

H α MORPHOLOGICAL CLASSIFICATION OF PLANETARY NEBULAE

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Using the data from the catalogue of PNe images of Schwarz et al. (1992), we have classified 255 nebulae into 5 morphological groups. The images were taken through a filter centred on the H α line and included the [NII]6583 line. Most of the observations were made with the 3.5m ESO NTT during commissioning time.

The main groups are called: stellar (st), irregular (i), elliptical (e), bipolar (b), and point-symmetric (p). The ellipticals are subdivided into: simple (e), multiple event (em), and inner structure (es) types. The bipolars into: simple (b), and multiple event (bm). The point-symmetric objects into: simple (p), and multiple events (p-m).

Preliminary simple statistical tests show that there are significant differences between the physical properties of the various groups. When comparing the HR diagram of the whole sample, with that of sub-groups, especially the bipolar nebulae show markedly different behaviour. Their mass and luminosity distributions deviate strongly from those of the whole sample, as well as from those of other sub-groups. Details can be found in the poster of Stanghellini et al., presented here.

References

Schwarz, H.E., Corradi, R.L.M., and Melnick, J. 1992 AASS, in the press

