Multilevel Characterizations of Function Spaces on Skeletons

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Abstract

Function spaces on skeletons arise in the numerical treatment of elliptic boundary value problems by certain domain decomposition methods. In this note, we discuss such function spaces, which can be interpreted as trace spaces. We construct a well–defined trace operator and present a characterization of the trace spaces by means of multilevel expansions.

Key Words: Elliptic boundary value problems, domain decomposition, skeleton, d-set, characterizations of smoothness spaces, wavelets.

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