HARMONIC ANALYSIS, 12. EXERCISE

1. (5p.) Let $T \in CZO(\delta, A)$, $\delta, A > 0$, and $T^{(\varepsilon)}$ be the corresponding truncated operator. *Sketch* what should be shown in order to have strong (p,p) and weak $(1,1)$ for both T and $T^{(*)}$, and for the existence of the limit $\lim_{\varepsilon \downarrow 0} T^{(\varepsilon)} f$, whenever $f \in L^p(\mathbf{R}^n)$, $1 \leq p < \infty$. In particular, describe what parts of proofs for singular integrals of convolution type can be used as such by using properties of standard kernels, and what parts need modifications.

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