

# Curriculum Vitae

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## Academic career

- Professor, University Paris Diderot and Service d'Astrophysique, CEA Saclay, France (from Sept. 2011)
- Associate Professor, University Paris Diderot and Service d'Astrophysique, CEA Saclay, France (Sept. 2002 – Aug. 2011)
- Research fellow funded by the Leverhulme Trust, Department of Physics and Astronomy, Open University (UK, Sept. 1999 – Aug. 2002)
- Assistant Professor, Université Paul Sabatier and CESR- Centre d'Étude Spatiale des Rayonnements, Toulouse, France (Sept. 1998 - Aug. 1999)
- Ph.D. thesis at the Service d'Astrophysique CEA-Saclay, CFR grant (Sept. 1994 – Aug. 1998, apart 10/1995 – 07/1996 : Scientific Military Service)

## Academic Diploma

- Habilitation à Diriger des Recherches (Habilitation), Univ. Paris 7, defended 26 Nov. 2007 : “*From microquasars to enshrouded binary systems : the Universe of extreme sources*”
- Ph.D. thesis in Astrophysics and Space Science, Univ. Paris 11 and Service d'Astrophysique, defended on 29 Sept. 1998, Supervisor : Dr I. F. Mirabel ; “*Multi-wavelength Study of the microquasar GRS 1915+105 and of high-energy binary sources of the Galaxy*”.

## Committees & Distinctions at national level

- Elected member of the French National University Council (CNU, from 2009)
- Elected member of the Physics department Council, Univ. Paris Diderot (from 2007)
- Elected member of the Laboratory Council of AIM (CEA Saclay, 2005-2009)
- Elected member of Astrophysics selection Committee (Univ. Paris 6, Paris 7..., from 2007)
- Nominated member of the 2009 International Year of Astronomy (from 2007)
- Scientific consultant of vice-presidence at Univ. Paris 7 (from 2009)
- Member of the National Physics Olympiades Committee (2005-2009)
- Member of Fleurance Astronomy Festival SOC (from 2004)
- Responsible for L1 Physics, “Astrophysics for teaching” (L3 SPE), “Instrumentation IR–High Energies” and “Image Analysis in X/ $\gamma$  Astronomy” (M2R A&A), Univ. Paris Diderot
- Responsible Astrophysics for Teachers (Rectorats Paris/Créteil/Versailles, from 2007)
- > 100 conferences of scientific popularization

## Publications

- **224 research publications, ~2500 citations, H-index = 28**
- • 106 Articles published (4 submitted) in international committee journals
- • 78 Communications (9 invited reviews) in international committee proceedings
- • 2 reference book chapters ; 36 ATEL, IAU & GCN telegrams ; PhD ; HDR
- **32 popularization publications** (4 books, 14 articles, 6 documentaries, 8 podcasts/radio...)

### Scientific distinctions at international level

- ESA Press release on obscured *INTEGRAL* high mass X-ray binaries (March 2008)
- NASA Press release/conference at the 1st *Fermi* satellite symposium (Feb. 2007)
- A&A cover page (03/2011) and 2 *INTEGRAL* pictures of the month (06/2008, 09/2010)
  
- 20 invited review talks + 29 contributed talks in international workshops/schools
- 35 seminars in worldwide institutes
- Affiliated scientist member of the *Fermi* satellite collaboration (NASA, from 2007)
- Member of *ESO* Time Allocation Committee (2011-2012)
- Member of *Chandra* Satellite Time Allocation Committee (Boston, USA, 2004)
- Member of the SOC of 2 international workshops (from 2008)
- Referee of ~20 papers for A&A, ApJ, MNRAS, PASJ, 3 PhD-Thesis, ANR proposals, Telescope time proposals... (from 1999)

### Research grants & Funding ID

- CNES funding –MINE (Multiwavelength *INTEGRAL* Network)– 1 Meuros for 2002-2013 : post-doc, travel and equipment grant.
- Open University grant of 1 year (2002) of post-doc funding (salary, travel and computer)
- GdR High Energy funding : 20 keuros for 4 years (1999-2002) : travel grant

### Use of European/International Instruments

- >50 accepted time proposals on international observatories/satellites (from 1995) :
- UV/Optical/IR : *Spitzer*, *HST*, *EUVE* ; ESO Paranal/VLT, La Silla/NTT, Gemini N/S (Chile) : > 30 accepted telescope time proposals as PI, 30h of Target of Opportunity (ToO) per semester, more than 35 observing nights in 15 runs. CFHT, UKIRT (USA), WHT, NOT, JKT, INT (Spain) 5 accepted telescope time proposals (3 as PI), 12 hours of ToO (1999-2004), 5 observing nights.
- Radio cm/mm : IRAM-30m (Spain) ; VLA (USA) : more than 5 observing weeks
- X/ $\gamma$ -rays : *INTEGRAL*, *XMM*, *Chandra*, *RXTE*, *Swift*, *Suzaku* : +20 accepted proposals

### Post-doc, Ph.D. and student supervision

- 2012-2014 : Post-doc : M. Servillat (Ultra-luminous X-ray sources)
- 2010-2012 : Post-doc : P.A. Curran (High energy binary sources)
- 2006-2011 : Post-doc : J. A. Zurita Heras (Study of high energy *INTEGRAL* sources)
- 2009-2010 : Post-docs : Q. Liu and J. Yan (Catalogue of high energy *INTEGRAL* sources)
- 2003-2004 : Post-doc : P. Filliatre (*INTEGRAL* source IGR J16318-4848)
- 2003-2005 : Post-doc : W. Clarkson, Open University, UK, co-supervision 50%
  
- 2010-2013 : Ph.D. : A. Coleiro (Multi- $\lambda$  study of High Mass X-ray Binaries, funding CEA)
- 2006-2009 : Ph.D. : F. Rahoui (Multi- $\lambda$  study of *INTEGRAL* sources, funding CEA/ESO)
- 2000-2004 : Ph.D. C. R. Powell (X-ray binaries, Open University, UK, co-Supervision 50%)
  
- 2010 : Master : C. Guennou (study of the microquasar XTE J17252-223)
- 2009 : Master : E. Egron (study of the microquasar H1743-322)
- 2008 : Master : V. Le Gallo (study of the microquasar H 1743-322)
- 2007 : Master : A. Raichoor (Study of the microquasar XTE J1550-564)
- 2004 : Master : N. Bessolaz (Study of the microquasar XTE J1720-318)

## Research activities and summary of the 5 most significant publications

### Research activities : Multi-wavelength study of high-energy binary systems

My research is by nature transverse : I study celestial objects of different types, from Galactic (hosting neutron stars and black holes) to extragalactic sources (active galactic nuclei and  $\gamma$ -ray bursts), and in addition I study them through multi-wavelength observations –from radio to  $\gamma$ -rays–. My most important results are the discovery of the link between accretion and ejection of matter phenomena in microquasars, and the discovery of a new population of high energy objects, neutron stars orbiting supergiant stars, enshrouded in a cocoon of gas and dust.

#### • Accretion and ejection phenomena in Microquasars

I study high-energy celestial sources of our Galaxy : X-ray binary systems hosting a compact object (neutron star or stellar mass black hole) accreting matter from a companion star. Outbursts occasionally occur, when matter accumulating in the accretion disk becomes unstable, producing an intense increase of emission on the whole electromagnetic spectrum, and requiring multi-wavelength observations. Among these sources, those exhibiting relativistic jets –so-called *microquasars*–, are ideal laboratories to study high energy physics phenomena. The main goal of this study is therefore to understand relativistic phenomena such as accretion and ejection mechanisms, and the interaction between ejected matter and the surroundings of these sources. Since they are transient sources, I developed, in collaboration with other groups, a major programme allowing to study rise and decline phases of their outbursts. This programme consists of an ensemble of pre-approved override time on many european and world-leading facilities at various wavelengths. Two of the key points of this programme were i) the discovery of the observational link between accretion and ejection of matter occurring around the microquasar GRS 1915+105 and ii) the discovery of a jet emission contribution in the radio to X-ray spectrum of the microquasar XTE J1118+480. This proves that ejection is a common feature in high energy binary systems, seen every time accretion of matter occurs.

#### • Formation and evolution of high energy binary systems

Our Galaxy hosts high energy binary systems of different types, with different properties : the compact object is either a neutron star or a black hole, and the companion star can be a low or high mass star. Adding to this different characteristics such as the size of the orbit, or the mass ratio between both components of the system, we obtain systems with completely different properties. *Observation being to Astrophysics what experimentation is to Physics*, only an exhaustive study of these systems with different characteristics, but linked by the same physical properties, will allow us to understand their formation, evolution and ultimate fate. Each binary system contains two components for which the evolution is accelerated by the presence of its companion : both the compact object and the companion star evolve differently due to the presence of the other one. The study of this evolution, and in particular of the companion star, allows us to better understand population synthesis models of binary systems. I have discovered a new population of high energy binary systems in our Galaxy, and I revealed their nature thanks to multi-wavelength observations. I have discovered that they are high mass X-ray binary systems constituted of neutron stars orbiting around supergiant stars, inside a cocoon of dust enshrouding the whole binary system. This discovery of prime importance is revolutionizing our view on the formation, evolution and fate of high energy binary systems in our Galaxy.

### Summary of the 5 most significant publications

- 1. & 2. Discovery of a new population of high energy binary systems in our Galaxy

1. **Chaty S.**, Rahoui F., Foellmi C., Tomsick J., Rodriguez J., Walter R., 2008, A&A, 484, 783

*Multi-wavelength observations of Galactic hard X-ray sources discovered by INTEGRAL.*

*I. The nature of the companion star*

2. Rahoui F., **Chaty S.**, Lagage P.-O., Pantin E., 2008, A&A, 484, 801

*Multi-wavelength observations of Galactic hard X-ray sources discovered by INTEGRAL.*

*II. The environment of the companion star*

- NASA press release (2007) :

[http://www.nasa.gov/centers/goddard/news/topstory/2007/gas\\_cocoon.html](http://www.nasa.gov/centers/goddard/news/topstory/2007/gas_cocoon.html)

- ESA press release (2008) :

[http://www.esa.int/esaSC/SEMWO1YUFF\\_index\\_0.html](http://www.esa.int/esaSC/SEMWO1YUFF_index_0.html)

- 2 INTEGRAL pictures of the month (06/2008 & 09/2010) :

<http://integral.esac.esa.int/POM.html>

- A&A cover page, 03/2011 :

[http://www.aanda.org/index.php?option=com\\_toc&url=/articles/aa/abs/2011/02/contents/contents.html](http://www.aanda.org/index.php?option=com_toc&url=/articles/aa/abs/2011/02/contents/contents.html)

1. The high energy satellite *INTEGRAL* has discovered, since its launch in 2002, many sources of unknown nature, towards the direction of the Galactic centre and Galactic plane. I have revealed their nature thanks to an intensive programme of multi-wavelength observations, first by obtaining an accurate position with X-ray satellites such as *Swift*, *XMM-Newton* or *Chandra*, then by identifying their nature through photometric and spectroscopic observations obtained in optical/infrared, mainly with ESO telescopes (NTT at La Silla and VLT at Paranal). I have then discovered that they are High Mass X-ray Binary systems, constituted of neutron stars orbiting massive stars, most of them being supergiant stars. The neutron star directly accretes from the wind of the supergiant star, which accumulates at the equator in a dense and slow flow. This study has shown that these sources are i. highly intrinsically absorbed (i.e. in addition to interstellar absorption), and ii. exhibit an emission excess in IR.

2. Thanks to mid-infrared observations obtained with the VISIR instrument at the VLT focus, and the *Spitzer* satellite, I have shown that for most of the sources of this sample, the whole binary system was hidden behind a cocoon of gas and dust, absorbing the radiation of the binary system, and hiding it to the observer in all the spectrum but the infrared domain. This dust cocoon is therefore the cause of the high intrinsic absorption of the system, together with the emission excess in IR, particularly in mid-IR. The observation of this cocoon of dust enshrouding the whole binary system asks many questions on the evolution stage of these systems : i. Does the cocoon directly come from the supergiant stellar wind, creating the so-called common envelope phase of these systems, and accelerating the evolution of the binary system ? ii. Or does it rather come from the birthsite of the supergiant star ? This unexpected discovery of a previously unknown population of highly obscured high energy sources revolutionizes our view on the formation, evolution and ultimate fate of high energy binary systems of our Galaxy, challenging the classical evolution scenarii. Only a multi-wavelength study, involving *Fermi* and even *Herschel* satellites, will allow us to answer to the fundamental questions related to the evolution of these sources, and more generally to the evolution of all binary systems present in galaxies.

- 3. Discovery of the most obscured High Mass X-ray Binary system of our Galaxy

Filliatre P. & **Chaty S.**, 2004, ApJ, 616, 469 ; **Chaty S.** & Filliatre P., 2005, ApSS, 297, 235  
*The Optical/Near-Infrared Counterpart of the INTEGRAL Obscured Source IGR J16318-4848 : An sgB[e] in a High-Mass X-Ray Binary ?*

I have studied IGR J16318-4848, the first source discovered in 2003 by the high energy satellite *INTEGRAL*, through optical, near- and mid-infrared observations. I have discovered that it was an extremely rare celestial object in our Galaxy : the most extreme source known to date in our Galaxy, a binary system constituted of a neutron star orbiting a blue supergiant star, 30 times more massive and 20 times bigger than our Sun. This rapidly rotating star continuously ejects a wind forming a torus of matter around its equator, producing a gas and dust cocoon enshrouding the star. This dust cocoon, by absorbing the radiation of the binary system, hides it to the observer in the whole electromagnetic system, apart from the infrared domain. Multi-wavelength observations I have performed have therefore shown to be of prime importance to reveal secrets of this source. Thanks to my observations, I have shown that this dust cocoon also enshrouds the neutron star, which is therefore constantly orbiting inside this cocoon. This source has now become the archetype of a new type of X-ray binary system : *obscured High Mass X-ray Binary systems*.

- 4. Discovery of jet emission from radio to high energies

**Chaty S.**, Haswell, C.A., Malzac, J., Hynes, R. I., Shrader, C. R., Cui, W., 2003, MNRAS, 346, 689  
*Multiwavelength observations revealing the evolution of the outburst of the black hole XTE J1118+480*

Thanks to the multi-wavelength observations network I have developed from radio to  $\gamma$ -rays, I have obtained very detailed observations of the black hole candidate and microquasar XTE J1118+480, from the onset of its outburst, up to its return to quiescence. The wealth of these observations allowed me to accurately model the emission coming from the accretion disk, jets and companion star. The evolution of these emissions along the outburst clearly shows that the jet emits from radio to high energies, and that the energy transported by accretion is correlated to the energy injected in the jets. This result is of prime importance, because it shows that 1. the energy associated to the jets is more important than what was usually accepted in the community studying microquasars, and 2. that the ejection is a common phenomenon in high energy binary systems, present each time accretion of matter occurs.

- 5. Discovery of the link between accretion and ejection in the microquasar GRS 1915+105

Mirabel, I.F., Dhawan, V., **Chaty S.**, Rodríguez, L.F., Martí, J., Robinson, C.R., Swank, J., Geballe, T.R., 1998, A&A, 330, L9 ; **Chaty S.**, PhD Thesis 1998  
*Accretion instabilities and jet formation in GRS 1915+105*

By studying the black hole candidate and microquasar GRS 1915+105, through simultaneous multi-wavelength observation campaigns in the context of an international collaboration, I have observed many cycles of accretion and ejection of matter. I have discovered in the infrared a synchrotron emission, precursor to radio outbursts, which is the signature of the adiabatic expansion of plasma clouds ejected relativistically. I have shown that after each accretion event by the black hole, a plasma ejection occurs, proving the link between accretion and ejection phenomena. This result is of prime importance for the understanding of microquasars, but also for all jet sources present in the whole universe, and among them AGNs, and even  $\gamma$ -ray bursts.



## List of publications

**Research publications : 224 ; citations : ~2500 ; H-index=28**

- 106 articles published in international committee journals (4 submitted)
- 78 communications in international committee proceedings (9 invited)
- 2 chapters of reference books
- 2 reference publications (PhD & HDR)
- 36 IAU & GCN circulars ; Astronomer's Telegrams (ATEL)

**Popularization publications (32) :**

- 4 books
  - 14 national popularisation papers
  - 6 documentaries
  - 4 radio
  - 4 podcasts
- In addition :
- 5 press releases
  - 8 articles published about my research

**Articles published in international committee journals (106, 4 submitted) :**

**2011**

- Abdo A.A., ... **Chaty S.**, 2011, ApJ, 734, 28, *Observations of the Young Supernova Remnant RX J1713.7-3946 with the Fermi Large Area Telescope*
- Abdo A.A., ... **Chaty S.**, 2011, ApJ, 736, L11, *Discovery of High-Energy Gamma-Ray Emission from the Binary System PSR B1259-63/LS 2883 Around Periastron with Fermi*
- Abdo A.A., ... **Chaty S.**, 2011, Science subm., *1FGL J1018.6-5856 and the Galactic Population of Gamma-ray Binaries*
- Bodaghee A., Tomsick J.A., Rodriguez J., **Chaty S.**, Pottschmidt K., Walter R., Romano, P., 2011, ApJ, 727, 59, *Suzaku observes weak flares from IGR J17391-3021 representing a common low-activity state in this SFXT*
- **Chaty S.**, Dubus G., Raichoor A., 2011, A&A, 529, A3, *Near-infrared jet emission in the microquasar XTE J1550-564*
- **Chaty S.**, Rahoui, F., 2011, ApJ subm., *Mid-infrared spectroscopy revealing the surroundings of the obscured High Mass X-ray binary IGR J16318-4848*
- **Chaty S.**, 2011, New Astronomy Reviews in press, *Nature, formation and evolution of High Mass X-ray Binaries* (Invited review International ESO conference on Binary star evolution), Viña del Mar, Chile, March 6-11, 2011
- Coleiro, A., **Chaty S.**, 2011, New Astronomy Reviews, in press, *Study of the distribution of High Mass X-ray Binaries in the Milky Way* (International ESO conference on Binary star evolution), Viña del Mar, Chile, March 6-11, 2011
- Curran, P.A., **Chaty S.**, Zurita Heras J.A. 2011, A&A, 533, A3., *Discovery and identification of infrared counterpart candidates of four Galactic centre low mass X-ray binaries*
- Curran, P.A., **Chaty S.**, Zurita Heras J.A., Coleiro, A. 2011, A&A in press, *A search for near infrared*

counterparts of 3 pulsar wind nebulae

- Curran, P.A., **Chaty, S.**, Zurita Heras J.A., Tomsick J.A., Maccarone, T.J., 2011, MNRAS in press, *Discovery of the infrared counterpart of CXOU J174437.3-323222 in the field of IGR J17448-3232 : a blazar candidate viewed through the Galactic centre ?*
- Feroci, M., ..., **Chaty, S.** et al., 2011, Experimental Astronomy, 39 *The Large Observatory for X-ray Timing (LOFT)*
- Liu Q.Z., **Chaty S.**, Yan J.Z., 2011, MNRAS, 415, 3349, *Be/X-ray binaries as the progenitors of the supergiant fast X-ray transients IGR J18483-0311 and IGR J11215-5952*
- Lowell A., Tomsick J.A., Bodaghee A., Boggs S., Heinke, C., Kaaret P., **Chaty S.**, Rodriguez J., Walter R., 2011, ApJ subm., *The First X-ray Measurement of SAX J1750.8-2900 in Quiescence*
- Noutsos A., Abdo A.A., ... **Chaty S.** et al., 2011, ApJ, 728, 77, *Radio and  $\gamma$ -ray constraints on the emission geometry and birth place of PSR J2043+2740*
- Paizis A., Nowak M.A., Wilms J., **Chaty S.**, Corbel S., Rodriguez J., Del Santo M., Ubertini P., Chini R. 2011, ApJ, 738, 183 *Unveiling the Nature of IGR J17177-3656 with X-ray, NIR and radio observations*
- Pellizza L.J., **Chaty S.**, Chisari N.E., 2011, A&A, 526, A15, *Unveiling the nature of IGR J16283-4838*
- Tomsick J.A., Heinke, C., Halpern J., Kaaret P., **Chaty S.**, Rodriguez J., Bodaghee A., 2011, ApJ, 728, 86 *Confirmation of IGR J01363+6610 as a Be X-ray binary with very low quiescent X-ray luminosity*
- Yan J.Z., Zurita Heras J. A., **Chaty S.**, Li H., Liu Q.Z., 2011, ApJ subm., *Multi-wavelength study of Be/X-ray binary MXB 0656-072*
- Zurita Heras J. A., **Chaty, S.**, Cadolle Bel M., Prat, L., 2011, MNRAS, 413, 235, *Evidence of an irradiated accretion disc in XTE J1818-245*

#### 2010

- Abdo A.A., ... **Chaty S.** et al., 2010, Science, 329, 817, *Gamma-Ray Emission Concurrent with the Nova in the Symbiotic Binary V407 Cygni*
- Abdo A.A., ... **Chaty S.** et al., 2010, A&A, 524, A75, *A population of gamma-ray emitting globular clusters seen with the Fermi Large Area Telescope*
- Abdo A.A., ... **Chaty S.** et al., 2010, ApJ, 710, L92 *Fermi-LAT Discovery of GeV Gamma-Ray Emission from the Young Supernova Remnant Cassiopeia A*
- Abdo A.A., ... **Chaty S.**, 2010, ApJ, 716, 30 *The Spectral Energy Distribution of Fermi bright blazars*
- Abdo A.A., ... **Chaty S.** et al., 2010, ApJ, 723, 649 *Fermi Large Area Telescope Observation of a Gamma-ray Source at the Position of Eta Carinae*
- Abdo A.A., ... **Chaty S.**, 2010, ApJ, 725, L73 *Search for Gamma-ray Emission from Magnetars with the Fermi Large Area Telescope*
- Benaglia P., Ribó M., Combi J.A., Romero G.E., **Chaty, S.**, Koribalski B., Mirabel I.F., Rodríguez L.F., Bosch G. 2010, A&A, 523, 62 *Radio and IR study of the massive star-forming region IRAS 16353-4636*
- Bodaghee A., Tomsick J.A., Rodriguez J., **Chaty S.**, Pottschmidt K., Walter R., 2010, ApJ, 719, 451, *Broad-band Suzaku observations of IGR J16207-5129*
- Esposito P., Israel G.L., Turolla R., Tiengo A., Götz D., De Luca A., Mignani R.P., Zane S., Rea N., Testa V., Mereghetti S., Caraveo P.A., **Chaty, S.**, Jonker P.G., Mattana F., Pellizzoni A., Romano P., 2010, MNRAS, 405, 1787, *Early X-ray and optical observations of the soft gamma-ray repeater SGR 0418+5729*
- Rahoui F., **Chaty S.**, Rodriguez J., Fuchs Y., Mirabel I.F., Pooley G.G., 2010, ApJ, 715, 1191, *Long-term multi-wavelength studies of GRS 1915+105 I. A mid-infrared focus with Spitzer*
- Ueda Y., Honda K., Takahashi H., Done C., Shirai H., Fukazawa Y., Yamaoka K., Naik S., Awaki H., Ebisawa K., Rodriguez, J., **Chaty, S.**, 2010, ApJ, 713, 257, *Suzaku Observation of GRS 1915+105 : Evolution of Accretion Disc Structure during Limit-Cycle Oscillation*
- Zhang H., Yuan F., **Chaty, S.**, 2010, ApJ, 717, 929, *Modeling the hard state of three Black Hole candidates*

#### 2009

- Abdo A.A., ... **Chaty S.** et al., 2009, ApJ, 699, 817, *Early Fermi  $\gamma$ -ray Space Telescope Observations of the Quasar 3C 454.3*
- Abdo A.A., ... **Chaty S.** et al., 2009, ApJ, 701, L123, *Fermi LAT Observations of LSI +61°303 : First*



*Detection of an Orbital Modulation in GeV  $\gamma$ -Rays*

- Abdo A.A., ... **Chaty S.** et al., 2009, ApJ, 706, 56, *Fermi/LAT observations of LS 5039*
- Abdo A.A., ... **Chaty S.**, et al. 2009, Science, 325, 845, *Detection of High-Energy Gamma-Ray Emission from the Globular Cluster 47 Tucanae with Fermi*
- Abdo A.A., ... **Chaty S.** et al., 2009, Science, 326, 1512, *Modulated High-Energy  $\gamma$ -ray Emission from the Microquasar Cygnus X-3*
- Butler S.C., Tomsick J.A., **Chaty S.**, Zurita Heras J.A., Rodriguez J., Walter R., Kaaret P., Kalemci E., Özbey M., 2009, ApJ, 698, 502, *Identifications of Five INTEGRAL Sources via Optical Spectroscopy*
- Cadolle Bel M., Prat L., Rodriguez J., Ribó M., Barragán L., D’Avanzo P., Hannikainen D.C., Kuulkers E., Campana S., Moldón J., **Chaty S.**, Zurita Heras J.A., Goldwurm A., Goldoni P., 2009, A&A, 501, 1, *Detailed Radio to Soft  $\gamma$ -ray studies of the 2005 outburst of the new X-ray transient XTE J1818-245*
- Mignani R.P., Rea N., Testa V., Israel G.L., Marconi, G., Mereghetti, S., Jonker, P., Turolla R., Perna R., Zane S., LoCurto G., **Chaty, S.**, 2009, A&A, 497, 451, *VLT/NACO near-infrared observations of the transient radio magnetar 1E 1547.0-5408*
- Rahoui F., **Chaty S.**, Lagage P.-O., 2009, A&A 493, 119, *Mid-Infrared VISIR and Spitzer observations of the surroundings of the magnetar SGR 1806-20*
- Rodriguez J., Tomsick J., **Chaty S.**, 2009, A&A, 494, 417, *Swift follow-up observations of 17 INTEGRAL sources of uncertain or unknown nature*
- Rodriguez J., Tomsick J.A., Bodaghee, A., Zurita Heras J.A., **Chaty S.**, Paizis, A., Corbel, S. 2009, A&A, 508, 889, *The nature of the X-ray binary IGR J19294+1816 from INTEGRAL, RXTE and Swift observations*
- Tomsick J.A., **Chaty S.**, Rodriguez J., Walter R., Kaaret P., Tovmassian G., 2009, ApJ, 694, 344, *An XMM-Newton Spectral and Timing Study of IGR J16207-5129 : An Obscured and Non-Pulsating HMXB*
- Tomsick J.A., **Chaty S.**, Rodriguez J., Walter R., Kaaret P., 2009, ApJ, 701, 811, *Chandra Localizations and Spectra of INTEGRAL Sources in the Galactic Plane : The Cycle 9 Sample*
- Zurita Heras, J. A. ; **Chaty, S.**, 2009, A&A, 493, L1, *Discovery of an eccentric 30 day period in the supergiant X-ray binary SAX J1818.6-1703 with INTEGRAL*
- Zurita Heras, J. A. ; **Chaty, S.**, Tomsick, J.A., 2009, A&A, 502, 787, *Infrared identification of IGR J09026-4812 as a Seyfert 1 galaxy*

**2008**

- **Chaty S.**, Rahoui F., Foellmi C., Tomsick J., Rodriguez J., Walter R., 2008, A&A, 484, 783 *Multi-wavelength observations of Galactic hard X-ray sources discovered by INTEGRAL. I. The nature of the companion star*
- **Chaty S.**, 2008, ChJA&AS, 8, 197, *Obscured Sources and Supergiant Fast X-ray Transients : New Classes of High Mass X-ray Binaries* (Invited review at the Frascati Workshop 2007, Vulcano, Italy, May 28 - June 2 ; Multifrequency Behaviour of High Energy Cosmic Sources, 710)
- Healey, S.E., Romani, R.W., Cotter, G., Michelson, P.F., Schlaflly, E.F., Readhead, A.C.S., Giommi, P., **Chaty, S.**, Grenier, I.A., Weintraub, L.C., 2008, ApJS, 175, 97, *CGRaBS : An All-Sky Survey of Gamma-Ray Blazar Candidates*
- Rahoui F. & **Chaty S.**, 2008, A&A, 492, 163 IGR J18483-0311 : a new intermediate supergiant fast X-ray transient
- Rahoui F., **Chaty S.**, Lagage P.-O., Pantin E., 2008, A&A, 484, 801 *Multi-wavelength observations of Galactic hard X-ray sources discovered by INTEGRAL. II. The environment of the companion star*
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