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Jie Qing* (qing@cats.ucsc.edu), Dept. of Math., UCSC, Santa Cruz, CA 95064. *On the finite time singularities of the heat flow for harmonic maps from surfaces.* Preliminary report.

In this paper we study the finite time singularities for the solution of the heat flow for harmonic maps. We derive a gradient estimate for the solution across a finite time singularity. In particular, we find that the solution is asymptotically radial around the isolated singular point in space at a finite singular time. (Received January 21, 2001)