

Busemann functions as solutions to variational formulas

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Abstract:

We present variational formulas obtained for the limiting time constant of directed last passage percolation and directed polymer models.

Minimizers to these formulas come from cocycles appropriately adapted to the potential, that can be obtained from Busemann functions. The theory will be demonstrated with a variety of examples that include periodic models, the exactly solvable models for LPP and directed polymers and polymers in weak disorder