KU LEUVEN

# Classifying Integral Affine Structures on Compact Surfaces


Michael McGloin (Luka Zwaan)

KU Leuven


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# Overview

# Affine Manifolds

## Definition

An *affine manifold* is a differentiable manifold such that the transition maps lie in the affine group $\mathsf{Aff}(\mathbb{R}^n)$

### Remark

*The group* $\mathit{Aff}(\mathbb{R}^n) := \mathit{GL}(\mathbb{R}^n) \ltimes \mathbb{R}^n$. *An element* $g \in \mathit{Aff}(\mathbb{R}^n)$ *acts on* $x \in \mathbb{R}^n$ *by* $g(x) = Ax + b$ *where* $A \in \mathit{GL}(\mathbb{R}^n)$ *and* $b \in \mathbb{R}^n$.

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