

Thursday, July 26, 2018
POSTER SESSION II: SHOCK METAMORPHISM
 5:30 p.m. Foyer

Zaitsev M. A. Gerasimov M. V. Vasiljeva A. S.

[*Impact-Initiated Synthesis as a Source of Organic Matter on the Early Earth: Amino Acids Formation from the Components of a Nitrogen-Methane Atmosphere in the Case of Volatile-Poor Stony Impactors*](#) [#6142]

Formation of simple amino acids from the components of nitrogen-methane gas mixtures during laboratory high temperature laser vaporization of peridotite (simulated conditions correspond to hypervelocity impacts at velocities of 10–15 km/s).

Imae N. Kimura M. Yamaguchi A. Kojima H.

[*Thermal and Shock Metamorphism for Ordinary Chondrites: A Quantitative Study Using X-Ray Diffractions*](#) [#6098]

We explored the quantitative method using in-plane rotation of polished thin section by broad X-ray beam, enabling complementary studies such as the textural observation and the other analyses. We then newly established the criteria for charactering ordinary chondrites.

Bazhan I. S. Litasov K. D. Badyukov D. D. Ohfuji H.

[*Broad Range of High-Pressure Phases and Bridgmanite-Related Microstructures in L6 Chondrite Northwest Africa 5011*](#) [#6175]

We find broad range of high-pressure minerals in shock-melt veins in L6 chondrite NWA 5011. Olivine is transformed to ringwoodite. Plagioclase to jadeite-lingunite. Orthopyroxene is replaced by majorite, akimotoite and glass after bridgmanite.

Khisina N. R. Wirth R. Burmistrov A. Shiryaev A. A. Averin A. A. Zinov'eva N. G.

Pankrushina E. Abdrakhimov A. M.

[*Shock-Produced Siderite in IIE Iron Meteorite Elga: A Secondary Mineral of Extraterrestrial Origin*](#) [#6008]

Shock melted regions in meteorite Elga are investigated with EMPA and Raman spectroscopy. Secondary shock-produced minerals of extraterrestrial origin are: schreibersite, troilite, millerite, merrillite, siderite, hematite and Ni-magnetite.

Litasov K. D. Ohfuji H. Kagi H. Badyukov D. D.

[*Mineral Inclusions and Microstructures of Carbon Aggregates in Ureilites*](#) [#6150]

We studied ureilites Novo Urei and JAH 054 with particular attention to identification of microinclusions in carbon aggregates. Diamond zones do not contain any inclusions, whereas graphite zones contains kamacite and Fe-Cr sulfide.

Tretiakova L. I. Lyukhin A. M.

[*Impact Origin of the Diamond-Bearing Kumdy-Kol Deposit \(N. Kazakhstan\)*](#) [#6156]

Introduced feasible scenario and the evidences of Kumdy-Kol diamond-bearing deposit formation provoked by comet impact under oblique angle on the Earth, that become possible diamonds nucleation, growth and preserve on the collision area.

Fazio A. Pollok K. Langenhorst F.

[*Mechanical Brazil Twins and 10–11 PDFs in Quartz: Indicators of Low-Pressure Shock Metamorphism*](#) [#6116]

This work presents the results of new TEM investigations of quartz-rich rocks shocked in the low-pressure shock regime (5–17.5 GPa). At these conditions, Brazil twins and 101-1 PDFs at the nanoscale are the typical indicators of shock metamorphism.

Chinchalkar N. S. Hames W. E. King D. T. Jr.

[*Shock Effects in Mica and Rutile from Impact Breccia Matrix, Wetumpka Impact Crater, Alabama*](#) [#6178]

We report newly identified kink bands in mica and apparent shock features in detrital rutile in impact breccia from Wetumpka impact crater, Alabama.

Wittmann A.

[*Chicxulub Zircon \(and Apatite!\)*](#) [#6295]

I surveyed the zircon and apatite inventory in Chicxulub's peak ring: planar fractures in apatite indicates shock pressures <20 GPa based on constraints from quartz; zircon may also show planar elements below their canonical onset at 20 GPa.