
The HST/WFPC2 [O III] Images of the Planetary Nebula NGC 6543 and its implication on the electron temperatures

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The HST/WFPC2 narrow band filter images are useful for a study of morphology of planetary nebulae (PNe). These images also can supply us PN's temperature radially outward variation as well as its geometrical orientation, when certain image pairs are studied together with spectral lines and their plasma diagnostics. We have chosen a sample of WFPC2 [OIII] 5007 and [OIII] 4363 images of NGC 6543 for its diagnostic and temperature fluctuation studies. These WFPC2 [OIII] archive images have been reduced using the information of the interstellar extinction and electron number densities suggested by Hamilton echelle spectrum secured at Lick Observatory. The electron temperature maps are obtained, and these results are compared with other previous kinematical studies. The obtained detailed temperature information will improve our understanding of e . In spite of its geometrical complexity, the radially outward temperature variation appears to be not changing radically. The other strategically important diagnostic line HST/WFPC2 [SII] 6717/30 images are not available for NGC 6543 or our selected objects. Until more data are available from the Archival HST images, we postpone our conclusion on the shaping or evolutionary scenario of NGC 6543.