1059-35-193   **Justin Holmer*** (`holmer@math.brown.edu`), Department of Mathematics, Box 1917, 151 Thayer St., Providence, RI 02912, and **Galina Perelman** and **Maciej Zworski**. *Effective dynamics of double solitons for perturbed mKdV.*

We show that an interacting double soliton solution to the perturbed modified Koreteweg-de Vries (mKdV) equation is close in H^2 to a double soliton following an effective dynamics obtained as Hamilton's equations for the restriction of the mKdV Hamiltonian to the submanifold of solitons. The interplay between algebraic aspects of complete integrability of the unperturbed equation and the analytic ideas related to soliton stability is central in the proof. (Received February 23, 2010)