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Stellar Archeology : Chemical Compositions and Kinematics BAYARD STRINGER, University of Utah, BRUCE CARNEY, University of North Carolina at Chapel Hill — The Λ-CDM model of cosmology predicts a hierarchical formation mechanism of galaxies, with smaller units accreting to construct larger ones. The detection of merger events in external galaxies is well known, and the detection and analysis of merger remnants in the Milky Way is a key component in piecing together the history of our home galaxy. Statistical analyses of stellar kinematics in the solar neighborhood reveal much kinematic structure in the Galactic disk, but it is not readily apparent whether this structure is extragalactic or dynamical in origin. The most prominent structures are quickly identified as well known moving groups of stars such as the Hercules, Sirius, and Hyades stellar streams. Additionally, a subset of kinematically selected stars observed at McDonald Observatory are members of a stellar stream putatively identified by Amina Helmi as part of a merger remnant. A semi-automated, high resolution spectral analysis is applied to 504 F and G dwarf stars, and the results are amenable to Kolmogorov-Smirnov membership hypothesis testing. In all four cases, the kinematic streams have chemistries roughly consistent with the Galactic disk trends, although the statistical analyses suggest some subtle differences.

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