

NONLINEAR DYNAMICS WITH MATHCAD PRIME 1.0

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As an aerospace engineer, I use Mathcad:

- for the preliminary determination of artificial Earth satellite, space probe, asteroid, and comet orbits**
- for the differential correction of orbits, to include batch filters for orbit determination**
- to model tracking radars, including the generation of radar and electro-optical look angles for various sensor geometries**
- special kinds of modeling such as flares (extremely bright, lingering glints of sunlight) from telecomm satellites in the Iridium constellation**

Examples of my work with orbits have been available on the Internet for a number of years -- start at <http://astroger.com>.

The ultimate goal of the projects that I support is usually orbital mechanics software implemented in FORTRAN, C++, or Java.

But I find it advantageous to work out solutions in Mathcad, when possible, because that can make algorithm design, coding, unit testing, and integration all go faster and better.

Now I'd like to show you a Mathcad 15 video that animates the results of the Mathcad Prime 1.0 worksheet that this presentation is all about.