

SINGULAR PERTURBATION AND MULTI-SCALE TIME MODELING

Ivo Marek Czech Technical University
Faculty of Civil Engineering
Thákurova 7, 166 29 Praha 6
Czech Republic
(marek@ms.mff.cuni.cz).

Abstract

The purpose of this contribution is to present a method to model various multi-scale time effects in transforming a given matter into another kind of it. Such a transformation can be interpreted as a production of a "new" material on basis of the "old" one. In mathematical language our approach is a kind of singular perturbation method of investigating certain type of dynamical systems. Asymptotic behavior and periodicity are of main interest.