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subbundle

Canonical name	Subbundle
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Entry type	Definition
Classification	msc 14F05
Classification	msc 55R25
Synonym	sub-bundle
Synonym	vector sub-bundle
Synonym	vector subbundle
Synonym	sub-vector bundle
Synonym	sub vector bundle
Defines	subbundle

Given a vector bundle  $\pi:\mathcal{E} \rightarrow M$ , a subbundle  $\mathcal{E}'$  is a subset of the total space,  $\mathcal{E}' \subset \mathcal{E}$ , so that

$$\pi|_{\mathcal{E}'}:\mathcal{E}' \rightarrow M$$

is a vector bundle, and for each point  $p \in M$ , the fibre at  $p$

$$\pi|_{\mathcal{E}'}^{-1}(p) = \mathcal{E}'_p$$

is a vector subspace of  $\mathcal{E}_p = \pi^{-1}(p)$