A COMPLETE SPECTROSCOPIC MAP AND NARROW-BAND IMAGING OF SMALL PAHS IN THE RED RECTANGLE NEBULA

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Electronic flurescence spectra (peak $\sim$ 375 nm) in reflection nebulae have helped to identify the largest molecules that have been detected so far in the interstellar medium: 3-4 ringed polycyclic aromatic hydrocarbons (PAHs). This detection of blue luminescence (BL) by small, neutral PAHs was first made in the peculiar, proto-planetary nebula, the Red Rectangle. This first detection and subsequent observations in other reflection nebulae reveal spatial variations in the BL spectrum indicating a change in the size distribution/ionisation state of the emitters. Data from an ongoing, complete spectroscopic survey and narrow-band imaging of the Red Rectangle will be presented. This study sheds light on the spatial distribution, ionization state and the size distributions of the small PAHs in this nebula.