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Curtis A Holliman* (chollima@nd.edu), Department of Mathematics, 255 Hurley, Notre Dame, IN 46556, and **Alex Himonas** (himonas.1@nd.edu), Department of Mathematics, 255 Hurley, Notre Dame, IN 46556. *On the Well-Posedness of the Degasperis-Procesi Equation.*

We will demonstrate, in both the periodic and the non-periodic cases, that the data-to-solution map for the Degasperis-Procesi (DP) equation is not a uniformly continuous map on bounded subsets of Sobolev spaces with exponent greater than $3/2$. This result shows that continuous dependence on initial data of solutions to the this equation is sharp. The proof relies on well-posedness results, approximate solutions, and conserved quantities for the DP equation. (Received September 08, 2010)