عنوان مقاله:

On Uncountable Frames and Riesz Bases in Nonseparable Banach Spaces

نویسنده:

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خلاصه مقاله:

Some generalizations of Besselian, Hilbertian systems and frames in nonseparable Banach spaces with respect to some nonseparable Banach space K of systems of scalars are considered in this work. The concepts of uncountable K-Bessel, K-Hilbert systems, K-frames and K^{*}-Riesz bases in nonseparable Banach spaces are introduced. Criteria of uncountable K-Besselianness, K-Hilbertianness for systems, K-frames and unconditional K^{*}-Riesz basicity are found, and the relationship between them is studied. Unlike before, these new facts about Besselian and Hilbertian systems in Hilbert and Banach spaces are proved without using a conjugate system and, in some cases, a completeness of a system. Examples of K-Besselian systems which are not minimal are given. It is proved that every K-Hilbertian systems is minimal. The case where K is an space of systems of coefficients of uncountable unconditional basis of some space is also considered.

کلمات کلیدی:

Nonseparable Banach space, Uncountable unconditional basis, K-Bessel and K-Hilbert systems, K-frames, uncountable unconditional K-Riesz bases