



Background status G4 Multiple scattering

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New scan-mode pointing history file

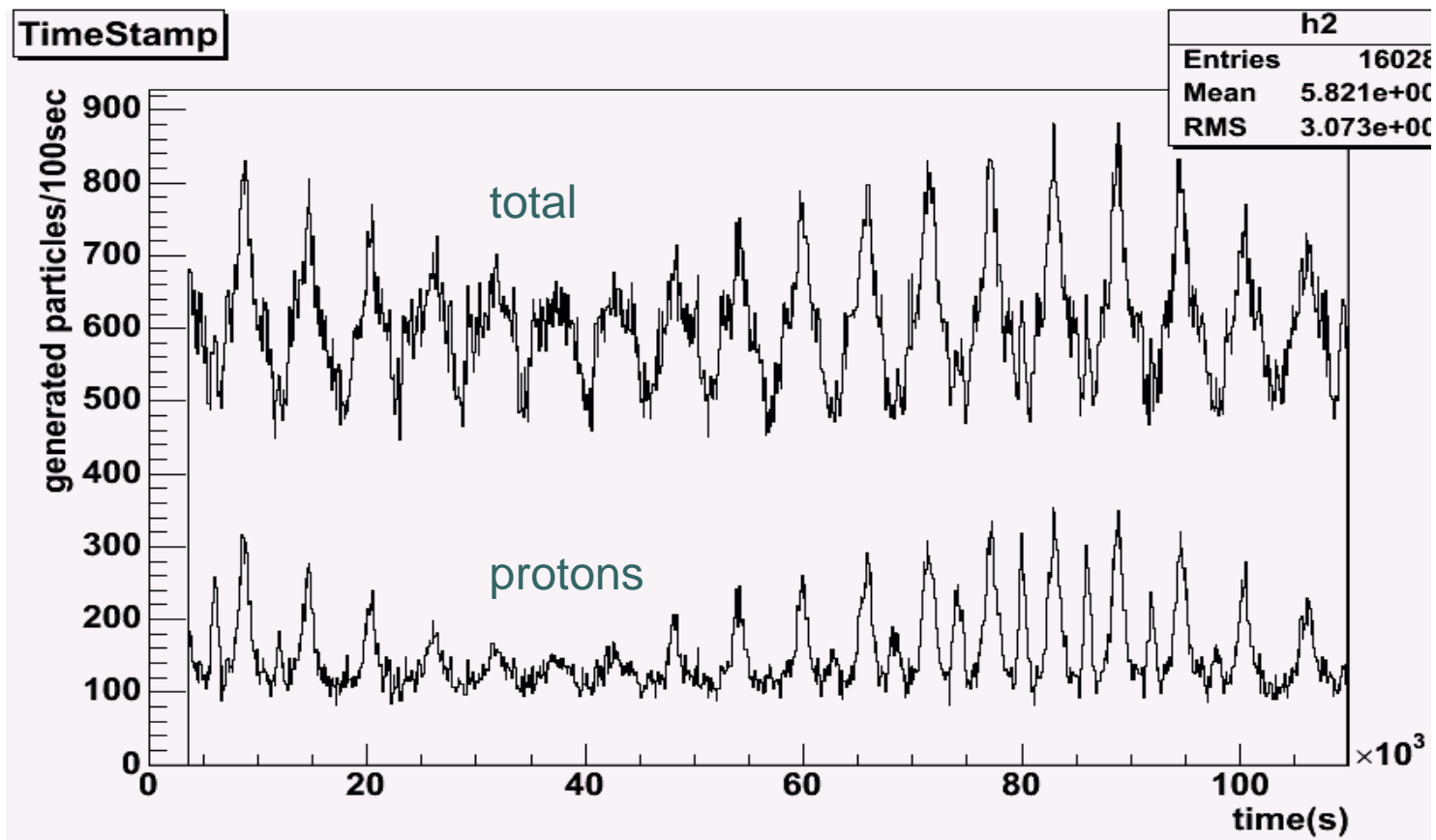
- See the confluence DC2 page
- 565 km altitude (up from 550)
- 1-May-07 launch (was 05)
- 56.5 days (one precession period: DC2 is for one month)
- 30-s intervals
- Sun avoidance, rocking, etc.



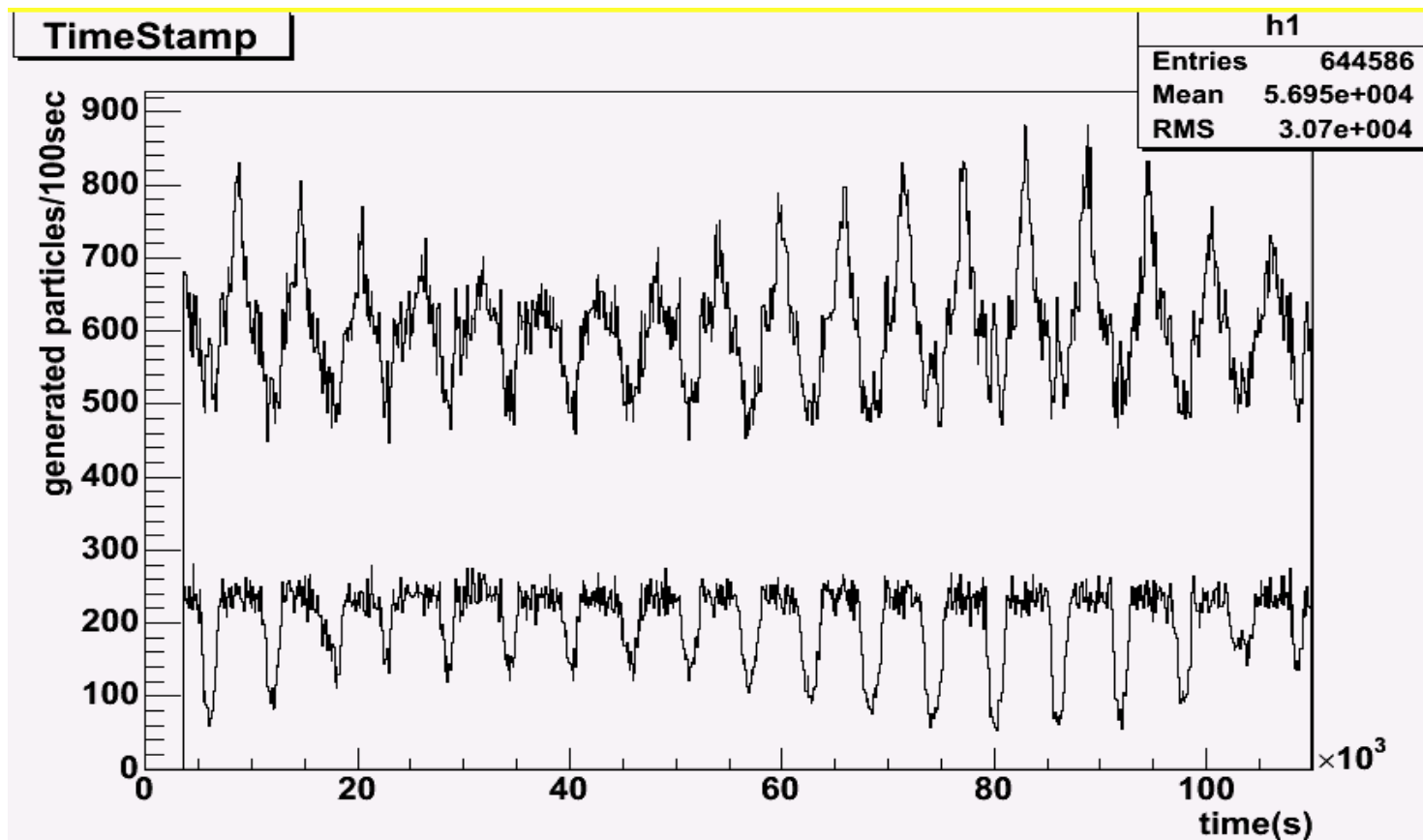
The current background model

- CRflux, representing published work by Mizuno, et.al
 - Protons, electrons, positrons
 - Gammas from gamma_albedo (Earth in wings)
- Tests with new orbit
 - 110000 seconds = 9 orbits
 - Set area to 6 cm² or 10⁻⁴ of the generated rate for GLAST

Results: rate vs time



And the positrons?





Next steps

- Verify all sources with Mizuno
- Get Earth source fixes from Dirk



New check of G4 multiple scattering

- How best to compare distributions? Must investigate
 - shape, especially tails: is it gaussian? What fraction are single-scatter tails?
 - Scale factor: how close to the PDG?
- My solution: cumulative distributions vs. $\log(\theta)$
 - Gaussian is simple exponential
 - Fraction in tail easy to compare with equivalent gaussian
 - Scale factor is just shift in $\log(\theta)$
- Analysis: run 10K particles using our slab application in GEANT4TEST, record outgoing directions

Our favorite case: positrons in 105 micron W:

Cumulative scattering angle distribution

