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# Noise Filtering for Big Data Analytics

*Edited by: Souvik Bhattacharyya and Koushik Ghosh*

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# Double exponential smoothing and its tuning parameters: A re-exploration

From the book [Noise Filtering for Big Data Analytics](#)

*Moloy Mukherjee , Dipta Chaudhuri and Mofazzal H. Khondekar*

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## Abstract

Double Exponential Smoothing (DES) has broad application in various fields primarily as a forecasting tool. The values of the two smoothing parameters  $\alpha$  and  $\beta$ , involved in DES, are traditionally chosen by the users which yield minimum MSE. In this work the authors endeavor to assess the performance of the DES as a filter and tried to suggest the suitable values of these tuning parameters for which DES perform best as a filter. In this regard along with the conventional MSE method, the dependency of the stability of the filter on these tuning parameters and other aspects associated with the frequency response of the filter like transfer function, cutoff frequency, bandwidth and center frequency on these smoothing parameters are also studied. The values of the parameters close to 0.5 are found to be most appropriate when DES acts as a filter.

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## Noise Filtering for Big Data Analytics

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