

44th Summer Symposium in Real Analysis

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Integrals in the Metric L^r

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We introduce the L^r -variational integral [7], a variational-type integral [3] which recovers a function from its derivative [1] defined in the space L^r , $1 \leq r < \infty$. We show that this integral is equivalent to a Henstock-Kurzweil-type integral, the HK_r -integral (2004) [4], which also recovers a function from its L^r -derivative. Finally, we show [5] that the P_r -integral, which was introduced by L. Gordon in 1967 [2], is strictly contained in the HK_r -integral and therefore also in the L^r -variational integral. This is joint work with Valentin Skvortsov and Francesco Tulone.

References

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