Gibajoča se kopica zvezd je skupina takih zvezd, ki imajo približno enake hitrosti in se po prostoru gibljejo kot enotna kopica v isti smeri. V preglednici so podane razdalje do vesoljskih teles (r), njihove ekvatorialne koordinate (α, δ), galaktične koordinate (longituda l in latituda b)glede na ravnino naše Galaksije in tri komponente njihovih hitrosti (v_x, v_y, v_z) v smereh x, y, z v določenem koordinatnem sistemu. Na podlagi razpoložljivih podatkov v tabeli označi zvezde, ki pripadajo posamezni gibajoči se kopici. Oceni tudi velikost posamezne gibajoče se kopice.

Št.	r (parsek)	α	δ	l	b	v_x (km/s)	v_y (km/s)	v_z (km/s)
1	88,1	9*h*31*min*16*s*	−64°14'27"	283,2°	−9,3°	−16,08	−30,4	−0,94
2	10,5	23*h*7*min*54*s*	+75°23'15"	116,4°	+13,9°	8,31	−11,2	−2,415
3	98,0	8*h*5*min*3*s*	−60°38'41"	277,6°	−10,0°	−19,44	−27,8	−2,22
4	89,1	21*h*14*min*32*s*	+63°35'35"	101,5°	+10,0°	−7,313	−19,12	4,6
5	18,8	4*h* 2*min*36*s*	−0°16'8"	190,7°	−36,9°	−7,85	−28	−11,79
6	91,7	9*h* 20*min*37*s*	−63°10'0"	281,6°	−9,4°	−16,59	−27,9	−0,70
7	77,2	9*h* 48*min*19*s*	−64°3'22"	284,5°	−8,0°	−16,28	−28,32	−0,903
8	36,5	3*h* 33*min*13*s*	+46°15'26"	149,9°	−8,0°	−6,53	−27,84	−16,57
9	156,8	23*h*18*min*38*s*	+68°06'40"	114,2°	+6,5°	−10,15	−15,2	−3,7
10	32,3	14*h*47*min*33*s*	−0°16'53"	353,2°	+51,0°	−9,66	−28,07	−10,7
11	80,4	9*h* 10*min*58*s*	−58°58'3"	277,6°	−7,4°	−1,53	−18,3	0,34
12	87,1	8*h* 58*min*45*s*	−69°8'1"	284,9°	−15,1°	−16,59	−27,5	−1,44
13	174,0	23*h* 30*min*2*s*	+58°32'56"	112,5°	−2,6°	−9,3	−30,1	−1,2
14	24,4	1*h* 16*min*29*s*	+42°56'22"	127,8°	−19,7°	28,2	1,7	7,2
15	22,1	4 *h* 15*min*26*s*	+6°11'59"	186,7°	−30,5°	24,5	3,9	−1,6
16	33,3	2*h* 12*min*15*s*	+23°57'30"	145,7°	−35,3	−8,22	−27,41	−12,52
17	23,0	15*h*34*min*41*s*	+26°42'53"	41,9°	+53,8°	24,2	8,3	−0,3
18	38,8	3*h* 9*min*42*s*	−9°34'36"	191,3°	−53,0°	−5,24	−27,92	−9,75
19	82,3	10*h*20*min*51*s*	−58°32'49"	284,7°	−1,3°	−14,44	−26,6	−3,772
20	34,5	22*h* 20*min*7*s*	+49°30'12"	99,3°	−6,3°	−9,65	−23,44	−4,86
21	21,4	21*h* 31*min*1*s*	+23°20'7"	74,3°	−20,1°	−6,5	−29,07	−13,15
22	23,6	1*h* 49*min*23*s*	−10°42'13"	165,4°	−68,7°	27,6	4,7	3,5
23	18,8	4*h* 9*min*35*s*	+69°32'29"	139,2°	+13,0°	−7,8	−24,02	−17,15
24	22,4	7*h* 49*min*55*s*	+27°21'47"	193,3°	+24,1°	23,8	7,6	−0,5
25	22,8	1*h* 36*min*43*s*	+7°49'54"	142,0°	−53,3°	−2,13	5,3	−12,8
26	160,2	23*h* 3*min*21*s*	+58°33'50"	109,2°	−1,3°	−25,6	−18,1	7,4
27	28,3	0*h* 18*min*20*s*	+30°57'22"	114,6°	−31,4°	−4,43	−27,8	−15,7
28	22,2	6*h* 39*min*50*s*	−61°28'43"	271,2°	−25,0°	−7,71	−28,32	−14,37
29	1132	20*h*25*min*27*s*	−28°39'48"	14,5°	−32,0°	5,61	−15,22	−4,84
30	1231	19*h*35*min*57*s*	−53°0'31"	344,4°	−27,9°	−4,13	−18,24	7,5

The stars that have circled numbers are from the same cluster.

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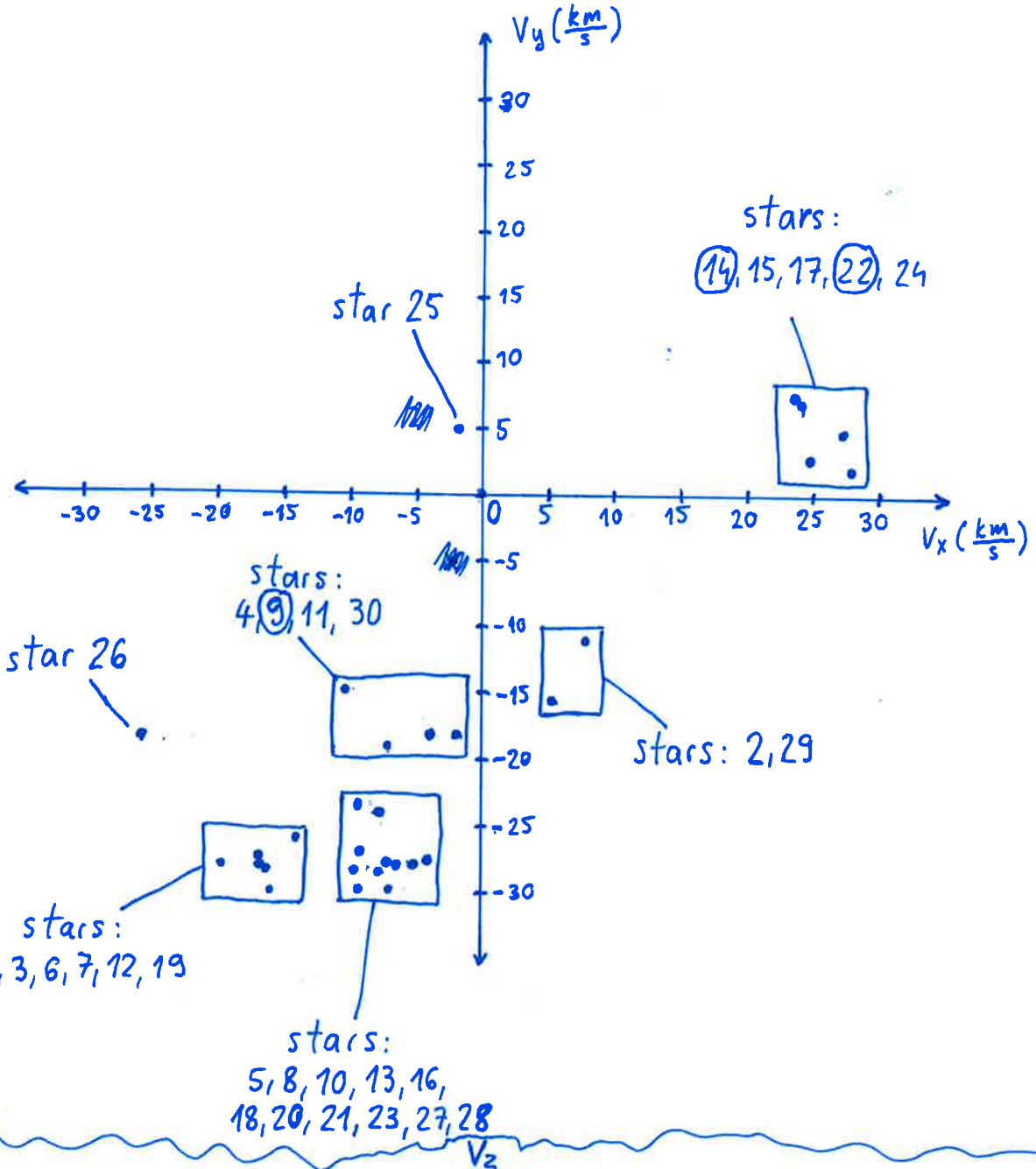

After ~~consi deri~~ considering I eliminate the circled numbers from their groups, because they are moving in the opposite direction from others.

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These are current groups:

× Group 1 → stars: 14, 22
× Group 2 → stars: 15, 17, 24
× Group 3 → stars: 2, 29
× Group 4 → star: 25
× Group 5 → star: 26
× Group 6 → star: 9
× Group 7 → stars: 4, 11, 30
✓ Group 8 → stars: 1, 3, 6, 7, 12, 19
× Group 9 → stars: 5, 8, 10, 13, 16, 18, 20, 21, 23, 27, 28

Now I consider l and b.

~~After compa~~ I can eliminate the groups consisting of only one star, because I can not tell if that star is in a cluster or not.

After comparing l and b ~~[illegible]~~ I can only see one pattern, that is in group 8. It is the only group where the longtitude and latitude ~~are similar~~ of every star is similar.

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I will now focus on Group 8. ~~I will check the distances. Equal I will not con~~

Equatorial coordinates ~~are similar~~ of all stars from group 8 are similar, so the only remaining ~~data~~ data that I haven't considered yet are the distances.

Differences between the distances are so small that it still makes sense that all these stars are in the same group.

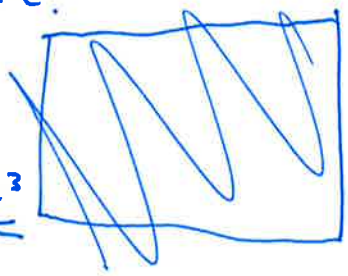
It is hard to evaluate the size of this cluster as ~~6 stars data is given~~ we only have the data of 6 stars.

A reasonable strategy would be to consider the biggest difference of 2 stars as ~~a di~~ the diameter of the cluster. I also have to calculate the size as if the cluster was a sphere.

~~$V = \frac{4\pi R^3}{3}$~~

$d = 98\,pc - 77\,pc = 21\,pc \Rightarrow r = 21\,pc : 2 = 10{,}5\,pc$

$V = \frac{4\pi r^3}{3} \approx \frac{12{,}5 \cdot 1000\,pc^3}{3} = \frac{12500\,pc^3}{3} = \underline{4167\,pc^3}$



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The size of the cluster is about 4167 pc^3.

THE END