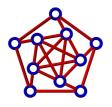
IWOCA 2009



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Invited lecture

BRANCHING SYSTEMS

JACK EDMONDS

For a digraph G = (V, E) with a specified subset R(j) of V, its nodes, a branching B(j) rooted at R(j) is a forest in G such that for each node u in V - R(j) there is exactly one edge of B(j) entering u. A branching system B = [B(j) : jinJ] is a collection of edge-disjoint branchings, with specified root-sets, in G. Given costs c(i) on the edges i of G, and given root sets R(j), we survey the use of matroids to find a least cost branching system, B. Suggested background is Schrijver's 'Combinatorial Optimization'.