1120-46-178   **Beatrice-Helen Vritsiou*** (`vritsiou@umich.edu`), Department of Mathematics, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109-1043. *On the thin-shell conjecture for the Schatten classes.*

The thin-shell conjecture is a question from the theory of isotropic convex bodies which asks whether the variance of the Euclidean norm, with respect to the uniform measure on an isotropic convex body, can be bounded from above by an absolute constant (that is, independent of the dimension of the body) times the mean of the Euclidean norm (if the answer to this is affirmative, then we have as a consequence that most of the mass of the isotropic convex body is concentrated in an annulus with very small width, a "thin shell"). So far all the general bounds we know depend on the dimension of the bodies, however for certain families of convex bodies, like the ℓ_p balls, the conjecture has been resolved optimally.

In this talk we will discuss some results concerning the conjecture on another special family of bodies, the unit balls of the Schatten classes, which are spaces of square matrices equipped with the ℓ_p-norm of their singular values. One of the results is the proof of the conjecture for the operator norm (case of $p = \infty$).

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