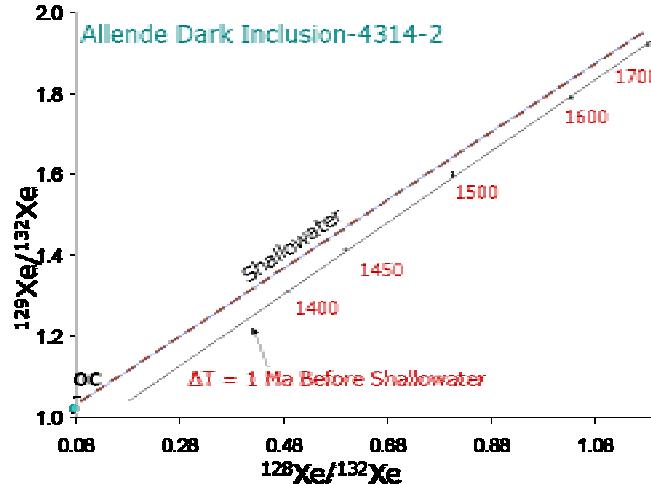


TRAPPED Xe IN DARK INCLUSIONS II: NEW DATA FROM REDUCED CV3 METEORITES. C. M. Hohenberg, O. V. Pravdivtseva, and A. P. Meshik, Washington University, CB1105, Saint Louis, MO 63130, USA.

I-Xe isochrons are mixing lines between trapped and iodine-derived components. Because the I/Xe ratio in the solar nebular was \sim unity, and $^{129}\text{I}/^{127}\text{I}$ about 10^{-4} , the $^{129}\text{Xe}/^{132}\text{Xe}$ ratio in trapped Xe did not appreciably evolve. While in a closed systems with elevated I/Xe it is possible that a trapped component has $^{129}\text{Xe}/^{132}\text{Xe}$ ratios higher than normal trapped OC- or Q-Xe [1], “sub-planetary” trapped Xe compositions with *lower* $^{129}\text{Xe}/^{132}\text{Xe}$ ratios, or *higher* $^{128}\text{Xe}/^{132}\text{Xe}$ ratios, are implausible. We have previously reported evidence for “sub-planetary” trapped Xe in 17 dark inclusions from Allende [2]. In this work we present new data for sub-planetary trapped Xe in four dark inclusions from three reduced CV3 meteorites (Elfremovka, Leoville and Vigarano) and explore some of the implications.

Although these 23 DIs show various degrees of alteration which correlate with their I-Xe ages (spanning at least 12 Ma) [3], and all require “sub-planetary” trapped Xe, there is no correlation between trapped composition and I-Xe age. The figure below shows the I-Xe isochron for Allende DI 4314-2, which clearly requires “sub-planetary” trapped Xe. One DI, E80 from Efremovka, has two different I-host phases, distinguished in the release profile. These phases have isochrons of identical slope (same I-Xe age), but different trapped components: the higher temperature isochron requires OC-Xe; the lower temperature isochron requires “sub-planetary” trapped Xe. If ^{127}I were mixed and indistinguishably emplaced with xenon, a pseudo trapped component with enhanced ^{128}Xe would be produced after neutron irradiation [2]. Why do these DIs show this effect and what do they have in common? Elfremovka DIs show evidence of mild shock reflected in their elongated shape [4], as do Allende DIs. If the shock occurred long after precipitation of iodine host, while Xe and some I were still in solution, perhaps iodine could, in fact, be emplaced in a way indistinguishable from Xe.



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References: [1] Kennedy B. M. et al. (1988) *GCA* 52, 101-111; [2] Hohenberg C. M., et al. (2002) *GCA* A336; [3] Pravdivtseva O. V. et al (2003) *submitted* (this volume); [4] Krot et al. (1999) *MAPS* 34, 67-89.