1030-42-348 **Carlos Prez*** (carlosperez@us.es), Deapartment of Mathematics, Kansas University, Lawrence, KS 66045-7523, and **Andrei Lerner** and **Sheldy Ombrosi**. *Sharp A_1 bounds for Caldern-Zygmund operators and the relationship with a problem of Muckenhoupt and Wheeden.*

For any Caldern-Zygmund operator T we prove sharp weighted L^p estimates when the weight satisfies the A_1 condition within the range $1 < p < \infty$. In the case when $p = 2$ and T is a classical convolution singular integral, this result is due to R. Fefferman and J. Pipher. Our method is different avoiding Littlewood-Paley square functions. Using this estimate we will skecth, assuming again that $w \in A_1$ how to deduce a weighted weak type $(1, 1)$ estimate with some logarithmic loss. It seems that this estimate is not sharp but it is related to a conjecture of Muckenhoupt and Wheeden that we will address. (Received August 06, 2007)