

CHAPTER 7

Ergodic Theory of Translation Surfaces

Howard Masur*

Department of Mathematics, UIC, Chicago, IL 60607-7045, USA

E-mail: masur@math.uic.edu

Contents

1. Three definitions of translation surface or flat surface and examples	529
2. Spaces of translations surfaces and Riemann surfaces	533
3. $SL(2, \mathbb{R})$ -action and invariant measures	534
4. Ergodicity of flows defined by translation surfaces	536
5. Further results on unique ergodicity	540
6. Boshernitzan's Theorem and sketch of proof of Theorem 3	542
7. Further results on dynamics of actions of subgroups of $SL(2, \mathbb{R})$	544
Acknowledgements	546
References	546

*The author is partially supported by NSF DMS 2-496045.