



Mathematics > Classical Analysis and ODEs

# The Muckenhoupt $A_\infty$ class as a metric space and continuity of weighted estimates

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We show how the  $A_\infty$  class of weights can be considered as a metric space. As far as we know this is the first time that a metric  $d$  is considered on this set. We use this metric to generalize the results obtained in [9]. Namely, we show that for any Calderon- Zygmund operator  $T$  and an  $A_p$ ,  $1 < p < \infty$ , weight  $w_0$ , the operator norm of  $T$  in  $L^p(w)$  converge to the operator norm of  $T$  in  $L^p(w_0)$  as  $d(w;w_0)$  goes to 0. We also find the rate of this convergence and prove that is sharp.

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