Instanton bundles on $\mathbb{P}^3$ and their moduli spaces

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Abstract: We recall the basics of the theory of instanton bundles on $\mathbb{P}^3$ and their mysterious moduli spaces $MI(k)$. We emphasize that all the constructions can be performed in the setting of multilinear algebra. Then we survey about some recent results concerning the geometric properties of $MI(k)$ and the natural action of $SL(4)$ on it.