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Extreme value analysis of stochastically and deterministically forced systems

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A number of geophysical phenomena are associated with the evolution of variables forced by an impulse type of signal when their values exceed some threshold. In this communication the probability density function and power spectra density of the response to this type of signal are analyzed. Connections with the classical theory of extreme values are outlined such as those induced by a chaotic maping or a chaotic Duffing oscillator.