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Yaozhong Hu* (yaozhong@ualberta.ca), Department of Math and Stat Sciences, University of Alberta at Edmonton, 632 CAB, Edmonton, Alberta T6G 0S6, Canada. *Stochastic heat equation with Stochastic Heat Equation with general nonlinear spatial rough noise*. Preliminary report.

In this paper, I will present some research on stochastic heat equation driven by general Gaussian noises, including fractional Gaussian noises. I will focus on a nonlinear one space dimensional stochastic heat equations driven by a Gaussian noise which is white in time and which has the covariance of a fractional Brownian motion with Hurst parameter $H \in (\frac{1}{4}, \frac{1}{2})$. We need to introduce a specific decay $\lambda(x)$ in the spatial variable to prove the weak existence of solutions. Some precise properties of the solution will also presented. This is a joint work with Xiong Wang. (Received June 12, 2019)