

XVI International Symposium on Very High Energy Cosmic Ray Interactions  
(ISVHECRI 2010)



Contribution ID: 102

Type: Poster

## On the origins of the highest energy cosmic rays

*Tuesday, 29 June 2010 16:30 (1 hour)*

Active galactic nuclei (AGNs) appear to be the most plausible source of ultra-high energy cosmic rays (UHECRs), yet there is currently no conclusive evidence for this hypothesis. Correlation between the arrival directions of some UHECRs and the positions of nearby AGNs has been reported for a sample of 27 UHECRs detected by the Pierre Auger Observatory (PAO 2007), although analyses of larger samples find a weaker signal (PAO 2010). Here we present a fully Bayesian analysis of the original PAO data, which makes use of more of the available information, and find, with 3 sigma confidence, that a subset of observed UHECRs originate from known AGNs listed in the Veron-Cetty and Veron (2006) AGN catalogue. We will extend our analysis to more homogeneous AGN catalogues such as the Swift BAT sample.

**If this is a contributed presentation, please indicate preference for Oral (O) or Poster (P):**

O

**Primary author:** Ms WATSON, Laura (Imperial College London)

**Co-authors:** Prof. JAFFE, Andrew (Imperial College London); Dr MORTLOCK, Daniel (Imperial College London)

**Presenter:** Ms WATSON, Laura (Imperial College London)

**Session Classification:** Poster Session I

**Track Classification:** Anisotropy