

Colzani, Leonardo

Approximation in Hardy spaces. (English) Zbl 0558.41017
Ann. Mat. Pura Appl., IV. Ser. 137, 207-215 (1984).

The author studies the extension of the classical Jackson-Bernstein theorems to Hardy spaces $H^p(\mathbb{R}^N)$, $0 < p < \infty$, over the n -dimensional Euclidean space \mathbb{R}^N . Direct and converse theorems are proved on approximation for distributions in a space $\Lambda(p, \mathbb{R}^N)$, the space of all distributions in $H^p(\mathbb{R}^N)$ equipped with a suitable norm, by means of entire- functions of exponential type (the analogue in \mathbb{R}^N of trigonometric polynomials). As consequences of the main theorems, certain results on embedding theorems for spaces $\Lambda(p, \mathbb{R}^N)$ are also deduced.

Reviewer: [G.D.Dikshit](#)

MSC:

- [41A17](#) Inequalities in approximation (Bernstein, Jackson, Nikol'skiĭ-type inequalities)
- [42B30](#) H^p -spaces
- [41A30](#) Approximation by other special function classes
- [41A63](#) Multidimensional problems (should also be assigned at least one other classification number from Section 41-XX)
- [41A65](#) Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)

Cited in **1** Review
Cited in **2** Documents

Keywords:

maximal characterizations; entire functions; Jackson-Bernstein theorems; Hardy spaces; distributions; embedding theorems

Full Text: [DOI](#)

References:

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