

## On Modules over Dedekind Prime Rings

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**Abstract :** This research studies an interconnection between finitely generated uniform modules and Dedekind prime rings. The characterization of modules over Dedekind prime rings that will be investigated is an adoption of Noetherian and hereditary concept. Dedekind prime rings are Noetherian and hereditary rings. This property of Dedekind prime rings is a background of the idea of adopting arises. In Noetherian area, it was known that a ring  $R$  is Noetherian ring if and only if every finitely generated  $R$ -module is a Noetherian module. Similar to that result, a characterization of the hereditary ring is related to its projective modules. That is, a ring  $R$  is hereditary ring if and only if every projective  $R$ -module is a hereditary module. Due to the above two results, we suppose that characterization of a Dedekind prime ring can be analyzed from finitely generated modules over it. We propose a conjecture: a ring  $R$  is a Dedekind prime ring if and only if every finitely generated uniform  $R$ -module is a Dedekind module. In this article, we will generalize a concept of the Dedekind module for non-commutative ring case and present a part of the above conjecture.

**Keywords :** dedekind domains, dedekind prime rings, dedekind modules, uniform modules

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