1038-05-192   **Tao Jiang*** (`jiangt@muohio.edu`), Department of Mathematics and Statistics, Miami University, Oxford, OH. *Properly colored cycles in edge-colored graphs.* Preliminary report.

We are interested in color patterns forced in edge-colorings of a host graph satisfying certain constrants. Such problems are inspired by the Canonical Ramsey Theorem. In this talk we focus on cycles, which as in the Turan problem form a degenerate case which is key to our understanding. We sketch a proof of a conjecture by Aexnovich, the speaker, and Tuza that for each k there is a constant λ_k depending only on k such that for large enough n in every edge-coloring of K_n in which at least λ_k different colors are used at each vertex one can always find a properly colored cycle of length exactly k. The value of λ_k given in the proof is large. It remains an interesting problem to find better bounds on λ_k. (Received February 13, 2008)