1077-46-1750 **Xing-Gang He**, **Chun-Kit Lai** and **Ka-Sing Lau*** (kslau@math.cuhk.edu.hk), Department of Mathematics, The Chinese University of Hong Kong, Hong Kong, Hong Kong. *Exponential spectra in $L^2(\mu)$.* Preliminary report.

Initiated by Jorgensen and Pedersen's earlier work on the L^2-exponential basis of Cantor measures and the Fuglede problem, we consider the exponential type orthonormal basis, Riesz basis and frames in $L^2(\mu)$. We show that if $L^2(\mu)$ admits an exponential frame, then μ must be of pure type. We then give a detail study of the pure types and their convolutions. (Received September 20, 2011)