Review of: "A memory dependent analysis on permeation of non-Gaussian laser pulse through human skin"

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Potential competing interests: No potential competing interests to declare.

This thermodynamic analysis of laser treatment on human skin provides a more accurate and comprehensive understanding of the thermal effects and responses of skin layers during laser therapy. By adopting a memory-dependent hyperbolic-type thermoelastic heat conduction model and considering a bi-layer skin structure, we aim to better capture the complexities of the skin's response to laser treatment.

The problem is interesting, high-level research and the results are important, but the paper needs the following points are noted:

1. The author should explain the novelty clearly in the abstract and conclusion.
2. What are the advantages of the proposed new model?
3. The authors should include scientific reasoning for graphical results in details.
4. What are the advantages of the method used?
5. English should be improved on the paper.
6. The literature survey might be improved on adding some relevant references as:

- An analytical study on the fractional transient heating within the skin tissue during the thermal therapy. J Therm Biol 2019, 82, 229-233, doi:10.1016/j.jtherbio.2019.04.003.

- Analytical estimations of temperature in a living tissue generated by laser irradiation using experimental data. J Therm Biol 2019, 85, 102421, doi:10.1016/j.jtherbio.2019.102421.

- Analytical solutions of fractional bioheat model in a spherical tissue. Mech. Based Des. Struct. Mach. 2019, 49, 430-439, doi:10.1080/15397734.2019.1702055.

- Finite Element Analysis of Nonlinear Bioheat Model in Skin Tissue Due to External Thermal Sources. Mathematics 2021, 9, doi:10.3390/math9131459.

-Effect of intrinsic rotations, microstructural expansion and contractions in initial boundary value problem of thermoelastic bodies. Boundary Value Probl. 2014, 2014, doi:10.1186/1687-2770-2014-129.

- Relaxed Saint-Venant principle for thermoelastic micropolar diffusion. Struct Eng Mech 2014, 51, 651-662, doi:10.12989/sem.2014.51.4.651.