Attracting Periodic Orbits of some Classical Third Order Iterative Methods

In this paper, we shall use a family of iterative methods to find roots to non–linear equations and present a procedure to construct polynomials in such a way that superattracting periodic orbits of any prescribed period will occur when these iterative methods are applied. The family includes Chebyshev's method, Halley's method, Super-Halley's method and Newton's method as the limit case.