



# SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

**On special regularity properties of solutions to the k-generalized  
Korteweg-de Vries equation**

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IMPA

16/03/2017 (Quinta-Feira)

16:00 horas

Sala 121 do IMECC

**Resumo:** We will discuss special regularity properties of solutions to the IVP associated to the k-generalized KdV equations. In [?] we show that for data  $u_0 \in H^{3/4+}(\mathbb{R})$  whose restriction belongs to  $H^k((b, \infty))$  for some  $k \in \mathbb{Z}^+$  and  $b \in \mathbb{R}$ , the restriction of the corresponding solution  $u(\cdot, t)$  belongs to  $H^k((\beta, \infty))$  for any  $\beta \in \mathbb{R}$  and any  $t \in (0, T)$ . Thus, this type of regularity propagates with infinite speed to its left as time evolves. This kind of regularity can be extended to a general class of nonlinear dispersive equations.

If time allows we will discuss propagation of regularity in solutions of related dispersive equations.