

AUTOMATIC CONTINUITY FOR LINEAR SURJECTIVE MAPS COMPRESSING THE POINT SPECTRUM

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Abstract. We prove that if X is a complex Banach space, $\mathcal{A} \subseteq \mathcal{B}(X)$ is a unital standard subalgebra of linear and continuous operators on X and $\varphi : \mathcal{A} \rightarrow \mathcal{A}$ a surjective linear map such that for each $T \in \mathcal{A}$ the point spectrum of $\varphi(T)$ is a subset of the point spectrum of T , then φ is automatically continuous. As a corollary, we prove that a characterization of bilocal automorphisms of \mathcal{A} given by L. Molnár, P. Šemrl and A. R. Sourour can be obtained without any continuity assumption on them.

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