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Suojin Wang* (sjwang@stat.tamu.edu), Department of Statistics, Texas A&M University, College Station, TX 77843, and **Samiran Sinha**, Department of Statistics, Texas A&M University, College Station, TX 77843. *A New Semiparametric Procedure for Matched Case-Control Studies with Missing Covariates.*

In this work we propose an easy-to-use semiparametric method for analyzing matched case-control data when one of the covariates of interest is partially missing. Missing covariate information in matched case-control study may create bias and reduce efficiency of the parameter estimates. In order to cope with this situation we consider a robust approach which is comprised of estimating some functionals of the distribution of the partially missing covariate using a kernel regression technique in a conditional likelihood framework. The large sample theory of the proposed estimator is investigated and the asymptotic normality is obtained. A simulation study is conducted to assess the performance of the proposed method in terms of robustness and efficiency. The proposed method is also applied to a real dataset which motivates this work. (Received July 29, 2009)