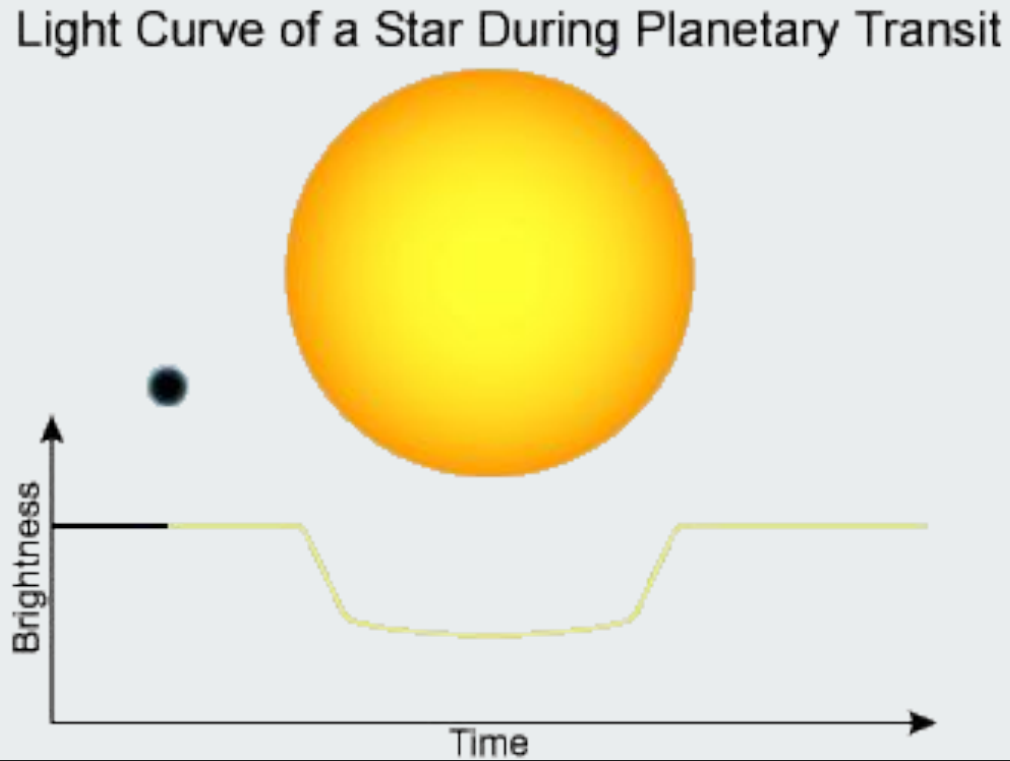
Amateur Exoplanet Observing

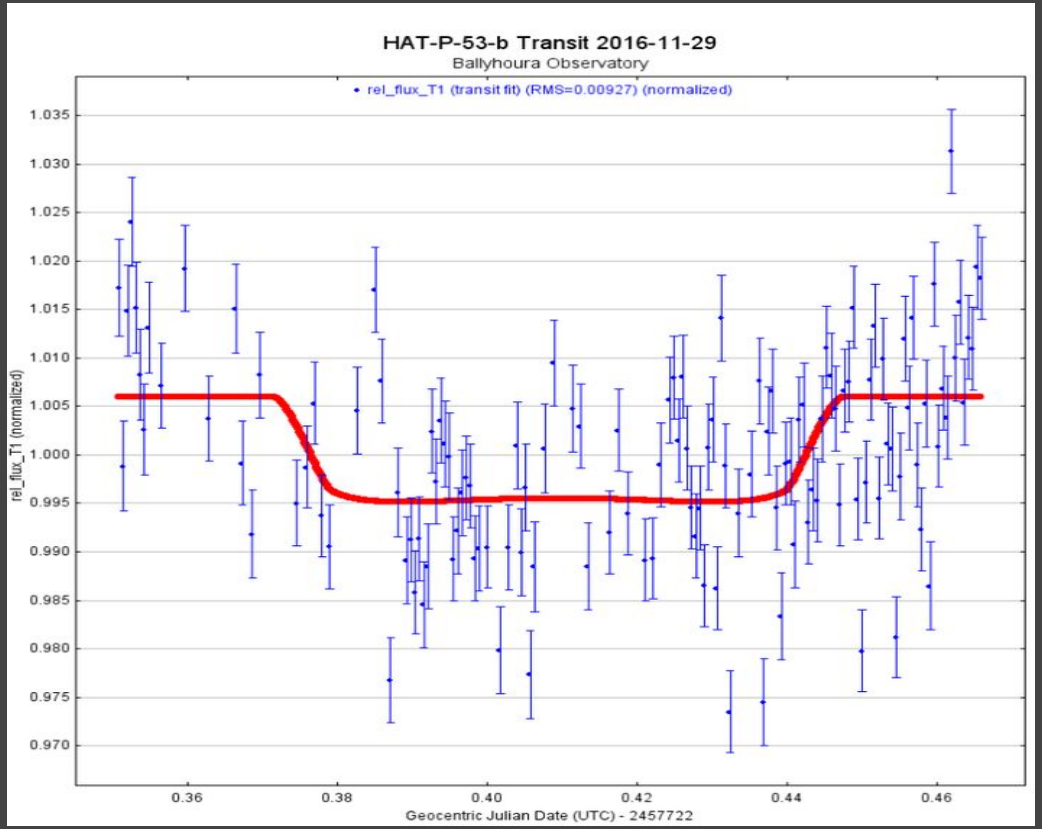


Exoplanet Transits

As seen from North Cork

Using:
Celestron C11
ATIK 383L+ ccd camera

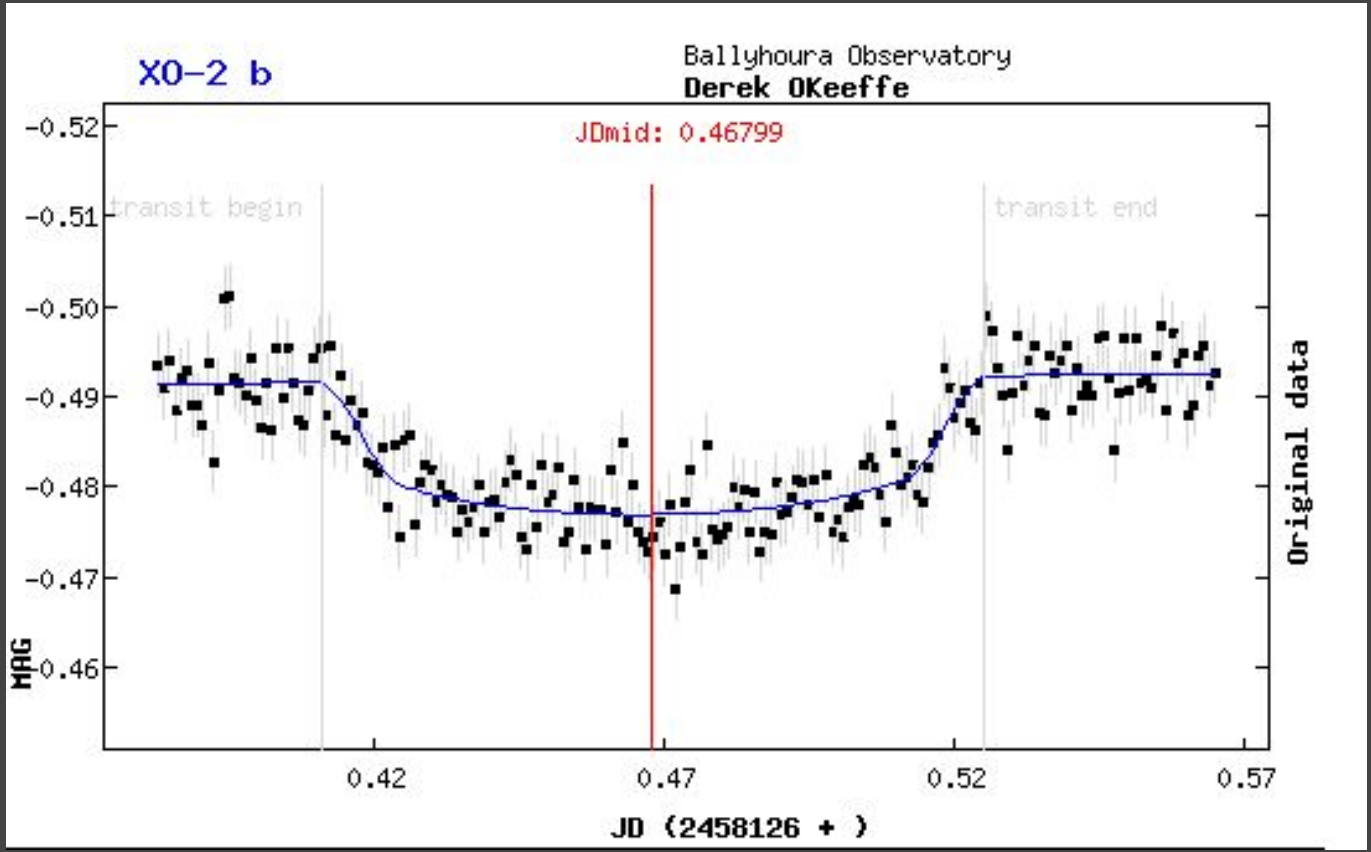
HAT-P-53b



Exoplanet Transits

As seen from North Cork

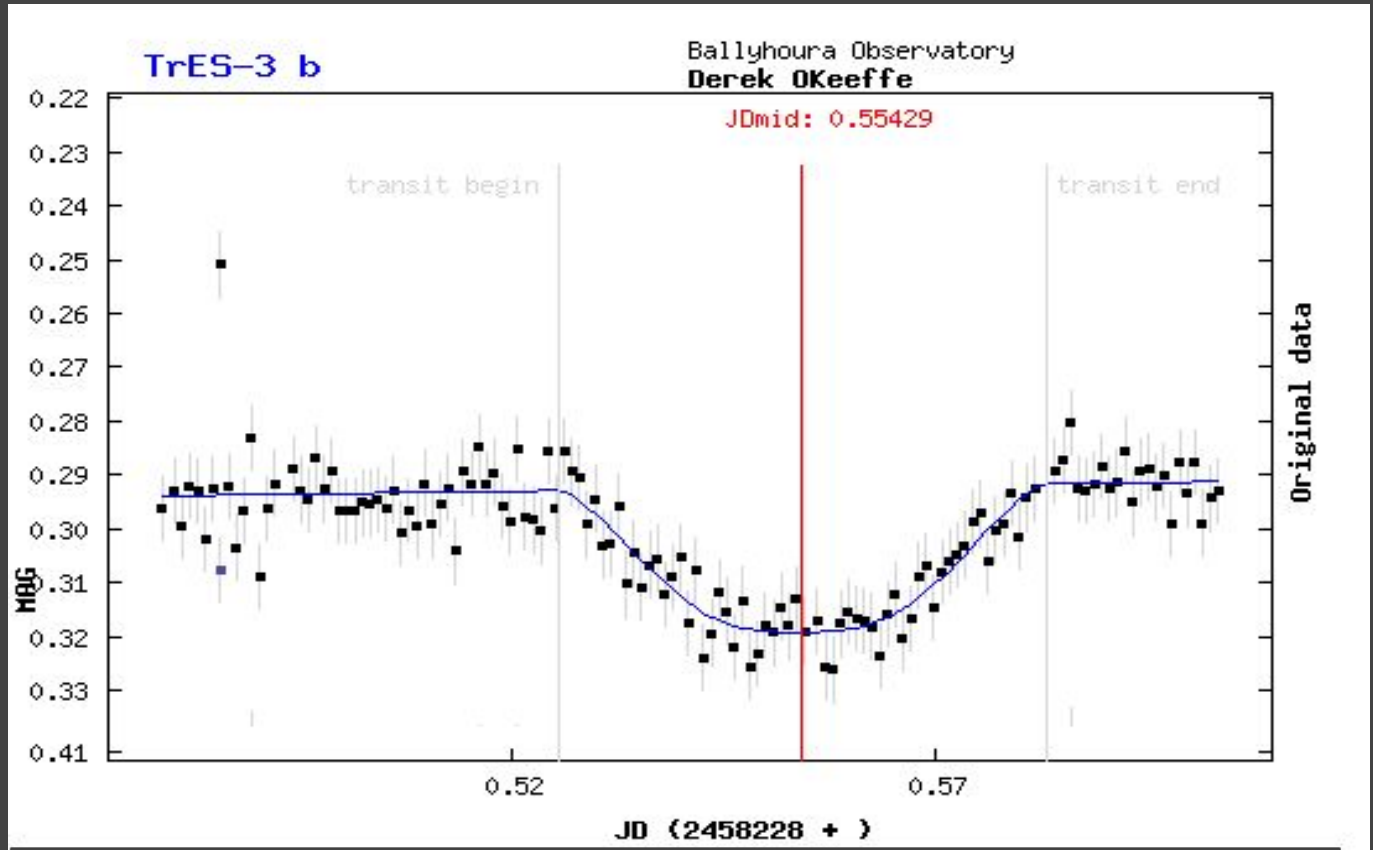
XO-2 b



Exoplanet Transits

As seen from North Cork

TrES-3 b

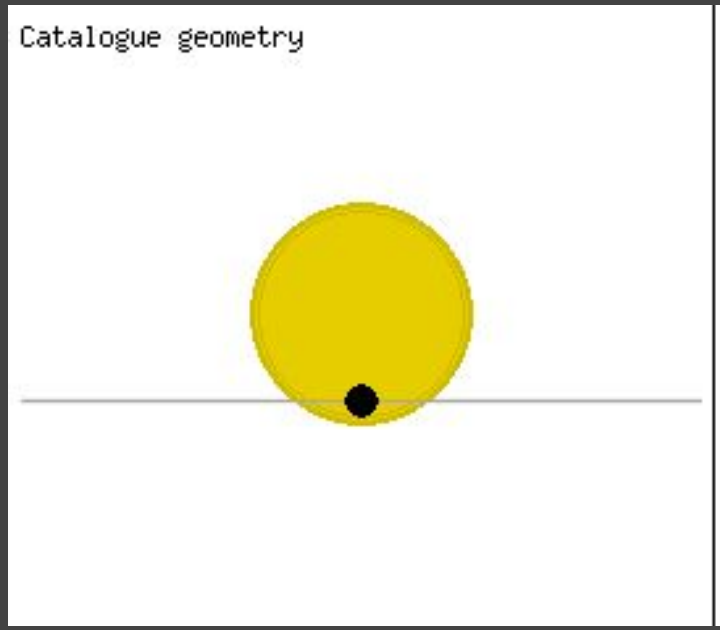


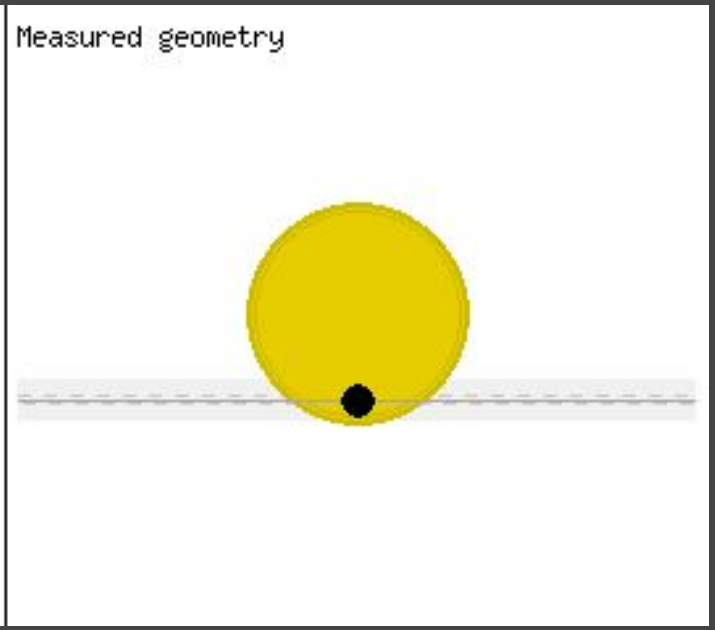
Exoplanet Transits

As seen from North Cork

TrES-3 b

Orbit Measured





How-To Guide

1. Automation
2. Data Collection
3. Data Reduction

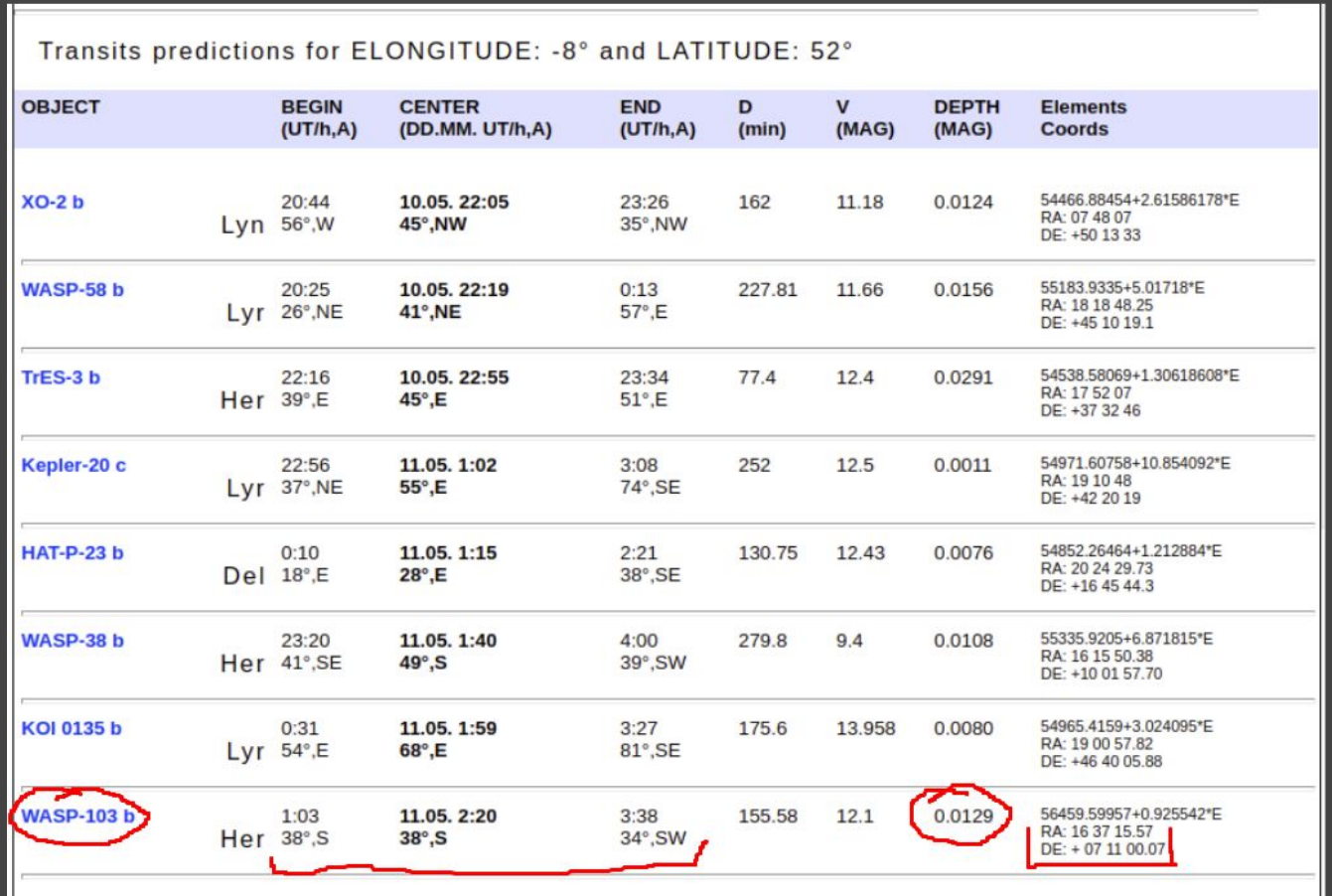
1 Automation

2 Data Collection

1. Plan a target : ETD website
2. >0.01 mag dip
3. Above 30deg altitude
4. Create a schedule 200 x 60sec images
5. Start schedule and go to bed!!

2 Data Collection

ETD website

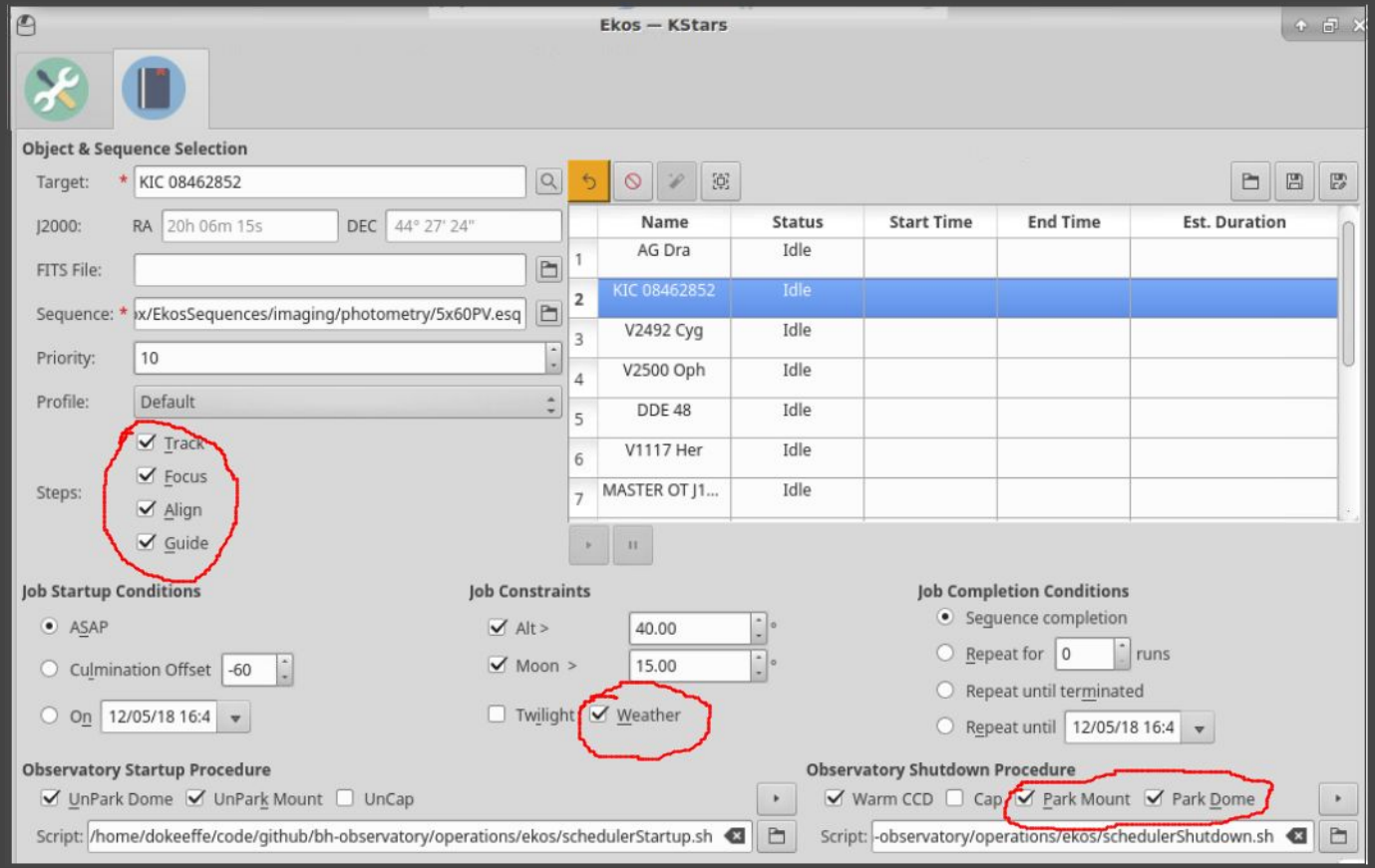


Transits predictions for ELONGITUDE: -8° and LATITUDE: 52°

OBJECT		BEGIN (UT/h,A)	CENTER (DD.MM. UT/h,A)	END (UT/h,A)	D (min)	V (MAG)	DEPTH (MAG)	Elements Coords
XO-2 b	Lyn	20:44 56°,W	**10.05. 22:05** **45°,NW**	23:26 35°,NW	162	11.18	0.0124	54466.88454+2.61586178*E RA: 07 48 07 DE: +50 13 33
WASP-58 b	Lyr	20:25 26°,NE	**10.05. 22:19** **41°,NE**	0:13 57°,E	227.81	11.66	0.0156	55183.9335+5.01718*E RA: 18 18 48.25 DE: +45 10 19.1
TrES-3 b	Her	22:16 39°,E	**10.05. 22:55** **45°,E**	23:34 51°,E	77.4	12.4	0.0291	54538.58069+1.30618608*E RA: 17 52 07 DE: +37 32 46
Kepler-20 c	Lyr	22:56 37°,NE	**11.05. 1:02** **55°,E**	3:08 74°,SE	252	12.5	0.0011	54971.60758+10.854092*E RA: 19 10 48 DE: +42 20 19
HAT-P-23 b	Del	0:10 18°,E	**11.05. 1:15** **28°,E**	2:21 38°,SE	130.75	12.43	0.0076	54852.26464+1.212884*E RA: 20 24 29.73 DE: +16 45 44.3
WASP-38 b	Her	23:20 41°,SE	**11.05. 1:40** **49°,S**	4:00 39°,SW	279.8	9.4	0.0108	55335.9205+6.871815*E RA: 16 15 50.38 DE: +10 01 57.70
KOI 0135 b	Lyr	0:31 54°,E	**11.05. 1:59** **68°,E**	3:27 81°,SE	175.6	13.958	0.0080	54965.4159+3.024095*E RA: 19 00 57.82 DE: +46 40 05.88
WASP-103 b	Her	1:03 38°,S	**11.05. 2:20** **38°,S**	3:38 34°,SW	155.58	12.1	0.0129	56459.59957+0.925542*E RA: 16 37 15.57 DE: + 07 11 00.07

2 Data Collection

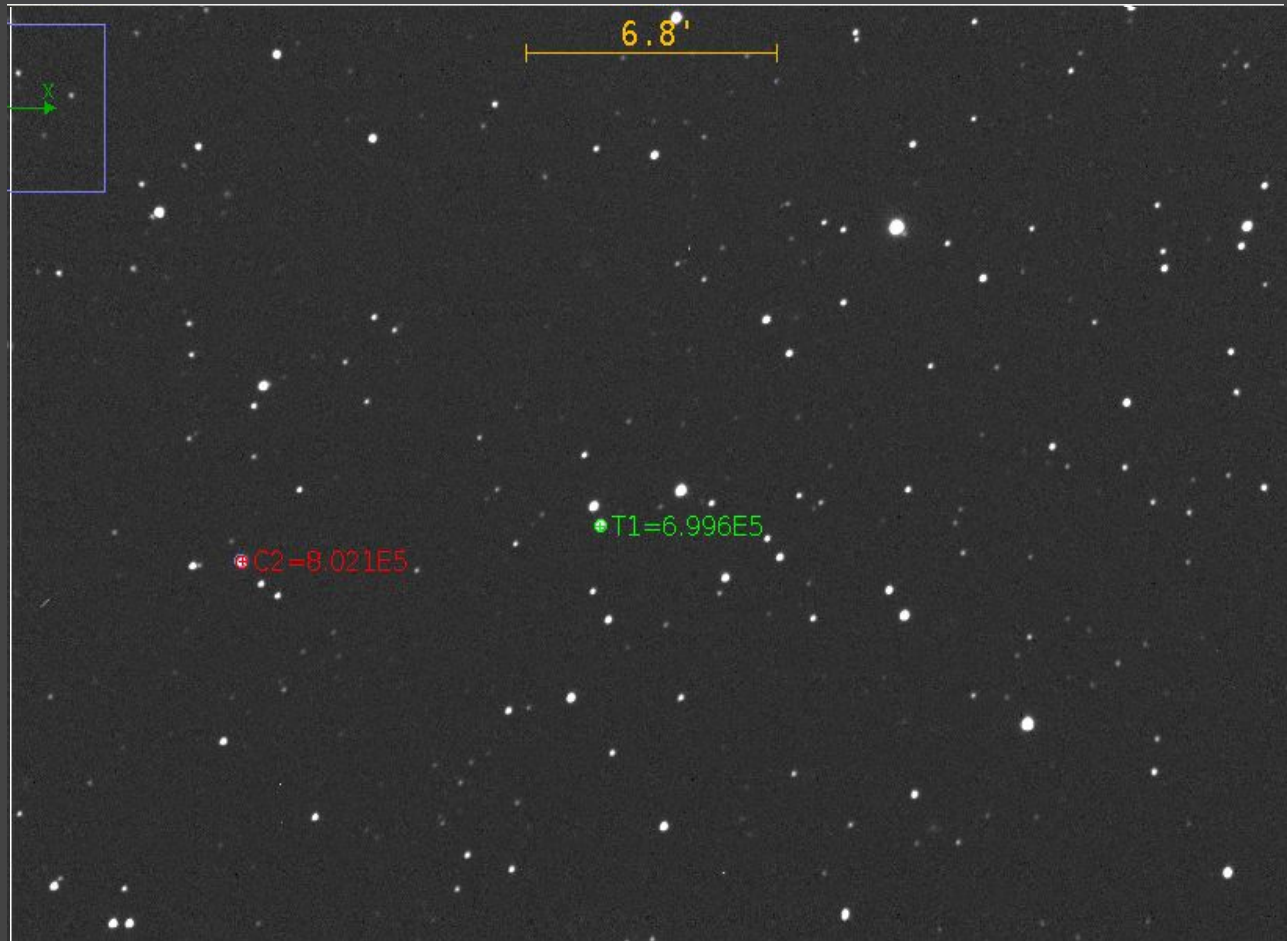
INDI
Scheduler




I HAVE NO IDEA
WHAT I'M DOING
quickmeme.com

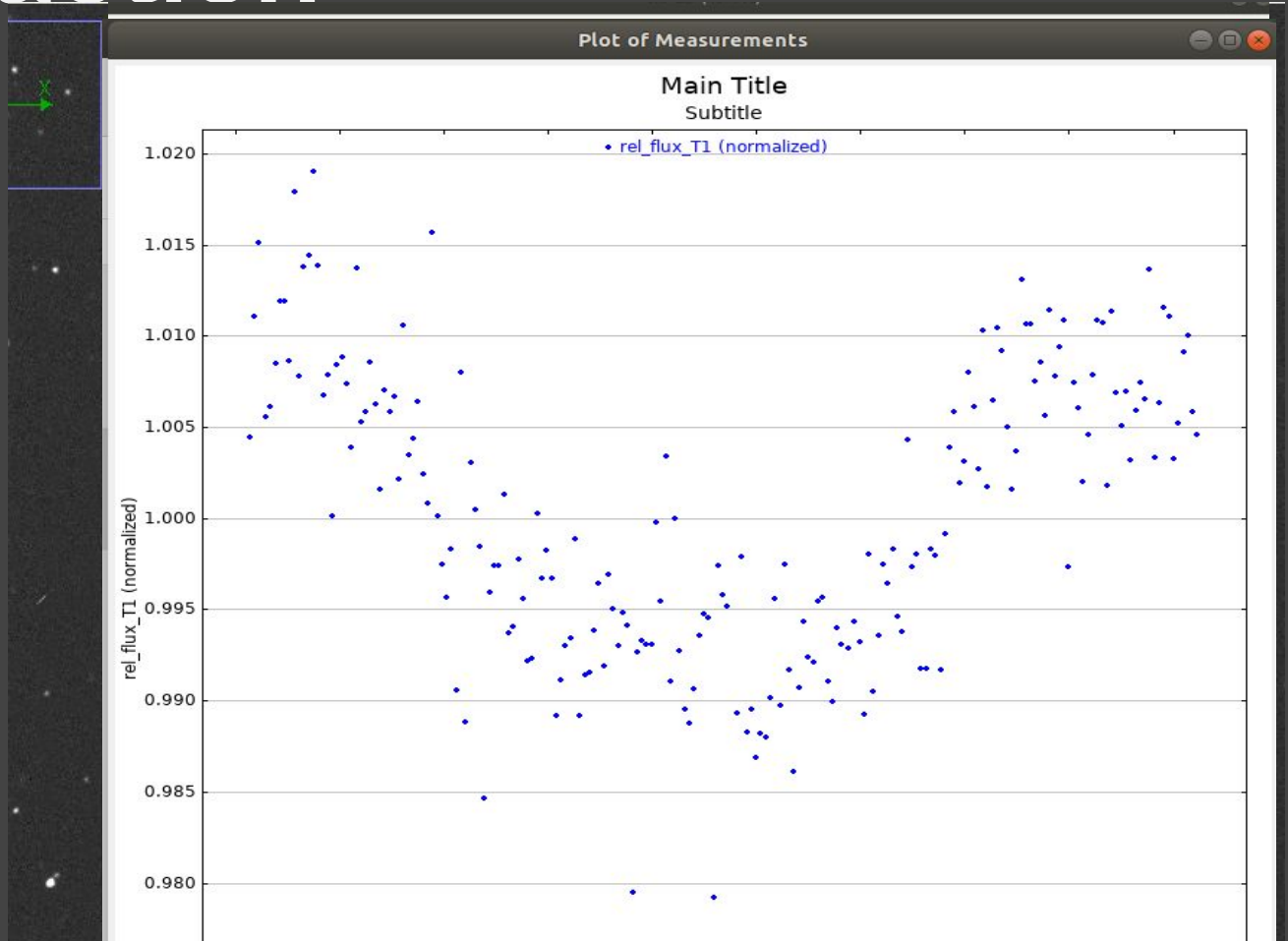
3 Data Reduction

Differential photometry with AstroimageJ



3 Data Reduction

Differential photometry with AstroimageJ



More info?

Recommended read: *B.L.Gary (2007) Exoplanet observing for amateurs*
http://brucegary.net/book_EOA/x.htm

AAVSO https://www.aavso.org/

ETD http://var2.astro.cz/ETD/predictions.php?delka=-8&submit=submit&sirka=52

@BallyhouraStars

https://github.com/dokeeffe