

“Look-ahead” linear multistep methods with the second derivative evaluation

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Abstract

Recently we proposed a new class of discrete variable methods, “look-ahead” linear multistep method (LALMM), for numerical solution of initial value problems for ordinary differential equations. In the talk we try to extend it for combining with the second derivative evaluation, block methods and the collocation idea. We will show its possibilities by providing some pairs of LALMM as well as their numerical experiments.