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**Paul Reschke\*** ([presch2@uic.edu](mailto:presch2@uic.edu)). *Salem Numbers and Abelian Surface Automorphisms.*

We will discuss complex surface automorphisms with positive entropy, addressing in particular the question of what values of entropy can be achieved by such automorphisms. A fundamental result in this area is that any positive value of entropy is necessarily the logarithm of a Salem number. However, a Salem number in general need not necessarily give the entropy of some automorphism. We will present a complete characterization of the entropies of automorphisms of two-dimensional complex tori, with a detailed focus on automorphisms of abelian surfaces. We will also review results and open questions for automorphisms of rational surfaces and K3 surfaces. (Received February 15, 2013)