ON THE COMPLETENESS OF SOME L^p-SPACES OF OPERATOR-VALUED FUNCTIONS

Lutz Klotz

Abstract: In [3] there were studied Banach spaces of (equivalence classes of) functions Φ whose values are unbounded operators, in general, and which are p-integrable with respect to operator-valued measures having an operator density N with respect to some non-negative scalar measure μ. In the present short note it is shown that the values of all functions Φ are even bounded linear operators if and only if there is not any set A of positive finite measure μ such that the values of N on A have non-closed ranges. The result is used to answer a question raised by Górniak et al. [2].

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