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Extension of the Concept of Nilpotency in a Module

Invited Talk

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Abstract

In this presentation, we assert the significance of the terms "nil" and "weak" in generalizing the concepts of symmetric, semicommutative, Armendariz, and reduced modules, focusing specifically on nilpotent elements within these frameworks. We will extend the definitions of these existing modules—symmetric, semicommutative, Armendariz, and reduced—and critically examine their properties. Additionally, we have built upon various established results related to these modules and developed compelling counterexamples that reinforce our generalizations.

Keywords: Reduced module, semicommutative module, symmetric module, Armendariz module

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