BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

TYPICAL RANKS OF RANDOM ORDER-THREE TENSORS

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CCDS 365, Mar 26, 2024, 4-5pm

Tea: 3:45pm in Room 365

Abstract: Abstract: We study typical ranks of real $m * n * l$ tensors. For $(m - 1)(n - 1) < l < mn + 1$ the typical ranks are contained in $\{l, l + 1\}$, and l is always a typical rank; we provide a geometric proof. We express the probabilities of these ranks in terms of the probabilities of the numbers of intersection points of a random linear space with the Segre variety. For $m = n = 3$, the typical ranks of real $3 * 3 * 5$ tensors are 5 and 6; we link the rank probabilities to the probability of a random cubic surface having real lines.

See http://math.bu.edu/research/geom/seminar.html or contact Yu-Shen Lin (*yslin@bu.edu*) or Brian Williams (*bwill22@bu.edu*) for more information.