

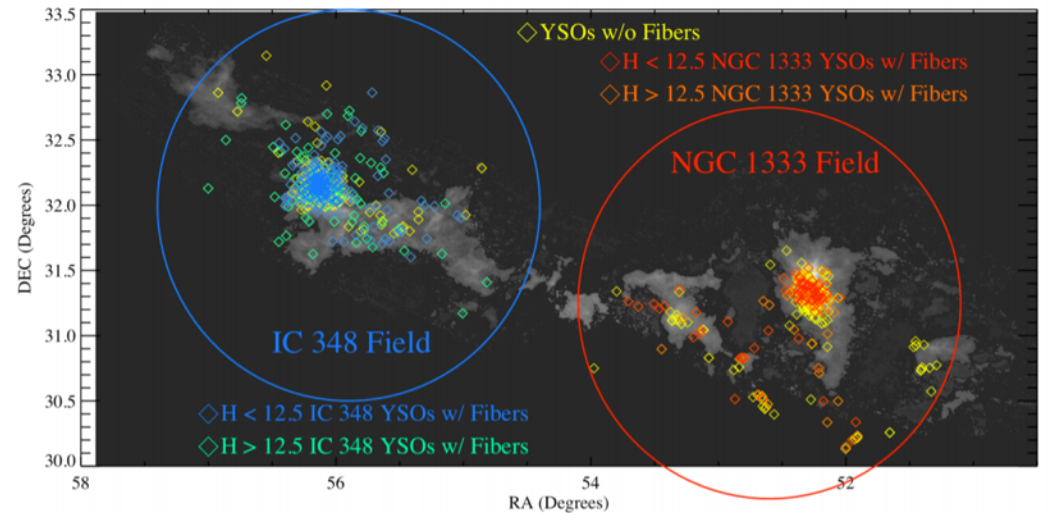
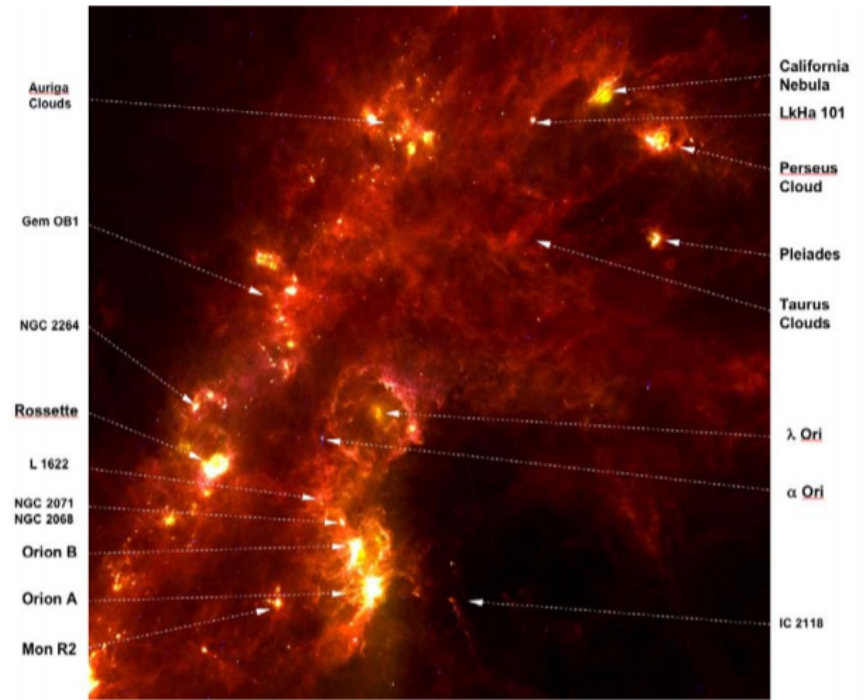
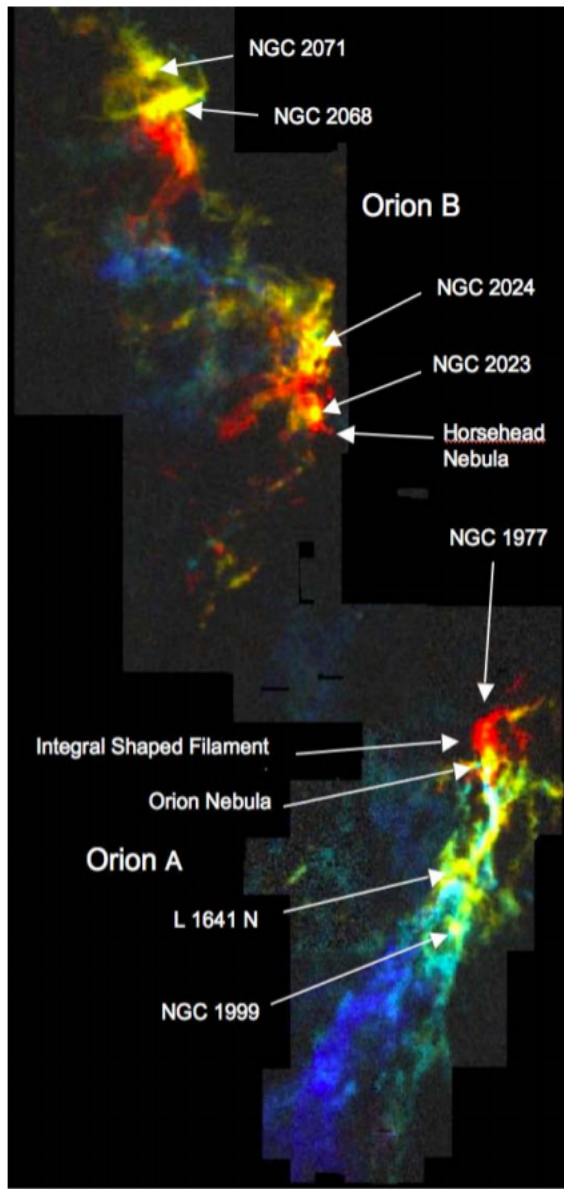
«Современная звездная астрономия -2019»

Поиск кандидатов в двойные звездные скопления в Галактике

Постникова Е.С., Ковалева Д. А..

ИНАСАН

7 - 11 октября 2019 г., САО РАН



Jonathan C. Tan +2013 "From Stars to Life" IN-SYNC poster

Hogg 12 & NGC



X & h Perseus



Danks 1 & Danks 2

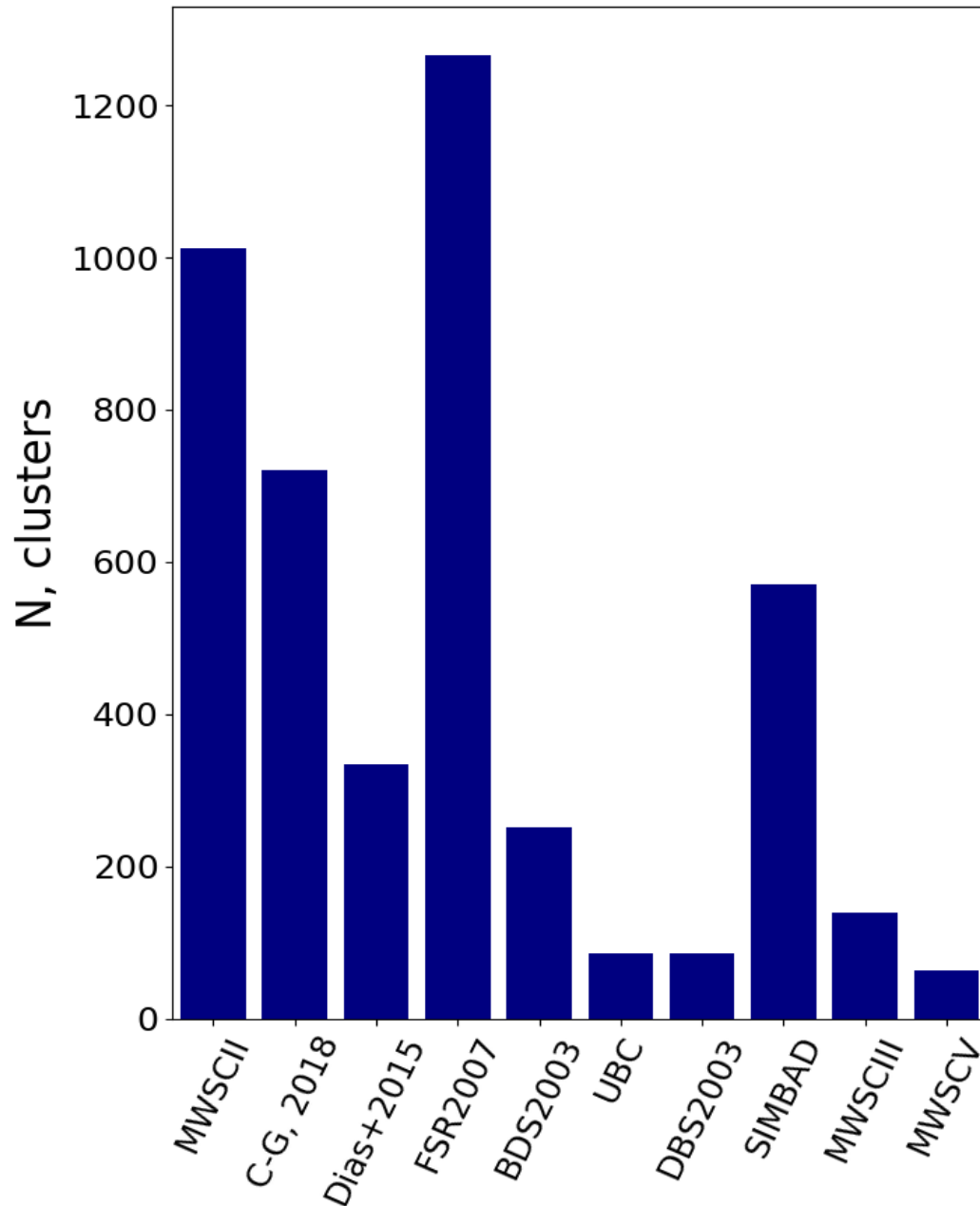


NGC 2343 & Collinder



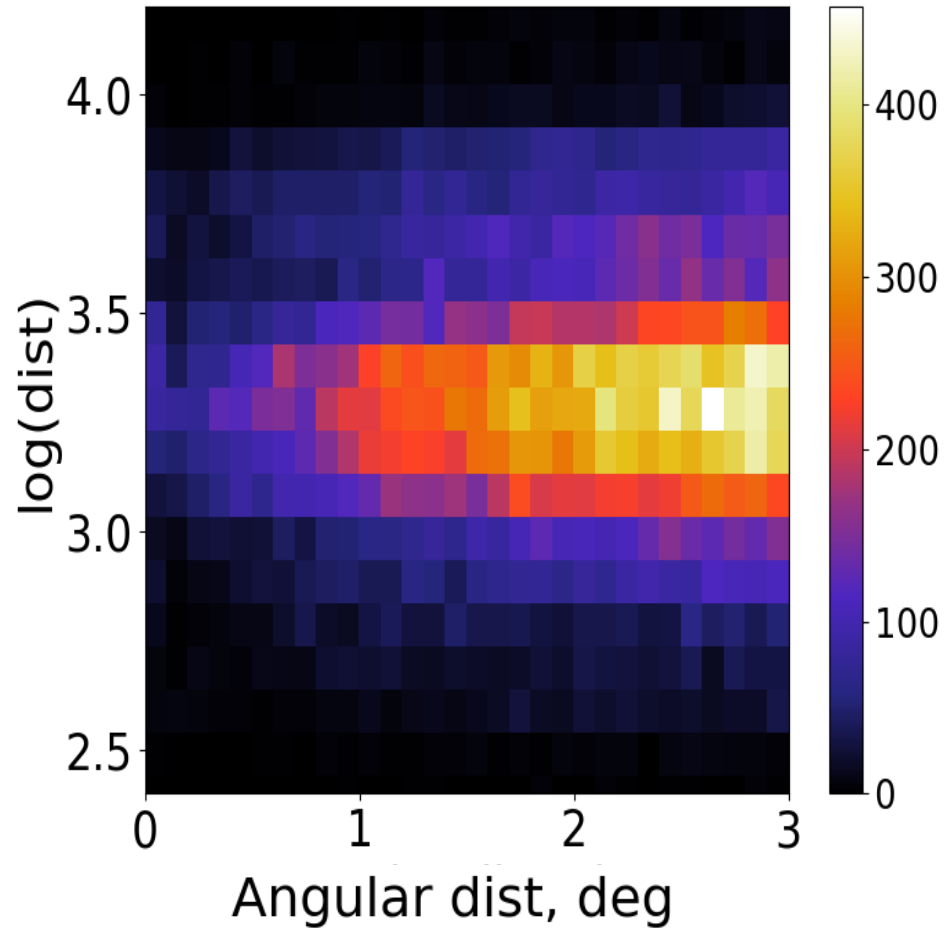
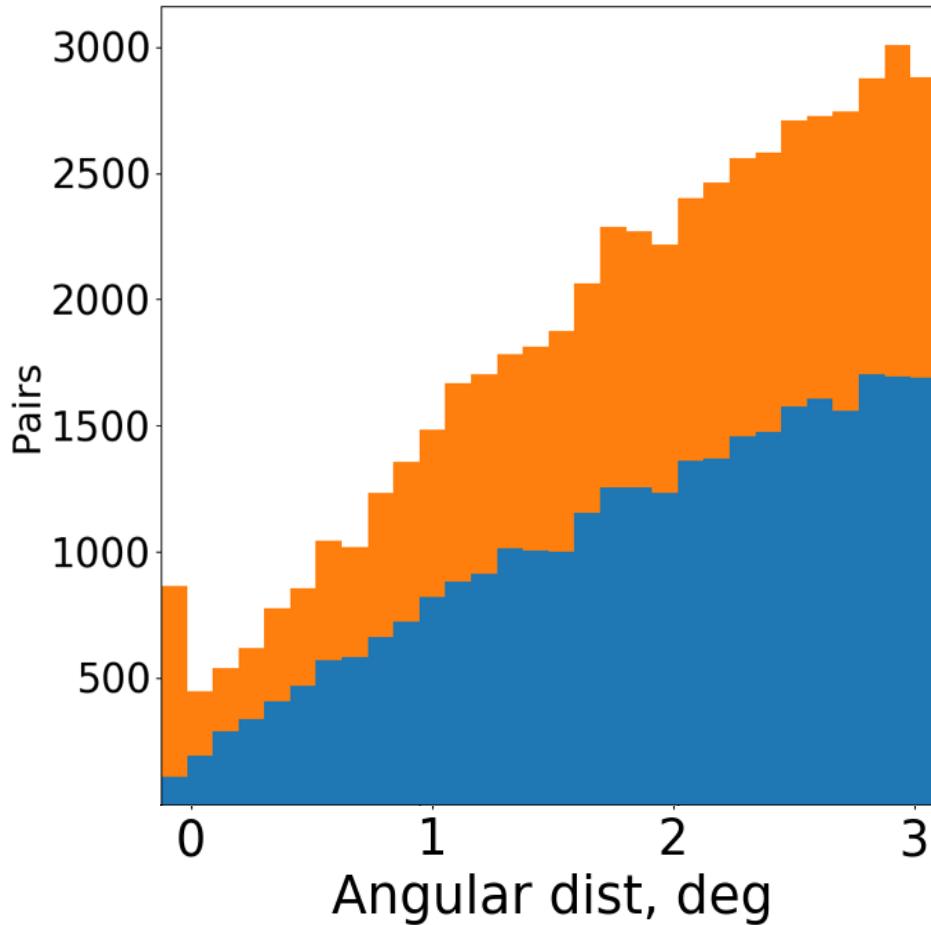
authors & articles	N, clusters	N, pairs
<i>Subramaniam, A.; Gorti, U.; Sagar, R.; Bhatt, H. C., A&A, 302, 865 (1995)</i>	<i>~1400</i>	<i>18</i>
de La Fuente Marcos, R. & de La Fuente Marcos, C.,	3543	61
<i>Conrad, C., Scholz, R.-D., Kharchenko, N. V., et al., A&A, 600, A106 (2017)</i>	<i>650</i>	<i>14 pairs, 4 groups with 3–5 members, and 1 complex with 15 members</i>
C. Soubiran, T. Cantat-Gaudin, M. Romero-Gomez et	861	20

Compilative list of use catalogues

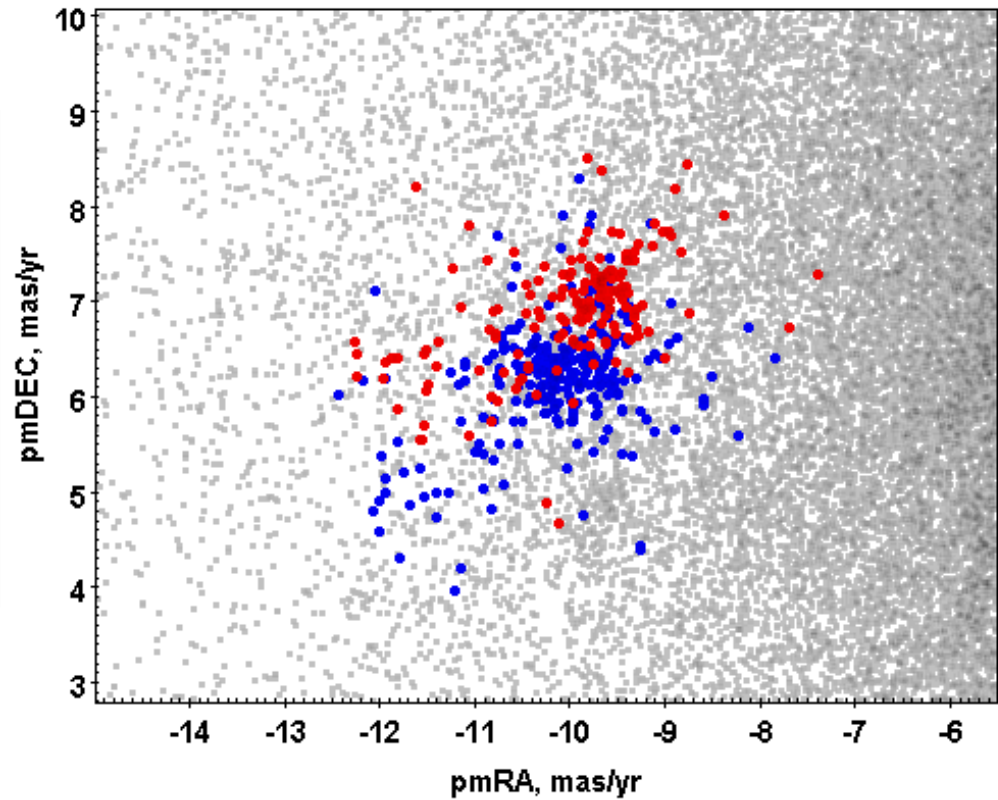
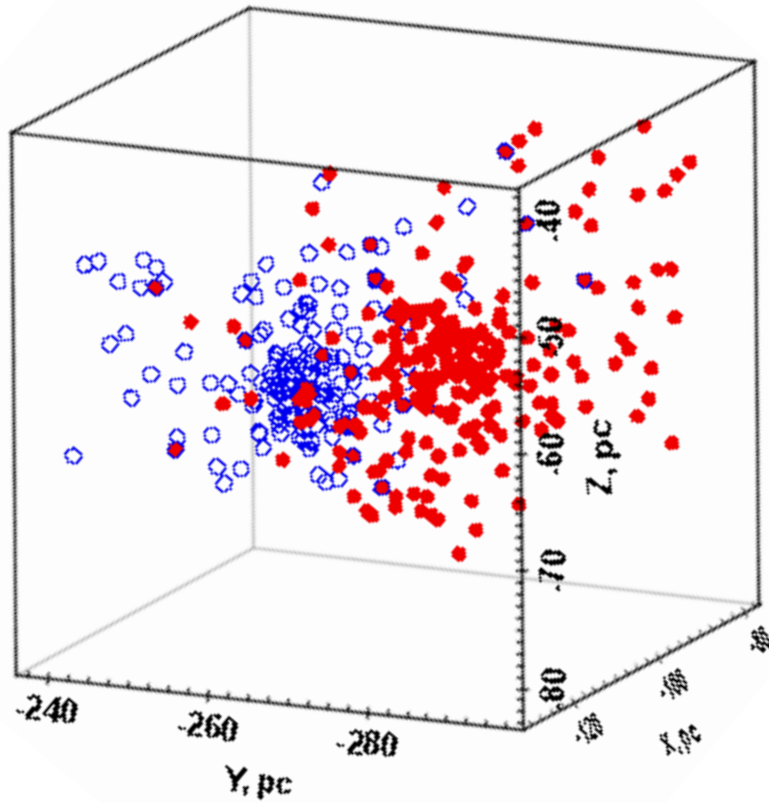


- MWSCII (Kharchenko+, 2013)
- MWSCIII (Schmeja+, 2014)
- MWSCV (Kharchenko+, 2016)
- Dias et al., 2002-2015
- Cantat-Gaudin+, 2018 as C-G, 2018
- Castro-Ginard+, 2019 & Castro-Ginard+, 2018 as UBC
- Froebrich+Scholz +Raftery, 2007 as FSR2007
- Bica+Dutra+Soares+, 2003 as BDS2003
- Dutra+Bica+Soares+, 2003 as DBS2003
- SIMBAD (individual articles and low catalogues)

~ 54 761 pairs of clusters

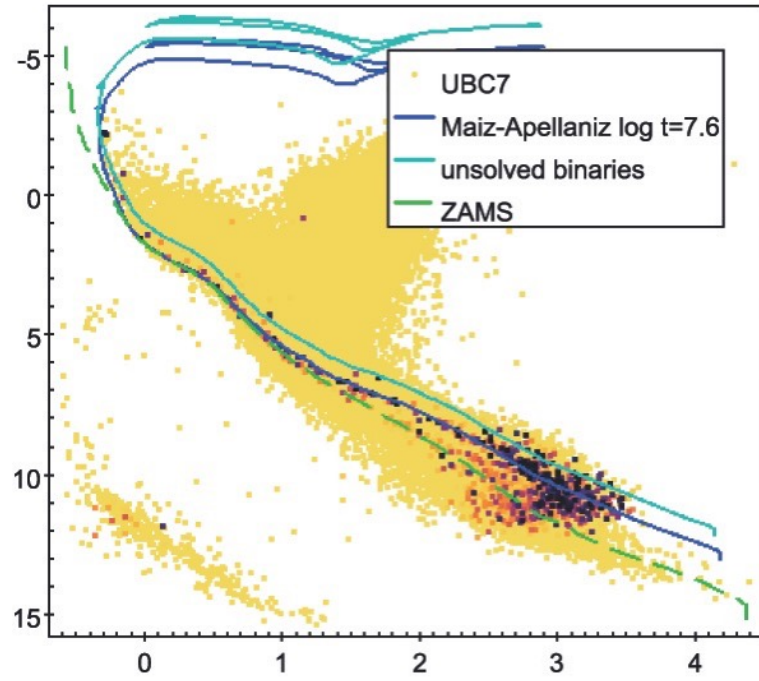
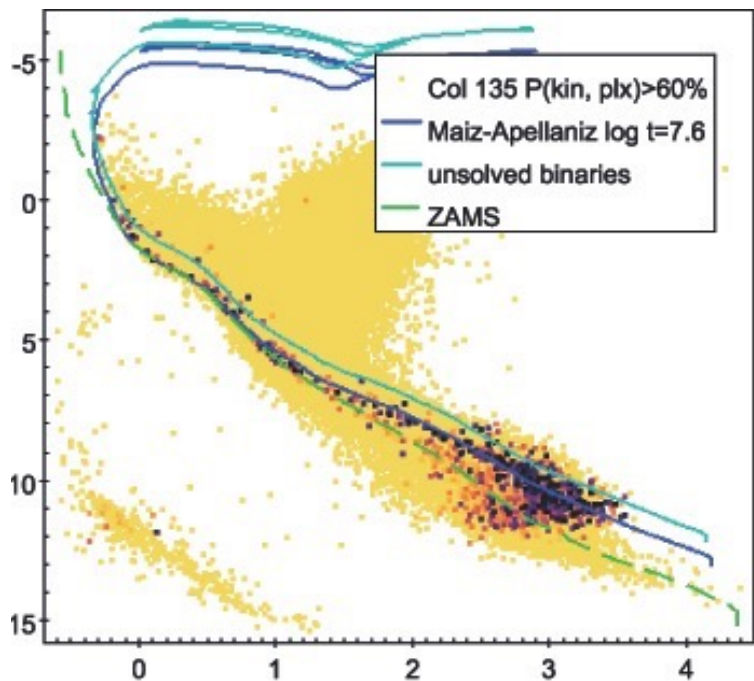


Collinder 135 and UBC 7



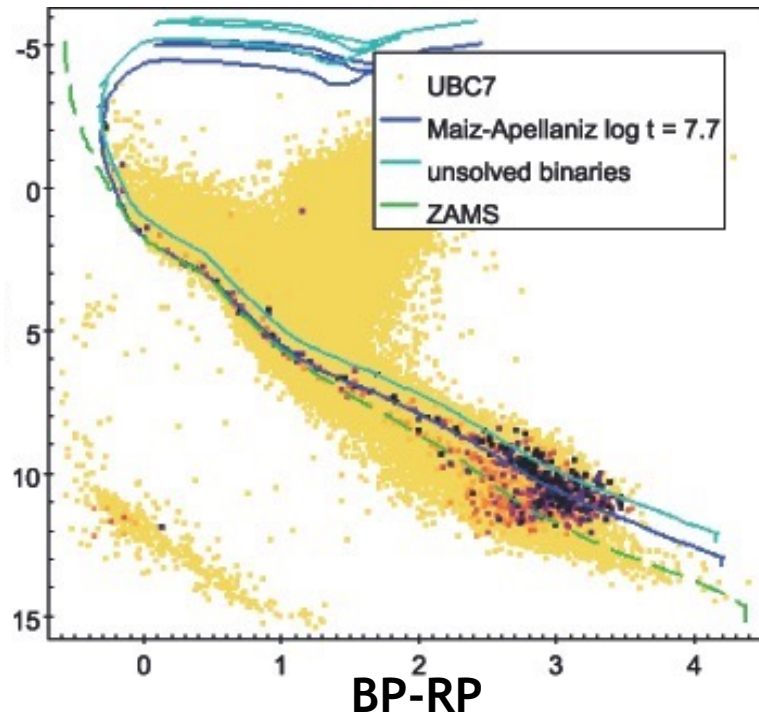
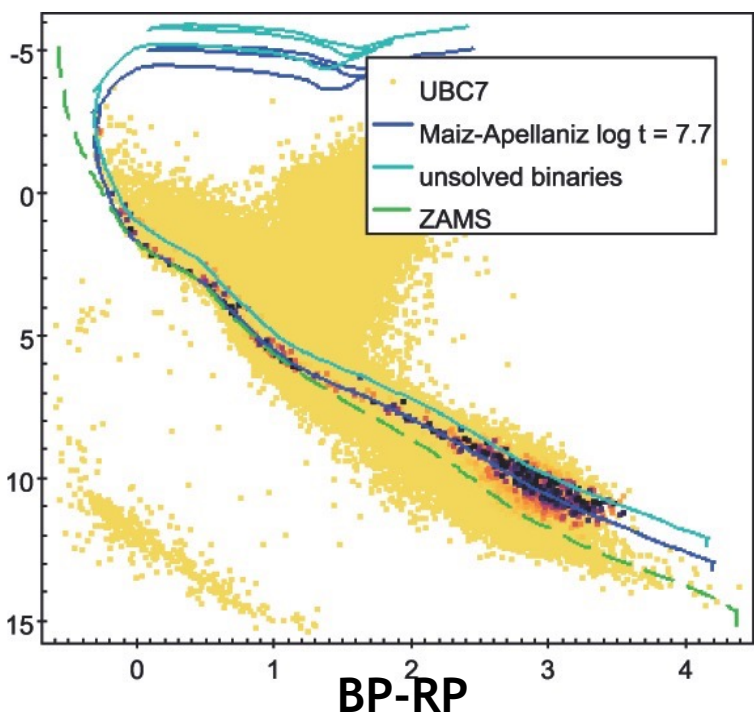
Cluster	RAJ2015.5	DECJ2015.5	Parallax, mas	pmRA, mas/yr	pmDEC, mas/yr	V _r , Km/s
<i>Collinder 135</i>	109.342	-37.073	3.30 (0.08)	-10.17(0.74)	6.16(0.65)	18.95(3.51)
UBC 7	107.301	-37.409	3.56 (0.06)	-10.02(0.84)	6.90(0.61)	12.59(3.94)

MG



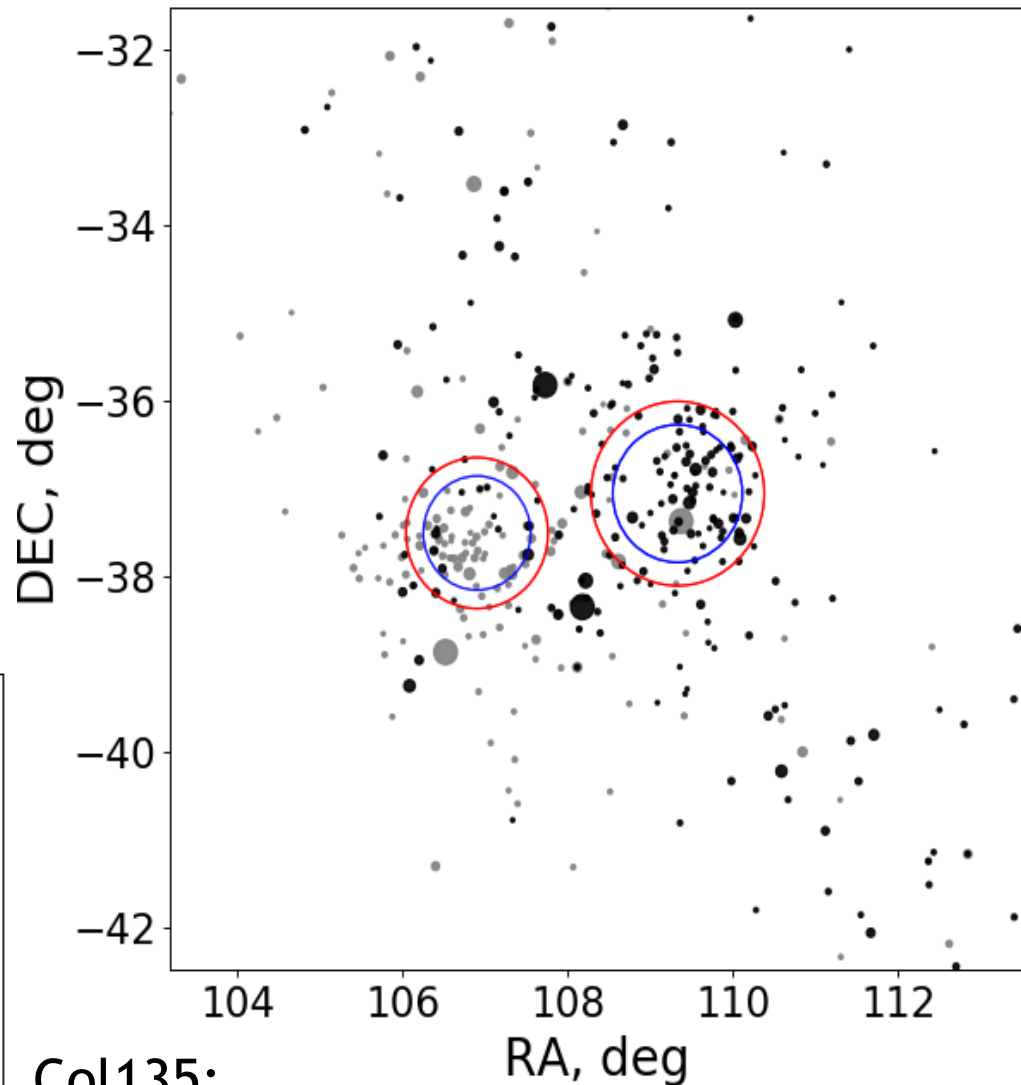
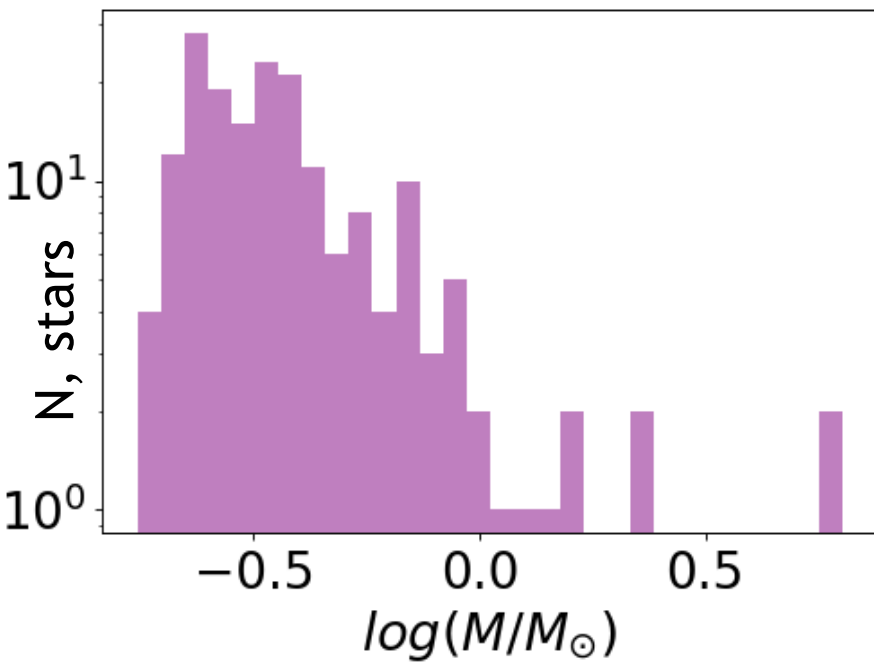
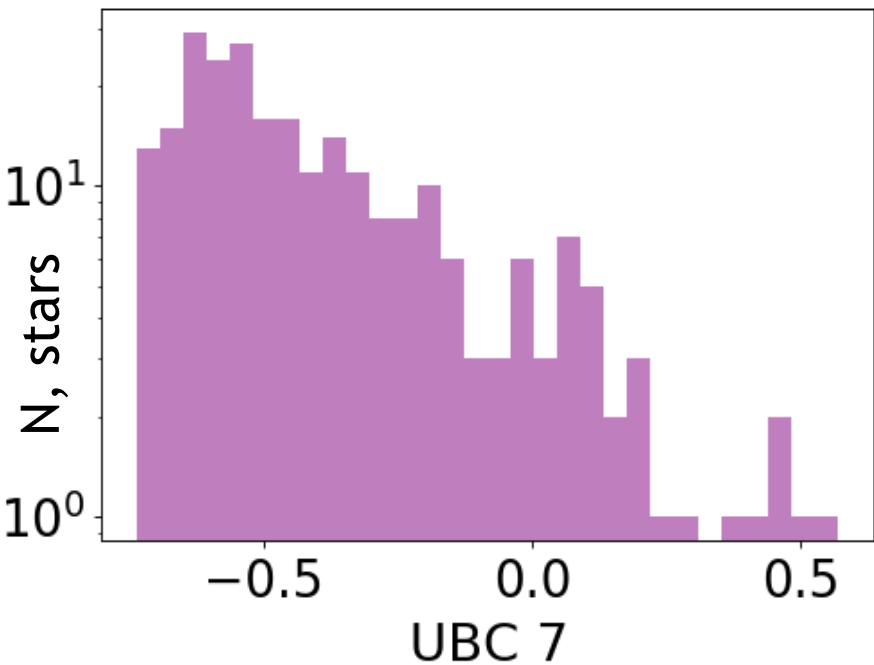
probability

MG



probability

Collinder 135

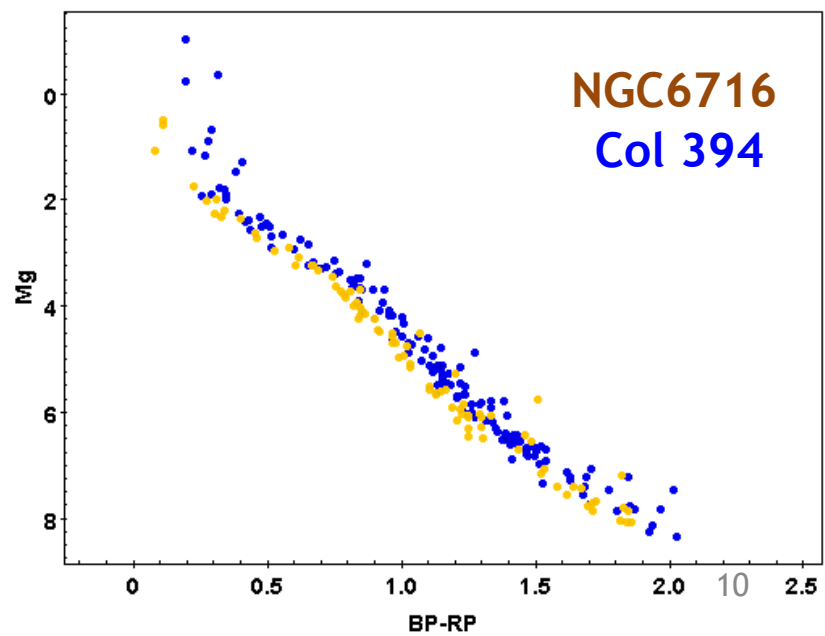
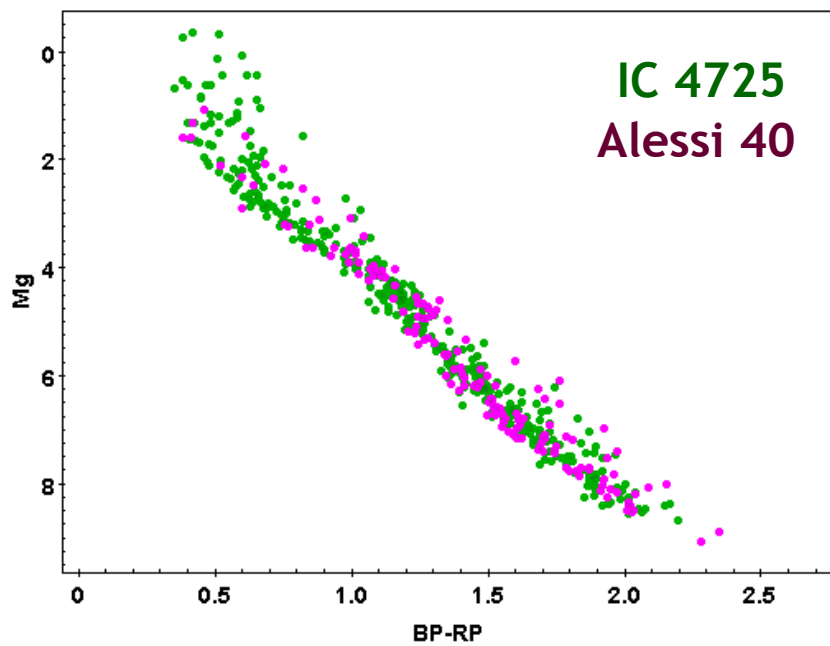
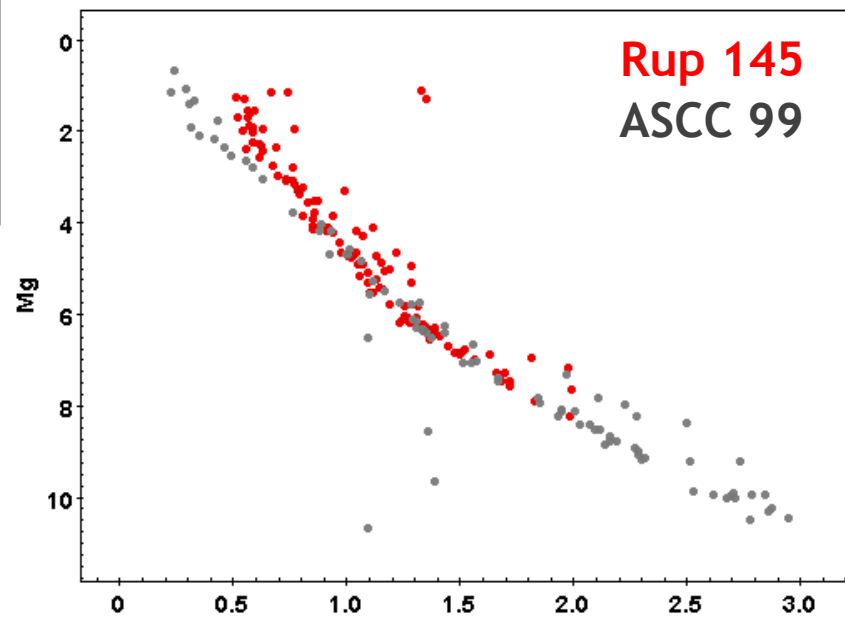
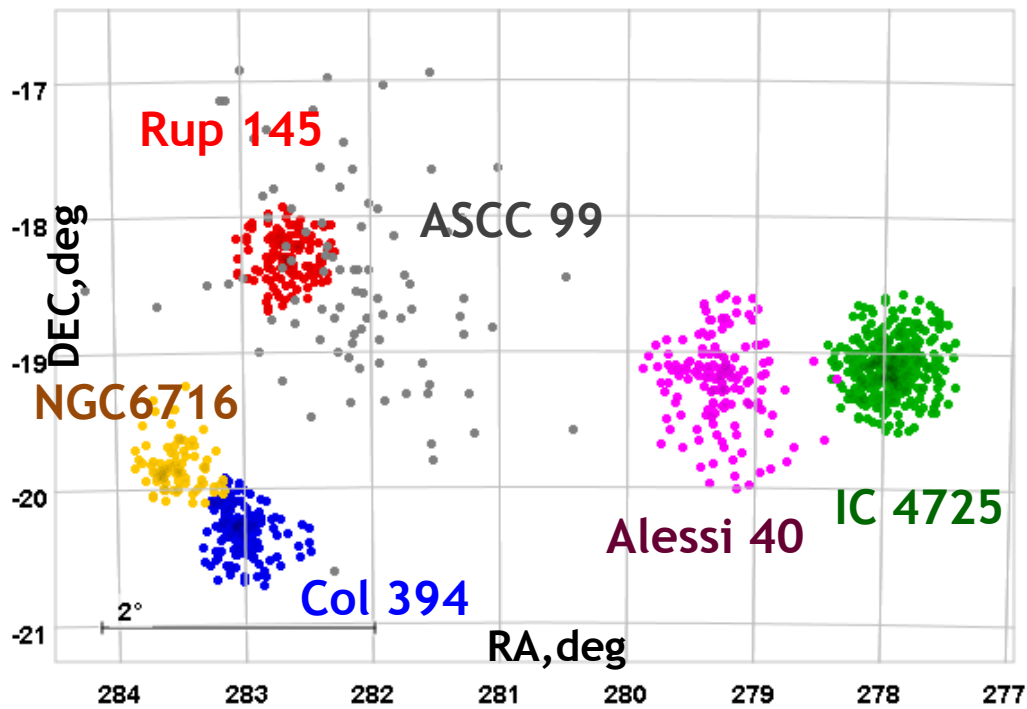


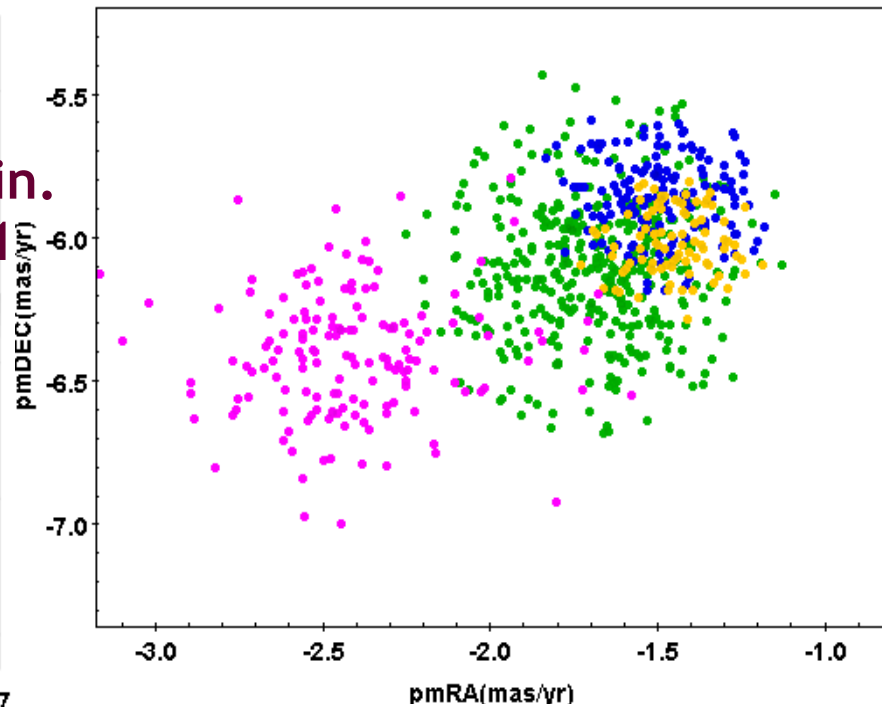
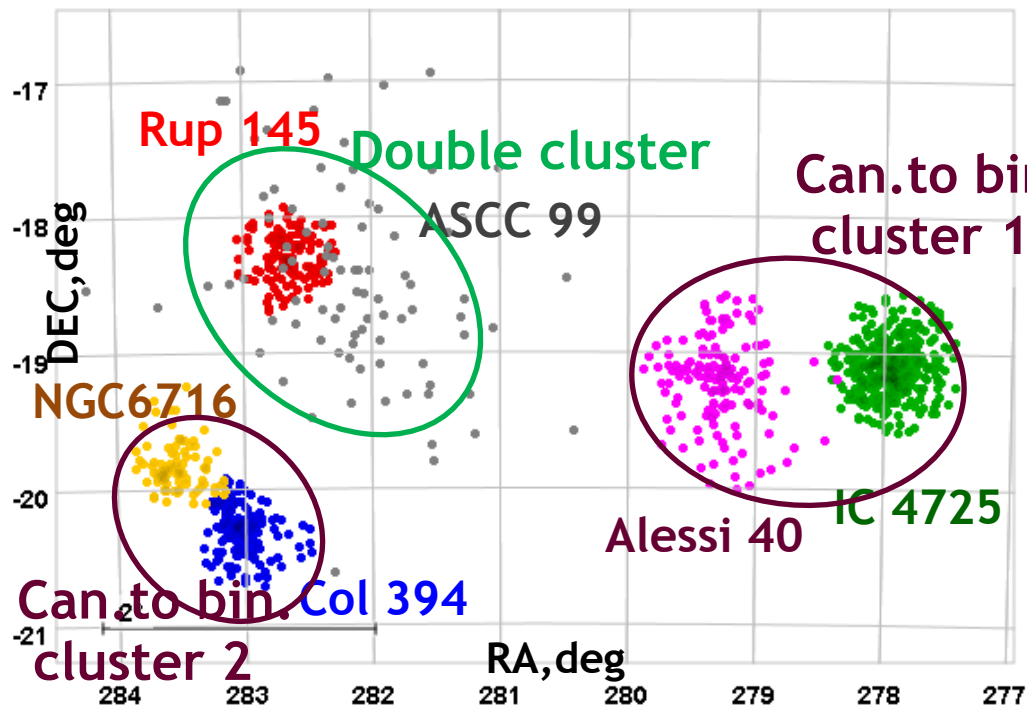
Col135:

rh = 8.5, rt = 11.57, $M/M_{\odot} = 110-130$

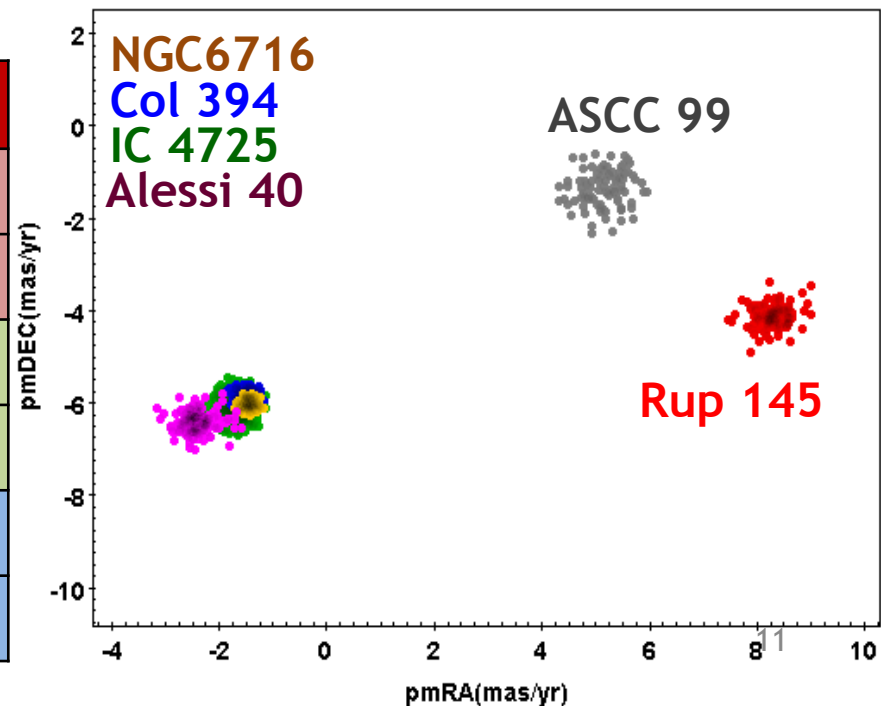
UBC7:

rh = 8.05, rt = 8.07, $M/M_{\odot} = 80-90$





Cluster	RA, deg	DEC, deg	Plx, mas	pmRA, mas/yr	pmDEC, mas/yr
<i>Rup 145</i>	282.64	-18.30	1.66	8.29	-4.12
ASCC 99	282.17	-18.49	3.36	5.19	-1.34
<i>IC 4725</i>	277.95	-19.10	1.51	-1.69	-6.11
Alessi 40	279.27	-19.22	1.71	-2.41	-6.41
<i>NGC 6716</i>	283.03	-20.29	1.38	-1.49	-5.86
Col 394	288.53	-19.83	1.42	-1.45	-6.01



Results

- compiled a catalog of clusters that are closely located in the sky.
- the initial analysis of the cluster pairs catalog has been completed.
- primary results were obtained for pairs of clusters

Future goals

- determination of unknown parameters for the obtained pairs of clusters
- clear the list of "garbage" clusters
- to analyze the mechanism of occurrence of pairs of clusters and complexes
- compile a catalog of the most reliable double cluster candidates

**Thank you
for you attention!**