

MPEC 2009-B39 : 2009 BU5

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M.P.E.C. 2009-B39

Issued 2009 Jan. 21, 17:26 UT

The Minor Planet Electronic Circulars contain information on unusual minor planets and routine data on comets. They are published on behalf of Commission 20 of the International Astronomical Union by the Minor Planet Center, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.

Prepared using the [Tamkin Foundation Computer Network](#)

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URL <http://www.cfa.harvard.edu/iau/mpc.html> ISSN 1523-6714

2009 BU5

Observations:

K09B05U*	C2009	01	21.16641	06	11	55.53	+68	13	49.0	18.6	V	EB039703
K09B05U	C2009	01	21.17022	06	11	59.71	+68	12	57.5	18.7	V	EB039703
K09B05U	C2009	01	21.17393	06	12	03.52	+68	12	08.2	18.5	V	EB039703
K09B05U	C2009	01	21.17764	06	12	07.48	+68	11	18.6	18.6	V	EB039703
K09B05U	C2009	01	21.19793	06	12	28.50	+68	06	48.4	18.4	V	EB039703
K09B05U	C2009	01	21.19847	06	12	29.04	+68	06	41.1	18.7	V	EB039703
K09B05U	C2009	01	21.21106	06	12	39.43	+68	03	44.0	18.4	R	EB039H36
K09B05U	C2009	01	21.21280	06	12	41.20	+68	03	20.7	18.4	R	EB039H36
K09B05U	C2009	01	21.21625	06	12	44.75	+68	02	33.4	18.4	R	EB039H36
K09B05U	C2009	01	21.21885906	12	46.18	+68	01	56.5	19.4	V	EB039H55	
K09B05U	C2009	01	21.22436306	12	51.84	+68	00	42.2	19.4	V	EB039H55	
K09B05U	C2009	01	21.22707906	12	54.65	+68	00	05.4	19.6	V	EB039H55	
K09B05U	C2009	01	21.24227	06	13	13.31	+67	56	50.9	18.6	R	EB039H01
K09B05U	C2009	01	21.24576	06	13	16.85	+67	56	04.1	18.7	R	EB039H01
K09B05U	C2009	01	21.24909	06	13	20.23	+67	55	19.5	18.6	R	EB039H01
K09B05U	C2009	01	21.25236	06	13	23.54	+67	54	35.7	18.7	R	EB039H01
K09B05U	C2009	01	21.25505	06	13	26.26	+67	53	59.5	18.5	R	EB039H01
K09B05U	]C2009	01	21.27334406	13	45.29	+67	49	58.9	18.8	R	EB039695	
K09B05U	]C2009	01	21.27568306	13	47.79	+67	49	24.4	18.7	R	EB039695	
K09B05U	]C2009	01	21.27700006	13	49.20	+67	49	05.7	18.9	R	EB039695	

Observer details:

695 Kitt Peak. Observers M. Trueblood, L. Lebofsky. Measurer R. Crawford. 2.1-m f/7.7 Ritchey-Chretien + CCD.

703 Catalina Sky Survey. Observer A. Boattini. Measurers 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. 0.68-m Schmidt + CCD.

H01 Magdalena Ridge Observatory, Socorro. Observers W. H. Ryan, E. V. Ryan. Measurer W. H. Ryan. 2.4-m f/8.9 reflector + CCD.

H36 Sandlot Observatory, Scranton. Observer G. Hug. 0.56-m reflector + CCD.

H55 Astronomical Research Observatory, Charleston. Observer R. Holmes.
 Measurer H. Devore. 0.61-m f/4.0 astrograph + CCD.

Orbital elements:

2009 BU5
 Epoch 2008 Nov. 30.0 TT = JDT 2454800.5
 Earth MOID = 0.0690 AU
 MPC

M	0.95483	(2000.0)	P	Q
n	0.46083445	Peri. 337.49913	+0.96269807	-0.26599848
a	1.6599924	Node 38.03686	+0.25888484	+0.85223057
e	0.6784712	Incl. 4.61442	+0.07868336	+0.45049736
P	2.14	H 21.7	G 0.15	U 9

Residuals in seconds of arc

090121 703	0.5-	0.1+	090121 H36	0.3+	0.3-	090121 H01	0.1-	0.2+
090121 703	0.4+	0.4-	090121 H36	0.2+	1.1-	090121 H01	0.1-	0.3+
090121 703	0.1-	0.1-	090121 H55	0.2+	0.3-	090121 H01	0.1-	0.3+
090121 703	0.3+	0.1-	090121 H55	0.1+	0.1-	090121 695	0.7-	2.4+
090121 703	0.4-	1.2+	090121 H55	0.1+	0.2-	090121 695	0.2+	0.7-
090121 703	0.5-	1.1+	090121 H01	0.2-	0.1-	090121 695	0.7+	1.7-
090121 H36	0.4+	0.5-	090121 H01	0.2-	0.0			

Ephemeris:

2009 BU5
 $a, e, i = 1.66, 0.68, 5$
 $q = 0.5337$

Date	TT	R. A. (2000)	Decl.	Delta	r	Elong.	Phase	V
2009 01 19		04 51.08	+77 06.3	0.101	1.036	118.6	56.5	18.8
2009 01 20		05 41.78	+72 52.6	0.109	1.048	123.4	51.6	18.9
2009 01 21		06 08.60	+68 51.2	0.118	1.060	127.5	47.4	19.0
2009 01 22		06 24.82	+65 14.9	0.128	1.072	130.9	44.0	19.1
2009 01 23		06 35.63	+62 04.6	0.138	1.084	133.7	41.1	19.2
2009 01 24		06 43.35	+59 17.7	0.149	1.096	135.9	38.6	19.3
2009 01 25		06 49.16	+56 51.1	0.159	1.108	137.8	36.6	19.4
2009 01 26		06 53.71	+54 41.8	0.171	1.120	139.3	35.0	19.5
2009 01 27		06 57.39	+52 47.3	0.182	1.131	140.5	33.6	19.7
2009 01 28		07 00.44	+51 05.3	0.194	1.143	141.5	32.4	19.8
2009 01 29		07 03.05	+49 34.0	0.206	1.155	142.2	31.5	19.9
2009 01 30		07 05.30	+48 11.8	0.218	1.166	142.8	30.7	20.0
2009 01 31		07 07.30	+46 57.4	0.231	1.178	143.2	30.1	20.2
2009 02 01		07 09.08	+45 49.7	0.243	1.189	143.4	29.6	20.3
2009 02 02		07 10.71	+44 48.0	0.256	1.201	143.6	29.2	20.4
2009 02 03		07 12.20	+43 51.3	0.269	1.212	143.6	28.9	20.5
2009 02 04		07 13.59	+42 59.1	0.282	1.224	143.5	28.6	20.6
2009 02 05		07 14.90	+42 10.8	0.295	1.235	143.4	28.5	20.8
2009 02 06		07 16.14	+41 26.1	0.308	1.246	143.1	28.3	20.9
2009 02 07		07 17.32	+40 44.4	0.321	1.257	142.8	28.3	21.0
2009 02 08		07 18.45	+40 05.5	0.335	1.269	142.5	28.2	21.1

Timothy B. Spahr

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