



planetmath.org

Math for the people, by the people.

locally free

Canonical name	LocallyFree
Date of creation	2013-03-22 13:52:31
Last modified on	2013-03-22 13:52:31
Owner	mps (409)
Last modified by	mps (409)
Numerical id	13
Author	mps (409)
Entry type	Definition
Classification	msc 14A99

A sheaf of \mathcal{O}_X -modules \mathcal{F} on a ringed space X is called *locally free* if for each point $p \in X$, there is an open neighborhood U of p such that $\mathcal{F}|_U$ is free as an $\mathcal{O}_X|_U$ -module, or equivalently, \mathcal{F}_p , the stalk of \mathcal{F} at p , is free as a $(\mathcal{O}_X)_p$ -module. If \mathcal{F}_p is of finite rank n , then \mathcal{F} is said to be of rank n .