POSTER SESSION: DEVELOPMENTS IN ADVANCED TECHNIQUES FOR METEORITE AND RETURNED SAMPLE ANALYSIS

5:30 p.m. Poster Area

Vokhmintsev A. S.  Weinstein I. A.

TL/OSL Module for Spectrally Resolved Studies of Radiation Induced Processes in Meteorites  [#6108]

In the work we demonstrate the capabilities of our developed TL/OSL module by measuring spectrally resolved features of thermally and optically stimulated luminescence in different stony meteorites.

Longo S.  de Giacomo A.  Dell’Aglio M.  Gaudioso R.  Micca Longo G.

Line Emission from Ionized Meteorite Surfaces: Experiments and Models  [#6177]

LIBS (Laser Induced Breakdown Spectroscopy) is evaluated as a tool for rapid analysis of meteorite samples, and LIBS plume plasma is considered as an analogue of meteor entry plasma, with the help of numerical simulations.

Stephen N. R.

Spatially Resolved Mid-IR Spectra from Meteorites: Linking Composition, Crystallographic Orientation and Spectra on the Micro-Scale  [#6223]

IR spectroscopy is used to infer composition of extra-terrestrial bodies, comparing bulk spectra to databases of separate mineral phases. We extract spatially resolved meteorite-specific spectra from achondrites with respect to zonation and orientation.


EURO-CARES Sample Curation Facility: Preliminary Design  [#6348]

EURO-CARES is a multinational project, funded under the European Commission’s HorizoN2020 research programme to create a roadmap of a European Extra-terrestrial Sample Curation Facility. We present here a Preliminary Design of the facility.

Braukmüller N.  Escoube R.  Münker C.  Heuser A.  Wombacher F.

Elemental Analysis of Carbonaceous Chondrites by Sector Field ICP-MS  [#6362]

CM chondrites are analyzed via SF-ICP MS for a comparison of the chemical compositions of antarctic and non-antarctic CM chondrites. Aliquots of Murchison CM2 chondrite powder have been heated in a tube furnace to study the loss of volatile elements.

Kletetschka G.  Wieczorek M.

Paleofield Determination from Compositional Dependent Magnetic Minerals Within Meteorites that post Cooled Down Through Their Blocking Temperatures  [#6405]

Our analysis allows of interpretation of paleofield detected not only in meteorites, but also on Mars and Moon where the sources of magnetic field can be assumed to be magnetic thermal remanence.

Welzenbach L. C.

Real-Time Calibration for Rapid Raman Ordinary Chondrite Classification  [#6426]

Raman spectroscopy is a classification tool being used by other researchers to classify chondrites from NWA and Antarctica. Neon reference spectrum of sufficient fidelity is taken concurrently to calibrate the spectrum to sub-cm-1 accuracy.
Crystallographic Study of Itokawa Particle, RA-QD02-0127 by Using Energy-Scanning X-Ray Diffraction Method with Synchrotron Radiation

Crystallographic study of Itokawa particle, RA-QD02-0127 by using new X-ray diffraction method was performed. The purpose of this study is to understand better the metamorphic and impact shock history of asteroid Itokawa, and other S-class asteroids.

Frequency Spectra of Magnetoacoustic Emission in Meteorites

We analyzed the magnetoacoustic emission spectra of iron meteorites and their industrial analogs. The revealed differences in signal amplitude, position and width of the peaks are associated with the features of structure and the magnetic texture.