1106-VN-2277 **Susan C. White*** (scwhite@bellarmine.edu), Mathematics Department, Bellarmine University, 2001 Newburg Road, Louisville, KY 40205, and **Adam S. Jobson** and **André E. Kézdy**.
Connected Matchings in Chordal Bipartite Graphs.

A connected matching M in a graph G is a collection of pairwise disjoint edges such that every pair of edges of M is joined by an edge of G. Motivated by applications to Hadwiger's conjecture, Plummer, Stiebitz, and Toft introduced connected matchings and proved that, given a positive integer k, determining whether a graph has a connected matching of size at least k is NP-complete. Cameron proved that this problem remains NP-complete on bipartite graphs, but can be solved in polynomial-time on chordal graphs. We present a polynomial-time algorithm that finds a maximum connected matching in a chordal bipartite graph. We give several applications of the algorithm, including computing the Hadwiger number of a chordal bipartite graph. (Received September 16, 2014)