1105-05-181 **Craig Larson*** (clarson@vcu.edu), Department of Mathematics, 4106 Grace E. Harris Hall, 1015 Floyd Avenue, Richmond, VA 23284, and **Nico Van Cleemput** (nico.vancleemput@gmail.com), Departmentment of Mathematics, European Centre of Excellence NTIS, Univerzitni 8, 306 14 Plzen, Czech Rep. *Automated Property-relations Conjectures for Graph Theory.*

We will describe preliminary results and the use of a new open source program for making properties-relations conjectures about graphs.

Our primary example will be the generation of conjectures for necessary and sufficient conditions for the existence of a hamilton cycle in a graph.

A new feature of the program is the ability to add existing theory and a guarantee that the produced conjectures are not implied by this theory. (Received September 19, 2014)