

Majorana algebras generated by a 2A algebra and one further axis

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Abstract

Inspired by a result of Sakuma, in 2010 Ivanov, Pasechnik, Seress and Shpectorov used the framework of Majorana theory to reprove the classification of the dihedral algebras of the Griess algebra. This result can be equivalently thought of as the classification of the 2-generated Majorana algebras and truly forms the foundation of the theory.

I will discuss my work concerning a natural first step in the classification of 3-generated Majorana algebras, namely the classification of Majorana algebras generated by a 2A algebra and one further axis. These algebras are closely related to certain important subgroups of the Monster group and I will also present some consequences of this work in the study of the Monster and the Griess algebra.