Bianco Carlo Luciano

Position: ICRANet Faculty staff
Member of ICRANet Scientific Committee
Member of IRAP-PhD Faculty

Period covered: 2005 – 2015

I Scientific Work

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

II Conferences and educational activities

II a 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.

- C.L. Bianco, M.G. Bernardini, L. Caito, G. De Barros, L. Izzo, B. Patricelli, R. Ruffini; The fireshell model for GRBs: toward a canonical GRB scenario; *3rd Galileo – Xu GuangQi meeting*, Beijing (China), October 2011.

II b 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, Maxime Enderli, Roberto Guida, Luca Izzo, Milos Kovacevic, Marco Muccino, Barbara Patricelli, Ana Virginia Penacchioni, Giovanni Battista Pisani, Luis Juracy Rangel Lemos, Yu Wang.

- Students of the First three years degree Thesis ("Tesi di Laurea triennale") in Physics at University "La Sapienza", Rome, Italy: Giulia De Rosi, Eliana La Francesca, Francesco Alessando Massucci, Federica Volpi.

- 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.

II c 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.

- 2010. Thesis advisor of the IRAP-PhD Degree Thesis by Letizia Caito at University "La Sapienza", Rome, Italy.

- 2010. External supervisor of the First three years degree thesis ("Tesi di laurea triennale") in Physics by Giulia De Rosi 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, 2010/2011, 2011/2012, 2012/2013.

- Assistant teacher in the course of "Laboratory of Systems and Signals" by Prof. Andrea Nigro at Physics Department of the University "La Sapienza", Rome, Italy, academical years 2013/2014, 2014/2015, 2015/2016.

II e. Work With Postdocs

III. Service activities

III a. Within ICRANet

- Administrator of the two servers 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".

IV. Other

2015 List of Publication

A) REFEREED SCIENTIFIC JOURNALS

A.1) R. RUFFINI, Y. WANG, M. ENDERLI, M. MUCCINO, M. KOVACEVIC, C.L. BIANCO, A.V. PENACCHIONI, G.B. PISANI, J.A. RUEDA; GRB 130427A and SN 2013cq: A Multi-wavelength Analysis of An Induced Gravitational Collapse Event; *The Astrophysical Journal*, **798**, 10 (2015).
<http://adsabs.harvard.edu/abs/2015ApJ...798...10R>
<http://dx.doi.org/10.1088/0004-637X/798/1/10>

A.2) M. MUCCINO, R. RUFFINI, C.L. BIANCO, M. ENDERLI, M. KOVACEVIC, L. IZZO, A.V. PENACCHIONI, G.B. PISANI, J.A. RUEDA, Y. WANG; On binary driven hypernovae and their nested late X-ray emission; *Astronomy Reports*, **59**, 581 (2015).
<http://adsabs.harvard.edu/abs/2015ARep...59..581M>
<http://dx.doi.org/10.1134/S1063772915070070>

A.3) R. RUFFINI, L. IZZO, C.L. BIANCO, J.A. RUEDA, C. BARBARINO, H. DERELI, M. ENDERLI, M. MUCCINO, A.V. PENACCHIONI, G.B. PISANI, Y. WANG; Induced gravitational collapse in the BATSE era: The case of GRB 970828; *Astronomy Reports*, **59**, 626 (2015).
<http://adsabs.harvard.edu/abs/2015ARep...59..626R>
<http://dx.doi.org/10.1134/S1063772915070094>

A.4) Y. WANG, R. RUFFINI, M. KOVACEVIC, C.L. BIANCO, M. ENDERLI, M. MUCCINO, A.V. PENACCHIONI, G.B. PISANI, J.A. RUEDA; Predicting supernova associated to gamma-ray burst 130427a; *Astronomy Reports*, **59**, 667 (2015).
<http://adsabs.harvard.edu/abs/2015ARep...59..667W>
<http://dx.doi.org/10.1134/S1063772915070148>

A.5) R. RUFFINI, M. MUCCINO, M. KOVACEVIC, F.G. OLIVEIRA, J.A. RUEDA, C.L. BIANCO, M. ENDERLI, A.V. PENACCHIONI, G.B. PISANI, Y. WANG, E. ZANINONI; GRB 140619B: a short GRB from a binary neutron star merger leading to black hole formation; *The Astrophysical Journal*, **808**, 190 (2015).
<http://adsabs.harvard.edu/abs/2015ApJ...808..190R>
<http://dx.doi.org/10.1088/0004-637X/808/2/190>

A.6) R. RUFFINI, Y. AIMURATOV, C.L. BIANCO, M. ENDERLI, M. KOVACEVIC, R. MORADI, M. MUCCINO, A.V. PENACCHIONI, G.B. PISANI, J.A. RUEDA, Y. WANG; Induced gravitational collapse in FeCO Core-Neutron star binaries and Neutron star-Neutron star binary mergers; *International Journal of Modern Physics A*, **30**, 1545023 (2015).
<http://adsabs.harvard.edu/abs/2015IJMPA..3045023R>
<http://dx.doi.org/10.1142/S0217751X15450232>

B) CONFERENCE PROCEEDINGS

B.1) M. MUCCINO, R. RUFFINI, C.L. BIANCO, L. IZZO, A.V. PENACCHIONI, G.B. PISANI; GRB 090227B: The missing link between the genuine short and long GRBs; in *Proceedings of the Thirteenth Marcel Grossmann Meeting on General Relativity*, Stockholm, Sweden, July 2012, R.T. Jantzen, K. Rosquist, R. Ruffini, Editors; World Scientific, (Singapore, 2015). <http://adsabs.harvard.edu/abs/2015mgm..conf.1757M>
<http://dx.doi.org/10.1142/9789814623995_0275>

B.2) A.V. PENACCHIONI, R. RUFFINI, C.L. BIANCO, L. IZZO, M. MUCCINO, G.B. PISANI, J.A. RUEDA; The family of the Induced Gravitational Collapse scenario: The case of GRB 110709B; in *Proceedings of the Thirteenth Marcel Grossmann Meeting on General Relativity*, Stockholm, Sweden, July 2012, R.T. Jantzen, K. Rosquist, R. Ruffini, Editors; World Scientific, (Singapore, 2015). <http://adsabs.harvard.edu/abs/2015mgm..conf.1768P>
<http://dx.doi.org/10.1142/9789814623995_0278>

B.3) A.V. PENACCHIONI, R. RUFFINI, C.L. BIANCO, L. IZZO, M. MUCCINO, G.B. PISANI; GRB 111228, analysis within the Induced Gravitational Collapse scenario and association with a supernova; in *Proceedings of the Thirteenth Marcel Grossmann Meeting on General Relativity*, Stockholm, Sweden, July 2012, R.T. Jantzen, K. Rosquist, R. Ruffini, Editors; World Scientific, (Singapore, 2015). <http://adsabs.harvard.edu/abs/2015mgm..conf.1781P>
<http://dx.doi.org/10.1142/9789814623995_0281>

B.4) G.B. PISANI, L. IZZO, R. RUFFINI, C.L. BIANCO, M. MUCCINO, A.V. PENACCHIONI, J.A. RUEDA, Y. WANG; On a novel distance indicator for Gamma-Ray Bursts associated with supernovae; in *Proceedings of the Thirteenth Marcel Grossmann Meeting on General Relativity*, Stockholm, Sweden, July 2012, R.T. Jantzen, K. Rosquist, R. Ruffini, Editors; World Scientific, (Singapore, 2015). <http://adsabs.harvard.edu/abs/2015mgm..conf.1789P>
<http://dx.doi.org/10.1142/9789814623995_0283>

B.5) M. MUCCINO, R. RUFFINI, C.L. BIANCO, L. IZZO, A.V. PENACCHIONI, G.B. PISANI; GRB 090510, explosion of a GRB in the highest circumburst medium even inferred: a disguised short GRB; in *Proceedings of the Thirteenth Marcel Grossmann Meeting on General Relativity*, Stockholm, Sweden, July 2012, R.T. Jantzen, K. Rosquist, R. Ruffini, Editors; World Scientific, (Singapore, 2015). <http://adsabs.harvard.edu/abs/2015mgm..conf.1813M>
<http://dx.doi.org/10.1142/9789814623995_0286>

B.6) L. IZZO, G.B. PISANI, M. MUCCINO, R. RUFFINI, C.L. BIANCO, M. ENDERLI, Y. WANG; Hints for a physically based GRB distance indicator; in *Proceedings of the Thirteenth Marcel Grossmann Meeting on General Relativity*, Stockholm, Sweden, July 2012, R.T. Jantzen, K. Rosquist, R. Ruffini, Editors; World Scientific, (Singapore, 2015). <http://adsabs.harvard.edu/abs/2015mgm..conf.2102I>
<http://dx.doi.org/10.1142/9789814623995_0368>