Finding the Integration Interval
for Interval Methods of Runge-Kutta Type
in Floating-Point Interval Arithmetic

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Abstract. In order to solve the initial value problem by an interval method of Runge-
-Kutta type we need to determine the integration interval on which the method may
be applied. This paper presents an algorithm for finding such an interval in floating-
-point interval arithmetic, which guarantees the interval will be maximum with re-
spect to the width.