structure, probably due to kinematical effects in the core region. The lobes are dominated by strong, rather symmetrical, narrow ($\approx$ 20 km s^{-1} FWHM) emission lines. However, Hα presents the superposition of a weaker second component, which is considerably broader (total width $\approx$ 170 km s^{-1}) and red-shifted relative to the narrow component. We propose that this broad component represents emission originating in the central core and being scattered by dust particles in the ionized gas flowing radially outwards through the lobes. Thus, the observed velocity difference of $\approx$ 20 km s^{-1} between both line components directly measures the outflow velocity of the gas-dust mixture. Using this result and the observed difference in the radial velocity of the lobes, we derive an inclination angle of the polar axis with respect to the line-of-sight of $\approx 60^{o}$ (M2-9) and $\approx 85^{o}$ (M1-91). Assuming that the mass flow fills up the volume of a cone, we deduce an aperture angle $\approx 40^{o}$ for both objects from the width of the narrow lines, comparable with the geometrical appearance of the lobe structure. Our data do not support a rotation of M2-9 around its polar axis.

HIGH-RESOLUTION SPECTROSCOPY OF NGC 7026

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Up to now, the geometrical and kinematical structure of the well-known bizarre nebula NGC 7026 has not been discussed in the literature. Using the large vertical Coude spectrograph of the 2.2 m telescope on Calar Alto, Spain, we obtained long-slit spectra covering the nebula at 5 different position angles, in the ranges from 4730 to 5050 Å and from 6470 to 6770 Å. The high spectral (up to 6 km s^{-1} FWHM) and spatial resolution (seeing-limited $\lesssim$ 2") reveals a rather complex structure in the lines of Hα, Hβ, [OIII] λλ 4959, 5007, HeI 6678, HeII 6560, [NII] λλ 6548, 6583, and [SII] λλ 6716, 6731. Generally, the lines exhibit a double "bowed" appearance; both components consist of several condensations of small angular extent. The velocity field suggests a non-spherical expansion of an elongated thin shell structure. The observations can be explained by an ovoidal or "bipolar" configuration of the nebula consisting of an expanding equatorial toroid (V_{exp} = 54 km s^{-1} in [SII]) and two blobs moving at higher velocities outwards along the polar axis (inclination angle with respect to the line-of-sight:

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75^{o}). 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^{o} 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) 18.72μm, (NeV) 24.28μm and (OIV) 25.87μm 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) 33.47μm line can be used with the (SIII) 18.72μm line flux to characterize the clumping within the nebulae.

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