From Sakuma theorems to double axes

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Abstract

The talk will revisit the universal k-generated primitive axial algebra construction, this time without the Frobenius form. We will propose a hierarchy of possible versions of Sakuma's theorem for hyper-Jordan (Monster) fusion rules on $\{1, 0, \alpha, \beta\}$. After that we will focus on the exceptional case $\alpha = 2\beta$ where we propose a method of constructing many examples via fixed subalgebras in Matsuo algebras.