

Metric Interquartile

Overview

The **Metric Interquartile** command is used to find the range of the middle 50% of datapoints within a set. A quartile is a statistical measure that divides a data set into four equal parts, with each part representing 25% of the observations. There are three quartile values: the first quartile (Q1), which marks the 25th percentile; the second quartile (Q2), which is the median; and the third quartile (Q3), which marks the 75th percentile. The **interquartile range** can be defined as Q3-Q1 and can be helpful when analyzing the variability of data and/or identifying outliers.

Read more [here](#).

Pipeline Command

The command can be found in the **Pipeline Workshop** under **Metric** as so:

```
Metric_Interquartile
! /RESULT_METRIC_FOLDER=PROCESSED
/RESULT_METRIC_NAME=
! /APPLY_AS_SUFFIX_TO_SIGNAL_NAME=FALSE
/SIGNAL_TYPES=
! /SIGNAL_FOLDER=ORIGINAL
! /SIGNAL_NAMES=
! /COMPONENT_SEQUENCE=
/EVENT_SEQUENCE=
/EXCLUDE_EVENTS=
! /GENERATE_MEAN_AND_STDDEV=TRUE
! /GENERATE_MEAN_AND_STDDEV_ACROSS_SUBJECTS=FALSE
! /APPEND_TO_EXISTING_VALUES=FALSE
;
```

Command Parameters

The following table shows the command parameters seen above and their descriptions:

RESULT_METRIC_FOLDER	The name of the result signal folder
RESULT_METRIC_NAME	The name of the result signal
APPLY_AS_SUFFIX_TO_SIGNAL_NAME	Specify the metric name to be the ORIGINAL signal plus a SUFFIX
SIGNAL_TYPES	Specify the signal type
SIGNAL_FOLDER	Specify the origin folder
SIGNAL_NAMES	Specify the Signal to be used

COMPONENT_SEQUENCE	Specify the Signal components to be used (e.g. X + Y + Z or 0 + 1 + 2 etc)
EVENT_SEQUENCE	A list of events (separated by "+" signs). For example, LHS+RTO
EXCLUDE_EVENTS	If this event occurs before the first and last event, do not computed a metric
GENERATE_MEAN_AND_STDDEV	Generate the mean and standard deviation of this metric
GENERATE_MEAN_AND_STDDEV_ACROSS_SUBJECTS	Generate the mean and standard deviation of this metric across ranges and files
APPEND_TO_EXISTING_VALUES	Add these metric values to an existing metric

Dialog

The command can be edited in a text editor or in a dialog form. To edit in the dialog pop up form either click on the **Edit** button in the pipeline workshop or double-click on the pipeline command. The dialog is shown below

Metric_Interquartile

Resulting Metric Name

☐ Add as suffix to signal name

Resulting Metric Folder

Signal Component (X,Y,Z,R) or (1,2,...) or ALL

☐ Show signals and events with subject prefixes removed

Defined Events

END

LON

START

>>

<<

Event Sequence

Exclude sequences containing these events

☒ Generate Global Mean and Standard Deviation (_MEAN and _STDDEV)

* Generates the mean of the resulting values (ie; mean would be a mean of the means)

☐ Generate Mean and Standard Deviation Across Subjects

* Generates the mean of the resulting values across Subjects

☐ Append to existing metric values

OK

Cancel

The dialog box allows you to assign values to the command parameters outlined above.

Example: COFP Range for balance trial

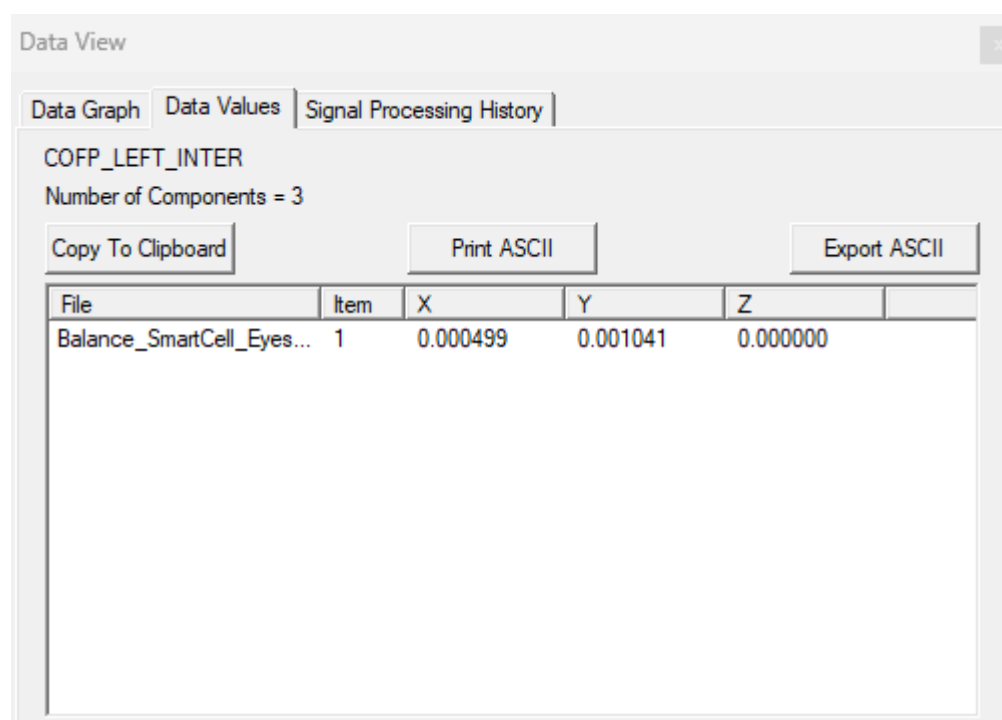
Here the **Metric Interquartile** command is used to analyze center of foot pressure data during a standing trial and compare the ranges computed for a subject's left and right sides.

The command for the right side looks like this:

```
Metric_Interquartile
! /RESULT_METRIC_FOLDER=PROCESSED
/RESULT_METRIC_NAME=COFP_RIGHT_INTER
! /APPLY_AS_SUFFIX_TO_SIGNAL_NAME=FALSE
/SIGNAL_TYPES=COFP
! /SIGNAL_FOLDER=ORIGINAL
/SIGNAL_NAMES=FP3
/COMPONENT_SEQUENCE=ALL
/EVENT_SEQUENCE=START+END
/EXCLUDE_EVENTS=
! /GENERATE_MEAN_AND_STDDEV=TRUE
! /GENERATE_MEAN_AND_STDDEV_ACROSS_SUBJECTS=FALSE
! /APPEND_TO_EXISTING_VALUES=FALSE
;
```

COFP is a 2 dimensional signal, with the X and y components representing the medial/lateral and anterior/posterior directions respectively. The resulting metrics contain an x value and a y value indicating the variation in pressure for each direction during the trial. A larger range indicates greater variation in the COFP value during the trial and a less consistent balance point.

The results for this trial show a larger range for the right side than left and a greater range in the Y direction than X for both sides.



Data View

Data Graph | Data Values | Signal Processing History

COFP_LEFT_INTER

Number of Components = 3

Copy To Clipboard | Print ASCII | Export ASCII

File	Item	X	Y	Z
Balance_SmartCell_Eyes...	1	0.000499	0.001041	0.000000

Data View

Data Graph

Data Values

Signal Processing History

COFP_RIGHT_INTER_MEAN

Number of Components = 3

Copy To Clipboard

Print ASCII

Export ASCII

File	Item	X	Y	Z	
Balance_SmartCell_Eyes...	1	0.000590	0.002463	0.000000	

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