

Viviana Jorgelina del Barco Ph. D.

Université Paris-Saclay

**Symmetric Killing 2-tensors on 2-step
nilpotent Lie groups**

7. Juli 2020 – 16.15 Uhr

Seminarraum IGT, Raum 7.530, Pfaffenwaldring 57

AbstractThe talk will address some results about left-invariant symmetric Killing 2-tensors on 2-step nilpotent Lie groups endowed with a left-invariant Riemannian metric. After introducing relevant facts about the Riemannian geometry of these manifolds, left-invariant symmetric Killing 2-tensors will be characterized by means of the metric Lie algebra structure. It will be shown that for 2-step nilpotent Lie groups of dimension less than or equal to 7, every symmetric Killing 2-tensor is decomposable, that is, they can be written as linear combinations of symmetric products of Killing vector fields and parallel tensors. Instead, one can see that for every dimension greater than 7, there are Lie groups admitting indecomposable symmetric Killing 2-tensors. The present talk is based on joint work with Andrei Moroianu.

