



Space-Time Generalized Additive Models

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If data have some temporal/spatial or spatial-temporal dependence and this is not modelled in the systematic part of the classic generalized additive model (GAM), the residuals from that model will also exhibit spatial or spatial temporal dependence, or in other words they will be spatially-temporarily correlated. Such dependence would invalidate that produces test statistics in the GAM models, because they were computed assuming independence. In this paper, we develop a space-time generalized additive model to take in to account such correlation. Our simulation results show the advantages of our proposed model.

Keywords: spatial-temporal model, generalized additive model, smoothing, interpolation.