Planetary nebulae discovered and confirmed by amateur astronomers

Unreferenced objects from the sky are regularly discovered by amateur astronomers from their own images or from professional images, like the DSH list, thanks to the initiative of Agnès Acker and Pascal Le Dû (1)(5), a list of planetary nebulae candidates is maintained in France and regularly published in the SAF magazine and then in VizieR. Recently, amateur astronomers specializing in spectroscopy have managed to observe the spectra of some of those candidates to confirm their nature.

Planetary nebulae detections

The detections are mainly made from instruments of small diameters with low F/D ratio, using efficient cameras with large, sensitive detectors, equipped with H-alpha, (OIII) and (SII) narrow band filters (1).

Discovery from amateur images

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Spectroscopics confirmations

- The instrumental response of each spectrum is determined using an observation made on a naturally non-reddened type A or B star (e.g. B6 + v) – τ ~ 0) that is located near the target. Calibration is performed with Argon-Neon lamps.

Publication and dissemination of works

The articles published in the SAF magazine report on well-documented planetary nebulae candidates (5)(7)(11)(16). The techniques used by the discoverers are described and an object is given to avoid confusing PN candidates with other objects that may resemble them.

Some observed candidates

- The spectra of some candidates were acquired with modest instruments from 0.09 m to 0.2 m diameter. Specific missions have allowed amateur teams like the PNST to use larger telescopes from 0.5 m (AstroQueyras) to 1 m (Caimen) diameter. These spectrographs are used at low resolution at F/D ~ 5.

Context

Like P. Le Dû and O. Garde in ... but also in the medium infrared (WISE ...) (2)(3)(4).

Instruments and teams

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