

WORKSHOP ON THE OSSA SUBORBITAL SCIENCE SOUNDING ROCKET PROGRAM

NOVEMBER 12-13, 1991

SCIENCE COMMUNITY INTERFACE

WERNER M, NEUPERT
PROJECT SCIENTIST FOR NASA SOUNDING ROCKETS

11C799967
N92-22596

92147
P
8

51-15

SCIENCE-COMMUNITY INTERFACES

UNIQUE ASPECTS OF SOUNDING ROCKET SCIENCE: WHY AND HOW DOES THE SCIENCE COMMUNITY USE THIS PROGRAM?

SELECTION PROCESS FOR SUBORBITAL SCIENTIFIC INVESTIGATIONS

OPERATIONAL CHARACTERISTICS OF SUBORBITAL SCIENCE INVESTIGATIONS

INTERFACES BETWEEN EXPERIMENTERS, NASA HEADQUARTERS AND THE RESPONSIBLE FIELD CENTER (GODDARD SPACE FLIGHT CENTER-WALLOPS FLIGHT FACILITY)

UNIQUE ASPECTS OF SOUNDING ROCKET SCIENCE

RELATIVELY SHORT TIME SPAN FROM EXPERIMENT APPROVAL TO FLIGHT

DIRECT, HANDS-ON EXPERIENCE IN INSTRUMENT DESIGN, FLIGHT HARDWARE, AND DATA ANALYSIS FOR GRADUATE STUDENTS AND YOUNG INVESTIGATORS

TEST BED FOR NEW TECHNOLOGY BEFORE COMMITTING TO LONG-TERM ORBITING SPACE FLIGHT

OPPORTUNITY FOR PRE-AND POST-FLIGHT CALIBRATION OF INSTRUMENTATION

OPPORTUNITY FOR "CAMPAIGNS" - GROUPS OF INVESTIGATIONS, FREQUENTLY COORDINATED SCIENTIFICALLY, THAT USE A COMMON LAUNCH LOCATION AND SUPPORT INFRASTRUCTURE

SELECTION PROCESS FOR SUBORBITAL SCIENTIFIC INVESTIGATIONS

PROPOSALS ARE SUBMITTED TO NASA IN RESPONSE TO A NASA RESEARCH ANNOUNCEMENT (NRA)

PROPOSAL EVALUATION MANAGED BY THE APPROPRIATE OSSA SCIENCE BRANCH

SCIENTIFIC REVIEW BY DISCIPLINE SPECIALISTS IN THE AREA OF THE PROPOSAL

EVALUATION BASED ON:

INTRINSIC SCIENTIFIC AND TECHNICAL MERIT

RELEVANCE TO NASA'S PROGRAM OBJECTIVES AND BALANCE

COST

SELECTION MADE BY A DESIGNATED NASA OFFICIAL

OPERATIONAL CHARACTERISTICS OF SUBORBITAL SCIENCE INVESTIGATIONS

EXAMPLES OF OPERATIONAL REQUESTS TO ACCOMPLISH SPECIFIC SCIENTIFIC OBSERVATIONS: TARGETED SCIENCE

TIMING OF LAUNCHES

UNANTICIPATED ASTRONOMICAL TARGETS (COMETS, SUPERNOVAE)

SPECIFIC SOLAR CONDITIONS (SOLAR ACTIVITY, TOTAL SOLAR ECLIPSE)

TRANSIENT MESOSPHERIC PHENOMENA (HIGH LATITUDE NOCTILUCENT CLOUDS)

TRANSIENT SOLAR-TERRESTRIAL PHENOMENA (AURORAE)

CALIBRATION UP-DATES OF ORBITING INSTRUMENTATION

LAUNCH SITE SELECTION

SITE SELECTION MAY BE BASED ON ACCESS TO PHENOMENA

(SOUTHERN HEMISPHERE - SUPERNOVA 1987A)

(HIGH LATITUDE NORTHERN HEMISPHERE - NOCTILUCENT CLOUDS)

COORDINATION WITH GROUND-BASED FACILITIES

EXAMPLES OF OPERATIONAL REQUESTS (CONT.)

TRAJECTORY SELECTION

**EXTREME ULTRAVIOLET SOLAR OBSERVATIONS REQUIRING HIGH ALTITUDE
(H > 200 KM) TO MINIMIZE ATMOSPHERIC ABSORPTION**

**STRATIFIED PHENOMENA AT ALTITUDES NOT FEASIBLE FOR BALLOONS AND
ORBITING SPACECRAFT (HIGH-LATITUDE NOCTILUCENT CLOUDS AT 83 KM)**

**MAGNETIC FIELD-ALIGNED PHENOMENA REQUIRING LARGE ALTITUDE RANGE
(100 - 1200 KM)**

ADDITIONAL UNIQUE OPERATIONAL ASPECTS OF SUBORBITAL SCIENCE

HIGH TELEMETRY BIT RATES PROVIDING RAPID SAMPLING OF PHENOMENA ALONG TRAJECTORY

COORDINATED PAYLOAD LAUNCHES TO GET COMPREHENSIVE COVERAGE OF MANY ASPECTS OF A PHENOMENON WITH MORE THAN ONE PAYLOAD

REAL-TIME SOLAR AND ASTRONOMICAL TARGET SELECTION AND VERIFICATION DURING THE FLIGHT

RETRIEVAL OF SPECIALIZED PHOTOGRAPHIC FILM PROVIDING HIGHER SPATIAL RESOLUTION THAN ELECTRONIC IMAGERS.

INTERFACES BETWEEN USER COMMUNITY AND NASA

NASA SOUNDING ROCKET WORKING GROUP REPRESENTING ALL SCIENCE DISCIPLINES

CONTACT BETWEEN NASA HEADQUARTERS AND COMMUNITY DURING POLICY FORMULATION

DIRECT INPUTS ON TECHNICAL NEEDS OF THE USER COMMUNITY

REVIEW OF TECHNICAL DEVELOPMENTS OF THE PROGRAM

SOUNDING ROCKET AND BALLOON NEWSLETTER PUBLISHED BY OSSA

INVESTIGATOR/FIELD CENTER (WALLOPS FLIGHT FACILITY) INTERACTIONS

PROJECT INITIATION CONFERENCE

PRE-INTEGRATION REVIEW

MISSION READINESS REVIEW

FAILURE REVIEW, IF NEEDED