

## Stability of hyperbolic boundary value problem approximations in an interval

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We are here interested in the stability of a rather generic class of finite difference schemes approximation for hyperbolic boundary value problems defined in an interval. Although such approximations come in a natural way during the implementations a little is known about their stability in the literature. A well established fact is that because of the two boundary conditions the solution may develop a non trivial exponential growth (with respect to the time parameter), phenomenon which does not occur in the more studied framework of the half-line geometry. In this talk we discuss and characterize the schemes having (or not) this growth. The main tool is the introduction of a discrete Osher type symmetrizer firstly introduced to deal with hyperbolic boundary value problems in the quarter space.