

Abstract Submitted
for the APR09 Meeting of
The American Physical Society

Small-Scale Clustering of Ultrahigh Energy Cosmic Rays at the Pierre Auger Observatory CARL PFENDNER, University of Wisconsin - Madison, PIERRE AUGER COLLABORATION — The Pierre Auger Observatory is a hybrid cosmic ray observatory located in Malargue, Argentina. One of the main goals of the experiment is the search for the sources of cosmic rays with energies above several 10^{18} eV. A promising approach to finding the sources is the statistical search for anisotropies in the cosmic ray arrival direction distribution in itself. Compact sources of cosmic rays could for example manifest themselves in a significant amount of event clusters (doublets, triplets,...) on small angular scales. We present results on searches for significant small-scale clustering in the arrival direction distribution of cosmic rays with energies above $4 \cdot 10^{19}$ eV on angular scales up to 10° . The method, results, and error studies will be discussed.

Carl Pfendner
University of Wisconsin - Madison

Date submitted: 09 Jan 2009

Electronic form version 1.4