

# TO LOGCONCAVITY AND BEYOND

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## ABSTRACT

It is the middle of 1970s. Brascamp and Lieb, striking from the Brunn–Minkowski inequality, has won the first victory against an interaction between convexity and parabolic equations. During their paper, they managed to establish the ultimate convexity notion in the framework of diffusion, LOGCONCAVITY, a property with enough applications to develop an entire convex analysis. Logconcavity is commonly regarded as the optimal concavity property for the heat flow. In spite of this, we want to further investigate in this direction and we dare to ask the following questions: What is the strongest concavity preserved by the heat flow? Hoping to resolve the matter, we dispatch a new notion to settle the conflict. This is joint work with Kazuhiro ISHIGE and Paolo SALANI.

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