

# KIC 006035535

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006035535-01	OBS	No	1.145524	131.958472	513.7	6.090	107.8	9.8	0.74	4640	3.56	606.35

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006035535-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

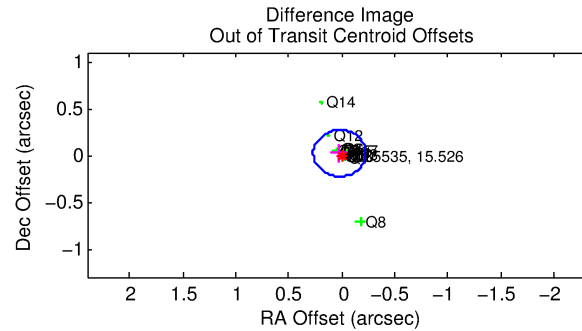
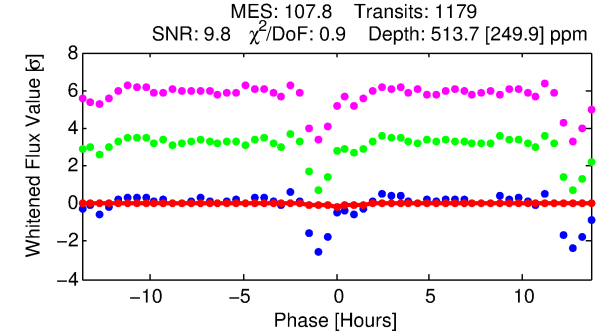
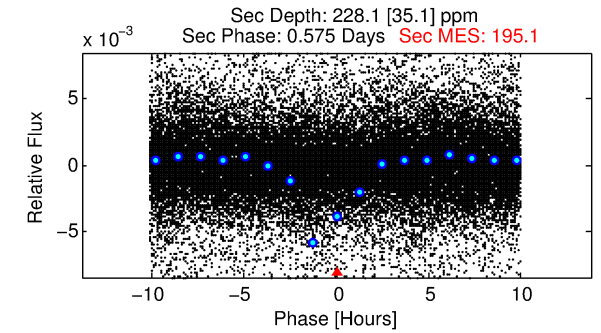
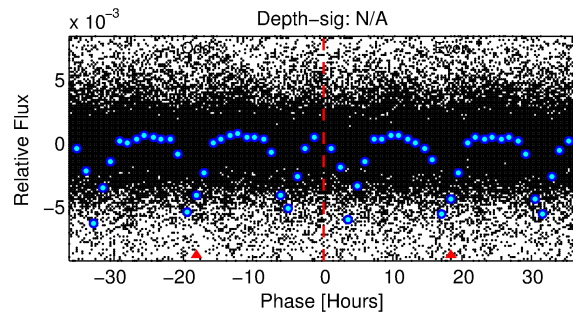
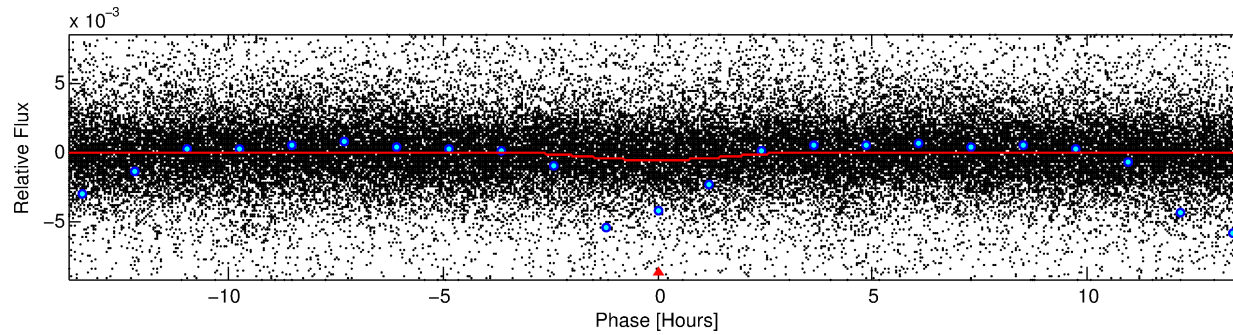
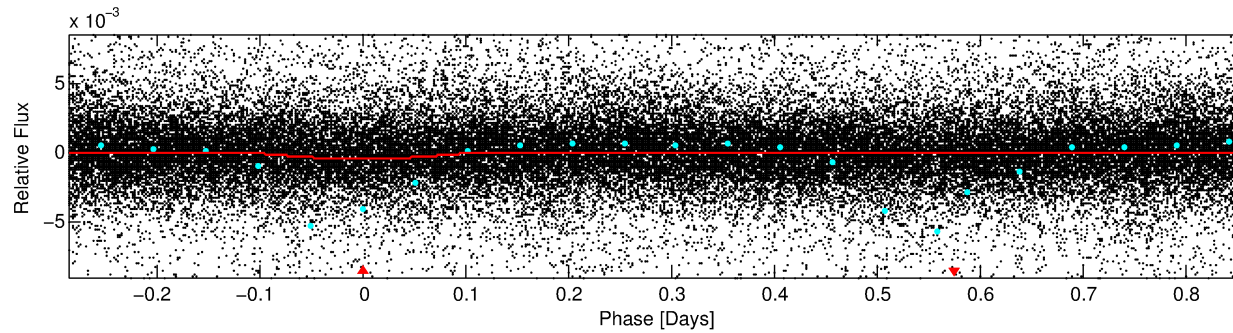
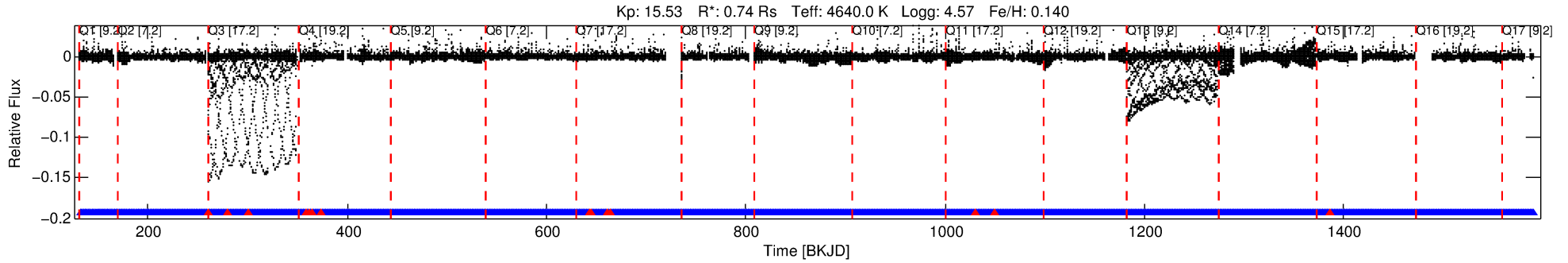
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006035535-01

No Significant Match Found

# DV One-Page Summary

KIC: 6035535 Candidate: 1 of 1 Period: 1.146 d



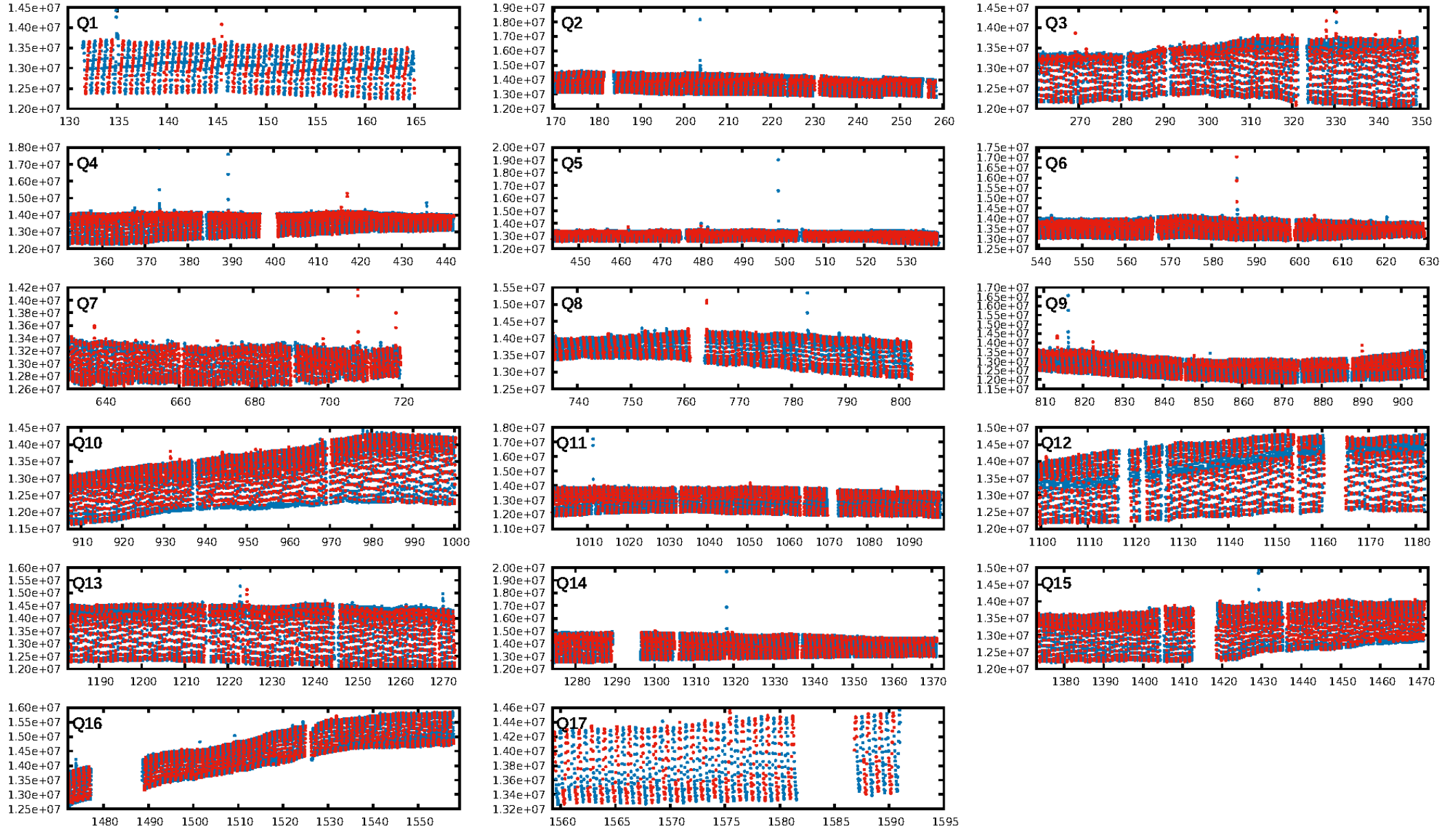
## DV Fit Results:

Period = 1.14552 [0.00001] d  
Epoch = 131.9585 [0.0061] BKJD  
Rp/R\* = 0.0442 [0.0611]  
a/R\* = 1.10 [0.02]  
b = 1.00 [0.10]  
Seff = 606.35 [109.69]  
Teff = 1265 [57] K  
Rp = 3.56 [4.94] Re  
a = 0.0193 [0.0014] AU  
Ag = 3.70 [10.25] [0.26σ]  
Teffp = 2713 [1881] K [0.77σ]

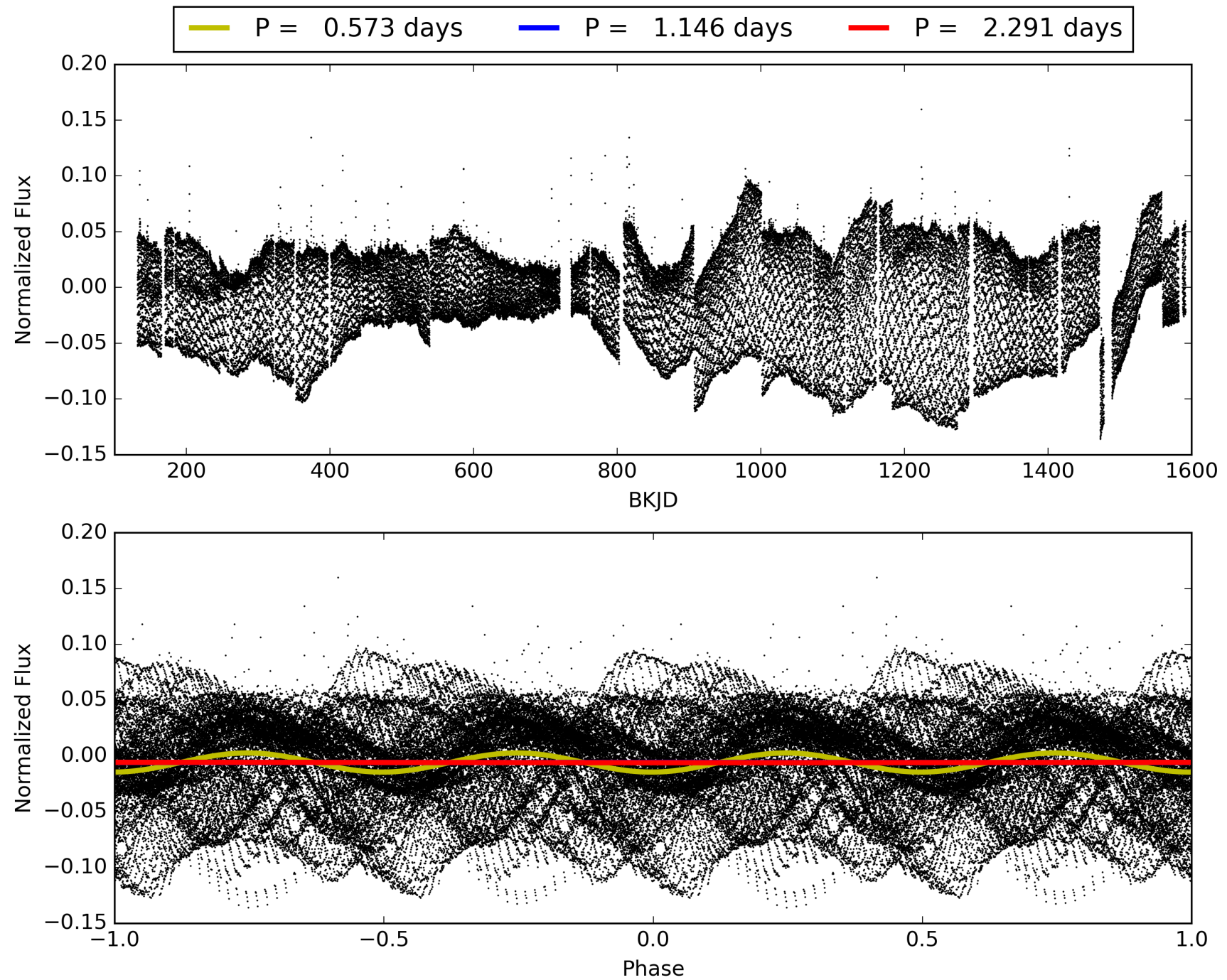
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [1111/1126]  
GhostDiagnostic-chr: 2.32  
Centroid-sig: 1.8%  
Centroid-so: 0.432 arcsec [1.91σ]  
OotOffset-rm: 0.030 arcsec [0.36σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.279 arcsec [4.03σ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.71 [12/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006035535-01, PDC Light Curves

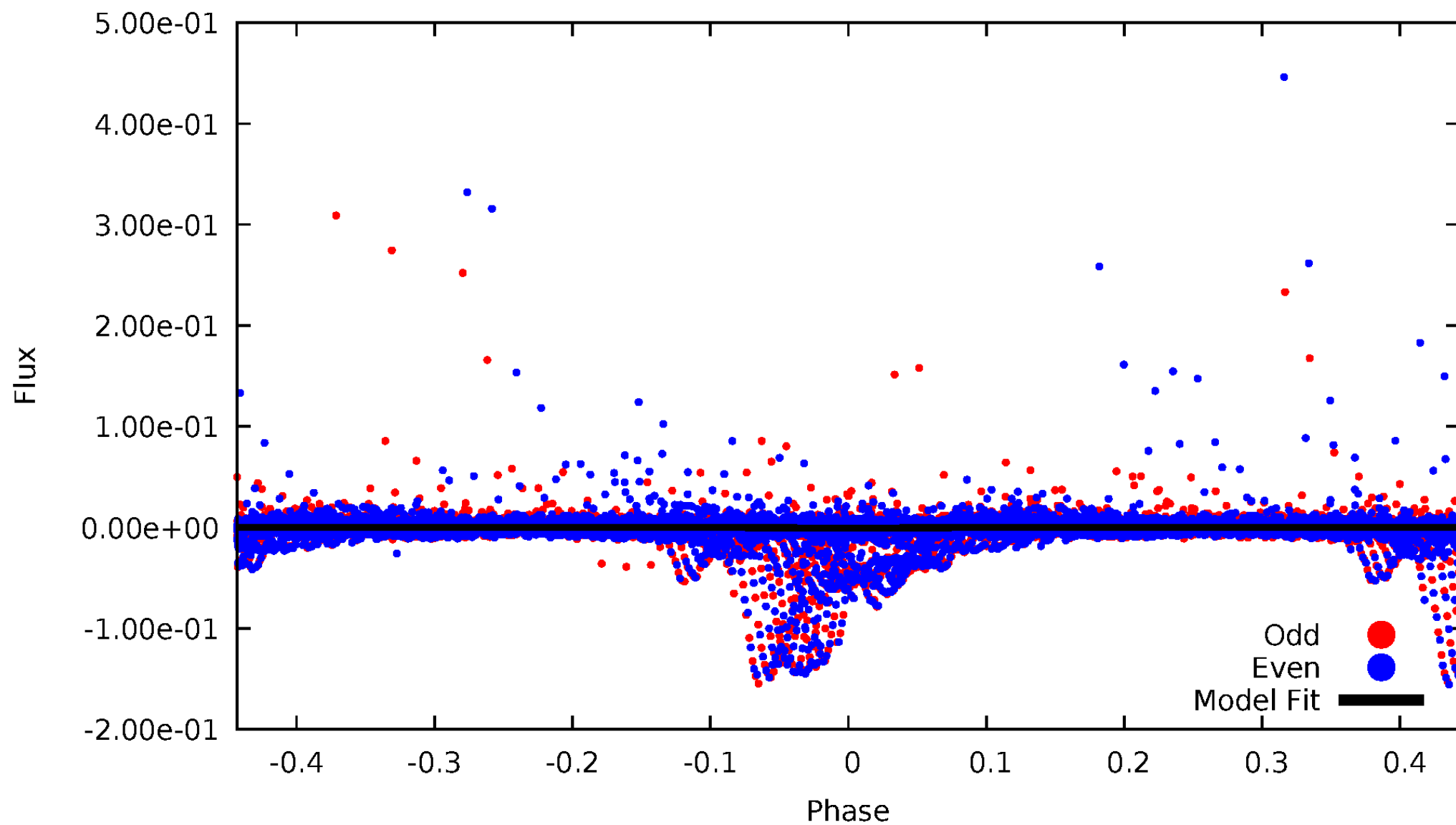


TCE 006035535-01



# DV Odd/Even

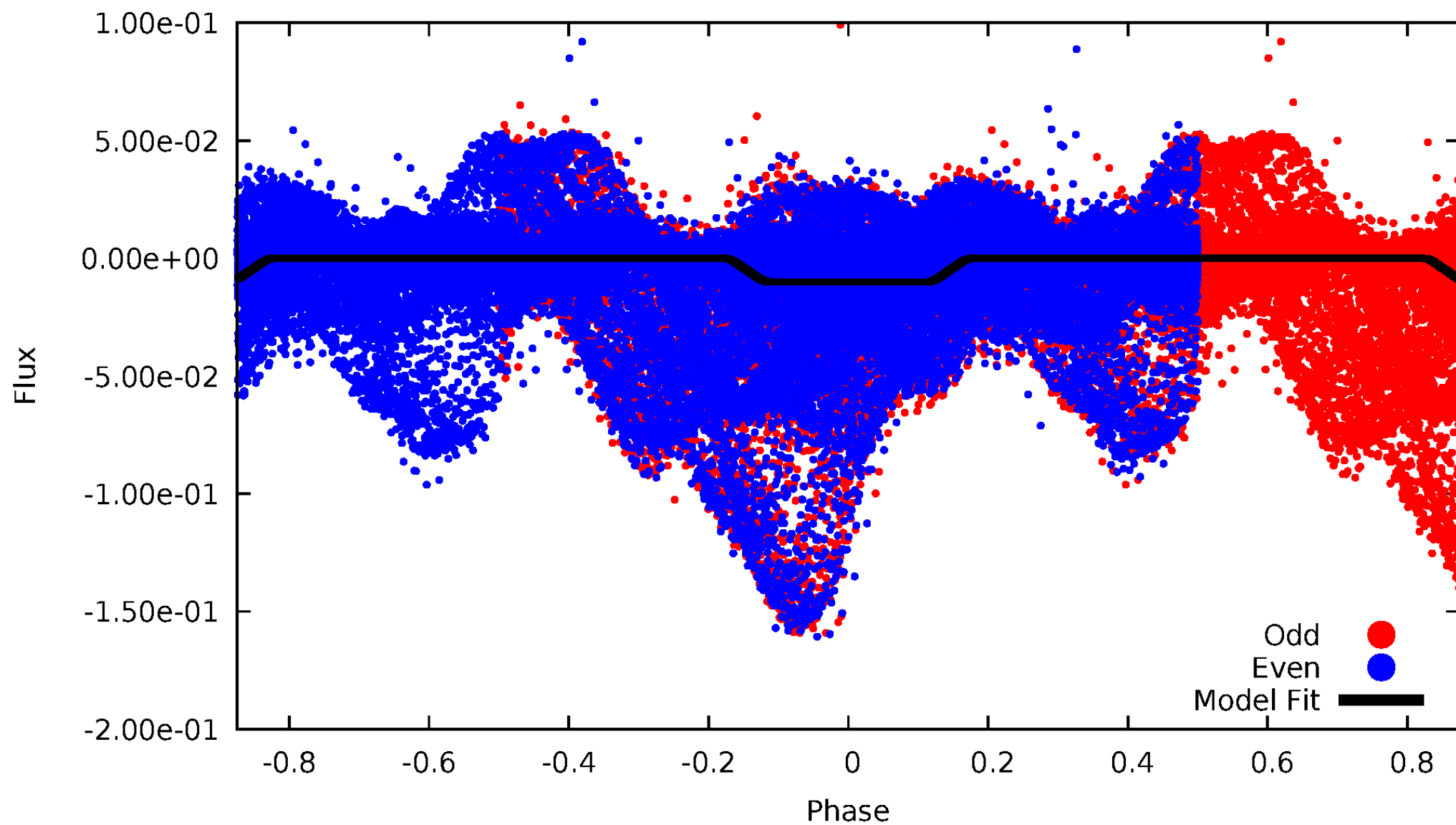
TCE 006035535-01





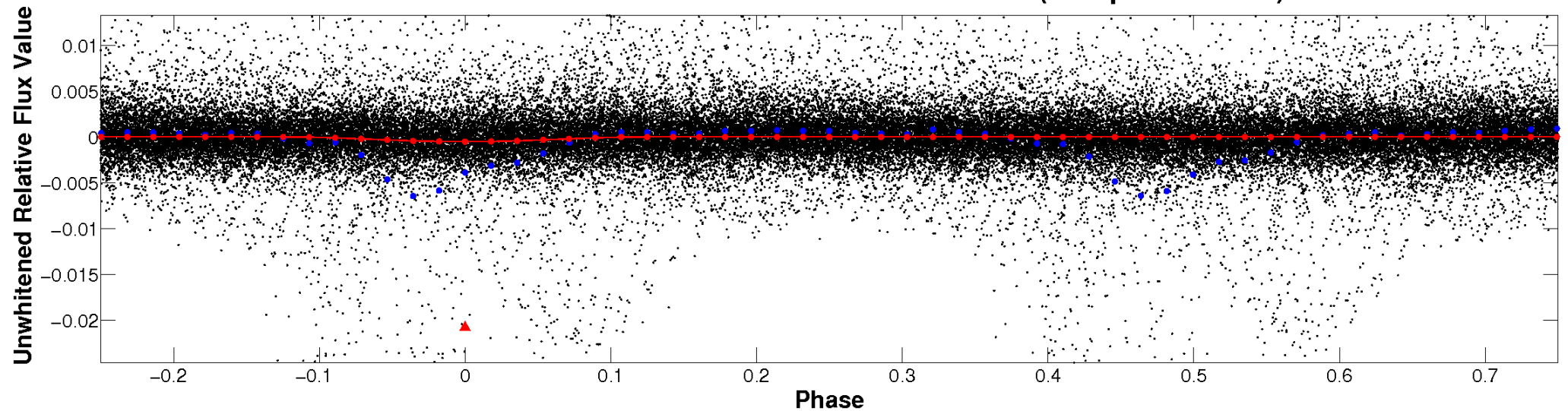
# ALT Odd/Even

TCE 006035535-01

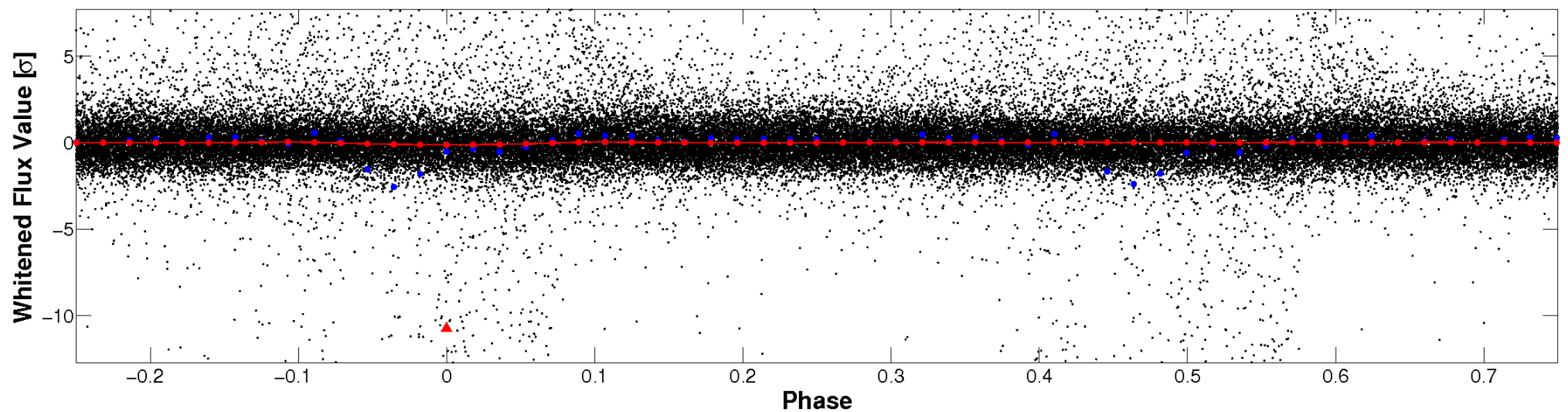


# Non-Whitened Vs. Whitened Light Curve

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

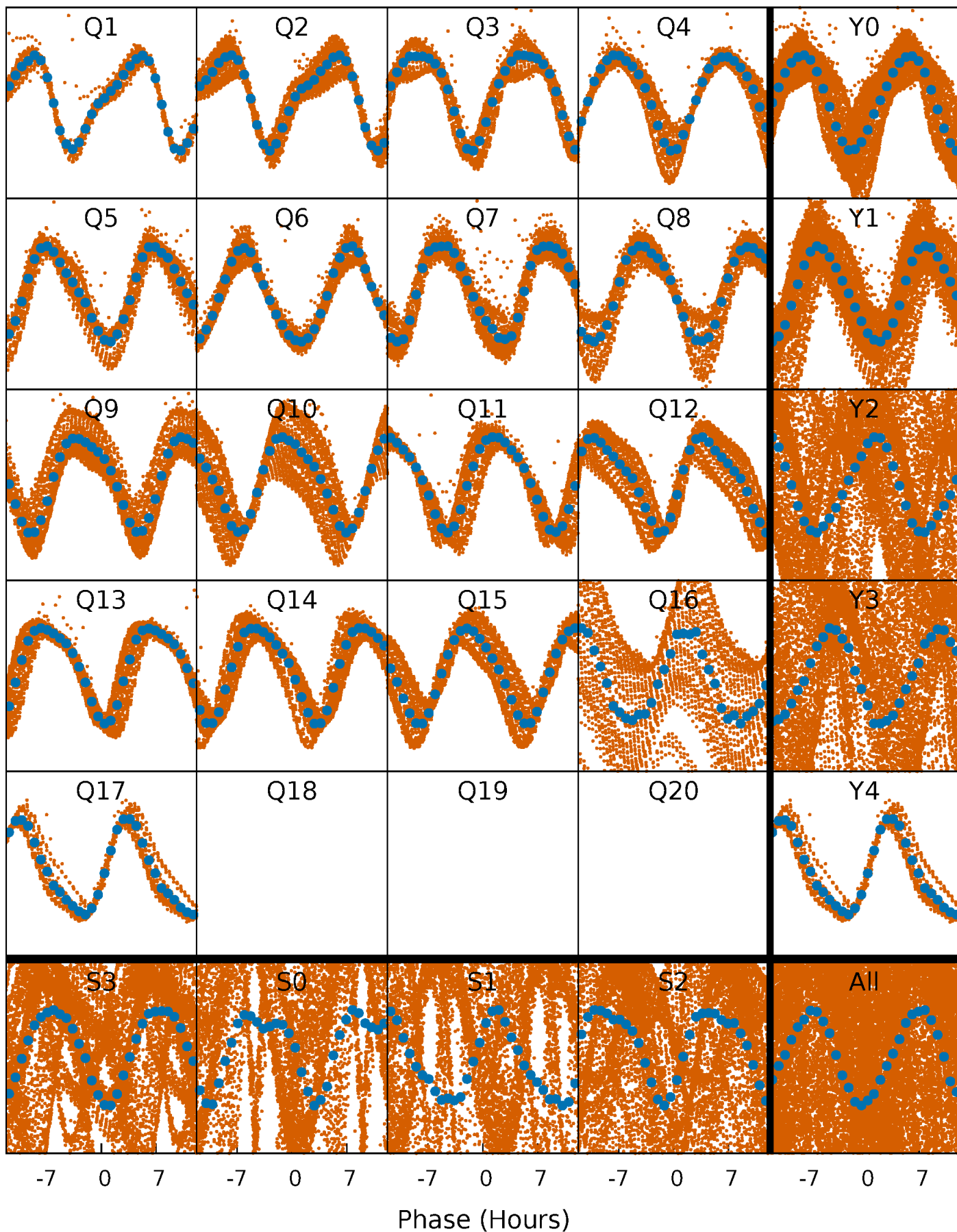


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

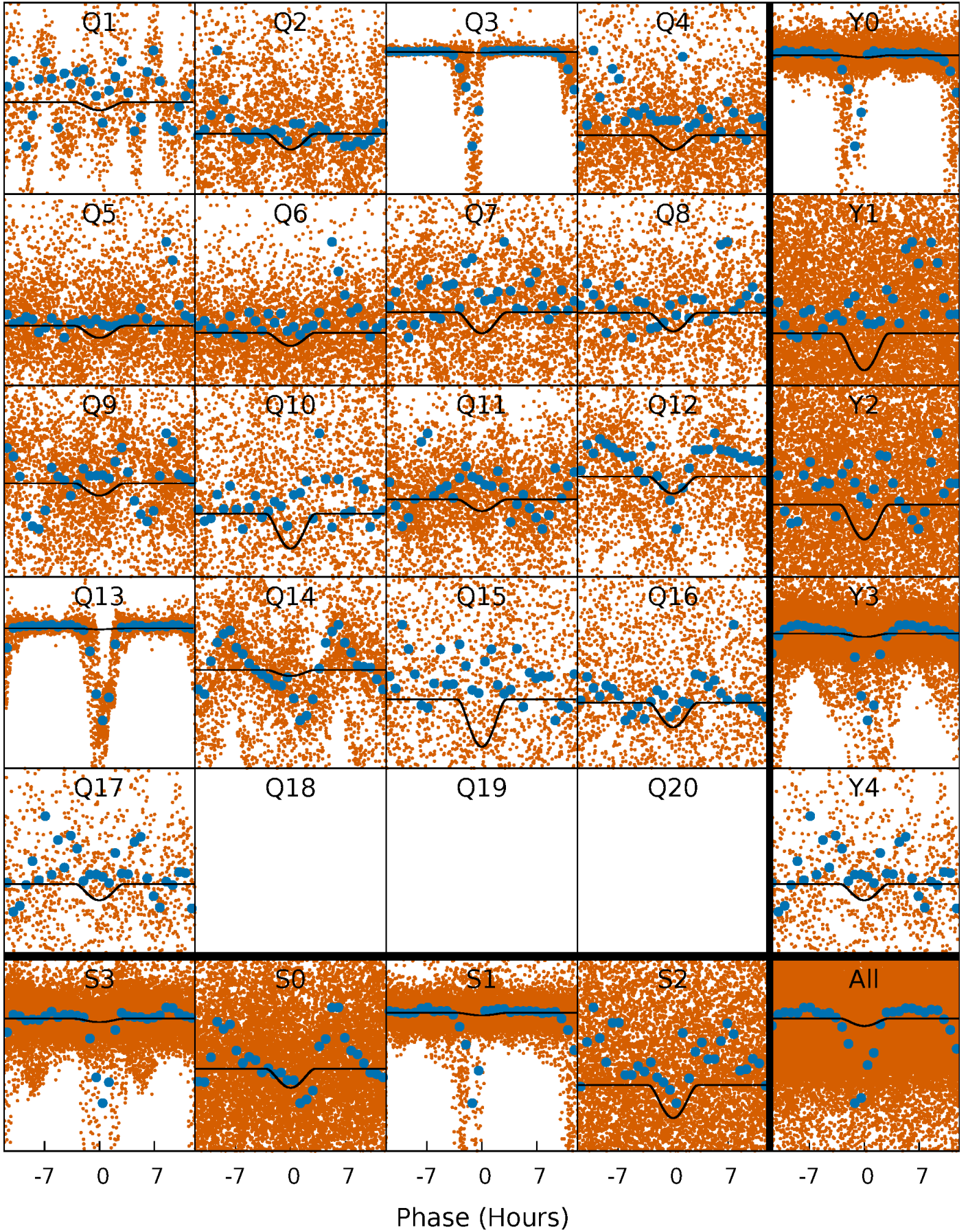
TCE 006035535-01 P= 1.145524 Days  $T_0=131.958472$  (BKJD)





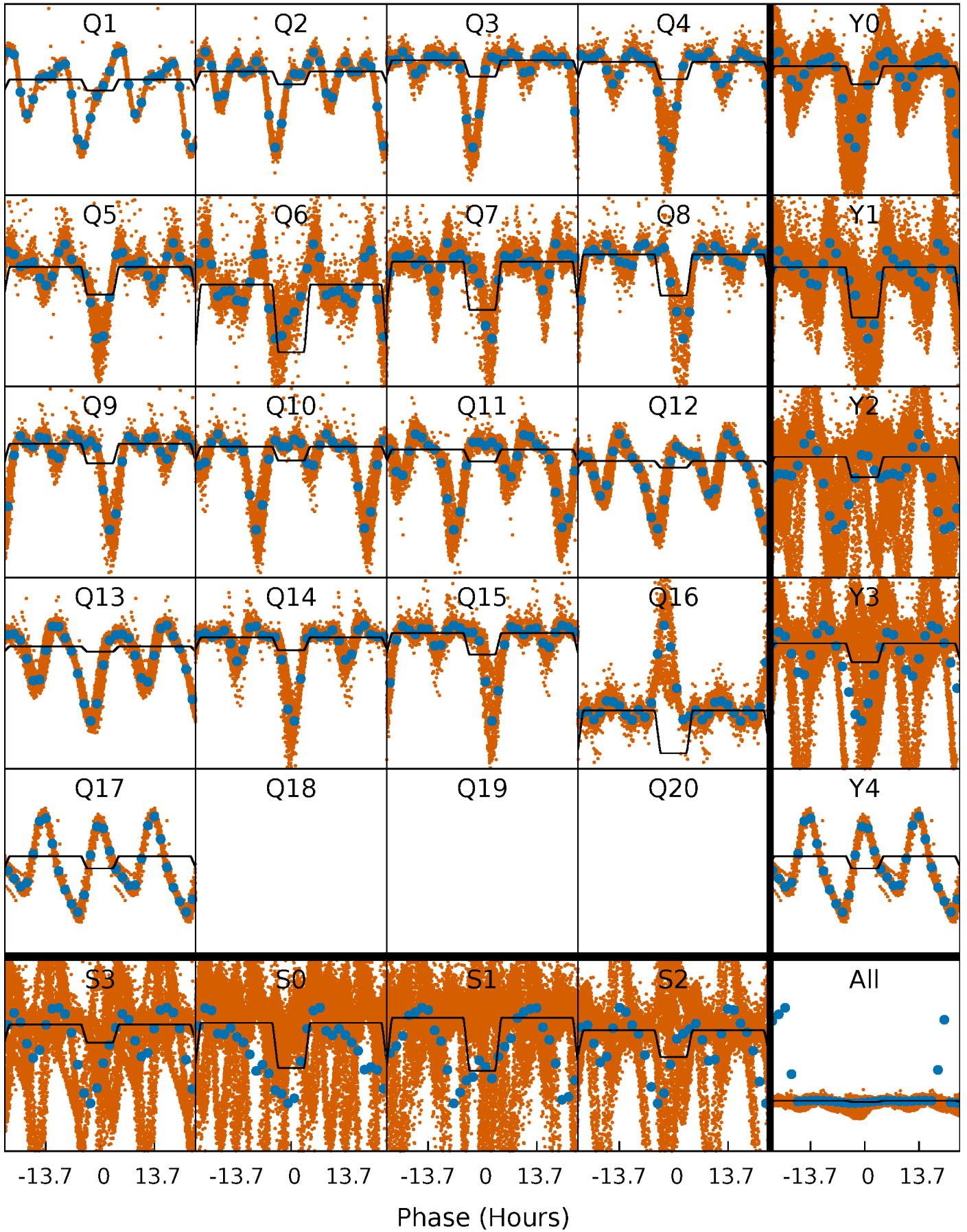
# DV Quarter-Phased Transit Curves

TCE 006035535-01 P= 1.145524 Days  $T_0=131.958472$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

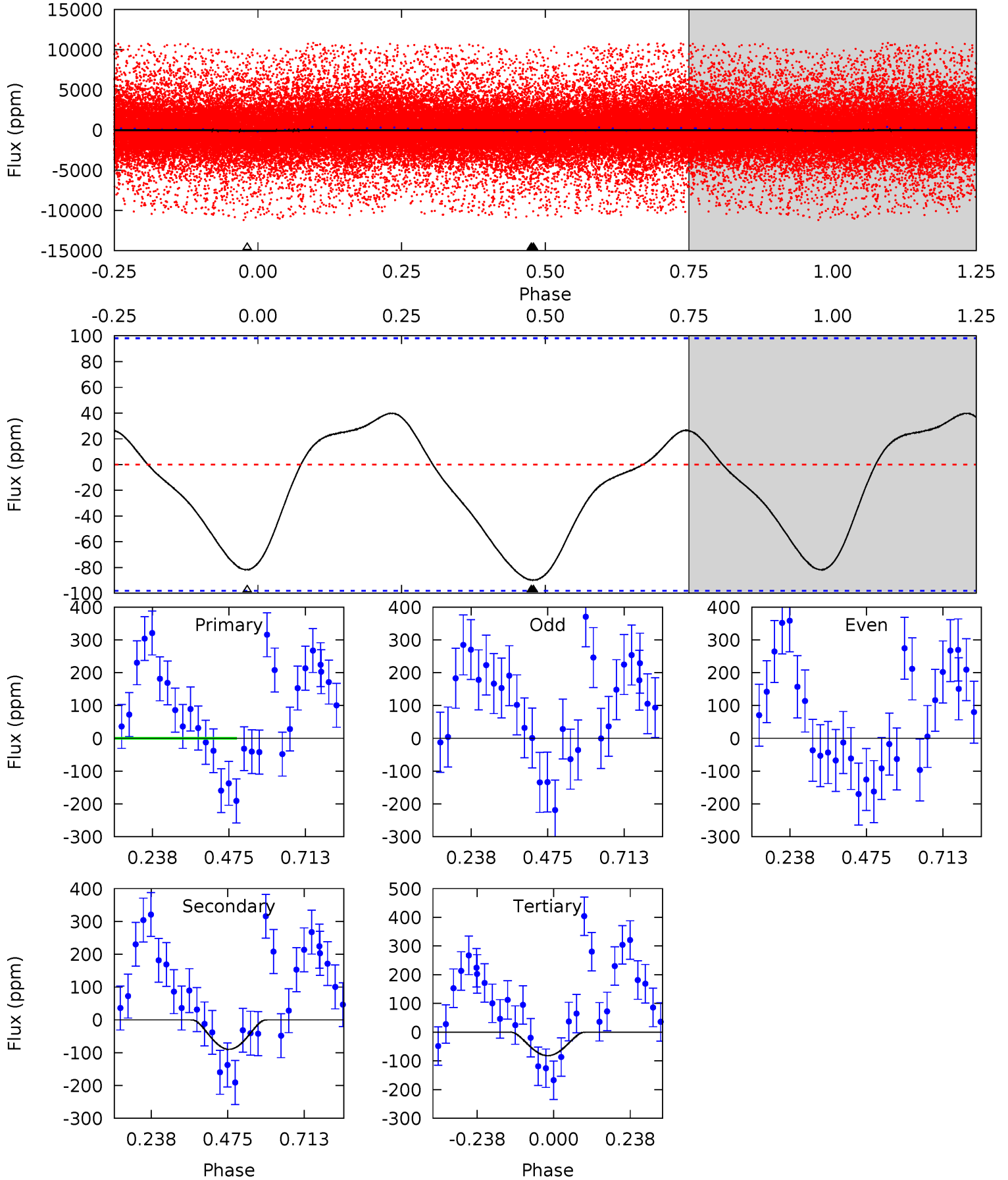
TCE 006035535-01 P= 1.145624 Days  $T_0=131.985144$  (BKJD)



# DV Model-Shift Uniqueness Test

006035535-01, P = 1.145524 Days, E = 130.812948 Days

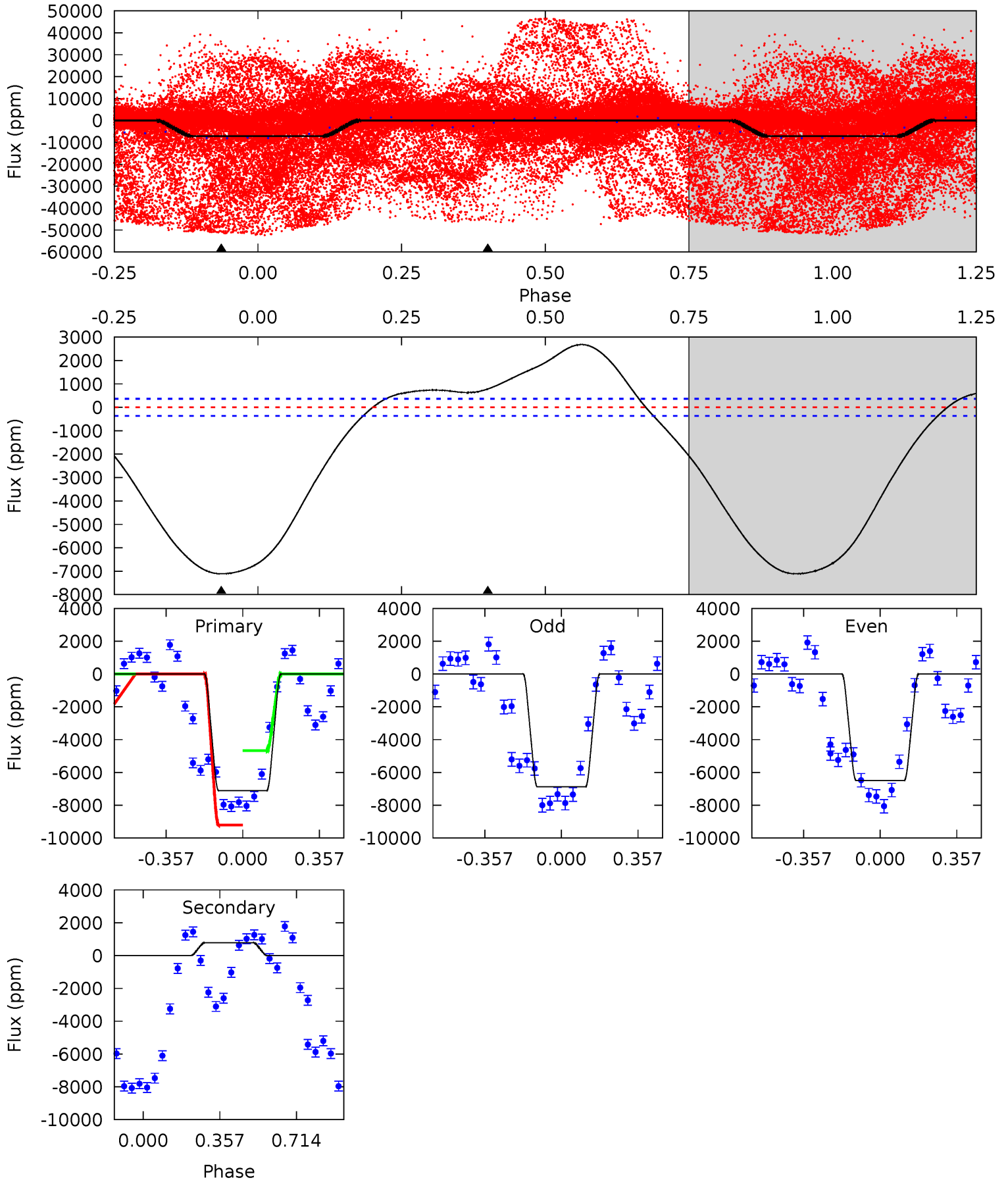
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.01	4.01	3.65	0	4.38	1.18	1.72	0.35	4.01	0.36	4.01	1.59	12.4	0.31	3.68



# Alt Model-Shift Uniqueness Test

006035535-01, P = 1.145624 Days, E = 130.839520 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
83.2	-9.19	0	0	4.29	0.92	9.23	83.2	83.2	-9.19	-9.19	2.32	1.11	0.27	22.4





### Stellar Parameters For KIC 006035535

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4640^{+168}_{-168}$	$4.567^{+0.059}_{-0.027}$	$0.140^{+0.250}_{-0.300}$	$0.739^{+0.042}_{-0.066}$	$0.734^{+0.059}_{-0.059}$	$2.566^{+0.644}_{-0.291}$
	+4%/-4%	+1%/-1%	+179%/-214%	+6%/-9%	+8%/-8%	+25%/-11%
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 006035535-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-90 \pm 22$	$5.12^{+4.10}_{-3.49}$	$1758^{+65}_{-71}$	$2392^{+1106}_{-4439}$	$0.723^{+5.831}_{-0.522}$
Alt.	$786 \pm 85$	$8.48^{+4.44}_{-4.67}$	$1762^{+64}_{-74}$	$-3047^{+297}_{-737}$	$-2.262^{+1.323}_{-8.941}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$



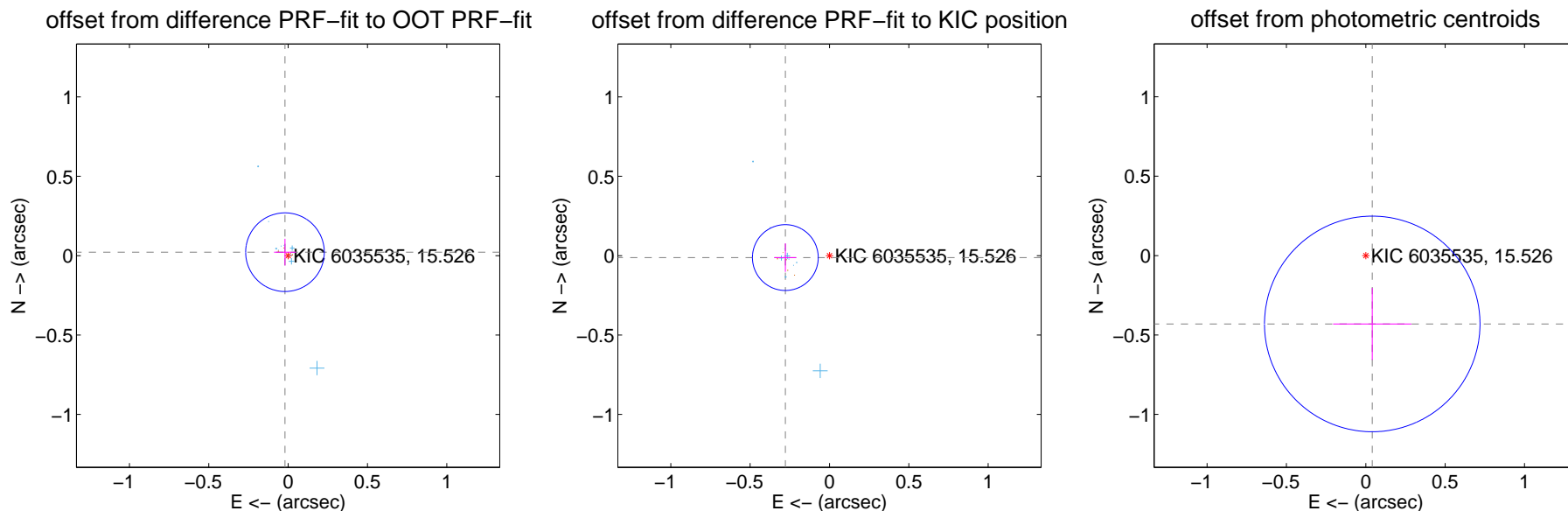
## DV Centroid Data

Supplemental centroid analysis for 006035535-01. Kepler magnitude: 15.53. Transit SNR 9.76

There are 12 quarters with good PRF difference image offsets

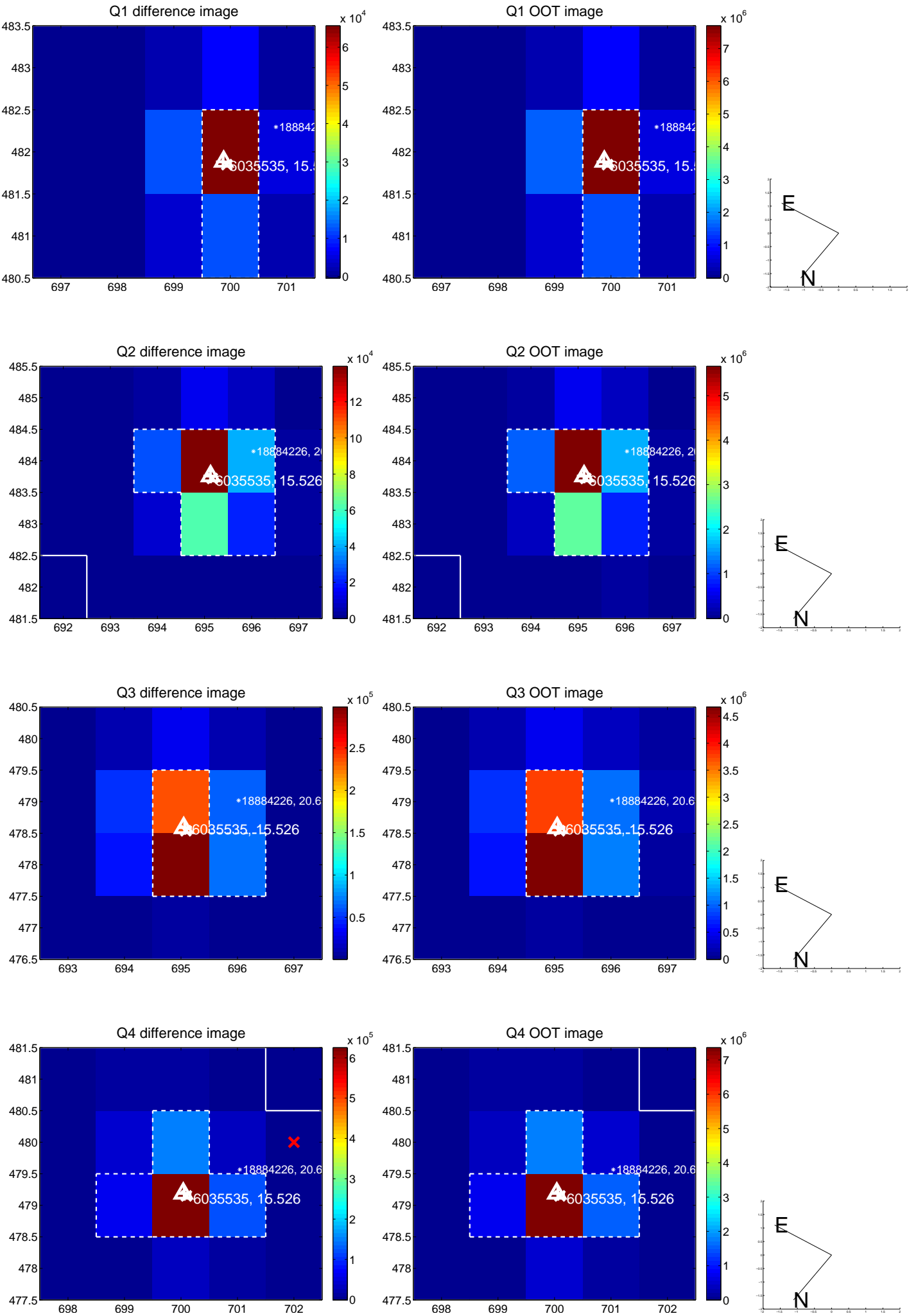
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.030 \pm 0.083$	0.36	$0.020 \pm 0.069$	$0.022 \pm 0.084$
PRF-fit source offset from KIC position	<b><math>0.279 \pm 0.069</math></b>	<b>4.03</b>	$0.278 \pm 0.070$	$-0.012 \pm 0.090$
photometric centroid source offset	$0.43 \pm 0.23$	1.91	$-0.04 \pm 0.25$	$-0.43 \pm 0.23$

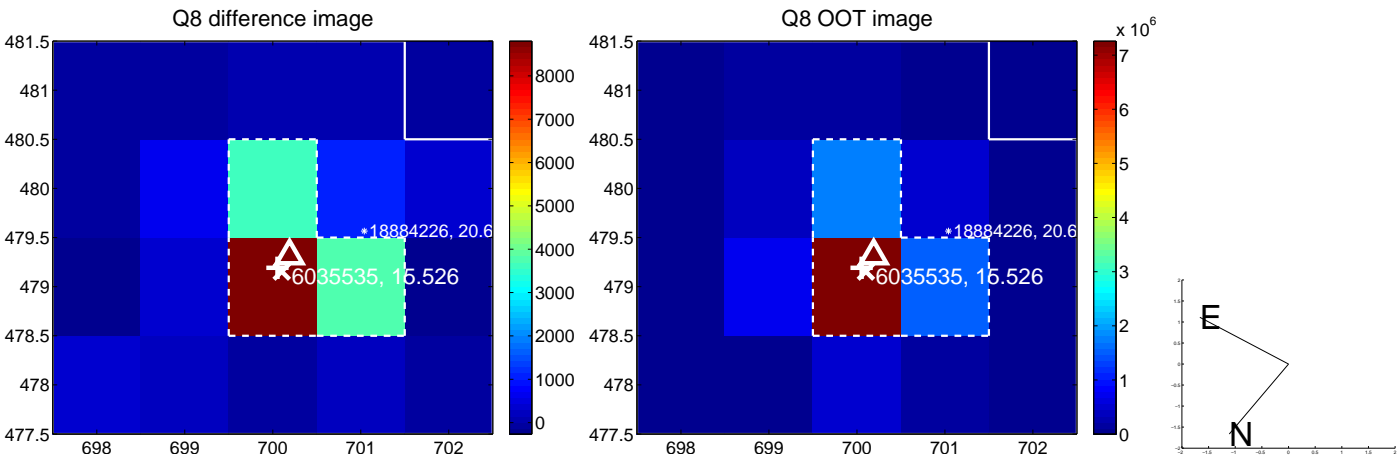
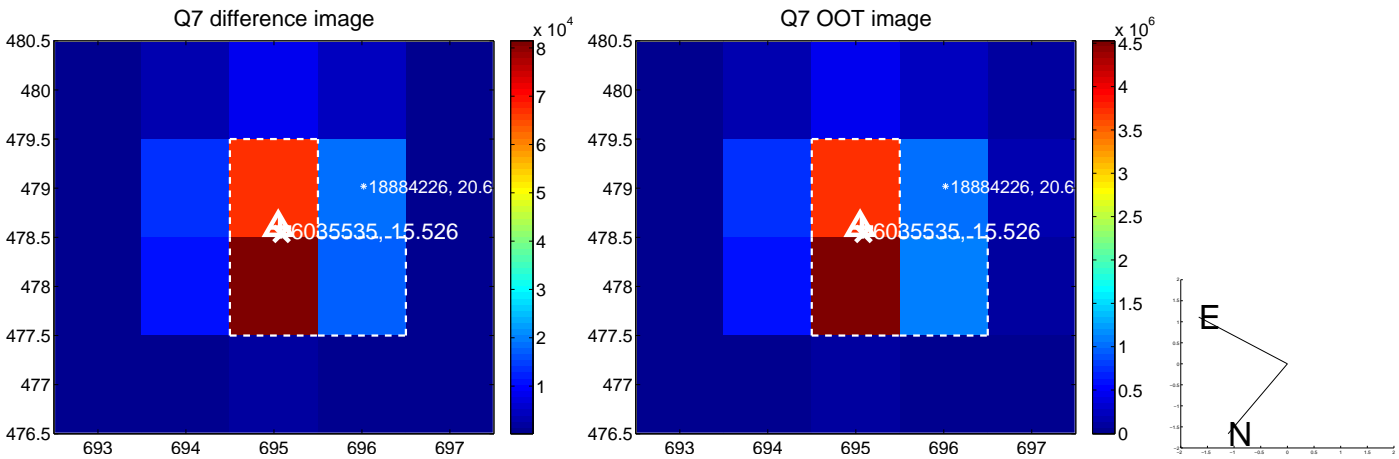
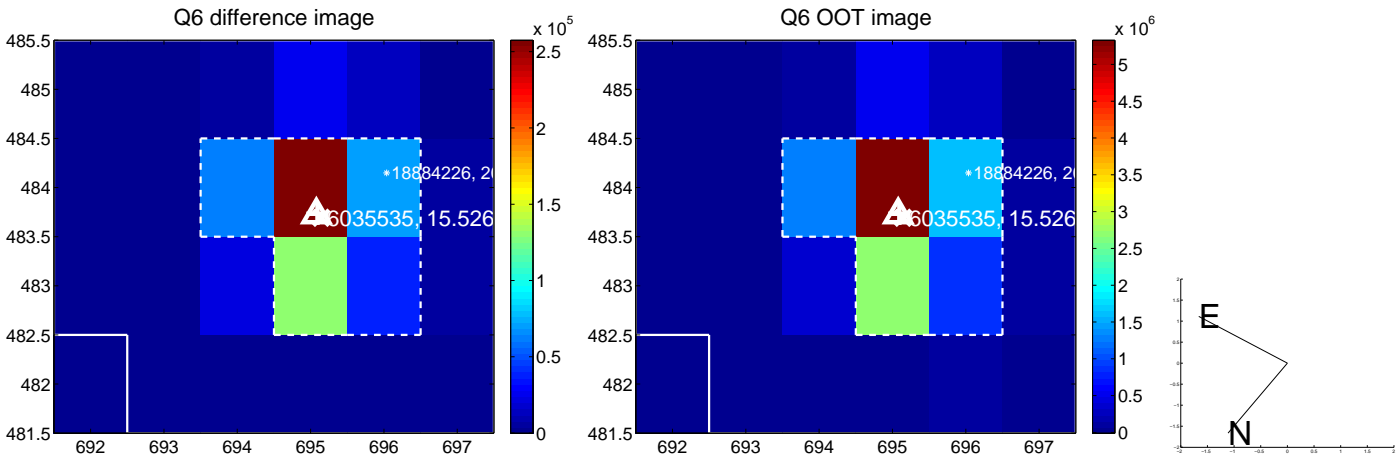
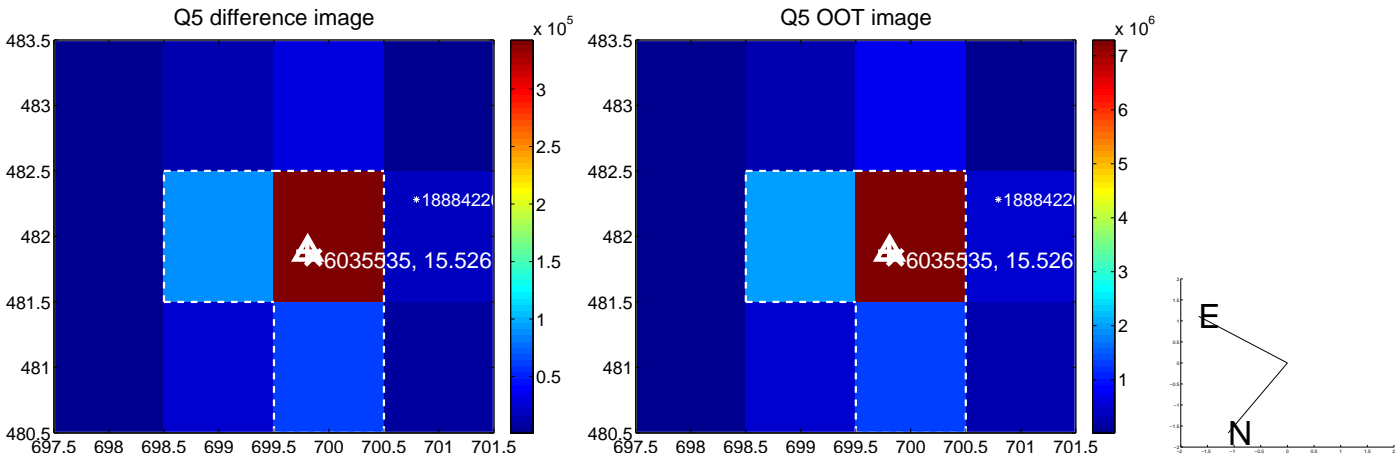


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.

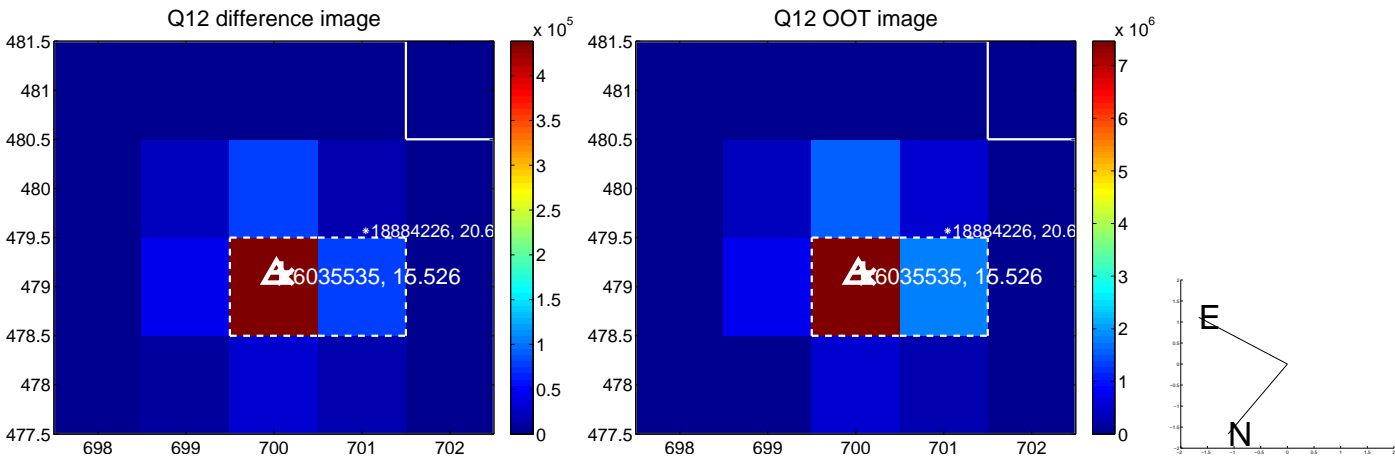
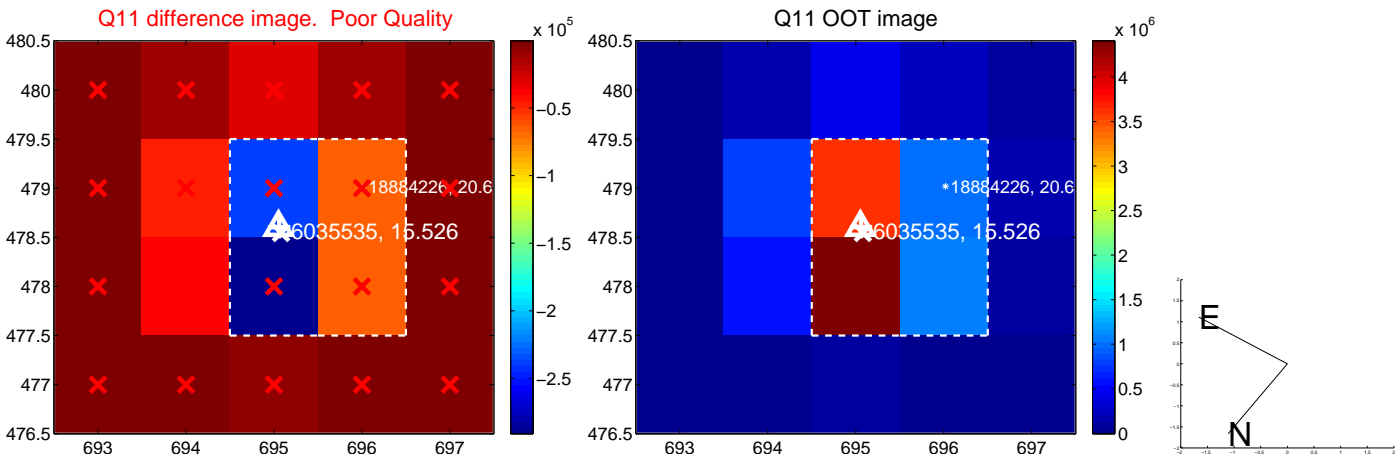
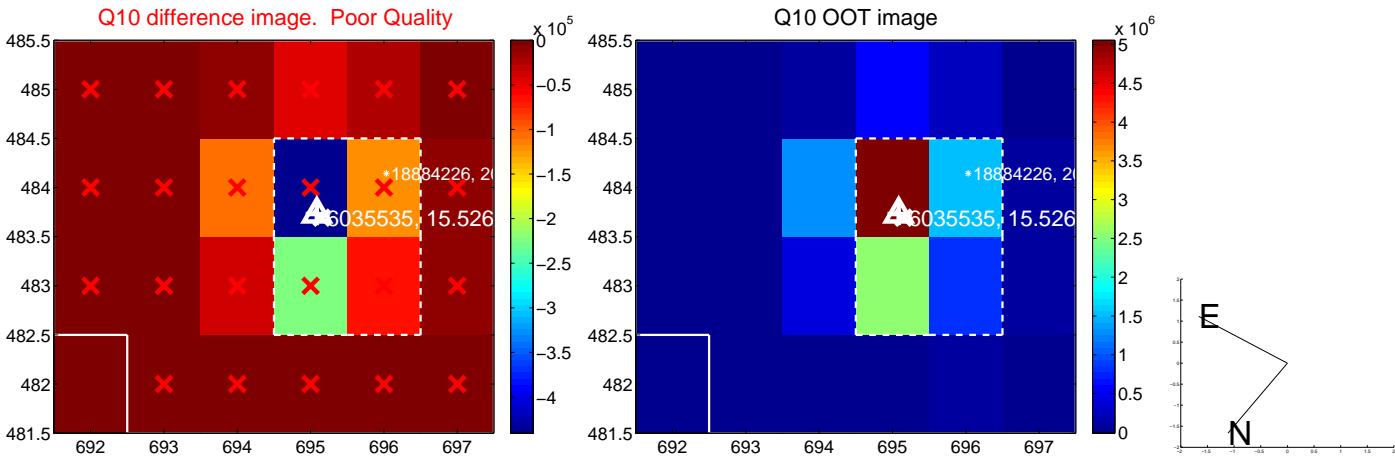
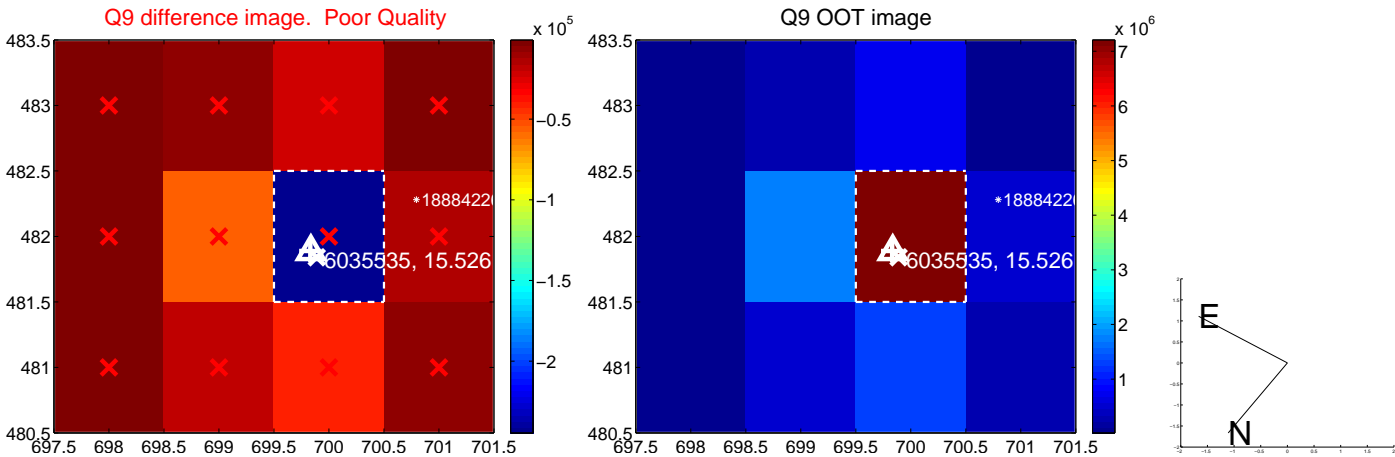
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



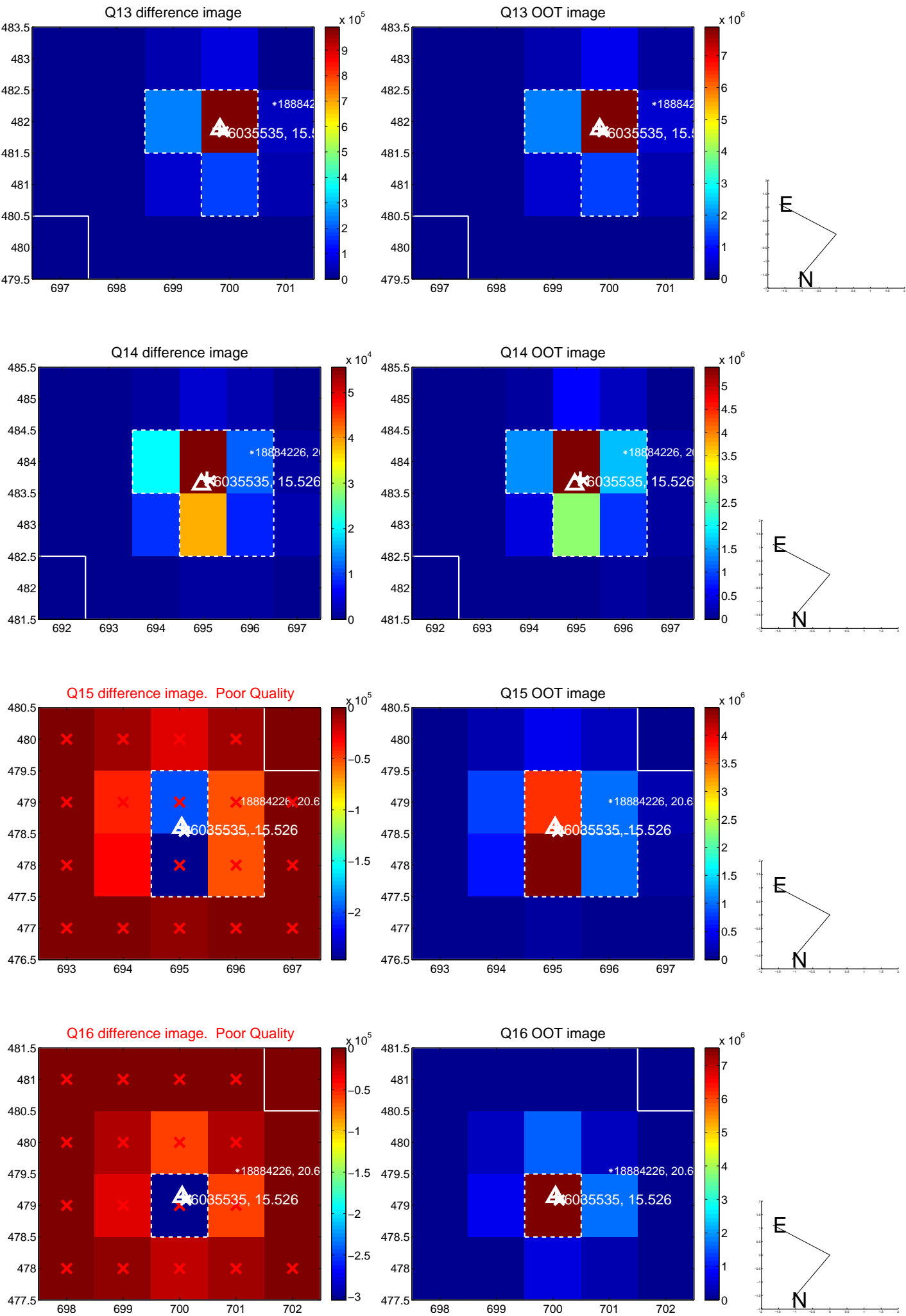
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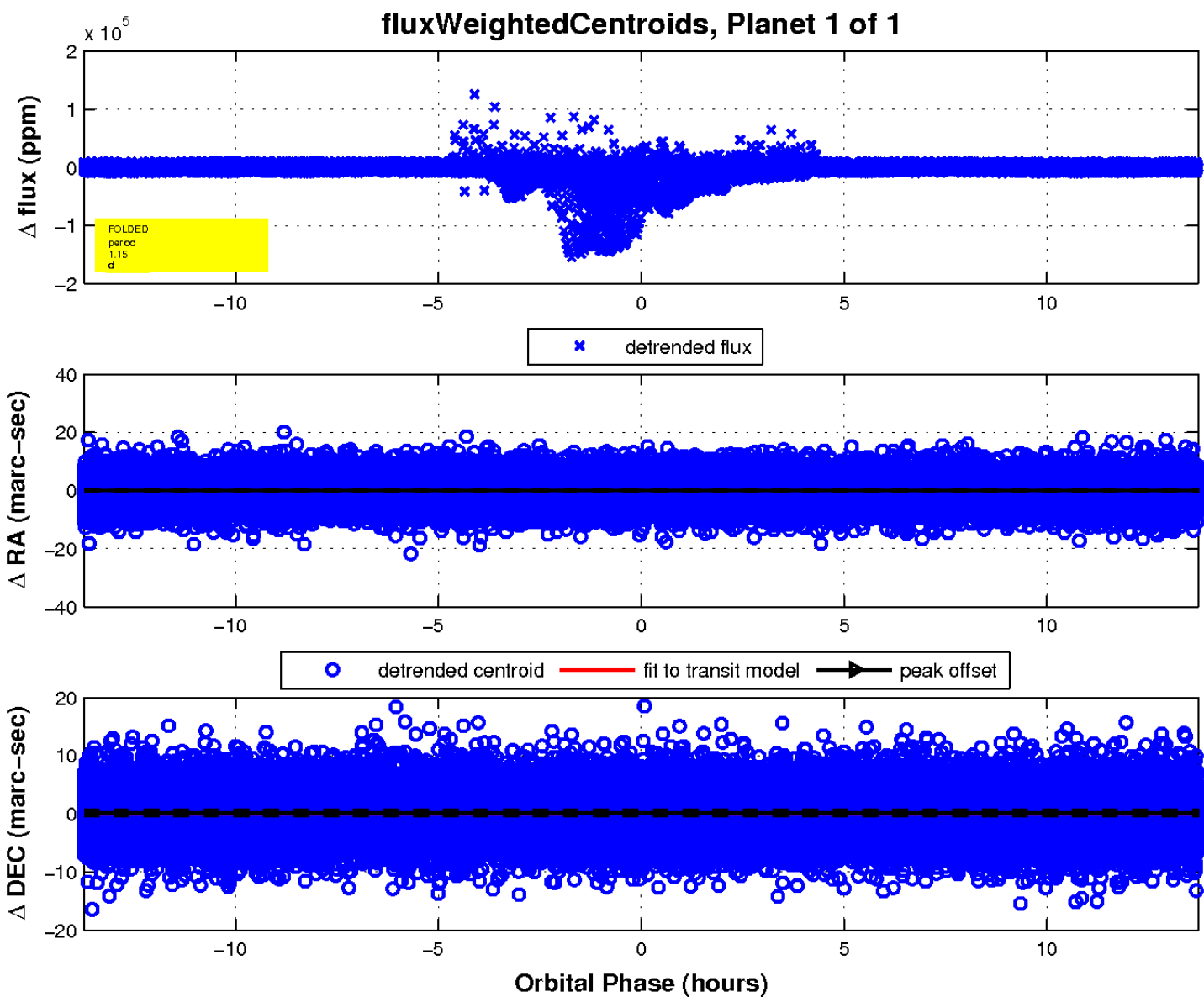
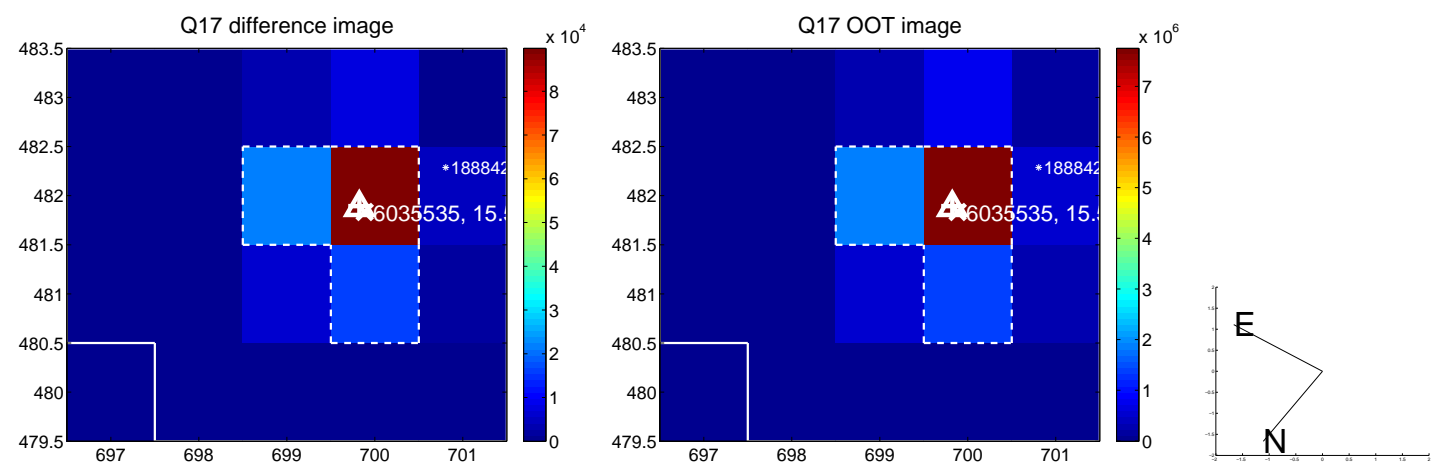


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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

