

Bianco Carlo Luciano

Position: ICRA Net Faculty staff
Member of ICRA Net Scientific Committee
Member of IRAP-PhD Faculty

Period covered: 2005 – present



I Scientific Work

Research on: Gamma-Ray Bursts, Relativistic astrophysics, Cosmology.

II Conferences and educational activities

Ia. Conferences and Other External Scientific Work

Gave the following invited lectures:

- C.L. Bianco, M.G. Bernardini, P. Chardonnet, F. Fraschetti, R. Ruffini, S.-S. Xue; Our model for Gamma-Ray Bursts; *1st Bego scientific rencontre*, Université de Nice Sophia-Antipolis, Nice, France, 14 February 2006.
- C.L. Bianco; Equations of motion and beaming in Gamma – Ray Bursts; *1st Cesare Lattes Meeting*, Mangaratiba (RJ), Brazil, 1 March 2007.
- C.L. Bianco, M.G. Bernardini, L. Caito, M.G. Dainotti, R. Guida, R. Ruffini; Theoretical interpretation of GRB060614; *2007 April Meeting of the American Physical Society*; Jacksonville, Florida (USA), 14 April 2007.
- C.L. Bianco; The fireshell model and the canonical GRB scenario; *Scuola Nazionale di Astrofisica (National School of Astrophysics)* (II course, IX cycle); Venice (Italy), 18 September 2007.
- C.L. Bianco, M.G. Bernardini, L. Caito, M.G. Dainotti, R. Guida, R. Ruffini, G. Vereshchagin, S.-S. Xue; Equations of motion of the fireshell; *3rd Stueckelberg Workshop*; Pescara (Italy), 10 July 2008.
- C.L. Bianco, M.G. Bernardini, L. Caito, G. De Barros, L. Izzo, F.A. Massucci, B. Patricelli, R. Ruffini, G. Vereshchagin, S.-S. Xue; The fireshell equations of motion and equitemporal surfaces; *6th Italian-Sino Workshop*; Pescara (Italy), 29 June 2009.
- C.L. Bianco, M.G. Bernardini, L. Caito, G. De Barros, L. Izzo, B. Patricelli, R. Ruffini; The canonical GRB scenario within the fireshell model: “long”, “genuine short” and “disguised short” GRBs; *GRB 2010: Dall’eV al TeV tutti i colori dei GRB – Secondo congresso italiano sui GRB*; Cefalù (Italy), 15 June 2010.
- A.G. Aksenov, M.G. Bernardini, C.L. Bianco, L. Caito, C. Cherubini, G. De Barros, A. Geralico, L. Izzo, F.A. Massucci, B. Patricelli, M. Rotondo, J.A. Rueda Hernandez, R. Ruffini, G. Vereshchagin, S.-S. Xue; New developments of the Fireshell scenario; *The Shocking Universe Meeting*, San Servolo, Venice (Italy), September 2009.
- C.L. Bianco, M.G. Bernardini, L. Caito, G. De Barros, L. Izzo, B. Patricelli, R. Ruffini; The fireshell equations of motion and the P-GRB observational properties; *2nd Galileo – Xu GuangQi meeting*, Ventimiglia (Italy), July 2010.

Ib. Work With Students

- Students of the IRAP-PhD program at University “La Sapienza”, Rome, Italy: Maria Grazia Bernardini, Letizia Caito, Maria Giovanna Dainotti, Gustavo De Barros, Roberto Guida, Luca Izzo, Barbara Patricelli.
- Students of the First three years degree Thesis (“Tesi di Laurea triennale”) in Physics at University “La Sapienza”, Rome, Italy: Eliana La Francesca, Francesco Alessandro Massucci.
- Students of the Final Degree Thesis (“Tesi di Laurea Vecchio Ordinamento”) in Physics at University “La Sapienza”, Rome, Italy: Letizia Caito, Walter Ferrara, Laura Rosano.

Ic. Diploma thesis supervision

- 2005. External supervisor of the First three years degree thesis (“Tesi di laurea triennale”) in Physics by Francesco Alessandro Massucci at University “La Sapienza”, Rome, Italy.

- 2006. External supervisor of the Degree thesis in Physics by Letizia Caito at University “La Sapienza”, Rome, Italy.
- 2007. Thesis advisor of the IRAP-PhD Degree Thesis by Maria Grazia Bernardini at University “La Sapienza”, Rome, Italy.
- 2008. External supervisor of the First three years degree thesis (“Tesi di laurea triennale”) in Physics by Eliana La Francesca at University “La Sapienza”, Rome, Italy.
- 2008. Thesis advisor of the IRAP-PhD Degree Thesis by Roberto Guida at University “La Sapienza”, Rome, Italy.
- 2009. External supervisor of the Degree thesis in Physics by Laura Rosano at University “La Sapienza”, Rome, Italy.

II d Other Teaching Duties

- Assistant teacher in the course of “Laboratory of Electromagnetism and Circuits” by Prof. Giulio D’Agostini at Physics Department of the University “La Sapienza”, Rome, Italy, academical year 2005/2006.
- Assistant teacher in the course of “Laboratory of Systems and Signals” by Prof. Mario Mattioli at Physics Department of the University “La Sapienza”, Rome, Italy, academical years 2007/2008, 2008/2009, 2009/2010.

III. Service activities

III a. Within ICRANet

- Administrator of the server used for numerical computations at ICRANet – Rome.
- Secretariat of the IRAP PhD.
- Member of the ICRANet Scientific Committee.
- Member of the IRAP PhD Faculty

III b. Outside ICRANet

- “Cultore della Materia” (“Expert of the subject”) for the “FIS/01 – Experimental Physics”, “FIS/02 – Theoretical Physics, Models and Mathematical Methods”, “FIS/05 – Astronomy and Astrophysics” scientific sectors in the Mathematical, Physical and Natural Sciences Faculty of the University of Rome “La Sapienza”.

2010 List of Publications

M.G. BERNARDINI, C.L. BIANCO, L. CAITO, M.G. DAINOTTI, R. GUIDA, R. RUFFINI; GRB970228 in the “canonical GRB” scenario; *Journal of the Korean Physical Society*, **56**, 1575 (2010).
<<http://dx.doi.org/10.3938/jkps.56.1575>>

L. CAITO, M.G. BERNARDINI, C.L. BIANCO, M.G. DAINOTTI, R. GUIDA, R. RUFFINI; GRB060614: a preliminary result; *Journal of the Korean Physical Society*, **56**, 1579 (2010).
<<http://dx.doi.org/10.3938/jkps.56.1579>>

M.G. DAINOTTI, M.G. BERNARDINI, C.L. BIANCO, L. CAITO, R. GUIDA, R. RUFFINI; The astrophysical tryptic: GRB, SN and URCA can be extended to GRB060218?; *Journal of the Korean Physical Society*, **56**, 1588 (2010).
<<http://dx.doi.org/10.3938/jkps.56.1588>>

L. CAITO, L. AMATI, M.G. BERNARDINI, C.L. BIANCO, G. DE BARROS, L. IZZO, B. PATRICELLI, R. RUFFINI; GRB 071227: an additional case of a disguised short burst; *Astronomy & Astrophysics*, (2010) *in press*.
<<http://adsabs.harvard.edu/abs/2010arXiv1006.4842C>>
<<http://dx.doi.org/10.1051/0004-6361/201014640>>

L. IZZO, M.G. BERNARDINI, C.L. BIANCO, L. CAITO, B. PATRICELLI, R. RUFFINI; GRB 090423 at Redshift 8.1: a Theoretical Interpretation; *Journal of the Korean Physical Society*, **57**, 551 (2010). <<http://dx.doi.org/10.3938/jkps.57.551>>

A.G. AKSENOV, M.G. BERNARDINI, C.L. BIANCO, L. CAITO, C. CHERUBINI, G. DE BARROS, A. GERALICO, L. IZZO, F.A. MASSUCCI, B. PATRICELLI, M. ROTONDO, J.A. RUEDA HERNANDEZ, R. RUFFINI, G. VERESHCHAGIN, S.-S. XUE; The fireshell model for Gamma-Ray Bursts; in *The Shocking Universe*, Proceedings of the conference held in Venice (Italy), September 2009, G. Chincarini, P. D'Avanzo, R. Margutti, R. Salvaterra, Editors; *SIF Conference Proceedings*, **102**, 451 (2010).

M.G. BERNARDINI, C.L. BIANCO, L. CAITO, L. IZZO, B. PATRICELLI, R. RUFFINI; The end of the prompt emission within the fireshell model; in *The Shocking Universe*, Proceedings of the conference held in Venice (Italy), September 2009, G. Chincarini, P. D'Avanzo, R. Margutti, R. Salvaterra, Editors; *SIF Conference Proceedings*, **102**, 489 (2010).

L. IZZO, M.G. BERNARDINI, C.L. BIANCO, L. CAITO, B. PATRICELLI, R. RUFFINI; GRB 090423 in the fireshell scenario; in *The Shocking Universe*, Proceedings of the conference held in Venice (Italy), September 2009, G. Chincarini, P. D'Avanzo, R. Margutti, R. Salvaterra, Editors; *SIF Conference Proceedings*, **102**, 537 (2010).

B. PATRICELLI, M.G. BERNARDINI, C.L. BIANCO, L. CAITO, L. IZZO, R. RUFFINI, G. VERESHCHAGIN; A new spectral energy distribution of photons in the fireshell model of GRBs; in *The Shocking Universe*, Proceedings of the conference held in Venice (Italy), September 2009, G. Chincarini, P. D'Avanzo, R. Margutti, R. Salvaterra, Editors; *SIF Conference Proceedings*, **102**, 559 (2010).