Martingale Methods in Statistics

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Abstract

The title of my talk is the same as that of my forthcoming book to be published from Chapman & Hall. In my talk, I will explain a part of my book concerning my own research results. The topics discussed in my talk will include an infinite-dimensional version of the classical CLT, a Donkser's theorem with no entropy condition, an improvement of Jain-Marus' CLT, as special cases of a new tightness criterion for separable random fields of locally square-integrable martingales. As one of motivating applications, I will present a new result for semiparametric Z-estimators.