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**Noble Gas Chronology of Enstatite Chondrites -  
An In-Vacuo Etch Experiment**

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We present results from a stepped-etching experiment on irradiated bulk St. Mark's (EH5) chondrite. Previous etching of unirradiated St. Mark's released early correlated radiogenic  $^{40}\text{Ar}^*$  and  $^{129}\text{Xe}^*$  [e.g., 1]. The carrier phase, tentatively identified as djerfisherite, offers an opportunity to link the Ar-Ar and I-Xe chronometers.

Selective etching of different phases produced I-Xe ages of 3.4, ~12 and ~58 Ma after Shallowater (4.562 Ga, [2]). The oldest age is consistent with a bulk I-Xe age for St. Mark's [3]. Releases also gave two well-defined Ar-Ar isochrons, and K/Ca systematics suggest that the noble gases came mainly from pyroxene and feldspar minerals.

A single djerfisherite grain extracted from ALHA 77295 (EH3) yielded an I-Xe age of ~4564.2 ( $\pm 1.1$ ) Ma, comparable to the oldest chondrule ages in E-chondrites [4]. To further constrain the timing of events on the E-chondrite parent bodies we are now undertaking stepped-etching of bulk ALHA 77295.

[1] Busemann, H. et al. (2002) MAPS 37, A28. [2]

Gilmour, J.D. et al. (2009) MAPS 44, 573–579. [3]

Kennedy, B.M. et al. (1988) GCA 52, 101–111. [4]

Whitby, J.A. et al. (2002) GCA 66, 347–359.

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