Dissertation
Defense

Characterization of Quasiconformal Mapping and Extremal Length Decomposition and Its Application

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Abstract: My defense includes two parts. The first part is about the characterization of Quasiconformal mapping. It is known that Conformal mapping preserves the measure of angle. The Quasiconformal mapping is a natural generalization of the conformal mapping. Some measure of angle named topological angle could be defined to characterize Quasiconformal mappings. I will discuss these results in higher dimensional Euclidean space.

The second part is about extremal length decomposition and its application. Quasiextremal distance domains (QED) are a class of domains introduced by Gehring and Martio in connection with Quasiconformal mapping theories. I will discuss a decomposition theorem about the extremal length of a curve family within the finitely connected QED domain. Moreover, I will discuss its application, a result of sharp upper bound for QED constant of finitely connected domain on the complex plane.

Tuesday, November 12, 2013, 4:00 pm
Mathematics and Science Center: W302

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