MARTIAN METEORITE MADNESS: MIXING ON A VARIETY OF SCALES
1:30 p.m. Waterway Ballroom 5

Chairs: Arya Udry
        Geoffrey Howarth

1:30 p.m. Nielsen S. G. * Magna T. Mezger K.
The Vanadium Isotopic Composition of Mars and Evidence for Solar System Heterogeneity During Planetary Accretion [#1225]
Vanadium isotope composition of Mars distinct from Earth and chondrites.

1:45 p.m. Tait K. T. * Day J. M. D.
Highly Siderophile Element and Os-Sr Isotope Systematics of Shergottites [#3025]
The shergottite meteorites represent geochemically diverse, broadly basaltic, and magmatically-derived rocks from Mars. New samples were processed and analyzed.

2:00 p.m. Armytage R. M. G. * Deaille V. Brandon A. D. Agee C. B.
The Neodymium and Hafnium Isotopic Composition of NWA 7034, and Constraints on the Enriched End-Member for Shergottites [#1065]
Couple Sm-Nd and Lu-Hf isotopic systematics in NWA 7034 suggest that such a crust is not the enriched end-member for shergottites.

2:15 p.m. Howarth G. H. * Udry A.
Nickel in Olivine and Constraining Mantle Reservoirs for Shergottite Meteorites [#1375]
Ni enrichment in olivine from enriched versus depleted shergottites provide evidence for constraining mantle reservoirs on Mars.

2:30 p.m. Jean M. M. * Taylor L. A.
Exploring Martian Mantle Heterogeneity: Multiple SNC Reservoirs Revealed [#1666]
The objective of the present study is to assess how many mixing components can be recognized, and address ongoing debates within the martian isotope community.

2:45 p.m. Udry A. * Day J. M. D. Moynier F.
Magma Emplacement and Mantle Source Compositions Inferred from a Comprehensive Suite of Nakhliites and Chassignites [#2289]
We present a comprehensive bulk-rock chemical and textural study of nakhlites and chassignites to establish their emplacement and parental melt composition.

3:00 p.m. Brandon A. D. * Ferdous J. Peslier A. H.
Evaluating Crustal Contamination Effects on the Lithophile Trace Element Budget of Shergottites, NWA 856 as a Test Case [#1039]
The effects of crustal contamination on the incompatible trace element budget of enriched shergottites is evaluated.

These new Chassigny apatite data reveal distinct martian Cl sources whose signatures link their origins to both the early solar system and the evolving martian atmosphere.
3:30 p.m. Irving A. J. * Kuehner S. M. Righter M. Lapen T. J. Gao Y. et al.


This poikilitic shergottite has close textural and chemical similarities to Allan Hills 77005 and others, but NWA 10961 exhibits more extensive shock melt features.


_{20}Ne/{22}Ne in the Martian Atmosphere: New Evidence from Martian Meteorites_ [#1157]

Martian Ne trapped in the Dho 378 shergottite has \( {_{20}Ne} / {_{22}Ne} = 7.3 \pm 0.2 \), lower than the widely accepted value for the martian atmosphere.

4:00 p.m. Koike M. * Sumino H. Sano Y. Ozima M.

_Combined Stepwise Heating and Vacuum Crushing Analyses of Noble Gases in Shergottites_ [#1866]

To extract martian atmospheric records from meteorites, we conducted stepwise heating and vacuum crushing noble gases analyses on several shergottites.

4:15 p.m. Peslier A. H. Hervig R. Irving T.

_Hydrogen in Martian Meteorites_ [#2081]

Deciphering why water contents in nominally anhydrous minerals of martian meteorites are low compared to terrestrial equivalents.

4:30 p.m. Hewins R. H. * Barrat J.-A. Humayun M. Pont S. Zanda B.

_NWA 8694 and the Chassignite Parent Liquid Problem_ [#2533]

Parent liquids for this ferroan chassignite based on trapped liquid and crystals give the correct olivine but late liquid is too alkaline.