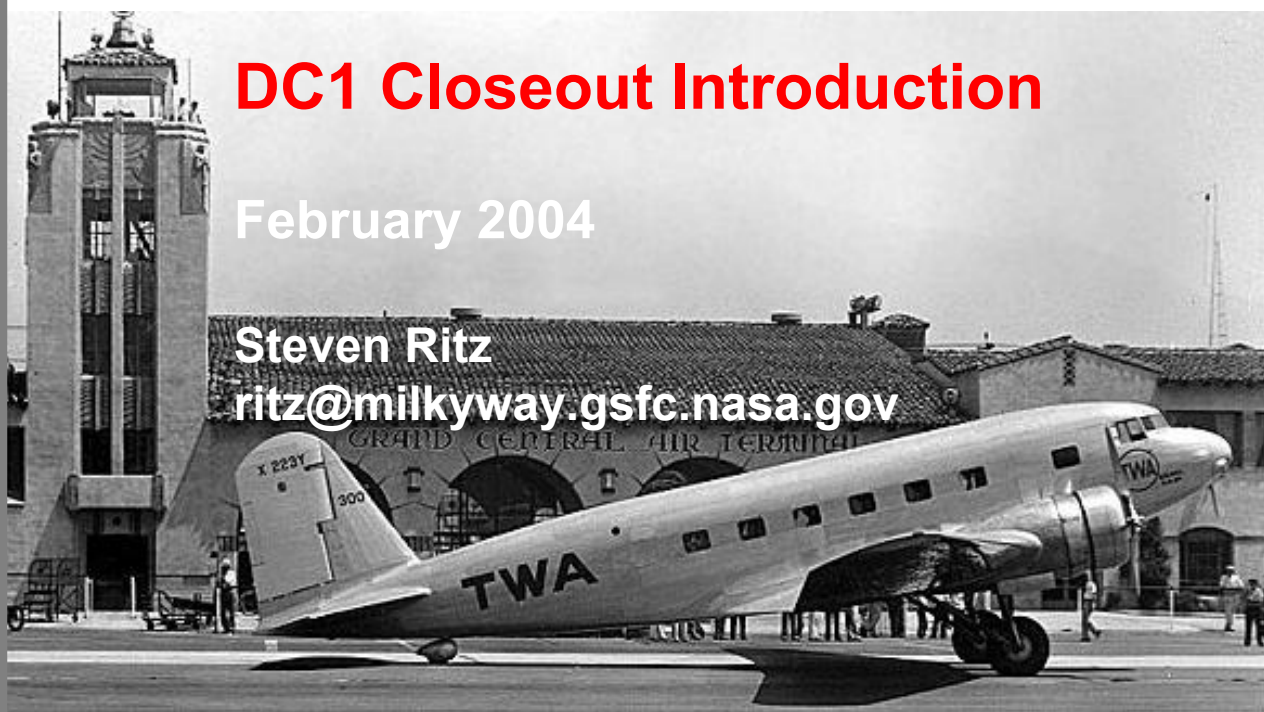


**Gamma-ray Large
Area Space
Telescope**

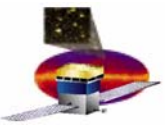


Recall: DC1 December Workshop

Something very significant started...



post hoc ergo propter hoc?



Purposes of the Data Challenges

- **“End-to-end” testing of analysis software.**
- **Familiarize team with data content, formats, tools and realistic details of analysis issues (both instrumental and astrophysical).**
- **If needed, develop additional methods for analyzing LAT data, encouraging alternatives that fit within the existing framework.**
- **Provide feedback to the SAS group on what works and what is missing from the data formats and tools.**
- **Uncover systematic effects in reconstruction and analysis.**

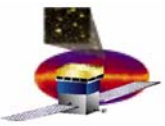
Support readiness by launch time to do all first-year science.



Data Challenge Planning Approach

- **Walk before running: design a progression of studies.**
- **DC1. Modest goals. Contains most essential features of a data challenge.**
 - 1 simulated day all-sky survey simulation
 - find the sources, including GRBs
 - a few physics surprises
 - exercise:
 - exposure, orbit/attitude handling, data processing pipeline components, analysis tools
- **DC2, start end of CY04. More ambitious goals. ~One simulated month.**
 - based on DC1 lessons
 - discussion tomorrow
- **DC3. Support for flight science production.**





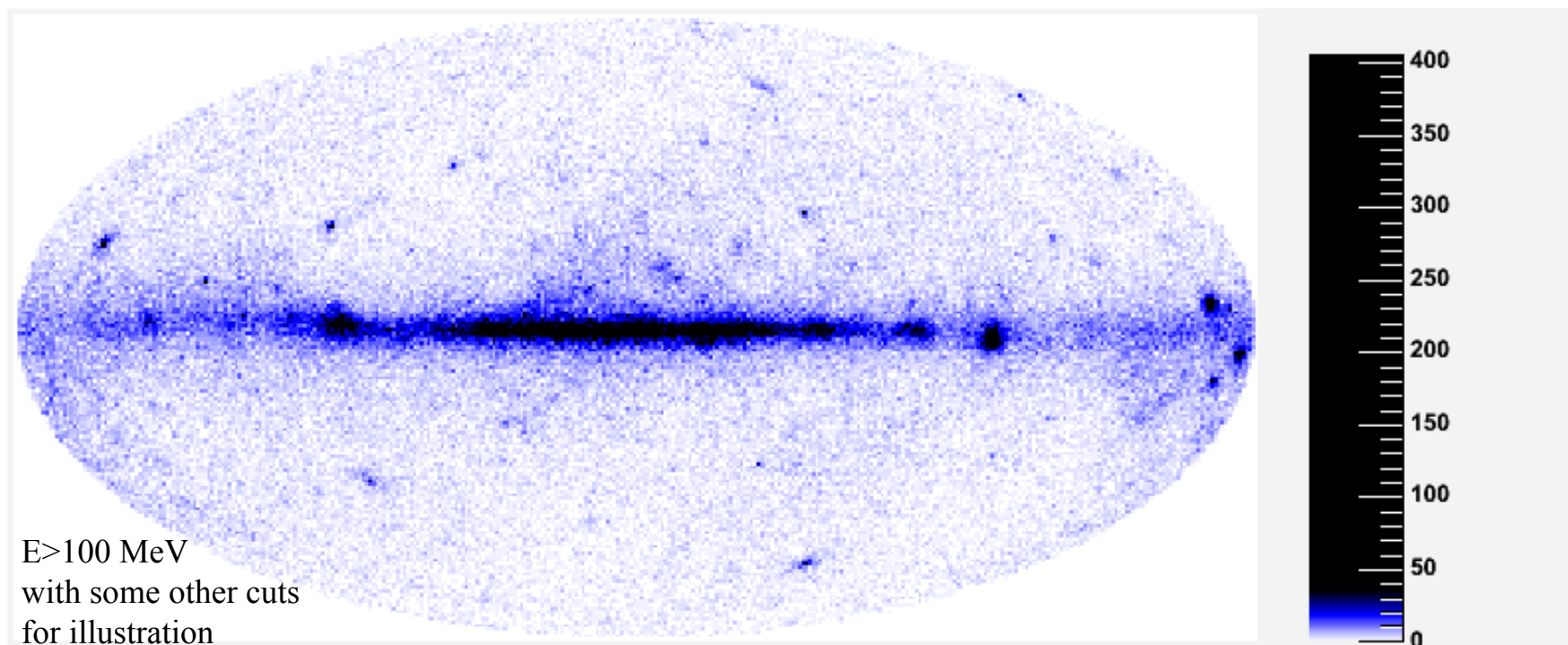
Eye on the ball

- This would be very bad...



The DC1 Sky

One day all-sky survey. Generated $E > 20$ MeV.



thanks to Julie!

Lots to analyze!
A few surprises to find...

Now the tools are in place to do individual studies after DC1!

DC1 Minimum Results

- The existence of the data sets and the volume of data generated for background analyses already meets one of the success criteria.
- **All reports of experiences welcome and encouraged**
- A minimum set of plots and tables that we must collectively produce:
 - **TABLE 1: found sources, ranked by flux ($E > 100$ MeV). Table has the following columns**
 - reconstructed location and error circle
 - flux ($E > 100$ MeV) and error
 - significance
 - 3EG identification (yes or no) [note: DON'T assume DC1 sky is the 3EG catalog!]
 - extra credit:
 - » include flux below 100 MeV
 - » spectral indices of brightest sources
 - » comparison of 3EG position and flux characteristics with GLAST analysis
 - **FIGURE 1: LogN-longs plot of TABLE1**
 - **TABLE 2: list of transients detected. Columns are**
 - location and error circle
 - flux ($E > 100$ MeV) and error
 - significance
 - duration
 - **FIGURE 2: light curve**
 - Extra credit: FIGURE 2a: spectra.
 - **PLUS: reports of any physics surprises found.**



Beyond the minimum

- Here were a few suggestions:
 - generated and released more days of data
 - better exercise tools and infrastructure
 - more transients
 - spectral analyses
 - localization studies
 - one-day localization of Vela is particularly interesting
 - analysis improvements
- But don't let this list limit you. **The sky is the limit!**
- **Studies should continue post DC1. Wiki will persist.**



Summary

- **DC1 is already a great success, due to the hard work of many people working together. We have learned many lessons already.**
- **Now the fun part: a parade of results!**
- **Note: we want to hear from everyone who participated in the data challenge.**
 - **learning from the efforts that did not result in talks today is a key goal of DC1 !!**