

Milagro NIM Paper

- Current status
- What to include
 - Grito NIM paper
 - Sections for detector systems that changed
 - What else?
- Who?
 - I'm willing to “put the pieces” together
 - Need help from experts.

Current Status

- I've got the draft that Cy was working on.
 - Put into tex format
- More than a year old, needs some updating.
- But overall, a good start
 - Thanks Cy!

Grito NIM Paper

- Outline of paper contents:
 - Overview/background of field
 - Description of Milagrito
 - Concept- Water Cherenkov technique
 - Pond- liner, cover, grid
 - Physical plant- PUB, water, lightning, power
 - PMTs- choice, feed thrus
 - Electronics- Tot, front-end boards, scalers, fastbus
 - DAQ- FSCC, VME, SGI, EMS
 - Calibration- laser system, time/charge, ADC cal.

- Contents (cont'd)
 - Reconstruction- angular, core, deleo, ang. Res.
 - Operation- operation overview, operation dates, livetime, dead channels
 - Sensitivity- Simulation (corsika, geant), effective area, mean energy, energy resolution(?)
 - Performance- Sun/moon shadow, Mrk 501
 - Milagro- planned changes.
 - Acknowledgements

What to include?

- Sections for systems that have been updated:
 - Milagro the detector:
 - Current geometry (2 layer, tubes/layer, baffles)
 - Outriggers
 - Changes the physical plant setup (MG->UPS, rack cooling, water system, cover restraints, lightning prot.)
 - The tube for water quality
 - Electronics/ DAQ
 - New trigger
 - New DAQ/online system
 - New Archiver systems
 - Burst & transient monitoring online

- Operations:
 - Detector operation, history of operation.
 - Dive/Repair operations, PMT connectors
- Calibration
 - System description
 - Results, stability
- Reconstruction (??)
 - Angular reconstruction
 - Outrigger Core finder
 - Gamma-hadron separation.
- Sensitivity (??)
 - Effective area, energy response
 - Scaler system

Open issues for all

- More stand alone or “update” to Grito NIM?
 - My preference would be the former and reference Grito for some details, but all system are described.
- Just hardware and operational details or also include reconstruction & sensitivity numbers?
 - If including sensitivity numbers, which ones, current algorithms, or wait for improvements?
- I had planned to write to the current Milagro configuration
 - No section of “upgrades” (new DAQ, trigger, outriggers)
- Is it time for a NIM paper?
 - Milagro is still changing, being understood, etc.

Input, please

- I'll generate a more complete outline, but input now would be great.
- Assign “volunteers” for sections.
- I'll glue it all together.
- Circulate a draft.