İSTANBUL ANALYSIS SEMINARS

FK AND BK SPACES AND COMPACTNESS

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Abstract: The concepts of FK and BK spaces are most effectively used in the theory of matrix transformations in summability theory. Apart from its importance in metric fixed point theory, the study of compactness in FK and BK spaces has recently also become of great interest. We give a short introduction to FK and BK spaces, to measures of noncompactness on bounded sets in complete metric spaces, and a survey of the most important basic properties of certain measures of noncompactness, in particular, we consider the Kuratowski and Hausdorff measures of noncompactness. Furthermore we define and study the Hausdorff measure of noncompactness of operators between Banach spaces. Finally we demonstrate how measures of noncompactness can be applied in fixed point theory, in BK spaces, and in the characterizations of classes of compact operators between certain sequence spaces.

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