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Nucleosynthesis in the Galaxy as seen in diffuse radioactivity gamma-rays (^{26}Al, ^{60}Fe) ROLAND DIEHL, MPE Garching, SPI TEAM OF INTEGRAL COLLABORATION — Four mission years of INTEGRAL have led to discoveries of new sources and to detailed astronomical refinements of already-known gamma-ray line emission. Recent massive-star nucleosynthesis is traced throughout the Galaxy with radioactivites seen in ^{26}Al and now also ^{60}Fe gamma-rays. Precision line spectroscopy reveals Doppler shifts for the ^{26}Al line, separately for different parts of the Galaxy. This provides new insights into the dynamics of hot interstellar gas, especially in inner-Galaxy regions which are otherwise difficult to observe. The processes generating new atomic nuclei in stars and supernovae are reflected in the abundances of these ejected radioactivities. We will discuss the recent spectroscopic information on these gamma-ray lines and their broader implications, in terms of massive-star nucleosynthesis models and Galactic massive-star content with its nucleosynthesis activity.

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