

***Z*-process method for statistical change point problems**

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Abstract

A general, unified approach, based on some partial estimation functions which we call “*Z*-process”, is presented and applied to some change point problems in mathematical statistics. The method proposed can be applied not only to ergodic models but also to some models where the Fisher information matrix is random. Applications to some concrete models, including especially a parametric model for volatilities of diffusion processes are presented. Simulations for randomly time-transformed Brownian bridge process appearing as the limit of the proposed test statistics are performed with computer intensive use.