Cassini Frames Hierarchy

CASSINI_SRU

CASSINI_HGA

CASSINI_XBAND

CASSINI_KABAND

CASSINI_KUBAND

CASSINI_SBAND

CASSINI_LGA1

CASSINI_LGA2

CASSINI_ISS_NAC

CASSINI_ISS_WAC

CASSINI_ISS_WAC_RAD

CASSINI_ISS_NAC_RAD

CASSINI_MAG_MINUS

CASSINI_MAG_PLUS

CASSINI_INMS

J2000

CASSINI_SC_COORD

CASSINI_CIRS_RAD

CASSINI_CIRS_FPB

CASSINI_CIRS_FP1

CASSINI_CIRS_FP3

CASSINI_CIRS_FP4

CASSINI_CDA

CASSINI_CAPS

CASSINI_VIMS_V

CASSINI_VIMS_IR

CASSINI_VIMS_RAD

CASSINI_UVIS_HSP

CASSINI_UVIS_HDAC

CASSINI_UVIS_FUV

CASSINI_UVIS_FUV_OCC

CASSINI_UVIS_EUV

CASSINI_UVIS_EUV_OCC

CASSINI_RADAR_1

CASSINI_RADAR_2

CASSINI_RADAR_3

CASSINI_RADAR_4

CASSINI_RADAR_5

CASSINI_MIMI_CHEMS

CASSINI_MIMI_INCA

CASSINI_MIMI_LEMMS1

CASSINI_MIMI_LEMMS2

CASSINI_RPWS

CASSINI_RPWS_EXPLUS

CASSINI_RPWS_EXMINUS

CASSINI_RPWS_EZPLUS

CASSINI_RPWS_LP

Legend:

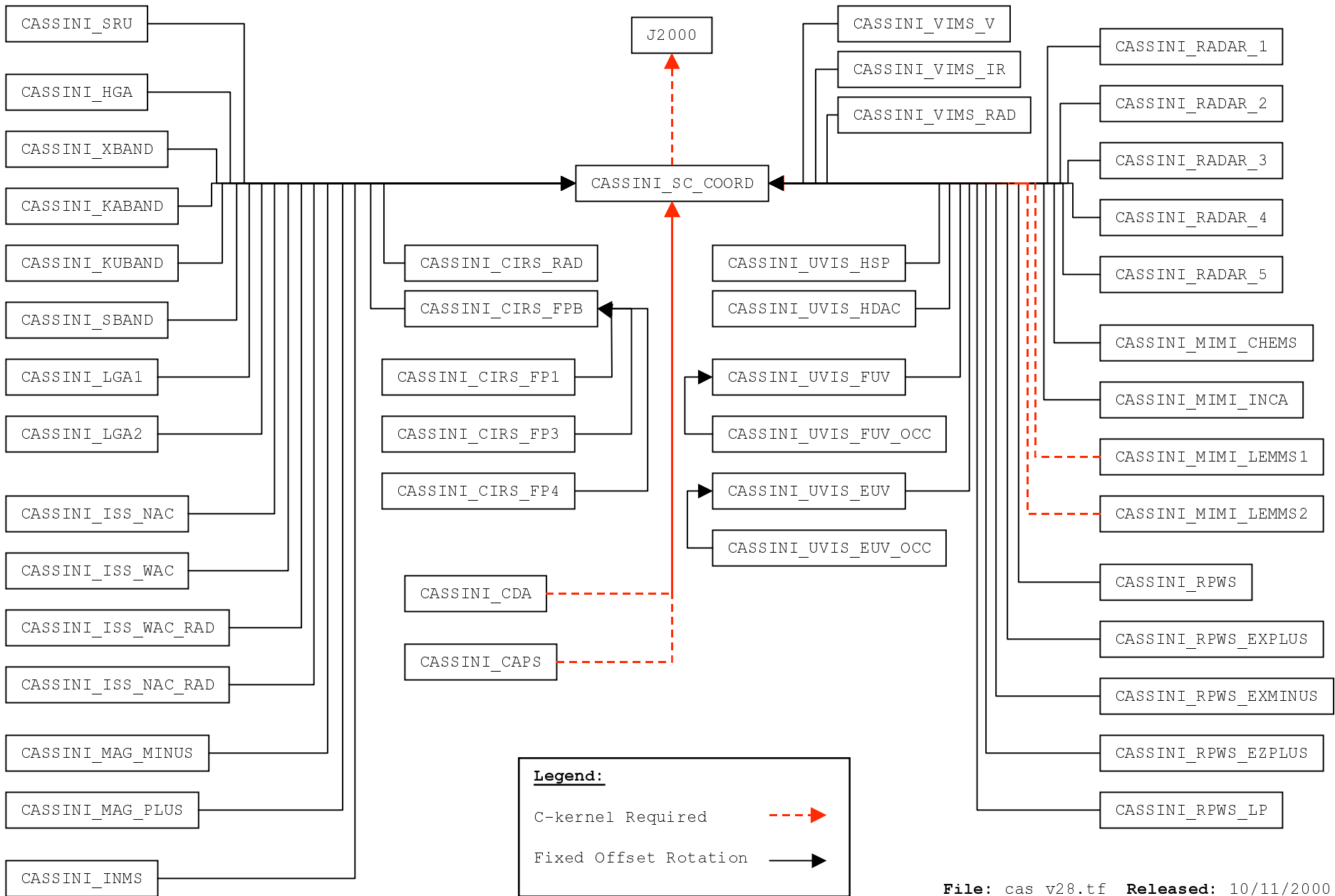C-kernel Required

Fixed Offset Rotation

File: cas_v28.tf **Released:** 10/11/2000

The Cassini Frames Hierarchy is a diagram describing the relationships between frames in the Cassini Frame Kernel. A less colorful version is provided in the frame kernel itself in the 'Cassini Frames Hierarchy' section of the kernel. The diagram illustrates with boxes the name of each frame defined in the kernel. The arrows leaving and arriving at the individual boxes illustrate transformations that are stored in the kernel. Consider the following piece of the diagram:

```
 ┌──────────────┐                                    ┌────────┐
 │ CASSINI_SRU  │─────────────┐                      │ J2000  │
 └──────────────┘             │                      └────────┘
                              │                           ▲
                              │                           ┆
                              │                           ┆
                              │                           ┆
                              │              ┌─────────────────────┐
                              └─────────────▶│  CASSINI_SC_COORD   │
                                             └─────────────────────┘
```

The frame 'CASSINI_SRU' is defined in the frames kernel relative to the 'CASSINI_SC_COORD' frame. The arrow used to connect these two frames is solid, black and leaves 'CASSINI_SRU' and arrives at 'CASSINI_SC_COORD'. As the legend indicates, the solid black arrow describes a fixed offset rotation. The direction of the arrow is significant, as it illustrates that the transformation defined in the kernel takes vectors from the 'CASSINI_SRU' frame and rotates them into the 'CASSINI_SC_COORD' frame.

The dashed red arrows indicate C-kernel based frame transformations defined in the project frame kernel. In the above example, to transform vectors from the 'CASSINI_SC_COORD' frame to 'J2000' requires data from a C-kernel at the epoch or epochs of interest.