Geoscientific Model Development Discussions

Geosci. Model Dev. Discuss., referee comment RC2
https://doi.org/10.5194/gmd-2021-12-RC2, 2021
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Comment on gmd-2021-12

Anonymous Referee #2

Referee comment on "*AstroGeoVis v1.0*: Astronomical Visualizations and Scientific Computing for Earth Science Education" by Tihomir S. Kostadinov, Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2021-12-RC2, 2021

This paper describes various visualisation codes written in MATLAB for use in classroom. The used formula are described and some examples of use in teaching are given.

According to the abstract,"students [...] need to acquire robust scientific computing and data analysis skills". The examples in the paper are not responsive to these needs.

The name of the software AstroGeoVis is misleading, as the components only deal with the Sun. Astronomical visualisation should also include the Moon, the planets, the stars, etc.

Some of the examples like the one described in 2.2 are already available online, e.g. https://www.sunearthtools.com/dp/tools/pos_sun.php, where the path of the sun, the shadows, etc. are plotted on a google maps application.

I suggest to rewrite the paper completely and focus on the pedagogical issues as there a no developments/improvements on scientfic codes/models.

Further suggestions of improvements:

The software needs a commercial MATLAB installation and each code is started using the command line. Some functions need input values. Examples of such are missing. They should either be written in the text oder in the comments of the code.

The author should consider to rewrite the codes for a GUI application and compile it to an

executable, so that it can be used freely. Or, maybe in addition, use an open-source software like Python.