1077-51-933 **Vaibhav Gadre*** (vaibhav@math.harvard.edu), Dept. of Mathematics, Harvard University, SC One Oxford St., Cambridge, MA 02138. *Dynamics of non-classical interval exchanges.*

A natural generalization of interval exchange maps are linear involutions, first introduced by Danthony and Nogueira. Recurrent train tracks with a single switch provide a subclass of linear involutions. We call such linear involutions non-classical interval exchanges. They are related to measured foliations on orientable flat surfaces.

Non-classical interval exchanges can be studied as a dynamical system by considering Rauzy induction in this context. This defines a renormalization on the parameter space similar to Kerckhoff's simplicial systems. We show that the renormalization gives an expansion with a key dynamical property called uniform distortion. We use uniform distortion to prove normality of the expansion. Consequently, we prove an analog of Keane's conjecture: almost every non-classical interval exchange is uniquely ergodic. Uniform distortion has been independently established by Avila-Resende. (Received September 14, 2011)