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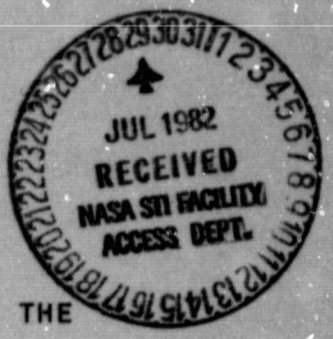

DOCUMENTATION FOR THE MACHINE-READABLE VERSION OF THE CATALOGUE OF INDIVIDUAL UBV AND UVBYβ OBSERVATIONS IN THE REGION OF THE ORION OB 1 ASSOCIATION

MAY 1982

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DOCUMENTATION FOR THE MACHINE-READABLE VERSION

OF THE

CATALOGUE OF INDIVIDUAL UBV AND uvbyβ OBSERVATIONS

IN THE REGION OF THE ORION OB 1 ASSOCIATION

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May 1982

National Space Science Data Center (NSSDC)/
World Data Center A for Rockets and Satellites (WDC-A-R&S)
National Aeronautics and Space Administration
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SECTION 1 - INTRODUCTION

The *Catalogue of Individual UBV and uvbyβ Observations of Stars in the Region of the Orion OB 1 Association* presents individual *UBV* observations of 106 stars in the vicinity of the Orion Nebula (the Sword region) and individual *uvbyβ* observations of 508 stars in all regions of the Orion OB 1 association. For the *UBV* data the stars are identified by their Brun (1935) numbers, with cross identifications to the chart numbers used in Warren and Hesser (1977); the *uvbyβ* stars are identified by the aforementioned chart numbers and HD, BD or P (= π) (Parenago 1954) numbers in that order of preference. The catalogue contains the data of all observations and is intended to provide data for investigations of variability in the Orion region.

This document describes the machine-readable files of the above catalogue, in order that users may read and process the data without unnecessary problems or guesswork. The source publication should be consulted for additional details regarding the observations, instrumentation, and photometric reductions. A copy of this document should be supplied with any machine-readable version of the catalogue.

SOURCE REFERENCE

Warren, W. H. Jr. and Hesser, J. E. 1977, *Astrophys. J. Suppl.* 34, 115.

SECTION 2 - TAPE CONTENTS

Byte-by byte descriptions of the contents of the logical records in the *UBV* and *uvbyβ* files are given in Tables 1 and 2, respectively. The suggested format specifications are for FORTRAN formatted read statements and can be modified depending upon individual programming and processing requirements; however, since certain data fields are blank for missing data, it is important to buffer the records in or read them in A (character) format and test for missing data if means are to be computed. This is an absolute necessity for color indices, which can legitimately have zero values. Alternate format specifications are given in parentheses.

Table 1. Tape Contents. *Catalogue of Individual UBV and uvbyβ Observations in the Region of Orion OB 1 Association. UBV* Data.

Byte(s)	Units	Suggested Format	Description
1- 4	---	I4	Number in the catalogue of Brun (1935).
5	---	1X	Blank
6- 8	---	I3 (A3)	Number assigned by Warren and Hesser (1977); otherwise blank.
9	---	1X	Blank
10-15	mag	F6.3	*V*. Byte 15 is used only when a night's observations averaged to yield a 5 in the thousandths column.
16	---	A1	Colon (:) for certain nightly *V*; otherwise blank.
17	---	1X	Blank
18-23	mag	F6.3	*B-V*. Byte 23 is used only when a night's observations averaged to yield a 5 in the thousandths column.
24	---	A1	Colon (:) if uncetain nightly *B-V*; otherwise blank.
25	---	1X	Blank.
26-31	mag	F6.3	*U-B*. Byte 31 is used only when a night's observations averaged to yield a 5 in the thousandths column. Blank if no data.

Table 1. (continued).

Byte(s)	Units	Suggested Format	Description
32	---	A1	Colon (:) if uncertain nightly *U-B*; otherwise blank.
33	---	A1	Additional colon if nightly *U-B* mean very uncertain.
34-35	---	2X	Blank
36-42	---	F7.4	Date of observation in form MM.DDYR (12.0468 = 4 December 1968).

Table 1a. Notes to Table 1

1. The following stars each have a single discordant value which careful inspection of the original data fails to explain; while the existence of these discrepancies may be indicative of variability, it is more likely that they simply reflect an undetected error at the telescope; therefore, they should not be used in forming means; Brun 37 (12.0568) Brun 82 (12.0668) Brun 202 (12.0468) and Brun 244 (12.0468).

2. Star Brun 490 appears variable in *V*, which Walker's (1969) data weakly suggest too.

Table 2. Tape Contents. *Catalogue of Individual UBV and uvbyβ Observations in the Region of the Orion OB 1 Association.* uvbyβ Data.

Byte(s)	Units	Suggested Format	Description
1- 5	---	I5	Number assigned by Warren and Hesser (1977) for purposes of chart identification.
6- 8	---	A3	Component idnetifications for multiple systems.
9	---	1X	Blank
10-11	---	A2	Catalogue identification for following number (HD - *Henry Draper Catalogue*; BD - *Bonner Durchmusterung*; P - Parenago [1954]).
12-18	---	I7	Catalogue number (right justified).
19	---	1X	Blank
20-25	mag	F6.3	*V* magnitude transformed from *y*. Blank when not present.
26	---	1X	Blank
27-32	mag	F6.3	*b-y* color index (blank if absent).
33	---	1X	Blank
34-39	mag	F6.3	m_1 color index (blank if absent).
40	---	1X	Blank
41-46	mag	F6.3	c_1 color index (blank if absent).
47	---	1X	Blank
48-54	mm.ddyr	F7.4	UT date of *uvby* observation in the units indicated (month. dayyear). Blank if absent.
55	---	1X	Blank
56-60	mag	F5.3	β index (blank if absent).
61	---	1X	Blank
62-68	mm.ddyr	F7.4	UT date of β observation (as in bytes 48-54). Blank if absent.

SECTION 3 - TAPE CHARACTERISTICS

The information contained in Table 3 is sufficient for a user to describe the indigenous characteristics of the two files of the *Catalogue of Individual UBV and ubvyβ Observations in the Region of the Orion OB 1 Association* to a computer. Information easily varied from installation to installation, such as block size (physical record length), blocking factor (number of logical records per physical record), total number of blocks, tape density, and internal coding (EBCDIC, ASCII, etc.) is not included. These parameters should always be supplied if secondary copies are transmitted to other installations. Parameters relating to the two files are separated by commas.

Table 3. Tape Characteristics. *Catalogue of Individual UBV and uvbyβ Observations in the Region of the Orion OB 1 Association.*

NUMBER OF FILES	2
LOGICAL RECORD LENGTH (BYTES)	42, 68
RECORD FORMAT	FB*
TOTAL NUMBER OF LOGICAL RECORDS	357, 1595

* Fixed block length (last block may be short)

SECTION 4 - REMARKS AND REFERENCES

The magnetic tape version of the catalogue was prepared at the Astronomical Data Center, NASA Goddard Space Flight Center in 1977. Some minor editing was performed prior to the preparation of this document.

REFERENCES

Brun, A, 1935, *Publ. Obs. Lyon* 1, No. 12.

Parenago, P. P. 1954, *Trudy Sternberg Astron. Inst.*, No. 25.

Walker, M. F. 1969, *Astrophys. J.* 155, 447.

Warren, W. H. Jr. and Hesser, J. E. 1977, *Astrophys. J. Suppl.* 34, 115.

SECTION 5 - SAMPLE LISTING

The sample listings given on the following pages contain logical records exactly as they are recorded on the magnetic tape. A sample listing is shown for each file; each listing contains groups of records from the beginning and end of the file. The beginning of each record and bytes within the record are indicated by the column heading index (digits read vertically).

L I S T I N G O F R E C O R D S F R O M T A P E F I L E

TAPE FILE NAME: ORION OB 1 UBV
RECORDS 1 TO 30
TAPE FILE 54
RECORD LENGTH 42 BYTES
INPUT VOLSER ADC002

COLUMN HEADING INDEX							
	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	12345
RECORD	1	12	10.63	0.49	0.05	12.0168	
RECORD	2	12	10.63	0.50	0.04	12.0368	
RECORD	3	12	10.64	0.50	0.05	12.0468	
RECORD	4	12	10.64	0.49	0.02	12.0668	
RECORD	5	17 168	10.03	0.27	0.075	12.0168	
RECORD	6	17 168	10.03	0.285	0.08	12.0368	
RECORD	7	17 168	10.06	0.27	0.09	12.0468	
RECORD	8	17 168	10.05	0.28	0.07	12.0668	
RECORD	9	18	12.18	0.69	0.35	11.1868	
RECORD	10	18	12.25	0.72	0.42 :	12.0468	
RECORD	11	18	12.215	0.76	0.31 :	12.0568	
RECORD	12	18	12.28	0.67	0.33 :	12.0668	
RECORD	13	19	10.31	0.73	0.22	10.1468	
RECORD	14	19	10.33	0.74	0.26	10.1568	
RECORD	15	19	10.33	0.72	0.19	11.1768	
RECORD	16	19	10.34	0.71	0.19	12.0268	
RECORD	17	19	10.33	0.715	0.21	12.0468	
RECORD	18	19	10.37	0.68	0.19	12.0568	
RECORD	19	20	13.92	0.89	0.19	12.0168	
RECORD	20	21	11.15	1.36	1.24	11.2268	
RECORD	21	21	11.08	1.37	1.17 :	12.0468	
RECORD	22	21	11.14	1.33	1.09 :	12.0368	
RECORD	23	25 171	7.67	0.02	-0.63	10.1468	
RECORD	24	25 171	7.63	0.02	-0.65	10.1568	
RECORD	25	25 171	7.65	0.01	-0.67	11.1768	
RECORD	26	25 171	7.67	0.01	-0.67	12.0268	
RECORD	27	25 171	7.65	0.02	-0.66	12.0468	
RECORD	28	25 171	7.68	0.005	-0.65	12.0568	
RECORD	29	28	11.86	0.66	0.175	12.0168	
RECORD	30	28	11.86	0.675	0.19	12.0368	

LISTING OF RECORDS FROM TAPE FILE

TAPE FILE NAME: ORION OB 1 UBV
RECORDS 328 TO 357
TAPE FILE 54
RECORD LENGTH 42 BYTES
INPUT VOLSER ADC002

COLUMN HEADING INDEX		1	2	3	4	5	6
		12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345					
RECORD	328	1052		13.99	1.155	0.94	11.1868
RECORD	329	1054		12.505	0.82	0.31	12.0168
RECORD	330	1054		12.52	0.76	0.39	12.0368
RECORD	331	1054		12.52	0.78	0.20	12.0668
RECORD	332	1060		11.39	0.59	0.04	11.2268
RECORD	333	1060		11.37	0.59	-0.01	12.0468
RECORD	334	1060		11.42	0.57	0.02	12.0568
RECORD	335	1060		11.43	0.59	0.00	12.0668
RECORD	336	1069	360	10.71	0.885	0.40	11.1768
RECORD	337	1069	360	10.72	0.89	0.41	12.0268
RECORD	338	1069	360	10.71	0.88	0.42	12.0468
RECORD	339	1069	360	10.76	0.87	0.43	12.0568
RECORD	340	1073	363	11.28	0.35	0.18	11.1868
RECORD	341	1073	363	11.28	0.38	0.17	12.0468
RECORD	342	1073	363	11.31	0.36	0.18	12.0568
RECORD	343	1073	363	11.32	0.39	0.17	12.0668
RECORD	344	1082	367	11.305	0.64	0.27	11.2268
RECORD	345	1082	367	11.28	0.66	0.25	12.0468
RECORD	346	1082	367	11.31	0.62	0.25	12.0568
RECORD	347	1083	369	11.97	1.10	0.80	11.2268
RECORD	348	1083	369	11.95	1.10	0.76	12.0468
RECORD	349	1083	369	11.975	1.07	0.72	12.0568
RECORD	350	1083	369	12.025	1.02	0.76	12.0668
RECORD	351	1093		11.38	0.91	0.69	11.1868
RECORD	352	1093		11.365	0.92	0.79	12.0468
RECORD	353	1093		11.40	0.88	0.66	12.0568
RECORD	354	1093		11.43	0.90	0.71	12.0668
RECORD	355	1103		11.68	0.53	0.00	12.0568
RECORD	356	1130		11.63	0.50	0.00	11.1868
RECORD	357	1139		11.64	0.525	0.04	12.0568

L I S T I N G O F R E C O R D S F R O M T A P E F I L E

TAPE FILE NAME: ORION OB 1 uvby-BETA
RECORDS 1 TO 30
TAPE FILE 55
RECORD LENGTH 68 BYTES
INPUT VOLSER ADC002

COLUMN HEADING INDEX											
	1	2	3	4	5	6	7	8	9	10	11
RECORD	1	2	HD	32867		-0.039	0.091	0.525	2.0372	2.724	2.1872
RECORD	2	2	HD	32867	7.513	-0.049	0.101	0.510	2.0872	2.735	11.0972
RECORD	3	2	HD	32867						2.719	11.1172
RECORD	4	3	HD	32884	7.657	0.004	0.148	0.992	11.0672		
RECORD	5	3	HD	32884		0.009	0.139	1.002	11.0772		
RECORD	6	4	HD	293815	10.106	0.143	0.129	0.929	11.0672	2.669	11.1072
RECORD	7	4	HD	293815		0.176	0.078	0.942	11.0772		
RECORD	8	5	HD	33023	8.310	0.075	0.177	0.996	11.0672	2.876	11.1072
RECORD	9	5	HD	33023		0.066	0.189	0.995	11.0772		
RECORD	10	6	HD	33038		-0.001	0.084	0.849	2.0372	2.782	2.1872
RECORD	11	6	HD	33038	7.606	-0.010	0.091	0.840	2.0872	2.780	11.0972
RECORD	12	6	HD	33038						2.771	11.1172
RECORD	13	7	HD	33056	8.882	-0.003	0.127	0.867	11.0672	2.694	11.1072
RECORD	14	7	HD	33056		-0.004	0.109	0.876	11.0772		
RECORD	15	8AB	HD	33647		-0.024	0.109	0.685	2.0372	2.768	2.1872
RECORD	16	8AB	HD	33647	6.690	-0.029	0.109	0.679	2.0872	2.776	11.0972
RECORD	17	8AB	HD	33647						2.761	11.1172
RECORD	18	9	HD	33765		-0.001	0.081	0.304	2.0372	2.676	2.1872
RECORD	19	9	HD	33765	8.895	-0.012	0.079	0.299	2.0872	2.681	11.0972
RECORD	20	9	HD	33765						2.688	11.1372
RECORD	21	10	HD	33900		0.034	0.110	0.777	2.0372	2.809	2.1872
RECORD	22	10	HD	33900	8.706	0.044	0.108	0.766	2.0872	2.801	11.0972
RECORD	23	10	HD	33900						2.813	11.1372
RECORD	24	11	HD	34098		-0.036	0.075	0.112	2.0372	2.630	2.1872
RECORD	25	11	HD	34098	8.767	-0.026	0.069	0.092	2.0872	2.642	11.0972
RECORD	26	11	HD	34098						2.638	11.1372
RECORD	27	12	HD	34179	8.035	0.028	0.070	0.542	2.0772	2.690	2.1872
RECORD	28	12	HD	34179	8.045	0.005	0.081	0.556	2.0872	2.684	11.0972
RECORD	29	12	HD	34179						2.686	11.1172
RECORD	30	13AB	HD	34307		0.059	0.097	0.745	2.0372	2.806	2.1872

L I S T I N G   O F   R E C O R D S   F R O M   T A P E   F I L E

TAPE FILE NAME: ORION OB 1 uvby-BETA

RECORDS 1566 TO 1595

TAPE FILE 55

RECORD LENGTH 68 BYTES

INPUT VOLSER ADC002

```
C O L U M N                                                                                        111111111111111
H E A D I N G          1111111111222222222233333333334444444444555555555566666666667777777777888888888899999999990000000000111111
I N D E X     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345
```

RECORD	1566	513	HD	38946		0.151	0.087	0.824	11.0772		
RECORD	1567	514	HD	39033		0.080	0.221	0.973	2.0372	2.883	2.2072
RECORD	1568	514	HD	39033	7.912	0.076	0.213	0.973	2.0872	2.866	11.0972
RECORD	1569	515	HD	39082		-0.032	0.203	0.885	2.0372	2.882	2.2072
RECORD	1570	515	HD	39082	7.436	-0.019	0.196	0.876	2.0872	2.856	11.0973
RECORD	1571	516	HD	39103		0.039	0.109	0.804	2.0372	2.830	2.2072
RECORD	1572	516	HD	39103	9.121	0.026	0.135	0.763	2.0872	2.796	11.0972
RECORD	1573	517	HD	39230		0.186	0.059	1.014	2.0672	2.811	11.1172
RECORD	1574	517	HD	39230	9.810	0.153	0.106	0.977	2.1272		
RECORD	1575	517	HD	39230	9.399	0.167	0.085	0.995	11.0672		
RECORD	1576	518	HD	39254	9.517	0.226	0.121	0.517	11.0672	2.755	11.1172
RECORD	1577	518	HD	39254		0.229	0.112	0.530	11.0872		
RECORD	1578	519	HD	39291		-0.088	0.094	0.108	2.0672	2.622	11.1172
RECORD	1579	519	HD	39291	5.356	-0.090	0.108	0.109	11.0672		
RECORD	1580	520A	HD	39376		-0.055	0.133	0.589	2.0672	2.757	11.1172
RECORD	1581	520A	HD	39376	7.902	-0.040	0.120	0.633	2.1272		
RECORD	1582	520A	HD	39376	7.923	-0.055	0.143	0.614	11.0672		
RECORD	1583	521	HD	39419		0.065	0.126	0.758	2.0672	2.794	11.1172
RECORD	1584	521	HD	39419	9.125	0.055	0.135	0.728	2.1272		
RECORD	1585	522	HD	39540	8.877	-0.021	0.158	0.946	2.1272	2.893	11.1172
RECORD	1586	522	HD	39540	8.869	-0.009	0.167	0.920	11.0672		
RECORD	1587	522	HD	39540		-0.001	0.141	0.961	11.0872		
RECORD	1588	523	HD	39557		0.353	0.007	0.620	2.0372	2.630	2.2072
RECORD	1589	523	HD	39557	8.941	0.338	0.032	0.595	2.0872	2.603	11.0972
RECORD	1590	523	HD	39557	8.923	0.336	0.007	0.673	11.0672		
RECORD	1591	523	HD	39557		0.323	0.019	0.631	11.0772		
RECORD	1592	524	HD	39572		0.111	0.238	0.859	2.0372	2.856	2.2072
RECORD	1593	524	HD	39572	8.429	0.126	0.220	0.866	2.0872	2.833	11.0972
RECORD	1594	525AB	HD	39773		0.016	0.104	0.628	2.0472	2.761	2.2072
RECORD	1595	525AB	HD	39773	6.796	0.004	0.121	0.614	2.0872	2.756	11.0972