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Mihai Bailesteanu* (mihai@ccsu.edu), 1615 Stanley Street, 120 Marcus White Hall, New Britain, CT 06050. *Applications of Harnack inequalities to nonlinear parabolic equations.*

Inspired by the work of Li-Yau, Hamilton and Perelman, we use the method of gradient estimates to determine Harnack inequalities for nonlinear parabolic equations. We discuss the method to come up with the Harnack quantity and prove that it's non-negative. We also present some old and new estimates obtained from the Harnack inequality. (Received February 01, 2016)