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**Efficient rectangular mixed finite elements in two and three space variables.** (English)

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RAIRO, Modélisation Math. Anal. Numér. 21, No. 4, 581-604 (1987).

Summary: Two families of mixed finite elements for second order elliptic equations are introduced, one in two variables and the other in three. These rectangular elements are related to ones in two space and in three space studied earlier by the authors. They give the same rates of convergence as the corresponding Raviart-Thomas elements with fewer parameters per rectangle. Hybridization of the mixed method for these elements is considered, and alternating-direction iterative techniques are discussed.

**MSC:**

**65N30** Finite element, Rayleigh-Ritz and Galerkin methods for boundary value problems involving PDEs

**35J25** Boundary value problems for second-order elliptic equations

Cited in **2** Reviews  
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**Keywords:**

mixed finite elements; second order elliptic equations; rectangular elements; rates of convergence; Raviart-Thomas elements; alternating- direction iterative techniques

**Full Text:** [DOI](#) [EuDML](#)

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