

IVOA: Theory-IG UK activities



Summary

◆ Theory Activities

- UK Esience
- VirtU
- AstroGrid related



Esience Programme: Studentships

◆ PhD studentships

- Science through the application of escience

◆ Laurie Shaw:

- N-body simulations
 - ◆ Bode + Ostriker
- VO standards in 'theory' use



Esience Programme: Virtu

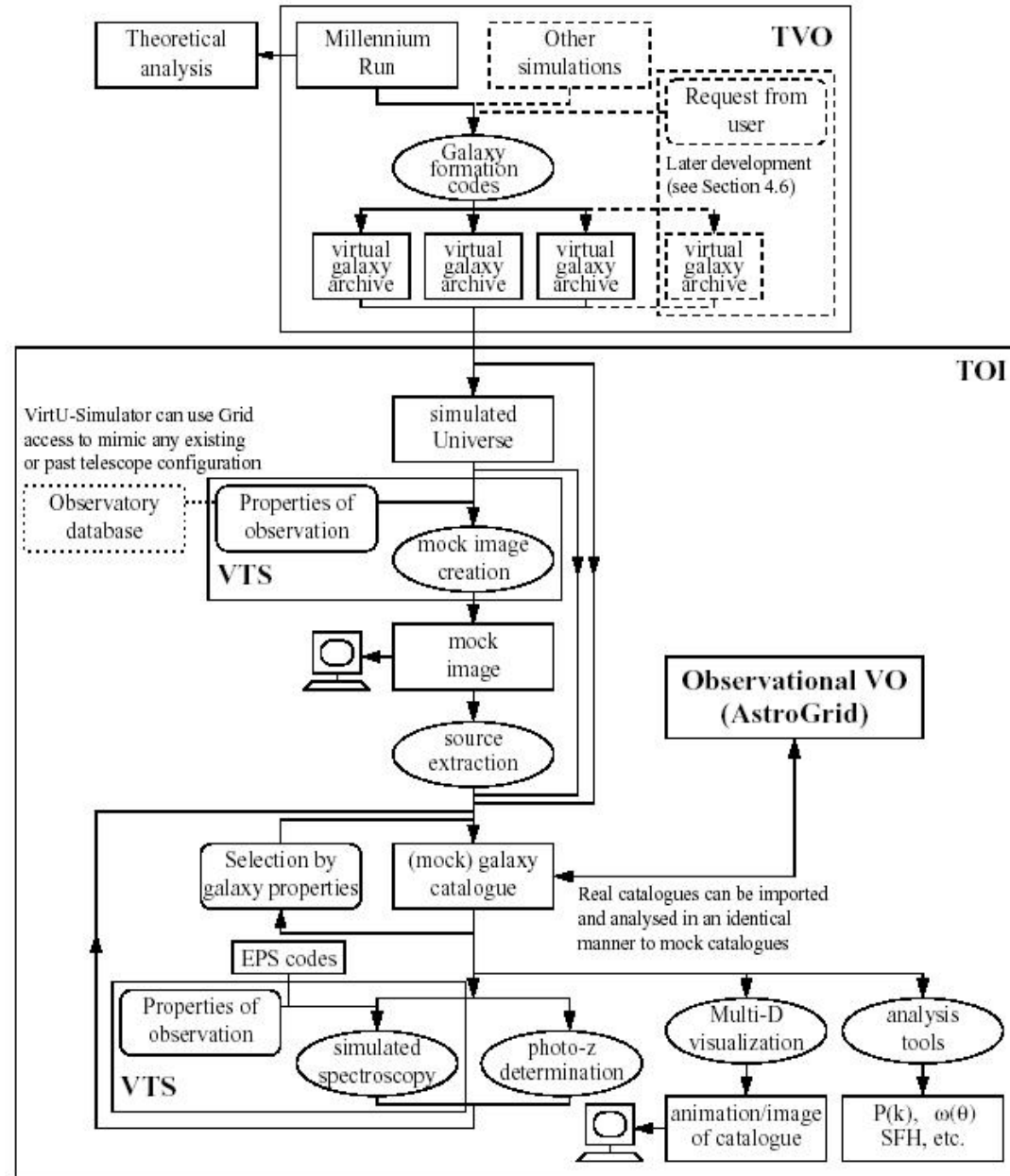
◆ VirtU: The Virtual Universe

- Large collaborative eScience proposal
 - ◆ Durham, Cambridge, UCL, Leicester, Oxford, Edinburgh, et al
- Many codes, e.g.:
 - ◆ VIRGO – Gadget+
 - ◆ COSMOS
 - ◆ UKAFF
- Aims:
 - ◆ access/manipulation of large simulations
 - ◆ Intercomparison of simulations
 - ◆ Theory/ observations interface
 - ◆ Vizualisation techniques
- 'small' VirtU funded – postdoc Oct 2004
 - ◆ Focus: Virgo Millennium simulation VO accessible



VirtU flows

The Flow of VirtU



Virgo Simulations

Galaxies in a Virgo N-body simulation

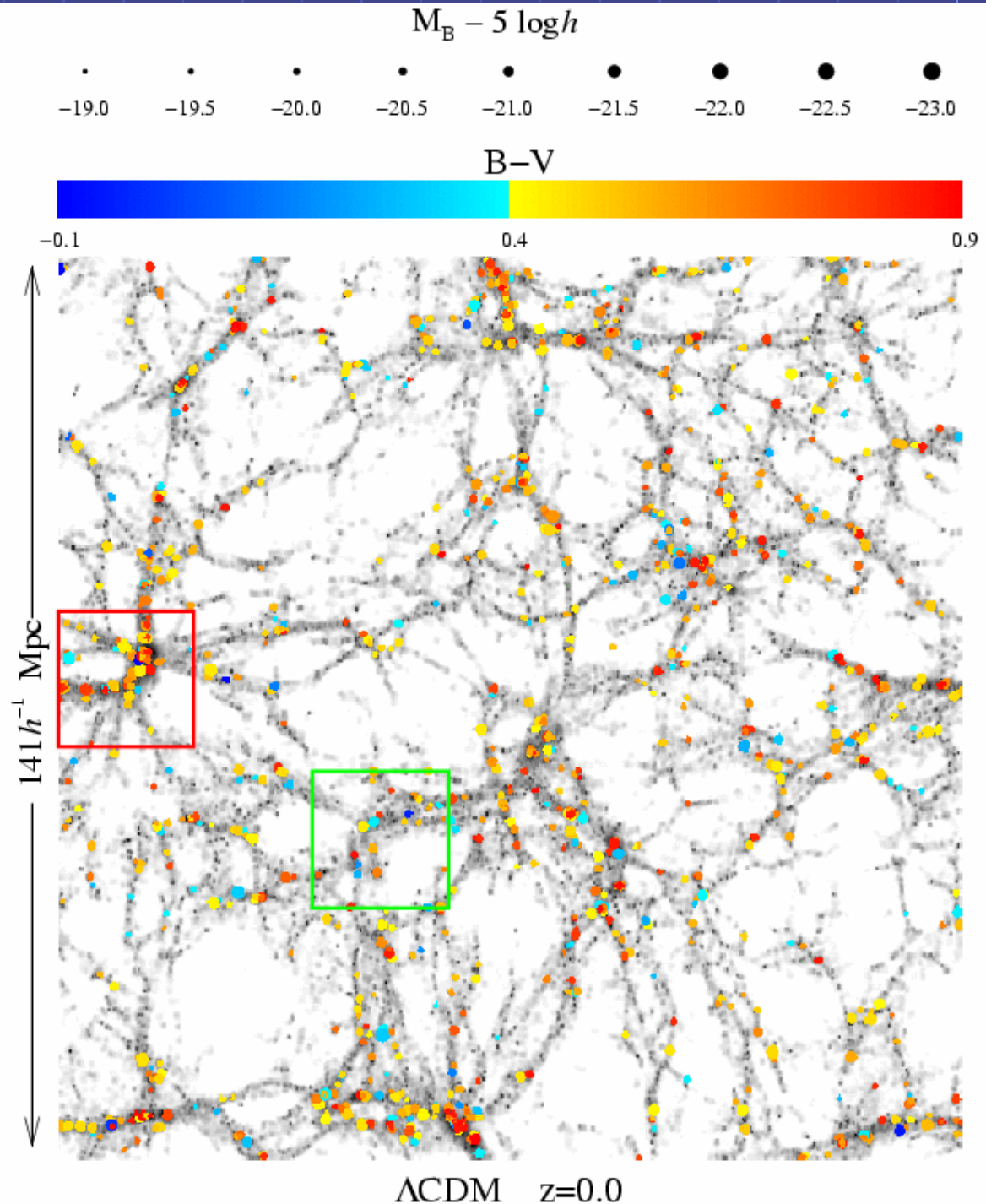
$Z = 0$

Observable properties of galaxies in each N-body halo computed using the SA model:

colour $\sim B-V$; size $\sim M_b$

Galaxies trace filaments
Red galaxies in clusters

Benson, Frenk, Baugh, Cole & Lacey '01



AstroGrid Theory

- ◆ Limited focus to date, but:
 - Effort in AstroGrid2 related to model inclusion
 - ◆ Stellar synthesis models
 - ◆ Cloudy, starburst99
 - Archives
 - ◆ Archive of simulation catalogues, particle data
 - ◆ Inclusion of some theory models (via data centres)
 - Theory representation on Science Advisory Group
 - ◆ Itn6 movie maker of relevance to theory community
 - ◆ Use case driven



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