

1164-16-78

**Jason Gaddis** and **Daniele Rosso\*** ([drosso@iu.edu](mailto:drosso@iu.edu)). *Fixed rings of twisted generalized Weyl algebras.*

Twisted generalized Weyl algebras (TGWAs) are a large family of algebras that includes several algebras of interest for ring theory and representation theory. In this work, we study invariants of TGWAs under diagonal automorphisms. Under certain conditions, we are able to show that the fixed ring of a TGWA by such an automorphism is again a TGWA. We apply this theorem to study properties of the fixed ring, such as the noetherian property and simplicity. We also look at the behavior of simple weight modules for TGWAs when restricted to the action of the fixed ring. (Received January 13, 2021)