# SiZer Analysis for the Comparison of Regression Curves

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*Abstract:*   In this talk we introduce a graphical method for the test of the equality of two regression curves. Our method is based on SiZer (SIgnificant ZERo crossing of the differences) analysis, which is a scale-space visualization tool for statistical inferences. The proposed method does not require any specification of smoothing parameters, it offers a device to compare in a wide range of resolutions, instead. This enables us to find the differences between two curves that are really there at each resolution level. The extension of the proposed method to the comparison of more than two regression curves is also done using residual analysis. A broad simulation study is conducted to demonstrate the sample performance of the proposed tool. Applications with two real examples are also included.

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