

## **SEMINÁRIO DE ANÁLISE E EQUAÇÕES DIFERENCIAIS**

**Dia 8 de Fevereiro (quinta-feira), às 13H30, na sala 6.2.33**

# **The Cauchy-Dirichlet problem for impulsive ultra-parabolic equations**

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### **Abstract**

Extending the results obtained in [1] we have proved the existence and the uniqueness of entropy solutions to ultra-parabolic equations with initial, boundary and, correspondingly, impulsive conditions. The case without impulsive conditions has been treated in [2,3]. The main challenge of the Cauchy-Dirichlet problem being under our study is that boundary conditions are formulated as inequalities.

(Joint work with Sergey Sazhenkov)

### **REFERENCES**

- [1] M. Escobedo, J.L. Vázquez, and E. Zuazua, Entropy solutions for diffusion-convection equations with partial diffusivity, *Trans. Amer. Math. Soc.* Vol. 343 (1994), 829-842.
- [2] I.V. Kuznetsov, Genuinely nonlinear forward-backward ultra-parabolic equations, *Sib. Electronic Math. Rep.*, Vol. 14 (2017), 710-731.
- [3] I.V. Kuznetsov, and S.A. Sazhenkov, Quasi-solutions of genuinely nonlinear forward-backward ultra-parabolic equations, *Journal of Physics: Conference Series*, Vol. 894 (2017), 012046.

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