Critical Locus for Complex Henon maps

Tanya Firsova[1]

[1] Kansas State University

For one dimensional maps, the dynamics of the map is to a large extent determined by the orbits of the critical points. Complex Henon maps are automorphisms, and as such they do not have critical points. Critical loci, the sets of tangencies between dynamically defined foliations/laminations often serve as a good analog of the critical points. We study the critical loci in the escape region, defined by E. Bedford, J. Smillie and J. Hubbard. We give a description of the critical locus for Henon maps in an HOV region, the first description in the non-perturbative setting. We also discuss the connection between the critical loci in different dynamically significant regions and the monodromy of the critical locus. This is a joint work with R. Radu and R. Tanase.