

z_***OBSOLETE*** Confidence interval MATLAB program

***** OBSOLETE, DO NOT USE *****

Confidence intervals for kinematic data in MATLAB written by Nick Gidmark

requires the XrayProject script set, version 2.X.X or later.

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input is a series of $n \times 1$ matrices (n being the number of datapoints, which do not have to be consistent between waves), each depicting a wave form over time (e.g. pressure, length, position, velocity, etc.). These get cropped by the user to the length of one cycle. Then a spline is fit to them, making 100 data points along that cycle. Multiple waves are then stacked together and at each time point in the cycle (from 1 to 100), the mean and upper/lower confidence intervals are calculated.

output is a 100×3 matrix, where column 1 is minimum CI, column 2 is average, and column 3 is maximum CI. An EPS of the graph is also displayed and saved, which is easily importable into vector graphics editors such as Adobe Illustrator.

Instructions:

1. To install the program and set MatLab path:

1a. [Download](#) the cigraph script and put it somewhere safe. Latest version added on July 08, 2011.

1b. If it isn't in the XrayProject folder or somewhere else with working scripts, go into the 'file' menu of Matlab and 'set path' to the folder it resides in. Matlab will not look at subfolders, so be sure it is the deepest directory possible.

2. To operate the script:

2a. Type 'cigraph' without the quotes in the Matlab command line and hit enter.

2b. The gui will pop up and ask you to select wave file 1. Navigate to it and select it.

2c. User is then asked to define the beginning and end of a cycle in that wave.

2d. Any number of waves can be loaded in by clicking "no, I'm not finished loading waves".

2e. When the user clicks "yes, I am finished loading waves", the N is printed in the command line, data are splined and graphed, and two files are saved. The .eps is a vector-drawn graph file that is easily editable in Adobe Illustrator, and the .csv file shows the mean plus/minus confidence intervals as a fraction of cycle.