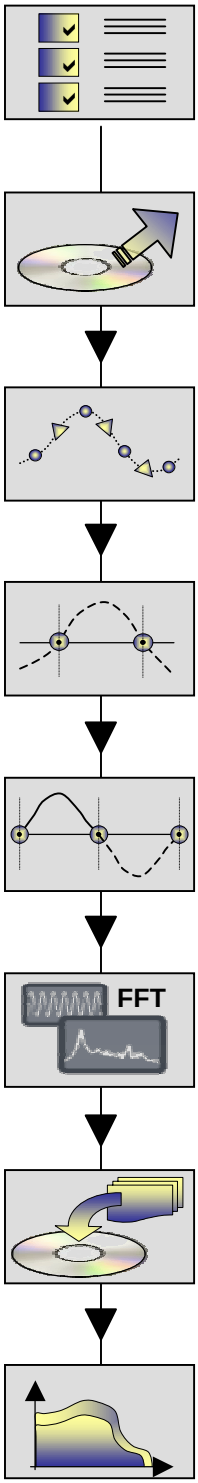
Pendulum Fourier Analysis – Program:

Pendulum_Fourier_Analysis.m



(1) Inputs & Outputs Settings

Data Configuration Chart

(2) Reading Input Information

Time & angular position d*ata vector perform*

(3) Spline interpolation

Zero offset and interpolation perform

(4) Zero crossing detection

Positive and negative zero crossing trend detection

(5) Pendulum's pseudo periods composition

Cycles are composed from partials periods detected by the zero crossing process

(6) Pseudo cycles FFT process

FFT is performed over the pseuso-cycles

(7) FFT output storage

The FFT's results are stored in accordance to the harmonic order

(8) Graphical Interface

Pseudo-cycles are plotted together to it's FFT analysis.
This allows to show the harmonic composition of each half cycle.