1010-35-75          **Alex A. Himonas\*** (`himonas.1@nd.edu`), Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556-5683. *High frequency solutions and well-posedness of the Camassa-Holm equation.* Preliminary report.

We construct high frequency smooth periodic solutions to the Camassa-Holm equation and use them to prove that the related solution map is not uniformly continuous on bounded sets in any Sobolev space of index greater than or equal to one. (This work is in collaboration with Gerard Misiolek.) (Received August 19, 2005)