Tuesday, February 28, 2017
MECHANISMS OF CHONDRULE FORMATION
2:00 p.m. Flett Theatre

This session discusses the various mechanisms proposed for chondrule formation.

Chairs: **Melissa Morris**
Brandon Johnson

2:00 p.m. Morris M. A. * Boley A. C.
Formation of Chondrules by Shock Waves **[#2022]**
We describe and assess current shock models for chondrule formation, particularly those driven by gravitational disk instabilities and bow shocks. We discuss predictions made by shock models and further work needed.

2:30 p.m. Hubbard A. I. * Ebel D. S.
Combining Dynamical and Cosmochemical Constraints on the Processes of Chondrule Formation: Layered Disks **[#2036]**
Dynamics and cosmochemistry imply that the chondrule formation region was close to, but separate from, the parent body formation region. That points to a layered disk scenario with chondrules forming at the surface and settling to a cool midplane.

3:00 p.m. Johansen A. * Okuzumi S.
Harvesting the Decay Energy of 26-Al to Drive Lightning Discharge and Chondrule Formation **[#2012]**
We demonstrate that positrons released in the decay of 26-Al cause large-scale charging of dense pebble regions. The charge separation is neutralized by lightning discharge and this can lead to the formation of chondrules.

3:30 p.m. BREAK

4:00 p.m. Johnson B. C. * Ciesla F. J. Dullemond C. P. Melosh H. J.
Formation of Chondrules by Planetesimal Collision **[#2018]**
We explore the hypothesis that chondrules were formed by impacts between growing planetesimals.

4:30 p.m. Sanders I. S. *
Making Chondrules from Molten Planetesimals **[#2021]**
Making chondrules by splashing molten planetesimals remains a viable model, but nucleosynthetic complementarity in CVs invites exploration of plume dynamics.

5:00 p.m. Lichtenberg T. * Golabek G. J. Dullemond C. P. Schönbächler M. Gerya T. V. Meyer M. R.
A Thermo-Mechanical 'Goldilocks' Regime for Impact Splash Chondrule Formation **[#2041]**
We present a new chondrule formation scenario where chondrules originate from the collision aftermath of small, partially molten planetesimals, which poses strong constraints on the formation conditions of the first planetesimal families.

5:15 p.m. Herbst W. * Greenwood J. P.
The Radiative Heating Model for Chondrule and Chondrite Formation **[#2011]**
We show that chondrules can form when pre-existing aggregates of solids of m-size, or smaller, are sintered by exposure to hot lava at the surfaces of molten planetesimals during close fly-bys. Chondrite lithification may accompany these events.

5:30 p.m. *Discussion on Chondrule Formation Models*

5:50 p.m. Connolly H. C. * Krot A. N. Russell S. S.
Summary of the Meeting