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Dual of the Class of HK_r Integrable Functions

We define for $1 \leq r < \infty$ a norm for the class of functions which are Henstock-Kurzweil integrable in the L^r sense. We then establish that the dual in this norm is isometrically isomorphic to $L^{r'}$ and is therefore a Banach space, and in the case $r = 2$, a Hilbert space. Finally, we give results pertaining to convergence and weak convergence in this space.

Keywords: Lr-Henstock-Kurzweil integral, HKr-dual, HKr-norm.

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