

# Phantom Crossing DGP Gravity

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We propose a phantom crossing Dvali--Gabadadze--Porrati (DGP) model. In our model, the effective equation of state of the DGP gravity crosses the phantom divide line. Original DGP model [2] can account for late-time acceleration of the universe without dark energy. However, the crossing of the phantom divide does not occur within the framework of the original DGP model or the DGP model developed by Dvali and Turner [3]. By extending their model, we construct a model that realizes crossing of the phantom divide. We found that the smaller the value of the new introduced parameter  $\beta$  is, the older epoch crossing of the phantom divide occurs in. In our model, the expansion of the universe accelerates even without dark energy. It also has a possibility of solving the cosmic age problem. We investigated the allowed parameter region in detailed comparison with recent observational data and the validity of our model.

(This presentation is based on Ref. [1])

## References

- [1] K. Hirano, Z. Komiya, arXiv:0912.4950 [astro-ph.CO].
- [2] G. Dvali, G. Gabadadze, M. Porrati, Phys. Lett. B 485 (2000) 208.
- [3] G. Dvali, M. Turner, astro-ph/0301510.