

KINEMATICAL STUDIES OF PLANETARY NEBULAE USING TAURUS+CCD

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TAURUS, the imaging Fabry-Perot spectrometer, using a CCD detector, has been commissioned on the 4.2m William Herschel Telescope, creating a powerful tool for studying the kinematics of emission line objects such as planetary nebulae. The mode of operation when using a CCD is different to that with IPCS (where rapid scanning is employed), so that account has to be taken of changes in atmospheric transmission between CCD readouts. The large dynamic range of the CCD (>200) allows the simultaneous study of the line profiles from the bright and faint parts of the nebulae.

We have kinematic data on five planetary nebulae with very different properties: NGC 2440 (high temperature central star); NGC 3242 (multiple shell); Abell 30 (hydrogen deficient); NGC 1535 (bipolar); and IC 3568 (spherically symmetric). Observations in lines of different excitation: HeII 4686A, [OIII] 5007A, [NII] 6583A and [OI] 6300A, have been obtained in order to model the kinematics of the nebulae.

As an example we show results for NGC 2440 in the [OIII] 5007A line.