

On injective dimension of torsionfree modules

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Abstract

We characterize rings which have the injective dimension of torsionfree modules less than or equal to one. We called such rings *TF*-hereditary rings. Also, we give some ring characterizations by using the torsionfree projective (*TF*-projective) module notion which is the left orthogonal class of torsionfree modules by the Ext functor.

Keywords

Injective dimension, torsionfree module, *TF*-projective module, *TF*-hereditary ring

References

- [1] H. Bass, *Injective dimension in Noetherian rings*, Trans. Amer. Math. Soc., pp. 18–29, Vol. **102**, 1962.
- [2] B. Olberding, *Modules of injective dimension one over Prüfer domains*, J. Pure Appl. Algebra, no. 3, pp. 263–287, Vol. **153**, 2000.
- [3] L. Mao and N. Ding, *On divisible and torsionfree modules*, Comm. Algebra, no. 2, pp. 708–731, Vol. **36**, 2008.
- [4] T. Xiong, F. Wang, and K. Hu, *Copure projective modules and *cph*-rings*, Journal of Sichuan Normal University (Natural Science), no. 2, pp. 198–201, Vol. **36** 2013.