IE-closed subcategories

Arashi Sakai

Nagoya University
E-mail: m20019b@math.nagoya-u.ac.jp

In representation theory of algebras, one of the main topics is to study subcategories of a module category. Torsion classes and wide subcategories are particularly important and studied deeply. In this talk, we introduce IE-closed subcategories which unifies torsion classes, wide subcategories and so on. In the formar part of the talk, we characterize tau-tilting finiteness using IE-closed subcategories. In the latter part, we give a classification of IE-closed subcategories over a hereditary algebra using twin rigid modules, pairs of rigid modules satisfying some homological conditions.

References

[1] H. Enomoto, A. Sakai, Image-extension-closed subcategories of module categories of hereditary algebras, J. Pure Appl. Algebra227(2023), no.9, Paper No. 107372, 17 pp.

2020 Mathematics Subject Classification: 16G10, 18E40
Keywords: IE-closed subcategory, torsion (-free) class, tau-tilting finite algebra