

KIC 007457355

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})
007457355-01	OBS	No	1.267187	132.307163	7.7	11.088	10.3	5.8	1.37	6718	0.42	5177.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007457355-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_UNRESOLVED_OFFSET

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

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

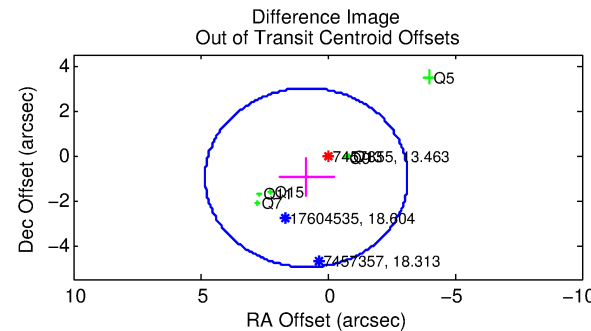
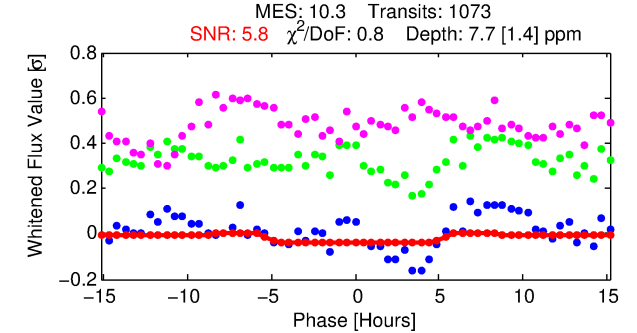
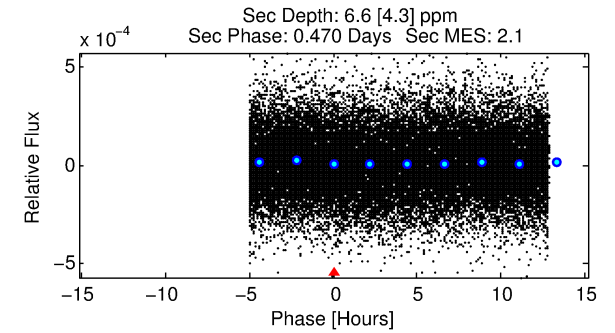
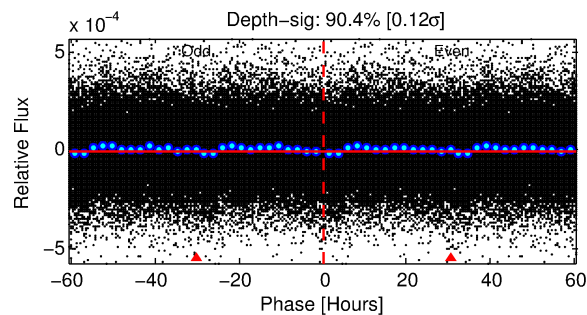
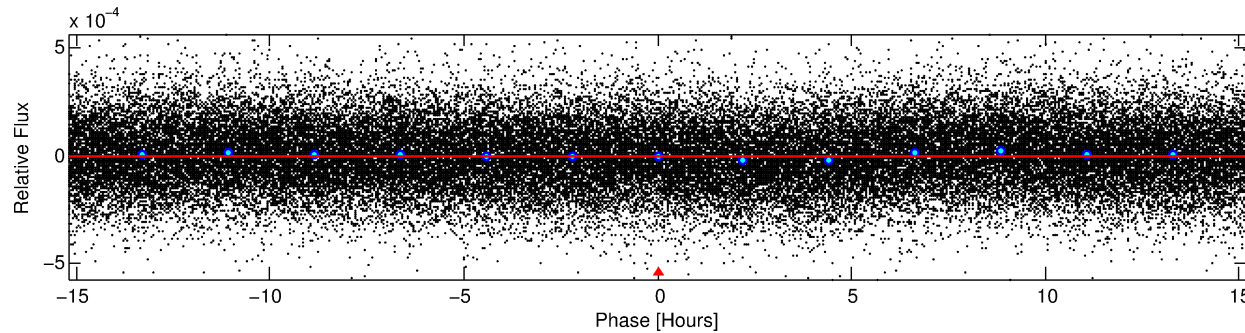
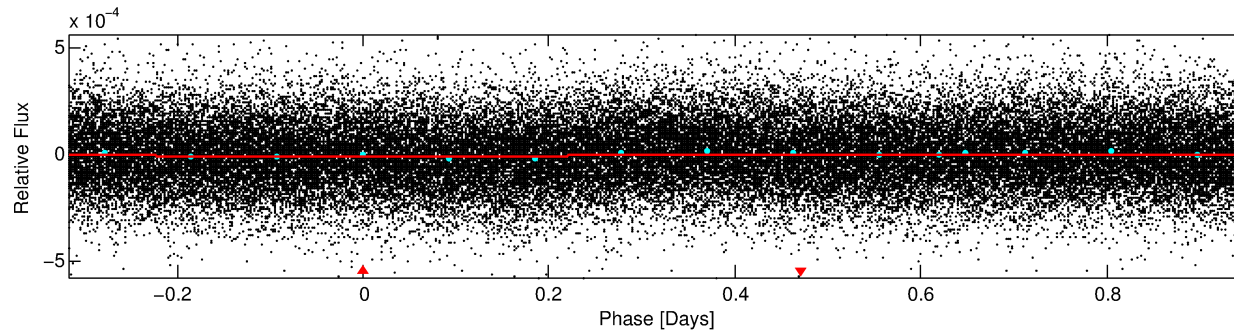
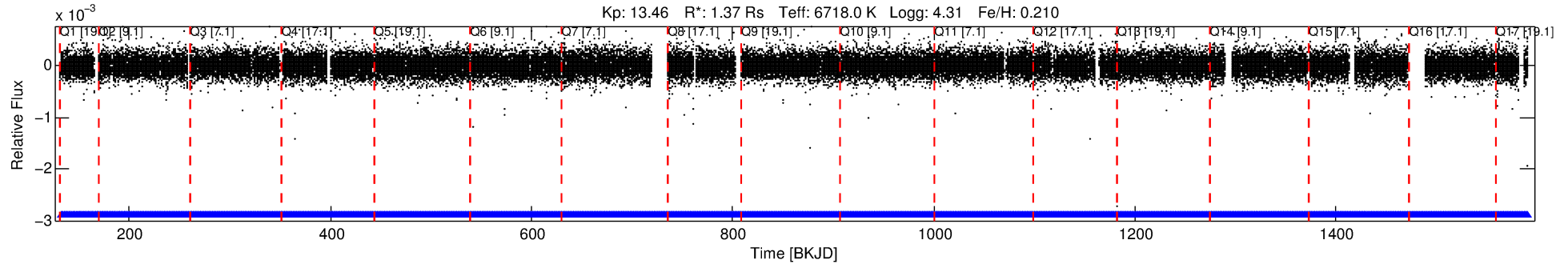
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007457355-01

No Significant Match Found

DV One-Page Summary

KIC: 7457355 Candidate: 1 of 1 Period: 1.267 d



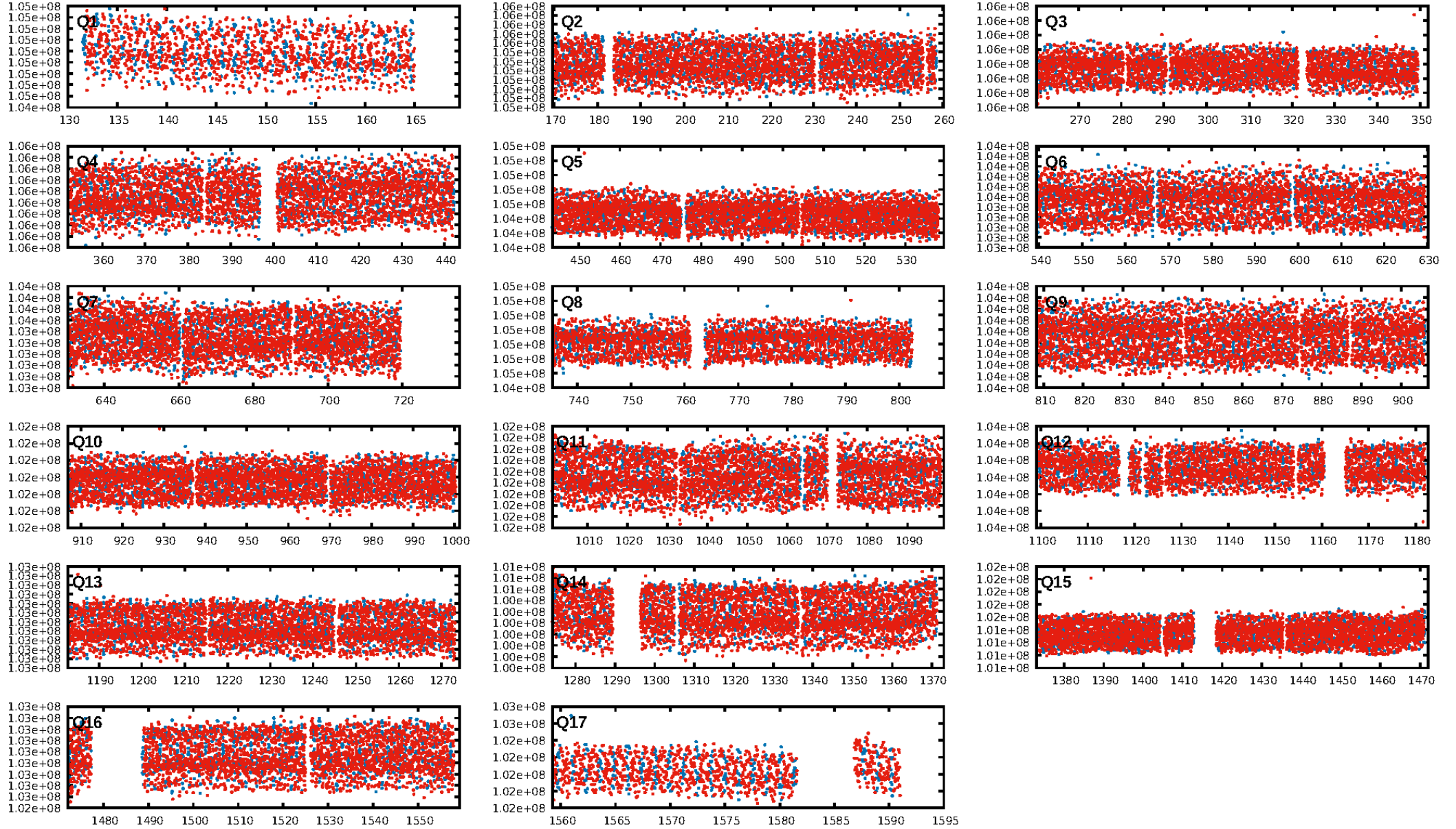
DV Fit Results:

Period = 1.26719 [0.00004] d
Epoch = 132.3072 [0.0153] BKJD
Rp/R* = 0.0028 [0.0040]
a/R* = 1.04 [0.67]
b = 0.78 [4.09]
Seff = 5177.55 [1921.65]
Teq = 2163 [201] K
Rp = 0.42 [0.61] Re
a = 0.0257 [0.0062] AU
Ag = 13.74 [40.34] [0.32σ]
Teffp = 6439 [4697] K [0.91σ]

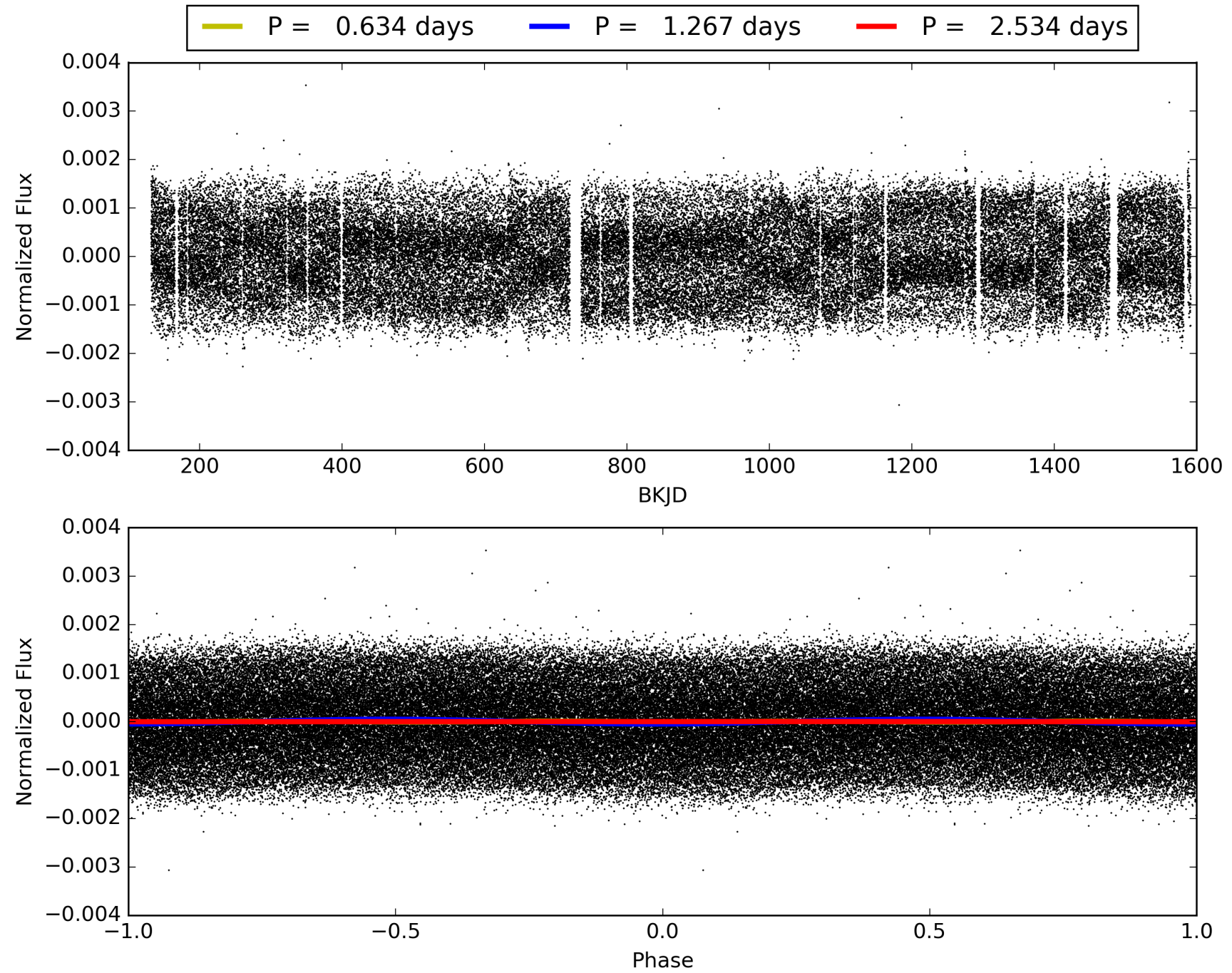
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1025/1025]
GhostDiagnostic-chr: 0.8219
Centroid-sig: 9.1%
Centroid-so: 2.094 arcsec [1.20σ]
OotOffset-rm: 1.289 arcsec [0.97σ]
KicOffset-rm: 1.299 arcsec [1.01σ]
OotOffset-st: 0/3/0/3 [6]
KicOffset-st: 0/3/0/3 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007457355-01, PDC Light Curves

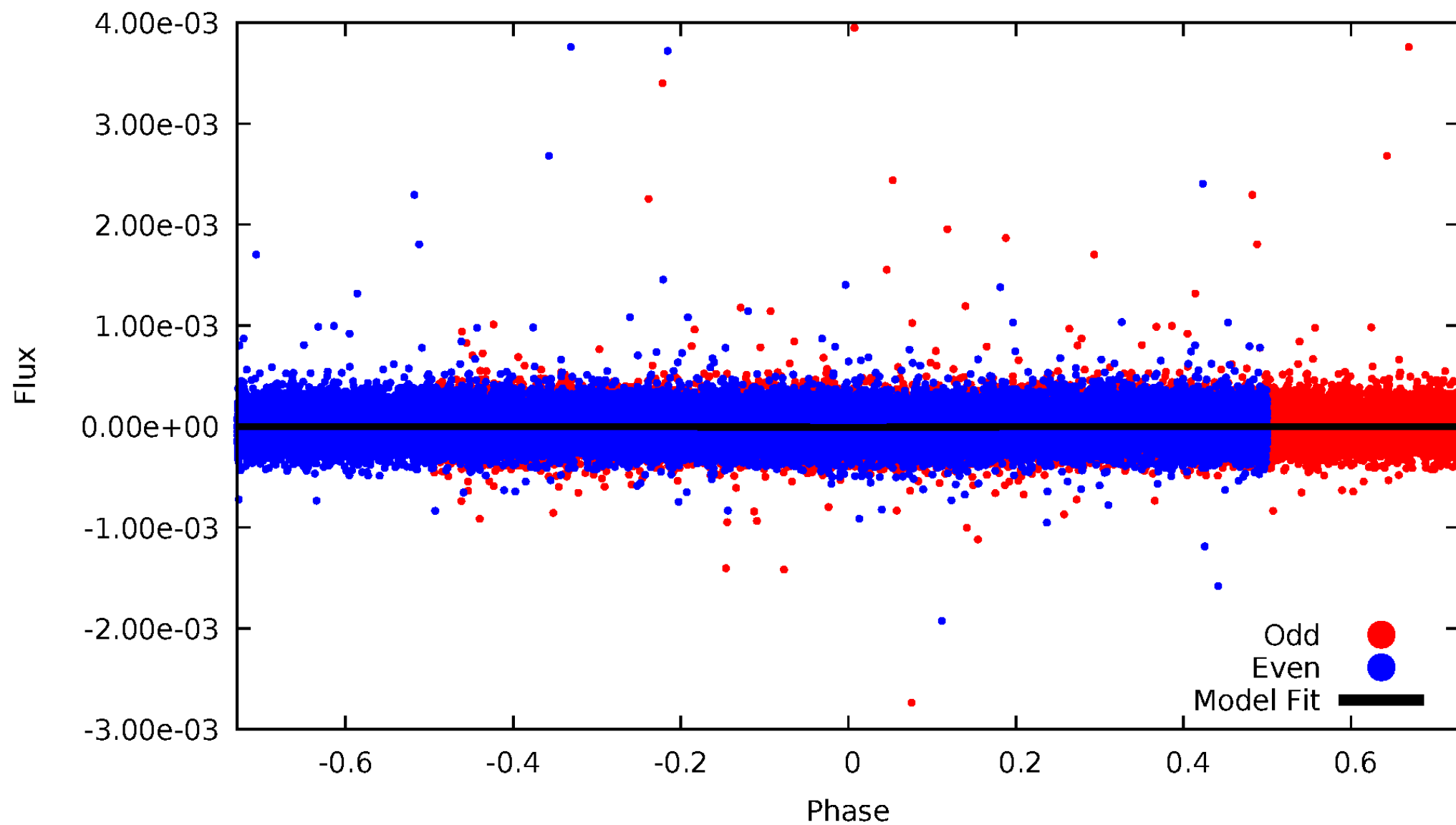


TCE 007457355-01



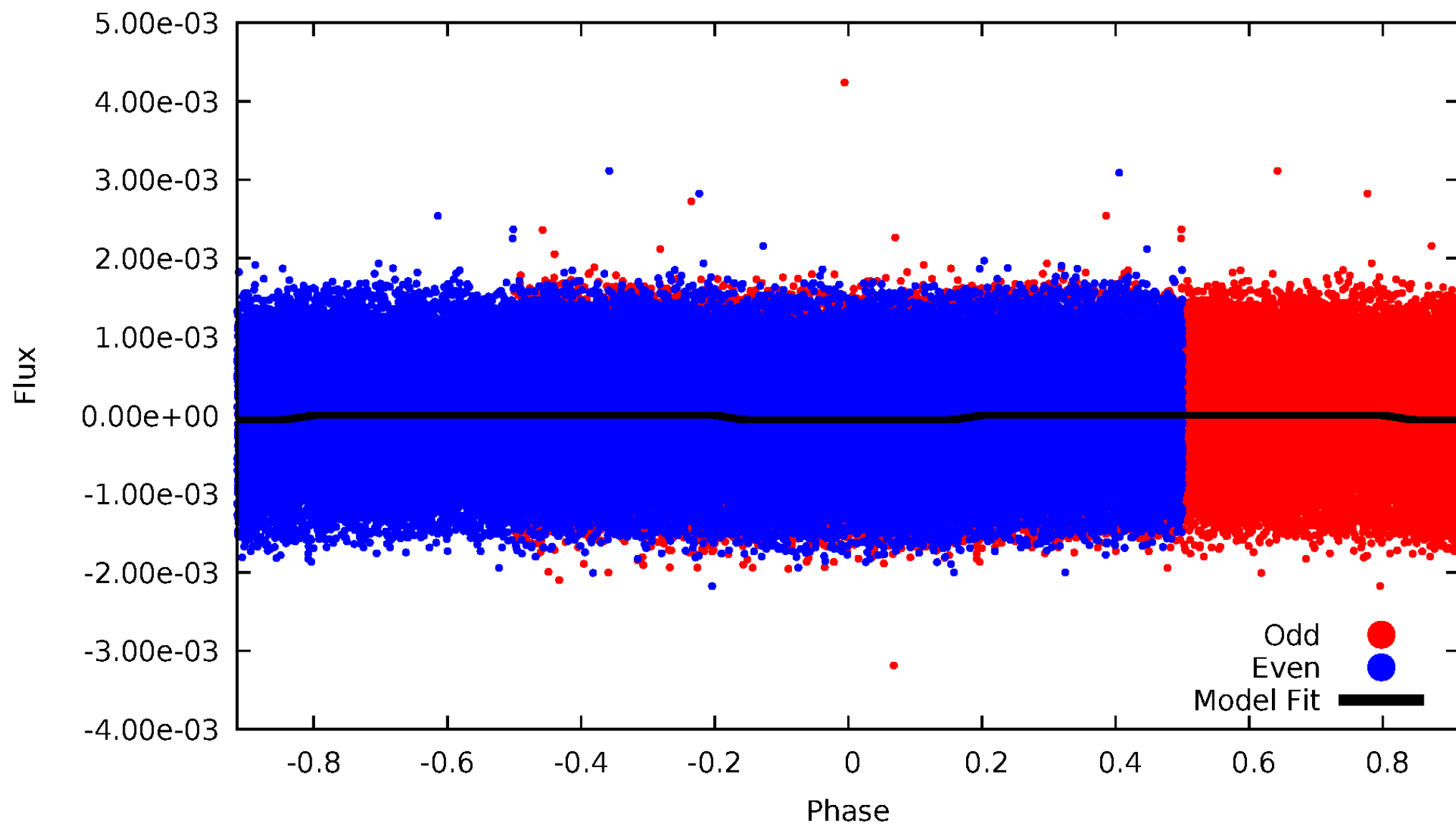
DV Odd/Even

TCE 007457355-01



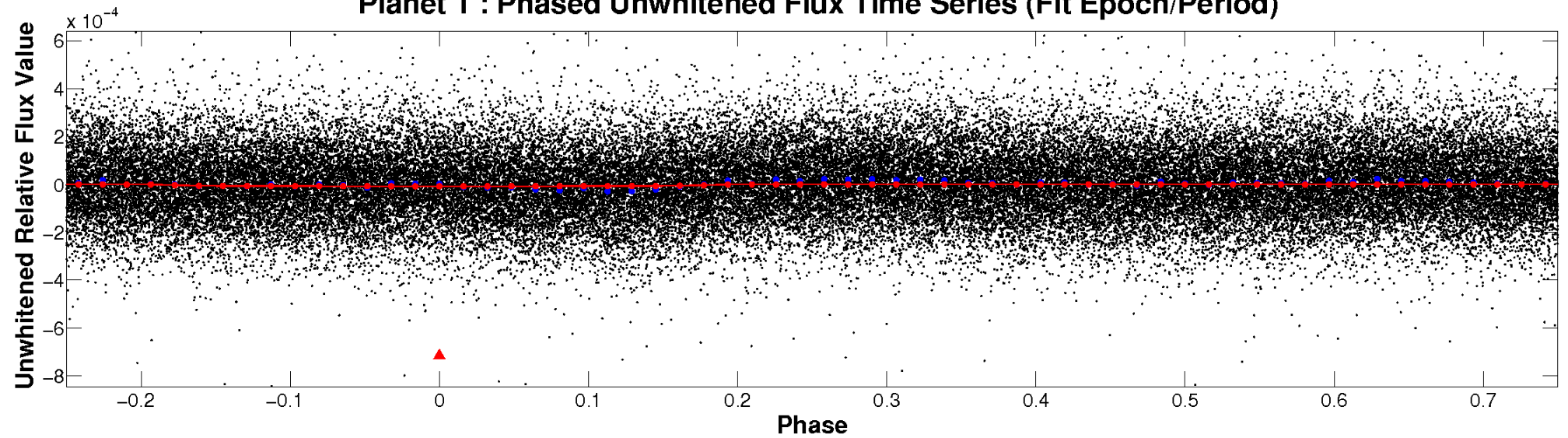
ALT Odd/Even

TCE 007457355-01

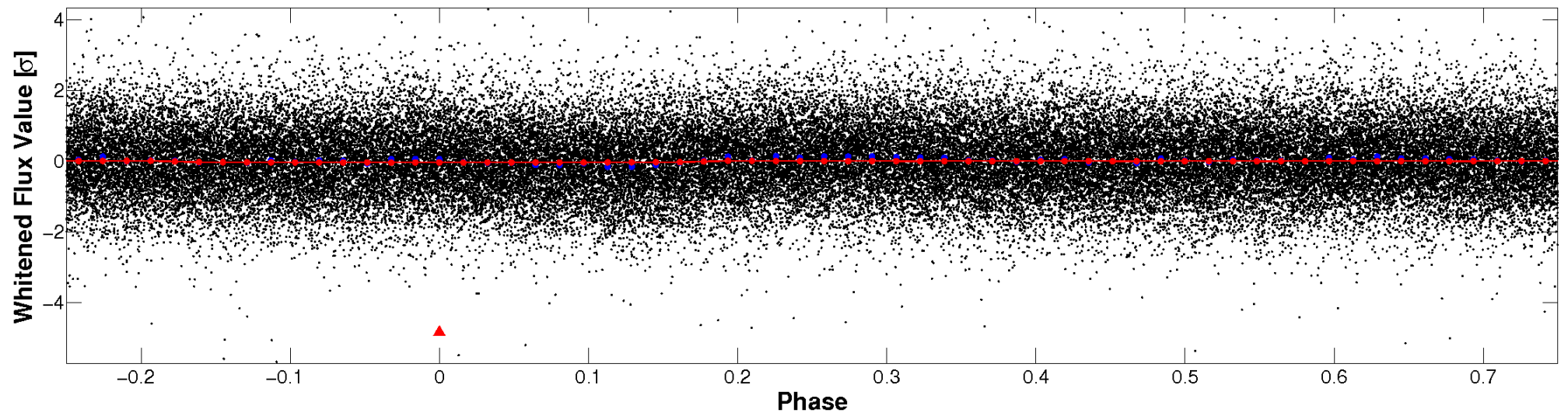


Non-Whitened Vs. Whitened Light Curve

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

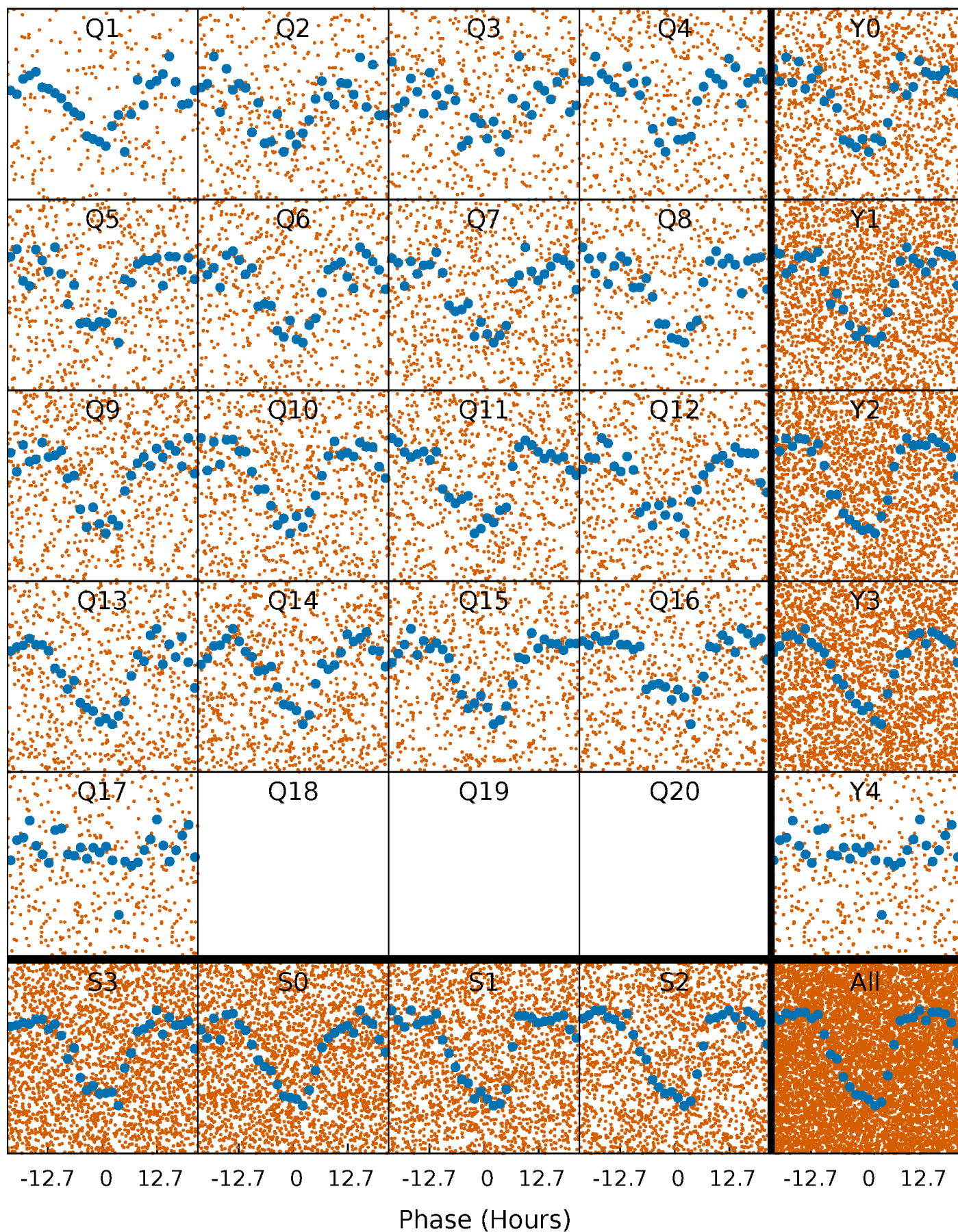


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



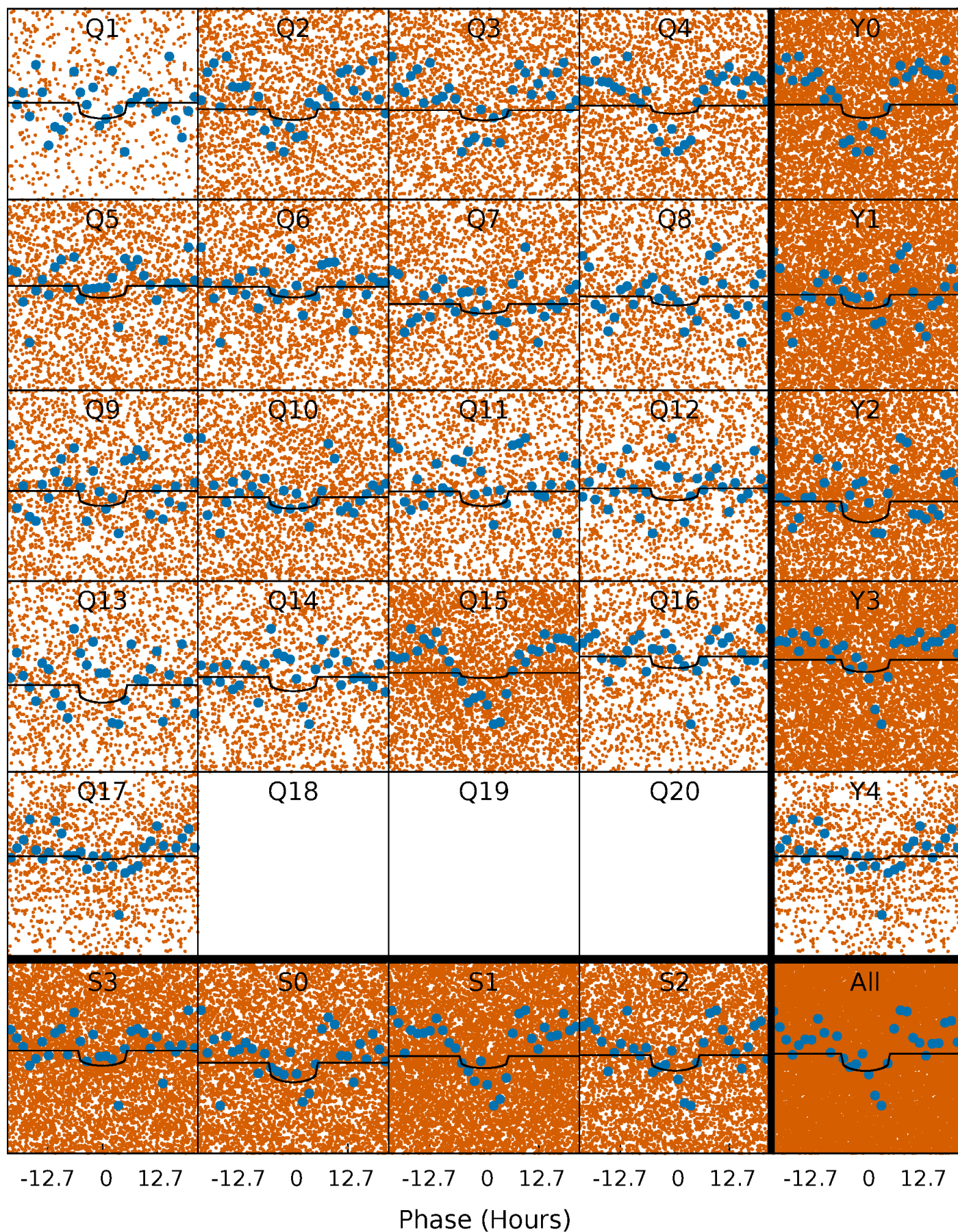
PDC Quarter-Phased Transit Curves

TCE 007457355-01 P= 1.267187 Days $T_0=132.307163$ (BKJD)



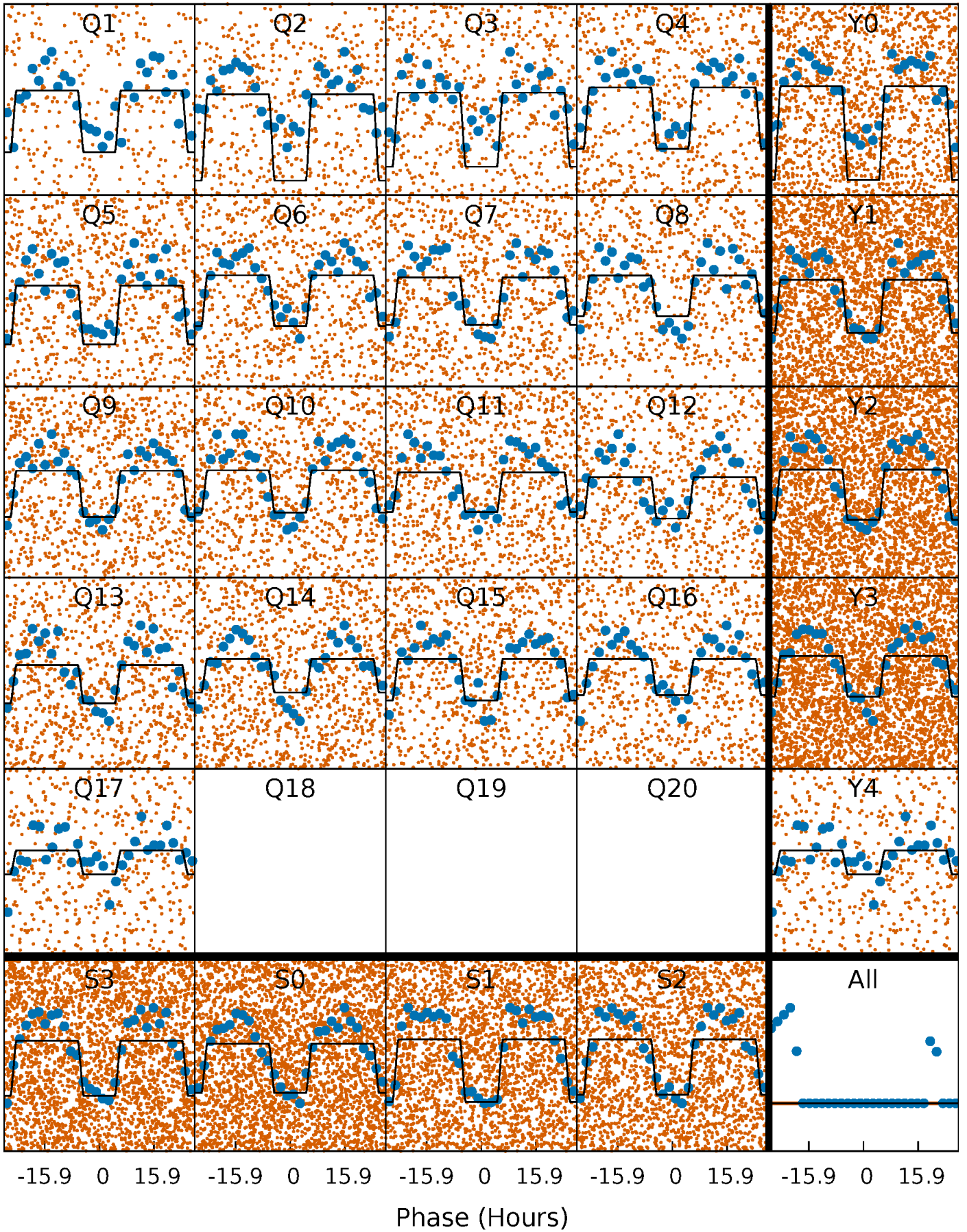
DV Quarter-Phased Transit Curves

TCE 007457355-01 P= 1.267187 Days $T_0=132.307163$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

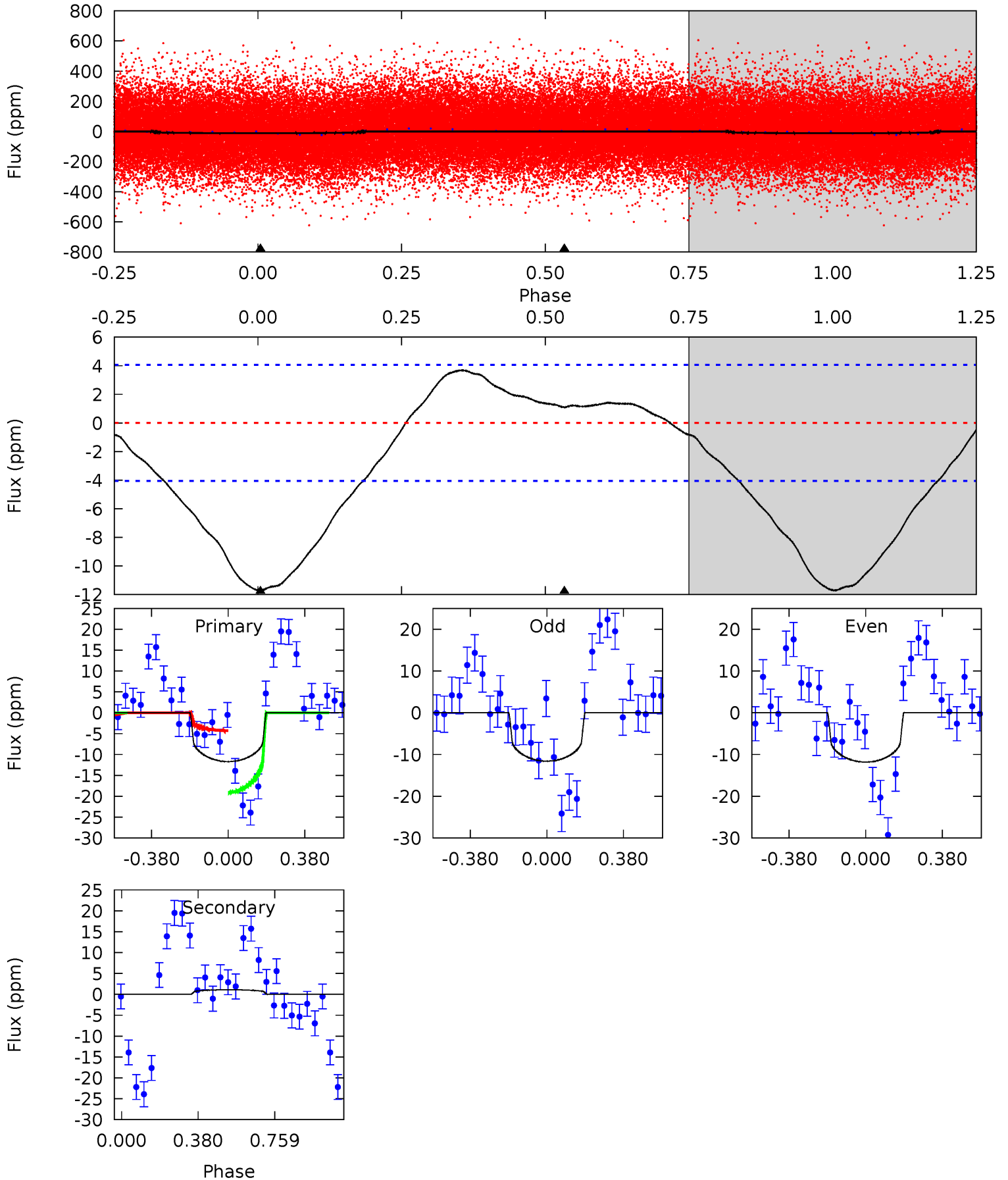
TCE 007457355-01 P= 1.267231 Days $T_0=132.279815$ (BKJD)



DV Model-Shift Uniqueness Test

007457355-01, P = 1.267187 Days, E = 131.039976 Days

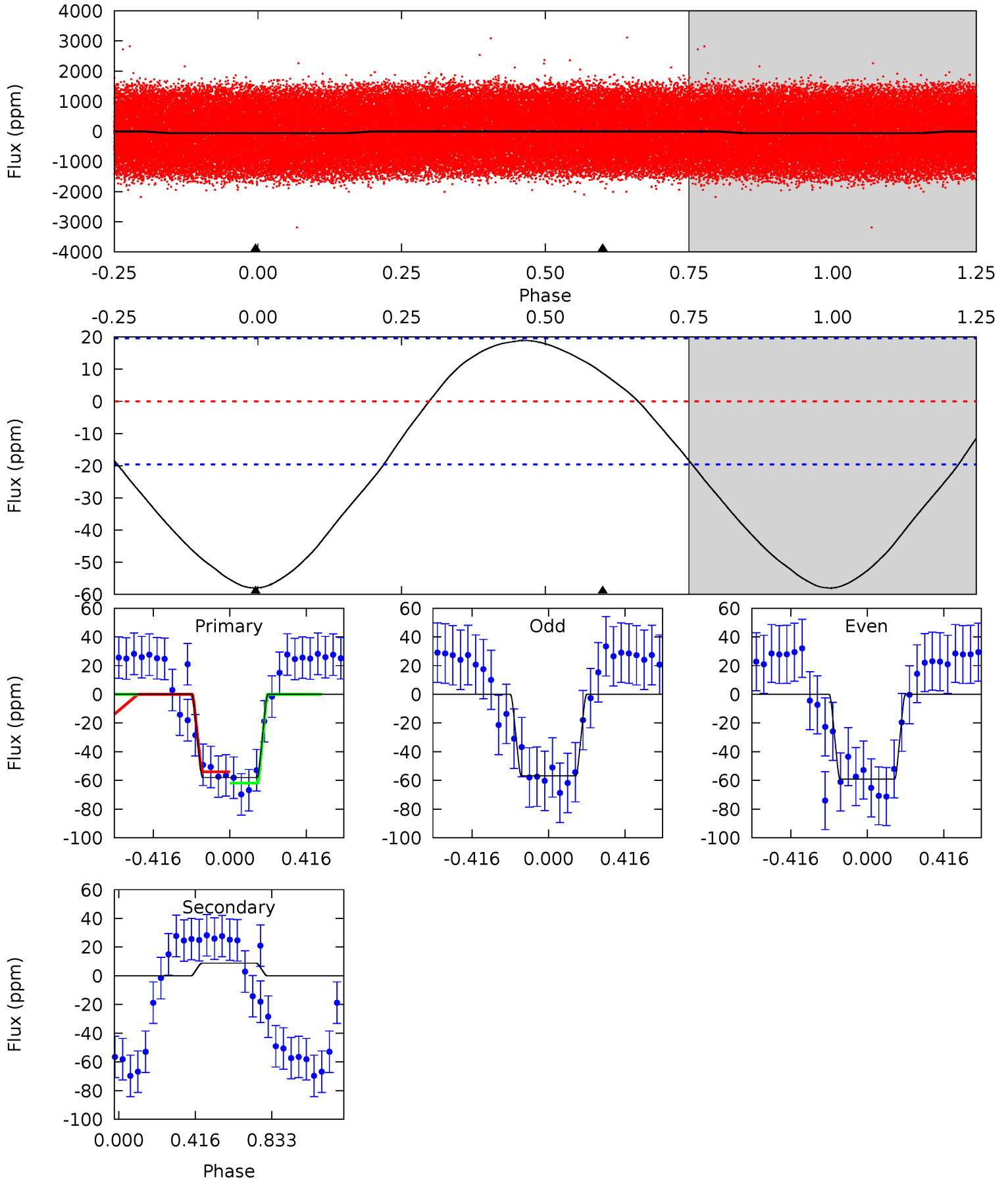
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	-1.15	0	0	4.28	0.88	1.41	12.3	12.3	-1.15	-1.15	0.12	1.20	0.24	7.90



Alt Model-Shift Uniqueness Test

007457355-01, P = 1.267231 Days, E = 131.012584 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	-1.91	0	0	4.26	0.81	1.43	12.6	12.6	-1.91	-1.91	0.25	1.05	0.25	0.86



Stellar Parameters For KIC 007457355

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6718^{+168}_{-218}	$4.314^{+0.062}_{-0.188}$	$0.210^{+0.150}_{-0.400}$	$1.368^{+0.398}_{-0.171}$	$1.407^{+0.164}_{-0.201}$	$0.774^{+0.254}_{-0.394}$
	+3%/-3%	+1%/-4%	+71%/-190%	+29%/-12%	+12%/-14%	+33%/-51%
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 007457355-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	1 ± 1	$0.62^{+0.51}_{-0.43}$	3069^{+194}_{-136}	-3863^{+640}_{-1997}	$-0.827^{+0.760}_{-7.631}$
Alt.	9 ± 5	$1.23^{+0.64}_{-0.60}$	3074^{+212}_{-153}	-4382^{+628}_{-1393}	$-1.938^{+1.319}_{-5.991}$

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

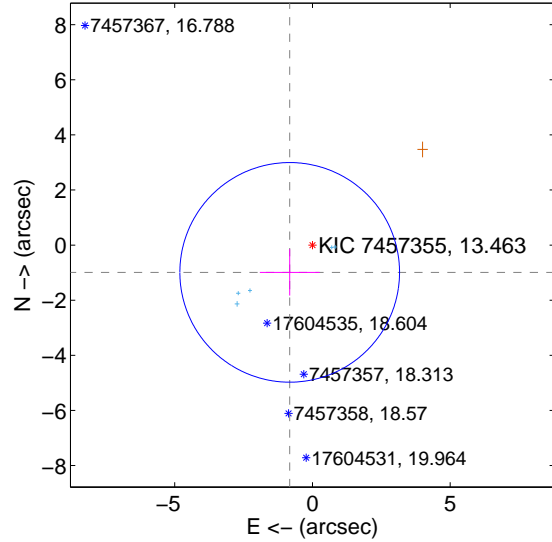
Supplemental centroid analysis for 007457355-01. Kepler magnitude: 13.46. Transit SNR 5.79

There are 5 quarters with good PRF difference image offsets

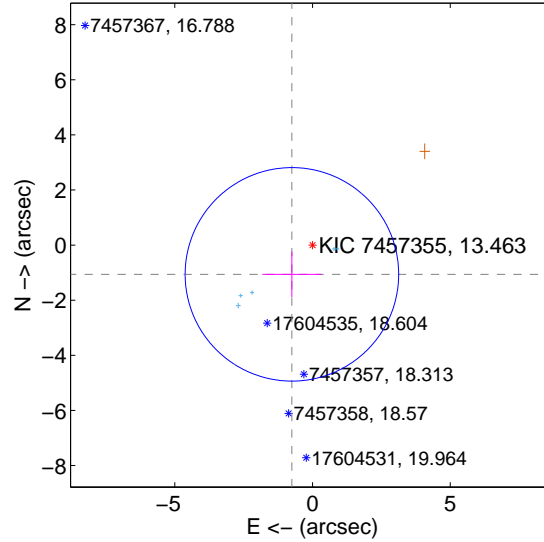
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.289 ± 1.329	0.97	0.825 ± 1.084	-0.990 ± 0.842
PRF-fit source offset from KIC position	1.299 ± 1.292	1.01	0.748 ± 1.076	-1.062 ± 0.829
photometric centroid source offset	2.09 ± 1.74	1.20	-1.18 ± 1.56	-1.73 ± 1.82

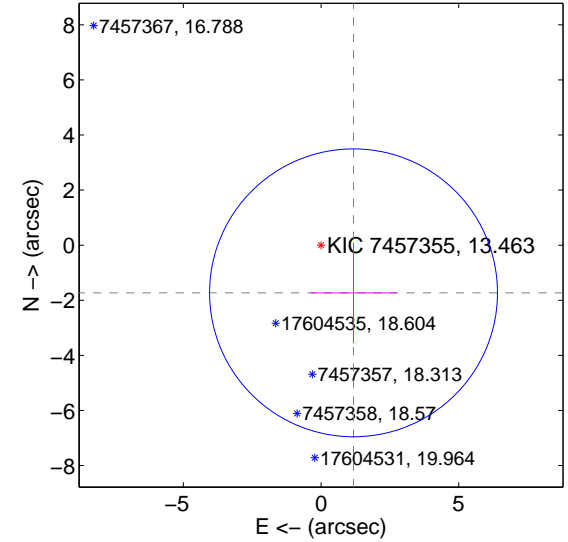
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

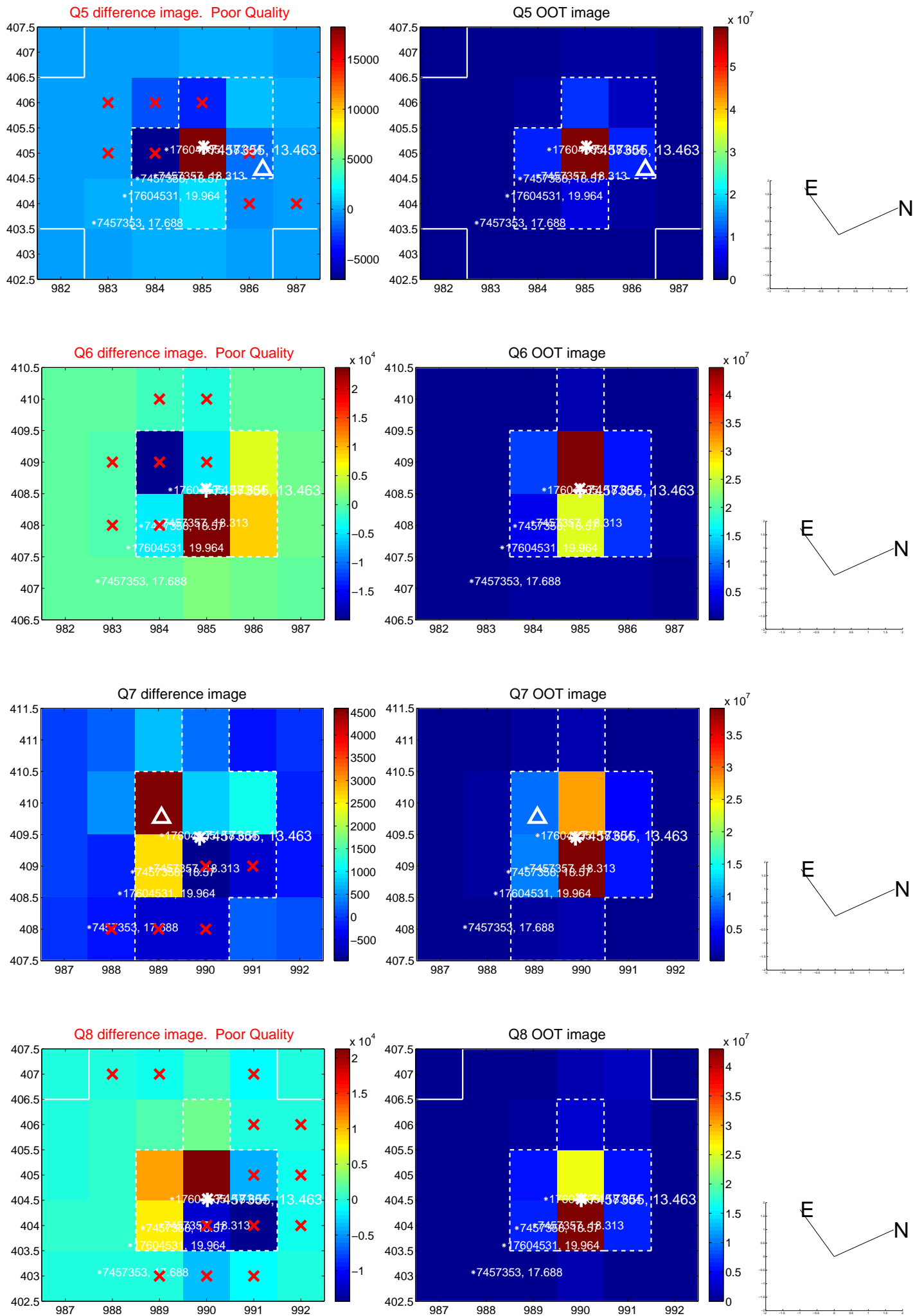


offset from photometric centroids

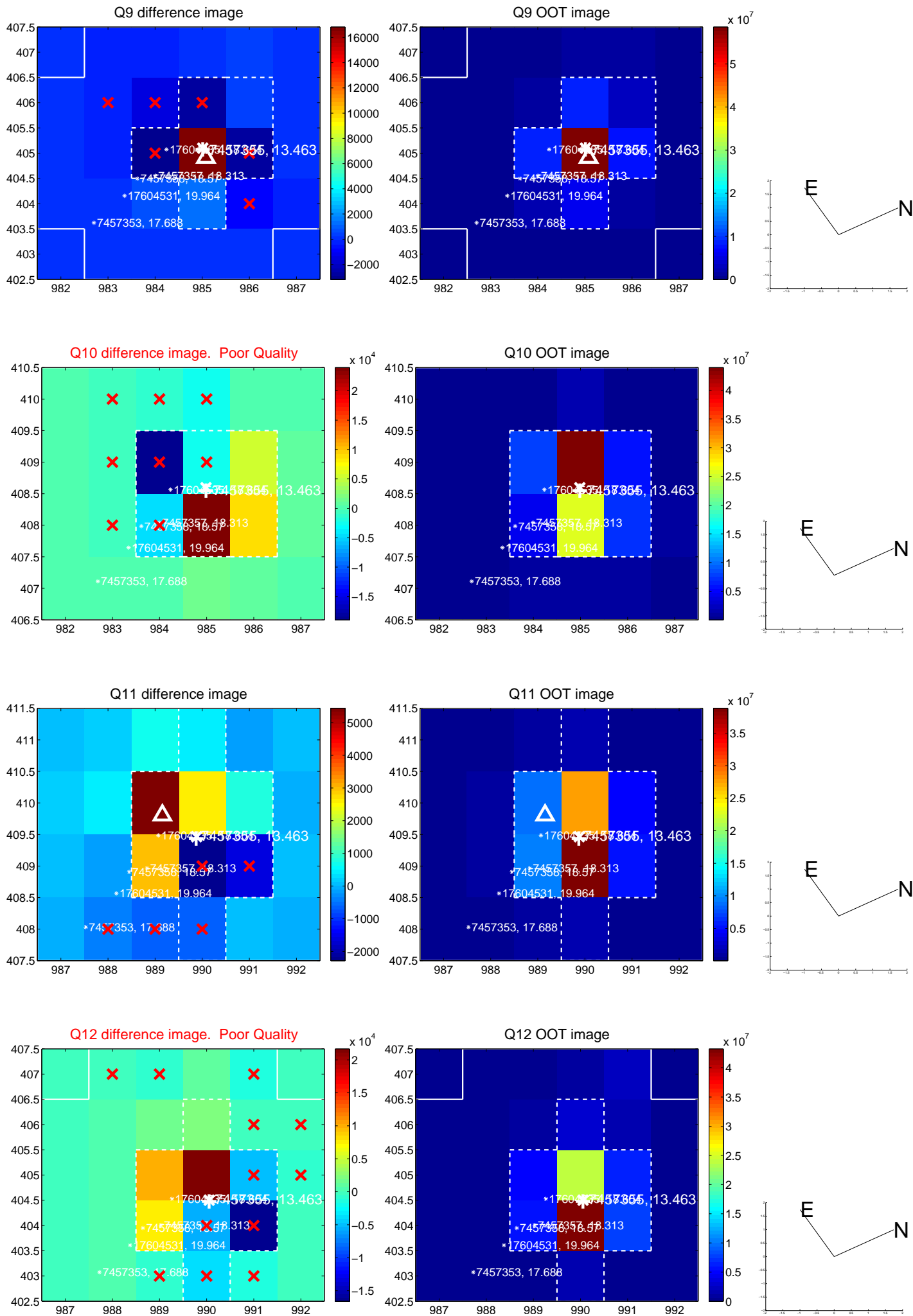


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

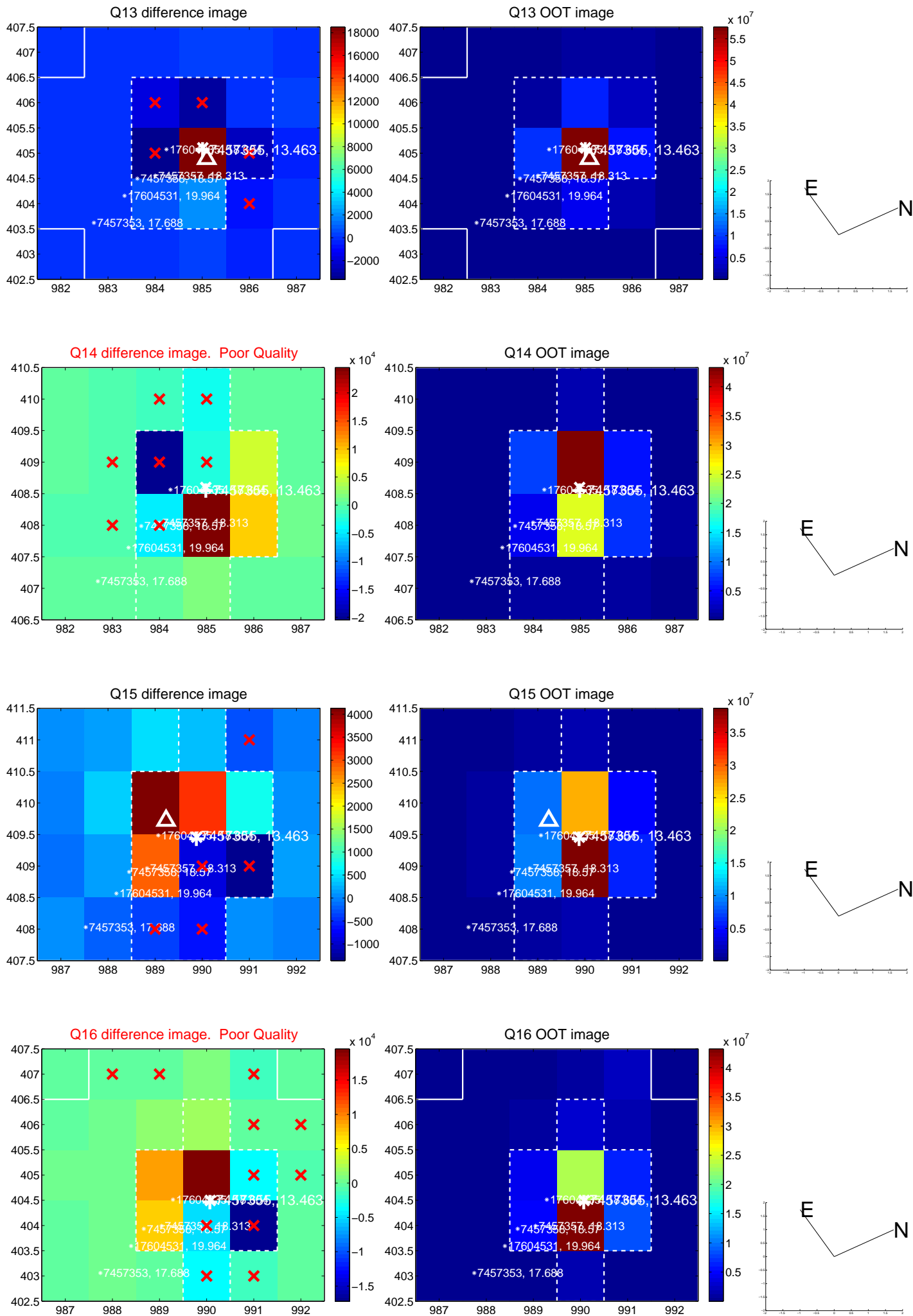
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



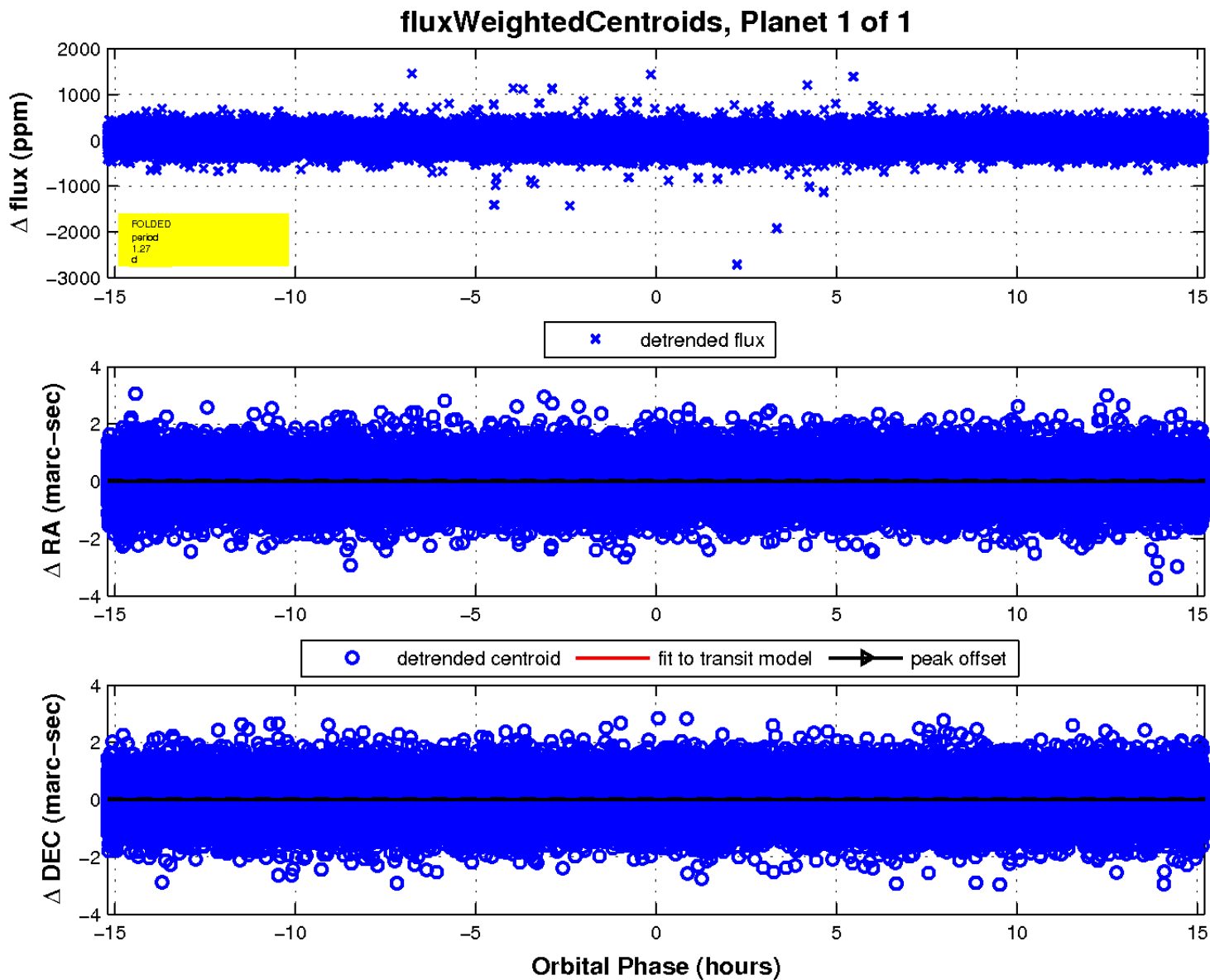
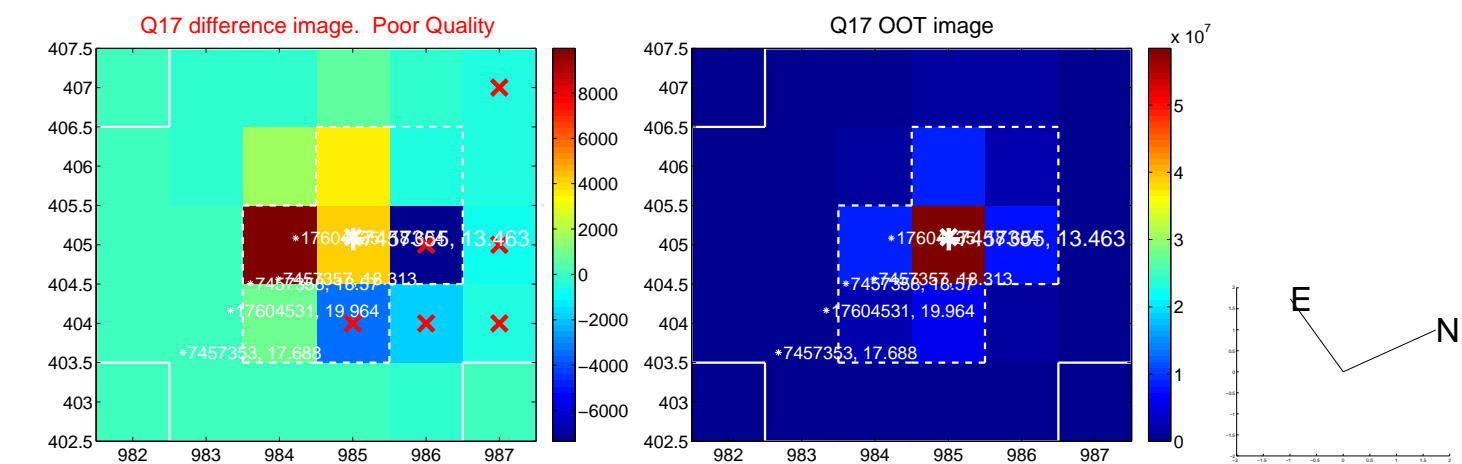
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

