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Cosmic radioactivities and gas dynamics in the Milky Way

Monday 9 September 2024 11:00 (25 minutes)

Observations of gamma rays from radioactive decay of ^{26}Al have been accumulated from over 20 years with the SPI spectrometer aboard ESA's INTEGRAL mission. ^{26}Al decay occurs with a lifetime of one million years. This decay time is longer than the typical luminosity of supernova remnants, and allows to trace the late propagation and dynamics of ejecta from nucleosynthesis in massive stars and their supernovae. From analysis of SPI data, it has been concluded that typical environments of these sources are superbubbles with extents up to kpc. This provides new insights into the processes that characterise feedback of star formation onto the morphology of the interstellar medium in our Galaxy. We discuss how these inferences were made, and what they may tell us about galactic structure and evolution.

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