

# JD1-The Planetary Nebulae and the Dynamics of NGC 1399

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Dynamical models of galaxies are limited by the paucity of kinematic data at large radii. Beyond the feasible limit of integrated-light spectroscopy, we rely on discrete tracers such as planetary nebulae and globular clusters. We describe a large ( $\sim 200$ ) sample of planetary nebula (PN) velocities in the outer regions of the cD elliptical NGC 1399. These data were obtained with a counter-dispersed slitless-spectroscopy technique which traces the kinematics to about 60 kpc (McNeil *et al.*, 2009).

The PNe complete the velocity and velocity dispersion profiles at these previously unattainable radii and trace the matter distribution typical of a central cluster galaxy. The results show a heterogenous population in the Fornax cluster core composed of subcomponents from NGC 1399, NGC 1404 and a mysterious low-velocity population. The kinematics are described by a low amplitude of rotation and a more gently rising velocity dispersion profile than previously thought (Arnaboldi *et al.*, 1994).

We compared these observations to spherical Jeans models for an anisotropy range of  $-1 < \beta < 1$ . The PN kinematics are consistent with a spherical model only if the mass is at the lower limit of the range permitted by X-rays.

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## References

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