

Group gradings on matrix algebras

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We discuss group gradings on the full matrix algebra $M_n(k)$ over a field k , and on certain subalgebras of $M_n(k)$, called structural matrix algebras. Particular attention is given to the gradings with the property that all the matrix units lying in the subalgebra are homogeneous elements; these are called good gradings, and they play a key role in the description of all gradings.