

# Alternative estimation of the dark matter content of dSphs

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in collaboration with Garry Angus & Antonaldo Diaferio

**CAUSTIC Group**

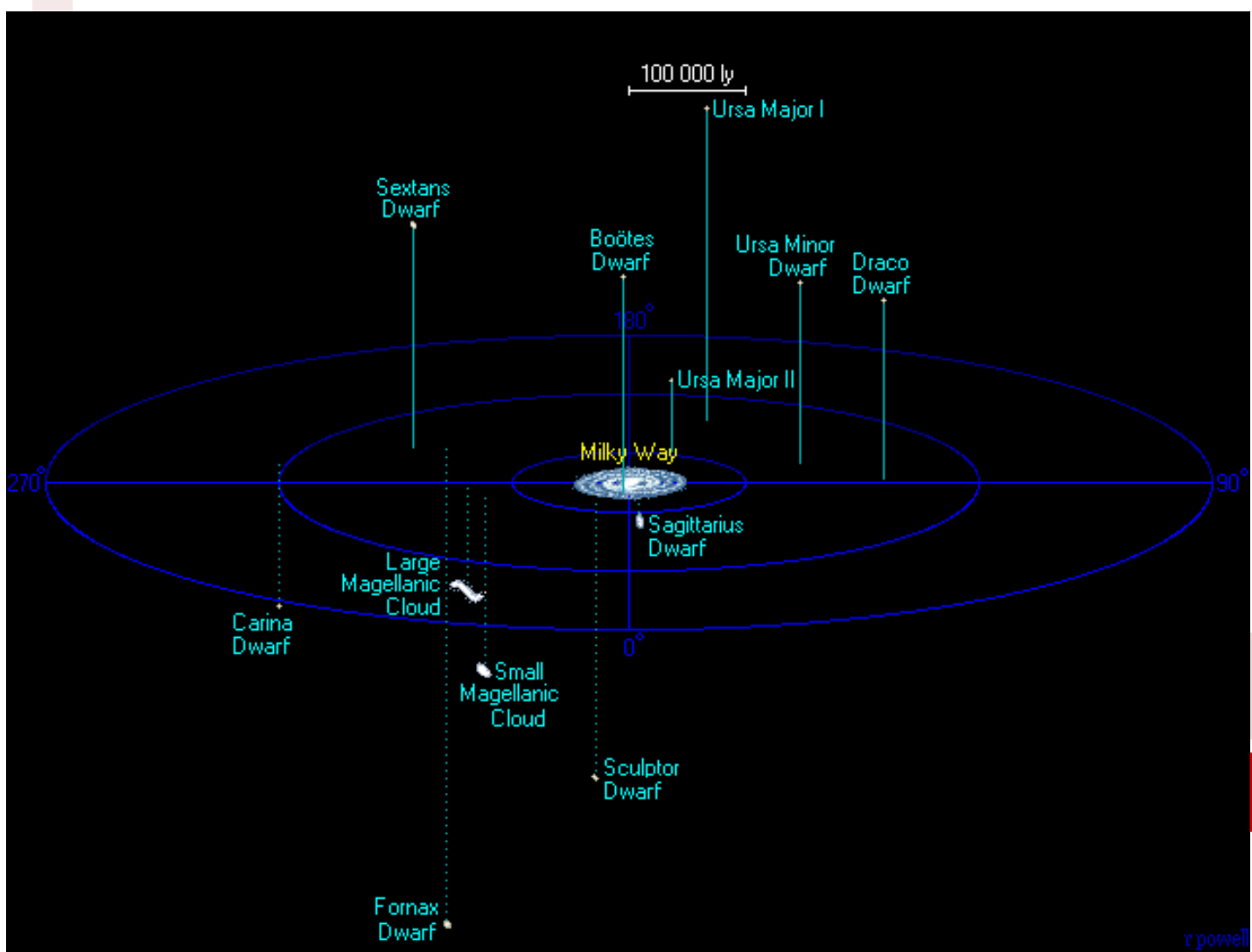
**Dipartimento di Fisica Generale “Amedeo Avogadro”**

**Università di Torino**

<http://www.dfg.unito.it/ricerca/caustic/caustic.html>

Bertinoro, May 27, 2009





$V_{los}$  from stars

+

equilibrium

+

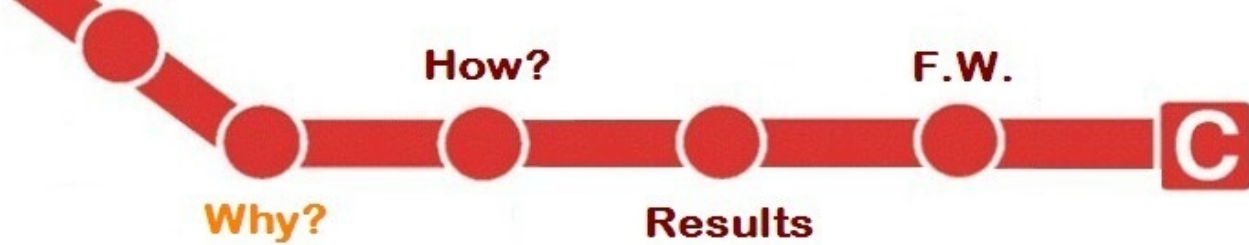
spherical

+

Jeans Equation



Acceleration deficit



**Acceleration deficit**

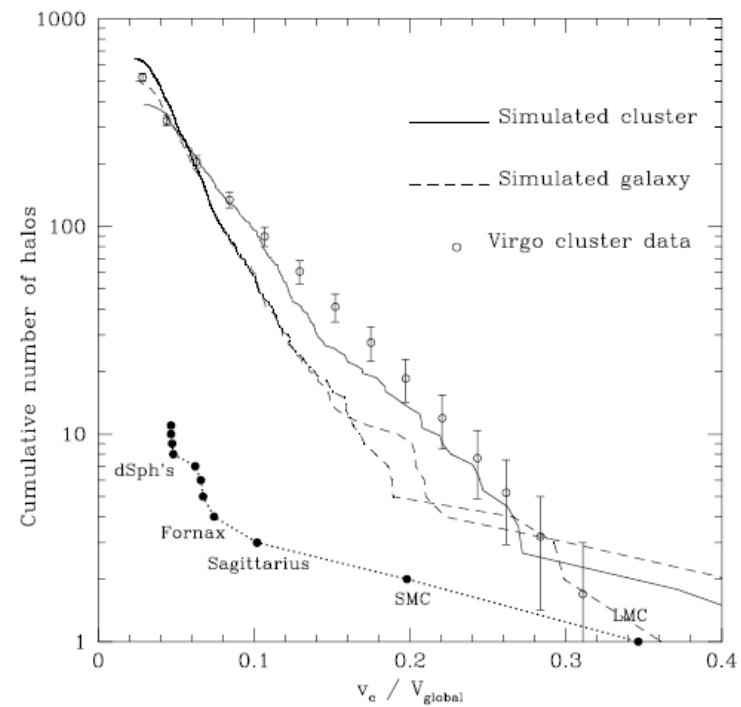
**Modified gravity**

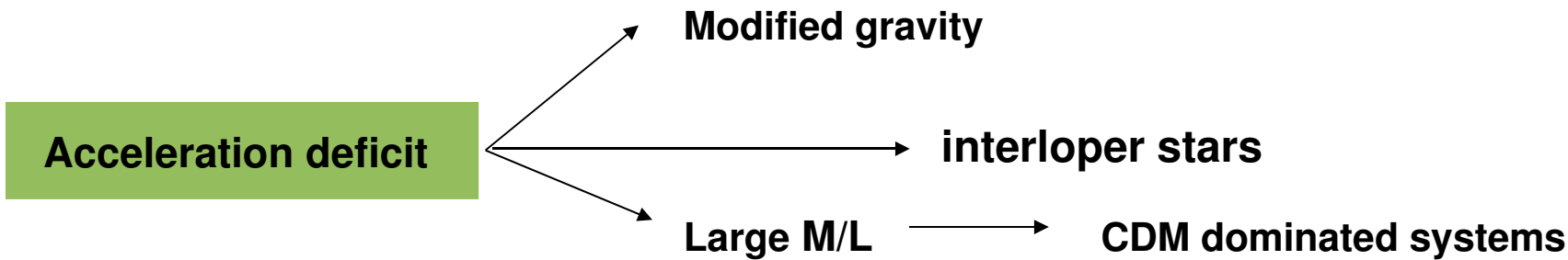
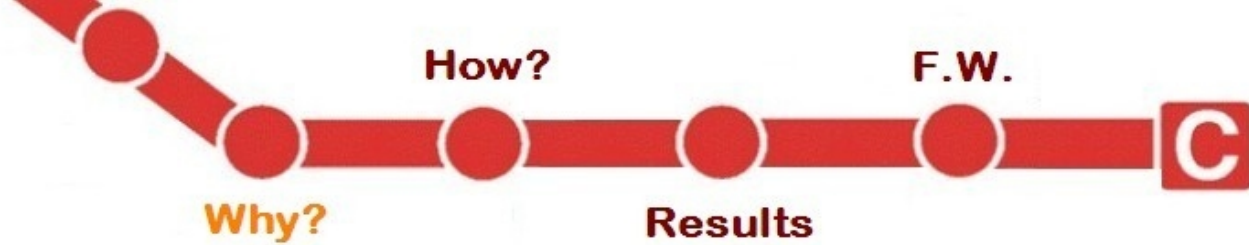
**Large M/L**

**CDM dominated systems**

**Missing dwarf galaxies problem!**

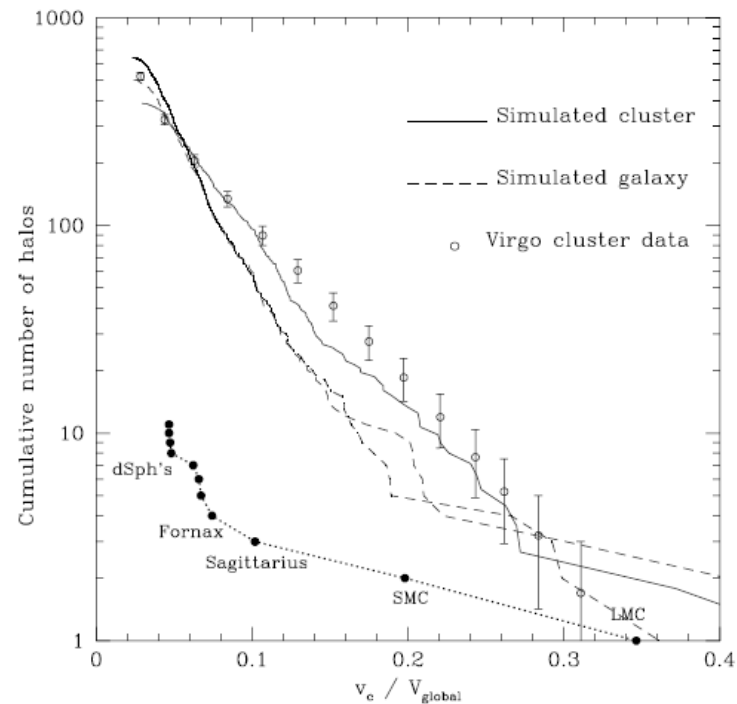
Moore et al., 1999





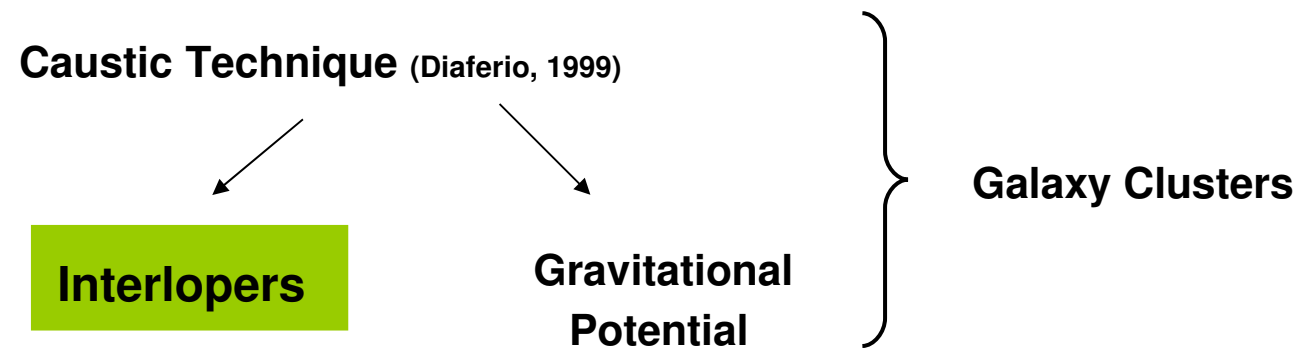
**Missing dwarf galaxies problem!**

Moore et al., 1999



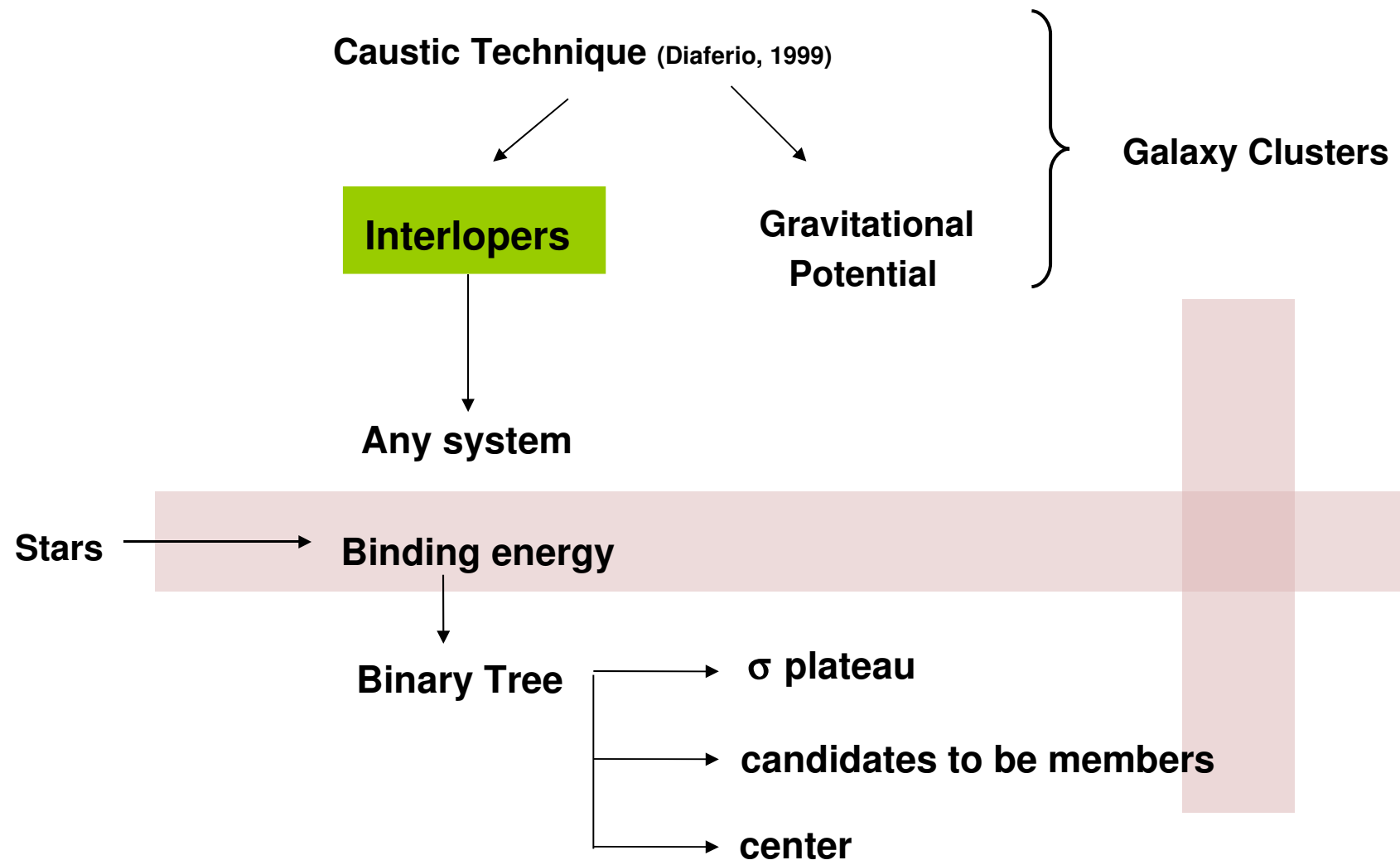


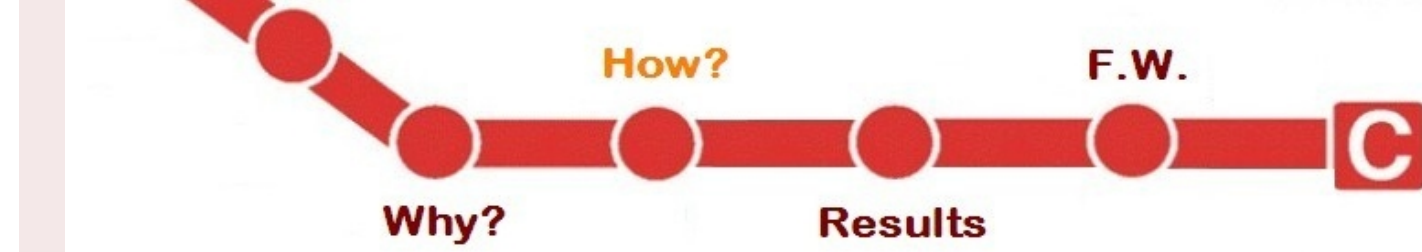
## How to identify interloper stars?





## How to identify interloper stars?





Binding energy



713 ( 357) —

672 ( 308) —

653 ( 282) —

626 ( 235) —

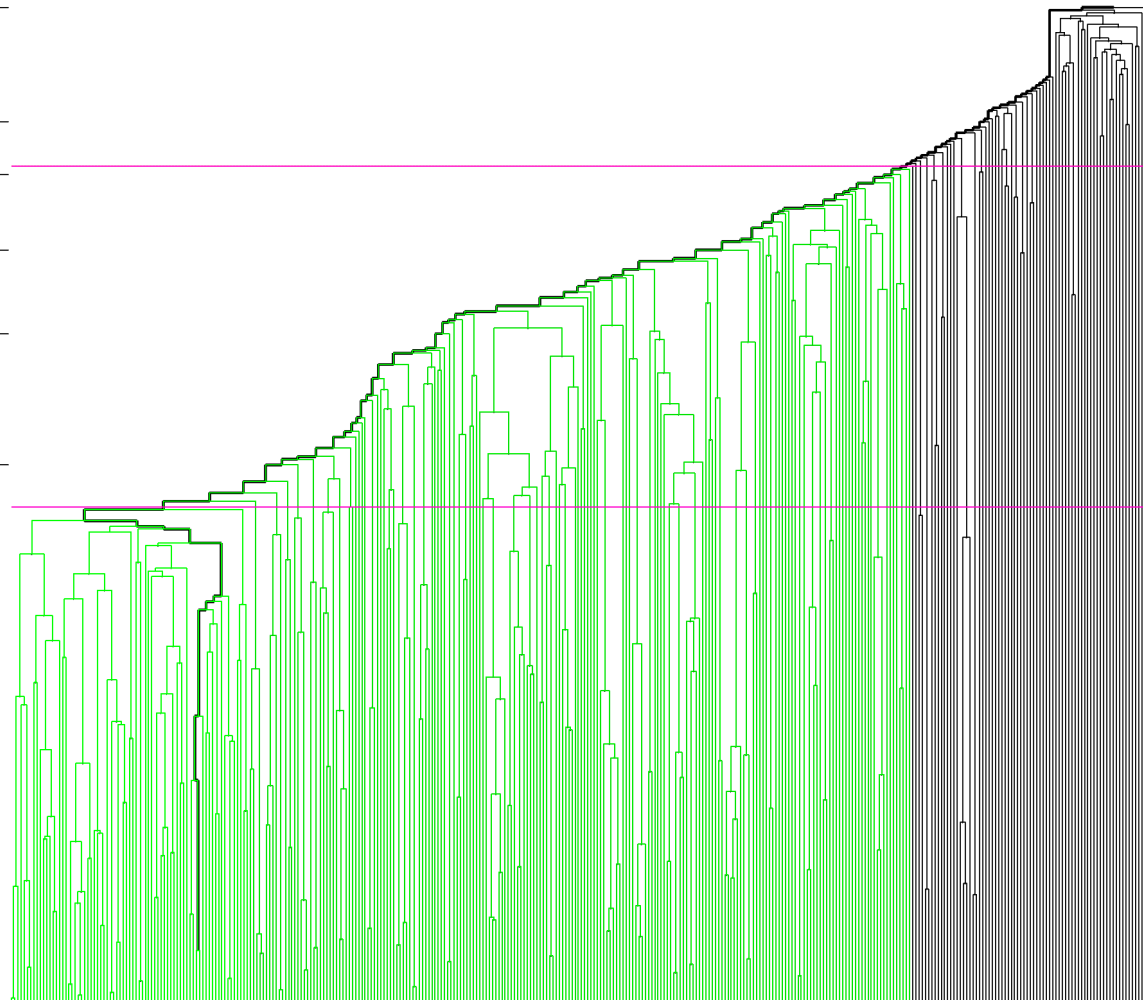
596 ( 139) —

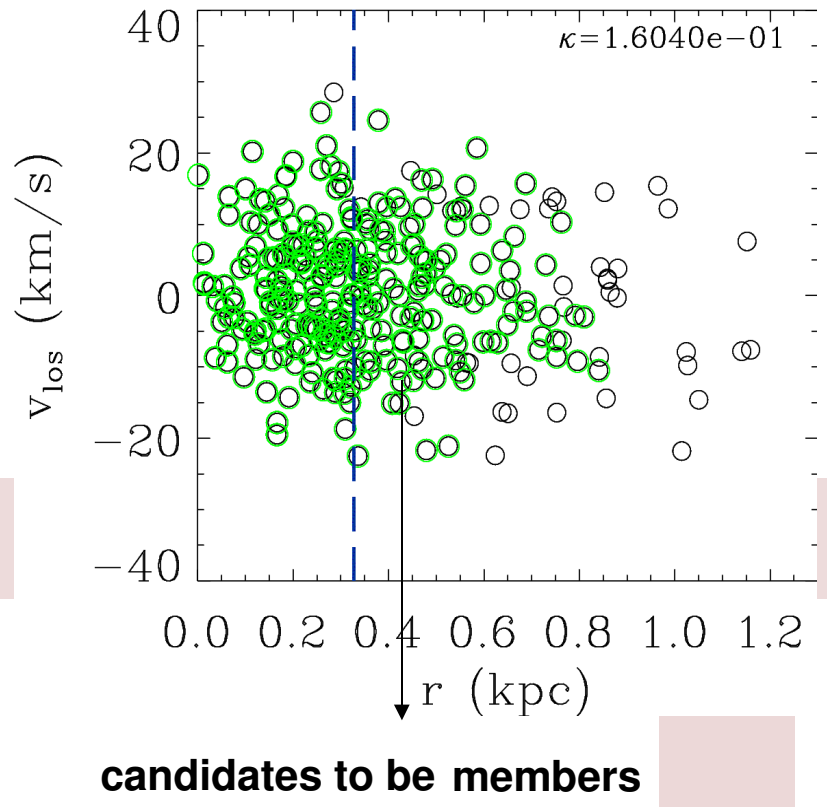
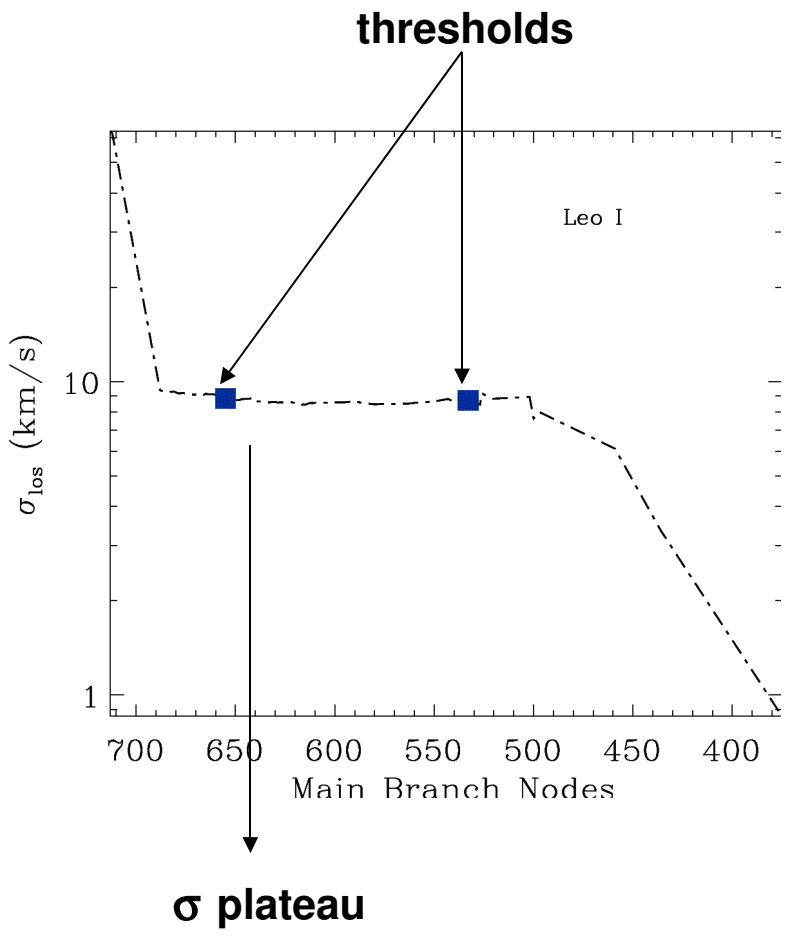
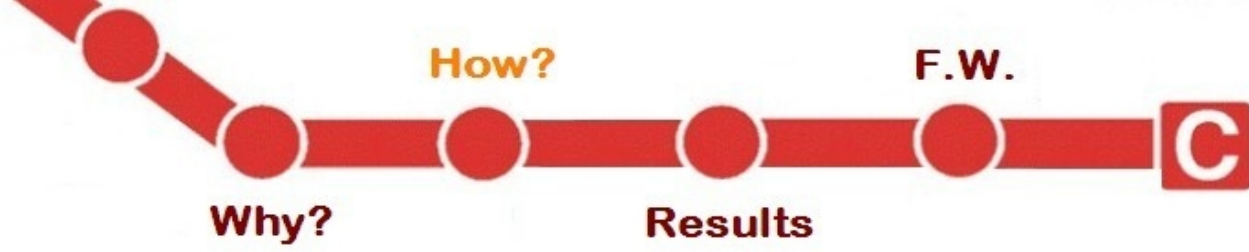
549 ( 94) —

Leo I

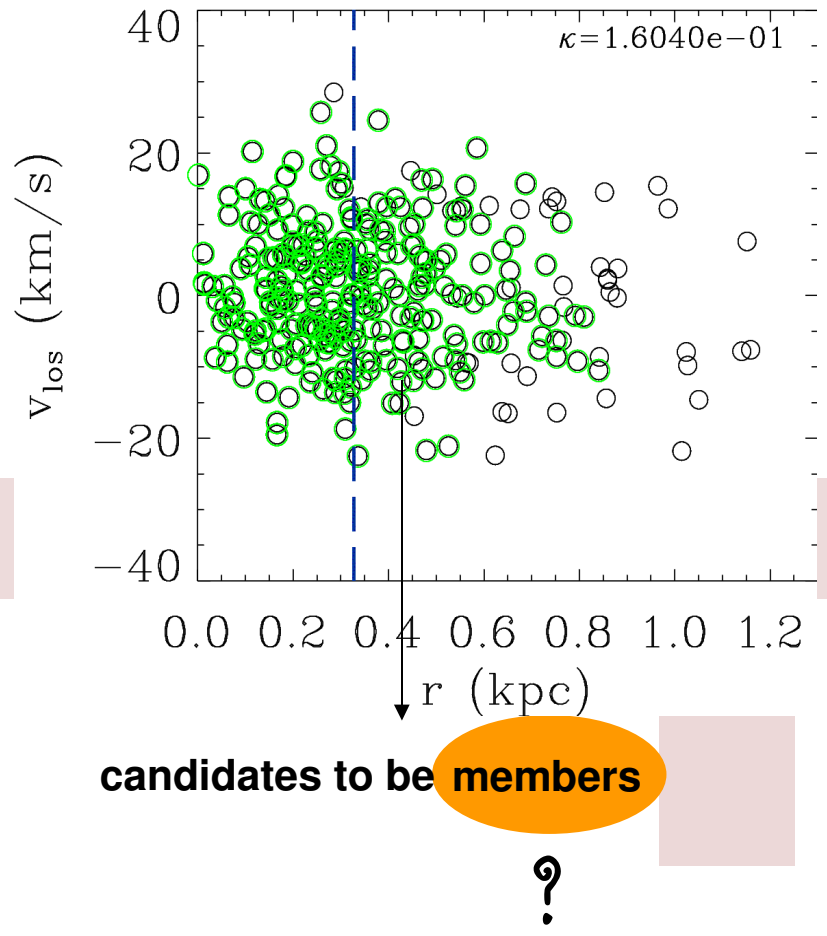
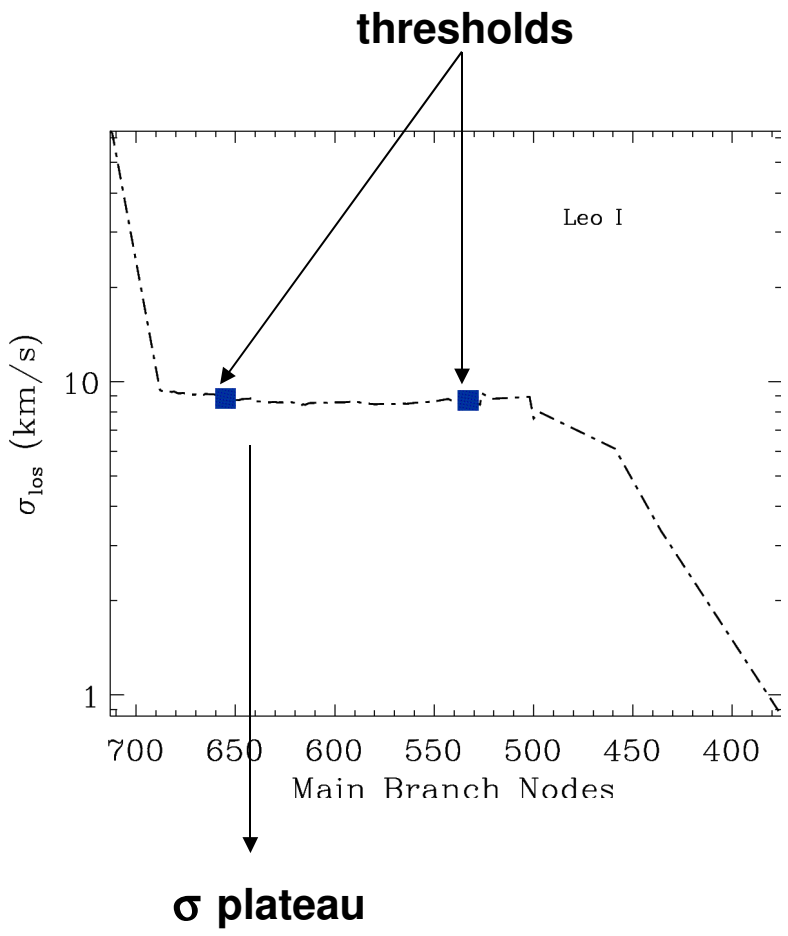
Binary Tree

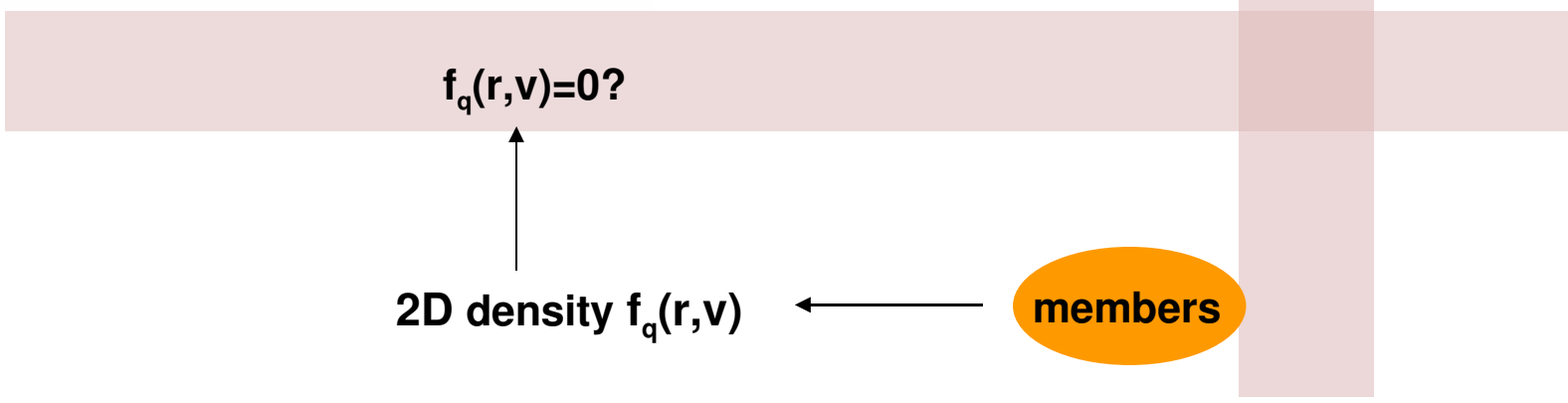
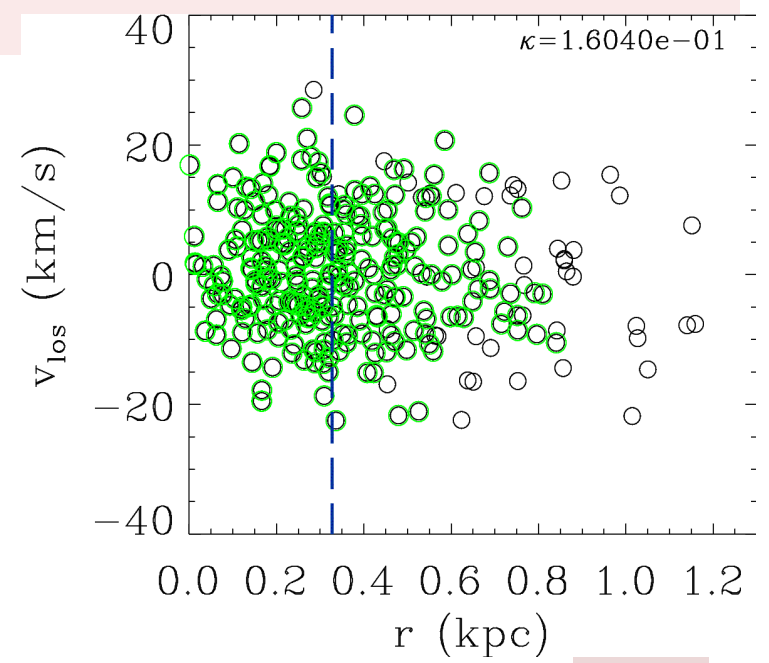
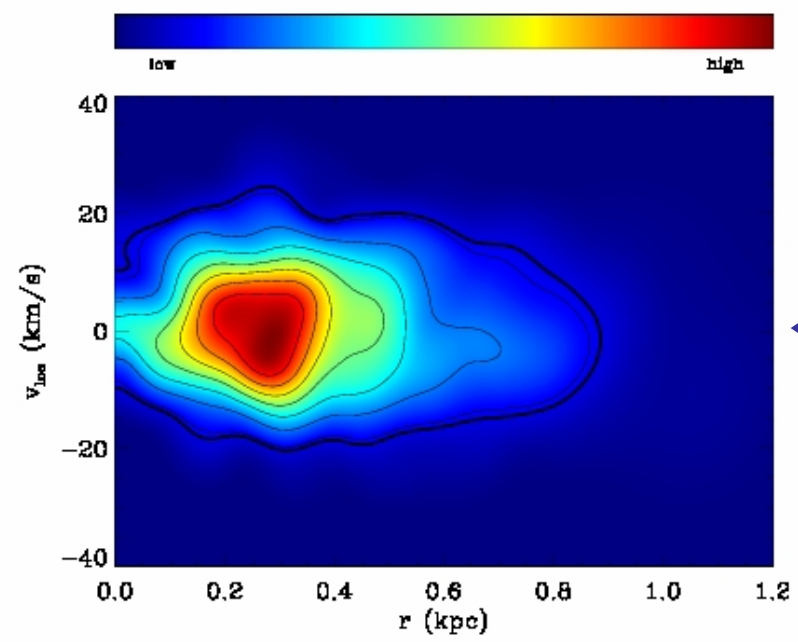
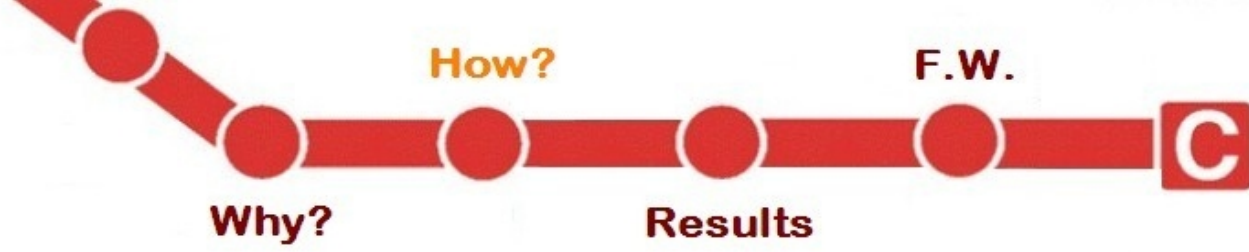
- $\sigma$  plateau
- candidates to be members
- center

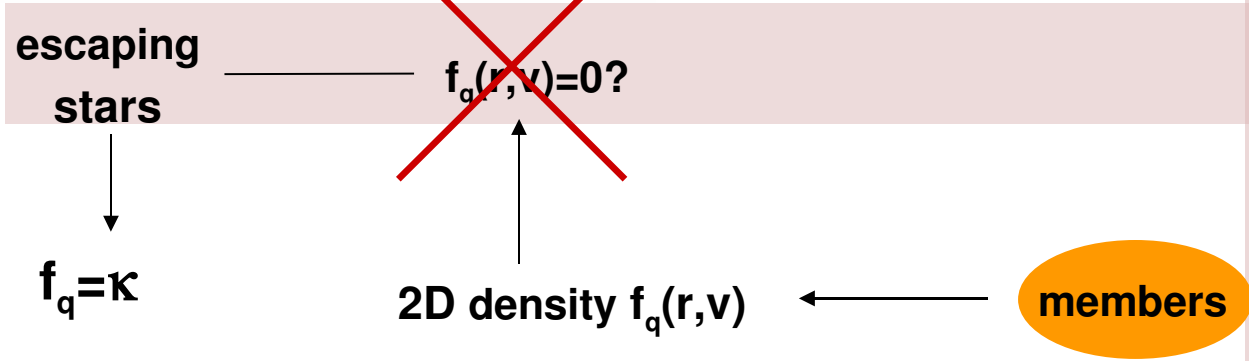
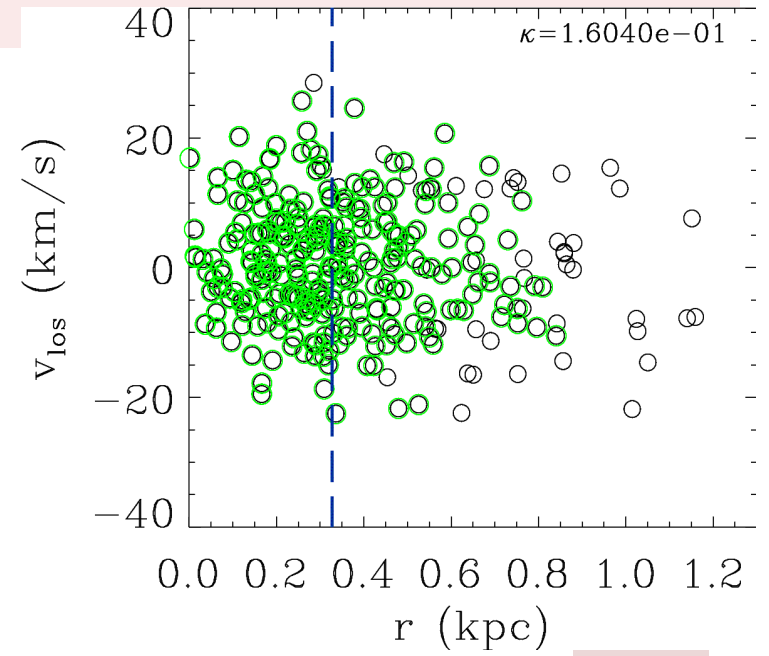
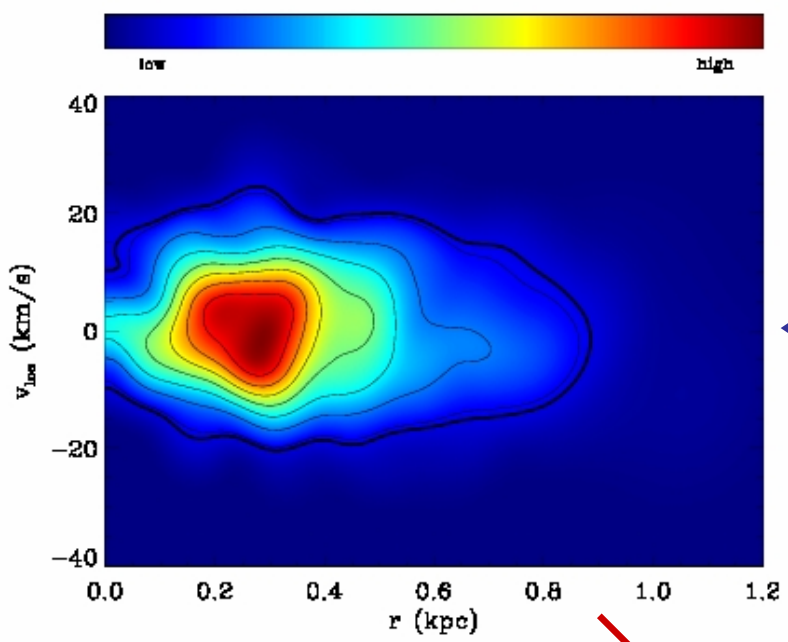


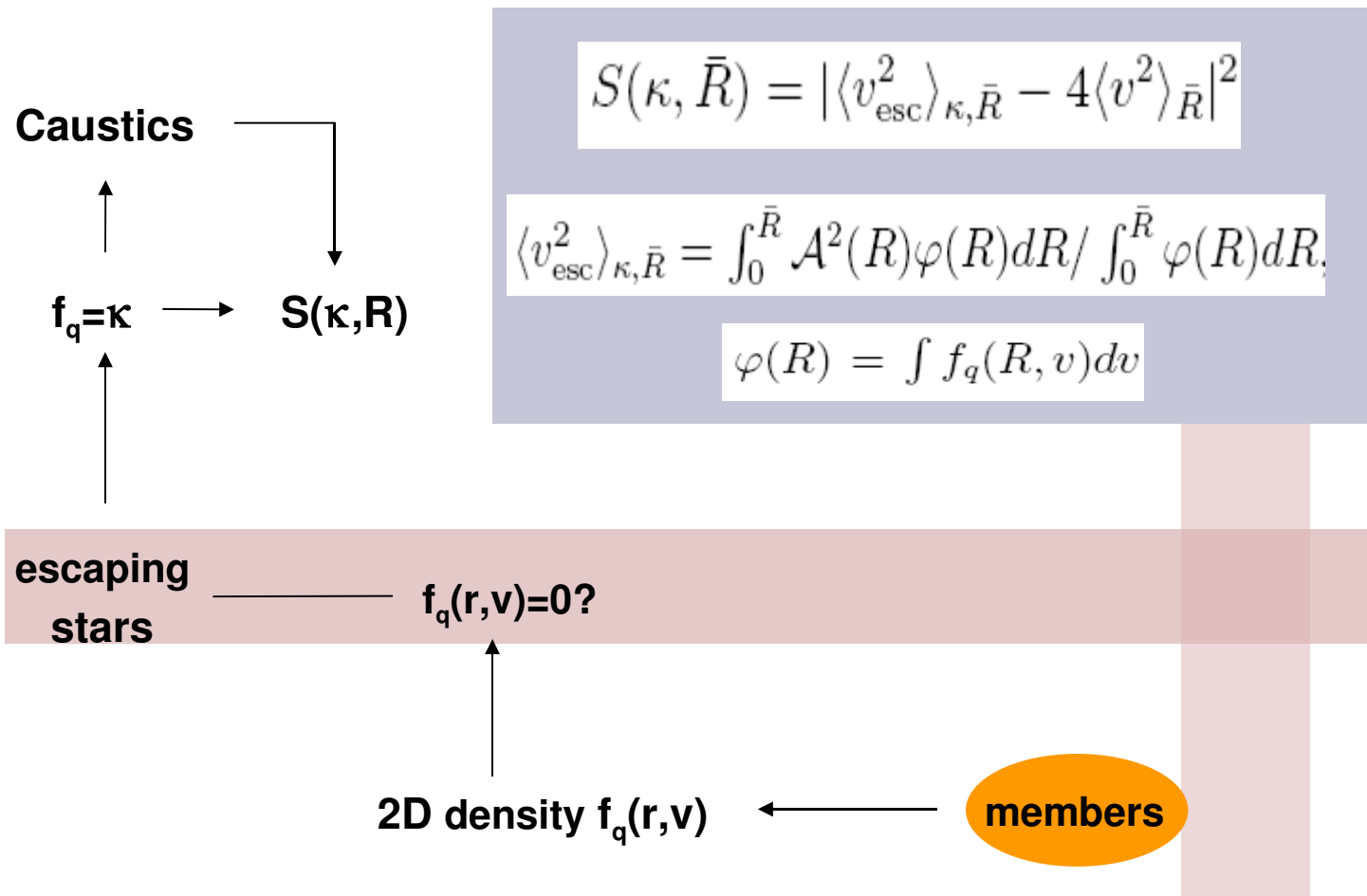






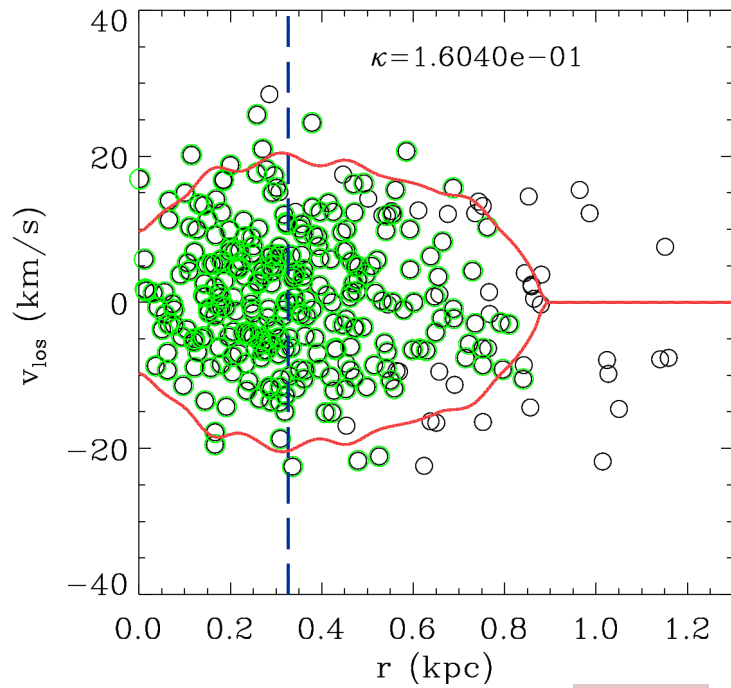
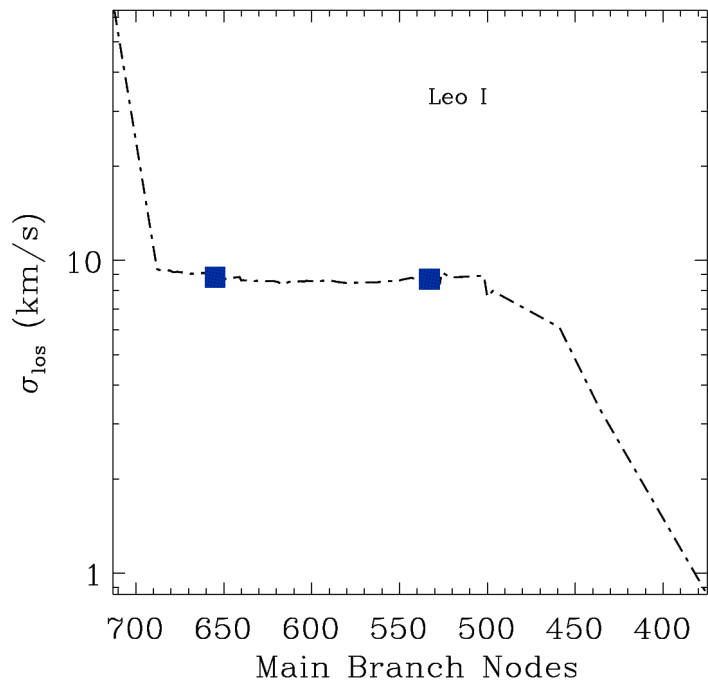


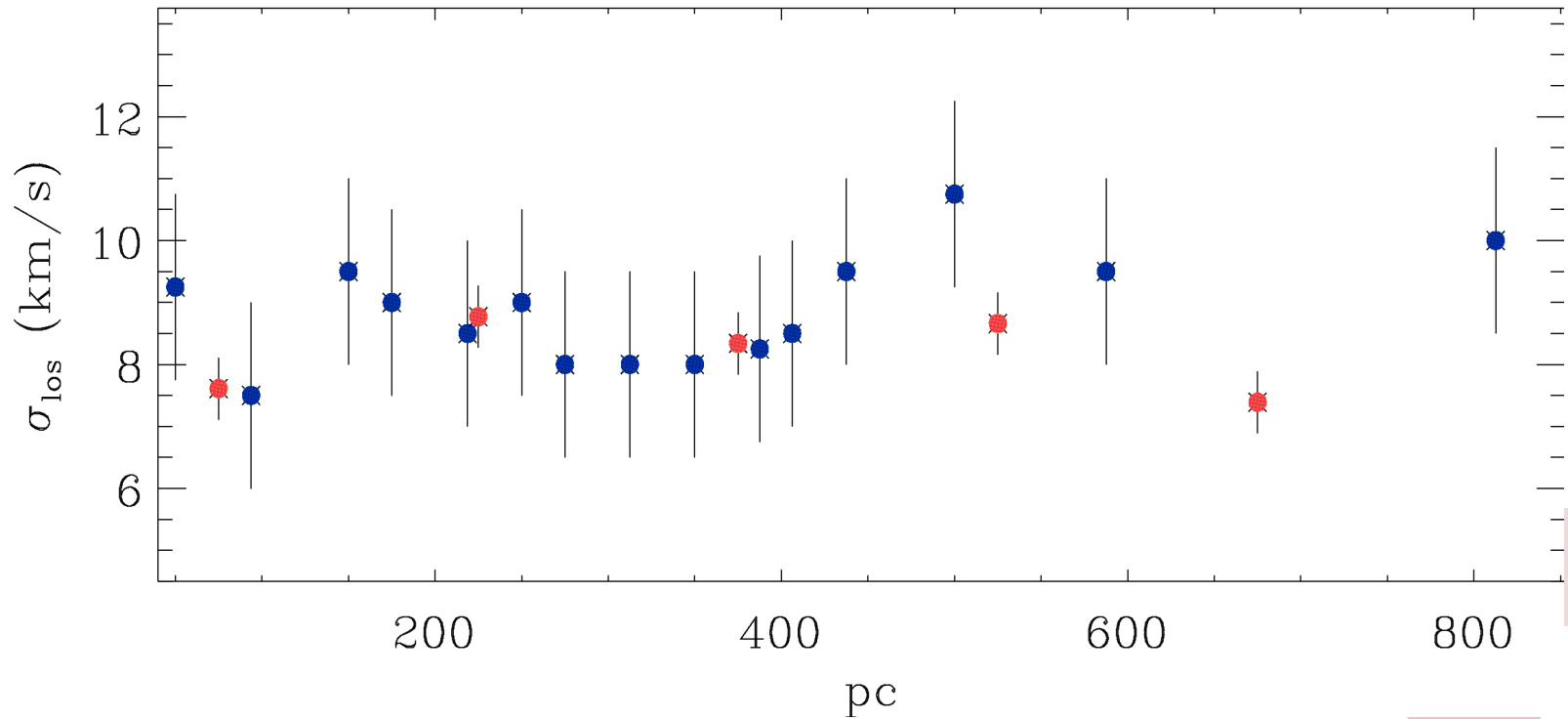
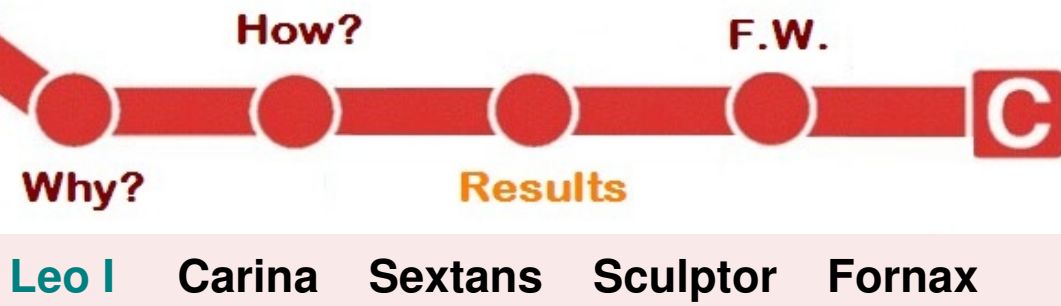






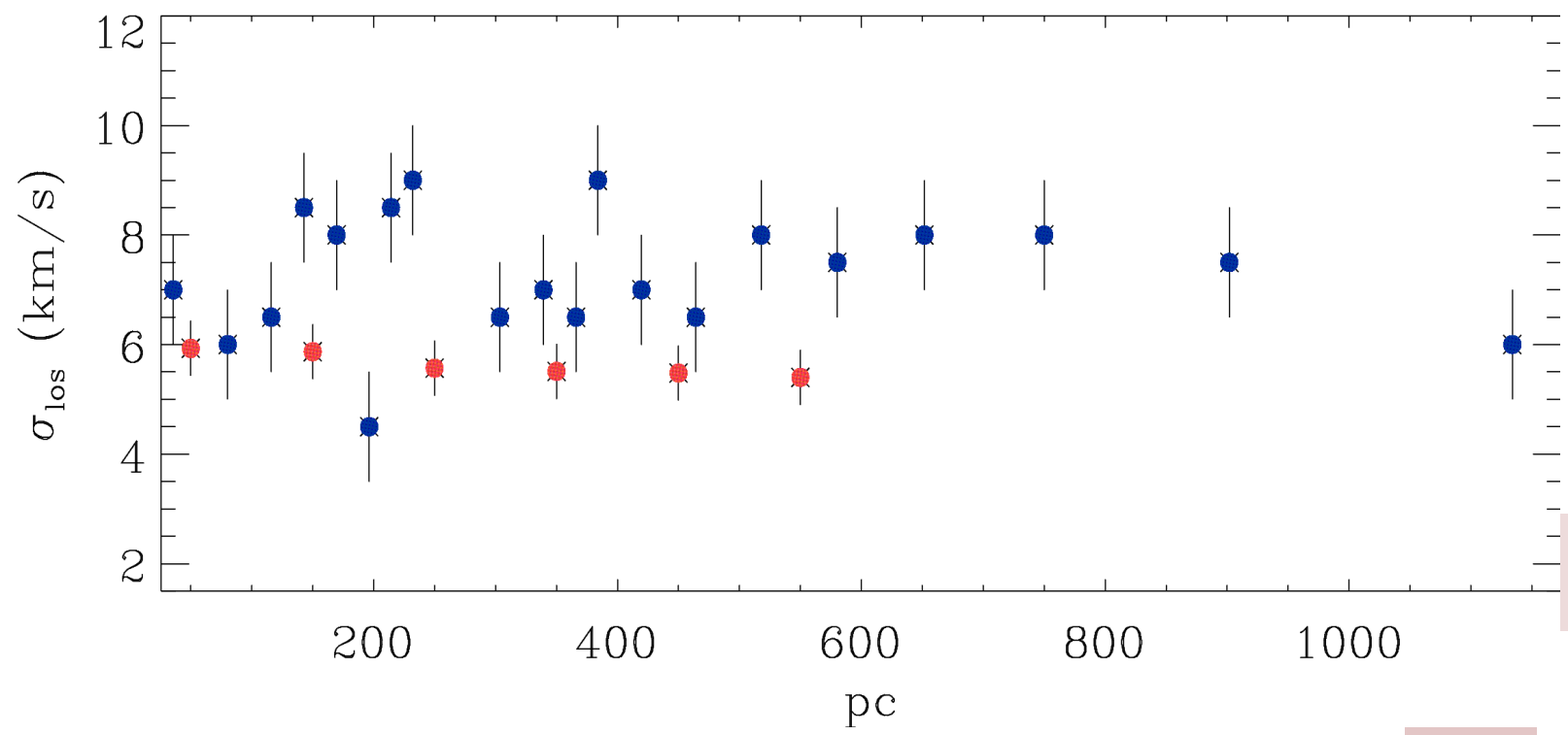
Leo I Carina Sextans Sculptor Fornax







Leo I Carina Sextans Sculptor Fornax

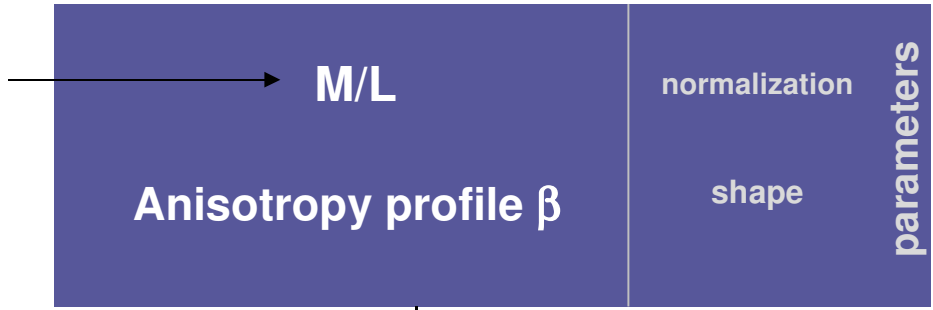




Future work

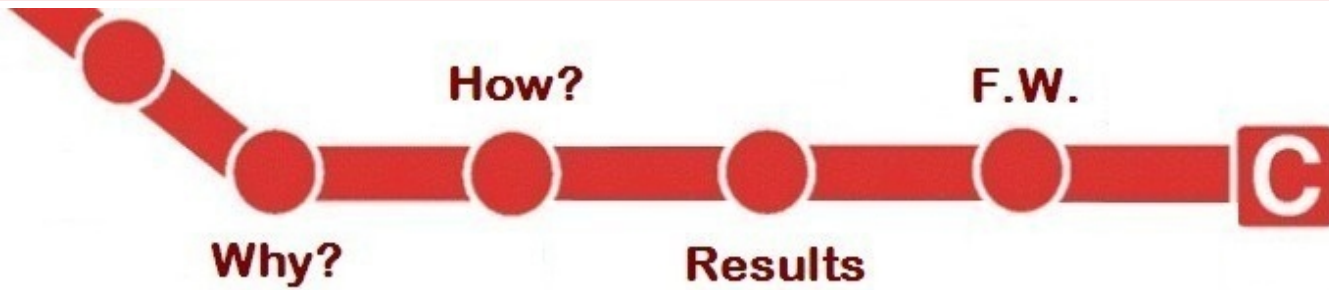
### Jeans equation

King models for  
Lum profiles



Fit the VD





**THANK  
YOU!!!**