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Aimee S. A. Johnson, Daniel J Rudolph and Ayse A. Sahin*

(asahin@condor.depaul.edu), Department of Mathematical Sciences, DePaul University, 2320 N. Kenmore Ave., Chicago, IL 60614. *Directional recurrence for non-singular actions of \mathbb{Z}^d* . Preliminary report.

We introduce the notion of directional recurrence and give some constructions and results indicating the structural complexity of directions of recurrence for non-singular actions of \mathbb{Z}^d . (Received February 02, 2009)