Subgradient based solution method in nonconvex optimization

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This talk presents the modified subgradient algorithm for solving constrained optimization problems without convexity and differentiability conditions. This method is based on the sharp augmented Lagrangian duality scheme where the zero duality gap condition is given in terms of weak subgradients. To update the dual variables, the direction of a subgradient of the dual function is used. The presented work relaxes the condition on the use of global optimal solutions of the subproblem at every iteration and proves the convergence theorem. The performance of the method is demonstrated on test problems and computational results are reported.