



UNIVERSIDAD TECNICA  
FEDERICO SANTA MARIA

DEPARTAMENTO  
DE MATEMÁTICA

## **Próximo Seminario DMAT**

**Jueves 15 de Octubre de 2020, 11:30 - 12:30**

MODALIDAD VIRTUAL VIA ZOOM

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### **On some regularity properties for the dispersive generalized Benjamin-Ono-Zakharov-Kuznetsov Equation**

This work aims to study some smoothness properties concerning the initial value problem associated with the dispersive generalized Benjamin-Ono-Zakharov-Kuznetsov equation. More precisely, we prove that the solutions to this model satisfy the so-called propagation of regularity. Roughly speaking, this principle states that if the initial data enjoys some extra smoothness prescribed on a family of half-spaces, then the regularity is propagated with infinite speed. In this sense, we prove that regardless of the scale measuring the extra regularity in such hyperplane collection, then all this regularity is also propagated by solutions of this model. Our analysis is mainly based on the deduction of propagation formulas relating homogeneous and non-homogeneous derivatives in certain regions of the plane.