

$\lambda$  And

alternative names: HD 22107, SAO 57261, HR 2961, BD+12 1093, 10 144  
 coordinates (2000.0) RA: 23<sup>h</sup> 21<sup>m</sup> 21.9<sup>s</sup>, Dec: 40° 37' 53"  
 linear ephemeris: Min Is = HJD 2429999.991 + 10

system parameters:  
 type of stars: NEB, SB  
 eccentricity: 0.01  
 masses (M<sub>☉</sub>): 0.91, 0.900001  
 radii (R<sub>☉</sub>):  
 spectral type: G8V:III  
 distance (pc): 23

activity parameters:  
 P<sub>rot</sub> (days): 50.25  
 ΔV (km/s): 0.29  
 r<sub>rot</sub> latitude (10°): 0.371  
 Mg II index: 11.5846, 1.218  
 Ca II index: yes  
 H $\alpha$  emission: yes  
 radio flux density (mJy): 0.023

photometry parameters:  
 RGS 100Å (mJy): 1174.0  
 RGS 150Å (mJy): 1600.0  
 RGS AT 110-200Å (mJy): 0.2882 ± 0.010  
 EUVE 200Å (mJy): 0.630 ± 0.010  
 EUVE 200Å (mJy): 2.29 ± 0.11  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 2.29 × 10<sup>-11</sup>  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 6.32 × 10<sup>-11</sup>  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 1.05  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 1.04  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 1.7  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 0.78  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 0.17  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 0.619  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 0.127  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 0.383  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 2.535  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 32.76  
 F<sub>UV</sub> (erg/cm<sup>2</sup>/s): 3.25

additional references:

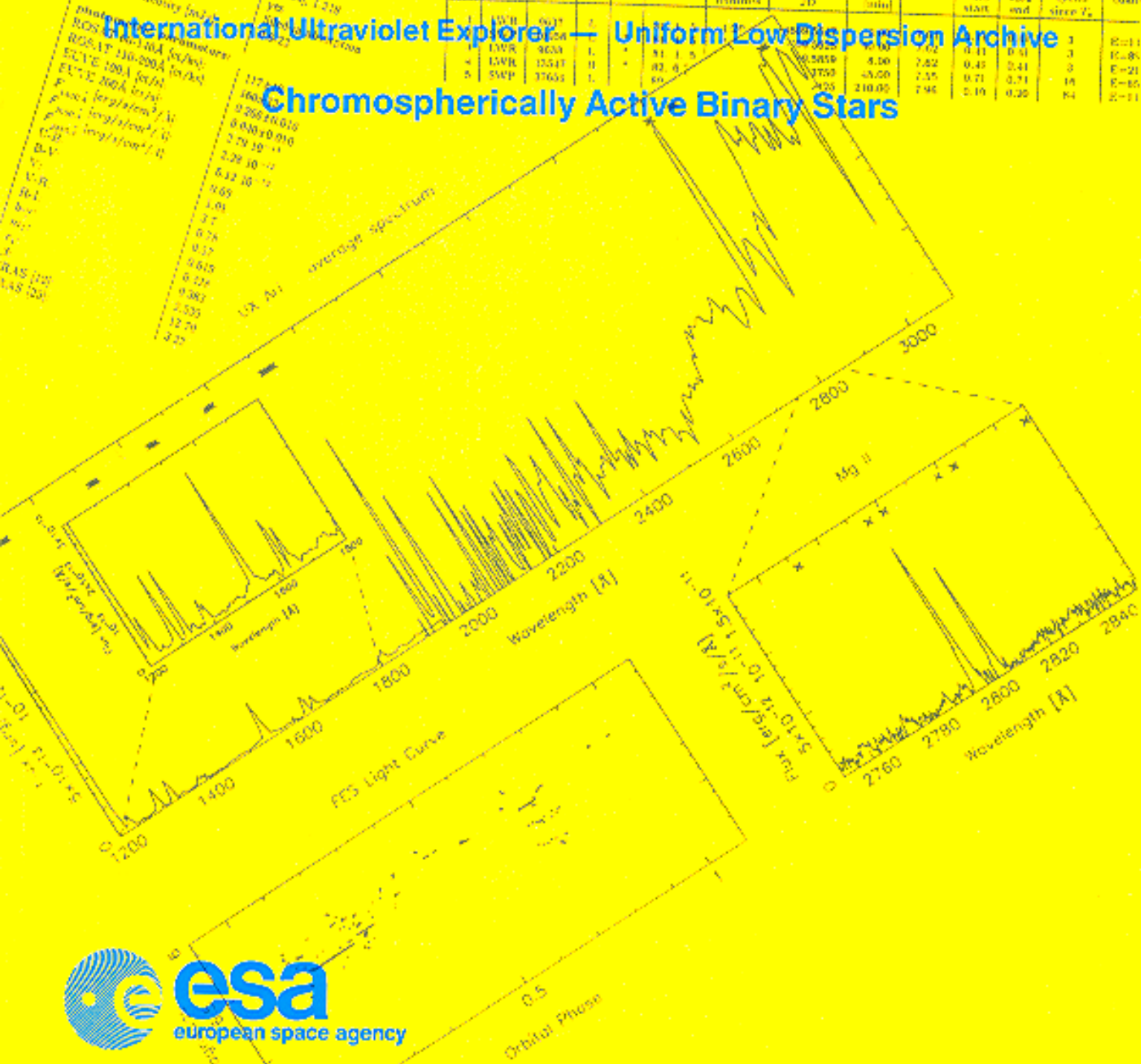
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**IUE — ULDA Access Guide No. 5**

**International Ultraviolet Explorer — Uniform Low Dispersion Archive**

**Chromospherically Active Binary Stars**

no.	cam.	instr.	file	ra	dec	date	start h:m:s	start JD	last [min]	eff. exp. [s]	flux start	flux end	cycles since T <sub>0</sub>	code	
1	SW	6037	1	*	*	81 1 1	00:00	2429999.991	00:05	5.00	7.82	0.41	0.41	3	E=11
2	SW	6037	1	*	*	81 1 5	00:05	2430000.000	00:10	5.00	7.82	0.41	0.41	3	E=85
3	SW	6037	1	*	*	81 1 5	00:10	2430000.000	00:15	5.00	7.82	0.41	0.41	3	E=21
4	SW	6037	1	*	*	81 1 5	00:15	2430000.000	00:20	5.00	7.82	0.41	0.41	3	E=85
5	SW	6037	1	*	*	81 1 5	00:20	2430000.000	00:25	5.00	7.82	0.41	0.41	3	E=11



## **IUE — ULDA Access Guide No. 5**

**International Ultraviolet Explorer – Uniform Low Dispersion Archive**

### **Chromospherically Active Binary Stars**

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## FOREWORD

### The IUE ULDA/USSP Access Guides

The International Ultraviolet Explorer (IUE) Satellite project is a joint effort between NASA, ESA and the SERC (*now PPARC*). The IUE Spacecraft and instruments are operated in a Guest Observer mode and are designed for Ultraviolet Spectrophotometry at two resolutions in the wavelength range from 115 nm to 320 nm: a low resolution at  $R=300$  (1000 km/sec) and a high resolution mode at  $R=10\,000$  (19 km/sec). The IUE S/C, its scientific instruments and the data acquisition and reduction procedures, are described in '*Exploring the Universe with the IUE Satellite*', Part I, Part VI and Part VII (Astrophysics and Space Sciences Library volume 129, Y. Kondo, Editor-in-Chief, Kluwer Acad. Publ. Co.) and references therein. A more recent overview of the IUE Project is given in '*15 Years of IUE*' in *Frontiers of Ground-based and Space Astronomy* (Astrophysics and Space Sciences Library volume 187, pg 77-86, Eds. W.Wamsteker, M.Longair and Y. Kondo, Kluwer Acad. Publ. Co.). From the very beginning of the project (launched on 26 January 1978), it was expected that the archival value of the data obtained with IUE would be very high. This expectation has been borne out fully, especially after 16 years of orbital operations. The average IUE Archive data retrieval rate is some 61 000 spectra per year. This compares with a new data collection rate of 5500 spectra per year. Considering that the demand for observing time still exceeds the available time by a factor of 3, it is clear that the IUE Archive is an important source of data. The IUE ULDA/USSP (Uniform Low Dispersion Archive/ULDA Support Software Package) was developed by ESA to make IUE low resolution spectra available in a way which would not involve project staff and simplify consulting IUE data. It continues to support some 47% of all data retrieval from the IUE Project. At the ESA IUE Observatory the ULDA/USSP is an integral part of the archival data distribution system in which National Hosts play an important role. Pioneering remote de-archiving, the ULDA/USSP has fulfilled an existing need in the access to IUE Data. The low resolution data set was chosen since it represented a data set excellently suitable for remote de-archiving, and at the same time not overloading the facilities available in 1987 at the National Host Institutes. Currently 24 National Hosts participate in the ULDA/USSP system and serve the need for IUE data of scientists in 27 countries. New hosts continue to be integrated easily and regularly.

The subset of the IUE Archive contained in the ULDA and accessible through the USSP, consists of the low resolution IUE spectra in a form directly applicable to all modern scientific analysis techniques. Version 4.0 of the ULDA/USSP has been released in February 1993 and contains all – 98.7% complete – low resolution spectra obtained with IUE before 1 January, 1992 (54 200 spectra). The details of the construction of the ULDA and the design of the USSP can be found in Wamsteker et al. (*Astronomy and Astrophysics Supplement Series*, Vol. 79, pg 1-10, 1989) and in ESA IUE Newsletter No. 30, which also contains a Users Guide. The design and software coding of the USSP has been a coordinated effort between the ST-ECF, R.A.L., Trieste Observatory and the ESA IUE Observatory. The production of the ULDA and the overall coordination of the ULDA/USSP has been done at the ESA IUE Observatory at VILSPA. New developments include a UNIX version of the USSP (USSP Version 4.0), developed in collaboration with the Canadian National Host (CADC), Trieste Observatory and the Spanish National Host (LAEFF).

The quantity of data in the IUE Archive is sufficiently large that it is not necessarily simple to address the data efficiently in the context of an astrophysical problem, even with the access to the data extremely easy. The purpose of the series of ULDA Access Guides is to facilitate the use of the IUE Archive for scientists with a specific astrophysical problem in mind. The series of ULDA/USSP Access Guides consists of a number of subject-oriented books, for which a specialist in the field has been invited to take the scientific responsibility. *ULDA Access Guide No.5* treats the data of CHROMOSPHERICALLY ACTIVE BINARY STARS and has been compiled by Dr. Constanze la Dous, ESA IUE Observatory (IUE/VILSPA) and Dr. Alvaro Giménez, Laboratory for Space Astrophysics and Fundamental Physics (LAEFF/INTA), Madrid, Spain. In this issue they present an overview of all IUE spectra of Chromospherically Active Late-type Binary Stars. The authors have collected important subsidiary information for the Chromospherically Active Late-type Binary Stars (RS CVn, BY Dra, W UMa stars and related systems) which is important for anyone wishing to use the IUE Archive for research on either specific stars or groups of stars. They have collected both general information on the characteristics of each star as well as measurements at other wavelengths, which are important for the understanding of the physics in such systems. Also references to earlier use of the data and phase information corresponding to the epochs of the IUE observations are supplied. Due to the large amount of work involved in such compilation and the dynamic nature of the ULDA, it is not possible to make both the existing version of the ULDA, and the auxiliary information cover exactly the same period. It was judged to be preferable to collect all information available at the time of preparation, rather than artificially make the time periods covered in the ULDA Guides and the current Version of the ULDA coincide. In volume 5 the auxiliary information is included for all data until December 1992, while ULDA Version 4.0 extends until to 1 January, 1992.

Other volumes of the ULDA Access Guides (see also page v ) have been published whenever the necessary data compilation had been completed by the authors. For details of the access to the ULDA through the National Hosts we refer to the details supplied regularly in the ESA IUE Newsletters (especially Driessen, Pasian and Talavera,1988, IUE Newsletter No. 30, containing the ULDA/USSP Users Guide). After this (page vii) we also give the information allowing you to identify the National Host for each country, necessary to access to the IUE-ULDA. Any inquiries on the access to the ULDA and the use of the USSP should be directed to the National Host Managers (see page vii). Inquiries about the specific data content of the ULDA should be directed to ULDA Manager at the ESA IUE Observatory at VILSPA, Madrid, Spain (INTERNET: IUEOBS@VILSPA.ESA.ES).

Dr. Willem Wamsteker