UNIVERSIDADE DA CORUÑA **g**modes DPTO. DE MATEMÁTICAS

CONFERENCIA:

"Small Area Estimation under Fay-Herriot Models with Nonparametric Estimation of error variances"

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ABSTRACT:

Fay-Herriot models relate direct estimators of small area means to vectors of area level auxiliary covariates. Estimation of error variances in these models is a problem because of the lack of data within areas. A non-parametric approach is proposed for estimating these variances. Estimators of the remaining model parameters are derived and their asymptotic properties are studied. Moreover, small area estimators that incorporate the estimated error variances are obtained and several simple estimators of the mean squared error of these estimators are proposed. Simulation experiments study the small sample performance of the new small area estimators and compare different estimators of the mean squared errors. Finally, the results are applied to the estimation of unemployment proportions in Spanish domains.

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