



Gamma-ray Bursts in the Multi-messenger Era

Welcome from the SOC
D. Götz (CEA Irfu)
Chairman

Scientific Motivation

- *Less than one year ago we submitted a proposal to the LabEx (Laboratory of Excellence) UnivEarthS to support an «exploratory» project on GRBs*
- *Main Goals:*
 - *federate the French astroparticle physics community around the GRB theme (especially given the French involvement in the upcoming experiments like SVOM, Advanced Virgo/LIGO, KM3-Net, CTA, etc.)*
 - *increase and improve the exchanges between the French and the international community*
- *Two years funding obtained*
 - *First year: international workshop (the funding allowed us to keep the conference fee low, support several invited speakers, and many young scientists)*
 - *Next year use the funding to support focussed collaborations (traveling, publishing, small workshops, etc.)*

Presentations

- *Please contact the chairman of your (or the previous) session during the coffee (lunch) break*
- *Upload your presentation on the organisation's laptop using a memory stick*
- *PPT, Keynote, and PDF accepted, but*
PDF preferred

Sessions and Chair(wo)men

Monday, June 16th

09:30 – 10:30	Registration
10:30 – 11:00	Coffee Break
11:00 – 11:15	Welcome (IPGP/LOC/SOC)
11:15 – 12:00	N. Gehrels: GRB prompt and afterglow observations
12:00 – 12:20	F. Piron: Fermi-LAT observations of GRB 130427A
12:20 – 12:40	V. Heussaff: GRBs luminosity indicators from the prompt emission
12:40 – 14:00	Lunch Break
14:00 – 14:45	R. Mochkovitch: Theory of prompt and afterglow emission
14:45 – 15:05	Y. Urata: Off-Axis Orphan GRB Afterglow Searches with SUBARU/Hyper-Suprime-Cam
15:05 – 15:25	B. B. Zhang: How Long Does a Burst Burst?
15:25 – 15:45	J. Graham: The Metal Aversion of LGRBs
15:45 – 16:15	Coffee Break
16:15 – 16:35	A. Volnova: Optically Dark Gamma-Ray Bursts
16:35 – 16:55	J. Racusin: ISS-Lobster: A Future Observatory for the Multi-Messenger Era
16:55 – 17:15	<i>B. Cordier: The Chinese-French SVOM mission for Gamma-Ray Burst studies</i>
17:15 – 17:35	<i>J. Wei: Ground Based Wide Angle Camera: an instrument for short-time-scale optical transients</i>

F. Daigne

D. Götz

Sessions and Chair(wo)men (cont.)

Tuesday

Wednesday (ENSA)

J.L. Atteia

T. Stolarczyk

J. Wei

09:00 – 09:45	M. Lemoine: Particle Acceleration Mechanisms
09:45 – 10:05	D. Allard: Acceleration of UHECR at GRB internal shocks
10:05 – 10:25	M. Bustamante: Improved ultra-high energy cosmic ray and neutrino predictions from gamma-ray bursts
10:25 – 10:55	Coffee Break
10:55 – 11:40	S. Inoue: GRBs and UHECRs
11:40 – 12:00	O. Bromberg: Getting a handle on the nature of long GRB jets
12:00 – 12:20	K. Nishikawa: Radiation from accelerated particles in relativistic jets with shocks, shear-flow, and reconnection
12:20 – 12:40	X. Wang: How bad is the external shock afterglow model for gamma-ray bursts?
12:40 – 14:00	Lunch Break
14:00 – 14:45	B. Zhang: GRB radiation processes
14:45 – 15:05	S. Guiriec: A New Model for GRB Prompt Emission
15:05 – 15:25	Y. Suwa: Gravitational Waves and Neutrinos from Central Engine of Gamma-Ray Bursts
15:25 – 15:45	L. Nava: Clustering of LAT light curves: a clue to the origin of the high-energy emission in GRBs
15:45 – 16:15	Coffee Break
16:15 – 16:35	<i>L. Piro: ATHENA and GRBs</i>
16:35 – 16:55	<i>I. Lhenry-Yvon: The Large High Altitude Air Shower Observatory in the landscape of GRBs</i>
16:55 – 17:15	<i>G. Ghirlanda: GRBs and SKA</i>
17:15 – 17:35	<i>J. Bartes: CTA is Well Suited to Follow Up Gravitational Wave Transients</i>

09:00 – 09:45	K. Murase: Neutrino production during GRB prompt emission
09:45 – 10:05	M. Petropoulou: The effect of leptohadronic feedback processes on high-energy signatures from GRBs
10:05 – 10:25	N. Fraija: GRB110731A: Early afterglow in stellar wind powered by a magnetized outflow
10:25 – 10:55	Coffee Break
10:55 – 11:15	H. Yu: Synchrotron Cooling in Hard and Bright Gamma-Ray Bursts Observed by the Fermi Gamma-Ray Burst Monitor
11:15 – 11:35	S. Shibata: Monte Carlo simulations for thermal radiation from GRB jet
11:35 – 12:20	A. Kouchner: Neutrino Detection Techniques
12:20 – 12:40	J. Schmid: Searches for Neutrinos from Gamma-Ray Bursts with the ANTARES Neutrino Telescope
12:45 – 14:00	Lunch Break
14:00 – 14:45	I. Taboada: High Energy Neutrinos and GRBs
14:45 – 15:05	A. Mathieu: Follow-up of high energy neutrinos detected by the ANTARES telescope
15:05 – 15:25	T. Pradier: Searches for coincident High Energy Neutrinos and Gravitational Wave Bursts using the ANTARES and Virgo/LIGO detectors
15:25 – 15:45	Theme Discussion lead by B. Baret
15:45 – 16:15	Coffee Break
16:15 – 17:00	B. Metzger: Long GRB Progenitors
17:00 – 17:20	M.G. Bernardini: How to switch on and off a GRB through a magnetar
17:20 – 17:40	<i>P. O'Brien: GRBs with CTA</i>

D. Allard

B. Baret

S. Schanne

Sessions and Chair(wo)men (cont.)

Thursday

09:00 – 09:45	R. Perna: Short GRB Progenitors
09:45 – 10:05	B. Giacomazzo: Compact Binary Progenitors of Short Gamma-Ray Bursts
10:05 – 10:25	H. Nagakura: Jet propagation and its collimation in the ejecta of double neutron star merger
10:25 – 10:55	Coffee Break
10:55 – 11:15	R. Ciolfi: Magnetically driven winds from differentially rotating neutron stars and X-ray afterglows of short gamma-ray bursts
11:15 – 12:00	P. Hello: Gravitational waves detection techniques
12:00 – 12:20	N. Christensen: High-energy offline electromagnetic follow-up of LIGO-Virgo gravitational-wave binary coalescence candidate events
12:20 – 12:40	F. Pannarale: Prospects for joint gravitational wave and electromagnetic observations of neutron star black hole coalescing binaries
12:40 – 14:00	Lunch Break
14:00 – 14:45	S. Fairhurst: GRBs as sources of Gravitational Waves
14:45 – 15:05	G. Greco: Signatures of inner-engine dynamics revealed by advanced singular spectrum analysis of gamma-ray bursts
15:05 – 15:25	V. Pelassa: Short GRB from compact mergers, the role of Fermi GBM in the identification of advanced LIGO/Virgo detections
15:25 – 15:45	Theme Discussion lead by N. Leroy
15:45 – 16:15	Coffee Break
16:15 – 16:30	Conclusions

S. Vergani

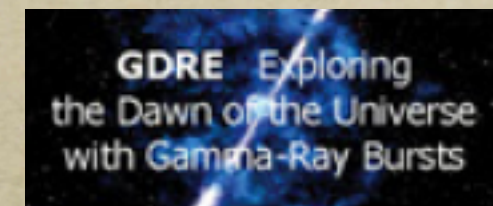
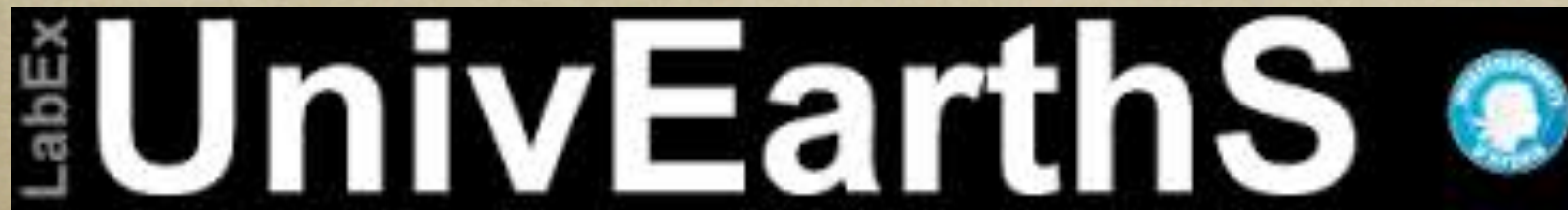
N. Leroy

E. Chassande Mottin

Posters

- *The posters will be displayed during the entire workshop at the «médiathèque» nearby to the conference room at IPGP (no posters on Wednesday at ENSA)*
- *There will be no dedicated poster session, so please take advantage of the coffee breaks to look at the posters and to discuss with their authors*

Special Thanks



*ISSI Beijing Workshop
April 13th-17th 2015*

Gamma Ray Bursts: a tool to explore the young Universe