1110-60-102 **Yaozhong Hu** and **Jingyu Huang*** (`huangjy@ku.edu`), 1712 Anna Dr. Apt 04, Lawrence, KS 66044, and **David Nualart** and **Samy Tindel**. *Stochastic heat equation with general multiplicative Gaussian noises: Hölder continuity and intermittency.*

We study the stochastic heat equation with multiplicative noises: $\frac{\partial u}{\partial t} = \frac{1}{2}\Delta u + u\dot{W}$, where $\dot{W}$ is a mean zero Gaussian noise and $u\dot{W}$ is interpreted both in the sense of Skorohod and Stratonovich. The existence and uniqueness of the solution are studied for noises with general time and spatial covariance structure. Feynman-Kac formulas for the solutions and for the moments of the solutions are obtained under general and different conditions. These formulas are applied to obtain the Hölder continuity of the solutions. They are also applied to obtain the intermittency bounds for the moments of the solutions. (Received February 13, 2015)