04	1.5845-07	1995.	3.1610-04
4050.	2.4266+04	1.5809-07	1995.	3.1539-04
4050.	2.4092+04	1.5702-07	1995.	3.1326-04
4350.	2.1049+04	1.3031-07	1596.	2.0797-04
4350.	2.1103+04	1.3057-07	1596.	2.0839-04
4350.	2.1046+04	1.3031-07	1596.	2.0797-04
4350.	2.0877+04	1.2953-07	1596.	2.0674-04
4650.	1.6426+04	1.0591-07	1197.	1.2677-04
4650.	1.8470+04	1.0610-07	1197.	1.2700-04
4650.	1.8426+04	1.0591-07	1197.	1.2677-04
4650.	1.8297+04	1.0534-07	1197.	1.2610-04
4950.	1.6267+04	1.1867-07	1995.	2.3674-04
4950.	1.6301+04	1.1884-07	1995.	2.3709-04
4950.	1.6267+04	1.1867-07	1995.	2.3674-04
4950.	1.6166+04	1.1815-07	1995.	2.3571-04
5250.	1.4466+04	9.9060-08	1595.	1.5800-04
5250.	1.4492+04	9.9211-08	1595.	1.5821-04
5250.	1.4466+04	9.9060-08	1595.	1.5800-04
5250.	1.4386+04	9.8587-08	1595.	1.5737-04
5550.	1.2948+04	1.0119-07	1995.	2.0188-04
5550.	1.2969+04	1.0131-07	1995.	2.0211-04
5550.	1.2948+04	1.0119-07	1995.	2.0188-04
5550.	1.2884+04	1.0085-07	1995.	2.0119-04
5850.	1.1657+04	7.5268-08	1197.	9.0095-05
5850.	1.1674+04	7.5360-08	1197.	9.0194-05
5850.	1.1657+04	7.5268-08	1197.	9.0095-05
5850.	1.1605+04	7.5023-08	1197.	8.9802-05
6150.	1.0549+04	7.9247-08	1596.	1.2648-04
6150.	1.0564+04	7.9322-08	1596.	1.2660-04
6150.	1.0549+04	7.9247-08	1596.	1.2648-04
6150.	1.0507+04	7.9024-08	1596.	1.2612-04

POWER = 8.4795+02 CURRENT = 2.6662+00

PMAX 2194. VOLTS

BEAM POWER = 8776. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
DISTANCE =     3.4 AU
VMULT =    1.14
SCURR =    2.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP  =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =    20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.2020+06	3.6378-06	60.	2.1869-04
450.	1.5847+04	4.7885-06	60.	2.8787-04
450.	1.2020+06	3.6378-06	60.	2.1869-04
450.	6.3172+05	1.9205-06	60.	1.1546-04
750.	5.1815+05	1.6145-06	180.	2.9116-04
750.	5.7562+05	1.7899-06	180.	3.2261-04
750.	5.1815+05	1.6145-06	180.	2.9116-04
750.	3.8633+05	1.2115-06	180.	2.1849-04
1050.	2.7914+05	8.7112-07	126.	1.0935-04
1050.	2.9483+05	9.1904-07	126.	1.1537-04
1050.	2.7914+05	8.7112-07	126.	1.0935-04
1050.	2.3821+05	7.4597-07	126.	9.3641-05

1350.	1.7287+05	5.2549-07	25.	1.3193-05
1350.	1.7874+05	5.4318-07	25.	1.3637-05
1350.	1.7287+05	5.2549-07	25.	1.3193-05
1350.	1.5670+05	4.7674-07	25.	1.1969-05
1650.	1.1715+05	4.2649-07	598.	2.5525-04
1650.	1.1982+05	4.3531-07	596.	2.6054-04
1650.	1.1715+05	4.2649-07	598.	2.5525-04
1650.	1.0961+05	4.0145-07	598.	2.4047-04
1950.	6.4493+04	3.1734-07	599.	1.8993-04
1950.	6.5868+04	3.2198-07	599.	1.9271-04
1950.	6.4493+04	3.1734-07	599.	1.8993-04
1950.	6.0533+04	3.0397-07	599.	1.8192-04
2250.	6.3762+04	2.1531-07	199.	4.2955-05
2250.	6.4542+04	2.1780-07	199.	4.3451-05
2250.	6.3762+04	2.1531-07	199.	4.2955-05
2250.	6.1493+04	2.0809-07	199.	4.1513-05
2550.	4.9801+04	2.2177-07	997.	2.2122-04
2550.	5.0276+04	2.2354-07	997.	2.2298-04
2550.	4.9801+04	2.2177-07	997.	2.2122-04
2550.	4.8411+04	2.1659-07	997.	2.1605-04
2850.	3.9961+04	1.7467-07	797.	1.3929-04
2850.	4.0266+04	1.7579-07	797.	1.4019-04
2850.	3.9961+04	1.7467-07	797.	1.3929-04
2850.	3.9063+04	1.7136-07	797.	1.3665-04
3150.	3.2768+04	1.2771-07	399.	5.0955-05
3150.	3.2973+04	1.2841-07	399.	5.1236-05
3150.	3.2768+04	1.2771-07	399.	5.0955-05
3150.	3.2163+04	1.2562-07	399.	5.0123-05
3450.	2.7353+04	1.0895-07	399.	4.3470-05
3450.	2.7496+04	1.0944-07	399.	4.3669-05
3450.	2.7353+04	1.0895-07	399.	4.3470-05
3450.	2.6931+04	1.0747-07	399.	4.2862-05
3750.	2.3175+04	1.2628-07	1197.	1.5116-04
3750.	2.3270+04	1.2671-07	1197.	1.5166-04
3750.	2.3175+04	1.2628-07	1197.	1.5116-04
3750.	2.2872+04	1.2500-07	1197.	1.4962-04
4050.	1.9886+04	1.3669-07	1995.	2.7309-04
4050.	1.9961+04	1.3726-07	1995.	2.7383-04
4050.	1.9886+04	1.3669-07	1995.	2.7309-04
4050.	1.9662+04	1.3578-07	1995.	2.7088-04
4350.	1.7249+04	1.1258-07	1596.	1.7967-04
4350.	1.7306+04	1.1285-07	1596.	1.8010-04
4350.	1.7249+04	1.1258-07	1596.	1.7967-04
4350.	1.7081+04	1.1177-07	1596.	1.7839-04
4650.	1.5104+04	9.1164-08	1197.	1.0912-04
4650.	1.5147+04	9.1360-08	1197.	1.0936-04
4650.	1.5104+04	9.1164-08	1197.	1.0912-04
4650.	1.4974+04	9.0580-08	1197.	1.0842-04
4950.	1.3335+04	1.0328-07	1995.	2.0603-04
4950.	1.3369+04	1.0346-07	1995.	2.0640-04
4950.	1.3335+04	1.0328-07	1995.	2.0603-04
4950.	1.3234+04	1.0273-07	1995.	2.0495-04
5250.	1.1859+04	8.6006-08	1595.	1.3715-04
5250.	1.1886+04	8.6143-08	1595.	1.3737-04
5250.	1.1859+04	8.6006-08	1595.	1.3715-04
5250.	1.1779+04	8.5597-08	1595.	1.3650-04
5550.	1.0615+04	8.8310-08	1995.	1.7618-04
5550.	1.0637+04	8.8432-08	1995.	1.7642-04
5550.	1.0615+04	8.8310-08	1995.	1.7618-04
5550.	1.0551+04	8.7948-08	1995.	1.7546-04
5850.	9.5573+03	6.5170-08	1197.	7.8009-05
5850.	9.5746+03	6.5256-08	1197.	7.8111-05
5850.	9.5573+03	6.5170-08	1197.	7.8009-05
5850.	9.5054+03	6.4916-08	1197.	7.7704-05
6150.	8.6498+03	6.9060-08	1596.	1.1022-04
6150.	8.6641+03	6.9138-08	1596.	1.1034-04
6150.	8.6498+03	6.9060-08	1596.	1.1022-04
6150.	8.6073+03	6.8826-08	1596.	1.0985-04

POWER = 7.1226+02 CURRENT = 2.1321+00

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

BXQT

ORIGINAL PAGE IS
OF POOR QUALITY

DISTANCE = 4.5 AU
VMULT = 1.19
BCURR = 1.3 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 15.62 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 2

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	8.8430+05	2.6828-06	63.	1.6836-04
450.	1.1235+06	3.4029-06	63.	2.1354-04
450.	8.8430+05	2.6828-06	63.	1.6836-04
450.	5.2787+05	1.6092-06	63.	1.0092-04
750.	3.7174+05	1.1686-06	188.	2.2000-04
750.	4.0766+05	1.2767-06	188.	2.4072-04
750.	3.7174+05	1.1686-06	188.	2.2000-04
750.	2.8935+05	9.1551-07	188.	1.7236-04
1050.	1.9890+05	6.2651-07	131.	8.2096-05
1050.	2.0870+05	6.5661-07	131.	8.6039-05
1050.	1.9890+05	6.2651-07	131.	8.2096-05
1050.	1.7332+05	5.4792-07	131.	7.1797-05

1350.	1.2283+05	3.7474-07	26.	9.8209-06
1350.	1.2649+05	3.8562-07	26.	1.0111-05
1350.	1.2283+05	3.7474-07	26.	9.8209-06
1350.	1.1272+05	3.4421-07	26.	9.0209-06
1650.	8.3117+04	3.1460-07	625.	1.9667-04
1650.	8.4782+04	3.2044-07	625.	2.0019-04
1650.	8.3117+04	3.1460-07	625.	1.9667-04
1650.	7.8404+04	2.9800-07	625.	1.8667-04
1950.	5.9893+04	2.3534-07	625.	1.4703-04
1950.	6.0753+04	2.3832-07	625.	1.4889-04
1950.	5.9893+04	2.3534-07	625.	1.4703-04
1950.	5.7418+04	2.2677-07	625.	1.4167-04
2250.	4.5173+04	1.5651-07	208.	3.2593-05
2250.	4.5661+04	1.5808-07	208.	3.2920-05
2250.	4.5173+04	1.5651-07	208.	3.2593-05
2250.	4.3755+04	1.5193-07	208.	3.1639-05
2550.	3.5269+04	1.6678-07	1041.	1.7574-04
2550.	3.5566+04	1.6993-07	1041.	1.7694-04
2550.	3.5269+04	1.6678-07	1041.	1.7574-04
2550.	3.4401+04	1.6540-07	1041.	1.7222-04
2850.	2.8292+04	1.3255-07	832.	1.1034-04
2850.	2.8463+04	1.3328-07	832.	1.1095-04
2850.	2.8292+04	1.3255-07	832.	1.1034-04
2850.	2.7731+04	1.3039-07	832.	1.0854-04
3150.	2.3195+04	9.5185-08	416.	3.9644-05
3150.	2.3323+04	9.5639-08	416.	3.9834-05
3150.	2.3195+04	9.5185-08	416.	3.9644-05
3150.	2.2817+04	9.3643-08	416.	3.9085-05
3450.	1.9359+04	8.1482-08	416.	3.3937-05
3450.	1.9446+04	8.1803-08	416.	3.4071-05
3450.	1.9359+04	8.1482-08	416.	3.3937-05
3450.	1.9095+04	8.0531-08	416.	3.3541-05
3750.	1.6401+04	9.8544-08	1249.	1.2313-04
3750.	1.6465+04	9.8832-08	1249.	1.2349-04
3750.	1.6401+04	9.8544-08	1249.	1.2313-04
3750.	1.6211+04	9.7690-08	1249.	1.2206-04
4050.	1.4071+04	1.0934-07	2082.	2.2769-04
4050.	1.4118+04	1.0959-07	2082.	2.2822-04
4050.	1.4071+04	1.0934-07	2082.	2.2769-04
4050.	1.3931+04	1.0858-07	2082.	2.2612-04
4350.	1.2205+04	8.9481-08	1666.	1.4908-04
4350.	1.2240+04	8.9664-08	1666.	1.4938-04
4350.	1.2205+04	8.9481-08	1666.	1.4908-04
4350.	1.2099+04	8.8937-08	1666.	1.4817-04
4650.	1.0686+04	7.1911-08	1249.	8.9853-05
4650.	1.0713+04	7.2043-08	1249.	9.0018-05
4650.	1.0686+04	7.1911-08	1249.	8.9853-05
4650.	1.0605+04	7.1518-08	1249.	8.9362-05
4950.	9.4338+03	8.3281-08	2082.	1.7343-04
4950.	9.4649+03	8.3406-08	2082.	1.7369-04
4950.	9.4338+03	8.3281-08	2082.	1.7343-04
4950.	9.3707+03	8.2906-08	2082.	1.7266-04
5250.	8.3894+03	6.8990-08	1665.	1.1484-04
5250.	8.4061+03	6.9084-08	1665.	1.1500-04
5250.	8.3894+03	6.8990-08	1665.	1.1484-04
5250.	8.3395+03	6.8710-08	1665.	1.1438-04
5550.	7.5092+03	7.1569-08	2082.	1.4908-04
5550.	7.5226+03	7.1673-08	2082.	1.4926-04
5550.	7.5092+03	7.1569-08	2082.	1.4908-04
5550.	7.4692+03	7.1338-08	2082.	1.4856-04
5850.	6.7406+03	5.1999-08	1249.	6.4972-05
5850.	6.7714+03	5.2057-08	1249.	6.5045-05
5850.	6.7406+03	5.1999-08	1249.	6.4972-05
5850.	6.7281+03	5.1825-08	1249.	6.4756-05
6150.	6.1185+03	5.5813-08	1666.	9.2984-05
6150.	6.1274+03	5.5867-08	1666.	9.3074-05
6150.	6.1185+03	5.5813-08	1666.	9.2984-05
6150.	6.0919+03	5.5652-08	1666.	9.2716-05

POWER = 5.7181+02 CURRENT = 1.5816+00

PMAX 2291. VOLTS
BEAM POWER = 5727. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.3

$\angle = 5.7°$

PRECEDING PAGE BLANK NOT FILMED

```
 DISTANCE =     1.0 AU
VMULT =    1.00
BCURR =     2.5 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     31.25 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	6.1138+06	1.8370-05	53.	9.6875-04
750.	6.9440+06	2.0980-05	158.	3.3191-03
1050.	5.8344+06	1.7597-05	110.	1.9377-03
1350.	4.5290+06	1.3582-05	22.	2.9912-04
1650.	3.4955+06	1.0745-05	375.	4.0294-03
1950.	2.7361+06	8.4408-06	375.	3.1653-03
2250.	2.1819+06	6.6258-06	125.	8.2823-04
2550.	1.7720+06	5.6048-06	625.	3.5030-03
2850.	1.4634+06	4.8080-06	1125.	5.4090-03
3150.	1.2265+06	3.9953-06	875.	3.4959-03
3450.	1.0415+06	3.4162-06	875.	2.9892-03
3750.	8.9452+05	3.0676-06	1375.	4.2179-03
4050.	7.7608+05	2.7823-06	1875.	5.2169-03
4350.	6.7936+05	2.4194-06	1625.	3.9316-03
4650.	5.9942+05	2.1139-06	1375.	2.9067-03
4950.	5.3265+05	1.9752-06	1875.	3.7035-03
5250.	4.7633+05	1.8562-06	2375.	4.4085-03
5550.	4.2841+05	1.7225-06	2625.	4.5217-03
5850.	3.8732+05	1.5164-06	2125.	3.2224-03
6150.	3.5183+05	1.4232-06	2375.	3.3801-03

```
POWER       =  1.5709+04 CURRENT =  3.1930+01

PMAX       2750. VOLTS
BEAM POWER =      82500.  WATTS
```

@XQT

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.7228+06	1.1214-05	66.	7.3920-04
750.	3.2374+06	9.8550-06	198.	1.9489-03
1050.	2.5684+06	7.7984-06	138.	1.0734-03
1350.	1.9535+06	5.8723-06	28.	1.6166-04
1650.	1.4932+06	4.6913-06	469.	2.1991-03
1950.	1.1625+06	3.6758-06	469.	1.7230-03
2250.	9.2384+05	2.8406-06	156.	4.4384-04
2550.	7.4859+05	2.4736-06	781.	1.9325-03
2850.	6.1720+05	2.1774-06	1406.	3.0619-03
3150.	5.1668+05	1.7964-06	1094.	1.9648-03
3450.	4.3832+05	1.5423-06	1094.	1.6869-03
3750.	3.7620+05	1.4261-06	1719.	2.4510-03
4050.	3.2620+05	1.3293-06	2344.	3.1155-03
4350.	2.8541+05	1.1508-06	2031.	2.3375-03
4650.	2.5173+05	9.9906-07	1719.	1.7171-03
4950.	2.2362+05	9.6163-07	2344.	2.2538-03
5250.	1.9992+05	9.2854-07	2969.	2.7566-03
5550.	1.7976+05	8.7561-07	3281.	2.8731-03
5850.	1.6249+05	7.6019-07	2656.	2.0193-03
6150.	1.4757+05	7.2543-07	2969.	2.1536-03

```
POWER       =  9.2670+03 CURRENT =  1.5142+01

PMAX       3438. VOLTS
BEAM POWER =      41250.  WATTS


BXQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =    20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.6584+06	8.0185-06	66.	5.2856-04
750.	2.8542+06	8.6985-06	198.	1.7202-03
1050.	2.3729+06	7.2092-06	138.	9.9229-04
1350.	1.8353+06	5.5177-06	28.	1.5190-04
1650.	1.4140+06	4.4485-06	469.	2.0852-03
1950.	1.1058+06	3.5014-06	469.	1.6413-03
2250.	8.8127+05	2.7115-06	156.	4.2367-04
2550.	7.1544+05	2.3692-06	781.	1.8509-03
2850.	5.9066+05	2.0908-06	1406.	2.9402-03
3150.	4.9496+05	1.7261-06	1094.	1.8879-03
3450.	4.2021+05	1.4833-06	1094.	1.6223-03
3750.	3.6087+05	1.3740-06	1719.	2.3616-03
4050.	3.1306+05	1.2828-06	2344.	3.0065-03
4350.	2.7402+05	1.1107-06	2031.	2.2561-03
4650.	2.4176+05	9.6433-07	1719.	1.6574-03
4950.	2.1482+05	9.2951-07	2344.	2.1785-03
5250.	1.9210+05	8.9863-07	2969.	2.6678-03
5550.	1.7276+05	8.4804-07	3281.	2.7826-03
5850.	1.5619+05	7.3599-07	2656.	1.9550-03
6150.	1.4187+05	7.0285-07	2969.	2.0866-03

```
POWER       =  8.8312+03 CURRENT =  1.3589+01

PMAX       3438. VOLTS
BEAM POWER =      41250.  WATTS

BXQT
```


A-2

ORIGINAL PAGE IS
OF POOR QUALITY

```
DISTANCE =     2.2 AU
VMULT =    1.40
BCURR =     1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.8614+06	5.6291-06	74.	4.1559-04
750.	1.6187+06	4.9746-06	221.	1.1018-03
1050.	1.2842+06	3.9312-06	154.	6.0603-04
1350.	9.7676+05	2.9445-06	31.	9.0785-05
1650.	7.4659+05	2.4068-06	525.	1.2636-03
1950.	5.8124+05	1.8918-06	525.	9.9320-04
2250.	4.6192+05	1.4414-06	175.	2.5224-04
2550.	3.7430+05	1.3003-06	875.	1.1377-03
2850.	3.0860+05	1.1782-06	1575.	1.8557-03
3150.	2.5834+05	9.6606-07	1225.	1.1834-03
3450.	2.1916+05	8.3363-07	1225.	1.0212-03
3750.	1.8810+05	7.9429-07	1925.	1.5290-03
4050.	1.6310+05	7.6012-07	2625.	1.9953-03
4350.	1.4271+05	6.5560-07	2275.	1.4915-03
4650.	1.2587+05	5.6600-07	1925.	1.0896-03
4950.	1.1181+05	5.5987-07	2625.	1.4697-03
5250.	9.9958+04	5.5352-07	3325.	1.8405-03
5550.	8.9881+04	5.2904-07	3675.	1.9442-03
5850.	8.1243+04	4.5412-07	2975.	1.3510-03
6150.	7.3784+04	4.3940-07	3325.	1.4610-03

```
POWER       =  5.7823+03  CURRENT =  7.8743+00

PMAX       3850. VOLTS
BEAM POWER =      23100.  WATTS

GXQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.2 AU
VMULT =    1.00
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =    14. EV
EXPANSION ANGLE =    4.83 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      458.29 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.8723+06	5.6477-06	53.	2.9783-04
750.	2.0773+06	6.3298-06	158.	1.0014-03
1050.	1.9094+06	5.7958-06	110.	6.3820-04
1350.	1.5727+06	4.7261-06	22.	1.0408-04
1650.	1.2602+06	3.9947-06	525.	2.0972-03
1950.	1.0112+06	3.2265-06	525.	1.6939-03
2250.	8.2032+05	2.5331-06	175.	4.4328-04
2550.	6.7451+05	2.2599-06	875.	1.9775-03
2850.	5.6217+05	1.8686-06	700.	1.3071-03
3150.	4.7451+05	1.5214-06	350.	5.3249-04
3450.	4.0514+05	1.3062-06	350.	4.5717-04
3750.	3.4951+05	1.2457-06	1050.	1.3080-03
4050.	3.0432+05	1.1845-06	1750.	2.0729-03
4350.	2.6718+05	1.0165-06	1400.	1.4231-03
4650.	2.3632+05	8.7157-07	1050.	9.1515-04
4950.	2.1043+05	8.5752-07	1750.	1.5007-03
5250.	1.8851+05	7.4636-07	1399.	1.0440-03
5550.	1.6981+05	7.1284-07	1750.	1.2475-03
5850.	1.5372+05	5.9269-07	1050.	6.2232-04
6150.	1.3980+05	5.7542-07	1400.	8.0559-04

```
POWER       =  5.1574+03 CURRENT =  1.1283+01

PMAX       1925. VOLTS
BEAM POWER =      23100.  WATTS

BXQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
DISTANCE =  2.6 AU
VMULT =   1.06
BCURR =    1.3 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =   20.0 CM
EQUIV CURRENT =     16.62 MILLIAMPS
ION TEMP   =    14. EV
EXPANSION ANGLE =   4.83 DEGREES
ION MASS  =   200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      458.29 CM

MINIMUM RADIUS =   300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =   600. CM
NUMBER OF INTEGRATION POINTS =    20
NUMBER OF THRUSTERS =     6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.6016+06	4.8368-06	56.	2.7037-04
750.	1.5098+06	4.6198-06	168.	7.7472-04
1050.	1.3352+06	4.0681-06	117.	4.7483-04
1350.	1.0855+06	3.2661-06	23.	7.6244-05
1650.	8.6455+05	2.7811-06	556.	1.5477-03
1950.	6.9144+05	2.2428-06	557.	1.2481-03
2250.	5.5977+05	1.7430-06	185.	3.2333-04
2550.	4.5965+05	1.5840-06	927.	1.4692-03
2850.	3.8274+05	1.3061-06	742.	9.6851-04
3150.	3.2282+05	1.0537-06	371.	3.9090-04
3450.	2.7549+05	9.0536-07	371.	3.3589-04
3750.	2.3756+05	8.8309-07	1113.	9.8288-04
4050.	2.0677+05	8.5470-07	1855.	1.5855-03
4350.	1.8149+05	7.3003-07	1484.	1.0834-03
4650.	1.6049+05	6.2189-07	1113.	6.9216-04
4950.	1.4288+05	6.2377-07	1855.	1.1571-03
5250.	1.2798+05	5.3992-07	1483.	8.0057-04
5550.	1.1527+05	5.2118-07	1855.	9.6679-04
5850.	1.0434+05	4.2647-07	1113.	4.7466-04
6150.	9.4875+04	4.1915-07	1484.	6.2202-04

POWER = 3.8987+03 CURRENT = 8.1665+00

PMAX 2040. VOLTS
BEAM POWER = 16283. WATTS

```
DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     14. EV
EXPANSION ANGLE =    4.83 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      458.29 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.2482+06	3.7743-06	56.	2.1098-04
750.	1.3849+06	4.2419-06	168.	7.1134-04
1050.	1.2729+06	3.8800-06	117.	4.5287-04
1350.	1.0485+06	3.1551-06	23.	7.3653-05
1650.	8.4012+05	2.7053-06	556.	1.5055-03
1950.	6.7413+05	2.1888-06	557.	1.2181-03
2250.	5.4688+05	1.7036-06	185.	3.1602-04
2550.	4.4967+05	1.5519-06	927.	1.4394-03
2850.	3.7478+05	1.2807-06	742.	9.4963-04
3150.	3.1634+05	1.0334-06	371.	3.8338-04
3450.	2.7009+05	8.8844-07	371.	3.2961-04
3750.	2.3301+05	8.6782-07	1113.	9.6588-04
4050.	2.0288+05	8.4082-07	1855.	1.5597-03
4350.	1.7812+05	7.1821-07	1484.	1.0658-03
4650.	1.5755+05	6.1177-07	1113.	6.8090-04
4950.	1.4029+05	6.1421-07	1855.	1.1394-03
5250.	1.2568+05	5.3160-07	1483.	7.8824-04
5550.	1.1321+05	5.1343-07	1855.	9.5241-04
5850.	1.0248+05	4.1991-07	1113.	4.6736-04
6150.	9.3199+04	4.1294-07	1484.	6.1280-04

```
POWER       =  3.7975+03 CURRENT =  7.6642+00

PMAX       2040. VOLTS
BEAM POWER =      16324.  WATTS
```

GXQT

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     14. EV
EXPANSION ANGLE =    4.83 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      458.29 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	9.7889+05	2.9663-06	60.	1.7833-04
750.	8.2016+05	2.5344-06	180.	4.5708-04
1050.	7.0163+05	2.1558-06	126.	2.7062-04
1350.	5.6365+05	1.7009-06	25.	4.2703-05
1650.	4.4645+05	1.4837-06	598.	8.8799-04
1950.	3.5596+05	1.1972-06	599.	7.1651-04
2250.	2.8763+05	9.1243-07	199.	1.8203-04
2550.	2.3589+05	8.6390-07	997.	8.6174-04
2850.	1.9624+05	7.0906-07	797.	5.6545-04
3150.	1.6541+05	5.6139-07	399.	2.2400-04
3450.	1.4108+05	4.8354-07	399.	1.9293-04
3750.	1.2161+05	4.9417-07	1197.	5.9153-04
4050.	1.0582+05	4.9503-07	1995.	9.8758-04
4350.	9.2856+04	4.1918-07	1596.	6.6901-04
4650.	8.2096+04	3.5273-07	1197.	4.2222-04
4950.	7.3076+04	3.6693-07	1995.	7.3203-04
5250.	6.5445+04	3.1443-07	1595.	5.0141-04
5550.	5.8935+04	3.0952-07	1995.	6.1749-04
5850.	5.3341+04	2.4595-07	1197.	2.9440-04
6150.	4.8499+04	2.4730-07	1596.	3.9469-04

```
POWER       =  2.3495+03 CURRENT =  4.5153+00

PMAX       2194. VOLTS
BEAM POWER =      8778.  WATTS
```


ORIGINAL PAGE IS
OF POOR QUALITY

DISTANCE = 3.4 AU
VMULT = 1.14
BCURR = 2.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 14. EV
EXPANSION ANGLE = 4.83 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 458.29 CM

ORIGINAL PAGE IS
OF POOR QUALITY

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 2

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	6.2409+05	1.8975-06	60.	1.1407-04
750.	6.9243+05	2.1458-06	180.	3.8700-04
1050.	6.3646+05	1.9582-06	126.	2.4581-04
1350.	5.2423+05	1.5825-06	25.	3.9730-05
1650.	4.2006+05	1.4003-06	598.	8.3809-04
1950.	3.3707+05	1.1371-06	599.	6.8056-04
2250.	2.7344+05	8.6869-07	199.	1.7330-04
2550.	2.2484+05	8.2711-07	997.	8.2504-04
2850.	1.8739+05	6.7982-07	797.	5.4214-04
3150.	1.5817+05	5.3826-07	399.	2.1477-04
3450.	1.3505+05	4.6416-07	399.	1.8520-04
3750.	1.1650+05	4.7613-07	1197.	5.6992-04
4050.	1.0144+05	4.7819-07	1995.	9.5400-04
4350.	8.9059+04	4.0490-07	1596.	6.4623-04
4650.	7.8773+04	3.4060-07	1197.	4.0770-04
4950.	7.0143+04	3.5516-07	1995.	7.0854-04
5250.	6.2838+04	3.0425-07	1595.	4.8517-04
5550.	5.6603+04	2.9988-07	1995.	5.9826-04
5850.	5.1241+04	2.3795-07	1197.	2.8483-04
6150.	4.6599+04	2.3960-07	1596.	3.8240-04

POWER = 2.2279+03 CURRENT = 3.9927+00

PMAX 2194. VOLTS
BEAM POWER = 8778. WATTS

9XQT

```
DISTANCE =     4.5 AU
VMULT =    1.19
BCURR =     1.3 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM.    ZEMIT =    20.0 CM
EQUIV CURRENT =     15.62 MILLIAMPS
ION TEMP    =     14. EV
EXPANSION ANGLE =    4.83 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      458.29 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	5.2310+05	1.5938-06	63.	1.0002-04
750.	4.8067+05	1.5021-06	188.	2.8279-04
1050.	4.2222+05	1.3088-06	131.	1.7150-04
1350.	3.4243+05	1.0364-06	26.	2.7161-05
1650.	2.7244+05	9.3460-07	625.	5.8389-04
1950.	2.1775+05	7.5837-07	625.	4.7379-04
2250.	1.7622+05	5.6926-07	208.	1.1855-04
2550.	1.4467+05	5.6082-07	1041.	5.8395-04
2850.	1.2044+05	4.5905-07	832.	3.8214-04
3150.	1.0157+05	3.5776-07	416.	1.4901-04
3450.	8.6668+04	3.0908-07	416.	1.2873-04
3750.	7.4730+04	3.2913-07	1249.	4.1125-04
4050.	6.5042+04	3.3910-07	2082.	7.0617-04
4350.	5.7086+04	2.8529-07	1666.	4.7530-04.
4650.	5.0479+04	2.3779-07	1249.	2.9712-04
4950.	4.4939+04	2.5458-07	2082.	5.3016-04
5250.	4.0251+04	2.1653-07	1665.	3.6043-04
5550.	3.6252+04	2.1636-07	2082.	4.5056-04
5850.	3.2813+04	1.6814-07	1249.	2.1009-04
6150.	2.9837+04	1.7207-07	1666.	2.8666-04

```
POWER       =  1.6150+03 CURRENT =  2.7862+00

PMAX       2291. VOLTS
BEAM POWER =.      5727.  WATTS
```

ORIGINAL PAGE IS
OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.3

$\angle = 35°$

PRECEDING PAGE BLANK NOT FILMED

```
 DISTANCE =     1.0 AU
VMULT =    1.00
BCURR =     2.5 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     31.25 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0532+07	3.1610-05	53.	1.6669-03
750.	4.0122+06	1.2162-05	158.	1.9240-03
1050.	2.0832+06	6.3195-06	110.	6.9587-04
1350.	1.2702+06	3.8193-06	22.	8.4111-05
1650.	8.5399+05	2.6985-06	375.	1.0119-03
1950.	6.1307+05	1.9559-06	375.	7.3347-04
2250.	4.6131+05	1.4261-06	125.	1.7826-04
2550.	3.5960+05	1.2132-06	625.	7.5822-04
2850.	2.8815+05	1.0534-06	1125.	1.1851-03
3150.	2.3605+05	8.4960-07	875.	7.4340-04
3450.	1.9689+05	7.2006-07	875.	6.3005-04
3750.	1.6673+05	6.6813-07	1375.	9.1868-04
4050.	1.4300+05	6.2577-07	1875.	1.1733-03
4350.	1.2399+05	5.3652-07	1625.	8.7185-04
4650.	1.0854+05	4.6138-07	1375.	6.3439-04
4950.	9.5802+04	4.4868-07	1875.	8.4128-04
5250.	8.5183+04	4.3735-07	2375.	1.0387-03
5550.	7.6236+04	4.1420-07	2625.	1.0873-03
5850.	6.8628+04	3.5602-07	2125.	7.5654-04
6150.	6.2104+04	3.4165-07	2375.	8.1141-04

```
POWER      =  4.2588+03 CURRENT =  1.6348+01

PMAX       2750. VOLTS
BEAM POWER =    82500.  WATTS

@XQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	5.4901+06	1.6516-05	66.	1.0887-03
750.	2.0647+06	6.3132-06	198.	1.2485-03
1050.	1.0679+06	3.2696-06	138.	4.5004-04
1350.	6.5001+05	1.9615-06	28.	5.3996-05
1650.	4.3660+05	1.4280-06	469.	6.6935-04
1950.	3.1325+05	1.0404-06	469.	4.8768-04
2250.	2.3561+05	7.4399-07	156.	1.1625-04
2550.	1.8362+05	6.6552-07	781.	5.1994-04
2850.	1.4710+05	6.0187-07	1406.	8.4638-04
3150.	1.2049+05	4.8170-07	1094.	5.2686-04
3450.	1.0049+05	4.1137-07	1094.	4.4994-04
3750.	8.5084+04	3.9763-07	1719.	6.8343-04
4050.	7.2967+04	3.8555-07	2344.	9.0362-04
4350.	6.3265+04	3.2915-07	2031.	6.6859-04
4650.	5.5377+04	2.8113-07	1719.	4.8319-04
4950.	4.8877+04	2.8313-07	2344.	6.6357-04
5250.	4.3457+04	2.8416-07	2969.	8.4359-04
5550.	3.8891+04	2.7355-07	3281.	8.9759-04
5850.	3.5009+04	2.3202-07	2656.	6.1630-04
6150.	3.1680+04	2.2640-07	2969.	6.7212-04

```
POWER       =  3.0935+03 CURRENT =  8.6703+00

PMAX       3438. VOLTS
BEAM POWER =      41250.  WATTS

BXQT
```

ORIGINAL PAGE IS OF POOR QUALITY

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.4258+06	1.3323-05	66.	8.7825-04
750.	1.6815+06	5.1538-06	198.	1.0192-03
1050.	8.7240+05	2.6777-06	138.	3.6856-04
1350.	5.3174+05	1.6061-06	28.	4.4214-05
1650.	3.5743+05	1.1796-06	469.	5.5292-04
1950.	2.5657+05	8.6103-07	469.	4.0361-04
2250.	1.9304+05	6.1293-07	156.	9.5771-05
2550.	1.5047+05	5.5537-07	781.	4.3388-04
2850.	1.2057+05	5.0718-07	1406.	7.1323-04
3150.	9.8764+04	4.0526-07	1094.	4.4325-04
3450.	8.2379+04	3.4673-07	1094.	3.7924-04
3750.	6.9757+04	3.3826-07	1719.	5.8138-04
4050.	5.9827+04	3.3044-07	2344.	7.7446-04
4350.	5.1875+04	2.8187-07	2031.	5.7254-04
4650.	4.5409+04	2.4041-07	1719.	4.1320-04
4950.	4.0080+04	2.4388-07	2344.	5.7161-04
5250.	3.5637+04	2.4621-07	2969.	7.3094-04
5550.	3.1894+04	2.3778-07	3281.	7.8021-04
5850.	2.8711+04	2.0116-07	2656.	5.3434-04
6150.	2.5982+04	1.9693-07	2969.	5.8463-04

```
POWER       =  2.6101+03 CURRENT =  7.0910+00

PMAX       3438. VOLTS
BEAM POWER =      41250.  WATTS


IXQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
DISTANCE =    2.2 AU
VMULT =   1.40
BCURR =    1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =   20.0 CM
EQUIV CURRENT =    12.50 MILLIAMPS
ION TEMP    =    10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS  =   200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =         .00 CM

MINIMUM RADIUS =   300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =   800. CM
NUMBER OF INTEGRATION POINTS =    20
NUMBER OF THRUSTERS =     6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.7451+06	8.2850-06	74.	6.1167-04
750.	1.0323+06	3.1942-06	221.	7.0747-04
1050.	5.3395+05	1.6554-06	154.	2.5520-04
1350.	3.2500+05	9.8554-07	31.	3.0386-05
1650.	2.1830+05	7.4701-07	525.	3.9218-04
1950.	1.5662+05	5.4817-07	525.	2.8779-04
2250.	1.1781+05	3.8264-07	175.	6.6962-05
2550.	9.1809+04	3.6419-07	875.	3.1866-04
2850.	7.3552+04	3.4465-07	1575.	5.4282-04
3150.	6.0243+04	2.7362-07	1225.	3.3518-04
3450.	5.0244+04	2.3561-07	1225.	2.8862-04
3750.	4.2542+04	2.3746-07	1925.	4.5711-04
4050.	3.6484+04	2.3793-07	2625.	6.2457-04
4350.	3.1633+04	2.0235-07	2275.	4.6034-04
4650.	2.7689+04	1.7174-07	1925.	3.3060-04
4950.	2.4438+04	1.7852-07	2625.	4.6862-04
5250.	2.1729+04	1.8369-07	3325.	6.1077-04
5550.	1.9446+04	1.7921-07	3675.	6.5859-04
5850.	1.7505+04	1.5037-07	2975.	4.4735-04
6150.	1.5840+04	1.4873-07	3325.	4.9452-04

```
POWER       =  2.0135+03 CURRENT =  4.4895+00

PMAX       3850. VOLTS
BEAM POWER =      23100.  WATTS

IXQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.2 AU
VMULT =    1.00
BCURR =     2.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =   20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.4258+06	1.3310-05	53.	7.0187-04
750.	1.6815+06	5.1345-06	158.	8.1229-04
1050.	8.7240+05	2.6670-06	110.	2.9368-04
1350.	5.3174+05	1.6036-06	22.	3.5317-05
1650.	3.5743+05	1.1894-06	525.	6.2443-04
1950.	2.5657+05	8.6936-07	525.	4.5641-04
2250.	1.9304+05	6.1610-07	175.	1.0782-04
2550.	1.5047+05	5.6472-07	875.	4.9413-04
2850.	1.2057+05	4.4739-07	700.	3.1297-04
3150.	9.8764+04	3.4210-07	350.	1.1973-04
3450.	8.2379+04	2.8905-07	350.	1.0117-04
3750.	6.9757+04	2.9819-07	1050.	3.1310-04
4050.	5.9827+04	3.0062-07	1750.	5.2608-04
4350.	5.1875+04	2.5100-07	1400.	3.5139-04
4650.	4.5409+04	2.0808-07	1050.	2.1848-04
4950.	4.0080+04	2.1948-07	1750.	3.8409-04
5250.	3.5637+04	1.8598-07	1399.	2.6016-04
5550.	3.1894+04	1.8425-07	1750.	3.2243-04
5850.	2.8711+04	1.4334-07	1050.	1.5050-04
6150.	2.5982+04	1.4554-07	1400.	2.0376-04

```
POWER       =  1.6296+03 CURRENT =  6.9526+00

PMAX       1925. VOLTS
BEAM POWER =     23100.  WATTS
```

IXQT

```
 DISTANCE =    2.6 AU
VMULT =   1.06
BCURR =    1.3 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED        .10
RBEAM =        15.0 CM    ZEMIT =   20.0 CM
EQUIV CURRENT =    16.62 MILLIAMPS
ION TEMP   =    10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS  =   200. AMU
ELECTRON TEMPERATURE =     5. EV
NEUTRALIZER CURRENT =     5. MILLIAMPS
RANG =         .00 CM

MINIMUM RADIUS =   300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =   800. CM
NUMBER OF INTEGRATION POINTS =    20
NUMBER OF THRUSTERS =     6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.2997+06	9.9350-06	56.	5.5535-04
750.	1.2466+06	3.8232-06	168.	6.4113-04
1050.	6.4564+05	1.9831-06	117.	2.3146-04
1350.	3.9323+05	1.1881-06	23.	2.7735-05
1650.	2.6421+05	8.9838-07	556.	4.9995-04
1950.	1.8960+05	6.5872-07	557.	3.6658-04
2250.	1.4263+05	4.6142-07	185.	8.5593-05
2550.	1.1117+05	4.3548-07	927.	4.0391-04
2850.	8.9067+04	3.4433-07	742.	2.5532-04
3150.	7.2955+04	2.6015-07	371.	9.6514-05
3450.	6.0849+04	2.2030-07	371.	8.1733-05
3750.	5.1523+04	2.3451-07	1113.	2.6101-04
4050.	4.4187+04	2.4141-07	1855.	4.4782-04
4350.	3.8313+04	2.0064-07	1484.	2.9775-04
4650.	3.3536+04	1.6519-07	1113.	1.8385-04
4950.	2.9600+04	1.7796-07	1855.	3.3011-04
5250.	2.6318+04	1.5000-07	1483.	2.2241-04
5550.	2.3554+04	1.5022-07	1855.	2.7866-04
5850.	2.1203+04	1.1501-07	1113.	1.2800-04
6150.	1.9187+04	1.1829-07	1484.	1.7554-04

```
POWER       =  1.3369+03 CURRENT =  5.2227+00

PMAX       2040. VOLTS
BEAM POWER =      16283.  WATTS
```


ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     2.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.9505+06	8.8872-06	56.	4.9678-04
750.	1.1210+06	3.4428-06	168.	5.7734-04
1050.	5.8160+05	1.7889-06	117.	2.0880-04
1350.	3.5449+05	1.0716-06	23.	2.5017-05
1650.	2.3829+05	8.1540-07	556.	4.5377-04
1950.	1.7104+05	5.9861-07	557.	3.3313-04
2250.	1.2869+05	4.1798-07	185.	7.7535-05
2550.	1.0031+05	3.9787-07	927.	3.6902-04
2850.	8.0379+04	3.1445-07	742.	2.3316-04
3150.	6.5843+04	2.3678-07	371.	8.7845-05
3450.	5.4920+04	2.0066-07	371.	7.4444-05
3750.	4.6504+04	2.1549-07	1113.	2.3984-04
4050.	3.9884+04	2.2309-07	1855.	4.1383-04
4350.	3.4583+04	1.8519-07	1484.	2.7483-04
4650.	3.0273+04	1.5219-07	1113.	1.6938-04
4950.	2.6720+04	1.6488-07	1855.	3.0585-04
5250.	2.3758+04	1.3878-07	1483.	2.0578-04
5550.	2.1263+04	1.3939-07	1855.	2.5857-04
5850.	1.9141+04	1.0627-07	1113.	1.1828-04
6150.	1.7321+04	1.0967-07	1484.	1.6275-04

```
POWER       =  1.2206+03 CURRENT =  4.7057+00

PMAX       2040. VOLTS
BEAM POWER =      16324.  WATTS


IXQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZENIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.8300+06	5.5259-06	60.	3.3220-04
750.	6.8823+05	2.1330-06	180.	3.8470-04
1050.	3.5597+05	1.1056-06	126.	1.3878-04
1350.	2.1667+05	6.5748-07	25.	1.6507-05
1650.	1.4553+05	5.2008-07	598.	3.1127-04
1950.	1.0442+05	3.8414-07	599.	2.2991-04
2250.	7.8538+04	2.6221-07	199.	5.2310-05
2550.	6.1206+04	2.6378-07	997.	2.6313-04
2850.	4.9035+04	2.0774-07	797.	1.6567-04
3150.	4.0162+04	1.5300-07	399.	6.1047-05
3450.	3.3496+04	1.3021-07	399.	5.1955-05
3750.	2.8361+04	1.4784-07	1197.	1.7697-04
4050.	2.4322+04	1.5836-07	1995.	3.1592-04
4350.	2.1088+04	1.3050-07	1596.	2.0828-04
4650.	1.8459+04	1.0605-07	1197.	1.2694-04
4950.	1.6292+04	1.1880-07	1995.	2.3700-04
5250.	1.4486+04	9.9178-08	1595.	1.5816-04
5550.	1.2964+04	1.0128-07	1995.	2.0205-04
5850.	1.1670+04	7.5329-08	1197.	9.0169-05
6150.	1.0560+04	7.9303-08	1596.	1.2657-04

```
POWER       =  8.7589+02 CURRENT =  2.9664+00

PMAX       2194. VOLTS
BEAM POWER =       8778.  WATTS
```

TXQT

```
DISTANCE =     3.4 AU
VMULT =   1.14
BCURR =     2.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.4753+06	4.4595-06	60.	2.6809-04
750.	5.6051+05	1.7438-06	180.	3.1450-04
1050.	2.9080+05	9.0674-07	126.	1.1382-04
1350.	1.7725+05	5.3869-07	25.	1.3524-05
1650.	1.1914+05	4.3309-07	598.	2.5920-04
1950.	8.5522+04	3.2081-07	599.	1.9201-04
2250.	6.4346+04	2.1717-07	199.	4.3326-05
2550.	5.0157+04	2.2309-07	997.	2.2254-04
2850.	4.0189+04	1.7551-07	797.	1.3996-04
3150.	3.2921+04	1.2823-07	399.	5.1166-05
3450.	2.7460+04	1.0932-07	399.	4.3619-05
3750.	2.3252+04	1.2660-07	1197.	1.5155-04
4050.	1.9942+04	1.3717-07	1995.	2.7365-04
4350.	1.7292+04	1.1278-07	1596.	1.7999-04
4650.	1.5136+04	9.1311-08	1197.	1.0930-04
4950.	1.3360+04	1.0341-07	1995.	2.0631-04
5250.	1.1879+04	8.6109-08	1595.	1.3731-04
5550.	1.0631+04	8.8401-08	1995.	1.7636-04
5850.	9.5703+03	6.5234-08	1197.	7.8086-05
6150.	8.6605+03	6.9118-08	1596.	1.1031-04

```
POWER       =   7.4031+02 CURRENT =   2.4327+00

PMAX       2194. VOLTS
BEAM POWER =       8778.  WATTS


IXQT
```

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     9.5 AU
VMULT =    1.19
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     15.62 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =  35.26 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =          .00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0551+06	3.1970-06	63.	2.0063-04
750.	3.9821+05	1.2497-06	188.	2.3528-04
1050.	2.0619+05	6.4889-07	131.	8.5027-05
1350.	1.2556+05	3.8301-07	26.	1.0038-05
1650.	8.4361+04	3.1901-07	625.	1.9930-04
1950.	6.0537+04	2.3757-07	625.	1.4842-04
2250.	4.5538+04	1.5768-07	208.	3.2838-05
2550.	3.5491+04	1.6964-07	1041.	1.7664-04
2850.	2.8435+04	1.3309-07	832.	1.1079-04
3150.	2.3291+04	9.5525-08	416.	3.9786-05
3450.	1.9426+04	8.1722-08	416.	3.4037-05
3750.	1.6449+04	9.8760-08	1249.	1.2340-04
4050.	1.4106+04	1.0953-07	2082.	2.2809-04
4350.	1.2231+04	8.9618-08	1666.	1.4930-04
4650.	1.0706+04	7.2010-08	1249.	8.9977-05
4950.	9.4496+03	8.3375-08	2082.	1.7363-04
5250.	8.4019+03	6.9060-08	1665.	1.1496-04
5550.	7.5193+03	7.1652-08	2082.	1.4921-04
5850.	6.7687+03	5.2042-08	1249.	6.5026-05
6150.	6.1252+03	5.5853-08	1666.	9.3051-05

```
POWER          5.9026+02 CURRENT =  1.7699+00

PMAX       2291. VOLTS
BEAM POWER =       5727.  WATTS
```

COMPUTER PRINTOUT

TABLE 5.4

PRECEDING PAGE BLANK NOT FILMED

DISTANCE = 1.0 AU
VMULT = 1.00
BCURR = 2.5 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZENIT = 20.0 CM
EQUIV CURRENT = 31.25 MILLIAMPS
ION TEMP = 10. EV
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
SPHERICAL EXPANSION CASE

ORIGINAL PAGE IS
OF POOR QUALITY

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 12

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.0982+06	2.1321-05	53.	1.1243-03
450.	8.0798+06	2.4262-05	53.	1.2795-03
450.	7.0982+06	2.1321-05	53.	1.1243-03
450.	5.4531+06	1.6390-05	53.	8.6431-04
750.	2.7665+06	8.4088-06	158.	1.3303-03
750.	2.9087+06	8.8376-06	158.	1.3981-03
750.	2.7665+06	8.4088-06	158.	1.3303-03
750.	2.4343+06	7.4070-06	158.	1.1718-03
1050.	1.4458+06	4.3983-06	110.	4.8432-04
1050.	1.4640+06	4.5137-06	110.	4.9703-04
1050.	1.4458+06	4.3983-06	110.	4.8432-04
1050.	1.3455+06	4.0959-06	110.	4.5101-04
1350.	8.8355+05	2.6596-06	22.	5.8571-05
1350.	8.9775+05	2.7022-06	22.	5.9509-05
1350.	8.8355+05	2.6596-06	22.	5.8571-05
1350.	8.4439+05	2.5421-06	22.	5.5983-05
1650.	5.9457+05	1.8987-06	375.	7.1202-04

1650.	6.0097+05	1.9185-06	375.	7.1945-04
1650.	5.9457+05	1.8987-06	375.	7.1202-04
1650.	5.7640+05	1.8426-06	375.	6.9096-04
1950.	4.2698+05	1.3792-06	375.	5.1719-04
1950.	4.3028+05	1.3894-06	375.	5.2104-04
1950.	4.2698+05	1.3792-06	375.	5.1719-04
1950.	4.1749+05	1.3496-06	375.	5.0612-04
2250.	3.2132+05	9.9980-07	125.	1.2497-04
2250.	3.2319+05	1.0055-06	125.	1.2569-04
2250.	3.2132+05	9.9980-07	125.	1.2497-04
2250.	3.1590+05	9.8324-07	125.	1.2291-04
2550.	2.5049+05	8.6407-07	625.	5.4004-04
2550.	2.5162+05	8.6772-07	625.	5.4232-04
2550.	2.5049+05	8.6407-07	625.	5.4004-04
2550.	2.4717+05	8.5339-07	625.	5.3337-04
2850.	2.0071+05	7.6022-07	1125.	8.5525-04
2850.	2.0143+05	7.6268-07	1125.	8.5802-04
2850.	2.0071+05	7.6022-07	1125.	8.5525-04
2850.	1.9857+05	7.5297-07	1125.	8.4709-04
3150.	1.6441+05	6.1159-07	875.	5.3514-04
3150.	1.6489+05	6.1322-07	875.	5.3657-04
3150.	1.6441+05	6.1159-07	875.	5.3514-04
3150.	1.6297+05	6.0676-07	875.	5.3091-04
3450.	1.3712+05	5.1960-07	875.	4.5465-04
3450.	1.3746+05	5.2075-07	875.	4.5566-04
3450.	1.3712+05	5.1960-07	875.	4.5465-04
3450.	1.3612+05	5.1620-07	875.	4.5167-04
3750.	1.1611+05	4.8869-07	1375.	6.7195-04
3750.	1.1635+05	4.8957-07	1375.	6.7316-04
3750.	1.1611+05	4.8869-07	1375.	6.7195-04
3750.	1.1538+05	4.8610-07	1375.	6.6839-04
4050.	9.9571+04	4.6311-07	1875.	8.6834-04
4050.	9.9750+04	4.6380-07	1875.	8.6962-04
4050.	9.9571+04	4.6311-07	1875.	8.6834-04
4050.	9.9040+04	4.6108-07	1875.	8.6453-04
4350.	8.6332+04	3.9647-07	1625.	6.4426-04
4350.	8.6466+04	3.9698-07	1625.	6.4509-04
4350.	8.6332+04	3.9647-07	1625.	6.4426-04
4350.	8.5932+04	3.9495-07	1625.	6.4179-04
4650.	7.5566+04	3.4012-07	1375.	4.6767-04
4650.	7.5669+04	3.4051-07	1375.	4.6820-04
4650.	7.5566+04	3.4012-07	1375.	4.6767-04
4650.	7.5260+04	3.3898-07	1375.	4.6609-04
4950.	6.6695+04	3.3478-07	1875.	6.2771-04
4950.	6.6775+04	3.3510-07	1875.	6.2831-04
4950.	6.6695+04	3.3478-07	1875.	6.2771-04
4950.	6.6456+04	3.3382-07	1875.	6.2591-04
5250.	5.9298+04	3.2969-07	2375.	7.8302-04
5250.	5.9362+04	3.2996-07	2375.	7.8366-04
5250.	5.9298+04	3.2969-07	2375.	7.8302-04
5250.	5.9109+04	3.2888-07	2375.	7.8110-04
5550.	5.3067+04	3.1407-07	2625.	8.2442-04
5550.	5.3118+04	3.1429-07	2625.	8.2502-04
5550.	5.3067+04	3.1407-07	2625.	8.2442-04
5550.	5.2915+04	3.1339-07	2625.	8.2265-04
5850.	4.7768+04	2.6865-07	2125.	5.7089-04
5850.	4.7809+04	2.6883-07	2125.	5.7127-04
5850.	4.7768+04	2.6865-07	2125.	5.7089-04
5850.	4.7645+04	2.6812-07	2125.	5.6977-04
6150.	4.3225+04	2.5935-07	2375.	6.1595-04
6150.	4.3259+04	2.5950-07	2375.	6.1631-04
6150.	4.3225+04	2.5935-07	2375.	6.1595-04
6150.	4.3125+04	2.5890-07	2375.	6.1488-04

POWER = 3.0586+03 CURRENT = 1.1109+01

PMAX 2750. VOLTS
BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

DISTANCE = 1.6 AU
VMULT = 1.25
BCURR = 1.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 12.50 MILLIAMPS
ION TEMP = 10. EV
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 12

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3436.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.1165+06	1.2396-05	66.	8.1709-04
450.	4.5092+06	1.3574-05	66.	8.9475-04
450.	4.1165+06	1.2396-05	66.	8.1709-04
450.	3.4585+06	1.0421-05	66.	6.8691-04
750.	1.5664+06	4.8053-06	198.	9.5026-04
750.	1.6233+06	4.9776-06	198.	9.8433-04
750.	1.5664+06	4.8053-06	198.	9.5026-04
750.	1.4335+06	4.4027-06	198.	8.7064-04
1050.	8.1291+05	2.4974-06	138.	3.4375-04
1050.	8.2621+05	2.5438-06	138.	3.5013-04
1050.	8.1291+05	2.4974-06	138.	3.4375-04
1050.	7.7281+05	2.3758-06	138.	3.2701-04
1350.	4.9534+05	1.4967-06	28.	4.1202-05
1350.	5.0102+05	1.5138-06	28.	4.1672-05
1350.	4.9534+05	1.4967-06	28.	4.1202-05
1350.	4.7967+05	1.4496-06	28.	3.9906-05
1650.	3.3283+05	1.1021-06	469.	5.1662-04

ORIGINAL PAGE IS OF POOR QUALITY

1650.	3.3539+05	1.1102-06	469.	5.2041-04
1650.	3.3283+05	1.1021-06	469.	5.1662-04
1650.	3.2556+05	1.0792-06	469.	5.0589-04
1950.	2.3881+05	8.0465-07	469.	3.7718-04
1950.	2.4013+05	8.0884-07	469.	3.7915-04
1950.	2.3881+05	8.0465-07	469.	3.7718-04
1950.	2.3501+05	7.9257-07	469.	3.7152-04
2250.	1.7962+05	5.7155-07	156.	8.9305-05
2250.	1.8037+05	5.7385-07	156.	8.9665-05
2250.	1.7962+05	5.7155-07	156.	8.9305-05
2250.	1.7745+05	5.6485-07	156.	8.8258-05
2550.	1.3997+05	5.2023-07	781.	4.0643-04
2550.	1.4042+05	5.2175-07	781.	4.0761-04
2550.	1.3997+05	5.2023-07	781.	4.0643-04
2550.	1.3864+05	5.1578-07	781.	4.0295-04
2850.	1.1213+05	4.7671-07	1406.	6.7038-04
2850.	1.1242+05	4.7777-07	1406.	6.7186-04
2850.	1.1213+05	4.7671-07	1406.	6.7038-04
2850.	1.1127+05	4.7361-07	1406.	6.6602-04
3150.	9.1829+04	3.8059-07	1094.	4.1627-04
3150.	9.2024+04	3.8129-07	1094.	4.1703-04
3150.	9.1829+04	3.8059-07	1094.	4.1627-04
3150.	9.1253+04	3.7854-07	1094.	4.1403-04
3450.	7.6580+04	3.2579-07	1094.	3.5634-04
3450.	7.6716+04	3.2629-07	1094.	3.5687-04
3450.	7.6580+04	3.2579-07	1094.	3.5634-04
3450.	7.6178+04	3.2434-07	1094.	3.5475-04
3750.	6.4835+04	3.1888-07	1719.	5.4808-04
3750.	6.4932+04	3.1927-07	1719.	5.4874-04
3750.	6.4835+04	3.1888-07	1719.	5.4808-04
3750.	6.4546+04	3.1774-07	1719.	5.4612-04
4050.	5.5597+04	3.1233-07	2344.	7.3203-04
4050.	5.5669+04	3.1264-07	2344.	7.3275-04
4050.	5.5597+04	3.1233-07	2344.	7.3203-04
4050.	5.5385+04	3.1142-07	2344.	7.2989-04
4350.	4.8201+04	2.6631-07	2031.	5.4095-04
4350.	4.8255+04	2.6654-07	2031.	5.4141-04
4350.	4.8201+04	2.6631-07	2031.	5.4095-04
4350.	4.8041+04	2.6563-07	2031.	5.3957-04
4650.	4.2188+04	2.2700-07	1719.	3.9015-04
4650.	4.2229+04	2.2717-07	1719.	3.9045-04
4650.	4.2188+04	2.2700-07	1719.	3.9015-04
4650.	4.2066+04	2.2648-07	1719.	3.8927-04
4950.	3.7234+04	2.3089-07	2344.	5.4114-04
4950.	3.7266+04	2.3104-07	2344.	5.4149-04
4950.	3.7234+04	2.3089-07	2344.	5.4114-04
4950.	3.7138+04	2.3045-07	2344.	5.4011-04
5250.	3.3103+04	2.3358-07	2969.	6.9343-04
5250.	3.3129+04	2.3370-07	2969.	6.9381-04
5250.	3.3103+04	2.3358-07	2969.	6.9343-04
5250.	3.3028+04	2.3320-07	2969.	6.9230-04
5550.	2.9624+04	2.2583-07	3281.	7.4099-04
5550.	2.9644+04	2.2593-07	3281.	7.4135-04
5550.	2.9624+04	2.2583-07	3281.	7.4099-04
5550.	2.9563+04	2.2551-07	3281.	7.3994-04
5850.	2.6665+04	1.9086-07	2656.	5.0698-04
5850.	2.6681+04	1.9095-07	2656.	5.0720-04
5850.	2.6665+04	1.9086-07	2656.	5.0698-04
5850.	2.6616+04	1.9061-07	2656.	5.0632-04
6150.	2.4128+04	1.8706-07	2969.	5.5532-04
6150.	2.4142+04	1.8713-07	2969.	5.5554-04
6150.	2.4128+04	1.8706-07	2969.	5.5532-04
6150.	2.4088+04	1.8684-07	2969.	5.5468-04

POWER = 2.4460+03 CURRENT = 6.5464+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

DISTANCE = 1.6 AU
VMULT = 1.25
BCURR = 2.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 10. EV
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
SPHERICAL EXPANSION CASE

ORIGINAL PAGE IS OF POOR QUALITY

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 6

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.0521+06	9.2008-06	66.	6.0650-04
450.	3.4448+06	1.0380-05	66.	6.8420-04
450.	3.0521+06	9.2008-06	66.	6.0650-04
450.	2.3941+06	7.2247-06	66.	4.7624-04
750.	1.1832+06	3.6436-06	198.	7.2053-04
750.	1.2401+06	3.8162-06	198.	7.5467-04
750.	1.1832+06	3.6436-06	198.	7.2053-04
750.	1.0503+06	3.2402-06	198.	6.4075-04
1050.	6.1741+05	1.9042-06	138.	2.6211-04
1050.	6.3272+05	1.9507-06	138.	2.6850-04
1050.	6.1741+05	1.9042-06	138.	2.6211-04
1050.	5.7731+05	1.7824-06	138.	2.4534-04
1350.	3.7707+05	1.1411-06	28.	3.1413-05
1350.	3.8275+05	1.1582-06	28.	3.1883-05
1350.	3.7707+05	1.1411-06	28.	3.1413-05
1350.	3.6141+05	1.0940-06	28.	3.0115-05
1650.	2.5366+05	8.5181-07	469.	3.9929-04

1650.	2.5622+05	8.5995-07	469.	4.0310-04
1650.	2.5366+05	8.5181-07	469.	3.9929-04
1650.	2.4640+05	8.2875-07	469.	3.8848-04
1950.	1.8213+05	6.2368-07	469.	2.9235-04
1950.	1.8345+05	6.2791-07	469.	2.9433-04
1950.	1.8213+05	6.2368-07	469.	2.9235-04
1950.	1.7833+05	6.1149-07	469.	2.8664-04
2250.	1.3704+05	4.3988-07	156.	6.8732-05
2250.	1.3779+05	4.4220-07	156.	6.9093-05
2250.	1.3704+05	4.3988-07	156.	6.8732-05
2250.	1.3487+05	4.3315-07	156.	6.7680-05
2550.	1.0682+05	4.0826-07	781.	3.1895-04
2550.	1.0728+05	4.0980-07	781.	3.2016-04
2550.	1.0682+05	4.0826-07	781.	3.1895-04
2550.	1.0550+05	4.0374-07	781.	3.1542-04
2850.	8.5590+04	3.7950-07	1406.	5.3367-04
2850.	8.5881+04	3.8058-07	1406.	5.3519-04
2850.	8.5590+04	3.7950-07	1406.	5.3367-04
2850.	8.4735+04	3.7632-07	1406.	5.2920-04
3150.	7.0107+04	3.0226-07	1094.	3.3059-04
3150.	7.0302+04	3.0297-07	1094.	3.3137-04
3150.	7.0107+04	3.0226-07	1094.	3.3059-04
3150.	6.9531+04	3.0015-07	1094.	3.2829-04
3450.	5.8471+04	2.5943-07	1094.	2.8375-04
3450.	5.8607+04	2.5993-07	1094.	2.8430-04
3450.	5.8471+04	2.5943-07	1094.	2.8375-04
3450.	5.8070+04	2.5794-07	1094.	2.8212-04
3750.	4.9508+04	2.5728-07	1719.	4.4220-04
3750.	4.9605+04	2.5768-07	1719.	4.4289-04
3750.	4.9508+04	2.5728-07	1719.	4.4220-04
3750.	4.9219+04	2.5610-07	1719.	4.4017-04
4050.	4.2457+04	2.5462-07	2344.	5.9675-04
4050.	4.2528+04	2.5494-07	2344.	5.9751-04
4050.	4.2457+04	2.5462-07	2344.	5.9675-04
4050.	4.2244+04	2.5366-07	2344.	5.9452-04
4350.	3.6811+04	2.1684-07	2031.	4.4047-04
4350.	3.6865+04	2.1708-07	2031.	4.4096-04
4350.	3.6811+04	2.1684-07	2031.	4.4047-04
4350.	3.6651+04	2.1613-07	2031.	4.3902-04
4650.	3.2220+04	1.8447-07	1719.	3.1707-04
4650.	3.2261+04	1.8465-07	1719.	3.1737-04
4650.	3.2220+04	1.8447-07	1719.	3.1707-04
4650.	3.2097+04	1.8394-07	1719.	3.1615-04
4950.	2.8437+04	1.8951-07	2344.	4.4417-04
4950.	2.8469+04	1.8967-07	2344.	4.4453-04
4950.	2.8437+04	1.8951-07	2344.	4.4417-04
4950.	2.8342+04	1.8905-07	2344.	4.4309-04
5250.	2.5283+04	1.9323-07	2969.	5.7364-04
5250.	2.5309+04	1.9336-07	2969.	5.7404-04
5250.	2.5283+04	1.9323-07	2969.	5.7364-04
5250.	2.5208+04	1.9282-07	2969.	5.7245-04
5550.	2.2626+04	1.8760-07	3281.	6.1557-04
5550.	2.2646+04	1.8772-07	3281.	6.1595-04
5550.	2.2626+04	1.8760-07	3281.	6.1557-04
5550.	2.2566+04	1.8726-07	3281.	6.1445-04
5850.	2.0367+04	1.5802-07	2656.	4.1975-04
5850.	2.0383+04	1.5811-07	2656.	4.1998-04
5850.	2.0367+04	1.5802-07	2656.	4.1975-04
5850.	2.0318+04	1.5776-07	2656.	4.1905-04
6150.	1.8430+04	1.5553-07	2969.	4.6174-04
6150.	1.8443+04	1.5561-07	2969.	4.6197-04
6150.	1.8430+04	1.5553-07	2969.	4.6174-04
6150.	1.8390+04	1.5530-07	2969.	4.6106-04

POWER = 1.9500+03 CURRENT = 4.9581+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

BXQT

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.2 AU
VMULT =    1.40
BCURR =     1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.0583+06	6.2211-06	74.	4.5929-04
450.	2.2546+06	6.8112-06	74.	5.0286-04
450.	2.0583+06	6.2211-06	74.	4.5929-04
450.	1.7293+06	5.2317-06	74.	3.8625-04
750.	7.8320+05	2.4354-06	221.	5.3940-04
750.	8.1165+05	2.5221-06	221.	5.5861-04
750.	7.8320+05	2.4354-06	221.	5.3940-04
750.	7.1676+05	2.2327-06	221.	4.9450-04
1050.	4.0645+05	1.2667-06	154.	1.9527-04
1050.	4.1411+05	1.2900-06	154.	1.9887-04
1050.	4.0645+05	1.2667-06	154.	1.9527-04
1050.	3.8640+05	1.2054-06	154.	1.8583-04
1350.	2.4767+05	7.5256-07	31.	2.3203-05
1350.	2.5051+05	7.6112-07	31.	2.3467-05
1350.	2.4767+05	7.5256-07	31.	2.3203-05
1350.	2.3984+05	7.2894-07	31.	2.2475-05
1650.	1.6641+05	5.7991-07	525.	3.0445-04

ORIGINAL PAGE IS OF POOR QUALITY

```
1650. 1.6770+05 5.8405-07      525. 3.0663-04
1650. 1.6641+05 5.7991-07      525. 3.0445-04
1650. 1.6278+05 5.6814-07      525. 2.9827-04
1950. 1.1941+05 4.2676-07      525. 2.2405-04
1950. 1.2007+05 4.2892-07      525. 2.2518-04
1950. 1.1941+05 4.2676-07      525. 2.2405-04
1950. 1.1751+05 4.2052-07      525. 2.2077-04
2250. 8.9810+04 2.9507-07      175. 5.1637-05
2250. 9.0183+04 2.9624-07      175. 5.1842-05
2250. 8.9810+04 2.9507-07      175. 5.1637-05
2250. 8.8725+04 2.9166-07      175. 5.1041-05
2550. 6.9985+04 2.8755-07      875. 2.5161-04
2550. 7.0212+04 2.8836-07      875. 2.5231-04
2550. 6.9985+04 2.8755-07      875. 2.5161-04
2550. 6.9322+04 2.8520-07      875. 2.4955-04
2850. 5.6063+04 2.7652-07     1575. 4.3552-04
2850. 5.6208+04 2.7710-07     1575. 4.3643-04
2850. 5.6063+04 2.7652-07     1575. 4.3552-04
2850. 5.5635+04 2.7483-07     1575. 4.3285-04
3150. 4.5914+04 2.1890-07     1225. 2.6815-04
3150. 4.6012+04 2.1928-07     1225. 2.6862-04
3150. 4.5914+04 2.1890-07     1225. 2.6815-04
3150. 4.5626+04 2.1778-07     1225. 2.6678-04
3450. 3.8290+04 1.8902-07     1225. 2.3155-04
3450. 3.8358+04 1.8929-07     1225. 2.3188-04
3450. 3.8290+04 1.8902-07     1225. 2.3155-04
3450. 3.8089+04 1.8822-07     1225. 2.3057-04
3750. 3.2417+04 1.9318-07     1925. 3.7186-04
3750. 3.2466+04 1.9339-07     1925. 3.7228-04
3750. 3.2417+04 1.9318-07     1925. 3.7186-04
3750. 3.2273+04 1.9253-07     1925. 3.7062-04
4050. 2.7799+04 1.9559-07     2625. 5.1342-04
4050. 2.7834+04 1.9577-07     2625. 5.1389-04
4050. 2.7799+04 1.9559-07     2625. 5.1342-04
4050. 2.7692+04 1.9505-07     2625. 5.1202-04
4350. 2.4101+04 1.6613-07     2275. 3.7794-04
4350. 2.4128+04 1.6626-07     2275. 3.7824-04
4350. 2.4101+04 1.6613-07     2275. 3.7794-04
4350. 2.4021+04 1.6573-07     2275. 3.7704-04
4650. 2.1094+04 1.4071-07     1925. 2.7087-04
4650. 2.1115+04 1.4081-07     1925. 2.7106-04
4650. 2.1094+04 1.4071-07     1925. 2.7087-04
4650. 2.1033+04 1.4041-07     1925. 2.7030-04
4950. 1.8617+04 1.4770-07     2625. 3.8772-04
4950. 1.8633+04 1.4779-07     2625. 3.8795-04
4950. 1.8617+04 1.4770-07     2625. 3.8772-04
4950. 1.8569+04 1.4744-07     2625. 3.8704-04
5250. 1.6552+04 1.5311-07     3325. 5.0908-04
5250. 1.6564+04 1.5318-07     3325. 5.0934-04
5250. 1.6552+04 1.5311-07     3325. 5.0908-04
5250. 1.6514+04 1.5287-07     3325. 5.0831-04
5550. 1.4812+04 1.4995-07     3675. 5.5106-04
5550. 1.4822+04 1.5001-07     3675. 5.5130-04
5550. 1.4812+04 1.4995-07     3675. 5.5106-04
5550. 1.4782+04 1.4975-07     3675. 5.5033-04
5850. 1.3333+04 1.2542-07     2975. 3.7312-04
5850. 1.3341+04 1.2547-07     2975. 3.7327-04
5850. 1.3333+04 1.2542-07     2975. 3.7312-04
5850. 1.3308+04 1.2527-07     2975. 3.7266-04
6150. 1.2064+04 1.2463-07     3325. 4.1408-04
6150. 1.2071+04 1.2458-07     3325. 4.1423-04
6150. 1.2064+04 1.2453-07     3325. 4.1408-04
6150. 1.2044+04 1.2440-07     3325. 4.1363-04
POWER      =  1.6161+03 CURRENT =  3.4077+00

PMAX      3850. VOLTS
BEAM POWER =      23100.  WATTS


@XQT
```


ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.2 AU
VMULT =    1.00
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.0521+06	9.1894-06	53.	4.8460-04
450.	3.4448+06	1.0367-05	53.	5.4672-04
450.	3.0521+06	9.1894-06	53.	4.8460-04
450.	2.3941+06	7.2146-06	53.	3.8046-04
750.	1.1832+06	3.6273-06	158.	5.7386-04
750.	1.2401+06	3.7996-06	158.	6.0110-04
750.	1.1832+06	3.6273-06	158.	5.7386-04
750.	1.0503+06	3.2248-06	158.	5.1018-04
1050.	6.1741+05	1.8953-06	110.	2.0870-04
1050.	6.3272+05	1.9417-06	110.	2.1381-04
1050.	6.1741+05	1.8953-06	110.	2.0870-04
1050.	5.7731+05	1.7738-06	110.	1.9532-04
1350.	3.7707+05	1.1390-06	22.	2.5084-05

1350.	3.8275+05	1.1561-06	22.	2.5460-05
1350.	3.7707+05	1.1390-06	22.	2.5084-05
1350.	3.6141+05	1.0919-06	22.	2.4047-05
1650.	2.5366+05	8.6009-07	525.	4.5155-04
1650.	2.5622+05	8.6827-07	525.	4.5584-04
1650.	2.5366+05	8.6009-07	525.	4.5155-04
1650.	2.4640+05	8.3691-07	525.	4.3938-04
1950.	1.8213+05	6.3070-07	525.	3.3112-04
1950.	1.8345+05	6.3495-07	525.	3.3335-04
1950.	1.8213+05	6.3070-07	525.	3.3112-04
1950.	1.7833+05	6.1643-07	525.	3.2468-04
2250.	1.3704+05	4.4255-07	175.	7.7447-05
2250.	1.3779+05	4.4487-07	175.	7.7853-05
2250.	1.3704+05	4.4255-07	175.	7.7447-05
2250.	1.3487+05	4.3580-07	175.	7.6265-05
2550.	1.0682+05	4.1614-07	875.	3.6412-04
2550.	1.0728+05	4.1770-07	875.	3.6549-04
2550.	1.0682+05	4.1614-07	875.	3.6412-04
2550.	1.0550+05	4.1157-07	875.	3.6012-04
2850.	8.5590+04	3.2912-07	700.	2.3023-04
2850.	8.5881+04	3.3012-07	700.	2.3093-04
2850.	8.5590+04	3.2912-07	700.	2.3023-04
2850.	8.4735+04	3.2620-07	700.	2.2819-04
3150.	7.0107+04	2.4904-07	350.	8.7164-05
3150.	7.0302+04	2.4968-07	350.	8.7387-05
3150.	7.0107+04	2.4904-07	350.	8.7164-05
3150.	6.9531+04	2.4716-07	350.	8.6505-05
3450.	5.8471+04	2.1083-07	350.	7.3790-05
3450.	5.8607+04	2.1128-07	350.	7.3947-05
3450.	5.8471+04	2.1083-07	350.	7.3790-05
3450.	5.8070+04	2.0951-07	350.	7.3327-05
3750.	4.9508+04	2.2353-07	1050.	2.3470-04
3750.	4.9605+04	2.2389-07	1050.	2.3509-04
3750.	4.9508+04	2.2353-07	1050.	2.3470-04
3750.	4.9219+04	2.2244-07	1050.	2.3357-04
4050.	4.2457+04	2.2950-07	1750.	4.0162-04
4050.	4.2528+04	2.2980-07	1750.	4.0214-04
4050.	4.2457+04	2.2950-07	1750.	4.0162-04
4050.	4.2244+04	2.2860-07	1750.	4.0006-04
4350.	3.6811+04	1.9084-07	1400.	2.6717-04
4350.	3.6865+04	1.9106-07	1400.	2.6748-04
4350.	3.6811+04	1.9084-07	1400.	2.6717-04
4350.	3.6651+04	1.9019-07	1400.	2.6626-04
4650.	3.2220+04	1.5724-07	1050.	1.6511-04
4650.	3.2261+04	1.5741-07	1050.	1.6528-04
4650.	3.2220+04	1.5724-07	1050.	1.6511-04
4650.	3.2097+04	1.5676-07	1050.	1.6460-04
4950.	2.8437+04	1.6895-07	1750.	2.9567-04
4950.	2.8469+04	1.6910-07	1750.	2.9592-04
4950.	2.8437+04	1.6895-07	1750.	2.9567-04
4950.	2.8342+04	1.6853-07	1750.	2.9492-04
5250.	2.5283+04	1.4250-07	1399.	1.9933-04
5250.	2.5309+04	1.4261-07	1399.	1.9948-04
5250.	2.5283+04	1.4250-07	1399.	1.9933-04
5250.	2.5208+04	1.4217-07	1399.	1.9887-04
5550.	2.2626+04	1.4251-07	1750.	2.4940-04
5550.	2.2646+04	1.4261-07	1750.	2.4957-04
5550.	2.2626+04	1.4251-07	1750.	2.4940-04
5550.	2.2566+04	1.4223-07	1750.	2.4891-04
5850.	2.0367+04	1.0932-07	1050.	1.1478-04
5850.	2.0383+04	1.0939-07	1050.	1.1486-04
5850.	2.0367+04	1.0932-07	1050.	1.1478-04
5850.	2.0318+04	1.0911-07	1050.	1.1457-04
6150.	1.8430+04	1.1226-07	1400.	1.5716-04
6150.	1.8443+04	1.1232-07	1400.	1.5725-04
6150.	1.8430+04	1.1226-07	1400.	1.5716-04
6150.	1.8390+04	1.1207-07	1400.	1.5690-04

POWER = 1.1917+03 CURRENT = 4.8417+00

PMAX 1925. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

QXQT

```
 DISTANCE =     2.6 AU
VHULT =    1.06
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     16.62 MILLIAMPS
ION TEMP    =     10. EV
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT.	POWER
450.	2.3862+06	7.1934-06	56.	4.0210-04
450.	2.6474+06	7.9773-06	56.	4.4592-04
450.	2.3862+06	7.1934-06	56.	4.0210-04
450.	1.9487+06	5.8794-06	56.	3.2865-04
750.	9.1521+05	2.8187-06	168.	4.7268-04
750.	9.5305+05	2.9335-06	168.	4.9193-04
750.	9.1521+05	2.8187-06	168.	4.7268-04
750.	8.2685+05	2.5504-06	168.	4.2769-04
1050.	4.7607+05	1.4686-06	117.	1.7142-04
1050.	4.8625+05	1.4995-06	117.	1.7503-04
1050.	4.7607+05	1.4686-06	117.	1.7142-04
1050.	4.4940+05	1.3876-06	117.	1.6196-04
1350.	2.9037+05	8.7880-07	23.	2.0515-05

1350.	2.9415+05	8.9016-07	23.	2.0780-05
1350.	2.9037+05	8.7880-07	23.	2.0515-05
1350.	2.7996+05	8.4746-07	23.	1.9783-05
1650.	1.9521+05	6.7681-07	556.	3.7665-04
1650.	1.9691+05	6.8232-07	556.	3.7971-04
1650.	1.9521+05	6.7681-07	556.	3.7665-04
1650.	1.9037+05	6.6121-07	556.	3.6796-04
1950.	1.4011+05	4.9783-07	557.	2.7704-04
1950.	1.4098+05	5.0070-07	557.	2.7864-04
1950.	1.4011+05	4.9783-07	557.	2.7704-04
1950.	1.3758+05	4.8956-07	557.	2.7244-04
2250.	1.0540+05	3.4517-07	185.	6.4030-05
2250.	1.0589+05	3.4673-07	185.	6.4318-05
2250.	1.0540+05	3.4517-07	185.	6.4030-05
2250.	1.0395+05	3.4065-07	185.	6.3191-05
2550.	8.2142+04	3.3422-07	927.	3.0999-04
2550.	8.2443+04	3.3528-07	927.	3.1097-04
2550.	8.2142+04	3.3422-07	927.	3.0999-04
2550.	8.1260+04	3.3110-07	927.	3.0710-04
2850.	6.5807+04	2.6382-07	742.	1.9563-04
2850.	6.6000+04	2.6450-07	742.	1.9613-04
2850.	6.5807+04	2.6382-07	742.	1.9563-04
2850.	6.5238+04	2.6183-07	742.	1.9415-04
3150.	5.3696+04	1.9726-07	371.	7.3184-05
3150.	5.4028+04	1.9769-07	371.	7.3344-05
3150.	5.3898+04	1.9726-07	371.	7.3184-05
3150.	5.3515+04	1.9599-07	371.	7.2712-05
3450.	4.4950+04	1.6737-07	371.	6.2095-05
3450.	4.5040+04	1.6768-07	371.	6.2208-05
3450.	4.4950+04	1.6737-07	371.	6.2095-05
3450.	4.4683+04	1.6648-07	371.	6.1763-05
3750.	3.6057+04	1.8294-07	1113.	2.0361-04
3750.	3.8122+04	1.8319-07	1113.	2.0389-04
3750.	3.6057+04	1.8294-07	1113.	2.0361-04
3750.	3.7865+04	1.8219-07	1113.	2.0278-04
4050.	3.2636+04	1.9151-07	1855.	3.5525-04
4050.	3.2663+04	1.9172-07	1855.	3.5564-04
4050.	3.2636+04	1.9151-07	1855.	3.5525-04
4050.	3.2495+04	1.9088-07	1855.	3.5409-04
4350.	2.8295+04	1.5858-07	1484.	2.3534-04
4350.	2.8331+04	1.5874-07	1484.	2.3556-04
4350.	2.8295+04	1.5858-07	1484.	2.3534-04
4350.	2.8189+04	1.5813-07	1484.	2.3466-04
4650.	2.4766+04	1.2983-07	1113.	1.4450-04
4650.	2.4793+04	1.2994-07	1113.	1.4463-04
4650.	2.4766+04	1.2983-07	1113.	1.4450-04
4650.	2.4684+04	1.2949-07	1113.	1.4413-04
4950.	2.1858+04	1.4222-07	1855.	2.6382-04
4950.	2.1879+04	1.4232-07	1855.	2.6401-04
4950.	2.1858+04	1.4222-07	1855.	2.6382-04
4950.	2.1794+04	1.4192-07	1855.	2.6326-04
5250.	1.9433+04	1.1938-07	1483.	1.7701-04
5250.	1.9450+04	1.1945-07	1483.	1.7712-04
5250.	1.9433+04	1.1938-07	1483.	1.7701-04
5250.	1.9383+04	1.1915-07	1483.	1.7667-04
5550.	1.7391+04	1.2056-07	1855.	2.2364-04
5550.	1.7404+04	1.2063-07	1855.	2.2376-04
5550.	1.7391+04	1.2056-07	1855.	2.2364-04
5550.	1.7350+04	1.2036-07	1855.	2.2327-04
5850.	1.5654+04	9.1152-08	1113.	1.0145-04
5850.	1.5665+04	9.1200-08	1113.	1.0151-04
5850.	1.5654+04	9.1152-08	1113.	1.0145-04
5850.	1.5621+04	9.1008-08	1113.	1.0129-04
6150.	1.4165+04	9.4696-08	1484.	1.4053-04
6150.	1.4174+04	9.4739-08	1484.	1.4059-04
6150.	1.4165+04	9.4696-08	1484.	1.4053-04
6150.	1.4138+04	9.4566-08	1484.	1.4034-04

POWER = 1.0203+03 CURRENT = 3.8107+00

PMAX 2040. VOLTS
BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

QXQT

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS    =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.0348+06	6.1380-06	56.	3.4310-04
450.	2.2965+06	6.9240-06	56.	3.8704-04
450.	2.0348+06	6.1380-06	56.	3.4310-04
450.	1.5961+06	4.8201-06	56.	2.6944-04
750.	7.8882+05	2.4348-06	168.	4.0831-04
750.	8.2675+05	2.5501-06	168.	4.2764-04
750.	7.8882+05	2.4348-06	168.	4.0831-04
750.	7.0023+05	2.1656-06	168.	3.6315-04
1050.	4.1161+05	1.2727-06	117.	1.4855-04
1050.	4.2181+05	1.3037-06	117.	1.5217-04
1050.	4.1161+05	1.2727-06	117.	1.4855-04
1050.	3.8467+05	1.1914-06	117.	1.3906-04
1350.	2.5138+05	7.6148-07	23.	1.7776-05

1350.	2.5517+05	7.7287-07	23.	1.8042-05
1350.	2.5138+05	7.6148-07	23.	1.7776-05
1350.	2.4094+05	7.3004-07	23.	1.7042-05
1650.	1.6911+05	5.9232-07	556.	3.2963-04
1650.	1.7082+05	5.9787-07	556.	3.3272-04
1650.	1.6911+05	5.9232-07	556.	3.2963-04
1650.	1.6426+05	5.7659-07	556.	3.2087-04
1950.	1.2142+05	4.3650-07	557.	2.4291-04
1950.	1.2230+05	4.3940-07	557.	2.4453-04
1950.	1.2142+05	4.3650-07	557.	2.4291-04
1950.	1.1889+05	4.2816-07	557.	2.3827-04
2250.	9.1363+04	3.0114-07	185.	5.5861-05
2250.	9.1661+04	3.0270-07	185.	5.6151-05
2250.	9.1363+04	3.0114-07	185.	5.5861-05
2250.	8.9916+04	2.9659-07	185.	5.5017-05
2550.	7.1216+04	2.9544-07	927.	2.7402-04
2550.	7.1518+04	2.9652-07	927.	2.7502-04
2550.	7.1216+04	2.9544-07	927.	2.7402-04
2550.	7.0331+04	2.9228-07	927.	2.7109-04
2850.	5.7060+04	2.3305-07	742.	1.7281-04
2850.	5.7254+04	2.3374-07	742.	1.7332-04
2850.	5.7060+04	2.3305-07	742.	1.7281-04
2850.	5.6490+04	2.3103-07	742.	1.7131-04
3150.	4.6738+04	1.7337-07	371.	6.4320-05
3150.	4.6868+04	1.7380-07	371.	6.4481-05
3150.	4.6738+04	1.7337-07	371.	6.4320-05
3150.	4.6354+04	1.7208-07	371.	6.3843-05
3450.	3.8981+04	1.4726-07	371.	5.4633-05
3450.	3.9071+04	1.4756-07	371.	5.4746-05
3450.	3.8981+04	1.4726-07	371.	5.4633-05
3450.	3.8713+04	1.4635-07	371.	5.4297-05
3750.	3.3005+04	1.6308-07	1113.	1.8151-04
3750.	3.3070+04	1.6334-07	1113.	1.8180-04
3750.	3.3005+04	1.6308-07	1113.	1.8151-04
3750.	3.2813+04	1.6232-07	1113.	1.8066-04
4050.	2.8304+04	1.7210-07	1855.	3.1925-04
4050.	2.8352+04	1.7232-07	1855.	3.1965-04
4050.	2.8304+04	1.7210-07	1855.	3.1925-04
4050.	2.8163+04	1.7146-07	1855.	3.1806-04
4350.	2.4541+04	1.4227-07	1484.	2.1113-04
4350.	2.4576+04	1.4243-07	1484.	2.1137-04
4350.	2.4541+04	1.4227-07	1484.	2.1113-04
4350.	2.4434+04	1.4180-07	1484.	2.1044-04
4650.	2.1480+04	1.1617-07	1113.	1.2930-04
4650.	2.1507+04	1.1629-07	1113.	1.2943-04
4650.	2.1480+04	1.1617-07	1113.	1.2930-04
4650.	2.1398+04	1.1583-07	1113.	1.2892-04
4950.	1.8958+04	1.2827-07	1855.	2.3794-04
4950.	1.8980+04	1.2838-07	1855.	2.3814-04
4950.	1.8958+04	1.2827-07	1855.	2.3794-04
4950.	1.8894+04	1.2796-07	1855.	2.3737-04
5250.	1.6856+04	1.0746-07	1483.	1.5934-04
5250.	1.6872+04	1.0754-07	1483.	1.5946-04
5250.	1.6856+04	1.0746-07	1483.	1.5934-04
5250.	1.6805+04	1.0722-07	1483.	1.5899-04
5550.	1.5084+04	1.0896-07	1855.	2.0211-04
5550.	1.5098+04	1.0903-07	1855.	2.0224-04
5550.	1.5084+04	1.0896-07	1855.	2.0211-04
5550.	1.5044+04	1.0875-07	1855.	2.0173-04
5850.	1.3578+04	8.1900-08	1113.	9.1154-05
5850.	1.3589+04	8.1949-08	1113.	9.1210-05
5850.	1.3578+04	8.1900-08	1113.	9.1154-05
5850.	1.3545+04	8.1752-08	1113.	9.0990-05
6150.	1.2287+04	8.5486-08	1484.	1.2686-04
6150.	1.2295+04	8.5530-08	1484.	1.2693-04
6150.	1.2287+04	8.5486-08	1484.	1.2686-04
6150.	1.2260+04	8.5352-08	1484.	1.2666-04

POWER = 9.0026+02 CURRENT = 3.2871+00

PMAX 2040. VOLTS
BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

@XQT

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
ION MASS    =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.3722+06	4.1496-06	60.	2.4946-04
450.	1.5031+06	4.5431-06	60.	2.7312-04
450.	1.3722+06	4.1496-06	60.	2.4946-04
450.	1.1528+06	3.4898-06	60.	2.0980-04
750.	5.2214+05	1.6267-06	180.	2.9338-04
750.	5.4110+05	1.6846-06	180.	3.0382-04
750.	5.2214+05	1.6267-06	180.	2.9338-04
750.	4.7784+05	1.4914-06	180.	2.6898-04
1050.	2.7097+05	8.4616-07	126.	1.0622-04
1050.	2.7607+05	8.6175-07	126.	1.0818-04
1050.	2.7097+05	8.4616-07	126.	1.0622-04
1050.	2.5760+05	8.0529-07	126.	1.0109-04
1350.	1.6511+05	5.0210-07	25.	1.2606-05

1350.	1.6701+05	5.0781-07	25.	1.2749-05
1350.	1.6511+05	5.0210-07	25.	1.2606-05
1350.	1.5989+05	4.8635-07	25.	1.2210-05
1650.	1.1094+05	4.0587-07	598.	2.4291-04
1650.	1.1180+05	4.0871-07	598.	2.4461-04
1650.	1.1094+05	4.0587-07	598.	2.4291-04
1650.	1.0852+05	3.9782-07	598.	2.3809-04
1950.	7.9605+04	3.0083-07	599.	1.8005-04
1950.	8.0044+04	3.0232-07	599.	1.8094-04
1950.	7.9605+04	3.0083-07	599.	1.8005-04
1950.	7.8338+04	2.9654-07	599.	1.7748-04
2250.	5.9873+04	2.0292-07	199.	4.0483-05
2250.	6.0122+04	2.0372-07	199.	4.0642-05
2250.	5.9873+04	2.0292-07	199.	4.0483-05
2250.	5.9150+04	2.0062-07	199.	4.0023-05
2550.	4.6657+04	2.1003-07	997.	2.0951-04
2550.	4.6808+04	2.1060-07	997.	2.1007-04
2550.	4.6657+04	2.1003-07	997.	2.0951-04
2550.	4.6215+04	2.0837-07	997.	2.0785-04
2850.	3.7375+04	1.6512-07	797.	1.3168-04
2850.	3.7472+04	1.6548-07	797.	1.3197-04
2850.	3.7375+04	1.6512-07	797.	1.3168-04
2850.	3.7090+04	1.6406-07	797.	1.3084-04
3150.	3.0610+04	1.2026-07	399.	4.7983-05
3150.	3.0675+04	1.2048-07	399.	4.8072-05
3150.	3.0610+04	1.2026-07	399.	4.7983-05
3150.	3.0418+04	1.1959-07	399.	4.7718-05
3450.	2.5527+04	1.0256-07	399.	4.0923-05
3450.	2.5572+04	1.0272-07	399.	4.0986-05
3450.	2.5527+04	1.0256-07	399.	4.0923-05
3450.	2.5393+04	1.0210-07	399.	4.0736-05
3750.	2.1612+04	1.1965-07	1197.	1.4322-04
3750.	2.1644+04	1.1979-07	1197.	1.4338-04
3750.	2.1612+04	1.1965-07	1197.	1.4322-04
3750.	2.1515+04	1.1924-07	1197.	1.4273-04
4050.	1.8532+04	1.3016-07	1995.	2.5967-04
4050.	1.8556+04	1.3028-07	1995.	2.5991-04
4050.	1.8532+04	1.3016-07	1995.	2.5967-04
4050.	1.8462+04	1.2980-07	1995.	2.5896-04
4350.	1.6067+04	1.0691-07	1596.	1.7063-04
4350.	1.6085+04	1.0700-07	1596.	1.7077-04
4350.	1.6067+04	1.0691-07	1596.	1.7063-04
4350.	1.6014+04	1.0666-07	1596.	1.7022-04
4650.	1.4063+04	8.6438-08	1197.	1.0347-04
4650.	1.4076+04	8.6500-08	1197.	1.0354-04
4650.	1.4063+04	8.6438-08	1197.	1.0347-04
4650.	1.4022+04	8.6251-08	1197.	1.0324-04
4950.	1.2411+04	9.8279-08	1995.	1.9607-04
4950.	1.2422+04	9.8338-08	1995.	1.9616-04
4950.	1.2411+04	9.8279-08	1995.	1.9607-04
4950.	1.2379+04	9.8105-08	1995.	1.9572-04
5250.	1.1034+04	8.1751-08	1595.	1.3037-04
5250.	1.1043+04	8.1795-08	1595.	1.3044-04
5250.	1.1034+04	8.1751-08	1595.	1.3037-04
5250.	1.1009+04	8.1620-08	1595.	1.3016-04
5550.	9.8745+03	8.4086-08	1995.	1.6775-04
5550.	9.8813+03	8.4125-08	1995.	1.6783-04
5550.	9.8745+03	8.4086-08	1995.	1.6775-04
5550.	9.8544+03	8.3970-08	1995.	1.6752-04
5850.	8.8883+03	6.1866-08	1197.	7.4054-05
5850.	8.8938+03	6.1894-08	1197.	7.4087-05
5850.	8.8883+03	6.1866-08	1197.	7.4054-05
5850.	8.8720+03	6.1785-08	1197.	7.3957-05
6150.	8.0428+03	6.5701-08	1596.	1.0486-04
6150.	8.0473+03	6.5726-08	1596.	1.0490-04
6150.	8.0428+03	6.5701-08	1596.	1.0486-04
6150.	8.0294+03	6.5626-08	1596.	1.0474-04

POWER = 6.9473+02 CURRENT = 2.2485+00

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0174+06	3.0822-06	60.	1.8529-04
450.	1.1483+06	3.4761-06	60.	2.0897-04
450.	1.0174+06	3.0822-06	60.	1.8529-04
450.	7.9804+05	2.4218-06	60.	1.4559-04
750.	3.9441+05	1.2362-06	180.	2.2295-04
750.	4.1337+05	1.2943-06	180.	2.3342-04
750.	3.9441+05	1.2362-06	180.	2.2295-04
750.	3.5012+05	1.1005-06	180.	1.9847-04
1050.	2.0580+05	6.4668-07	126.	8.1178-05
1050.	2.1091+05	6.6233-07	126.	8.3142-05
1050.	2.0580+05	6.4668-07	126.	8.1178-05
1050.	1.9244+05	6.0568-07	126.	7.6031-05
1350.	1.2569+05	3.8315-07	25.	9.6195-06

1350.	1.2758+05	3.8887-07	25.	9.7630-06
1350.	1.2569+05	3.8315-07	25.	9.6195-06
1350.	1.2047+05	3.6739-07	25.	9.2236-06
1650.	8.4553+04	3.1755-07	598.	1.9005-04
1650.	8.5408+04	3.2043-07	598.	1.9178-04
1650.	8.4553+04	3.1755-07	598.	1.9005-04
1650.	8.2132+04	3.0937-07	598.	1.8516-04
1950.	6.0710+04	2.3637-07	599.	1.4147-04
1950.	6.1150+04	2.3789-07	599.	1.4238-04
1950.	6.0710+04	2.3637-07	599.	1.4147-04
1950.	5.9444+04	2.3201-07	599.	1.3886-04
2250.	4.5682+04	1.5746-07	199.	3.1414-05
2250.	4.5930+04	1.5827-07	199.	3.1574-05
2250.	4.5682+04	1.5746-07	199.	3.1414-05
2250.	4.4958+04	1.5514-07	199.	3.0950-05
2550.	3.5608+04	1.6808-07	997.	1.6766-04
2550.	3.5759+04	1.6866-07	997.	1.6824-04
2550.	3.5608+04	1.6808-07	997.	1.6766-04
2550.	3.5166+04	1.6637-07	997.	1.6596-04
2850.	2.8530+04	1.3193-07	797.	1.0521-04
2850.	2.8627+04	1.3230-07	797.	1.0551-04
2850.	2.8530+04	1.3193-07	797.	1.0521-04
2850.	2.8245+04	1.3085-07	797.	1.0435-04
3150.	2.3369+04	9.4979-08	399.	3.7897-05
3150.	2.3434+04	9.5208-08	399.	3.7988-05
3150.	2.3369+04	9.4979-08	399.	3.7897-05
3150.	2.3177+04	9.4302-08	399.	3.7626-05
3450.	1.9490+04	8.1204-08	399.	3.2401-05
3450.	1.9536+04	8.1366-08	399.	3.2465-05
3450.	1.9490+04	8.1204-08	399.	3.2401-05
3450.	1.9357+04	8.0725-08	399.	3.2209-05
3750.	1.6503+04	9.7430-08	1197.	1.1662-04
3750.	1.6535+04	9.7574-08	1197.	1.1680-04
3750.	1.6503+04	9.7430-08	1197.	1.1662-04
3750.	1.6406+04	9.7002-08	1197.	1.1611-04
4050.	1.4152+04	1.0763-07	1995.	2.1473-04
4050.	1.4176+04	1.0776-07	1995.	2.1498-04
4050.	1.4152+04	1.0763-07	1995.	2.1473-04
4050.	1.4081+04	1.0726-07	1995.	2.1398-04
4350.	1.2270+04	8.8137-08	1596.	1.4067-04
4350.	1.2288+04	8.8228-08	1596.	1.4081-04
4350.	1.2270+04	8.8137-08	1596.	1.4067-04
4350.	1.2217+04	8.7866-08	1596.	1.4023-04
4650.	1.0740+04	7.0905-08	1197.	8.4874-05
4650.	1.0754+04	7.0971-08	1197.	8.4952-05
4650.	1.0740+04	7.0905-08	1197.	8.4874-05
4650.	1.0699+04	7.0709-08	1197.	8.4639-05
4950.	9.4791+03	8.1800-08	1995.	1.6319-04
4950.	9.4898+03	8.1862-08	1995.	1.6331-04
4950.	9.4791+03	8.1800-08	1995.	1.6319-04
4950.	9.4472+03	8.1615-08	1995.	1.6282-04
5250.	8.4278+03	6.7811-08	1595.	1.0814-04
5250.	8.4362+03	6.7857-08	1595.	1.0821-04
5250.	8.4278+03	6.7811-08	1595.	1.0814-04
5250.	8.4026+03	6.7672-08	1595.	1.0791-04
5550.	7.5421+03	7.0234-08	1995.	1.4012-04
5550.	7.5488+03	7.0276-08	1995.	1.4020-04
5550.	7.5421+03	7.0234-08	1995.	1.4012-04
5550.	7.5219+03	7.0110-08	1995.	1.3987-04
5850.	6.7690+03	5.1141-08	1197.	6.1216-05
5850.	6.7944+03	5.1170-08	1197.	6.1250-05
5850.	6.7890+03	5.1141-08	1197.	6.1216-05
5850.	6.7726+03	5.1055-08	1197.	6.1113-05
6150.	6.1433+03	5.4772-08	1596.	8.7416-05
6150.	6.1477+03	5.4798-08	1596.	8.7458-05
6150.	6.1433+03	5.4772-08	1596.	8.7416-05
6150.	6.1298+03	5.4692-08	1596.	8.7288-05

POWER = 5.5475+02 CURRENT = 1.7106+00

PMAX 2194. VOLTS
BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
 DISTANCE =     4.5 AU
VMULT =    1.19
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =     15.62 MILLIAMPS
ION TEMP    =     10. EV
ION MASS    =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.6891+05	2.3352-06	63.	1.4654-04
450.	8.5071+05	2.5816-06	63.	1.6201-04
450.	7.6891+05	2.3352-06	63.	1.4654-04
450.	6.3182+05	1.9219-06	63.	1.2061-04
750.	2.9440+05	9.3105-07	168.	1.7528-04
750.	3.0626+05	9.6750-07	168.	1.8214-04
750.	2.9440+05	9.3105-07	168.	1.7528-04
750.	2.6672+05	8.4582-07	168.	1.5924-04
1050.	1.5306+05	4.8556-07	131.	6.3626-05
1050.	1.5625+05	4.9539-07	131.	6.4913-05
1050.	1.5306+05	4.8556-07	131.	6.3626-05
1050.	1.4471+05	4.5981-07	131.	6.0251-05
1350.	9.3340+04	2.8561-07	26.	7.4851-06

1350.	9.4524+04	2.8919-07	26.	7.5789-06
1350.	9.3340+04	2.8561-07	26.	7.4851-06
1350.	9.0076+04	2.7574-07	26.	7.2264-06
1650.	6.2742+04	2.4518-07	625.	1.5318-04
1650.	6.3276+04	2.4702-07	625.	1.5433-04
1650.	6.2742+04	2.4518-07	625.	1.5318-04
1650.	6.1229+04	2.3996-07	625.	1.4991-04
1950.	4.5029+04	1.8342-07	625.	1.1459-04
1950.	4.5304+04	1.8439-07	625.	1.1520-04
1950.	4.5029+04	1.8342-07	625.	1.1459-04
1950.	4.4238+04	1.6062-07	625.	1.1284-04
2250.	3.3873+04	1.1984-07	208.	2.4958-05
2250.	3.4028+04	1.2035-07	208.	2.5063-05
2250.	3.3873+04	1.1984-07	208.	2.4958-05
2250.	3.3421+04	1.1837-07	208.	2.4650-05
2550.	2.6398+04	1.3371-07	1041.	1.3923-04
2550.	2.6493+04	1.3409-07	1041.	1.3963-04
2550.	2.6398+04	1.3371-07	1041.	1.3923-04
2550.	2.6122+04	1.3260-07	1041.	1.3807-04
2850.	2.1148+04	1.0469-07	832.	8.7149-05
2850.	2.1209+04	1.0493-07	832.	8.7349-05
2850.	2.1148+04	1.0469-07	832.	8.7149-05
2850.	2.0970+04	1.0398-07	832.	8.6559-05
3150.	1.7321+04	7.4110-08	416.	3.0867-05
3150.	1.7361+04	7.4258-08	416.	3.0928-05
3150.	1.7321+04	7.4110-08	416.	3.0867-05
3150.	1.7201+04	7.3674-08	416.	3.0685-05
3450.	1.4445+04	6.3575-08	416.	2.6479-05
3450.	1.4473+04	6.3679-08	416.	2.6522-05
3450.	1.4445+04	6.3575-08	416.	2.6479-05
3450.	1.4361+04	6.3265-08	416.	2.6350-05
3750.	1.2230+04	7.9318-08	1249.	9.9108-05
3750.	1.2250+04	7.9414-08	1249.	9.9228-05
3750.	1.2230+04	7.9318-08	1249.	9.9108-05
3750.	1.2170+04	7.9034-08	1249.	9.8752-05
4050.	1.0488+04	8.9428-08	2082.	1.8623-04
4050.	1.0503+04	8.9513-08	2082.	1.8641-04
4050.	1.0488+04	8.9428-08	2082.	1.8623-04
4050.	1.0443+04	8.9173-08	2082.	1.8570-04
4350.	9.0927+03	7.2925-08	1666.	1.2149-04
4350.	9.1039+03	7.2986-08	1666.	1.2160-04
4350.	9.0927+03	7.2925-08	1666.	1.2149-04
4350.	9.0594+03	7.2741-08	1666.	1.2119-04
4650.	7.9585+03	6.8282-08	1249.	7.2823-05
4650.	7.9671+03	6.8326-08	1249.	7.2879-05
4650.	7.9585+03	6.8282-08	1249.	7.2823-05
4650.	7.9330+03	6.8150-08	1249.	7.2659-05
4950.	7.0240+03	6.8524-08	2082.	1.4270-04
4950.	7.0307+03	6.8566-08	2082.	1.4279-04
4950.	7.0240+03	6.8524-08	2082.	1.4270-04
4950.	7.0041+03	6.8397-08	2082.	1.4244-04
5250.	6.2448+03	5.6552-08	1665.	9.4137-05
5250.	6.2501+03	5.6584-08	1665.	9.4190-05
5250.	6.2448+03	5.6552-08	1665.	9.4137-05
5250.	6.2291+03	5.6457-08	1665.	9.3979-05
5550.	5.5885+03	5.9098-08	2082.	1.2307-04
5550.	5.5927+03	5.9127-08	2082.	1.2313-04
5550.	5.5885+03	5.9098-08	2082.	1.2307-04
5550.	5.5759+03	5.9013-08	2082.	1.2289-04
5850.	5.0304+03	4.2458-08	1249.	5.3051-05
5850.	5.0338+03	4.2477-08	1249.	5.3076-05
5850.	5.0304+03	4.2458-08	1249.	5.3051-05
5850.	5.0201+03	4.2399-08	1249.	5.2978-05
6150.	4.5519+03	4.5971-08	1666.	7.6587-05
6150.	4.5547+03	4.5989-08	1666.	7.6618-05
6150.	4.5519+03	4.5971-08	1666.	7.6587-05
6150.	4.5435+03	4.5916-08	1666.	7.6496-05

POWER = 4.6357+02 CURRENT = 1.3135+00

PMAX 2291. VOLTS
BEAM POWER = 5727. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.5

ORIGINAL PAGE IS
OF POOR QUALITY

PRECEDING PAGE BLANK NOT FILMED

```
DISTANCE =     1.0 AU
VHULT =    1.00
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED        1.00
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =       5. EV
NEUTRALIZER CURRENT =       5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =  3950. CM
MAXIMUM RADIUS =  6450. CM
PANEL WIDTH =    900. CM
NUMBER OF INTEGRATION POINTS =     10
NUMBER OF THRUSTERS =      8

 R          VOLTS
      0.        0.
      0.      100.
   2500.      100.
   2501.        0.
```

RADIUS	NE	CURR DENS	POT	POWER
4075.	3.2346+05	1.1326-06	100.	1.1326-04
4075.	4.3471+05	1.4916-06	100.	1.4916-04
4075.	3.4304+05	1.1961-06	100.	1.1961-04
4075.	1.6281+05	6.0414-07	100.	6.0414-05
4325.	2.9712+05	1.0469-06	100.	1.0469-04
4325.	3.8688+05	1.3377-06	100.	1.3377-04
4325.	3.1314+05	1.0990-06	100.	1.0990-04
4325.	1.6045+05	5.9623-07	100.	5.9623-05
4575.	2.7336+05	9.6940-07	100.	9.6940-05
4575.	3.4652+05	1.2073-06	100.	1.2073-04
4575.	2.8658+05	1.0126-06	100.	1.0126-04
4575.	1.5681+05	5.8403-07	100.	5.8403-05
4825.	2.5197+05	8.9939-07	100.	8.9939-05
4825.	3.1217+05	1.0959-06	100.	1.0959-04
4825.	2.6296+05	9.3538-07	100.	9.3538-05
4825.	1.5229+05	5.6883-07	100.	5.6883-05
5075.	2.3273+05	8.3615-07	100.	8.3615-05
5075.	2.8268+05	9.9984-07	100.	9.9984-05
5075.	2.4192+05	8.6639-07	100.	8.6639-05
5075.	1.4718+05	5.5162-07	100.	5.5162-05
5325.	2.1540+05	7.7901-07	100.	7.7901-05
5325.	2.5718+05	9.1646-07	100.	9.1646-05
5325.	2.2315+05	8.0459-07	100.	8.0459-05
5325.	1.4172+05	5.3321-07	100.	5.3321-05
5575.	1.9978+05	7.2732-07	100.	7.2732-05
5575.	2.3498+05	8.4357-07	100.	8.4357-05
5575.	2.0635+05	7.4909-07	100.	7.4909-05
5575.	1.3608+05	5.1417-07	100.	5.1417-05
5825.	1.8568+05	6.8048-07	100.	6.8048-05
5825.	2.1554+05	7.7947-07	100.	7.7947-05
5825.	1.9128+05	6.9912-07	100.	6.9912-05
5825.	1.3041+05	4.9495-07	100.	4.9495-05
6075.	1.7292+05	6.3797-07	100.	6.3797-05
6075.	1.9841+05	7.2279-07	100.	7.2279-05
6075.	1.7773+05	6.5402-07	100.	6.5402-05
6075.	1.2480+05	4.7587-07	100.	4.7587-05
6325.	1.6136+05	5.9929-07	100.	5.9929-05
6325.	1.8325+05	6.7240-07	100.	6.7240-05
6325.	1.6551+05	6.1319-07	100.	6.1319-05
6325.	1.1930+05	4.5716-07	100.	4.5716-05

```
POWER      =  1.8217+02 CURRENT =  1.8217+00

PMAX       100. VOLTS
ARRAY POWER =     26600.  WATTS
```



```
BXQT
```

DISTANCE = 4.4 AU
VMULT = 1.75
BCURR = 1.6 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED 1.00
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 20.00 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = 385.00 CM

MINIMUM RADIUS = 3950. CM
MAXIMUM RADIUS = 6450. CM
PANEL WIDTH = 900. CM
NUMBER OF INTEGRATION POINTS = 10
NUMBER OF THRUSTERS = 2

ORIGINAL PAGE IS OF POOR QUALITY

R	VOLTS
0.	0.
0.	175.
2500.	175.
2501.	0.

RADIUS	NE	CURR DENS	POT	POWER
4075.	6.5558+04	3.0930-07	175.	5.4127-05
4075.	8.7808+04	3.9364-07	175.	6.8888-05
4075.	6.9474+04	3.2434-07	175.	5.6759-05
4075.	3.3427+04	1.8083-07	175.	3.1646-05
4325.	6.0192+04	2.8851-07	175.	5.0490-05
4325.	7.8143+04	3.5732-07	175.	6.2531-05
4325.	6.3396+04	3.0095-07	175.	5.2666-05
4325.	3.2858+04	1.7844-07	175.	3.1227-05
4575.	5.5358+04	2.6961-07	175.	4.7182-05
4575.	6.9991+04	3.2632-07	175.	5.7105-05
4575.	5.8002+04	2.7997-07	175.	4.8995-05
4575.	3.2049+04	1.7503-07	175.	3.0630-05
4825.	5.1012+04	2.5245-07	175.	4.4178-05
4825.	6.3050+04	2.9961-07	175.	5.2432-05
4825.	5.3209+04	2.6114-07	175.	4.5700-05
4825.	3.1075+04	1.7090-07	175.	2.9907-05
5075.	4.7103+04	2.3685-07	175.	4.1450-05
5075.	5.7094+04	2.7642-07	175.	4.8373-05
5075.	4.8942+04	2.4421-07	175.	4.2737-05
5075.	2.9993+04	1.6630-07	175.	2.9102-05
5325.	4.3586+04	2.2268-07	175.	3.8970-05
5325.	5.1943+04	2.5614-07	175.	4.4824-05
5325.	4.5136+04	2.2695-07	175.	4.0066-05
5325.	2.8850+04	1.6140-07	175.	2.8246-05
5575.	4.0418+04	2.0979-07	175.	3.6713-05
5575.	4.7458+04	2.3828-07	175.	4.1699-05
5575.	4.1732+04	2.1515-07	175.	3.7652-05
5575.	2.7679+04	1.5636-07	175.	2.7363-05
5825.	3.7559+04	1.9804-07	175.	3.4657-05
5825.	4.3531+04	2.2246-07	175.	3.8931-05
5825.	3.8680+04	2.0266-07	175.	3.5466-05
5825.	2.6506+04	1.5128-07	175.	2.6474-05
6075.	3.4974+04	1.8730-07	175.	3.2778-05
6075.	4.0071+04	2.0837-07	175.	3.6465-05
6075.	3.5935+04	1.9131-07	175.	3.3479-05
6075.	2.5349+04	1.4623-07	175.	2.5590-05
6325.	3.2632+04	1.7748-07	175.	3.1060-05
6325.	3.7006+04	1.9576-07	175.	3.4253-05
6325.	3.3461+04	1.8097-07	175.	3.1670-05
6325.	2.4220+04	1.4127-07	175.	2.4721-05

POWER = 9.0405+01 CURRENT = 5.1660-01

PMAX 175. VOLTS
ARRAY POWER = 7200. WATTS

BXQT

DISTANCE = 1.0 AU
VMULT = 1.00
BCURR = 2.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED 1.00
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

MINIMUM RADIUS = 3950. CM
MAXIMUM RADIUS = 6450. CM
PANEL WIDTH = 900. CM
NUMBER OF INTEGRATION POINTS = 10
NUMBER OF THRUSTERS = 8

R	VOLTS
0.	0.
0.	100.
2500.	100.
2501.	0.

RADIUS	NE	CURR DENS	POT	POWER
4075.	7.8455+04	3.1603-07	100.	3.1603-05
4075.	7.8868+04	3.1748-07	100.	3.1748-05
4075.	7.8537+04	3.1632-07	100.	3.1632-05
4075.	7.7475+04	3.1259-07	100.	3.1259-05
4325.	6.9698+04	2.8517-07	100.	2.8517-05
4325.	7.0024+04	2.8632-07	100.	2.8632-05
4325.	6.9763+04	2.8540-07	100.	2.8540-05
4325.	6.8924+04	2.8243-07	100.	2.8243-05
4575.	6.2328+04	2.5896-07	100.	2.5896-05
4575.	6.2588+04	2.5989-07	100.	2.5989-05
4575.	6.2380+04	2.5914-07	100.	2.5914-05
4575.	6.1709+04	2.5674-07	100.	2.5674-05
4825.	5.6067+04	2.3649-07	100.	2.3649-05
4825.	5.6277+04	2.3725-07	100.	2.3725-05
4825.	5.6109+04	2.3664-07	100.	2.3664-05
4825.	5.5565+04	2.3468-07	100.	2.3468-05
5075.	5.0702+04	2.1708-07	100.	2.1708-05
5075.	5.0875+04	2.1770-07	100.	2.1770-05
5075.	5.0737+04	2.1720-07	100.	2.1720-05
5075.	5.0292+04	2.1558-07	100.	2.1558-05
5325.	4.6072+04	2.0017-07	100.	2.0017-05
5325.	4.6214+04	2.0069-07	100.	2.0069-05
5325.	4.6100+04	2.0027-07	100.	2.0027-05
5325.	4.5733+04	1.9893-07	100.	1.9893-05
5575.	4.2048+04	1.8535-07	100.	1.8535-05
5575.	4.2166+04	1.8579-07	100.	1.8579-05
5575.	4.2071+04	1.8544-07	100.	1.8544-05
5575.	4.1765+04	1.8430-07	100.	1.8430-05
5825.	3.8528+04	1.7227-07	100.	1.7227-05
5825.	3.8627+04	1.7264-07	100.	1.7264-05
5825.	3.8548+04	1.7235-07	100.	1.7235-05
5825.	3.8291+04	1.7139-07	100.	1.7139-05
6075.	3.5432+04	1.6068-07	100.	1.6068-05
6075.	3.5516+04	1.6099-07	100.	1.6099-05
6075.	3.5449+04	1.6074-07	100.	1.6074-05
6075.	3.5232+04	1.5992-07	100.	1.5992-05
6325.	3.2695+04	1.5033-07	100.	1.5033-05
6325.	3.2766+04	1.5061-07	100.	1.5061-05
6325.	3.2709+04	1.5039-07	100.	1.5039-05
6325.	3.2524+04	1.4969-07	100.	1.4969-05

POWER = 4.9061+01 CURRENT = 4.9061-01

PMAX 100. VOLTS
ARRAY POWER = 26600. WATTS

@XQT

DISTANCE = 4.4 AU
VMULT = 1.75
BCURR = 1.6 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED 1.00
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 20.00 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 35.26 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
RANG = .00 CM

MINIMUM RADIUS = 3950. CM
MAXIMUM RADIUS = 6450. CM
PANEL WIDTH = 900. CM
NUMBER OF INTEGRATION POINTS = 10
NUMBER OF THRUSTERS = 2

ORIGINAL PAGE IS OF POOR QUALITY

R	VOLTS
0.	0.
0.	175.
2500.	175.
2501.	0.

RADIUS	NE	CURR DENS	POT	POWER
4075.	1.6556+04	1.0643-07	175.	1.8625-05
4075.	1.6639+04	1.0681-07	175.	1.8693-05
4075.	1.6573+04	1.0650-07	175.	1.8638-05
4075.	1.6360+04	1.0550-07	175.	1.8463-05
4325.	1.4708+04	9.7627-08	175.	1.7085-05
4325.	1.4773+04	9.7941-08	175.	1.7140-05
4325.	1.4721+04	9.7690-08	175.	1.7096-05
4325.	1.4553+04	9.6881-08	175.	1.6954-05
4575.	1.3152+04	9.0059-08	175.	1.5760-05
4575.	1.3204+04	9.0315-08	175.	1.5805-05
4575.	1.3162+04	9.0110-08	175.	1.5769-05
4575.	1.3028+04	8.9449-08	175.	1.5654-05
4825.	1.1831+04	8.3491-08	175.	1.4611-05
4825.	1.1873+04	8.3702-08	175.	1.4648-05
4825.	1.1839+04	8.3533-08	175.	1.4618-05
4825.	1.1730+04	8.2986-08	175.	1.4523-05
5075.	1.0698+04	7.7745-08	175.	1.3605-05
5075.	1.0733+04	7.7922-08	175.	1.3636-05
5075.	1.0705+04	7.7780-08	175.	1.3612-05
5075.	1.0616+04	7.7324-08	175.	1.3532-05
5325.	9.7212+03	7.2663-08	175.	1.2720-05
5325.	9.7496+03	7.2832-08	175.	1.2746-05
5325.	9.7268+03	7.2713-08	175.	1.2725-05
5325.	9.6534+03	7.2328-08	175.	1.2657-05
5575.	8.8719+03	6.8195-08	175.	1.1934-05
5575.	8.8955+03	6.8321-08	175.	1.1956-05
5575.	8.8766+03	6.8220-08	175.	1.1939-05
5575.	8.8154+03	6.7893-08	175.	1.1881-05
5825.	8.1291+03	6.4192-08	175.	1.1234-05
5825.	8.1490+03	6.4300-08	175.	1.1252-05
5825.	8.1331+03	6.4213-08	175.	1.1237-05
5825.	8.0817+03	6.3933-08	175.	1.1188-05
6075.	7.4758+03	6.0602-08	175.	1.0605-05
6075.	7.4926+03	6.0695-08	175.	1.0622-05
6075.	7.4792+03	6.0621-08	175.	1.0609-05
6075.	7.4357+03	6.0379-08	175.	1.0566-05
6325.	6.8981+03	5.7367-08	175.	1.0039-05
6325.	6.9125+03	5.7448-08	175.	1.0053-05
6325.	6.9010+03	5.7383-08	175.	1.0042-05
6325.	6.8640+03	5.7174-08	175.	1.0005-05

POWER = 3.0627+01 CURRENT = 1.7501-01

PMAX 175. VOLTS
ARRAY POWER = 7200. WATTS

COMPUTER PRINTOUT

TABLE 5.6

ORIGINAL PAGE IS
OF POOR QUALITY

PRECEDING PAGE BLANK NOT FILMED

```
 DISTANCE =     1.0 AU
VMULT =    1.00
BCURR =     2.5 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED        .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     31.25 MILLIAMPS
ION TEMP    =    10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3625.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1311+06	0.0000	53.	0.0000
450.	4.9715+07	0.0000	53.	0.0000
450.	2.1311+06	0.0000	53.	0.0000
450.	2.1288+06	0.0000	53.	0.0000
750.	9.6611+05	0.0000	158.	0.0000
750.	2.0157+07	0.0000	158.	0.0000
750.	9.6611+05	0.0000	158.	0.0000
750.	7.6636+05	0.0000	158.	0.0000
1050.	1.1525+06	0.0000	110.	0.0000
1050.	1.0677+07	0.0000	110.	0.0000
1050.	1.1525+06	0.0000	110.	0.0000
1050.	3.9129+05	0.0000	110.	0.0000
1350.	1.4381+06	0.0000	22.	0.0000
1350.	6.7984+06	0.0000	22.	0.0000
1350.	1.4381+06	0.0000	22.	0.0000
1350.	2.4391+05	0.0000	22.	0.0000

1650.	1.5275+06	0.0000	375.	0.0000
1650.	4.6494+06	0.0000	375.	0.0000
1650.	1.5276+06	0.0000	375.	0.0000
1650.	1.9713+05	0.0000	375.	0.0000
1950.	1.4715+06	0.0000	375.	0.0000
1950.	3.3795+06	0.0000	375.	0.0000
1950.	1.4715+06	0.0000	375.	0.0000
1950.	2.1100+05	0.0000	375.	0.0000
2250.	1.3493+06	0.0000	125.	0.0000
2250.	2.5671+06	0.0000	125.	0.0000
2250.	1.3493+06	0.0000	125.	0.0000
2250.	2.5220+05	0.0000	125.	0.0000
2550.	1.2085+06	3.6663-06	625.	2.4165-03
2550.	2.0160+06	6.3547-06	625.	3.9717-03
2550.	1.2085+06	3.8663-06	625.	2.4165-03
2550.	2.9592+05	1.0099-06	625.	6.3121-04
2850.	1.0714+06	3.5734-06	1125.	4.0201-03
2850.	1.6251+06	5.3149-06	1125.	5.9793-03
2850.	1.0714+06	3.5734-06	1125.	4.0201-03
2850.	3.2982+05	1.1914-06	1125.	1.3404-03
3150.	9.4683+05	3.1191-06	875.	2.7293-03
3150.	1.3378+06	4.3426-06	875.	3.7998-03
3150.	9.4683+05	3.1191-06	875.	2.7293-03
3150.	3.5056+05	1.2235-06	875.	1.0705-03
3450.	8.3729+05	2.7744-06	875.	2.4276-03
3450.	1.1205+06	3.6638-06	875.	3.2056-03
3450.	8.3729+05	2.7744-06	875.	2.4276-03
3450.	3.5926+05	1.2516-06	875.	1.0952-03
3750.	7.4237+05	2.5777-06	1375.	3.5443-03
3750.	9.5215+05	3.2524-06	1375.	4.4720-03
3750.	7.4237+05	2.5777-06	1375.	3.5443-03
3750.	3.5855+05	1.3208-06	1375.	1.8161-03
4050.	6.6059+05	2.4013-06	1875.	4.5024-03
4050.	8.1908+05	2.9235-06	1875.	5.4816-03
4050.	6.6059+05	2.4013-06	1875.	4.5024-03
4050.	3.5116+05	1.3606-06	1875.	2.5512-03
4350.	5.9024+05	2.1266-06	1625.	3.4557-03
4350.	7.1207+05	2.5265-06	1625.	4.1055-03
4350.	5.9024+05	2.1266-06	1625.	3.4557-03
4350.	3.3940+05	1.2891-06	1625.	2.0948-03
4650.	5.2963+05	1.8859-06	1375.	2.5932-03
4650.	6.2475+05	2.1964-06	1375.	3.0200-03
4650.	5.2963+05	1.8859-06	1375.	2.5932-03
4650.	3.2499+05	1.2086-06	1375.	1.6618-03
4950.	4.7726+05	1.7892-06	1875.	3.3547-03
4950.	5.5256+05	2.0418-06	1875.	3.8284-03
4950.	4.7726+05	1.7892-06	1875.	3.3547-03
4950.	3.0920+05	1.2160-06	1875.	2.2800-03
5250.	4.3184+05	1.7025-06	2375.	4.0434-03
5250.	4.9219+05	1.9108-06	2375.	4.5380-03
5250.	4.3184+05	1.7025-06	2375.	4.0434-03
5250.	2.9289+05	1.2145-06	2375.	2.8843-03
5550.	3.9229+05	1.5955-06	2625.	4.1882-03
5550.	4.4121+05	1.7673-06	2625.	4.6393-03
5550.	3.9229+05	1.5955-06	2625.	4.1882-03
5550.	2.7664+05	1.1820-06	2625.	3.1027-03
5850.	3.5769+05	1.4139-06	2125.	3.0045-03
5850.	3.9775+05	1.5524-06	2125.	3.2989-03
5850.	3.5769+05	1.4139-06	2125.	3.0045-03
5850.	2.6082+05	1.0739-06	2125.	2.2821-03
6150.	3.2731+05	1.3367-06	2375.	3.1747-03
6150.	3.6042+05	1.4534-06	2375.	3.4518-03
6150.	3.2731+05	1.3367-06	2375.	3.1747-03
6150.	2.4566+05	1.0447-06	2375.	2.4812-03

POWER = 9.9595+03 CURRENT = 6.9127+00

PMAX 2750. VOLTS
BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM.
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1297+06	0.0000	66.	0.0000
450.	2.1163+07	0.0000	66.	0.0000
450.	2.1297+06	0.0000	66.	0.0000
450.	2.1288+06	0.0000	66.	0.0000
750.	8.4626+05	0.0000	198.	0.0000
750.	8.5227+06	0.0000	198.	0.0000
750.	8.4626+05	0.0000	198.	0.0000
750.	7.6636+05	0.0000	198.	0.0000
1050.	6.9558+05	0.0000	138.	0.0000
1050.	4.5854+06	0.0000	138.	0.0000
1050.	6.9558+05	0.0000	138.	0.0000
1050.	3.9112+05	0.0000	138.	0.0000
1350.	7.1717+05	0.0000	28.	0.0000
1350.	2.8613+06	0.0000	28.	0.0000
1350.	7.1717+05	0.0000	28.	0.0000
1350.	2.3948+05	0.0000	28.	0.0000

1650.	7.0599+05	0.0000	469.	0.0000
1650.	1.9548+06	0.0000	469.	0.0000
1650.	7.0599+05	0.0000	469.	0.0000
1650.	1.7385+05	0.0000	469.	0.0000
1950.	6.5660+05	0.0000	469.	0.0000
1950.	1.4198+06	0.0000	469.	0.0000
1950.	6.5660+05	0.0000	469.	0.0000
1950.	1.5242+05	0.0000	469.	0.0000
2250.	5.9082+05	0.0000	156.	0.0000
2250.	1.0779+06	0.0000	156.	0.0000
2250.	5.9082+05	0.0000	156.	0.0000
2250.	1.5197+05	0.0000	156.	0.0000
2550.	5.2317+05	1.7610-06	781.	1.3758-03
2550.	8.4618+05	2.7803-06	781.	2.1721-03
2550.	5.2317+05	1.7610-06	781.	1.3758-03
2550.	1.5815+05	5.8097-07	781.	4.5389-04
2850.	4.6039+05	1.6632-06	1406.	2.3389-03
2850.	6.8189+05	2.3878-06	1406.	3.3578-03
2850.	4.6039+05	1.6632-06	1406.	2.3389-03
2850.	1.6377+05	6.6064-07	1406.	9.2903-04
3150.	4.0480+05	1.4330-06	1094.	1.5673-03
3150.	5.6120+05	1.9402-06	1094.	2.1220-03
3150.	4.0480+05	1.4330-06	1094.	1.5673-03
3150.	1.6629+05	6.3989-07	1094.	6.9988-04
3450.	3.5665+05	1.2754-06	1094.	1.3949-03
3450.	4.6993+05	1.6450-06	1094.	1.7992-03
3450.	3.5665+05	1.2754-06	1094.	1.3949-03
3450.	1.6543+05	6.3696-07	1094.	6.9667-04
3750.	3.1534+05	1.2186-06	1719.	2.0945-03
3750.	3.9925+05	1.5041-06	1719.	2.5851-03
3750.	3.1534+05	1.2186-06	1719.	2.0945-03
3750.	1.6181+05	6.6135-07	1719.	1.1711-03
4050.	2.8001+05	1.1651-06	2344.	2.7307-03
4050.	3.4340+05	1.3899-06	2344.	3.2576-03
4050.	2.8001+05	1.1651-06	2344.	2.7307-03
4050.	1.5623+05	7.1206-07	2344.	1.6689-03
4350.	2.4977+05	1.0250-06	2031.	2.0820-03
4350.	2.9850+05	1.1966-06	2031.	2.4306-03
4350.	2.4977+05	1.0250-06	2031.	2.0820-03
4350.	1.4943+05	6.6194-07	2031.	1.3446-03
4650.	2.2381+05	9.0152-07	1719.	1.5495-03
4650.	2.6186+05	1.0343-06	1719.	1.7776-03
4650.	2.2381+05	9.0152-07	1719.	1.5495-03
4650.	1.4196+05	6.6947-07	1719.	1.0475-03
4950.	2.0146+05	8.6049-07	2344.	2.0636-03
4950.	2.3158+05	9.9062-07	2344.	2.3218-03
4950.	2.0146+05	8.8049-07	2344.	2.0636-03
4950.	1.3424+05	6.2839-07	2344.	1.4728-03
5250.	1.8212+05	8.6026-07	2969.	2.5539-03
5250.	2.0626+05	9.5272-07	2969.	2.8284-03
5250.	1.8212+05	8.6026-07	2969.	2.5539-03
5250.	1.2654+05	6.4153-07	2969.	1.9045-03
5550.	1.6531+05	8.1853-07	3281.	2.6858-03
5550.	1.8488+05	8.9569-07	3281.	2.9390-03
5550.	1.6531+05	8.1853-07	3281.	2.6858-03
5550.	1.1905+05	6.3113-07	3281.	2.0709-03
5850.	1.5063+05	7.1456-07	2656.	1.8980-03
5850.	1.6666+05	7.7617-07	2656.	2.0617-03
5850.	1.5063+05	7.1456-07	2656.	1.8980-03
5850.	1.1189+05	5.6220-07	2656.	1.4933-03
6150.	1.3776+05	6.8650-07	2969.	2.0380-03
6150.	1.5100+05	7.3899-07	2969.	2.1939-03
6150.	1.3776+05	6.8650-07	2969.	2.0380-03
6150.	1.0510+05	5.5410-07	2969.	1.6450-03

POWER = 6.0715+03 CURRENT = 3.3144+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

BXJT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =         15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0653+06	0.0000	66.	0.0000
450.	2.0099+07	0.0000	66.	0.0000
450.	1.0653+06	0.0000	66.	0.0000
450.	1.0644+06	0.0000	66.	0.0000
750.	4.6308+05	0.0000	198.	0.0000
750.	8.1395+06	0.0000	198.	0.0000
750.	4.6306+05	0.0000	198.	0.0000
750.	3.8318+05	0.0000	198.	0.0000
1050.	5.0008+05	0.0000	138.	0.0000
1050.	4.3899+06	0.0000	138.	0.0000
1050.	5.0006+05	0.0000	138.	0.0000
1050.	1.9562+05	0.0000	138.	0.0000
1350.	5.9890+05	0.0000	28.	0.0000
1350.	2.7430+06	0.0000	28.	0.0000
1350.	5.9890+05	0.0000	28.	0.0000
1350.	1.2122+05	0.0000	28.	0.0000

1650.	6.2682+05	0.0000	469.	0.0000
1650.	1.8756+06	0.0000	469.	0.0000
1650.	6.2682+05	0.0000	469.	0.0000
1650.	9.4685+04	0.0000	469.	0.0000
1950.	5.9992+05	0.0000	469.	0.0000
1950.	1.3631+06	0.0000	469.	0.0000
1950.	5.9992+05	0.0000	469.	0.0000
1950.	9.5737+04	0.0000	469.	0.0000
2250.	5.4824+05	0.0000	156.	0.0000
2250.	1.0353+06	0.0000	156.	0.0000
2250.	5.4824+05	0.0000	156.	0.0000
2250.	1.0940+05	0.0000	156.	0.0000
2550.	4.9002+05	1.6555-06	781.	1.2934-03
2550.	8.1304+05	2.6762-06	781.	2.0908-03
2550.	4.9002+05	1.6555-06	781.	1.2934-03
2550.	1.2500+05	4.6987-07	781.	3.6708-04
2850.	4.3385+05	1.5755-06	1406.	2.2156-03
2850.	6.5536+05	2.3016-06	1406.	3.2366-03
2850.	4.3385+05	1.5755-06	1406.	2.2156-03
2850.	1.3724+05	5.6684-07	1406.	7.9711-04
3150.	3.8308+05	1.3620-06	1094.	1.4897-03
3150.	5.3948+05	1.8701-06	1094.	2.0454-03
3150.	3.6308+05	1.3620-06	1094.	1.4897-03
3150.	1.4457+05	5.6530-07	1094.	6.1829-04
3450.	3.3854+05	1.2158-06	1094.	1.3298-03
3450.	4.5183+05	1.5862-06	1094.	1.7349-03
3450.	3.3854+05	1.2158-06	1094.	1.3298-03
3450.	1.4732+05	5.7480-07	1094.	6.2869-04
3750.	3.0001+05	1.1660-06	1719.	2.0041-03
3750.	3.6393+05	1.4522-06	1719.	2.4960-03
3750.	3.0001+05	1.1660-06	1719.	2.0041-03
3750.	1.4648+05	6.2593-07	1719.	1.0758-03
4050.	2.6687+05	1.1180-06	2344.	2.6204-03
4050.	3.3026+05	1.3436-06	2344.	3.1490-03
4050.	2.6687+05	1.1180-06	2344.	2.6204-03
4050.	1.4309+05	6.6225-07	2344.	1.5521-03
4350.	2.3637+05	9.8450-07	2031.	1.9996-03
4350.	2.8711+05	1.1567-06	2031.	2.3495-03
4350.	2.3637+05	9.8450-07	2031.	1.9998-03
4350.	1.3804+05	6.1952-07	2031.	1.2584-03
4650.	2.1385+05	8.6649-07	1719.	1.4893-03
4650.	2.5189+05	9.9963-07	1719.	1.7181-03
4650.	2.1385+05	8.6649-07	1719.	1.4893-03
4650.	1.3199+05	5.7305-07	1719.	9.8493-04
4950.	1.9266+05	8.4805-07	2344.	1.9876-03
4950.	2.2278+05	9.5859-07	2344.	2.2467-03
4950.	1.9266+05	8.4805-07	2344.	1.9876-03
4950.	1.2544+05	5.9452-07	2344.	1.3934-03
5250.	1.7430+05	8.3003-07	2969.	2.4641-03
5250.	1.9844+05	9.2291-07	2969.	2.7399-03
5250.	1.7430+05	8.3003-07	2969.	2.4641-03
5250.	1.1872+05	6.0988-07	2969.	1.8106-03
5550.	1.5831+05	7.9067-07	3281.	2.5944-03
5550.	1.7788+05	8.6822-07	3281.	2.8488-03
5550.	1.5831+05	7.9067-07	3281.	2.5944-03
5550.	1.1206+05	6.0200-07	3281.	1.9753-03
5850.	1.4434+05	6.9014-07	2656.	1.8332-03
5850.	1.6036+05	7.5203-07	2656.	1.9976-03
5850.	1.4434+05	6.9014-07	2656.	1.8332-03
5850.	1.0559+05	5.3687-07	2656.	1.4261-03
6150.	1.3206+05	6.6372-07	2969.	1.9704-03
6150.	1.4531+05	7.1648-07	2969.	2.1270-03
6150.	1.3206+05	6.6372-07	2969.	1.9704-03
6150.	9.9404+04	5.3047-07	2969.	1.5748-03

POWER = 5.8096+03 CURRENT = 3.1601+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

QXQT

```
 DISTANCE =    2.2 AU
VMULT =    1.40
BCURR =     1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =   20.0 CM
EQUIV CURRENT =    12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0649+06	0.0000	74.	0.0000
450.	1.0582+07	0.0000	74.	0.0000
450.	1.0649+06	0.0000	74.	0.0000
450.	1.0644+06	0.0000	74.	0.0000
750.	4.2313+05	0.0000	221.	0.0000
750.	4.2614+06	0.0000	221.	0.0000
750.	4.2313+05	0.0000	221.	0.0000
750.	3.8318+05	0.0000	221.	0.0000
1050.	3.4779+05	0.0000	154.	0.0000
1050.	2.2927+06	0.0000	154.	0.0000
1050.	3.4779+05	0.0000	154.	0.0000
1050.	1.9556+05	0.0000	154.	0.0000
1350.	3.5858+05	0.0000	31.	0.0000
1350.	1.4306+06	0.0000	31.	0.0000
1350.	3.5858+05	0.0000	31.	0.0000
1350.	1.1974+05	0.0000	31.	0.0000

1650.	3.5299+05	1.1754-06	525.	6.1707-04
1650.	9.7738+05	3.1220-06	525.	1.6391-03
1650.	3.5299+05	1.1754-06	525.	6.1707-04
1650.	8.6927+04	3.1941-07	525.	1.6769-04
1950.	3.2830+05	1.0973-06	525.	5.7607-04
1950.	7.0992+05	2.2928-06	525.	1.2037-03
1950.	3.2830+05	1.0973-06	525.	5.7607-04
1950.	7.6210+04	2.8357-07	525.	1.4888-04
2250.	2.9541+05	0.0000	175.	0.0000
2250.	5.3896+05	0.0000	175.	0.0000
2250.	2.9541+05	0.0000	175.	0.0000
2250.	7.5985+04	0.0000	175.	0.0000
2550.	2.6158+05	9.3353-07	875.	8.1684-04
2550.	4.2309+05	1.4576-06	875.	1.2754-03
2550.	2.6158+05	9.3353-07	875.	8.1684-04
2550.	7.9073+04	3.1965-07	875.	2.7970-04
2850.	2.3019+05	9.0895-07	1575.	1.4316-03
2850.	3.4095+05	1.2880-06	1575.	2.0286-03
2850.	2.3019+05	9.0895-07	1575.	1.4316-03
2850.	8.1886+04	3.7645-07	1575.	5.9290-04
3150.	2.0240+05	7.7655-07	1225.	9.5128-04
3150.	2.8060+05	1.0408-06	1225.	1.2750-03
3150.	2.0240+05	7.7655-07	1225.	9.5128-04
3150.	8.3146+04	3.5844-07	1225.	4.3909-04
3450.	1.7832+05	6.9405-07	1225.	8.5021-04
3450.	2.3497+05	8.8721-07	1225.	1.0868-03
3450.	1.7832+05	6.9405-07	1225.	8.5021-04
3450.	8.2717+04	3.5687-07	1225.	4.3717-04
3750.	1.5767+05	6.8371-07	1925.	1.3161-03
3750.	1.9963+05	8.3575-07	1925.	1.6088-03
3750.	1.5767+05	6.8371-07	1925.	1.3161-03
3750.	8.0906+04	3.9397-07	1925.	7.5839-04
4050.	1.4000+05	6.7102-07	2625.	1.7614-03
4050.	1.7170+05	7.9292-07	2625.	2.0814-03
4050.	1.4000+05	6.7102-07	2625.	1.7614-03
4050.	7.8117+04	4.2211-07	2625.	1.1080-03
4350.	1.2468+05	5.8754-07	2275.	1.3366-03
4350.	1.4925+05	6.8035-07	2275.	1.5478-03
4350.	1.2468+05	5.8754-07	2275.	1.3366-03
4350.	7.4714+04	3.8902-07	2275.	8.8502-04
4650.	1.1191+05	5.1344-07	1925.	9.8837-04
4650.	1.3093+05	5.8493-07	1925.	1.1260-03
4650.	1.1191+05	5.1344-07	1925.	9.8837-04
4650.	7.0979+04	3.5465-07	1925.	6.8270-04
4950.	1.0073+05	5.1528-07	2625.	1.3526-03
4950.	1.1579+05	5.7576-07	2625.	1.5114-03
4950.	1.0073+05	5.1528-07	2625.	1.3526-03
4950.	6.7116+04	3.7545-07	2625.	9.8555-04
5250.	9.1060+04	5.1532-07	3325.	1.7134-03
5250.	1.0313+05	5.6702-07	3325.	1.8853-03
5250.	9.1060+04	5.1532-07	3325.	1.7134-03
5250.	6.3270+04	3.9177-07	3325.	1.3026-03
5550.	8.2656+04	4.9675-07	3675.	1.8256-03
5550.	9.2440+04	5.4037-07	3675.	1.9858-03
5550.	8.2656+04	4.9675-07	3675.	1.8256-03
5550.	5.9527+04	3.8981-07	3675.	1.4326-03
5850.	7.5317+04	4.2855-07	2975.	1.2749-03
5850.	8.3329+04	4.6305-07	2975.	1.3776-03
5850.	7.5317+04	4.2855-07	2975.	1.2749-03
5850.	5.5944+04	3.4253-07	2975.	1.0190-03
6150.	6.8680+04	4.1734-07	3325.	1.3876-03
6150.	7.5502+04	4.4706-07	3325.	1.4865-03
6150.	6.8680+04	4.1734-07	3325.	1.3876-03
6150.	5.2551+04	3.4176-07	3325.	1.1364-03

POWER = 4.2537+03 CURRENT = 2.5092+00

PMAX 3850. VOLTS

BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

GXQT

```
 DISTANCE =     2.2 AU
VMULT =    1.00
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	675.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0653+06	0.0000	53.	0.0000
450.	2.0099+07	0.0000	53.	0.0000
450.	1.0653+06	0.0000	53.	0.0000
450.	1.0644+06	0.0000	53.	0.0000
750.	4.6306+05	0.0000	158.	0.0000
750.	8.1395+06	0.0000	156.	0.0000
750.	4.6306+05	0.0000	156.	0.0000
750.	3.8318+05	0.0000	156.	0.0000
1050.	5.0008+05	0.0000	110.	0.0000
1050.	4.3899+06	0.0000	110.	0.0000
1050.	5.0006+05	0.0000	110.	0.0000
1050.	1.9562+05	0.0000	110.	0.0000

1350.	5.9890+05	0.0000	22.	0.0000
1350.	2.7430+06	0.0000	22.	0.0000
1350.	5.9890+05	0.0000	22.	0.0000
1350.	1.2122+05	0.0000	22.	0.0000
1650.	6.2682+05	2.0340-06	525.	1.0679-03
1650.	1.8756+06	5.8847-06	525.	3.0895-03
1650.	6.2682+05	2.0340-06	525.	1.0679-03
1650.	9.4685+04	3.4520-07	525.	1.8123-04
1950.	5.9992+05	1.9501-06	525.	1.0238-03
1950.	1.3631+06	4.3116-06	525.	2.2636-03
1950.	5.9992+05	1.9501-06	525.	1.0238-03
1950.	9.5737+04	3.4869-07	525.	1.8306-04
2250.	5.4824+05	0.0000	175.	0.0000
2250.	1.0353+06	0.0000	175.	0.0000
2250.	5.4824+05	0.0000	175.	0.0000
2250.	1.0940+05	0.0000	175.	0.0000
2550.	4.9002+05	1.6724-06	875.	1.4633-03
2550.	8.1304+05	2.6979-06	875.	2.3607-03
2550.	4.9002+05	1.6724-06	875.	1.4633-03
2550.	1.2500+05	4.7839-07	875.	4.1859-04
2850.	4.3385+05	1.4621-06	700.	1.0228-03
2850.	6.5536+05	2.1622-06	700.	1.5125-03
2850.	4.3385+05	1.4621-06	700.	1.0228-03
2850.	1.3724+05	5.0305-07	700.	3.5190-04
3150.	3.8308+05	0.0000	350.	0.0000
3150.	5.3948+05	0.0000	350.	0.0000
3150.	3.8308+05	0.0000	350.	0.0000
3150.	1.4457+05	0.0000	350.	0.0000
3450.	3.3654+05	0.0000	350.	0.0000
3450.	4.5163+05	0.0000	350.	0.0000
3450.	3.3654+05	0.0000	350.	0.0000
3450.	1.4732+05	0.0000	350.	0.0000
3750.	3.0001+05	1.0829-06	1050.	1.1371-03
3750.	3.8393+05	1.3582-06	1050.	1.4261-03
3750.	3.0001+05	1.0829-06	1050.	1.1371-03
3750.	1.4648+05	5.6787-07	1050.	5.9626-04
4050.	2.6687+05	1.0551-06	1750.	1.8464-03
4050.	3.3026+05	1.2735-06	1750.	2.2287-03
4050.	2.6687+05	1.0551-06	1750.	1.8464-03
4050.	1.4309+05	6.1613-07	1750.	1.0782-03
4350.	2.3837+05	9.1832-07	1400.	1.2856-03
4350.	2.8711+05	1.0841-06	1400.	1.5177-03
4350.	2.3837+05	9.1832-07	1400.	1.2856-03
4350.	1.3804+05	5.6916-07	1400.	7.9683-04
4650.	2.1385+05	7.9633-07	1050.	8.3615-04
4650.	2.5189+05	9.2348-07	1050.	9.6966-04
4650.	2.1385+05	7.9633-07	1050.	8.3615-04
4650.	1.3199+05	5.1793-07	1050.	5.4383-04
4950.	1.9266+05	7.9454-07	1750.	1.3904-03
4950.	2.2278+05	9.0106-07	1750.	1.5768-03
4950.	1.9266+05	7.9454-07	1750.	1.3904-03
4950.	1.2544+05	5.5135-07	1750.	9.6486-04
5250.	1.7430+05	6.9683-07	1399.	9.7475-04
5250.	1.9644+05	7.6079-07	1399.	1.0922-03
5250.	1.7430+05	6.9683-07	1399.	9.7475-04
5250.	1.1872+05	4.9996-07	1399.	6.9935-04
5550.	1.5831+05	6.7140-07	1750.	1.1750-03
5550.	1.7788+05	7.4160-07	1750.	1.2981-03
5550.	1.5631+05	6.7140-07	1750.	1.1750-03
5550.	1.1206+05	5.0166-07	1750.	8.7791-04
5850.	1.4434+05	5.6049-07	1050.	5.8851-04
5850.	1.6036+05	6.1537-07	1050.	6.4614-04
5850.	1.4434+05	5.6049-07	1050.	5.8851-04
5850.	1.0559+05	4.2598-07	1050.	4.4727-04
6150.	1.3206+05	5.4787-07	1400.	7.6702-04
6150.	1.4531+05	5.9496-07	1400.	8.3295-04
6150.	1.3206+05	5.4787-07	1400.	7.6702-04
6150.	9.9404+04	4.2996-07	1400.	6.0194-04

POWER = 3.4628+03 CURRENT = 3.4902+00

PMAX 1925. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

QXQT

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     16.62 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0650+06	0.0000	56.	0.0000
450.	1.3722+07	0.0000	56.	0.0000
450.	1.0650+06	0.0000	56.	0.0000
450.	1.0644+06	0.0000	56.	0.0000
750.	4.3631+05	0.0000	168.	0.0000
750.	5.5411+06	0.0000	168.	0.0000
750.	4.3631+05	0.0000	168.	0.0000
750.	3.8318+05	0.0000	168.	0.0000
1050.	3.9805+05	0.0000	117.	0.0000
1050.	2.9648+06	0.0000	117.	0.0000
1050.	3.9805+05	0.0000	117.	0.0000
1050.	1.9558+05	0.0000	117.	0.0000

1350.	4.3789+05	0.0000	23.	0.0000
1350.	1.8637+06	0.0000	23.	0.0000
1350.	4.3789+05	0.0000	23.	0.0000
1350.	1.2023+05	0.0000	23.	0.0000
1650.	4.4336+05	1.4660-06	556.	8.1585-04
1650.	1.2738+06	4.0467-06	556.	2.2520-03
1650.	4.4336+05	1.4660-06	556.	8.1585-04
1650.	8.9487+04	3.3063-07	556.	1.8399-04
1950.	4.1794+05	1.3859-06	557.	7.7128-04
1950.	9.2548+05	2.9701-06	557.	1.6529-03
1950.	4.1794+05	1.3859-06	557.	7.7128-04
1950.	8.2654+04	3.0774-07	557.	1.7126-04
2250.	3.7884+05	0.0000	185.	0.0000
2250.	7.0277+05	0.0000	185.	0.0000
2250.	3.7884+05	0.0000	185.	0.0000
2250.	8.7011+04	0.0000	185.	0.0000
2550.	3.3697+05	1.1870-06	927.	1.1010-03
2550.	5.5177+05	1.8795-06	927.	1.7433-03
2550.	3.3697+05	1.1870-06	927.	1.1010-03
2550.	9.4228+04	3.7665-07	927.	3.4935-04
2850.	2.9740+05	1.0318-06	742.	7.6510-04
2850.	4.4470+05	1.5040-06	742.	1.1152-03
2850.	2.9740+05	1.0318-06	742.	7.6510-04
2850.	1.0015+05	3.8219-07	742.	2.8339-04
3150.	2.6202+05	0.0000	371.	0.0000
3150.	3.6603+05	0.0000	371.	0.0000
3150.	2.6202+05	0.0000	371.	0.0000
3150.	1.0342+05	0.0000	371.	0.0000
3450.	2.3119+05	0.0000	371.	0.0000
3450.	3.0653+05	0.0000	371.	0.0000
3450.	2.3119+05	0.0000	371.	0.0000
3450.	1.0404+05	0.0000	371.	0.0000
3750.	2.0464+05	7.7225-07	1113.	8.5952-04
3750.	2.6045+05	9.5966-07	1113.	1.0681-03
3750.	2.0464+05	7.7225-07	1113.	8.5952-04
3750.	1.0255+05	4.2013-07	1113.	4.6761-04
4050.	1.8187+05	7.6553-07	1855.	1.4201-03
4050.	2.2402+05	9.1595-07	1855.	1.6991-03
4050.	1.8187+05	7.6553-07	1855.	1.4201-03
4050.	9.9560+04	4.6174-07	1855.	8.5653-04
4350.	1.6234+05	6.6260-07	1484.	9.8330-04
4350.	1.9474+05	7.7639-07	1484.	1.1522-03
4350.	1.6234+05	6.6260-07	1484.	9.8330-04
4350.	9.5611+04	4.2188-07	1484.	6.2606-04
4650.	1.4555+05	5.7043-07	1113.	6.3489-04
4650.	1.7085+05	6.5737-07	1113.	7.3165-04
4650.	1.4555+05	5.7043-07	1113.	6.3489-04
4650.	9.1113+04	3.7943-07	1113.	4.2230-04
4950.	1.3107+05	5.8014-07	1855.	1.0762-03
4950.	1.5110+05	6.5390-07	1855.	1.2130-03
4950.	1.3107+05	5.8014-07	1855.	1.0762-03
4950.	8.6364+04	4.1103-07	1855.	7.6246-04
5250.	1.1853+05	5.0574-07	1483.	7.4968-04
5250.	1.3458+05	5.6366-07	1483.	8.3577-04
5250.	1.1853+05	5.0574-07	1483.	7.4988-04
5250.	8.1569+04	3.6943-07	1483.	5.4777-04
5550.	1.0762+05	4.9237-07	1855.	9.1334-04
5550.	1.2069+05	5.4130-07	1855.	1.0041-03
5550.	1.0762+05	4.9237-07	1855.	9.1334-04
5550.	7.6862+04	3.7397-07	1855.	6.9371-04
5850.	9.8094+04	4.0432-07	1113.	4.5001-04
5850.	1.0875+05	4.4206-07	1113.	4.9202-04
5850.	9.8094+04	4.0432-07	1113.	4.5001-04
5850.	7.2327+04	3.1159-07	1113.	3.4680-04
6150.	8.9730+04	4.0005-07	1484.	5.9367-04
6150.	9.6538+04	4.3269-07	1484.	6.4212-04
6150.	8.9730+04	4.0005-07	1484.	5.9367-04
6150.	6.8012+04	3.1806-07	1484.	4.7200-04

POWER = 2.6432+03 CURRENT = 2.4994+00

PMAX 2040. VOLTS
BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED        .10
RBEAM =        15.0 CM    ZEHIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.1021+05	0.0000	56.	0.0000
450.	1.3399+07	0.0000	56.	0.0000
450.	7.1021+05	0.0000	56.	0.0000
450.	7.0959+05	0.0000	56.	0.0000
750.	3.0872+05	0.0000	168.	0.0000
750.	5.4263+06	0.0000	168.	0.0000
750.	3.0872+05	0.0000	168.	0.0000
750.	2.5545+05	0.0000	168.	0.0000
1050.	3.3339+05	0.0000	117.	0.0000
1050.	2.9266+06	0.0000	117.	0.0000
1050.	3.3339+05	0.0000	117.	0.0000
1050.	1.3041+05	0.0000	117.	0.0000

1350.	3.9927+05	0.0000	23.	0.0000
1350.	1.8287+06	0.0000	23.	0.0000
1350.	3.9927+05	0.0000	23.	0.0000
1350.	8.0811+04	0.0000	23.	0.0000
1650.	4.1788+05	1.3858-06	556.	7.7118-04
1650.	1.2504+06	3.9746-06	556.	2.2119-03
1650.	4.1788+05	1.3858-06	556.	7.7118-04
1650.	6.3123+04	2.4170-07	556.	1.3451-04
1950.	3.9995+05	1.3292-06	557.	7.3970-04
1950.	9.0876+05	2.9183-06	557.	1.6240-03
1950.	3.9995+05	1.3292-06	557.	7.3970-04
1950.	6.3825+04	2.4409-07	557.	1.3584-04
2250.	3.6549+05	0.0000	185.	0.0000
2250.	6.9023+05	0.0000	185.	0.0000
2250.	3.6549+05	0.0000	185.	0.0000
2250.	7.2930+04	0.0000	185.	0.0000
2550.	3.2668+05	1.1535-06	927.	1.0699-03
2550.	5.4202+05	1.8483-06	927.	1.7143-03
2550.	3.2668+05	1.1535-06	927.	1.0699-03
2550.	8.3333+04	3.3842-07	927.	3.1388-04
2850.	2.8924+05	1.0054-06	742.	7.4553-04
2850.	4.3690+05	1.4792-06	742.	1.0968-03
2850.	2.8924+05	1.0054-06	742.	7.4553-04
2850.	9.1491+04	3.5263-07	742.	2.6148-04
3150.	2.5538+05	0.0000	371.	0.0000
3150.	3.5965+05	0.0000	371.	0.0000
3150.	2.5538+05	0.0000	371.	0.0000
3150.	9.6379+04	0.0000	371.	0.0000
3450.	2.2569+05	0.0000	371.	0.0000
3450.	3.0122+05	0.0000	371.	0.0000
3450.	2.2569+05	0.0000	371.	0.0000
3450.	9.8216+04	0.0000	371.	0.0000
3750.	2.0001+05	7.5657-07	1113.	8.4206-04
3750.	2.5595+05	9.4465-07	1113.	1.0514-03
3750.	2.0001+05	7.5657-07	1113.	8.4206-04
3750.	9.7656+04	4.0277-07	1113.	4.4828-04
4050.	1.7791+05	7.5127-07	1855.	1.3936-03
4050.	2.2017+05	9.0230-07	1855.	1.6738-03
4050.	1.7791+05	7.5127-07	1855.	1.3936-03
4050.	9.5396+04	4.4583-07	1855.	8.2701-04
4350.	1.5892+05	6.5050-07	1484.	9.6535-04
4350.	1.9140+05	7.6474-07	1484.	1.1349-03
4350.	1.5892+05	6.5050-07	1484.	9.6535-04
4350.	9.2025+04	4.0858-07	1484.	6.0633-04
4650.	1.4256+05	5.6012-07	1113.	6.2341-04
4650.	1.6793+05	6.4738-07	1113.	7.2053-04
4650.	1.4256+05	5.6012-07	1113.	6.2341-04
4650.	8.7993+04	3.6825-07	1113.	4.0987-04
4950.	1.2844+05	5.7039-07	1855.	1.0581-03
4950.	1.4852+05	6.4447-07	1855.	1.1955-03
4950.	1.2844+05	5.7039-07	1855.	1.0581-03
4950.	8.3626+04	4.0040-07	1855.	7.4275-04
5250.	1.1620+05	4.9728-07	1483.	7.3734-04
5250.	1.3229+05	5.5544-07	1483.	8.2358-04
5250.	1.1620+05	4.9728-07	1483.	7.3734-04
5250.	7.9147+04	3.6031-07	1483.	5.3425-04
5550.	1.0554+05	4.8449-07	1855.	8.9873-04
5550.	1.1859+05	5.3363-07	1855.	9.8989-04
5550.	1.0554+05	4.8449-07	1855.	8.9873-04
5550.	7.4704+04	3.6548-07	1855.	6.7796-04
5850.	9.6224+04	3.9767-07	1113.	4.4261-04
5850.	1.0691+05	4.3556-07	1113.	4.8478-04
5850.	9.6224+04	3.9767-07	1113.	4.4261-04
5850.	7.0393+04	3.0452-07	1113.	3.3893-04
6150.	8.8041+04	3.9375-07	1484.	5.8432-04
6150.	9.6871+04	4.2654-07	1484.	6.3298-04
6150.	8.8041+04	3.9375-07	1484.	5.8432-04
6150.	6.6269+04	3.1137-07	1484.	4.6207-04

POWER = 2.5795+03 CURRENT = 2.4295+00

PMAX 2040. VOLTS
BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED .        .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.0990+05	0.0000	60.	0.0000
450.	7.0545+06	0.0000	60.	0.0000
450.	7.0990+05	0.0000	60.	0.0000
450.	7.0959+05	0.0000	60.	0.0000
750.	2.8209+05	0.0000	180.	0.0000
750.	2.8409+06	0.0000	180.	0.0000
750.	2.8209+05	0.0000	180.	0.0000
750.	2.5545+05	0.0000	180.	0.0000
1050.	2.3186+05	0.0000	126.	0.0000
1050.	1.5265+06	0.0000	126.	0.0000
1050.	2.3186+05	0.0000	126.	0.0000
1050.	1.3037+05	0.0000	126.	0.0000

1350.	2.3906+05	0.0000	25.	0.0000
1350.	9.5376+05	0.0000	25.	0.0000
1350.	2.3906+05	0.0000	25.	0.0000
1350.	7.9827+04	0.0000	25.	0.0000
1650.	2.3533+05	8.1165-07	598.	4.8577-04
1650.	6.5159+05	2.1280-06	598.	1.2736-03
1650.	2.3533+05	8.1165-07	598.	4.8577-04
1650.	5.7951+04	2.2686-07	598.	1.3578-04
1950.	2.1887+05	7.5858-07	599.	4.5401-04
1950.	4.7328+05	1.5683-06	599.	9.3863-04
1950.	2.1887+05	7.5858-07	599.	4.5401-04
1950.	5.0607+04	2.0209-07	599.	1.2095-04
2250.	1.9694+05	0.0000	199.	0.0000
2250.	3.5931+05	0.0000	199.	0.0000
2250.	1.9694+05	0.0000	199.	0.0000
2250.	5.0657+04	0.0000	199.	0.0000
2550.	1.7439+05	6.5779-07	997.	6.5615-04
2550.	2.8206+05	1.0168-06	997.	1.0143-03
2550.	1.7439+05	6.5779-07	997.	6.5615-04
2550.	5.2715+04	2.3258-07	997.	2.3200-04
2850.	1.5346+05	5.6701-07	797.	4.5217-04
2850.	2.2730+05	8.1126-07	797.	6.4695-04
2850.	1.5346+05	5.6701-07	797.	4.5217-04
2850.	5.4591+04	2.2773-07	797.	1.8161-04
3150.	1.3493+05	0.0000	399.	0.0000
3150.	1.8707+05	0.0000	399.	0.0000
3150.	1.3493+05	0.0000	399.	0.0000
3150.	5.5430+04	0.0000	399.	0.0000
3450.	1.1888+05	0.0000	399.	0.0000
3450.	1.5664+05	0.0000	399.	0.0000
3450.	1.1888+05	0.0000	399.	0.0000
3450.	5.5144+04	0.0000	399.	0.0000
3750.	1.0511+05	4.3566-07	1197.	5.2149-04
3750.	1.3308+05	5.3450-07	1197.	6.3979-04
3750.	1.0511+05	4.3566-07	1197.	5.2149-04
3750.	5.3937+04	2.4821-07	1197.	2.9711-04
4050.	9.3335+04	4.4683-07	1995.	8.9142-04
4050.	1.1447+05	5.2804-07	1995.	1.0534-03
4050.	9.3335+04	4.4683-07	1995.	8.9142-04
4050.	5.2078+04	2.8102-07	1995.	5.6064-04
4350.	8.3255+04	3.8296-07	1596.	6.1120-04
4350.	9.9499+04	4.4402-07	1596.	7.0866-04
4350.	8.3255+04	3.8296-07	1596.	6.1120-04
4350.	4.9809+04	2.5259-07	1596.	4.0314-04
4650.	7.4605+04	3.2532-07	1197.	3.8941-04
4650.	8.7287+04	3.7159-07	1197.	4.4479-04
4650.	7.4605+04	3.2532-07	1197.	3.8941-04
4650.	4.7319+04	2.2292-07	1197.	2.6683-04
4950.	6.7153+04	3.4308-07	1995.	6.8445-04
4950.	7.7193+04	3.8337-07	1995.	7.6482-04
4950.	6.7153+04	3.4308-07	1995.	6.8445-04
4950.	4.4745+04	2.4994-07	1995.	4.9863-04
5250.	6.0707+04	2.9588-07	1595.	4.7184-04
5250.	6.8754+04	3.2729-07	1595.	5.2192-04
5250.	6.0707+04	2.9588-07	1595.	4.7184-04
5250.	4.2180+04	2.2145-07	1595.	3.5314-04
5550.	5.5104+04	2.9366-07	1995.	5.8584-04
5550.	6.1627+04	3.2057-07	1995.	6.3955-04
5550.	5.5104+04	2.9366-07	1995.	5.8584-04
5550.	3.9685+04	2.2804-07	1995.	4.5494-04
5850.	5.0212+04	2.3402-07	1197.	2.8012-04
5850.	5.5553+04	2.5434-07	1197.	3.0444-04
5850.	5.0212+04	2.3402-07	1197.	2.8012-04
5350.	3.7296+04	1.8381-07	1197.	2.2002-04
6150.	4.5920+04	2.3684-07	1596.	3.7799-04
6150.	5.0335+04	2.5471-07	1596.	4.0652-04
6150.	4.5920+04	2.3684-07	1596.	3.7799-04
6150.	3.5034+04	1.9169-07	1596.	3.0594-04

POWER = 1.6267+03 CURRENT = 1.4094+00

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.5511+05	0.0000	60.	0.0000
450.	6.6997+06	0.0000	60.	0.0000
450.	3.5511+05	0.0000	60.	0.0000
450.	3.5480+05	0.0000	60.	0.0000
750.	1.5436+05	0.0000	180.	0.0000
750.	2.7132+06	0.0000	180.	0.0000
750.	1.5436+05	0.0000	180.	0.0000
750.	1.2773+05	0.0000	180.	0.0000
1050.	1.6669+05	0.0000	126.	0.0000
1050.	1.4633+06	0.0000	126.	0.0000
1050.	1.6669+05	0.0000	126.	0.0000
1050.	6.5205+04	0.0000	126.	0.0000

1350.	1.9963+05	0.0000	25.	0.0000
1350.	9.1434+05	0.0000	25.	0.0000
1350.	1.9963+05	0.0000	25.	0.0000
1350.	4.0405+04	0.0000	25.	0.0000
1650.	2.0894+05	7.2650-07	598.	4.3481-04
1650.	6.2520+05	2.0454-06	598.	1.2242-03
1650.	2.0894+05	7.2650-07	598.	4.3481-04
1650.	3.1562+04	1.3392-07	598.	8.0148-05
1950.	1.9997+05	6.9748-07	599.	4.1744-04
1950.	4.5438+05	1.5087-06	599.	9.0297-04
1950.	1.9997+05	6.9748-07	599.	4.1744-04
1950.	3.1912+04	1.3518-07	599.	8.0907-05
2250.	1.8275+05	0.0000	199.	0.0000
2250.	3.4511+05	0.0000	199.	0.0000
2250.	1.8275+05	0.0000	199.	0.0000
2250.	3.6465+04	0.0000	199.	0.0000
2550.	1.6334+05	6.2036-07	997.	6.1881-04
2550.	2.7101+05	9.8033-07	997.	9.7788-04
2550.	1.6334+05	6.2036-07	997.	6.1881-04
2550.	4.1666+04	1.9123-07	997.	1.9075-04
2850.	1.4462+05	5.3740-07	797.	4.2856-04
2850.	2.1845+05	7.8222-07	797.	6.2380-04
2850.	1.4462+05	5.3740-07	797.	4.2856-04
2850.	4.5746+04	1.9582-07	797.	1.5616-04
3150.	1.2769+05	0.0000	399.	0.0000
3150.	1.7983+05	0.0000	399.	0.0000
3150.	1.2769+05	0.0000	399.	0.0000
3150.	4.8190+04	0.0000	399.	0.0000
3450.	1.1285+05	0.0000	399.	0.0000
3450.	1.5061+05	0.0000	399.	0.0000
3450.	1.1285+05	0.0000	399.	0.0000
3450.	4.9108+04	0.0000	399.	0.0000
3750.	1.0000+05	4.1740-07	1197.	4.9963-04
3750.	1.2798+05	5.1657-07	1197.	6.1834-04
3750.	1.0000+05	4.1740-07	1197.	4.9963-04
3750.	4.8628+04	2.2872-07	1197.	2.7377-04
4050.	8.8955+04	4.2975-07	1995.	8.5735-04
4050.	1.1009+05	5.1135-07	1995.	1.0201-03
4050.	8.8955+04	4.2975-07	1995.	8.5735-04
4050.	4.7698+04	2.6254-07	1995.	5.2376-04
4350.	7.9458+04	3.6851-07	1596.	5.8815-04
4350.	9.5702+04	4.2985-07	1596.	6.8604-04
4350.	7.9458+04	3.6851-07	1596.	5.8815-04
4350.	4.6012+04	2.3721-07	1596.	3.7859-04
4650.	7.1282+04	3.1308-07	1197.	3.7476-04
4650.	8.3964+04	3.5953-07	1197.	4.3036-04
4650.	7.1282+04	3.1308-07	1197.	3.7476-04
4650.	4.3997+04	2.1007-07	1197.	2.5145-04
4950.	6.4221+04	3.3117-07	1995.	6.6069-04
4950.	7.4261+04	3.7167-07	1995.	7.4149-04
4950.	6.4221+04	3.3117-07	1995.	6.6069-04
4950.	4.1813+04	2.3730-07	1995.	4.7341-04
5250.	5.8100+04	2.8561-07	1595.	4.5545-04
5250.	6.6147+04	3.1717-07	1595.	5.0578-04
5250.	5.8100+04	2.6561-07	1595.	4.5545-04
5250.	3.9574+04	2.1067-07	1595.	3.3594-04
5550.	5.2771+04	2.8392-07	1995.	5.6643-04
5550.	5.9294+04	3.1100-07	1995.	6.2044-04
5550.	5.2771+04	2.8392-07	1995.	5.6643-04
5550.	3.7352+04	2.1780-07	1995.	4.3452-04
5850.	4.8112+04	2.2597-07	1197.	2.7048-04
5850.	5.3454+04	2.4638-07	1197.	2.9491-04
5850.	4.8112+04	2.2597-07	1197.	2.7048-04
5850.	3.5196+04	1.7547-07	1197.	2.1003-04
6150.	4.4021+04	2.2907-07	1596.	3.6560-04
6150.	4.8435+04	2.4704-07	1596.	3.9428-04
6150.	4.4021+04	2.2907-07	1596.	3.6560-04
6150.	3.3135+04	1.8362-07	1596.	2.9306-04

POWER = 1.5480+03 CURRENT = 1.3308+00

PMAX 2194. VOLTS
BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

8XQT

```
 DISTANCE =     4.5 AU
VMULT =    1.19
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM.    ZEMIT =    20.0 CM
EQUIV CURRENT =     15.62 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.5499+05	0.0000	63.	0.0000
450.	4.3203+06	0.0000	63.	0.0000
450.	3.5499+05	0.0000	63.	0.0000
450.	3.5480+05	0.0000	63.	0.0000
750.	1.4437+05	0.0000	188.	0.0000
750.	1.7436+06	0.0000	188.	0.0000
750.	1.4437+05	0.0000	188.	0.0000
750.	1.2773+05	0.0000	188.	0.0000
1050.	1.2862+05	0.0000	131.	0.0000
1050.	9.3901+05	0.0000	131.	0.0000
1050.	1.2862+05	0.0000	131.	0.0000
1050.	6.5191+04	0.0000	131.	0.0000

1350.	1.3955+05	0.0000	26.	0.0000
1350.	5.8624+05	0.0000	26.	0.0000
1350.	1.3955+05	0.0000	26.	0.0000
1350.	4.0037+04	0.0000	26.	0.0000
1650.	1.4048+05	5.0622-07	625.	3.1626-04
1650.	4.0065+05	1.3435-06	625.	8.3935-04
1650.	1.4048+05	5.0622-07	625.	3.1626-04
1650.	2.9622+04	1.2813-07	625.	8.0052-05
1950.	1.3207+05	4.7844-07	625.	2.9890-04
1950.	2.9107+05	9.9437-07	625.	6.2123-04
1950.	1.3207+05	4.7844-07	625.	2.9890-04
1950.	2.7031+04	1.1862-07	625.	7.4105-05
2250.	1.1954+05	0.0000	208.	0.0000
2250.	2.2102+05	0.0000	208.	0.0000
2250.	1.1954+05	0.0000	208.	0.0000
2250.	2.8113+04	0.0000	208.	0.0000
2550.	1.0623+05	4.2754-07	1041.	4.4517-04
2550.	1.7353+05	6.5932-07	1041.	6.8652-04
2550.	1.0623+05	4.2754-07	1041.	4.4517-04
2550.	3.0185+04	1.4883-07	1041.	1.5497-04
2850.	9.3703+04	3.6745-07	832.	3.0588-04
2850.	1.3985+05	5.2478-07	832.	4.3685-04
2850.	9.3703+04	3.6745-07	832.	3.0588-04
2850.	3.1908+04	1.4633-07	832.	1.2181-04
3150.	8.2523+04	0.0000	416.	0.0000
3150.	1.1511+05	0.0000	416.	0.0000
3150.	8.2523+04	0.0000	416.	0.0000
3150.	3.2834+04	0.0000	416.	0.0000
3450.	7.2793+04	0.0000	416.	0.0000
3450.	9.6394+04	0.0000	416.	0.0000
3450.	7.2793+04	0.0000	416.	0.0000
3450.	3.2956+04	0.0000	416.	0.0000
3750.	6.4418+04	2.9073-07	1249.	3.6327-04
3750.	8.1900+04	3.5552-07	1249.	4.4422-04
3750.	6.4418+04	2.9073-07	1249.	3.6327-04
3750.	3.2434+04	1.6660-07	1249.	2.0616-04
4050.	5.7240+04	3.0681-07	2082.	6.3894-04
4050.	7.0447+04	3.6114-07	2082.	7.5208-04
4050.	5.7240+04	3.0681-07	2082.	6.3894-04
4050.	3.1454+04	1.9461-07	2082.	4.0528-04
4350.	5.1085+04	2.6116-07	1666.	4.3510-04
4350.	6.1238+04	3.0180-07	1666.	5.0281-04
4350.	5.1085+04	2.6116-07	1666.	4.3510-04
4350.	3.0182+04	1.7357-07	1666.	2.8918-04
4650.	4.5797+04	2.1967-07	1249.	2.7447-04
4650.	5.3724+04	2.5024-07	1249.	3.1268-04
4650.	4.5797+04	2.1967-07	1249.	2.7447-04
4650.	2.8744+04	1.5149-07	1249.	1.8928-04
4950.	4.1238+04	2.3845-07	2082.	4.9658-04
4950.	4.7512+04	2.6567-07	2082.	5.5325-04
4950.	4.1238+04	2.3845-07	2082.	4.9658-04
4950.	2.7233+04	1.7500-07	2082.	3.6444-04
5250.	3.7290+04	2.0407-07	1665.	3.3969-04
5250.	4.2319+04	2.2515-07	1665.	3.7479-04
5250.	3.7290+04	2.0407-07	1665.	3.3969-04
5250.	2.5711+04	1.5374-07	1665.	2.5592-04
5550.	3.3857+04	2.0557-07	2082.	4.2810-04
5550.	3.7933+04	2.2386-07	2082.	4.6619-04
5550.	3.3857+04	2.0557-07	2082.	4.2810-04
5550.	2.4220+04	1.6066-07	2082.	3.3458-04
5850.	3.0857+04	1.6017-07	1249.	2.0013-04
5850.	3.4196+04	1.7373-07	1249.	2.1708-04
5850.	3.0857+04	1.6017-07	1249.	2.0013-04
5850.	2.2785+04	1.2648-07	1249.	1.5804-04
6150.	2.8225+04	1.6498-07	1666.	2.7486-04
6150.	3.0984+04	1.7708-07	1666.	2.9501-04
6150.	2.8225+04	1.6498-07	1666.	2.7486-04
6150.	2.1421+04	1.3425-07	1666.	2.2367-04

POWER = 1.1398+03 CURRENT = 9.2982-01

PMAX 2291. VOLTS

BEAM POWER = 5727. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.7

ORIGINAL PAGE IS
OF POOR QUALITY

PRECEDING PAGE BLANK NOT FILMED

```
 DISTANCE =     1.0 AU
VMULT =    1.00
BCURR =     2.5 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     31.25 MILLIAMPS
ION TEMP  =    10. EV
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.0982+06	0.0000	53.	0.0000
450.	8.0798+06	0.0000	53.	0.0000
450.	7.0982+06	0.0000	53.	0.0000
450.	5.4531+06	0.0000	53.	0.0000
750.	2.7665+06	0.0000	158.	0.0000
750.	2.9087+06	0.0000	158.	0.0000
750.	2.7665+06	0.0000	158.	0.0000
750.	2.4343+06	0.0000	158.	0.0000
1050.	1.4458+06	0.0000	110.	0.0000
1050.	1.4640+06	0.0000	110.	0.0000
1050.	1.4458+06	0.0000	110.	0.0000
1050.	1.3455+06	0.0000	110.	0.0000
1350.	8.8355+05	0.0000	22.	0.0000
1350.	8.9775+05	0.0000	22.	0.0000
1350.	8.8355+05	0.0000	22.	0.0000
1350.	8.4439+05	0.0000	22.	0.0000
1650.	5.9457+05	0.0000	375.	0.0000

1650.	6.0097+05	0.0000	375.	0.0000
1650.	5.9457+05	0.0000	375.	0.0000
1650.	5.7640+05	0.0000	375.	0.0000
1950.	4.2698+05	0.0000	375.	0.0000
1950.	4.3028+05	0.0000	375.	0.0000
1950.	4.2698+05	0.0000	375.	0.0000
1950.	4.1749+05	0.0000	375.	0.0000
2250.	3.2132+05	0.0000	125.	0.0000
2250.	3.2319+05	0.0000	125.	0.0000
2250.	3.2132+05	0.0000	125.	0.0000
2250.	3.1590+05	0.0000	125.	0.0000
2550.	2.5049+05	8.6407-07	625.	5.4004-04
2550.	2.5162+05	8.6772-07	625.	5.4232-04
2550.	2.5049+05	8.6407-07	625.	5.4004-04
2550.	2.4717+05	8.5339-07	625.	5.3337-04
2850.	2.0071+05	7.6022-07	1125.	8.5525-04
2850.	2.0143+05	7.6268-07	1125.	8.5802-04
2850.	2.0071+05	7.6022-07	1125.	8.5525-04
2850.	1.9857+05	7.5297-07	1125.	8.4709-04
3150.	1.6441+05	6.1159-07	875.	5.3514-04
3150.	1.6489+05	6.1322-07	875.	5.3657-04
3150.	1.6441+05	6.1159-07	875.	5.3514-04
3150.	1.6297+05	6.0676-07	875.	5.3091-04
3450.	1.3712+05	5.1960-07	875.	4.5465-04
3450.	1.3746+05	5.2075-07	875.	4.5566-04
3450.	1.3712+05	5.1960-07	875.	4.5465-04
3450.	1.3612+05	5.1620-07	875.	4.5167-04
3750.	1.1611+05	4.8869-07	1375.	6.7195-04
3750.	1.1635+05	4.8957-07	1375.	6.7316-04
3750.	1.1611+05	4.8869-07	1375.	6.7195-04
3750.	1.1538+05	4.8610-07	1375.	6.6839-04
4050.	9.9571+04	4.6311-07	1875.	8.6834-04
4050.	9.9750+04	4.6380-07	1875.	8.6962-04
4050.	9.9571+04	4.6311-07	1875.	8.6834-04
4050.	9.9040+04	4.6108-07	1875.	8.6453-04
4350.	8.6332+04	3.9647-07	1625.	6.4426-04
4350.	8.6466+04	3.9698-07	1625.	6.4509-04
4350.	8.6332+04	3.9647-07	1625.	6.4426-04
4350.	8.5932+04	3.9495-07	1625.	6.4179-04
4650.	7.5566+04	3.4012-07	1375.	4.6767-04
4650.	7.5669+04	3.4051-07	1375.	4.6820-04
4650.	7.5566+04	3.4012-07	1375.	4.6767-04
4650.	7.5260+04	3.3898-07	1375.	4.6609-04
4950.	6.6695+04	3.3478-07	1875.	6.2771-04
4950.	6.6775+04	3.3510-07	1875.	6.2831-04
4950.	6.6695+04	3.3478-07	1875.	6.2771-04
4950.	6.6456+04	3.3382-07	1875.	6.2591-04
5250.	5.9298+04	3.2969-07	2375.	7.8302-04
5250.	5.9362+04	3.2996-07	2375.	7.8366-04
5250.	5.9298+04	3.2969-07	2375.	7.8302-04
5250.	5.9109+04	3.2888-07	2375.	7.8110-04
5550.	5.3067+04	3.1407-07	2625.	8.2442-04
5550.	5.3118+04	3.1429-07	2625.	8.2502-04
5550.	5.3067+04	3.1407-07	2625.	8.2442-04
5550.	5.2915+04	3.1339-07	2625.	8.2265-04
5850.	4.7768+04	2.6865-07	2125.	5.7089-04
5850.	4.7809+04	2.6883-07	2125.	5.7127-04
5850.	4.7768+04	2.6865-07	2125.	5.7089-04
5850.	4.7645+04	2.6812-07	2125.	5.6977-04
6150.	4.3225+04	2.5935-07	2375.	6.1595-04
6150.	4.3259+04	2.5950-07	2375.	6.1631-04
6150.	4.3225+04	2.5935-07	2375.	6.1595-04
6150.	4.3125+04	2.5890-07	2375.	6.1488-04

POWER = 2.0286+03 CURRENT = 1.4266+00

PMAX 2750. VOLTS
BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =    10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.1165+06	0.0000	66.	0.0000
450.	4.5092+06	0.0000	66.	0.0000
450.	4.1165+06	0.0000	66.	0.0000
450.	3.4585+06	0.0000	66.	0.0000
750.	1.5664+06	0.0000	198.	0.0000
750.	1.6233+06	0.0000	198.	0.0000
750.	1.5664+06	0.0000	198.	0.0000
750.	1.4335+06	0.0000	198.	0.0000
1050.	8.1291+05	0.0000	138.	0.0000
1050.	8.2821+05	0.0000	138.	0.0000
1050.	8.1291+05	0.0000	138.	0.0000
1050.	7.7281+05	0.0000	138.	0.0000
1350.	4.9534+05	0.0000	28.	0.0000
1350.	5.0102+05	0.0000	28.	0.0000
1350.	4.9534+05	0.0000	28.	0.0000
1350.	4.7967+05	0.0000	28.	0.0000
1650.	3.3263+05	0.0000	469.	0.0000

1650.	3.3539+05	0.0000	469.	0.0000
1650.	3.3283+05	0.0000	469.	0.0000
1650.	3.2556+05	0.0000	469.	0.0000
1950.	2.3881+05	0.0000	469.	0.0000
1950.	2.4013+05	0.0000	469.	0.0000
1950.	2.3881+05	0.0000	469.	0.0000
1950.	2.3501+05	0.0000	469.	0.0000
2250.	1.7962+05	0.0000	156.	0.0000
2250.	1.8037+05	0.0000	156.	0.0000
2250.	1.7962+05	0.0000	156.	0.0000
2250.	1.7745+05	0.0000	156.	0.0000
2550.	1.3997+05	5.2023-07	781.	4.0643-04
2550.	1.4042+05	5.2175-07	781.	4.0761-04
2550.	1.3997+05	5.2023-07	781.	4.0643-04
2550.	1.3864+05	5.1578-07	781.	4.0295-04
2850.	1.1213+05	4.7671-07	1406.	6.7038-04
2850.	1.1242+05	4.7777-07	1406.	6.7186-04
2850.	1.1213+05	4.7671-07	1406.	6.7038-04
2850.	1.1127+05	4.7361-07	1406.	6.6602-04
3150.	9.1829+04	3.8059-07	1094.	4.1627-04
3150.	9.2024+04	3.8129-07	1094.	4.1703-04
3150.	9.1829+04	3.8059-07	1094.	4.1627-04
3150.	9.1253+04	3.7854-07	1094.	4.1403-04
3450.	7.6580+04	3.2579-07	1094.	3.5634-04
3450.	7.6716+04	3.2629-07	1094.	3.5667-04
3450.	7.6580+04	3.2579-07	1094.	3.5634-04
3450.	7.6178+04	3.2434-07	1094.	3.5475-04
3750.	6.4835+04	3.1888-07	1719.	5.4808-04
3750.	6.4932+04	3.1927-07	1719.	5.4874-04
3750.	6.4835+04	3.1888-07	1719.	5.4808-04
3750.	6.4546+04	3.1774-07	1719.	5.4612-04
4050.	5.5597+04	3.1233-07	2344.	7.3203-04
4050.	5.5669+04	3.1264-07	2344.	7.3275-04
4050.	5.5597+04	3.1233-07	2344.	7.3203-04
4050.	5.5385+04	3.1142-07	2344.	7.2969-04
4350.	4.8201+04	2.6631-07	2031.	5.4095-04
4350.	4.8255+04	2.6654-07	2031.	5.4141-04
4350.	4.8201+04	2.6631-07	2031.	5.4095-04
4350.	4.8041+04	2.6563-07	2031.	5.3957-04
4650.	4.2188+04	2.2700-07	1719.	3.9015-04
4650.	4.2229+04	2.2717-07	1719.	3.9045-04
4650.	4.2168+04	2.2700-07	1719.	3.9015-04
4650.	4.2066+04	2.2648-07	1719.	3.8927-04
4950.	3.7234+04	2.3089-07	2344.	5.4114-04
4950.	3.7266+04	2.3104-07	2344.	5.4149-04
4950.	3.7234+04	2.3089-07	2344.	5.4114-04
4950.	3.7138+04	2.3045-07	2344.	5.4011-04
5250.	3.3103+04	2.3358-07	2969.	6.9343-04
5250.	3.3129+04	2.3370-07	2969.	6.9381-04
5250.	3.3103+04	2.3358-07	2969.	6.9343-04
5250.	3.3026+04	2.3320-07	2969.	6.9230-04
5550.	2.9624+04	2.2583-07	3281.	7.4099-04
5550.	2.9644+04	2.2593-07	3281.	7.4135-04
5550.	2.9624+04	2.2583-07	3281.	7.4099-04
5550.	2.9563+04	2.2551-07	3281.	7.3994-04
5850.	2.6665+04	1.9086-07	2656.	5.0698-04
5850.	2.6681+04	1.9095-07	2656.	5.0720-04
5850.	2.6665+04	1.9086-07	2656.	5.0698-04
5850.	2.6616+04	1.9061-07	2656.	5.0632-04
6150.	2.4128+04	1.8706-07	2969.	5.5532-04
6150.	2.4142+04	1.8713-07	2969.	5.5554-04
6150.	2.4128+04	1.8706-07	2969.	5.5532-04
6150.	2.4088+04	1.8684-07	2969.	5.5468-04

POWER = 1.7027+03 CURRENT = 9.3442-01

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

@XQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.0521+06	0.0000	66.	0.0000
450.	3.4448+06	0.0000	66.	0.0000
450.	3.0521+06	0.0000	66.	0.0000
450.	2.3941+06	0.0000	66.	0.0000
750.	1.1832+06	0.0000	198.	0.0000
750.	1.2401+06	0.0000	198.	0.0000
750.	1.1632+06	0.0000	198.	0.0000
750.	1.0503+06	0.0000	196.	0.0000
1050.	6.1741+05	0.0000	136.	0.0000
1050.	6.3272+05	0.0000	136.	0.0000
1050.	6.1741+05	0.0000	138.	0.0000
1050.	5.7731+05	0.0000	138.	0.0000
1350.	3.7707+05	0.0000	28.	0.0000
1350.	3.8275+05	0.0000	28.	0.0000
1350.	3.7707+05	0.0000	26.	0.0000
1350.	3.6141+05	0.0000	28.	0.0000
1650.	2.5366+05	0.0000	469.	0.0000

1650.	2.5622+05	0.0000	469.	0.0000
1650.	2.5366+05	0.0000	469.	0.0000
1650.	2.4640+05	0.0000	469.	0.0000
1950.	1.8213+05	0.0000	469.	0.0000
1950.	1.8345+05	0.0000	469.	0.0000
1950.	1.8213+05	0.0000	469.	0.0000
1950.	1.7633+05	0.0000	469.	0.0000
2250.	1.3704+05	0.0000	156.	0.0000
2250.	1.3779+05	0.0000	156.	0.0000
2250.	1.3704+05	0.0000	156.	0.0000
2250.	1.3487+05	0.0000	156.	0.0000
2550.	1.0662+05	4.0826-07	781.	3.1895-04
2550.	1.0728+05	4.0980-07	781.	3.2016-04
2550.	1.0682+05	4.0826-07	781.	3.1895-04
2550.	1.0550+05	4.0374-07	781.	3.1542-04
2850.	8.5590+04	3.7950-07	1406.	5.3367-04
2850.	8.5881+04	3.8058-07	1406.	5.3519-04
2850.	8.5590+04	3.7950-07	1406.	5.3367-04
2850.	8.4735+04	3.7632-07	1406.	5.2920-04
3150.	7.0107+04	3.0226-07	1094.	3.3059-04
3150.	7.0302+04	3.0297-07	1094.	3.3137-04
3150.	7.0107+04	3.0226-07	1094.	3.3059-04
3150.	6.9531+04	3.0015-07	1094.	3.2829-04
3450.	5.8471+04	2.5943-07	1094.	2.8375-04
3450.	5.8607+04	2.5993-07	1094.	2.8430-04
3450.	5.8471+04	2.5943-07	1094.	2.8375-04
3450.	5.8070+04	2.5794-07	1094.	2.8212-04
3750.	4.9508+04	2.5728-07	1719.	4.4220-04
3750.	4.9605+04	2.5768-07	1719.	4.4289-04
3750.	4.9508+04	2.5728-07	1719.	4.4220-04
3750.	4.9219+04	2.5610-07	1719.	4.4017-04
4050.	4.2457+04	2.5462-07	2344.	5.9675-04
4050.	4.2528+04	2.5494-07	2344.	5.9751-04
4050.	4.2457+04	2.5462-07	2344.	5.9675-04
4050.	4.2244+04	2.5366-07	2344.	5.9452-04
4350.	3.6811+04	2.1684-07	2031.	4.4047-04
4350.	3.6865+04	2.1708-07	2031.	4.4095-04
4350.	3.6811+04	2.1684-07	2031.	4.4047-04
4350.	3.6651+04	2.1613-07	2031.	4.3902-04
4650.	3.2220+04	1.8447-07	1719.	3.1707-04
4650.	3.2261+04	1.8465-07	1719.	3.1737-04
4650.	3.2220+04	1.8447-07	1719.	3.1707-04
4650.	3.2097+04	1.8394-07	1719.	3.1615-04
4950.	2.8437+04	1.8951-07	2344.	4.4417-04
4950.	2.8469+04	1.8967-07	2344.	4.4453-04
4950.	2.8437+04	1.8951-07	2344.	4.4417-04
4950.	2.8342+04	1.8905-07	2344.	4.4309-04
5250.	2.5283+04	1.9323-07	2969.	5.7364-04
5250.	2.5309+04	1.9336-07	2969.	5.7404-04
5250.	2.5283+04	1.9323-07	2969.	5.7364-04
5250.	2.5208+04	1.9282-07	2969.	5.7245-04
5550.	2.2626+04	1.8760-07	3281.	6.1557-04
5550.	2.2646+04	1.8772-07	3281.	6.1595-04
5550.	2.2626+04	1.8760-07	3281.	6.1557-04
5550.	2.2566+04	1.8726-07	3281.	6.1445-04
5850.	2.0367+04	1.5802-07	2656.	4.1975-04
5850.	2.0383+04	1.5811-07	2656.	4.1998-04
5850.	2.0367+04	1.5802-07	2656.	4.1975-04
5850.	2.0318+04	1.5776-07	2656.	4.1905-04
6150.	1.8430+04	1.5553-07	2969.	4.6174-04
6150.	1.8443+04	1.5561-07	2969.	4.6197-04
6150.	1.8430+04	1.5553-07	2969.	4.6174-04
6150.	1.8390+04	1.5530-07	2969.	4.6106-04

POWER = 1.3859+03 CURRENT = 7.5452-01

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =     2.2 AU
VHULT =    1.40
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.0583+06	0.0000	74.	0.0000
450.	2.2546+06	0.0000	74.	0.0000
450.	2.0583+06	0.0000	74.	0.0000
450.	1.7293+06	0.0000	74.	0.0000
750.	7.8320+05	0.0000	221.	0.0000
750.	8.1165+05	0.0000	221.	0.0000
750.	7.8320+05	0.0000	221.	0.0000
750.	7.1676+05	0.0000	221.	0.0000
1050.	4.0645+05	0.0000	154.	0.0000
1050.	4.1411+05	0.0000	154.	0.0000
1050.	4.0645+05	0.0000	154.	0.0000
1050.	3.8640+05	0.0000	154.	0.0000
1350.	2.4767+05	0.0000	31.	0.0000
1350.	2.5051+05	0.0000	31.	0.0000
1350.	2.4767+05	0.0000	31.	0.0000
1350.	2.3764+05	0.0000	31.	0.0000
1650.	1.6641+05	5.7991-07	525.	3.0445-04

1650.	1.6770+05	5.8405-07	525.	3.0663-04
1650.	1.6641+05	5.7991-07	525.	3.0445-04
1650.	1.6278+05	5.6814-07	525.	2.9827-04
1950.	1.1941+05	4.2676-07	525.	2.2405-04
1950.	1.2007+05	4.2892-07	525.	2.2518-04
1950.	1.1941+05	4.2676-07	525.	2.2405-04
1950.	1.1751+05	4.2052-07	525.	2.2077-04
2250.	8.9810+04	0.0000	175.	0.0000
2250.	9.0183+04	0.0000	175.	0.0000
2250.	8.9610+04	0.0000	175.	0.0000
2250.	8.8725+04	0.0000	175.	0.0000
2550.	6.9985+04	2.8755-07	875.	2.5161-04
2550.	7.0212+04	2.8836-07	875.	2.5231-04
2550.	6.9985+04	2.8755-07	875.	2.5161-04
2550.	6.9322+04	2.8520-07	875.	2.4955-04
2850.	5.6063+04	2.7652-07	1575.	4.3552-04
2850.	5.6208+04	2.7710-07	1575.	4.3643-04
2850.	5.6063+04	2.7652-07	1575.	4.3552-04
2850.	5.5635+04	2.7483-07	1575.	4.3265-04
3150.	4.5914+04	2.1690-07	1225.	2.6815-04
3150.	4.6012+04	2.1928-07	1225.	2.6862-04
3150.	4.5914+04	2.1690-07	1225.	2.6815-04
3150.	4.5626+04	2.1778-07	1225.	2.6678-04
3450.	3.8290+04	1.8902-07	1225.	2.3155-04
3450.	3.8356+04	1.8929-07	1225.	2.3188-04
3450.	3.8290+04	1.8902-07	1225.	2.3155-04
3450.	3.8089+04	1.8822-07	1225.	2.3057-04
3750.	3.2417+04	1.9318-07	1925.	3.7186-04
3750.	3.2466+04	1.9339-07	1925.	3.7228-04
3750.	3.2417+04	1.9318-07	1925.	3.7186-04
3750.	3.2273+04	1.9253-07	1925.	3.7062-04
4050.	2.7799+04	1.9559-07	2625.	5.1342-04
4050.	2.7834+04	1.9577-07	2625.	5.1389-04
4050.	2.7799+04	1.9559-07	2625.	5.1342-04
4050.	2.7692+04	1.9505-07	2625.	5.1202-04
4350.	2.4101+04	1.6613-07	2275.	3.7794-04
4350.	2.4128+04	1.6626-07	2275.	3.7824-04
4350.	2.4101+04	1.6613-07	2275.	3.7794-04
4350.	2.4021+04	1.6573-07	2275.	3.7704-04
4650.	2.1094+04	1.4071-07	1925.	2.7087-04
4650.	2.1115+04	1.4081-07	1925.	2.7106-04
4650.	2.1094+04	1.4071-07	1925.	2.7087-04
4650.	2.1033+04	1.4041-07	1925.	2.7030-04
4950.	1.8617+04	1.4770-07	2625.	3.8772-04
4950.	1.8633+04	1.4779-07	2625.	3.8795-04
4950.	1.8617+04	1.4770-07	2625.	3.8772-04
4950.	1.8569+04	1.4744-07	2625.	3.8704-04
5250.	1.6552+04	1.5311-07	3325.	5.0908-04
5250.	1.6564+04	1.5318-07	3325.	5.0934-04
5250.	1.6552+04	1.5311-07	3325.	5.0908-04
5250.	1.6514+04	1.5287-07	3325.	5.0831-04
5550.	1.4812+04	1.4995-07	3675.	5.5106-04
5550.	1.4822+04	1.5001-07	3675.	5.5130-04
5550.	1.4812+04	1.4995-07	3675.	5.5106-04
5550.	1.4782+04	1.4975-07	3675.	5.5033-04
5850.	1.3333+04	1.2542-07	2975.	3.7312-04
5850.	1.3341+04	1.2547-07	2975.	3.7327-04
5850.	1.3333+04	1.2542-07	2975.	3.7312-04
5850.	1.3308+04	1.2527-07	2975.	3.7266-04
6150.	1.2064+04	1.2453-07	3325.	4.1408-04
6150.	1.2071+04	1.2458-07	3325.	4.1423-04
6150.	1.2064+04	1.2453-07	3325.	4.1408-04
6150.	1.2044+04	1.2440-07	3325.	4.1363-04

POWER = 1.3153+03 CURRENT = 8.0894-01

PMAX 3850. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

SXGT

```
 DISTANCE =     2.2 AU
VMULT =    1.00
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.0521+06	0.0000	53.	0.0000
450.	3.4448+06	0.0000	53.	0.0000
450.	3.0521+06	0.0000	53.	0.0000
450.	2.3941+06	0.0000	53.	0.0000
750.	1.1832+06	0.0000	156.	0.0000
750.	1.2401+06	0.0000	158.	0.0000
750.	1.1832+06	0.0000	156.	0.0000
750.	1.0503+06	0.0000	158.	0.0000
1050.	6.1741+05	0.0000	110.	0.0000
1050.	6.3272+05	0.0000	110.	0.0000
1050.	6.1741+05	0.0000	110.	0.0000
1050.	5.7731+05	0.0000	110.	0.0000
1350.	3.7707+05	0.0000	22.	0.0000

1350.	3.8275+05	0.0000	22.	0.0000
1350.	3.7707+05	0.0000	22.	0.0000
1350.	3.6141+05	0.0000.	22.	0.0000
1650.	2.5366+05	8.6009-07	525.	4.5155-04
1650.	2.5622+05	8.6827-07	525.	4.5584-04
1650.	2.5366+05	8.6009-07	525.	4.5155-04
1650.	2.4640+05	8.3691-07	525.	4.3938-04
1950.	1.8213+05	6.3070-07	525.	3.3112-04
1950.	1.8345+05	6.3495-07	525.	3.3335-04
1950.	1.8213+05	6.3070-07	525.	3.3112-04
1950.	1.7833+05	6.1843-07	525.	3.2468-04
2250.	1.3704+05	0.0000	175.	0.0000
2250.	1.3779+05	0.0000	175.	0.0000
2250.	1.3704+05	0.0000	175.	0.0000
2250.	1.3467+05	0.0000	175.	0.0000
2550.	1.0682+05	4.1614-07	875.	3.6412-04
2550.	1.0728+05	4.1770-07	875.	3.6549-04
2550.	1.0682+05	4.1614-07	875.	3.6412-04
2550.	1.0550+05	4.1157-07	875.	3.6012-04
2850.	8.5590+04	3.2912-07	700.	2.3023-04
2850.	8.5861+04	3.3012-07	700.	2.3093-04
2850.	8.5590+04	3.2912-07	700.	2.3023-04
2850.	8.4735+04	3.2620-07	700.	2.2819-04
3150.	7.0107+04	0.0000	350.	0.0000
3150.	7.0302+04	0.0000	350.	0.0000
3150.	7.0107+04	0.0000	350.	0.0000
3150.	6.9531+04	0.0000	350.	0.0000
3450.	5.8471+04	0.0000	350.	0.0000
3450.	5.8607+04	0.0000	350.	0.0000
3450.	5.8471+04	0.0000	350.	0.0000
3450.	5.8070+04	0.0000	350.	0.0000
3750.	4.9508+04	2.2353-07	1050.	2.3470-04
3750.	4.9605+04	2.2389-07	1050.	2.3509-04
3750.	4.9508+04	2.2353-07	1050.	2.3470-04
3750.	4.9219+04	2.2244-07	1050.	2.3357-04
4050.	4.2457+04	2.2950-07	1750.	4.0162-04
4050.	4.2528+04	2.2980-07	1750.	4.0214-04
4050.	4.2457+04	2.2950-07	1750.	4.0162-04
4050.	4.2244+04	2.2860-07	1750.	4.0006-04
4350.	3.6811+04	1.9084-07	1400.	2.6717-04
4350.	3.6865+04	1.9106-07	1400.	2.6748-04
4350.	3.6811+04	1.9084-07	1400.	2.6717-04
4350.	3.6651+04	1.9019-07	1400.	2.6626-04
4650.	3.2220+04	1.5724-07	1050.	1.6511-04
4650.	3.2261+04	1.5741-07	1050.	1.6528-04
4650.	3.2220+04	1.5724-07	1050.	1.6511-04
4650.	3.2097+04	1.5676-07	1050.	1.6460-04
4950.	2.8437+04	1.6895-07	1750.	2.9567-04
4950.	2.8469+04	1.6910-07	1750.	2.9592-04
4950.	2.8437+04	1.6895-07	1750.	2.9567-04
4950.	2.8342+04	1.6853-07	1750.	2.9492-04
5250.	2.5283+04	1.4250-07	1399.	1.9933-04
5250.	2.5309+04	1.4261-07	1399.	1.9948-04
5250.	2.5283+04	1.4250-07	1399.	1.9933-04
5250.	2.5208+04	1.4217-07	1399.	1.9887-04
5550.	2.2626+04	1.4251-07	1750.	2.4940-04
5550.	2.2646+04	1.4261-07	1750.	2.4957-04
5550.	2.2626+04	1.4251-07	1750.	2.4940-04
5550.	2.2566+04	1.4223-07	1750.	2.4891-04
5850.	2.0367+04	1.0932-07	1050.	1.1478-04
5850.	2.0383+04	1.0939-07	1050.	1.1486-04
5850.	2.0367+04	1.0932-07	1050.	1.1478-04
5850.	2.0318+04	1.0911-07	1050.	1.1457-04
6150.	1.8430+04	1.1226-07	1400.	1.5716-04
6150.	1.8443+04	1.1232-07	1400.	1.5725-04
6150.	1.8430+04	1.1226-07	1400.	1.5716-04
6150.	1.8390+04	1.1207-07	1400.	1.5690-04

POWER = 8.2966+02 CURRENT = 8.8919-01

PMAX 1925. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

QXQT

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     16.62 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.3862+06	0.0000	56.	0.0000
450.	2.6474+06	0.0000	56.	0.0000
450.	2.3862+06	0.0000	56.	0.0000
450.	1.9487+06	0.0000	56.	0.0000
750.	9.1521+05	0.0000	168.	0.0000
750.	9.5305+05	0.0000	168.	0.0000
750.	9.1521+05	0.0000	168.	0.0000
750.	8.2685+05	0.0000	168.	0.0000
1050.	4.7607+05	0.0000	117.	0.0000
1050.	4.8625+05	0.0000	117.	0.0000
1050.	4.7607+05	0.0000	117.	0.0000
1050.	4.4940+05	0.0000	117.	0.0000
1350.	2.9037+05	0.0000	23.	0.0000

1350.	2.9415+05	0.0000	23.	0.0000
1350.	2.9037+05	0.0000	23.	0.0000
1350.	2.7996+05	0.0000	23.	0.0000
1650.	1.9521+05	6.7681-07	556.	3.7665-04
1650.	1.9691+05	6.8232-07	556.	3.7971-04
1650.	1.9521+05	6.7681-07	556.	3.7665-04
1650.	1.9037+05	6.6121-07	556.	3.6796-04
1950.	1.4011+05	4.9783-07	557.	2.7704-04
1950.	1.4098+05	5.0070-07	557.	2.7864-04
1950.	1.4011+05	4.9783-07	557.	2.7704-04
1950.	1.3758+05	4.8956-07	557.	2.7244-04
2250.	1.0540+05	0.0000	185.	0.0000
2250.	1.0589+05	0.0000	185.	0.0000
2250.	1.0540+05	0.0000	185.	0.0000
2250.	1.0395+05	0.0000	185.	0.0000
2550.	8.2142+04	3.3422-07	927.	3.0999-04
2550.	8.2443+04	3.3528-07	927.	3.1097-04
2550.	8.2142+04	3.3422-07	927.	3.0999-04
2550.	8.1260+04	3.3110-07	927.	3.0710-04
2850.	6.5807+04	2.6382-07	742.	1.9563-04
2850.	6.6000+04	2.6450-07	742.	1.9613-04
2850.	6.5807+04	2.6382-07	742.	1.9563-04
2850.	6.5238+04	2.6183-07	742.	1.9415-04
3150.	5.3698+04	0.0000	371.	0.0000
3150.	5.4028+04	0.0000	371.	0.0000
3150.	5.3698+04	0.0000	371.	0.0000
3150.	5.3515+04	0.0000	371.	0.0000
3450.	4.4950+04	0.0000	371.	0.0000
3450.	4.5040+04	0.0000	371.	0.0000
3450.	4.4950+04	0.0000	371.	0.0000
3450.	4.4683+04	0.0000	371.	0.0000
3750.	3.8057+04	1.8294-07	1113.	2.0361-04
3750.	3.8122+04	1.8319-07	1113.	2.0389-04
3750.	3.8057+04	1.8294-07	1113.	2.0361-04
3750.	3.7865+04	1.8219-07	1113.	2.0278-04
4050.	3.2636+04	1.9151-07	1855.	3.5525-04
4050.	3.2683+04	1.9172-07	1855.	3.5564-04
4050.	3.2636+04	1.9151-07	1855.	3.5525-04
4050.	3.2495+04	1.9088-07	1855.	3.5409-04
4350.	2.8295+04	1.5858-07	1484.	2.3534-04
4350.	2.8331+04	1.5874-07	1484.	2.3556-04
4350.	2.8295+04	1.5858-07	1484.	2.3534-04
4350.	2.8189+04	1.5813-07	1484.	2.3466-04
4650.	2.4766+04	1.2983-07	1113.	1.4450-04
4650.	2.4793+04	1.2994-07	1113.	1.4463-04
4650.	2.4766+04	1.2983-07	1113.	1.4450-04
4650.	2.4684+04	1.2949-07	1113.	1.4413-04
4950.	2.1858+04	1.4222-07	1855.	2.6382-04
4950.	2.1879+04	1.4232-07	1855.	2.6401-04
4950.	2.1858+04	1.4222-07	1855.	2.6382-04
4950.	2.1794+04	1.4192-07	1855.	2.6326-04
5250.	1.9433+04	1.1938-07	1483.	1.7701-04
5250.	1.9450+04	1.1945-07	1483.	1.7712-04
5250.	1.9433+04	1.1938-07	1483.	1.7701-04
5250.	1.9383+04	1.1915-07	1483.	1.7667-04
5550.	1.7391+04	1.2056-07	1855.	2.2364-04
5550.	1.7404+04	1.2063-07	1855.	2.2376-04
5550.	1.7391+04	1.2056-07	1855.	2.2364-04
5550.	1.7350+04	1.2036-07	1855.	2.2327-04
5850.	1.5654+04	9.1152-08	1113.	1.0145-04
5850.	1.5665+04	9.1200-08	1113.	1.0151-04
5850.	1.5654+04	9.1152-08	1113.	1.0145-04
5850.	1.5621+04	9.1008-08	1113.	1.0129-04
6150.	1.4165+04	9.4696-08	1484.	1.4053-04
6150.	1.4174+04	9.4739-08	1484.	1.4059-04
6150.	1.4165+04	9.4696-08	1484.	1.4053-04
6150.	1.4138+04	9.4566-08	1484.	1.4034-04

POWER = 7.2019+02 CURRENT = 7.1959-01

PMAX 2040. VOLTS

BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

DISTANCE = 2.6 AU
VMULT = 1.06
BCURR = 2.0 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 25.00 MILLIAMPS
ION TEMP = 10. EV
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 4

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3625.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.0348+06	0.0000	56.	0.0000
450.	2.2965+06	0.0000	56.	0.0000
450.	2.0348+06	0.0000	56.	0.0000
450.	1.5961+06	0.0000	56.	0.0000
750.	7.8882+05	0.0000	168.	0.0000
750.	8.2675+05	0.0000	168.	0.0000
750.	7.8882+05	0.0000	168.	0.0000
750.	7.0023+05	0.0000	168.	0.0000
1050.	4.1161+05	0.0000	117.	0.0000
1050.	4.2161+05	0.0000	117.	0.0000
1050.	4.1161+05	0.0000	117.	0.0000
1050.	3.8487+05	0.0000	117.	0.0000
1350.	2.5138+05	0.0000	23.	0.0000

1350.	2.5517+05	0.0000	23.	0.0000
1350.	2.5138+05	0.0000	23.	0.0000
1350.	2.4094+05	0.0000	23.	0.0000
1650.	1.6911+05	5.9232-07	556.	3.2963-04
1650.	1.7082+05	5.9787-07	556.	3.3272-04
1650.	1.6911+05	5.9232-07	556.	3.2963-04
1650.	1.6426+05	5.7659-07	556.	3.2087-04
1950.	1.2142+05	4.3650-07	557.	2.4291-04
1950.	1.2230+05	4.3940-07	557.	2.4453-04
1950.	1.2142+05	4.3650-07	557.	2.4291-04
1950.	1.1889+05	4.2816-07	557.	2.3827-04
2250.	9.1363+04	0.0000	185.	0.0000
2250.	9.1861+04	0.0000	185.	0.0000
2250.	9.1363+04	0.0000	185.	0.0000
2250.	8.9916+04	0.0000	185.	0.0000
2550.	7.1216+04	2.9544-07	927.	2.7402-04
2550.	7.1518+04	2.9652-07	927.	2.7562-04
2550.	7.1216+04	2.9544-07	927.	2.7402-04
2550.	7.0331+04	2.9228-07	927.	2.7109-04
2850.	5.7060+04	2.3305-07	742.	1.7281-04
2850.	5.7254+04	2.3374-07	742.	1.7332-04
2850.	5.7060+04	2.3305-07	742.	1.7281-04
2850.	5.6490+04	2.3103-07	742.	1.7131-04
3150.	4.6738+04	0.0000	371.	0.0000
3150.	4.6868+04	0.0000	371.	0.0000
3150.	4.6736+04	0.0000	371.	0.0000
3150.	4.6354+04	0.0000	371.	0.0000
3450.	3.8981+04	0.0000	371.	0.0000
3450.	3.9071+04	0.0000	371.	0.0000
3450.	3.8981+04	0.0000	371.	0.0000
3450.	3.8713+04	0.0000	371.	0.0000
3750.	3.3005+04	1.6308-07	1113.	1.8151-04
3750.	3.3070+04	1.6334-07	1113.	1.8180-04
3750.	3.3005+04	1.6308-07	1113.	1.8151-04
3750.	3.2813+04	1.6232-07	1113.	1.8066-04
4050.	2.8304+04	1.7210-07	1855.	3.1925-04
4050.	2.8352+04	1.7232-07	1855.	3.1965-04
4050.	2.8304+04	1.7210-07	1855.	3.1925-04
4050.	2.8163+04	1.7146-07	1855.	3.1806-04
4350.	2.4541+04	1.4227-07	1484.	2.1113-04
4350.	2.4576+04	1.4243-07	1484.	2.1137-04
4350.	2.4541+04	1.4227-07	1484.	2.1113-04
4350.	2.4434+04	1.4180-07	1484.	2.1044-04
4650.	2.1480+04	1.1617-07	1113.	1.2930-04
4650.	2.1507+04	1.1629-07	1113.	1.2943-04
4650.	2.1480+04	1.1617-07	1113.	1.2930-04
4650.	2.1398+04	1.1583-07	1113.	1.2892-04
4950.	1.8958+04	1.2827-07	1855.	2.3794-04
4950.	1.8980+04	1.2838-07	1855.	2.3814-04
4950.	1.8958+04	1.2827-07	1855.	2.3794-04
4950.	1.8894+04	1.2796-07	1855.	2.3737-04
5250.	1.6856+04	1.0746-07	1483.	1.5934-04
5250.	1.6872+04	1.0754-07	1483.	1.5946-04
5250.	1.6856+04	1.0746-07	1483.	1.5934-04
5250.	1.6805+04	1.0722-07	1483.	1.5899-04
5550.	1.5084+04	1.0896-07	1855.	2.0211-04
5550.	1.5098+04	1.0903-07	1855.	2.0224-04
5550.	1.5084+04	1.0896-07	1855.	2.0211-04
5550.	1.5044+04	1.0875-07	1855.	2.0173-04
5850.	1.3578+04	8.1900-08	1113.	9.1154-05
5850.	1.3589+04	8.1949-08	1113.	9.1210-05
5850.	1.3578+04	8.1900-08	1113.	9.1154-05
5850.	1.3545+04	8.1752-08	1113.	9.0990-05
6150.	1.2287+04	8.5485-08	1484.	1.2686-04
6150.	1.2295+04	8.5530-08	1484.	1.2693-04
6150.	1.2287+04	8.5485-08	1484.	1.2686-04
6150.	1.2260+04	8.5352-08	1484.	1.2666-04

POWER = 6.4183+02 CURRENT = 6.3785-01

PMAX 2040. VOLTS
BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

6XQT

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =   20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3625.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.3722+06	0.0000	60.	0.0000
450.	1.5031+06	0.0000	60.	0.0000
450.	1.3722+06	0.0000	60.	0.0000
450.	1.1528+06	0.0000	60.	0.0000
750.	5.2214+05	0.0000	180.	0.0000
750.	5.4110+05	0.0000	180.	0.0000
750.	5.2214+05	0.0000	180.	0.0000
750.	4.7784+05	0.0000	180.	0.0000
1050.	2.7097+05	0.0000	126.	0.0000
1050.	2.7607+05	0.0000	126.	0.0000
1050.	2.7097+05	0.0000	126.	0.0000
1050.	2.5760+05	0.0000	126.	0.0000
1350.	1.6511+05	0.0000	25.	0.0000

1350.	1.6701+05	0.0000	25.	0.0000
1350.	1.6511+05	0.0000	25.	0.0000
1350.	1.5989+05	0.0000	25.	0.0000
1650.	1.1094+05	4.0587-07	598.	2.4291-04
1650.	1.1180+05	4.0871-07	598.	2.4461-04
1650.	1.1094+05	4.0587-07	598.	2.4291-04
1650.	1.0852+05	3.9782-07	598.	2.3809-04
1950.	7.9605+04	3.0083-07	599.	1.8005-04
1950.	8.0044+04	3.0232-07	599.	1.8094-04
1950.	7.9605+04	3.0083-07	599.	1.8005-04
1950.	7.8338+04	2.9654-07	599.	1.7748-04
2250.	5.9873+04	0.0000	199.	0.0000
2250.	6.0122+04	0.0000	199.	0.0000
2250.	5.9873+04	0.0000	199.	0.0000
2250.	5.9150+04	0.0000	199.	0.0000
2550.	4.6657+04	2.1003-07	997.	2.0951-04
2550.	4.6808+04	2.1060-07	997.	2.1007-04
2550.	4.6657+04	2.1003-07	997.	2.0951-04
2550.	4.6215+04	2.0837-07	997.	2.0785-04
2850.	3.7375+04	1.6512-07	797.	1.3168-04
2850.	3.7472+04	1.6548-07	797.	1.3197-04
2850.	3.7375+04	1.6512-07	797.	1.3168-04
2850.	3.7090+04	1.6406-07	797.	1.3084-04
3150.	3.0610+04	0.0000	399.	0.0000
3150.	3.0675+04	0.0000	399.	0.0000
3150.	3.0610+04	0.0000	399.	0.0000
3150.	3.0418+04	0.0000	399.	0.0000
3450.	2.5527+04	0.0000	399.	0.0000
3450.	2.5572+04	0.0000	399.	0.0000
3450.	2.5527+04	0.0000	399.	0.0000
3450.	2.5393+04	0.0000	399.	0.0000
3750.	2.1612+04	1.1965-07	1197.	1.4322-04
3750.	2.1644+04	1.1979-07	1197.	1.4338-04
3750.	2.1612+04	1.1965-07	1197.	1.4322-04
3750.	2.1515+04	1.1924-07	1197.	1.4273-04
4050.	1.8532+04	1.3016-07	1995.	2.5967-04
4050.	1.8556+04	1.3028-07	1995.	2.5991-04
4050.	1.8532+04	1.3016-07	1995.	2.5967-04
4050.	1.8462+04	1.2980-07	1995.	2.5896-04
4350.	1.6067+04	1.0691-07	1596.	1.7063-04
4350.	1.6085+04	1.0700-07	1596.	1.7077-04
4350.	1.6067+04	1.0691-07	1596.	1.7063-04
4350.	1.6014+04	1.0666-07	1596.	1.7022-04
4650.	1.4063+04	8.6438-08	1197.	1.0347-04
4650.	1.4076+04	8.6500-08	1197.	1.0354-04
4650.	1.4063+04	8.6438-08	1197.	1.0347-04
4650.	1.4022+04	8.6251-08	1197.	1.0324-04
4950.	1.2411+04	9.8279-08	1995.	1.9607-04
4950.	1.2422+04	9.8338-08	1995.	1.9618-04
4950.	1.2411+04	9.8279-08	1995.	1.9607-04
4950.	1.2379+04	9.8105-08	1995.	1.9572-04
5250.	1.1034+04	8.1751-08	1595.	1.3037-04
5250.	1.1043+04	8.1795-08	1595.	1.3044-04
5250.	1.1034+04	8.1751-08	1595.	1.3037-04
5250.	1.1009+04	8.1620-08	1595.	1.3016-04
5550.	9.8745+03	8.4086-08	1995.	1.6775-04
5550.	9.8813+03	8.4125-08	1995.	1.6783-04
5550.	9.8745+03	8.4086-08	1995.	1.6775-04
5550.	9.8544+03	8.3970-08	1995.	1.6752-04
5850.	8.8883+03	6.1866-08	1197.	7.4054-05
5850.	8.8938+03	6.1894-08	1197.	7.4087-05
5850.	8.8883+03	6.1866-08	1197.	7.4054-05
5850.	8.8720+03	6.1785-08	1197.	7.3957-05
6150.	8.0428+03	6.5701-08	1596.	1.0486-04
6150.	8.0473+03	6.5726-08	1596.	1.0490-04
6150.	8.0428+03	6.5701-08	1596.	1.0486-04
6150.	8.0294+03	6.5626-08	1596.	1.0474-04

POWER = 5.0692+02 CURRENT = 4.5935-01

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     25.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0174+06	0.0000	60.	0.0000
450.	1.1483+06	0.0000	60.	0.0000
450.	1.0174+06	0.0000	60.	0.0000
450.	7.9804+05	0.0000	60.	0.0000
750.	3.9441+05	0.0000	180.	0.0000
750.	4.1337+05	0.0000	180.	0.0000
750.	3.9441+05	0.0000	180.	0.0000
750.	3.5012+05	0.0000	180.	0.0000
1050.	2.0580+05	0.0000	126.	0.0000
1050.	2.1091+05	0.0000	126.	0.0000
1050.	2.0580+05	0.0000	126.	0.0000
1050.	1.9244+05	0.0000	126.	0.0000
1350.	1.2569+05	0.0000	25.	0.0000

1350.	1.2758+05	0.0000	25.	0.0000
1350.	1.2569+05	0.0000	25.	0.0000
1350.	1.2047+05	0.0000	25.	0.0000
1650.	8.4553+04	3.1755-07	596.	1.9005-04
1650.	8.5406+04	3.2043-07	598.	1.9178-04
1650.	8.4553+04	3.1755-07	598.	1.9005-04
1650.	8.2132+04	3.0937-07	598.	1.8516-04
1950.	6.0710+04	2.3637-07	599.	1.4147-04
1950.	6.1150+04	2.3789-07	599.	1.4238-04
1950.	6.0710+04	2.3637-07	599.	1.4147-04
1950.	5.9444+04	2.3201-07	599.	1.3886-04
2250.	4.5682+04	0.0000	199.	0.0000
2250.	4.5930+04	0.0000	199.	0.0000
2250.	4.5682+04	0.0000	199.	0.0000
2250.	4.4958+04	0.0000	199.	0.0000
2550.	3.5608+04	1.6808-07	997.	1.6766-04
2550.	3.5759+04	1.6866-07	997.	1.6824-04
2550.	3.5608+04	1.6808-07	997.	1.6766-04
2550.	3.5166+04	1.6637-07	997.	1.6596-04
2850.	2.8530+04	1.3193-07	797.	1.0521-04
2850.	2.8627+04	1.3230-07	797.	1.0551-04
2850.	2.8530+04	1.3193-07	797.	1.0521-04
2850.	2.8245+04	1.3085-07	797.	1.0435-04
3150.	2.3369+04	0.0000	399.	0.0000
3150.	2.3434+04	0.0000	399.	0.0000
3150.	2.3369+04	0.0000	399.	0.0000
3150.	2.3177+04	0.0000	399.	0.0000
3450.	1.9490+04	0.0000	399.	0.0000
3450.	1.9536+04	0.0000	399.	0.0000
3450.	1.9490+04	0.0000	399.	0.0000
3450.	1.9357+04	0.0000	399.	0.0000
3750.	1.6503+04	9.7430-08	1197.	1.1662-04
3750.	1.6535+04	9.7574-08	1197.	1.1680-04
3750.	1.6503+04	9.7430-08	1197.	1.1662-04
3750.	1.6406+04	9.7002-08	1197.	1.1611-04
4050.	1.4152+04	1.0763-07	1995.	2.1473-04
4050.	1.4176+04	1.0776-07	1995.	2.1498-04
4050.	1.4152+04	1.0763-07	1995.	2.1473-04
4050.	1.4081+04	1.0726-07	1995.	2.1398-04
4350.	1.2270+04	8.8137-08	1596.	1.4067-04
4350.	1.2288+04	8.8228-08	1596.	1.4081-04
4350.	1.2270+04	8.8137-08	1596.	1.4067-04
4350.	1.2217+04	8.7866-08	1596.	1.4023-04
4650.	1.0740+04	7.0905-08	1197.	8.4874-05
4650.	1.0754+04	7.0971-08	1197.	8.4952-05
4650.	1.0740+04	7.0905-08	1197.	8.4874-05
4650.	1.0699+04	7.0709-08	1197.	8.4639-05
4950.	9.4791+03	8.1800-08	1995.	1.6319-04
4950.	9.4898+03	8.1862-08	1995.	1.6331-04
4950.	9.4791+03	8.1800-08	1995.	1.6319-04
4950.	9.4472+03	8.1615-08	1995.	1.6282-04
5250.	8.4278+03	6.7811-08	1595.	1.0814-04
5250.	8.4362+03	6.7857-08	1595.	1.0821-04
5250.	8.4278+03	6.7811-08	1595.	1.0814-04
5250.	8.4026+03	6.7672-08	1595.	1.0791-04
5550.	7.5421+03	7.0234-08	1995.	1.4012-04
5550.	7.5488+03	7.0276-08	1995.	1.4020-04
5550.	7.5421+03	7.0234-08	1995.	1.4012-04
5550.	7.5219+03	7.0110-08	1995.	1.3987-04
5850.	6.7890+03	5.1141-08	1197.	6.1216-05
5850.	6.7944+03	5.1170-08	1197.	6.1250-05
5850.	6.7890+03	5.1141-08	1197.	6.1216-05
5850.	6.7726+03	5.1055-08	1197.	6.1113-05
6150.	6.1433+03	5.4772-08	1596.	8.7416-05
6150.	6.1477+03	5.4798-08	1596.	8.7458-05
6150.	6.1433+03	5.4772-08	1596.	8.7416-05
6150.	6.1298+03	5.4692-08	1596.	8.7286-05

POWER = 4.1261+02 CURRENT = 3.6984-01

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =     4.5 AU
VMULT =    1.19
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     15.62 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      5. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.6891+05	0.0000	63.	0.0000
450.	8.5071+05	0.0000	63.	0.0000
450.	7.6891+05	0.0000	63.	0.0000
450.	6.3182+05	0.0000	63.	0.0000
750.	2.9440+05	0.0000	188.	0.0000
750.	3.0626+05	0.0000	188.	0.0000
750.	2.9440+05	0.0000	188.	0.0000
750.	2.6672+05	0.0000	188.	0.0000
1050.	1.5306+05	0.0000	131.	0.0000
1050.	1.5625+05	0.0000	131.	0.0000
1050.	1.5306+05	0.0000	131.	0.0000
1050.	1.4471+05	0.0000	131.	0.0000
1350.	9.3340+04	0.0000	26.	0.0000

1350.	9.4524+04	0.0000	26.	0.0000
1350.	9.3340+04	0.0000	26.	0.0000
1350.	9.0076+04	0.0000	26.	0.0000
1650.	6.2742+04	2.4518-07	625.	1.5318-04
1650.	6.3276+04	2.4702-07	625.	1.5433-04
1650.	6.2742+04	2.4518-07	625.	1.5318-04
1650.	6.1229+04	2.3996-07	625.	1.4991-04
1950.	4.5029+04	1.6342-07	625.	1.1459-04
1950.	4.5304+04	1.6439-07	625.	1.1520-04
1950.	4.5029+04	1.6342-07	625.	1.1459-04
1950.	4.4238+04	1.6062-07	625.	1.1284-04
2250.	3.3873+04	0.0000	208.	0.0000
2250.	3.4028+04	0.0000	208.	0.0000
2250.	3.3873+04	0.0000	208.	0.0000
2250.	3.3421+04	0.0000	208.	0.0000
2550.	2.6398+04	1.3371-07	1041.	1.3923-04
2550.	2.6493+04	1.3409-07	1041.	1.3963-04
2550.	2.6398+04	1.3371-07	1041.	1.3923-04
2550.	2.6122+04	1.3260-07	1041.	1.3807-04
2850.	2.1148+04	1.0469-07	832.	8.7149-05
2850.	2.1209+04	1.0493-07	832.	8.7349-05
2850.	2.1148+04	1.0469-07	832.	8.7149-05
2850.	2.0970+04	1.0398-07	832.	8.6559-05
3150.	1.7321+04	0.0000	416.	0.0000
3150.	1.7361+04	0.0000	416.	0.0000
3150.	1.7321+04	0.0000	416.	0.0000
3150.	1.7201+04	0.0000	416.	0.0000
3450.	1.4445+04	0.0000	416.	0.0000
3450.	1.4473+04	0.0000	416.	0.0000
3450.	1.4445+04	0.0000	416.	0.0000
3450.	1.4361+04	0.0000	416.	0.0000
3750.	1.2230+04	7.9318-08	1249.	9.9108-05
3750.	1.2250+04	7.9414-08	1249.	9.9228-05
3750.	1.2230+04	7.9318-08	1249.	9.9108-05
3750.	1.2170+04	7.9034-08	1249.	9.8752-05
4050.	1.0488+04	8.9428-08	2082.	1.8623-04
4050.	1.0503+04	8.9513-08	2082.	1.8641-04
4050.	1.0488+04	8.9428-08	2082.	1.8623-04
4050.	1.0443+04	8.9173-08	2082.	1.8570-04
4350.	9.0927+03	7.2925-08	1666.	1.2149-04
4350.	9.1039+03	7.2986-08	1666.	1.2160-04
4350.	9.0927+03	7.2925-08	1666.	1.2149-04
4350.	9.0594+03	7.2741-08	1666.	1.2119-04
4650.	7.9585+03	5.8282-08	1249.	7.2823-05
4650.	7.9671+03	5.8326-08	1249.	7.2879-05
4650.	7.9585+03	5.8282-08	1249.	7.2823-05
4650.	7.9330+03	5.8150-08	1249.	7.2659-05
4950.	7.0240+03	6.8524-08	2082.	1.4270-04
4950.	7.0307+03	6.8566-08	2082.	1.4279-04
4950.	7.0240+03	6.8524-08	2082.	1.4270-04
4950.	7.0041+03	6.8397-08	2082.	1.4244-04
5250.	6.2448+03	5.6552-08	1665.	9.4137-05
5250.	6.2501+03	5.6584-08	1665.	9.4190-05
5250.	6.2448+03	5.6552-08	1665.	9.4137-05
5250.	6.2291+03	5.6457-08	1665.	9.3979-05
5550.	5.5885+03	5.9098-08	2082.	1.2307-04
5550.	5.5927+03	5.9127-08	2082.	1.2313-04
5550.	5.5885+03	5.9098-08	2082.	1.2307-04
5550.	5.5759+03	5.9013-08	2082.	1.2289-04
5850.	5.0304+03	4.2458-08	1249.	5.3051-05
5850.	5.0338+03	4.2477-08	1249.	5.3076-05
5850.	5.0304+03	4.2458-08	1249.	5.3051-05
5850.	5.0201+03	4.2399-08	1249.	5.2978-05
6150.	4.5519+03	4.5971-08	1666.	7.6587-05
6150.	4.5547+03	4.5989-08	1666.	7.6618-05
6150.	4.5519+03	4.5971-08	1666.	7.6587-05
6150.	4.5435+03	4.5916-08	1666.	7.6496-05

POWER = 3.5086+02 CURRENT = 2.9706-01

PMAX 2291. VOLTS
BEAM POWER = 5727. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.8

ORIGINAL PAGE IS
OF POOR QUALITY

PRECEDING PAGE BLANK NOT FILMED

```
 DISTANCE =     1.0 AU
VMULT =    1.00
BCURR =     2.5 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.2669+05	0.0000	53.	0.0000
450.	1.9460+07	0.0000	53.	0.0000
450.	4.2669+05	0.0000	53.	0.0000
450.	4.2575+05	0.0000	53.	0.0000
750.	2.3317+05	0.0000	158.	0.0000
750.	7.9096+06	0.0000	158.	0.0000
750.	2.3317+05	0.0000	158.	0.0000
750.	1.5327+05	0.0000	158.	0.0000
1050.	3.8278+05	0.0000	110.	0.0000
1050.	4.2726+06	0.0000	110.	0.0000
1050.	3.8278+05	0.0000	110.	0.0000
1050.	7.8316+04	0.0000	110.	0.0000
1350.	5.2794+05	0.0000	22.	0.0000
1350.	2.6721+06	0.0000	22.	0.0000
1350.	5.2794+05	0.0000	22.	0.0000
1350.	5.0257+04	0.0000	22.	0.0000

1650.	5.7932+05	0.0000	375.	0.0000
1650.	1.8281+06	0.0000	375.	0.0000
1650.	5.7932+05	0.0000	375.	0.0000
1650.	4.7184+04	0.0000	375.	0.0000
1950.	5.6591+05	0.0000	375.	0.0000
1950.	1.3291+06	0.0000	375.	0.0000
1950.	5.6591+05	0.0000	375.	0.0000
1950.	6.1727+04	0.0000	375.	0.0000
2250.	5.2270+05	0.0000	125.	0.0000
2250.	1.0098+06	0.0000	125.	0.0000
2250.	5.2270+05	0.0000	125.	0.0000
2250.	8.3850+04	0.0000	125.	0.0000
2550.	4.7013+05	1.5634-06	625.	9.7714-04
2550.	7.9315+05	2.5764-06	625.	1.6103-03
2550.	4.7013+05	1.5634-06	625.	9.7714-04
2550.	1.0511+05	3.8884-07	625.	2.4303-04
2850.	4.1793+05	1.4807-06	1125.	1.6658-03
2850.	6.3943+05	2.1977-06	1125.	2.4725-03
2850.	4.1793+05	1.4807-06	1125.	1.6658-03
2850.	1.2132+05	4.8720-07	1125.	5.4810-04
3150.	3.7004+05	1.2865-06	875.	1.1257-03
3150.	5.2644+05	1.7889-06	875.	1.5653-03
3150.	3.7004+05	1.2865-06	875.	1.1257-03
3150.	1.3154+05	5.0064-07	875.	4.3806-04
3450.	3.2767+05	1.1492-06	875.	1.0055-03
3450.	4.4096+05	1.5151-06	875.	1.3257-03
3450.	3.2767+05	1.1492-06	875.	1.0055-03
3450.	1.3646+05	5.1735-07	875.	4.5268-04
3750.	2.9082+05	1.0936-06	1375.	1.5036-03
3750.	3.7473+05	1.3748-06	1375.	1.8903-03
3750.	2.9082+05	1.0936-06	1375.	1.5036-03
3750.	1.3729+05	5.6440-07	1375.	7.7606-04
4050.	2.5898+05	1.0411-06	1875.	1.9521-03
4050.	3.2237+05	1.2615-06	1875.	2.3654-03
4050.	2.5898+05	1.0411-06	1875.	1.9521-03
4050.	1.3521+05	5.9701-07	1875.	1.1194-03
4350.	2.3154+05	9.1887-07	1625.	1.4932-03
4350.	2.8027+05	1.0873-06	1625.	1.7668-03
4350.	2.3154+05	9.1887-07	1625.	1.4932-03
4350.	1.3120+05	5.6284-07	1625.	9.1461-04
4650.	2.0787+05	8.1091-07	1375.	1.1150-03
4650.	2.4591+05	9.4128-07	1375.	1.2943-03
4650.	2.0787+05	8.1091-07	1375.	1.1150-03
4650.	1.2601+05	5.2422-07	1375.	7.2080-04
4950.	1.8739+05	7.8719-07	1875.	1.4760-03
4950.	2.1750+05	8.9480-07	1875.	1.6777-03
4950.	1.8739+05	7.8719-07	1875.	1.4760-03
4950.	1.2016+05	5.4098-07	1875.	1.0143-03
5250.	1.6961+05	7.6487-07	2375.	1.8166-03
5250.	1.9375+05	8.5478-07	2375.	2.0301-03
5250.	1.6961+05	7.6487-07	2375.	1.8166-03
5250.	1.1403+05	5.5227-07	2375.	1.3116-03
5550.	1.5412+05	7.2564-07	2625.	1.9048-03
5550.	1.7368+05	8.0046-07	2625.	2.1012-03
5550.	1.5412+05	7.2564-07	2625.	1.9048-03
5550.	1.0786+05	5.4404-07	2625.	1.4281-03
5850.	1.4056+05	6.3612-07	2125.	1.3518-03
5850.	1.5658+05	6.9600-07	2125.	1.4790-03
5850.	1.4056+05	6.3612-07	2125.	1.3518-03
5850.	1.0181+05	4.8811-07	2125.	1.0372-03
6150.	1.2864+05	6.0910-07	2375.	1.4466-03
6150.	1.4189+05	6.5998-07	2375.	1.5674-03
6150.	1.2864+05	6.0910-07	2375.	1.4466-03
6150.	9.5984+04	4.8088-07	2375.	1.1421-03

POWER = 4.3176+03 CURRENT = 2.9479+00

PMAX 2750. VOLTS
BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      5.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.2613+05	0.0000	66.	0.0000
450.	8.0396+06	0.0000	66.	0.0000
450.	4.2613+05	0.0000	66.	0.0000
450.	4.2575+05	0.0000	66.	0.0000
750.	1.8523+05	0.0000	196.	0.0000
750.	3.2558+06	0.0000	196.	0.0000
750.	1.8523+05	0.0000	196.	0.0000
750.	1.5327+05	0.0000	196.	0.0000
1050.	2.0003+05	0.0000	136.	0.0000
1050.	1.7560+06	0.0000	136.	0.0000
1050.	2.0003+05	0.0000	136.	0.0000
1050.	7.8246+04	0.0000	136.	0.0000
1350.	2.3956+05	0.0000	28.	0.0000
1350.	1.0972+06	0.0000	28.	0.0000
1350.	2.3956+05	0.0000	28.	0.0000
1350.	4.6487+04	0.0000	28.	0.0000

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1650.  2.5073+05  0.0000          469.     0.0000
1650.  7.5024+05  0.0000          469.     0.0000
1650.  2.5073+05  0.0000          469.     0.0000
1650.  3.7674+04  0.0000          469.     0.0000
1950.  2.3997+05  0.0000          469.     0.0000
1950.  5.4526+05  0.0000          469.     0.0000
1950.  2.3997+05  0.0000          469.     0.0000
1950.  3.8295+04  0.0000          469.     0.0000
2250.  2.1930+05  0.0000          156.     0.0000
2250.  4.1414+05  0.0000          156.     0.0000
2250.  2.1930+05  0.0000          156.     0.0000
2250.  4.3758+04  0.0000          156.     0.0000
2550.  1.9601+05  7.0644-07       781.     5.5190-04
2550.  3.2521+05  1.1275-06       781.     8.8082-04
2550.  1.9601+05  7.0644-07       781.     5.5190-04
2550.  5.0000+04  2.1028-07       781.     1.6428-04
2850.  1.7354+05  6.9488-07      1406.     9.7717-04
2850.  2.6214+05  1.0001-06      1406.     1.4064-03
2850.  1.7354+05  6.9488-07      1406.     9.7717-04
2850.  5.4695+04  2.6311-07      1406.     3.6999-04
3150.  1.5323+05  5.9512-07      1094.     6.5092-04
3150.  2.1579+05  8.0776-07      1094.     8.8348-04
3150.  1.5323+05  5.9512-07      1094.     6.5092-04
3150.  5.7828+04  2.5704-07      1094.     2.8114-04
3450.  1.3542+05  5.3365-07      1094.     5.8368-04
3450.  1.8073+05  6.8913-07      1094.     7.5374-04
3450.  1.3542+05  5.3365-07      1094.     5.8368-04
3450.  5.8930+04  2.6113-07      1094.     2.8561-04
3750.  1.2000+05  5.2892-07      1719.     9.0908-04
3750.  1.5357+05  6.5161-07      1719.     1.1200-03
3750.  1.2000+05  5.2892-07      1719.     9.0908-04
3750.  5.8594+04  2.9405-07      1719.     5.0541-04
4050.  1.0675+05  5.2162-07      2344.     1.2225-03
4050.  1.3210+05  6.2020-07      2344.     1.4536-03
4050.  1.0675+05  5.2162-07      2344.     1.2225-03
4050.  5.7238+04  3.1938-07      2344.     7.4854-04
4350.  9.5350+04  4.5696-07      2031.     9.2820-04
4350.  1.1484+05  5.3200-07      2031.     1.0606-03
4350.  9.5350+04  4.5696-07      2031.     9.2820-04
4350.  5.5215+04  2.9587-07      2031.     6.0099-04
4650.  8.5538+04  3.9937-07      1719.     6.8642-04
4650.  1.0076+05  4.5713-07      1719.     7.8569-04
4650.  8.5538+04  3.9937-07      1719.     6.8642-04
4650.  5.2796+04  2.7068-07      1719.     4.6524-04
4950.  7.7065+04  4.0244-07      2344.     9.4321-04
4950.  8.9113+04  4.5142-07      2344.     1.0580-03
4950.  7.7065+04  4.0244-07      2344.     9.4321-04
4950.  5.0176+04  2.8882-07      2344.     6.7692-04
5250.  6.9720+04  4.0380-07      2969.     1.1988-03
5250.  7.9376+04  4.4577-07      2969.     1.3234-03
5250.  6.9720+04  4.0380-07      2969.     1.1988-03
5250.  4.7488+04  3.0320-07      2969.     9.0014-04
5550.  6.3326+04  3.9002-07      3281.     1.2798-03
5550.  7.1153+04  4.2547-07      3281.     1.3961-03
5550.  6.3326+04  3.9002-07      3281.     1.2798-03
5550.  4.4823+04  3.0285-07      3281.     9.9373-04
5850.  5.7735+04  3.3616-07      2656.     8.9292-04
5850.  6.4144+04  3.6416-07      2656.     9.6731-04
5850.  5.7735+04  3.3616-07      2656.     8.9292-04
5850.  4.2236+04  2.6615-07      2656.     7.0697-04
6150.  5.2825+04  3.2798-07      2969.     9.7368-04
6150.  5.8122+04  3.5214-07      2969.     1.0454-03
6150.  5.2825+04  3.2798-07      2969.     9.7368-04
6150.  3.9761+04  2.6640-07      2969.     7.9088-04
POWER        =  2.7145+03 CURRENT =  1.4471+00

PMAX       3436. VOLTS
BEAM POWER =      41250.  WATTS
```

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP   =    10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3625.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1325+05	0.0000	66.	0.0000
450.	7.8267+06	0.0000	66.	0.0000
450.	2.1325+05	0.0000	66.	0.0000
450.	2.1288+05	0.0000	66.	0.0000
750.	1.0860+05	0.0000	198.	0.0000
750.	3.1792+06	0.0000	196.	0.0000
750.	1.0860+05	0.0000	198.	0.0000
750.	7.6636+04	0.0000	198.	0.0000
1050.	1.6093+05	0.0000	138.	0.0000
1050.	1.7169+06	0.0000	136.	0.0000
1050.	1.6093+05	0.0000	138.	0.0000
1050.	3.9147+04	0.0000	138.	0.0000
1350.	2.1591+05	0.0000	28.	0.0000
1350.	1.0736+06	0.0000	28.	0.0000
1350.	2.1591+05	0.0000	28.	0.0000
1350.	2.4834+04	0.0000	28.	0.0000

ORIGINAL PAGE IS
OF POOR QUALITY

1650.	2.3489+05	0.0000	469.	0.0000
1650.	7.3441+05	0.0000	469.	0.0000
1650.	2.3489+05	0.0000	469.	0.0000
1650.	2.2040+04	0.0000	469.	0.0000
1950.	2.2663+05	0.0000	469.	0.0000
1950.	5.3392+05	0.0000	469.	0.0000
1950.	2.2663+05	0.0000	469.	0.0000
1950.	2.6958+04	0.0000	469.	0.0000
2250.	2.1078+05	0.0000	156.	0.0000
2250.	4.0562+05	0.0000	156.	0.0000
2250.	2.1078+05	0.0000	156.	0.0000
2250.	3.5243+04	0.0000	156.	0.0000
2550.	1.8938+05	6.8456-07	781.	5.3481-04
2550.	3.1856+05	1.1060-06	781.	8.6409-04
2550.	1.8938+05	6.6456-07	781.	5.3481-04
2550.	4.3370+04	1.8629-07	781.	1.4554-04
2850.	1.6823+05	6.7630-07	1406.	9.5104-04
2850.	2.5684+05	9.8204-07	1406.	1.3810-03
2850.	1.6823+05	6.7630-07	1406.	9.5104-04
2850.	4.9586+04	2.4233-07	1406.	3.4078-04
3150.	1.4869+05	5.6018-07	1094.	6.3457-04
3150.	2.1145+05	7.9312-07	1094.	8.6748-04
3150.	1.4869+05	5.8018-07	1094.	6.3457-04
3150.	5.3483+04	2.4083-07	1094.	2.6340-04
3450.	1.3179+05	5.2109-07	1094.	5.6994-04
3450.	1.7711+05	6.7681-07	1094.	7.4026-04
3450.	1.3179+05	5.2109-07	1094.	5.6994-04
3450.	5.5308+04	2.4765-07	1094.	2.7087-04
3750.	1.1694+05	5.1757-07	1719.	8.8957-04
3750.	1.5050+05	6.4051-07	1719.	1.1009-03
3750.	1.1694+05	5.1757-07	1719.	8.8957-04
3750.	5.5526+04	2.8174-07	1719.	4.8424-04
4050.	1.0412+05	5.1125-07	2344.	1.1982-03
4050.	1.2946+05	6.1009-07	2344.	1.4299-03
4050.	1.0412+05	5.1125-07	2344.	1.1982-03
4050.	5.4609+04	3.0808-07	2344.	7.2206-04
4350.	9.3072+04	4.4808-07	2031.	9.1017-04
4350.	1.1256+05	5.2330-07	2031.	1.0630-03
4350.	9.3072+04	4.4808-07	2031.	9.1017-04
4350.	5.2937+04	2.8633-07	2031.	5.8162-04
4650.	8.3545+04	3.9173-07	1719.	6.7328-04
4650.	9.8764+04	4.4962-07	1719.	7.7279-04
4650.	8.3545+04	3.9173-07	1719.	6.7328-04
4650.	5.0802+04	2.6257-07	1719.	4.5130-04
4950.	7.5306+04	3.9520-07	2344.	9.2625-04
4950.	8.7354+04	4.4432-07	2344.	1.0414-03
4950.	7.5306+04	3.9520-07	2344.	9.2625-04
4950.	4.8416+04	2.8110-07	2344.	6.5883-04
5250.	6.8156+04	3.9692-07	2969.	1.1784-03
5250.	7.7812+04	4.3903-07	2969.	1.3034-03
5250.	6.8156+04	3.9692-07	2969.	1.1784-03
5250.	4.5924+04	2.9586-07	2969.	8.7830-04
5550.	6.1926+04	3.8361-07	3281.	1.2587-03
5550.	6.9753+04	4.1918-07	3281.	1.3754-03
5550.	6.1926+04	3.8361-07	3281.	1.2587-03
5550.	4.3423+04	2.9601-07	3281.	9.7128-04
5850.	5.6475+04	3.3060-07	2656.	8.7815-04
5850.	6.2885+04	3.5870-07	2656.	9.5278-04
5850.	5.6475+04	3.3060-07	2656.	8.7815-04
5850.	4.0976+04	2.6028-07	2656.	6.9138-04
6150.	5.1685+04	3.2273-07	2969.	9.5809-04
6150.	5.6983+04	3.4697-07	2969.	1.0301-03
6150.	5.1685+04	3.2273-07	2969.	9.5809-04
6150.	3.8622+04	2.6086-07	2969.	7.7444-04

POWER = 2.6567+03 CURRENT = 1.4136+00

PMAX 3438. VOLTS
BEAM POWER = 4125O. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

GXQT

```
 DISTANCE =     2.2 AU
VMULT =    1.40
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =      5.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1306+05	0.0000	74.	0.0000
450.	4.0198+06	0.0000	74.	0.0000
450.	2.1306+05	0.0000	74.	0.0000
450.	2.1286+05	0.0000	74.	0.0000
750.	9.2616+04	0.0000	221.	0.0000
750.	1.6279+06	0.0000	221.	0.0000
750.	9.2616+04	0.0000	221.	0.0000
750.	7.6636+04	0.0000	221.	0.0000
1050.	1.0002+05	0.0000	154.	0.0000
1050.	8.7799+05	0.0000	154.	0.0000
1050.	1.0002+05	0.0000	154.	0.0000
1050.	3.9123+04	0.0000	154.	0.0000
1350.	1.1978+05	0.0000	31.	0.0000
1350.	5.4860+05	0.0000	31.	0.0000
1350.	1.1978+05	0.0000	31.	0.0000
1350.	2.4243+04	0.0000	31.	0.0000

1650.	1.2536+05	4.4629-07	525.	2.3430-04
1650.	3.7512+05	1.2452-06	525.	6.5375-04
1650.	1.2536+05	4.4629-07	525.	2.3430-04
1650.	1.8937+04	8.4386-08	525.	4.4303-05
1950.	1.1998+05	4.2865-07	525.	2.2504-04
1950.	2.7263+05	9.2055-07	525.	4.8329-04
1950.	1.1998+05	4.2865-07	525.	2.2504-04
1950.	1.9147+04	8.5169-08	525.	4.4714-05
2250.	1.0965+05	0.0000	175.	0.0000
2250.	2.0707+05	0.0000	175.	0.0000
2250.	1.0965+05	0.0000	175.	0.0000
2250.	2.1879+04	0.0000	175.	0.0000
2550.	9.8004+04	3.8569-07	875.	3.3748-04
2550.	1.6261+05	6.0555-07	875.	5.2986-04
2550.	9.8004+04	3.8569-07	875.	3.3748-04
2550.	2.5000+04	1.2154-07	875.	1.0635-04
2850.	8.6771+04	3.9492-07	1575.	6.2200-04
2850.	1.3107+05	5.5841-07	1575.	8.7950-04
2850.	8.6771+04	3.9492-07	1575.	6.2200-04
2850.	2.7447+04	1.5826-07	1575.	2.4925-04
3150.	7.6615+04	3.3451-07	1225.	4.0978-04
3150.	1.0790+05	4.4773-07	1225.	5.4847-04
3150.	7.6615+04	3.3451-07	1225.	4.0978-04
3150.	2.8914+04	1.5122-07	1225.	1.8524-04
3450.	6.7708+04	3.0156-07	1225.	3.6941-04
3450.	9.0365+04	3.8470-07	1225.	4.7125-04
3450.	6.7708+04	3.0156-07	1225.	3.6941-04
3450.	2.9465+04	1.5348-07	1225.	1.8801-04
3750.	6.0002+04	3.1035-07	1925.	5.9743-04
3750.	7.6785+04	3.7772-07	1925.	7.2712-04
3750.	6.0002+04	3.1035-07	1925.	5.9743-04
3750.	2.9297+04	1.7910-07	1925.	3.4476-04
4050.	5.3373+04	3.1543-07	2625.	8.2800-04
4050.	6.6052+04	3.7087-07	2625.	9.7352-04
4050.	5.3373+04	3.1543-07	2625.	8.2800-04
4050.	2.8619+04	1.9969-07	2625.	5.2418-04
4350.	4.7675+04	2.7485-07	2275.	6.2528-04
4350.	5.7421+04	3.1689-07	2275.	7.2092-04
4350.	4.7675+04	2.7485-07	2275.	6.2528-04
4350.	2.7607+04	1.8322-07	2275.	4.1683-04
4650.	4.2769+04	2.3843-07	1925.	4.5899-04
4650.	5.0379+04	2.7062-07	1925.	5.2094-04
4650.	4.2769+04	2.3843-07	1925.	4.5899-04
4650.	2.6398+04	1.6578-07	1925.	3.1913-04
4950.	3.8533+04	2.4763-07	2625.	6.5002-04
4950.	4.4556+04	2.7561-07	2625.	7.2349-04
4950.	3.8533+04	2.4763-07	2625.	6.5002-04
4950.	2.5088+04	1.8186-07	2625.	4.7738-04
5250.	3.4860+04	2.5461-07	3325.	8.4657-04
5250.	3.9688+04	2.7912-07	3325.	9.2808-04
5250.	3.4860+04	2.5461-07	3325.	8.4657-04
5250.	2.3744+04	1.9510-07	3325.	6.4871-04
5550.	3.1663+04	2.4916-07	3675.	9.1565-04
5550.	3.5576+04	2.7013-07	3675.	9.9272-04
5550.	3.1663+04	2.4916-07	3675.	9.1565-04
5550.	2.2411+04	1.9698-07	3675.	7.2390-04
5850.	2.8867+04	2.1220-07	2975.	6.3130-04
5850.	3.2072+04	2.2859-07	2975.	6.8006-04
5850.	2.8867+04	2.1220-07	2975.	6.3130-04
5850.	2.1118+04	1.7082-07	2975.	5.0818-04
6150.	2.6412+04	2.0987-07	3325.	6.9781-04
6150.	2.9061+04	2.2419-07	3325.	7.4544-04
6150.	2.6412+04	2.0987-07	3325.	6.9781-04
6150.	1.9881+04	1.7300-07	3325.	5.7524-04

POWER = 1.9700+03 CURRENT = 1.1030+00

PMAX 3850. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

QXQT

```
 DISTANCE =      2.2 AU
VMULT =    1.00
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =         15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1325+05	0.0000	53.	0.0000
450.	7.8267+06	0.0000	53.	0.0000
450.	2.1325+05	0.0000	53.	0.0000
450.	2.1288+05	0.0000	53.	0.0000
750.	1.0860+05	0.0000	158.	0.0000
750.	3.1792+06	0.0000	156.	0.0000
750.	1.0860+05	0.0000	158.	0.0000
750.	7.6636+04	0.0000	158.	0.0000
1050.	1.6093+05	0.0000	110.	0.0000
1050.	1.7169+06	0.0000	110.	0.0000
1050.	1.6093+05	0.0000	110.	0.0000
1050.	3.9147+04	0.0000	110.	0.0000

1350.	2.1591+05	0.0000	22.	0.0000
1350.	1.0736+06	0.0000	22.	0.0000
1350.	2.1591+05	0.0000	22.	0.0000
1350.	2.4834+04	0.0000	22.	0.0000
1650.	2.3489+05	8.0015-07	525.	4.2008-04
1650.	7.3441+05	2.3689-06	525.	1.2437-03
1650.	2.3489+05	8.0015-07	525.	4.2008-04
1650.	2.2040+04	9.5853-08	525.	5.0323-05
1950.	2.2863+05	7.8011-07	525.	4.0956-04
1950.	5.3392+05	1.7439-06	525.	9.1557-04
1950.	2.2863+05	7.8011-07	525.	4.0956-04
1950.	2.6958+04	1.1373-07	525.	5.9709-05
2250.	2.1078+05	0.0000	175.	0.0000
2250.	4.0562+05	0.0000	175.	0.0000
2250.	2.1078+05	0.0000	175.	0.0000
2250.	3.5243+04	0.0000	175.	0.0000
2550.	1.8938+05	6.9505-07	875.	6.0817-04
2550.	3.1658+05	1.1197-06	875.	9.7969-04
2550.	1.8938+05	6.9505-07	875.	6.0817-04
2550.	4.3370+04	1.9131-07	875.	1.6740-04
2850.	1.6823+05	6.0567-07	700.	4.2368-04
2850.	2.5684+05	8.9478-07	700.	6.2593-04
2850.	1.6823+05	6.0567-07	700.	4.2368-04
2850.	4.9588+04	2.0399-07	700.	1.4270-04
3150.	1.4889+05	0.0000	350.	0.0000
3150.	2.1145+05	0.0000	350.	0.0000
3150.	1.4889+05	0.0000	350.	0.0000
3150.	5.3483+04	0.0000	350.	0.0000
3450.	1.3179+05	0.0000	350.	0.0000
3450.	1.7711+05	0.0000	350.	0.0000
3450.	1.3179+05	0.0000	350.	0.0000
3450.	5.5308+04	0.0000	350.	0.0000
3750.	1.1694+05	4.6569-07	1050.	4.8897-04
3750.	1.5050+05	5.8166-07	1050.	6.1074-04
3750.	1.1694+05	4.6569-07	1050.	4.8897-04
3750.	5.5528+04	2.4599-07	1050.	2.5829-04
4050.	1.0412+05	4.7191-07	1750.	8.2585-04
4050.	1.2948+05	5.6623-07	1750.	9.9090-04
4050.	1.0412+05	4.7191-07	1750.	8.2585-04
4050.	5.4609+04	2.7959-07	1750.	4.8928-04
4350.	9.3072+04	4.0673-07	1400.	5.6942-04
4350.	1.1256+05	4.7783-07	1400.	6.6896-04
4350.	9.3072+04	4.0673-07	1400.	5.6942-04
4350.	5.2937+04	2.5515-07	1400.	3.5721-04
4650.	8.3545+04	3.4788-07	1050.	3.6527-04
4650.	9.8764+04	4.0194-07	1050.	4.2204-04
4650.	8.3545+04	3.4788-07	1050.	3.6527-04
4650.	5.0802+04	2.2838-07	1050.	2.3980-04
4950.	7.5306+04	3.6175-07	1750.	6.3306-04
4950.	8.7354+04	4.0829-07	1750.	7.1451-04
4950.	7.5306+04	3.6175-07	1750.	6.3306-04
4950.	4.8416+04	2.5428-07	1750.	4.4499-04
5250.	6.8156+04	3.1363-07	1399.	4.3872-04
5250.	7.7812+04	3.5003-07	1399.	4.8963-04
5250.	6.8156+04	3.1363-07	1399.	4.3872-04
5250.	4.5924+04	2.2748-07	1399.	3.1820-04
5550.	6.1926+04	3.0901-07	1750.	5.4077-04
5550.	6.9753+04	3.4001-07	1750.	5.9502-04
5550.	6.1926+04	3.0901-07	1750.	5.4077-04
5550.	4.3423+04	2.3355-07	1750.	4.0871-04
5850.	5.6475+04	2.4950-07	1050.	2.6197-04
5850.	6.2685+04	2.7312-07	1050.	2.8677-04
5850.	5.6475+04	2.4950-07	1050.	2.6197-04
5850.	4.0976+04	1.9120-07	1050.	2.0076-04
6150.	5.1685+04	2.5025-07	1400.	3.5035-04
6150.	5.6983+04	2.7088-07	1400.	3.7923-04
6150.	5.1685+04	2.5025-07	1400.	3.5035-04
6150.	3.8622+04	1.9822-07	1400.	2.7750-04

POWER = 1.5006+03 CURRENT = 1.4778+00

PMAX 1925. VOLTS

BEAM POWER = 23100. WATTS

@XQT

ORIGINAL PAGE IS OF POOR QUALITY

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      6.65 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1313+05	0.0000	56.	0.0000
450.	5.2761+06	0.0000	56.	0.0000
450.	2.1313+05	0.0000	56.	0.0000
450.	2.1286+05	0.0000	56.	0.0000
750.	9.7689+04	0.0000	168.	0.0000
750.	2.1396+06	0.0000	168.	0.0000
750.	9.7689+04	0.0000	168.	0.0000
750.	7.6636+04	0.0000	168.	0.0000
1050.	1.2012+05	0.0000	117.	0.0000
1050.	1.1548+06	0.0000	117.	0.0000
1050.	1.2012+05	0.0000	117.	0.0000
1050.	3.9131+04	0.0000	117.	0.0000

1350.	1.5150+05	0.0000	23.	0.0000
1350.	7.2184+05	0.0000	23.	0.0000
1350.	1.5150+05	0.0000	23.	0.0000
1350.	2.4438+04	0.0000	23.	0.0000
1650.	1.6151+05	5.6763-07	556.	3.1589-04
1650.	4.9368+05	1.6243-06	556.	9.0391-04
1650.	1.6151+05	5.6763-07	556.	3.1589-04
1650.	1.9961+04	8.9462-08	556.	4.9786-05
1950.	1.5584+05	5.4918-07	557.	3.0562-04
1950.	3.5886+05	1.1993-06	557.	6.6741-04
1950.	1.5584+05	5.4918-07	557.	3.0562-04
1950.	2.1725+04	9.6024-08	557.	5.3437-05
2250.	1.4302+05	0.0000	185.	0.0000
2250.	2.7259+05	0.0000	185.	0.0000
2250.	1.4302+05	0.0000	185.	0.0000
2250.	2.6289+04	0.0000	185.	0.0000
2550.	1.2816+05	4.9388-07	927.	4.5808-04
2550.	2.1408+05	7.8317-07	927.	7.2639-04
2550.	1.2816+05	4.9388-07	927.	4.5808-04
2550.	3.1062+04	1.4736-07	927.	1.3668-04
2850.	1.1365+05	4.2796-07	742.	3.1733-04
2850.	1.7257+05	6.2460-07	742.	4.6314-04
2850.	1.1365+05	4.2796-07	742.	3.1733-04
2850.	3.4754+04	1.5264-07	742.	1.1319-04
3150.	1.0046+05	0.0000	371.	0.0000
3150.	1.4207+05	0.0000	371.	0.0000
3150.	1.0046+05	0.0000	371.	0.0000
3150.	3.7022+04	0.0000	371.	0.0000
3450.	8.8856+04	0.0000	371.	0.0000
3450.	1.1899+05	0.0000	371.	0.0000
3450.	8.8856+04	0.0000	371.	0.0000
3450.	3.7993+04	0.0000	371.	0.0000
3750.	7.8791+04	3.3509-07	1113.	3.7295-04
3750.	1.0111+05	4.1505-07	1113.	4.6195-04
3750.	7.8791+04	3.3509-07	1113.	3.7295-04
3750.	3.7953+04	1.8254-07	1113.	2.0316-04
4050.	7.0119+04	3.4734-07	1855.	6.4431-04
4050.	8.6982+04	4.1342-07	1855.	7.6690-04
4050.	7.0119+04	3.4734-07	1855.	6.4431-04
4050.	3.7196+04	2.1149-07	1855.	3.9231-04
4350.	6.2656+04	2.9743-07	1484.	4.4139-04
4350.	7.5619+04	3.4705-07	1484.	5.1502-04
4350.	6.2656+04	2.9743-07	1484.	4.4139-04
4350.	3.5966+04	1.9095-07	1484.	2.8337-04
4650.	5.6225+04	2.5216-07	1113.	2.8066-04
4650.	6.6346+04	2.8968-07	1113.	3.2241-04
4650.	5.6225+04	2.5216-07	1113.	2.8066-04
4650.	3.4451+04	1.6880-07	1113.	1.8788-04
4950.	5.0668+04	2.6853-07	1855.	4.9813-04
4950.	5.8679+04	3.0140-07	1855.	5.5910-04
4950.	5.0668+04	2.6853-07	1855.	4.9813-04
4950.	3.2786+04	1.9217-07	1855.	3.5648-04
5250.	4.5648+04	2.3120-07	1483.	3.4281-04
5250.	5.2269+04	2.5678-07	1483.	3.8074-04
5250.	4.5848+04	2.3120-07	1483.	3.4281-04
5250.	3.1064+04	1.7035-07	1483.	2.5258-04
5550.	4.1650+04	2.3064-07	1855.	4.2784-04
5550.	4.6855+04	2.5264-07	1855.	4.6865-04
5550.	4.1650+04	2.3064-07	1855.	4.2784-04
5550.	2.9345+04	1.7681-07	1855.	3.2798-04
5850.	3.7978+04	1.8263-07	1113.	2.0327-04
5850.	4.2240+04	1.9915-07	1113.	2.2165-04
5850.	3.7978+04	1.8263-07	1113.	2.0327-04
5850.	2.7671+04	1.4170-07	1113.	1.5771-04
6150.	3.4752+04	1.8590-07	1484.	2.7587-04
6150.	3.8275+04	2.0049-07	1484.	2.9752-04
6150.	3.4752+04	1.8590-07	1484.	2.7587-04
6150.	2.6065+04	1.4894-07	1484.	2.2103-04

POWER = 1.1555+03 CURRENT = 1.0629+00

PMAX 2040. VOLTS
BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV. CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =    20
NUMBER OF THRUSTERS =     4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.4217+05	0.0000	56.	0.0000
450.	5.2178+06	0.0000	56.	0.0000
450.	1.4217+05	0.0000	56.	0.0000
450.	1.4192+05	0.0000	56.	0.0000
750.	7.2397+04	0.0000	166.	0.0000
750.	2.1194+06	0.0000	166.	0.0000
750.	7.2397+04	0.0000	166.	0.0000
750.	5.1091+04	0.0000	166.	0.0000
1050.	1.0729+05	0.0000	117.	0.0000
1050.	1.1446+06	0.0000	117.	0.0000
1050.	1.0729+05	0.0000	117.	0.0000
1050.	2.6098+04	0.0000	117.	0.0000

1350.	1.4394+05	0.0000	23.	0.0000
1350.	7.1570+05	0.0000	23.	0.0000
1350.	1.4394+05	0.0000	23.	0.0000
1350.	1.6556+04	0.0000	23.	0.0000
1650.	1.5660+05	5.5165-07	556.	3.0699-04
1650.	4.8960+05	1.6115-06	556.	8.9678-04
1650.	1.5660+05	5.5165-07	556.	3.0699-04
1650.	1.4693+04	6.9482-08	556.	3.8667-05
1950.	1.5242+05	5.3804-07	557.	2.9942-04
1950.	3.5595+05	1.1901-06	557.	6.6228-04
1950.	1.5242+05	5.3804-07	557.	2.9942-04
1950.	1.7972+04	8.1992-08	557.	4.5629-05
2250.	1.4052+05	0.0000	185.	0.0000
2250.	2.7042+05	0.0000	185.	0.0000
2250.	1.4052+05	0.0000	185.	0.0000
2250.	2.3495+04	0.0000	185.	0.0000
2550.	1.2625+05	4.8736-07	927.	4.5203-04
2550.	2.1239+05	7.7755-07	927.	7.2118-04
2550.	1.2625+05	4.8736-07	927.	4.5203-04
2550.	2.8913+04	1.3902-07	927.	1.2894-04
2850.	1.1216+05	4.2290-07	742.	3.1358-04
2850.	1.7122+05	6.2014-07	742.	4.5984-04
2850.	1.1216+05	4.2290-07	742.	3.1358-04
2850.	3.3058+04	1.4637-07	742.	1.0853-04
3150.	9.9256+04	0.0000	371.	0.0000
3150.	1.4096+05	0.0000	371.	0.0000
3150.	9.9256+04	0.0000	371.	0.0000
3150.	3.5655+04	0.0000	371.	0.0000
3450.	8.7863+04	0.0000	371.	0.0000
3450.	1.1807+05	0.0000	371.	0.0000
3450.	8.7863+04	0.0000	371.	0.0000
3450.	3.6872+04	0.0000	371.	0.0000
3750.	7.7959+04	3.3207-07	1113.	3.6960-04
3750.	1.0034+05	4.1229-07	1113.	4.5888-04
3750.	7.7959+04	3.3207-07	1113.	3.6960-04
3750.	3.7019+04	1.7889-07	1113.	1.9910-04
4050.	6.9412+04	3.4453-07	1855.	6.3910-04
4050.	8.6317+04	4.1086-07	1855.	7.6212-04
4050.	6.9412+04	3.4453-07	1855.	6.3910-04
4050.	3.6406+04	2.0806-07	1855.	3.8595-04
4350.	6.2048+04	2.9508-07	1484.	4.3790-04
4350.	7.5043+04	3.4487-07	1484.	5.1178-04
4350.	6.2048+04	2.9508-07	1484.	4.3790-04
4350.	3.5291+04	1.8814-07	1484.	2.7920-04
4650.	5.5696+04	2.5019-07	1113.	2.7846-04
4650.	6.5842+04	2.8783-07	1113.	3.2035-04
4650.	5.5696+04	2.5019-07	1113.	2.7846-04
4650.	3.3668+04	1.6650-07	1113.	1.8531-04
4950.	5.0204+04	2.6661-07	1855.	4.9456-04
4950.	5.8236+04	2.9960-07	1855.	5.5575-04
4950.	5.0204+04	2.6661-07	1855.	4.9456-04
4950.	3.2276+04	1.8992-07	1855.	3.5230-04
5250.	4.5437+04	2.2955-07	1483.	3.4037-04
5250.	5.1875+04	2.5522-07	1483.	3.7842-04
5250.	4.5437+04	2.2955-07	1483.	3.4037-04
5250.	3.0616+04	1.6845-07	1483.	2.4977-04
5550.	4.1284+04	2.2908-07	1855.	4.2494-04
5550.	4.6502+04	2.5116-07	1855.	4.6591-04
5550.	4.1284+04	2.2908-07	1855.	4.2494-04
5550.	2.8949+04	1.7502-07	1855.	3.2466-04
5850.	3.7650+04	1.8135-07	1113.	2.0184-04
5850.	4.1923+04	1.9793-07	1113.	2.2029-04
5850.	3.7650+04	1.8135-07	1113.	2.0184-04
5850.	2.7317+04	1.4026-07	1113.	1.5611-04
6150.	3.4457+04	1.6467-07	1484.	2.7404-04
6150.	3.7988+04	1.9931-07	1484.	2.9577-04
6150.	3.4457+04	1.8467-07	1484.	2.7404-04
6150.	2.5748+04	1.4756-07	1484.	2.1898-04

POWER = 1.1429+03 CURRENT = 1.0490+00

PMAX 2040. VOLTS

BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =    3.4 AU
VMULT =    1.14
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      5.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =     1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1675.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.4204+05	0.0000	60.	0.0000
450.	2.6799+06	0.0000	60.	0.0000
450.	1.4204+05	0.0000	60.	0.0000
450.	1.4192+05	0.0000	60.	0.0000
750.	6.1744+04	0.0000	160.	0.0000
750.	1.0853+06	0.0000	160.	0.0000
750.	6.1744+04	0.0000	160.	0.0000
750.	5.1091+04	0.0000	160.	0.0000
1050.	6.6678+04	0.0000	126.	0.0000
1050.	5.8532+05	0.0000	126.	0.0000
1050.	6.6678+04	0.0000	126.	0.0000
1050.	2.6082+04	0.0000	126.	0.0000

1350.	7.9853+04	0.0000	25.	0.0000
1350.	3.6574+05	0.0000	25.	0.0000
1350.	7.9853+04	0.0000	25.	0.0000
1350.	1.6162+04	0.0000	25.	0.0000
1650.	8.3576+04	3.1425-07	598.	1.8808-04
1650.	2.5008+05	8.5909-07	598.	5.1416-04
1650.	8.3576+04	3.1425-07	598.	1.8808-04
1650.	1.2625+04	6.2757-08	598.	3.7560-05
1950.	7.9989+04	3.0213-07	599.	1.8082-04
1950.	1.8175+05	6.3836-07	599.	3.8206-04
1950.	7.9989+04	3.0213-07	599.	1.8082-04
1950.	1.2765+04	6.3315-08	599.	3.7894-05
2250.	7.3099+04	0.0000	199.	0.0000
2250.	1.3805+05	0.0000	199.	0.0000
2250.	7.3099+04	0.0000	199.	0.0000
2250.	1.4586+04	0.0000	199.	0.0000
2550.	6.5336+04	2.7882-07	997.	2.7812-04
2550.	1.0840+05	4.3164-07	997.	4.3056-04
2550.	6.5336+04	2.7882-07	997.	2.7812-04
2550.	1.6667+04	9.1982-08	997.	9.1753-05
2850.	5.7847+04	2.3936-07	797.	1.9088-04
2850.	8.7381+04	3.4288-07	797.	2.7343-04
2850.	5.7847+04	2.3936-07	797.	1.9088-04
2850.	1.8298+04	9.2053-08	797.	7.3409-05
3150.	5.1077+04	0.0000	399.	0.0000
3150.	7.1930+04	0.0000	399.	0.0000
3150.	5.1077+04	0.0000	399.	0.0000
3150.	1.9276+04	0.0000	399.	0.0000
3450.	4.5139+04	0.0000	399.	0.0000
3450.	6.0243+04	0.0000	399.	0.0000
3450.	4.5139+04	0.0000	399.	0.0000
3450.	1.9643+04	0.0000	399.	0.0000
3750.	4.0002+04	1.9947-07	1197.	2.3279-04
3750.	5.1190+04	2.3776-07	1197.	2.8459-04
3750.	4.0002+04	1.9947-07	1197.	2.3279-04
3750.	1.9531+04	1.1071-07	1197.	1.3252-04
4050.	3.5582+04	2.0997-07	1995.	4.1888-04
4050.	4.4035+04	2.4689-07	1995.	4.9254-04
4050.	3.5582+04	2.0997-07	1995.	4.1888-04
4050.	1.9079+04	1.3289-07	1995.	2.6511-04
4350.	3.1783+04	1.7784-07	1596.	2.8383-04
4350.	3.8281+04	2.0534-07	1596.	3.2772-04
4350.	3.1783+04	1.7784-07	1596.	2.8383-04
4350.	1.8405+04	1.1804-07	1596.	1.8840-04
4650.	2.8513+04	1.4846-07	1197.	1.7771-04
4650.	3.3586+04	1.6902-07	1197.	2.0232-04
4650.	2.8513+04	1.4846-07	1197.	1.7771-04
4650.	1.7599+04	1.0228-07	1197.	1.2243-04
4950.	2.5688+04	1.6461-07	1995.	3.2880-04
4950.	2.9704+04	1.8345-07	1995.	3.6598-04
4950.	2.5688+04	1.6481-07	1995.	3.2880-04
4950.	1.6725+04	1.2102-07	1995.	2.4143-04
5250.	2.3240+04	1.4025-07	1595.	2.2365-04
5250.	2.6459+04	1.5462-07	1595.	2.4656-04
5250.	2.3240+04	1.4025-07	1595.	2.2365-04
5250.	1.5829+04	1.0573-07	1595.	1.6860-04
5550.	2.1109+04	1.4289-07	1995.	2.8506-04
5550.	2.3718+04	1.5548-07	1995.	3.1018-04
5550.	2.1109+04	1.4289-07	1995.	2.8506-04
5550.	1.4941+04	1.1179-07	1995.	2.2302-04
5850.	1.9245+04	1.0947-07	1197.	1.3104-04
5850.	2.1381+04	1.1867-07	1197.	1.4204-04
5850.	1.9245+04	1.0947-07	1197.	1.3104-04
5850.	1.4079+04	8.6510-08	1197.	1.0355-04
6150.	1.7608+04	1.1428-07	1596.	1.8239-04
6150.	1.9374+04	1.2258-07	1596.	1.9563-04
6150.	1.7608+04	1.1428-07	1596.	1.8239-04
6150.	1.3254+04	9.3100-08	1596.	1.4859-04

POWER = 7.3237+02 CURRENT = 6.1392-01

PMAX 2194. VOLTS
BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.1084+04	0.0000	60.	0.0000
450.	2.6089+06	0.0000	60.	0.0000
450.	7.1084+04	0.0000	60.	0.0000
450.	7.0959+04	0.0000	60.	0.0000
750.	3.6199+04	0.0000	180.	0.0000
750.	1.0597+06	0.0000	180.	0.0000
750.	3.6199+04	0.0000	180.	0.0000
750.	2.5545+04	0.0000	180.	0.0000
1050.	5.3645+04	0.0000	126.	0.0000
1050.	5.7229+05	0.0000	126.	0.0000
1050.	5.3645+04	0.0000	126.	0.0000
1050.	1.3049+04	0.0000	126.	0.0000

1350.	7.1969+04	0.0000	25.	0.0000
1350.	3.5785+05	0.0000	25.	0.0000
1350.	7.1969+04	0.0000	25.	0.0000
1350.	8.2778+03	0.0000	25.	0.0000
1650.	7.8298+04	2.9640-07	598.	1.7740-04
1650.	2.4480+05	8.4212-07	598.	5.0401-04
1650.	7.8298+04	2.9640-07	598.	1.7740-04
1650.	7.3467+03	4.1045-08	598.	2.4565-05
1950.	7.6210+04	2.8932-07	599.	1.7316-04
1950.	1.7797+05	6.2607-07	599.	3.7470-04
1950.	7.6210+04	2.8932-07	599.	1.7316-04
1950.	8.9861+03	4.7968-08	599.	2.8709-05
2250.	7.0260+04	0.0000	199.	0.0000
2250.	1.3521+05	0.0000	199.	0.0000
2250.	7.0260+04	0.0000	199.	0.0000
2250.	1.1748+04	0.0000	199.	0.0000
2550.	6.3126+04	2.7078-07	997.	2.7011-04
2550.	1.0619+05	4.2393-07	997.	4.2287-04
2550.	6.3126+04	2.7078-07	997.	2.7011-04
2550.	1.4457+04	6.2481-08	997.	8.2275-05
2850.	5.6078+04	2.3305-07	797.	1.8585-04
2850.	8.5612+04	3.3676-07	797.	2.6855-04
2850.	5.6078+04	2.3305-07	797.	1.8585-04
2850.	1.6529+04	8.4912-08	797.	6.7715-05
3150.	4.9629+04	0.0000	399.	0.0000
3150.	7.0482+04	0.0000	399.	0.0000
3150.	4.9629+04	0.0000	399.	0.0000
3150.	1.7828+04	0.0000	399.	0.0000
3450.	4.3931+04	0.0000	399.	0.0000
3450.	5.9036+04	0.0000	399.	0.0000
3450.	4.3931+04	0.0000	399.	0.0000
3450.	1.8436+04	0.0000	399.	0.0000
3750.	3.8980+04	1.9046-07	1197.	2.2798-04
3750.	5.0168+04	2.3385-07	1197.	2.7992-04
3750.	3.8980+04	1.9046-07	1197.	2.2798-04
3750.	1.8509+04	1.0627-07	1197.	1.2721-04
4050.	3.4706+04	2.0606-07	1995.	4.1110-04
4050.	4.3158+04	2.4311-07	1995.	4.8501-04
4050.	3.4706+04	2.0606-07	1995.	4.1110-04
4050.	1.8203+04	1.2851-07	1995.	2.5637-04
4350.	3.1024+04	1.7457-07	1596.	2.7862-04
4350.	3.7522+04	2.0216-07	1596.	3.2265-04
4350.	3.1024+04	1.7457-07	1596.	2.7862-04
4350.	1.7646+04	1.1446-07	1596.	1.8268-04
4650.	2.7848+04	1.4573-07	1197.	1.7444-04
4650.	3.2921+04	1.6636-07	1197.	1.9913-04
4650.	2.7848+04	1.4573-07	1197.	1.7444-04
4650.	1.6934+04	9.9345-08	1197.	1.1892-04
4950.	2.5102+04	1.6205-07	1995.	3.2329-04
4950.	2.9118+04	1.8076-07	1995.	3.6061-04
4950.	2.5102+04	1.6205-07	1995.	3.2329-04
4950.	1.6139+04	1.1801-07	1995.	2.3543-04
5250.	2.2719+04	1.3789-07	1595.	2.1989-04
5250.	2.5937+04	1.5231-07	1595.	2.4288-04
5250.	2.2719+04	1.3789-07	1595.	2.1989-04
5250.	1.5308+04	1.0320-07	1595.	1.6457-04
5550.	2.0642+04	1.4061-07	1995.	2.8051-04
5550.	2.3251+04	1.5325-07	1995.	3.0573-04
5550.	2.0642+04	1.4061-07	1995.	2.8051-04
5550.	1.4474+04	1.0934-07	1995.	2.1813-04
5850.	1.8825+04	1.0765-07	1197.	1.2885-04
5850.	2.0962+04	1.1687-07	1197.	1.3989-04
5850.	1.8625+04	1.0765-07	1197.	1.2885-04
5850.	1.3659+04	8.4587-08	1197.	1.0125-04
6150.	1.7228+04	1.1248-07	1596.	1.7951-04
6150.	1.8994+04	1.2081-07	1596.	1.9280-04
6150.	1.7228+04	1.1248-07	1596.	1.7951-04
6150.	1.2874+04	9.1192-08	1596.	1.4554-04

POWER = 7.1481+02 CURRENT = 5.9663-01

PMAX 2194. VOLTS
BEAM POWER = 6778. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

6XQT

```
 DISTANCE =     4.5 AU
VMULT =    1.19
BCURR =     1.3 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =      6.25 MILLIAMPS
ION TEMP    =    10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =     5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL =IDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.1037+04	0.0000	63.	0.0000
450.	1.6572+06	0.0000	63.	0.0000
450.	7.1037+04	0.0000	63.	0.0000
450.	7.0959+04	0.0000	63.	0.0000
750.	3.2204+04	0.0000	188.	0.0000
750.	6.7191+05	0.0000	188.	0.0000
750.	3.2204+04	0.0000	188.	0.0000
750.	2.5545+04	0.0000	188.	0.0000
1050.	3.8415+04	0.0000	131.	0.0000
1050.	3.6257+05	0.0000	131.	0.0000
1050.	3.8415+04	0.0000	131.	0.0000
1050.	1.3043+04	0.0000	131.	0.0000

1350.	4.7937+04	0.0000	26.	0.0000
1350.	2.2661+05	0.0000	26.	0.0000
1350.	4.7937+04	0.0000	26.	0.0000
1350.	8.1303+03	0.0000	26.	0.0000
1650.	5.0915+04	2.0411-07	625.	1.2752-04
1650.	1.5498+05	5.5390-07	625.	3.4606-04
1650.	5.0915+04	2.0411-07	625.	1.2752-04
1650.	6.5709+03	3.8280-08	625.	2.3915-05
1950.	4.9049+04	1.9757-07	625.	1.2343-04
1950.	1.1265+05	4.1399-07	625.	2.5864-04
1950.	4.9049+04	1.9757-07	625.	1.2343-04
1950.	7.0334+03	4.0307-08	625.	2.5182-05
2250.	4.4977+04	0.0000	208.	0.0000
2250.	8.5569+04	0.0000	208.	0.0000
2250.	4.4977+04	0.0000	208.	0.0000
2250.	8.4067+03	0.0000	208.	0.0000
2550.	4.0283+04	1.8812-07	1041.	1.9588-04
2550.	6.7200+04	2.6834-07	1041.	3.0024-04
2550.	4.0283+04	1.8812-07	1041.	1.9588-04
2550.	9.8641+03	6.2981-08	1041.	6.5578-05
2850.	3.5712+04	1.6065-07	832.	1.3374-04
2850.	5.4171+04	2.2832-07	832.	1.9007-04
2850.	3.5712+04	1.6065-07	832.	1.3374-04
2850.	1.0994+04	6.2763-08	832.	5.2247-05
3150.	3.1561+04	0.0000	416.	0.0000
3150.	4.4594+04	0.0000	416.	0.0000
3150.	3.1561+04	0.0000	416.	0.0000
3150.	1.1685+04	0.0000	416.	0.0000
3450.	2.7910+04	0.0000	416.	0.0000
3450.	3.7350+04	0.0000	416.	0.0000
3450.	2.7910+04	0.0000	416.	0.0000
3450.	1.1975+04	0.0000	416.	0.0000
3750.	2.4746+04	1.3480-07	1249.	1.6843-04
3750.	3.1738+04	1.6377-07	1249.	2.0463-04
3750.	2.4746+04	1.3480-07	1249.	1.6843-04
3750.	1.1952+04	7.7997-08	1249.	9.7457-05
4050.	2.2020+04	1.4998-07	2082.	3.1234-04
4050.	2.7303+04	1.7533-07	2082.	3.6512-04
4050.	2.2020+04	1.4998-07	2082.	3.1234-04
4050.	1.1705+04	9.6348-08	2082.	2.0064-04
4350.	1.9675+04	1.2611-07	1666.	2.1010-04
4350.	2.3736+04	1.4487-07	1666.	2.4135-04
4350.	1.9675+04	1.2611-07	1666.	2.1010-04
4350.	1.1313+04	8.4844-08	1666.	1.4135-04
4650.	1.7654+04	1.0415-07	1249.	1.3014-04
4650.	2.0825+04	1.1805-07	1249.	1.4751-04
4650.	1.7654+04	1.0415-07	1249.	1.3014-04
4650.	1.0833+04	7.2626-08	1249.	9.0746-05
4950.	1.5909+04	1.1909-07	2082.	2.4800-04
4950.	1.8419+04	1.3203-07	2082.	2.7495-04
4950.	1.5909+04	1.1909-07	2082.	2.4800-04
4950.	1.0307+04	8.8383-08	2082.	1.8406-04
5250.	1.4395+04	1.0055-07	1665.	1.6738-04
5250.	1.6406+04	1.1045-07	1665.	1.8366-04
5250.	1.4395+04	1.0055-07	1665.	1.6738-04
5250.	9.7631+03	7.6555-08	1665.	1.2743-04
5550.	1.3076+04	1.0394-07	2082.	2.1645-04
5550.	1.4707+04	1.1274-07	2082.	2.3478-04
5550.	1.3076+04	1.0394-07	2082.	2.1645-04
5550.	9.2214+03	8.2023-08	2082.	1.7081-04
5850.	1.1923+04	7.7861-08	1249.	9.7287-05
5850.	1.3258+04	8.4155-08	1249.	1.0515-04
5850.	1.1923+04	7.7861-08	1249.	9.7267-05
5850.	8.6941+03	6.2040-08	1249.	7.7519-05
6150.	1.0910+04	8.2722-08	1666.	1.3782-04
6150.	1.2014+04	8.6495-08	1666.	1.4743-04
6150.	1.0910+04	8.2722-08	1666.	1.3782-04
6150.	8.1887+03	6.7868-08	1666.	1.1310-04

POWER = 5.3441+02 CURRENT = 4.2161-01

PMAX 2291. VOLTS

BEAM POWER = 5727. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.9

ORIGINAL PAGE IS
OF POOR QUALITY

210
n
[illegible]

PRECEDING PAGE BLANK NOT FILMED

```
 DISTANCE =     1.0 AU
VMULT =    1.00
BCURR =     2.5 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED    .     .10
RBEAM =        15.0 CM    ZEMIT =    20.0 CM
EQUIV CURRENT =     12.50 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.2669+05	1.2994-06	53.	6.8523-05
450.	1.9460+07	5.8349-05	53.	3.0770-03
450.	4.2669+05	1.2994-06	53.	6.8523-05
450.	4.2575+05	1.2966-06	53.	6.8374-05
750.	2.3317+05	7.3685-07	158.	1.1657-04
750.	7.9096+06	2.3882-05	158.	3.7782-03
750.	2.3317+05	7.3685-07	158.	1.1657-04
750.	1.5327+05	4.9043-07	158.	7.7588-05
1050.	3.8278+05	1.1833-06	110.	1.3030-04
1050.	4.2726+06	1.2905-05	110.	1.4211-03
1050.	3.8278+05	1.1833-06	110.	1.3030-04
1050.	7.8316+04	2.5168-07	110.	2.7713-05
1350.	5.2794+05	1.5922-06	22.	3.5066-05
1350.	2.6721+06	8.0205-06	22.	1.7663-04
1350.	5.2794+05	1.5922-06	22.	3.5066-05
1350.	5.0257+04	1.5447-07	22.	3.4019-06

ORIGINAL PAGE IS
FOLDOUT FRAME
OF POOR QUALITY

1650.	5.7932+05	1.8516-06	375.	6.9434-04
1650.	1.8281+06	5.6783-06	375.	2.1294-03
1650.	5.7932+05	1.8516-06	375.	6.9434-04
1650.	4.7184+04	1.7513-07	375.	6.5675-05
1950.	5.6591+05	1.8101-06	375.	6.7878-04
1950.	1.3291+06	4.1551-06	375.	1.5582-03
1950.	5.6591+05	1.8101-06	375.	6.7878-04
1950.	6.1727+04	2.2352-07	375.	8.3819-05
2250.	5.2270+05	1.6127-06	125.	2.0158-04
2250.	1.0098+06	3.0886-06	125.	3.8607-04
2250.	5.2270+05	1.6127-06	125.	2.0158-04
2250.	8.3850+04	2.7064-07	125.	3.3830-05
2550.	4.7013+05	1.5634-06	625.	9.7714-04
2550.	7.9315+05	2.5764-06	625.	1.6103-03
2550.	4.7013+05	1.5634-06	625.	9.7714-04
2550.	1.0511+05	3.8884-07	625.	2.4303-04
2850.	4.1793+05	1.4807-06	1125.	1.6658-03
2850.	6.3943+05	2.1977-06	1125.	2.4725-03
2850.	4.1793+05	1.4807-06	1125.	1.6658-03
2850.	1.2132+05	4.8720-07	1125.	5.4810-04
3150.	3.7004+05	1.2865-06	875.	1.1257-03
3150.	5.2644+05	1.7889-06	875.	1.5653-03
3150.	3.7004+05	1.2865-06	875.	1.1257-03
3150.	1.3154+05	5.0064-07	875.	4.3806-04
3450.	3.2767+05	1.1492-06	875.	1.0055-03
3450.	4.4096+05	1.5151-06	875.	1.3257-03
3450.	3.2767+05	1.1492-06	875.	1.0055-03
3450.	1.3646+05	5.1735-07	875.	4.5268-04
3750.	2.9082+05	1.0936-06	1375.	1.5036-03
3750.	3.7473+05	1.3748-06	1375.	1.8903-03
3750.	2.9082+05	1.0936-06	1375.	1.5036-03
3750.	1.3729+05	5.6440-07	1375.	7.7606-04
4050.	2.5898+05	1.0411-06	1875.	1.9521-03
4050.	3.2237+05	1.2615-06	1875.	2.3654-03
4050.	2.5898+05	1.0411-06	1875.	1.9521-03
4050.	1.3521+05	5.9701-07	1875.	1.1194-03
4350.	2.3154+05	9.1887-07	1625.	1.4932-03
4350.	2.8027+05	1.0873-06	1625.	1.7668-03
4350.	2.3154+05	9.1887-07	1625.	1.4932-03
4350.	1.3120+05	5.6284-07	1625.	9.1461-04
4650.	2.0787+05	8.1091-07	1375.	1.1150-03
4650.	2.4591+05	9.4128-07	1375.	1.2943-03
4650.	2.0787+05	8.1091-07	1375.	1.1150-03
4650.	1.2601+05	5.2422-07	1375.	7.2080-04
4950.	1.8739+05	7.8719-07	1875.	1.4760-03
4950.	2.1750+05	8.9480-07	1875.	1.6777-03
4950.	1.8739+05	7.8719-07	1875.	1.4760-03
4950.	1.2016+05	5.4098-07	1875.	1.0143-03
5250.	1.6961+05	7.6487-07	2375.	1.8166-03
5250.	1.9375+05	8.5478-07	2375.	2.0301-03
5250.	1.6961+05	7.6487-07	2375.	1.8166-03
5250.	1.1403+05	5.5227-07	2375.	1.3116-03
5550.	1.5412+05	7.2564-07	2625.	1.9048-03
5550.	1.7368+05	8.0046-07	2625.	2.1012-03
5550.	1.5412+05	7.2564-07	2625.	1.9048-03
5550.	1.0786+05	5.4404-07	2625.	1.4281-03
5850.	1.4056+05	6.3612-07	2125.	1.3518-03
5850.	1.5658+05	6.9600-07	2125.	1.4790-03
5850.	1.4056+05	6.3612-07	2125.	1.3518-03
5850.	1.0181+05	4.8811-07	2125.	1.0372-03
6150.	1.2864+05	6.0910-07	2375.	1.4466-03
6150.	1.4189+05	6.5998-07	2375.	1.5674-03
6150.	1.2864+05	6.0910-07	2375.	1.4466-03
6150.	9.5984+04	4.8088-07	2375.	1.1421-03

POWER = 5.3218+03 CURRENT = 1.1295+01

PMAX 2750. VOLTS
BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      5.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.21 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.2613+05	1.3020-06	66.	8.5824-05
450.	8.0396+06	2.4161-05	66.	1.5926-03
450.	4.2613+05	1.3020-06	66.	8.5824-05
450.	4.2575+05	1.3009-06	66.	8.5750-05
750.	1.8523+05	5.9562-07	198.	1.1779-04
750.	3.2558+06	9.9105-06	198.	1.9598-03
750.	1.8523+05	5.9562-07	198.	1.1779-04
750.	1.5327+05	4.9628-07	198.	9.8142-05
1050.	2.0003+05	6.3120-07	138.	8.6880-05
1050.	1.7560+06	5.3486-06	138.	7.3620-04
1050.	2.0003+05	6.3120-07	138.	8.6880-05
1050.	7.8246+04	2.5465-07	138.	3.5050-05
1350.	2.3956+05	7.2715-07	28.	2.0017-05
1350.	1.0972+06	3.3040-06	28.	9.0955-05
1350.	2.3956+05	7.2715-07	28.	2.0017-05
1350.	4.8487+04	1.4985-07	26.	4.1252-06

1650.	2.5073+05	8.4250-07	469.	3.9492-04
1650.	7.5024+05	2.4039-06	469.	1.1268-03
1650.	2.5073+05	8.4250-07	469.	3.9492-04
1650.	3.7874+04	1.4931-07	469.	6.9990-05
1950.	2.3997+05	8.0832-07	469.	3.7890-04
1950.	5.4526+05	1.7673-06	469.	8.2840-04
1950.	2.3997+05	8.0832-07	469.	3.7890-04
1950.	3.8295+04	1.5077-07	469.	7.0673-05
2250.	2.1930+05	6.9380-07	156.	1.0841-04
2250.	4.1414+05	1.2907-06	156.	2.0167-04
2250.	2.1930+05	6.9380-07	156.	1.0841-04
2250.	4.3758+04	1.4785-07	156.	2.3101-05
2550.	1.9601+05	7.0644-07	781.	5.5190-04
2550.	3.2521+05	1.1275-06	781.	8.8082-04
2550.	1.9601+05	7.0644-07	781.	5.5190-04
2550.	5.0000+04	2.1028-07	781.	1.6428-04
2850.	1.7354+05	6.9488-07	1406.	9.7717-04
2850.	2.6214+05	1.0001-06	1406.	1.4064-03
2850.	1.7354+05	6.9488-07	1406.	9.7717-04
2850.	5.4895+04	2.6311-07	1406.	3.6999-04
3150.	1.5323+05	5.9512-07	1094.	6.5092-04
3150.	2.1579+05	8.0776-07	1094.	8.8348-04
3150.	1.5323+05	5.9512-07	1094.	6.5092-04
3150.	5.7828+04	2.5704-07	1094.	2.8114-04
3450.	1.3542+05	5.3365-07	1094.	5.8368-04
3450.	1.8073+05	6.8913-07	1094.	7.5374-04
3450.	1.3542+05	5.3365-07	1094.	5.8368-04
3450.	5.8930+04	2.6113-07	1094.	2.8561-04
3750.	1.2000+05	5.2892-07	1719.	9.0908-04
3750.	1.5357+05	6.5161-07	1719.	1.1200-03
3750.	1.2000+05	5.2892-07	1719.	9.0908-04
3750.	5.8594+04	2.9405-07	1719.	5.0541-04
4050.	1.0675+05	5.2162-07	2344.	1.2225-03
4050.	1.3210+05	6.2020-07	2344.	1.4536-03
4050.	1.0675+05	5.2162-07	2344.	1.2225-03
4050.	5.7238+04	3.1938-07	2344.	7.4854-04
4350.	9.5350+04	4.5696-07	2031.	9.2820-04
4350.	1.1484+05	5.3200-07	2031.	1.0806-03
4350.	9.5350+04	4.5696-07	2031.	9.2820-04
4350.	5.5215+04	2.9587-07	2031.	6.0099-04
4650.	8.5538+04	3.9937-07	1719.	6.8642-04
4650.	1.0076+05	4.5713-07	1719.	7.8569-04
4650.	8.5538+04	3.9937-07	1719.	6.8642-04
4650.	5.2796+04	2.7068-07	1719.	4.6524-04
4950.	7.7065+04	4.0244-07	2344.	9.4321-04
4950.	8.9113+04	4.5142-07	2344.	1.0580-03
4950.	7.7065+04	4.0244-07	2344.	9.4321-04
4950.	5.0176+04	2.8882-07	2344.	6.7692-04
5250.	6.9720+04	4.0380-07	2969.	1.1988-03
5250.	7.9376+04	4.4577-07	2969.	1.3234-03
5250.	6.9720+04	4.0380-07	2969.	1.1988-03
5250.	4.7488+04	3.0320-07	2969.	9.0014-04
5550.	6.3326+04	3.9002-07	3281.	1.2798-03
5550.	7.1153+04	4.2547-07	3281.	1.3961-03
5550.	6.3326+04	3.9002-07	3281.	1.2798-03
5550.	4.4823+04	3.0285-07	3281.	9.9373-04
5850.	5.7735+04	3.3616-07	2656.	8.9292-04
5850.	6.4144+04	3.6416-07	2656.	9.6731-04
5850.	5.7735+04	3.3616-07	2656.	8.9292-04
5850.	4.2236+04	2.6615-07	2656.	7.0697-04
6150.	5.2825+04	3.2798-07	2969.	9.7368-04
6150.	5.8122+04	3.5214-07	2969.	1.0454-03
6150.	5.2825+04	3.2798-07	2969.	9.7368-04
6150.	3.9761+04	2.6640-07	2969.	7.9088-04

POWER = 3.2730+03 CURRENT = 5.1693+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

BXQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =   5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1325+05	6.5731-07	66.	4.3329-05
450.	7.8267+06	2.3522-05	66.	1.5506-03
450.	2.1325+05	6.5731-07	66.	4.3329-05
450.	2.1288+05	6.5618-07	66.	4.3254-05
750.	1.0860+05	3.5669-07	198.	7.0536-05
750.	3.1792+06	9.6793-06	198.	1.9141-03
750.	1.0860+05	3.5669-07	198.	7.0536-05
750.	7.6636+04	2.5601-07	198.	5.0626-05
1050.	1.6093+05	5.1087-07	138.	7.0318-05
1050.	1.7169+06	5.2306-06	138.	7.1996-04
1050.	1.6093+05	5.1087-07	138.	7.0318-05
1050.	3.9147+04	1.3168-07	138.	1.8125-05
1350.	2.1591+05	6.5588-07	28.	1.8055-05
1350.	1.0736+06	3.2330-06	28.	8.9001-05
1350.	2.1591+05	6.5588-07	28.	1.8055-05
1350.	2.4834+04	7.7740-08	28.	2.1401-06

1650.	2.3489+05	7.9218-07	469.	3.7133-04
1650.	7.3441+05	2.3548-06	469.	1.1038-03
1650.	2.3489+05	7.9218-07	469.	3.7133-04
1650.	2.2040+04	9.3413-08	469.	4.3787-05
1950.	2.2863+05	7.7225-07	469.	3.6199-04
1950.	5.3392+05	1.7319-06	469.	8.1184-04
1950.	2.2863+05	7.7225-07	469.	3.6199-04
1950.	2.6958+04	1.1103-07	469.	5.2047-05
2250.	2.1078+05	6.6760-07	156.	1.0431-04
2250.	4.0562+05	1.2647-06	156.	1.9760-04
2250.	2.1078+05	6.6760-07	156.	1.0431-04
2250.	3.5243+04	1.2064-07	156.	1.8851-05
2550.	1.8938+05	6.8456-07	781.	5.3481-04
2550.	3.1858+05	1.1060-06	781.	8.6409-04
2550.	1.8938+05	6.8456-07	781.	5.3481-04
2550.	4.3370+04	1.8629-07	781.	1.4554-04
2850.	1.6823+05	6.7630-07	1406.	9.5104-04
2850.	2.5684+05	9.8204-07	1406.	1.3810-03
2850.	1.6823+05	6.7630-07	1406.	9.5104-04
2850.	4.9588+04	2.4233-07	1406.	3.4078-04
3150.	1.4889+05	5.8018-07	1094.	6.3457-04
3150.	2.1145+05	7.9312-07	1094.	8.6748-04
3150.	1.4889+05	5.8018-07	1094.	6.3457-04
3150.	5.3483+04	2.4083-07	1094.	2.6340-04
3450.	1.3179+05	5.2109-07	1094.	5.6994-04
3450.	1.7711+05	6.7681-07	1094.	7.4026-04
3450.	1.3179+05	5.2109-07	1094.	5.6994-04
3450.	5.5308+04	2.4765-07	1094.	2.7087-04
3750.	1.1694+05	5.1757-07	1719.	8.8957-04
3750.	1.5050+05	6.4051-07	1719.	1.1009-03
3750.	1.1694+05	5.1757-07	1719.	8.8957-04
3750.	5.5528+04	2.8174-07	1719.	4.8424-04
4050.	1.0412+05	5.1125-07	2344.	1.1982-03
4050.	1.2948+05	6.1009-07	2344.	1.4299-03
4050.	1.0412+05	5.1125-07	2344.	1.1982-03
4050.	5.4609+04	3.0808-07	2344.	7.2206-04
4350.	9.3072+04	4.4808-07	2031.	9.1017-04
4350.	1.1256+05	5.2330-07	2031.	1.0630-03
4350.	9.3072+04	4.4808-07	2031.	9.1017-04
4350.	5.2937+04	2.8633-07	2031.	5.8162-04
4650.	8.3545+04	3.9173-07	1719.	6.7328-04
4650.	9.8764+04	4.4962-07	1719.	7.7279-04
4650.	8.3545+04	3.9173-07	1719.	6.7328-04
4650.	5.0802+04	2.6257-07	1719.	4.5130-04
4950.	7.5306+04	3.9520-07	2344.	9.2625-04
4950.	8.7354+04	4.4432-07	2344.	1.0414-03
4950.	7.5306+04	3.9520-07	2344.	9.2625-04
4950.	4.8416+04	2.6110-07	2344.	6.5883-04
5250.	6.8156+04	3.9692-07	2969.	1.1784-03
5250.	7.7812+04	4.3903-07	2969.	1.3034-03
5250.	6.8156+04	3.9692-07	2969.	1.1784-03
5250.	4.5924+04	2.9585-07	2969.	8.7830-04
5550.	6.1926+04	3.8361-07	3281.	1.2587-03
5550.	6.9753+04	4.1918-07	3281.	1.3754-03
5550.	6.1926+04	3.8361-07	3281.	1.2587-03
5550.	4.3423+04	2.9601-07	3281.	9.7128-04
5850.	5.6475+04	3.3060-07	2656.	8.7815-04
5850.	6.2885+04	3.5870-07	2656.	9.5278-04
5850.	5.6475+04	3.3060-07	2656.	8.7815-04
5850.	4.0976+04	2.6028-07	2656.	6.9138-04
6150.	5.1685+04	3.2273-07	2969.	9.5809-04
6150.	5.6983+04	3.4697-07	2969.	1.0301-03
6150.	5.1685+04	3.2273-07	2969.	9.5809-04
6150.	3.8622+04	2.6086-07	2969.	7.7444-04

POWER = 3.1785+03 CURRENT = 4.8509+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

@XQT

```
 DISTANCE =     2.2 AU
VMULT =    1.40
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED     .     .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV. CURRENT =      5.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =    20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1306+05	6.5849-07	74.	4.8615-05
450.	4.0198+06	1.2113-05	74.	8.9427-04
450.	2.1306+05	6.5849-07	74.	4.8615-05
450.	2.1288+05	6.5792-07	74.	4.8573-05
750.	9.2616+04	3.0908-07	221.	6.8456-05
750.	1.6279+06	5.0025-06	221.	1.1080-03
750.	9.2616+04	3.0908-07	221.	6.8456-05
750.	7.6636+04	2.5839-07	221.	5.7229-05
1050.	1.0002+05	3.2452-07	154.	5.0028-05
1050.	8.7799+05	2.7008-06	154.	4.1635-04
1050.	1.0002+05	3.2452-07	154.	5.0028-05
1050.	3.9123+04	1.3290-07	154.	2.0488-05
1350.	1.1978+05	3.6649-07	31.	1.1300-05
1350.	5.4860+05	1.6583-06	31.	5.1127-05
1350.	1.1978+05	3.6649-07	31.	1.1300-05
1350.	2.4243+04	7.6239-08	31.	2.3506-06

1650.	1.2536+05	4.4629-07	525.	2.3430-04
1650.	3.7512+05	1.2452-06	525.	6.5375-04
1650.	1.2536+05	4.4629-07	525.	2.3430-04
1650.	1.8937+04	8.4386-08	525.	4.4303-05
1950.	1.1998+05	4.2865-07	525.	2.2504-04
1950.	2.7263+05	9.2055-07	525.	4.8329-04
1950.	1.1998+05	4.2865-07	525.	2.2504-04
1950.	1.9147+04	8.5169-08	525.	4.4714-05
2250.	1.0965+05	3.5717-07	175.	6.2505-05
2250.	2.0707+05	6.5945-07	175.	1.1540-04
2250.	1.0965+05	3.5717-07	175.	6.2505-05
2250.	2.1879+04	7.8513-08	175.	1.3740-05
2550.	9.8004+04	3.8569-07	875.	3.3748-04
2550.	1.6261+05	6.0555-07	875.	5.2986-04
2550.	9.8004+04	3.8569-07	875.	3.3748-04
2550.	2.5000+04	1.2154-07	875.	1.0635-04
2850.	8.6771+04	3.9492-07	1575.	6.2200-04
2850.	1.3107+05	5.5841-07	1575.	8.7950-04
2850.	8.6771+04	3.9492-07	1575.	6.2200-04
2850.	2.7447+04	1.5826-07	1575.	2.4925-04
3150.	7.6615+04	3.3451-07	1225.	4.0978-04
3150.	1.0790+05	4.4773-07	1225.	5.4847-04
3150.	7.6615+04	3.3451-07	1225.	4.0978-04
3150.	2.8914+04	1.5122-07	1225.	1.8524-04
3450.	6.7708+04	3.0156-07	1225.	3.6941-04
3450.	9.0365+04	3.8470-07	1225.	4.7125-04
3450.	6.7708+04	3.0156-07	1225.	3.6941-04
3450.	2.9465+04	1.5348-07	1225.	1.8801-04
3750.	6.0002+04	3.1035-07	1925.	5.9743-04
3750.	7.6785+04	3.7772-07	1925.	7.2712-04
3750.	6.0002+04	3.1035-07	1925.	5.9743-04
3750.	2.9297+04	1.7910-07	1925.	3.4476-04
4050.	5.3373+04	3.1543-07	2625.	8.2800-04
4050.	6.6052+04	3.7087-07	2625.	9.7352-04
4050.	5.3373+04	3.1543-07	2625.	8.2800-04
4050.	2.8619+04	1.9969-07	2625.	5.2418-04
4350.	4.7675+04	2.7485-07	2275.	6.2528-04
4350.	5.7421+04	3.1689-07	2275.	7.2092-04
4350.	4.7675+04	2.7485-07	2275.	6.2528-04
4350.	2.7607+04	1.8322-07	2275.	4.1683-04
4650.	4.2769+04	2.3843-07	1925.	4.5899-04
4650.	5.0379+04	2.7062-07	1925.	5.2094-04
4650.	4.2769+04	2.3843-07	1925.	4.5899-04
4650.	2.6398+04	1.6578-07	1925.	3.1913-04
4950.	3.8533+04	2.4763-07	2625.	6.5002-04
4950.	4.4556+04	2.7561-07	2625.	7.2349-04
4950.	3.8533+04	2.4763-07	2625.	6.5002-04
4950.	2.5088+04	1.8186-07	2625.	4.7738-04
5250.	3.4860+04	2.5461-07	3325.	8.4657-04
5250.	3.9688+04	2.7912-07	3325.	9.2808-04
5250.	3.4860+04	2.5461-07	3325.	8.4657-04
5250.	2.3744+04	1.9510-07	3325.	6.4871-04
5550.	3.1663+04	2.4916-07	3675.	9.1565-04
5550.	3.5576+04	2.7013-07	3675.	9.9272-04
5550.	3.1663+04	2.4916-07	3675.	9.1565-04
5550.	2.2411+04	1.9698-07	3675.	7.2390-04
5850.	2.8867+04	2.1220-07	2975.	6.3130-04
5850.	3.2072+04	2.2859-07	2975.	6.8006-04
5850.	2.8867+04	2.1220-07	2975.	6.3130-04
5850.	2.1118+04	1.7082-07	2975.	5.0818-04
6150.	2.6412+04	2.0987-07	3325.	6.9781-04
6150.	2.9061+04	2.2419-07	3325.	7.4544-04
6150.	2.6412+04	2.0987-07	3325.	6.9781-04
6150.	1.9881+04	1.7300-07	3325.	5.7524-04

POWER = 2.1625+03 CURRENT = 2.7452+00

PMAX 3850. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

BXQT

```
 DISTANCE =     2.2 AU
VMULT =    1.00
BCURR =    2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1325+05	6.5428-07	53.	3.4503-05
450.	7.8267+06	2.3504-05	53.	1.2395-03
450.	2.1325+05	6.5428-07	53.	3.4503-05
450.	2.1288+05	6.5315-07	53.	3.4443-05
750.	1.0860+05	3.5176-07	158.	5.5650-05
750.	3.1792+06	9.6526-06	158.	1.5271-03
750.	1.0860+05	3.5176-07	158.	5.5650-05
750.	7.6636+04	2.5187-07	158.	3.9846-05
1050.	1.6093+05	5.0631-07	110.	5.5751-05
1050.	1.7169+06	5.2157-06	110.	5.7432-04
1050.	1.6093+05	5.0631-07	110.	5.5751-05
1050.	3.9147+04	1.2943-07	110.	1.4252-05

1350.	2.1591+05	6.5429-07	22.	1.4409-05
1350.	1.0736+06	3.2295-06	22.	7.1123-05
1350.	2.1591+05	6.5429-07	22.	1.4409-05
1350.	2.4834+04	7.7204-08	22.	1.7002-06
1650.	2.3489+05	8.0015-07	525.	4.2008-04
1650.	7.3441+05	2.3689-06	525.	1.2437-03
1650.	2.3489+05	8.0015-07	525.	4.2008-04
1650.	2.2040+04	9.5853-08	525.	5.0323-05
1950.	2.2863+05	7.8011-07	525.	4.0956-04
1950.	5.3392+05	1.7439-06	525.	9.1557-04
1950.	2.2863+05	7.8011-07	525.	4.0956-04
1950.	2.6958+04	1.1373-07	525.	5.9709-05
2250.	2.1078+05	6.7091-07	175.	1.1741-04
2250.	4.0562+05	1.2693-06	175.	2.2212-04
2250.	2.1078+05	6.7091-07	175.	1.1741-04
2250.	3.5243+04	1.2200-07	175.	2.1350-05
2550.	1.8938+05	6.9505-07	875.	6.0817-04
2550.	3.1858+05	1.1197-06	875.	9.7969-04
2550.	1.8938+05	6.9505-07	875.	6.0817-04
2550.	4.3370+04	1.9131-07	875.	1.6740-04
2850.	1.6823+05	6.0567-07	700.	4.2368-04
2850.	2.5684+05	8.9478-07	700.	6.2593-04
2850.	1.6823+05	6.0567-07	700.	4.2368-04
2850.	4.9588+04	2.0399-07	700.	1.4270-04
3150.	1.4889+05	5.0263-07	350.	1.7592-04
3150.	2.1145+05	7.0070-07	350.	2.4525-04
3150.	1.4889+05	5.0263-07	350.	1.7592-04
3150.	5.3483+04	1.9435-07	350.	6.8021-05
3450.	1.3179+05	4.4812-07	350.	1.5684-04
3450.	1.7711+05	5.9222-07	350.	2.0728-04
3450.	1.3179+05	4.4812-07	350.	1.5684-04
3450.	5.5308+04	2.0038-07	350.	7.0134-05
3750.	1.1694+05	4.6569-07	1050.	4.8897-04
3750.	1.5050+05	5.8166-07	1050.	6.1074-04
3750.	1.1694+05	4.6569-07	1050.	4.8897-04
3750.	5.5528+04	2.4599-07	1050.	2.5829-04
4050.	1.0412+05	4.7191-07	1750.	8.2585-04
4050.	1.2948+05	5.6623-07	1750.	9.9090-04
4050.	1.0412+05	4.7191-07	1750.	8.2585-04
4050.	5.4609+04	2.7959-07	1750.	4.8928-04
4350.	9.3072+04	4.0673-07	1400.	5.6942-04
4350.	1.1256+05	4.7783-07	1400.	6.6896-04
4350.	9.3072+04	4.0673-07	1400.	5.6942-04
4350.	5.2937+04	2.5515-07	1400.	3.5721-04
4650.	8.3545+04	3.4788-07	1050.	3.6527-04
4650.	9.8764+04	4.0194-07	1050.	4.2204-04
4650.	8.3545+04	3.4788-07	1050.	3.6527-04
4650.	5.0802+04	2.2838-07	1050.	2.3980-04
4950.	7.5306+04	3.6175-07	1750.	6.3306-04
4950.	8.7354+04	4.0829-07	1750.	7.1451-04
4950.	7.5306+04	3.6175-07	1750.	6.3306-04
4950.	4.8416+04	2.5428-07	1750.	4.4499-04
5250.	6.8156+04	3.1363-07	1399.	4.3872-04
5250.	7.7812+04	3.5003-07	1399.	4.8963-04
5250.	6.8156+04	3.1363-07	1399.	4.3872-04
5250.	4.5924+04	2.2748-07	1399.	3.1820-04
5550.	6.1926+04	3.0901-07	1750.	5.4077-04
5550.	6.9753+04	3.4001-07	1750.	5.9502-04
5550.	6.1926+04	3.0901-07	1750.	5.4077-04
5550.	4.3423+04	2.3355-07	1750.	4.0871-04
5850.	5.6475+04	2.4950-07	1050.	2.6197-04
5850.	6.2885+04	2.7312-07	1050.	2.8677-04
5850.	5.6475+04	2.4950-07	1050.	2.6197-04
5850.	4.0976+04	1.9120-07	1050.	2.0076-04
6150.	5.1685+04	2.5025-07	1400.	3.5035-04
6150.	5.6983+04	2.7088-07	1400.	3.7923-04
6150.	5.1685+04	2.5025-07	1400.	3.5035-04
6150.	3.8622+04	1.9822-07	1400.	2.7750-04

POWER = 1.8340+03 CURRENT = 4.6800+00

PMAX 1925. VOLTS

BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     1.3 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      6.65 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.1313+05	6.5465-07	56.	3.6594-05
450.	5.2761+06	1.5863-05	56.	8.8671-04
450.	2.1313+05	6.5465-07	56.	3.6594-05
450.	2.1288+05	6.5389-07	56.	3.6552-05
750.	9.7889+04	3.1953-07	168.	5.3583-05
750.	2.1398+06	6.5239-06	168.	1.0940-03
750.	9.7889+04	3.1953-07	168.	5.3583-05
750.	7.6636+04	2.5288-07	168.	4.2407-05
1050.	1.2012+05	3.8182-07	117.	4.4566-05
1050.	1.1548+06	3.5233-06	117.	4.1125-04
1050.	1.2012+05	3.8182-07	117.	4.4566-05
1050.	3.9131+04	1.2993-07	117.	1.5165-05

1350.	1.5150+05	4.6062-07	23.	1.0753-05
1350.	7.2184+05	2.1750-06	23.	5.0774-05
1350.	1.5150+05	4.6062-07	23.	1.0753-05
1350.	2.4438+04	7.6128-08	23.	1.7772-06
1650.	1.6151+05	5.6763-07	556.	3.1589-04
1650.	4.9368+05	1.6243-06	556.	9.0391-04
1650.	1.6151+05	5.6763-07	556.	3.1589-04
1650.	1.9961+04	8.9462-08	556.	4.9786-05
1950.	1.5584+05	5.4918-07	557.	3.0562-04
1950.	3.5886+05	1.1993-06	557.	6.6741-04
1950.	1.5584+05	5.4918-07	557.	3.0562-04
1950.	2.1725+04	9.6024-08	557.	5.3437-05
2250.	1.4302+05	4.6263-07	185.	8.5817-05
2250.	2.7259+05	8.6337-07	185.	1.6016-04
2250.	1.4302+05	4.6263-07	185.	8.5817-05
2250.	2.6289+04	9.3600-08	185.	1.7363-05
2550.	1.2816+05	4.9388-07	927.	4.5808-04
2550.	2.1408+05	7.8317-07	927.	7.2639-04
2550.	1.2816+05	4.9388-07	927.	4.5808-04
2550.	3.1062+04	1.4736-07	927.	1.3668-04
2850.	1.1365+05	4.2796-07	742.	3.1733-04
2850.	1.7257+05	6.2460-07	742.	4.6314-04
2850.	1.1365+05	4.2796-07	742.	3.1733-04
2850.	3.4754+04	1.5264-07	742.	1.1319-04
3150.	1.0046+05	3.4969-07	371.	1.2974-04
3150.	1.4207+05	4.8341-07	371.	1.7935-04
3150.	1.0046+05	3.4969-07	371.	1.2974-04
3150.	3.7022+04	1.4062-07	371.	5.2170-05
3450.	8.8856+04	3.1204-07	371.	1.1577-04
3450.	1.1899+05	4.0944-07	371.	1.5190-04
3450.	8.8856+04	3.1204-07	371.	1.1577-04
3450.	3.7993+04	1.4391-07	371.	5.3392-05
3750.	7.8791+04	3.3509-07	1113.	3.7295-04
3750.	1.0111+05	4.1505-07	1113.	4.6195-04
3750.	7.8791+04	3.3509-07	1113.	3.7295-04
3750.	3.7953+04	1.8254-07	1113.	2.0316-04
4050.	7.0119+04	3.4734-07	1855.	6.4431-04
4050.	8.6982+04	4.1342-07	1855.	7.6690-04
4050.	7.0119+04	3.4734-07	1855.	6.4431-04
4050.	3.7196+04	2.1149-07	1855.	3.9231-04
4350.	6.2656+04	2.9743-07	1484.	4.4139-04
4350.	7.5619+04	3.4705-07	1484.	5.1502-04
4350.	6.2656+04	2.9743-07	1484.	4.4139-04
4350.	3.5966+04	1.9095-07	1484.	2.8337-04
4650.	5.6225+04	2.5216-07	1113.	2.8066-04
4650.	6.6346+04	2.8968-07	1113.	3.2241-04
4650.	5.6225+04	2.5216-07	1113.	2.8066-04
4650.	3.4451+04	1.6880-07	1113.	1.8788-04
4950.	5.0668+04	2.6853-07	1855.	4.9813-04
4950.	5.8679+04	3.0140-07	1855.	5.5910-04
4950.	5.0668+04	2.6853-07	1855.	4.9813-04
4950.	3.2786+04	1.9217-07	1855.	3.5648-04
5250.	4.5848+04	2.3120-07	1483.	3.4281-04
5250.	5.2269+04	2.5678-07	1483.	3.8074-04
5250.	4.5848+04	2.3120-07	1483.	3.4281-04
5250.	3.1064+04	1.7035-07	1483.	2.5258-04
5550.	4.1650+04	2.3064-07	1855.	4.2784-04
5550.	4.6855+04	2.5264-07	1855.	4.6865-04
5550.	4.1650+04	2.3064-07	1855.	4.2784-04
5550.	2.9345+04	1.7681-07	1855.	3.2798-04
5850.	3.7978+04	1.8263-07	1113.	2.0327-04
5850.	4.2240+04	1.9915-07	1113.	2.2165-04
5850.	3.7978+04	1.8263-07	1113.	2.0327-04
5850.	2.7671+04	1.4170-07	1113.	1.5771-04
6150.	3.4752+04	1.8590-07	1484.	2.7587-04
6150.	3.8275+04	2.0049-07	1484.	2.9752-04
6150.	3.4752+04	1.8590-07	1484.	2.7587-04
6150.	2.6065+04	1.4894-07	1484.	2.2103-04

POWER = 1.4019+03 CURRENT = 3.2958+00

PMAX 2040. VOLTS

BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

$XQT

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED      .    .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.4217+05	4.3929-07	56.	2.4555-05
450.	5.2178+06	1.5688-05	56.	8.7694-04
450.	1.4217+05	4.3929-07	56.	2.4555-05
450.	1.4192+05	4.3853-07	56.	2.4513-05
750.	7.2397+04	2.3954-07	168.	4.0171-05
750.	2.1194+06	6.4623-06	168.	1.0837-03
750.	7.2397+04	2.3954-07	168.	4.0171-05
750.	5.1091+04	1.7214-07	168.	2.8868-05
1050.	1.0729+05	3.4221-07	117.	3.9943-05
1050.	1.1446+06	3.4924-06	117.	4.0764-04
1050.	1.0729+05	3.4221-07	117.	3.9943-05
1050.	2.6098+04	8.8589-08	117.	1.0340-05

1350.	1.4394+05	4.3781-07	23.	1.0220-05
1350.	7.1570+05	2.1566-06	23.	5.0344-05
1350.	1.4394+05	4.3781-07	23.	1.0220-05
1350.	1.6556+04	5.2018-08	23.	1.2143-06
1650.	1.5660+05	5.5165-07	556.	3.0699-04
1650.	4.8960+05	1.6115-06	556.	8.9678-04
1650.	1.5660+05	5.5165-07	556.	3.0699-04
1650.	1.4693+04	6.9482-08	556.	3.8667-05
1950.	1.5242+05	5.3804-07	557.	2.9942-04
1950.	3.5595+05	1.1901-06	557.	6.6228-04
1950.	1.5242+05	5.3804-07	557.	2.9942-04
1950.	1.7972+04	8.1992-08	557.	4.5629-05
2250.	1.4052+05	4.5484-07	185.	8.4373-05
2250.	2.7042+05	8.5667-07	185.	1.5891-04
2250.	1.4052+05	4.5484-07	185.	8.4373-05
2250.	2.3495+04	8.4427-08	185.	1.5661-05
2550.	1.2625+05	4.8736-07	927.	4.5203-04
2550.	2.1239+05	7.7755-07	927.	7.2118-04
2550.	1.2625+05	4.8736-07	927.	4.5203-04
2550.	2.8913+04	1.3902-07	927.	1.2894-04
2850.	1.1216+05	4.2290-07	742.	3.1358-04
2850.	1.7122+05	6.2014-07	742.	4.5984-04
2850.	1.1216+05	4.2290-07	742.	3.1358-04
2850.	3.3058+04	1.4637-07	742.	1.0853-04
3150.	9.9258+04	3.4578-07	371.	1.2829-04
3150.	1.4096+05	4.7989-07	371.	1.7804-04
3150.	9.9258+04	3.4578-07	371.	1.2829-04
3150.	3.5655+04	1.3598-07	371.	5.0447-05
3450.	8.7863+04	3.0881-07	371.	1.1457-04
3450.	1.1807+05	4.0649-07	371.	1.5081-04
3450.	8.7863+04	3.0881-07	371.	1.1457-04
3450.	3.6872+04	1.4011-07	371.	5.1981-05
3750.	7.7959+04	3.3207-07	1113.	3.6960-04
3750.	1.0034+05	4.1229-07	1113.	4.5888-04
3750.	7.7959+04	3.3207-07	1113.	3.6960-04
3750.	3.7019+04	1.7889-07	1113.	1.9910-04
4050.	6.9412+04	3.4453-07	1855.	6.3910-04
4050.	8.6317+04	4.1085-07	1855.	7.6212-04
4050.	6.9412+04	3.4453-07	1855.	6.3910-04
4050.	3.6406+04	2.0806-07	1855.	3.8595-04
4350.	6.2048+04	2.9508-07	1484.	4.3790-04
4350.	7.5043+04	3.4487-07	1484.	5.1178-04
4350.	6.2048+04	2.9508-07	1484.	4.3790-04
4350.	3.5291+04	1.8814-07	1484.	2.7920-04
4650.	5.5696+04	2.5019-07	1113.	2.7846-04
4650.	6.5842+04	2.8783-07	1113.	3.2035-04
4650.	5.5696+04	2.5019-07	1113.	2.7846-04
4650.	3.3868+04	1.6650-07	1113.	1.8531-04
4950.	5.0204+04	2.6661-07	1855.	4.9456-04
4950.	5.8236+04	2.9960-07	1855.	5.5575-04
4950.	5.0204+04	2.6661-07	1855.	4.9456-04
4950.	3.2278+04	1.8992-07	1855.	3.5230-04
5250.	4.5437+04	2.2955-07	1483.	3.4037-04
5250.	5.1875+04	2.5522-07	1483.	3.7842-04
5250.	4.5437+04	2.2955-07	1483.	3.4037-04
5250.	3.0616+04	1.6845-07	1483.	2.4977-04
5550.	4.1284+04	2.2908-07	1855.	4.2494-04
5550.	4.6502+04	2.5116-07	1855.	4.6591-04
5550.	4.1284+04	2.2908-07	1855.	4.2494-04
5550.	2.8949+04	1.7502-07	1855.	3.2466-04
5850.	3.7650+04	1.8135-07	1113.	2.0184-04
5850.	4.1923+04	1.9793-07	1113.	2.2029-04
5850.	3.7650+04	1.8135-07	1113.	2.0184-04
5850.	2.7317+04	1.4026-07	1113.	1.5611-04
6150.	3.4457+04	1.8467-07	1484.	2.7404-04
6150.	3.7988+04	1.9931-07	1484.	2.9577-04
6150.	3.4457+04	1.8467-07	1484.	2.7404-04
6150.	2.5748+04	1.4756-07	1484.	2.1898-04

POWER = 1.3813+03 CURRENT = 3.1965+00

PMAX 2040. VOLTS

BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS
POOR QUALITY

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     5.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.4204+05	4.3970-07	60.	2.6434-05
450.	2.6799+06	8.0783-06	60.	4.8565-04
450.	1.4204+05	4.3970-07	60.	2.6434-05
450.	1.4192+05	4.3932-07	60.	2.6411-05
750.	6.1744+04	2.0712-07	180.	3.7354-05
750.	1.0853+06	3.3395-06	180.	6.0228-04
750.	6.1744+04	2.0712-07	180.	3.7354-05
750.	5.1091+04	1.7323-07	180.	3.1242-05
1050.	6.6678+04	2.1719-07	126.	2.7264-05
1050.	5.8532+05	1.8030-06	126.	2.2633-04
1050.	6.6678+04	2.1719-07	126.	2.7264-05
1050.	2.6082+04	8.9131-08	126.	1.1189-05

1350.	7.9853+04	2.4461-07	25.	6.1411-06
1350.	3.6574+05	1.1061-06	25.	2.7770-05
1350.	7.9853+04	2.4461-07	25.	6.1411-06
1350.	1.6162+04	5.0951-08	25.	1.2792-06
1650.	8.3576+04	3.1425-07	598.	1.8808-04
1650.	2.5008+05	8.5909-07	598.	5.1416-04
1650.	8.3576+04	3.1425-07	598.	1.8808-04
1650.	1.2625+04	6.2757-08	598.	3.7560-05
1950.	7.9989+04	3.0213-07	599.	1.8082-04
1950.	1.8175+05	6.3836-07	599.	3.8206-04
1950.	7.9989+04	3.0213-07	599.	1.8082-04
1950.	1.2765+04	6.3315-08	599.	3.7894-05
2250.	7.3099+04	2.4498-07	199.	4.8873-05
2250.	1.3805+05	4.4906-07	199.	8.9588-05
2250.	7.3099+04	2.4498-07	199.	4.8873-05
2250.	1.4586+04	5.5407-08	199.	1.1054-05
2550.	6.5336+04	2.7882-07	997.	2.7812-04
2550.	1.0840+05	4.3164-07	997.	4.3056-04
2550.	6.5336+04	2.7882-07	997.	2.7812-04
2550.	1.6667+04	9.1982-08	997.	9.1753-05
2850.	5.7847+04	2.3936-07	797.	1.9088-04
2850.	8.7381+04	3.4288-07	797.	2.7343-04
2850.	5.7847+04	2.3936-07	797.	1.9088-04
2850.	1.8298+04	9.2053-08	797.	7.3409-05
3150.	5.1077+04	1.8984-07	399.	7.5746-05
3150.	7.1930+04	2.5912-07	399.	1.0339-04
3150.	5.1077+04	1.8984-07	399.	7.5746-05
3150.	1.9276+04	8.0436-08	399.	3.2094-05
3450.	4.5139+04	1.6986-07	399.	6.7774-05
3450.	6.0243+04	2.2044-07	399.	8.7957-05
3450.	4.5139+04	1.6986-07	399.	6.7774-05
3450.	1.9643+04	8.1751-08	399.	3.2619-05
3750.	4.0002+04	1.9447-07	1197.	2.3279-04
3750.	5.1190+04	2.3776-07	1197.	2.8459-04
3750.	4.0002+04	1.9447-07	1197.	2.3279-04
3750.	1.9531+04	1.1071-07	1197.	1.3252-04
4050.	3.5582+04	2.0997-07	1995.	4.1888-04
4050.	4.4035+04	2.4689-07	1995.	4.9254-04
4050.	3.5582+04	2.0997-07	1995.	4.1888-04
4050.	1.9079+04	1.3289-07	1995.	2.6511-04
4350.	3.1783+04	1.7784-07	1596.	2.8383-04
4350.	3.8281+04	2.0534-07	1596.	3.2772-04
4350.	3.1783+04	1.7784-07	1596.	2.8383-04
4350.	1.8405+04	1.1804-07	1596.	1.8840-04
4650.	2.8513+04	1.4846-07	1197.	1.7771-04
4650.	3.3586+04	1.6902-07	1197.	2.0232-04
4650.	2.8513+04	1.4846-07	1197.	1.7771-04
4650.	1.7599+04	1.0228-07	1197.	1.2243-04
4950.	2.5688+04	1.6481-07	1995.	3.2880-04
4950.	2.9704+04	1.8345-07	1995.	3.6598-04
4950.	2.5688+04	1.6481-07	1995.	3.2880-04
4950.	1.6725+04	1.2102-07	1995.	2.4143-04
5250.	2.3240+04	1.4025-07	1595.	2.2365-04
5250.	2.6459+04	1.5462-07	1595.	2.4656-04
5250.	2.3240+04	1.4025-07	1595.	2.2365-04
5250.	1.5829+04	1.0573-07	1595.	1.6860-04
5550.	2.1109+04	1.4289-07	1995.	2.8506-04
5550.	2.3718+04	1.5548-07	1995.	3.1018-04
5550.	2.1109+04	1.4289-07	1995.	2.8506-04
5550.	1.4941+04	1.1179-07	1995.	2.2302-04
5850.	1.9245+04	1.0947-07	1197.	1.3104-04
5850.	2.1381+04	1.1867-07	1197.	1.4204-04
5850.	1.9245+04	1.0947-07	1197.	1.3104-04
5850.	1.4079+04	8.6510-08	1197.	1.0355-04
6150.	1.7608+04	1.1428-07	1596.	1.8239-04
6150.	1.9374+04	1.2258-07	1596.	1.9563-04
6150.	1.7608+04	1.1428-07	1596.	1.8239-04
6150.	1.3254+04	9.3100-08	1596.	1.4859-04

POWER = 8.7325+02 CURRENT = 1.7931+00

PMAX 2194. VOLTS

BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

```
 DISTANCE =     3.4 AU
VMULT =    1.14
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
EXPANSION ANGLE =    5.71 DEGREES
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
RANG =      385.00 CM

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.1084+04	2.2314-07	60.	1.3415-05
450.	2.6089+06	7.8653-06	60.	4.7284-04
450.	7.1084+04	2.2314-07	60.	1.3415-05
450.	7.0959+04	2.2276-07	60.	1.3392-05
750.	3.6199+04	1.2546-07	180.	2.2628-05
750.	1.0597+06	3.2620-06	180.	5.8830-04
750.	3.6199+04	1.2546-07	180.	2.2628-05
750.	2.5545+04	9.0853-08	180.	1.6385-05
1050.	5.3645+04	1.7638-07	126.	2.2142-05
1050.	5.7229+05	1.7634-06	126.	2.2137-04
1050.	5.3645+04	1.7638-07	126.	2.2142-05
1050.	1.3049+04	4.6898-08	126.	5.8871-06

1350.	7.1969+04	2.2074-07	25.	5.5418-06
1350.	3.5785+05	1.0824-06	25.	2.7174-05
1350.	7.1969+04	2.2074-07	25.	5.5418-06
1350.	8.2778+03	2.6629-08	25.	6.6855-07
1650.	7.8298+04	2.9640-07	598.	1.7740-04
1650.	2.4480+05	8.4212-07	598.	5.0401-04
1650.	7.8298+04	2.9640-07	598.	1.7740-04
1650.	7.3467+03	4.1045-08	598.	2.4565-05
1950.	7.6210+04	2.8932-07	599.	1.7316-04
1950.	1.7797+05	6.2607-07	599.	3.7470-04
1950.	7.6210+04	2.8932-07	599.	1.7316-04
1950.	8.9861+03	4.7968-08	599.	2.8709-05
2250.	7.0260+04	2.3597-07	199.	4.7076-05
2250.	1.3521+05	4.4020-07	199.	8.7820-05
2250.	7.0260+04	2.3597-07	199.	4.7076-05
2250.	1.1748+04	4.5710-08	199.	9.1192-06
2550.	6.3126+04	2.7078-07	997.	2.7011-04
2550.	1.0619+05	4.2393-07	997.	4.2287-04
2550.	6.3126+04	2.7078-07	997.	2.7011-04
2550.	1.4457+04	8.2481-08	997.	8.2275-05
2850.	5.6078+04	2.3305-07	797.	1.8585-04
2850.	8.5612+04	3.3676-07	797.	2.6855-04
2850.	5.6078+04	2.3305-07	797.	1.8585-04
2850.	1.6529+04	8.4912-08	797.	6.7715-05
3150.	4.9629+04	1.8498-07	399.	7.3807-05
3150.	7.0482+04	2.5435-07	399.	1.0149-04
3150.	4.9629+04	1.8498-07	399.	7.3807-05
3150.	1.7828+04	7.5233-08	399.	3.0018-05
3450.	4.3931+04	1.6578-07	399.	6.6146-05
3450.	5.9036+04	2.1643-07	399.	8.6354-05
3450.	4.3931+04	1.6578-07	399.	6.6146-05
3450.	1.8436+04	7.7423-08	399.	3.0892-05
3750.	3.8980+04	1.9046-07	1197.	2.2798-04
3750.	5.0168+04	2.3385-07	1197.	2.7992-04
3750.	3.8980+04	1.9046-07	1197.	2.2798-04
3750.	1.8509+04	1.0627-07	1197.	1.2721-04
4050.	3.4706+04	2.0606-07	1995.	4.1110-04
4050.	4.3158+04	2.4311-07	1995.	4.8501-04
4050.	3.4706+04	2.0606-07	1995.	4.1110-04
4050.	1.8203+04	1.2851-07	1995.	2.5637-04
4350.	3.1024+04	1.7457-07	1596.	2.7862-04
4350.	3.7522+04	2.0216-07	1596.	3.2265-04
4350.	3.1024+04	1.7457-07	1596.	2.7862-04
4350.	1.7646+04	1.1446-07	1596.	1.8268-04
4650.	2.7848+04	1.4573-07	1197.	1.7444-04
4650.	3.2921+04	1.6636-07	1197.	1.9913-04
4650.	2.7848+04	1.4573-07	1197.	1.7444-04
4650.	1.6934+04	9.9345-08	1197.	1.1892-04
4950.	2.5102+04	1.6205-07	1995.	3.2329-04
4950.	2.9118+04	1.8076-07	1995.	3.6061-04
4950.	2.5102+04	1.6205-07	1995.	3.2329-04
4950.	1.6139+04	1.1801-07	1995.	2.3543-04
5250.	2.2719+04	1.3789-07	1595.	2.1989-04
5250.	2.5937+04	1.5231-07	1595.	2.4288-04
5250.	2.2719+04	1.3789-07	1595.	2.1989-04
5250.	1.5308+04	1.0320-07	1595.	1.6457-04
5550.	2.0642+04	1.4061-07	1995.	2.8051-04
5550.	2.3251+04	1.5325-07	1995.	3.0573-04
5550.	2.0642+04	1.4061-07	1995.	2.8051-04
5550.	1.4474+04	1.0934-07	1995.	2.1813-04
5850.	1.8825+04	1.0765-07	1197.	1.2885-04
5850.	2.0962+04	1.1687-07	1197.	1.3989-04
5850.	1.8825+04	1.0765-07	1197.	1.2885-04
5850.	1.3659+04	8.4587-08	1197.	1.0125-04
6150.	1.7228+04	1.1248-07	1596.	1.7951-04
6150.	1.8994+04	1.2081-07	1596.	1.9280-04
6150.	1.7228+04	1.1248-07	1596.	1.7951-04
6150.	1.2874+04	9.1192-08	1596.	1.4554-04

POWER = 8.4640+02 CURRENT = 1.6847+00

PMAX 2194. VOLTS
BEAM POWER = 8778. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

DISTANCE = 4.5 AU
VMULT = 1.19
BCURR = 1.3 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 6.25 MILLIAMPS
ION TEMP = 10. EV
EXPANSION ANGLE = 5.71 DEGREES
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 1. MILLIAMPS
RANG = 385.00 CM

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 2

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.1037+04	2.2334-07	63.	1.4016-05
450.	1.6572+06	5.0081-06	63.	3.1428-04
450.	7.1037+04	2.2334-07	63.	1.4016-05
450.	7.0959+04	2.2311-07	63.	1.4001-05
750.	3.2204+04	1.1307-07	188.	2.1287-05
750.	6.7191+05	2.0858-06	188.	3.9267-04
750.	3.2204+04	1.1307-07	188.	2.1287-05
750.	2.5545+04	9.1326-08	188.	1.7193-05
1050.	3.8415+04	1.2883-07	131.	1.6882-05
1050.	3.6257+05	1.1270-06	131.	1.4768-04
1050.	3.8415+04	1.2883-07	131.	1.6882-05
1050.	1.3043+04	4.7137-08	131.	6.1766-06

1350.	4.7937+04	1.4801-07	26.	3.8788-06
1350.	2.2661+05	6.8776-07	26.	1.8024-05
1350.	4.7937+04	1.4801-07	26.	3.8788-06
1350.	8.1303+03	2.6232-08	26.	6.8747-07
1650.	5.0915+04	2.0411-07	625.	1.2752-04
1650.	1.5498+05	5.5390-07	625.	3.4605-04
1650.	5.0915+04	2.0411-07	625.	1.2752-04
1650.	6.5709+03	3.8280-08	625.	2.3915-05
1950.	4.9049+04	1.9757-07	625.	1.2343-04
1950.	1.1265+05	4.1399-07	625.	2.5864-04
1950.	4.9049+04	1.9757-07	625.	1.2343-04
1950.	7.0334+03	4.0307-08	625.	2.5182-05
2250.	4.4977+04	1.5587-07	208.	3.2461-05
2250.	8.5569+04	2.8536-07	208.	5.9427-05
2250.	4.4977+04	1.5587-07	208.	3.2461-05
2250.	8.4067+03	3.4383-08	208.	7.1602-06
2550.	4.0283+04	1.8812-07	1041.	1.9588-04
2550.	6.7200+04	2.8834-07	1041.	3.0024-04
2550.	4.0283+04	1.8812-07	1041.	1.9588-04
2550.	9.8641+03	6.2981-08	1041.	6.5578-05
2850.	3.5712+04	1.6065-07	832.	1.3374-04
2850.	5.4171+04	2.2832-07	832.	1.9007-04
2850.	3.5712+04	1.6065-07	832.	1.3374-04
2850.	1.0994+04	6.2763-08	832.	5.2247-05
3150.	3.1561+04	1.2450-07	416.	5.1854-05
3150.	4.4594+04	1.6916-07	416.	7.0453-05
3150.	3.1561+04	1.2450-07	416.	5.1854-05
3150.	1.1685+04	5.3273-08	416.	2.2188-05
3450.	2.7910+04	1.1179-07	416.	4.6559-05
3450.	3.7350+04	1.4446-07	416.	6.0166-05
3450.	2.7910+04	1.1179-07	416.	4.6559-05
3450.	1.1975+04	5.4365-08	416.	2.2643-05
3750.	2.4746+04	1.3480-07	1249.	1.6843-04
3750.	3.1738+04	1.6377-07	1249.	2.0463-04
3750.	2.4746+04	1.3480-07	1249.	1.6843-04
3750.	1.1952+04	7.7997-08	1249.	9.7457-05
4050.	2.2020+04	1.4998-07	2082.	3.1234-04
4050.	2.7303+04	1.7533-07	2082.	3.6512-04
4050.	2.2020+04	1.4998-07	2082.	3.1234-04
4050.	1.1705+04	9.6348-08	2082.	2.0064-04
4350.	1.9675+04	1.2611-07	1666.	2.1010-04
4350.	2.3736+04	1.4487-07	1666.	2.4135-04
4350.	1.9675+04	1.2611-07	1666.	2.1010-04
4350.	1.1313+04	8.4844-08	1666.	1.4135-04
4650.	1.7654+04	1.0415-07	1249.	1.3014-04
4650.	2.0825+04	1.1805-07	1249.	1.4751-04
4650.	1.7654+04	1.0415-07	1249.	1.3014-04
4650.	1.0833+04	7.2626-08	1249.	9.0746-05
4950.	1.5909+04	1.1909-07	2082.	2.4800-04
4950.	1.8419+04	1.3203-07	2082.	2.7495-04
4950.	1.5909+04	1.1909-07	2082.	2.4800-04
4950.	1.0307+04	8.8383-08	2082.	1.8406-04
5250.	1.4395+04	1.0055-07	1665.	1.6738-04
5250.	1.6406+04	1.1045-07	1665.	1.8386-04

ORIGINAL PAGE IS
OF POOR QUALITY

COMPUTER PRINTOUT

TABLE 5.10

ORIGINAL PAGE IS
OF POOR QUALITY

PRECEDING PAGE BLANK NOT FILMED

DISTANCE = 1.0 AU
VMULT = 1.00
BCURR = 2.5 AMPS
ZPAN = 100.0 CM
FRACTION EXPOSED .10
RBEAM = 15.0 CM ZEMIT = 20.0 CM
EQUIV CURRENT = 12.50 MILLIAMPS
ION TEMP = 10. EV
ION MASS = 200. AMU
ELECTRON TEMPERATURE = 5. EV
NEUTRALIZER CURRENT = 1. MILLIAMPS
SPHERICAL EXPANSION CASE

ORIGINAL PAGE IS
OF POOR QUALITY

MINIMUM RADIUS = 300. CM
MAXIMUM RADIUS = 6300. CM
PANEL WIDTH = 800. CM
NUMBER OF INTEGRATION POINTS = 20
NUMBER OF THRUSTERS = 12

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	625.
1875.	0.
2625.	1250.
3000.	625.
3825.	2000.
4275.	1250.
5175.	2750.
5625.	2000.
6075.	2750.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.4135+06	7.2728-06	53.	3.8353-04
450.	2.8062+06	8.4512-06	53.	4.4567-04
450.	2.4135+06	7.2728-06	53.	3.8353-04
450.	1.7555+06	5.2970-06	53.	2.7933-04
750.	9.5332+05	2.9307-06	158.	4.6365-04
750.	1.0102+06	3.1032-06	158.	4.9094-04
750.	9.5332+05	2.9307-06	158.	4.6365-04
750.	8.2044+05	2.5276-06	158.	3.9987-04
1050.	5.0011+05	1.5396-06	110.	1.6954-04
1050.	5.1542+05	1.5861-06	110.	1.7465-04
1050.	5.0011+05	1.5396-06	110.	1.6954-04
1050.	4.6001+05	1.4179-06	110.	1.5613-04
1350.	3.0611+05	9.2569-07	22.	2.0386-05
1350.	3.1179+05	9.4277-07	22.	2.0762-05
1350.	3.0611+05	9.2569-07	22.	2.0386-05
1350.	2.9045+05	8.7858-07	22.	1.9349-05
1650.	2.0616+05	6.8762-07	375.	2.5786-04

1650.	2.0872+05	6.9573-07	375.	2.6090-04
1650.	2.0616+05	6.8762-07	375.	2.5786-04
1650.	1.9889+05	6.6463-07	375.	2.4924-04
1950.	1.4812+05	5.0323-07	375.	1.8871-04
1950.	1.4944+05	5.0745-07	375.	1.9029-04
1950.	1.4812+05	5.0323-07	375.	1.8871-04
1950.	1.4432+05	4.9109-07	375.	1.8416-04
2250.	1.1150+05	3.5637-07	125.	4.4546-05
2250.	1.1225+05	3.5867-07	125.	4.4834-05
2250.	1.1150+05	3.5637-07	125.	4.4546-05
2250.	1.0933+05	3.4965-07	125.	4.3706-05
2550.	8.6936+04	3.2774-07	625.	2.0484-04
2550.	8.7389+04	3.2928-07	625.	2.0580-04
2550.	8.6936+04	3.2774-07	625.	2.0484-04
2550.	8.5609+04	3.2326-07	625.	2.0204-04
2850.	6.9669+04	3.0263-07	1125.	3.4046-04
2850.	6.9959+04	3.0369-07	1125.	3.4166-04
2850.	6.9669+04	3.0263-07	1125.	3.4046-04
2850.	6.8813+04	2.9949-07	1125.	3.3692-04
3150.	5.7073+04	2.4135-07	875.	2.1118-04
3150.	5.7268+04	2.4206-07	875.	2.1180-04
3150.	5.7073+04	2.4135-07	875.	2.1118-04
3150.	5.6498+04	2.3927-07	875.	2.0936-04
3450.	4.7606+04	2.0692-07	875.	1.8105-04
3450.	4.7742+04	2.0741-07	875.	1.8149-04
3450.	4.7606+04	2.0692-07	875.	1.8105-04
3450.	4.7205+04	2.0544-07	875.	1.7976-04
3750.	4.0311+04	2.0392-07	1375.	2.8040-04
3750.	4.0409+04	2.0432-07	1375.	2.8093-04
3750.	4.0311+04	2.0392-07	1375.	2.8040-04
3750.	4.0023+04	2.0276-07	1375.	2.7880-04
4050.	3.4572+04	2.0083-07	1875.	3.7655-04
4050.	3.4644+04	2.0114-07	1875.	3.7714-04
4050.	3.4572+04	2.0083-07	1875.	3.7655-04
4050.	3.4360+04	1.9989-07	1875.	3.7479-04
4350.	2.9976+04	1.7114-07	1625.	2.7810-04
4350.	3.0030+04	1.7137-07	1625.	2.7848-04
4350.	2.9976+04	1.7114-07	1625.	2.7810-04
4350.	2.9817+04	1.7044-07	1625.	2.7697-04
4650.	2.6239+04	1.4574-07	1375.	2.0039-04
4650.	2.6280+04	1.4591-07	1375.	2.0063-04
4650.	2.6239+04	1.4574-07	1375.	2.0039-04
4650.	2.6117+04	1.4521-07	1375.	1.9967-04
4950.	2.3159+04	1.4901-07	1875.	2.7939-04
4950.	2.3191+04	1.4916-07	1875.	2.7967-04
4950.	2.3159+04	1.4901-07	1875.	2.7939-04
4950.	2.3064+04	1.4856-07	1875.	2.7854-04
5250.	2.0591+04	1.5136-07	2375.	3.5949-04
5250.	2.0617+04	1.5150-07	2375.	3.5980-04
5250.	2.0591+04	1.5136-07	2375.	3.5949-04
5250.	2.0516+04	1.5097-07	2375.	3.5856-04
5550.	1.8428+04	1.4667-07	2625.	3.8501-04
5550.	1.8448+04	1.4678-07	2625.	3.8530-04
5550.	1.8428+04	1.4667-07	2625.	3.8501-04
5550.	1.8367+04	1.4634-07	2625.	3.8414-04
5850.	1.6588+04	1.2374-07	2125.	2.6296-04
5850.	1.6604+04	1.2383-07	2125.	2.6314-04
5850.	1.6588+04	1.2374-07	2125.	2.6296-04
5850.	1.6539+04	1.2349-07	2125.	2.6241-04
6150.	1.5011+04	1.2155-07	2375.	2.8868-04
6150.	1.5024+04	1.2162-07	2375.	2.8886-04
6150.	1.5011+04	1.2155-07	2375.	2.8868-04
6150.	1.4970+04	1.2133-07	2375.	2.8815-04

POWER = 1.2359+03 CURRENT = 3.9398+00

PMAX 2750. VOLTS
BEAM POWER = 82500. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      5.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =     12
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.2209+06	3.6976-06	66.	2.4374-04
450.	1.3779+06	4.1702-06	66.	2.7489-04
450.	1.2209+06	3.6976-06	66.	2.4374-04
450.	9.5765+05	2.9052-06	66.	1.9150-04
750.	4.7329+05	1.4820-06	198.	2.9306-04
750.	4.9605+05	1.5516-06	198.	3.0683-04
750.	4.7329+05	1.4820-06	198.	2.9306-04
750.	4.2014+05	1.3192-06	198.	2.6087-04
1050.	2.4696+05	7.7520-07	138.	1.0670-04
1050.	2.5309+05	7.9396-07	138.	1.0928-04
1050.	2.4696+05	7.7520-07	138.	1.0670-04
1050.	2.3092+05	7.2602-07	138.	9.9931-05
1350.	1.5083+05	4.5959-07	28.	1.2652-05
1350.	1.5310+05	4.6645-07	28.	1.2841-05
1350.	1.5083+05	4.5959-07	28.	1.2652-05
1350.	1.4456+05	4.4068-07	28.	1.2131-05
1650.	1.0146+05	3.6242-07	469.	1.6988-04

1650.	1.0249+05	3.6578-07	469.	1.7146-04
1650.	1.0146+05	3.6242-07	469.	1.6988-04
1650.	9.8558+04	3.5288-07	469.	1.6541-04
1950.	7.2852+04	2.6785-07	469.	1.2556-04
1950.	7.3380+04	2.6961-07	469.	1.2638-04
1950.	7.2852+04	2.6785-07	469.	1.2556-04
1950.	7.1333+04	2.6279-07	469.	1.2318-04
2250.	5.4818+04	1.8295-07	156.	2.8586-05
2250.	5.5117+04	1.8389-07	156.	2.8733-05
2250.	5.4818+04	1.8295-07	156.	2.8586-05
2250.	5.3950+04	1.8020-07	156.	2.8156-05
2550.	4.2730+04	1.8395-07	781.	1.4371-04
2550.	4.2911+04	1.8461-07	781.	1.4423-04
2550.	4.2730+04	1.8395-07	781.	1.4371-04
2550.	4.2199+04	1.8202-07	781.	1.4220-04
2850.	3.4236+04	1.8052-07	1406.	2.5386-04
2850.	3.4352+04	1.8101-07	1406.	2.5454-04
2850.	3.4236+04	1.8052-07	1406.	2.5386-04
2850.	3.3894+04	1.7911-07	1406.	2.5187-04
3150.	2.8043+04	1.4243-07	1094.	1.5579-04
3150.	2.8121+04	1.4275-07	1094.	1.5613-04
3150.	2.8043+04	1.4243-07	1094.	1.5579-04
3150.	2.7812+04	1.4150-07	1094.	1.5477-04
3450.	2.3389+04	1.2343-07	1094.	1.3501-04
3450.	2.3443+04	1.2366-07	1094.	1.3525-04
3450.	2.3389+04	1.2343-07	1094.	1.3501-04
3450.	2.3228+04	1.2277-07	1094.	1.3428-04
3750.	1.9803+04	1.2831-07	1719.	2.2053-04
3750.	1.9842+04	1.2849-07	1719.	2.2084-04
3750.	1.9803+04	1.2831-07	1719.	2.2053-04
3750.	1.9688+04	1.2776-07	1719.	2.1959-04
4050.	1.6983+04	1.3152-07	2344.	3.0825-04
4050.	1.7011+04	1.3168-07	2344.	3.0861-04
4050.	1.6983+04	1.3152-07	2344.	3.0825-04
4050.	1.6898+04	1.3107-07	2344.	3.0718-04
4350.	1.4724+04	1.1156-07	2031.	2.2660-04
4350.	1.4746+04	1.1167-07	2031.	2.2683-04
4350.	1.4724+04	1.1156-07	2031.	2.2660-04
4350.	1.4660+04	1.1122-07	2031.	2.2592-04
4650.	1.2888+04	9.4276-08	1719.	1.6204-04
4650.	1.2904+04	9.4361-08	1719.	1.6218-04
4650.	1.2888+04	9.4276-08	1719.	1.6204-04
4650.	1.2839+04	9.4024-08	1719.	1.6160-04
4950.	1.1375+04	1.0009-07	2344.	2.3459-04
4950.	1.1388+04	1.0017-07	2344.	2.3477-04
4950.	1.1375+04	1.0009-07	2344.	2.3459-04
4950.	1.1337+04	9.9866-08	2344.	2.3406-04
5250.	1.0113+04	1.0463-07	2969.	3.1063-04
5250.	1.0123+04	1.0470-07	2969.	3.1083-04
5250.	1.0113+04	1.0463-07	2969.	3.1063-04
5250.	1.0083+04	1.0443-07	2969.	3.1003-04
5550.	9.0505+03	1.0292-07	3281.	3.3772-04
5550.	9.0586+03	1.0298-07	3281.	3.3791-04
5550.	9.0505+03	1.0292-07	3281.	3.3772-04
5550.	9.0263+03	1.0275-07	3281.	3.3715-04
5850.	8.1468+03	8.5786-08	2656.	2.2787-04
5850.	8.1533+03	8.5830-08	2656.	2.2799-04
5850.	8.1468+03	8.5786-08	2656.	2.2787-04
5850.	8.1271+03	8.5653-08	2656.	2.2752-04
6150.	7.3719+03	8.5558-08	2969.	2.5400-04
6150.	7.3773+03	8.5597-08	2969.	2.5412-04
6150.	7.3719+03	8.5558-08	2969.	2.5400-04
6150.	7.3558+03	8.5441-08	2969.	2.5365-04

POWER = 9.4483+02 CURRENT = 2.0843+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

@XQT

```
 DISTANCE =     1.6 AU
VMULT =    1.25
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	225.
1125.	0.
1500.	781.
1875.	0.
2625.	1563.
3000.	781.
3825.	2500.
4275.	1563.
5175.	3438.
5625.	2500.
6075.	3438.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0080+06	3.0568-06	66.	2.0150-04
450.	1.1650+06	3.5296-06	66.	2.3266-04
450.	1.0080+06	3.0568-06	66.	2.0150-04
450.	7.4477+05	2.2637-06	66.	1.4922-04
750.	3.9666+05	1.2472-06	198.	2.4663-04
750.	4.1941+05	1.3169-06	198.	2.6043-04
750.	3.9666+05	1.2472-06	198.	2.4663-04
750.	3.4350+05	1.0840-06	198.	2.1436-04
1050.	2.0786+05	6.5525-07	138.	9.0190-05
1050.	2.1399+05	6.7405-07	138.	9.2778-05
1050.	2.0786+05	6.5525-07	138.	9.0190-05
1050.	1.9182+05	6.0596-07	138.	8.3406-05
1350.	1.2718+05	3.8816-07	28.	1.0686-05
1350.	1.2945+05	3.9503-07	28.	1.0875-05
1350.	1.2718+05	3.8816-07	28.	1.0686-05
1350.	1.2091+05	3.6923-07	28.	1.0164-05
1650.	8.5630+04	3.1027-07	469.	1.4544-04

1650.	8.6656+04	3.1366-07	469.	1.4703-04
1650.	8.5630+04	3.1027-07	469.	1.4544-04
1650.	8.2724+04	3.0066-07	469.	1.4093-04
1950.	6.1516+04	2.2990-07	469.	1.0777-04
1950.	6.2043+04	2.3168-07	469.	1.0860-04
1950.	6.1516+04	2.2990-07	469.	1.0777-04
1950.	5.9996+04	2.2479-07	469.	1.0537-04
2250.	4.6303+04	1.5595-07	156.	2.4367-05
2250.	4.6601+04	1.5689-07	156.	2.4515-05
2250.	4.6303+04	1.5595-07	156.	2.4367-05
2250.	4.5435+04	1.5318-07	156.	2.3935-05
2550.	3.6100+04	1.5959-07	781.	1.2468-04
2550.	3.6281+04	1.6026-07	781.	1.2520-04
2550.	3.6100+04	1.5959-07	781.	1.2468-04
2550.	3.5569+04	1.5762-07	781.	1.2314-04
2850.	2.8929+04	1.5834-07	1406.	2.2267-04
2850.	2.9045+04	1.5884-07	1406.	2.2336-04
2850.	2.8929+04	1.5834-07	1406.	2.2267-04
2850.	2.8587+04	1.5689-07	1406.	2.2063-04
3150.	2.3698+04	1.2471-07	1094.	1.3641-04
3150.	2.3776+04	1.2504-07	1094.	1.3676-04
3150.	2.3698+04	1.2471-07	1094.	1.3641-04
3150.	2.3468+04	1.2376-07	1094.	1.3537-04
3450.	1.9767+04	1.0829-07	1094.	1.1844-04
3450.	1.9821+04	1.0852-07	1094.	1.1869-04
3450.	1.9767+04	1.0829-07	1094.	1.1844-04
3450.	1.9606+04	1.0761-07	1094.	1.1770-04
3750.	1.6738+04	1.1357-07	1719.	1.9520-04
3750.	1.6777+04	1.1376-07	1719.	1.9552-04
3750.	1.6738+04	1.1357-07	1719.	1.9520-04
3750.	1.6622+04	1.1300-07	1719.	1.9423-04
4050.	1.4355+04	1.1715-07	2344.	2.7458-04
4050.	1.4383+04	1.1731-07	2344.	2.7495-04
4050.	1.4355+04	1.1715-07	2344.	2.7458-04
4050.	1.4270+04	1.1668-07	2344.	2.7347-04
4350.	1.2446+04	9.9303-08	2031.	2.0171-04
4350.	1.2468+04	9.9420-08	2031.	2.0195-04
4350.	1.2446+04	9.9303-08	2031.	2.0171-04
4350.	1.2382+04	9.8952-08	2031.	2.0100-04
4650.	1.0894+04	8.3823-08	1719.	1.4407-04
4650.	1.0911+04	8.3911-08	1719.	1.4422-04
4650.	1.0894+04	8.3823-08	1719.	1.4407-04
4650.	1.0845+04	8.3561-08	1719.	1.4362-04
4950.	9.6156+03	8.9506-08	2344.	2.0978-04
4950.	9.6284+03	8.9585-08	2344.	2.0997-04
4950.	9.6156+03	8.9506-08	2344.	2.0978-04
4950.	9.5773+03	8.9271-08	2344.	2.0923-04
5250.	8.5493+03	9.3963-08	2969.	2.7895-04
5250.	8.5595+03	9.4034-08	2969.	2.7916-04
5250.	8.5493+03	9.3963-08	2969.	2.7895-04
5250.	8.5191+03	9.3752-08	2969.	2.7832-04
5550.	7.6510+03	9.2628-08	3281.	3.0393-04
5550.	7.6591+03	9.2689-08	3281.	3.0414-04
5550.	7.6510+03	9.2628-08	3281.	3.0393-04
5550.	7.6268+03	9.2445-08	3281.	3.0333-04
5850.	6.8871+03	7.7071-08	2656.	2.0472-04
5850.	6.8937+03	7.7118-08	2656.	2.0484-04
5850.	6.8871+03	7.7071-08	2656.	2.0472-04
5850.	6.8675+03	7.6932-08	2656.	2.0435-04
6150.	6.2322+03	7.7034-08	2969.	2.2869-04
6150.	6.2376+03	7.7075-08	2969.	2.2882-04
6150.	6.2322+03	7.7034-08	2969.	2.2869-04
6150.	6.2161+03	7.6911-08	2969.	2.2833-04

POWER = 8.2952+02 CURRENT = 1.7569+00

PMAX 3438. VOLTS
BEAM POWER = 41250. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

@XQT

```
 DISTANCE =     2.2 AU
VMULT =    1.40
BCURR =     1.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      5.00 MILLIAMPS
ION TEMP    =    10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	252.
1125.	0.
1500.	875.
1875.	0.
2625.	1750.
3000.	875.
3825.	2800.
4275.	1750.
5175.	3850.
5625.	2800.
6075.	3850.

RADIUS	NE	CURR DENS	POT	POWER
450.	6.1043+05	1.8615-06	74.	1.3743-04
450.	6.8896+05	2.0986-06	74.	1.5493-04
450.	6.1043+05	1.8615-06	74.	1.3743-04
450.	4.7883+05	1.4638-06	74.	1.0807-04
750.	2.3665+05	7.5899-07	221.	1.6810-04
750.	2.4802+05	7.9423-07	221.	1.7591-04
750.	2.3665+05	7.5899-07	221.	1.6810-04
750.	2.1007+05	6.7655-07	221.	1.4985-04
1050.	1.2348+05	3.9751-07	154.	6.1280-05
1050.	1.2654+05	4.0701-07	154.	6.2745-05
1050.	1.2348+05	3.9751-07	154.	6.1280-05
1050.	1.1546+05	3.7259-07	154.	5.7439-05
1350.	7.5415+04	2.3211-07	31.	7.1565-06
1350.	7.6551+04	2.3556-07	31.	7.2628-06
1350.	7.5415+04	2.3211-07	31.	7.1565-06
1350.	7.2282+04	2.2261-07	31.	6.8634-06
1650.	5.0732+04	1.9714-07	525.	1.0350-04

1650.	5.1245+04	1.9890-07	525.	1.0442-04
1650.	5.0732+04	1.9714-07	525.	1.0350-04
1650.	4.9279+04	1.9214-07	525.	1.0087-04
1950.	3.6426+04	1.4742-07	525.	7.7397-05
1950.	3.6690+04	1.4835-07	525.	7.7884-05
1950.	3.6426+04	1.4742-07	525.	7.7397-05
1950.	3.5666+04	1.4475-07	525.	7.5992-05
2250.	2.7409+04	9.6610-08	175.	1.6907-05
2250.	2.7558+04	9.7096-08	175.	1.6992-05
2250.	2.7409+04	9.6610-08	175.	1.6907-05
2250.	2.6975+04	9.5195-08	175.	1.6659-05
2550.	2.1365+04	1.0714-07	875.	9.3745-05
2550.	2.1455+04	1.0750-07	875.	9.4062-05
2550.	2.1365+04	1.0714-07	875.	9.3745-05
2550.	2.1099+04	1.0607-07	875.	9.2815-05
2850.	1.7118+04	1.1135-07	1575.	1.7538-04
2850.	1.7176+04	1.1163-07	1575.	1.7581-04
2850.	1.7118+04	1.1135-07	1575.	1.7538-04
2850.	1.6947+04	1.1054-07	1575.	1.7410-04
3150.	1.4021+04	8.7024-08	1225.	1.0660-04
3150.	1.4060+04	8.7203-08	1225.	1.0682-04
3150.	1.4021+04	8.7024-08	1225.	1.0660-04
3150.	1.3906+04	8.6494-08	1225.	1.0595-04
3450.	1.1694+04	7.6153-08	1225.	9.3288-05
3450.	1.1721+04	7.6282-08	1225.	9.3446-05
3450.	1.1694+04	7.6153-08	1225.	9.3288-05
3450.	1.1614+04	7.5772-08	1225.	9.2820-05
3750.	9.9015+03	8.2797-08	1925.	1.5938-04
3750.	9.9210+03	8.2908-08	1925.	1.5960-04
3750.	9.9015+03	8.2797-08	1925.	1.5938-04
3750.	9.8439+03	8.2470-08	1925.	1.5875-04
4050.	8.4913+03	8.7547-08	2625.	2.2981-04
4050.	8.5056+03	8.7643-08	2625.	2.3006-04
4050.	8.4913+03	8.7547-08	2625.	2.2981-04
4050.	8.4489+03	8.7265-08	2625.	2.2907-04
4350.	7.3622+03	7.4001-08	2275.	1.6835-04
4350.	7.3729+03	7.4071-08	2275.	1.6851-04
4350.	7.3622+03	7.4001-08	2275.	1.6835-04
4350.	7.3302+03	7.3792-08	2275.	1.6788-04
4650.	6.4440+03	6.2178-08	1925.	1.1969-04
4650.	6.4522+03	6.2230-08	1925.	1.1979-04
4650.	6.4440+03	6.2178-08	1925.	1.1969-04
4650.	6.4195+03	6.2023-08	1925.	1.1940-04
4950.	5.6874+03	6.7876-08	2625.	1.7818-04
4950.	5.6939+03	6.7924-08	2625.	1.7830-04
4950.	5.6874+03	6.7876-08	2625.	1.7818-04
4950.	5.6683+03	6.7734-08	2625.	1.7780-04
5250.	5.0567+03	7.2391-08	3325.	2.4070-04
5250.	5.0617+03	7.2434-08	3325.	2.4084-04
5250.	5.0567+03	7.2391-08	3325.	2.4070-04
5250.	5.0415+03	7.2260-08	3325.	2.4026-04
5550.	4.5252+03	7.1932-08	3675.	2.6435-04
5550.	4.5293+03	7.1970-08	3675.	2.6449-04
5550.	4.5252+03	7.1932-08	3675.	2.6435-04
5550.	4.5131+03	7.1817-08	3675.	2.6393-04
5850.	4.0734+03	5.9468-08	2975.	1.7692-04
5850.	4.0767+03	5.9497-08	2975.	1.7700-04
5850.	4.0734+03	5.9468-08	2975.	1.7692-04
5850.	4.0636+03	5.9381-08	2975.	1.7666-04
6150.	3.6860+03	5.9918-08	3325.	1.9923-04
6150.	3.6886+03	5.9943-08	3325.	1.9931-04
6150.	3.6860+03	5.9918-08	3325.	1.9923-04
6150.	3.6779+03	5.9840-08	3325.	1.9897-04

POWER = 6.6463+02 CURRENT = 1.1164+00

PMAX 3850. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

BXQT

```
 DISTANCE =     2.2 AU
VMULT =    1.00
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	180.
1125.	0.
1500.	875.
1875.	0.
2250.	875.
2251.	0.
2625.	875.
3000.	0.
3825.	1925.
4275.	875.
4725.	1925.
4726.	875.
5175.	1925.
5625.	875.
6075.	1925.

RADIUS	NE	CURR DENS	POT	POWER
450.	1.0080+06	3.0502-06	53.	1.6085-04
450.	1.1650+06	3.5225-06	53.	1.8576-04
450.	1.0080+06	3.0502-06	53.	1.6085-04
450.	7.4477+05	2.2581-06	53.	1.1908-04
750.	3.9666+05	1.2378-06	158.	1.9582-04
750.	4.1941+05	1.3073-06	158.	2.0681-04
750.	3.9666+05	1.2378-06	158.	1.9582-04
750.	3.4350+05	1.0752-06	158.	1.7010-04
1050.	2.0786+05	6.5006-07	110.	7.1580-05
1050.	2.1399+05	6.6878-07	110.	7.3642-05
1050.	2.0786+05	6.5006-07	110.	7.1580-05
1050.	1.9182+05	6.0097-07	110.	6.6175-05
1350.	1.2718+05	3.8695-07	22.	8.5217-06

1350.	1.2945+05	3.9380-07	22.	8.6727-06
1350.	1.2718+05	3.8695-07	22.	8.5217-06
1350.	1.2091+05	3.6805-07	22.	8.1054-06
1650.	8.5630+04	3.1508-07	525.	1.6542-04
1650.	8.6656+04	3.1850-07	525.	1.6721-04
1650.	8.5630+04	3.1508-07	525.	1.6542-04
1650.	8.2724+04	3.0538-07	525.	1.6033-04
1950.	6.1516+04	2.3398-07	525.	1.2284-04
1950.	6.2043+04	2.3577-07	525.	1.2378-04
1950.	6.1516+04	2.3398-07	525.	1.2284-04
1950.	5.9996+04	2.2881-07	525.	1.2013-04
2250.	4.6303+04	1.5750-07	175.	2.7562-05
2250.	4.6601+04	1.5845-07	175.	2.7729-05
2250.	4.6303+04	1.5750-07	175.	2.7562-05
2250.	4.5435+04	1.5472-07	175.	2.7076-05
2550.	3.6100+04	1.6417-07	875.	1.4365-04
2550.	3.6281+04	1.6485-07	875.	1.4425-04
2550.	3.6100+04	1.6417-07	875.	1.4365-04
2550.	3.5569+04	1.6217-07	875.	1.4190-04
2850.	2.8929+04	1.2906-07	700.	9.0278-05
2850.	2.9045+04	1.2949-07	700.	9.0582-05
2850.	2.8929+04	1.2906-07	700.	9.0278-05
2850.	2.8587+04	1.2778-07	700.	8.9386-05
3150.	2.3698+04	9.3774-08	350.	3.2821-05
3150.	2.3776+04	9.4045-08	350.	3.2916-05
3150.	2.3698+04	9.3774-08	350.	3.2821-05
3150.	2.3468+04	9.2974-08	350.	3.2541-05
3450.	1.9767+04	8.0032-08	350.	2.8011-05
3450.	1.9821+04	8.0223-08	350.	2.8078-05
3450.	1.9767+04	8.0032-08	350.	2.8011-05
3450.	1.9606+04	7.9466-08	350.	2.7813-05
3750.	1.6738+04	9.3941-08	1050.	9.8639-05
3750.	1.6777+04	9.4109-08	1050.	9.8814-05
3750.	1.6738+04	9.3941-08	1050.	9.8639-05
3750.	1.6622+04	9.3445-08	1050.	9.8117-05
4050.	1.4355+04	1.0255-07	1750.	1.7946-04
4050.	1.4383+04	1.0269-07	1750.	1.7971-04
4050.	1.4355+04	1.0255-07	1750.	1.7946-04
4050.	1.4270+04	1.0212-07	1750.	1.7870-04
4350.	1.2446+04	8.4181-08	1400.	1.1785-04
4350.	1.2468+04	8.4286-08	1400.	1.1800-04
4350.	1.2446+04	8.4181-08	1400.	1.1785-04
4350.	1.2382+04	8.3869-08	1400.	1.1742-04
4650.	1.0894+04	6.7988-08	1050.	7.1387-05
4650.	1.0911+04	6.8064-08	1050.	7.1467-05
4650.	1.0894+04	6.7988-08	1050.	7.1387-05
4650.	1.0845+04	6.7762-08	1050.	7.1150-05
4950.	9.6156+03	7.7552-08	1750.	1.3572-04
4950.	9.6284+03	7.7623-08	1750.	1.3584-04
4950.	9.6156+03	7.7552-08	1750.	1.3572-04
4950.	9.5773+03	7.7341-08	1750.	1.3535-04
5250.	8.5493+03	6.4463-08	1399.	9.0173-05
5250.	8.5595+03	6.4517-08	1399.	9.0248-05
5250.	8.5493+03	6.4463-08	1399.	9.0173-05
5250.	8.5191+03	6.4304-08	1399.	8.9951-05
5550.	7.6510+03	6.6408-08	1750.	1.1621-04
5550.	7.6591+03	6.6456-08	1750.	1.1630-04
5550.	7.6510+03	6.6408-08	1750.	1.1621-04
5550.	7.6268+03	6.6267-08	1750.	1.1597-04
5850.	6.8871+03	4.8749-08	1050.	5.1187-05
5850.	6.8937+03	4.8783-08	1050.	5.1222-05
5850.	6.8871+03	4.8749-08	1050.	5.1187-05
5850.	6.8675+03	4.8651-08	1050.	5.1083-05
6150.	6.2322+03	5.1868-08	1400.	7.2616-05
6150.	6.2376+03	5.1899-08	1400.	7.2658-05
6150.	6.2322+03	5.1868-08	1400.	7.2616-05
6150.	6.2161+03	5.1777-08	1400.	7.2488-05

POWER = 4.7266+02 CURRENT = 1.6892+00

PMAX 1925. VOLTS
BEAM POWER = 23100. WATTS

ORIGINAL PAGE IS
OF POOR QUALITY

@XQT

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     1.3 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =   20.0 CM
EQUIV CURRENT =      6.65 MILLIAMPS
ION TEMP    =     10. EV
ION MASS    =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      6
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	7.4162+05	2.2500-06	56.	1.2577-04
450.	8.4606+05	2.5645-06	56.	1.4335-04
450.	7.4162+05	2.2500-06	56.	1.2577-04
450.	5.6659+05	1.7225-06	56.	9.6286-05
750.	2.8945+05	9.1162-07	168.	1.5287-04
750.	3.0458+05	9.5807-07	168.	1.6066-04
750.	2.8945+05	9.1162-07	168.	1.5287-04
750.	2.5410+05	8.0302-07	168.	1.3466-04
1050.	1.5133+05	4.7791-07	117.	5.5782-05
1050.	1.5540+05	4.9042-07	117.	5.7243-05
1050.	1.5133+05	4.7791-07	117.	5.5782-05
1050.	1.4066+05	4.4510-07	117.	5.1952-05
1350.	9.2496+04	2.8252-07	23.	6.5953-06

1350.	9.4007+04	2.8709-07	23.	6.7019-06
1350.	9.2496+04	2.8252-07	23.	6.5953-06
1350.	8.8329+04	2.6993-07	23.	6.3012-06
1650.	6.2248+04	2.3871-07	556.	1.3284-04
1650.	6.2930+04	2.4104-07	556.	1.3414-04
1650.	6.2248+04	2.3871-07	556.	1.3284-04
1650.	6.0316+04	2.3211-07	556.	1.2917-04
1950.	4.4706+04	1.7824-07	557.	9.9189-05
1950.	4.5057+04	1.7946-07	557.	9.9870-05
1950.	4.4706+04	1.7824-07	557.	9.9189-05
1950.	4.3695+04	1.7471-07	557.	9.7226-05
2250.	3.3644+04	1.1756-07	185.	2.1807-05
2250.	3.3843+04	1.1820-07	185.	2.1927-05
2250.	3.3644+04	1.1756-07	185.	2.1807-05
2250.	3.3067+04	1.1569-07	185.	2.1460-05
2550.	2.6227+04	1.2849-07	927.	1.1917-04
2550.	2.6348+04	1.2896-07	927.	1.1961-04
2550.	2.6227+04	1.2849-07	927.	1.1917-04
2550.	2.5874+04	1.2709-07	927.	1.1788-04
2850.	2.1016+04	1.0073-07	742.	7.4691-05
2850.	2.1093+04	1.0103-07	742.	7.4914-05
2850.	2.1016+04	1.0073-07	742.	7.4691-05
2850.	2.0788+04	9.9843-08	742.	7.4034-05
3150.	1.7215+04	7.1875-08	371.	2.6666-05
3150.	1.7267+04	7.2061-08	371.	2.6735-05
3150.	1.7215+04	7.1875-08	371.	2.6666-05
3150.	1.7062+04	7.1326-08	371.	2.6462-05
3450.	1.4358+04	6.1565-08	371.	2.2840-05
3450.	1.4394+04	6.1696-08	371.	2.2889-05
3450.	1.4358+04	6.1565-08	371.	2.2840-05
3450.	1.4251+04	6.1176-08	371.	2.2696-05
3750.	1.2157+04	7.5432-08	1113.	8.3956-05
3750.	1.2183+04	7.5551-08	1113.	8.4088-05
3750.	1.2157+04	7.5432-08	1113.	8.3956-05
3750.	1.2081+04	7.5079-08	1113.	8.3563-05
4050.	1.0426+04	8.4262-08	1855.	1.5631-04
4050.	1.0445+04	8.4367-08	1855.	1.5650-04
4050.	1.0426+04	8.4262-08	1855.	1.5631-04
4050.	1.0370+04	8.3949-08	1855.	1.5572-04
4350.	9.0399+03	6.8844-08	1484.	1.0216-04
4350.	9.0542+03	6.8920-08	1484.	1.0228-04
4350.	9.0399+03	6.8844-08	1484.	1.0216-04
4350.	8.9974+03	6.8618-08	1484.	1.0183-04
4650.	7.9126+03	5.5187-08	1113.	6.1424-05
4650.	7.9236+03	5.5242-08	1113.	6.1484-05
4650.	7.9126+03	5.5187-08	1113.	6.1424-05
4650.	7.8800+03	5.5025-08	1113.	6.1243-05
4950.	6.9837+03	6.4329-08	1855.	1.1933-04
4950.	6.9923+03	6.4381-08	1855.	1.1943-04
4950.	6.9837+03	6.4329-08	1855.	1.1933-04
4950.	6.9583+03	6.4174-08	1855.	1.1904-04
5250.	6.2092+03	5.3199-08	1483.	7.8881-05
5250.	6.2160+03	5.3238-08	1483.	7.8939-05
5250.	6.2092+03	5.3199-08	1483.	7.8881-05
5250.	6.1891+03	5.3082-08	1483.	7.8708-05
5550.	5.5567+03	5.5370-08	1855.	1.0271-04
5550.	5.5621+03	5.5405-08	1855.	1.0278-04
5550.	5.5567+03	5.5370-08	1855.	1.0271-04
5550.	5.5406+03	5.5266-08	1855.	1.0252-04
5850.	5.0019+03	4.0023-08	1113.	4.4546-05
5850.	5.0063+03	4.0047-08	1113.	4.4573-05
5850.	5.0019+03	4.0023-08	1113.	4.4546-05
5850.	4.9889+03	3.9951-08	1113.	4.4466-05
6150.	4.5262+03	4.3121-08	1484.	6.3991-05
6150.	4.5298+03	4.3143-08	1484.	6.4025-05
6150.	4.5262+03	4.3121-08	1484.	6.3991-05
6150.	4.5155+03	4.3054-08	1484.	6.3892-05

POWER = 3.9446+02 CURRENT = 1.2673+00

PMAX 2040. VOLTS
BEAM POWER = 16283. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

@XQT

```
 DISTANCE =     2.6 AU
VMULT =    1.06
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE


MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	191.
1125.	0.
1500.	927.
1875.	0.
2250.	927.
2251.	0.
2625.	927.
3000.	0.
3825.	2040.
4275.	927.
4725.	2040.
4726.	927.
5175.	2040.
5625.	927.
6075.	2040.

RADIUS	NE	CURR DENS	POT	POWER
450.	6.7199+05	2.0402-06	56.	1.1404-04
450.	7.7669+05	2.3556-06	56.	1.3167-04
450.	6.7199+05	2.0402-06	56.	1.1404-04
450.	4.9652+05	1.5112-06	56.	8.4472-05
750.	2.6444+05	8.3480-07	168.	1.3999-04
750.	2.7961+05	8.8141-07	168.	1.4781-04
750.	2.6444+05	8.3480-07	168.	1.3999-04
750.	2.2900+05	7.2578-07	168.	1.2171-04
1050.	1.3858+05	4.3868-07	117.	5.1203-05
1050.	1.4266+05	4.5124-07	117.	5.2670-05
1050.	1.3858+05	4.3868-07	117.	5.1203-05
1050.	1.2788+05	4.0575-07	117.	4.7359-05
1350.	8.4784+04	2.5921-07	23.	6.0510-06

1350.	8.6299+04	2.6379-07	23.	6.1579-06
1350.	8.4784+04	2.5921-07	23.	6.0510-06
1350.	8.0607+04	2.4658-07	23.	5.7561-06
1650.	5.7087+04	2.2105-07	556.	1.2302-04
1650.	5.7770+04	2.2340-07	556.	1.2432-04
1650.	5.7087+04	2.2105-07	556.	1.2302-04
1650.	5.5150+04	2.1440-07	556.	1.1931-04
1950.	4.1010+04	1.6531-07	557.	9.1993-05
1950.	4.1362+04	1.6654-07	557.	9.2680-05
1950.	4.1010+04	1.6531-07	557.	9.1993-05
1950.	3.9997+04	1.6175-07	557.	9.0012-05
2250.	3.0869+04	1.0855-07	185.	2.0135-05
2250.	3.1068+04	1.0919-07	185.	2.0255-05
2250.	3.0869+04	1.0855-07	185.	2.0135-05
2250.	3.0290+04	1.0666-07	185.	1.9786-05
2550.	2.4067+04	1.1992-07	927.	1.1123-04
2550.	2.4188+04	1.2040-07	927.	1.1167-04
2550.	2.4067+04	1.1992-07	927.	1.1123-04
2550.	2.3713+04	1.1851-07	927.	1.0992-04
2850.	1.9286+04	9.3965-08	742.	6.9675-05
2850.	1.9363+04	9.4269-08	742.	6.9901-05
2850.	1.9286+04	9.3965-08	742.	6.9675-05
2850.	1.9058+04	9.3067-08	742.	6.9010-05
3150.	1.5799+04	6.6785-08	371.	2.4777-05
3150.	1.5851+04	6.6972-08	371.	2.4847-05
3150.	1.5799+04	6.6785-08	371.	2.4777-05
3150.	1.5645+04	6.6230-08	371.	2.4571-05
3450.	1.3178+04	5.7253-08	371.	2.1241-05
3450.	1.3214+04	5.7386-08	371.	2.1290-05
3450.	1.3178+04	5.7253-08	371.	2.1241-05
3450.	1.3071+04	5.6860-08	371.	2.1095-05
3750.	1.1158+04	7.0805-08	1113.	7.8806-05
3750.	1.1184+04	7.0926-08	1113.	7.8941-05
3750.	1.1158+04	7.0805-08	1113.	7.8806-05
3750.	1.1082+04	7.0446-08	1113.	7.8406-05
4050.	9.5697+03	7.9473-08	1855.	1.4742-04
4050.	9.5888+03	7.9581-08	1855.	1.4762-04
4050.	9.5697+03	7.9473-08	1855.	1.4742-04
4050.	9.5131+03	7.9153-08	1855.	1.4683-04
4350.	8.2975+03	6.4870-08	1484.	9.6267-05
4350.	8.3118+03	6.4948-08	1484.	9.6382-05
4350.	8.2975+03	6.4870-08	1484.	9.6267-05
4350.	8.2548+03	6.4640-08	1484.	9.5925-05
4650.	7.2629+03	5.1923-08	1113.	5.7790-05
4650.	7.2739+03	5.1978-08	1113.	5.7852-05
4650.	7.2629+03	5.1923-08	1113.	5.7790-05
4650.	7.2302+03	5.1757-08	1113.	5.7605-05
4950.	6.4104+03	6.0793-08	1855.	1.1277-04
4950.	6.4189+03	6.0846-08	1855.	1.1287-04
4950.	6.4104+03	6.0793-08	1855.	1.1277-04
4950.	6.3849+03	6.0634-08	1855.	1.1248-04
5250.	5.6995+03	5.0223-08	1483.	7.4468-05
5250.	5.7063+03	5.0263-08	1483.	7.4527-05
5250.	5.6995+03	5.0223-08	1483.	7.4468-05
5250.	5.6794+03	5.0104-08	1483.	7.4292-05
5550.	5.1007+03	5.2382-08	1855.	9.7168-05
5550.	5.1061+03	5.2418-08	1855.	9.7235-05
5550.	5.1007+03	5.2382-08	1855.	9.7168-05
5550.	5.0845+03	5.2275-08	1855.	9.6970-05
5850.	4.5914+03	3.7745-08	1113.	4.2010-05
5850.	4.5958+03	3.7770-08	1113.	4.2038-05
5850.	4.5914+03	3.7745-08	1113.	4.2010-05
5850.	4.5783+03	3.7672-08	1113.	4.1929-05
6150.	4.1548+03	4.0770-08	1484.	6.0503-05
6150.	4.1584+03	4.0793-08	1484.	6.0537-05
6150.	4.1548+03	4.0770-08	1484.	6.0503-05
6150.	4.1441+03	4.0702-08	1484.	6.0401-05

POWER = 3.6781+02 CURRENT = 1.1606+00

PMAX 2040. VOLTS
BEAM POWER = 16324. WATTS

ORIGINAL PAGE IS OF POOR QUALITY

@XQT

```
 DISTANCE =     3.4 AU
VMULT =   1.14
BCURR =    1.0 AMPS
ZPAN =      100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM    ZEMIT =   20.0 CM
EQUIV CURRENT =      5.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =   300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =   800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      4
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	4.0695+05	1.2422-06	60.	7.4677-05
450.	4.5930+05	1.4003-06	60.	8.4183-05
450.	4.0695+05	1.2422-06	60.	7.4677-05
450.	3.1922+05	9.7696-07	60.	5.8732-05
750.	1.5776+05	5.0770-07	180.	9.1564-05
750.	1.6535+05	5.3124-07	180.	9.5809-05
750.	1.5776+05	5.0770-07	180.	9.1564-05
750.	1.4005+05	4.5264-07	180.	8.1635-05
1050.	8.2321+04	2.6595-07	126.	3.3384-05
1050.	8.4362+04	2.7229-07	126.	3.4181-05
1050.	8.2321+04	2.6595-07	126.	3.3384-05
1050.	7.6974+04	2.4931-07	126.	3.1295-05
1350.	5.0276+04	1.5496-07	25.	3.8905-06

1350.	5.1034+04	1.5726-07	25.	3.9482-06
1350.	5.0276+04	1.5496-07	25.	3.8905-06
1350.	4.8188+04	1.4862-07	25.	3.7312-06
1650.	3.3821+04	1.4206-07	598.	8.5025-05
1650.	3.4163+04	1.4329-07	598.	8.5760-05
1650.	3.3821+04	1.4206-07	598.	8.5025-05
1650.	3.2853+04	1.3858-07	598.	8.2938-05
1950.	2.4284+04	1.0730-07	599.	6.4217-05
1950.	2.4460+04	1.0795-07	599.	6.4607-05
1950.	2.4284+04	1.0730-07	599.	6.4217-05
1950.	2.3778+04	1.0542-07	599.	6.3093-05
2250.	1.8273+04	6.7837-08	199.	1.3533-05
2250.	1.8372+04	6.8170-08	199.	1.3600-05
2250.	1.8273+04	6.7837-08	199.	1.3533-05
2250.	1.7983+04	6.6867-08	199.	1.3340-05
2550.	1.4243+04	8.1552-08	997.	8.1348-05
2550.	1.4304+04	8.1815-08	997.	8.1611-05
2550.	1.4243+04	8.1552-08	997.	8.1348-05
2550.	1.4066+04	8.0780-08	997.	8.0578-05
2850.	1.1412+04	6.3610-08	797.	5.0727-05
2850.	1.1451+04	6.3776-08	797.	5.0860-05
2850.	1.1412+04	6.3610-08	797.	5.0727-05
2850.	1.1298+04	6.3122-08	797.	5.0337-05
3150.	9.3476+03	4.3827-08	399.	1.7487-05
3150.	9.3736+03	4.3926-08	399.	1.7527-05
3150.	9.3476+03	4.3827-08	399.	1.7487-05
3150.	9.2708+03	4.3532-08	399.	1.7369-05
3450.	7.7962+03	3.7811-08	399.	1.5086-05
3450.	7.8143+03	3.7881-08	399.	1.5115-05
3450.	7.7962+03	3.7811-08	399.	1.5086-05
3450.	7.7426+03	3.7601-08	399.	1.5003-05
3750.	6.6010+03	5.0149-08	1197.	6.0029-05
3750.	6.6140+03	5.0218-08	1197.	6.0111-05
3750.	6.6010+03	5.0149-08	1197.	6.0029-05
3750.	6.5626+03	4.9946-08	1197.	5.9785-05
4050.	5.6609+03	5.8237-08	1995.	1.1618-04
4050.	5.6704+03	5.8300-08	1995.	1.1631-04
4050.	5.6609+03	5.8237-08	1995.	1.1618-04
4050.	5.6326+03	5.8049-08	1995.	1.1581-04
4350.	4.9081+03	4.7214-08	1596.	7.5353-05
4350.	4.9153+03	4.7259-08	1596.	7.5425-05
4350.	4.9081+03	4.7214-08	1596.	7.5353-05
4350.	4.8868+03	4.7079-08	1596.	7.5138-05
4650.	4.2960+03	3.7379-08	1197.	4.4743-05
4650.	4.3015+03	3.7411-08	1197.	4.4781-05
4650.	4.2960+03	3.7379-08	1197.	4.4743-05
4650.	4.2797+03	3.7284-08	1197.	4.4629-05
4950.	3.7916+03	4.5146-08	1995.	9.0066-05
4950.	3.7959+03	4.5178-08	1995.	9.0130-05
4950.	3.7916+03	4.5146-08	1995.	9.0066-05
4950.	3.7789+03	4.5051-08	1995.	8.9877-05
5250.	3.3711+03	3.7029-08	1595.	5.9049-05
5250.	3.3745+03	3.7053-08	1595.	5.9087-05
5250.	3.3711+03	3.7029-08	1595.	5.9049-05
5250.	3.3610+03	3.6959-08	1595.	5.8937-05
5550.	3.0168+03	3.9178-08	1995.	7.8160-05
5550.	3.0195+03	3.9199-08	1995.	7.8203-05
5550.	3.0168+03	3.9178-08	1995.	7.8160-05
5550.	3.0088+03	3.9113-08	1995.	7.8031-05
5850.	2.7156+03	2.7626-08	1197.	3.3068-05
5850.	2.7178+03	2.7640-08	1197.	3.3085-05
5850.	2.7156+03	2.7626-08	1197.	3.3068-05
5850.	2.7090+03	2.7582-08	1197.	3.3016-05
6150.	2.4573+03	3.0371-08	1596.	4.8471-05
6150.	2.4591+03	3.0384-08	1596.	4.8493-05
6150.	2.4573+03	3.0371-08	1596.	4.8471-05
6150.	2.4519+03	3.0329-08	1596.	4.8406-05

POWER = 2.7160+02 CURRENT = 7.3138-01

PMAX 2194. VOLTS
BEAM POWER = 8778. WATTS

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QxQT

```
 DISTANCE =     3.4 AU
VHULT =    1.14
BCURR =     2.0 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =     10.00 MILLIAMPS
ION TEMP    =     10. EV
ION MASS   =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =  6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	205.
1125.	0.
1500.	997.
1875.	0.
2250.	997.
2251.	0.
2625.	997.
3000.	0.
3825.	2194.
4275.	997.
4725.	2194.
4726.	997.
5175.	2194.
5625.	997.
6075.	2194.

RADIUS	NE	CURR DENS	POT	POWER
450.	3.3599+05	1.0277-06	60.	6.1783-05
450.	3.8835+05	1.1860-06	60.	7.1297-05
450.	3.3599+05	1.0277-06	60.	6.1783-05
450.	2.4826+05	7.6212-07	60.	4.5817-05
750.	1.3222+05	4.2827-07	180.	7.7240-05
750.	1.3980+05	4.5189-07	180.	8.1499-05
750.	1.3222+05	4.2827-07	180.	7.7240-05
750.	1.1450+05	3.7301-07	180.	6.7273-05
1050.	6.9288+04	2.2534-07	126.	2.8287-05
1050.	7.1329+04	2.3171-07	126.	2.9086-05
1050.	6.9288+04	2.2534-07	126.	2.8287-05
1050.	6.3941+04	2.0864-07	126.	2.6190-05
1350.	4.2392+04	1.3101-07	25.	3.2891-06

1350.	4.3149+04	1.3331-07	25.	3.3469-06
1350.	4.2392+04	1.3101-07	25.	3.2891-06
1350.	4.0303+04	1.2466-07	25.	3.1296-06
1650.	2.8543+04	1.2295-07	598.	7.3587-05
1650.	2.8885+04	1.2420-07	598.	7.4333-05
1650.	2.8543+04	1.2295-07	598.	7.3587-05
1650.	2.7575+04	1.1941-07	598.	7.1468-05
1950.	2.0505+04	9.3184-08	599.	5.5771-05
1950.	2.0681+04	9.3847-08	599.	5.6167-05
1950.	2.0505+04	9.3184-08	599.	5.5771-05
1950.	1.9999+04	9.1274-08	599.	5.4627-05
2250.	1.5434+04	5.8281-08	199.	1.1627-05
2250.	1.5534+04	5.8618-08	199.	1.1694-05
2250.	1.5434+04	5.8281-08	199.	1.1627-05
2250.	1.5145+04	5.7302-08	199.	1.1432-05
2550.	1.2033+04	7.1794-08	997.	7.1615-05
2550.	1.2094+04	7.2065-08	997.	7.1885-05
2550.	1.2033+04	7.1794-08	997.	7.1615-05
2550.	1.1856+04	7.1001-08	997.	7.0824-05
2850.	9.6430+03	5.5939-08	797.	4.4609-05
2850.	9.6817+03	5.6109-08	797.	4.4745-05
2850.	9.6430+03	5.5939-08	797.	4.4609-05
2850.	9.5289+03	5.5437-08	797.	4.4209-05
3150.	7.8994+03	3.8215-08	399.	1.5248-05
3150.	7.9254+03	3.8317-08	399.	1.5288-05
3150.	7.8994+03	3.8215-08	399.	1.5248-05
3150.	7.8226+03	3.7914-08	399.	1.5128-05
3450.	6.5889+03	3.3031-08	399.	1.3179-05
3450.	6.6070+03	3.3103-08	399.	1.3208-05
3450.	6.5889+03	3.3031-08	399.	1.3179-05
3450.	6.5354+03	3.2817-08	399.	1.3094-05
3750.	5.5792+03	4.4641-08	1197.	5.3435-05
3750.	5.5922+03	4.4712-08	1197.	5.3521-05
3750.	5.5792+03	4.4641-08	1197.	5.3435-05
3750.	5.5408+03	4.4430-08	1197.	5.3182-05
4050.	4.7849+03	5.2287-08	1995.	1.0431-04
4050.	4.7944+03	5.2353-08	1995.	1.0444-04
4050.	4.7849+03	5.2287-08	1995.	1.0431-04
4050.	4.7565+03	5.2090-08	1995.	1.0392-04
4350.	4.1487+03	4.2320-08	1596.	6.7543-05
4350.	4.1559+03	4.2368-08	1596.	6.7619-05
4350.	4.1487+03	4.2320-08	1596.	6.7543-05
4350.	4.1274+03	4.2180-08	1596.	6.7319-05
4650.	3.6315+03	3.3415-08	1197.	3.9998-05
4650.	3.6370+03	3.3448-08	1197.	4.0038-05
4650.	3.6315+03	3.3415-08	1197.	3.9998-05
4650.	3.6151+03	3.3315-08	1197.	3.9878-05
4950.	3.2052+03	4.0668-08	1995.	8.1133-05
4950.	3.2095+03	4.0702-08	1995.	8.1200-05
4950.	3.2052+03	4.0668-08	1995.	8.1133-05
4950.	3.1924+03	4.0568-08	1995.	8.0934-05
5250.	2.8498+03	3.3299-08	1595.	5.3101-05
5250.	2.8532+03	3.3324-08	1595.	5.3140-05
5250.	2.8498+03	3.3299-08	1595.	5.3101-05
5250.	2.8397+03	3.3225-08	1595.	5.2983-05
5550.	2.5503+03	3.5353-08	1995.	7.0530-05
5550.	2.5530+03	3.5376-08	1995.	7.0575-05
5550.	2.5503+03	3.5353-08	1995.	7.0530-05
5550.	2.5423+03	3.5285-08	1995.	7.0394-05
5850.	2.2957+03	2.4799-08	1197.	2.9684-05
5850.	2.2979+03	2.4814-08	1197.	2.9702-05
5850.	2.2957+03	2.4799-08	1197.	2.9684-05
5850.	2.2892+03	2.4754-08	1197.	2.9630-05
6150.	2.0774+03	2.7380-08	1596.	4.3699-05
6150.	2.0792+03	2.7395-08	1596.	4.3722-05
6150.	2.0774+03	2.7380-08	1596.	4.3699-05
6150.	2.0720+03	2.7337-08	1596.	4.3629-05

POWER = 2.3885+02 CURRENT = 6.1921-01

PMAX 2194. VOLTS
BEAM POWER = 8778. WATTS

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BXQT

```
 DISTANCE =     4.5 AU
VMULT =    1.19
BCURR =     1.3 AMPS
ZPAN =       100.0 CM
FRACTION EXPOSED          .10
RBEAM =        15.0 CM     ZEMIT =    20.0 CM
EQUIV CURRENT =      6.25 MILLIAMPS
ION TEMP    =     10. EV
ION MASS.  =    200. AMU
ELECTRON TEMPERATURE =      5. EV
NEUTRALIZER CURRENT =      1. MILLIAMPS
SPHERICAL EXPANSION CASE

MINIMUM RADIUS =    300. CM
MAXIMUM RADIUS =   6300. CM
PANEL WIDTH =    800. CM
NUMBER OF INTEGRATION POINTS =     20
NUMBER OF THRUSTERS =      2
```

R	VOLTS
0.	0.
512.	214.
1125.	0.
1500.	1041.
1875.	0.
2250.	1041.
2251.	0.
2625.	1041.
3000.	0.
3825.	2291.
4275.	1041.
4725.	2291.
4726.	1041.
5175.	2291.
5625.	1041.
6075.	2291.

RADIUS	NE	CURR DENS	POT	POWER
450.	2.3661+05	7.2744-07	63.	4.5650-05
450.	2.6933+05	8.2662-07	63.	5.1874-05
450.	2.3661+05	7.2744-07	63.	4.5650-05
450.	1.8177+05	5.6101-07	63.	3.5206-05
750.	9.2216+04	3.0413-07	188.	5.7256-05
750.	9.6957+04	3.1903-07	188.	6.0061-05
750.	9.2216+04	3.0413-07	188.	5.7256-05
750.	8.1143+04	2.6926-07	188.	5.0692-05
1050.	4.8192+04	1.5974-07	131.	2.0932-05
1050.	4.9468+04	1.6376-07	131.	2.1459-05
1050.	4.8192+04	1.5974-07	131.	2.0932-05
1050.	4.4851+04	1.4920-07	131.	1.9550-05
1350.	2.9452+04	9.1722-08	26.	2.4038-06

1350.	2.9925+04	9.3167-08	26.	2.4416-06
1350.	2.9452+04	9.1722-08	26.	2.4038-06
1350.	2.8146+04	8.7737-08	26.	2.2993-06
1650.	1.9819+04	9.1619-08	625.	5.7239-05
1650.	2.0032+04	9.2432-08	625.	5.7747-05
1650.	1.9819+04	9.1619-08	625.	5.7239-05
1650.	1.9213+04	8.9311-08	625.	5.5797-05
1950.	1.4233+04	6.9980-08	625.	4.3720-05
1950.	1.4343+04	7.0414-08	625.	4.3991-05
1950.	1.4233+04	6.9980-08	625.	4.3720-05
1950.	1.3916+04	6.8726-08	625.	4.2937-05
2250.	1.0711+04	4.2463-08	208.	8.8429-06
2250.	1.0773+04	4.2679-08	208.	8.8879-06
2250.	1.0711+04	4.2463-08	208.	8.8429-06
2250.	1.0530+04	4.1833-08	208.	8.7118-06
2550.	8.3495+03	5.5774-08	1041.	5.8074-05
2550.	8.3873+03	5.5956-08	1041.	5.8265-05
2550.	8.3495+03	5.5774-08	1041.	5.8074-05
2550.	8.2389+03	5.5238-08	1041.	5.7517-05
2850.	6.6903+03	4.3320-08	832.	3.6062-05
2850.	6.7145+03	4.3435-08	832.	3.6157-05
2850.	6.6903+03	4.3320-08	832.	3.6062-05
2850.	6.6190+03	4.2983-08	832.	3.5781-05
3150.	5.4802+03	2.8940-08	416.	1.2054-05
3150.	5.4964+03	2.9007-08	416.	1.2082-05
3150.	5.4802+03	2.8940-08	416.	1.2054-05
3150.	5.4322+03	2.8742-08	416.	1.1971-05
3450.	4.5708+03	2.5132-08	416.	1.0468-05
3450.	4.5821+03	2.5180-08	416.	1.0488-05
3450.	4.5708+03	2.5132-08	416.	1.0468-05
3450.	4.5373+03	2.4990-08	416.	1.0408-05
3750.	3.8702+03	3.5620-08	1249.	4.4507-05
3750.	3.8783+03	3.5670-08	1249.	4.4569-05
3750.	3.8702+03	3.5620-08	1249.	4.4507-05
3750.	3.8462+03	3.5474-08	1249.	4.4324-05
4050.	3.3190+03	4.2591-08	2082.	8.8695-05
4050.	3.3250+03	4.2638-08	2082.	8.8793-05
4050.	3.3190+03	4.2591-08	2082.	8.8695-05
4050.	3.3013+03	4.2451-08	2082.	8.8403-05
4350.	2.8777+03	3.4335-08	1666.	5.7201-05
4350.	2.8822+03	3.4368-08	1666.	5.7257-05
4350.	2.8777+03	3.4335-08	1666.	5.7201-05
4350.	2.8644+03	3.4235-08	1666.	5.7036-05
4650.	2.5189+03	2.6932-08	1249.	3.3652-05
4650.	2.5223+03	2.6956-08	1249.	3.3681-05
4650.	2.5189+03	2.6932-08	1249.	3.3652-05
4650.	2.5087+03	2.6862-08	1249.	3.3564-05
4950.	2.2232+03	3.3382-08	2082.	6.9519-05
4950.	2.2258+03	3.3407-08	2082.	6.9569-05
4950.	2.2232+03	3.3382-08	2082.	6.9519-05
4950.	2.2152+03	3.3311-08	2082.	6.9370-05
5250.	1.9766+03	2.7221-08	1665.	4.5313-05
5250.	1.9787+03	2.7239-08	1665.	4.5342-05
5250.	1.9766+03	2.7221-08	1665.	4.5313-05
5250.	1.9703+03	2.7168-08	1665.	4.5225-05
5550.	1.7689+03	2.9137-08	2082.	6.0677-05
5550.	1.7706+03	2.9153-08	2082.	6.0712-05
5550.	1.7689+03	2.9137-08	2082.	6.0677-05
5550.	1.7638+03	2.9088-08	2082.	6.0575-05
5850.	1.5923+03	2.0186-08	1249.	2.5222-05
5850.	1.5936+03	2.0197-08	1249.	2.5236-05
5850.	1.5923+03	2.0186-08	1249.	2.5222-05
5850.	1.5882+03	2.0154-08	1249.	2.5182-05
6150.	1.4408+03	2.2514-08	1666.	3.7509-05
6150.	1.4420+03	2.2525-08	1666.	3.7526-05
6150.	1.4408+03	2.2514-08	1666.	3.7509-05
6150.	1.4375+03	2.2483-08	1666.	3.7457-05

POWER = 1.9489+02 CURRENT = 4.5291-01

PMAX 2291. VOLTS
BEAM POWER = 5727. WATTS

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