



Contribution ID: 7

Type: **not specified**

Global Atmospheric Model Data for the Pierre Auger Observatory

Monday, 13 September 2010 14:45 (30 minutes)

B. Keilhauer, D. Epperlein, M. Will for the Pierre Auger Collaboration

For the reconstruction of extensive air showers, the atmospheric conditions at the site of the observatory have to be known quite well. This is particularly true for reconstructions based on data obtained by the fluorescence technique. For these data not only the weather conditions near ground are relevant, most important are altitude-dependent atmospheric profiles. For the Pierre Auger Observatory, we have investigated the application of “Global Data Assimilation System” (GDAS) data which provide vertical atmospheric profiles for height, temperature, and humidity at 23 constant pressure levels every 3 hours. GDAS data are available for the whole globe with 1° longitude and latitude spacing. These atmospheric data are compared with observations at the sites of the Auger Observatory using meteorological radio soundings. Finally, the atmospheric data are included in the reconstruction framework of the Auger Observatory and effects on reconstruction results of real air shower events are investigated.

Primary author: KEILHAUER, Bianca (KIT)

Presenter: KEILHAUER, Bianca (KIT)

Session Classification: Atmospheric Profiles and Transmission

Track Classification: Atmospheric Profiles and Transmission