Third order iterative methods without using second Fréchet derivative

A modification of classical third order methods is proposed. The main advantage of these methods is they do not need evaluate any second order Fréchet derivative. A convergence theorem in Banach spaces is analyzed. Finally, some preliminary numerical results are presented.

Key Words. Nonlinear equations in Banach spaces, third-order iterations, divided differences.

AMS(MOS) subject classifications. 47H17, 65J15