Review of: "Measurement Mechanics"

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Potential competing interests: No potential competing interests to declare.

The paper highlights that the repeated measurement results follow a Gaussian distribution, deviating from the traditional error distribution. The concept presented in the paper is highly innovative, yet there are several questions that the author needs to meticulously address:

- Regarding the spatial arrangement of the vertical axis in Figure 1, which is not mentioned within the framework of Newtonian classical mechanics or continuum mechanics, please explain the reason.
- The paper contains only a few formulas, which lack a detailed derivation process. Therefore, it should be specified where these formulas were derived from.
- Does the article identify noise and distortion as the primary sources of measurement errors? How are errors resulting from human cognitive uncertainty taken into account?
- The proposed theory lacks substantiated examples, and while the article presents several empirical instances, it fails to offer any quantification. I believe the author's approach should prioritize quantitative analysis over qualitative analysis.
- The article emphasizes that accurate experimental measurements require calibration against a standard. How is this standard established? Moreover, in the context of varying professional backgrounds within actual engineering practices, does this 'standard' remain uniform?
- In theory or in practice, accurate measurement results can only be achieved when a quantity is divided into states that are smaller than its unit. This viewpoint seems intuitive. However, can a rigorous proof be provided? Furthermore, what are the implications if it is practically impossible to divide physical quantities into smaller states?

Based on the comments provided above, the reviewer recommends a major revision of the manuscript.