/Z	Ignores errors. V_flag is set to zero if there are no errors.

Details

StatsKDE estimates the PDF of a distribution of values using a smoothing kernel and a bandwidth parameter which affects the degree of smoothing.

Theory suggests that the Epanechnikov kernel is the most efficient but many expressions for the optimal bandwidth are derived for the Gaussian kernel. If *srcWave* contains N points and the requested output (/S flag) has M points then the computational complexity is O(NM). For large problems it may be beneficial to use the Gaussian kernel via the FastGaussTransform operation.

References

Wand M.P. and Jones M.C. (1995) Monographs on Statistics and Applied Probability, London: Chapman and Hall

Bowman, A.W., and Azzalini, A. (1997), Applied Smoothing Techniques for Data Analysis, London: Oxford University Press.

See Also

Statistics on page III-383, **Histogram**, **FastGaussTransform**

StatsKendallTauTest

`StatsKendallTauTest [`*`flags`*`]`*`wave1`*` [, `*`wave2`*`]`

The StatsKendallTauTest operation performs the nonparametric Mann-Kendall test, which computes a correlation coefficient τ (similar to Spearman's correlation) from the relative order of the ranks of the data. Output is to the W_StatsKendallTauTest wave in the current data folder.

Flags

/Q	No results printed in the history area.
/T=*k*	Displays results in a table. *k* specifies the table behavior when it is closed. *k*=0: Normal with dialog (default). *k*=1: Kills with no dialog. *k*=2: Disables killing.
/Z	Ignores errors. V_flag will be set to -1 for any error and to zero otherwise.

Details

Inputs may be a pair of XY (1D) waves of any real numeric type or a single 1D wave, which is equivalent to using a pair of XY waves where the X wave is monotonically increasing function of the point number. StatsKendallTauTest ignores wave scaling.

Kendall's τ is 1 for a monotonically increasing input and -1 for monotonically decreasing input. The significance of the test is computed from the normal approximation

$$Var(\tau) = \frac{4n+10}{9n(n-1)},$$

where n is the number of data points in each wave. The significance is expressed as a P-value for the null hypothesis of no correlation.

References

Kendall, M.G., *Rank Correlation Methods*, 3rd ed., Griffin, London, 1962.

See Also

Chapter III-12, **Statistics** for a function and operation overview; **StatsRankCorrelationTest**.

For small values of n you can compute the exact probability using the procedure WM_KendallSProbability().