

Gamma-Ray Bursts 2012 Conference

7-11 May 2012, Munich, Germany

GRB 2012 · PLENARY SESSION

Monday – May 7, 2012

09:00 – 10:30 **Session I: Recent results from Swift and Fermi**

Plenary Session (Festsaal) – Chair: t.b.a.

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| 09:00
(25' + 5') | Swift: Status and Recent Results
Judith Racusin (NASA/GSFC) |
| 09:30
(25' + 5') | Fermi LAT Status and Recent Results
Frederic Piron (LUPM, Montpellier (CNRS/IN2P3)) |
| 10:00
(25' + 5') | Scientific highlights from the Fermi Gamma-ray Burst Monitor
Sheila McBreen (University College Dublin) |

11:00 – 12:30 **Session IIa: Prompt Emission Spectroscopy**

Plenary Session (Festsaal) – Chair: t.b.a.

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| 11:00
(25' + 5') | The Fermi Era: Towards a better understanding of the GRB prompt emission
Sylvain Guiriec (NASA Goddard Space Flight Center) |
| 11:30
(15' + 5') | Rest-frame properties of GRBs observed by Fermi/GBM
David Gruber (Max Planck Institute for Extraterrestrial Physics) |
| 11:50
(15' + 5') | Bright High-Energy GRBs detected with Fermi GBM
Elisabetta Bissaldi (University of Innsbruck) |
| 12:10
(15' + 5') | Prompt spectral properties of a complete sample of Swift Gamma-Ray Bursts
Lara Nava (APC Paris) |

14:00 – 15:30 **Session IIb: Prompt Emission Spectroscopy**

Plenary Session (Festsaal) – Chair: t.b.a.

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| 14:00
(25' + 5') | Theory of the Gamma-ray Burst Prompt Emission
Davide Lazzati (North Carolina State University) |
| 14:30
(15' + 5') | The Photosphere in Gamma-Ray Bursts: Lessons Learned from Fermi |

Felix Ryde (Royal Institute of Technology Stockholm)

14:50
(15' + 5') Photospheric Emission in Fermi Gamma Ray Bursts
Sinead McGlynn (Excellenzcluster Universe Garching)

15:10
(15' + 5') Single- and two-component gamma-ray burst spectra in the Fermi
GBM-LAT energy range
Peter Veres (Pennsylvania State University)

16:00 – 17:40

Session IIc: Prompt Emission Correlations and Temporal Properties

Plenary Session (Festsaal) – Chair: t.b.a.

16:00
(15' + 5') The E_p - E_{iso} relation: intrinsic GRB property or/and selection effects?
Robert Mochkovitch (Institut d'Astrophysique de Paris (IAP))

16:20
(15' + 5') GRBs have preferred jet opening angles and bulk Lorentz factors
Gabriele Ghisellini (INAF - Osservatorio Astronomico di Brera)

16:40
(15' + 5') On The Lack of Time Dilation Signatures in Gamma-ray Burst Light
Curves
Daniel Kocevski (Stanford University)

17:00
(15' + 5') Energy-dependent Spectral Lags of Fermi-GBM GRBs
Suzanne Foley (University College Dublin)

17:20
(15' + 5') GRBs as standard candles indicated by pulse spectral evolution
Rupal Basak (Tata Institute of Fundamental Research, Mumbai)

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Tuesday – May 8, 2012

09:00 – 10:20 **Session IId: Very High-Energy Emission**

Plenary Session (Festsaal) – Chair: t.b.a.

- 09:00 (15' + 5') Study of emission mechanism of Gamma-Ray Bursts by the gamma-ray polarization with IKAROS-GAP
Daisuke Yonetoku (Kanazawa University)
- 09:20 (15' + 5') Broadband observations of GRB110731A with Fermi, Swift, GROND and MOA
Johan Bregeon (INFN Pisa)
- 09:40 (15' + 5') GRB observations at very high energies with the MAGIC telescopes
Markus Garzarczyk (IAC)
- 10:00 (15' + 5') Multi-GeV lightcurves: possible hints for the emission mechanism
Katsuaki Asano (Tokyo Institute of Technology)

11:00 – 12:30 **Session IIIa: Afterglow Theory**

Plenary Session (Festsaal) – Chair: t.b.a.

- 11:00 (25' + 5') Scalings Properties of Afterglow Radiation
Andrew MacFadyen (New York University)
- 11:30 (15' + 5') Multidimensional numerical simulations in the afterglow phase
Alkiviadis Vlasis (KU Leuven)
- 11:50 (15' + 5') Relativistic MHD Simulations of Magnetic Fields in Jets of GRBs
Gustavo Rocha da Silva (Universidade de São Paulo)
- 12:10 (15' + 5') Simulations of GRB Jets in a Stratified External Medium: Dynamics, Afterglow Lightcurves, Jet Breaks and Radio Calorimetry
Fabio De Colle (University of California at Santa Cruz)

14:00 – 15:30 **Session IIIb: Afterglow Observations**

Plenary Session (Festsaal) – Chair: t.b.a.

- 14:00 (25' + 5') Observational Aspects of Gamma-ray Burst Afterglows
Thomas Kruehler (Dark Cosmology Center)

- 14:30
(15' + 5') Probing GRB afterglows with deep linear and circular polarimetry
Klaas Wiersema (University of Leicester)
- 14:50
(15' + 5') An intrinsic correlation between GRB optical/UV afterglow brightness and decay rate
Samantha Oates (Mullard Space Science Laboratory, University College London (MSSL-UCL))
- 15:10
(15' + 5') The prompt-afterglow connection in Gamma-Ray Bursts: a comprehensive statistical analysis of Swift X-ray light-curves
Raffaella Margutti (Harvard University)

16:00 – 17:30

Session IIIc: Afterglow Observations

Plenary Session (Festsaal) – Chair: t.b.a.

- 16:00
(25' + 5') Gamma-ray burst afterglows as probes of the ISM
Patricia Schady (MPE Garching)
- 16:30
(15' + 5') Origin of the X-ray absorption in GRBs
Darach Watson (Dark Cosmology Centre, Niels Bohr Institute)
- 16:50
(15' + 5') Short GRB Broad-band Afterglow Observations: Beaming, Densities and Energetics
Wen-fai Fong (Harvard University)

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Wednesday – May 9, 2012

09:00 – 10:30 Session IVa: GRBs as Probes of the Early Universe

Plenary Session (Festsaal) – Chair: t.b.a.

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| 09:00
(25' + 5') | High-redshift Gamma-ray Burst Afterglows
Nial Tanvir (University of Leicester) |
| 09:30
(15' + 5') | On the reliability of spectral-energy correlations in GRBs
Lorenzo Amati (INAF - IASF Bologna) |
| 09:50
(15' + 5') | Difficulties in using GRBs as Standard Candles
Adam Goldstein (University of Alabama in Huntsville) |
| 10:10
(15' + 5') | Galaxy counterparts of high-z sub-DLAs/DLAs towards GRBs
Steve Schulze (University of Iceland) |

11:00 – 12:30 Session IVb: GRBs as Probes of the Early Universe

Plenary Session (Festsaal) – Chair: t.b.a.

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| 11:00
(25' + 5') | Gamma-ray Bursts as Probes of the First Stars
Volker Bromm (University of Texas at Austin) |
| 11:30
(15' + 5') | Pop III GRBs: constraints on the event rate for future surveys
Rafael S. de Souza (University of Sao Paulo/Max Planck Institute for Astrophysics) |
| 11:50
(15' + 5') | The long gamma-ray burst rate and the correlation with host galaxy properties
Jonathan Elliott (MPE) |
| 12:10
(15' + 5') | Probing Cosmic Radiation Fields and Magnetic Fields in the Reionization Epoch with Hard X-rays and MeV-GeV Gamma Rays from High-z GRBs
Susumu Inoue (Institute for Cosmic Ray Research, University of Tokyo) |

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Thursday – May 10, 2012

09:00 – 10:40 **Session Va: Progenitors of Long Duration Bursts**

Plenary Session (Festsaal) – Chair: t.b.a.

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| 09:00
(25' + 5') | The supernovae of gamma-ray bursts
David Bersier (Liverpool John Moores University) |
| 09:30
(25' + 5') | Collapsar and Magnetar Models for Long-Duration Gamma-Ray Bursts
Shigehiro Nagataki (YITP, Kyoto University) |
| 10:00
(15' + 5') | Binary Progenitors for Long-Duration Gamma-Ray Bursts
Philipp Podsiadlowski (University of Oxford) |
| 10:20
(15' + 5') | Long gamma-ray bursts from interacting binaries
Ross Church (Lund) |

11:00 – 12:30 **Session Vb: Progenitors of Short Duration Bursts**

Plenary Session (Festsaal) – Chair: t.b.a.

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|---------------------|---|
| 11:00
(25' + 5') | The multi-messenger picture of compact binary mergers
Stephan Rosswog (Jacobs University Bremen) |
| 11:30
(15' + 5') | Energy injection in short GRBs and the role of magnetars
Paul O'Brien (University of Leicester) |
| 11:50
(15' + 5') | Model of the extended emission of short gamma-ray bursts
Alexei Pozanenko (Space Research Institute) |
| 12:10
(15' + 5') | Poster Prize Session
Arne Rau (MPE Garching) |

14:00 – 15:30 **Session Vc: Central Engine Physics**

Plenary Session (Festsaal) – Chair: t.b.a.

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|---------------------|---|
| 14:00
(25' + 5') | GRB central engine, jet formation and propagation
Ehud Nakar (Tel Aviv University) |
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- 14:30
(15' + 5') Constraints to the GRB central engine from jet penetrability to massive stars
Hiroki Nagakura (Kyoto University)
- 14:50
(15' + 5') Unveiling long lasting central engine activity with Optical-NIR afterglows
Marco Nardini (Università degli studi Milano-Bicocca)
- 15:10
(15' + 5') Unifying Black Hole Jets in AGNs and GRBs
Rodrigo Nemmen (NASA GSFC)

16:00 – 17:45

Session VI: History and Future Instrumentation

Plenary Session (Festsaal) – Chair: t.b.a.

- 16:00
(12' + 3') The Initial Gamma Ray Transient Studies
Thomas Cline (Goddard Emeritus)
- 16:15
(12' + 3') The History and Legacy of BATSE
Gerald Fishman (NASA-Marshall Space Flight Center)
- 16:30
(12' + 3') The Interplanetary Network Database
Kevin Hurley (UC Berkeley)
- 16:45
(12' + 3') Cosmic gamma-ray bursts studies with Ioffe Institute Konus experiments
Rafail Aptekar (Ioffe Physical Technical Institute)
- 17:00
(12' + 3') GRB experiments on-board of "Lomonosov" satellite
Anatoli Iyudin (Moscow State University, Skobeltsyn Institute of Nuclear Physics)
- 17:15
(12' + 3') Observing transients with LOFAR and AARTFAAC
Antonia Rowlinson (University of Amsterdam)
- 17:30
(12' + 3') Hunting for Gamma Ray Bursts with Pi of the Sky telescopes in Chile and Spain
Malgorzata Siudek (Center for Theoretical Physics PAS)

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Friday – May 11, 2012

09:00 – 10:40 **Session VII: Grav. Waves, Neutrinos, Cosmic Rays and UHE Emission**

Plenary Session (Festsaal) – Chair: t.b.a.

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| 09:00
(25' + 5') | GRBs at Neutrino Telescopes
Markus Ahlers (UW Madison) |
| 09:30
(15' + 5') | Neutrinos from GRBs, and the connection to gamma-ray observations
Philipp Baerwald (Universität Würzburg) |
| 09:50
(25' + 5') | Gravitational Waves from Gamma-ray Bursts
Alessandra Corsi (Caltech) |
| 10:20
(15' + 5') | The Swift short gamma-ray burst rate density: implications for detecting neutron star mergers by ALIGO
David Coward (University of Western Australia) |

11:00 – 12:40 **Session VIII: Host Galaxies**

Plenary Session (Festsaal) – Chair: t.b.a.

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| 11:00
(25' + 5') | TOUGH: Observational Aspects of Gamma-ray Burst Host Galaxies
Jens Hjorth (Dark Cosmology Centre, Niels Bohr Institute, University of Copenhagen) |
| 11:30
(25' + 5') | Gamma-ray Burst Host Galaxies as Probes of Galaxy Formation and Evolution
Emily Levesque (University of Colorado at Boulder) |
| 12:00
(15' + 5') | The Host Galaxies of Dust-Obscured Gamma-Ray Bursts
Daniel Perley (Caltech) |
| 12:20
(15' + 5') | The Italian-French X-shooter GRB host program: status and updates
Susanna Vergani (INAF-OAB) |