APR17-2016-000905

Abstract for an Invited Paper
for the APR17 Meeting of
the American Physical Society

X-ray studies of Remnants of Core-Collapse Supernovae

LAURA LOPEZ, Ohio State University

Supernovae (SNe) play an essential role in the Universe, and they are detected routinely through dedicated surveys. However, most of these SNe are often too distant (1-100 Mpc) to resolve the SN ejecta and immediate surroundings of the exploded stars. Fortunately, supernova remnants (SNRs), including SN 1987A, offer the means to study explosions and dynamics at sub-pc scales. SNRs are observable for up to 100,000 years after the explosions across the electromagnetic spectrum, and almost 400 SNRs have now been identified in the Milky Way and nearby galaxies. In this talk, I will review recent advances in the understanding of core-collapse (CC) SNe based on studies of X-ray studies of SNRs. In particular, I will focus on SN 1987A and other young CC SNRs, highlighting investigations of their explosion (a)symmetries, heavy metal (like iron and titanium) abundances, progenitors, and particle acceleration.