

1021-35-161

Joachim Krieger* (jkrieger@math.harvard.edu), Harvard University, Science Center, 1 Oxford Street, Cambridge, MA 02138. *Renormalization and blow up for charge one equivariant critical wave maps*. Preliminary report.

We consider wave maps from \mathbf{R}^{2+1} to S^2 , and discuss our recent result (joint w. Wilhelm Schlag and Daniel Tataru) that suitable initial data lead to finite-time singularity development. More precisely, a finite co-dimensional manifold of initial data leads to solutions which result in the ‘bubbling off’ of a charge 1 harmonic map. Our result implies that the blow-up may be arbitrarily violent in the sense that the re-scaling parameter may grow like any prescribed inverse power of time (provided blow-up occurs at time $t = 0$)

(Received September 04, 2006)