

ACCUMULATION OF GLOBAL ERROR IN LIE GROUP METHODS FOR LINEAR ORDINARY DIFFERENTIAL EQUATIONS*

BOJAN OREL[†]

Abstract. In this paper we will investigate how the local errors accumulate to the global error in Lie group methods for linear ODEs. The concept of the local and global errors has to be redefined to fit in the framework of Lie groups and algebras. Formulas for tracking the global error are proposed and demonstrated on numerical examples.

Key words. ordinary differential equations, Lie group methods, global error, local error

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[†]Faculty of Computer and Information Science, University of Ljubljana, Tržaška 25, 1000 Ljubljana, Slovenia (bojan.orel@fri.uni-lj.si).