Subject: Re: satellite orbit computation in IDL
Posted by Craig Markwardt on Thu, 04 Mar 2004 10:11:04 GMT

cseynat@swiftdsl.com.au (Cedric Seynat) writes:

> 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.

Cedric, why not ask for world peace at the same time? :-) You are
asking for a pretty tall order. I'm actually interested in the same
thing, but I work on it irregularly.

Judging from your request, you are interested in low earth orbiters
(otherwise, why ask for atmospheric drag?).

I have a high precision predictor corrector integrator on my web page.
The JPL ephemerides of the moon and Sun are available in IDL from my
web page or the IDL astronomy web page. If you are interested in
earth tracking station motions then I have several routines which
compute very high precision positions and motions.

I have also privately developed routines for computing accelerations
due to the non-spherical earth (i.e. standard expansions in spherical
harmonics). Let me know if you are interested.

Craig

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Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
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