1067-42-475 **Michael T. Lacey*** (lacey@math.gatech.edu), Mathematics, Atlanta, GA 30332. *The linear bound in A_2 characteristic for Calderon-Zygmund operators.*

In all dimensions, weight w in Muckenhoupt class A_2, and L^2 bounded normalized Calderon-Zygmund operators T, T maps $L^2(w)$ to $L^2(w)$ with norm bounded by the A_2 characteristic of w to the first power. This is the sharp power on the A_2 characteristic, and represents a culmination of a line of investigation started by Hunt-Muckenhoupt-Wheeden in 1973. We will summarize the efforts of many people to prove this bound. These include a profound extension of the David-Journe $T1$ theorem to the A_2 setting, due to Perez-Treil-Volberg. And different three different approaches to verifying the testing conditions in the $T1$ theorem, which include work of Tuomas Hytonen, Maria Carmen Reguera, Eric Sawyer, Ignacio Uriate-Tuero, and Armen Vagharshakyan, as well as Perez-Treil-Volberg already mentioned. (Received September 06, 2010)