

Talk announcement

Bogdan Radu
(RICAM)

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15:30, S2 054 and via Zoom

Finite element mass lumping in $H(\text{curl})$

We consider the numerical approximation of Maxwell's equations in time domain by $H(\text{curl})$ conforming finite element discretizations. In order to enable the efficient application of explicit time stepping schemes, we utilize mass-lumping strategies resulting from numerical integration. We introduce in this way first and second accurate methods that are optimal in the number of degrees of freedom. In the end, we discuss extensions to problems in $H(\text{div})$ that also benefit from mass-lumping.