

KINEMATIC STRUCTURE AND CHEMICAL COMPOSITION OF THE DOUBLE SHELL PN  
NGC 3242

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ABSTRACT. Kinematic study of the multiple shell PN NGC 3242 was carried out by obtaining H $\alpha$  and [O III] line profiles at 9 positions of the nebula using a high-resolution ( $R \approx 50,000$ ) Fabry-Pérot spectrometer. The positions cover both the bright inner shell and the faint outer shell. It is shown here that the two apparently continuous shells are kinematically separate: the faint outer shell was ejected  $\sim 5000$  years earlier and has less expansion velocity than the bright inner shell.

For the study of chemical compositions, low resolution ( $\delta\lambda \approx 6 \text{ \AA}$ ) spectra were obtained in the wavelength region 3600  $\text{\AA}$  to 8500  $\text{\AA}$  using the ESO 1.5-m telescope. The chemical abundances for the bright inner shell seem higher than for the faint outer shell. The estimated mass of the outer shell is considerably larger than that of the inner shell.