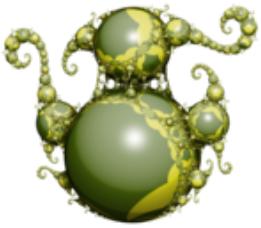

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Selberg, Ihara and Berkovich

lundi 23 juin 2025 11:30 (1 heure)

We use the Selberg zeta function to study the limit behavior of resonances of a degenerating family of Kleinian Schottky groups. We prove that, after a suitable rescaling, the Selberg zeta functions converge to the Ihara zeta function of a limiting finite graph associated with the relevant non-Archimedean Schottky group acting on the Berkovich projective line.

An application of our techniques is to obtain an exponential error term about the asymptotics for the vanishing rate of the Hausdorff dimension of limit sets of certain degenerating Schottky groups generating symmetric three-funnel surfaces. Here, one key idea is to introduce an intermediate zeta function that captures both Archimedean and non-Archimedean information (while the traditional Selberg resp. Ihara zeta function concerns only Archimedean resp. non-Archimedean properties). This is a joint work with Jialun Li, Carlos Matheus, and Zhongkai Tao.

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