

SPICE Documentation Taxonomy

Ordered by Category
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Document Name	Description/Comments
<u>General Reading</u>	
The SPICE System Concept	Two-page high-level introduction to SPICE
Ancillary Data Services of NASA's Navigation and Ancillary Information Facility	Seven page reference paper
An Overview of SPICE	20 page viewgraph package
Introduction to SPICE	An introduction to the SPICE system
Most Useful SPICE Subroutines	Practical, terse reference document for many popular uses of SPICE routines. Could be all one needs for simple use of many routines.
SPICELIB Permuted Index	Permuted index built from the brief abstract found in every routine. Helps focus your search for a routine that meets your needs. Examine "SPICELIB Summary" or the routine's header for more details.
SPICELIB Summary	Contains the brief abstract for every SPICELIB entry point, alphabetically organized. Use in conjunction with the permuted index.
NAIF IDs Required Reading	Summarizes numeric ID codes used throughout the SPICE system
SPICE General Tutorial	Eleven viewgraphs, touching on several subjects
<u>General SPICELIB Programming</u>	
SPICE General Tutorial	Eleven viewgraphs, including three short programming examples
Most Useful SPICE Subroutines	Practical, terse reference document for many popular uses of SPICE routines. Could be all one needs for simple use of many routines.
SPICELIB Permuted Index	Permuted index built from the brief abstract found in every routine. Helps focus your search for a routine that meets your needs. Examine "SPICELIB Summary" or the routine's header for more details.
SPICELIB Summary	Contains the brief abstract for every SPICELIB entry point, alphabetically organized. Use in conjunction with the permuted index.
Common Problems	Summarizes the most frequently occurring customer problems

Document Name

Description/Comments

SPK Subsystem (Ephemerides for spacecraft and solar system bodies)

SPK: The SPICE Ephemeris Subsystem - A Tutorial	25 page viewgraph package. Fairly comprehensive.
SPK Required Reading	Reference document for the SPK subsystem
Frames Required Reading	Reference document for working with reference frames in SPICE
NAIF IDs Required Reading	Summarizes numeric ID codes used throughout the SPICE system
SPC Required Reading	Reference document for use of the "comment area" in binary kernels
BRIEF User's Guide	BRIEF summarizes contents and coverage of an SPK file
SPACIT User's Guide	SPACIT provides transfer and summary functions for SPK/CK kernels
TOBIN/TOXFR User's Guide	These provide command-line conversions between binary and "SPICE Transfer Format" versions of SPK and CK files
SPKMERGE User's Guide	SPKMERGE will merge multiple SPK files or subset one SPK file
MKSPK User's Guide	MKSPK is a utility program that can produce an SPK file from a variety of different kinds of ephemeris data
Producing SPK Files for DSN Planning and Mission Operations (TRK 2-33)	Introduction to structure of and methods for making SPK files

PCK Subsystem (Target body size/shape/orientation)

PCK Required Reading	Reference document for the PCK subsystem
Frames Required Reading	Reference document for working with reference frames in SPICE
NAIF IDs Required Reading	Summarizes numeric ID codes used throughout the SPICE system
Kernel Required Reading	Reference document for text kernel basics

IK Subsystem (Instrument geometry information)

(Get an example IK file from NAIF)	Follow the example. (Usually NAIF makes IK files for flight projects.)
Frames Required Reading	Reference document for working with reference frames in SPICE
NAIF IDs Required Reading	Summarizes numeric ID codes used throughout the SPICE system
Kernel Required Reading	Reference document for text kernel basics

Document Name

Description/Comments

CK Subsystem (Orientation of a spacecraft or structure)

CK Required Reading	Reference document for the CK subsystem
Frames Required Reading	Reference document for working with reference frames in SPICE
NAIF IDs Required Reading	Summarizes numeric ID codes used throughout the SPICE system
SPC Required Reading	Reference document for use of the "comment area" in binary kernels
SPACIT User's Guide	SPACIT provides transfer and summary functions for SPK/CK kernels
TOBIN/TOXFR User's Guide	These provide command-line conversions between binary and "SPICE Transfer Format" versions of SPK and CK files
DAFCAT User's Guide	DAFCAT provides a <u>very</u> rudimentary CK files merge function. Really not ready for prime time.

FK - Reference Frames

Frames Required Reading	Reference document for working with reference frames in SPICE
NAIF IDs Required Reading	Summarizes numeric ID codes used throughout the SPICE system
Rotations Required Reading	Reference document for creating and using rotation matrices

EK Subsystem ("EVENTS", broken down into three distinct products))

EK Subsystem Overview	Approximately 20-page viewgraph package; mostly high level
Notes about ESQ	In the absence of an "EK Required Reading" reference document, these notes provide some information about the Sequence component (ESQ) of the E-kernel

Time Conversion

Time Required Reading	Reference document for time conversion routines
SCLK Required Reading	Reference document for working with spacecraft clock time
Time Conversions Within SPICE	A one-page "road map" showing relationships between time conversion routines and time systems/formats. (Located in SPICE General Tutorial)
Kernel Required Reading	Reference document for text kernel basics

Document Name	Description/Comments
<u>SPICELIB Error Handling</u>	
Error Required Reading	Reference document for configuring and using the error handling system that is built-in to SPICELIB
<u>Getting/Installing the NAIF Toolkit</u>	
"Dear Colleague" letter	E-mail letter sent to anyone ordering the NAIF Toolkit. Contains instructions for getting and installing this software
README	Description of the files to be ftp'd in order to get, install and use the NAIF Toolkit, and, Toolkit installation instructions
<u>NAIF Software</u>	
dscriptn.txt	A description of the organization and contents of the NAIF Toolkit. Comes with each Toolkit delivery.
whats.new	Summary of recent changes, additions and bug fixes to the NAIF Toolkit. Comes with each Toolkit delivery.
"Required Reading" documents (*.req)	Reference documents for major families of SPICELIB subroutines. These generally include examples.
"Header" found in every SPICELIB subroutine (every entry point)	Complete specifications needed to utilize the routine. Includes inputs, outputs, examples, restrictions, algorithms, references, etc. This is the fundamental, definitive specification for each subroutine.