

NLTE Analysis of Central Stars of Highly Excited Planetary Nebulae

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Very hot central stars (CSPN) of highly excited planetary nebulae (PN) display directly the formation of white dwarfs. Only a few of these CSPN have been analyzed so far due to their low brightness and thus, the interpretation of their evolutionary status is hampered by statistical incompleteness. In the last decade many spectral analyses of very hot post-AGB stars by means of state-of-the-art NLTE model atmospheres have been performed (e.g. Rauch et al. 1996; Werner & Rauch 1994; Rauch & Werner 1995) and our picture of post-AGB evolution has been improved.

In order to analyze some of the fainter CSPN, we selected southern CSPN ($m_V > 16$) of highly excited PN with diameters of 18-180'' (Acker et al. 1992). Images ($H\alpha$ and $[O\ III] \lambda 5007 \text{ \AA}$) as well as medium resolution spectra had been taken in two observation campaigns in February and June 1996 at ESO with the 3.6m telescope. The targets and some preliminary results of our analysis are summarized in Tab. 1. A more precise analysis will be presented elsewhere.

Tab. 1. List of our targets. a: amorphous, A: ansae, (p)C: (perfectly) circular, H: central hole, J: jets, L: lobes, M: multiple shells, N: non-circular, WE: west-east

name	PN		CSPN			
	$d_{WE} / ''$	shape	m_V	$T_{\text{eff}} / \text{kK}$	$\log g$ (cgs)	He/H
PN G214.9+07.8	96	pCH	16.6	100	6.0	\odot
PN G231.8+04.1	250	CHM	18.0	100	6.5	\odot
PN G249.3-05.4	69	CH	18.5	— no spectrum available —		
PN G253.5+10.7	147	AEJH	16.6	— binary —		
PN G257.5+00.6	>500	a	18.0	100	5.0	$< \odot$
PN G277.1-03.8	239	LN	16.5	100	5.0	$< \odot$
PN G283.6+25.3	199	CL	17.4	100	7.0	\odot
PN G293.6+10.9	94	CL	18.0	100	7.0	\odot
PN G324.1+09.0	24	C	17.1	— no spectrum available —		

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