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THE MINIMUM-NORM LEAST-SQUARES SOLUTION OF A LINEAR SYSTEM AND SYMMETRIC RANK-ONE UPDATES*

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Abstract. In this paper, we study the Moore-Penrose inverse of a symmetric rank-one perturbed matrix from which a finite method is proposed for the minimum-norm least-squares solution to the system of linear equations Ax = b. This method is guaranteed to produce the required result.

Key words. Finite method, Linear system, Moore-Penrose inverse, Symmetric rank-one update.

AMS subject classifications. 15A06, 15A09, 65F05.

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