

Original Articles

A Class of Multiderivative Hybrid One-step Methods

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摘要 This paper presents a class of hybrid one-step methods that are obtained by using Cramer's rule and rational approximation to function $\exp(q)$. The algorithms fall into the catalogue of implicit formula, which involves sth order derivative and $s+1$ free parameters. The order of the algorithms satisfies $s+1 \leq 2s+2$. The stability of the methods is also studied, necessary and sufficient conditions for A-stability and L-stability are given. In addition, some examples are also given to demonstrate the method presented.

关键词 [hybrid one-step method](#) [rational approximation](#)

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Key words [hybrid one-step method](#) [rational approximation](#)

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