1135-37-2223 **Hamid Al-Saqban**, **Paul Apisa**, **Alena Erchenko**, **Osama Khalil*** (khalil.37@osu.edu), **Shahriar Mirzadeh** and **Caglar Uyanik**. *Hausdorff Dimension of Exceptional Directions for The Teichmüler Geodesic Flow.*

Chaika and Eskin proved that the conclusions of Birkhoff's and Oseledets' theorems for the Teichmüler geodesic flow hold at every translation surface in almost every direction. We extend their results by showing that the Hausdorff dimension of the set of directions exhibiting a definite amount of deviation from the correct limit is not full. Our approach consists of 3 components: proving that Chaika-Eskin's results hold uniformly in large sets, reducing our problem to one of recurrence to these good sets and finally controlling directions with bad recurrence properties via a technique originally due to Margulis.

This is joint work with Hamid Al-Saqban, Paul Apisa, Alena Erchenko, Shahriar Mirzadeh and Caglar Uyanik. This work grew out of the MRC program "Dynamical Systems: Smooth, Symbolic, and Measurable". (Received September 25, 2017)