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Selecting the Domain of Integration in a Functional Linear Model

This talk examines the problem of determining which parts of a functional covariate may contribute to a functional linear model. Specifically, we consider the situation in which the coefficient of a functional linear model is known to be zero beyond some unknown point. This arises naturally in the functional convolution model in which a functional response is represented as a functional linear model of the short-term past of the covariate. We examine a change-point approach to detecting the range of integration to be used. The method is demonstrated on data from a vehicle emissions study.