AISM (2006) 58: 441–456
DOI 10.1007/s10463-005-0008-6

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Confidence estimation for tolerance intervals

Received: 16 February 2004 / Revised: 24 January 2005 / Published online: 21 July 2006

Abstract The post-data performances of normal tolerance intervals are studied. Under a robust Bayesian predictive scheme, we establish the ordering and bounds of the confidence estimators. It is found that the nominal confidence coefficient tends to be extreme yet coincides with the limiting Bayes estimators in some scenarios. A remark on the choice of beta priors is also given.

Keywords Tolerance intervals · Infinite exchangeability · De Finetti's representation theorem · Robust Bayesian analysis