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Bozenna J. Pasik-Duncan* (bozenna@math.ku.edu), Mathematics Department, Snow Hall, University of Kansas, Lawrence, KS 66045. *Identification for Stochastic Systems with a Fractional Brownian Motion*. Preliminary report.

Some stochastic systems are described by stochastic differential equations with a fractional Brownian motion replacing the usual Brownian motion. Fractional Brownian motions seem to be empirically justifiable in stochastic models of many physical phenomena. A problem of parameter identification is formulated and solved for these stochastic systems using some least squares estimation ideas. Some examples are given for the applicability of the procedure. (Received August 28, 2006)