Combinatorics and Graph Theory Seminar

Wednesday, September 10, 2014

3:00 pm-3:50 pm in Hume 331

Characterizing 3-connected binary matroids with no P_9-minor

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ABSTRACT Kuratowski's Theorem states that a graph is planar if any only if it has no minor that is isomorphic to $K_{3,3}$ or K_5. Mayhew, Royle and Whittle characterize internally 4-connected binary matroids with no $M(K_{3,3})$-minor. Oxley characterizes 3-connected binary matroids without any P_9- or P_9^*-minor. In this paper, we give a complete characterization of 3-connected binary matroids with no P_9-minor. Such a matroid is either one of the non-regular minors of a special 16-element matroid Y_{16}; a 3-connected regular matroid; a binary spike with rank at least four; or is a matroid in an infinite class of matroids called starfishes. This is joint work with Guoli Ding at LSU.

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