

论文

OPTIMAL GLOBAL RATES OF CONVERGENCE OF M-ESTIMATES FOR NONPARAMETRIC REGRESSION

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摘要 Let (X, Y) be a pair of random variables such that X ranges over $[0, 1]$ and Y is real-valued and let $g_0(X)$ be the conditional expectation of Y given X . Based on a training sample, the piecewise polynomial estimator of g_0 is obtained via usual M -estimates. It is proved that under certain regularity conditions the piecewise polynomial M -estimator achieves the optimal global rate of convergence of estimators for nonparametric regression.

关键词 [Nonparametric regression, optimal rate o](#)

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Abstract Let (X, Y) be a pair of random variables such that X ranges over $[0, 1]$ and Y is real-valued and let $g_0(X)$ be the conditional expectation of Y given X . Based on a training sample, the piecewise polynomial estimator of g_0 is obtained via usual M -estimates. It is proved that under certain regularity conditions the piecewise polynomial M -estimator achieves the optimal global rate of convergence of estimators for nonparametric regression.

Key words [Nonparametric regression](#) [optimal rate of convergencet piecewise polynomial](#) [M-Estimates](#)

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