
Subject: Re: Satellite orbit procedure
Posted by [Ed Wright](#) on Thu, 28 Feb 2002 16:32:42 GMT
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in article 3C7E3189.88B08ED3@dlr.de, Richard Lord at Richard.Lord@dlr.de wrote on 2/28/02 5:32 AM:

>
> Hi,
>
> I'm looking for a procedure that takes as input the parameters of a
> satellite orbit (Kepler orbit parameters), and outputs so-called
> statevectors. A statevector contains the x,y,z and vx,vy,vz
> coordinates at any particular point in time.
>
> If anybody has seen a procedure that does something along the lines
> explained above, I would be grateful to receive a copy.
>
> Thanks in advance,
> Richard

Give me another month and I'll finish testing a dlm interface to the JPL CSPICE library. The library includes routines for orbit computations, time conversion, and associated functions.

As always,
Ed Wright
JPL/NAIF

Subject: Re: Satellite orbit procedure
Posted by [Craig Markwardt](#) on Wed, 06 Mar 2002 14:50:41 GMT
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Richard Lord <Richard.Lord@dlr.de> writes:

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> explained above, I would be grateful to receive a copy.

Hi Richard--

This kind of code can also be found in the HELIO procedure in the IDL

Astronomy Library. You have to be aware that this kind of code is only really good for bodies in the solar system. For near earth objects the story is a little different. The so-called "mean" orbital elements are also tied to an orbital model, like the SGP4. You would need to propagate the orbit using this model.

Good luck,
Craig

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

Subject: Re: Satellite orbit procedure
Posted by [Liam E. Gumley](#) on Wed, 06 Mar 2002 14:58:19 GMT
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Richard Lord wrote:

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- > satellite orbit (Kepler orbit parameters), and outputs so-called
- > statevectors. A statevector contains the x,y,z and vx,vy,vz
- > coordinates at any particular point in time.

I looked into this problem a while ago. The most convenient solution I found was the "Satellite Tool Kit" (STK) software freely available from

<http://www.stk.com/>

The free version of their software accepts Keplerian elements (e.g. NORAD TLE format) and computes the corresponding state vectors propagated forward in time.

The STK software is unrelated to IDL.

Cheers,
Liam.
Practical IDL Programming
<http://www.gumley.com/>
