

MR2598780

“Forty-Five Years of A-stability”

by J. C. Butcher

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Review

In seven short sections the author reviews the notion of stiffness, Dahlquist’s definition and motivation for considering A-stable numerical methods, subsequent generalized stability concepts, classical barrier results, and proofs using more recent tools such as order stars and order arrows.

The paper can be recommended as a very direct entry to the literature and could probably also be useful as supplementary classroom material.

MSC 2010 classification: 65L05 (primary); 65L20 (secondary).