



imat

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Geometric structures underlying mimetic approaches

Mimetic methods, in Electromagnetics, replace 3D-space by a finite element mesh and classical differential operators such as grad, rot, div, by matrices that describe the topology of the mesh, in a consistent way (mobilizing some notions of cohomology and differential geometry). They neatly separate “pre-metric” features of the theory from constitutive laws (expressed as Hodge operators, which encapsulate metric properties). The end result of this process is a system of two interlocked networks, one electric, one magnetic, talking to each other, respectively based on the primal mesh and on its dual.

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Hora	12:30 - 13:30