

Classification of the left-invariant metrics on $\mathbb{R}H^n$

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It is a well known fact that the real hyperbolic space $\mathbb{R}H^n$ with the standard Riemannian metric of constant negative curvature has a structure of a Lie group such that the metric is left-invariant. We give the full classification of left-invariant metrics of an arbitrary signature on the Lie group corresponding to the real hyperbolic space. We show that all metrics have constant sectional curvature and that they are geodesically complete only in the Riemannian case.

This is a joint work with Srđan Vukmirović.
