

1112-37-617

Grace Work* (work2@illinois.edu), 1409 W. Green Street, Urbana, IL 61801. *Constructing transversals to horocycle flow.*

We will use zippered rectangle coordinates to construct a transversal to horocycle flow in $\mathcal{H}(2)$, the stratum of genus 2 translation surfaces with one singular cone points. We will then show how we can bound the return time of a surface to this stratum. This has applications to computing the gap distributions between slopes of saddle connections. (Received August 11, 2015)