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FRAMES AND RIESZ BASES FOR BANACH SPACES, AND BANACH SPACES OF VECTOR-VALUED SEQUENCES

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ABSTRACT. This paper is devoted to an investigation of frames and Riesz bases for general Banach sequence spaces. We establish various relationships between Bessel (respectively, frames) and Riesz sequences (respectively, Riesz bases), and then some of their applications are presented. Some recent results for Banach frames and atomic decompositions are sharpened with simple proofs. Banach spaces consisting of Bessel or Riesz sequences are introduced and it is shown that they are isometrically isomorphic to some Banach spaces of bounded linear operators, and that some subspaces of those Banach spaces are isometrically isomorphic to some Banach spaces of compact operators.

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