

# Well-posedness and exponential stability of the Kawahara equation with a time-delayed localized damping

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## Abstract

The aim of this article is to investigate the well-posedness and stability problems of the so-called Kawahara equation under the presence of an interior delayed damping. The system is shown to be well-posed. Furthermore, we prove that the trivial solution is exponentially stable in spite of the delay effect. Specifically, local and semi-global stability results are established according to the properties of the spatial distribution of the delay term.

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