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*Wave breaking in the short-pulse equation*

In this talk, we discuss sufficient conditions for wave breaking in the short-pulse equation describing wave packets of few cycles on the ultra-short pulse scale. Our analysis relies on the method of characteristics and conserved quantities of the short-pulse equation and holds both on an infinite line and in a periodic domain. We provide numerical illustrations of the finite-time wave breaking in a periodic domain.

This is a joint work with Yue Liu and Dmitry Pelinovsky.