KERNEL ESTIMATION OF THE REGRESSION FUNCTION - BANDWIDTH SELECTION

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ABSTRACT. The problem of deciding how much to smooth is of great importance in nonparametric regression. Before embarking on technical solutions of the problem it is worth noting that a selection of the smoothing parameter is always related to a certain interpretation of the smooth. However, a good automatically selected parameter is always a useful starting (view)point. An advantage of automatic selection of the bandwidth for kernel smoothers is that comparison between laboratories can be made on the basis of a standardized method. Various methods for choosing the smoothing parameter are presented in the following sections. The choice is made so that some global error criterion is minimized. This paper shortly aspires to summarize attained results from this branch and to demonstrate their application for simulated data sets.

Keywords: kernel estimation, bandwidth, cross-validation, penalizing function **AMS:** 62G08, 30C40

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