

The evolving story of pulsar wind nebulae

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The expanding winds generated by pulsars produce nebulae whose properties track both the composition and energetics of the winds and the properties of the environments into which they expand. From early expansion through cold supernova ejecta, through re-formation after disruption from interactions with the supernova remnant reverse shock, the evolution of a pulsar wind nebula is complex. However, recent modeling coupled with important observations from nearly all parts of the electromagnetic spectrum has placed important constraints on a significant number of individual systems and their host remnants, and on the population as a whole. Here I summarize results from such observations and modeling efforts with particular concentration on recent hydrodynamical studies of PWNe evolving within their host supernova remnants.

Primary author: SLANE, Patrick

Presenter: SLANE, Patrick