



Contribution ID : 568

Type : Oral

## Discovery of Two New TeV Blazars with the H.E.S.S. Cherenkov Telescope System

Monday, 9 July 2007 09:06 (0:12)

### Abstract content

Since the new generation of imaging atmospheric Cherenkov telescopes came online with the commissioning of the four telescopes of the H.E.S.S. experiment in 2004, the number of known extragalactic gamma-ray emitters in the very high energy (VHE) domain has more than doubled. All of the sources detected so far are active galactic nuclei and all but one belong to the class of BL Lac objects. The emission process for VHE gamma-rays in this class of objects is not fully understood and a large sample of sources and multi-wavelength data is needed to discriminate between different models. Furthermore, VHE photons from these distant sources are attenuated via pair production with the extragalactic photon field in the optical to infrared wavelength band (extragalactic background light, EBL), which contains cosmological information on the star and galaxy formation history. With assumptions about the source physics, limits on this photon field can be derived. We report the detection of VHE gamma-rays from the BL Lac 1ES 0229+200 ( $z = 0.1396$ ) and 1ES 0347-121 ( $z = 0.1880$ ) with the H.E.S.S. Cherenkov telescope system. 1ES 0347-121 is the most distant source detected in VHE gamma-rays to date. Details on the source properties are presented and implications for the EBL limits are discussed.

### If this papers is presented for a collaboration, please specify the collaboration

H.E.S.S.

### Summary

### Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olive, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 3 (OG part 2), pages 965-968

**Primary author(s) :** Mr. RAUE, Martin (Institut fuer Experimentalphysik / Universitaet Hamburg)

**Co-author(s) :** Dr. BENBOW, Wystan (MPI-K Heidelberg, P.O. Box 103980, D 69029 Heidelberg, Germany); Dr. COSTAMANTE, Luigi (MPI-K Heidelberg, P.O. Box 103980, D 69029 Heidelberg, Germany); Dr. HORNS, Dieter (Institut f. Astronomie und Astrophysik, Universitaet Tuebingen, Sand 1, D 72076 Tuebingen, Germany)

**Presenter(s) :** Mr. RAUE, Martin (Institut fuer Experimentalphysik / Universitaet Hamburg)

**Session Classification :** OG 2.3

**Track Classification :** OG.2.3