

Forward and Reverse Entropy Power Inequalities

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The entropy power inequality (EPI) of Shannon and Stam plays a fundamental role in information theory and has a further significant impact by connecting several areas of mathematics, such as probability theory, functional inequalities, and inequalities in convex geometry. In this talk, we will discuss extensions of the EPI from Shannon-Boltzmann entropy to general Renyi entropy, recent developments on the converse of EPI for log-concave distributions, as well as the connections with some problems in convex geometry. (Based on joint work with Arnaud Marsiglietti and James Melbourne).