Identities generated by standard polynomials for some matrix algebras with Grassmann entries

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The paper gives a short survey on the standard identities for matrices over the Grassmann algebra E. It exposes author's investigations on the degree minimality of the considered identities in some special matrix algebras. In the case of a finitely generated Grassmann algebra $E^{(m)}$ the best known estimation of the degree function $k(m,n)$ of the standard identity $\mathrm{St}_k = 0$ for $M_n(E^{(m)})$ is found. The minimal identities generated by standard polynomials in skew-symmetric variables for $(M_2(E), t)$, and in symmetric ones for $(M_2(E), s)$ are investigated as well for "t" the transpose and "s" the symplectic involution. For a subalgebra of $M_{2,2}(E)$ with involution φ, the minimal identities of the considered type in symmetric and in skew-symmetric variables are given.