Adapted numerical schemes for differential problems

Giovanni Pagano @ (Department of Mathematics, University of Salerno),
Dajana Conte, Beatrice Paternoster

We consider differential problems deriving from applications in real phenomena [1, 2], where some characteristics and properties of the exact solution are a-priori known. Our aim is to develop numerical techniques that are able to preserve such features [3, 4] and that have excellent stability properties [5, 6]. In particular, we will focus on stiff differential problems, whose exact solution is positive and/or oscillates with known frequency. Numerical tests will be shown in order to confirm the efficiency, stability and accuracy of the proposed numerical methods.

References


