# Review of: "Non-dimensionalization of the Compressible Navier-Stokes Equation by Pressure Wavelength and Period revealing its Singularity"

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Potential competing interests: No potential competing interests to declare.

The abstract provides a clear overview of the topic, introducing the concept of compressible fluid dynamics and the non-dimensionalization process. The abstract effectively explains the concept of pressure waves in compressible fluid dynamics and how they propagate at a finite speed. The abstract could benefit from a concluding statement summarizing the key findings and potential implications of the research. It would be helpful to include a brief mention of future directions or areas for further research to provide context for the significance of the study.

Overall, the introduction provides a thorough overview of the topic, but some sentences could benefit from clarification and revision for grammar and clarity.

1. "...useful because they describe the physics of enormous phenomena of scientific and engineering, even of cosmology." - Consider revising to: "...useful because they describe the physics of various scientific and engineering phenomena, including those in cosmology."

2. "...remains minimal." - Consider revising to: "...remains limited."

3. "The secrets hidden in the Navier-Stokes have not been unlocked." - Consider revising to: "The secrets hidden within the Navier-Stokes equations have not yet been unlocked."

4. "It has shown that the classical Navier-Stokes equation neglects the 'wave energy' changes." - Consider revising to: "It has been shown that the classical Navier-Stokes equation neglects changes in 'wave energy'."

5. "Strictly speaking, the classical Navier-Stokes equation is an approximated mathematical model for very small velocities relative to the Lab frame." - Consider revising to: "Strictly speaking, the classical Navier-Stokes equation is an approximate mathematical model for velocities much smaller than those in the lab frame."

6. "Getting inspiration from the above consideration, in this paper, we first show the traveling wave phase function is an invariant dimensionless scalar..." - Consider revising to: "Inspired by the above considerations, this paper first demonstrates that the traveling wave phase function is an invariant dimensionless scalar..."

7. "...as described by the special relativity theory." - Consider revising to: "...as described in the theory of special relativity."

Overall, the conclusion effectively summarizes the main points discussed in the paper and provides valuable insights into the implications of the research findings. It effectively ties together the various elements discussed throughout the paper and reinforces the significance of the study within the field of fluid dynamics. I would suggest explicitly mentioning the research gap your study addresses, linking this back to the objectives stated in the introduction.

I would prefer to add some more references highlighting the recent trends in this topic.