Adapted numerical schemes for differential problems

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R 1.23 Wed Z3 10:50-11:00

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

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