

KIC 010006581

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})
010006581-01	OBS	1595.01	40.109679	142.084933	727.7	5.523	34.5	37.0	1.17	5509	3.61	22.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010006581-01	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.

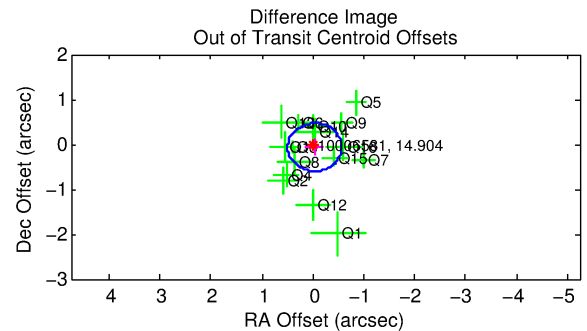
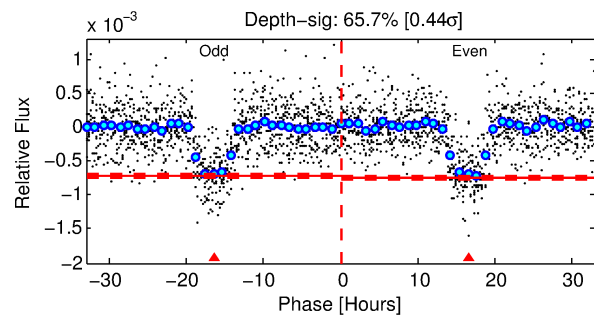
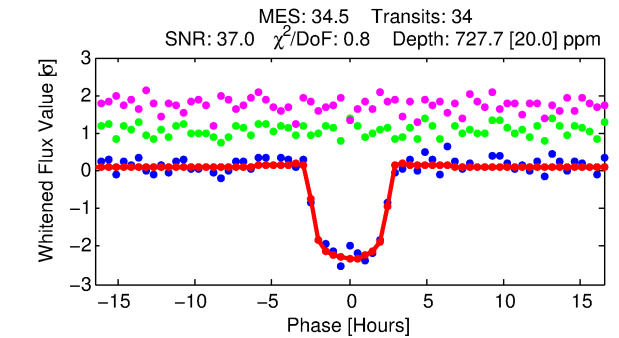
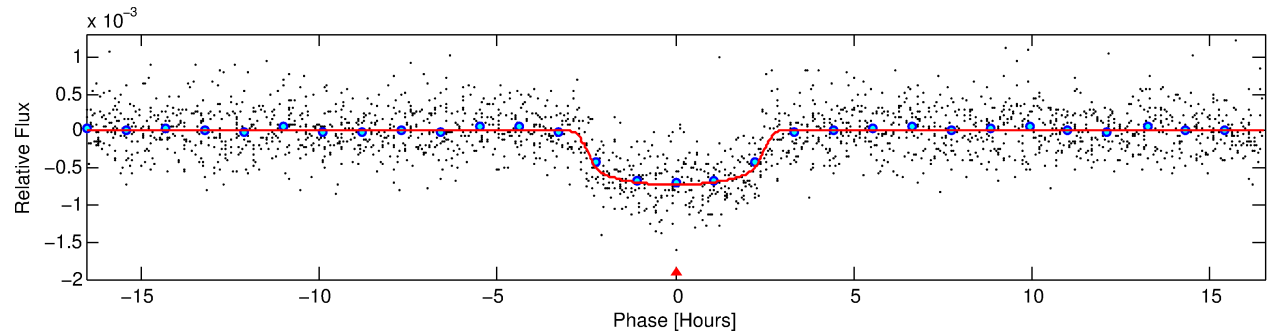
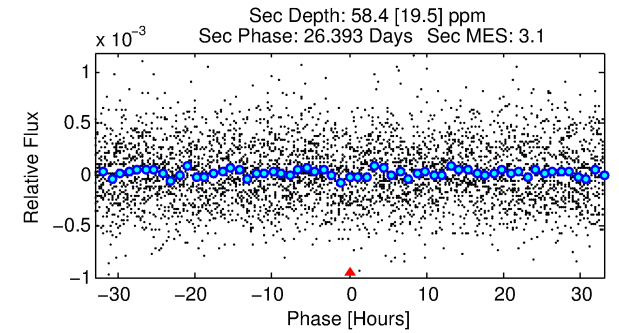
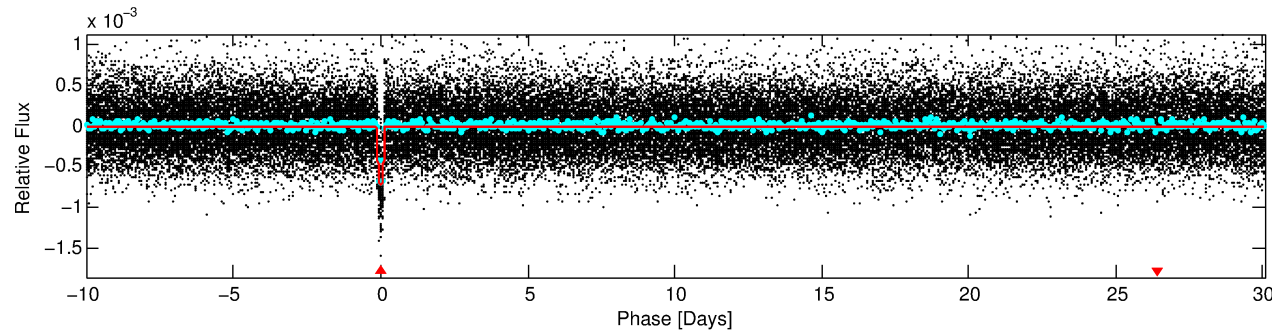
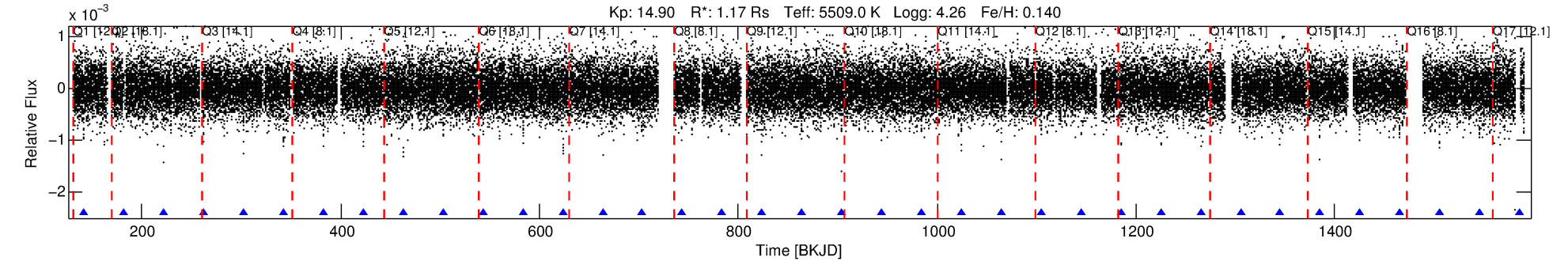
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010006581-01

No Significant Match Found

DV One-Page Summary

KIC: 10006581 Candidate: 1 of 1 Period: 40.110 d
KOI: K01595.01 Corr: 0.969



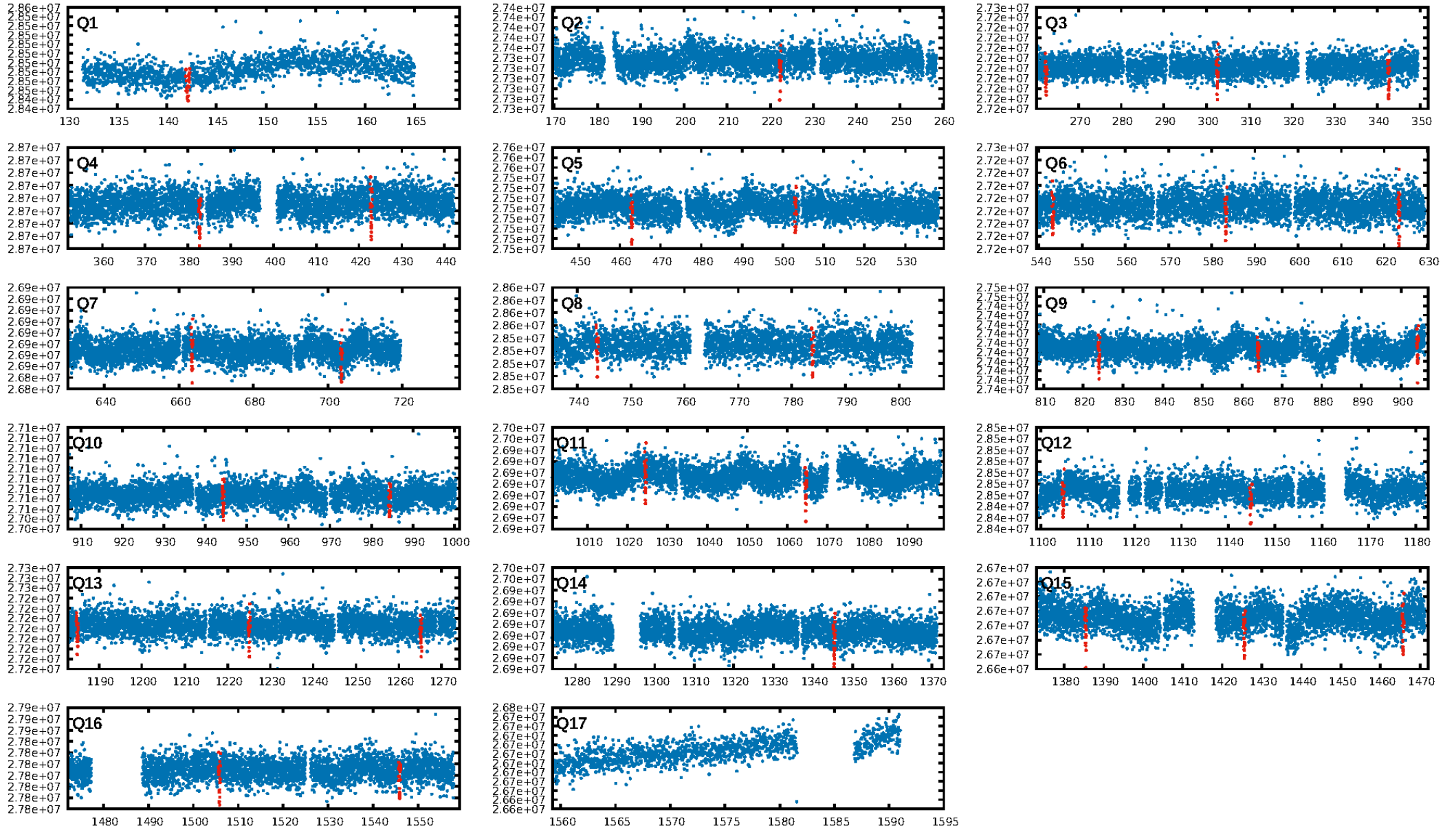
DV Fit Results:

Period = 40.10968 [0.00015] d
Epoch = 142.0849 [0.0031] BKJD
Rp/R* = 0.0283 [0.0025]
a/R* = 32.68 [11.88]
b = 0.84 [0.13]
Seff = 22.70 [6.56]
Teq = 557 [40] K
Rp = 3.61 [0.70] Re
a = 0.2229 [0.0386] AU
Ag = 122.72 [58.01] [2.10σ]
Teffp = 2864 [275] K [8.32σ]

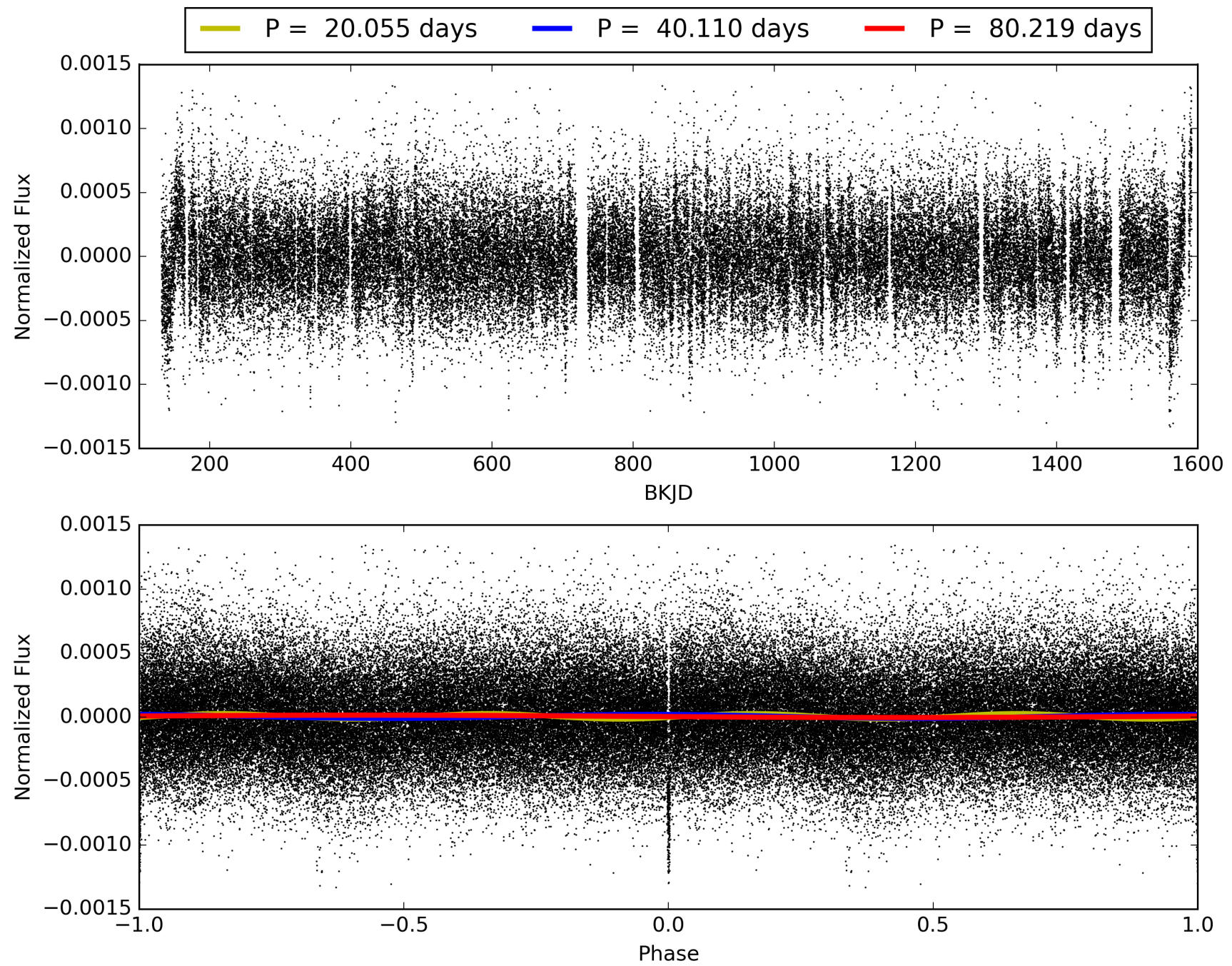
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.27e-254
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 54.53
Centroid-sig: N/A
Centroid-so: 0.191 arcsec [0.56σ]
OotOffset-rm: 0.075 arcsec [0.42σ]
KicOffset-rm: 0.114 arcsec [0.56σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 010006581-01, PDC Light Curves

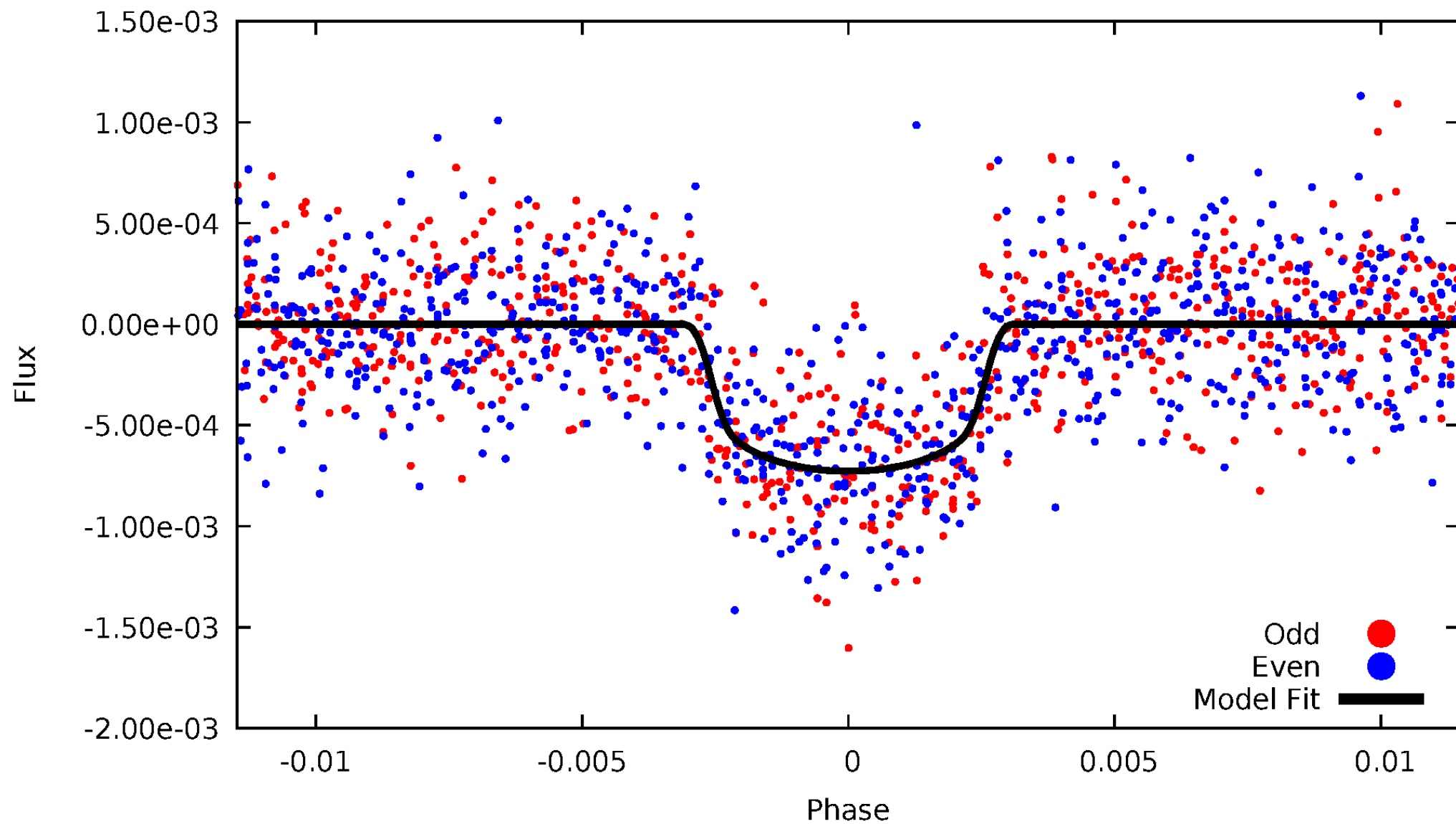


TCE 010006581-01



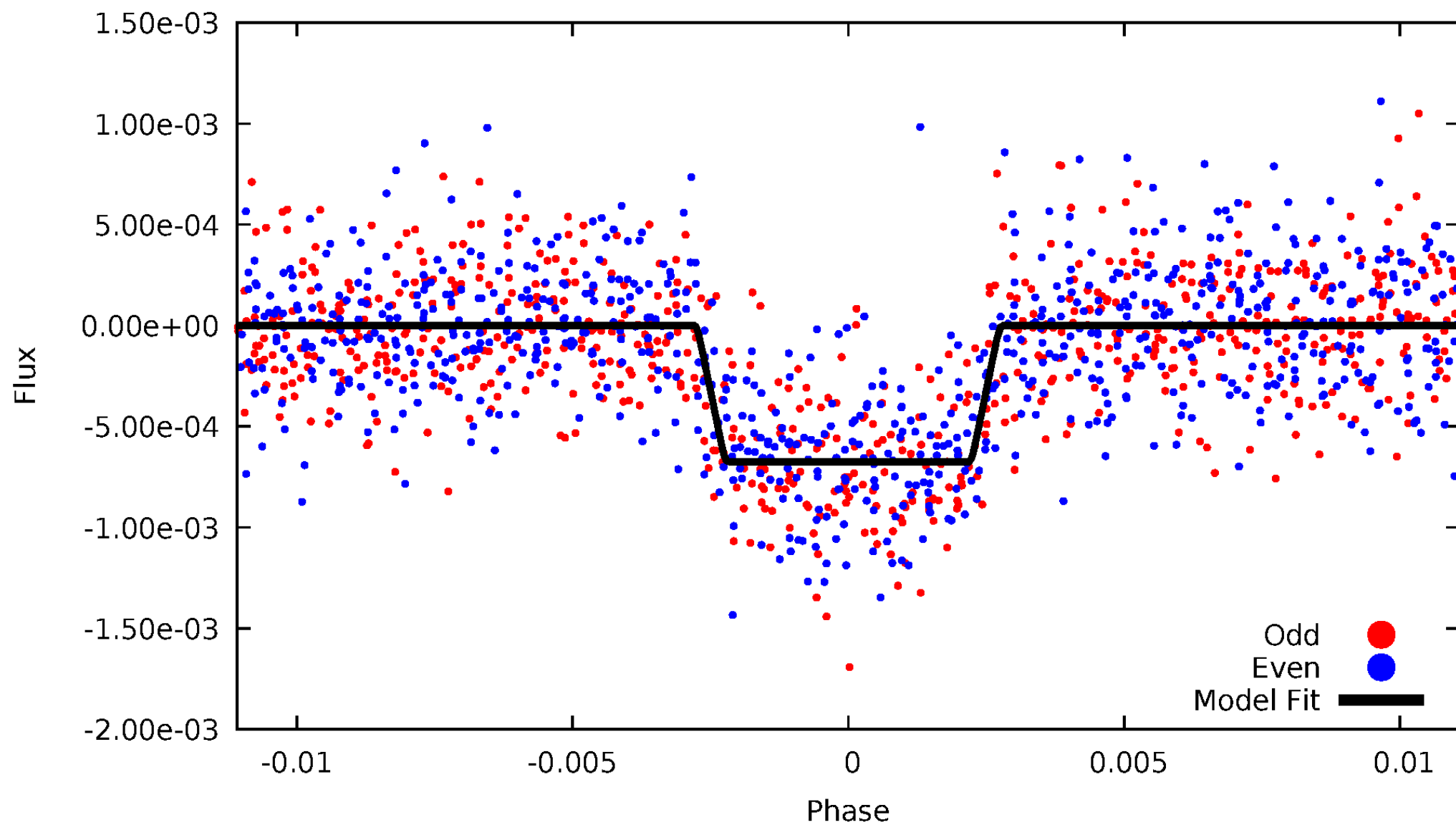
DV Odd/Even

TCE 010006581-01

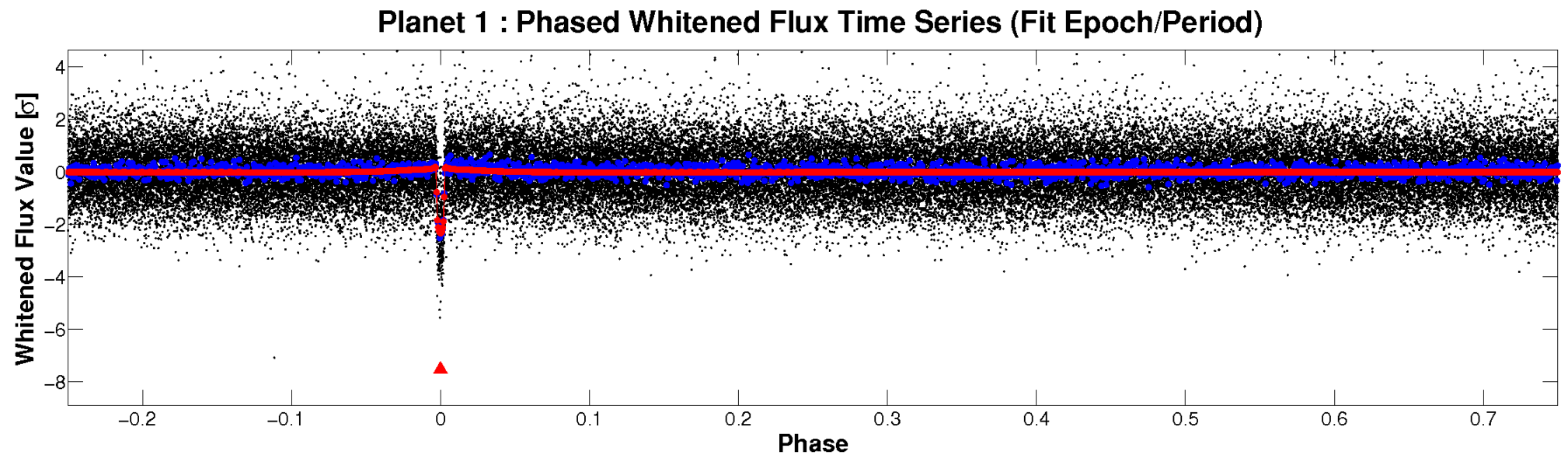
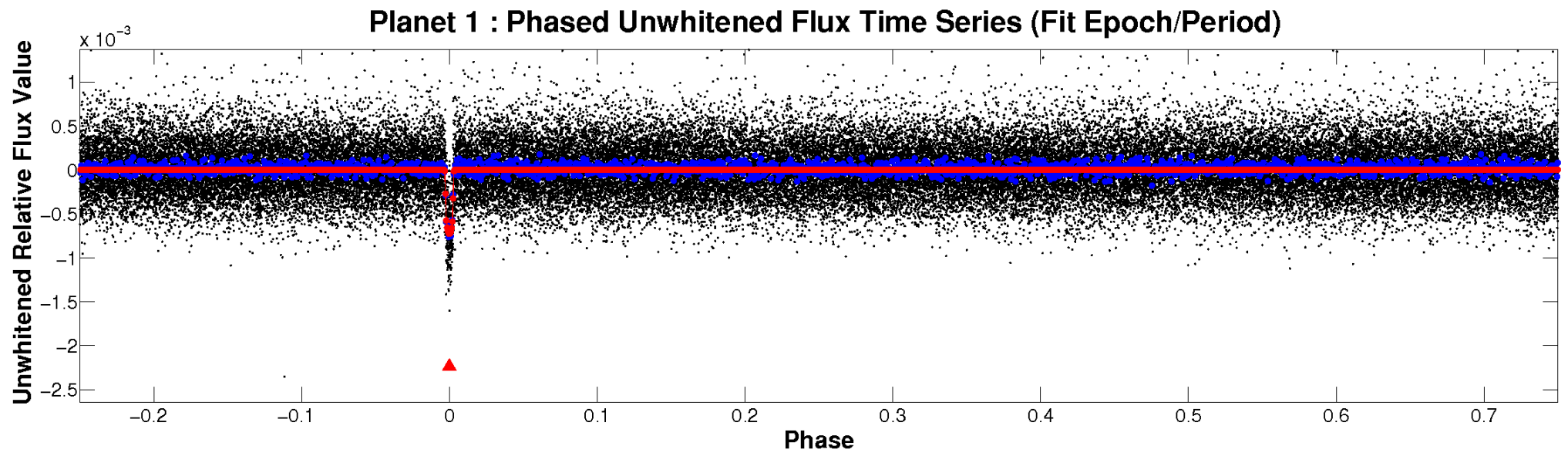


ALT Odd/Even

TCE 010006581-01

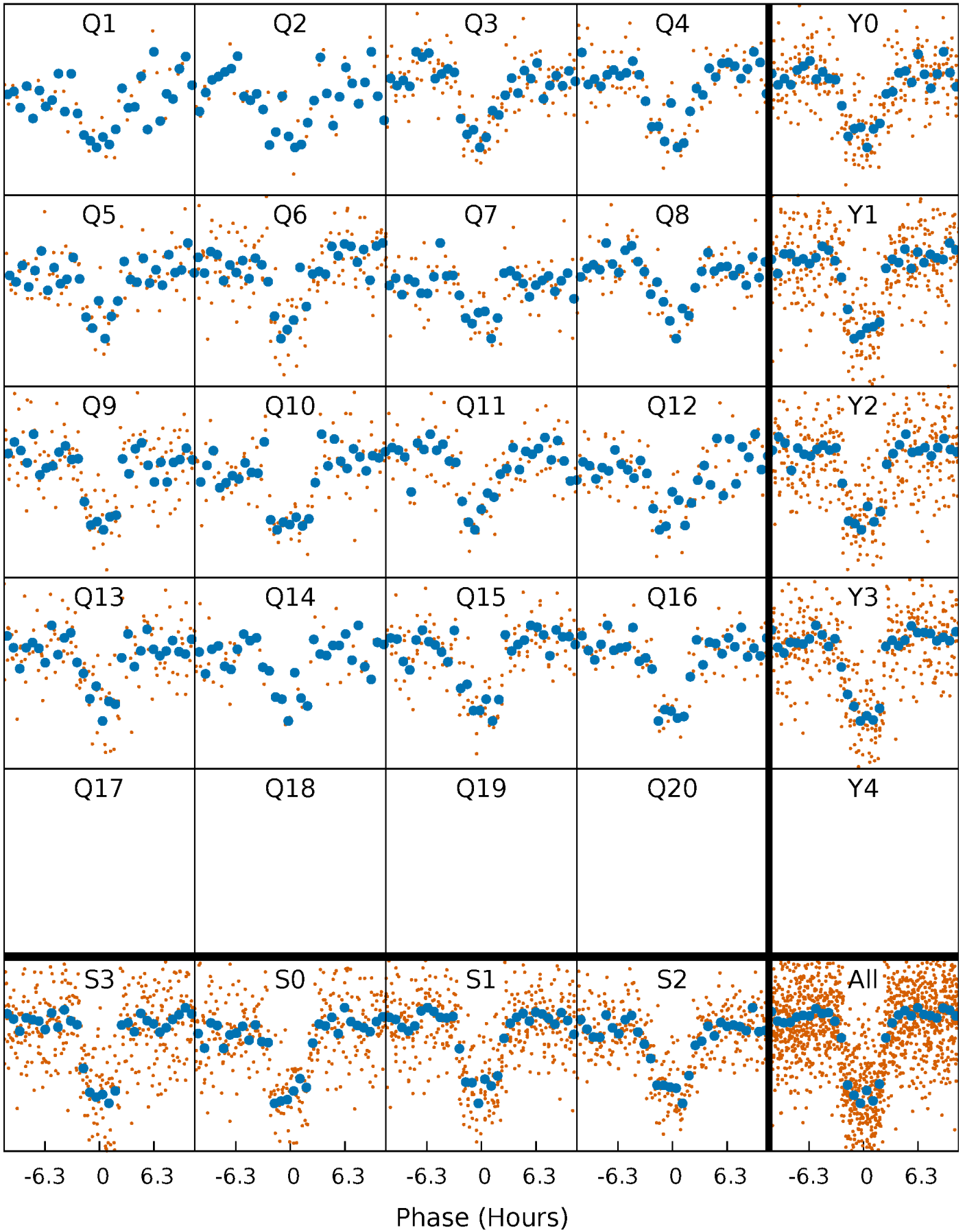


Non-Whitened Vs. Whitened Light Curve



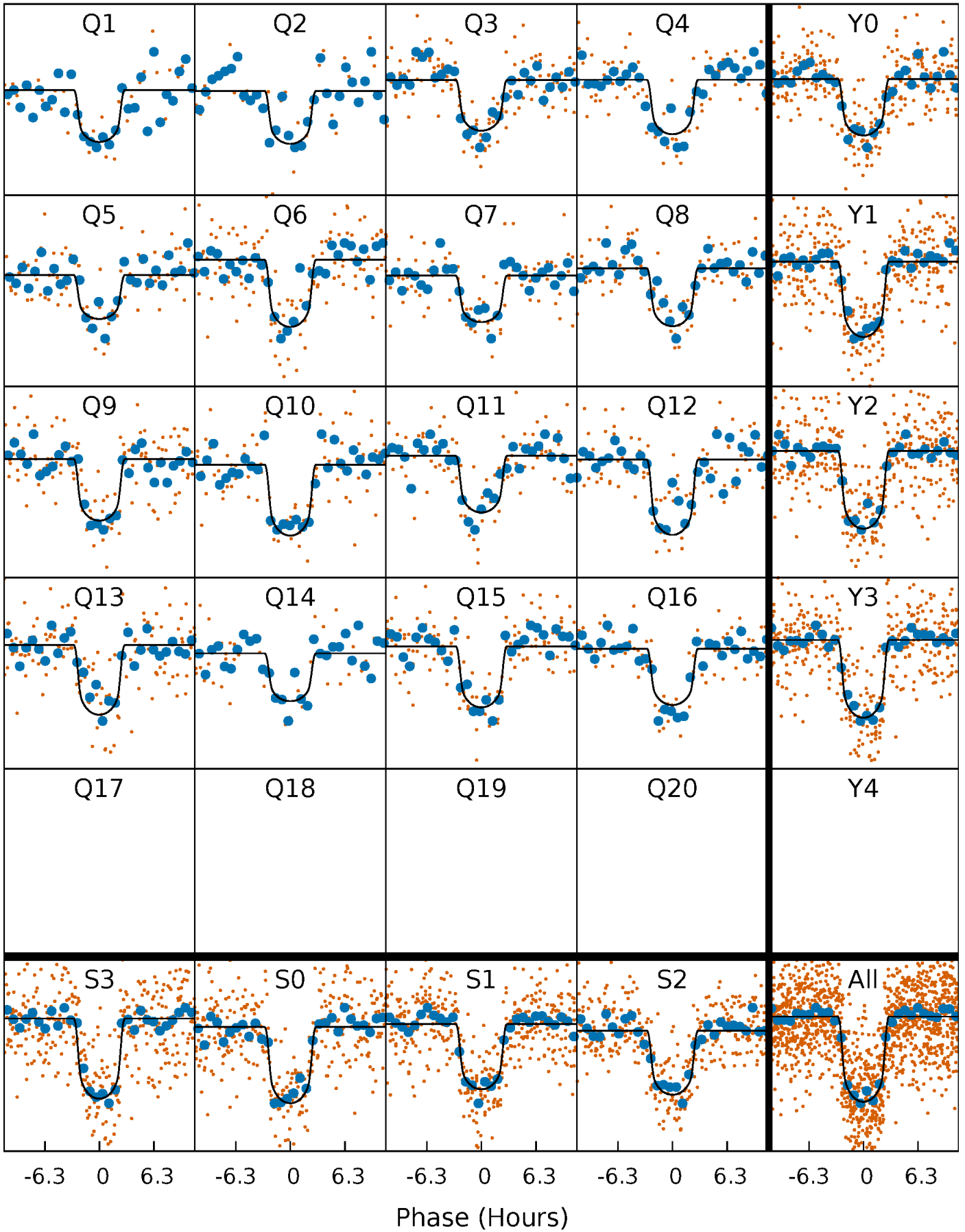
PDC Quarter-Phased Transit Curves

TCE 010006581-01 P= 40.109679 Days $T_0=142.084933$ (BKJD)



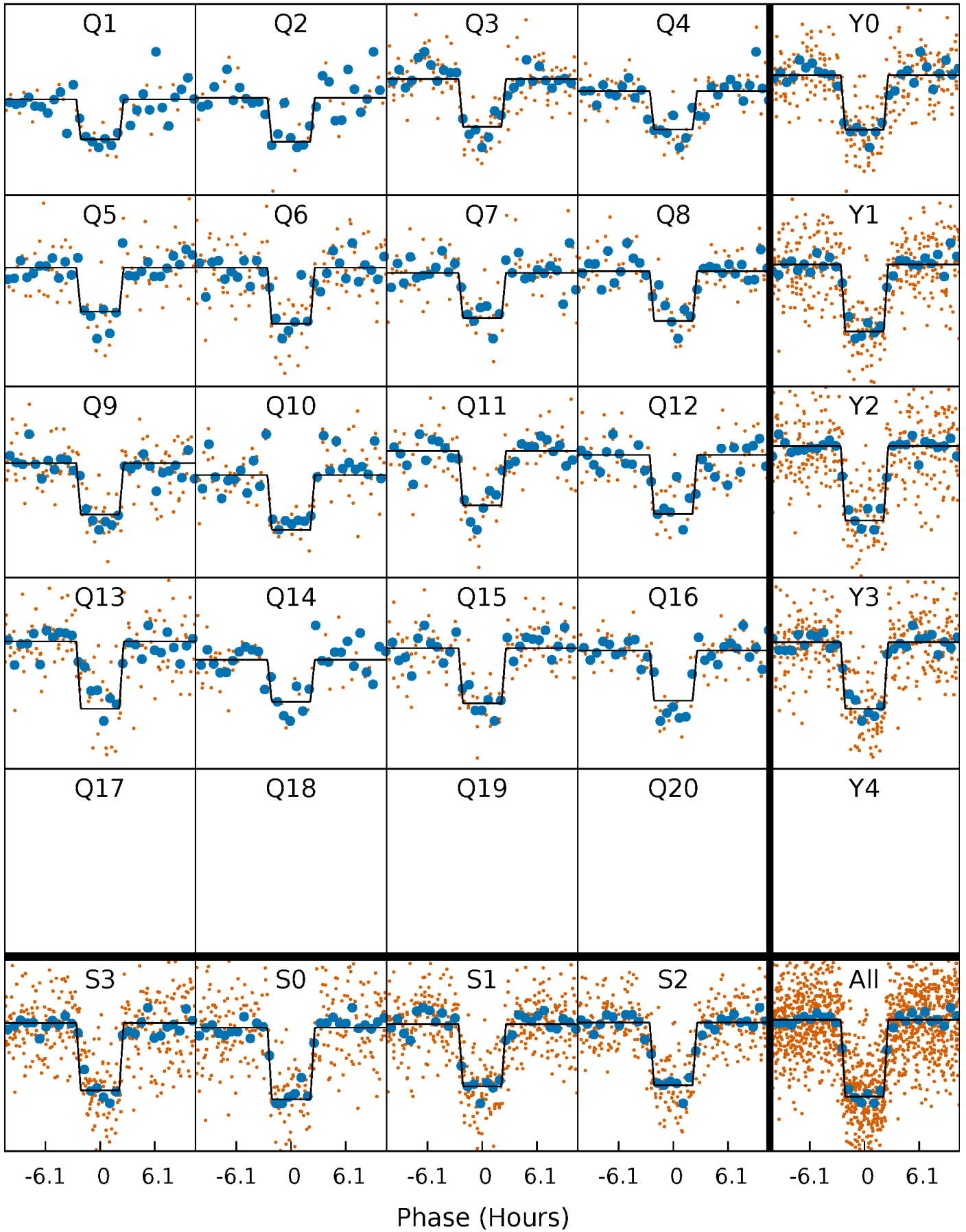
DV Quarter-Phased Transit Curves

TCE 010006581-01 P= 40.109679 Days $T_0=142.084933$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

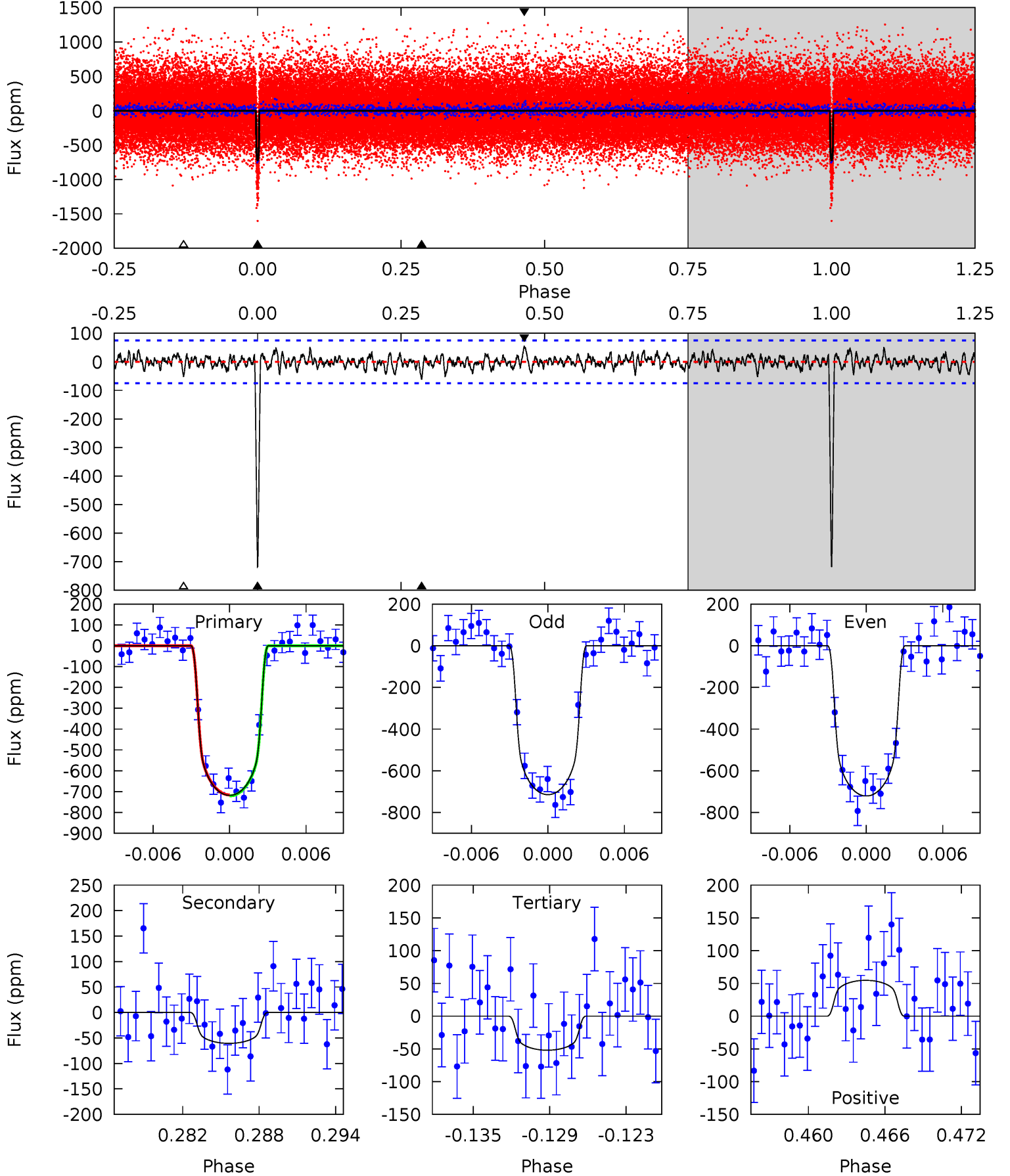
TCE 010006581-01 P= 40.109722 Days $T_0=142.083414$ (BKJD)



DV Model-Shift Uniqueness Test

010006581-01, P = 40.109679 Days, E = 101.975254 Days

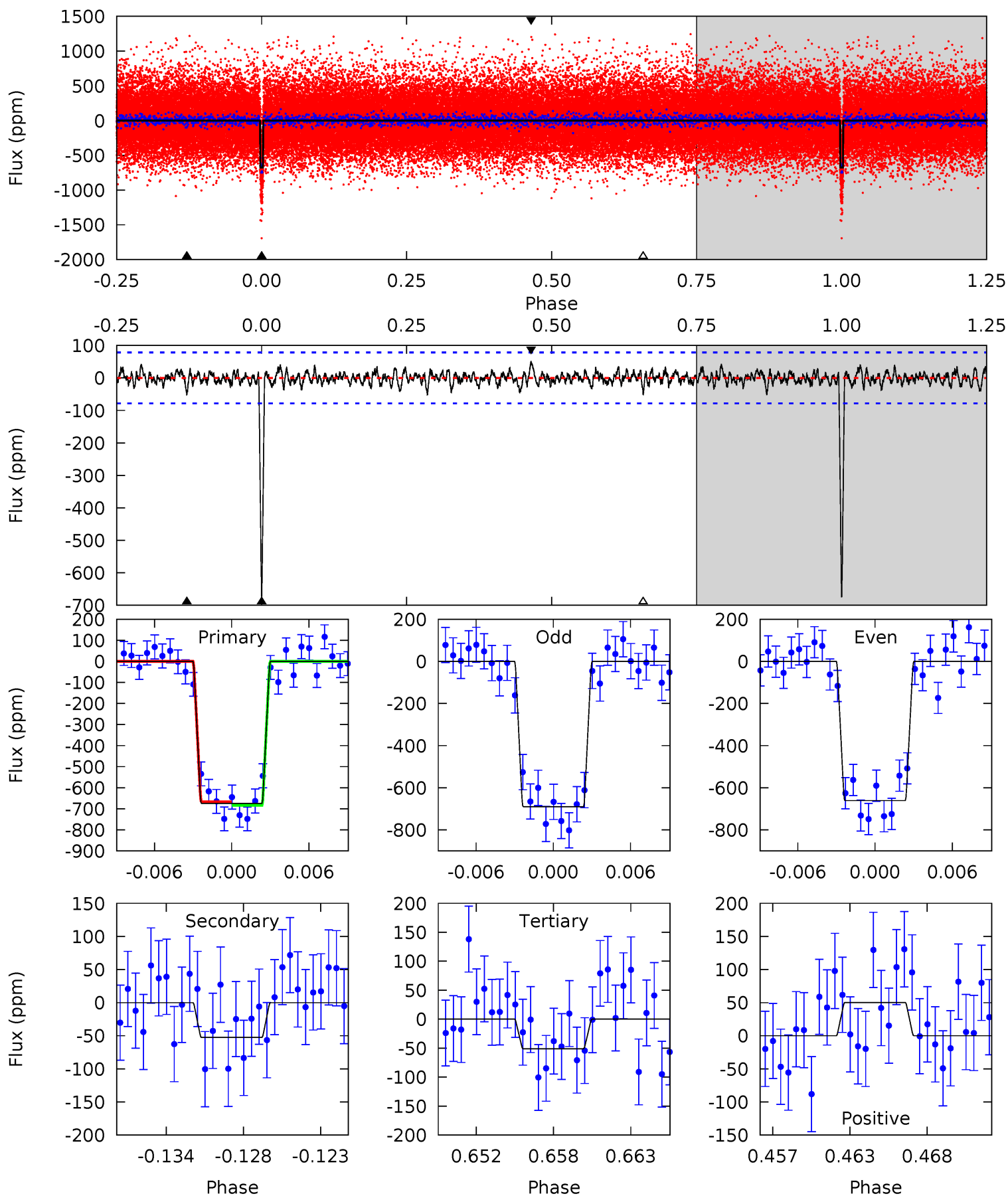
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.1	4.14	3.55	3.73	5.12	2.74	1.13	45.5	45.3	0.58	0.40	0.22	0.99	0.07	0.16



Alt Model-Shift Uniqueness Test

010006581-01, P = 40.109722 Days, E = 101.973692 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.2	3.45	3.34	3.29	5.14	2.77	0.97	40.9	40.9	0.10	0.16	0.94	1.01	0.07	0.55



Stellar Parameters For KIC 010006581

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5509^{+82}_{-71}	$4.265^{+0.168}_{-0.112}$	$0.140^{+0.150}_{-0.100}$	$1.169^{+0.183}_{-0.203}$	$0.918^{+0.072}_{-0.039}$	$0.809^{+0.618}_{-0.276}$
	+1%/-1%	+4%/-3%	+107%/-71%	+16%/-17%	+8%/-4%	+76%/-34%
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 010006581-01 / KOI 1595.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-61 ± 15	$3.58^{+0.47}_{-0.42}$	777^{+35}_{-43}	3399^{+162}_{-172}	130^{+53}_{-42}
Alt.	-53 ± 15	$3.29^{+0.47}_{-0.46}$	777^{+33}_{-43}	3413^{+199}_{-199}	134^{+63}_{-46}

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 $A_{obs} \gg 1.0$

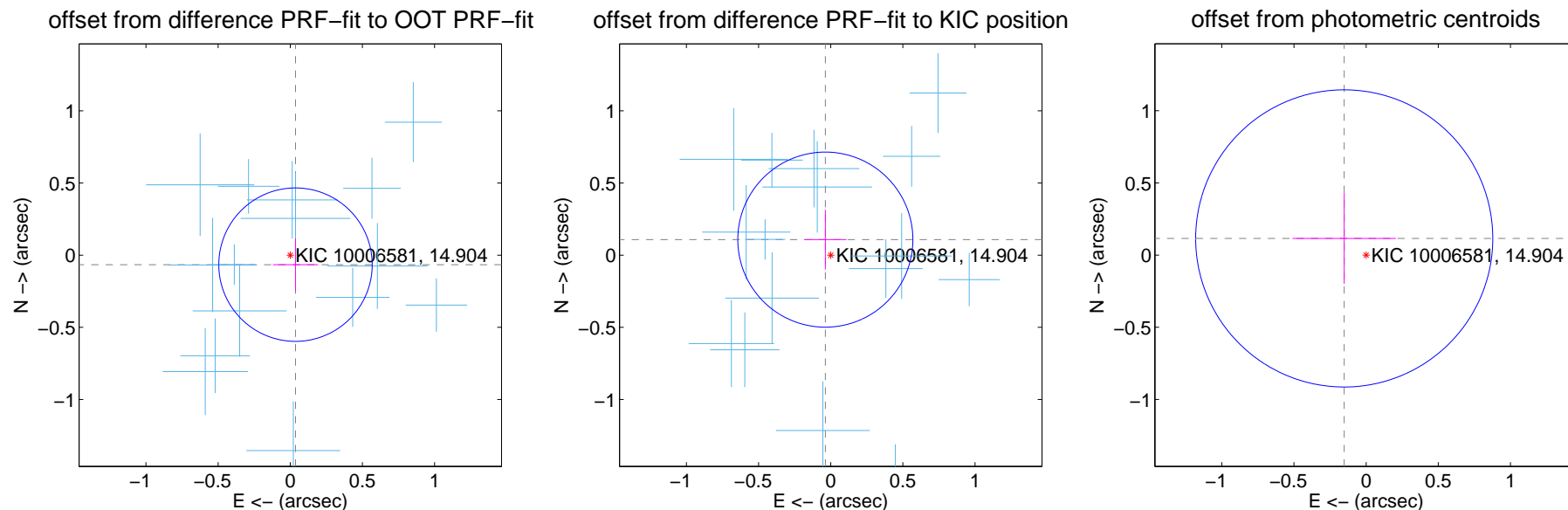
DV Centroid Data

Supplemental centroid analysis for 010006581-01. Kepler magnitude: 14.90. Transit SNR 36.95

There are 16 quarters with good PRF difference image offsets

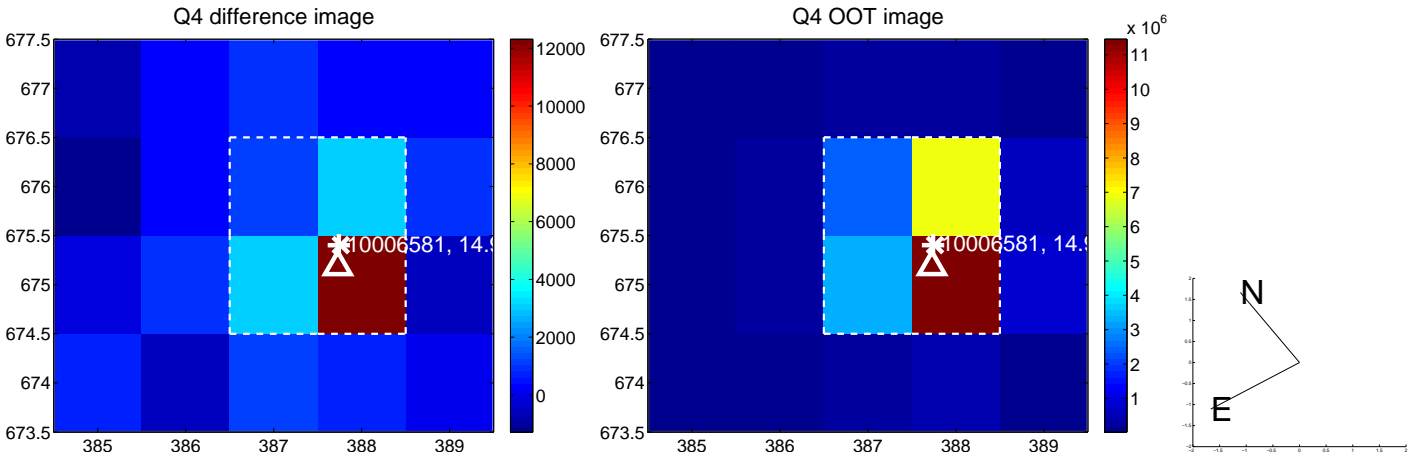
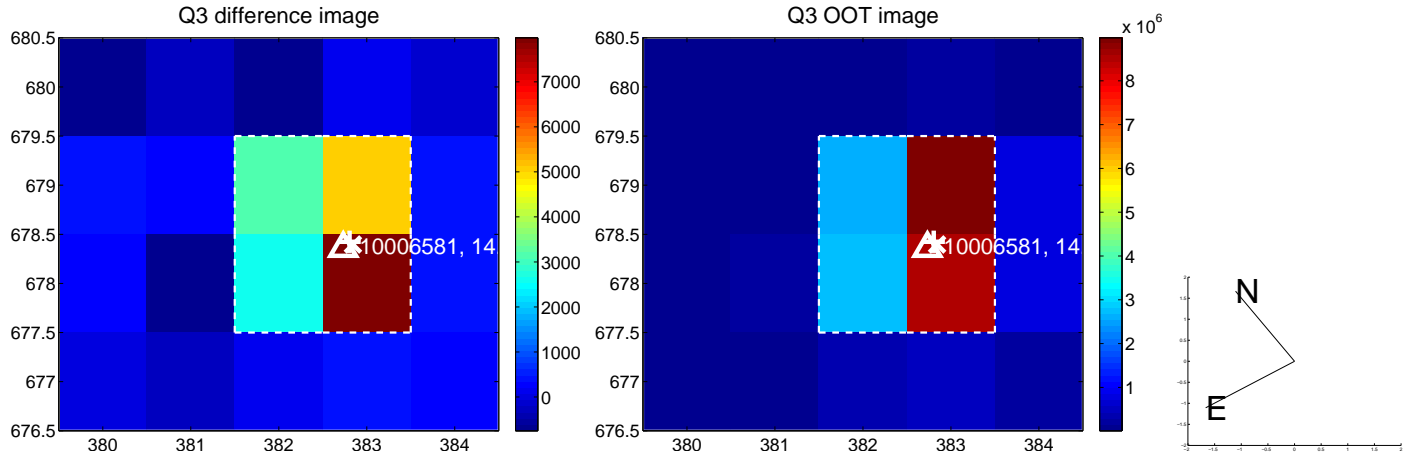
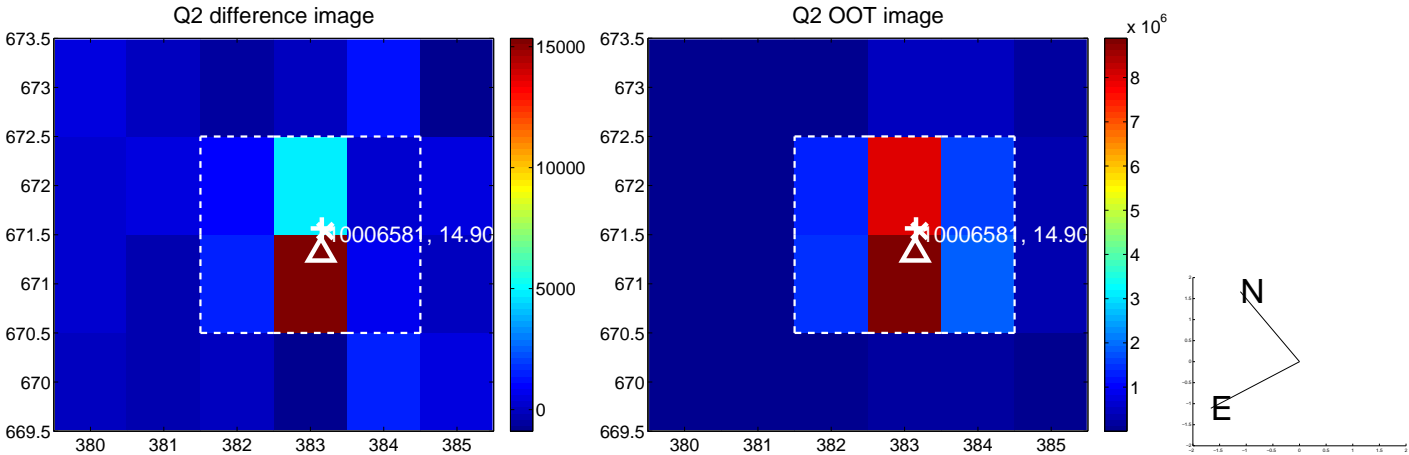
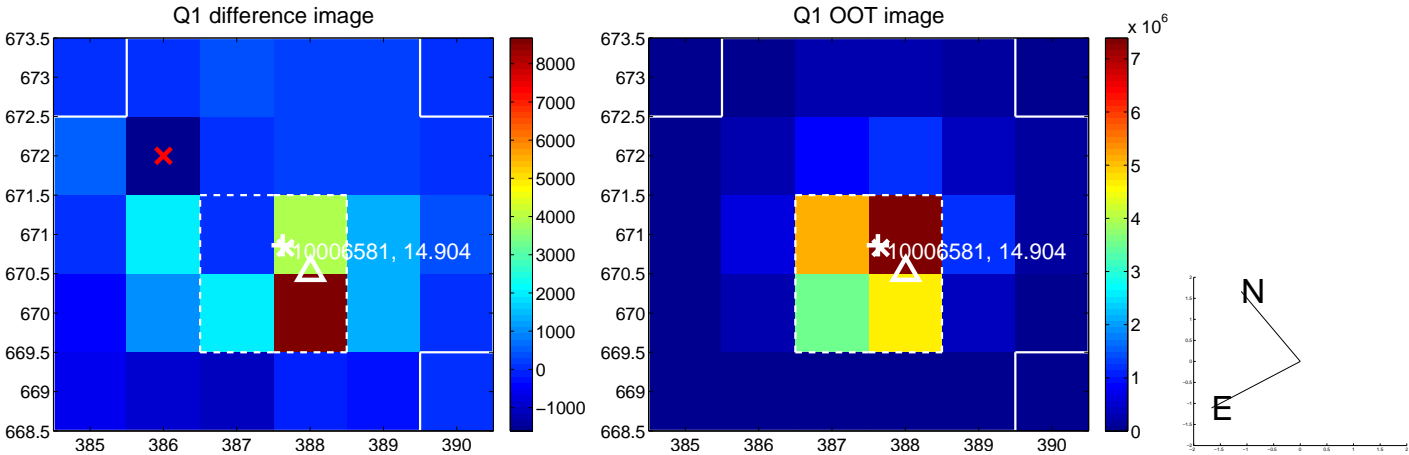
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.075 ± 0.177	0.42	-0.036 ± 0.156	-0.066 ± 0.184
PRF-fit source offset from KIC position	0.114 ± 0.202	0.56	0.037 ± 0.146	0.108 ± 0.207
photometric centroid source offset	0.19 ± 0.34	0.56	0.15 ± 0.36	0.12 ± 0.31

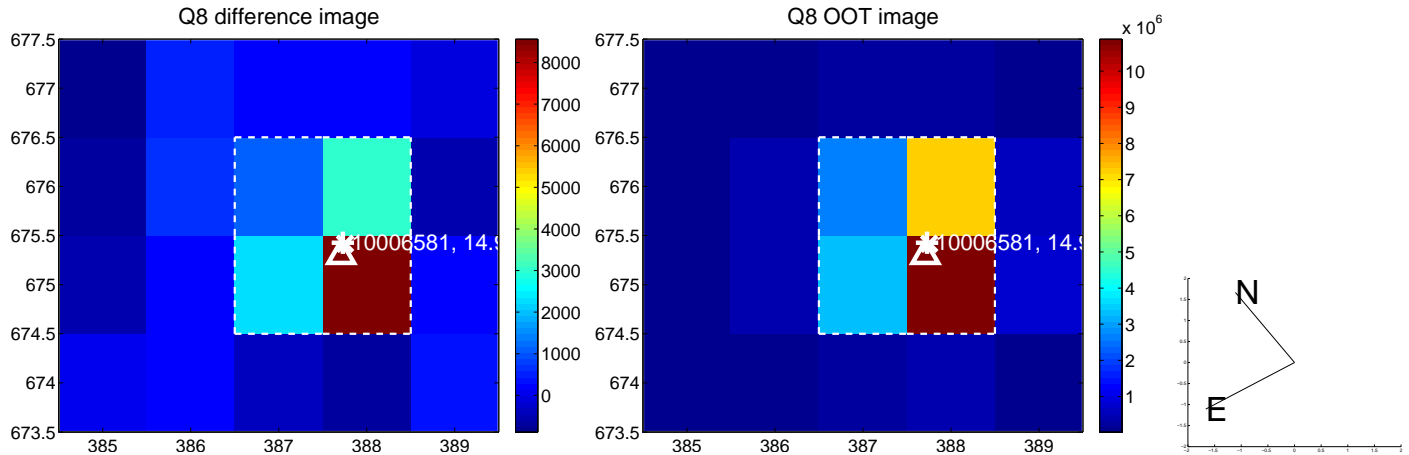
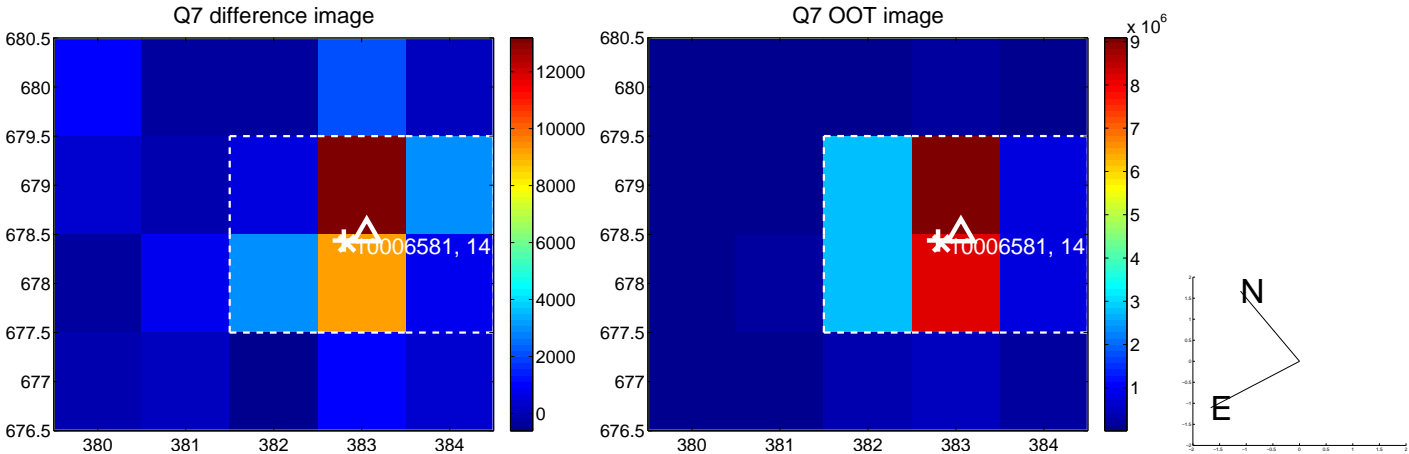
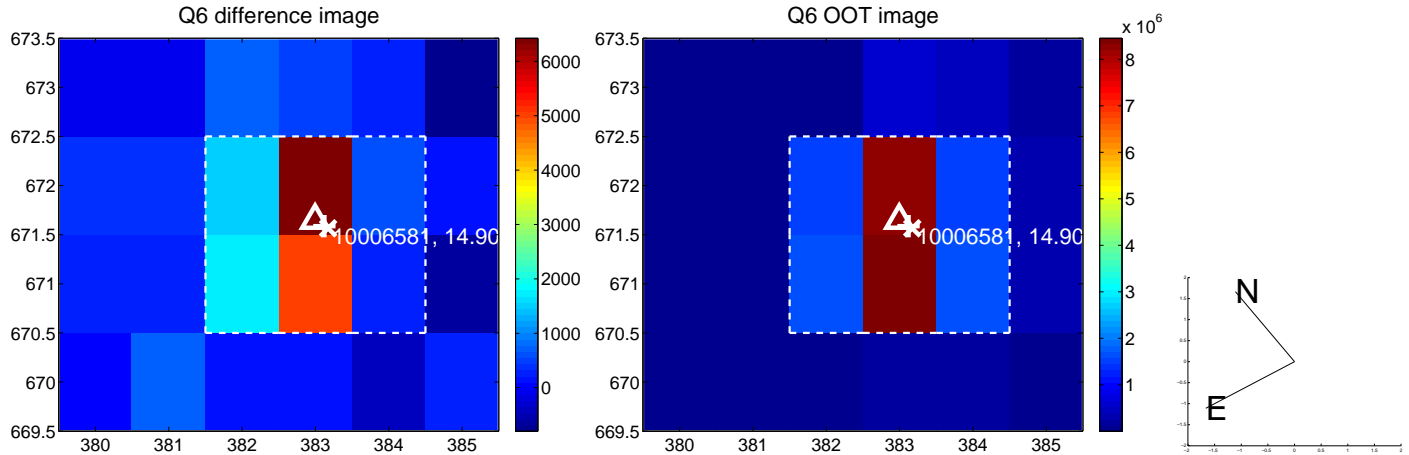
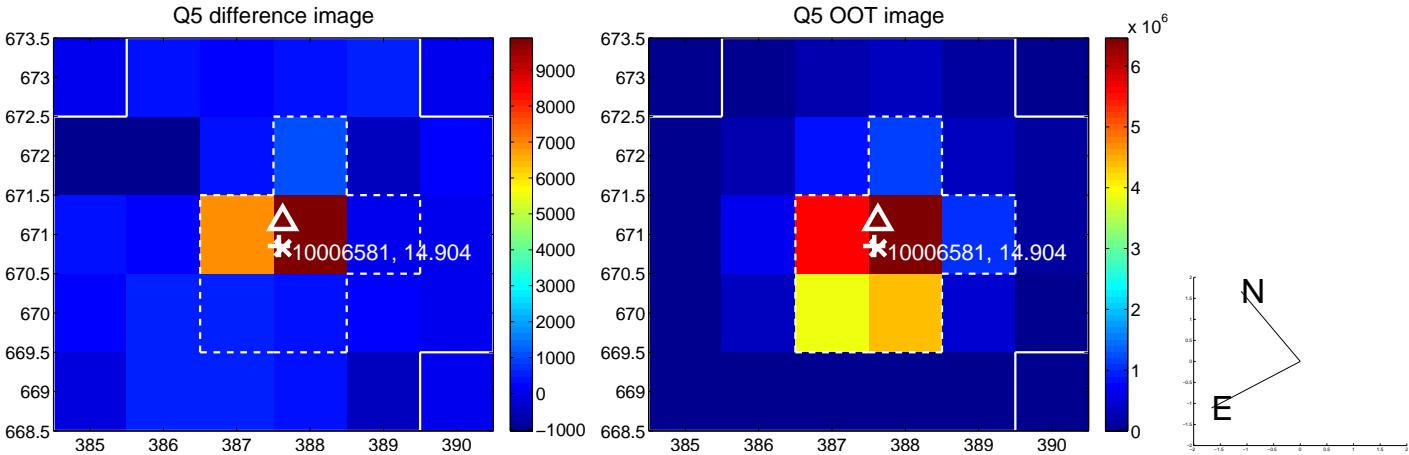


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

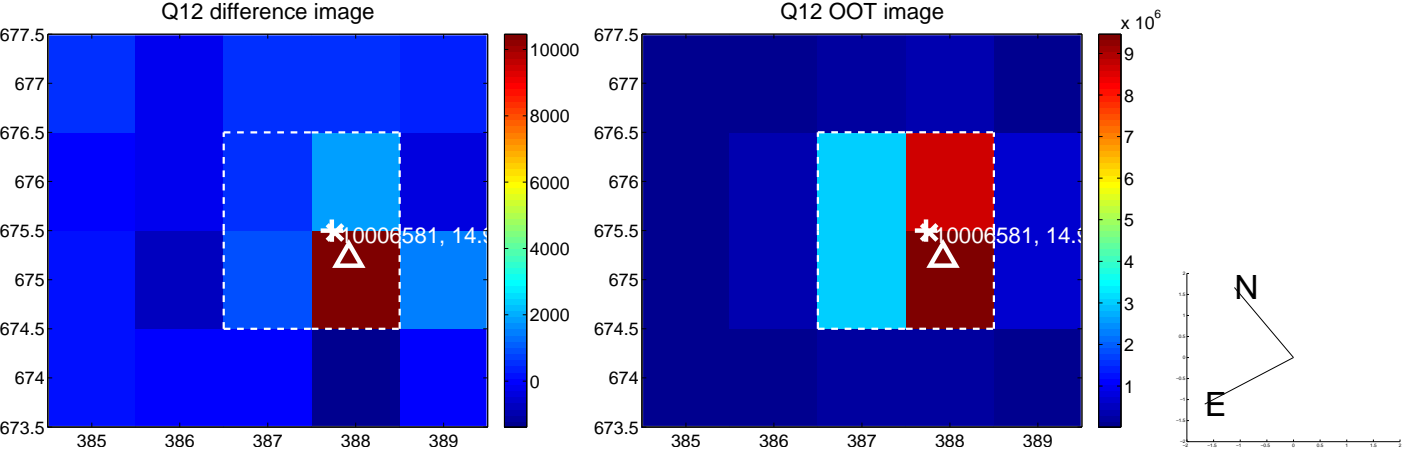
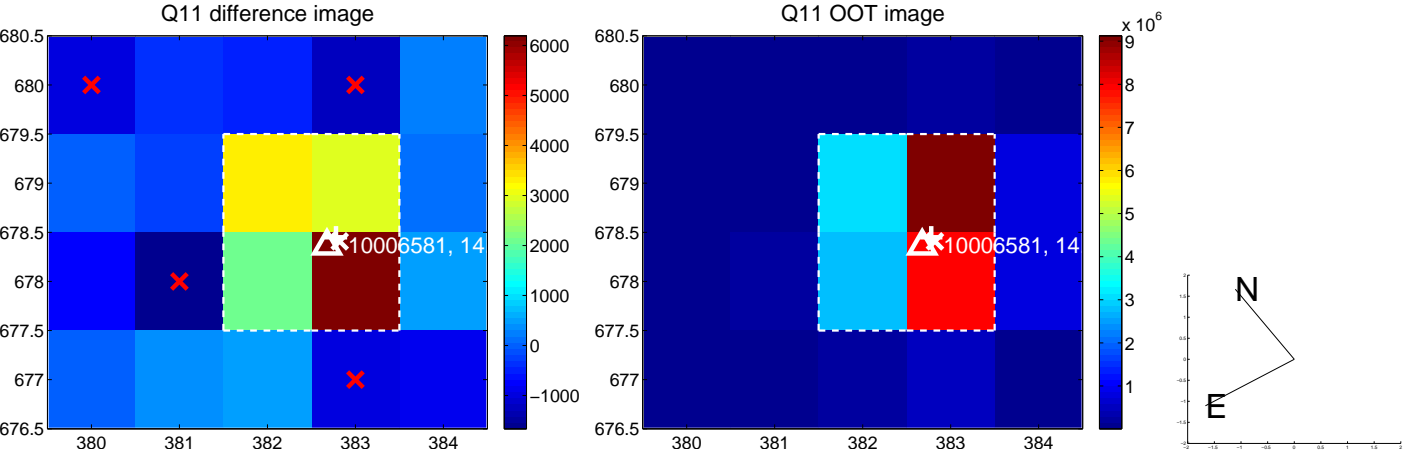
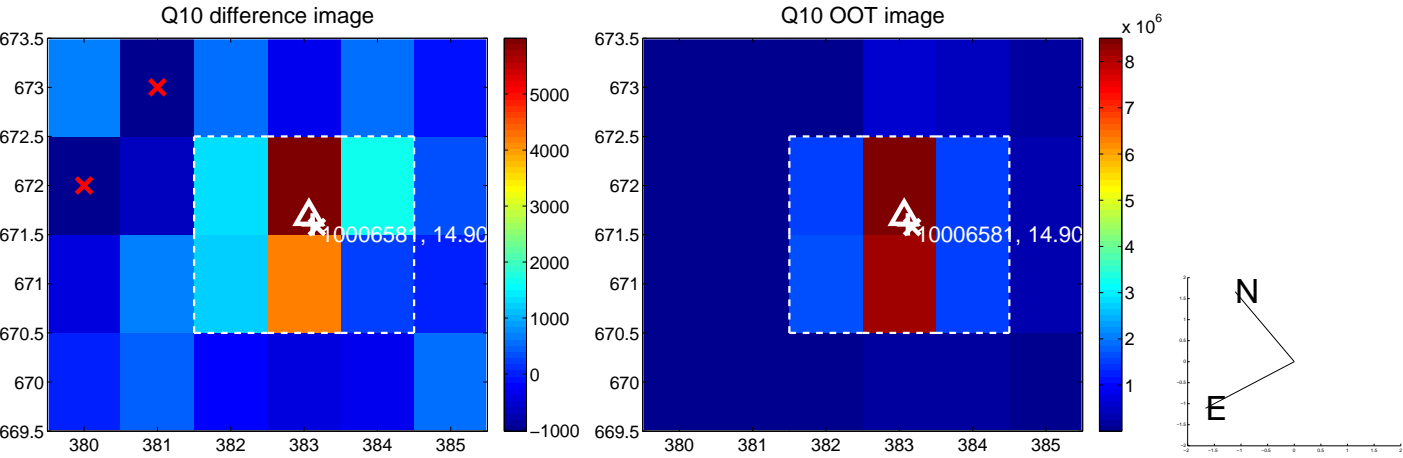
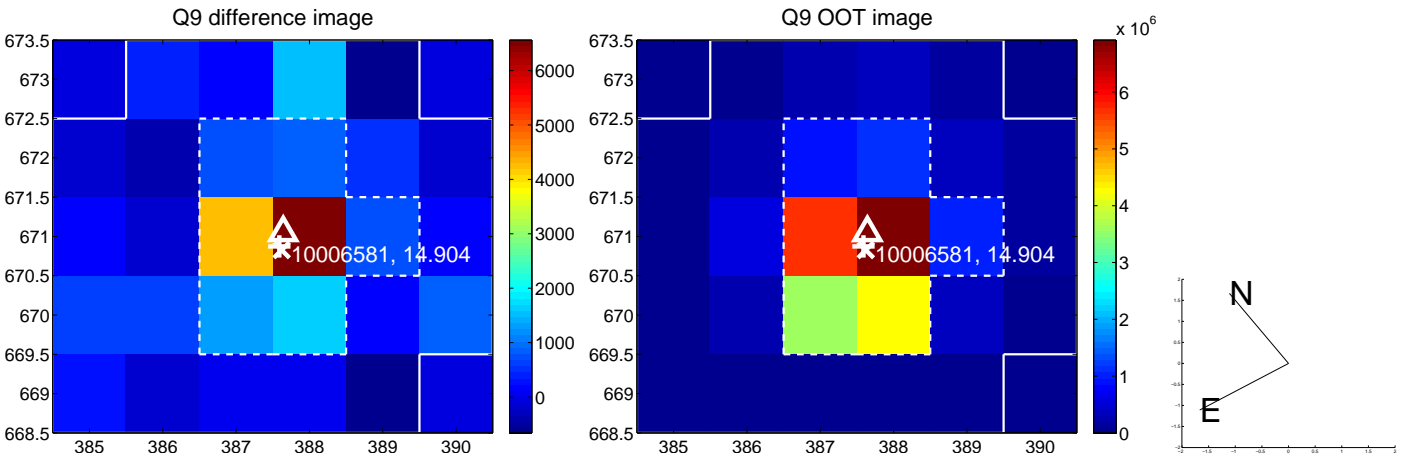
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



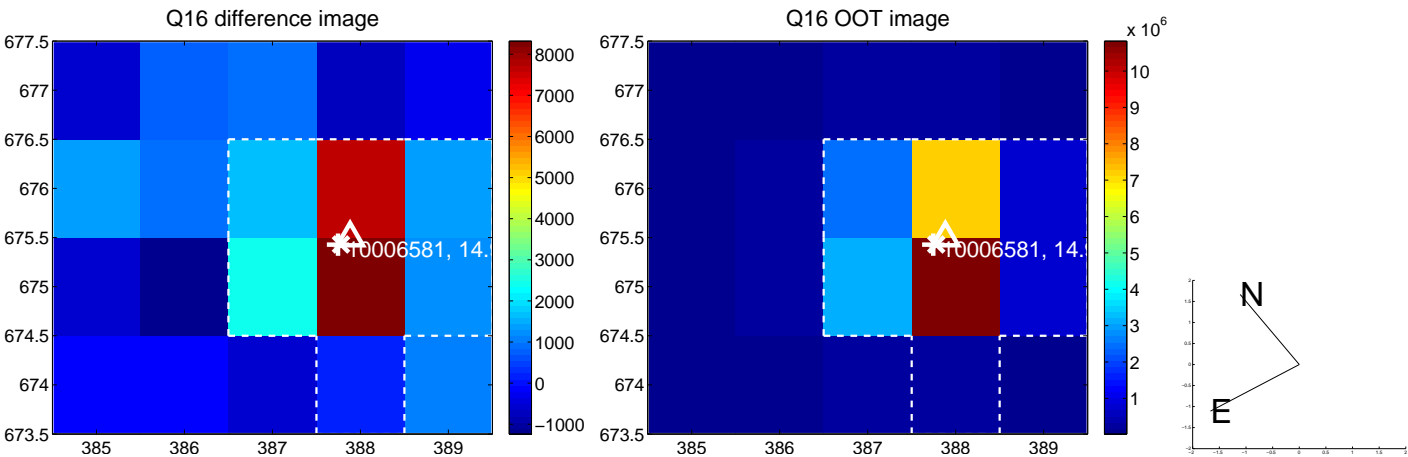
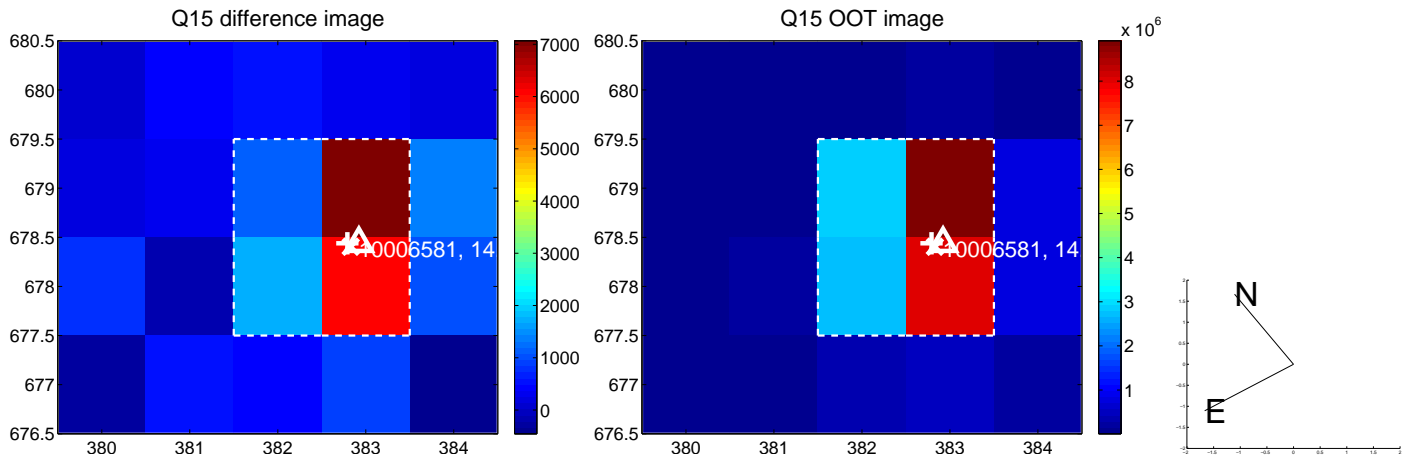
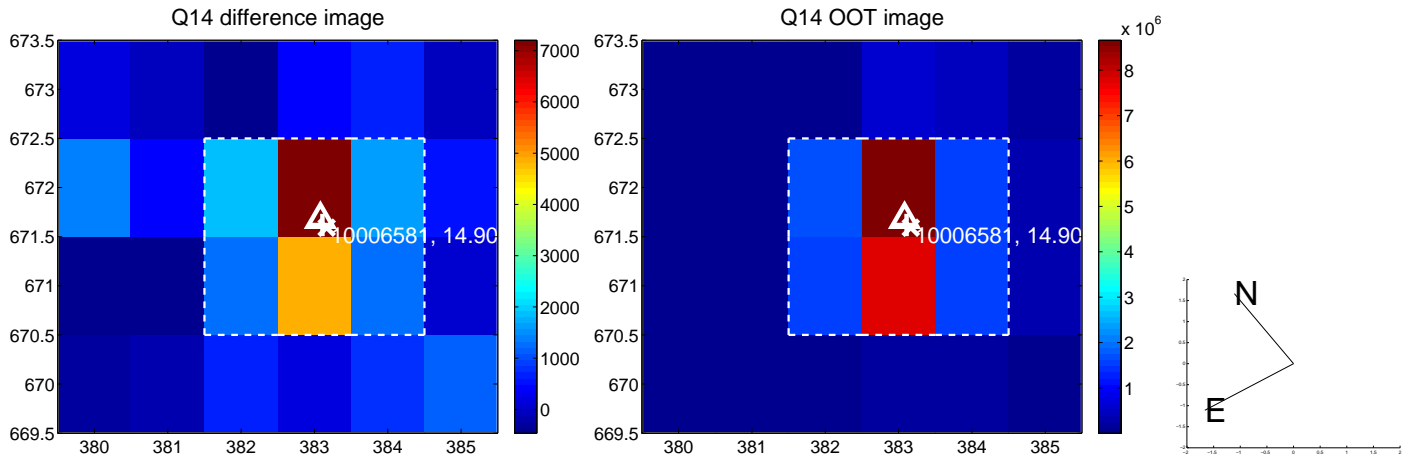
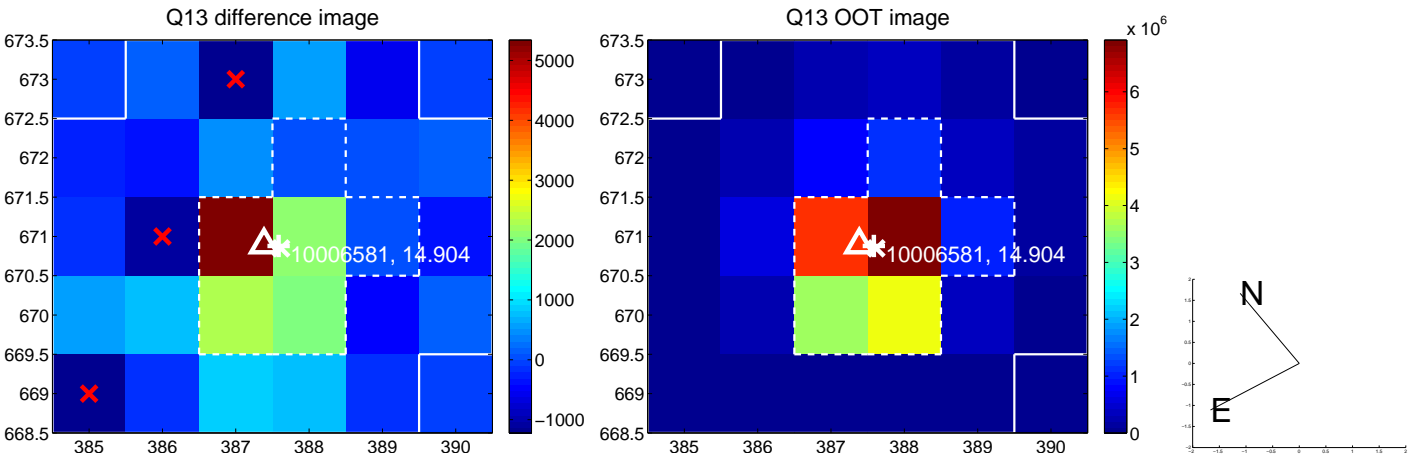
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



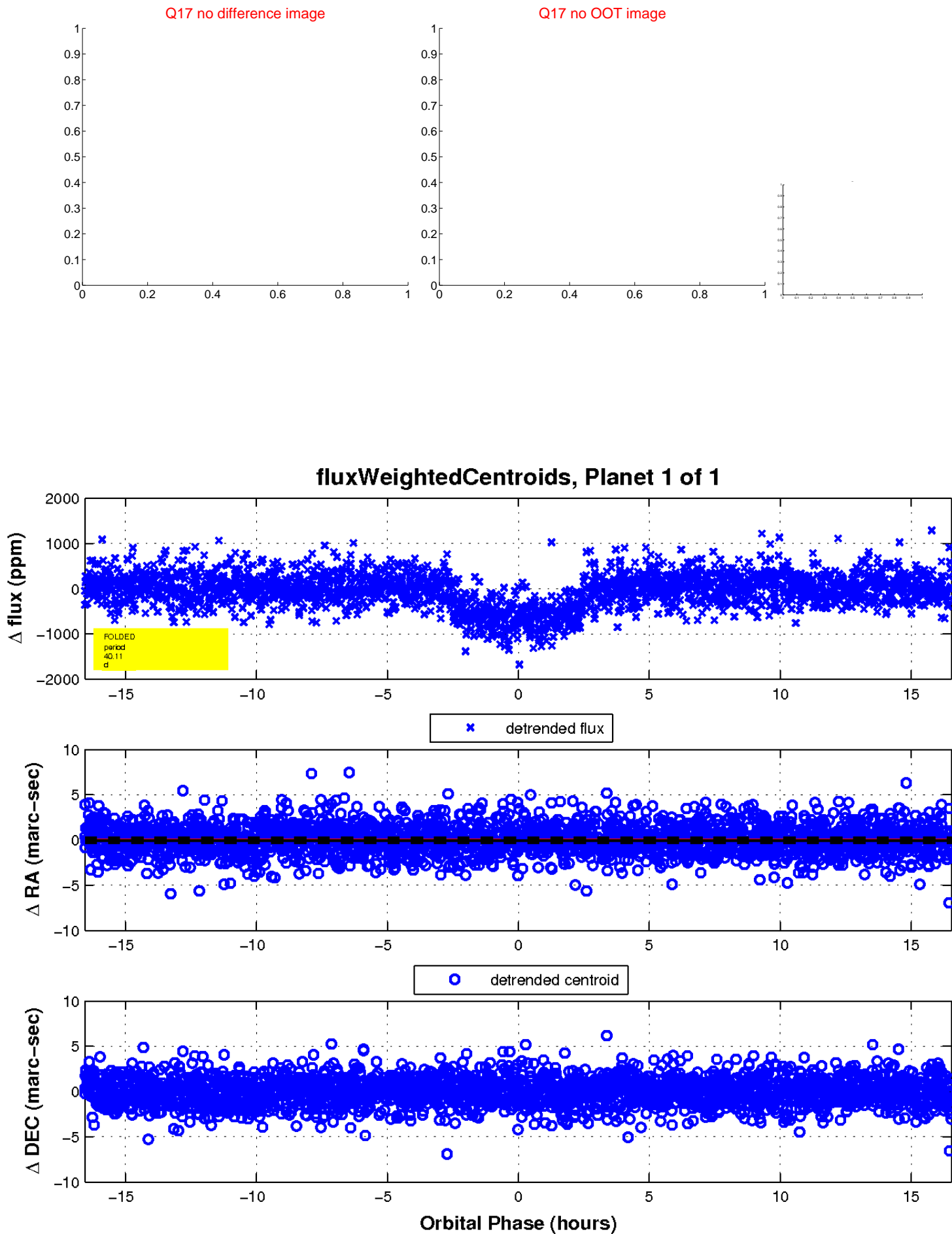
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

