# The concentration of information phenomenon for convex measures

Mokshay Madiman

The classical Shannon-McMillan-Breiman theorem expresses the fact that data from a stationary ergodic source lives with high probability in a "typical set" that is much smaller than the actual support of the process. In the last decade, this phenomenon has been found to be exhibited already in finite dimension if the probability measure in question lives on Euclidean space and has certain convexity properties. First, Bobkov and the speaker showed that the information content per coordinate of data from a log-concave distribution is highly concentrated; later this was generalized to a wider class of measures (allowing for heavy tails) by Fradelizi, Li and the speaker. This phenomenon turns out to have applications in information theory, probability, and convex geometry. If time permits, we will highlight some interesting open questions in discrete settings.