

Homological Dimensions in Cotorsion Pairs

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Two classes \mathcal{A} and \mathcal{B} of modules over a ring R are said to form a cotorsion pair $(\mathcal{A}, \mathcal{B})$ if $\mathcal{A} = \text{Ker Ext}_R^1(-, \mathcal{B})$ and $\mathcal{B} = \text{Ker Ext}_R^1(\mathcal{A}, -)$. We will investigate relative homological dimensions in cotorsion pairs. This will be applied to study the big and the little finitistic dimension of R . The talk relies on joint work with Jan Trlifaj and Octavio Mendoza.