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Claremont, CA 91711. *Simplified refined Jones factorization of  $A_\infty$  weights.*

A variant of the Hardy-Littlewood maximal operator (introduced by Bennett in 1982 to study the space of functions of bounded lower oscillation) renders transparent the asymmetry between  $A_1$  and  $RH_\infty$  (the limiting  $A_p$  and reverse Hölder classes) and, subsequently, Cruz-Uribe and Neugebauer's 1995 refinement of the Jones factorization theorem (i.e., that any weight in  $A_p \cap RH_s$  can be expressed as a product of some  $w_0 \in A_p \cap RH_\infty$  and some  $w_1 \in A_1 \cap RH_s$ ). (Received March 10, 2008)