

Regularity and Other Properties of Absolutely Continuous Invariant Measures for the Quadratic Family

Marek Rychlik^{1*} and Eugene Sorets²

¹ The Institute for Advanced Study, School of Mathematics, Princeton, NJ 08540, USA

² Courant Institute of Mathematical Sciences, New York, NY 10012, USA

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Abstract. In the current paper we study in more detail some properties of the absolutely continuous invariant measures constructed in the course of the proof of Jakobson's Theorem. In particular, we show that the density of the invariant measure is continuous at Misiurewicz points. From this we deduce that the Lyapunov exponent is also continuous at these points (our considerations apply just to the parameters constructed in the proof of Jakobson's Theorem). Other properties, like the positivity of the Lyapunov exponent, uniqueness of the absolutely continuous invariant measure and exactness of the corresponding dynamical system, are also proved.

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1. Introduction

In [11] one of the authors (M.R.) presented a new proof of the following result of Jakobson [8]:

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