

Review of: "Dark Energy as an intrinsic property of Matter"

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The beauty of mathematics is that the same equations can be applied to different physical phenomena and can be interpreted in many ways. The author takes well-known equations governing the expansion of the homogenous and isotropic universe, and by rearranging terms in them he seeks new ways how to interpret them. This can potentially open doors to new approaches, which are so much needed in modern cosmology with Hubble tension and other problems. However, developing such approaches to a sufficient extent requires much more work than presented in the paper. In order to improve the clarity of the idea proposed in this paper I would suggest elaborating more on the following issues:

1. How does the model proposed by the author differ from the " $R_h=ct$ " cosmological model studied in other works? For references see for example:

F. Melia, 2007, Monthly Notices of the Royal Astronomical Society, 382, 1917

F. Melia, A. Shevchuk, 2012, Monthly Notices of the Royal Astronomical Society, 419, 2579

Moncy V. John, 2019, MNRASL 484 (1) L35

2. Equation (10) is valid when the pressure-to-energy density ratio for the matter component is $-1/3$. I would appreciate some explanation for this, since for example relations (6) and (15), as well as comments above (10), give the same pressure-to-energy density ratio not for the matter component, but for overall energy density and pressure (total equation of state). Is not there just a typo with the extra upper index m which should not be there?

3. Decomposition of the scalar field model into two parts given by (24) and (25) is problematic since both parts are given by the same scalar field.