

Constructing Majorana representations

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Majorana theory was introduced by A. A. Ivanov as an axiomatic framework in which to study objects related to the Monster group and its 196884 dimensional representation, the Griess algebra. The objects at the centre of the theory are known as Majorana algebras and can be studied either in their own right, or as Majorana representations of certain groups. Inspired by a paper of A. Seress, we have developed an algorithm in GAP to construct the Majorana representations of a given group. I will present the methods of this work as well as some consequences and results.