1025-46-281 **Maria Girardi*** (girardi@math.sc.edu), Mathematics Department, University of South Carolina, Columbia, SC 29208, and **Lutz Weis** (lutz.weis@math.uni-karlsruhe.de), Mathematisches Institut I, Universitaet Karlsruhe, 76128 Karlsruhe, Germany. *Operator-valued martingale transforms and R-boundedness.*

Let X be a Banach space. X-valued martingale transforms by a B(X)-valued multiplier sequence are bounded on $L_p(X)$, where $1 < p < \infty$ and X is a UMD space, if and only if the multiplier sequence is pointwise R-bounded. This is also true for unconditionally convergent martingales in arbitrary Banach spaces. (Received January 24, 2007)