



Math for the people, by the people.

Serre-Swan theorem

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Owner	mhale (572)
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Let X be a compact Hausdorff space. Let $\mathbf{Vec}(X)$ be the category of complex vector bundles over X . And, let $\mathbf{ProjMod}(C(X))$ be the category of finitely generated projective modules over the C^* -algebra $C(X)$. There is a functor $\Gamma: \mathbf{Vec}(X) \rightarrow \mathbf{ProjMod}(C(X))$ which sends each complex vector bundle $E \rightarrow X$ to the $C(X)$ -module $\Gamma(X, E)$ of continuous sections.

The functor Γ is an equivalence of categories.