3.0 Imaging of 1ZW192 et al. September, 2013

This is a collection of 3 or more galaxies. The first 2 are PGC60690 and PGC 60691 which, together it seems, are also known as 1ZW192. The third is PGC 60686 which is also known as MCG-6-39-11. They are a compact group which fits into a single frame at f11 on the 14-inch telescope. I have collected data on them since 9-21-2013 using, basically, 1000 second exposures which are then backgrounded, flatted, aligned and stacked to form a wide range image suitable for analysis in depth.

The frame is located at RA 18^h 41.1 and DE 38° $41'$. The master image is shown in Figure 1 below.

Image of MCG field

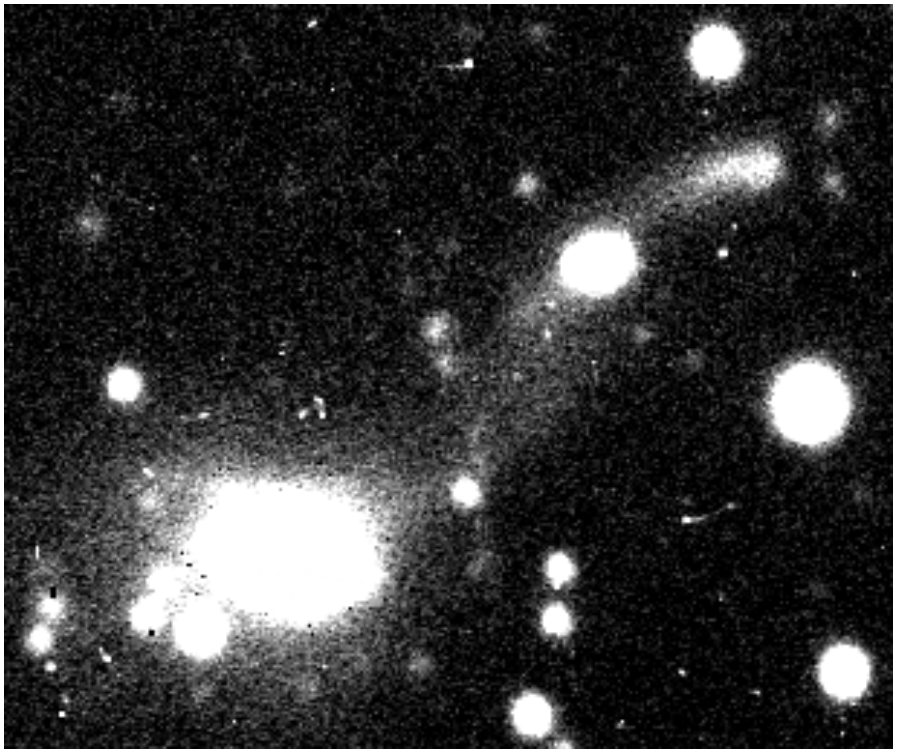
There are approximately 15 irregular objects in this frame. They are tabulated in Table 1 below and examined in both magnified and analyzed images below in order to examine

their attributes apropros identifying them as galaxies, nebulae, or other aggregating objects.

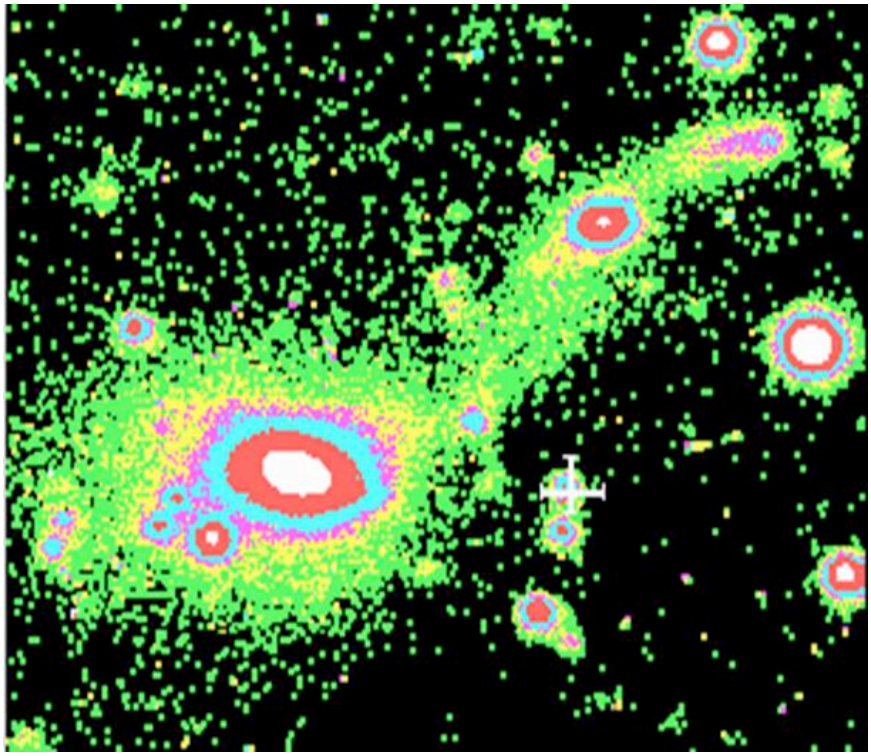
MCG Parts of interest

Item #	Mag	pkh	x ctr	yctr	description
1	14.76	3721	552	690	main
2	15.73	2371	117	474	sombrero
3	15.62	2368	384	703	strange ctr
4	16.38	1889	660	589	comet oval
5	17.72	1799	1301	592	duck nose
6	17.63	1429	1274	780	oval
7	17.68	1420	761	239	small oval
8	18.5	1324	284	414	small oval
9	18.53	1319	287	413	small oval
10	18.57	1309	754	321	mouse
11	19	1288	712	558	comet
12	19.49	1273	1409	695	very small
13	19.91	1269	746	968	very small
14	19.59	1263	1135	943	small spiral
15	20.3	1247	1399	817	very small

Table 1. list of interesting locations showing their positions in the 1500x1000 pixel image.

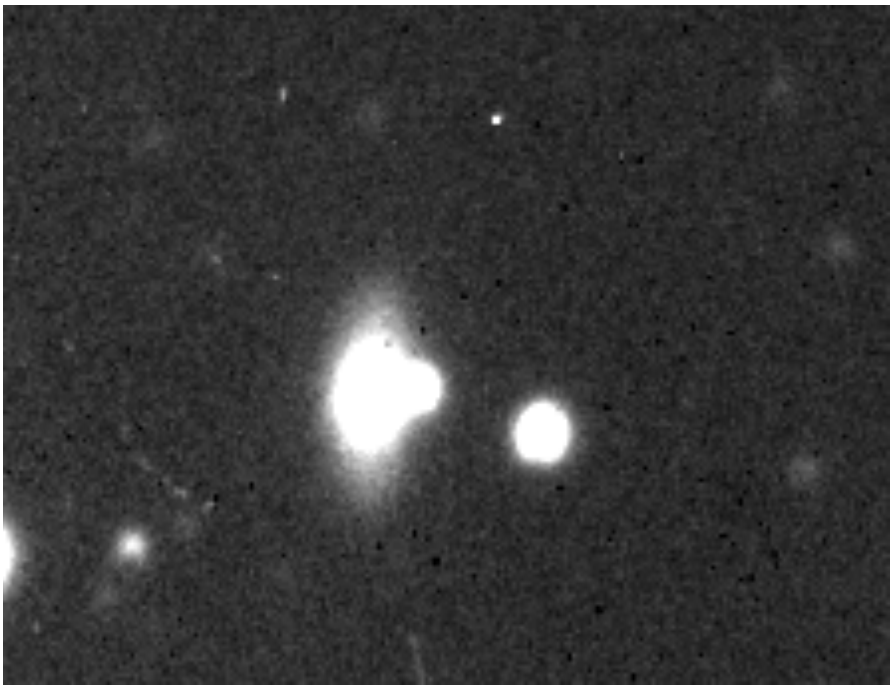


Object 01 from the main frame. The main aggregation is believed to be the elliptical object in the lower left. The brightness and contrast have been adjusted to emphasize the linkage.



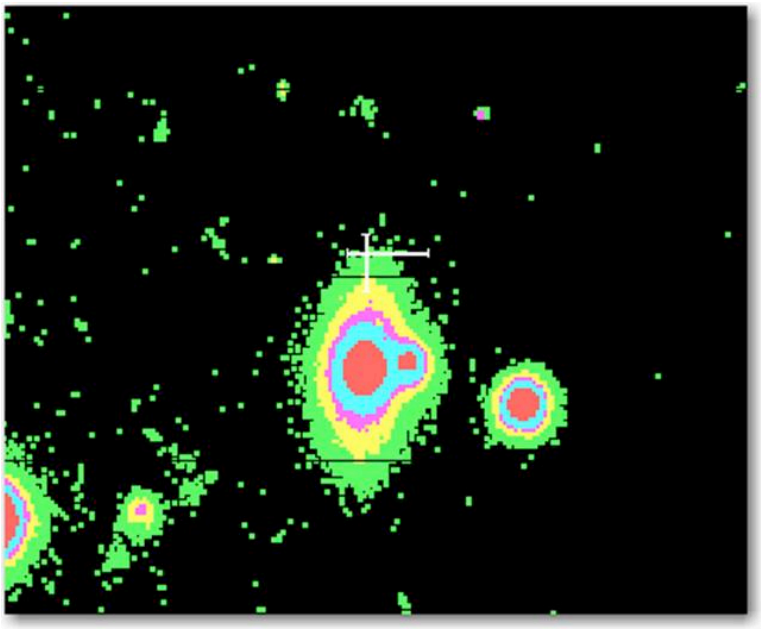
Object 01 copied and transformed to show isolux contours. The faint, white cross to the left of center is approsimately 10 arc seconds in height.The contours are established at white 75%, red 50%, blue 10%, pink 5%, yellow 2%, and green .5% of the peak.

Note that the objects to the right are perfectly round stars and that the central mass is elliptical. Further, the secondary mass at the upper right is forming as a second galaxy. The primary jet continues outward and is further analyzed below. Dr. Benton suggests that this may be the interaction of two galaxies passing in space. This view might be further supported by the plethora of interesting objects found in the single frame.

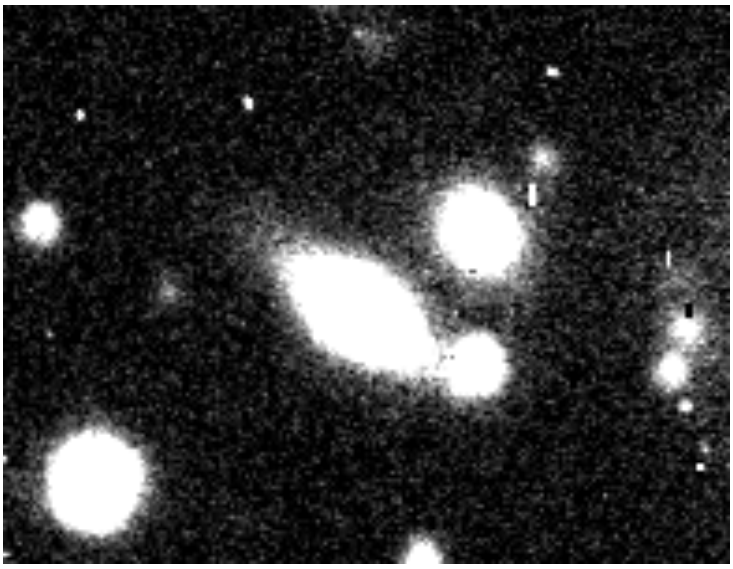


Object 02 from the main frame. The object is found on the far left of the image.

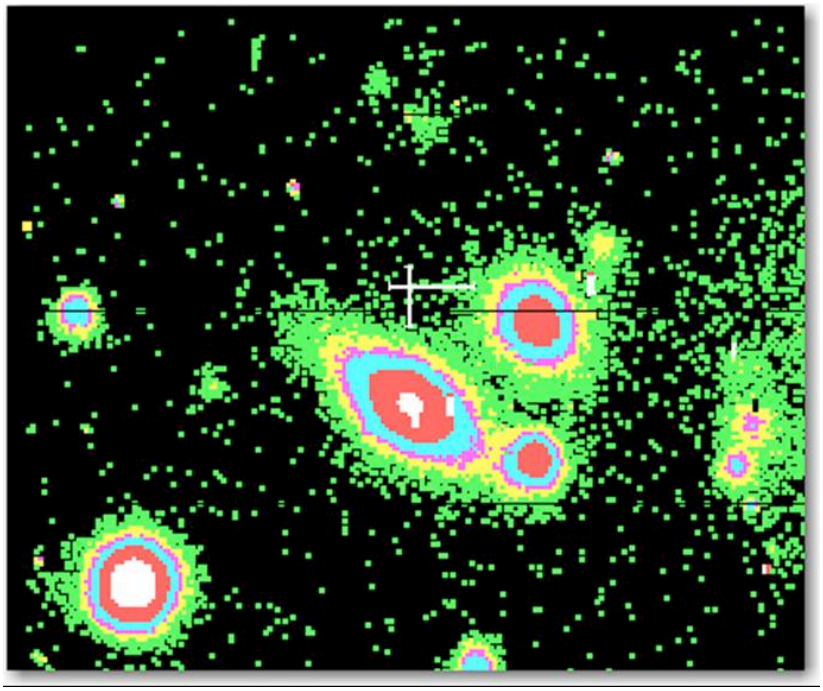
The object is clearly an elliptical galaxy. The question is—is the round object to its close right an independent and unrelated star, a supernova, or a fixed par of the galaxy.



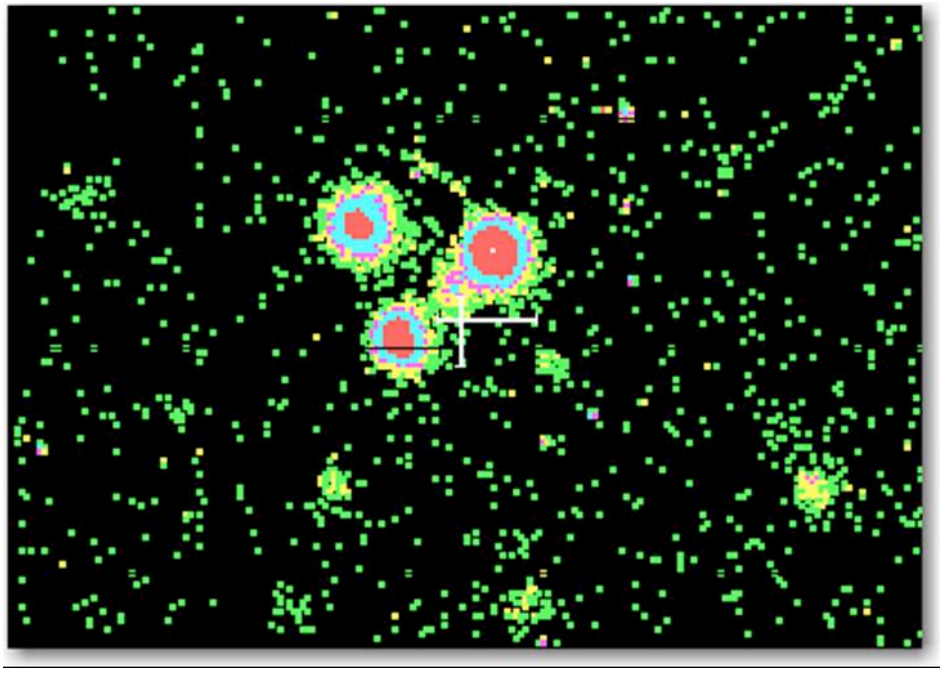
Object 02 shown in isolux format as described above. Note the perfectly circular star to the right for comparison to the elliptical central object.



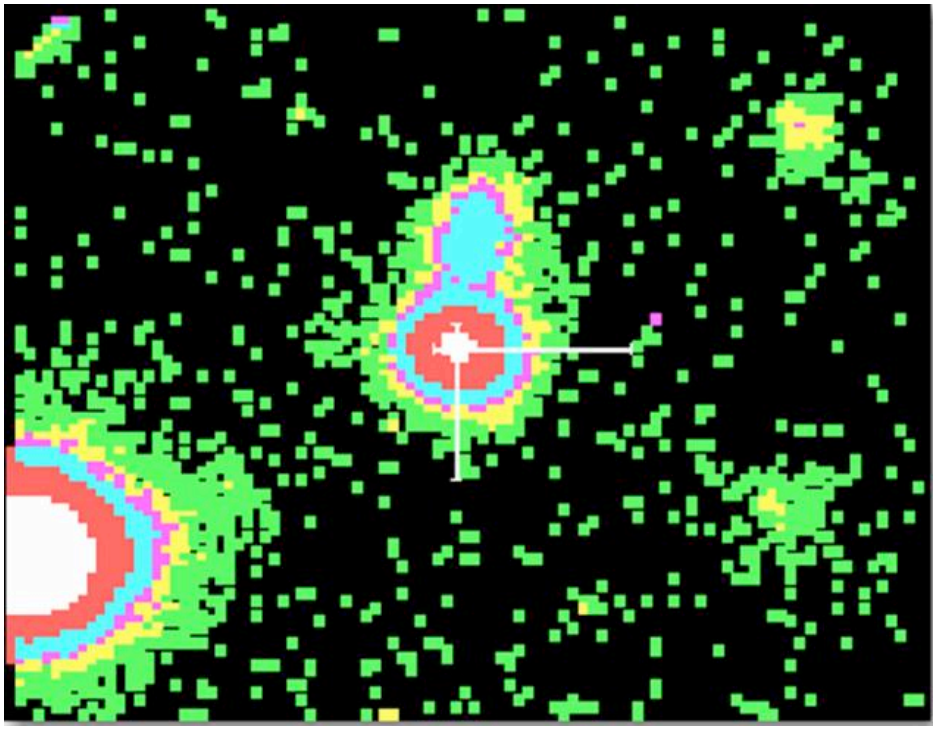
Elliptical object 03, to the near left of the main object.



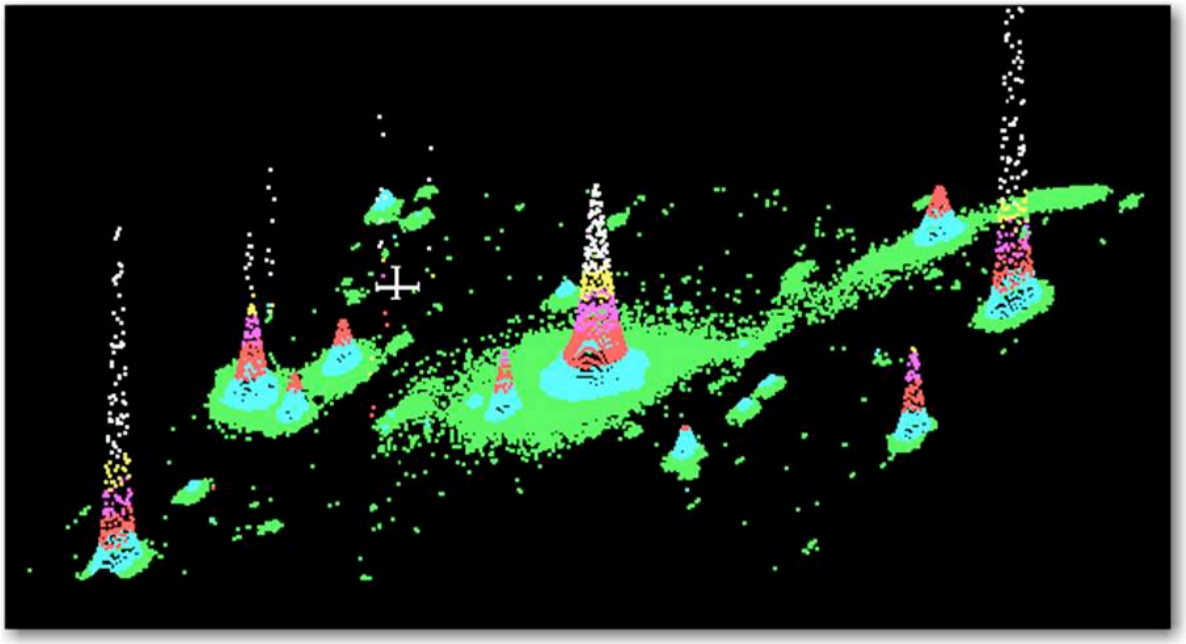
Object 03 shown in isolux form as described above. Note possible linking with nearby objects. This grouping would be a main target for semiannual review.



Object 05 notable for its apparent link between 2 of the 3 members of the group.



Object 10 apparent elliptical grouping of 3 or more stars along with 2 nonstellar masses.



Pseudo 3D view of the main galaxy.