INTEGRAL FIELD SPECTROSCOPY OF THE RED RECTANGLE: UNRAVELING THE CARRIER OF THE RRBs IN 2D

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Following the initial detection of the C_2 Swan origin bands in the Red Rectangle, an unusual biconical protoplanetary nebula, a concerted effort has been undertaken in understanding this key astrophysical molecule from both the theoretical and experimental standpoint. In this talk we will present integral field observations on the Red Rectangle paying particular attention to the Swan Bands and the 5800Å Red Rectangle band (RRB), an unassigned molecular emission feature. Integral field astronomy allows us to spectrally map the nebula, tracing the RRBs and C_2, and how they relate to one another across the object. By analysis of the C_2 Swan bands of the RR, and assuming that the RRBs arise from photoexcitation and emission, we relate the abundance of C_2 to the product of the oscillator strength and the column density of the RRB carrier.