

On multiple segmentation of a functional data sequence

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Abstract: We propose a statistical approach to detecting changes in a sequence of functional data. We derive the global optimality criterion for the changepoints as a foundation to determine the segments using different segmentation schemes. The method is robust to the number of changepoints. The asymptotic distribution of the differentials between the objective functions can be used to judge the significance of a functional change. We demonstrate the proposed method through an application to multiple traffic segmentation and examine its performance through a simulation study. (This is a joint work with Yu-Ting Chen).