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BOOTSTRAP ESTIMATION OF THE ASYMPTOTIC VARIANCES OF STATISTICAL FUNCTIONALS

JUN SHAO

Department of Mathematics, University of Ottawa, Ottawa, Ontario, Canada K1N 6N5

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Abstract. A modified bootstrap estimator of the asymptotic variance of a statistical functional is studied. The modified bootstrap variance estimator circumvents the problem of the original bootstrap when the population distribution has heavy tails, and requires less stringent conditions for its consistency than the ordinary bootstrap variance estimator. The consistency of the modified bootstrap variance estimator is established for differentiable statistical functionals.

Key words and phrases: Bootstrap, variance estimation, Fréchet differentiability, consistency.