

LINEAR PRESERVERS ON STRICTLY UPPER TRIANGULAR MATRIX ALGEBRAS

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Abstract. Let $\mathcal{S}_n(\mathbb{F})$ be the algebra of all $n \times n$ strictly upper triangular matrices over a field \mathbb{F} . In this note, we characterize linear maps $\varphi: \mathcal{S}_n(\mathbb{F}) \rightarrow \mathcal{S}_n(\mathbb{F})$, with $|\mathbb{F}| \geq 3$, that preserve the adjugate function; i.e., $\text{adj}(\varphi(A)) = \varphi(\text{adj}(A))$. Also, some results about rank-1 linear/additive preservers on $\mathcal{S}_n(\mathbb{F})$ and, more generally, on block strictly upper triangular algebras are obtained.

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