

# Multistage Linear Multistep Formulas

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A class of numerical integration formulas for stiff IVPs is investigated which can be regarded as multistep Diagonally Implicit Runge–Kutta methods (DIRKS) or reformulations of Modified Extended Backward Differentiation Formulas (MEBDFs).  $L$ -stable methods of orders 1 through 5 and  $A(\alpha)$ -stable methods of orders 6 through 8 with angles exceeding  $70^\circ$  are found. A variable-step approach is implemented on a variety of stiff ODEs providing comparative performance results.