

Rings with one subprojective middle class

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Abstract

The notion of subprojectivity was introduced by Holston et al. as an alternative perspective on the study of projectivity of modules. Instead of categorizing a module as projective or not, each module has been assigned a subprojective domain which, somehow, measures to which extent it has projective property. A module is projective precisely when its subprojective domain is as large as possible, i.e. equal to $Mod - R$. The domain of subprojectivity of any module must contain at least the class of all projective modules. A module is called p-indigent, if its subprojectivity domain consists of only projective modules.

The subprojectivity domain of a module which is not equal to maximal or minimal subprojectivity domains is called subprojective middle class. Rings whose certain type of modules have maximal or minimal subprojectivity domains have been extensively studied. Our study concerns the structure of a ring R which has exactly one subprojective middle class.

Keywords

Subprojectivity domain, PS-ring, Quasi-Frobenius rings, co-retractable modules, p-indigent modules.

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