Wednesday, October 26, 2016
NEW TECHNOLOGIES FOR INSTRUMENTS
1:30 p.m. International East

Chair: Glenn Sellar

1:30 p.m. Cochrane C. J. * Blacksberg J.
Self-Calibrating Solid-State SiC Magnetometer for Planetary Field Mapping **[#4039]**
We report on the initial stages of development of a new solid-state SiC magnetometer (SiCMag) intended for planetary field mapping. SiCMag measures magnetic field induced changes in spin dependent recombination current within a SiC pn junction.

1:45 p.m. Korth H. * Strohbehn K. Kitching J.
Miniature Dual-Mode Absolute Scalar Magnetometer Based on the Rubidium Isotope ^{87}Rb **[#4073]**
Miniaturized absolute scalar magnetometer based on the rubidium isotope ^{87}Rb takes advantage of recent breakthroughs in micro-fabricated atomic devices, has a total mass of 210 g and uses <1 W of power, and maintains a sensitivity of 0.1 nT rms.

2:00 p.m. Ogasawara K. * Allegrini F. Desai M. I. Livi S. A.
Novel Solid-State Devices as Timing Detectors for Ion Time-of-Flight Measurements **[#4049]**
This study reports on the performance of Avalanche Photodiode (APD) and Multi-Pixel Photon Counter (MPPC) as timing detectors for ion time-of-flight mass spectroscopy. APDs detect >10 keV ions directly, while MPPCs detect sub-keV secondary electrons.

2:15 p.m. Lucey P. G. * Wright R. Honnibal C. Crites S. T. Cahill J. Greenhagen B. T. Glotch T.
Spatial Interferometers for Remote Sensing and In Situ Analysis **[#4024]**
Spatial interferometers allow low power hyperspectral imaging for remote sensing and in situ analysis. Over 20 years of experience with this technology will be summarized in under 20 minutes.

2:30 p.m. Moore T. Z. * Retherford K. D. Davis M. W. Raut U. Mandt K. E.
Mason J. D. Yakovlev V. V.
High Sensitivity Planetary Composition Measurements Using Integrating Cavity Enhanced Spectroscopy **[#4108]**
The desire to understand planetary atmospheres, terrestrial chemistry, or search for potential biological markers often involves optical spectroscopy. We present a new approach to planetary instrumentation based on a novel integrating cavity.

2:45 p.m. *Coffee Break*