

*On the construction of numerical integrators for ODEs based on
the linear barycentric rational interpolants*

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The designing of traditional numerical integrators for ODEs are usually based on customary polynomial interpolants. Using of linear barycentric rational interpolants is an efficiency technique which leads to the construction of numerical methods with better accuracy and stability properties. In this talk, we introduce some family of classes of the first and second derivative multistep methods. The convergence, accuracy and stability properties of the constructed methods are discussed and verified by the numerical experiments.