

# KIC 011455507

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011455507-01	OBS	No	0.642541	132.648858	12.4	1.221	8.9	2.9	0.83	5760	0.40	3367.98

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011455507-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

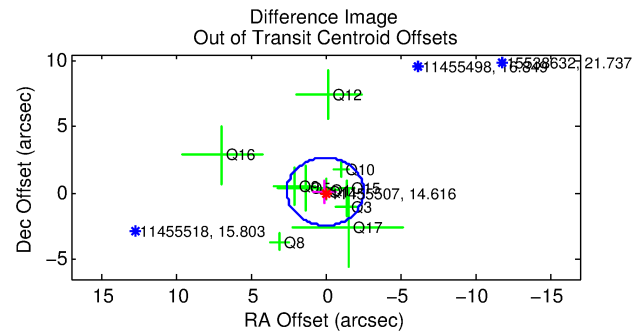
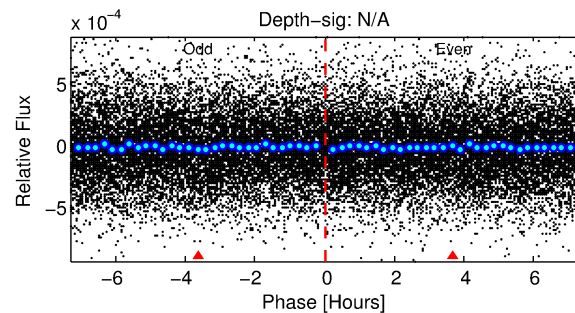
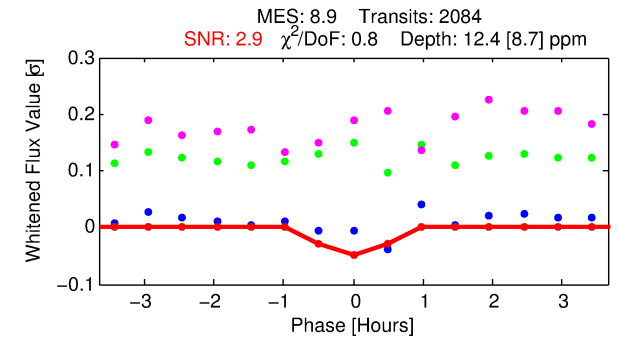
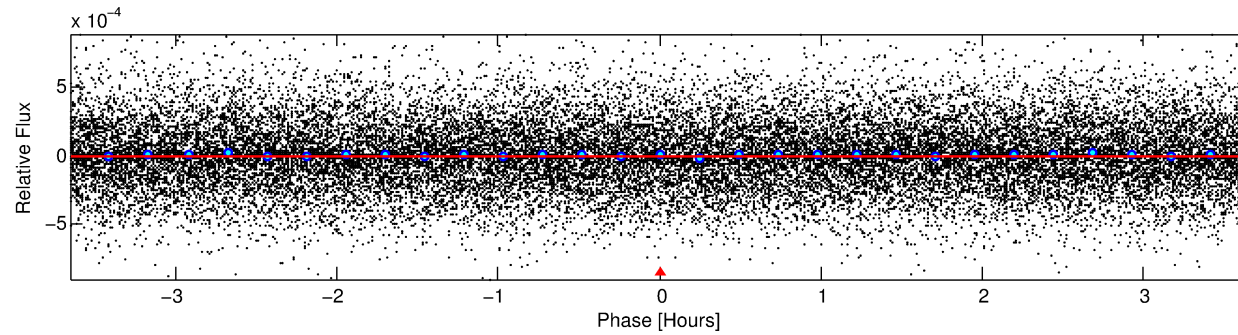
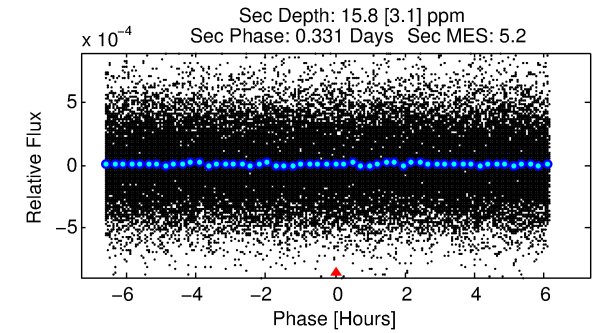
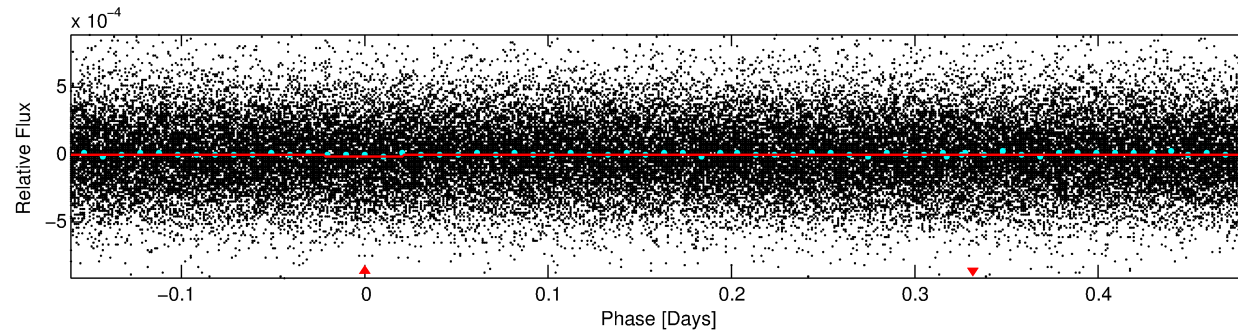
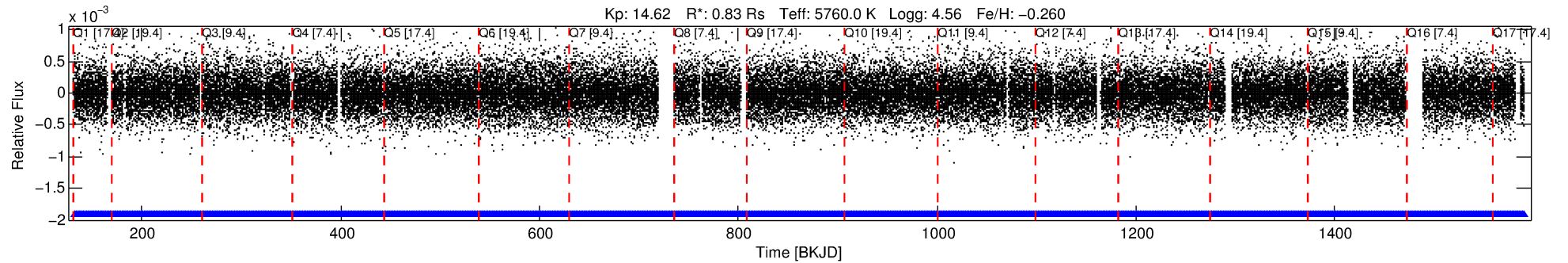
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011455507-01

No Significant Match Found

# DV One-Page Summary

KIC: 11455507 Candidate: 1 of 1 Period: 0.643 d



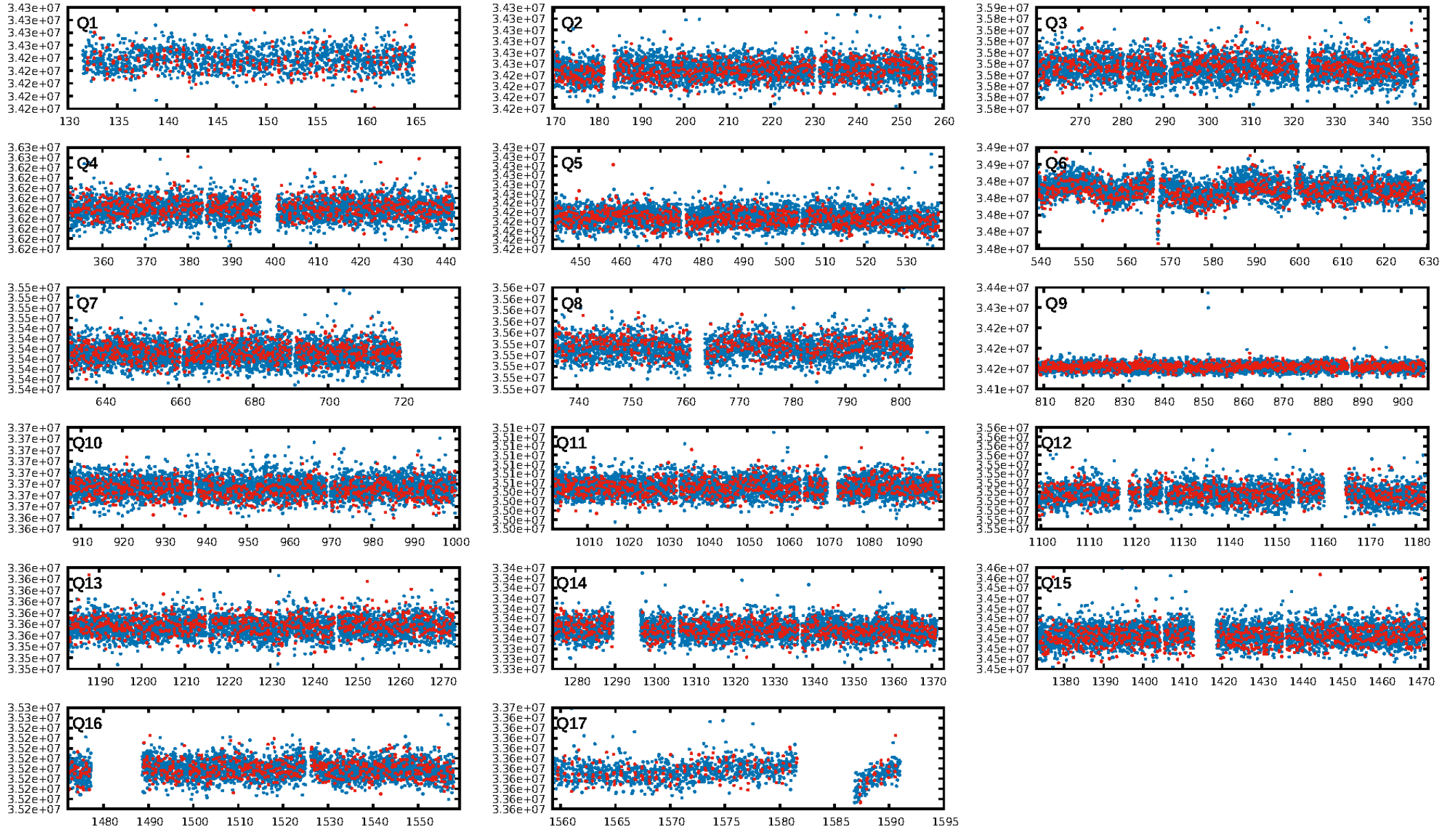
## DV Fit Results:

Period = 0.64254 [0.00003] d  
Epoch = 132.6489 [0.0069] BKJD  
Rp/R\* = 0.0044 [0.0072]  
a/R\* = 1.34 [5.88]  
b = 0.98 [0.44]  
Seff = 3367.98 [1257.11]  
Teff = 1943 [181] K  
Rp = 0.40 [0.66] Re  
a = 0.0141 [0.0035] AU  
Ag = 11.03 [36.61] [0.27σ]  
Teffp = 5474 [4517] K [0.78σ]

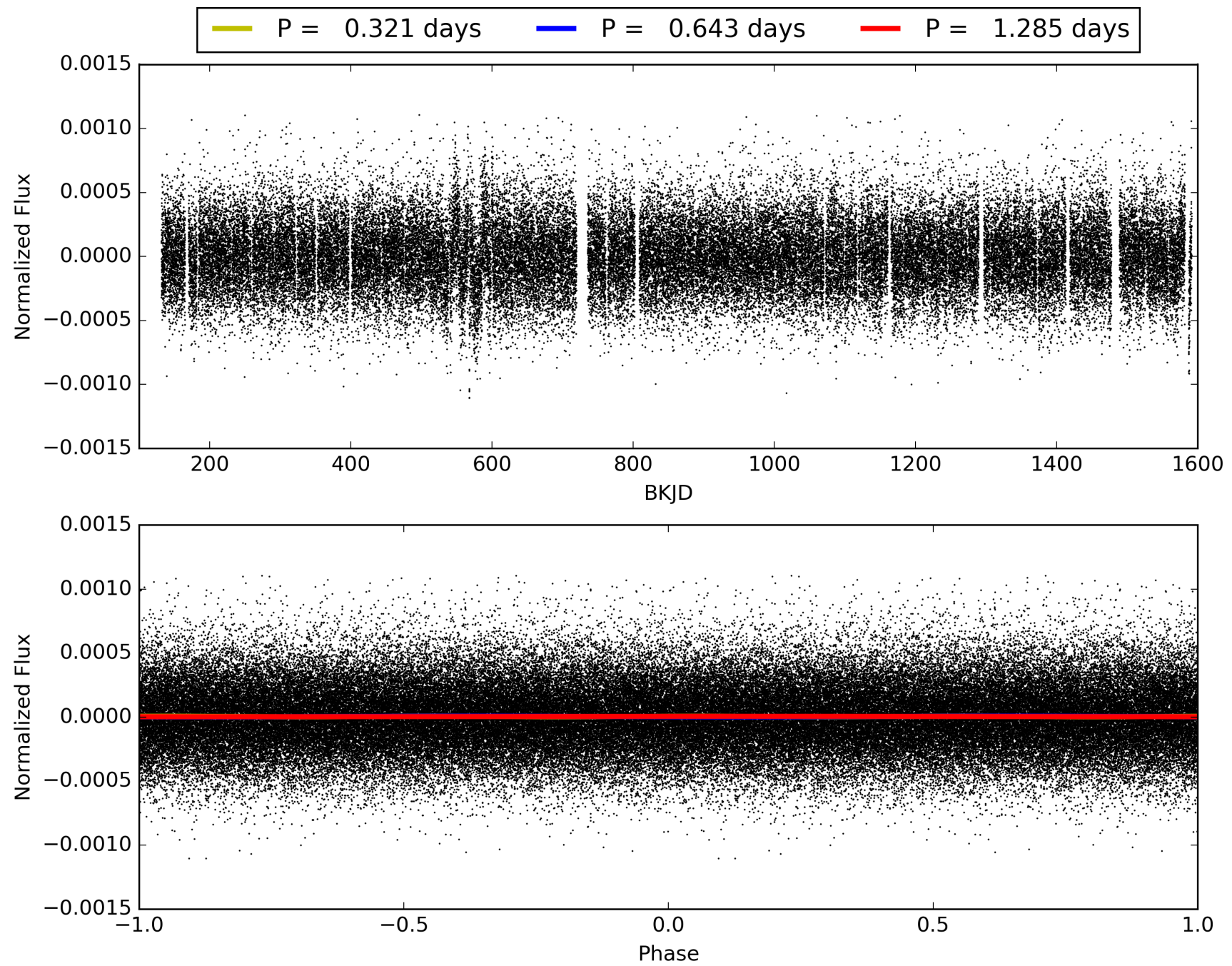
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.34e-19  
RollingBand-fgt: 1.00 [1991/1991]  
**GhostDiagnostic-chr: 0.3419**  
Centroid-sig: 1.8%  
Centroid-so: 6.295 arcsec [1.46σ]  
OotOffset-rm: 0.117 arcsec [0.14σ]  
KicOffset-rm: 0.175 arcsec [0.21σ]  
OotOffset-st: 1/3/3/4 [11]  
KicOffset-st: 1/3/3/4 [11]  
DiffImageQuality-fgm: 0.18 [2/11]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 011455507-01, PDC Light Curves



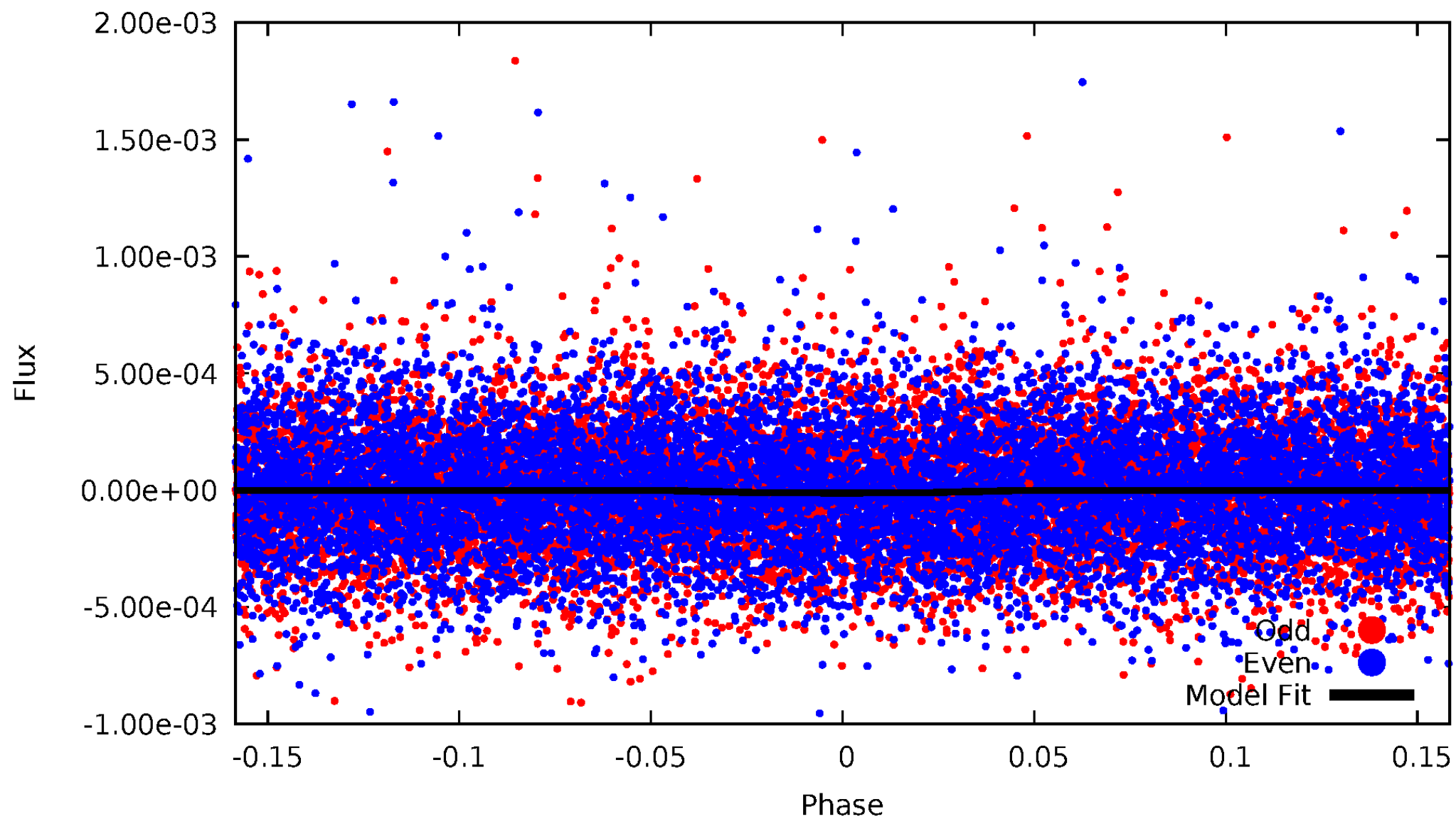
TCE 011455507-01





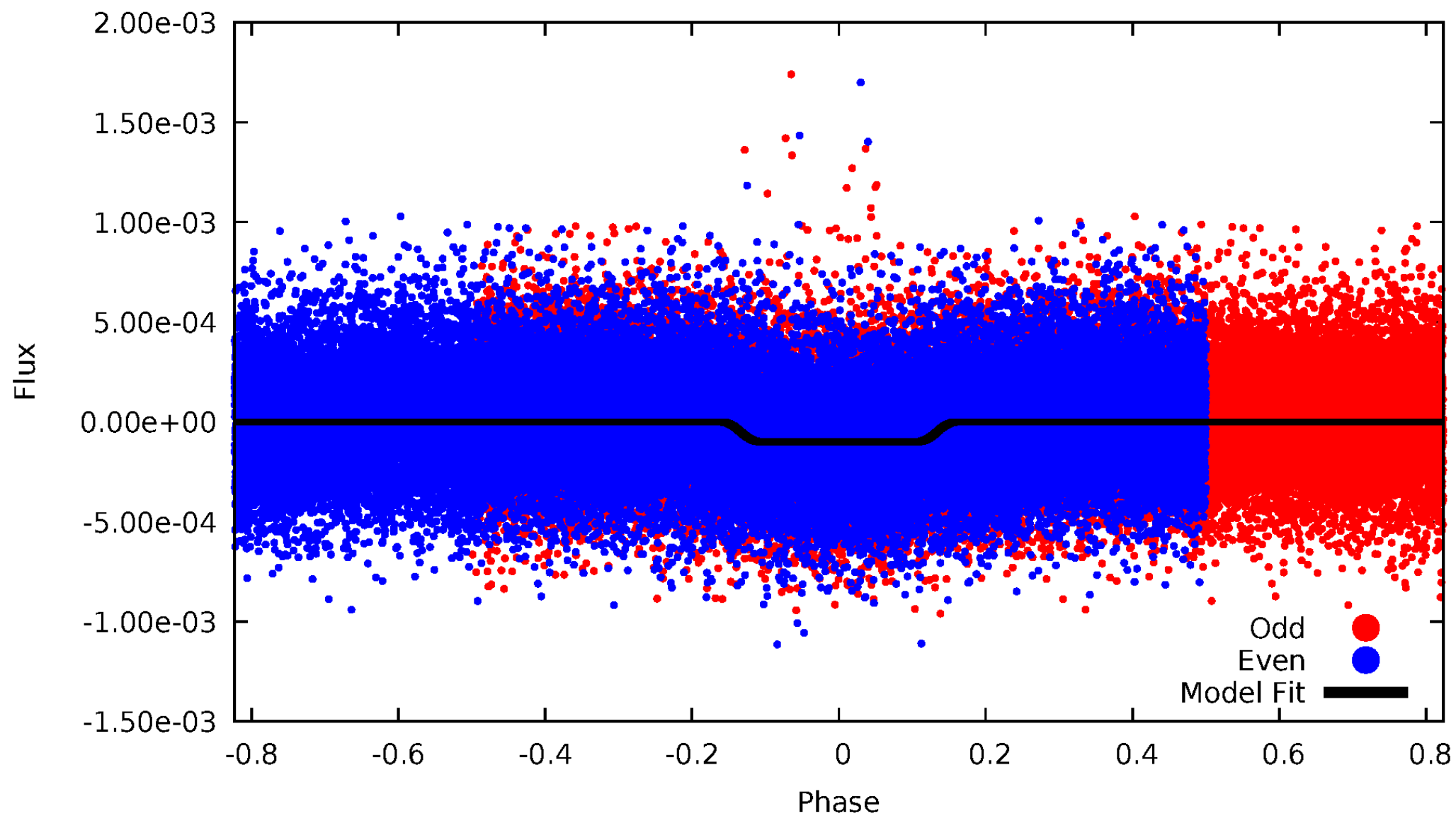
# DV Odd/Even

TCE 011455507-01



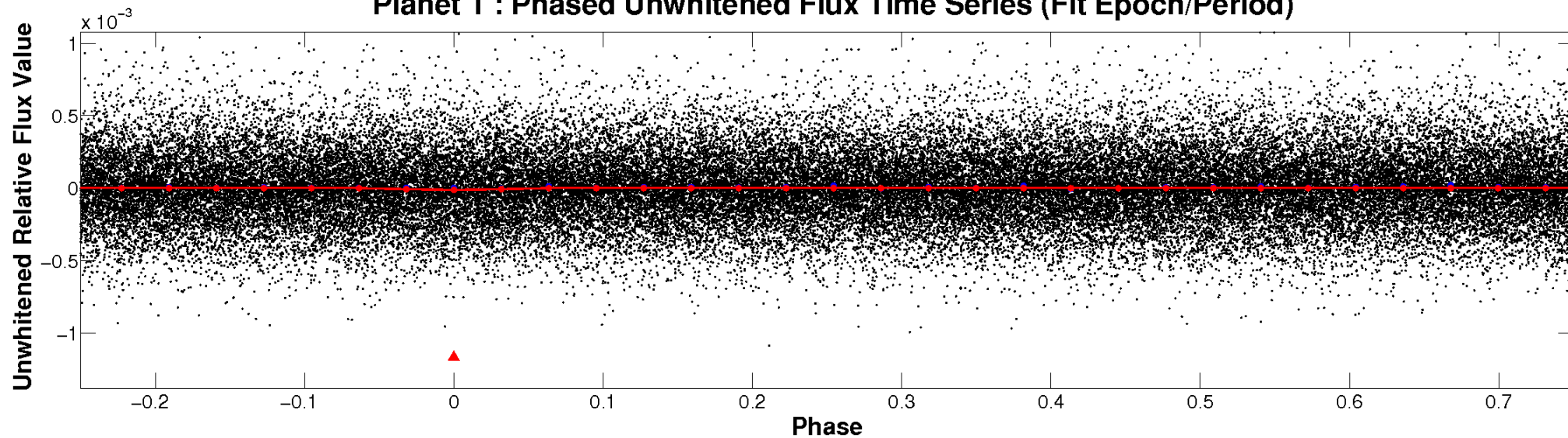
# ALT Odd/Even

TCE 011455507-01

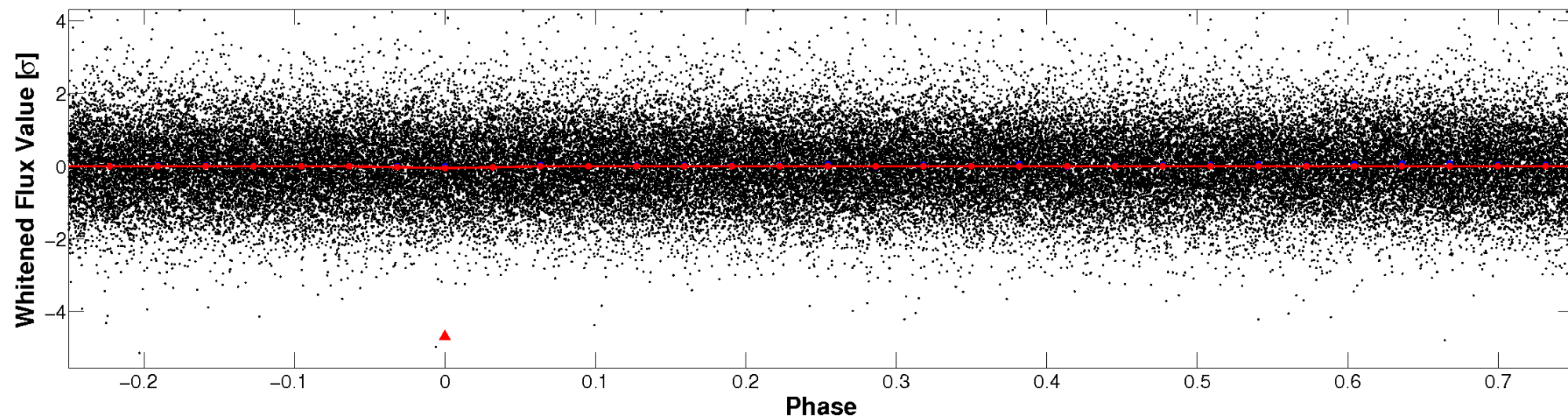


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

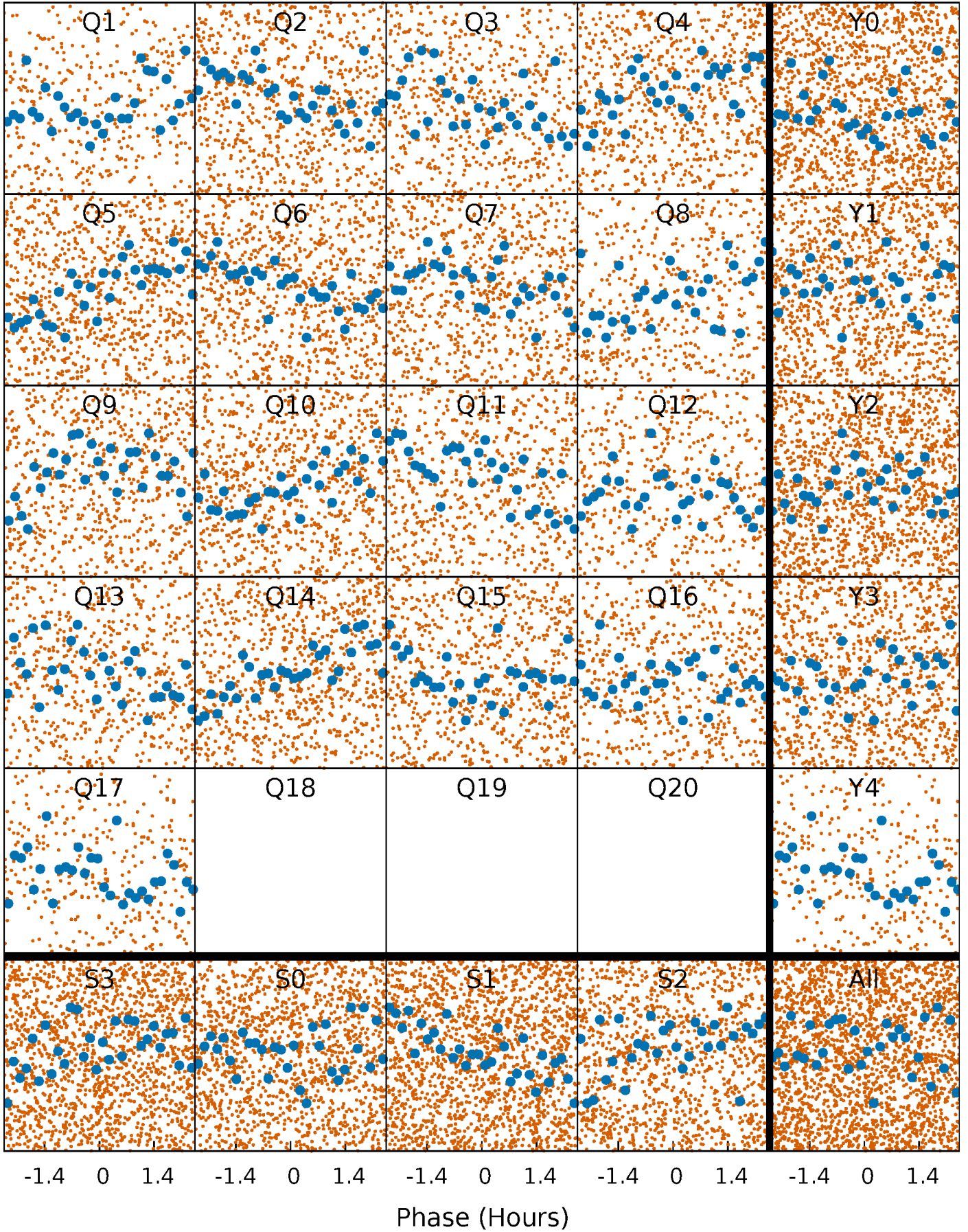


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

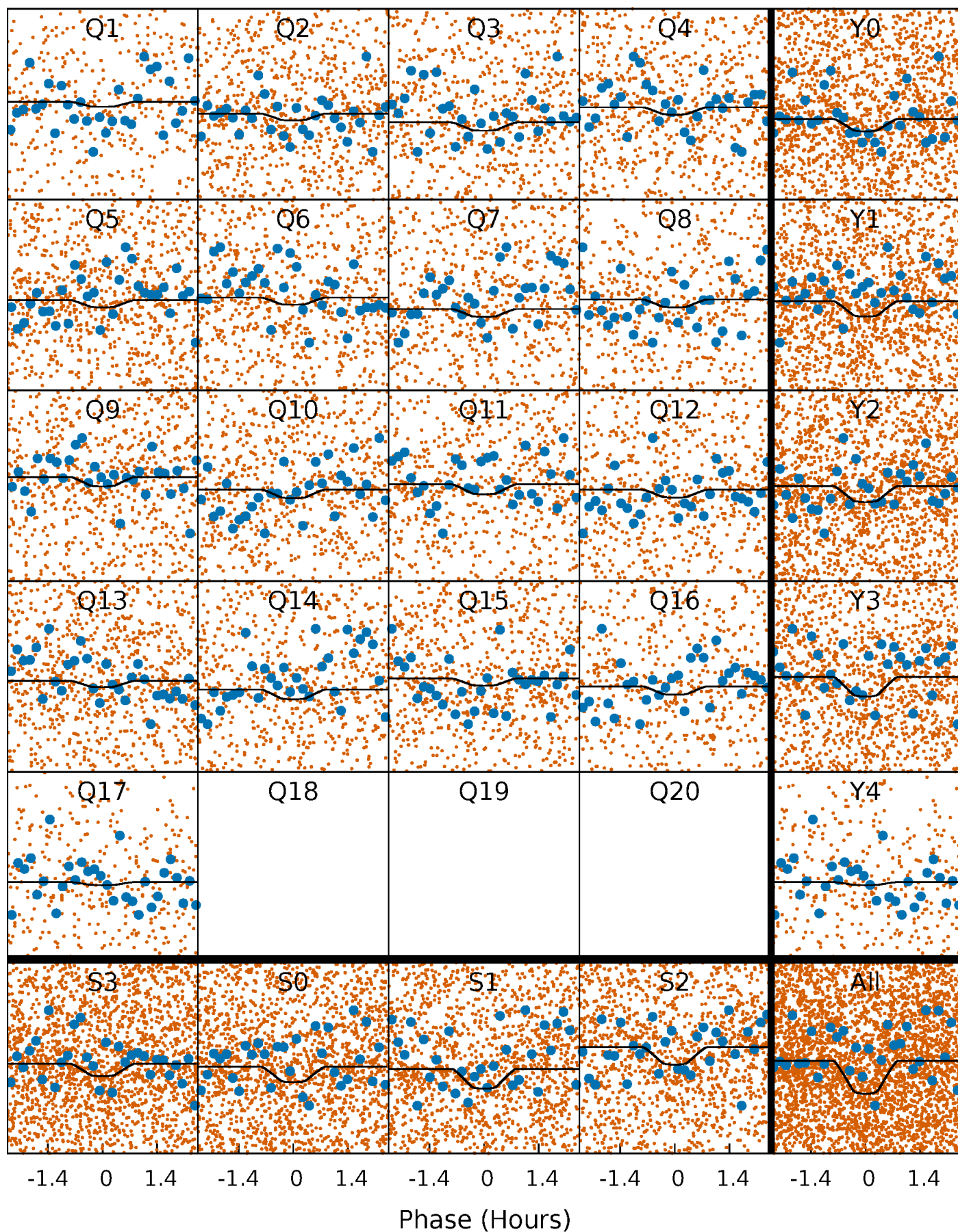
TCE 011455507-01   P= 0.642541 Days    $T_0=132.648858$  (BKJD)





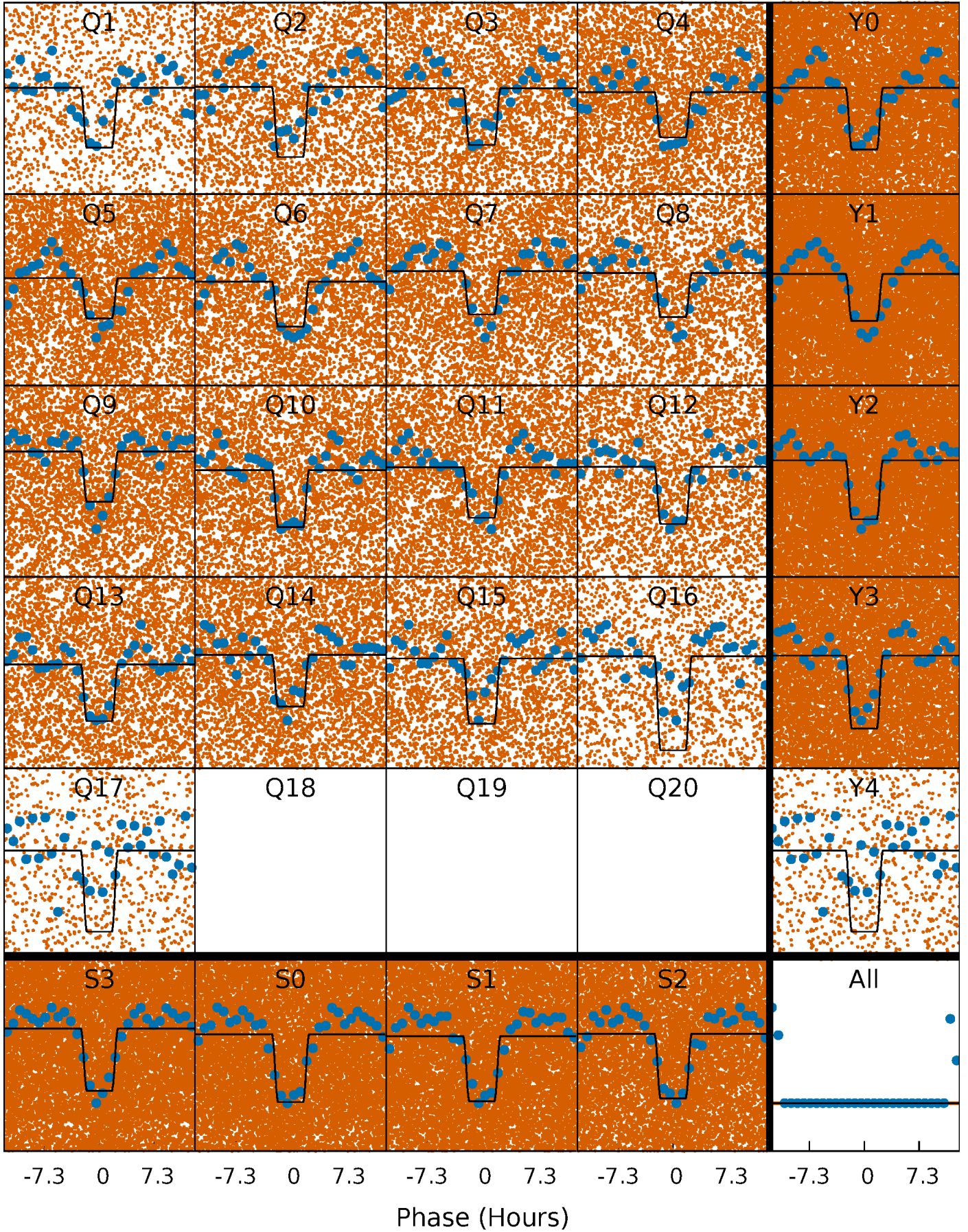
# DV Quarter-Phased Transit Curves

TCE 011455507-01   P= 0.642541 Days    $T_0=132.648858$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011455507-01 P= 0.643535 Days  $T_0=131.988276$  (BKJD)

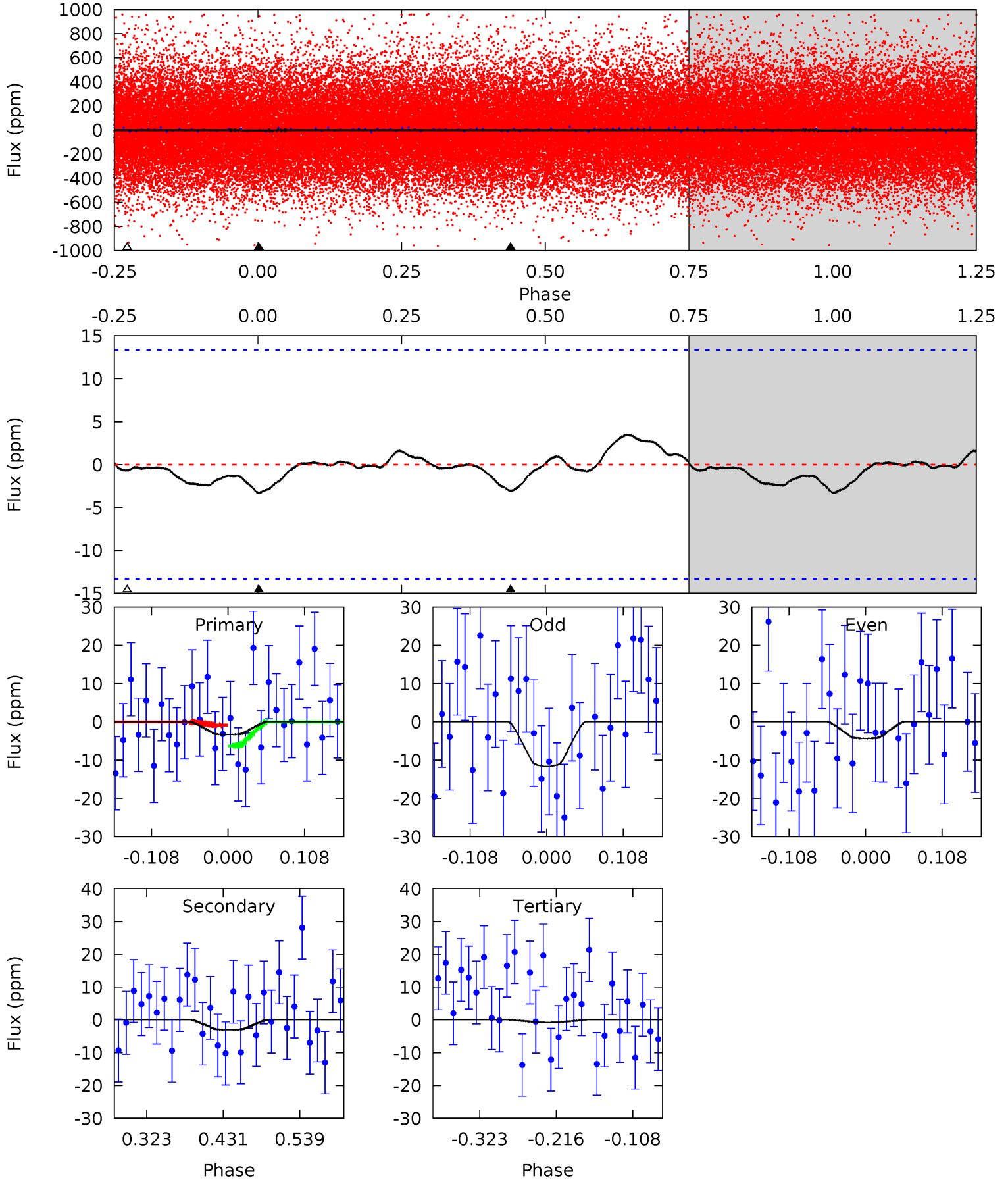




# DV Model-Shift Uniqueness Test

011455507-01, P = 0.642541 Days, E = 131.363776 Days

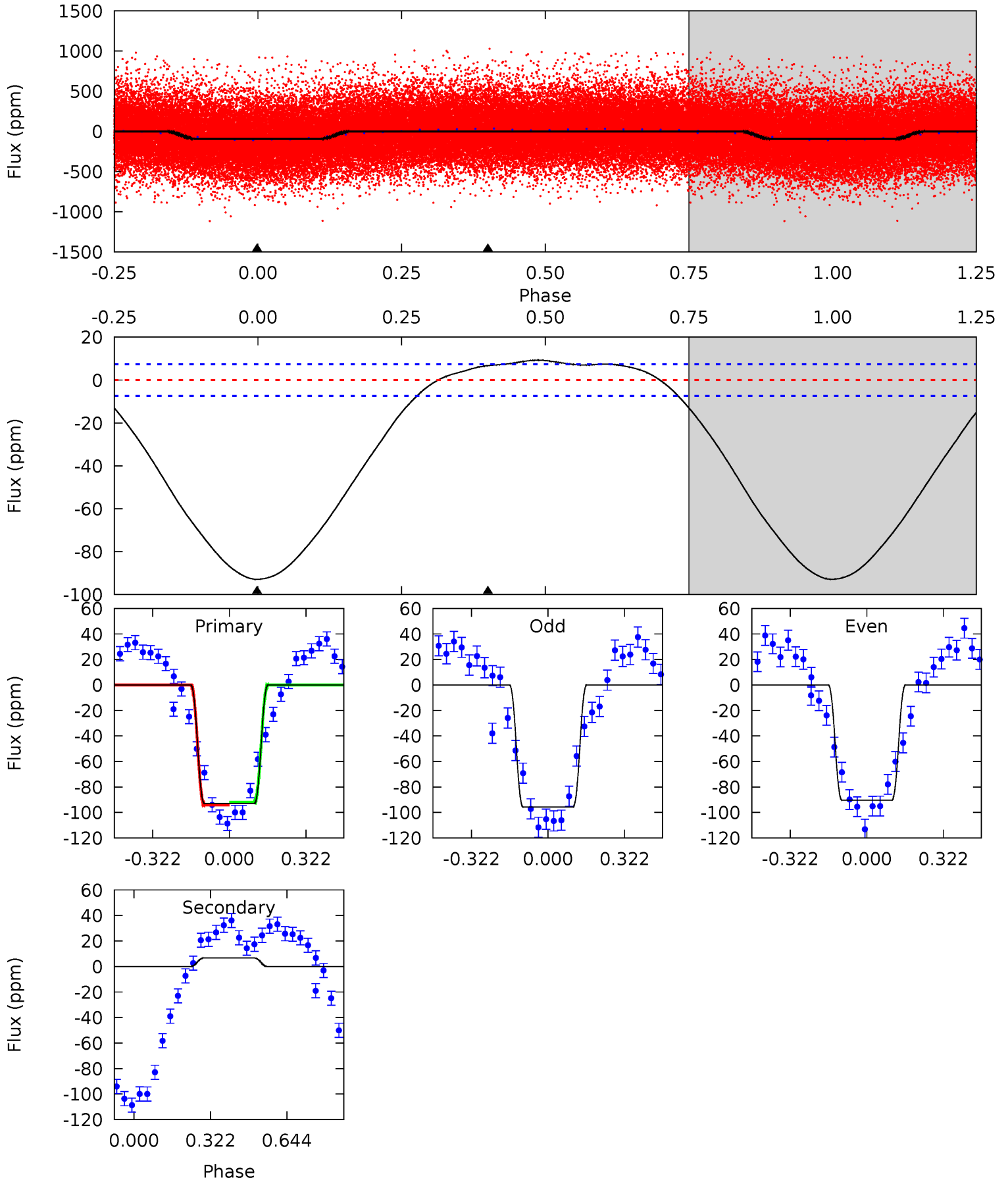
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.13	1.04	0.24	0	4.55	1.61	0.45	0.89	1.13	0.80	1.04	1.24	0.11	0.51	0.94



# Alt Model-Shift Uniqueness Test

011455507-01, P = 0.643535 Days, E = 131.344741 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.4	-3.92	0	0	4.31	0.99	3.30	54.4	54.4	-3.92	-3.92	1.57	0.98	0.09	0.63





### Stellar Parameters For KIC 011455507

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5760^{+155}_{-155}$	$4.564^{+0.035}_{-0.196}$	$-0.260^{+0.300}_{-0.300}$	$0.826^{+0.239}_{-0.075}$	$0.919^{+0.100}_{-0.110}$	$2.295^{+0.438}_{-1.152}$
	+3%/-3%	+1%/-4%	+115%/-115%	+29%/-9%	+11%/-12%	+19%/-50%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 011455507-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-3\pm3$	$0.66^{+0.60}_{-0.43}$	$2788^{+185}_{-122}$	$3022^{+1844}_{-5935}$	$0.623^{+5.161}_{-0.570}$
Alt.	$7\pm2$	$1.06^{+0.67}_{-0.60}$	$2777^{+184}_{-116}$	$-3536^{+316}_{-945}$	$-0.667^{+0.439}_{-2.732}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

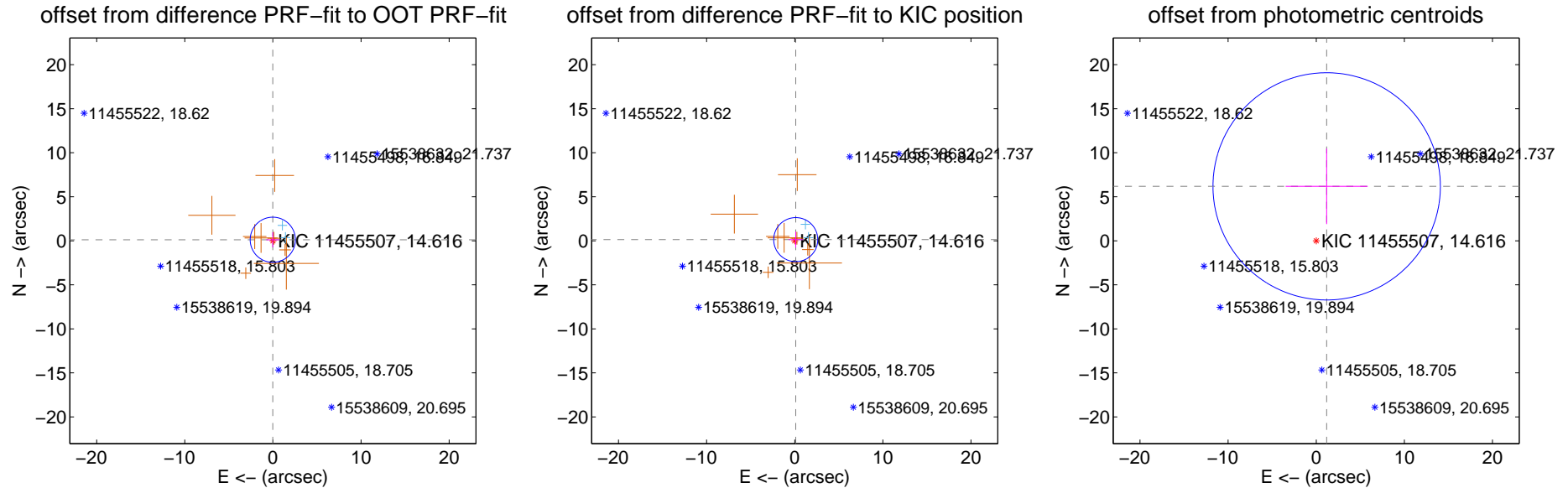
## DV Centroid Data

Supplemental centroid analysis for 011455507-01. Kepler magnitude: 14.62. Transit SNR 2.89

There are 2 quarters with good PRF difference image offsets

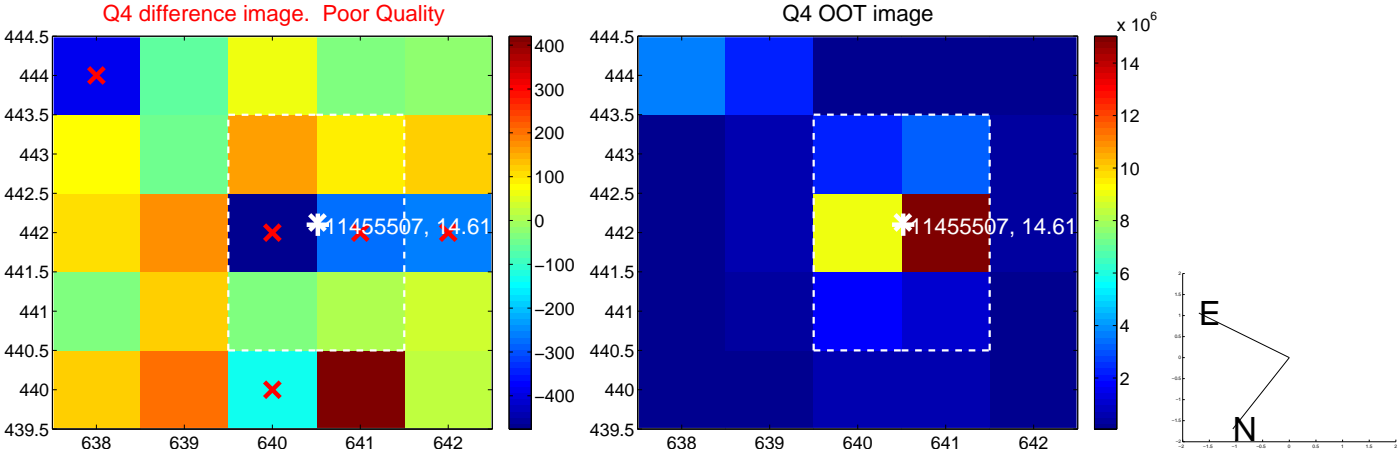
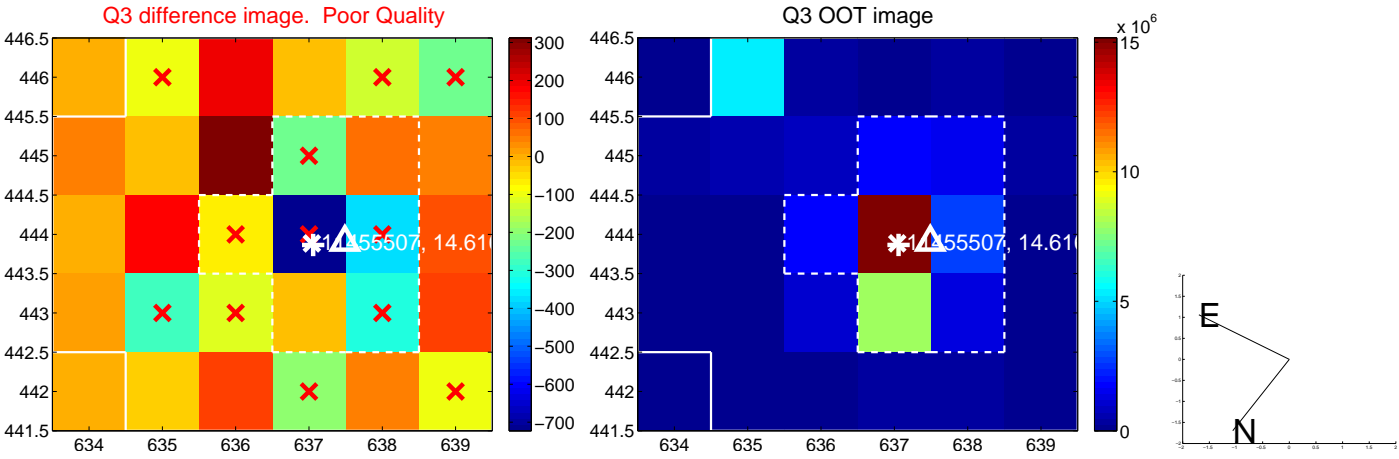
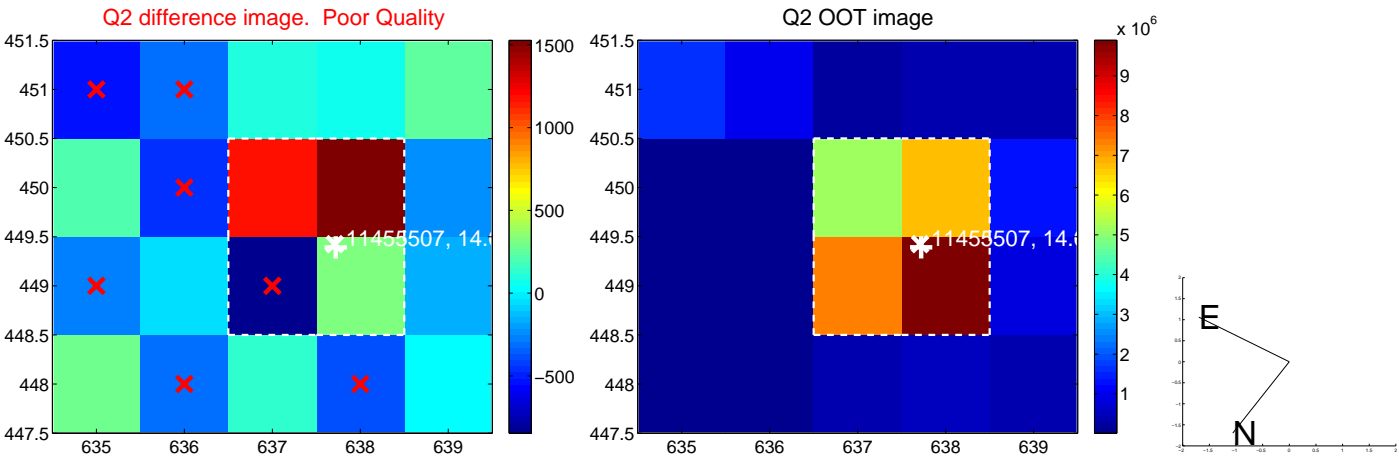
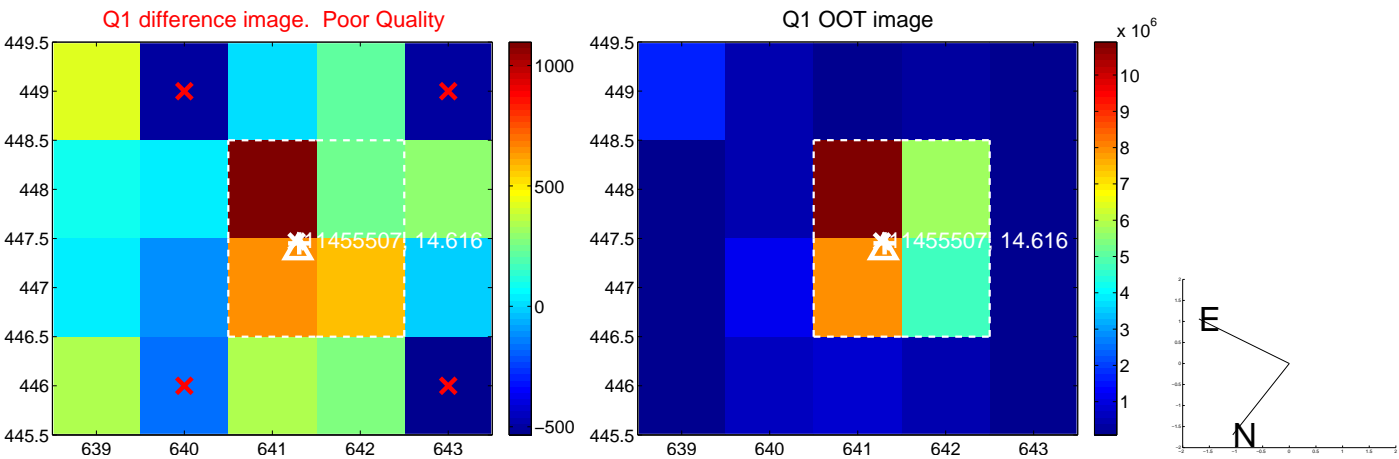
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.117 \pm 0.855$	0.14	$0.015 \pm 0.745$	$0.116 \pm 0.864$
PRF-fit source offset from KIC position	$0.175 \pm 0.834$	0.21	$-0.115 \pm 0.797$	$0.133 \pm 0.904$
photometric centroid source offset	$6.29 \pm 4.30$	1.46	$-1.18 \pm 4.65$	$6.18 \pm 4.29$

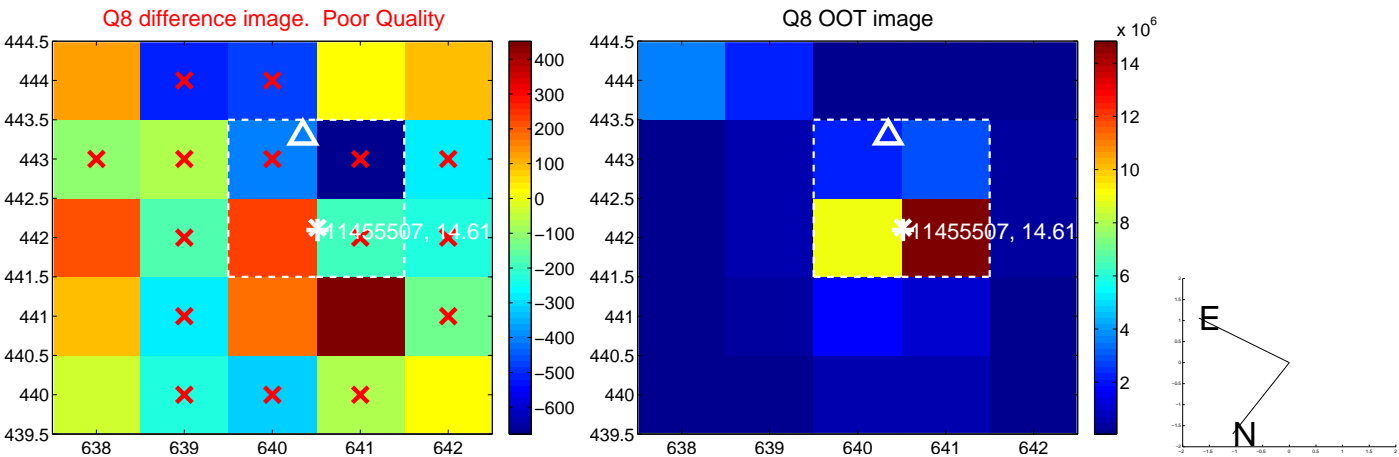
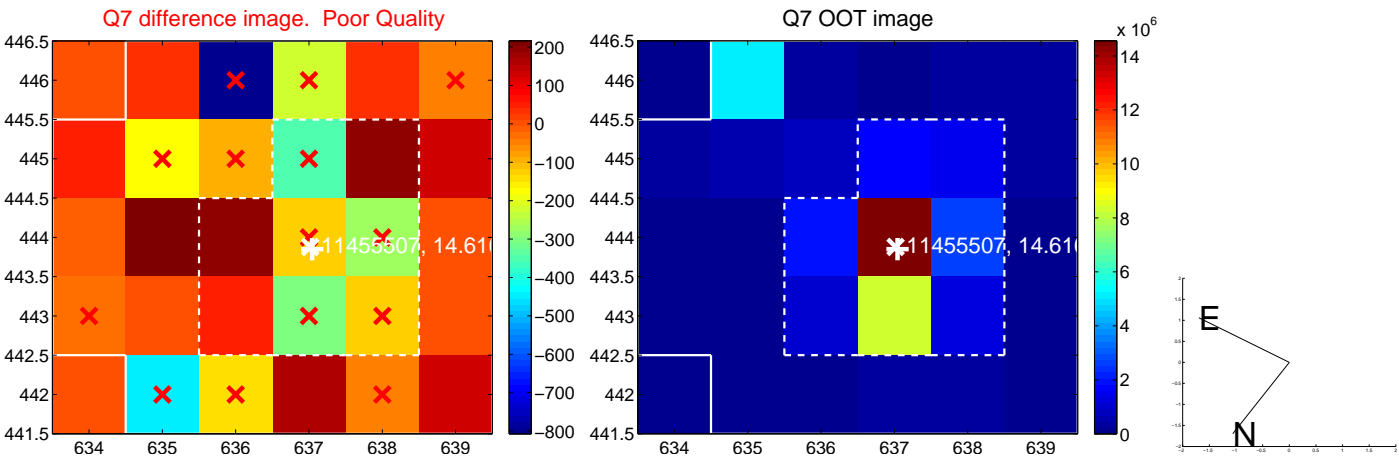
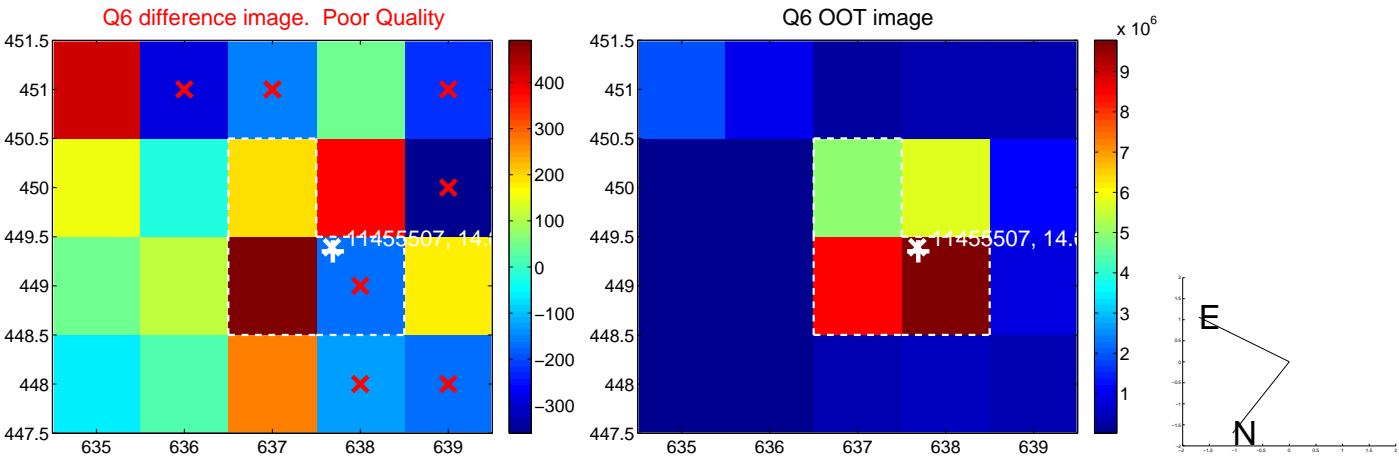
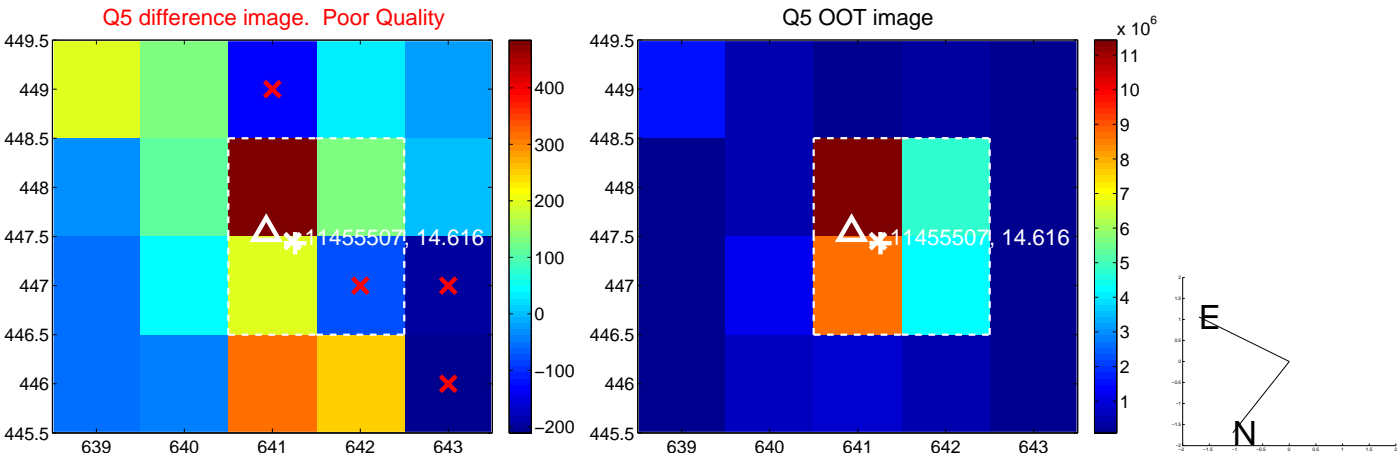


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

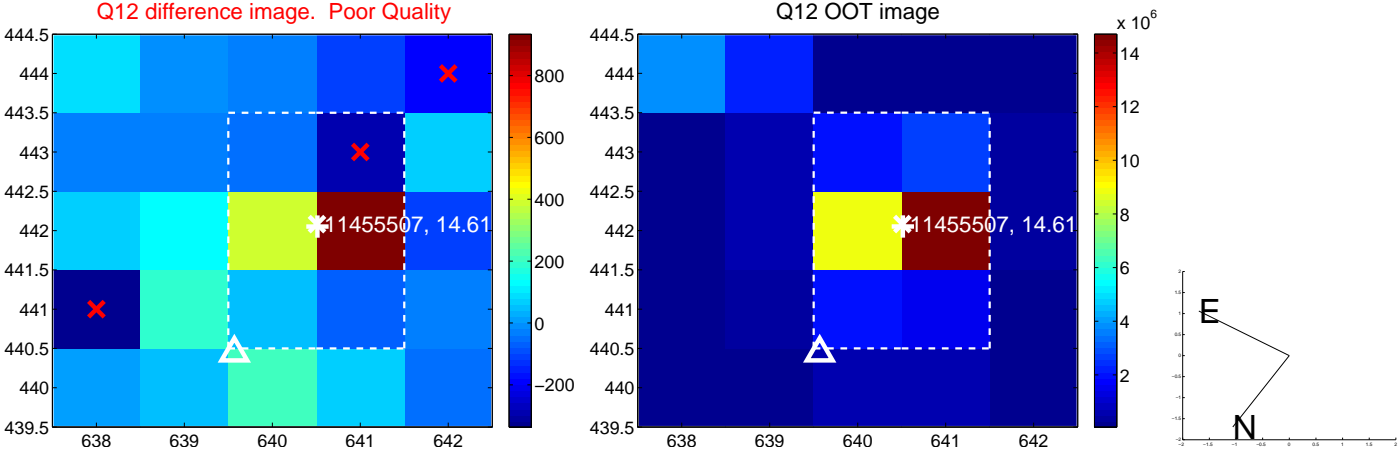
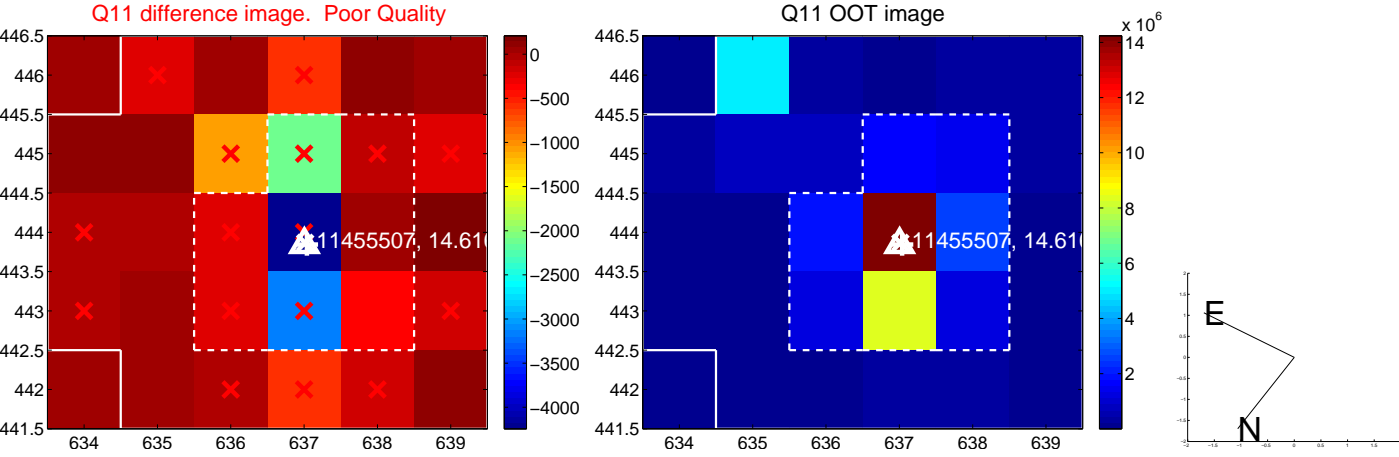
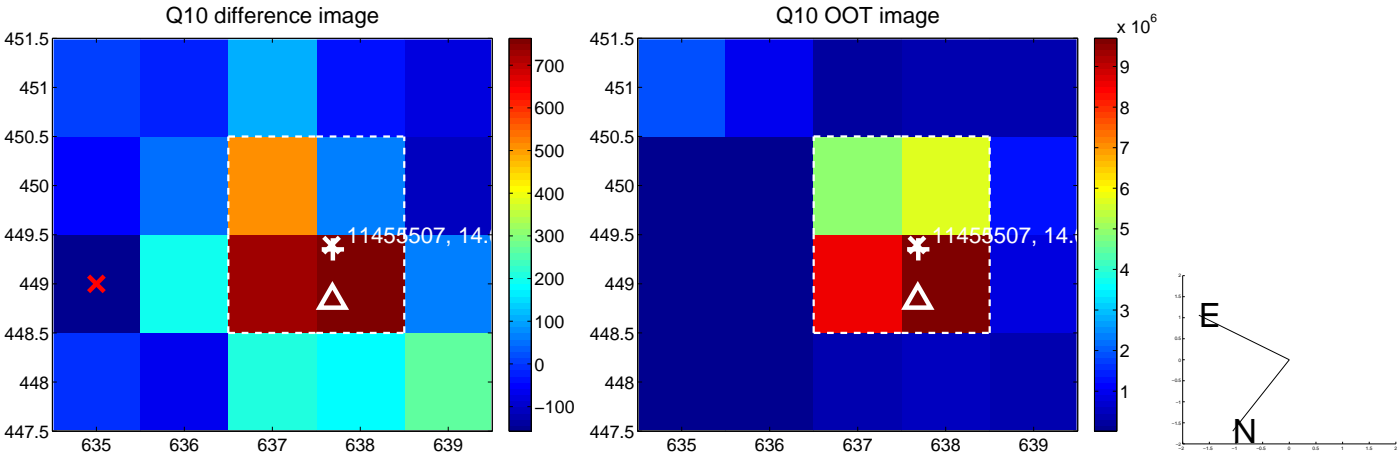
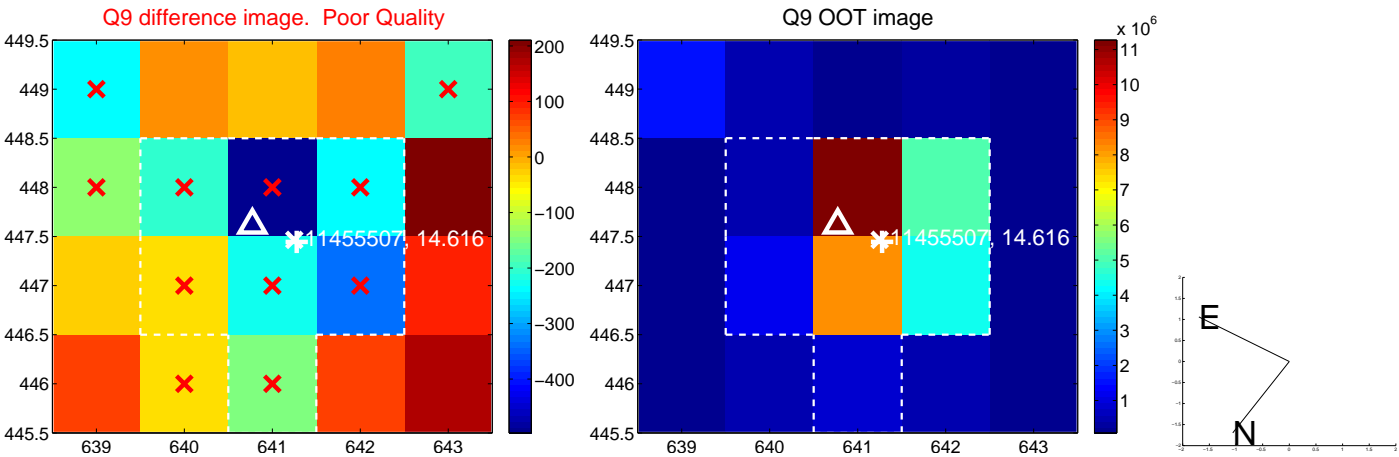


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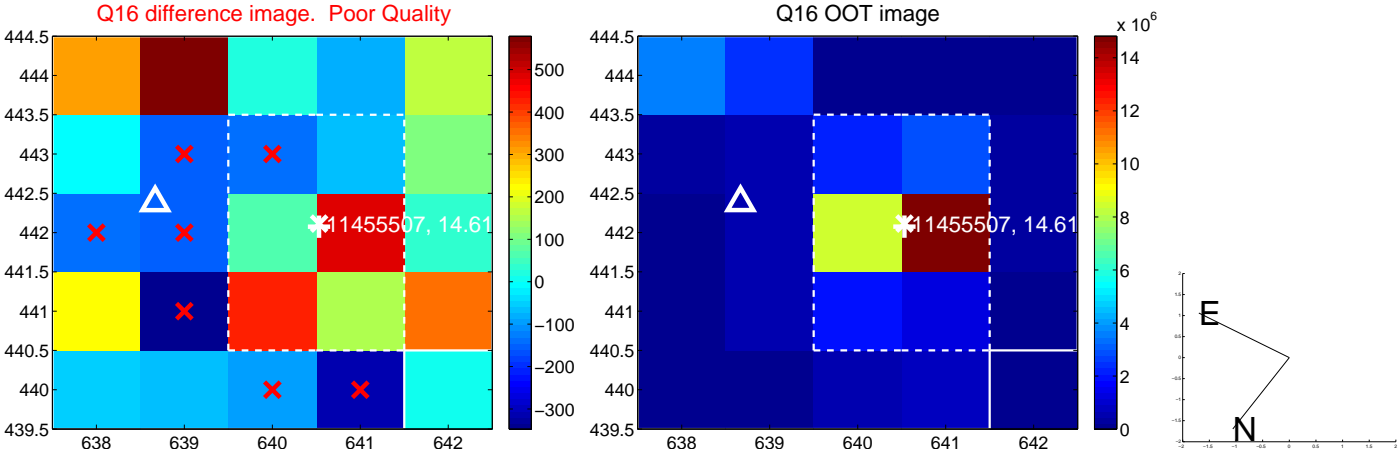
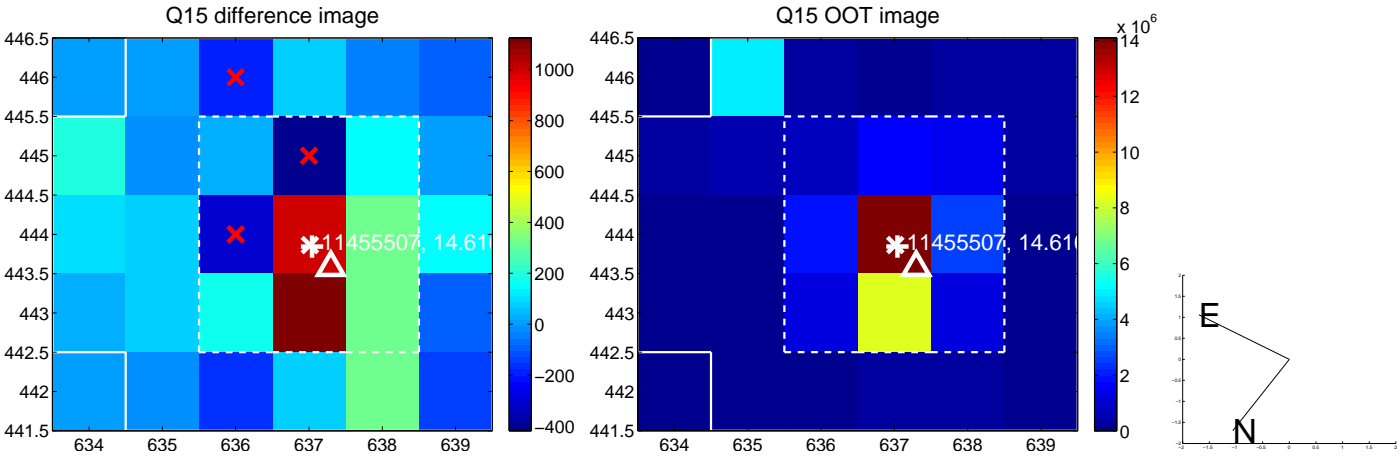
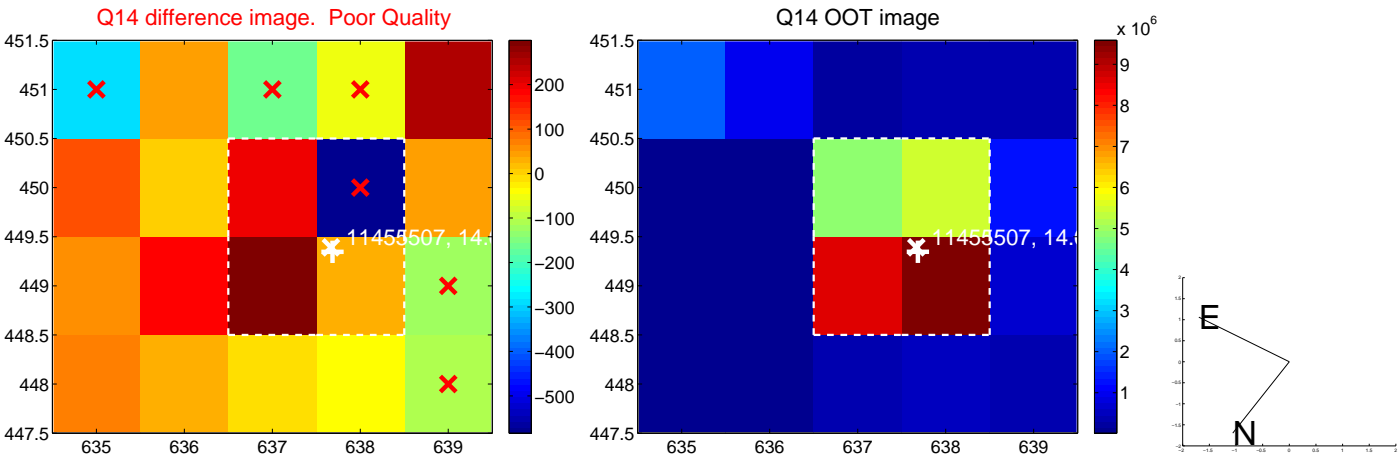
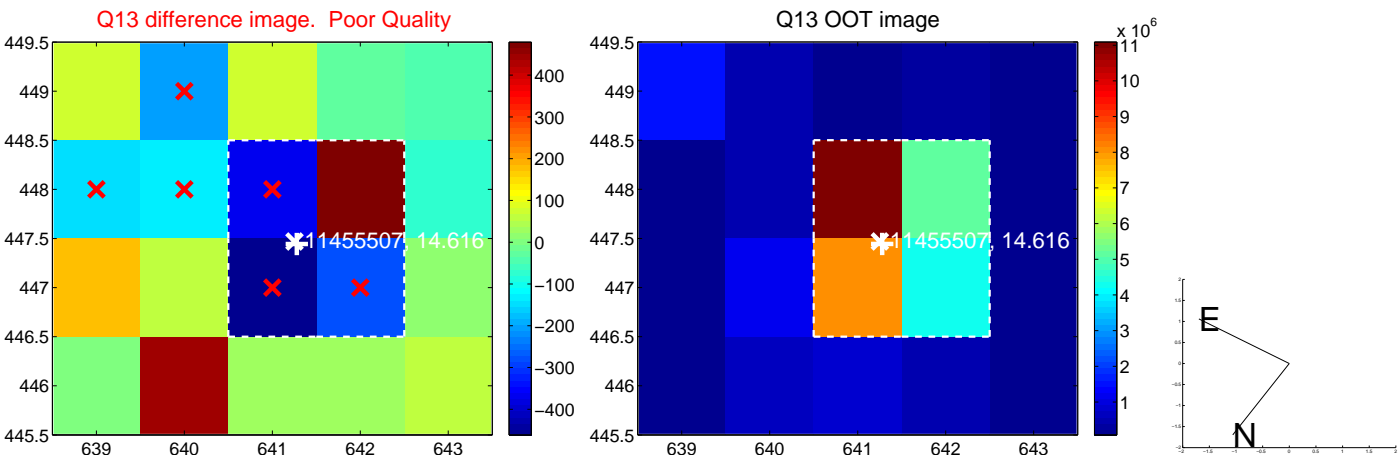




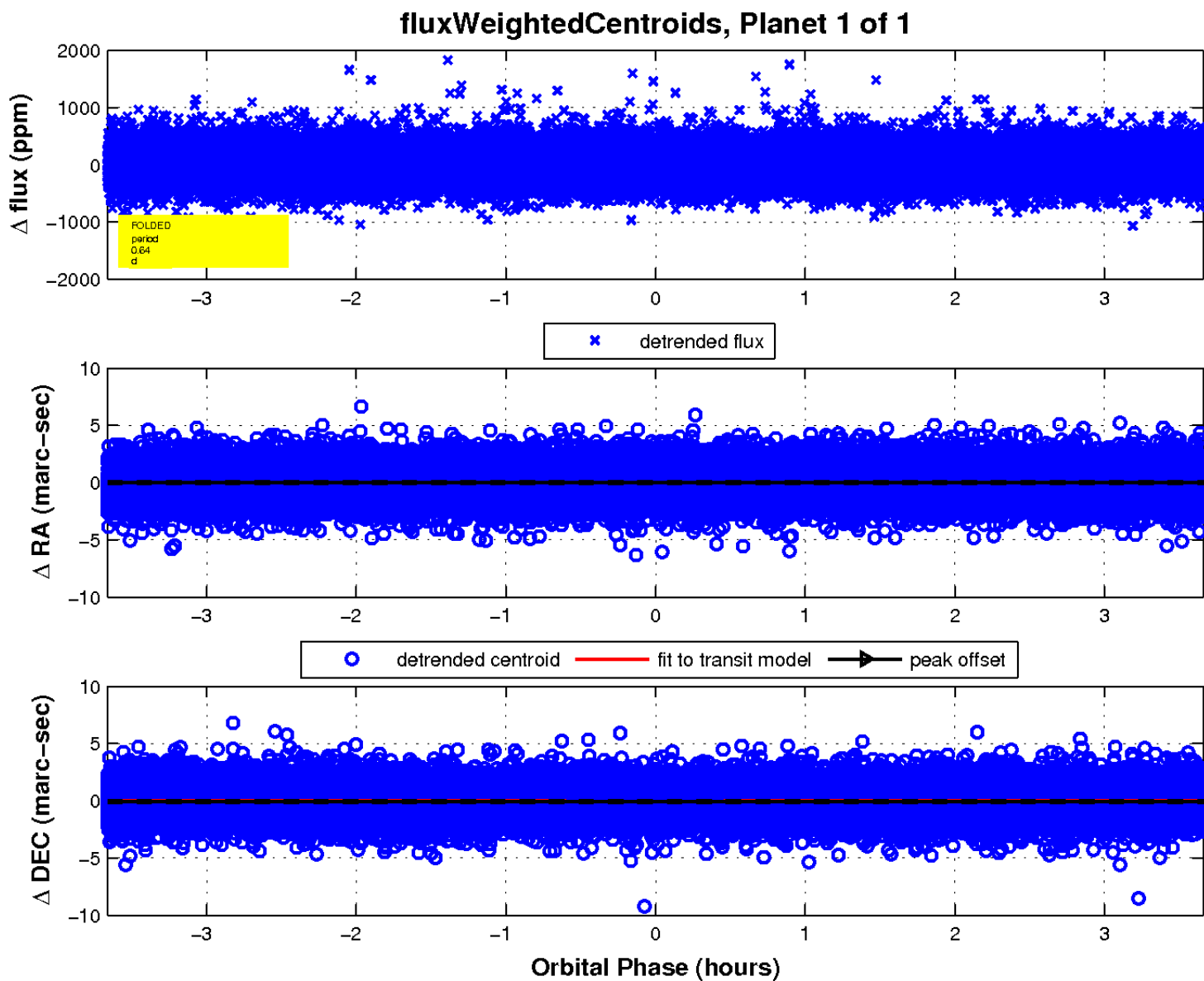
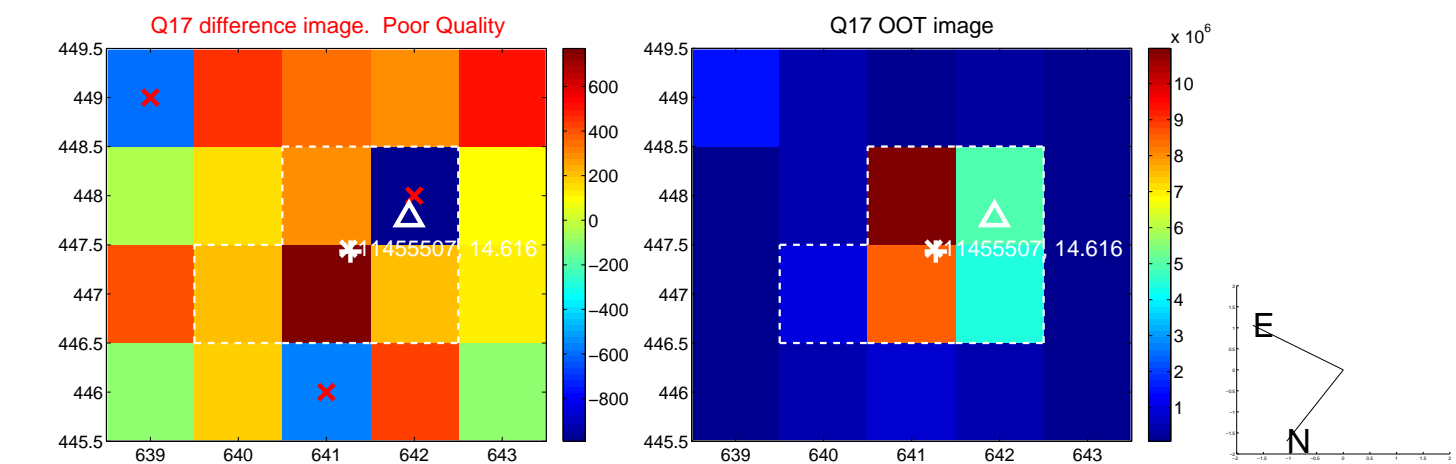
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

