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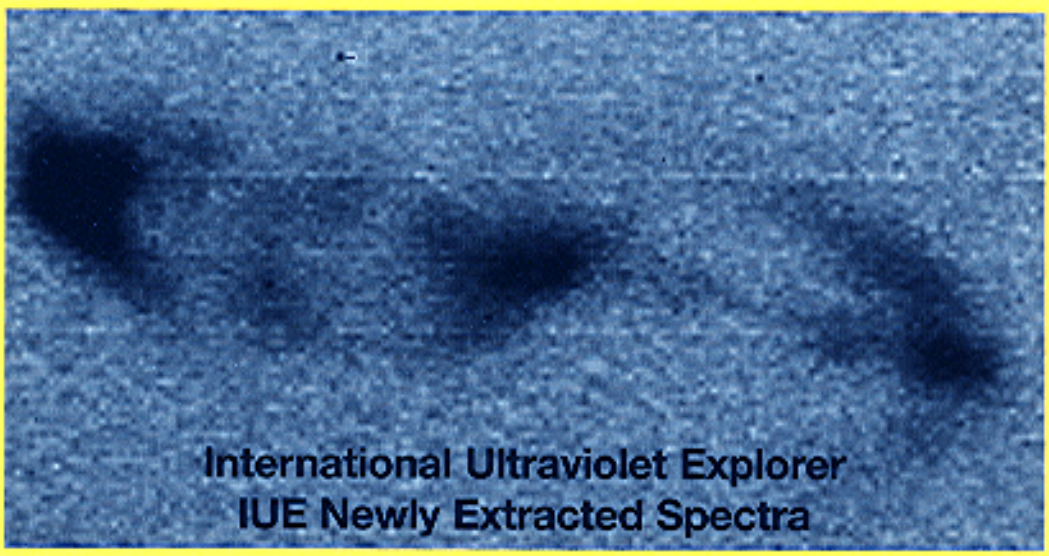
INES Guide No.1



Herbig - Haro Objects

European Space Agency
Agence spatiale européenne

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September 1999

INES Access Guide No. 1

International Ultraviolet Explorer - IUE Newly Extracted Spectra

Herbig-Haro Objects

Compiled by:

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Front Cover:

Image of the protostellar jet GGD 34 located in the NGC 7129 star formation region at 1 Kpc from the Sun. North is up and East to the left. The image has been obtained with the the Canada-France-Hawaii Telescope. The image was obtained with a narrow band filter centered at the wavelength of the [SII] (6716,6731AA) optical lines so the low excitation gas in the outflow is best detected. The optical jet emerges from a cavity located in the western border of the figure (a VLA source has been detected close to this location). The gas flow points eastwards and several condensations are detected in the path. A low surface emissivity envelope around the flow is also apparent.

ESA SP-1237: ***INES Access Guide No. 1: Herbig-Haro Objects***

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Foreword

The INES Access Guides

The International Ultraviolet Explorer (IUE) Satellite project was a joint effort between NASA, ESA and the PPARC. The IUE Spacecraft and instruments were operated in a Guest Observer mode to allow Ultraviolet Spectrophotometry at two resolutions in the wavelength range from 115 nm to 320 nm: low resolution $\Delta\lambda/\lambda$=300 ($\cong$1,000 km/sec.) and a high resolution mode $\Delta\lambda/\lambda$=10,000 ($\cong$19 km/sec.). The IUE spacecraft, its scientific instruments as well as the data acquisition and reduction procedures, have been 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 the conference proceedings of the last IUE Conference *"Ultraviolet Astrophysics beyond the IUE Final Archive"* (ESA SP-413, 1998, Eds. W.Wamsteker and R. Gonzalez Riestra) and in *"IUE Spacecraft Operations Final Report"* (ESA SP-1215, 1997, A. Perez Calpena & J.Pepoy). Additional information on the IUE Project can also be found at URL:

<http://www.vilspa.esa.es/iue>

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 after 18.6 years of orbital operations (the Science Operations with the IUE spacecraft were stopped on 30 September 1996). The average IUE Archive data retrieval rate, during the operational phase of the Project, has been some 61,000 spectra per year. This compared with a new data collection rate of 5,500 spectra per year. Considering that the demand for observing time exceeded the available time by a factor of 3, it is clear that the IUE Archive remains an important source of data. The IUE ULDA/USSP (**U**niform **L**ow **D**ispersion **A**rchive/**U**LDA **S**upport **S**oftware **P**ackage) was developed by ESA in 1986 (Wamsteker et al., 1989, *Astron. & Astrophys. Suppl. Ser.,* Vol. 79, pg. 1-10) as the first astronomical archive with direct access for users on a world wide basis. Over the 10 years that the ULDA has been supporting IUE data retrieval, it has driven more than 50% of all IUE Archive usage. 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 though access to the data is extremely easy. Therefore the series of ULDA Access guides is intended to *facilitate the use of the IUE Archive for scientists with a specific astrophysical problem in mind.*

The extremely good reception of the distributed Archive model by the scientific community, has led to the decision to develop the Final Archive server with a similar philosophy in the form of ***INES*** (**I**UE **N**ewly **E**xtracted **S**pectra). The INES system is again a complete system design, with

- improvements to the data
  (Rodriguez-Pascual et al., 1999, *Astron. and Astrophys. Suppl. Ser.,* in press),
- a structure to facilitate the direct application to scientific analysis, and
- an integrated distribution system.

Currently 8 National Hosts have prototype functional installations of the INES system giving access to all 104,000 IUE Spectra directly for the end user, with the Principal Centre (LAEFF) at URL: <***http://ines.vilspa.esa.es***> (see p 159). Twenty more National Hosts are foreseen to be brought on line during this year with the release of INES Version 2.0.

We will therefore now also change the name of this series into *INES Access Guides*, since the applicability is now to INES data. The series of INES Access Guides will continue to consist of a number of subject-oriented books, for each of which a specialist in the field has been invited to take the scientific responsibility. *INES Access Guide No.1 (~ULDA Access Guide No.9)* treats the data of *Herbig-Haro Objects* and has been compiled by Dr. A.I. Gómez de Castro and Mr. A Robles of the Department of Astronomia y Geodesia, Fac. de CC. Matematicas, UCM, Madrid, Spain.

Further volumes of INES Access Guides will be published whenever the necessary data compilation has been completed by the authors. The list of previously published ULDA Access Guides is given below.

For details of the access to INES through the National Hosts we refer to the details supplied at the above-mentioned IUE Web site, or recommend you to contact the INES Helpdesk at the LAEFF at VILSPA, Madrid, Spain *ineshelp@iuearc.vilspa.esa.es.* Other queries about the data or any specific questions about data content in relation to the INES system should be directed there.

Willem Wamsteker

Previously issued IUE-ULDA Access Guides:

No.1 ESA SP-**1114** *Dwarf Novae and Nova-like Stars.*	C. la Dous
No.2 ESA SP-**1134** *Comets.*	M. Festou
No.3 ESA SP-**1146** *Normal Galaxies.*	G. Longo, M.Capaccioli
No.4 ESA SP-**1153 (Vol. A & B)** *Active Galactic Nuclei.*	T.J.-L. Courvoisier, S. Paltini
No.5 ESA SP-**1181 (Vol. I & II)** *Chromospherically Active Binary Stars.*	C. la Dous, A. Gimenez
No.6 ESA SP-**1189** *Supernovae*	E. Cappellaro, M. Turatto, J. Fernley
No.7 ESA SP-**1203** *K Stars*	M.Franchini,C. Morossi, M.L. Malagnini
No.8 ESA SP-**1205** *T Tauri Stars*	A.I. Gomez de Castro, M. Franqueira

INES National Host Information

March, 1999

This section supplies the contact and address information for the currently operational INES National Hosts. The list is separated in two parts. The first supplying the information on those Hosts where Prototype installations are fully functional and the second part those hosts which will come up in the near future after the completion of INES Version 2.0, which will be distributed by the Principal Center of the INES system the Spanish Laboratory for Space Astrophysics and Fundamental Physics (**LAEFF**) at VILSPA. The LAEFF has taken on the long term support for the IUE data distribution for the Astrophysical Community.

Principal Centre INES Data Distribution System

Spain

Host:	LAEFF Villafranca del Castillo Apartado 50727, E-28080 Madrid, SPAIN URL: http://ines.vilspa.esa.es
Host manager:	**Antonio Talavera**
E-mail:	*ati@laeff.esa.es*
Tel.:	+34 1 813 1265
Fax:	+34 1 813 1161

Currently Operational National Hosts

China, (People's Rep. of)

(Only internal access from China possible)

Host:	Center for Astrophysics University of Science and Technology of China Hefei, Anhui 230026, P.R. China
URL:	http://iue.cfa.ustc.edu.cn/ines/
Host manager:	**Wang Ting-gui**
E-mail:	tw@cfasun.cfa.ustc.edu.cn
Tel:	+86 [0]551 - 301852 -- 527
Fax:	+86 [0]551 - 3631760

Italy

Host:	Osservatorio Astronomico di Trieste Via G.B. Tiepolo 11, I - 34131, Trieste.
URL:	http://ines.oat.ts.astro.it/ines/
Host manager:	**Mariagrazia Franchini**
E-mail:	franchini@oat.ts.astro.it
Tel.:	+39 40 3199 111
Fax:	+39 40 309 418

Japan

Host:	Institute of Astronomy, University of Tokyo Mitaka 181, Japan.
URL:	http://iue.mtk.nao.ac.jp/ines/
Host manager:	**Masura Mahabe**
E-mail:	hamabe@ioa.s.u-tokyo.ac.jp
Tel.:	+81 422 34 3802
Fax:	+81 422 34 3749

Korea

Host:	Department of Astronomy and Space Science Chungbuk National University 361-763 Cheongju, Korea
URL:	http://star91.chungbuk.ac.kr/ines/
Host manager:	**Yonggi Kim**
E-mail:	ykkim@astro.chungbuk.ac.kr
Tel.:	+82-431-61-2312
Fax:	+82-431-67-4232

Russia

Host:	Institute of Astronomy of Russian Acad. Sci., 48 Pyatnitskaya St., Moscow Zh-17 109017 Russia
URL:	http://ulda.inasan.rssi.ru/ines/
Host manager:	**Dana Kovaleva**
E-mail:	kovaleva@inasan.rssi.ru
Tel.:	+7 95 231 5461 (233 1702)
Fax.:	+7 95 230 2081

United Kingdom

Host:	Rutherford Appleton Laboratory (RAL) Chilton, Didcot, Oxon OX11 OQX, England
URL:	http://iuepc.bnsc.rl.ac.uk/ines/
Host manager:	**Chris Lloyd**
E-mail:	cl@ast.star.rl.ac.uk
Tel.:	+44 1235 821900 (446523)
Fax :	+44 1235 445848

USA

Host:	Space Telescope Science Institute Greenbelt, MD 20771, USA
URL:	http://ines.stsci.edu/ines/
Host managers:	**Randy Thompson**
E-mail:	rthompson@stsci.edu
Tel.:	+1 410 338 4700
Fax:	

INES National Hosts expected to come on line in the near future [1]

Belgium

Host:	Royal Belgian Observatory, Ringlaan 3, B-1180 Brussels.
Host manager:	**Marijke Burger**
E-mail:	marijke@astro.oma.be

Brazil

Host:	Instituto Astonomico e Geofisico Depto. de Astronomia, Caixa Postal 30627, CEP 01051, Sao Paulo - SP.
Host manager:	**Luis Arakaki**
E-mail:	luis@vax.iagusp.usp.br

Canada

Host:	Canadian Astronomy Data Center, Dominion Astrophysical Observatory, 5071 W. Saanich Rd., Victoria B.C., CANADA V8X 4M6
Host manager:	**David Bohlender**
E-mail:	crabtree@dao.nrc.ca

Chile

Host:	Cerro-Tololo Inter-Amer. Observatory, Casilla 603, La Serena, Chile 1353.
Host manager:	**Steve Heathcote**
E-mail:	steve@ctiow1.ctio.noao.edu

Costa Rica

Host:	School of Physics, University of Costa Rica, San Jose, Costa Rica.
Host manager: E-mail:	**Jorge Paez** jpaezp@cariari.ucr.ac.cr

Egypt

Host:	National Research Institute of Astronomy and Geophysics Helwan, 11421 Cairo, Egypt
Host manager: E-mail	**S. M. Hassan** galax@frcu.eun.eg

France

Host:	CDS, Observatoire de Strasbourg, 11, rue de l'Université, 67000 Strasbourg.
Host manager: E-mail	**Gérard Jasniewicz** gerard@simbad.u-strasbg.fr

Germany (1)

Host:	Astronomisches Institut der Universitat Waldhauserstrasse 64, 74 Tubingen.
Host manager: E-mail	**Bernhard Pflueger** pflueger@aitmvx.ait.physik.uni-tuebingen.de

Germany (2)

Host:	ST-ECF/ESO, Karl Schwarzschild Strasse 2, D-85748 Garching, Germany.
Host manager: E-mail:	**Benoit Pirenne** bpirenne@eso.org

India (1)

Host: Space Science Data Center,
ISRO HQ,
Antariksh Bhavan,
Bangalore 560 094,
India.

Host Manager: **C. P. Revankar, S. C. Chakravarty**
E-mail: cpr@isro.ernet.in

India(2)

Host: Indian Institute of Astrophysics,
Vainu Bappu Observatory,
Kavalur, Alangayam,
NAA 635 701,
India

Host Manager: **K.K. Ghosh**
E-mail: kkg@iiap.ernet.in

Israel

Host: Wise Observatory, Tel Aviv University,
Tel Aviv 69978,
Israel.

Host Manager: **Noah Brosch**
E-mail: noah@wise1.tau.ac.il

Mexico

Host: Instituto Nacional de Astrofisica, Optica y Electronica
Apartado Postal Nos. 51 y 216
Puebla, Pue. C.P. 72000,
Mexico

Host manager: **Luis J. Corral**
E-mail: lcorral@tonali.inaoep.mx

The Netherlands

Host:	Sterrenkundig Instituut ,Universiteit Utrecht, P.O. Box 80000, NL-3508 TA Utrecht
Host manager:	**Ed Van der Zalm**
E-mail:	vdzalm@fys.ruu.nl

Nordic countries

Host:	Uppsala Astronomical Observatory, P.O. Box 515, S-75120 Uppsala, Sweden.
Host manager:	**Kjell Eriksson**
E-mail:	Kjell.Eriksson@astro.uu.se

Poland

Host:	Centrum Astronomii Copernicus University, Torun
Host manager:	**Andrzej Niedzieslski**
E-mail:	

Portugal

Host:	Centro de Astrofísica da Universidade do Porto, Rua do Campo Alegre 823 , PT-4150 Porto, Portugal
Host manager:	**Vitor Costa**
E-mail:	vcosta@astro.up.pt

South Africa

Host:	South African Astronomical Observatory PO Box 9, Observatory, 7935 South Africa
Host manager:	**Luis A. Balona**
E-mail:	lab@saao.ac.za

Switzerland

Host:	Institut d'Astronomie de Universite de Lausanne CH - 1290 Chavannes-des-bois.
Host manager:	**Marc Kunzli**
E-mail:	kunzli@scsun.unige.ch
E-mail:	sun@angel.phy.ncu.edu.tw

Turkey

Host:	Physics Dept., METU, Ankara 06351, Turkey.
Host manager:	**Umit Kiziloglu**
E-mail:	umk@newton.physics.metu.edu.tr
Tel.:	+90 312 210 1000 / 3275
Fax :	+90 312 210 1281

1) These National Hosts were not yet operational at the time of printing this Volume. It is expected to have the full system running by the end of 1999.