HIGH PRECISION ASTROMETRY OF OCCULTING ASTEROIDS
High Precision Astrometry of Occulting Asteroids

using the 0.61m Ritchey-Chretien off axis equatorial mounted telescope in observatory building TM-12 at JPL’s Table Mountain Facility
There are a lot of things in the universe, however with High Precision Astrometry of Occulting Asteroids, we aren’t concerned with most of them.
M8 – The Lagoon Nebula
M51 – The Whirlpool Galaxy
Objects within our own solar system however do have our attention. Orbits of the outer planet’s moons can be predicted with the same techniques used to refine the orbits of the asteroids we observe nightly.

Saturn and several of its moons.
This is Saturn taken this year using the newest 4K-FLI CCD camera.

We are now using new methods in an attempt to better capture the satellites of Saturn in order to maximize accuracy.
Aerial view of the Table Mountain Facility
0.61m diameter telescope located in TM-12
2K CCD camera used during most of the summer 2012 and into the spring of this year.
Camera: 2K  Exptim:  60.0000

Tob: 2012 Aug 20 (233) 08:00:00.000

RA:  18°55'16.56"  Right Ascension
Dec:  -22°49'41.88"  Declination
Twist:  -0.075654
Al:  99.699016  Beta Angle
Bi:  135.184976  
Cam:  -95.528095  

Targeted Reference Stars
Outlying Reference Stars
Target Object LEDA
Computer Magic happens while reduction scripts are running!

doit <YYDDDD>
check <YYDDDD>
Runs a check to ensure the proper date that corresponds with the file data.

Runs a “prepare” script which reformats the file type and sets the file prefixes.

Runs a “centroid” script which uses known stat locations to center each object.

Runs the “reduce” script which compresses each file in preparation for delivery.

This is the “doit” script, and it isn’t really magic.
CLASSIFIED:
NOT FOR PUBLIC RELEASE
CLASSIFIED:

NOT FOR PUBLIC RELEASE

CLASSIFIED:

NOT FOR PUBLIC RELEASE
Computer Magic happens while more scripts are running!

deliver <YYDDDD>
cleanup <YYDDDD>
CLASSIFIED:
NOT FOR PUBLIC RELEASE
The End
Acknowledgements

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PEOPLE LIKE YOU!

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