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On the ideal center of the dual of a Banach lattice

Let X be a Banach lattice. Its ideal center $Z(X)$ is embedded naturally in the ideal center $Z(X')$ of its dual. The embedding may be extended to a contractive algebra and lattice homomorphism of $Z(X)''$ into $Z(X')$. We show that the extension is onto $Z(X')$ if and only if X has a topologically full center (that is, the closure of $Z(X)x$ is the closed ideal generated by each $x \in X$). The result can be generalized to the ideal center of the order dual of an Archemedian Riesz space and in a modified form to the orthomorphisms on the order dual of an Archemedian Riesz space.