

Stochastic Integer Programming

Stochastic integer programming (SIP) problems combine the power of integer decision variables for modeling discrete decisions and logical relationships with the power of stochastic programming for operating, planning, and designing systems under uncertainty. Because of this combination, SIP can be useful in a wide range of applications including power grid operation, generator scheduling, and wind farm design. These combined powers also lead to models that can be difficult to solve directly. In this tutorial we will introduce several classical approaches for solving SMIP problems and touch on a few recent developments.