

Computing two measures of statistical evidences in mixture model using record statistics

M. Arashi* and M. Emadi†

*School of Mathematical Sciences, Ferdowsi University of Mashhad,
P.O. Box 91775-1159, Mashhad, Iran*

Abstract

Analyzing the mixture proportion in a finite mixture model, we consider the method of evidential analysis to distinguish two measures of support data provided by record values and inter-record times in favor of a hypothesis and against the contest hypothesis. Because of existence crucial information about F in the joint distribution of inter-record times and record values, and positive substantial increasing Fisher information (see Arashi and Emadi (2006b)), we use the underlying record statistics to study the behavior of mixture proportion by comparison of two special measures of evidence when location and scale parameters of normal distributions change. We use simulation to do the comparison.

Keywords: Statistical evidence; Likelihood ratio; Finite mixture distribution; Record values; Inter-record times;

*E-mail: m.arashi_stat@yahoo.com

†E-mail: emadi@math.um.ac.ir