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**Emily Marshall\*** (emarshall@lsu.edu) and **Guoli Ding**. *Minors in 3-connected planar nonhamiltonian graphs*. Preliminary report.

Hamilton cycles in graphs can be hard to find, and there is a large body of research that outlines sufficient conditions for the existence of such a cycle. For graphs on the plane, Whitney proved that all 4-connected triangulations are Hamiltonian and this result was later strengthened by Tutte to all 4-connected planar graphs. This talk approaches the problem from the other direction by looking instead at non-Hamiltonian graphs. It is known that not all 3-connected planar graphs are Hamiltonian and the Herschel graph is the smallest example. We focus on 3-connected planar non-Hamiltonian graphs and report on progress towards proving the existence of a Herschel minor in all such graphs with an initial restriction to triangulations. (Received September 11, 2016)