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Approximation properties of lowest-order hexahedral Raviart–Thomas finite elements. (English. Abridged French version) [Zbl 1071.65148](#)
C. R., Math., Acad. Sci. Paris 340, No. 9, 687–692 (2005).

Summary: Basic interpolation results are settled for lowest-order hexahedral Raviart-Thomas finite elements. Convergence in $H(\text{div})$ is proved for regular families of asymptotically parallelepiped meshes. The need of the asymptotically parallelepiped assumption is demonstrated with a numerical example.

MSC:

- 65N30 Finite element, Rayleigh-Ritz and Galerkin methods for boundary value problems involving PDEs Cited in 5 Documents
- 65N12 Stability and convergence of numerical methods for boundary value problems involving PDEs
- 65N50 Mesh generation, refinement, and adaptive methods for boundary value problems involving PDEs
- 35J25 Boundary value problems for second-order elliptic equations

Keywords:

lowest-order hexahedral Raviart-Thomas finite elements; Convergence; numerical example

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