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Tian-Yau Hu (HUT@uwgb.edu) and **Ka-Sing Lau*** (kslau@math.cuhk.edu.hk), Department of Mathematics, The Chinese University of Hong Kong, Hong Kong, Hong Kong. *Spectral property of Bernoulli convolutions.*

Let μ_ρ be the Bernoulli convolution with $0 < \rho < 1$, we show that $L^2(\mu_\rho)$ has an infinite orthonormal set of exponential functions if and only if ρ is the n -th root of a fraction p/q where p is an odd integer and q is an even integer. This extends an earlier result of Jorgensen and Pedersen. (Received August 05, 2008)