

Matthieu Gendulphé: Systolic landscape in characteristic -1

Let X be a compact hyperbolic surface, the length of the shortest non trivial geodesic of X is called the *systole* of X . The systole defines a map on the Teichmüller space of hyperbolic surfaces of a given topological type, which admits a global maximum. The determination of this maximum is the main problem concerning the systole, it is an analogue of the famous best lattice sphere packing problem.

Here we will focus on hyperbolic surfaces of characteristic -1 . Through the systole we will describe their Teichmüller spaces and the action of the modular groups. This will enable us to give sharp upper bounds for the systole.