%BLOODFLOW\_ANALYSIS Statistical analysis of cerebral blood flow.

% BLOODFLOW\_ANALYSIS performs time series analysis on cerebral blood

% flow (CBF) traces. In the example analysis, CBF after common carotid

% artery occlusion is analyzed in two groups: microglia-depleted and

% control.

%

% BLOODFLOW\_ANALYSIS performs a Principal Component Analysis on the CBF

% traces and compares the first 3 PC scores between control and effect

% group (in the example: microglia-depleted). The data is plotted in the

% 3D space of the first 3 PC scores.

%

% BLOODFLOW\_ANALYSIS performs curve fitting on the traces. The initial

% fast deflections and the late slow drift components are fitted

% separately with a biexponential and a 3rd order polynomial function,

% respectively.

%

% BLOODFLOW\_ANALYSIS was optimized for the example data. 'Data

% preprocessing' code should be customized for other data formats.

% If automated curve fitting failed, the CFTOOL function was used to

% derive the optimal fits (with lowest error).

%

% Outputs:

% Figures:

% \* avg data by groups with SE

% \* PCA scores, 3D plot

% \* exp curve fitting for fast changes (first part)

% \* polynomial curve fitting for slow changes (second part)

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% BLOODFLOW\_ANALYSIS requires Curve Fitting Toolbox.

%

% See also PCA, FIT, CFTOOL, INPAINT\_NANS and SMOOTH.

% Diana Balazsfi and Balazs Hangya

% Institute of Experimental Medicine, Budapest

% balazsfi.diana@koki.mta.hu

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