

1014-28-367

J. Alan Alewine* (jaalewine@mckendree.edu), 701 College Road, Lebanon, IL 62254, and **Eric Schechter**. *An Inductive Limit Topology on the Denjoy Space.*

Let $\mathcal{KH}[0, 1] = \{f : [0, 1] \rightarrow \mathbb{R} \mid f \text{ is KH integrable}\}$. The most widely investigated topology on $\mathcal{KH}[0, 1]$ is that given by the Alexiewicz norm $\|f\|_A = \sup_{x \in [0, 1]} \left| \int_0^x f \right|$. We have investigated an inductive limit topology on $\mathcal{KH}[0, 1]$ determined by certain complete seminormed subspaces of $\mathcal{KH}[0, 1]$. The seminorms measure the rate at which Riemann sums converge to the integral. The resulting topology on $\mathcal{KH}[0, 1]$ is barreled, bornological, stronger than pointwise convergence on $[0, 1]$, and stronger than the topology given by the Alexiewicz norm. (Received September 12, 2005)