

Datasets from the paper

“Trajectory Design for Proximity Operations: The Relative Orbital Elements’ Perspective”

Here below it is described how the notation in the csv files is linked to nomenclature and style of the figures in the paper.

- **ProximityOpsTraj_Fig3_01.csv**

Figure 3a:

- Impulsive case, pre-maneuver, variables:
ada_imp_pre = $a\delta a$
adl_imp_pre = $a\delta l$
adex_imp_pre = $a\delta e_x$
adey_imp_pre = $a\delta e_y$
- Impulsive case, post-maneuver, variables:
ada_imp_post = $a\delta a$
adl_imp_post = $a\delta l$
adex_imp_post = $a\delta e_x$
adey_imp_post = $a\delta e_y$

Figure 3b:

- Continuous case intermediate points, variables:
ada_con_black, adl_con_black, adex_con_black, adey_con_black
- Continuous case evolution, variables:
ada_con_gray, adl_con_gray, adex_con_gray, adey_con_gray

- **ProximityOpsTraj_Fig4_01.csv**

Figure 4a:

- Impulsive case, equally spaced way points, variables:
R_imp_eq, T_imp_eq, N_imp_eq, respectively for Radial, Tangential and Normal components
- Continuous case, equally spaced way points, variables:
R_con_eq, T_con_eq, N_con_eq, respectively for Radial, Tangential and Normal components

Figure 4b:

- Impulsive case, glideslope velocity profile, variables:
R_imp_eq, T_imp_eq, N_imp_eq, respectively for Radial, Tangential and Normal components
- Continuous case, glideslope velocity profile, variables:
R_con_eq, T_con_eq, N_con_eq, respectively for Radial, Tangential and Normal components

- **ProximityOpsTraj_Fig5_01.csv**

- Continuous case, equally spaced way points, variables:
CR_eq, CT_eq, respectively for Radial and Tangential acceleration components

- Continuous case, glideslope velocity profile, variables:
CR_gl, CT_gl, respectively for Radial and Tangential acceleration components

- **ProximityOpsTraj_Fig7_01.csv**

Figure 7c:

- Continuous case, N=10, boundary control grid, variables:
R_bd, T_bd, N_bd, respectively for Radial, Tangential and Normal components
- Continuous case, N=10, centered control grid, variables
R_ct, T_ct, N_ct, respectively for Radial, Tangential and Normal components

Figure 7d:

- Continuous case, N=10, boundary control grid, variables:
timebd, CR_bd, CT_bd, respectively for time and Radial and Tangential acceleration components
- Continuous case, N=10, centered control grid, variables:
Timect, CR_ct, CT_ct, respectively for time and Radial and Tangential acceleration components.

- **ProximityOpsTraj_Fig8_01.csv**

theta_x ($= \theta_x$) is a table of 721 rows and 361 columns; theta_z ($= \theta_z$) is a table of 721 rows and 361 columns. The corresponding delta-Vs are in the variable "deltaV".