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■ Title

Investigating the interstellar gas associated with gamma-ray supernova remnants: Pursuit of the production rate of cosmic rays

■ Summary

Investigating the origin of cosmic rays and their production rate are essential in understanding the chemical processes of the interstellar medium. This research program aims to reveal the production rate of cosmic rays through the identification of the interstellar gas associated with the gamma-ray supernova remnants (SNRs) by using ALMA. We will estimate the total energy of accelerated cosmic rays using the shocked gas density and gamma-ray luminosity for each SNR that has various ages and distances from us. This will provide a comprehensive understanding of acceleration/diffusion mechanisms of cosmic rays in the Galactic/Magellanic SNRs and the production rate of cosmic rays in the galaxies.