A Multistep Broyden's-Type Method for Solving Systems of Nonlinear Equations

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Abstract : The paper proposes an approach to improve the performance of Broyden's method for solving systems of nonlinear equations. In this work, we consider the information from two preceding iterates rather than a single preceding iterate to update the Broyden's matrix that will produce a better approximation of the Jacobian matrix in each iteration. The numerical results verify that the proposed method has clearly enhanced the numerical performance of Broyden's Method.