Meeting: 1002, Pittsburgh, Pennsylvania, SS 8A, Special Session on Graph Polynomials

1002-05-86 **Kimberly J Burch*** (burch@pegasus.montclair.edu), 1 University Ave, Montclair, NJ 07043, and **Earl Glen Whitehead, Jr.** (egw1@pitt.edu), 301 Thackeray Hall, Pittsburgh, PA 15260.

Totally Matchable Graphs.

Let G be a graph with vertex set $V(G)$. G contains a *perfect matching* if there exists a set of disjoint edges of G such that the union of their vertices is $V(G)$. G is said to be *totally matchable* if for every edge e in G, there exists a perfect matching of G containing e. We present several types of graphs and prove that they are totally matchable. We also examine necessary and sufficient conditions for a graph to be totally matchable. (Received September 02, 2004)