Pioneer Journal of Theoretical and Applied Statistics
Volume 10, Issues 1-2, Pages 13-29 (July & October 2015)

ISSN: 2230-9837

MAXIMUM LIKELIHOOD MEAN EQUIVALENT ESTIMATORS FOR A BERNOULLI MIXED DISCRETE-CONTINUOUS MODEL

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Received October 19, 2015

Abstract

Based on a mean equivalence relation for parametric random functions, a class of maximum likelihood mean equivalent estimators, called likelihood estimators, is considered. This class is studied in detail for Bernoulli mixed discrete-continuous models. It includes conditional maximum likelihood estimators as well as a likelihood estimator that is asymptotically equal to the maximum likelihood estimator. Applications include one-parametric deformations from discrete to continuous families of distributions, perturbed models for robust statistics, claims models with outliers, and stop-loss ordered extremal distributions in insurance and finance.

Keywords and phrases: Bernoulli mixture, discrete-continuous distribution, log-likelihood, mean equivalent estimation, statistical outlier, stop-loss ordered extremal distribution.