

**[P4] Gaussian white noise as a resource for microscopic engines**

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Brownian ratchets allow the rectification of noise under nonequilibrium conditions. If the nonequilibrium state is induced by the noise itself, ratchets can thus be considered as microscopic engines that can convert noise into useful work. So far this has been demonstrated for nonequilibrium (non-white or non-Gaussian) types of noise. By contrast, Gaussian white noise is often associated with thermal equilibrium fluctuations. We devise a simple overdamped ratchet model in which additive Gaussian white noise gives rise to a finite current and can be converted into work. Thus fluctuations always have to be considered in the context of the physical system to determine whether they are equilibrium fluctuations or not.