

# PLIFs on Separable Metrizable Topological Spaces

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Simons in 1971 introduced the concept of the probability limit identification function (PLIF). This function identifies almost surely the value of the probability limit of a sequence of random variables on the basis of one realization of the sequence. Štěpán in 1973 proved the existence of the PLIF for real-valued random variables under the continuum hypothesis and Blackwell showed in 1980 that such function can not be Borel measurable. The present work is my contribution to this topic and it shows the existence of the PLIF on any separable metrizable topological space under the continuum hypothesis and application of such PLIF to functional representations in stochastic analysis. This work is based on a part of my diploma thesis