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Haidong Wu* (hwu@olemiss.edu), Department of Mathematics, University of Mississippi, Oxford, MS 38655. *Non-separating cocircuits in binary matroids.*

In this talk, I will present some results on non-separating cocircuits in binary matroids. We give a best possible bound on the number of non-separating cocircuits in simple and cosimple binary matroids. We also give a best possible bound on the number of non-separating triads in minimally 3-connected binary matroids. Moreover, we obtain a characterization of minimally 3-connected binary matroids by generalizing a graph result of Dawes (*J. Combin. Theory Ser. B* **40**, (1986), 159-168). Finally, we give a counterexample of a conjecture of Wagner on minor-minimally 3-connected matroids. This is partially joint work with Anderson, McNulty, and Reid, respectively. (Received September 05, 2007)