

KIC 006424561

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})
006424561-01	OBS	4900.01	6.671681	131.935873	171.8	2.358	8.8	10.0	1.02	6086	1.57	260.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006424561-01	OBS	PC	0.94	0	0	0	0	NO_COMMENT

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.

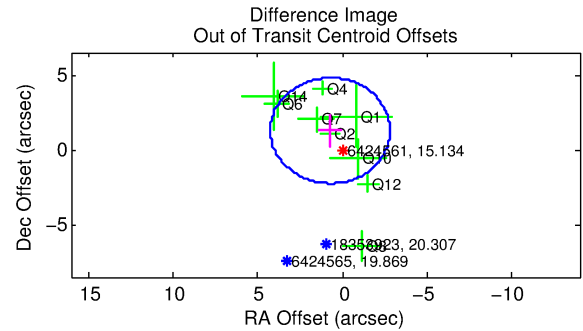
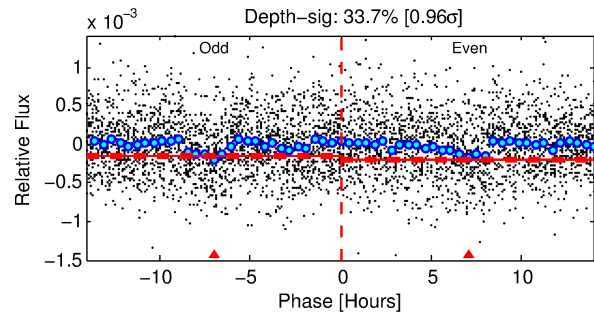
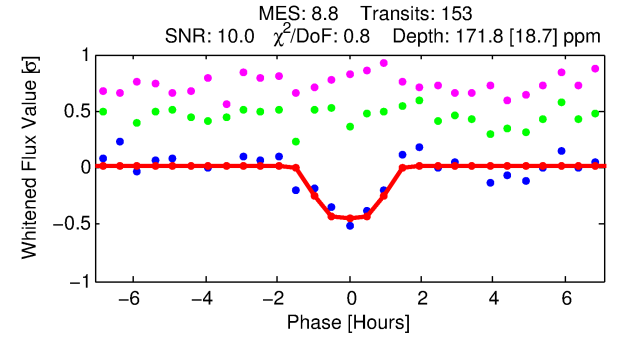
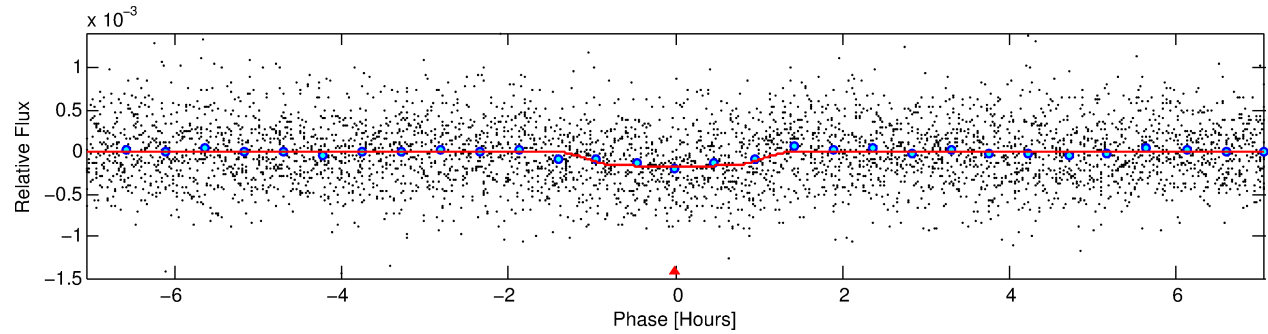
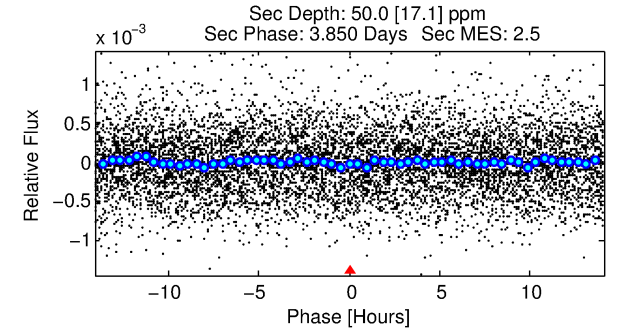
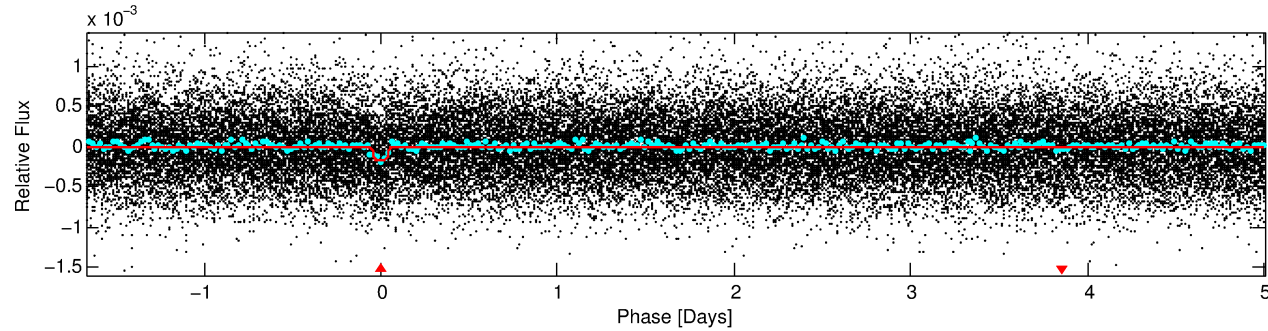
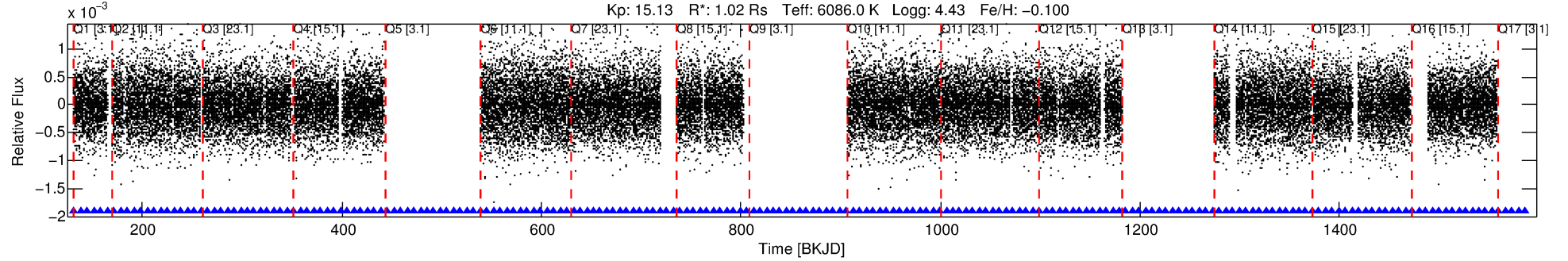
Ephemeris Match Information For 006424561-01

No Significant Match Found

DV One-Page Summary

KIC: 6424561 Candidate: 1 of 1 Period: 6.672 d

KOI: K04900.01 Corr: 0.904



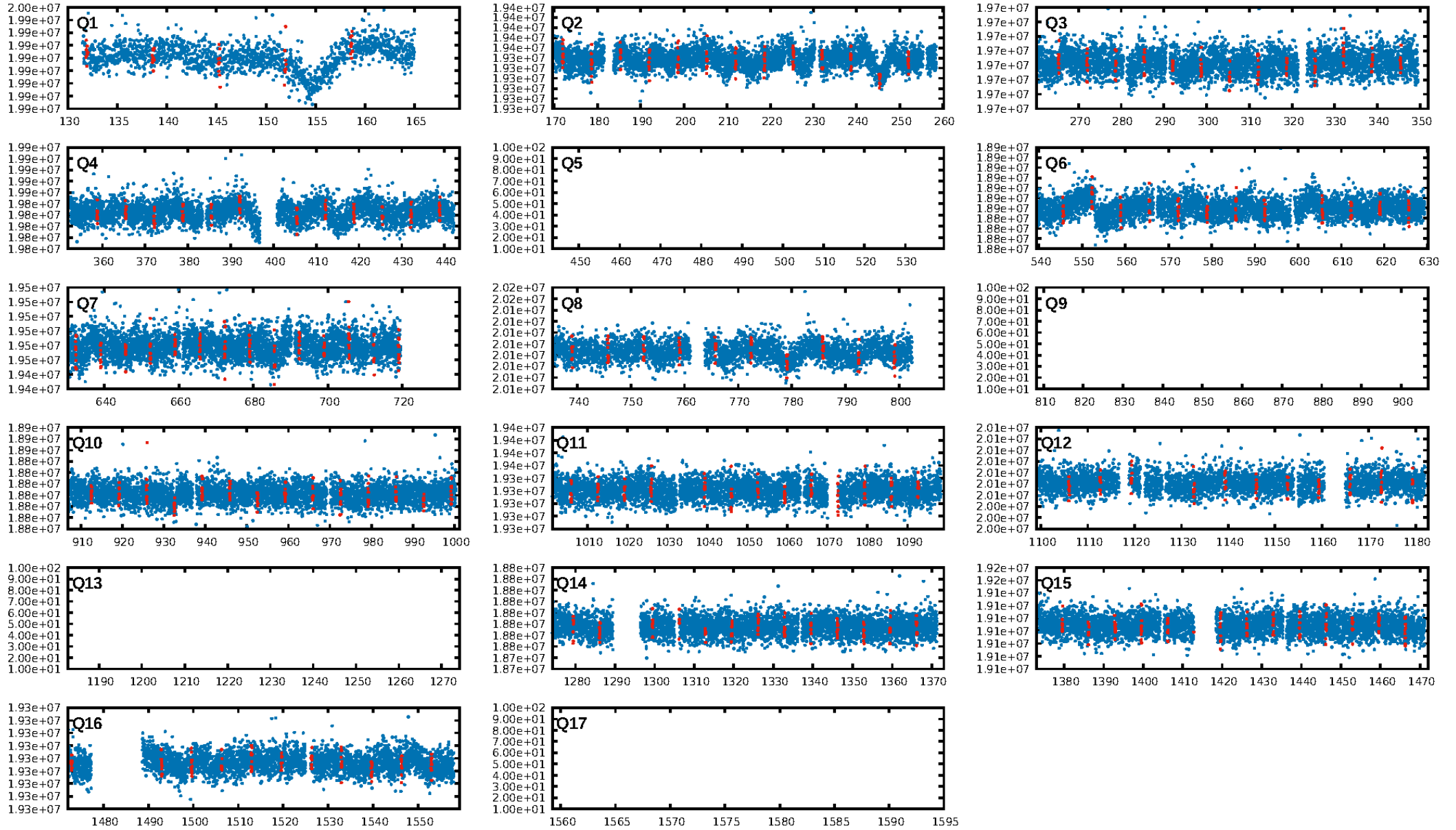
DV Fit Results:

Period = 6.67168 [0.00004] d
Epoch = 131.9359 [0.0046] BKJD
Rp/R* = 0.0141 [0.0102]
a/R* = 10.45 [39.18]
b = 0.89 [0.88]
Seff = 260.17 [109.74]
Teq = 1024 [108] K
Rp = 1.57 [1.25] Re
a = 0.0702 [0.0194] AU
Ag = 55.11 [84.94] [0.64σ]
Teffp = 4314 [1616] K [2.03σ]

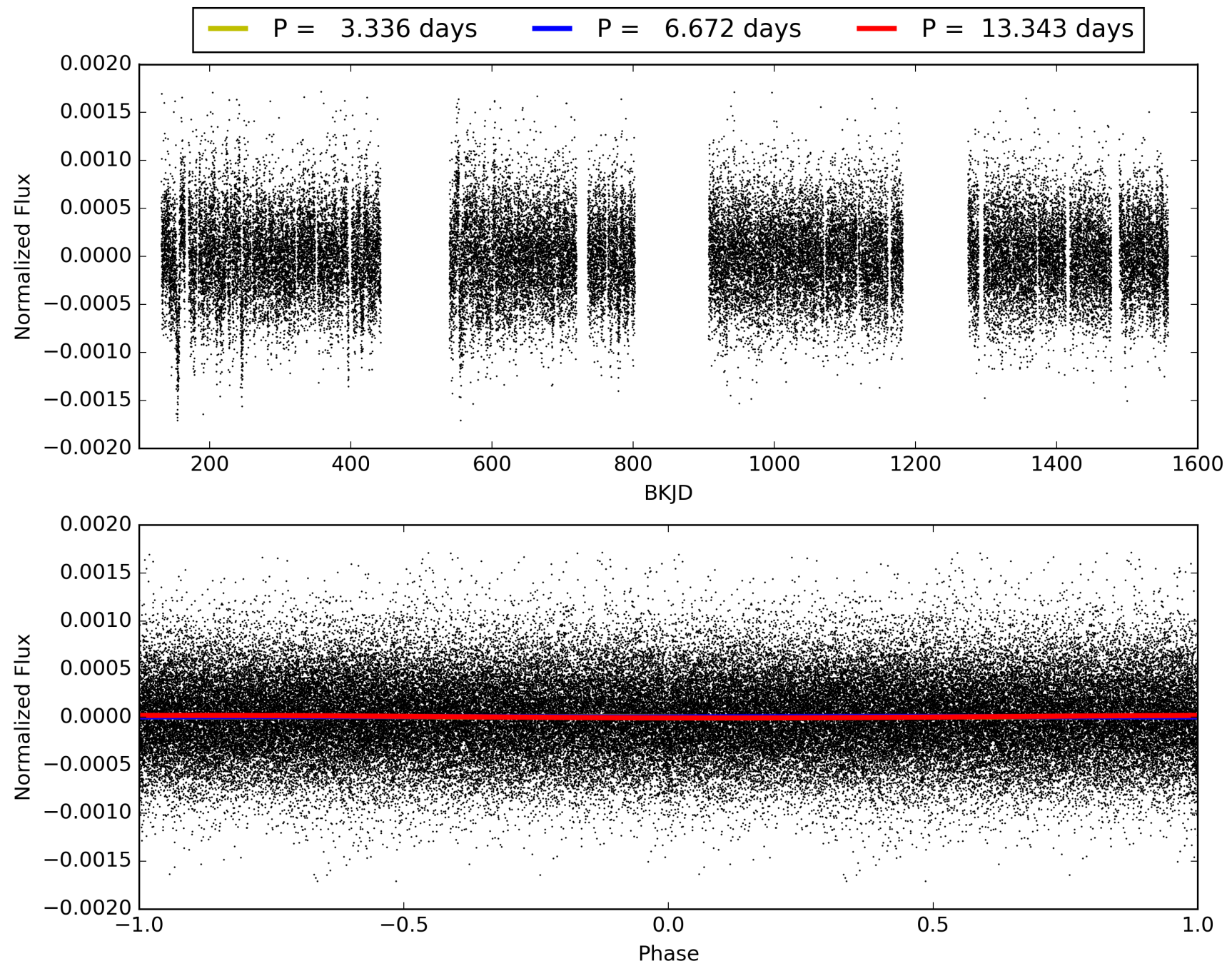
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.63e-19
RollingBand-fgt: 1.00 [148/148]
GhostDiagnostic-chr: 0.5919
Centroid-sig: 69.1%
Centroid-so: 0.764 arcsec [0.48σ]
OotOffset-rm: 1.463 arcsec [1.24σ]
OotOffset-st: 4/1/3/1 [9]
KicOffset-rm: 2.191 arcsec [2.25σ]
KicOffset-st: 4/1/3/1 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006424561-01, PDC Light Curves

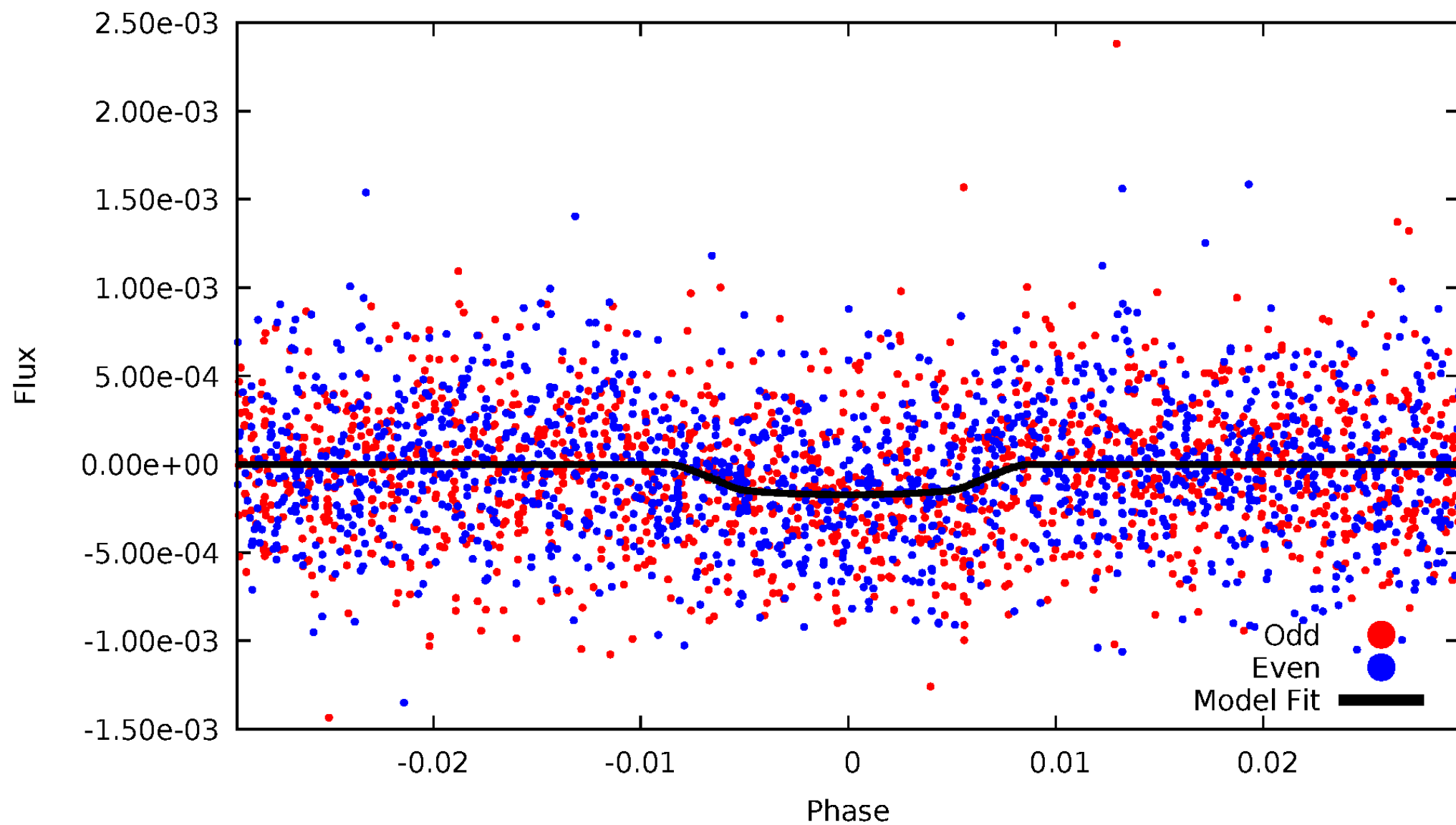


TCE 006424561-01



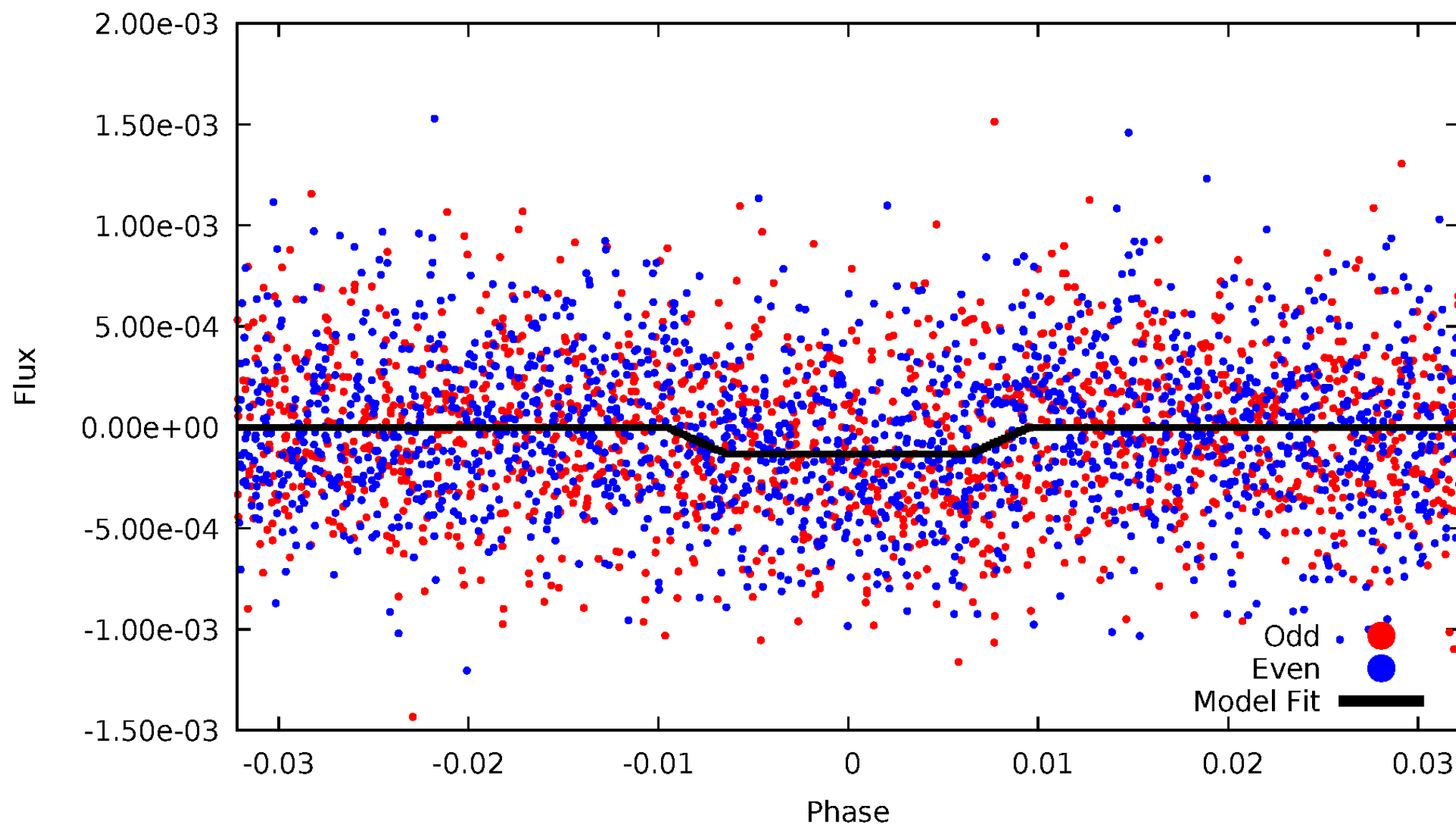
DV Odd/Even

TCE 006424561-01



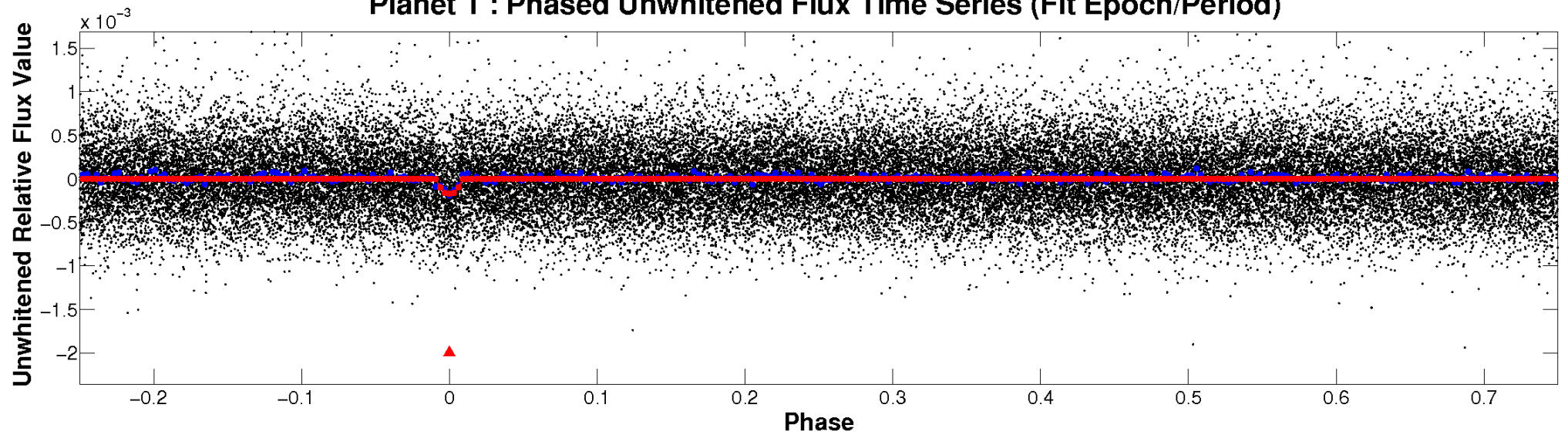
ALT Odd/Even

TCE 006424561-01

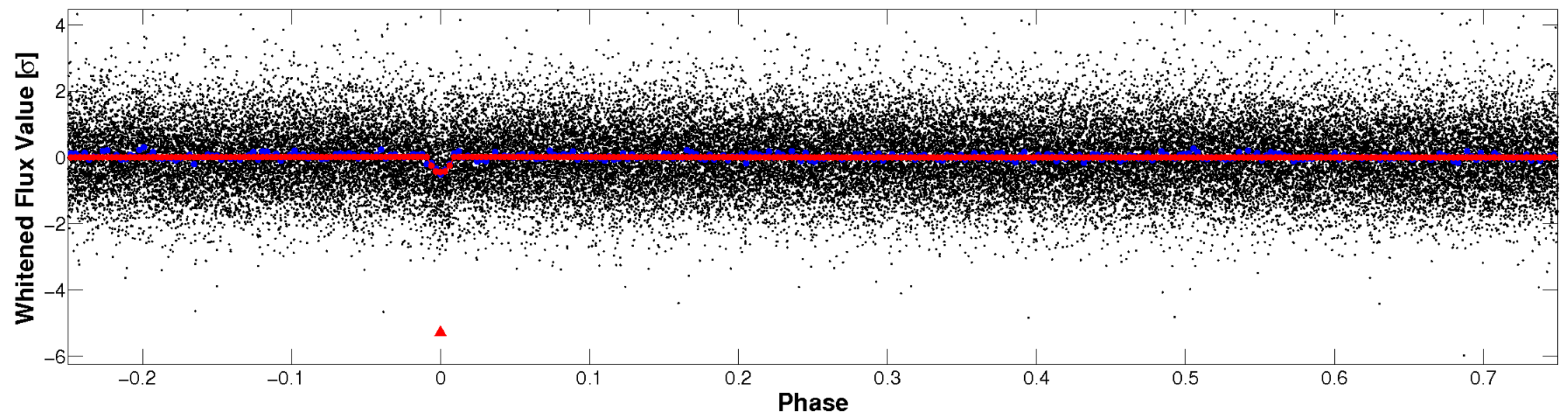


Non-Whitened Vs. Whitened Light Curve

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

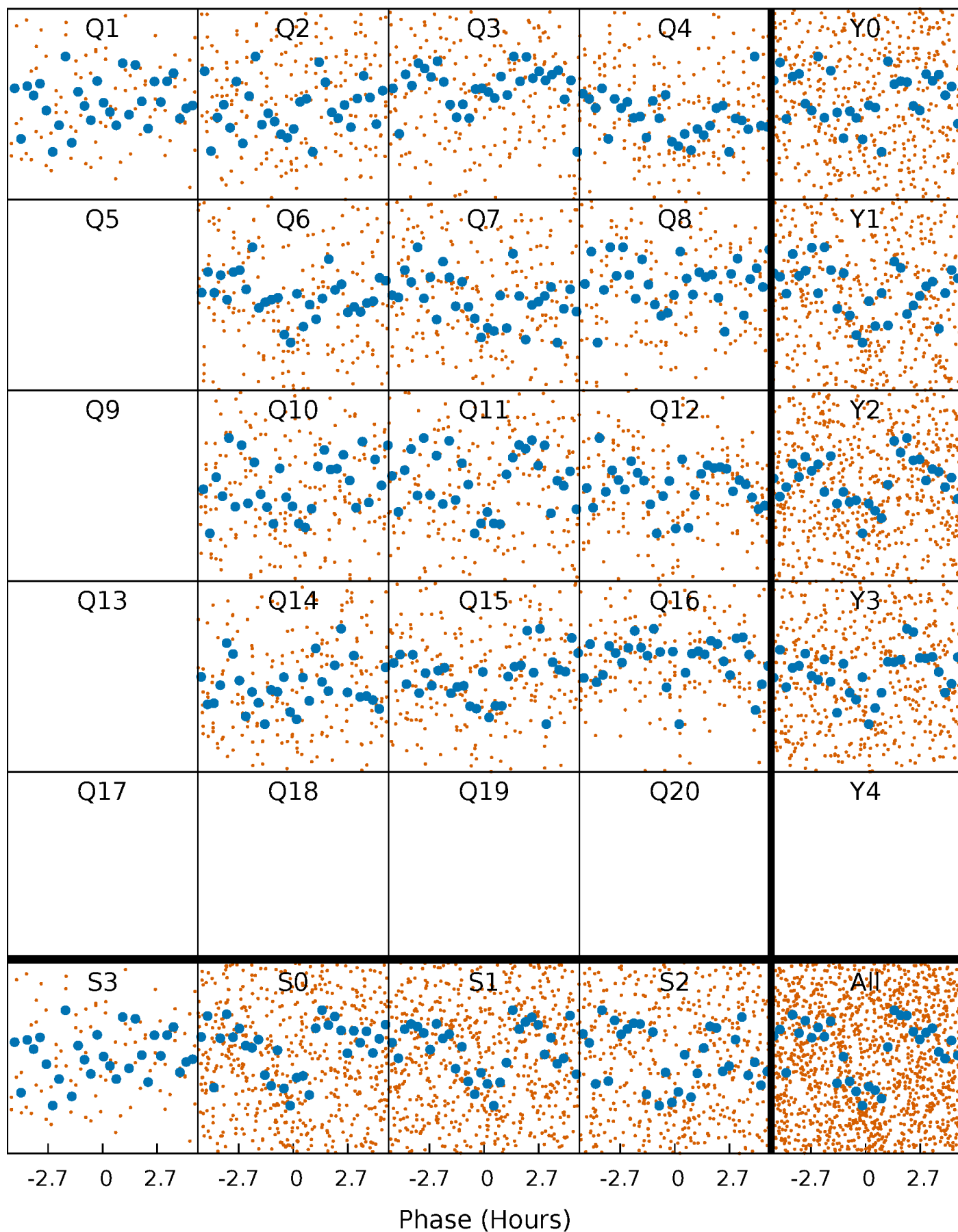


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



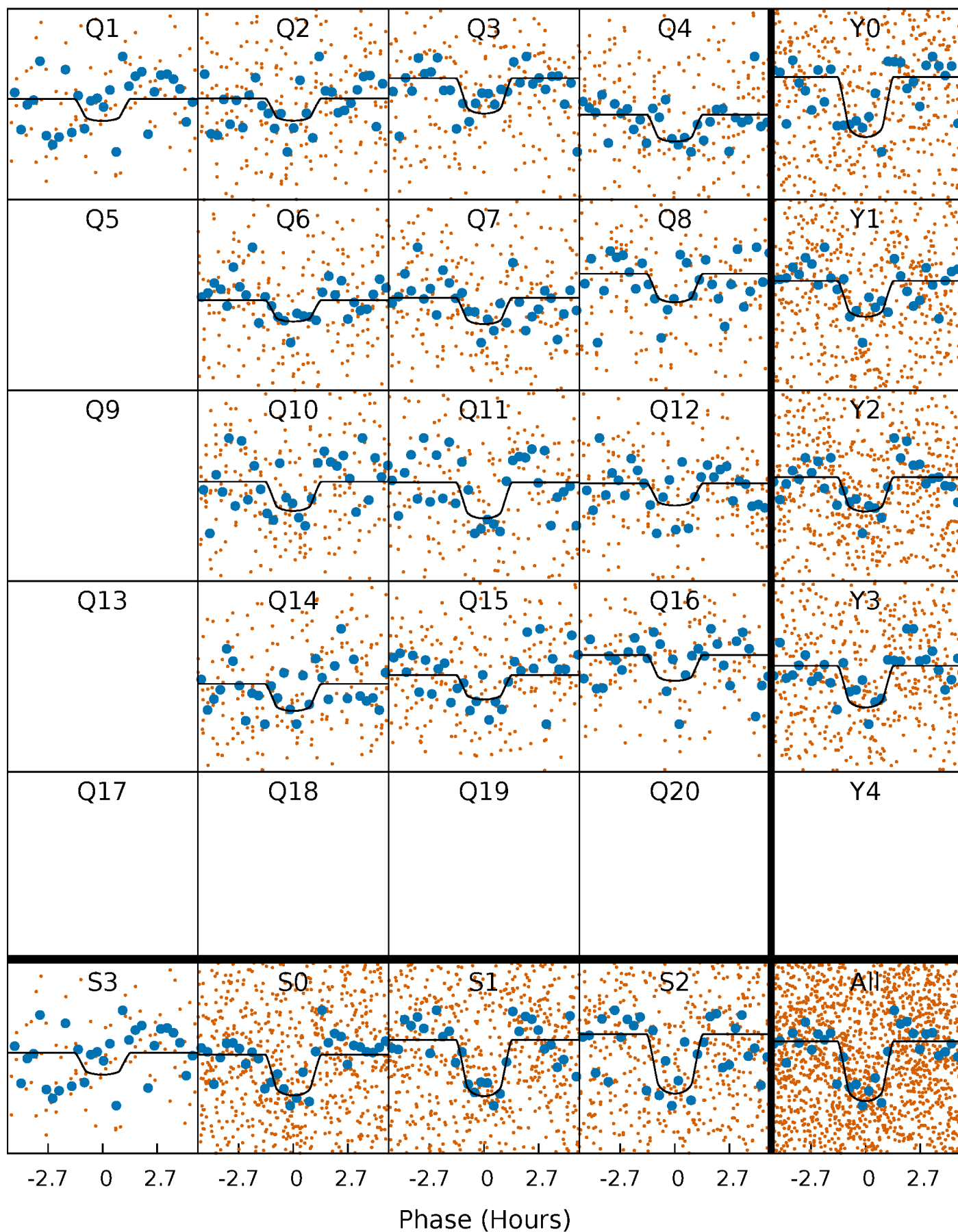
PDC Quarter-Phased Transit Curves

TCE 006424561-01 P= 6.671681 Days $T_0=131.935873$ (BKJD)



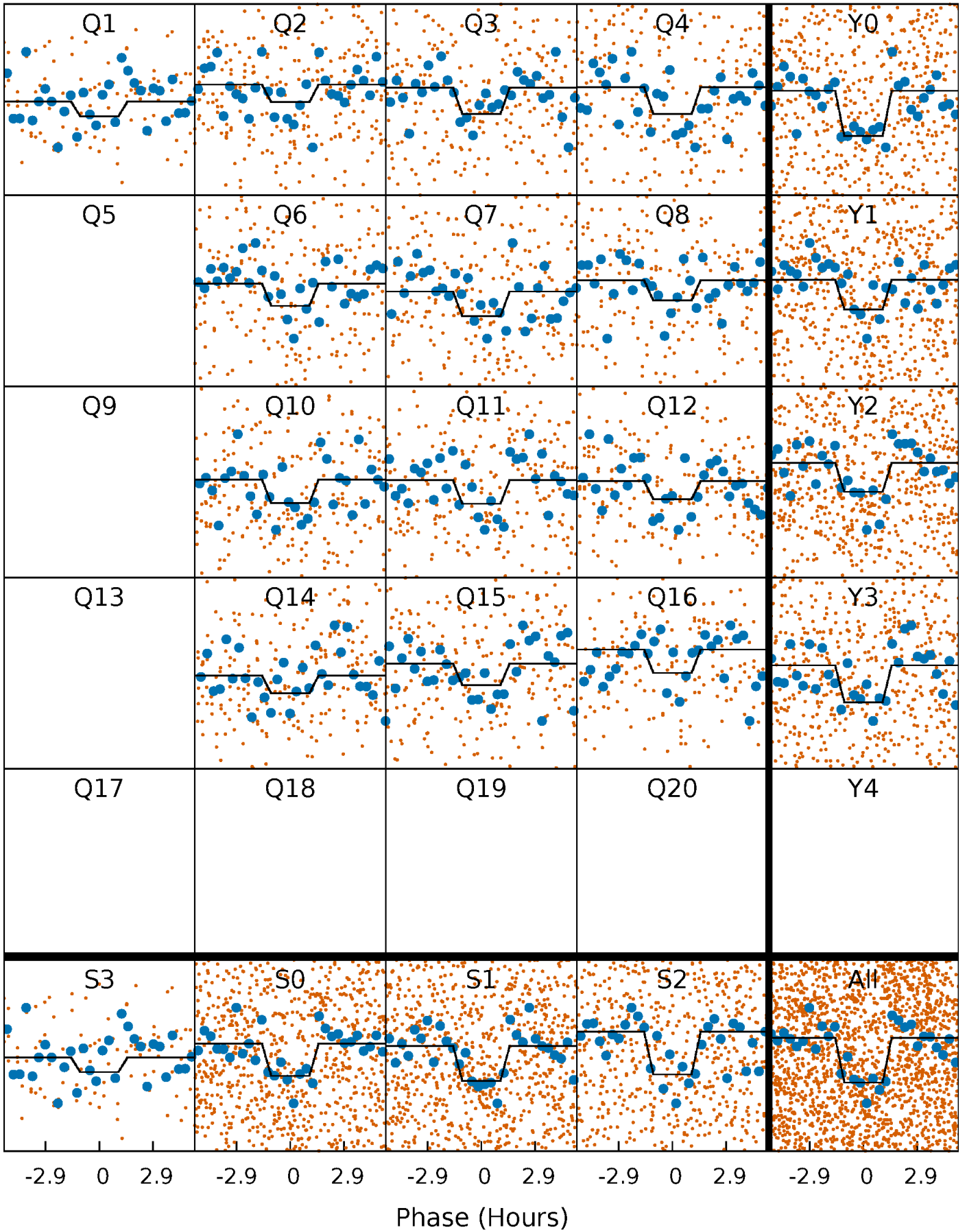
DV Quarter-Phased Transit Curves

TCE 006424561-01 P= 6.671681 Days $T_0=131.935873$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

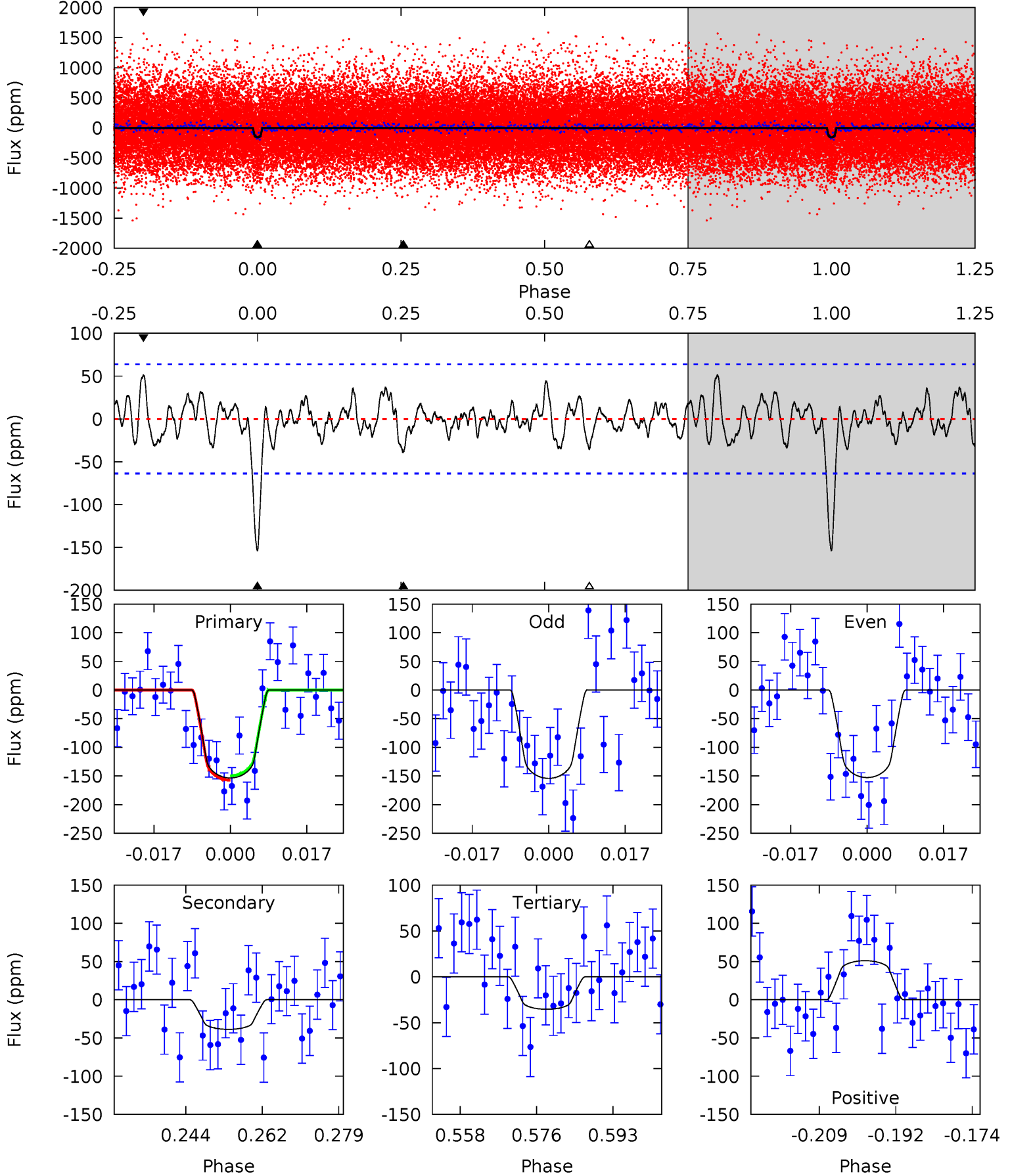
TCE 006424561-01 P= 6.671706 Days $T_0=131.921603$ (BKJD)



DV Model-Shift Uniqueness Test

006424561-01, P = 6.671681 Days, E = 125.264192 Days

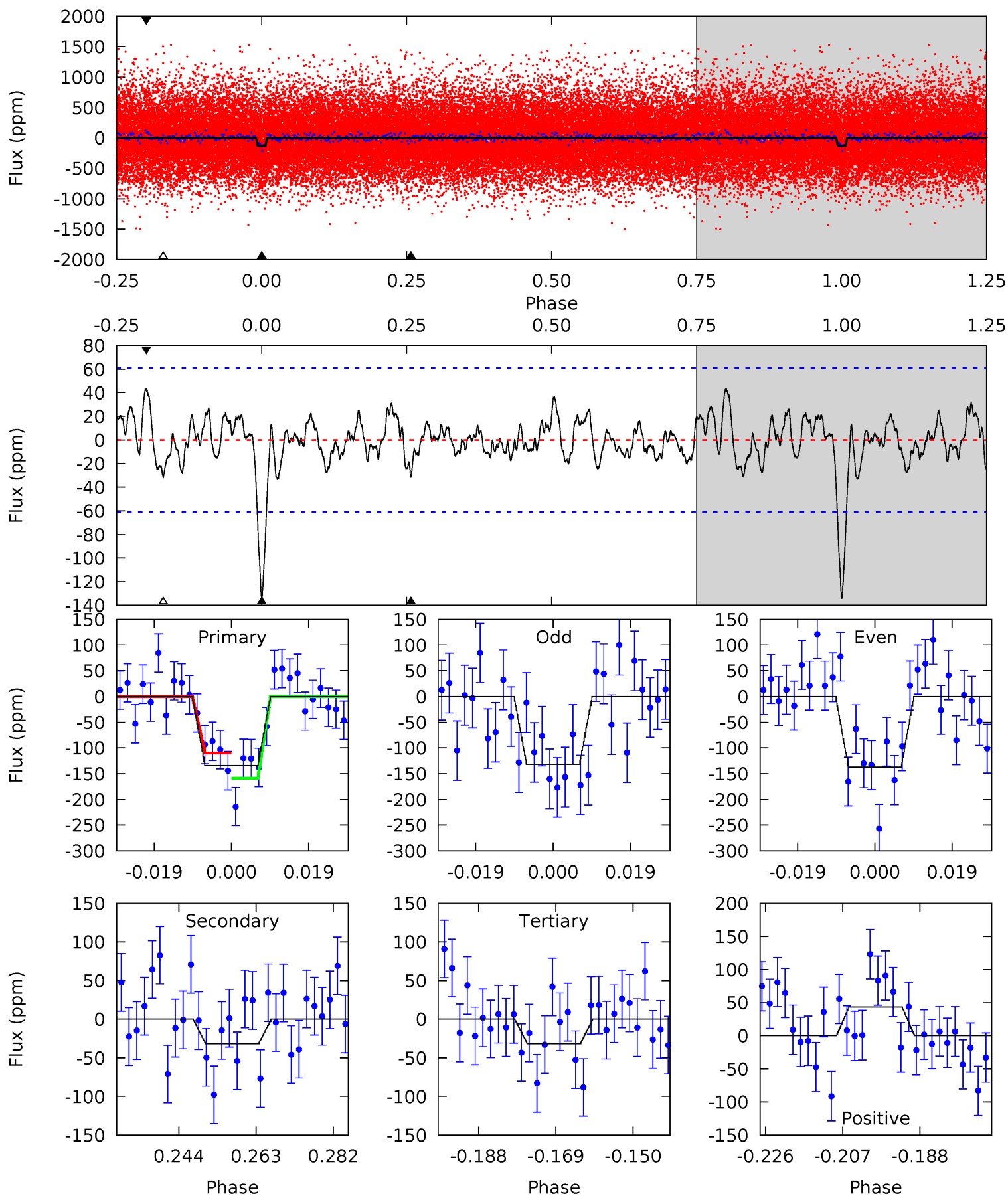
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	2.99	2.73	3.95	4.92	2.38	1.23	9.12	7.91	0.26	-0.95	0.06	1.00	0.25	0.30



Alt Model-Shift Uniqueness Test

006424561-01, P = 6.671706 Days, E = 125.249897 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	2.56	2.54	3.47	4.90	2.35	1.10	8.25	7.32	0.01	-0.92	0.21	0.94	0.24	1.97



Stellar Parameters For KIC 006424561

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6086^{+168}_{-232}	$4.435^{+0.070}_{-0.210}$	$-0.100^{+0.250}_{-0.300}$	$1.021^{+0.345}_{-0.115}$	$1.031^{+0.153}_{-0.126}$	$1.363^{+0.505}_{-0.707}$
	+3%/-4%	+2%/-5%	+250%/-300%	+34%/-11%	+15%/-12%	+37%/-52%
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 006424561-01 / KOI 4900.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-39 ± 13	$1.72^{+1.13}_{-1.00}$	1449^{+108}_{-71}	4150^{+1749}_{-753}	34^{+144}_{-23}
Alt.	-32 ± 12	$1.50^{+1.18}_{-0.91}$	1454^{+104}_{-77}	4192^{+2069}_{-813}	35^{+205}_{-25}

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

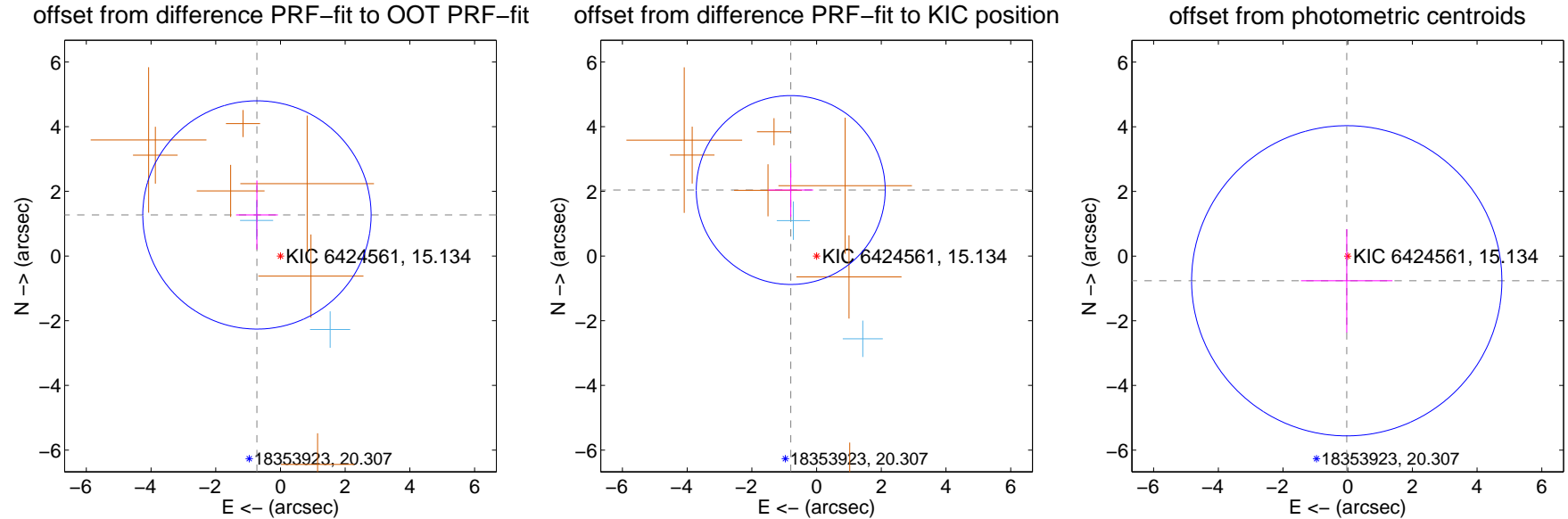
DV Centroid Data

Supplemental centroid analysis for 006424561-01. Kepler magnitude: 15.13. Transit SNR 10.03

There are 2 quarters with good PRF difference image offsets

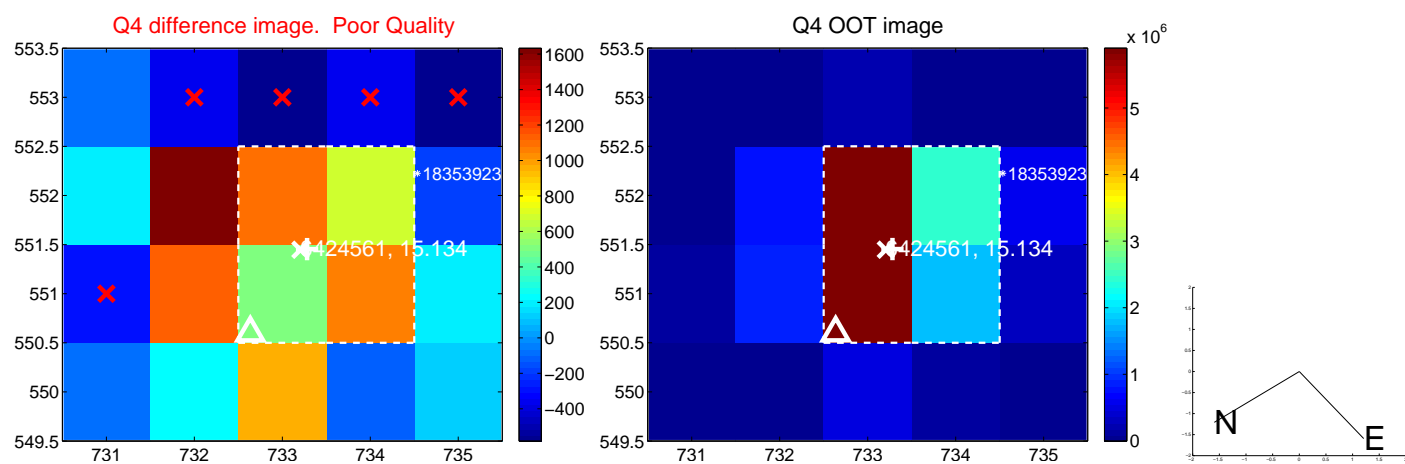
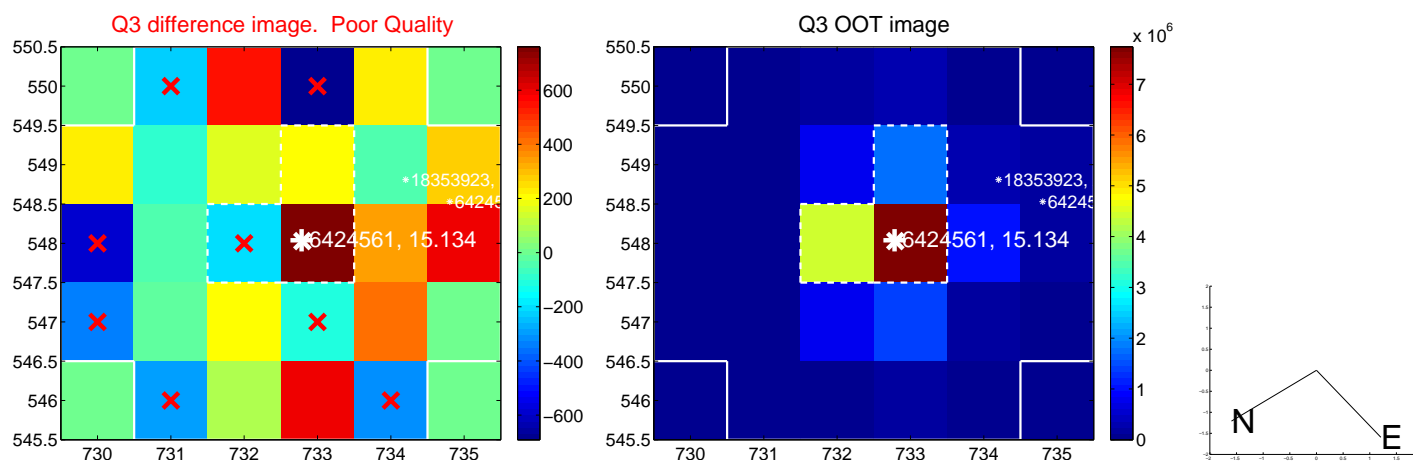
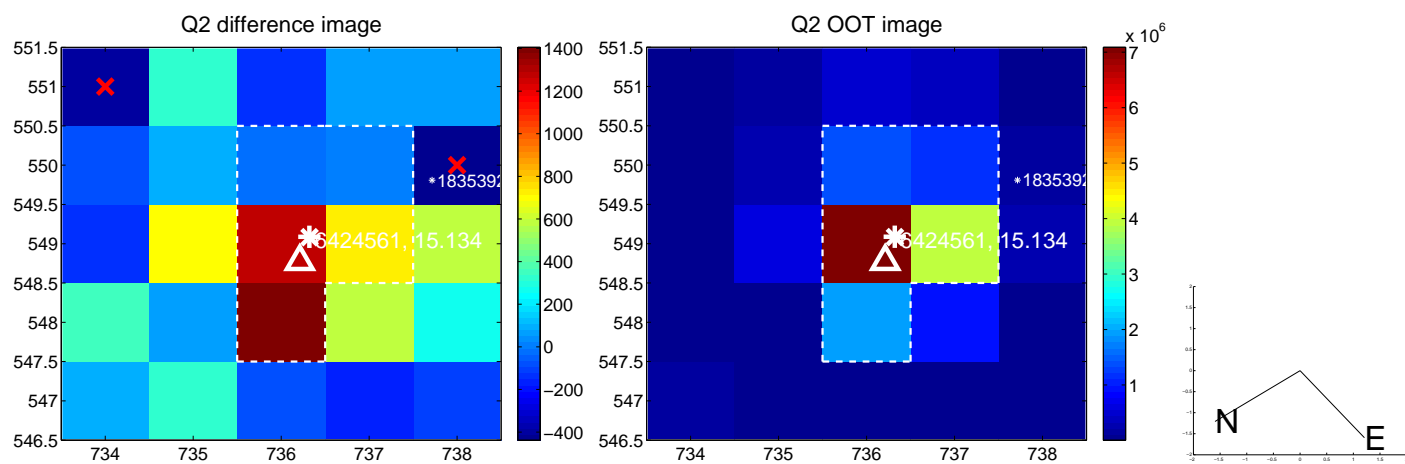
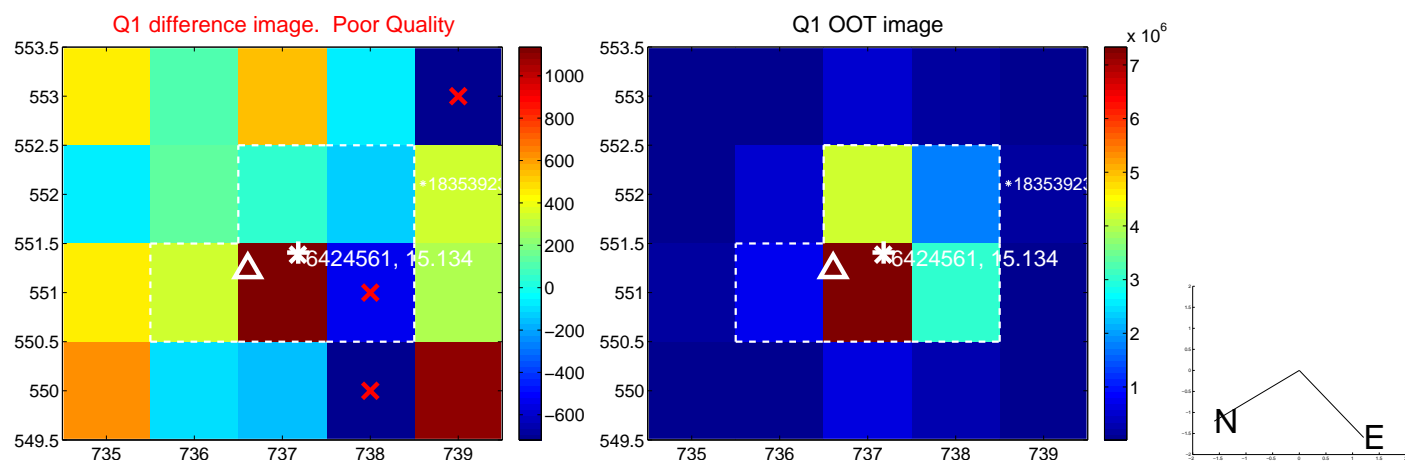
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.463 ± 1.176	1.24	0.726 ± 0.645	1.270 ± 1.065
PRF-fit source offset from KIC position	2.191 ± 0.973	2.25	0.799 ± 0.694	2.040 ± 0.829
photometric centroid source offset	0.76 ± 1.60	0.48	0.03 ± 1.42	-0.76 ± 1.60

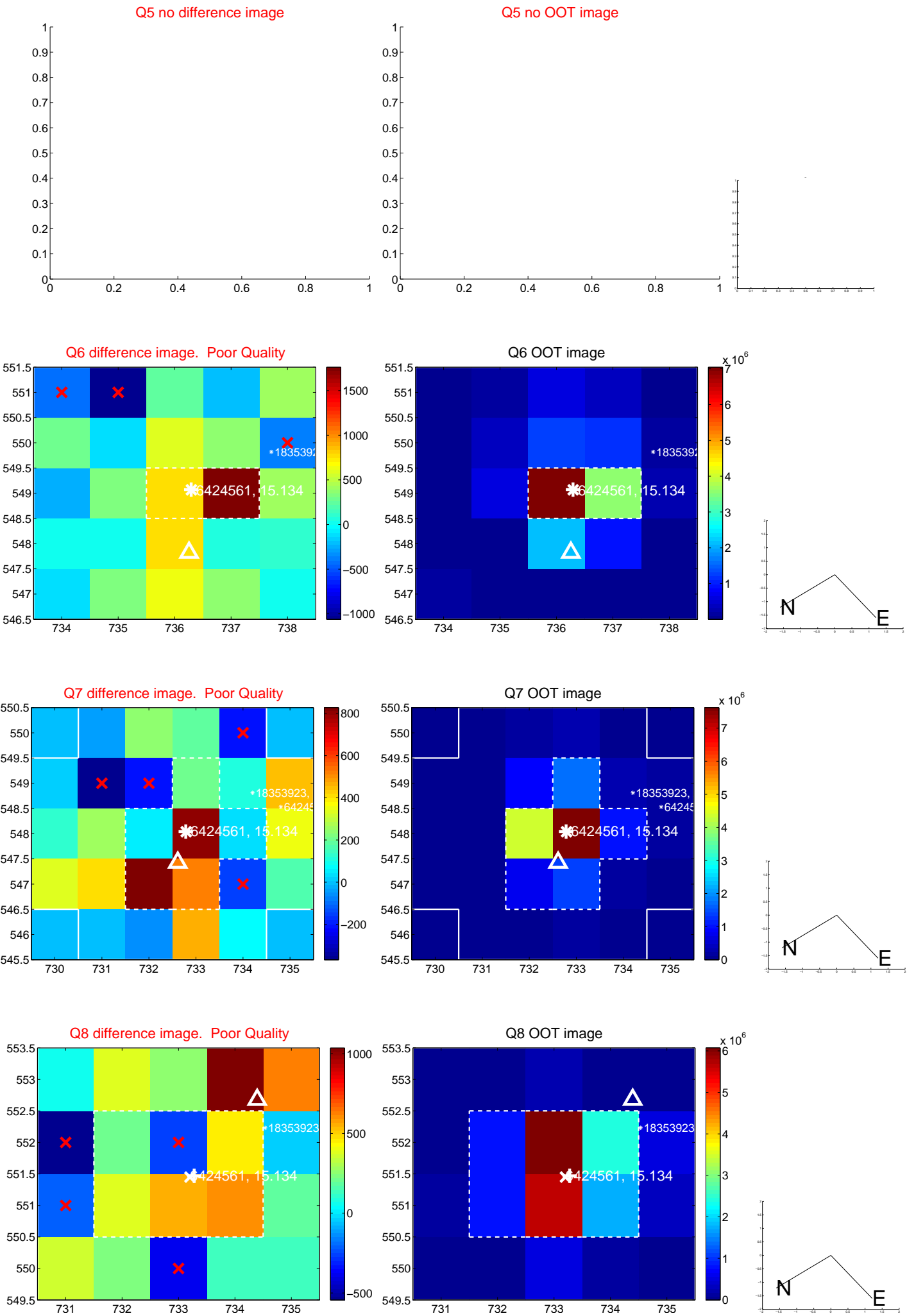


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

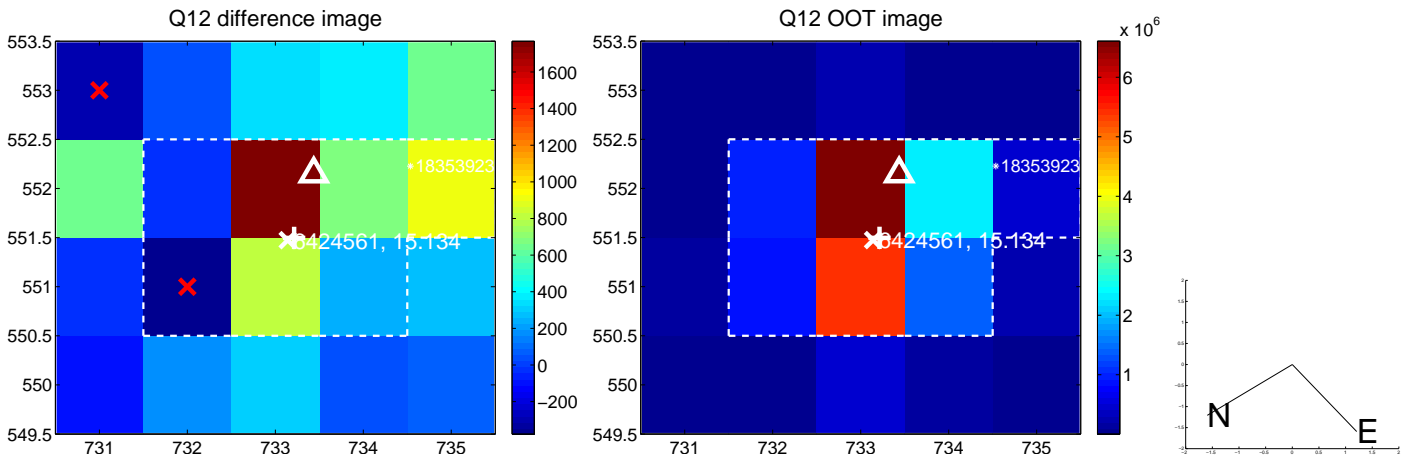
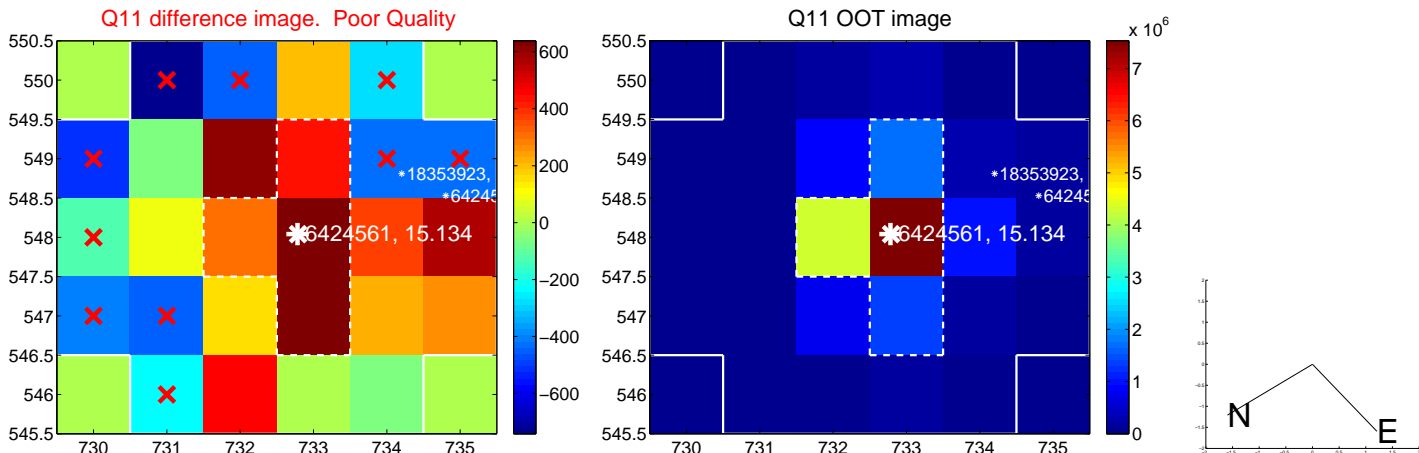
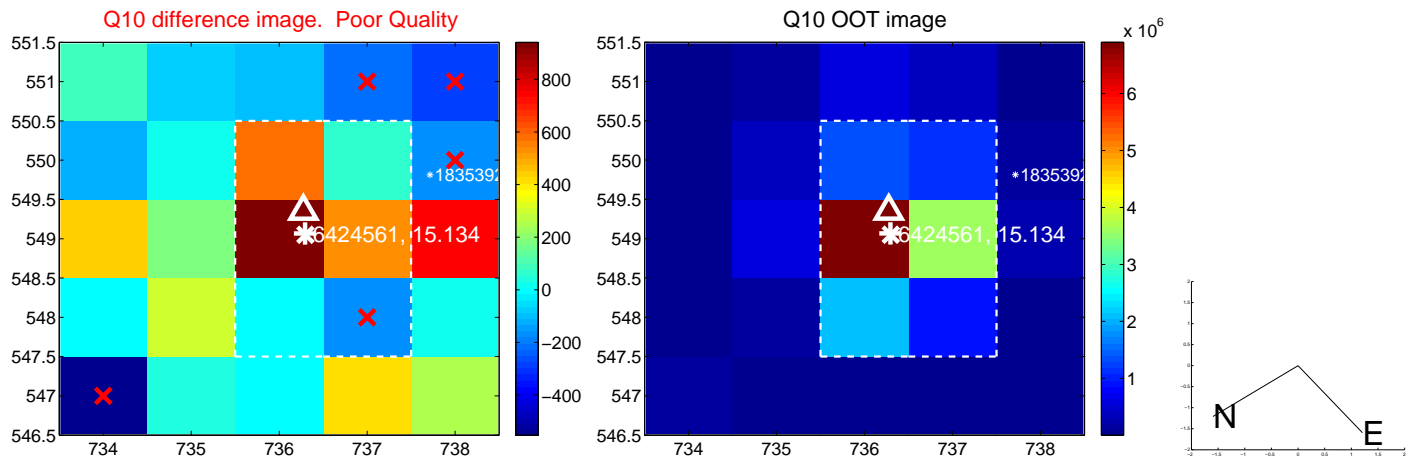
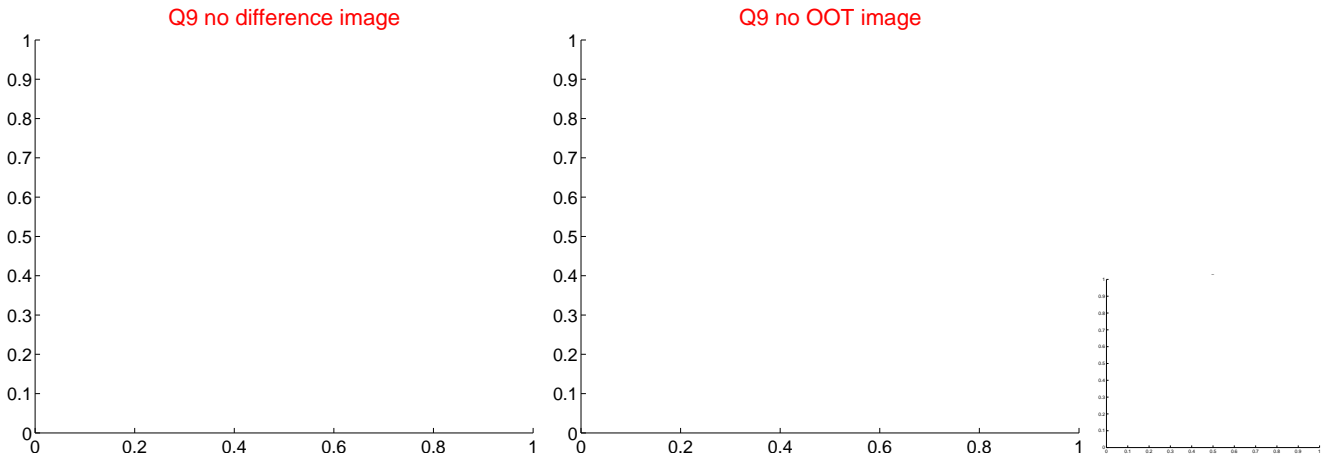
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



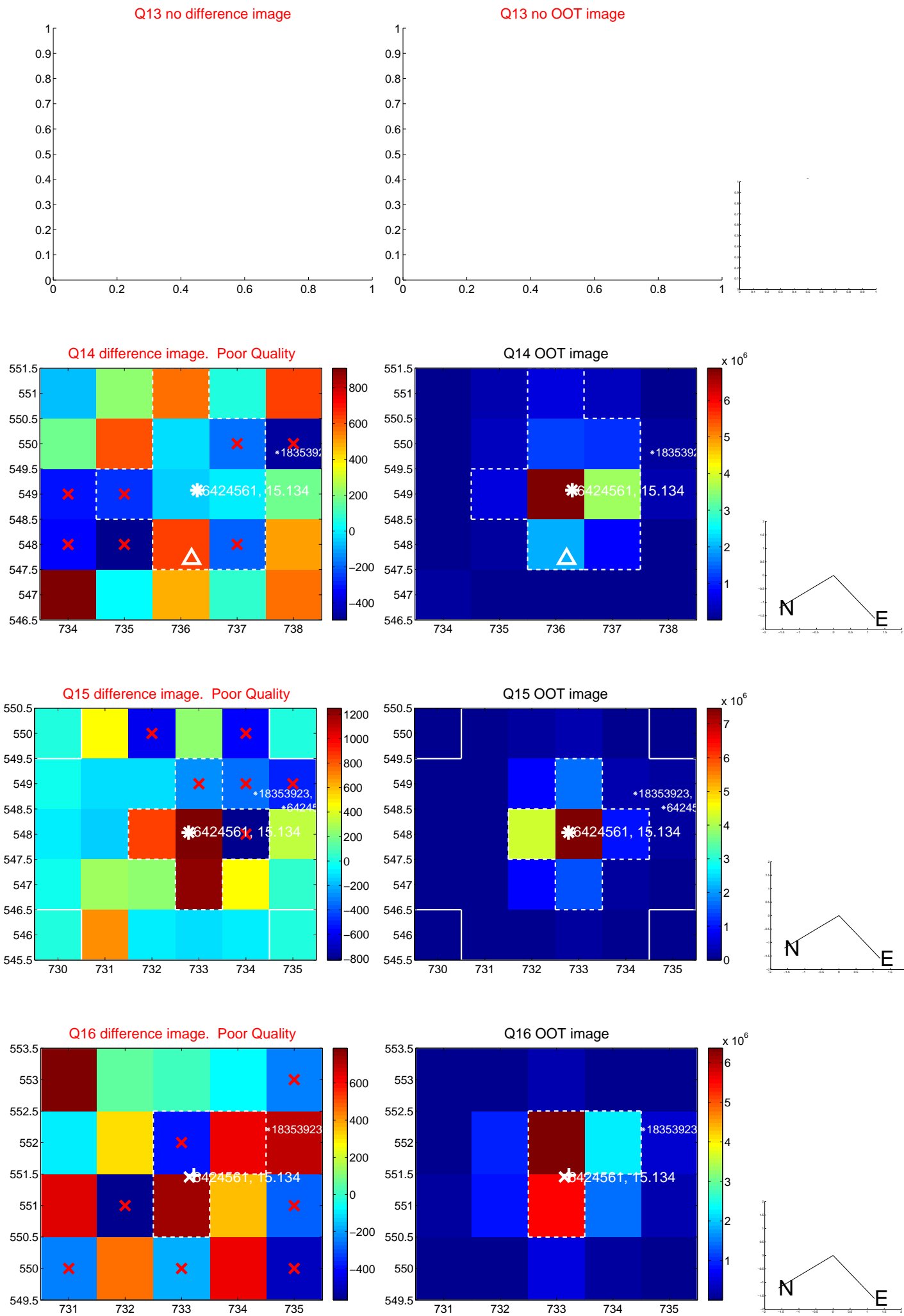
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



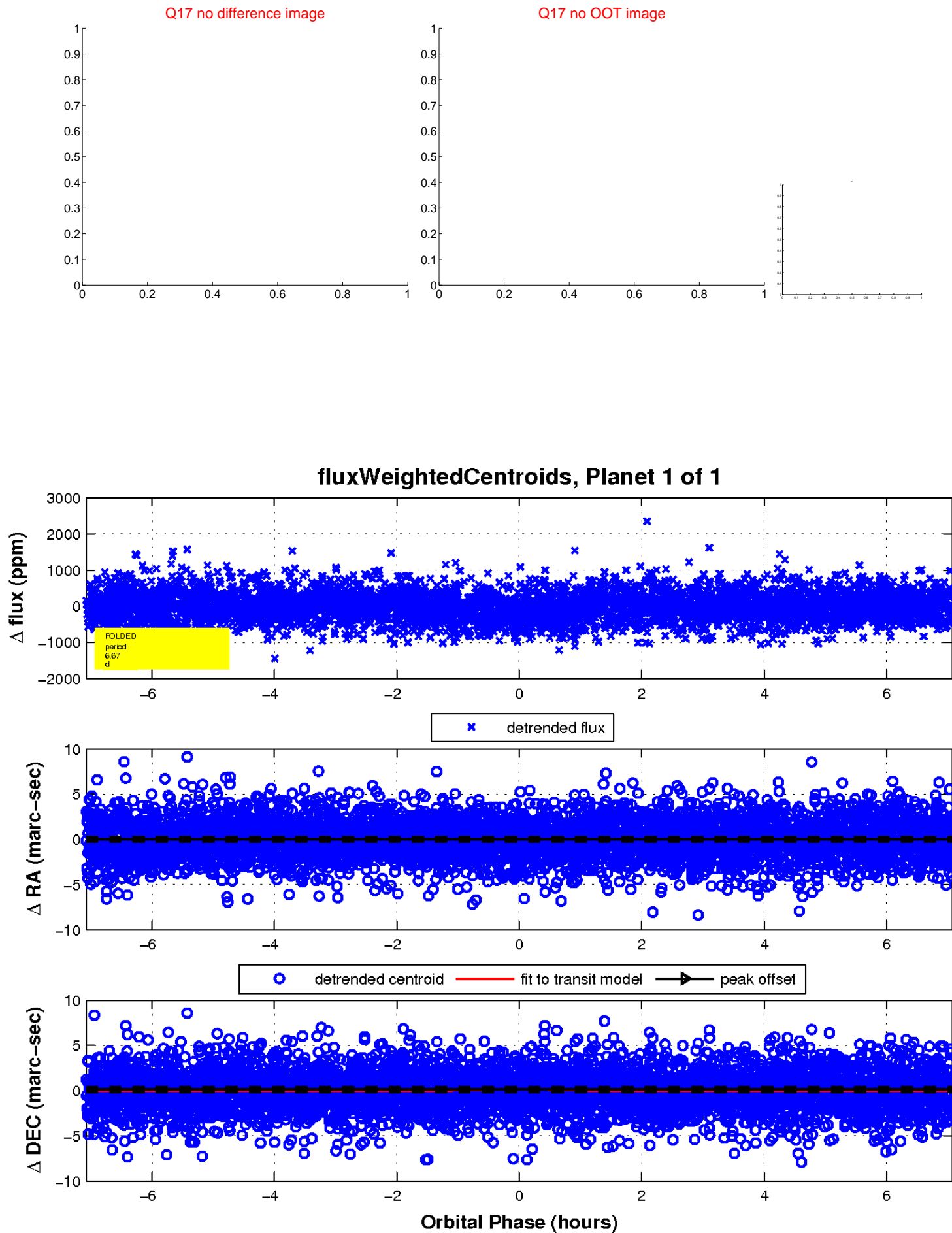
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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UKIRT Image

