

## A NEW FAMILY OF MODIFIED NEWTON METHODS WITH CUBIC CONVERGENCE

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**Abstract.** In this paper, we present a new family of modified Newton methods, which includes, as particular cases, some known results. It is proved that each method in the family is cubically convergent. A general error analysis is given, and the computational efficiency in term of function evaluations is provided. Numerical illustrations are given to compare the proposed methods with some other methods of the same kind.

**Key Words and Phrases:** Newton's method, order of convergence, iterative method, nonlinear equations, computational efficiency.

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