



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

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Abstract: 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.

Introduction

Details on the detection of the two BL Lac objects 1ES 0347-121 and 1ES 0229+200 will be presented at the conference.

nical support staff in Berlin, Durham, Hamburg, Heidelberg, Palaiseau, Paris, Saclay, and in Namibia in the construction and operation of the equipment.

Acknowledgements

The support of the Namibian authorities and of the University of Namibia in facilitating the construction and operation of H.E.S.S. is gratefully acknowledged, as is the support by the German Ministry for Education and Research (BMBF), the Max Planck Society, the French Ministry for Research, the CNRS-IN2P3 and the Astroparticle Interdisciplinary Programme of the CNRS, the U.K. Science and Technology Facilities Council (STFC), the IPNP of the Charles University, the Polish Ministry of Science and Higher Education, the South African Department of Science and Technology and National Research Foundation, and by the University of Namibia. We appreciate the excellent work of the tech-