

Harnack inequality for $D_t - \Delta$

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The aim of this project is to prove Harnack inequality for positive solutions of the equation $D_t u - \Delta u = 0$. A first proof is given using the ideas of Lecture 1, leading to the strong maximum principle. This proof uses the explicit knowledge of the fundamental solution of the heat equation. A second proof is due to Li and Yau and is based on differential inequalities.

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