Karlstad Applied Analysis Seminar (2023)

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Rearrangement-invariant hulls of function spaces

Abstract

We will recall the concept of monotone rearrangement of a function, and the related class of rearrangement-invariant function spaces, as known e.g. from interpolation theory. I will then discuss my recent work (together with Zdeněk Mihula and Javier Soria) on the topic of the rearrangement-invariant hulls, i.e. the smallest r.i. spaces including a given space or set of functions. In particular, our results concern a description of such a hull of a weighted Lebesgue space, and certain related embeddings.