

## Non-vanishing of tidal Love numbers

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ABSTRACT: In this note, we analyze black holes solutions under  $R^3$ - type corrections, which is the leading correction induced by quantum corrections in four-dimensions. We showed that perturbations around this black hole background will lead to non-zero tidal Love numbers (TLNs). This further accentuates the “unnaturalness” of the vanishing TLNs for Schwarzschild black hole under Einstein-Hilbert action.

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