An efficient two-step iterative method with fifth-order convergence for solving non-linear equations

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Abstract. In this paper, we propose a new modification two-step iterative methods for finding simple roots of nonlinear equation in a single variable. The new method is based on Chebychev-Halley method and Newton's method of third-order. Analysis of convergence shows that the new method have fifth-order convergence. The experimental results and comparison confirm that the new method is efficient.

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