

Preview

In chapter 9 we have seen Morita equivalences, which relate module categories. When two module categories are equivalent, their derived categories are equivalent too, basically by construction of derived categories. In this chapter and in subsequent ones we will see that there are many more and more different derived equivalences, i.e. equivalences between derived categories of module categories or relating derived module categories, in geometry or elsewhere. This is crucial for many applications.

We will first look at examples where we may guess the existence of derived equivalences. Then we will go through the historically first and most elementary construction of certain derived equivalences. Afterwards we will state, without proof, and discuss the general results about Morita theory for derived categories.