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David Nualart* (nualart@math.ku.edu), Department of Mathematics 405 Snow Hall, 1460 Jayhawk Blvd, Lawrence, KS 66045-7523. *Stochastic Heat Equation Driven by Fractional Noise.*

We consider a bilinear one-dimensional stochastic heat equation driven by a noise which is white in space and it has the covariance of the fractional Brownian motion with Hurst parameter H in time. We present some recent results on the existence and uniqueness of a solution to this equation. Also, using a Feynman-Kac formula we provide an expression for the moments of the solution in terms of the local time of the Brownian motion. (Received August 11, 2006)