The author presents and explains the different formula for the computation of the insolation, and other related values, that formed the basis for the a new version of AnalySeries, called "PyAnalySeries", to be released soon. As the author indicates some of the formulas presented in this paper are classical, while others are new. This paper is an important piece of work, to make all these formula available at one place. Many paleoscientists are using several of them (maybe even without knowing) and it will continue to be the case in the future. Therefore I consider that this paper is important and is worth to be published. Although the topic is difficult and technical, the author tried to be as pedagogical as possible. In that sense, the abstract clearly reflects the content of the paper.

Here are some more specific comments.

1. References
    a. As the author recognizes that some formulas are classical, it would be good to offer a reference for that, in particular for section 2.2
    b. I also suggest to add a reference related to the used of the elliptical integral. I can suggest this one (Berger et al, 2010, https://doi.org/10.1016/j.quascirev.2010.05.007) although there might be others as well.
2. Line 159: T=1 year. A few words about what is one year (Gregorian year, sidereal year, tropical year, anomalistic year, …), which one is chosen and why might be welcome.
3. Line 202. I do not fully agree with the author's definition of 'caloric insolation'. The caloric Summer half year is defined such that any day of the Summer half year receives more insolation than any day of the Winter half year. In particular, it means that in the tropics caloric half years may not be continuous.
4. Line 326. $\varphi_{Ext}(-\lambda, e, \varepsilon, -\varpi) = \varphi_{Ext}(\lambda, e, \varepsilon, \varpi)$. Isn't it also $\varphi_{Ext}(-\lambda, e, \varepsilon, -\varpi) = -\varphi_{Ext}(\lambda, e, \varepsilon, \varpi)$?
5. Figure 4.
    a. The titles of the bottom part read 'insolation %'. Percentage of what? Is it a percentage of the solar constant? This should be explained.
    b. Would it be possible to explain in plain language what are 'turning points'?
6. Line 450. Please provide here a full list of all the astronomical solutions that can be used in the library (or none of them).
7. Line 455. 'expressed in kyrAP'. Does that mean that time is expressed in thousands of year positive for the future and negative for the past?
8. Line 460. '… 'Berger1978' solution … is a trigonometric approximation of some older astronomical computations'. Berger (1978) is based on Bretagnon (1974)

astronomical solution, which is a trigonometric solution of simplified equations (first order of the Lagrange equations).

9. Line 465. Laskar's solutions are given in years (or thousand years) before/after 2000A.D. while Berger (1978) is given in years (or thousand years) before/after 1950A.D. Does this affect the computation ?
10. Lines 512 and 533. At line 512, refL is the true longitude of the reference point, while on line 533 refL is the mean longitude of the reference point. It is not so clear in the text.
11. Line 535. Why is np.pi/2 used here? Isn't it the reference longitude? In that case why isn't it 0?
12. Line 561. 'eps' should probably be 'obl'.