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On a bivariate B-spline basis. (English) Zbl 0559.41010
Sci. Sin., Ser. A 27, 1129-1142 (1984).

While there does not exist any nontrivial locally supported bivariate C^{k-1} spline function of degree k on a triangulation refinement Δ_{mn} of a rectangular grid partition for $k \geq 3$, a basis of bivariate C^1 quadratic B-splines with smallest symmetric supports is given when the grid partition is uniform. In addition, B-spline identities which include a generalization of Marsden's identity for univariate splines are given. These identities enable us to give error estimates for approximation from the entire space of C^1 quadratic spline functions with grid partition Δ_{mn} and to give asymptotic formulas.

MSC:

[41A15](#) Spline approximation

[41A25](#) Rate of convergence, degree of approximation

Cited in **1** Review
Cited in **22** Documents

Keywords:

B-spline identities; Marsden's identity for univariate splines; error estimates