

**Benson, Hande Y.; Vanderbei, Robert J.**

**Solving problems with semidefinite and related constraints using interior-point methods for nonlinear programming.** (English) [Zbl 1030.90138](#)

Math. Program. 95, No. 2 (B), 279-302 (2003).

Summary: In this paper, we describe how to reformulate a problem that has second-order cone and/or semidefiniteness constraints in order to solve it using a general-purpose interior-point algorithm for nonlinear programming. The resulting problems are smooth and convex, and numerical results from the DIMACS Implementation Challenge problems and SDPLib are provided.

**MSC:**

[90C51](#) Interior-point methods  
[90C30](#) Nonlinear programming  
[90C22](#) Semidefinite programming

Cited in **1** Review  
Cited in **14** Documents

**Keywords:**

[second-order cone programming](#)

**Software:**

[SeDuMi](#); [SDPLIB](#)

**Full Text:** [DOI](#)