Subject: Re: Help: TLE data
Posted by Liam E. Gumley on Tue, 09 Jan 2001 15:21:00 GMT
View Forum Message <> Reply to Message

Kenneth Mankoff wrote:
> I have a few months worth of TLEs (Two Line Element sets) from NASA. I
> know that this data describes everything there is to know about an
> orbiting craft, and i know what the different fields of each TLE refer to.
>
> What I would like to do is plot the craft's position over the time-period
> of the data that I have. Not just the altitude vs longitude or something
> like that, but have an image (or time-lapse animation) of a globe, and the
> craft moving around the globe. The only thing that would be unrealistic is
> that I would have to magnify the body of the craft a bit so that it would
> take up a few pixels around a globe that would fit on my monitor.
>
> This is analogous to the solar-system simulator at JPL
> (http://space.jpl.nasa.gov/), or the NASA J-Track3D page
> (http://liftoff.msfc.nasa.gov/RealTime/JTrack/3D/JTrack3D.htm l). Of
> course, what i am attempting to do is simpler, more specific, less robust,
> one-time usage, etc.
>
> I am wondering if anyone knows of any software (preferably IDL code) that
> can help in this in any way, even just a small part of the problem.

There are several options for computing the spacecraft orbit. Here's a couple:

TrakStar (Windows/MSDOS, free, straight-forward, well tested)
http://www.celestrak.com/software/tskelso-sw.shtml

Predict (Linux, free)
http://www.njin.net/~magliaco/predict.html

Satellite Tool Kit (Unix/Windows, base version is free)
http://www.stk.com/

Unless someone offers you some very well tested code for computing the orbit, I'd use one of these non-IDL packages. Once you have computed the spacecraft position vs. time, you could certainly use IDL to display them.

Cheers,
Liam.
http://cimss.ssec.wisc.edu/~gumley