

Sieved M-Estimation with Nuisance Parameters: Rates of Convergence

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Abstract:

We consider sieved M-estimators of an infinite dimensional parameter. We study the rates of convergence in the case that the estimation depends on nuisance parameters, which may be also infinite dimensional. We apply the results to study two examples. We study the estimation of a regression function in the case that the estimators are the weighted least squares and in the case that the estimators are the least median of squares.