

Green, argument for orbital eccentricity

The Urth list — 1 messages, 1 voices, 14 Mar 2002

<https://urth.darkrealm.vip/thread/urth/3036>

Exported from an unofficial mirror of a public mailing list. Copyright in each message remains with the person who wrote it. Email addresses are obscured as `user at host`, the form the original archive published. This file was rebuilt from parsed fields rather than retained headers, so it is faithful in content but not byte-exact.

Michael Andre-Driussi — 14 Mar 2002, 02:30

Experiment: build a model in our solar system. Let Blue = Earth, move Venus out a bit, rename it "Ishtar," and let's see.

I want Ishtar to orbit within Martyn Fogg's "Moist Greenhouse" range, which would be .85 AU to .95 AU for our system. ("Moist Greenhouse" is one step away from "Runaway Greenhouse.")

So place Ishtar at .9 AU, with a year of 311 days.

Earth is at 1 AU.

If we give both planets perfectly circular orbits, then they will be at their closest point about once every Ishtar year (plus a little), a fraction of an Earth year.

We want an orbit more "cometary," yet we want it to remain within a boundary (Moist Greenhouse) more constrained than comets.

If we give Ishtar an orbital eccentricity of .05 (less than Mars's; about what Jupiter has), then Ishtar will swing from .855 AU to .945 AU. It will do this in the course of its year: speeding up as it nears the Sun, slowing down as it reaches the farthest point.

I don't know the formula, but my guess is that Ishtar at aphelion while Earth is near (leaving aside Earth's perihelion) would not happen once a year.

Starting both at the closest separation: Day 0

Ishtar arrives back at point on Day 311

Earth arrives back at point on Day 365

They are 54 days out of synch (Earth "falling behind"), suggesting that it will take, what, 6.75 years for them to get back into synch?

ISHTAR EARTH

0 0

311 365

622 730

933 1095

1244 1460

1555 1825

1866 2190 = 6 years

2177

2488 2464 = 6.75 years

Something like that.

=mantis=

Sirius Fiction

booklets on Gene Wolfe, John Crowley

Now with UPDATES!

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