

Read Me

This data set was registered as doi: 10.18758/71021087 by the Royal Belgian Institute for Space Aeronomy on 2023-12-12 (initially) and contains supplementary material in support of the publication *J. De Keyser, N. J. T. Edberg, P. Henri, H.-U. Auster, M. Galand, M. Rubin, H. Nilsson, J. Soucek, N. André, V. Della Corte, H. Rothkaehl, R. Funase, S. Kasahara, C. Corral Van Damme. In situ plasma and neutral gas observation time windows during a comet flyby: Application to the Comet Interceptor mission, Planetary and Space Science 244 (2024) 105878.* <https://doi.org/10.1016/j.pss.2024.105878>

This data set holds MatLab software associated with that publication, in particular the routines that are used for creating the figures and tables in that publication. The software was developed with MatLab R2022a.

The following table lists the files contained in this dataset:

Item	Description
ReadMe.doc, ReadMe.pdf	<i>This file, containing a description of the contents of the dataset.</i>
Main programs	
koenders_model.m	<i>This routine plots the bow shock standoff distance for comets over a range of gas production rates.</i>
science_obs_window_per_Q.m	<i>This routine plots the comet flyby statistics of relevant positions and times relative to closest approach for a given heliocentric distance and a given gas production rate</i>
science_obs_window.m	<i>This routine plots the comet flyby statistics of relevant positions and times relative to closest approach for a given heliocentric distance over a statistical distribution of gas production rates.</i>
data_storage_policy.m	<i>This routine computes the table with the optimum science mode planning and the corresponding data storage policy.</i>

Usage:

Copy the MatLab files in your working directory. You can run each of the routines independently. They do not need any input parameters. All figures are created in the working directory. The table is written on standard output. For more information, see the paper.