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## Complementarity Problems and Applications

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While optimizers are familiar with complementary slackness as the optimality conditions of linear and nonlinear programming, complementarity problems arise naturally in many practical applications from engineering and economics. Examples include applied general equilibrium modeling, traffic network design, structural engineering and finance. Several examples will be outlined, together with an overview of modeling and solution techniques.

Recent interest in optimization problems with complementarity constraints, or the more general class of MPEC's has rekindled the interest in nonlinear programming approaches to treat complementarity conditions. We outline basic ideas, highlight several computational schemes and explain their utility by application.