1145-05-387   **Jenny Kaufmann*** (`jennak@princeton.edu`) and **Maria Chudnovsky**. *The Structure of Fork-Free C_4-Free Graphs.* Preliminary report.

A *claw* is the star graph $K_{1,3}$. A *fork* is the five-vertex tree with exactly three leaves; i.e. the graph obtained by adding a pendant edge to a claw. A graph is *H-free* if it contains no induced subgraphs isomorphic to H. A *hole* is a cycle C_n with $n > 3$. A graph is called *chordal* if it is hole-free. This talk will present a set of four simple operations that can be used to construct fork-free C_4-free graphs out of claw-free C_4-free subgraphs. In particular, we show that a graph G is fork-free and C_4-free if and only if it can be constructed by starting with a claw-free C_4-free subgraph $G_0 \subseteq G$ and applying a sequence of these operations. Furthermore, the operations preserve the number of holes in the graph, and hence G is chordal if and only if G_0 is chordal. (Received September 15, 2018)