Hysteresis-induced long-time tails GUENTER RADONS, Institute of Physics, Chemnitz University of Technology — Many systems ranging from magnetic materials to shape memory alloys, or fluids in porous structures show complex hysteretic behavior in the sense that besides major loops, subloops and non-local memory effects are observed. The most prominent phenomenological model to account for such effects is the so-called Preisach model [1]. For this model it is shown analytically that uncorrelated input in time is transformed into output showing power-law decay of correlations and 1/f-noise. The characteristic exponents are shown to depend on the tails of the input density and the Preisach density. Universality classes leading to these results are identified.


Guenter Radons
Institute of Physics, Chemnitz University of Technology

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