

75°). The geometrical and kinematical structure observed in the lines of various excitation degrees indicates a pronounced ionization stratification and allows to derive the dependence of the expansion velocities on the radial distance inside the nebulae. No noticeable extinction within the nebula has been found. The bipolar structure of NGC 7026 resembles that of some other planetary nebulae and might be caused by an equatorial concentration of the circumstellar material lost during the late phase by the progenitor asymptotic giant-branch star. Using distances and interstellar extinctions of 48 stars within 1° of the planetary, we determined a distance of 2180 ($\approx \pm 700$) pc for the nebula.

IONIC ABUNDANCES OF S III, O IV AND NeV FROM INFRARED OBSERVATIONS OF FINE STRUCTURE LINES IN EIGHT PLANETARY NEBULAE

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The Kuiper Airborne Observatory has been used to make measurements of the infrared forbidden lines of (SIII) 18.72 μm , (NeV) 24.28 μm and (OIV) 25.87 μm in eight planetary nebulae. In all cases the beam was larger than the emitting region. The observed line fluxes are used to determine ionic abundances under the assumption of constant density throughout the relevant volume as determined by optical observations. In some cases the NeV near UV lines are used in conjunction with the infrared measurements to determine the electron temperature in the NeV emission regions. The (SIII) 33.47 μm line can be used with the (SIII) 18.72 μm line flux to characterize the clumping within the nebulae.