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Title: Cohomogeneity one Minkowski space $\mathbb{R}_1^n$

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In this paper we study cohomogeneity one Minkowski space $\mathbb{R}_1^n$. Among other results, we prove that the orbit space is homeomorphic to $\mathbb{R}$ or $[0, \infty)$. We show that if there is a spacelike principal orbit, then each of the orbits is spacelike and principal. If $n = 3$ and there is a singular orbit, we characterize the orbits up to isometry, and the acting group up to conjugacy.

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