

UVW velocities for a large selection of stars noted as young. Only a few of the proposed moving groups actually form identifiable clusters in UVW space.

XYZ spatial positions for

the same large selection

of stars noted as young.

Here, the groups are

sparse and overlap in

spatial positions.

Circles are at 100 parsecs, lines are

toward the galactic center and

galactic north pole

### American Museumb Natural History

When 1000 trials per member are traced

backwards in time (present

time on the right), even

the bona-fide members of

Tucana-Horologium and

beta Pictoris were dozens

of parsecs from the center

of the moving group at

the time of formation.

College of Staten Island

## Our Smallest Neighbors

#### The City University of New York

COUPTIONThe City<br/>University<br/>of<br/>New York

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), Schileder et al. (2012c), Shkolnik et al. (2012), Delorme et al. (2013), De Silva et al. (2013) Malo et al. (2013), Rodriguez et al. (2013), Weinberger et al. (2013), Gagne et al. (2014), Kraus et al.

In order to study and characterize the nearby young moving groups, we are building a union list of relevant information on all proposed members of all proposed nearby young moving groups beta\_Pic epicyclic traceback

Tuc-Hor epicyclic traceback

–100 Time (Myr ago)

> The discrepancy is due insufficient precision of current data, and to the inclusion of young stars that were not products of the same burst of star formation. This complicates assigning accurate ages and other properties to brown dwarfs.

Position of the stars (blue, blue ellipsoid) and brown dwarfs (red, red ellipsoid) in Tucana-Horologium. The two populations cluster differently, but this appears to be the result of

outlying stellar members.

#### Brown Dwarfs in Nearby Moving Groups

Based on the presence of Lithium 6708A EW, nearly all proposed groups contain genuinely young stars regardless of the quality of the group itself as a coeval unit

Lithium 6708A EW for members of the Argus

(2014), Riedel et al. (2014)

# Adric.riedel@gmail.com





Sarah Blunt Kelle Cruz Emily Rice Jackie Faherty

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Lithium 6708A EW for members of the AB Dor moving group. There is a large apparent scatter in age and possibly two age sequences. This may explain the differing properties of the brown dwarf members 2M0355 and CD-35°2722B