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**A note on tightness.** (English) [Zbl 0923.16003](#)

Glasg. Math. J. 41, No. 1, 43-44 (1999).

For  $R$ -modules  $M$  and  $N$ ,  $M$  is called weakly  $N$ -injective if for every homomorphism  $\phi: N \rightarrow E(M)$ ,  $\phi(N) \subset X \simeq M$  where  $X$  is a submodule of the injective hull  $E(M)$  of  $M$ .  $M$  is called  $N$ -tight if every quotient of  $N$  embeddable in  $E(M)$  is embeddable in  $M$ . Every weakly  $N$ -injective module is  $N$ -tight. Generalizing earlier results of *S. K. Jain* and *S. R. López-Permouth* [*J. Algebra* 128, No. 1, 257-269 (1990; [Zbl 0698.16012](#))] and *S. K. Jain, S. R. López-Permouth* and *S. Singh* [*Glasg. J. Math.* 34, No. 1, 75-81 (1992; [Zbl 0747.16004](#))], the author proves that every cyclic right  $R$ -module is essentially embeddable in a projective module if  $R$  is right Artinian and every indecomposable projective right module is uniform and  $R$ -tight.

Reviewer: [S.K.Jain \(Athens/Ohio\)](#)

**MSC:**

[16D50](#) Injective modules, self-injective associative rings

Cited in 1 Document

**Keywords:**

tight modules; injective hulls; weakly injective modules; cyclic right modules; indecomposable projective right modules

**Full Text:** [DOI](#)