

oral contribution

Spectroscopic Observations of comet 67P/Churyumov-Gerasimenko during its 1996 apparition

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Abstract

We have observed comet 67P/Churyumov-Gerasimenko on two dates: 1995 Nov 24 and 1996 Feb 17, as part of our survey of cometary production rates and classification. Our long slit spectra extend from 5200Å to 10,000Å at a spectral resolution of about 15Å. The spatial extent of our long slit is 180 arc-sec. On the first of the above dates the molecular emissions were rather weak and so have a higher uncertainty of about -50%. The second date showed clearly measurable emissions, with an estimated uncertainty of about 25%. This preliminary analysis shows that the comet appears to be deficient in C₂.

Preliminary reductions have yielded the following results;

1995 Nov 24; R=1.64 AU; Delta= 1.45 AU; phase angle = 42.7 deg

Species	Prod rate (10 ²⁵ mol/sec)
C ₂	1.4
NH ₂	0.6
H ₂ O (from OI)	400
CN	0.6

1996 Feb 17; R=1.35 AU; Delta= 1.22 AU; phase angle = 45 deg

Species	Prod rate (10 ²⁵ mol/sec)
C ₂	0.9
NH ₂	1.3
H ₂ O (from OI)	1160
CN	2.4

A more careful analysis will be presented at the meeting.