

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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

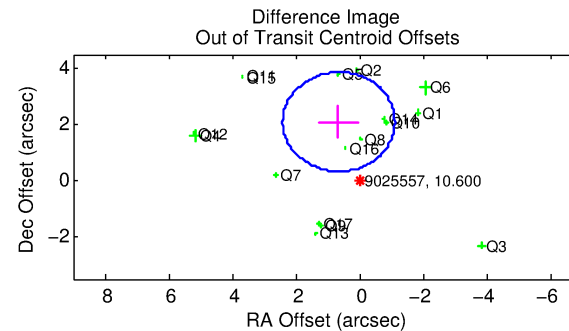
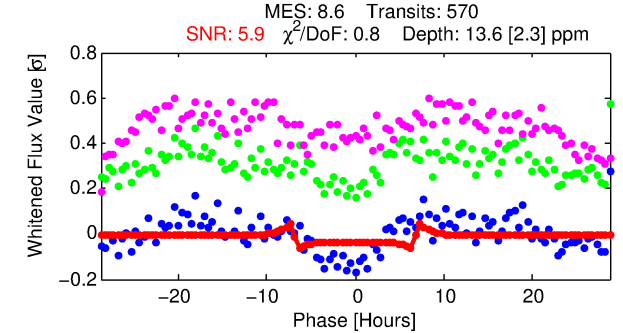
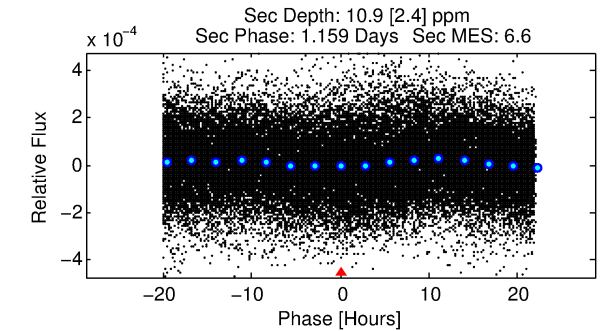
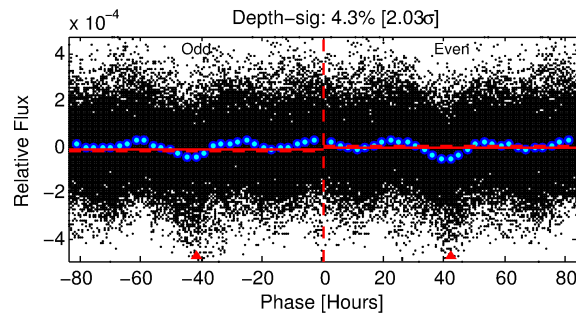
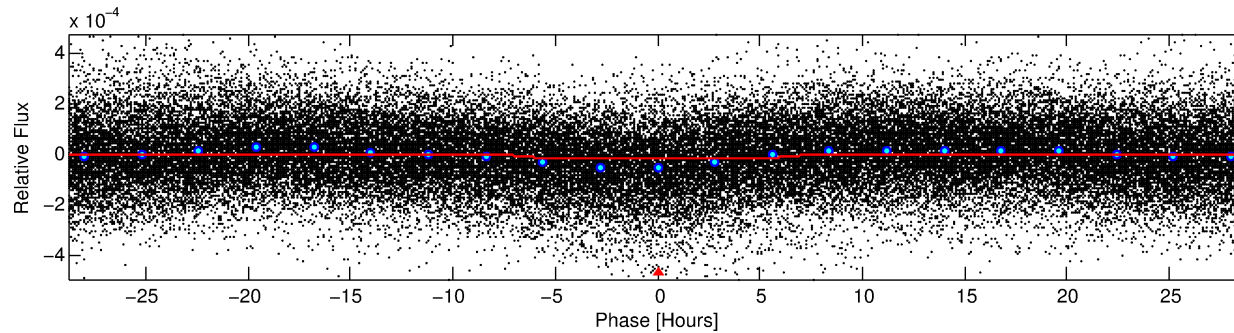
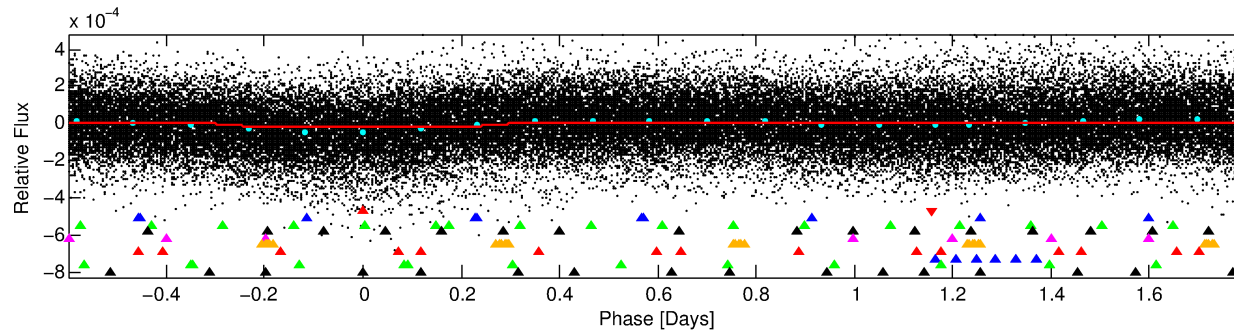
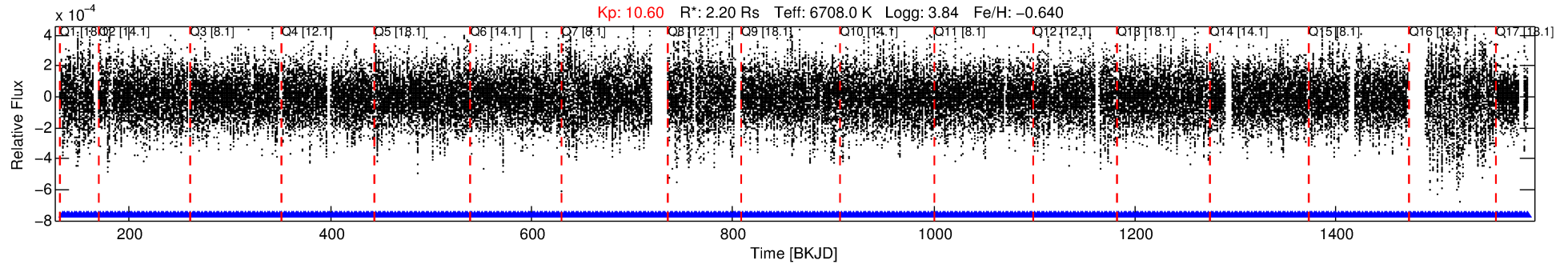
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-01

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 1 of 10 Period: 2.399 d



DV Fit Results:

Period = 2.39883 [0.00003] d
Epoch = 133.5833 [0.0060] BKJD
 $R_p/R^* = 0.0037$ [0.0009]
 $a/R^* = 1.21$ [0.52]
 $b = 0.77$ [0.73]
 $\text{Seff} = 6281.81$ [3406.75]
 $T_{\text{eq}} = 2270$ [308] K
 $R_p = 0.88$ [0.38] R_e
 $a = 0.0374$ [0.0125] AU
 $A_g = 10.68$ [8.02] [1.21 σ]
 $T_{\text{eff}} = 6345$ [869] K [4.42 σ]

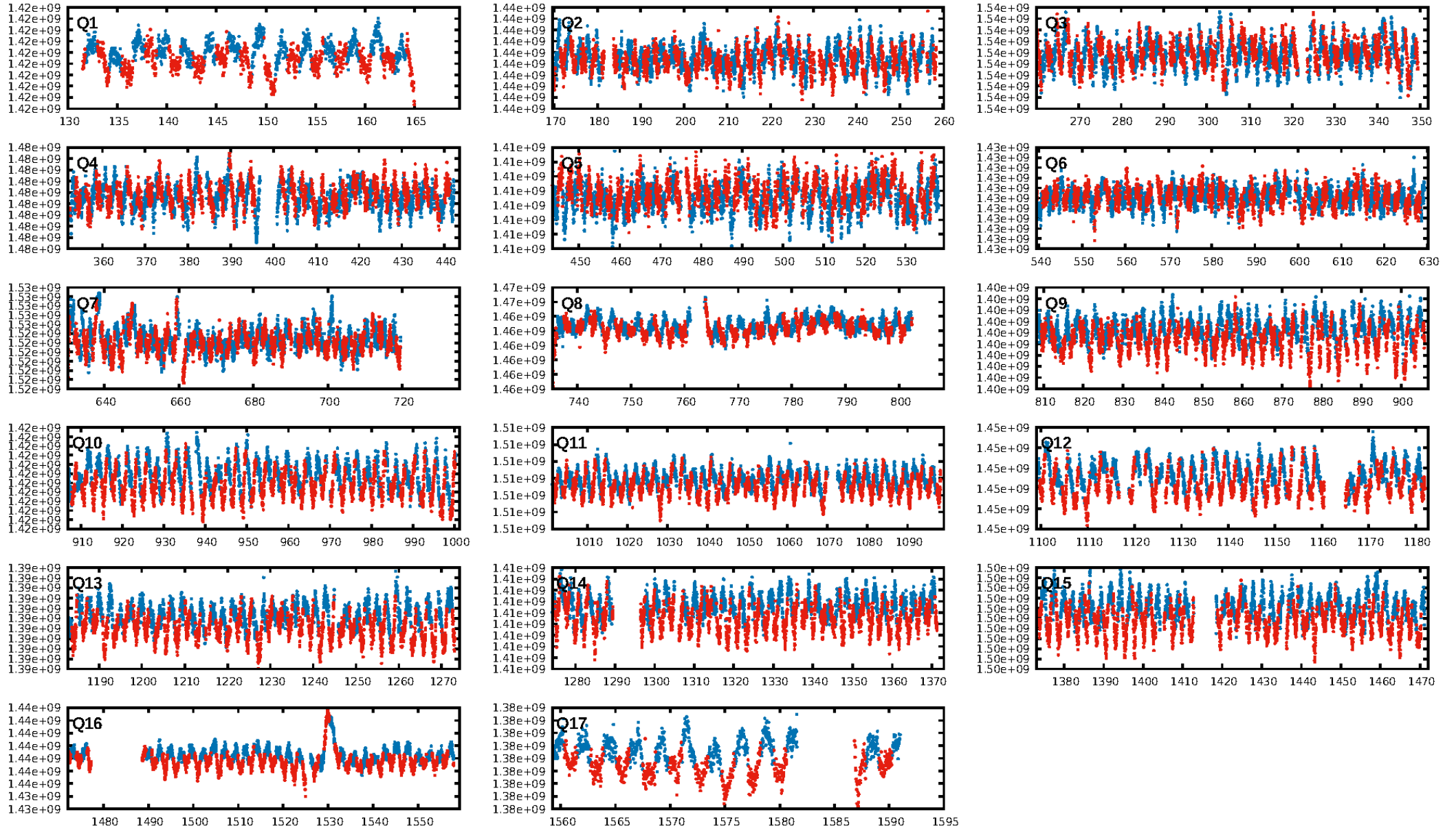
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [76.65 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [545/545]
GhostDiagnostic-chr: 1.277
Centroid-sig: 0.0%
Centroid-so: 2.834 arcsec [4.80 σ]
OotOffset-rm: 2.196 arcsec [3.73 σ]
KicOffset-rm: 2.377 arcsec [4.36 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 1.00 [17/17]

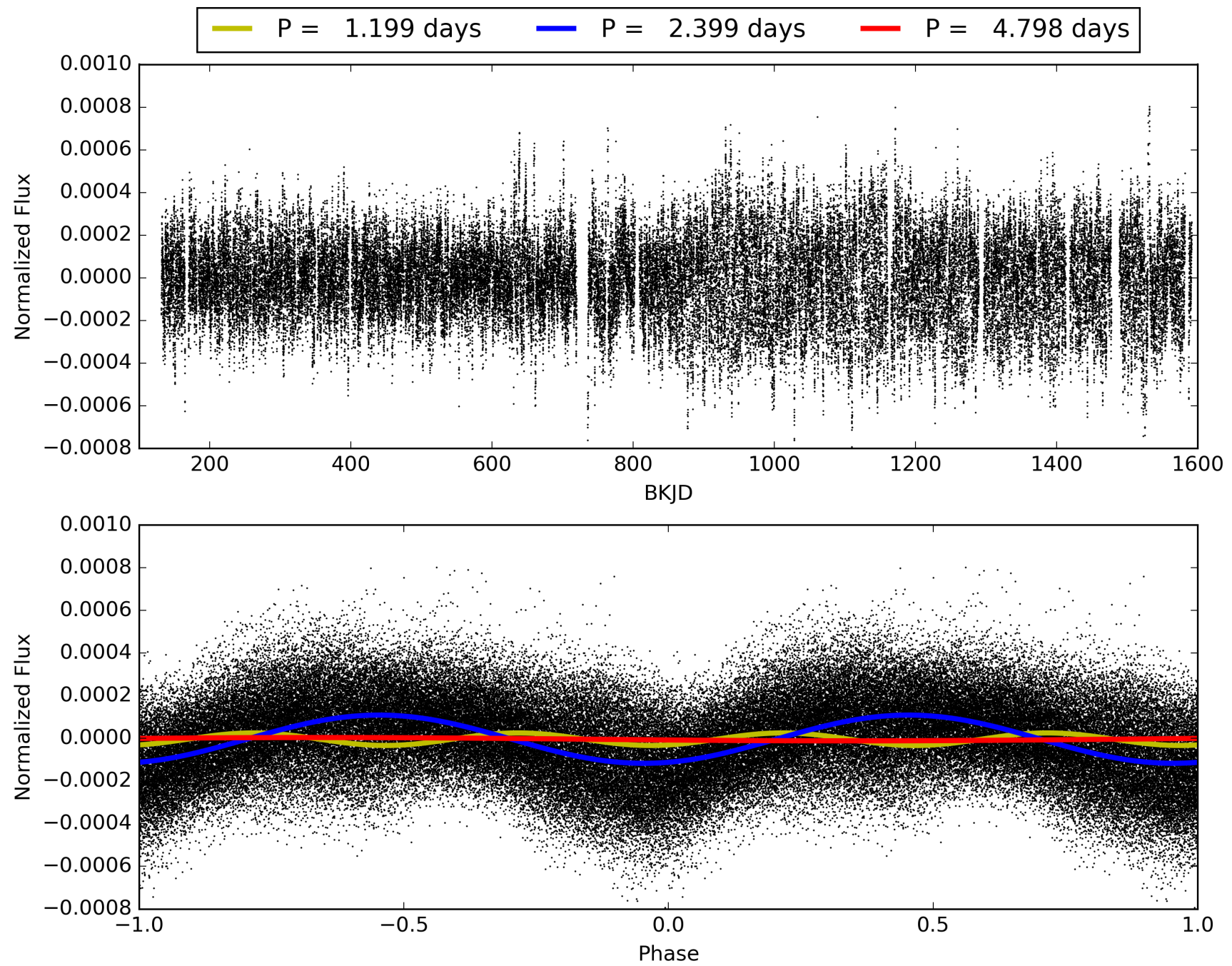
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:00 Z

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

TCE 009025557-01, PDC Light Curves

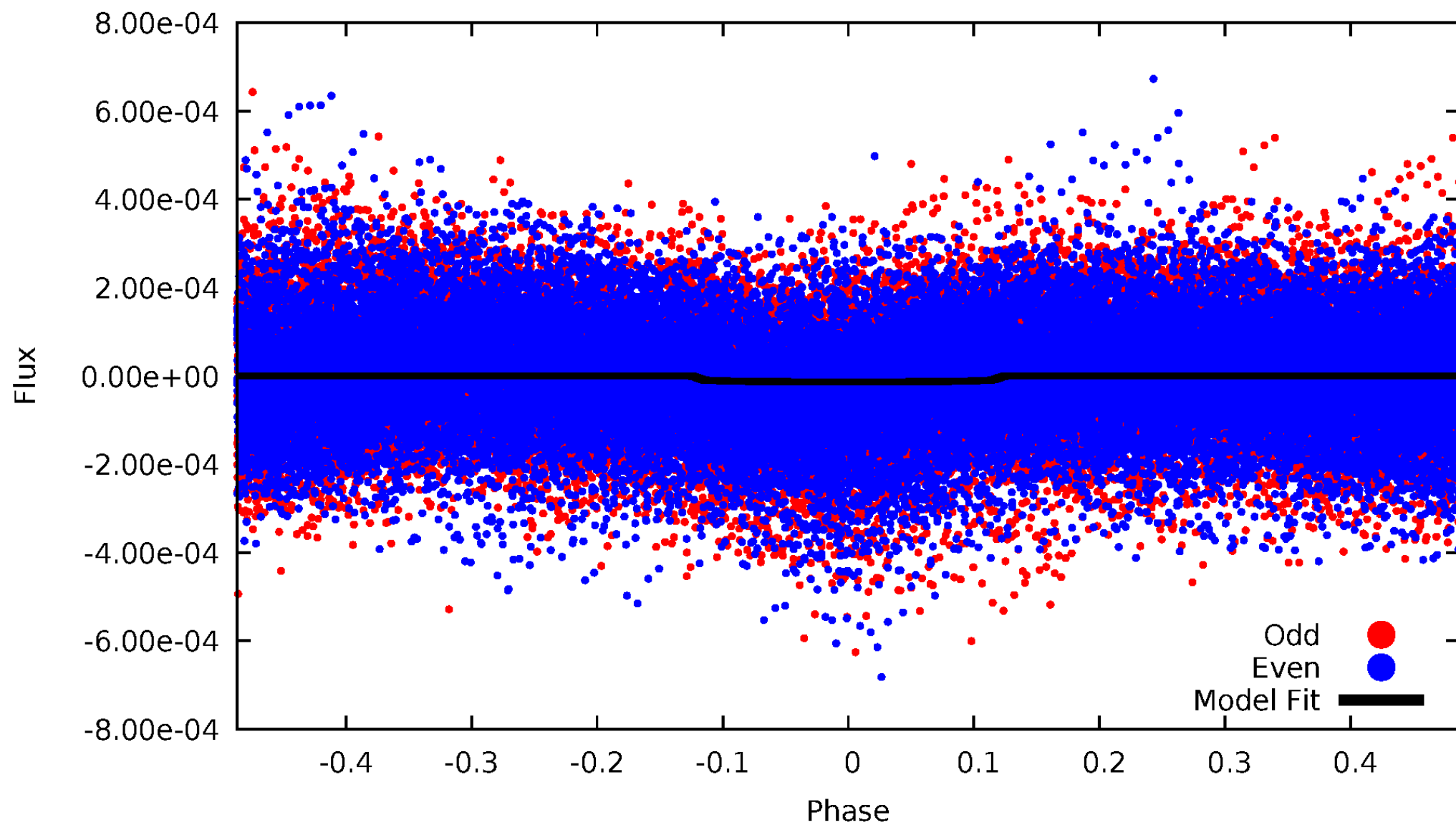


TCE 009025557-01



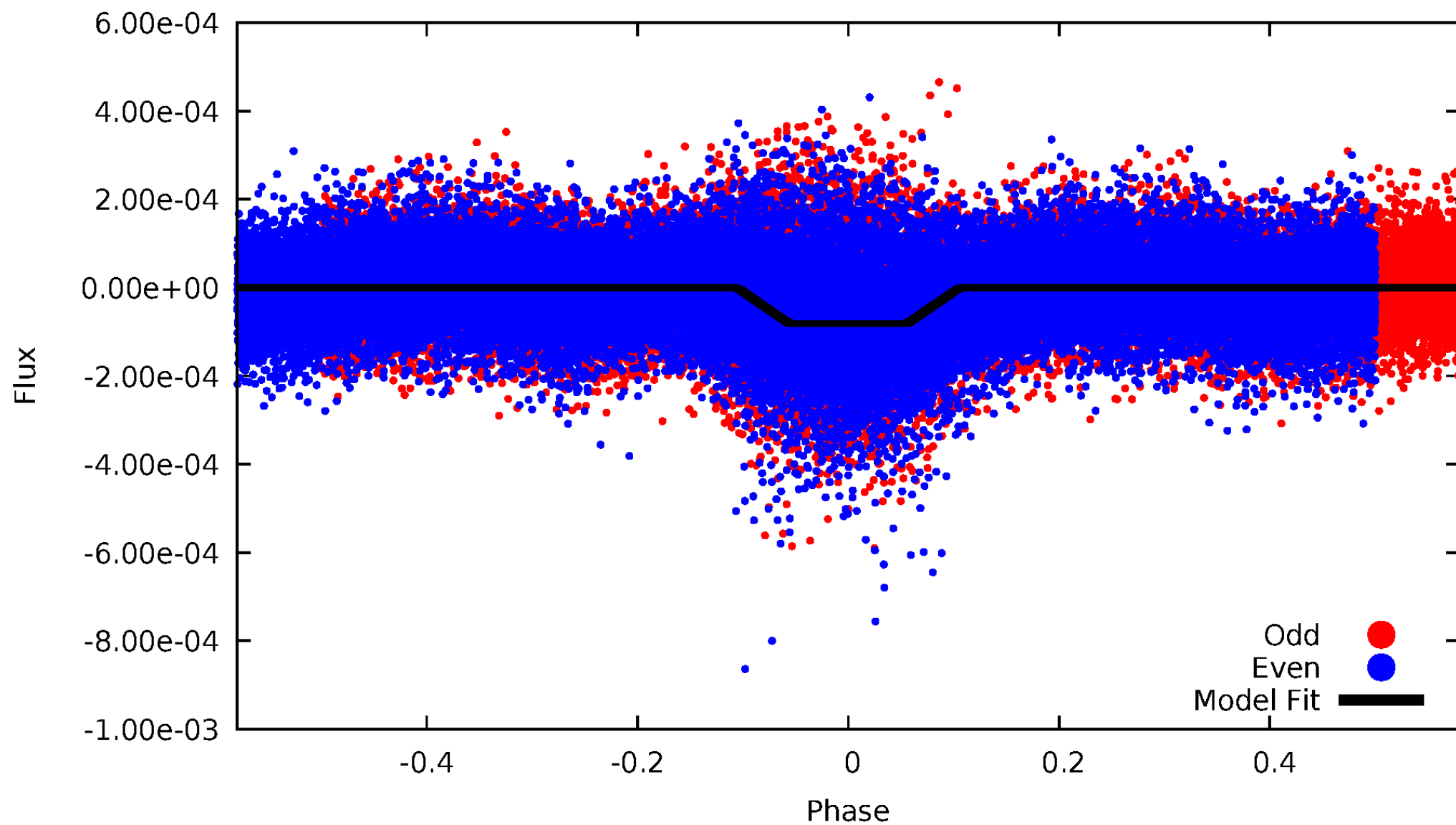
DV Odd/Even

TCE 009025557-01

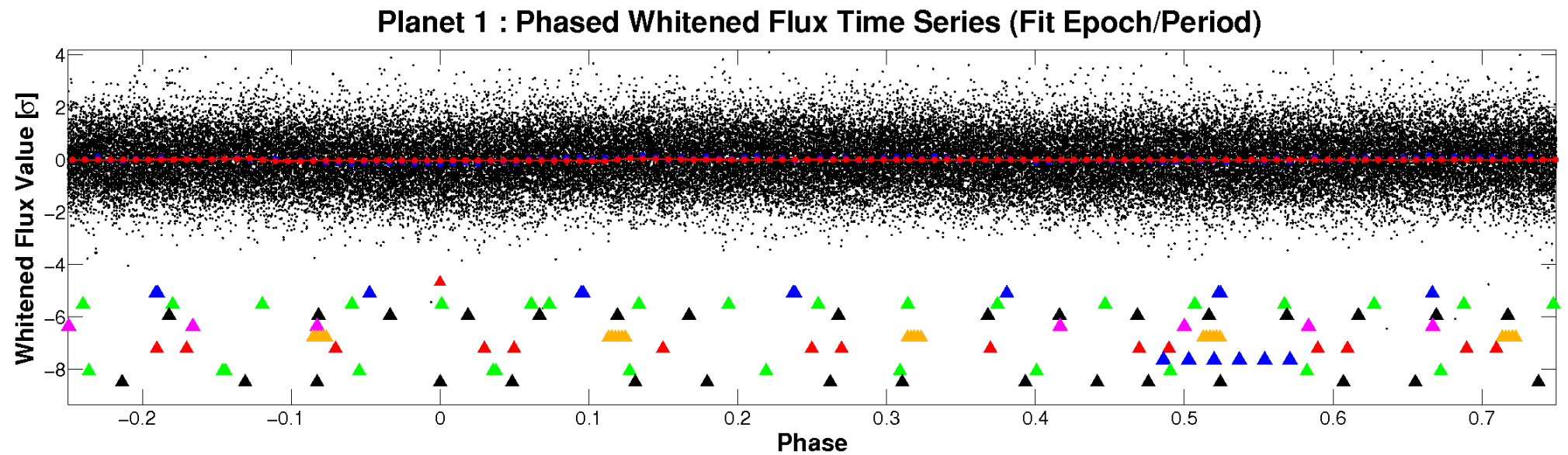
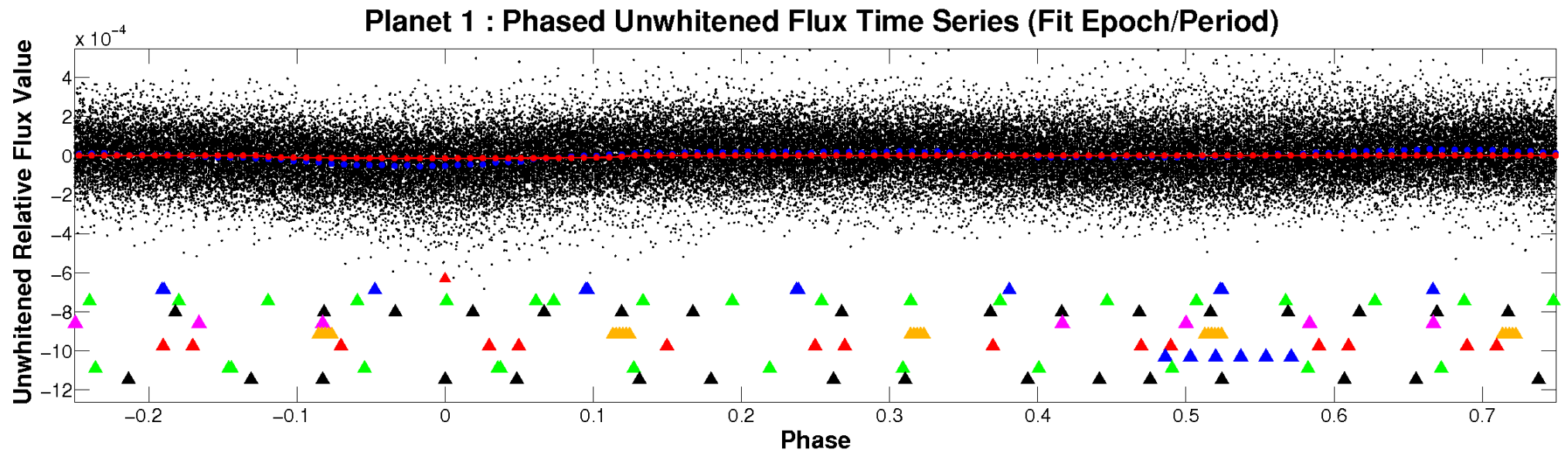


ALT Odd/Even

TCE 009025557-01

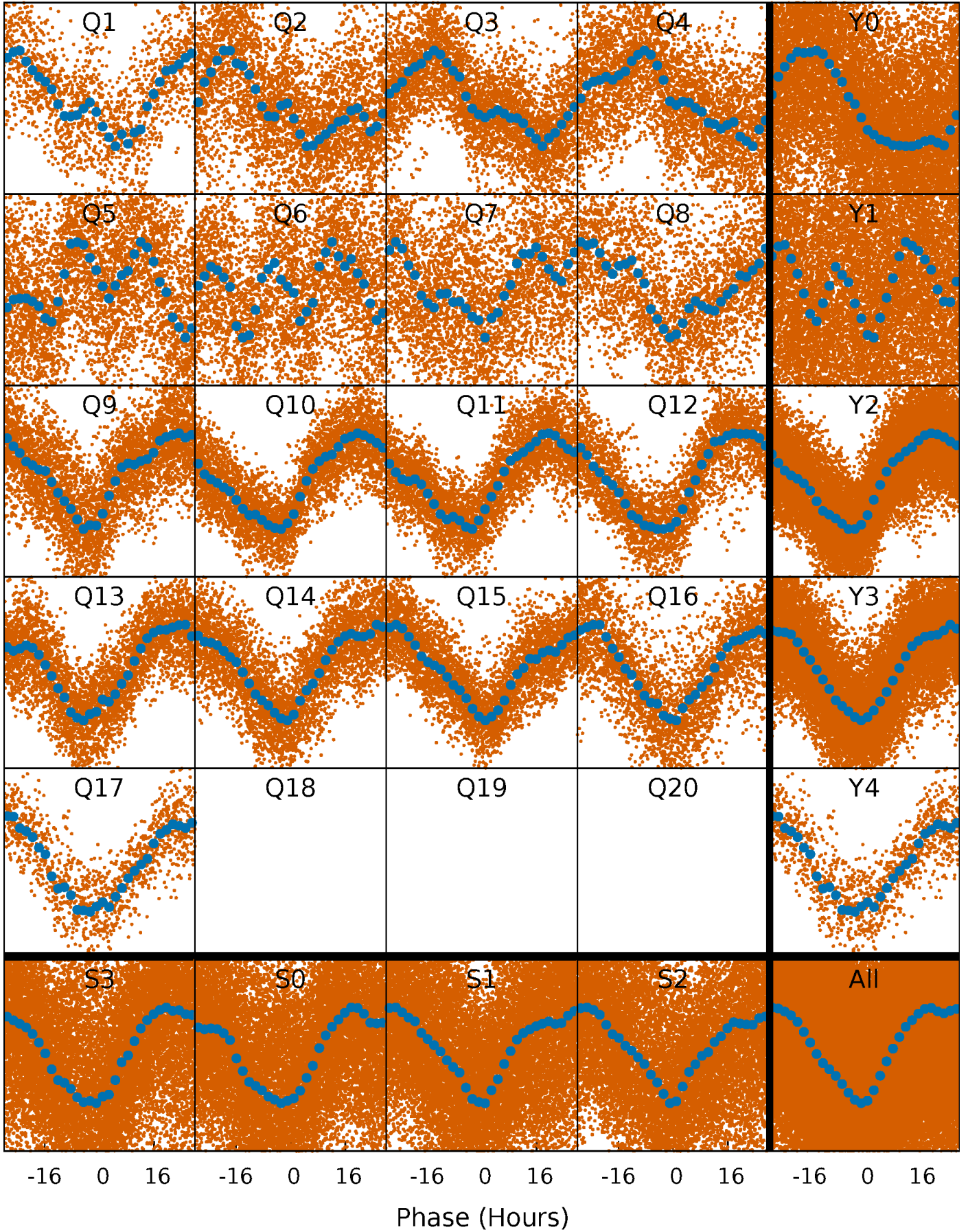


Non-Whitened Vs. Whitened Light Curve



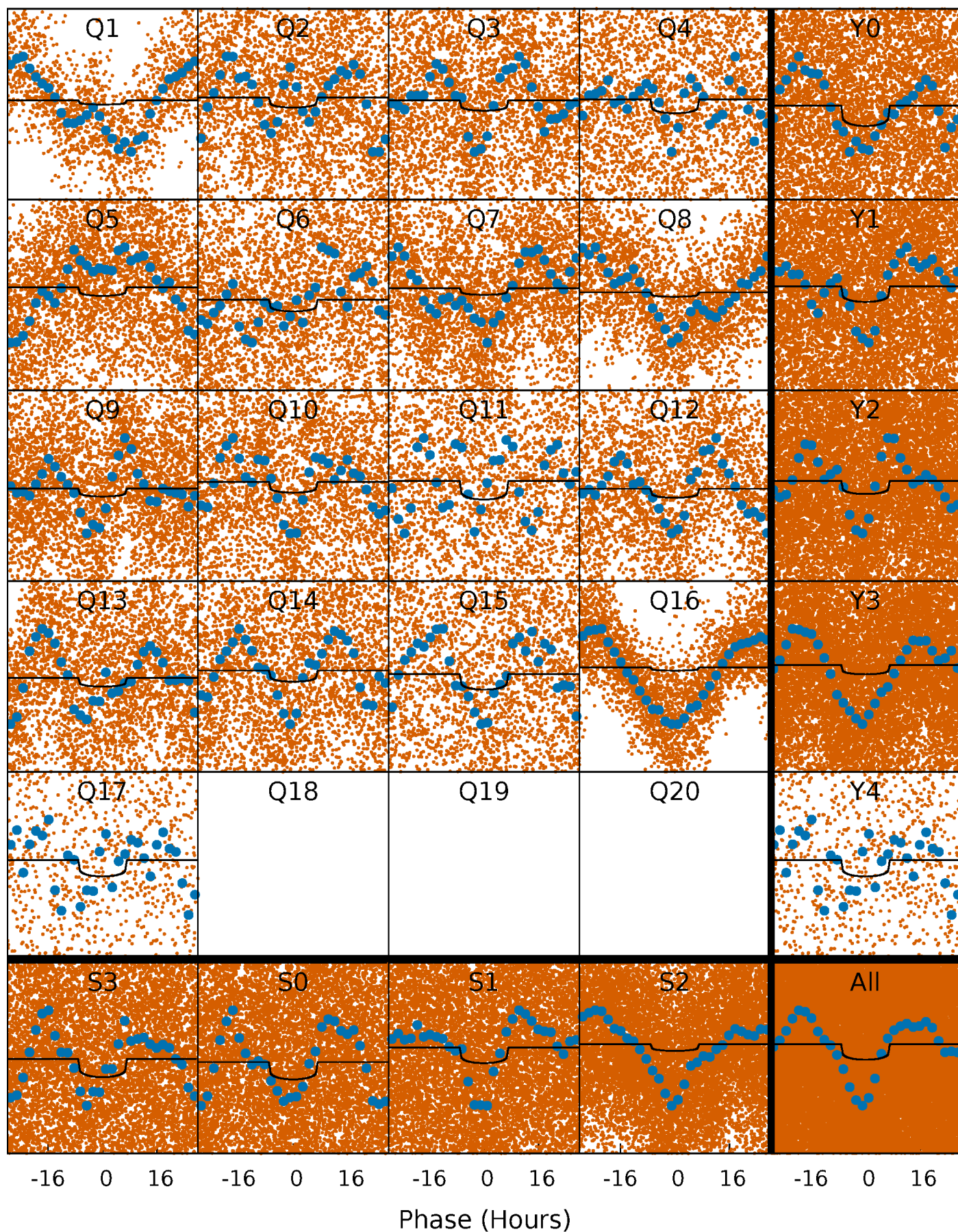
PDC Quarter-Phased Transit Curves

TCE 009025557-01 P= 2.398827 Days $T_0=133.583255$ (BKJD)



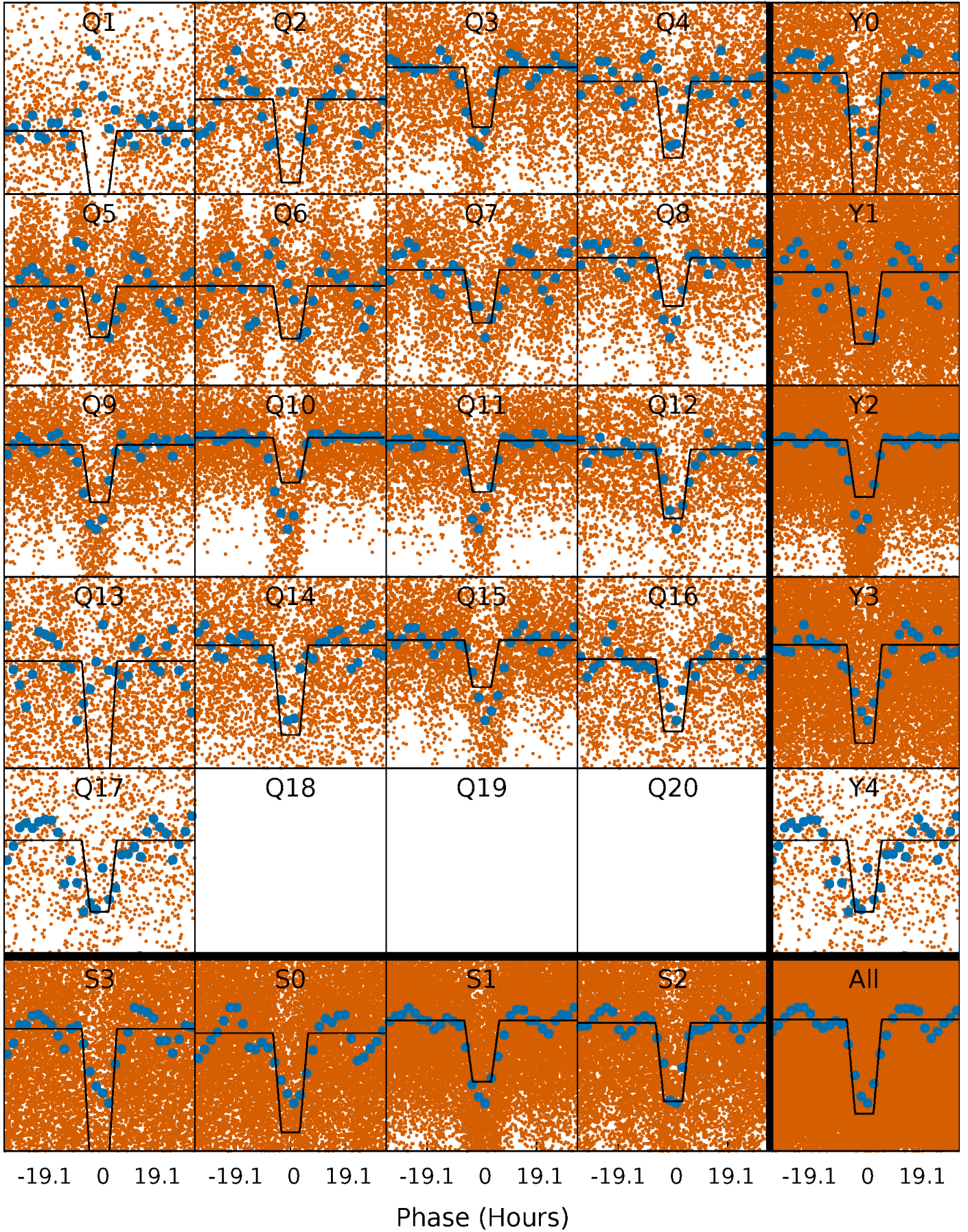
DV Quarter-Phased Transit Curves

TCE 009025557-01 P= 2.398827 Days $T_0=133.583255$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

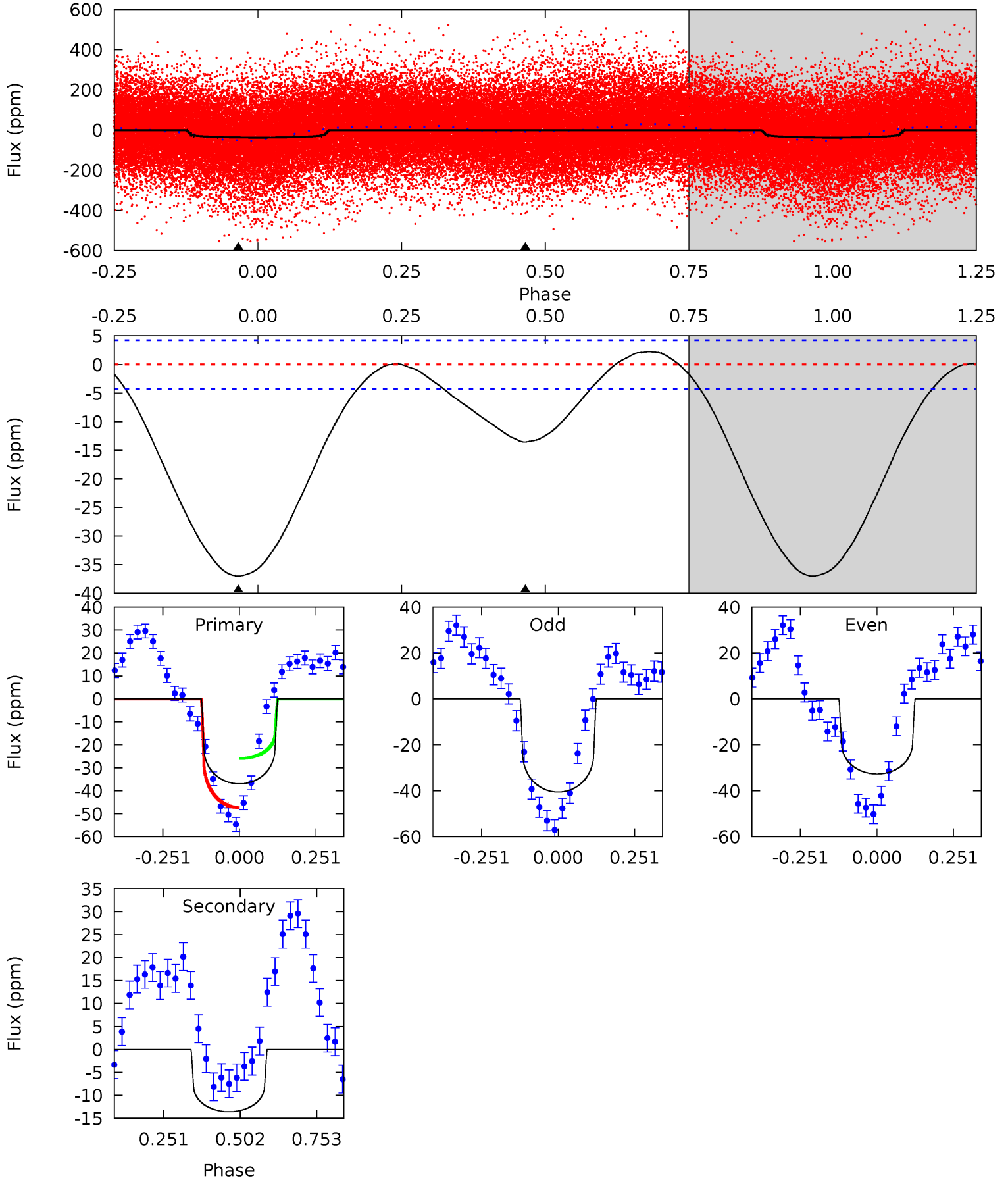
TCE 009025557-01 P= 2.398779 Days $T_0=133.586778$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-01, P = 2.398827 Days, E = 131.184428 Days

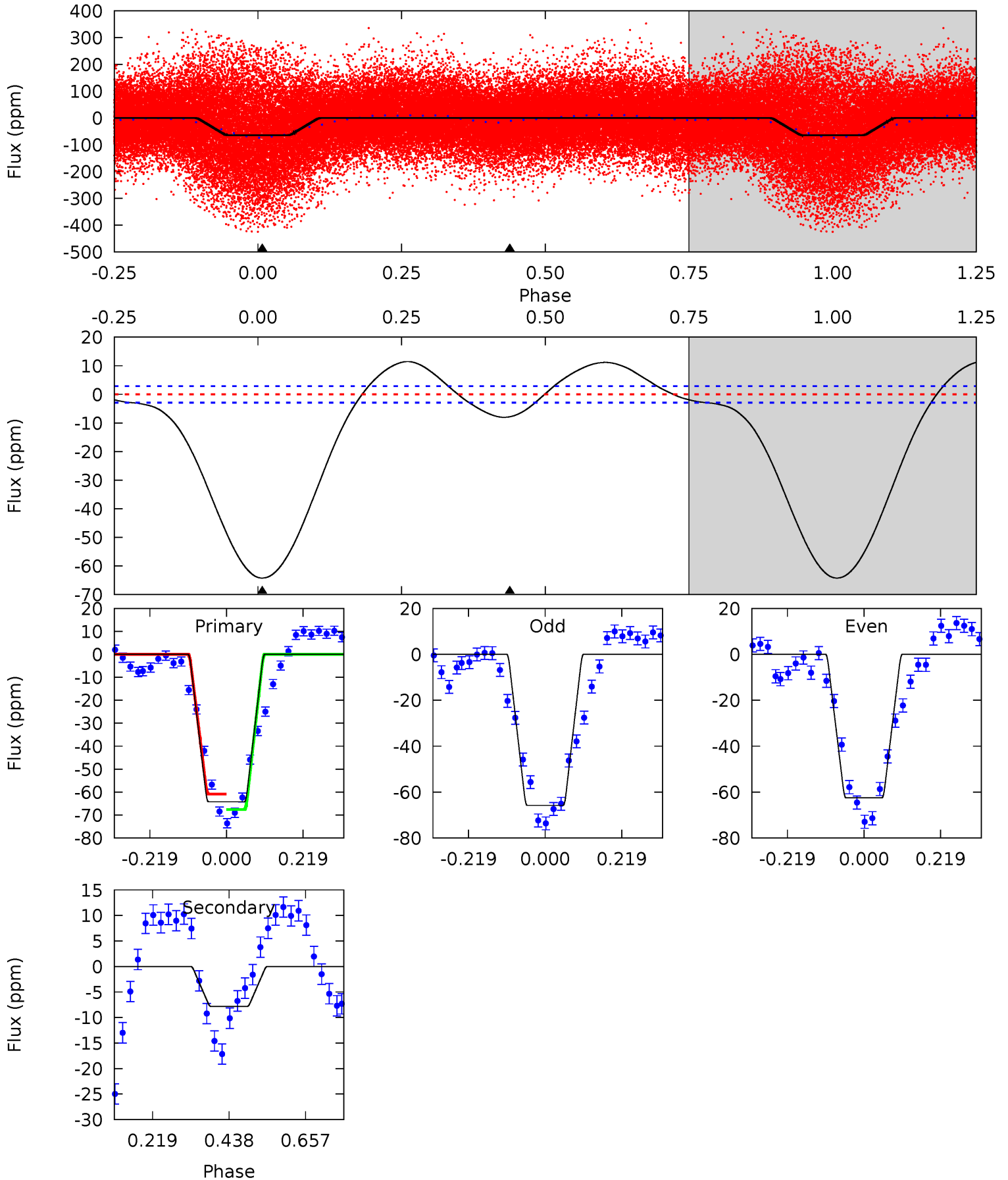
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.0	13.9	0	0	4.37	1.15	1.26	38.0	38.0	13.9	13.9	3.98	1.42	0.06	10.8



Alt Model-Shift Uniqueness Test

009025557-01, P = 2.398779 Days, E = 131.187999 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
98.0	12.0	0	0	4.40	1.23	4.92	98.0	98.0	12.0	12.0	2.52	1.00	0.15	5.14



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 1	$0.85^{+0.25}_{-0.25}$	3135^{+193}_{-289}	6705^{+1074}_{-786}	15^{+15}_{-6}
Alt.	-8 ± 1	$2.08^{+0.38}_{-0.39}$	3108^{+179}_{-258}	3860^{+212}_{-201}	$1.401^{+0.658}_{-0.362}$

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 $A_{obs} \gg 1.0$

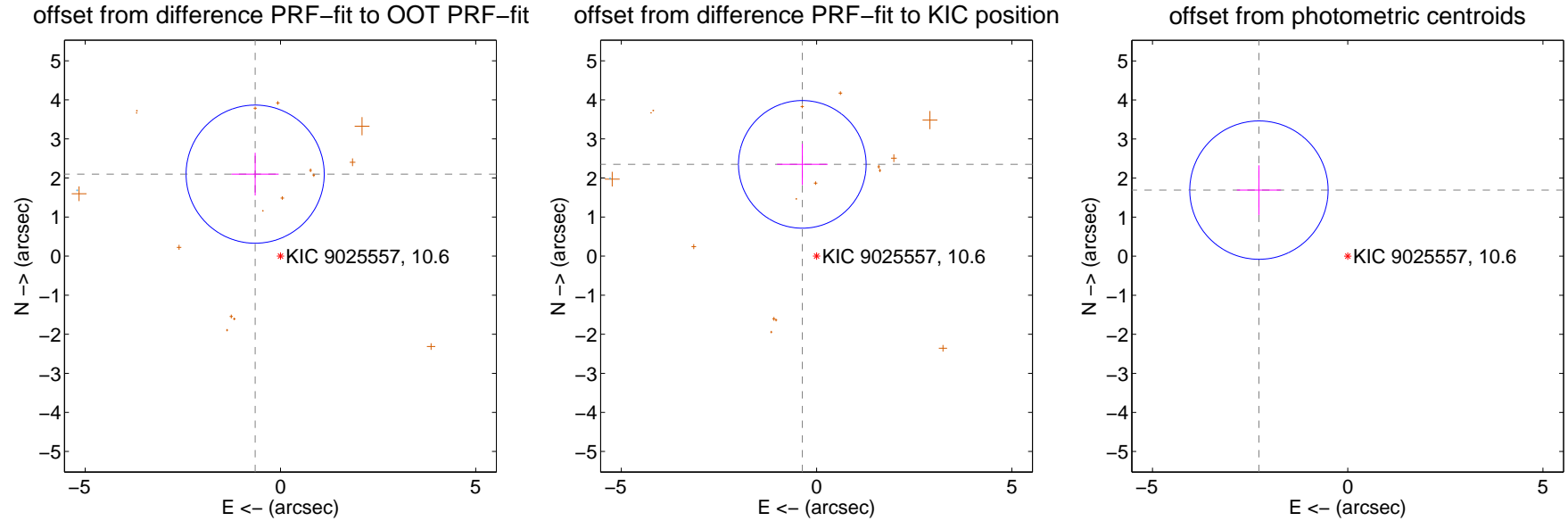
DV Centroid Data

Supplemental centroid analysis for 009025557-01. **Kepler magnitude: 10.60.** Transit SNR 5.87

There are 1 quarters with good PRF difference image offsets

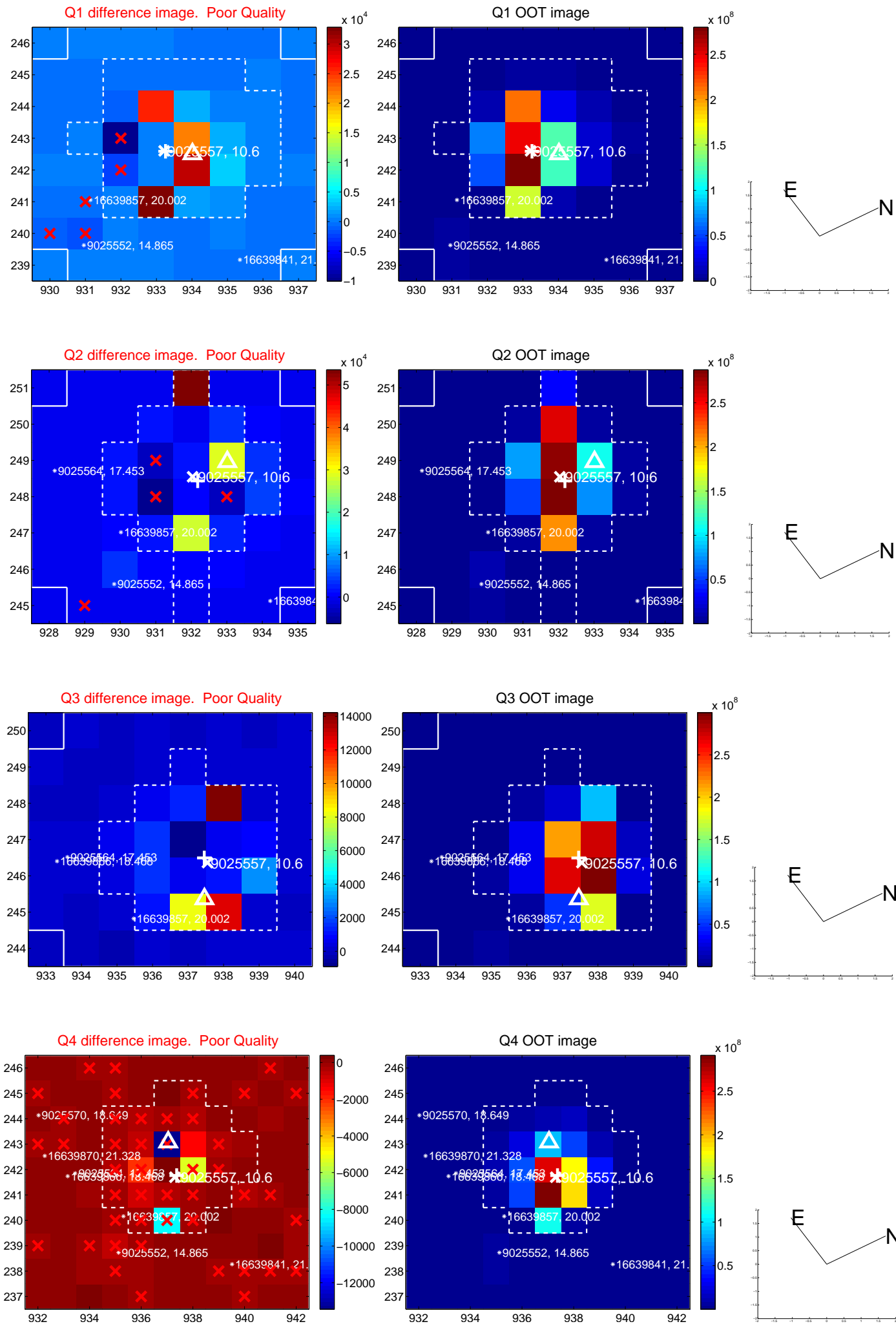
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.196 ± 0.589	3.73	0.648 ± 0.603	2.098 ± 0.547
PRF-fit source offset from KIC position	2.377 ± 0.545	4.36	0.365 ± 0.648	2.349 ± 0.528
photometric centroid source offset	2.83 ± 0.59	4.80	2.27 ± 0.57	1.69 ± 0.63

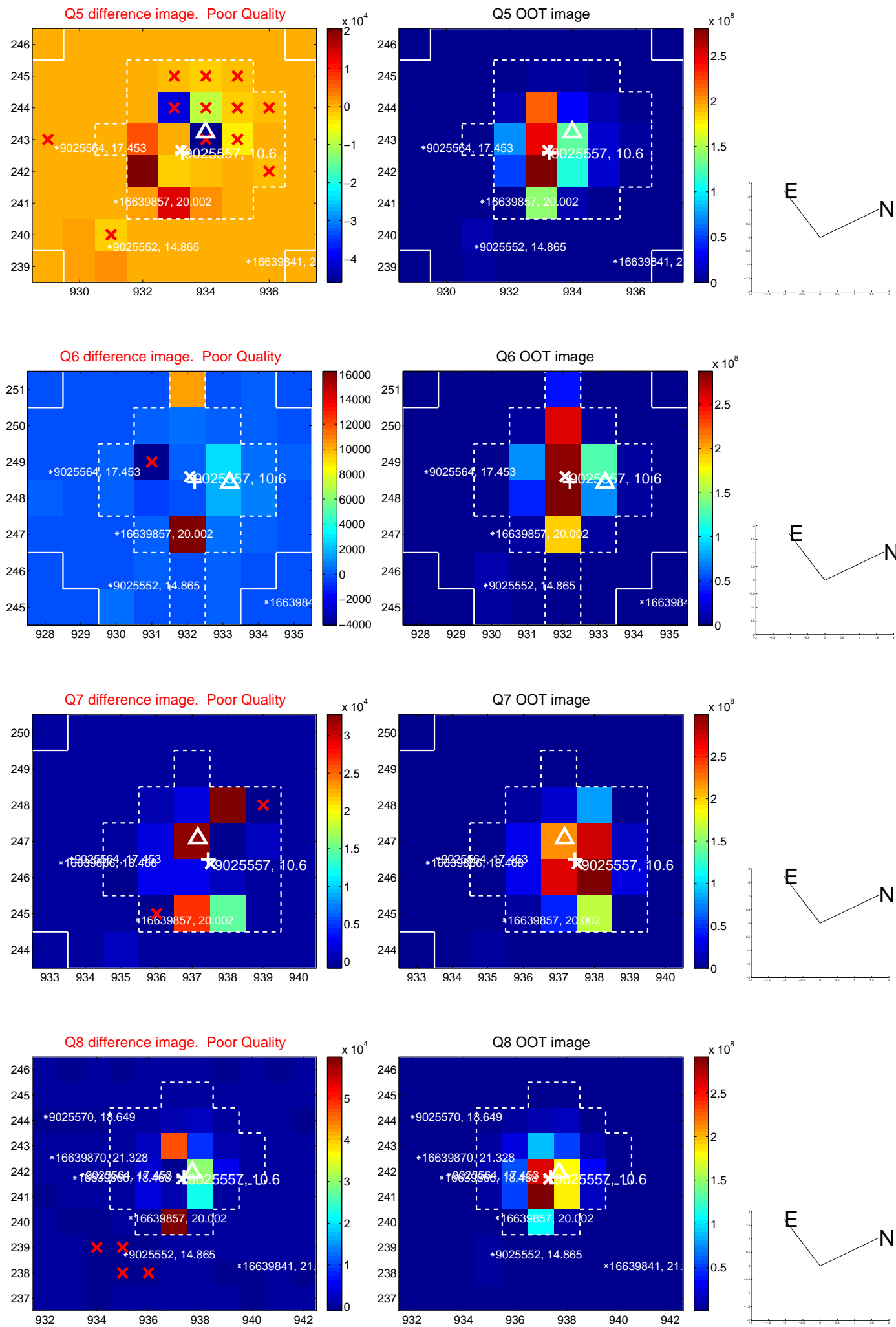


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

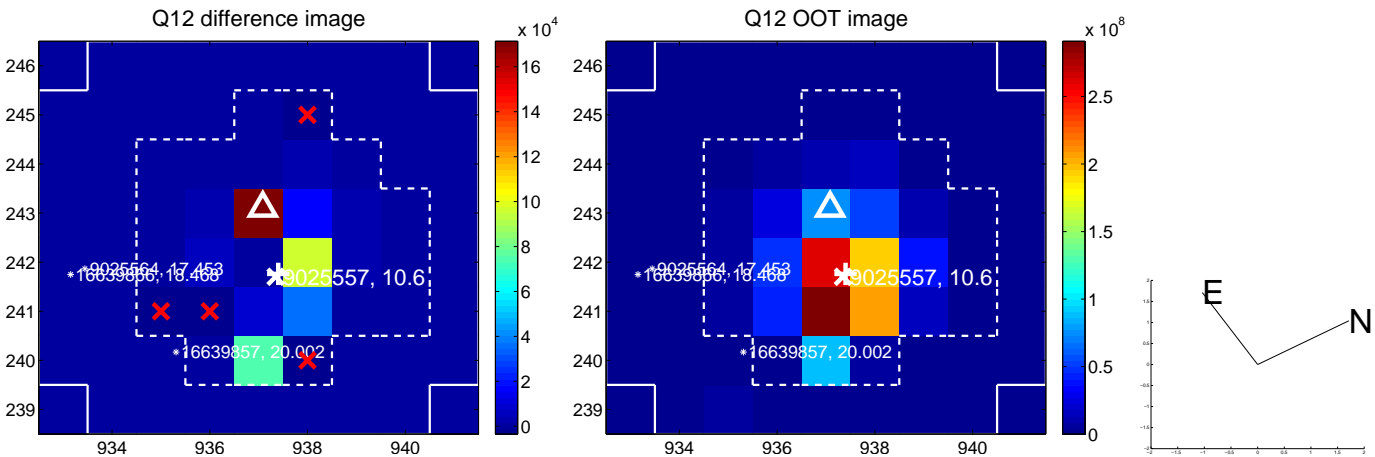
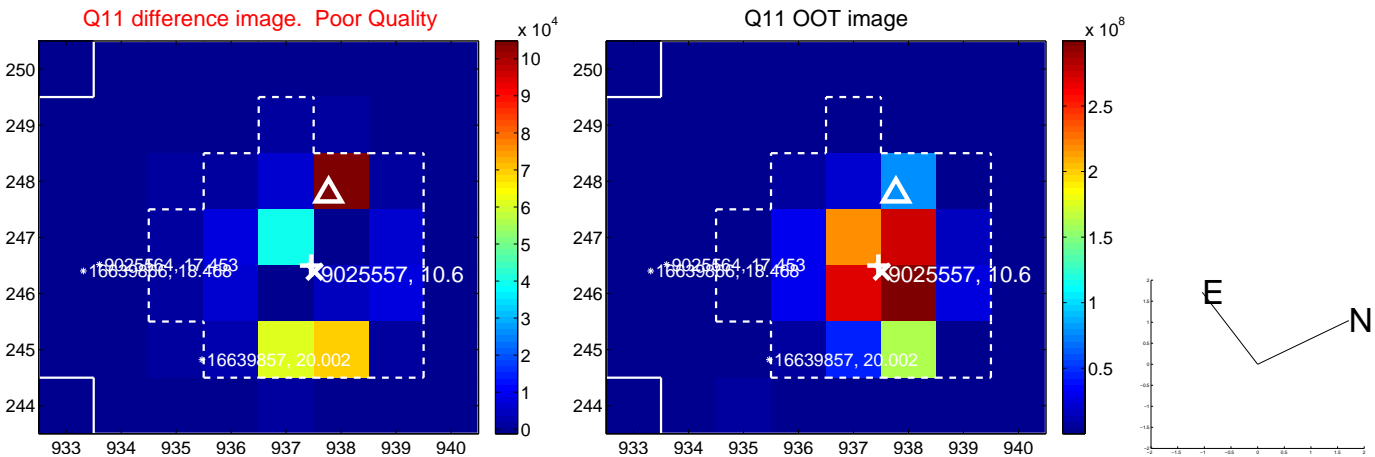
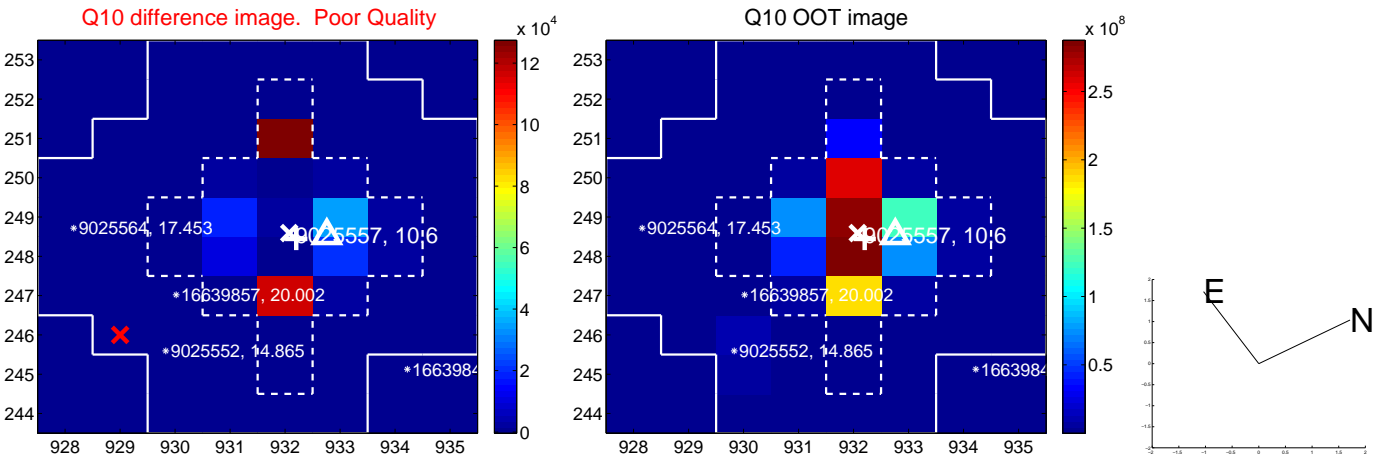
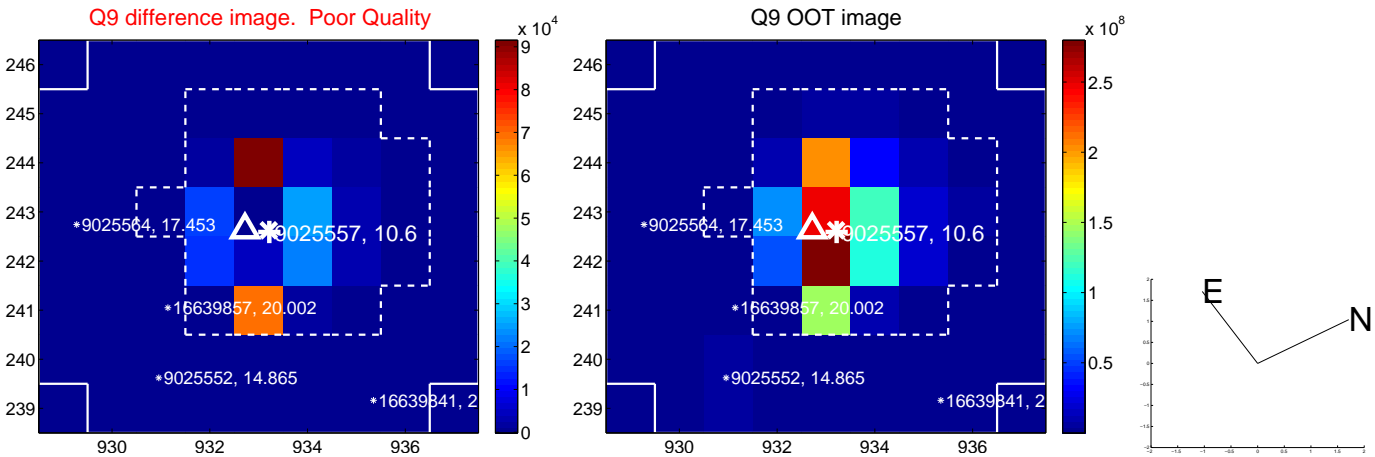
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



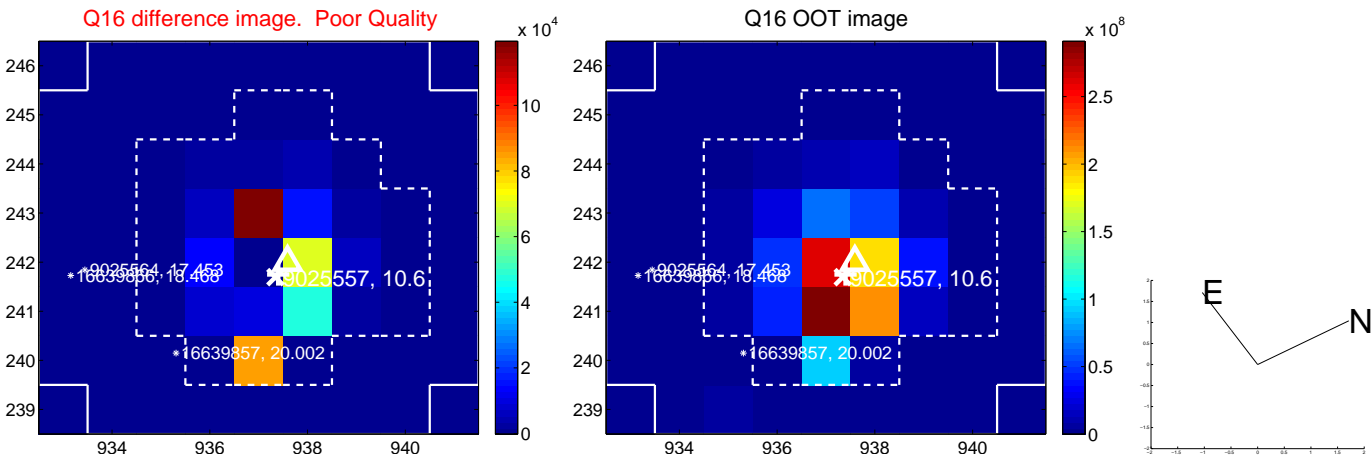
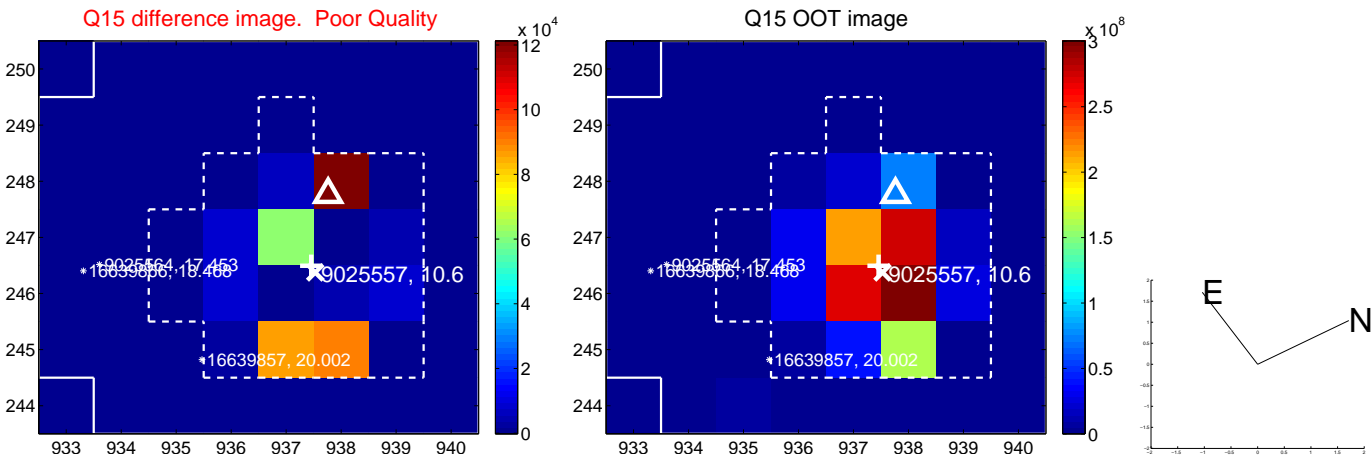
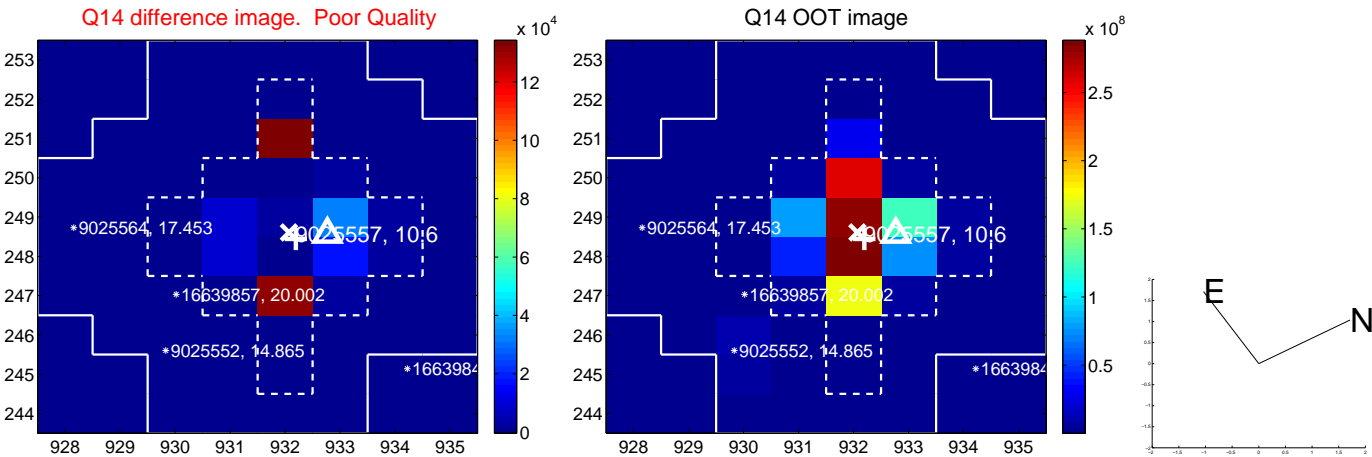
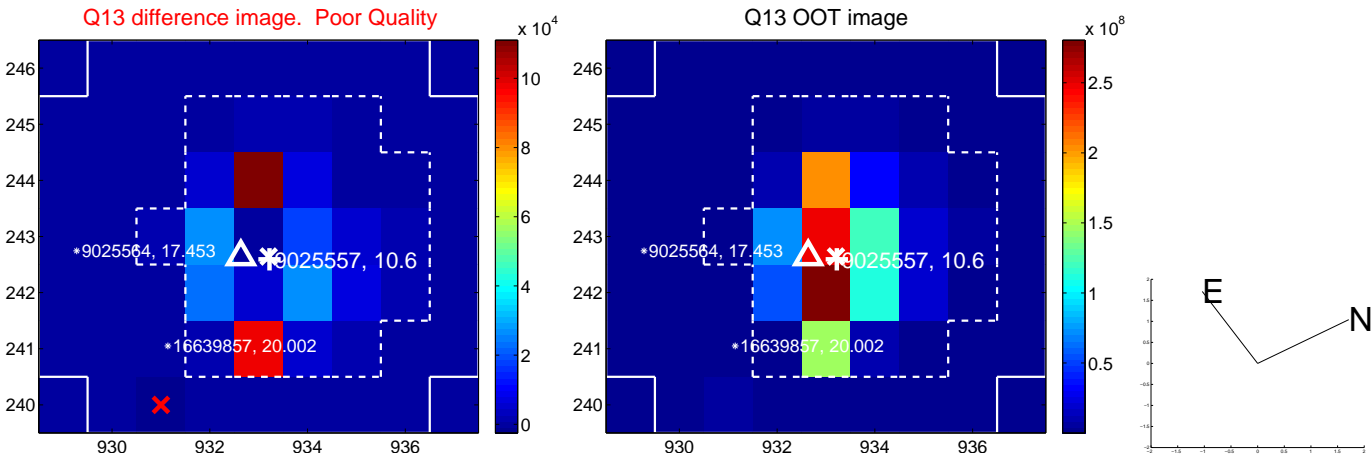
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



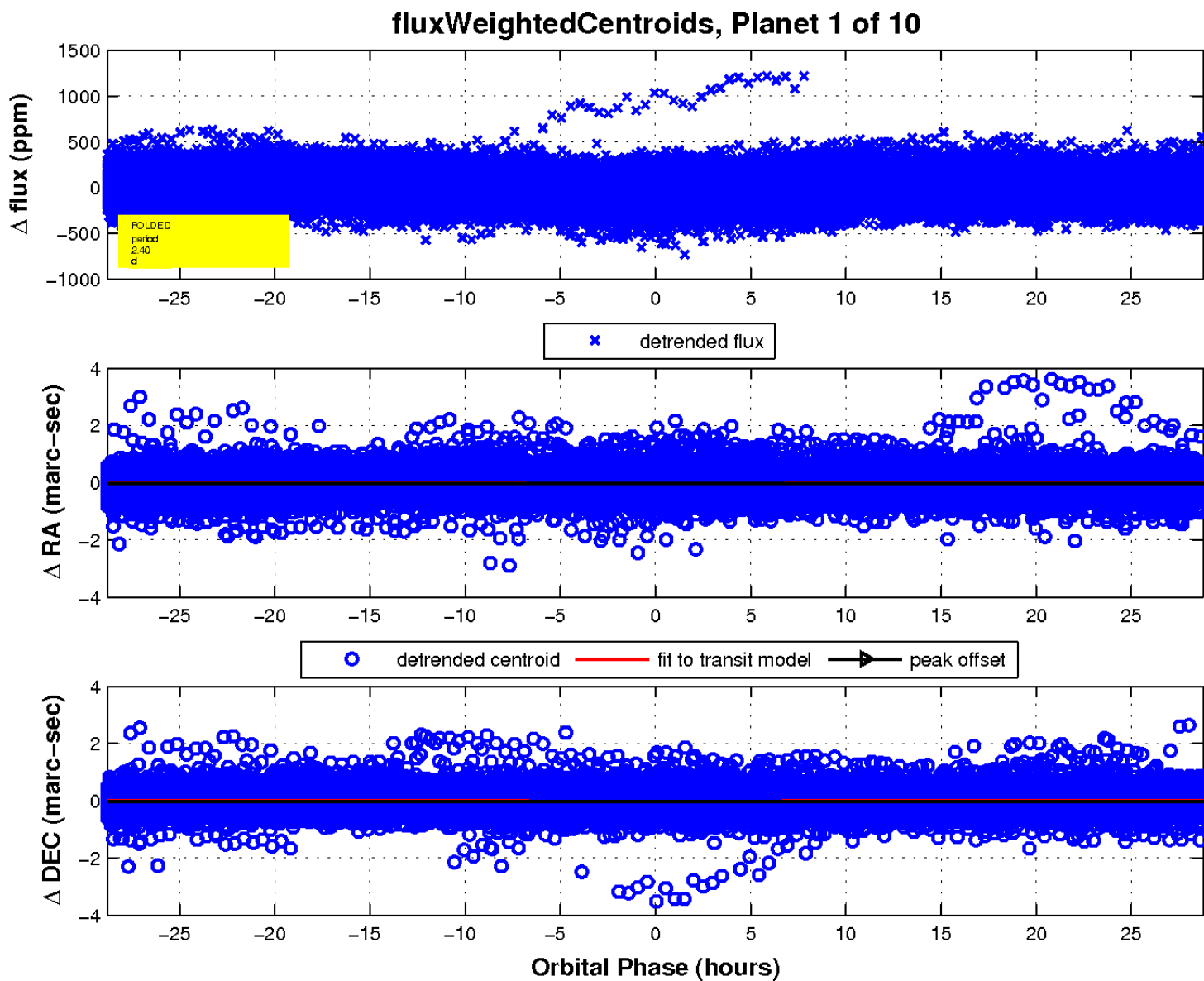
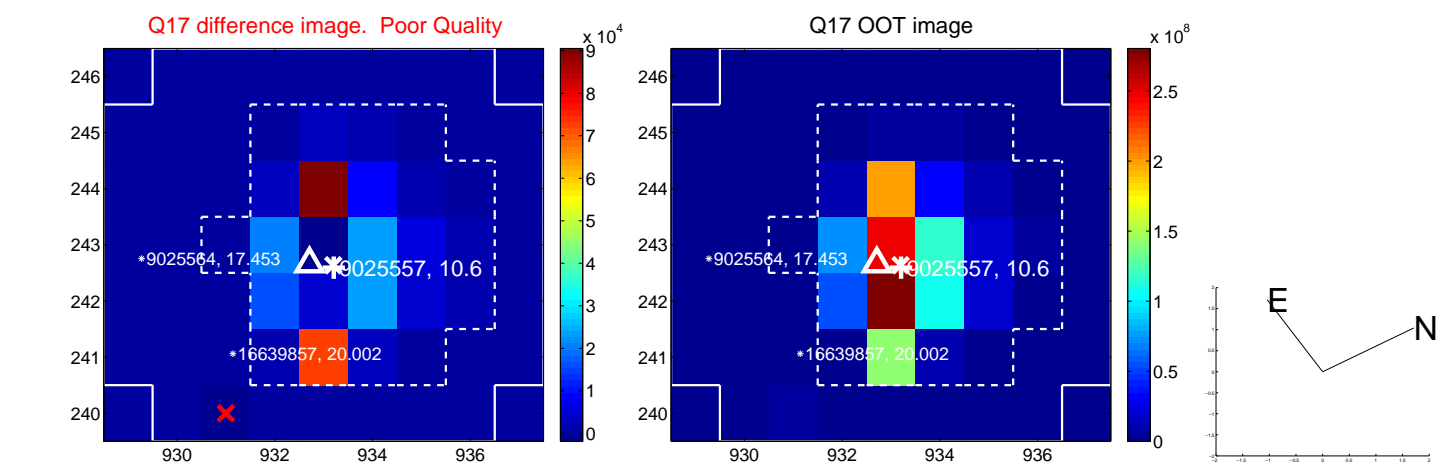
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

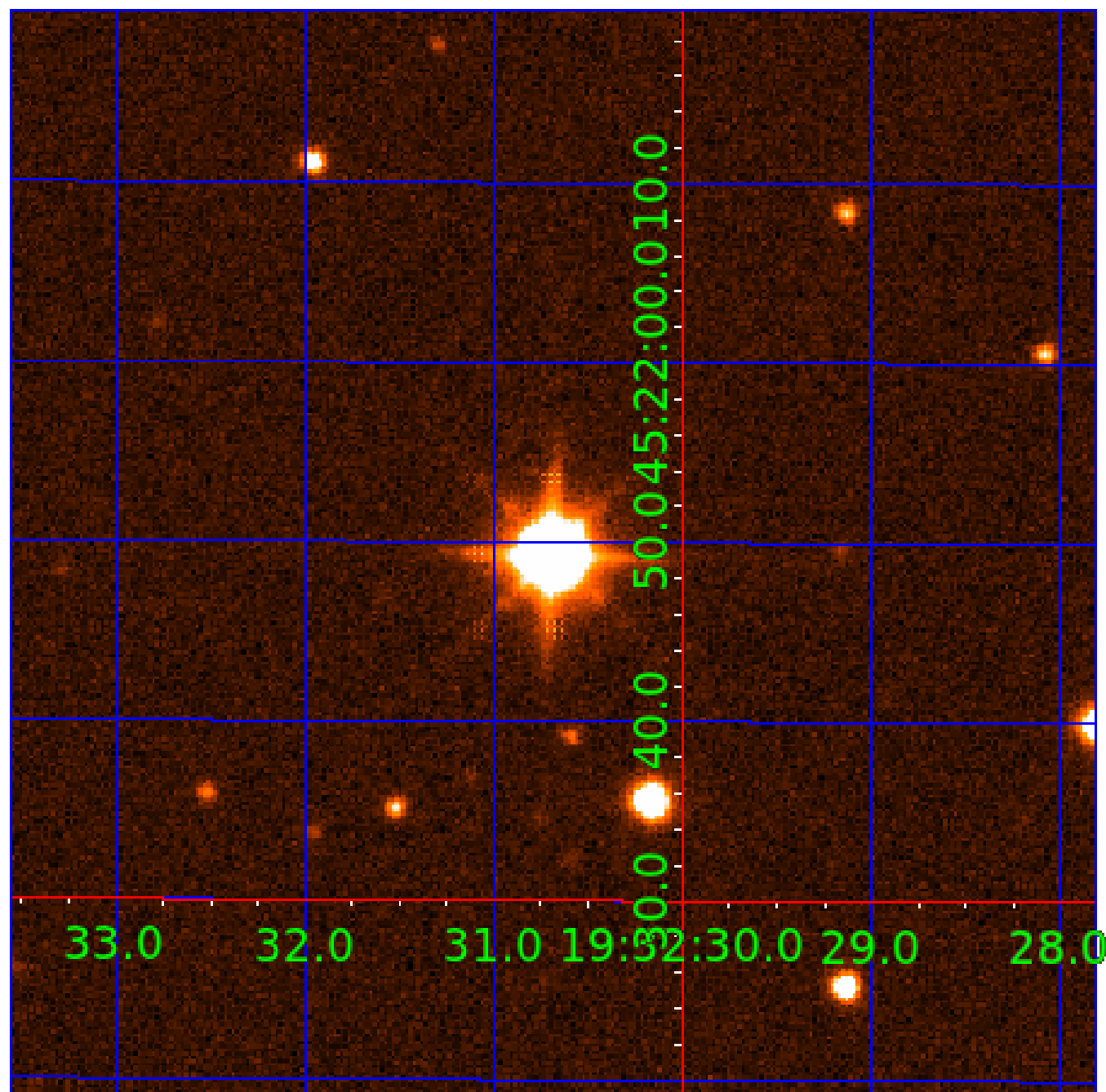


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

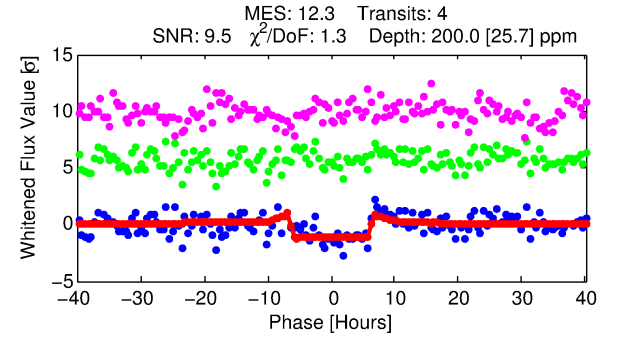
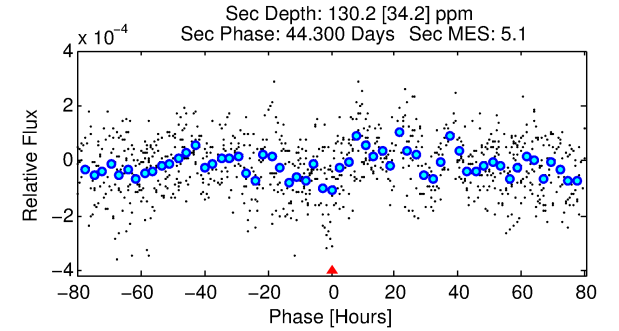
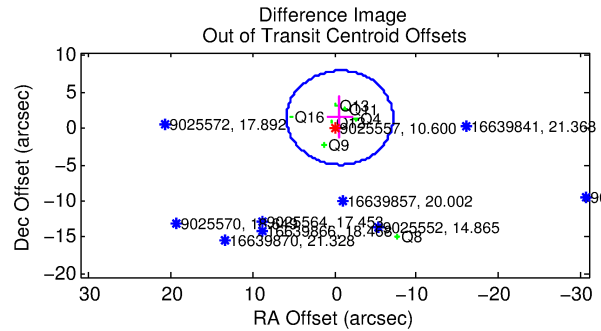
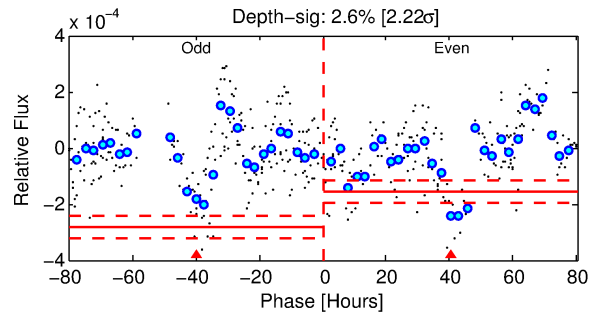
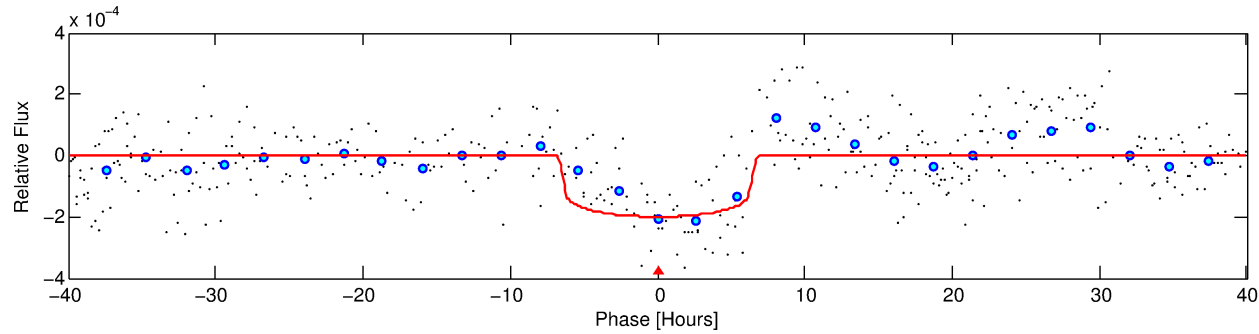
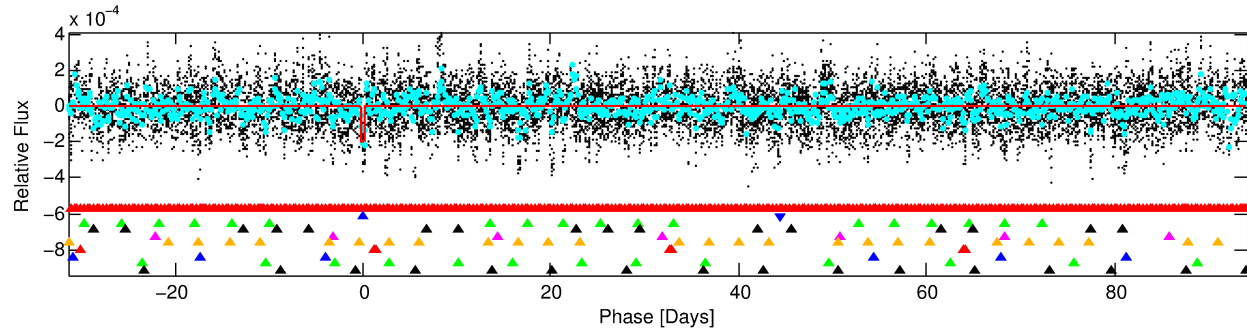
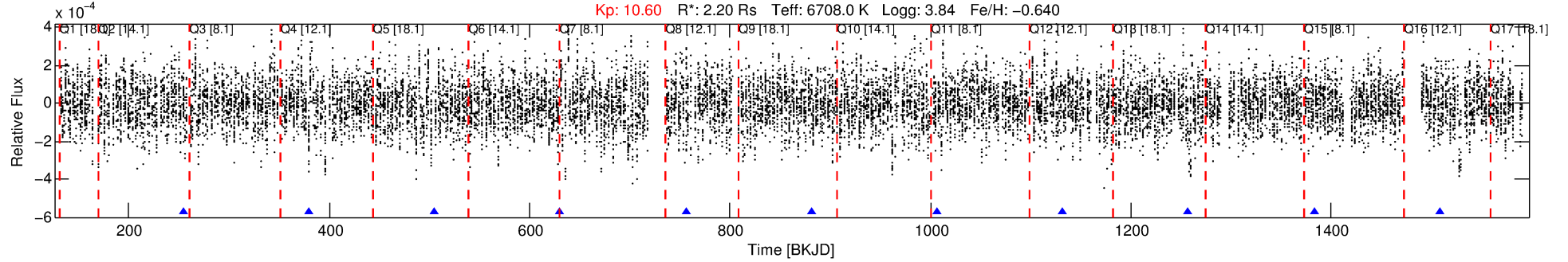
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-02

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 2 of 10 Period: 125.425 d



DV Fit Results:

Period = 125.42483 [0.00291] d
Epoch = 254.0936 [0.0156] BKJD
Rp/R* = 0.0139 [0.0047]
a/R* = 51.97 [99.44]
b = 0.71 [1.34]
Seff = 32.13 [17.42]
Teq = 607 [82] K
Rp = 3.34 [1.64] Re
a = 0.5225 [0.1746] AU
Ag = 1755.25 [1579.44] [1.11 σ]
Teffp = 6075 [1122] K [4.86 σ]

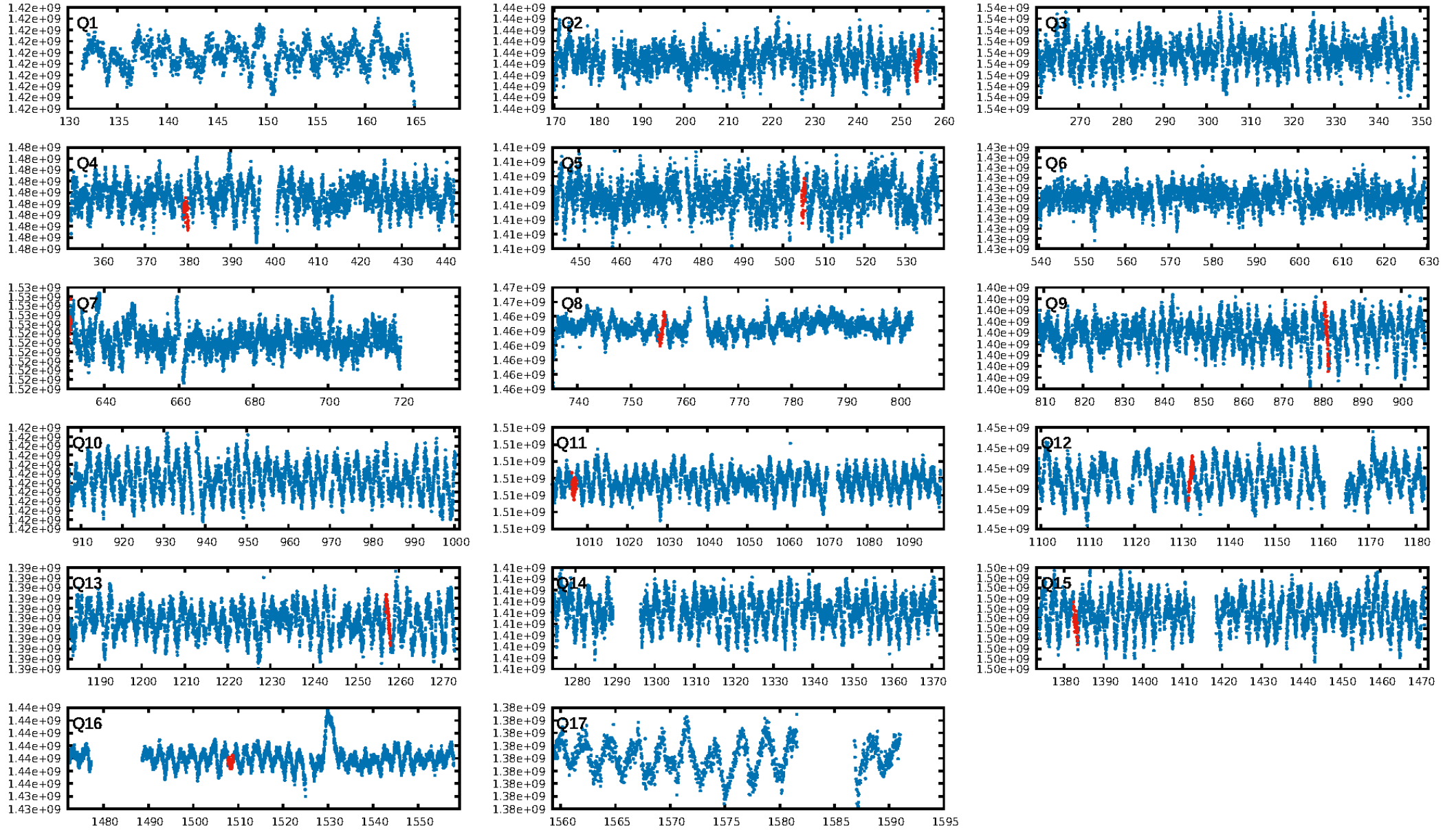
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.47 σ]
LongPeriod-sig: 100.0% [91.09 σ]
ModelChiSquare2-sig: 32.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.7978
Centroid-sig: 43.2%
Centroid-so: 0.249 arcsec [0.70 σ]
OotOffset-rm: 1.610 arcsec [0.74 σ]
KicOffset-rm: 1.817 arcsec [0.98 σ]
OotOffset-st: 0/1/4/2 [7]
KicOffset-st: 0/1/4/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.00 [0/9]

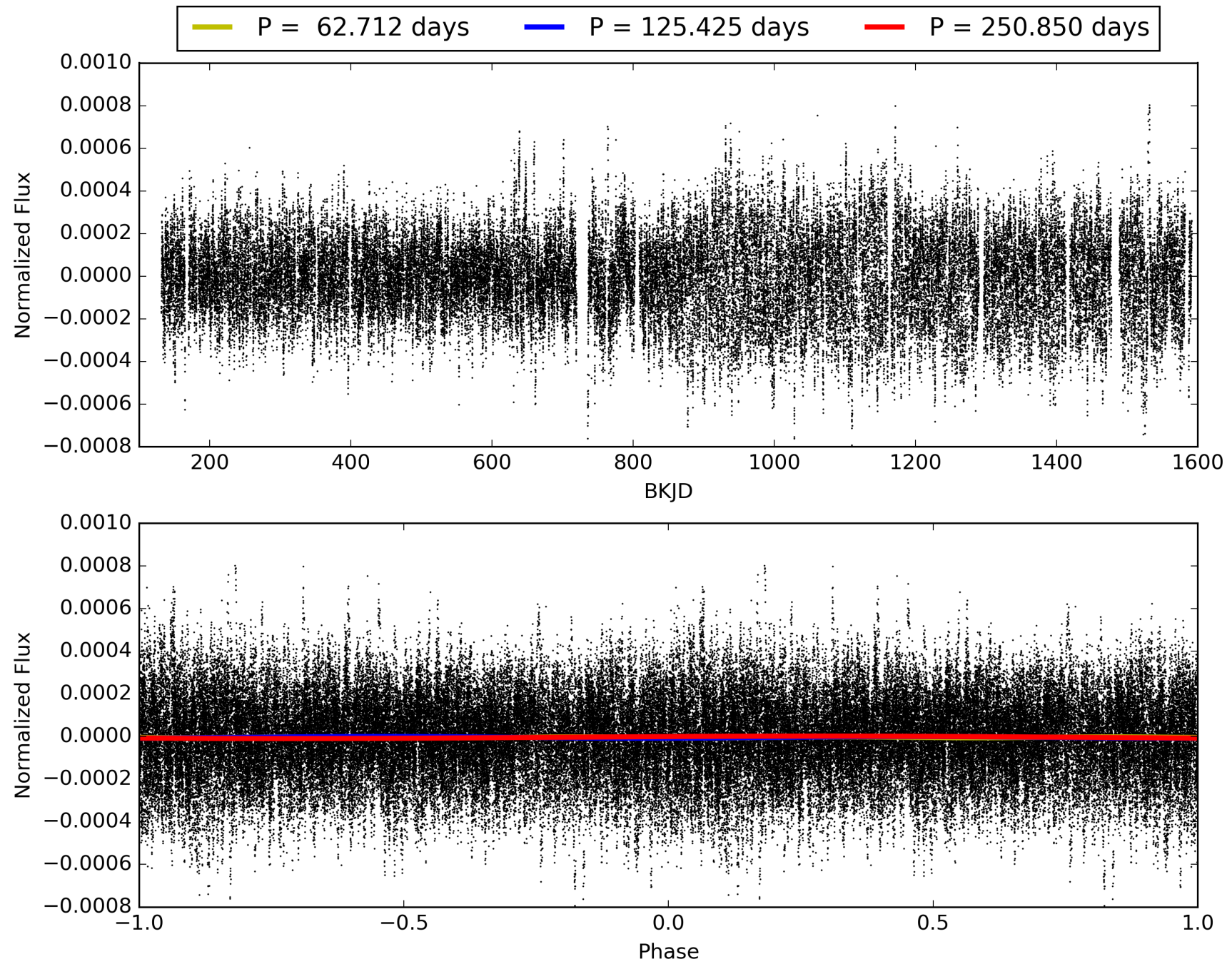
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:11 Z

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

TCE 009025557-02, PDC Light Curves

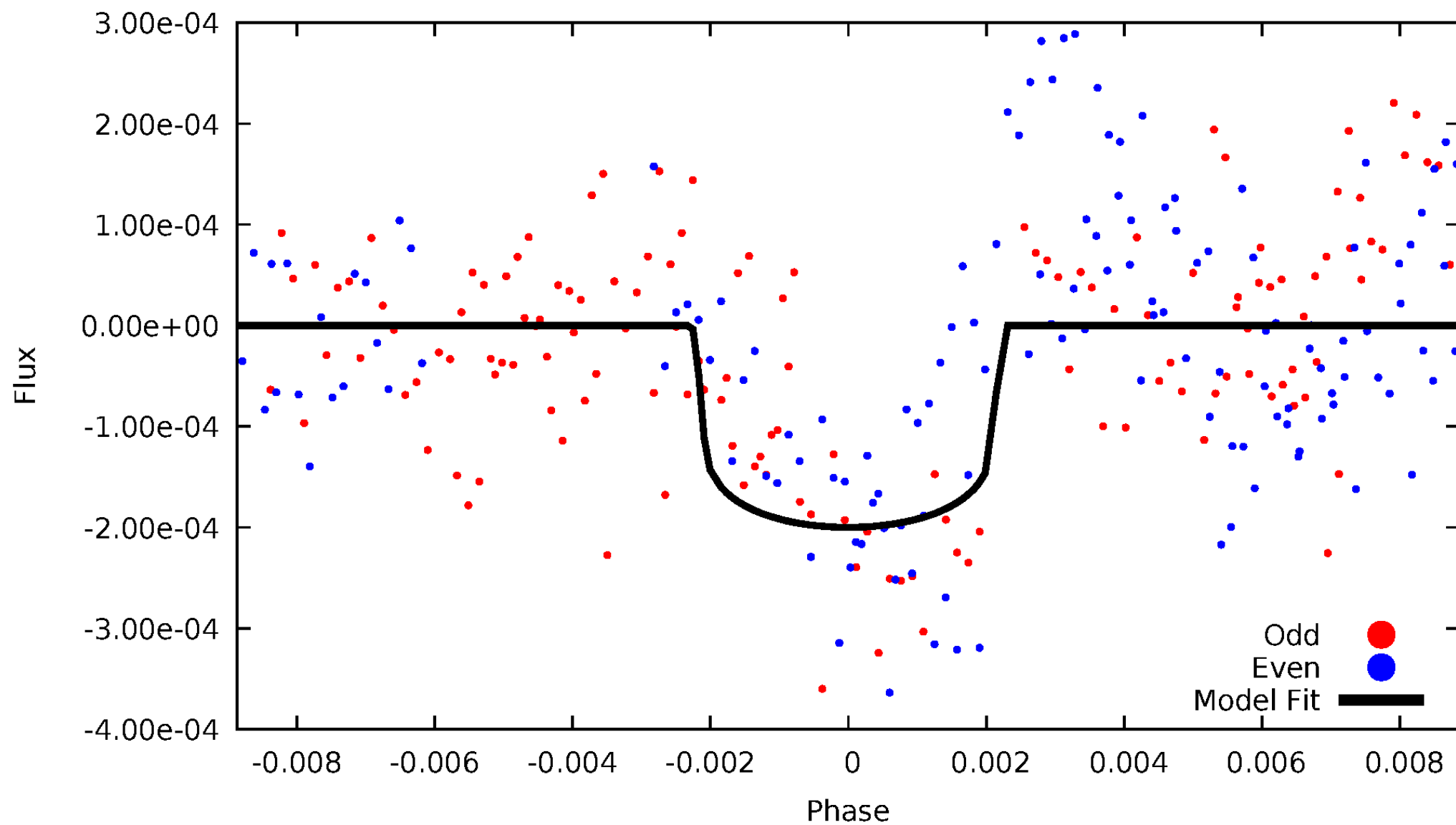


TCE 009025557-02



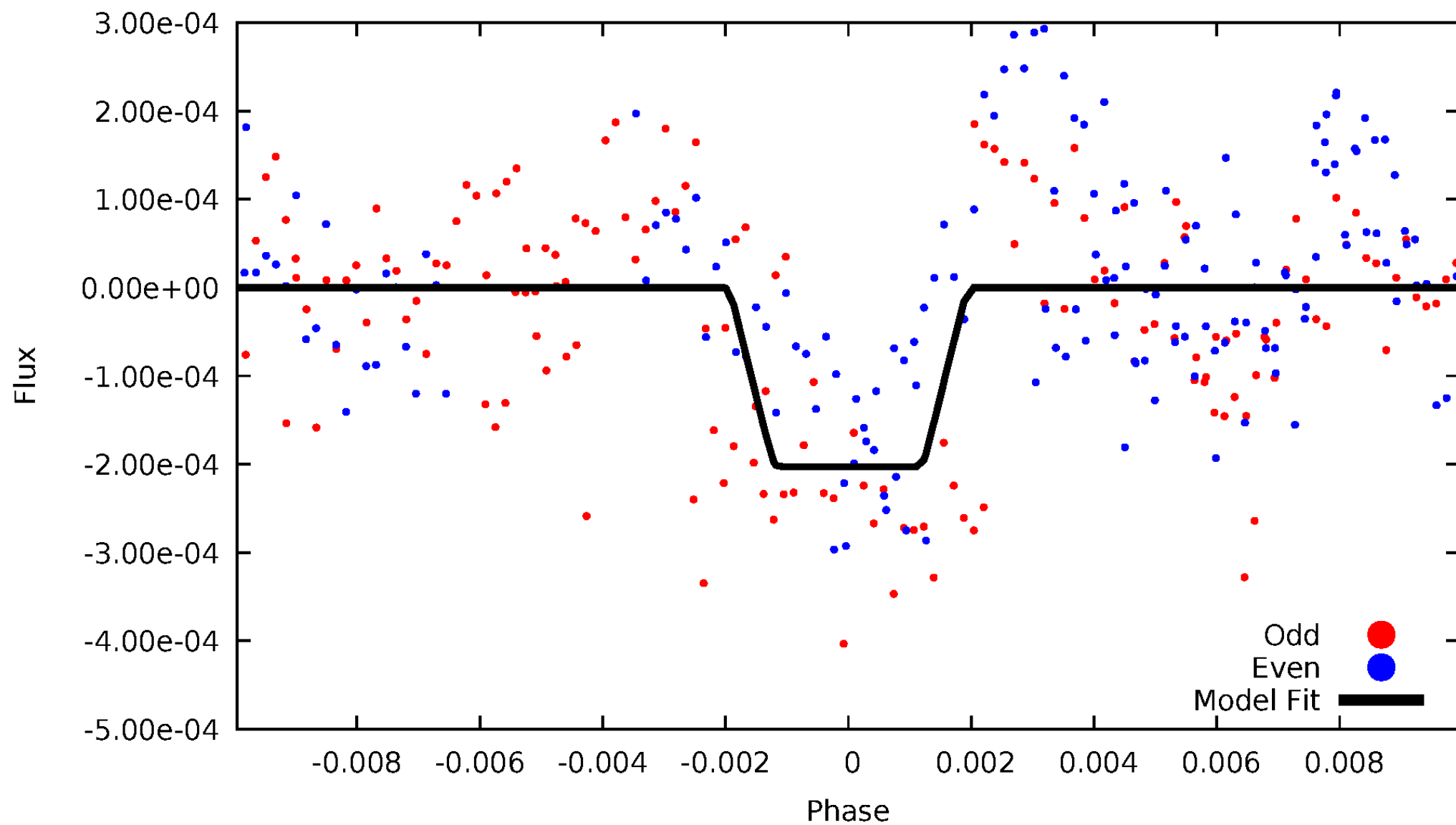
DV Odd/Even

TCE 009025557-02



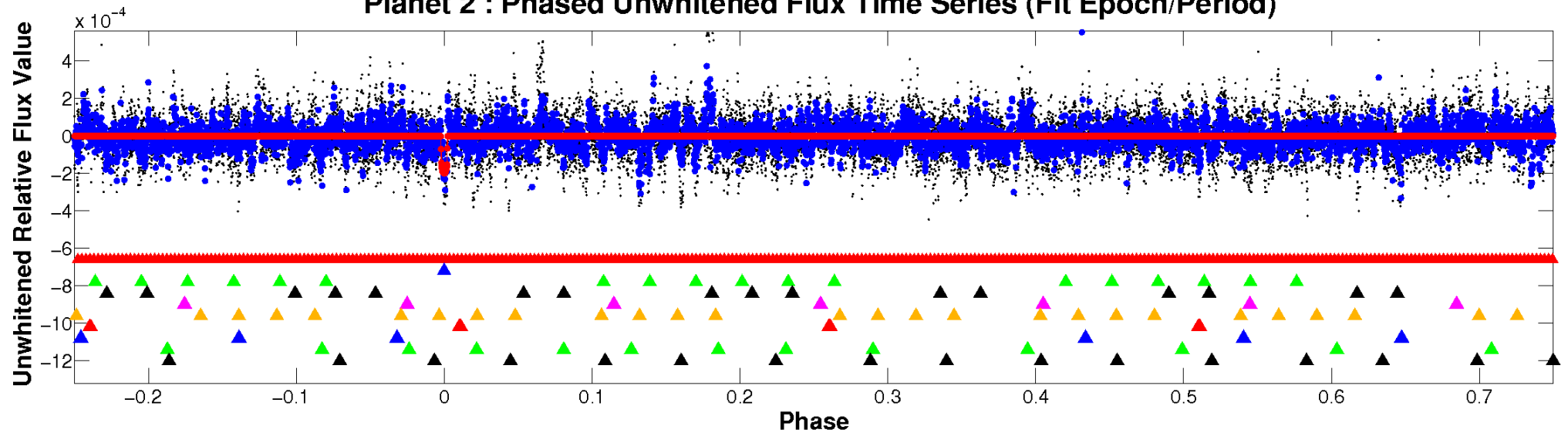
ALT Odd/Even

TCE 009025557-02

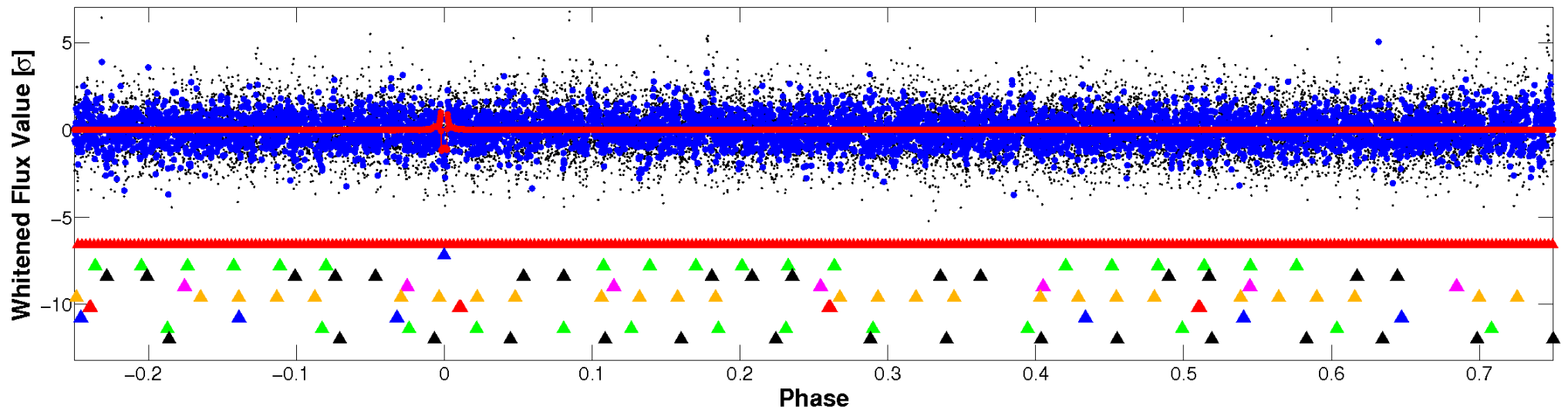


Non-Whitened Vs. Whitened Light Curve

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

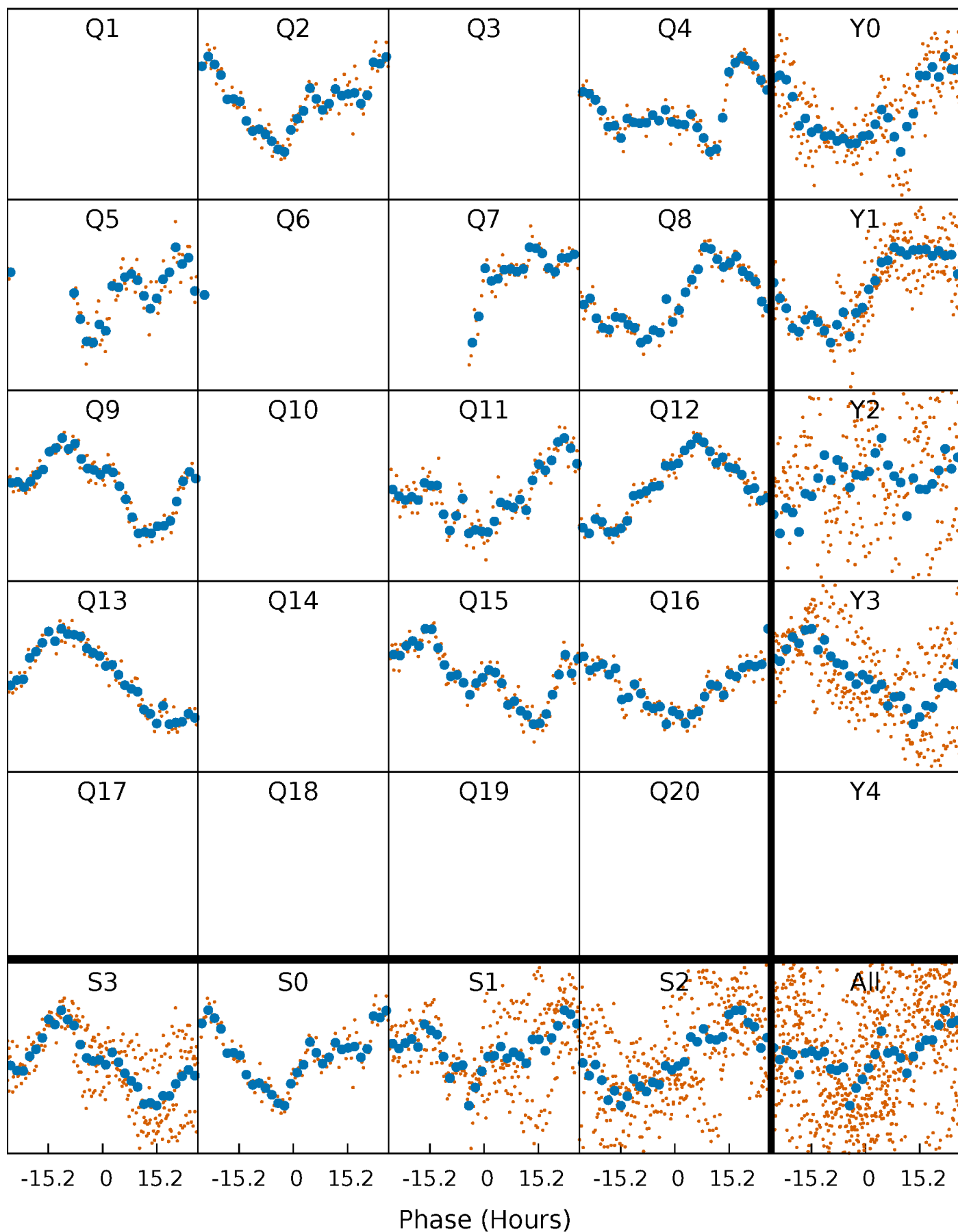


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



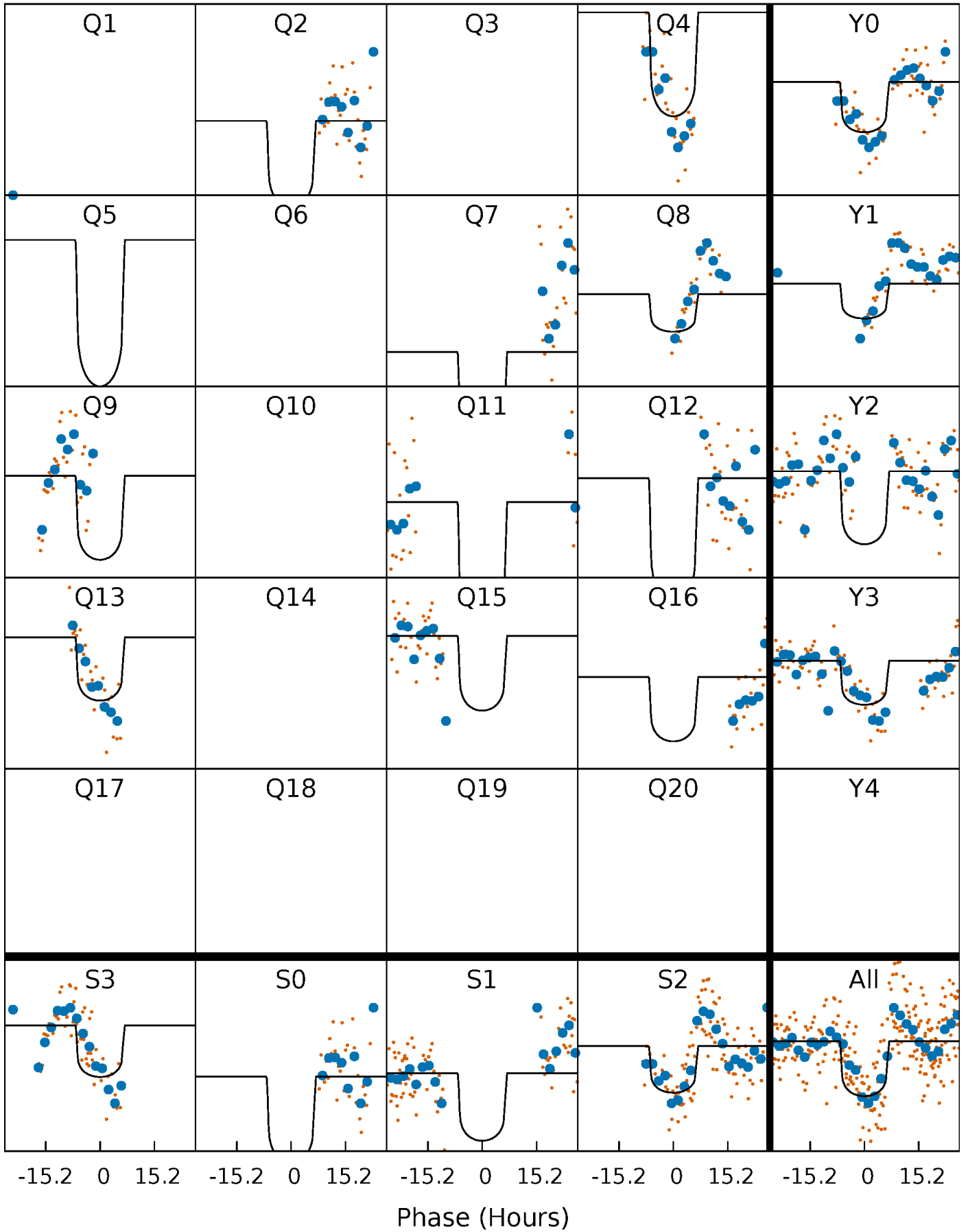
PDC Quarter-Phased Transit Curves

TCE 009025557-02 P=125.424828 Days $T_0=254.093620$ (BKJD)



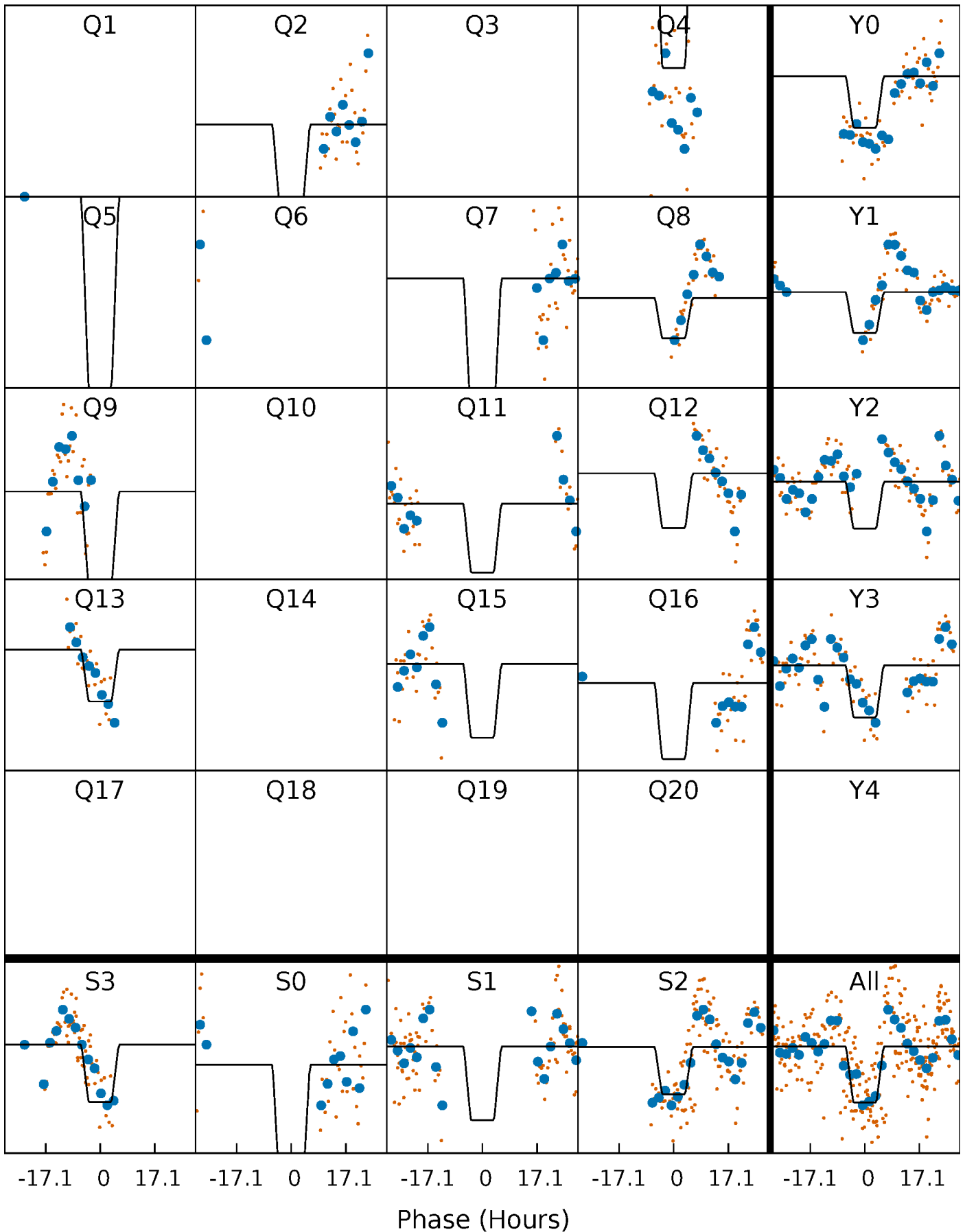
DV Quarter-Phased Transit Curves

TCE 009025557-02 P=125.424828 Days $T_0=254.093620$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

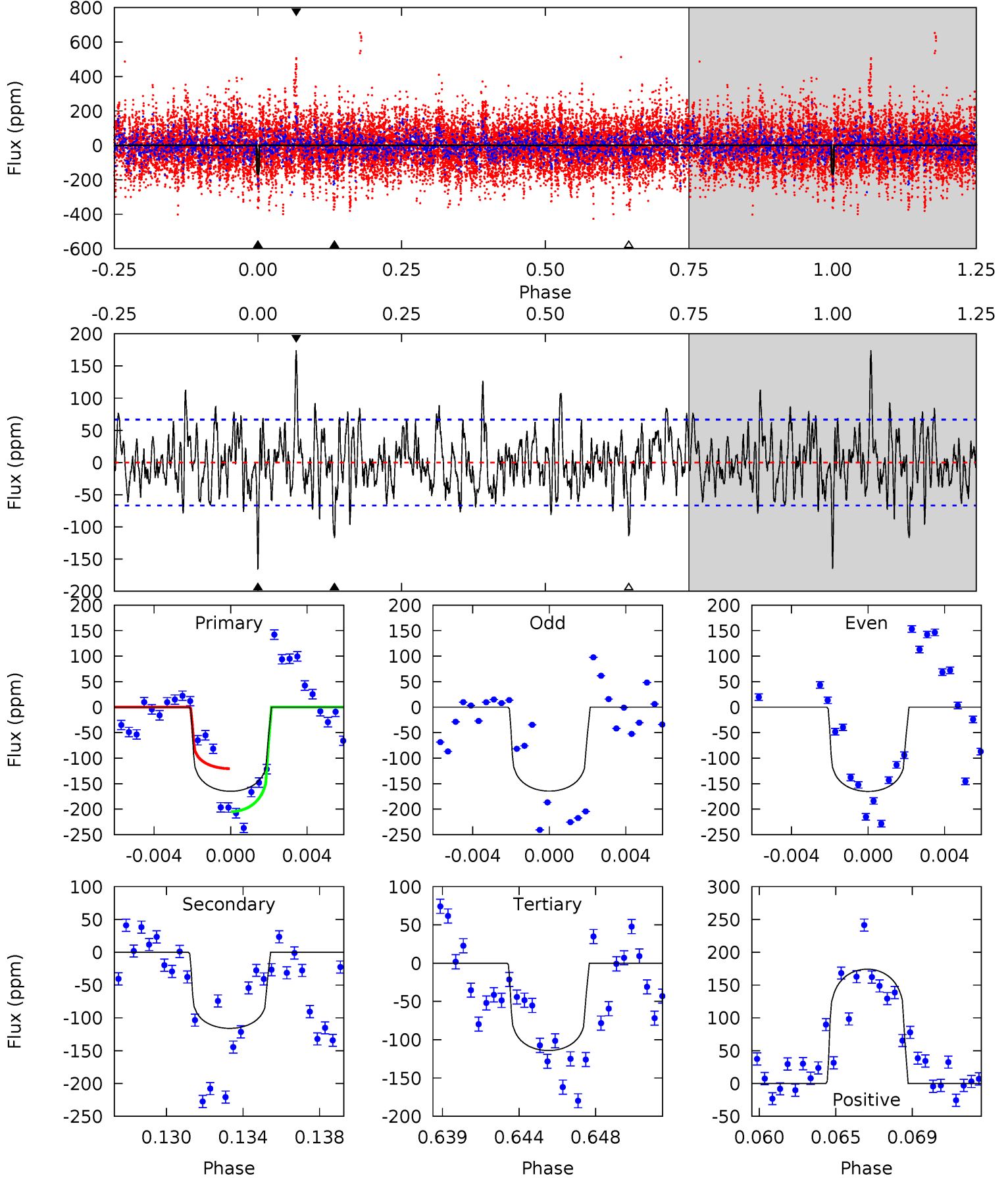
TCE 009025557-02 P=125.441625 Days $T_0=254.038999$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-02, $P = 125.424828$ Days, $E = 128.668792$ Days

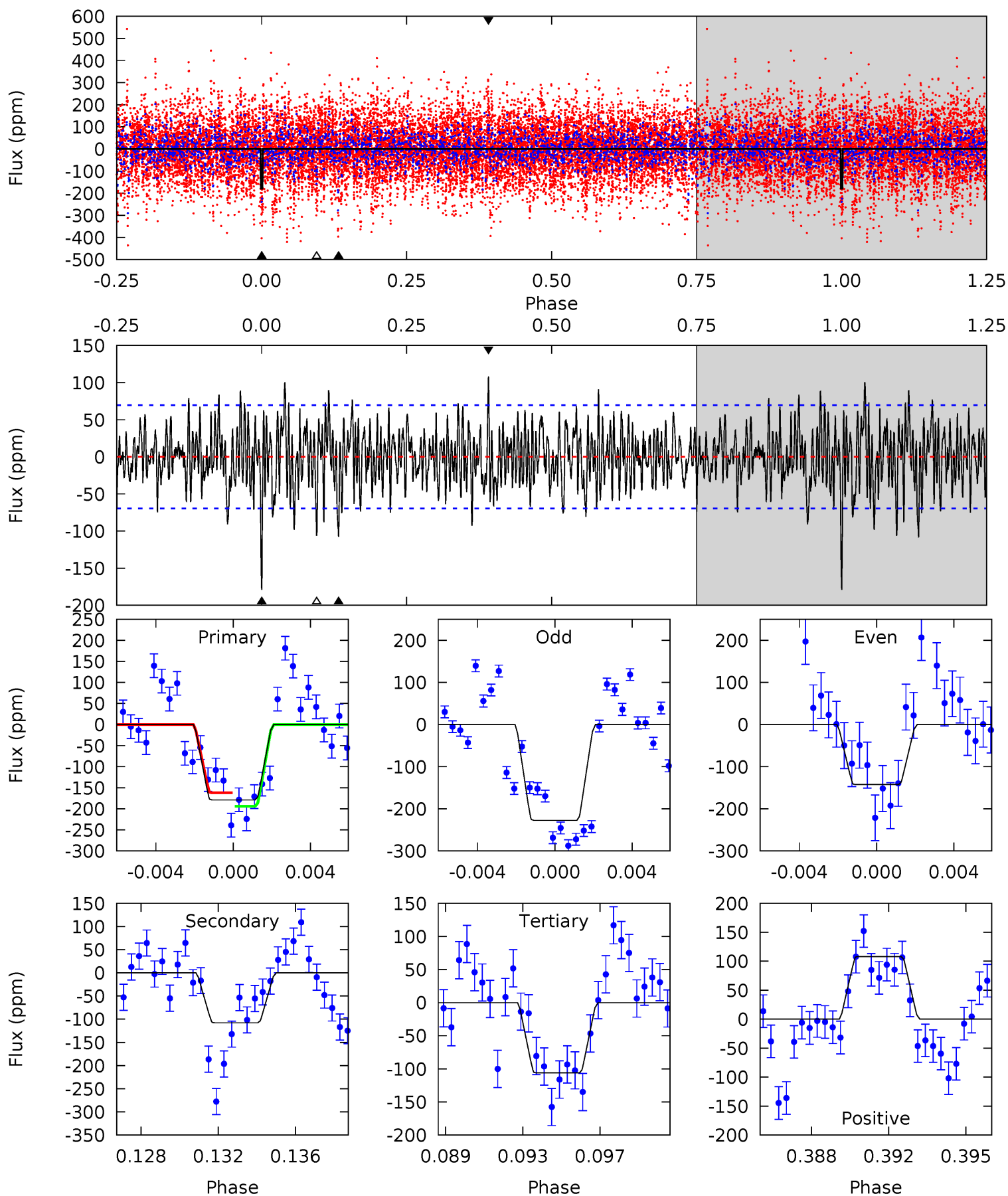
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	9.03	8.89	13.6	5.19	2.85	2.90	3.95	-0.72	0.14	-4.53	0.03	0.86	0.51	3.29



Alt Model-Shift Uniqueness Test

009025557-02, P = 125.441625 Days, E = 128.597374 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	8.06	7.94	8.09	5.21	2.89	2.46	5.44	5.29	0.13	-0.02	3.20	1.02	0.38	1.20



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-116 ± 13	$3.11^{+1.34}_{-1.09}$	833^{+52}_{-69}	5879^{+1395}_{-778}	1814^{+2537}_{-928}
Alt.	-108 ± 13	$3.26^{+1.27}_{-1.19}$	833^{+51}_{-73}	5668^{+1351}_{-694}	1528^{+2268}_{-727}

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

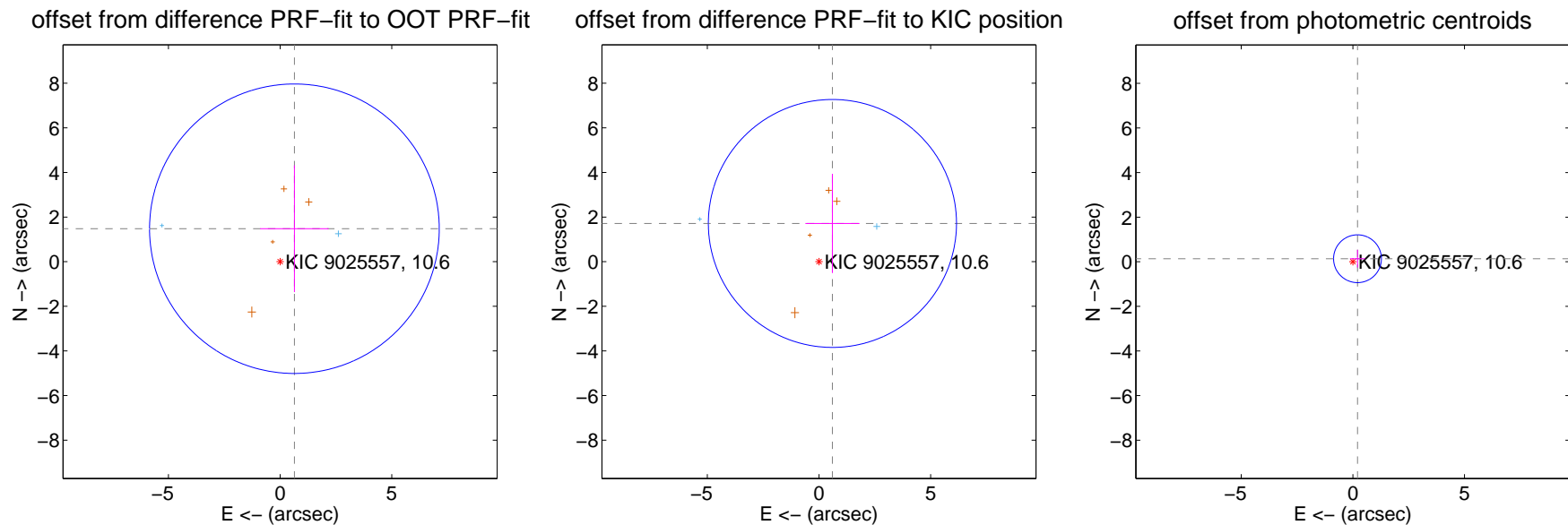
DV Centroid Data

Supplemental centroid analysis for 009025557-02. **Kepler magnitude: 10.60.** Transit SNR 9.54

There are 2 quarters with good PRF difference image offsets

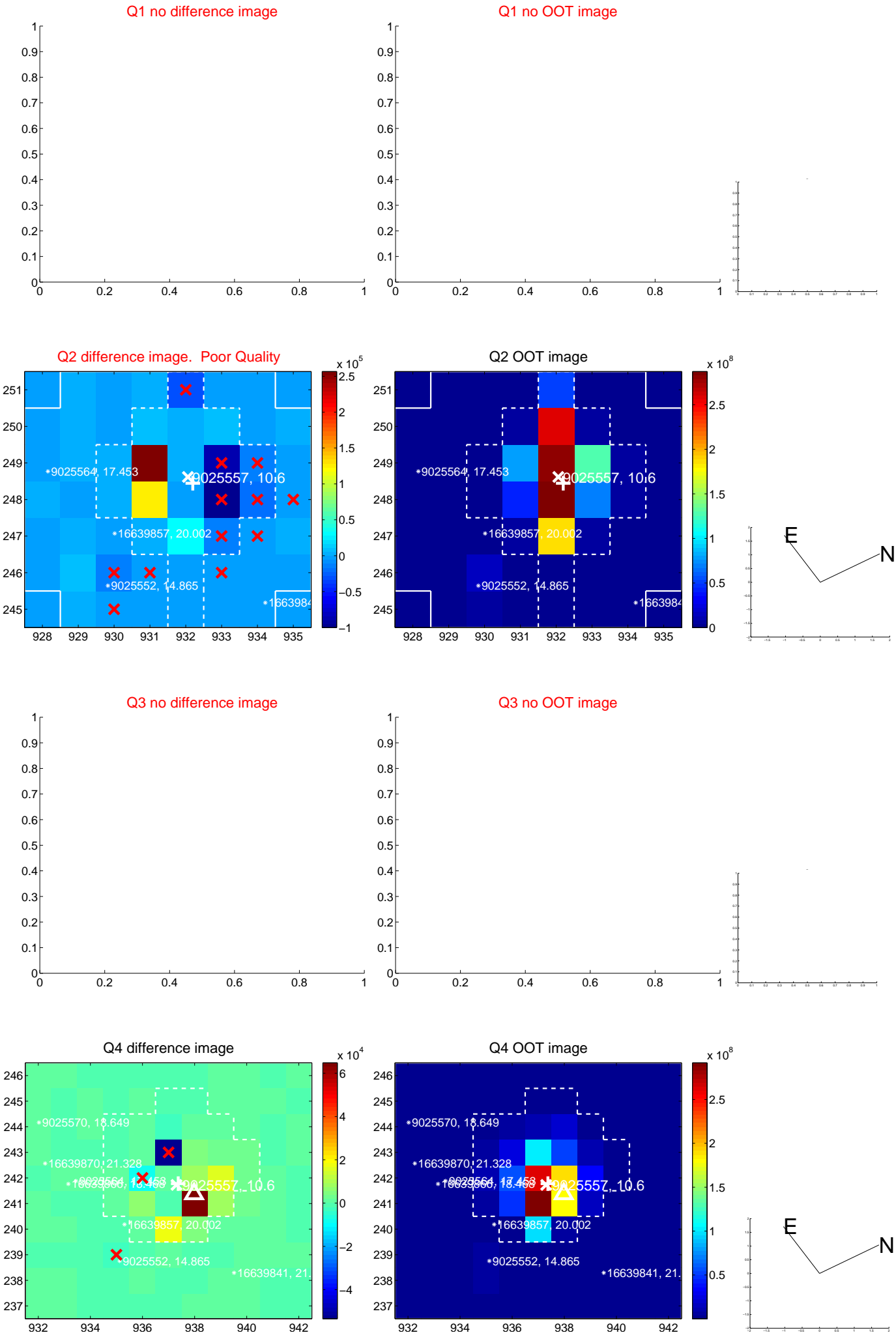
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.610 ± 2.162	0.74	-0.640 ± 1.532	1.478 ± 2.842
PRF-fit source offset from KIC position	1.817 ± 1.852	0.98	-0.602 ± 1.212	1.714 ± 2.223
photometric centroid source offset	0.25 ± 0.36	0.70	-0.21 ± 0.34	0.14 ± 0.40

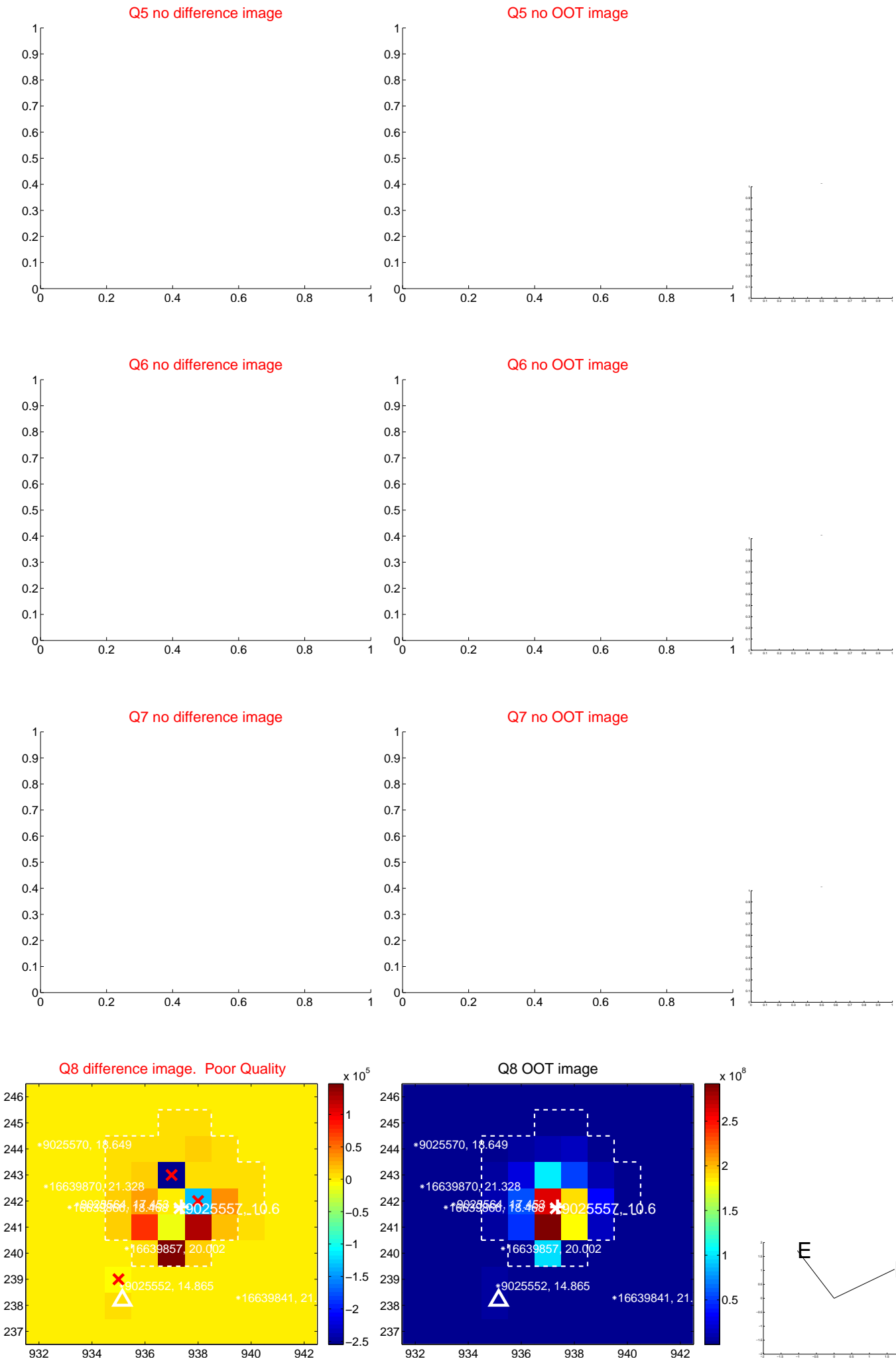


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

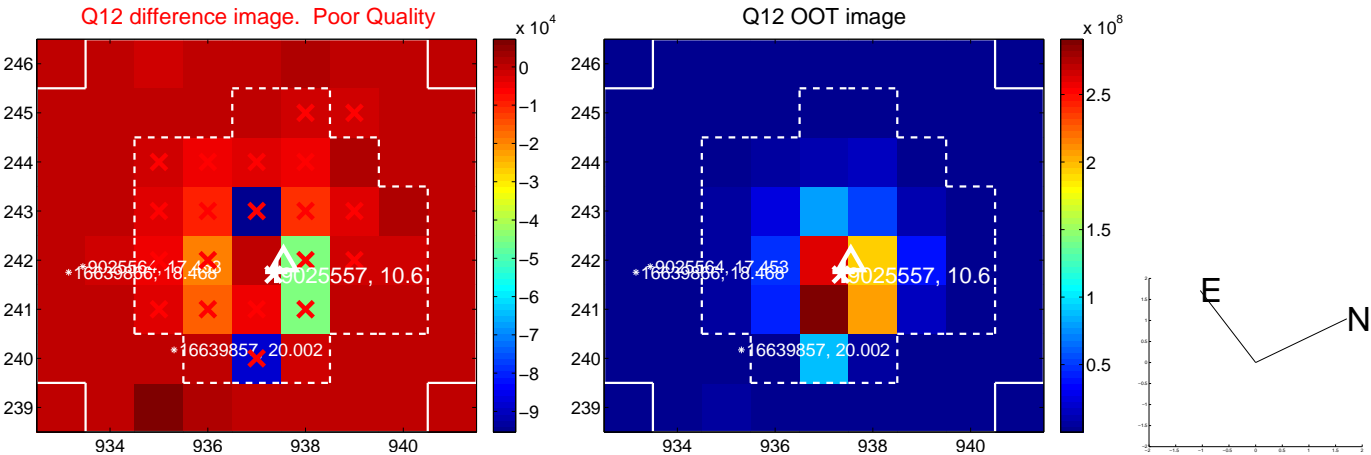
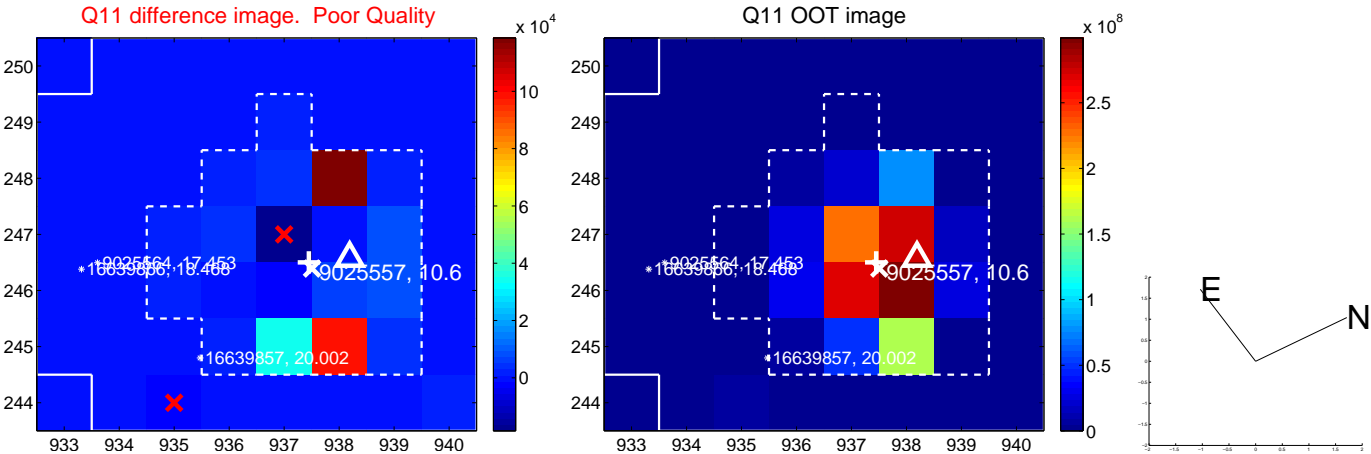
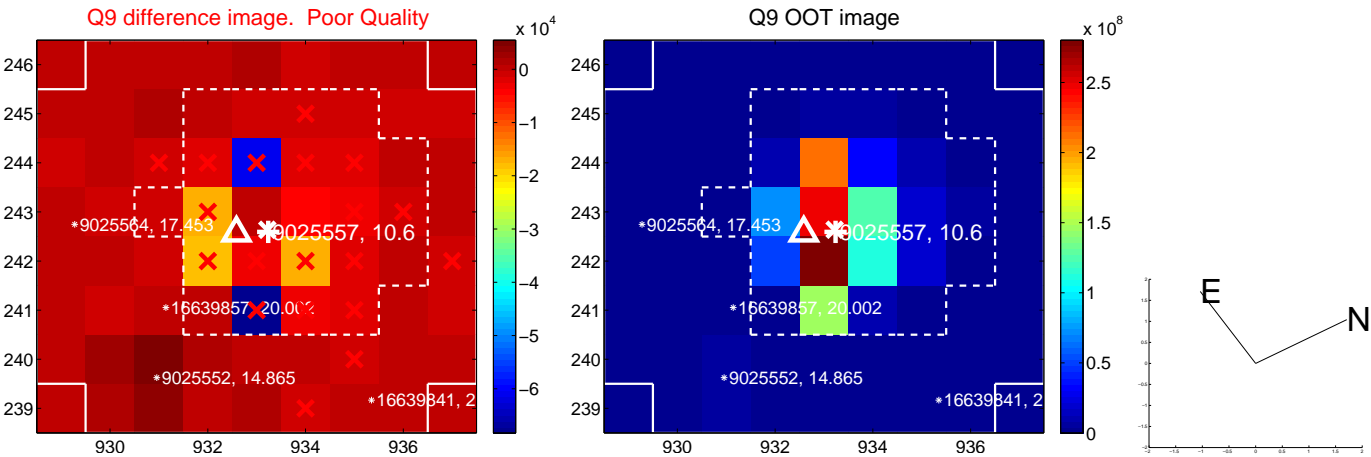
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



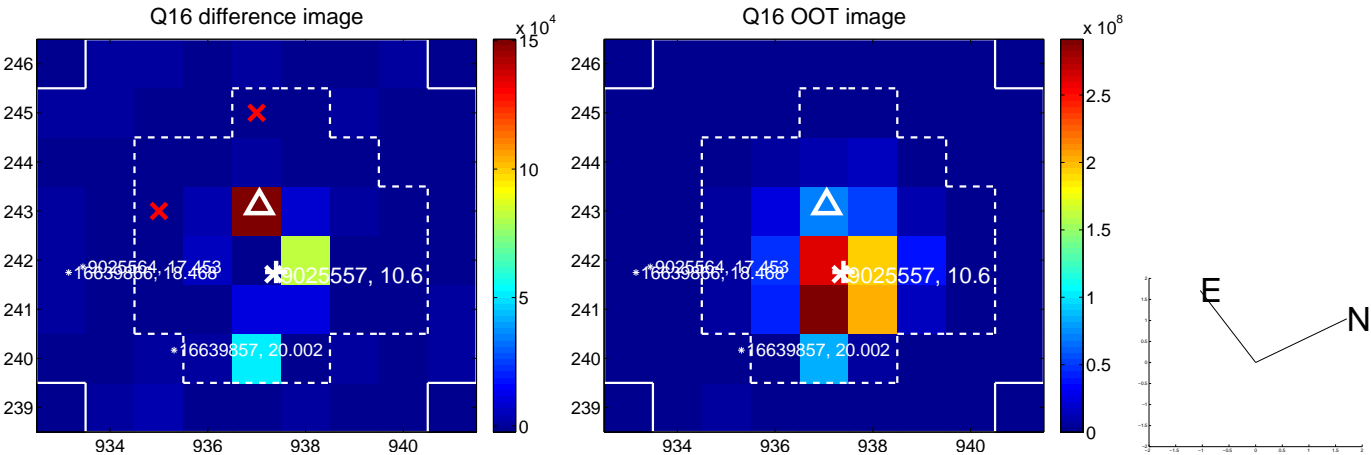
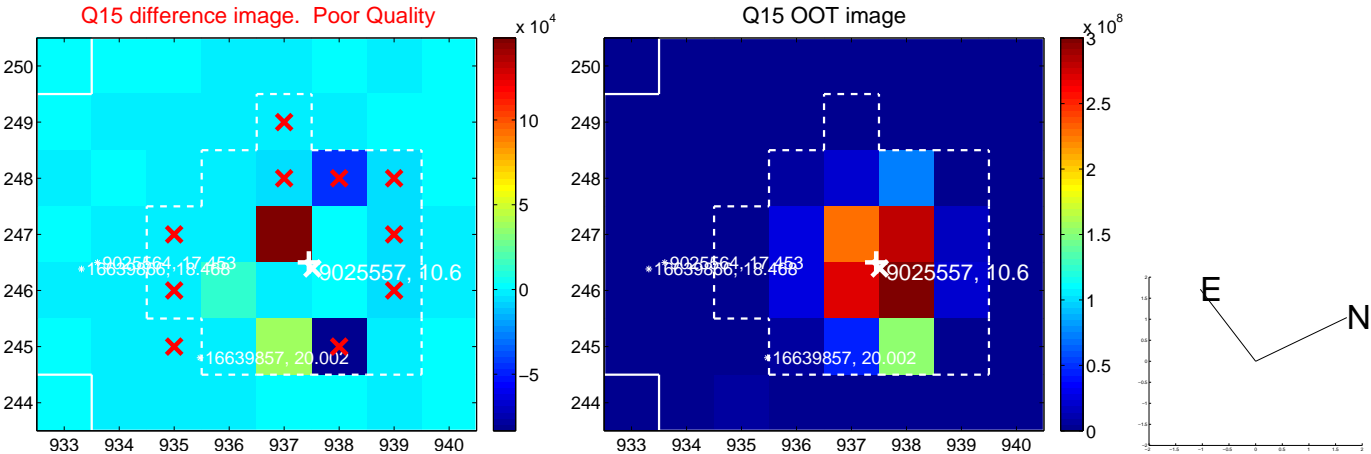
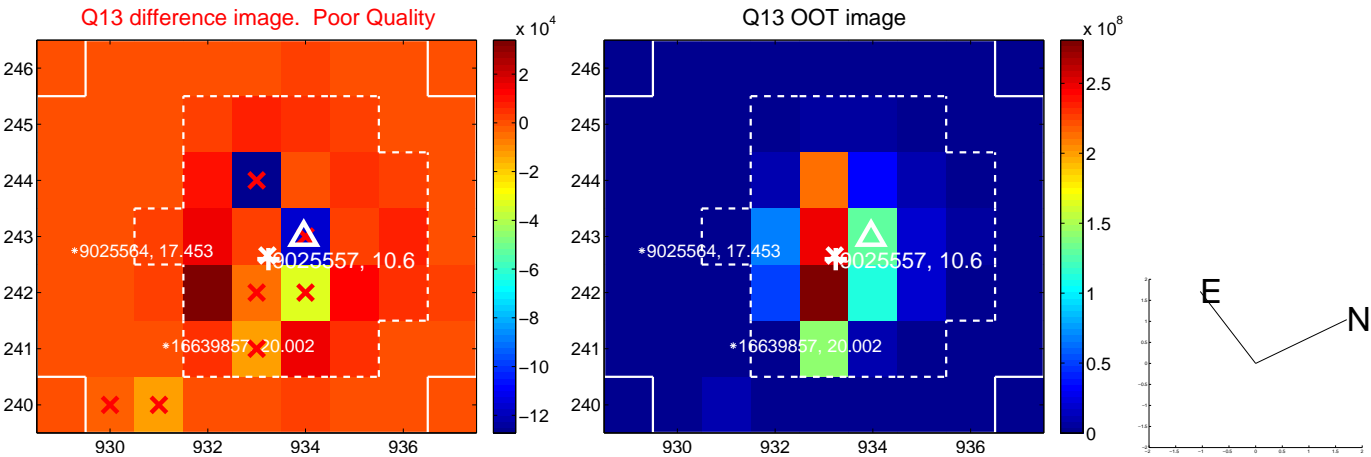
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



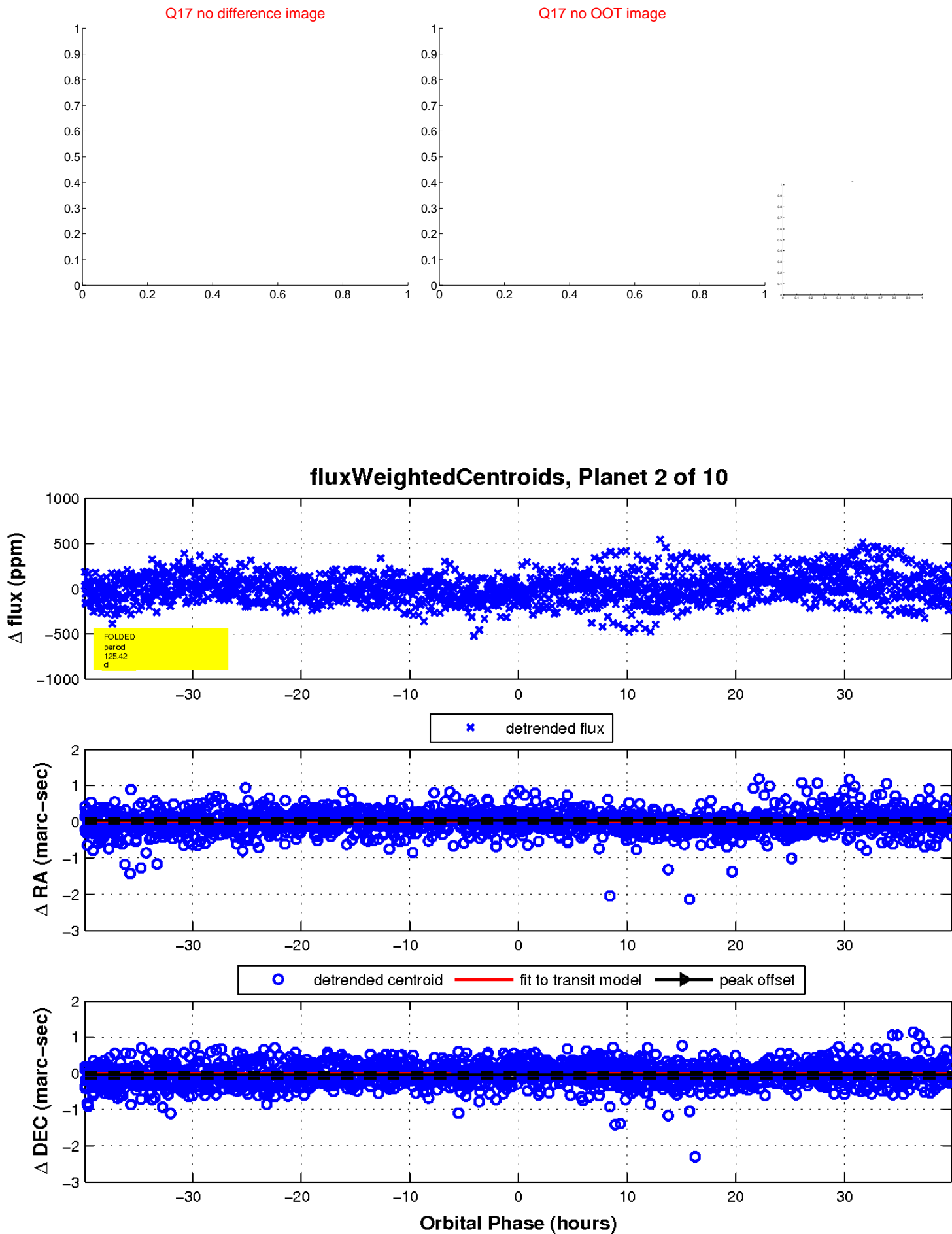
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

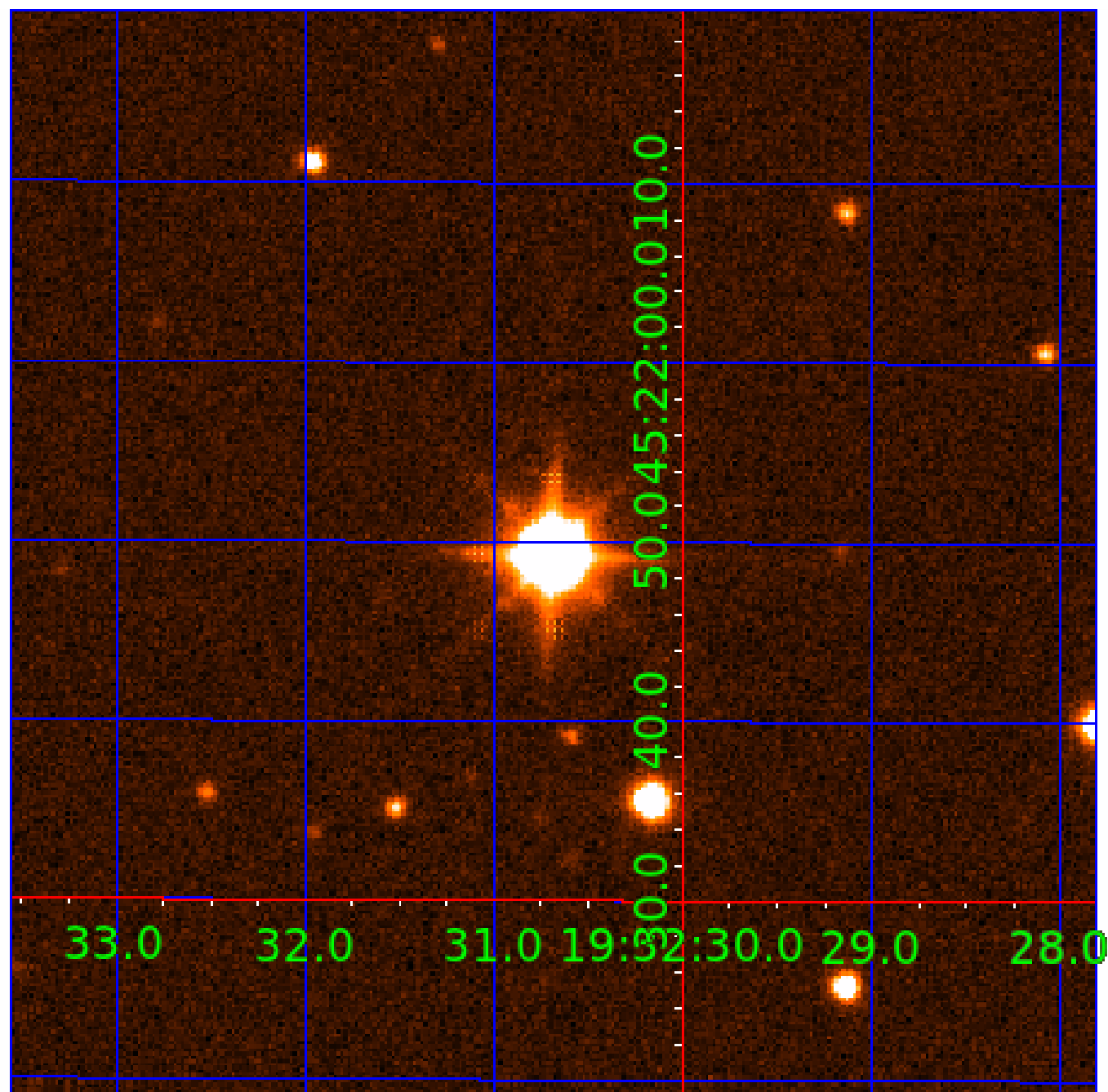


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

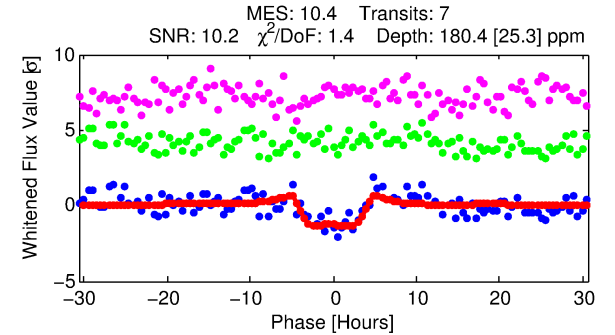
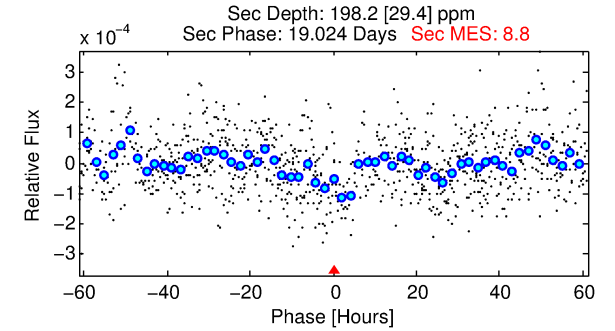
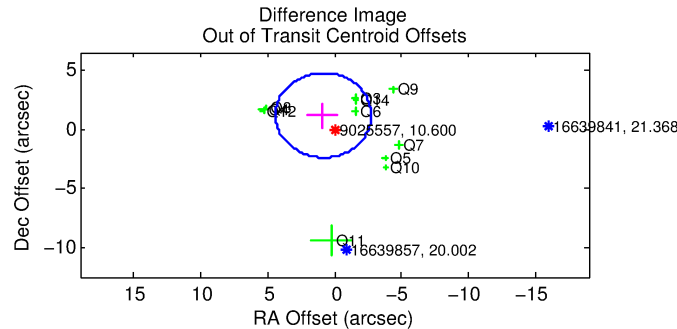
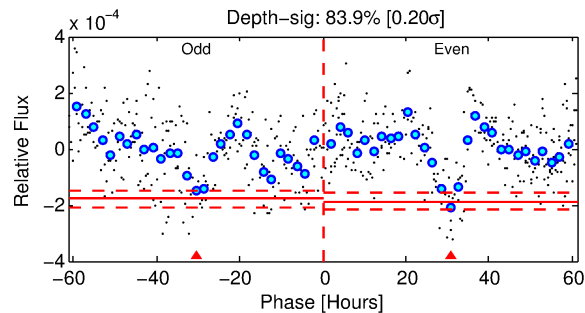
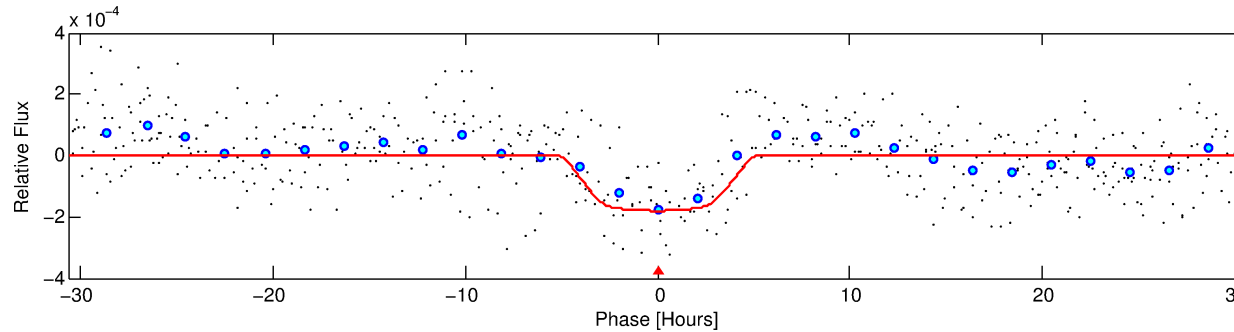
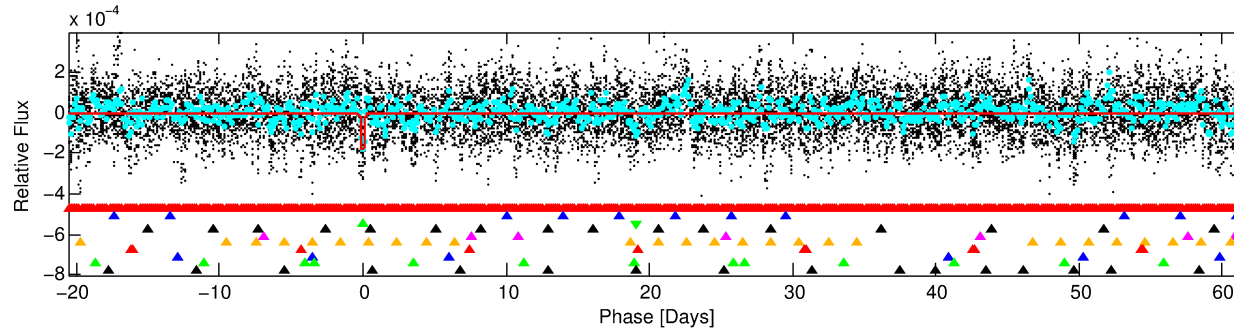
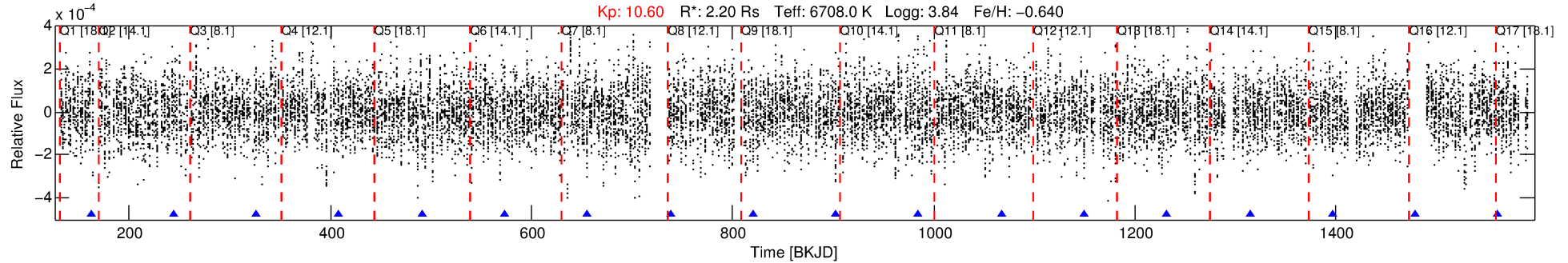
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-03

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 3 of 10 Period: 82.312 d



DV Fit Results:

Period = 82.31154 [0.00213] d
Epoch = 161.7649 [0.0218] BKJD
Rp/R* = 0.0159 [0.0013]
a/R* = 17.84 [3.55]
b = 0.97 [0.01]
Seff = 56.34 [30.55]
Teq = 699 [95] K
Rp = 3.81 [1.39] Re
a = 0.3946 [0.1319] AU
Ag = 1168.42 [670.93] [1.74 σ]
Teffp = 6315 [403] K [13.56 σ]

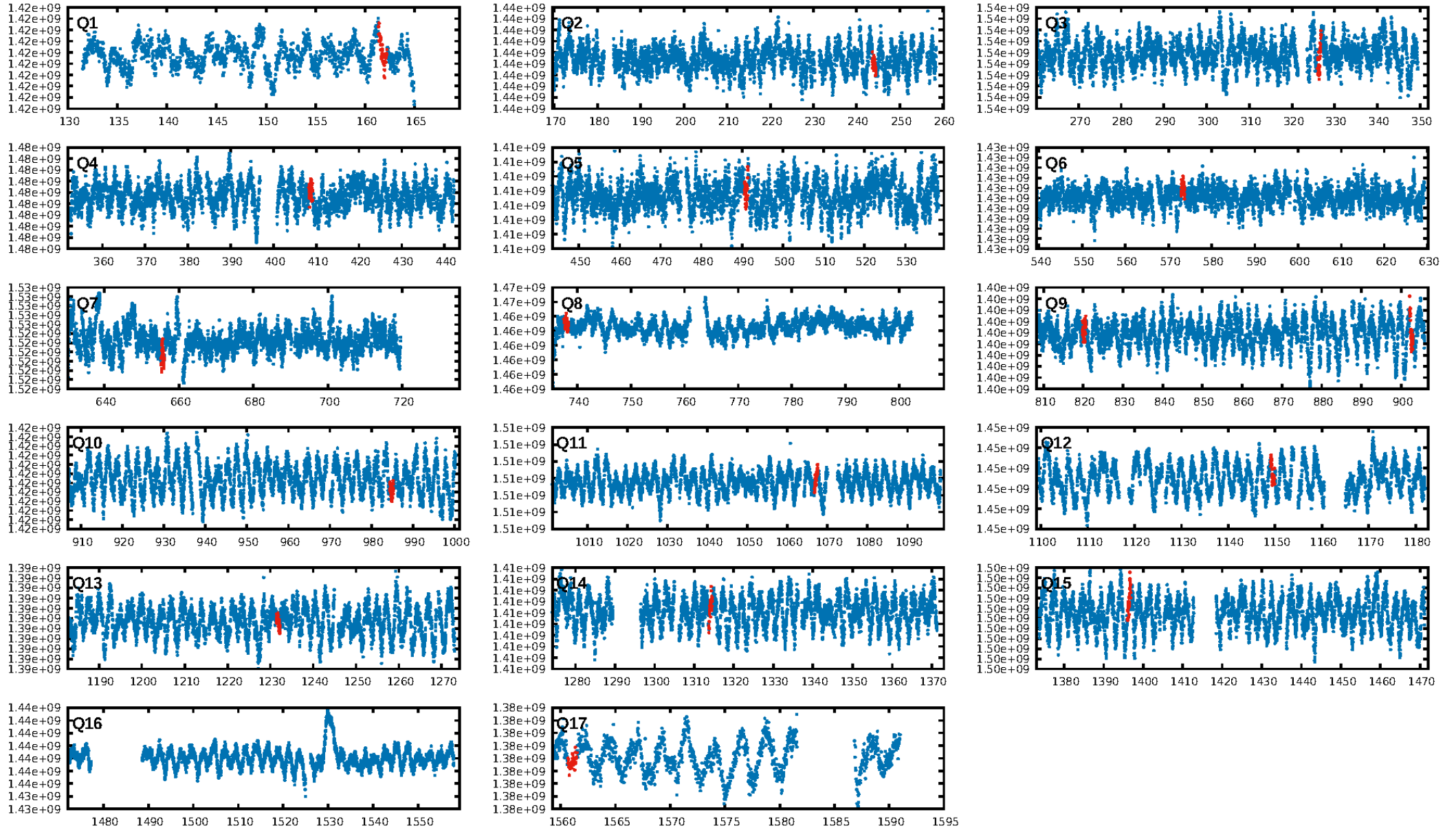
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [51.56 σ]
LongPeriod-sig: 100.0% [8.42 σ]
ModelChiSquare2-sig: 26.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -0.4757
Centroid-sig: 6.9%
Centroid-so: 0.574 arcsec [1.74 σ]
OotOffset-rm: 1.446 arcsec [1.21 σ]
KicOffset-rm: 2.250 arcsec [1.93 σ]
OotOffset-st: 3/3/3/2 [11]
KicOffset-st: 3/3/3/2 [11]
DiffImageQuality-fgm: 0.09 [1/11]
DiffImageOverlap-fno: 0.08 [1/13]

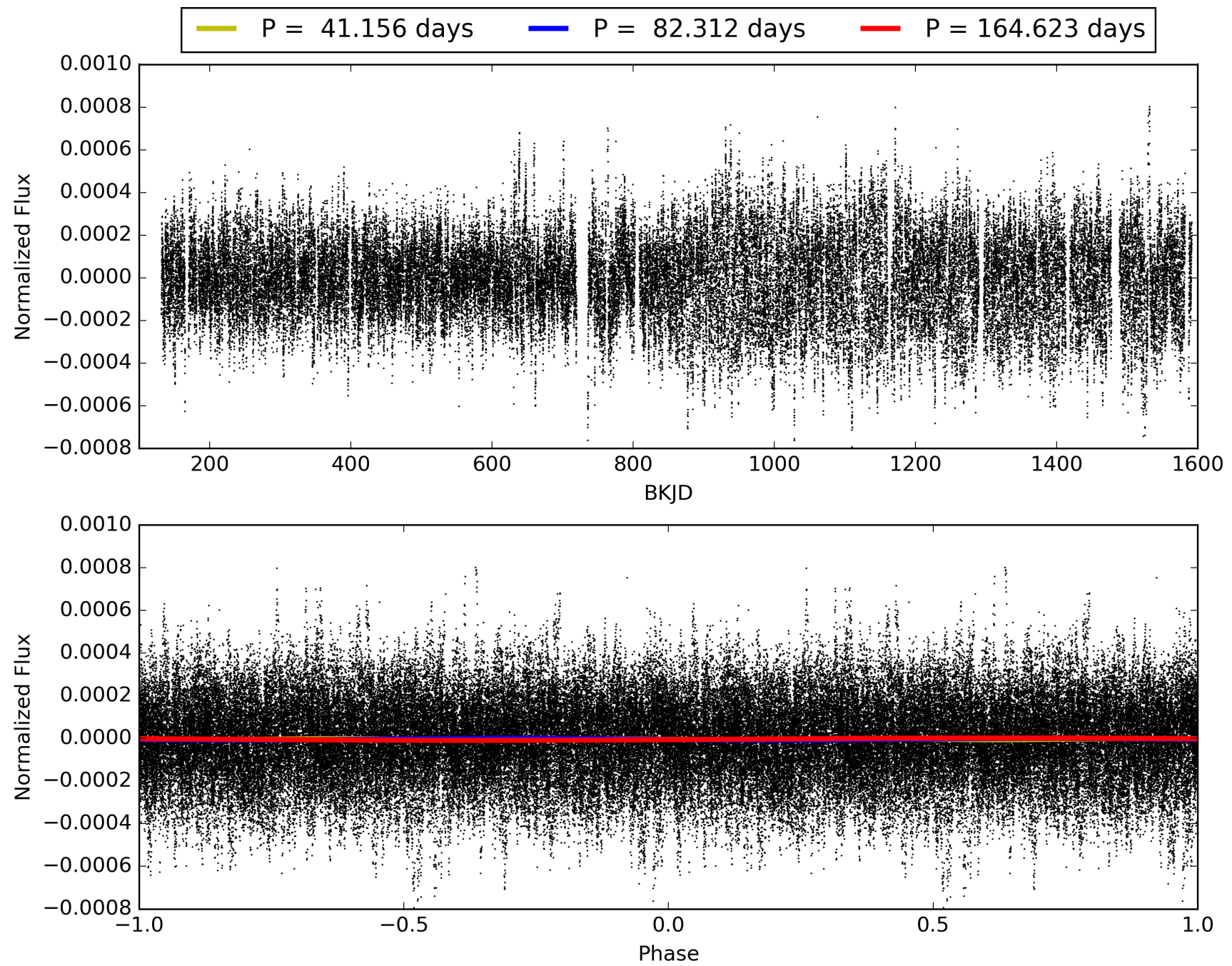
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:15 Z

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

TCE 009025557-03, PDC Light Curves

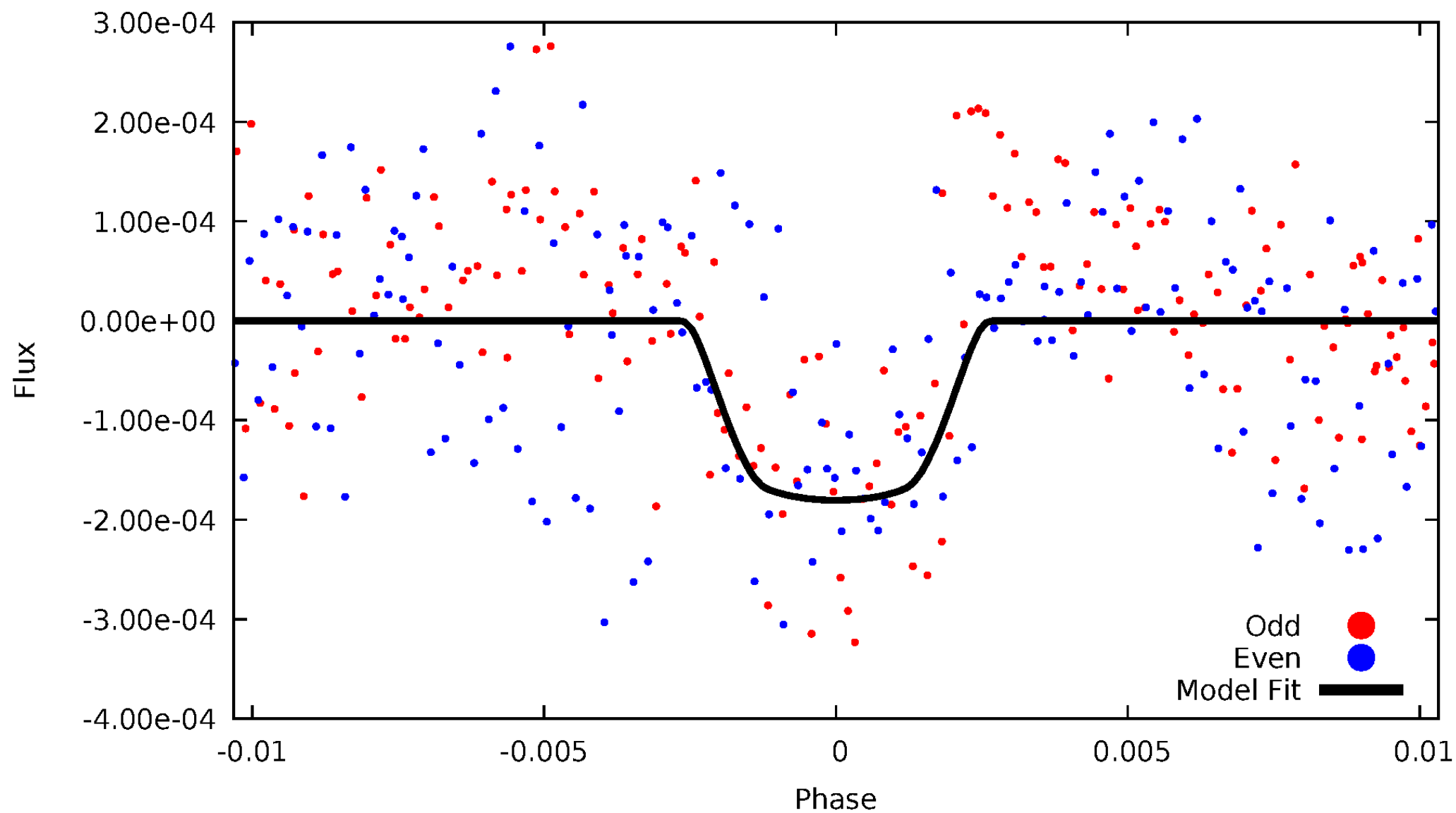


TCE 009025557-03



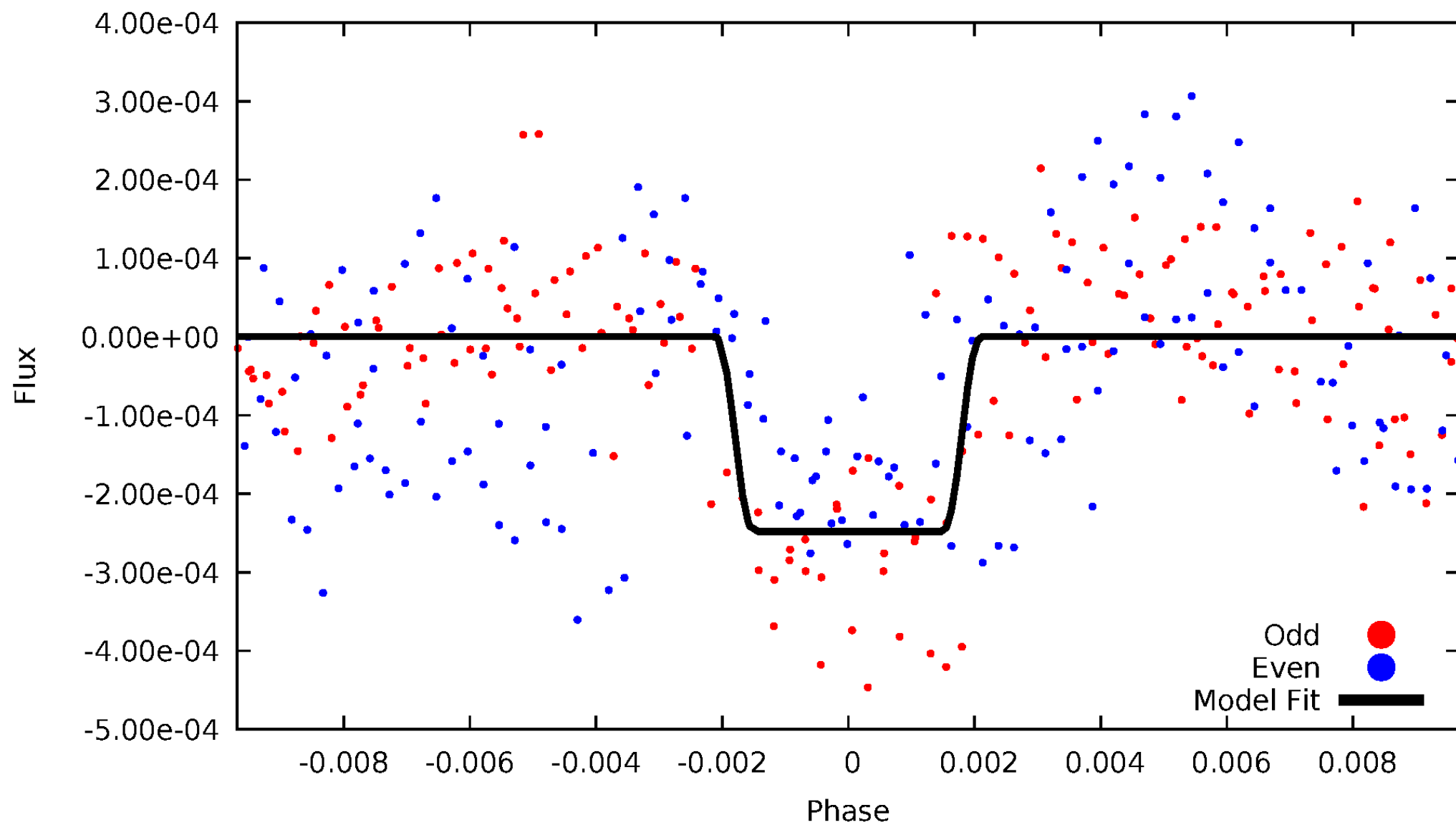
DV Odd/Even

TCE 009025557-03



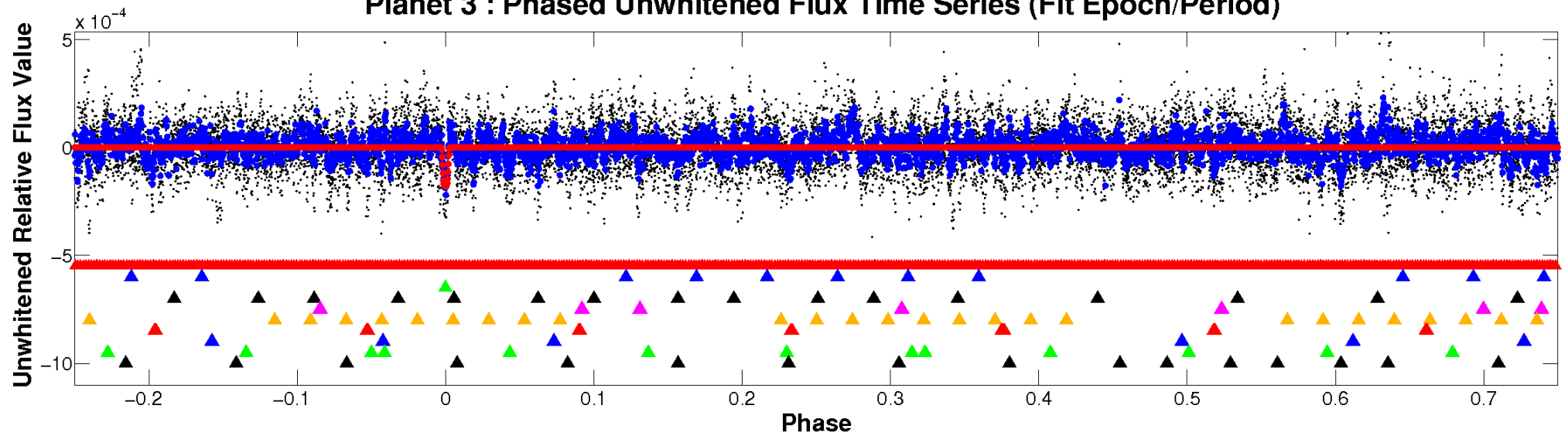
ALT Odd/Even

TCE 009025557-03

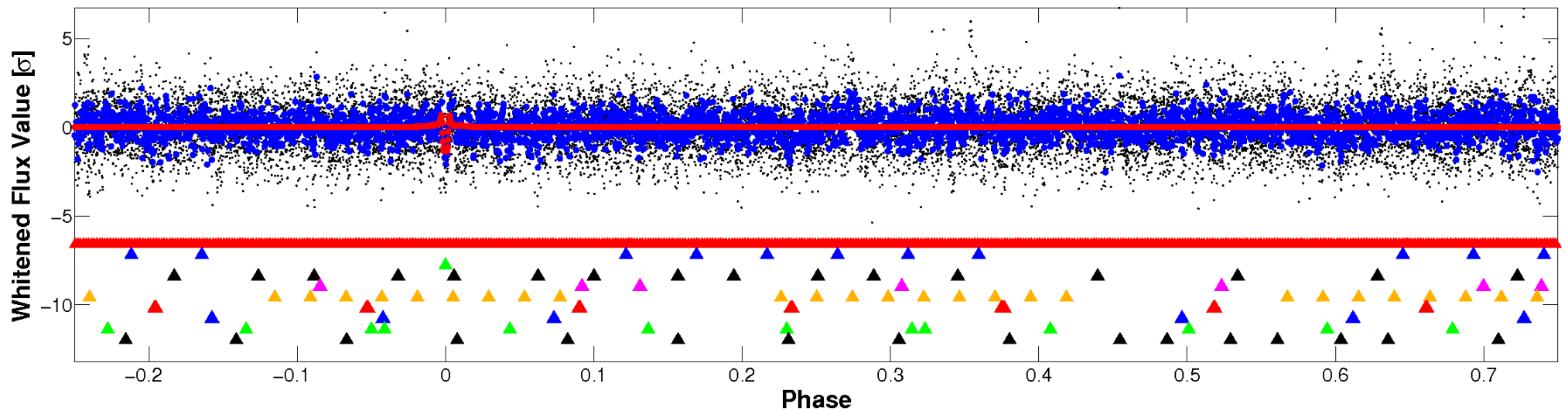


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

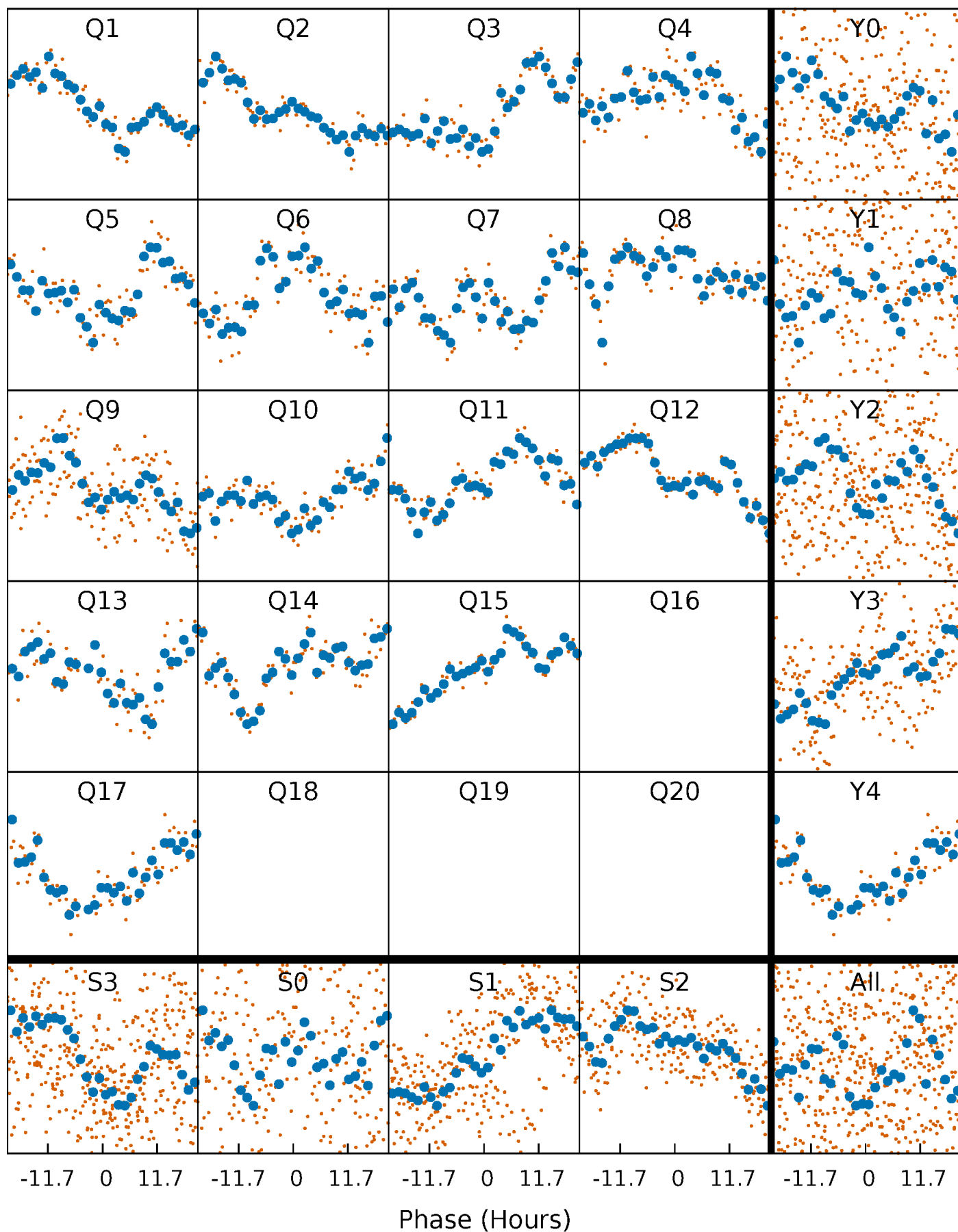


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



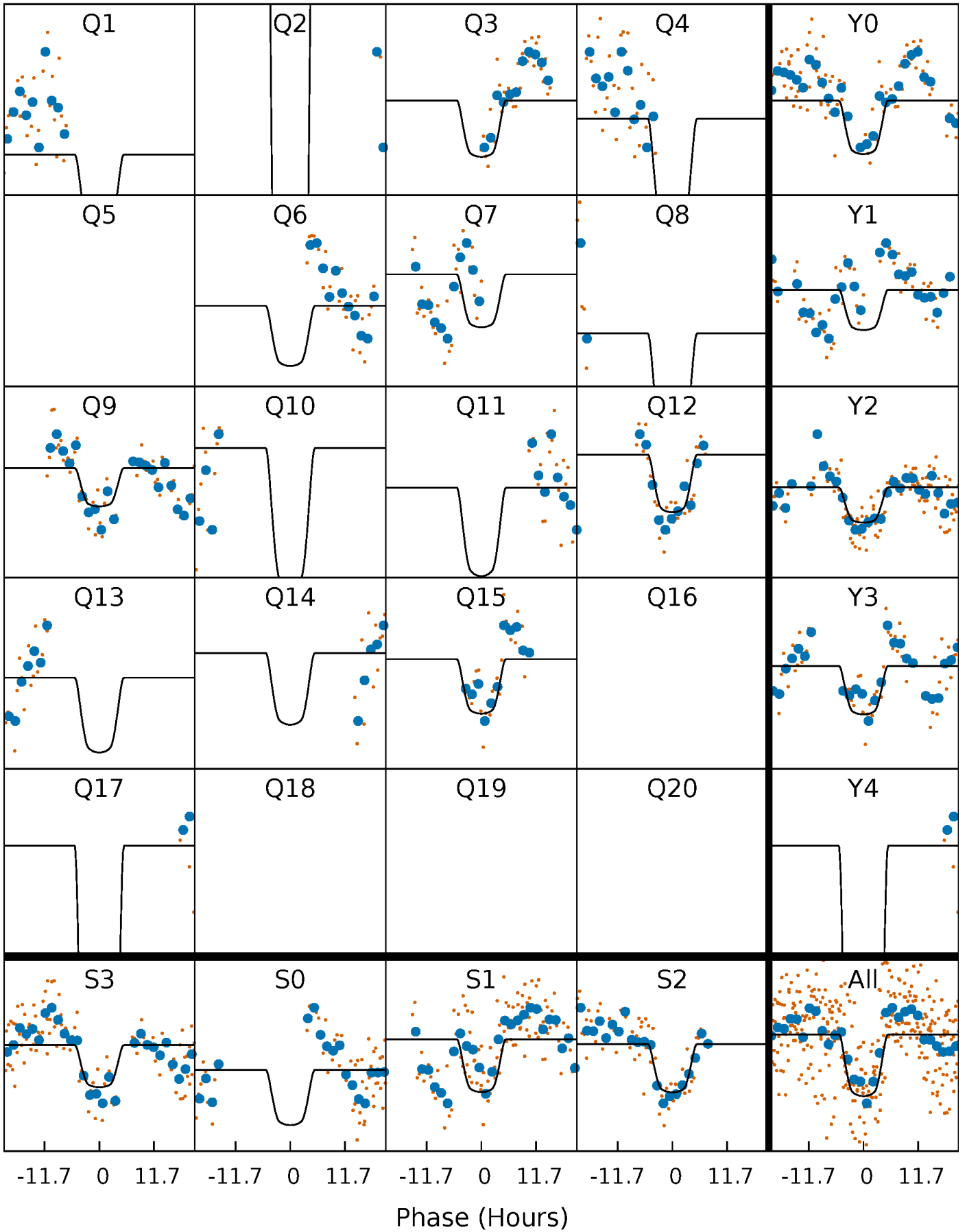
PDC Quarter-Phased Transit Curves

TCE 009025557-03 P= 82.311542 Days $T_0=161.764896$ (BKJD)



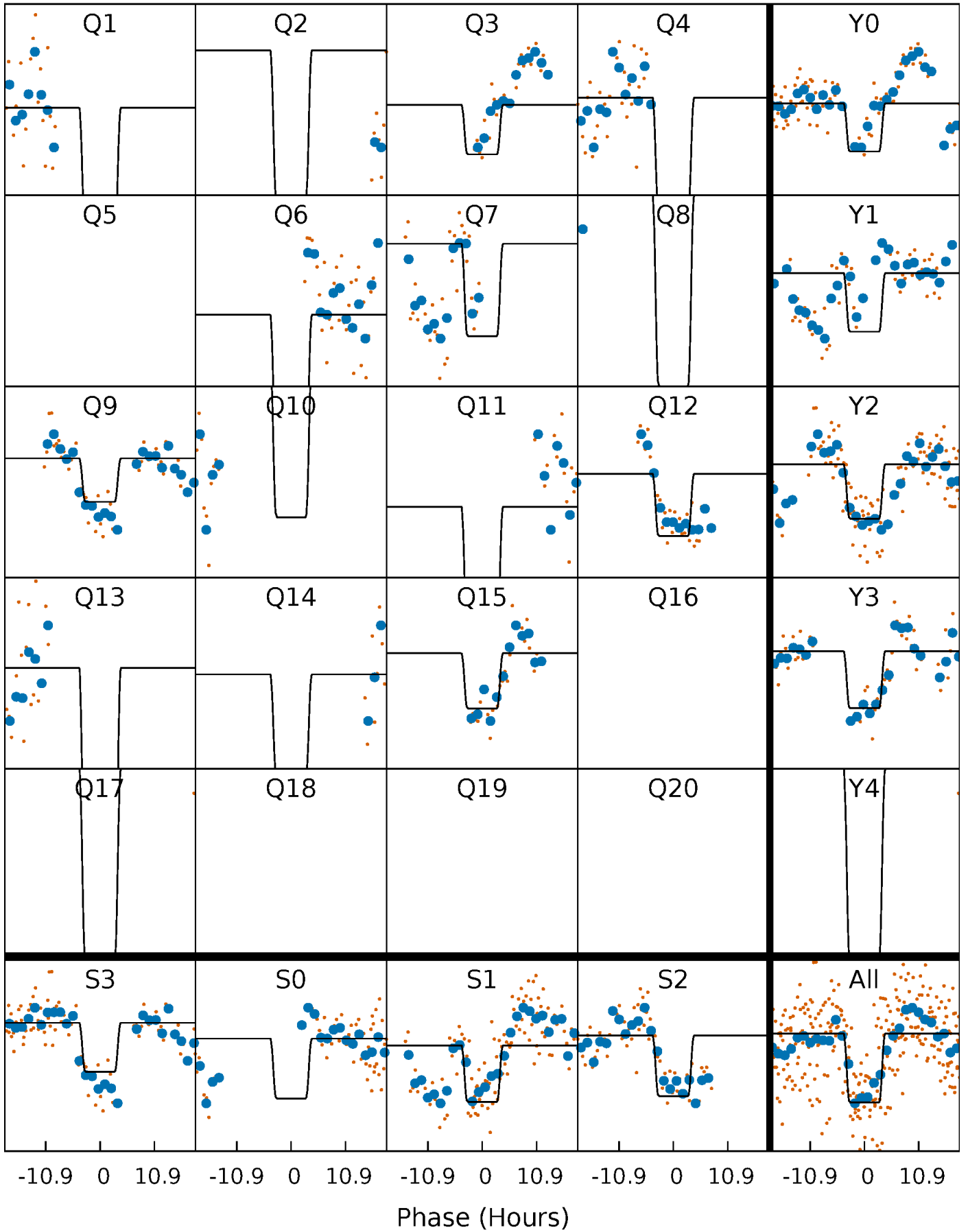
DV Quarter-Phased Transit Curves

TCE 009025557-03 P= 82.311542 Days $T_0=161.764896$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

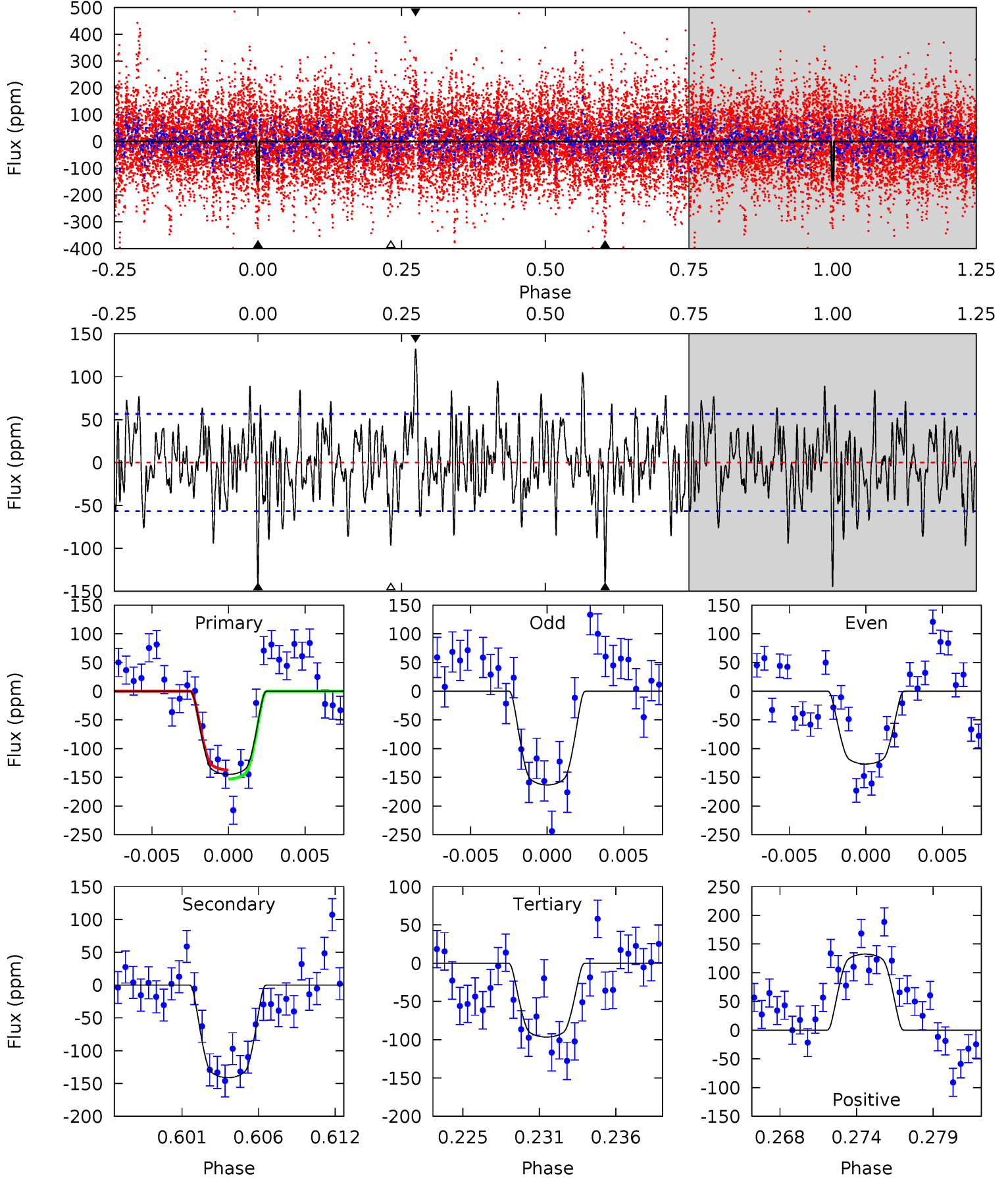
TCE 009025557-03 P= 82.302984 Days $T_0=161.843167$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-03, P = 82.311542 Days, E = 79.453354 Days

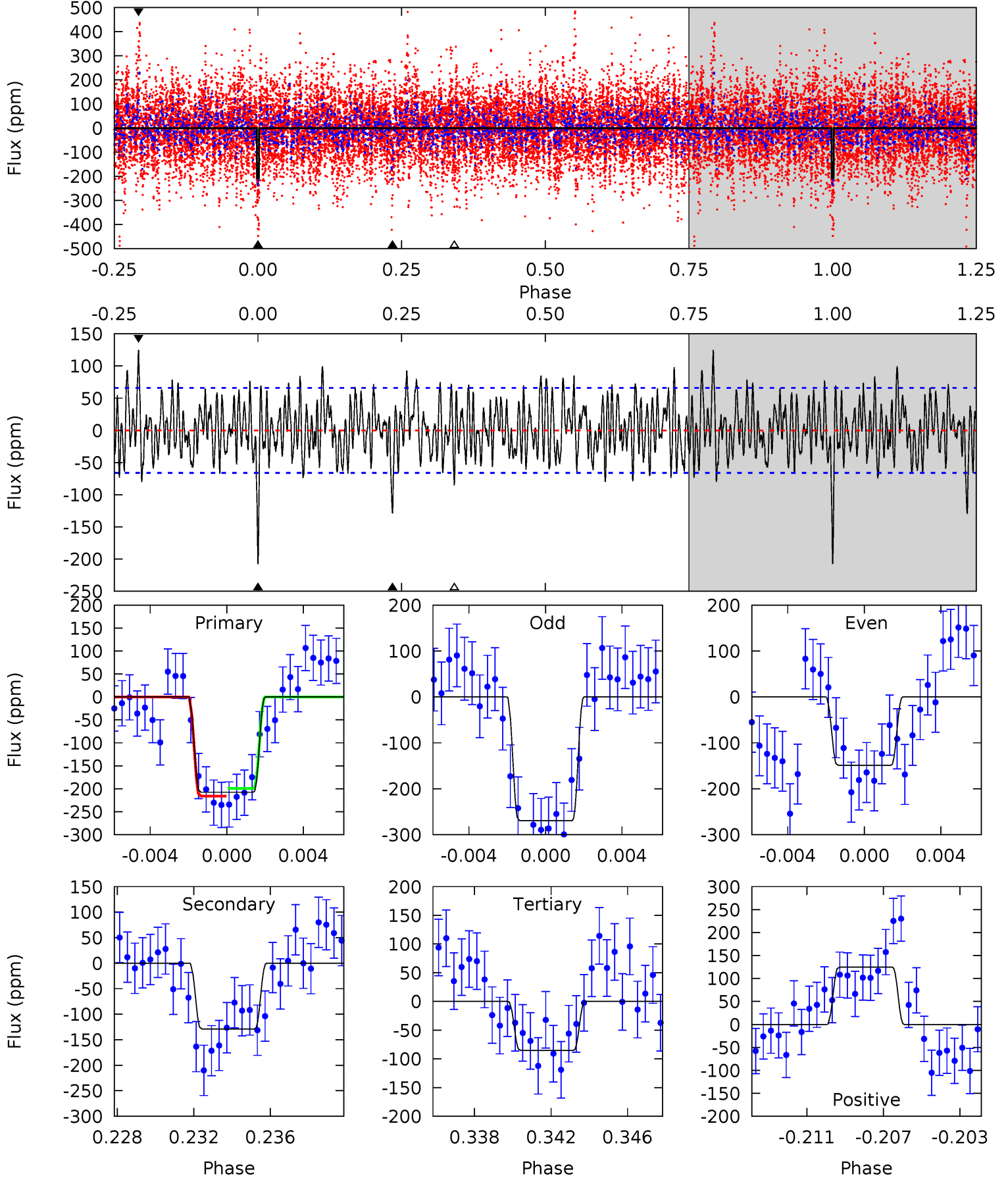
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	12.9	8.79	12.1	5.14	2.78	3.12	4.41	1.14	4.07	0.80	1.66	0.41	0.48	0.72



Alt Model-Shift Uniqueness Test

009025557-03, P = 82.302984 Days, E = 79.540183 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	10.1	6.70	9.81	5.19	2.86	2.79	9.62	6.51	3.44	0.33	4.75	0.97	0.38	0.67



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-141 ± 11	$3.73^{+0.59}_{-0.68}$	961^{+54}_{-78}	5780^{+307}_{-289}	891^{+397}_{-216}
Alt.	-129 ± 13	$3.65^{+0.61}_{-0.71}$	959^{+58}_{-84}	5696^{+335}_{-293}	848^{+414}_{-228}

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 $A_{obs} \gg 1.0$

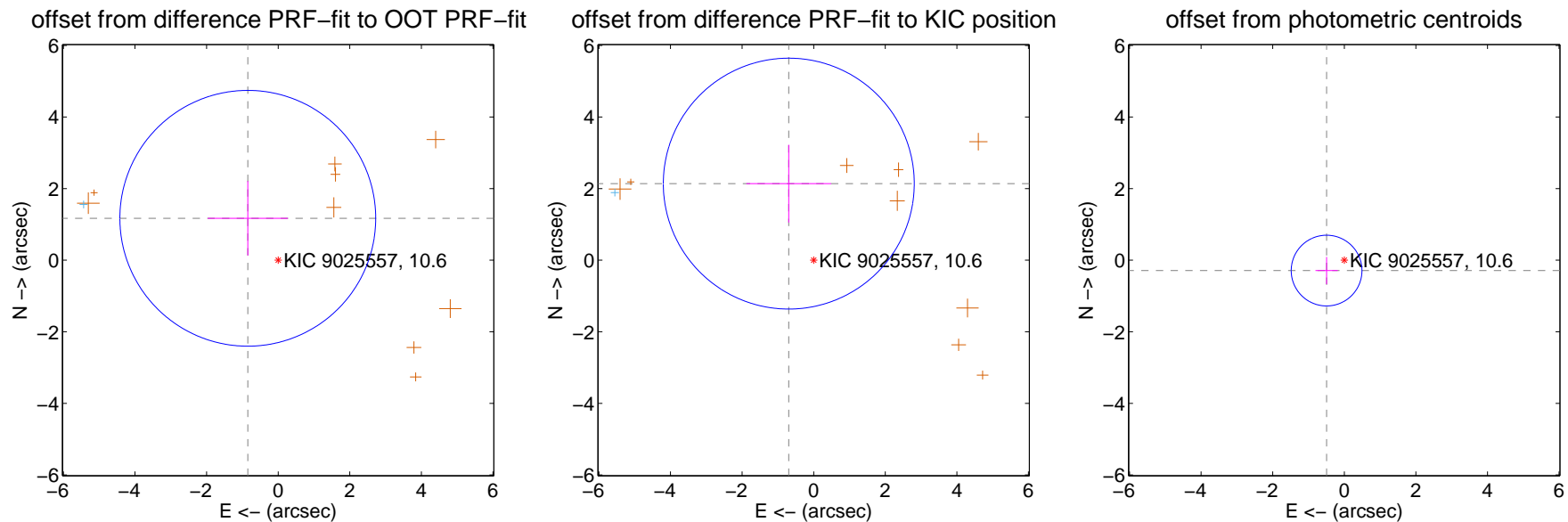
DV Centroid Data

Supplemental centroid analysis for 009025557-03. **Kepler magnitude: 10.60.** Transit SNR 10.24

There are 1 quarters with good PRF difference image offsets

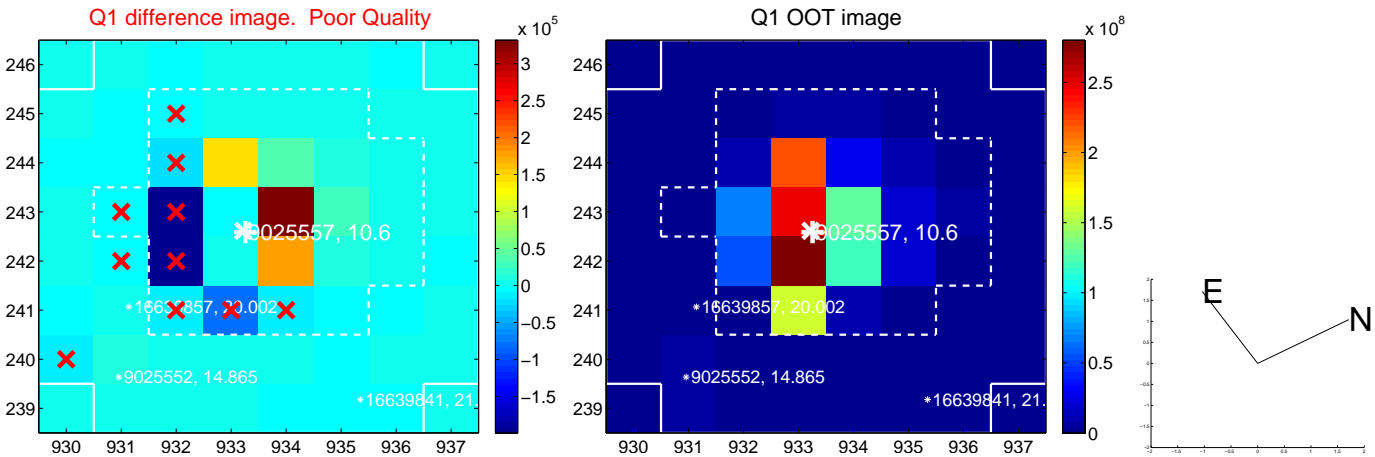
The direct PRF centroid is offset from the target star catalog position by about 0.78 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.446 ± 1.191	1.21	0.849 ± 1.120	1.171 ± 1.042
PRF-fit source offset from KIC position	2.250 ± 1.168	1.93	0.696 ± 1.183	2.140 ± 1.086
photometric centroid source offset	0.57 ± 0.33	1.74	0.49 ± 0.31	-0.29 ± 0.38

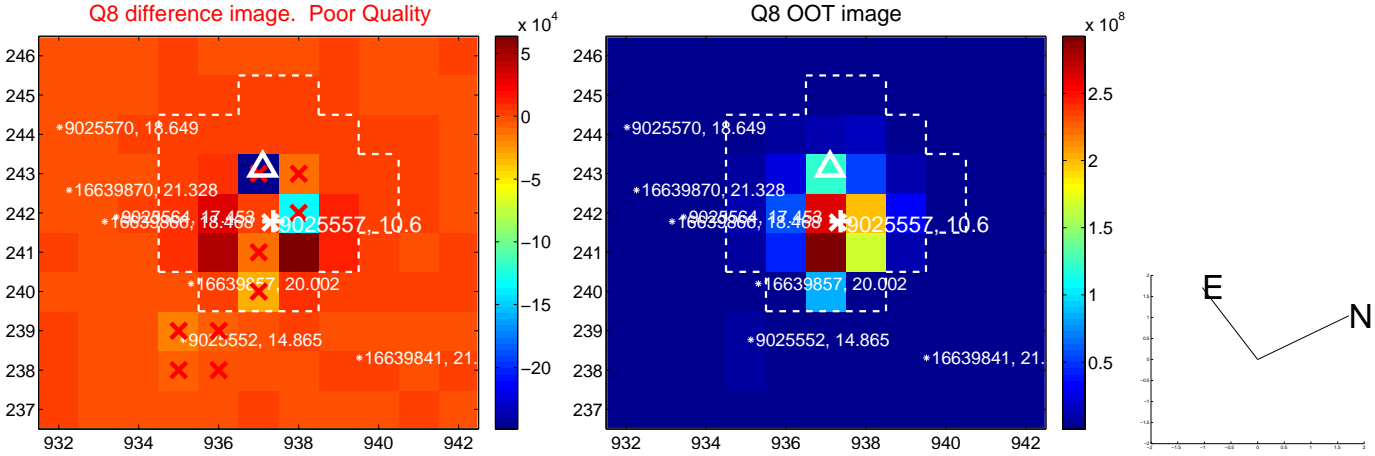
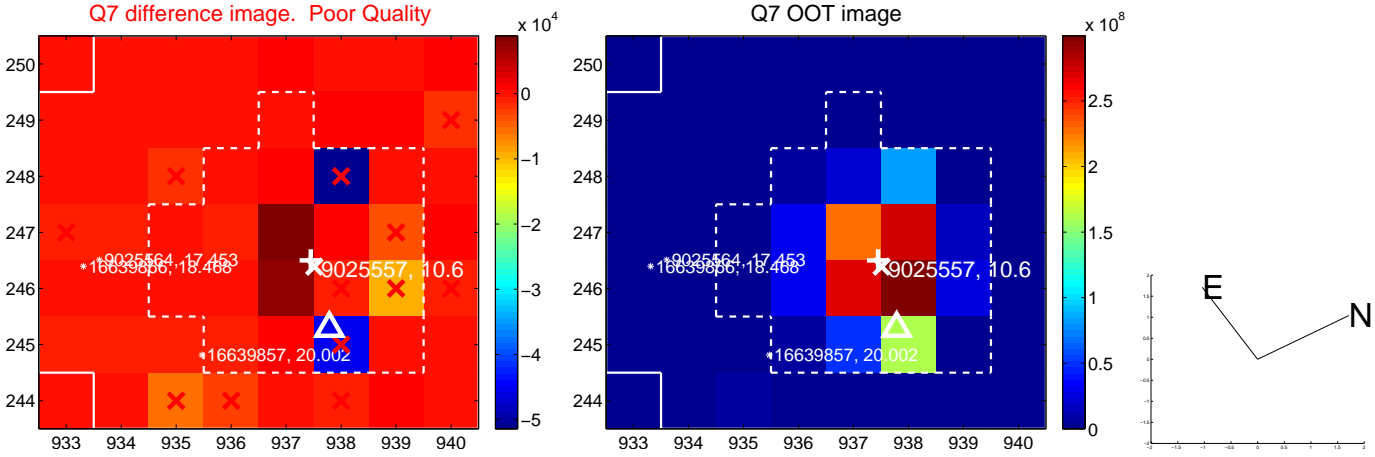
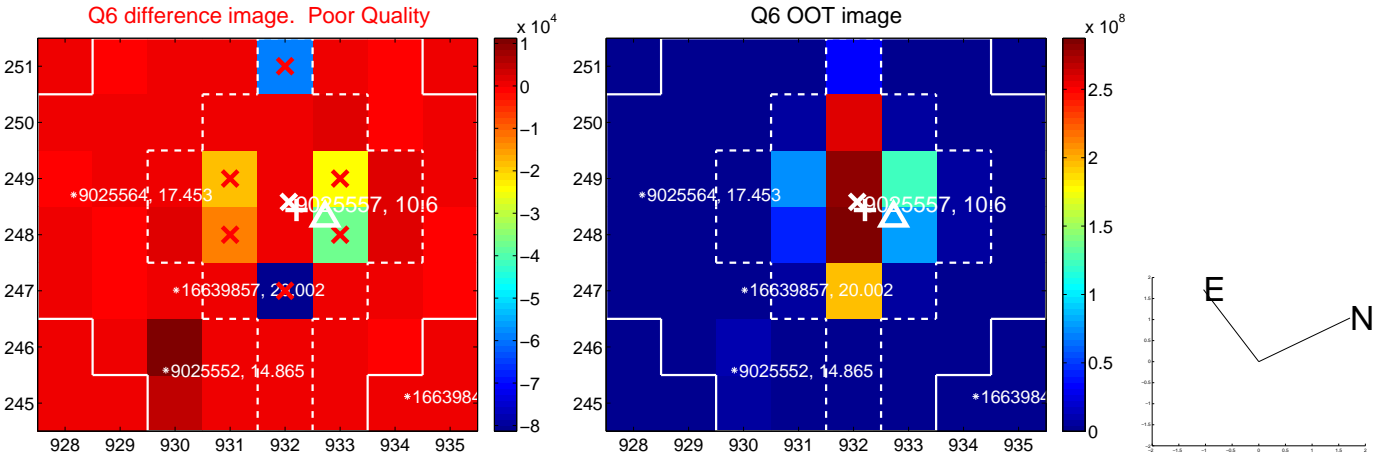
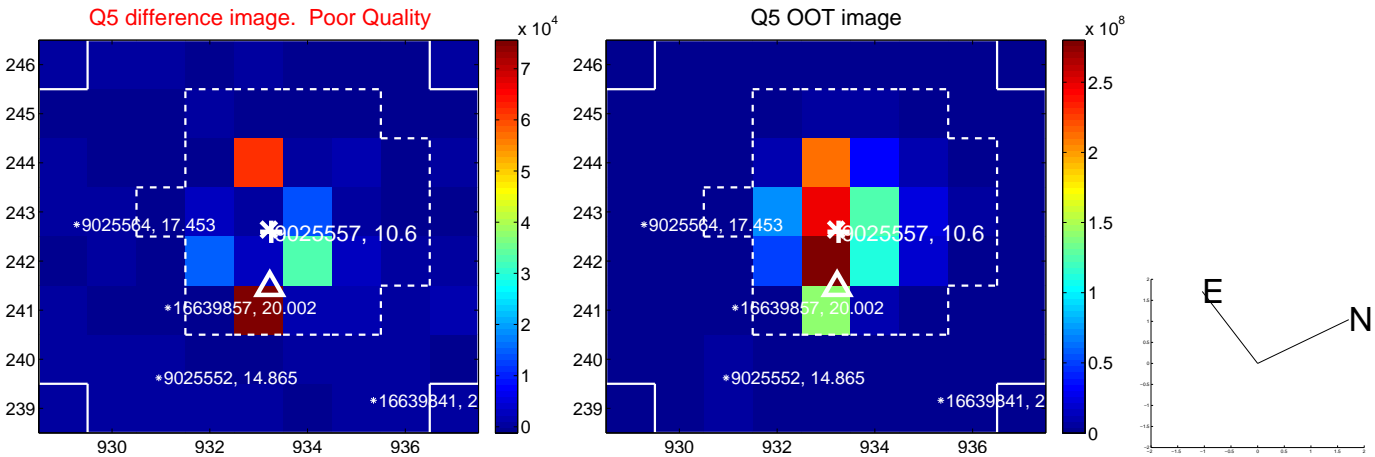


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

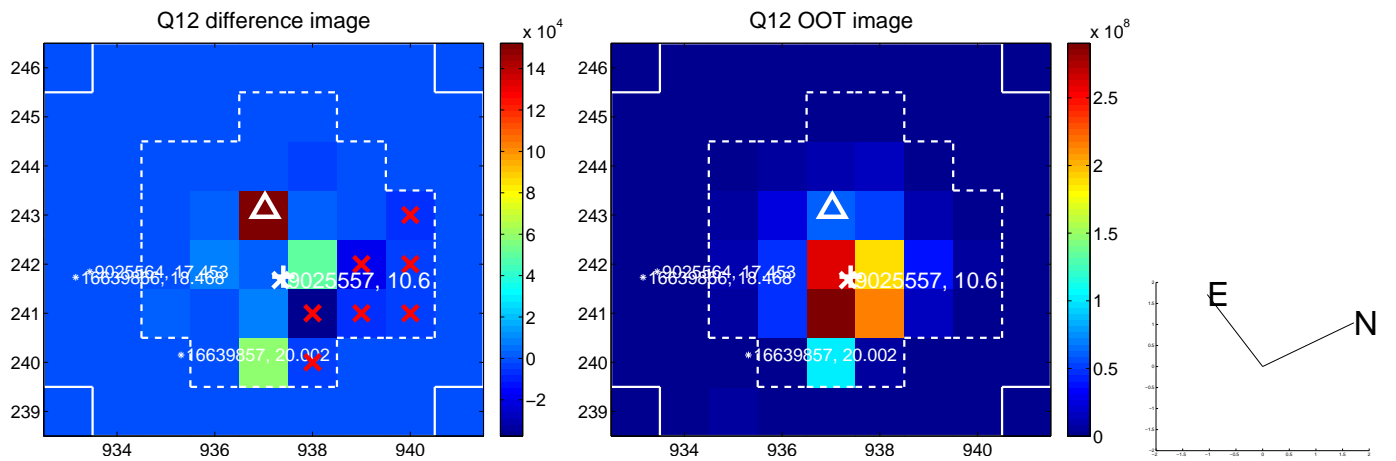
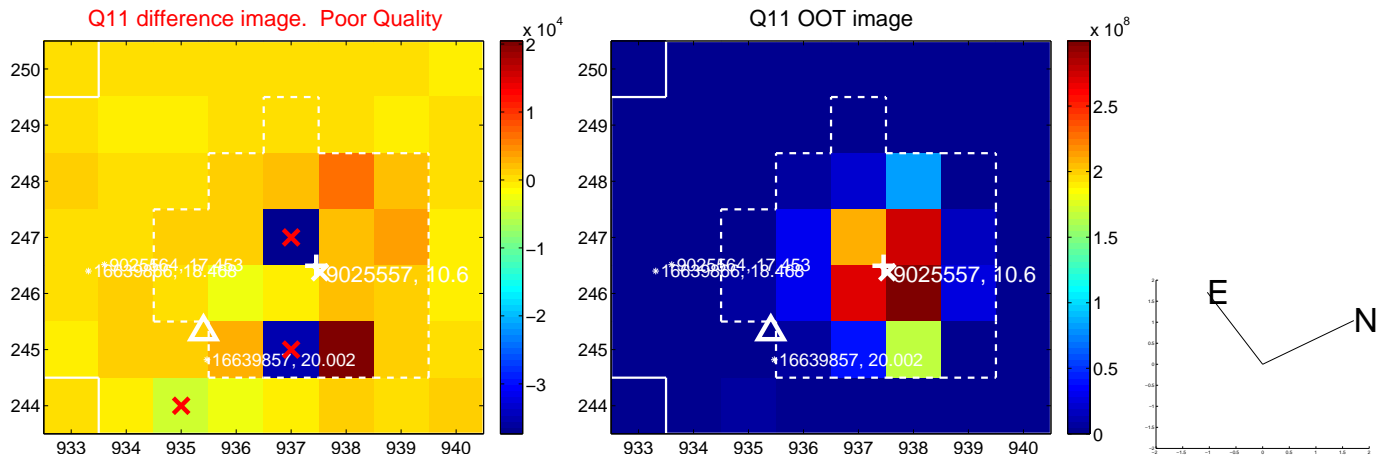
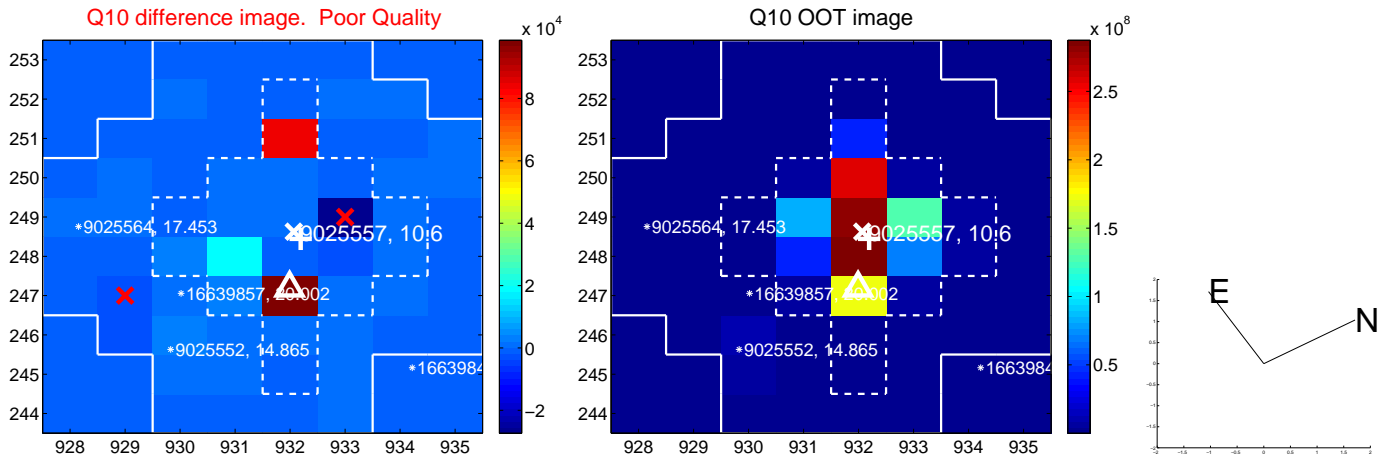
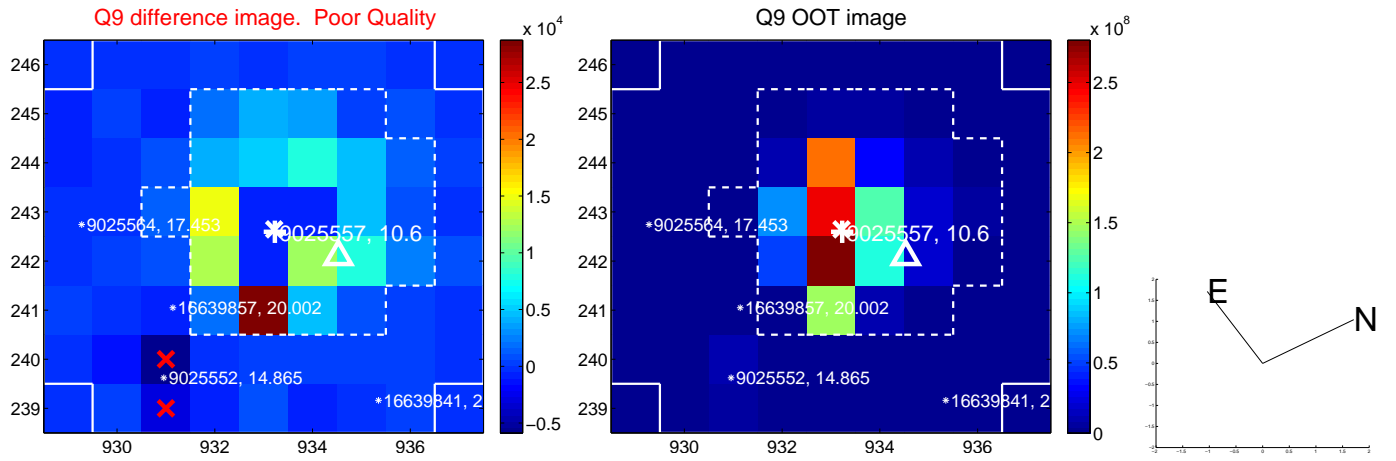
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



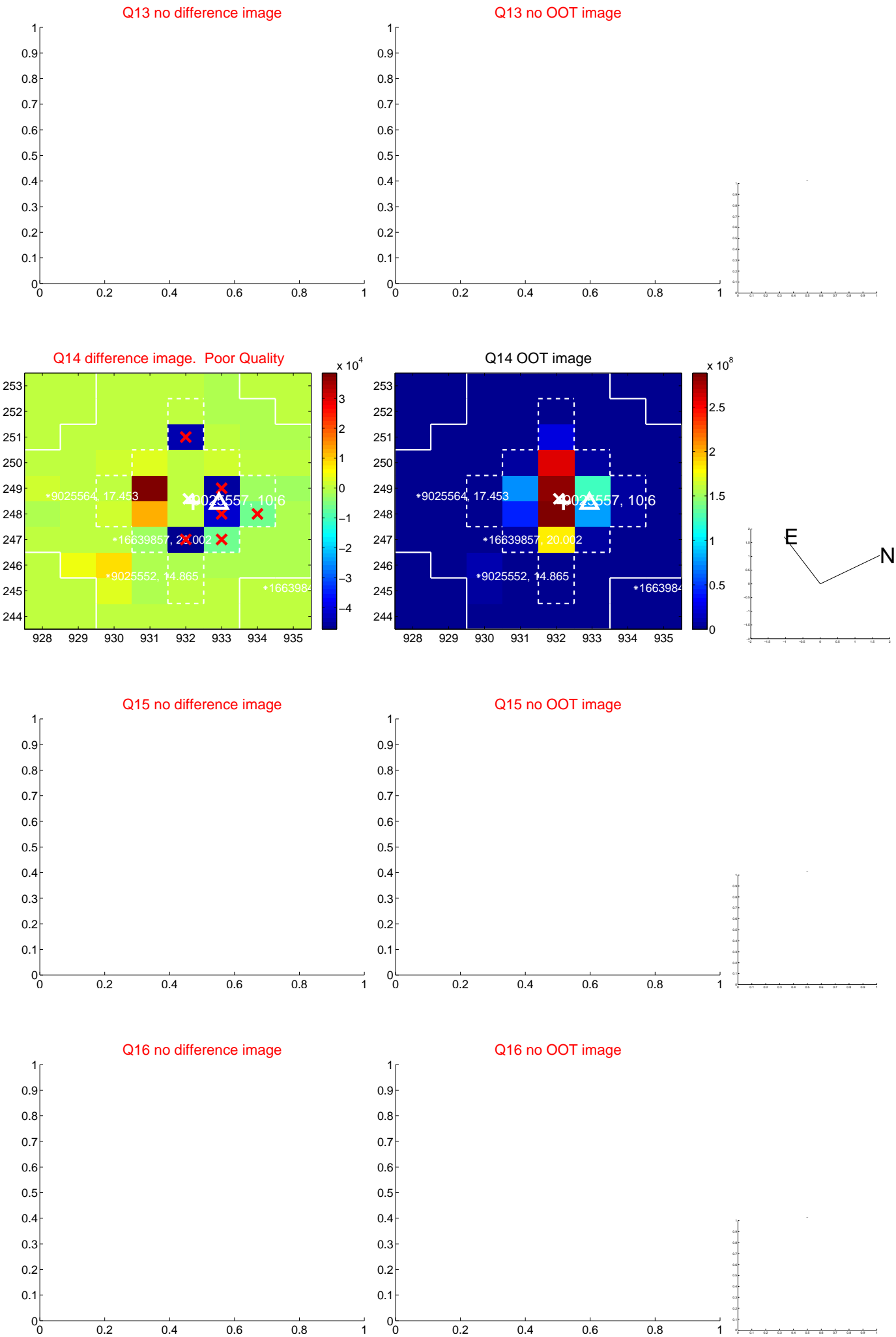
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



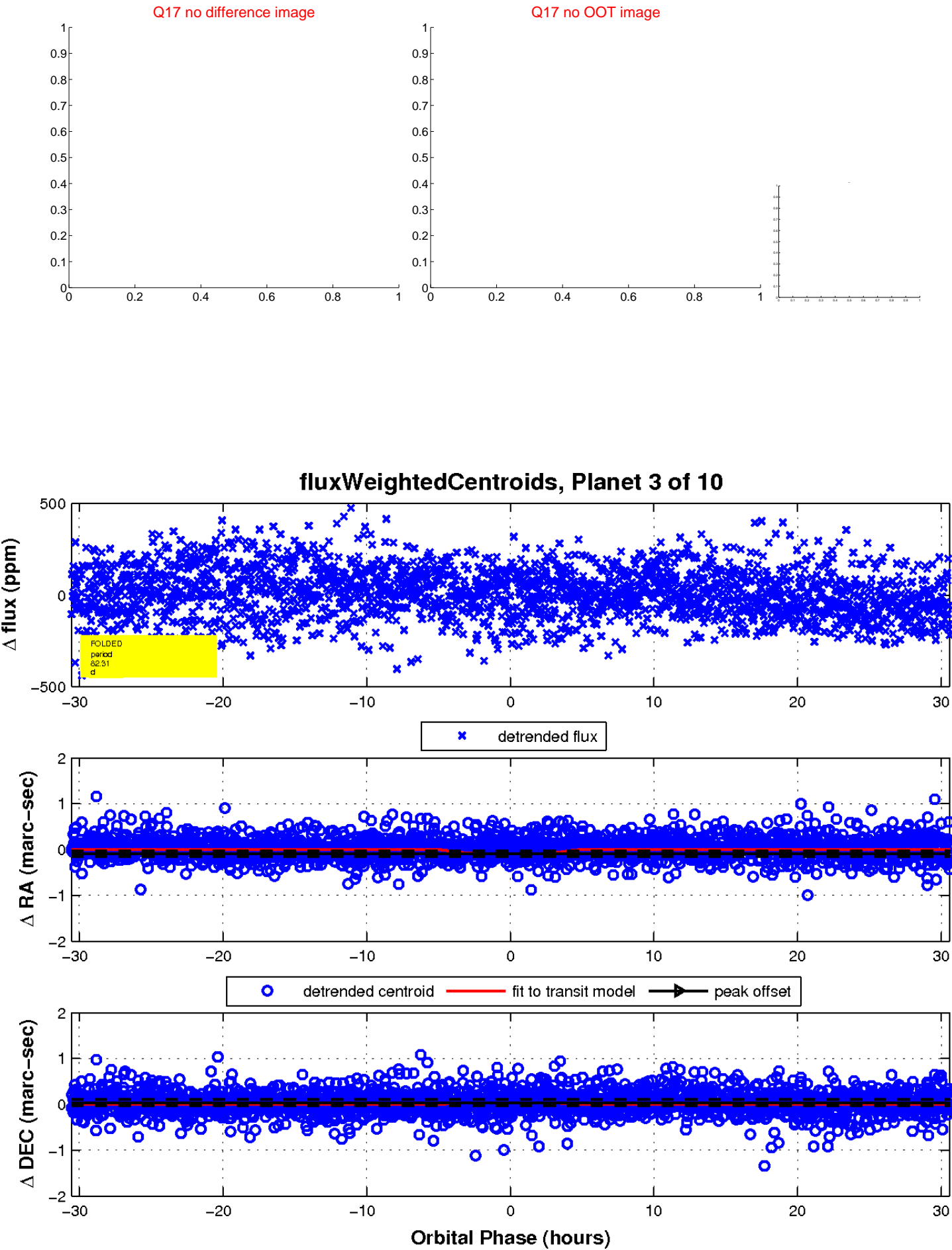
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

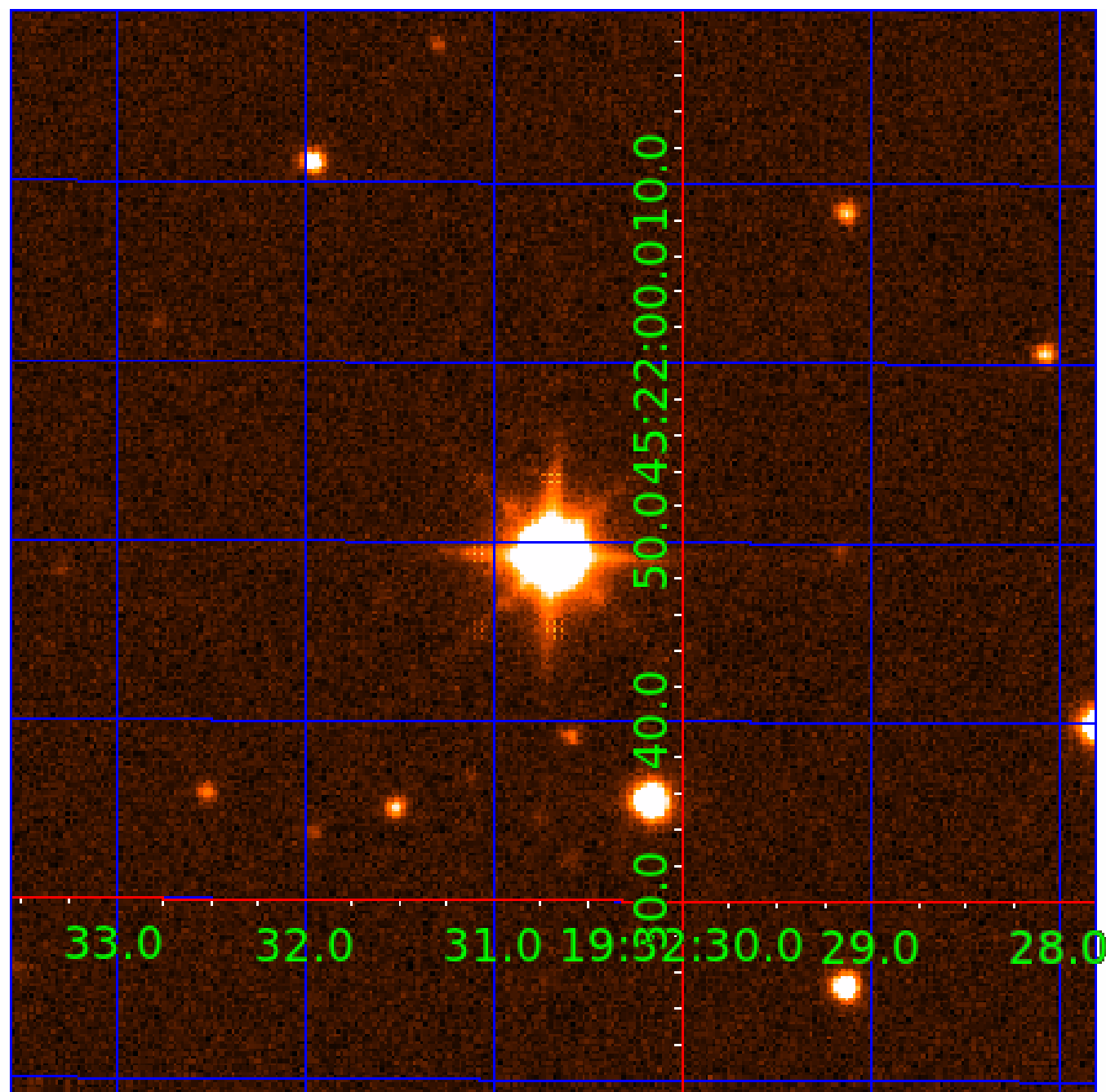


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

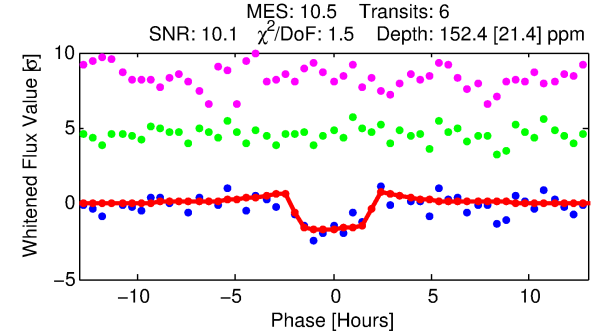
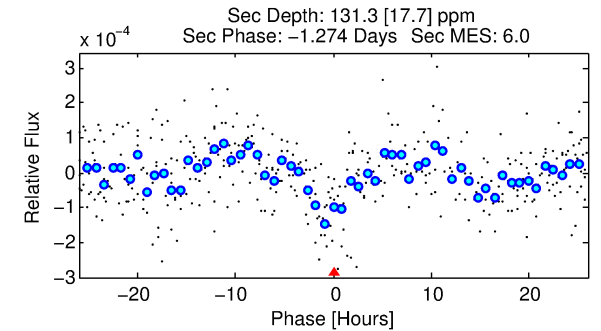
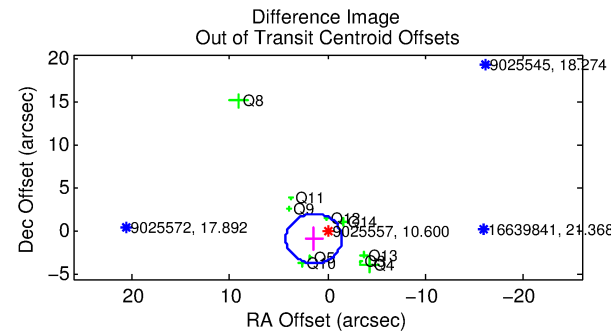
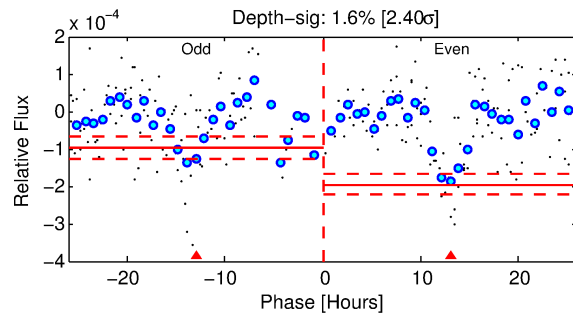
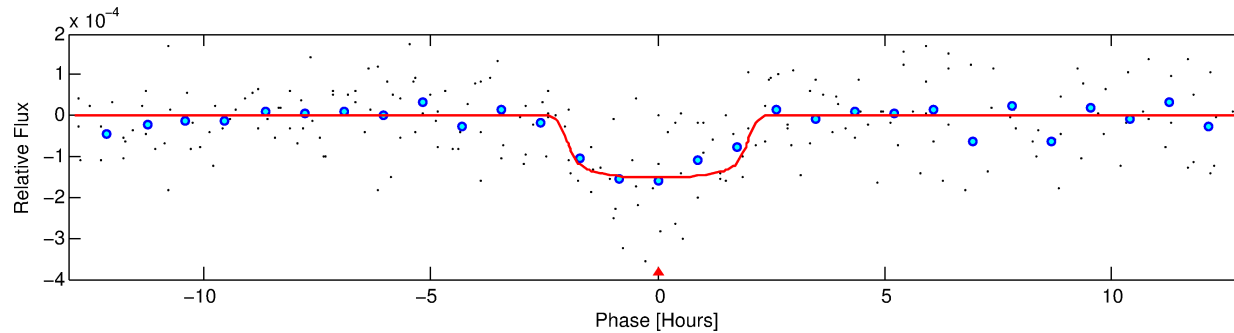
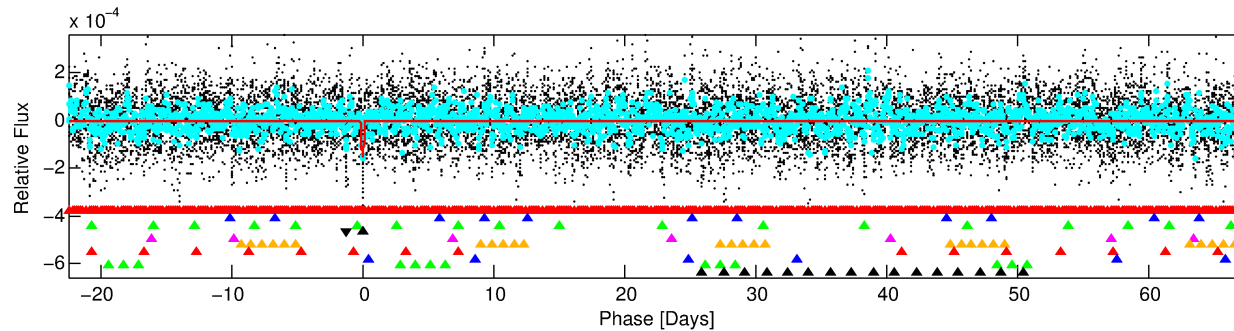
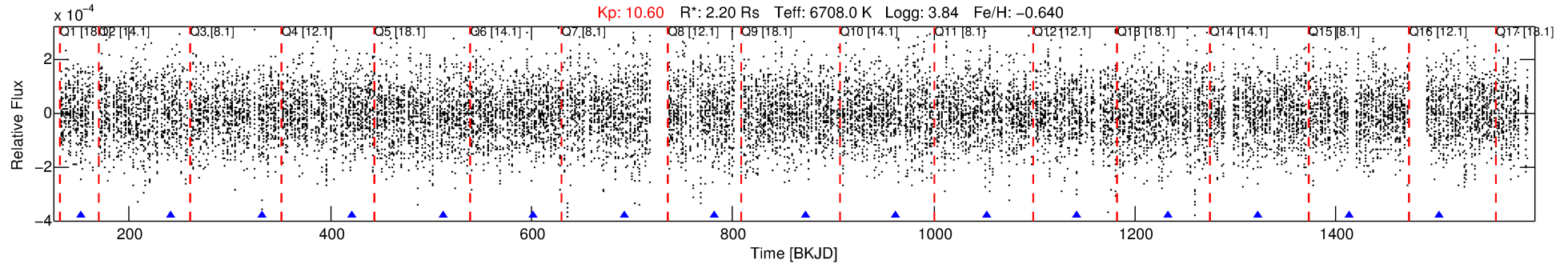
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-04

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 4 of 10 Period: 90.076 d



DV Fit Results:

Period = 90.07646 [0.00082] d
Epoch = 151.3735 [0.0071] BKJD
Rp/R* = 0.0132 [0.0066]
a/R* = 71.99 [211.94]
b = 0.91 [0.59]
Seff = 49.96 [27.09]
Teq = 678 [92] K
Rp = 3.18 [1.94] Re
a = 0.4190 [0.1400] AU
Ag = 1256.18 [1422.33] [0.88 σ]
Teffp = 6240 [1574] K [3.53 σ]

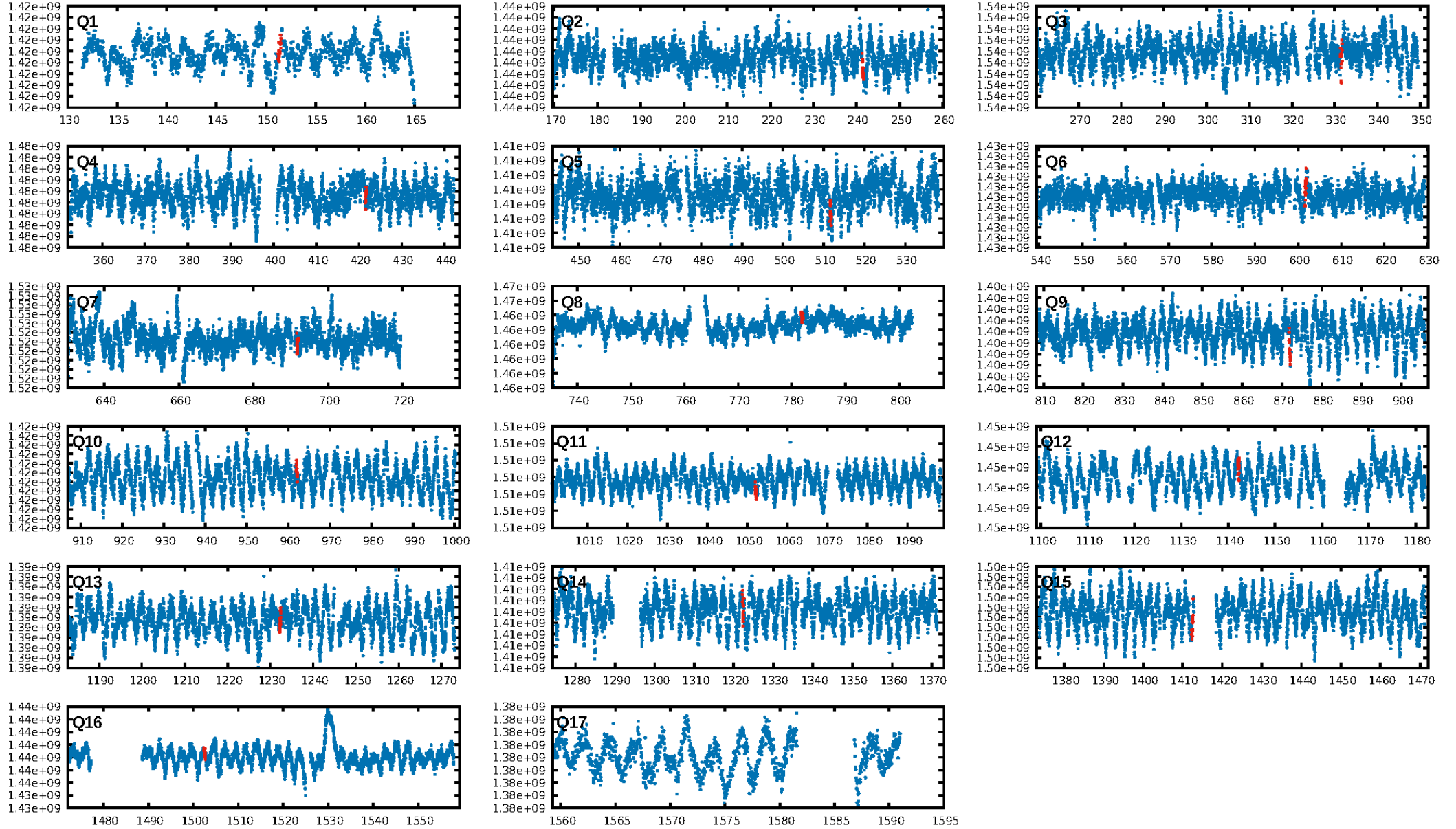
DV Diagnostic Results:

ShortPeriod-sig: 99.2% [2.64 σ]
LongPeriod-sig: 100.0% [9.78 σ]
ModelChiSquare2-sig: 1.7%
ModelChiSquareGof-sig: 48.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -3.251
Centroid-sig: 33.1%
Centroid-so: 0.284 arcsec [0.60 σ]
OotOffset-rm: 1.626 arcsec [1.70 σ]
OotOffset-st: 2/2/3/3 [10]
KicOffset-rm: 1.133 arcsec [1.04 σ]
KicOffset-st: 2/2/3/3 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 0.43 [6/14]

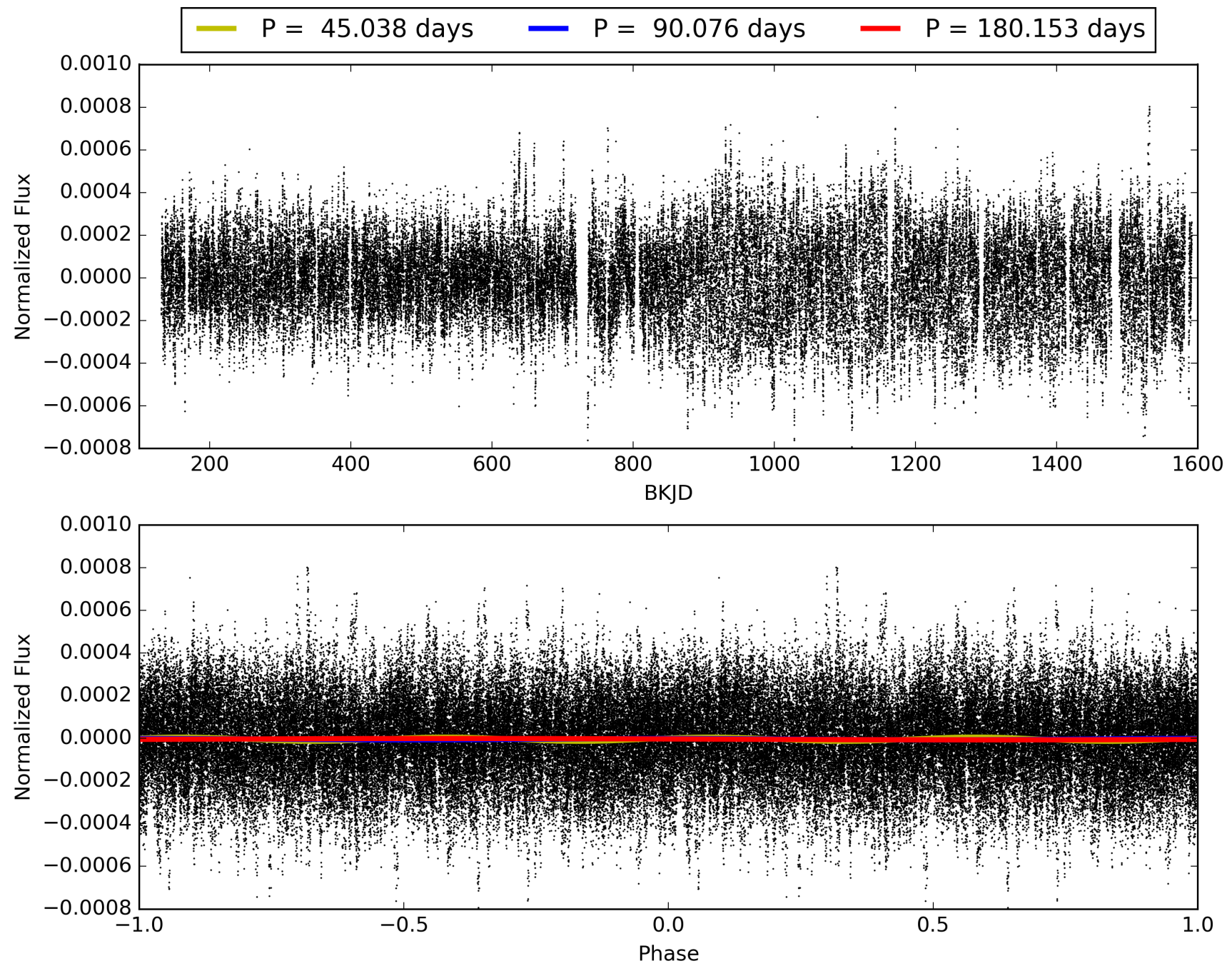
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:19 Z

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

TCE 009025557-04, PDC Light Curves

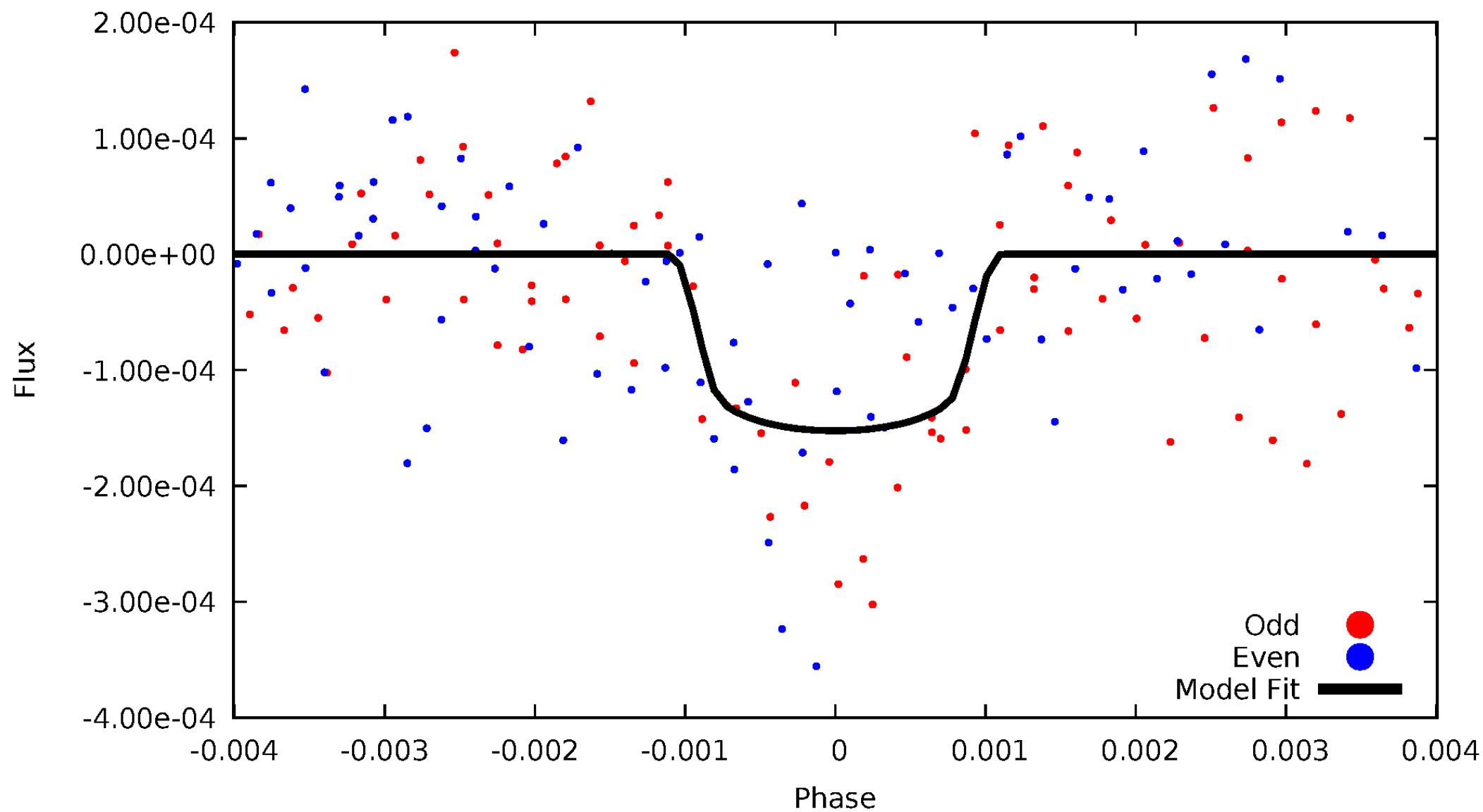


TCE 009025557-04



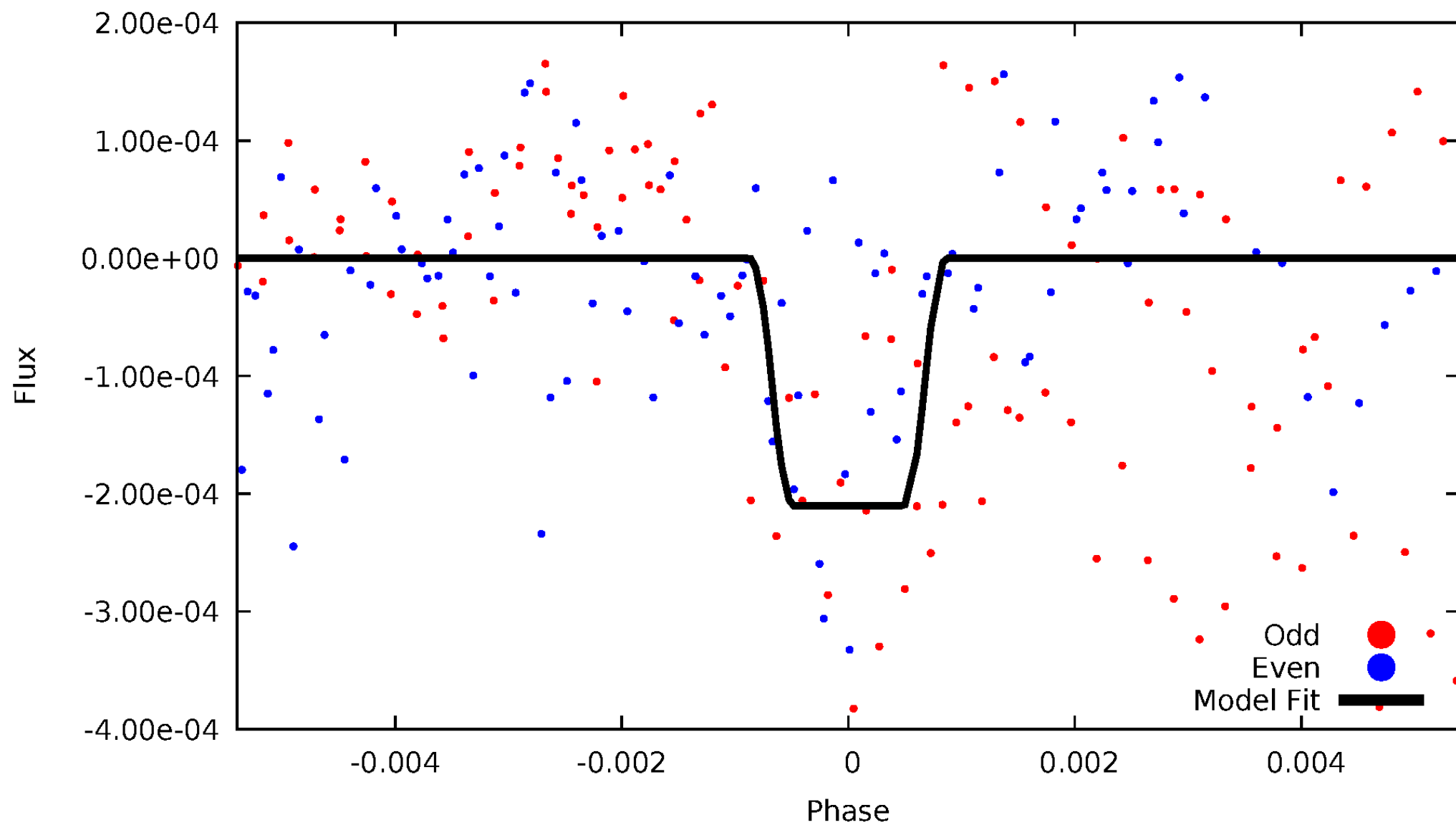
DV Odd/Even

TCE 009025557-04



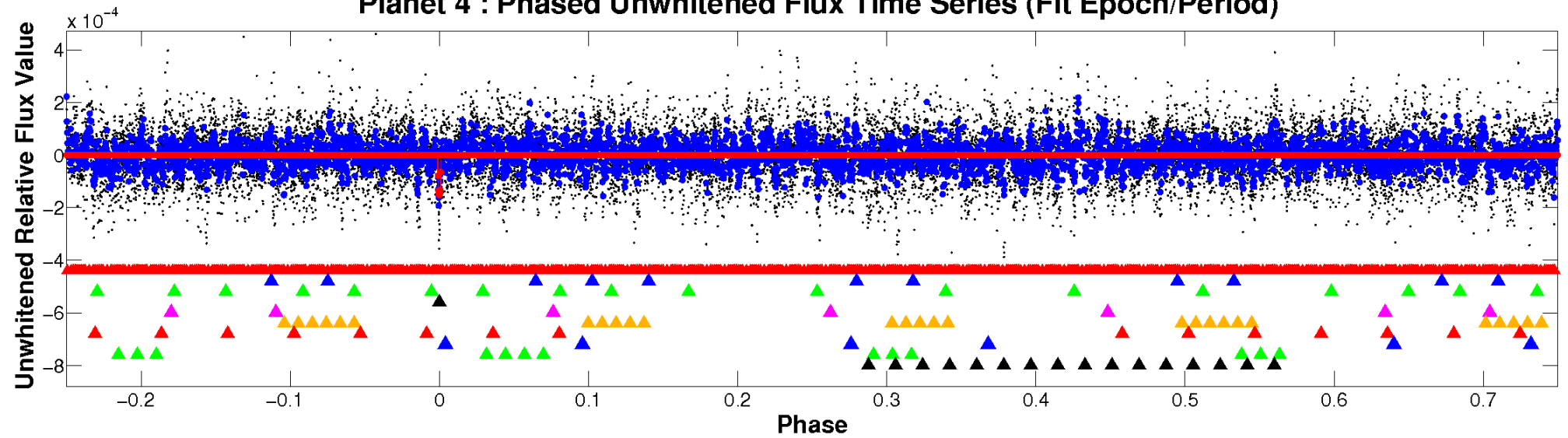
ALT Odd/Even

TCE 009025557-04

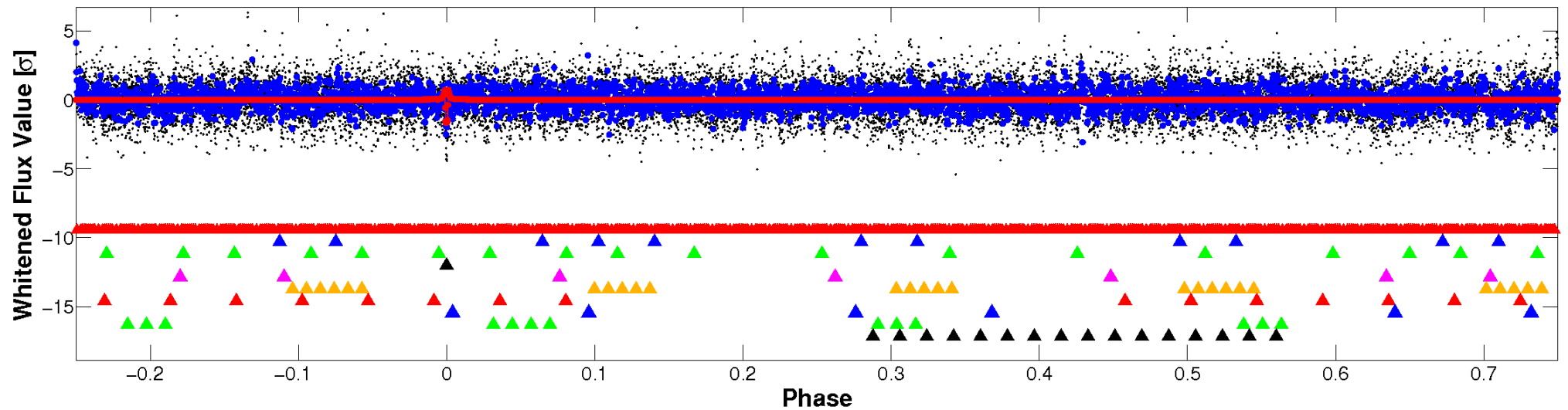


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

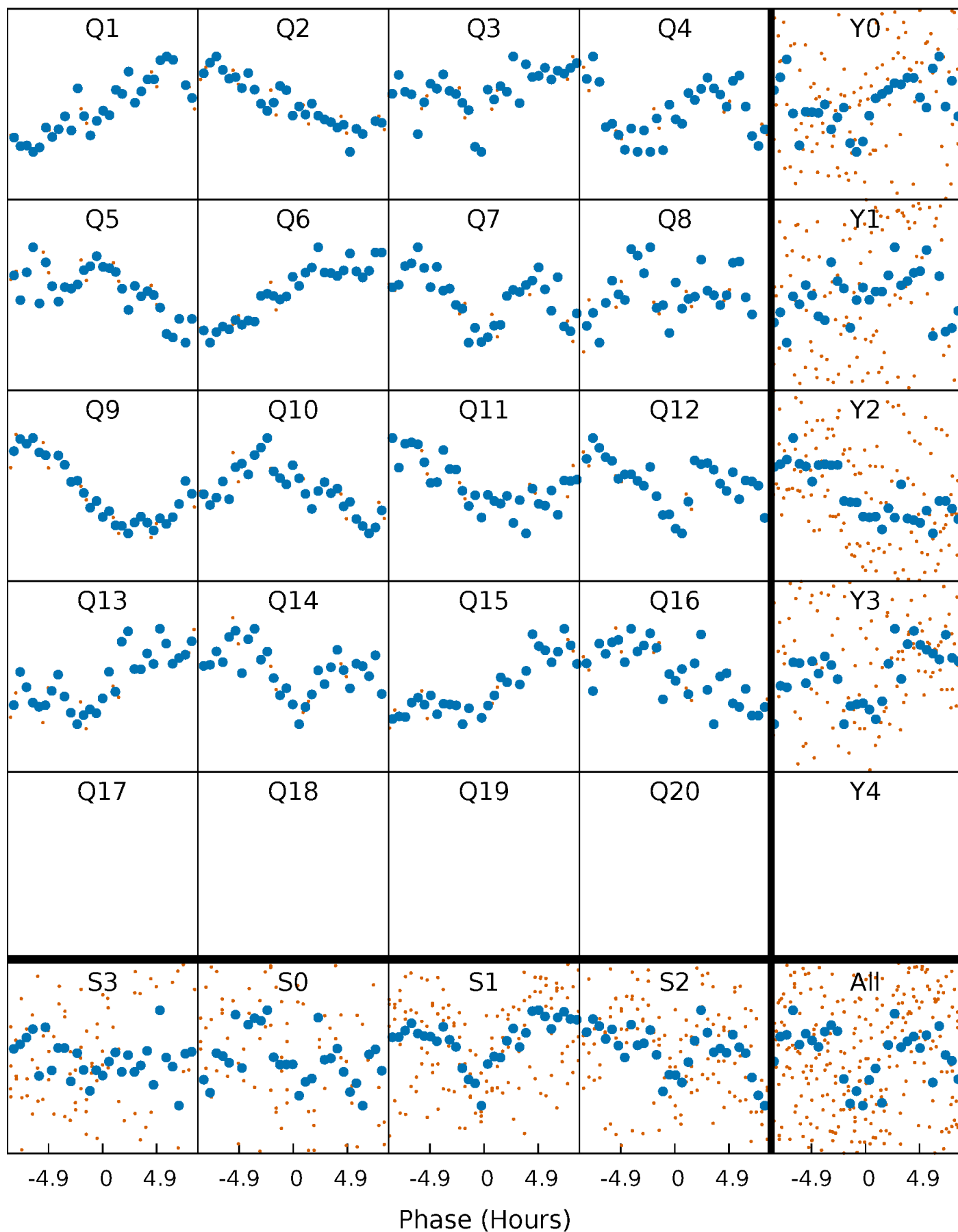


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



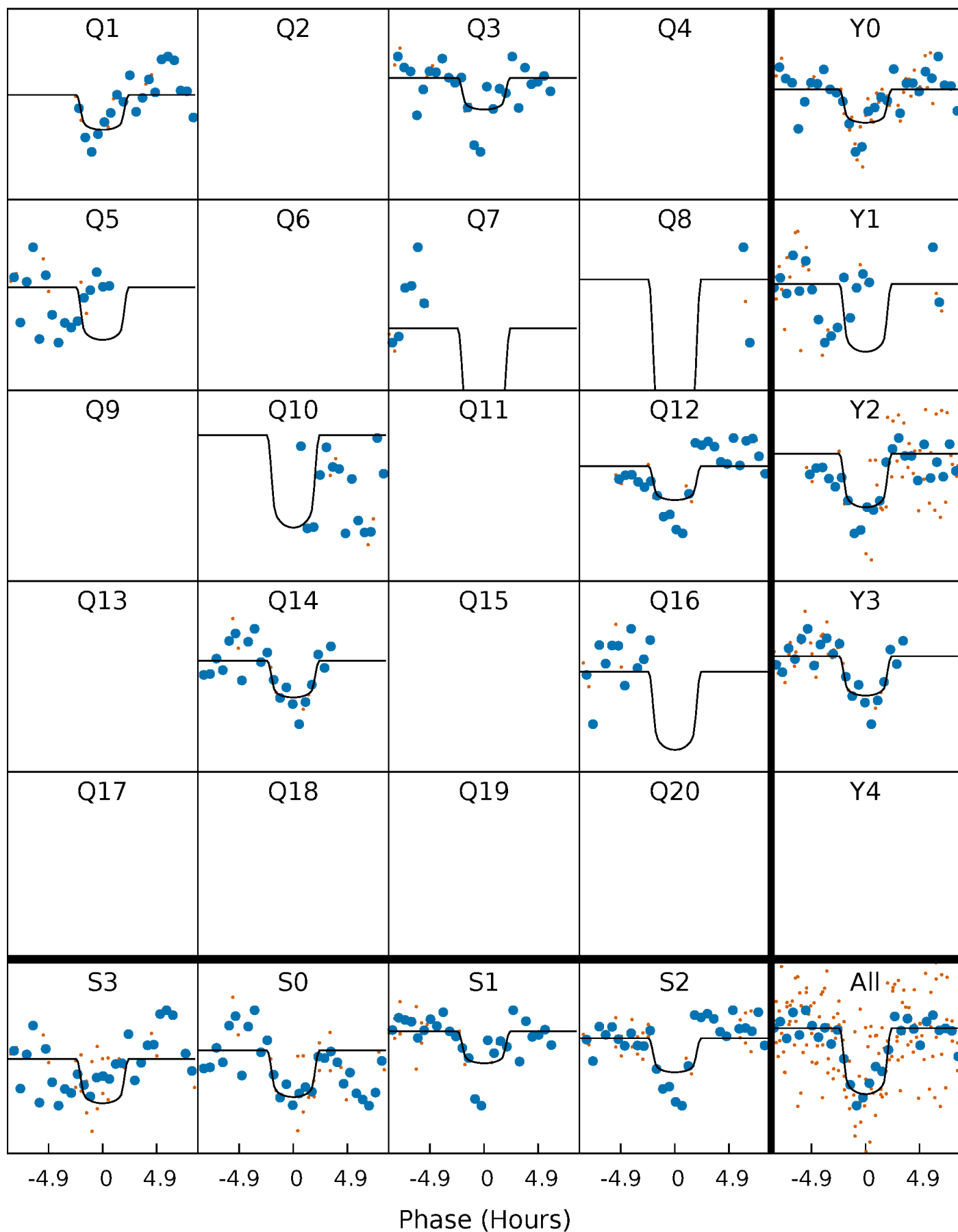
PDC Quarter-Phased Transit Curves

TCE 009025557-04 P= 90.076458 Days $T_0=151.373483$ (BKJD)



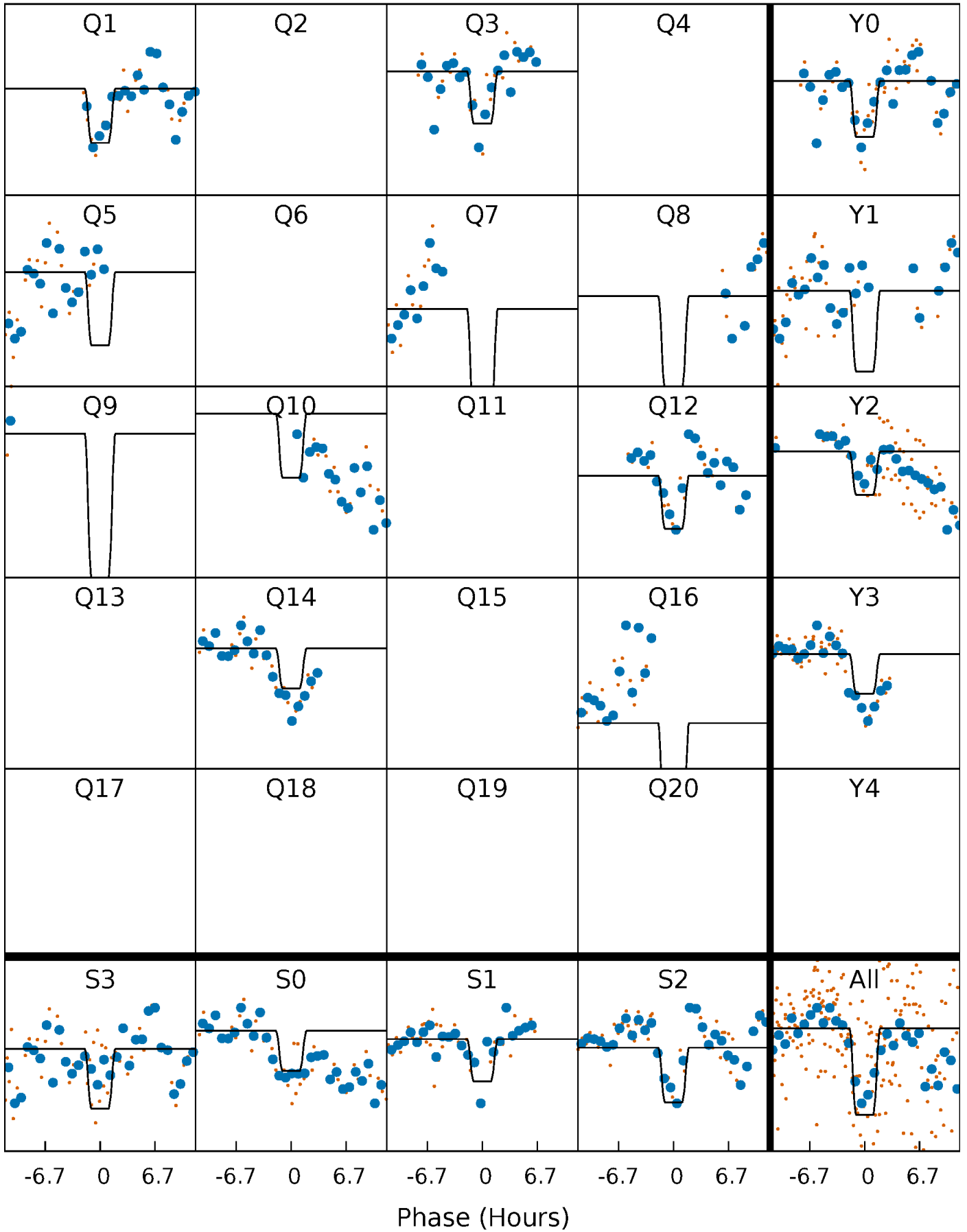
DV Quarter-Phased Transit Curves

TCE 009025557-04 P= 90.076458 Days $T_0=151.373483$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

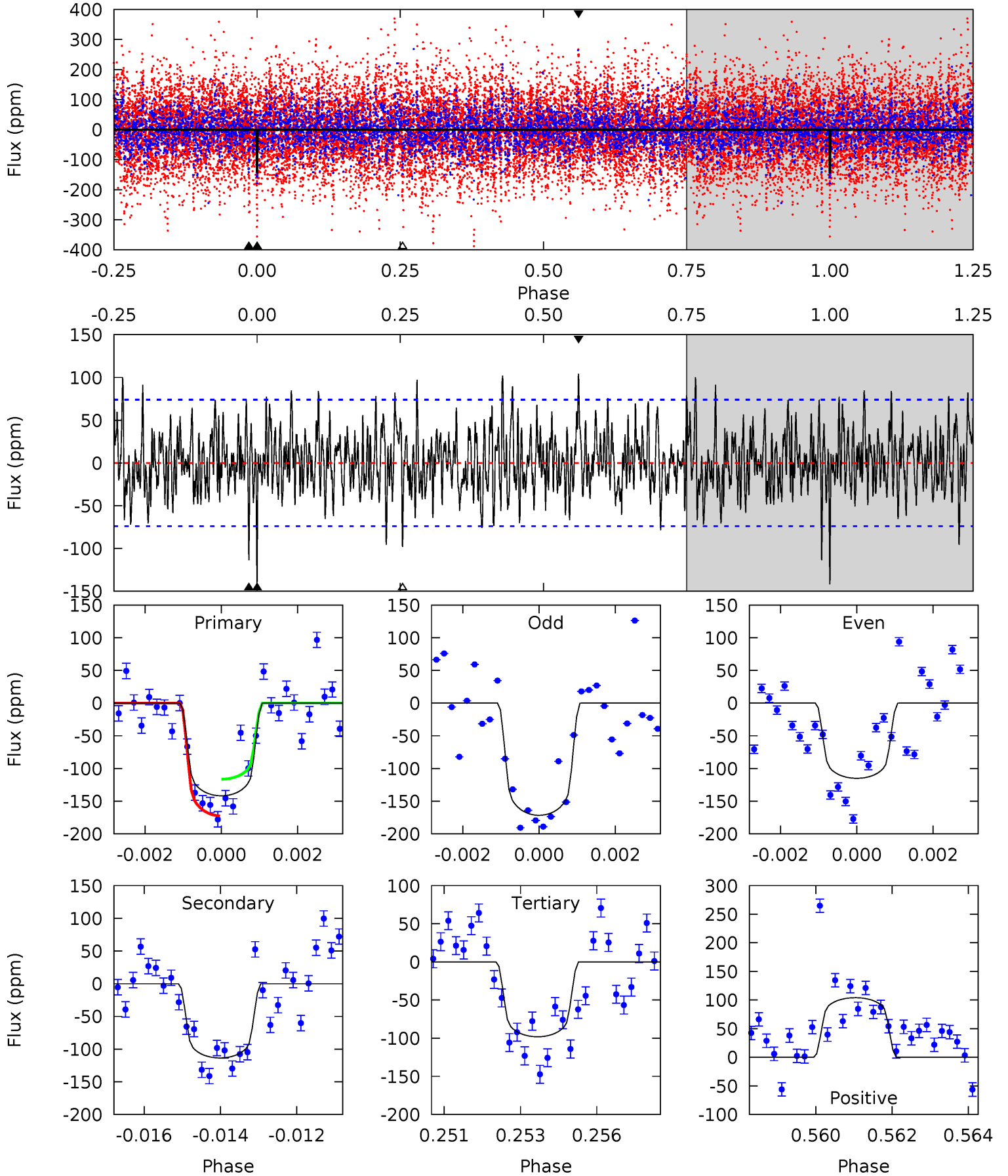
TCE 009025557-04 P= 90.078750 Days $T_0=151.356399$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-04, P = 90.076458 Days, E = 61.297025 Days

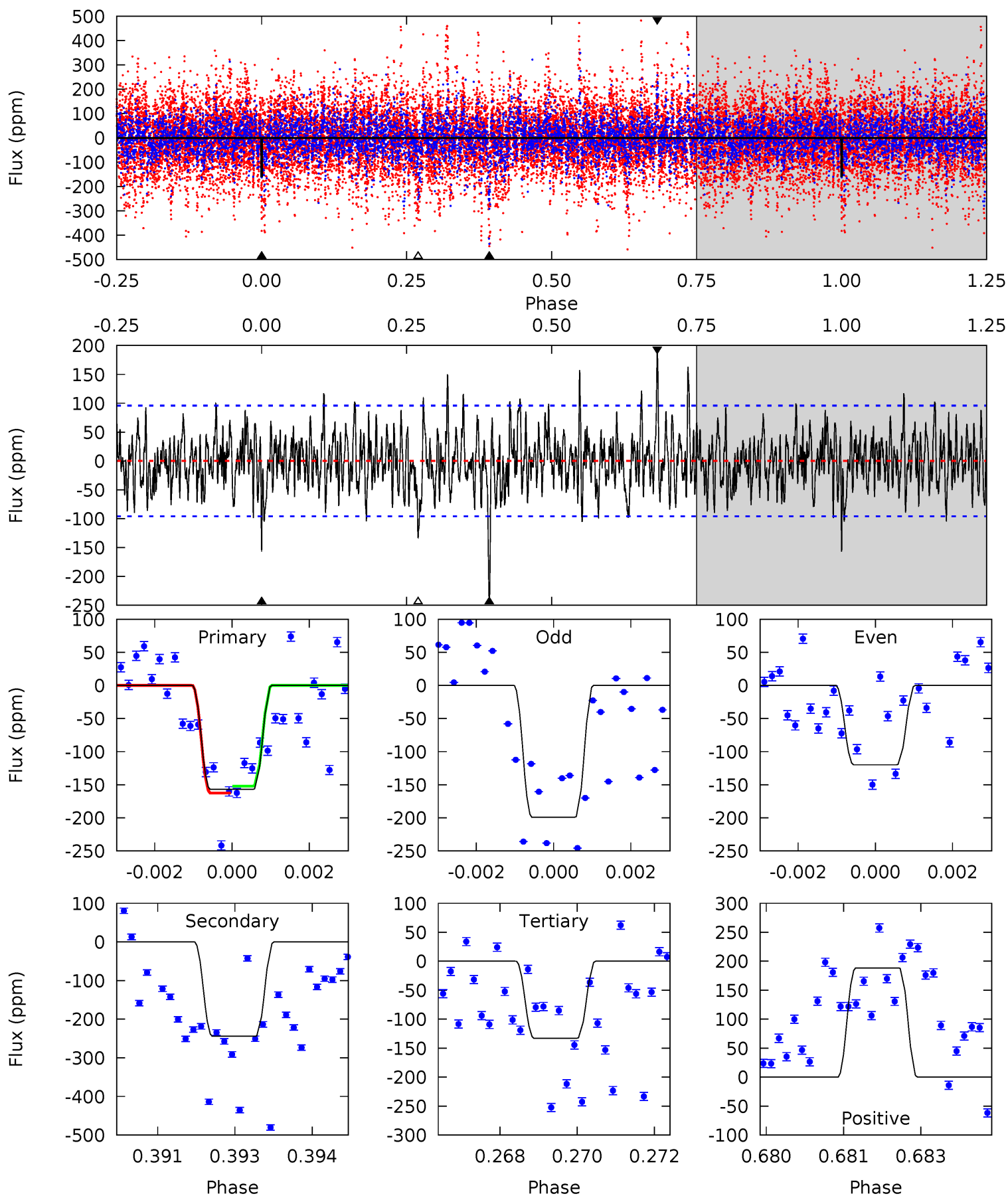
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	8.17	7.07	7.50	5.32	3.08	2.22	3.15	2.72	1.11	0.68	2.04	0.84	0.42	2.01



Alt Model-Shift Uniqueness Test

009025557-04, P = 90.078750 Days, E = 61.277649 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.78	13.7	7.43	10.5	5.36	3.14	2.35	1.35	-1.76	6.24	3.12	2.19	0.98	0.44	0.29



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-114 ± 14	$3.05^{+1.61}_{-1.48}$	936^{+54}_{-85}	5909^{+2667}_{-947}	1181^{+3269}_{-665}
Alt.	-244 ± 18	$3.39^{+1.70}_{-1.53}$	934^{+54}_{-86}	6830^{+3149}_{-1127}	2097^{+4629}_{-1139}

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

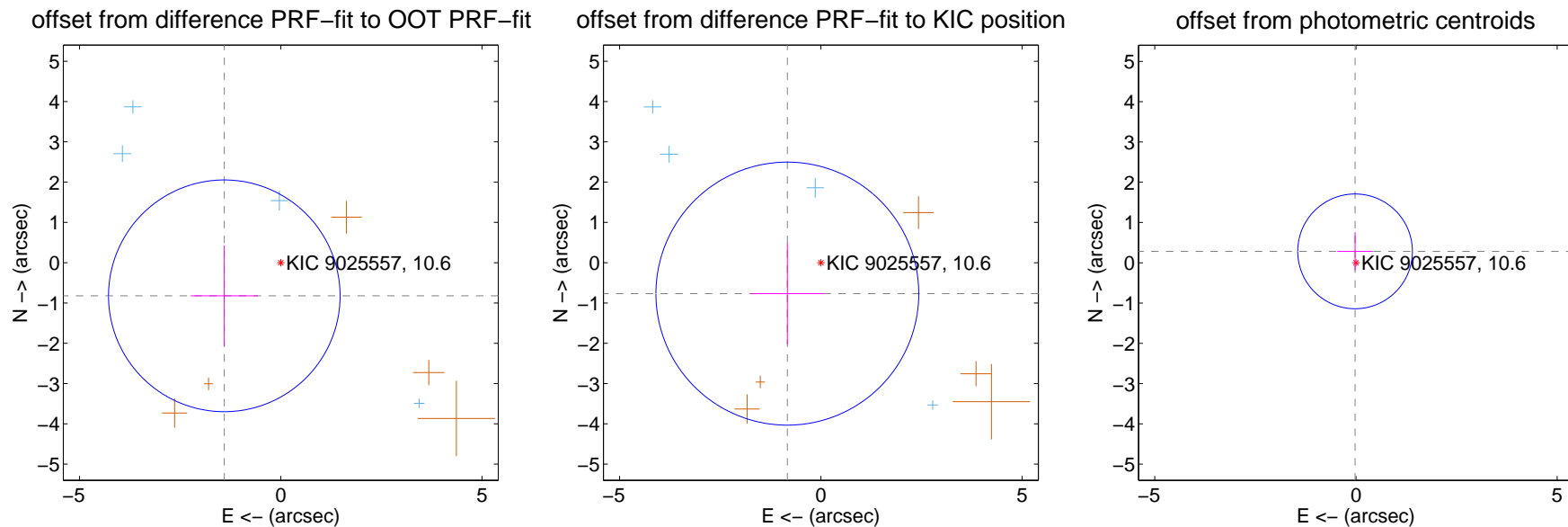
DV Centroid Data

Supplemental centroid analysis for 009025557-04. **Kepler magnitude: 10.60.** Transit SNR 10.12

There are 4 quarters with good PRF difference image offsets

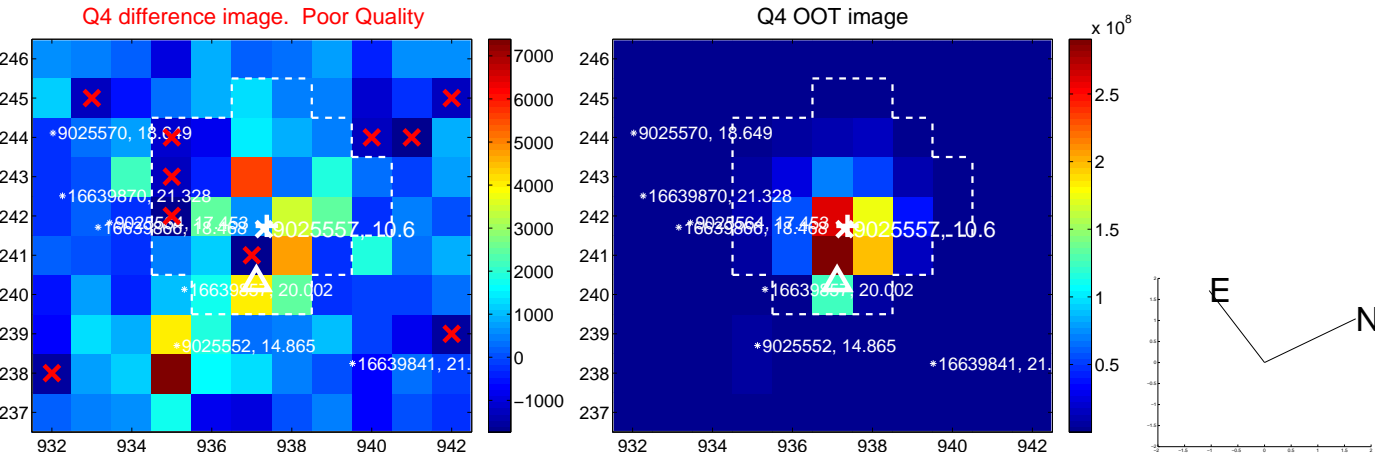
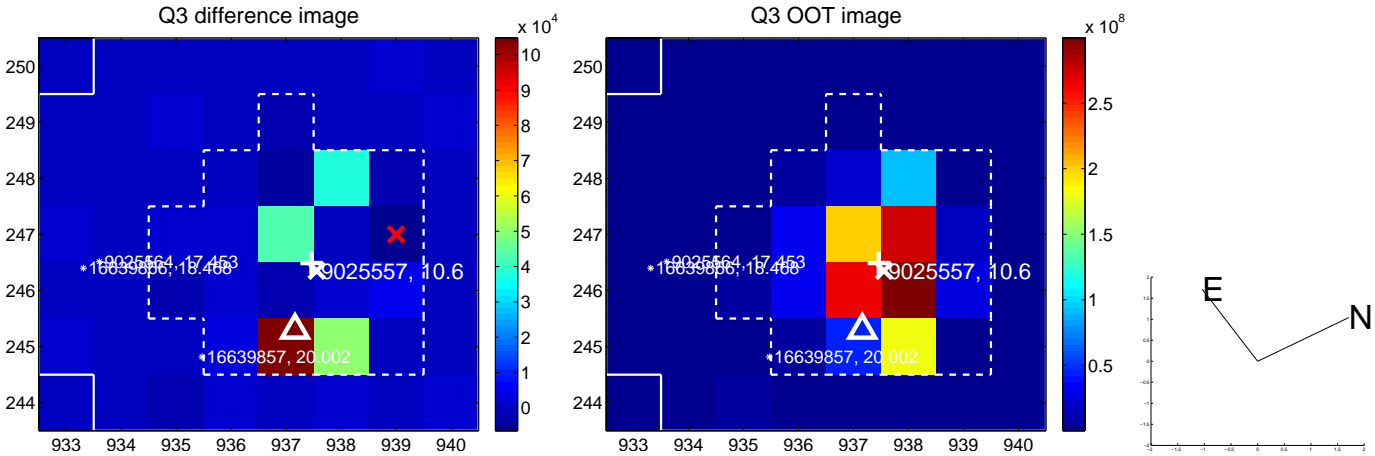
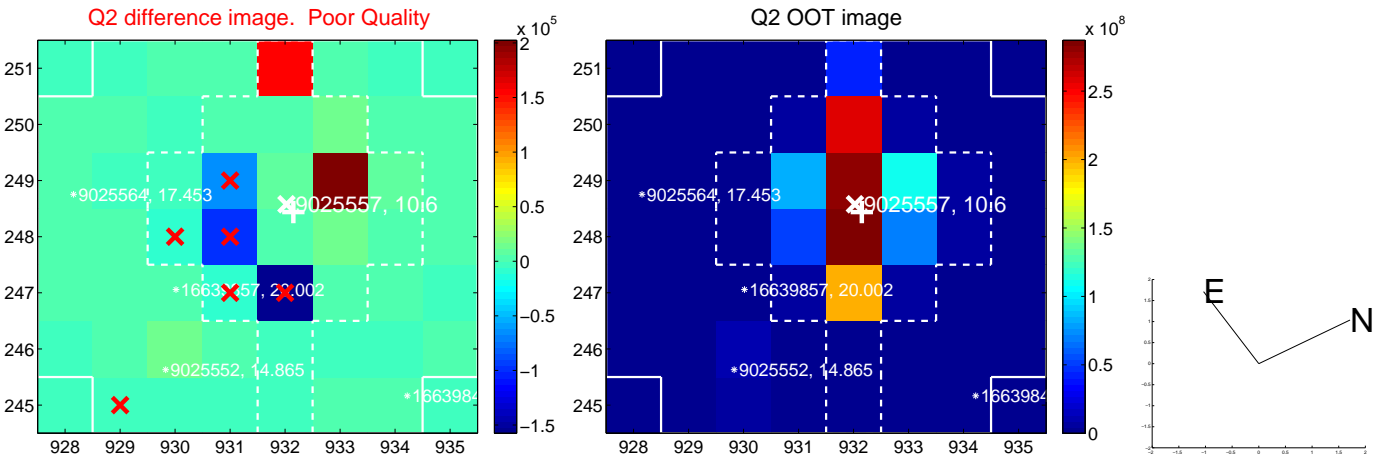
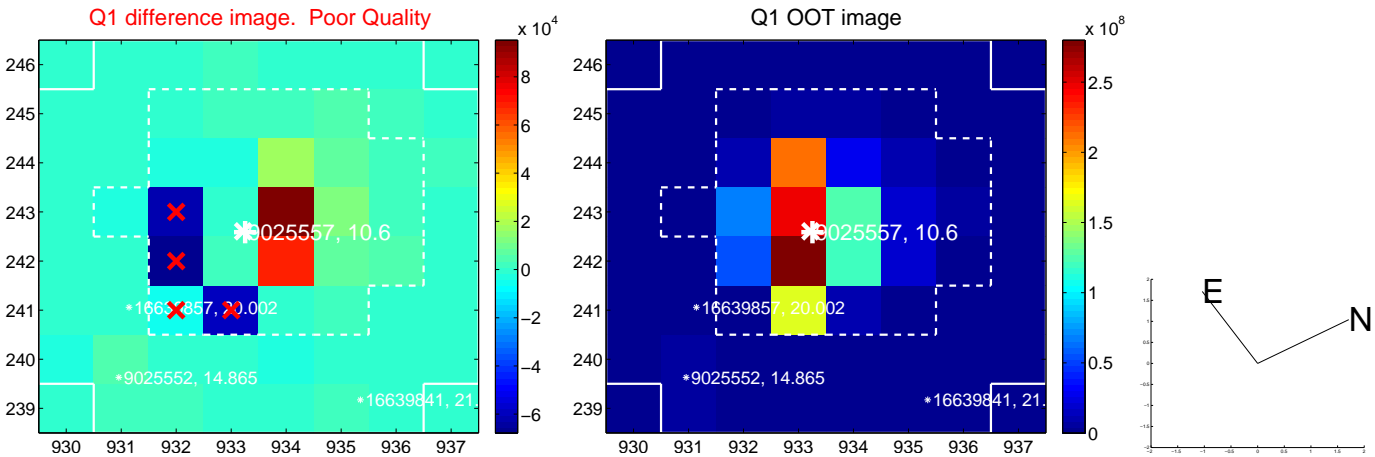
The direct PRF centroid is offset from the target star catalog position by about 0.80 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.626 ± 0.959	1.70	1.402 ± 0.833	-0.822 ± 1.254
PRF-fit source offset from KIC position	1.133 ± 1.088	1.04	0.833 ± 0.917	-0.768 ± 1.260
photometric centroid source offset	0.28 ± 0.47	0.60	0.02 ± 0.44	0.28 ± 0.48

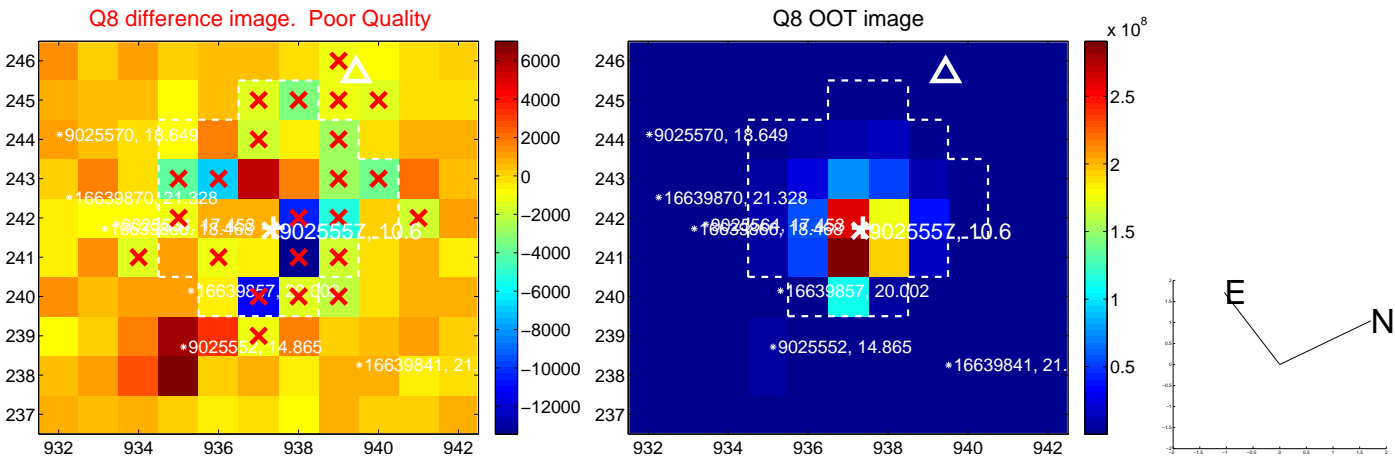
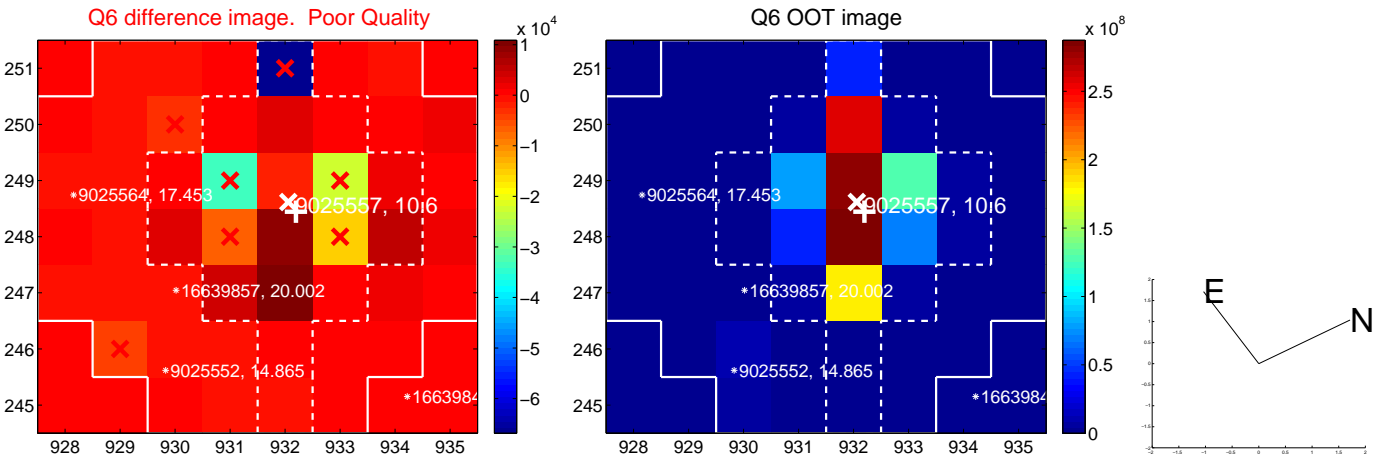
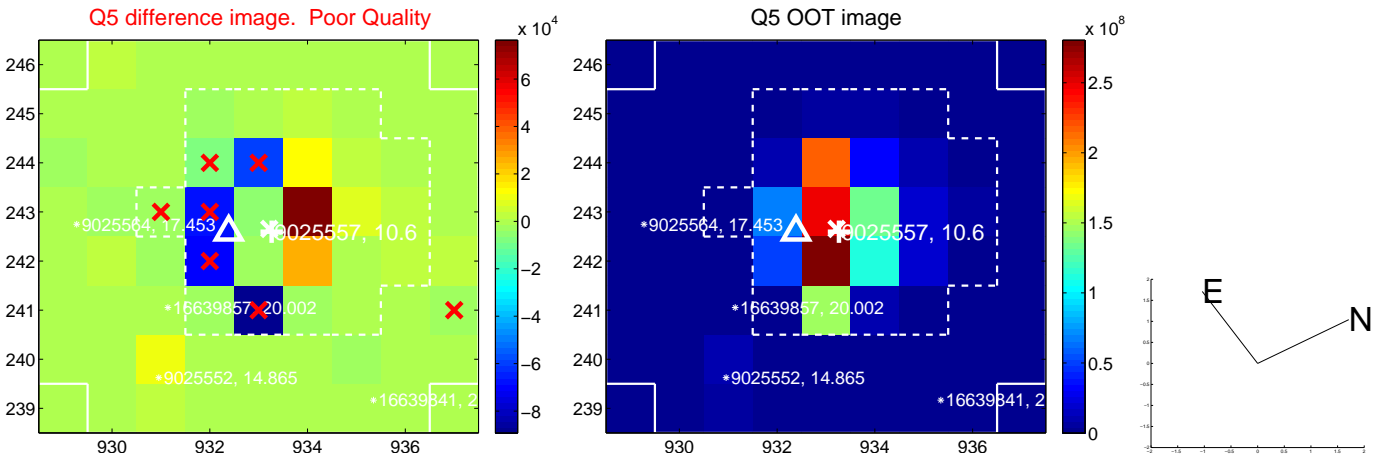


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

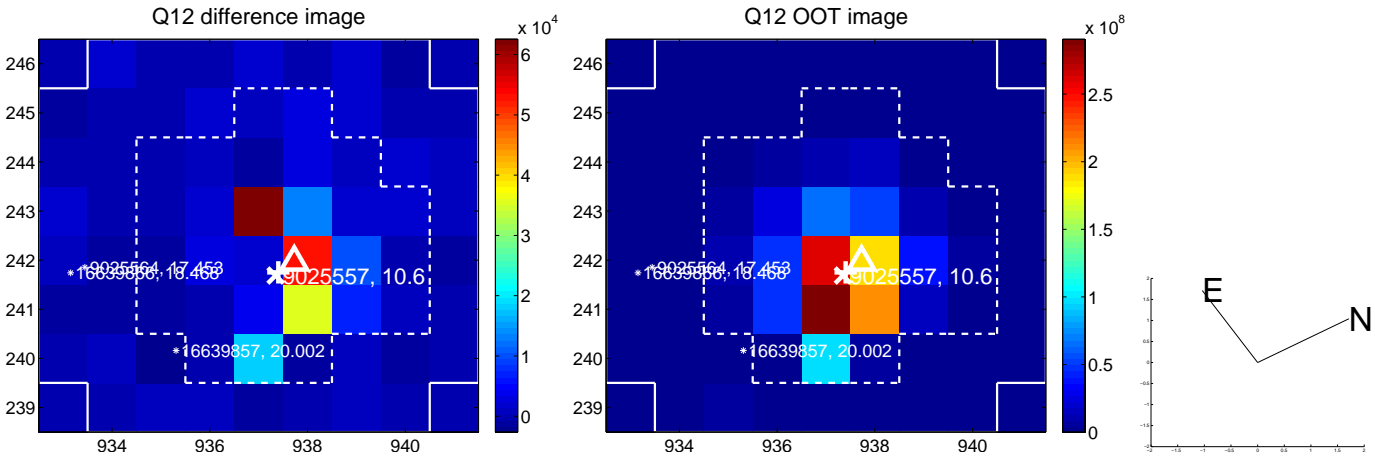
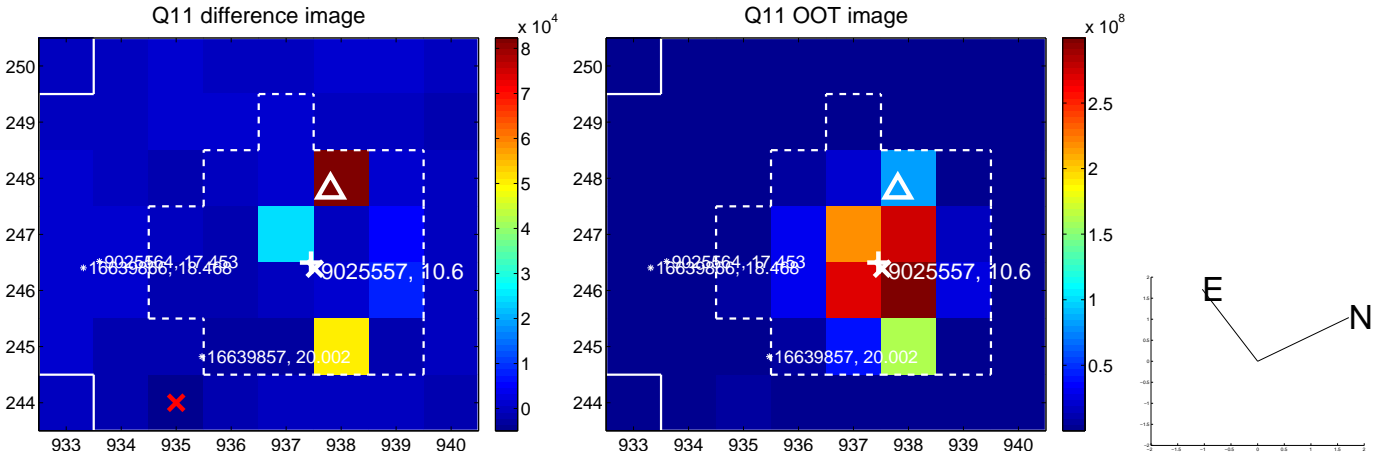
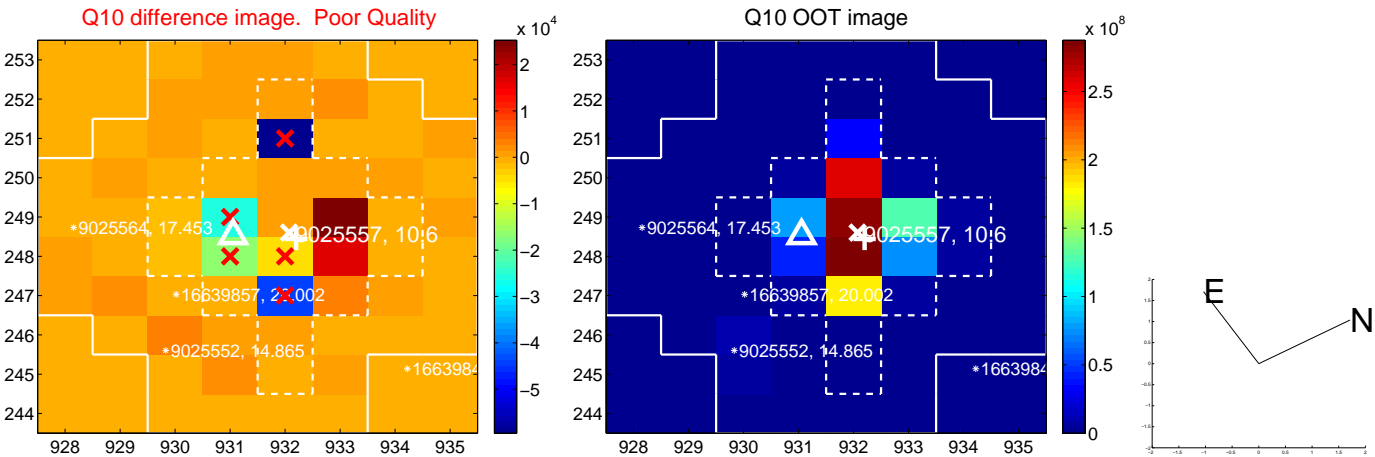
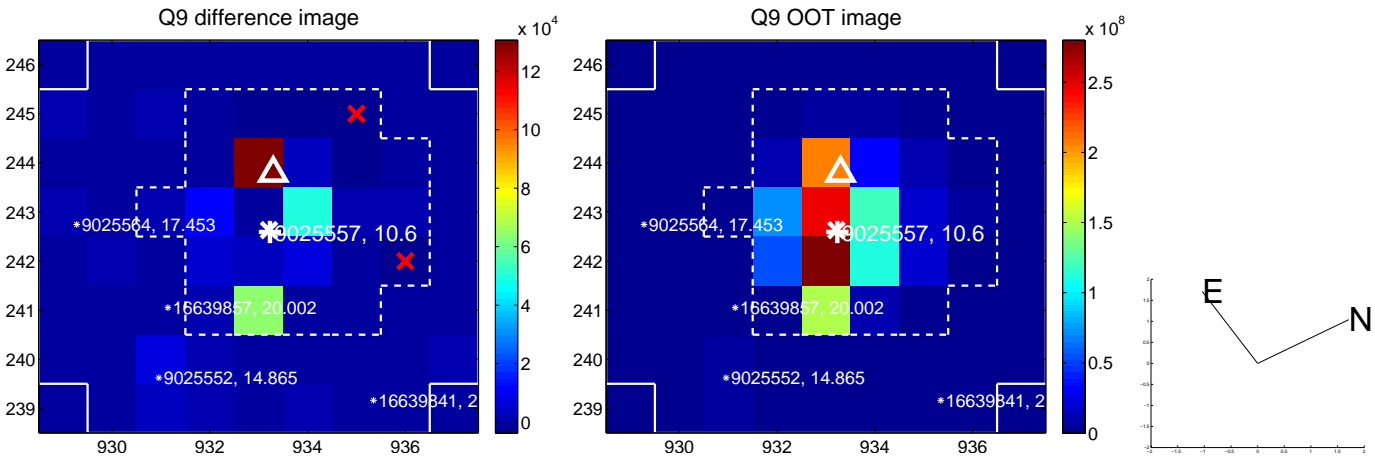
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



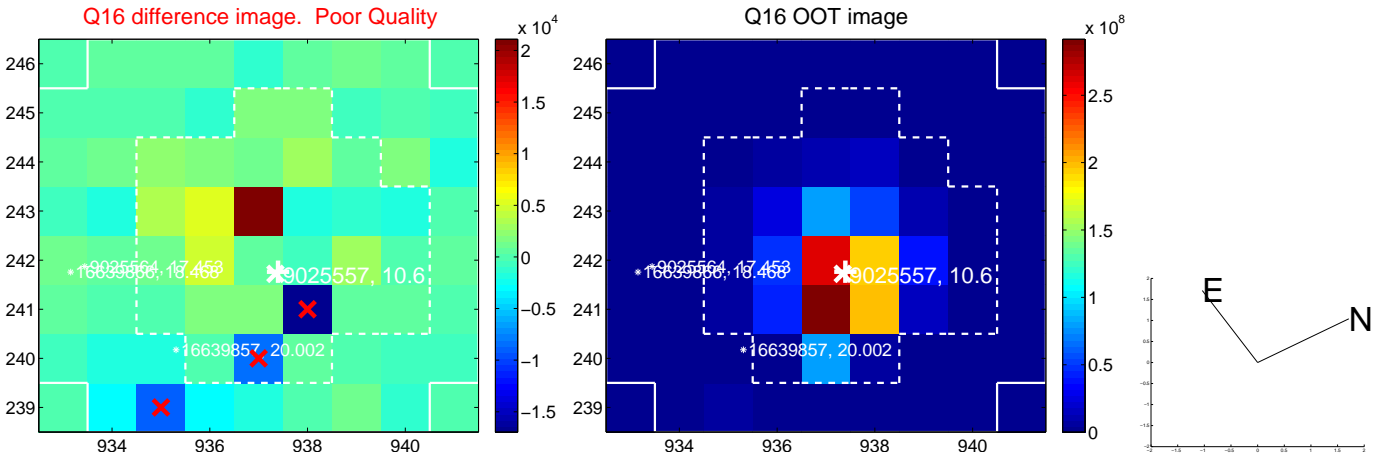
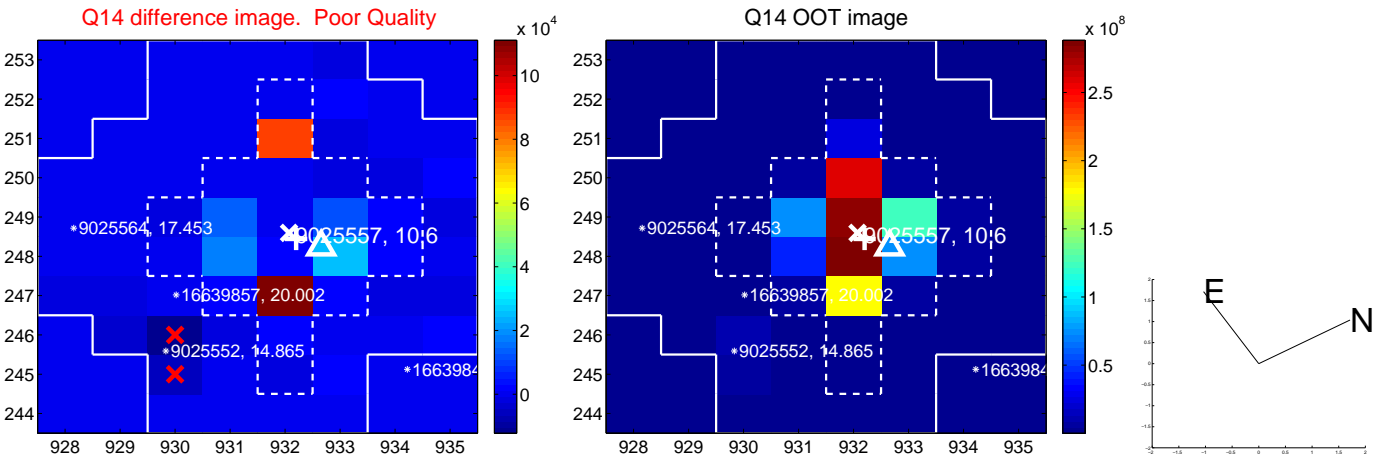
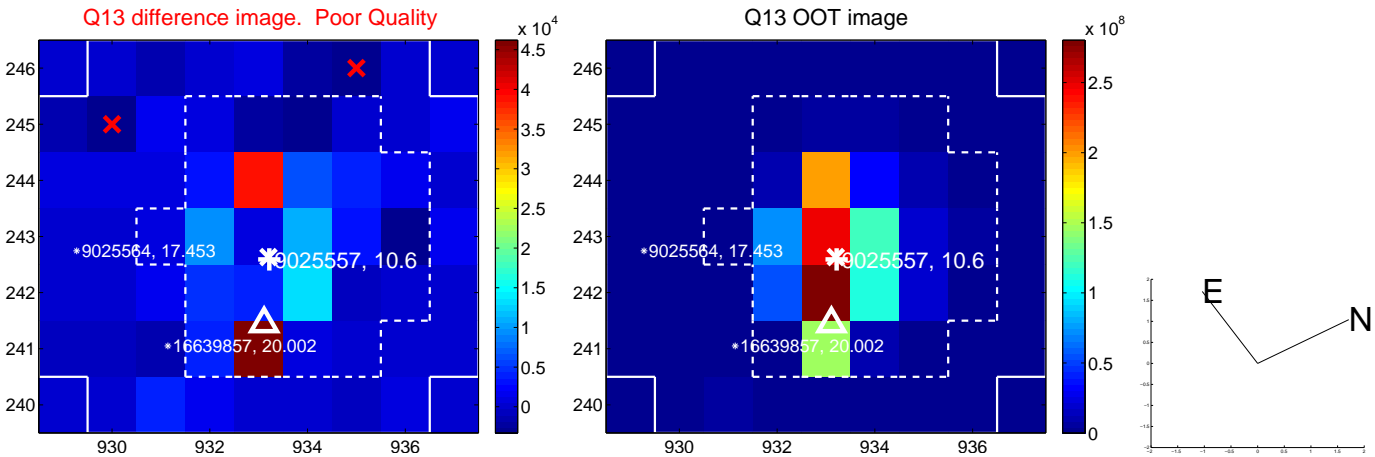
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



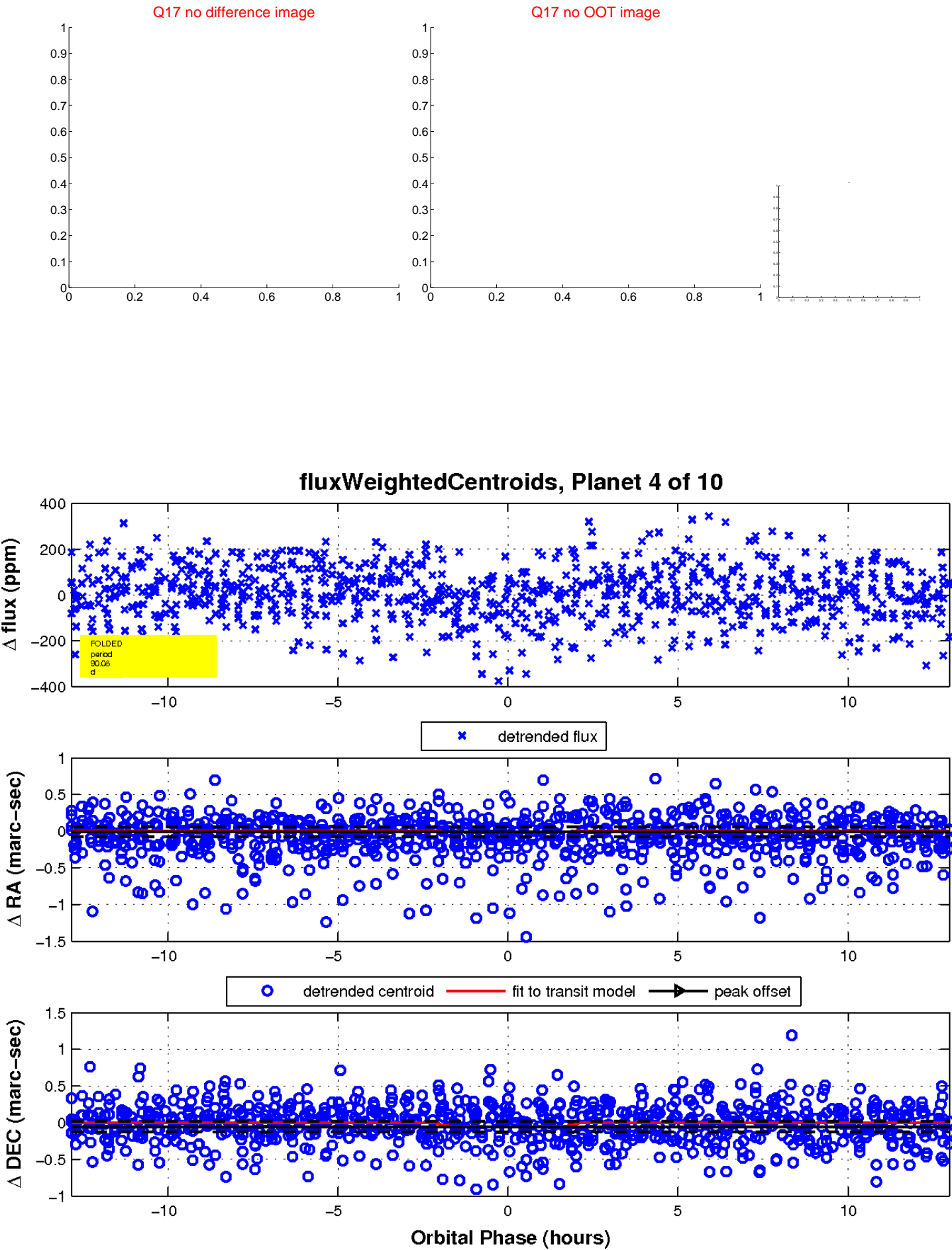
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

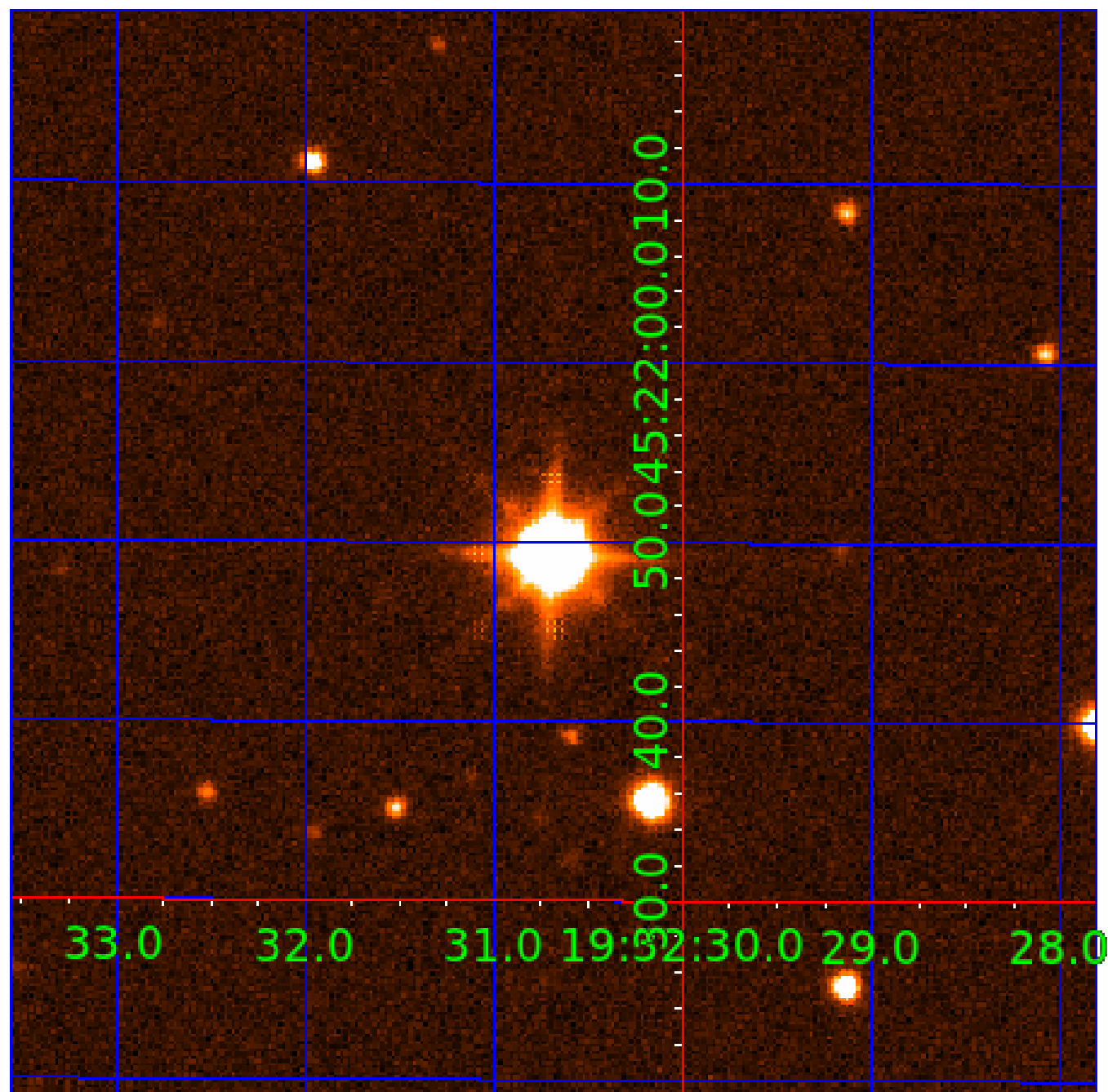


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

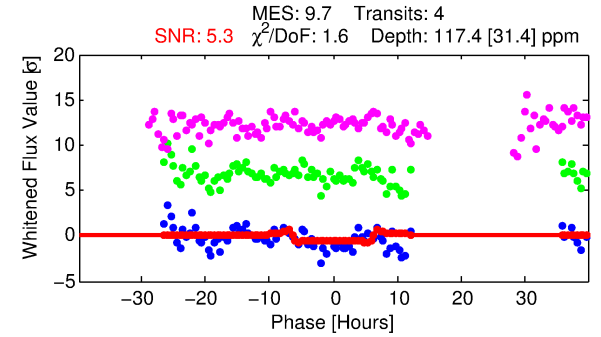
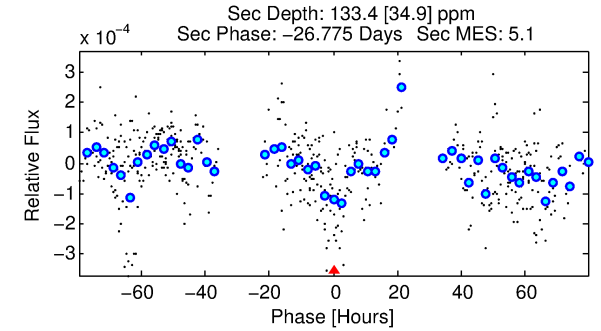
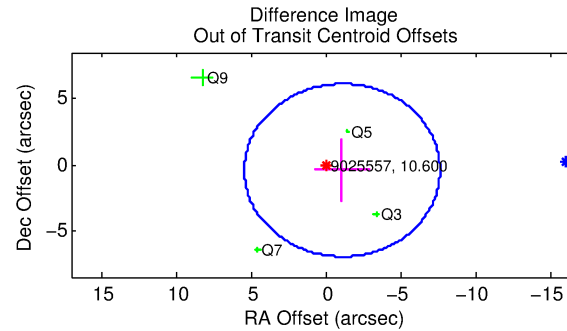
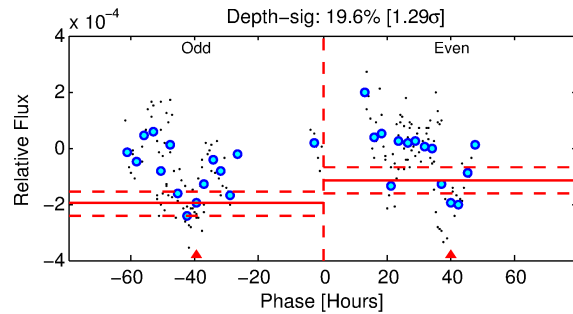
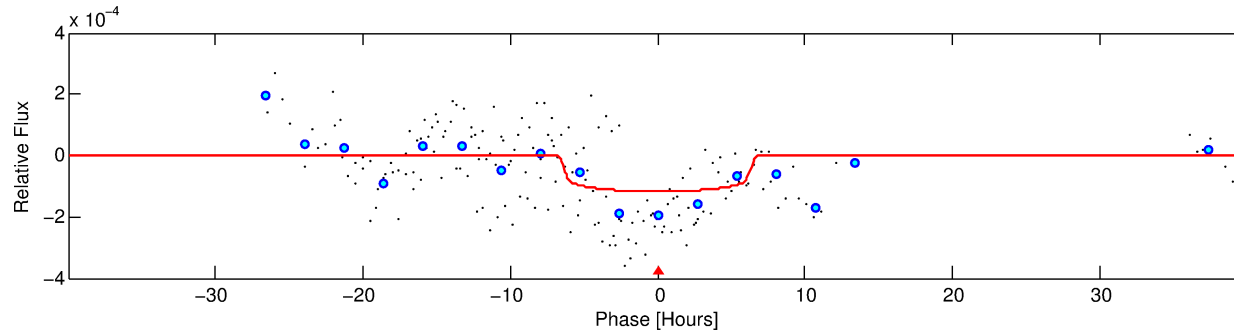
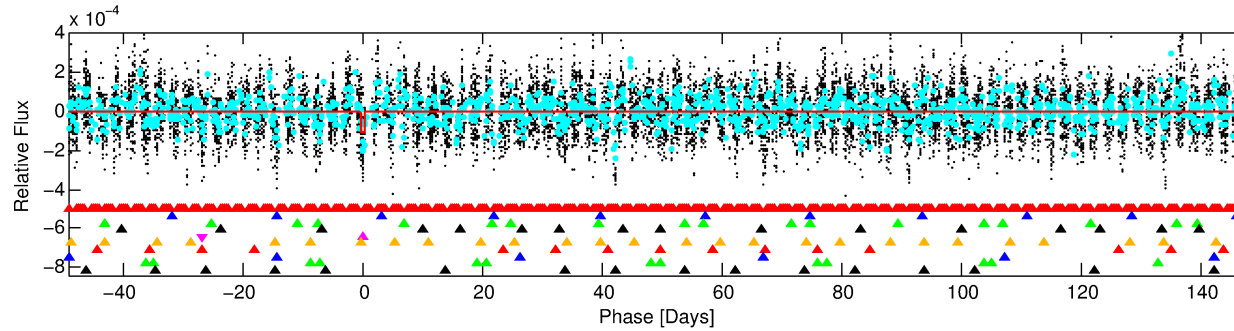
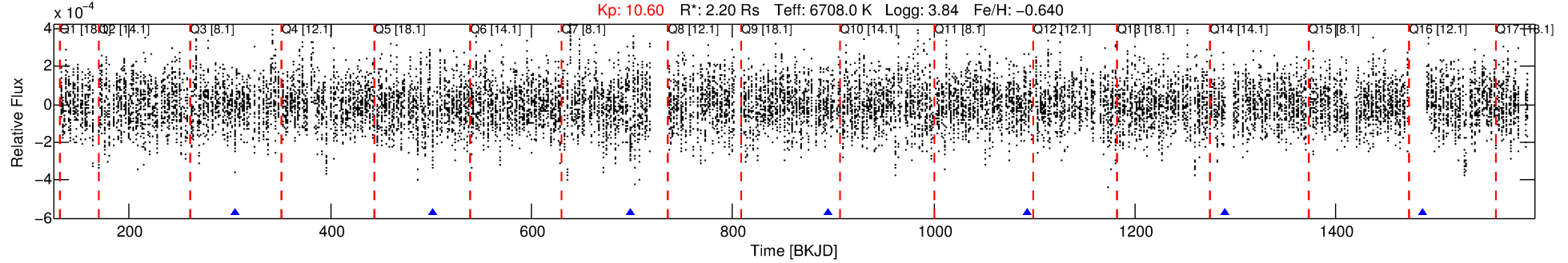
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-05

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 5 of 10 Period: 196.904 d



DV Fit Results:

Period = 196.90401 [0.01784] d
Epoch = 304.8994 [0.0253] BKJD
Rp/R* = 0.0113 [0.0029]
a/R* = 58.14 [68.59]
b = 0.87 [0.32]
Seff = 17.61 [9.55]
Teq = 522 [71] K
Rp = 2.72 [1.19] Re
a = 0.7058 [0.2358] AU
Ag = 4942.08 [3864.61] [1.28 σ]
Teffp = 6771 [997] K [6.25 σ]

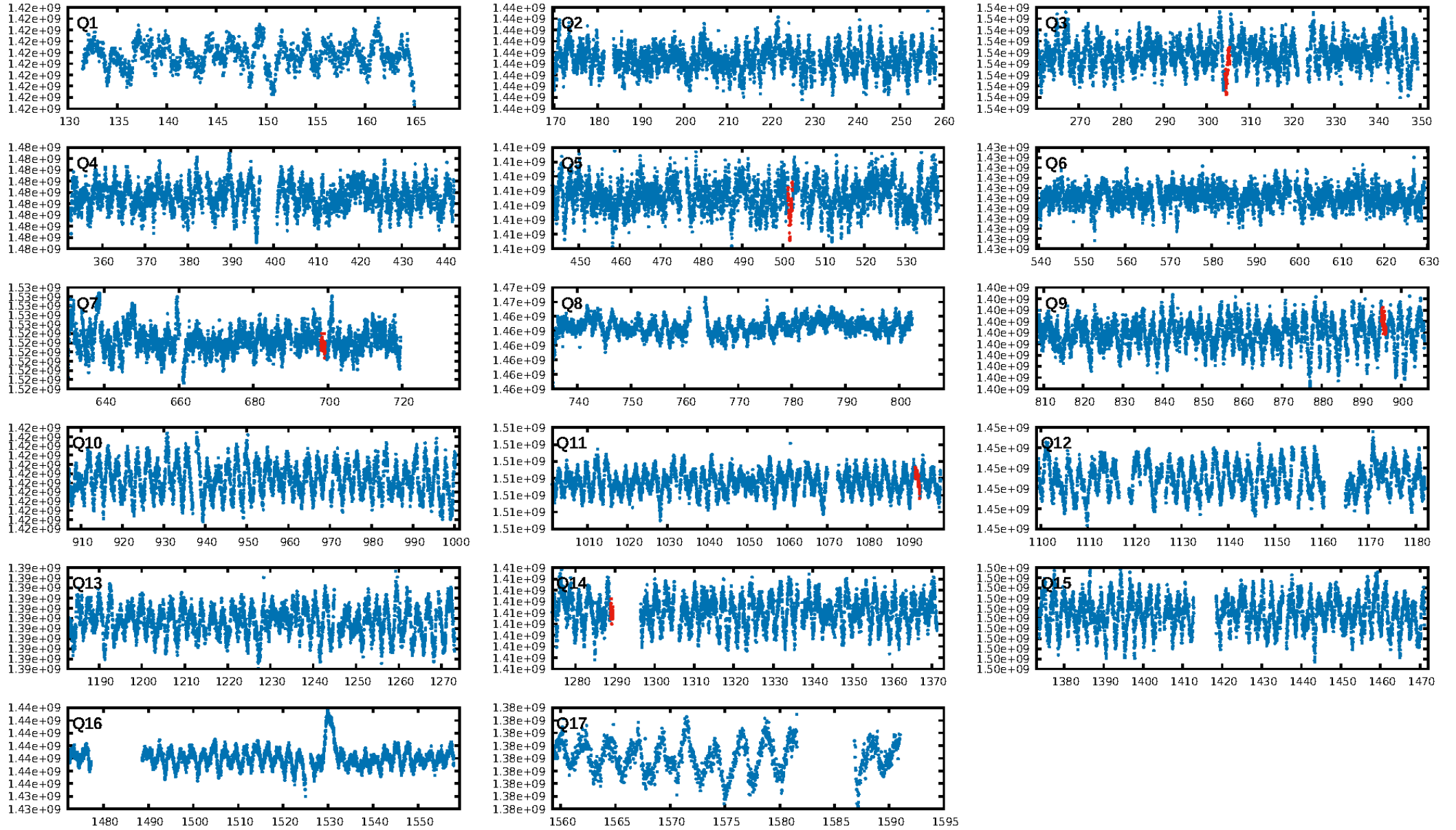
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [91.09 σ]
LongPeriod-sig: 100.0% [63.33 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 94.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.5716
Centroid-sig: 7.1%
Centroid-so: 1.155 arcsec [1.59 σ]
OotOffset-rm: 1.194 arcsec [0.55 σ]
KicOffset-rm: 1.295 arcsec [0.57 σ]
OotOffset-st: 0/2/0/2 [4]
KicOffset-st: 0/2/0/2 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.00 [0/4]

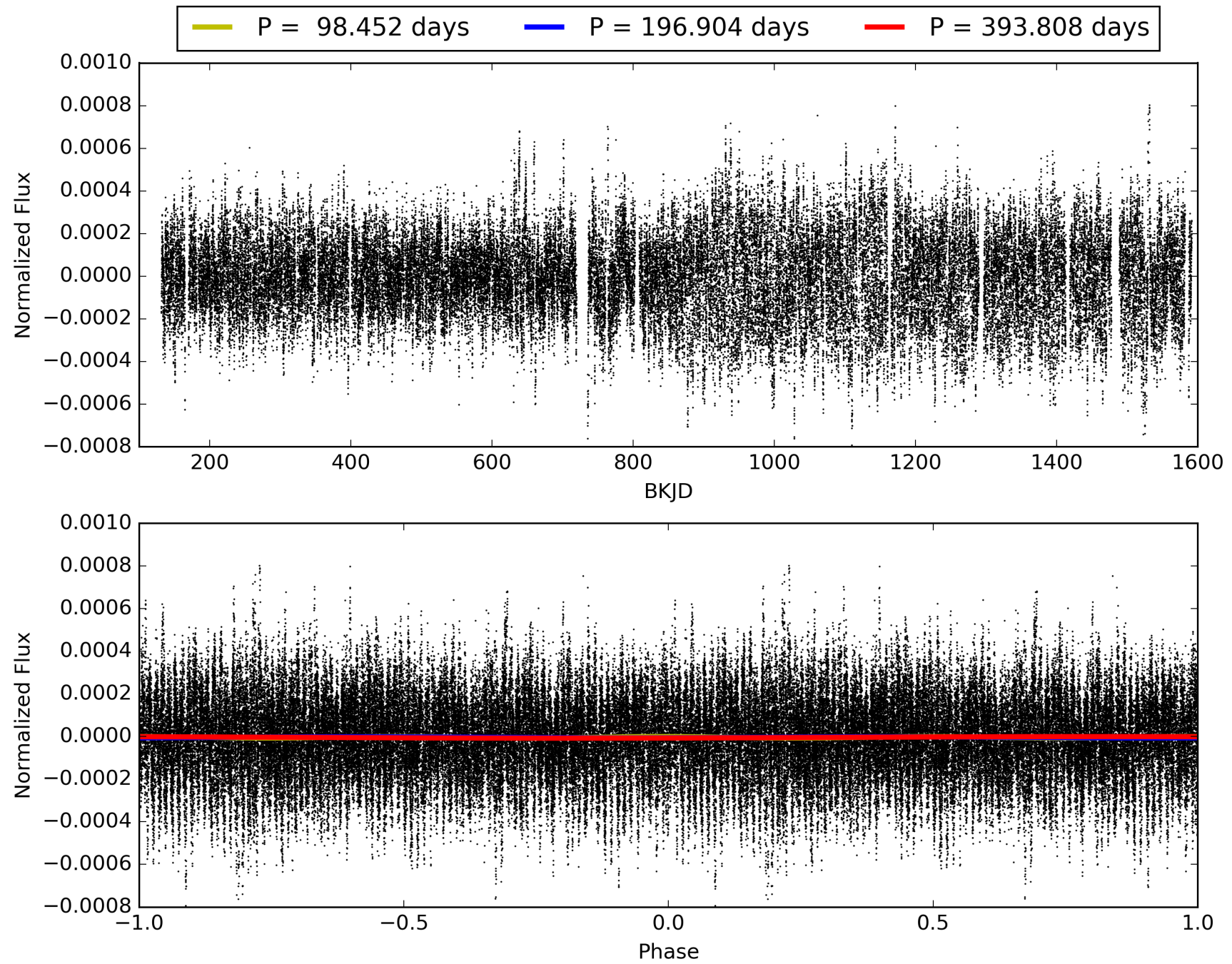
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:23 Z

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

TCE 009025557-05, PDC Light Curves

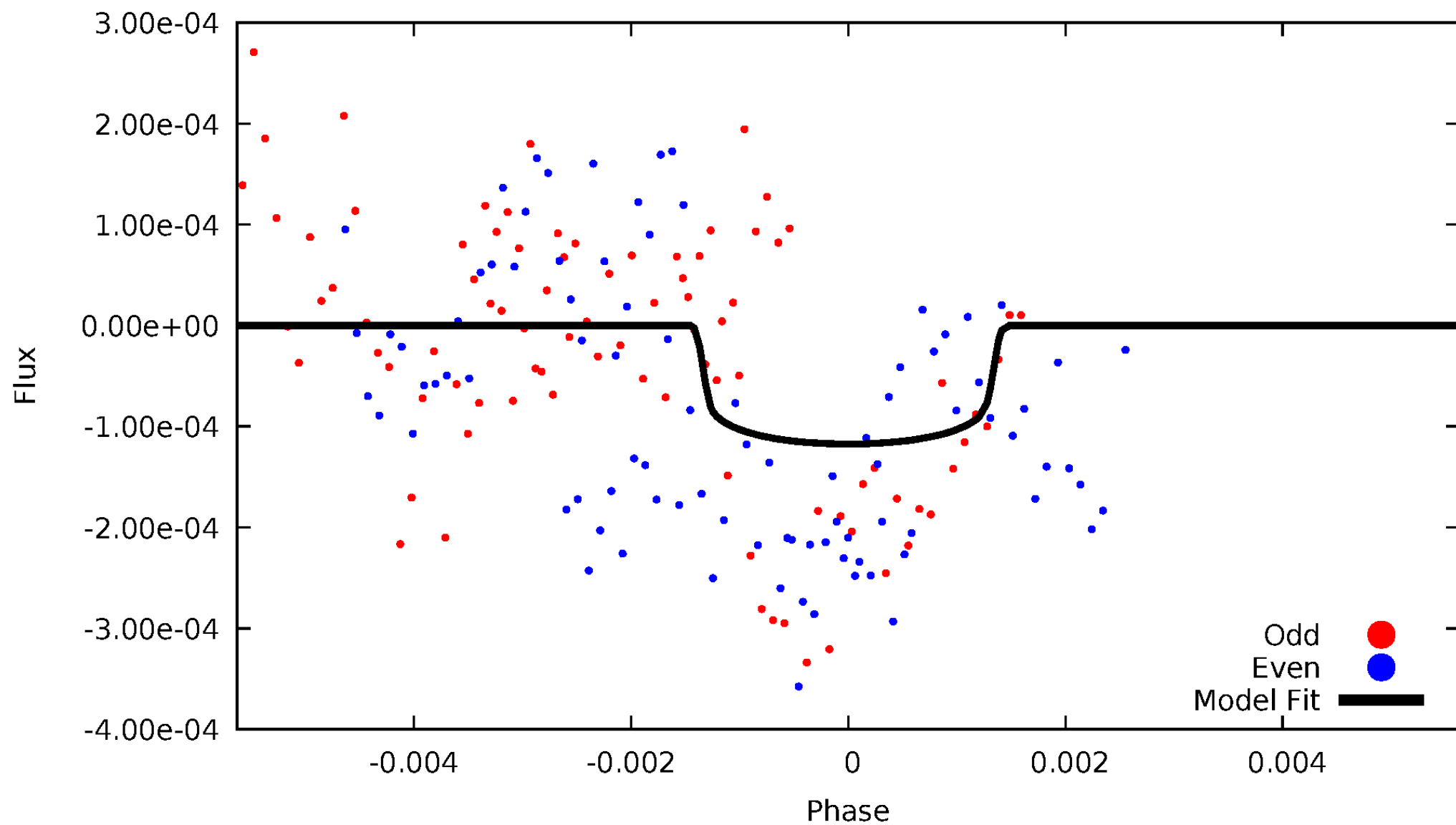


TCE 009025557-05



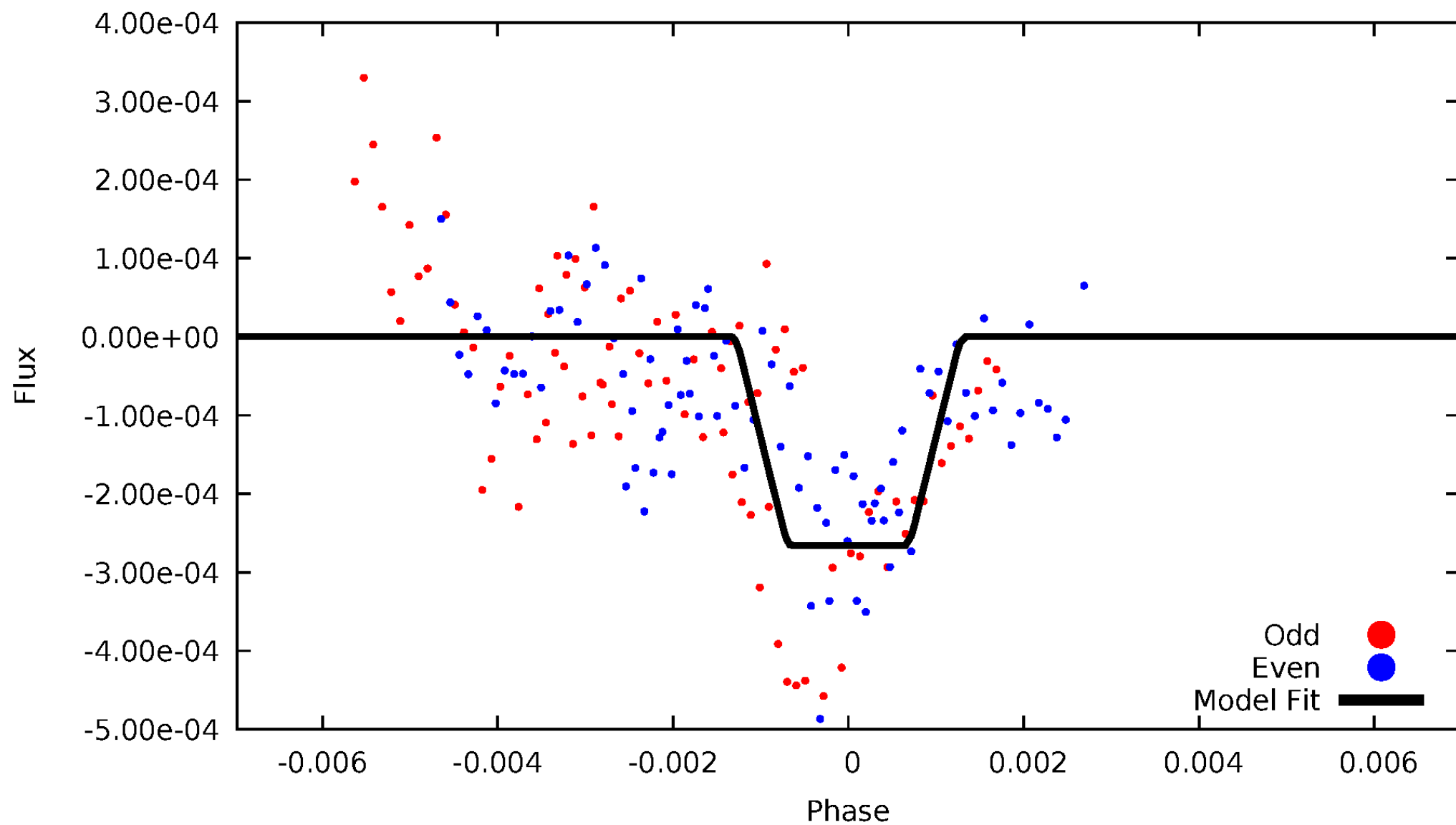
DV Odd/Even

TCE 009025557-05



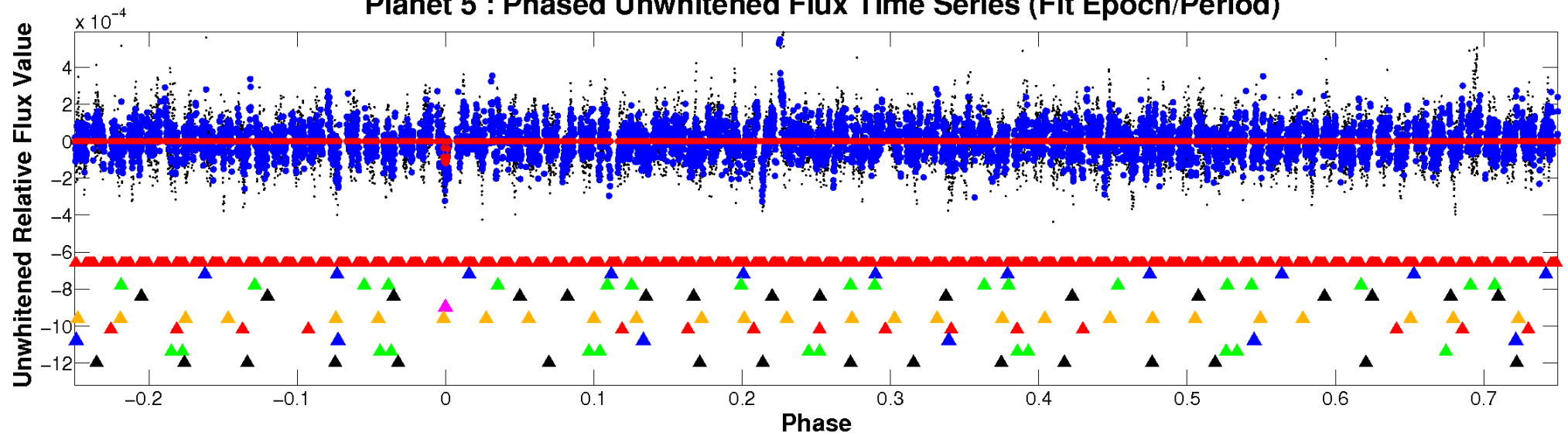
ALT Odd/Even

TCE 009025557-05

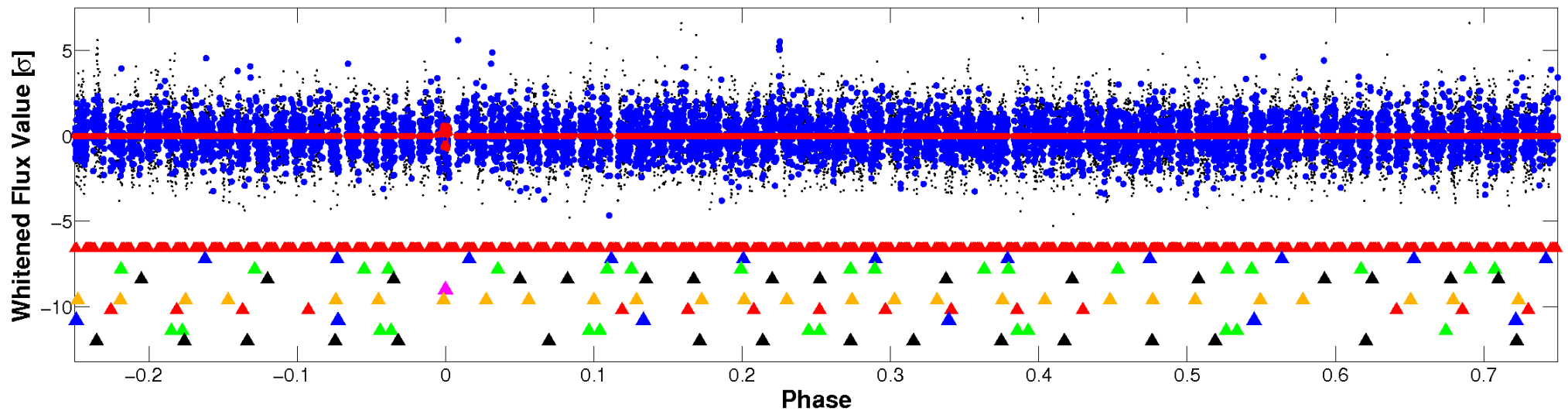


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

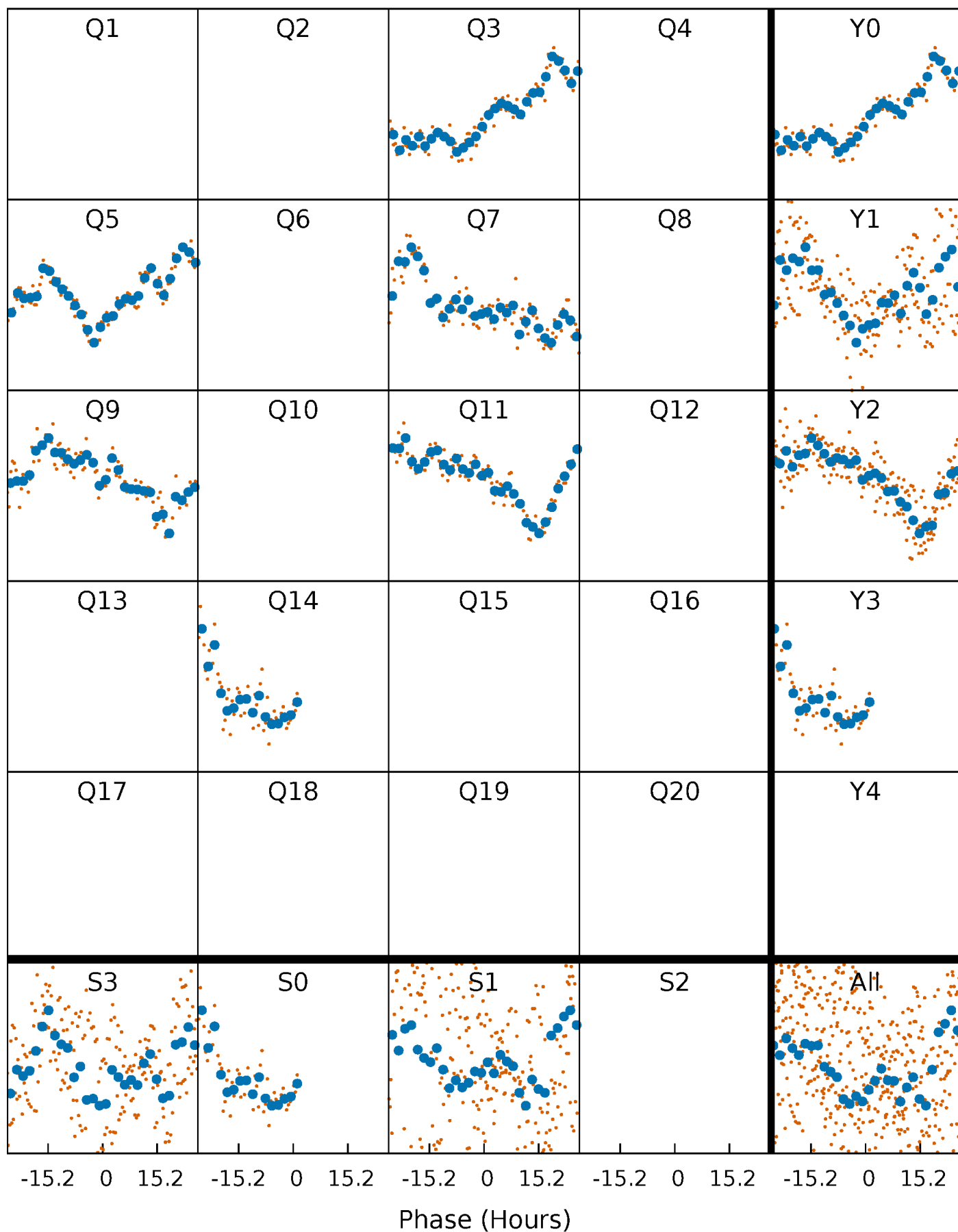


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



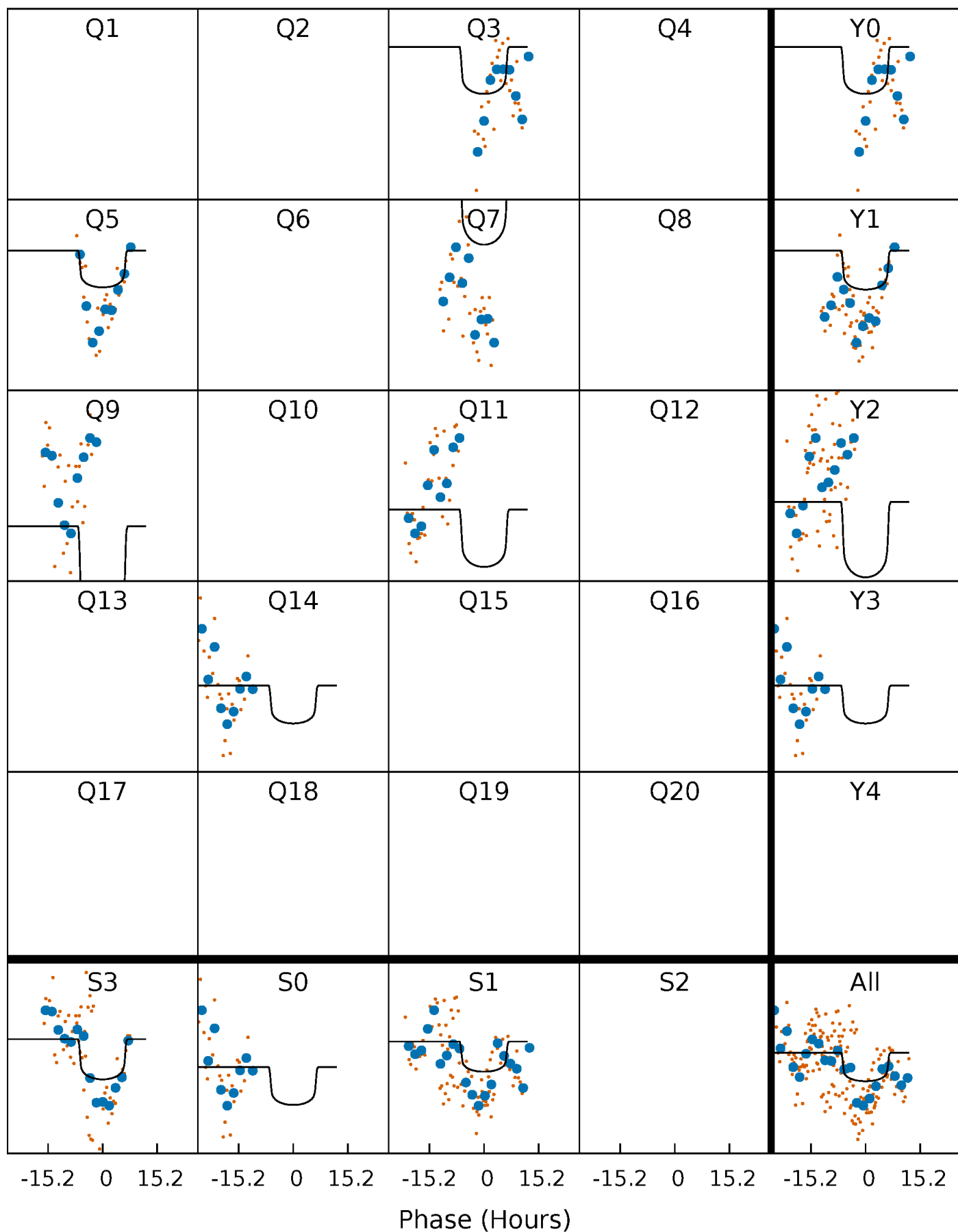
PDC Quarter-Phased Transit Curves

TCE 009025557-05 $P=196.904011$ Days $T_0=304.899359$ (BKJD)



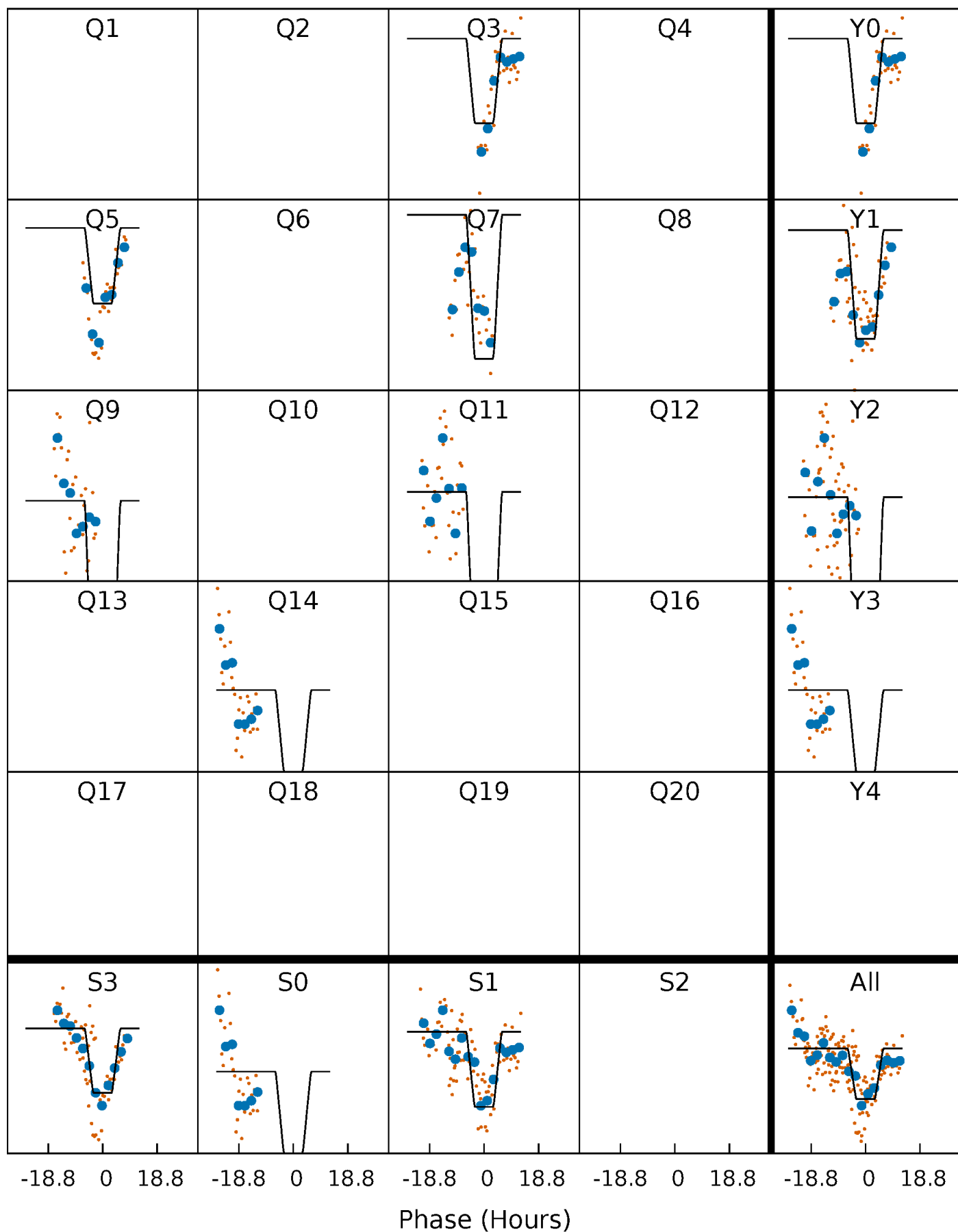
DV Quarter-Phased Transit Curves

TCE 009025557-05 $P=196.904011$ Days $T_0=304.899359$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

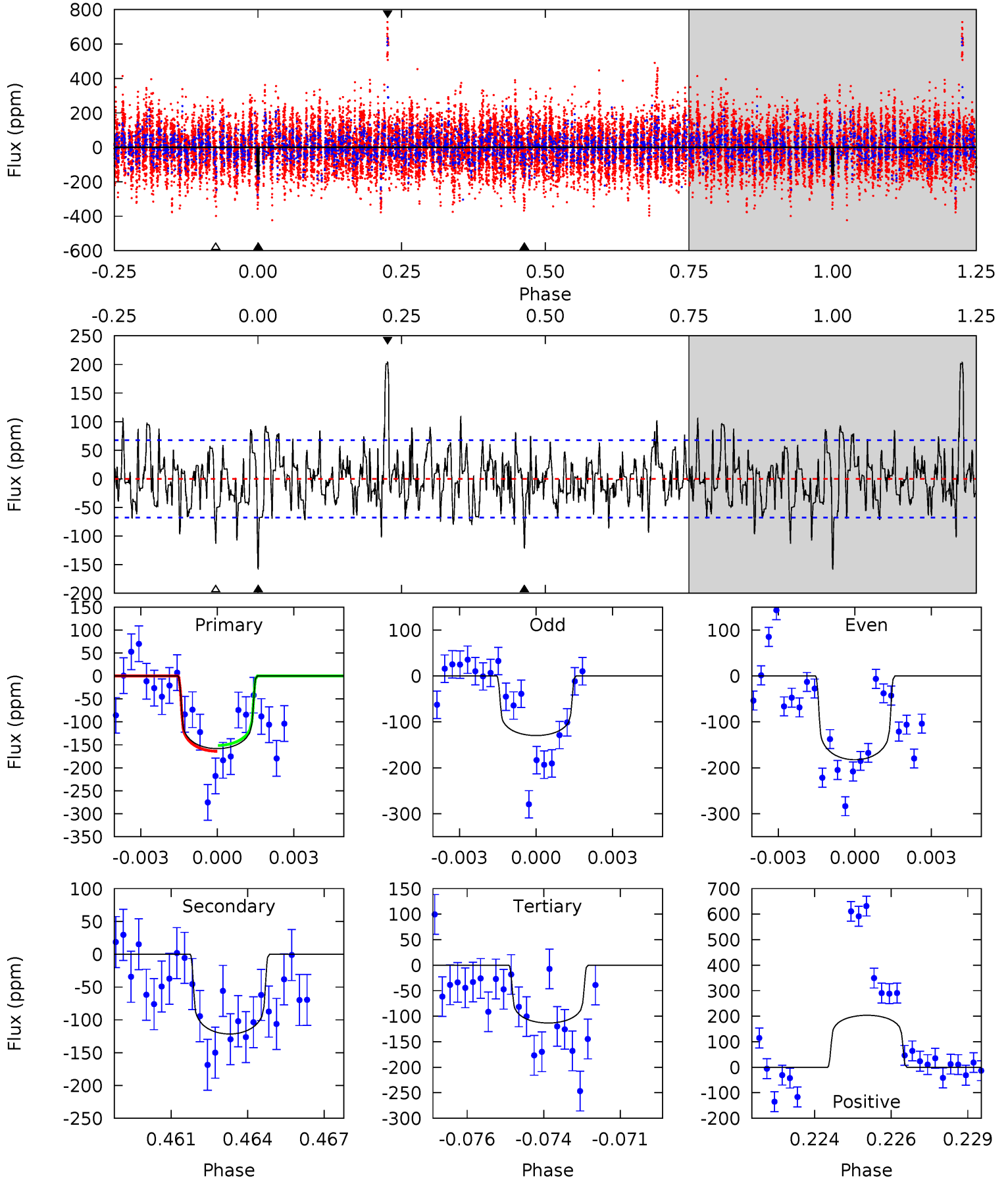
TCE 009025557-05 $P=196.911406$ Days $T_0=304.872424$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-05, P = 196.904011 Days, E = 107.995348 Days

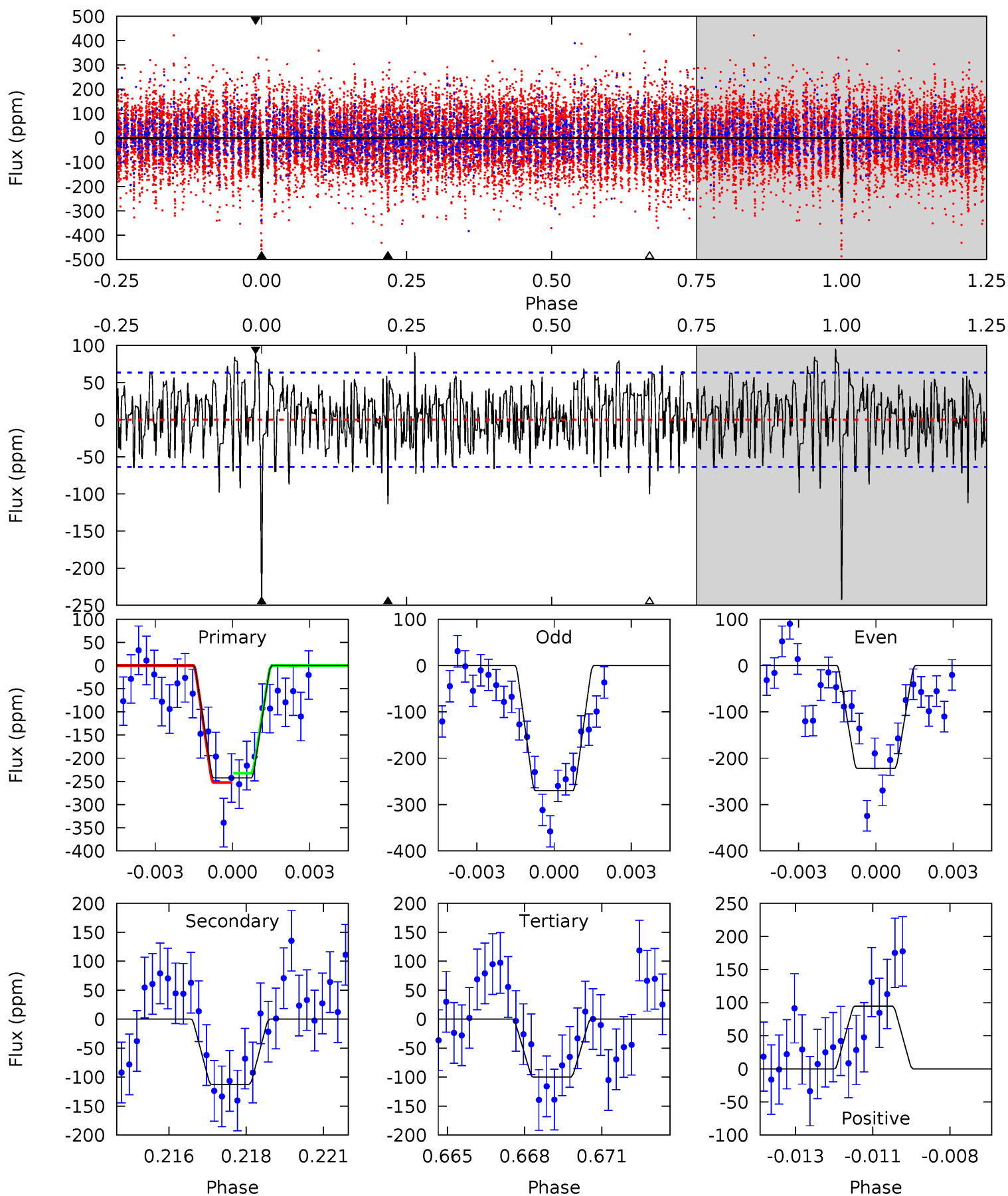
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	9.45	8.81	15.8	5.26	2.99	3.00	3.49	-3.53	0.64	-6.39	2.03	0.68	0.56	0.49



Alt Model-Shift Uniqueness Test

009025557-05, P = 196.911406 Days, E = 107.961018 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	9.34	8.29	7.85	5.28	3.01	2.51	11.8	12.3	1.04	1.48	2.00	0.89	0.28	0.84



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-122 ± 13	$2.61^{+0.82}_{-0.80}$	721^{+41}_{-66}	6624^{+1133}_{-767}	5007^{+4889}_{-2059}
Alt.	-113 ± 12	$3.71^{+0.87}_{-0.90}$	718^{+43}_{-59}	5443^{+556}_{-433}	2230^{+1674}_{-742}

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

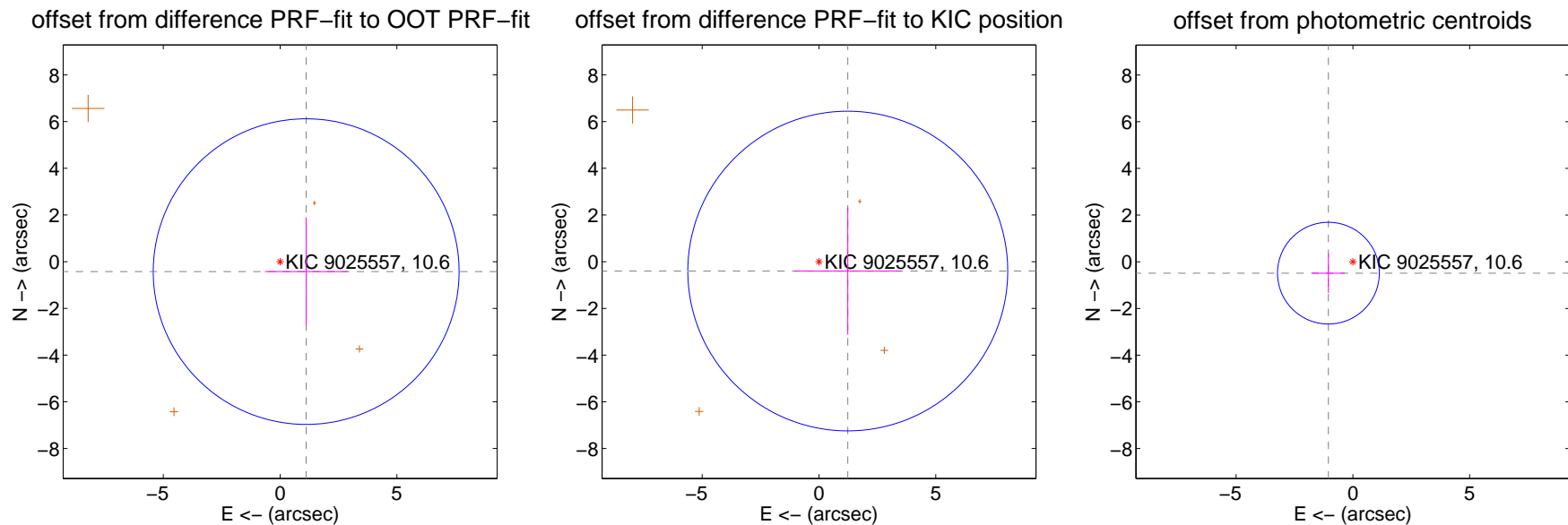
DV Centroid Data

Supplemental centroid analysis for 009025557-05. **Kepler magnitude: 10.60.** Transit SNR 5.26

There are 0 quarters with good PRF difference image offsets

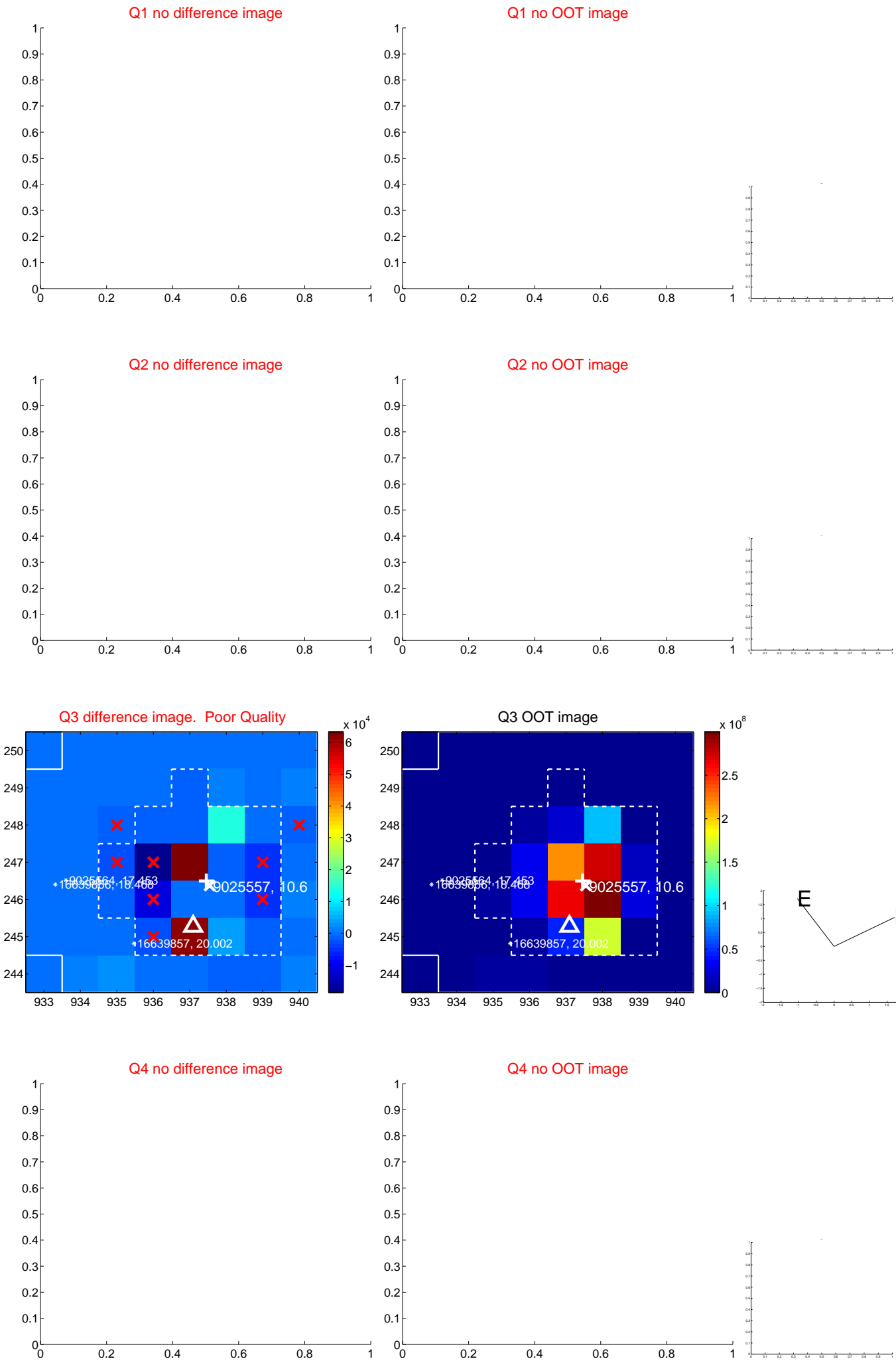
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.194 ± 2.181	0.55	-1.116 ± 1.769	-0.425 ± 2.323
PRF-fit source offset from KIC position	1.295 ± 2.282	0.57	-1.232 ± 2.290	-0.400 ± 2.727
photometric centroid source offset	1.15 ± 0.73	1.59	1.05 ± 0.70	-0.49 ± 0.85

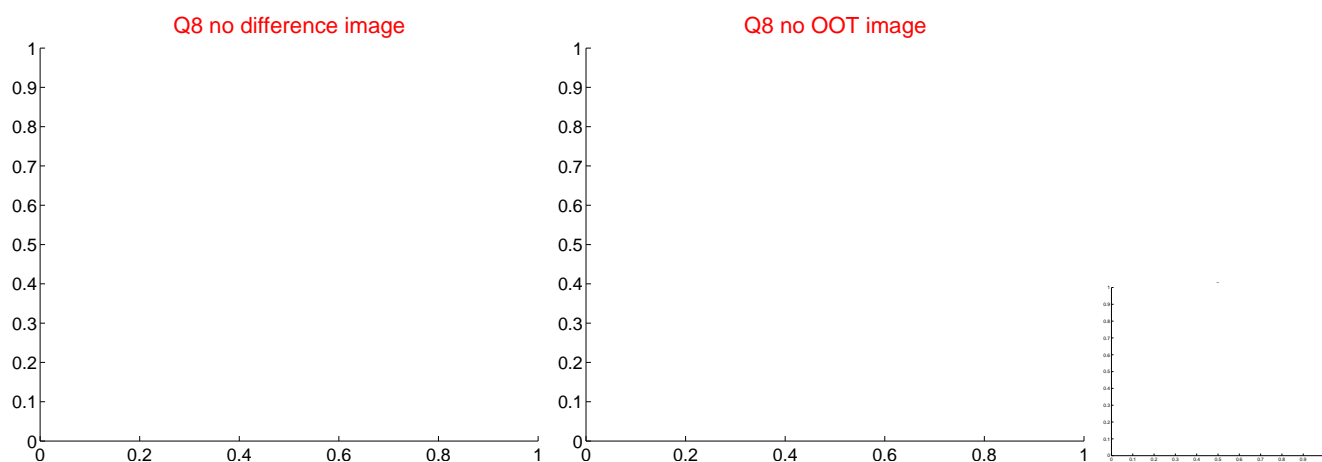
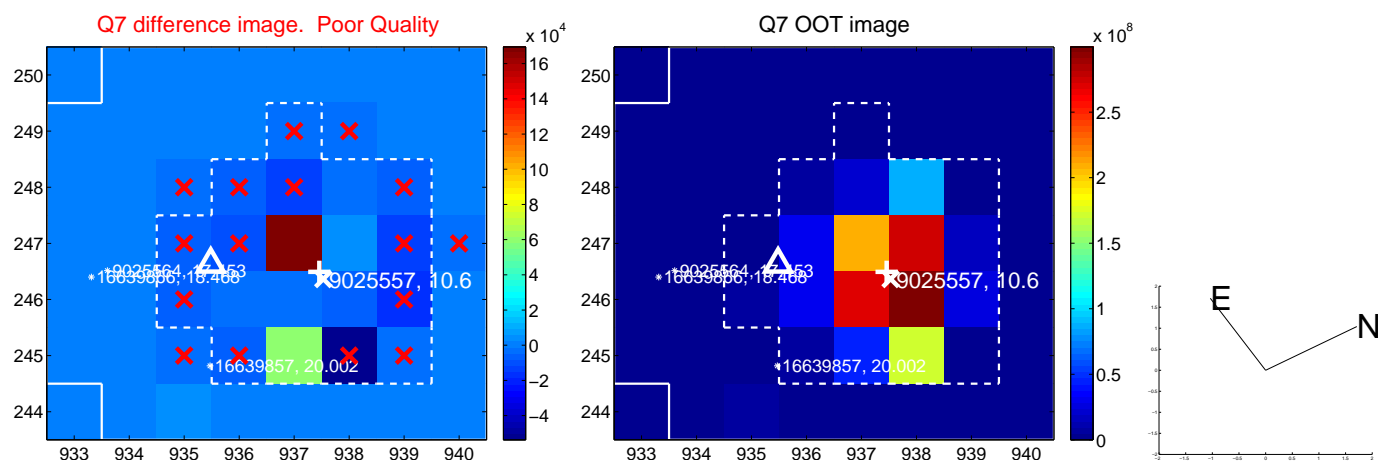
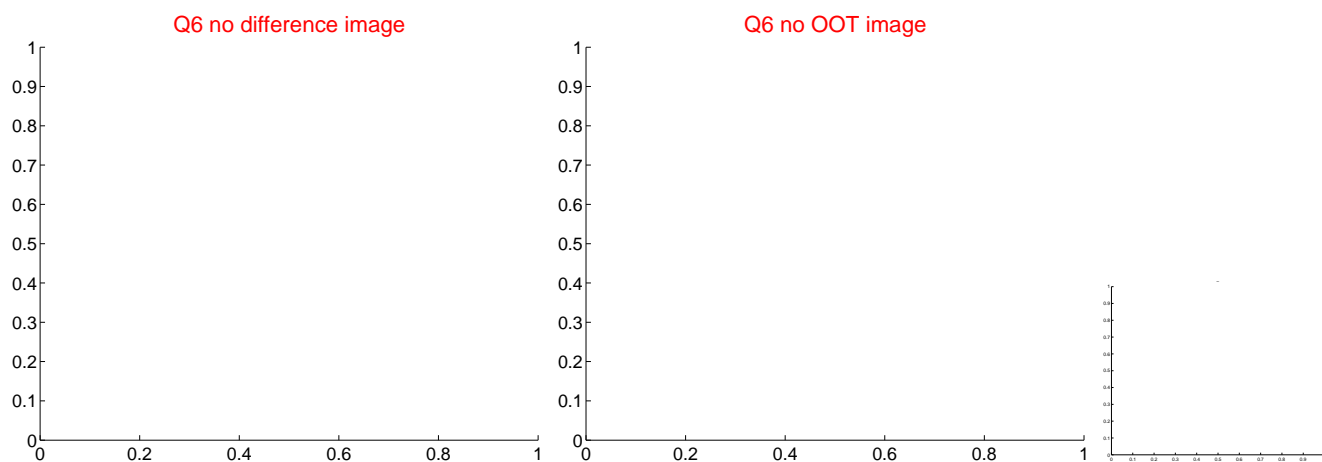
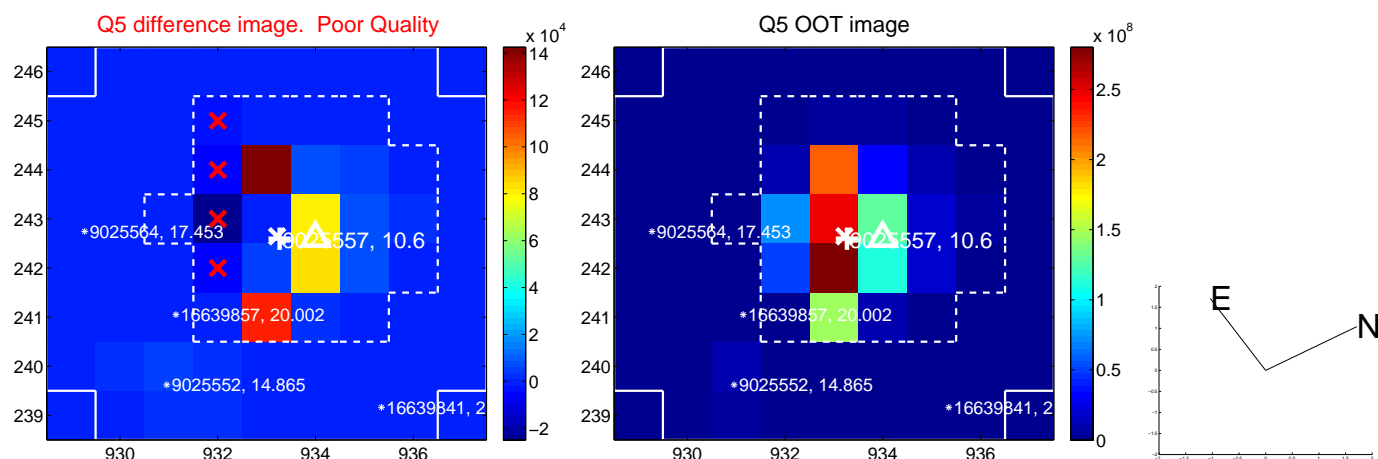


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

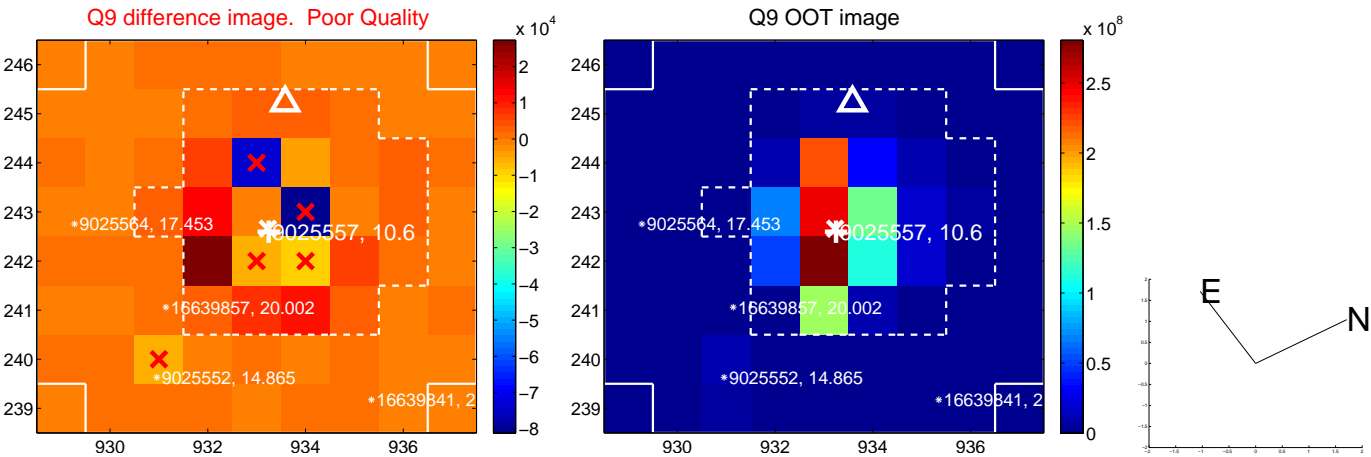
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



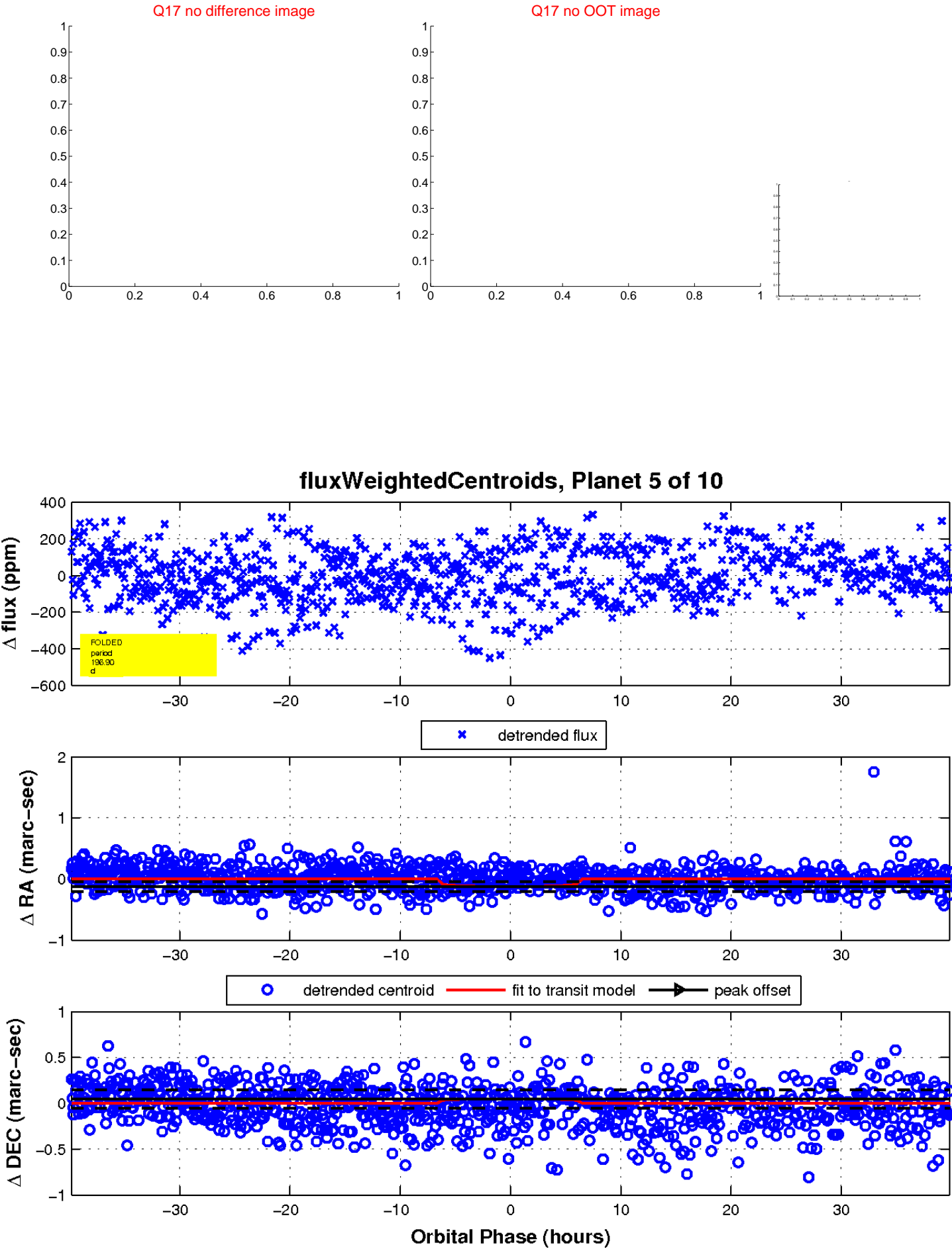
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

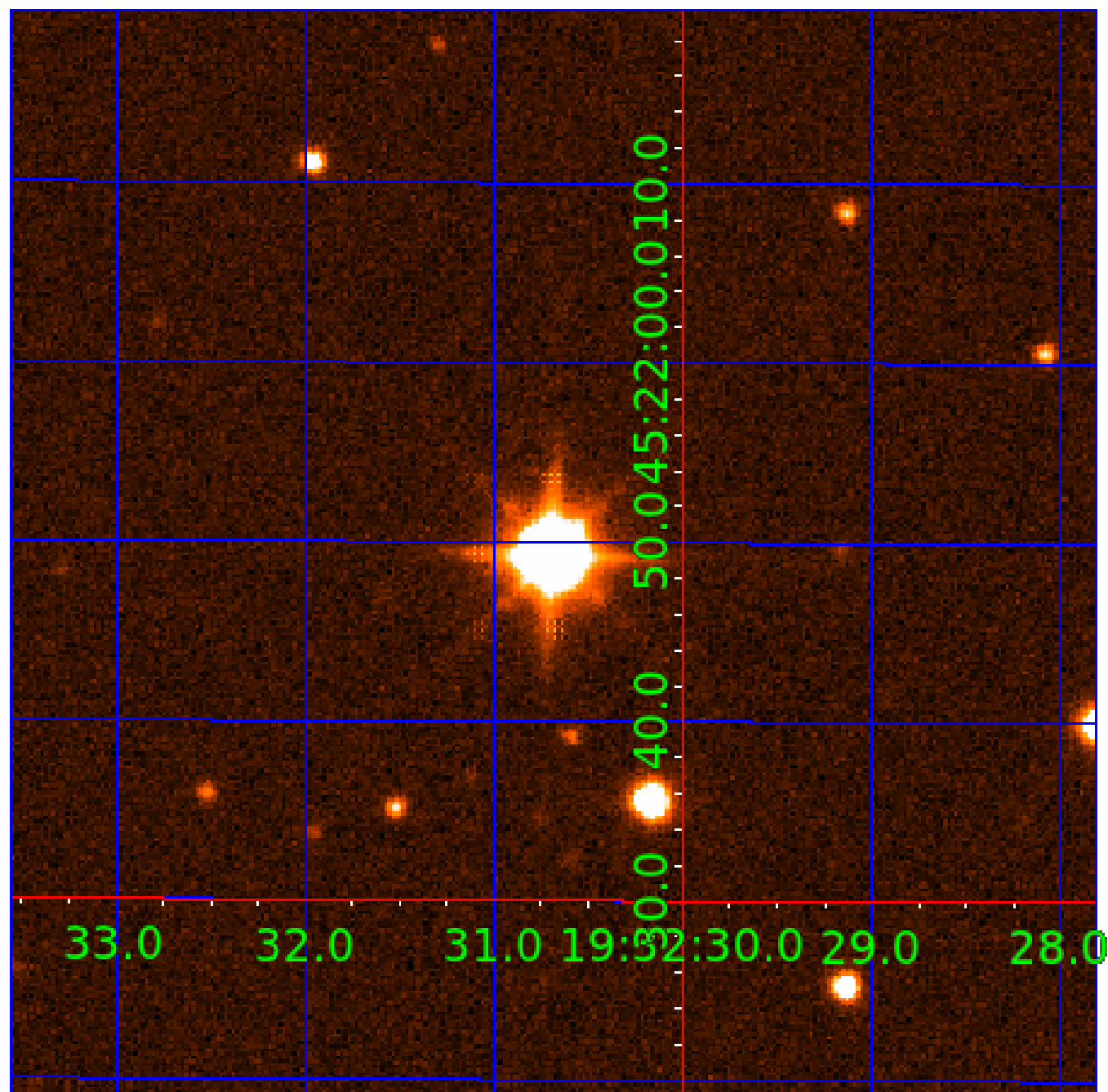


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

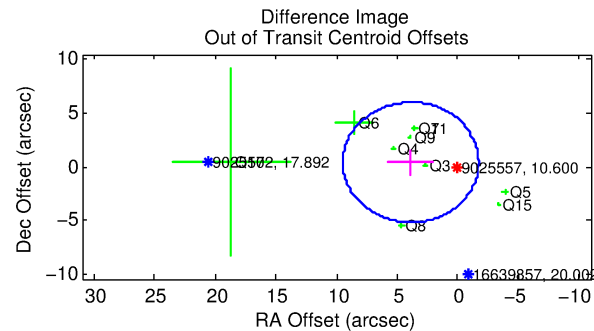
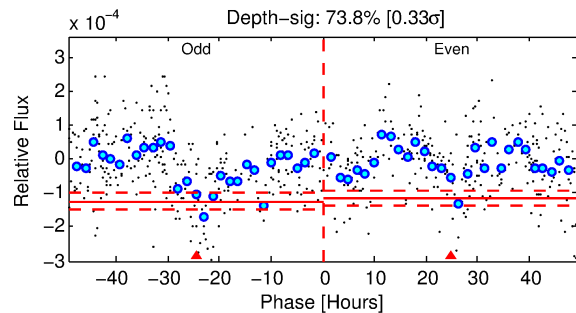
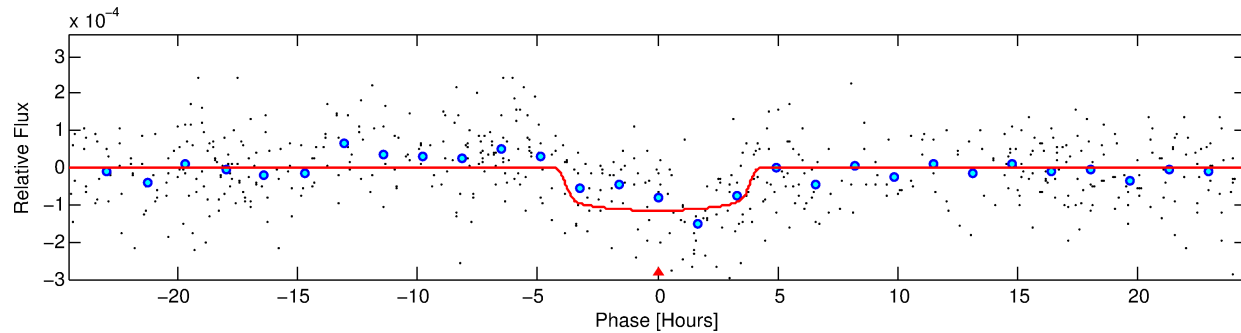
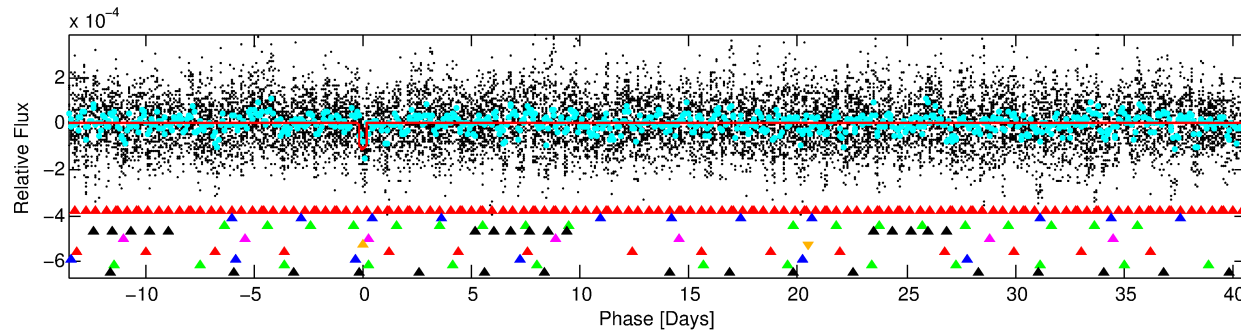
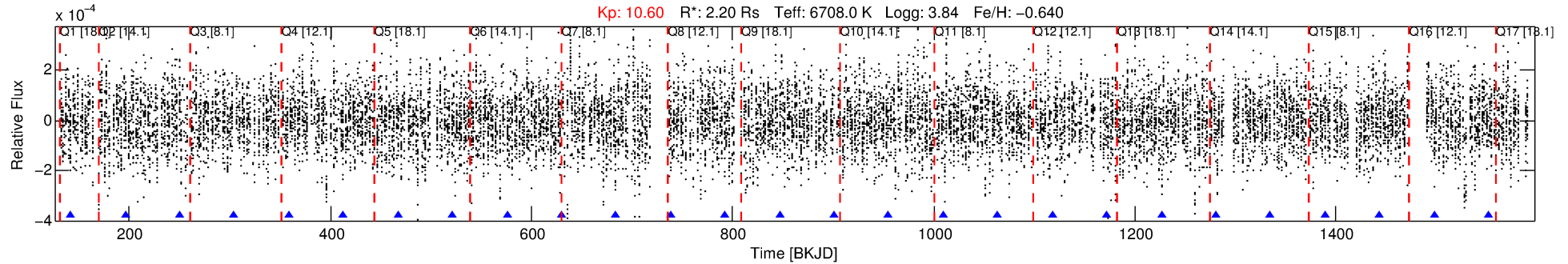
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-06

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 6 of 10 Period: 54.215 d



DV Fit Results:

Period = 54.21457 [0.00065] d
Epoch = 142.0098 [0.0107] BKJD
Rp/R* = 0.0114 [0.0021]
a/R* = 23.55 [22.28]
b = 0.90 [0.21]
Seff = 98.31 [53.32]
Teq = 803 [109] K
Rp = 2.74 [1.09] Re
a = 0.2987 [0.0998] AU
Ag = 448.95 [330.56] [1.36 σ]
Teffp = 5714 [753] K [6.46 σ]

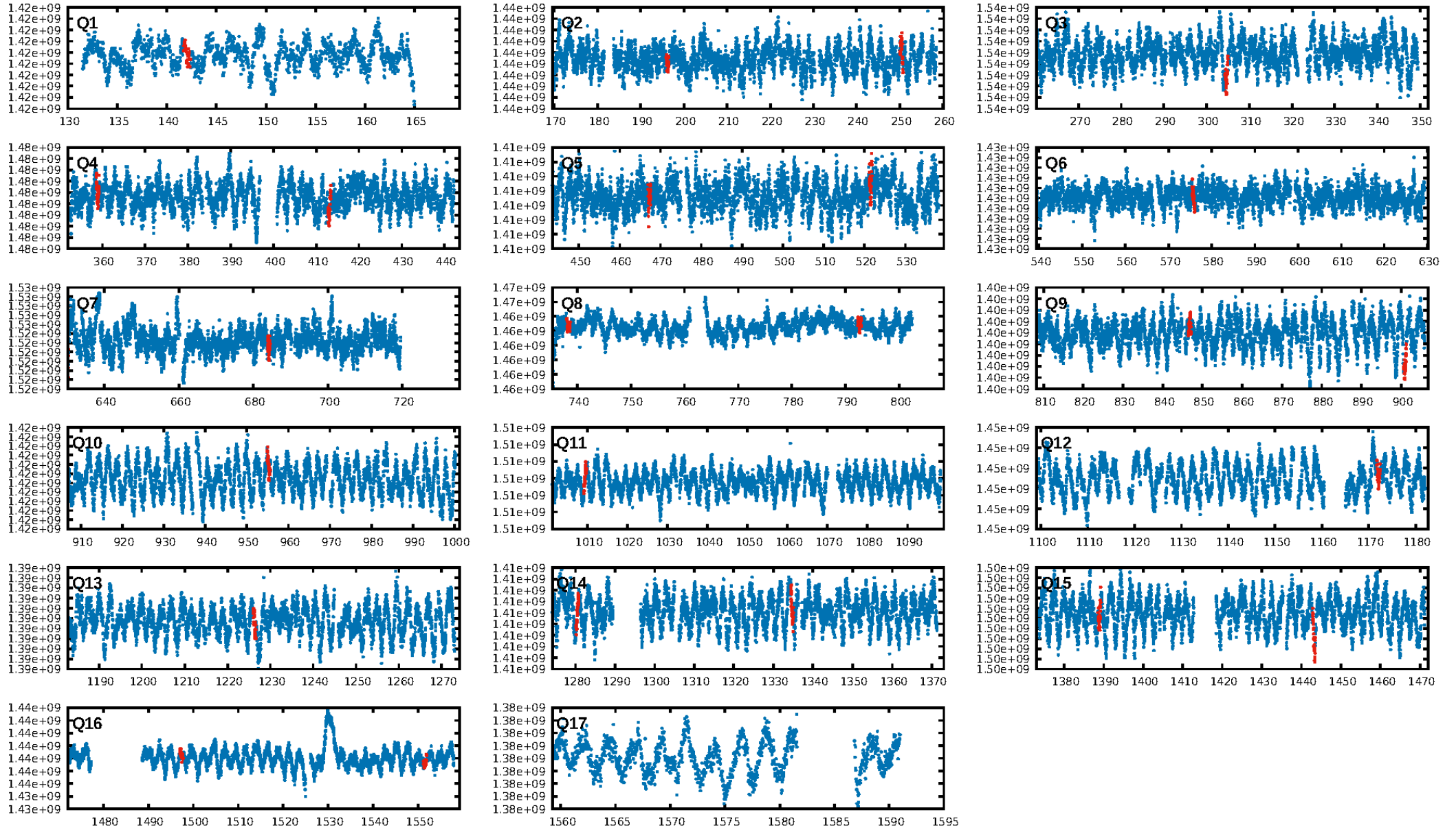
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [76.65 σ]
LongPeriod-sig: 100.0% [51.56 σ]
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 7.038
Centroid-sig: 1.7%
Centroid-so: 0.634 arcsec [1.35 σ]
OotOffset-rm: 3.898 arcsec [2.08 σ]
KicOffset-rm: 4.052 arcsec [2.11 σ]
OotOffset-st: 2/4/2/2 [10]
KicOffset-st: 2/4/2/2 [10]
DiffImageQuality-fgm: 0.30 [3/10]
DiffImageOverlap-fno: 0.36 [5/14]

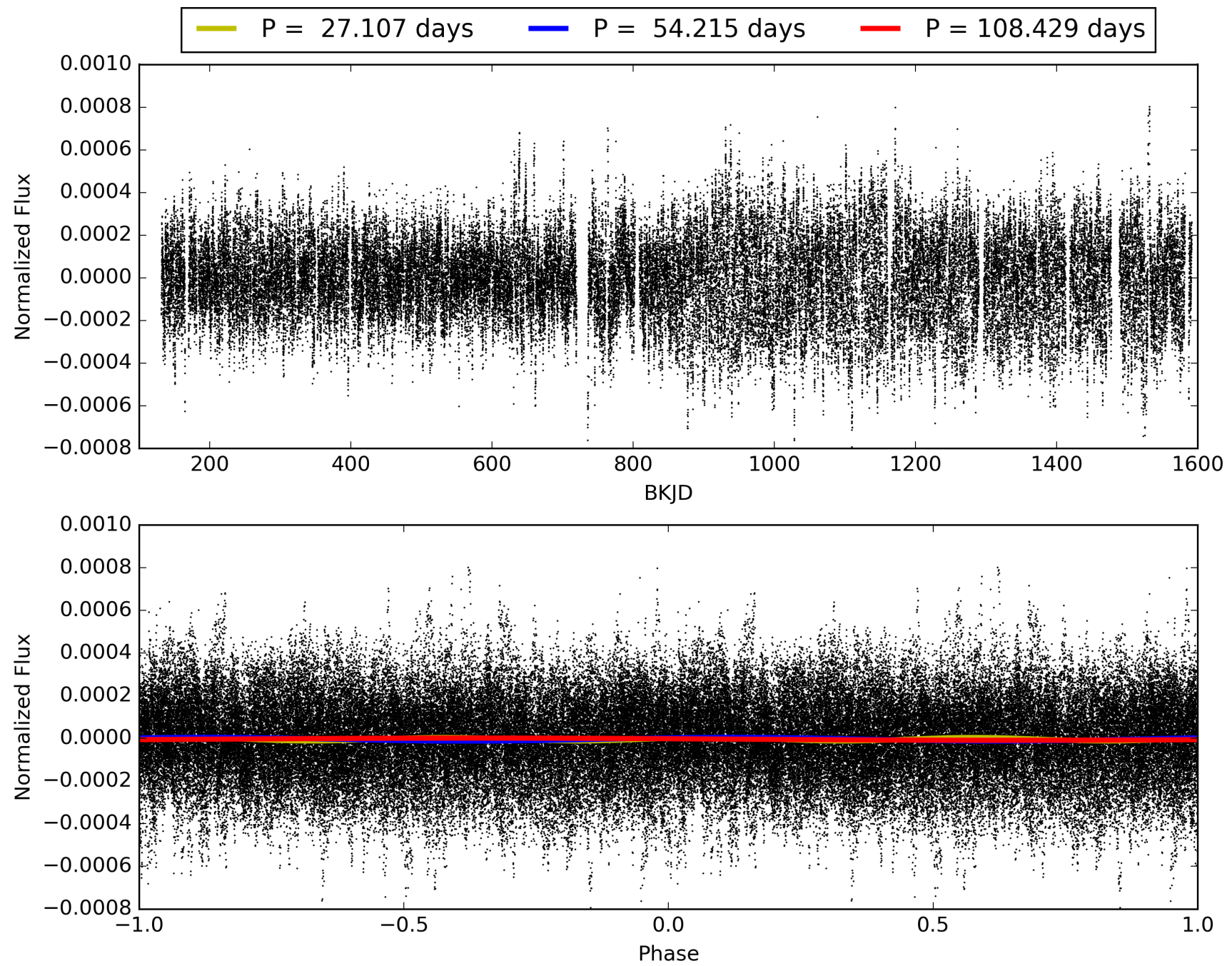
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:27 Z

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

TCE 009025557-06, PDC Light Curves

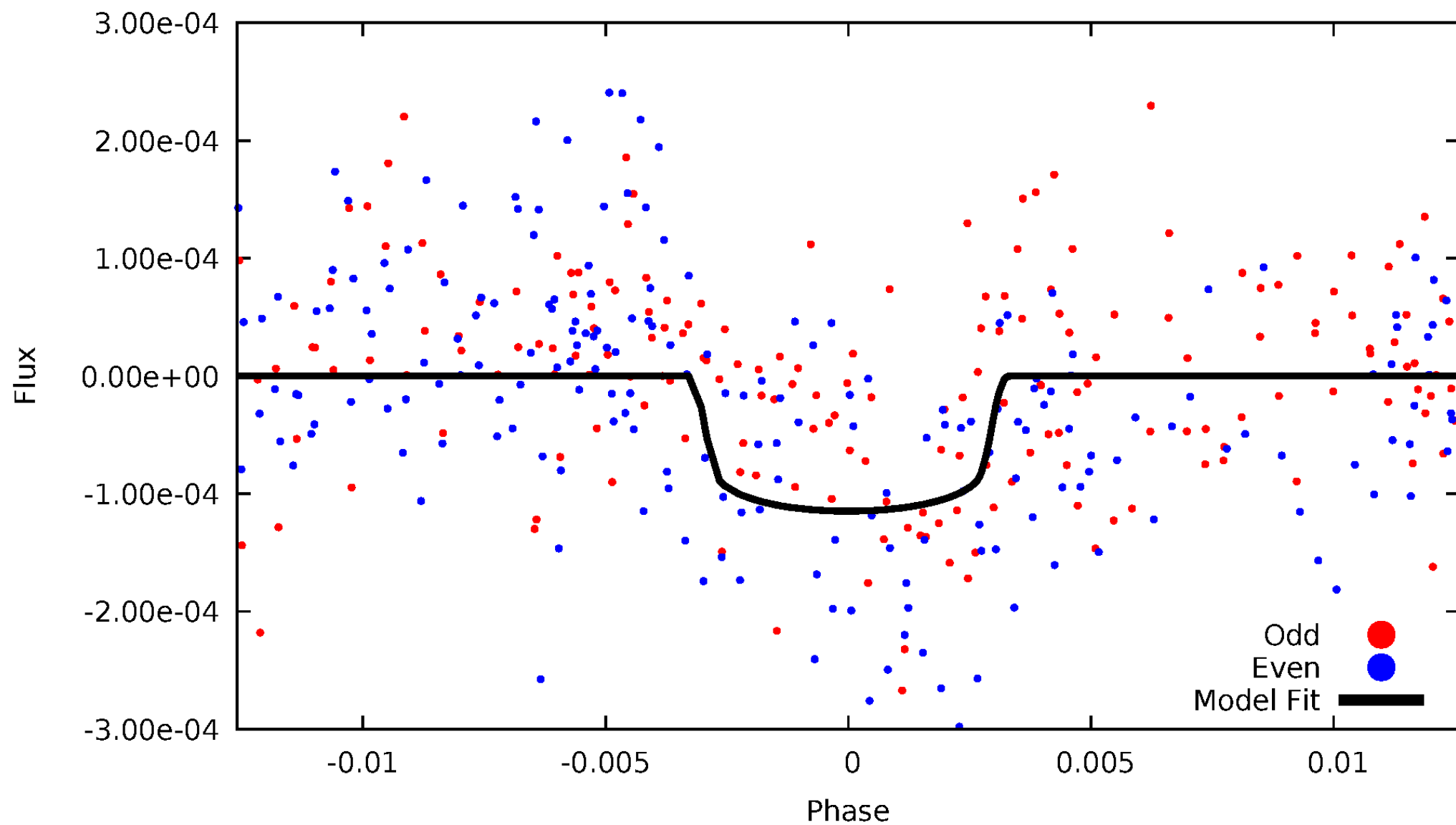


TCE 009025557-06



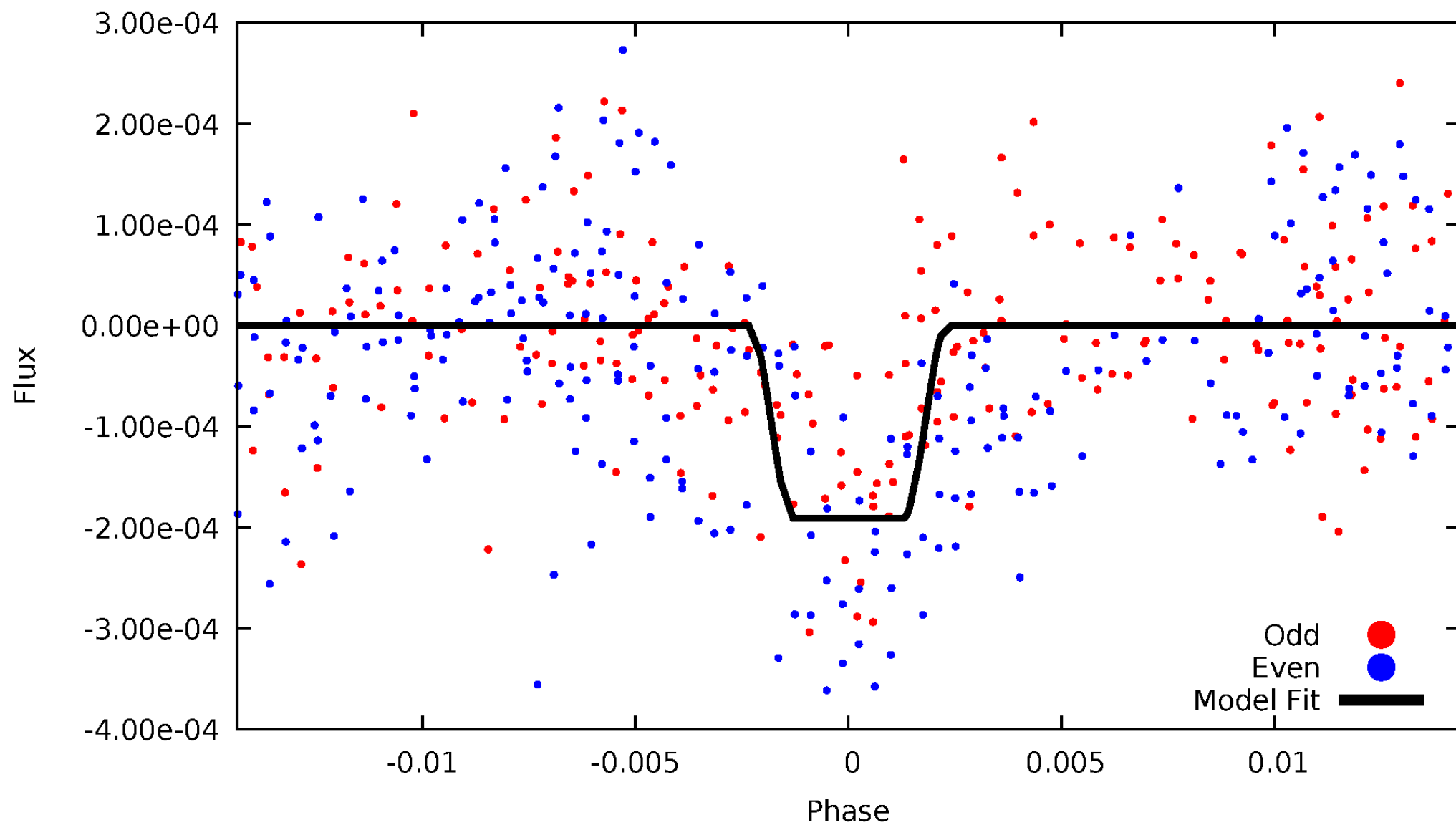
DV Odd/Even

TCE 009025557-06



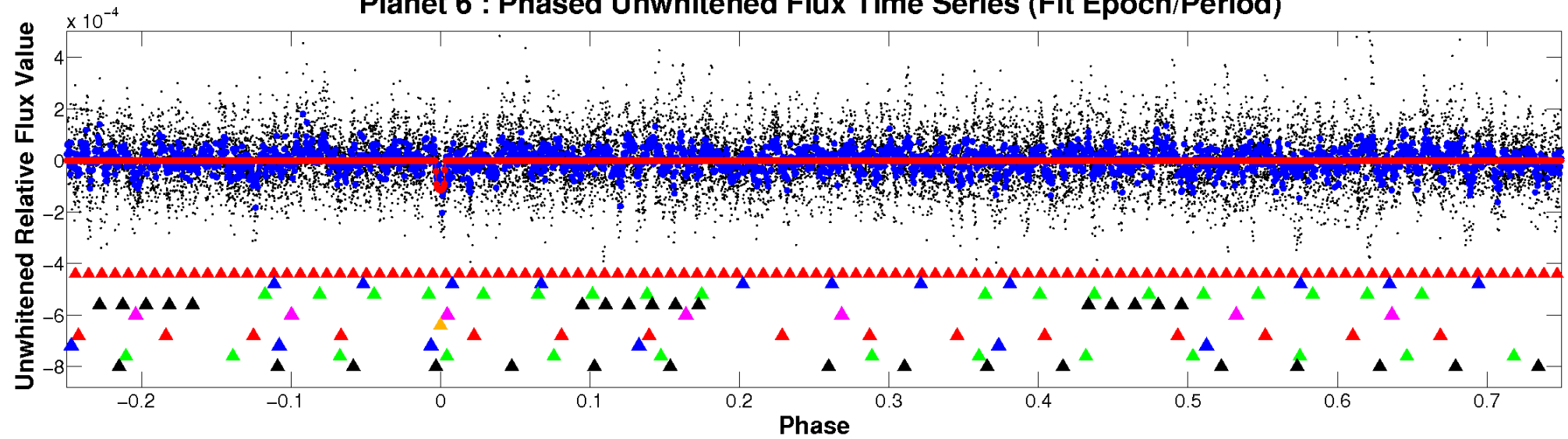
ALT Odd/Even

TCE 009025557-06

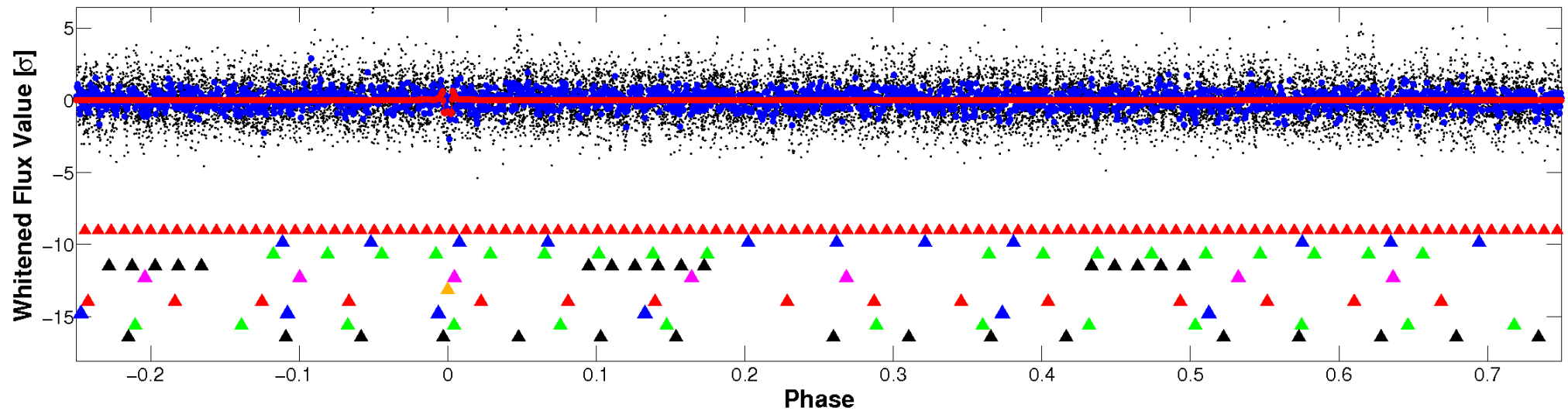


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

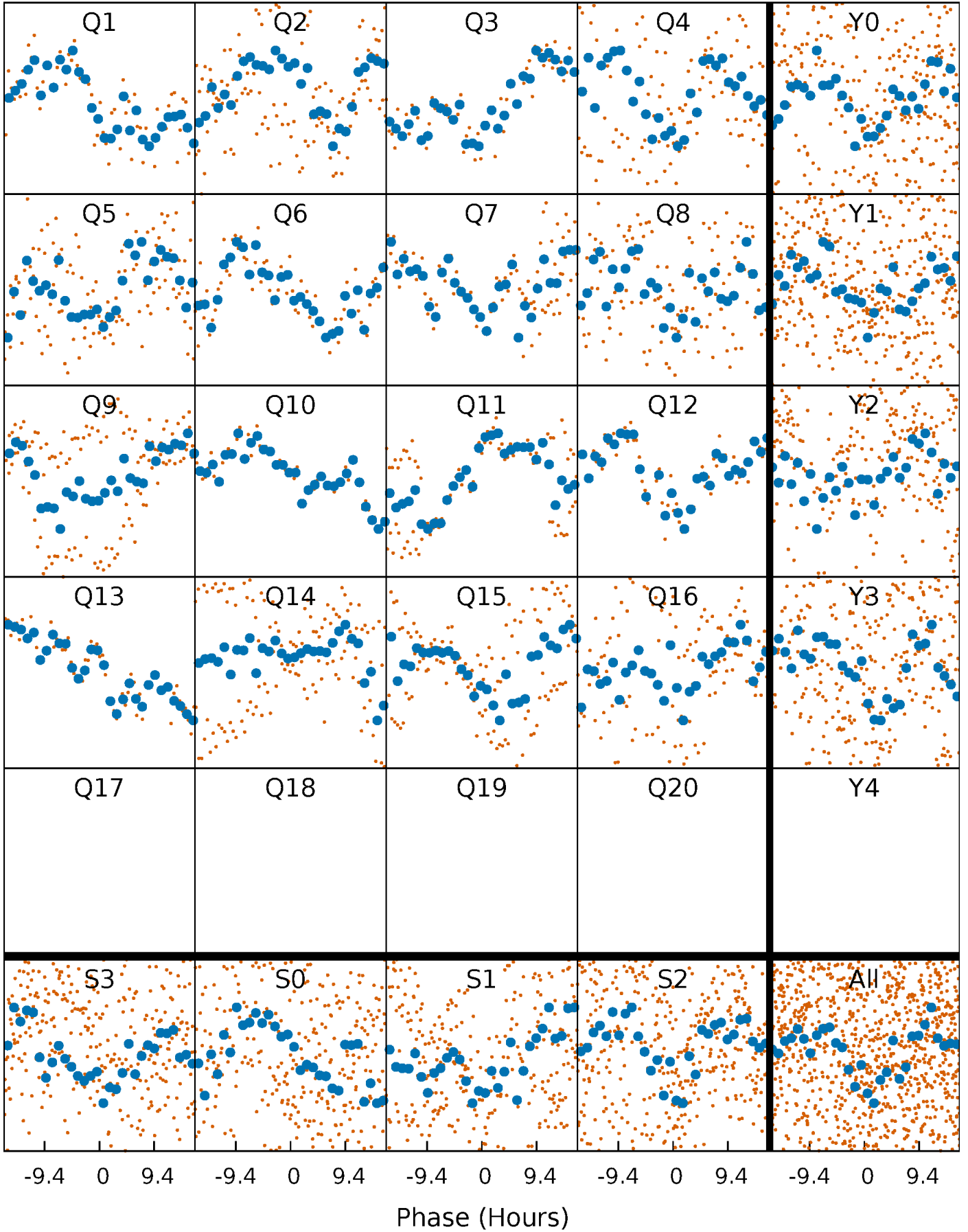


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



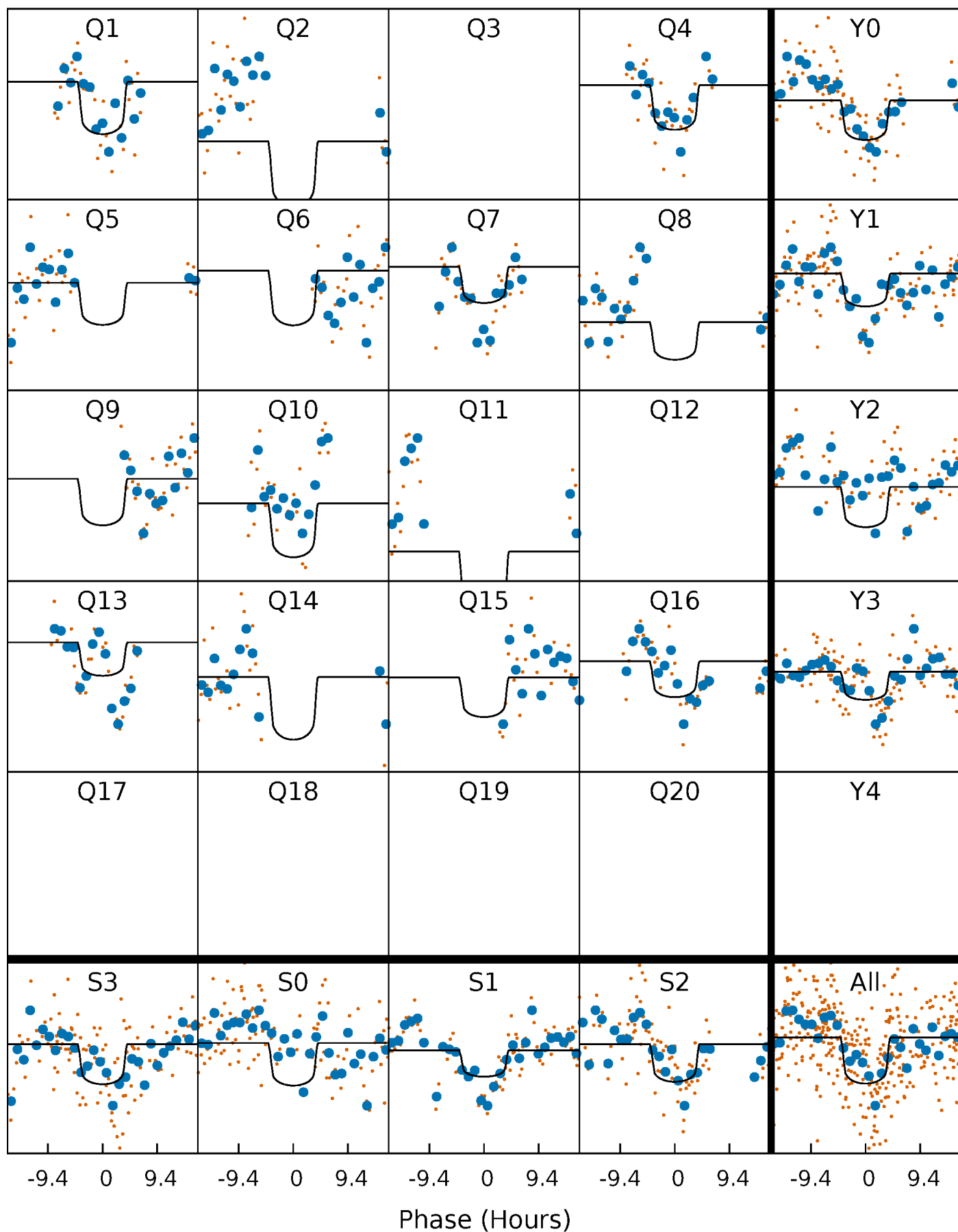
PDC Quarter-Phased Transit Curves

TCE 009025557-06 P= 54.214569 Days $T_0=142.009760$ (BKJD)



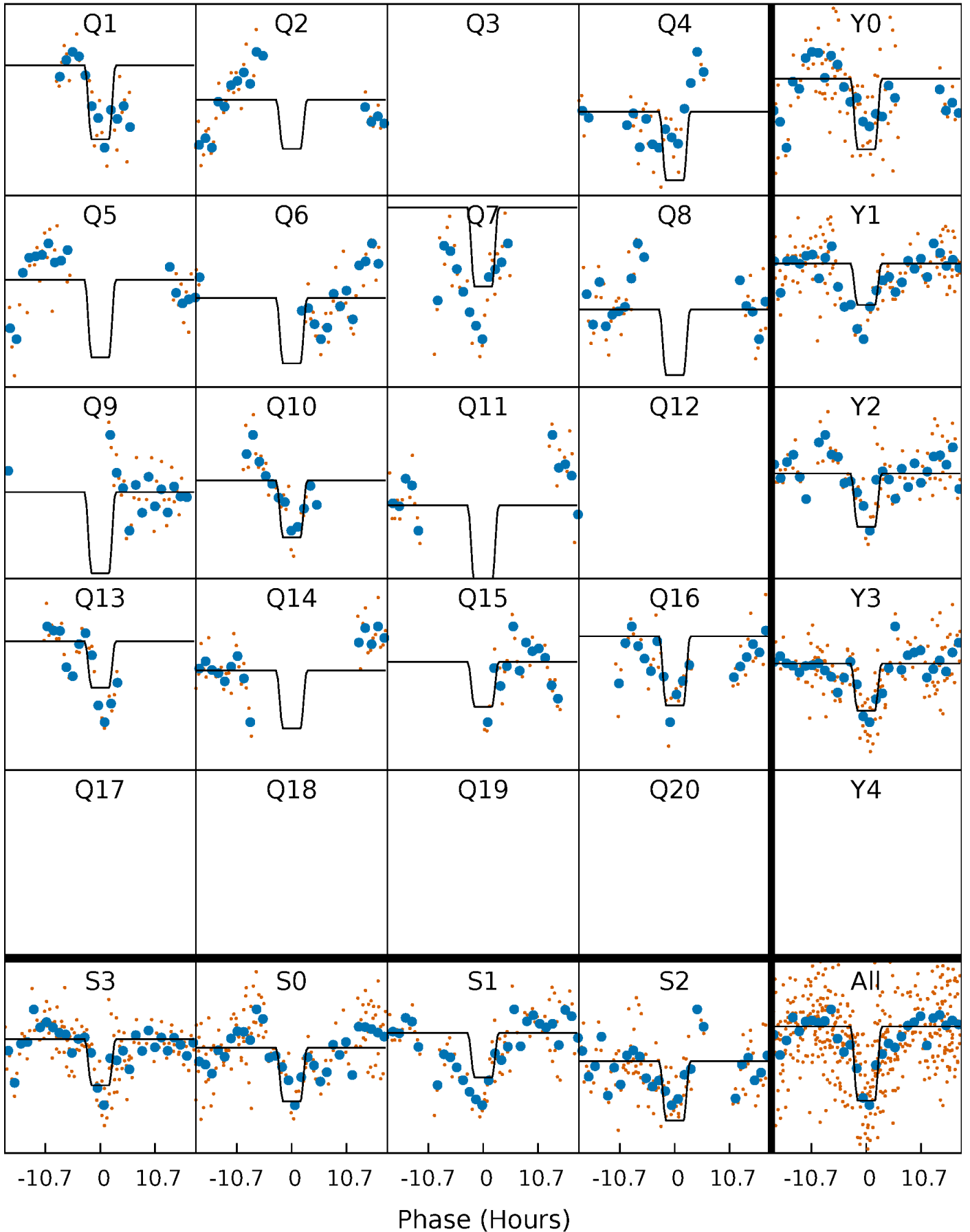
DV Quarter-Phased Transit Curves

TCE 009025557-06 P= 54.214569 Days $T_0=142.009760$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

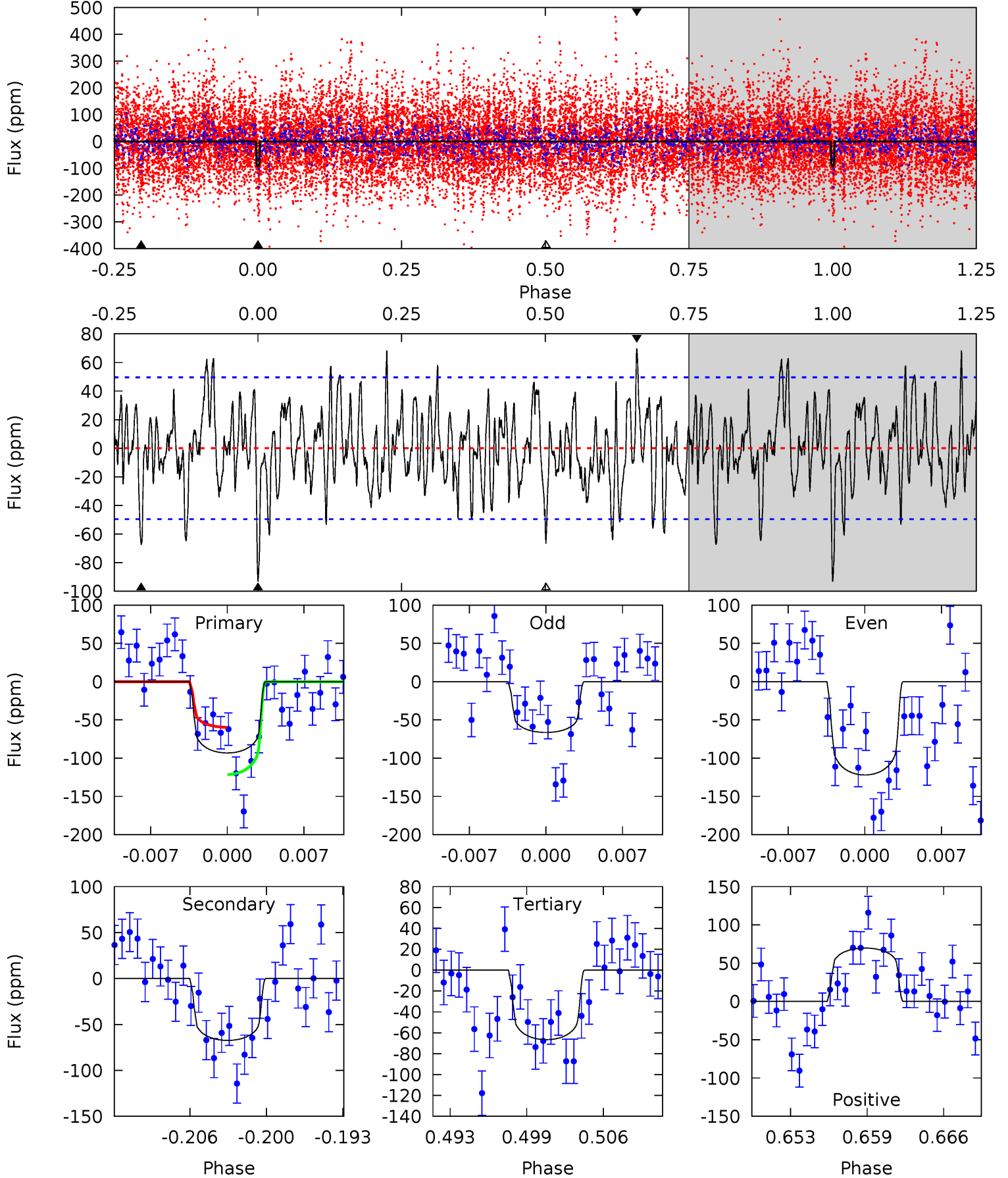
TCE 009025557-06 P= 54.218488 Days $T_0=142.021854$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-06, P = 54.214569 Days, E = 87.795191 Days

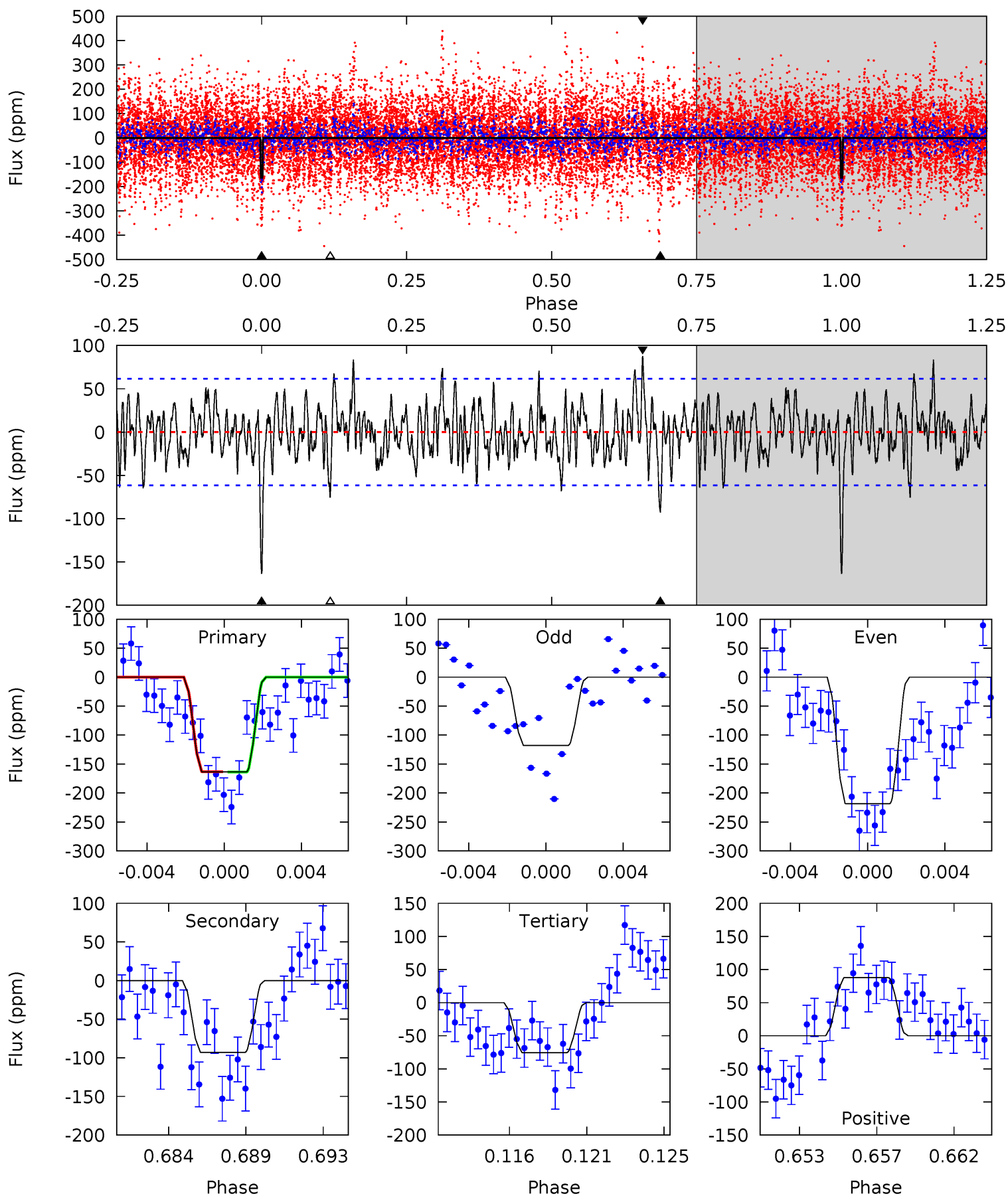
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.59	6.94	6.85	7.18	5.10	2.71	2.45	2.74	2.42	0.08	-0.24	2.86	0.87	0.43	3.16



Alt Model-Shift Uniqueness Test

009025557-06, P = 54.218488 Days, E = 87.803366 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	7.82	6.36	7.38	5.18	2.84	2.14	7.41	6.38	1.47	0.44	4.21	0.79	0.35	0.03



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-67 ± 10	$2.65^{+0.64}_{-0.61}$	1108^{+66}_{-96}	5652^{+619}_{-474}	468^{+321}_{-169}
Alt.	-93 ± 12	$3.19^{+0.71}_{-0.75}$	1097^{+73}_{-96}	5570^{+486}_{-412}	448^{+288}_{-143}

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

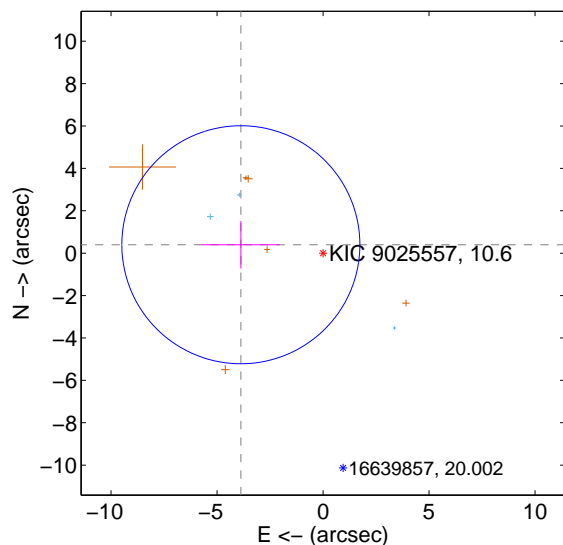
Supplemental centroid analysis for 009025557-06. **Kepler magnitude: 10.60.** Transit SNR 9.05

There are 3 quarters with good PRF difference image offsets

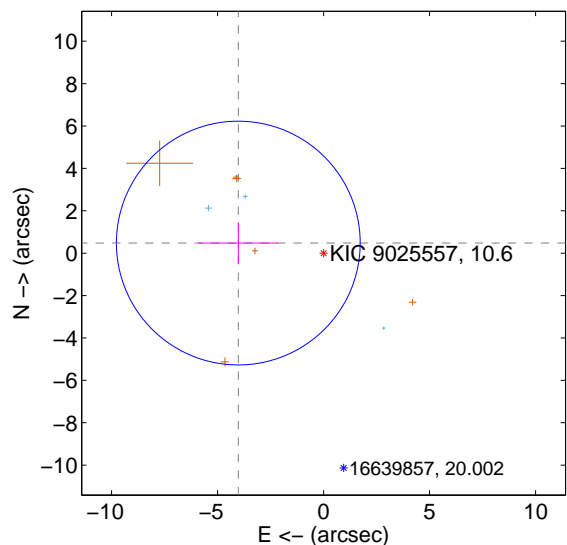
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.898 ± 1.872	2.08	3.877 ± 1.839	0.397 ± 1.125
PRF-fit source offset from KIC position	4.052 ± 1.917	2.11	4.024 ± 1.885	0.477 ± 0.979
photometric centroid source offset	0.63 ± 0.47	1.35	-0.15 ± 0.42	0.62 ± 0.47

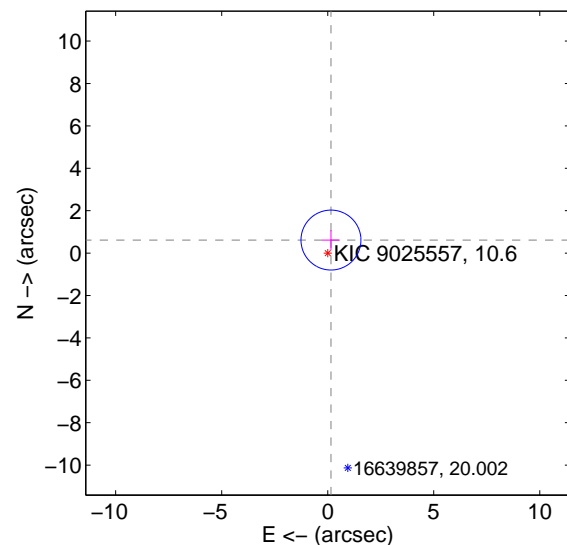
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

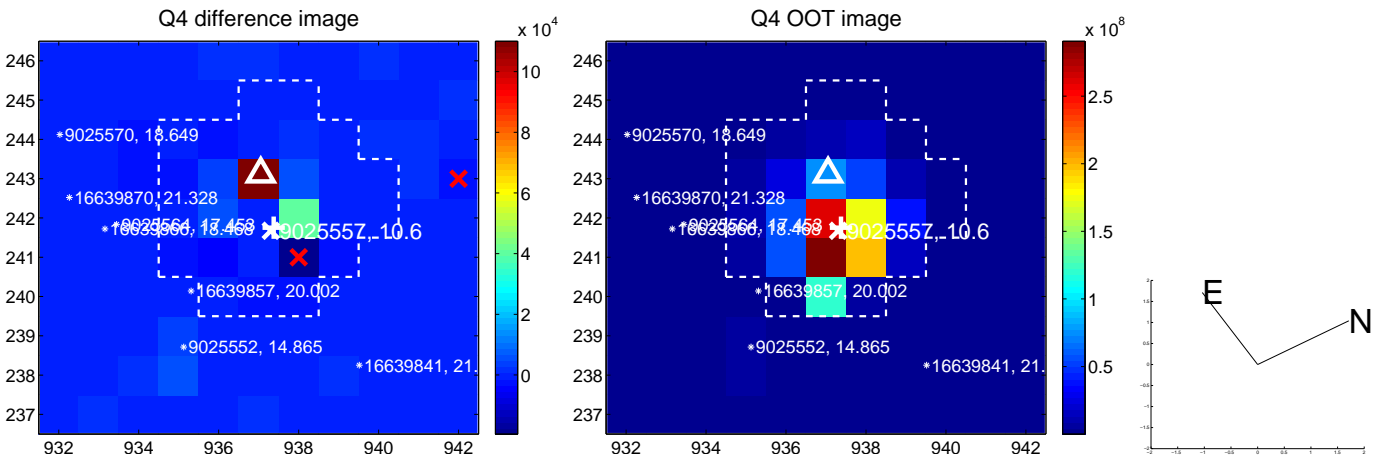
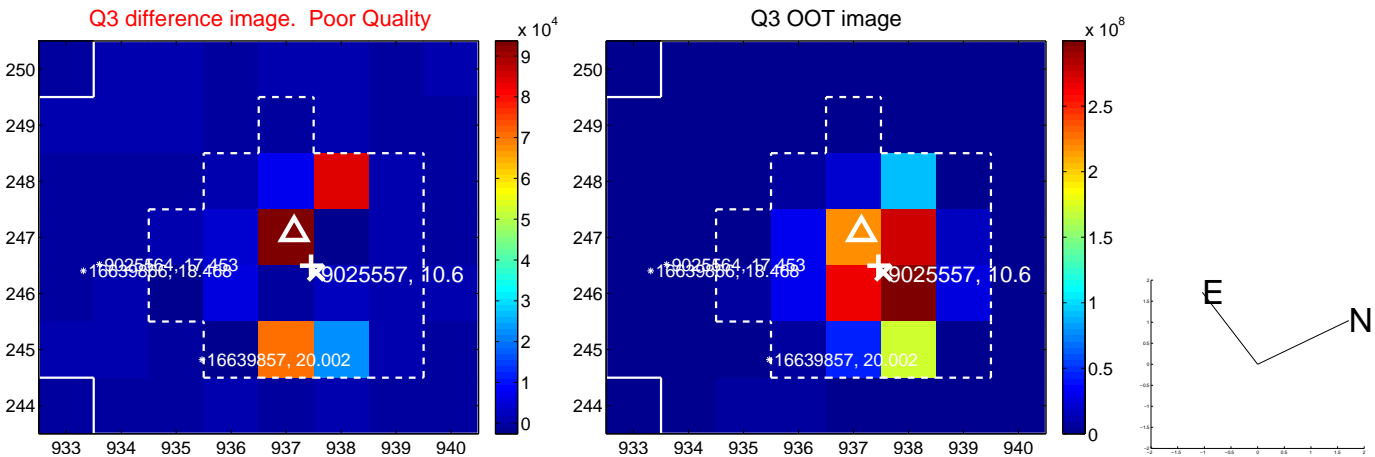
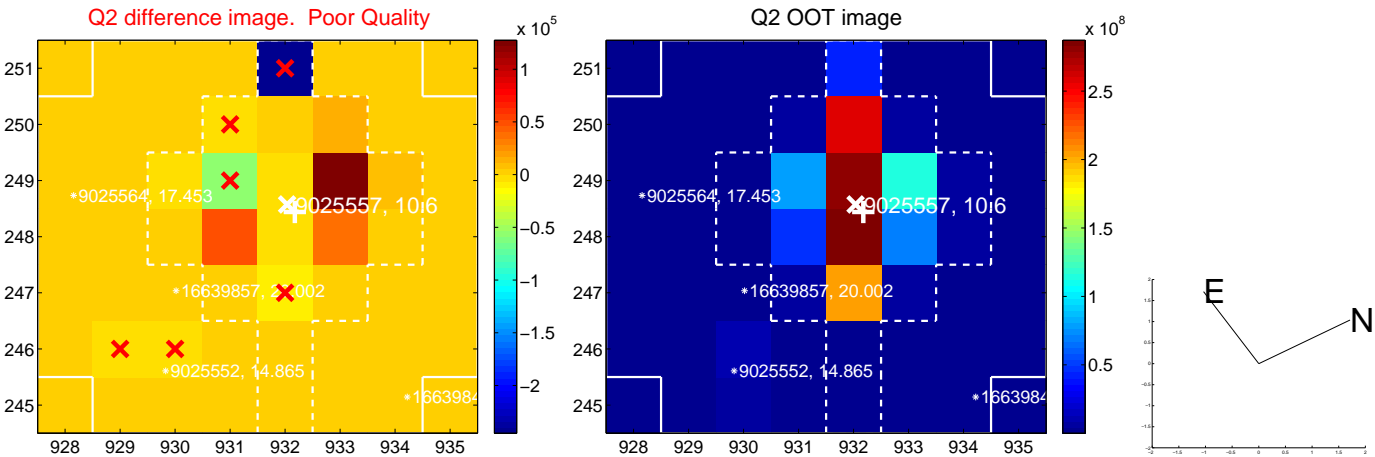
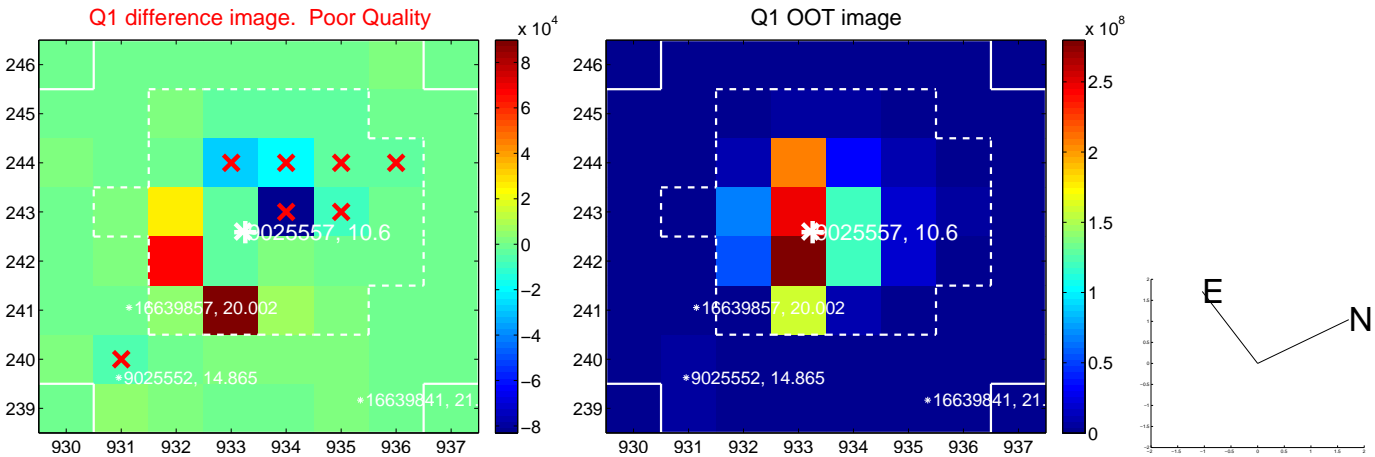


offset from photometric centroids

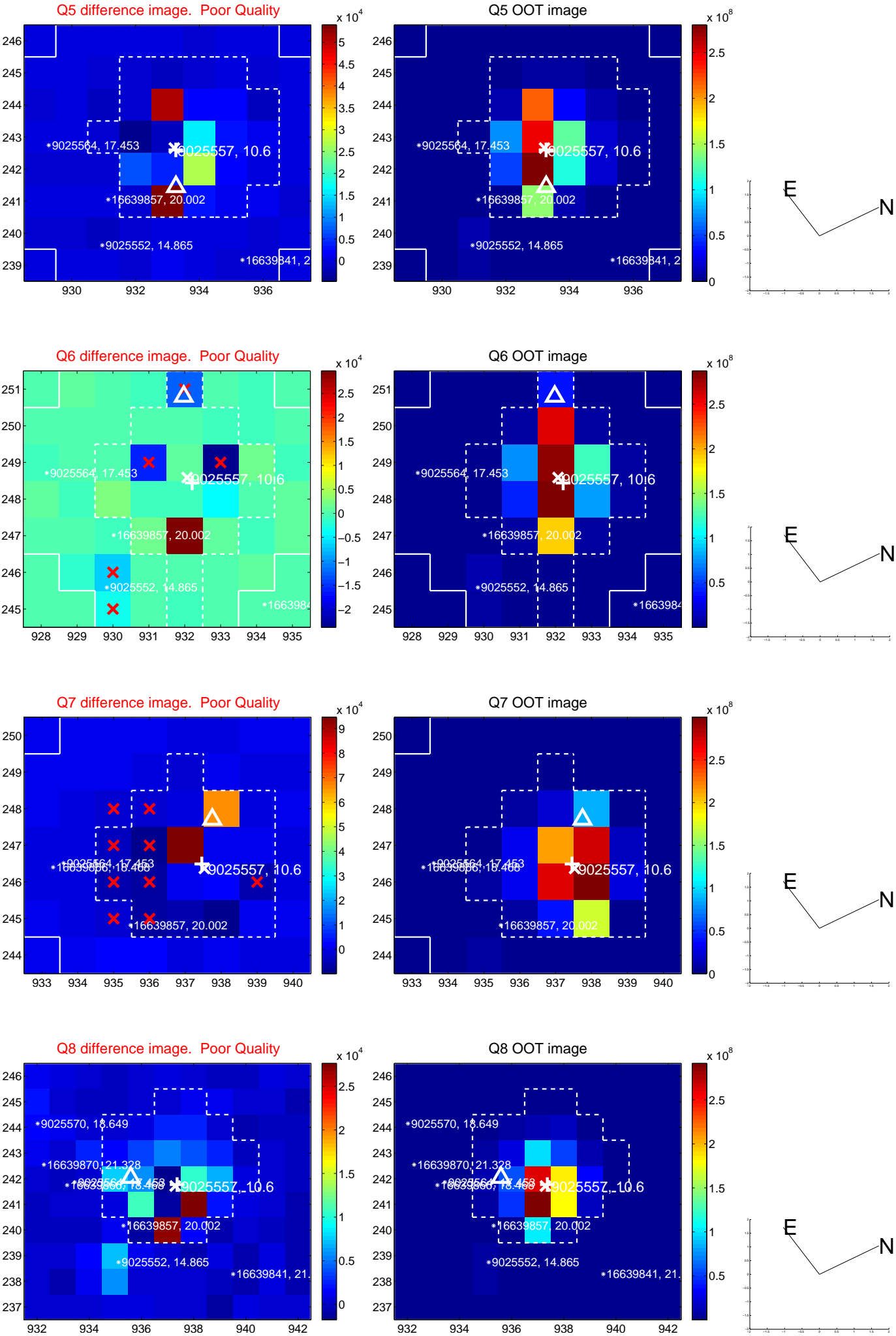


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

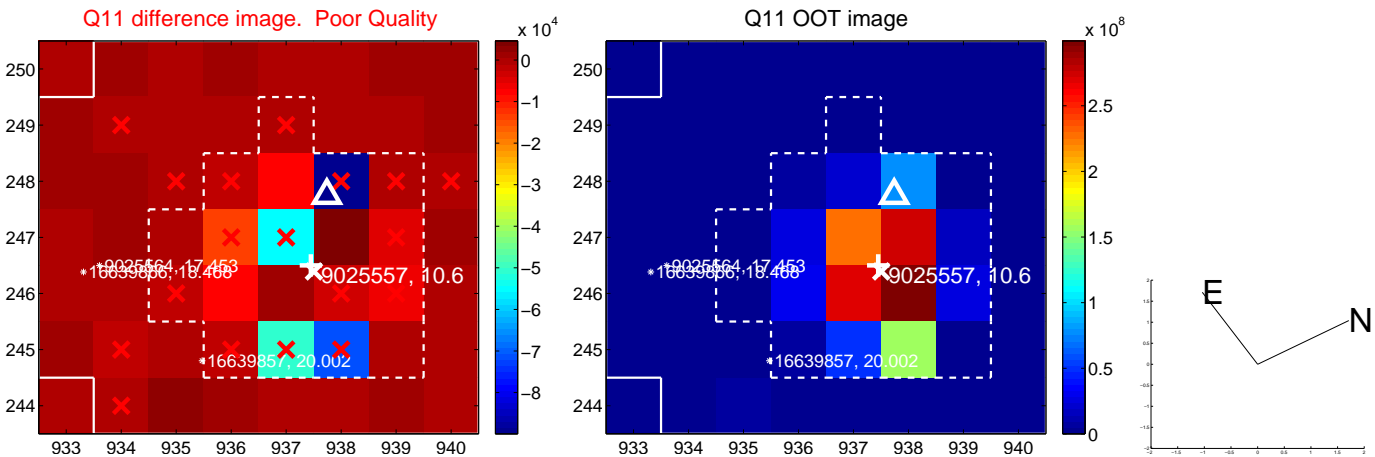
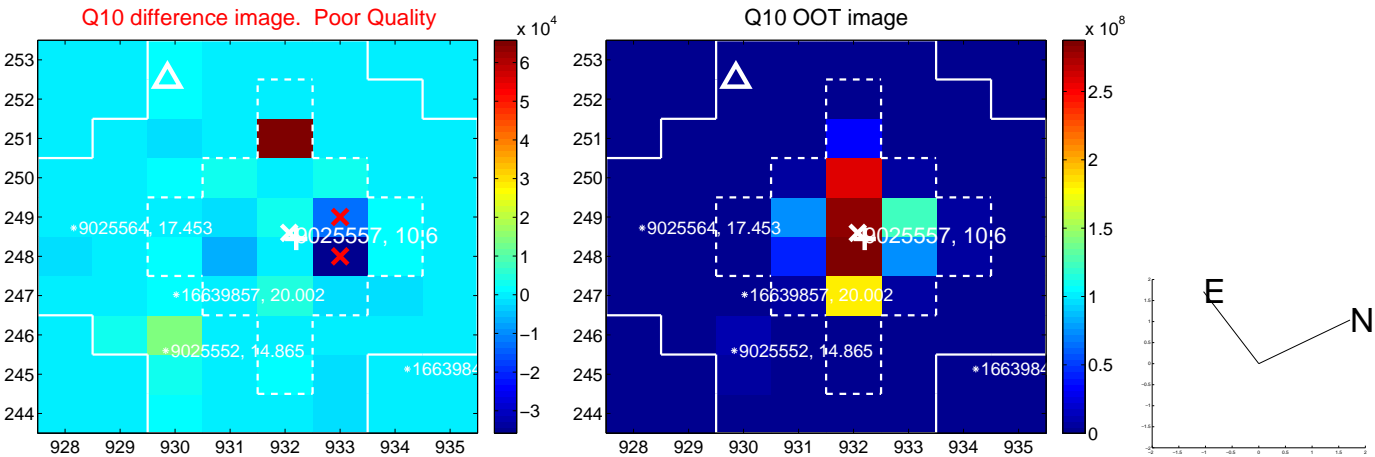
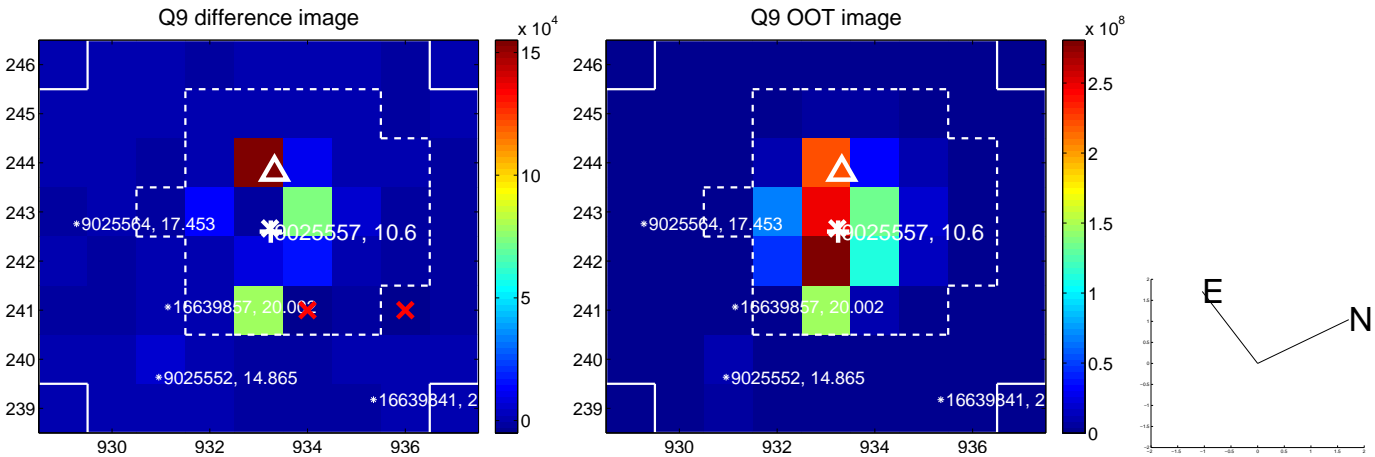
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



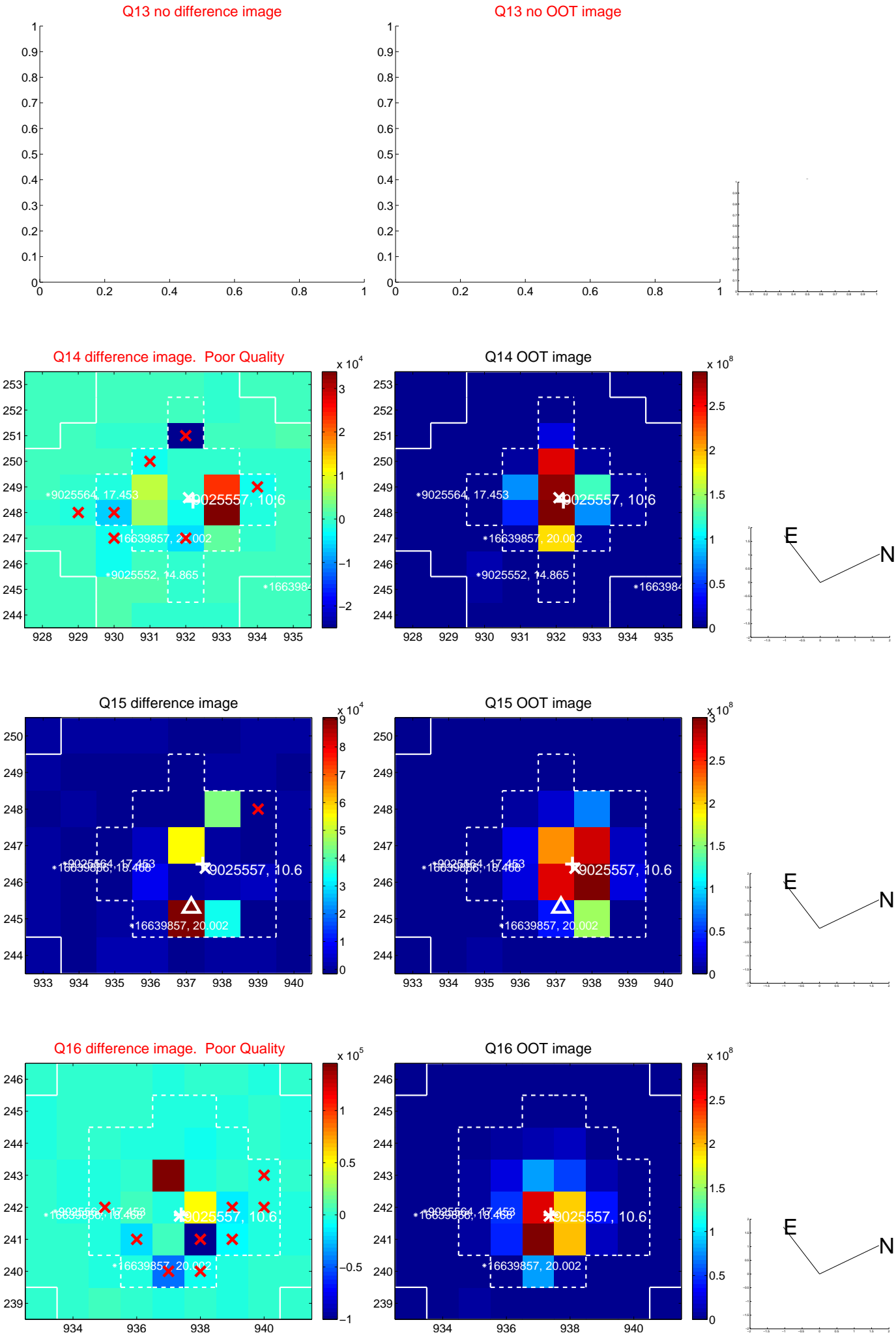
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



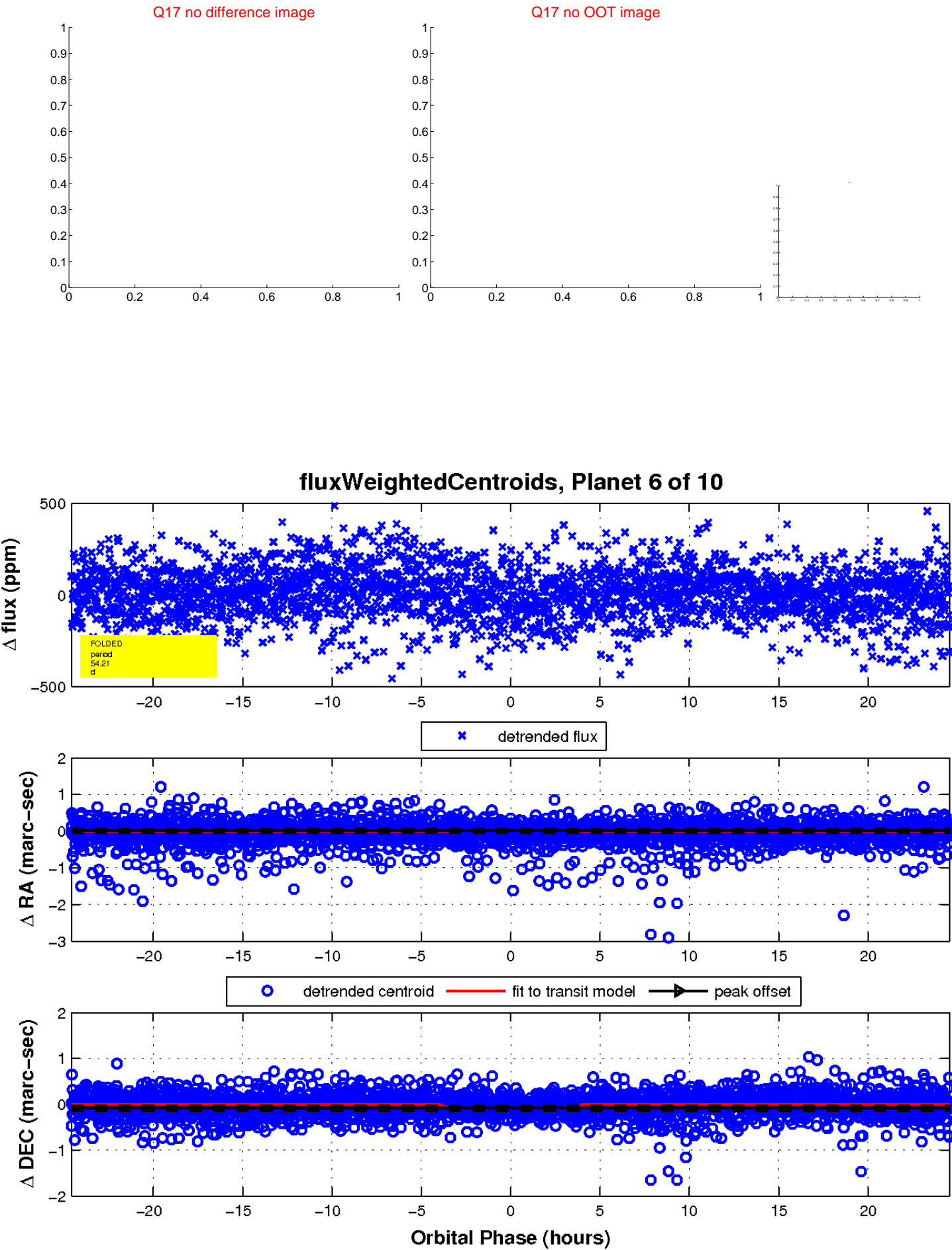
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

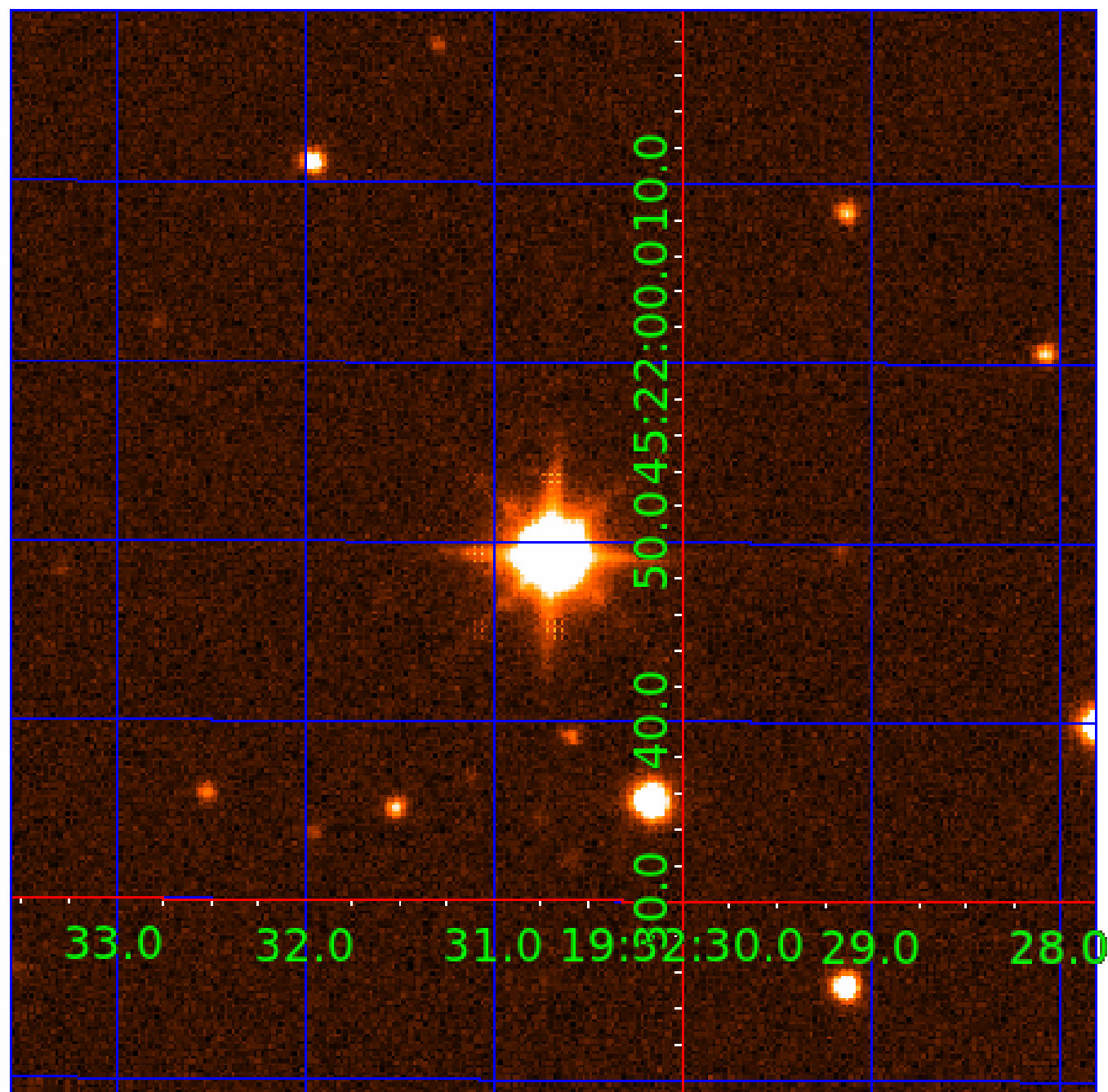


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

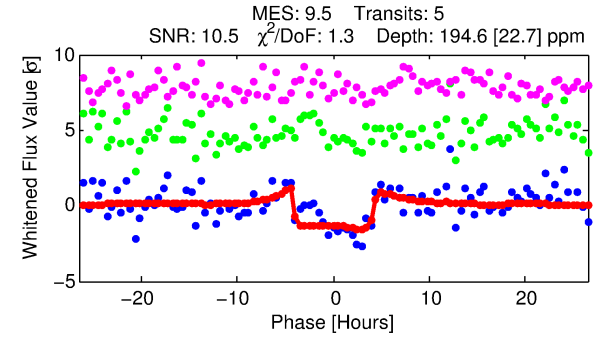
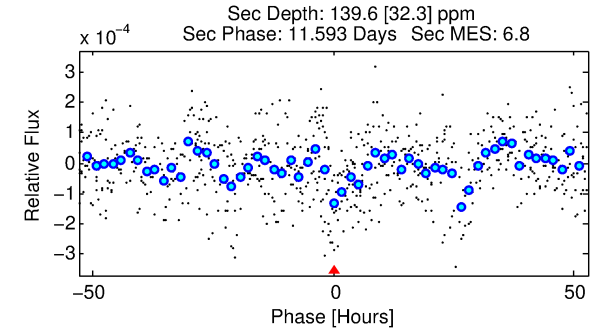
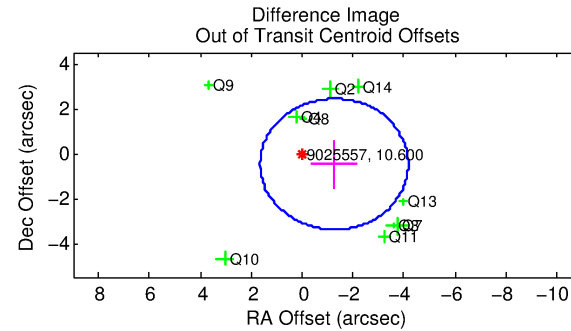
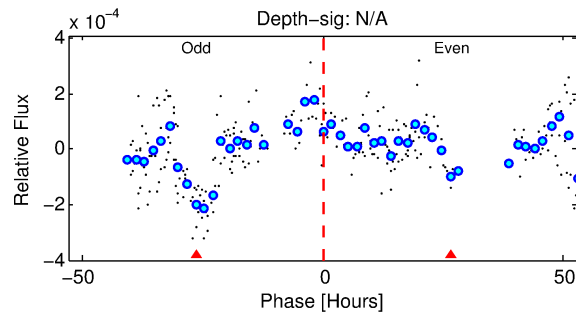
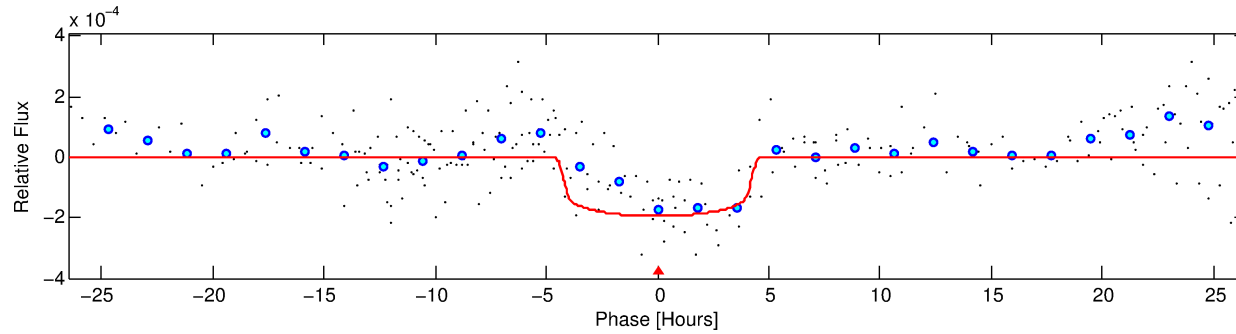
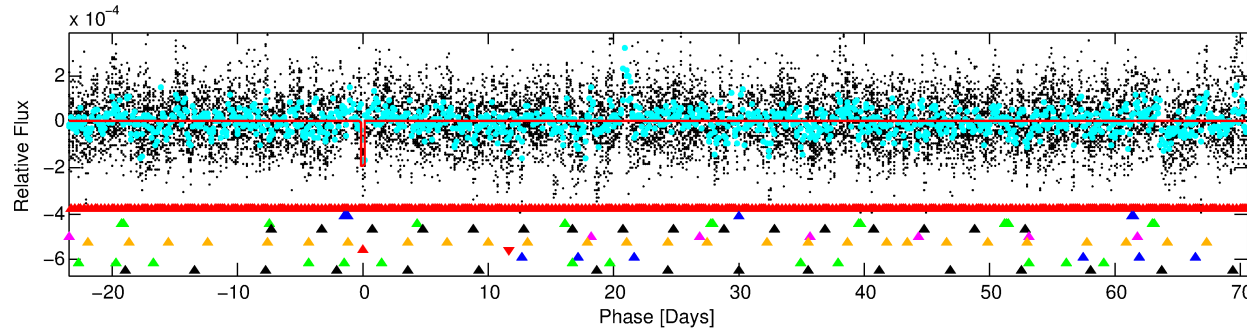
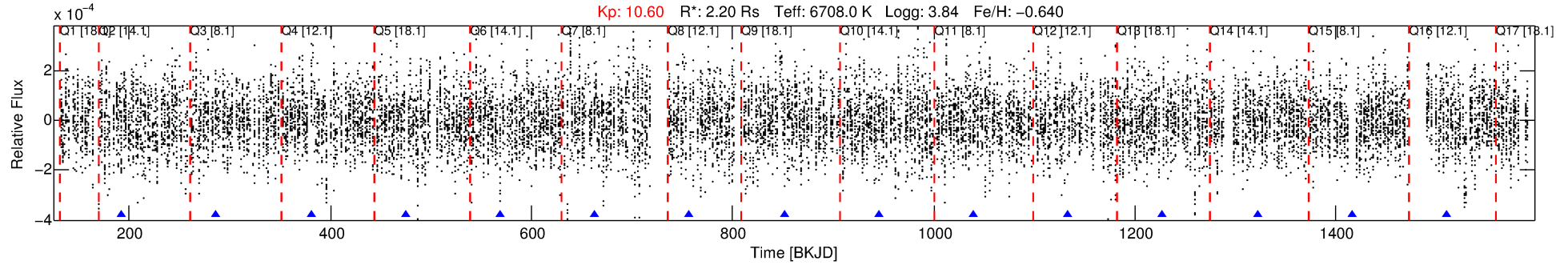
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-07

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 7 of 10 Period: 94.082 d



DV Fit Results:

Period = 94.08199 [0.00107] d
Epoch = 192.6178 [0.0090] BKJD
Rp/R* = 0.0140 [0.0044]
a/R* = 52.97 [93.51]
b = 0.78 [0.90]
Seff = 47.14 [25.57]
Teq = 668 [91] K
Rp = 3.36 [1.59] Re
a = 0.4314 [0.1441] AU
Ag = 1266.82 [1082.36] [1.17σ]
Teffp = 6163 [1051] K [5.21σ]

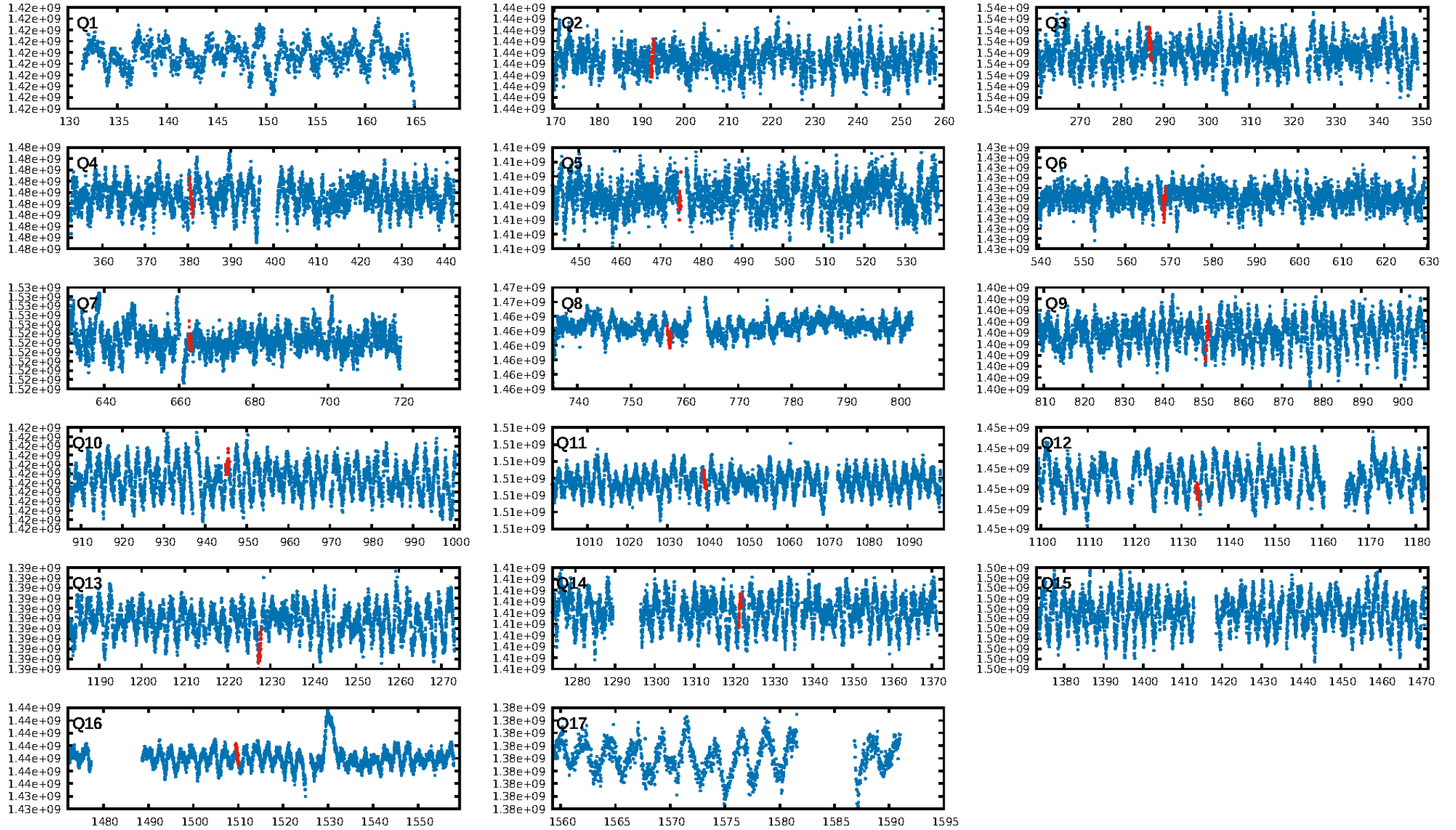
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.78σ]
LongPeriod-sig: 100.0% [29.20σ]
ModelChiSquare2-sig: 15.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.691
Centroid-sig: 5.3%
Centroid-so: 0.532 arcsec [1.47σ]
OotOffset-rm: 1.347 arcsec [1.39σ]
KicOffset-rm: 1.387 arcsec [1.57σ]
OotOffset-st: 3/3/2/2 [10]
KicOffset-st: 3/3/2/2 [10]
DiffImageQuality-fgm: 0.20 [2/10]
DiffImageOverlap-fno: 0.10 [1/10]

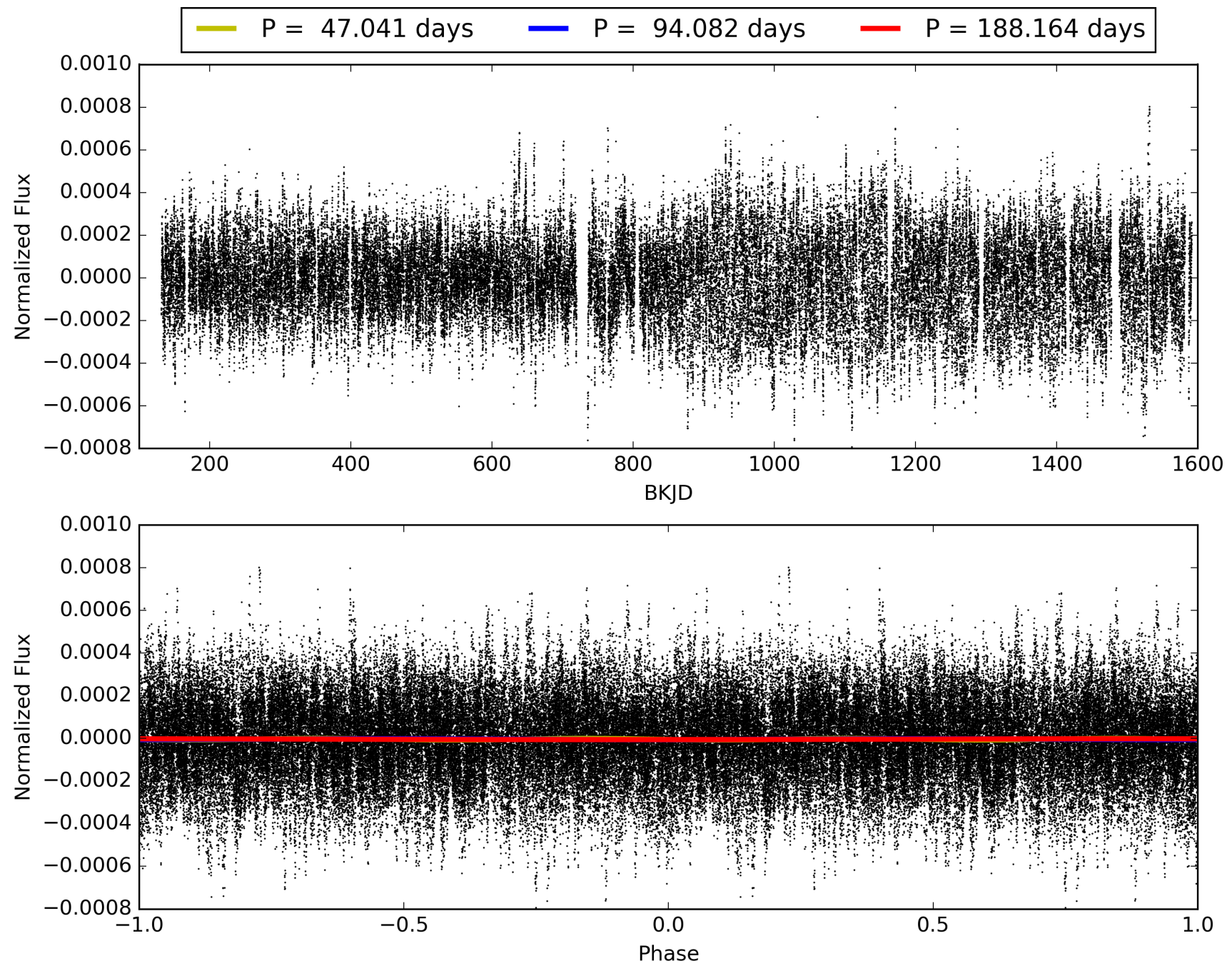
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:31 Z

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

TCE 009025557-07, PDC Light Curves

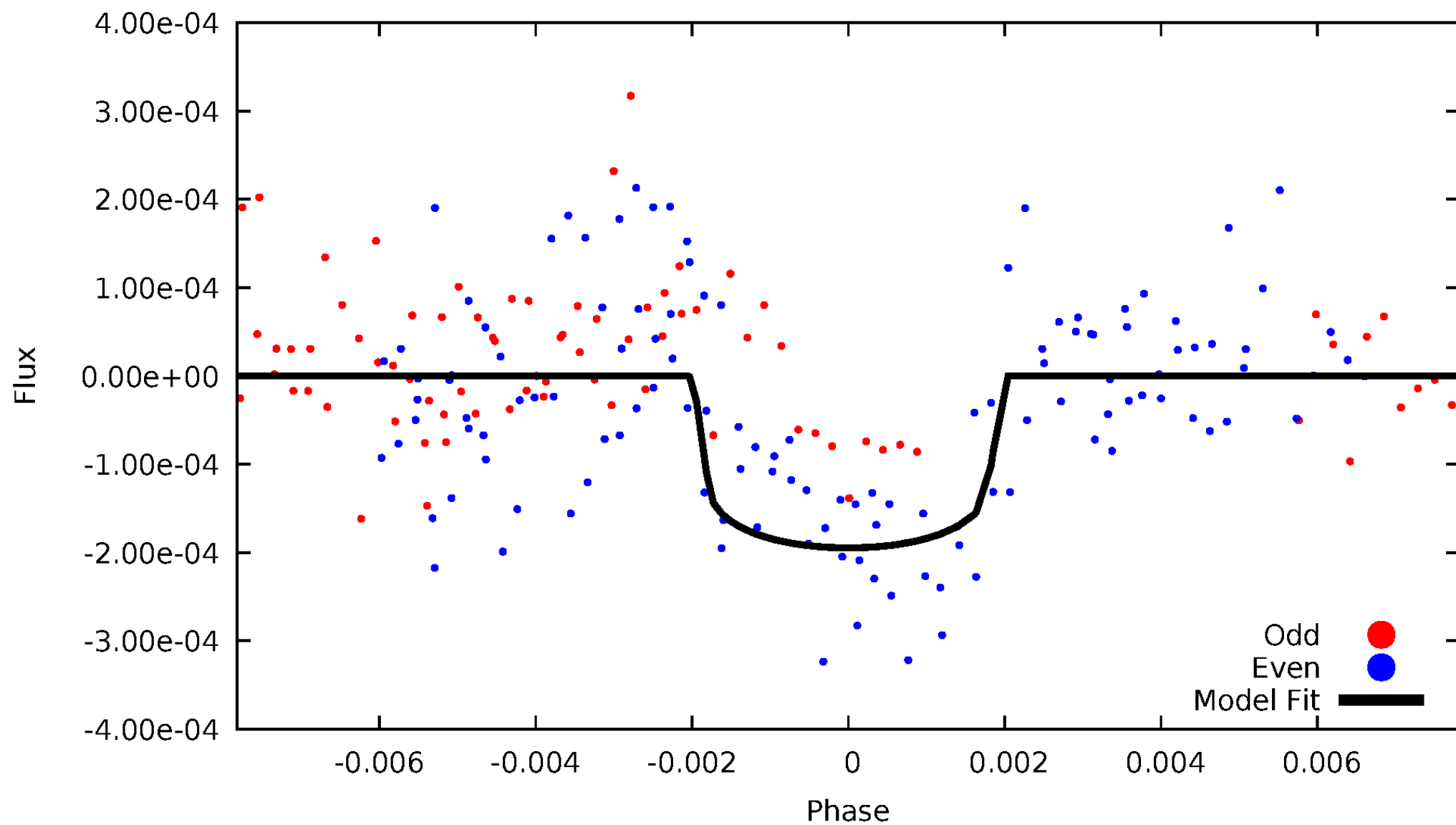


TCE 009025557-07



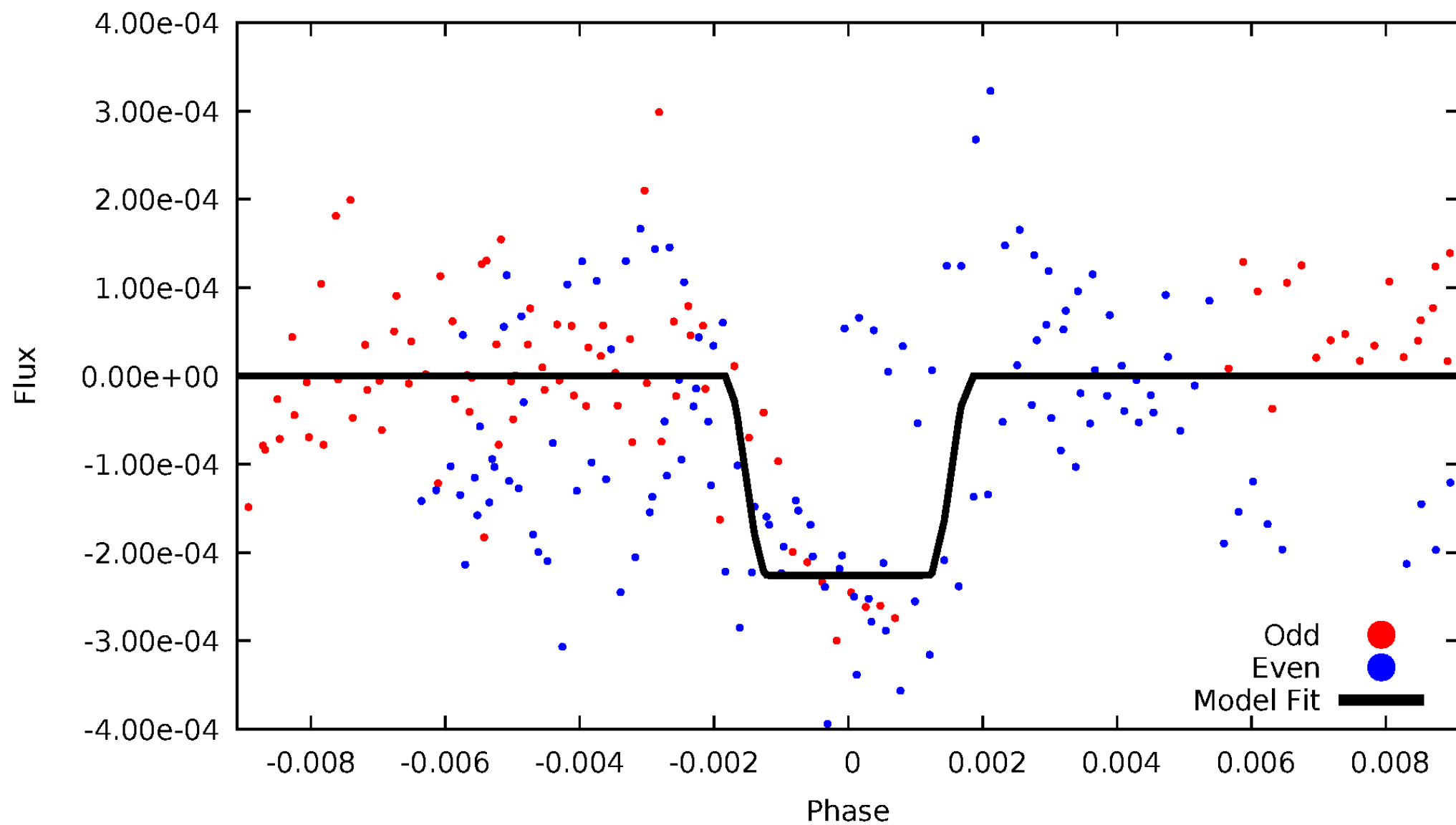
DV Odd/Even

TCE 009025557-07



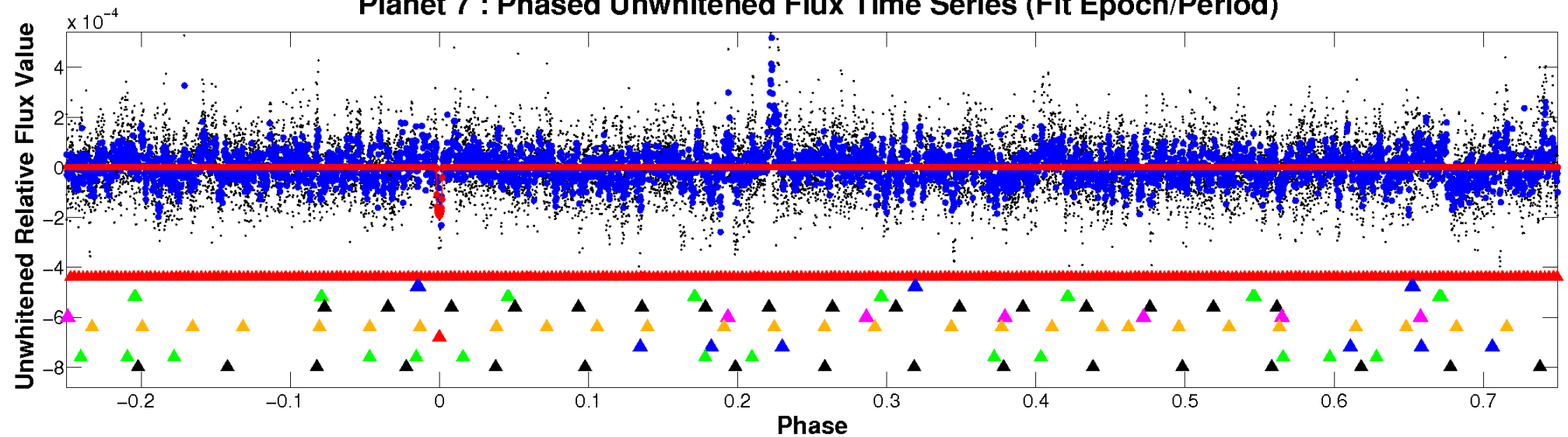
ALT Odd/Even

TCE 009025557-07

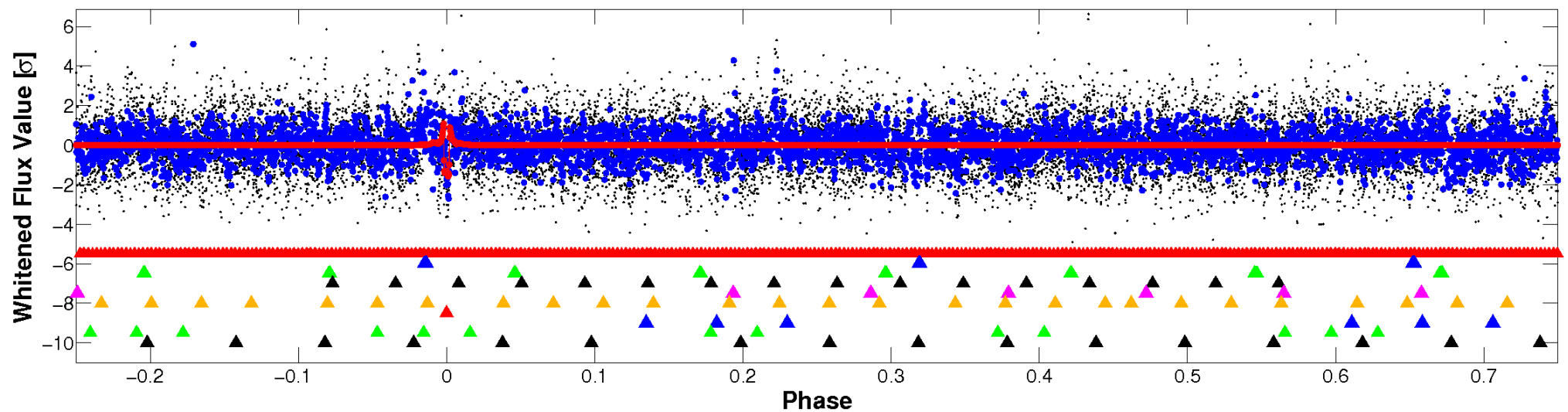


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

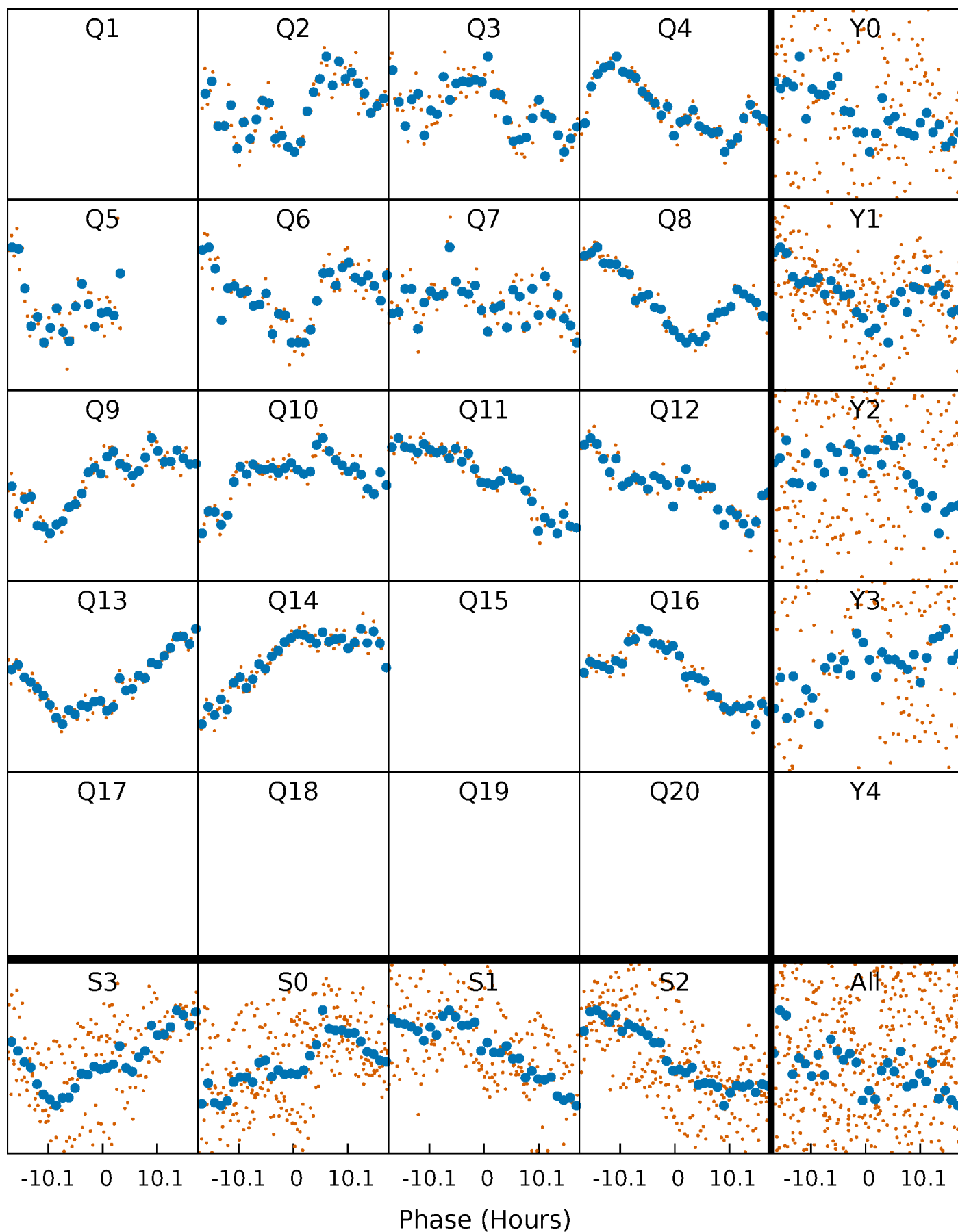


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



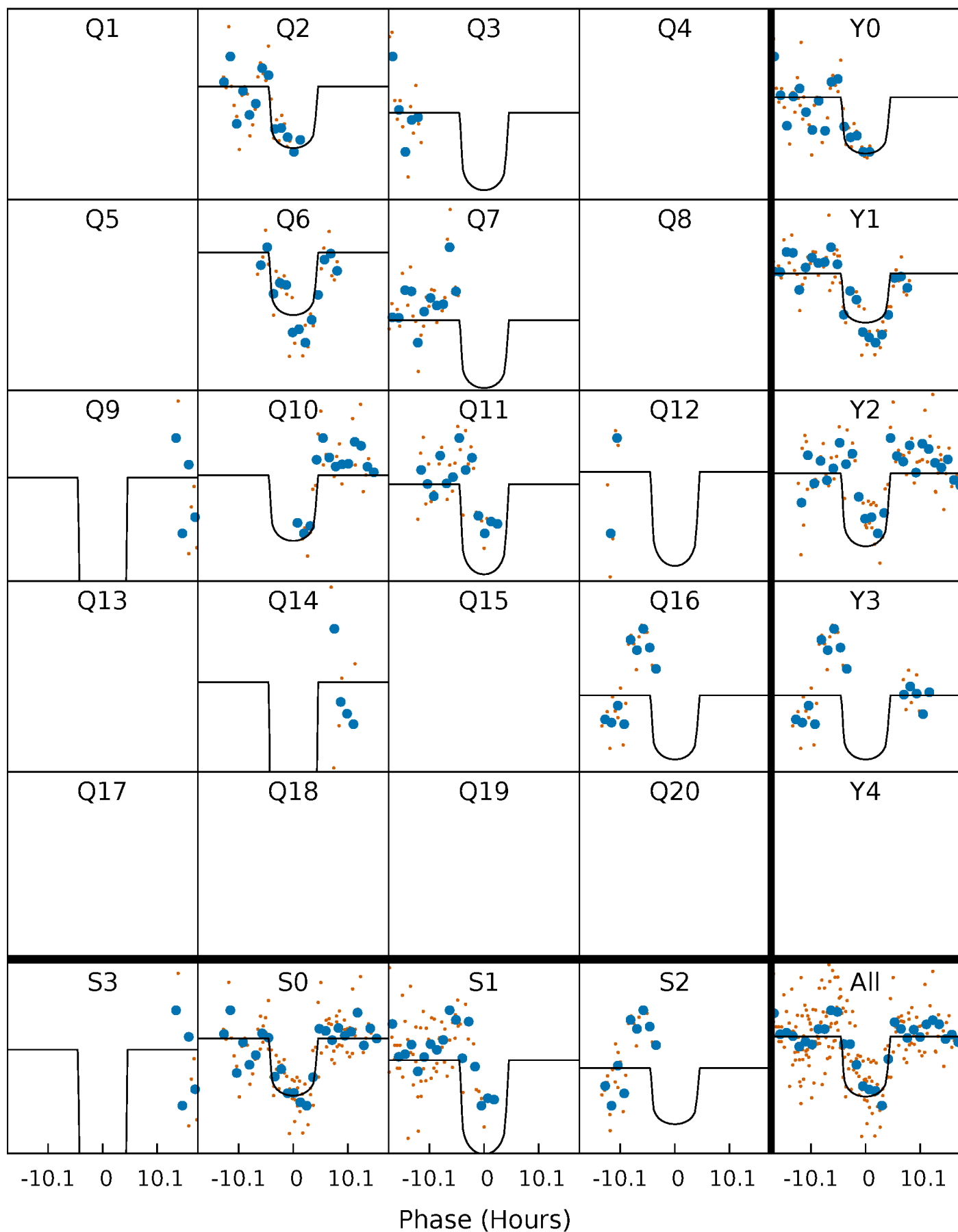
PDC Quarter-Phased Transit Curves

TCE 009025557-07 $P = 94.081993$ Days $T_0 = 192.617786$ (BKJD)



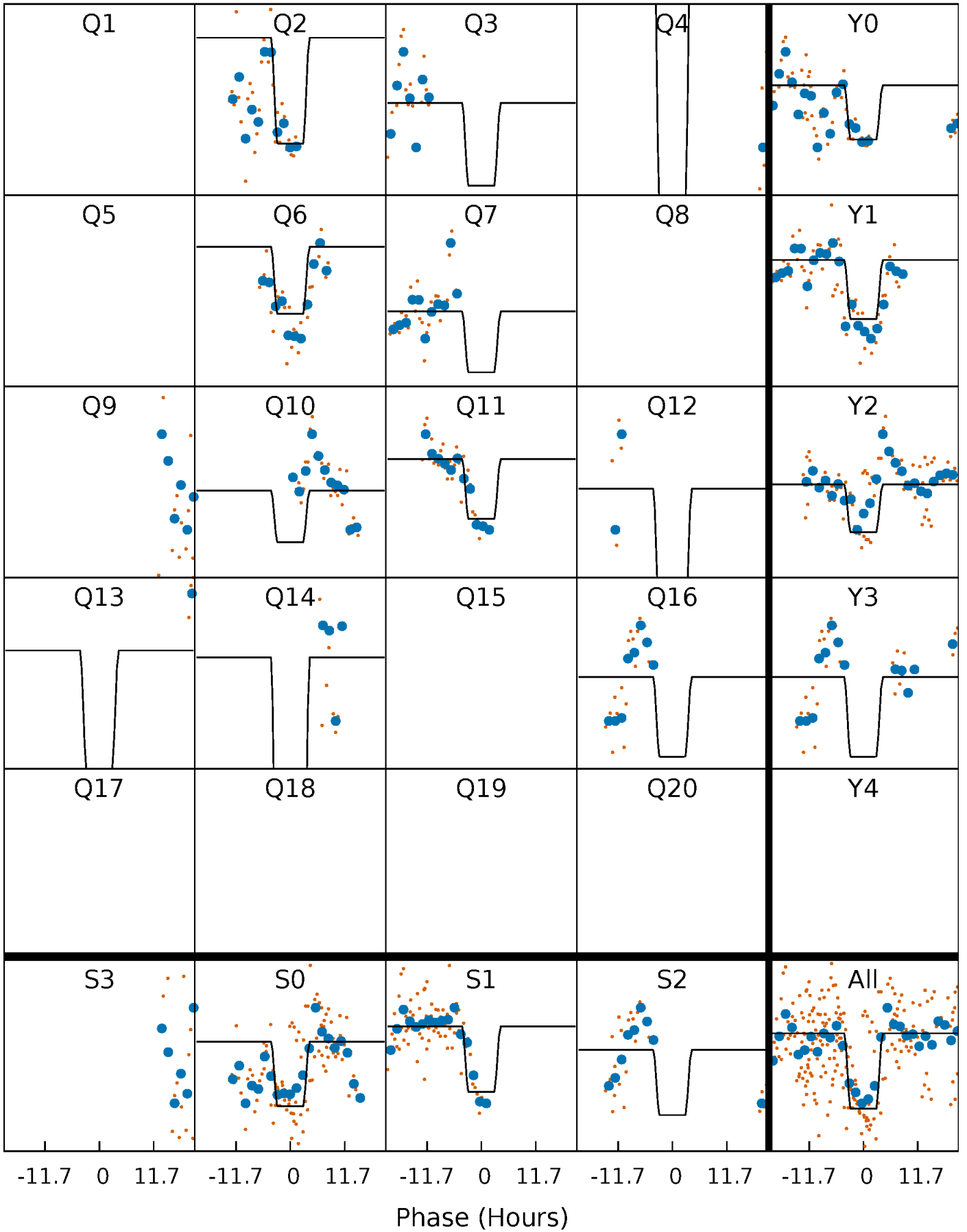
DV Quarter-Phased Transit Curves

TCE 009025557-07 P= 94.081993 Days $T_0=192.617786$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

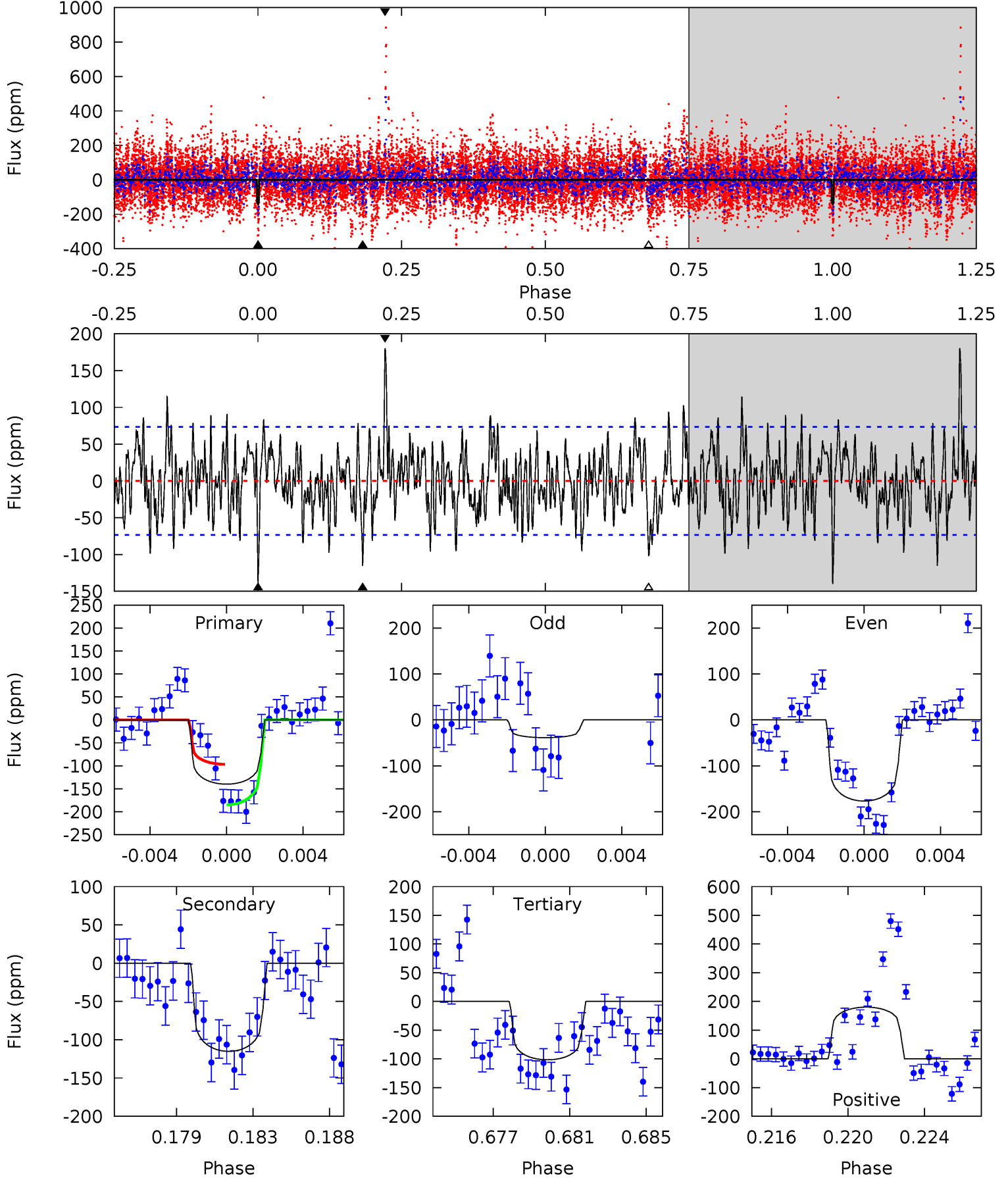
TCE 009025557-07 $P = 94.085659$ Days $T_0 = 192.602284$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-07, P = 94.081993 Days, E = 98.535793 Days

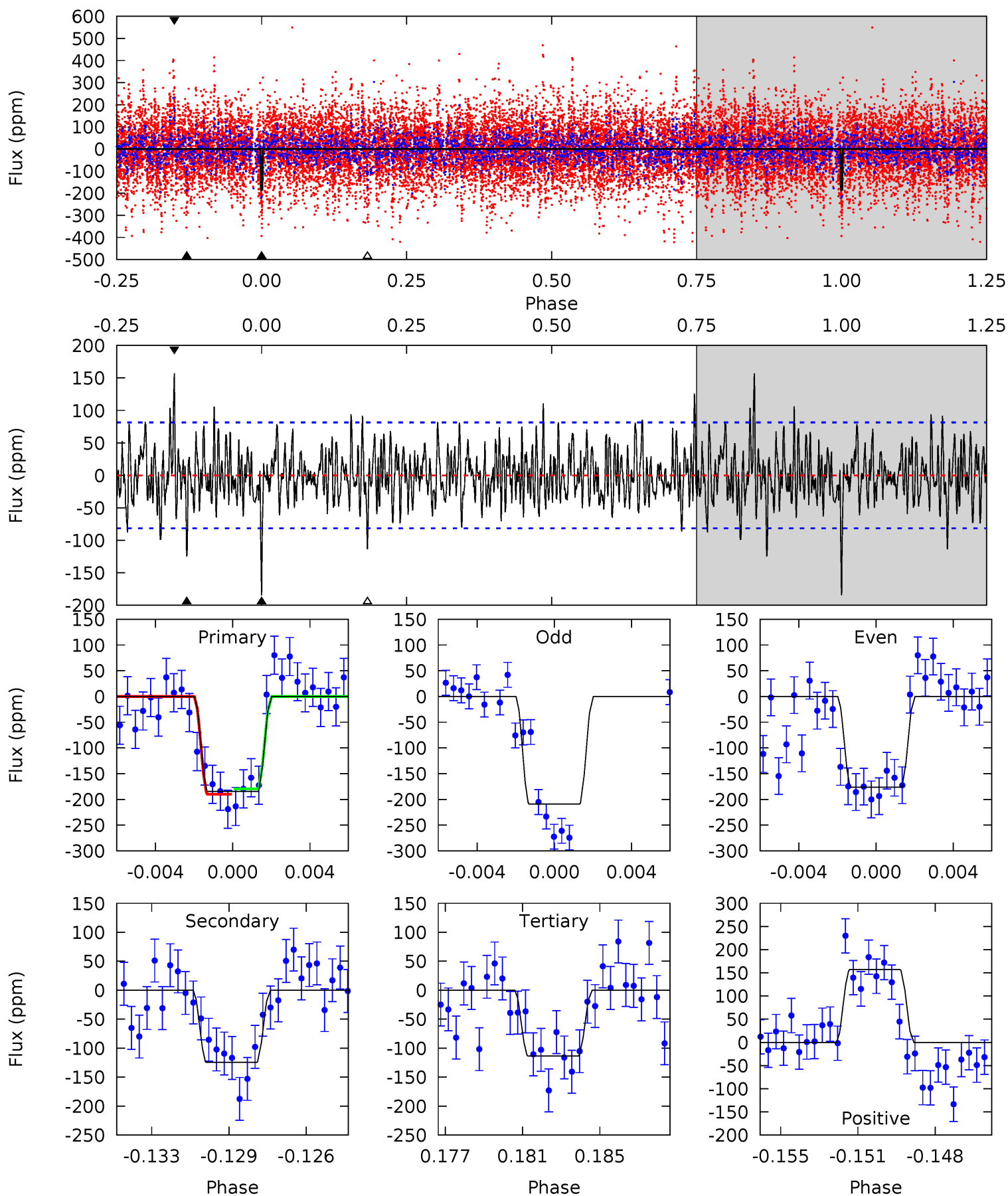
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.89	8.14	7.18	12.7	5.20	2.87	2.62	2.71	-2.85	0.96	-4.60	4.27	0.56	0.56	3.11



Alt Model-Shift Uniqueness Test

009025557-07, P = 94.085659 Days, E = 98.516625 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	7.98	7.27	10.1	5.21	2.90	2.18	4.55	1.77	0.70	-2.08	0.93	0.77	0.46	0.34



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-115 ± 14	$3.14^{+1.30}_{-1.00}$	919^{+56}_{-85}	5884^{+1195}_{-762}	1210^{+1315}_{-604}
Alt.	-125 ± 16	$3.34^{+1.24}_{-1.14}$	915^{+61}_{-71}	5794^{+1213}_{-675}	1108^{+1547}_{-508}

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 $A_{obs} \gg 1.0$

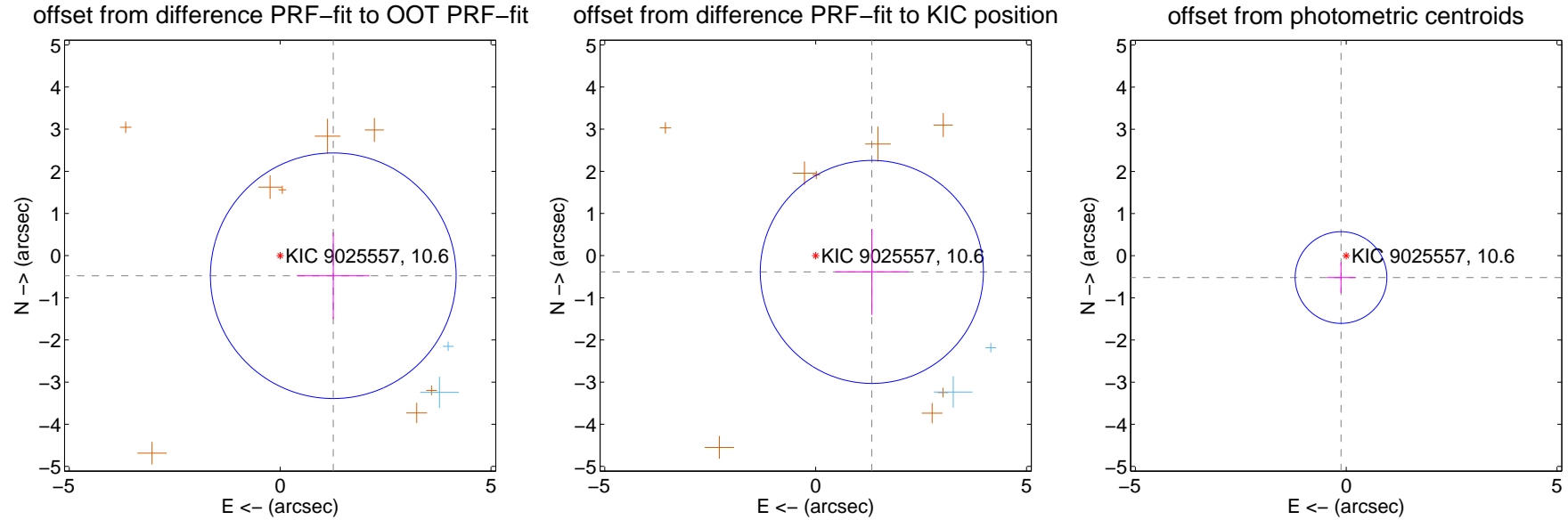
DV Centroid Data

Supplemental centroid analysis for 009025557-07. **Kepler magnitude: 10.60.** Transit SNR 10.53

There are 2 quarters with good PRF difference image offsets

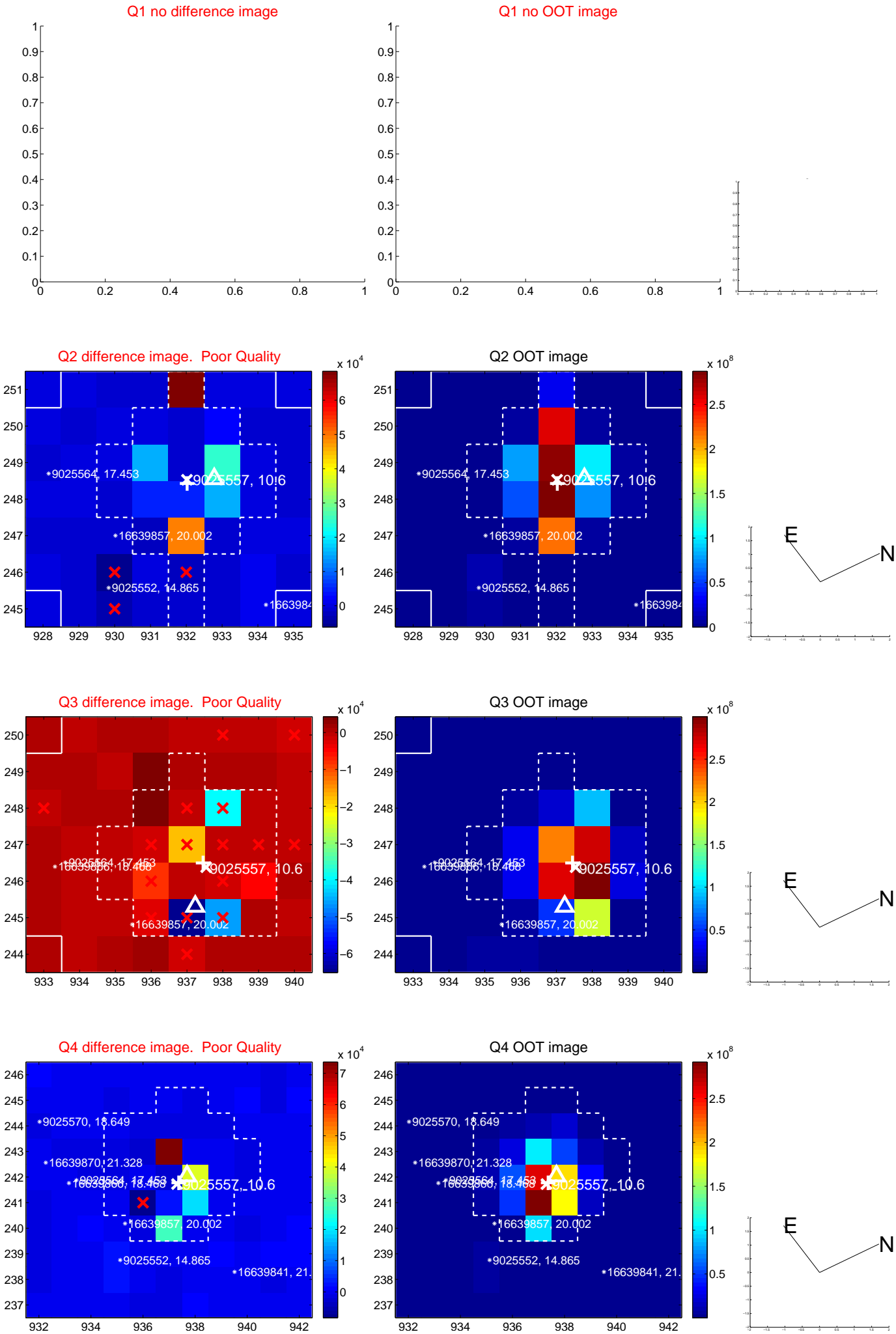
The direct PRF centroid is offset from the target star catalog position by about 0.80 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.347 ± 0.971	1.39	-1.260 ± 0.859	-0.477 ± 1.030
PRF-fit source offset from KIC position	1.387 ± 0.882	1.57	-1.332 ± 0.869	-0.386 ± 1.017
photometric centroid source offset	0.53 ± 0.36	1.47	0.12 ± 0.33	-0.52 ± 0.36



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.

Q5 no difference image



Q5 no OOT image



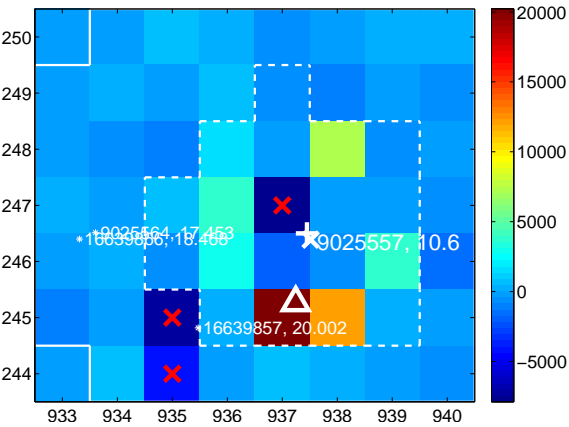
Q6 no difference image



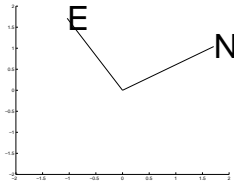
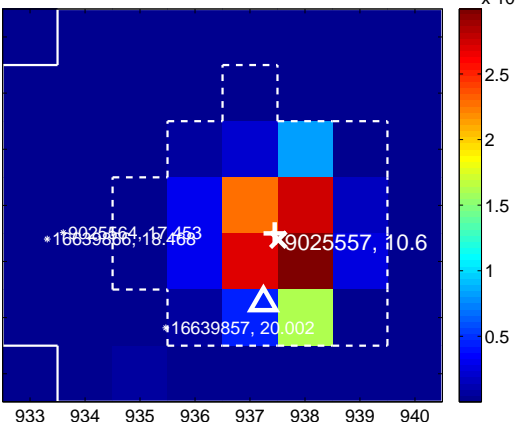
Q6 no OOT image



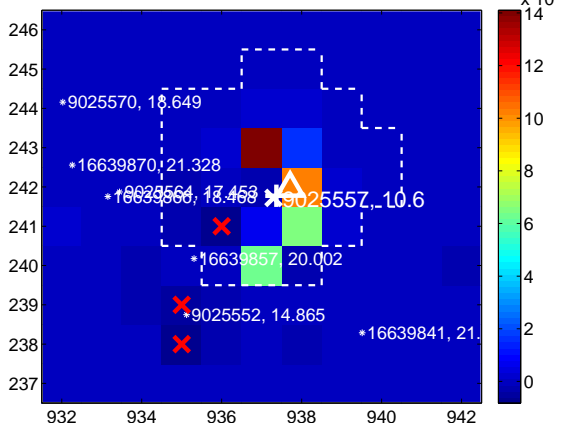
Q7 difference image



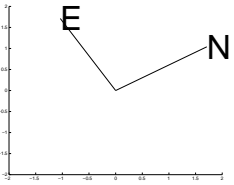
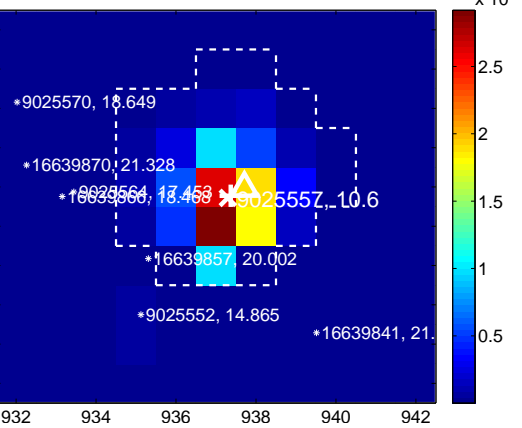
Q7 OOT image



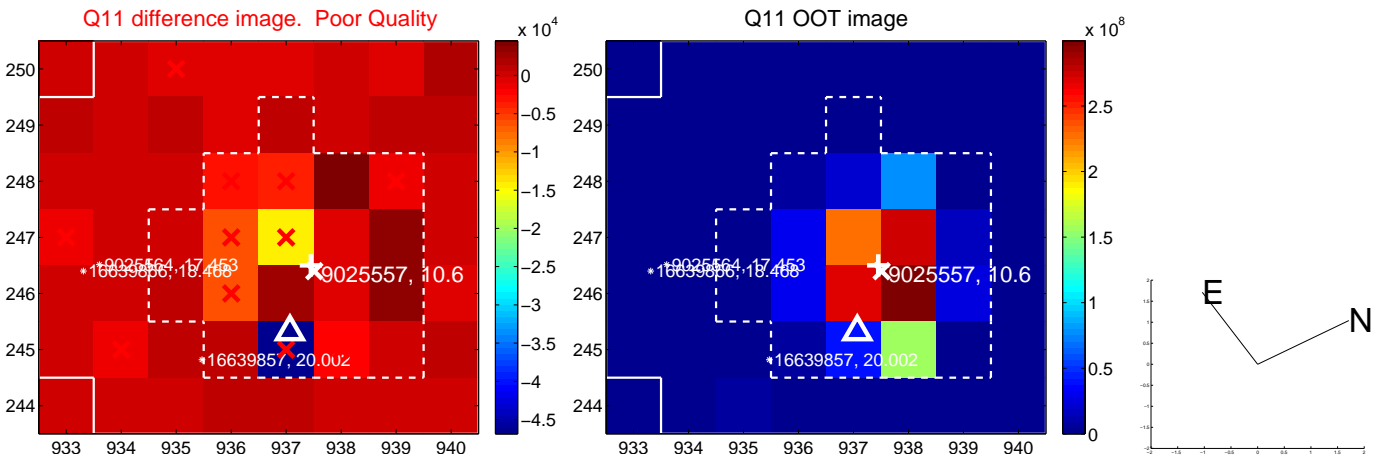
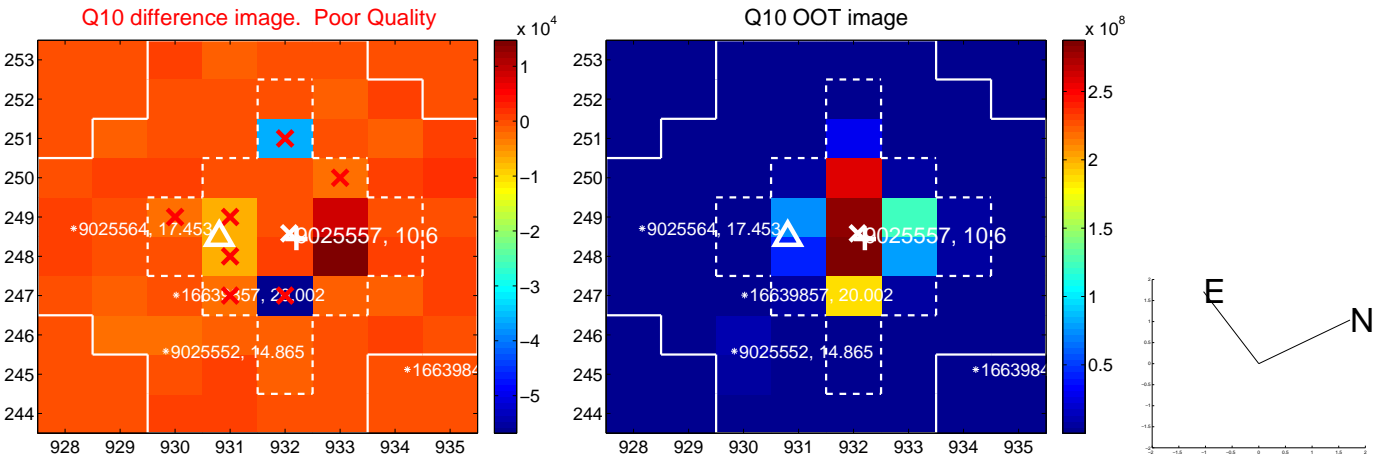
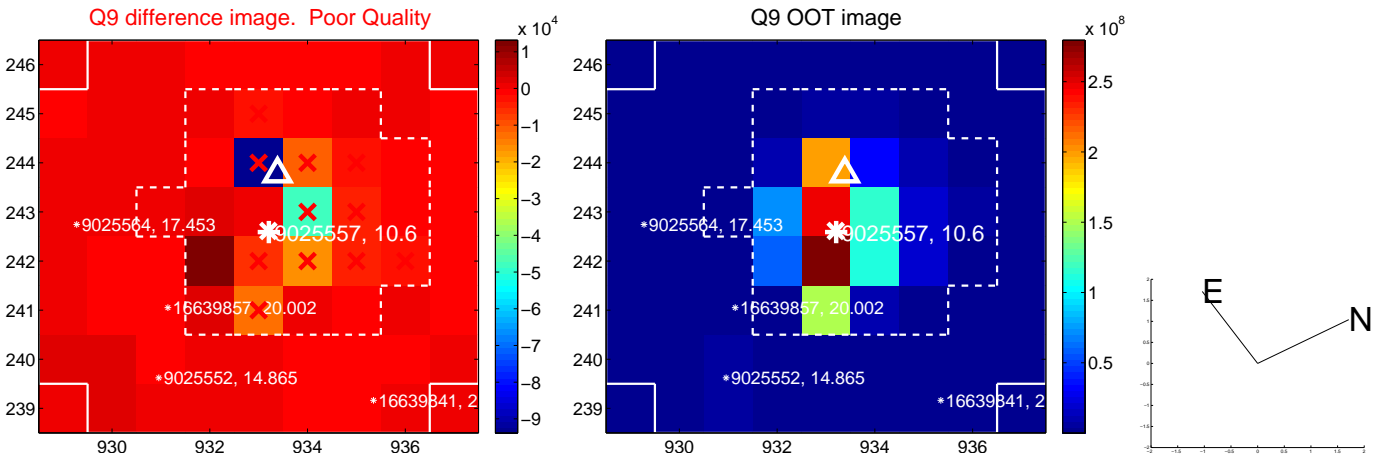
Q8 difference image. Poor Quality



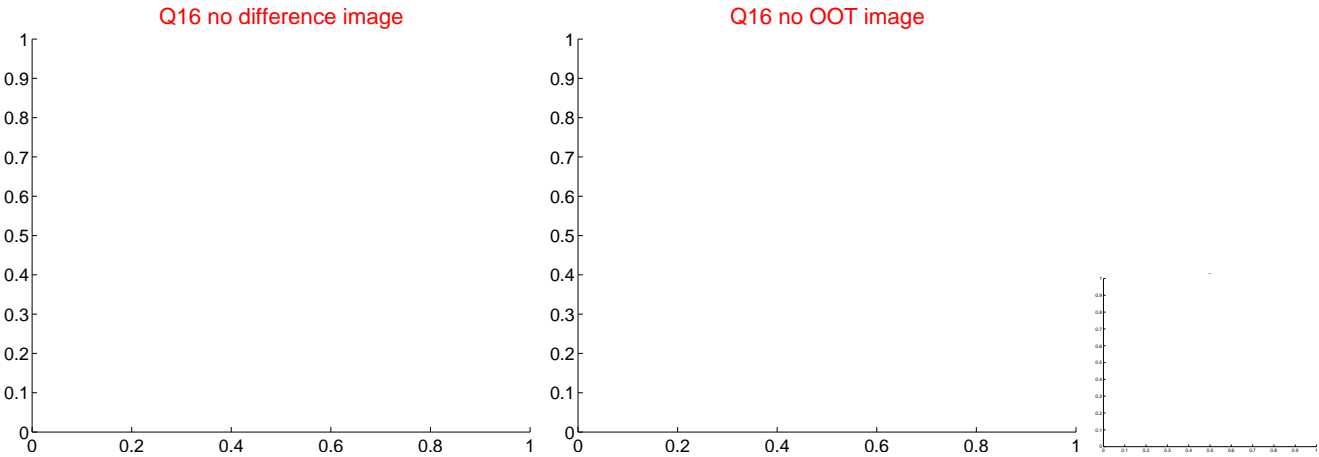
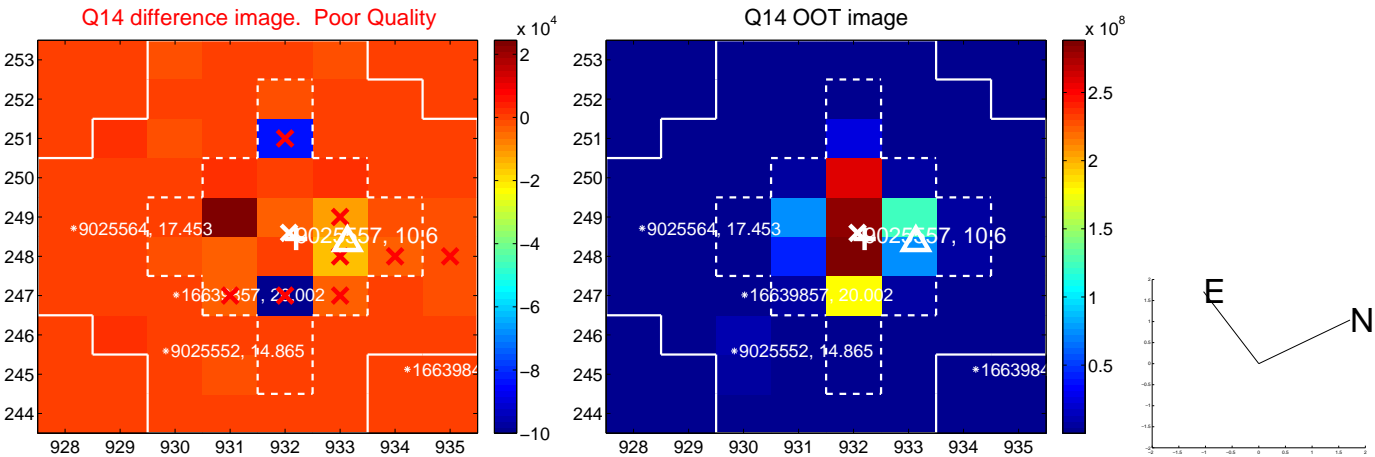
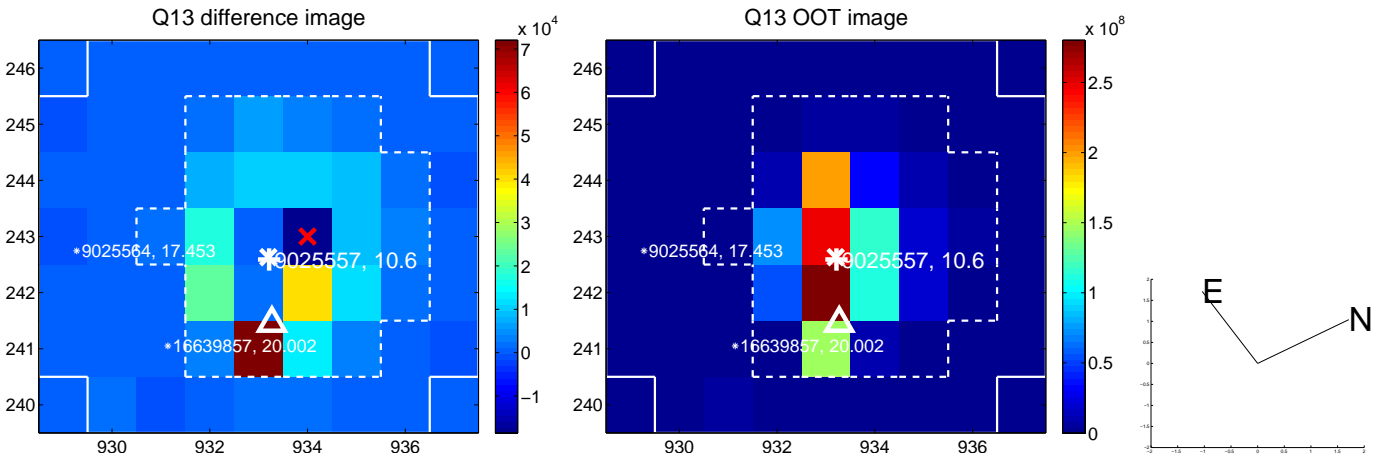
Q8 OOT image



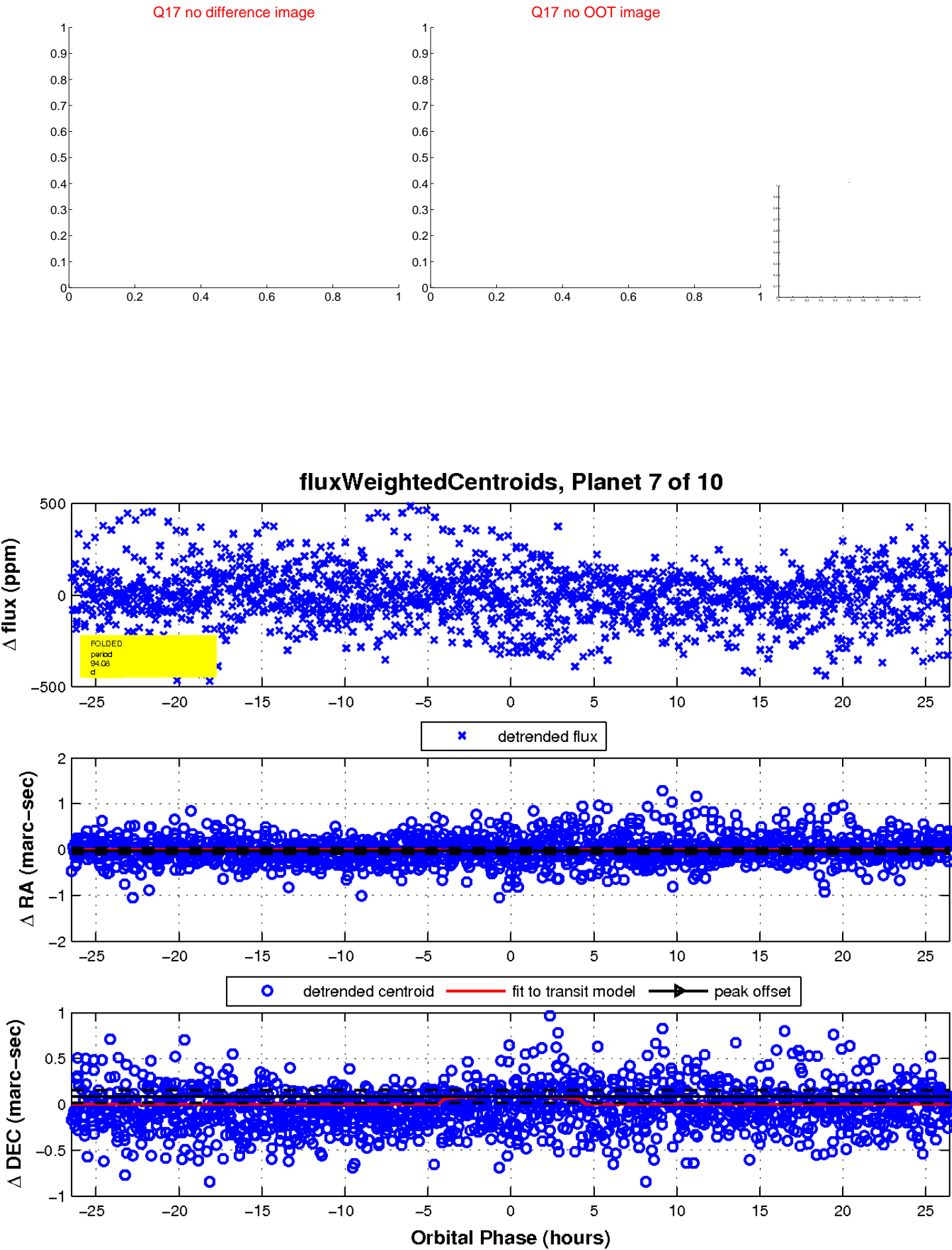
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

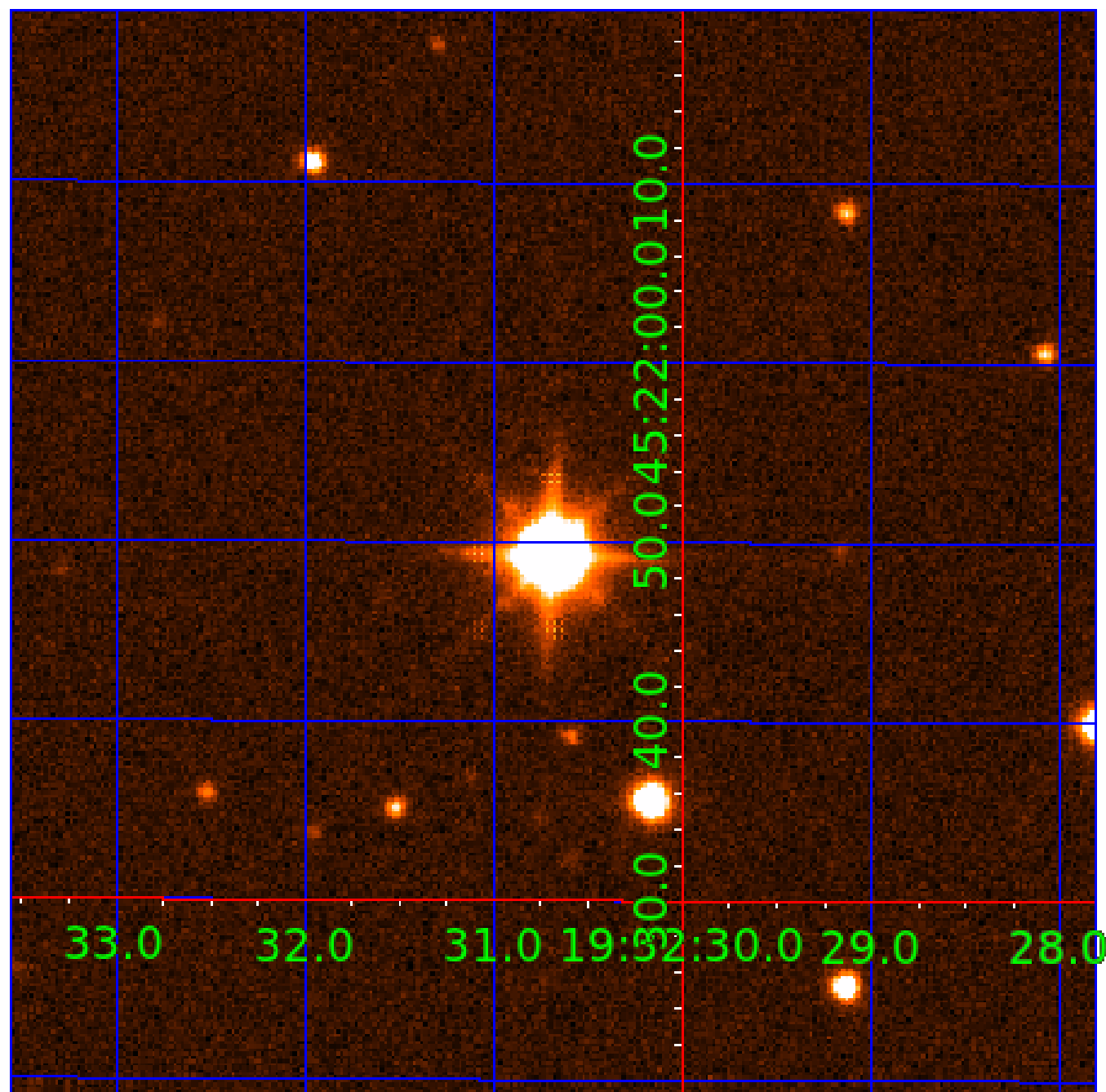


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

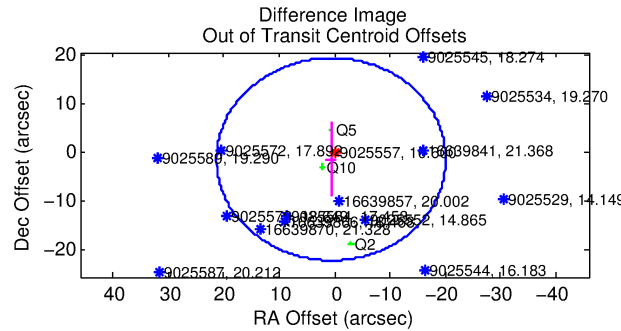
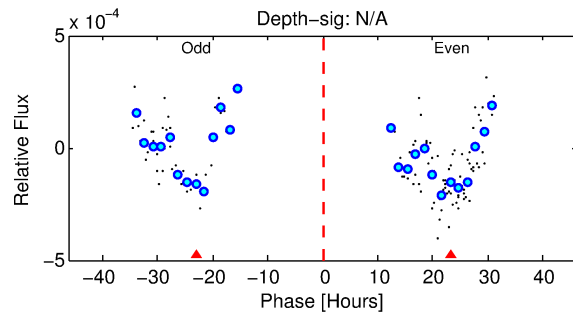
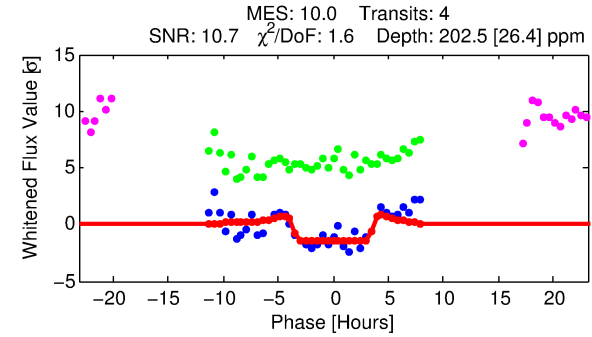
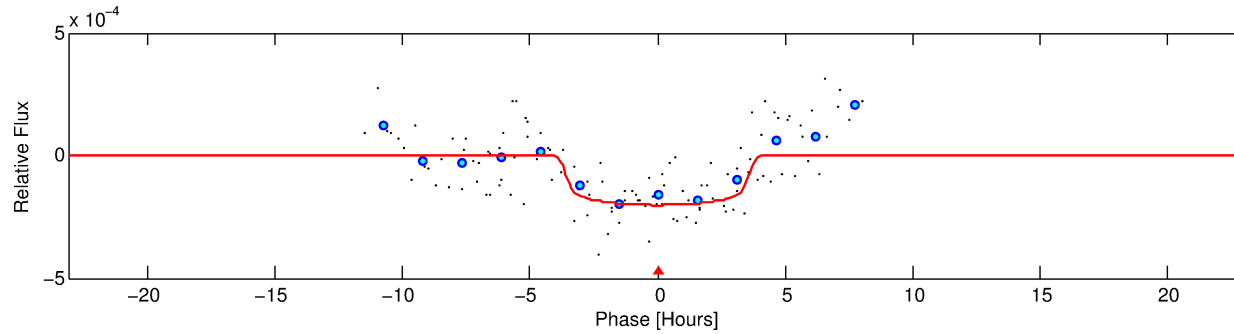
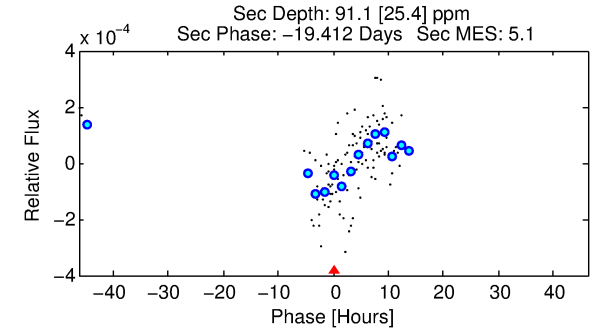
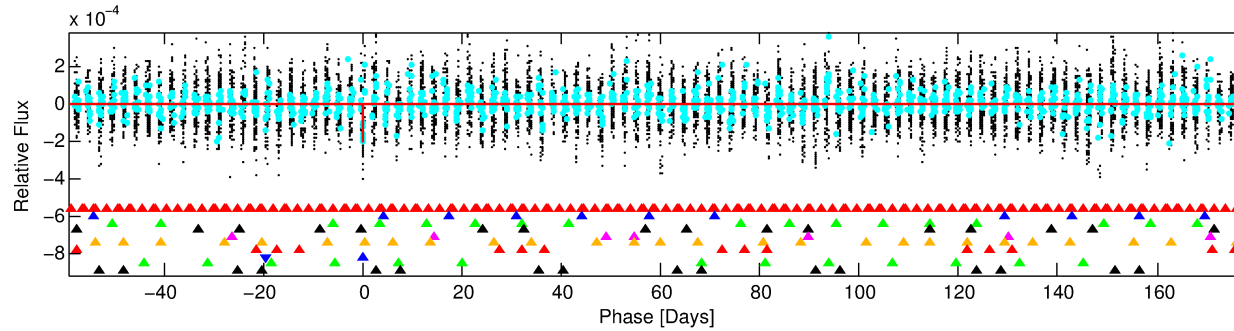
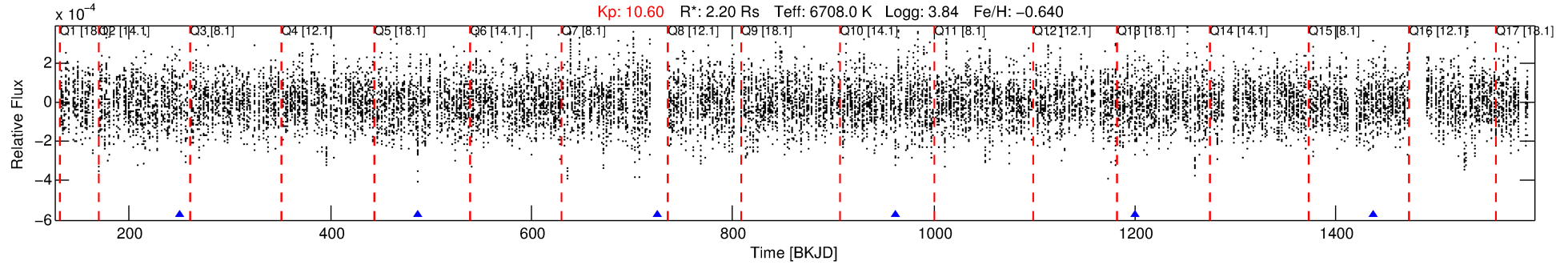
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-08

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 8 of 10 Period: 237.443 d



DV Fit Results:

Period = 237.44307 [0.00350] d
Epoch = 250.0969 [0.0136] BKJD
Rp/R* = 0.0149 [0.0036]
a/R* = 123.83 [164.99]
b = 0.87 [0.38]
Seff = 13.72 [7.44]
Teq = 491 [67] K
Rp = 3.57 [1.53] Re
a = 0.7996 [0.2672] AU
Ag = 2521.41 [1935.42] [1.30σ]
Teffp = 5377 [766] K [6.36σ]

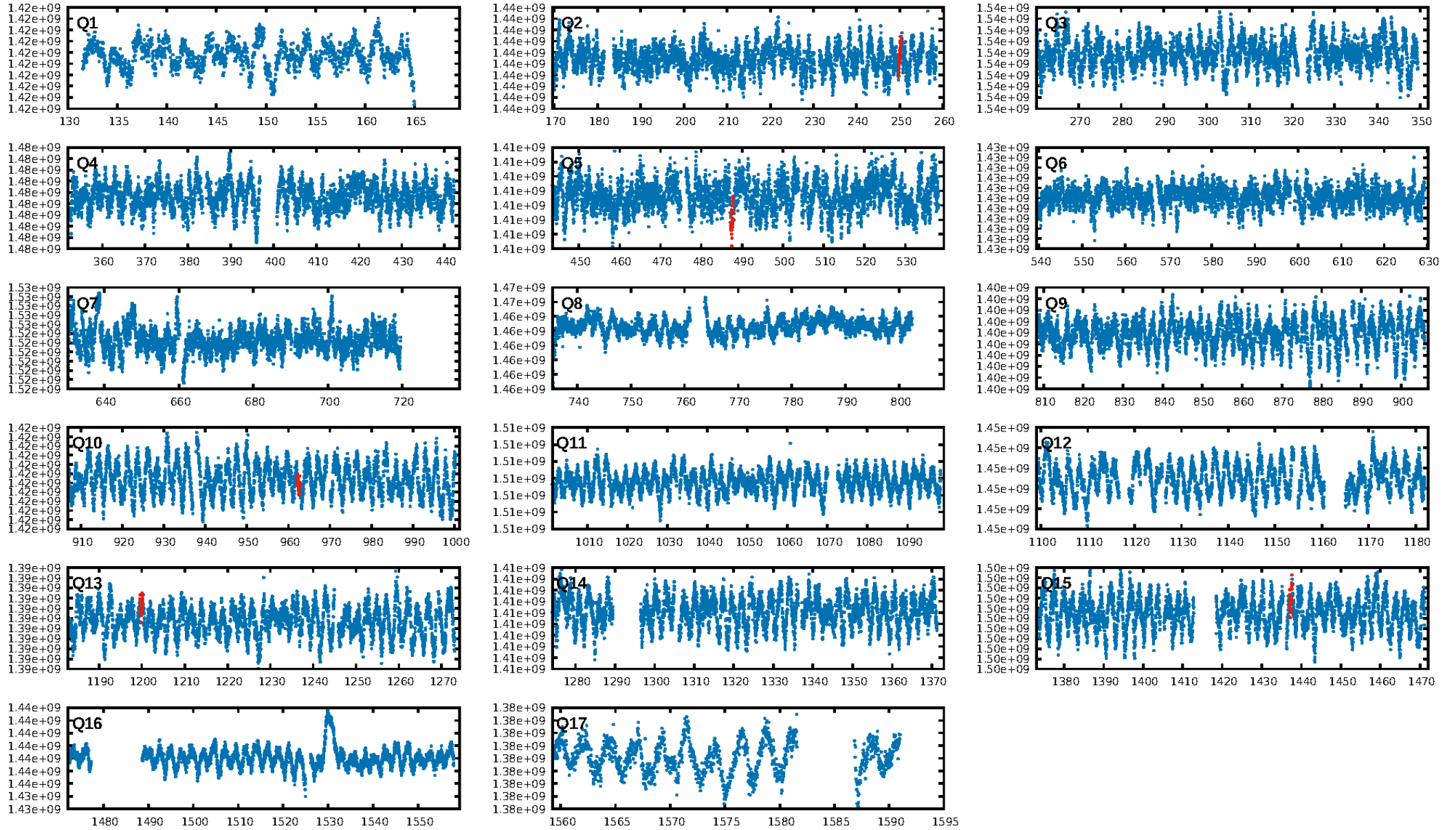
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.33σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 54.8%
ModelChiSquareGof-sig: 75.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.133
Centroid-sig: 29.5%
Centroid-so: 0.487 arcsec [0.87σ]
OotOffset-rm: 1.525 arcsec [0.22σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-rm: 1.346 arcsec [0.18σ]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.33 [1/3]

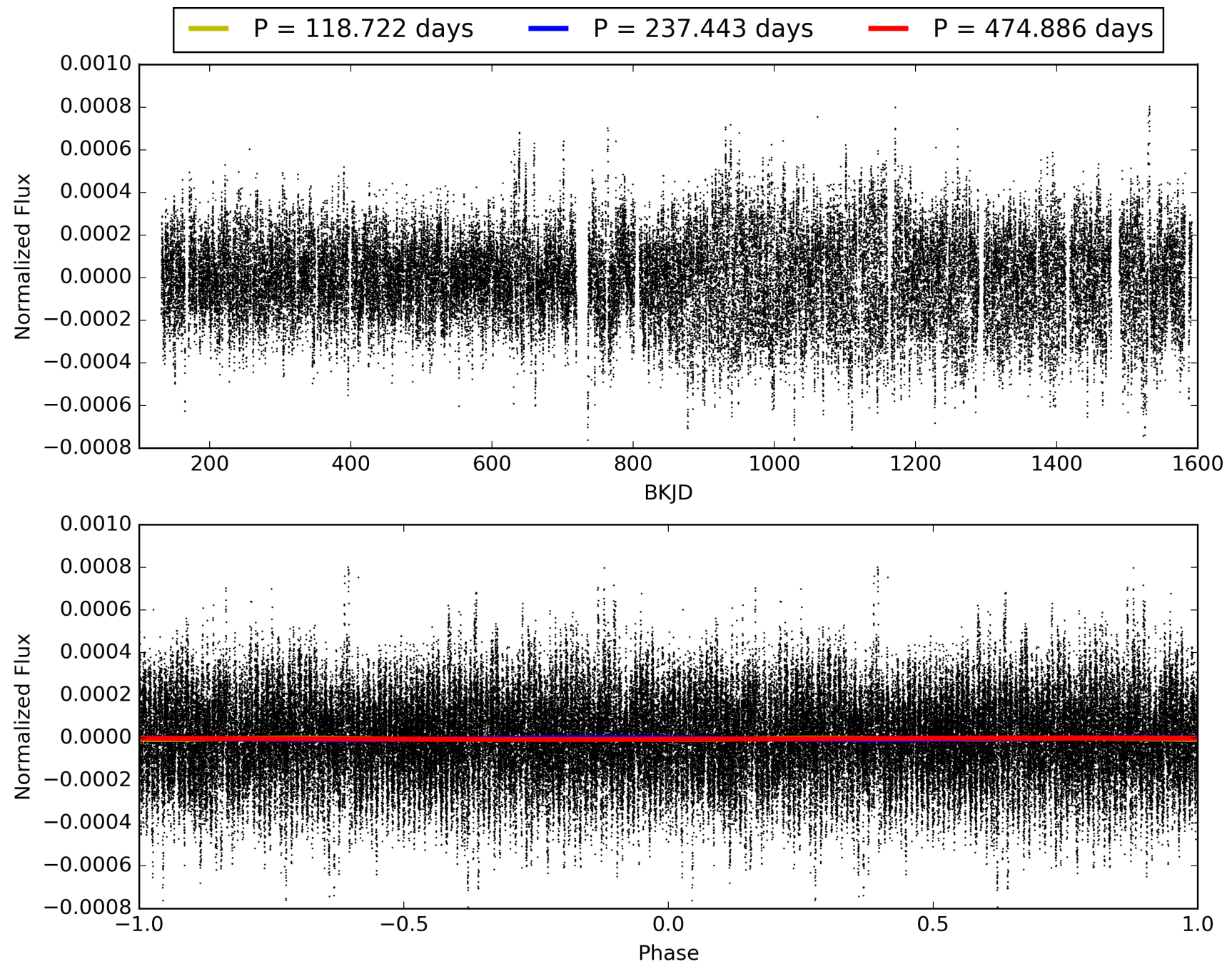
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:35 Z

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

TCE 009025557-08, PDC Light Curves

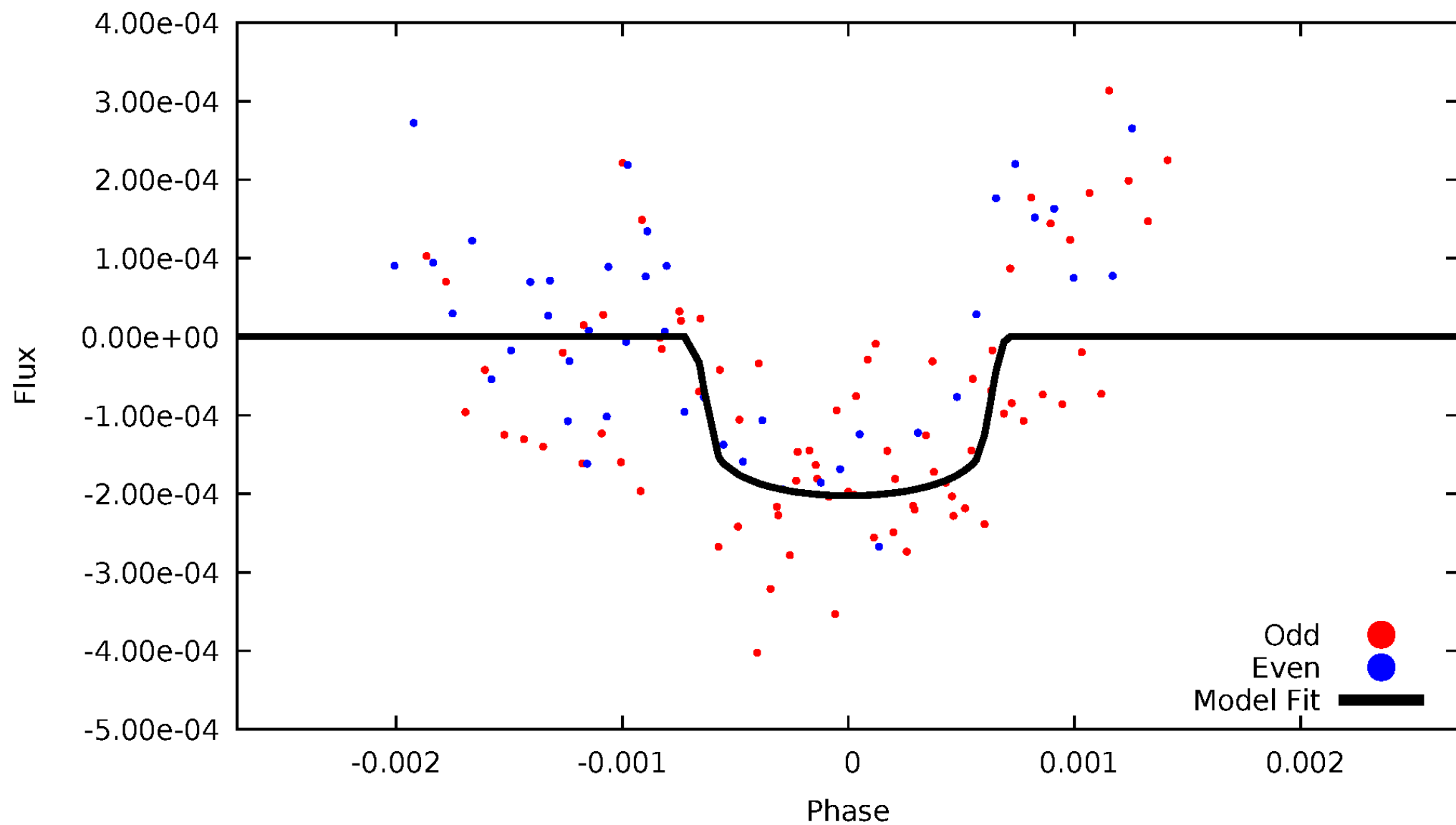


TCE 009025557-08



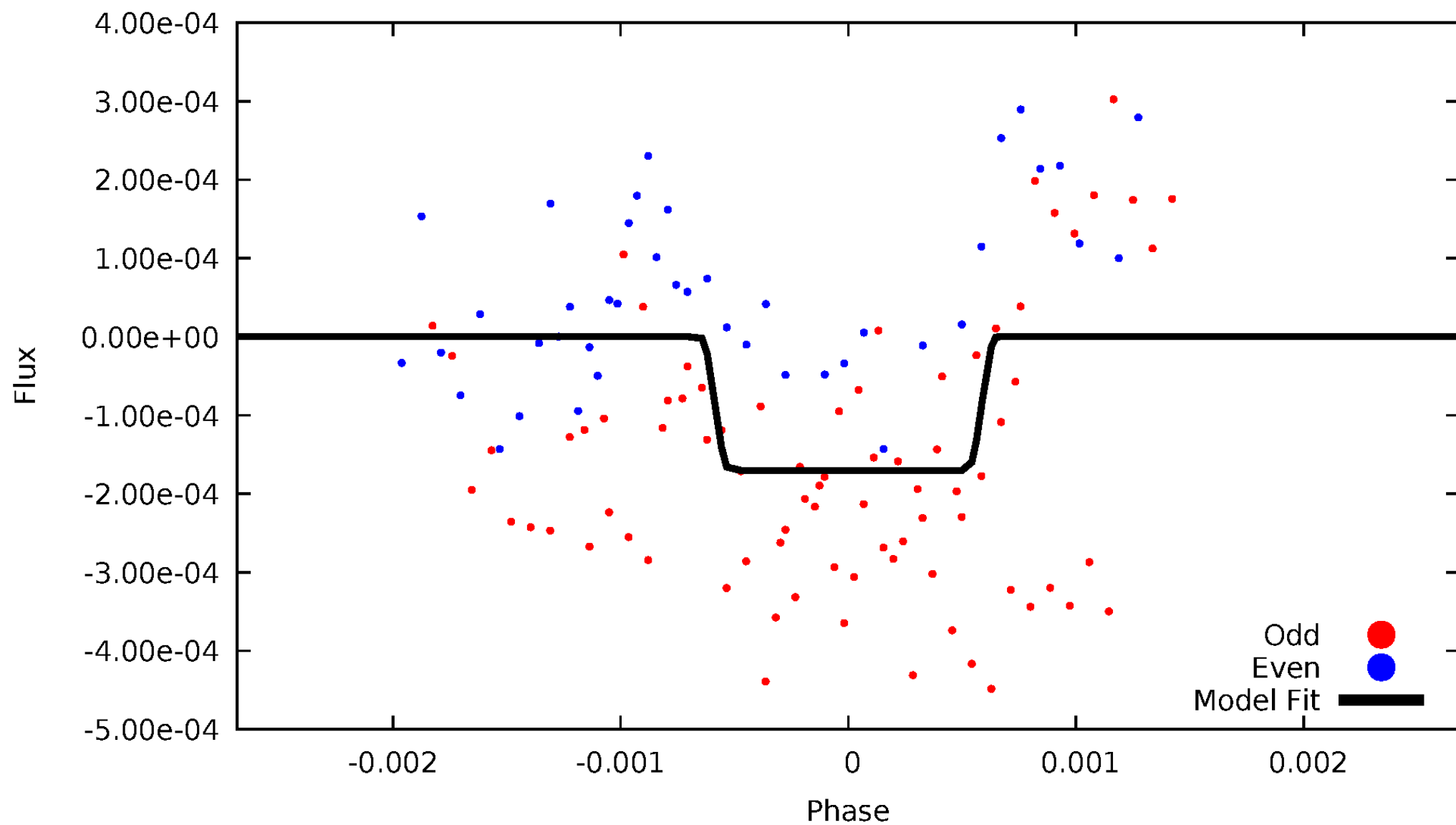
DV Odd/Even

TCE 009025557-08



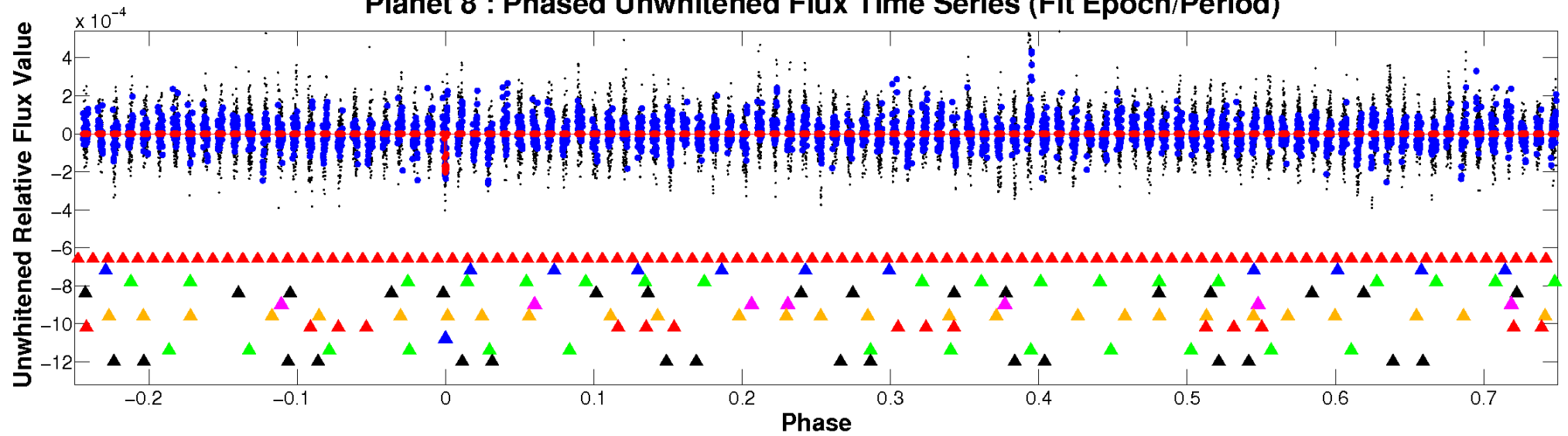
ALT Odd/Even

TCE 009025557-08

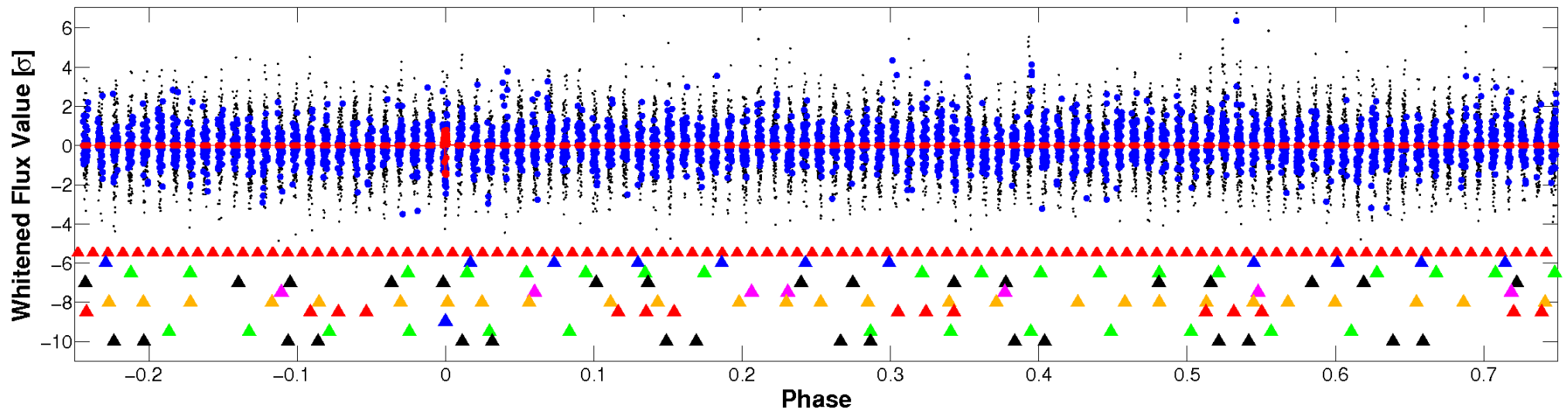


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

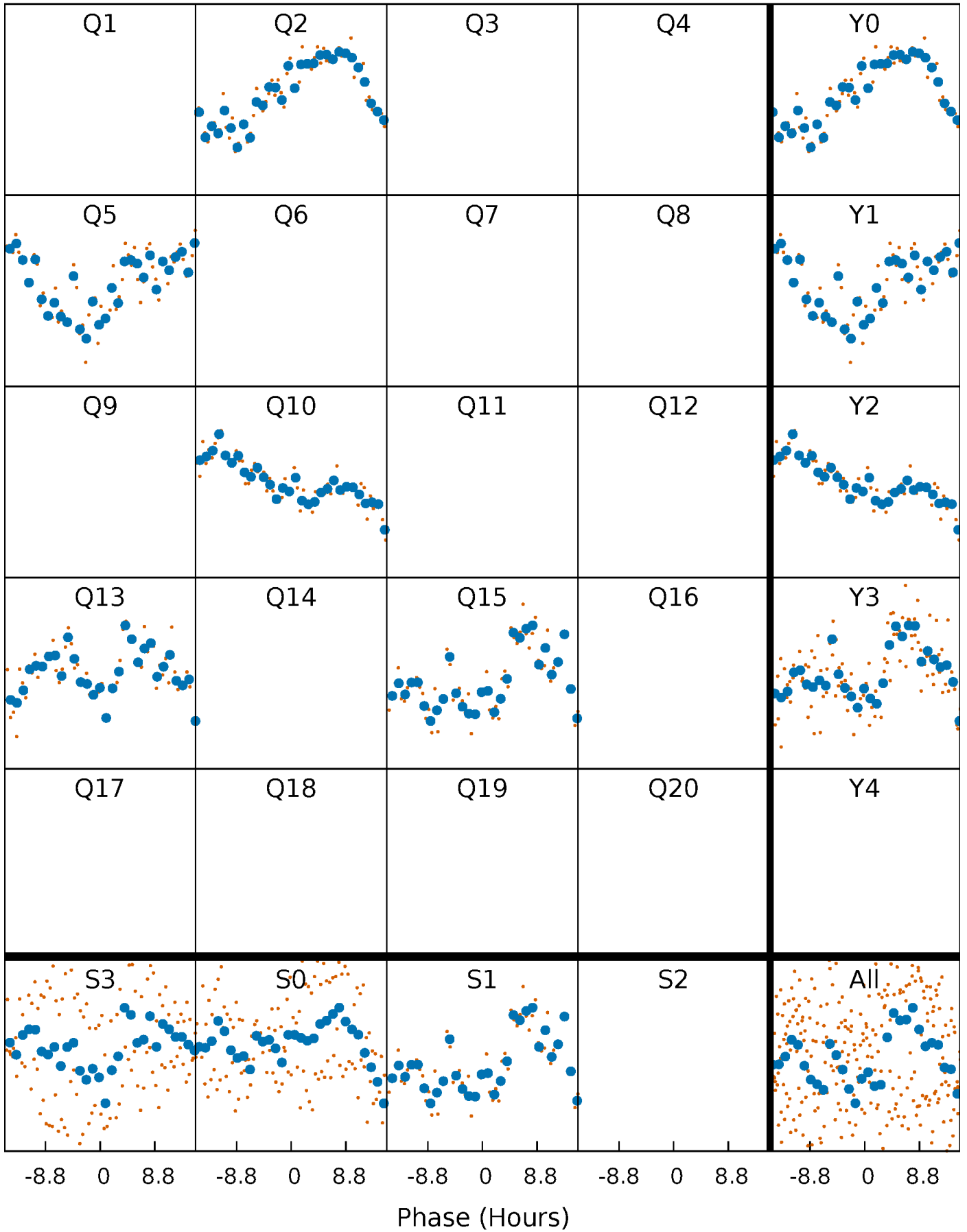


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



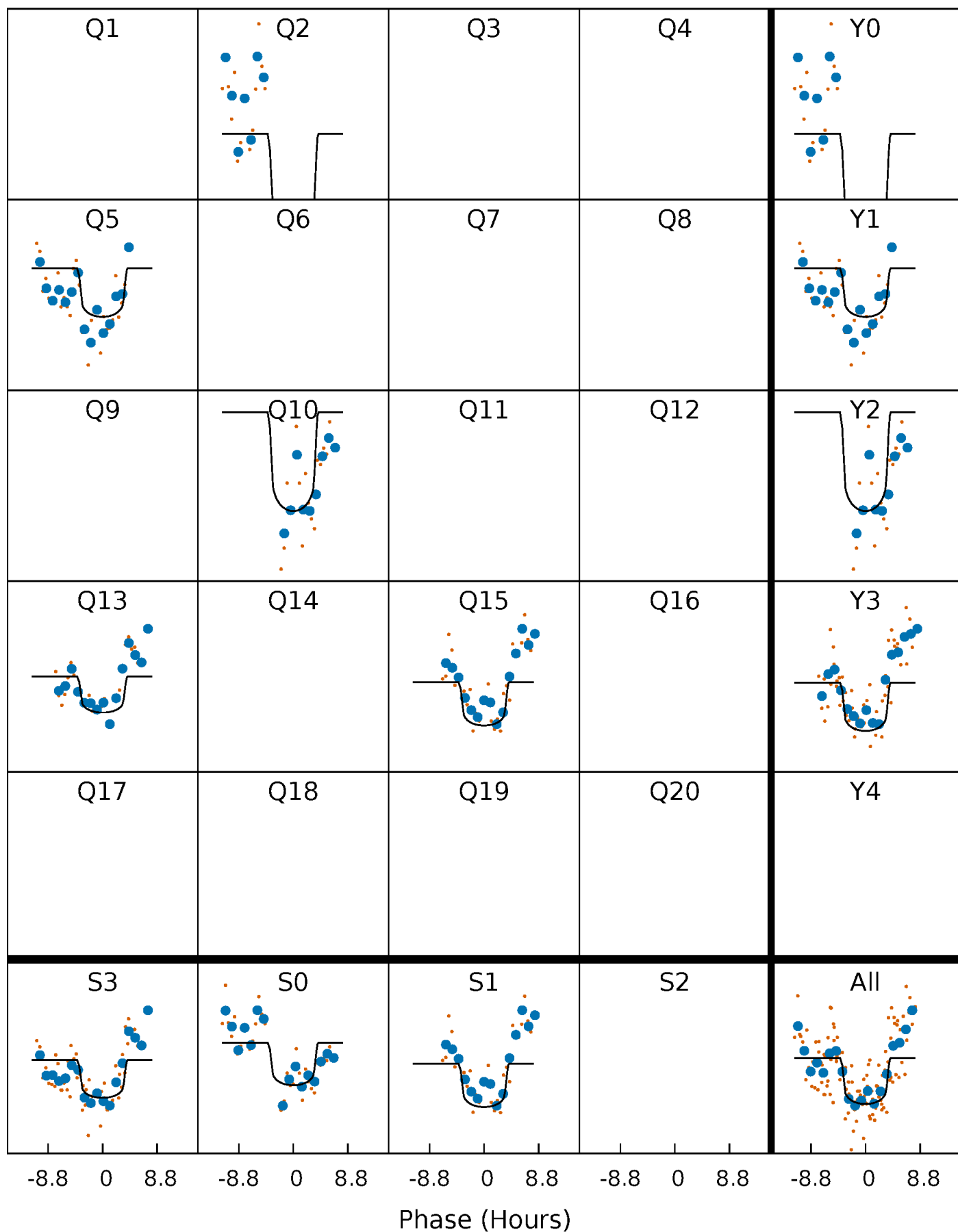
PDC Quarter-Phased Transit Curves

TCE 009025557-08 $P=237.443073$ Days $T_0=250.096896$ (BKJD)



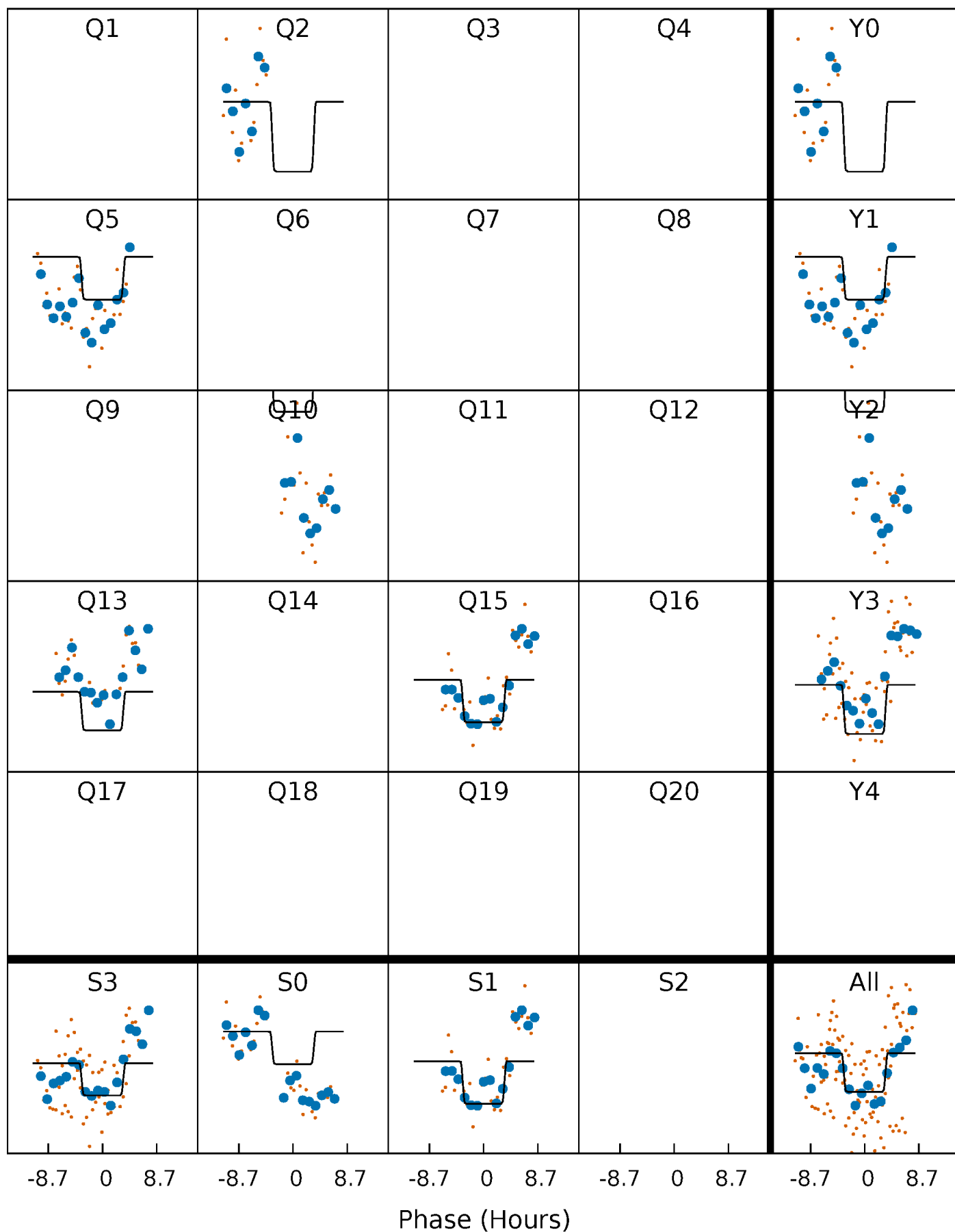
DV Quarter-Phased Transit Curves

TCE 009025557-08 P=237.443073 Days $T_0=250.096896$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

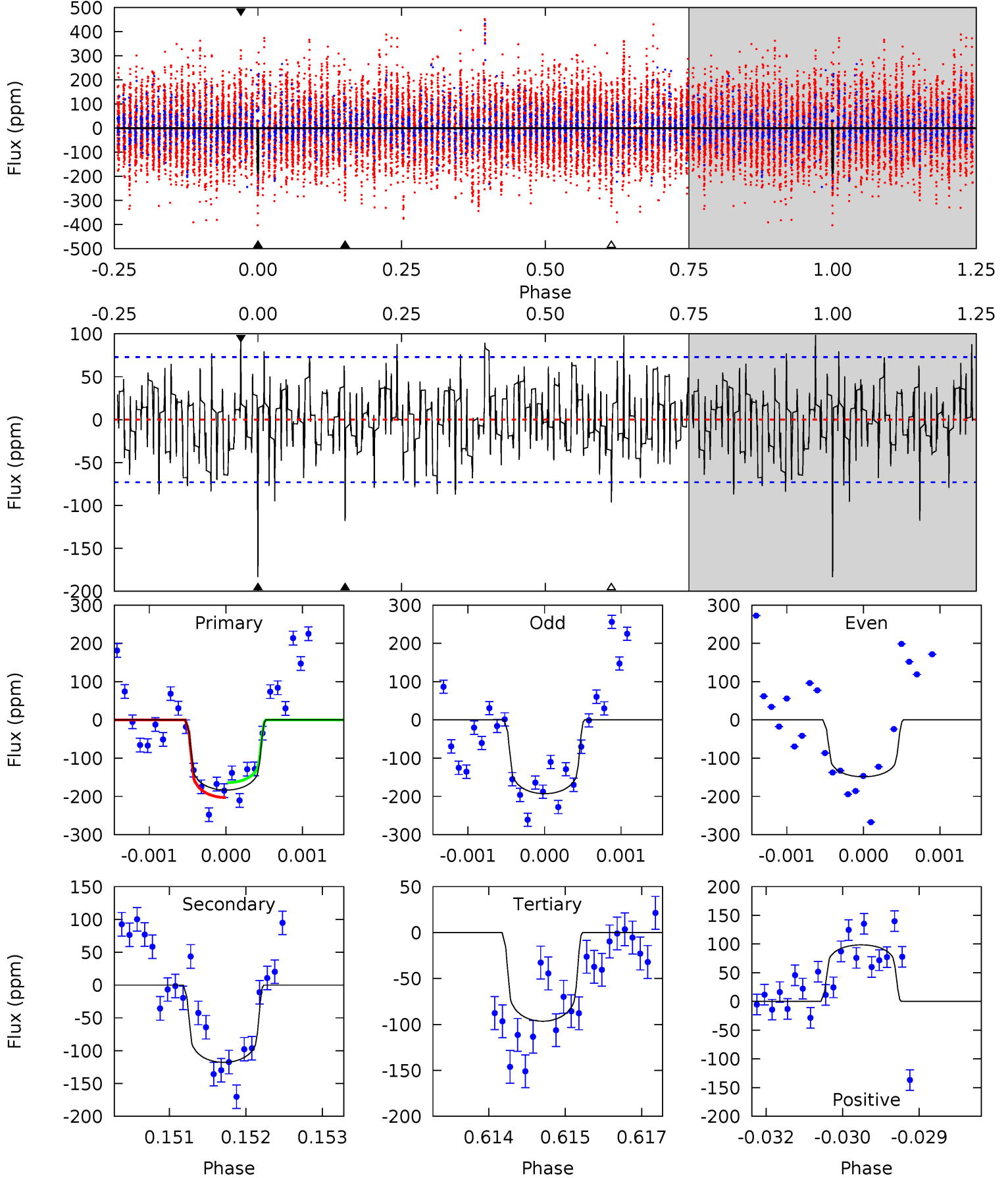
TCE 009025557-08 P=237.444778 Days $T_0=250.085703$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-08, P = 237.443073 Days, E = 12.653823 Days

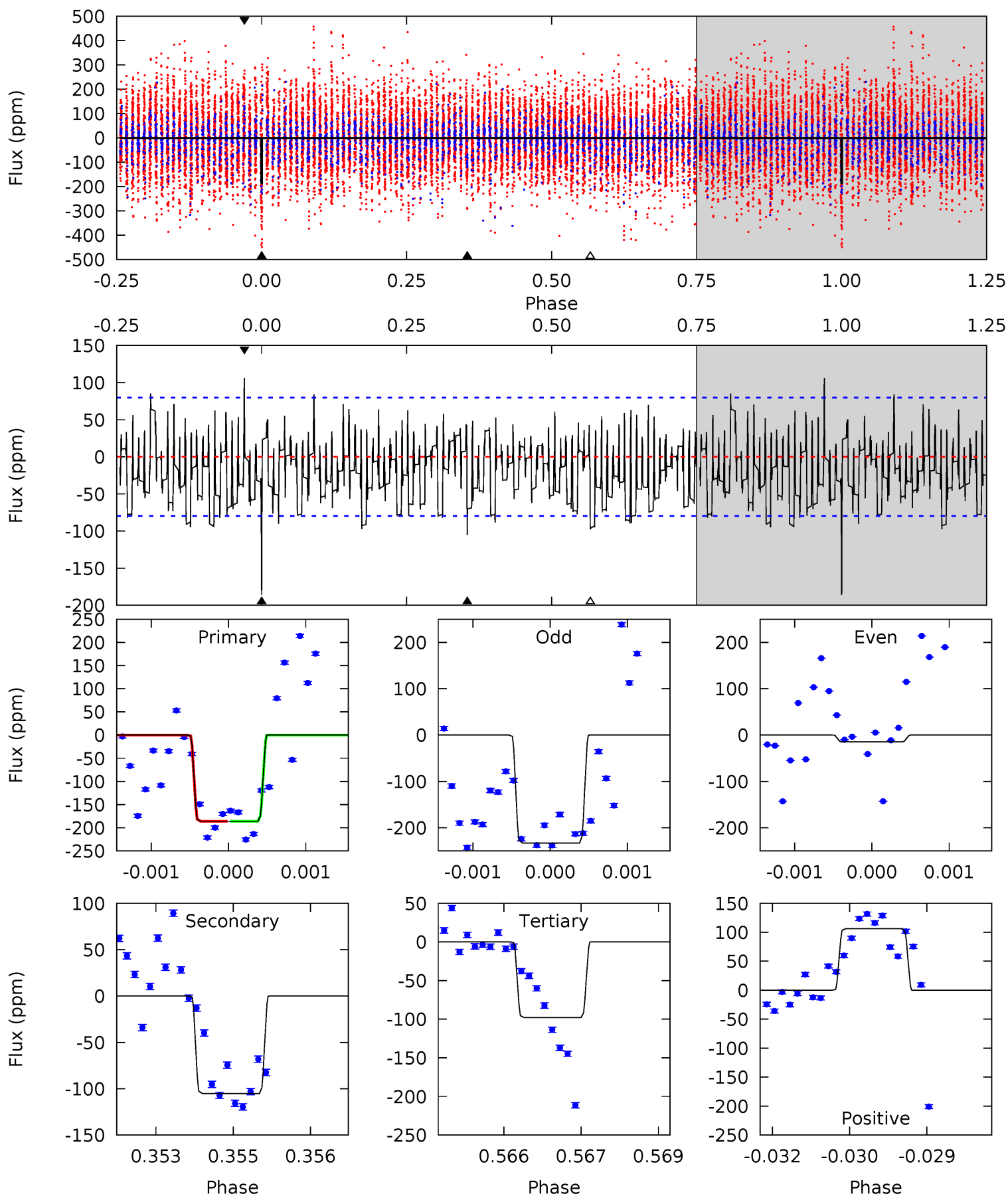
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	8.71	7.14	7.29	5.40	3.20	2.35	6.43	6.28	1.58	1.42	1.37	1.03	0.35	1.43



Alt Model-Shift Uniqueness Test

009025557-08, P = 237.444778 Days, E = 12.640925 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	7.13	6.63	7.19	5.40	3.21	2.23	5.98	5.42	0.50	-0.05	6.23	0.92	0.36	0.01



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-118 ± 14	$3.43^{+0.97}_{-0.93}$	676^{+42}_{-56}	5722^{+805}_{-567}	3584^{+3088}_{-1420}
Alt.	-105 ± 15	$2.98^{+0.92}_{-0.98}$	676^{+40}_{-67}	5928^{+1099}_{-659}	4256^{+5033}_{-1822}

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

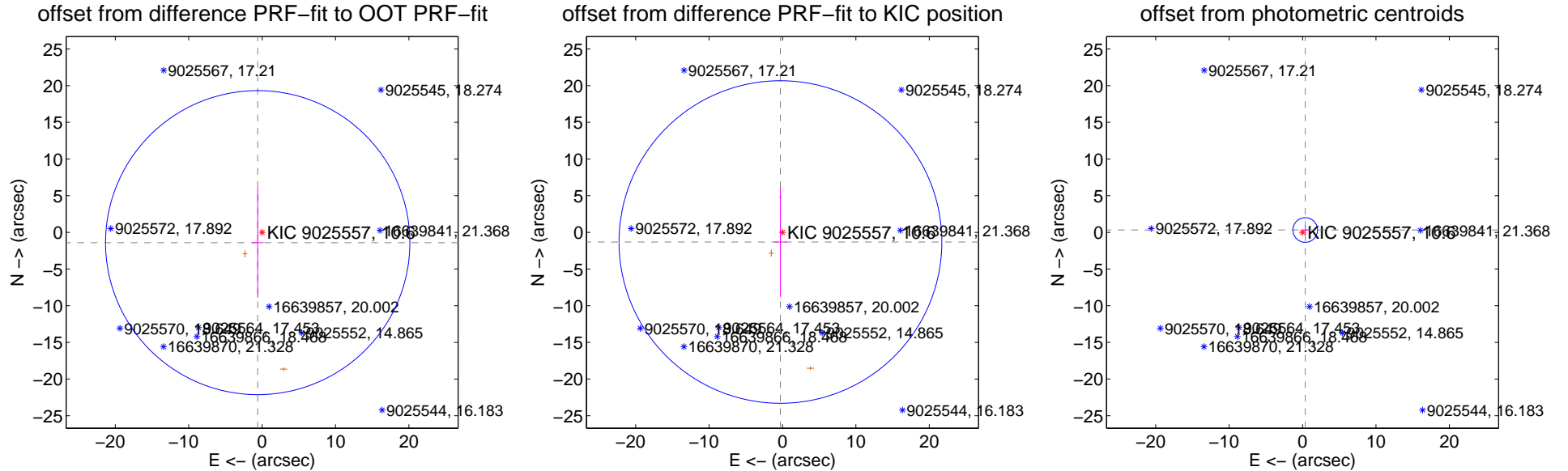
DV Centroid Data

Supplemental centroid analysis for 009025557-08. **Kepler magnitude: 10.60.** Transit SNR 10.67

There are 1 quarters with good PRF difference image offsets

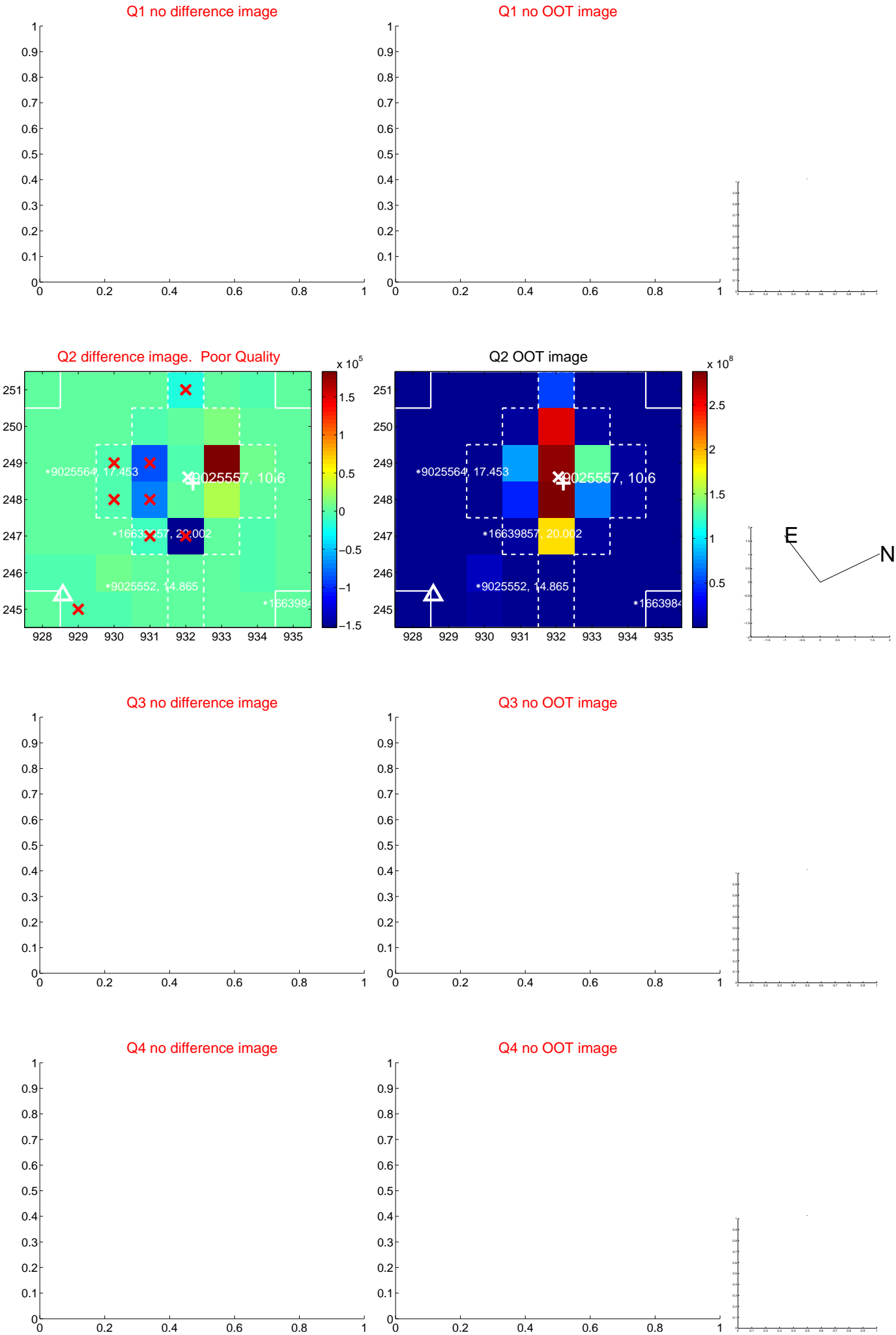
The direct PRF centroid is offset from the target star catalog position by about 0.81 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.525 ± 6.908	0.22	0.599 ± 0.793	-1.403 ± 7.504
PRF-fit source offset from KIC position	1.346 ± 7.329	0.18	0.278 ± 0.859	-1.317 ± 7.489
photometric centroid source offset	0.49 ± 0.56	0.87	-0.37 ± 0.50	0.32 ± 0.63

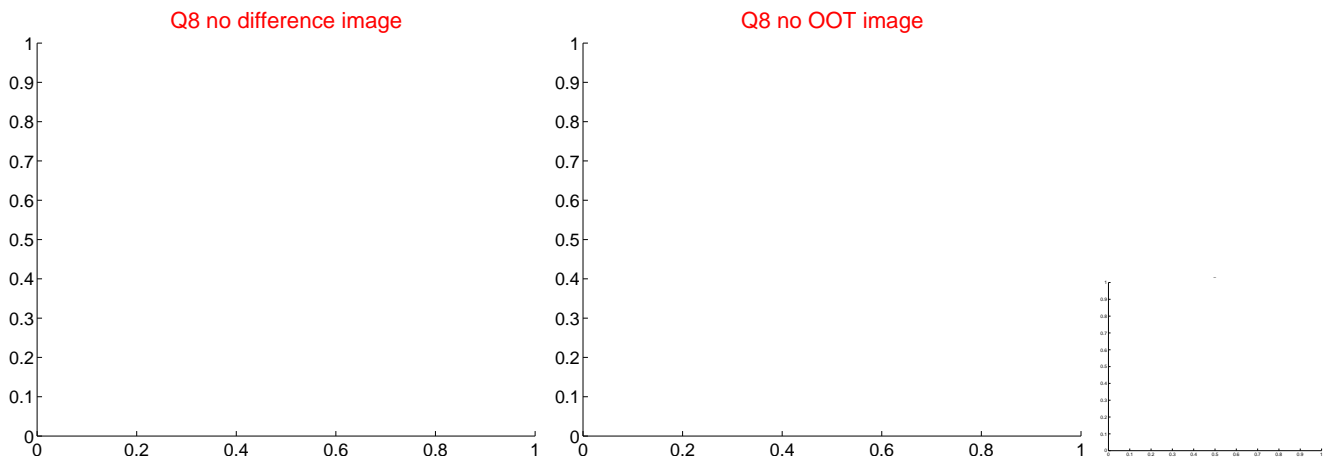
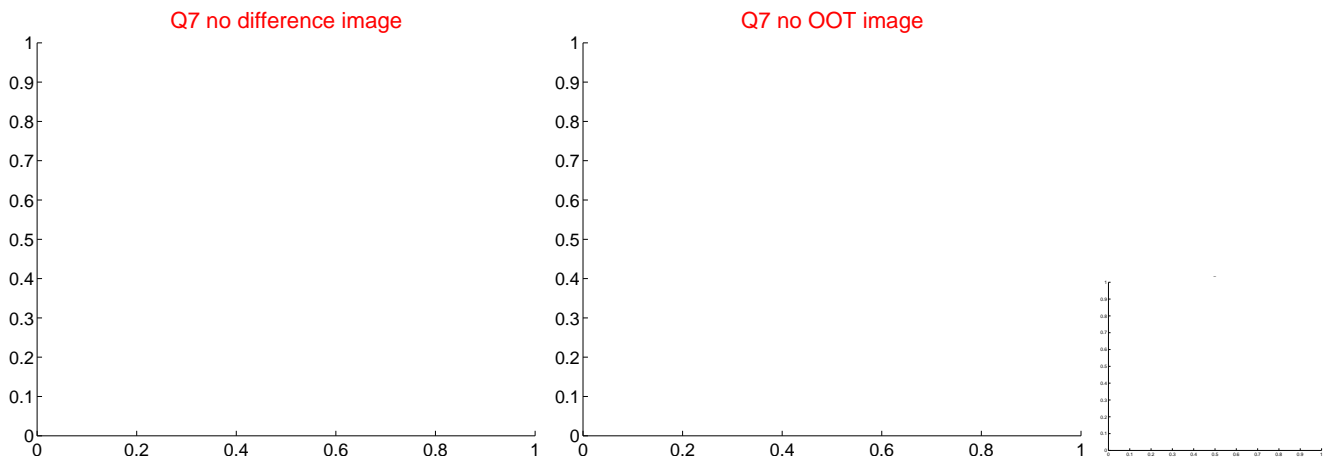
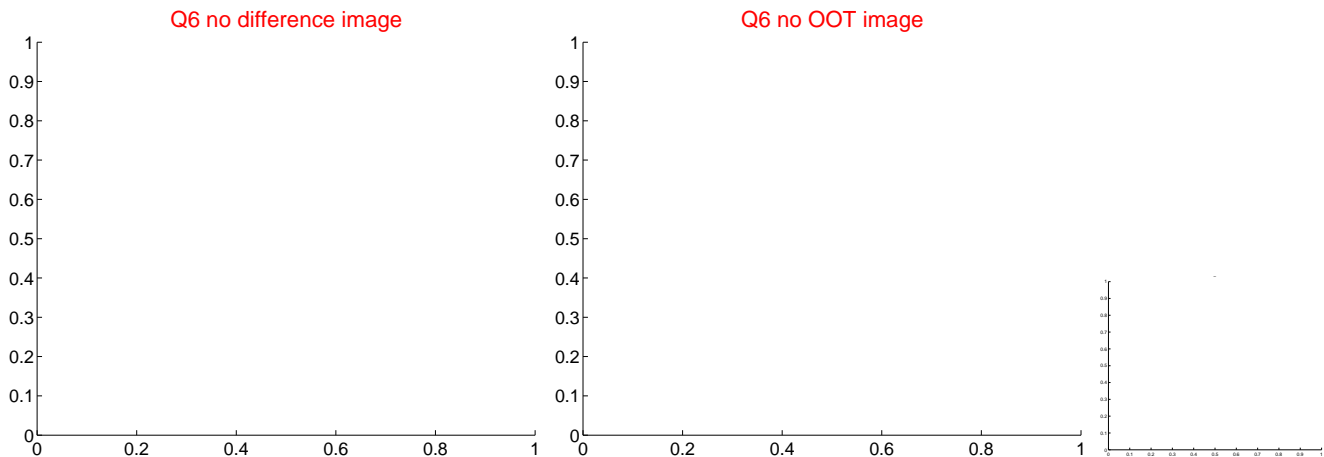
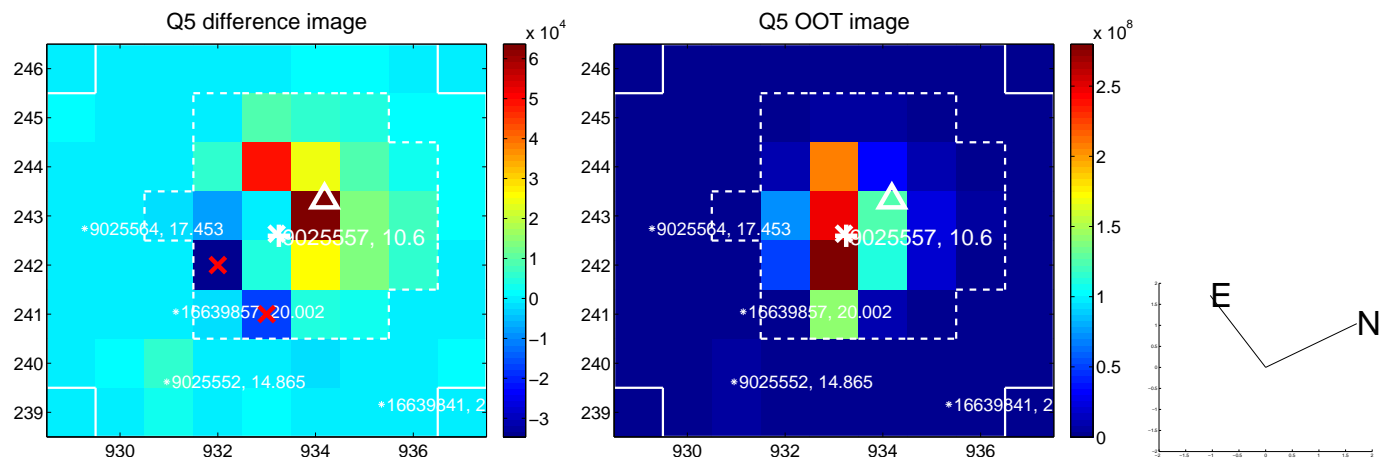


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

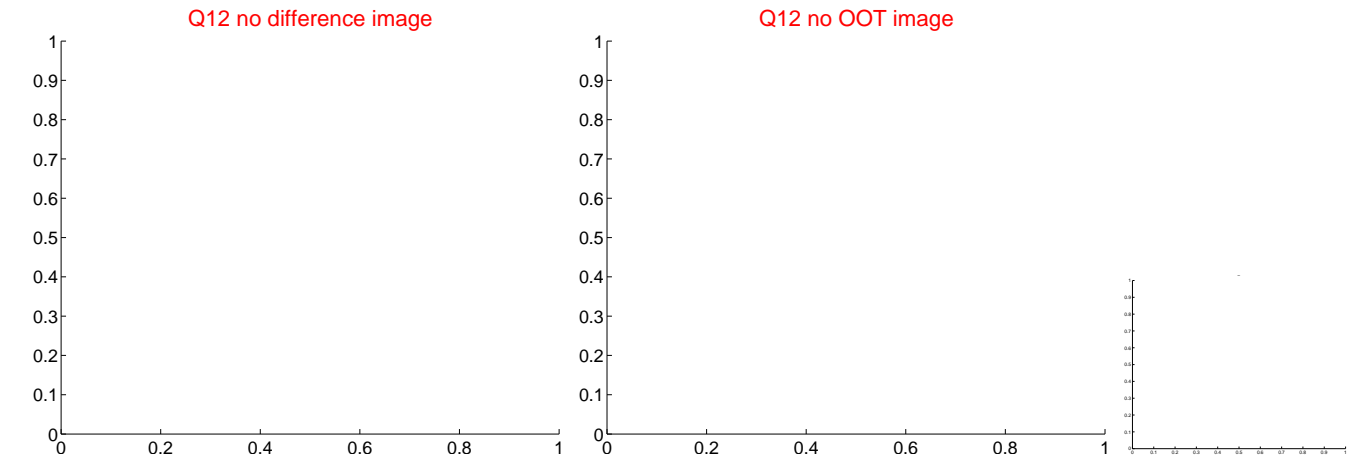
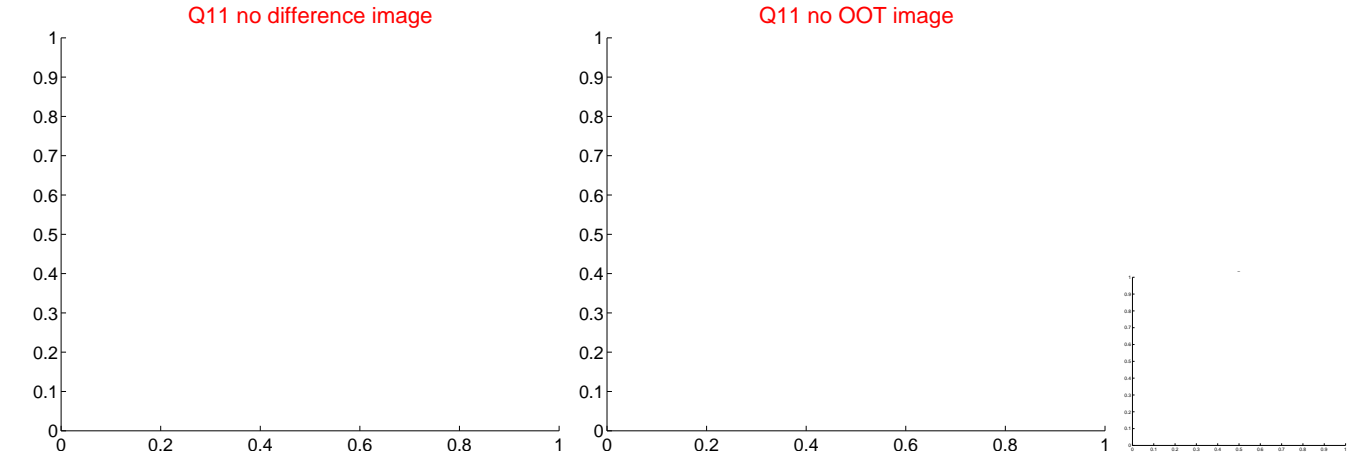
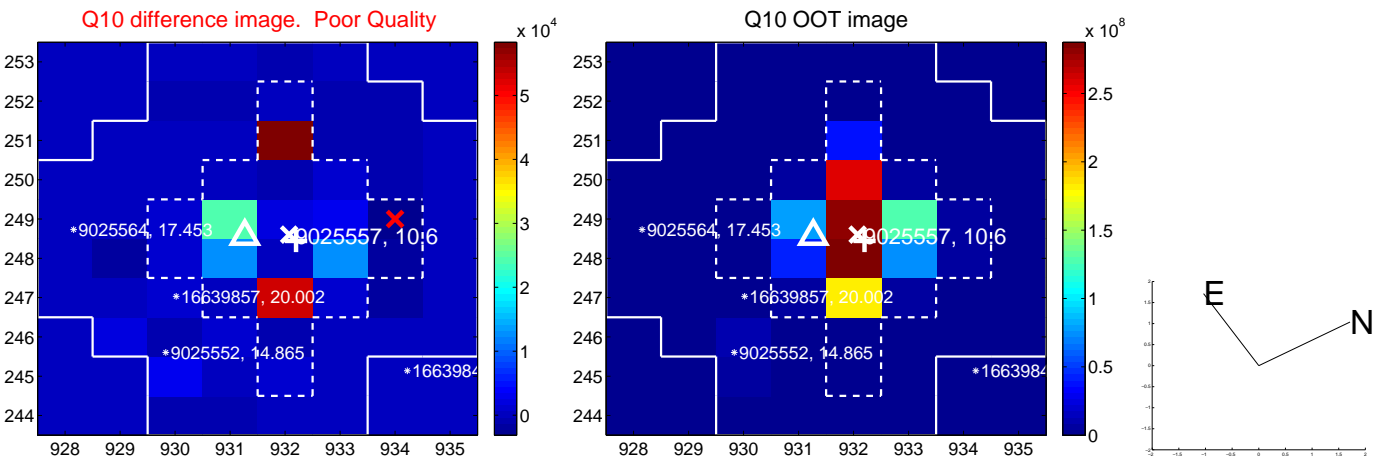
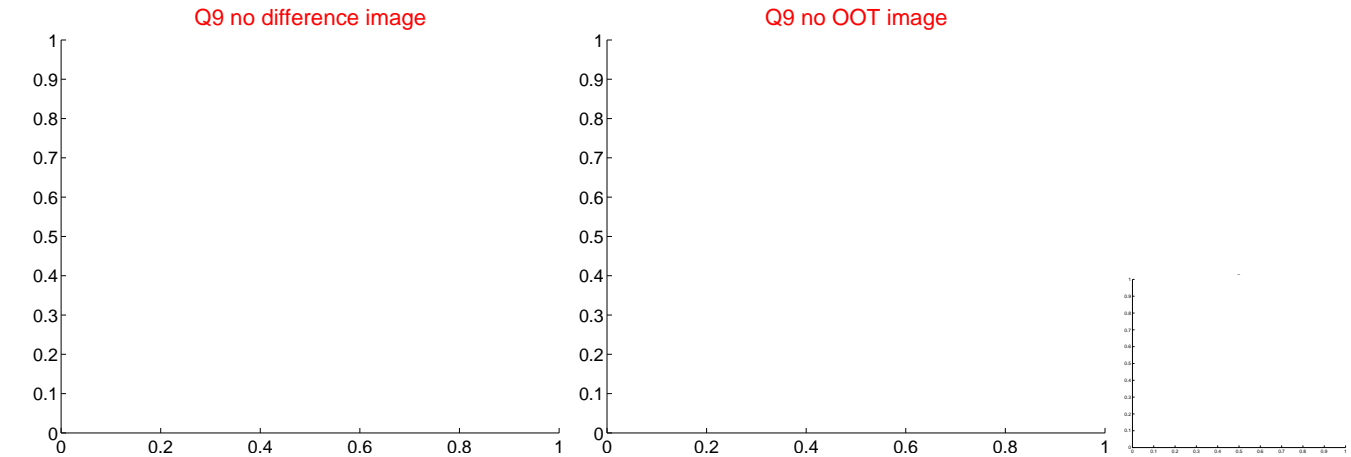
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



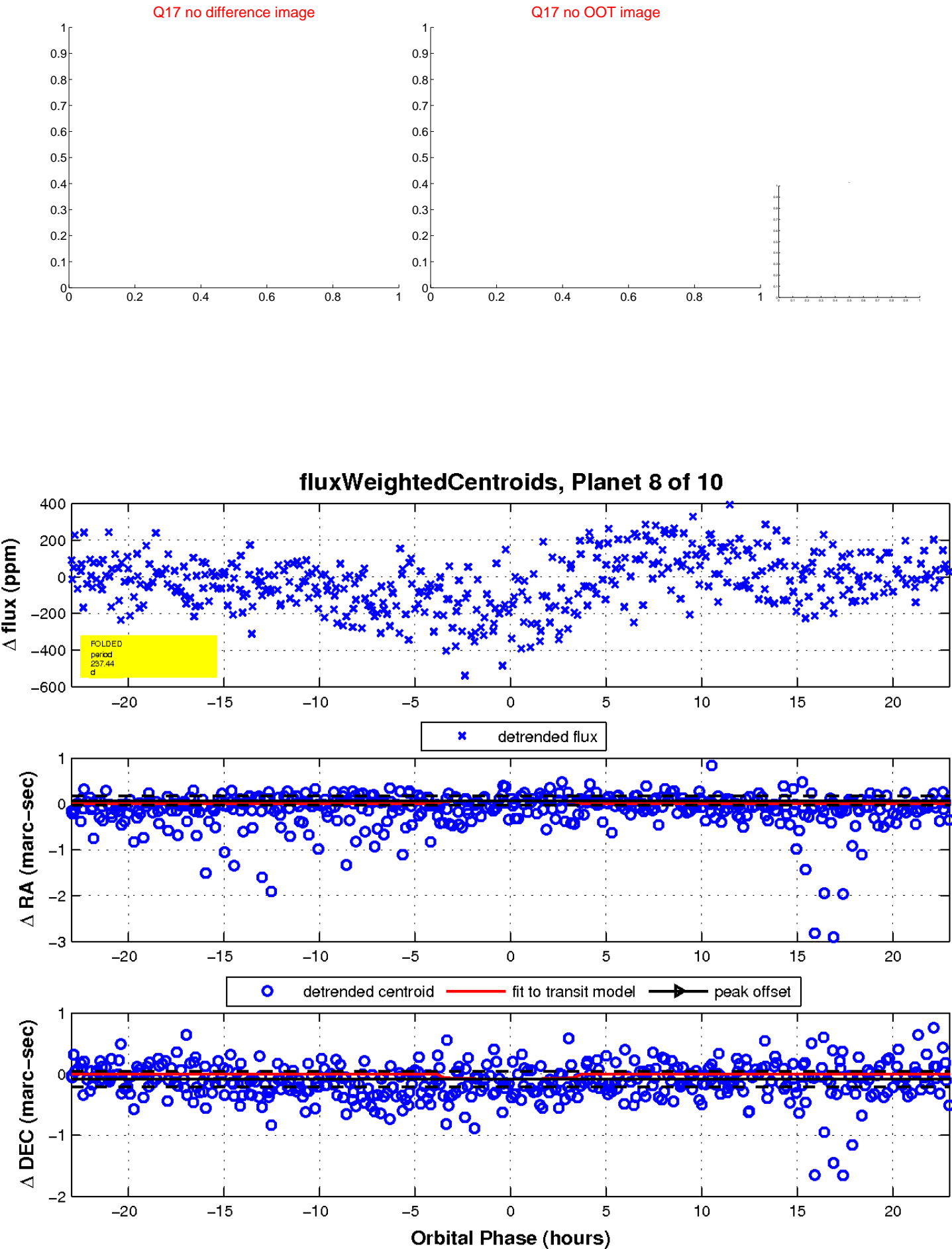
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

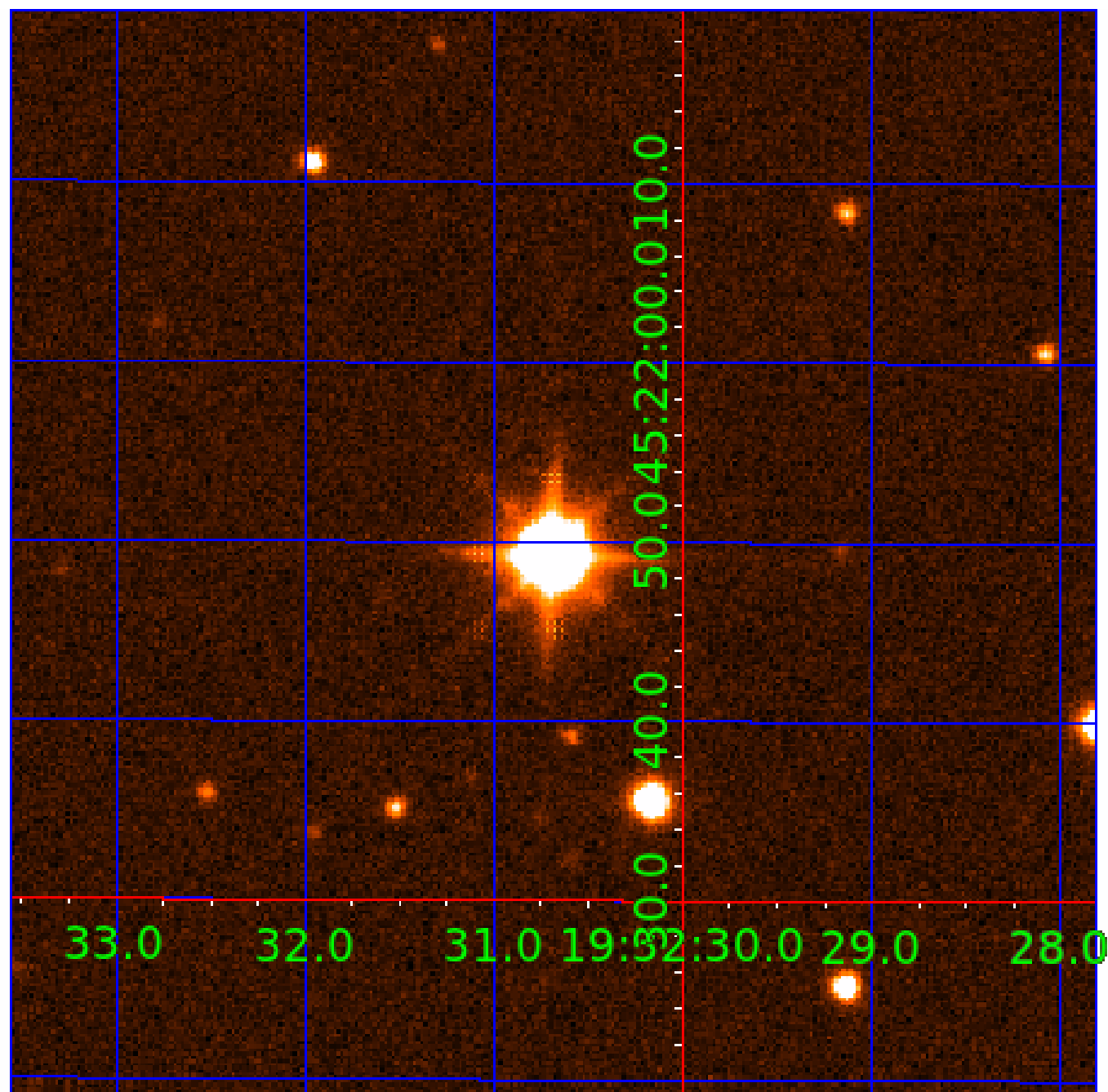


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

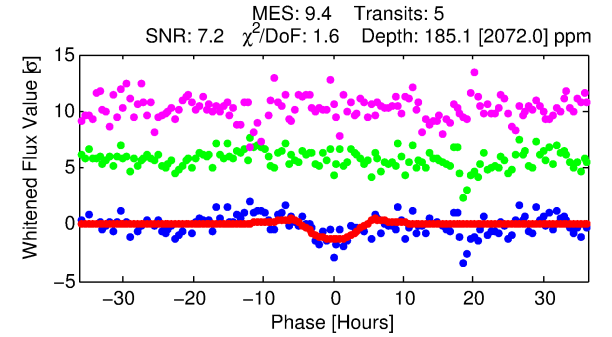
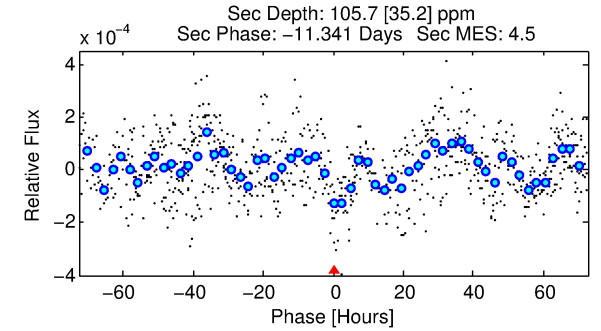
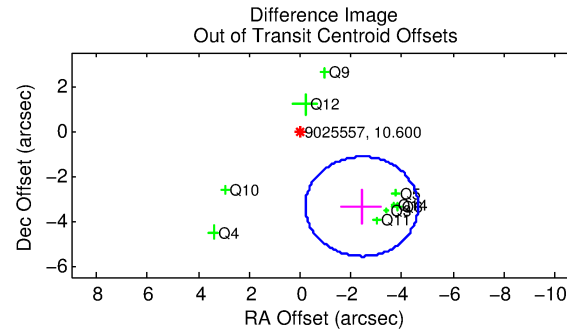
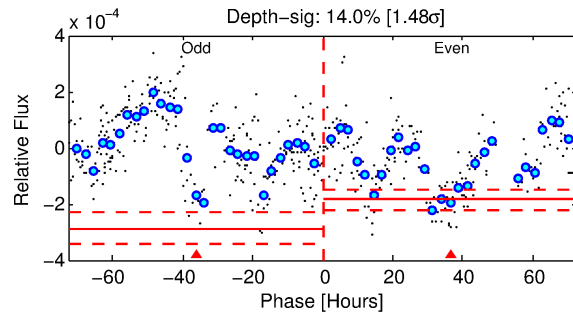
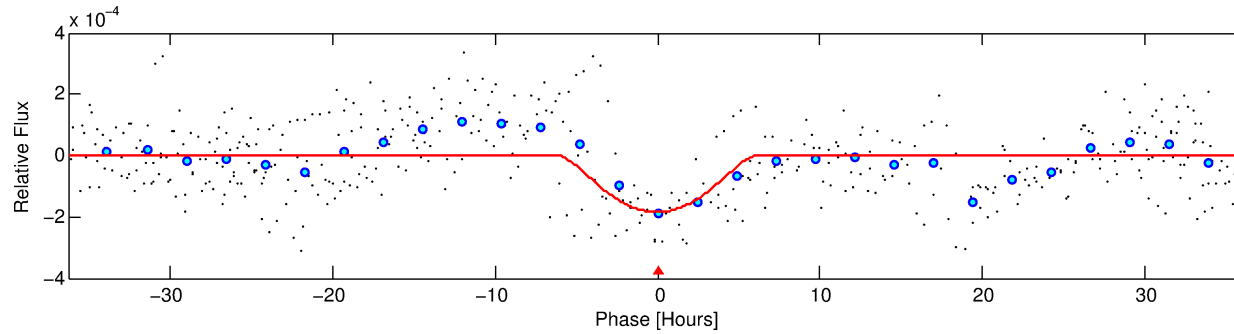
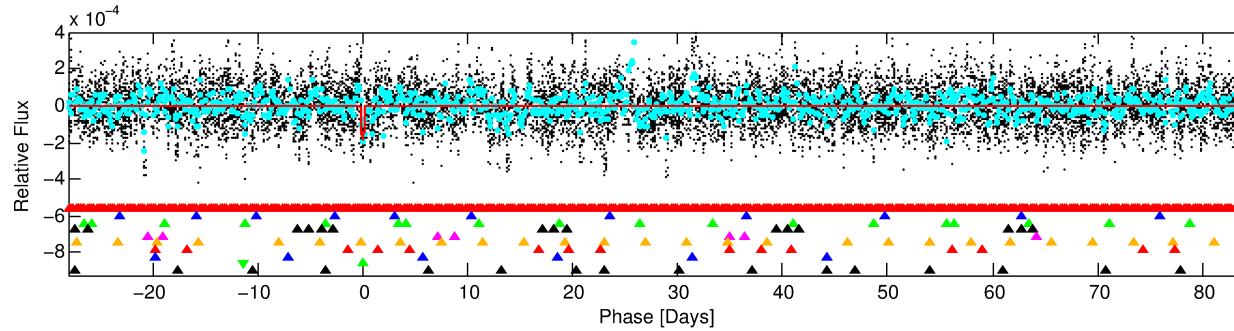
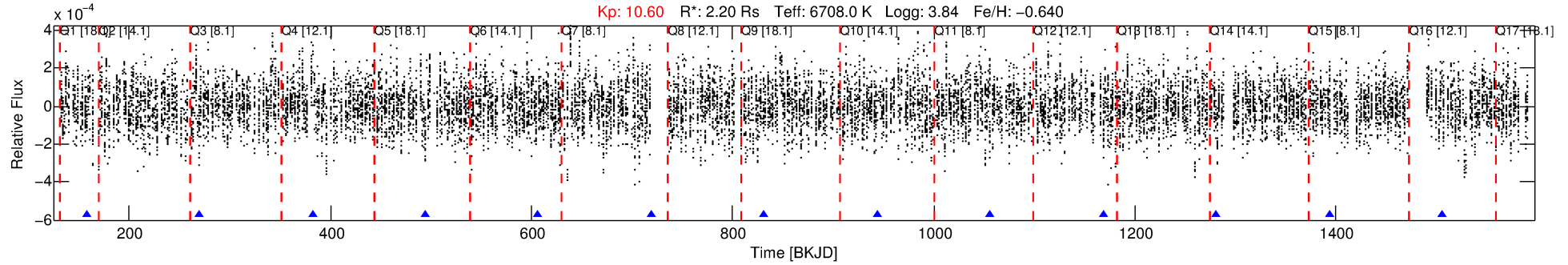
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-09

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 9 of 10 Period: 112.309 d



DV Fit Results:

Period = 112.30911 [0.00766] d
Epoch = 157.6570 [0.0426] BKJD
Rp/R* = 0.0245 [0.0924]
a/R* = 15.80 [15.91]
b = 1.00 [0.06]
Seff = 37.23 [20.19]
Teq = 630 [85] K
Rp = 5.87 [22.28] Re
a = 0.4854 [0.1622] AU
Ag = 397.61 [3014.71] [0.13 σ]
Teffp = 4349 [8224] K [0.45 σ]

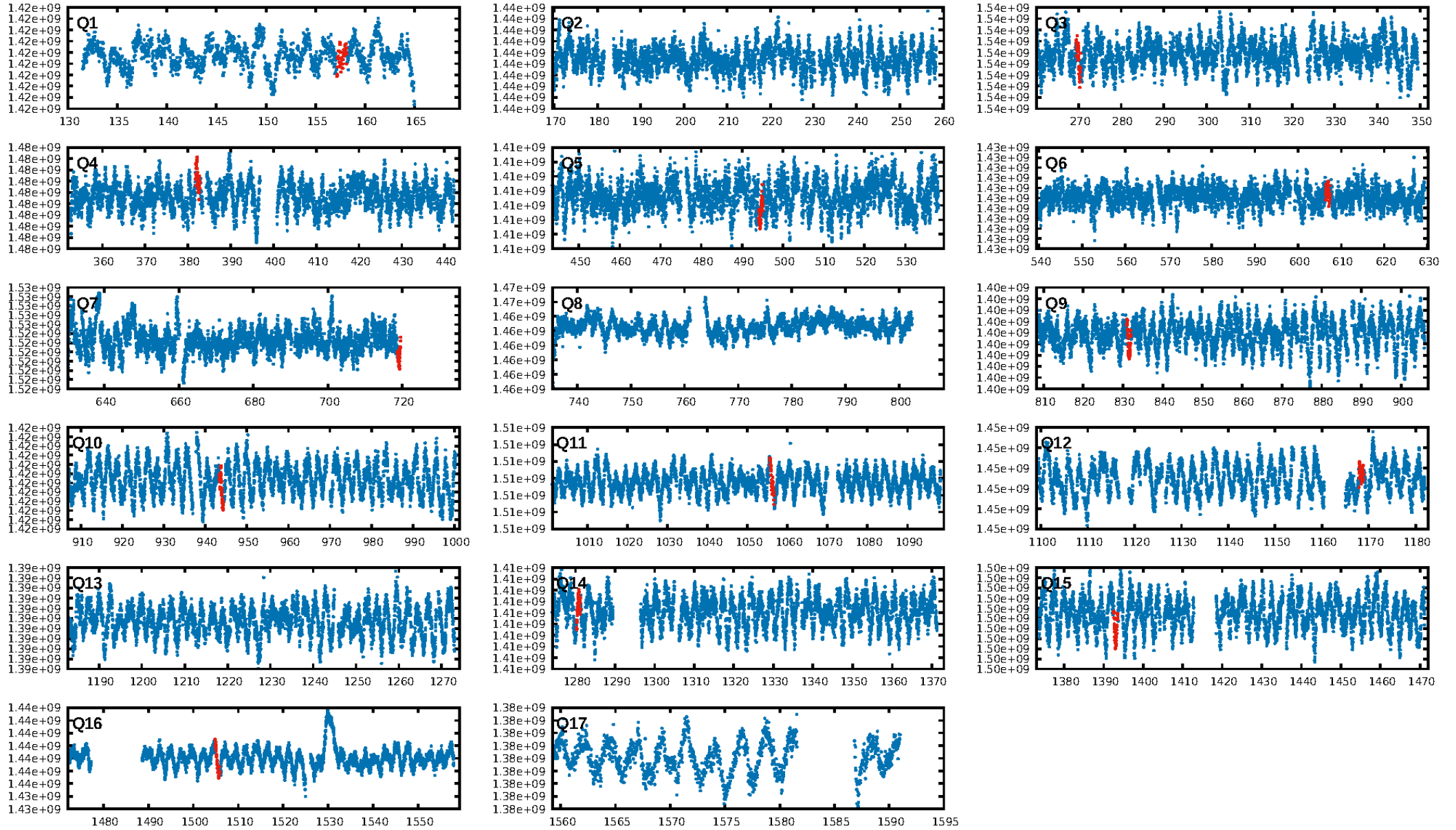
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.20 σ]
LongPeriod-sig: 100.0% [17.47 σ]
ModelChiSquare2-sig: 66.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.605
Centroid-sig: 76.2%
Centroid-so: 0.259 arcsec [0.62 σ]
OotOffset-rm: 4.146 arcsec [5.61 σ]
KicOffset-rm: 4.045 arcsec [4.82 σ]
OotOffset-st: 3/2/2/2 [9]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 0.11 [1/9]
DiffImageOverlap-fno: 0.00 [0/10]

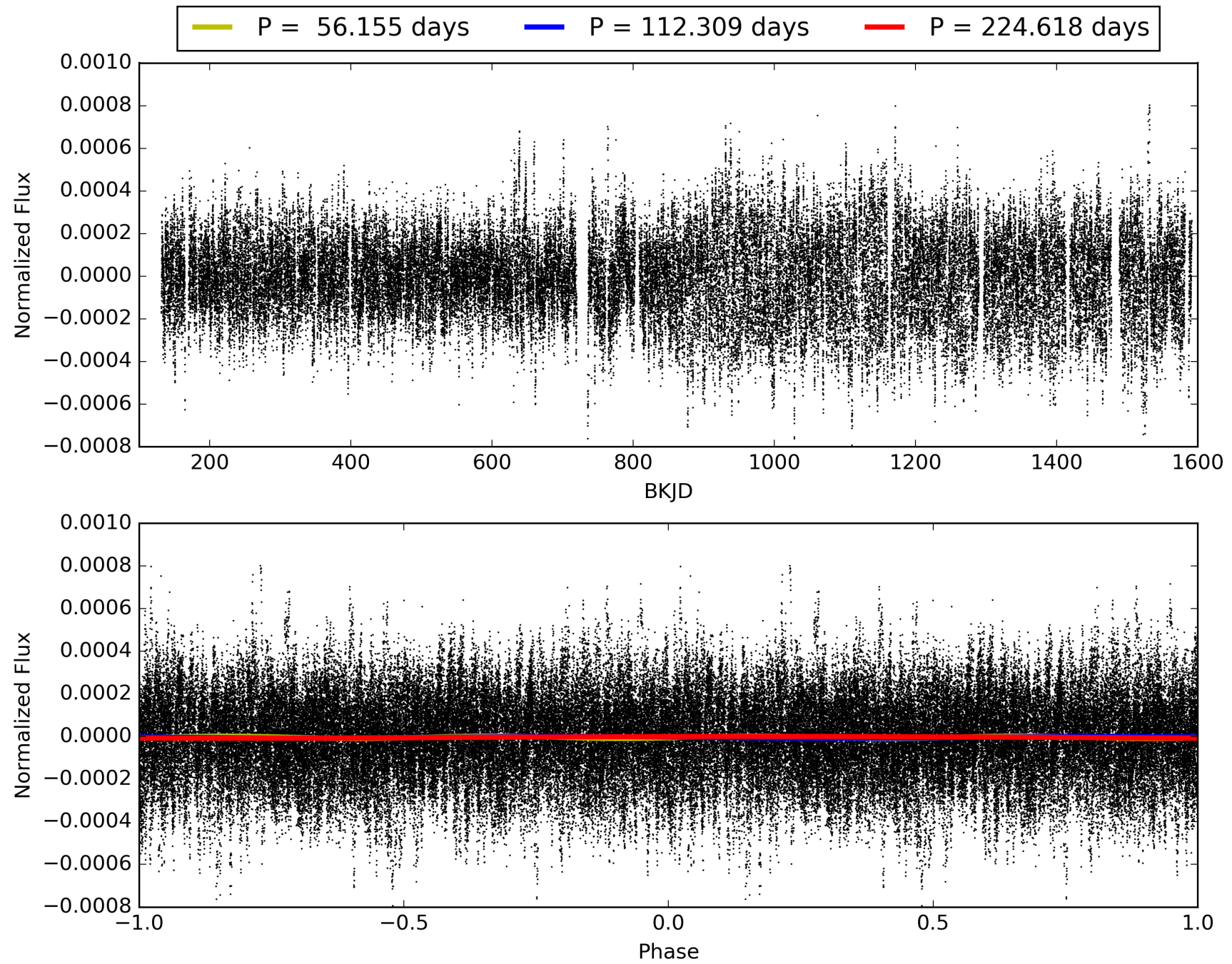
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:39 Z

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

TCE 009025557-09, PDC Light Curves

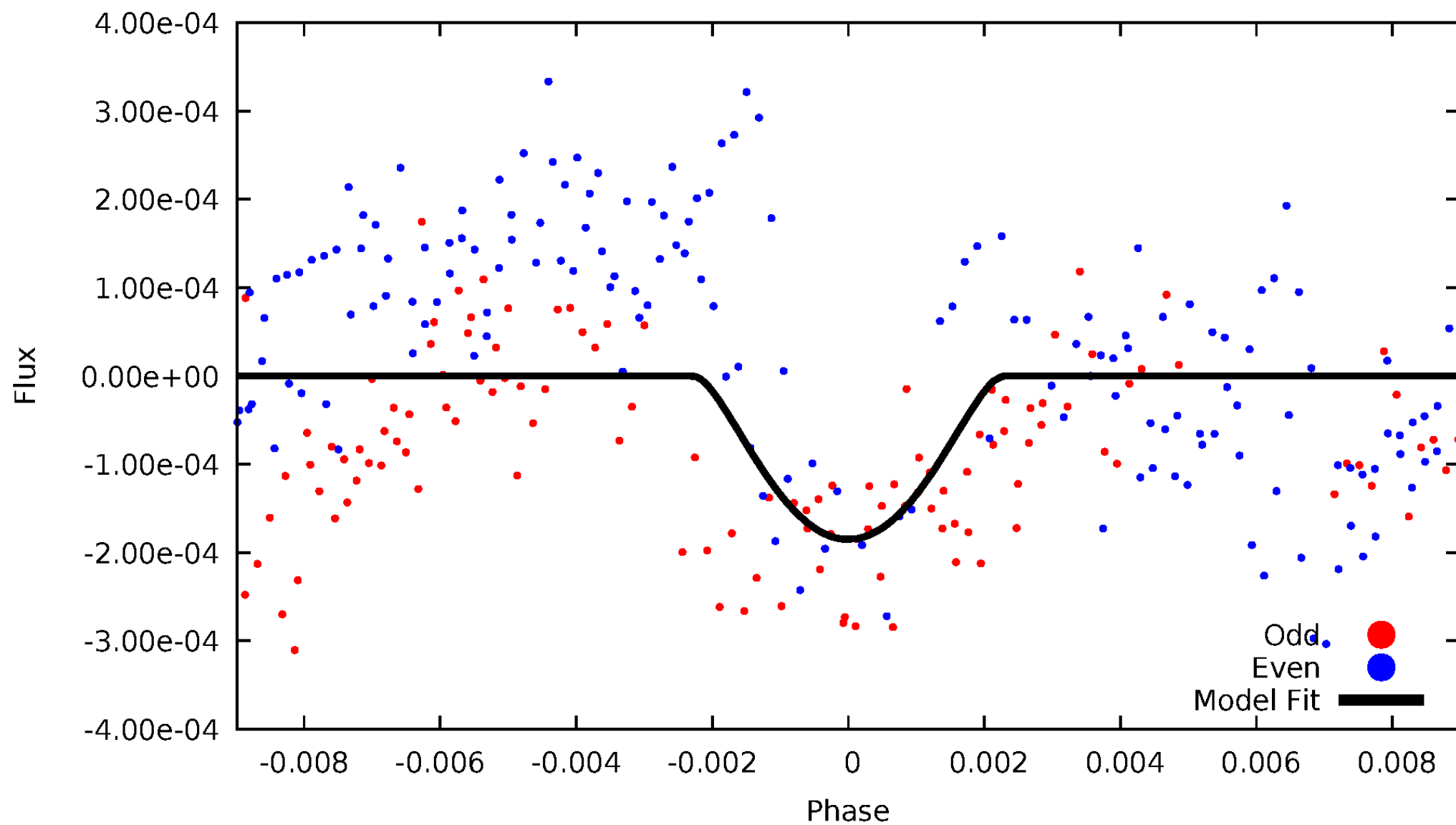


TCE 009025557-09



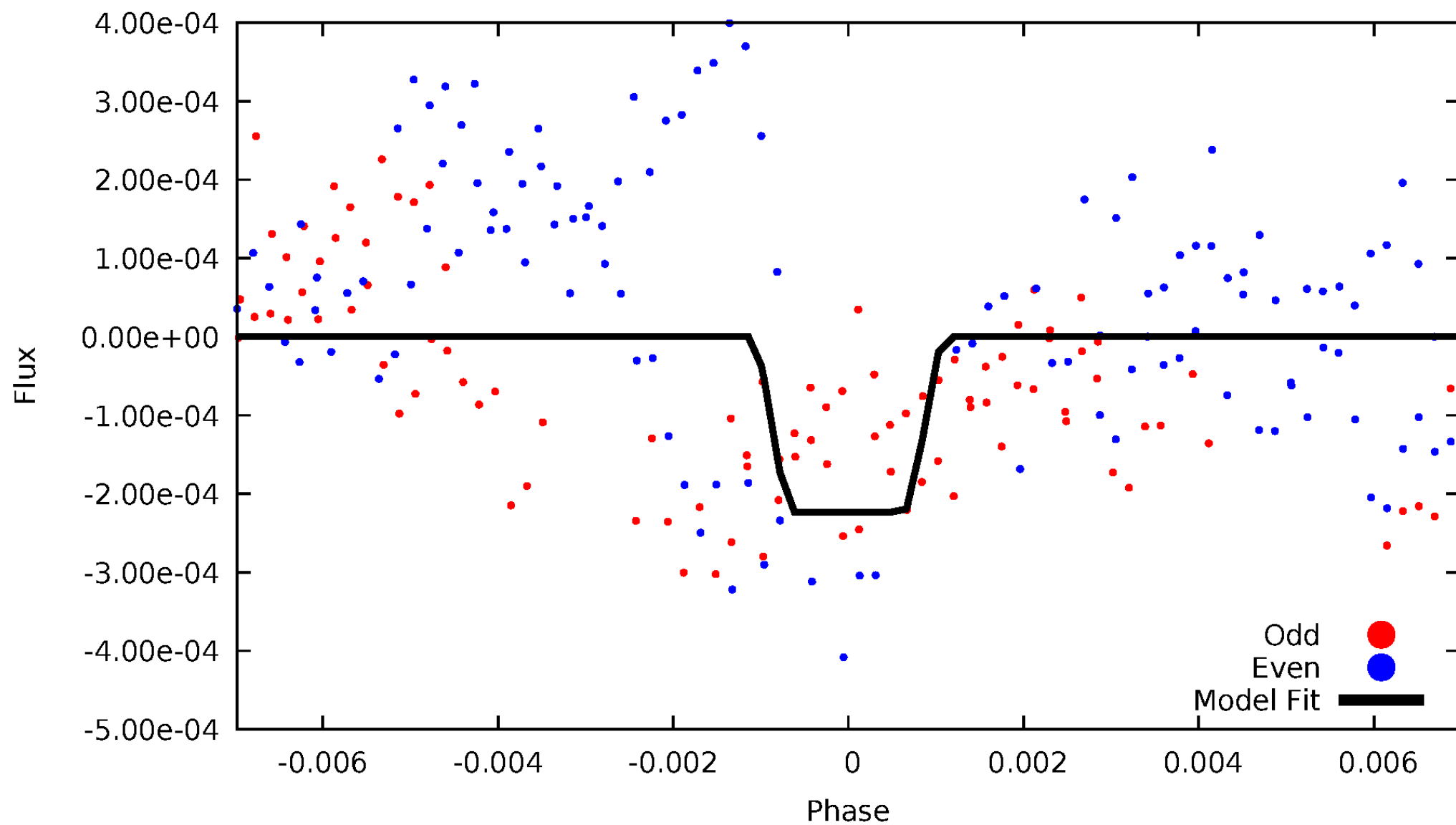
DV Odd/Even

TCE 009025557-09



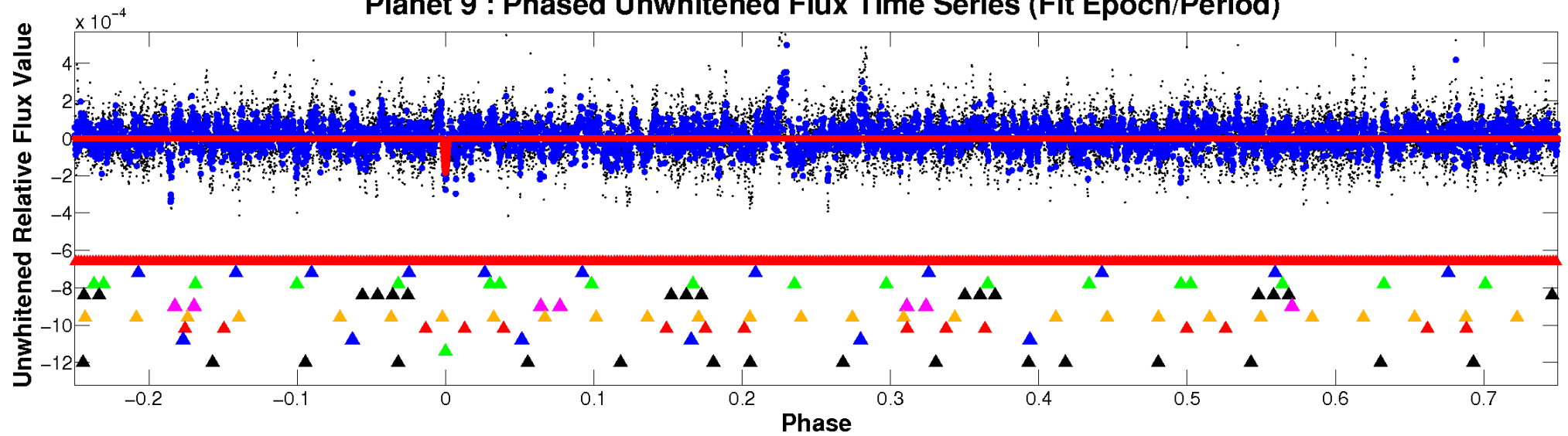
ALT Odd/Even

TCE 009025557-09

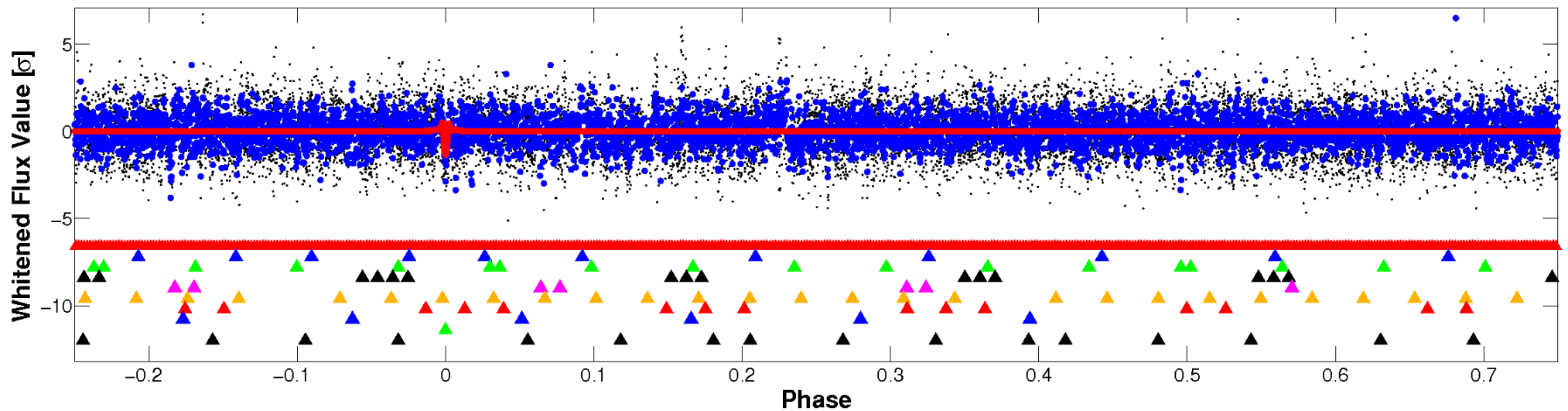


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

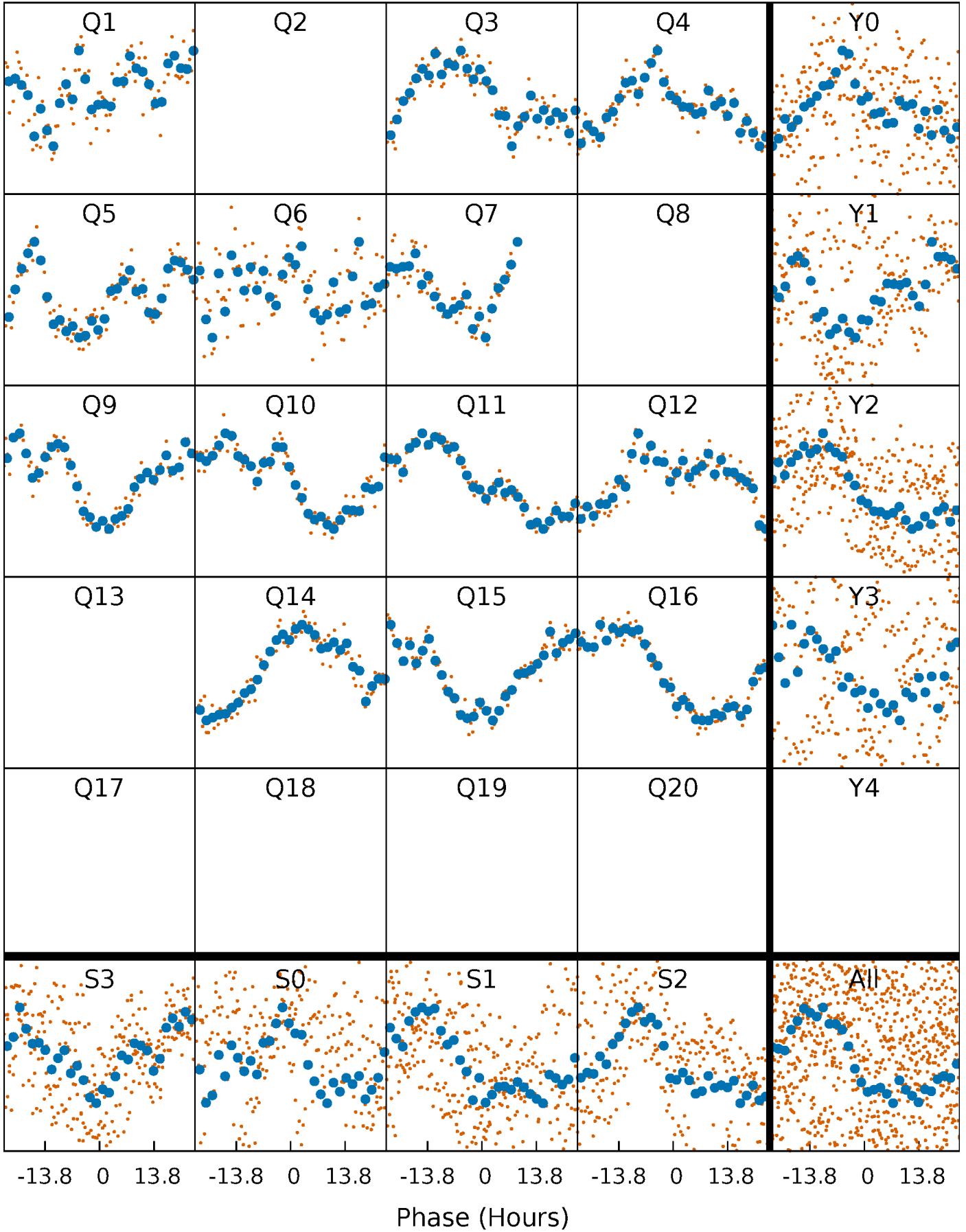


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



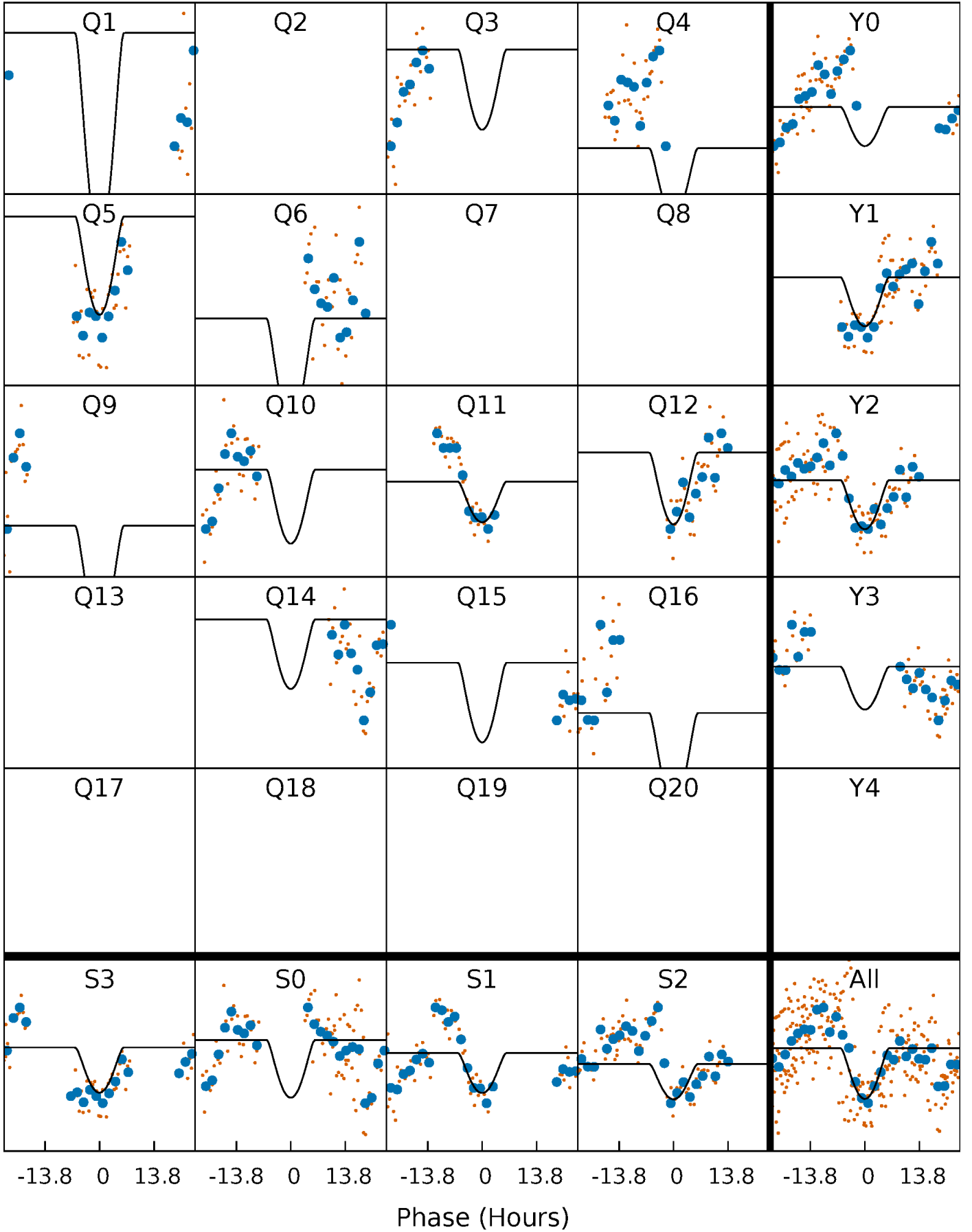
PDC Quarter-Phased Transit Curves

TCE 009025557-09 $P=112.309114$ Days $T_0=157.656955$ (BKJD)



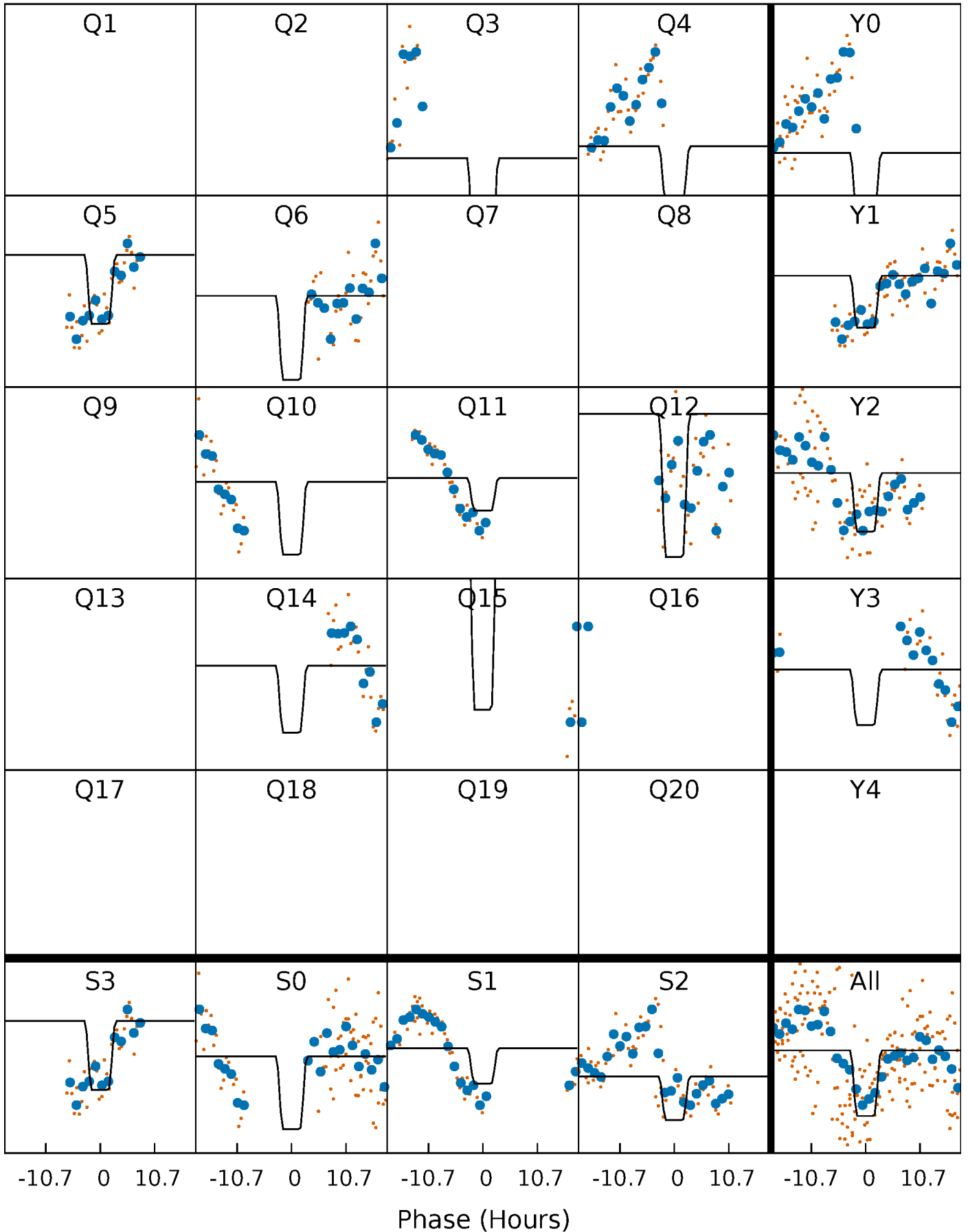
DV Quarter-Phased Transit Curves

TCE 009025557-09 $P=112.309114$ Days $T_0=157.656955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

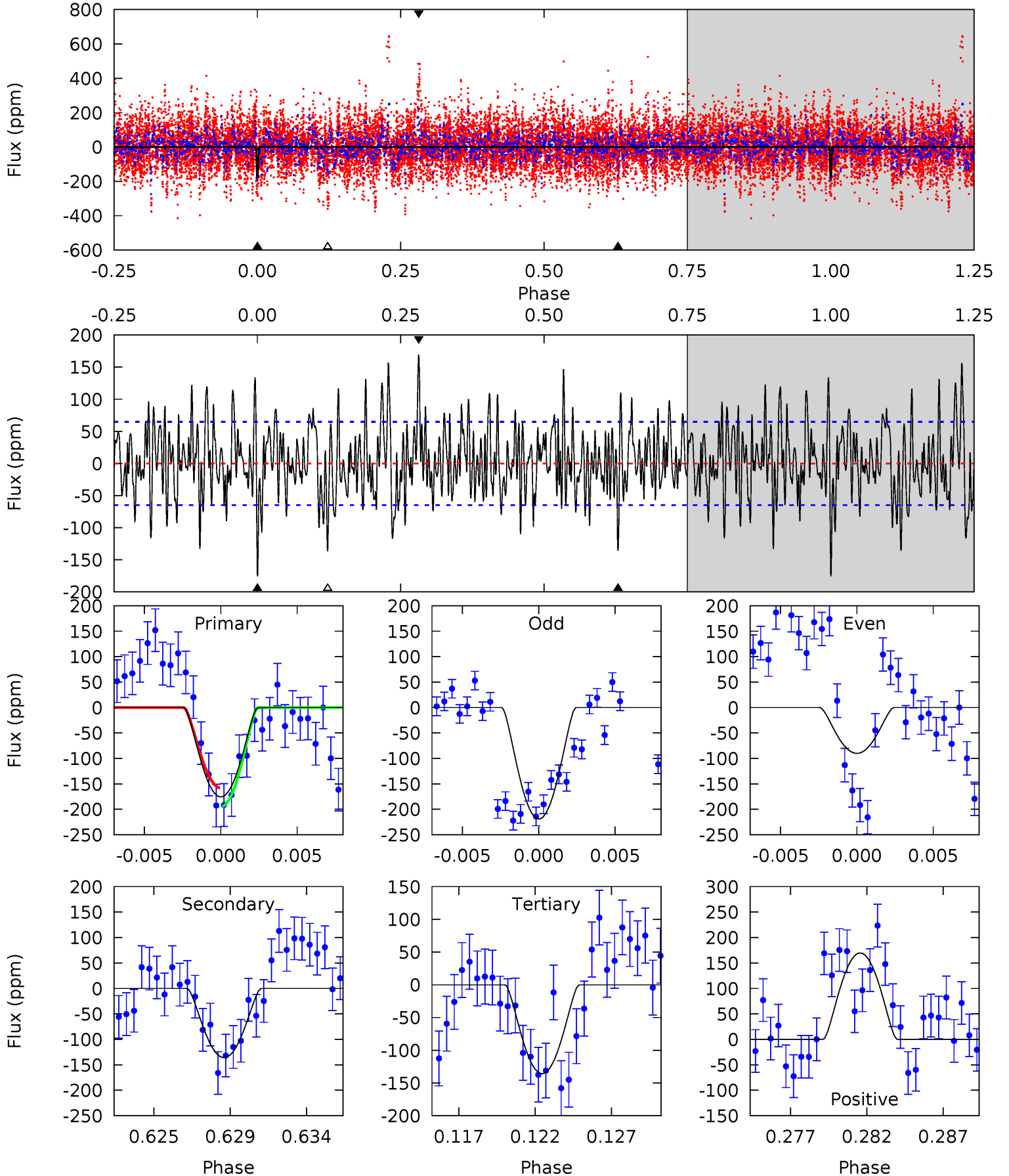
TCE 009025557-09 $P=112.323279$ Days $T_0=157.612954$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-09, P = 112.309114 Days, E = 45.347841 Days

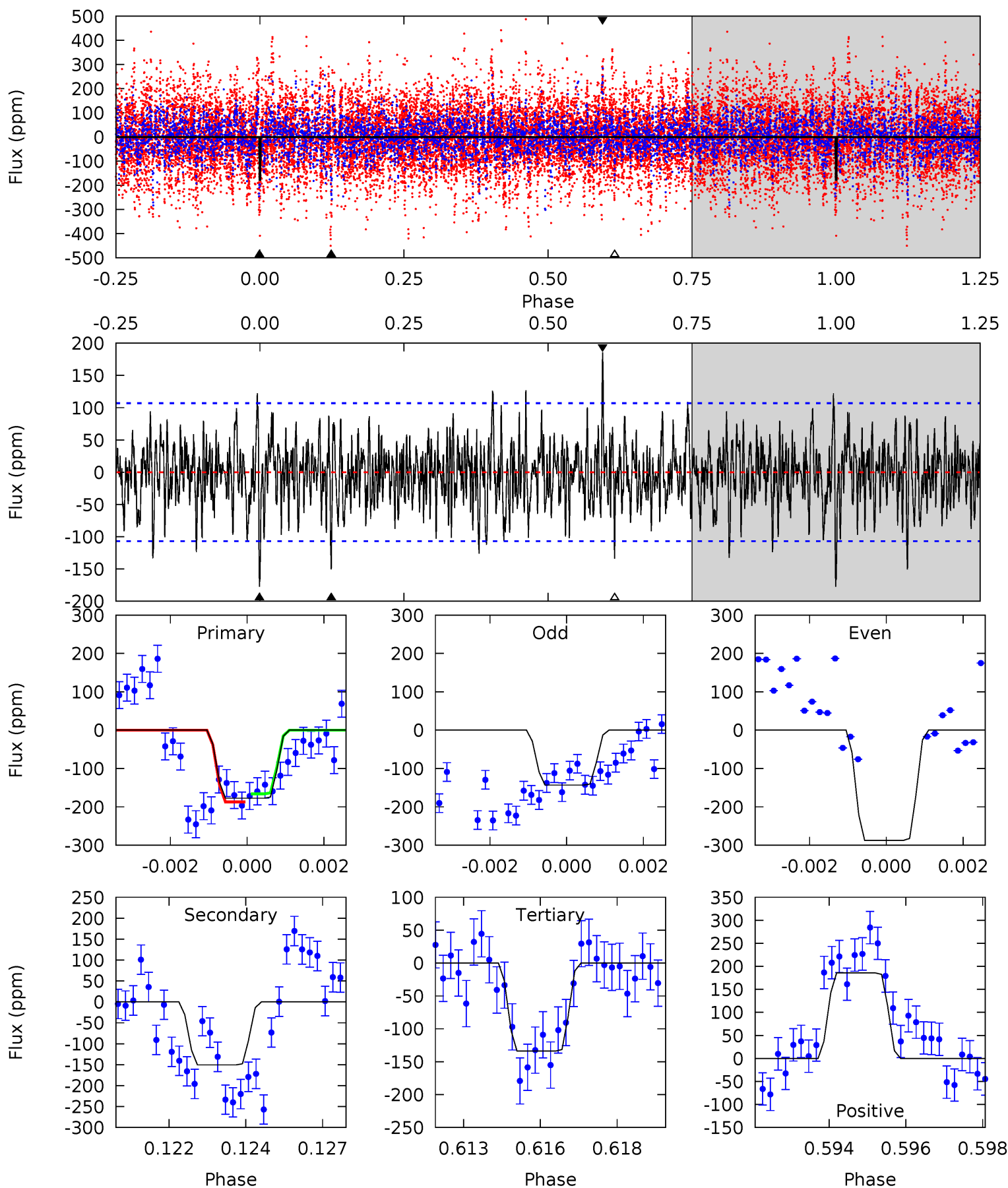
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	10.8	10.8	13.5	5.17	2.83	3.62	3.18	0.47	0.01	-2.70	4.93	0.05	0.49	1.47



Alt Model-Shift Uniqueness Test

009025557-09, P = 112.323279 Days, E = 45.289675 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	7.48	6.65	9.23	5.31	3.06	2.02	2.17	-0.41	0.83	-1.75	3.07	0.74	0.51	0.52



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-09 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-136 ± 13	$17.36^{+16.70}_{-12.18}$	868^{+50}_{-73}	3228^{+1669}_{-591}	57^{+643}_{-42}
Alt.	-151 ± 20	$14.66^{+16.65}_{-10.25}$	862^{+57}_{-77}	3428^{+1945}_{-668}	87^{+933}_{-67}

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

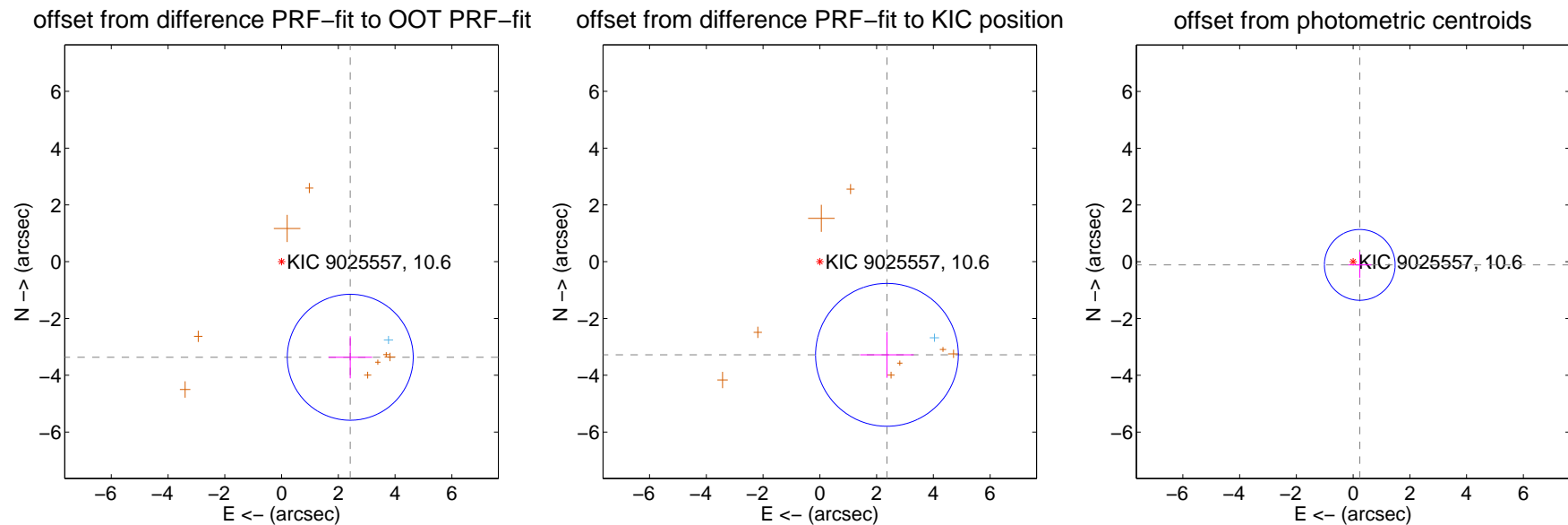
DV Centroid Data

Supplemental centroid analysis for 009025557-09. **Kepler magnitude: 10.60.** Transit SNR 7.21

There are 1 quarters with good PRF difference image offsets

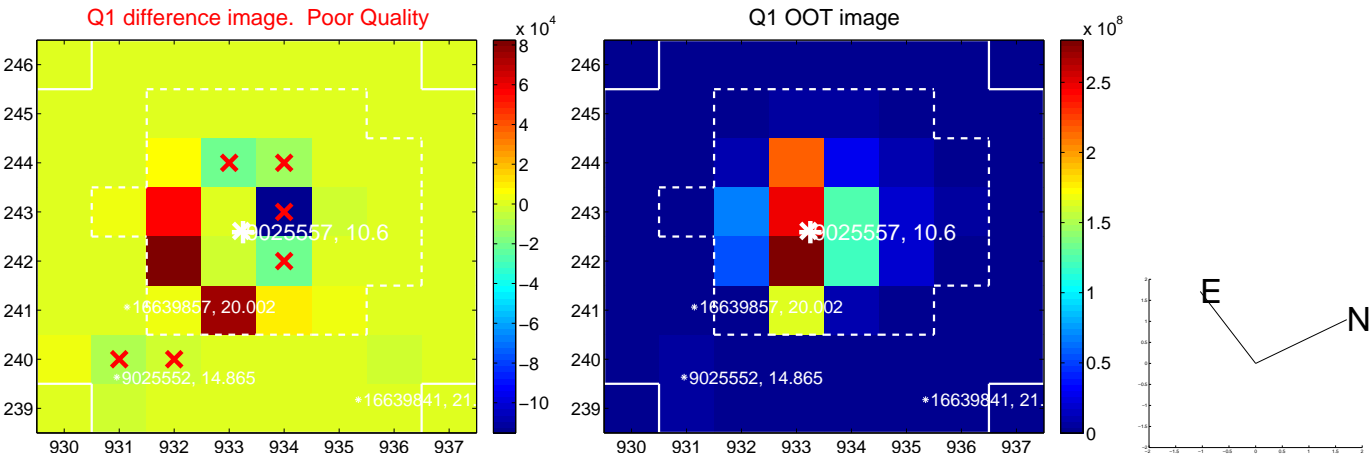
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.146 ± 0.739	5.61	-2.420 ± 0.768	-3.366 ± 0.741
PRF-fit source offset from KIC position	4.045 ± 0.838	4.82	-2.365 ± 0.942	-3.281 ± 0.808
photometric centroid source offset	0.26 ± 0.42	0.62	-0.23 ± 0.41	-0.11 ± 0.46

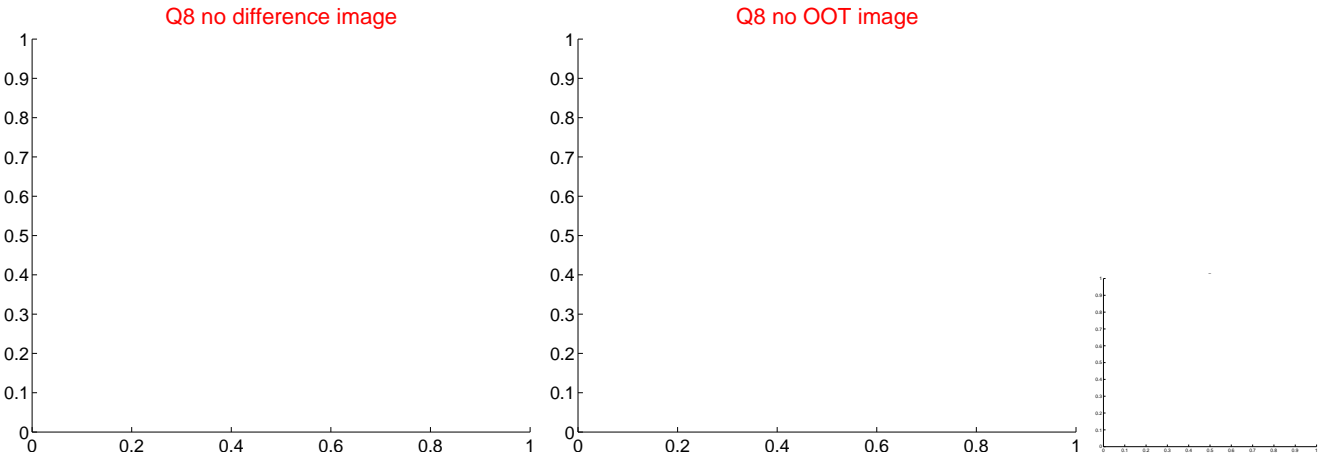
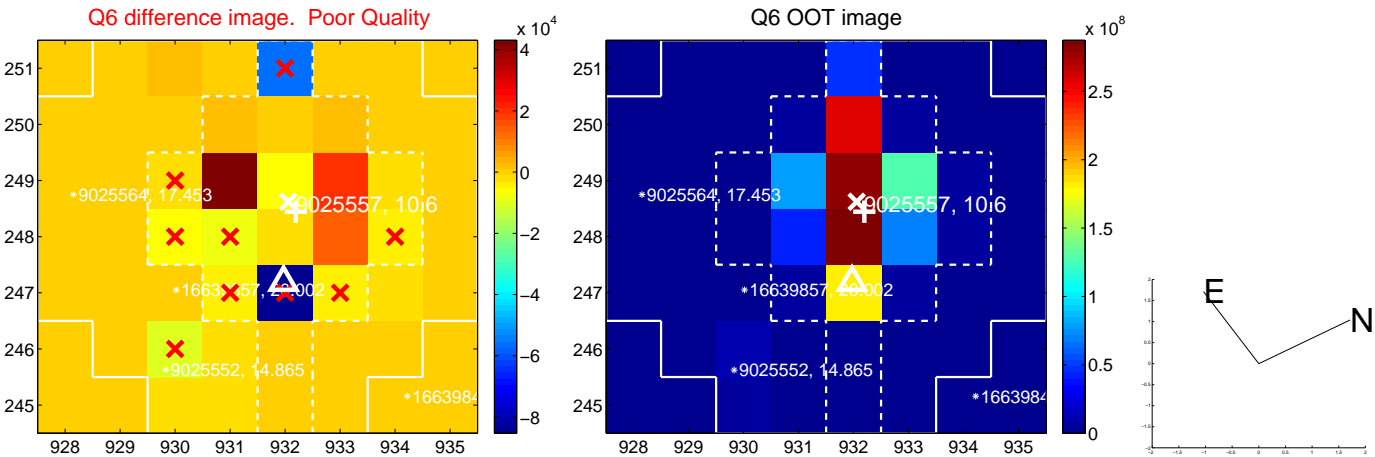
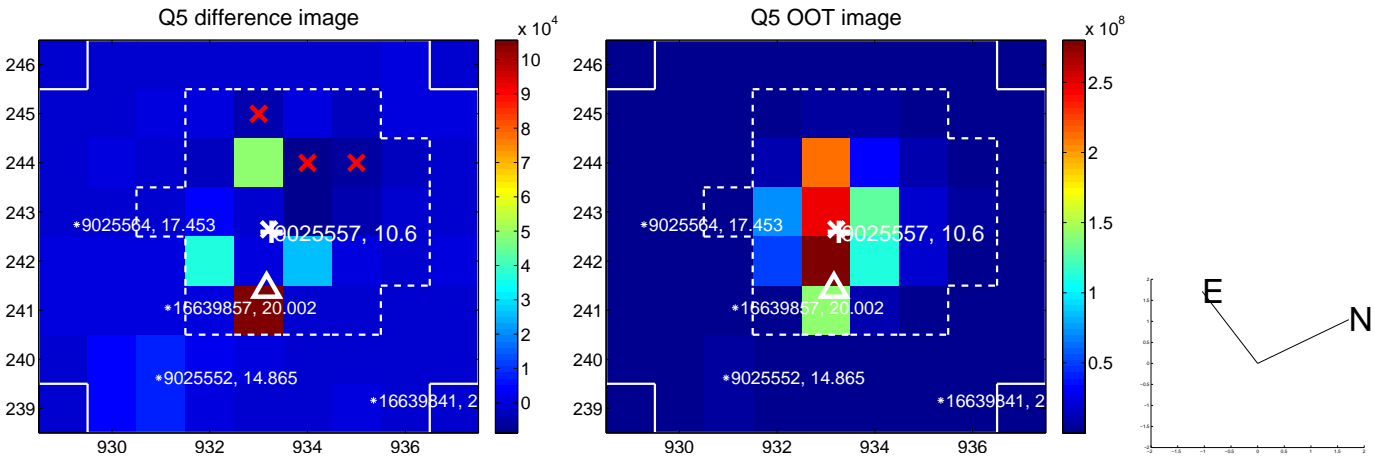


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

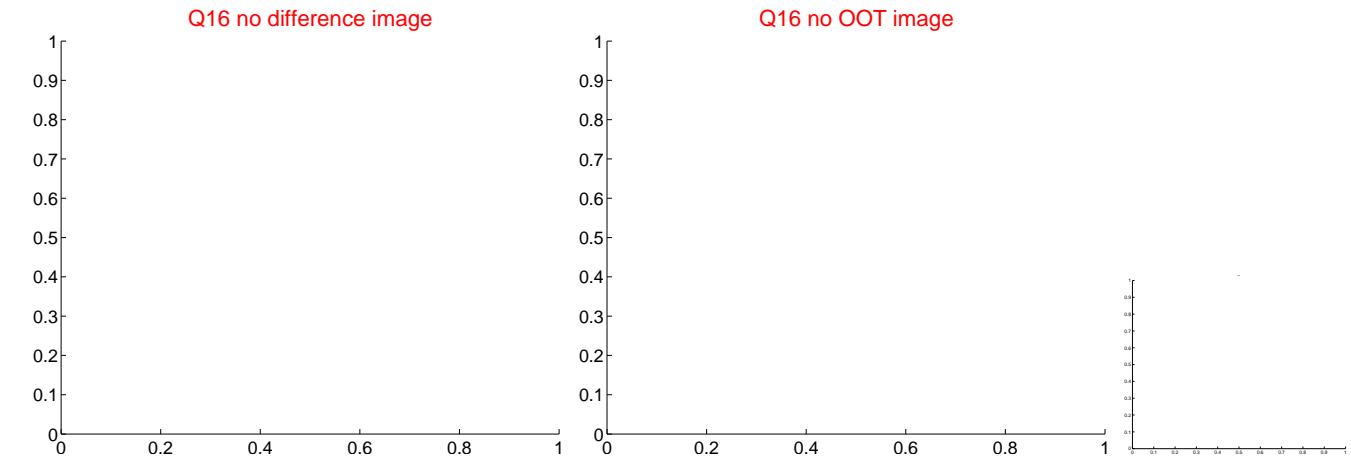
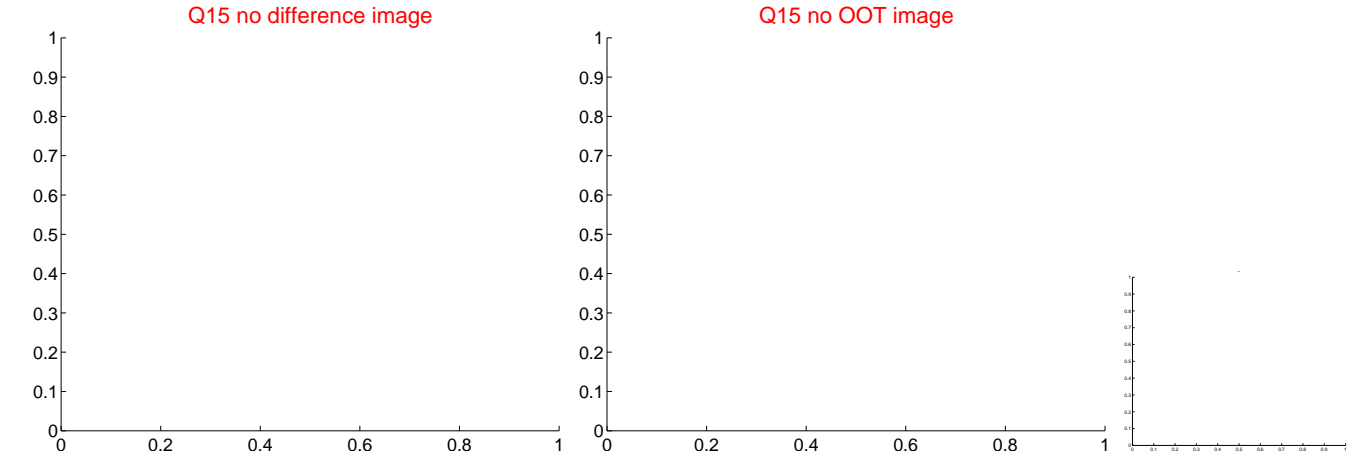
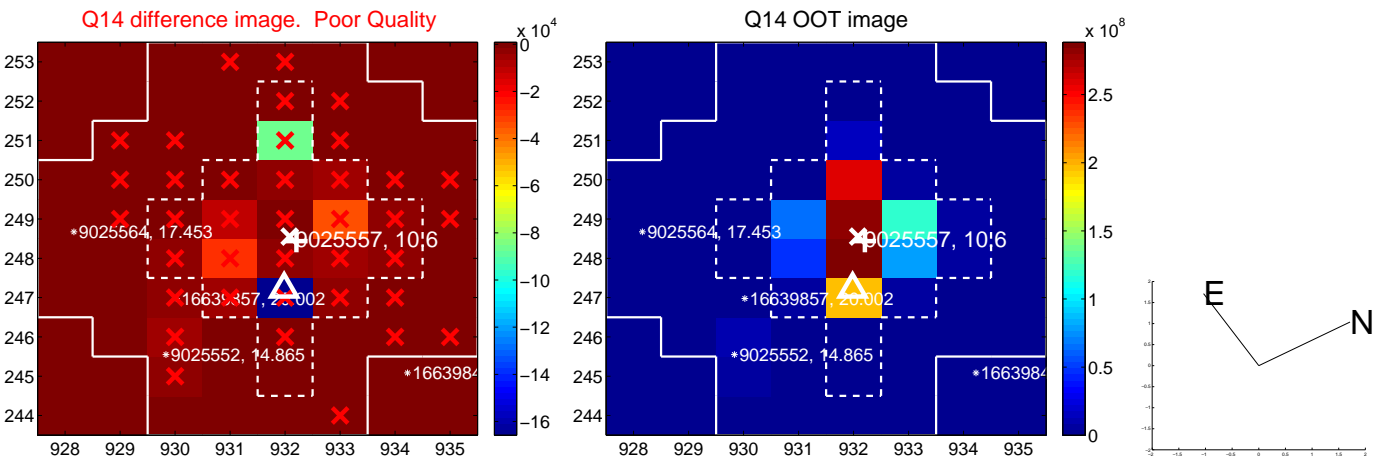
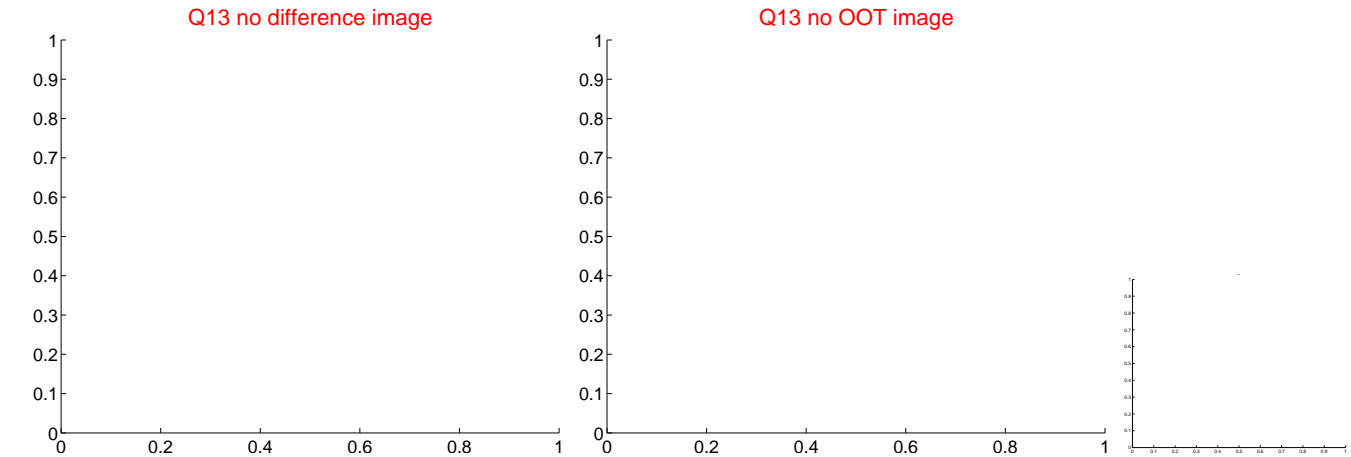
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



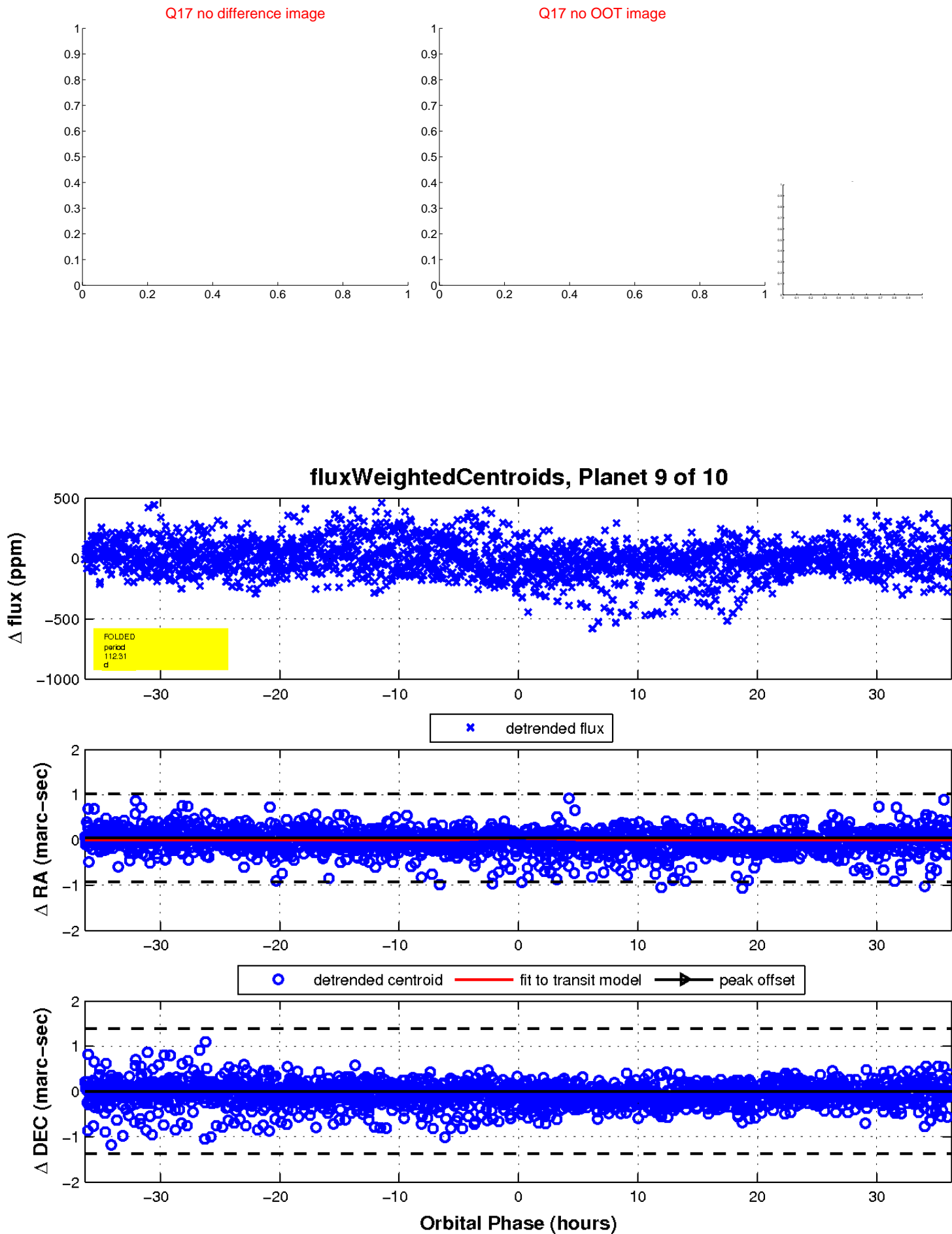
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

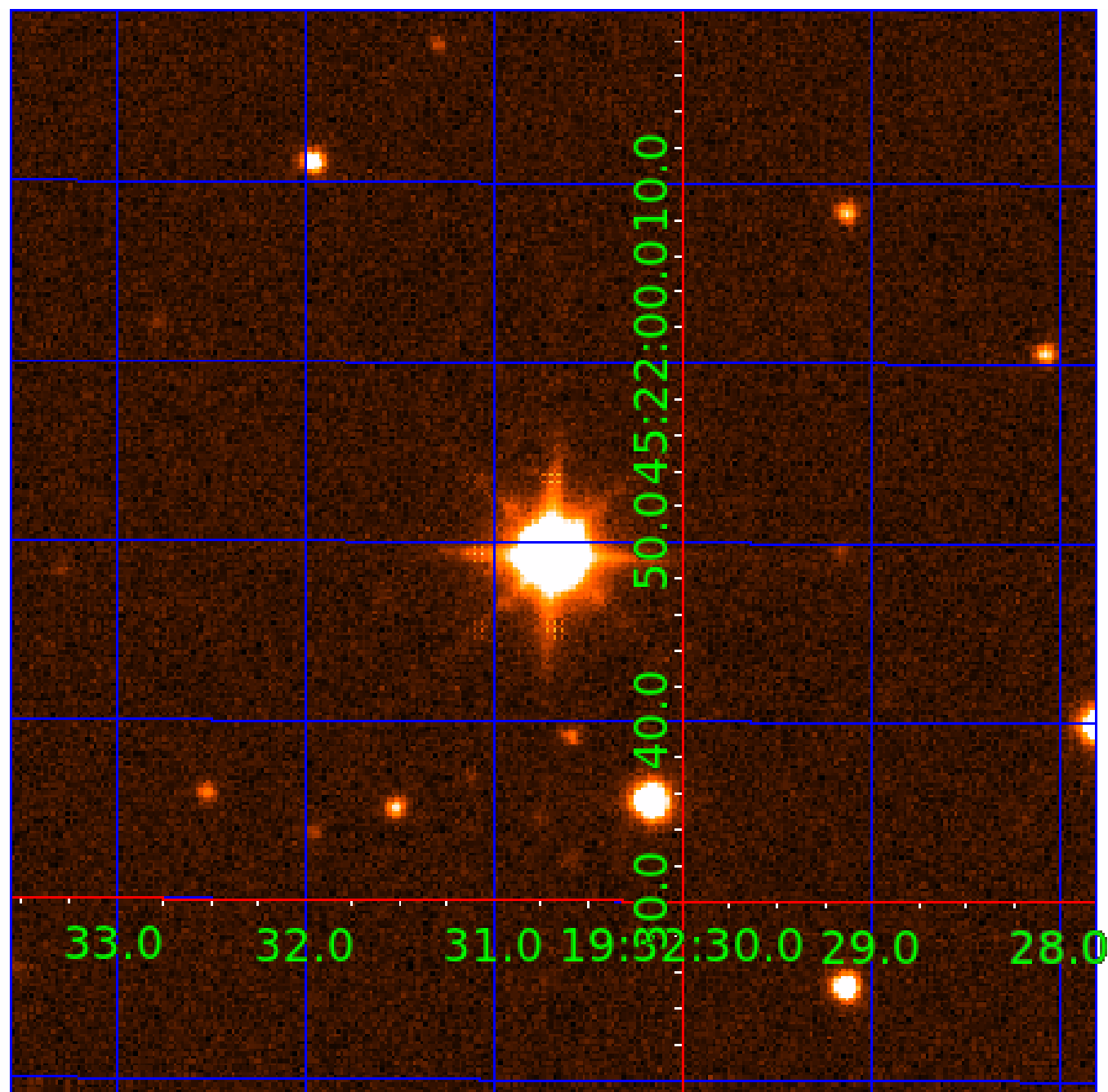


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009025557-01	OBS	No	2.398827	133.583255	13.6	14.003	8.6	5.9	2.20	6708	0.88	6281.81
009025557-02	OBS	No	125.424828	254.093620	200.0	13.339	12.3	9.5	2.20	6708	3.34	32.13
009025557-03	OBS	No	82.311542	161.764896	180.4	10.194	10.4	10.2	2.20	6708	3.81	56.34
009025557-04	OBS	No	90.076458	151.373483	152.4	4.329	10.5	10.1	2.20	6708	3.18	49.96
009025557-05	OBS	No	196.904011	304.899359	117.4	13.295	9.7	5.3	2.20	6708	2.72	17.61
009025557-06	OBS	No	54.214569	142.009760	114.8	8.193	10.0	9.0	2.20	6708	2.74	98.31
009025557-07	OBS	No	94.081993	192.617786	194.6	8.827	9.5	10.5	2.20	6708	3.36	47.14
009025557-08	OBS	No	237.443073	250.096896	202.5	7.700	10.0	10.7	2.20	6708	3.56	13.72
009025557-09	OBS	No	112.309114	157.656955	185.1	12.106	9.4	7.2	2.20	6708	5.87	37.23
009025557-10	OBS	No	88.442242	201.809711	101.1	14.193	9.9	5.3	2.20	6708	2.41	51.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009025557-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
009025557-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
009025557-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-08	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009025557-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009025557-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

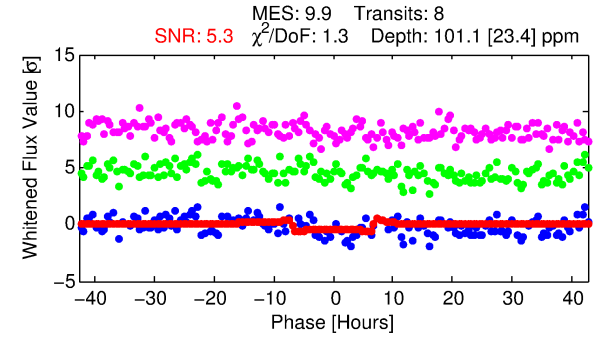
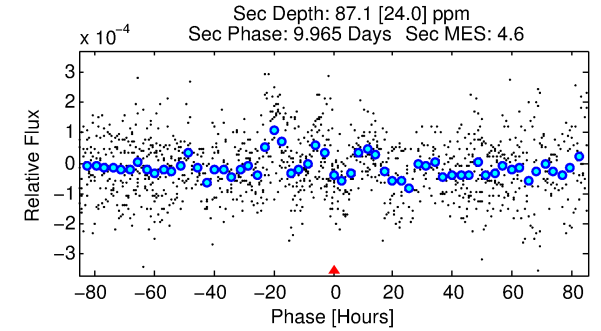
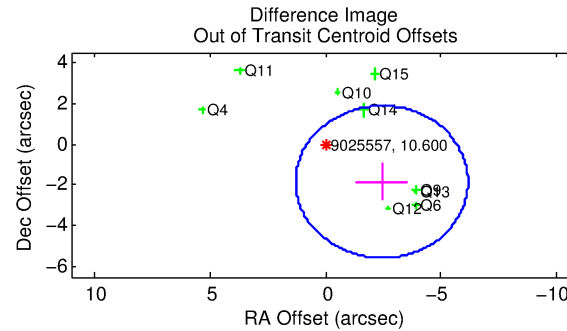
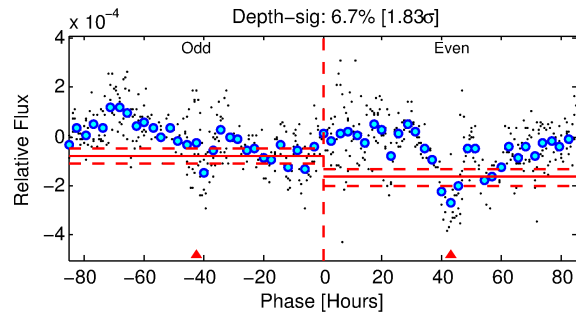
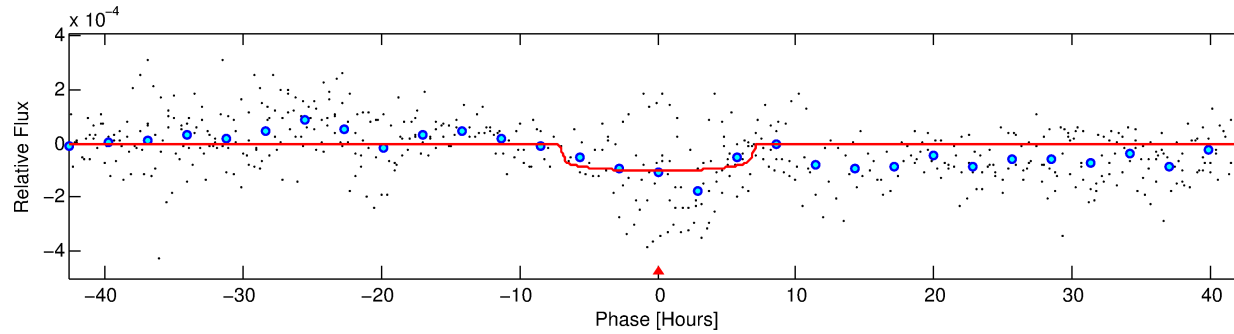
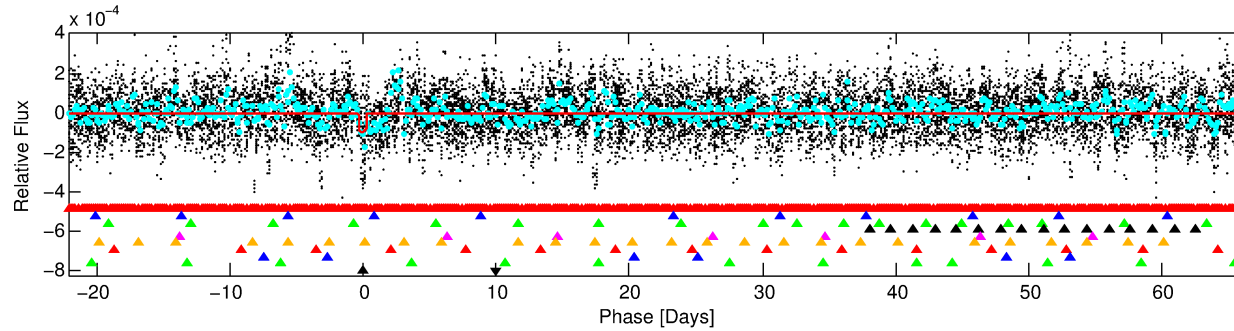
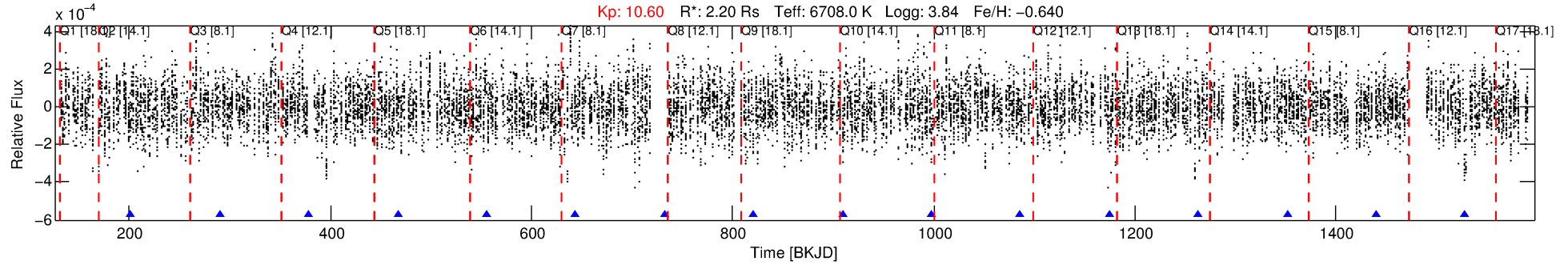
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009025557-10

No Significant Match Found

DV One-Page Summary

KIC: 9025557 Candidate: 10 of 10 Period: 88.442 d



DV Fit Results:

Period = 88.44224 [0.00211] d
Epoch = 201.8097 [0.0234] BKJD
 $R_p/R^* = 0.0100$ [0.0028]
 $a/R^* = 31.60$ [43.09]
 $b = 0.76$ [0.75]
 $\text{Seff} = 51.19$ [27.76]
 $\text{Teq} = 682$ [92] K
 $R_p = 2.41$ [1.08] R_e
 $a = 0.4140$ [0.1383] AU
 $\text{Ag} = 1415.97$ [1152.22] [1.23 σ]
 $\text{Teffp} = 6469$ [1020] K [5.65 σ]

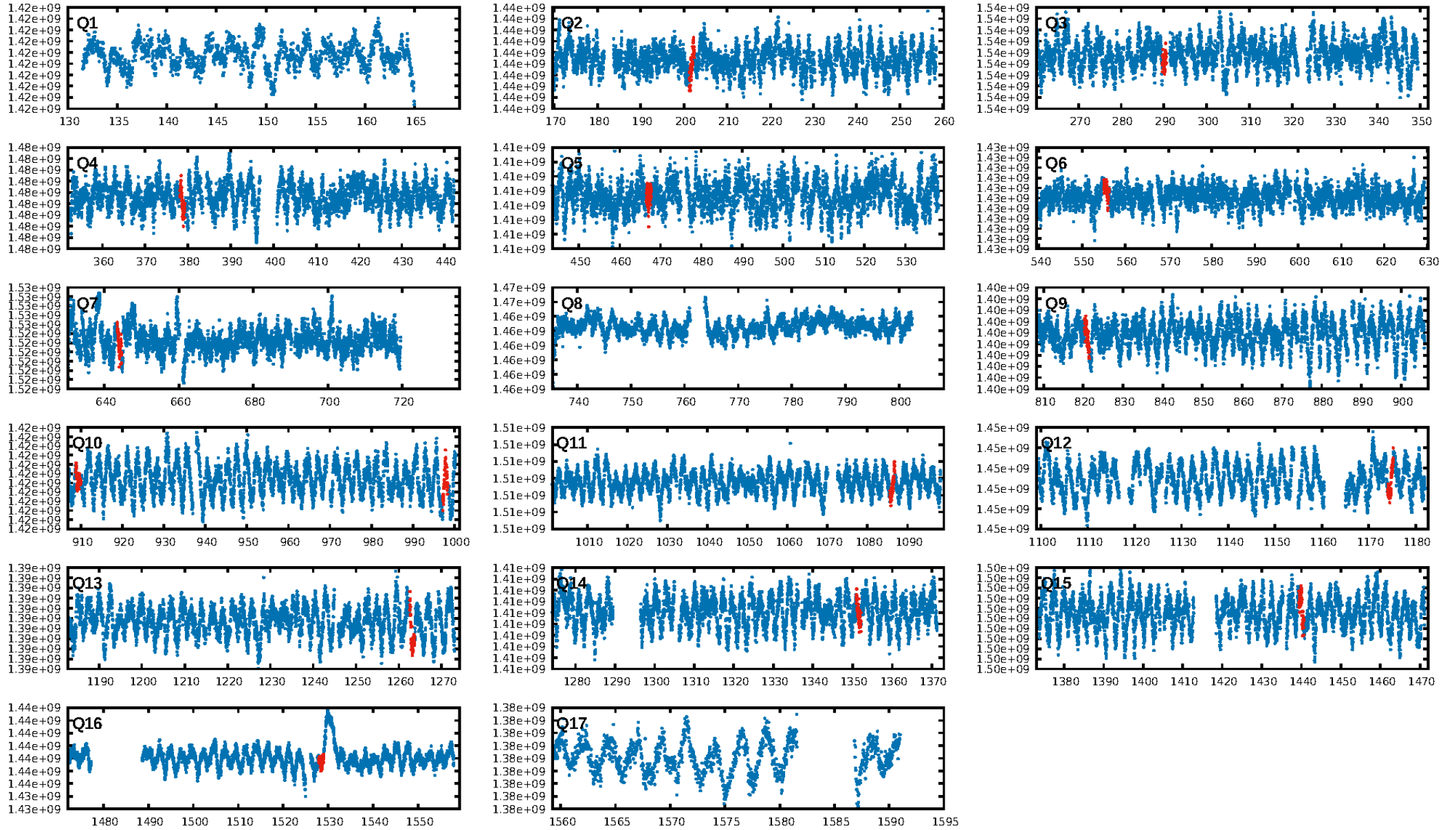
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.42 σ]
LongPeriod-sig: 99.2% [2.64 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.7325
Centroid-sig: 0.0%
Centroid-so: 1.629 arcsec [2.66 σ]
OotOffset-rm: 3.052 arcsec [2.46 σ]
KicOffset-rm: 3.437 arcsec [2.49 σ]
OotOffset-st: 3/2/2/2 [9]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.00 [0/12]

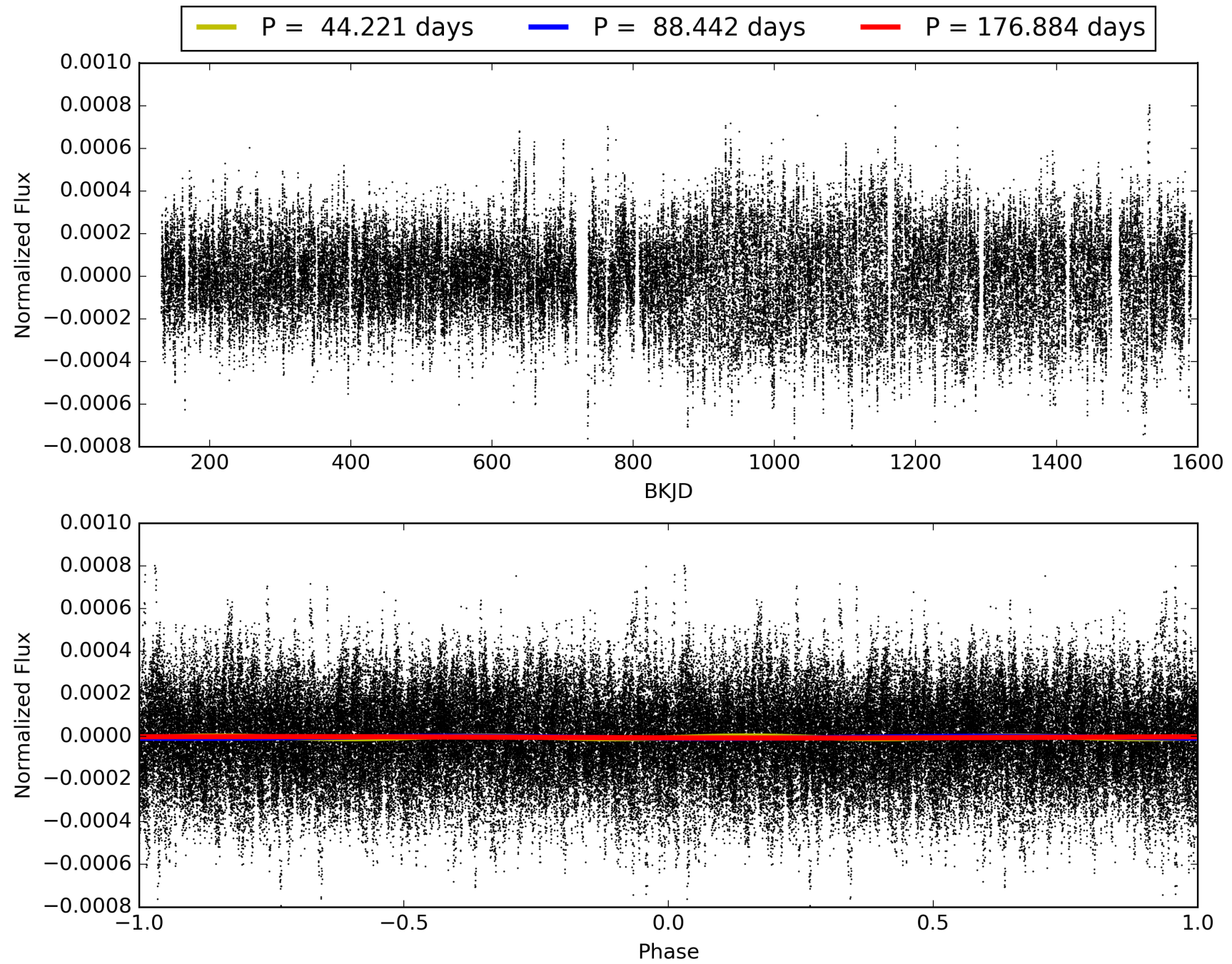
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:08:43 Z

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

TCE 009025557-10, PDC Light Curves

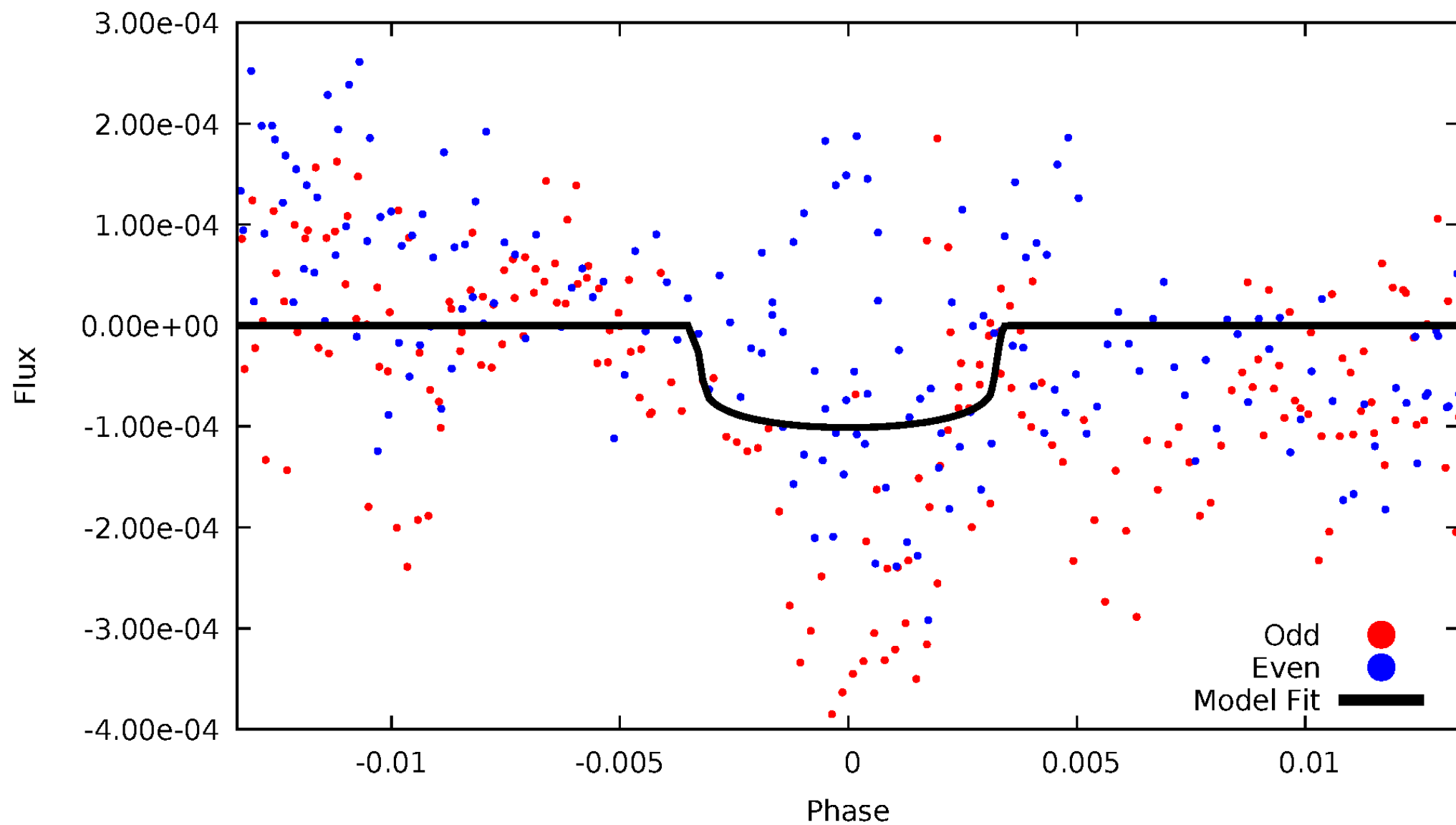


TCE 009025557-10



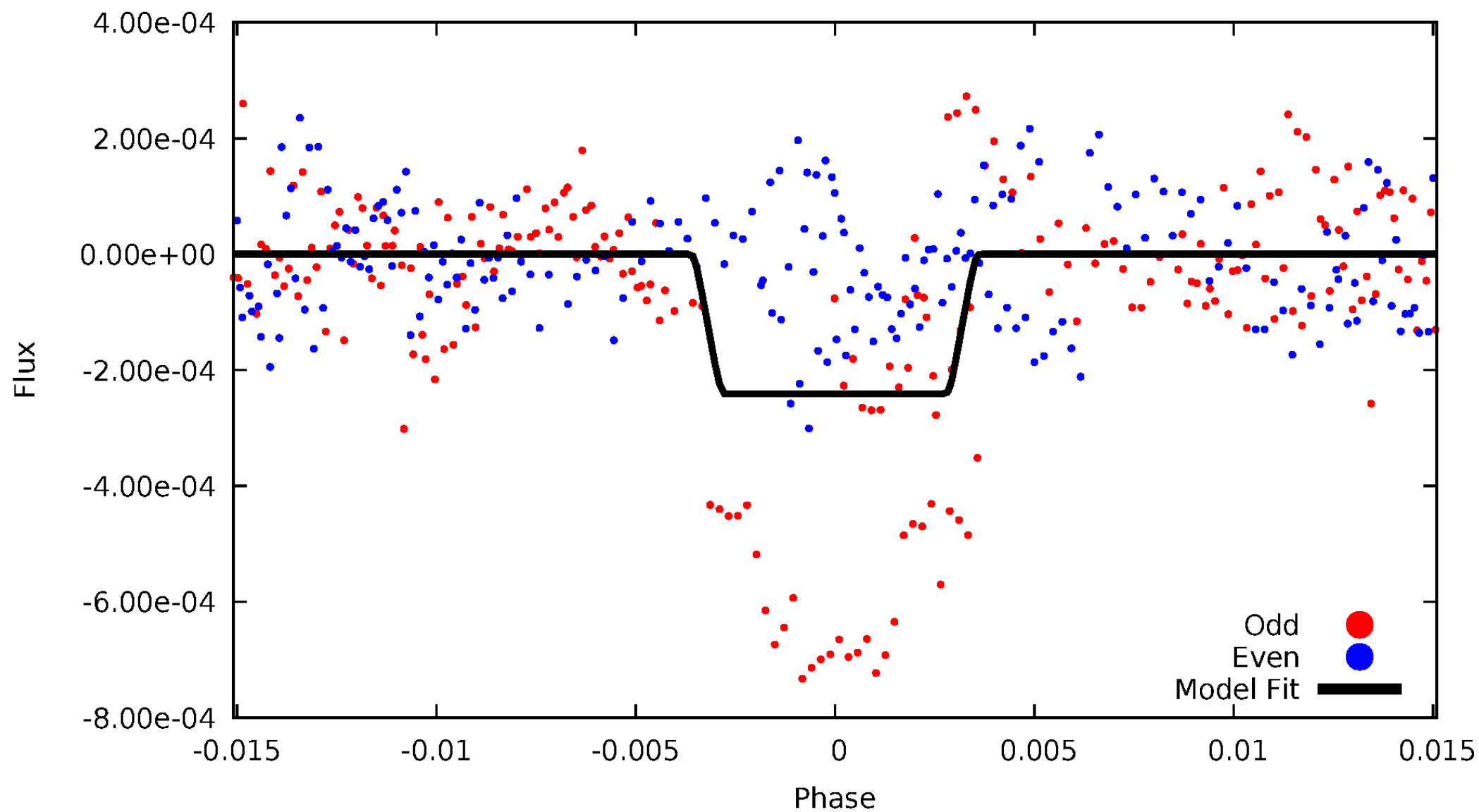
DV Odd/Even

TCE 009025557-10



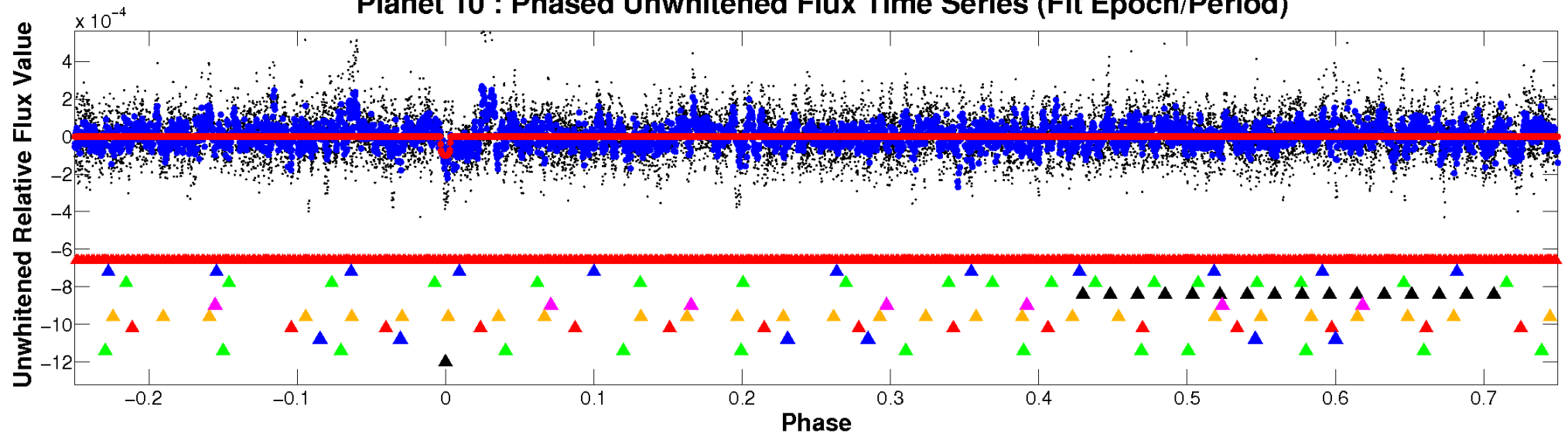
ALT Odd/Even

TCE 009025557-10

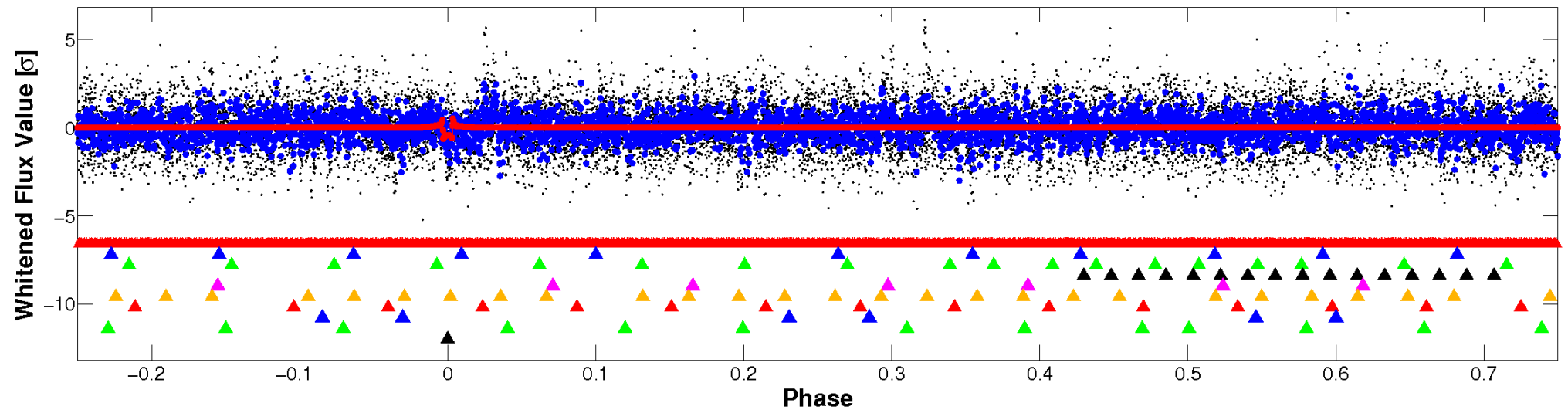


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

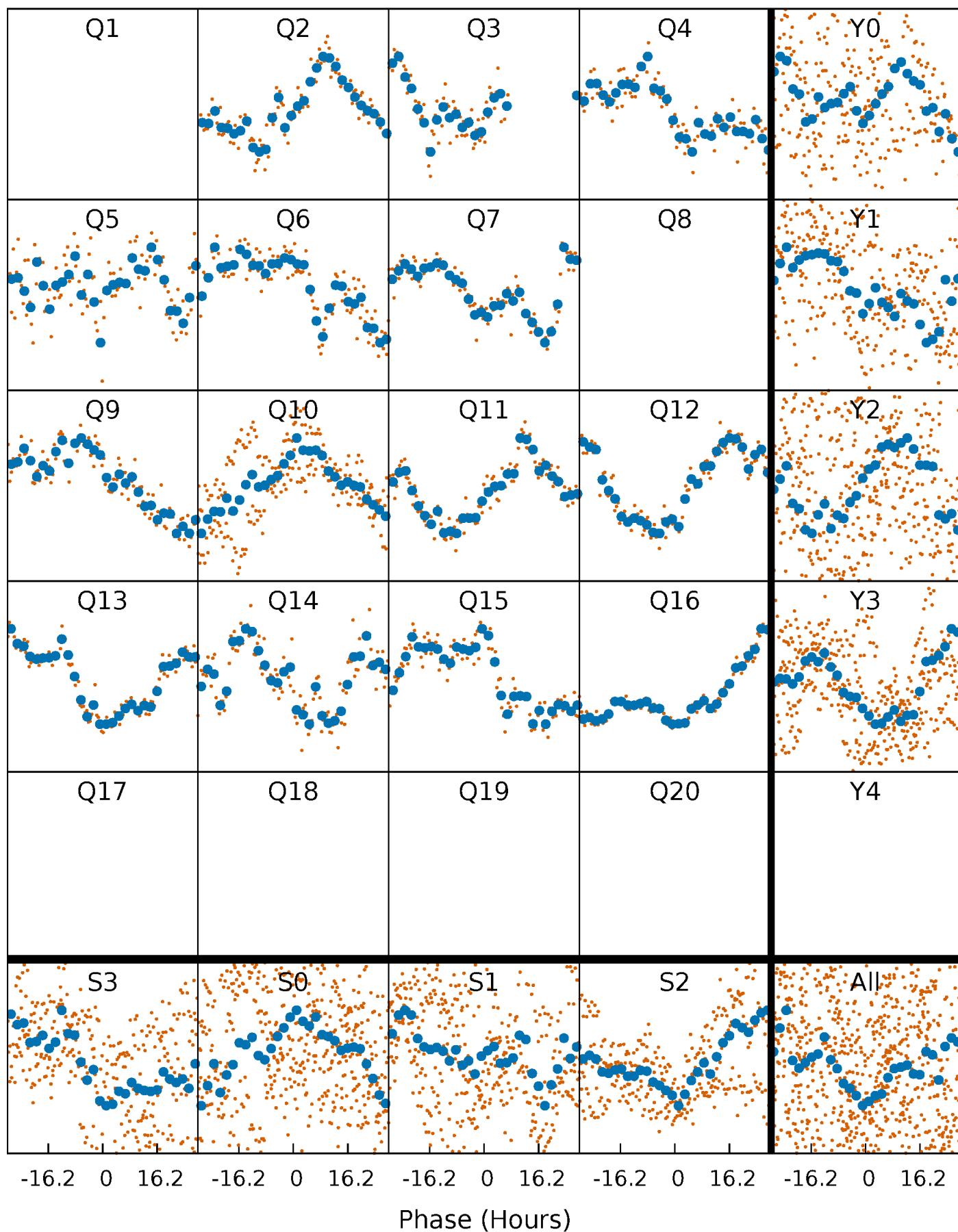


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



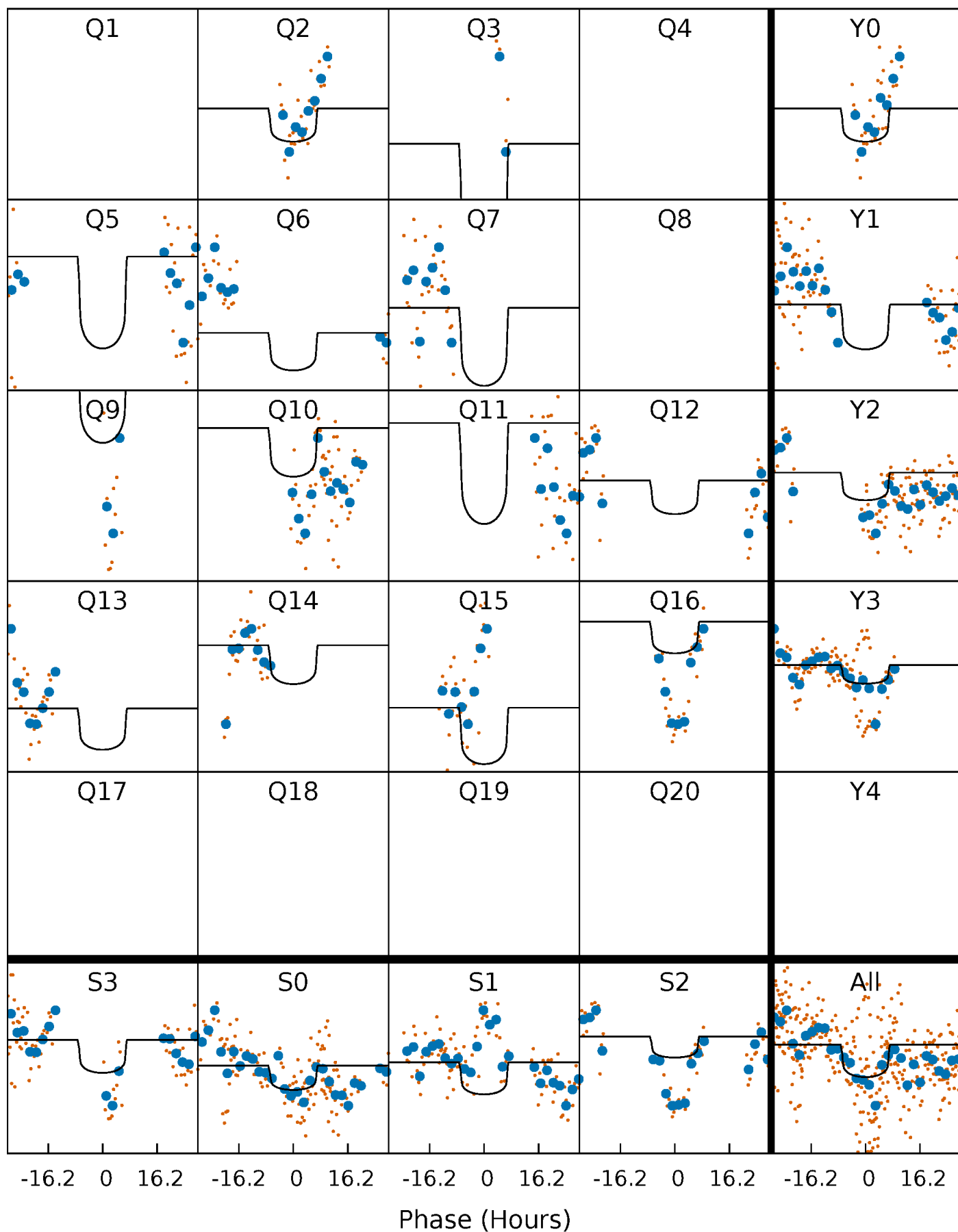
PDC Quarter-Phased Transit Curves

TCE 009025557-10 P= 88.442242 Days $T_0=201.809711$ (BKJD)



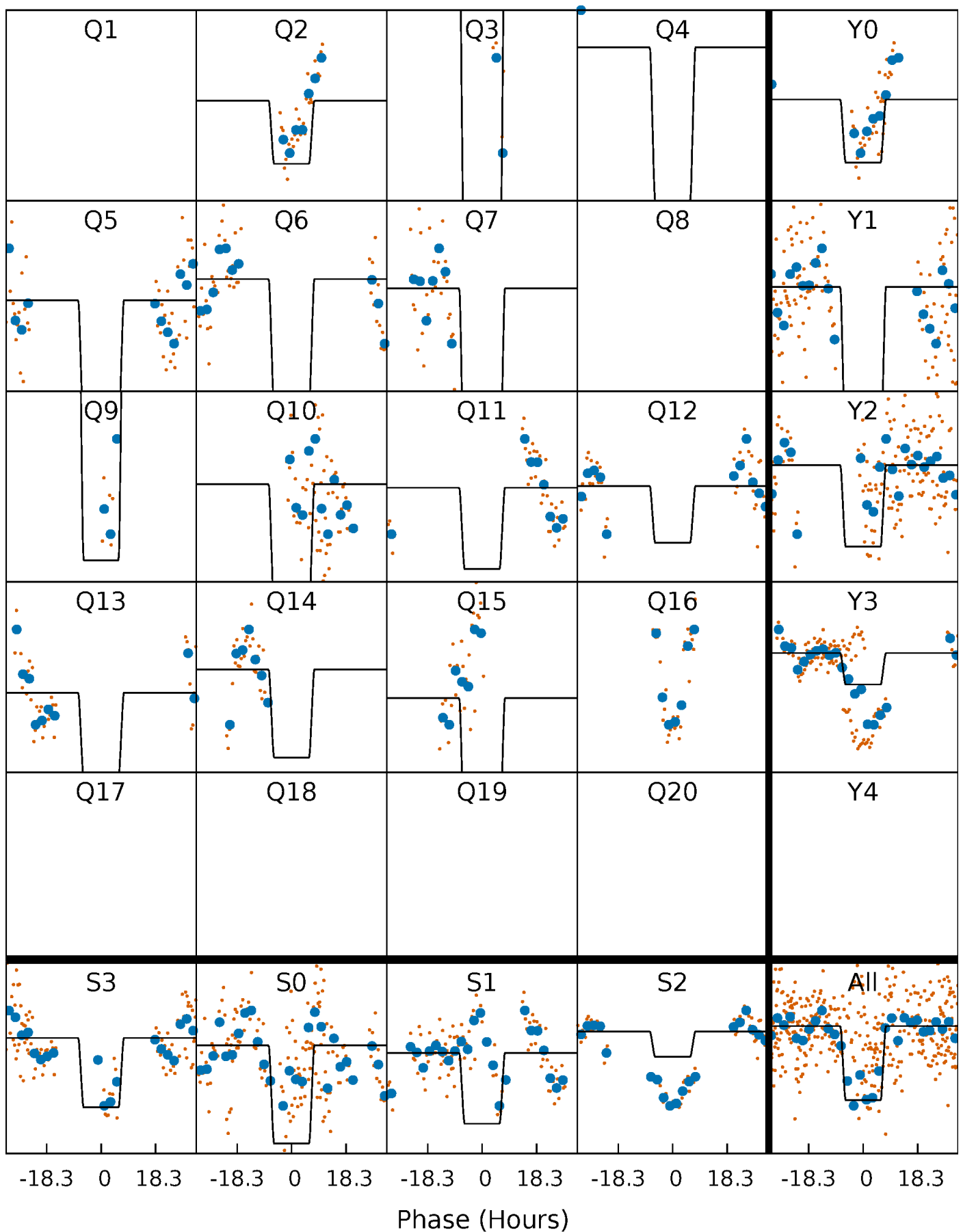
DV Quarter-Phased Transit Curves

TCE 009025557-10 P= 88.442242 Days $T_0=201.809711$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

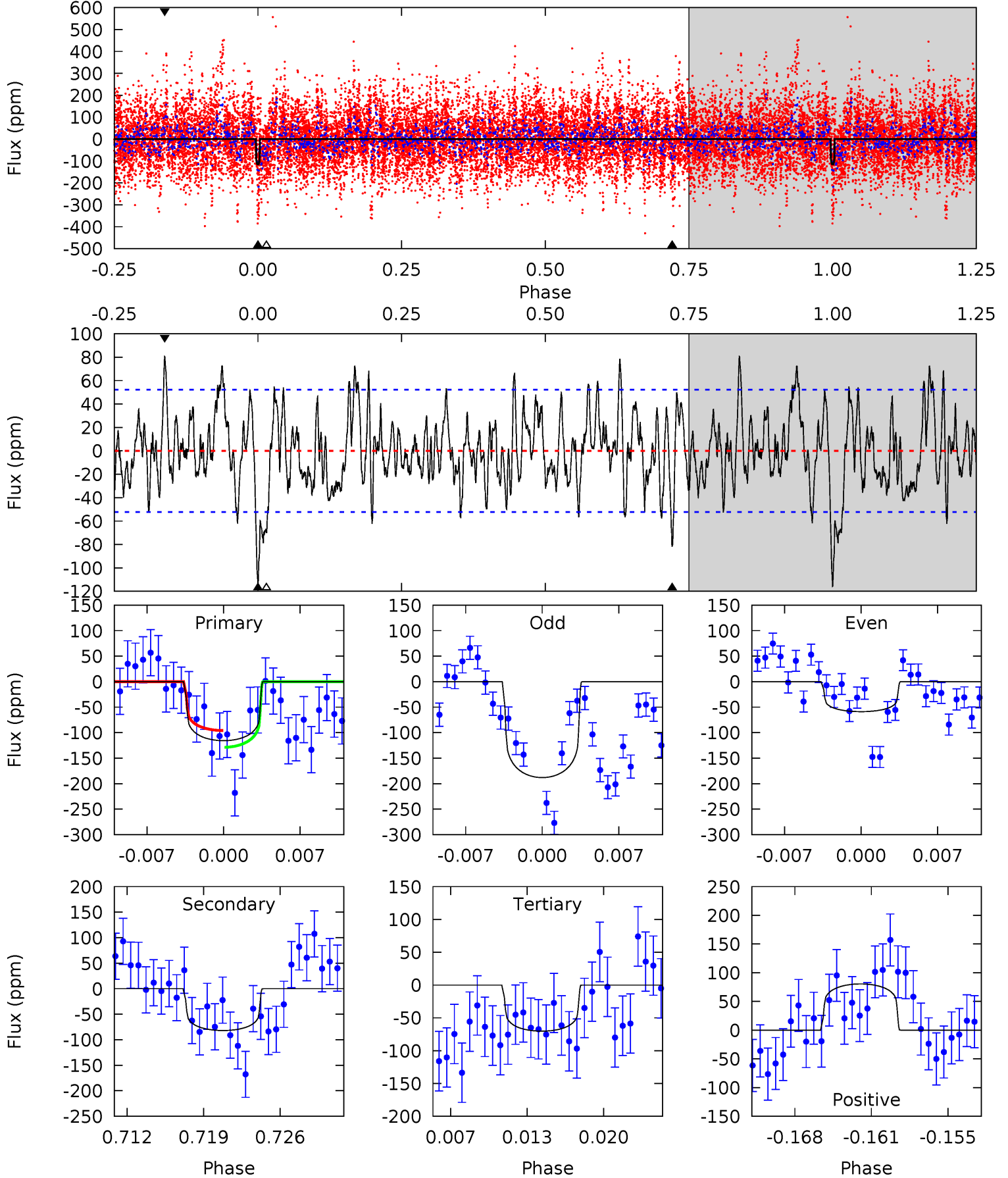
TCE 009025557-10 P= 88.445428 Days $T_0=201.802482$ (BKJD)



DV Model-Shift Uniqueness Test

009025557-10, P = 88.442242 Days, E = 113.367469 Days

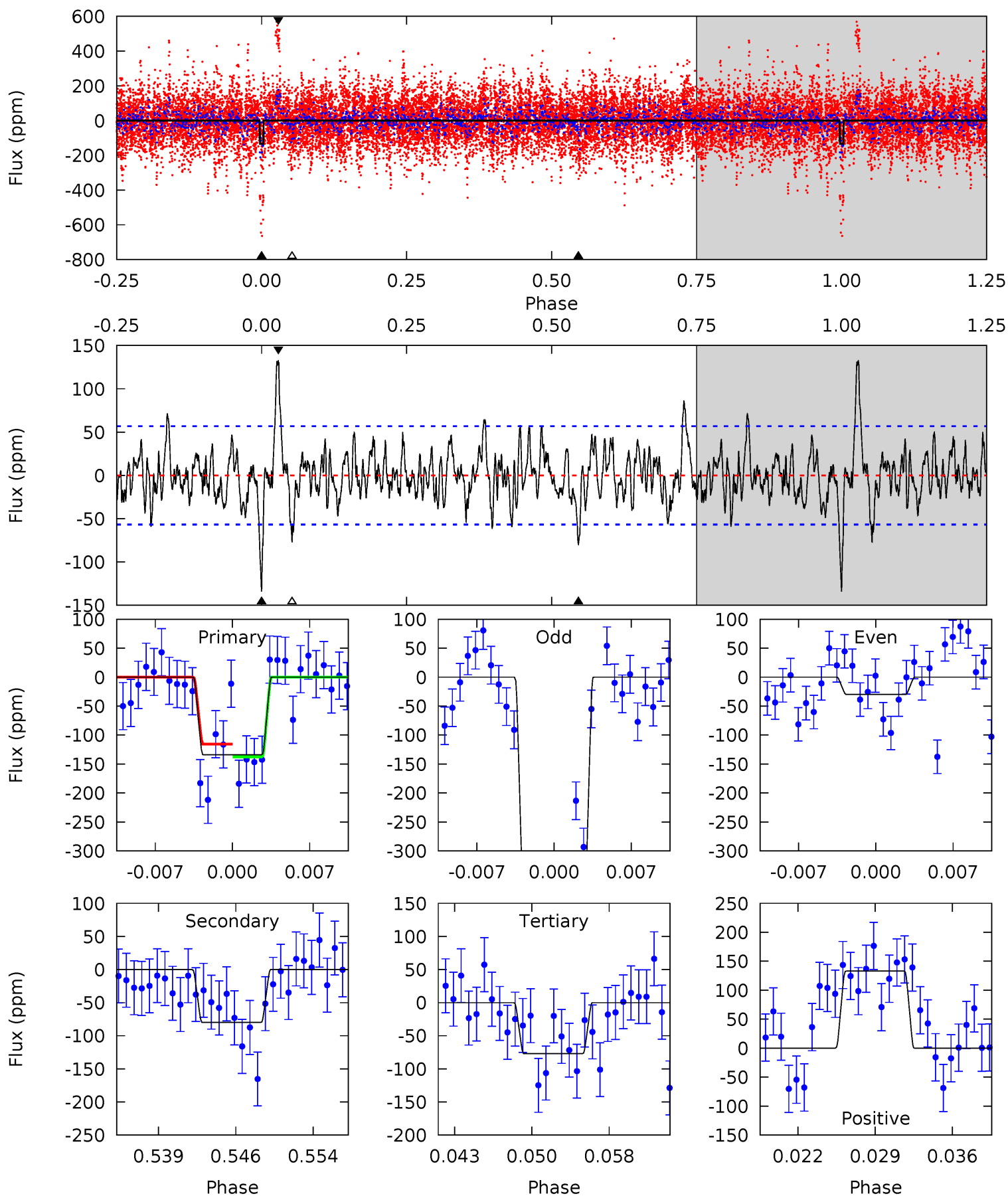
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	8.00	6.86	7.86	5.10	2.71	2.66	4.43	3.43	1.14	0.14	6.11	1.18	0.41	1.53



Alt Model-Shift Uniqueness Test

009025557-10, P = 88.445428 Days, E = 113.357054 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	7.16	6.91	11.9	5.09	2.69	2.39	5.10	0.10	0.25	-4.74	18.3	1.07	0.50	0.95



Stellar Parameters For KIC 009025557

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6708^{+183}_{-204}	$3.836^{+0.308}_{-0.103}$	$-0.640^{+0.350}_{-0.300}$	$2.199^{+0.359}_{-0.779}$	$1.207^{+0.195}_{-0.216}$	$0.160^{+0.371}_{-0.049}$
	+3%/-3%	+8%/-3%	+55%/-47%	+16%/-35%	+16%/-18%	+232%/-31%
Source	PHO1	FLK73	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 009025557-10 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-82 ± 10	$2.28^{+0.77}_{-0.67}$	940^{+56}_{-78}	6334^{+1259}_{-743}	1492^{+1572}_{-666}
Alt.	-80 ± 11	$3.54^{+0.92}_{-0.82}$	936^{+59}_{-81}	5128^{+541}_{-394}	605^{+402}_{-223}

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

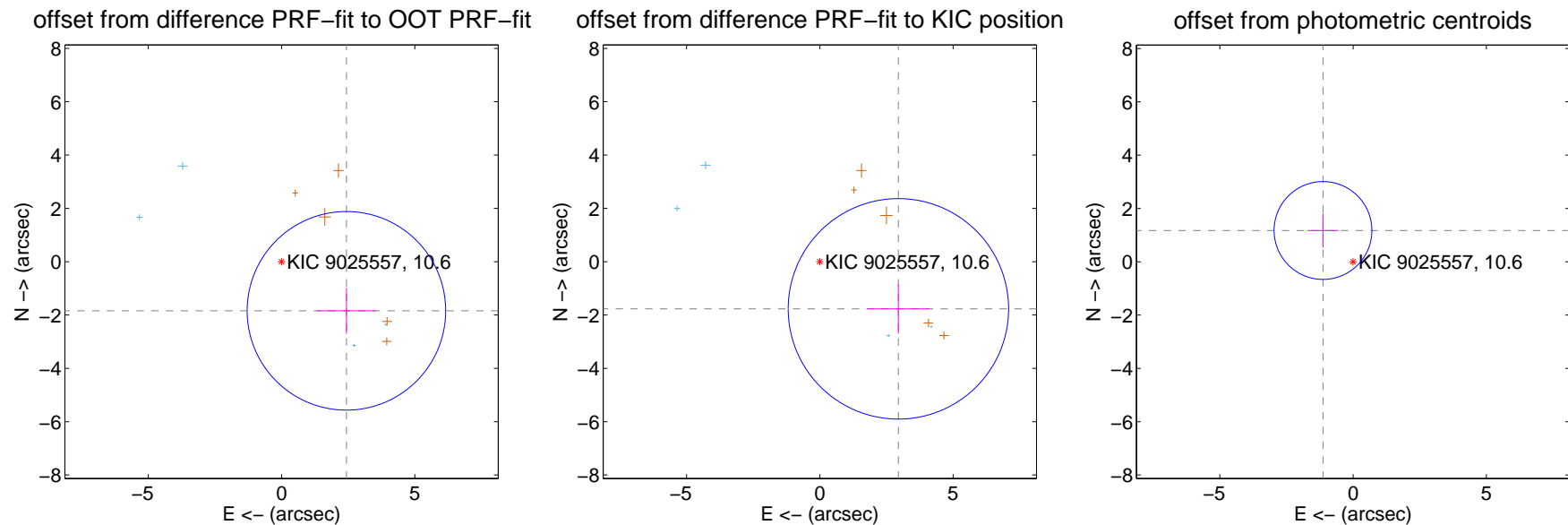
DV Centroid Data

Supplemental centroid analysis for 009025557-10. **Kepler magnitude: 10.60.** Transit SNR 5.29

There are 4 quarters with good PRF difference image offsets

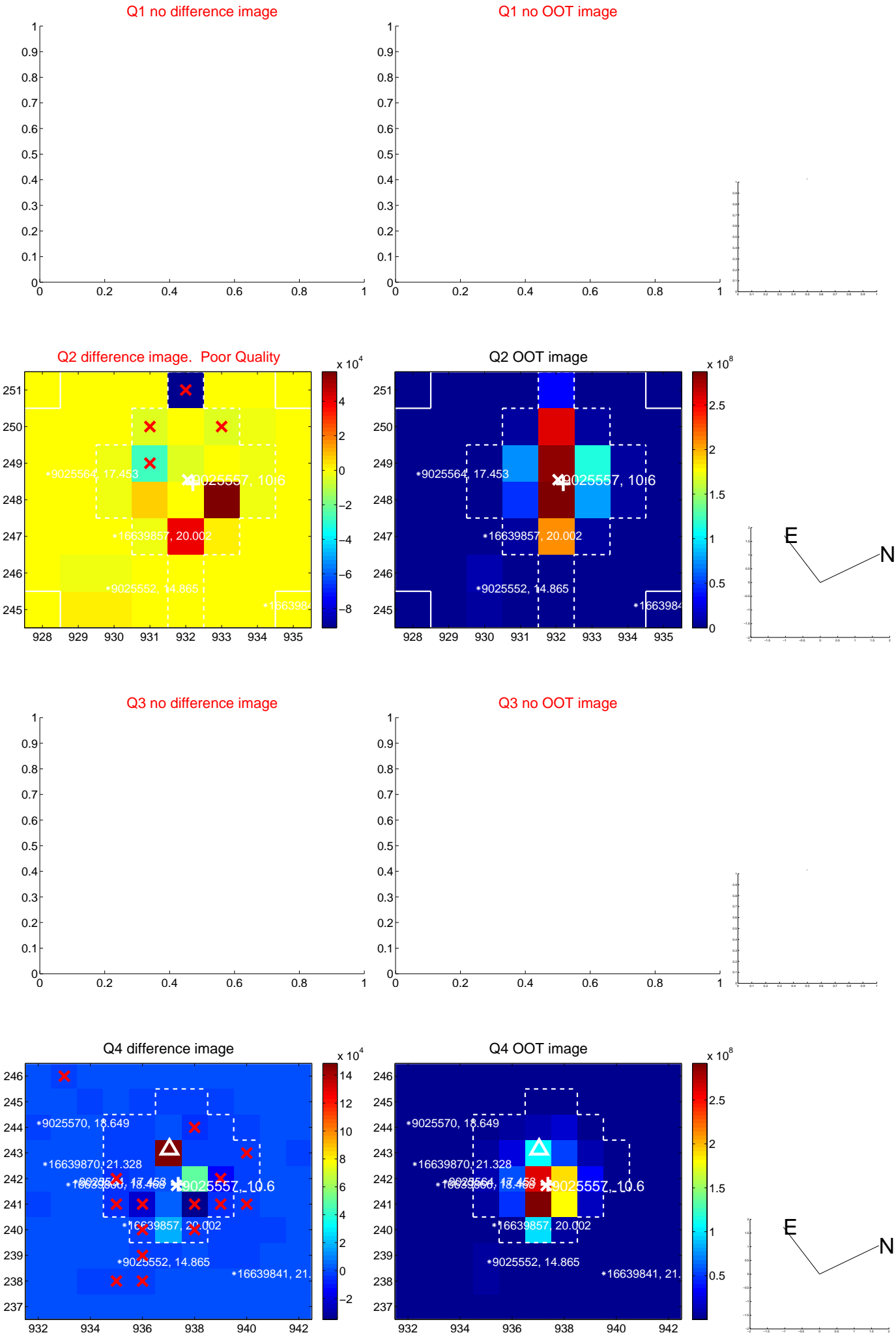
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.052 ± 1.242	2.46	-2.433 ± 1.086	-1.843 ± 0.866
PRF-fit source offset from KIC position	3.437 ± 1.378	2.49	-2.948 ± 1.170	-1.769 ± 0.928
photometric centroid source offset	1.63 ± 0.61	2.66	1.13 ± 0.58	1.17 ± 0.64

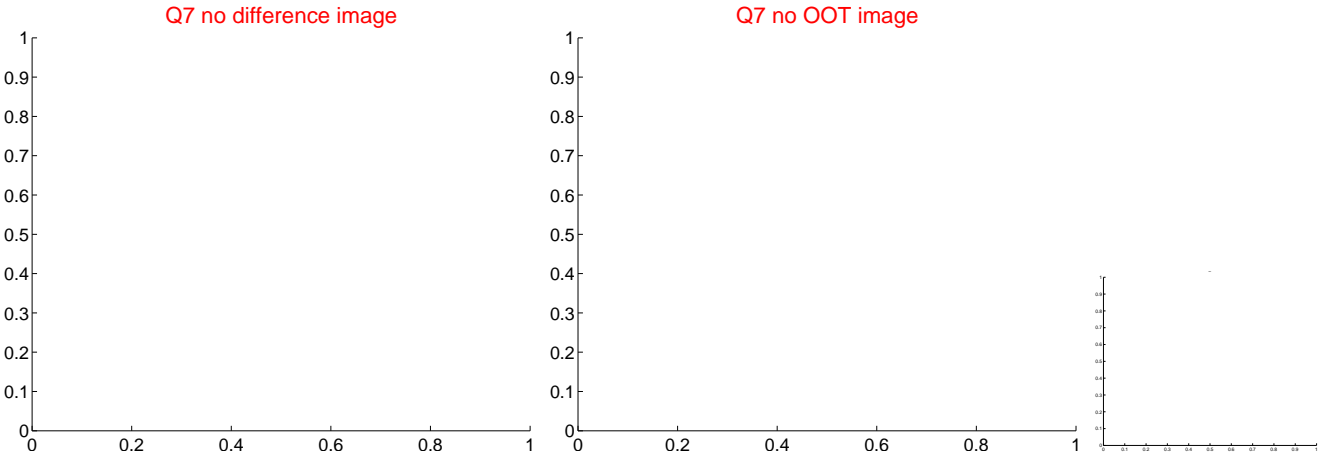
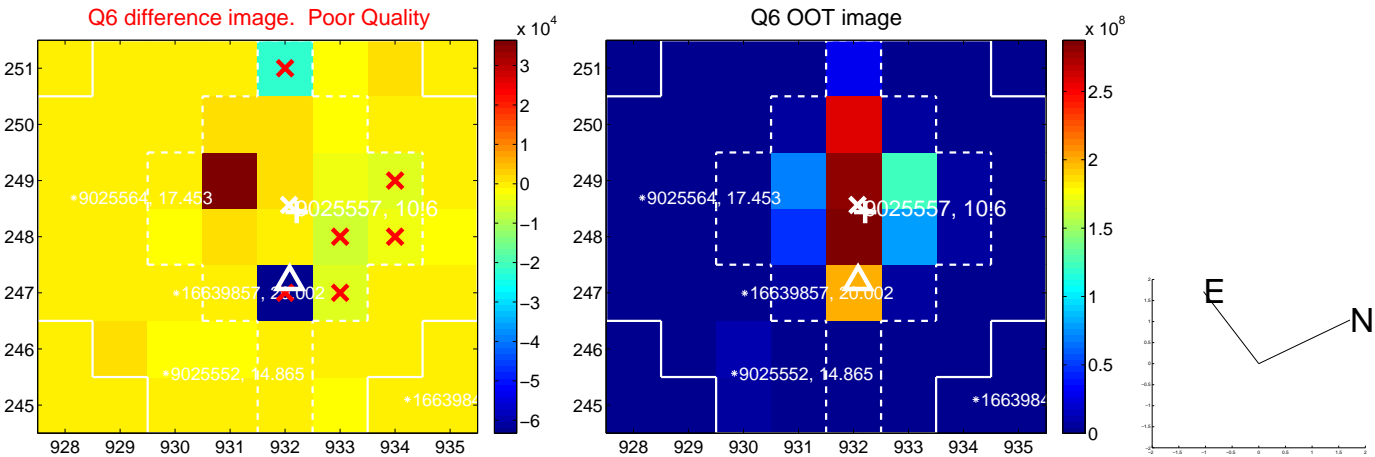
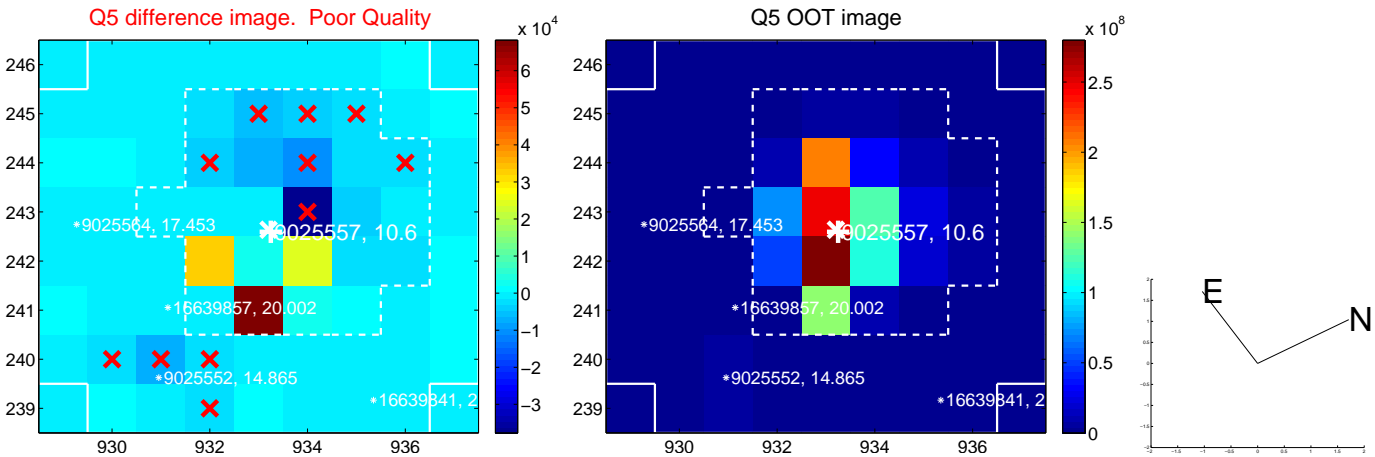


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

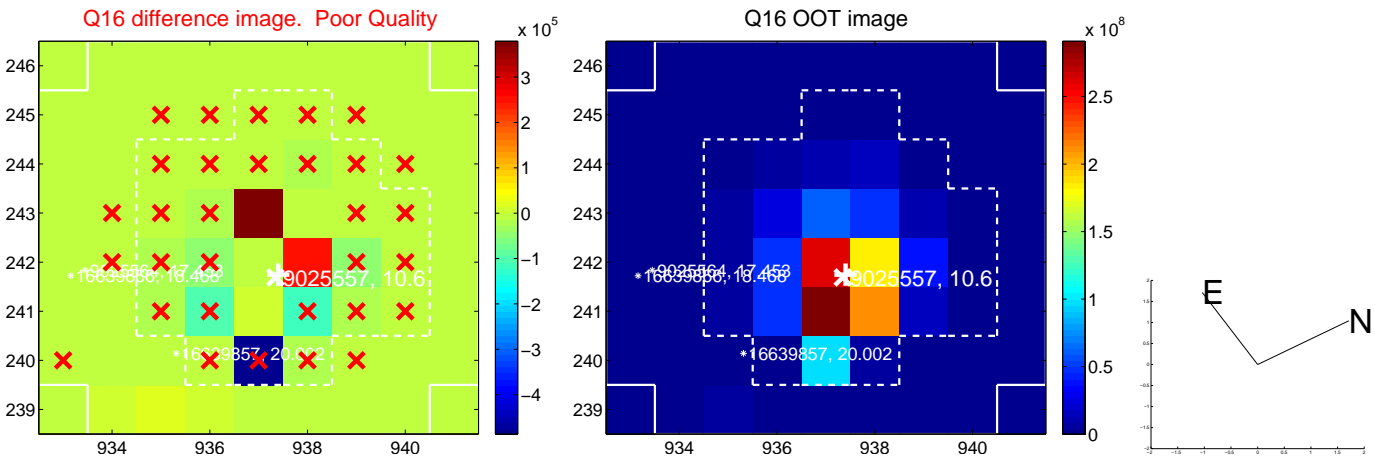
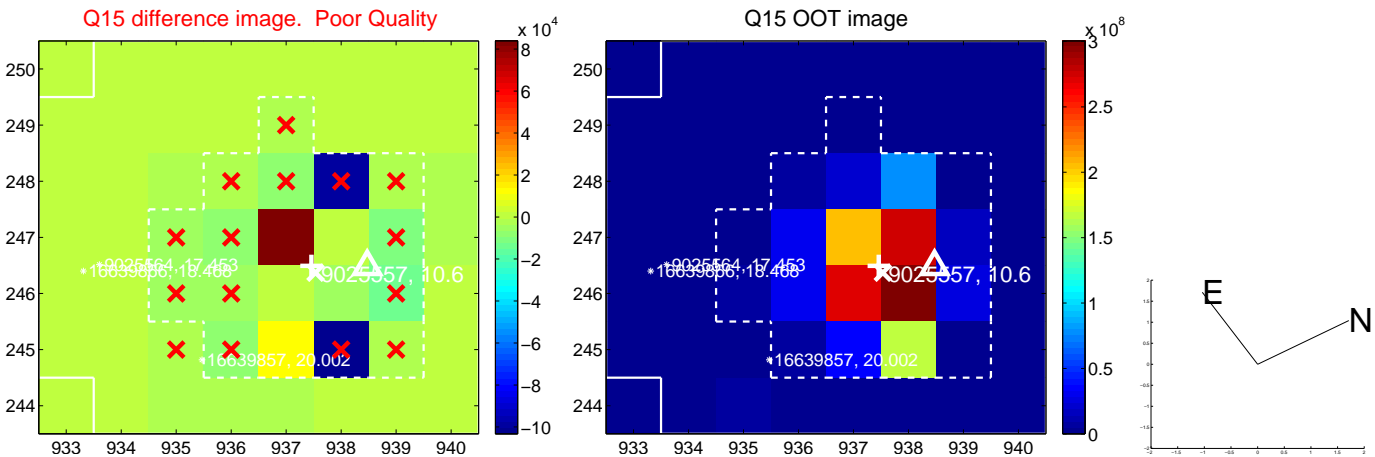
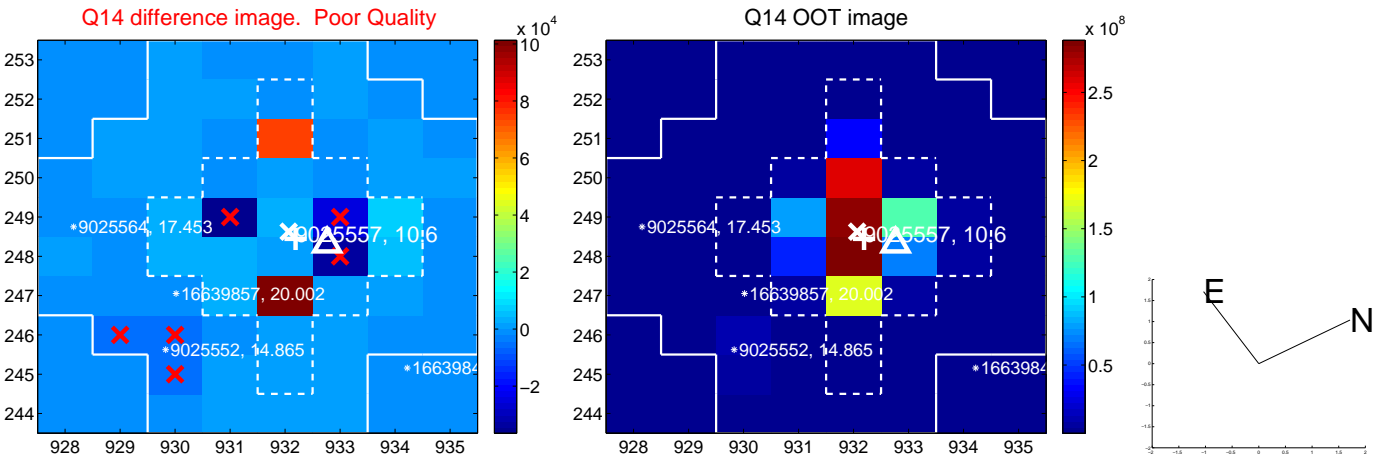
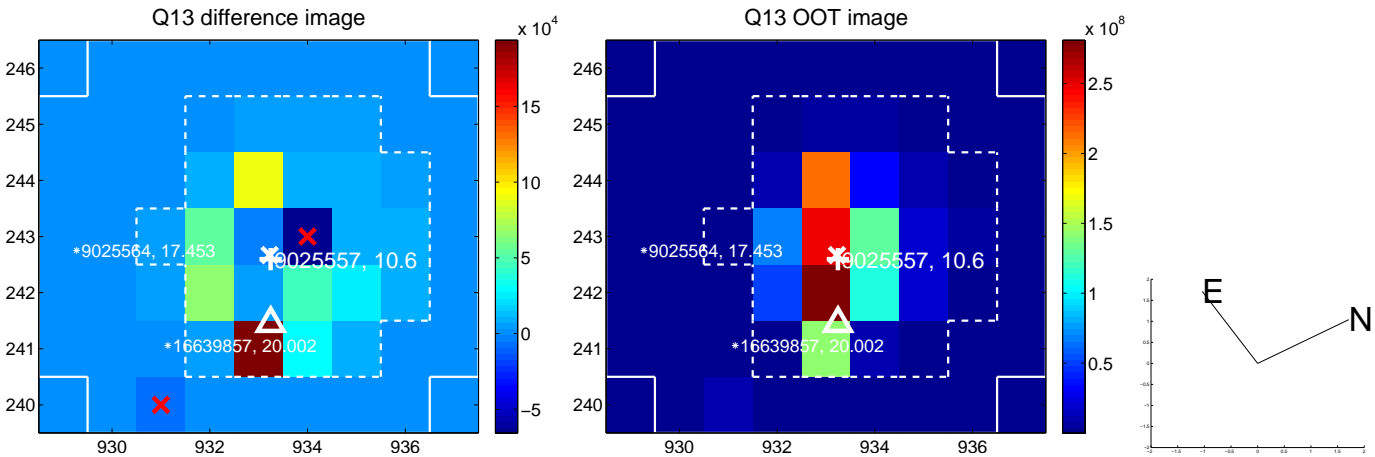
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



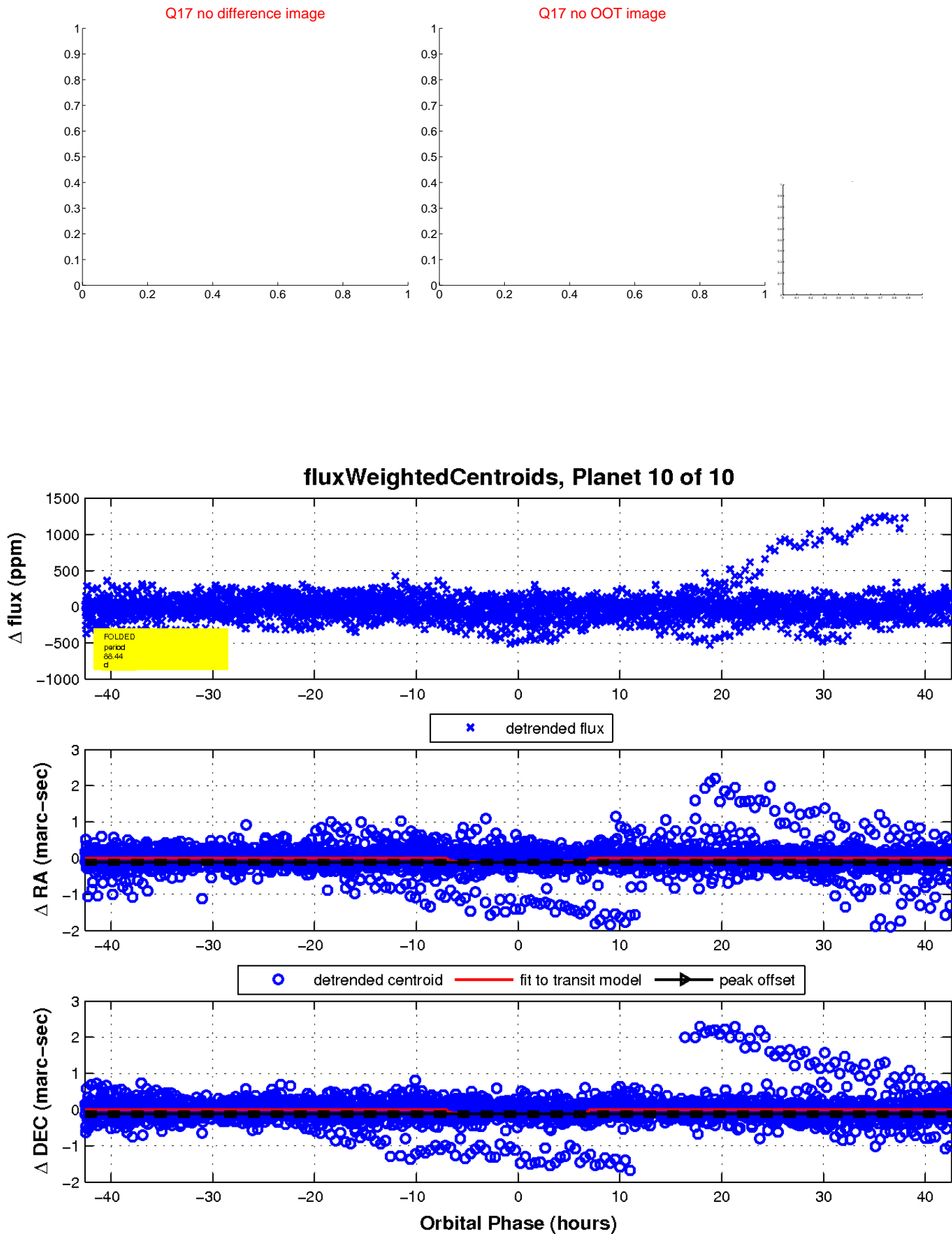
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

