

KIC 005955321

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})
005955321-01	OBS	6140.01	5.818933	136.919076	449487.2	3.500	15089.3	-1.0	1.06	6360	56.56	382.46
005955321-02	OBS	No	7.758561	134.996955	3667.4	18.123	874.4	71.9	1.06	6360	7.90	260.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005955321-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—CENT_NOFITS
005955321-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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 005955321-01

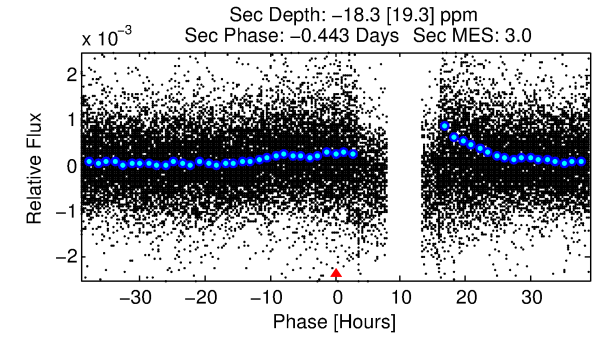
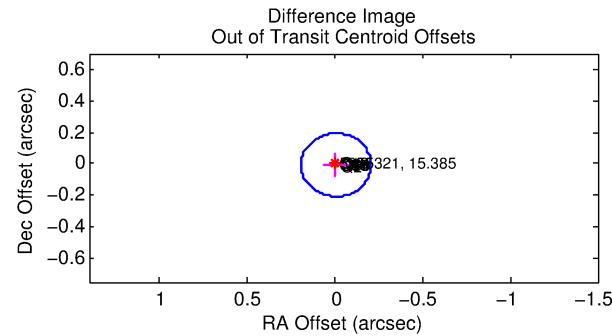
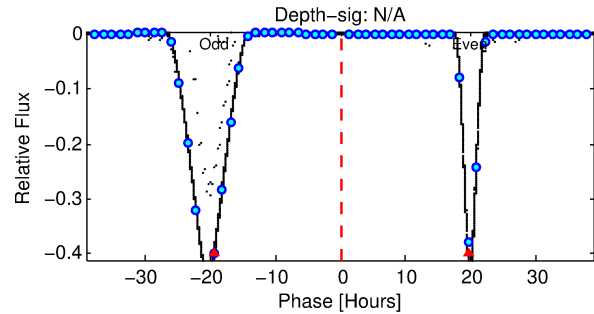
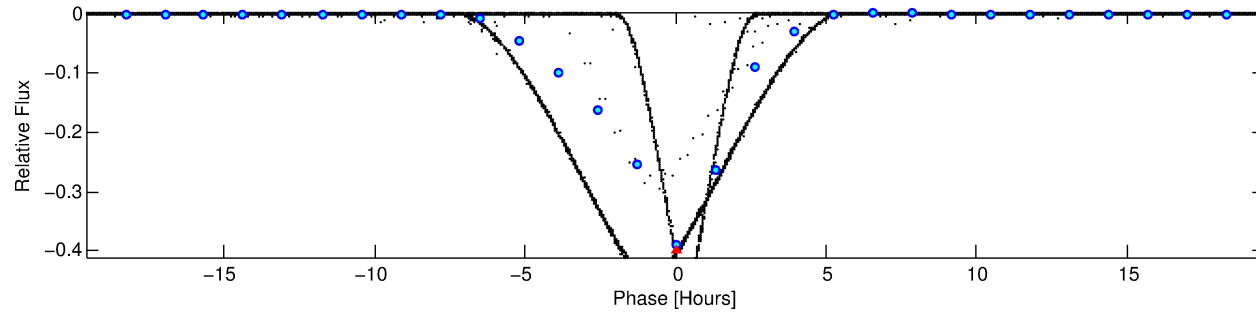
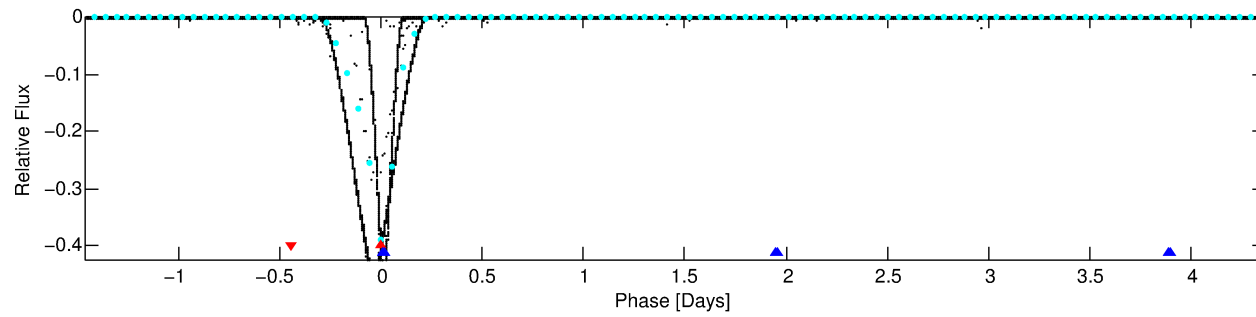
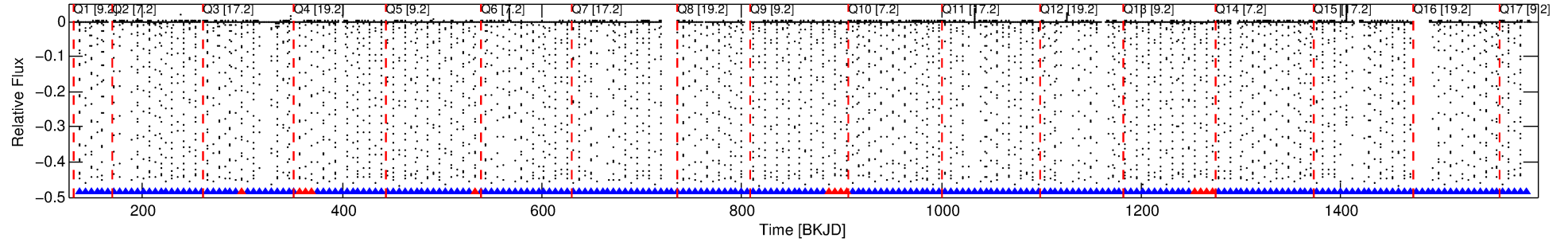
No Significant Match Found

DV One-Page Summary

KIC: 5955321 Candidate: 1 of 2 Period: 5.819 d

KOI: K06140 Corr: No Ephemeris Match

Kp: 15.39 R*: 1.06 Rs Teff: 6360.0 K Logg: 4.43 Fe/H: -0.200



TPS TCE Results:

Period = 5.81893 d
Epoch = 136.9191 BKJD

DV fit results are unavailable

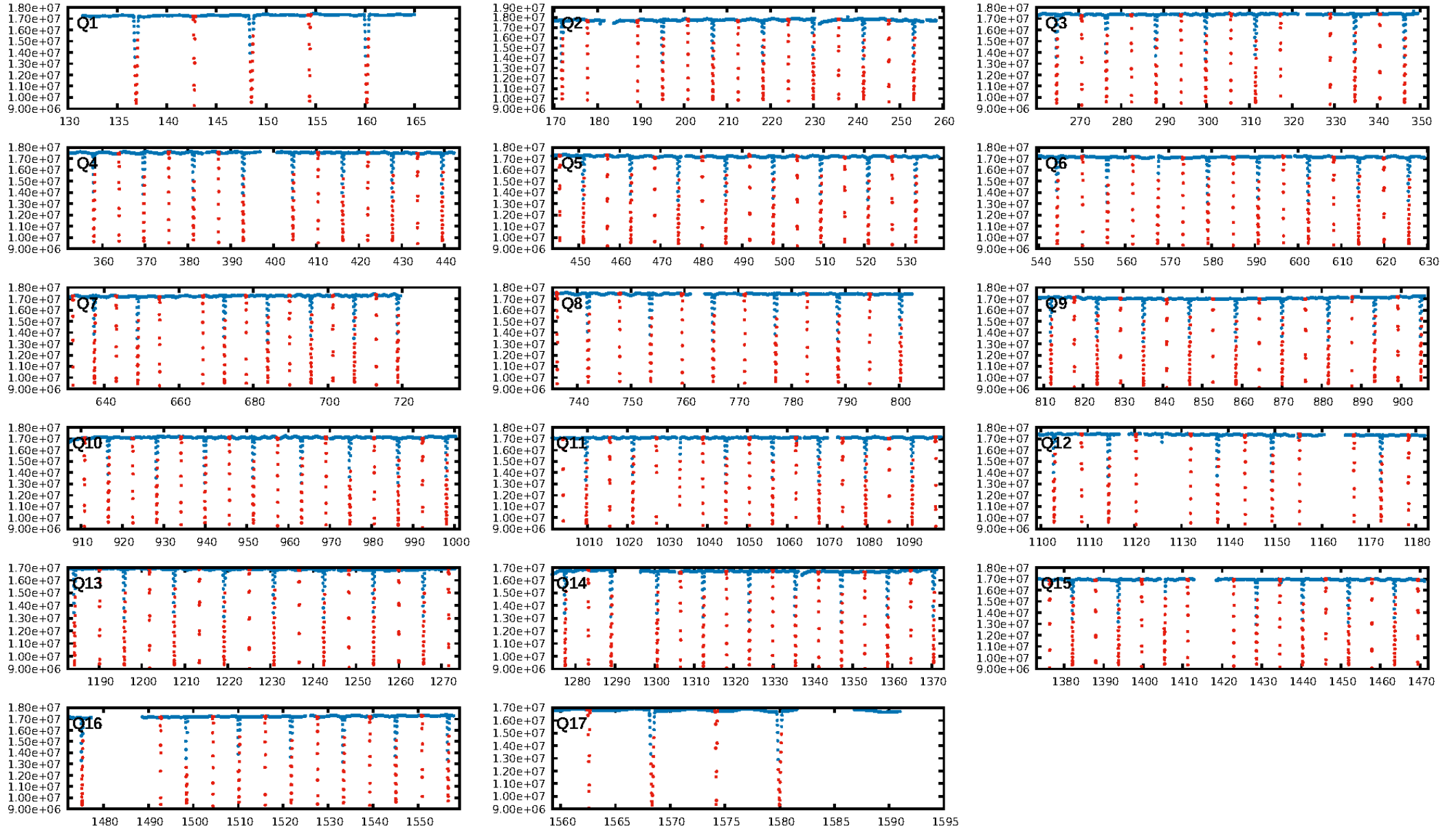
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.8% [2.52 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [209/222]
GhostDiagnostic-chr: 2.457
Centroid-sig: N/A
Centroid-so: 0.037 arcsec [52.59 σ]
OotOffset-rm: 0.009 arcsec [0.14 σ]
KicOffset-rm: 0.038 arcsec [0.57 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]

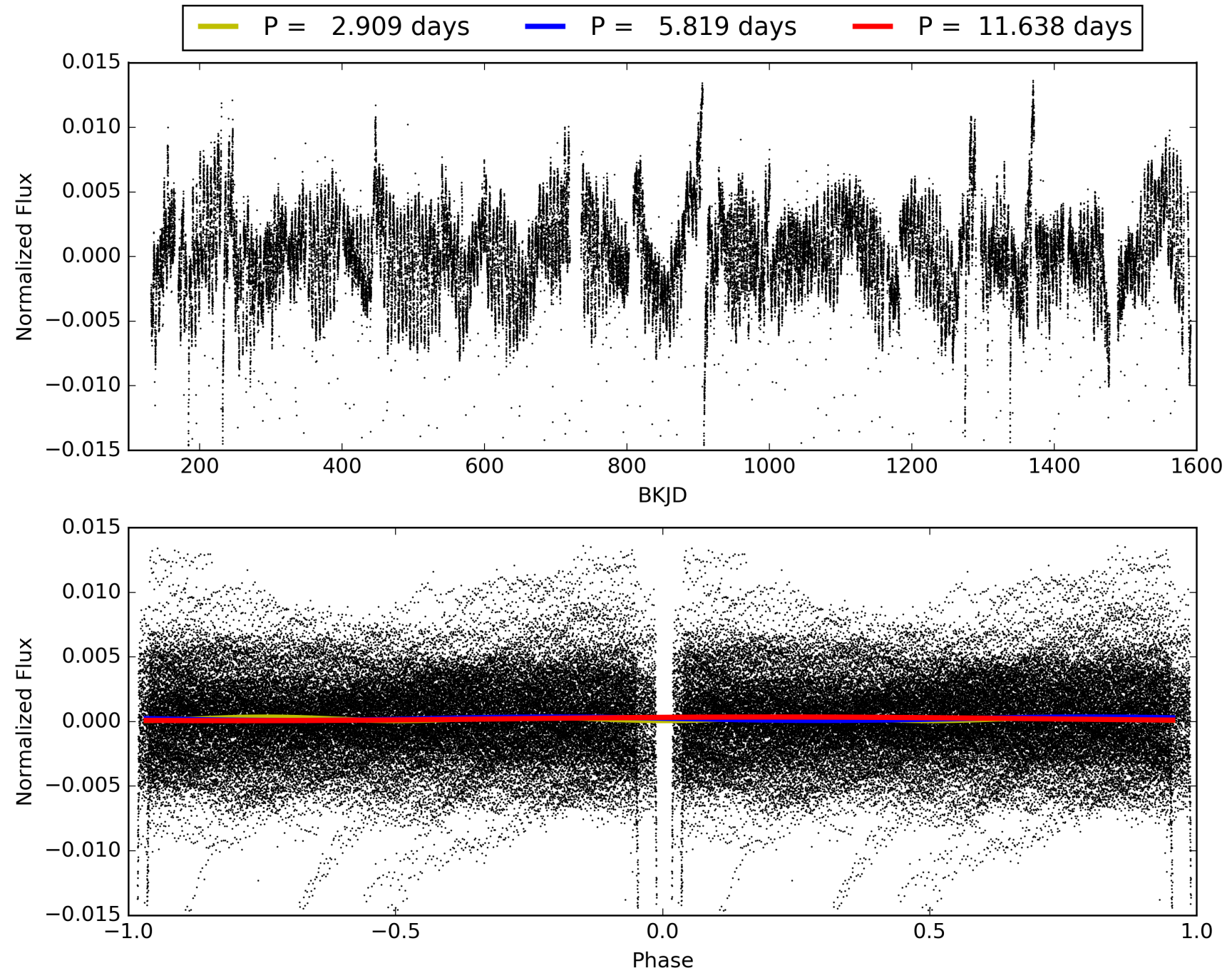
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:46:57 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005955321-01, PDC Light Curves

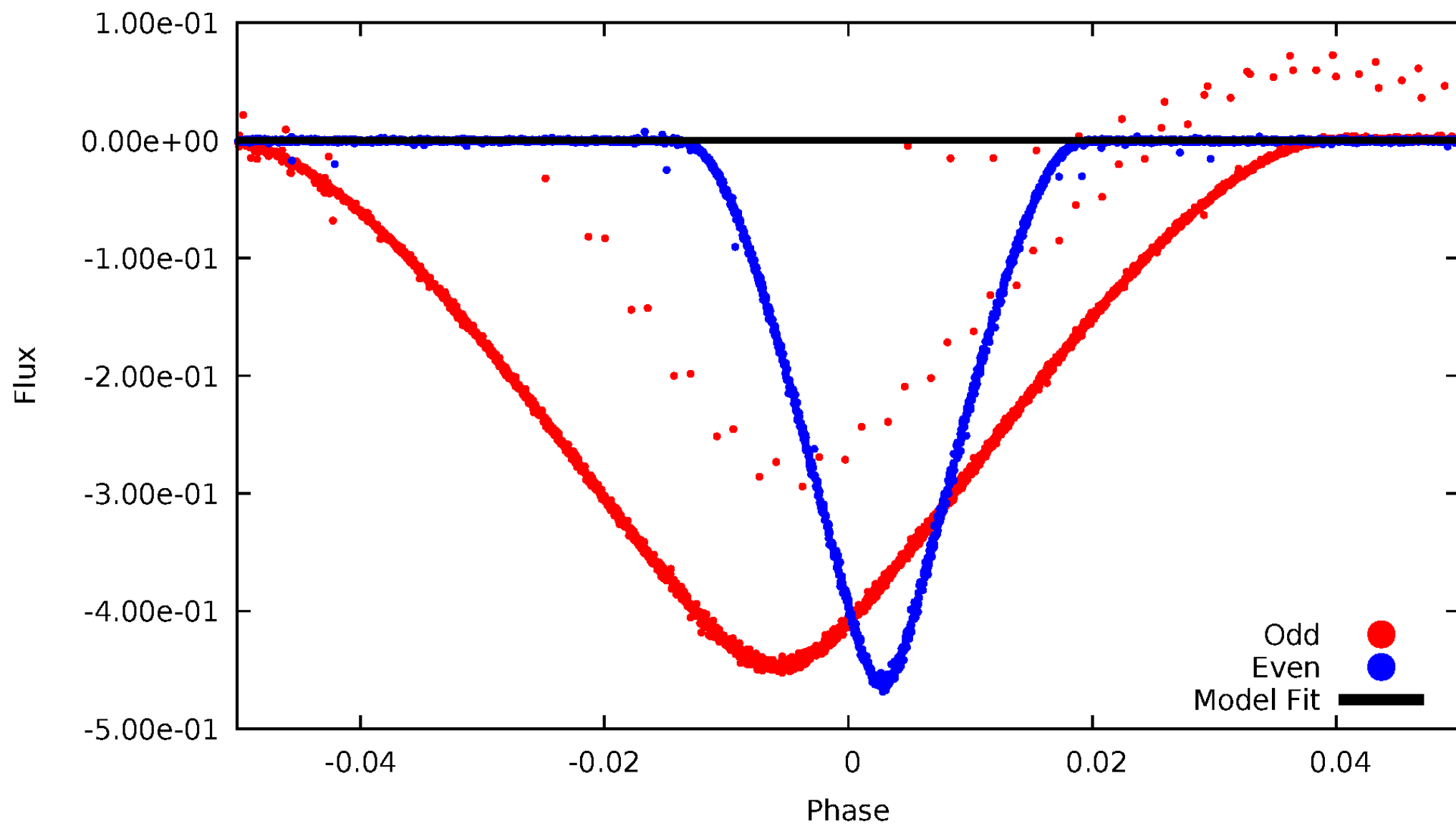


TCE 005955321-01



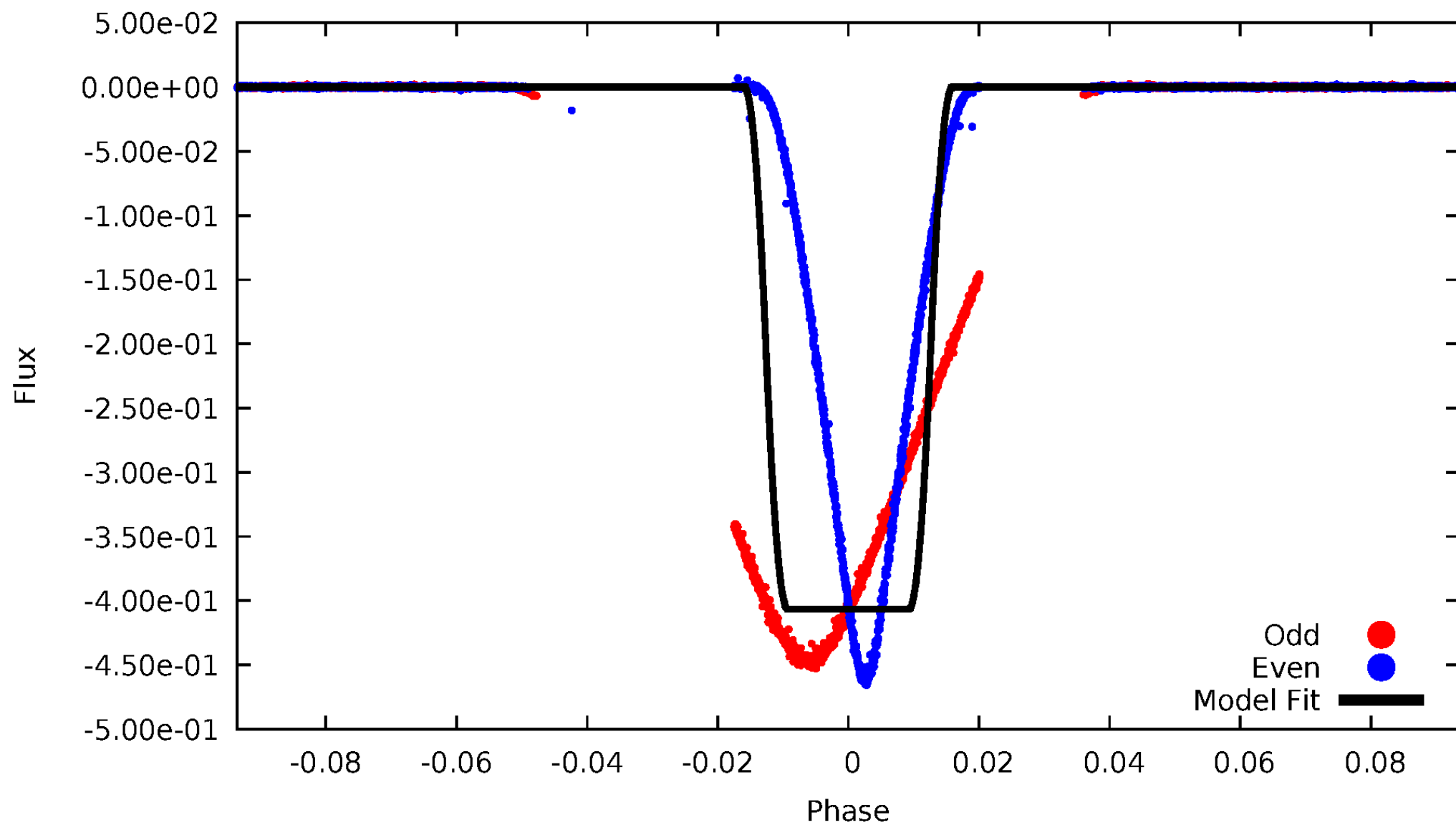
DV Odd/Even

TCE 005955321-01



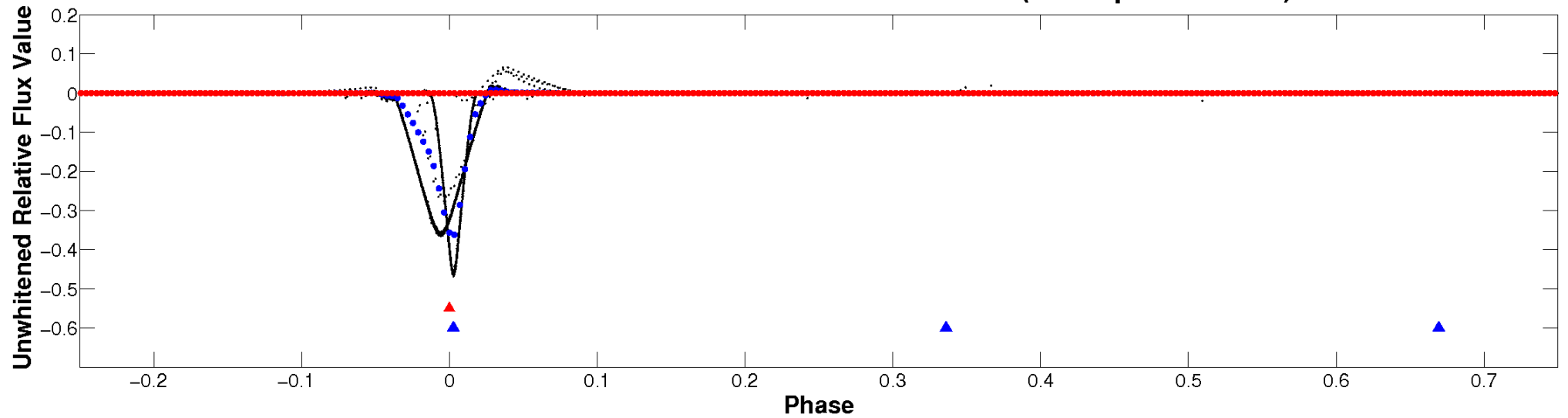
ALT Odd/Even

TCE 005955321-01



Non-Whitened Vs. Whitened Light Curve

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

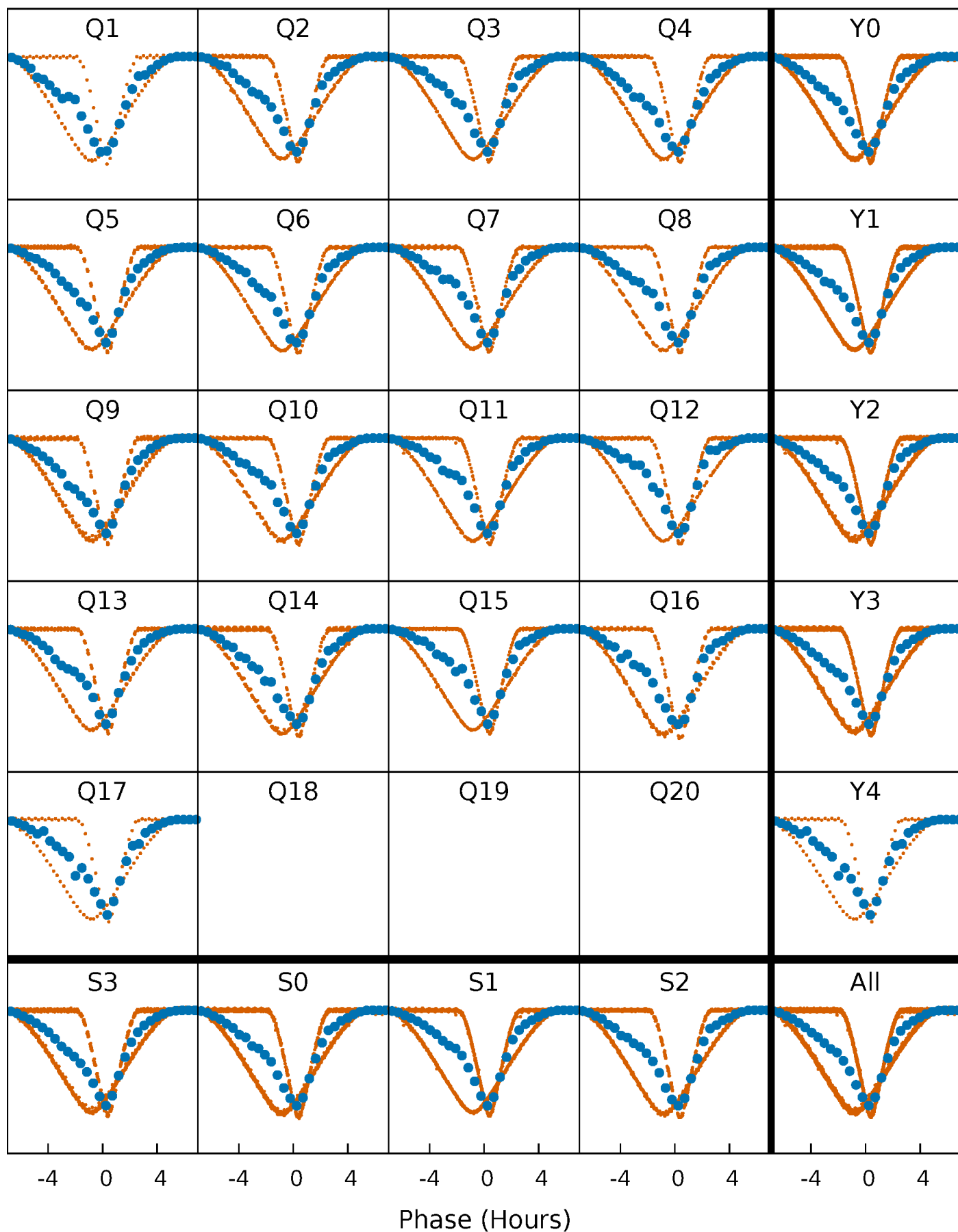


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



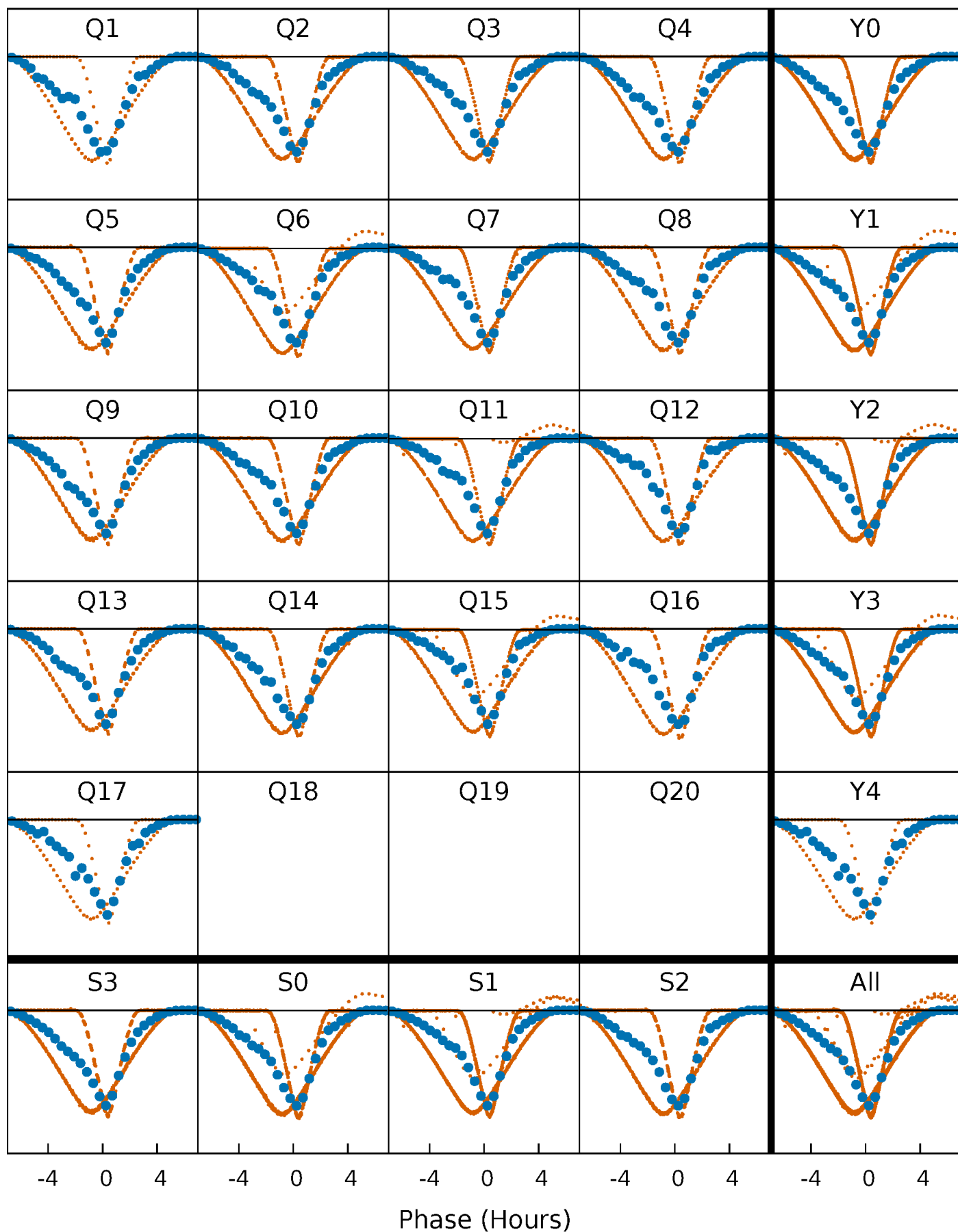
PDC Quarter-Phased Transit Curves

TCE 005955321-01 P= 5.818933 Days $T_0=136.919076$ (BKJD)



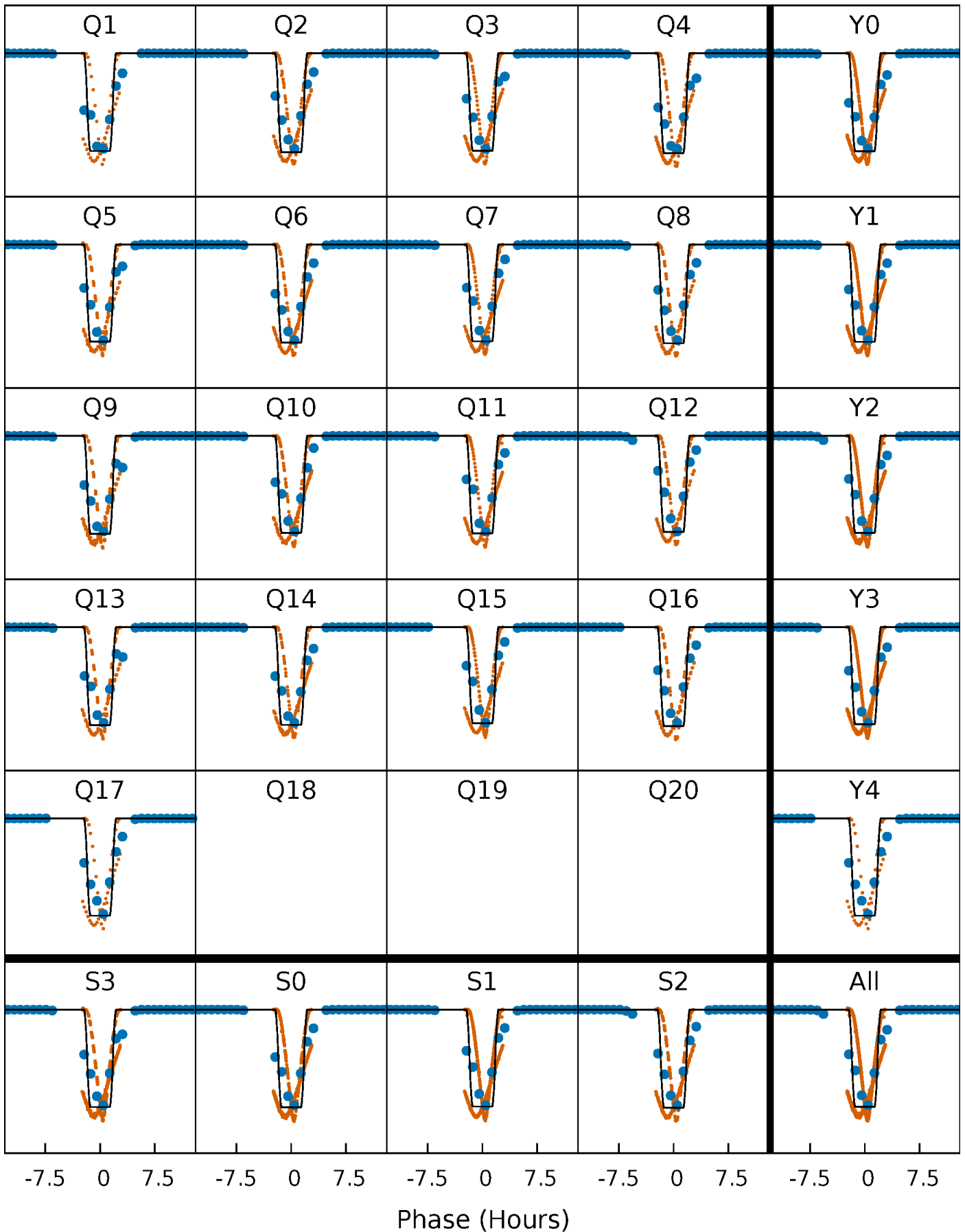
DV Quarter-Phased Transit Curves

TCE 005955321-01 P= 5.818933 Days $T_0=136.919076$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

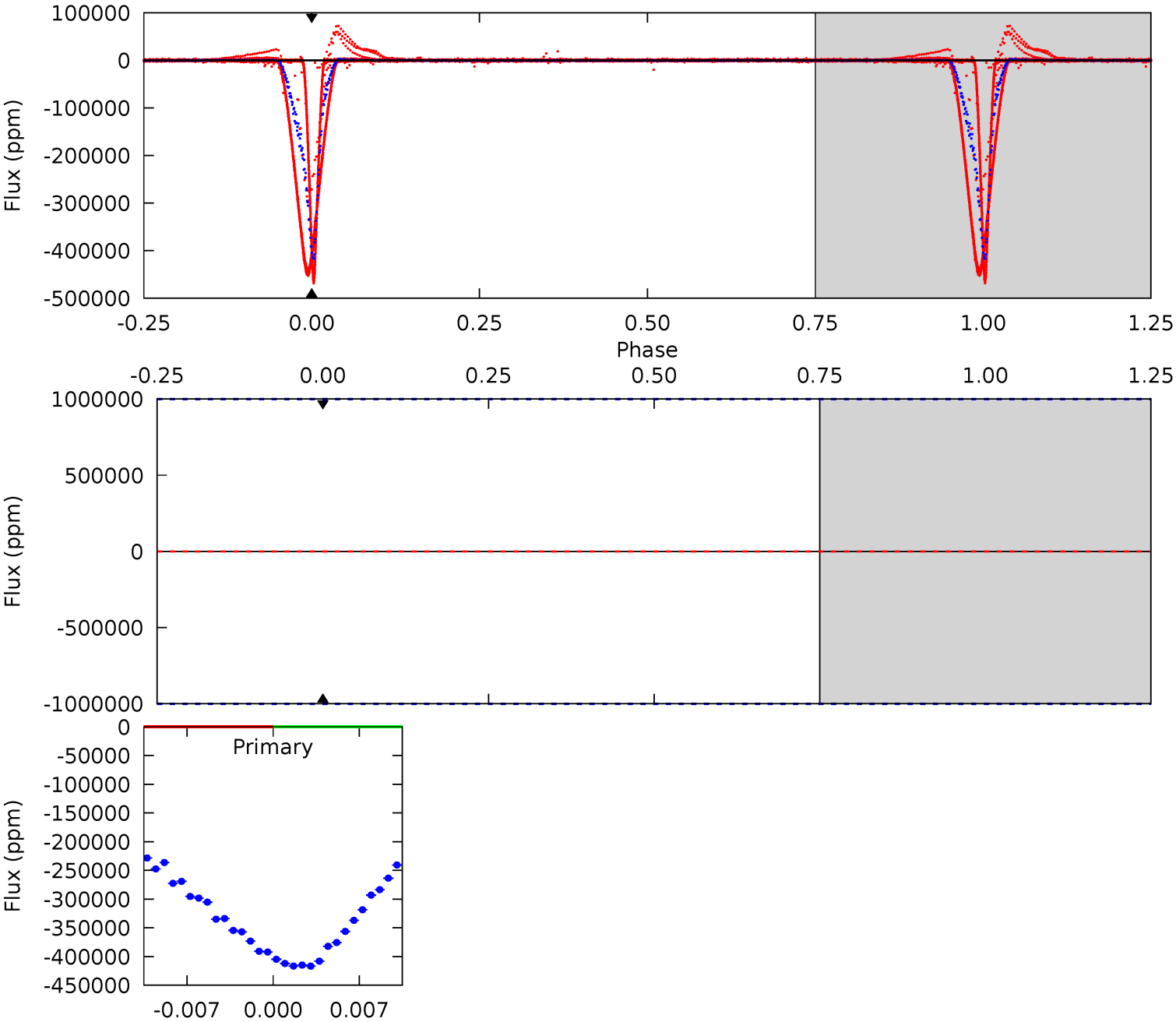
TCE 005955321-01 P= 5.818933 Days $T_0=136.920260$ (BKJD)



DV Model-Shift Uniqueness Test

005955321-01, P = 5.818933 Days, E = 131.100143 Days

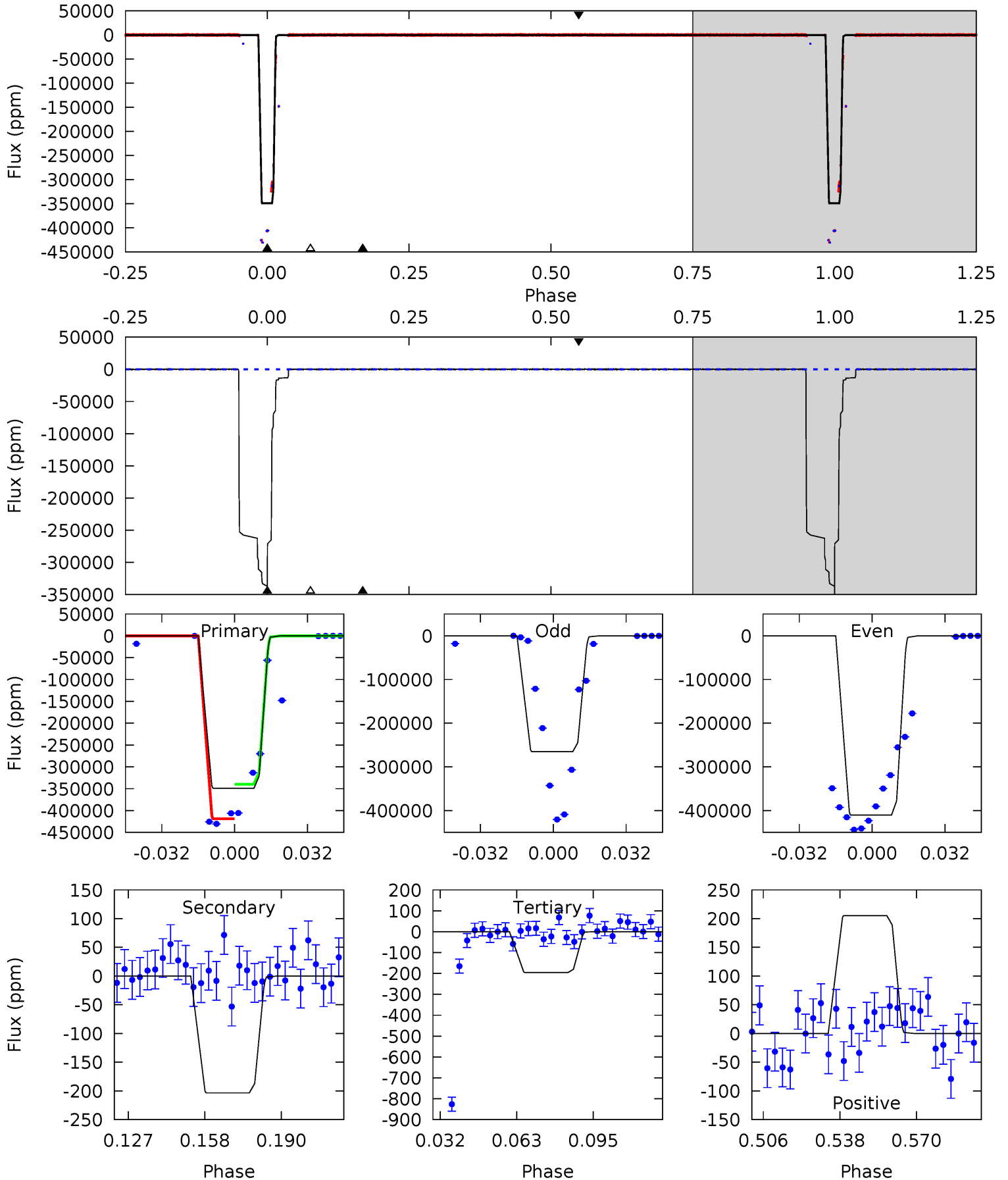
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005955321-01, P = 5.818933 Days, E = 131.101327 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6683	3.90	3.75	3.94	4.80	2.15	86.6	6679	6679	0.15	-0.04	3663	0.95	0.00	509.0



Stellar Parameters For KIC 005955321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6360^{+176}_{-242}	$4.433^{+0.067}_{-0.216}$	$-0.200^{+0.250}_{-0.300}$	$1.058^{+0.339}_{-0.121}$	$1.105^{+0.154}_{-0.154}$	$1.313^{+0.383}_{-0.706}$
	+3%/-4%	+2%/-5%	+125%/-150%	+32%/-11%	+14%/-14%	+29%/-54%
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 005955321-01 / KOI 6140.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$59.32^{+16.42}_{-13.92}$	1601^{+128}_{-81}	2464^{+2888}_{-7518}	$1.114^{+76.190}_{-60.514}$
Alt.	-204 ± 52	$76.21^{+15.84}_{-13.50}$	1601^{+107}_{-84}	-2166^{+82}_{-89}	$0.080^{+0.044}_{-0.028}$

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

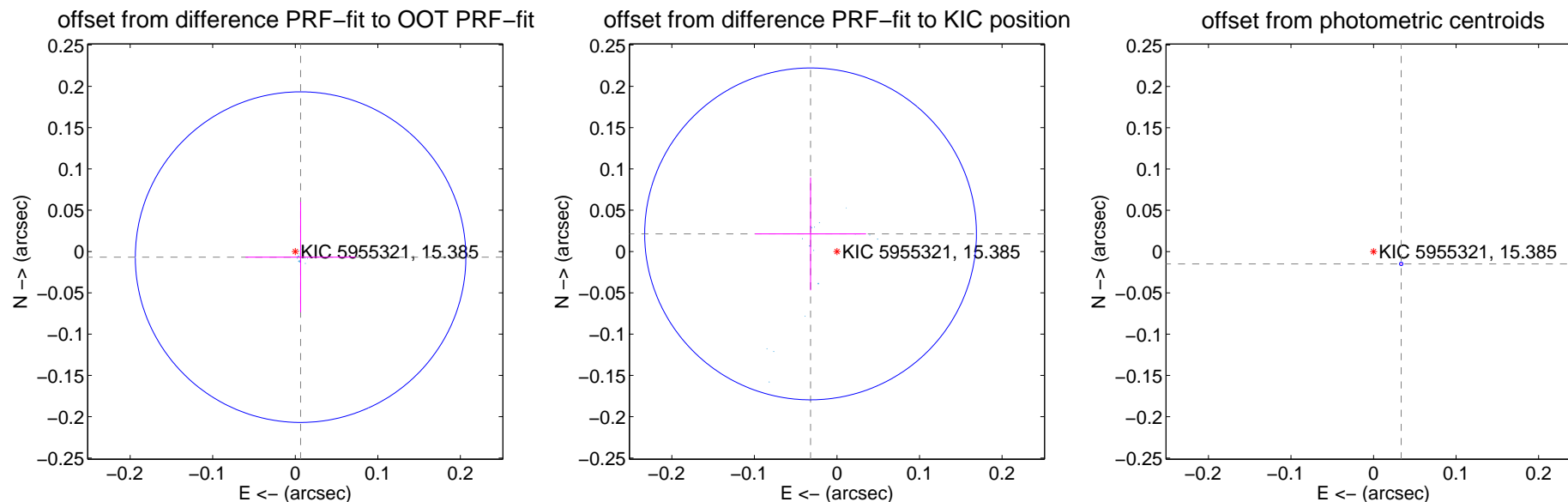
DV Centroid Data

Supplemental centroid analysis for 005955321-01. Kepler magnitude: 15.38. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

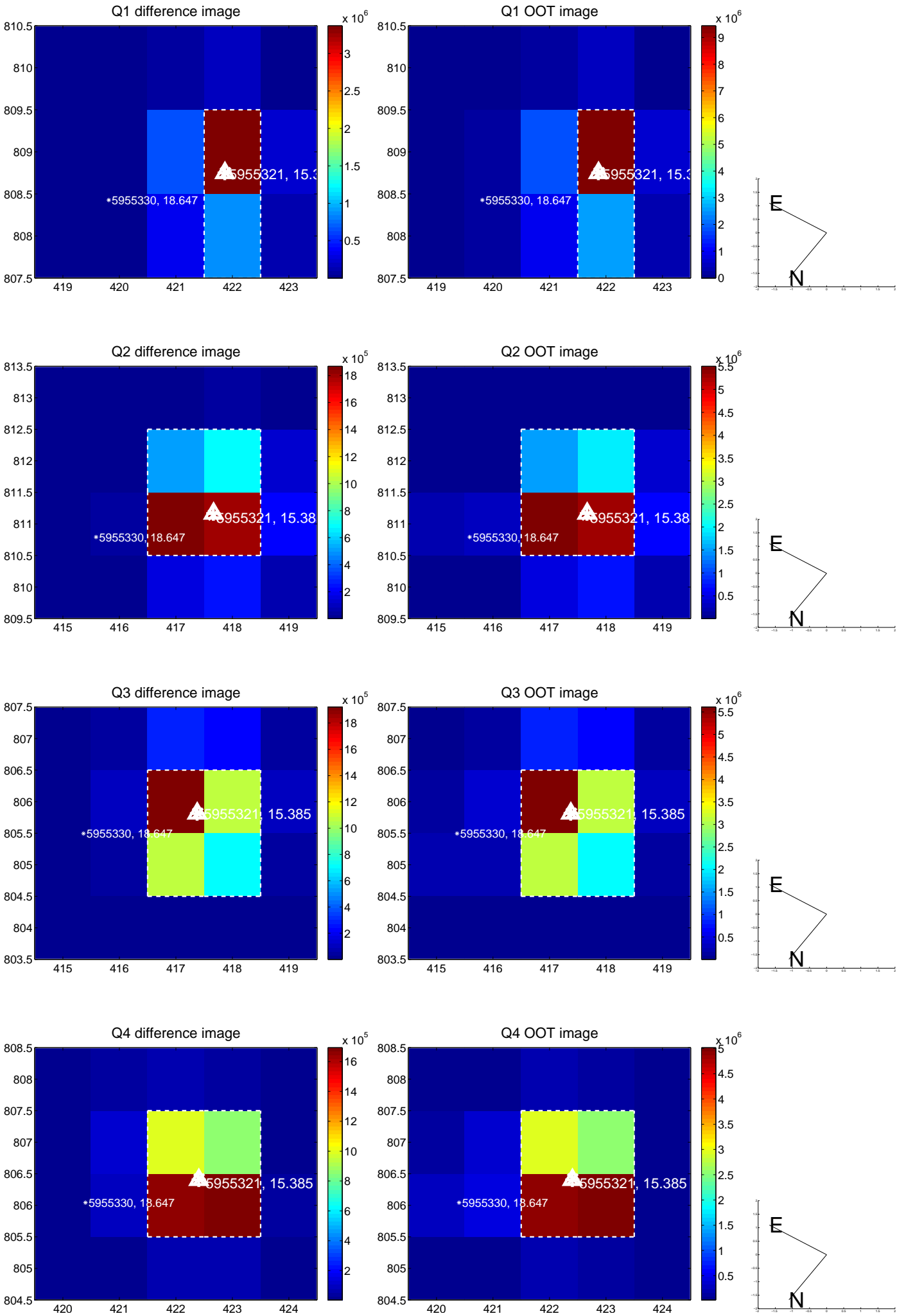
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.14	-0.006 ± 0.067	-0.007 ± 0.067
PRF-fit source offset from KIC position	0.038 ± 0.067	0.57	0.032 ± 0.067	0.021 ± 0.068
photometric centroid source offset	0.04 ± 0.00	52.59	-0.03 ± 0.00	-0.01 ± 0.00

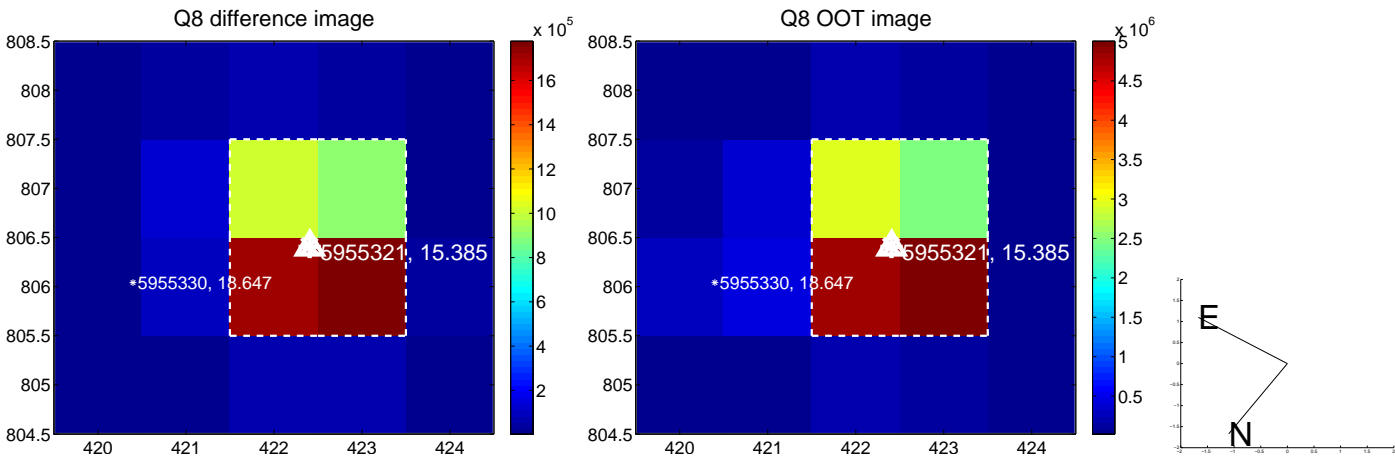
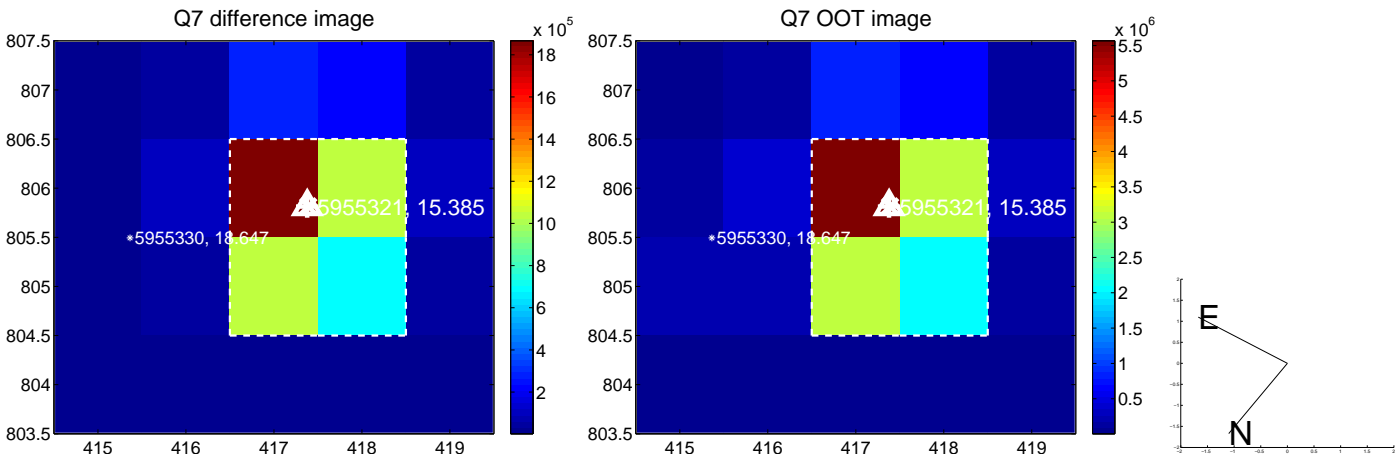
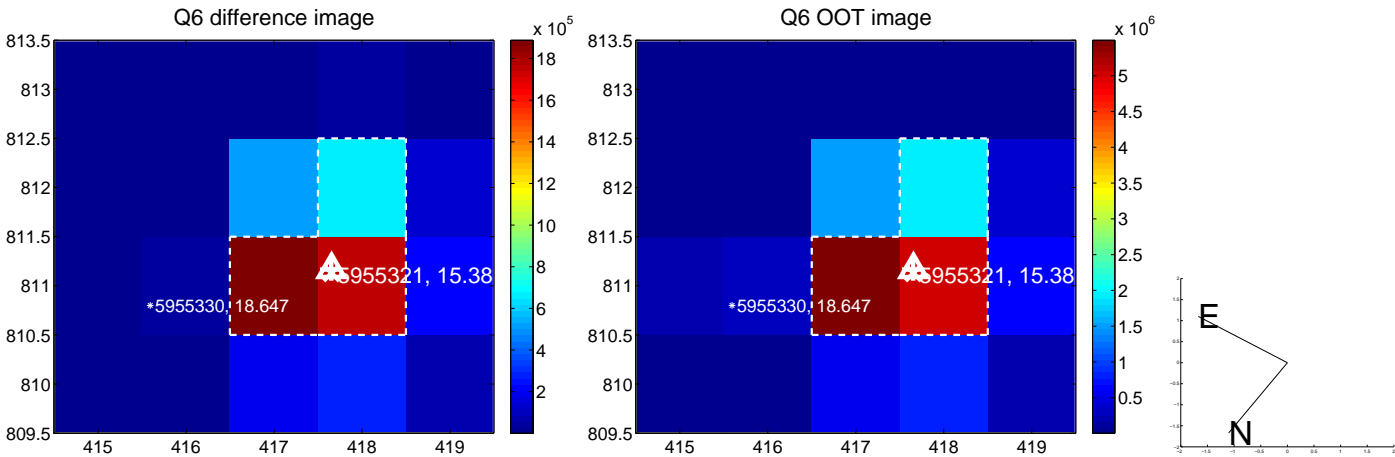
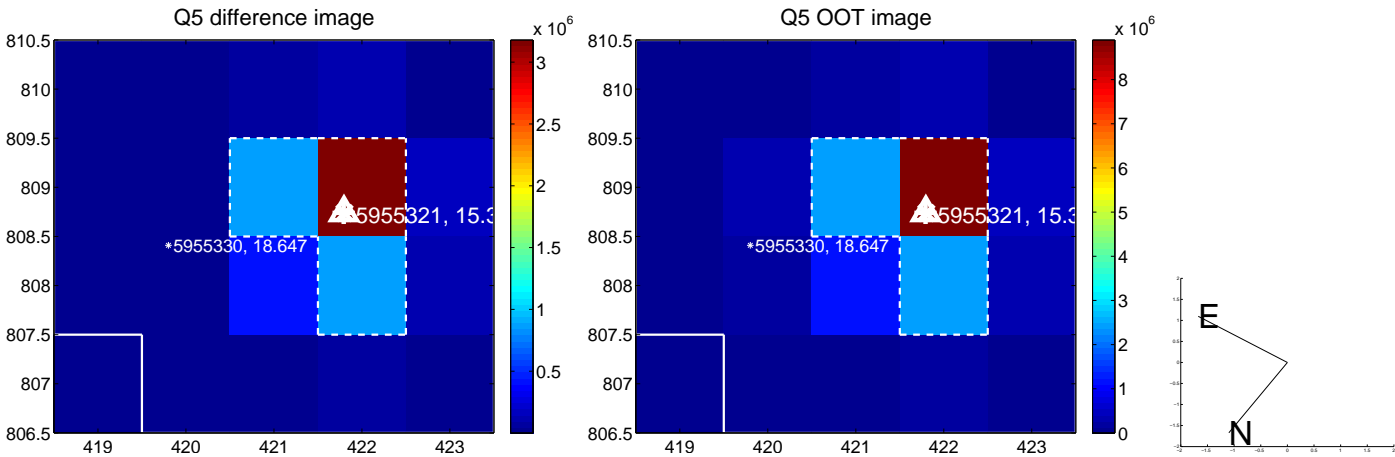


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

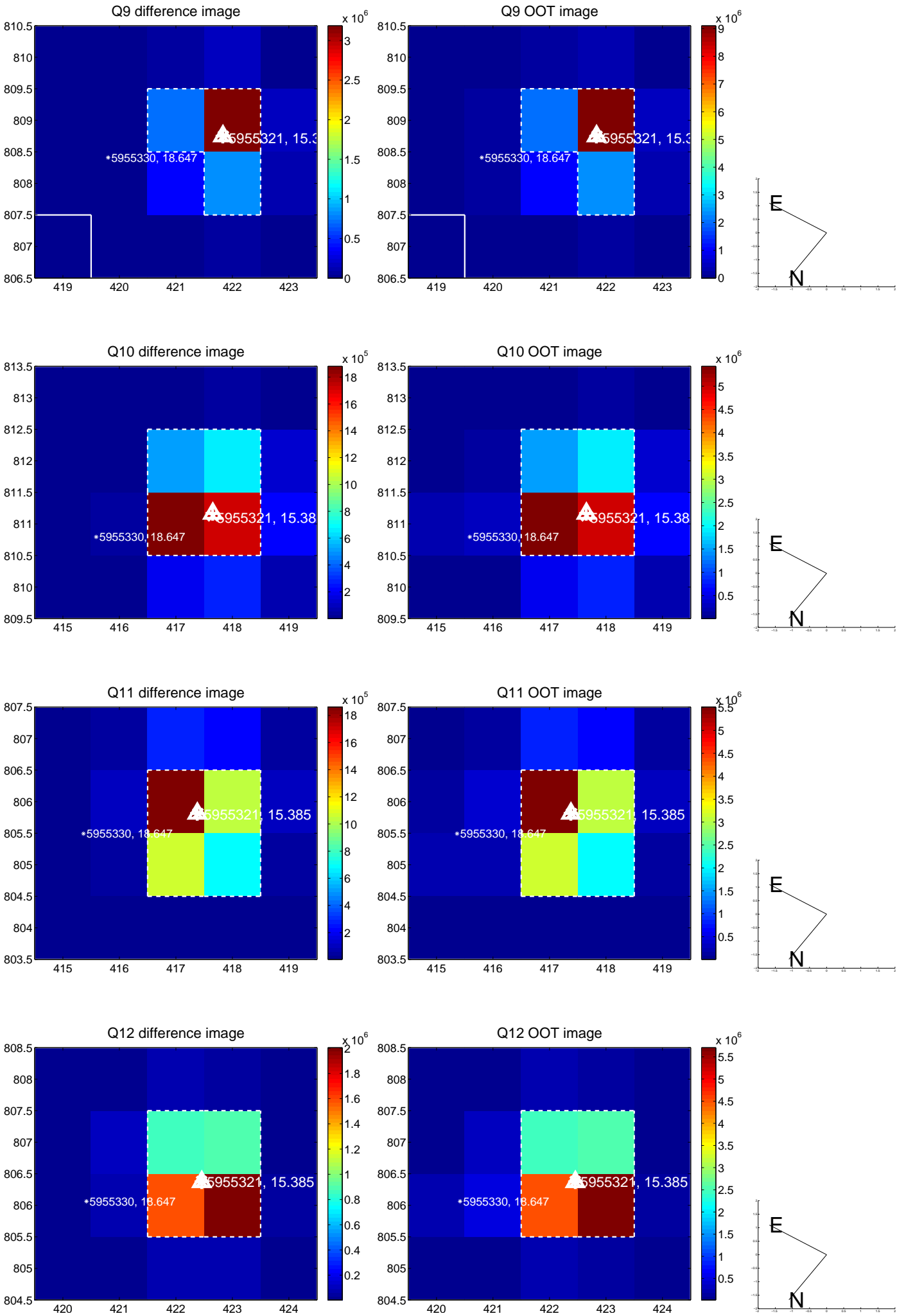
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



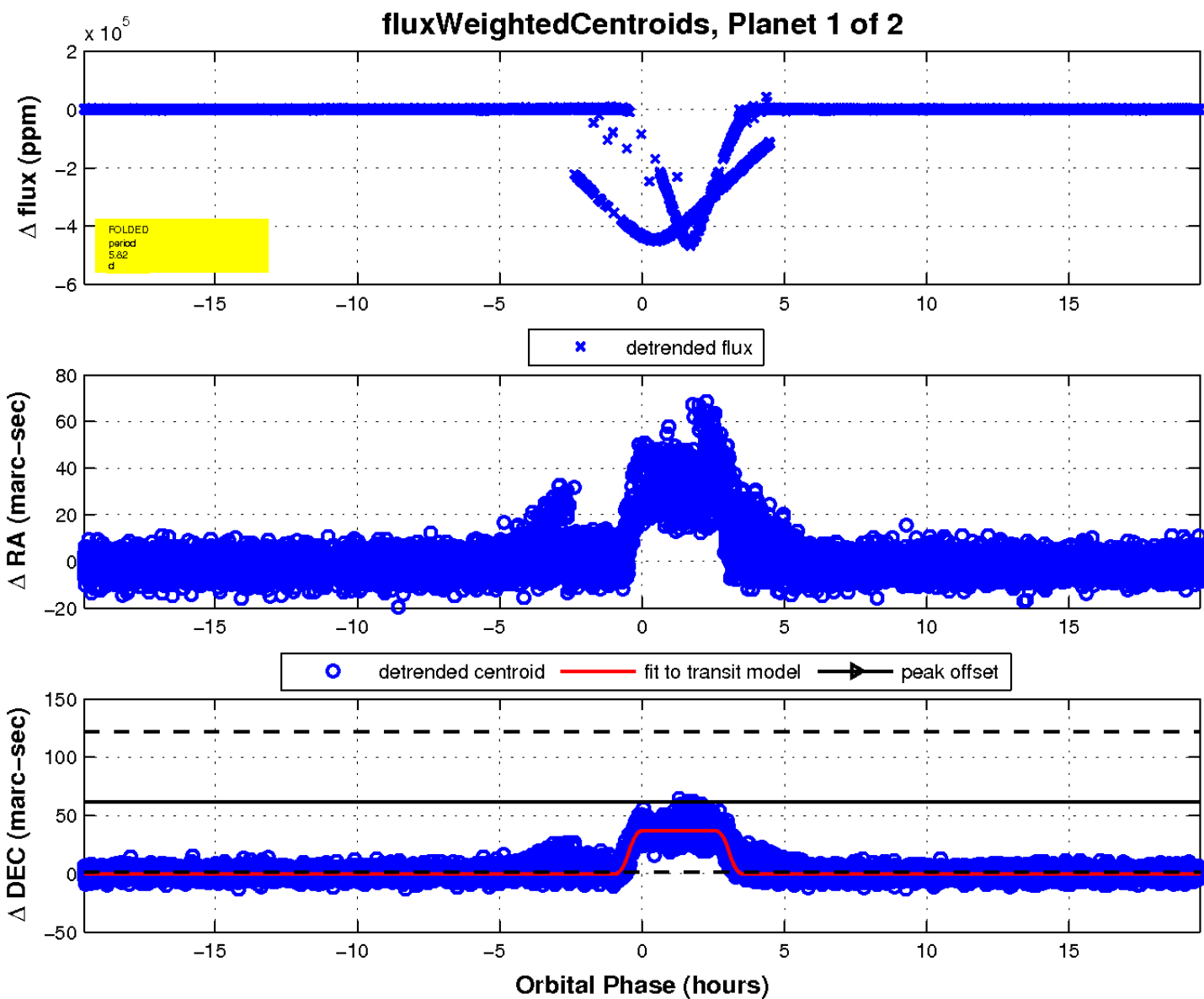
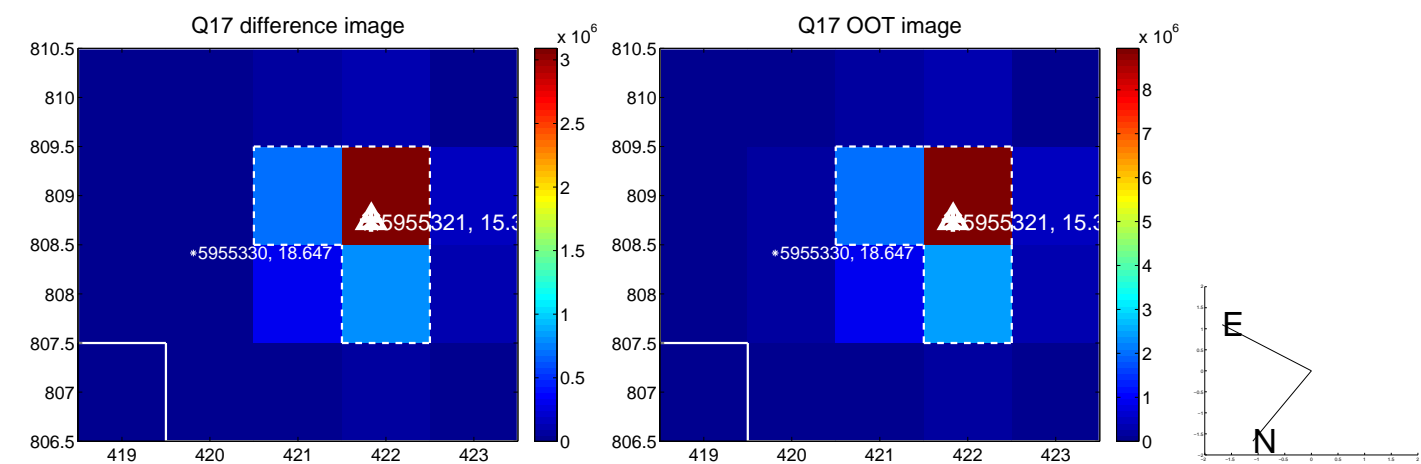
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

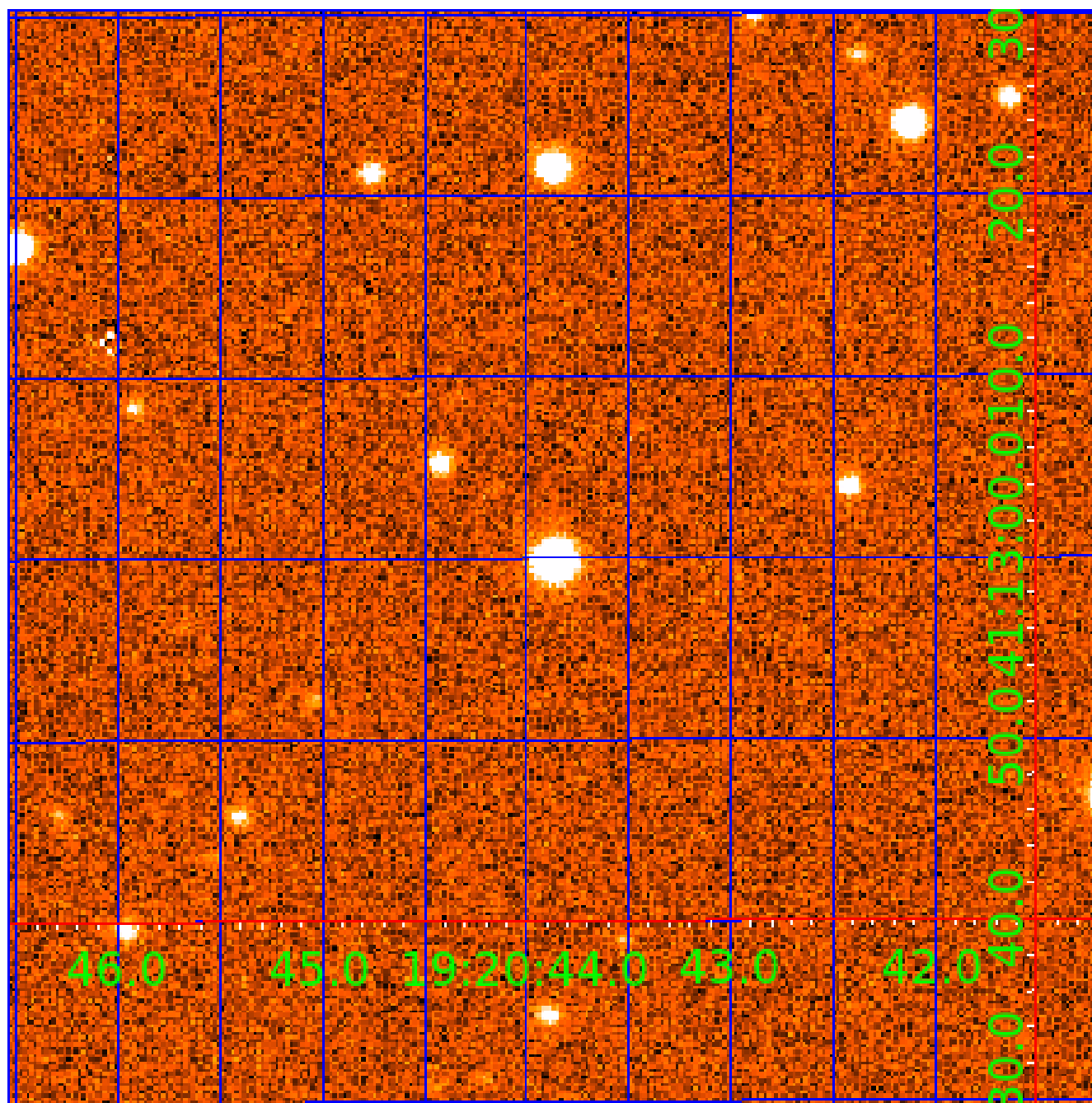


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005955321

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})
005955321-01	OBS	6140.01	5.818933	136.919076	449487.2	3.500	15089.3	-1.0	1.06	6360	56.56	382.46
005955321-02	OBS	No	7.758561	134.996955	3667.4	18.123	874.4	71.9	1.06	6360	7.90	260.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005955321-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—CENT_NOFITS
005955321-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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.

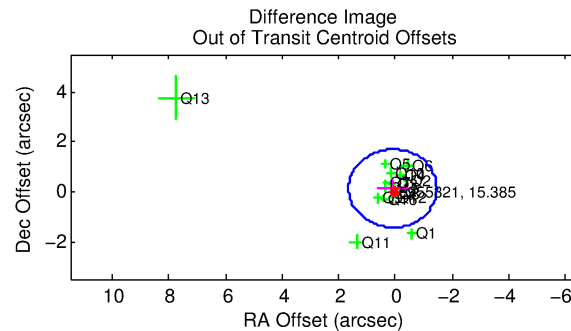
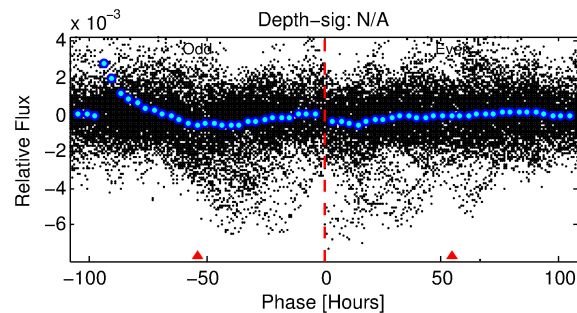
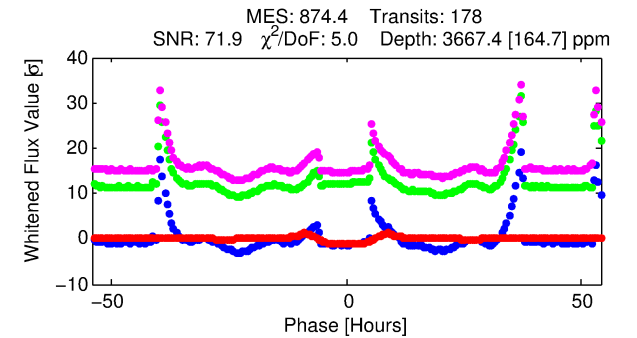
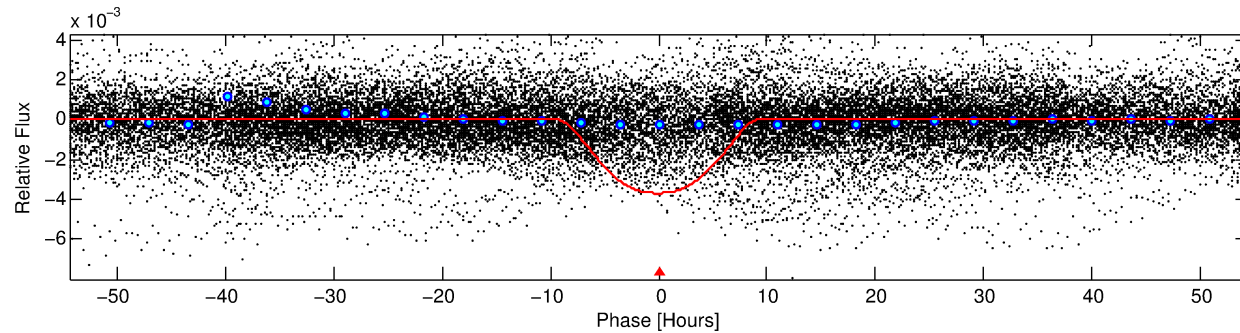
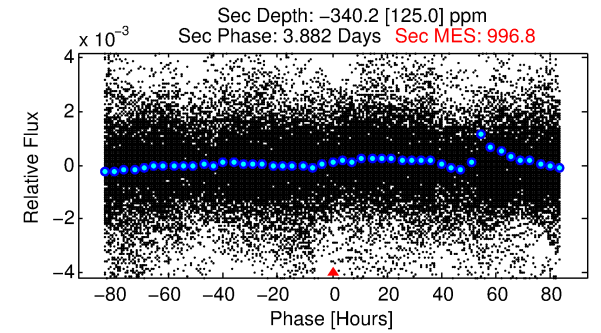
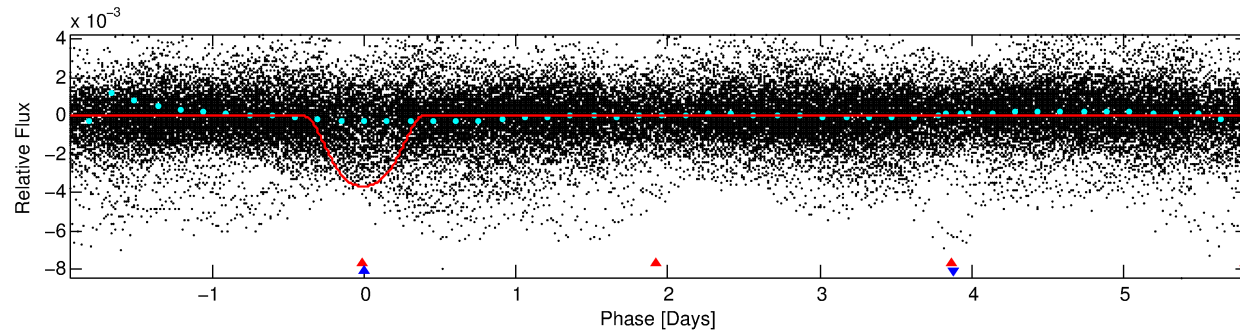
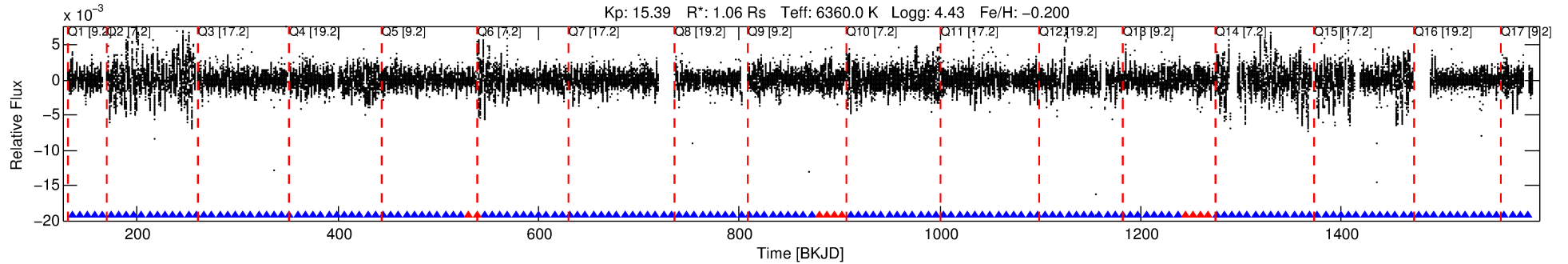
Ephemeris Match Information For 005955321-02

No Significant Match Found

DV One-Page Summary

KIC: 5955321 Candidate: 2 of 2 Period: 7.759 d
KOI: K06140 Corr: No Ephemeris Match

Kp: 15.39 R*: 1.06 Rs Teff: 6360.0 K Logg: 4.43 Fe/H: -0.200



DV Fit Results:

Period = 7.75856 [0.00007] d
Epoch = 134.9970 [0.0071] BKJD
Rp/R* = 0.0685 [0.0024]
a/R* = 1.95 [0.03]
b = 0.94 [0.01]
Seff = 260.62 [110.18]
Teff = 1025 [108] K
Rp = 7.90 [2.55] Re
a = 0.0793 [0.0215] AU
Ag = N/A
Teffp = N/A

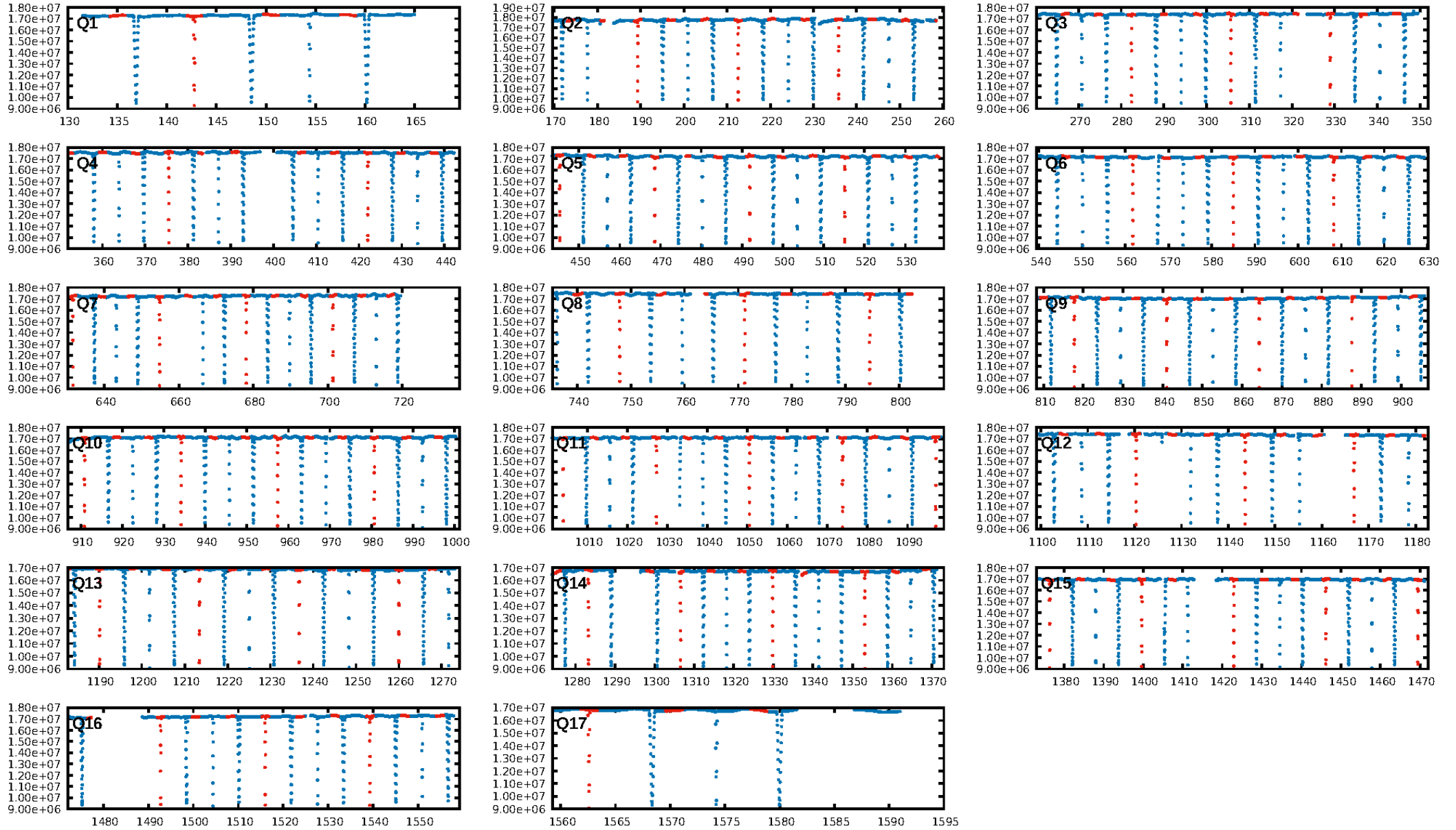
DV Diagnostic Results:

ShortPeriod-sig: 98.8% [2.52 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [161/171]
GhostDiagnostic-chr: 1.333
Centroid-sig: N/A
Centroid-so: 0.048 arcsec [0.94 σ]
OotOffset-rm: 0.158 arcsec [0.30 σ]
KicOffset-rm: 0.174 arcsec [0.34 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 1.00 [17/17]

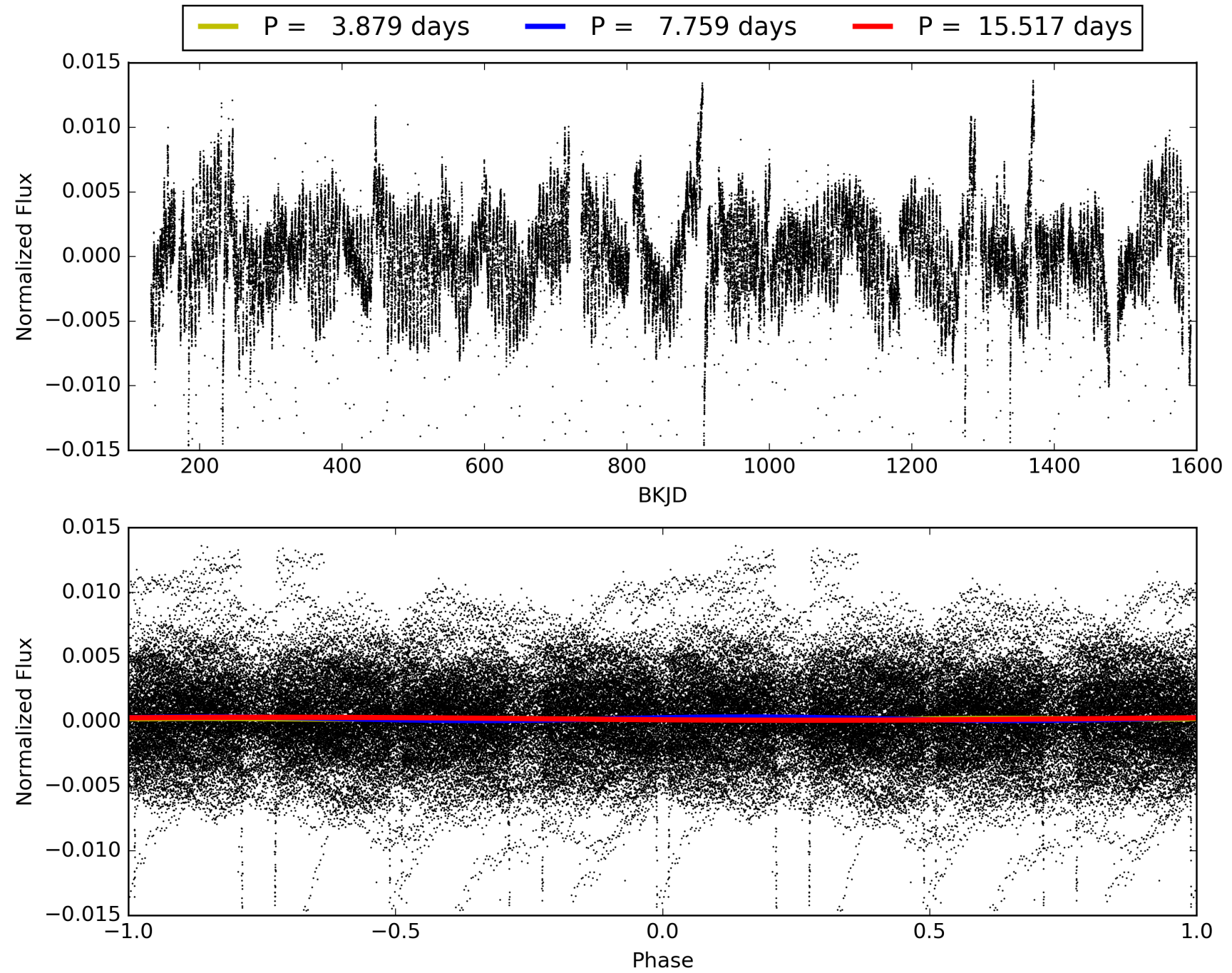
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005955321-02, PDC Light Curves

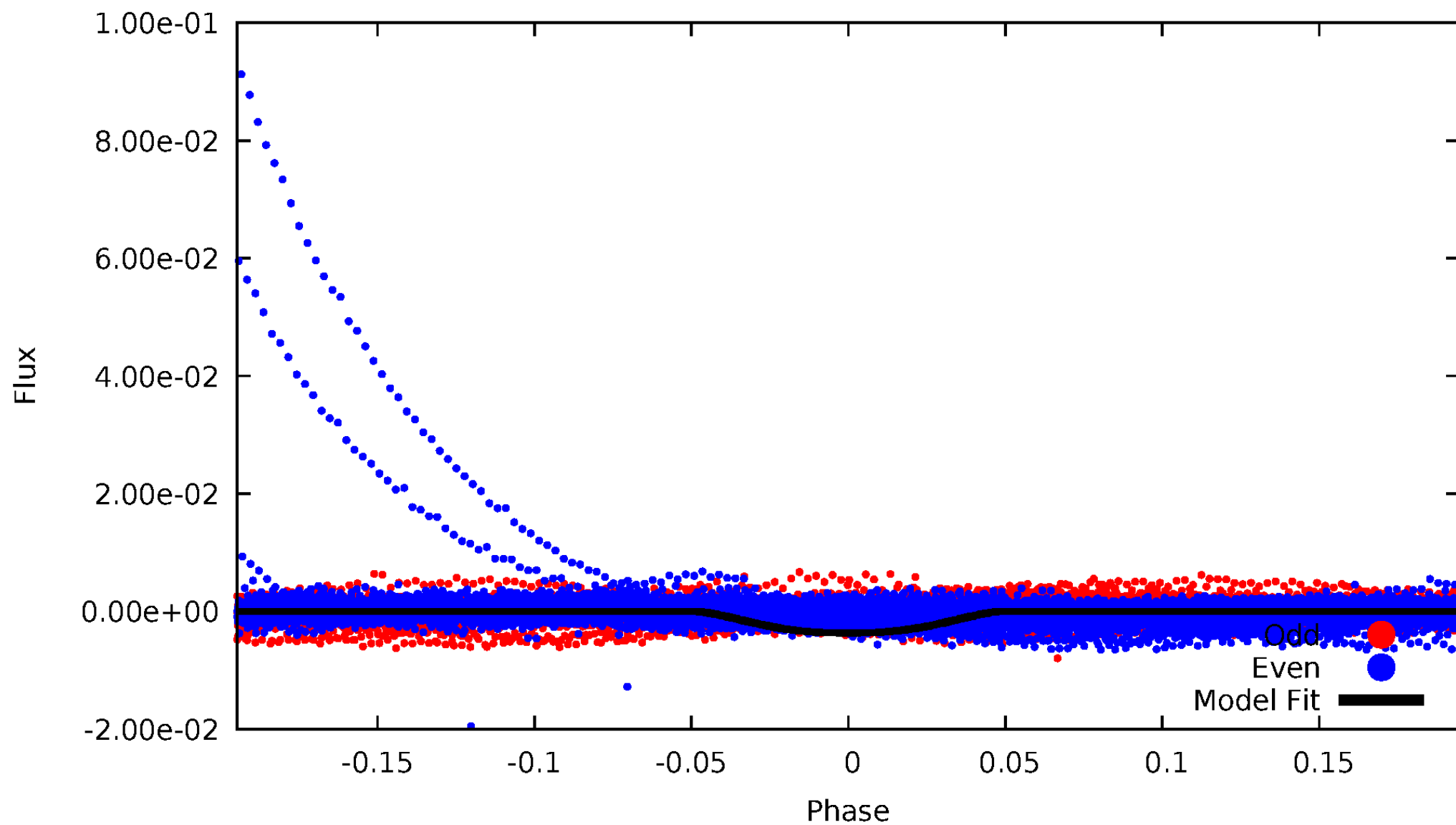


TCE 005955321-02



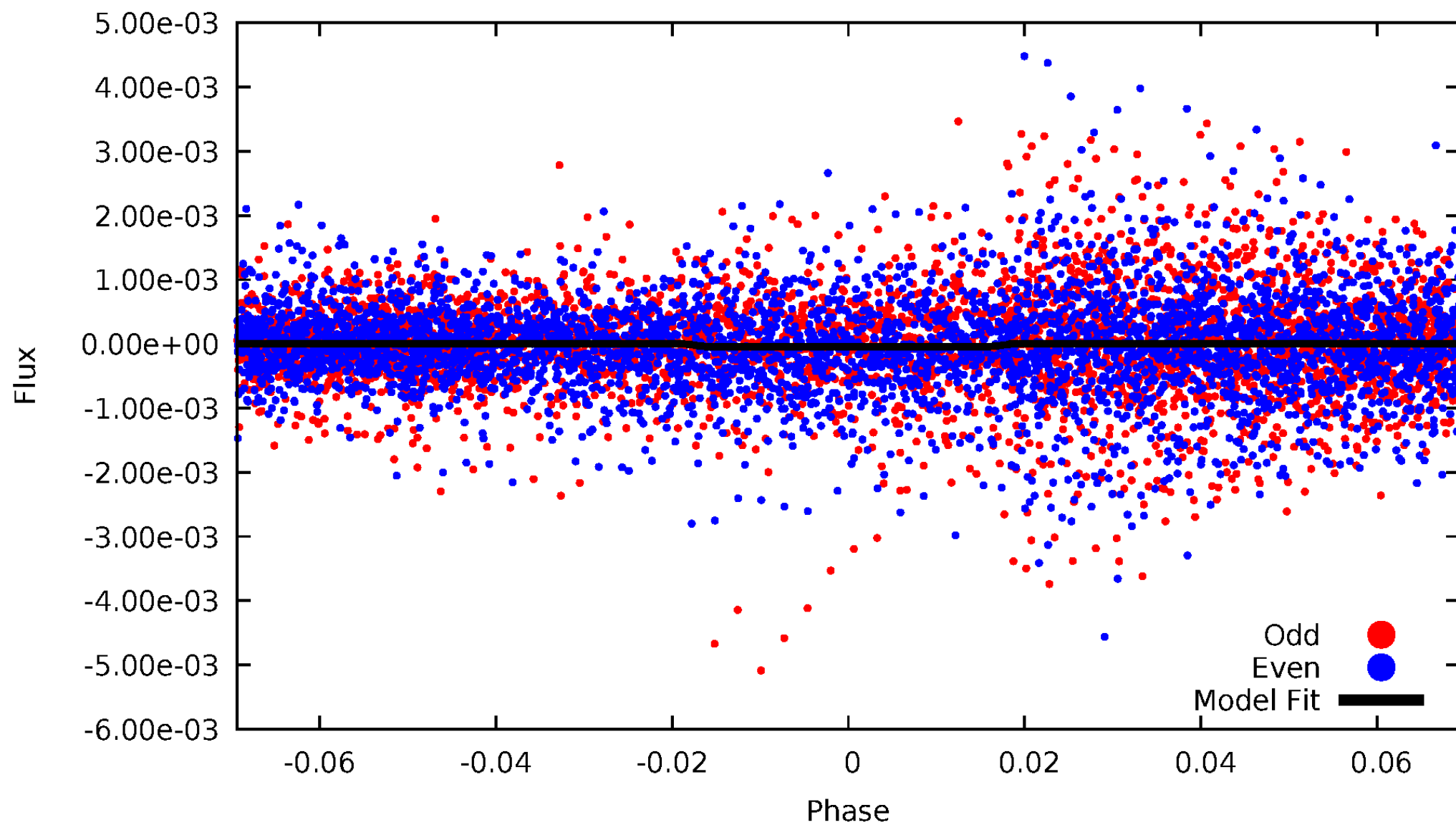
DV Odd/Even

TCE 005955321-02



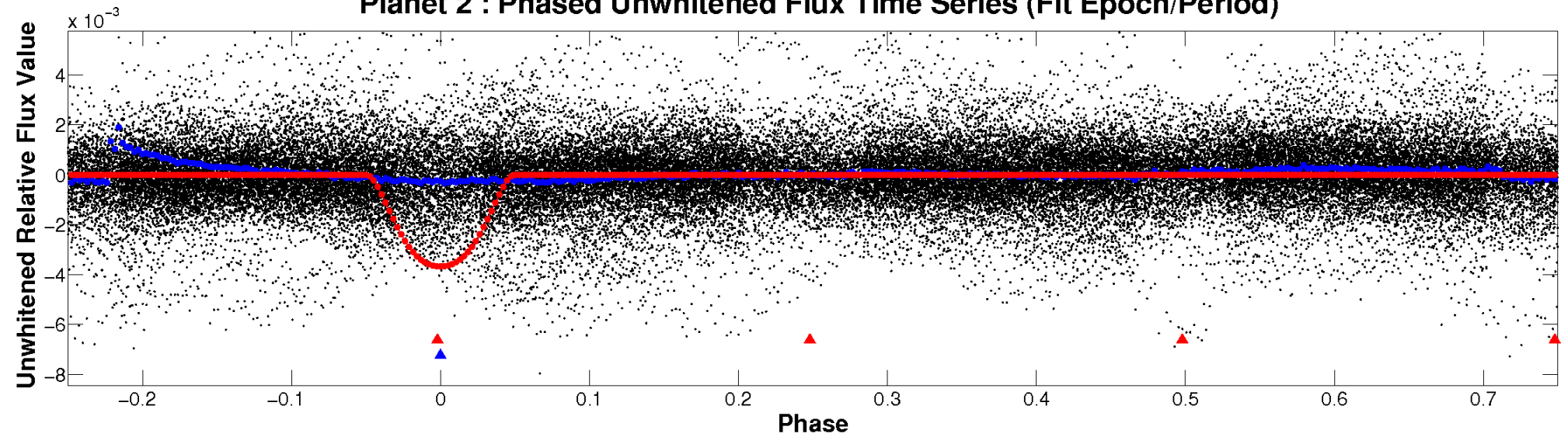
ALT Odd/Even

TCE 005955321-02

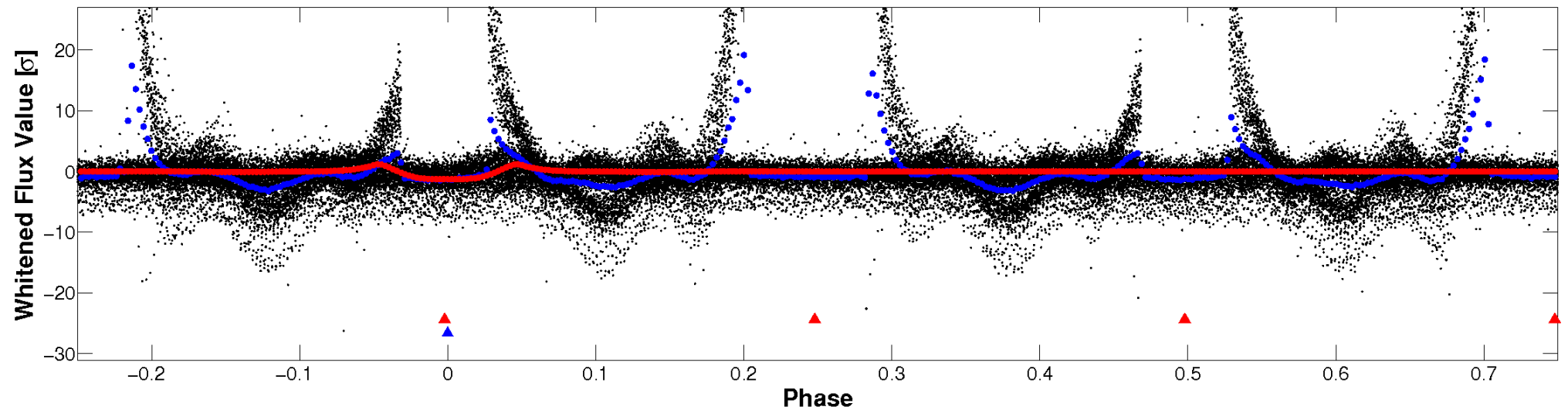


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

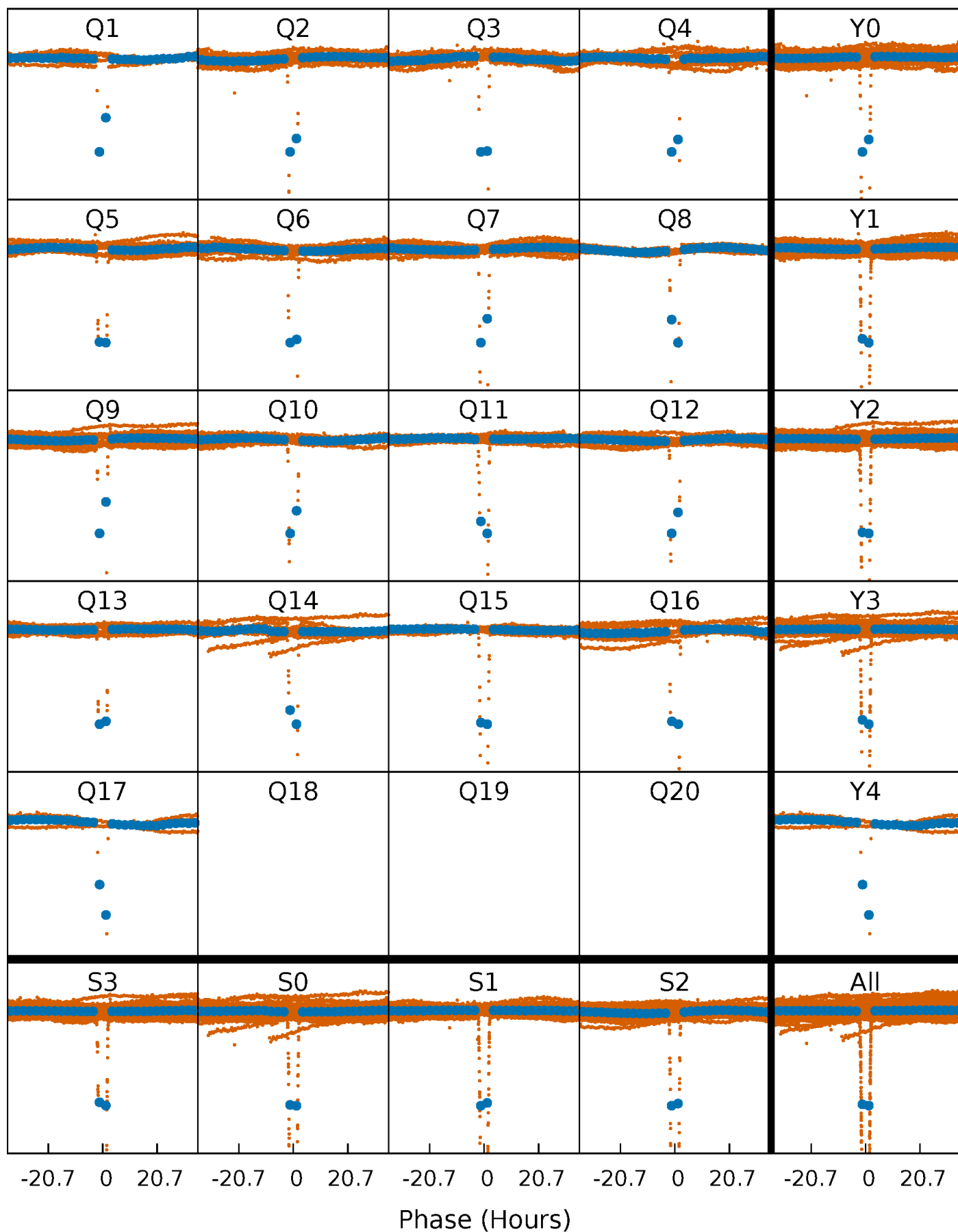


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



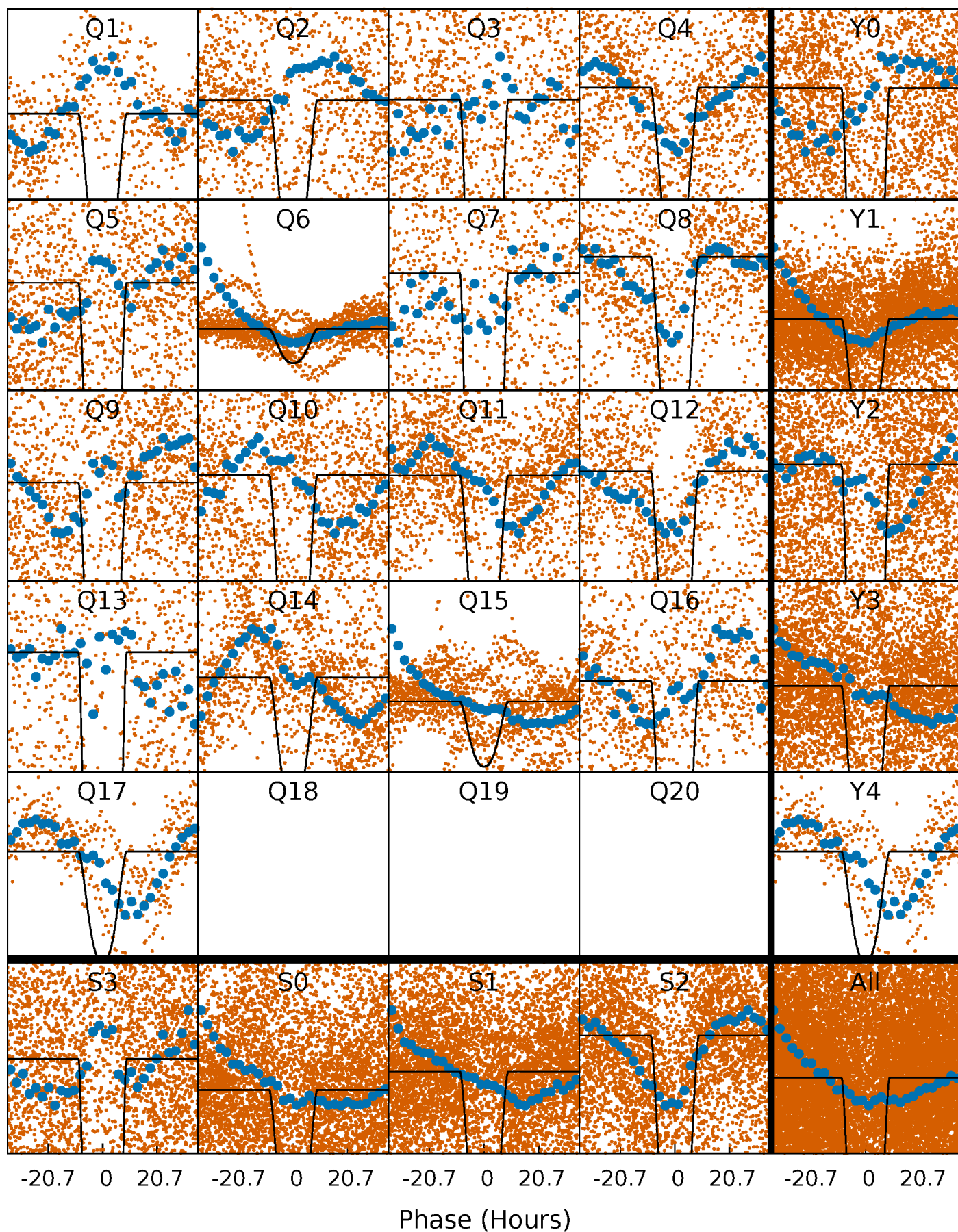
PDC Quarter-Phased Transit Curves

TCE 005955321-02 P= 7.758561 Days $T_0=134.996955$ (BKJD)



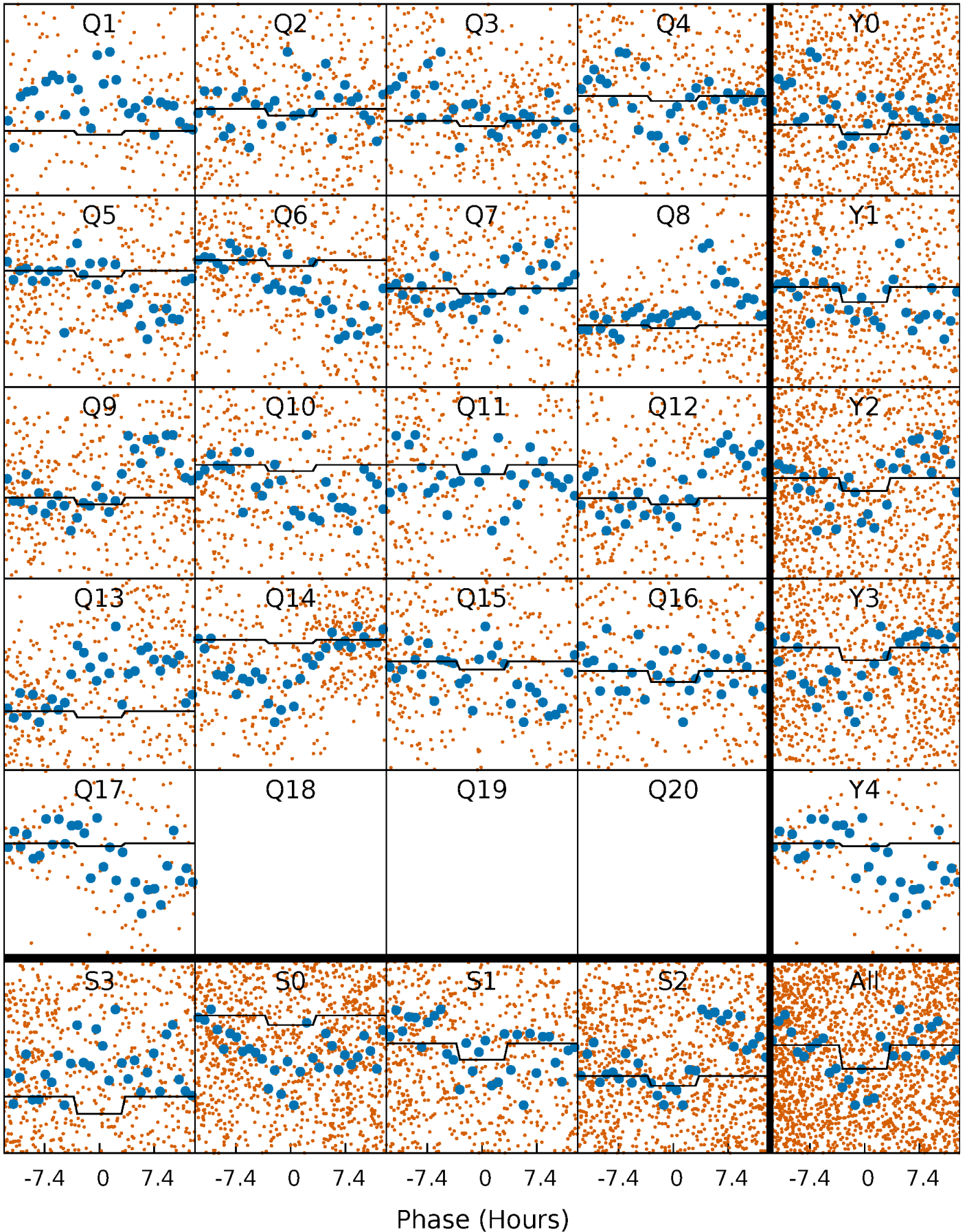
DV Quarter-Phased Transit Curves

TCE 005955321-02 P= 7.758561 Days $T_0=134.996955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

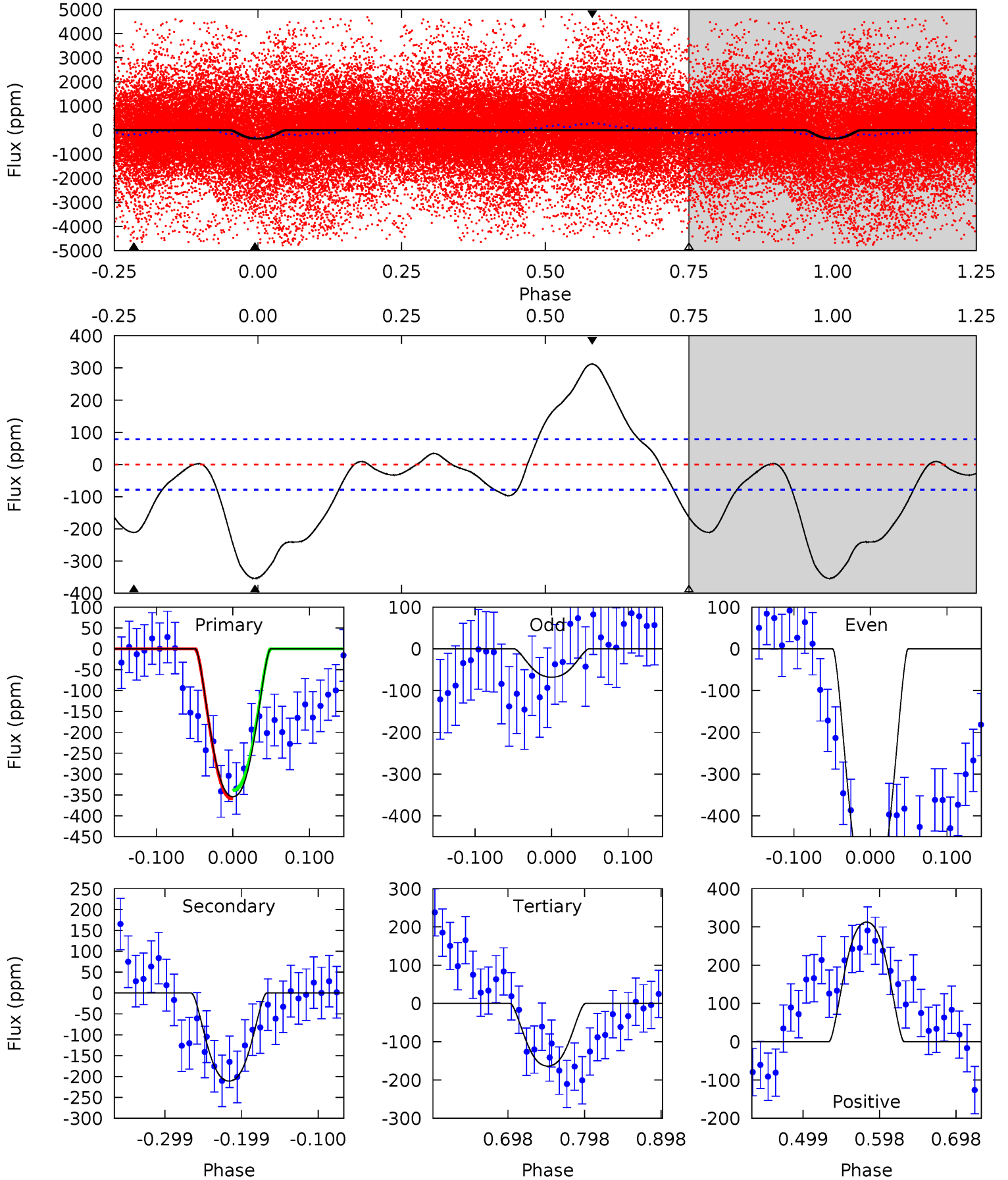
TCE 005955321-02 P= 7.758501 Days $T_0=135.076039$ (BKJD)



DV Model-Shift Uniqueness Test

005955321-02, P = 7.758561 Days, E = 127.238394 Days

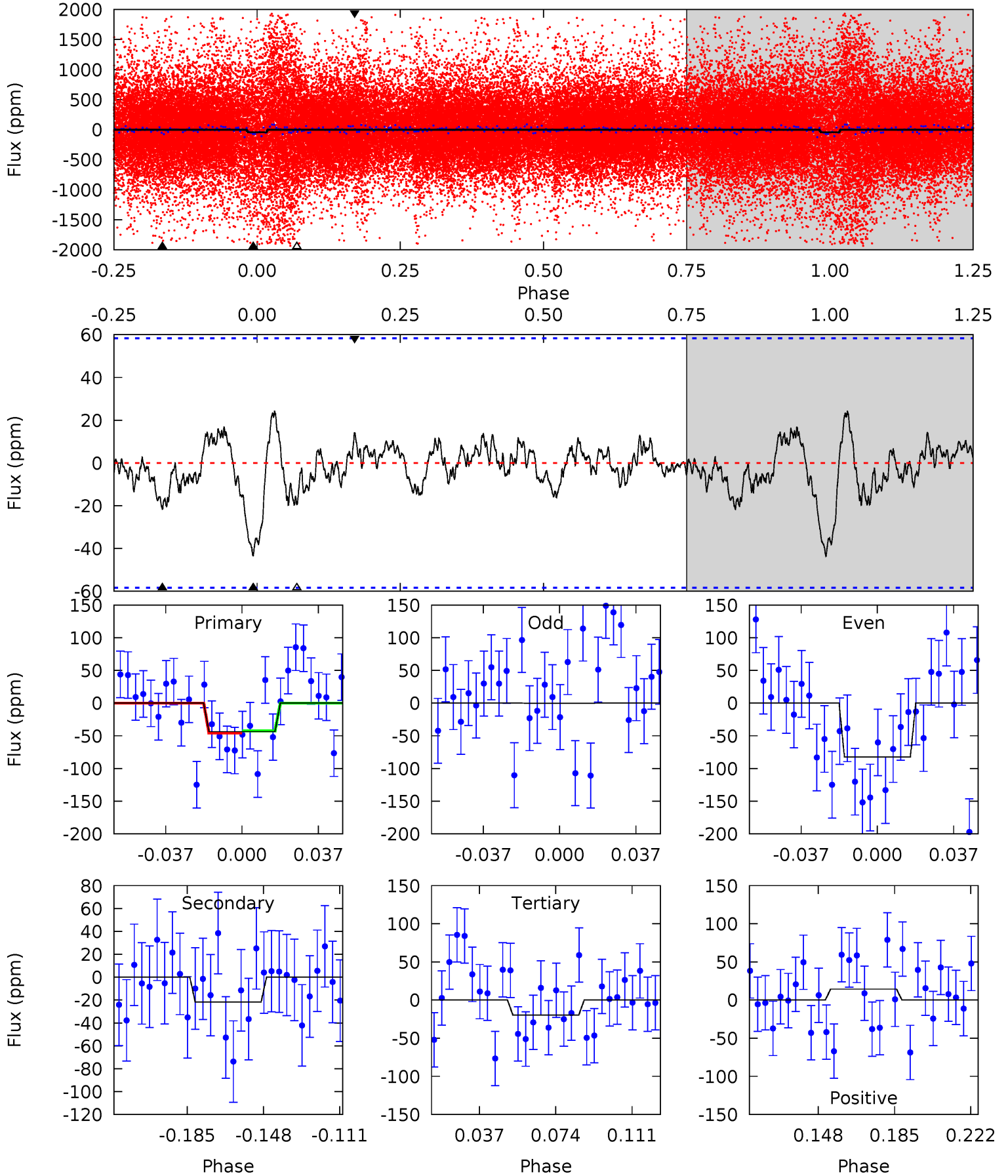
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	12.3	9.52	18.2	4.57	1.65	7.30	11.1	2.43	2.75	-5.91	15.8	0.83	0.47	0.61



Alt Model-Shift Uniqueness Test

005955321-02, P = 7.758501 Days, E = 127.317538 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.57	1.78	1.60	1.17	4.77	2.09	0.62	1.97	2.40	0.18	0.61	3.38	10.5	0.36	0.12



Stellar Parameters For KIC 005955321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6360^{+176}_{-242}	$4.433^{+0.067}_{-0.216}$	$-0.200^{+0.250}_{-0.300}$	$1.058^{+0.339}_{-0.121}$	$1.105^{+0.154}_{-0.154}$	$1.313^{+0.383}_{-0.706}$
	+3%/-4%	+2%/-5%	+125%/-150%	+32%/-11%	+14%/-14%	+29%/-54%
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 005955321-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-211 ± 17	$8.10^{+1.45}_{-0.77}$	1456^{+119}_{-78}	3418^{+90}_{-98}	11^{+2}_{-3}
Alt.	-22 ± 12	$0.83^{+0.32}_{-0.28}$	1454^{+116}_{-77}	5216^{+1301}_{-976}	105^{+159}_{-72}

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 $A_{obs} \gg 1.0$

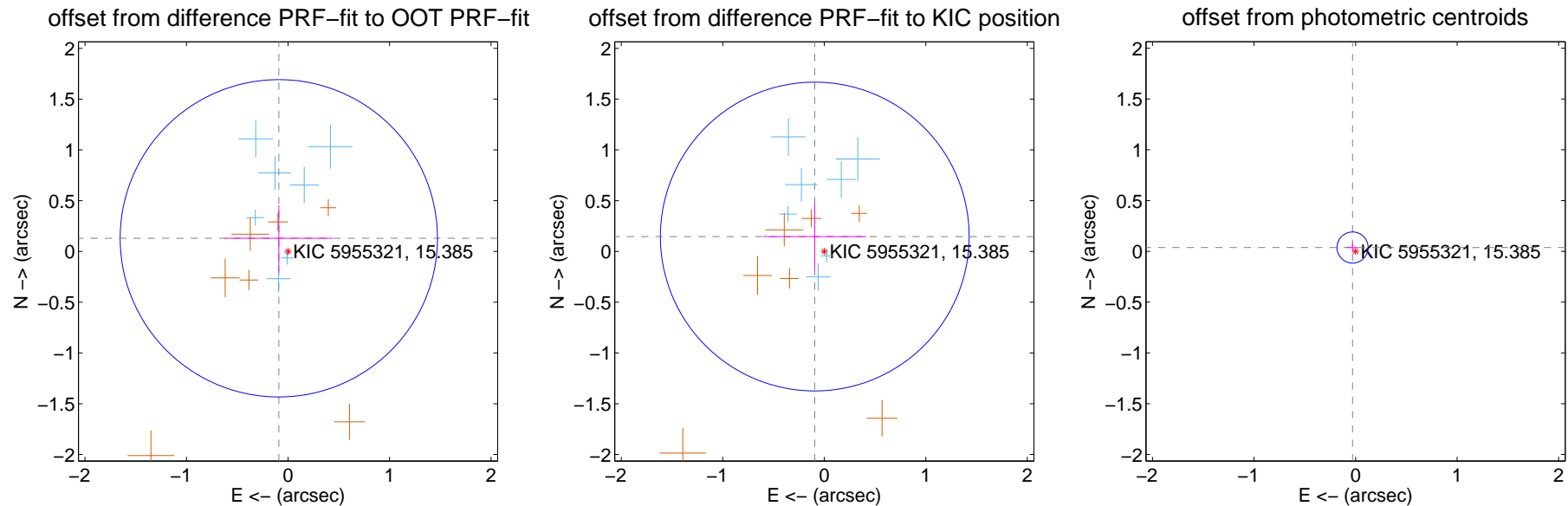
DV Centroid Data

Supplemental centroid analysis for 005955321-02. Kepler magnitude: 15.38. Transit SNR 71.88

There are 7 quarters with good PRF difference image offsets

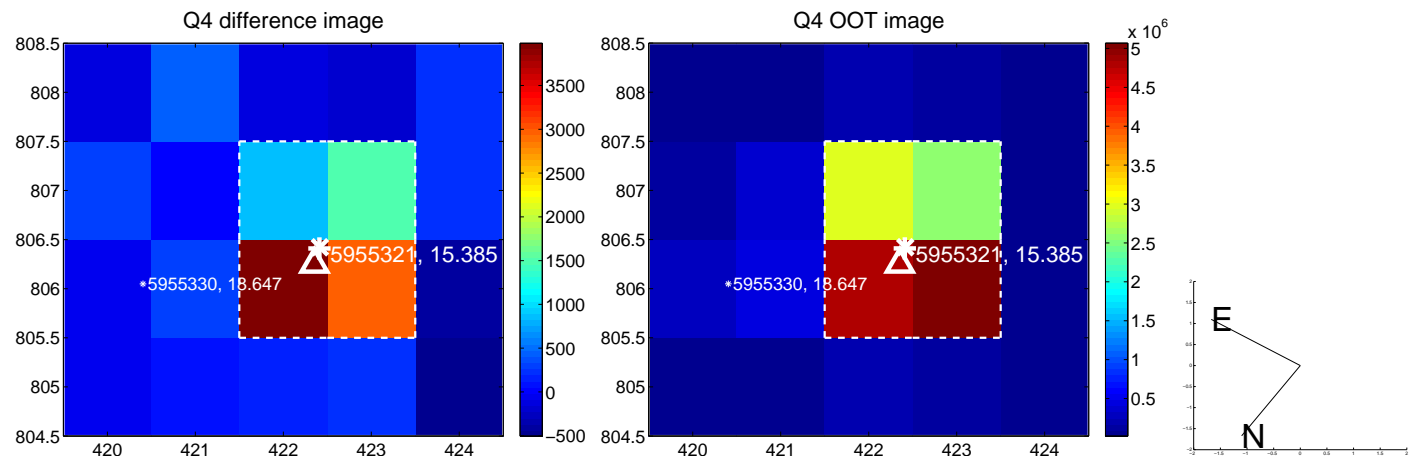
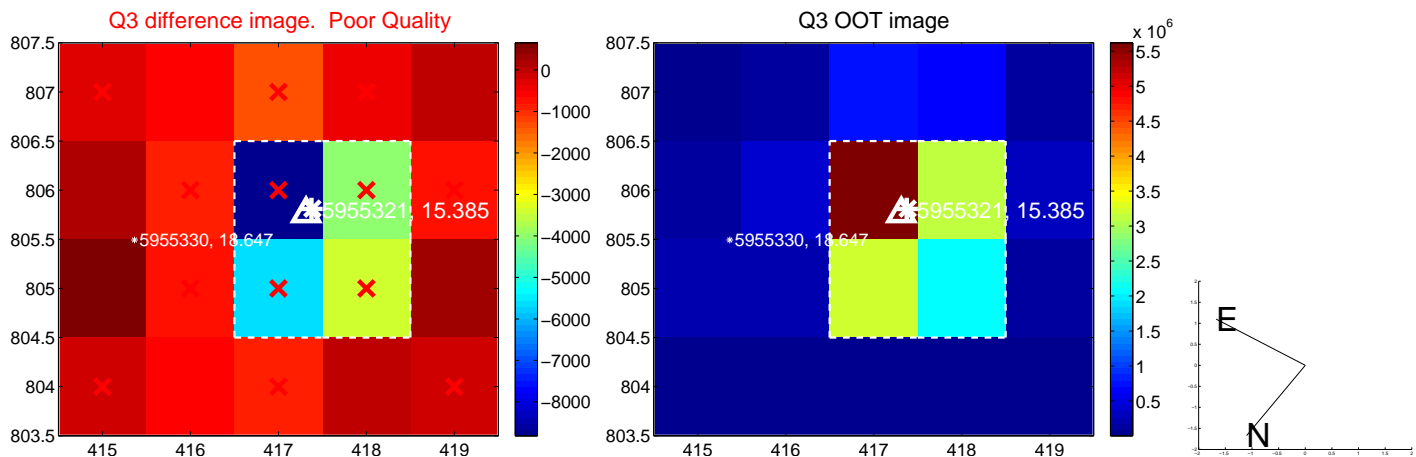
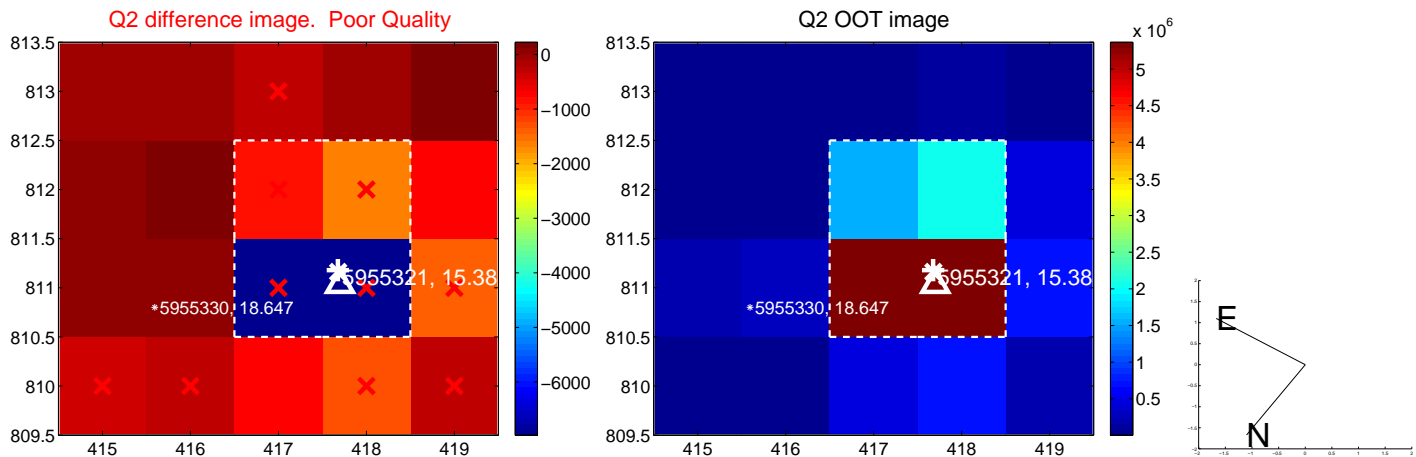
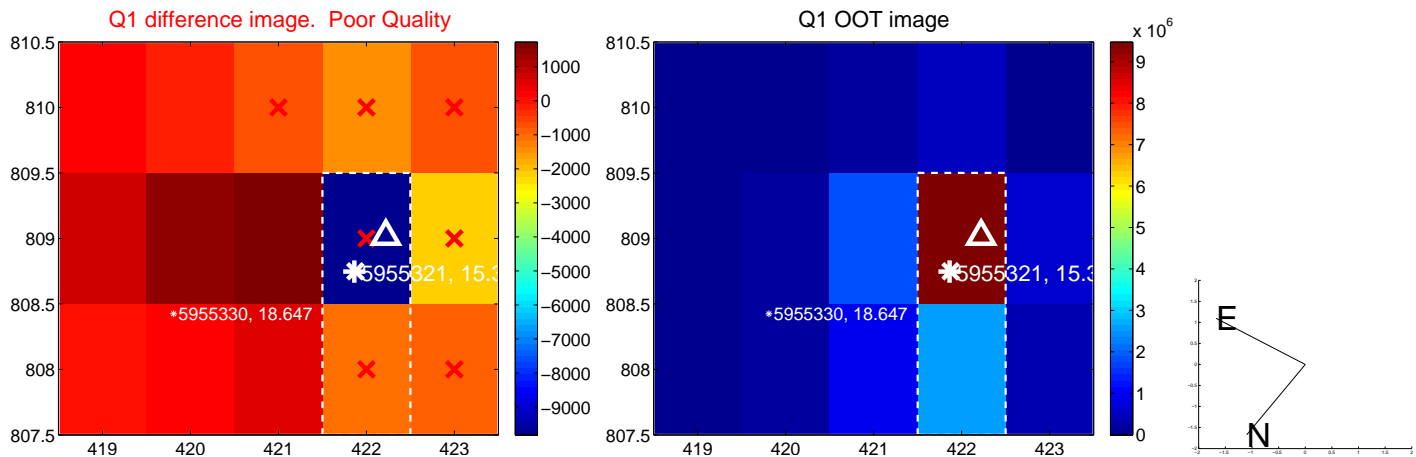
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.158 ± 0.521	0.30	0.091 ± 0.533	0.129 ± 0.326
PRF-fit source offset from KIC position	0.174 ± 0.507	0.34	0.094 ± 0.507	0.146 ± 0.334
photometric centroid source offset	0.05 ± 0.05	0.94	0.03 ± 0.05	0.04 ± 0.05

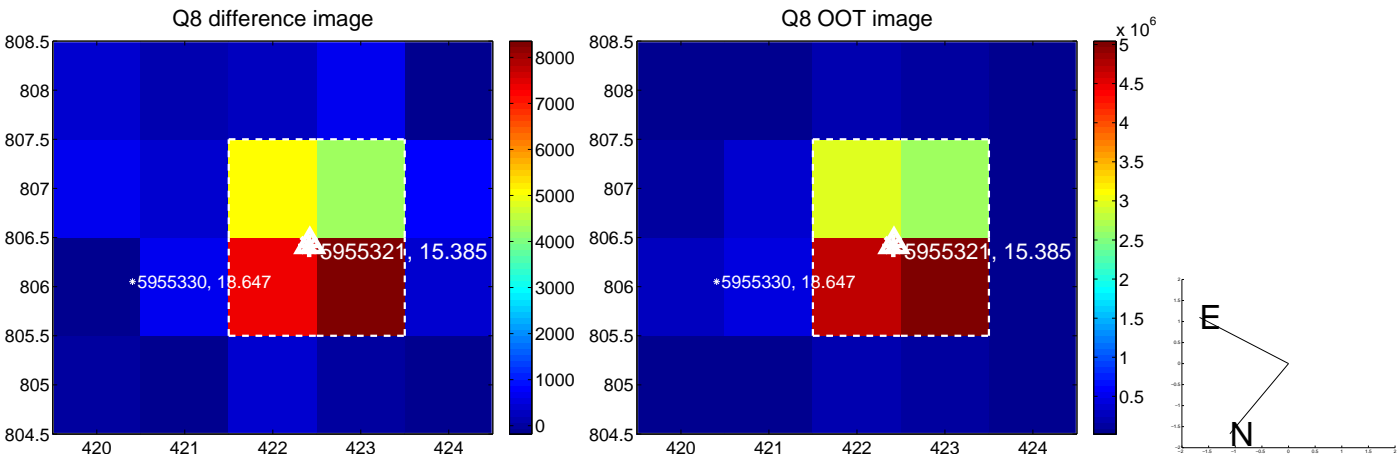
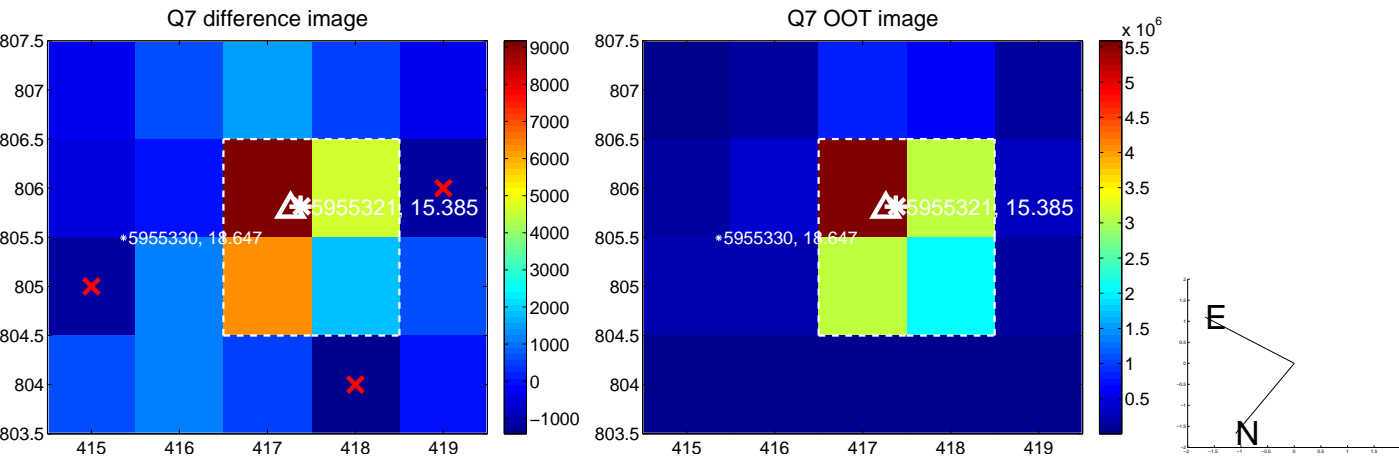
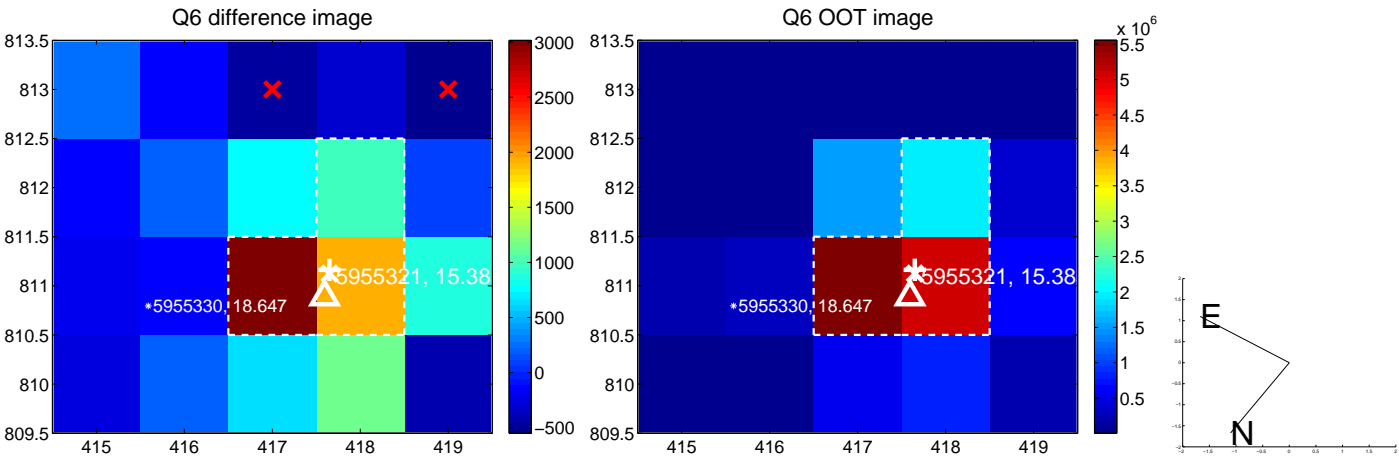
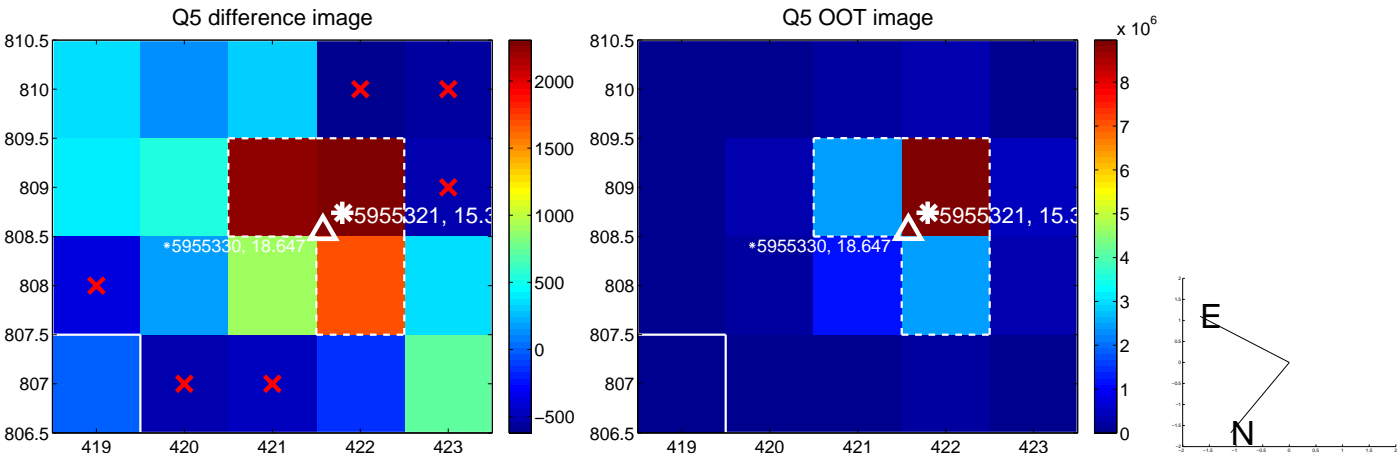


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

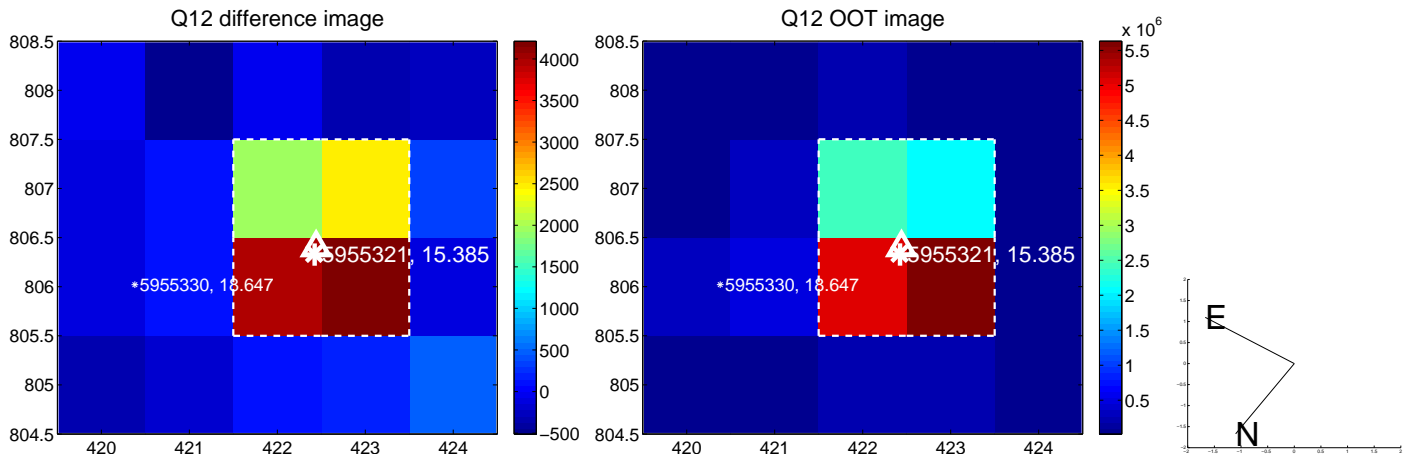
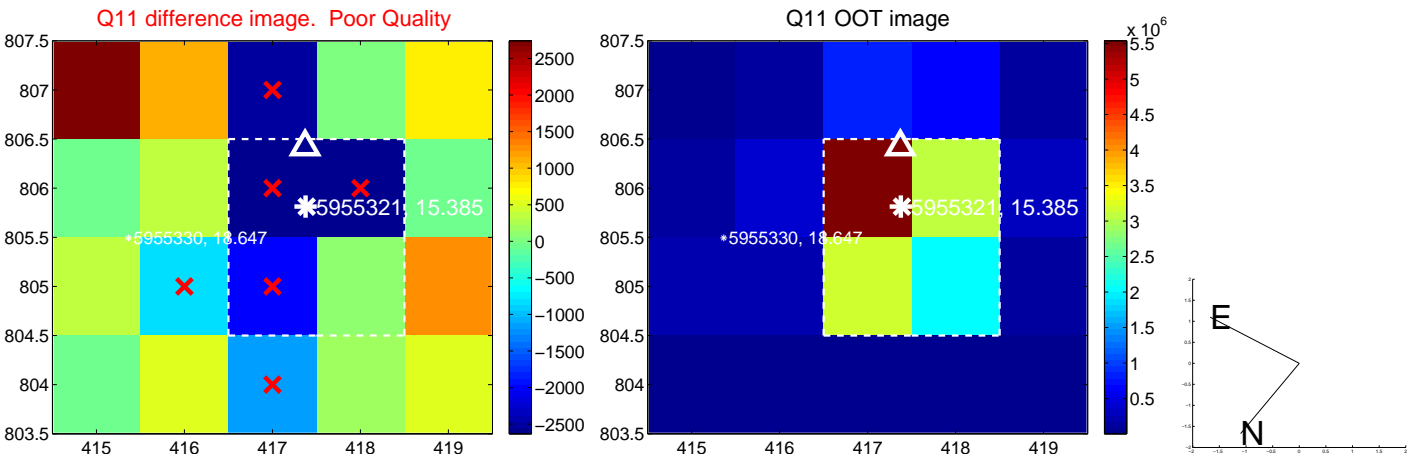
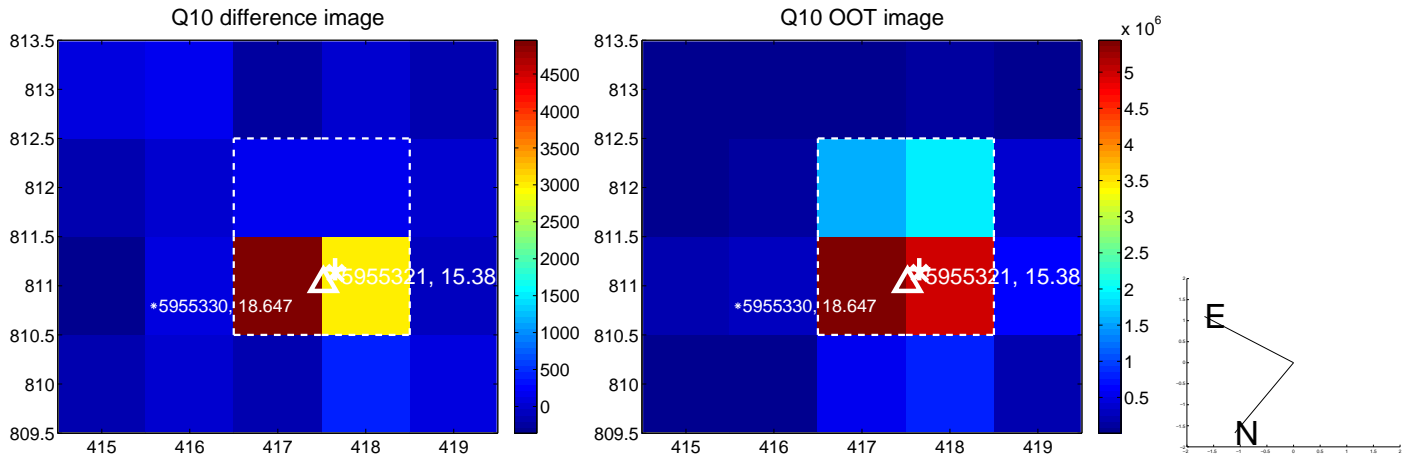
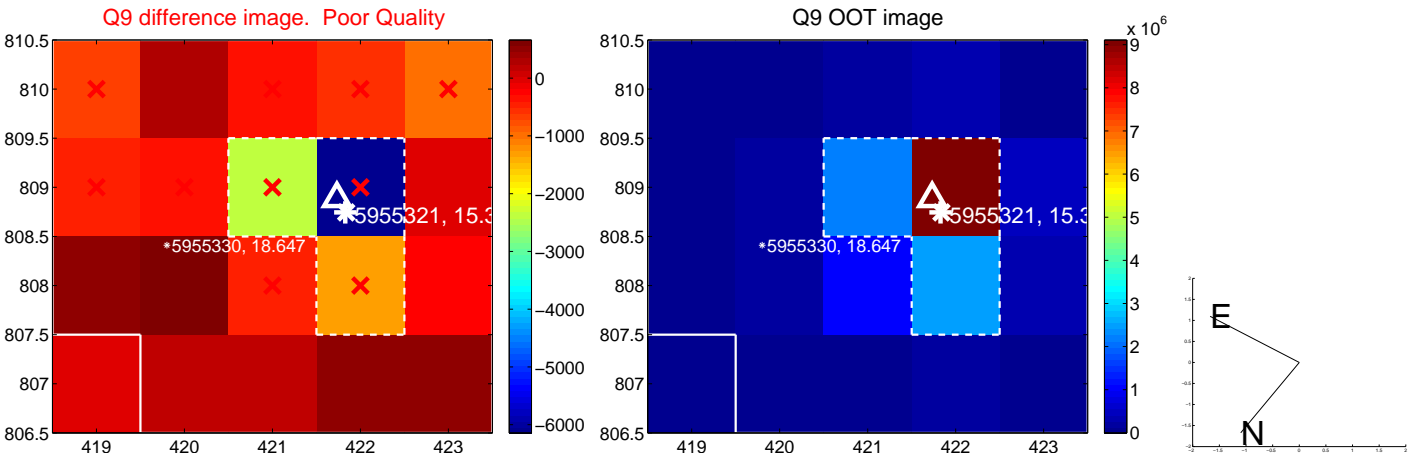
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



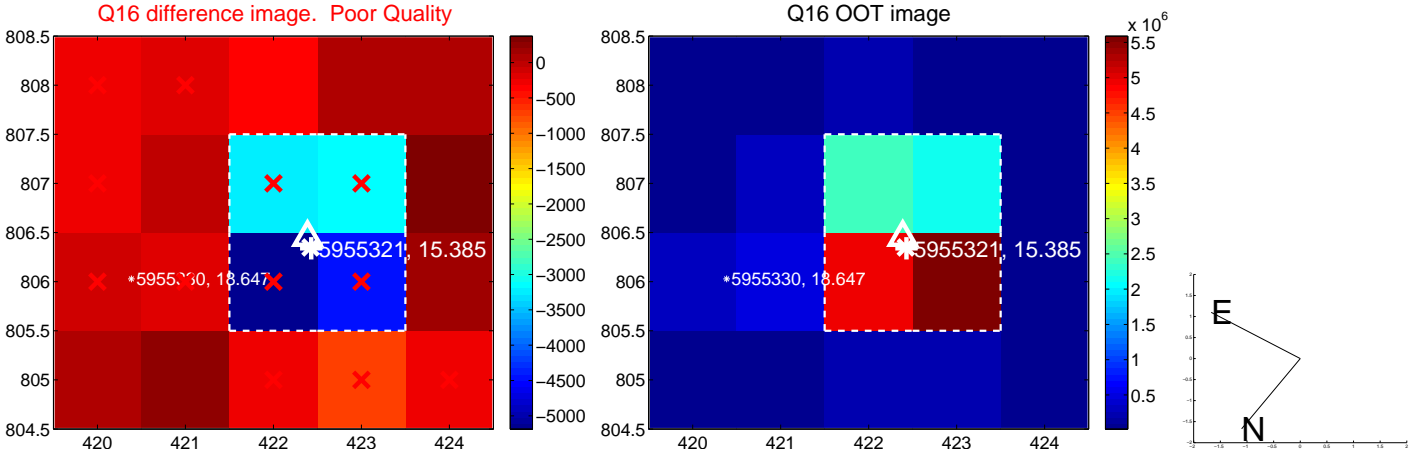
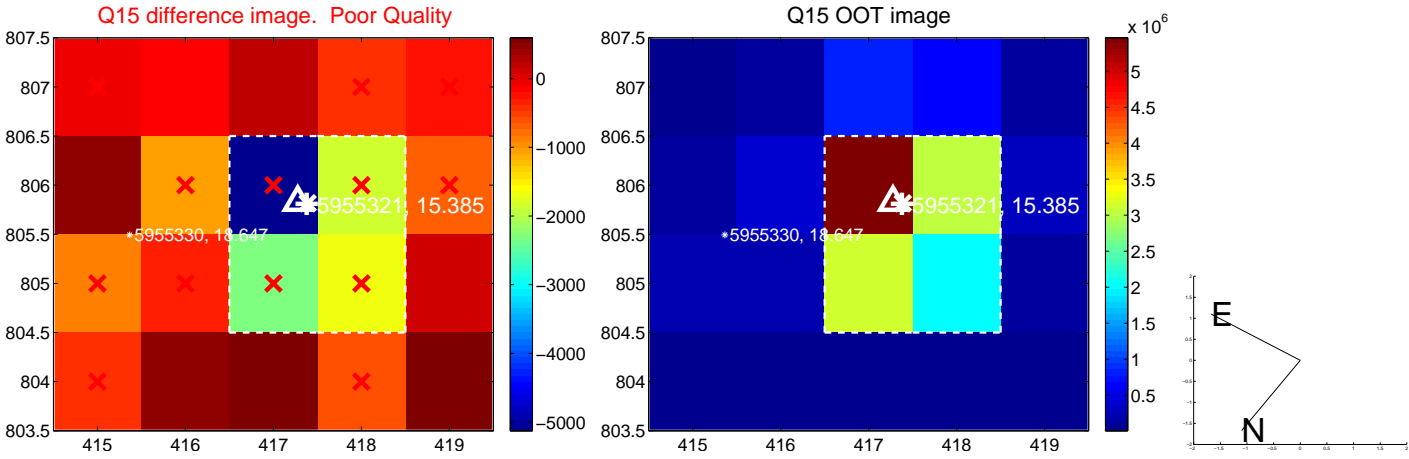
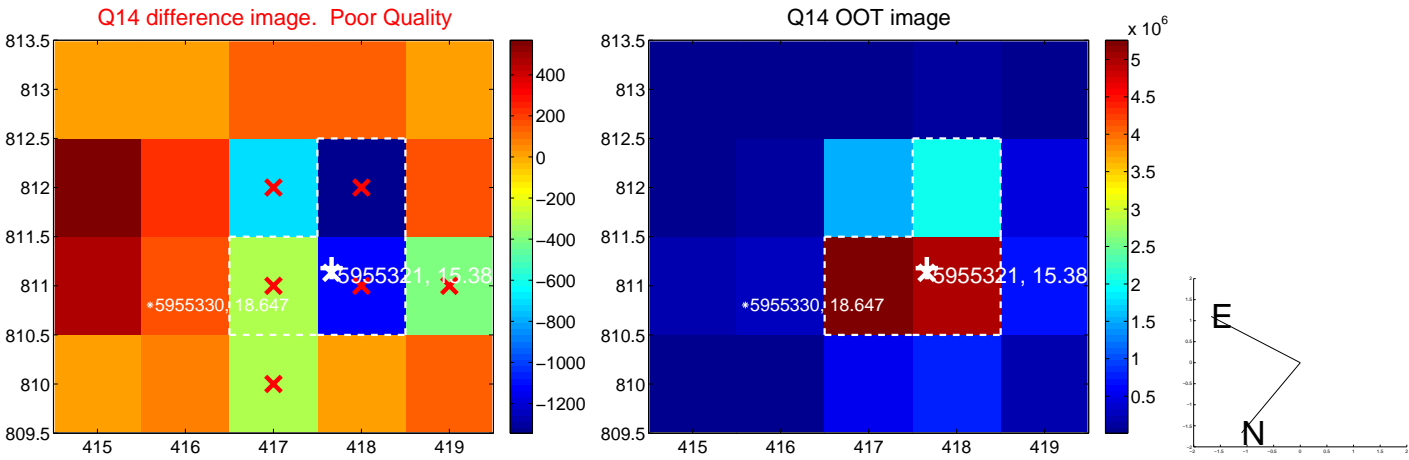
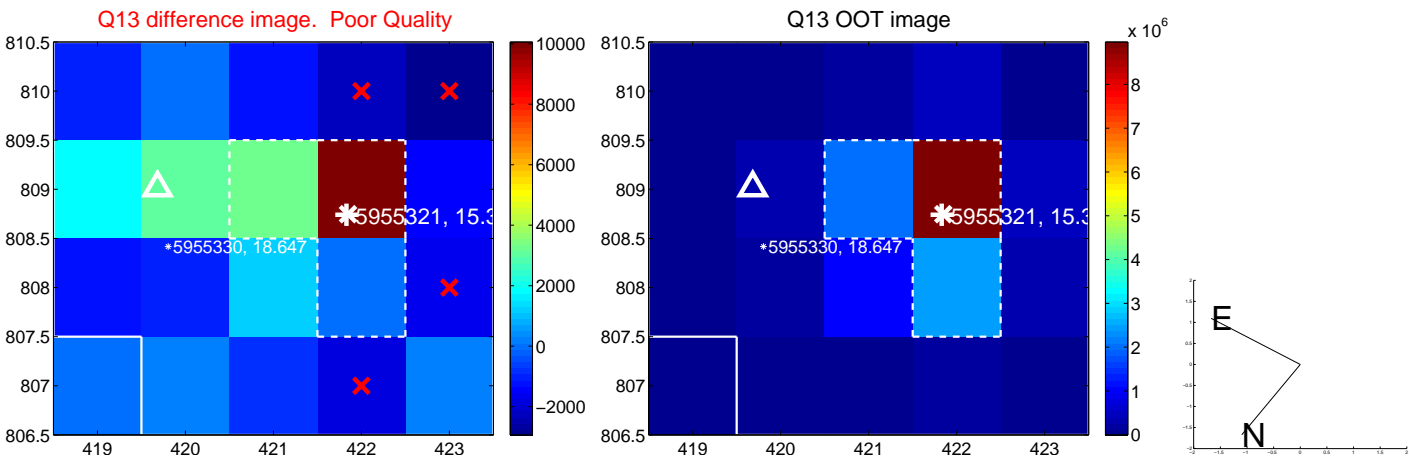
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



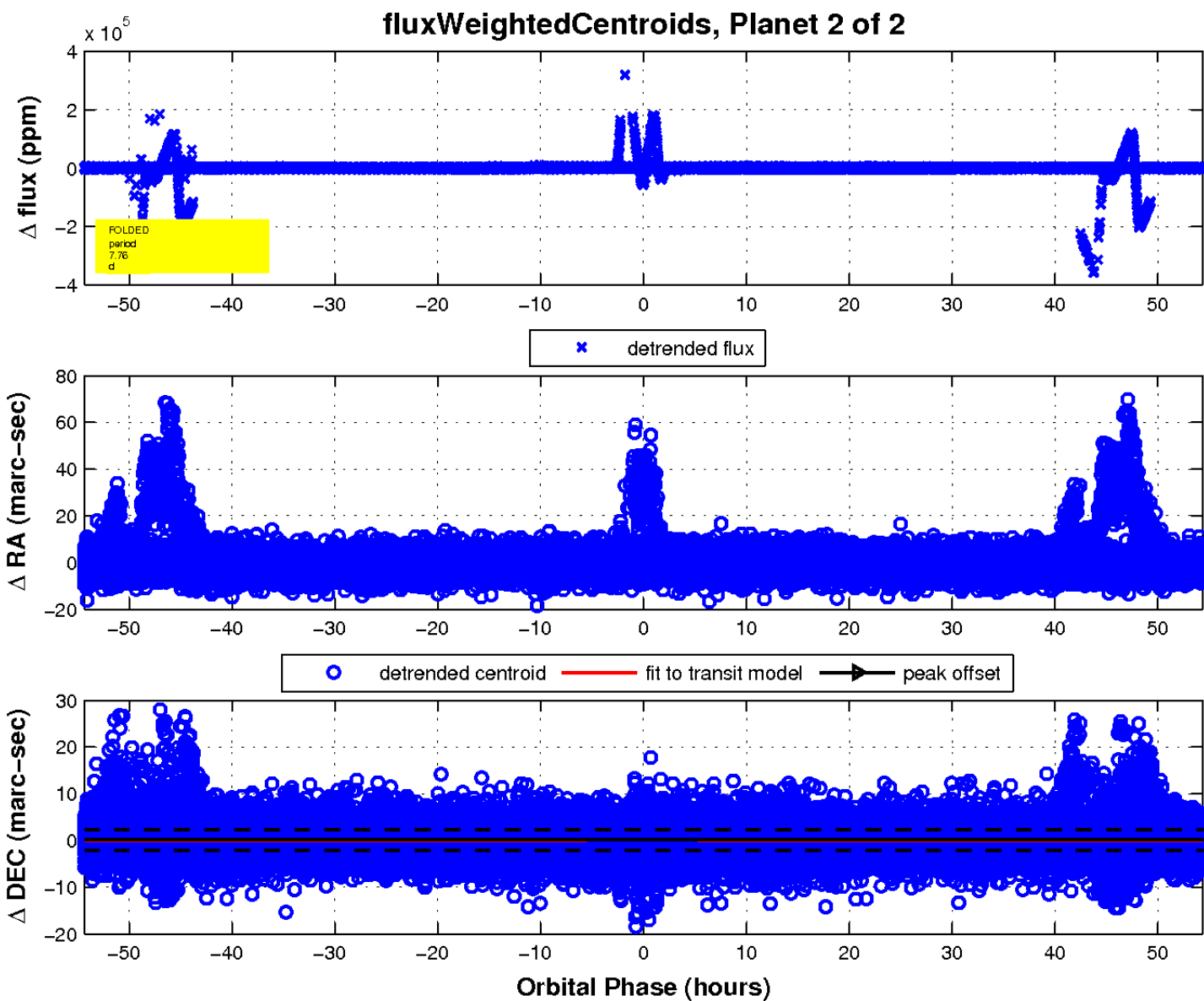
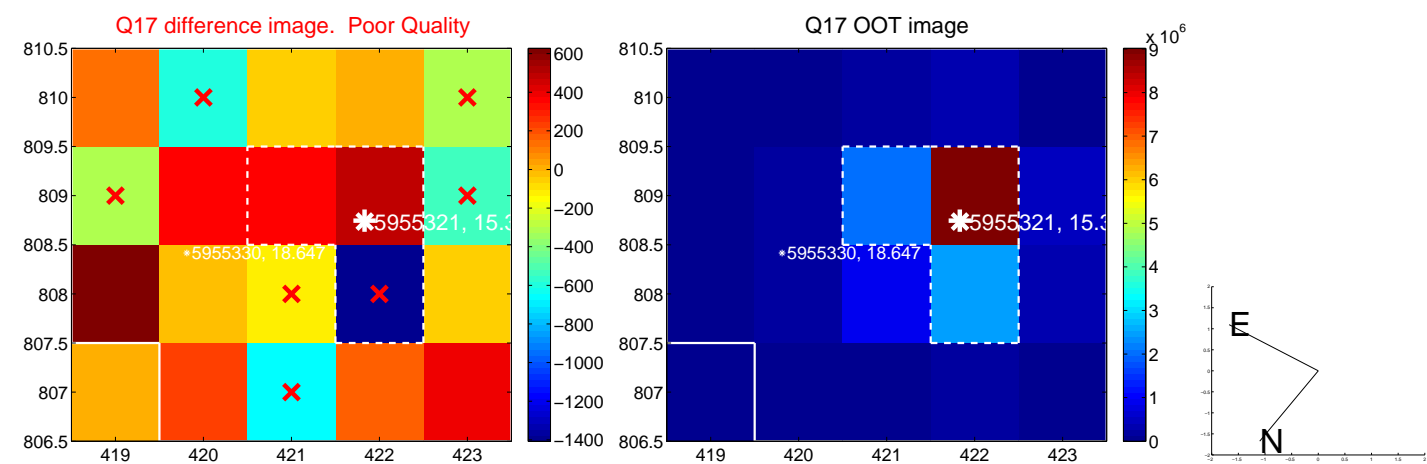
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

