

The Pseudo-Transient Continuation Method for Solving Nonlinear Equations

Abstract: Pseudo-transient continuation is a method for finding dynamically stable solutions of nonlinear equations. The approach mimics temporal integration, but uses large time steps toward the end of avoiding the cost of a fully time-accurate simulation. In this talk we will compare pseudo-transient continuation to conventional damped Newton method approaches, discuss convergence results and time step control, and present some examples.