V605 Aql and A58

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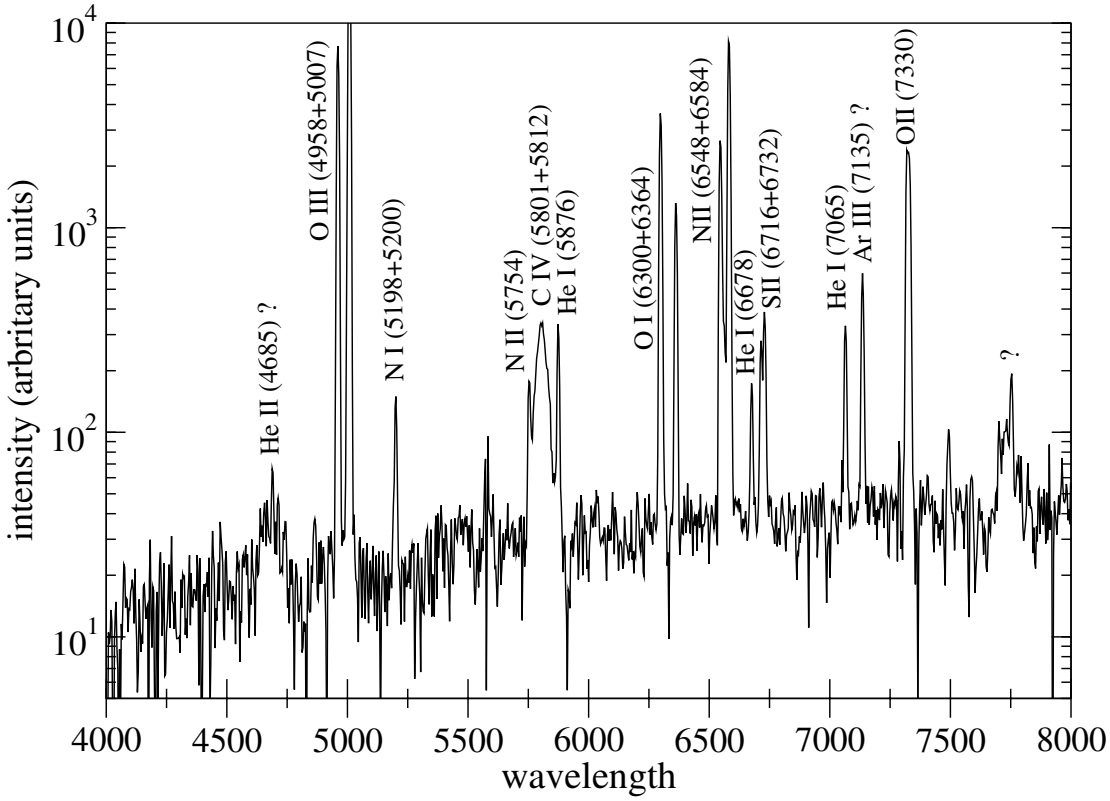
The "born-again" PNe V605 Aql (A58) and V4344 Sgr (Sakurai) give us the rare chance to follow shell formation and building of the winds. The high carbon abundance, and thus the high dust formation rate, enhances the mechanisms (Koller & Kimeswenger 2001). Thus the timescales are shortened.

Our data presented here gives a quick look on the results of the observations of V605 Aql and its old planetary nebula (PN) A58 obtained at the ESO NTT (August 2002). We also intend to include preliminary results of new data, which we will obtain in July 2003.

Remarkable changes of the spectrum relative to that obtained by Guerrero & Manchado (1996) in June 1994 were found. The previously already known carbon wind line C $IV_{5801.5+5812.1}$ (excitation 39eV) of the hot bubble inside the shell has a wide component with a FWHM of 2600 km/s (FWZI of 6100 km/s) centered at the systemic velocity (Kimeswenger 2003). All other lines are blueshifted with respect to the PN A58. This difference in blueshift implies a model with a optically thick dusty shell covering only a very small outer section (Koller & Kimeswenger estimate from ISO data $A_V \geq 10\overset{\mathrm{m}}{.}0$) expanding with about 120 km/s and a wide optically thin hot bubble. The absence of strong blue continuum straylight from clumps illuminated by a, in line of sight hidden, central source excludes the possibility of an open geometry.

Up to now, to our knowledge, no other lines from the inner wind region have been found yet. Nevertheless we like to believe in the identification of the He II_{4685} (excitation 50 eV) feature, showing the same shape and width as the C IV line. This would even increase the lower limits, estimated up to now by the carbon line, for the temperature of the inner stellar core.



References:

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