1072-58-152 **Richard H Bamler*** (rbamler@math.princeton.edu), 3 Lawrence Dr, Apt 203, Princeton, NJ 08540. *Stability of symmetric spaces under Ricci flow.*

We establish stability results for symmetric spaces of noncompact type under Ricci flow, i.e. we will show that any small perturbation of the symmetric metric is flown back to the original metric under an appropriately rescaled Ricci flow. It will be important for us which smallness assumptions we have to impose on the initial perturbation. We will find that as long as the symmetric space does not contain any hyperbolic or complex hyperbolic factor, we don't have to assume any decay on the perturbation. Furthermore, in the hyperbolic and complex hyperbolic case, we show stability under a very weak assumption on the initial perturbation. This will generalize a result obtained by Schulze, Schnürer and Simon in the hyperbolic case. The proofs of those results make use of an improved L^1-decay estimate for the heat kernel in vector bundles as well as elementary geometry of negatively curved spaces. (Received June 26, 2011)