Overview

Signal Math

Expressions

This command will allow you to create custom mathematical expressions.

Add_Constant_To_Signals

Adds a constant to the specified components of a signal(s)

Add_Random_Noise_To_Signals

Add_Signals

Add the specified signals. Signals must be at the same sampling rate. If your signals are a different rate, you can use the Evaluate_Expression command, which determines an appropriate rate automatically.

Divide_Signals

This command will divide signals with the first signal being the numerator.

Divide_Signal_By_Constant

This command will divide a specified components of a signal(s) by a constant.

First_Derivative

Compute the first derivative at each point of a signal. This command is useful for calculating the velocity of targets, landmarks, etc.

Second_Derivative

Compute the second derivative at each point of a signal. This command is useful for calculating the acceleration of targets, landmarks, etc.

Multiply_Signals

Multiply the components of the specified signals.

Multiply_Signals_By_Constant

Multiply signals by a constant value.

Indefinite_Integral

Compute an indefinite integral from the start event to the stop event.

Signal_Magnitude

Calculate the magnitude of a signal.

Magnitude=Sqrt(x^2+y^2+z^2)

Subtract_Constant_From_Signals

Subtracts a constant from the specified components of a signal(s)

Subtract_Signals

Subtract the components of the specified signals.

Square_Root

Compute the Square Root of a signal or metric. This command can be used to compute the vector magnitude of a signal.

Compute_Planar_Angle

This command computes a planar angle between three or four points.

Compute_Volume_Of_Chest_Wall

Compute_Volume_Of_A_Convex_Hull

Signal/Data Management

Create_Target

Global_Normalized_Signal_Mean

Find_Representative_Signal

Merge_Data

This command merges data from more than one data name into a single one either by appending one signal to the end of another signal or by treating each original signal as a component of the new signal.

Copy_Folder

Makes a copy of an existing folder. If the new folder already exists, select whether these signals should be overwritten (replaced).

Rename_Folder

This command renames the specified folder.

Delete_Folder

Deletes the specified folder. Note that ORIGINAL folders can not be deleted.

Remove_Signals

Rename_Signals

Remove_Unlabeled_Points

Vicon Nexus exports unlabeled trajectories, and identifies them by placing an asterisk (*) at the beginning of the filename

Remove_Polygon_Signals

Remove processed signals generated by Polygon and stored as POINT data in the c3d file.

Signal Filter

Average_Filter

FFT_Filter

GCVSPL

Lowpass Filter

Highpass Filter

Onepass_Filter

Median_Filter

Moving_RMS

Teager_Kaiser_Energy

Teager-Kaiser Energy Operator

Using the matlab fda tool for designing a notch filter

Shift_Frames

Signal Process

Interpolate

Replace

Set_Data_To_New_Values

Rectify

First_Derivative

Second_Derivative

Transform_Data_Coordinate_System

Distance_Along_Path

Distance_Parallel_To_Path

Distance_Perpendicular_To_Path

Compute_UD_Power

Cross_Correlation

Compute_IK_Residuals

Examples

Example_-_Intersection_of_two_lines

Compute the intersection of two lines

Example_-_Intersection_of_a_line_and_a_plane

Compute the intersection of a line with a plane

Example_-_Computing_the_head_fixation_point

The head fixation point is the intersection between the anterior direction of the head at one frame of time and an another frame of time. This examples makes use of the example for computing the Intersection of 2 Lines found above.