

# On blockers and transversals

*Date:* Tuesday November 11, 2008

*Time:* 5 p.m.

*Location:* 303 Mudd

*Abstract:* Given an undirected graph  $G = (V, E)$  with matching number  $\nu(G)$ , we define  $d$ -blockers as subsets of edges  $B$  such that  $\nu((V, E \setminus B)) \leq \nu(G) - d$ . We define  $d$ -transversals  $T$  as subsets of edges such that every maximum matching  $M$  has  $|M \cap T| \geq d$ . We explore connections between  $d$ -blockers and  $d$ -transversals. Special classes of graphs are examined which include complete graphs, regular bipartite graphs, chains, cycles and grid graphs and we construct minimum  $d$ -transversals and/or  $d$ -blockers in these special graphs.