

EVLA observations towards two new TeV PWNe candidates

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Abstract

PSR J1826–1334 and PSR J1809–1917 are two young, energetic pulsars (age < 50 kyrs) both of which are associated with spatially resolved pulsar wind nebulae (PWNe) in the X-ray domain. Extended TeV gamma-ray sources, namely HESS J1825–137 and HESS J1809–193, have been detected in the area of these pulsars. They were proposed to be new TeV gamma-ray PWNe, but their association with the nebular emission observed in X-ray is not firmly determined yet. If it were the case, the PSR J1826–1334/HESS J1825–137 and PSR J1809–1917/HESS J1809–193 systems would constitute two of the few known associations in which the centroid of the gamma-ray emission is offset from the pulsar. No clear counterparts to the high energy emission have been identified in the radio domain at present. We present new high resolution and high sensitivity radio observations toward both HESS sources conducted with the Expanded Very Large Array (EVLA, NRAO) in a broadband around 1.4 GHz, acquired in February 2012.