

Figure 1. The upper left panel shows an unrestored FOC UV image of the HH 47A bow shock. The upper right and lower left panels show the restored images using the Wiener and Lucy-Richardson algorithms, respectively. The origin corresponds to $\alpha(2000) = 8^h 25^m 50^s.2$ and $\delta(2000) = -50^\circ 59' 51''.13$, the center position of the GHR aperture which is also shown in the upper left panel. In the lower right panel, positions of the optical H α , [SII] and [OII], NIR H $_2$ 1-0S(1) and UV H $_2$ emission peaks are marked with crosses; the UV H $_2$ emission center is also marked with a cross. The size of the crosses correspond to the position errors. Corrections due to proper motions of HH47A have not been applied. The expected shift for the optical positions is only $\sim 0''.3$ to the NE, which is comparable to the errors.

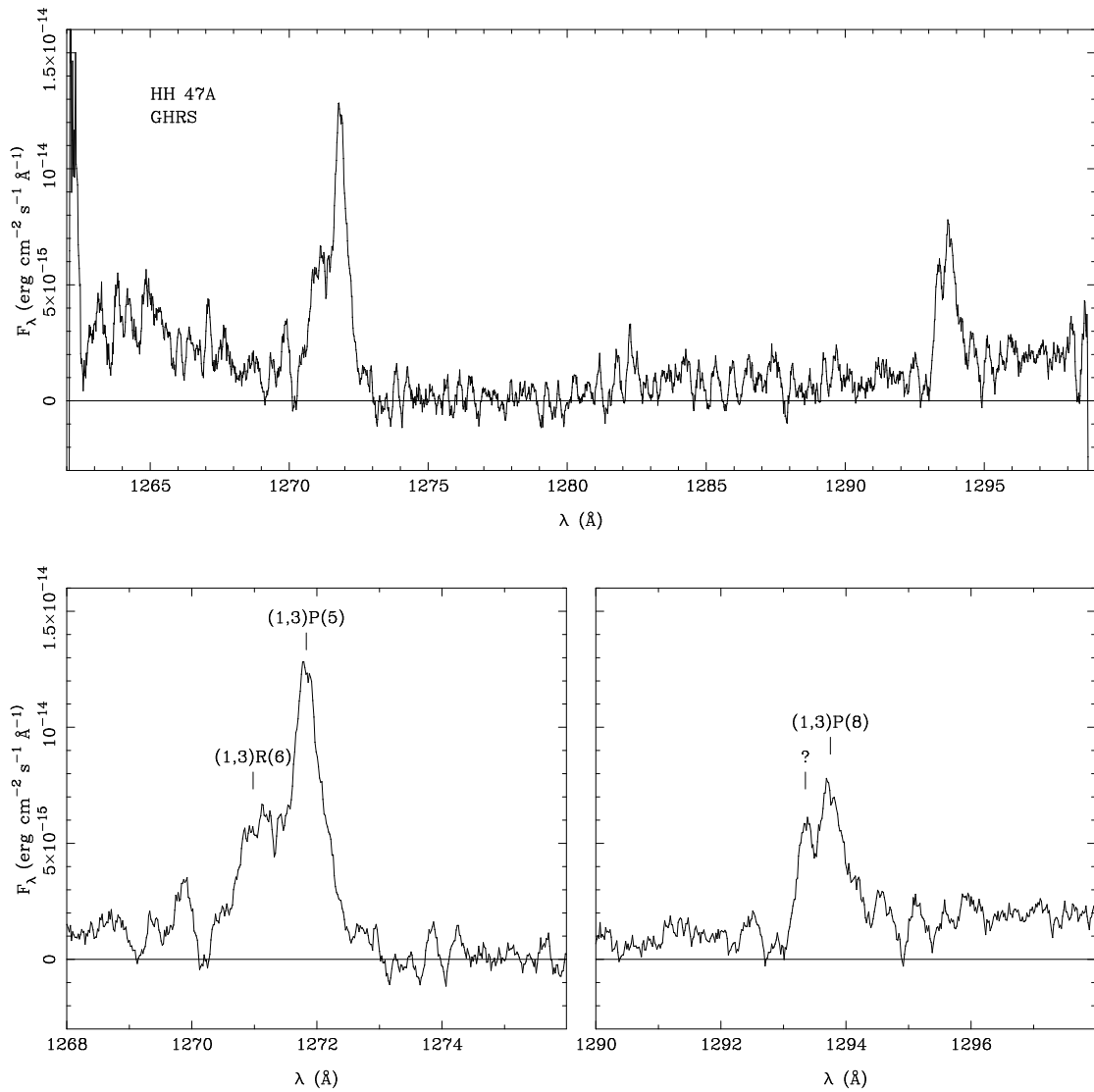


Figure 2. GHR spectra of HH 47A, showing the three identified H_2 lines, the unknown feature indicated with a question mark, and the pseudo-continuum observed at the smallest and largest wavelengths.

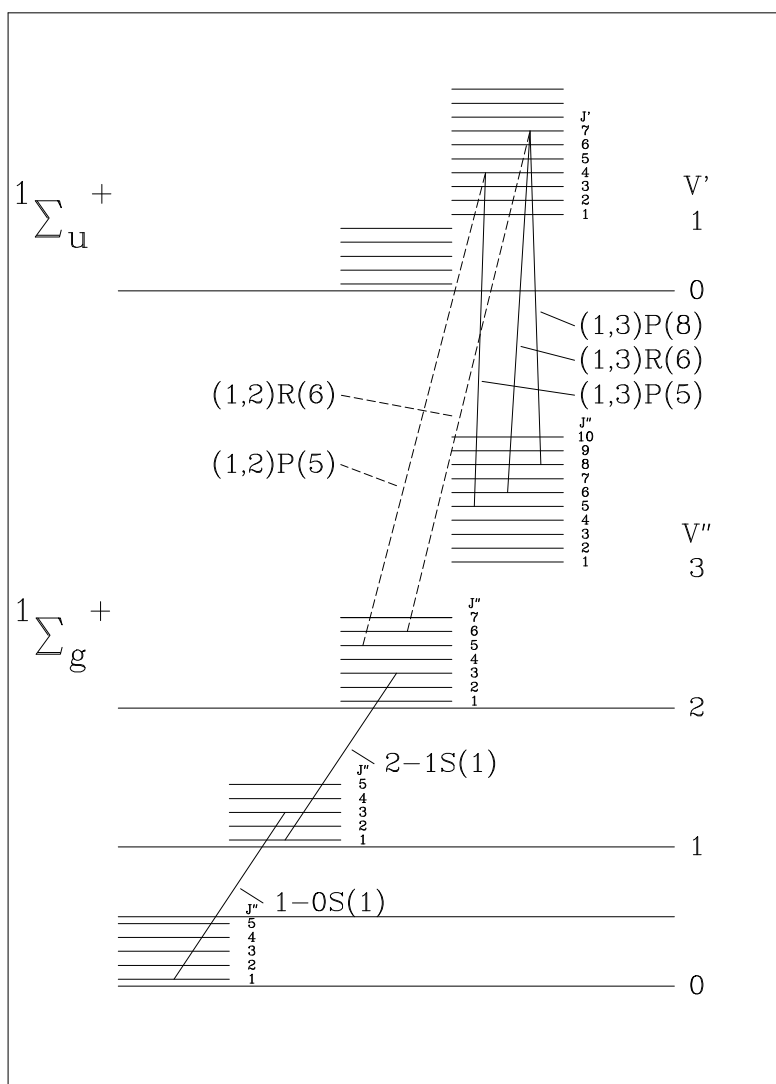


Figure 3. A schematic diagram of the H₂ energy states, showing the pumping transitions (dashed lines) responsible for Ly α fluorescence observed in HH47A. The energy level separations are not drawn to scale. The de-excitation transition responsible for the three identified UV H₂ lines, as well as the transitions of the two main near-infrared transition lines are shown by solid lines.