Modified Line Integral Methods for conservative problems with multiple invariants

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Abstract

Line Integral Methods aim at conserving invariants of conservative problems, through the use of suitable *discrete line integrals* [7, 8, 9]. They resulted, at first, in the class of energy-conserving Runge-Kutta methods named *HBVMs* [3, 4], for polynomial Hamiltonian dynamical systems. Later on, a number of extension of such methods have been derived, by following different routes [1, 2, 5, 6], aimed at conserving multiple invariants. In this paper we briefly review such extensions, also presenting a new one, still derived in the same framework.

References

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