

## THE PROBABLE LOW EXCITATION PLANETARY NEBULA M3-44

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**ABSTRACT:** The H $\alpha$  emission object M3-44 was observed photographically and spectroscopically. Photographs were obtained in the visual region, in [O III]  $\lambda$ 5007, and in H $\alpha$ . The visual image is faint and has almost stellar aspect; the object is not visible in [O III], but the H $\alpha$  image is very intense, with a diameter of the order of 5".

A spectrum was obtained in the region  $\lambda\lambda$ 4300-7000 Å. The continuum is practically 0 at  $\lambda$ 4300, reaching a value of the order of  $1.5 \times 10^{-15}$  at  $\lambda$ 7000; this can be attributed to reddening. The only lines visible in this part of the spectrum are the hydrogen lines, the [N II] lines  $\lambda\lambda$ 6548 and 6584 (with  $\lambda$ 5755 almost lost in the noise), and the [S II] lines  $\lambda\lambda$ 6717 and 6731. The Balmer decrement is very steep, implying a high reddening (in agreement with the aspect of the continuum).

The characteristics of the observed spectrum are very similar to those of He 2-138 and He 2-151, two very low excitation PN. This preliminary classification will be confirmed by the observations of other portions of the visual spectrum ( $\lambda\lambda$ 3400 to 4300 and 7000 to 8500 Å), to study the presence and intensity of other relevant lines.