Physics
AT QUEENS COLLEGE

Colloquium Notice

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Contributions to the Galactic halo from in-situ, kicked-out, and accreted stars

Where did stars in the Milky Way's halo form? The LCDM model predicts that the Milky Way's halo was built in a "bottom-up" fashion, and this view is now generally accepted due to overwhelming evidence of the relics of past mergers. It is still uncertain, however, what fraction of the halo is made up of such accreted debris. Close to the time of accretion, a group of stars formed in a particular satellite of the Milky Way will show coherence spatially, kinematically, and chemically. In the inner halo where dynamical timescales are short, spatial coherence will become blurred quickly, although kinematical and chemical coherence remain. Kinematics alone may still lead to ambiguity, as a merger event can cause stars formed in the Milky Way to redistribute into rings in the halo ("kicked out" disk stars) and these rings can be difficult to distinguish from accreted satellite stars. Thus, to get a more complete profile of a star's formation history, both kinematical and chemical information are needed.

I will report chemical abundances for a sample of M giants in the inner halo of the Milky Way. Abundances are derived for a-elements and neutron capture elements. By analyzing the multi-dimensional abundance space, the formation site of the halo giants – in-situ, kicked-out disk, or accreted – can be assessed. Additionally, I will report results from a study to understand the origin of a diffuse cloud of stars known as Triangulum-Andromeda.

Monday
November 16, 2015
Starts at 12:15 PM
Coffee at 12:00 PM
Physics Conference Room, SB B326