



SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

Propagation of regularity principle for ZK equations

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16:00 horas

Sala 321 do IMECC

Resumo: In the first part of the talk, we will review some new classes of pseudo-differential operators, which are useful to keep the regularity and decay properties of functions in different regions of the space. In the second part, we will apply these operators to establish *the propagation of regularity principle* for solutions of the Korteweg-De Vries equation (KdV) and the d -dimensional Zakharov-Kuznetsov equation (ZK), which are models of active investigation.

Joint work with A. J. Mendez, Unicamp University-Brazil.

References

- [1] A. J. Mendez, O. Riaño, *On decay properties for solutions of the d -dimensional Zakharov-Kuznetsov equation*, *Nonlinear Analysis: Real World Applications*, Volume 81, February (2025), 104183.
- [2] F. Linares, G. Ponce, P. Isaza, *On the Propagation of Regularity and Decay of Solutions to the k -Generalized Korteweg-de Vries Equation*. *Comm. PDE* 40, 7 (2015), 1336–1364.
- [3] F. Linares, G. Ponce, *On special regularity properties of solutions of the Zakharov-Kuznetsov equation*. *Commun. Pure Appl. Anal.* 17, 4 (2018), 1561-1572.