ICRC2015

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

Contribution ID: **995** Type: **Poster contribution**

Radio observations of the evolved pulsar wind nebula HESS J1303-631 with ATCA

Saturday 1 August 2015 15:30 (1 hour)

The initially unidentified very high energy (VHE; E > 100 GeV) gamma-ray source HESS J1303-631 was recently associated with the pulsar PSR J1301-6305 basing on its enregy-dependent morphology. Subsequent detection of X-ray and GeV counterparts also support the identification of the H.E.S.S. source as evolved pulsar wind nebula (PWN). We report here on recent radio observations of the PSR J1301-6305 field of view (FOV) with ATCA dedicated to search for the radio counterpart of this evolved PWN. Observations at 5.5 GHz and 7.5 GHz do not reveal any extended emission associated with the pulsar. The analysis of the archival 1.384 GHz and 2.368 GHz data also does not show any significant emission. 1.384 GHz data reveal a hint of an extended shell-like emission in the PSR J1301-6305 FOV which might be a supernova remnant. We discuss the implications of the non-detection at radio wavelengths on the nature and evolution of the PWN as well as the possibility of the SNR candidate being a birth place of PSR J1301-6305.

Collaboration

– not specified –

Registration number following "ICRC2015-I/"

826

Author: SUSHCH, Iurii (North-West University)

Co-authors: OYA, Igor (DESY Zeuthen); DALTON, Matthew (Active Space Technologies GmbH, Berlin, Germany); JOHNSTON, Simon (Australia Telescope National Facility); SCHWANKE, Ullrich (Humboldt University Berlin)

Presenter: SUSHCH, Iurii (North-West University)

Session Classification: Poster 2 GA

Track Classification: GA-EX