



6th Symposium on Analysis and PDEs

Purdue University, June 1–4, 2015

Mark Allen, University of Texas at Austin

June 1, 11:30–12:20pm

Parabolic Problems with a Fractional Time Derivative.

In this talk we will begin by discussing the different notions of a fractional-time derivative and their applications in physics. We will then focus on some specific parabolic problems involving fractional time derivatives as well as fractional spatial derivatives. These fractional parabolic problems have particular relevance in modeling plasma transport problems. We will discuss existence, uniqueness, and regularity for these problems. This is joint work with L. Caffarelli and A. Vasseur.