A SYNOPTIC VIEW OF THE MAGELLANIC CLOUDS:
VMC, GAIA AND BEYOND

ESO-HQ, GARCHING BEI MÜNCHEN, GERMANY
September 9-13, 2019

The gas-rich dwarfs - Leo T: first in-fall or backsplash Milky Way's satellite?

Blaña Matias, Max Planck for extraterrestrial Physics (MPE)

Leo T is located at 1.5Rvir from the Milky Way (MW), and given its negative Galactocentric radial velocity and large gas content, it is assumed to be in its first in-fall. Here we present an orbital exploration for the dwarf, finding first in-fall orbits as well as backsplash satellite orbital solutions, ie. satellites that already entered and left the host's halo in the past. Furthermore, our analysis indicates that some of these backsplash orbits would allow the satellite to survive the ram-pressure-stripping and tidal disruption caused by the MW, corroborating the latter with full N-body simulations. We also present orbital comparisons with the distant satellites Phoenix I and Eridanus II. Constraining the orbital properties of such distant satellites is important within the LCDM scenario to better characterize the population of faint and ultra-faint dwarf galaxy satellites located beyond the MW's virial radius.