GEOMETRIC PROPERTIES OF BANACH SPACE VALUED BOCHNER–LEBESGUE SPACES WITH VARIABLE EXPONENT

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Abstract. In this paper, the Banach space valued Bochner-Lebesgue spaces with variable exponent are introduced. Then the dual space, the reflexivity, uniformly convexity and uniformly smoothness of these new spaces are obtained. Finally the properties of the Banach valued Bochner-Sobolev spaces with variable exponent are also given. Those are a generalization of scalar valued Lebesgue and Sobolev spaces with variable exponent.

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