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Interpolation with a parameter function. (English) Zbl 0619.46064
Math. Scand. 59, 199-222 (1986).

The (Lions-Peetre) real interpolation spaces $\bar{A}_{\theta,q}$ are defined by using the function norm $\Phi(\phi) = (\int_0^\infty (\phi(t)/t^\theta)^q dt/t)^{1/q}$. By replacing t^θ by a more general (parameter) function $\rho = \rho(t)$ we obtain the spaces $\bar{A}_{\rho,q}$. In this paper we shall point out the fact that most of the classical (and some new) theorems for the spaces $\bar{A}_{\theta,q}$ can be formulated also for the more general spaces $\bar{A}_{\rho,q}$. Sometimes we only need to adjust some recent results to the present situation but sometimes we must give separate proofs of our statements. Every result is given in a form which is very adjusted to immediate applications. This paper can be seen as a follow-up and unification of several results of this kind in the literature.

MSC:

- 46M35** Abstract interpolation of topological vector spaces
- 46E30** Spaces of measurable functions (L^p -spaces, Orlicz spaces, Köthe function spaces, Lorentz spaces, rearrangement invariant spaces, ideal spaces, etc.)

Cited in **49** Documents

Keywords:

parameter function; K-functional; quasi-Banach spaces; real interpolation

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