A variation-norm Carleson theorem

The Carleson-Hunt theorem shows that for every $p$-integrable function $f$ on the circle, $1 < p < \infty$, the Fourier series of $f$ converges to $f$ almost everywhere. We give an extension of this theorem which provides quantitative information about the rate of convergence, and we discuss some applications. Joint work with A. Seeger, T. Tao, C. Thiele, and J. Wright.