

# A quick look at Lie groups

Fresh

July 28, 2021

Today we take a quick look at the definition of a Lie group. A Lie group is a group that is simultaneously a differentiable manifold and such that the group operations are smooth. An example of a Lie group is  $\mathrm{GL}_n \mathbb{R}$ , that is the set of all  $n \times n$  real matrices, together with the Euclidean topology ( $\mathrm{GL}_n \mathbb{R} \sim \mathbb{R}^{n^2}$ )

*Proof.* This is a not a proof.

□