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Dinh Van Huynh* (huynh@ohio.edu), 321 Morton Hall, Ohio University, Dept of Mathematics, Athens, OH 45701. *ON THE HEREDITY OF V-MODULES OVER NOETHERIAN NONSINGULAR RINGS.*

A right module M_R over a ring R is called a V-module if every simple right R -module is M -injective. A module N_R is defined to be hereditary if every submodule of N is projective. With these concepts, our earlier result with H. Dinh and Ch. Holston (2012) can be restated in the form: a V-module P_R over a prime right noetherian ring R is hereditary if and only if R_R is hereditary and P is R -projective.

In this talk we consider the general case for a right noetherian right nonsingular ring R having a nonsingular V-module P_R , and show that all uniform right ideals $U \subseteq R$ which are embedded in P_R generate a nonzero two-sided ideal $\mathcal{U}_P(R) \subseteq R$, and $(\mathcal{U}_P(R))_R$ is a V-module. Further we show that, if $\mathcal{U}_P(R)_R$ is hereditary, then P_R is hereditary if and only if P is $\mathcal{U}_P(R)$ -projective. If R is a right noetherian right hereditary ring, then all R -projective V-modules P_R are hereditary. In this case, $\mathcal{U}_P(R)_R = R$ for all nonsingular V-modules P_R .

We will discuss the case when the heredity of P_R implies that of $\mathcal{U}_P(R)_R$. This is a joint work with Hai Q. Dinh. (Received September 04, 2012)