

Preview

Now we can assign to a ring R not only the abelian category $R\text{-Mod}$, but also triangulated categories such as $K(R\text{-Mod})$, $K^-(R\text{-Proj})$, $D^b(R\text{-Mod})$, ~
And there are functors, for instance $R\text{-Mod} \rightarrow K(R\text{-Mod}) \rightarrow D(R\text{-Mod})$.
In $R\text{-Mod}$ we are interested in the objects, the morphisms, extensions, ~
In this chapter we start looking at what happens to these when applying functors into triangulated categories.

In particular we want to know if we can find $\text{Ext}_R^n(X, Y)$ somewhere in $D(R\text{-Mod})$, when X and Y are R -modules.

We also will find a special property of $D(R\text{-Mod})$ when the ring R is hereditary.

And we will practise doing computations with complexes.