**Meeting:** 998, Houston, Texas, SS 3A, Special Session on Harmonic and Functional Analysis

998-42-316    **Paul Alton Hagelstein\*** (`paul_hagelstein@baylor.edu`), Department of Mathematics, Baylor University, Waco, TX 76798. *Orlicz Bounds for Operators of Restricted Weak Type.*

Let $T$ be a sublinear operator mapping the set of measurable functions supported on the unit circle $\mathbb{T}$ into itself. If $T$ is of restricted weak type $(1, 1)$, then $T$ is a bounded operator from simple functions in $L \log L (\mathbb{T})$ into weak $L^1 (\mathbb{T})$. Moreover, if $T$ is a sublinear translation-invariant operator of restricted weak type $(1, 1)$, then $T$ is a bounded operator from simple functions in $L \log L (\mathbb{T})$ into $L^1 (\mathbb{T})$ itself. This result is sharp in the sense that there exists a sublinear translation-invariant operator $T$ acting on $L^1 (\mathbb{T})$ that is of restricted weak type $(1, 1)$ and maps $L \log L (\mathbb{T})$ boundedly into $L^1 (\mathbb{T})$, but is not of weak type $(1, 1)$. (Received March 01, 2004)

1