

ODE software (W. Enright)

Wayne H. Enright
enright@cs.utoronto.ca
University of Toronto, Canada

Abstract

Software for ODEs must continually evolve to reflect the changing nature of the user community, the evolution of new problem solving environments (both hardware and software) and improvements in algorithms. While the traditional focus in the literature and the research community has been on the latter, if our software is to be used by practitioners we must be aware of all these aspects when we develop and distribute software for ODEs. In this minisymposium we will survey some recent developments which have led to new algorithms or significant improvements to existing algorithms. The presentations by Gladwell and Cash are of this nature. In the presentation by Shampine he presents an analysis which provides justification and new insights into the heuristics used to change order in multistep methods (a critical component of this important class of methods). In the presentation of Thompson the importance of the interface design is identified as being critical if the resulting software is to be used in a PSE. Convenience of use and the need for interactive graphical viewing of results imposes constraints and trade-offs which are investigated.