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How to estimate a covariance matrix? Hopefully in large dimensions.

vendredi 30 juin 2023 09:30 (1 heure)

Consider the basic operation of estimating the spectrum of large covariance matrices.
This estimation has an inherent "large dimensional bias", when one observes a multivariate sample whose size is comparable to the dimension.
Solving this issue amounts to understanding free multiplicative *deconvolution*.
Our work follows the footsteps of El Karoui, Arizmendi-Tarrago-Vargas and Ledoit-Péché.

After presenting their work, we will discuss the pros and cons of the methods.
Then
1) we will exhibit our own method for computable and statistically consistent estimation.
2) present a cramer-Rao lower bound

This is work in progress. Feedback from the audience will be required.

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