



SPICE Newsletter

August 2020

Provided by NASA's Navigation and Ancillary Information Facility (NAIF)

Getting Along During "Stay-at-home"

The NAIF Team continues its teleworking status, and we anticipate no change to this for many months. We believe we are doing reasonably well at supporting SPICE users—flight projects and individuals, but if you have run into a problem, please let one of the team members know.

<https://naif.jpl.nasa.gov/naif/feedback.html>

NASA Planetary Data Ecosystem

NASA Headquarters is looking for persons to serve on its Planetary Data Ecosystem Independent Review Board. The board *"... will conduct a review of the Planetary Science Division's (PSD) Planetary Data Ecosystem with the goal of defining the full environment, identifying missing or overly redundant elements, and providing findings and prioritized, actionable recommendations for PSD's long-term planning in support of the PDE."* Self-nominations may be submitted here:

<https://science.nasa.gov/researchers/volunteer-review-panels/planetary-data-ecosystem-pde-independent-review-board-irb>

Next Toolkit Release (N67)

The NAIF team plans to make a new SPICE Toolkit release, version N67, in the November 2020 time-frame. This version will contain a small number of new capabilities, will have much improved code documentation and examples, and will contain additional module "wrappers" for the C, IDL and MATLAB instances. (Flight projects already using the N66 version of the SPICE Toolkit should not feel compelled to switch to the N67 version.)

WebGeocalc On-line Geometry Engine (WGC)

<https://wgc.jpl.nasa.gov:8443/webgeocalc/#NewCalculation>

Our WGC contractor, [ODC Space](#), has continued making improvements to the WebGeocalc tool. Version 2.2.2 is now active.

If you are contemplating using WebGeocalc, be sure to read the "About the Data" text available from a link at the top of the WebGeocalc home page.

https://naif.jpl.nasa.gov/naif/WGC_about_the_data_r3.html

Pay particular attention to the red text in the section titled "Using Named Kernel Set Selection"; this addresses the time coverage of the SPICE data. Trying to make a computation outside of the available time coverage is the most common user problem.

Some partner space agencies may offer their own instances of WebGeocalc. Be sure to read about their local setup of this service as it will likely differ from NAIF's offering.

If you're unfamiliar with WebGeocalc and would like to learn more about it, visit this webpage:

<https://naif.jpl.nasa.gov/naif/webgeocalc.html>

SPICE-Enhanced Cosmographia 3-D Mission Visualization Tool

With the help of one of our contractors, [Fifth Star Labs](#) (the original author of Cosmographia), work on adding new features continues. It has taken awhile, but a new version is expected to be available "fairly soon," and when ready will be announced using the spice_announce notification system. Check out <https://naif.jpl.nasa.gov/naif/cosmographia.html>.

Among the new features will be these:

- Ability to load 3D shape data directly from a SPICE DSK file;
- Ability to globally change the text size used for labels, messages, annotations, etc. using a few preset font sizes
- Additional scripting functions including waiting based on simulation time, moving to a point-of-view in a SPICE frame, and setting the scene using a URL

SPICE for CubeSats and SmallSats

NAIF is aware some upcoming CubeSats and SmallSats plan to use SPICE, but unfortunately we often have little-to-no knowledge about this component of the space research community.

SPICE Training

In the current COVID-19 situation it is far from clear when NAIF will again be able to host a traditional in-person SPICE training class; probably not for many months.

Probably the best choice for SPICE training at present is the self-training package consisting of the tutorials and programming lessons used in the "live" classes.

https://naif.jpl.nasa.gov/naif/self_training.html

We note that the programming lessons in this package are truly "open book" in that the answers—our solution code and the resulting numeric answers—appear on the "next page" after each task statement.

Leapseconds Kernel (LSK)

The International Earth Rotation Service announced there will **NOT** be a new leap second declared at midnight on December 31, 2020. As a consequence, the current SPICE leap seconds kernel, naif0012.tls or naif0012.tls.pc, will remain current until at least July 01, 2021.

Other Users and Uses

NAIF is always interested to hear about projects and other users of SPICE that are likely outside of our knowledge base (https://naif.jpl.nasa.gov/naif/SPICE_Users.pdf). Send a quick note to a member of the NAIF Team: <https://naif.jpl.nasa.gov/naif/feedback.html>