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coherent sheaf

Canonical name	CoherentSheaf
Date of creation	2013-03-22 13:51:27
Last modified on	2013-03-22 13:51:27
Owner	PrimeFan (13766)
Last modified by	PrimeFan (13766)
Numerical id	11
Author	PrimeFan (13766)
Entry type	Definition
Classification	msc 14A15
Synonym	quasi-coherent sheaf

Let R be a ring with unity, and $X = \operatorname{Spec} R$ be its prime spectrum. Given an R -module M , one can define a presheaf on X by defining its sections on an open set U to be $\mathcal{O}_X(U) \otimes_R M$. We call the sheafification of this \tilde{M} , and a sheaf of this form on X is called *quasi-coherent*. If M is a finitely generated module, then \tilde{M} is called coherent. A sheaf on an arbitrary scheme X is called (quasi-)coherent if it is (quasi-)coherent on each open affine subset of X .