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H.E.S.S. observations of SN 2024ggi

Supernova (SN) explosions interacting with dense circumstellar medium are considered to be very promising sites for efficient cosmic-ray (CR) acceleration and subsequent emission of neutral-pion-decay gamma rays. These environments share similarities with already detected gamma-ray novae, but with much higher available energy content, making them an important component in the search for PeV CR accelerators. We present the results of H.E.S.S. observations of one such candidate source - SN 2024ggi, located in NGC 3621 at a distance of 7.2 Mpc. A total of 30 hours of data, gathered throughout a month of post-explosion observations, provide flux upper limits that are used to constrain source parameters, offering meaningful insights for theoretical predictions.

Collaboration(s)

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