Function description of Transformation LNOF to GRF

GravLab Team

Contents

load_GGs_LNOF

Description:
load_GGs_LNOF loads the user's gravity gradients in LNOF.

Syntax:
[GG_LNOF_data,m] = load_GGs_LNOF()

Input variables:

Variable name	Size	Description
-	19x1	Data in LNOF for loading in.mat. It contains info about latitude, longitude, altitude, UTC time, Vij in LNOF and quaternions.

Output variables:

Variable name	Size	Description
GG_LNOF_data	19 x 1	Loaded data in LNOF.
m	1 x 1	Counter/ is needed for checks in the GUI.

GGs_Transformation_LNOF_2_GRF

Description:
GGs_Transformation_LNOF_2_GRF transforms the gravity gradients from LNOF to GRF and saves them in a .mat file format along with a report file in the RSs Transformations - to GRF folder.

Syntax:
[VGRF_gradients] = GGs_Transformation_LNOF_2_GRF(datalnoftogrf)

Input variables:

Variable name	Size	Description
datalnoftogrf	19x1	Contains info about latitude, longitude, altitude, UTC, the Vij in LNOF and quaternions.

Output variables:

Variable name	Size	Description
VGRF_gradients. mat	11x1	Contains info about latitude, longitude, altitude, UTC and the transformed Vij in GRF.
VGRF_gradients _Report.txt	-	Report regarding to the file format .

plot_GG_GRF

Description:
plot_GG_GRF plots the gravity gradients in GRF and saves them in the directory RSs Transformations - to GRF/ Gravity Gradients in GRF in .jpeg and .fig format.

Syntax:
[w] = plot_GG_GRF(VGRF_gradients)

Input variables:

Variable name	Size	Description
VGRF_gradients	11x1	The transformed Vij in GRF.

Output variables:

Variable name	Size	Description
w	1x1	Counter/ is needed for checks in the GUI
GG_GRF_date.jpeg	-	A figure in .jpeg is saved in the folder RSs Transformations - to GRF\Gravity Gradients in GRF
GG_ GRF _date.fig	-	A figure in .fig is saved in the folder RSs Transformations - to GRF\Gravity Gradients in GRF

stats_GGs_2_GRF

Description:
stats_GGs_2_GRF computes the statistics (min,max,mean,std,rms) of the gravity gradients in GRF and saves them in the directory RSs Transformations - to GRF/ Statistics_GGs_in_GRF.

Syntax:
[stats_GGs_transf_GRF]=stats_GGs_2_GRF(VGRF_gradients,currentFolder)

Input variables:

Variable name	Size	Description
VGRF_gradients	11x1	It contains info about latitude, longitude, altitude, UTC and the transformed Vij in GRF.
currentFolder	-	The RSs Transformations - to GRF folder.

Output variables:

Variable name	Size	Description
stats_GGs_transf_ GRF.mat	nx6	Statistics of the transformed Vij in GRF.
stats_GGs_transf _GRF_Report.txt	-	Report regarding to the file format .