

# Modeling the large scale density profiles of cosmic voids and halos to probe cosmology

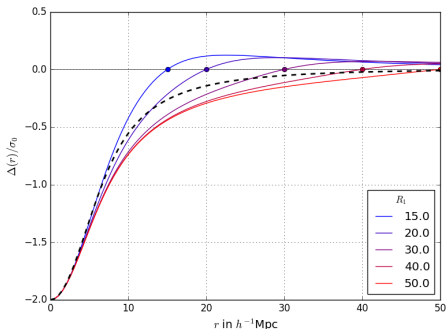
Paul de Fromont

Laboratoire Univers et Théories

PNCG - 23 nov 2016

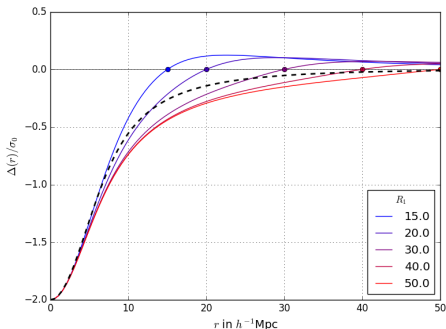
## Modelling spherical profiles

- huge literature on Voids  $\implies$  Dark Energy
- no consistent model for IC and dynamics
- extend the peak formalism
- Gaussian  $\implies$  peak + cosmic environment
- compensation scale  $R_1$  :  
$$M(R_1) = 4\pi/3\bar{\rho}R_1^3$$
- Voids and Halos!



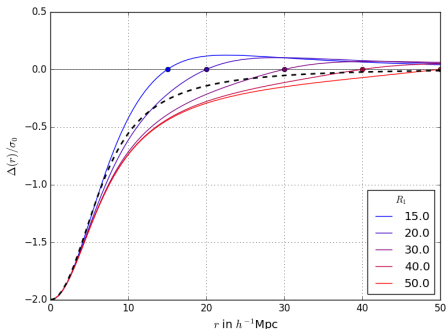
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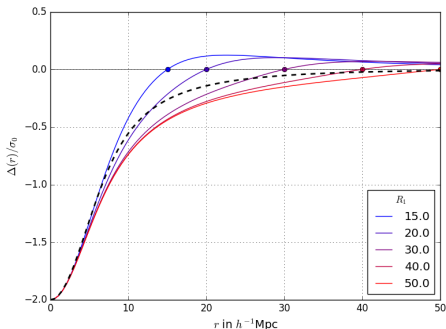
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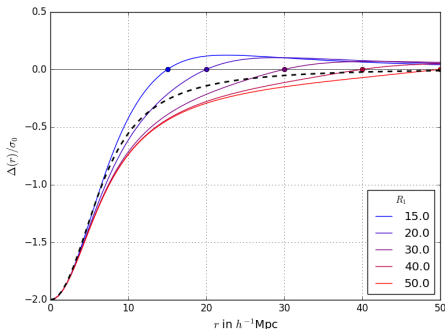
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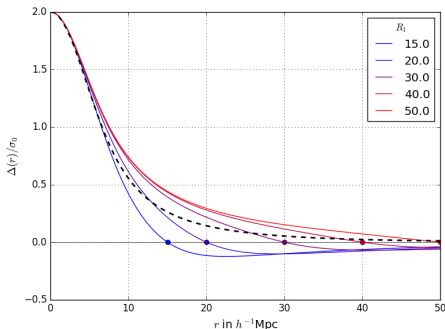
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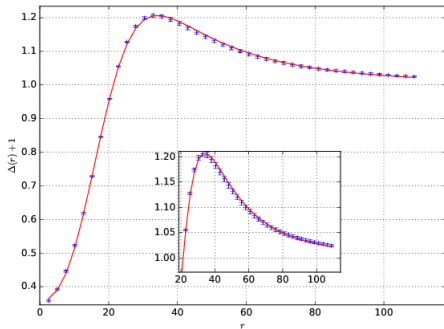
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## Modelling the dynamics

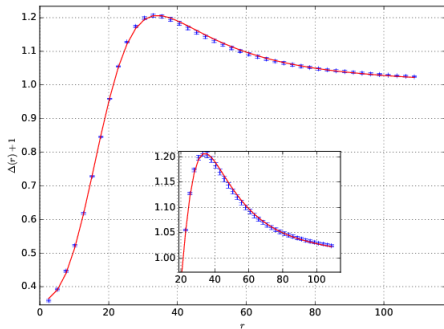
- stacked objects  $\implies$  spherical!
- spherical collapse
- $\implies$  reconstruction at  $z = 0$
- symmetric for Halos and Voids
- $\implies$  new constraints on cosmology
- and/or MG!





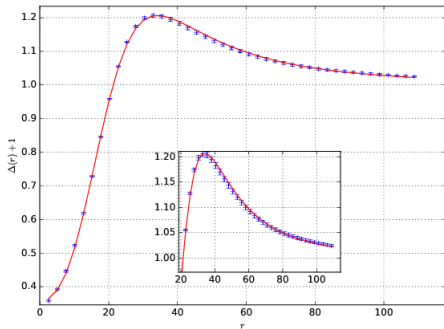
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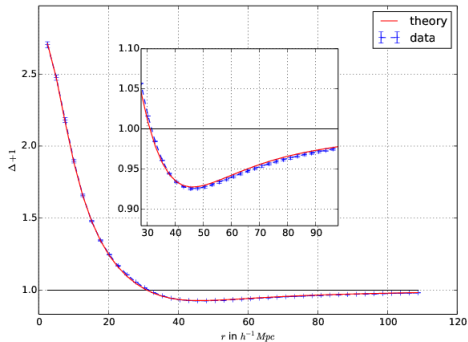
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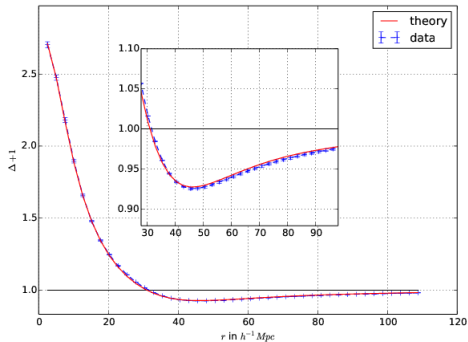
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