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Michael Kelly* (michaesk@umich.edu). *BD equivalence and return times for certain Heisenberg Nilflows.*

Laczkovic (1992) determined necessary and sufficient conditions under which a separated net in Euclidean space can be realized as a uniformly bounded perturbation of a lattice. In this talk we will report a generalization of Laczkovic's result in the Heisenberg group. Our main application of this result is a study of the regularity properties of the return times of certain Heisenberg nilflows. This is joint work with Tullia Dymarz, Sean Li, and Anton Lukyanenko. (Received February 02, 2016)