



A continuous mapping theorem for the smallest argmax functional

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This paper introduces a version of the argmax continuous mapping theorem that applies to M-estimation problems in which the objective functions converge to a limiting process with multiple maximizers. The concept of the smallest maximizer of a function in the d -dimensional Skorohod space is introduced and its main properties are studied. The resulting continuous mapping theorem is applied to three problems arising in change-point regression analysis. Some of the results proved in connection to the d -dimensional Skorohod space are also of independent interest.

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