

KIC 004262581

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})
004262581-01	OBS	2122.01	37.646769	161.465047	403.8	6.626	24.9	27.5	2.65	5443	6.17	90.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004262581-01	OBS	PC	1.00	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.

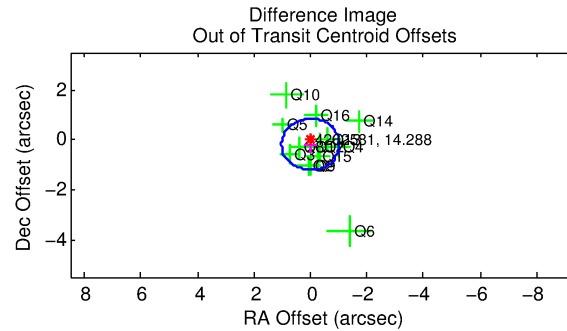
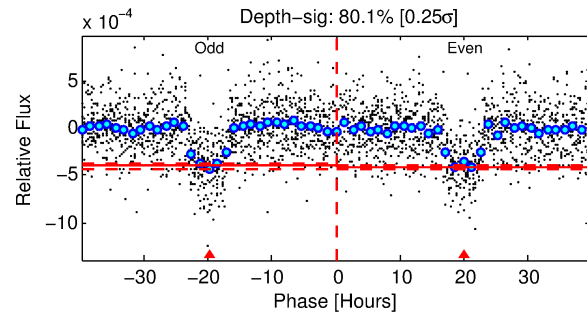
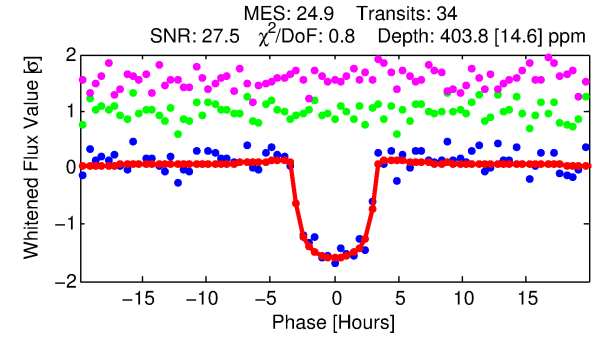
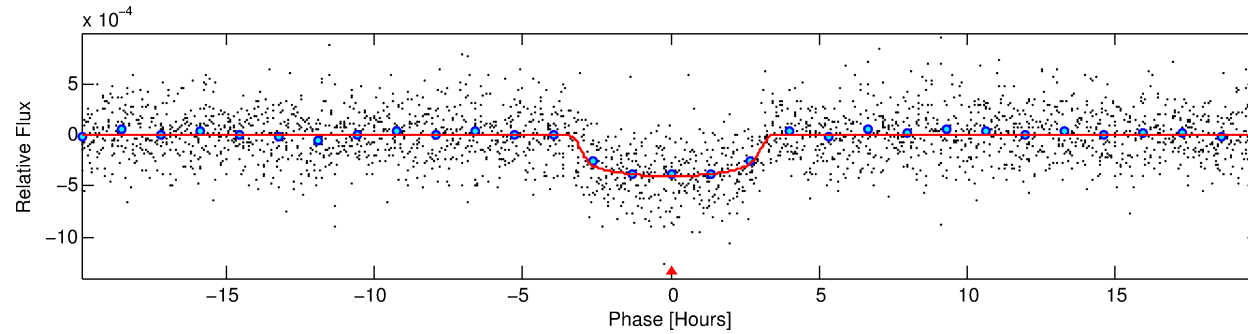
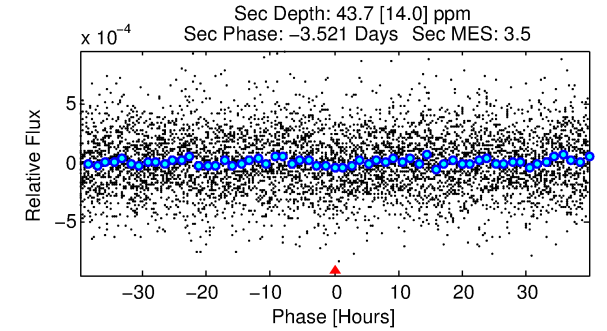
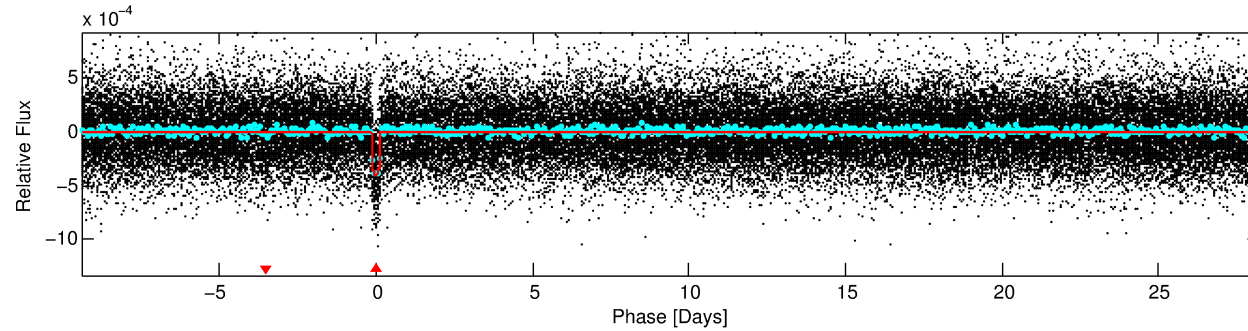
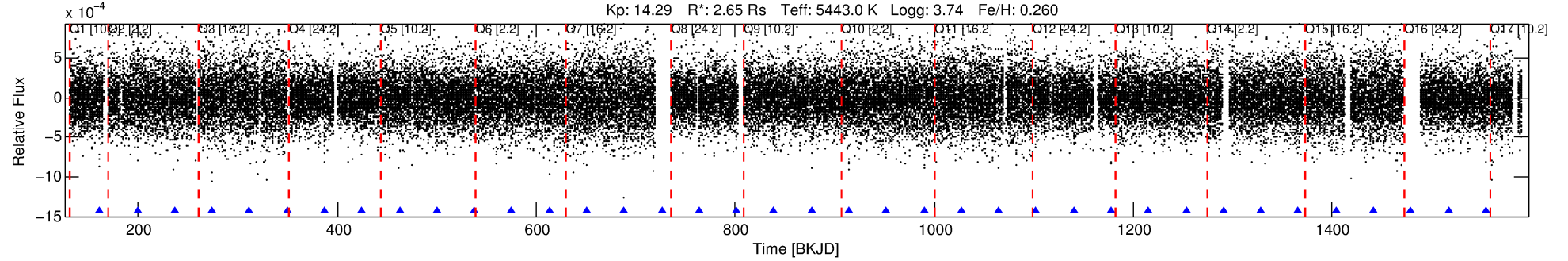
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004262581-01

No Significant Match Found

DV One-Page Summary

KIC: 4262581 Candidate: 1 of 1 Period: 37.647 d
KOI: K02122.01 Corr: 0.961



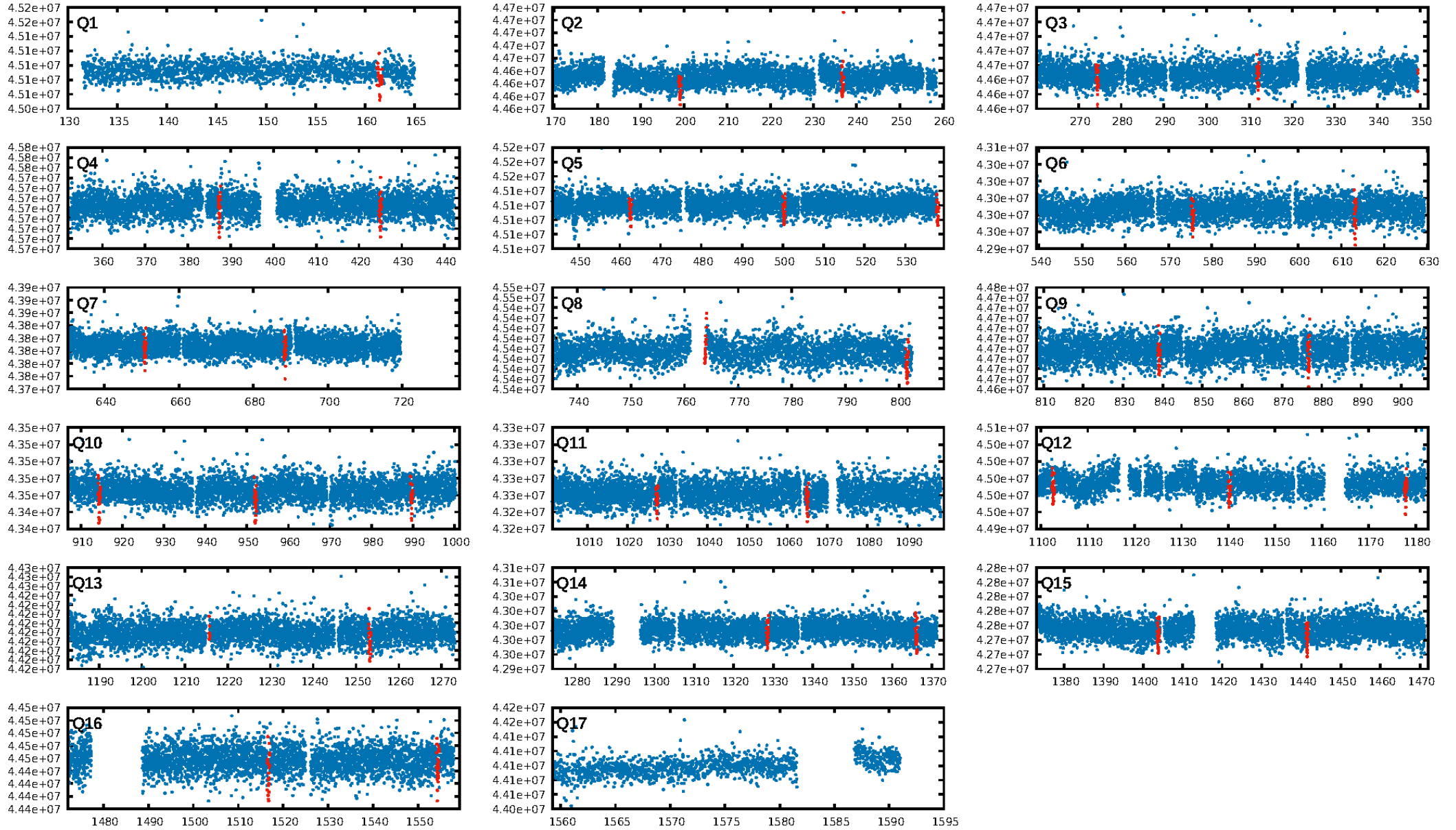
DV Fit Results:

Period = 37.64677 [0.00022] d
Epoch = 161.4650 [0.0046] BKJD
Rp/R* = 0.0213 [0.0026]
a/R* = 24.03 [12.07]
b = 0.86 [0.16]
Seff = 90.99 [42.00]
Teq = 788 [91] K
Rp = 6.17 [2.31] Re
a = 0.2465 [0.0756] AU
Ag = 38.37 [23.41] [1.60σ]
Teffp = 3030 [310] K [6.94σ]

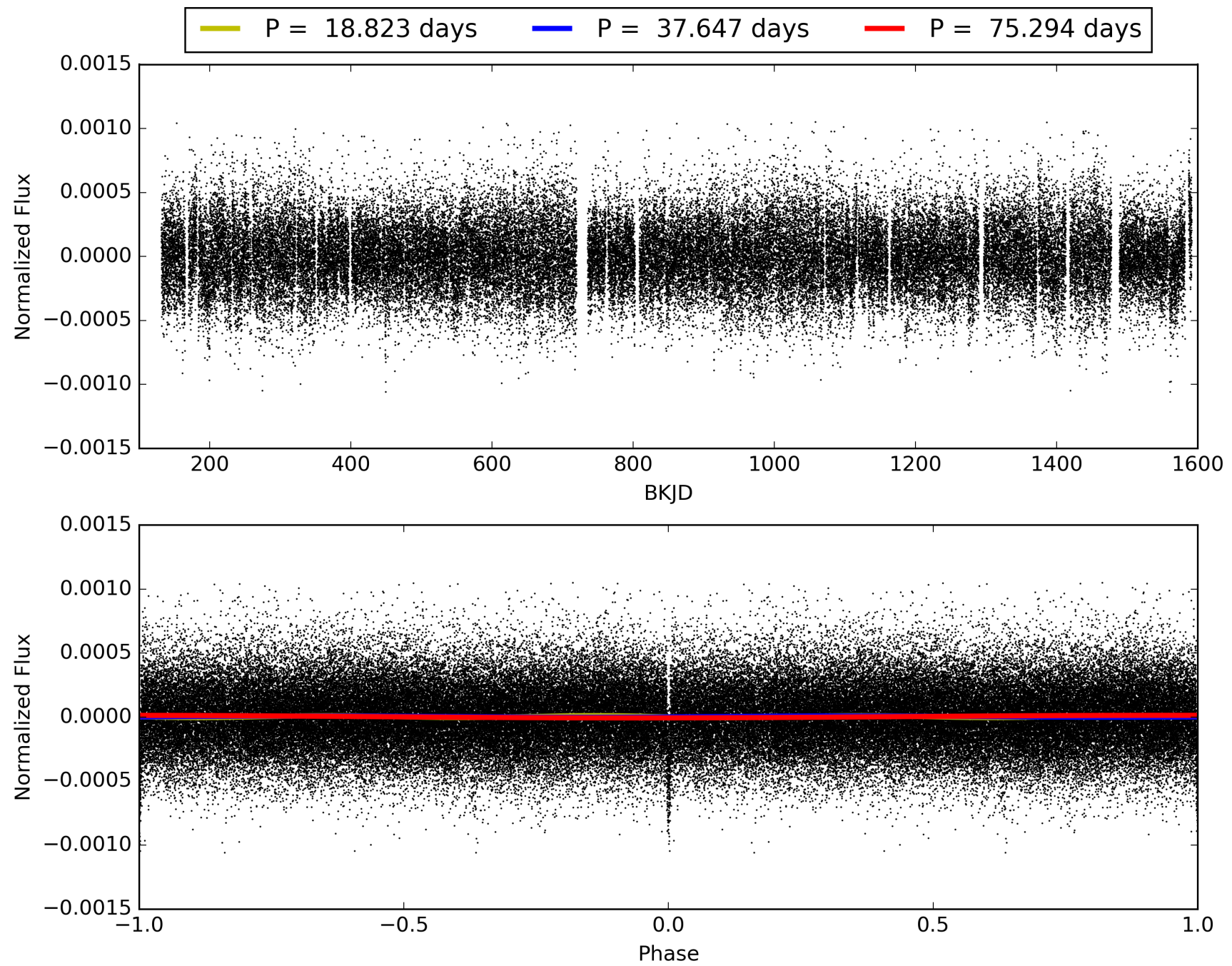
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.21e-130
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 8.132
Centroid-sig: 76.1%
Centroid-so: 0.216 arcsec [0.39σ]
OotOffset-rm: 0.185 arcsec [0.54σ]
KicOffset-rm: 0.170 arcsec [0.58σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 004262581-01, PDC Light Curves

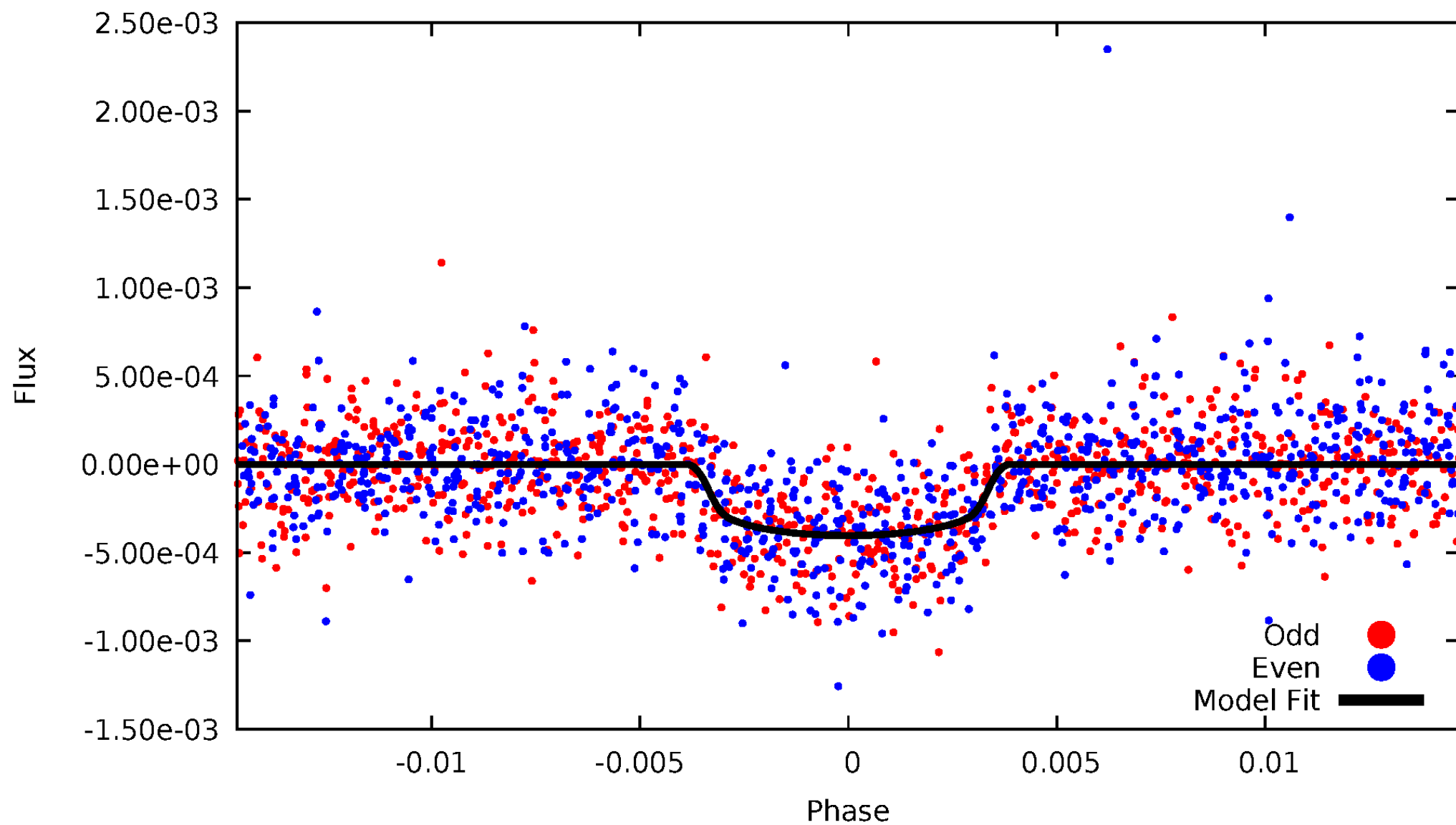


TCE 004262581-01



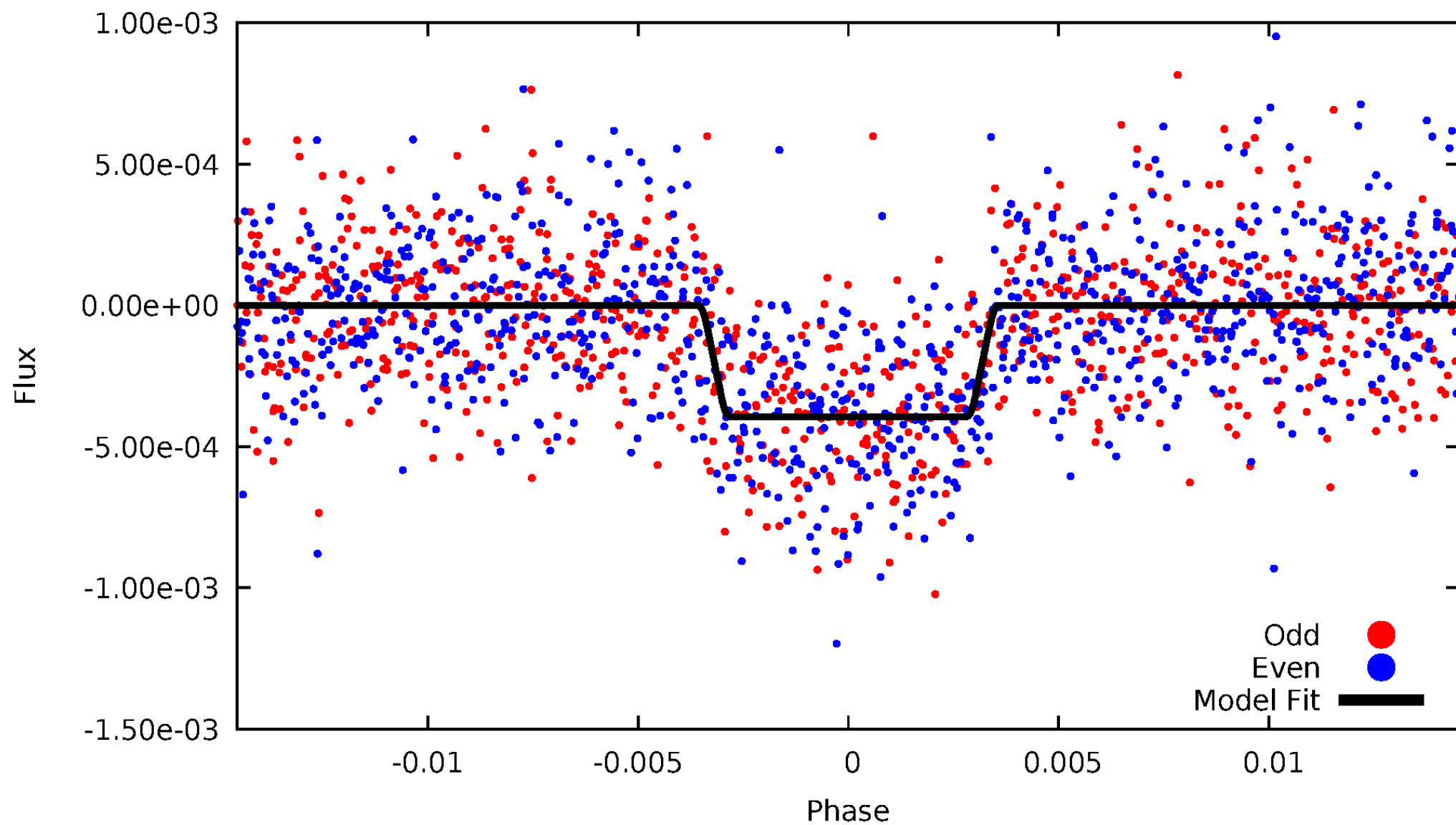
DV Odd/Even

TCE 004262581-01

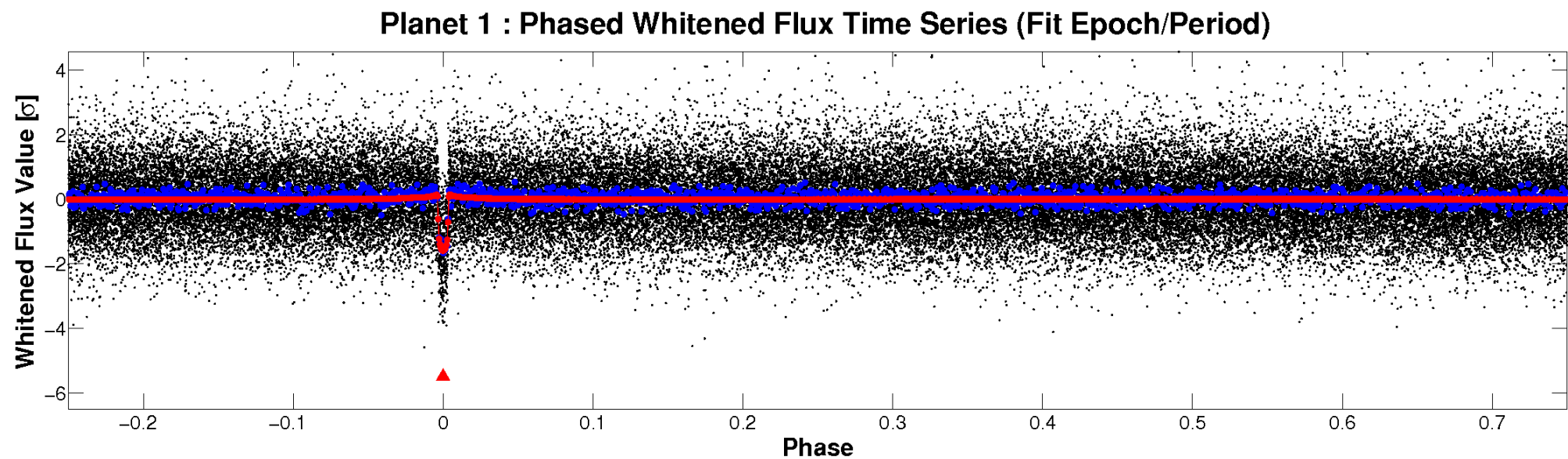
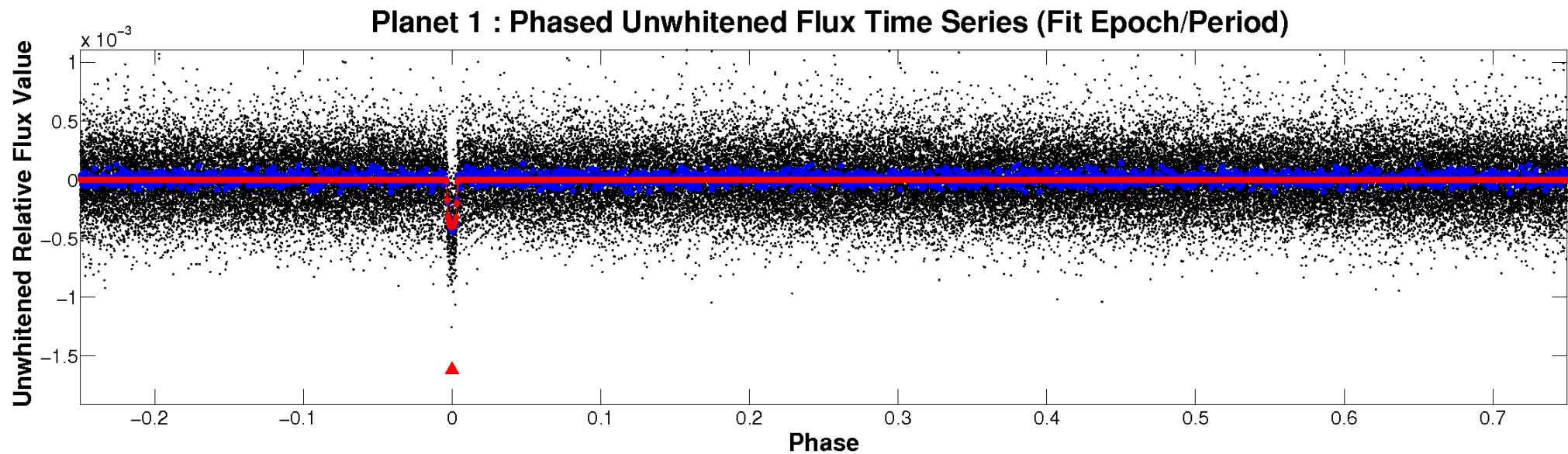


ALT Odd/Even

TCE 004262581-01

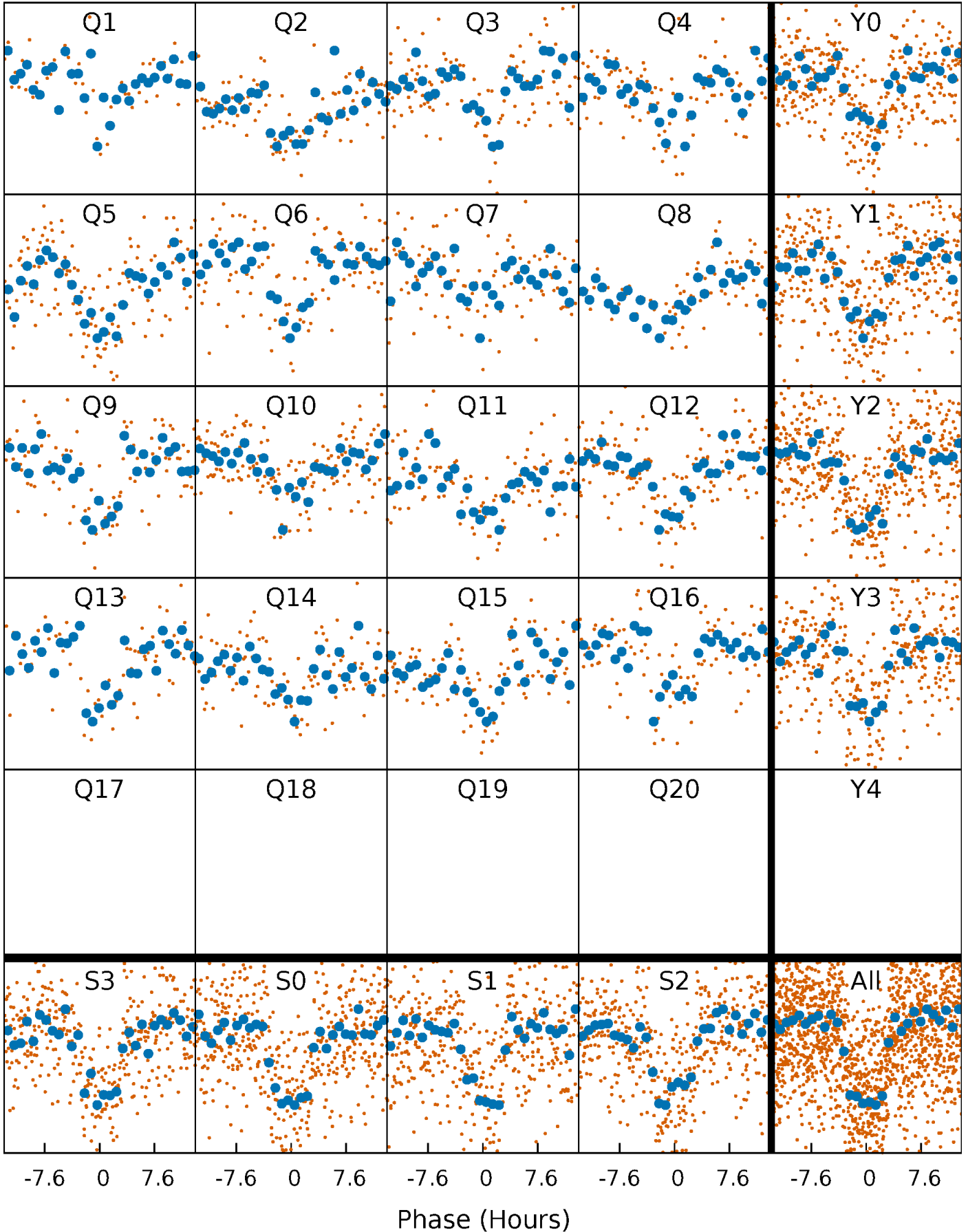


Non-Whitened Vs. Whitened Light Curve



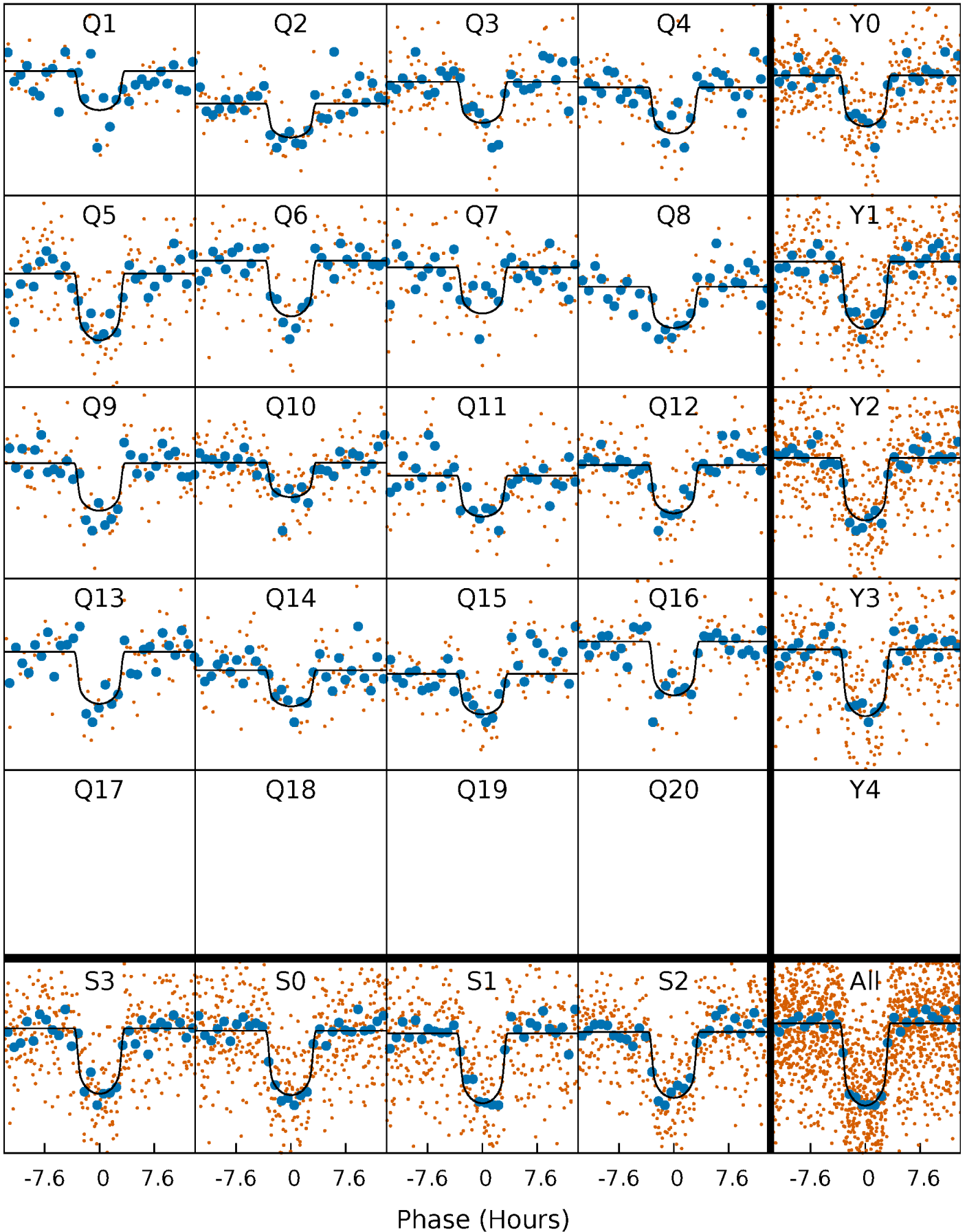
PDC Quarter-Phased Transit Curves

TCE 004262581-01 P= 37.646769 Days $T_0=161.465047$ (BKJD)



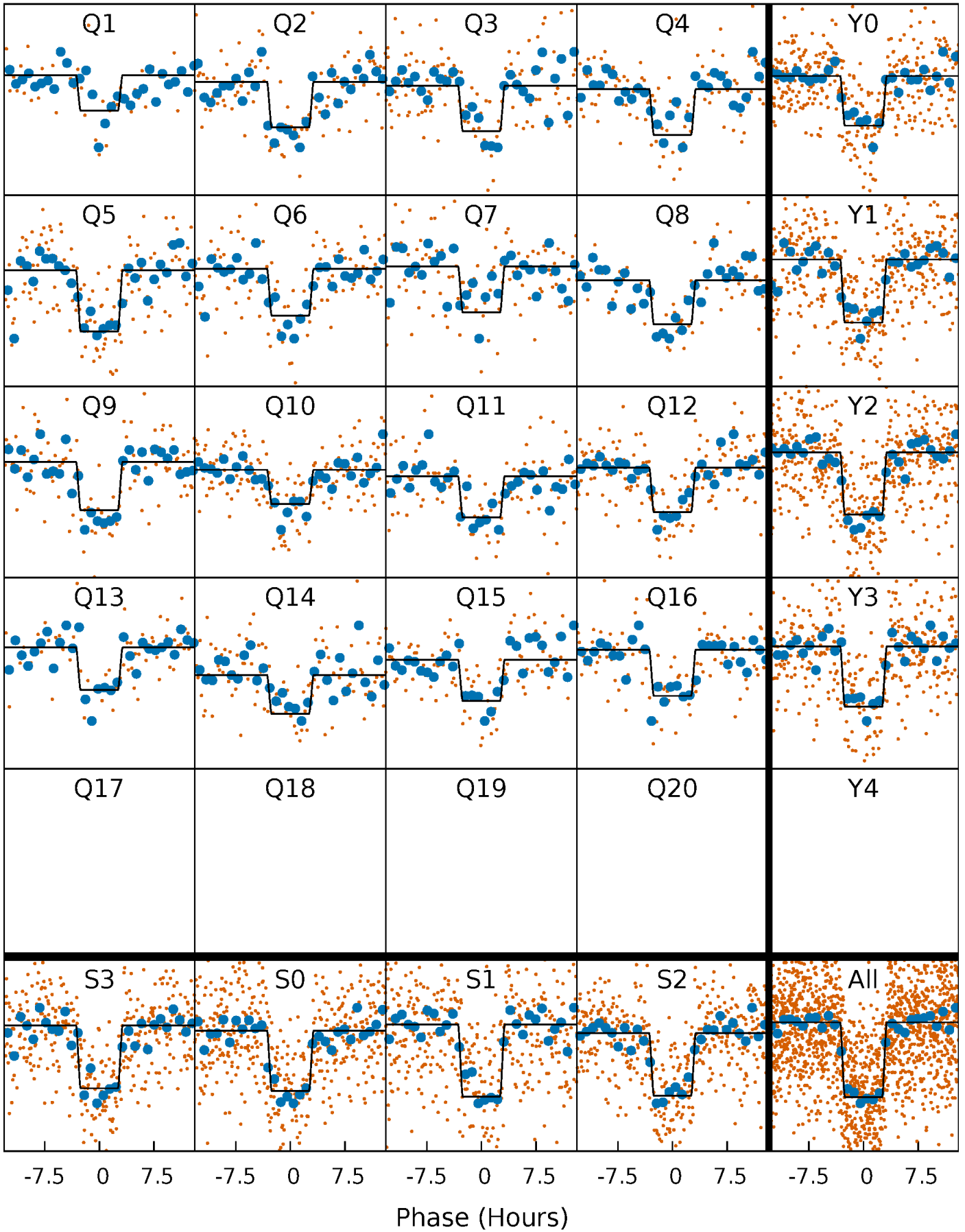
DV Quarter-Phased Transit Curves

TCE 004262581-01 P= 37.646769 Days $T_0=161.465047$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

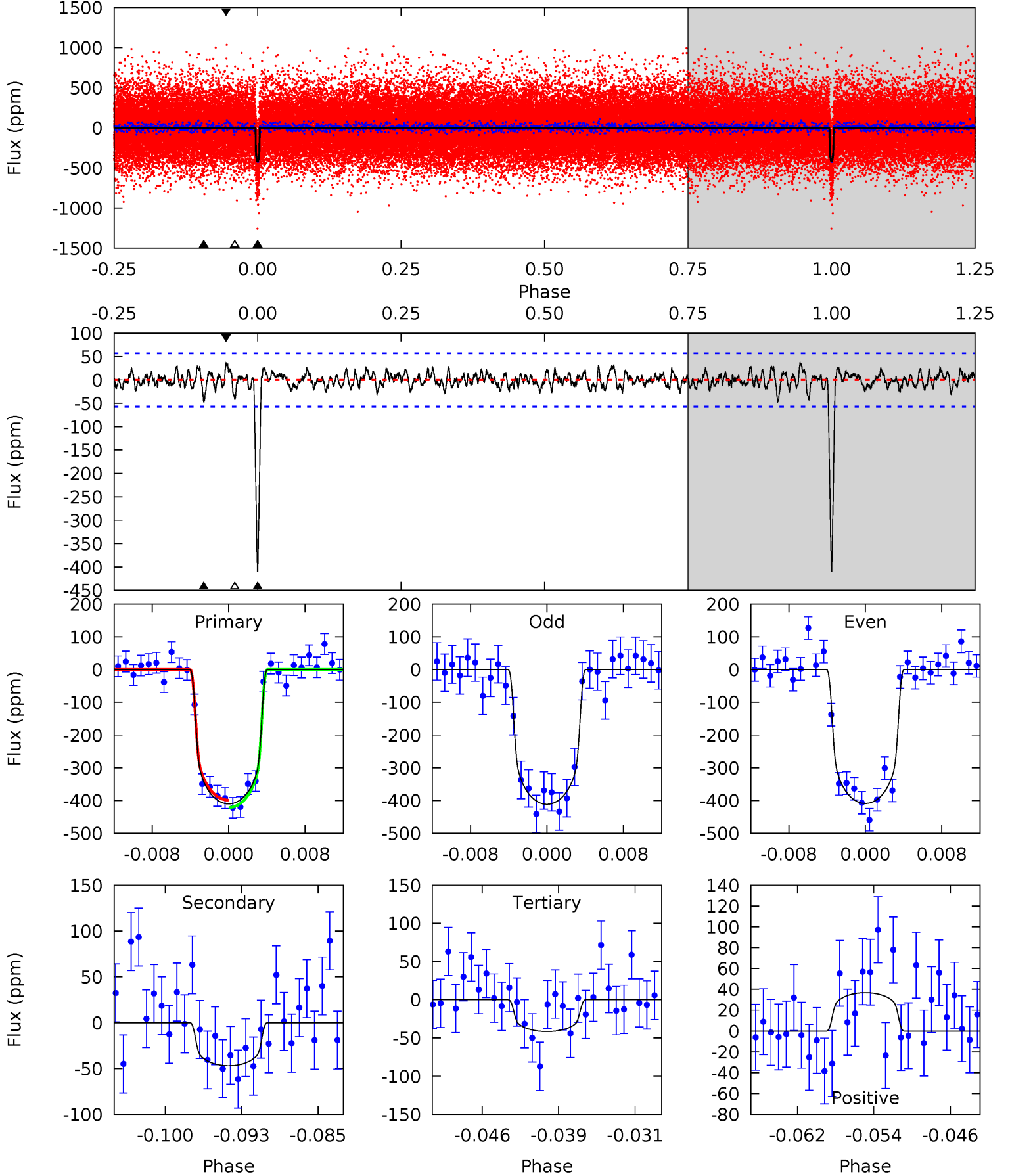
TCE 004262581-01 P= 37.646524 Days $T_0=161.469790$ (BKJD)



DV Model-Shift Uniqueness Test

004262581-01, $P = 37.646769$ Days, $E = 123.818278$ Days

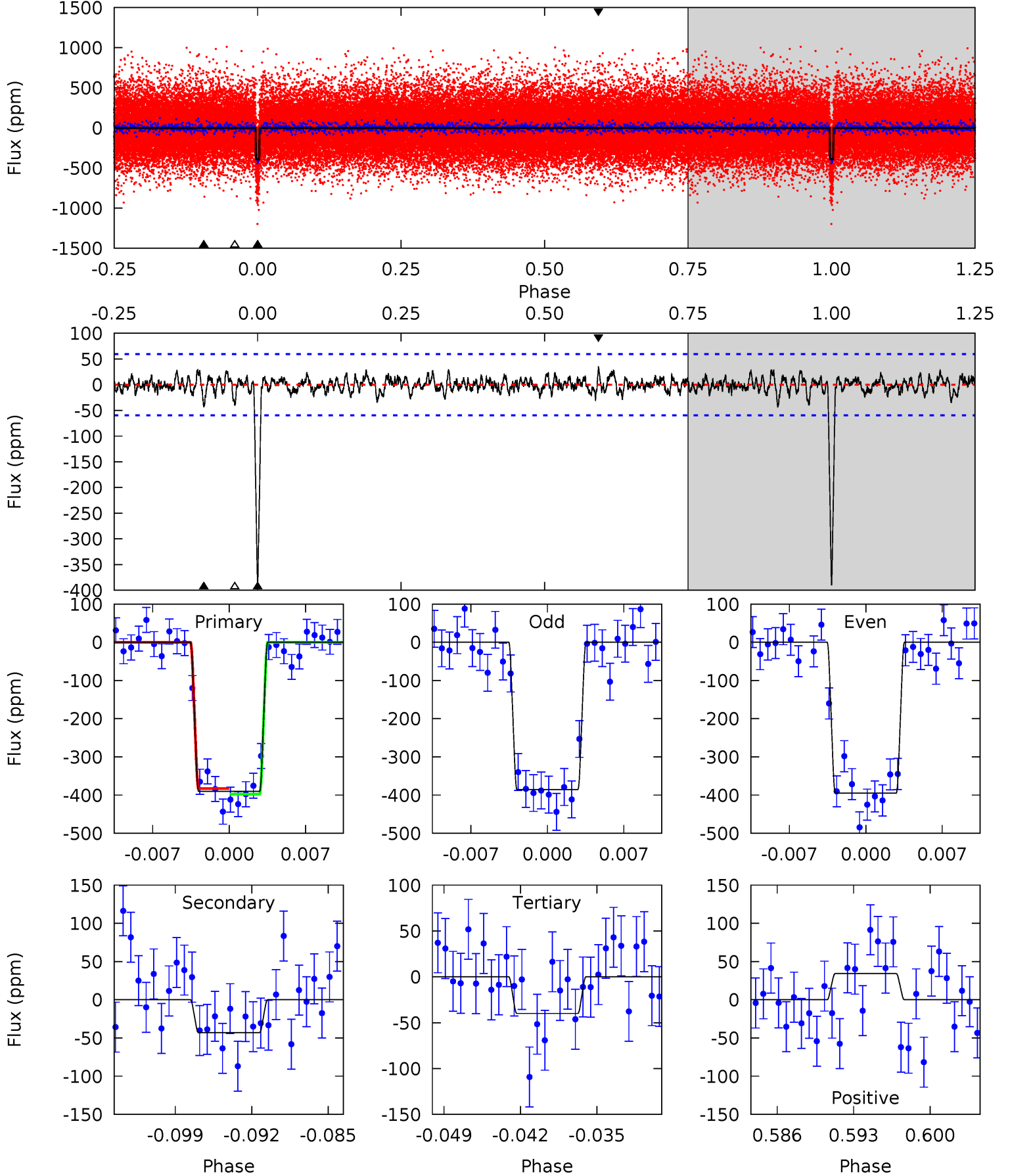
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.5	4.17	3.69	3.27	5.08	2.66	1.09	32.8	33.2	0.48	0.91	0.11	1.00	0.08	1.01



Alt Model-Shift Uniqueness Test

004262581-01, $P = 37.646524$ Days, $E = 123.823266$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	3.67	3.41	2.93	5.09	2.69	0.94	30.0	30.4	0.25	0.74	0.41	0.99	0.08	0.62



Stellar Parameters For KIC 004262581

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5443^{+76}_{-87}	$3.740^{+0.255}_{-0.085}$	$0.260^{+0.150}_{-0.150}$	$2.652^{+0.402}_{-0.939}$	$1.410^{+0.149}_{-0.348}$	$0.106^{+0.190}_{-0.031}$
	+1%/-2%	+7%/-2%	+58%/-58%	+15%/-35%	+11%/-25%	+178%/-29%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 004262581-01 / KOI 2122.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-47 ± 11	$5.99^{+1.03}_{-1.18}$	1091^{+45}_{-85}	3537^{+203}_{-200}	44^{+25}_{-15}
Alt.	-43 ± 12	$5.49^{+1.04}_{-1.09}$	1090^{+47}_{-88}	3551^{+240}_{-218}	46^{+30}_{-17}

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

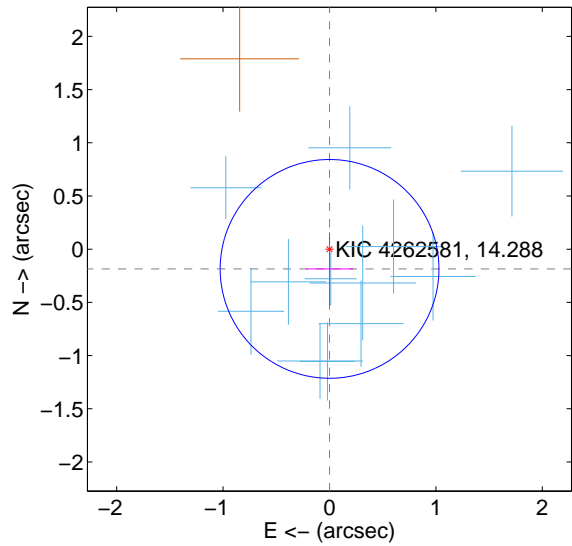
Supplemental centroid analysis for 004262581-01. Kepler magnitude: 14.29. Transit SNR 27.54

There are 12 quarters with good PRF difference image offsets

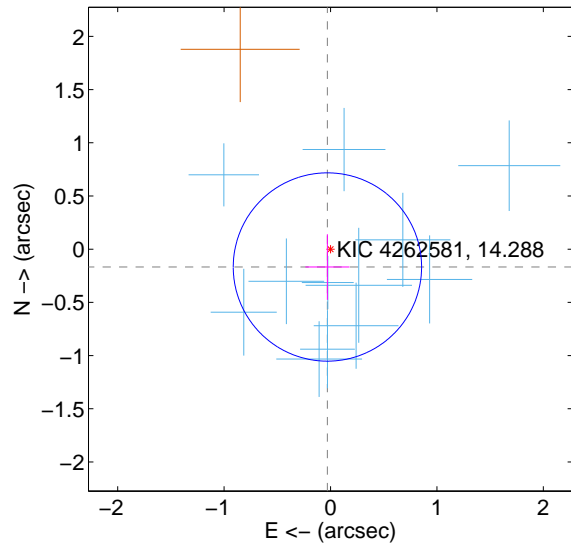
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.343	0.54	-0.001 ± 0.224	-0.185 ± 0.342
PRF-fit source offset from KIC position	0.170 ± 0.295	0.58	0.029 ± 0.207	-0.168 ± 0.308
photometric centroid source offset	0.22 ± 0.56	0.39	-0.18 ± 0.56	0.11 ± 0.56

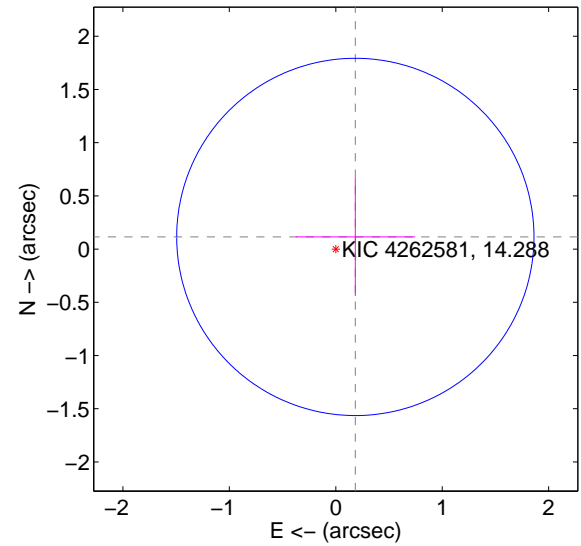
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

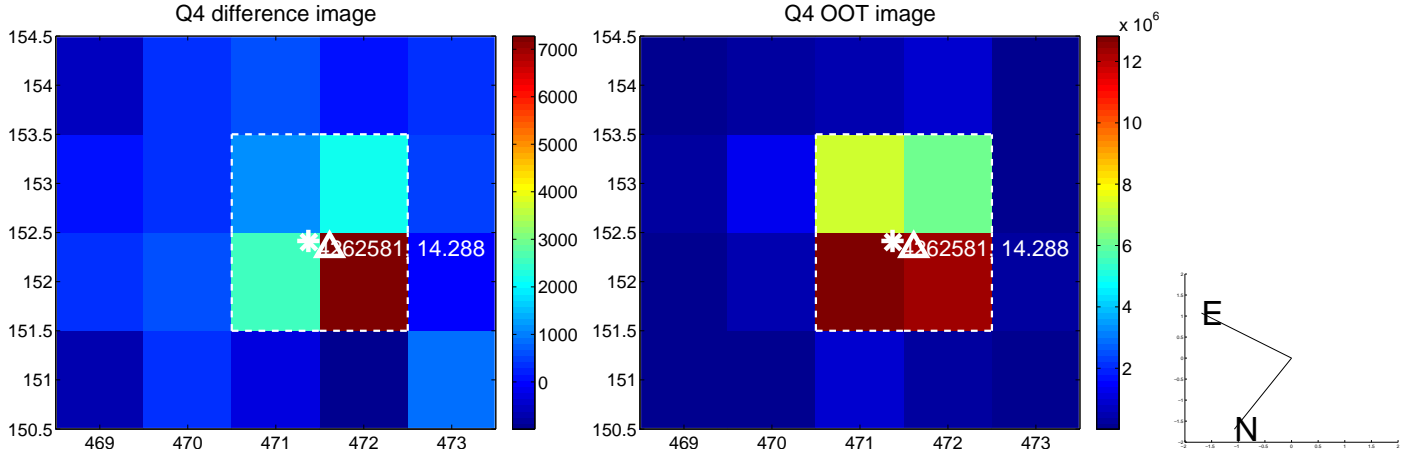
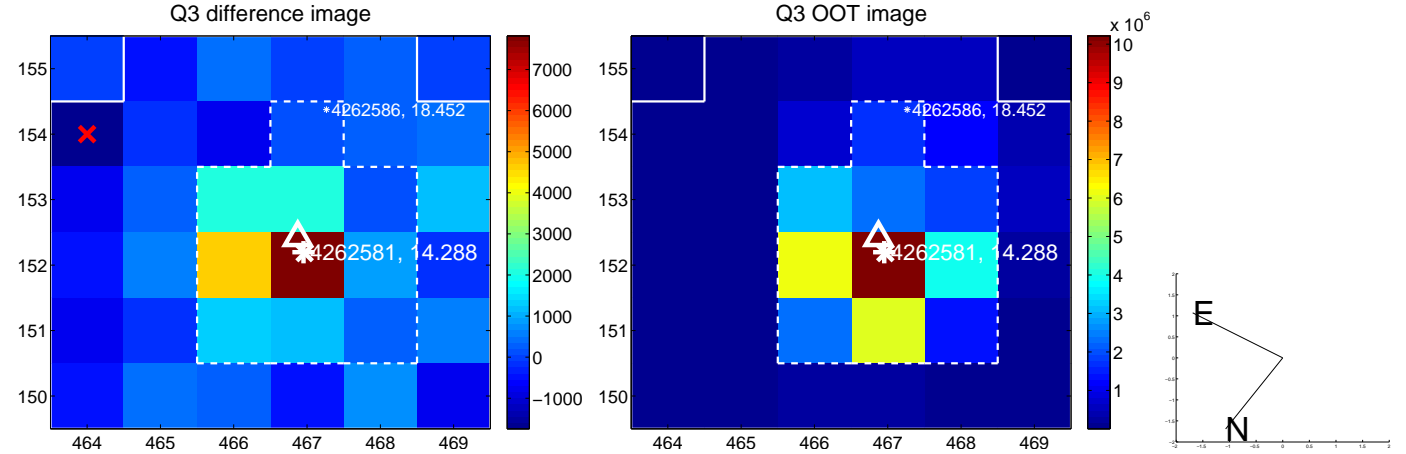
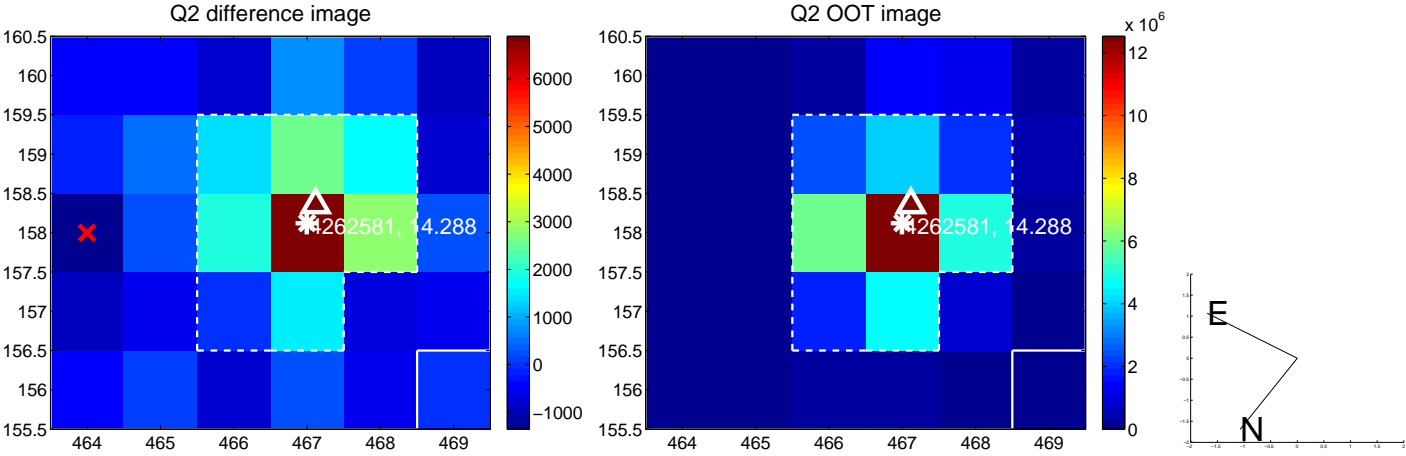
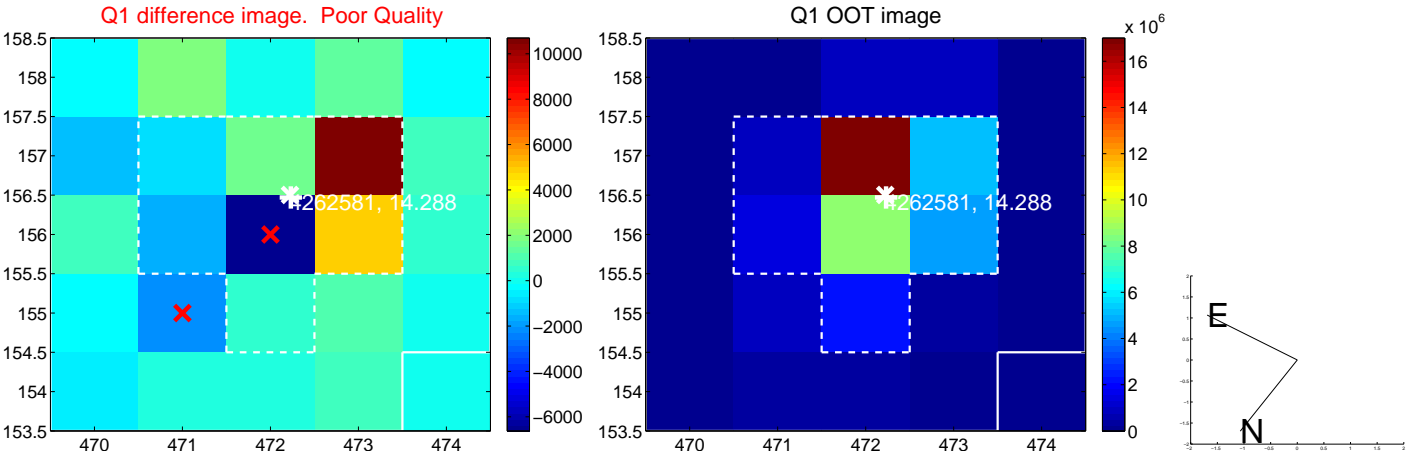


offset from photometric centroids

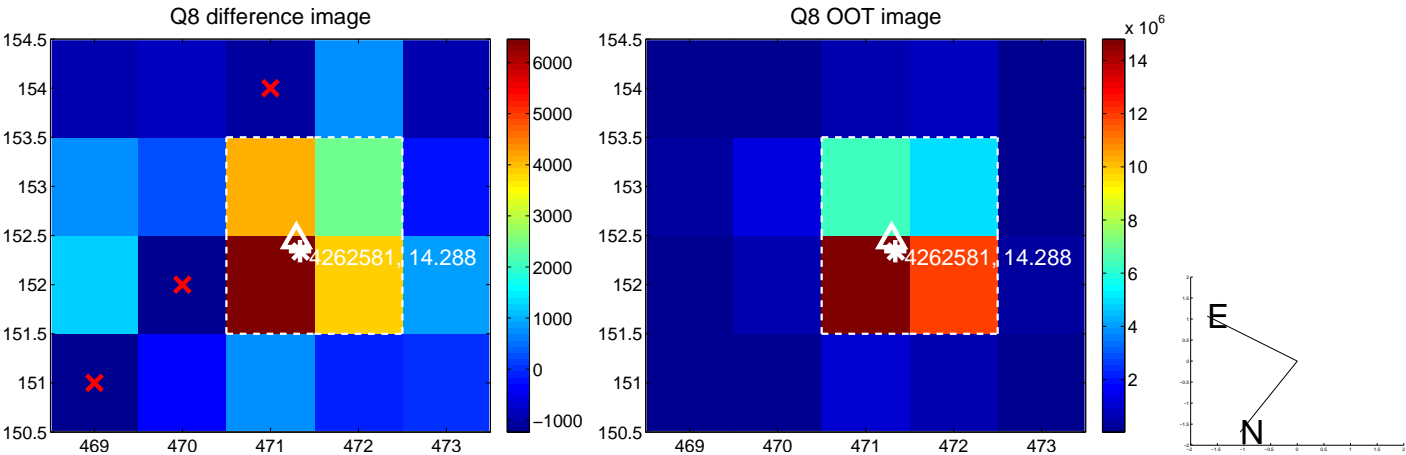
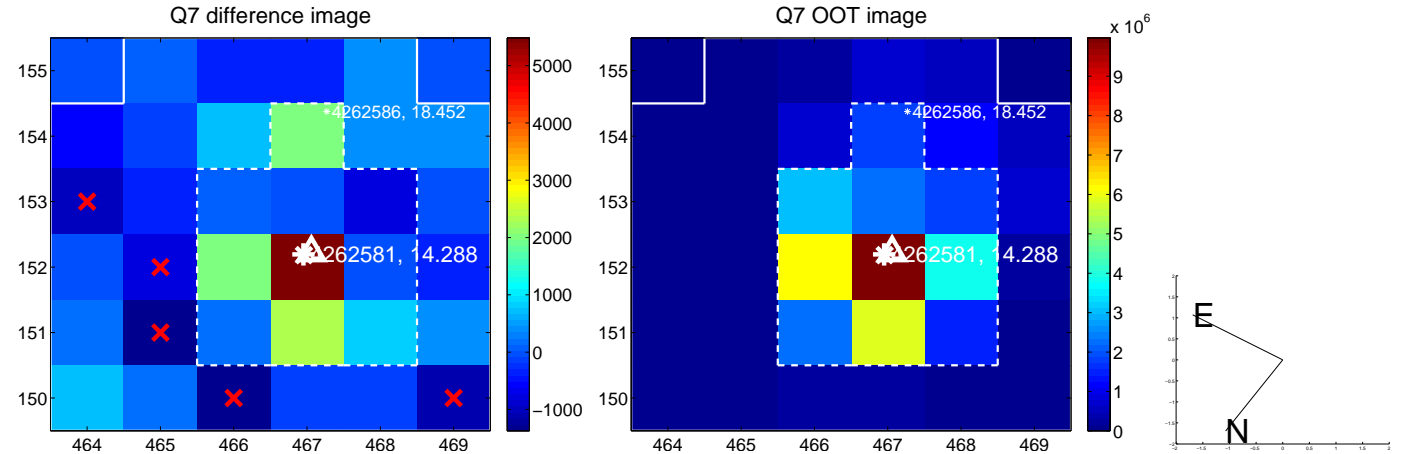
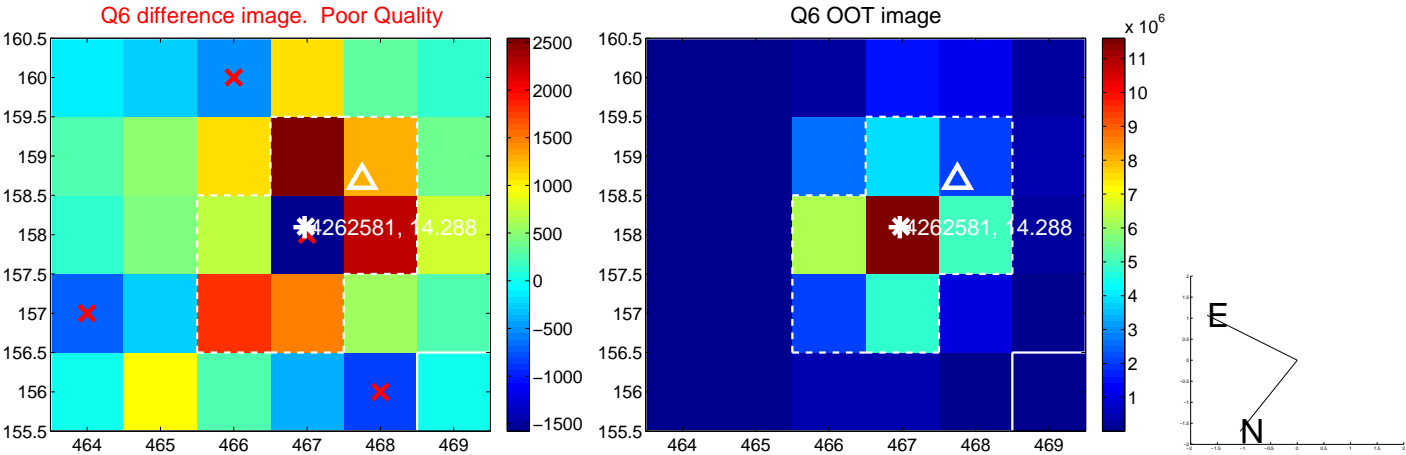
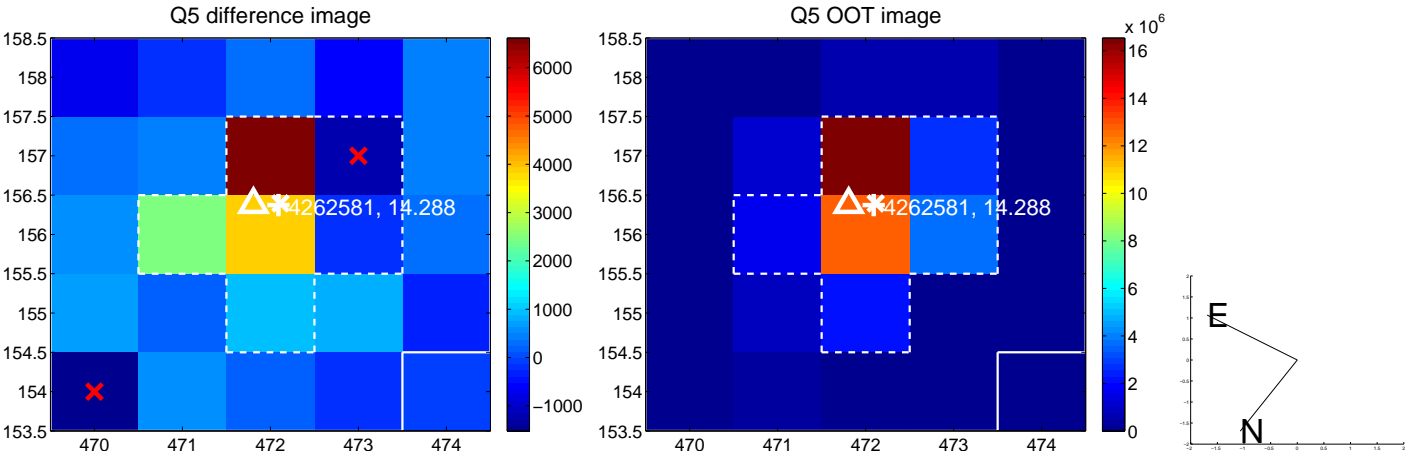


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

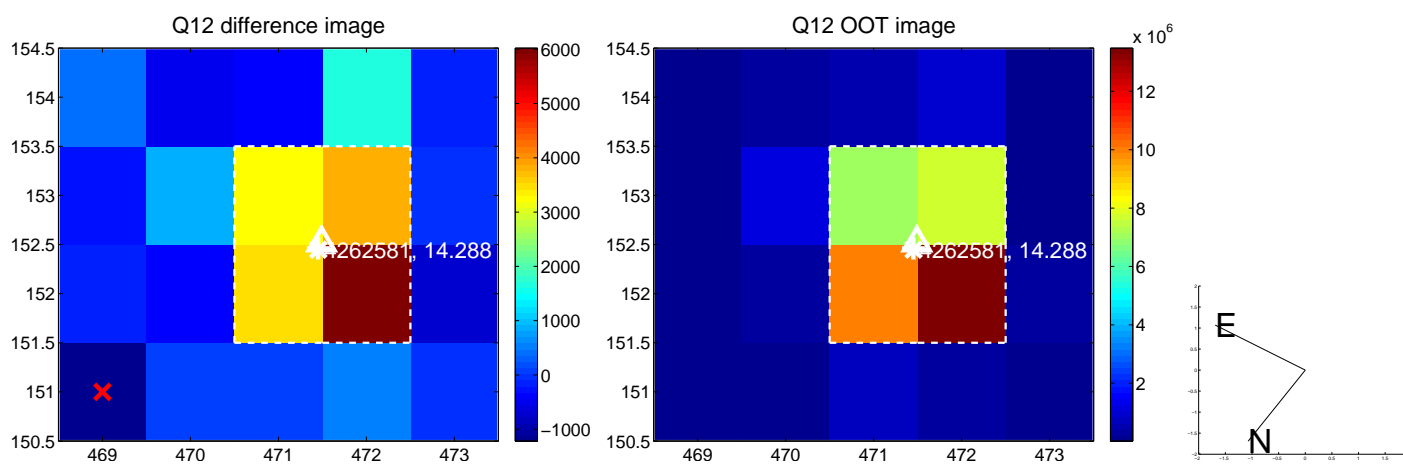
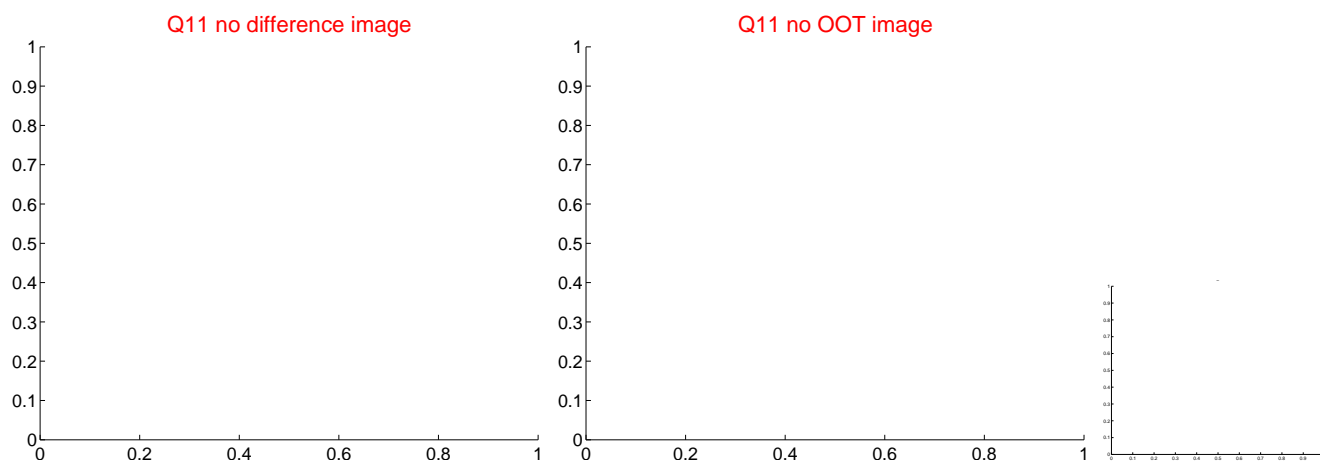
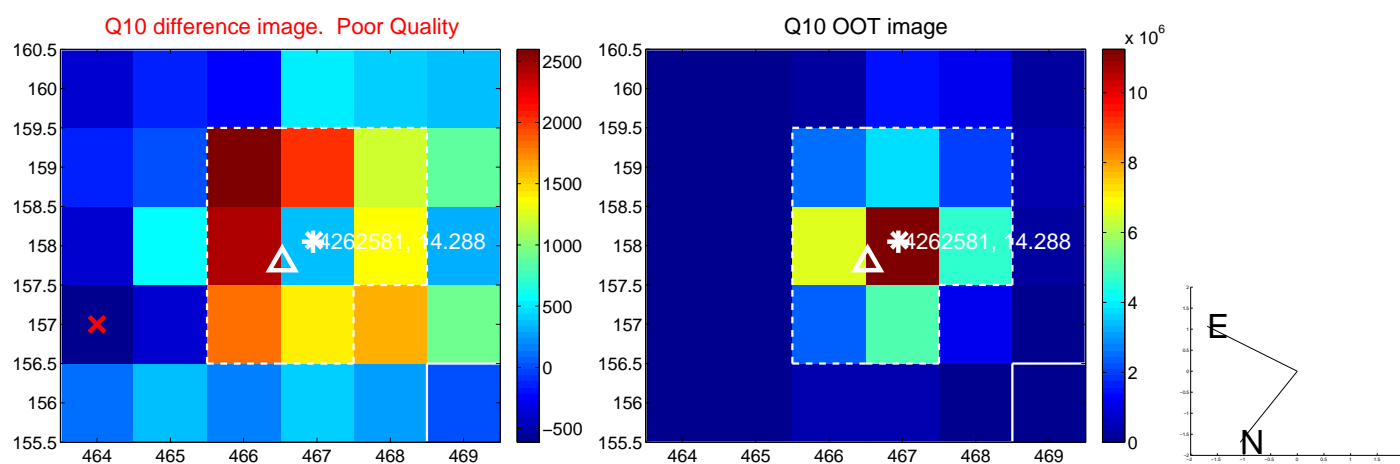
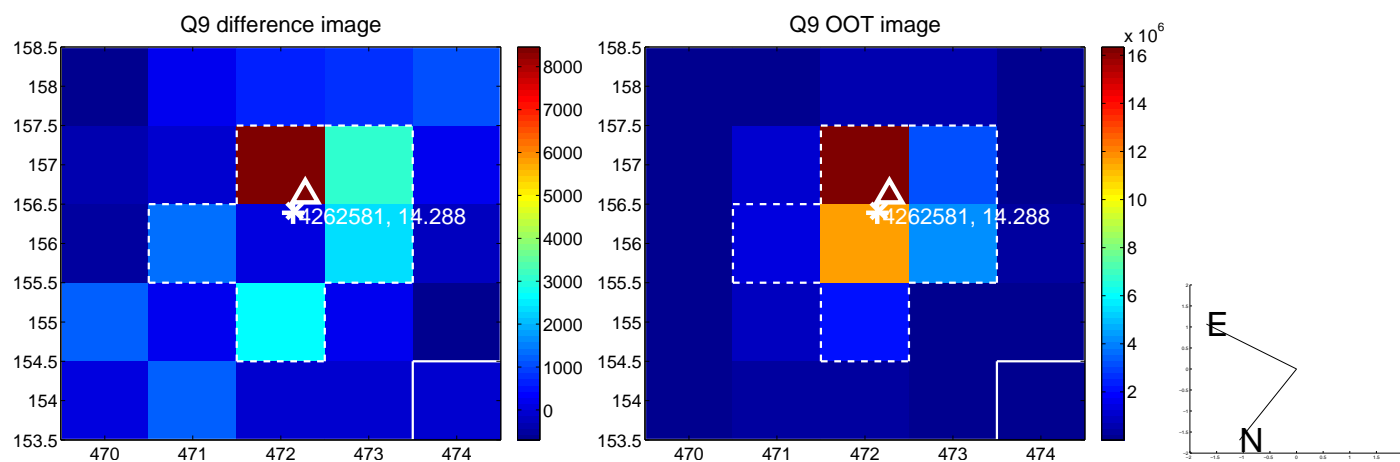
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



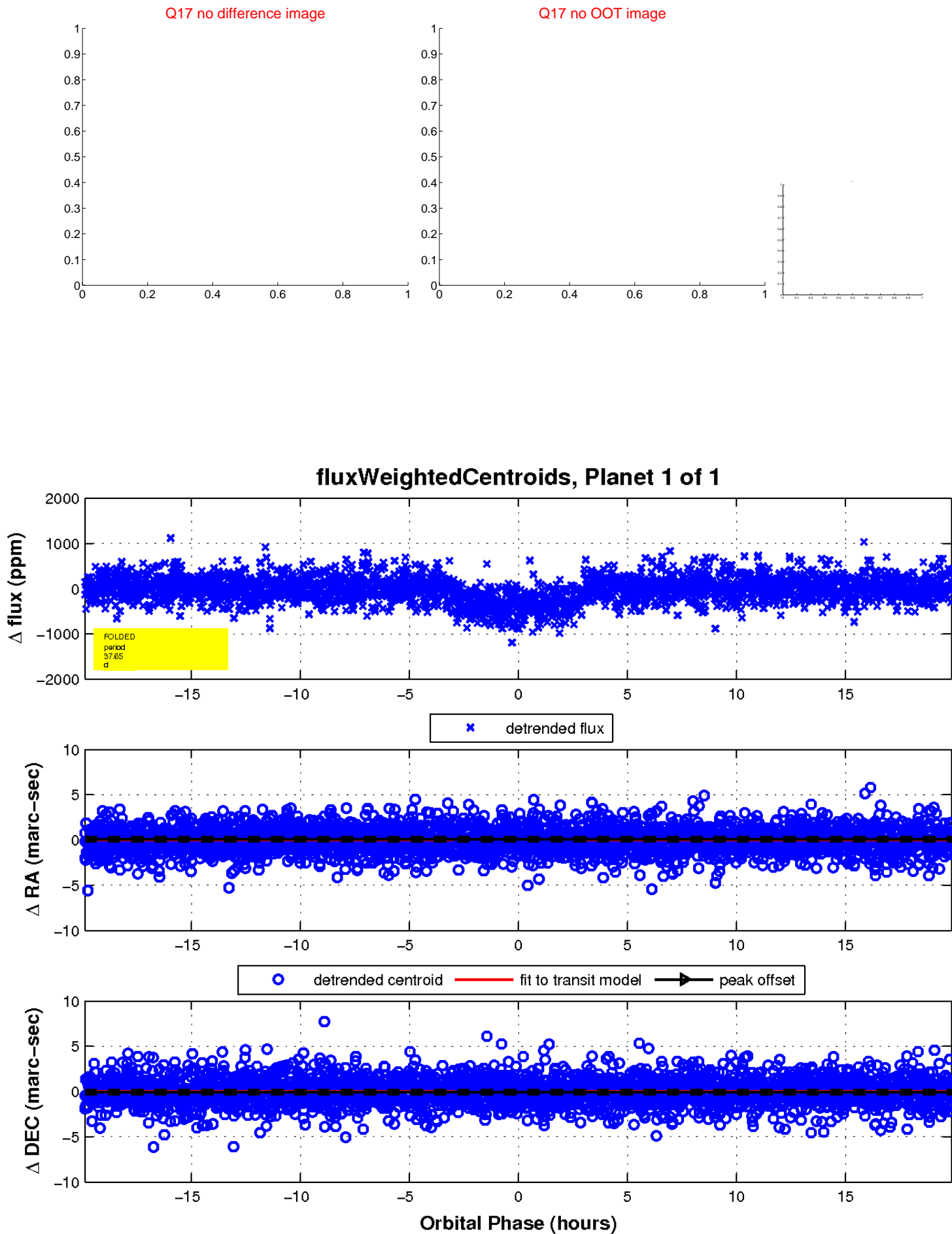
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

