1030-42-187

J. Marshall Ash* (mash@condor.depaul.edu), DePaul University, Department of Mathematics, Chicago, IL 60614, and Sergey Tikonov and James Tung. On spaces "close" to $L^p(\mathbb{T})$. Preliminary report.

We consider spaces that are "close" to $L^p(\mathbb{T})$: L^p itself, the space of functions with positive Fourier coefficients that are integrable near 0, the space of functions whose Fourier coefficients are in $\ell^{p'}$, the space of functions whose Fourier coefficients $\{c_n\}$ satisfy $\sum |c_n|^p n^{p-2} < \infty$, and the Lorentz spaces L^{pq} , $1 \le q \le \infty$. We display several relationships between these spaces. (Received August 02, 2007)