

论文

一类求解刚性常微分方程的多步插值法及其平行实现

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摘要:

关键词:

A CLASS OF MULTISTEP INTERPOLATION METHODS FOR SOLVING STIFF ORDINARY DIFFERENTIAL EQUATIONS &PARALLEL IMPLEMENTATION

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Abstract:

In this paper, we combine implicit RK method with implicit linear multistep method to propose a class of multistep interpolation methods which make use of the derivatives at the point of t_{j-k+j} ($j = 1, 2, \dots, k-1$) and base on general multistep method proposed in [1]. By choosing free parameters in these methods we can make them stable, parallel. The other advantages are their high orders and less computation. Numerical experiments show that these methods are more efficient in solving stiff ODE than implicit method, implicit linear multistep method and multistep RK method

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