Review of: "Analysis method of binary concentration-inhomogeneous systems"

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Potential competing interests: No potential competing interests to declare.

In this short note the author proposed an idea to quantify the concentration inhomogeneous for complex fluids. This is an old but still challenging question in the physics of complex fluid in general. I found the author's idea interesting. It should have been published in the 1990s to see if it worked in experiments. I have several questions.

What is the theoretical basis of the linear superposition form of eq. (1)?

The heat capacity curves of different concentration, or the $C(x; T)$ in eq. (2), should be known in advanced for the calculation of $M(x)$. Should $C(x; T)$ be measured separately?

since $C(x; T)$ is a curve of glass transition process, is it unique or reproducible? Glass transition is known to be extremely sensitive to the thermal history of the sample.

The proposed distribution $M(x)$ of different concentrations x was meant to reflect the fact that concentration differs spatially. It can be imagined that under one $M(x)$, regions of concentration x can still be fragmented in different ways, resulting in differences in the structure factor of the liquid, and hence the thermodynamic and transport properties including heat capacity. If this is the case the unique link between M and C_{Σ} is further blurred than just the issue of ill-posedness, and the proposed method is broken down. Although this manuscript is only a proposal, this issue should still be justified to a better extent theoretically.

It is not fair to further judge the manuscript in the modern perspective. However, I would like to see further refinement of this idea by experimental applications in the future.