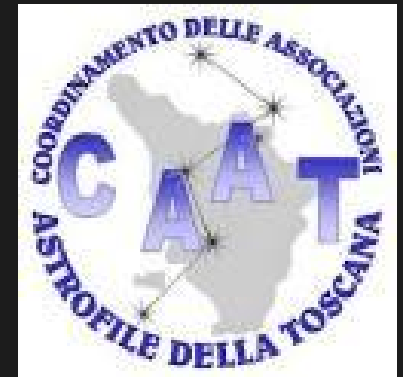


CAAT

(Coordinamento Associazioni Astrofili della Toscana)



DISCORSO INTORNO AL FRAMMENTO DELLA COMETA C/2011 J₂ (LINEAR)



GAMP – GRUPPO ASTROFILI MONTAGNA PISTOIESE

AAUV – ASSOCIAZIONE ASTROFILI ALTA VALDERA

DOMENICA 7 DICEMBRE 2014 Libbiano Peccioli c/o Osservatorio

Relatore: Paolo Bacci

Scoperta di una nuova cometa

- Il 04/05/2011
- 704 Lincoln Laboratory ETS, New Mexico.
Observers M. Blythe, G. Spitz, R. Brungard, J.
Paige, P. Festler, T. McVey, A. Valdivia. 1.0-m f/2.15
reflector + CCD.

CH11J020 C2011 05 04.18905 10 50 06.11 -08 27 24.5
CH11J020 C2011 05 04.20938 10 50 05.71 -08 27 15.9
CH11J020 C2011 05 04.22965 10 50 05.20 -08 27 06.8

19.7 T_cEJ031704
20.0 T_cEJ031704
19.9 T_cEJ031704



MPEC 2011-J31 : COMET C/2011 J2 (LINEAR)

Issued 2011 May 7, 14:52 UT

M.P.E.C. 2011-J31

Issued 2011 May 7, 14:52 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

MPC@CFA.HARVARD.EDU

URL <http://www.minorplanetcenter.net/> ISSN 1523-6714

COMET C/2011 J2 (LINEAR)

CK11J020	KC2011	05	05.83123	10	49	40.83	-08	18	42.6	18.8	TrEJ031235
CK11J020	KC2011	05	05.84220	10	49	40.65	-08	18	39.3	18.4	TrEJ031235
CK11J020	KC2011	05	05.84519	10	49	40.66	-08	18	37.9	18.6	TrEJ031104
CK11J020	C2011	05	05.85940	10	49	40.44	-08	18	33.2	19.5	TwEJ031J87
CK11J020	KC2011	05	05.86399	10	49	40.36	-08	18	31.7	19.1	TrEJ031104
CK11J020	C2011	05	05.86781	10	49	40.32	-08	18	30.1	19.2	TwEJ031J87

CK11J020	KC2011	05	05.20330810	49	50.24	-08	22	00.8	19.2	TrEJ031H21	
CK11J020	KC2011	05	05.20892410	49	50.17	-08	21	58.7	18.9	TrEJ031H21	
CK11J020	KC2011	05	05.21015910	49	50.16	-08	21	58.3	19.4	TrEJ031H21	
CK11J020	KC2011	05	05.21682310	49	50.07	-08	21	56.4	19.4	TrEJ031H21	
CK11J020	C2011	05	05.35463	10	49	48.03	-08	21	11.2	18.8	ToEJ031474
CK11J020	C2011	05	05.35718	10	49	48.00	-08	21	10.2	19.2	ToEJ031474
CK11J020	C2011	05	05.36296	10	49	47.90	-08	21	08.1	19.5	ToEJ031474
CK11J020	C2011	05	05.36632	10	49	47.84	-08	21	07.2	19.2	ToEJ031474
CK11J020	C2011	05	05.38021	10	49	47.65	-08	21	03.6	19.5	TuEJ031D90
CK11J020	C2011	05	05.39589	10	49	47.40	-08	20	58.0	19.0	TuEJ031D90
CK11J020	C2011	05	05.40830	10	49	47.19	-08	20	54.3	19.1	TuEJ031D90
CK11J020	C2011	05	05.41358	10	49	47.20	-08	20	52.4	19.2	ToEJ031E16
CK11J020	C2011	05	05.42797	10	49	46.97	-08	20	47.8	19.3	ToEJ031E16
CK11J020	C2011	05	05.47948	10	49	46.09	-08	20	32.1	18.4	TrEJ031D96
CK11J020	C2011	05	05.49309	10	49	45.88	-08	20	28.0	18.7	TrEJ031D96
CK11J020	C2011	05	05.50655	10	49	45.68	-08	20	24.0	18.3	TrEJ031D96
CK11J020	KC2011	05	05.82148	10	49	40.99	-08	18	44.8	18.6	TrEJ031235
CK11J020	KC2011	05	05.83123	10	49	40.83	-08	18	42.6	18.8	TrEJ031235
CK11J020	KC2011	05	05.84220	10	49	40.65	-08	18	39.3	18.4	TrEJ031235
CK11J020	KC2011	05	05.84519	10	49	40.66	-08	18	37.9	18.6	TrEJ031104
CK11J020	C2011	05	05.85940	10	49	40.44	-08	18	33.2	19.5	TwEJ031J87
CK11J020	KC2011	05	05.86399	10	49	40.36	-08	18	31.7	19.1	TrEJ031104
CK11J020	C2011	05	05.86781	10	49	40.32	-08	18	30.1	19.2	TwEJ031J87

MPEC 2011-J31 : COMET C/2011 J2 (LINEAR)

Issued 2011 May 7, 14:52 UT

Observer details:

104 San Marcello Pistoiese. Observers L. Tesi, P. Bacci, G. Fagioli.
Measurer P. Bacci. 0.60-m reflector + CCD.

235 CAST Observatory, Talmassons. Observers R. Ligustri, M. Benvenuti.
Measurer R. Ligustri. 0.35-m f/6 reflector + CCD.

291 LPL/Spacewatch II. Observers J. V. Scotti, T. H. Bressi. 1.8-m f/2.7
reflector + CCD.

474 Mount John Observatory, Lake Tekapo. Observers A. C. Gilmore,
P. M. Kilmartin. Measurer P. M. Kilmartin. 1.0-m f/7.7 reflector + CCD.

703 Catalina Sky Survey. Observer A. D. Grauer. Measurers J. D. Ahern,
E. C. Beshore, A. Boattini, G. J. Garradd, A. R. Gibbs, P. Tric,
A. D. Grauer, R. E. Hill, R. A. Kowalski, S. M. Larson, R. H. McNaught.
0.68-m Schmidt + CCD.

704 Lincoln Laboratory ETS, New Mexico. Observers M. Blythe, G. Spitz,
R. Brungard, J. Paige, P. Festler, T. McVey, A. Valdivia. 1.0-m f/2.15
reflector + CCD.

807 Cerro Tololo. Observers R. Holmes, T. Linder, V. Hoette. Measurer
T. Linder. 0.41-m f/11 Ritchey-Chretien + CCD.

926 Tenagra II Observatory. Observers S. Abe, J. K. Guo, W. P. Chen.
Measurer S. Abe. 0.81-m f/7 Ritchey-Chretien + CCD.

D90 RAS Observatory, Moorook. Observer K. Hills. 0.41-m f/9 Ritchey-Chretien
+ CCD.

D96 Tzec Maun Observatory, Moorook. Observers G. Sostero, E. Guido. 0.15-m
f/7.3 refractor + CCD.

E16 Grove Creek Observatory, Trunkey. Observer P. Camilleri. 0.35-m f/6
reflector + 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.

H06 RAS Observatory, Mayhill. Observer H. Sato. 0.50-m f/4.5 reflector + CCD.

H21 Astronomical Research Observatory, Westfield. Observer R. Holmes.
Measurers S. Foglia, T. Vorobjov. 0.61-m f/4.0 astrograph + CCD.

I89 Nerpio. Observer H. Sato. 0.43-m f/6.8 reflector + CCD.

I93 St Pardon de Conques. Observer F. Losse. 0.40-m f/5.0 reflector + CCD.

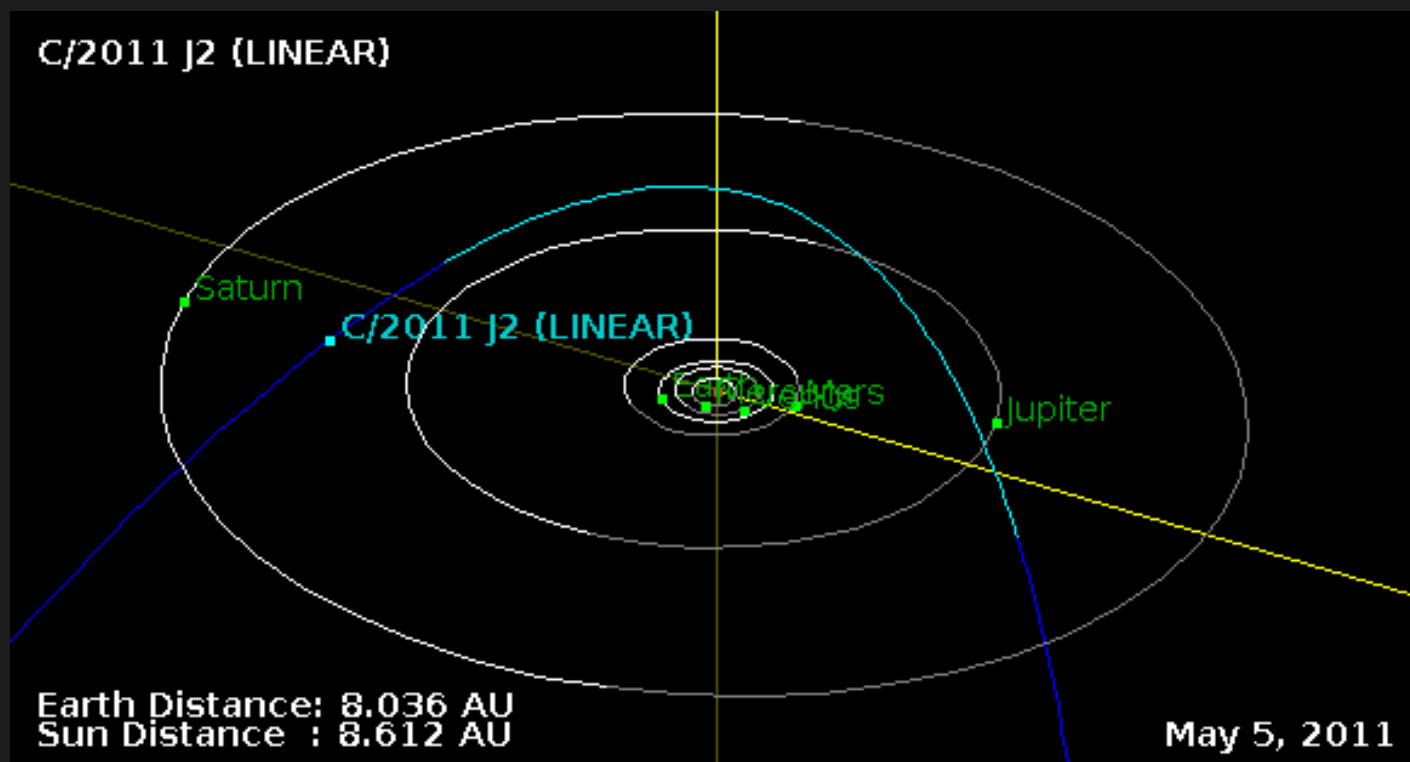
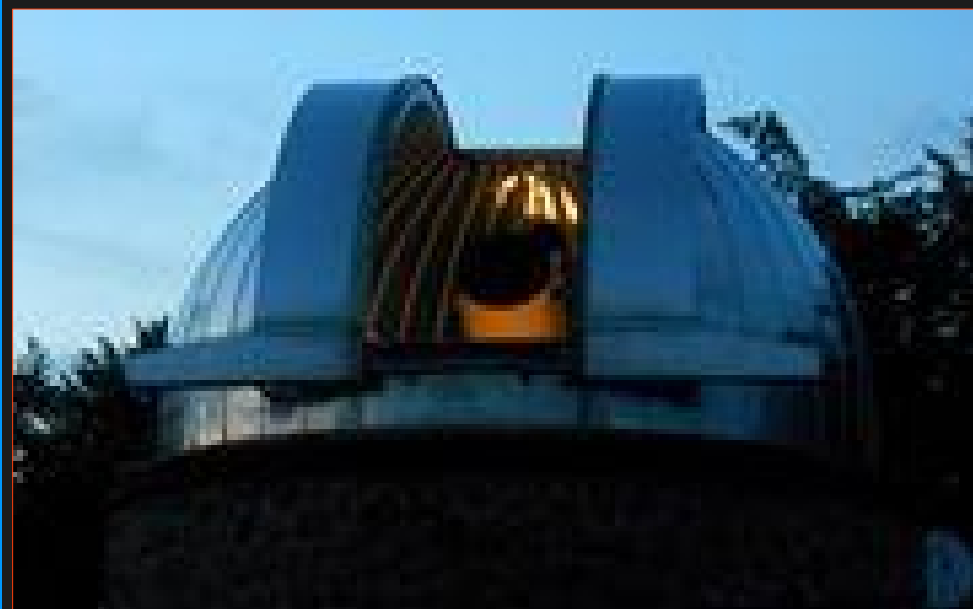
J87 La Canada. Observer J. Lacruz. 0.40-m Ritchey-Chretien + CCD.

Orbital elements:

C/2011 J2 (LINEAR)
T 2013 Dec. 23.18785 TT
q 3.4167768 (2000.0) P Q
Peri. 85.62151 +0.07509959 +0.96980432
Node 163.99559 +0.16048833 -0.24141233
e 1.0 Incl. 122.69245 +0.98417658 -0.03463610
From 63 observations 2011 Mar. 10-May 7.

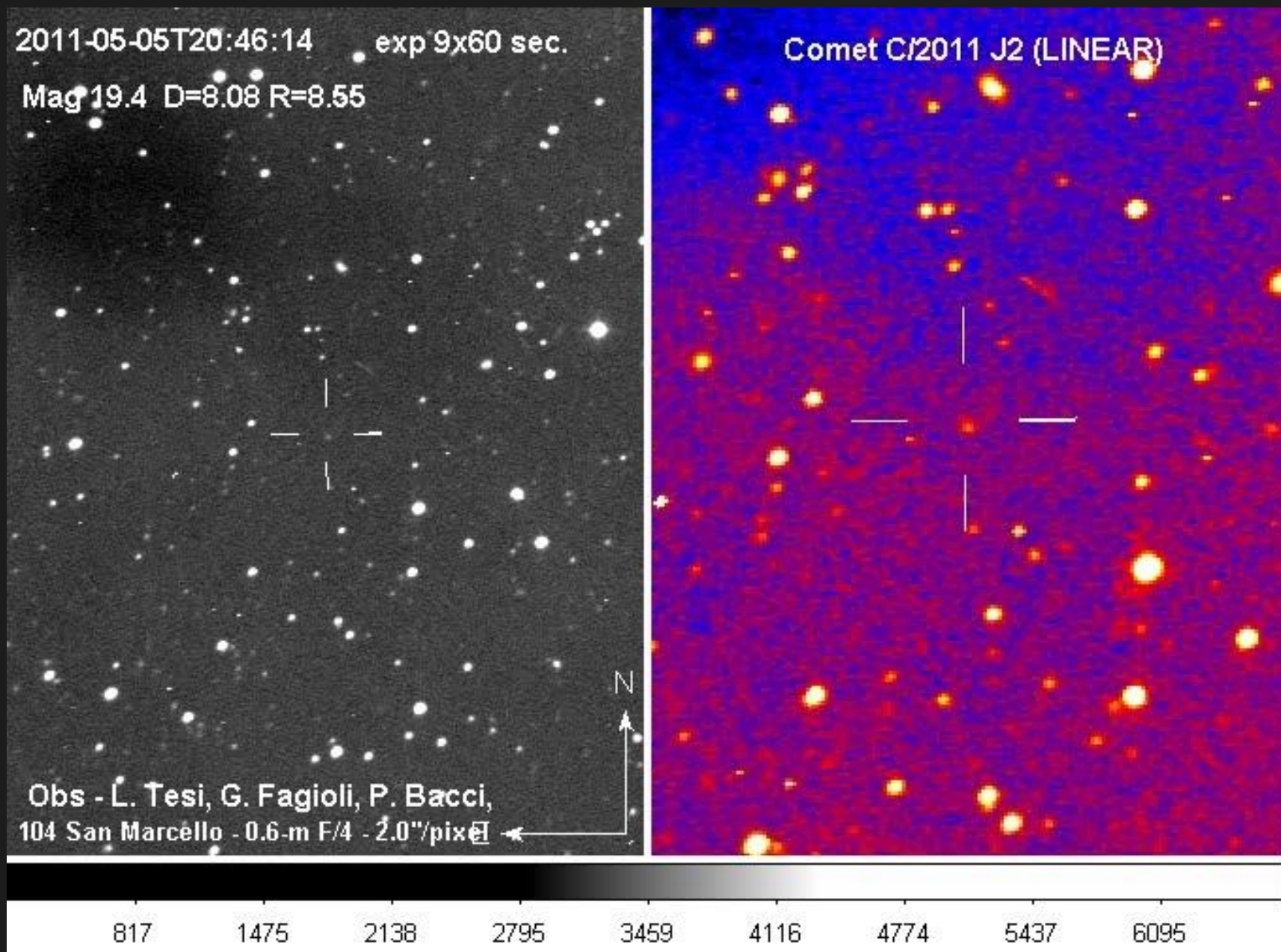


Element	Value	Uncertainty (1-sigma)	Units
e	1.000581157665287	1.2006e-06	
a	-5925.188250960698	12.24	AU
q	3.443468570314229	5.8413e-07	AU
i	122.7983850426573	5.832e-06	deg
node	163.9453553496381	6.0171e-06	deg
peri	85.28644491284196	2.178e-05	deg
M	-.0001691331927944978	5.239e-07	deg
t _p	2456651.766876626743 (2013-Dec-25.26687663)	0.00012915	JED
period	n/a	n/a	d
	n/a	n/a	yr
n	2.160980482217259E-6	6.6962e-09	deg/d
Q	n/a	n/a	AU



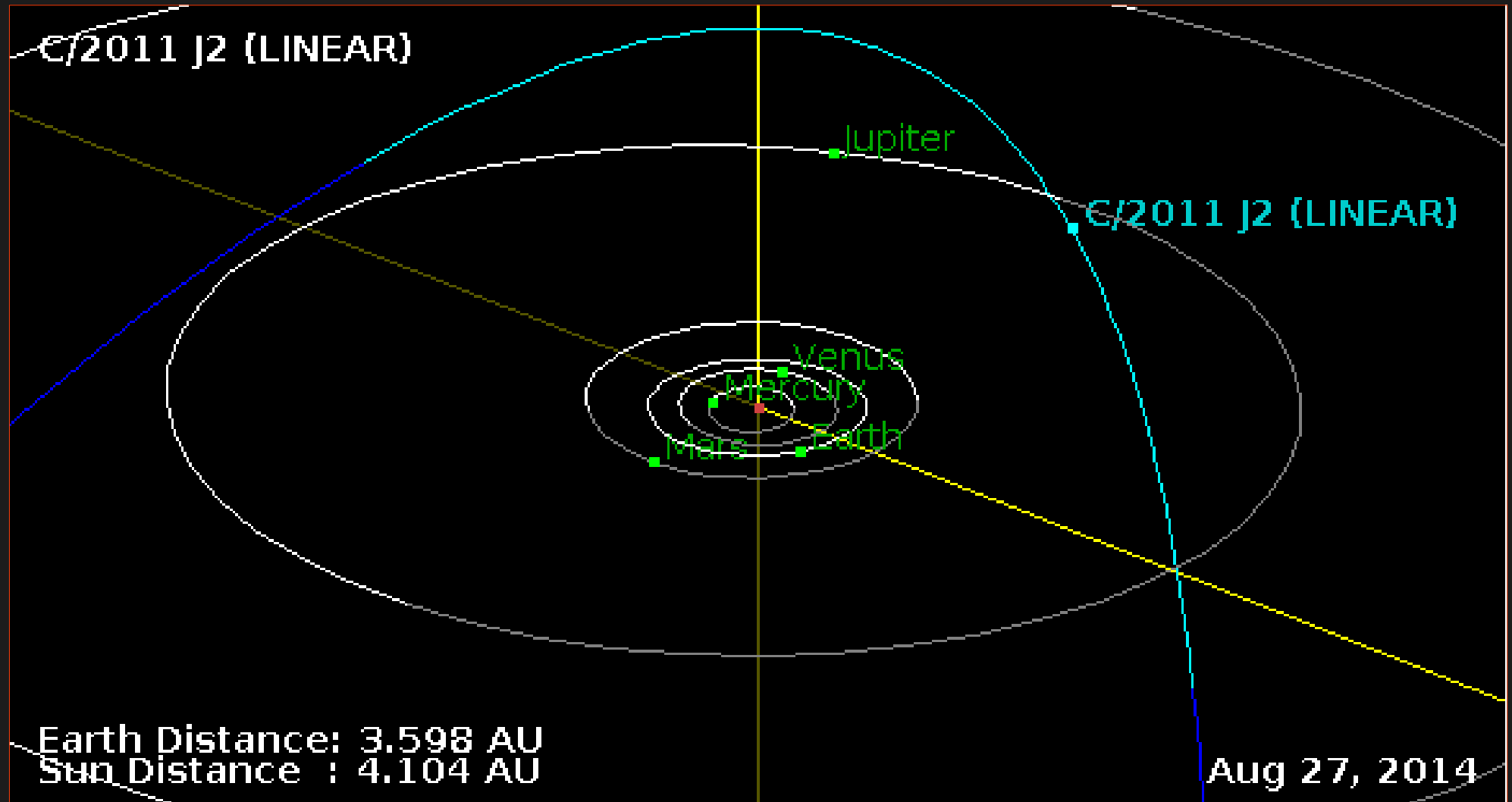
Orbita
preliminare
maggio 2011

Immagine di Follow-up da 104



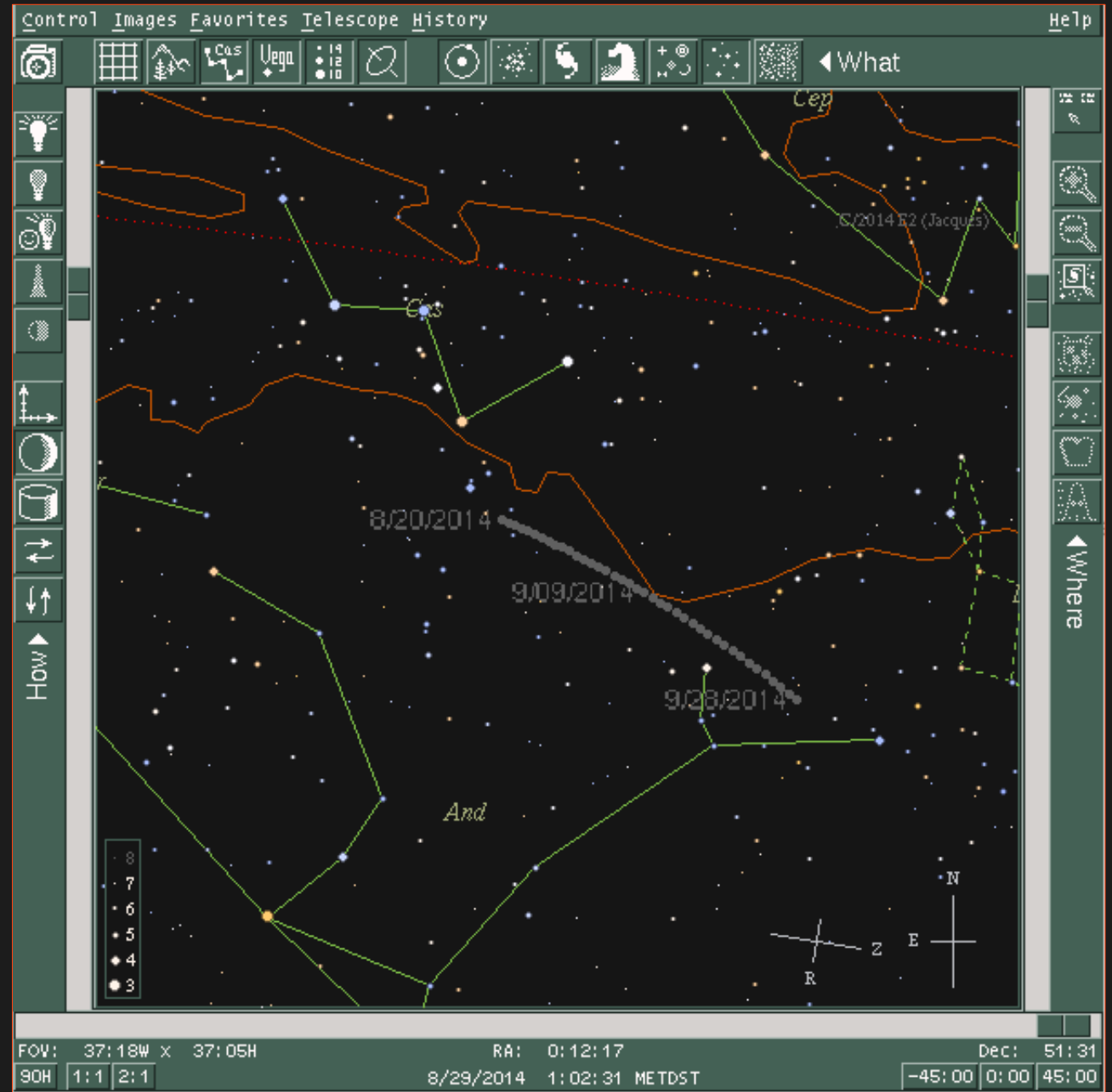
27-28 Agosto 2014

dopo il passaggio al perielio ...



Il percorso della Cometa C/2011 J2

20/08 - 28/09 - 2014



Electronic Telegram No. 3979

19/09/2014

Central Bureau for Astronomical Telegrams
INTERNATIONAL ASTRONOMICAL
UNION

COMET C/2011 J₂ (LINEAR)

F. Manzini, V. Oldani, and A. Dan,
Stazione Astronomica di Sozzago, Italy; R.
Crippa, Osservatorio di Tradate, Italy; and R.
Behrend, Geneva Observatory, report that
comet C/2011 J₂ (cf. IAUC 9208) was observed
with the 0.4-m telescope at Sozzago during
about 40 min per night around Aug. 27.95, 28.85,
and 30.91 UT. Carefully stacked images show,
for both nights, a second, fainter, **nuclear
condensation located 0".8 east and 7".5
north** of the main, brighter nuclear
condensation on an image scale of 0".7/pixel. .

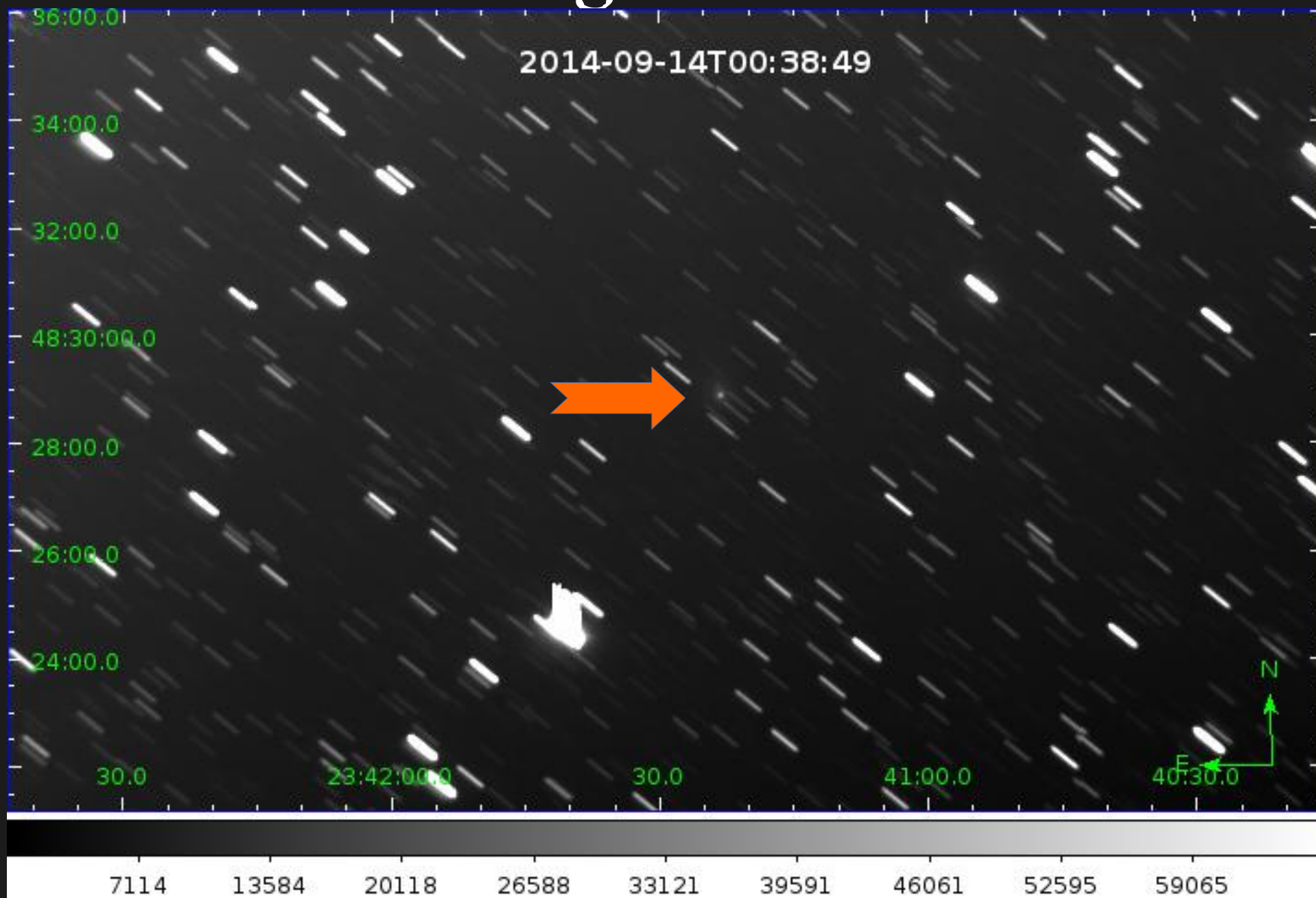
The newly detected condensation was
then about 1.5 mag fainter than the
brighter one. No relative motion was
detected between the two nights. The
coma was roughly circular and 50" in
diameter, with a 1'-long, faint, diffuse
tail visible in p.a. 50 deg. **Manzini** and
Behrend obtained additional
exposures with the Sozzago 0.4-m f/6.6
reflector on Sept. 14.0 that show
secondary component B to be 2.5 mag
fainter than primary component A,
with component B located **1".6 east** and
9".6 north of component A. Behrend
estimates that the date of separation
was July 14 +/- 10 days.

Electronic Telegram No. 3979

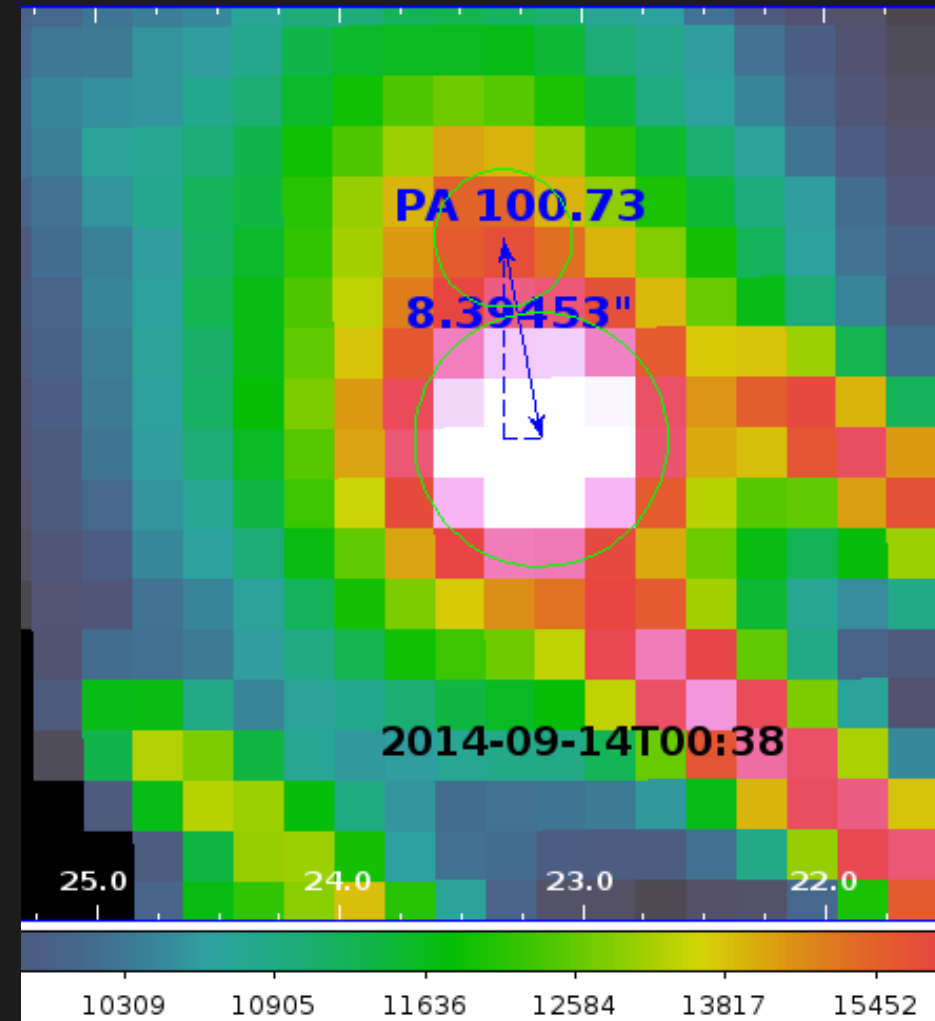
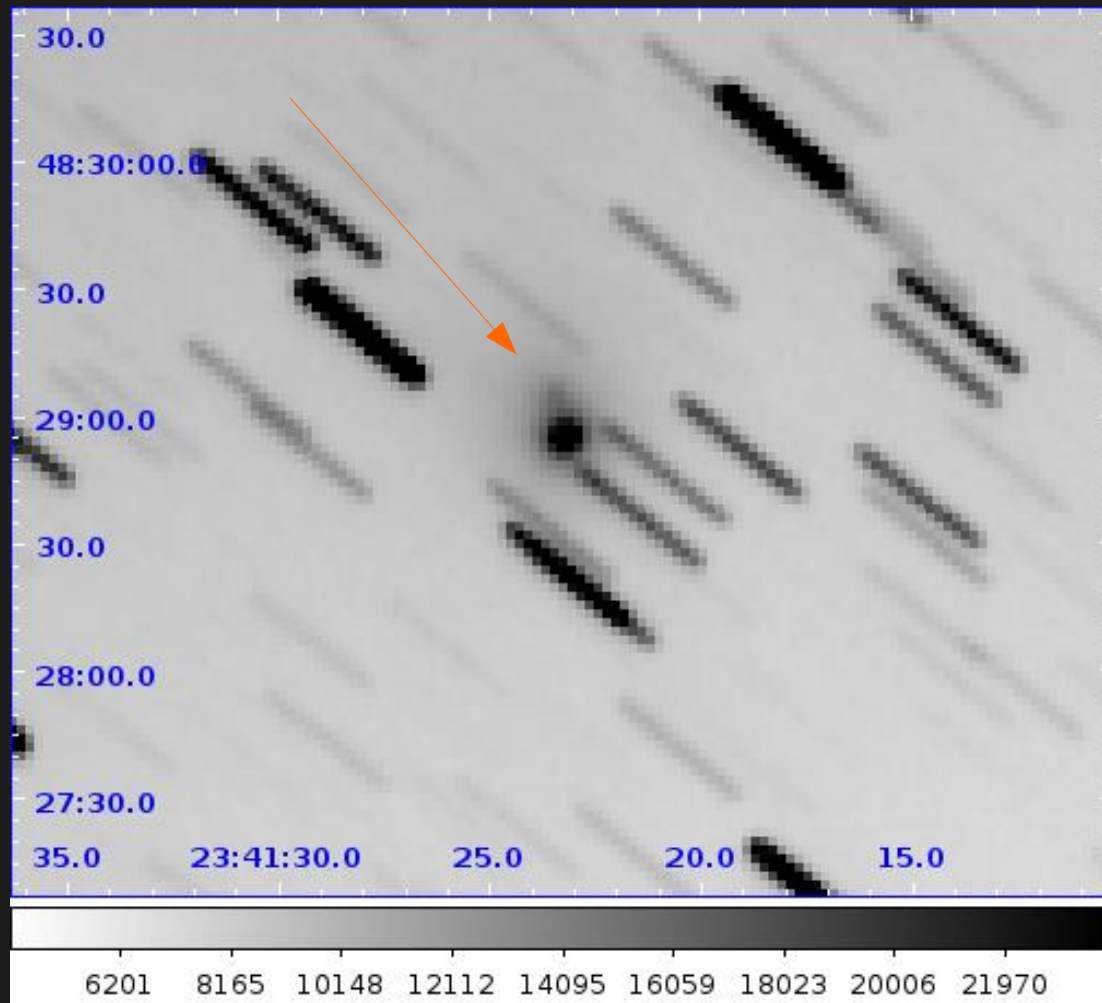
L. Buzzi and **S. Foglia** stacked eleven 45-s images taken in good seeing (FWHM = $1''.0$) with the 2.0-m "Faulkes Telescope North" at Haleakala on Sept. 4.4, showing component B to have an R-band magnitude around 20.5 in an aperture of size $1''.5$; it was about 3.5 mag fainter than component A, was offset $1''.5$ east and $8''.7$ north, and showed a diffuse central condensation $2''$ wide that was surrounded by a coma at least $5''$ wide. Images obtained by **G. Masi** and **P. L. Catalano** (measured by **G. Masi** and **U. Masi**) with a 0.43-m f/6.8 reflector at Ceccano, Italy on Sept. 7.8 UT in bright moonlight show component B to be about 2.4 mag fainter than component A with a size of a few arcseconds in stacked images.

Images obtained by **P. Bacci** (measured by **Bacci**, **L. Tesi**, and **G. Fagioli**) with a 0.60-m f/4 reflector at **San Marcello Pistoiese**, Italy, on **Sept. 14.0** UT show component B at magnitude about 16.5, about 2 mag fainter than component A and offset $9''.7$ in p.a. 14 deg.

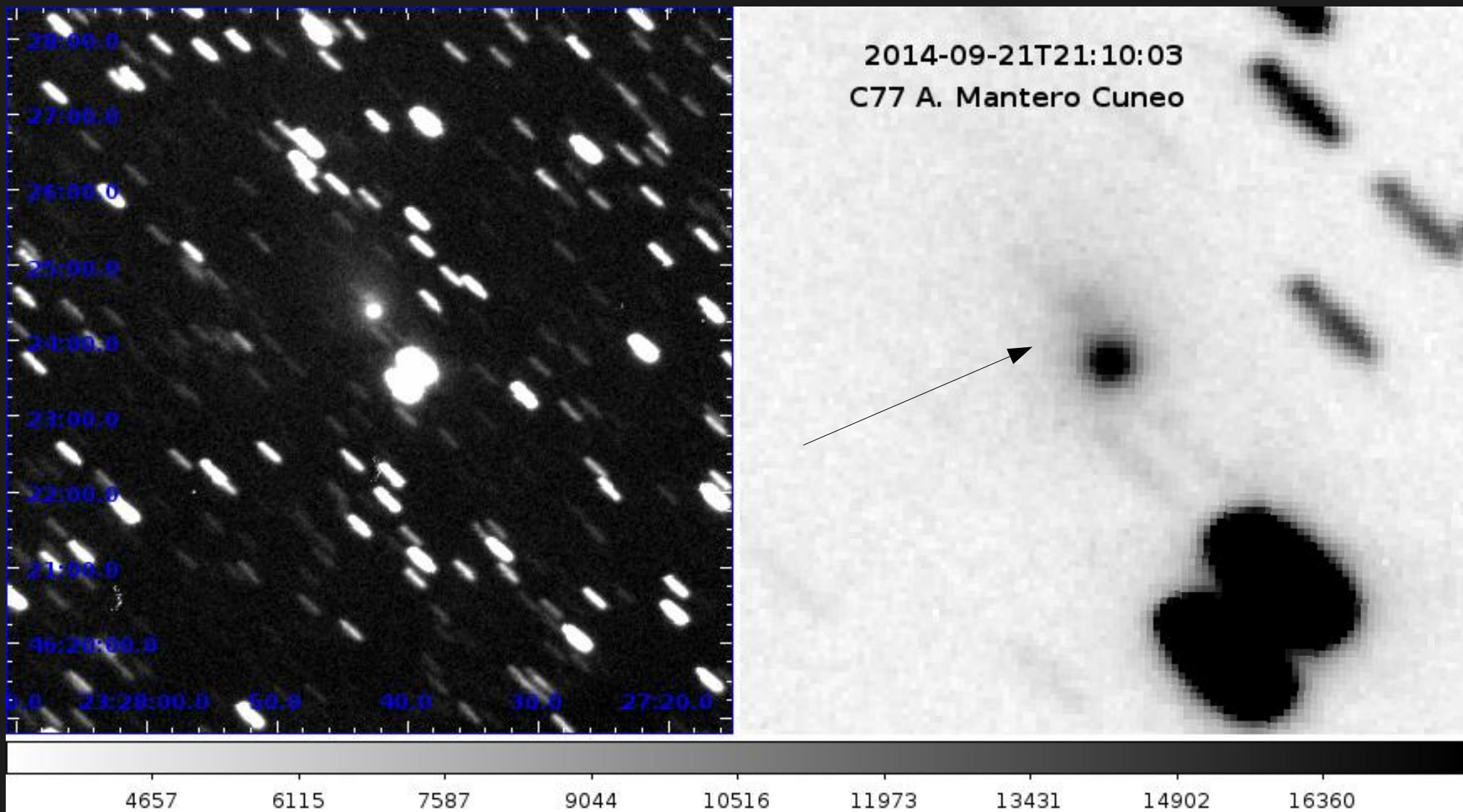
Prima immagine del frammento



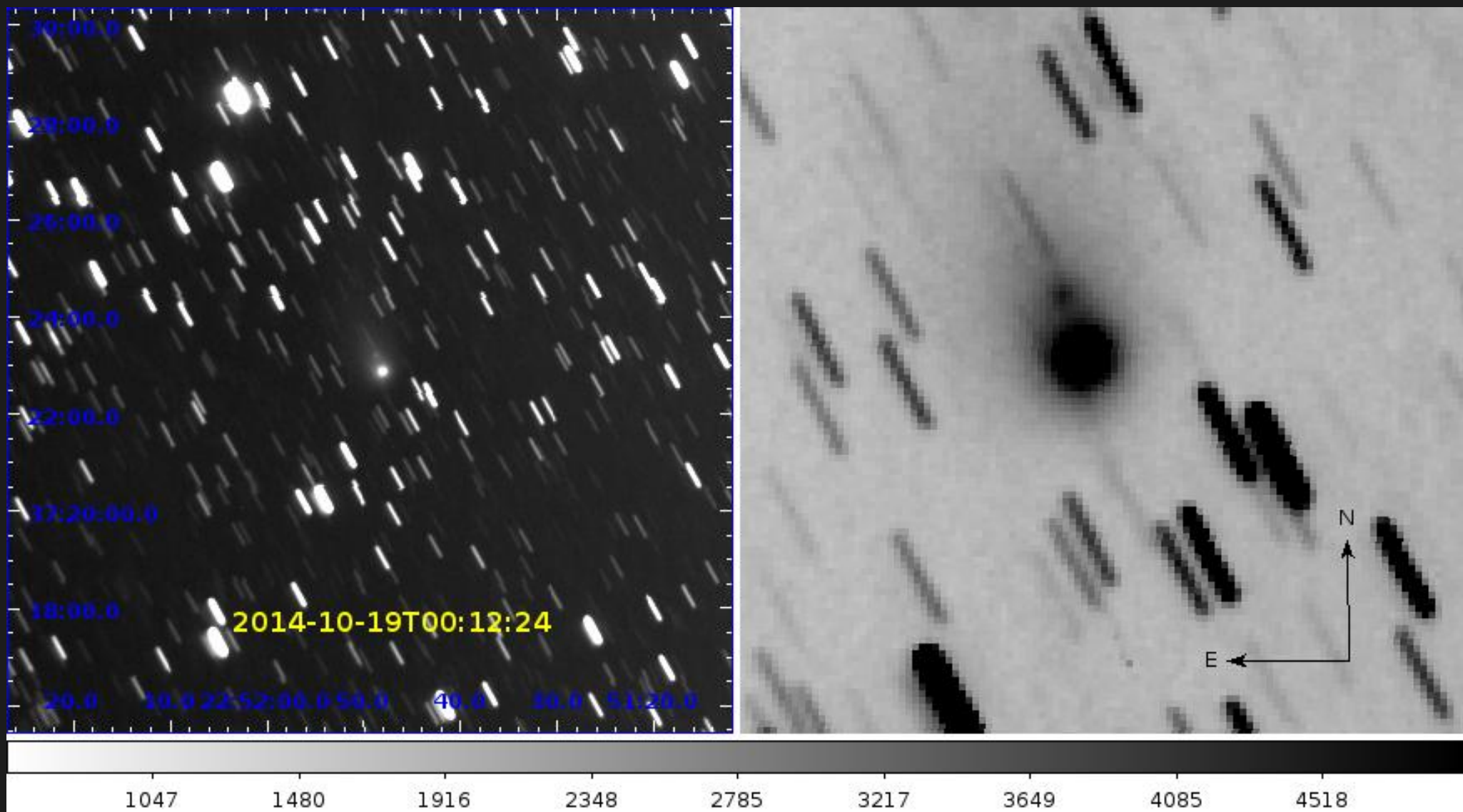
Particolare del Frammento B



C77 Bernezzo Cuneo $\alpha_{,25}$ F/4



Ulteriore immagine da 104

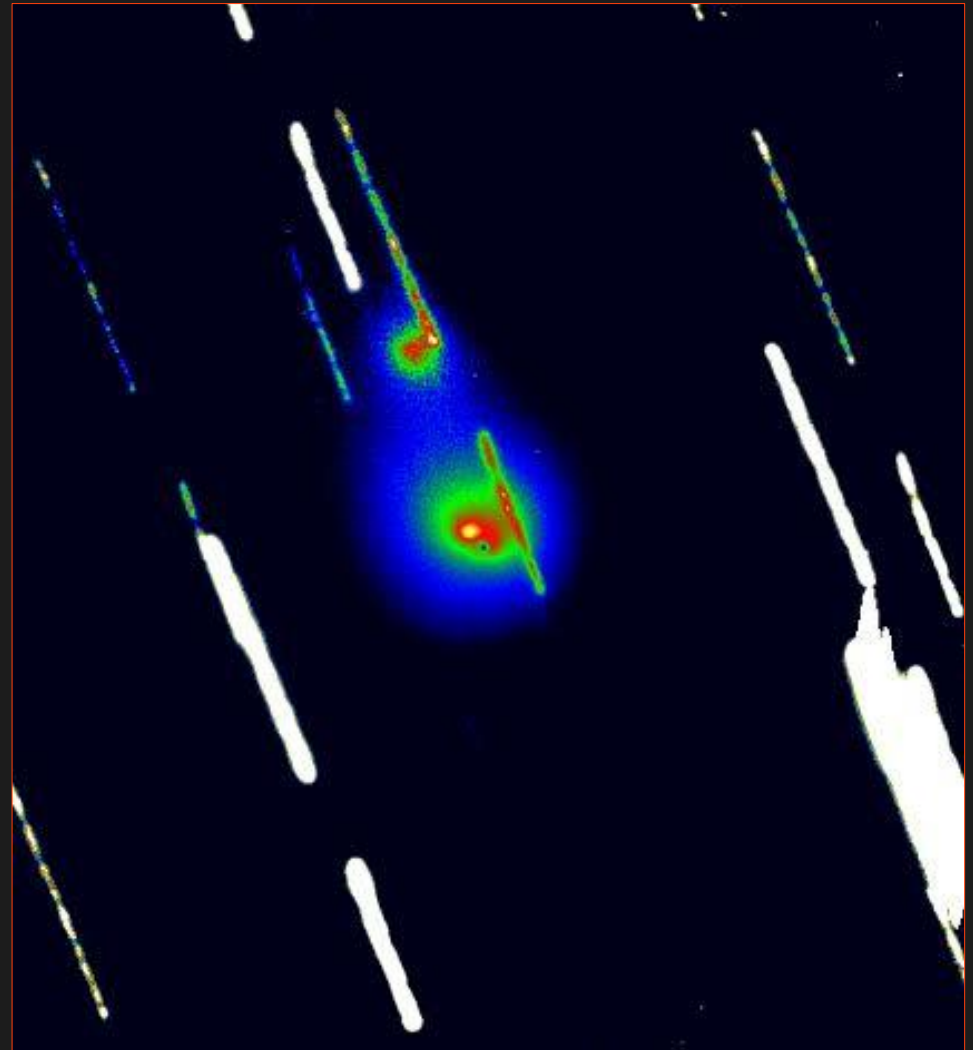
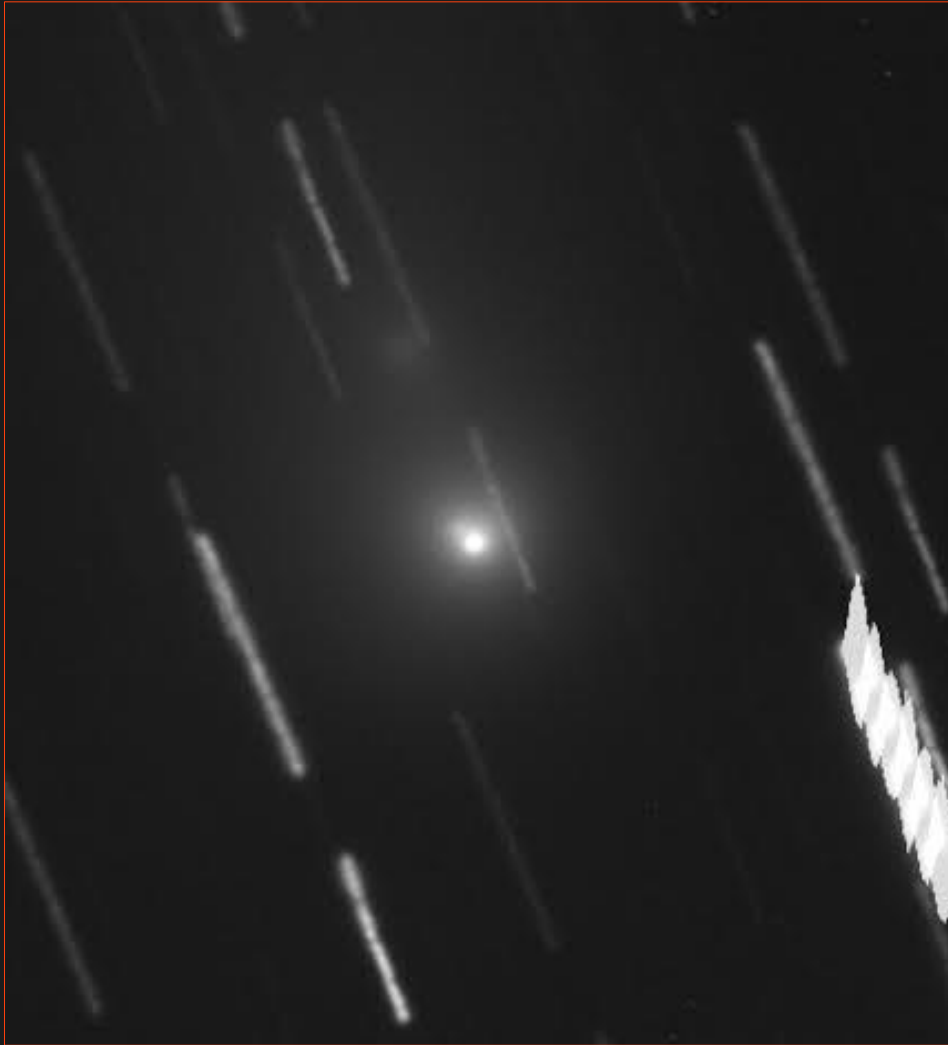
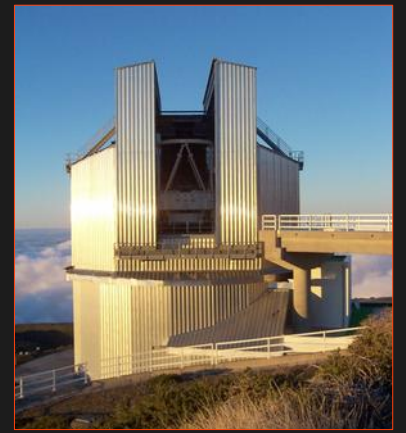


B₃₃ Osserva la Cometa C/2011 J₂





TNG 3.6-m seeing 0.9
25/10/2014



Un pò di dati

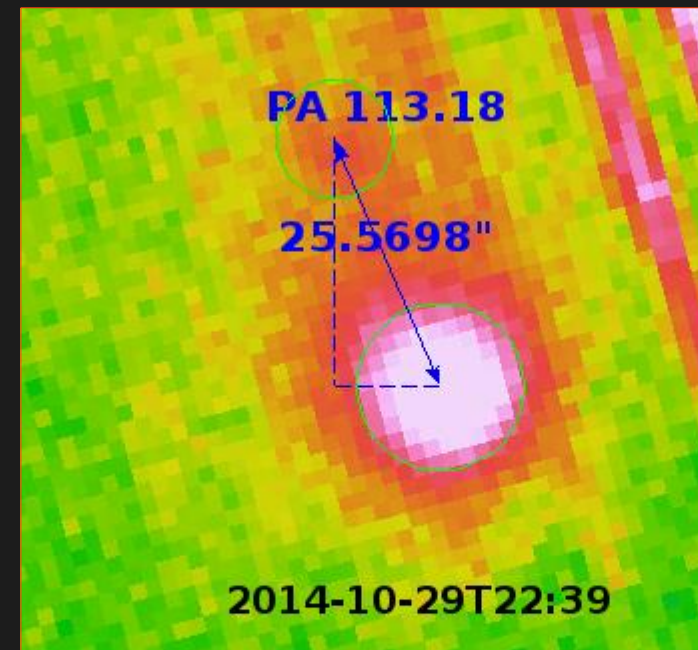
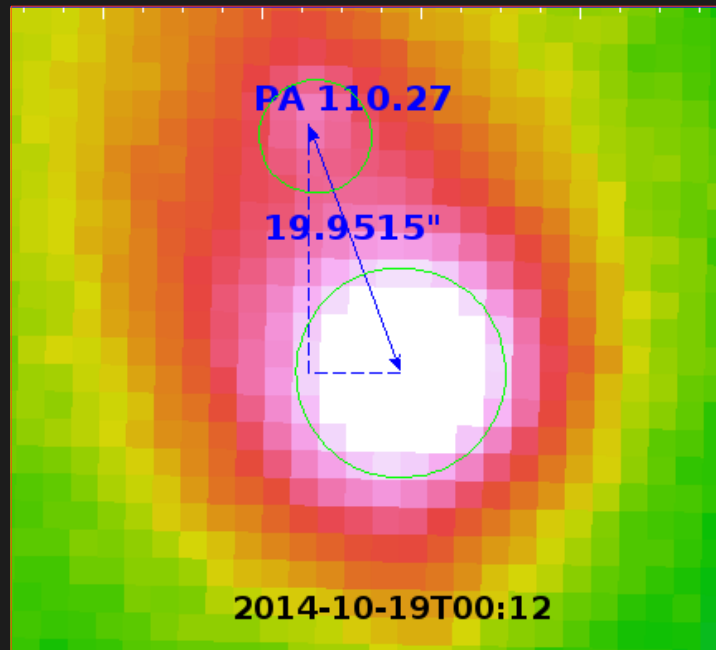
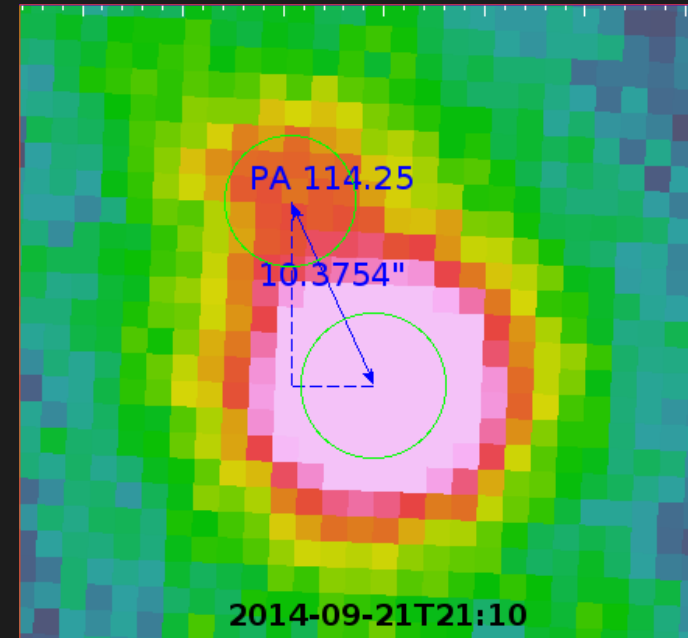
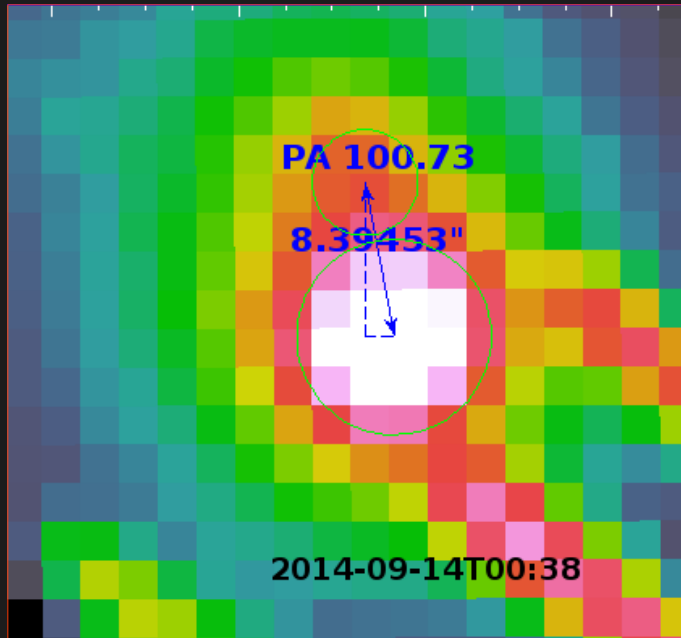
Osservatorio	Tel.	CCD	risoluzione
104 San Marcello	0.60 F/4	1024x1024	2.0 "/pixel
B33 Libbiano	0.50 F/6.3	1024x1024	1.5 "/pixel
C77 Bernezzo Cuneo	0.20 F/4	1392x1040	1.3 " Pixel

Data Ora	MPC code	Sep. arc/sec	PA ⁽¹⁾	Delta	r
2014-09-14 00:38:49	104	8.394	100.73	4.192	3.499
2014-09-21 21:10:03	C77	10.375	114.25	4.232	3.487
2014-10-19 00:12:24	104	19.951	110.27	4.374	3.620
2014-10-29 22:39:54	B33	23.728	111.66	4.434	3.752



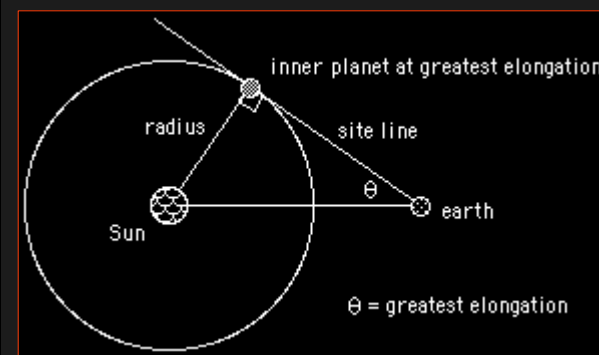
**45.9
giorni**

Le 4 immagini elaborate : $104\text{ C}_{77}\text{ 104 B}_{33}$

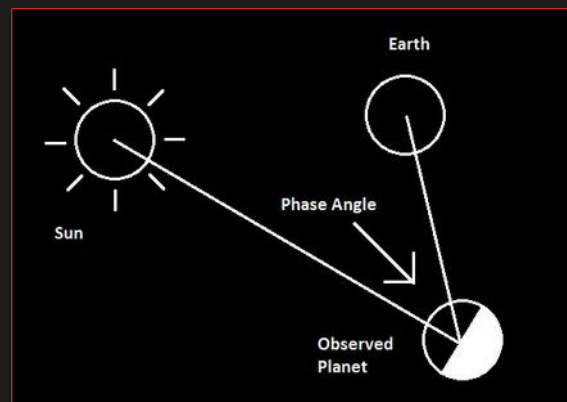


Effemeridi mpc e Magnitudini ricavate

Data ora	Elong	Ph	m1	Motion "/min	PA
2014-09-14T00:38:49	127.8	10.9	13.8	0.97	231.2
2014-09-21T21:10:03	132.7	10.0	13.9	1.02	225.7
2014-10-19T00:12:24	134.3	9,4	14,1	1.01	207.7
2014-10-29T22:39:54	128.0	10.2	14.2	0.93	200.9



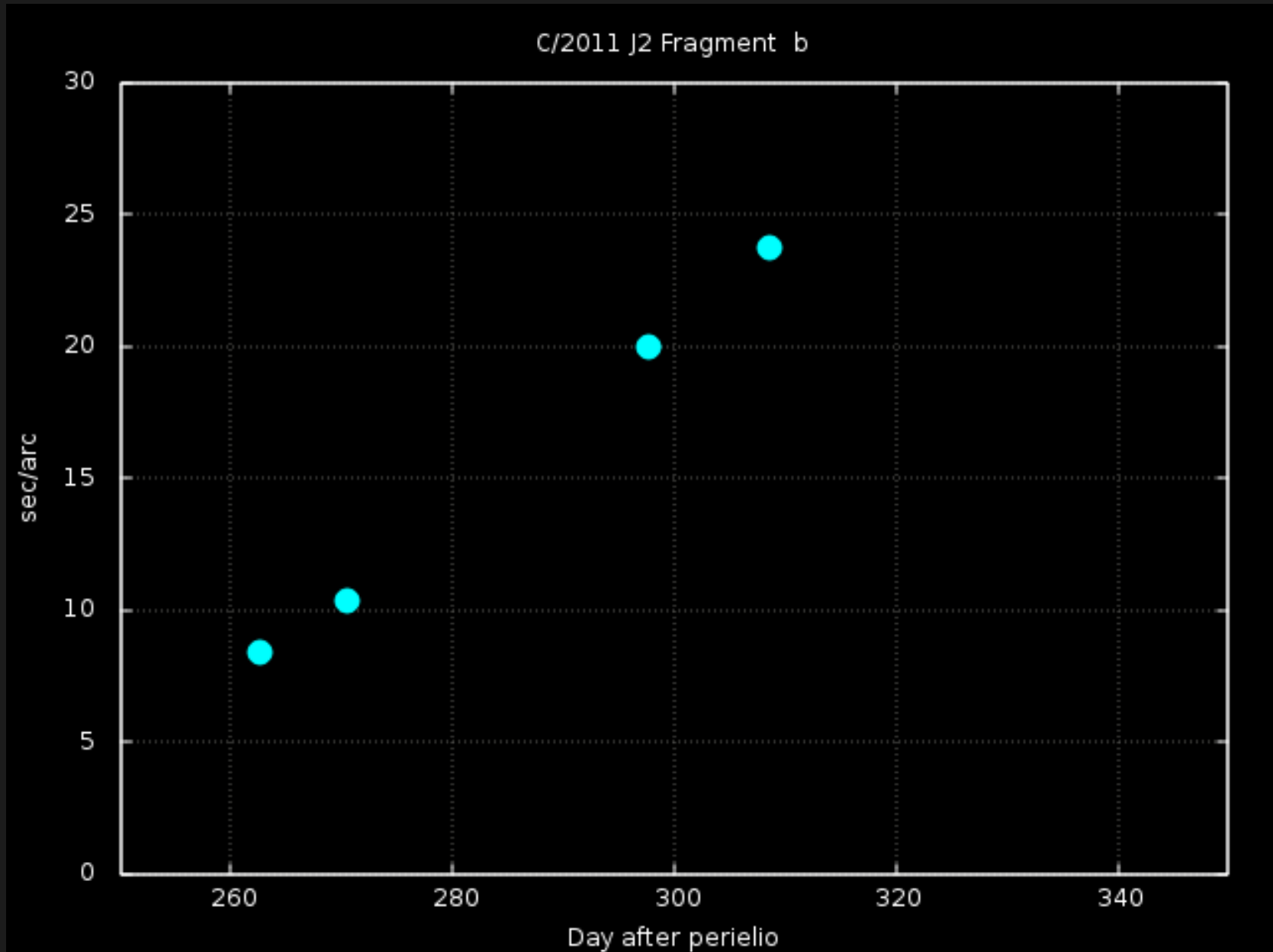
Data	A.R.	Dec	m1	C
2014 09 14.01949	23 41 24.17	+48 29 08.9	16.7 T	104
2014 09 14.03015	23 41 22.97	+48 28 57.1	16.0 T	104
2014 10 19.00146	22 51 49.06	+37 23 20.6	/	104
2014 10 19.00861	22 51 48.70	+37 23 14.2	19.3 T	104
2014 10 19.01575	22 51 48.28	+37 23 04.1	19.4 T	104
2014 10 29.92817	22 43 17.71	+33 32 25.2	19.1 N	B33
2014 10 29.96029	22 43 16.44	+33 31 43.7	/	B33



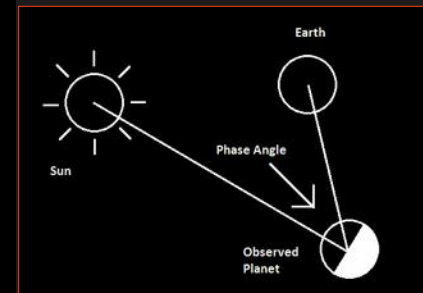
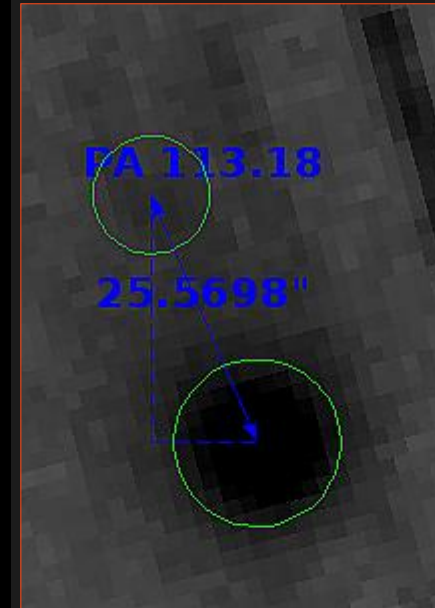
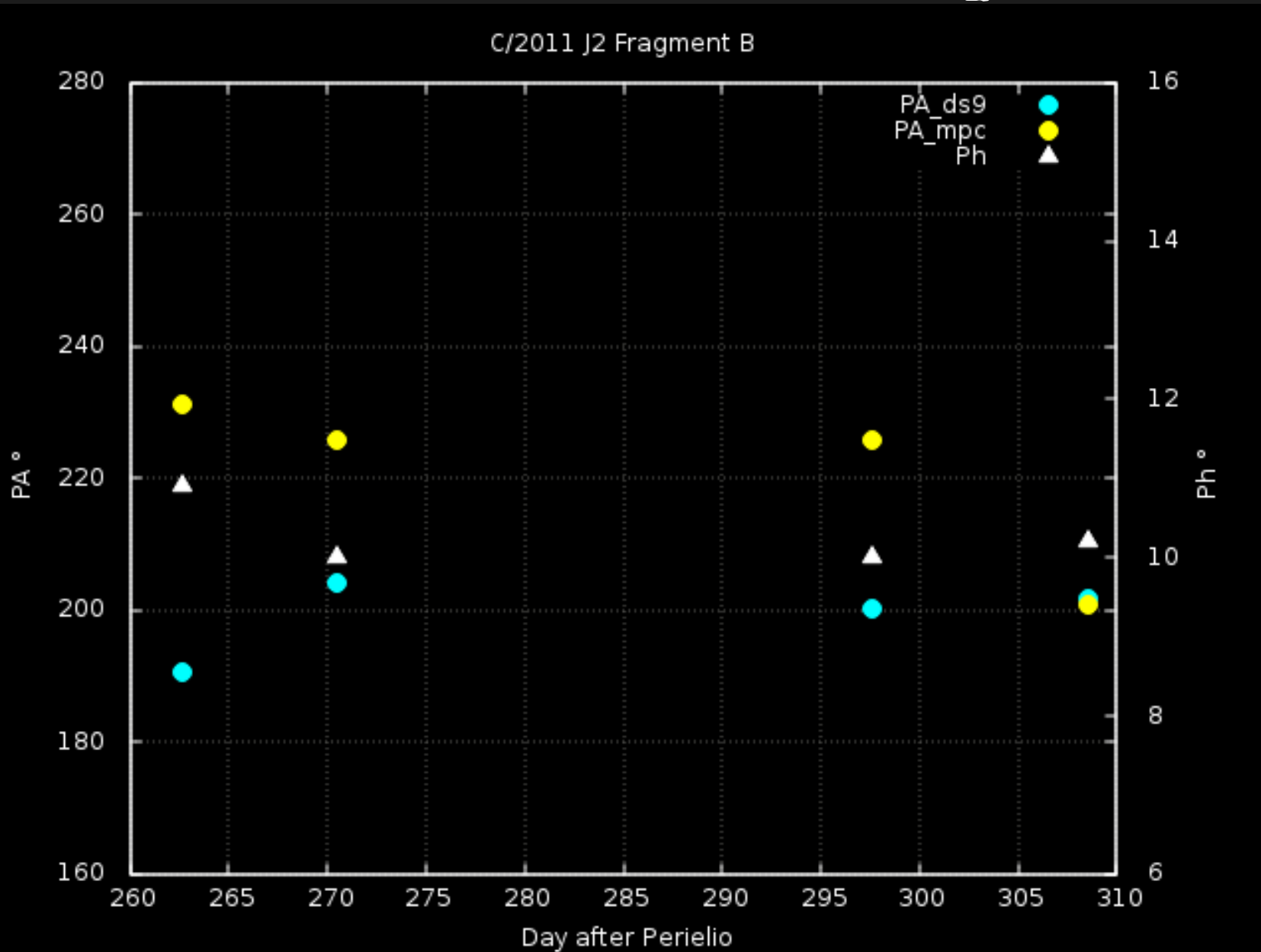
Magnitudine del
frammento B



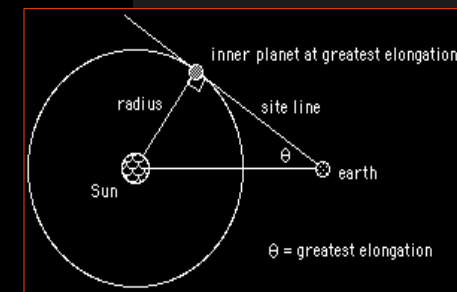
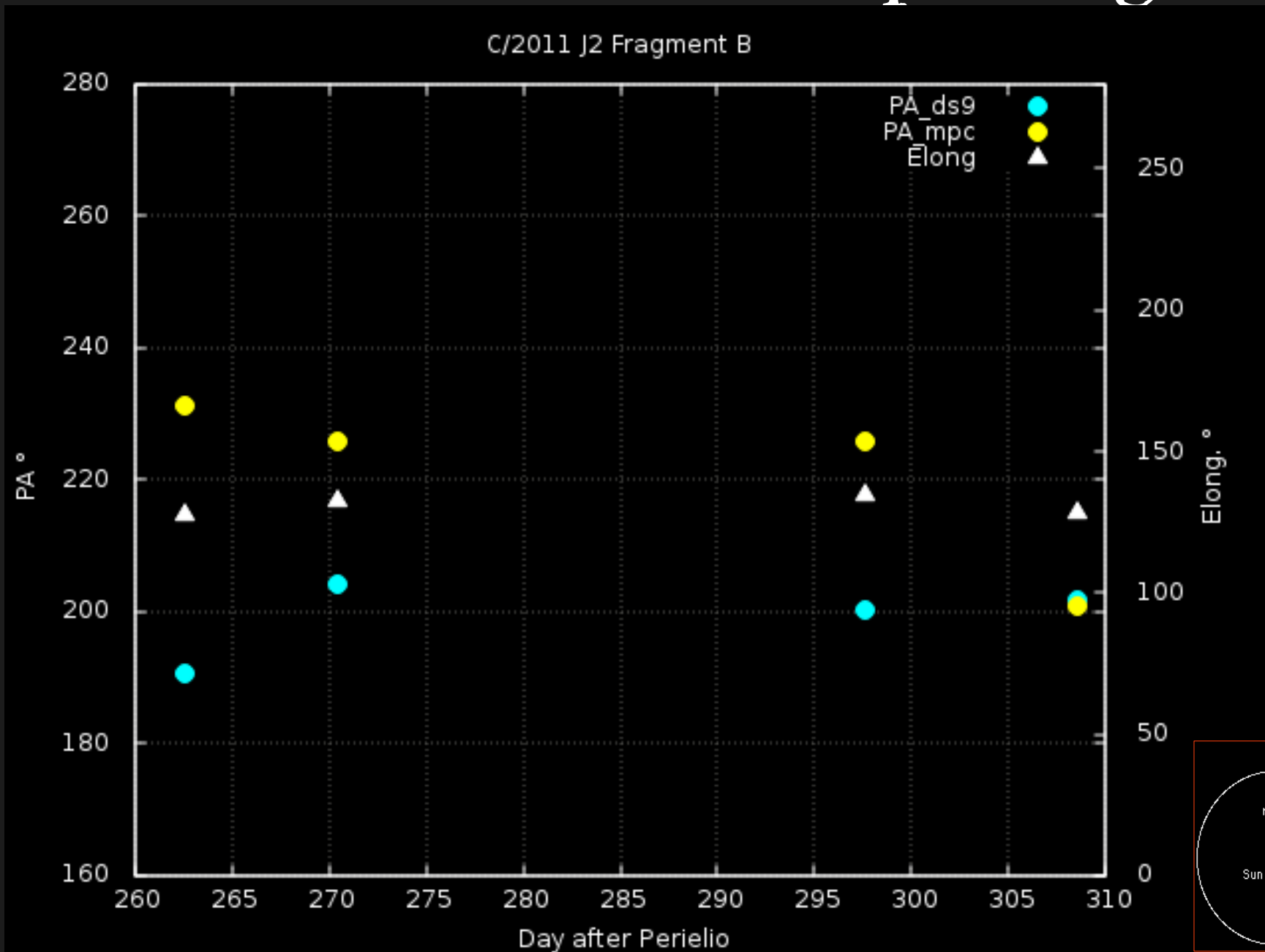
Separazione Cometa Frammento B



PA_DS9 PA_mpc Ph



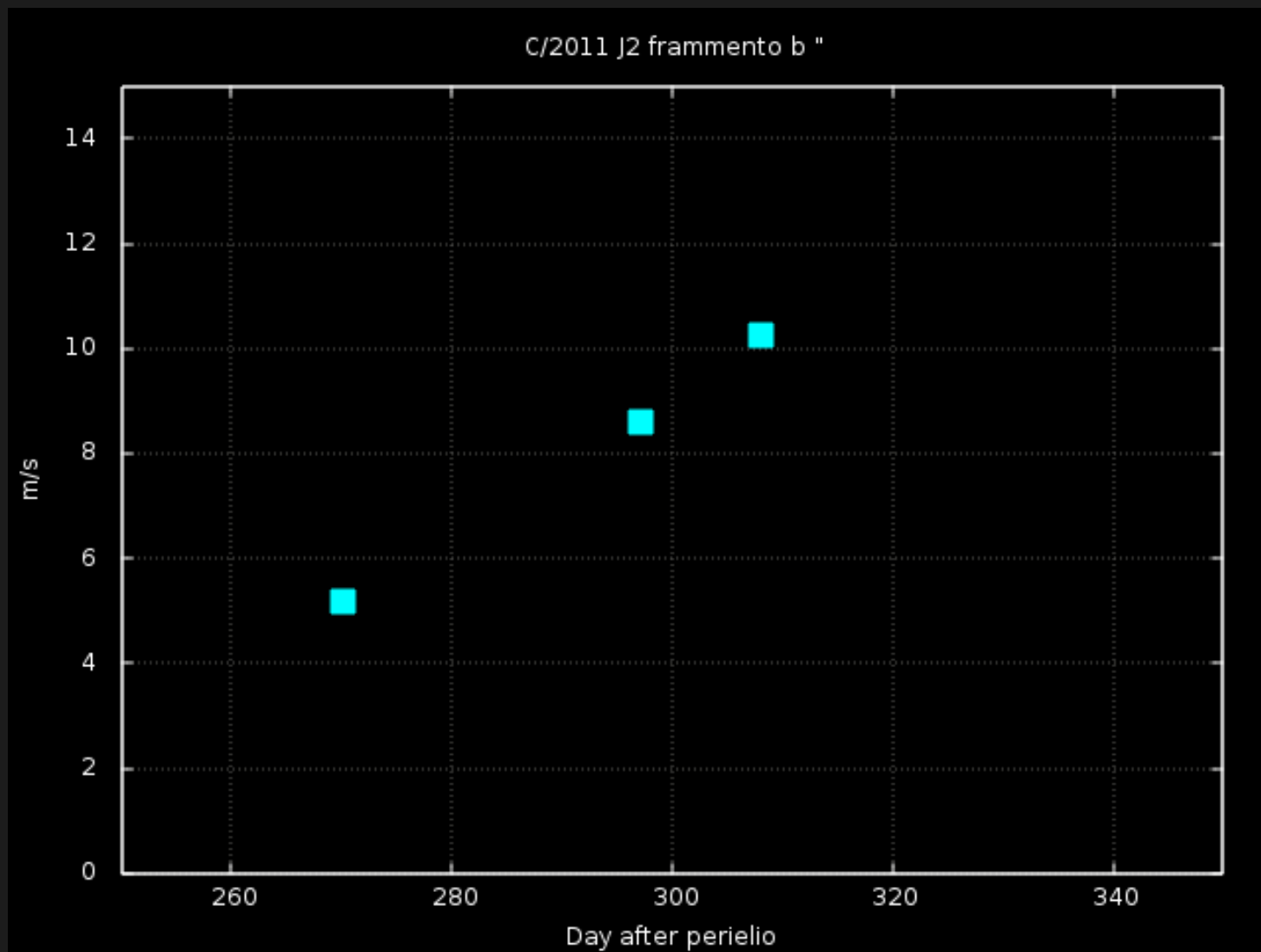
PA_DS9 PA_mpc Elog



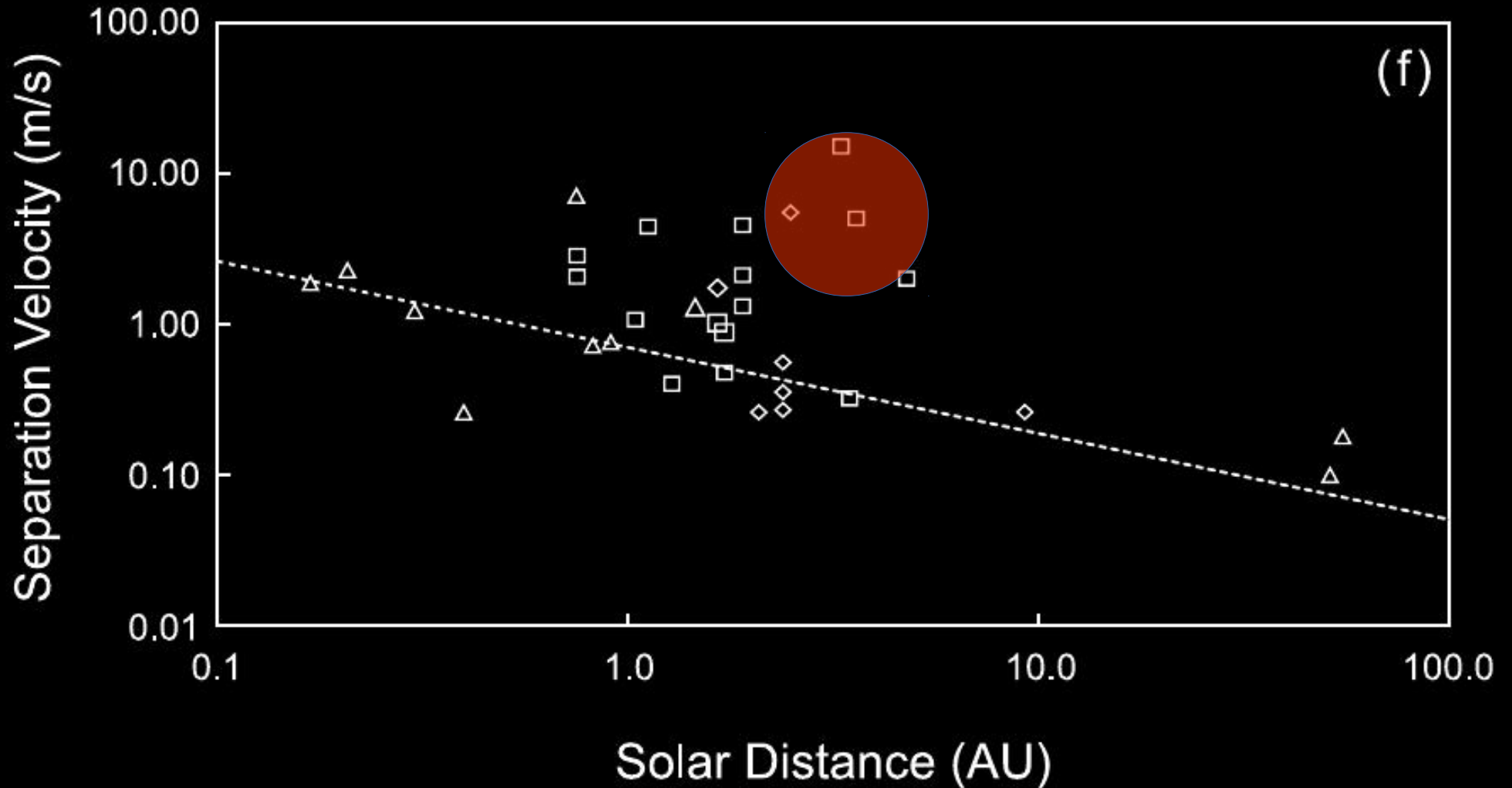
Separazione del frammento B

Velocità m/s (decelerazione)

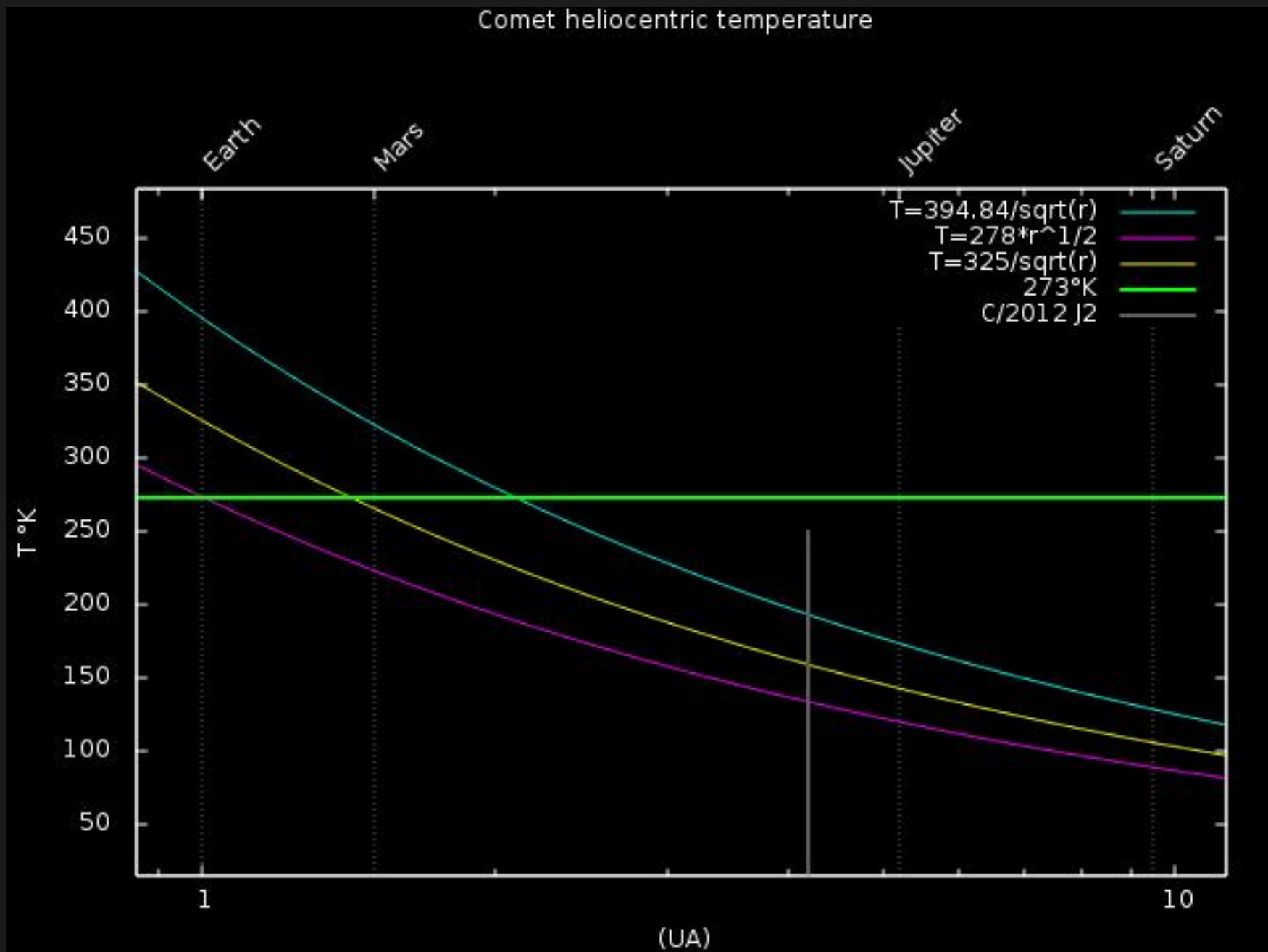
JD	Sep $''$ /arc	Δ Giorni	Δ sep.	m/s
2456914.52696	8.78	/	/	/
2456922.38198	10.17	7.86	1.39	5.18
2456949.50861	19.07	34.98	10.29	8.61
2456960.44437	23.72	45.92	14.94	10.25



Comet Split, H. Boehnhardt



Temperatura della Cometa C/2011 J2



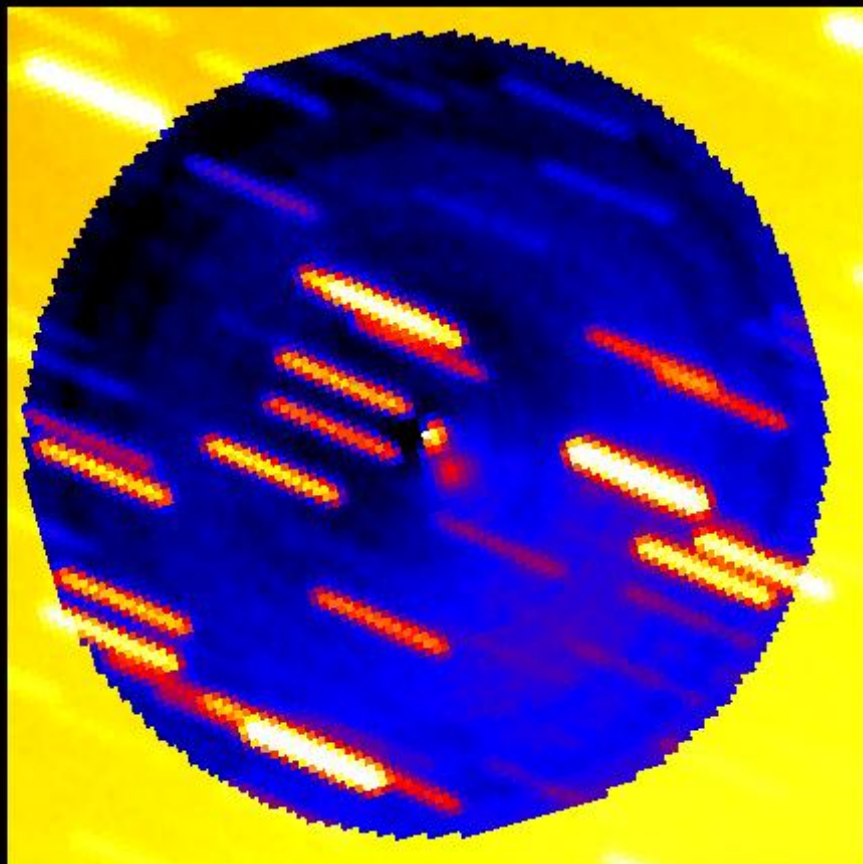
Evoluzione del frammento B (animazione) Coordinate Galattiche



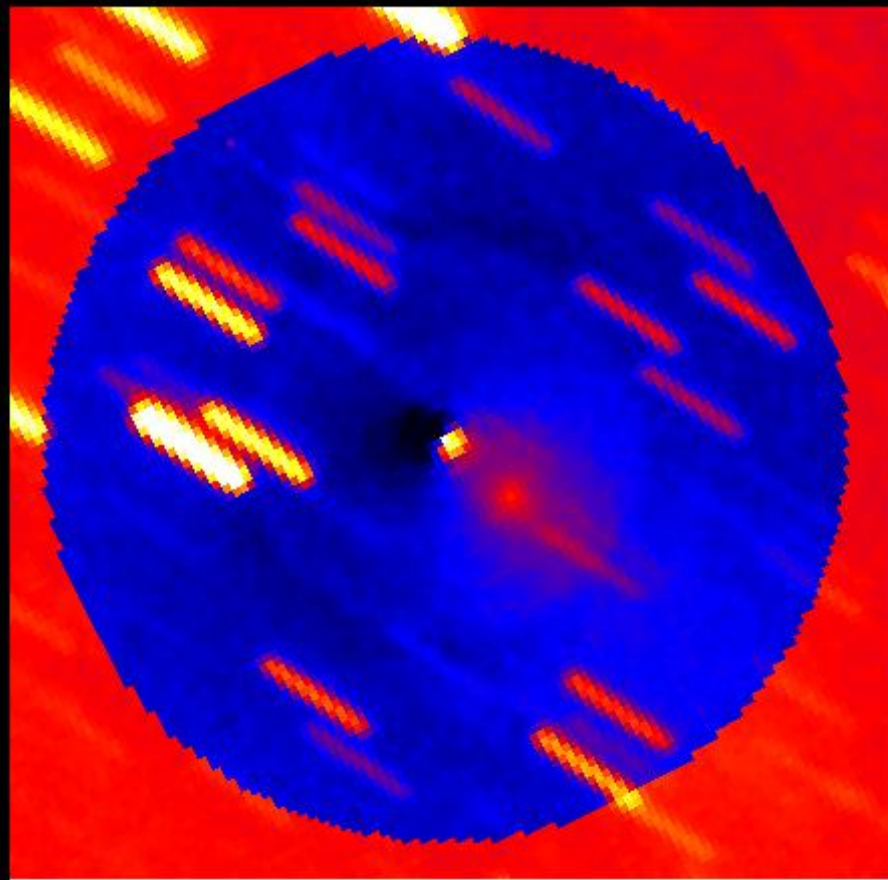
7033 8751 10487 12205 13940 15659 17377 19112 20831

Elaborazione MCM

2014-09-14T00:38



2014-10-19T00:12



Comet 2011 J2 (LINEAR) + Fragment B

Obs 104 San Marcello

Netwon 0.60 m. F/4 ccd 1024x1024 -2"/pixel

CMC Filter

P. Bacci, L. Tesi, G. Fagioli

www.gamp-pt.net



Ricapitolando...

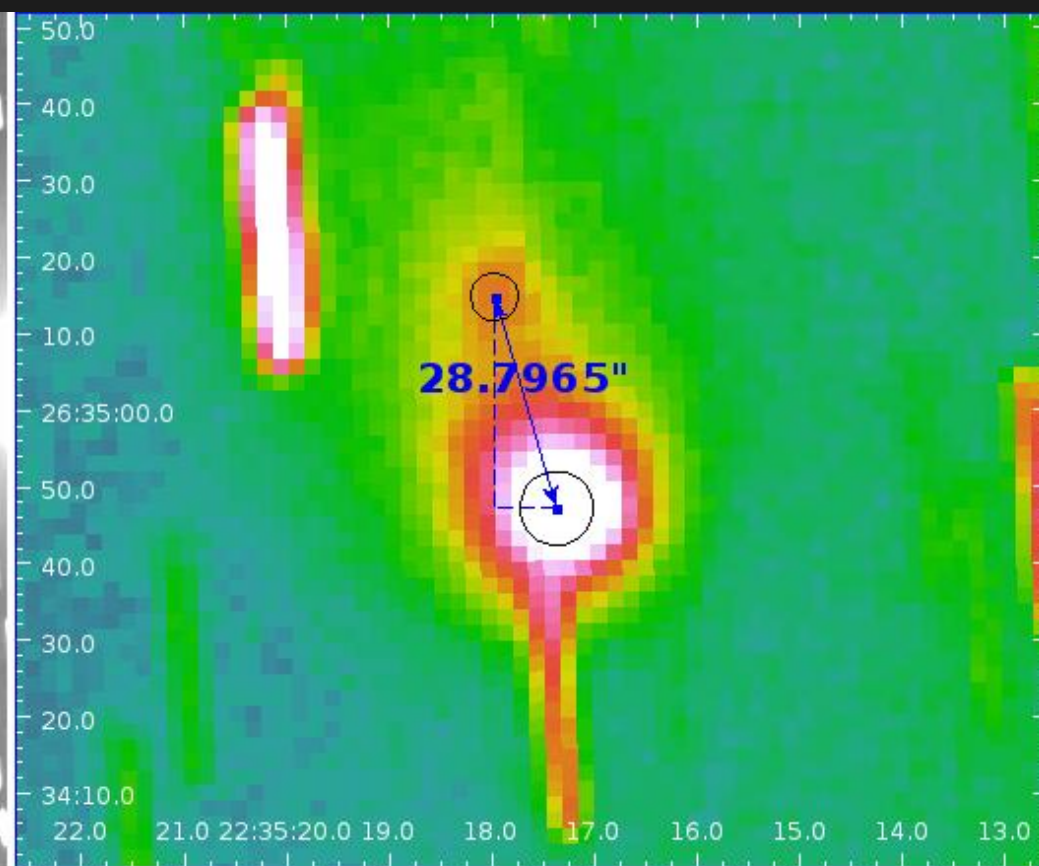
- Immagini analizzate: **4** (con tre diversi telescopi)
- Periodo di osservazione **45.9** giorni
- Magnitudine stimata: **16.5 ± 0.20** a **19.30 ± 0.20** mag.
- allontanamento del frammento B dal nucleo cometario, **3.8 ± 0.1** sec/arc a **23.7 ± 0.1** sec/arc.
- modifica asset di **$39.5^\circ \pm 5.0$** , con un andamento esponenziale ($R_2=0.9990$)
- Decelerazione velocità media da **5.1** m/s a **10.5** m/s
- Temperatura ~ **$150^\circ K$** a 4.2 UA



Lavori in corso



2014-11-20T20:21:06



826

954

1212

1722

2752

4789

8845

17032

33223



Grazie per l'attenzione
bo9.backman@gmail.com
backman.altervista.org



DOMENICA 7
DICEMBRE 2014
Libbiano Peccioli c/o
Osservatorio
Relatore: Paolo Bacci