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## **A non-singular universe out of Hayward black hole**

*Monday, 8 July 2024 17:20 (20 minutes)*

We construct a (quantum mechanically) modified model for the Oppenheimer-Snyder collapse scenario where the exterior of the collapsing dust ball is a Hayward black hole spacetime and the interior is a dust Friedmann-Robertson-Walker cosmology. This interior cosmology is entirely determined by the junction conditions with the exterior black hole. It turns out to be non-singular, displaying a power-law contraction which precedes a de Sitter phase or, reversely, a power-law expansion followed by a de Sitter era. We also analyse the global causal structure and the viability of the model.

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