

1118-30-164

Yunping Jiang, Sudeb Mitra, Hiroshige Shiga and Zje Wang*, Department of Mathematics & Computer Science, Bronx Community College, 2155 University Avenue, Bronx, NY 10453.

Tame quasiconformal motions.

In this talk, I will discuss a recent work jointly with Yunping Jiang, Sudeb Mitra, and Hiroshige Shiga on the extension problem and the universal property in quasiconformal motions and tame quasiconformal motions. In this work, we give an example of a quasiconformal motion of an infinite set in the Riemann sphere, over an interval, that cannot be extended to a quasiconformal motion of the sphere. Following this example, we introduce a new concept called tame quasiconformal motion. With this new definition, we show that any tame quasiconformal motion of a subset of the sphere, over a simply connected Hausdorff space, can be extended to a quasiconformal motion of the whole sphere, over the same parameter space. Furthermore, we show that this can be done in a conformally natural way. We relate these questions to the universal property of the Teichmüller space of a closed set in the sphere. Finally, we prove that a differentiable quasiconformal motion is a tame quasiconformal motion. (Received January 30, 2016)