

1135-53-1084

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For a given Lie group, the set of all left-invariant pseudo-Riemannian metrics with a fixed signature can be identified with some pseudo-Riemannian symmetric space. We are studying left-invariant pseudo-Riemannian metrics, in terms of the action of the automorphism group of the corresponding Lie algebra on this symmetric space. In this talk, we illustrate this framework, and apply it to some particular solvable Lie groups, e.g., the solvable Lie group of the real hyperbolic space. (Received September 19, 2017)