

“A bilinear Hörmander condition ”

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It is a well-known fact that the Calderón-Zygmund decomposition allows one to obtain optimal weak-type endpoint results for operators bounded a priori on some initial Lebesgue spaces, provide their kernels verify certain regularity assumptions. This result is true both in the linear and multilinear settings. In this lecture we plan to describe a condition on the kernel similar in spirit to the sometimes called (linear) Hörmander or Lipchitz integral condition, so that its associated bilinear operators is of weak type $(1,1, 1/2)$. This condition is weaker than the usual Hölder or Dini type conditions for bilinear Calderón-Zygmund operators and takes a simple geometric form. We will review first a good portion of the multilinear theory but the new results to be presented are part of a joint work with R. Torres.