1108-20-111 **Xiangdong Xie*** (xiex@bgsu.edu). *Quasiisometric rigidity of some solvable Lie groups.*

The n-th ($n \geq 2$) model filiform algebra $\mathfrak{f}^n$ is a $(n+1)$ dimensional real Lie algebra. It has a basis $e_1, \cdots, e_{n+1}$ with the only non-trivial bracket relations:

$$[e_1, e_j] = e_{j+1}, \; 2 \leq j \leq n.$$

The connected and simply connected Lie group F^n with Lie algebra $\mathfrak{f}^n$ is called the n-th model filiform group. The exponential map $\exp : \mathfrak{f}^n \to F^n$ is a diffeomorphism. We identify $\mathfrak{f}^n$ and F^n via the exponential map. The standard dilation action of $\mathbb{R}$ on $F^n = \mathfrak{f}^n$ is given by:

$$t \cdot (x_1 e_1 + x_2 e_2 + \sum_{j=2}^{n} x_{j+1} e_{j+1}) = e^t (x_1 e_1 + x_2 e_2) + \sum_{j=2}^{n} e^{jt} x_{j+1} e_{j+1}.$$

Let $S = F^n \rtimes \mathbb{R}$ be the associated semidirect product.

Theorem *Let G be a connected and simply connected solvable Lie group. If G and S are quasiisometric, then they are isomorphic.*

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