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MPEC 2021-V167 : COMET C/2021 V1 (Rankin)

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M.P.E.C. 2021-V167

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COMET C/2021 V1 (Rankin)

D. Rankin reports the discovery of a comet in survey images taken on Nov. 5 UT by Mt. Lemmon Survey (G96), noting a condensed 3" coma. Prediscovery positions were reported back to Oct. 2021. Additional reports of cometary features are as follows:

OC	Date	Reporter	Coma	Tail	PA	Exposures
H06	2021-11-06	H. Sato	8"			24x60s

Observations:

CK21V010	C2021 10 02.21302023	42 39.70 +45 38 46.9	20.63GVEV167G96
CK21V010	C2021 10 02.21831223	42 39.46 +45 38 41.9	20.83GVEV167G96
CK21V010	C2021 10 02.22362023	42 39.27 +45 38 36.2	21.20GVEV167G96
CK21V010	C2021 10 20.36383023	31 33.489+39 50 24.32	21.44GVEV167F51
CK21V010	C2021 10 21.32557923	31 07.951+39 29 32.96	21.31GVEV167F52
CK21V010	C2021 10 21.33585223	31 07.677+39 29 19.99	20.53GVEV167F52
CK21V010	C2021 10 21.35627723	31 07.153+39 28 53.39	20.93GVEV167F52
CK21V010	C2021 10 24.20419923	29 58.31 +38 26 04.1	20.97GVEV167G96
CK21V010	C2021 10 24.20955923	29 58.14 +38 25 57.3	20.78GVEV167G96
CK21V010	C2021 10 24.21482723	29 58.00 +38 25 50.3	20.42GVEV167G96
CK21V010	C2021 10 24.22009123	29 57.89 +38 25 44.4	21.00GVEV167G96
CK21V010	C2021 10 29.25963923	28 21.584+36 31 28.83	21.23GVEV167F51
CK21V010	C2021 10 29.27103523	28 21.371+36 31 13.28	21.58GVEV167F51
CK21V010	C2021 10 29.28236323	28 21.183+36 30 57.49	20.60GVEV167F51
CK21V010	C2021 10 29.29372323	28 20.989+36 30 41.68	20.33GVEV167F51
CK21V010*	C2021 11 05.16078123	27 04.37 +33 50 54.9	20.97GVEV167G96
CK21V010	C2021 11 05.16600123	27 04.36 +33 50 47.5	20.69GVEV167G96
CK21V010	C2021 11 05.17122223	27 04.29 +33 50 39.8	20.70GVEV167G96
CK21V010	KC2021 11 05.20641223	27 04.08 +33 49 50.6	20.24GVEV167I52
CK21V010	KC2021 11 05.21094923	27 03.99 +33 49 44.4	20.56GVEV167I52
CK21V010	KC2021 11 05.21562623	27 03.95 +33 49 37.5	20.61GVEV167I52
CK21V010	KC2021 11 05.21792923	27 03.95 +33 49 34.0	20.48GVEV167I52
CK21V010	KC2021 11 05.74318323	27 00.94 +33 37 15.1	18.2 VZEV167C95
CK21V010	KC2021 11 05.77401023	27 00.80 +33 36 31.4	19.8 VZEV167C95
CK21V010	KC2021 11 05.80647623	27 00.53 +33 35 45.3	20.8 VZEV167C95
CK21V010	KC2021 11 06.09506323	26 58.96 +33 28 59.6	20.7 GXEV167858
CK21V010	KC2021 11 06.11201823	26 58.82 +33 28 36.3	20.7 GXEV167858
CK21V010	C2021 11 06.15293 23	26 58.65 +33 27 38.4	VEV167H06
CK21V010	C2021 11 06.15990 23	26 58.57 +33 27 28.4	VEV167H06
CK21V010	C2021 11 06.16687 23	26 58.52 +33 27 18.7	20.3 GVEV167H06
CK21V010	KC2021 11 06.75713 23	26 55.82 +33 13 26.4	19.7 VZEV167J57
CK21V010	KC2021 11 06.77301 23	26 55.75 +33 13 05.5	21.1 VZEV167J57
CK21V010	KC2021 11 06.79473 23	26 55.63 +33 12 33.6	ZEV167J57
CK21V010	KC2021 11 06.90501 23	26 55.04 +33 09 58.3	20.2 GXEV167G02
CK21V010	KC2021 11 06.92006 23	26 54.98 +33 09 37.3	XEV167G02
CK21V010	hC2021 11 07.77338623	26 52.18 +32 49 35.6	20.0 GVEV167L01
CK21V010	hC2021 11 07.77533623	26 52.07 +32 49 33.5	20.0 GVEV167L01
CK21V010	hC2021 11 07.77806823	26 52.10 +32 49 29.0	20.6 GVEV167L01
CK21V010	hC2021 11 07.78043123	26 52.03 +32 49 26.3	20.7 GVEV167L01
CK21V010	hC2021 11 07.78279023	26 52.05 +32 49 22.9	20.6 GVEV167L01

Observer details:
858 Tebbutt Observatory, Edgewood. Observer F. B. Zoltowski. 0.51-m Schmidt-Cassegrain + CCD.

C95 SATINO Remote Observatory, Haute Provence. Observer J. Jahn. 0.60-m f/3.2 Newtonian reflector + CCD.
 F51 Pan-STARRS 1, Haleakala. Observers J. Bulger, K. Chambers, T. Lowe, A. Schultz, I. Smith. Measurers S. Chastel, M. Huber, Y. Ramanjooloo, R. Wainscoat, R. Weryk. 1.8-m Ritchey-Chretien + CCD.
 F52 Pan-STARRS 2, Haleakala. Observers J. Bulger, K. Chambers, T. Dukes, T. Lowe, A. Schultz, I. Smith. Measurers S. Chastel, M. Huber, Y. Ramanjooloo, R. Wainscoat, R. Weryk. 1.8-m Ritchey-Chretien + CCD.
 G02 KYSUCE Observatory, Kysucke Nove Mesto. Observers M. Urbanik, S. Urbanik. Measurer M. Urbanik. 0.40-m f/4.5 Corrected Dall-Kirkham + CCD.
 G96 Mt. Lemmon Survey. Observers D. C. Fuls, H. Groeller, D. Rankin. Measurers E. J. Christensen, G. A. Farneth, D. C. Fuls, A. R. Gibbs, A. D. Grauer, H. Groeller, R. A. Kowalski, S. M. Larson, G. J. Leonard, T. A. Pruyne, D. Rankin, R. L. Seaman, F. C. Shelly, K. W. Wierzbos. 1.5-m reflector + 10K CCD.
 H06 iTelescope Observatory, Mayhill. Observer H. Sato. 0.43-m f/6.8 astrograph + CCD + f/4.5 focal reducer.
 I52 Steward Observatory, Mt. Lemmon Station. Observer R. A. Kowalski. Measurers E. J. Christensen, G. A. Farneth, D. C. Fuls, A. R. Gibbs, A. D. Grauer, H. Groeller, R. A. Kowalski, S. M. Larson, G. J. Leonard, D. Rankin, R. L. Seaman, F. C. Shelly, K. W. Wierzbos.
 J57 Centro Astronomico Aito Turia, Valencia. Observer A. Fornas. Measurers G. Fornas, A. Fornas, E. Arce, V. Mas. 0.11-m f/5.0 refractor + CCD.
 L01 Visnjan Observatory, Tican. Observer K. Korlevic. 1.0-m f/2.9 reflector + CCD.

Orbital elements:

C/2021 V1 (Rankin)
 Epoch 2022 Apr. 11.0 TT = JDT 2459680.5
 T 2022 Apr. 30.39609 TT

q	3.0132977	(2000.0)	P	Rudenko
				Q
z	+0.0015244	Peri. 195.11478	+0.81662907	-0.37352427
	+/-0.0000871	Node 207.65284	+0.57683849	+0.50264876
e	0.9954066	Incl. 71.44817	-0.01934714	-0.77963058

 From 40 observations 2021 Oct. 2-Nov. 7, mean residual 0".4.

C/2021 V1 (Rankin)
 Epoch 2022 Jan. 21.0 TT = JDT 2459600.5
 T 2022 Apr. 30.38335 TT

q	3.0133192	(2000.0)	P	Rudenko
				Q
z	+0.0014934	Peri. 195.11161	+0.81663849	-0.37351773
	+/-0.0000871	Node 207.65294	+0.57682711	+0.50273633
e	0.9955000	Incl. 71.44298	-0.01928867	-0.77957725

 From 40 observations 2021 Oct. 2-Nov. 7, mean residual 0".4.

Ephemeris:

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	m1	m2
2021	10 09	23 37 54.7	+43 39 56	2.7940	3.6044	138.6	10.6	20.8	
...									
2021	10 24	23 30 02.9	+38 30 38	2.7232	3.5286	138.3	10.8	20.7	
...									
2021	11 01	23 27 43.2	+35 28 07	2.7145	3.4896	135.2	11.6	20.6	
...									
2021	11 07	23 26 54.8	+33 07 47	2.7212	3.4611	131.8	12.3	20.6	
2021	11 08	23 26 51.5	+32 44 19	2.7234	3.4565	131.1	12.5	20.6	
2021	11 09	23 26 49.5	+32 20 51	2.7259	3.4518	130.4	12.6	20.6	
...									
2021	11 15	23 27 06.1	+30 00 55	2.7470	3.4242	126.1	13.5	20.5	
...									
2021	11 23	23 28 40.6	+26 59 17	2.7905	3.3885	119.6	14.7	20.5	
...									
2021	12 08	23 35 01.5	+21 46 51	2.9122	3.3250	106.2	16.5	20.5	

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