



Navigation and Ancillary Information Facility

Finding SPICE Components

An Introduction to the NAIF Server

October 2007



Overview

Navigation and Ancillary Information Facility

- **Many SPICE “products” are available from the NAIF server**
 - Access is via the http or ftp protocol
 - See next page for URLs
- **SPICE products made outside of JPL are controlled by the producing organization. Some may be available from the NAIF server, some may be available at other public servers, or on restricted servers, or not at all.**
 - Some of these SPICE products may eventually become accessible via NAIF after they are formally archived within NASA’s Planetary Data System.



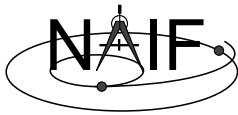
NAIF Server Basics

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- **NAIF home page**
<http://naif.jpl.nasa.gov>
 - Here you may access nearly all SPICE products available to NAIF*
 - kernels (generic, mission ops, PDS archived)
 - software (Toolkits and individual application programs)
 - documents
 - tutorials
 - programming lessons
 - problem solving tips
 - rules about using SPICE
 - links to useful resources
- **SPICE announcements (by NAIF)**
http://naif.jpl.nasa.gov/mailman/listinfo/spice_announce
- **SPICE discussion (by anyone)**
http://naif.jpl.nasa.gov/mailman/listinfo/spice_discussion

* Note: some SPICE products made outside of JPL may not be available to NAIF until formally archived with the Planetary Data System (PDS), or perhaps never.

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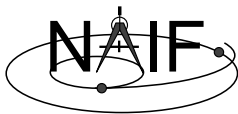


Getting SPICE Kernels

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- **The remaining charts discuss where to find the various categories of SPICE kernel files:**
 - Kernels associated with active flight mission operations
 - Generic kernels, not tied to a specific flight project or other task
 - Mission archived kernels, those formally delivered to and accepted by NASA's Planetary Data System

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Mission Ops Kernels - 1

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Address: <ftp://naif.jpl.nasa.gov/pub/naif/CASSINI/kernels/>

Path: [\[naif.jpl.nasa.gov\]\[pub\]\[naif\]\[CASSINI\]\[kernels\]](ftp://naif.jpl.nasa.gov/pub/naif/CASSINI/kernels/)

Name	Size	Kind	Last Modified
aareadme.txt	400 bytes	ASCII Text	Thu, Mar 11, 2004, 10:39 PM
ck	-	Folder	Tue, Apr 20, 2004, 5:10 PM
ek	-	Folder	Fri, Apr 16, 2004, 11:04 PM
fk	-	Folder	Thu, Mar 18, 2004, 11:45 PM
ik	-	Folder	Mon, Apr 12, 2004, 8:51 PM
lsk	-	Folder	Wed, Mar 20, 2002, 12:00 AM
pck	-	Folder	Thu, Mar 18, 2004, 11:47 PM
scik	-	Folder	Mon, Mar 29, 2004, 9:06 PM
spk	-	Folder	Fri, Apr 16, 2004, 4:58 PM

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Mission Ops Kernels - 2

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Address: <ftp://naif.jpl.nasa.gov/pub/naif/CASSINI/kernels/spk/>

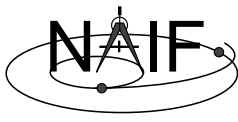
Path: [\[naif.jpl.nasa.gov\]\[pub\]\[naif\]\[CASSINI\]\[kernels\]\[spk\]](ftp://naif.jpl.nasa.gov/pub/naif/CASSINI/kernels/spk/)

Name	Size	Kind	Last Modified
000202R_SK_LP0_V1P32.bsp	238K	Document	Thu, Feb 21, 2002, 12:00 AM
000202R_SK_LP0_V1P32.bsp.lbl	2K	Document	Thu, Feb 21, 2002, 12:00 AM
000202R_SK_V1P32_V2P12.bsp	502K	Document	Thu, Feb 21, 2002, 12:00 AM
000202R_SK_V1P32_V2P12.bsp.lbl	2K	Document	Thu, Feb 21, 2002, 12:00 AM
000202R_SK_V2P12_EP15.bsp	198K	Document	Thu, Feb 21, 2002, 12:00 AM
000202R_SK_V2P12_EP15.bsp.lbl	2K	Document	Thu, Feb 21, 2002, 12:00 AM
000203_SE_JUP156.bsp	4,968K	Document	Thu, Feb 21, 2002, 12:00 AM
000203_SE_JUP156.bsp.lbl	3K	Document	Thu, Feb 21, 2002, 12:00 AM
000331R_SK_LP0_V1P32.bsp	307K	Document	Thu, Feb 21, 2002, 12:00 AM
000331R_SK_LP0_V1P32.bsp.lbl	3K	Document	Thu, Feb 21, 2002, 12:00 AM
000331R_SK_V1P32_V2P12.bsp	622K	Document	Thu, Feb 21, 2002, 12:00 AM
aareadme.txt			

Annotations:

- Kernel file
- Kernel file detached label (text)
- Kernel file naming conventions

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Generic Kernels Example - 1

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The screenshot shows a Netscape browser window with the address bar set to `ftp://naif.jpl.nasa.gov/pub/naif/generic_kernels/`. The page title is `generic_kernels`. The main content area displays a warning message from the Jet Propulsion Laboratory, followed by a successful login message. Below this, a directory listing is shown for the path `[naif.jpl.nasa.gov][pub][naif][generic_kernels]`.

Name	Size	Kind	Last Modified
fk	-	Folder	Wed, Sep 19, 2001, 12:00 AM
lsk	-	Folder	Fri, Jul 17, 1998, 12:00 AM
pck	-	Folder	Sat, Apr 2, 2005, 1:07 AM
plate_model	-	Folder	Thu, Jan 13, 2005, 6:23 PM
spk	-	Folder	Thu, Oct 18, 2001, 12:00 AM
stars	-	Folder	Fri, May 7, 2004, 12:00 AM

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Generic Kernels Example - 2

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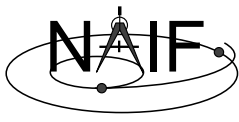
The screenshot shows a Netscape browser window displaying the index of the directory `ftp://naif.jpl.nasa.gov/pub/naif/generic_kernels/spk/satellites`. The page title is `Index of ftp://naif.jpl.nasa.gov/pub/naif/generic_kernels/spk/satellites`. The main content area lists various files and folders with their sizes and last modified dates. Annotations provide additional context for some of the files.

File Name	Size	Last Modified
a_old_versions	-	1/5/07 2:05:00 AM
aa_spk_production_dates_by-alpha.txt	2 KB	1/5/07 2:11:00 AM
aa_spk_production_dates_by-date.txt	2 KB	1/5/07 2:11:00 AM
aa_summaries.txt	25 KB	1/5/07 2:09:00 AM
iup230.bsp	96440 KB	8/12/04 12:00:00 AM
iup252.bsp	3058 KB	10/23/06 12:33:00 AM
iup252.cmt	3 KB	10/23/06 12:28:00 AM
iup252.inp	1 KB	10/23/06 12:33:00 AM
iup255.bsp	2805 KB	10/26/05 12:00:00 AM
iup255.cmt	3 KB	10/26/05 12:00:00 AM
iup255.inp	1 KB	10/26/05 12:00:00 AM
iup256.bsp	24562 KB	10/22/06 10:53:00 PM
iup256.cmt	3 KB	10/22/06 10:52:00 PM
iup256.inp	1 KB	10/22/06 10:48:00 PM

Annotations:

- Folder containing older (no longer current) files**: Points to `a_old_versions`.
- Summary of all SPK files in the directory, order by alpha and by date placed on the server**: Points to `aa_spk_production_dates_by-alpha.txt` and `aa_spk_production_dates_by-date.txt`.
- "brief -c" summaries of all SPK files in the directory**: Points to `aa_summaries.txt`.
- Typical SPK file**: Points to `iup255.bsp`.
- Comments about the file, also placed inside the SPK file**: Points to `iup255.cmt`.

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Mission Archived Kernels

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This is the PDS web page at which you'll arrive if you click on "PDS Archived SPICE Kernels" on NAIF's "Data" web page.

"Spice Kernels" has been pre-selected for you.

Select a "Mission," or an "Instrument Host" (they are not always identical).

Select START and STOP dates, if desired.

Finally, press "GO" and see what turns up!