Review of: "On the cosmological arrow of time"

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Potential competing interests: No potential competing interests to declare.

The author based his paper on Wetterich's idea that expansion be described by an increase in particle masses with time and proposes a scalar field model whose effective potential has two minima, one true and other false with an energy gap. Then the author starts quantum tunneling via instantons for flow of energy to account for the increase in masses and then arrow of time.

It appears that the author mixes ideas of Wetterich (which is not accepted by all!), scalar field effective potential, and instantons for tunneling. These are disconnected as such from the paper. Questions arise where does instanton come from, where does the scalar field enter.

Mixing different models cannot explain a fundamental issue such as arrow of time.

In view of these points, I do not recommend the paper for publication.