

Pierre Auger Observatory

Southern Observatory Malargüe, Mendoza, Argentina

Carlos Hojvat
DOE Annual Review
19 March 2003

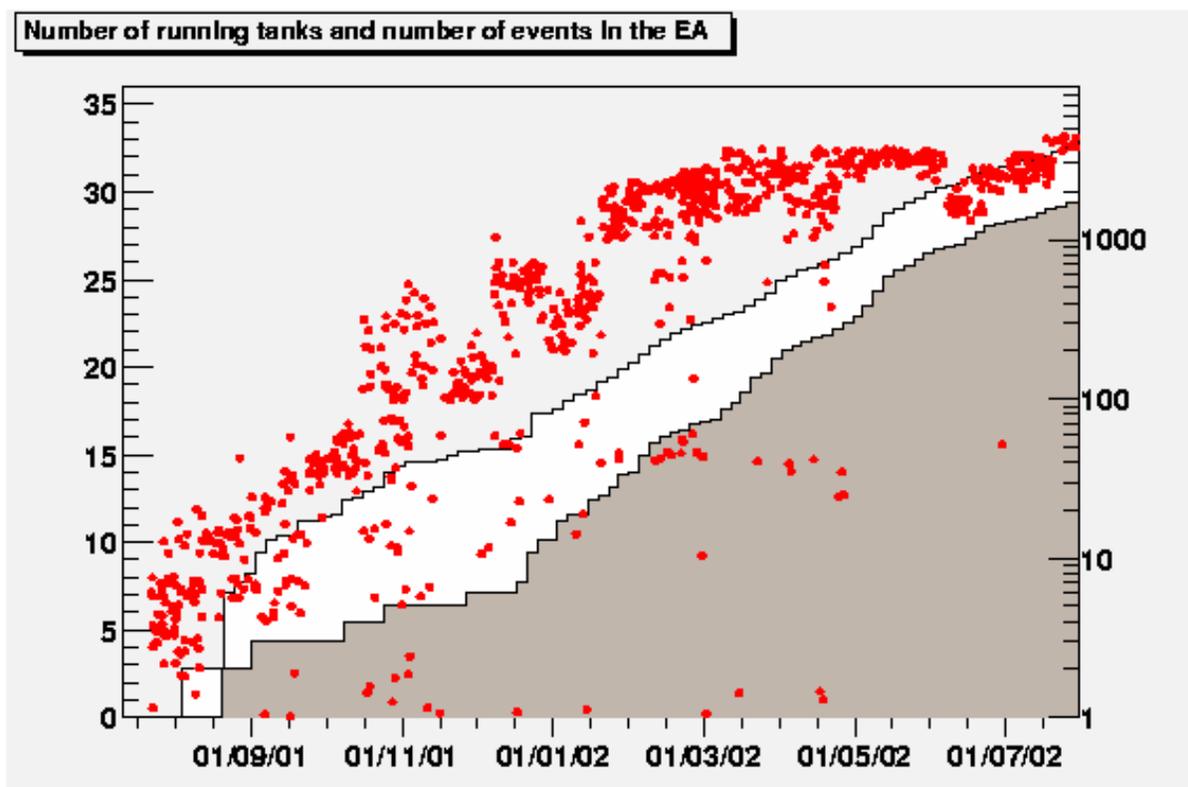
- The Southern Observatory
- Engineering Array and data
- Completing the Observatory

Fermilab Scientists

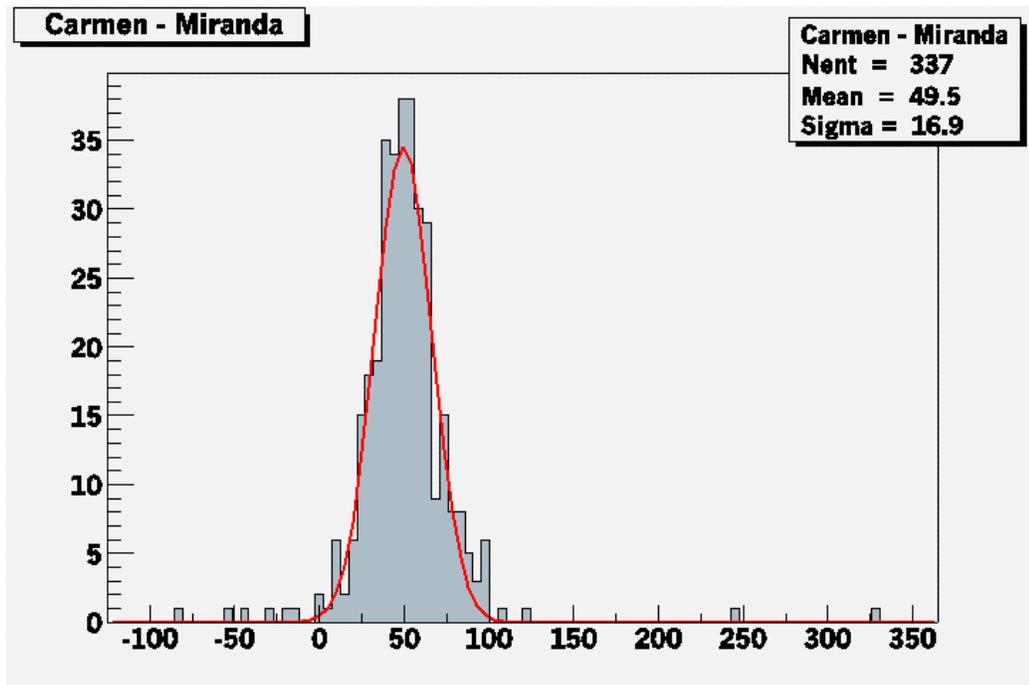
- Aaron Chou (Post-Doc)
- New Post-Doc (Requested)
- New Associate Scientist (Requested)
- Henry Glass
- Carlos Hojvat (Deputy Project Manager)
- Paul Mantsch (Project Manager)
- Peter Mazur
- Cathy Newman-Holmes
- Lou Voyvodic

Engineering Array

- 32 Operating Prototype SD
- 2 Operating Prototype FD
- 80 Hybrid events (SD and FD)
- FD dismantled (for final installation)
- SD operating (expand beyond EA)







Event Display, version v2r2
 CDAS Event Display (DPA version) | Help

Control
 File Configure Experts only...
 Reconstruct Previous Next Get # Update 3

#00385280: Wed Jan 29 13:35:24 2003	0065 (4200 ns, 48.5 VEM)
#00385281: Wed Jan 29 13:37:36 2003	0043 (7266 ns, 17.1 VEM)
#00385283: Wed Jan 29 13:43:03 2003	0021 (7559 ns, 249.9 VEM)
#00385285: Wed Jan 29 13:45:08 2003	0026 (8339 ns, 57.6 VEM)
#00385282: Wed Jan 29 13:42:26 2003	0035 (10990 ns, 21.2 VEM)
#00385286: Wed Jan 29 13:48:47 2003	0040 (11473 ns, 374.7 VEM)
#00385288: Wed Jan 29 13:51:11 2003	0014 (12405 ns, 10.5 VEM)
#00385289: Wed Jan 29 13:55:06 2003	0055 (15607 ns, 21.9 VEM)

Array

Status

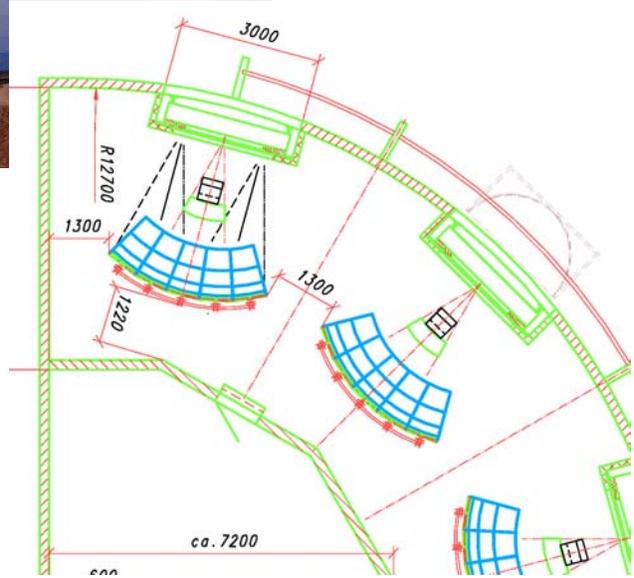
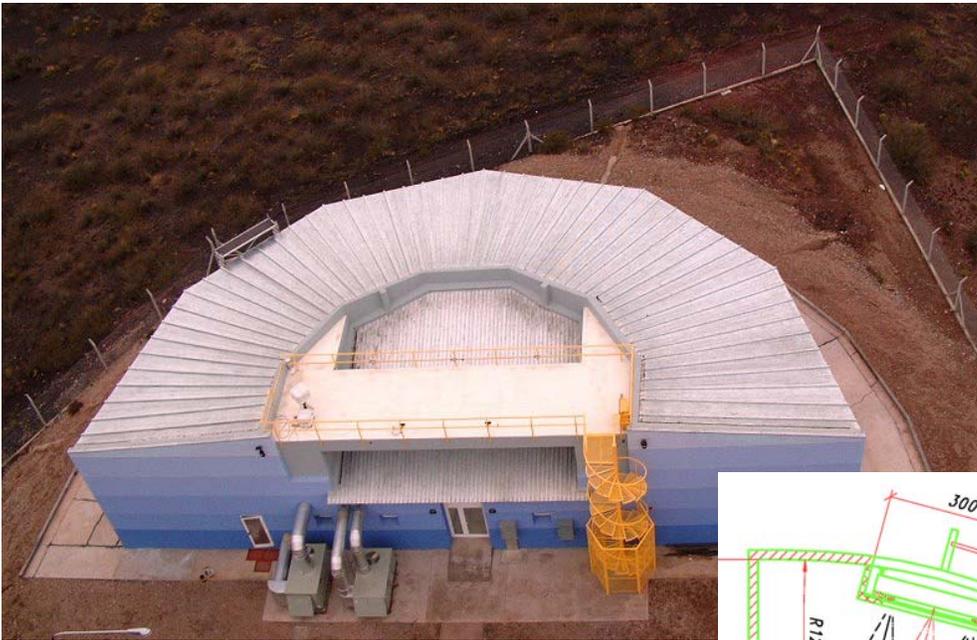
file selected: eb_2003_01_29_07h26.root
 Minimum number of triggered stations: 3
 Trigger selected: all of them, 400 events.
 Trigger of this event: 302&404

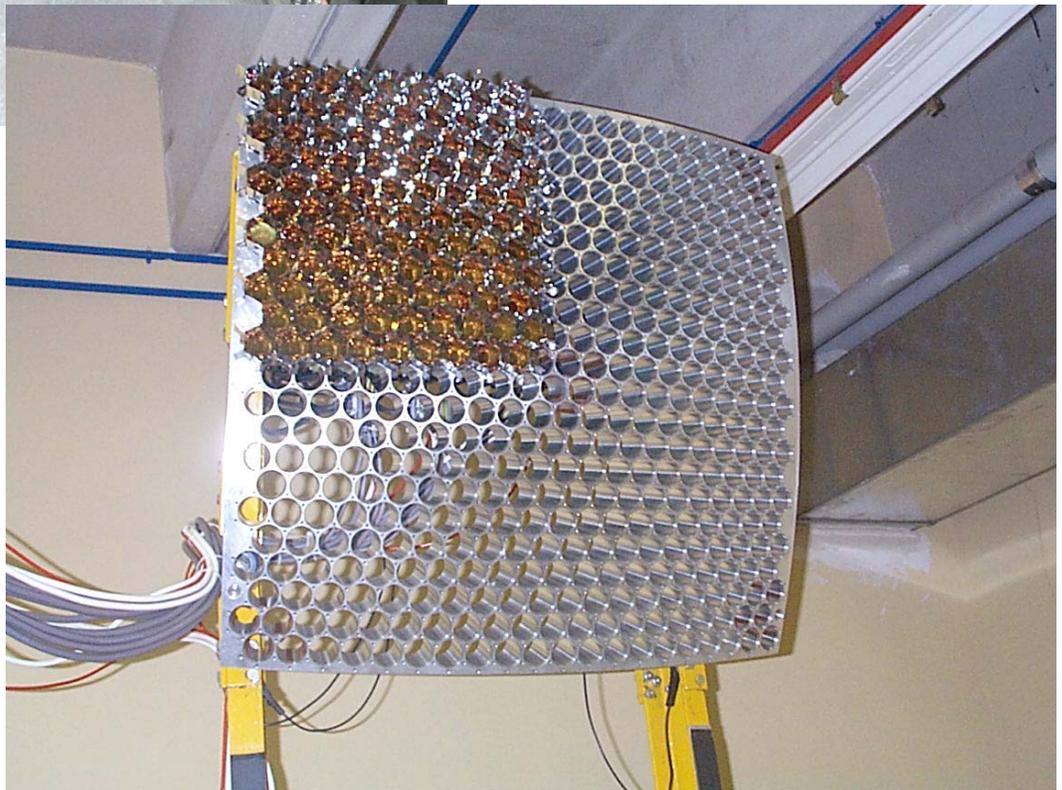
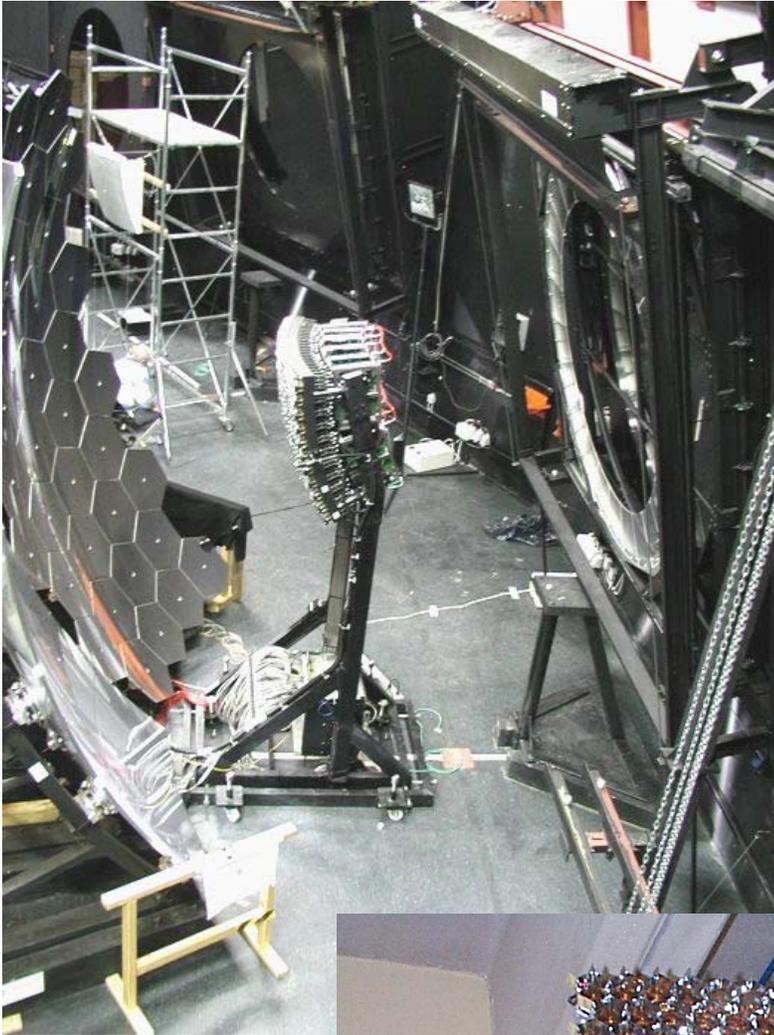
Display

Lateral distribution function fit

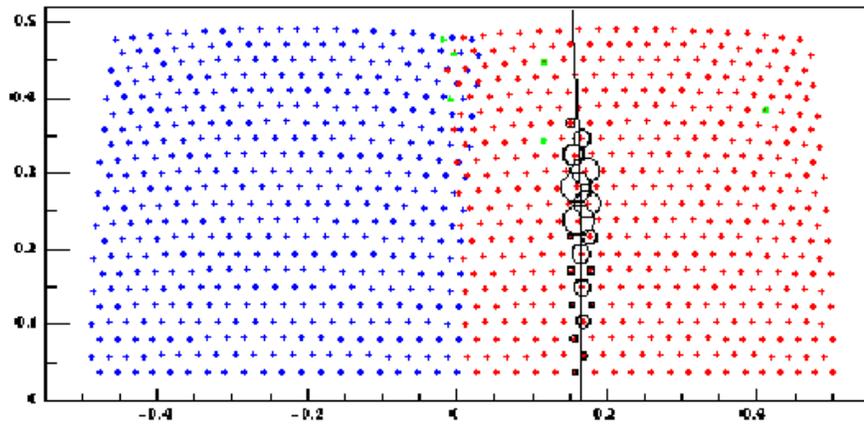
$Easting = 456866 \pm 23m$
 $Northing = 6085880 \pm 35m$
 $dt = 112.7ns$
 $\theta = 57.6 \pm 0.3 \text{ deg}$
 $\phi = -82.3 \pm 0.2 \text{ deg}$
 $S(1000) = 54.86 \pm 2.55 \text{ VEM}$
 $E = 40.36 \text{ EeV} \pm 5\%$

100%

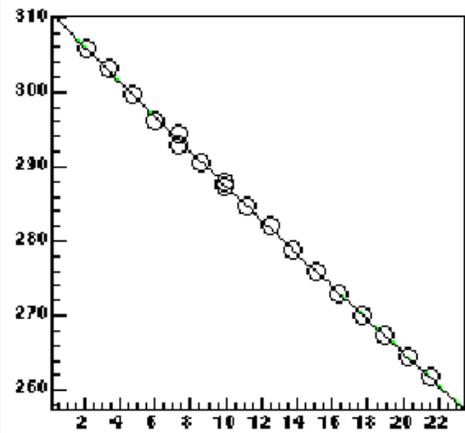




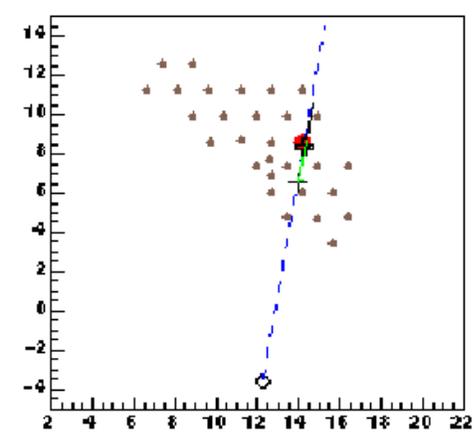
nZIF.H



Time vs Chi



Ground Map



Production – First Stage

Completion August 2003

- 100 SD
- 6 FD (3 in each of 2 Sites)

Production – Second Stage

Completion Second half of 2005
(Set by availability of Funds)

- 510 SD deployed by December 2003
- 475 SD Operating by December 2003
- 10 FD (5 in each of 2 Sites)
- Continuing deployment to completion

Funding Slow Down Southern Observatory

- Argentina
- Brazil
- Mexico

Affects mainly the SD as the 3 countries are the providers of the water containment tanks.

Complete the FD as components are fully funded.

Complete ~2/3 of SD bringing on line production of tanks in Argentina at significantly reduced cost.

Continue expansion of the Surface array as components arrive.