

Unique continuation properties for solutions to the Camassa-Holm equation.

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In this talk we present recent results regarding unique continuation for solutions of the initial value problem for the Camassa-Holm equation. More precisely, we show that if $u(x, t)$ is a solution of the IVP which vanishes in an open set $\Omega \subset \mathbb{R} \times [0, T]$, then $u(x, t) = 0$, $(x, t) \in \mathbb{R} \times [0, T]$. This result also applies to solutions of the initial periodic boundary value problems associated to the Camassa-Holm equation. The argument of proof can be placed in a general setting to extend the above results to a class of non-linear non-local 1-dimensional models which includes the Degasperis-Procesi equation.