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Abstracts of Short Communications and Posters

Section:

8. Analysis

1991 MS Classification: 47B65
Grobler, Jacobus Potchefstroom University for CHE, South Africa
The polar decomposition of disjointness preserving operators.
It is shown that if E and F are complex Riesz spaces, if T is an order bounded disjointness preserving operator from E into F and if F has the Z-extension property for principal ideals, then there exists an injective orthomorphism $\tilde{S}$ on the ideal generated in F by the range of T such that $Tz = \tilde{S}|T|z$ for all $z \in E$. Moreover, we have that $|\tilde{S}| = I$ and that $\tilde{S}$ can be extended (with retention of properties) to an orthomorphism on F if F is Dedekind complete. The latter result is known and derived by Hahn-Banach extension type theorems.
Reference: P. Meyer-Nieberg, *Banach Lattices*, Springer-Verlag, Berlin Heidelberg New York, 1991.