Minor Planet Center

Newsletter - July 2023

2023 JULY 03

In this month's issue:

MPC planned power outage

A planned power outage at the facility where the Minor Planet Center's pipeline servers reside has been scheduled for **Saturday 8 July 2023 from 09:00 UTC to 19:00 UTC.**

The MPC's web server will remain up and operational throughout the power outage and the MPC will continue to receive and archive all submitted observations. However these submissions will not be processed or published until power is restored to the pipeline server.

With the goal of ensuring the rapid communication of NEO observations, the MPC will issue *two DOUs* on Saturday 8 July: one at ~07:00 UTC, and the second at ~21:00 UTC.

Any questions related to this power outage should be directed as usual via the Jira Helpdesk. An Editorial containing the exact same information about the planned power outage has already been sent out (see MPEC M165).

We note that the power outage is planned by the building's electrical contractors, *not* by the MPC.

Identification files

The MPC regularly publishes on the DATA page two sets of files containing identifications of minor planet designations.

The first set of files are updated with each Minor Planet Circular, published approximately every other month, along with a catalog of orbit files. The files are:

- numids.txt that contains the identifications for numbered minor planets, with packed numbers in columns 1-5 and packed secondaries every seven columns from 7 on with no spaces
- ids.txt - unnumbered MPs, with packed primary designation in columns 1-7, and packed secondaries (if any) every seven columns from 8 on with no spaces.

A second set of files are updated daily with each Daily Orbit Update (DOU) and published in addition to a coordinated internally-consistent set of daily files, which also include all orbits from MPC Orbit (MPCORB). These files are:

- newnumids.dat - numbered identifications that will be published in the next Circular
- newunnnumids.dat - unnumbered identifications that have been published in DOUs since the last Circular.

We have recently updated the data page (last column in both the Identifications and Daily Identifications tables) with the corresponding documentation. We also remind users that in addition to the identification files, we publish provisional files that detail the observations that will be altered and published during the next set of MPCs (see the Alterations to Observations table at the end of the data page and the March Newsletter).

What's new?

The orbit comparison tool

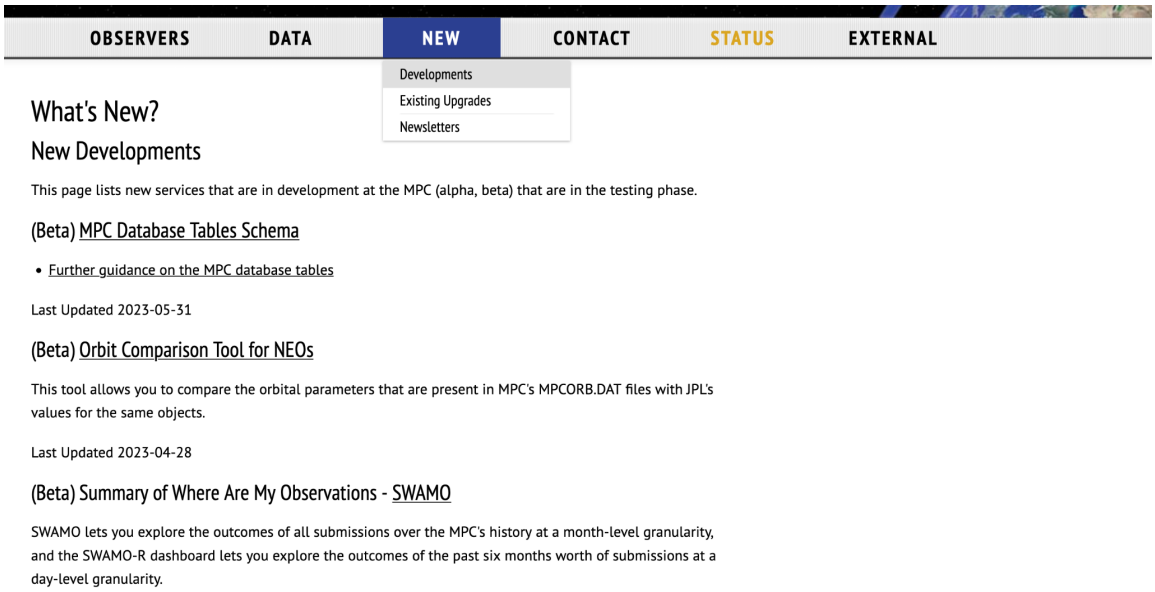


Figure 1. Screenshot of our website showing how to find the New:Developments section.

In the May Newsletter we introduced our new orbit comparison tool. The tool is available, along with the other newly developed pages, under the New:Development section of the website menu (see Fig. 1). Thanks to some feedback that we have recently received from the community, we have upgraded the orbit comparison tool with two new additional features.

Uncertainty plot

We have added the possibility of showing the uncertainties related to the orbital elements used in the comparison (see the *Show Uncertainties* option in the tool and Fig. 2). Uncertainties for the moment are only available for JPL orbital elements, but they will be soon available for MPC orbital elements as well.

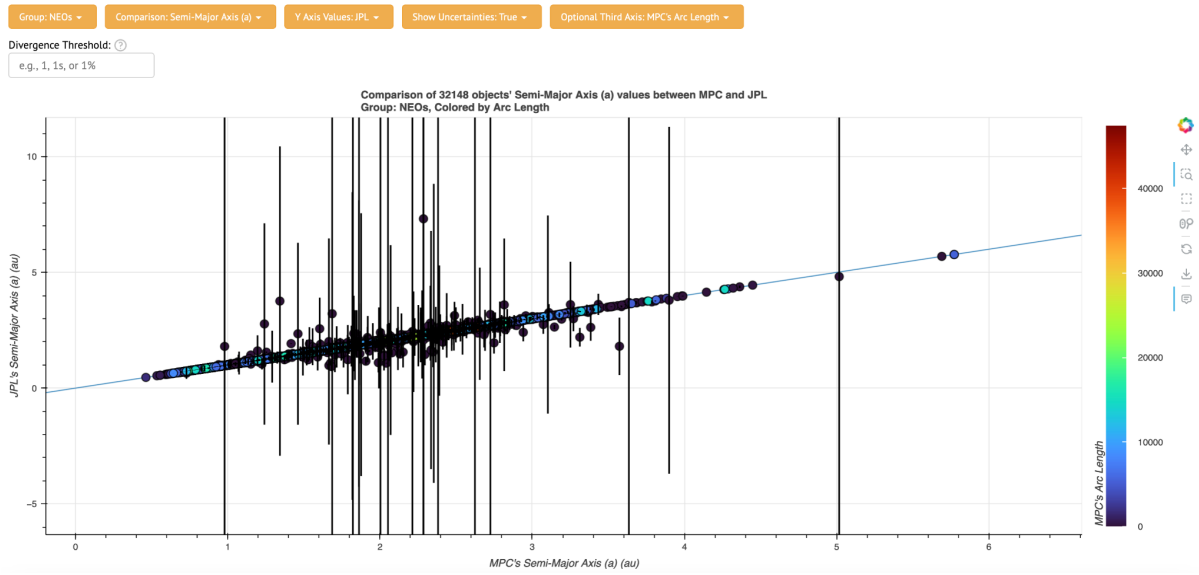
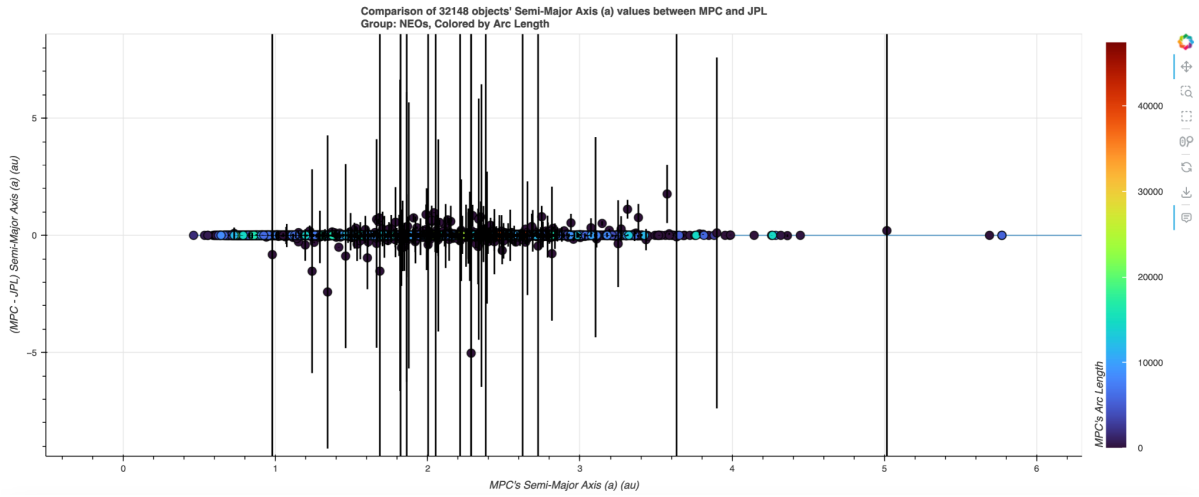


Figure 2. Zoom in on the semi-major axis comparison between MPC and JPL. Uncertainties (black vertical bars) are now visible for JPL orbital elements. The color code shows the MPC's arc length covered by the observations.

Y-axis values

We have also added the possibility of selecting different Y-axis values (see the example hereinafter). The users can still plot the orbital elements as they are downloaded from JPL, but they can also decide to plot the difference between the MPC and JPL values. The X-axis will always show the corresponding MPC values. Uncertainties can also be added to the plot as in the previous case. This feature should help ourselves and the users to identify the most interesting cases that require closer investigation (e.g. where the differences are large, but the uncertainties are small).

We will keep working on the tool and adding more features and more data. Feedback and suggestions are always welcome through the Jira Helpdesk.



Asteroids, Comets and Meteors Conference in Flagstaff (June 2023)

MPC staff members were present during the last Asteroids, Comets and Meteors Conference (ACM) in Flagstaff last June. Two talks were given by the MPC director Matthew Payne and project scientist Federica Spoto, presenting the progress made by the MPC in recent years. Paresh Prema presented a poster showing multiple recent developments (e.g. DOIs, identification pipeline, reporting of cometary activity).

We were very pleased to receive a large amount of positive feedback from the community. **We also want to take this chance to thank the community for their ongoing support and understanding regarding the amount of effort made by the MPC staff to improve the quality of our data and our system.**

As is traditional, during the ACM more than 300 asteroids were named after scientists active in the field to reflect their contribution to the advancement of the research on small bodies in our solar system. **The names are now available on the MPC website.** You can go and check your new favorite object! (Please note that asteroid naming is handled by the IAU Working Group on Small Body Nomenclature and not by the MPC, as already explained in our June Newsletter).