Mathematics, Statistics, and Computer Science **@ UIC**

Statistics and Data Science Seminar

L2 asymptotics for high-dimensional data

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Abstract: We develop an asymptotic theory for L^2 norms of sample mean vectors of high-dimensional data. An invariance principle for the L^2 norms is derived under conditions that involve a delicate interplay between the dimension p, the sample size n, and the moment condition. Under proper normalization, central and non-central limit theorems are obtained. To facilitate the related statistical inference, we propose a resampling calibration method to approximate the distributions of the L^2 norms. Our results are applied to multiple tests and inference of covariance matrix structures.

Wednesday, October 15 at 4:00 PM in SEO 636