

Lecture 5: Concentration of Measure and Isoperimetry

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1 The Classic Isoperimetry Inequalities

1.1 Blow-Up of Sets

1.2 Brunn-Minkowski Inequality

1.3 The Classical Isoperimetry Theorem

2 Concentration via Isoperimetry

2.1 Levy's Inequalities and Concentration Function

2.2 Gaussian Isoperimetric Inequalities and Gaussian Concentration

2.3 Isoperimetric Inequalities on the Unit Sphere

2.4 Edge Isoperimetric Inequality on the Binary Hypercube

2.5 Vertex Isoperimetric Inequality on the Binary Hypercube

2.6 Convex Distance Inequality