1145-00-1949 **Rachel V Barber*** (`rvb41@msstate.edu`) and **Edward Dobson** (`ted.dobson@upr.si`). *When Graphs are Wreath Products.* Preliminary report.

We provide necessary and sufficient conditions needed to determine when a Cayley Graph of a group G is isomorphic to a nontrivial wreath product of two vertex-transitive digraphs of smaller order. We consider the G-invariant partition formed by the left cosets of a subgroup $H < G$, and conditions on the connection set, S. $\mathrm{Cay}(G, S)$ is isomorphic to the wreath product of a coset digraph and a Cayley digraph. We provide preliminary results of our research into the conditions needed to determine when a coset digraph is isomorphic to a nontrivial wreath product. (Received September 24, 2018)