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Some recent advances in mixed-integer nonlinear optimization

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Mixed Integer Nonlinear Optimization is the optimization of a nonlinear function over a feasible set described by nonlinear functions and integrality constraints. We will review some of the main algorithmic techniques that are employed in commercial solvers. We will focus in particular on two recent works that address global solution of non-convex mixed integer optimization problems: cuts from the binary quadric polytope and max-clique inequalities.