

The Shocking Universe

Gamma Ray Bursts and High Energy Shock phenomena in the Universe

San Servolo Island - Venice (Italy), 2009 September 14th - 18th

Scientific Programme

Sunday

18:00 – 20:00

Registration & Welcome Cocktail

Monday

07:45 – 08:45

Registration

Chairman M. Feroci

08:45 – 09:00

G. Chincarini *Welcome*

09:00 – 09:35

M. Lyutikov *GRB: observational progress and theoretical problems*

09:35 – 09:50

I. Steele *Optical polarization measurements of GRB060418 and GRB090102*

09:50 – 10:05

C. Guidorzi *The controversial link between prompt optical and gamma-rays: temporal study of GRB 080319B*

10:05 – 10:30

Coffee Break

10:30 – 10:55

S. Barthelmy *GRB Prompt Emission and Swift-BAT*

10:55 – 11:20

S. Kobayashi *Magnetized Fireballs and Early Afterglows*

11:20 – 11:45

A. Pe'er *Observations, theory and implications of thermal emission from gamma-ray bursts*

11:45 – 12:05

L. Amati *Spectrum-energy correlation in GRB: status and perspectives*

12:05 – 12:30

J. Racusin *Jet Breaks and Energetics of Swift GRB X-ray Afterglows*

12:30 – 12:45

D. Burrows *Chandra Searches for Jet Breaks*

12:45 – 13:00	P. Evans	<i>Confronting GRB afterglow models with a complete set of XRT light curves and hardness ratios</i>
13.00 - 14.20	Lunch	
	Chairman	S. Barthelmy
14:20 – 14:45	A. MacFadyen	<i>GRB Afterglow Lightcurves from Multi-Dimensional Simulations</i>
14:45 – 15:10	R. Margutti	<i>GRB temporal structure: flares and short term variability</i> <i>Prior Emission Model for the Plateau Phase in the X-ray</i>
15:10 – 15:30	R. Yamazaki	<i>Afterglow</i>
15:30 – 15:55	E. Del Monte	<i>The observation of Gamma Ray Bursts with AGILE</i>
15:55 – 16:10	R. Klebesadel	<i>The Discovery of Cosmic Gamma-Ray Bursts</i>
16:10 – 16:35	Coffee Break	
16:35 – 17:00	F. Daigne	<i>The prompt emission of gamma-ray bursts in the internal shock model</i>
17:00 – 17:15	S. Sugita	<i>Timing and spectral analysis of Short GRB and Multi-spiked Long GRB.</i>
17:15 – 17:30	E. Liang	<i>Single Power-Law Decaying XRT lightcurves and Implications for the Unified Origin of the X-rays</i>
17:30 – 17:45	P. Roming	<i>A Large Homogenous Sample of Optical GRB Afterglow Light Curves</i>
17:45 – 18:00	M. De Pasquale	<i>Chromatic evolution in GRB afterglows</i>
18:00 – 18:20	S. Covino	<i>Optical observations of GRB afterglows</i>
18:20 – 18:35	J. Nousek	<i>Status of the Swift Mission</i>

Tuesday

Chairman **P. Michelson**

- 09:00 – 09:25 **N. Omodei** *Gamma-Ray Burst at High-Energy: the Fermi LAT first observation of the shocking Universe*
- 09:25 – 09:45 **N. Kawai** *Pulse structures of GRB 080916C observed with Fermi LAT/GBM*
- 09:45 – 10:05 **S. Guiriec** *GRB 090510, a short and hard burst detected by Fermi*
- 10:05 – 10:25 **F. de Palma** *GRB 090902B, a long GRB with High Energy emission detected with Fermi*
- 10:25 – 11:00 **Coffee Break**
- 11:00 – 11:20 **E. Bissaldi** *GRB 090323 and GRB 090328: two ksec long high-energy Gamma Ray Bursts detected with Fermi*
- 11:20 – 11:45 **B. Paciesas** *Fermi GBM results*
- 11:45 – 12:10 **M. Briggs** *Spectral Evolution of Three Short GRBs on Fine Timescales*
- 12:10 – 12:30 **V. Connaughton** *High-Energy Spectral signatures of LAT-detected short gamma-ray bursts*
- 12:30 – 12:55 **J. Granot** *Some Implications of Fermi High-Energy GRB Observations*
- 12:55 - 14.20 **Lunch**

Chairman **R. Bellazzini**

- 14:20 – 14:45 **K. Asano** *Theoretical Interpretation for Fermi LAT-detected Gamma-ray Bursts*
- 14:45 – 15:10 **C. Dermer** *Evidence for Ultra-High Energy Cosmic Ray Acceleration from Fermi Observations of GRBs*
- 15:10 – 15:35 **P. Michelson** *Fermi LAT results*
- 15:35 – 16:00 **B. Atwood** *Fermi-LAT Analysis to Maximize GRB Science*
- 16:00 – 16:30 **Coffee Break**

16:30 – 16:50	D. Kocevski	<i>LAT Upper Limits to GRBs</i>
16:50 – 17:05	T. Aune	<i>Constraints on GeV-TeV Emission from the "naked-eye" GRB 080319B</i>
17:05 – 17:30	Y. Fan	<i>Interpretation and implication of the non-detection of GeV spectrum excess by Fermi gamma-ray Space Telescope in most GRBs</i>
17:30 – 17:45	A. Melandri	<i>The Rise and Fall of GRBs - Lorentz Factors and Fireball Shock Physics</i>
17:45 – 18:10	R. Barniol-Duran	<i>High energy photons from Fermi GRBs: Who would have thought that they were produced in the external shock?</i>
19:15		<i>Visit at the S. Marco Basilica</i>

Wednesday

Chairman *P. Roming*

09:00 – 09:30	E. Berger	<i>The Host Galaxies of Short GRBs: Implications for the Progenitors and Comparison to Long GRB Hosts</i>
09:30 – 09:45	F. Virgili	<i>Are all short GRBs of compact star merger origin?</i>
09:45 – 10:00	P. D'Avanzo	<i>Optical spectroscopy of short GRB afterglows</i>
10:00 – 10:20	W. Lee	<i>The role of winds and tidal tails from post merger disks in the production of outflows and late time flares in SGRBs.</i>
10:20 – 10:40		<i>Poster competition</i>
10:40 – 11:10	<i>Coffee Break</i>	
11:10 – 11:40	C. Fryer	<i>Neutrinos and Gravitational Waves from Long Duration GRBs</i>
11:40 – 12:05	P. Vreeswijk	<i>GRB optical afterglow spectroscopy and host galaxies: an unbiased approach</i>
12:05 – 12:20	D. Perley	<i>The Environments of Dark Gamma-Ray Bursts</i>
12:20 – 12:35	A. De Ugarte Postigo	<i>GRB 090313: X-shooter's first glimpse of a GRB</i>
12:35 – 13:15	K. Hamaguchi	<i>News on Eta-Carinae</i>

Free afternoon

13:45

Social Trip to S. Francesco del Deserto island

Thursday

Chairman **J. Osborne**

- 09:00 – 09:25 **S. Savaglio** *Gamma-Ray Burst Host Galaxies and the High Redshift Universe*
- 09:25 – 09:50 **A. Fruchter** *Environments, Hosts, and their Implications for the Physics and Progenitors of GRBs*
- 09:50 – 10:05 **E. Levesque** *Modeling the Host Galaxies of Long-Duration Gamma-Ray Bursts*
- 10:05 – 10:20 **P. Schady** *Dust Extinction Properties within GRB Host Galaxies*
- 10:20 – 10:35 **K. Svensson** *The host galaxies of core-collapse supernovae and gamma ray bursts*
- 10:35 – 11:00 **Coffee Break**
- 11:00 – 11:30 **A. Soderberg** *A Holistic View of the GRB-SN Connection*
- 11:30 – 11:55 **M. Della Valle** *GRB-SN Connection: observational outcomes*
- 11:55 – 12:15 **S. Nagataki** *GRB-SN Connection: Central Engine of Long GRBs and Explosive Nucleosynthesis*
- 12:15 – 12:30 **A. Kamble** *XRF080109/SN2008D : an investigation at radio frequencies*
- 12:30 – 12:45 **R. Shen** *The late jet in GRBs and its interactions with a supernova ejecta and a cocoon*
- 12:45 – 13:00 **F. De Colle** *Bipolar Supernova Explosions: Nucleosynthesis and the Role of Magnetic Fields*

13.00 - 14.30 **Lunch**

Chairman **N. Kawai**

- 14:30 – 15:00 **P. Kumar** *The Physics of GRB Prompt Emission*
- 15:00 – 15:30 **B. Zhang** *GRB prompt emission models: from low sigma to high sigma*

15:30 – 16:00	T. Piran	<i>TBA</i>
16:00 – 16:30	<i>Coffee Break</i>	
16:30 – 16:45	E. Nakar	<i>Introduction for a debate</i>
16:45 – 17:20	<i>Debate: where do we stand?</i>	
17:20 – 17:35	A. Leván	<i>Illuminating the dark ages with GRB 090423</i>
17:35 – 17:50	R. Salvaterra	<i>GRB 090423 reveals an exploding star at the epoch of re-ionization</i>
17:50 – 18:05	D. Frail	<i>Discovery of the Radio Afterglow from GRB 090423</i>
18:05 – 18:20	A. Cucchiara	<i>GRB 090429B as the second "extreme redshift" gamma-ray burst</i>
18:20 – 18:45	T. Totani	<i>GRBs and High Redshift Universe: High Redshift Galaxies, Pop III Stars, and Reionization</i>
20:30	<i>Social Dinner</i>	

Friday

Chairman ***K. Hurley***

08:45 – 09:10	C. Kouveliotou	<i>Magnetar Observations with Fermi/GBM</i>
09:10 – 09:25	S. Dall'Osso	<i>Magnetars at birth as strong sources of Gravitational Wave Radiation</i>
09:25 – 09:40	Y. Nakagawa	<i>Suzaku Observations of Short Bursts from SGR 0501+4516</i>
09:40 – 10:10	E. Ramirez-Ruiz	<i>Compact Objects in The Era of Celestial Cinematography</i>
10:10 – 10:40	<i>Coffee Break</i>	
10:40 – 11:05	V. D'Elia	<i>UVES-VLT High Resolution Spectroscopy of Gamma-Ray Burst afterglows: host galaxies and intervening absorbers</i>
11:05 – 11:20	S. Vergani	<i>Statistics and characteristics of MgII absorbers along GRB lines of sight observed with VLT-UVES</i>

11:20 – 11:35	S. Campana	<i>Circumburst ambient surrounding GRBs in the X-ray band</i>
11:35 – 11:50	C. Thoene	<i>GRB 090426 - a new class or a strange environment?</i>
11:50 – 12:00	I. Horvath	<i>GRB groups observed by BATSE, BeppoSAX and Swift</i>
12:00 – 12:15	D. Lopez-Camara	<i>Quiescence and late time activity in collapsars due to critical angular momentum distributions.</i>
12:15 – 12:30	G. Beskin	<i>Discovery of the "central engine" manifestation in the Naked-Eye Burst prompt optical emission</i>
12.30 - 14.00	Lunch	
	Chairman	D. Burrows
14:00 – 14:25	K. Yamaoka	<i>Suzaku observations of GRB prompt emissions and X-ray afterglows</i>
14:25 – 14:55	C. Bianco	<i>The extended afterglow luminosity evolution over the equitemporal surfaces</i>
14:55 – 15:10	F. Genet	<i>Steep decay phase and prompt emission models</i>
15:10 – 15:25	V. Mangano	<i>Modeling the spectral evolution in the decaying tails of Swift GRBs</i>
15:25 – 15:45	S. Inoue	<i>Probing UV radiation fields and magnetic fields in the era of first star formation through GeV γ -rays from very high-z GRBs</i>
15:45 – 16:00	P. Romano	<i>Supergiant Fast X-ray Transients: the Swift monitoring program</i>
16:00– 16:45	N. Gehrels	<i>Concluding Remarks</i>