Highlights from the Fermi Summer School 2013

May 28 – June 7, Lewes, DE

Third edition of the Fermi Summer School

- Primary focus on analysis of Fermi data
  - Morning lectures (astrophysics and instrument fundamentals)
  - Afternoon tutorials and workshops
- Special topics for 2013
  - dark matter and dark matter searches in gamma-ray data
- Additional areas with special emphasis this year
  - Fundamentals of likelihood analysis
  - Observation modes
  - All sky and extended source analysis

2 weeks, 25 students, 15 lecturers, 10 countries

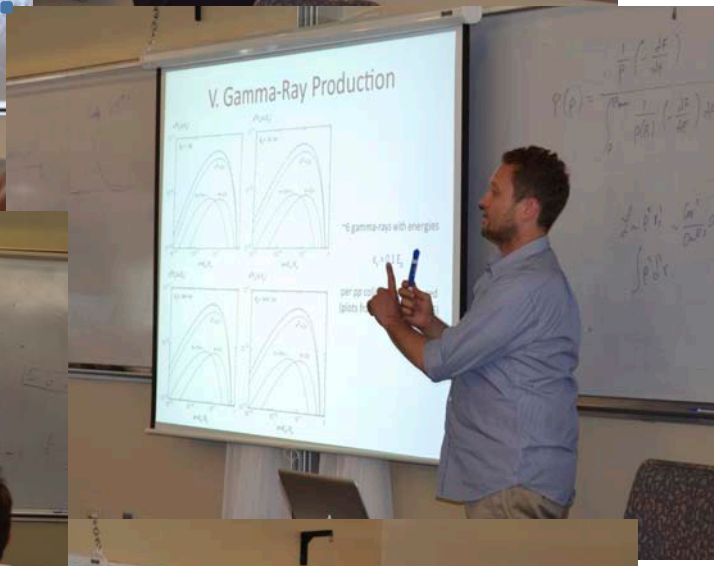
>12 energy decades of gamma rays: dark matter, active galactic nuclei, radio galaxies, gamma-ray bursts, supernova remnants, pulsars, pulsar wind nebulae, novae, gamma-ray binaries, cosmic rays, and more.

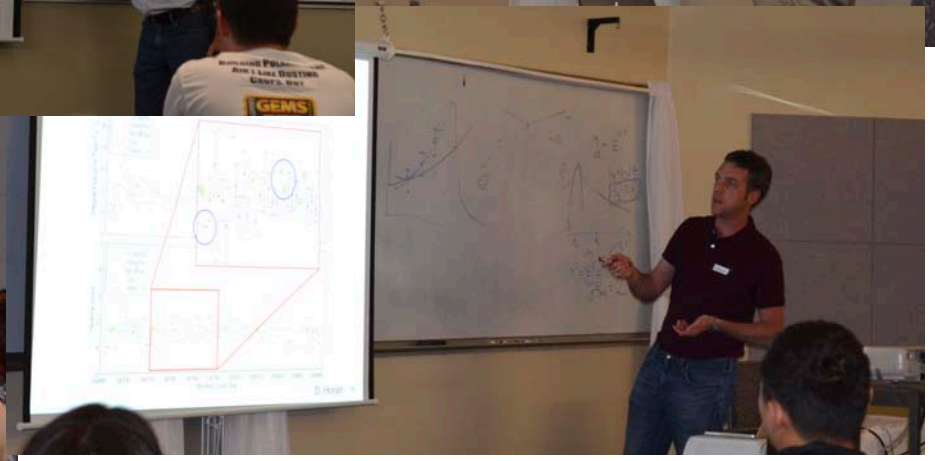
Lectures


er, dwarf galaxies and
es of the Milky Way
t. Koushiappas
BROWN


Terminology
ENERGY THRESHOLD


BAT
UVOT
GEMS


V. Gamma-Ray Production

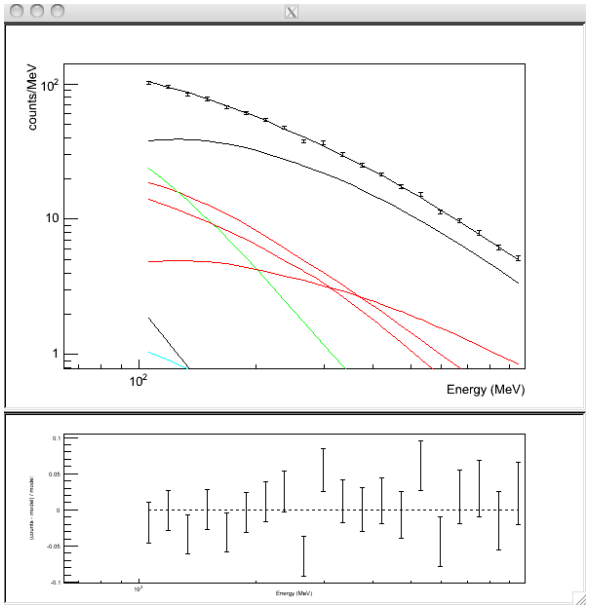


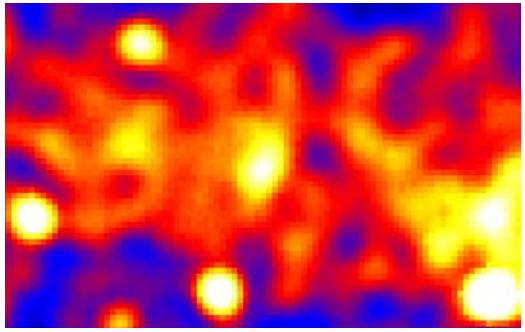
Students

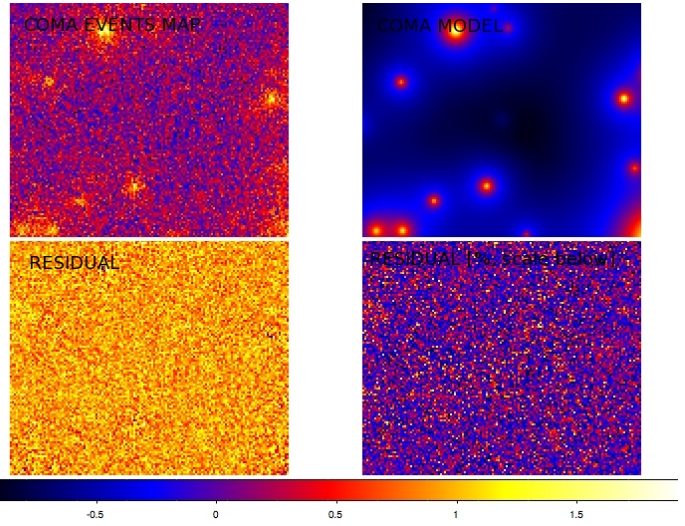
Fermi Analysis

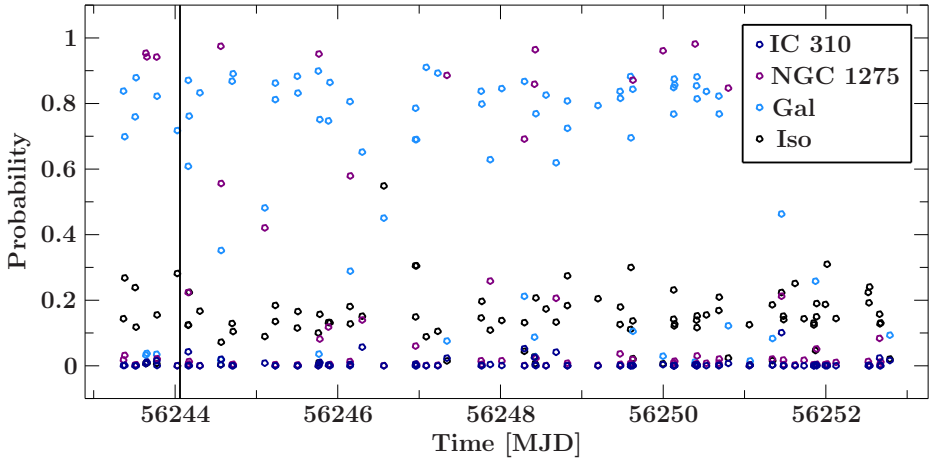
Thanks to members of the LAT and GBM teams and the Fermi Science Support Center for their support!

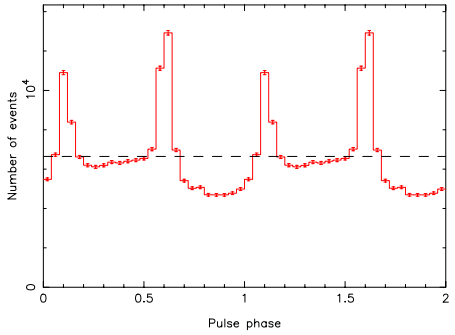
Fermi Analysis Projects

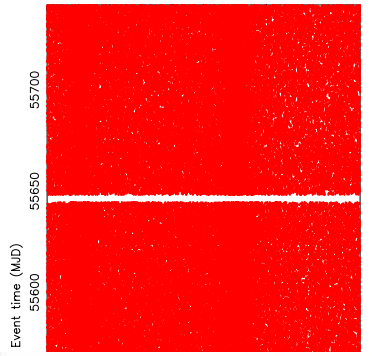












ameters fixed at DC analysis results.

$$TS = -2log\left(\frac{\mathcal{L}_{max,0}}{\mathcal{L}_{max,1}}\right) \sim \chi^2$$

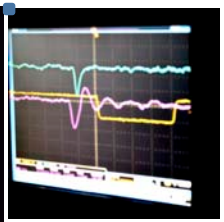
.8 Prob = 2.281 ×10^{-8} **significance = 5.6 σ**

α χ^2=53.995, DOF = 9 Prob = 1.892 ×10^{-8} **significance = 5.6 σ**

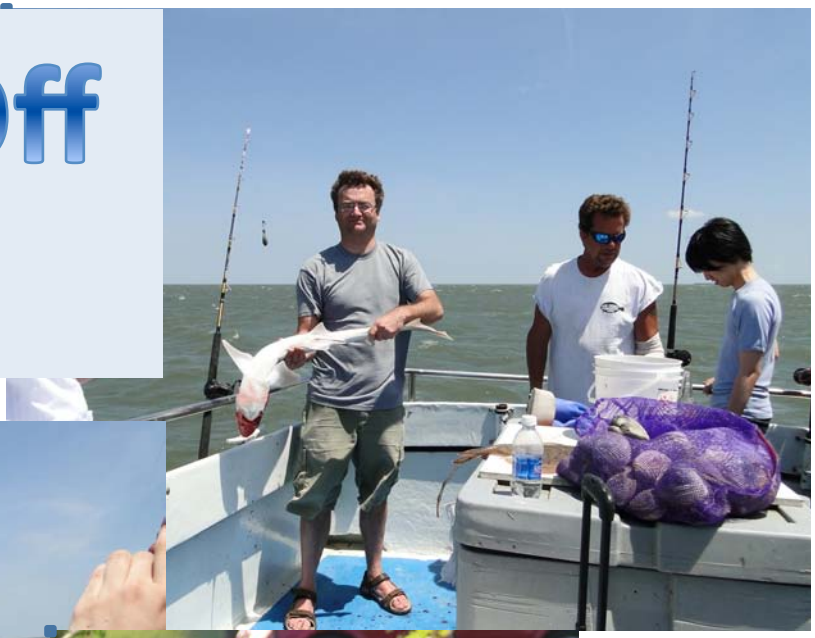
β χ^2=24.446, DOF = 9 Prob = 0.00365 **significance = 2.9 σ**

The Source SED shape DO! Varies

Build a Cherenkov Telescope



Day Off Fun



Crab Feast

- None of this would be possible without the cooperation of the LAT and GBM instrument teams, the Fermi science support center, and the University of Delaware, not to mention the hard-working instructors and the fantastically enthusiastic students who attend. **Thank you!**
- Planning has begun for 2014!

http://fermi.gsfc.nasa.gov/science/mtgs/summerschool/2013/
fermischool@bigbang.gsfc.nasa.gov