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Title:
Symmetry in Integer Programming

Abstract:
This talk will focus on solving integer programs whose feasible regions are highly symmetric. Symmetry has long been recognized as a curse when solving integer programs, and auxiliary (often extended) formulations are sought to reduce the amount of symmetry in an Integer Programming (IP) formulation. If not properly addressed, branch-and-bound trees for highly symmetric problems can contain many thousands of nodes representing equivalent subproblems. Solving each of these subproblems results in a tremendous waste of computational resources and can make what should be very simple problems impossible to solve.