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*Exceptional sets in the moduli space of translation surfaces and Hausdorff dimension.*

Moduli space of translation surfaces is a non-compact space, so it is natural to ask questions about the largeness of divergence geodesics. We prove that for every translation surface  $(X, \omega)$ , the set of angles  $\theta \in [0, 2\pi)$  so that the orbit of  $(e^{i\theta}X, e^{i\theta}\omega)$  under the Teichmüller geodesic flow is divergent on average has Hausdorff dimension at most  $1/2$ . We use a function that controls the excursions into the compact part of the space. This function was introduced by Eskin, Margulis and Mozes in the setting of homogeneous spaces and later was developed for translation surfaces by Athreya. Also, it turns out that some of the methods used by Kadyrov, Kleinbock, Lindenstrauss and Margulis for solving a similar problem in the context of homogeneous spaces can be applied to the setting of translation surfaces as well. This is joint work with Hamid Al-Saqban, Paul Apisa, Alena Erchenko, Osama Khalil and Caglar Uyanik. This work grew out of the MRC program “Dynamical Systems: Smooth, Symbolic, and Measurable”. (Received September 26, 2017)