

1011-13-90

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Karl-Franzens Universitaet Graz, A-8010 Graz, Austria. *Direct-sum cancellation for modules over  
real quadratic orders.*

Suppose  $R$  is a Bass ring, that is, a commutative reduced Noetherian ring of dimension 1 whose normalization is a 2-generated  $R$ -module. Examples for Bass rings are  $\mathbb{Z}$ -orders in quadratic number fields, e.g. the rings  $\mathbb{Z}[5\sqrt{-3}]$  and  $\mathbb{Z}[7\sqrt{7}]$ . We say that  $R$  has *cancellation* (resp. *torsion-free cancellation*) if the implication

$$A \oplus C \cong B \oplus C \implies A \cong B$$

holds for all finitely generated (resp. all finitely generated torsion-free)  $R$ -modules  $A$ ,  $B$  and  $C$ .

In our talk we present some recent results on cancellation for orders in real quadratic number fields. In particular, we show that there is a large number of such orders having torsion-free cancellation but not cancellation. (Received August 17, 2005)