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"On the Lipschitz-Free Space over the Hyperbolic Plane"

We use a tiling of the hyperbolic plane $\mathbb{H}^2$, a net N defined by this tiling and corresponding extension operators to construct the isomorphic representation of the Lipschitz-free space over $\mathbb{H}^2$ as $\mathcal{F}(\mathbb{H}^2) \simeq \mathcal{F}(\mathbb{R}^2) \oplus_1 \mathcal{F}(N)$. In particular, this result proves that $\mathcal{F}(\mathbb{H}^2)$ has a Schauder basis, partially answering a question posed by M. Doucha and P. Kaufmann. This is a joint work with Christian Bargetz and Tommaso Russo.