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SET INDEXED STRONG MARTINGALE ON INCREASING SEQUENCES

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Abstract

In this paper, we prove that any two-parameter strong martingale is a strong martingale on “lower sets” and we extend the result that any strong martingale is path independent variation which was introduced by Cairoli and Walsh in the plane to set-indexed strong martingale. In addition, we analyze the connection between path independent variation to independent increment set-indexed processes.

Keywords and phrases: set indexed process, martingale, increasing path.