



New developments on spatial functional data analysis

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The first part of this poster deals with the classification of spatial functional data and non linear features of curve and surface data in control systems considering a non parametric functional statistical framework.

Concerning independent functional data we classify, using kernel estimation, with different metrics, illustrated in terms of some numerical examples. Miss-classification rates are computed for different sets of spatial functional data. About the classification of non linear features of curve and surface data in control systems, the analysis of wavelength absorbance curve data is implemented for different meat pieces to discriminate between two categories of meat in quality control in food industry, as done in Ferraty and Vieu (2006). Non parametric functional classification of deterministic and random surface roughness and irregularities, corresponding to train deterministic and random vibrations, are also analyzed in Álvarez-Liébana and Ruiz-Medina (2014).

On the other hand, the second part of this poster addresses new results of FANOVA of fixed effects models with values in a separable Hilbert space, considering responses and factors taking values with spatial support (rectangle, disk and circular sector). Results on generalized least-squares estimation and functional analysis of variance in the geometry of the reproducing kernel Hilbert-Space (under a suitable linear transformation of the correlated functional data) are presented, as well as finite-dimensional functional linear tests.

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Referencias

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