Department of Decision Sciences

Statistics Seminar

Accurate directional inference for vector parameters

Anthony C. Davison
Ecole Polytechnique Federale de Lausanne

Thursday, 5th December 2013
12:30pm Room 3-E4-SR03 Via Rontgen 1 Milano

Abstract

Modern likelihood theory provides highly accurate inferences for scalar parameters, using signed variants of the likelihood ratio statistic that provide near-exact inferences for many parametric models. However many, perhaps most, statistical problems entail tests on vector parameters; an example would be analysis of deviance for a generalized linear model. In such situations it is much harder to construct highly accurate tests. This talk describes an approach to doing so in linear exponential families, based on reducing the testing problem to a directional test, which is intrinsically one-dimensional. This can provide astonishingly accurate inferences, even in cases where the usual likelihood ratio test entirely fails.
The work is joint with Don Fraser, Nancy Reid and Nicola Sartori.

Department of Decision Sciences

Via Röntgen 1 - 20136Milano

Tel. 02 5836.5632
Fax 02 5836.5630