Chairs: A. M. Davis
D. D. Clayton

Nittler L. R.*
*Meteoritic Stardust and the Clumpiness of Galactic Chemical Evolution [#1650]
We discuss a model of heterogeneous galactic chemical evolution. Although the model can explain presolar SiC Si isotopes, it fails to predict correlations between Si and Ti isotopes or the observed range of O isotopes in presolar oxide grains.

Clayton D. D.* Meyer B. S. The L-S.
Iron Isotopic Diagnostics of Presolar Supernova Grains [#1021]
We study the abundance and isotopic composition of iron in a massive-star supernova to identify those isotopic characteristics that can identify the location of the condensing matter that is contained in the presolar supernova grains from meteorites.

Tripa C. E.* Pellin M. J. Savina M. R Davis A. M. Lewis R. S. Clayton R. N.
Fe Isotopic Composition of Presolar SiC Mainstream Grains [#1975]
Iron isotopic distribution was measured in SiC mainstream grains from the Murchison meteorite by time-of-flight resonance ionization mass spectrometry. All grains exhibit $^{54}$Fe depletions of $-50\%$ to $-200\%$, lower than what are predicted by calculations of s-process nucleosynthesis in AGB stars.

Davis A. M.* Gallino R. Lugaro M. Tripa C. E. Savina M. R. Pellin M. J. Lewis R. S.
Presolar Grains and the Nucleosynthesis of Iron Isotopes [#2018]
The iron isotopic compositions of mainstream and Type X presolar SiC grains are compared with theoretical simulations of asymptotic giant branch stars and supernovae and with mixtures of various types of stellar ejecta.

Hoppe P.* Besmehn A.
On the Origin of Titanium-49 Excesses in Presolar Silicon Carbide Grains of Type X [#1310]
The Ti-V isotopic systematics was investigated on 48 presolar SiC grains of type X. A correlation between Ti $^{49}$/Ti and V/Ti ratios suggests grain formation on a timescale of several months.

Besmehn A.* Hoppe P.
Homogeneous Distribution of Radiogenic Calcium-44 in Silicon Carbide X Grains from the Murchison Meteorite [#1297]
The homogeneity of Si- and Ca-isotopic compositions was investigated with the NanoSIMS in 15 SiC X grains. Two grains contain radiogenic $^{44}$Ca which is homogeneously distributed within the grains on a spatial scale of $>150$ nm.

Amari S.* Jennings C. Nguyen A. Stadermann F. J. Zinner E. Lewis R. S.
NanoSIMS Isotopic Analysis of Small Presolar SiC Grains from the Murchison and Indarch Meteorites [#1205]
Carbon and N isotopic measurements were made with the NanoSIMS ion microprobe on small (0.25-0.6 $\mu$m) presolar SiC grains from the Murchison and Indarch meteorites. Indarch also contains silicon nitride grains with the isotopic signature of mainstream SiC.

Savina M. R.* Tripa C. E. Pellin M. J. Davis A. M. Clayton R. N. Lewis R. S. Amari S.
Isotopic Composition of Barium in Single Presolar Silicon Carbide Grains [#1962]
We have measured Ba isotope distributions in individual presolar SiC grains. We find that the Ba isotopic composition in mainstream SiC grains is consistent with models of nucleosynthesis in low to intermediate mass asymptotic giant branch (AGB) stars.

*Indarch SiC by TIMS, RIMS, and NanoSIMS [1833]*

We have measured the Ba isotopic composition in Indarch SiC (separates and individual grains) by TIMS, RIMS and nanoSIMS.

Speck A. K.* Hofmeister A. M.

*Processing of Presolar Grains Around Post-AGB Stars: Silicon Carbide as the Carrier of the “21” Micron Feature [1155]*

New laboratory data indicate that SiC (cubic or nano crystals) produces the emission features observed near 21 microns from post-agb stars. The cold temperature of the dust filters out the main peak. This assignment lacks the problems associated with previous attributions.

Nollett K. M.* Busso M. Wasserburg G. J.

*Cool Bottom Processing on the AGB and Presolar Grain Compositions [1385]*

We describe results from a model of cool bottom processing in AGB stars. We predict O, Al, C and N isotopic compositions of circumstellar grains. Measured compositions of mainstream SiC grains and many oxide grains are consistent with CBP.

Zinner E.* Amari S. Lewis R. S.

*Presolar Spinel Grains Found in Fine-grained Residue from the Murray CM2 Carbonaceous Chondrite [1207]*

Oxygen isotopic ratios were measured in 328 small (0.1-0.2 µm) spinel grains from Murray with the NanoSIMS ion microprobe. At least six of them are of presolar origin, a much higher fraction than observed in larger spinel grains from Tieschitz.

Krestina N.* Hsu W. Wasserburg G. J.

*Circumstellar Oxide Grains in Ordinary Chondrites and Their Origin [1425]*

Three new circumstellar hibonite and 14 circumstellar corundum grains have been found based on their highly anomalous oxygen. Al-Mg isotopes have been measured for these circumstellar oxides and for 14 oxides with a “normal” oxygen composition.