Subject: Re: satellite orbit computation in IDL
Posted by schaa on Mon, 08 Mar 2004 14:55:54 GMT
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Cedric Seynat wrote:
> Hello all,
>
> I am looking for IDL routines computing satellite positions as a
> function of time, given a set of initial orbital parameters.
>
> I have implemented basic orbit computation routines myself (based on
> Keplerian parameters), but I am looking for very accurate orbit
> propagation involving atmospheric drag, luni-solar perturbations,
> earth tides etc.
>
> I have looked on the IDL libraries available on the web but did not
> find anything. If you have implemented such routines or if you can
> suggest who I can contact, I would very much appreciate to hear from
> you.

Hi Cedric,
perhaps the NAIF-group from NASA provides something that you are looking for: high precision orbit calculations. The tool provided by NAIF is called Spice, take a look at the website http://naif.jpl.nasa.gov/naif.html.
This week the Icy-package for IDL version 1.0 (!) is out and can be found on the ftp-server of NAIF, (under 0:/pub/naif/misc/edw/icy/).

Icy has to be linked against IDL's export.h (external directory) and can be used as a dlm-kind of thing ...
An example from the Spice-tutorial is:

""
Check whether the angle between (Cassini) camera boresight and
direction to Sun is within allowed range:
cspice_spkpos(ï¿½SUN', ET, ï¿½CASSINI_ISS_NAC', ï¿½LT+S',
ï¿½CASSINI',
SUNVEC, LT)
angle = VSEP(NAC_BORESIGHT_nac, SUNVEC)
""
and a lot more ...

It's open source, free and Naif answers Mails!

Best regards
-Ralf