

# **A pulsar-runaway-pair from a nearby supernova about 1.8 Myr ago that ejected $^{60}\text{Fe}$ found on Earth**

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The detection of 1.5-3.2 Myr  $^{60}\text{Fe}$  on Earth indicates recent nearby core-collapse supernovae. For supernovae in multiple stars, the primary stars become neutron stars, while former companions can get unbound (runaway stars). By tracing back the space motion of runaway and neutron stars to the nearest young (about 16 Myr) association of massive stars (Scorpius-Centaurus-Lupus), we found kinematic evidence that a certain runaway star and a certain radio pulsar were released by a supernova in a binary about 1.8 Myr ago at about 107 pc distance; association age and flight time determine the progenitor mass (16-18  $M_{\text{sun}}$ ), which can constrain supernova nucleosynthesis yields and  $^{60}\text{Fe}$  uptake on Earth. Our scenario links  $^{60}\text{Fe}$  found on Earth to an individual supernova in a binary.

## **Keywords**

Core-Collapse Supernovae

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