



Sharp oracle inequalities and slope heuristic for specification probabilities estimation in general random fields

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We provide new methods for estimation of the one-point specification probabilities in general discrete random fields. Our procedures are based on model selection by minimization of a penalized empirical criterion. The selected estimators satisfy sharp oracle inequalities without any assumption on the random field for both L_2 -risk and Kullback loss. We also prove the validity of slope heuristic for the specification probabilities estimation problem. We finally show in simulation studies the practical performances of our methods.

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