MEASURES OF NONCOMPACTNESS AND THEIR APPLICATIONS

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Abstract

In this talk, we present a brief survey of theory and applications of measures of noncompactness. The classical measures of noncompactness are discussed and their properties are compared. The approaches for constructing measure of noncompactness in a general metric or linear space are described, along with the classical results for existence of fixed point for condensing operators. Also several generalization of classical results are mentioned and their applications in various problems of analysis such as linear equation, differential equations, integral equations and common solutions of equations are discussed.

Keywords: Measures of noncompactness; Darbo's fixed point theorem; differential equations; integral equations.