Third order iterative methods without using any Fréchet derivative

A modification of classical third order methods is proposed. The main advantage of these methods is they do not need evaluate any Fréchet derivative. A convergence theorem in Banach spaces, just assuming the second divided difference is bounded and a punctual condition, is analyzed. Finally, some numerical results are presented.

Key Words. Iterative methods, nonlinear equations, Banach spaces.

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