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Michael Lacey and **Kabe Moen*** (moen@math.wustl.edu), Mathematics, Washington University in St. Louis, Cupples I hall, One Brookings Dr., St. Louis, MO 63130, and **Carlos Perez** and **Rodolfo Torres**. *Sharp weighted bounds for fractional integral operators.*

The relationship between the operator norms of fractional integral operators acting on weighted Lebesgue spaces and the constant associated to the weights. We obtain analogous results for the fractional integral operator to Petermichl's sharp weighted bounds for singular integral operators. We also obtain analogous results for the fractional integral operator to some difficult open problems in weighted theory for Calderon-Zygmund operators. Our results rely on a sharp off-diagonal version of the extrapolation theorem of Rubio de Francia and a dyadic decomposition of the fractional integral operator. This is a joint work with M. Lacey, C. Perez, and R.H. Torres. (Received November 11, 2009)