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**High-precision triple oxygen isotope analyses of small sample sizes – Proof of concept with modern S-type cosmic spherules**

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Laser fluorination triple oxygen isotope analyses of small, nanomole samples offers a wide spectrum of applications. We have established a continuous-flow setup for isotope ratio mass spectrometry of samples as small as 25 nmol O<sub>2</sub> (~2 µg sample material) with an analytical uncertainty in  $\Delta^{17}\text{O}$  better than  $\pm 0.05\text{‰}$ , which is precise compared to modern ion microprobe techniques that have an uncertainty in  $\Delta^{17}\text{O}$  greater than  $\pm 0.7\text{‰}$  [1]. We present new triple oxygen isotope data from modern S-type cosmic spherules of a rooftop collection in Berlin. The spherules have diameters between 218 and 240 µm and a masses between 11 and 22 µg. The isotopic distribution of the spherules indicates an origin from a variety of carbonaceous and ordinary chondrite parent bodies [1].

[1] Cordier, C. & Folco, L. (2014) GCA 146, 18–26.

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