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Milena O. Stanislavova*, University of Kansas, 405 Snow Hall, 1460 Jayhawk Blvd, Lawrence, KS 66045, and **Atanas G. Stefanov**. *Attractors for the viscous Camassa-Holm equation*.

We consider the viscous Camassa-Holm equation subject to an external force, where the viscosity term is given by second order differential operator in divergence form. We show that under some mild assumptions on the viscosity term, one has global well-posedness both in the periodic case and the case of the whole line. In the periodic case, we show the existence of global attractors in the energy space H^1 , provided the external force is in the class $L^2(I)$. Moreover, we establish an asymptotic smoothing effect. Identical results (after adding an appropriate linear damping term) are obtained in the case of the whole line. (Received January 23, 2006)