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# The Approximation Theorem of Convolution Operator in $\Delta$ - $p$ Set-valued Function Space

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**摘要** The paper is a contribution to the problem of approximating random set with values in a separable Banach space. This class of set-valued function is widely used in many areas. We investigate the properties of  $p$ -bounded integrable random set. Based on this we endow it with  $\Delta$ - $p$  metric which can be viewed as a integral type hausdorff metric and present some approximation theorem of a class of convolution operators with respect to  $\Delta$ - $p$  metric. Moreover we also can establish analogous theorem for other integral type operator in  $\Delta$ - $p$  space.

**关键词** [Set-valued function](#) [random set](#) [convolution operator](#)

分类号

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**Key words** [Set-valued function](#) [random set](#) [convolution operator](#)

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