

Yin, Zhang; Tewarson, R. P.

Least-change updates to Cholesky factors subject to the nonlinear quasi-Newton condition.

(English) [Zbl 0636.65061](#)

IMA J. Numer. Anal. 7, 509-521 (1987).

The authors investigate the derivation of least-change updates [cf. *J. E. Dennis jun.* and *R. B. Schnabel*, SIAM Rev. 21, 443-459 (1979; [Zbl 0424.65020](#))] to the Cholesky factors of approximate Hessian matrices in quasi-Newton methods for unconstrained optimization. By considering a variational problem in the weighted Frobenius norm, they obtain explicit formulae for the least-change updates.

Reviewer: [J.Parida](#)

MSC:

[65K05](#) Numerical mathematical programming methods

[90C30](#) Nonlinear programming

Cited in **3** Documents

Keywords:

least-change updates; Cholesky factors; Hessian matrices; quasi-Newton methods; unconstrained optimization; Frobenius norm

Full Text: [DOI](#)