# The Brascamp-Lieb inequality

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The Brascamp-Lieb inequality is a powerful and far-reaching generalisation of Holder's inequality, Young's convolution inequality and the Loomis-Whitney inequality. In this talk I will introduce various fundamental results on the Brascamp-Lieb inequality, including Lieb's theorem on near-maximizers and a characterization of the feasibility of the inequality due to Bennett, Carbery, Christ and Tao. I will also explain the important role of the so-called geometric Brascamp-Lieb inequality and how one can prove this case in an elegant way using the heat equation. In the remaining time, I will mention recent developments on the inverse form of the Brascamp-Lieb inequality.