

SPICE Newsletter

January 2018

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spice_announce: subscribing and unsubscribing

See https://naif.jpl.nasa.gov/mailman/listinfo/spice_announce for information about signing up to the NAIF announcement system. If you are already signed up but no longer wish to receive SPICE announcements, the same webpage allows you to easily unsubscribe.

NAIF uses spice_announce rather sparingly to announce new Toolkits, major new generic kernels, bugs (we try to have none...), SPICE training opportunities, and a few other sorts of topics that could be of broad interest. We do not share the names or emails with anyone. Some additional announcements are posted to NAIF's "Announcements" webpage: <https://naif.jpl.nasa.gov/naif/announcements.html>

The Broad Outlook for NAIF

The direction for NASA may be slightly clearer based on a recent announcement from The White House ("Moon, Mars and beyond"), but how this will affect NASA's Science Mission Directorate probably remains to be seen. (Getting a real NASA budget would also help.) Nevertheless, it seems the NAIF activities will continue on—we're not aware of any threats to our funding, and we believe we have good relations with our various sponsors.

SPICE-Enhanced Cosmographia Visualization Tool

NAIF's contractor is bringing the underlying infrastructure up to date (turned out to be a difficult task) and has added a small number of enhancements. We will make an announcement using our "spice_announce" system when a new version becomes available.

WebGeocalc Tool

This tool, providing a Graphical User Interface to a SPICE geometry engine, remains very popular around the globe. <http://naif.jpl.nasa.gov/naif/webgeocalc.html> We have a long list of enhancements and usability improvements we'd like to add, and are investigating means to accomplish this.

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

Digital Shape Kernel (DSK)

The version N66 Toolkits contain one portion of the digital shape kernel capability—the tessellated plate model. We’ve done a lot of work on the other portion of DSK—the digital elevation model—but work to complete this capability is currently stalled in favor of work on the C++ Toolkits (see below).

SPICE 2.0

NAIF has begun a major effort to re-implement the SPICE Toolkit using C++. This Toolkit will offer both thread safety and object oriented features. We anticipate this “SPICE 2.0” implementation will take considerable time. (“considerable” leaves lots of wiggle room!)

In taking on this effort we’ll **not** abandon our current suite of Toolkits (Fortran 77, C, IDL, MATLAB, and JNI). We hope the several “outside” parties offering Python interfaces to CSPICE will continue to do so.

SPICE Training

NAIF had about 57 persons take a SPICE training class in November. At the conclusion, during an “open mike” session, they offered numerous suggestions for improving our training efforts:

http://naif.jpl.nasa.gov/pub/naif/misc/tmp/WS2017/WS2017_student_feedback/

We will try to implement as many of them as practical.

We believe our ESA colleagues will offer a training class in or near Spain (Madrid?) next summer:

<https://www.cosmos.esa.int/web/spice/training>

SPICE Tutorials

Yet another set of updates to the on-line SPICE tutorials has been released.

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

These have “January 2018” as the date on the cover page.

Referencing SPICE

If you have found SPICE data and software useful in your research or tool development, consider referencing SPICE or including an acknowledgement. A new link on the NAIF website provides information: <https://naif.jpl.nasa.gov/naif/credit.html>

NASA Use of SPICE

As best we know all major NASA solar system exploration missions are using or will use SPICE. It is also used on some Heliophysics missions, and on at least two Earth Science missions. It is not yet clear which of the upcoming CubeSat missions might decide that using SPICE is appropriate; we’re hoping to get some clarification in the near future. If you know of such a mission, we’d be happy to hear about it. It does appear that Lunar Ice Cube will use SPICE.

International Use of SPICE

To the best of our knowledge ESA and JAXA will continue using SPICE on solar system missions. We don’t know what are ISRO’s (India) or ROSCOSMOS’ (Russia) plans for the future. The United Arab Emirates mission to Mars, EMM, with assistance from LASP at U. of Colorado, will be using SPICE, and the upcoming Korean Pathfinder Lunar Orbiter mission (KPLO) has recently decided to use it.

Contact information for some of our international partners:

European Space Agency: <https://www.cosmos.esa.int/web/spice>

Japan Aerospace Exploration Agency: <http://darts.isas.jaxa.jp/planet/spice/>

A chart summarizing many of the past, current and possible future missions that use SPICE is available here: https://naif.jpl.nasa.gov/naif/SPICE_Users.pdf

Your Feedback

We appreciate hearing your suggestions for improving SPICE or NAIF operations. Your criticism is also valuable for us. You can write to the NAIF manager or anyone else on the NAIF Team, or to any of the officials who oversee our efforts:

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