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The Flat Translation Surfaces in the 3-Dimensional Lorentz Heisenberg Group $\mathbb{H}_3$

In the Lorentz-Heisenberg space $\mathbb{H}_3$ endowed with flat metric g_3, a translation surface is parametrized by $r(x, y) = \gamma_1(x) * \gamma_2(y)$, where γ_1 and γ_2 are two planar curves lying in planes, which are not orthogonal. In this article, we classify translation surfaces in $\mathbb{H}_3$, with vanishing Gaussian curvature in Lorentz-Heisenberg space $\mathbb{H}_3$.

Keywords: Gaussian curvature, Lorentz Heisenberg space, first fundamental form, second fundamental form, translation surface, flat surface.

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