

AstroSolution: Orbital Calculations with dynamical ellipticity and tidal dissipation

Using the La1993 model and consistently rotated orbital elements from different astronomical solutions (La1993, La2010a,b,c,d, ZB2017e, ZB2018a), a WebApp was developed to perform the Earth model calculations by the client (within the Browser).

[blocked URL](#)

The underlying software, based on the code of Laskar et al, 1993, is archived on [Zenodo](#), [GitHub](#), and is live at

<https://paloz.marum.de/AstroComputation/index.html>

The screenshot shows a web browser window with the URL `paloz.marum.de/AstroCo`. The page title is "AstroSolution WebApp". Below the title, there is a citation: "Heiko Pälike. (2021). OrbitalCalculations/AstroSolution: Zenodo Release v0.0.3 (0.0.3). <https://doi.org/10.5281/zenodo.5741358>".

The main content area features a "Computation Tool for Astronomical Solutions" panel with the following controls:

- Astro Solution:** A dropdown menu set to "La2010a".
- Time Range:** A slider from "0 Ma" to "100 Ma".
- Integration:** A text input field set to "10" with the label "Integrate from 0 to Ma".
- Ellipticity:** A slider from "0.9900" to "1.0100".
- dynamical ellipticity:** A text input field set to "1.0000".
- Tidal Dissipation:** A slider from "0.0" to "2.0".
- tidal dissipation:** A text input field set to "1.0".

A blue "Start Computation" button is located below the sliders.

Below the button, the text "File to generate and download:" is followed by a text input field containing the filename `La2010a_(1.0000,1.0)_0-10.0Ma.txt`.