Q34a AKARI Observations of Supernova Remnants

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We have been doing infrared studies of supernova remnants (SNRs) using the AKARI satellite. We observed seventeen Galactic SNRs using the near/mid-infrared camera IRC and/or the far-infrared camera FIS in a framework of the AKARI mission program ISMGN (PI. Kaneda). The target SNRs include Crab-like SNRs, young core-collapse SNRs, and SNRs interacting with molecular clouds. We present the contents of our study and the main results so far obtained, including the discovery of a star-forming loop around the young Crab-like SNR G54.1+0. The star-forming loop around G54.1+0.3 is composed of at least eleven massive young stellar objects with inner disks possibly destroyed. We propose that their formation is triggered by the progenitor star of G54.1+0.3 in post-main-sequence phase. We have also identified eight SNRs with distinguishable mid-infrared emission in the Large Magellanic Cloud (LMC) from the AKARI IRC LMC survey (PI. Onaka). We present their images and color properties. We show that there is a good correlation between the mid-infrared and X-ray/radio fluxes. We discuss the origin of the detected mid-infrared emission and its implications.