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THE ASTEROID 2015 KA122

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Poster Number: 308.05

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COM Location, Long. 077 17 27 W, Lat. 01 12 44 N, Alt. 2500m
TEL 0.36m f/11 Schmidt-Cassegrain Celestron + CCD
NET USNO-UCAC3



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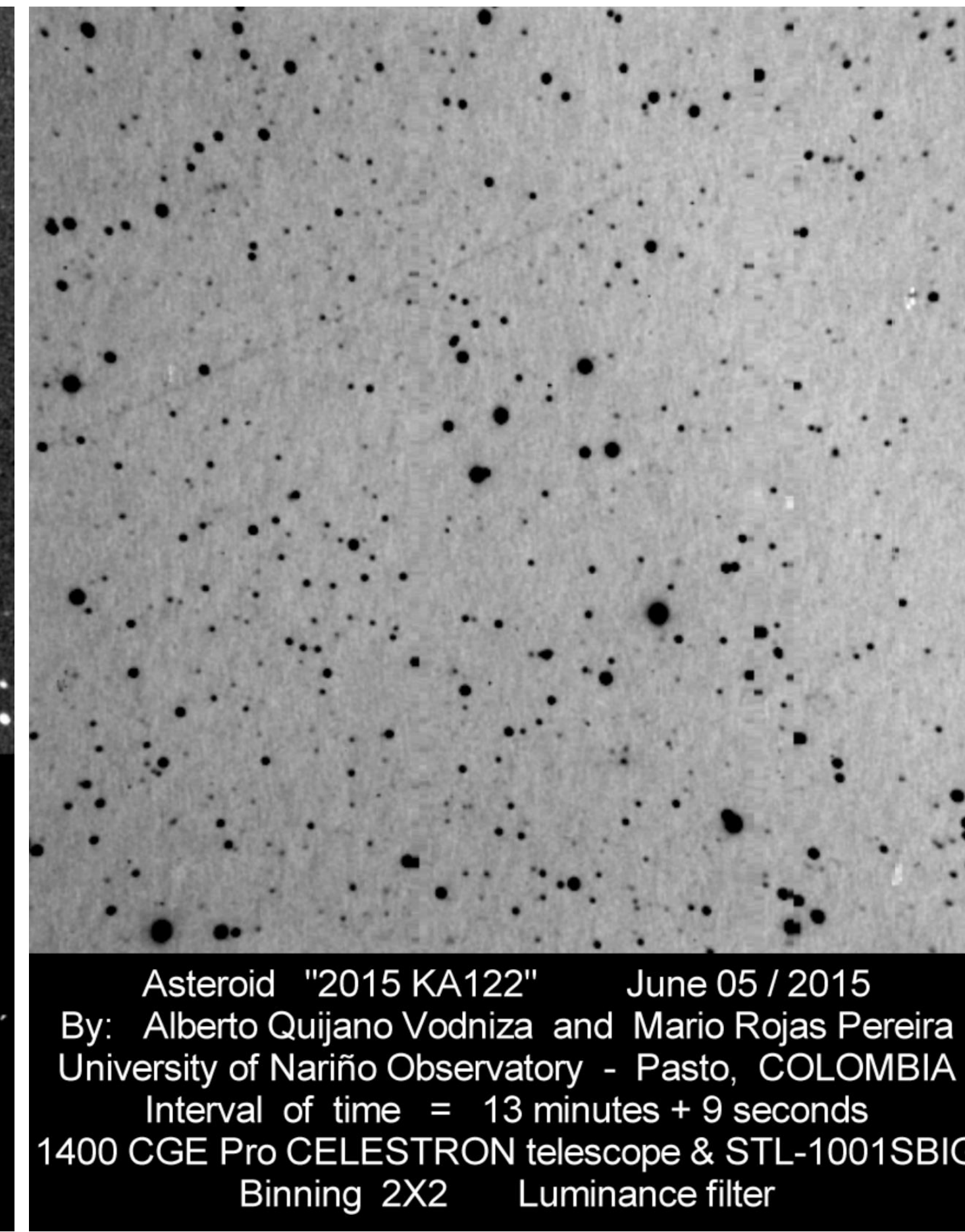
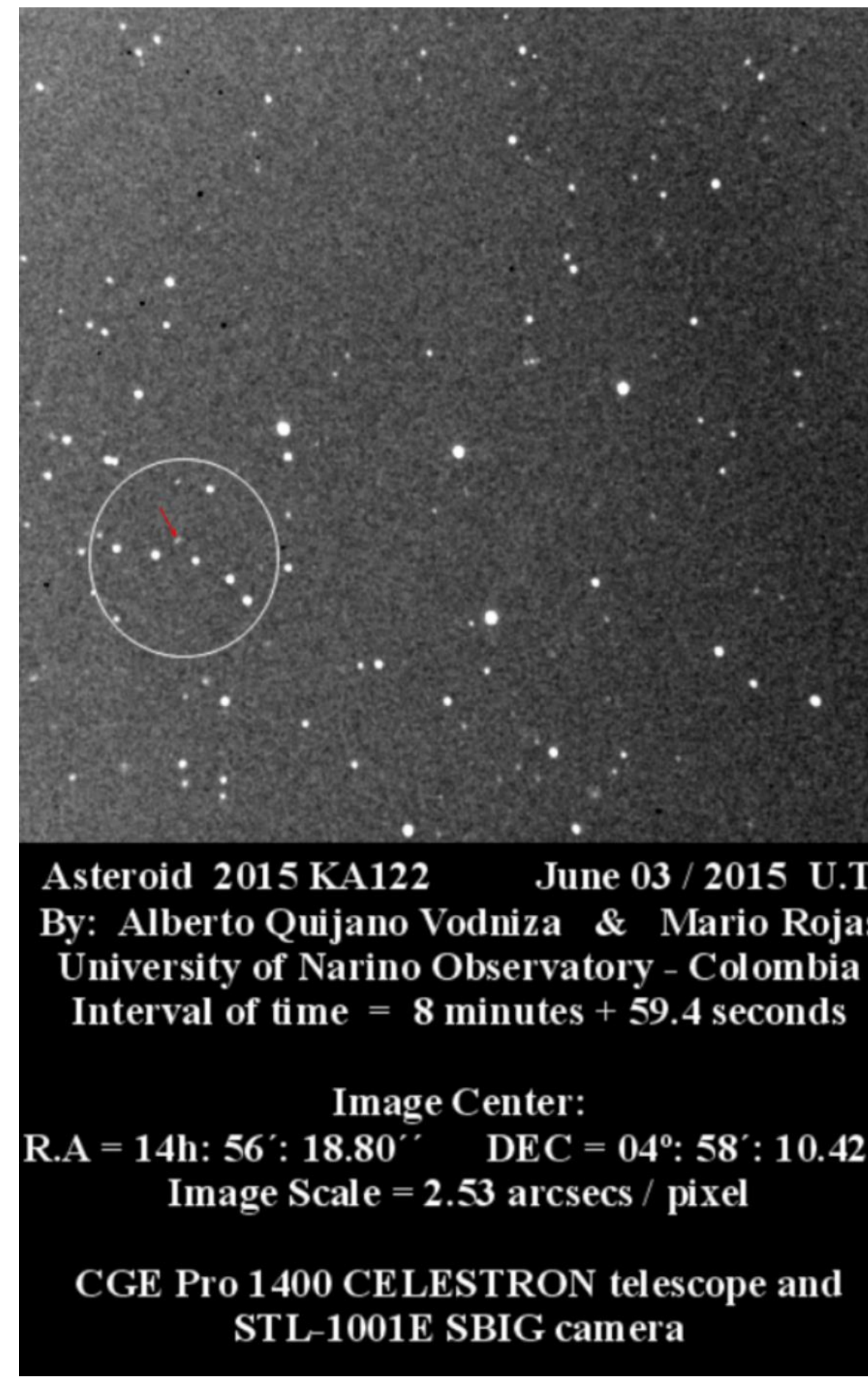


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ABSTRACT

The Asteroid "2015 KA122" was discovered on May 25/2015 by the Catalina Sky Survey. This object is not well known. Its absolute magnitude, of 23.2, indicates a diameter of about 70 meters. The asteroid was at approximately 3.3 lunar distances from the Earth, on June 6/2015. It has an orbital period of 2.11 years.

From our Observatory, located in Pasto-Colombia, we captured several pictures, videos and astrometry data during three days. Our data was published by the Minor Planet Center (MPC) and also appears at the web page of NEODyS. Our observatory's code at the MPC is "H78". Pictures of the asteroid were captured with the following equipment: 14" LX200 GPS MEADE (f/10 Schmidt-Cassegrain Telescope) and STL-1001 SBIG camera. Astrometry was carried out, and we calculated the orbital elements.



K15KC2A	C2015	06	03.00704	14	55	02.31	+05	26	45.9
K15KC2A	C2015	06	03.00744	14	55	01.98	+05	26	35.9
K15KC2A	C2015	06	03.00903	14	55	00.86	+05	25	57.0
K15KC2A	C2015	06	03.01063	14	54	59.68	+05	25	16.2
K15KC2A	C2015	06	03.01103	14	54	59.40	+05	25	06.8
K15KC2A	C2015	06	03.01182	14	54	58.86	+05	24	47.8

K15KC2A	C2015	06	04.01177	14	41	30.36	-04	01	59.5
K15KC2A	C2015	06	04.01245	14	41	29.46	-04	02	31.4
K15KC2A	C2015	06	04.01267	14	41	29.15	-04	02	41.2
K15KC2A	C2015	06	04.01289	14	41	28.92	-04	02	50.4
K15KC2A	C2015	06	04.01424	14	41	27.18	-04	03	53.1
K15KC2A	C2015	06	04.01492	14	41	26.29	-04	04	25.1
K15KC2A	C2015	06	04.01648	14	41	24.30	-04	05	37.1
K15KC2A	C2015	06	04.01783	14	41	22.54	-04	06	38.4
K15KC2A	C2015	06	04.01806	14	41	22.26	-04	06	48.8
K15KC2A	C2015	06	04.01828	14	41	21.95	-04	06	59.7
K15KC2A	C2015	06	04.01850	14	41	21.67	-04	07	10.0
K15KC2A	C2015	06	04.01940	14	41	20.50	-04	07	51.3
K15KC2A	C2015	06	04.02008	14	41	19.58	-04	08	22.8
K15KC2A	C2015	06	04.02120	14	41	18.16	-04	09	14.6
K15KC2A	C2015	06	04.02142	14	41	17.85	-04	09	24.8
K15KC2A	C2015	06	04.02277	14	41	16.11	-04	10	27.5
K15KC2A	C2015	06	04.02299	14	41	15.83	-04	10	38.2
K15KC2A	C2015	06	04.02322	14	41	15.52	-04	10	47.5
K15KC2A	C2015	06	04.02366	14	41	14.96	-04	11	08.8
K15KC2A	C2015	06	04.02389	14	41	14.69	-04	11	19.3
K15KC2A	C2015	06	04.02478	14	41	13.49	-04	12	01.1
K15KC2A	C2015	06	04.02523	14	41	12.93	-04	12	21.8
K15KC2A	C2015	06	04.02546	14	41	12.62	-04	12	31.7
K15KC2A	C2015	06	04.02568	14	41	12.32	-04	12	42.2
K15KC2A	C2015	06	04.02590	14	41	12.08	-04	12	52.1
K15KC2A	C2015	06	04.02702	14	41	10.60	-04	13	45.1
K15KC2A	C2015	06	04.02858	14	41	08.50	-04	14	56.8
K15KC2A	C2015	06	04.02948	14	41	07.33	-04	15	38.6

≤ DOU on 15 June '15 ≥ MPEC 2015-L50 - "12:03 UT" - Daily Orbit Update

Observations of risk-listed objects

- K15KF7H **2015 KH157** (arc=19 days, H=20.1 ~323m) from Spacewatch 1.8m (June 15.22-23p3)
- K15K18P **2015 KP18** (small asteroid, arc=27 days, H=23.2 ~78m) from Spacewatch 1.8m (June 15.18-19p3)

Observations of close-passing objects

- K15L00K **2015 LK** (arc=9 days, H=25.4 ~28m) from Tenagra II Obs. (June 15.23-24p3)
- K15L00G **2015 LG** (arc=9 days, H=24.5 ~43m) from Tenagra II Obs. (June 15.20p3) and Steward Mt. Lemmon Sta. (June 15.22p4)
- K15KC2A **2015 KA122** (arc=16 days, H=23.1 ~81m) from Univ. of Narino Obs. (June 3.01p6, 4.01-03p28 & 5.03-04p47)
- K15H10M **2015 HM10** (Q=4.077 AU, arc=57 days, H=23.6 ~65m) from Tenagra II Obs. (June 15.16-19p3)

RESULTS

We obtained the following orbital parameters:

eccentricity = 0.4089630 +/- 0.00189,
 semi-major axis = 1.64254884 +/- 0.00505 A.U.,
 orbital inclination = 12.68490 +/- 0.039 deg,
 longitude of the ascending node = 73.14715 +/- 0.0013 deg,
 argument of perihelion = 214.82393 +/- 0.007 deg,
 orbital period = 2.11 years (768.90 days),
 mean motion = 0.46819485 +/- 0.00216 deg/d,
 perihelion distance = 0.97080706 +/- 0.000119 A.U.,
 aphelion distance = 2.31429061 +/- 0.0103 A.U.

The parameters were calculated based on 81 observations (2015 June 3-5) with mean residual = 0.343 arcseconds.

