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**Guoyi Xu\*** ([guoyixu@math.uci.edu](mailto:guoyixu@math.uci.edu)), 340 Rowland Hall, university of California, Irvine, CA 92697. *Short-time existence of the Ricci flow on noncompact Riemannian manifolds.*

Using the local Ricci flow, we prove the short-time existence of the Ricci flow on noncompact manifolds, whose Ricci curvature has global lower bound and sectional curvature has only local average integral bound. The short-time existence of the Ricci flow on noncompact manifolds was studied by Wan-Xiong Shi in 1990s, who required a point-wise bound of curvature tensors. As a corollary of our main theorem, we get the short-time existence part of Shi's theorem in this more general context. (Received June 16, 2011)