

Title: Additive local invertibility preservers

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Let $\mathcal{L}(X)$ be the algebra of all bounded linear operators on a complex Banach space X , and for a nonzero vector $x \in X$ and $T \in \mathcal{L}(X)$, let $\sigma_T(x)$ denote the local spectrum of T at x . We characterize additive surjective maps ϕ on $\mathcal{L}(X)$ which satisfy $0 \in \sigma_{\phi(T)}(x)$ if and only if $0 \in \sigma_T(x)$ for every $x \in X$ and $T \in \mathcal{L}(X)$. Extensions of this result to the case of different Banach spaces are also established. As application, additive maps from $\mathcal{L}(X)$ onto itself that preserve the inner local spectral radius zero of operators are classified.

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