

ESTIMATION IN ADDITIVE COX MODELS BY MARGINAL INTEGRATION

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Abstract. Assuming an additive model on the covariate effect in proportional hazards regression, we consider the estimation of the component functions. The estimator is based on the marginal integration method. Then we use a new kind of nonparametric estimator as the pilot estimator of the marginal integration. The pilot estimator is constructed by an analogy to the two-sample problems and by appealing to the principles of local partial likelihood and local linear fitting. We derive the asymptotic distribution of the marginal integration estimator of the component functions. The result of a simulation study is also given.

Key words and phrases: Additive modeling, censoring time, failure time, local linear fitting, local partial likelihood, marginal integration method, two-sample estimator, proportional hazards models.