STOCHASTIC RESONANCE: INFLUENCE OF A $f^{-\kappa}$ NOISE SPECTRUM

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With the aim of studying *stochastic resonance* (SR) in a double-well potential when the noise source has a spectral density of the form $f^{-\kappa}$ (with varying κ), we have extended a procedure introduced by Kaulakys et al (Phys. Rev. E **70**, 020101 (2004)). In order to have an analytical understanding of the results, we have obtained an effective Markovian approximation, that allows us to make a systematic study of the effect of such kind of noises on the SR phenomenon. The comparison of numerical and analytical results shows an excellent qualitative agreement indicating that the effective Markovian approximation is able to correctly describe the general trends.