



Nonlinear Profile Decomposition and the Concentration Phenomenon for the supercritical gKdV Equation

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A nonlinear profile decomposition is established for solutions of the supercritical generalized Korteweg-de Vries equation

$$\begin{cases} \partial_t u + \partial_x^3 u + \partial_x(u^{k+1}) = 0, & x \in \mathbb{R}, \quad t > 0, \quad k \geq 4, \\ u(x, 0) = u_0(x). \end{cases}$$

As a consequence, we obtain a concentration result for finite time blow-up solutions that are of Type II. This is a joint work with Brian Pigott (Wofford College).

Referências

- [1] L. G. Farah and B. Pigott, *Nonlinear Profile Decomposition and the Concentration Phenomenon for Supercritical Generalized KdV Equations*, arXiv:1610.06904, 2016.

Palavras-chave: *KdV equation, profile decomposition, concentration.*

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