

Geochimica et Cosmochimica Acta—Astrophysical Implications of Extraterrestrial Materials: A Special Issue for Ernst K. Zinner



Geochimica et Cosmochimica Acta publishes original work in a wide range of subjects in terrestrial geochemistry, meteoritics, and planetary geochemistry. The January 15, 2018 issue (volume 221) contains 22 articles on cutting-edge research on the astrophysical implications of extraterrestrial materials in a special issue dedicated to Dr. Ernst K. Zinner (1937-2015), innovative, eminent scientist known especially for his discovery of **presolar grains** in meteorites and his pioneering use of Secondary Ion Mass Spectrometry (**SIMS**) in geo- and cosmochemistry. The special issue is edited by Larry R. Nittler (Carnegie Institution of Washington), Christine Floss (Washington University), Peter Hoppe (MPI for Chemistry, Mainz, Germany), and Kevin McKeegan (UCLA). Though a subscription, individual or

institutional, is needed to access the articles online, the **Table of Contents and Abstracts** are available to everyone. Research articles:

"Do meteoritic silicon carbide grains originate from asymptotic giant branch stars of super-solar metallicity?" doi: [10.1016/j.gca.2017.06.006](https://doi.org/10.1016/j.gca.2017.06.006).

"s-Processing from MHD-induced mixing and isotopic abundances in presolar SiC grains" doi: [10.1016/j.gca.2017.05.030](https://doi.org/10.1016/j.gca.2017.05.030).

"The neutron capture process in the He shell in core-collapse supernovae: Presolar silicon carbide grains as a diagnostic tool for nuclear astrophysics" doi: [10.1016/j.gca.2017.06.005](https://doi.org/10.1016/j.gca.2017.06.005).

"Graphite grain-size spectrum and molecules from core-collapse supernovae" doi: [10.1016/j.gca.2017.06.027](https://doi.org/10.1016/j.gca.2017.06.027).

"Bonanza: An extremely large dust grain from a supernova" doi: [10.1016/j.gca.2017.09.002](https://doi.org/10.1016/j.gca.2017.09.002).

"Simultaneous iron and nickel isotopic analyses of presolar silicon carbide grains" doi: [10.1016/j.gca.2017.05.031](https://doi.org/10.1016/j.gca.2017.05.031).

"Strontium and barium isotopes in presolar silicon carbide grains measured with CHILI—two types of X grains" doi: [10.1016/j.gca.2017.05.001](https://doi.org/10.1016/j.gca.2017.05.001).

"Iron and nickel isotope compositions of presolar silicon carbide grains from supernovae" doi: [10.1016/j.gca.2017.05.029](https://doi.org/10.1016/j.gca.2017.05.029).

"Correlated silicon and titanium isotopic compositions of presolar SiC grains from the Murchison CM2 chondrite" doi: [10.1016/j.gca.2017.09.031](https://doi.org/10.1016/j.gca.2017.09.031).

"Titanium isotopic compositions of rare presolar SiC grain types from the Murchison meteorite" doi: [10.1016/j.gca.2017.02.026](https://doi.org/10.1016/j.gca.2017.02.026).

"NanoSIMS isotope studies of rare types of presolar silicon carbide grains from the Murchison meteorite: Implications for supernova models and the role of ^{14}C " doi: [10.1016/j.gca.2017.01.051](https://doi.org/10.1016/j.gca.2017.01.051).

"Rare earth element abundances in presolar SiC" doi: [10.1016/j.gca.2017.05.027](https://doi.org/10.1016/j.gca.2017.05.027).

"Correlated XANES, TEM, and NanoSIMS of presolar graphite grains" open access, doi: [10.1016/j.gca.2017.02.011](https://doi.org/10.1016/j.gca.2017.02.011).

"Origin of nanodiamonds from Allende constrained by statistical analysis of C isotopes from small clusters of acid residue by NanoSIMS" doi: [10.1016/j.gca.2017.06.008](https://doi.org/10.1016/j.gca.2017.06.008).

"Correlated nanoscale characterization of a unique complex oxygen-rich stardust grain: Implications for circumstellar dust formation" doi: [10.1016/j.gca.2017.05.003](https://doi.org/10.1016/j.gca.2017.05.003).

"Titanium isotopes and rare earth patterns in CAIs: Evidence for thermal processing and gas-dust decoupling in the protoplanetary disk" doi: [10.1016/j.gca.2017.07.032](https://doi.org/10.1016/j.gca.2017.07.032).

"A multielement isotopic study of refractory FUN and F CAIs: Mass-dependent and mass-independent isotope effects" doi: [10.1016/j.gca.2017.04.029](https://doi.org/10.1016/j.gca.2017.04.029).

"Crystal growth and disequilibrium distribution of oxygen isotopes in an igneous Ca-Al-rich inclusion from the Allende carbonaceous chondrite" open access, doi: [10.1016/j.gca.2017.05.035](https://doi.org/10.1016/j.gca.2017.05.035).

"In situ ^{60}Fe - ^{60}Ni systematics of chondrules from unequilibrated ordinary chondrites " doi: [10.1016/j.gca.2017.06.013](https://doi.org/10.1016/j.gca.2017.06.013).

"Unraveling the role of liquids during chondrule formation processes" doi: [10.1016/j.gca.2017.03.038](https://doi.org/10.1016/j.gca.2017.03.038).

"Presolar silicates in the matrix and fine-grained rims around chondrules in primitive CO3.0 chondrites: Evidence for pre-accretionary aqueous alteration of the rims in the solar nebula" doi: [10.1016/j.gca.2017.06.004](https://doi.org/10.1016/j.gca.2017.06.004).

"A mutli-technique search for the most primitive CO chondrites" doi: [10.1016/j.gca.2017.04.021](https://doi.org/10.1016/j.gca.2017.04.021).

Written by Linda M. V. Martel, Hawai'i Institute of Geophysics and Planetology, for **PSRD**.



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psrd@higp.hawaii.edu