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## MPEC 2015-L47 : 2015 LF21

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M.P.E.C. 2015-L47

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2015 LF21

Observations:

K15L21F*	C2015 06	13.30175	18 26 02.57	-00 56 37.9	18.0	VqEL047G96
K15L21F	C2015 06	13.30533	18 25 51.57	-00 58 58.4		qEL047G96
K15L21F	C2015 06	13.30889	18 25 40.52	-01 01 19.5		qEL047G96
K15L21F	C2015 06	13.31247	18 25 29.54	-01 03 39.2		qEL047G96
K15L21F	C2015 06	13.35498	18 23 21.83	-01 30 45.3	17.8	VqEL047G96
K15L21F	C2015 06	13.35523	18 23 21.10	-01 30 54.4	17.9	VqEL047G96
K15L21F	HC2015 06	13.36596	18 22 50.19	-01 37 29.2	17.9	RoEL047291
K15L21F	HC2015 06	13.36604	18 22 50.01	-01 37 31.7	17.8	RoEL047291
K15L21F	HC2015 06	13.36612	18 22 49.70	-01 37 35.2	18.2	RoEL047291
K15L21F	C2015 06	13.43517	18 19 36.99	-02 18 30.5	18.3	VqEL047G96
K15L21F	C2015 06	13.43538	18 19 36.45	-02 18 37.2	18.4	VqEL047G96
K15L21F	C2015 06	13.45403	18 18 47.22	-02 29 08.4	18.3	VqEL047G96
K15L21F	C2015 06	13.45424	18 18 46.69	-02 29 15.4	18.4	VqEL047G96
K15L21F	C2015 06	13.45467	18 18 45.59	-02 29 29.4	18.3	VqEL047G96
K15L21F	C2015 06	14.15834	17 57 50.47	-07 08 44.8	19.3	VuEL047807
K15L21F	C2015 06	14.16389	17 57 42.50	-07 10 22.4	18.8	VuEL047807
K15L21F	C2015 06	14.16960	17 57 34.30	-07 12 02.8	19.1	VuEL047807
K15L21F	C2015 06	14.17499	17 57 26.58	-07 13 37.0	19.0	VuEL047807
K15L21F	C2015 06	14.23986	17 56 08.33	-07 37 14.1	19.2	RoEL047926
K15L21F	C2015 06	14.24256	17 56 04.73	-07 37 58.2	19.0	RoEL047926
K15L21F	C2015 06	14.24522	17 56 01.12	-07 38 42.0	18.8	RoEL047926
K15L21F	C2015 06	14.24791	17 55 57.56	-07 39 26.8	19.3	RoEL047926
K15L21F	C2015 06	14.25059	17 55 53.95	-07 40 11.0	18.9	RoEL047926
K15L21F	C2015 06	14.25326	17 55 50.34	-07 40 53.7	18.9	RoEL047926
K15L21F	C2015 06	14.25342	17 55 50.07	-07 41 00.5	19.9	VqEL047152
K15L21F	C2015 06	14.25385	17 55 49.49	-07 41 06.5	18.8	VqEL047152
K15L21F	C2015 06	14.25429	17 55 48.82	-07 41 14.7	19.0	VqEL047152
K15L21F	C2015 06	14.25472	17 55 48.21	-07 41 22.4	20.0	VqEL047152
K15L21F	C2015 06	14.26566	17 55 33.78	-07 44 14.8	19.1	RoEL047926
K15L21F	C2015 06	14.26834	17 55 30.23	-07 44 58.0	18.9	RoEL047926
K15L21F	C2015 06	14.27101	17 55 26.68	-07 45 41.3	18.9	RoEL047926
K15L21F	KC2015 06	14.29624317	54 52.11	-07 52 26.2	18.7	RqEL047448
K15L21F	KC2015 06	14.31209517	54 31.50	-07 56 33.2	18.8	RqEL047448
K15L21F	KC2015 06	14.33148517	54 06.61	-08 01 30.7	18.7	RqEL047448
K15L21F	KC2015 06	14.88662	17 45 21.19	-09 58 03.6	18.5	RcEL047357
K15L21F	KC2015 06	14.89511	17 45 13.84	-09 59 32.8	19.4	RcEL047357
K15L21F	KC2015 06	14.89789	17 45 11.42	-10 00 02.3	18.9	RcEL047357

Observer details:

[291 LPL/Spacewatch II](#). Observer R. A. Mastaler. 1.8-m f/2.7 reflector + CCD.

[448 Desert Moon Observatory](#). Observer B. L. Stevens. 0.3-m Schmidt-Cassegrain + CCD.

[807 Cerro Tololo](#). Observers T. Linder, R. Holmes. 0.41-m f/11 Ritchey-Chretien + CCD.

[926 Tenagra II Observatory](#). Observers M. Schwartz, P. R. Holvorcem. Measurer M. Schwartz. 0.41-m f/3.75 astrograph + CCD.

[G96 Mt. Lemmon Survey](#). Observer A. R. Gibbs. Measurers E. J. Christensen, D. C. Fuls, A. R. Gibbs, A. D. Grauer, R. E. Hill, J. A. Johnson, R. A. Kowalski, S. M. Larson, R. G. Matheny, F. C. Shelly. 1.5-m reflector + CCD.

I52 Steward Observatory, Mt. Lemmon Station. Observer R. A. Kowalski. Measurers E. J. Christensen, D. C. Fuls, A. R. Gibbs, A. D. Grauer, R. E. Hill, J. A. Johnson, R. A. Kowalski, S. M. Larson, R. G. Matheny,

F. C. Shelly. 1.0-m reflector + CCD.  
 357 Centro Astronomico Alto Turia, Valencia. Observer A. Carrero. Measurers  
 V. Mas, A. Fornas. 0.40-m f/10 Schmidt-Cassegrain + CCD.

Orbital elements:

2015 LF21 Earth MOID = 0.0056 AU  
 Epoch 2015 June 27.0 TT = JDT 2457200.5 MPC  
 M 36.03048 (2000.0) P Q  
 n 0.53375452 Peri. 266.87271 -0.94227716 -0.33193554  
 a 1.5051334 Node 253.73766 +0.32251446 -0.86446596  
 e 0.6328782 Incl. 2.62466 +0.08998986 -0.37751476  
 P 1.85 H 25.9 G 0.15 U 6

Residuals in seconds of arc

150613 G96	1.3-	0.5-	150613 G96	0.6+	0.2+	150614 I52	0.6-	0.3+
150613 G96	0.1+	0.6+	150614 807	0.2-	1.1-	150614 I52	1.2-	0.4-
150613 G96	0.7-	0.3-	150614 807	0.2+	0.7-	150614 926	0.1-	0.2+
150613 G96	0.2-	0.4+	150614 807	0.1+	0.8-	150614 926	0.1+	0.2+
150613 G96	0.4-	0.2-	150614 807	0.0	0.8-	150614 926	0.1+	0.2-
150613 G96	0.4-	0.0	150614 926	0.6-	0.0	150614 448	0.2+	0.0
150613 291	0.1+	0.0	150614 926	0.0	0.4+	150614 448	0.3+	0.1+
150613 291	0.9+	0.5+	150614 926	0.4-	0.3+	150614 448	0.4+	0.3+
150613 291	0.3-	0.1-	150614 926	0.4+	0.3-	150614 J57	0.2+	0.7+
150613 G96	0.1+	0.3-	150614 926	0.2+	0.7-	150614 J57	0.0	0.4+
150613 G96	0.4+	0.2+	150614 926	0.2-	0.2+	150614 J57	0.2-	0.1-
150613 G96	0.0	0.2-	150614 I52	0.6+	0.3+			
150613 G96	0.3+	0.2-	150614 I52	0.6+	1.3+			

Ephemeris:

2015 LF21 a,e,i = 1.51, 0.63, 3 q = 0.5526  
 Date TT R. A. (2000) Decl. Delta r Elong. Phase V  
 2015 05 15 04 52 07.5 +19 44 23 0.3394 0.7031 20.6 149.7 31.2  
 ...  
 2015 05 30 04 51 57.9 +20 36 54 0.1462 0.8684 6.3 172.6  
 ...  
 2015 06 07 04 33 43.9 +23 43 45 0.05507 0.9600 5.7 174.0  
 ...  
 2015 06 13 18 43 35.7 +03 07 39 0.01484 1.0280 147.2 32.4 18.2  
 2015 06 14 18 01 28.1 -06 21 12 0.02492 1.0392 161.2 18.3 18.9  
 2015 06 15 17 43 44.3 -10 13 50 0.03565 1.0504 166.6 12.9 19.5  
 ...  
 2015 06 21 17 16 59.7 -15 52 47 0.1025 1.1167 168.1 10.8 21.9  
 ...  
 2015 06 29 17 11 17.0 -17 23 19 0.1952 1.2026 160.8 16.2 23.6  
 ...  
 2015 07 14 17 13 03.2 -18 31 06 0.3822 1.3546 147.5 23.8 25.6

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