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## Non-minimally coupled varying constants quantum cosmologies

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We consider gravity theory with varying speed of light and varying gravitational constant. Both constants are represented by non-minimally coupled scalar fields. We examine the cosmological evolution in the near curvature singularity regime. We find that at the curvature singularity the speed of light goes to infinity while the gravitational constant vanishes. This corresponds to the Newton's Mechanics limit represented by one of the vertex of the Bronshtein-Zelmanov-Okun cube. The cosmological evolution includes both the pre-big-bang and post-big-bang phases separated by the curvature singularity. We also investigate the quantum counterpart of the considered theory and find the probability of transition of the universe from the collapsing pre-big-bang phase to the expanding post-big-bang phase.

### Summary

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