

Rescaling limit of quadratic rational maps and a search for Berkovich spider

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When a family of rational maps degenerates, certain parametrized coordinate changes may give rise to a non-trivial return map. J. Kiwi studied such scaling limits for quadratic rational maps and M. Arfeux defined trees of spheres for the degeneration. We will discuss a converse problem which means a construction of degeneration family from a given data, and its relation to the Berkovich space of the extension of the field of Laurent series. This can be considered as a spider algorithm in the Berkovich space.

This is an unfinished work in progress with Arfeux and Kiwi, and some work-out examples with E. Hironaka related to $\text{Per}_n(0)$ and Rohini Ramadas.

Orateur: SHISHIKURA, Mitsuhiro