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Yi Li* (yili@math.harvard.edu), Department of Mathematics, Science Center, One Oxford Street, Cambridge, MA 02138. *Eigenvalues under the Ricci flow coupled with the harmonic map flow*. Preliminary report.

In this talk we discuss the eigenvalues and entropy under the Ricci flow coupled with the harmonic map flow (RH flow). We give an alternative proof of results for compact steady and expanding RH breathers. In the second part, we derive some monotonicity formulas for eigenvalues of Laplacian under the RH flow. At the end, we obtain the first variation of the shrinker and expanding entropies for the RH flow. (Received March 29, 2011)