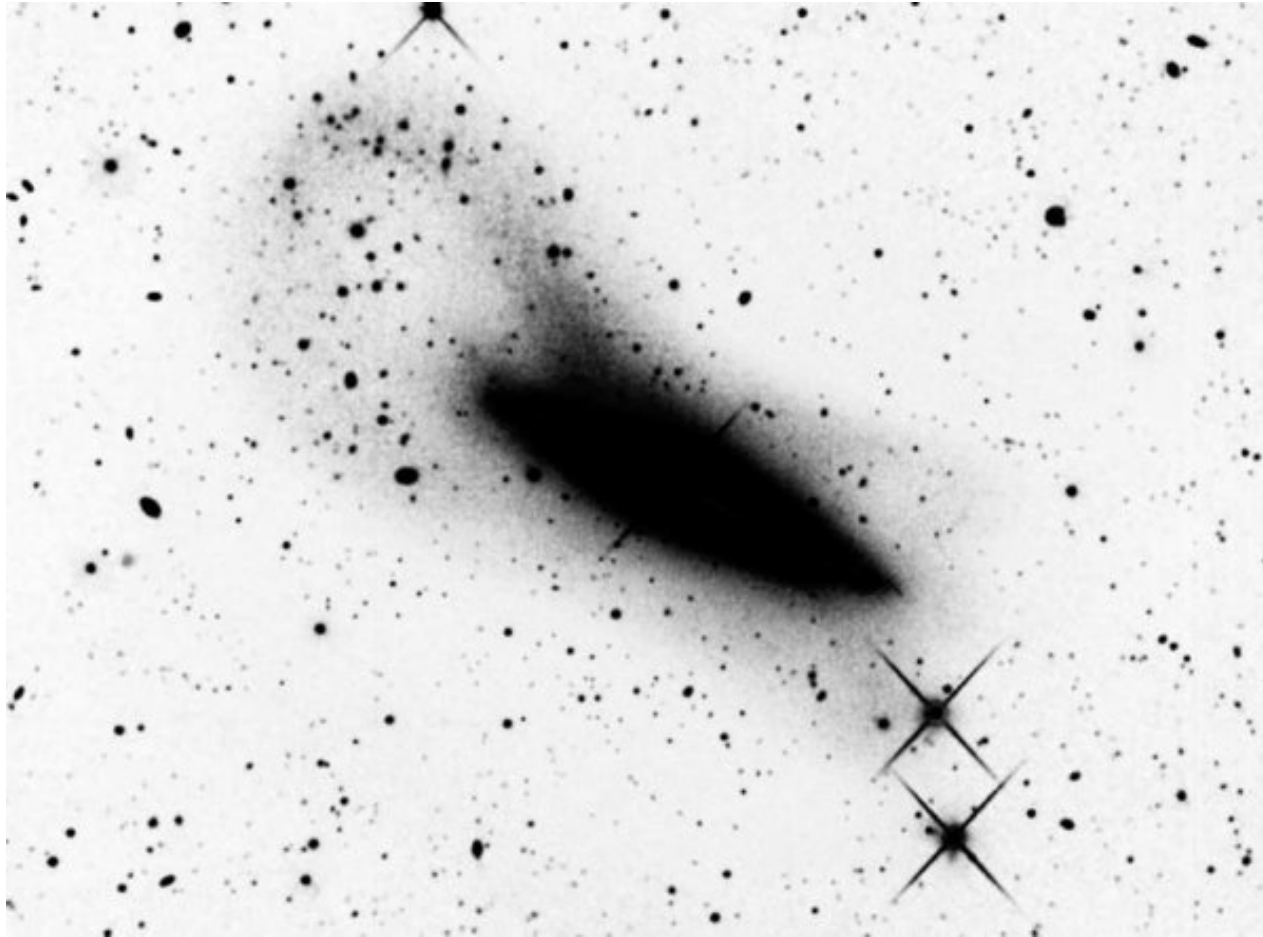
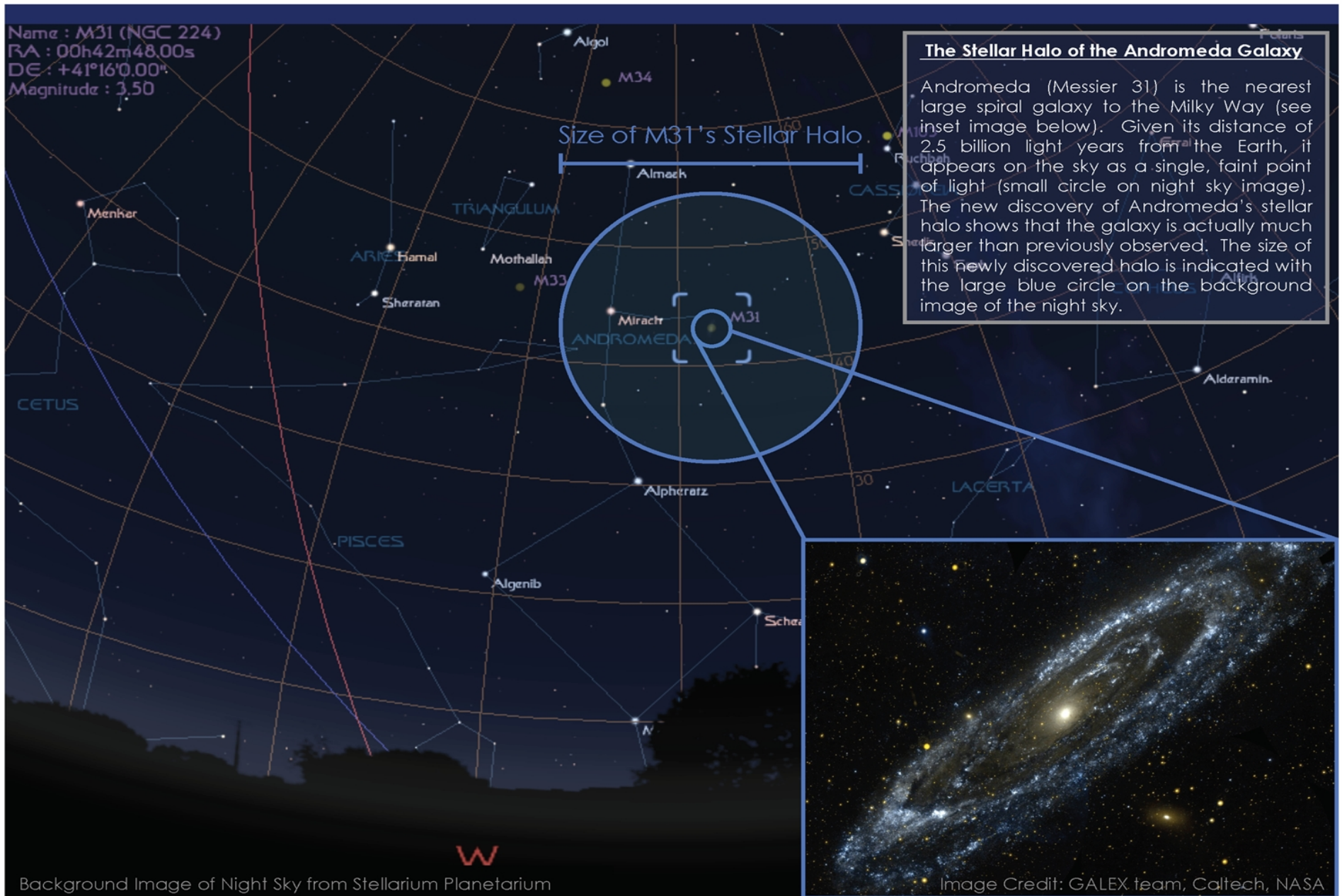


Stellar Haloes

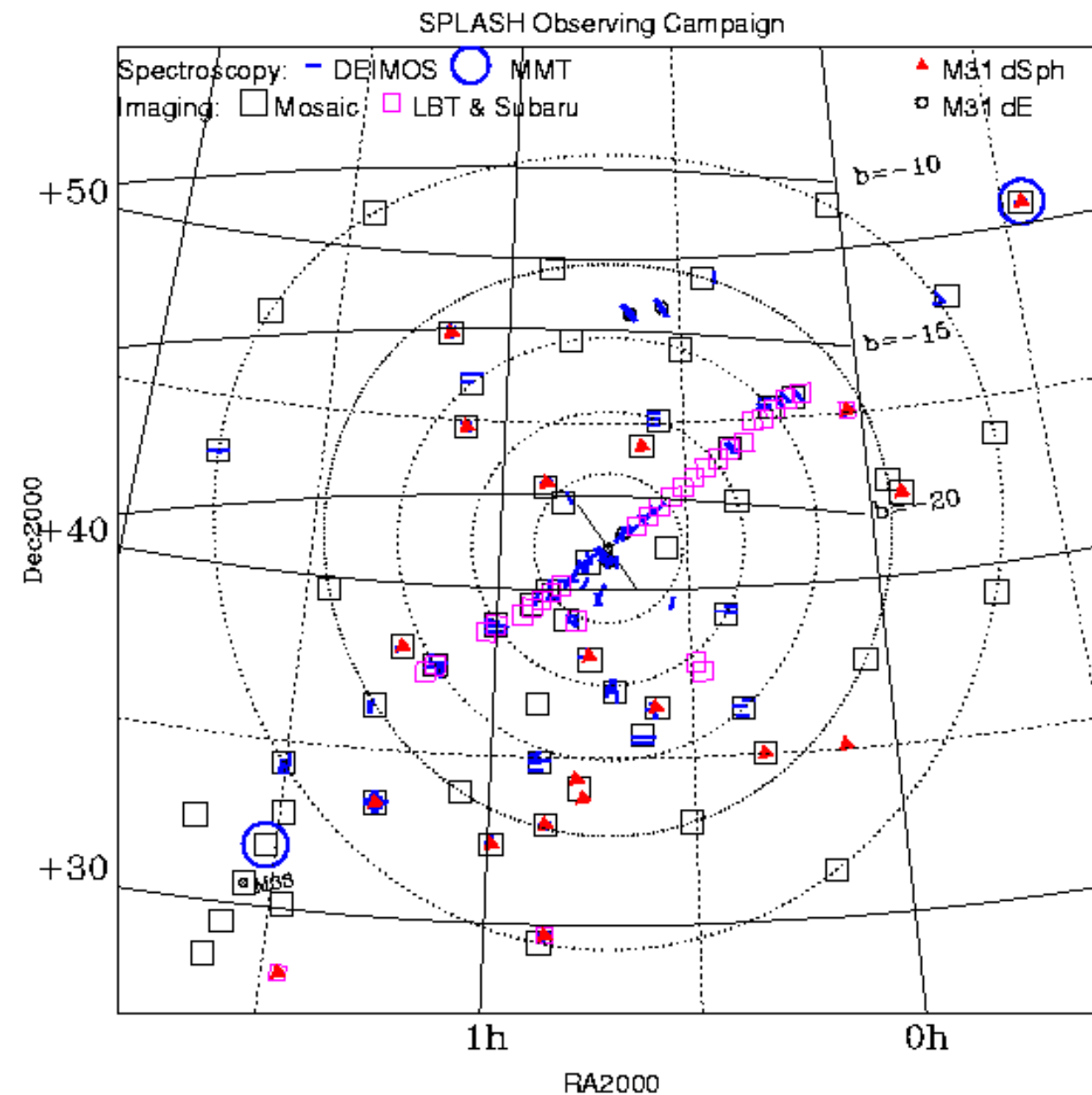


Rachael Beaton (University of Virginia) and the SPLASH team
notably work by Majewski, Guhathakurta, Kalirai, Bullock,
Geha, K. Gilbert, Evan Kirby, Tollerud, Wolf
all across the US ...

M31 Stellar Halo



M31 Stellar Halo

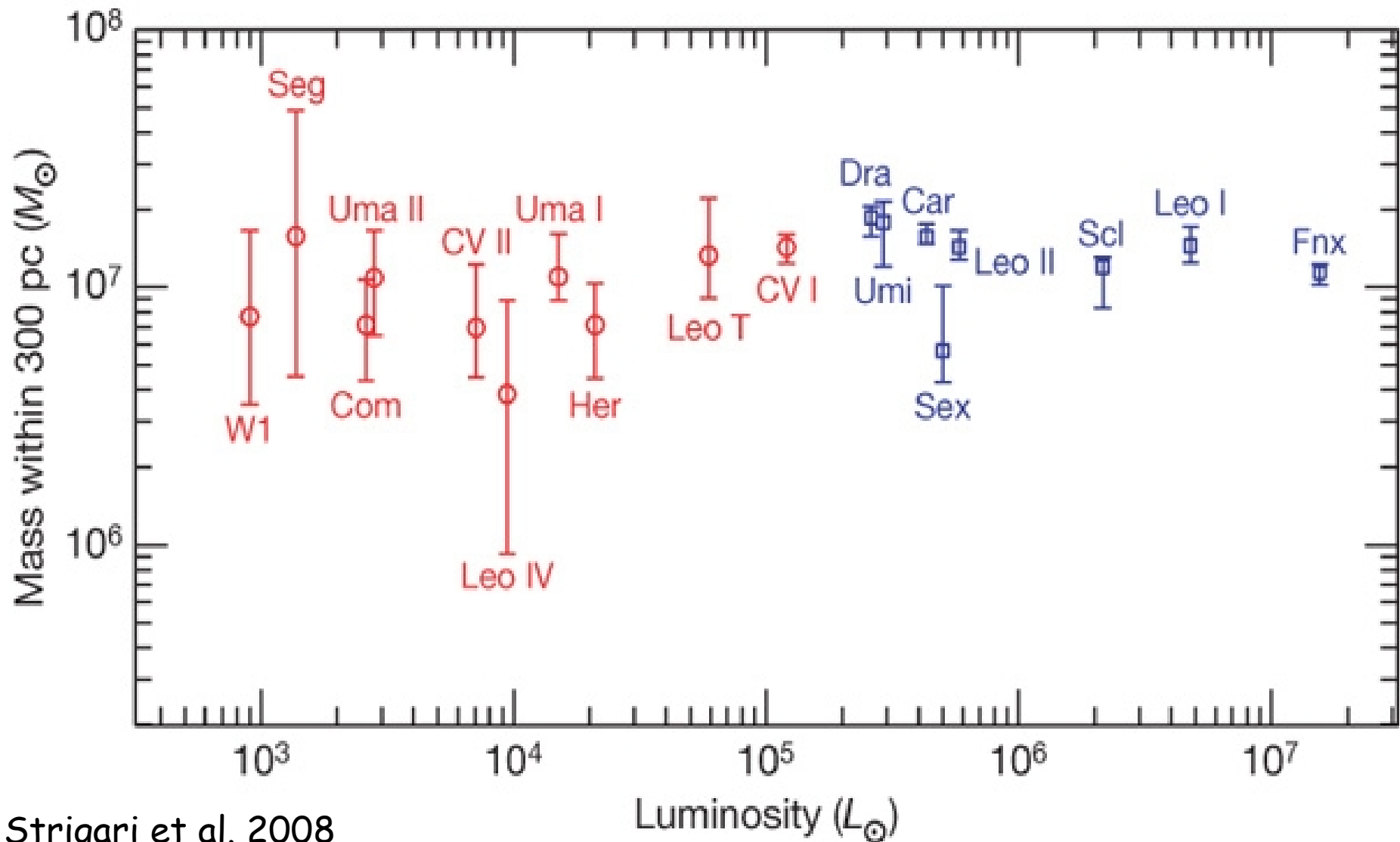


The Stellar Halo of the Andromeda Galaxy

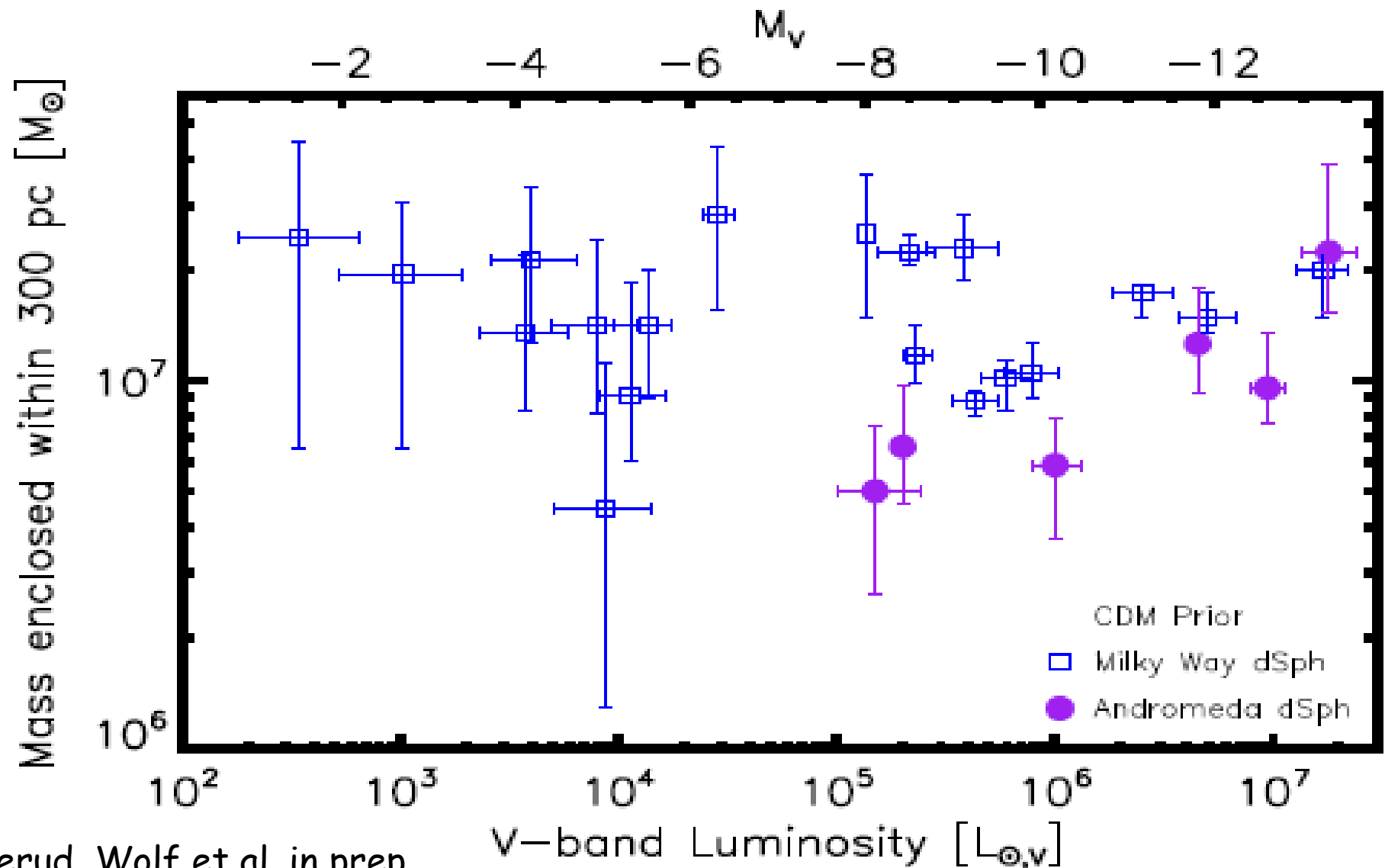
Andromeda (Messier 31) is the nearest large spiral galaxy to the Milky Way (see inset image below). Given its distance of 2.5 billion light years from the Earth, it appears on the sky as a single, faint point of light (small circle on night sky image). The new discovery of Andromeda's stellar halo shows that the galaxy is actually much larger than previously observed. The size of this newly discovered halo is indicated with the large blue circle on the background image of the night sky.



This is interesting for Star Formation Because ...

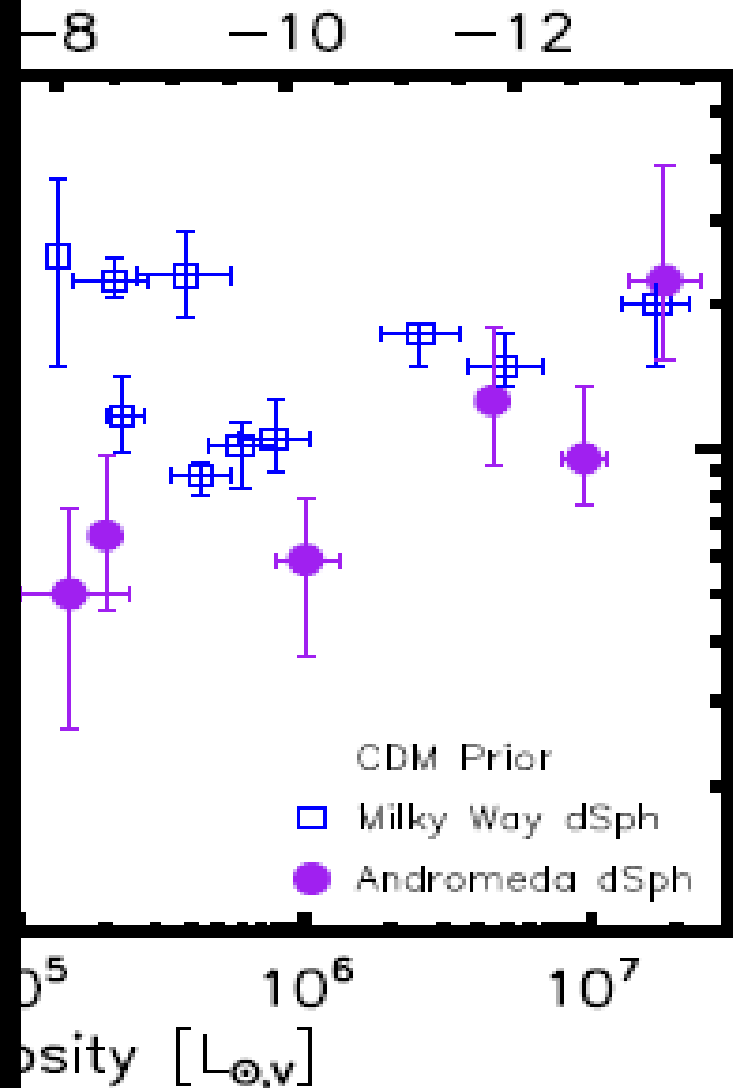


This is interesting for Star Formation Because ...



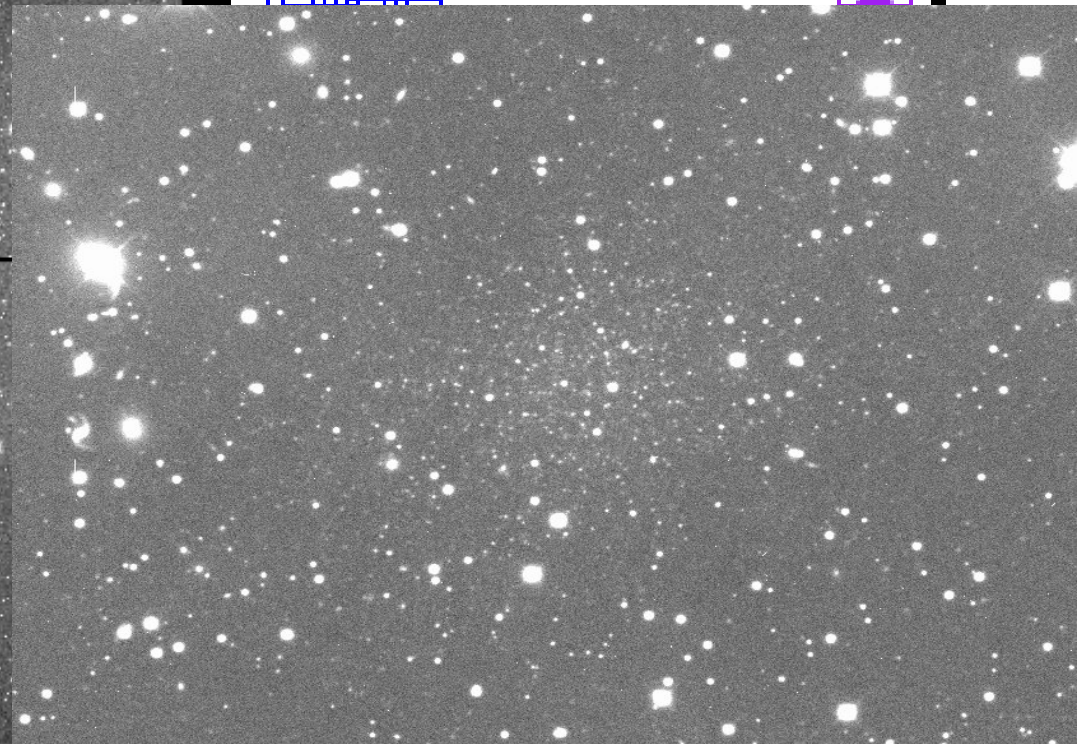
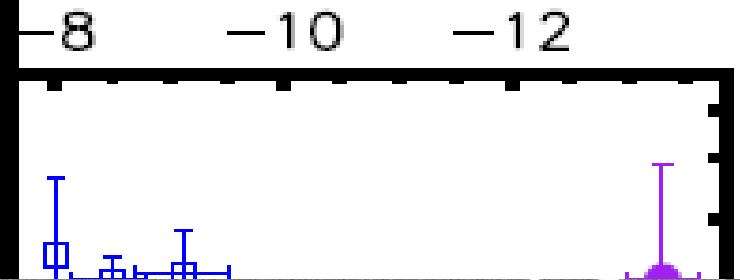
This is interesting for Star Formation Because ...

And V - KPNO 4m + MOSAIC



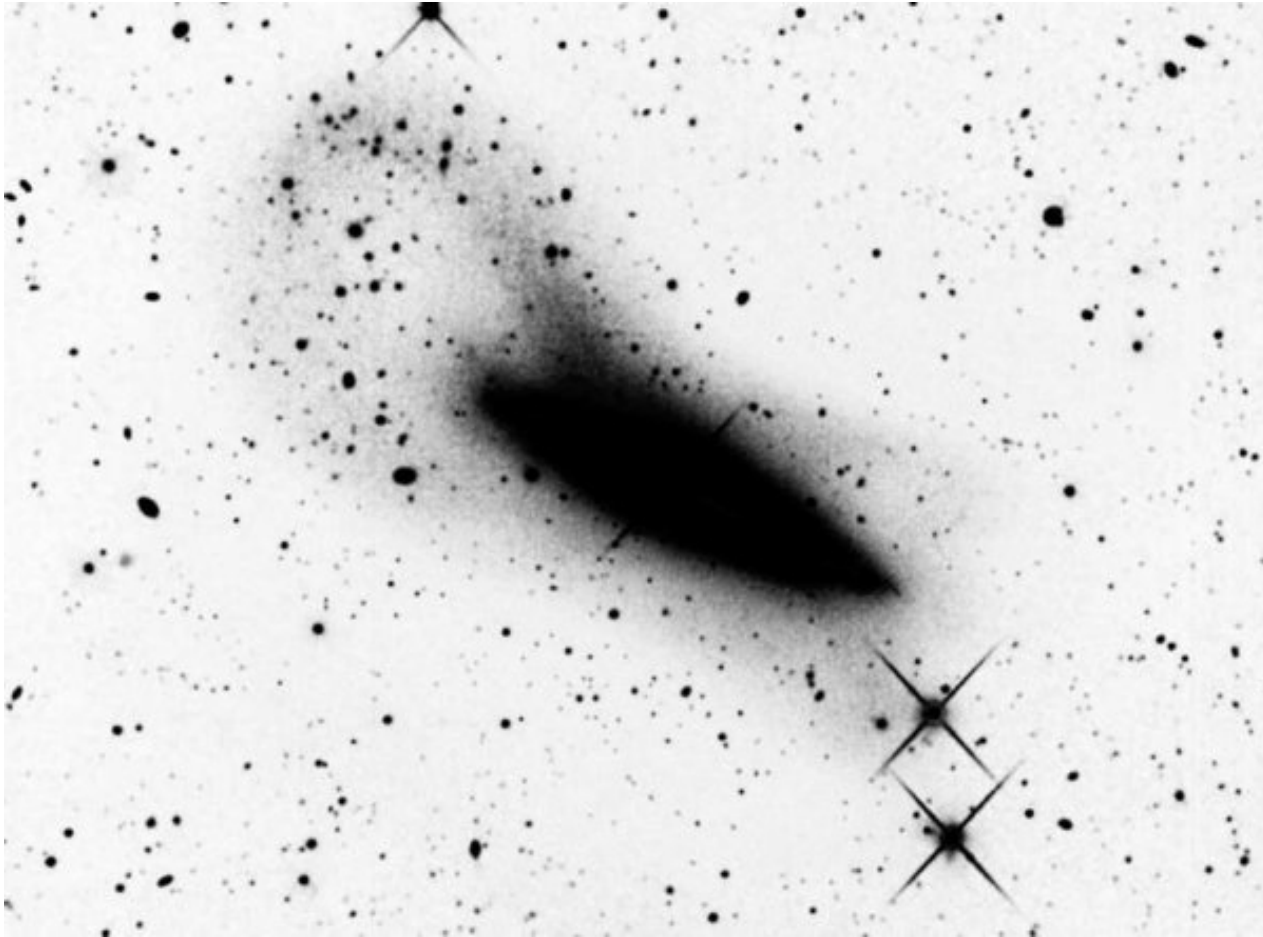
This is interesting for Star Formation Because ...

And V - KPNO 4m + MOSAIC



osity [$L_{\odot,V}$]

Stellar Haloes



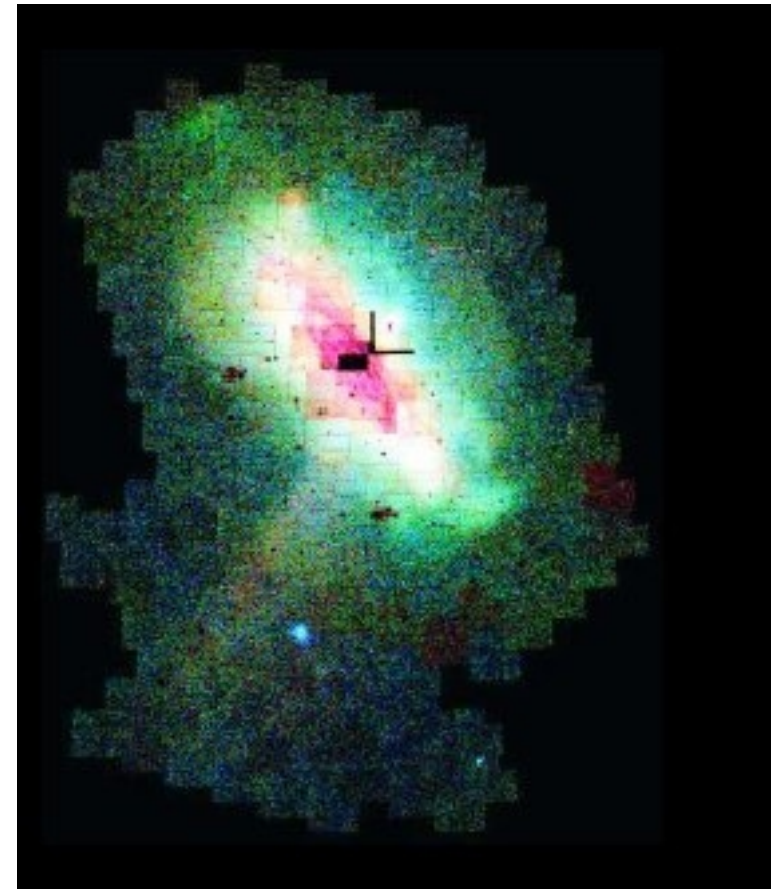
Star formation histories of the stellar halo are the sum of its parts
- all of the 100's to 1000's of mergers during its formation.

Resolved Stellar Pops are Tough

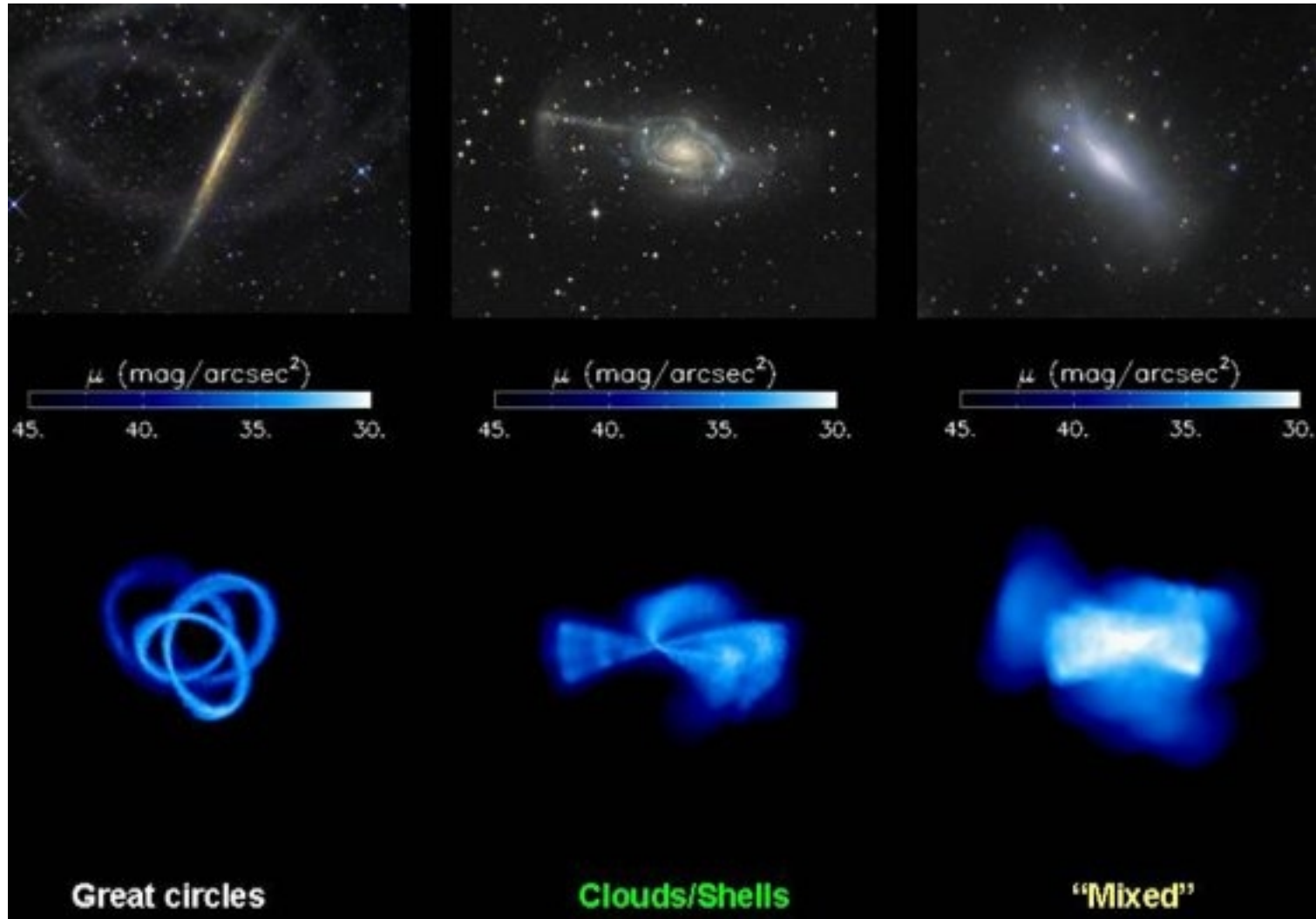
Must decouple components of the galaxy in both photometric, kinematic and chemical spaces.

In the past 10 years we have learned about M31:

- It has a long and short stellar bar
- It has a small classical bulge
- The "halo" is really a large spheroid
- There is a large metal poor stellar halo
- the GSS
- ~20 previously unknown dSphs (not yet to the level of finding ultra-faints, but we're getting there!)
- And then all the crazy awesome things that show up in Spitzer/Galex/WISE et al. That need to be connected to the resolved stellar pop (ala Knut Olsen poster & see Gordon et al 2006, Athanassoula & Beaton 2006)



Stellar Haloes



Models by K. Johnston; Observations by J. Gabany;

K. Johnston, A. Font Simulations

The merger history of a galaxy defines the characteristics of the stellar populations in the stellar halo - the perceived star formation history, chemical enrichment patterns and spatial distribution.

These models are influenced by extremely detailed photometric, kinematic and dynamical studies over large areas on Milky Way dSphs.

