Astrometric Observations of Some MBAs and NEAs at TUG and Observational Facilities of Akdeniz University

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1. *TUBITAK National Observatory*
2. *Akdeniz University*

- Observational Facilities at Akdeniz University
- Astrometric reduction method followed
- Observational results
- Conclusions

Observational Facilities at Akdeniz University

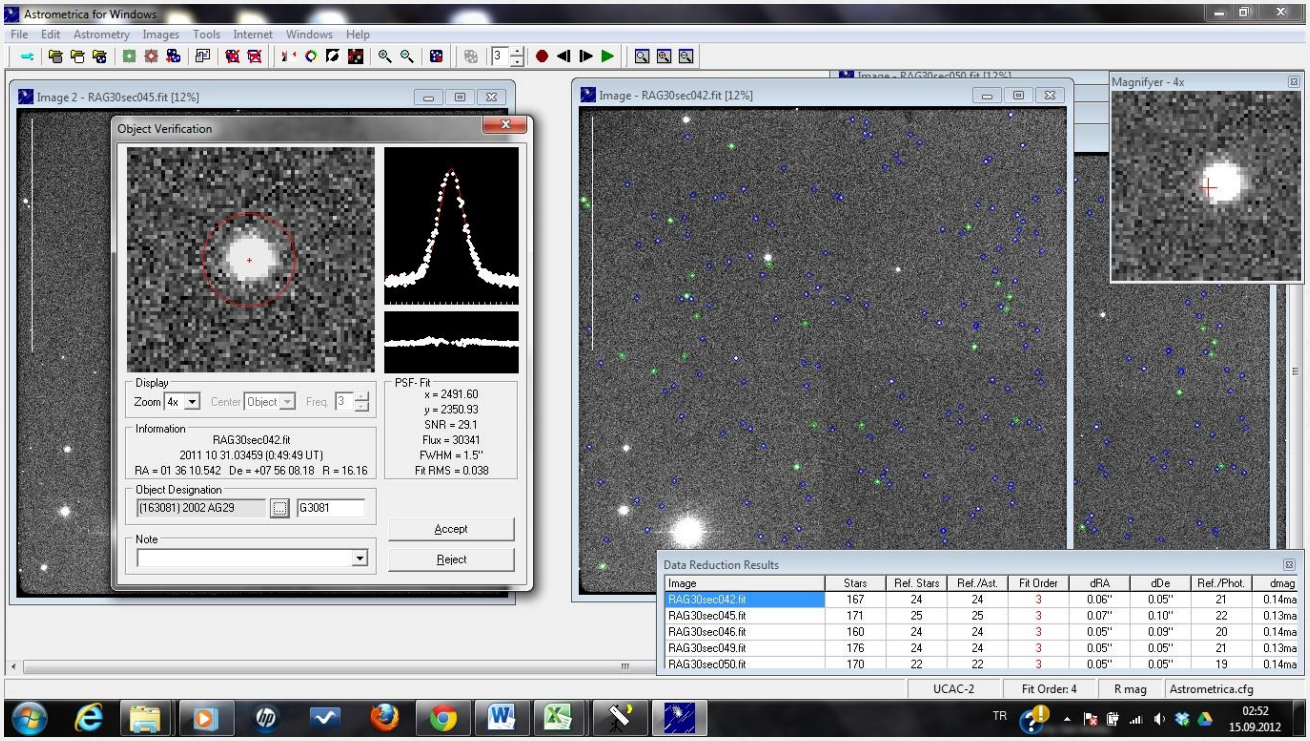
Akdeniz University 1m Telescope

Akdeniz University T60 Telescope

Focal Length	4145 mm (163.19 inch)
Focal Ratio	f/6.8
Central Obstruction	41% of the Primary Mirror Diameter
Back Focus from Mounting Surface	13.45 inch (342 mm)
Back Focus from Racked in Focuser	9.45 inch (240 mm)
Weight	240 lbs (108.9 kg)
OTA Length	55 inch (1,397 mm)
OTA Width	32 inch (813 mm)
OTA Height	37 inch (940 mm)
Upper Cage	Carbon Fiber Truss
Lower Cage	Carbon Fiber Truss with Aluminum Light Shroud
Optimal Field of View	70 mm (58 arcminute)
Aperture	24 inch (610 mm)

Akdeniz University T25 Telescope

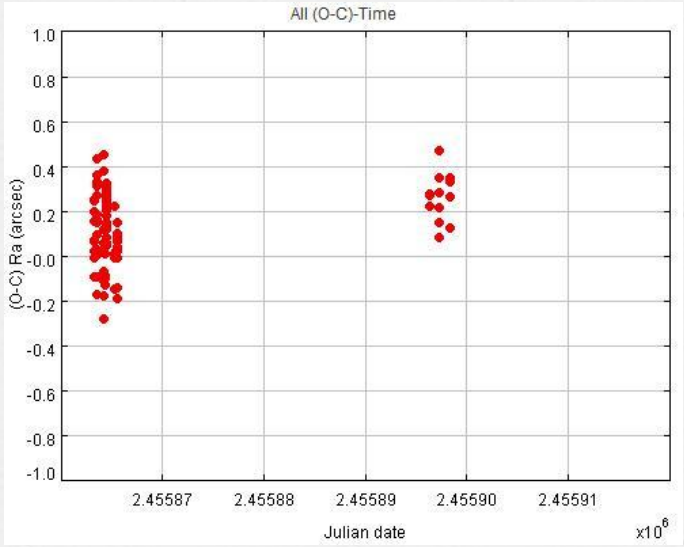
Astrometric reduction method followed



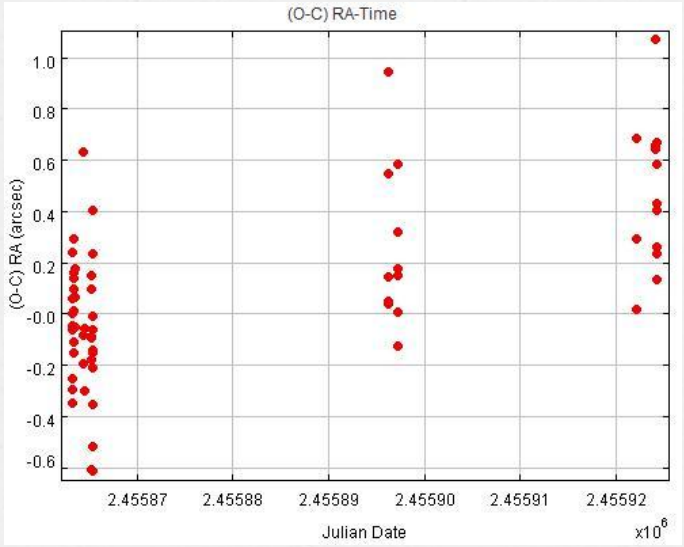
- The data obtained with TUBITAK National Observatory T 100 Telescope
- We have 121 exposures for 2002 AG29 (NEO) and 66 exposures for 2000 SP43 (PHA) in three months period
- At first we have used Astrometrica software to obtain the coordinates of asteroids.
- Then we have calculated O-C values from JPL Horizons sytem data.
- Finally the graphs are drawn according to these information.

(O-C) RA-Time

2002 AG29

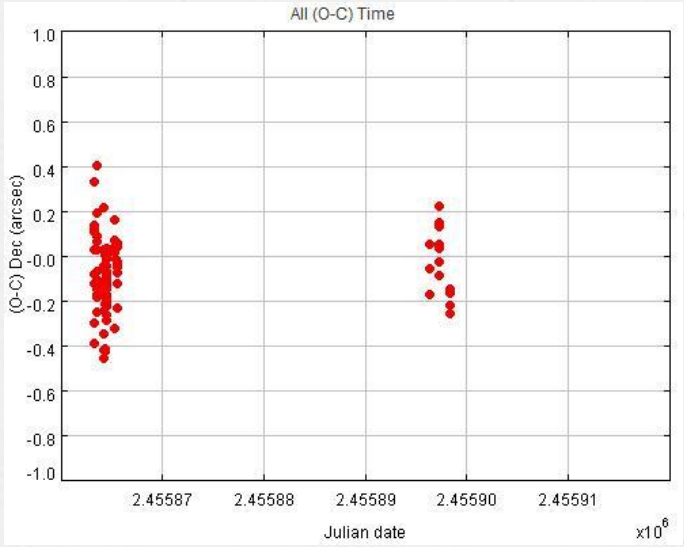


2000 SP43

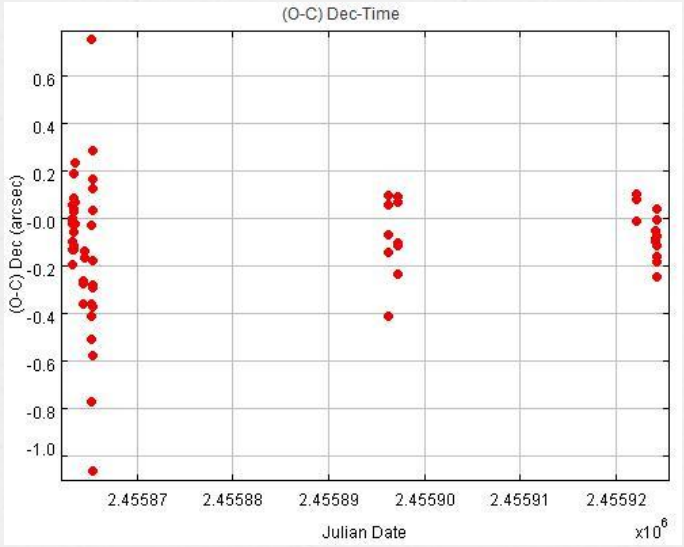


(O-C) Dec-Time

2002 AG29

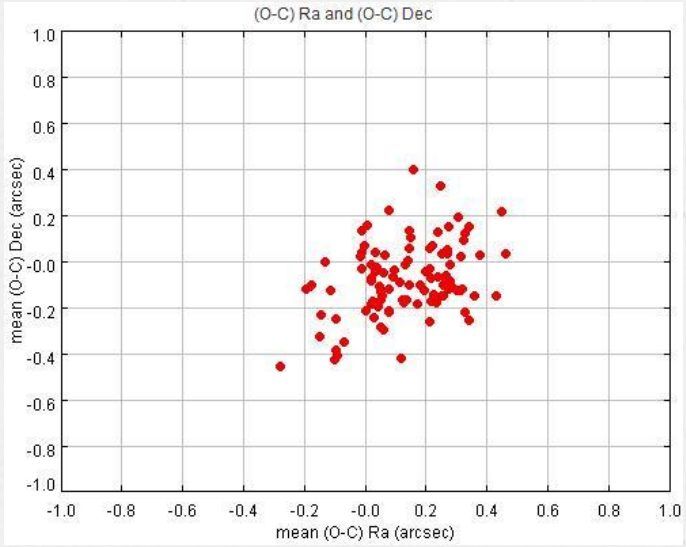


2000 SP43

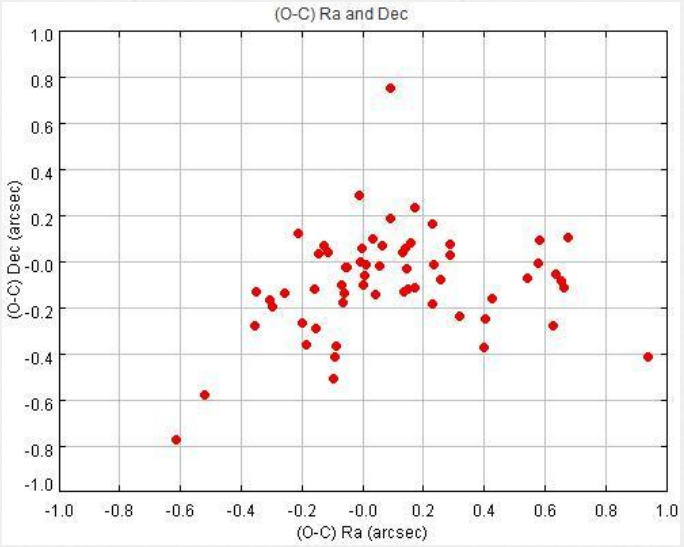


(O-C) RA and Dec

2002 AG29

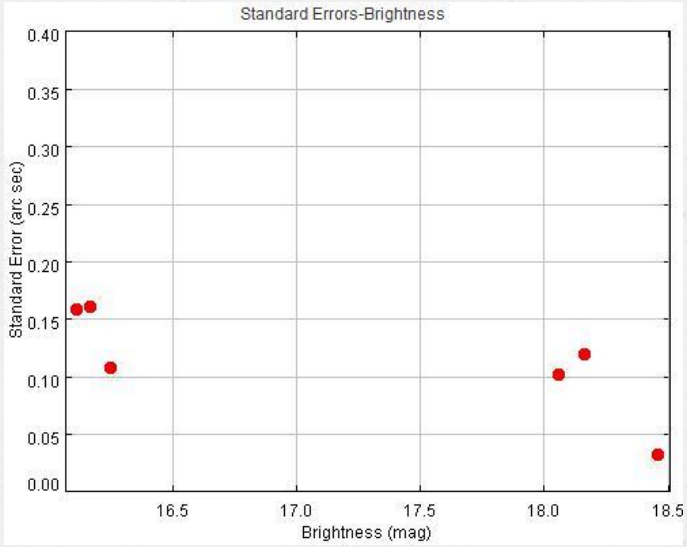


2000 SP43

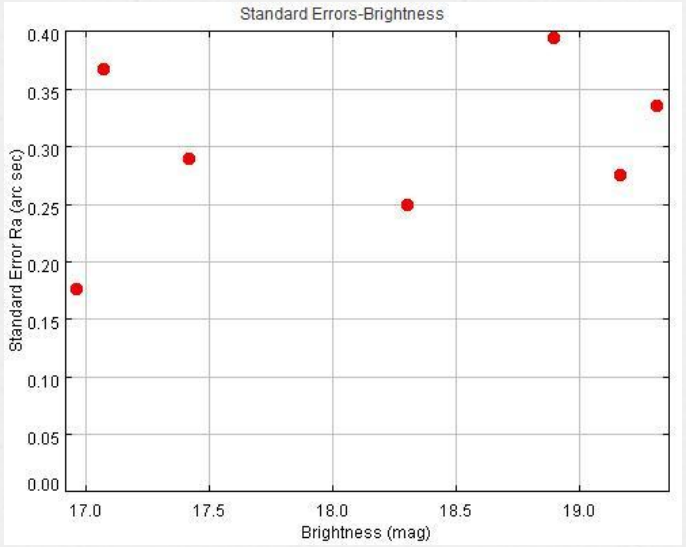


Standart Errors RA-Brightness

2002AG29

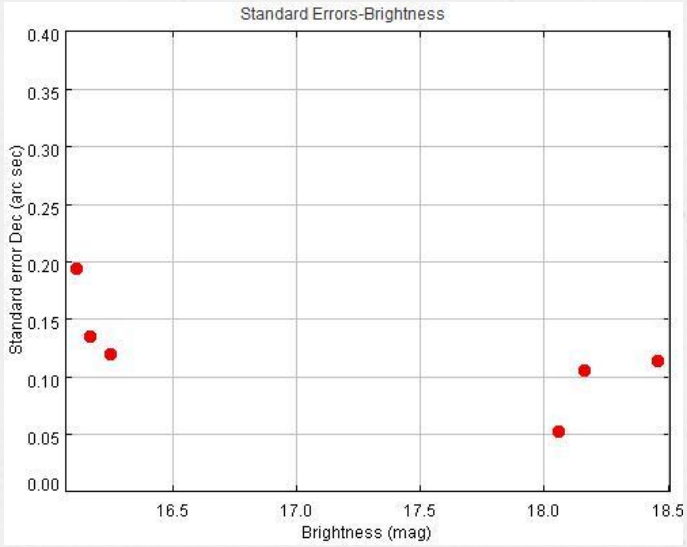


2000SP43

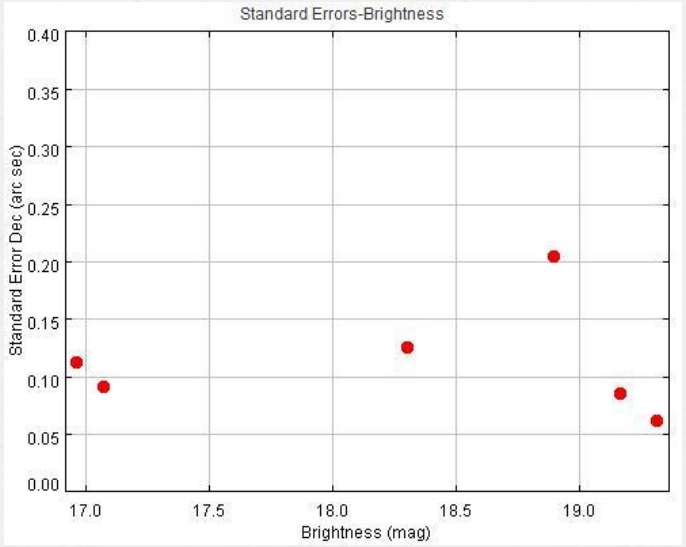


Standart Errors Dec-Brightness

2002 AG29



2000 SP43



Conclusions

- These graphs has shown that we have a little systematic error (0.2˝), we are working on this problem to solve it.

  According to NASA NEO Program:
- Fit RMS for 2002 AG29 is 0.55˝
- Fit RMS for 2000 SP43 is 0.41˝
- Our fit RMS is about 0.2˝for 2002 AG29
- Our fit RMS is about 0.3˝for 2000 SP43
- Our observations can be useful for improvement of the orbits of these objects

THANK YOU!