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Allen Herman* (allen.herman@uregina.ca), Department of Mathematics and Statistics, University of Regina, Regina, SK S4S0A2, Canada. *Torsion units of integral table algebras and RBAs.*

One of the objectives of integral representation theory of finite groups is to understand the structure of the unit group $U(\mathbb{Z}G)$. Hans Zassenhaus formulated three conjectures about torsion units of integral group rings in the mid 1960's, one of which is still open. It states that any torsion unit of $\mathbb{Z}G$ should be conjugate in $\mathbb{Q}G$ (or equivalently in $\mathbb{C}G$) to an element of $\pm G$.

In this talk we will investigate the analogous statement of the Zassenhaus conjecture for unit groups of integral adjacency algebras of association schemes, integral generalized table algebras, and integral reality-based algebras. All of these are \mathbb{Z} -algebras of the form $\mathbb{Z}\mathbf{B}$, where $\mathbb{C}\mathbf{B}$ is a C^* -algebra whose basis \mathbf{B} is a $*$ -closed set, satisfies a pseudo-inverse condition, and has integer structure constants. We are able to generalize several known results about torsion units from integral group rings to the case of integral RBAs with positive degree map that possess a standard character. In particular these results hold for the integral adjacency algebras of association schemes. This is joint work with Gurmail Singh. (Received July 27, 2015)