**Summary:** We introduce a new concept of convergence for iterative methods, named restricted global convergence, that consists of locating a solution and obtaining a domain of global convergence. As a consequence, results of semilocal convergence and local convergence are obtained. For this, we use auxiliary points and obtain balls of convergence. The study is illustrated with Chebyshev’s method.

**MSC:**

- 35J60 Nonlinear elliptic equations
- 47H99 Nonlinear operators and their properties
- 65J15 Numerical solutions to equations with nonlinear operators

**Keywords:**

- convergence for iterative methods
- Chebyshev’s method

**Full Text:** DOI

**References:**


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