1163-28-760 **Tepper L. Gill*** (tgill@howard.edu). *A family of Banach spaces over* $\mathbb{R}_I^\infty$.

In recent work, the topology of $\mathbb{R}^\infty$ was replaced with a new topology denoted by $\mathbb{R}_I^\infty$. This space was then used to construct Lebesgue measure on $\mathbb{R}_I^\infty$ in a manner that, is no more difficult than the same construction on $\mathbb{R}^n$. More important, a new class of separable Banach spaces $KS^p[\mathbb{R}^n],\ 1 \leq p \leq \infty$, for the HK-integrable functions were introduced. These spaces contain the L^p spaces and the Schwartz space of distributions as continuous dense embeddings.

In this talk I will extend the work on $KS^p[\mathbb{R}^n]$ to $KS^p[\mathbb{R}_I^\infty]$. (Received September 12, 2020)