

# Characterizing categoricity in several classes of modules

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The birth of modern model theory can be traced back to Morley's Categoricity Theorem which asserts how to transfer categoricity in elementary classes. Currently, Shelah's Categoricity Conjecture, which is a far-reaching generalization to Morley's Categoricity Theorem, is the main test question in the development of non-elementary model theory. In this talk, we will show that the condition of being categorical in a tail of cardinals is a natural algebraic property by characterizing it algebraically for several classes of modules. As an application, we will provide rings such that the class of flat modules is categorical in a tail of cardinals but it is not first-order axiomatizable.