Review of: "Shear stress during the flow of thixotropic and rheopex suspensions"

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The manuscript presents a semi-empirical equation to model thixotropy and rheopexy of suspensions constituted of molecules and their dimers. The kinematics between the two fractions is dictated by the shear rate imposed on the solution. The differential equations are then solved numerically to obtain the shear stress and viscosity curves as a function of shear rate and time.

However, the lack of a literature review causes the novelty of the work not being hardly emphasized, as impossible to compare the shortcomings of the current models versus the proposed model. There are some errors in the manuscript that need to be fixed. Additionally, some of the choices made by the author could confuse some readers.

1. Abstract: "constant rate constant"
2. Missing bar in for η and $_0$ in "Here [ ] and $_0$ are the parameter values".
3. Missing description for η_0.
4. There is no literature review regarding other models for thixotropy or rheopecty.
5. There is no definition of thixotropy or rheopexy in the introduction.
6. In the "Theory of calculations" section, you multiply $n_1 + 2n_2 = n$ by v, which should give the total volume of grains, not the volume fraction. Shouldn't this be divided by the total volume to obtain the volume fraction?
7. Missing equations numbers for the Euler method (Between equations 6 and 7).
8. The Euler method equations are confused; the same index position used for the iterate is also being used to differentiate the two components of the system (single grains and their dimers). Maybe use a superscript to denote the Euler method iterations.
9. There is no mention what the time step size used.
10. The use of φ_{10} and φ_{20} can lead to confusion; it is recommended use a comma to separate the digits: $\varphi_{1,0}$ and $\varphi_{2,0}$
11. Figures titles are wrong: "Viskosity vs Viscosity".
12. All parameters are missing units in the figure's legends. The axis should also have units.
13. Specific parameters are missing for Fig. 3 and 4 (c_1 and c_2).
14. The comparison with the experimental results should be in the first paragraph of the chapter and not the last.
15. In Fig 7, is not show the values of c_1 and c_2 adopted in the numerical simulation.
16. There is no discussion on how the parameters affect the model behavior. Why it appears there is an increase in viscosity for the rheopetic fluid despite the decrease in the shear rate (Fig.4)?

17. The model is based on the concentrations for single grains and their dimers; however, nowhere it shows how their value changes over time or as a function of the shear-rate

18. Missing conclusion. How does the presented model compare to other models presented in the literature? What are its advantages and disadvantages?

Therefore in its current state, the manuscript cannot be recommended for publication.