1147-05-330 **John Gimbel**, **Andre Kundgen*** (akundgen@csusm.edu) and **Mike Molloy**. *Fractional cocolorings of graphs.*

The cochromatic number of a graph G is the fewest number of colors needed to color the vertices of G so that the vertices of each color form a clique or an independent set. In this talk we consider the linear programming relaxation of this graph parameter, defined as follows.

In a *fractional cocoloring* of a graph G we assign a non-negative weight to each clique and independent set so that for each vertex v, the sum of the weights of all the cliques and independent sets containing v is at least one. The smallest total weight of such a fractional cocoloring is the *fractional cochromatic number* of G.

We compare fractional chromatic and fractional cochromatic numbers for families of graphs such as triangle-free graphs and graphs on a fixed surface. (Received January 19, 2019)