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IAU Minor Planet Center

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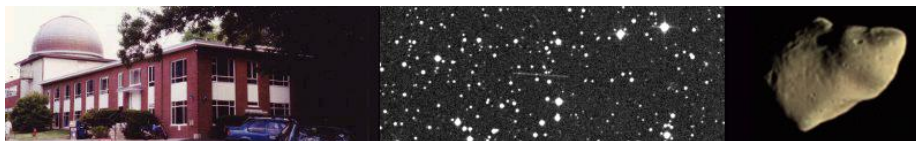
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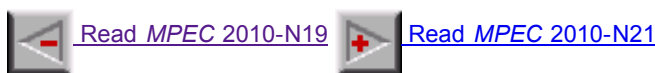
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MPEC 2010-N20 : 2010 NM

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M.P.E.C. 2010-N20

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2010 NM

Observations:

K10N00M*	C2010	07	05.42160	20	44	02.14	-15	26	10.8	19.8	V	EN020G96
K10N00M	C2010	07	05.42749	20	44	02.25	-15	27	35.6	19.4	V	EN020G96
K10N00M	C2010	07	05.43337	20	44	02.40	-15	28	56.6	19.3	V	EN020G96
K10N00M	C2010	07	05.43927	20	44	02.50	-15	30	21.6	19.7	V	EN020G96
K10N00M	C2010	07	05.47200	20	44	03.37	-15	38	06.0	19.2	V	EN020G96
K10N00M	C2010	07	05.47260	20	44	03.33	-15	38	15.3	18.9	V	EN020G96
K10N00M	C2010	07	05.47318	20	44	03.40	-15	38	22.4	19.9	V	EN020G96
K10N00M	C2010	07	05.47376	20	44	03.44	-15	38	31.3	18.6	V	EN020G96
K10N00M	C2010	07	06.31955	20	45	14.87	-19	08	12.9	19.6	V	EN020G96
K10N00M	C2010	07	06.32059	20	45	14.95	-19	08	29.0	19.9	V	EN020G96
K10N00M	IC2010	07	06.32367120	45	11.62	-19	09	30.2				EN020H21
K10N00M	C2010	07	06.32662620	45	11.71	-19	10	16.4		19.4	V	EN020H21
K10N00M	C2010	07	06.32943020	45	11.79	-19	10	59.5		19.4	V	EN020H21
K10N00M	C2010	07	06.33242120	45	11.86	-19	11	44.7		19.4	V	EN020H21
K10N00M	JC2010	07	06.34668	20	45	15.75	-19	15	13.7	19.4	C	EN020695
K10N00M	JC2010	07	06.34770	20	45	15.76	-19	15	29.7	19.2	C	EN020695
K10N00M	JC2010	07	06.34853	20	45	15.79	-19	15	42.6	19.1	C	EN020695
K10N00M	C2010	07	06.38435	20	45	16.48	-19	25	00.5	19.7	V	EN020G96
K10N00M	C2010	07	06.39093	20	45	16.59	-19	26	43.2	19.7	V	EN020G96
K10N00M	C2010	07	06.39751	20	45	16.81	-19	28	25.9	19.6	V	EN020G96
K10N00M	C2010	07	06.40402	20	45	16.92	-19	30	06.7	20.0	V	EN020G96

Observer details:

[695 Kitt Peak](#). Observers M. Trueblood, R. Crawford. Measurer R. Crawford.

[0.9-m f/8 Ritchey-Chretien + CCD](#).

[G96 Mt. Lemmon Survey](#). Observer A. Boattini. Measurers J. D. Ahern, E. C. Beshore, A. Boattini, G. J. Garradd, A. R. Gibbs, A. D. Grauer, R. E. Hill, R. A. Kowalski, S. M. Larson, R. H. McNaught. 1.5-m reflector + CCD.

H21 Astronomical Research Observatory, Westfield. Observer R. Holmes. Measurer S. Foglia.

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2010 NM		Earth MOID = 0.0508 AU						
Epoch 2010 July 23.0 TT = JDT 2455400.5		MPC						
M 251.36796	(2000.0)	P	Q					
n 1.02628655	Peri. 318.43377	+0.41982374	-0.86697994					
a 0.9733976	Node 105.13658	+0.88872542	+0.33266178					
e 0.1500771	Incl. 16.15001	+0.18416071	+0.37105514					
P 0.96	H 24.3	G 0.15	U 8					
Residuals in seconds of arc								
100705 G96	0.3+ 0.5+	100705 G96	0.4+ 0.5-	100706 695	0.2+	0.4+		
100705 G96	0.0 0.8-	100706 G96	0.5- 0.1+	100706 695	0.0	0.2+		
100705 G96	0.2+ 1.5+	100706 G96	0.2+ 0.2+	100706 695	0.1+	0.3+		
100705 G96	0.3- 0.1+	100706 H21	0.0 0.0	100706 G96	0.0	0.2+		
100705 G96	0.1+ 0.1-	100706 H21	0.2+ 0.6-	100706 G96	0.6-	0.2-		
100705 G96	0.7- 0.9-	100706 H21	0.2+ 0.3-	100706 G96	0.4+	0.6-		
100705 G96	0.1+ 0.2+	100706 H21	0.0 0.7+	100706 G96	0.2-	0.3-		
Ephemeris:								
2010 NM		a, e, i = 0.97, 0.15, 16		q = 0.8273				
Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
2010 07 03		20 41.35	-06 55.2	0.0703	1.077	148.2	29.8	20.0
2010 07 08		20 47.54	-26 50.5	0.0559	1.068	157.0	21.9	19.2
2010 07 13		20 58.53	-54 07.1	0.0522	1.059	143.5	34.8	19.4
2010 07 18		21 38.51	-78 31.6	0.0605	1.049	121.2	56.0	20.3
2010 07 23		06 49.17	-84 22.7	0.0766	1.038	104.9	71.0	21.3
2010 07 28		08 04.03	-75 01.8	0.0960	1.027	94.2	80.5	22.1
2010 08 02		08 17.08	-68 47.2	0.117	1.015	86.8	86.6	22.7

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