1125-05-2113 **Heather D Jordon*** (hjordon@albion.edu) and **Genevieve Newkirk**. *4-Cycle Decompositions of Complete 3-Uniform Hypergraphs.* Preliminary report.

A 3-uniform complete hypergraph of order n has vertex set $\{1, 2, \ldots, n\}$ and, as its edge set, the set of all possible subsets of size 3. A 4-cycle $v_1, e_1, v_2, e_2, v_3, e_3, v_4, e_4, v_1$ in this hypergraph, where each v_i is a vertex and each e_i is an edge, has the property that $v_i, v_{i+1} \in e_i$ for $i = 1, 2, 3$ and $v_4, v_1 \in e_4$, also known as a Berge cycle. A decomposition of a hypergraph is a partition of its edge set into edge-disjoint subsets. In this talk, we investigate decompositions of the 3-uniform complete hypergraph of order n into 4-cycles. (Received September 19, 2016)