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Michael Cantrell* (mcantr2@uic.edu) and **Alex Furman**. *Asymptotic Shapes of Ergodic Random Metrics on Nilpotent Groups*.

In this talk we will present three seemingly different results about randomness in a finitely generated nilpotent group: an asymptotic shape theorem for First Passage Percolation; a generalization to random metrics of Pansu's theorem that the unique asymptotic cone of a nilpotent group is a particularly nice nilpotent Lie group; a Subadditive Ergodic Theorem for nilpotent groups. The results are all related, and the proof involves sub-Riemannian geometry and Ergodic Theory. (Received July 23, 2015)