MATRIX THERMODYNAMIC FORMALISM AND ITS APPLICATIONS TO AFFINE ITERATED FUNCTION SYSTEMS

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Since the 1970s there has been a rich and extensive theory of equilibrium states for real-valued potentials over shifts of finite type which has had numerous applications across various areas of mathematics. In the last decade a theory of equilibrium states for matrix-valued potentials has developed, motivated mainly by connections with self-affine fractals. I will describe some of my recent research on matrix equilibrium states and its applications to affine iterated function systems.