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A Magyar*, Department of Mathematics, University of Georgia, Athens, GA. *Pointwise polynomial type ergodic theorems for nilpotent group actions.*

We consider a family of measure preserving transformations on a probability measure space, which generate a nilpotent group.

We will consider L_p pointwise convergence, for all $p > 1$, for certain polynomial averages of these transformations for step 2, as well as pointwise L_2 convergence for general discrete nilpotent group actions.

This is joint work with Alex Ionescu, Elias M. Stein and Steve Wainger. (Received August 14, 2006)