

NAIF/SPICE Newsletter
September 2019
Provided by NASA's Navigation and Ancillary Information Facility

Topics:

- NAIF Outlook
- NAIF Job Opening
- Senior Review
- SPICE Development
- WebGeocalc Tool
- Cosmographia Visualization Tool
- NAIF Webpages
- Broadening the Use of SPICE
- SPICE Training
- Leapseconds Kernel
- SPICE Announcements and Discussion
- Getting Help
- Providing Feedback

NAIF Outlook

NAIF's financial situation continues to appear to be sound. We believe we have good relations with our various sponsors: NASA's Planetary Data System (our primary sponsor) and about eighteen flight projects (some of which are foreign projects).

However, our staffing situation is not so rosy. We recently lost one full-time employee and a second, part-time person. These losses could (likely will) impact our rate of progress on new developments, most particularly our SPICE 2.0 Toolkit effort.

NAIF Job Opening

NAIF is searching for at least one and perhaps two new permanent, full-time engineers to help with our many tasks. Getting help with development of our SPICE 2.0 Toolkit using the C++11 language is our primary objective. Anyone interested in looking into this further is encouraged to look at the official JPL Job Requisition, found here:

<https://jpl.jobs/jobs/2019-10884-SPICE-System-Development-Engineer>

Our other need is for someone to help with the deployment of SPICE in support of new flight projects, overseeing the largely automated SPICE operations for on-going flight projects, and archiving SPICE kernels from those on-going missions.

Senior Review

It appears that all nodes of the Planetary Data System, including the NAIF Node, will have to participate in a NASA-mandated review of past performance and future plans and budgets. This is likely to occur around February, 2020. If you have comments you'd like to offer to that panel,

please contact the PDS Project Manager, Maria Banks at GSFC: maria.e.banks (at) nasa.gov, or the PDS Chief Scientist, Louise Prockter at LPI: prockter (at) lpi.usra.edu.

SPICE Development

NAIF's efforts at developing the SPICE Toolkit using the C++11 language (SPICE 2.0) are continuing at a modest pace. Progress will slow down while we look for a new team member, and also while we put some effort into producing the Version N0067 SPICE 1.0 Toolkit as well as catch up on some other unfinished business. When completed, the N0067 Toolkit suite will be announced using the "spice_announce" notification system.

WebGeocalc Tool

With the help of one of our contractors, work on the WebGeocalc tool continues. NAIF expects to have some new releases of WGC during the next several months, announced using the "spice_announce" notification system.

Cosmographia Visualization Tool

With the help of one of our contractors (the original author of Cosmographia), work on adding new features continues. New versions will be announced using the "spice_announce" notification system.

NAIF Webpages

We have worked, and continue to work, on achieving Section 508 compliance to accommodate persons with visual impairment. This applies to the primary NAIF website as well as to both instances of the WebGeocalc tool.

We have made a number of small changes to the NAIF website, hoping to improve navigation. But we solicit your suggestions about other changes, big or small, that could make this website easier to use.

Broadening the Use of SPICE

SPICE is already broadly used in the worldwide solar system exploration arena, covering most major lunar and planetary missions, and some heliophysics missions. (U.S. government directives still preclude NAIF from cooperating with Chinese missions.) SPICE is being introduced now to the Korean space agency for use on their upcoming lunar mission. NAIF has alerted the private Israeli firm, SpaceIL, about the availability of SPICE for their possible future use.

We are making efforts to acquaint the SmallSat/CubeSat community about SPICE. This is a bit of a challenge in that that community is so diverse. If/where you think it appropriate, we encourage you to help with this effort. (We are aware of a few such spacecraft that are placing the CSPICE Toolkit on-board, something NAIF had never anticipated.)

We are also trying to inform the lunar Gateway program about possible uses of SPICE in support of lunar and solar system science investigations. Your help in this regard would be appreciated.

SPICE Training

NAIF conducted a “beginner’s” SPICE training class this past June, in a hotel near Pasadena, California. This class had only 30 students, whereas most previous classes had nearly 60. Maybe everyone who wishes to learn about SPICE in detail has already done so? We have not yet thought about when or where to hold the next such public class.

The European Space Agency (ESA) is sponsoring a SPICE training class in June 2020. Check the “Training” link on the ESA SPICE website for details: <https://www.cosmos.esa.int/web/spice>

Leapseconds Kernel

The International Earth Rotation Service has announced there will **NOT** be a new leapsecond declared at midnight on December 31, 2019. As a consequence, the current SPICE leapseconds kernel, naif0012.tls or naif0012.tls.pc, will remain current until at least July 01, 2020.

SPICE Announcements and SPICE Discussion

If you haven’t already done so, consider signing up to the “spice_announce” Mailman system to receive the occasional announcements about new Toolkits, new generic kernels, new or changed services, bugs, etc. https://naif.jpl.nasa.gov/mailman/listinfo/spice_announce

You could sign up to the “spice_discussion” Mailman system to exchange SPICE-related questions, offerings or ideas with other SPICE users.

https://naif.jpl.nasa.gov/mailman/listinfo/spice_discussion

Getting Help

If you have a SPICE question best answered by someone at NAIF, please just send email to one of the NAIF Team members: <https://naif.jpl.nasa.gov/naif/contactinfo.html>. European SPICE users might consider contacting the ESA SPICE team: esa_spice (at)sciops.esa.int

Providing Feedback

SPICE users should feel empowered and encouraged to provide any kind of feedback, including complaints or suggestions for improvement, to any of the responsible NASA officials. Please provide sufficient detail to make your comments as clear as possible. You can request any inputs be treated as anonymous. Names and contact information for officials are listed below. When providing inputs it might be helpful to be aware of the responsibilities of the NAIF Team, found here: <https://naif.jpl.nasa.gov/naif/about.html>

Charles Acton, NAIF Node Manager charles.h.acton (at) jpl.nasa.gov

Carole Boyles, official in charge of PDS nodes at JPL carole.a.boyles (at) jpl.nasa.gov

Maria Banks, PDS Project Manager maria.e.banks (at) nasa.gov

Louise Prockter, PDS Chief Scientist prockter (at) lpi.usra.edu

Meagan Thompson, Acting PDS Program Executive meagan.thompson (at) nasa.gov