

P. Vytnova, *"Illusions: curves of zeros of Selberg zeta functions"*

It is well known (since 1956) that the Selberg Zeta function for compact surfaces satisfies the "Riemann Hypothesis": any zero in the critical strip $0 < \text{Re}(s) < 1$ is either real or $\text{Im}(s) = 1/2$. The question of location and distribution of the zeros of the Selberg Zeta function associated to a noncompact hyperbolic surface attracted attention of the mathematical community in 2014 when numerical experiments by D. Borthwick showed that for certain surfaces zeros seem to lie on smooth curves. Moreover, the individual zeros are so close to each other that they give a visual impression that the entire curve is a zero set.

We will give an overview of the computational methods used, present recent results, justifying these observations as well as state open conjectures.