

Meeting: 1005, Newark, Delaware, SS 6A, Special Session on High Dimensional Probability

1005-60-169 **Shahar Mendelson** and **Joel Zinn*** (jzinn@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77843. *An empirical central limit theorem for pre-Gaussian classes of functions and a related concentration inequality.*

Given a pre-Gaussian class of functions, $\mathcal{F} \subseteq \mathcal{L}_\infty(S, P)$, with associated Gaussian $\{G_f\}_{f \in \mathcal{F}}$, we find a sequence of functions, $\phi_n : \mathcal{L}_\infty(S, P) \rightarrow \mathcal{L}_\infty(S, P)$, such that $\{\frac{1}{\sqrt{n}} \sum_{j=1}^n (\phi_n(f)(X_j) - Pf)\}_{f \in \mathcal{F}}$ converges to $\{G_f\}_{f \in \mathcal{F}}$ in $\mathcal{L}_\infty(\mathcal{F})$ and obtain a related concentration inequality in the uniformly bounded case. (Received February 08, 2005)