

## ON THE DISTANCES TO GALACTIC PLANETARY NEBULAE

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**ABSTRACT.** The distances are determined for 142 Galactic planetary nebulae, using two methods. Method A is based on the stellar mass and surface gravity, while Method B makes use of the stellar luminosity. These properties of the central star are inferred from the modeling of the distance-independent parameters (Zhang and Kwok 1992). The results from the two methods used in this paper are consistent with each other. A distance of 10.8 kpc is found for K648 using Method A of this work. This is in excellent agreement with the distance of 10 kpc of its hosting globular cluster M15. The distances obtained in this work are in good agreement with the distances of Mendez et al. (1992), based on the recently developed non-LTE model atmospheres including spherical extension and stellar winds. The agreement of our distances with the individually determined distances of Gathier et al. (1986a, 1986b), using the extinction-distance method and the HI 21 cm absorption method, is worse than that found between ours and Mendez et al.'s. The distances obtained by Gathier et al. are likely often to be underestimated. The various statistical distance scales, except for Cudworth's (1974) distance scale, show no agreement with the distances determined in this work.

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### References

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