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[IS5] **Three Microns Spectroscopy of Hydrocarbons, HCN, and Haze in Titan's Atmosphere.**

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Using the United Kingdom Infrared Telescope and the Keck telescope we have obtained moderate and high resolution spectra in the 2.9-3.5 $\mu$ m interval. The spectra display a range of emission and absorption features from molecules, which our analysis shows are located at a wide range of altitudes in Titan's atmosphere. HCN, whose strong line emission lines arise in the upper stratosphere and mesosphere, has a mixing ratio in agreement with published model atmospheres, whereas C<sub>2</sub>H<sub>2</sub>, whose lines are in absorption is considerably less abundant at these altitudes than previously thought. Cloud decks at altitudes of  $\sim$ 10 mbar and  $\sim$ 100 mbar, and stratospheric haze are required to explain the wavelength dependent continuum emission in this wavelength interval, as well as the depths of the detected absorption bands of CH<sub>4</sub> and CH<sub>3</sub>D.

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[IS6] **Multiple Type II Events and their Flares and CMEs**

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We have examined the physical characteristics of 38 multiple type II solar radio bursts observed by Culgoora radio spectrograph during 1997-2003. These events were selected on the basis of certain criteria: (i) more than one report of type IIs within 30 minutes interval, (ii) both fundamental and harmonic should have been identified and reported for each of them. The X-ray flares and CMEs corresponding to these events are also identified using GOES and SOHO data. From the analysis of these events, the following physical characteristics are observed: (i) in many cases, two type IIs with fundamental and harmonic are observed, and the time interval between the two type IIs is within 15 min, (ii) more than 90% of these events are associated with both X-ray flares and CMEs, (iii) nearly 75% of the flares are greater than M1 class and nearly equal number of CMEs have width more than 200 degree or they are halo CMEs.