

Recent Advances in the Parallel Solution in Time of ODEs

Pierluigi Amodio* Luigi Brugnano[†]

Abstract

The parallel solution of initial value problems for ordinary differential equations (ODE-IVPs) has been a very active field of investigation in the past years. In general, the possibility of using parallel computing in this setting concerns different aspects of the numerical solution of ODEs, depending on the parallel platform to be used and/or the complexity of the problem to be solved. In this talk we review possible extensions of a parallel method, previously proposed in the mid-nineties [1,2], which have been recently published in [3]. Moreover, we analyze its connections with subsequent approaches to the parallel solution of ODE-IVPs, in particular the “Parareal” algorithm proposed in [4,5].

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*Dipartimento di Matematica, Via Orabona 4 , 70125 Bari (Italy),
e-mail: amodio@dm.uniba.it

[†]Dipartimento di Matematica “U. Dini”, Viale Morgagni 67/A, 50134 Firenze (Italy),
e-mail: luigi.brugnano@unifi.it