The Mordor theorem for Orlicz spaces

Jakub Takac

Abstract

Given a measurable space, one may consider the Lebesgue space L^p consisting of all measurable functions f for which $|f|^p$ is integrable. We shall define so-called Orlicz spaces, which serve as a successful attempt at replacing the function $t \mapsto t^p$ in the definition of L^p spaces with a more general Young function. We shall explore some elementary properties of these Orlicz spaces, in particular their rearrangement-invariance. This leads to an axiomatic definition of a far more general object, a so-called rearrangement-invariant (r.i. for short) function space. If time allows, we will discuss the relation of the class of all Orlicz spaces to the class of all r.i. spaces, in particular, we will present the so-called Mordor theorem, a yet unpublished result which describes this relation in great detail.

A short artistic interlude will take place midway through the talk.

Time: 12 p.m, 1st December 2021 **Location:** B3.02

Organisers: Lucas Lavoyer de Miranda (lucas.lavoyer-de-miranda@warwick.ac.uk), Sunny Sood (s.sood.1@warwick.ac.uk)

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