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COMET 17P/HOLMES

C. Salyk and G. A. Blake, California Institute of Technology; M. J. Mumma, B. P. Bonev, M. A. DiSanti, and G. L. Villanueva, Goddard Space Flight Center; Y. Radeva, University of Maryland; K. Magee-Sauer, Rowan University; and E. L. Gibb, University of Missouri, St. Louis, report that they observed comet 17P/Holmes on Oct. 29 and 30 UT (r = 2.46 AU) using NIRSPEC at the W. M. Keck Observatory. On Oct. 29, H_2O (eleven lines, 2.9-μm hot bands), C_2H_6 (eight Q-branches, 3.35-μm ν_7 band), C_2H_2 (four lines, 3.0-μm ν_3 band), HCN (nine lines, 3.0-μm ν_3 band), and CH_3OH (3.52-μm P-, Q-, R-branches, ν_3 band) were detected. Rotational temperatures for H_2O, HCN, and C_2H_6 were $\sim$ 60 K. All lines were strongly peaked on the nucleus region, as expected for parent volatiles. Preliminary production rates ($\times\ 10^{27}$ molecules/s) are: H_2O, 275; C_2H_6, 5.9; C_2H_2, 1.5; HCN, 1.5; and CH_3OH, 11. The abundance ratios are: $H_2O : C_2H_6 : C_2H_2 :$ HCN $: CH_3OH = 100 : 2.2 : 0.54 : 0.54 : 4.0$. Comet 17P seems to be enriched in organics, like C/2001 A2. On Oct. 30, abundance ratios for H_2O, C_2H_2, and HCN were similar to those on Oct. 29. The R0 and P2 lines of CO (4.7-μm 1-0 band) were detected; if $T_{\rm rot}$ = 60 K, the formal CO abundance is 14 ($\pm$ 4) relative to water (100).

COMETS C/2007 M5–M9 (SOHO)

Further to *IAUC* 8889, additional near-sun comets have been found on SOHO website images — C/2007 M5 and C/2007 M8 being non-group, and the rest being Kreutz sungrazers. C/2007 M5, which has the smallest perihelion distance on record (q = 0.0011 AU), entered the C2 field-of-view at peak brightness (mag $\sim$ 6.5) and faded rapidly, disappearing from view before it reached the occulting disk. C/2007 M6 was stellar in appearance (mag $\sim$ 7) in C3 images, but diffuse with no tail in C2 images. C/2007 M7 and C/2007 M9 were faint (mag $\sim$ 8) and diffuse. C/2007 M8 was very small, circular (nearly stellar in appearance), and faint (mag $\sim$ 7.5–8), appearing to be marginally diffuse.

Comet	2007 UT	α_{2000}	δ_{2000}	Inst.	F	*MPEC*
C/2007 M5	June 25.229	$6^h06^m.0$	$+22°37'$	C2	BZ	2007-U15
C/2007 M6	25.346	6 05.4	+21 38	C3/2	BZ	2007-U15
C/2007 M7	25.413	6 07.9	+21 39	C2	BZ	2007-U16
C/2007 M8	25.564	6 17.8	+22 32	C2	HS	2007-U16
C/2007 M9	27.604	6 16.5	+21 44	C2	BZ	2007-U16

2007 November 6 *Daniel W. E. Green*