1070-28-212    **Stanley Eigen\*** (`s.eigen@neu.edu`) and **Arshag Hajian**. *Recurrent Sequences in Infinite Measure Spaces.*

Recurrent sequences for infinite measure preserving transformations were introduced in in the 1967. In 1970, Hajian and Kakutani gave a a complete description of all the recurrent sequences is given for the Hajian-Kakutani transformation. Since then, nothing has been done with recurrent sequences. The purpose of this note is to reintroduce recurrent sequences and illustrate their use as an isomorphism invariant. To this end, we construct an uncountable family of ergodic measure preserving transformations with different recurrent sequences. These transformations are variations of the Hajian-Kakutani transformation. They will all have the same alpha-type, so that cannot be used to distinguish them. They will all have a common exhaustive weakly wandering sequence, and the induced transformations on the associated exhaustive weakly wandering set will all be isomorphic. (Received February 12, 2011)