1135-60-3073 **Sunday Amaechi Asogwa*** (saa0020@auburn.edu), 221 Parker Hall, Auburn University, Auburn, AL 36849. *Intermittency fronts and some non-existence results for the space-time fractional diffusion.*

We consider the following time fractional stochastic heat type equation

$$\partial_t^\beta u_t(x) = -\nu(-\Delta)^{\alpha/2} u_t(x) + I_t^{1-\beta}[b(u) + \sigma(u) \dot{W}(t,x)]$$

in $(d+1)$ dimensions, where $\nu > 0, \beta \in (0,1)$, $\alpha \in (0,2]$. The operator ∂_t^β is the Caputo fractional derivative while $-(-\Delta)^{\alpha/2}$ is the generator of an isotropic α-stable Lévy process and $I_t^{1-\beta}$ is the Riesz fractional integral operator. The forcing noise denoted by $\dot{W}(t,x)$ is a space-time white noise. When $b = 0$, we show that : (i) absolute moments of the solutions of this equation grows exponentially; and (ii) the distances to the origin of the farthest high peaks of those moments grow exactly linearly with time.

When $b(u) = u^{1+\eta}$, we establish some non-existence of global random field solutions, under some additional conditions, most notably on η, σ and the initial condition. Our results complement those of P. Chow "P.-L. Chow. Explosive solutions of stochastic reaction-diffusion equations in mean l_p-norm. J. Differential Equations, 250(5) (2011), 2567–2580" , and Foondun et al. in "M. Foondun, W. Liu, and E. Nane. (Received September 26, 2017)