

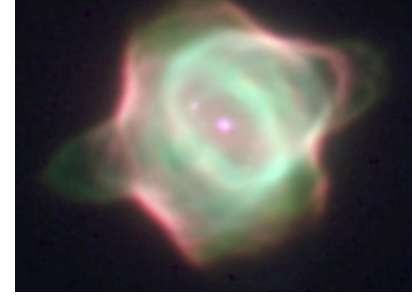
Very hot stars – Stingray Nebula (PN)

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We modeled the Stingray Nebula and tried to reproduce the observed line ratios (relative to H β) as observed in 1992 (red, first row in the Table, values taken from Arkhipova et al. 2013). In the CLOUDY models we used different input spectra (pure-H models, H+He models and blackbodies) with various effective temperatures. Models with and without grains were calculated. We found that the models without grains reproduce the observations better than the models including grains. Furthermore we found that using a blackbodies as input spectra, one can overestimate the effective temperature of the central star by about 30000 K.

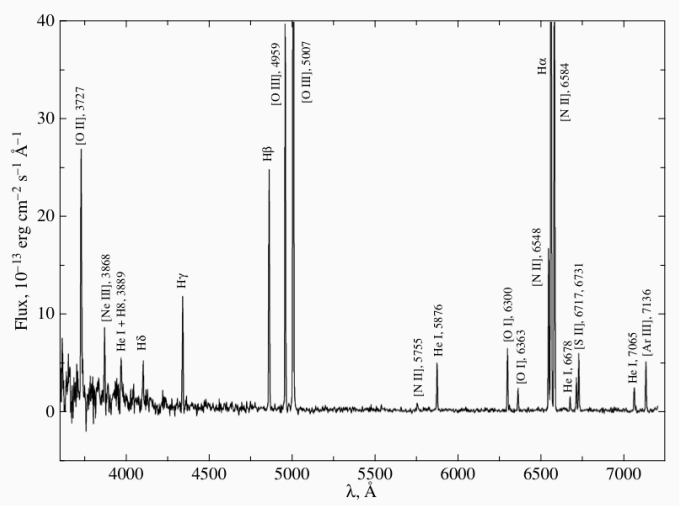


Figure 1: Observed spectrum (Arkhipova et al 2013).

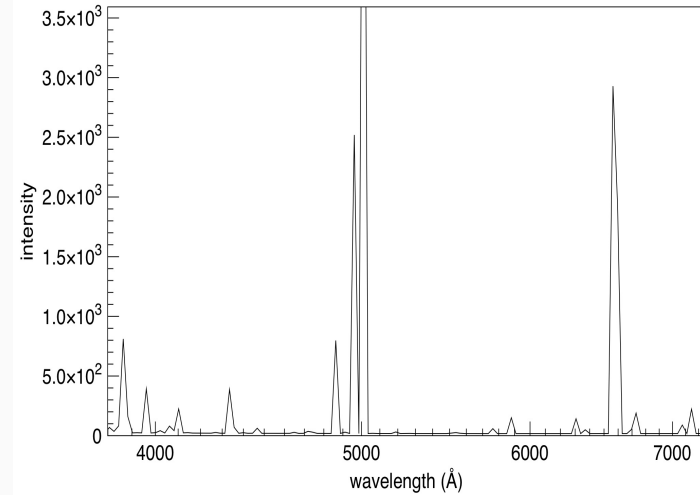


Figure 2: CLOUDY output spectrum.

Model	grains	hden	frac(He)	log(L)	T (K)	log(g)	O 3 5006.84A	O 3 4363.21A	N 2 6583.45A	H 1 6562.85A
1992							8.60	0.08	0.75	2.86
Rauch H+He	y	4	0.25	36	50000	5	9.68	0.06	2.28	2.88
	y	4	0.25	36	60000	5	11.48	0.09	2.40	2.87
	y	4	-	36	45000	5	9.05	0.06	2.47	2.87
	y	4	-	36	43400	5	8.74	0.06	2.47	2.88
	y	4	-	36	40000	5	8.03	0.05	2.48	2.88
Rauch H	y	4	-	36.4	43400	5	9.60	0.07	2.11	2.87
	y	4	-	37	40000	5	10.20	0.08	1.69	2.87
	n	4	-	37	40000	5	8.43	0.05	0.60	2.88
	n	4.2	-	37	38000	5	7.94	0.04	0.57	2.88
	n	4	-	36	43400	5	7.73	0.04	0.96	2.88
Blackbody	n	4	-	36	40000	5	2.45	0.09		
	n	4	-	36	70000	5	8.69	0.06		