

Strong laws of large numbers for capacities

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Abstract

In this paper, with the notion of independent identically distributed random variables under sub-linear expectations initiated by Peng, we derive three kinds of strong laws of large numbers for capacities. Moreover, these theorems are natural and fairly neat extensions of the classical Kolmogorov's strong law of large numbers to the case where probability measures are no longer additive. Finally, an important feature of these strong laws of large numbers is to provide a frequentist perspective on capacities.

Keywords: capacity, strong law of large number, independently and identically distributed(IID), sub-linear expectation.

AMS 1991 subject classifications. 60H10, 60G48.