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Mihai Bailesteanu* (mbailesteanu@math.cornell.edu), 120 Malott Hall, Cornell University, Ithaca, NY 14853. *Bounds on the Heat Kernel under the Ricci Flow.*

We establish an estimate for the fundamental solution of the heat equation on a closed Riemannian manifold M , evolving under the Ricci flow. The estimate depends on some constants arising from a Sobolev imbedding theorem. Considering the case when the scalar curvature is positive throughout the manifold, at any time, we will obtain, as a corollary, a bound similar to the one known for the fixed metric case. (Received August 04, 2010)