Regression models when data are not sampled at the same time

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Abstract

The F-test may not be powerful to check for linear regression when data are not sampled at the same time. In this case CUSUM techniques are useful. If the number of observations is large enough the CUSUM of the data as well as of the residuals and recursive residuals can be approximated by Gaussian processes. The related MOSUM technique considers moving windows of the data and leads to Slepian processes, a specific Gaussian process. All these processes can be used to check for linear regression. In this talk we motivate and explain these techniques.