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**High-frequency analysis of parabolic stochastic PDEs with multiplicative noise**

We consider the stochastic heat equation driven by a multiplicative Gaussian noise that is white in time and spatially homogeneous in space. Assuming that the spatial correlation function is given by a Riesz kernel of order $\alpha \in (0,1)$, we prove a central limit theorem for the power variations of the solution. At the same time, we show that the same central limit theorem fails in general if $\alpha = 1$ (in dimension $d \geq 2$) or if the noise is a space-time white noise (in dimension $d = 1$).