

CCD IMAGES OF THREE PLANETARY NEBULAE WITH BINARY NUCLEI

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ABSTRACT. A 14, H 3-75 and K 1-2, three planetary nebulae with binary nuclei, were imaged with narrow-band [N II], H α , [O III] and He II filters by using the TI CCD chip on the 0.9-m telescope at CTIO. The purpose of doing the observing was to see if planetaries with known binary nuclei exhibit particularly peculiar morphologies. In some cases (e.g., NGC 1514, NGC 3132), planetaries with binary nuclei have morphologies that are exhibited by a number of nebulae. In other cases (e.g., He 2-36, the nebulae with binary central stars have unique morphologies.

A 14 shows highly symmetric, complicated structures that are unique among those found in a large survey of southern hemisphere planetary nebulae. H 3-75 is a round, double-shell nebula with a marked asymmetry on one side of the inner shell. K 1-2 shows interesting and unique enhancements in the [N II] images, including one small "jet-like" structure. The unique structures exhibited by these three nebulae make them candidates for nebulae whose morphologies may have been influenced by the presence of a binary central star.