Practical round – Solutions

6. (alpha/beta, points: 10(5/2/1/2))

6.1 Plot the transit light curve properly, should care about the scales, and the magnitudes axis (y-axis) should be reversed (i.e., from high values to low values).

T_{mid} = …8.272JD ; Td = 0.055 days ; D=0.027^{m}

(some errors in above values accepted)

6.2 D=$(Rp/Rs)^2$ (or other similar ones);

Rp = 1.305 RJ (some errors accepted)

6.3 ~ 90° (or calculated value ~80°)

6.4 P = 1.3062 days ; a= 0.0226 au

(some errors in above values accepted)

7. (alpha, points: 10(4/3/2/1))

7.1

z	F(z)
11.63	1.021
14.54	1.033
20.52	1.066
23.54	1.091
26.56	1.118
29.58	1.150
32.60	1.187
35.60	1.230
38.58	1.249
41.55	1.336
44.49	1.401
50.30	1.566

(some errors in above values accepted)

7.2 Plot the scatter diagram properly (note: magnitudes should be y-axis), draw the straight dashed line properly.
7.3 K=0.49 , m0=16.38
(some errors in above values accepted)
7.4 mz=16.87 (some errors accepted)

7. (beta, points: 10(2/2/3/2/1)
7.1 Plot the scatter diagram properly.
7.2 Draw the curve properly. AGN = 9, 15, 16, 19, 28, 34, 37, 43
7.3

AD	L(Halpha) $*10^{39}$	SFR	Log(O/H)
39.5	6.84	0.054	-3.358
45.0	4.49	0.035	-3.362
34.7	6.89	0.054	-3.351
42.3	1.47	0.012	-3.291
25.8	15.6	0.123	-3.276
14.2	1.41	0.011	-3.244
55.9	2.91	0.023	-3.338
12.1	2.40	0.019	-3.409
48.2	15.1	0.119	-3.363
26.0	4.59	0.036	-3.355
46.7	10.0	0.079	-3.354
53.3	11.7	0.092	-3.352
45.1	64.5	0.510	-3.363
40.6	13.9	0.110	-3.338
41.5	5.69	0.045	-3.378

(some errors in above values accepted)
7.4 Plot the radial distribution properly.
7.5 B = 0.004 (some errors accepted)