

Fermi Gamma-ray Space Telescope

Users Group Meeting 12 May 2010

Data Analysis Workshops/ Schools

Liz Hays



Data Analysis Workshops

- Workshops in support of US GI program
 - 2008: Goddard
 - Dec. 2009/Jan. 2010: Stanford, Fermi Lab, Boston, D.C. (AAS)
- Internationally hosted workshops
 - Monash University (Melbourne, Australia, Nov. 23-24, 2009)
 - 11th COSPAR capacity building workshop (Bangalore, India, Feb. 8-19 2010)
 - 40th Saas-Fee Course: Astrophysics at Very-High Energies (Les Diablerets, Switzerland, March 14 2010)



Typical one-day workshop program

9:00 - 9:30	Registration, Setup
9:30 - 9:40	Overview, Workshop Objectives
9:40 - 10:00	Data Selection, Exploration
10:00 - 10:10	Data Selection Caveats
10:10 - 10:30	Hands on Session 1
10:30 - 10:50	Point Source Analysis
10:50 - 11:00	Using the Catalog for Analysis
11:00 - 12:00	Hands on Session 2
12:00 - 12:15	Q&A, Review
12:15 - 13:30	Lunch Break
13:30 - 13:45	Advanced Likelihood Topics
13:45 - 14:45	Hands on Session 3
14:45 - 15:00	Light Curve Analysis
15:00 - 15:45	Hands on Session 4
15:45 - 16:00	Summary, Feedback
16:00 - 16:30	GI Program and Q&A
16:30	Adjourn

Basic data interaction

Standard point source analysis spectral parameter estimation

Special topic

Highly successful! Well-organized, well-attended, positive feedback



Saas-Fee - Fermi analysis hands-on session

- Organized by FSSC
- Not very hands-on...
 - 1/2 day
 - ~60 students (grad to postdoc)
 - 3 instructors
- Good feedback
 - Too short!
 - First successful interaction with data for some
 - Great questions from advanced users
 - Clear interest and need for in-depth exploration of analysis topics



ISDC INTEGRAL Planck Gaia POLAR ASTRO-H CTA AHEAD HEAVENS Saas-Fee HTRS 2011

40th Saas-Fee Course Astrophysics at Very-High Energies

Saas-Fee 2010

SDC

Welcome

Fermi data analysis hands-on session



Bangalore Workshop

- 2 weeks
- 30 students (undergrad to postdoc)
- Project working groups
 - AGN (2), GRBs, pulsars, X-ray binaries
 - Reproduce results from Fermi publications



- Overview Slides:
 - Introduction to High Energy Astrophysics, Gamma-ray Astronomy Dave Thompson
 - Gamma-ray Astronomy Instrumentation Neil Gehrels
 - Fermi Overview Julie McEnery
 - o Fermi Archive, Search and Data Download Robin Corbet
 - Basics of Analysis of High Energy Data, Use of Statistics, Photon Counting Mariano Mendez
 - Statistics Peter Willmore
 - o X-ray Astronomy Missions Mariano Mendez
 - Indian Astronomical Facilities Biswajit Paul
- GBM Science & Analysis:
 - Overview of Science with GBM Valerie Connaughton
 - GBM GRB AnalysisValerie Connaughton
- LAT Science & Analysis:
 - LAT GRB Analysis I Valerie Connaughton
 - LAT GRB Analysis II Julie McEnery
 - Aperture Photometry Robin Corbet
 - Fermi Timing Analysis Demonstration Dave Thompson
 - Likelihood Analysis of LAT Data Benoit Lott
 - More on Likelihood analysis of LAT data Benoit Lott
- Gamma-Ray Science:
 - Radiative Processes, Pulsar, and SNRs Dipankar Bhattacharya
 - o Pulsars (Gamma-ray Emission, Coordinated Observations) Dave Thompson
 - Magnetar High Energy Emission Wim Hermsen
 - o Gamma-ray Emission of X-ray Binaries Robin Corbet
 - Physics of Blazars Benoit Lott
 - Gamma-ray Properties and Multi-wavelength Observations of Blazars Dave Thompson
 - o Gamma-Ray Burst Physics and Swift Observations Neil Gehrels
 - Fermi Observations of Gamma-Ray Bursts Valerie Connaughton
 - Cosmic Rays Pijushpani Bhattacharjee
 - o Diffuse Gamma-Ray Emission P. Sreekumar
 - o Dark Matter Pijushpani Bhattacharjee

Early Planning for Fermi Analysis School

- Longer format schools are ideal for Fermi analysis
 - Fully explore a variety of applications
 - Allow deeper understanding of data properties and techniques
- Preliminary planning begun for a Fermi school
 - 2 week format covering both science and analysis topics related to Fermi LAT and GBM
 - Winter/Spring 2011
 - Exploring venues in the D.C. area
 - Details of organization and logistics in progress



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Fermi Science Sup	oport Cent	er			11	
НОМЕ	RESOURCES	PROPOSALS	DATA	HEASARC	HELP	SITE MAP
+ FSSC Home	FSSC	Data Analysis Works	hops			
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