Ann. Inst. Statist. Math.
Vol. 55, No. 2, 265–285 (2003)
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BOUNDED INFLUENCE REGRESSION USING HIGH BREAKDOWN SCATTER MATRICES

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(Received October 5, 2000; revised February 18, 2002)

Abstract. In this paper we estimate the parameters of a regression model using S-estimators of multivariate location and scatter. The approach is proven to be Fisher-consistent, and the influence functions are derived. The corresponding asymptotic variances are obtained and it is shown how they can be estimated in practice. A comparison with other recently proposed robust regression estimators is made.

Key words and phrases: Fisher-consistency, influence function, robust regression, S-estimators, scatter matrices.