



CENTRO DE
MATEMÁTICA
UNIVERSIDADE DO PORTO

GEOMETRY AND TOPOLOGY SEMINAR

Toric geometry and statistical models

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Abstract. A discrete statistical model is a subset of a probability simplex. Its maximum likelihood estimator (MLE) is a retraction from that simplex onto the model. We characterize all models for which this retraction is a rational function. This is a contribution via real algebraic geometry which rests on results on Horn uniformization due to Huh and Kapranov. We present an algorithm for constructing models with rational MLE, and we demonstrate it on a range of instances. Everything will be explained from basic principles and no knowledge of statistics will be assumed.

FRIDAY, FEBRUARY 07

15H30

ROOM 1.09

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