

**A NEW PG 1159-TYPE CENTRAL STAR DISCOVERED IN THE
ROSAT XRT ALL SKY SURVEY: NON-LTE ANALYSIS OF X-RAY
AND OPTICAL SPECTRA**

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We report on the discovery of a new PG 1159 star in the ROSAT XRT all sky survey and give results of a model atmosphere analysis. The X-ray source RX J2117.1+3412 is relatively faint (0.33 cts^{-1}) and extremely soft. Ground based optical follow-up spectroscopy (OHP, France) proves its PG 1159 nature: It belongs to the “low gravity emission” spectral subtype. Optically, it is the second brightest PG 1159 star. CCD [O III] imagery reveals that the star is surrounded by an old arc-shaped planetary nebula of faint surface brightness. The spectral analysis of the central star was performed with non-LTE line blanketed model atmospheres (Werner 1992). We find a complete agreement between the atmospheric parameters determined at optical wavelengths and in the ROSAT PSPC energy range.

A detailed paper was submitted to A&A (Motch, Werner, Pakull 1992).

Werner, K. 1992, in *Atmospheres of Early-Type Stars*, eds. U. Heber and C.S. Jeffery, Lecture Notes in Physics 401, Springer, Berlin, p. 273

T_{eff}	=	$150\,000 \pm 15\,000 \text{ K}$
$\log g$	=	$5.6 - 6.3$
C/He	=	$0.5^{+1.1}_{-0.34}$ by number
O/He	=	$0.05^{+0.15}_{-0.03}$
N/He	<	10^{-3}
$\log n_{\text{H}}$	=	$20.41 - 20.51$
E(B-V)	=	0.05 ± 0.01
M/M_{\odot}	=	$0.65^{+0.2}_{-0.1}$
$\log L/L_{\odot}$	=	3.95 ± 0.5
d [kpc]	=	$1.4^{+0.7}_{-0.5}$
z [pc]	=	250^{+120}_{-80}
V	=	13.2^m

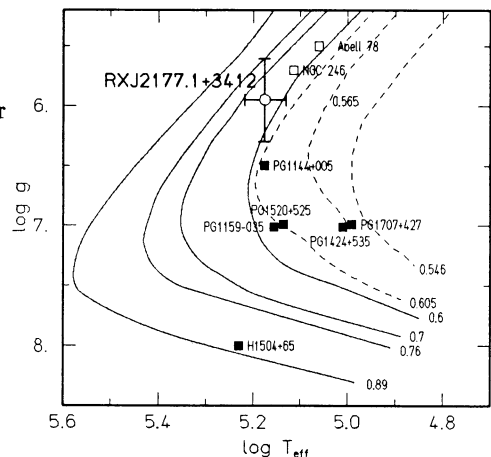


Fig. 1: Position of the new PG 1159- and other H-deficient stars in the $\log g$ - $\log T_{\text{eff}}$ diagram. Open squares: central stars, solid lines: He burners, dashed: H burners.