ENHANCED ACETYLENE EMISSION NEAR THE NORTH POLE OF JUPITER

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The presentation by Drossart *et al.* is largely contained in a paper which has been submitted to *Icarus*. The abstract of that paper is reproduced here.

We report observations of acetylene emission lines near 13.3 μm on Jupiter recorded at the NASA Infrared Telescope Facility in July, 1984. A strong enhancement in the intensity of the R_7 line of the ν_5 band was recorded within a well-localized region coincident with the southern extension of the footprint of the Io magnetic lines (Dessler, 1983) and with previous observations of localized enhanced emission of CH_4 lines (Caldwell et al., *1980,* Icarus *44, 667-675). The line intensity was fairly constant outside this 'bright spot.' Moreover, weak lines of the hot bands $2\nu_5 - \nu_5$, and $(\nu_4 + \nu_5) - \nu_5$ were observed within the bright spot. From the field of view and the precision of the pointing, the zone of activity of the bright spot is found to be: latitude = 59 ± 10 deg and longitude = 178 ± 10 deg (System III, 1965). The location of the spot was found to be constant over a 3 day period. Two interpretations are proposed to explain these observations by (1) a variation of the C_2H_2 abundance and (2) an alteration of the thermal profile in the bright spot. Either may result from precipitation of charged particles near and below the Jovian homopause.*