

Introduction to Interpolation Theory

Fernando Cobos¹

The theory of interpolation of operators is a branch of functional analysis with important applications to harmonic analysis, partial differential equations, approximation theory, operator theory and other more distant areas of mathematics. In this course, we will describe the main interpolation methods for Banach spaces and some of their properties and applications. It will cover the following topics:

1. Classical theorems on interpolation of operators between L_p -spaces.
2. Main interpolation methods. Examples.
3. Compactness. Factorization of weakly compact operators.

¹ *Universidad Complutense de Madrid*