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**Zhongqiang Zhang\*** (zzhang7@wpi.edu), Worcester, MA 01609. *Optimal error estimates of finite element methods for stochastic semilinear elliptic equations.*

We consider piecewise linear finite element methods for a class of semilinear elliptic equations with additive spatial white noise. We truncate the white noise using a spectral expansion of white noise. Taking a proper number of modes for the spectral approximation of the white noise, we prove optimal strong convergence order of the finite element approximation. We also discuss the weak convergence of the considered numerical methods. Numerical results confirm our prediction for one- and two-dimensional elliptic problems. This work is joint work with Boris Rozovskii and George Em Karniadakis. (Received January 18, 2018)