

Thursday, 24 March, 17:00 – 18:00

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Local well-posedness for the gKdV equation on the background of a bounded function

In this talk we will prove the LWP for the gKdV equation in $H^s(\mathbb{R})$, $s > 1/2$, under general assumptions on the nonlinearity $f(x)$, on the background of a bounded function $\Psi(t,x)$, with $\Psi(t,x)$ satisfying some suitable conditions. As a consequence of our estimates, we also obtain the unconditional uniqueness of the solution in $H^s(\mathbb{R})$. This result not only gives us a framework to solve the gKdV equation around a Kink, for example, but also around a periodic solution, that is, to consider localized non-periodic perturbations of a periodic solution.

Link to the seminar:

<https://us06web.zoom.us/j/99649860282?pwd=SE0vemtYMFllwbFBNTXQyOTBONG0vZz09>