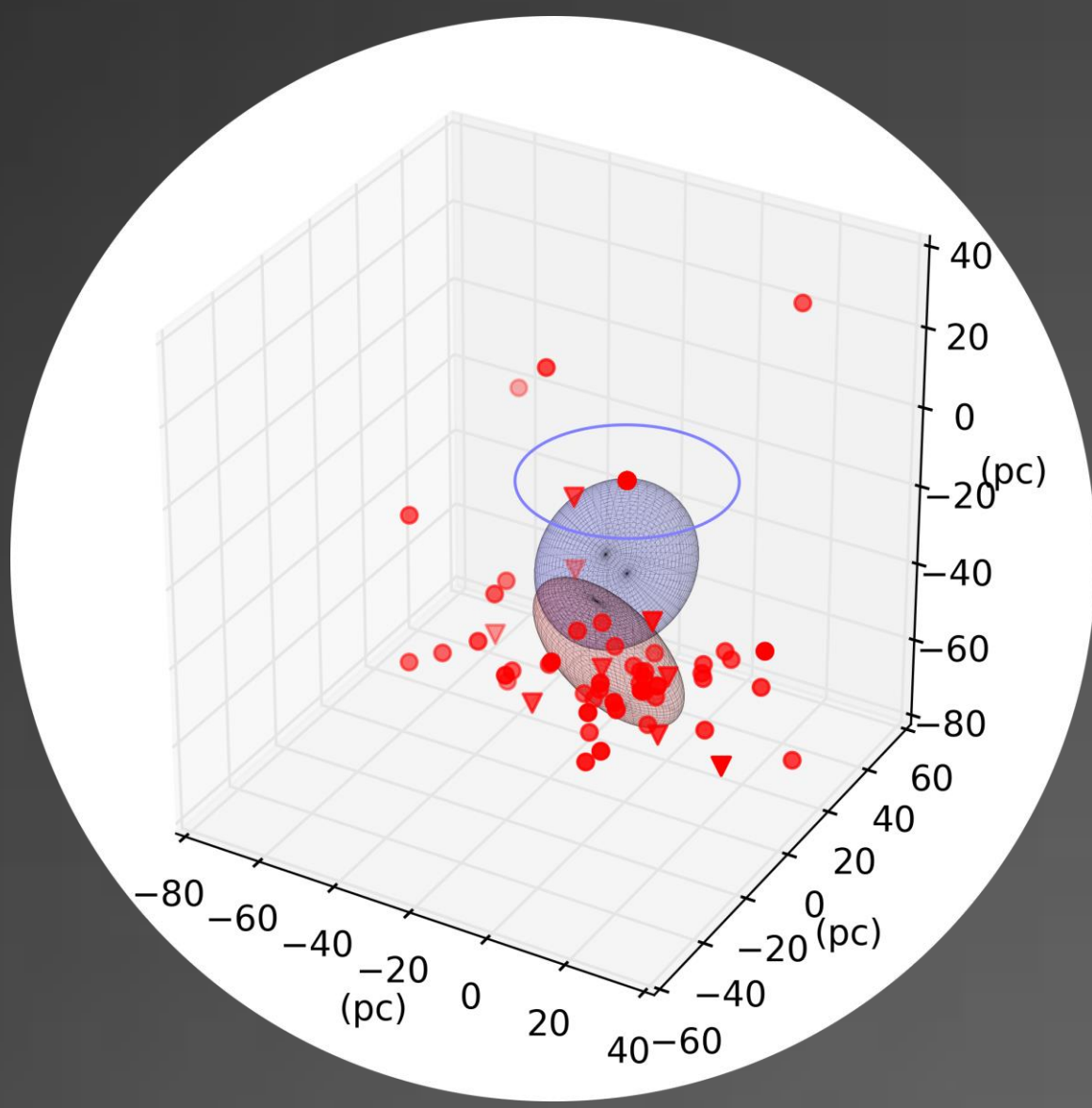


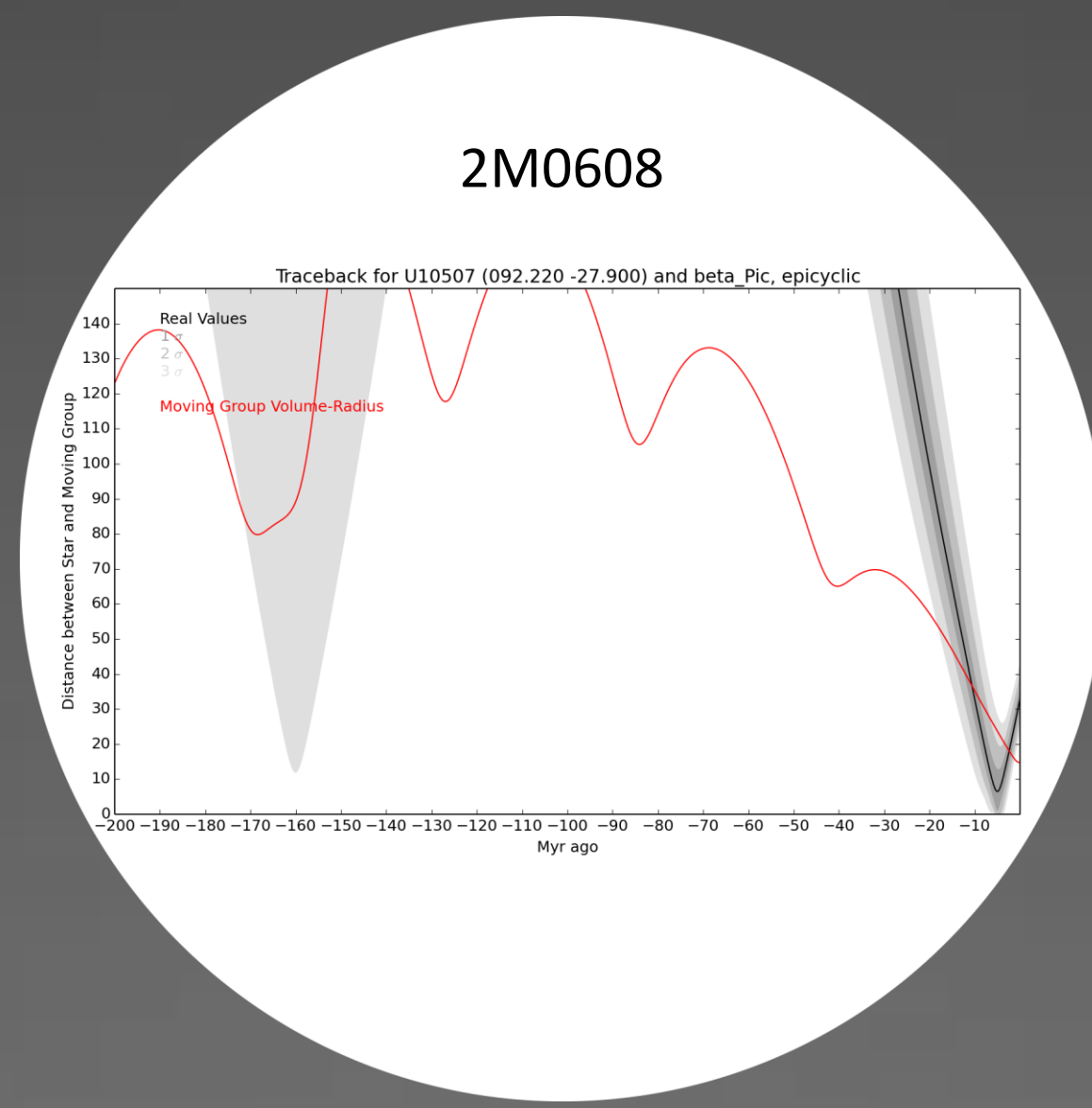
OUR SMALLEST NEIGHBORS

BROWN DWARFS IN NEARBY MOVING GROUPS

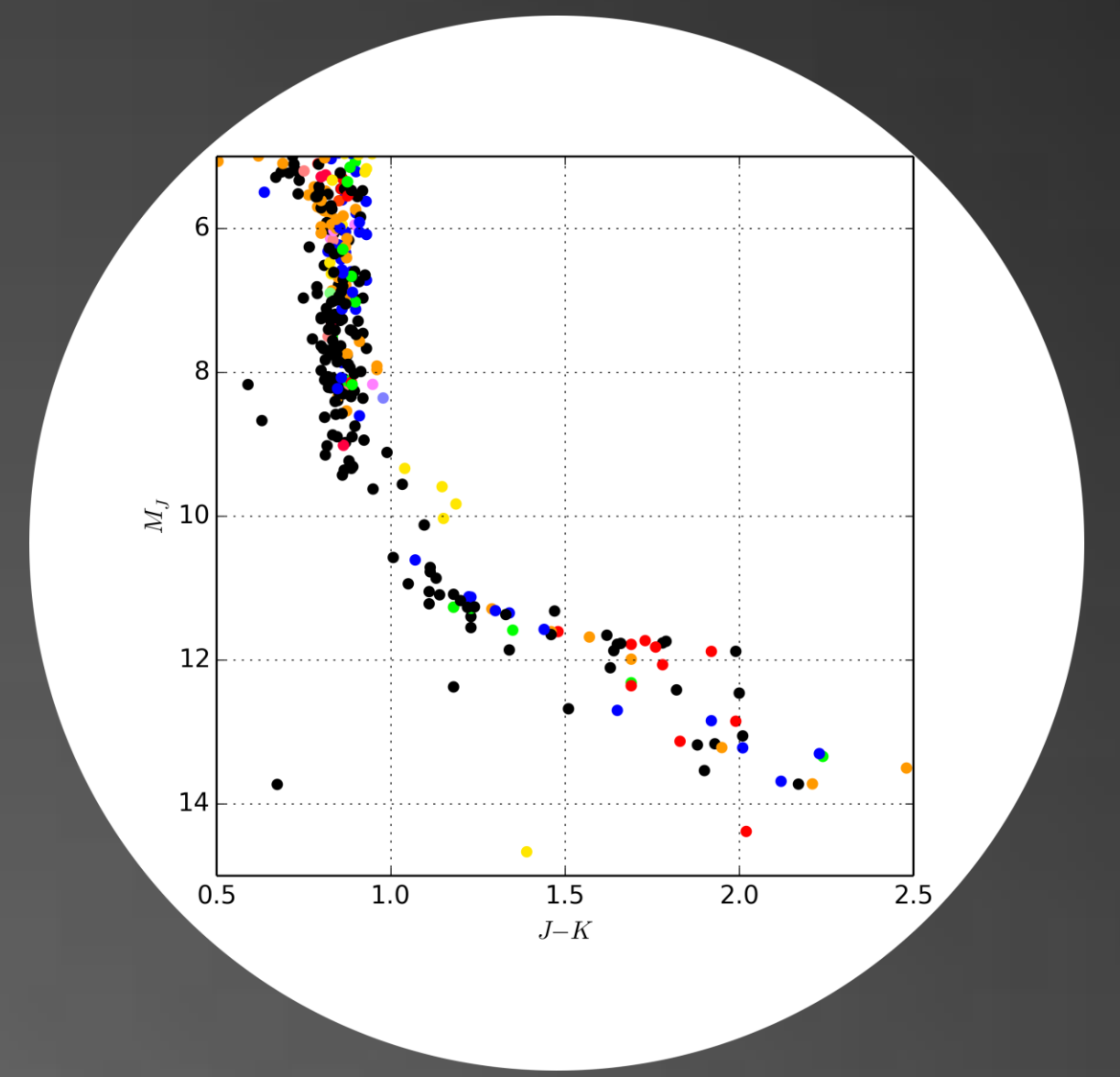
ADRIC RIEDEL, SARAH BLUNT, KELLE CRUZ, EMILY RICE, JACKIE FAHERTY



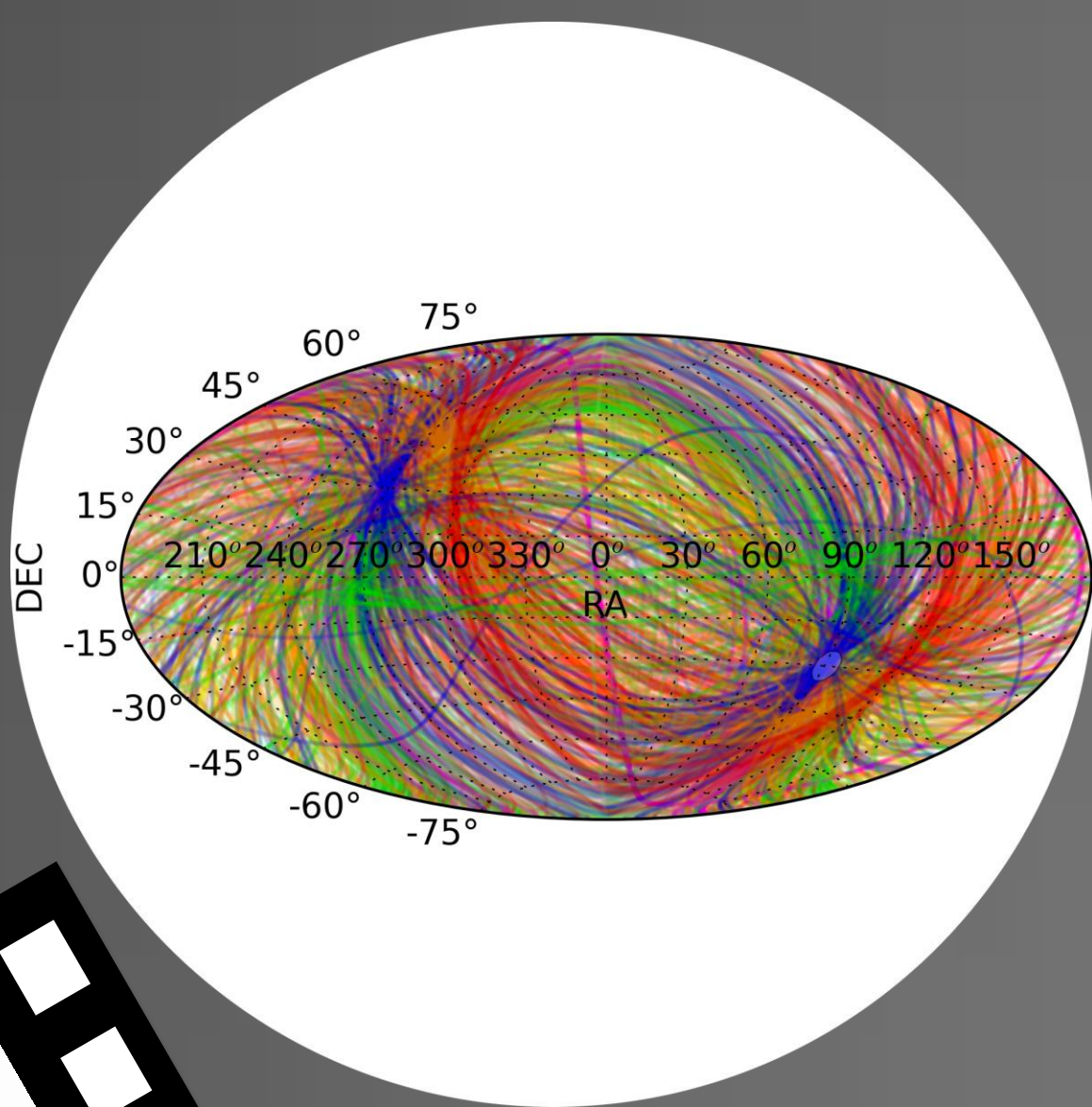
The brown dwarfs (triangles, red) in Tucana-Horologium cluster differently from the stars (circles, blue). Observational bias, or real effect?



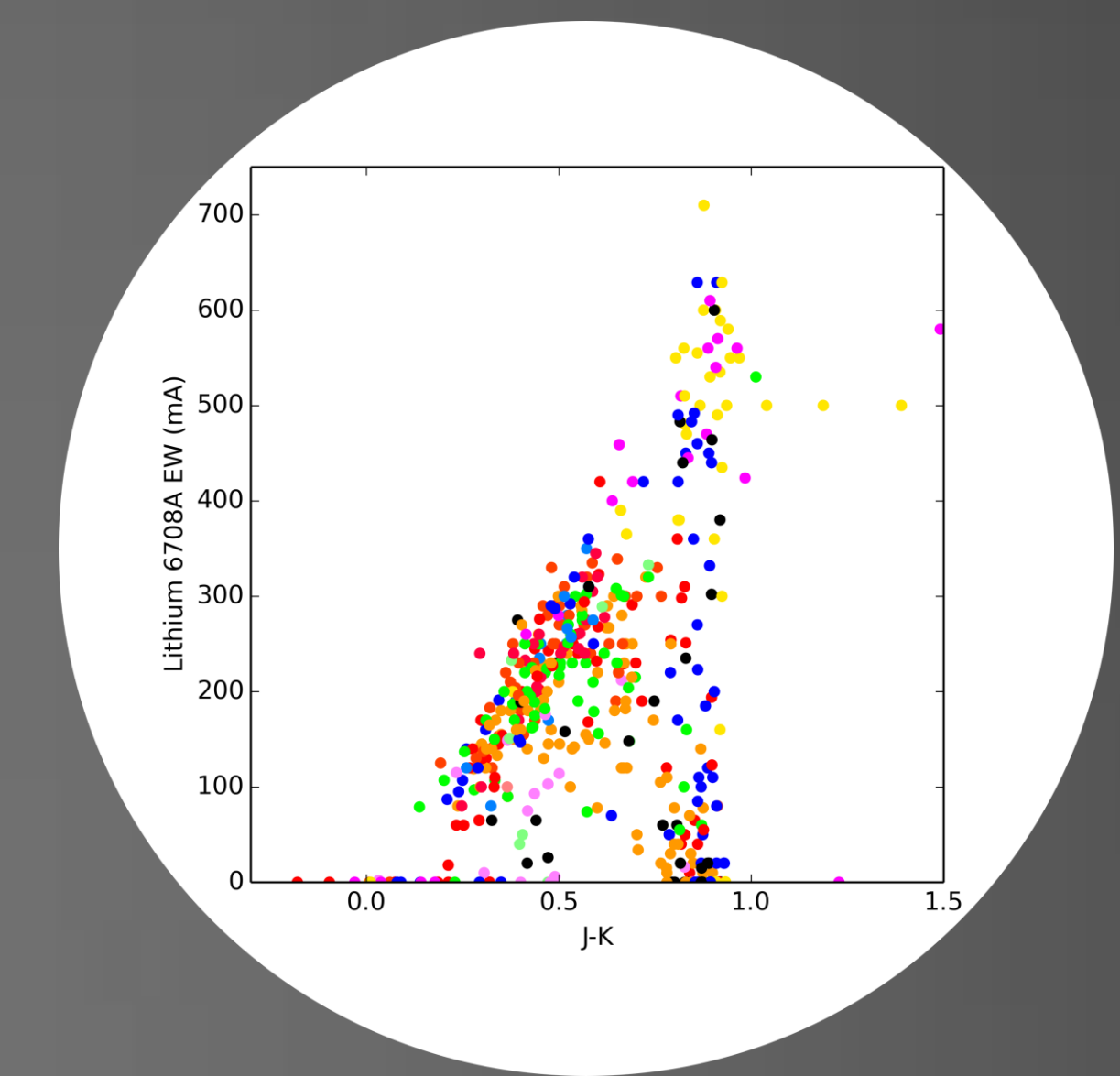
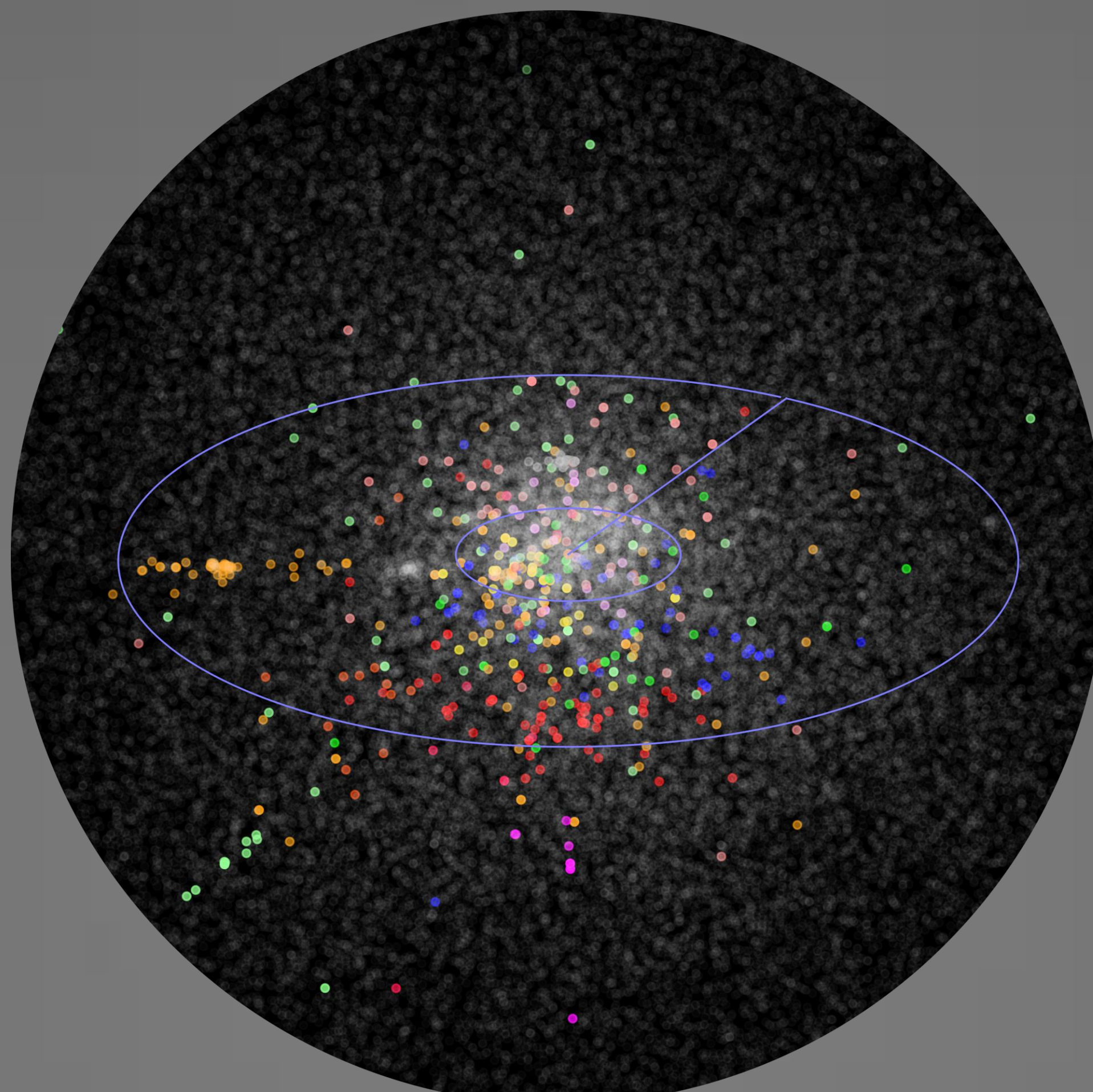
Comparing the separation between 2M0608 and the beta Pictoris moving group as a function of time shows it was within the boundaries (red line) at the time of formation.



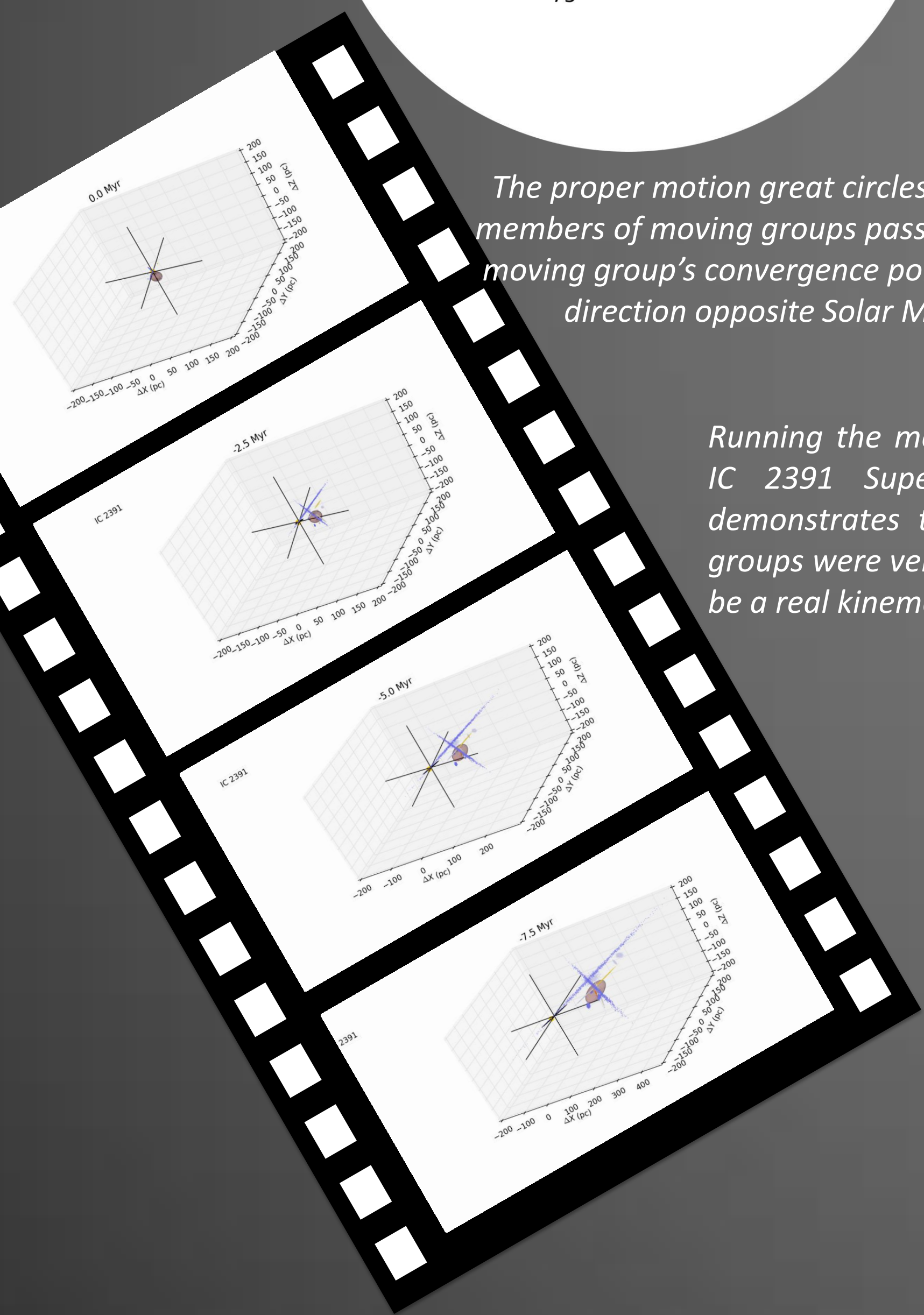
CMD of young M dwarfs and brown dwarfs



The proper motion great circles of genuine members of moving groups pass through the moving group's convergence point, near the direction opposite Solar Motion.



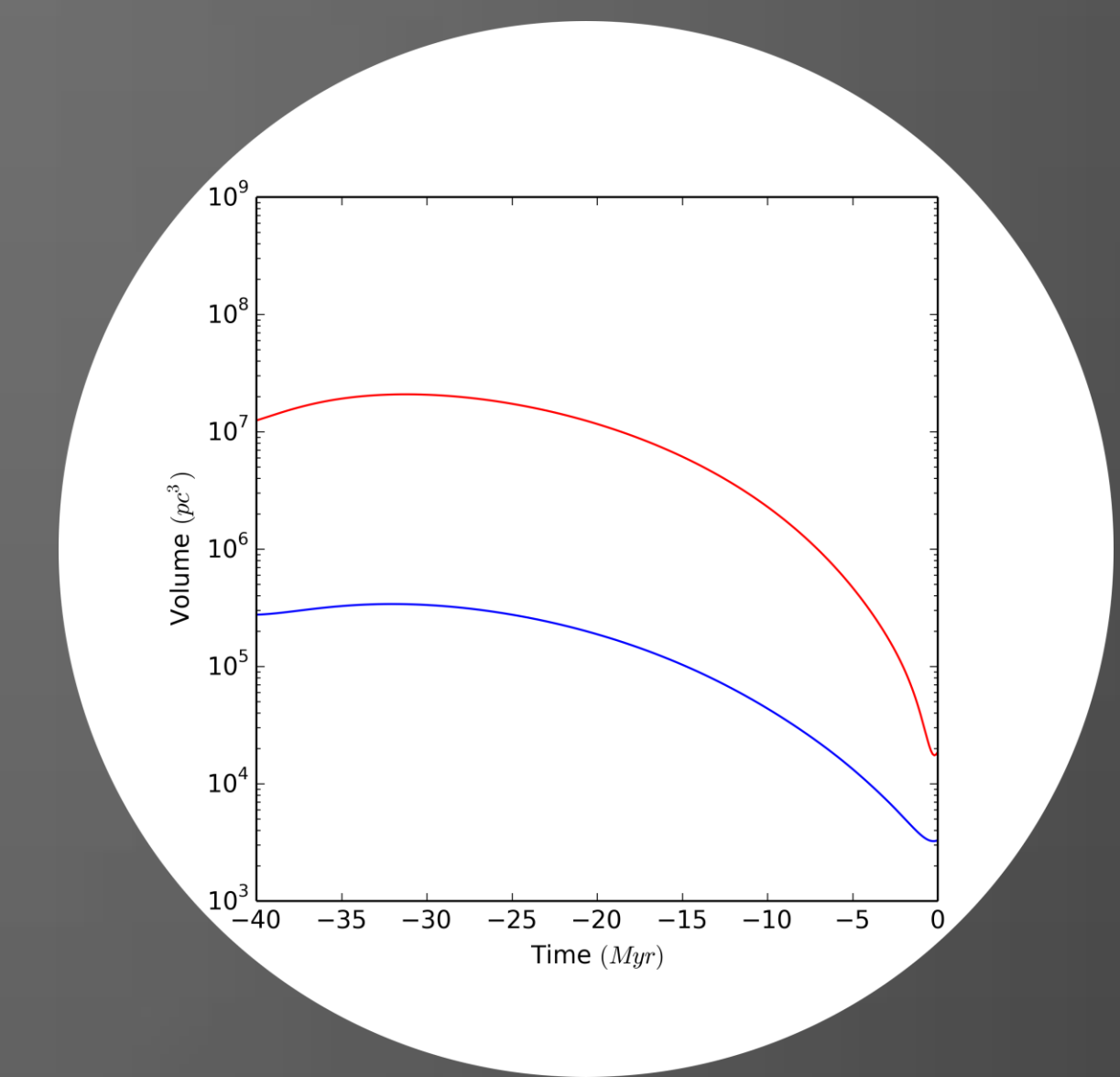
Lithium EW is not useful for brown dwarfs directly, but it will help pin down the ages of the groups themselves.



Running the members of Argus (blue) and the IC 2391 Supercluster (red) back in time demonstrates that by 7.5 Myr ago, the two groups were very far apart. One of them cannot be a real kinematic entity related to IC 2391.



*To understand brown dwarfs,
we must understand their ages*



Plotting the volume of beta Pictoris based on (red) all suspected members and (blue) the bona-fide sample from Malo et al. (2013) shows the importance of vetting the sample

STARRING

EPSILON CHAMELEON, ETA CHAMELEON, TW HYDRA, BETA PICTORIS, OCTANS, TUCANA-HOROLOGIUM, COLUMBA, CARINA, ARGUS, IC 2391 SUPERCLUSTER, (CHAMELEON-NEAR), AB DORADUS, B4, THE PLEIADES, CASTOR, HERCULES-LYRA, URSA MAJOR

AND FEATURING

EGGEN (1991), KING ET AL. (2003), ZUCKERMAN & SONG (2004), MAMAJEK ET AL. (2005), MOOR ET AL. (2006), LOPEZ-SANTIAGO ET AL. (2006), TORRES ET AL. (2006), PLATAIS ET AL. (2007), STAUFFER ET AL. (2007), KIRKPATRICK ET AL. (2008), TORRES ET AL. (2008), DA SILVA ET AL. (2009), LEPINE ET AL. (2009), SHKOLNIK ET AL. (2009), RICE ET AL. (2010), SCHLIEDER ET AL. (2010), KISS ET AL. (2011), RODRIGUEZ ET AL. (2011), RIEDEL ET AL. (2011), ZUCKERMAN ET AL. (2011), MCCARTHY & WHITE (2012), SCHLIEDER ET AL. (2012a), SCHLIEDER ET AL. (2012c), SHKOLNIK ET AL. (2012), DELORME ET AL. (2013), MALO ET AL. (2013), RODRIGUEZ ET AL. (2013), WEINBERGER ET AL. (2013), RIEDEL ET AL. (2014)