MINI-CONFERENCE Path Following and Boundary Value Problems: A Continuing Influence in Dynamics on the occasion of Eusebius Doedel's 60th birthday July 6–7, 2007

Computing multiple time scale dynamical systems

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Abstract

Collocation and continuation methods are an effective tool for following the evolution of periodic orbits of dynamical systems and for computing their bifurcations. Application of these methods to relaxation oscillations (periodic orbits with multiple time scales) encounters technical problems. This lecture will discuss these problems, present examples and suggest strategies for coping with unresolved issues.