

KIC 006358198

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})
006358198-01	OBS	No	1.311913	132.683399	120.9	9.912	12.5	12.4	0.72	5538	0.85	1027.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006358198-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV

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

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

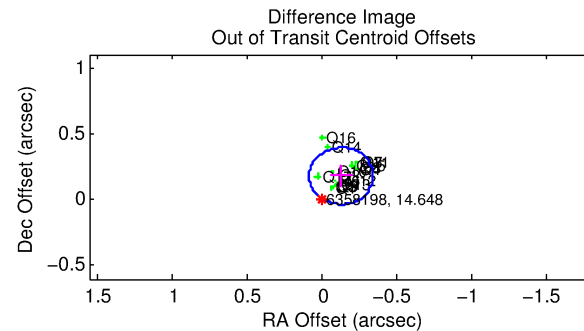
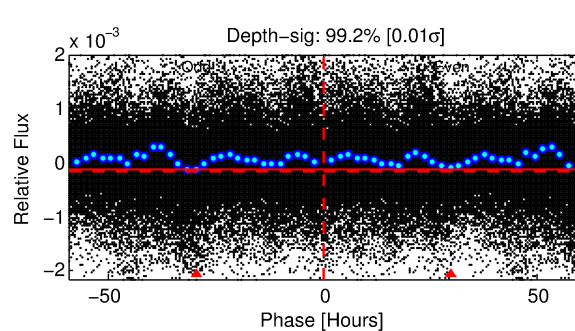
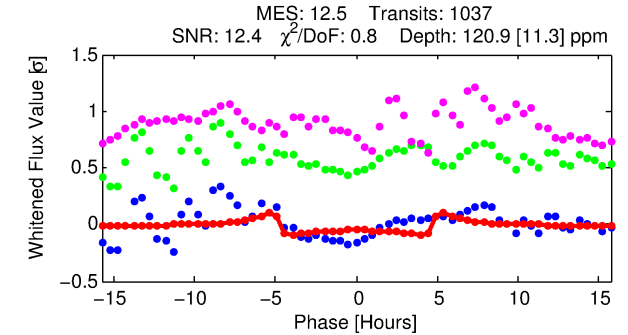
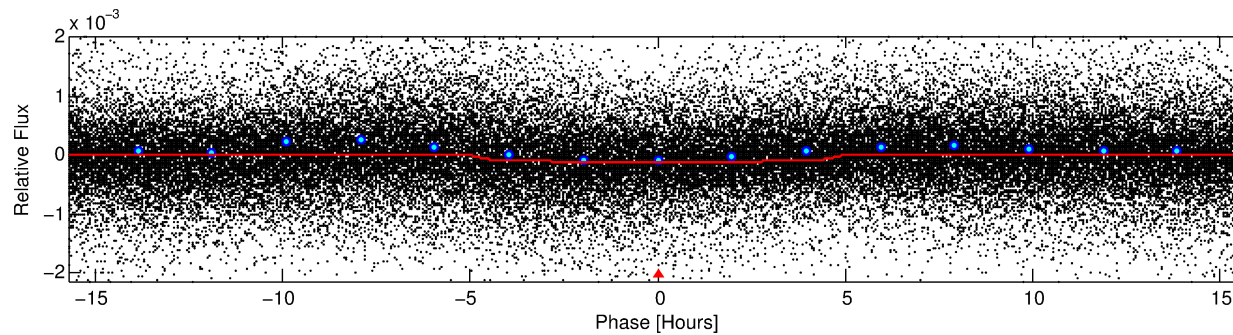
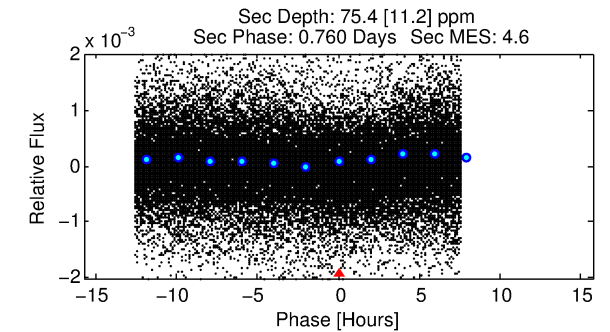
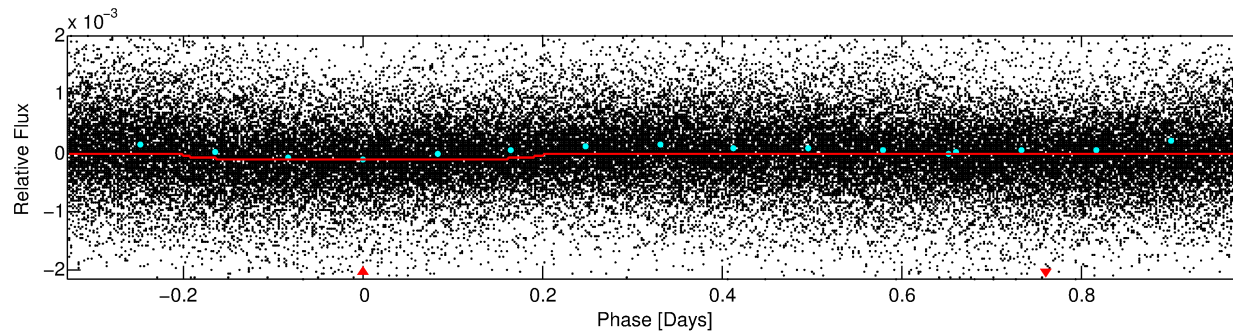
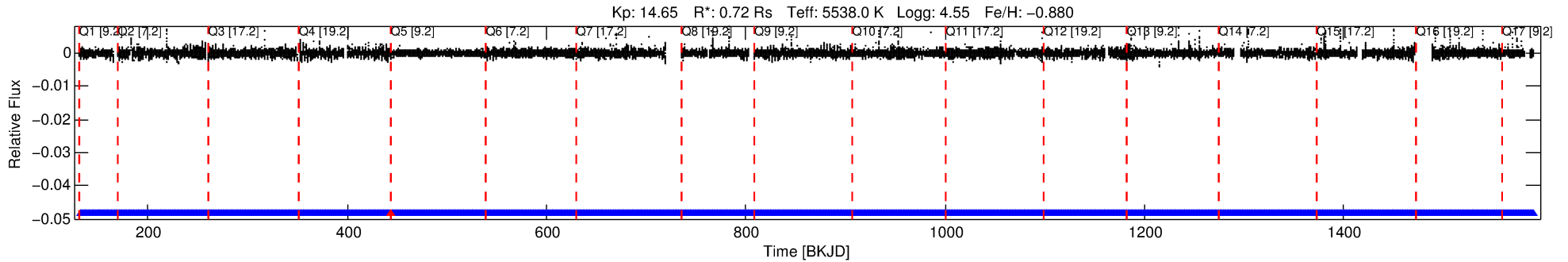
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006358198-01

No Significant Match Found

DV One-Page Summary

KIC: 6358198 Candidate: 1 of 1 Period: 1.312 d



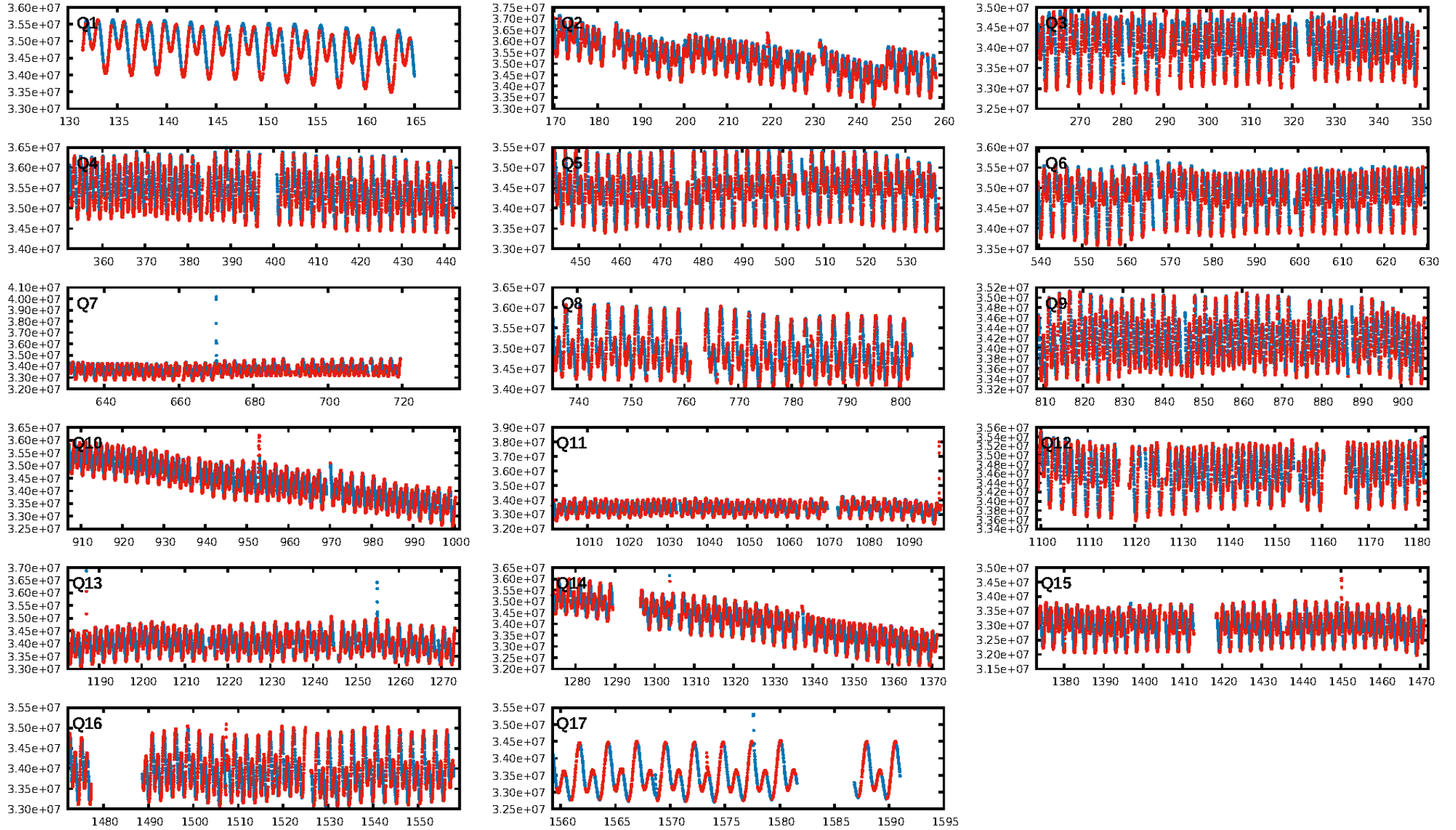
DV Fit Results:

Period = 1.31191 [0.00001] d
Epoch = 132.6834 [0.0024] BKJD
Rp/R* = 0.0108 [0.0020]
a/R* = 1.11 [0.18]
b = 0.73 [0.57]
Seff = 1027.04 [223.54]
Teq = 1444 [79] K
Rp = 0.85 [0.19] Re
a = 0.0206 [0.0023] AU
Ag = 24.31 [10.62] [2.19σ]
Teffp = 4956 [524] K [6.63σ]

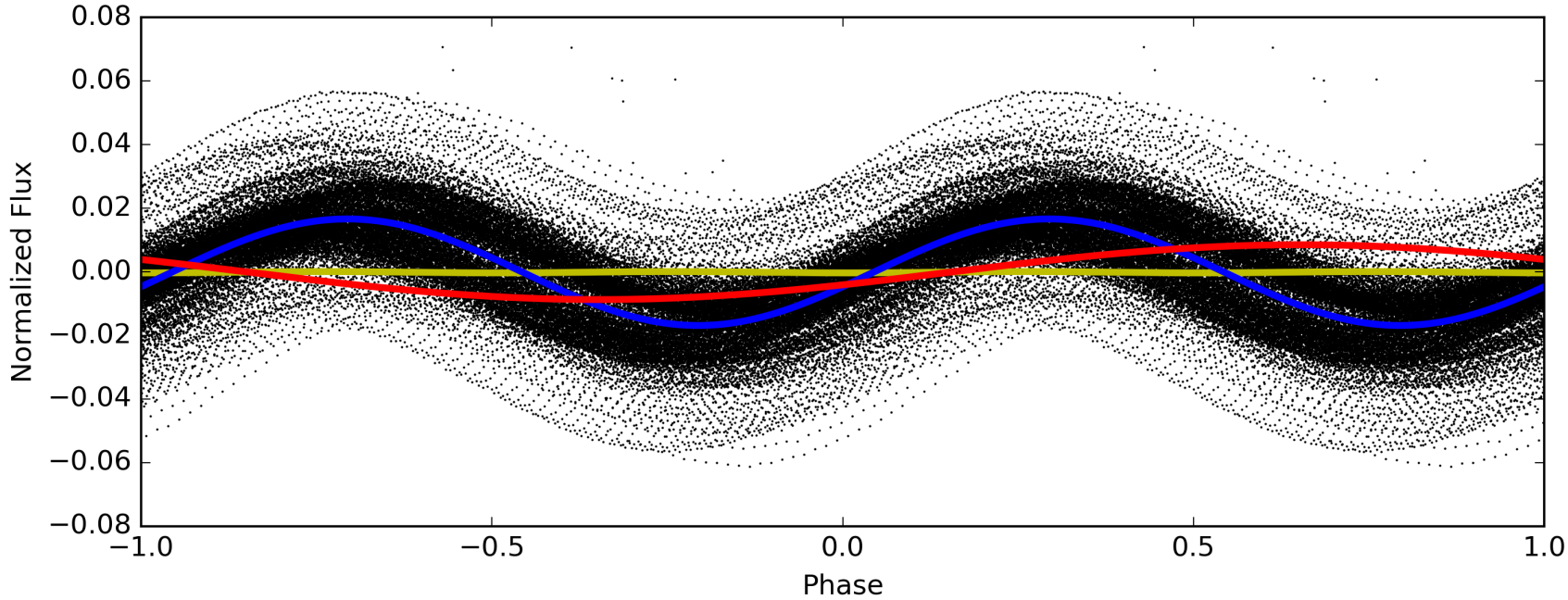
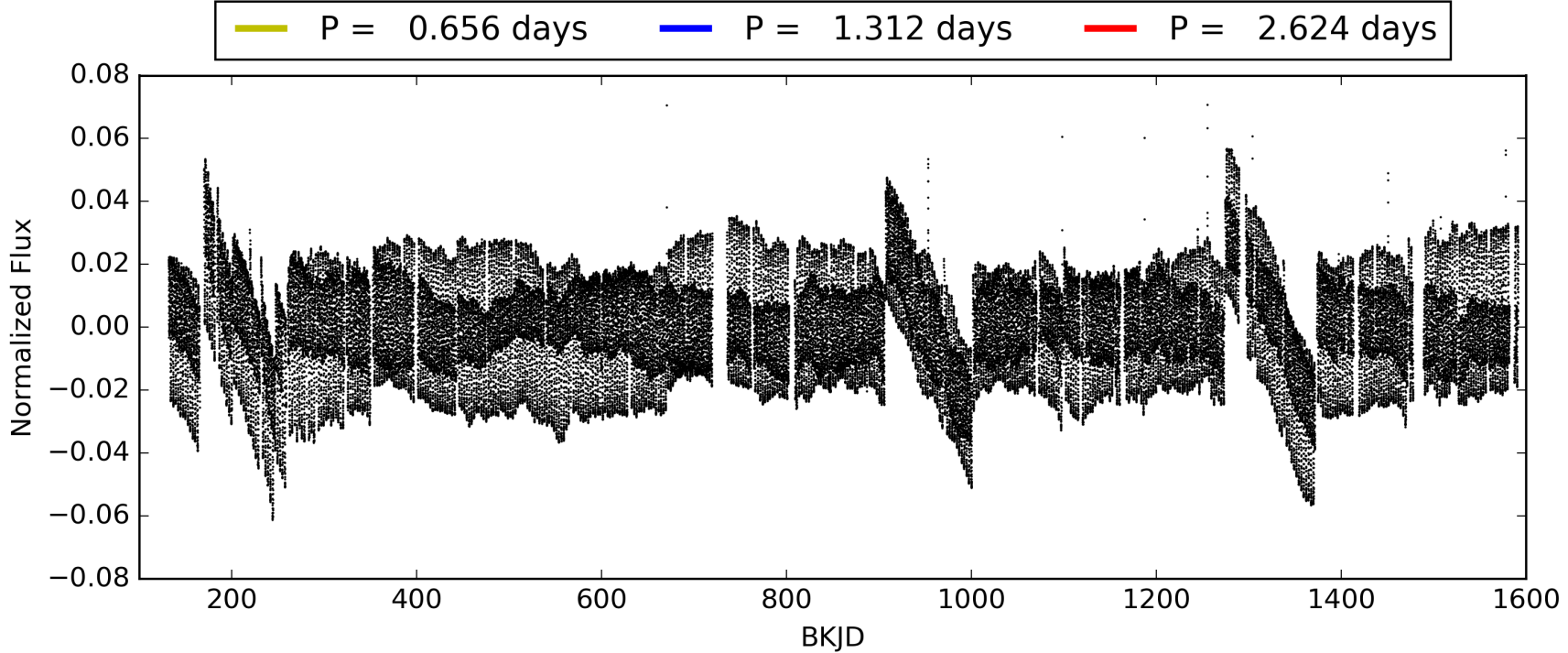
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.83e-221
RollingBand-fgt: 1.00 [990/991]
GhostDiagnostic-chr: 1.265
Centroid-sig: 0.1%
Centroid-so: 0.506 arcsec [1.06σ]
OotOffset-rm: 0.224 arcsec [3.13σ]
KicOffset-rm: 0.088 arcsec [1.27σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006358198-01, PDC Light Curves

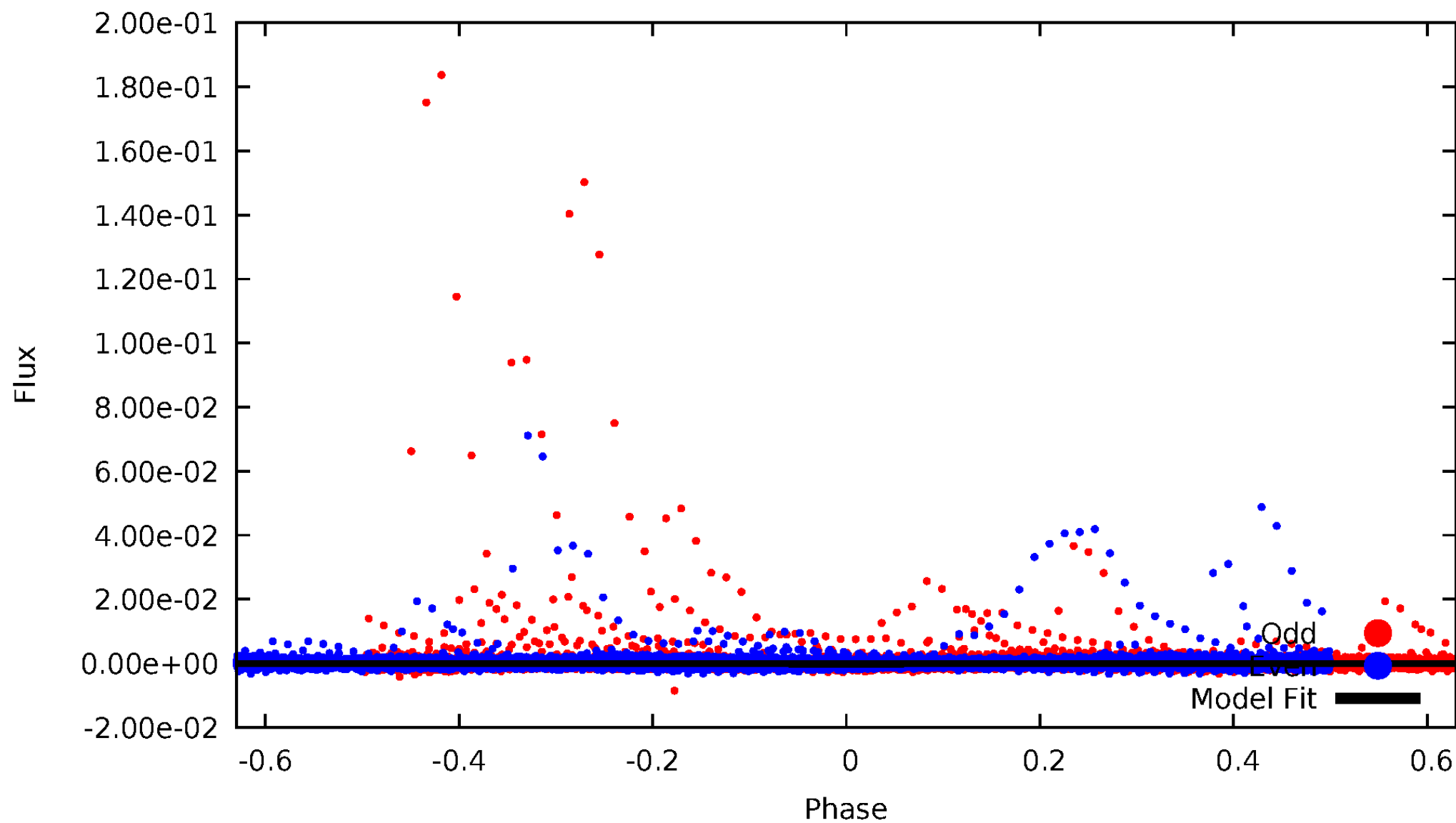


TCE 006358198-01



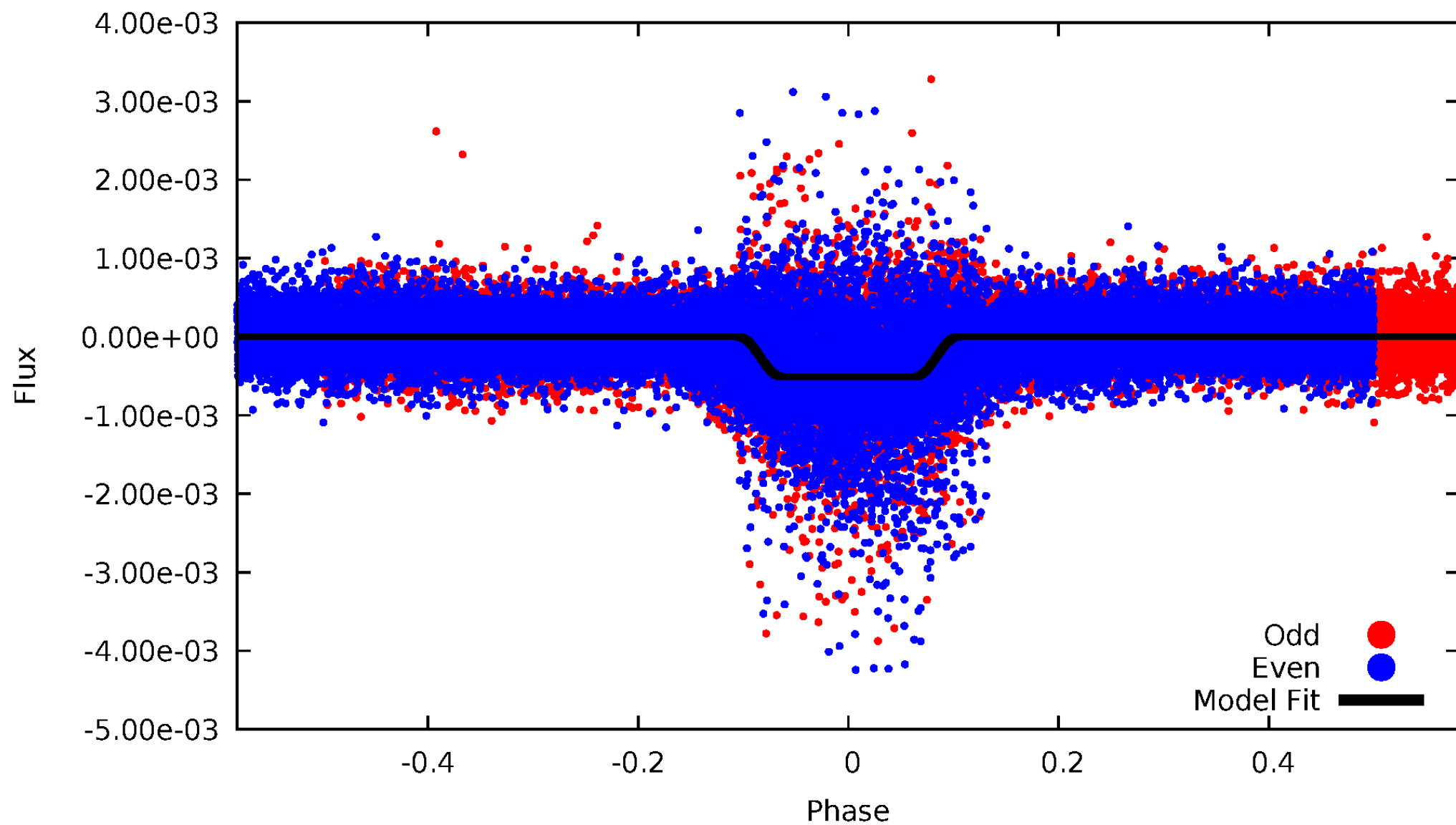
DV Odd/Even

TCE 006358198-01



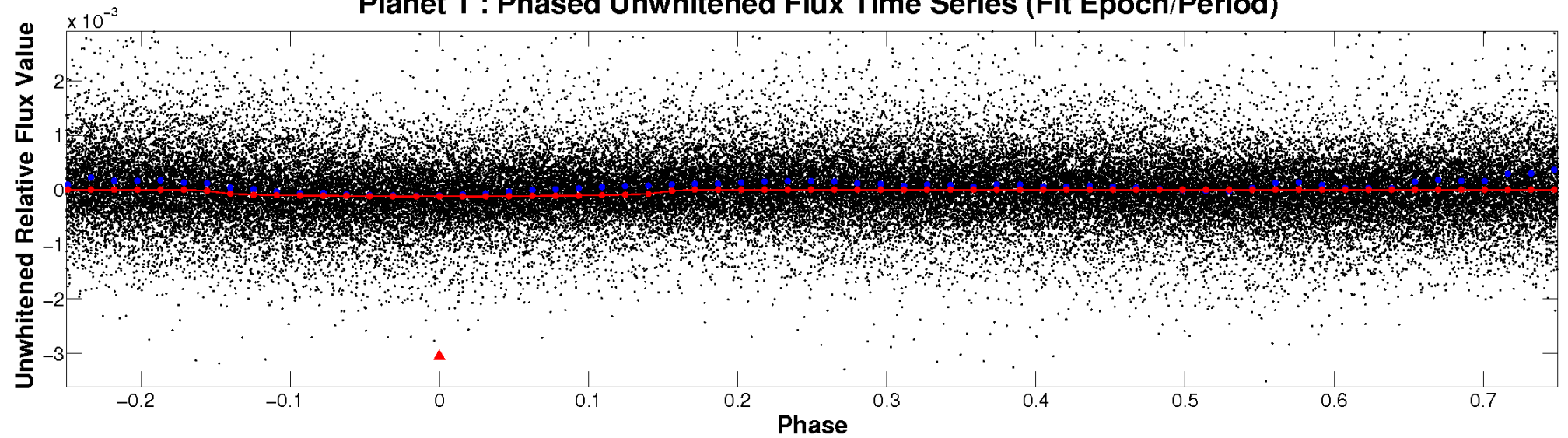
ALT Odd/Even

TCE 006358198-01

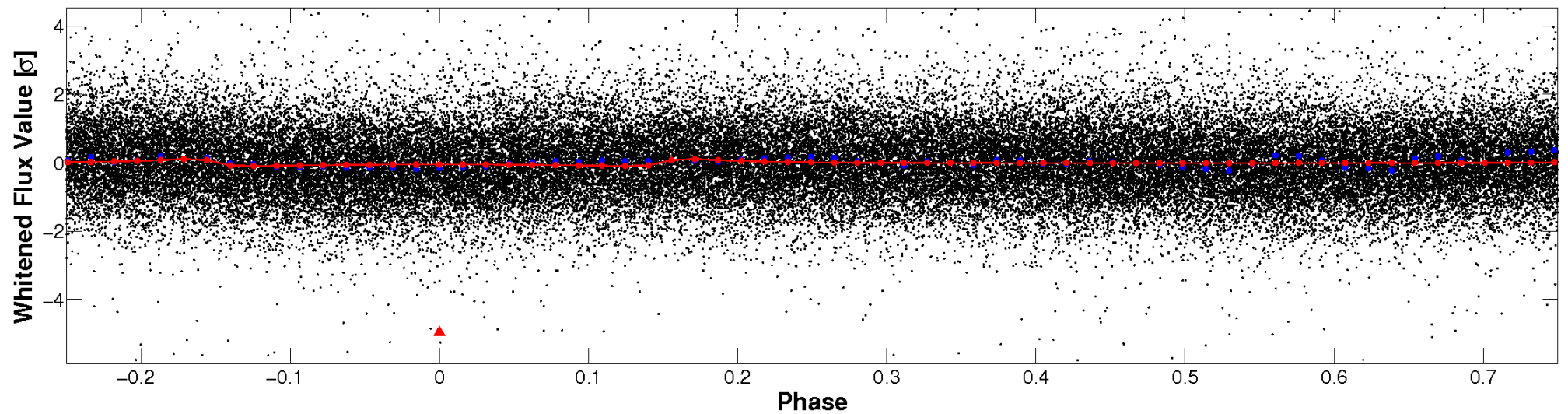


Non-Whitened Vs. Whitened Light Curve

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

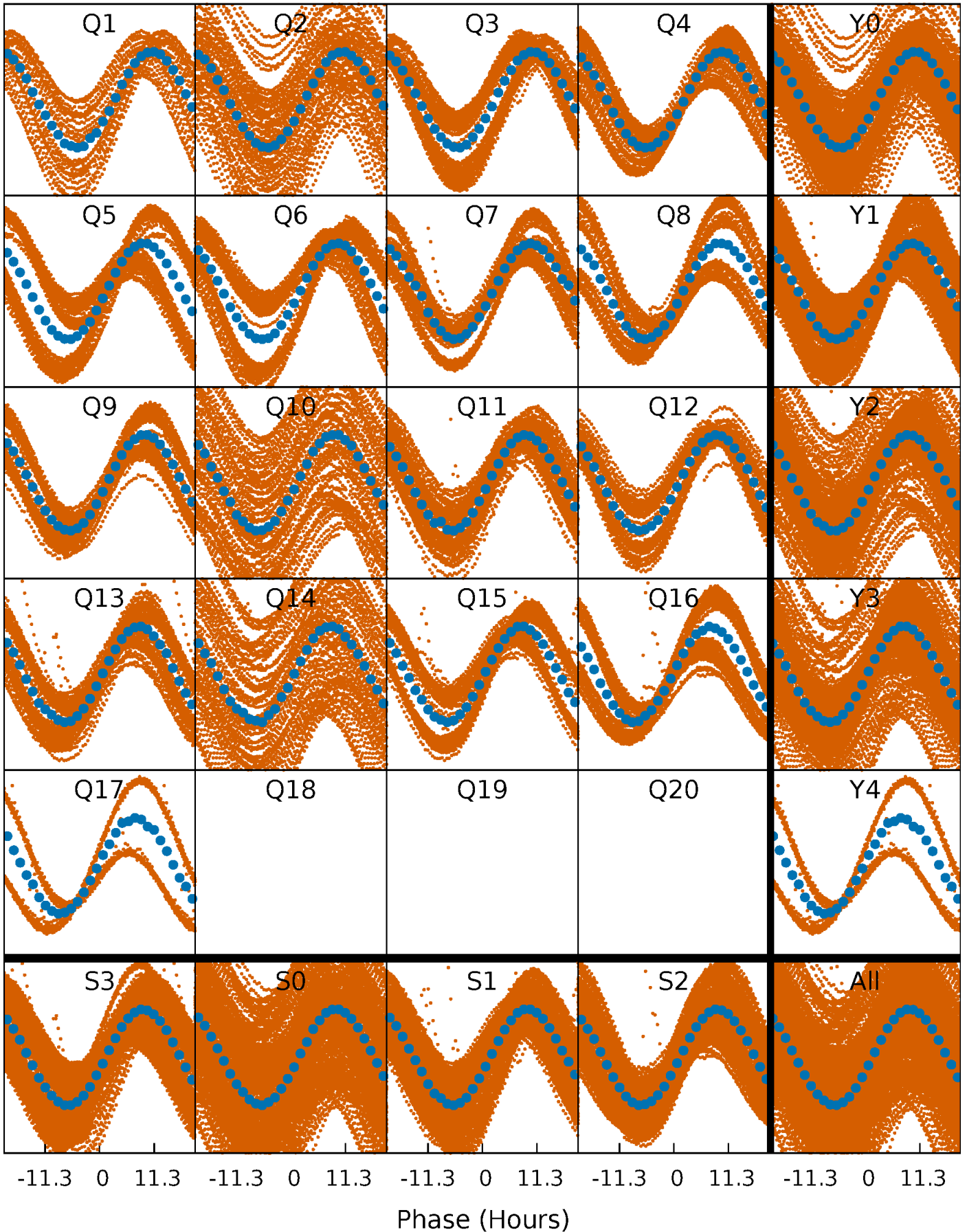


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



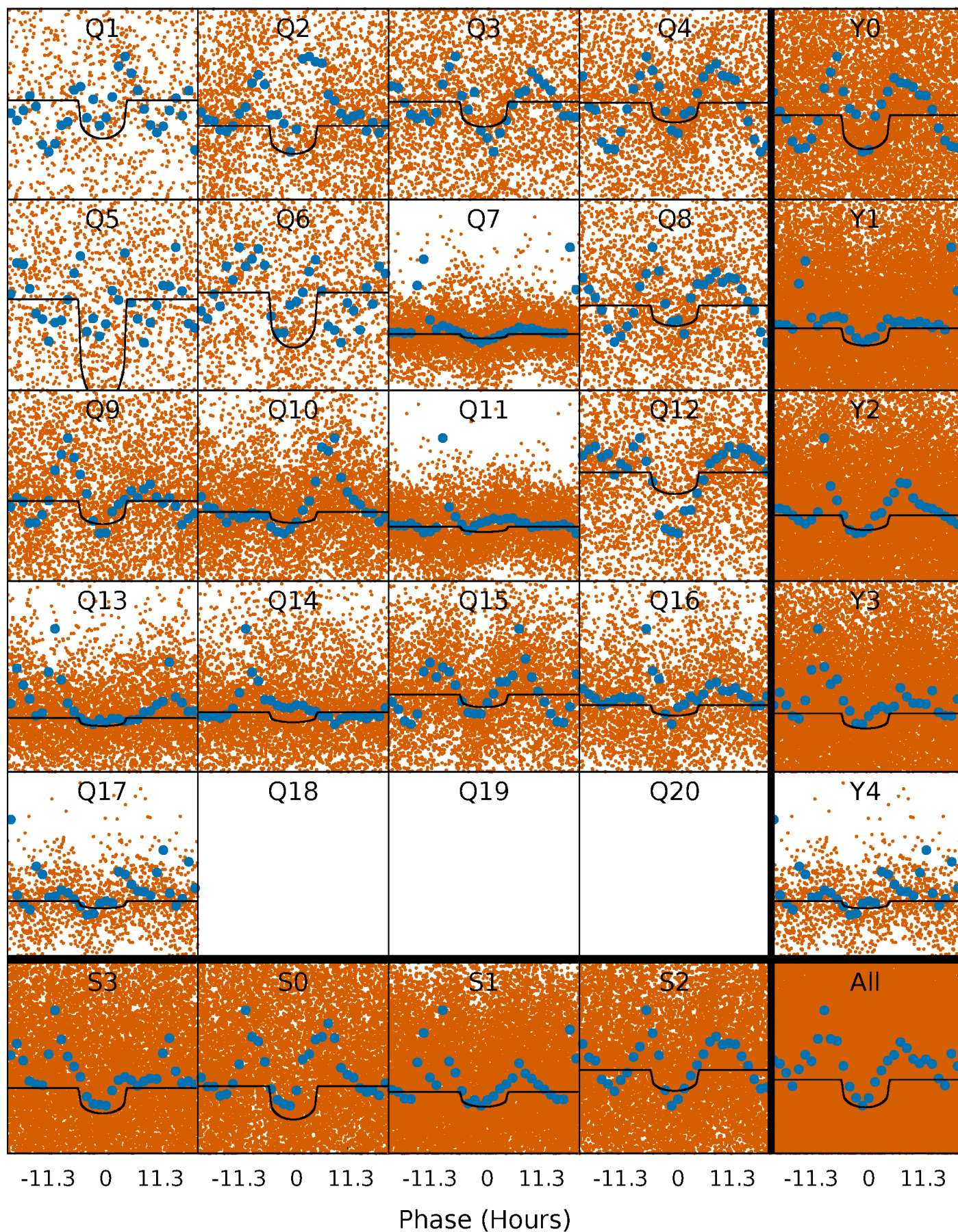
PDC Quarter-Phased Transit Curves

TCE 006358198-01 P= 1.311913 Days $T_0=132.683399$ (BKJD)



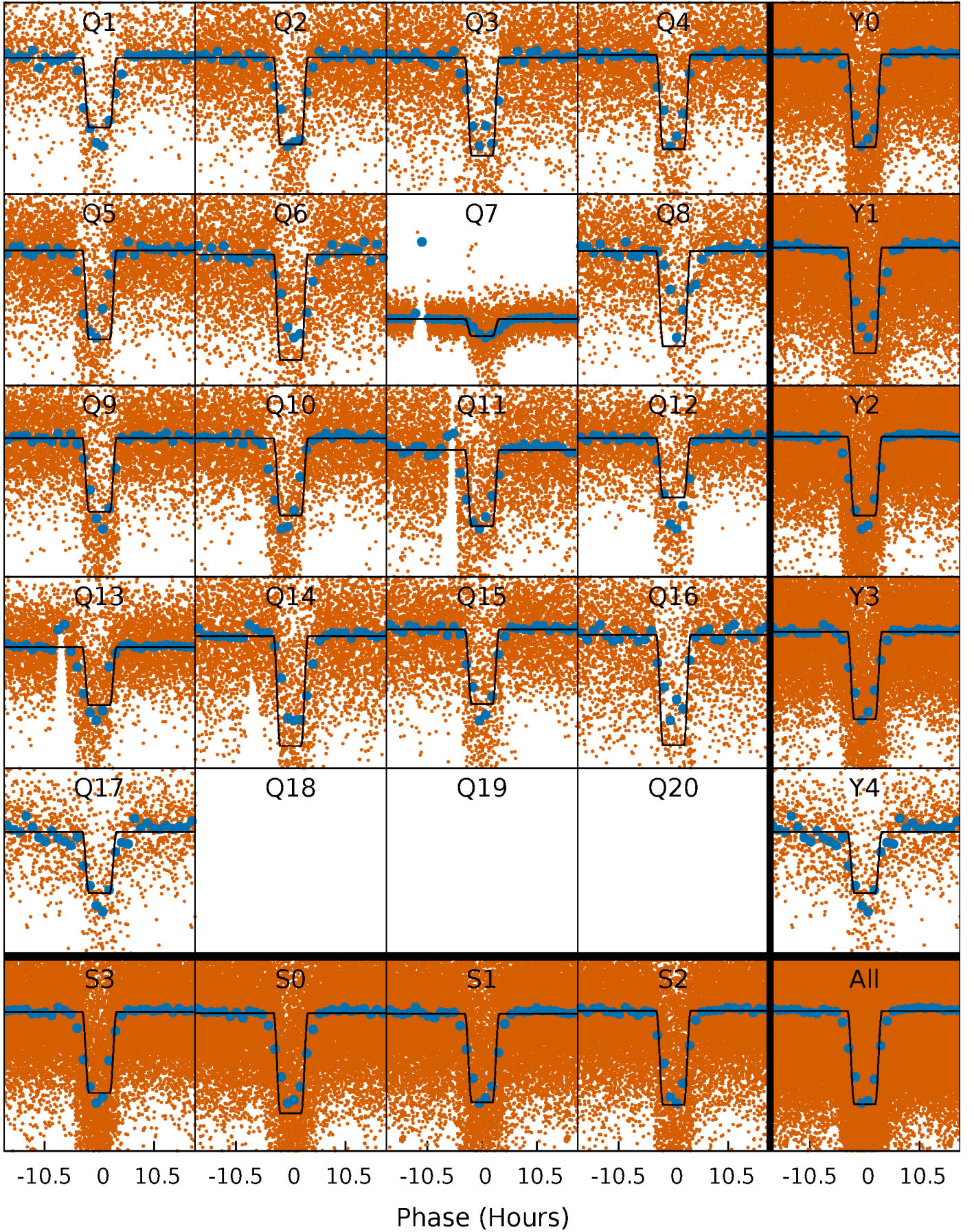
DV Quarter-Phased Transit Curves

TCE 006358198-01 P= 1.311913 Days $T_0=132.683399$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

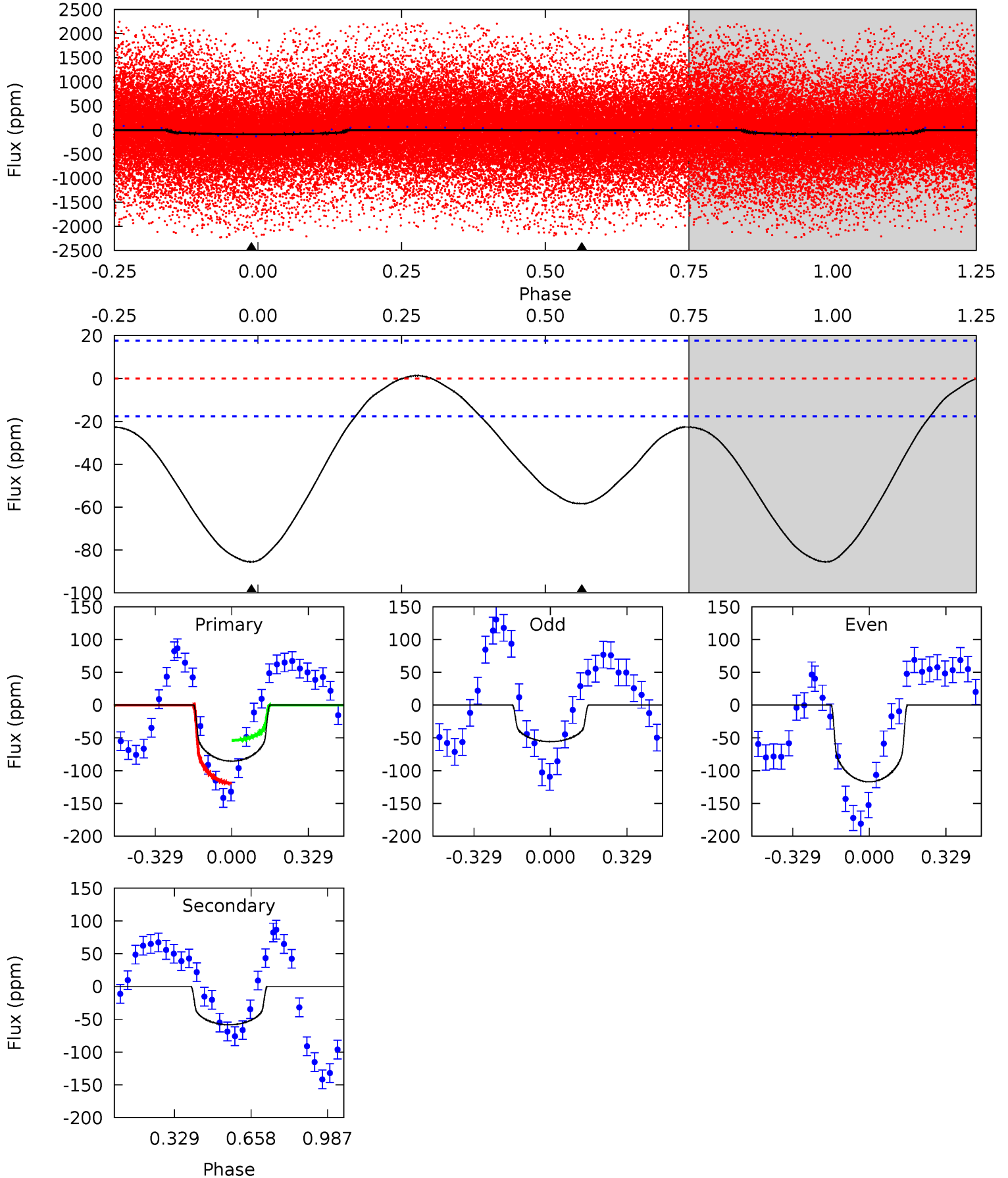
TCE 006358198-01 P= 1.311780 Days $T_0=132.679334$ (BKJD)



DV Model-Shift Uniqueness Test

006358198-01, P = 1.311913 Days, E = 131.371486 Days

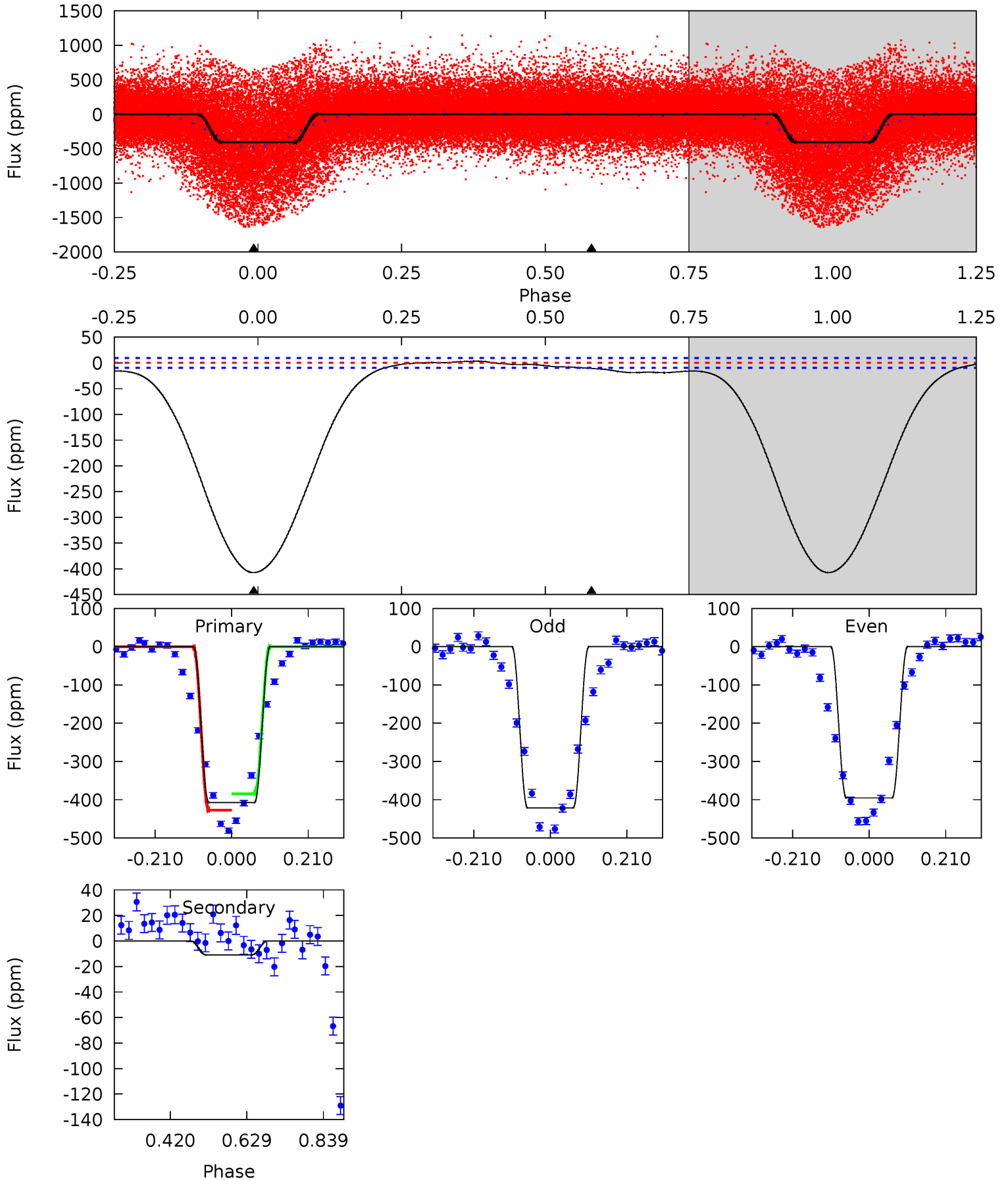
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	14.3	0	0	4.31	0.98	0.36	20.9	20.9	14.3	14.3	7.49	0.53	0.02	8.10



Alt Model-Shift Uniqueness Test

006358198-01, P = 1.311780 Days, E = 131.367554 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
187.0	5.01	0	0	4.41	1.25	2.23	187.0	187.0	5.01	5.01	5.95	1.13	0.01	0



Stellar Parameters For KIC 006358198

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5538^{+183}_{-166}	$4.555^{+0.099}_{-0.081}$	$-0.880^{+0.350}_{-0.300}$	$0.719^{+0.089}_{-0.073}$	$0.676^{+0.075}_{-0.029}$	$2.564^{+0.944}_{-0.631}$
	+3%/-3%	+2%/-2%	+40%/-34%	+12%/-10%	+11%/-4%	+37%/-25%
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 006358198-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-58 ± 4	$0.86^{+0.18}_{-0.16}$	2016^{+89}_{-95}	4733^{+448}_{-344}	19^{+10}_{-6}
Alt.	-11 ± 2	$1.77^{+0.19}_{-0.19}$	2014^{+97}_{-90}	2680^{+144}_{-174}	$0.822^{+0.274}_{-0.222}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

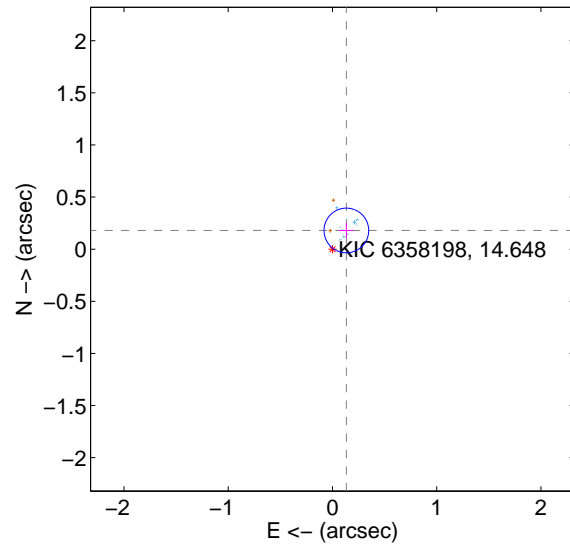
Supplemental centroid analysis for 006358198-01. Kepler magnitude: 14.65. Transit SNR 12.35

There are 15 quarters with good PRF difference image offsets

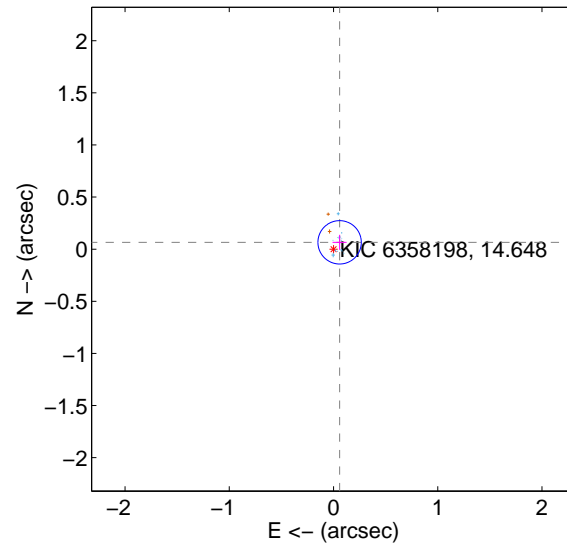
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.224 ± 0.071	3.13	-0.133 ± 0.070	0.180 ± 0.072
PRF-fit source offset from KIC position	0.088 ± 0.069	1.27	-0.059 ± 0.067	0.066 ± 0.072
photometric centroid source offset	0.51 ± 0.48	1.06	0.19 ± 0.48	0.47 ± 0.48

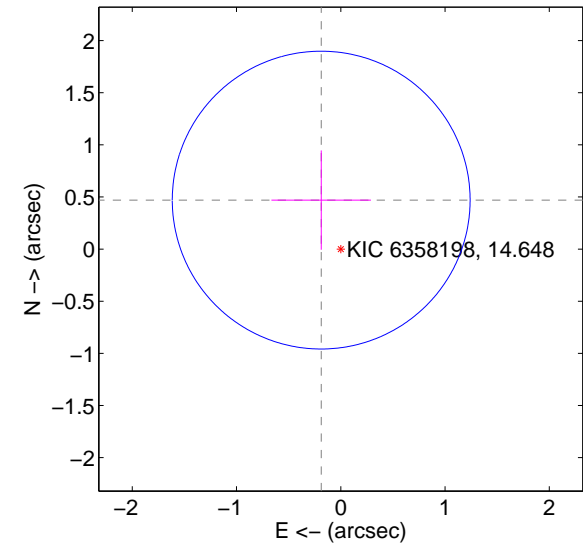
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

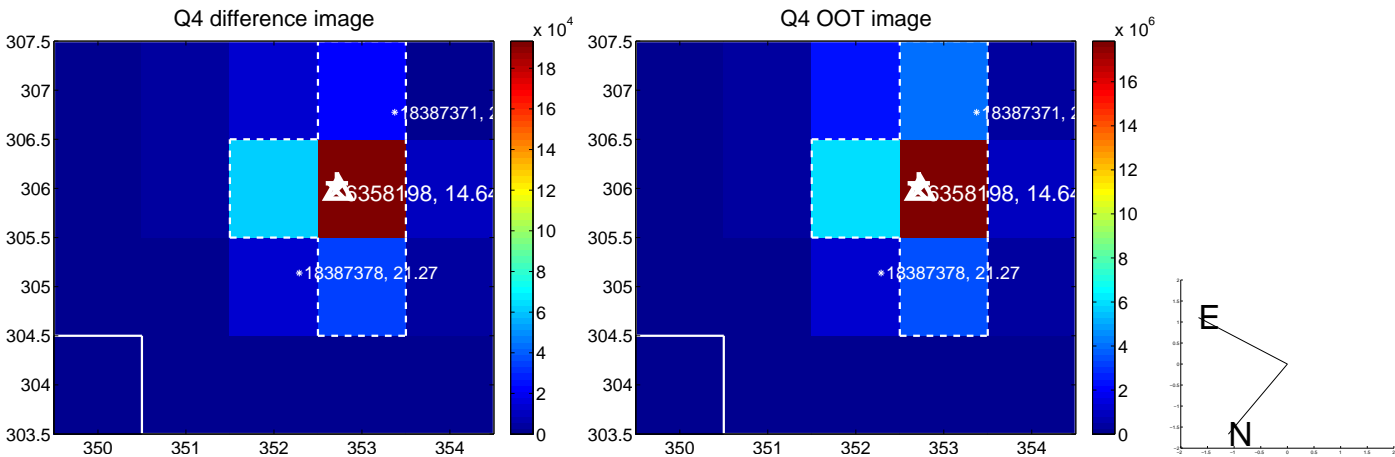
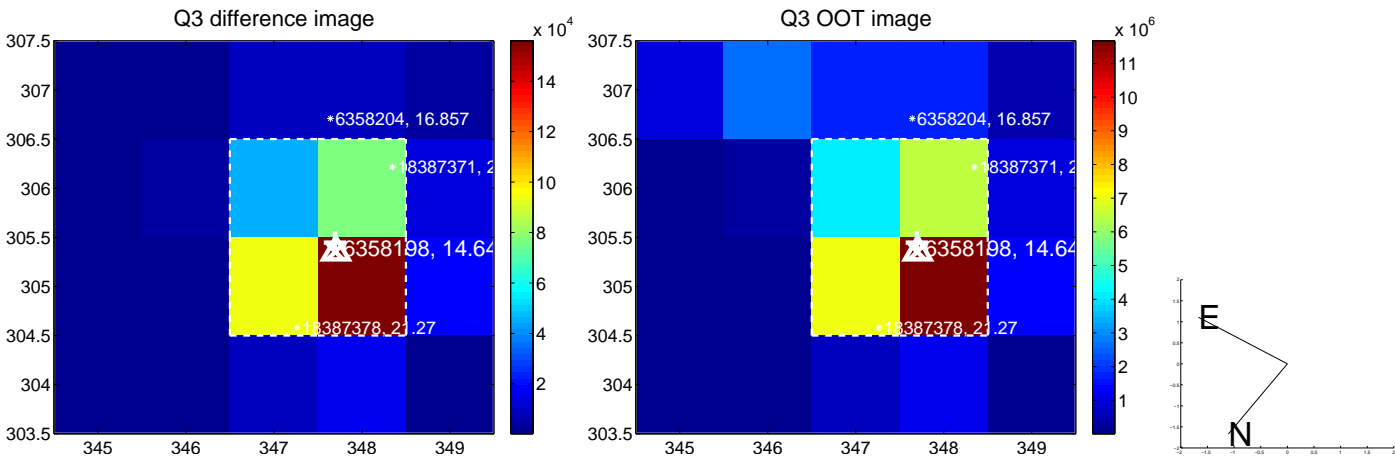
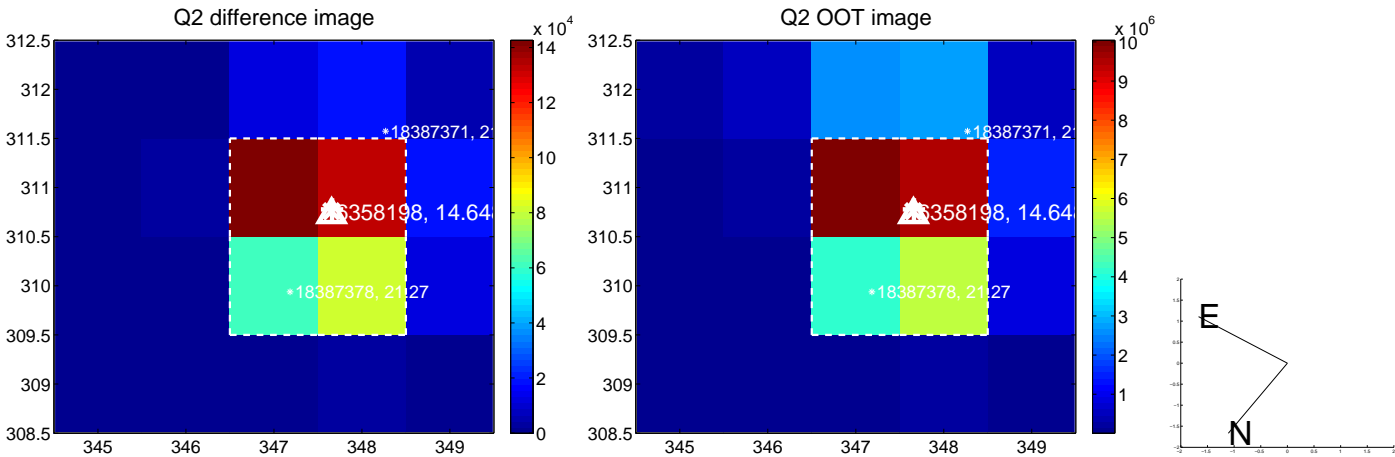
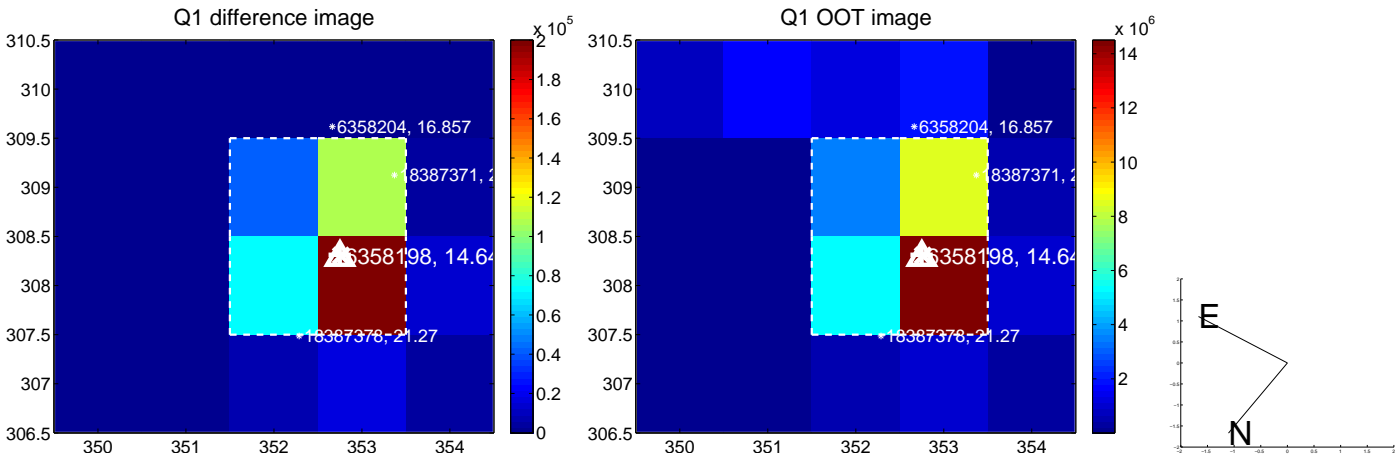


offset from photometric centroids

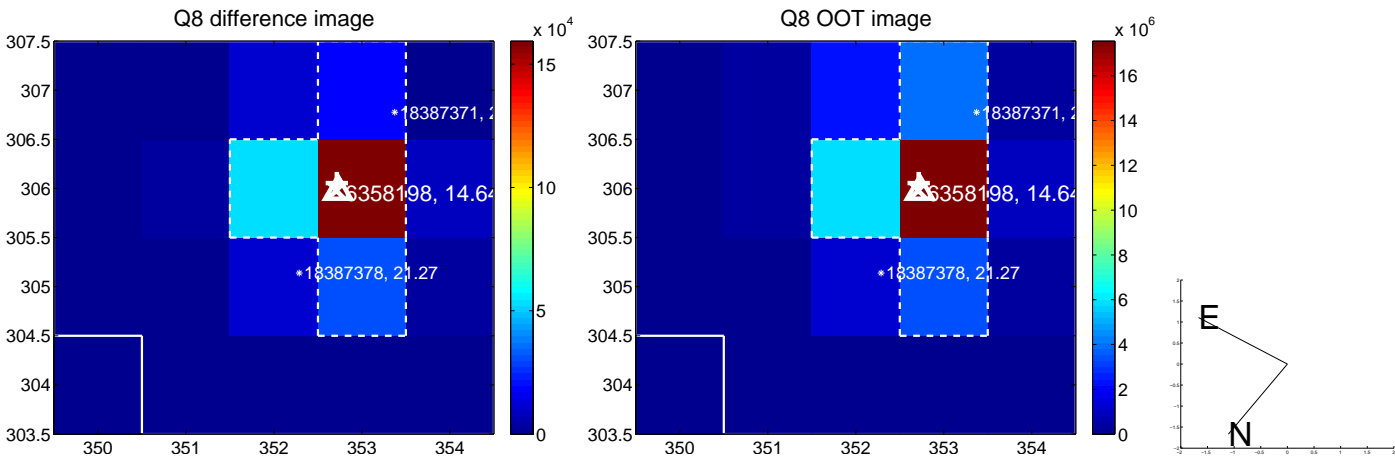
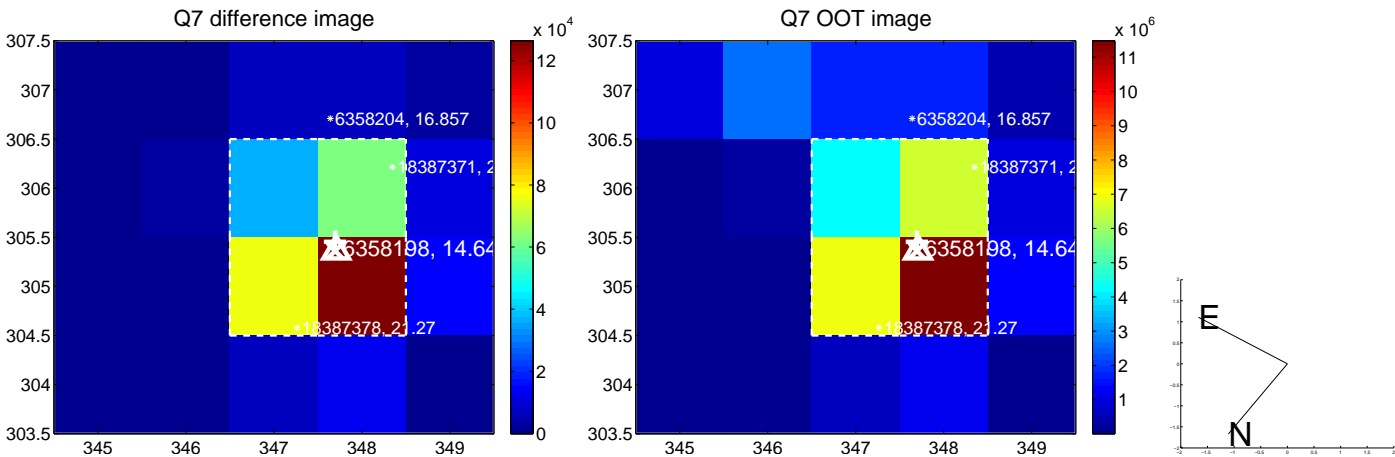
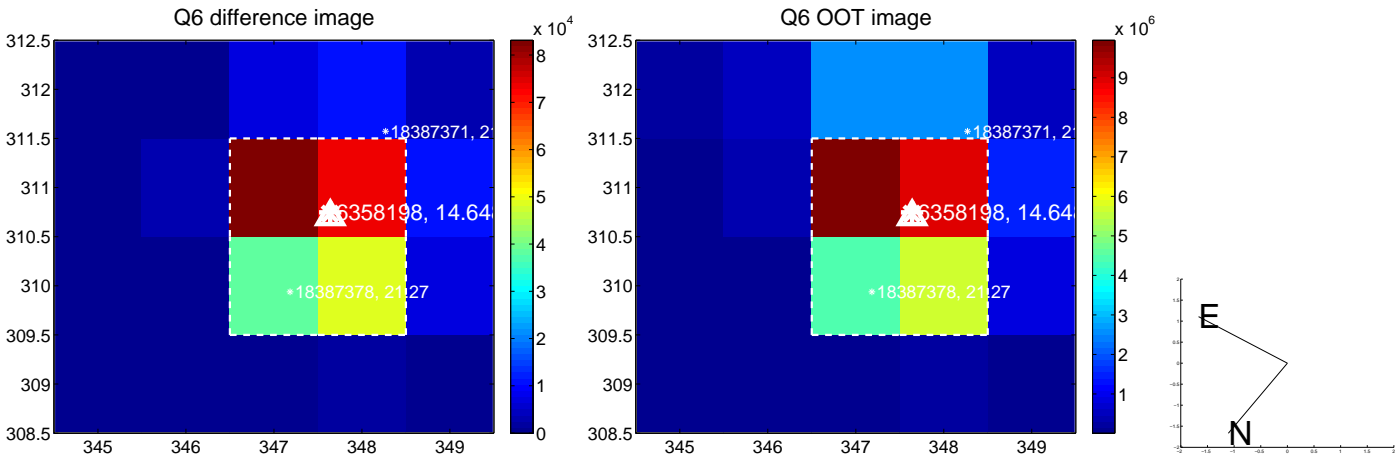
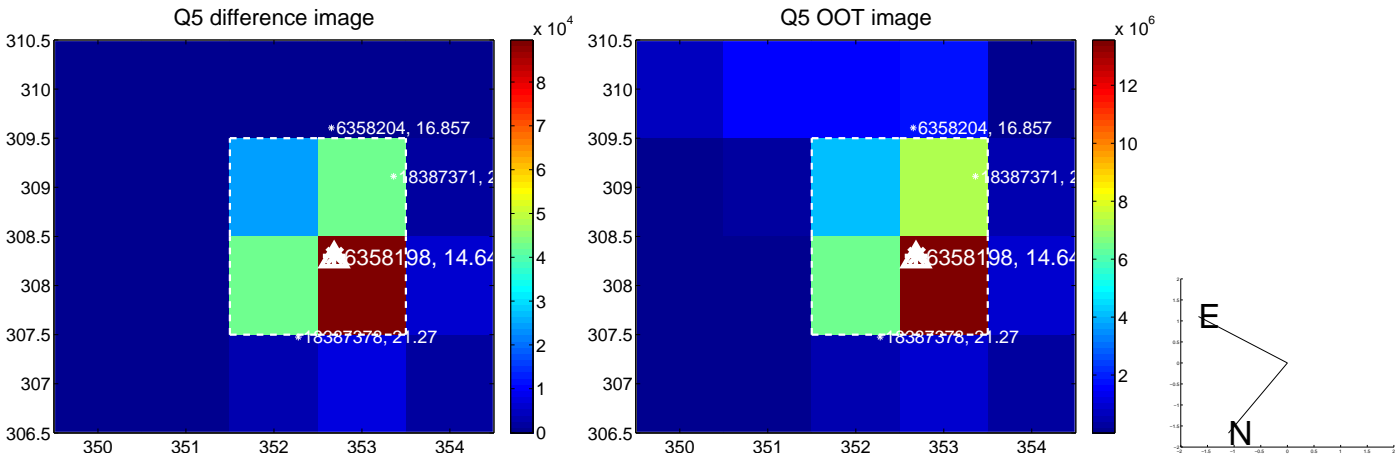


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

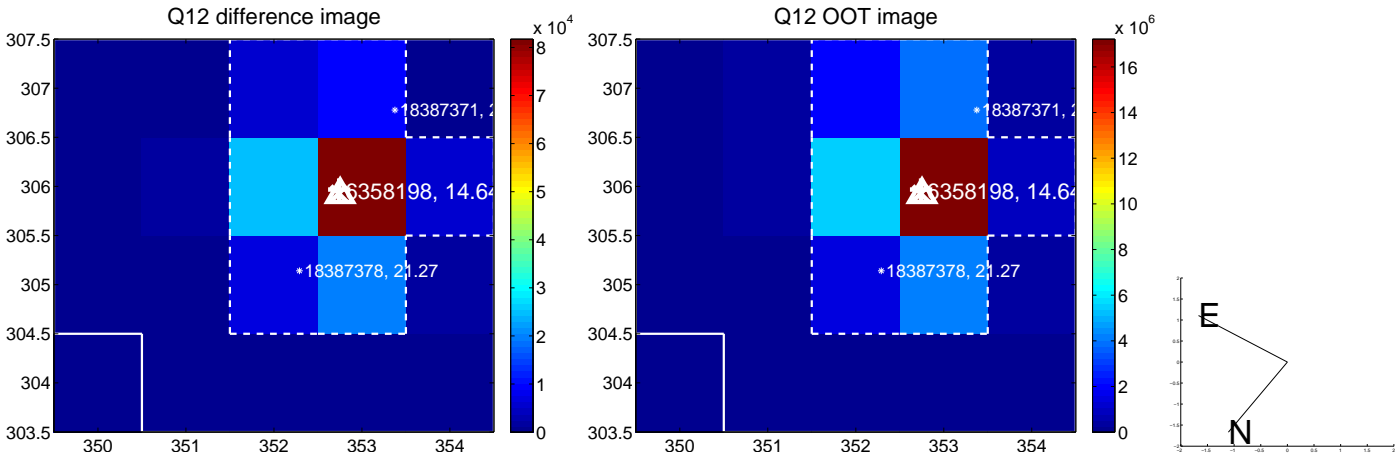
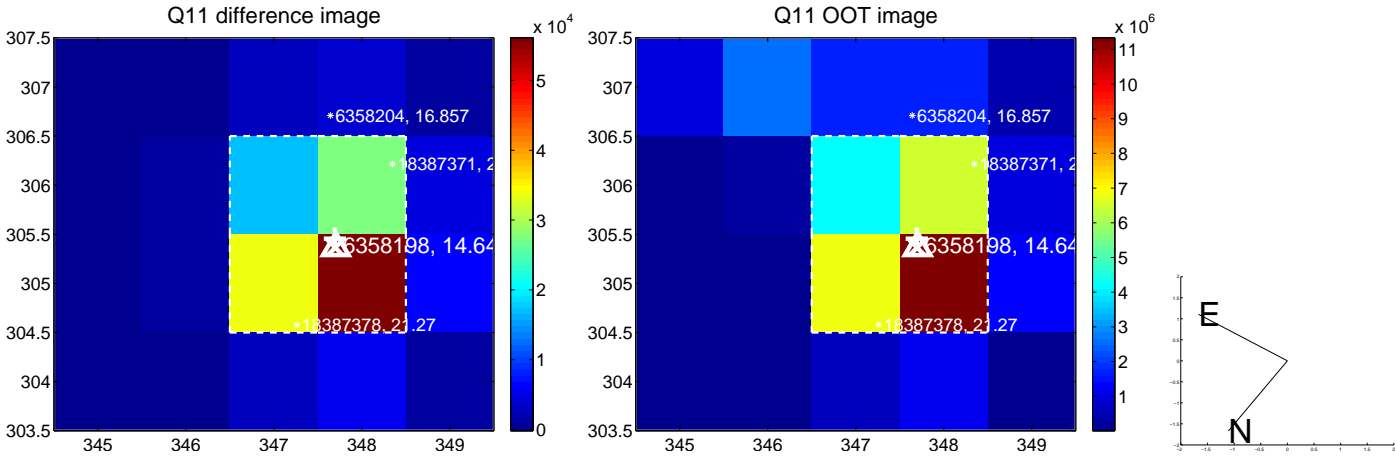
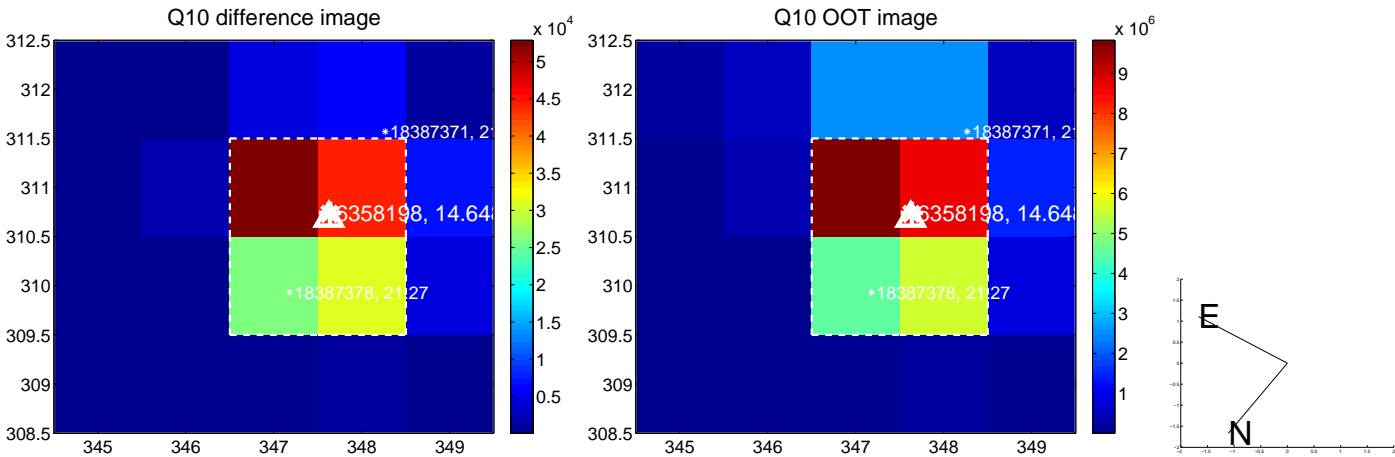
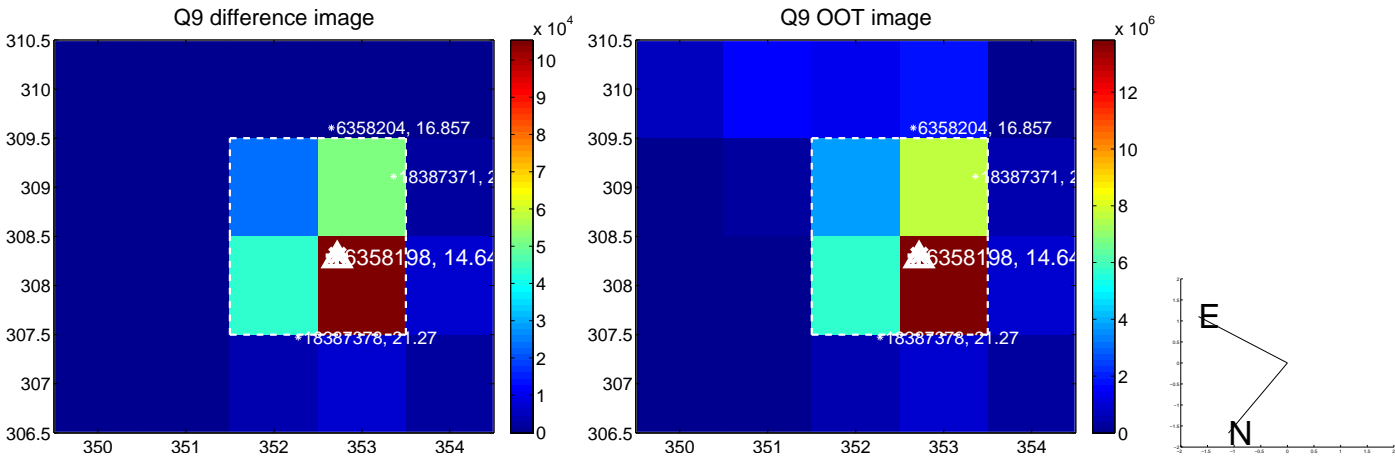
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



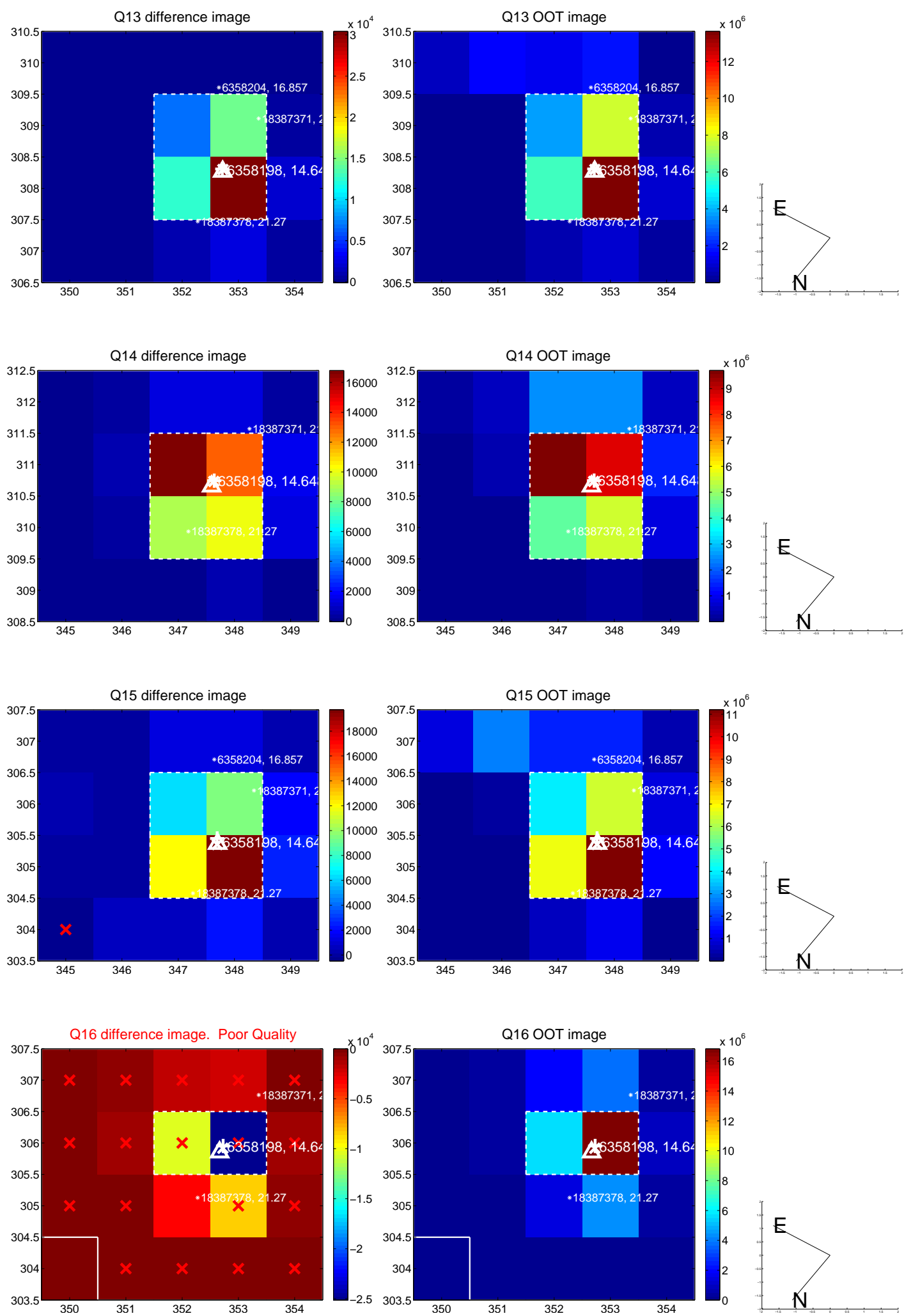
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



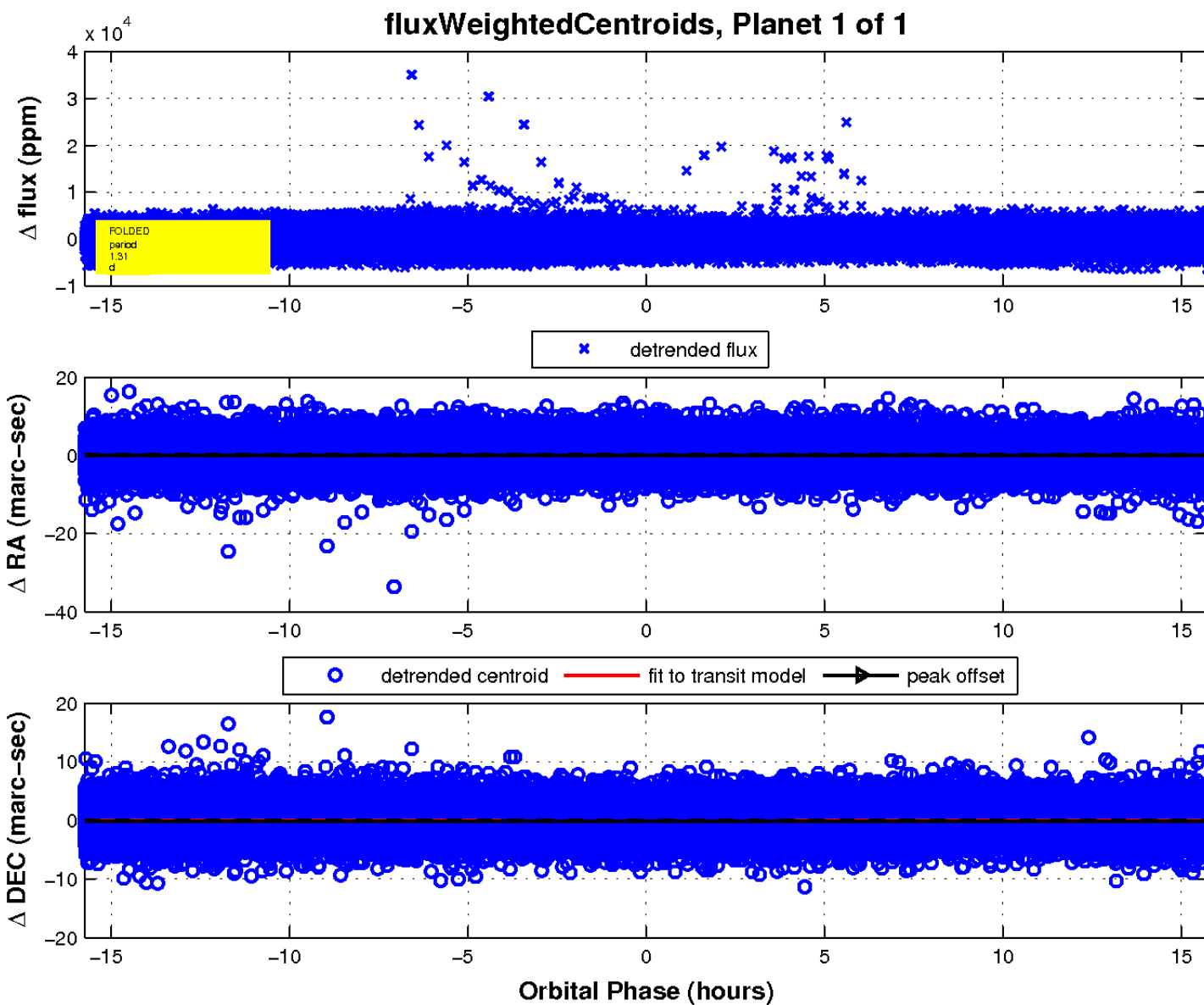
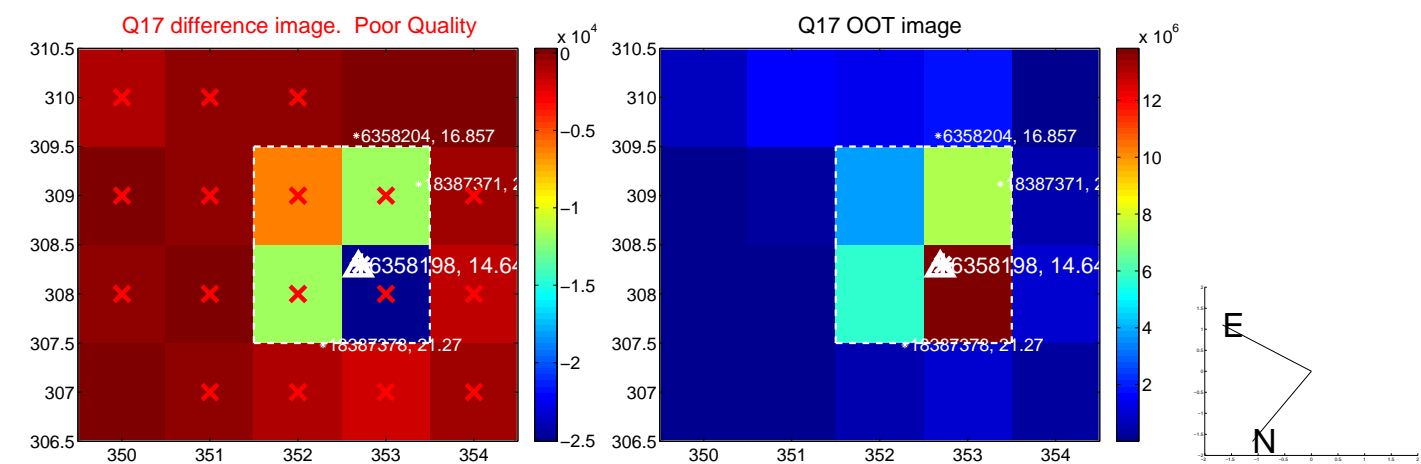
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

