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Hongwei Mei* (ev0554@wayne.edu), 940 W. Forest Ave, Apt 5, Detroit, MI 48201, and **Fuke Wu** and **George Yin**. *Stochastic Functional Differential Equations with Infinite Delay*.

This work is devoted to stochastic functional differential equations (SFDEs) with infinite delay. First, existence and uniqueness of the solutions of such equations are examined. Because the solutions of the delay equations are not Markov, a viable alternative for studying further asymptotic properties is to use solution maps or segment processes. By examining solution maps, this work investigates the Markov properties as well as the strong Markov properties. Also obtained are adaptivity and continuity, mean-square boundedness, and convergence of solution maps from differential initial data. This paper then examines the ergodicity of underlying processes and establishes existence of the invariant measure for SFDEs with infinite delay under suitable conditions. (Received August 09, 2015)