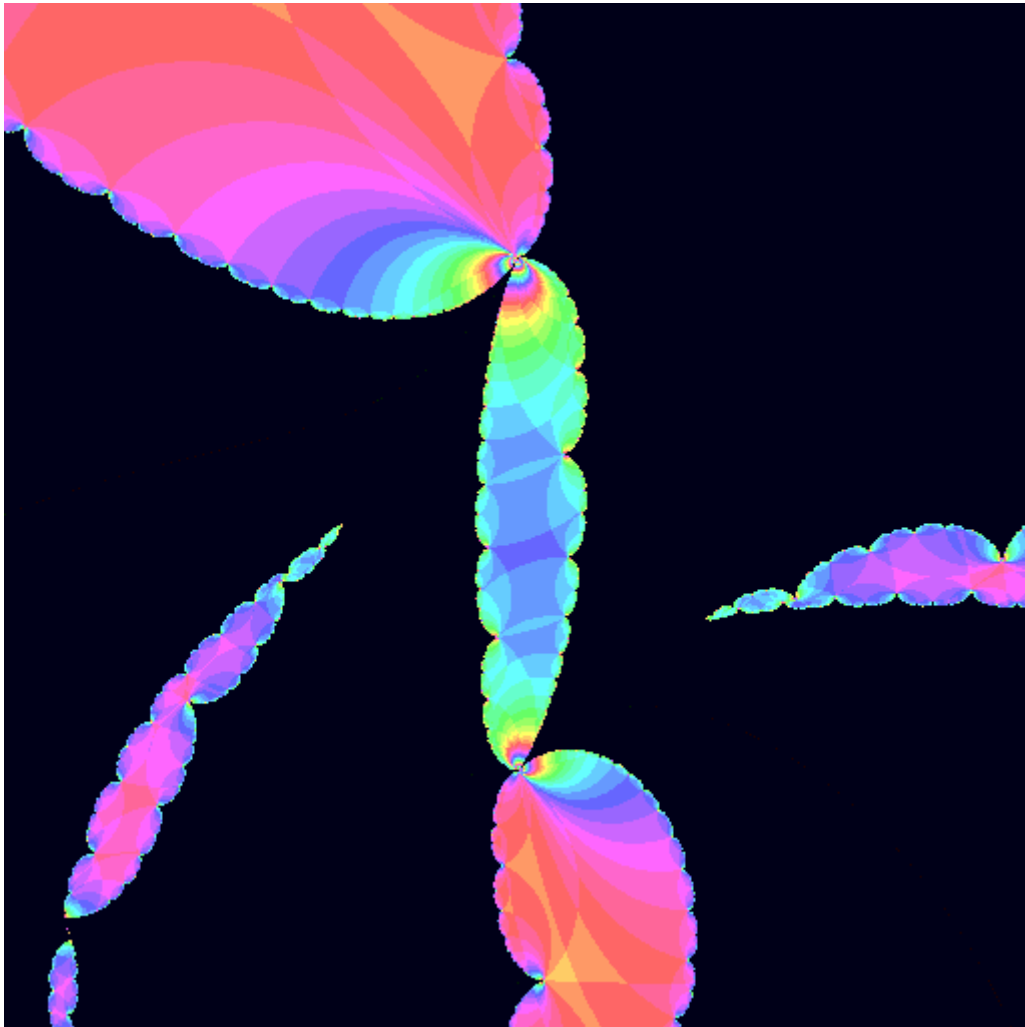


The hyperbolic structures of low-dimensional manifolds

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The “character variety” of a three-dimensional hyperbolic manifold

A surface, such as a sphere and a torus (the surface of a donuts), is called a two-dimensional manifold. By adding one or two dimensions, we can define three-dimensional manifolds and four-dimensional manifolds. They are called low-dimensional manifolds, and one of the main subjects in the modern topology. What kind of geometric structures do they admit? How can we deform their shape? This is my main interest in low-dimensional topology. The hyperbolic geometry (a kind of non-Euclidean geometry) is very important in studying two and three-dimensional manifolds. I study this geometry from the view point of Kleinian groups and character varieties.

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