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Current ^{44}Ti activities and other radionuclide records in five recent meteorite falls.

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Cosmogenic radionuclide activities in five recent (2010-2016) chondrite fall samples measured in the gamma-ray spectrometry facility GeMSE [1], generally show expected solar dependent variations. The GeMSE low-background design and data analysis method allow verified detection of most relevant isotopes at 0.5-1 dpm/kg activities during typical meteorite measurements. ^{44}Ti (^{44}Sc), on the 1157 keV line, was detected only in high Fe chondrite types, two OH and one EH. These, according to our results all came from small meteoroids ($r \leq 20$ cm). Detected activities of ^{44}Ti overlap within uncertainties at 20-40% below modeled production rates [2]. Our results agree with previous observations of ^{44}Ti production rates decreasing with time [3] and extend the data time coverage until present. Measurements are currently carried out to confirm production rates sampled by older chondrite falls. This project is supported by the SNF grant 152941.

[1] von Sivers, M. et al. (2016) JINST 11.12:P12017. [2] Michel, R. & Neumann, S. (1998). Proc Indian Acad Sci, Earth Planet Sci 107(4), 441-457. [3] Taricco, C. et al. (2006). J Geophys Res Space Phys, 111(A8).

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