

^{26}Al Radioactive Decay and Gamma Ray Background

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ABSTRACT

It has been suggested that explosive events in the galactic centre associated with supermassive stars converting preexisting Mg into several solar masses of Al can account for the observed 1.8 MeV γ -ray line in the interstellar medium. We would also expect most active galactic nuclei (AGN) and quasars to undergo similar processes. Also starburst galaxies and dense stellar clusters with a rapidly evolving massive stellar population should release large amounts of radioactive Al^{26} . The contribution to the isotropic intergalactic gamma ray background from this is estimated with a view to understanding its contribution to the 'step' in the MeV background gamma ray cosmic radiation. This would supplement similar contributions from other MeV gamma sources like ^{56}Co , ^{60}Fe , ^{44}Ti etc. from supernovae and other similar events.