

METHODS FOR INFLUENCE COEFFICIENTS MATRIX INVERSION IN ELASTIC CONTACT PROBLEMS

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Abstract: Together with variational methods, inversion of influence coefficients matrix is one of the most common methods used in solving digitized elastic contact models. The numerical approach allows for considering engineering important arbitrary contact geometries. This paper investigates precision and computational efficiency of different methods for solving the arising systems of equations. For all cases, a good agreement between numerical predictions and existing analytical results is found.

An Evans symmetric successive overrelaxation (SSOR) preconditioner, [7] was used together with the conjugate gradient routine, Fig. 1.

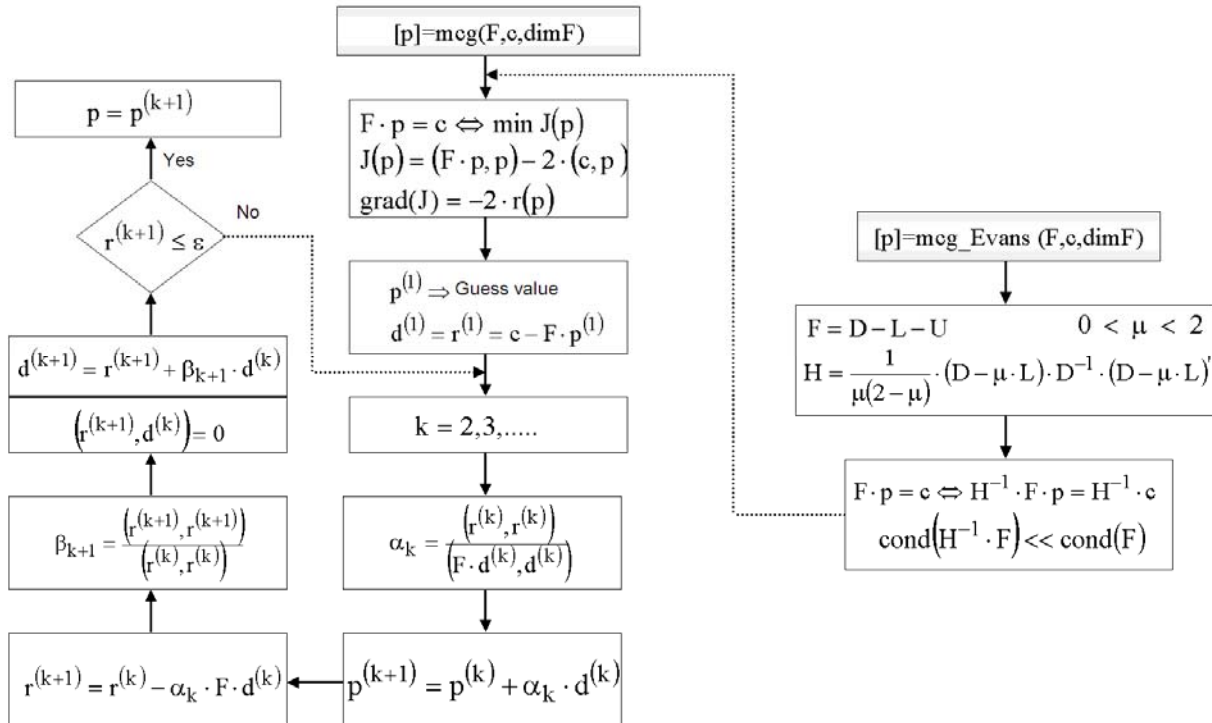


Fig. 1. Flow chart for the conjugate gradient method with Evans preconditioning

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