

KIC 005986270

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})
005986270-01	OBS	5220.01	1.534660	132.339580	316.7	1.966	33.9	59.3	8.83	4965	19.21	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005986270-01	OBS	PC	1.00	0	0	0	0	PLANET_IN_STAR

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

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

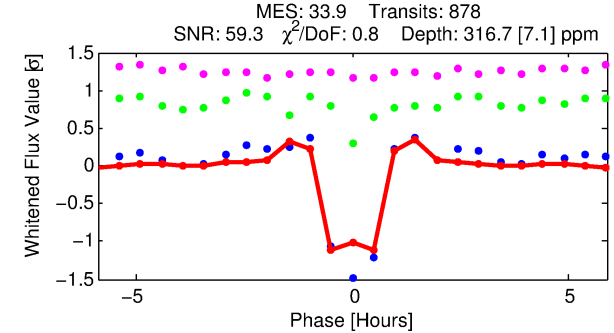
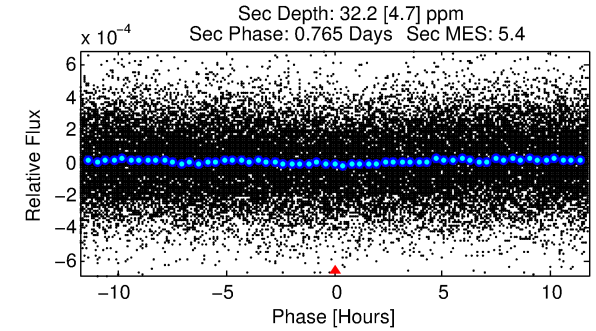
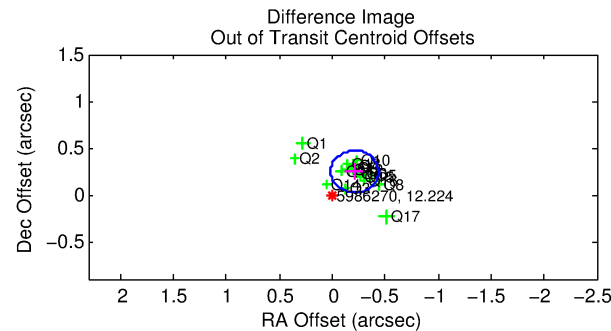
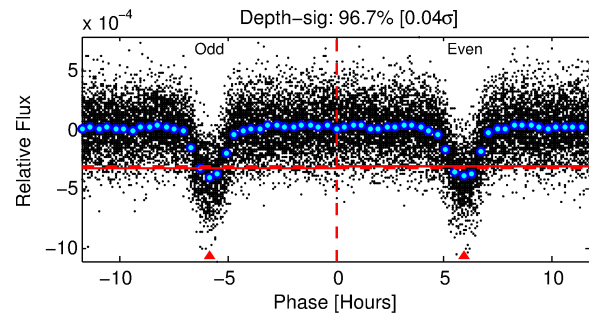
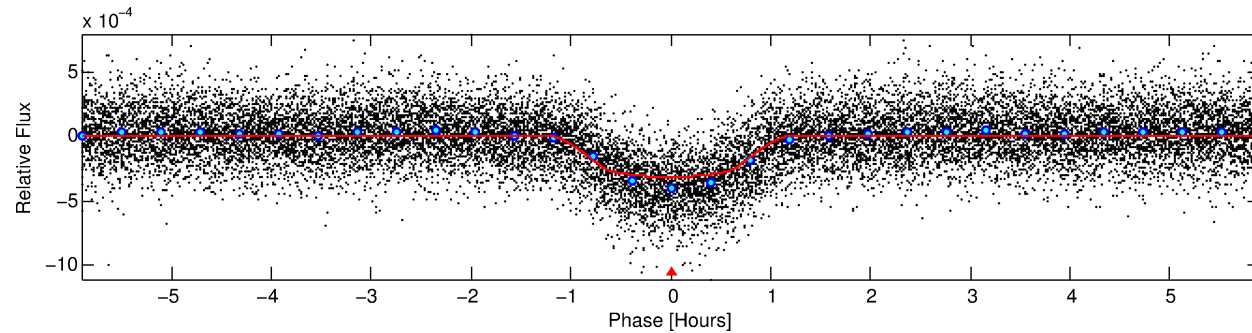
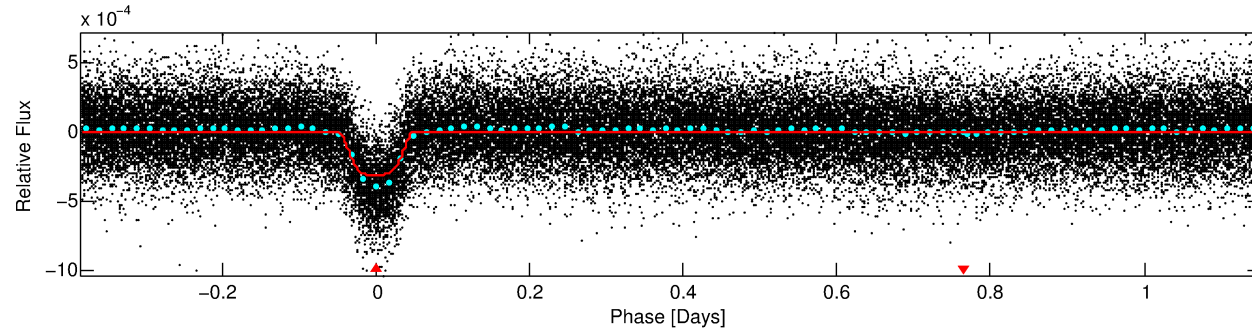
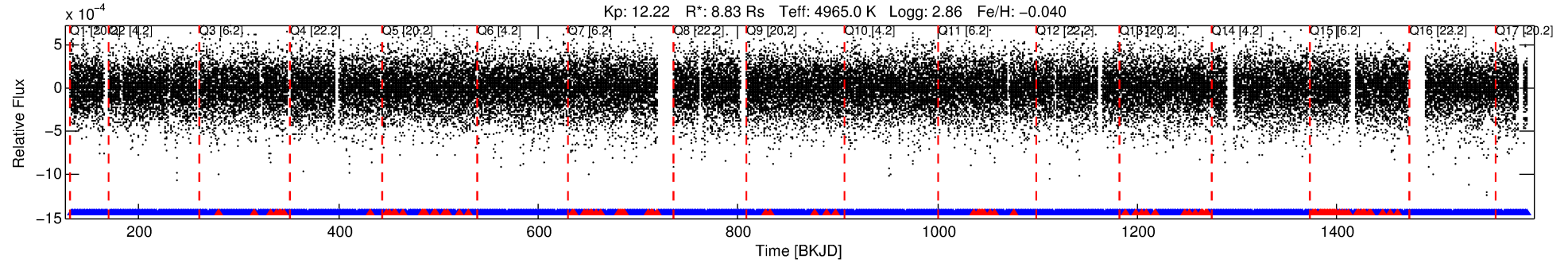
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005986270-01

No Significant Match Found

DV One-Page Summary

KIC: 5986270 Candidate: 1 of 1 Period: 1.535 d
KOI: K05220.01 Corr: 0.920



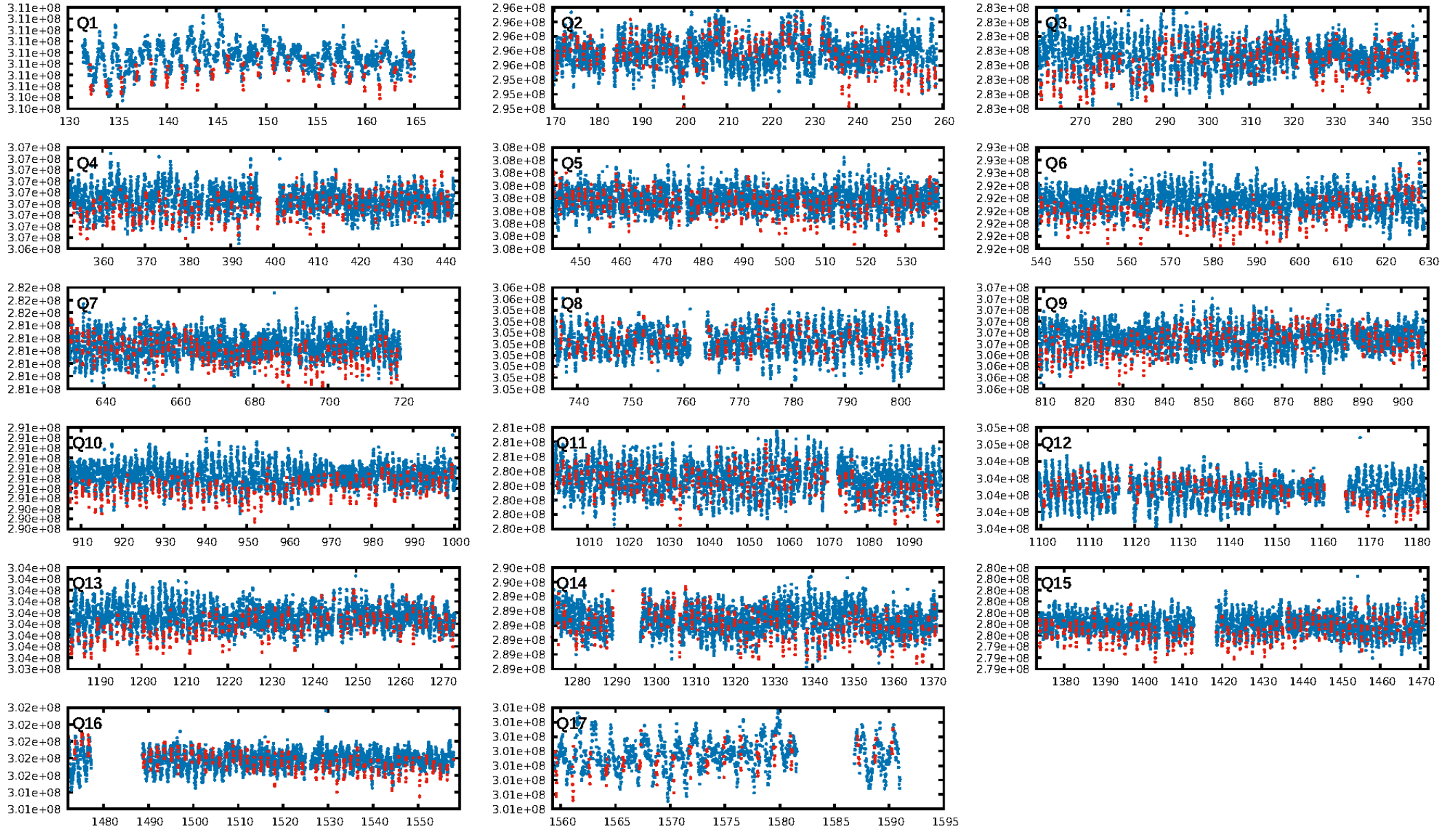
DV Fit Results:

Period = 1.53466 [0.00000] d
Epoch = 132.3396 [0.0003] BKJD
Rp/R* = 0.0199 [0.0012]
a/R* = 3.00 [0.60]
b = 0.90 [0.05]
Seff = N/A
Teq = N/A
Rp = 19.21 [7.18] Re
a = N/A
Ag = N/A
Teffp = N/A

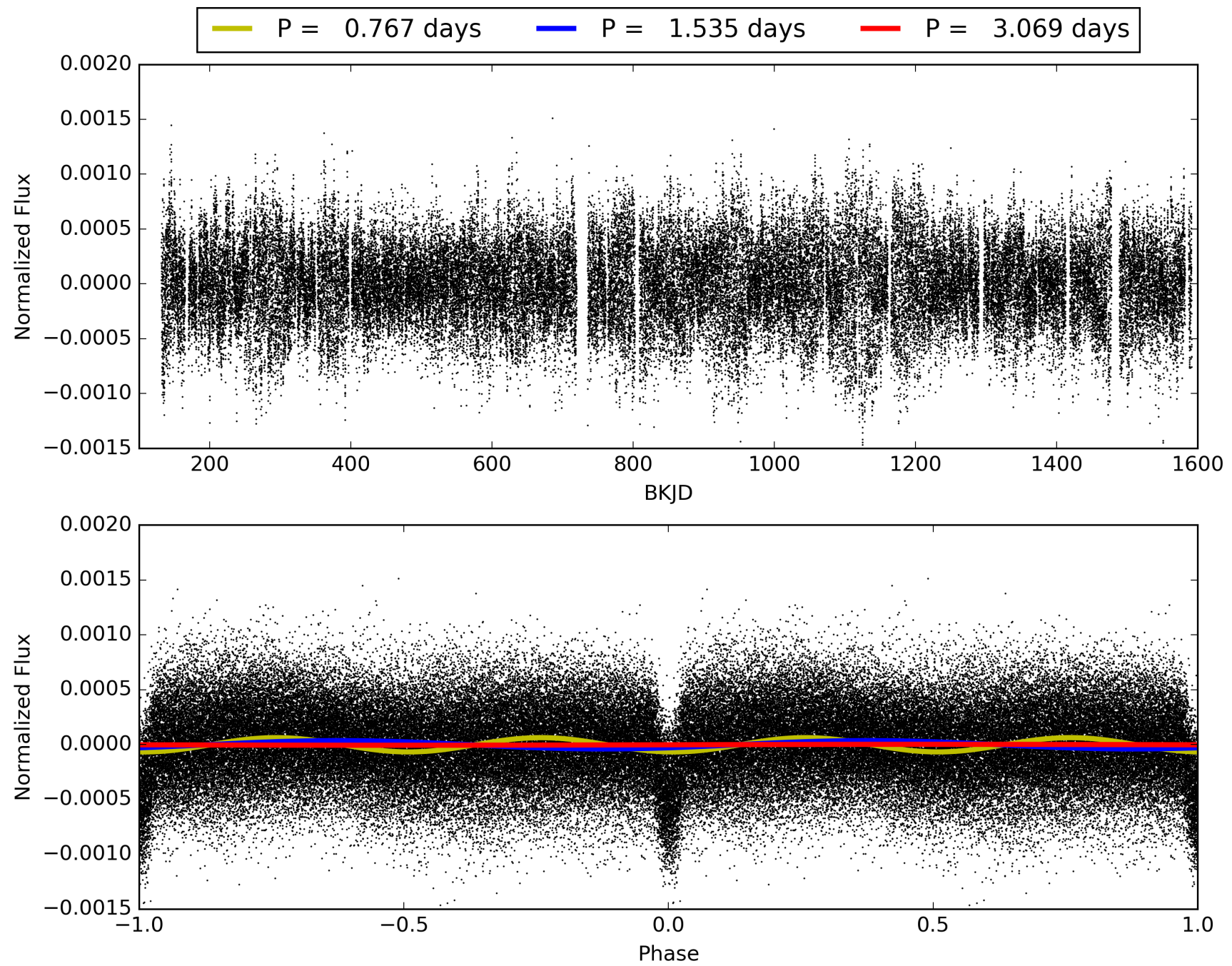
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.99e-227
RollingBand-fgt: 0.89 [744/838]
GhostDiagnostic-chr: 3.249
Centroid-sig: 0.0%
Centroid-so: 0.504 arcsec [6.35 σ]
OotOffset-rm: 0.325 arcsec [4.32 σ]
KicOffset-rm: 0.321 arcsec [4.08 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005986270-01, PDC Light Curves

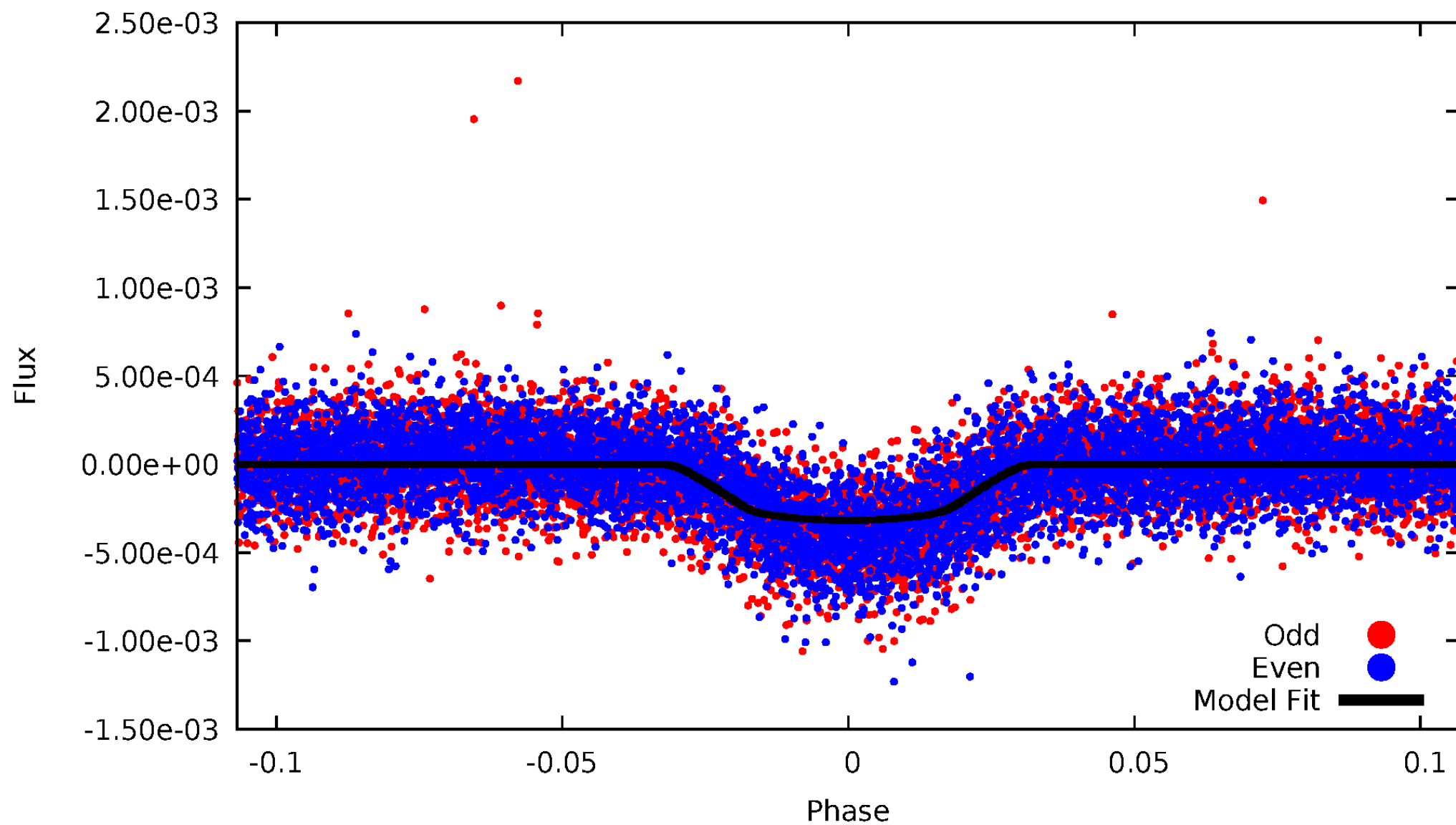


TCE 005986270-01



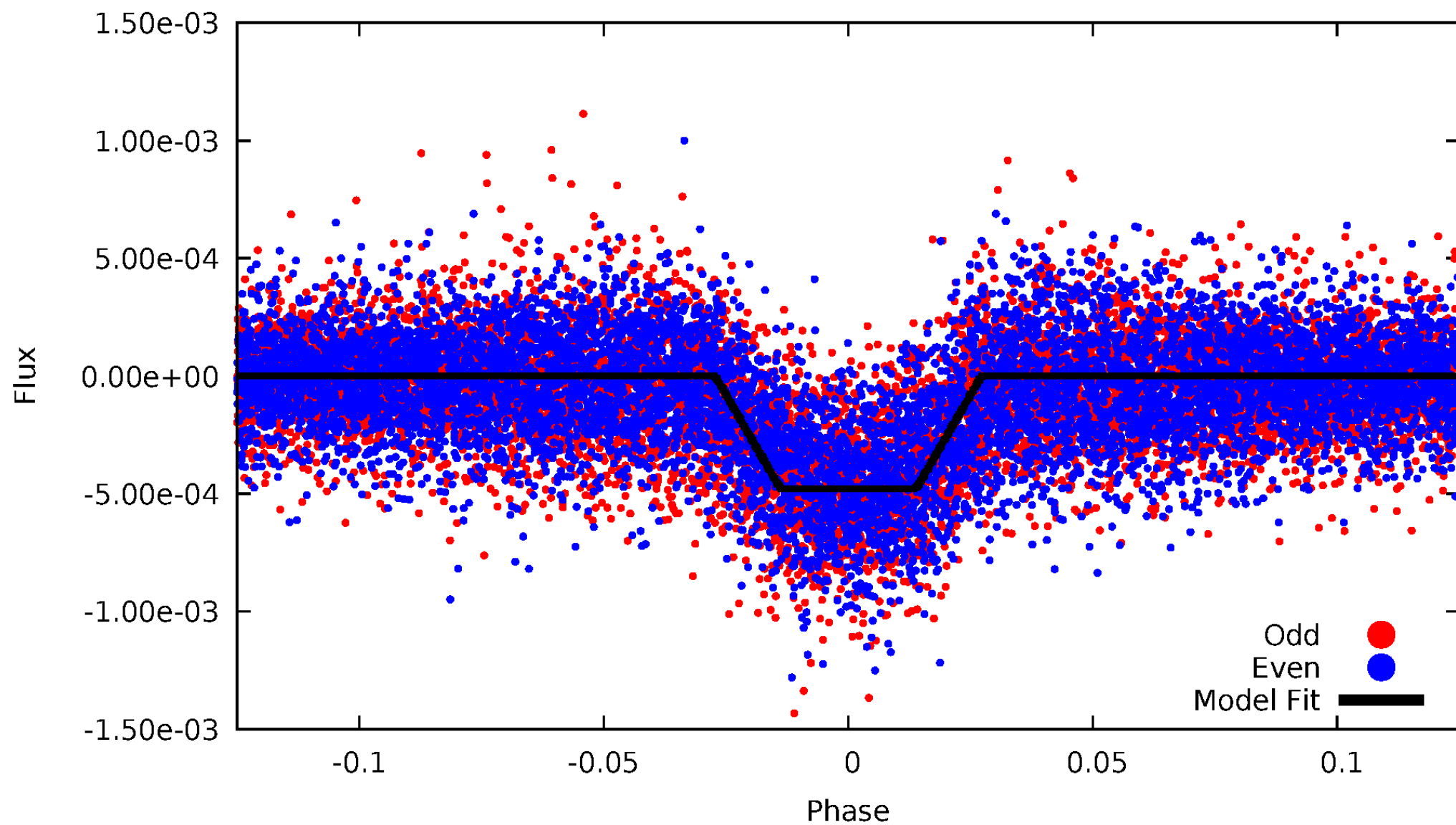
DV Odd/Even

TCE 005986270-01



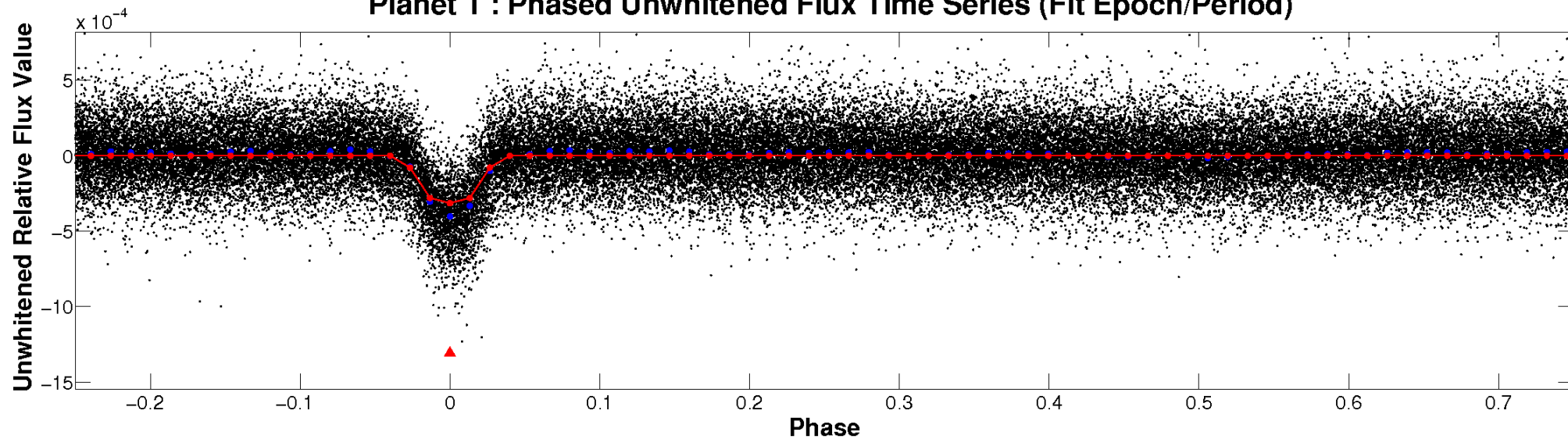
ALT Odd/Even

TCE 005986270-01

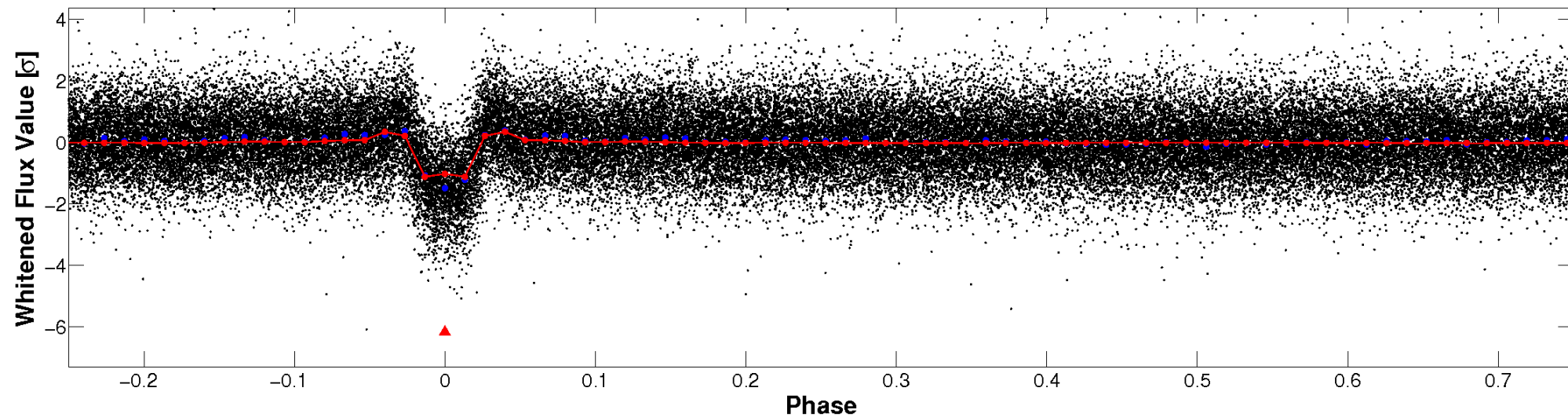


Non-Whitened Vs. Whitened Light Curve

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

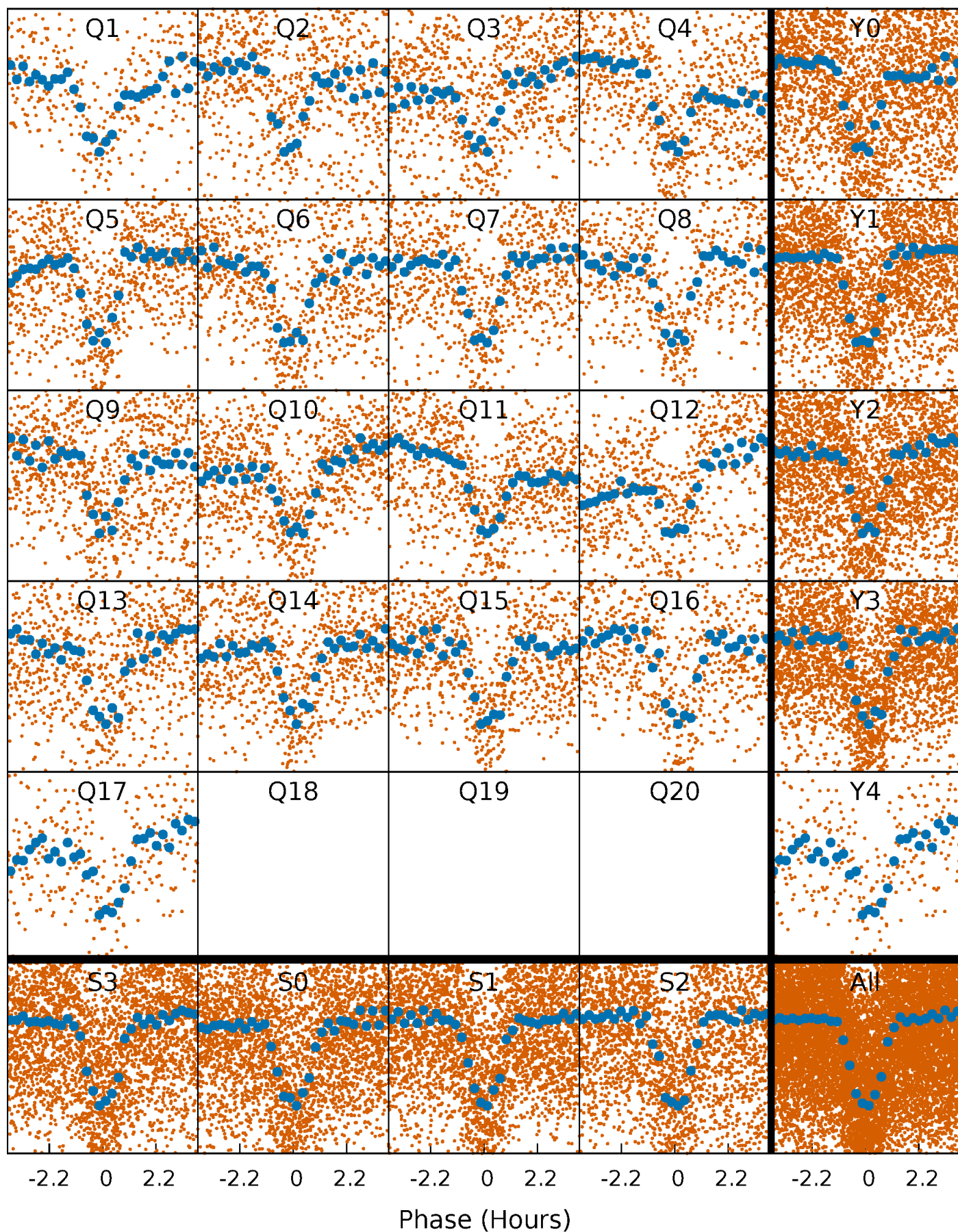


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



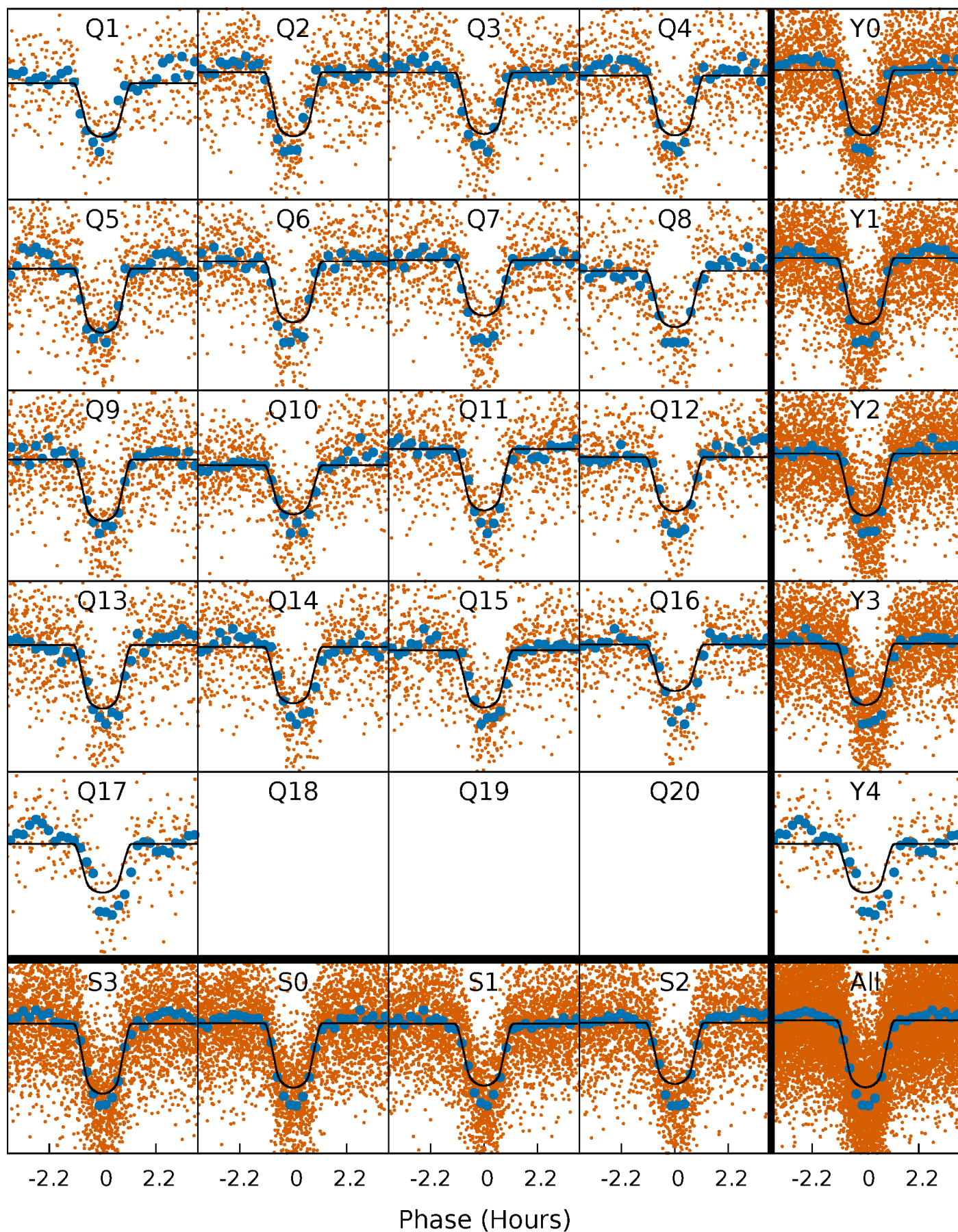
PDC Quarter-Phased Transit Curves

TCE 005986270-01 P= 1.534660 Days $T_0=132.339580$ (BKJD)



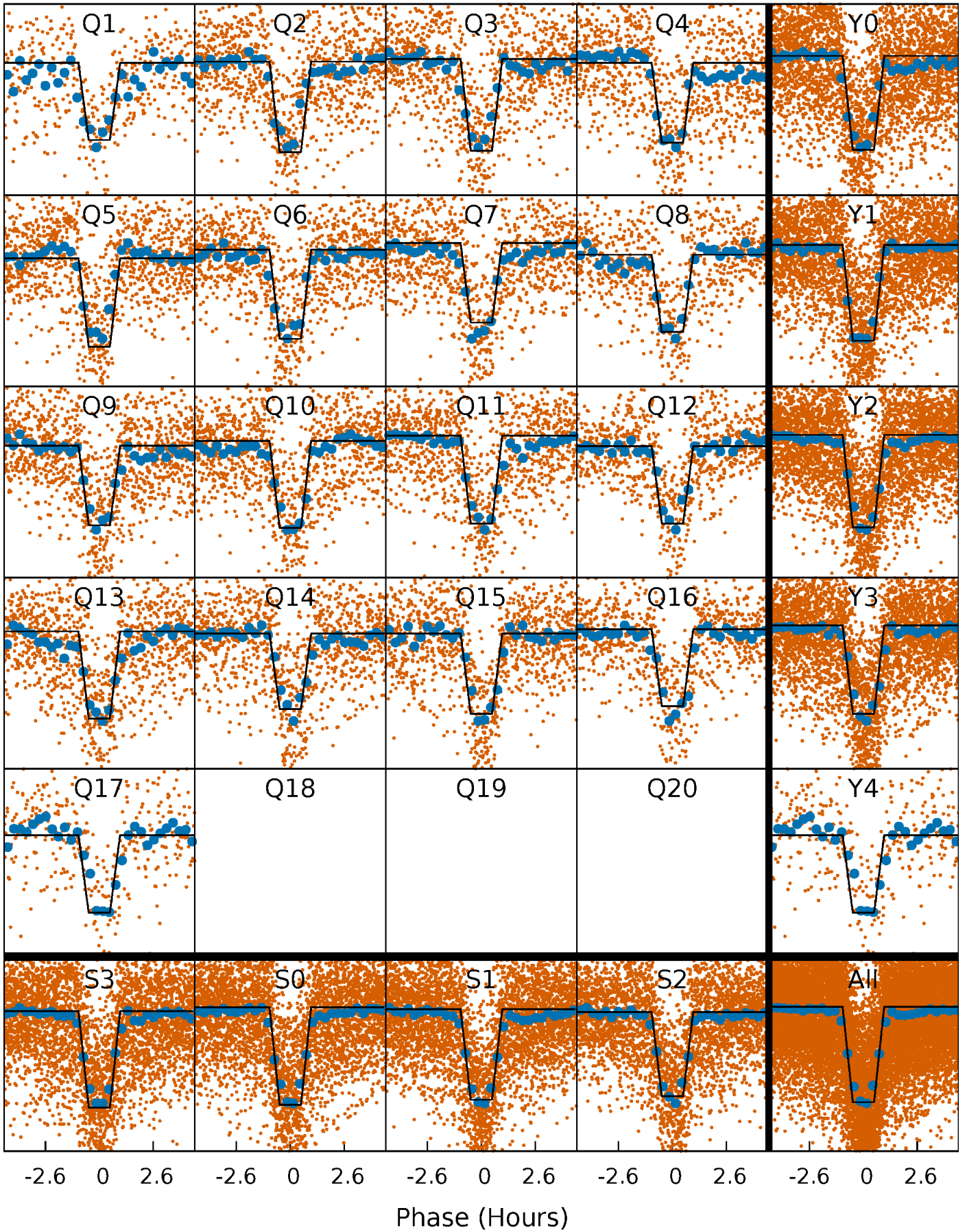
DV Quarter-Phased Transit Curves

TCE 005986270-01 P= 1.534660 Days $T_0=132.339580$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

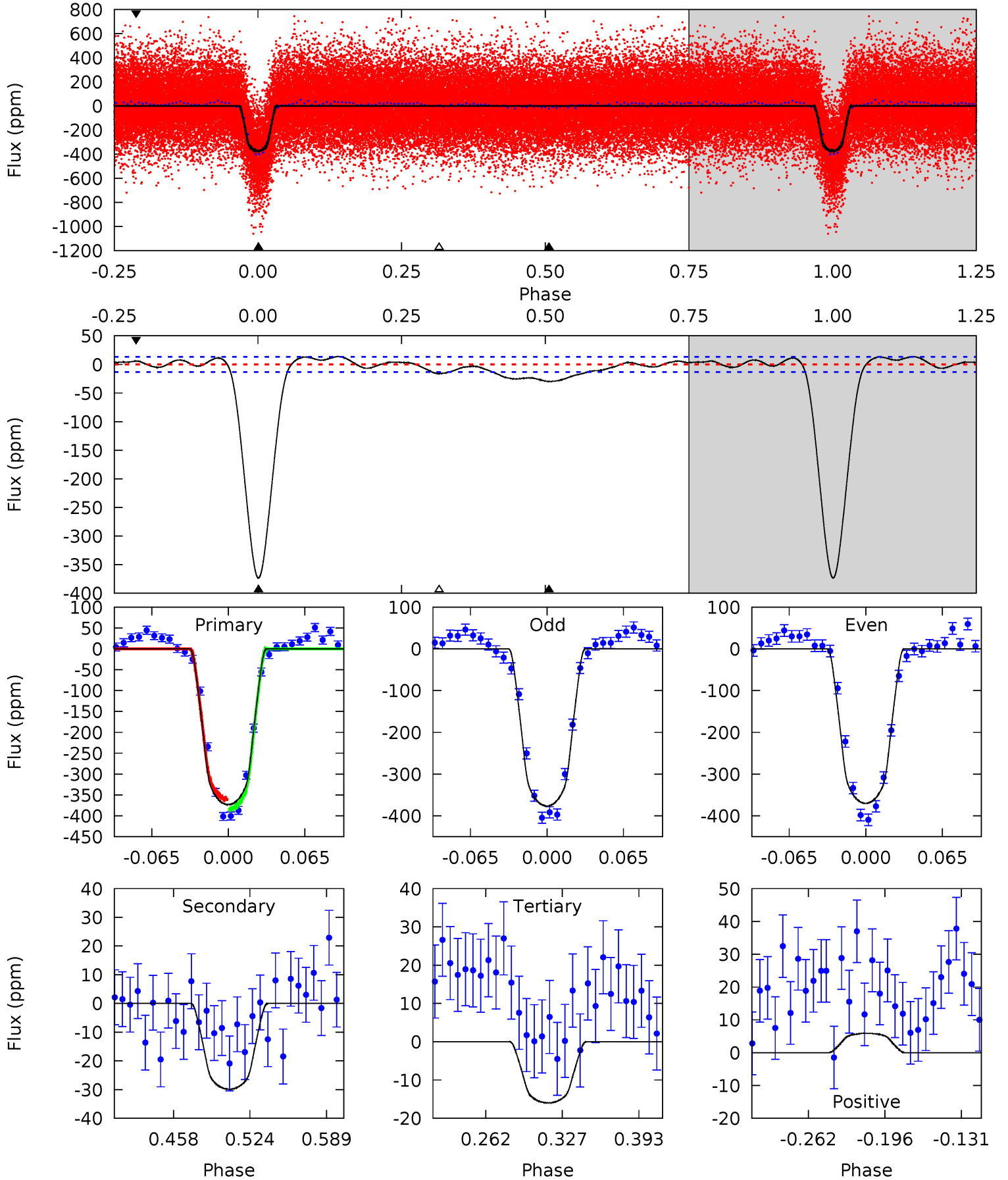
TCE 005986270-01 P= 1.534665 Days $T_0=132.338684$ (BKJD)



DV Model-Shift Uniqueness Test

005986270-01, P = 1.534660 Days, E = 130.804920 Days

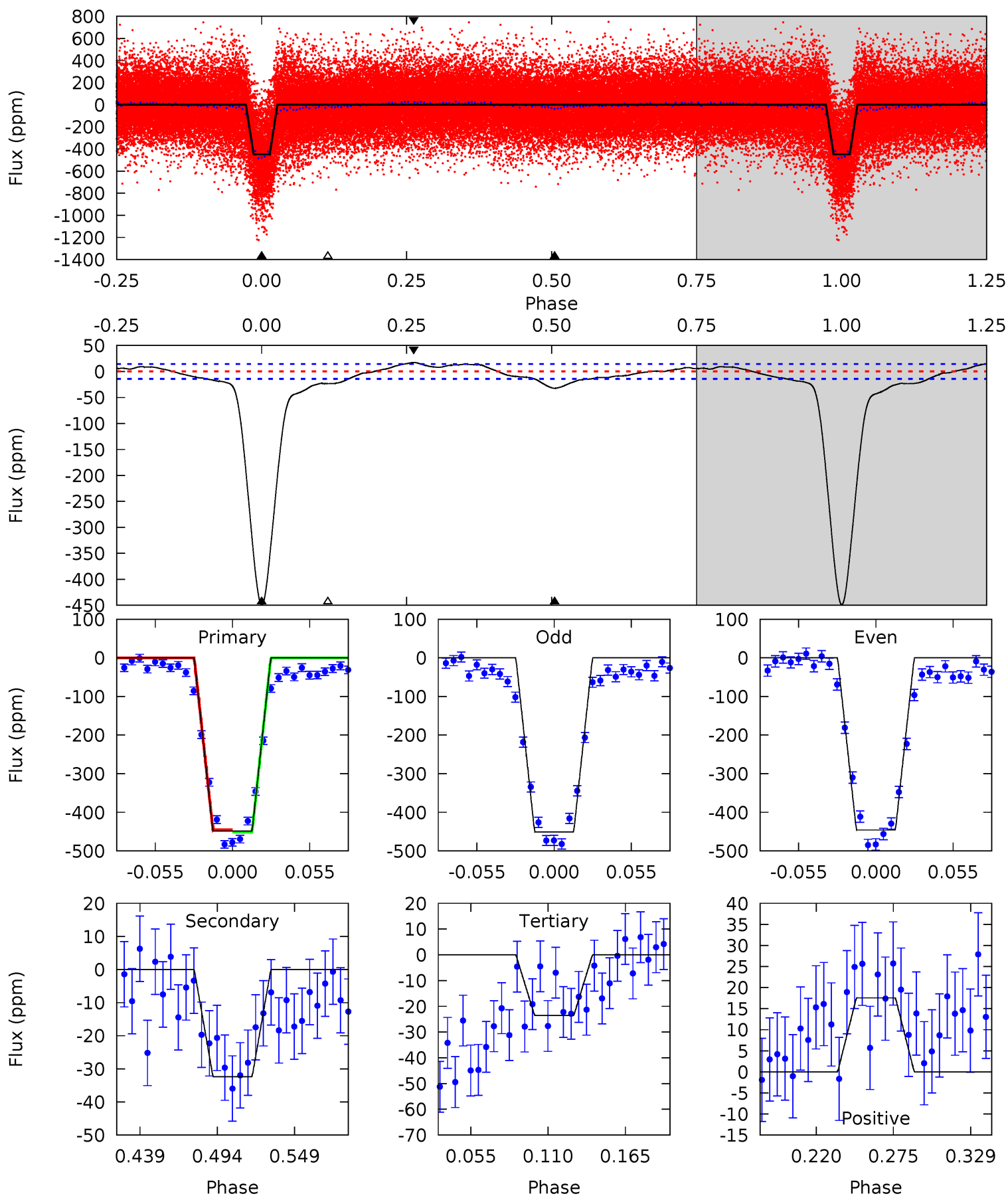
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
130.2	10.4	5.57	2.05	4.65	1.84	2.85	124.6	128.1	4.85	8.37	1.12	1.01	0.04	4.20



Alt Model-Shift Uniqueness Test

005986270-01, P = 1.534665 Days, E = 130.804019 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
146.3	10.6	7.68	5.72	4.69	1.92	4.30	138.6	140.5	2.88	4.84	0.83	0.99	0.04	0.92



Stellar Parameters For KIC 005986270

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4965^{+45}_{-105}	$2.863^{+0.195}_{-0.105}$	$-0.040^{+0.150}_{-0.200}$	$8.834^{+2.175}_{-3.262}$	$2.079^{+0.693}_{-0.847}$	$0.004^{+0.006}_{-0.001}$
	+1%/-2%	+7%/-4%	+375%/-500%	+25%/-37%	+33%/-41%	+144%/-32%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 005986270-01 / KOI 5220.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-30 ± 3	$19.63^{+3.16}_{-3.86}$	4940^{+264}_{-328}	-4082^{+240}_{-191}	$0.050^{+0.018}_{-0.012}$
Alt.	-32 ± 3	$21.29^{+3.43}_{-4.32}$	4922^{+251}_{-332}	-4081^{+237}_{-186}	$0.046^{+0.017}_{-0.010}$

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 $A_{\text{obs}} \gg 1.0$

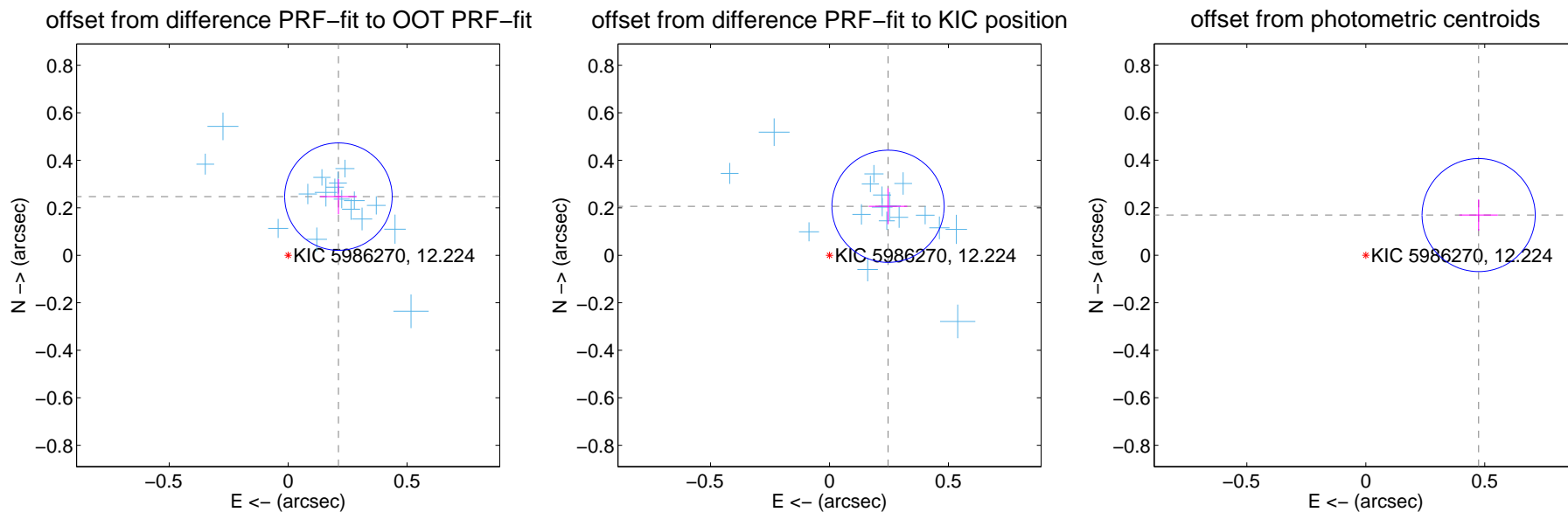
DV Centroid Data

Supplemental centroid analysis for 005986270-01. Kepler magnitude: 12.22. Transit SNR 59.34

There are 17 quarters with good PRF difference image offsets

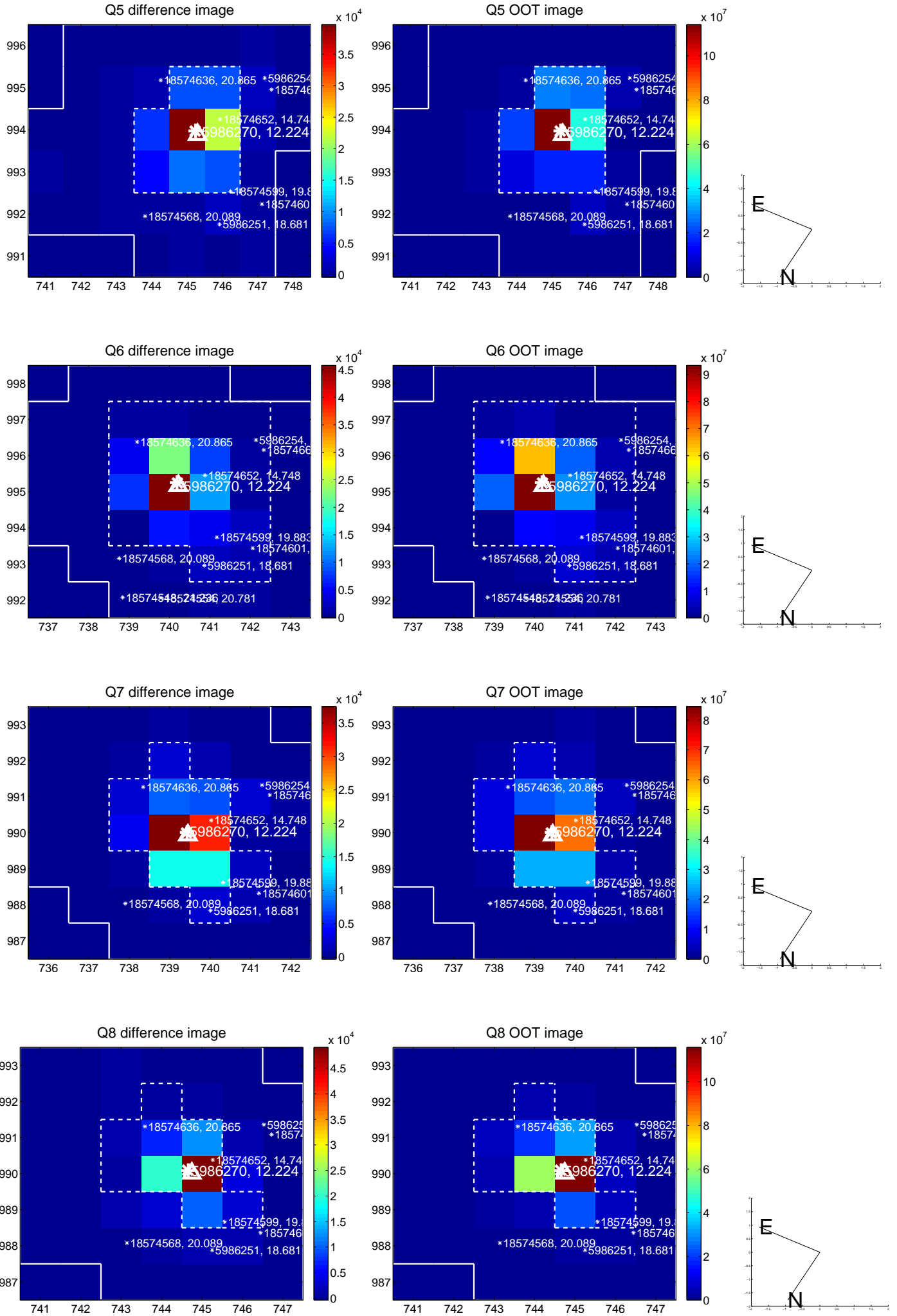
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.325 ± 0.075	4.32	-0.212 ± 0.077	0.247 ± 0.074
PRF-fit source offset from KIC position	0.321 ± 0.079	4.08	-0.246 ± 0.081	0.206 ± 0.076
photometric centroid source offset	0.50 ± 0.08	6.35	-0.47 ± 0.08	0.17 ± 0.07

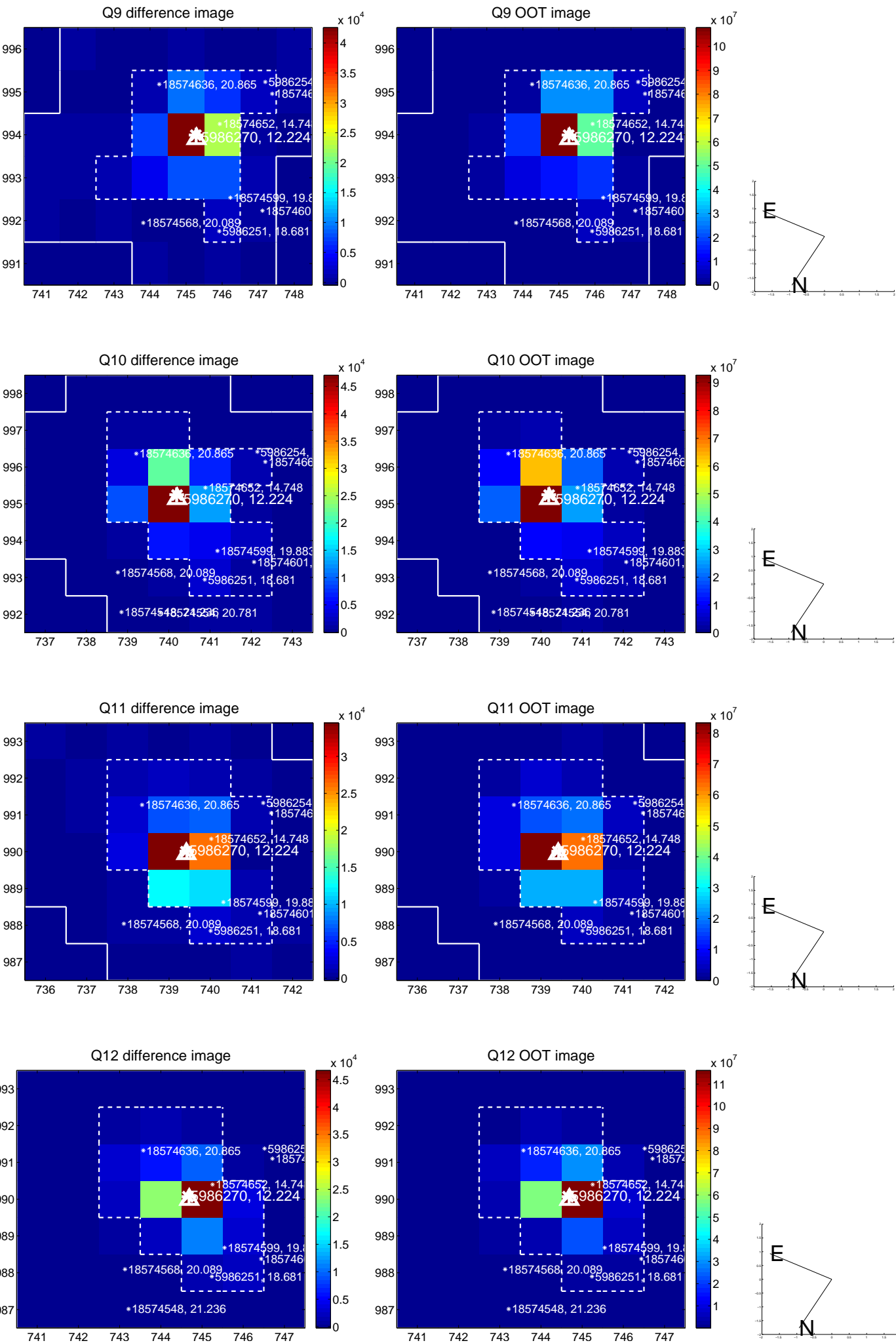


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

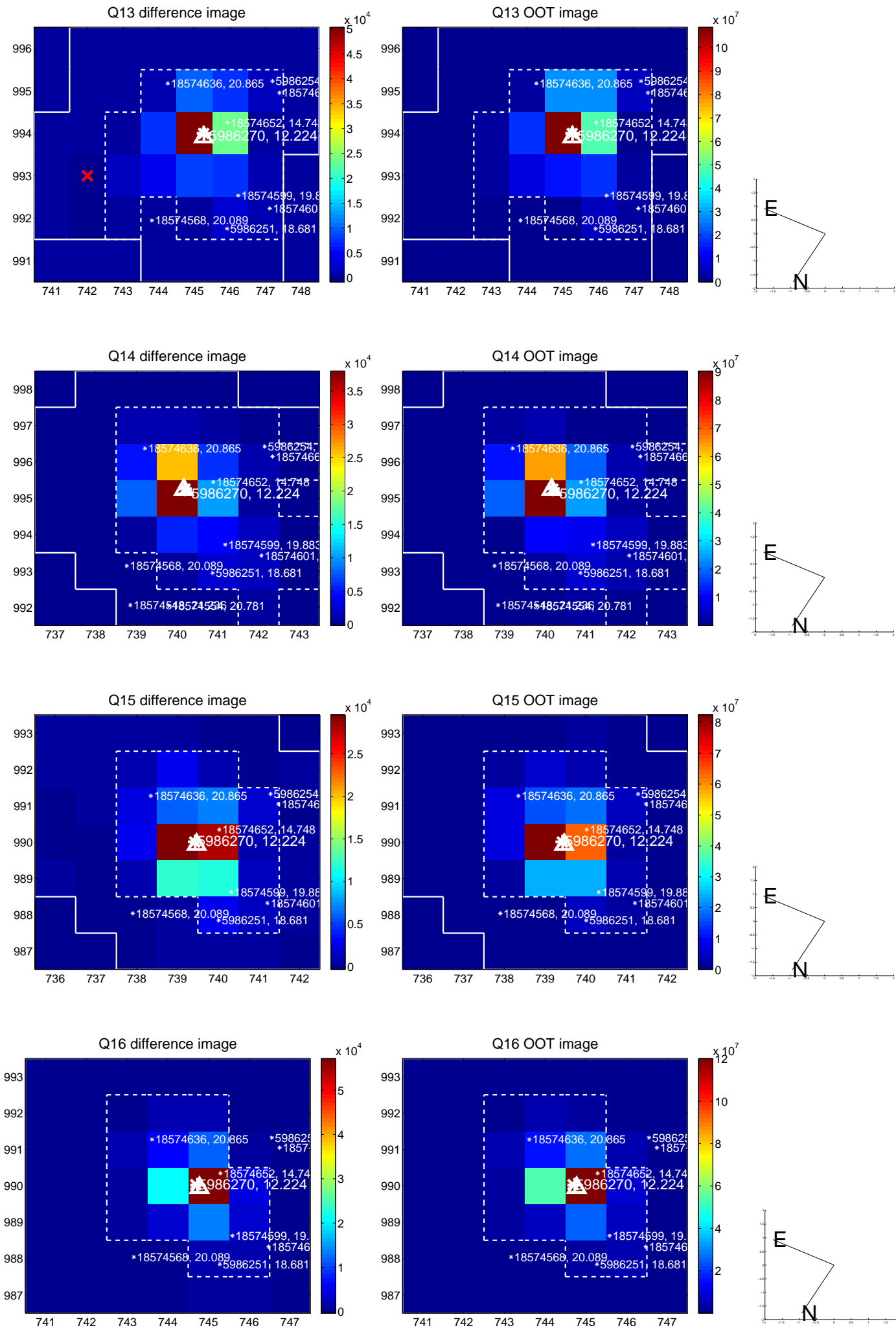
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



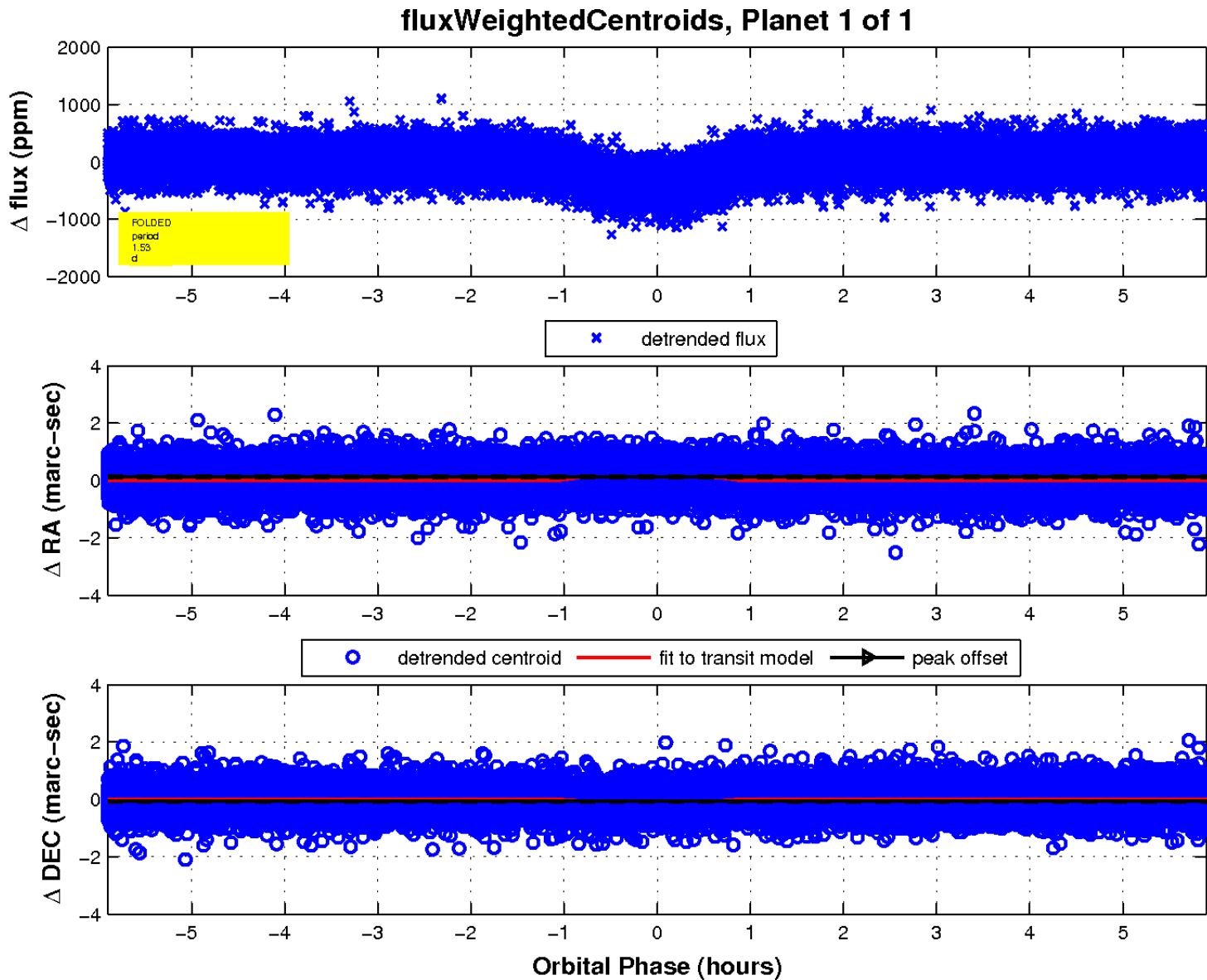
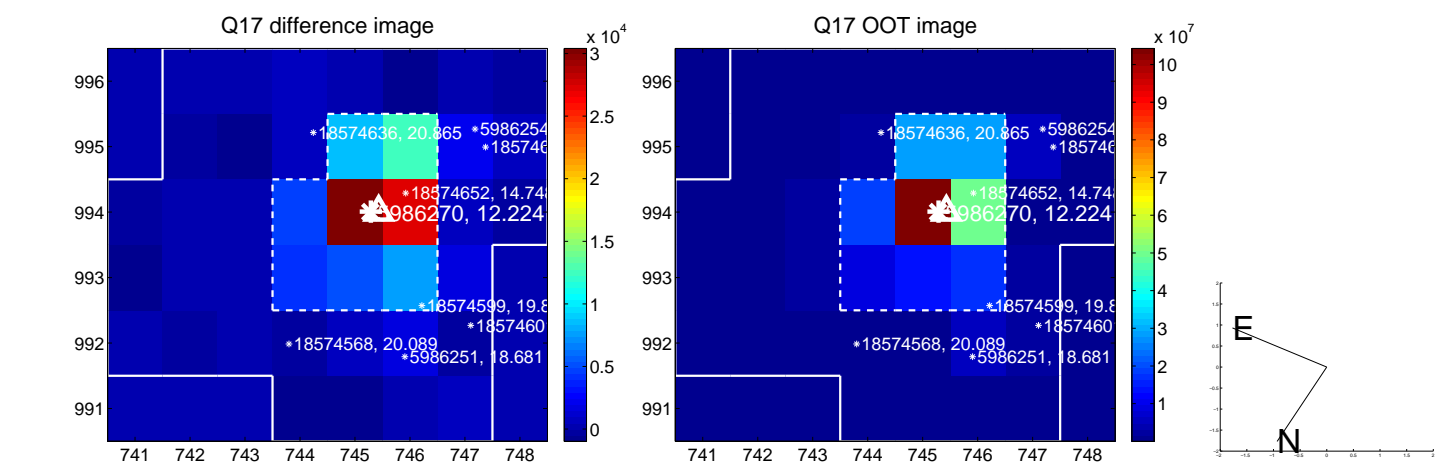
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

