

Meeting: 998, Houston, Texas, SS 5A, Special Session on Associative Rings

998-16-318 **Hai Quang Dinh*** (Hai.Dinh@ndsu.nodak.edu), Hai Quang Dinh, Department of Mathematics, North Dakota State University, Fargo, ND 58105. *On rings with many uniform one-sided ideals.*

A module M is called a qfd module, if for any submodule $A \subseteq M$, M/A has finite uniform dimension. Artinian and noetherian modules are examples of qfd modules. Let R be a right hereditary ring, and let E be the injective hull of the right R -module R_R . For this ring R , the following problem still remains open:

Problem: *Is R necessarily right artinian, if E_R is finitely generated?*

It is known that the answer to this question is yes if either E_R is projective, or E_R is finitely presented. In this talk we will prove the following result.

Theorem. Let R be a right hereditary ring with the finitely generated right injective hull E_R . Then the following conditions are equivalent:

- (a) R is right artinian;
- (b) For each submodule $A \subsetneq E$, E/A contains a uniform qfd submodule.

Notice that if R is commutative, then we can remove "qfd" in condition (b) of this theorem. We conjecture that we can remove "qfd" also for the non-commutative case. (Received March 01, 2004)