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COMMUTING TRIPLES OF MATRICES*

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Abstract. The variety $C(3,n)$ of commuting triples of $n \times n$ matrices over $\mathbb{C}$ is shown to be irreducible for $n = 7$. It had been proved that $C(3,n)$ is reducible for $n \geq 30$, but irreducible for $n \leq 6$. Guralnick and Omladič have conjectured that it is reducible for $n > 7$.

Key words. Irreducible variety of commuting triples, Approximation by generic matrices.

AMS subject classifications. 15A27, 15A30.

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