

Dataset for:

“Identifying the variety of jovian X-ray auroral structures: tying the morphology of X-ray emissions to associated magnetospheric dynamics”

The following README document briefly explains what data is used to produce the plots in the Weigt et al. study. The pipeline used to process and analyse the data can be found here: <https://doi.org/10.5281/zenodo.7380282> [cite as Weigt et al., (2022)].

Here, we provide the **data products generated in this study** used in our figures in main text and supplementary material. Any other datasets used (e.g., Juno Waves, Juno MAG) are referenced in the main article.

We split the datasets into those used for each figure:

Figures 1 and 2:

Data used in cartesian plots are as follows:

- X-ray auroral structures (locations in S3 longitude and latitude) for all observations can be found in ***auroral_regions.zip***. Each region has filename: **<x_ray_structure>_boundary_v1.txt** (for example, *noon_boundary_v1.txt*)
- Photon lists used for 2D histogram of X-ray auroral brightness can be found in *PI_filter_photonlists.zip*. These lists have undergone the filtering and background removal process described in McEntee et al., (2022). Software is located in pipeline link above.

Figure S3

Data used for visibility modelling can be found in *HST_vis_model_vals.txt* for all X-ray auroral regions. **This is found in *auroral_regions.zip*.**

Full catalogue of X-ray photonlists can be found in Weigt et al., (2021) and references therein.

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Link to full Chandra archive, Juno data sets and Tao model outputs are in the Data Availability section.