



MANHATTAN ALGEBRA DAY

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Acute Triangulations of Sphere

Friday, December 7, 2012

CUNY Graduate Center, Room C204

9:30 am

Abstract:

We prove that a combinatorial triangulation L of a sphere admits an acute geodesic triangulation if and only if L does not have a separating three- or four-cycle. The backward direction is an easy consequence of the Andreev(-Thurston) theorem on orthogonal circle packings. For the forward direction, we consider the Davis manifold M from L . The acuteness of L will provide M with a CAT(-1) metric. We also discuss generalization to triangulated planar surfaces.

Joint work with Genevieve Walsh.