

The Neutron Star – Supernova Remnant Connection

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Despite impressive advances in modeling the gravitational collapse of a massive star that leads to a supernova explosion and formation of a relic neutron star (NS), there remain large gaps in our understanding of the process. Many of the most important constraints on this process come from studies of young NSs and the supernova remnants (SNRs) in which they reside. These include connections between SNR asymmetries and pulsar kick velocities, estimates of progenitor characteristics from SNR ejecta studies, and searches for any imprint on SNR properties that might be associated with the extreme variations between the associated NS properties. In addition, studies of composite SNRs provide our best information on the structure of pulsar winds, their interaction with SNR ejecta, and the ultimate escape of the relativistic particles into the ISM. Here I present a summary of recent work on both observational results and modeling efforts of NS/SNR systems.