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Cominimaxness with respect to ideals of dimension one. (English) Zbl 1359.13017

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Summary: Let R denote a commutative Noetherian (not necessarily local) ring and let I be an ideal of R of dimension one. The main purpose of this note is to show that the category $\mathcal{M}(R, I)_{com}$ of I -cominimax R -modules forms an abelian subcategory of the category of all R -modules. This assertion is a generalization of the main result of *L. Melkersson* [*J. Algebra* 372, 459–462 (2012; [Zbl 1273.13029](#))]. As an immediate consequence of this result we get some conditions for cominimaxness of local cohomology modules for ideals of dimension one. Finally, it is shown that the category $\mathcal{C}_B^1(R)$ of all R -modules of dimension at most one with finite Bass numbers forms an abelian subcategory of the category of all R -modules.

MSC:

[13D45](#) Local cohomology and commutative rings
[14B15](#) Local cohomology and algebraic geometry
[13E05](#) Commutative Noetherian rings and modules

Cited in 4 Documents

Keywords:

arithmetic rank; Bass number; cominimax modules; minimax modules

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