



Lecture Series as part of the elite degree programme Scientific Computing

Date: 29.01.2020 | Time: 4:30 pm | Location: H31, Building FAN B

Coffee/tea from 4:00 pm in front of the S106, FAN C

www.scientific-computing.uni-bayreuth.de

Self adjusting multirate methods for accurate and efficient time discretization of PDEs

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Abstract: After a short general introduction on multirate methods, self adjusting multirate methods based on implicit schemes will be reviewed in greater detail and a general approach for their linear stability analysis will be presented. Specific examples of these methods employing efficient DIRK solvers such as the TR-BDF2 method will also be introduced. A number of numerical experiments will demonstrate the efficiency and accuracy of the resulting approach for the time discretization of partial differential equations, with special focus on systems of hyperbolic equations.

