

On toric schemes

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Studying toric varieties from a scheme-theoretical point of view leads to toric schemes, i.e. "toric varieties over arbitrary base rings". It is shown how the base ring affects the geometry of a toric scheme. Moreover, generalisations of results by Cox and Mustata allow to describe quasicoherent sheaves on toric schemes in terms of graded modules. Finally, a toric version of the Serre-Grothendieck correspondence relates cohomology of quasicoherent sheaves on toric schemes to local cohomology of graded modules.

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