1117-37-245 **Huyi Hu** and **Miaohua Jiang*** (jiangm@wfu.edu), Department of Mathematics and Statistics, Wake Forest University, Winston Salem, NC 27109, and **Yunping Jiang**. *Infimum of Entropy of Volume Preserving Hyperbolic Systems under Smooth Perturbation.* Preliminary report.

For a uniformly hyperbolic system f on a compact Riemmanian manifold, assuming it processes an SRB measure μ_f, the metric entropy with respect to μ_f is positive and changes in general when the map is perturbed in a neighborhood of f while it is topological entropy remains a constant. The question rises whether there is some obstacle that might prevent the entropy from approaching zero while the map is perturbed along a path within the open set of uniformly hyperbolic systems. In a recent paper, we have shown that while the entropy remains positive, it can be made as small as possible by making successive perturbations to f along a C^1-path, preserving the uniform hyperbolicity. In this work, we prove, by mainly using the Dacorogna-Moser theorem, that volume preserving will not pose an obstacle to reduce the entropy with respect to the volume. The entropy can be made as small as possible by making successive smooth perturbations along a homotopic path which lies in the space of volume preserving uniformly hyperbolic systems. (Received January 18, 2016)