

October 5, 2009

Dear SPICE Users:

This mini newsletter touches on a variety of topics, some of which might be of interest to you.

### SPICE Tutorials

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In preparation for a SPICE Training Class taught at ISAS/JAXA in Japan in September, most of the SPICE Tutorials have been updated--some rather substantially. (Some updates came after the ISAS class.) We also added a new tutorial on the geometry finder subsystem which was the main addition to SPICE in the Version N63 Toolkit released April 2009.

All of these updated/new tutorials are available from the NAIF website, both as individual tutorials and in two packages.

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

### SPICE Introductory Training Classes

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NAIF will conduct the next domestic "introductory" SPICE training class in or near Pasadena on January 12-14, 2010. The NAIF Home Page contains further news on this.

A similar, introductory SPICE training class is expected to be arranged by ESA, in the area of Madrid, Spain, in the March-April 2010 time frame. More information about this will be provided once arrangements are firmed up. Or you may contact Jorge Diaz del Rio Garcia <[jorge.diaz.del.rio@sciops.esa.int](mailto:jorge.diaz.del.rio@sciops.esa.int)>.

### Other SPICE Training Possibilities?

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NAIF is considering offering one or two additional training classes, covering "advanced consumer" topics and "kernel production" topics. As for the introductory class, this (these) would consist of both tutorial presentations and hands-on programming exercises. It (they) would also include practice using relevant Toolkit programs.

If you have any ideas, opinions, suggestions or comments on this possibility, please reply to the NAIF manager.

## Continuing SPICE Development

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While there are numerous development activities ongoing at NAIF, the largest of these are:

"Completion" (or at least a substantial extension of) the geometry finder subsystem that was first deployed in Toolkit Version N0063 this past April

Development of a Java Native Interface (JNI) interface to SPICE

Continuing work on the shape model functionality, by adding a tessellated plate model and a digital elevation model to the existing tri-axial shape model

Development of a Python interface to SPICE

In addition, starting in FY11 NAIF expects to partner with a group at NASA/Ames in building two GUI tools:

- a Frames Kernel construction and visualization tool
- a web-based geometry calculator

## Supported Environments

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NAIF is receiving a growing number of requests to provide the Toolkit for new environments. While we try to accommodate these as much as possible, we haven't the resources to port the Toolkit to all conceivable environments.

Before embarking on moving your SPICE-based code to a new environment, be sure a SPICE Toolkit exists for that environment:

<http://naif.jpl.nasa.gov/naif/toolkit.html>

If not, you may not be able to use SPICE software in that new environment.

We hope to shortly post to our website some sort of roadmap of our porting efforts/schedule so SPICE users may better understand NAIF's efforts with regard to porting.

## Advisory Regarding Fortran Toolkits on Mac OS 10.5, 10.6

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It appears that starting with MAC OS 10.5, use of static libraries is no longer possible. As a consequence, anyone trying to use Toolkit executables, whether taken from a Toolkit package or downloaded from NAIF's Utilities webpage, will find these do not work unless the user had a gfortran compiler installed on the machine.

## Next Toolkit Release

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The contents and release date for the next SPICE Toolkit, N64, have not yet been set. The March-April 2010 time frame seems likely to be the earliest this would happen. Probably N64 will contain additional geometry finder modules and some newly supported environments.

## Alpha-test Release for the Java Native Interface (JNI) Package

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Within the next six months NAIF anticipates having an alpha-test version of the JNI interface to SPICE available for trial by interested persons. Please inform the NAIF manager if you would like to be notified when this test package is available.

## Ancillary Data Standards for the International Planetary Data Alliance

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The IPDA (<http://planetarydata.org/>), an international consortium focused on archive standards and systems for planetary data, has asked NAIF to lead a small "project" to specify standards, recommendations and best practices for the production, archival and use of ancillary data associated with planetary missions. Participants in this project will (hopefully) come from a broad spectrum of the planetary exploration community.

## Projects Using SPICE?

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It is difficult for NAIF to keep apprised of the names of flight projects and other major SPICE users. Our current best guess is summarized in a PDF chart available from the "Support" webpage--look for the hyperlink "viewed here (PDF format)" near the bottom of the page.

If you have corrections or additions for this summary, please advise.

## SPICE Development and Operations Restrictions

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NAIF has not been successful in securing the funding needed to increase the team size to five persons, as it had been some years ago. Consequently, the pace of adding new core capabilities and new supported environments will remain rather slow, and NAIF staff support for customers must be limited according to the rules spelled out on the "Support" webpage:

<http://naif.jpl.nasa.gov/naif/support.html>.

We appreciate your understanding of these limitations.

## SPICE Archive Additions and Near-term Outlook

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New data are added to the Cassini, MRO, Odyssey, EPOXI, MESSENGER, New Horizons, and MER SPICE data sets every several months.

The first increment of archived SPICE data from ESA's Mars Express mission was added to the NAIF node holdings in June 2009. Archival data for the Rosetta and Venus Express missions should be added soon. (Archived SPICE data for all ESA planetary missions are, or will be available from ESA's Planetary Science Archive: <http://www.rssd.esa.int/index.php?project=PSA>.)

Restoration of the SPICE archive for the Clementine lunar mission was completed in June 2009.

Some Viking Orbiter ancillary data were converted into SPICE format and placed in the NAIF archive in December 2008.

SPICE data for the Hayabusa mission has been archived by JAXA at:

<http://spice.isas.jaxa.jp/pub/>

and this collection, augmented with some results from the NASA Hayabusa science team will be archived at the NAIF Node very shortly.

SPICE data for the Kaguya (SELENE) lunar mission is expected to be archived at JAXA around November 1, 2009, at <http://spice.isas.jaxa.jp/pub/>.

Availability of SPICE data produced by ISRO for the Chandrayaan-1 lunar mission is unknown.

SPICE data from the LRO and LCROSS lunar missions is expected to be ingested into the NAIF node in the months ahead.

(SPICE data producers: please provide any corrections or additions to the above information.)

All archived SPICE data produced by or ingested by NAIF are available from the NAIF server:

[http://naif.jpl.nasa.gov/naif/data\\_pds\\_archived.html](http://naif.jpl.nasa.gov/naif/data_pds_archived.html)

## International Ancillary Data Standards

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The International Planetary Data Alliance (IPDA, <http://planetarydata.org/>) has asked NAIF to lead an effort to document standards, recommendations and best practices for the production and use of ancillary data for planetary exploration missions. A team of interested individuals is now being formed to participate in this work.

## Your Suggestions

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While our plate seems full, NAIF is nevertheless interested in hearing customer suggestions for adding new capabilities and services, or improving those already existing.

If you wish to unsubscribe from this "spice\_announce" Mailman list, visit:  
[http://naif.jpl.nasa.gov/mailman/listinfo/spice\\_announce](http://naif.jpl.nasa.gov/mailman/listinfo/spice_announce)  
or send an email to the NAIF manager.