ICRC2015

ICRC
The Astroparticle Physics Conference
34th International Cosmic Ray Conference
July 30 - August 6, 2015
The Hague, The Netherlands

Contribution ID: **982** Type: **Poster contribution**

Study of the VHE diffuse emission in the central 200 pc of our Galaxy with H.E.S.S.

Thursday, 30 July 2015 15:30 (1 hour)

The Very High Energy Galactic Center Ridge was revealed by H.E.S.S. in 2006, after subtraction of the point sources HESS J1745-290 possibly associated with Sgr A* and HESS J1747-281 associated with the composite supernova remnant G0.09+0.1. The hard spectrum of the Ridge emission and its spatial correlation with the local gas density suggest that the emission is due to collisions of multi-TeV cosmic rays with the dense clouds of interstellar gas present in this region.
The much larger H.E.S.S. dataset (250 hrs) that is now available from this region and the improved analysis method dedicated to faint emission allow us to reconsider the characterization of this gamma-ray emission in the central 200 pc of our Galaxy through a detailed morphology study and the exctraction of the total energy spectrum with much better accuracy.
To test the various contributions to the total gamma-ray emission, we use a 2D maximum likelihood approach that allows to constrain a phenomenological model of the signal.We discuss the nature of the various components, and their implication on the cosmic-ray distribution in the central 200 pc of our Galaxy. Finally, we will reveal an additional source in this region and will discuss its potential nature.

Collaboration

H.E.S.S.

Registration number following ”ICRC2015-I/”

828

Primary authors: Dr LEMIÈRE, Anne (APC); Mrs JOUVIN, Léa (APC); Dr TERRIER, Regis (APC)

Co-authors: Dr KHELIFI, Bruno (APC); Mr MARANDON, Vncent (MPI - Heidelberg)

Presenter: Dr LEMIÈRE, Anne (APC)

Session Classification: Poster 1 GA

Track Classification: GA-EX