The SAGA Survey and Simulation

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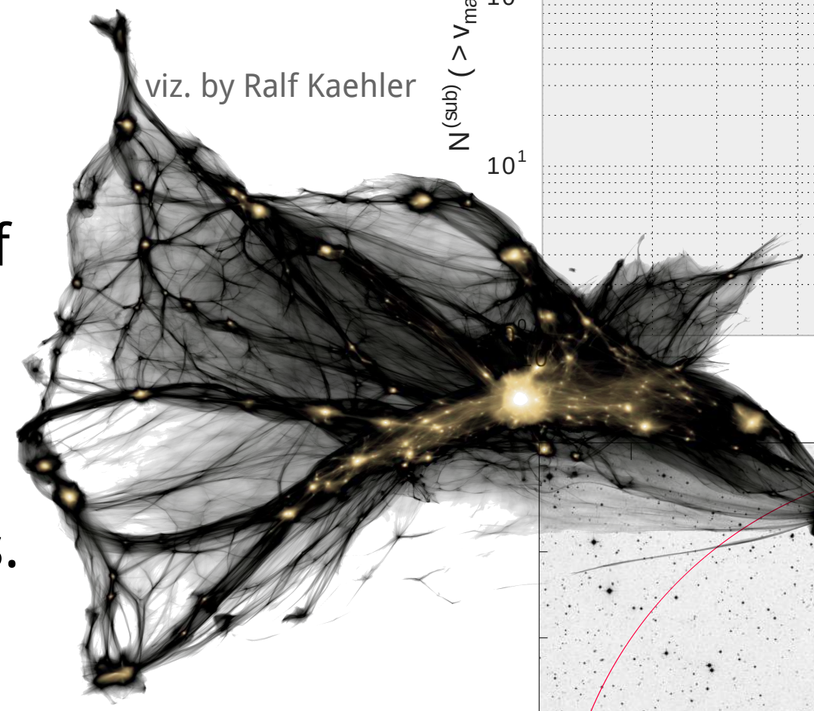
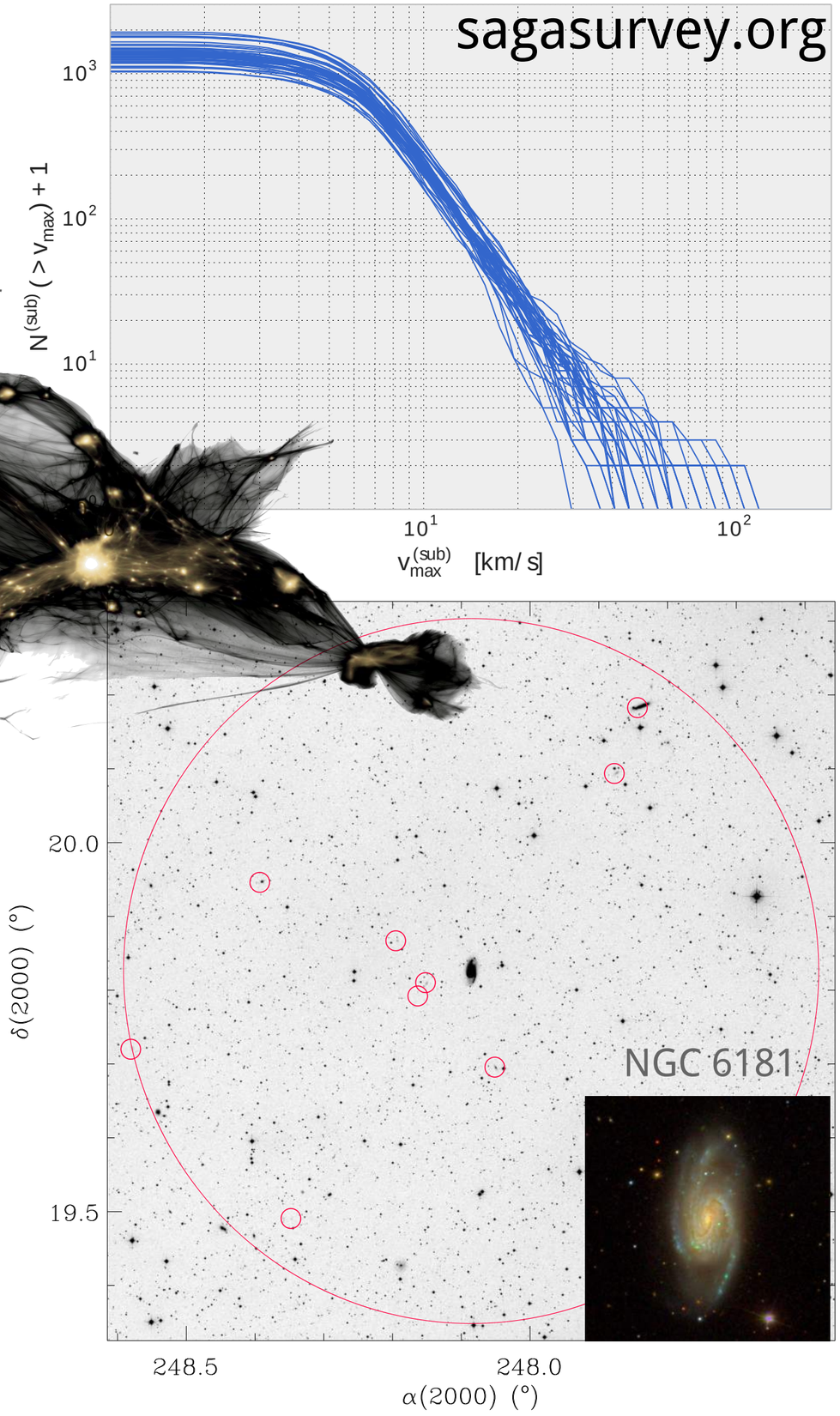
SAGA = Satellites Around Galactic Analogs

A collaboration between observers and theoriststo pursue a statistical evaluation the missing satellite/ too big to fail problem.





Simulations

- A large sample of zoom-in simulations of Milky Way-like halos, selected from a 125 Mpc/h cosmological box.
- Mass resolution = 2.8×10^5 M_{sun}/h. Subhalos resolved down to v_{max} = 8 km/s.

Observations

- Obtain spectroscopic redshifts of the objects within other nearby (< 42 Mpc) Milky Way-like galaxies.
- Fisrt observation: NGC 6181 (d = 34 Mpc, M_r = −20.5).
- Spectra of more than 3000 targets were taken.
- More than 96% complete for galaxies with r < 21 (M_r < −11.7) and g−r < 1.1
- Three satellites were previously identified by SDSS.
- Six additional fainter satellites were identified.