

Local and global spline approximation with quasi-interpolants

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ABSTRACT

Quasi-interpolants are the standard tool for both the theoretical analysis of spline approximation properties and for the development of fast and accurate approximation methods. In the tensor-product case they provide local error estimates that are robust with respect to the uniformity of mesh and that imply global error estimates [1].

The quasi-interpolant approach has been extended to different types of locally refinable splines [2, 3, 4, 5, 6]. Unfortunately the proposed quasi-interpolants are less robust with respect to the mesh regularity and/or do not imply global estimates.

A modification of the quasi-interpolant technique with improved robustness and global error estimates will be presented.

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