

ON THE MATRICES THAT PRESERVE THE VALUE OF THE IMMANANT OF THE UPPER TRIANGULAR MATRICES

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Abstract. Let χ be an irreducible character of the symmetric group of degree n , let $M_n(\mathbb{F})$ be the linear space of n -square matrices with elements in the field \mathbb{F} of characteristic zero, let $T_n^U(\mathbb{F})$ be the subset of $M_n(\mathbb{F})$ of the upper triangular matrices and let d_χ be the immanant associated with χ . We denote by $\mathcal{T}(S_n, \chi)$ the set of all $A \in M_n(\mathbb{F})$, such

$$d_\chi(AX) = d_\chi(X),$$

for all $X \in T_n^U(\mathbb{F})$. The purpose of this paper is to present, in some cases, a complete description of the matrices in the set $\mathcal{T}(S_n, \chi)$.

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