On the cohomological equation for nilflows. (English summary)


Summary: “Let $X$ be a vector field on a compact connected manifold $M$. An important question in dynamical systems is to know when a function $g: M \to \mathbb{R}$ is a coboundary for the flow generated by $X$, i.e., when there exists a function $f: M \to \mathbb{R}$ such that $Xf = g$. In this article we investigate this question for nilflows on nilmanifolds. We show that there exists countably many independent Schwartz distributions $D_n$ such that any sufficiently smooth function $g$ is a coboundary iff it belongs to the kernel of all the distributions $D_n$.”

References


Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.