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Computational capability of CGM algorithm

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ABSTRACT. The convergence rate of CGM algorithm is investigated numerically in this work and it is compared with FMFP. In particular the Extended Conjugate Gradient Method (ECGM) formulated by Ibiejugba et al. which is the consequence of CGM algorithm and the Function Space Algorithm (FSA) due to Di Pillo et al. are used to solve, numerically, some continuous cost functional that cannot be handled by the conventional CGM algorithm directly. The quadratic rate of convergence of CGM algorithm is established numerically and the experiment shows the superiority of ECGM algorithm over FSA algorithm.

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