

Homework LLL

Mary Verdugo,^{1*}

¹Estudiante de Magister en Astronomia, Universidad de La Serena

Mon, Nov 27

NOTES ON THE PARAMETERS IN TABLES 4A AND 4B

Column	Parameter	Units	Format	Comment
1.....	CLUSTER		A6	Cluster
2.....	ID		I4	ID in spectroscopic catalog for cluster
3.....	z		F7.4	Redshift
4.....	Q		A1	Redshift quality: colon indicates questionable identification
5.....	[O II]	Å	I2	Quality of spectrum: 1 = High, 4 = Low
6.....	Hδ	Å	F7.1	Rest frame EW of [O II] 3727
7.....	D4000		A1	Quality of [O II] 3727 EW measurement (colon indicates questionable)
8.....	CLASS		F5.2	Rest frame EW of Hδ, --ve indicates emission
9.....	δRA	arcsec	F7.1	Quality of Hδ EW measurement (colon indicates questionable)
10.....	δDec	arcsec	F7.1	Break strength index
11.....	ID _{SF}		I5	Spectral classification in scheme described in § 3.3
12.....	X	pixels	I5	RA offset from field center in Table 2
13.....	Y	pixels	I5	Dec offset from field center in Table 2
14.....	MORPH		A12	ID in photometric catalog for cluster ^a
15.....	T		I2	X coordinate on WFPC2 frame ^a
16.....	D		I2	Y coordinate on WFPC2 frame ^a
17.....	INT		A6	Galaxy morphology ^a
18.....	MAG	Mag	F5.2	T type ^a
19.....	COL	Mag	F5.2	Visual disturbance index ^a
20.....	MAG _g	Mag	F6.2	Interpretation of disturbance ^a
21.....	COI _g	Mag	F6.2	Total magnitude in F702W/F814W from WFPC2 frame ^{a,b}
22.....	RUN		A6	Aperture color from WFPC2 frame ^{a,c}
23.....	MASK		A10	Magnitude from ground-based imaging published in DG92 ^d
24.....	FEATURES		A23	Color from ground-based imaging published in DG92 ^d
25.....	COMMENTS		A130	Code giving details of observing run ^a
				Mask and object slit identifier
				Spectral features identified; see § 3.1
				Description of features in spectrum

^a See S97 for more details.

^b Magnitudes are in F702W for CI 0303+17, CI 0939+47, 3C 295, CI 1447+26 and CI 1601+42, and in F814W for CI 0016+16, CI 0024+16, CI 0054–27, A 370 Field 2, CI 0412–65, CI 0939+47 Field 2.

^c WFPC2 $V_{555} - I_{814}$ color information is available for: CI 0016+16, CI 0054–27, A 370 Field 2, CI 0412–65, CI 0939+47, and $B_{430} - I_{814}$ colors for CI 0024+16.

^d Aperture r-band magnitude from DG92, colors are aperture ($g-r$) measurements in all instances.

^e [P/W/N]<MONTH><YEAR>, P=Palomar 5m, W=WHT, N=NTT, or DG92.

Figure 1. Capture of the table 5 from Dressler et al. (1999)

1 SPECTRAL CLASSIFICATION

Follow the methods obtains from Balogh et al. (1999) with the data from Dressler et al. (1999), the aim of this essay is replicate the same figures 9 and 11 from the first paper mentioned with the data of the second, to understand how the classification of Balogh is better in fuction to separete between star forming and passive galaxies.

2 METHOD

One of the first thing that we do to understand the comparison is to compare the meta-data of the data with the aim to homogenize the tables.

In the case of Dressler et al. (1999) we have that the EW of the Hδ is negative when the line present **emission** (see figure 1). In comparison, the description about this two line features in Balogh et al. (1999) is: ... When the EW [OIII] index is positive the line is in emission, while the EW Hδ index is positive when the line is in **absorption**.

This implies that the data for Hδ from the Dressler et al. (1999) catalogue, need to be multiplied by −1 to homogenize the data. Doing that, we replicate the fig. 9 and fig. 11 from the paper of Balogh et al. (1999) (see figure 2)

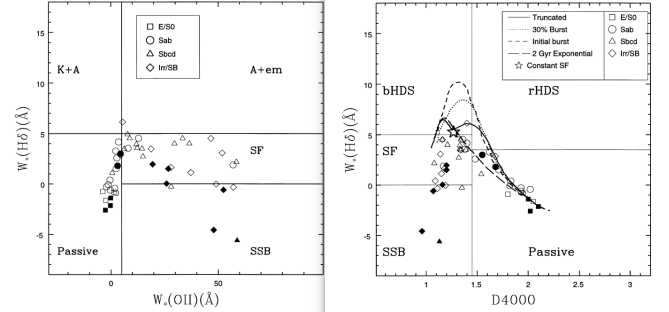


Figure 2. figures 9 and 11 from the paper of Balogh et al. (1999)

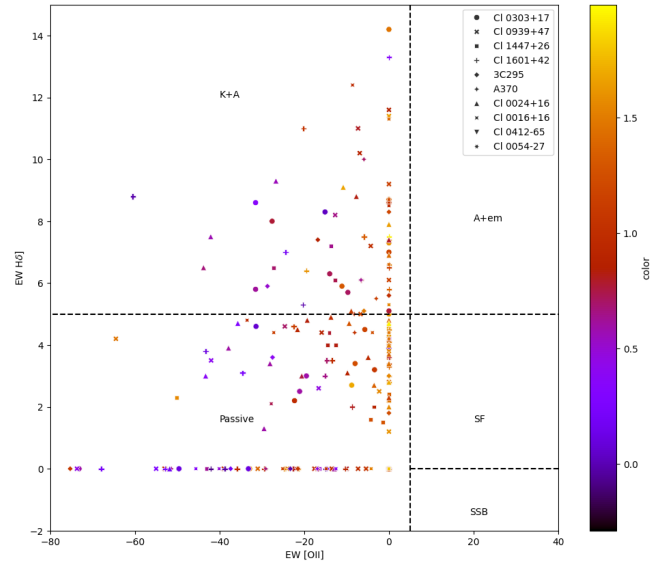


Figure 3. Figure made to replicate the first panel of the figure 2, this show the relation between the EW of O[III] and EW of Hδ

Using a python libraries, we made the sames figures (see figure ?? and figure ??)

3 CONCLUSIONS

The last numbered section should briefly summarise what has been done, and describe the final conclusions which the authors draw from their work.

ACKNOWLEDGEMENTS

The Acknowledgements section is not numbered. Here you can thank helpful colleagues, acknowledge funding agencies, telescopes and facilities used etc. Try to keep it short.

DATA AVAILABILITY

The inclusion of a Data Availability Statement is a requirement for articles published in MNRAS. Data Availability Statements provide a standardised format for readers to understand the availability of data underlying the research results described in the article. The statement may refer to original data generated in the course of the study or to third-party data analysed in the article. The statement should describe and provide means of access, where possible, by linking to the data or providing the required accession numbers for the relevant databases or DOIs.

REFERENCES

Balogh M. L., Morris S. L., Yee H. K. C., Carlberg R. G., Ellingson E., 1999, [ApJ](#), 527, 54
 Dressler A., Smail I., Poggianti B. M., Butcher H., Couch W. J., Ellis R. S., Oemler A. J., 1999, [VizieR Online Data Catalog](#), p. J/ApJS/122/51

APPENDIX A: SOME EXTRA MATERIAL

If you want to present additional material which would interrupt the flow of the main paper, it can be placed in an Appendix which appears after the list of references.

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