

Monday, October 24, 2016
INSTRUMENTS: MASS SPECTROMETRY AND GEOCHRONOLOGY
3:50 p.m. Pasadena

Chair: Laura Kerber

- 3:50 p.m. Darrach M. R. * Madzunkov S. Neidholdt E. Simcic J.
[Atmospheric Constituent Explorer System \(ACES\) \[#4065\]](#)
 We report on the Atmospheric Constituent Explorer System (ACES), a mass spectrometer based instrument for atmospheric probe missions (e.g. Venus and ice giant) that can determine abundances and isotopic ratios of the noble-gases and trace species.
- 4:05 p.m. Renard J. B. Verdier N. *
[LOAC-S: A Small Aerosol Optical Counter/Sizer for Planetary Measurements of the Size Distribution and Nature of Atmospheric Particles \[#4045\]](#)
 The Light Optical Aerosols Counter (LOAC) has been used for years at the surface and under all kinds of balloons in the Earth atmosphere. The reliability of this instrument is now demonstrated and it is light and compact enough for planetary missions.
- 4:20 p.m. Coleman M. * Christensen L. E. Kriesel J. M. Kelly J. F. Moran J. J. Vance S.
[A Very Much Faster and More Sensitive In Situ Stable Isotope Analysis Instrument \[#4052\]](#)
 We are developing, Capillary Absorption Spectrometry (CAS) for H and O stable isotope analyses, giving > 4 orders of magnitude improved sensitivity, allowing analysis of 5 nano-moles of water and coupled to laser sampling to free water from hydrated minerals and ice.
- 4:35 p.m. Cho Y. * Sugita S. Miura Y. N. Okazaki R. Iwata N. Kameda S.
[End-to-End Validation of an In-Situ K-Ar Isochron Dating Method for Planetary Landers: Isochron Analysis of Natural Rocks \[#4038\]](#)
 End-to-end experiments show the capability of K-Ar isochron dating with a LIBS-QMS combination. Isochron analyses of two natural rocks exhibit the K-Ar ages consistent with their known ages.
- 4:50 p.m. Anderson F. S. * Whitaker T. J. Levine J. Beck S.
[Lead-Lead and Rubidium-Strontium In Situ Dating Using the Chemistry, Organics, and Dating Experiment \(CODEX\) \[#4111\]](#)
 We describe new results for Pb-Pb dating, and progress on laser development, for the Pb-Pb and Rb-Sr measuring, organics detecting, and elemental abundance mapping Chemistry, Organics, and Dating Experiment (CODEX) instrument.
- 5:05 p.m. Cohen B. A. *
[The Potassium-Argon Laser Experiment \(KArLE\): In Situ Geochronology for Planetary Missions \[#4051\]](#)
 KArLE is intended to yield in situ geochronology data and enhance functionality of existing flight instruments using flight hardware that would be reliable, reconfigurable and adaptable to multiple partner instruments and mission architectures.
- 5:20 p.m. Glavin D. P. * Malespin C. A. ten Kate I. L. McAdam A. Getty S. A. Mumm E.
 Franz H. B. Southard A. E. Bleacher J. E. Mahaffy P. R.
[Volatile Analysis by Pyrolysis of Regolith \(VAPoR\) for Planetary Resource Prospecting \[#4002\]](#)
 The Volatile Analysis by Pyrolysis of Regolith (VAPoR) instrument is a pyrolysis mass spectrometer designed to measure the abundance of water and other volatiles released from solids that are heated to temperatures up to 1400C.