Dear Larry,

This is my report on the paper of Rempe and Rippon, Exotic Baker and wandering domains for Ahlfors islands maps.

Ahlfors islands maps (AIM) were introduced by Adam Epstein, as a class of maps that generalizes meromorphic functions in the plane, as well as several other objects of holomorphic dynamics, such as Lavaurs parabolic renormalizations.

Roughly speaking, the property of meromorphic functions that is asserted by the Ahlfors 5 island theorem, is taken as a defining property of this class. It turns out that the most basic results on the Julia sets and domains of normality depend only on this property. This justifies the study of such generalization. As in the case of meromorphic functions and some other objects of modern holomorphic dynamics, AIM map their domain of definition to a larger domain. However their iteration can be studied, and the basic properties of the Julia sets, and classification of domains of normality is similar to the case of meromorphic functions.

In this paper, the authors construct several interesting examples of AIM. Their first example is an AIM with a Baker domain containing arbitrary curve which escapes, and the limit set of the iterates equals the limit set of this curve.

The second result is an AIM with a Baker domain in which the iterates escape arbitrarily slowly.

These results are new even for the case of meromorphic functions.

The third example is an AIM with a wandering domain in which the limit set of iterates is a prescribes subset of the boundary.

The last example is not of dynamic nature, it is an AIM with a logarithmic tract containing a prescribed curve.

All these examples are constructed using the Arakelian-style approximation theory generalized to arbitrary Riemann surfaces by Scheinberg.

The paper is very clearly written.

On my opinion, this is an interesting paper, containing new and non-trivial results. I recommend it for publication in J. d'Analyse.

Perhaps the authors should mention the paper of Eremenko and Lyubich in J. LMS 36 (1987) where approximation theory was used for the first time to construct examples of Baker and wandering domains.