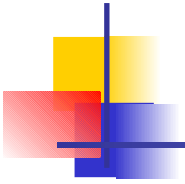

LISA VI

DJIN : Detection in Journals of Identifiers and Names

by Soizick Lesteven

C. Bonnin, S. Derrière, P. Dubois, F. Genova, A. Oberto, F. Ochsenbein, S. Borde, G. Chassagnard, M. Brouty, C. Bruneau, C. Brunet, H. Claude, A. Eisele, S. Laloë, M. Neuville, E. Perret, P. Vannier, P. Vonflie, M.-J. Wagner and F. Woelfel

Pune 2010

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Centre de Données Astronomiques de Strasbourg

Permanent evolution for updating

1972

Punch card

CSI

Permanent evolution for updating

1972

Punch card

CSI

1980

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SIMBAD2

Permanent evolution for updating

1972

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alpha 20 → vt100

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1990

X terminal → PC

SIMBAD3

Permanent evolution for updating

Online articles

1972 **1980** **1990** **1998**

Punch card

alpha 20 → vt100

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Permanent evolution for updating

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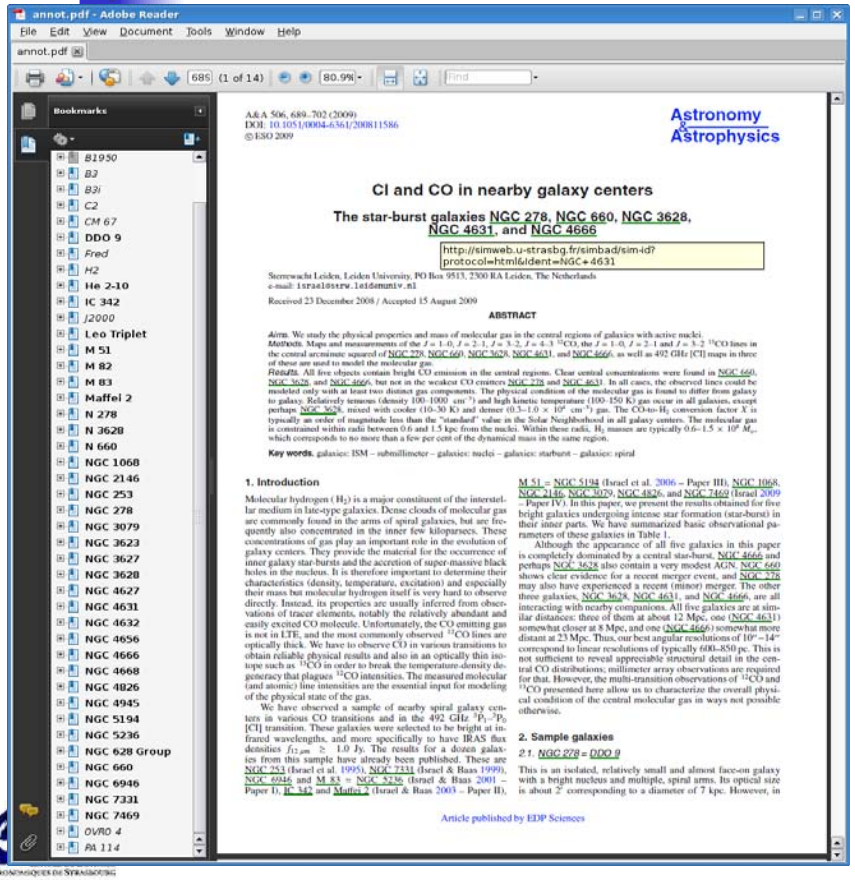


2008

- Annotated PDF with direct links to SIMBAD
- Revolutionary tool for the information scientists who update SIMBAD
- Development began during the VO-TECH project.

Context

- Significant and continuous increase in the volume of bibliographic data to enter in SIMBAD
- MNRAS :
  - 2000 : 937 references and 9267 pages
  - 2009 : 1815 references and 19916 pages

  ApJ :
  - 2000 : 2388 references and 24894 pages
  - 2009 : 3590 references and 40869 pages
- SIMBAD contains on 2010.02.09 :
  - 4,750,234 objects
  - 13,521,030 identifiers
  - 238,603 bibliographic references
  - 6,896,142 citations of objects in papers

2009A&A...508..371H

Raw PDF document

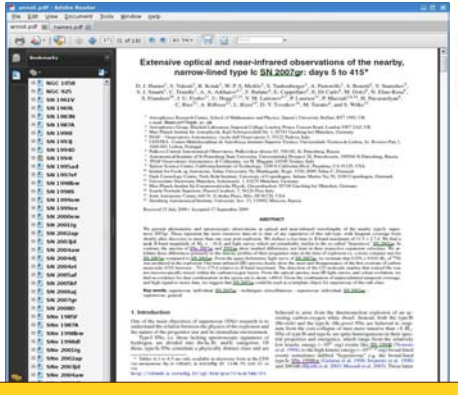
Dictionary of nomenclature

Detection of astronomical objects

Extraction of the text

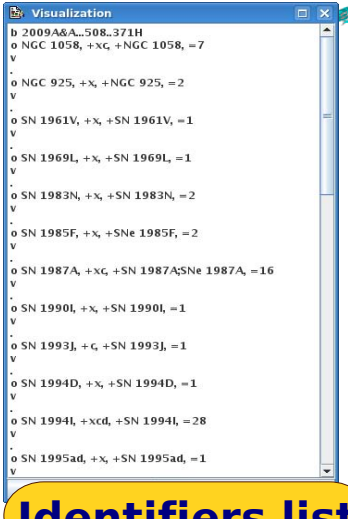
SIMBAD

Working document



Update

SIMBAD



Annotated document

Identifiers list

Text Extraction : from PDF to TEXT

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- Detect type of text (title, abstract, legend, tables, foot-notes, ...)
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PDFBox

TEXT

Identifiers as written in the literature

- All kind of acronyms : HD 123, USNO-B1.01484-00003998, Ford M 31 325, [SK98] Center 18
- Variables stars : SU Ursa Majoris, β Peg, 10 And, ...
- NAMES : ed. While Vega does have a circumstellar shell, the (e.g., Cox 2000).
- With graphical symbols : (α-ω + - . *)
- Lists separated by a coma : maps: IC342, NGC 0628, 99, 3521, 537 and 4414. In these cases, the relative angular sizes of the beam and galaxy, the inclination, or the CO distribution likely have contributed to spa-
- Lists in tables, ...

Dictionary of Nomenclature

- Object Identifiers have been collected and published in Dictionaries of Nomenclature of Celestial Objects, maintained at CDS. This Dictionary which is updated on a regular basis provides full references and usages (formats) about 19.500 different acronyms.
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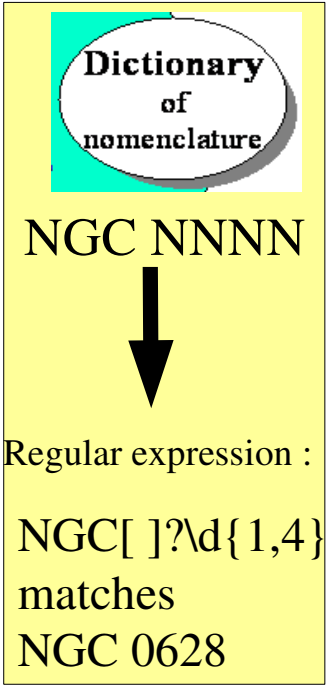
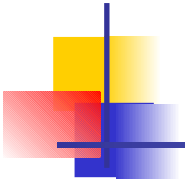
- Find these regular expressions in the text → *object names*
- Check their existence in SIMBAD, display their main object's type according SIMBAD, display all possible object's names according to the Dictionary and rank them according to the usage





A few features

Why DJIN is really a very helpful tool
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c(c) ESO 2009Astrophysics Extensive optical and near-infrared observations of the nearby, narrow-lined type Ic SN 2007gr: days 5 to 415*

Text

D. J. Hunter, S. Valenti, R. Kotak, W. P. S. Meikle, S. Taubenberger , A. Pastorello, S. Benetti, V. Stanishev, S. J. Smartt, C. Trundle, A. A. Arkharov, F. Bufano, E. Cappellaro , E. Di Carlo, M. Dolci, N. Elias-Rosa, S. Frandsen, J. U. Fynbo, U. Hopp, V. M. Larionov, P. Laursen, P. Mazzali, H. Navasardyan , C. Ries, A. Riffeser, L. Rizzi, D. Y. Tsvetkov, M. Turatto, and S. Wilke

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Bibcode : 2009A&A..508..371H

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SN 2001ig (1)
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SN 2003jd (6)
SN 2004aw (15)
SN 2004dj (4)
SN 2004et (2)
SN 2005af (1)

ophysics Extensive optical and near-infrared observations row-lined type Ic SN 2007gr: days 5 to 415*

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Finished

Fig. 7. Evolution of the optical spectra of SN 2007gr. The spectra have been corrected for reddening, E(B − V)_ = 0.092, and for the host galaxy redshift of NGC 1058, z = 0.001728. The spectra have also been magnified and displaced vertically for clarity by the numbers shown in brackets. Identifications are shown in the spectra of SN 2007gr at

Fig. 8. Comparison of spectra of SNe close to B-band ma ight (right). All spectra are de-reddened and redshifted assuming the values reported in Table 2. Typi ines in the right-hand panel next to SN 2007gr indicate the positions of the C I lines. SN 1994I also shov g as in SN 2007gr, while the other SNe show a broad dip in this region; these variations are probably at a velocities of the SNe shown here, with the C I features being smeared out in those with the highest velo

Fig. 9. Comparison of spectra of SNe about one month (l . The P-Cygni absorptions of Na I D (lamlam 5891, 5897), O I (lam 7774) and the Ca II near-IR triplet are cle ssion lines are indicated in the right panel.

Fig. 10. The Mg I]/[O I] ratio as a function of time for a sa s described in Sect. 5.2, with the exception of type IIb SN 2001ig, where the measurements were taken from e from references listed in Table 2 with the exception of SN 2006aj (Mazzali et al. 2007; Taubenberger et al. 2009) and SN 2006ew (Valenti et al., in prep.). The spectra of the type Ib SNe 2007Y (Stritzinger et al. 2009) and 1985F (Filippenko & Sargent 1986), and the type IIb SN 1993J (Fransson et al. 2005) have also been used. They were corrected for extinction before the measurements were made.

Fig. 11. Left: the profiles of [O I] 6300, 6364 and Mg I] 4571 at +158 d past B maximum. The profile of [O I] is plotted in velocity space using a rest wavelength of 6315 Å, as obtained via Gaussian fitting from the modified profile of [O I] in the normal and low-density limits, 1:1, 3:1. The Mg I] profile includes the contribution of an artificial component with an intensity ratio of 1 and 0.33 (top and bottom panel, respectively) relative to the real peak and the same velocity offset as found in the oxygen doublet. The peaks of the Mg I] profiles have been scaled to match the peak of the oxygen doublet at +158 d. Centre: evolution of forbidden [O I] 5577, Mg I] 4571 and [O I] 6300, 6364. Right: evolution of the profiles of the permitted lines of O I 7774 Å and Mg I 15025 Å. The vertical line in the panels correspond to zero velocity i.e. the rest wavelengths of the line profiles.

Fig. 12. The near-infrared spectral evolution of SN 2007gr. The spectra are displayed in the rest frame of NGC 1058. To increase the temporal coverage we include the spectrum obtained by Valenti et al. (2008a) on day +15. The +376.6 d spectrum has been smoothed with a box size of 5 pixels. The spectra have been displaced vertically for clarity by the numbers shown in brackets. The rest wavelengths of possibly identified lines are also included.

Fig. 13. Comparison of the near-IR spectra of SN 2007gr to SNe 2002ap (broad-lined Ic), 1998bw (broad-lined Ic), 1999ex (type Ib), and 2004aw (type Ic). Note the presence of the prominent He I 1.083, and 2.0581 mum lines in the spectrum of SN 1999ex. See text for references.

5 These spectra were obtained at the UKIRT telescope and reduced using standard procedures.

Fig. 14. Evolution of the velocities from the different spectral lines observed in SN 2007gr. The errors in the measured velocities are estimated to be ~10%. The minimum error is not less than 500 km s.

Fig. 15. Comparison of the velocity evolution of the type Ic SNe 2007gr, 2004aw, 2002ap, and 1994I using different spectral lines.

Fig. 16. Left: the CO emission profile of SN 2007gr (+137.7 d post B maximum) overlaid with the 192 d (post-explosion) spectrum of SN 1987A. The features indicated refer to SN 1987A. Right: CO profile of SN 2007gr at +137.7 d (post-B-maximum) overlaid with that of SN 2004di at 137 d post-explosion.

Fe II

Acknowledgements. We would like to thank all the staff from the Asiago Ekar Telescope, Campo Imperatore Telescope, Calar Alto Observatory, Gemini North Telescope, Nordic Optical Telescope (operated on the island of La Palma jointly by Denmark, Finland, Iceland, Norway, and Sweden), Osservatorio di Teramo, Sternberg Astronomical Institute Telescope, Telescopio Nazionale Galileo, UKIRT, and the Wendelstein Telescope. The Gemini data reported here were obtained via programmes GN-2007B-DD-3 and GN-2008B-Q-58.

We are grateful to the staff at the NOT: Amanda Djupvik, Thierry Morel, Jarkko Niemela, Tapio Pursimo, Auni Somero, John Telting and Helena Uthas, for observing SN 2007gr. We would also like to thank the staff at Gemini North: Thomas Dall, Tom Geballe, Silas Laycock, Atsuko Nitta, Kathy Roth, Ricardo Schiavon, Chad Trujillo and Kevin Volk, and also to the observers at the TNG: Avet Harutyunyan, Lorenzi Vania, and the Wendelstein observatory: Remus Bergemann, Florian Lang and Johannes Koppenhoefer.

L. Eyndo acknowledges the Dark Cosmology Centre which is supported by the DNRF. R.K. and S.J.S acknowledge financial support from STFC

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Consequently, SN 2007gr was classified as a type Ic. Valenti et al. (2008a) studied the feature at 6450 Å, which may be misidentified as 6678 Å He I in early-time spectra, and suggest that a more plausible identification is C II 6580 Å at a velocity of ~11 000 km s. Indeed this feature disappears around maximum together with another feature at 7000 Å attributable to C II 7235 Å, thereby providing support for the Ic classification.

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This paper presents the results of an intensive observational follow-up campaign of the type Ic SN 2007gr from shortly after explosion to more than a year later. The layout of this paper is as follows: in Sect. 2 we provide some basic information on SN 2007gr and its host galaxy, with the data acquisition and reduction procedures described in Sect. 3. This is followed in Sect. 4 by a description of the optical and near-IR photometric behaviour, including the colour evolution and quasi-bolometric light curve. Section 5 is devoted to the spectroscopic evolution; we end with a summary in Sect. 6.

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- SN 1994D (1)
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- SN 1998bw (10)
- SN 1998S (2)
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c(c) ESO 2009Astrophysics Extensive optical and near-infrared observations of the nearby, narrow-lined type Ic SN 2007gr: days 5 to 415*

Text

D. J. Hunter, S. Valenti, R. Kotak, W. P. S. Meikle, S. Taubenberger , A. Pastorello, S. Benetti, V. Stanishev, S. J. Smartt, C. Trundle, A. A. Arkharov, F. Bufano, E. Cappellaro , E. Di Carlo, M. Dolci, N. Elias-Rosa, S. Frandsen, J. U. Fynbo, U. Hopp, V. M. Larionov, P. Laursen, P. Mazzali, H. Navasardyan , C. Ries, A. Riffeser, L. Rizzi, D. Y. Tsvetkov, M. Turatto, and S. Wilke

1. Introduction

Text

One of the main objectives of supernovae (SNe) research is to understand the relation between the physics of the explosion and the nature of the progenitor star and its immediate environment.
Type I SNe, i.e. those lacking spectroscopic signatures of hydrogen, are divided into the Ia, Ib, and Ic categories. Of these, type Ia SNe constitute a physically distinct class and are believed to arise from the thermonuclear explosion of an accreting carbon-oxygen white dwarf. Instead, both the type Ib (He-rich) and the type Ic (He-poor) SNe are believed to originate from the core-collapse of stars more massive than ~8 M_.
SNe of type Ib and type Ic are quite heterogeneous in their spectral properties and energetics, which range from the relatively low kinetic energy (~10 erg) events like SN 1994I (Nomoto et al. 1994), to the high kinetic energy (~10 erg) broad-lined events sometimes dubbed "hypernovae" e.g. the broad-lined type Ic SNe 1998bw (Galama et al. 1998; Iwamoto et al. 1998) and 2003dh (Hjorth et al. 2003; Mazzali et al. 2003). These latter SNe have been associated with long-duration gamma-ray bursts (GRBs) (see Woosley & Bloom 2006, for a recent review).
At present, there is no consensus regarding the differences between the progenitors that produce type Ib and Ic SNe.
However, it is generally accepted that Wolf-Rayet stars are the most promising candidates as these have shed their outer layer of H, as well as varying amounts of their He layer (Wheeler & Levreault 1985). The H and He layers are primarily shed through strong stellar winds, resulting in WC and WO stars (i.e.
carbon and oxygen dominated, respectively). The same massloss mechanism may likewise only remove the H layers so that the potential progenitors of type Ib SNe i.e. WN stars (nitrogen dominating over carbon) exhibit the products of core-H burning. Alternatively, the outermost layers may be stripped off by a companion star (Podsiadlowski et al. 1992) with the degree of envelope-stripping depending on the configuration of the binary system (Pols & Nomoto 1997).
The distinction between type Ib and type Ic SNe is historical, and challenged by the idea that He may be present in both types.
The detection of spectral features due to He in type Ib SNe might simply imply that the element is high in abundance and/or a sufficient quantity of radioactive nickel is mixed into the He layer, providing an excitation source (Wheeler et al. 1987; Shigeyama et al. 1990; Hachisu et al. 1991). The converse may be true for type Ic SNe explaining the non-detection of optical He I lines in type Ic spectra (Nomoto et al. 1990; Hachisu et al. 1991). Most important, no type Ic SN has yet displayed the isolated near-IR He line at 2.058 mum to a strength comparable to those detected in type Ib SNe. Consequently, it is possible that a continuous degree of He abundances and/or excitation exists from type Ib to Ic SNe, making the distribution smooth rather than bimodal. This seems consistent with the identification of intermediate cases such as SN 1999ex which was characterised by weak optical He I lines, and strong He I lamlam 10830, 20581 lines in the near-IR (Hamuy et al. 2002). Additionally, the transitional nature of SNe such as SN 2005bf (Folatelli et al. 2006) and SN 2008D (Soderberg et al. 2008; Mazzali et al. 2008; Malesani et al. 2009), both of which underwent a metamorphosis from a type Ic at early times to a type Ib at later epochs, may also provide an insight into the controversy of He. The current challenge lies in linking the observed variations of type Ib/c SNe to the physical properties of their progenitor systems.
This paper presents the results of an intensive observational follow-up campaign of the type Ic SN 2007gr from shortly after explosion to more than a year later. The layout of this paper is as follows: in Sect. 2 we provide some basic information on SN 2007gr and its host galaxy, with the data acquisition and reduction procedures described in Sect. 3. This is followed in Sect. 4 by a description of the optical and near-IR photometric behaviour, including the colour evolution and quasi-bolometric light curve. Section 5 is devoted to the spectroscopic evolution; we end with a summary in Sect. 6.

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maximum Epoch of −2.2 ± 1.3 0 ± 1.0 1.5 ± 1.5 4.0 ± 2.0 4.0 ± 1.8 4.4 ± 2.5 5.4 ± 4.4 5.3 ± 3.6 maximum (days) Rising 9.3 ± 2.8 11.5 ± 2.7 13.0 ± 2.9 15.5 ± 3.2 15.5 ± 3.1 15.9 ± 3.0 16.9 ± 5.1 16.8 ± 4.4 times (days) Decline rates

Table 3

(30–100d)	0.0095 ± 0.0007 0.0111 ± 0.0006 0.0170 ± 0.0005 0.0194 ± 0.0007 0.0164 ± 0.0004 0.0304 ± 0.0006 0.0268 ± 0.0008 0.0342 ± 0.0008
(100–170d)	0.0169 ± 0.0011 0.0153 ± 0.0003 0.0189 ± 0.0003 0.0128 ± 0.0004 0.0167 ± 0.0005
(30–170d)	0.0114 ± 0.0006 0.0130 ± 0.0004 0.0171 ± 0.0003 0.0159 ± 0.0005 0.0169 ± 0.0002

Caption

a A distance modulus mu = 29.84 ± 0.16 mag and a colour excess E(B − V) = 0.092 mag were adopted. The uncertainty in the epoch of maximum is defined as the time period in which the magnitude is not more than 0.01 mag fainter than the peak magnitude (Yoshii et al. 2003). Epoch with respect to the estimated B-band maximum JD 2 454 337.0 ± 1.0. Epoch with respect to the estimated explosion date JD 2 454 325.5 ± 2.5.
e Decline rates (mag d) were estimated using linear least-square fitting.
Tab le 2. The parameters of type Ic SNe.

Table 4

SN (Ic)	Ni mass	Ejecta mass	E_	m____	M____	Rise	E(B − V)	mu	Redshift	Ref.
(M_) (M_) (10 erg)	times (d)									
2007gr	0.076 ± 0.020	2.0–3.5	1–4	13.47	−16.75	11.5 ± 2.5	0.092	29.84	0.001728	1, 2
2004aw	0.30 ± 0.05	3.5–8.0	3.5–9.0	18.06	−17.63	.	0.370	34.17	0.015914	3
2003jd	0.36 ± 0.04	2.5–3.5	5–10	15.75	−19.30	~13	0.144	34.46	0.018860	4
2002ap	0.09, 0.07	2.5–5.0	4–10	13.11	−16.76	~8	0.090	29.50	0.002192	5, 6, 7, 8, 9
1998bw	0.7, 0.4, 0.5	10.9	20–50	14.09	−18.44	~15	0.060	32.28	0.008670	10, 11, 12, 13
1997ef	0.13	9.6	17.5	17.45	−16.18	.	0.000	33.63	0.011688	14
1994I	0.07	0.88	1	13.77	−17.06	~12	0.300	29.60	0.001544	15, 16, 17

Caption

References: Valenti et al. (2008a); this paper; Taubenberger et al. (2006); Valenti et al. (2008b); Yoshii et al. (2003); Foley et al. (2003); 7 Gal-Yam et al. (2002); Tomita et al. (2006); Mazzali et al. (2002); Iwamoto et al. (1998); Galama et al. (1998); Nakamura et al. (2001); 13 Patat et al. (2001); Mazzali et al. (2000); Nomoto et al. (1994); Richmond et al. (1996); Sauer et al. (2006). The peak absolute magnitudes were estimated using the apparent magnitudes at maxima. Total extinction. Redshift of the host galaxy (taken from the Nasa/IPAC Extragalactic Database NED).
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Fig. 5. Optical and near-infrared colour evolution of SN 2007gr compared with other SNe Ic: SN 2002ap, SN 2004aw, SN 1998bw, SN 1994I.

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39 object names (365

- NGC 1058 (7)
- NGC 925 (2)
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- SN 1969L (1)
- SN 1983N (2)
- SN 1987A (14)
- SN 1990I (1)
- SN 1993J (1)
- SN 1994D (1)
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	11 0.0153 ± 0.0003 0.0189
(30–170d)	0.0114 ± 0.0006 0.0130 ± 0.0004 0.0171

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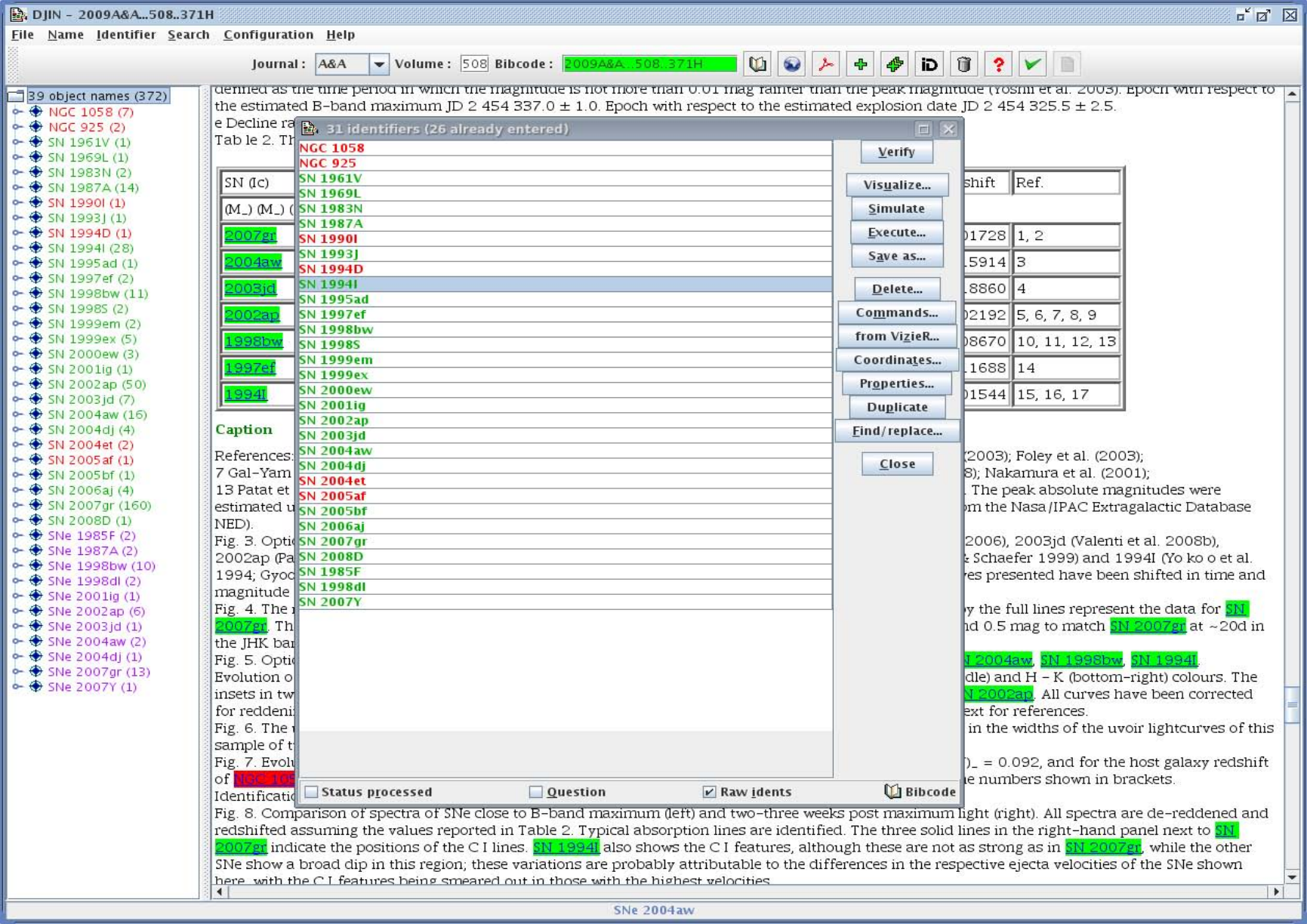
Fig. 6. The uvoir bolometric light curve of SN 2007gr and other type Ic SNe. The inset shows the differences in the widths of the uvoir lightcurves of this sample of type Ic SNe.
Fig. 7. Evolution of the optical spectra of SN 2007gr. The spectra have been corrected for reddening, E(B − V)_ = 0.092, and for the host galaxy redshift of NGC 1058, z = 0.001728. The spectra have also been magnified and displaced vertically for clarity by the numbers shown in brackets. Identifications are shown in the spectra of SN 2007gr at −6.5 and +158.4 days relative to B maximum.
Fig. 8. Comparison of spectra of SNe close to B-band maximum (left) and two-three weeks post maximum light (right). All spectra are de-reddened and redshifted assuming the values reported in Table 2. Typical absorption lines are identified. The three solid lines in the right-hand panel next to SN 2007gr indicate the positions of the C I lines. SN 1994I also shows the C I features, although these are not as strong as in SN 2007gr, while the other SNe show a broad dip in this region; these variations are probably attributable to the differences in the respective ejecta velocities of the SNe shown here, with the C I features being smeared out in those with the highest velocities.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om the Nasa/IPAC Extragalactic Database
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N 2002ap. All curves have been corrected
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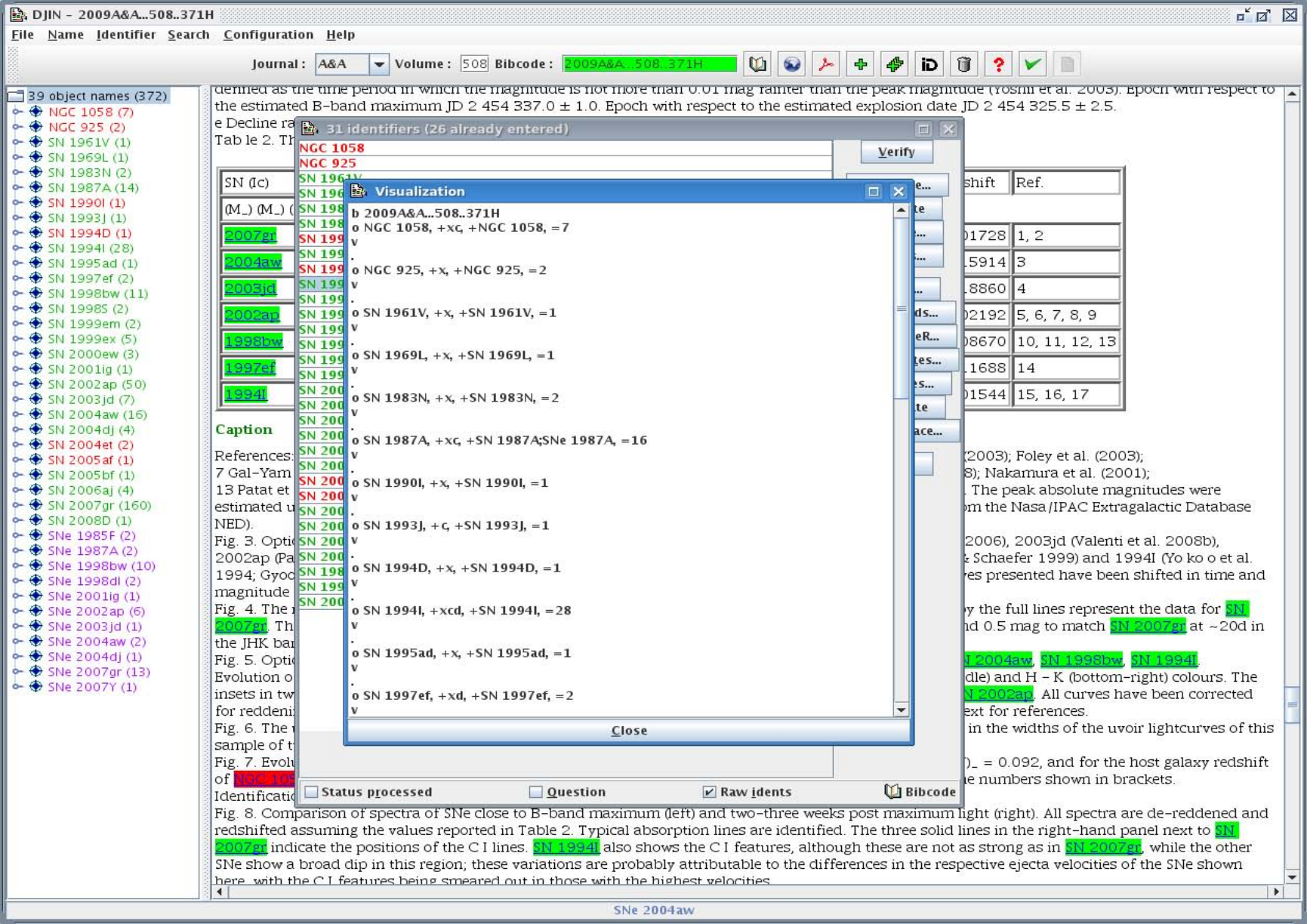
)_ = 0.092, and for the host galaxy redshift
e numbers shown in brackets.
Fig. 8. Comparison of spectra of SNe close to B-band maximum (left) and two-three weeks post maximum light (right). All spectra are de-reddened and redshifted assuming the values reported in Table 2. Typical absorption lines are identified. The three solid lines in the right-hand panel next to SN 2007gr indicate the positions of the C I lines. SN 1994I also shows the C I features, although these are not as strong as in SN 2007gr, while the other SNe show a broad dip in this region; these variations are probably attributable to the differences in the respective ejecta velocities of the SNe shown here, with the C I features being smeared out in those with the highest velocities.
SNe 2004aw


DJIN – 2009A&A...508..371H
File Name Identifier Search Configuration Help
Journal : A&A Volume : 508 Bibcode : 2009A&A...508..371H
39 object names (372)
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NGC 925 (2)
SN 1961V (1)
SN 1969L (1)
SN 1983N (2)
SN 1987A (14)
SN 1990I (1)
SN 1993J (1)
SN 1994D (1)
SN 1994I (28)
SN 1995ad (1)
SN 1997ef (2)
SN 1998bw (11)
SN 1998S (2)
SN 1999em (2)
SN 1999ex (5)
SN 2000ew (3)
SN 2001ig (1)
SN 2002ap (50)
SN 2003jd (7)
SN 2004aw (16)
SN 2004dj (4)
SN 2004et (2)
SN 2005af (1)
SN 2005bf (1)
SN 2006aj (4)
SN 2007gr (160)
SN 2008D (1)
SNe 1985F (2)
SNe 1987A (2)
SNe 1998bw (10)
SNe 1998dl (2)
SNe 2001ig (1)
SNe 2002ap (6)
SNe 2003jd (1)
SNe 2004aw (2)
SNe 2004dj (1)
SNe 2007gr (13)
SNe 2007Y (1)
defined as the time period in which the magnitude is not more than 0.01 mag fainter than the peak magnitude (Yoshii et al. 2003). Epoch with respect to the estimated B-band maximum JD 2 454 337.0 ± 1.0. Epoch with respect to the estimated explosion date JD 2 454 325.5 ± 2.5.
e Decline ra
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31 identifiers (26 already entered)
NGC 1058
NGC 925
Verify
Visualization
b 2009A&A...508..371H
o NGC 1058, +xc, +NGC 1058, =7
v
.
o NGC 925, +x, +NGC 925, =2
v
.
o SN 1961V, +x, +SN 1961V, =1
v
.
o SN 1969L, +x, +SN 1969L, =1
v
.
o SN 1983N, +x, +SN 1983N, =2
v
.
o SN 1987A, +xc, +SN 1987A;SNe 1987A, =16
v
.
o SN 1990I, +x, +SN 1990I, =1
v
.
o SN 1993J, +c, +SN 1993J, =1
v
.
o SN 1994D, +x, +SN 1994D, =1
v
.
o SN 1994I, +xcd, +SN 1994I, =28
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o SN 1995ad, +x, +SN 1995ad, =1
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o SN 1997ef, +xd, +SN 1997ef, =2
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.8860
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5, 6, 7, 8, 9
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. The peak absolute magnitudes were
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& Schaefer 1999) and 1994I (Yo ko o et al.
es presented have been shifted in time and
y the full lines represent the data for SN
nd 0.5 mag to match SN 2007gr at ~20d in
N 2004aw, SN 1998bw, SN 1994I.
dle) and H – K (bottom-right) colours. The
N 2002ap. All curves have been corrected
ext for references.
in the widths of the uvoir lightcurves of this
)_ = 0.092, and for the host galaxy redshift
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Fig. 8. Comparison of spectra of SNe close to B-band maximum (left) and two-three weeks post maximum light (right). All spectra are de-reddened and redshifted assuming the values reported in Table 2. Typical absorption lines are identified. The three solid lines in the right-hand panel next to SN 2007gr indicate the positions of the C I lines. SN 1994I also shows the C I features, although these are not as strong as in SN 2007gr, while the other SNe show a broad dip in this region; these variations are probably attributable to the differences in the respective ejecta velocities of the SNe shown here, with the C I features being smeared out in those with the highest velocities.
SNe 2004aw

Updating SIMBAD

- Automatically check for different names for the same object
- Display additional information (raw identifier, number of occurrences, positions in the text)
- Commands can be added to each identifier to add data
- VizieR could be queried to look into large surveys (ex: 2MASS, USNO, ...)
- After check, the command files are automatically created, they can be simulated, displayed, saved, edited

After 2 years of usage

- A very deep change in the way people work
- Visual tool,
  Efficient for easy object names, lists, ... ← avoid bothersome work
  Concentrated the work on added value aspects
- Time saved for a some types of papers (theorical, ...)
- Still need human checking with a very good knowledge of astronomy to :
  - avoid wrong detections
  - detect new identifiers
  - detect what is not highlighted

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2008ApJ...683..796S

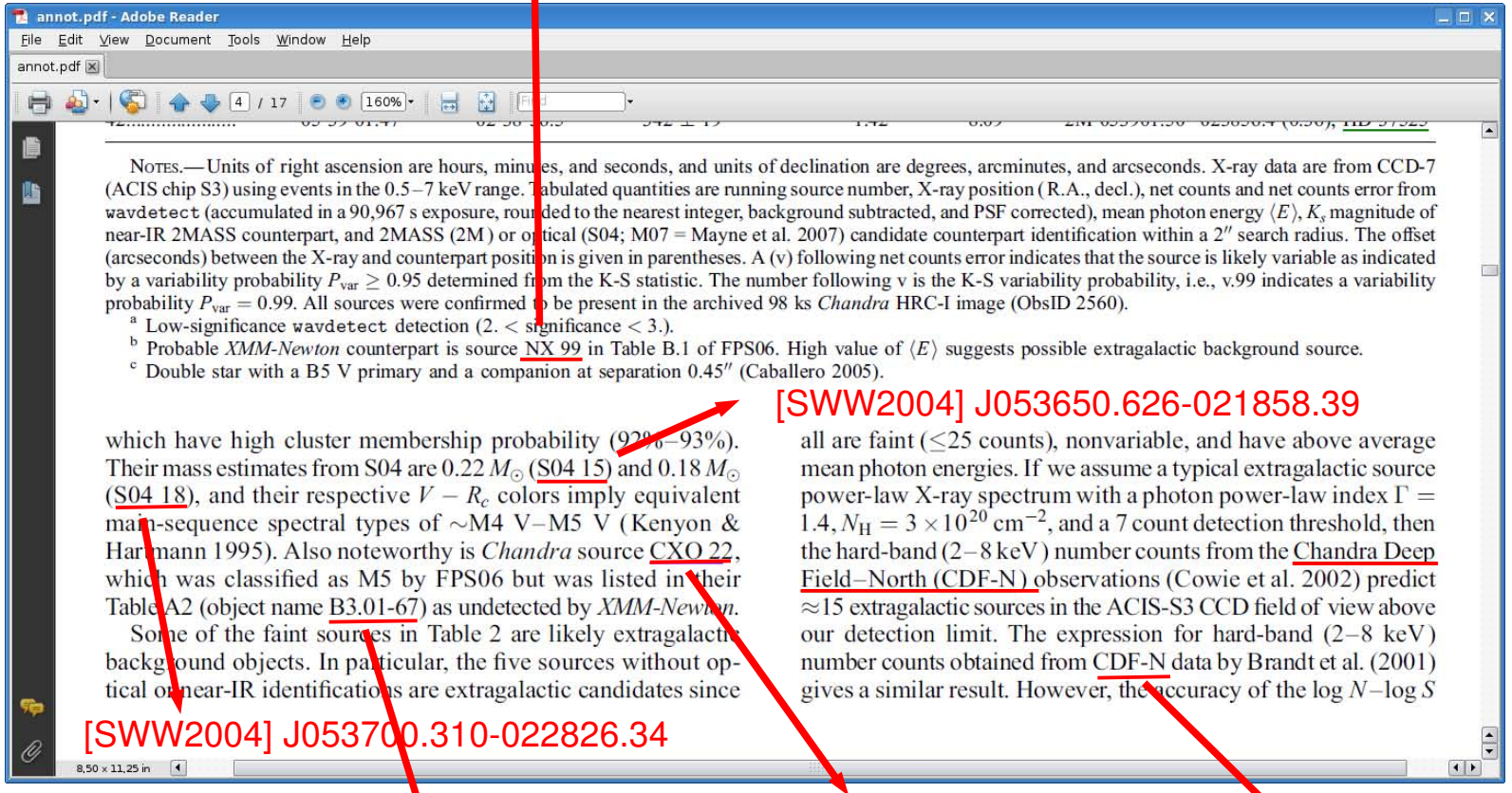
Mission [SSC2008] 2MASS J 1 0 [MNLSJ]

TABLE 2

Chandra X-RAY SOURCES IN THE VICINITY OF σ ORI AB

CXO Number	R.A. (J2000.0)	Decl. (J2000.0)	Net Counts	⟨E⟩ (keV)	K_s (mag)	Identification (Offset) (arcsec)
1.....	05 38 29.12	−02 36 03.0	69 ± 8 (v.99)	1.58	11.69	2M 053829.12−023602.7 (0.30)
2.....	05 38 31.43	−02 36 33.8	7 ± 3	1.29	10.99	2M 053831.41−023633.8 (0.24)
3.....	05 38 31.57	−02 35 14.7	32 ± 6	2.07	10.35	2M 053831.58−023514.9 (0.24)
4.....	05 38 32.83	−02 35 39.4	147 ± 12	1.35	10.73	2M 053832.84−023539.2 (0.30)
5.....	05 38 33.34	−02 36 18.3	21 ± 5	1.41	11.11	2M 053833.36−023617.6 (0.72)
6.....	05 38 34.04	−02 36 37.2	8 ± 3	1.10	11.08	2M 053834.06−023637.5 (0.42)
7.....	05 38 34.31	−02 35 00.2	50 ± 7	1.29	10.35	2M 053834.31−023500.1 (0.12)
8.....	05 38 35.21	−02 34 38.1	369 ± 19 (v.95)	3.01	...	M07:053835.22−023438.0 (0.18)
9.....	05 38 38.22	−02 36 38.6	390 ± 20 (v.99)	1.79	10.31	2M 053838.22−023638.4 (0.18)
10.....	05 38 38.48	−02 34 55.2	697 ± 26 (v.97)	1.60	9.12	2M 053838.49−023455.0 (0.24)
11.....	05 38 39.72	−02 40 19.2	12 ± 4 (v.96)	3.09	12.88	2M 053839.73−024019.7 (0.54)
12.....	05 38 41.21	−02 37 37.4	29 ± 5	3.40	14.04	2M 053841.23−023737.7 (0.48)
13.....	05 38 41.28	−02 37 22.7	323 ± 18	1.64	10.59	2M 053841.29−023722.6 (0.24)
14.....	05 38 41.35	−02 36 44.6	14 ± 4	1.13	12.08	2M 053841.35−023644.5 (0.12)
15.....	05 38 42.27	−02 37 14.5	9 ± 3	2.56	10.77	2M 053842.28−023714.7 (0.30)
16.....	05 38 43.01	−02 36 14.7	6 ± 3	1.93	10.63	2M 053843.02−023614.6 (0.18)
17.....	05 38 43.85	−02 37 07.3	16 ± 4	1.38	11.77	2M 053843.87−023706.9 (0.54)
18.....	05 38 44.22	−02 40 20.0	158 ± 13	1.52	10.44	2M 053844.23−024019.7 (0.30)
19.....	05 38 44.76	−02 36 00.3	2514 ± 50	0.86	4.49	2M 053844.76−023600.2 (0.12); σ Ori AB
20.....	05 38 44.83	−02 35 57.4	43 ± 7 (v.95)	1.37	...	σ Ori IRS 1
21.....	05 38 45.35	−02 41 59.6	50 ± 5	1.69	11.04	2M 053845.37−024159.4 (0.42)
22[a]	05 38 46.82	−02 36 43.5	6 ± 2	0.95	12.35	2M 053846.85−023643.5 (0.48)
23.....	05 38 47.19	−02 35 40.5	454 ± 21 (v.98)	1.56	6.95	2M 053847.20−023540.5 (0.18); σ Ori E
24.....	05 38 47.46	−02 35 25.4	87 ± 9	1.64	10.72	2M 053847.46−023525.3 (0.18)
25.....	05 38 47.89	−02 37 19.6	188 ± 14 (v.99)	2.20	10.78	2M 053847.92−023719.2 (0.54)
26.....	05 38 48.27	−02 36 41.2	42 ± 7	1.35	11.14	2M 053848.29−023641.0 (0.30)
27.....	05 38 48.68	−02 36 16.4	106 ± 10 (v.95)	1.35	11.17	2M 053848.68−023616.2 (0.18)
28.....	05 38 49.12	−02 41 23.9	22 ± 6	1.62	...	S04:053849.14−024124.8 (0.96)
29.....	05 38 49.17	−02 38 22.5	112 ± 11	1.32	10.51	2M 053849.17−023822.2 (0.24)

[FPS2006] NX 99



[SWW2004] J053650.626-021858.39

[SWW2004] J053700.310-022826.34

[SSC2008] 22

[KJN2005] 3,01-67

NAME CDF-N

Statistics

- Rate of exact recognition : 75%
- Rate of partial recognition : 12% ← new acronyms
- Rate of missing recognition : 10% ← tables, figures, ...
- Rate of false detections : 3 %
- Rate of noise : 51% ← choice for this application
- Saving time ?

Other Applications

- According the object's position in the article and its occurrence, after checking everything, it is possible to identify the most important papers for one object.

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Simbad bibliographic survey began in 1950 for stars (at least bright stars) and in 1983 for all other objects (outside the solar system).

display

reference summary

from: 2000 to: 2010

When available, the bibcode is followed by ***the status of the object*** in the reference

send the bibcodes to ADS

The tags defining the status of an object in its reference are:

- **t** : the object is in the title
- **a** : the object is cited in the abstract
- **k** : the object appears in the keyword list
- **s** : the object appears in a subtitle
- **c** : the object is cited in a caption
- **d** : the object is listed in a table
- **f** : the object is in a figure
- **x** : the object is in the text of the paper
- **o** : the object is defined in a object tag
- **z** : the object is implicitely defined in the paper
- ***** : the object is cited as a calibrator

The list of tags may be followed by the number of occurences of the object in the article.

2010AJ....139...59B [x , 1]
Astron. J., 139, 59-67 (2010)
Velocity dispersion profile of the Milky Way hal
BROWN W.R., GELLER M.J., KENYON S.J. and DIAFE
Comments & notes:
CDS status: *waiting for electronic table*
flags: (abstract)

2010AJ....139..372C [t k a x c , 55]
Astron. J., 139, 372-377 (2010)
A star in the M31 giant stream: the highest negative stellar velocity known.
CALDWELL N., MORRISON H., KENYON S.J., SCHIAVON R., HARDING P. and ROSE J.A.
Comments & notes:
flags: (abstract)

2010ApJ...708..293Y [a x , 6]
Astrophys. J., 708, 293-303 (2010)
RR Lyrae variables in the Local Group dwarf galaxy NGC 147.
YANG S.-C. and SARAJEDINI A.
Comments & notes:
flags: (abstract)

2010ApJ...708..817F [k a x c f , 61]
Astrophys. J., 708, 817-833 (2010)
RR Lyrae variables in M32 and the disk of M31.
FIORENTINO G., MONACHESI A., TRAGER S.C., LAUER T.R., SAHA A., MIGHELL K.J., FREEDMAN W., DRESSLER A., GRILLMAIR C. and TOLSTOY E.
Comments & notes:
flags: (abstract)

2010ApJ...708.1076T [x c f , 3]
Astrophys. J., 708, 1076-1091 (2010)
The WHIQII survey: metallicities and spectroscopic properties of luminous compact blue galaxies.
TOLLERUD E.J., BARTON E.J., VAN ZEE L. and COOKE J.
Comments & notes:
CDS status: *waiting for electronic table*
flags: (abstract)

2010ApJ...708.1168T [t k a s x c d , 170]
Astrophys. J., 708, 1168-1203 (2010)
Structure and population of the Andromeda stellar halo from a Subaru/Suprime-Cam survey.
TANAKA M., CHIBA M., KOMIYAMA Y., GUHATHAKURTA P., KALIRAI J.S. and IYE M.
Comments & notes:
flags: (abstract)

2010ApJ...708.1290C [x , 1]
Astrophys. J., 708, 1290-1309 (2010)
A two micron all sky survey view of the Sagittarius dwarf galaxy. VI. s-process and titanium abundance variations along the

Other Applications

- According the object's position in the article and its occurrence, after checking everything, it is possible to identify the most important papers for one object.

- Links between SIMBAD <-> NED
  NED shares the information about nomenclature

radius 10 arcmin

References (5880 between 1850 and 2010)

Simbad bibliographic survey began in 1950 for stars (at least bright stars) and in 1983 for all other objects (outside the solar system).

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reference summary
from: 2000 to: 2010

Measurements (9 types) :

☐ **distance : 1** ☐ **IRAS : 1** ☐ **IRC : 1** ☐ **ISO : 156** ☐ **IUE : 13** ☐ **posa : 1** ☐ **RVel : 4** ☐ **XMM : 22** ☐ **ze : 1**

display selected measurements | display all measurements | clear

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Archive data at HEASARC - High-Energy Astrophysics Science Archive Research Center

Data at NED - NASA/IPAC Extragalactic Database

Catalogue information from VizieR

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RAFGL 104 **UGC 454**

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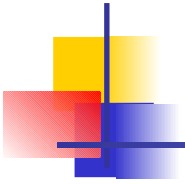

LISA VI

DJIN : Detection in Journals of Identifiers and Names

by Soizick Lesteven

C. Bonnin, S. Derrière, P. Dubois, F. Genova, A. Oberto, F. Ochsenbein, S. Borde, G. Chassagnard, M. Brouty, C. Bruneau, C. Brunet, H. Claude, A. Eisele, S. Laloë, M. Neuville, E. Perret, P. Vannier, P. Vonflie, M.-J. Wagner and F. Woelfel

Pune 2010

CDS
Centre de Données Astronomiques de Strasbourg