

KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

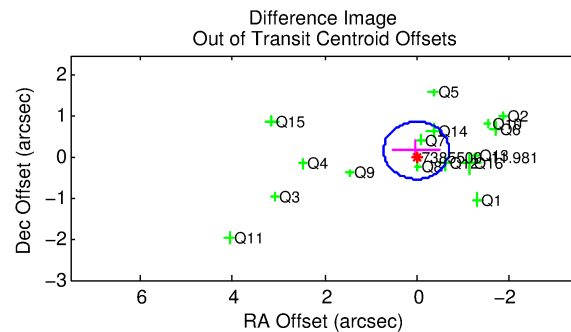
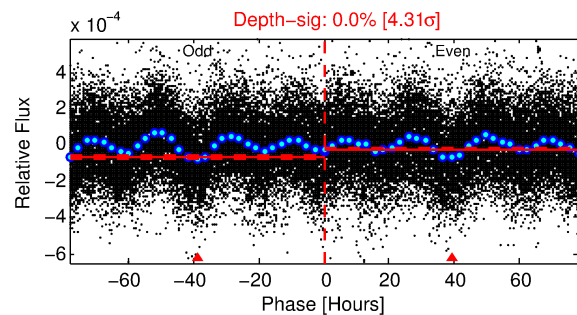
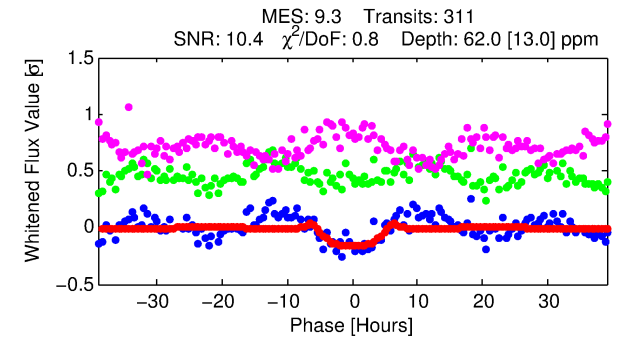
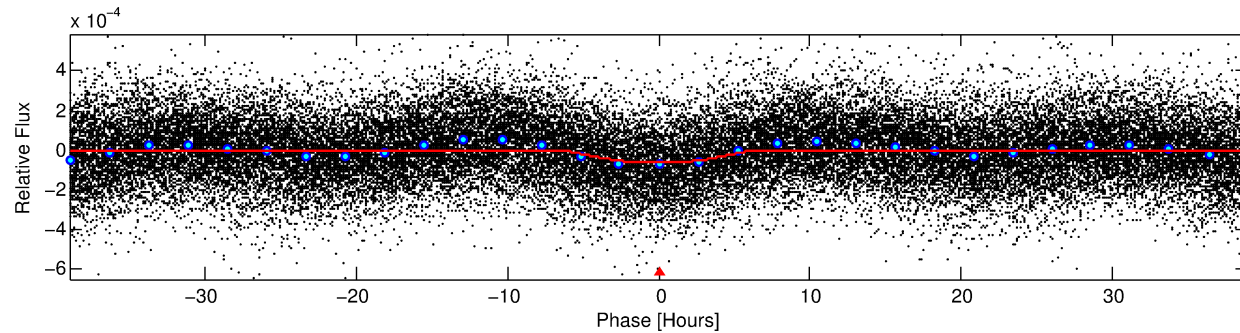
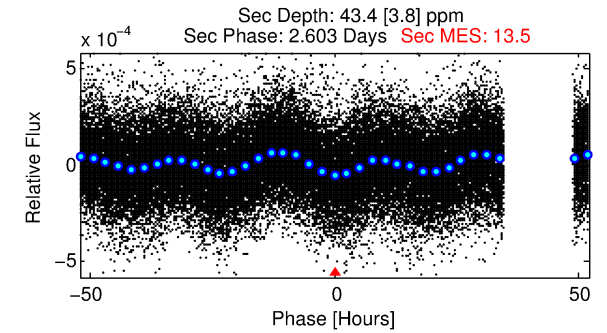
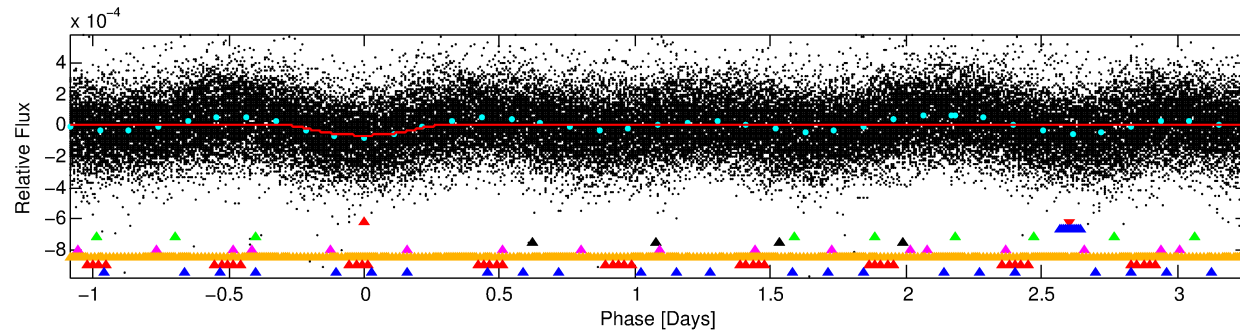
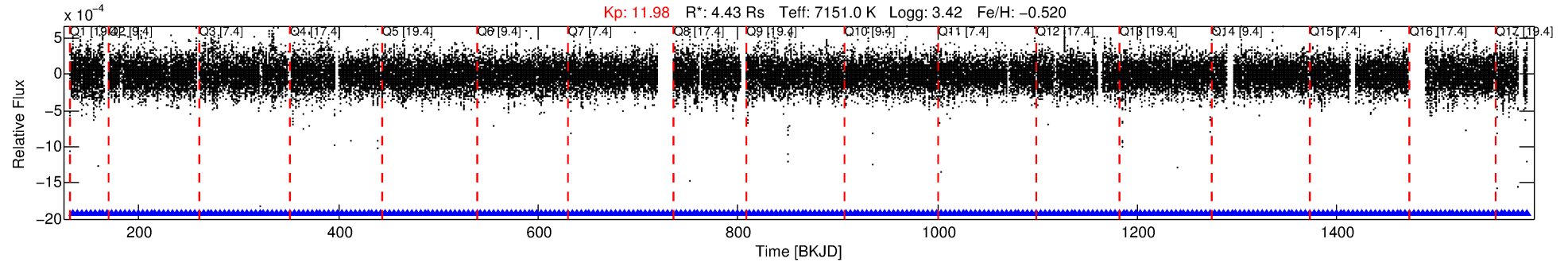
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-01

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 1 of 8 Period: 4.347 d



DV Fit Results:

Period = 4.34696 [0.00011] d
Epoch = 134.2134 [0.0213] BKJD
Rp/R* = 0.0101 [0.0016]
a/R* = 1.11 [0.02]
b = 0.99 [0.00]
Seff = 11045.39 [14219.42]
Teq = 2614 [841] K
Rp = 4.87 [3.34] Re
a = 0.0645 [0.0482] AU
Ag = 4.20 [5.53] [0.58σ]
Teffp = 5787 [525] K [3.20σ]

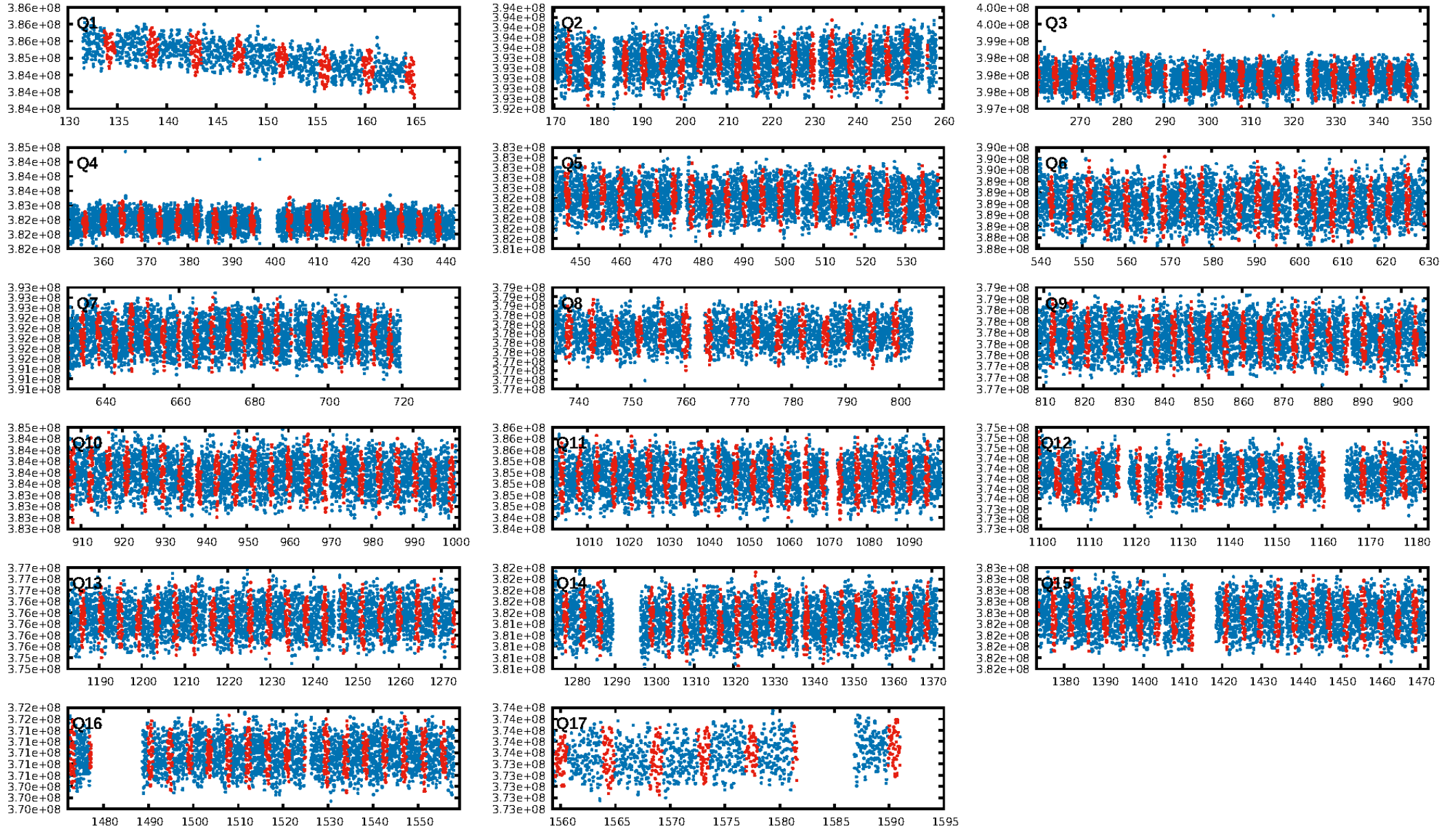
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.89σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [296/296]
GhostDiagnostic-chr: 5.264
Centroid-sig: 59.3%
Centroid-so: 0.287 arcsec [1.01σ]
OotOffset-rm: 0.172 arcsec [0.73σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.073 arcsec [0.25σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 0.00 [0/17]

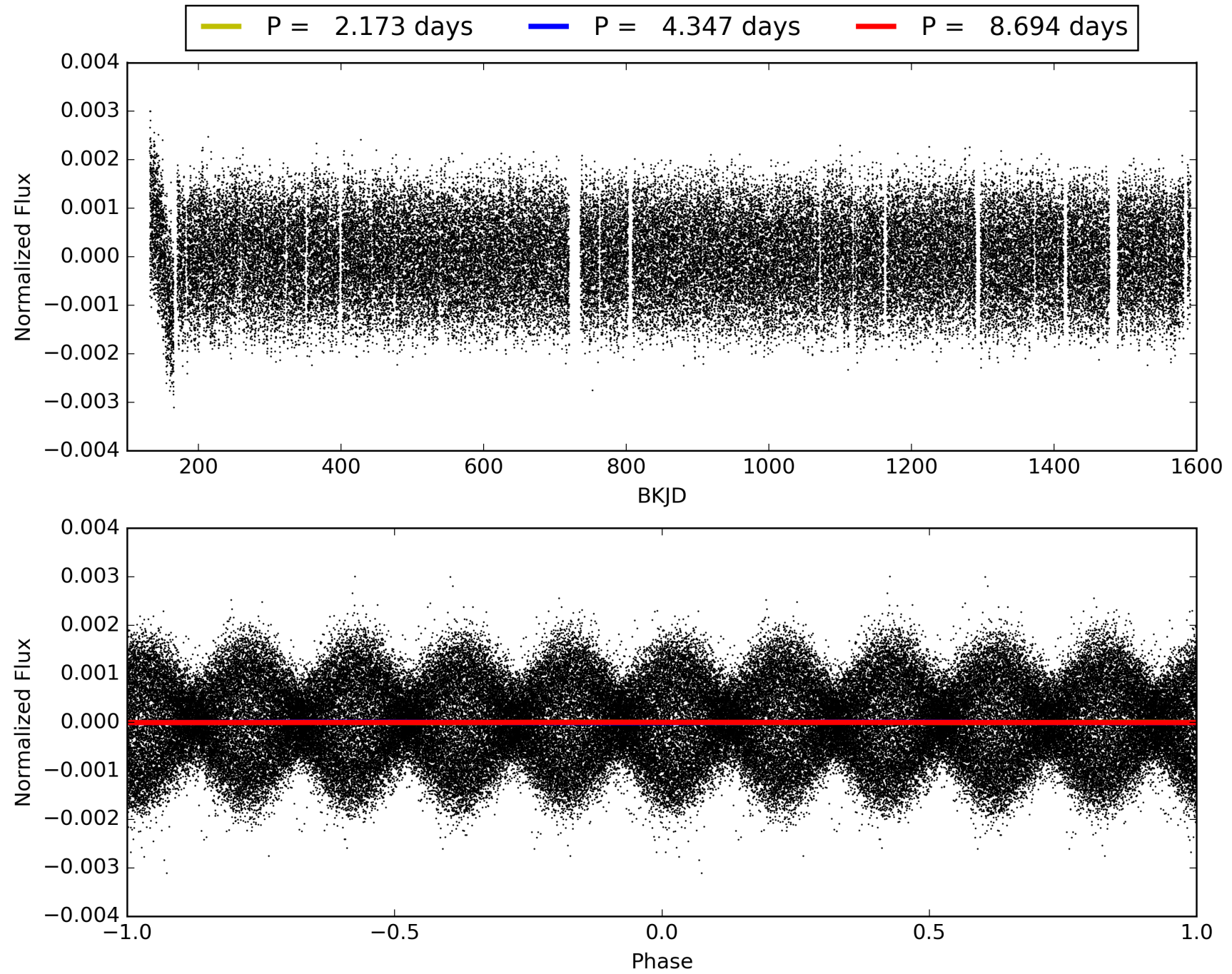
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:09:31 Z

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

TCE 007385500-01, PDC Light Curves

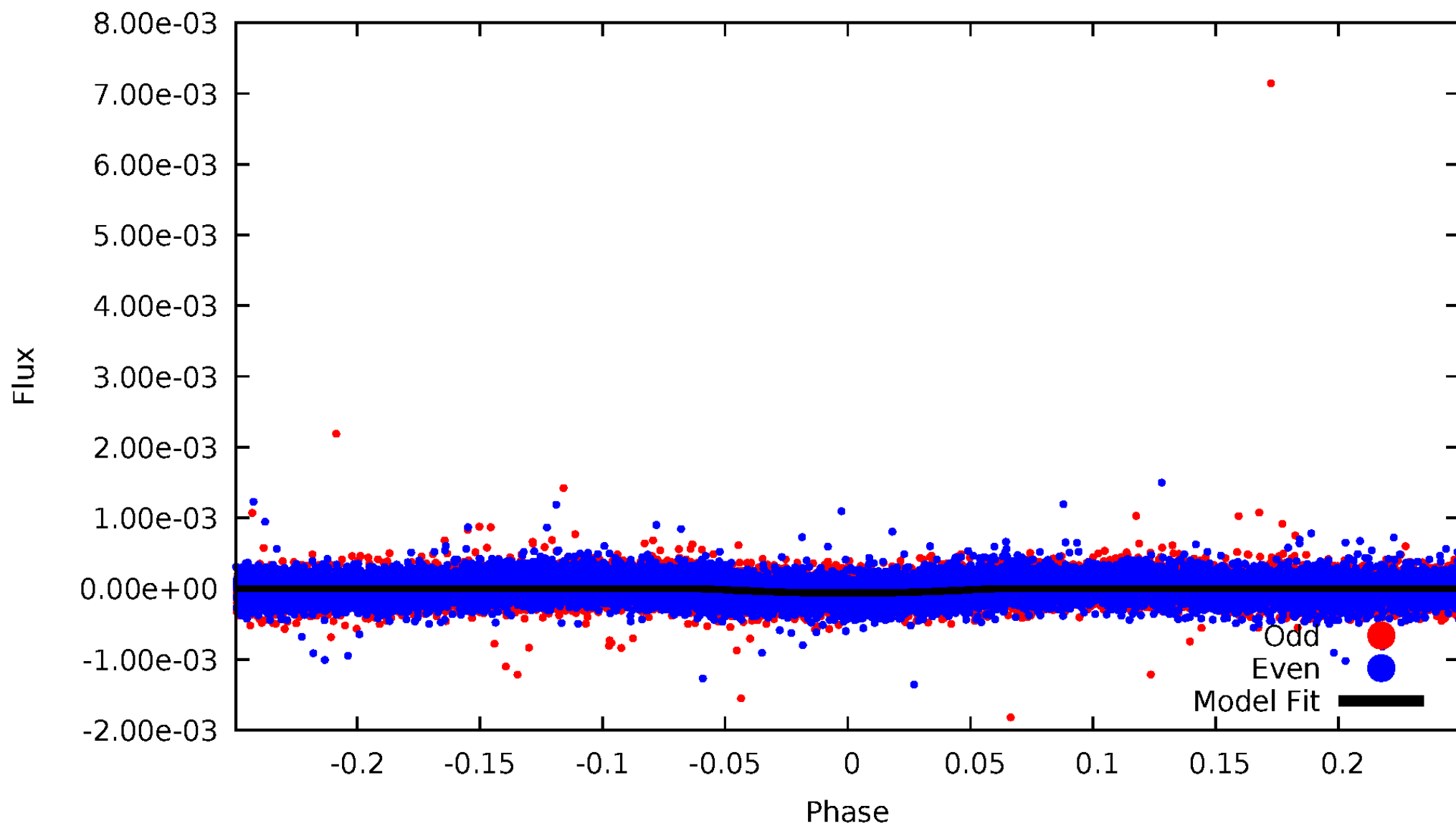


TCE 007385500-01



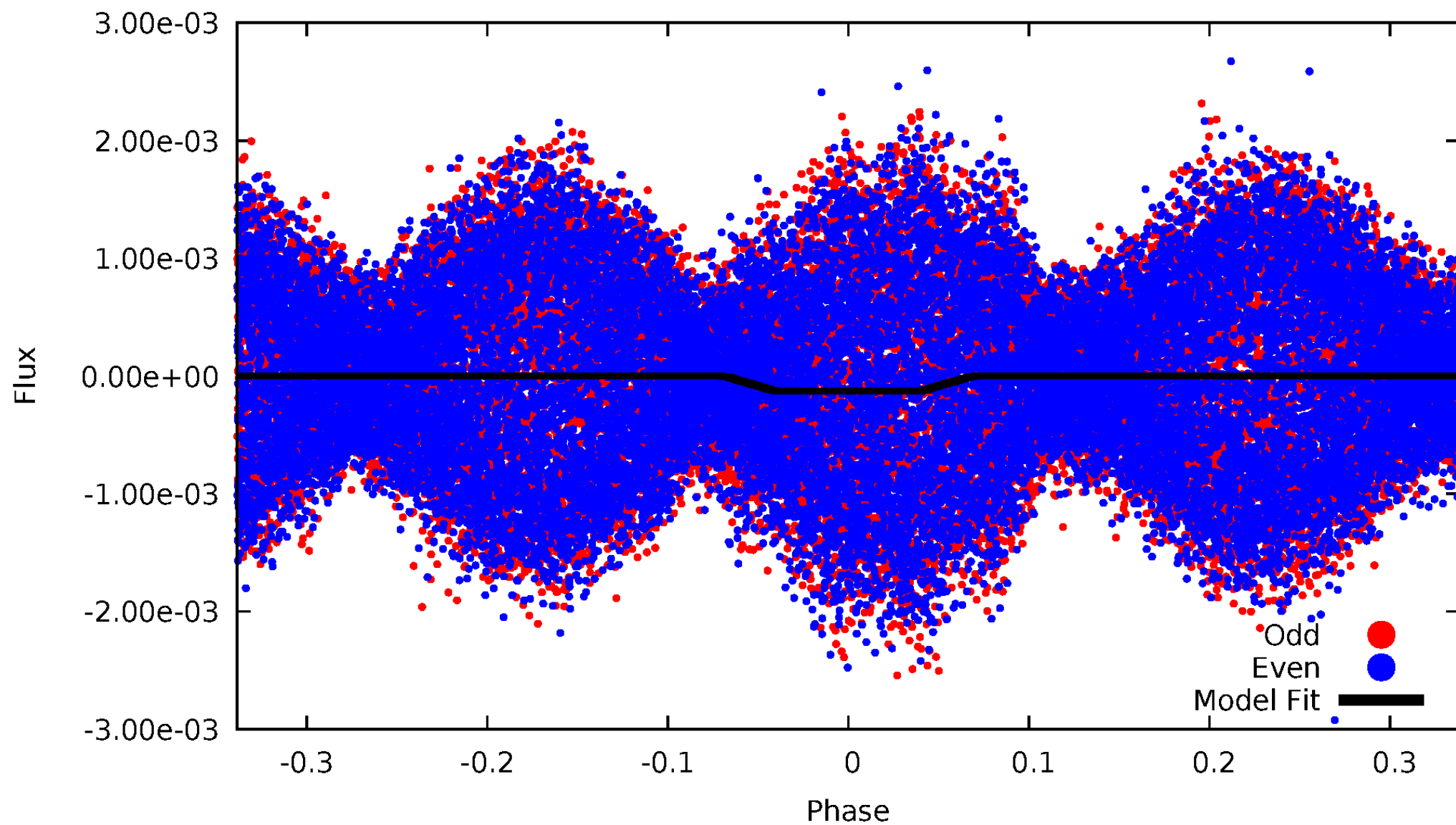
DV Odd/Even

TCE 007385500-01

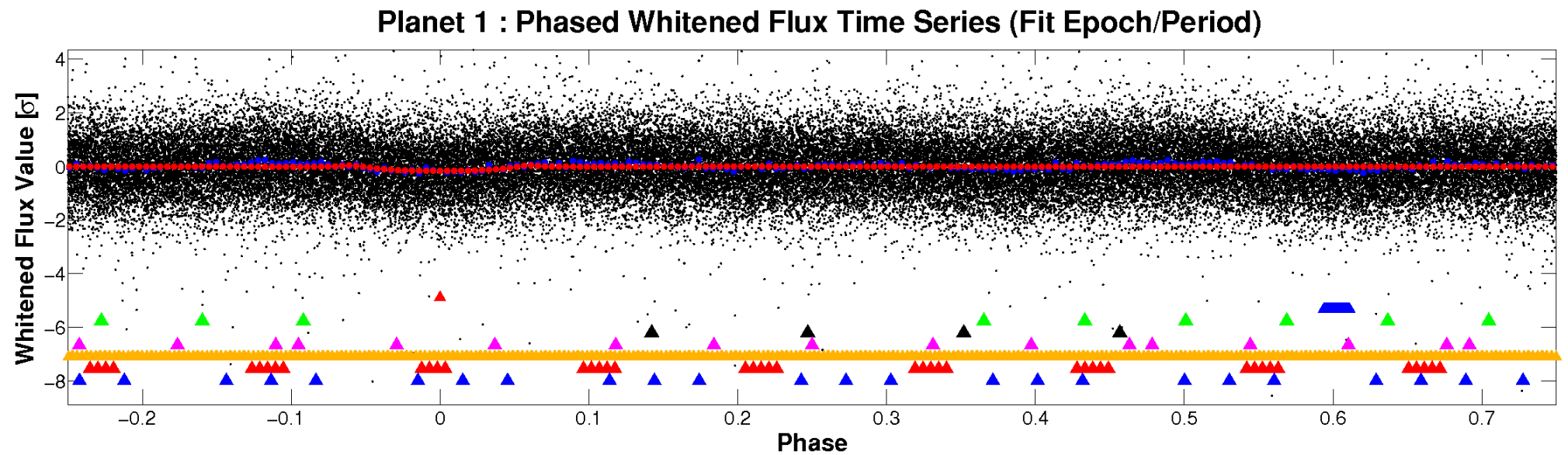
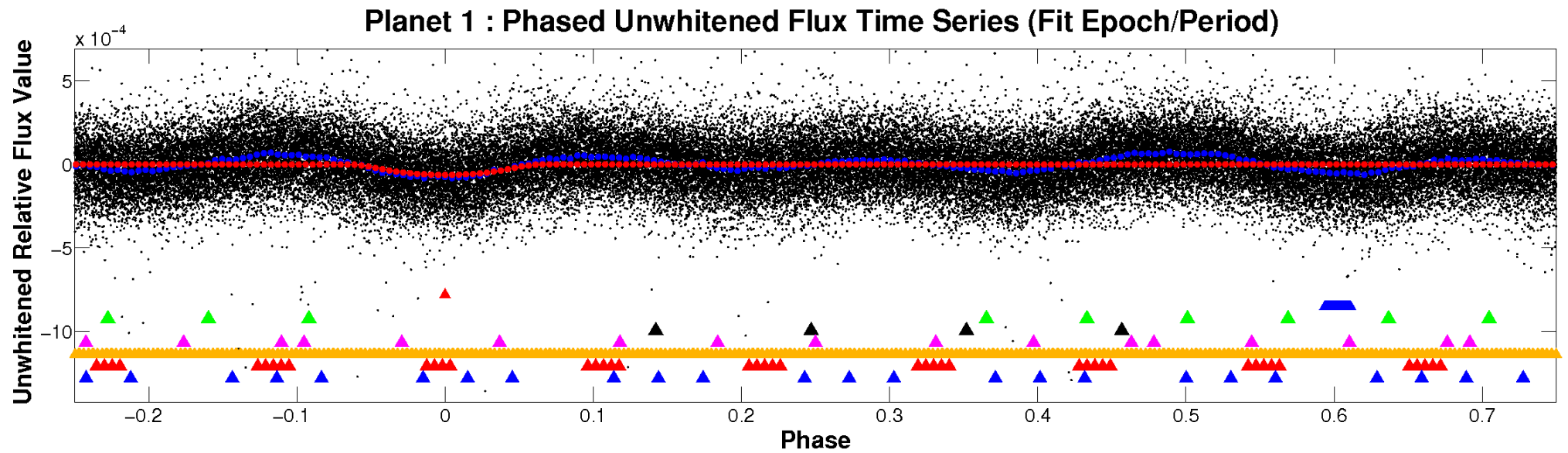


ALT Odd/Even

TCE 007385500-01

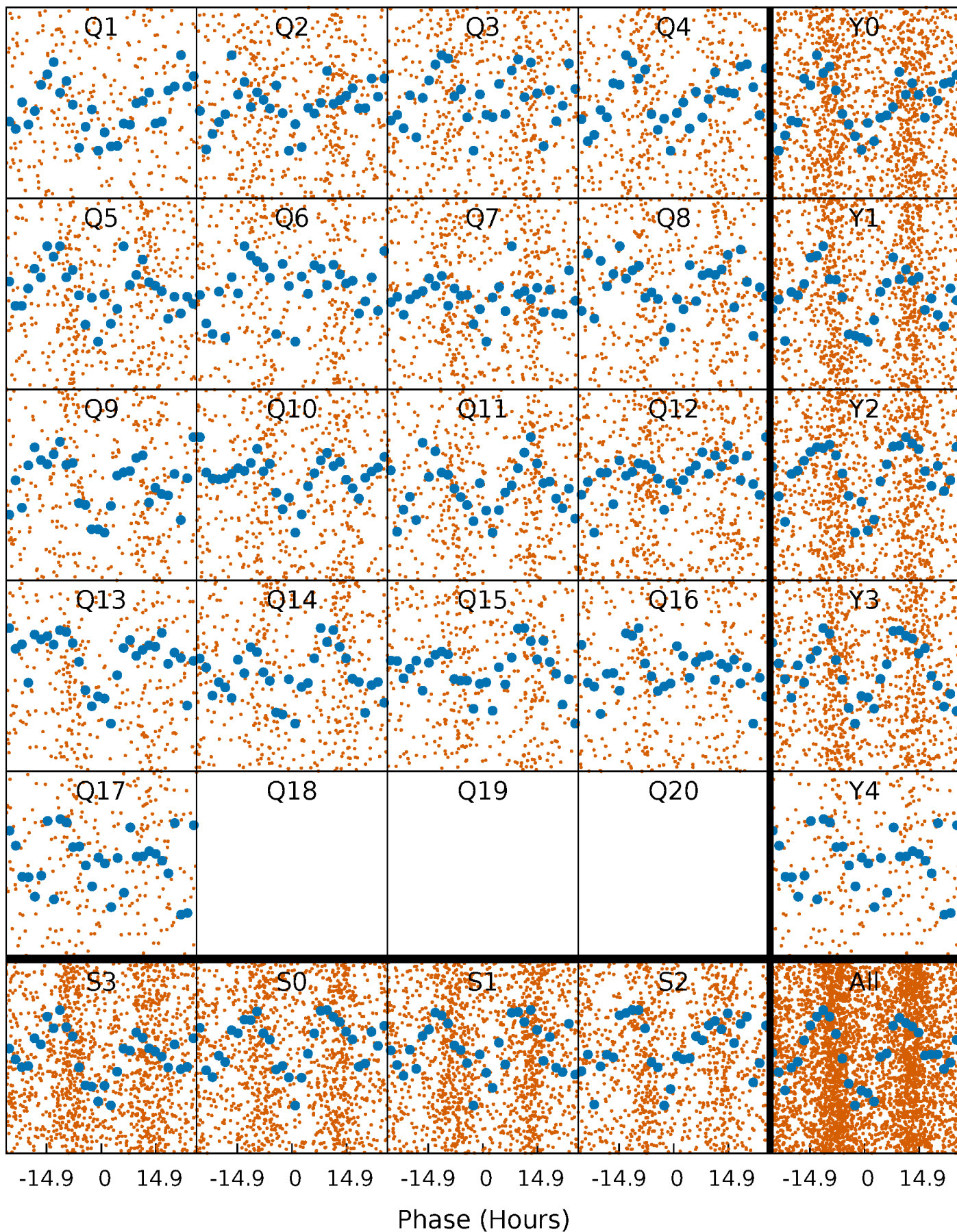


Non-Whitened Vs. Whitened Light Curve



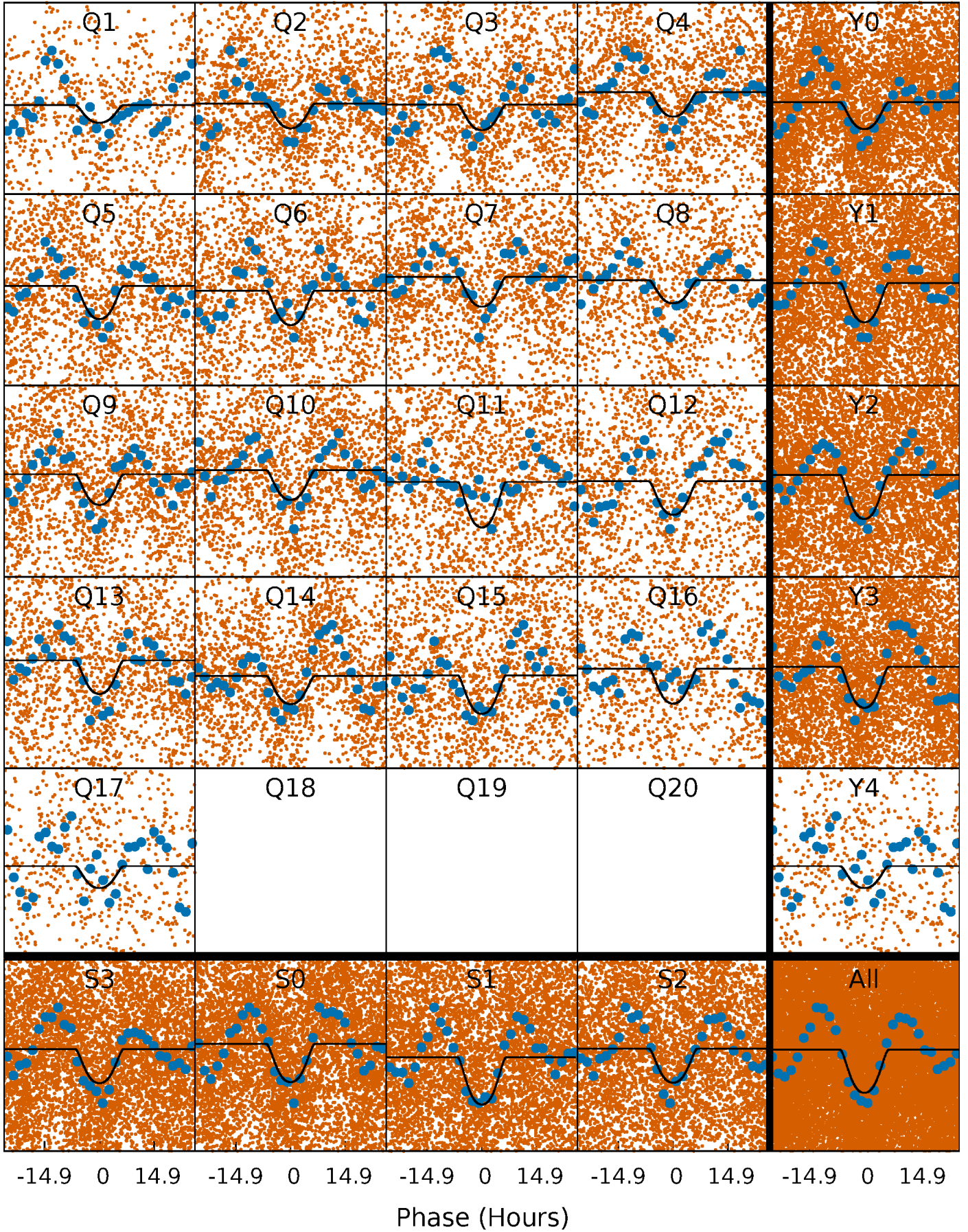
PDC Quarter-Phased Transit Curves

TCE 007385500-01 P= 4.346955 Days $T_0=134.213442$ (BKJD)



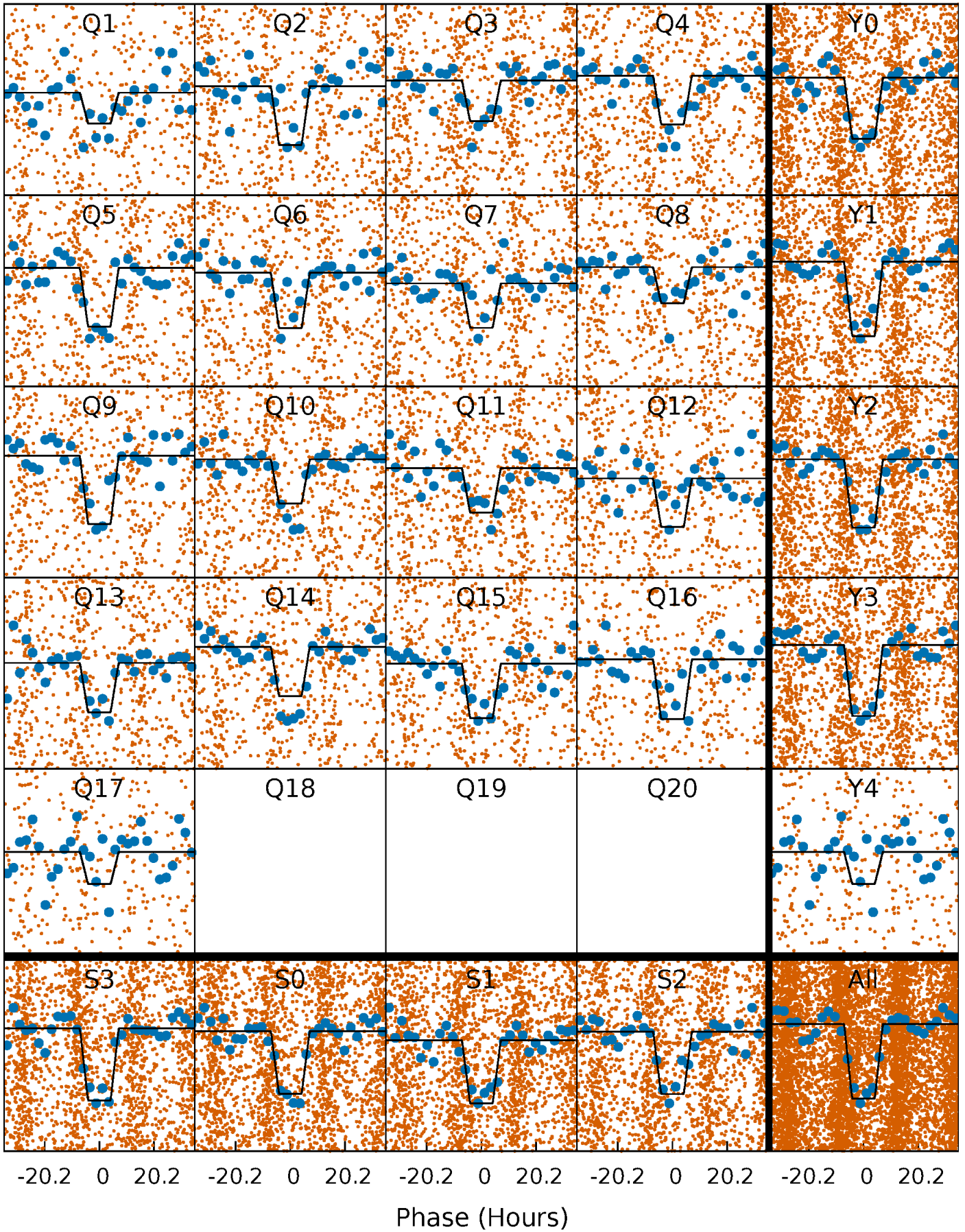
DV Quarter-Phased Transit Curves

TCE 007385500-01 P= 4.346955 Days $T_0=134.213442$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

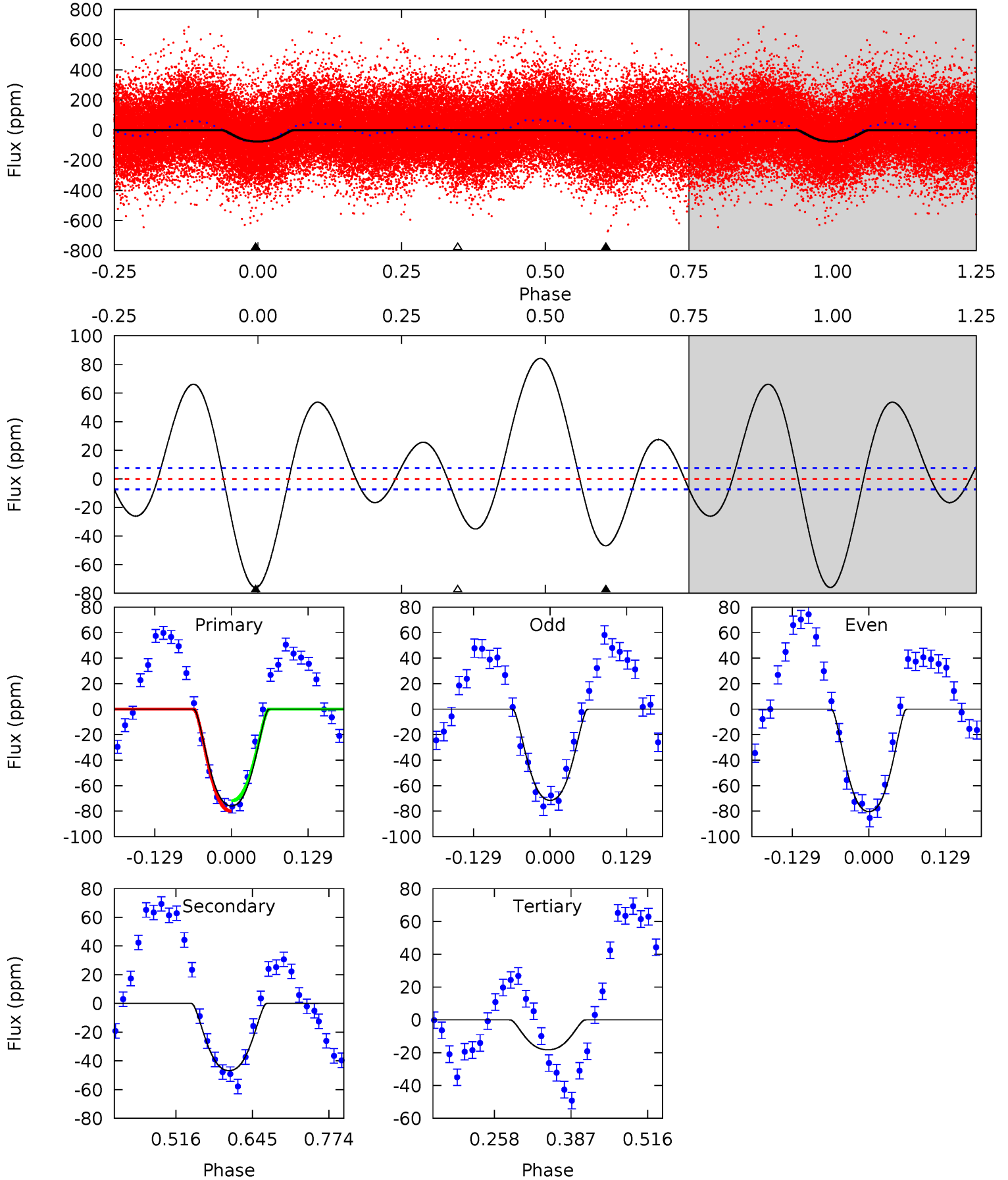
TCE 007385500-01 P= 4.346882 Days $T_0=134.201099$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-01, P = 4.346955 Days, E = 129.866487 Days

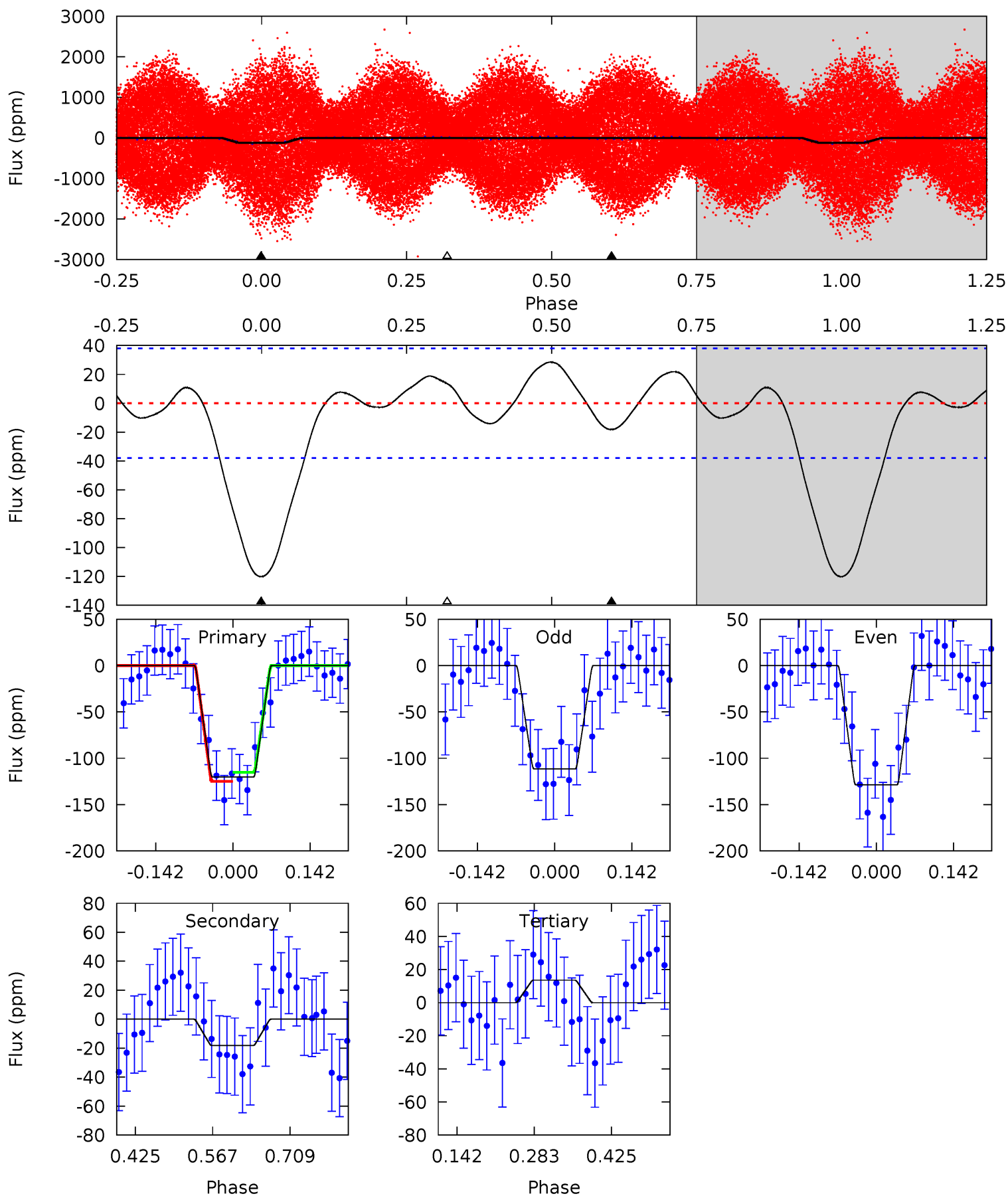
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.1	28.4	11.1	0	4.51	1.52	16.1	35.0	46.1	17.3	28.4	2.69	1.04	0.53	2.46



Alt Model-Shift Uniqueness Test

007385500-01, P = 4.346882 Days, E = 129.854217 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	2.15	-1.61	0	4.49	1.47	1.09	15.8	14.2	3.76	2.15	1.02	0.94	0.19	0.62



Stellar Parameters For KIC 007385500

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	$+3\%/-4\%$	$+23\%/-2\%$	$+58\%/-48\%$	$+7\%/-67\%$	$+7\%/-38\%$	$+1524\%/-27\%$
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-47 ± 2	$4.36^{+1.09}_{-1.45}$	3513^{+246}_{-546}	5759^{+548}_{-451}	$5.500^{+5.949}_{-1.848}$
Alt.	-18 ± 8	$5.01^{+1.13}_{-1.78}$	3516^{+257}_{-585}	4334^{+560}_{-635}	$1.694^{+2.208}_{-0.856}$

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

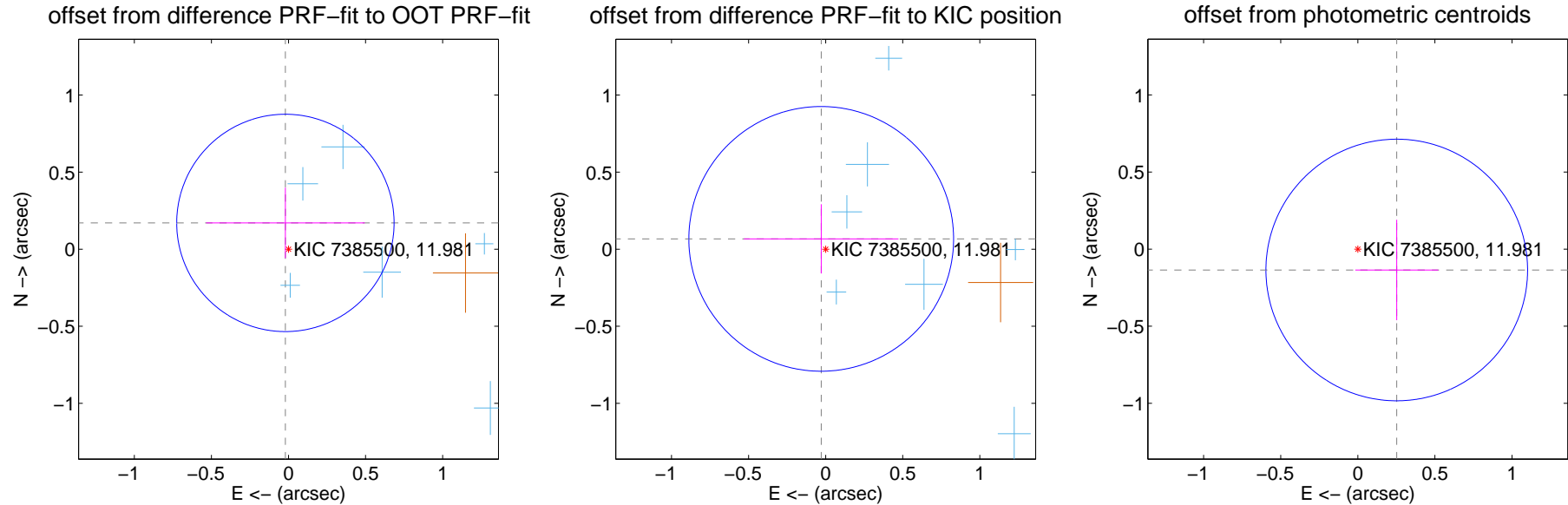
DV Centroid Data

Supplemental centroid analysis for 007385500-01. **Kepler magnitude: 11.98.** Transit SNR 10.37

There are 14 quarters with good PRF difference image offsets

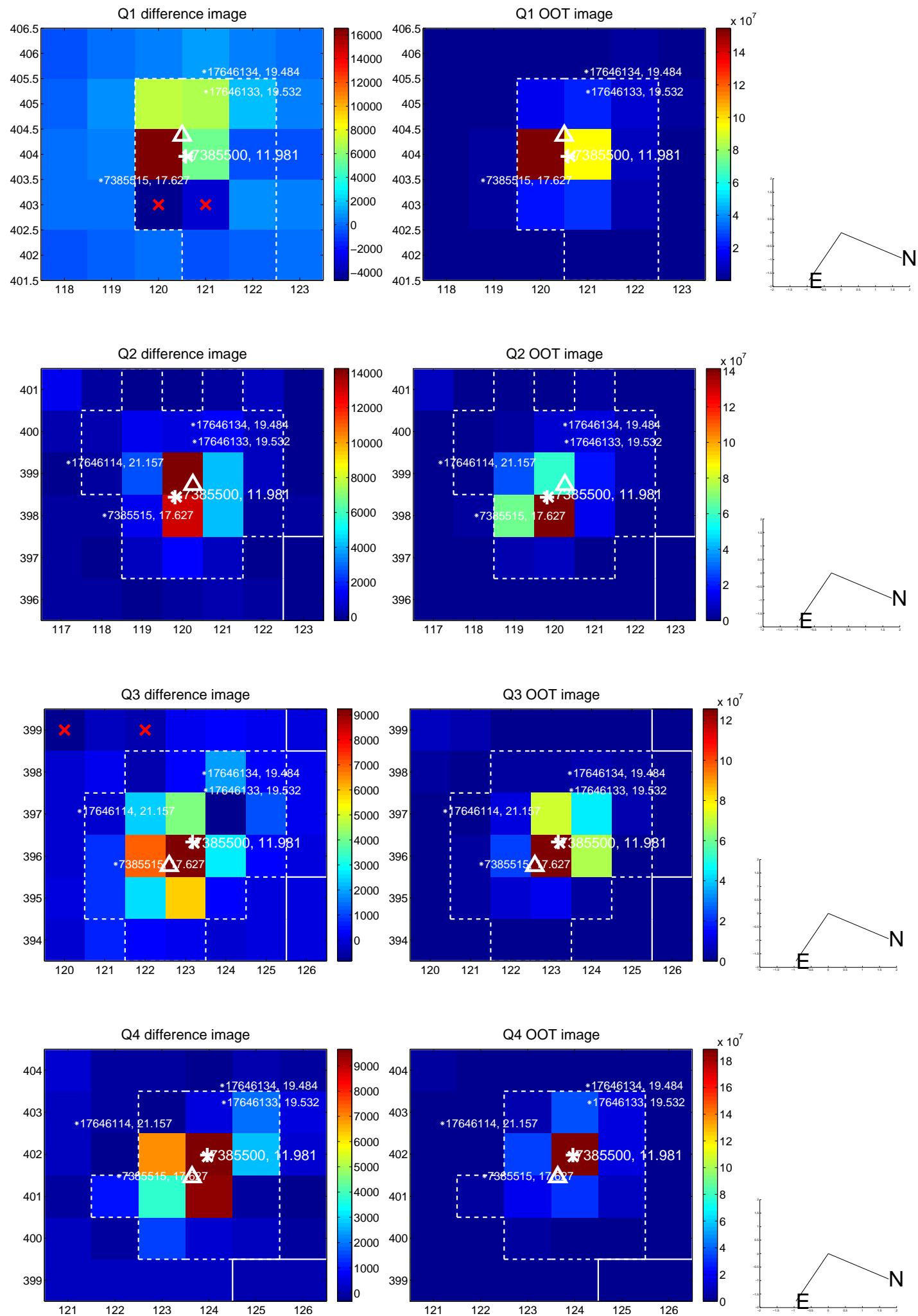
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.172 ± 0.235	0.73	0.020 ± 0.515	0.170 ± 0.229
PRF-fit source offset from KIC position	0.073 ± 0.286	0.25	0.029 ± 0.501	0.067 ± 0.225
photometric centroid source offset	0.29 ± 0.28	1.01	-0.25 ± 0.27	-0.14 ± 0.33

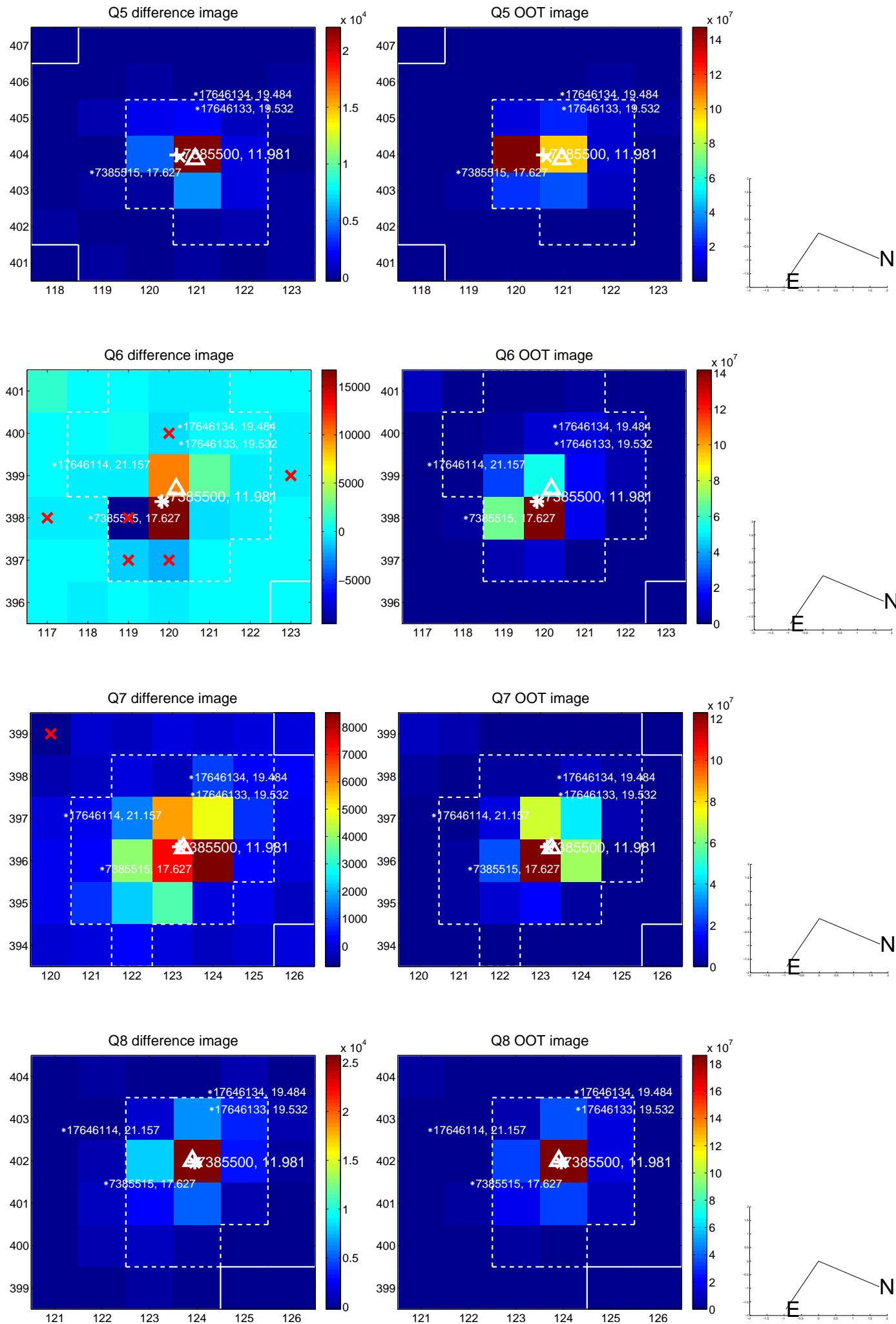


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

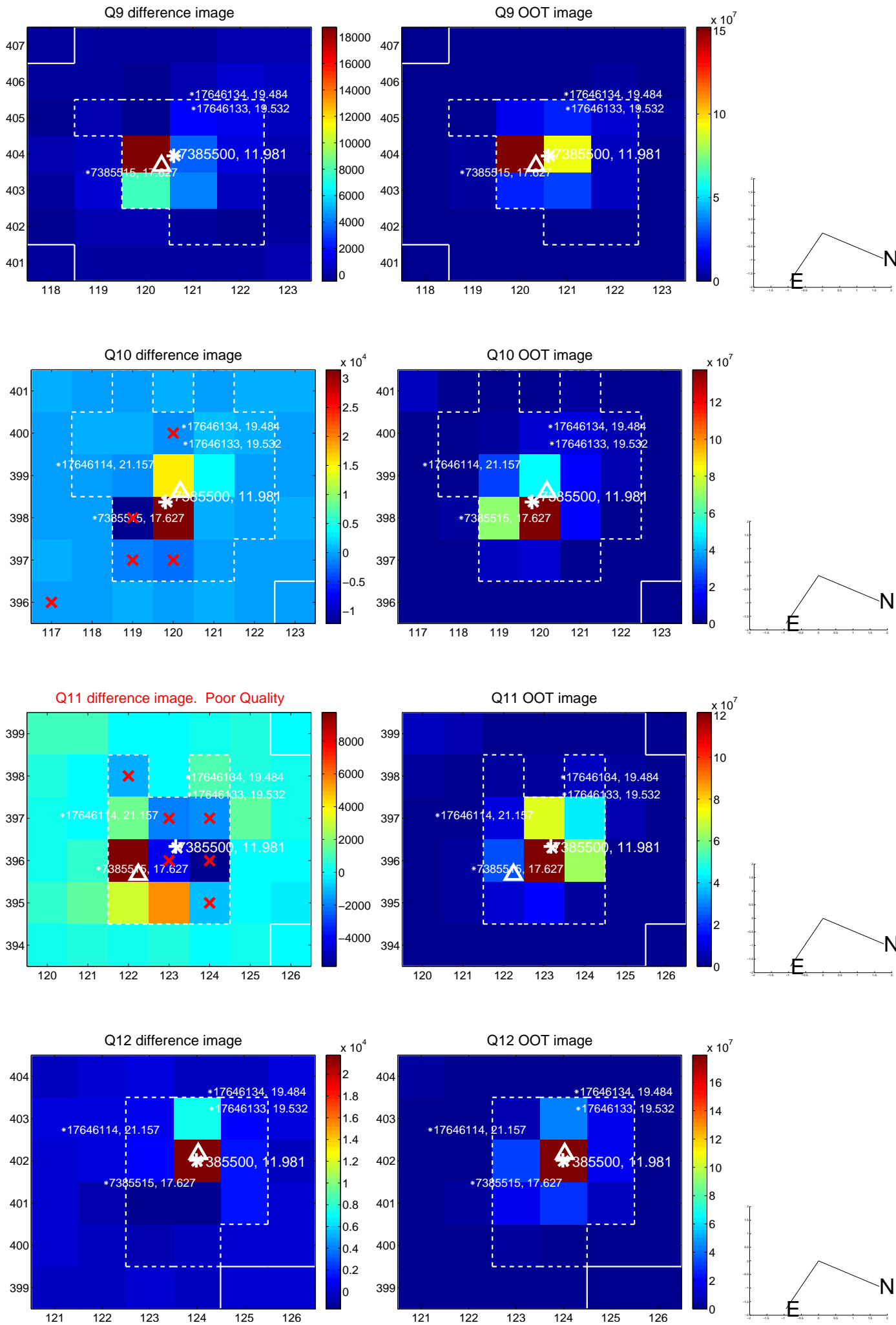
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



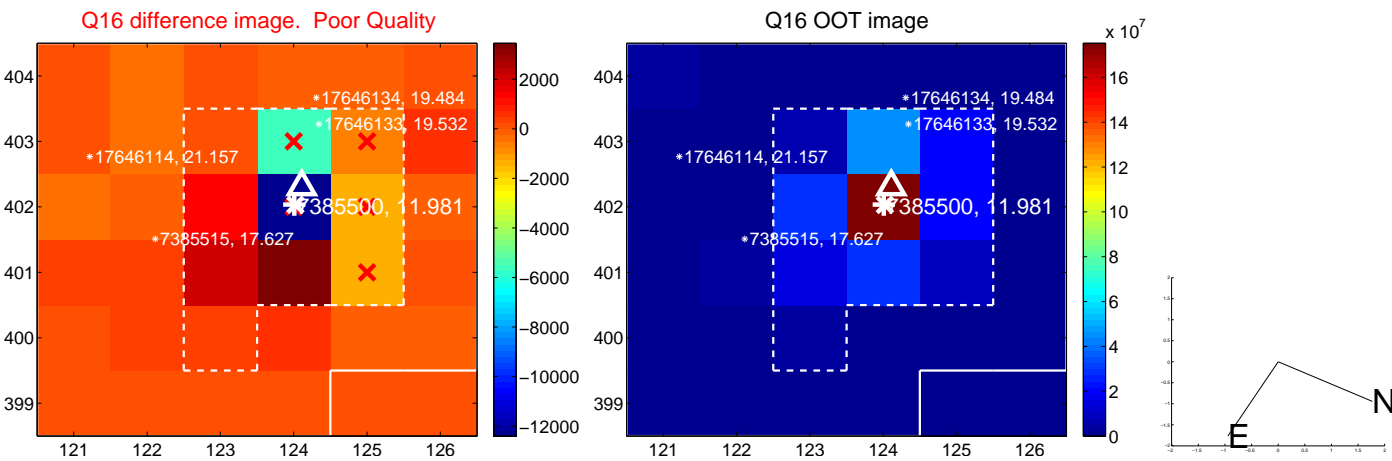
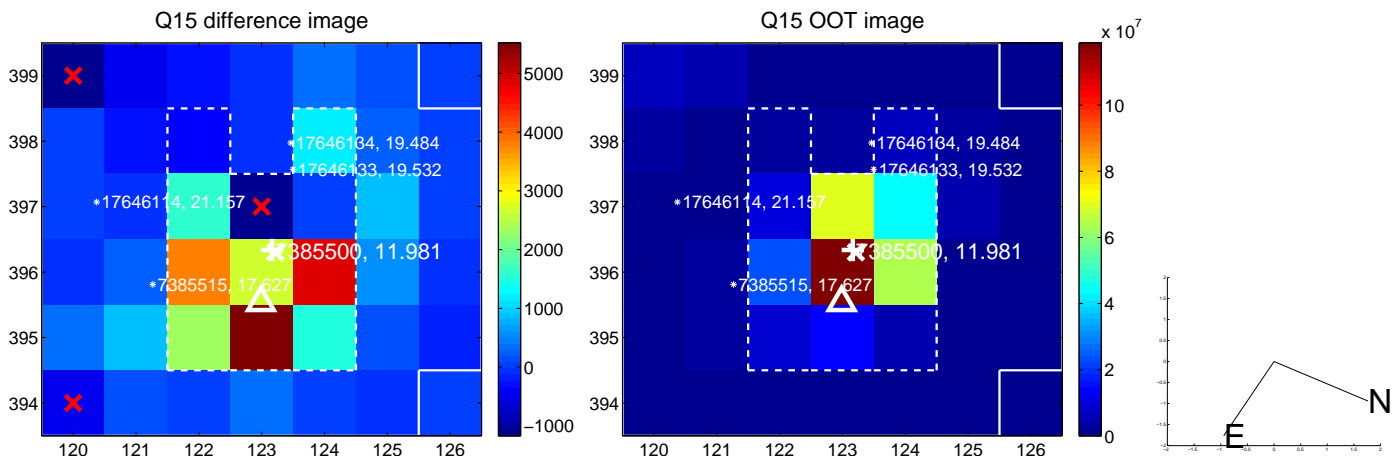
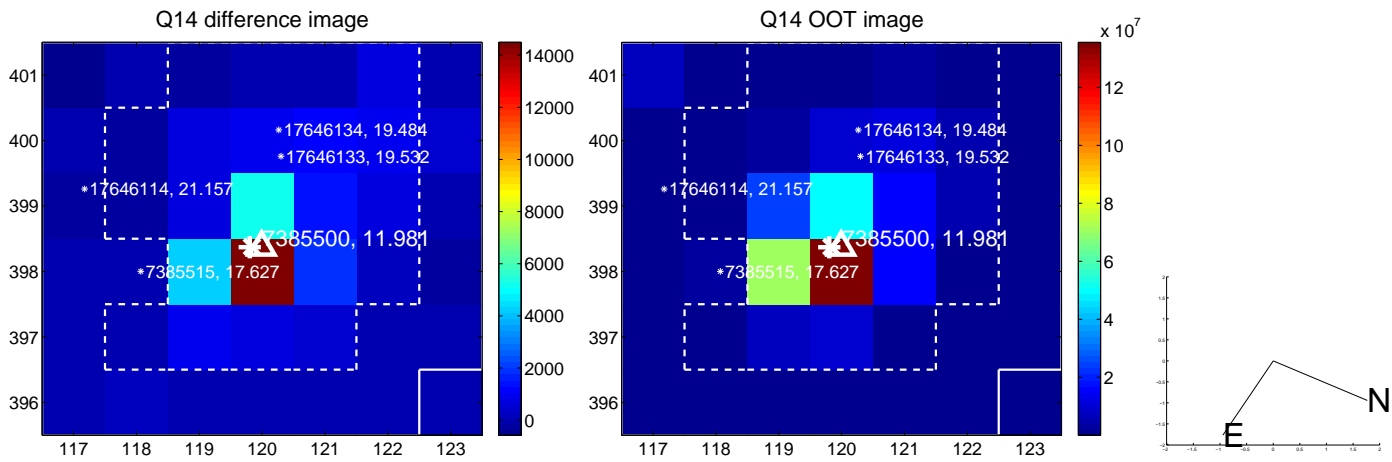
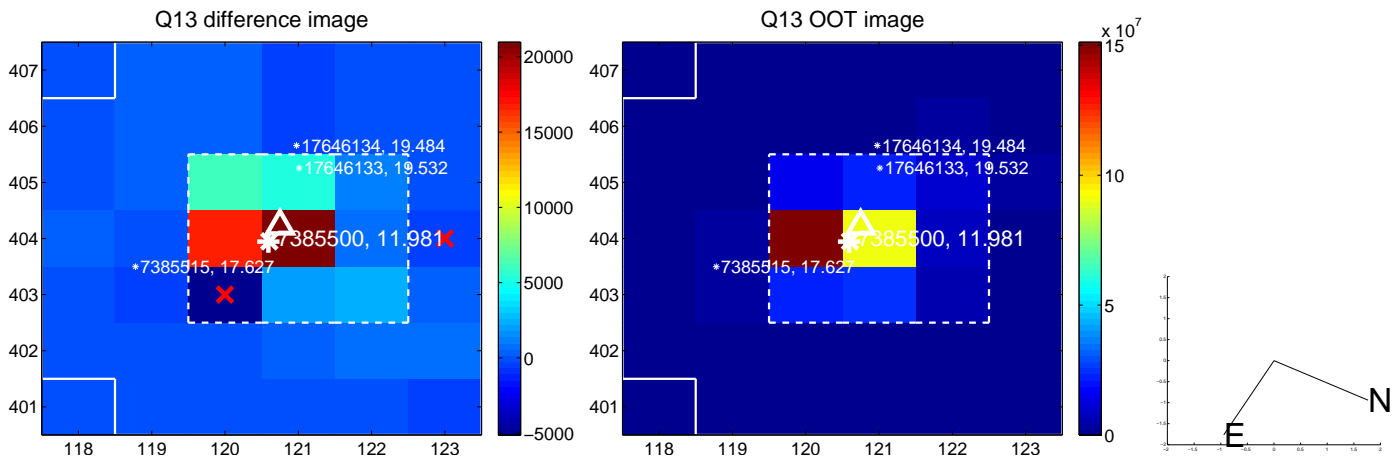
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



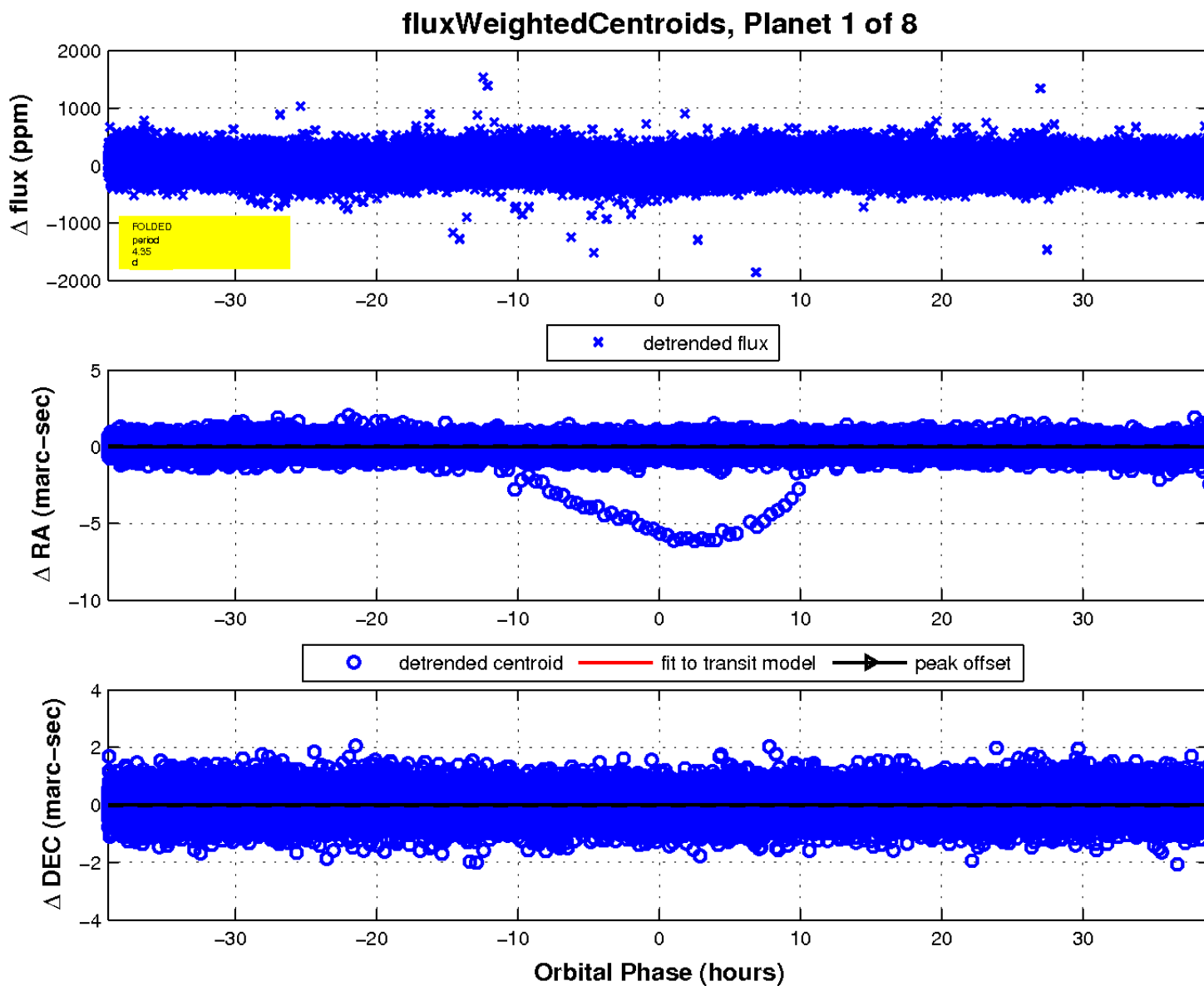
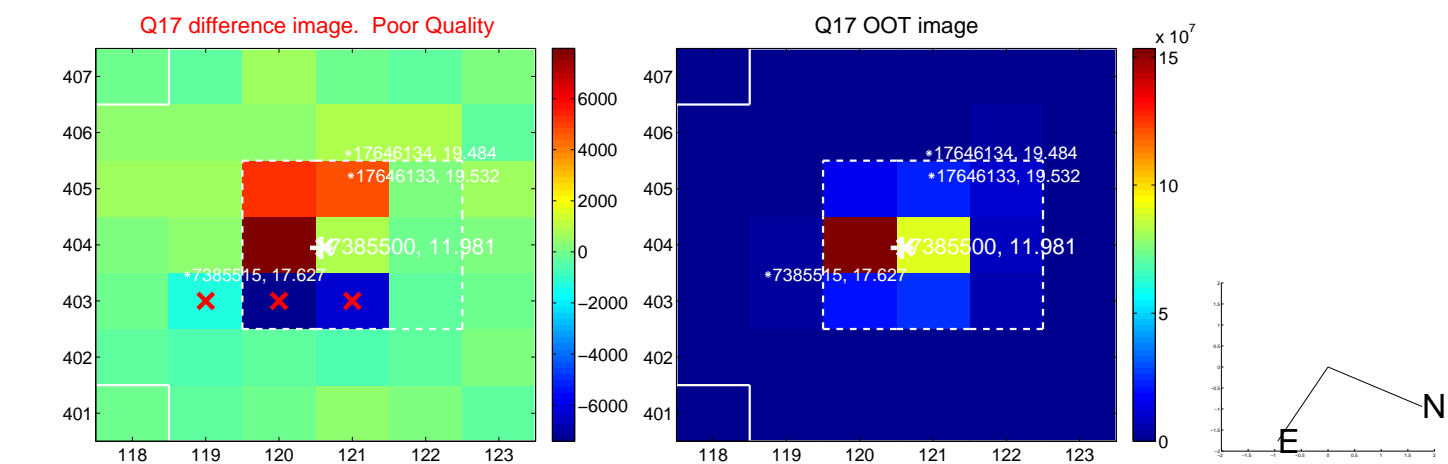
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

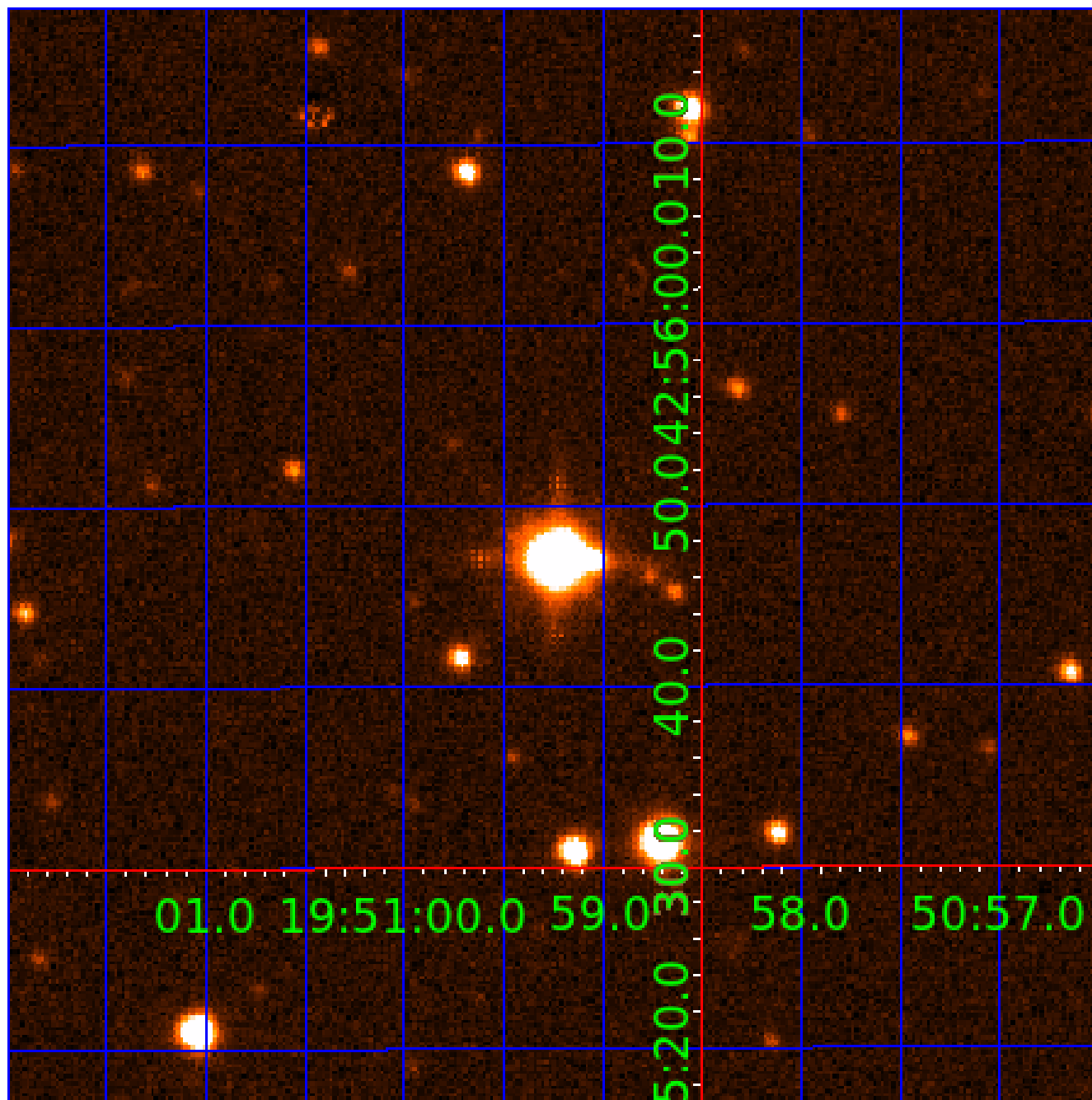


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

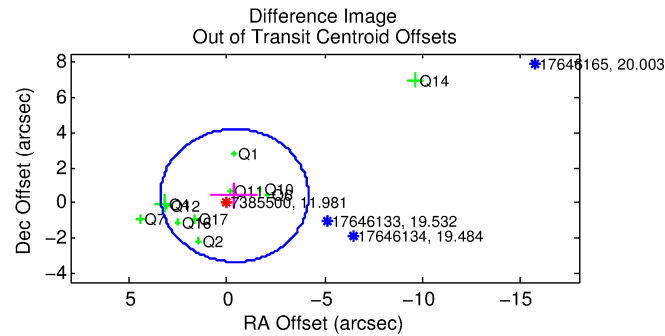
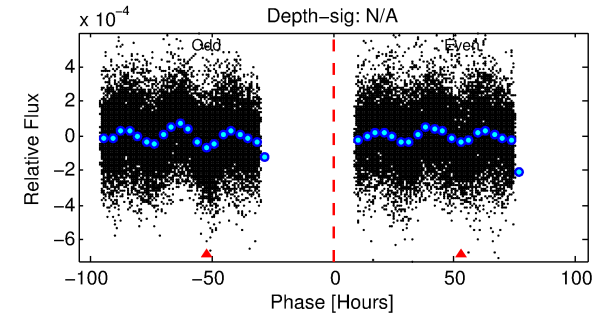
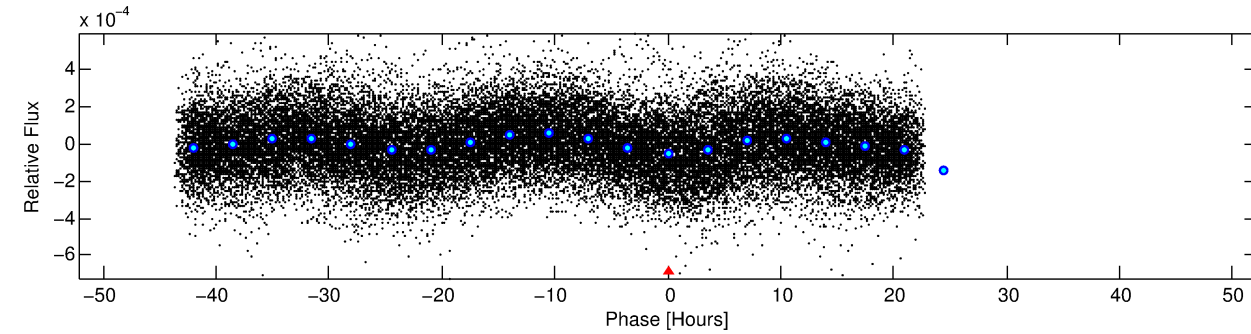
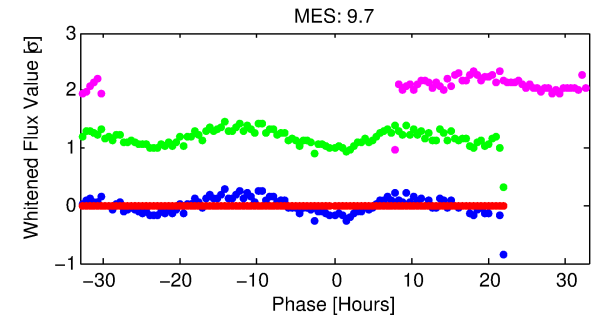
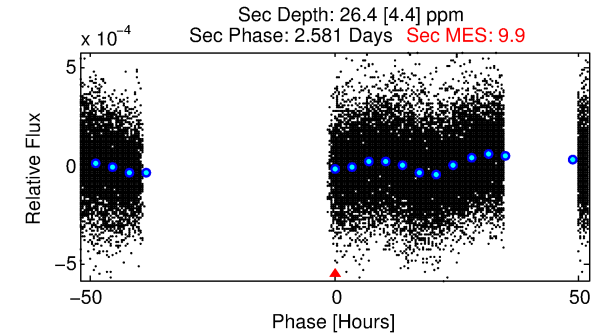
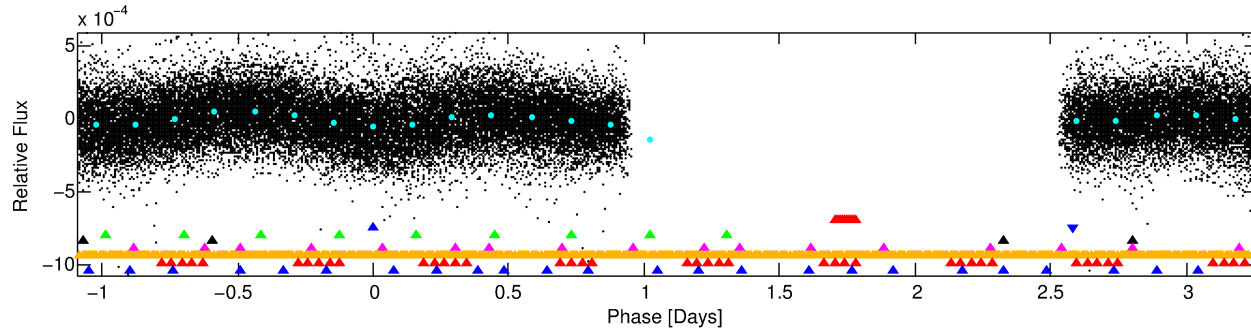
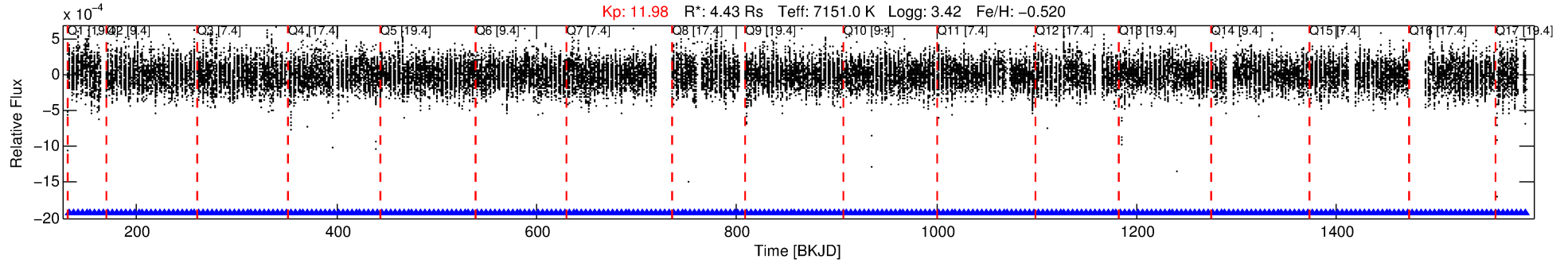
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-02

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 2 of 8 Period: 4.347 d



TPS TCE Results:

Period = 4.34718 d
Epoch = 132.4475 BKJD

DV fit results are unavailable

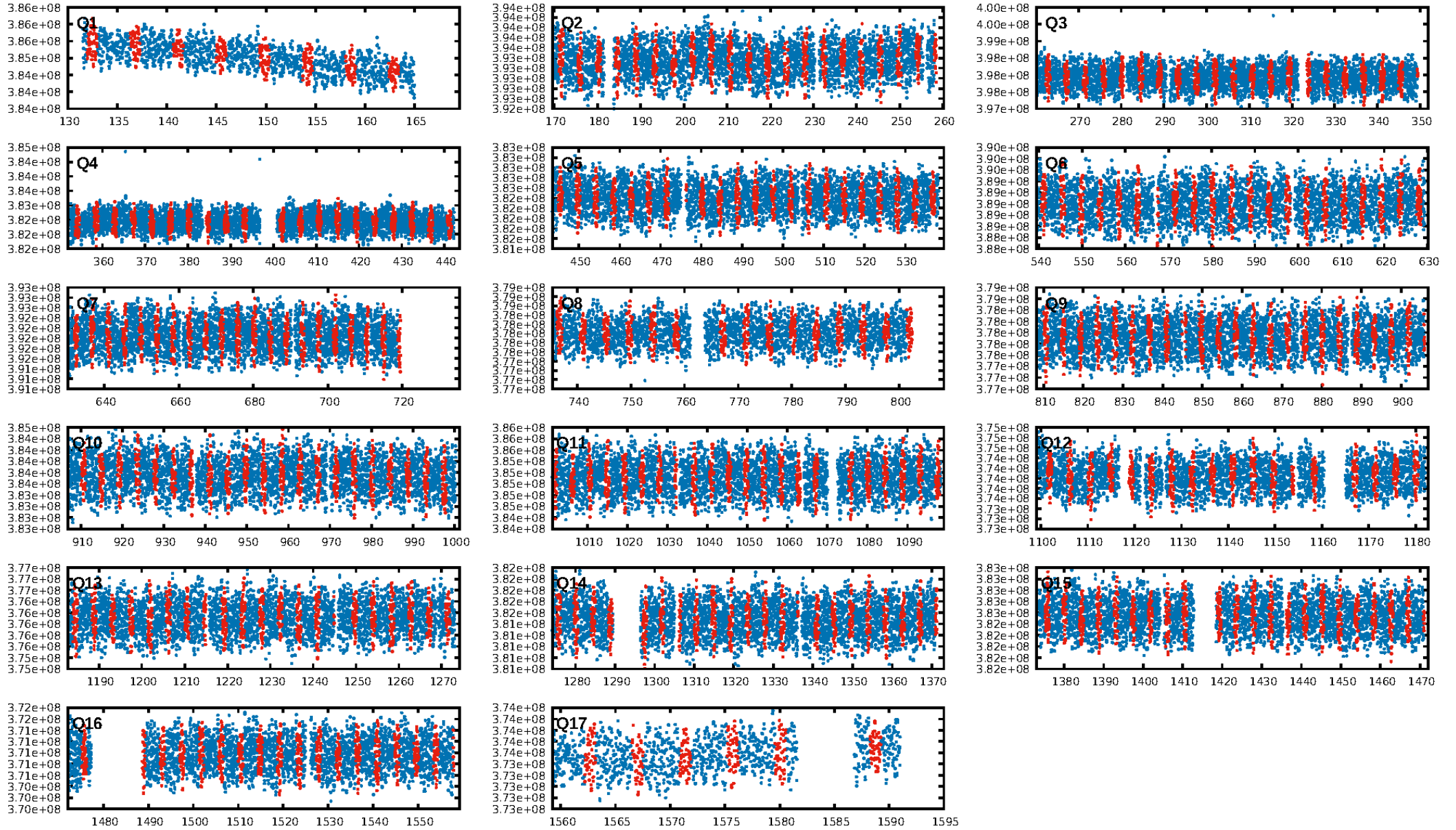
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [57.28σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [305/305]
GhostDiagnostic-chr: 2.822
Centroid-sig: 57.6%
Centroid-so: 0.338 arcsec [2.52σ]
OotOffset-rm: 0.574 arcsec [0.46σ]
KicOffset-rm: 0.467 arcsec [0.38σ]
OotOffset-st: 4/2/3/2 [11]
KicOffset-st: 4/2/3/2 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 0.00 [0/17]

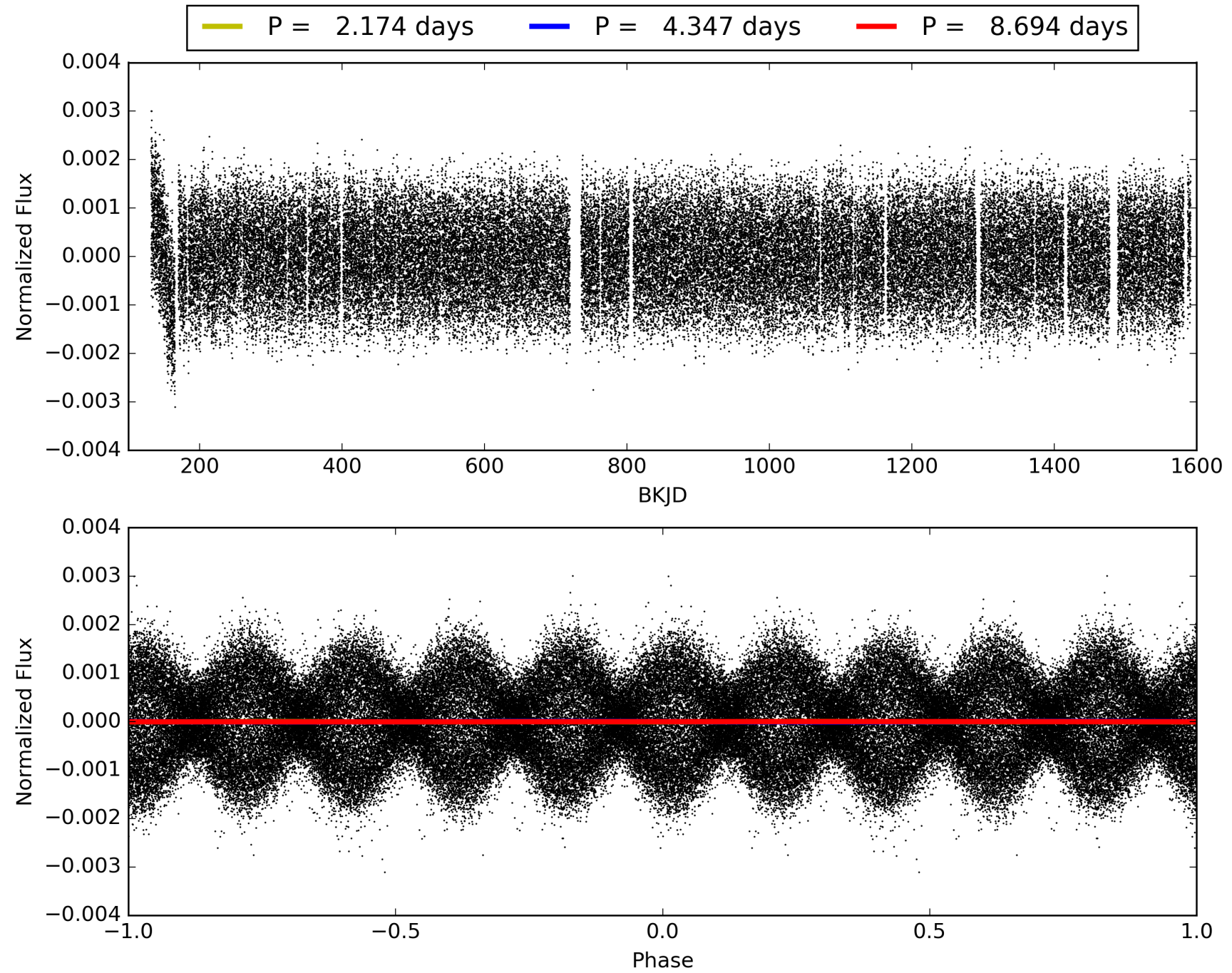
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:09:43 Z

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

TCE 007385500-02, PDC Light Curves

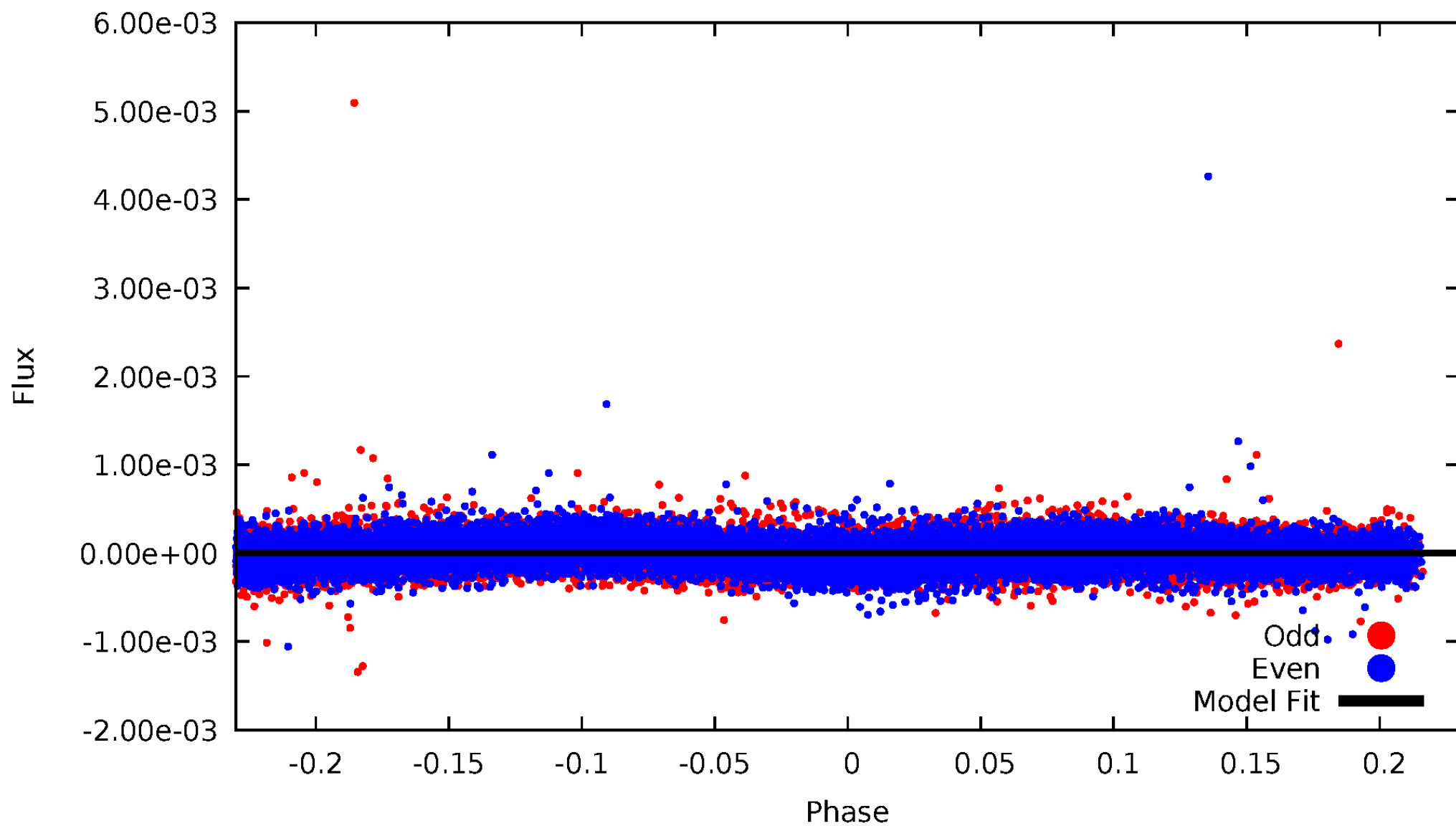


TCE 007385500-02



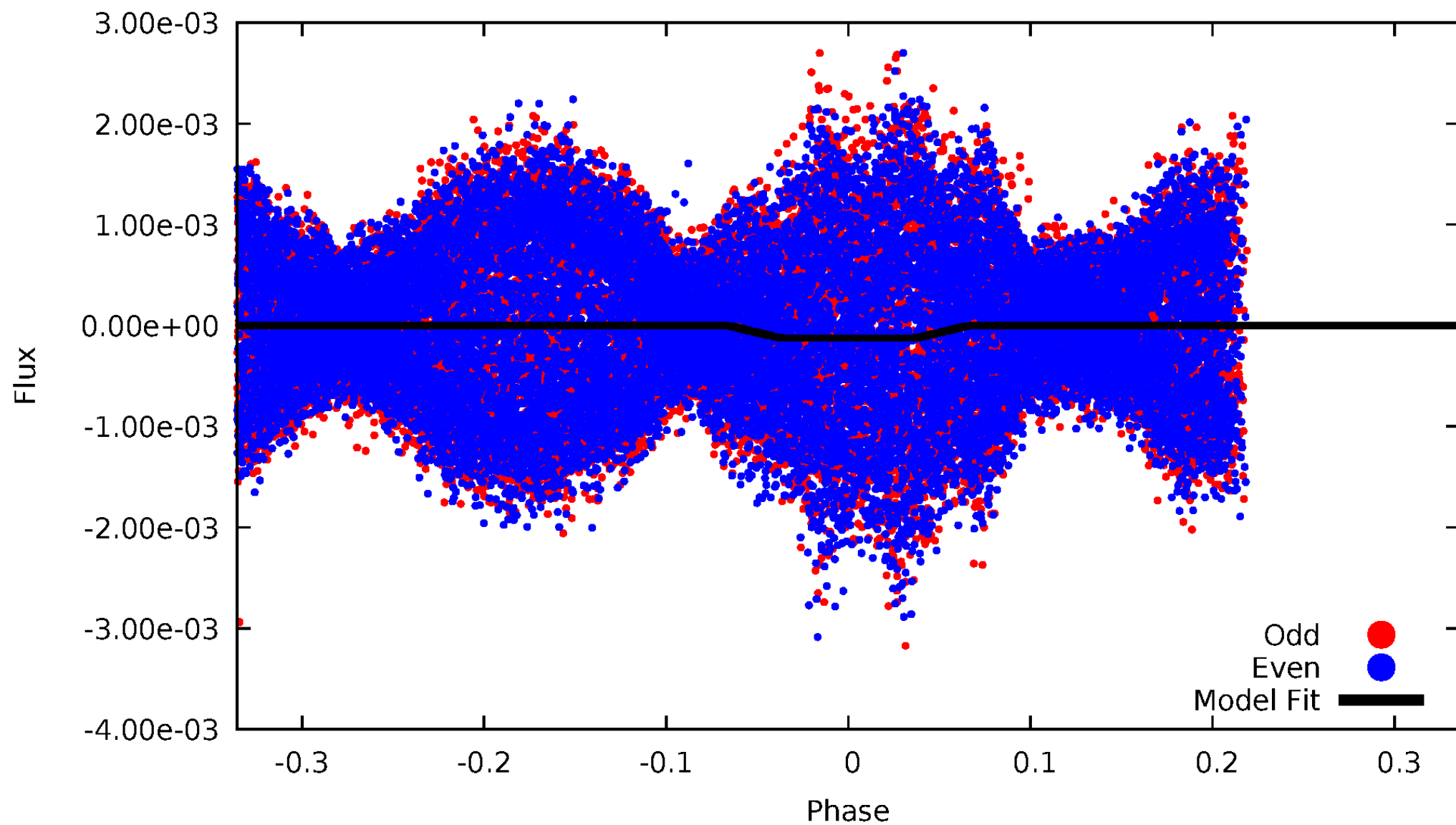
DV Odd/Even

TCE 007385500-02



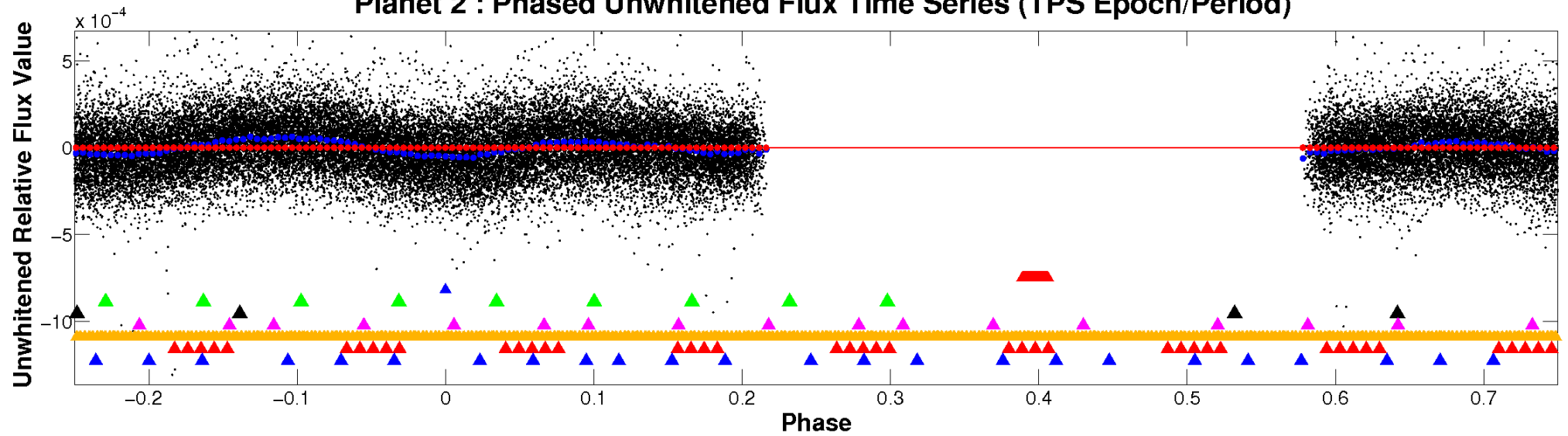
ALT Odd/Even

TCE 007385500-02

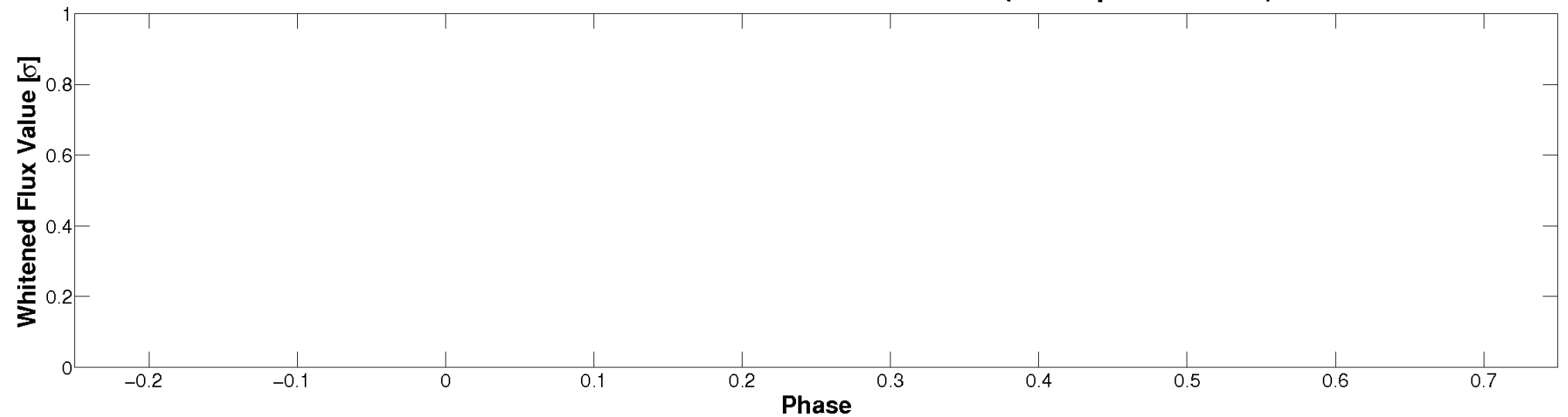


Non-Whitened Vs. Whitened Light Curve

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

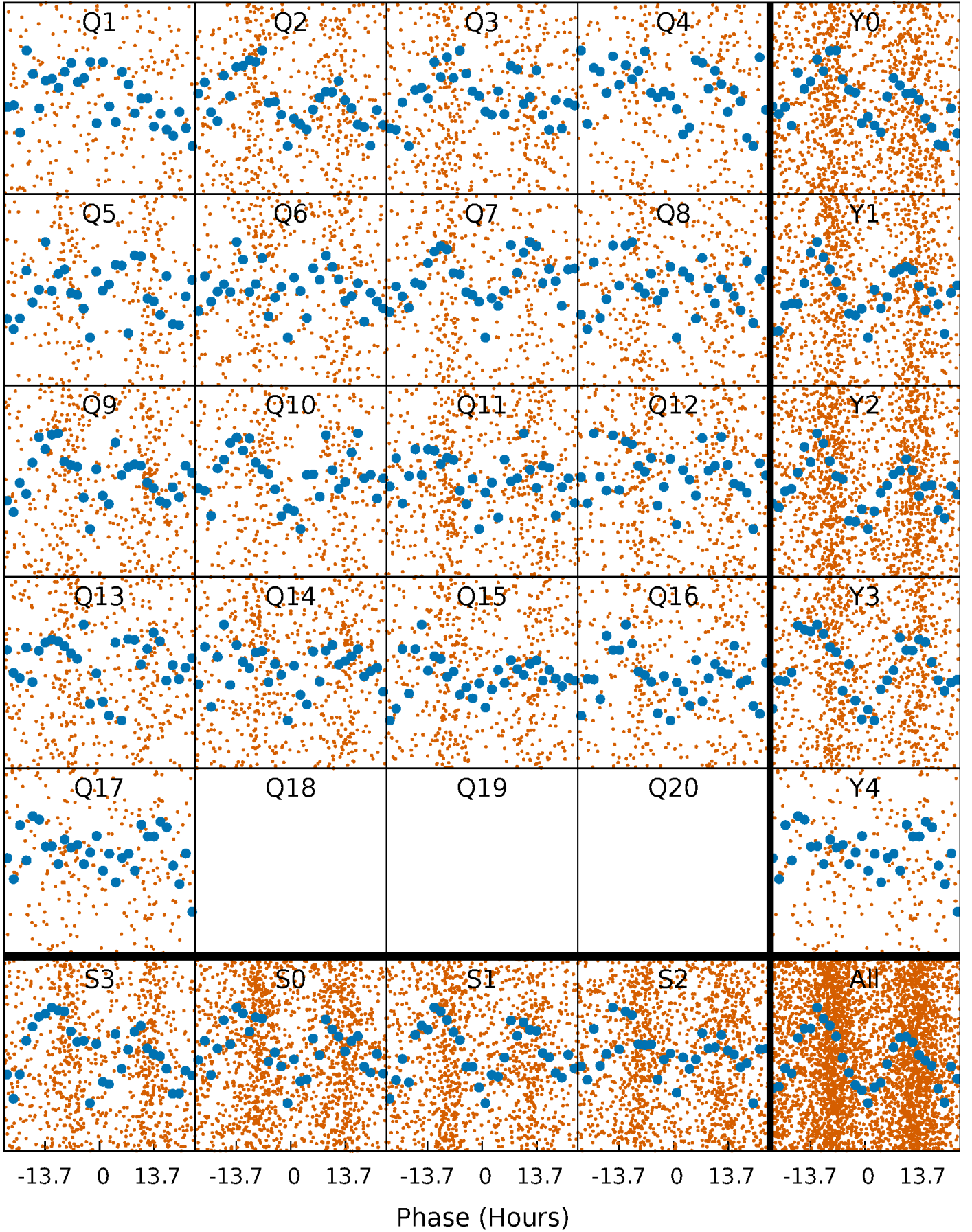


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



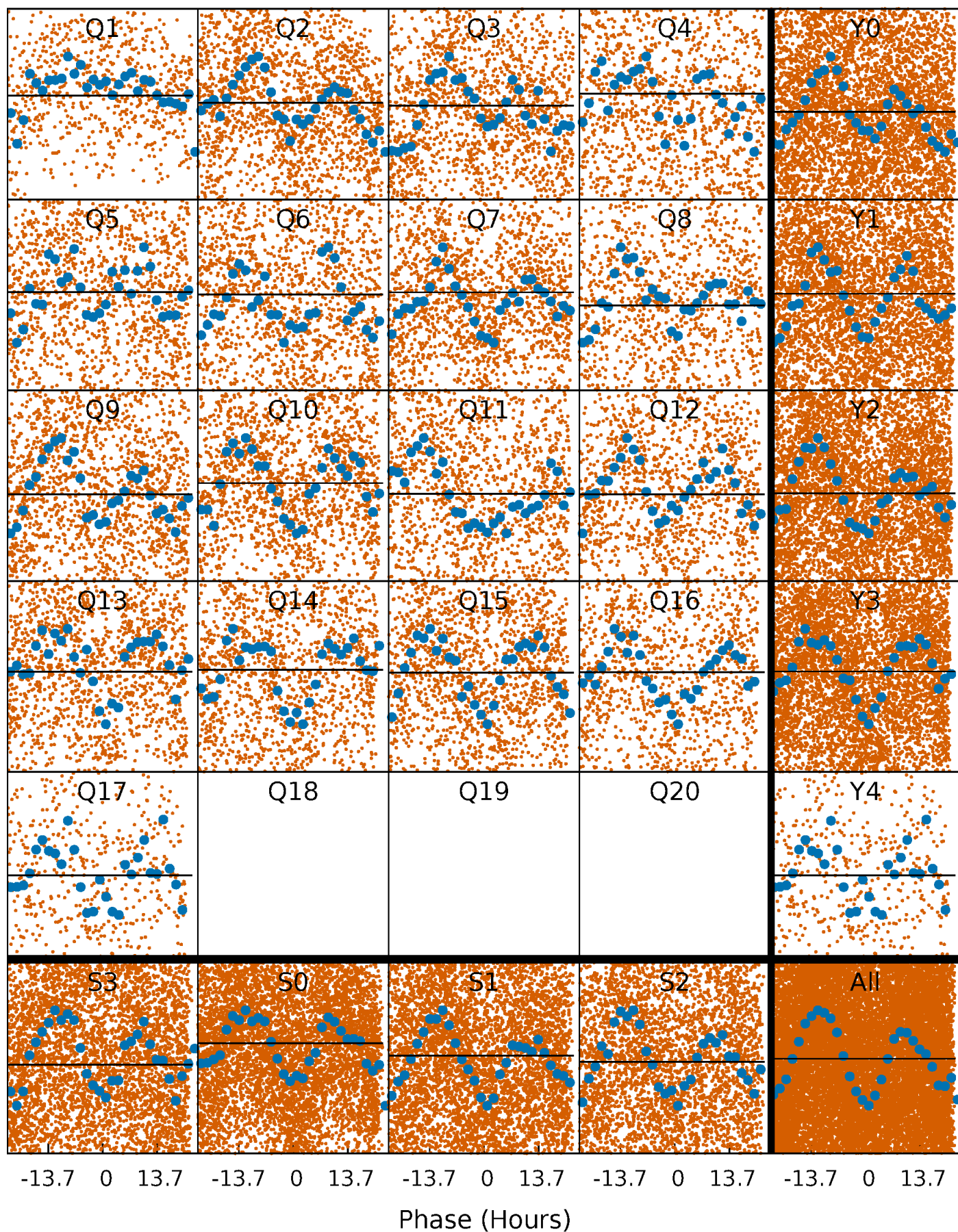
PDC Quarter-Phased Transit Curves

TCE 007385500-02 P= 4.347180 Days $T_0=132.447532$ (BKJD)



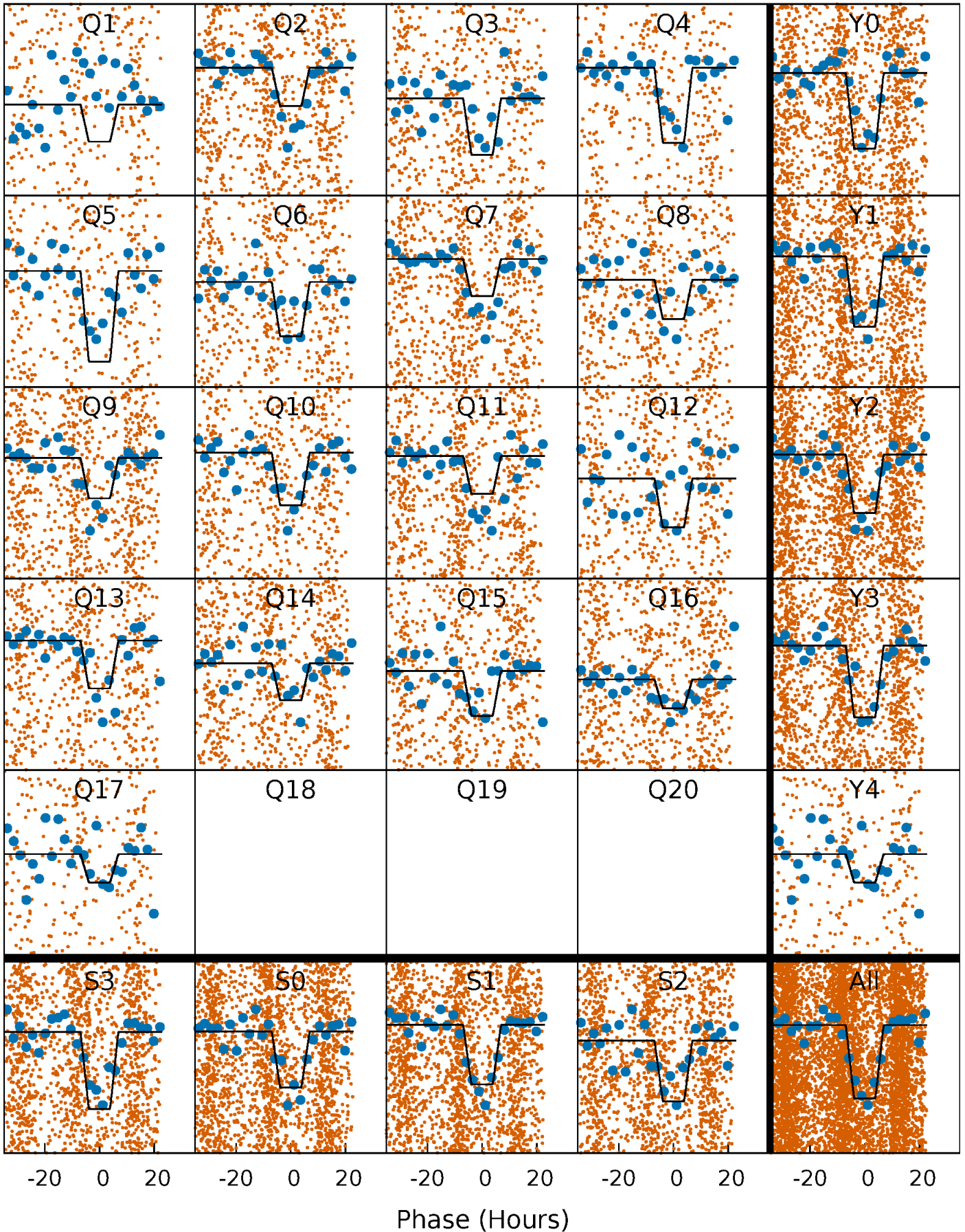
DV Quarter-Phased Transit Curves

TCE 007385500-02 P= 4.347180 Days $T_0=132.447532$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

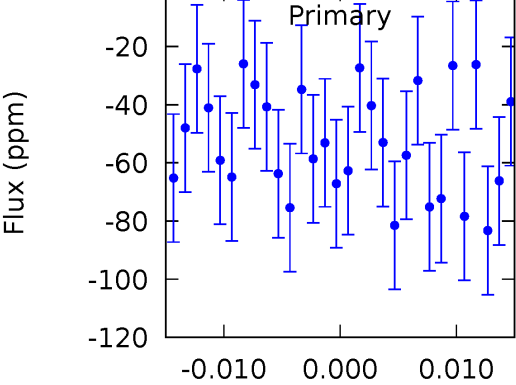
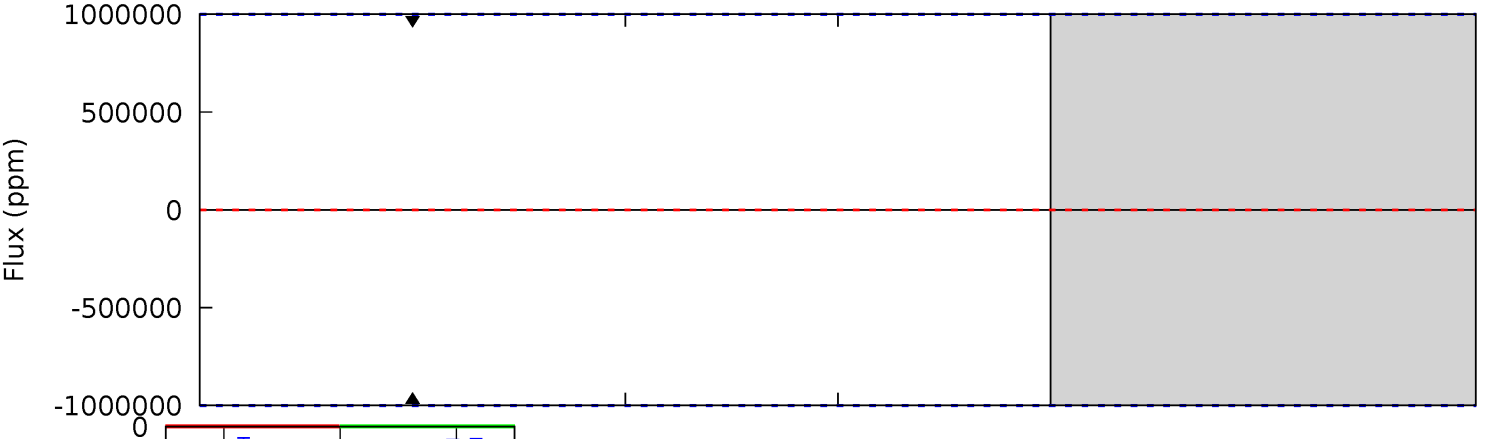
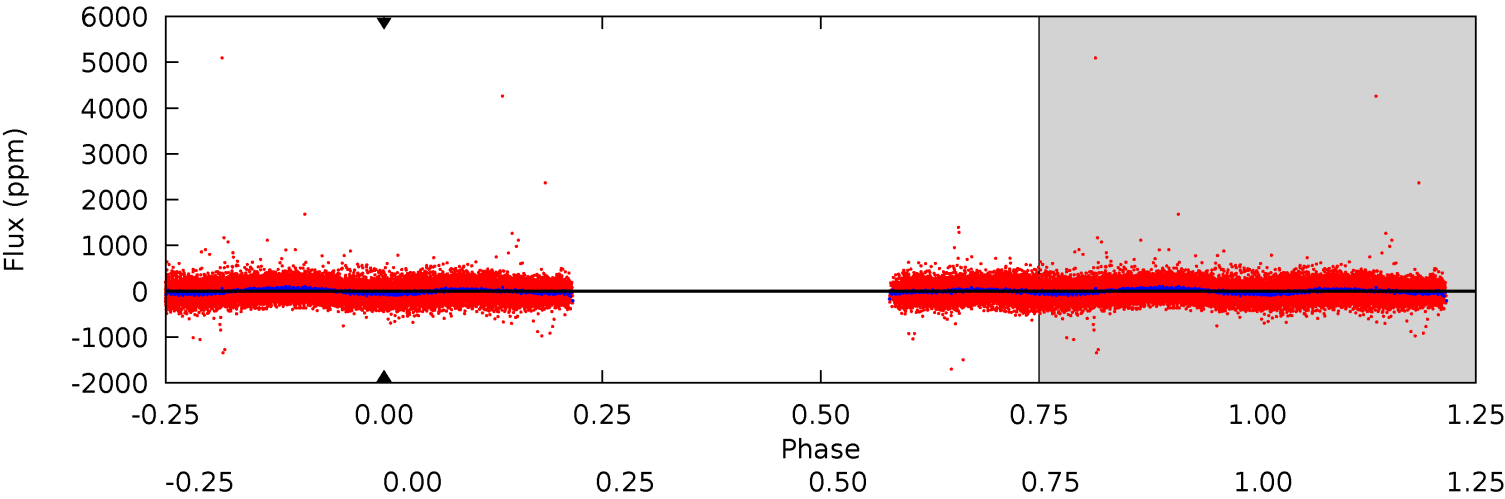
TCE 007385500-02 $P = 4.347180$ Days $T_0 = 132.435832$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-02, P = 4.347180 Days, E = 128.100352 Days

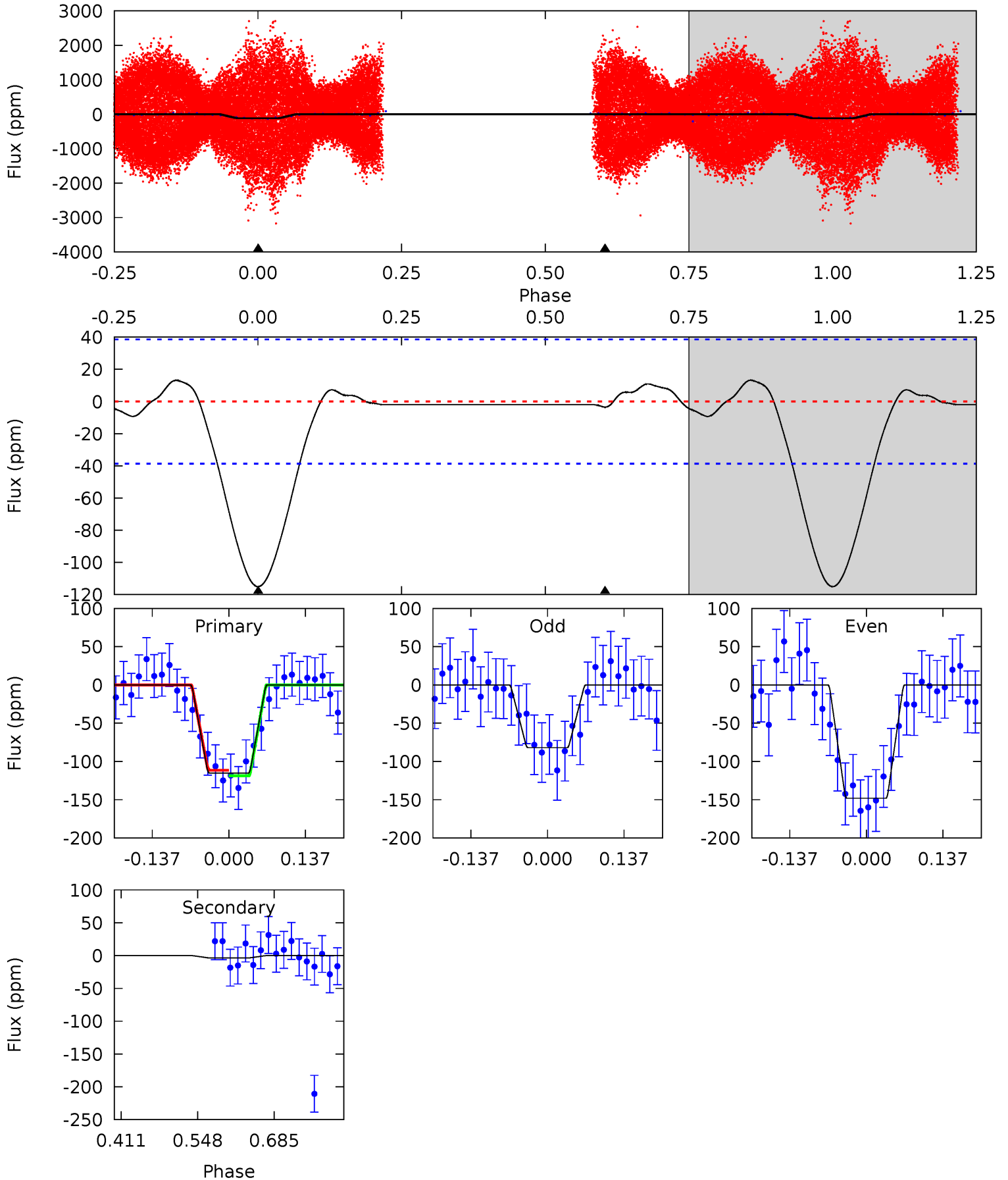
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007385500-02, P = 4.347180 Days, E = 128.088652 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	0.41	0	0	4.50	1.49	0.72	13.4	13.4	0.41	0.41	3.94	1.24	0.10	0.45



Stellar Parameters For KIC 007385500

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	+3%/-4%	+23%/-2%	+58%/-48%	+7%/-67%	+7%/-38%	+1524%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$27.17^{+37.73}_{-19.39}$	3537^{+253}_{-557}	4509^{+35777}_{-45357}	$2.419^{+596.768}_{-616.994}$
Alt.	-4 ± 9	$28.71^{+35.82}_{-20.15}$	3539^{+245}_{-614}	-3362^{+528}_{-179}	$0.005^{+0.085}_{-0.018}$

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

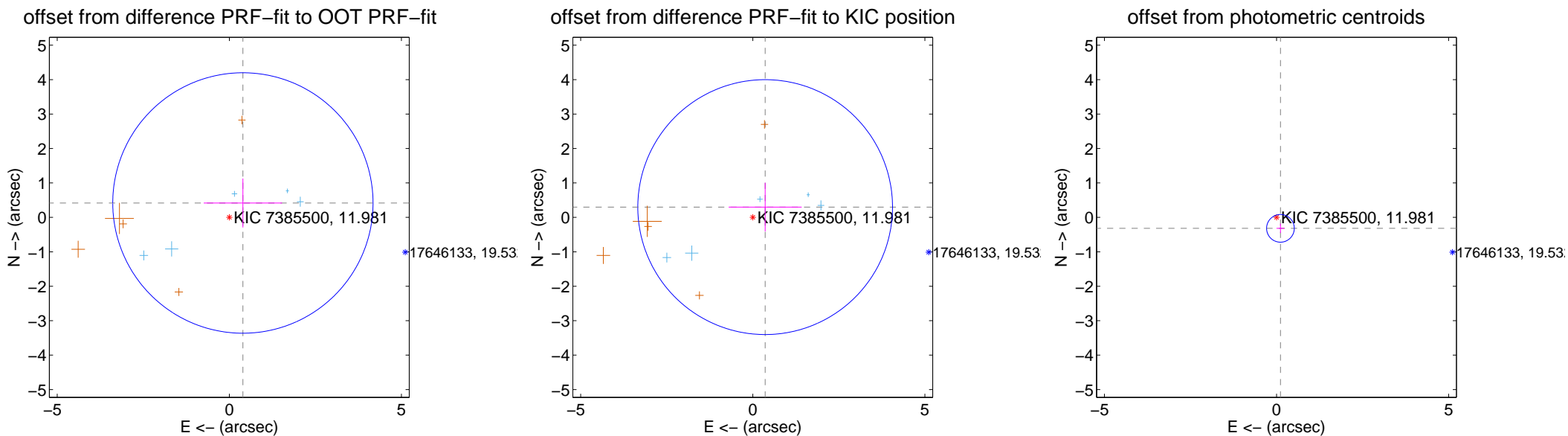
DV Centroid Data

Supplemental centroid analysis for 007385500-02. **Kepler magnitude: 11.98.** Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

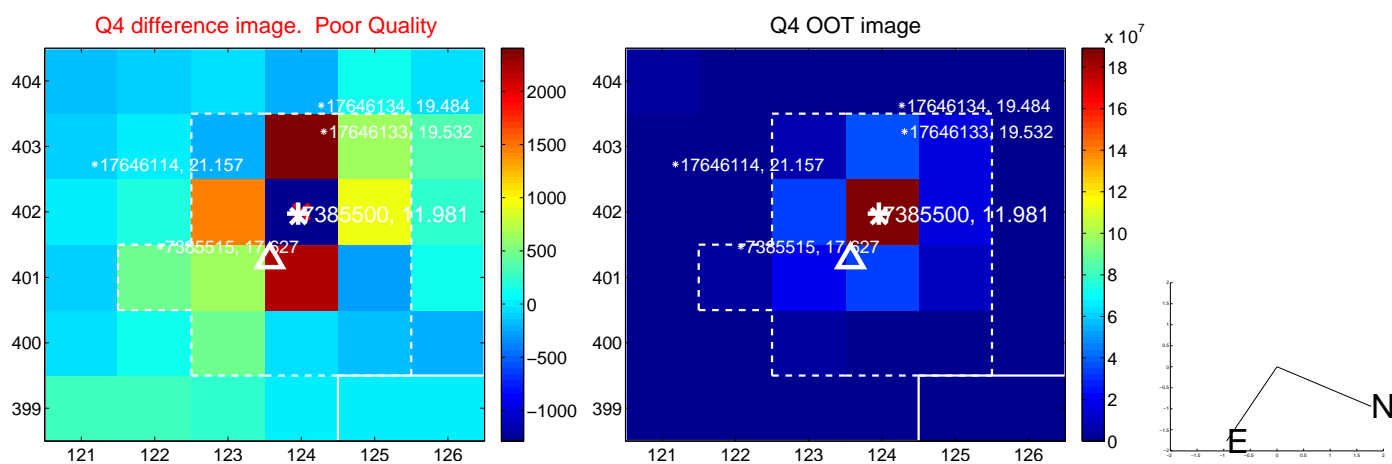
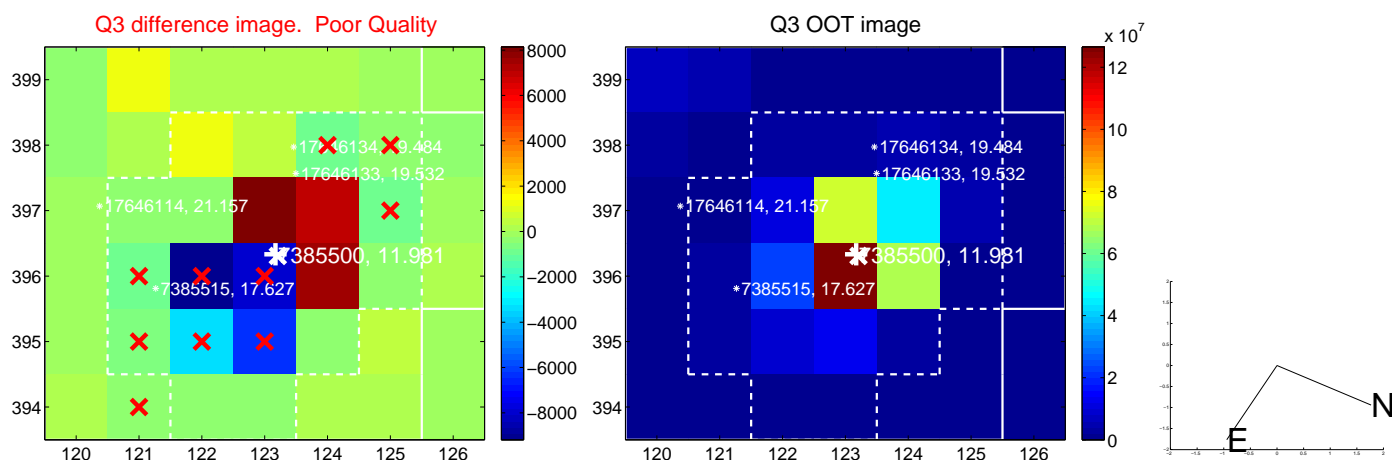
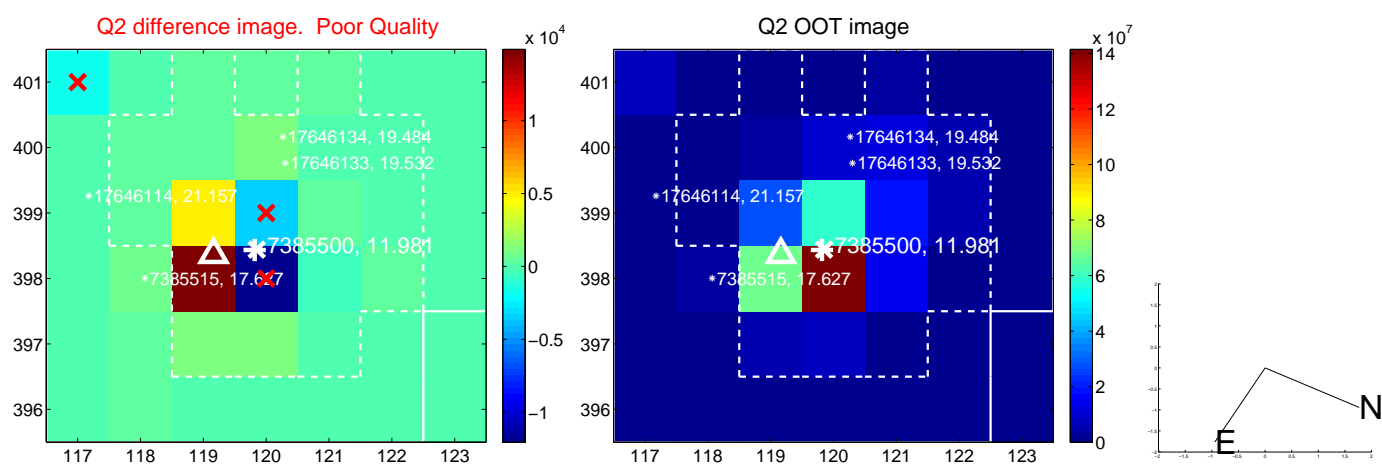
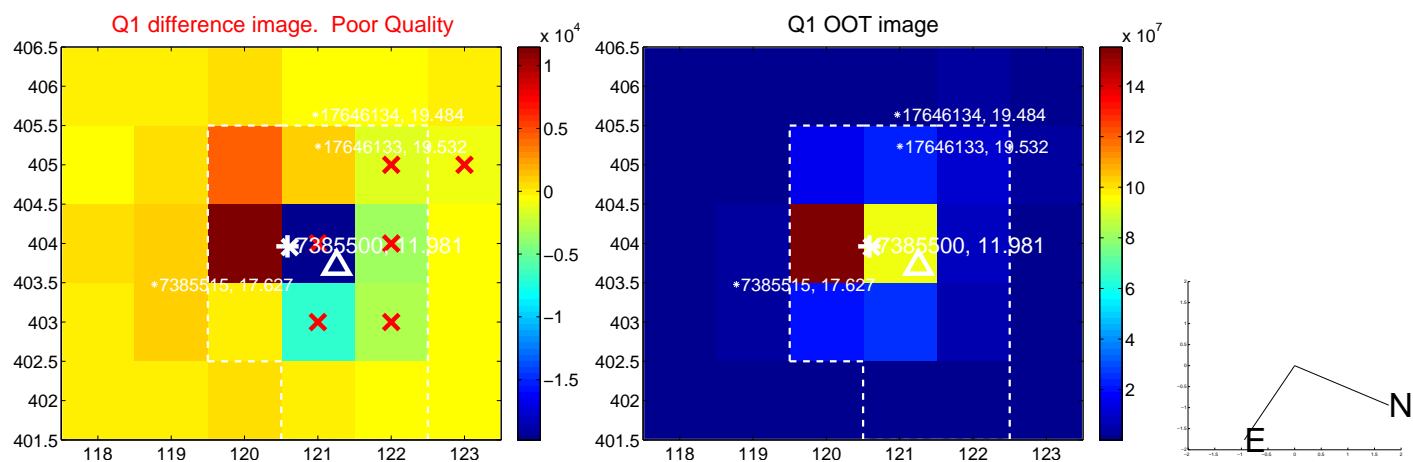
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.574 ± 1.260	0.46	-0.395 ± 1.139	0.418 ± 0.712
PRF-fit source offset from KIC position	0.467 ± 1.233	0.38	-0.360 ± 1.062	0.298 ± 0.707
photometric centroid source offset	0.34 ± 0.13	2.52	-0.11 ± 0.11	-0.32 ± 0.14

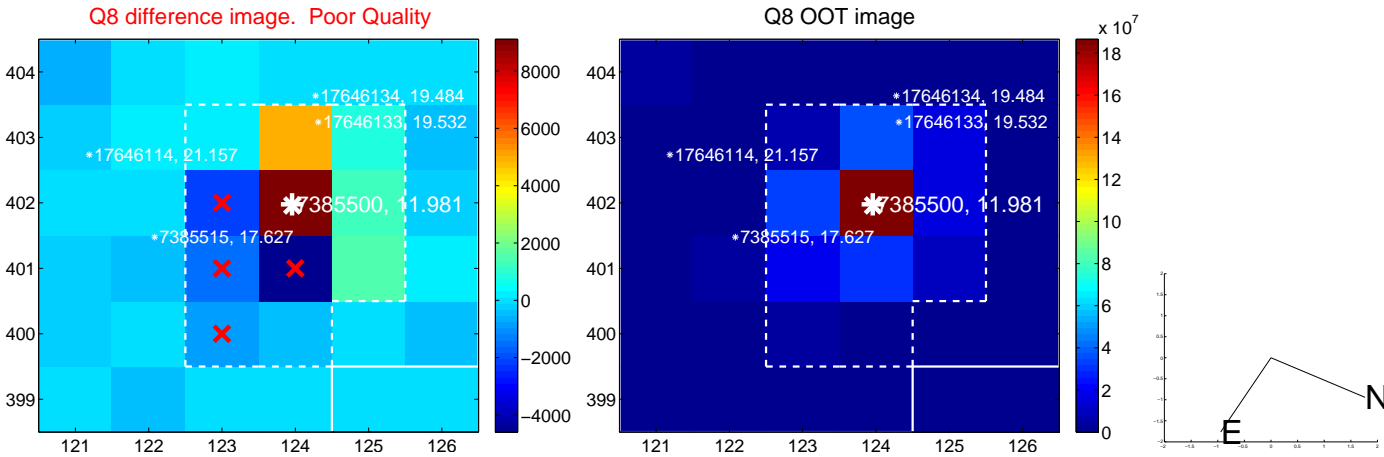
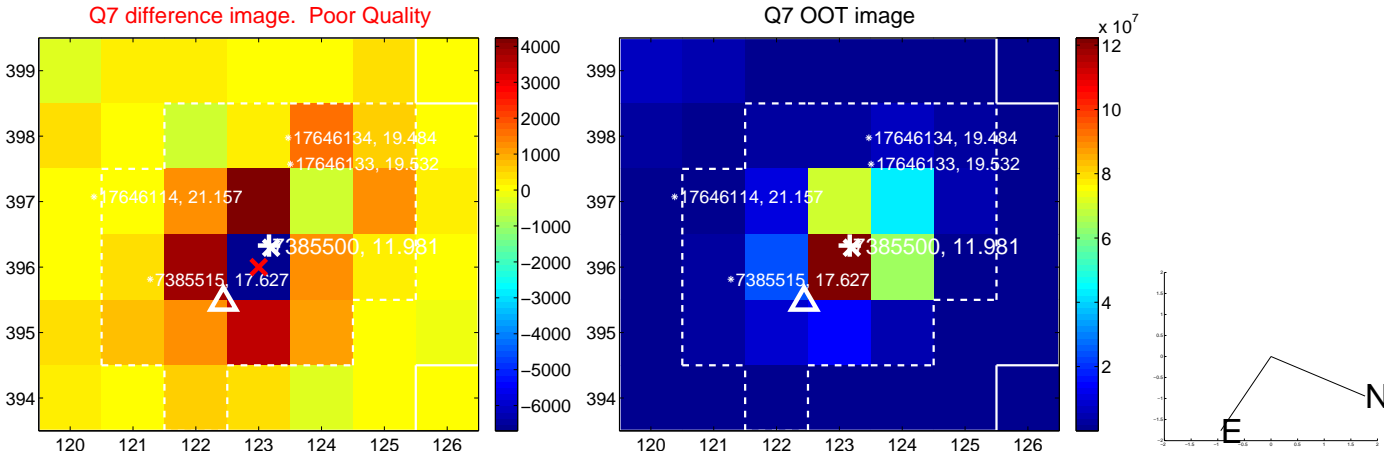
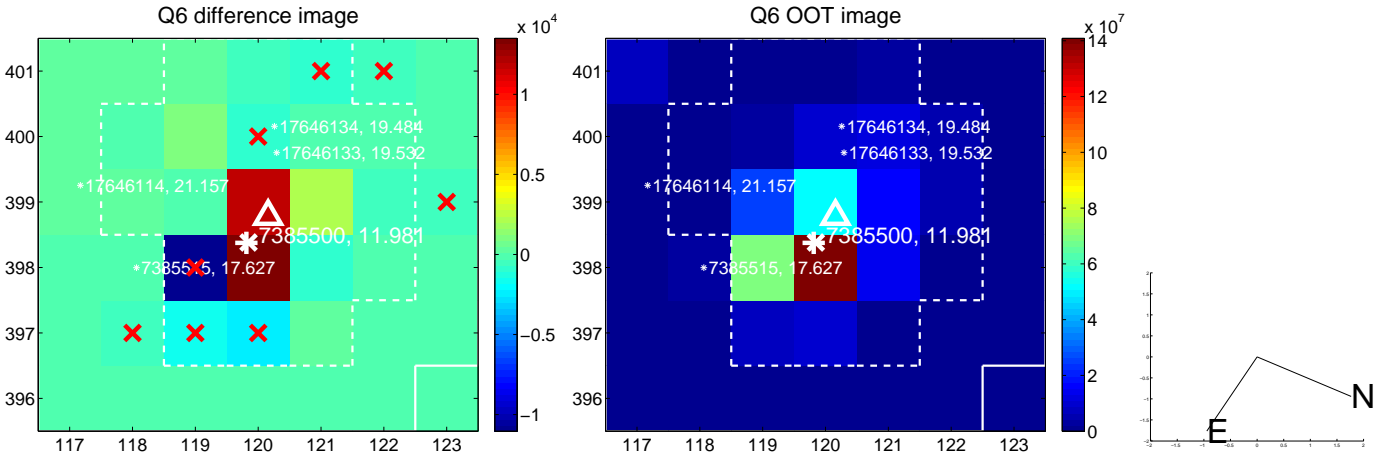
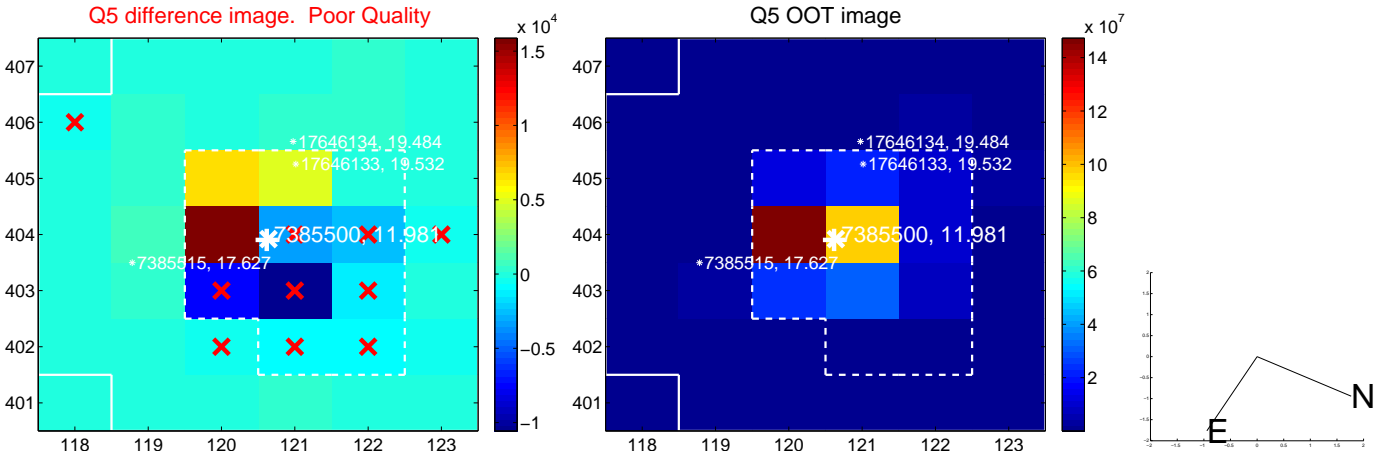


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

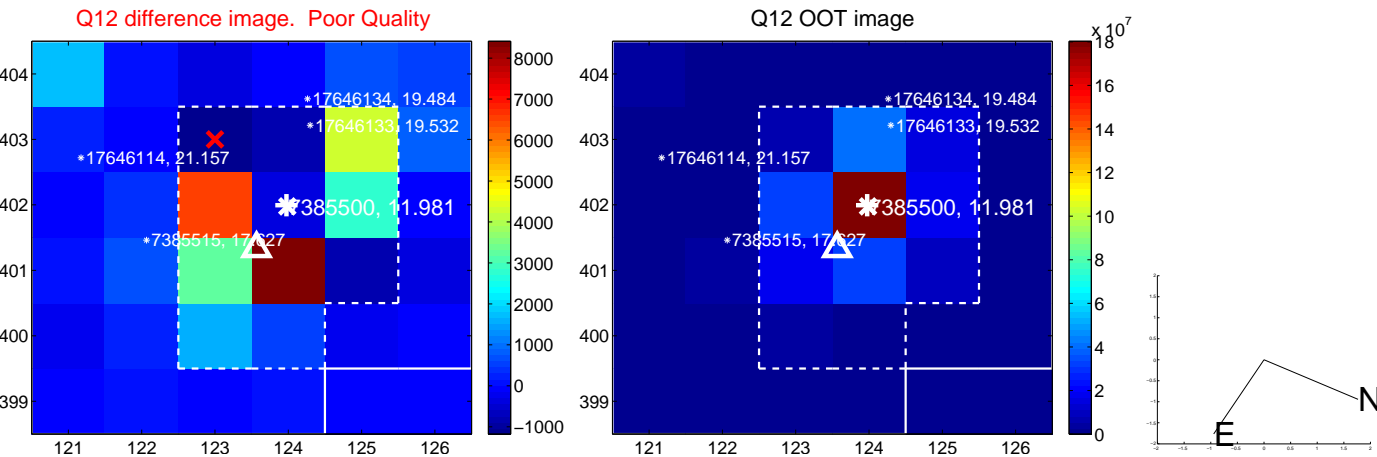
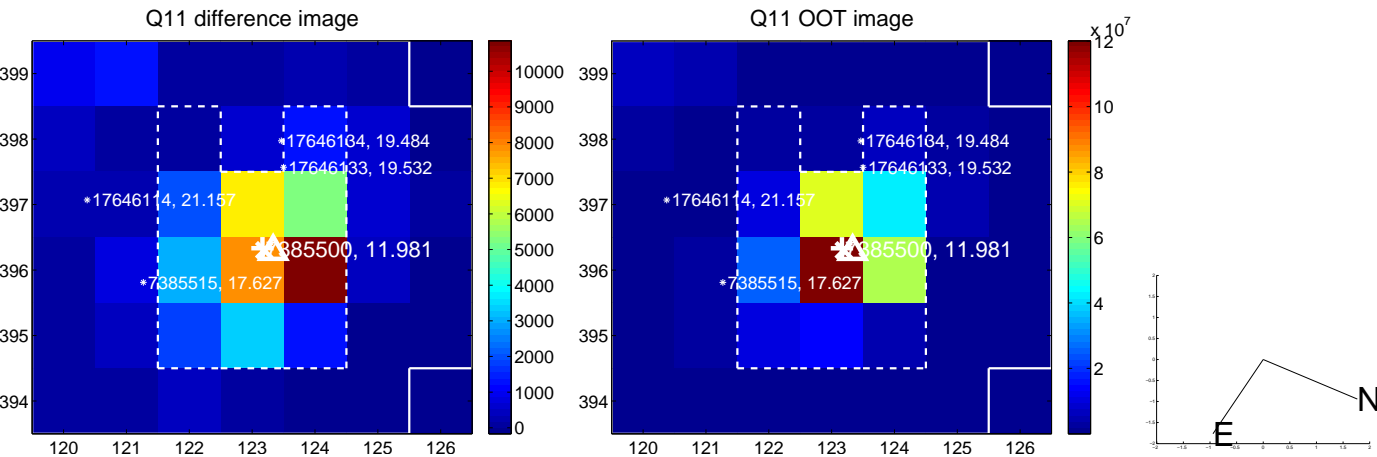
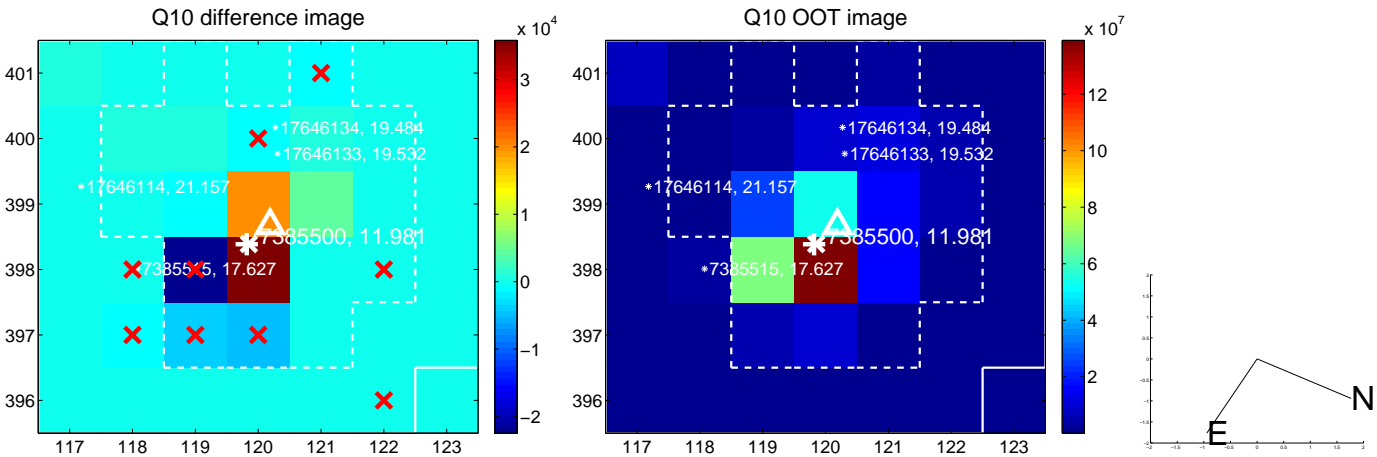
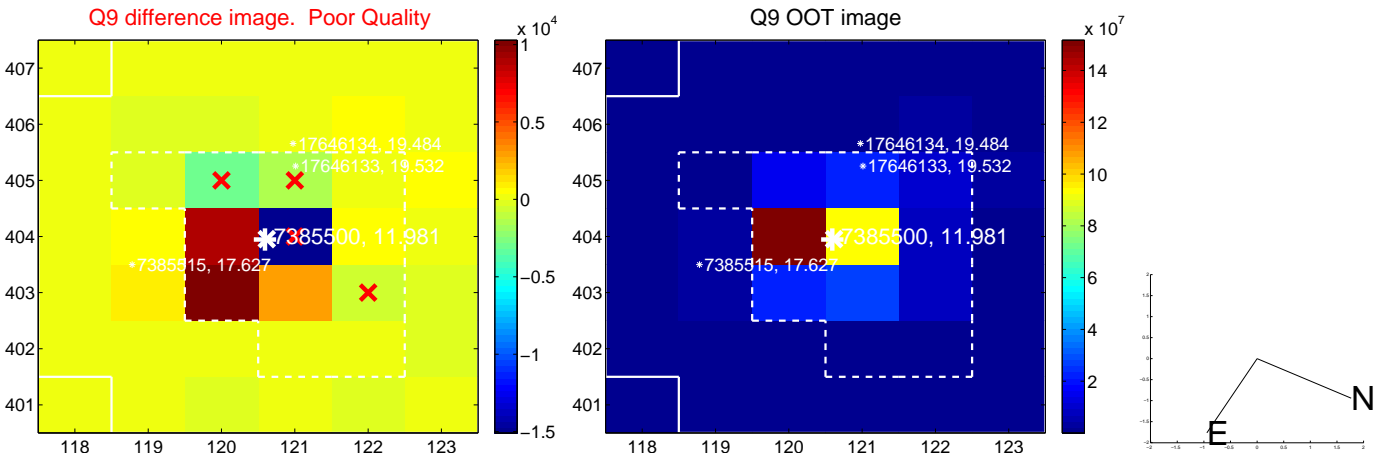
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



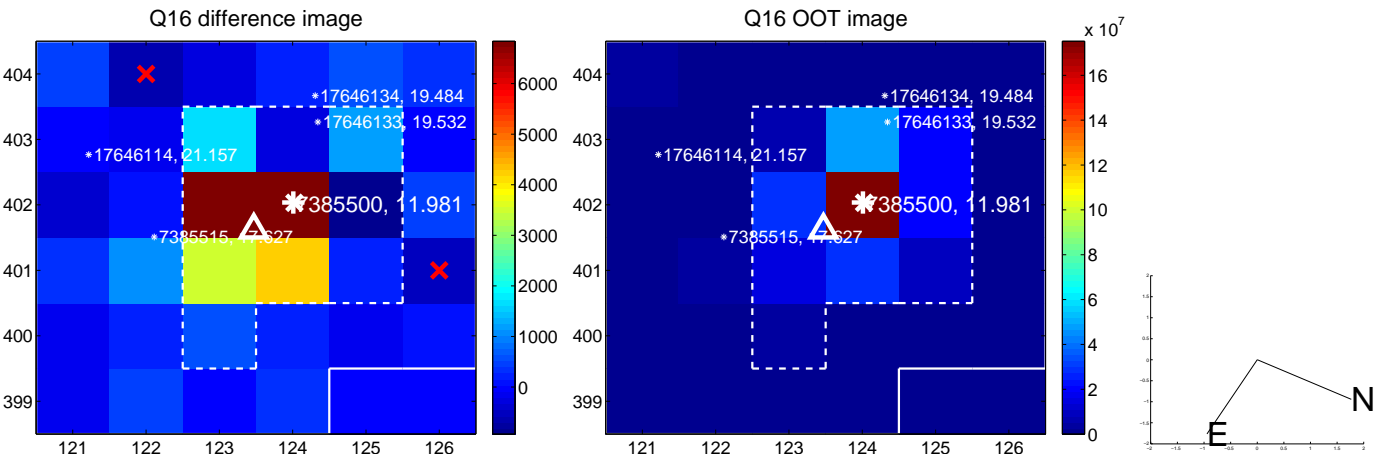
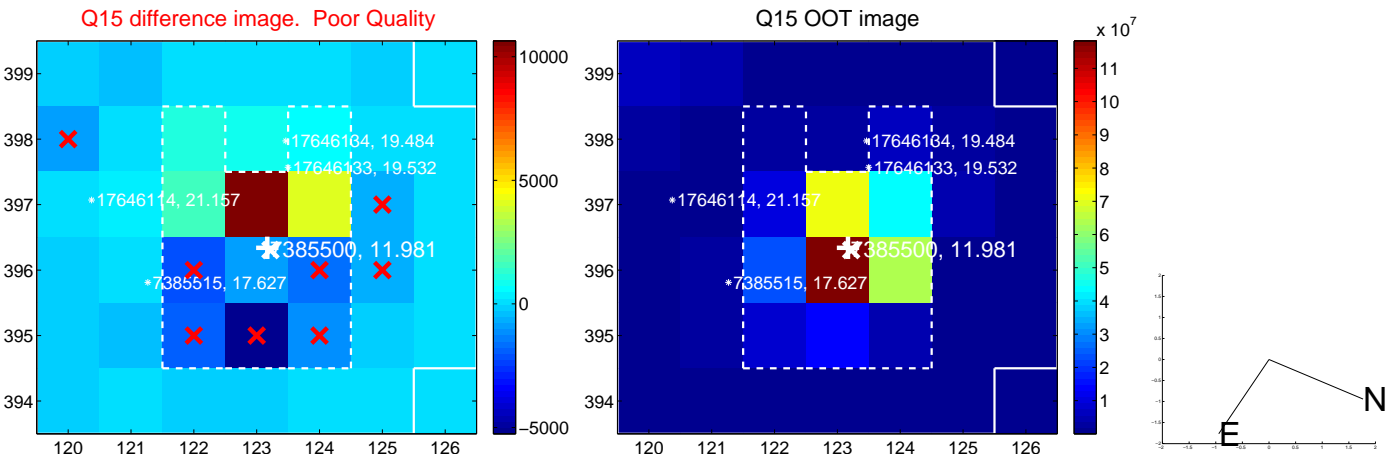
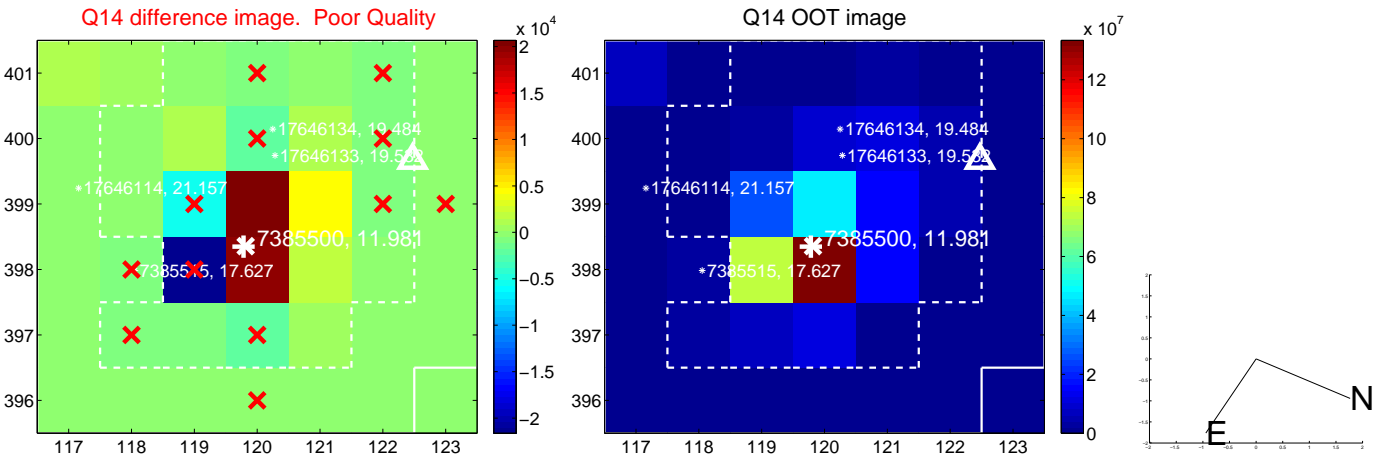
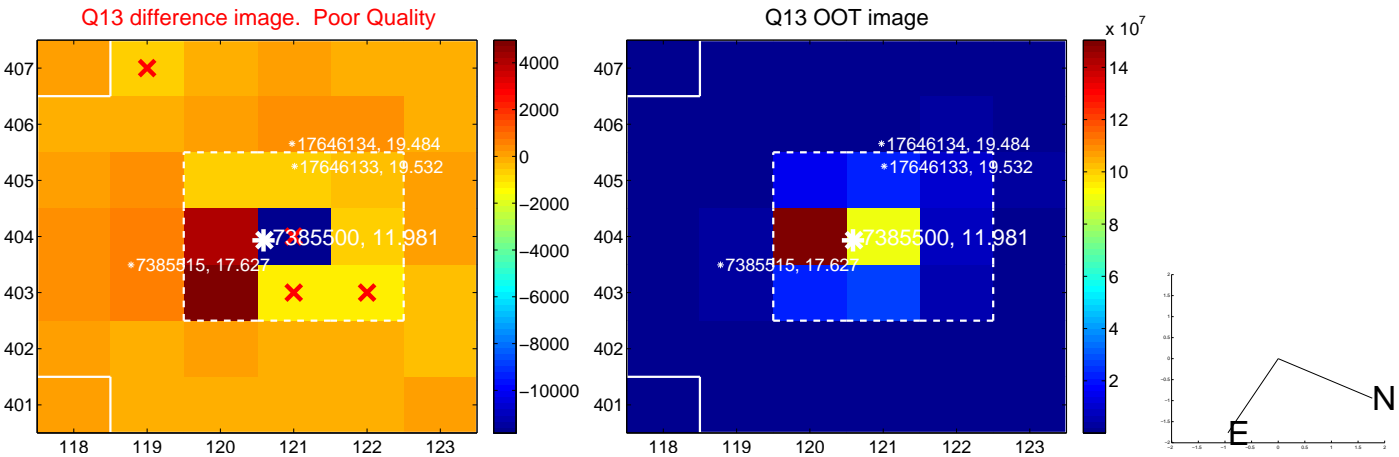
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



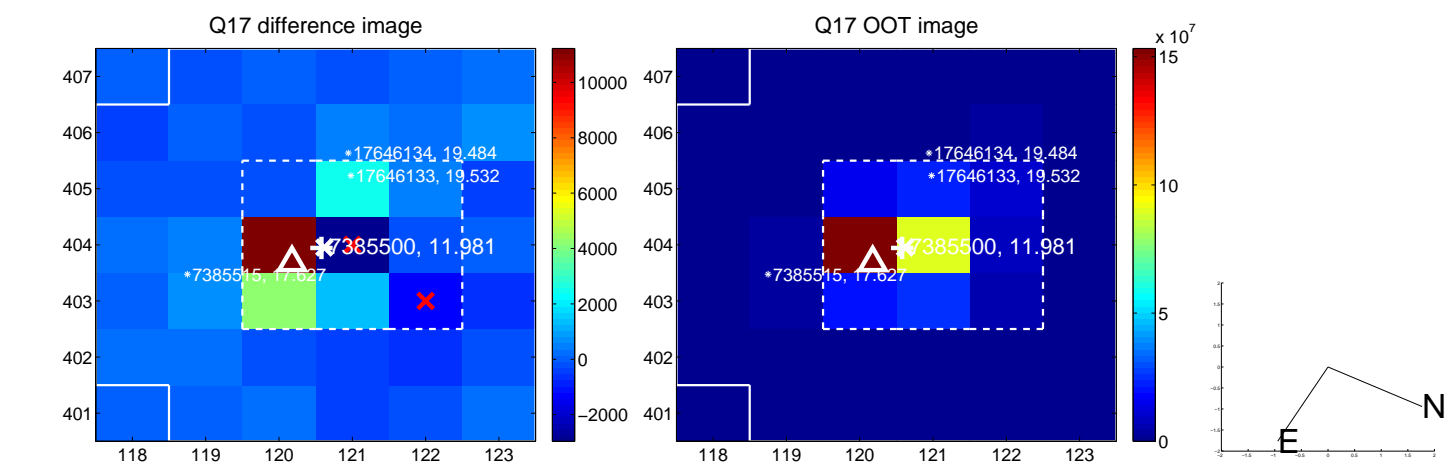
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



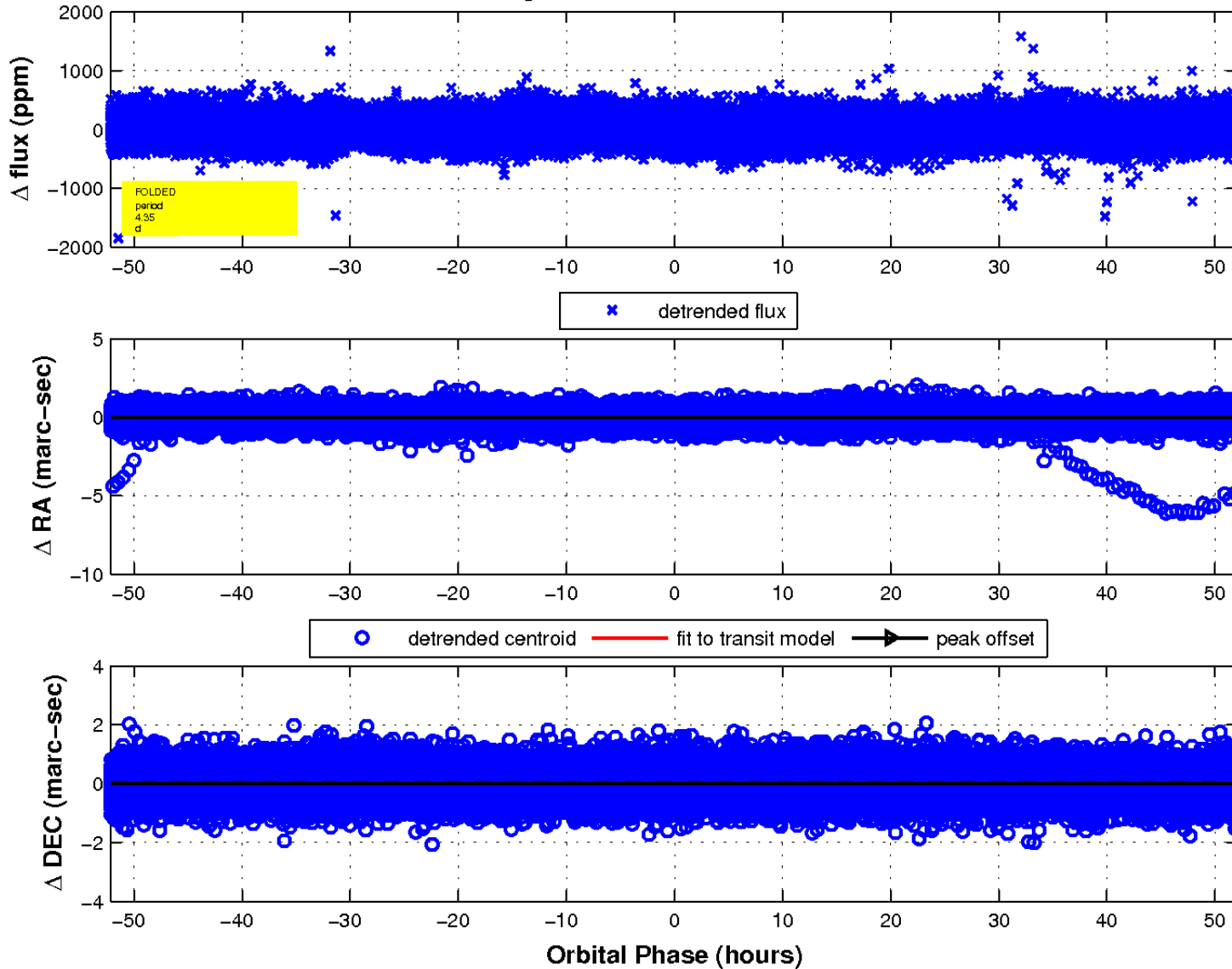
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

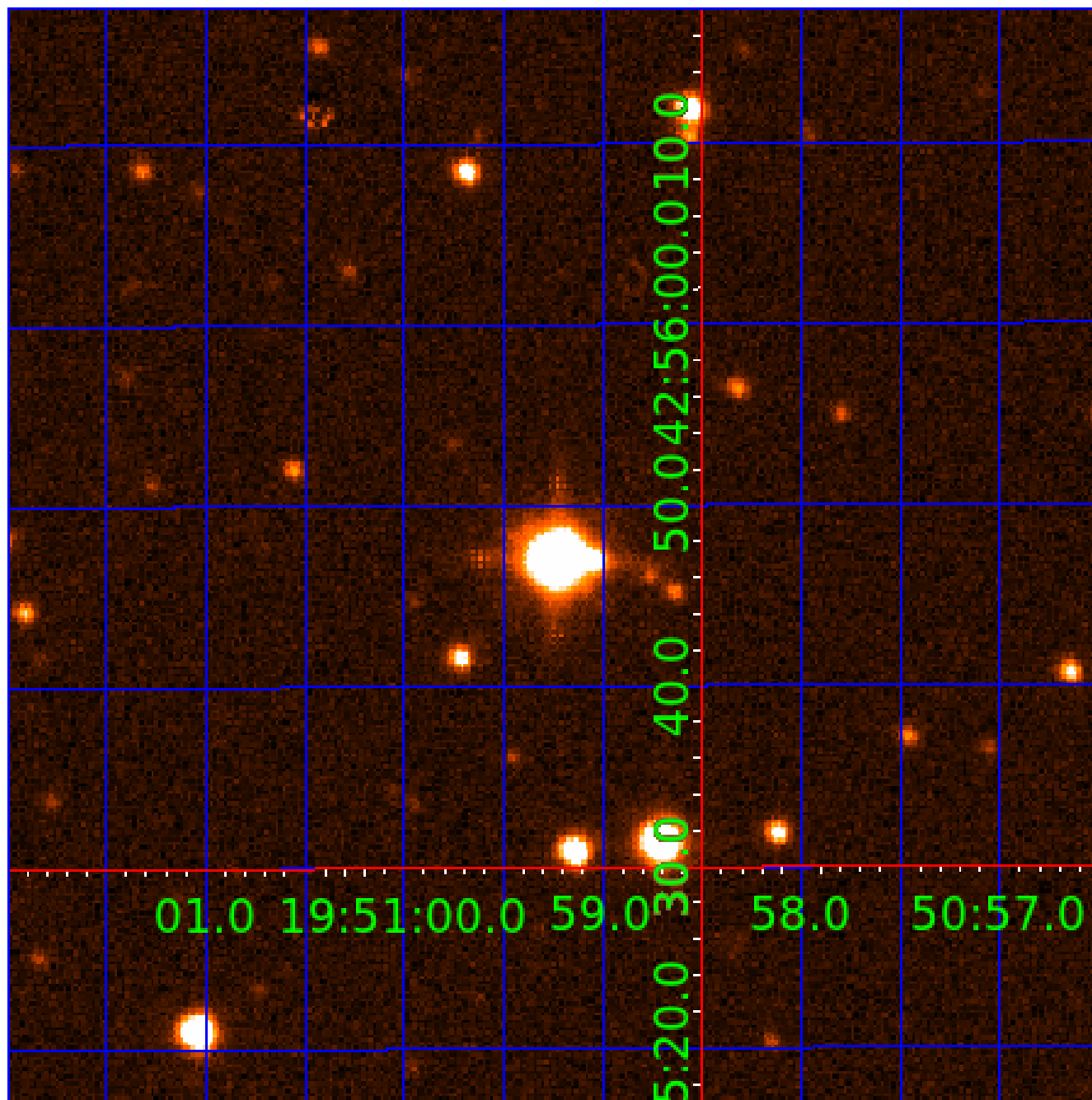


fluxWeightedCentroids, Planet 2 of 8



UKIRT Image

Declination



KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

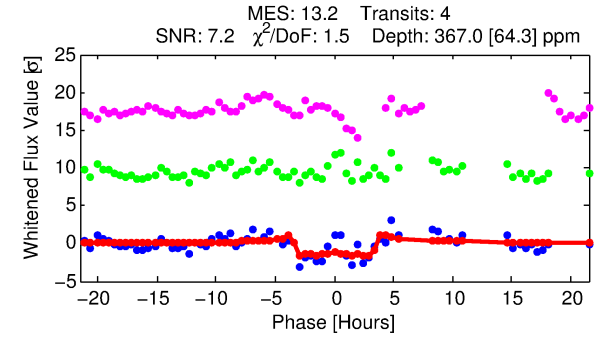
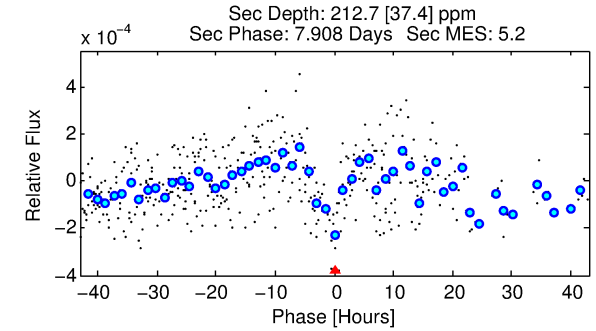
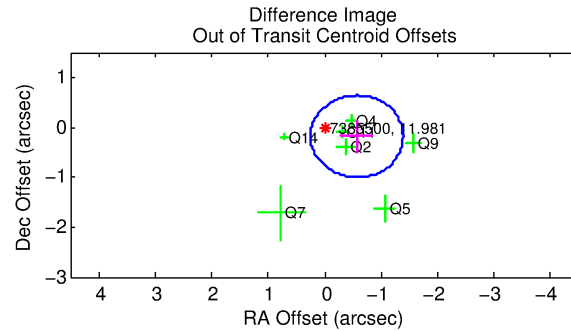
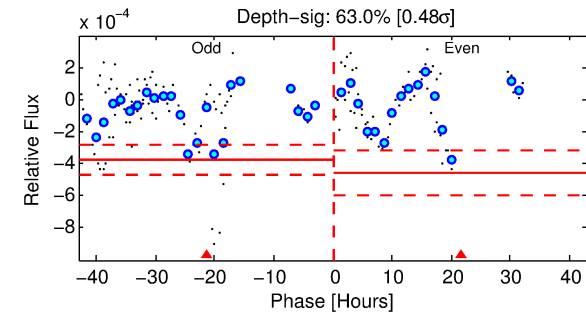
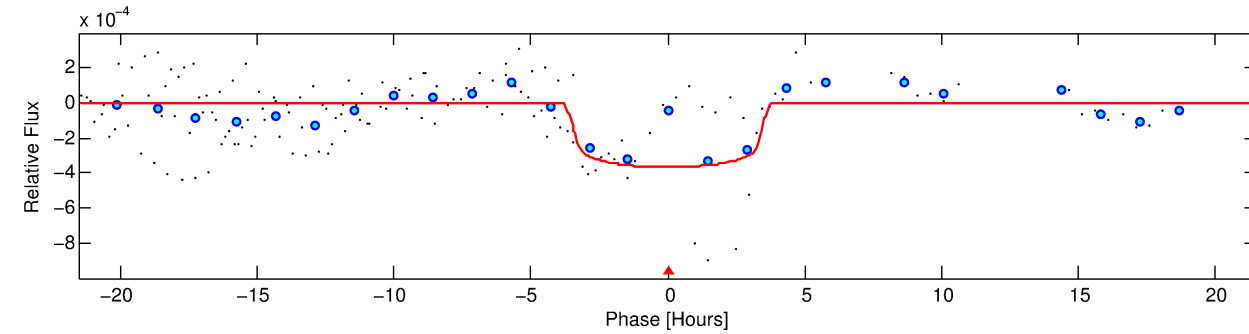
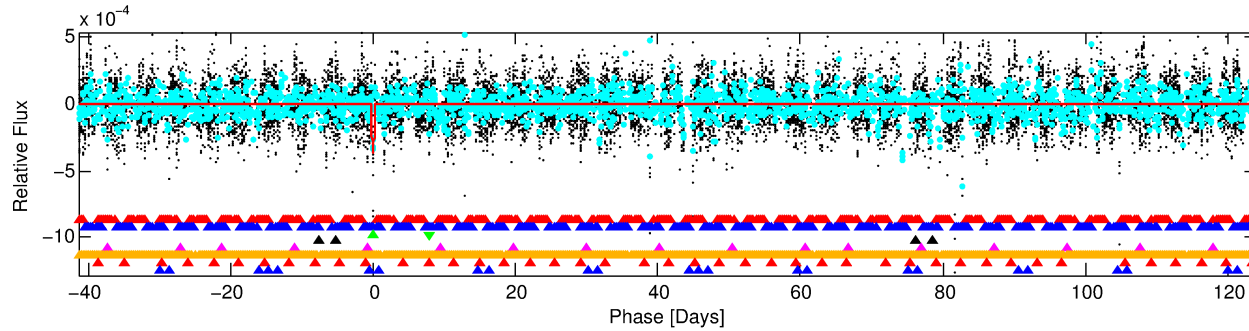
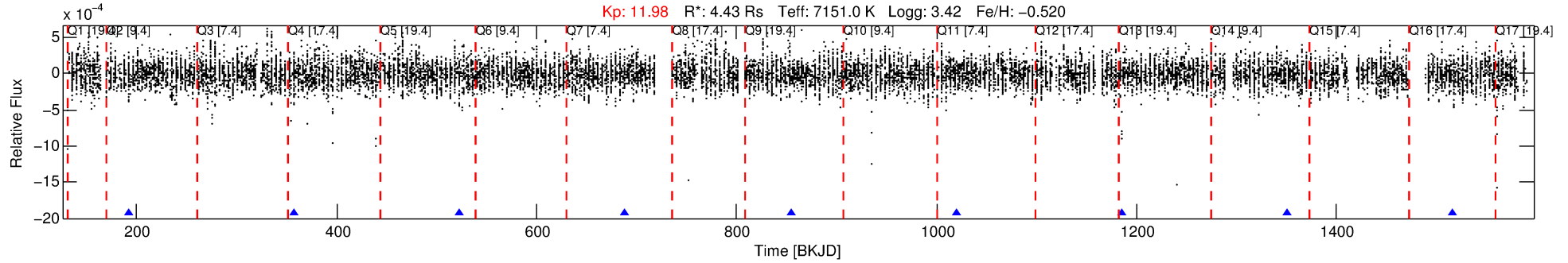
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-03

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 3 of 8 Period: 165.479 d



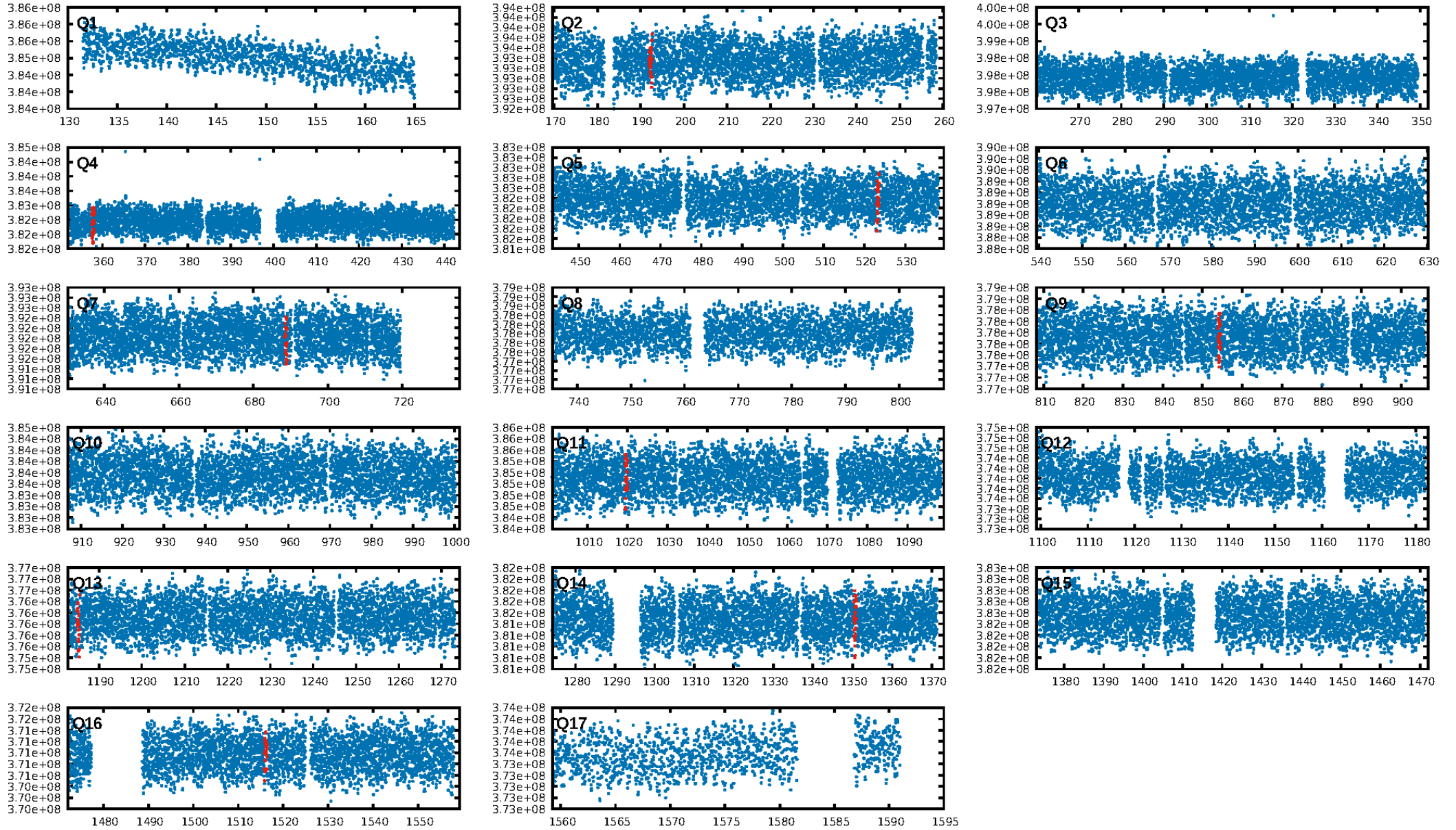
DV Fit Results:

Period = 165.47922 [0.00170] d
Epoch = 192.3122 [0.0072] BKJD
Rp/R* = 0.0183 [0.0106]
a/R* = 153.89 [516.20]
b = 0.52 [4.69]
Seff = 86.25 [111.04]
Teq = 777 [250] K
Rp = 8.83 [7.83] Re
a = 0.7305 [0.5450] AU
Ag = 800.86 [1389.83] [0.58 σ]
Teffp = 6391 [1898] K [2.93 σ]

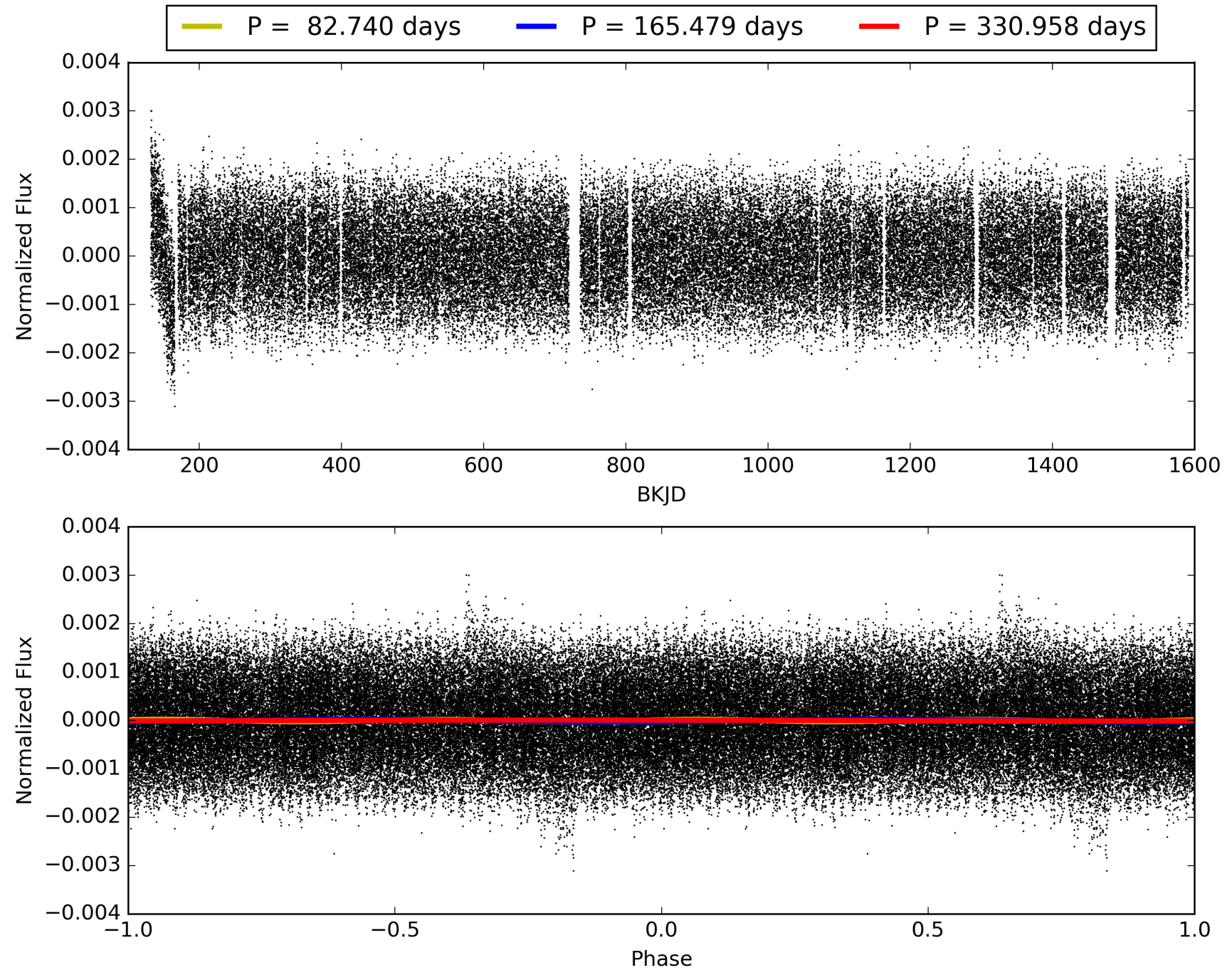
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [192.52 σ]
LongPeriod-sig: 100.0% [553.93 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 8.462
Centroid-sig: 11.8%
Centroid-so: 0.256 arcsec [0.97 σ]
OotOffset-rm: 0.597 arcsec [2.18 σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-rm: 0.687 arcsec [2.52 σ]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 0.71 [5/7]
DiffImageOverlap-fno: 0.14 [1/7]

TCE 007385500-03, PDC Light Curves

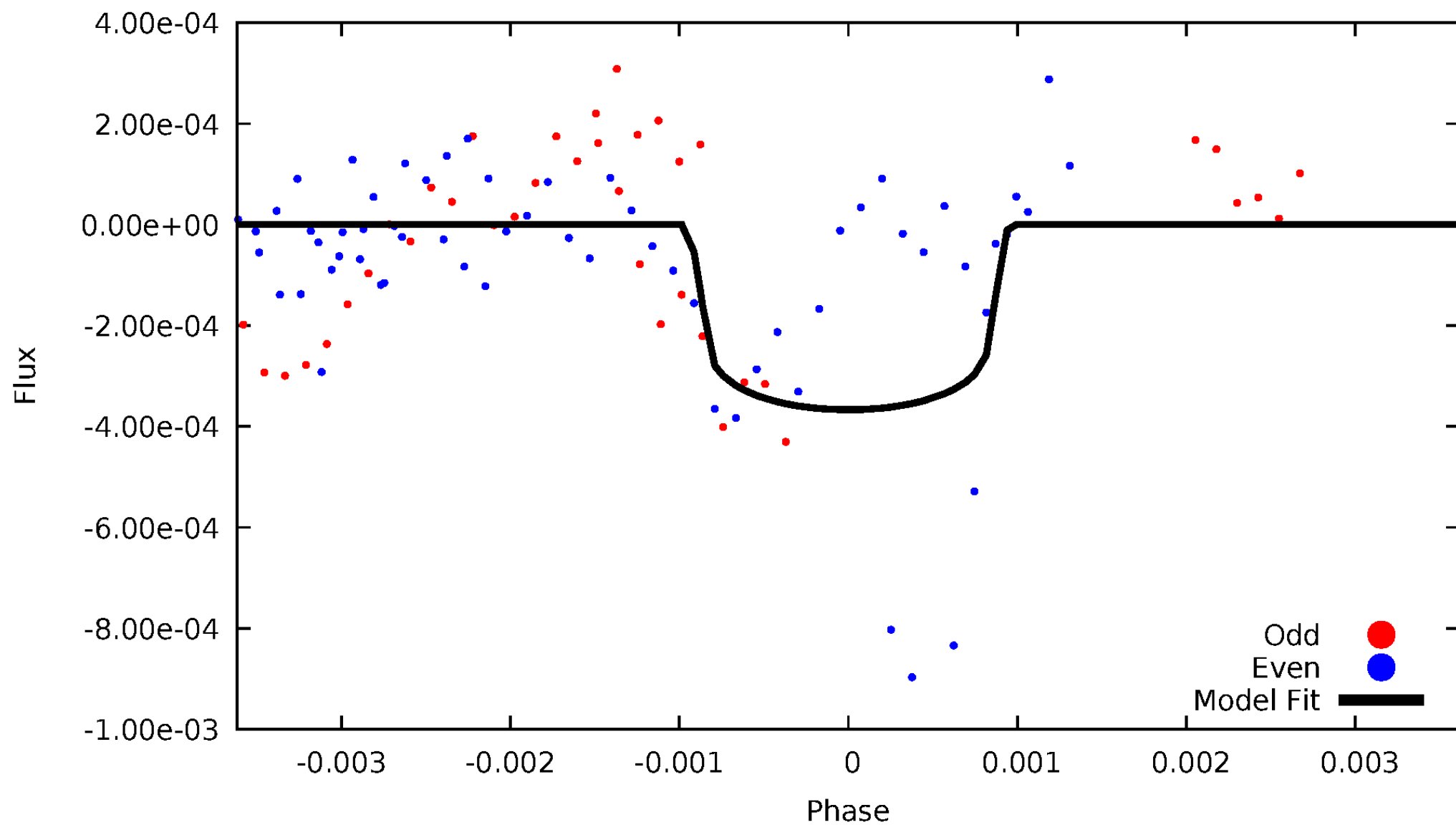


TCE 007385500-03



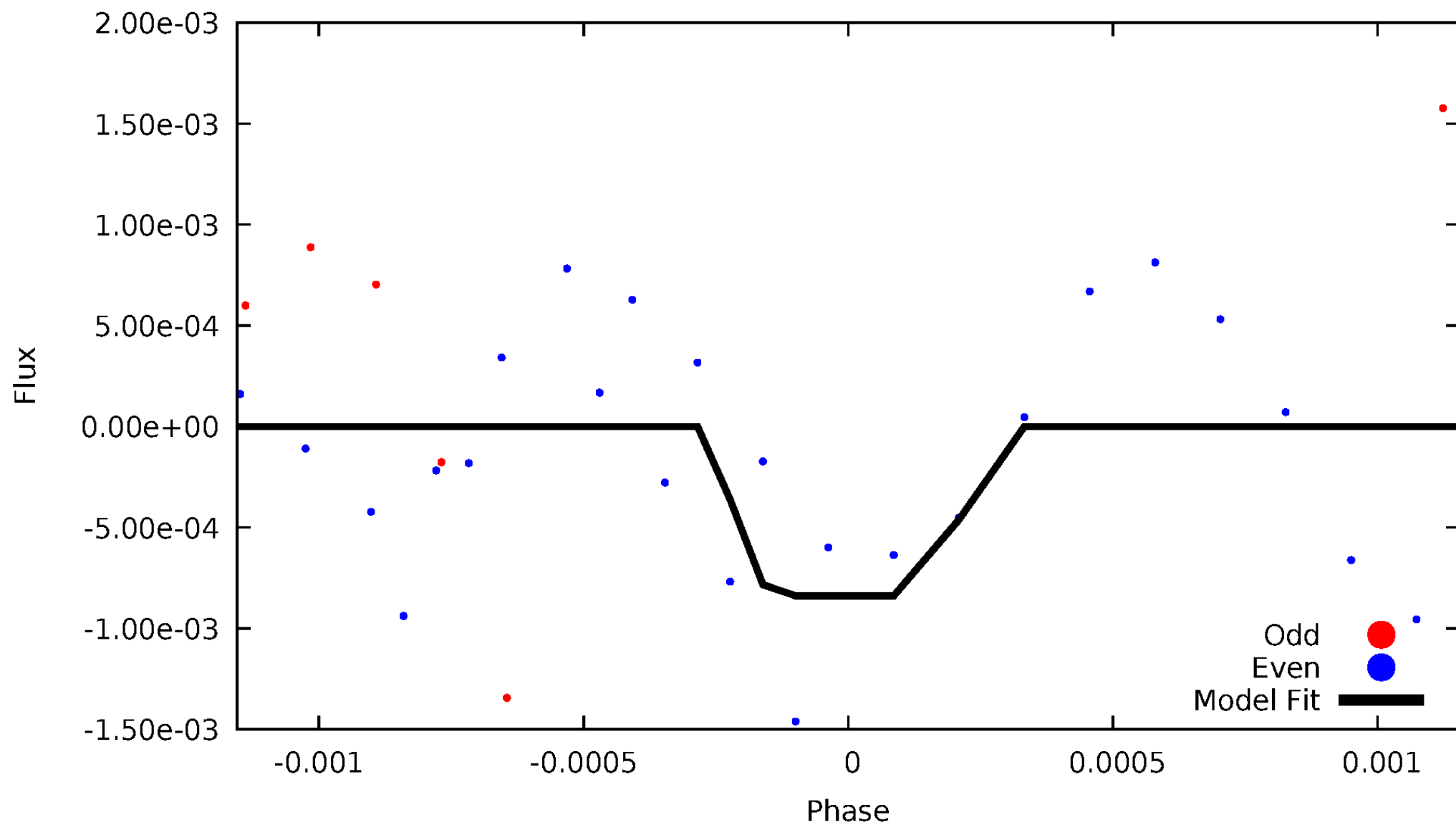
DV Odd/Even

TCE 007385500-03



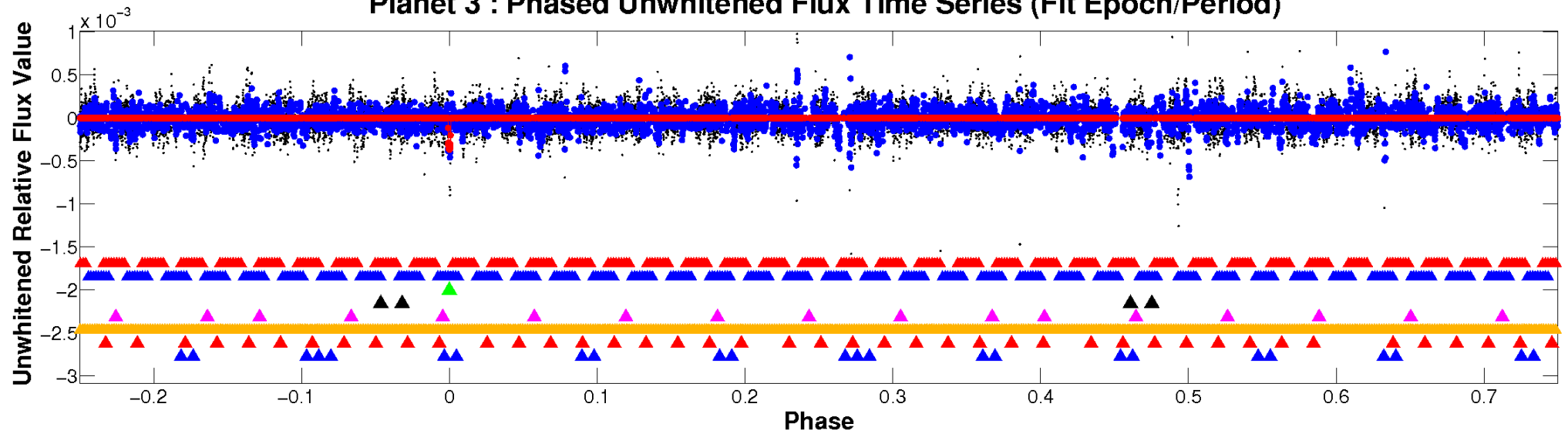
ALT Odd/Even

TCE 007385500-03

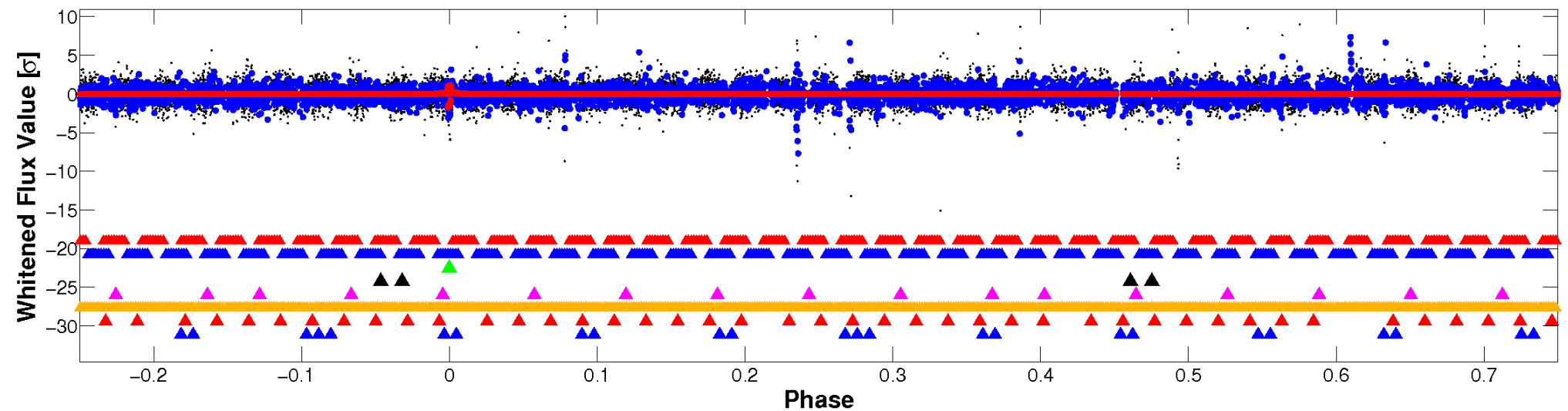


Non-Whitened Vs. Whitened Light Curve

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

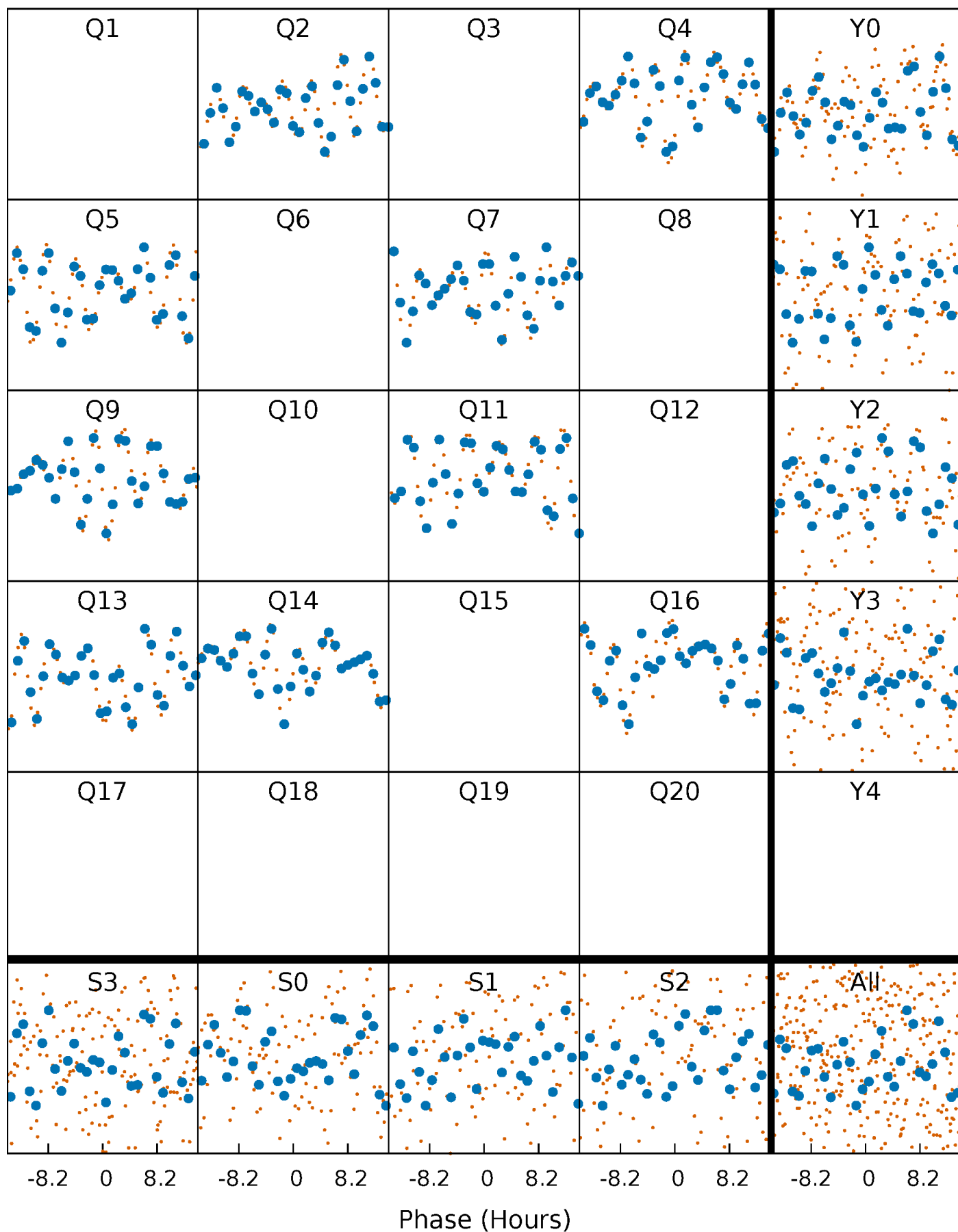


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



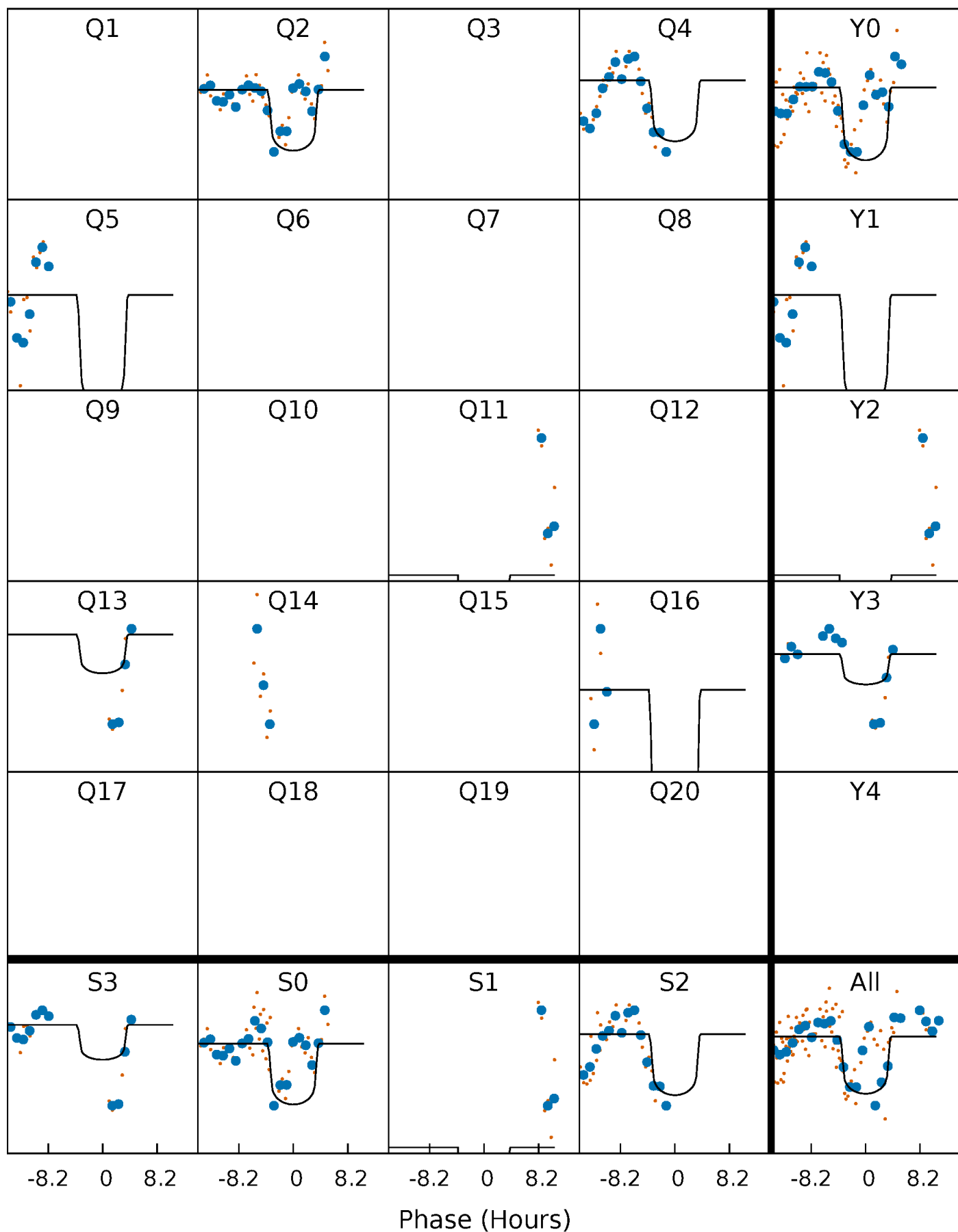
PDC Quarter-Phased Transit Curves

TCE 007385500-03 P=165.479217 Days $T_0=192.312170$ (BKJD)



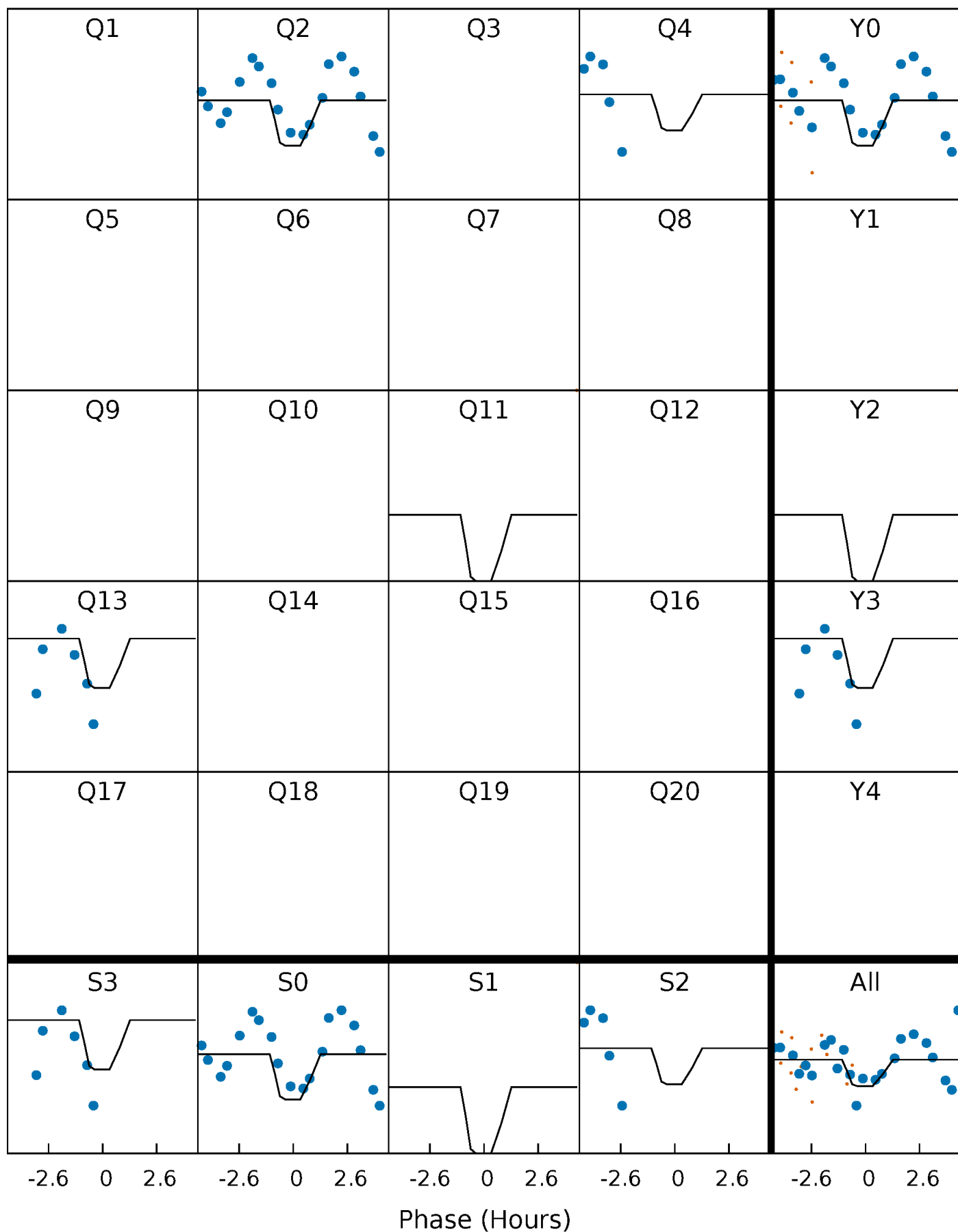
DV Quarter-Phased Transit Curves

TCE 007385500-03 P=165.479217 Days $T_0=192.312170$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

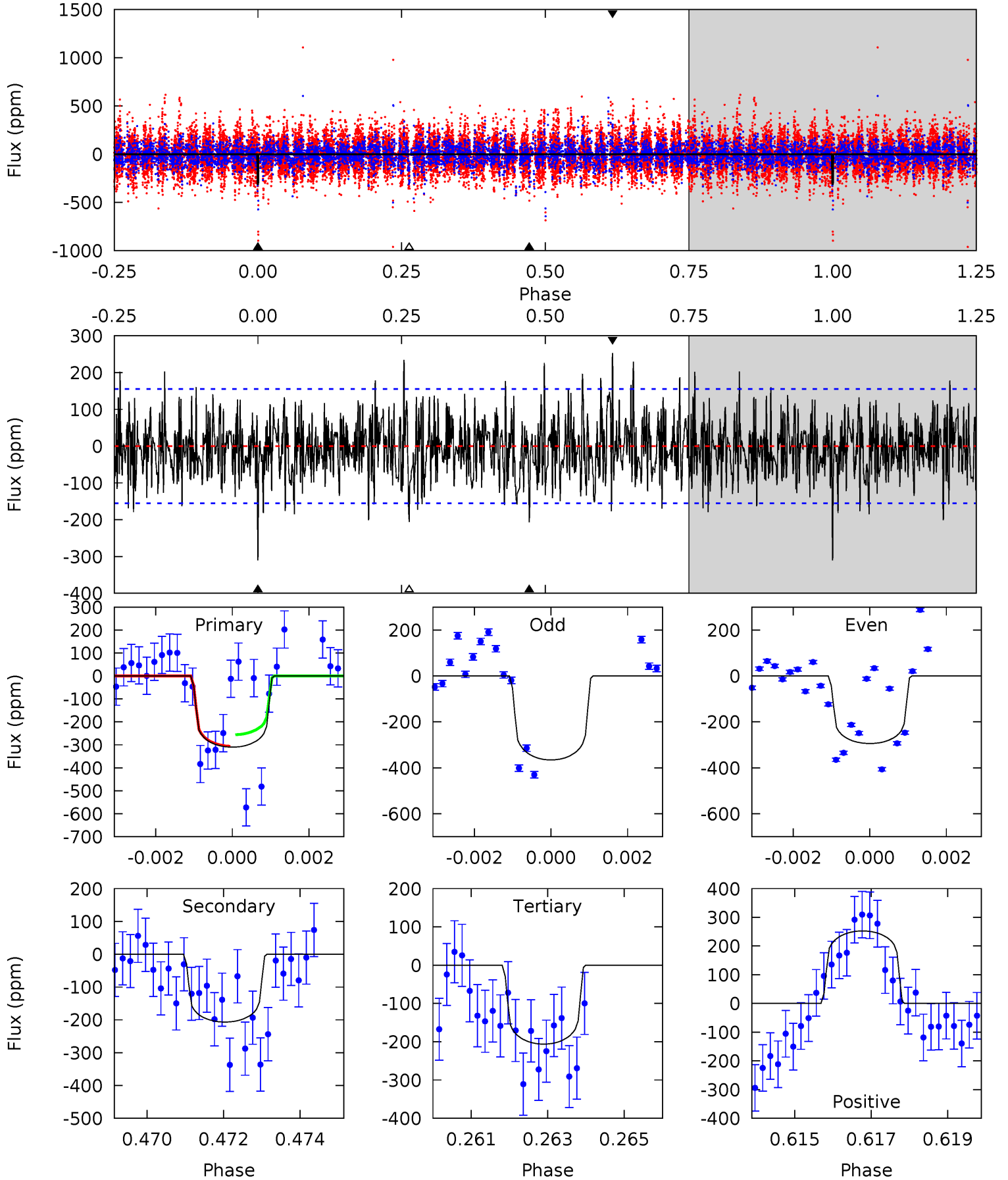
TCE 007385500-03 P=165.506266 Days $T_0=192.330822$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-03, $P = 165.479217$ Days, $E = 26.832953$ Days

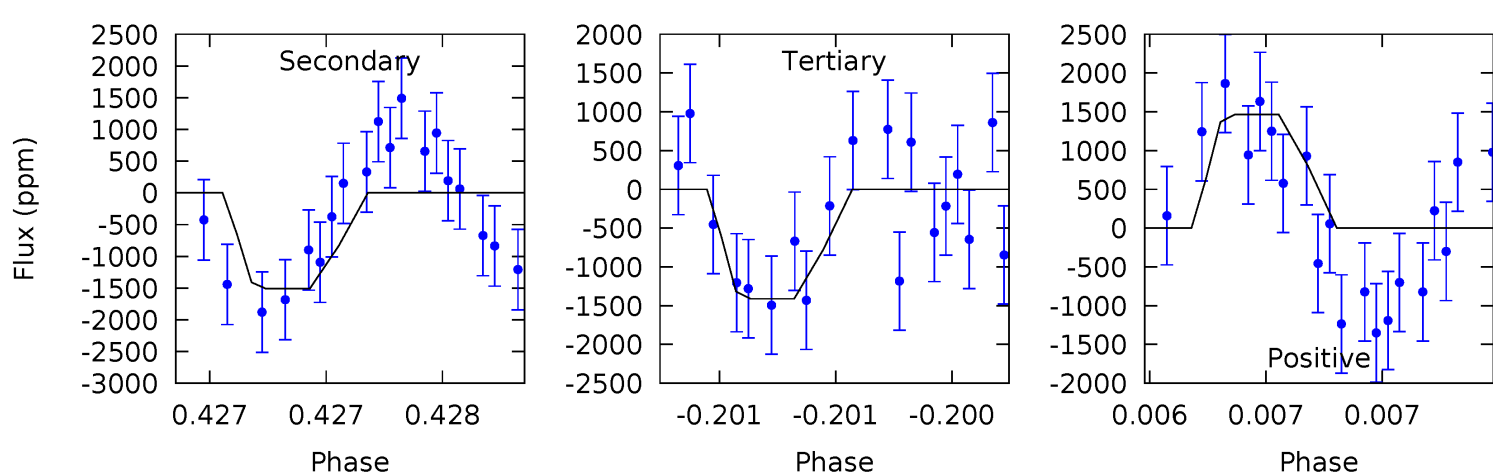
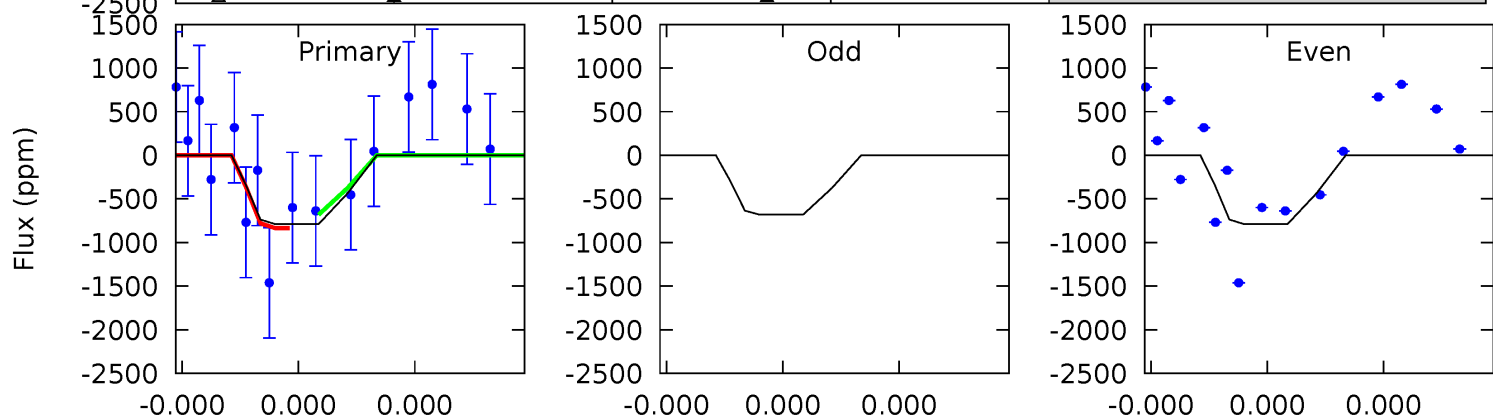
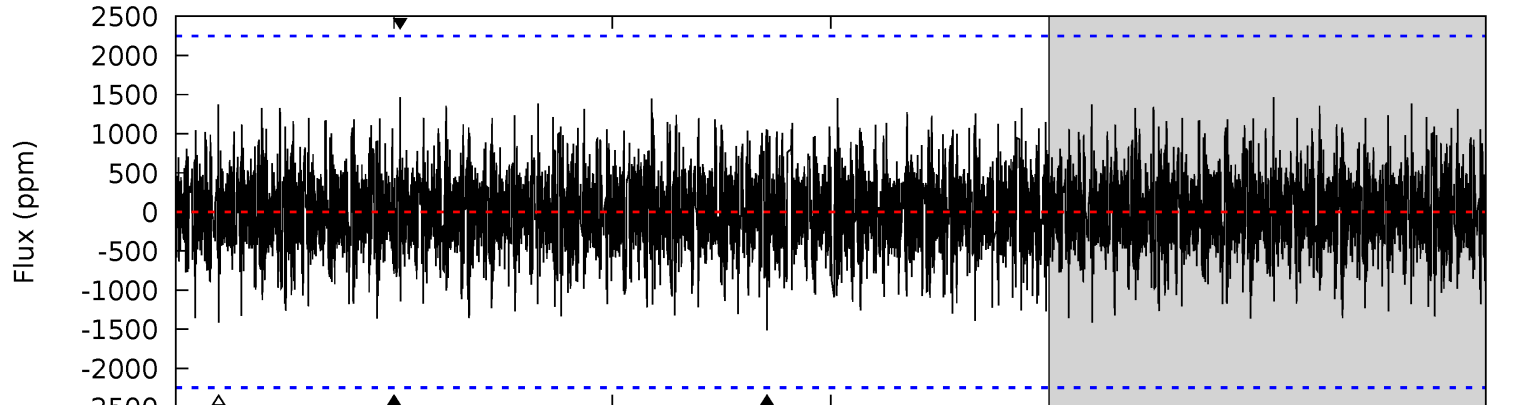
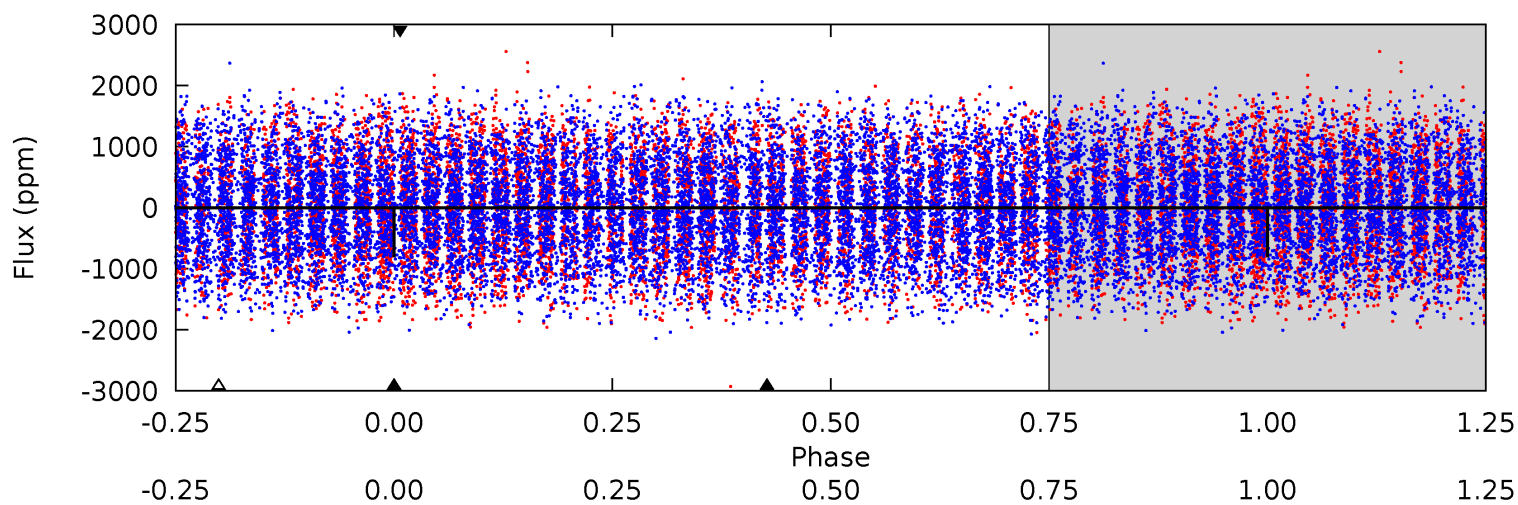
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	7.11	7.09	8.69	5.34	3.12	2.24	3.57	1.98	0.01	-1.58	1.00	1.11	0.45	0.85



Alt Model-Shift Uniqueness Test

007385500-03, P = 165.506266 Days, E = 26.824556 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.96	3.75	3.50	3.64	5.58	3.48	0.95	-1.54	-1.68	0.25	0.11	0.16	1.00	0.49	0.19



Stellar Parameters For KIC 007385500

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	+3%/-4%	+23%/-2%	+58%/-48%	+7%/-67%	+7%/-38%	+1524%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-207 ± 29	$7.38^{+5.65}_{-4.20}$	1050^{+70}_{-167}	6244^{+3744}_{-1293}	1071^{+4419}_{-719}
Alt.	-1511 ± 403	$12.26^{+5.84}_{-5.26}$	1055^{+71}_{-161}	8440^{+3643}_{-1543}	2822^{+6104}_{-1545}

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

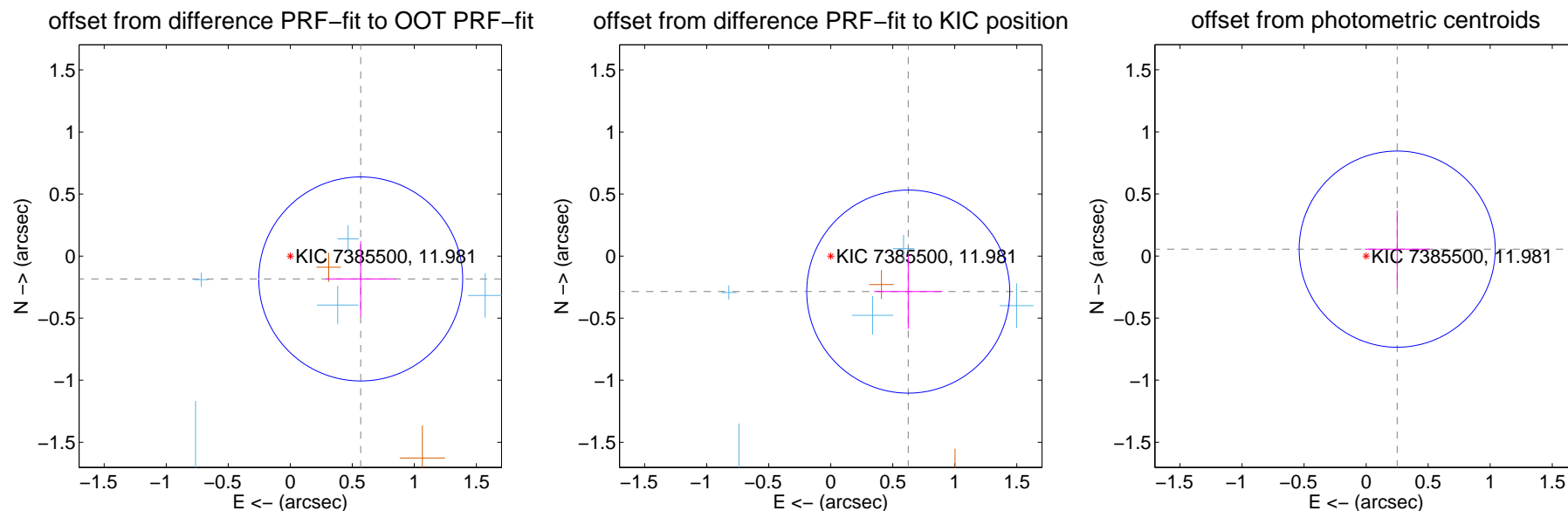
DV Centroid Data

Supplemental centroid analysis for 007385500-03. **Kepler magnitude: 11.98.** Transit SNR 7.19

There are 5 quarters with good PRF difference image offsets

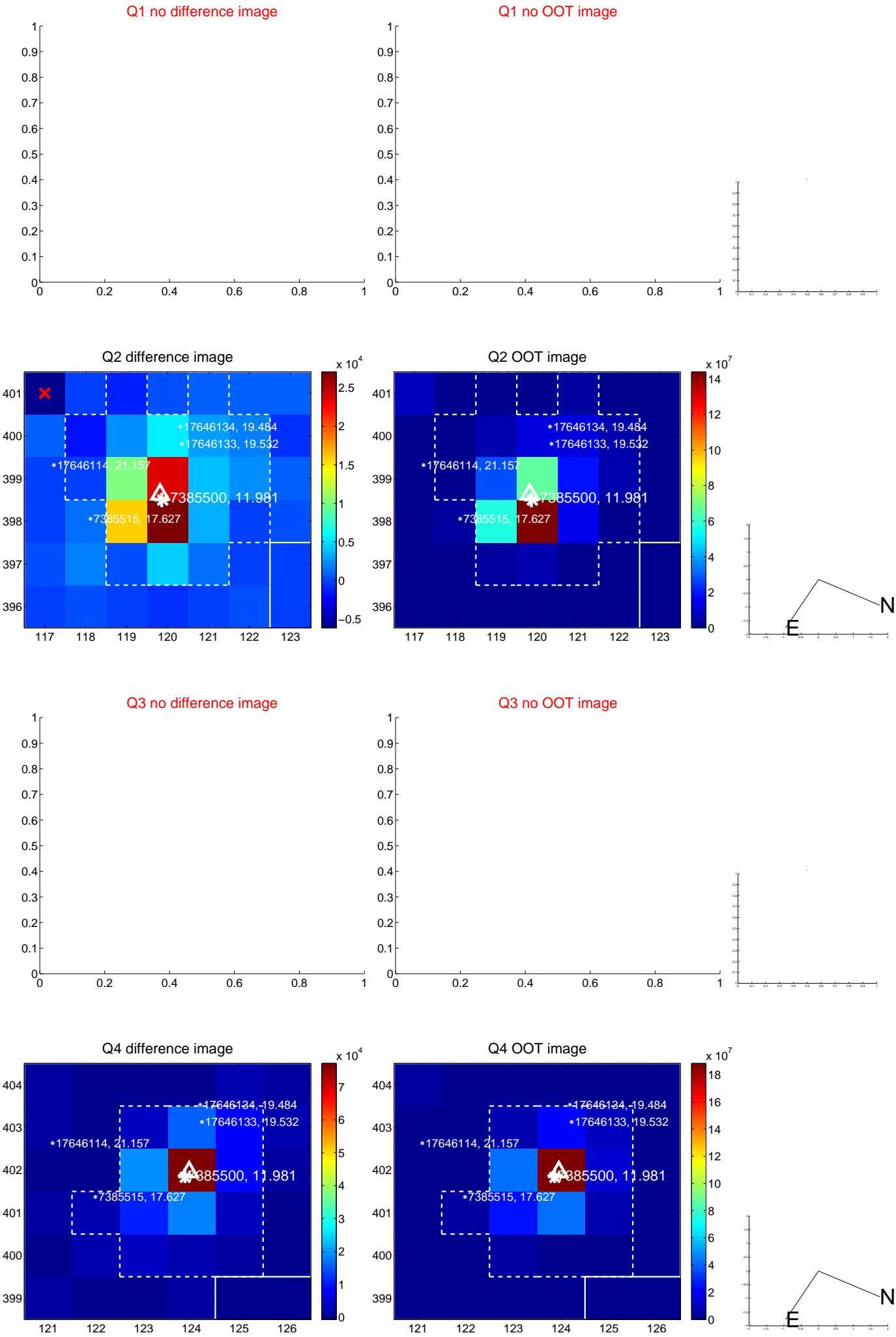
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.597 ± 0.274	2.18	-0.568 ± 0.283	-0.184 ± 0.304
PRF-fit source offset from KIC position	0.687 ± 0.273	2.52	-0.625 ± 0.276	-0.286 ± 0.300
photometric centroid source offset	0.26 ± 0.26	0.97	-0.25 ± 0.26	0.06 ± 0.31

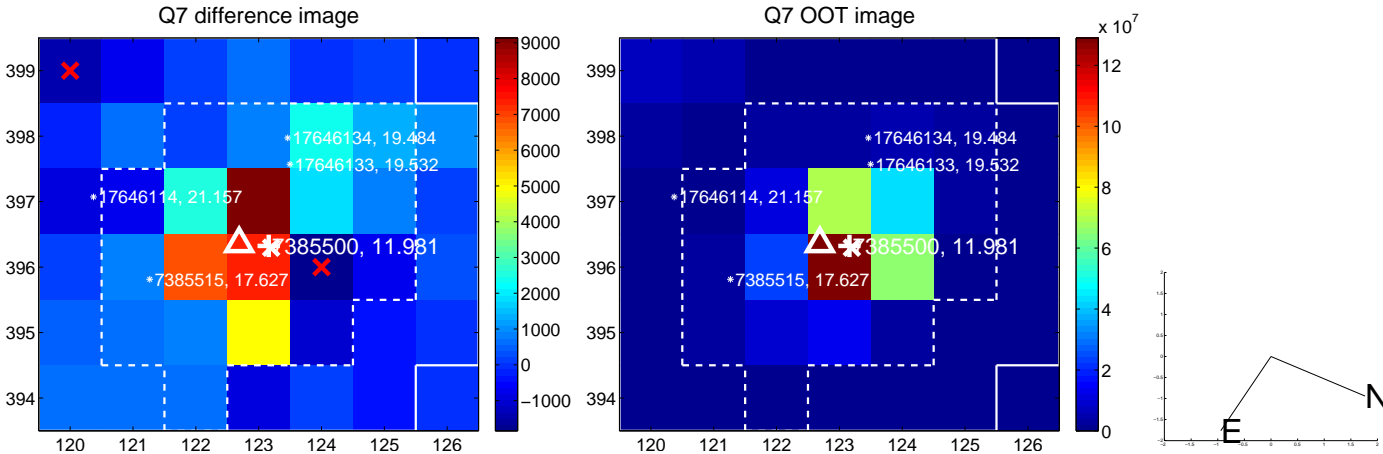
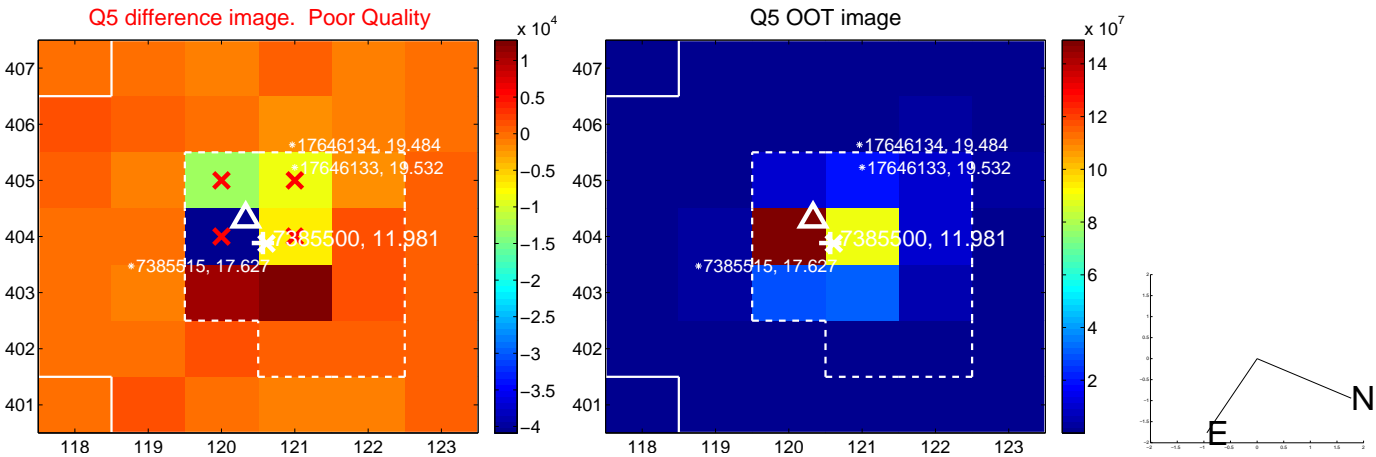


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

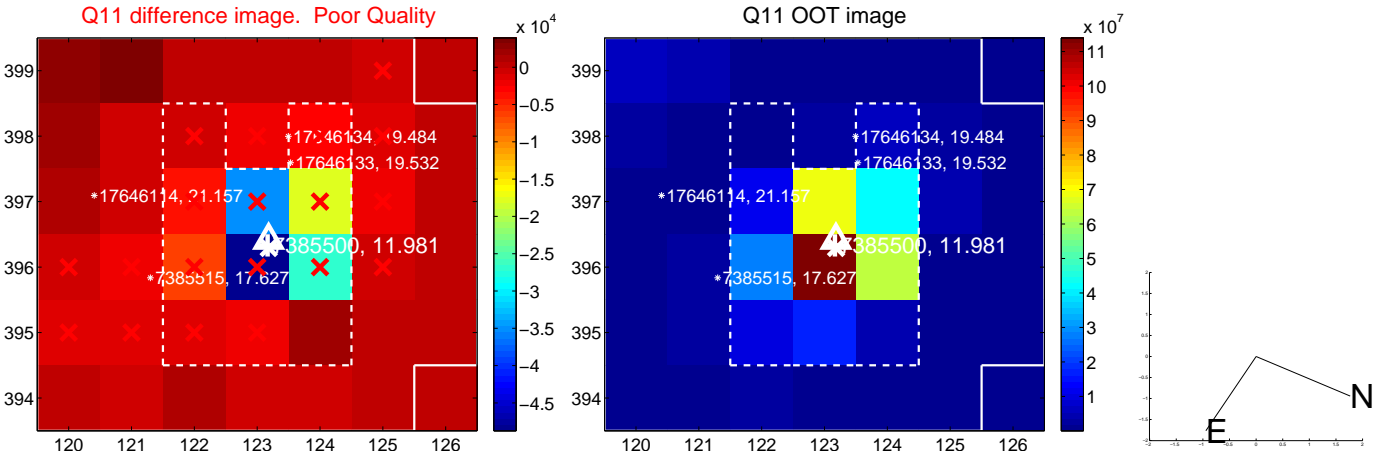
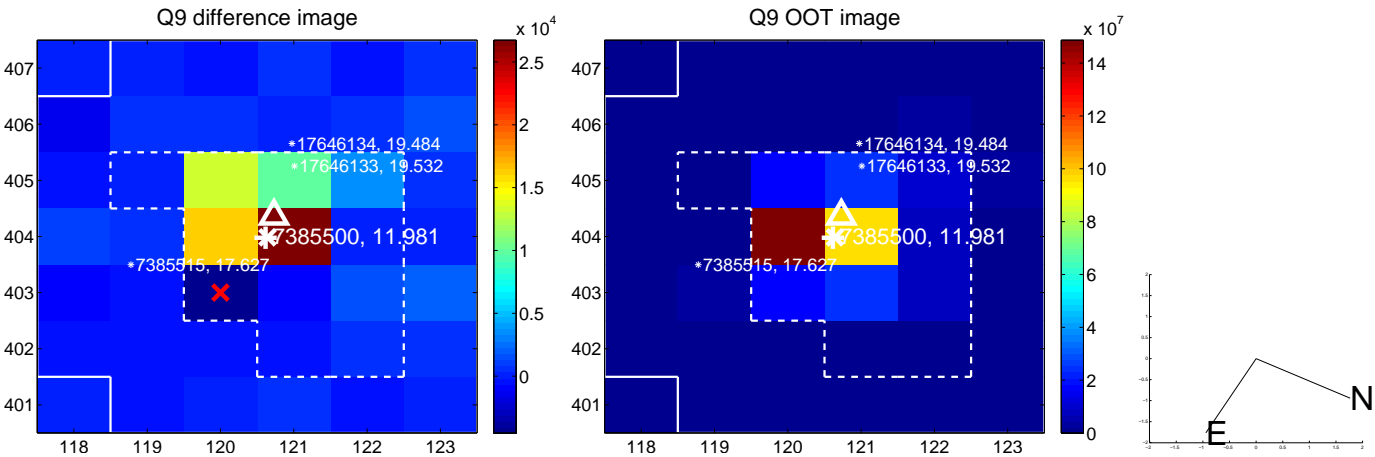
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



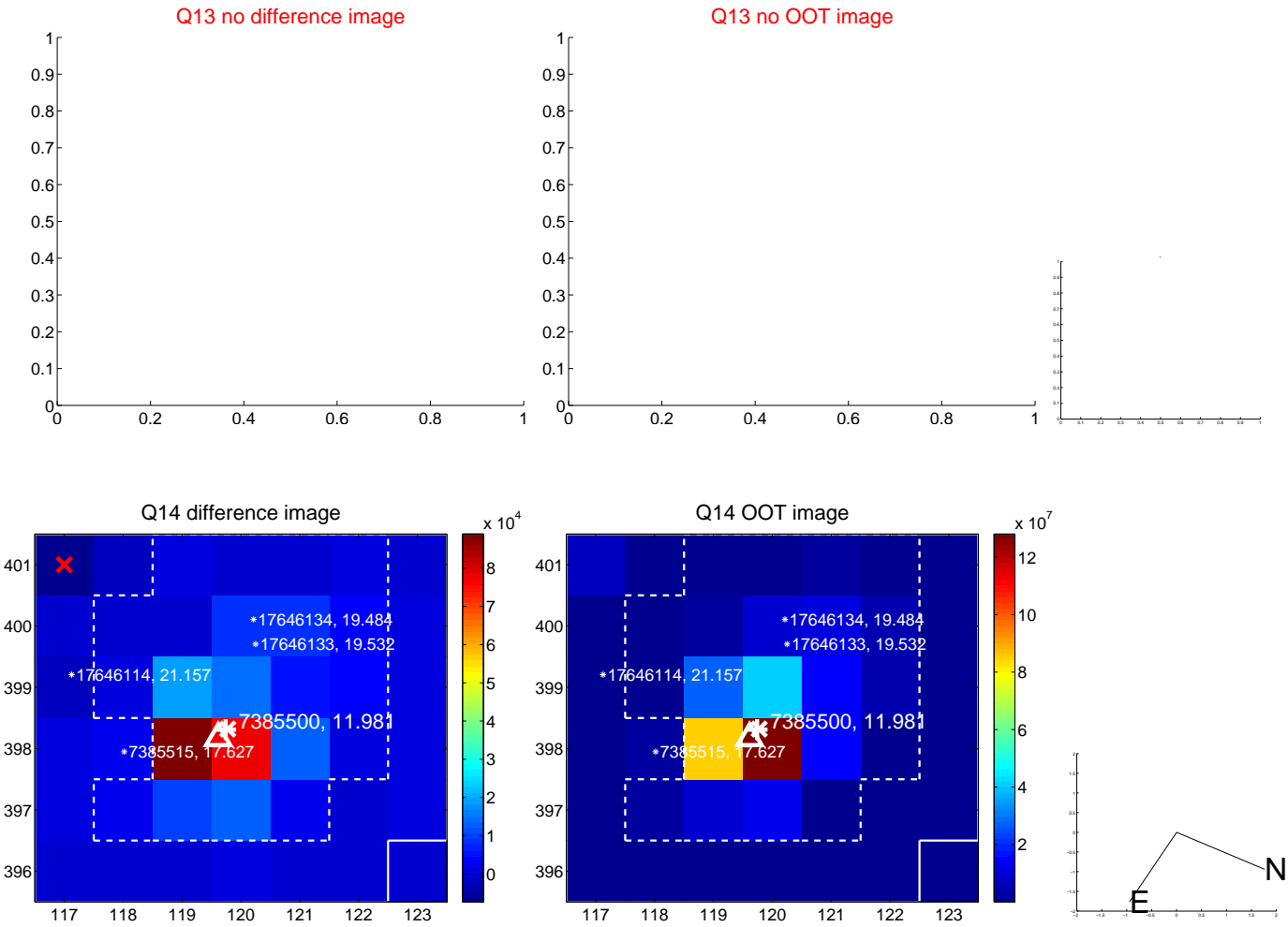
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



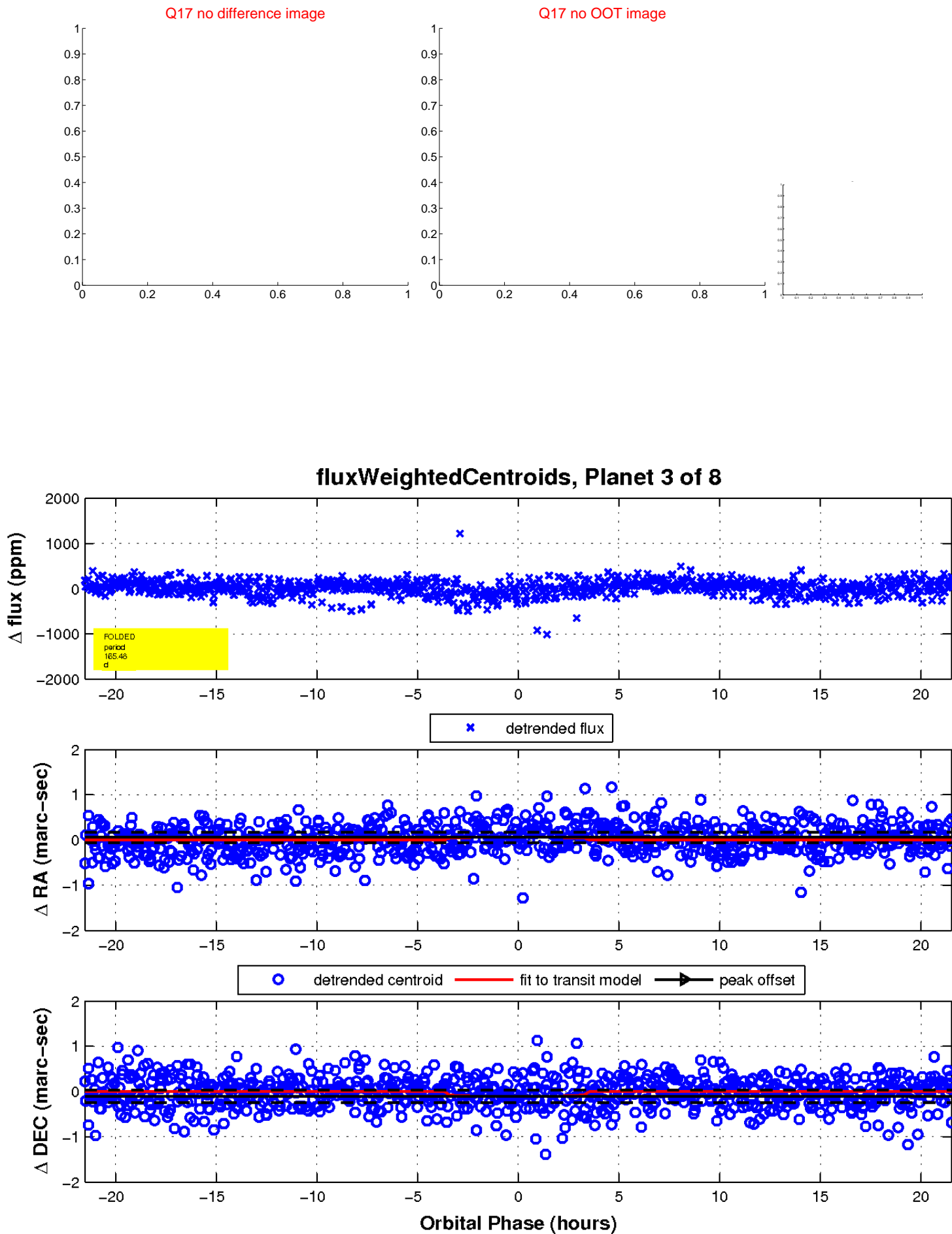
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

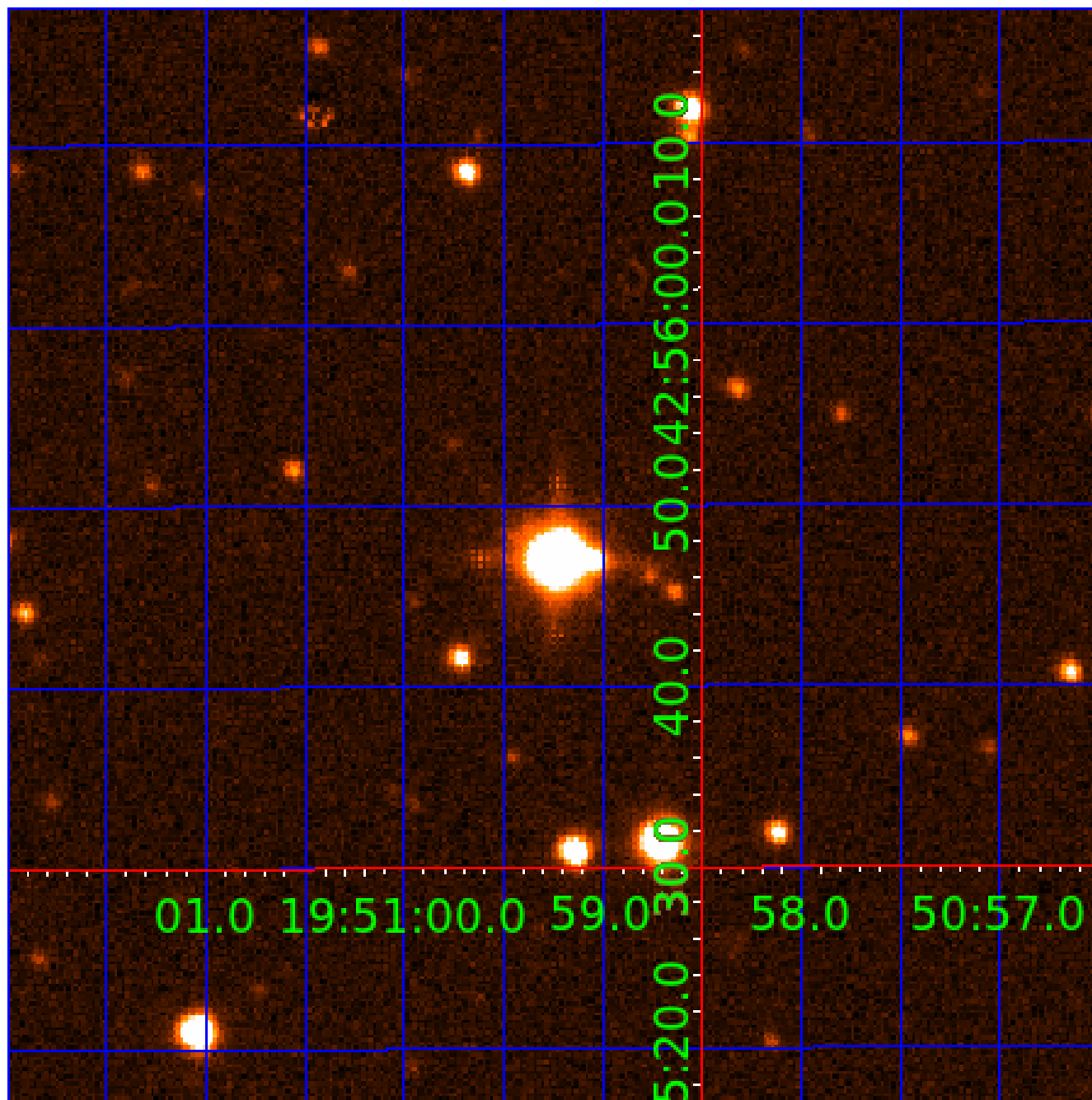


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

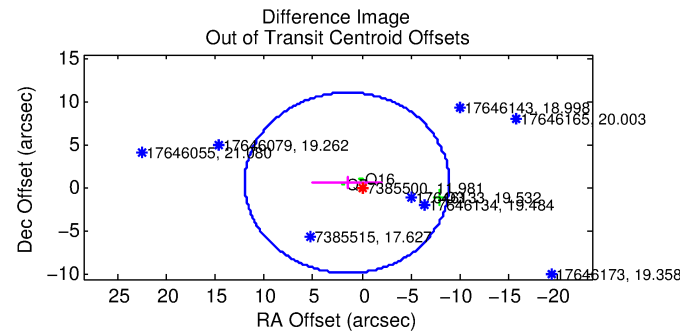
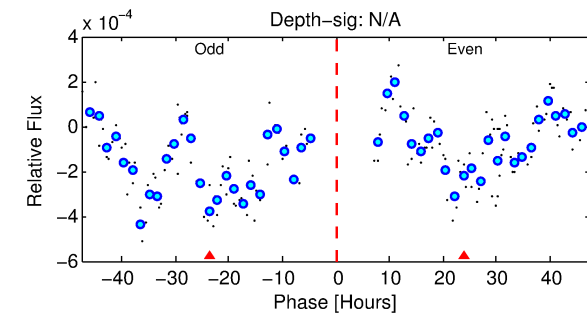
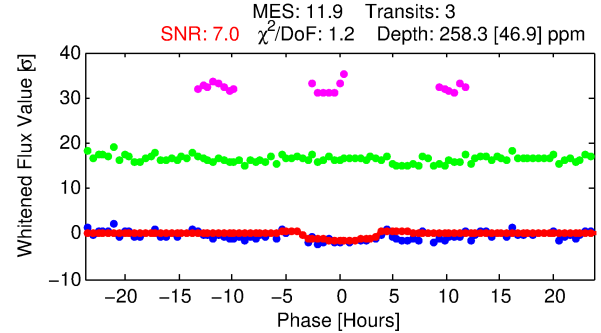
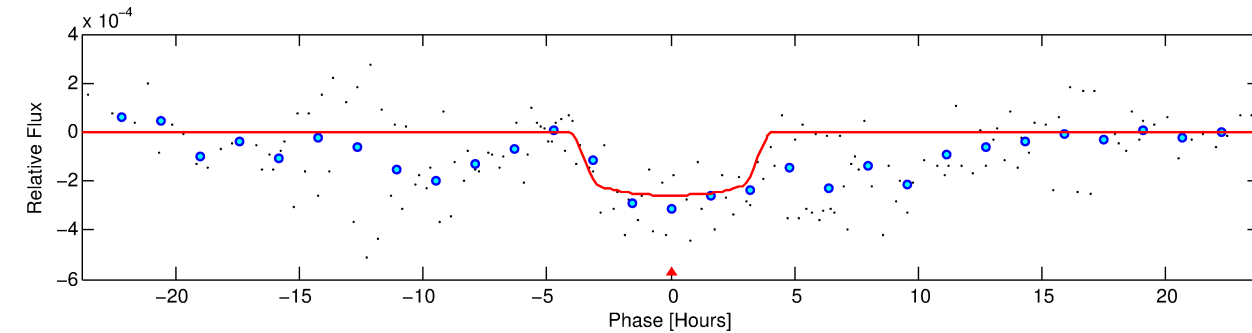
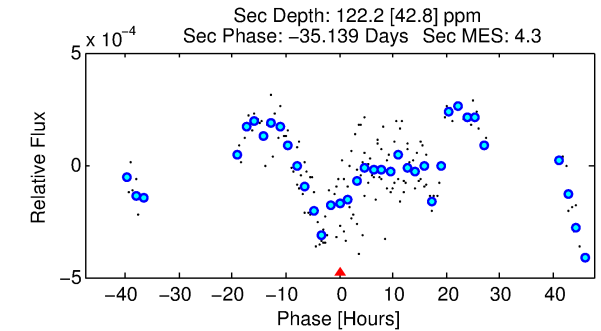
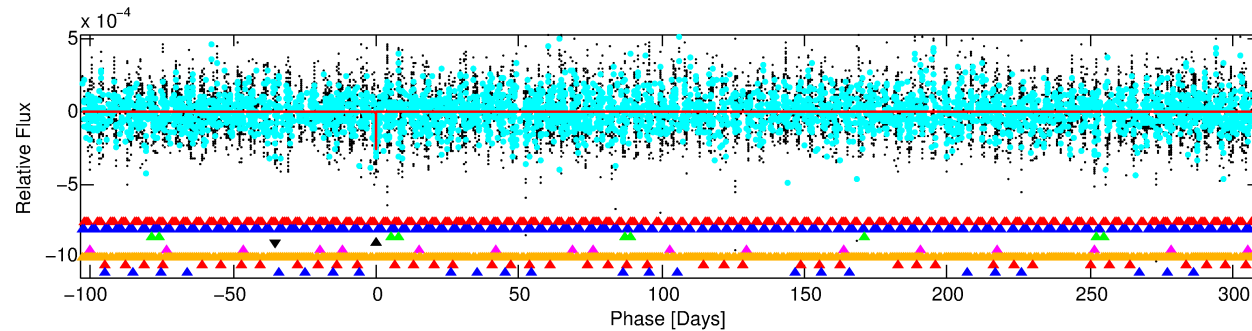
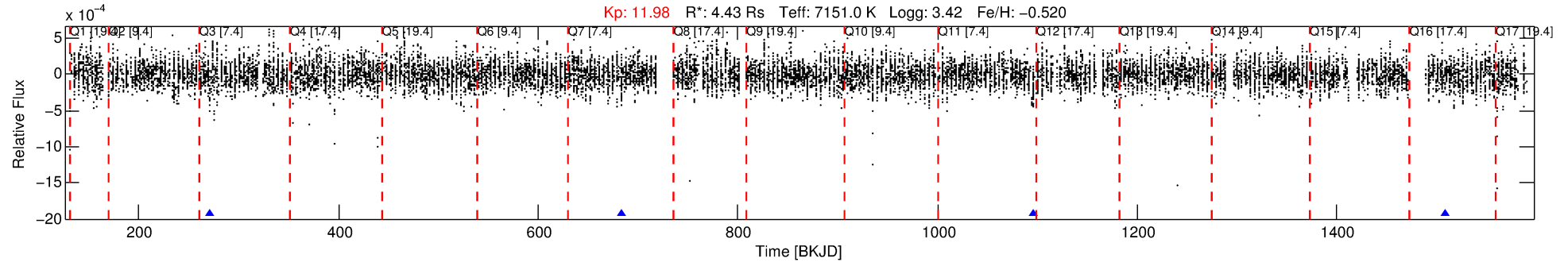
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-04

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 4 of 8 Period: 412.505 d



DV Fit Results:

Period = 412.50501 [0.01718] d
Epoch = 270.9544 [0.0282] BKJD
Rp/R* = 0.0174 [0.0025]
a/R* = 170.60 [107.21]
b = 0.92 [0.10]
Seff = 25.52 [32.85]
Teq = 573 [184] K
Rp = 8.42 [5.77] Re
a = 1.3429 [1.0020] AU
Ag = 1711.74 [2319.28] [0.74σ]
Teffp = 5700 [691] K [7.17σ]

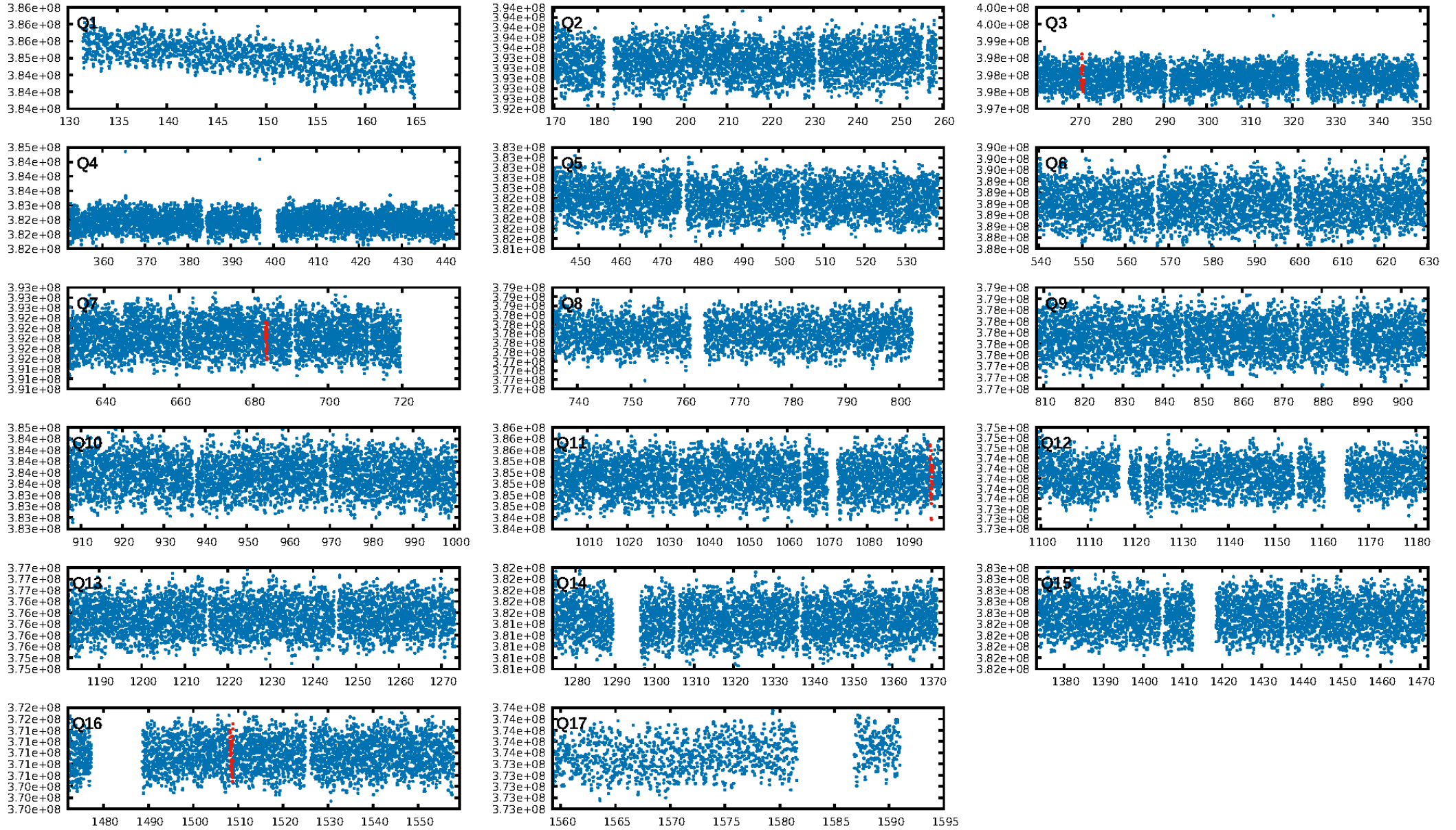
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [553.93σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 70.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8732
Centroid-sig: 1.8%
Centroid-so: 0.938 arcsec [1.57σ]
OotOffset-rm: 1.651 arcsec [0.47σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-rm: 1.576 arcsec [1.05σ]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

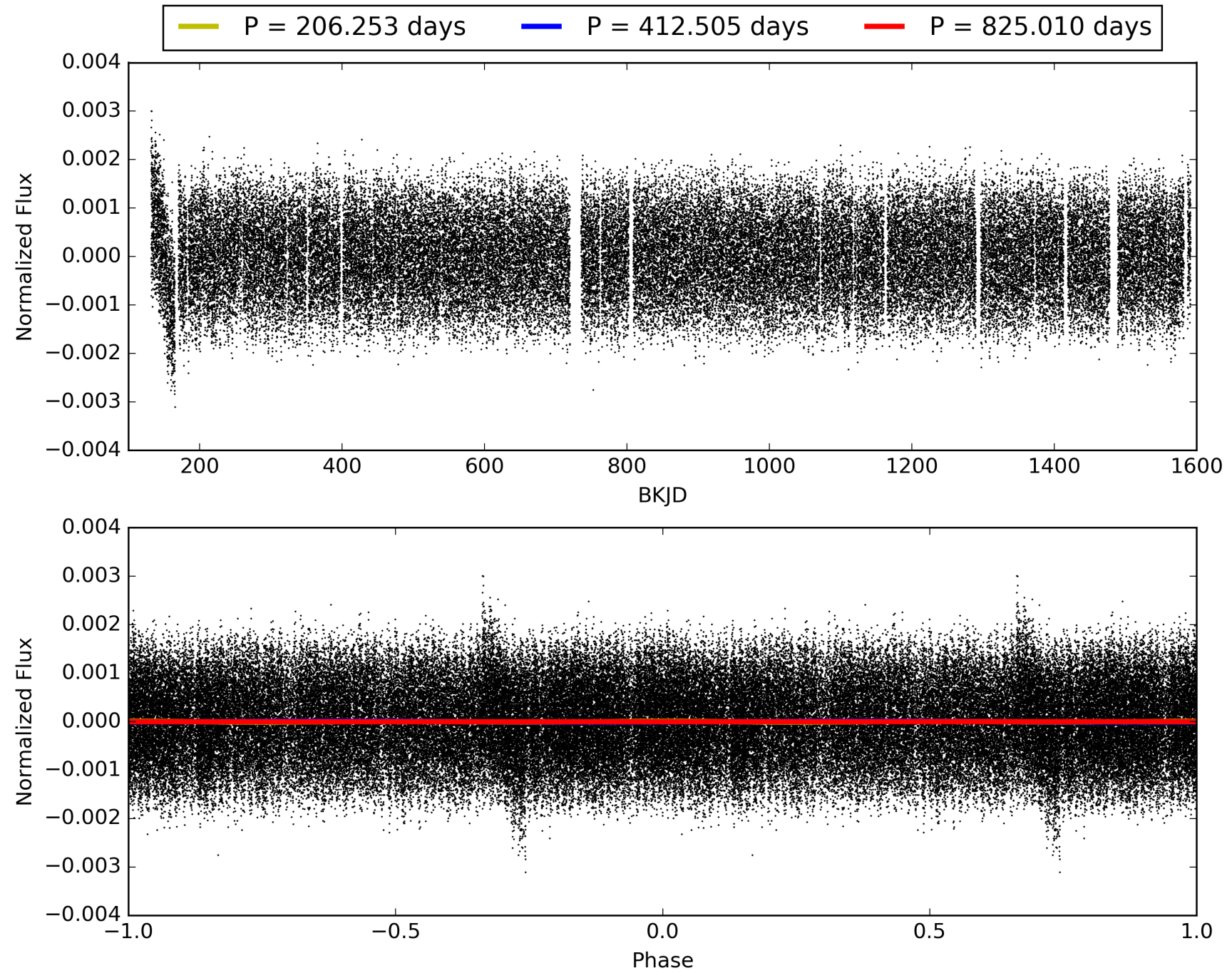
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:09:55 Z

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

TCE 007385500-04, PDC Light Curves

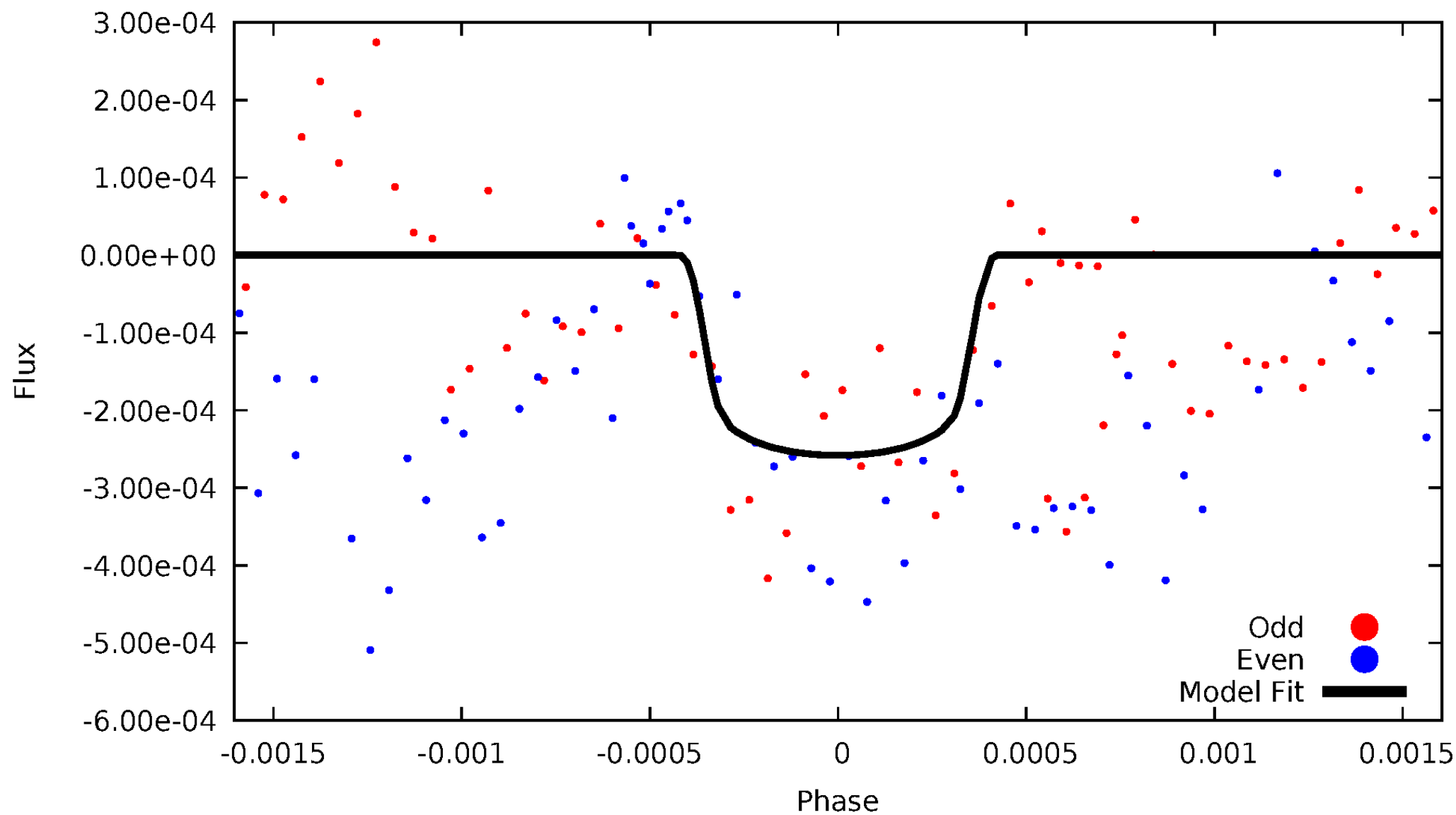


TCE 007385500-04



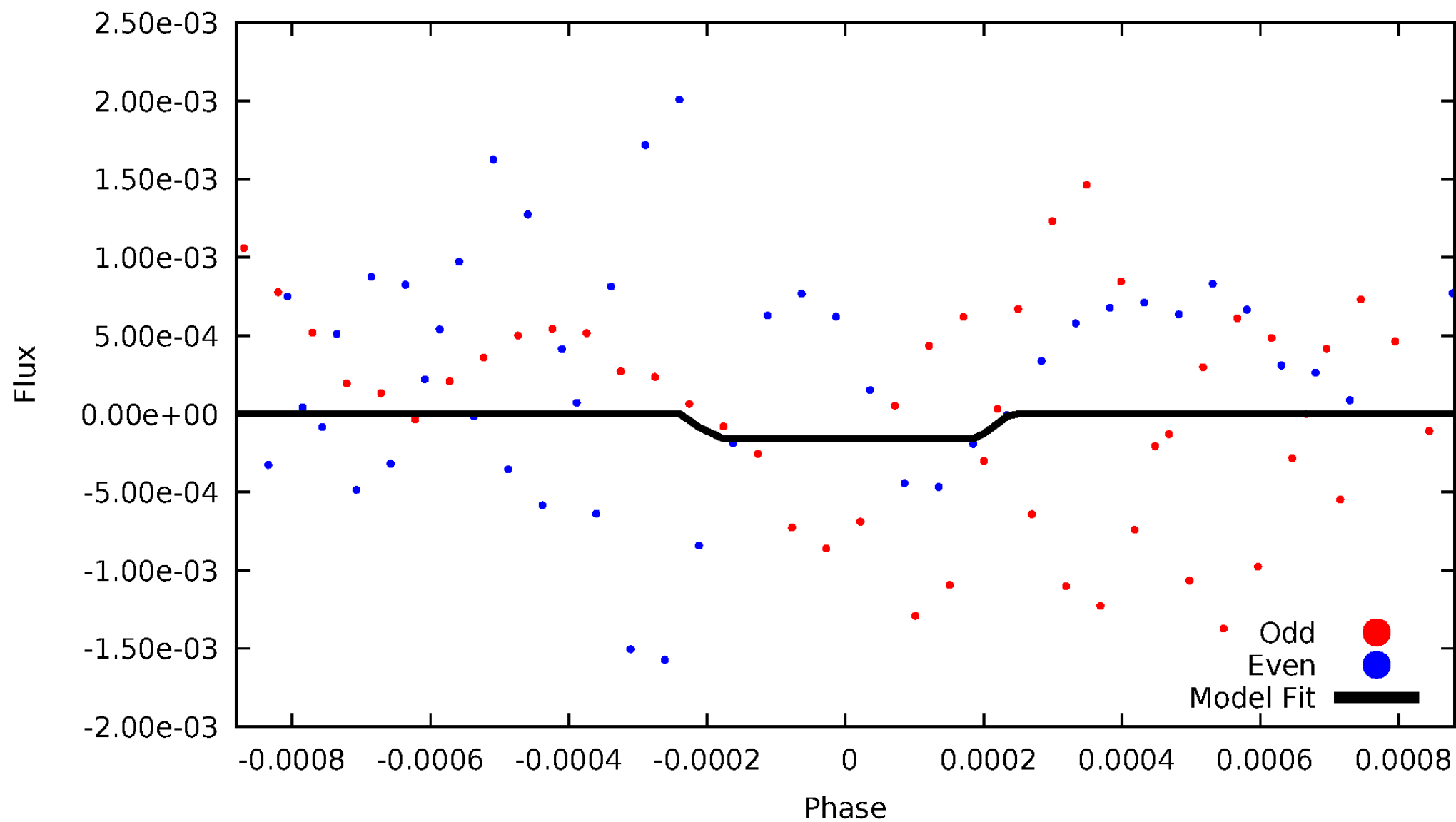
DV Odd/Even

TCE 007385500-04



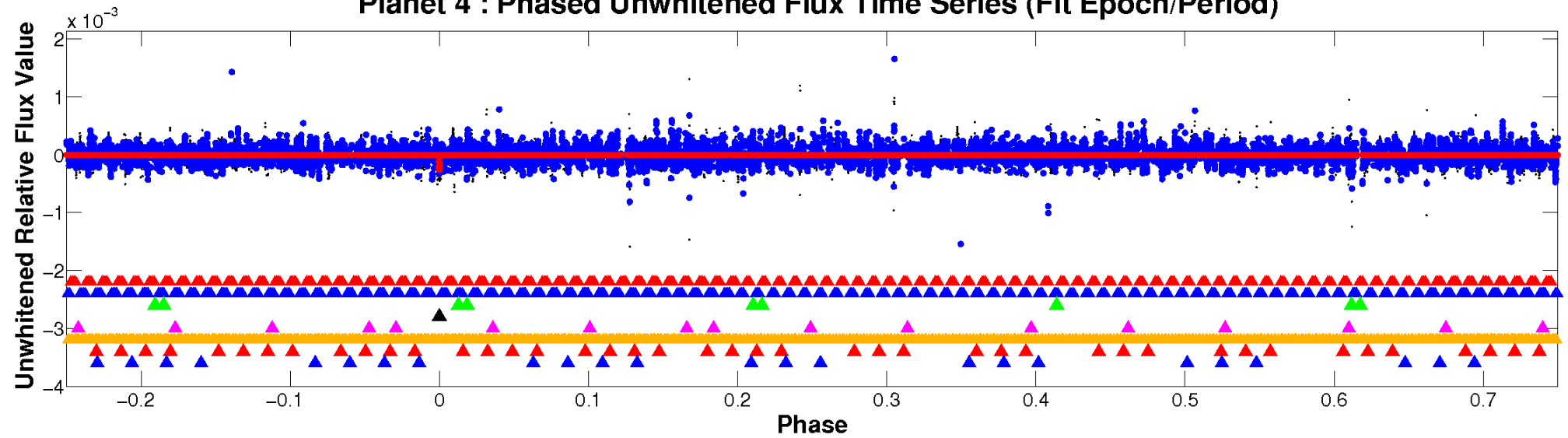
ALT Odd/Even

TCE 007385500-04

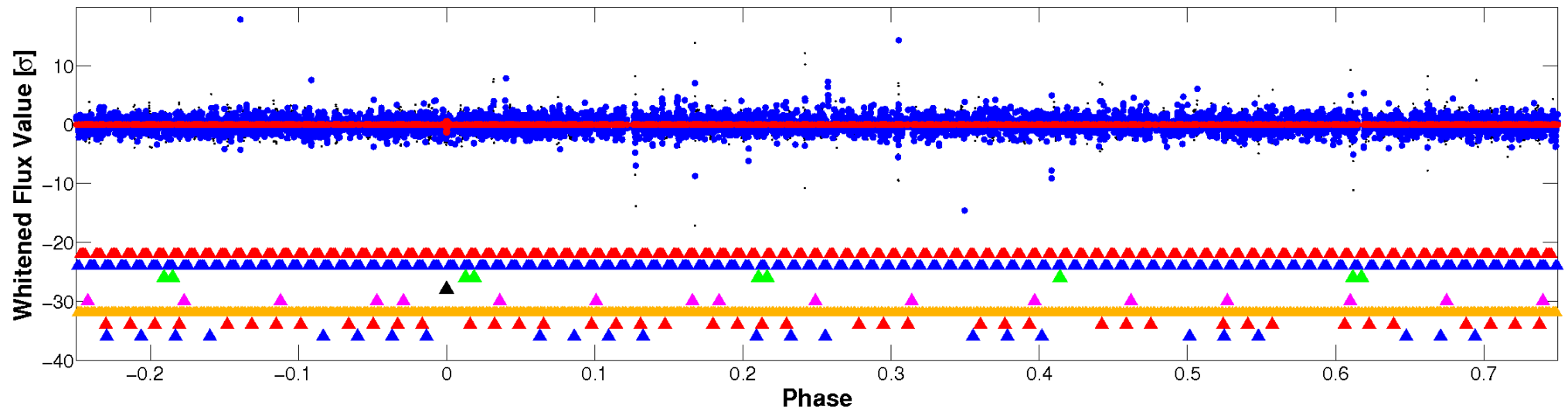


Non-Whitened Vs. Whitened Light Curve

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

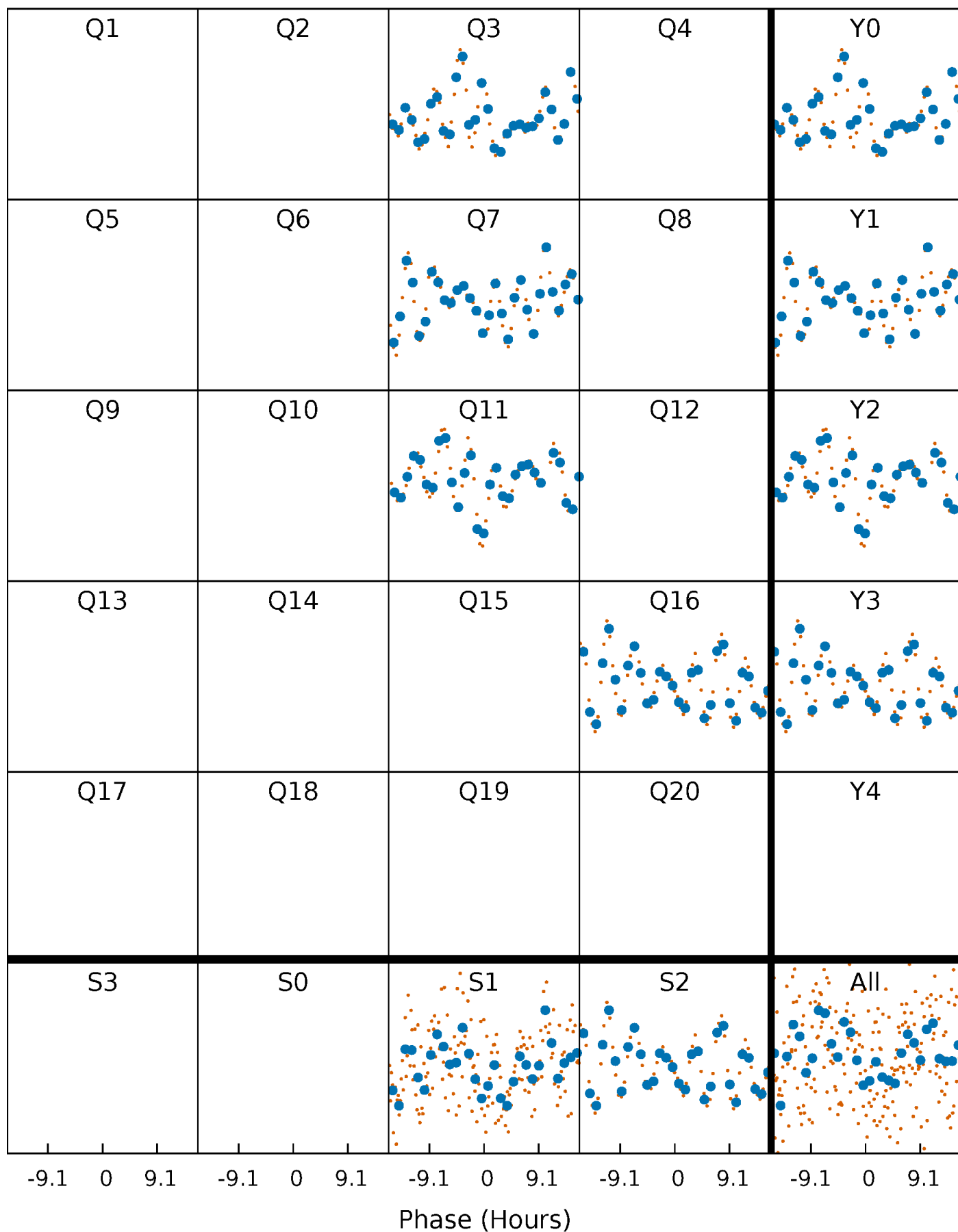


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



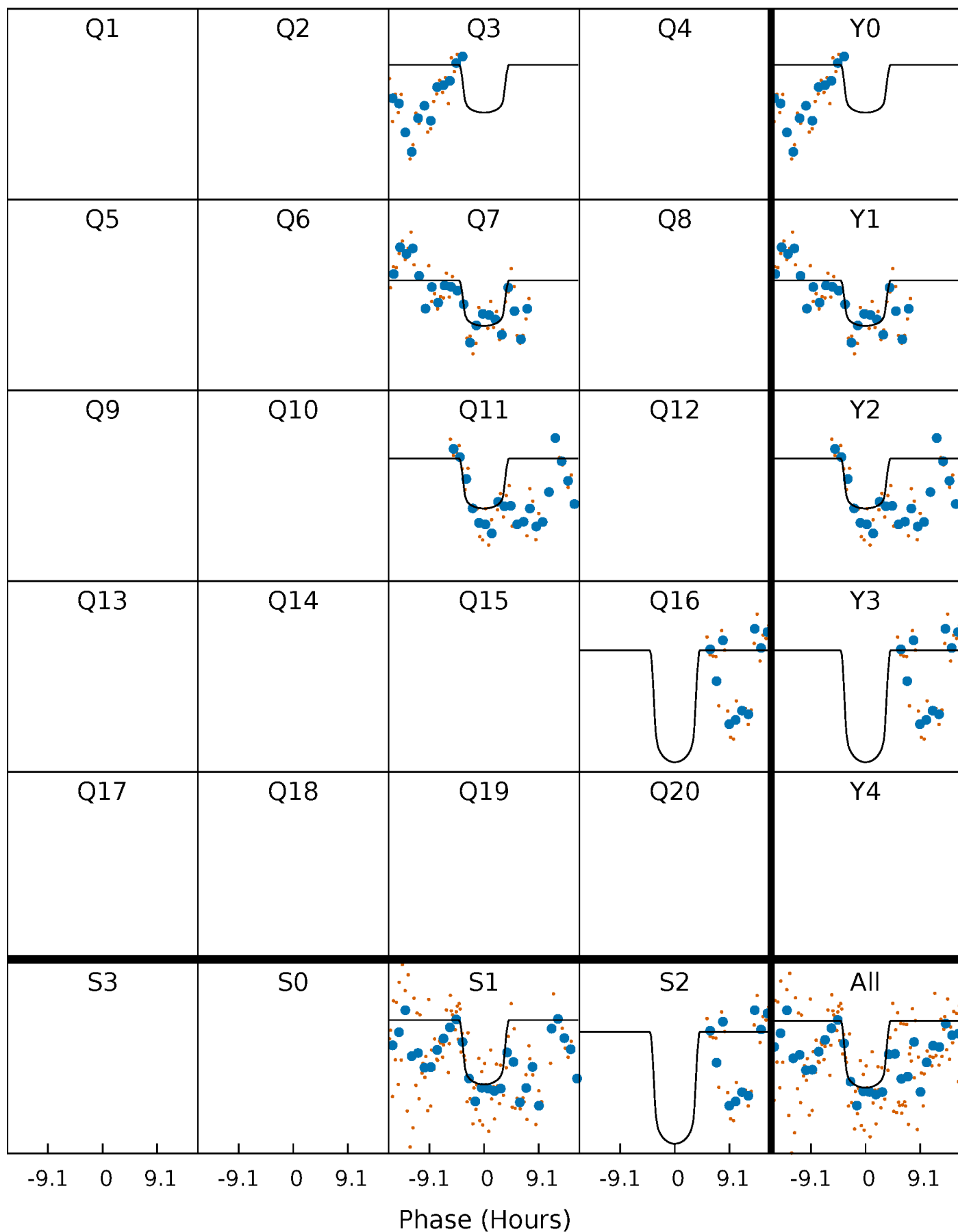
PDC Quarter-Phased Transit Curves

TCE 007385500-04 $P=412.505014$ Days $T_0=270.954437$ (BKJD)



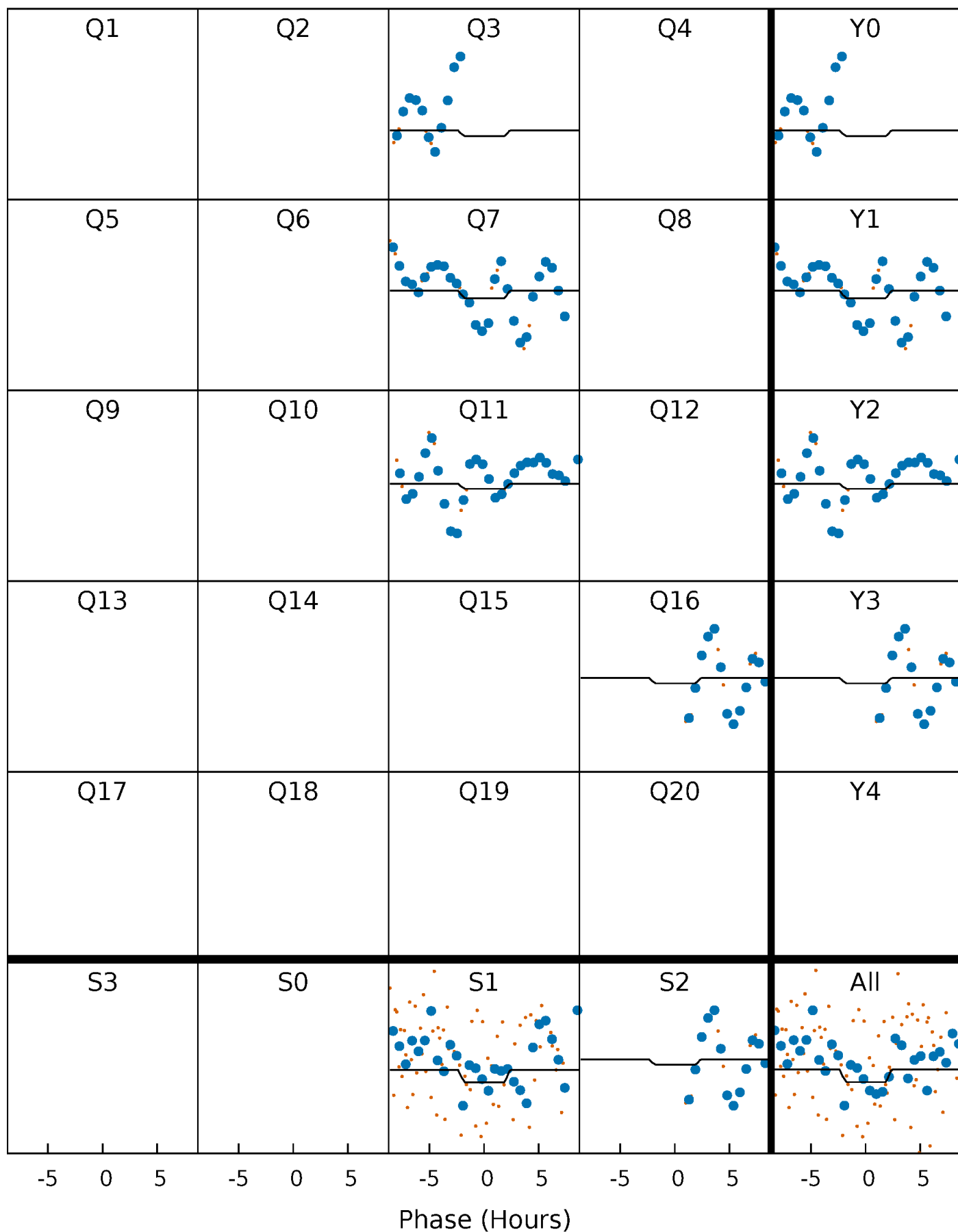
DV Quarter-Phased Transit Curves

TCE 007385500-04 $P=412.505014$ Days $T_0=270.954437$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

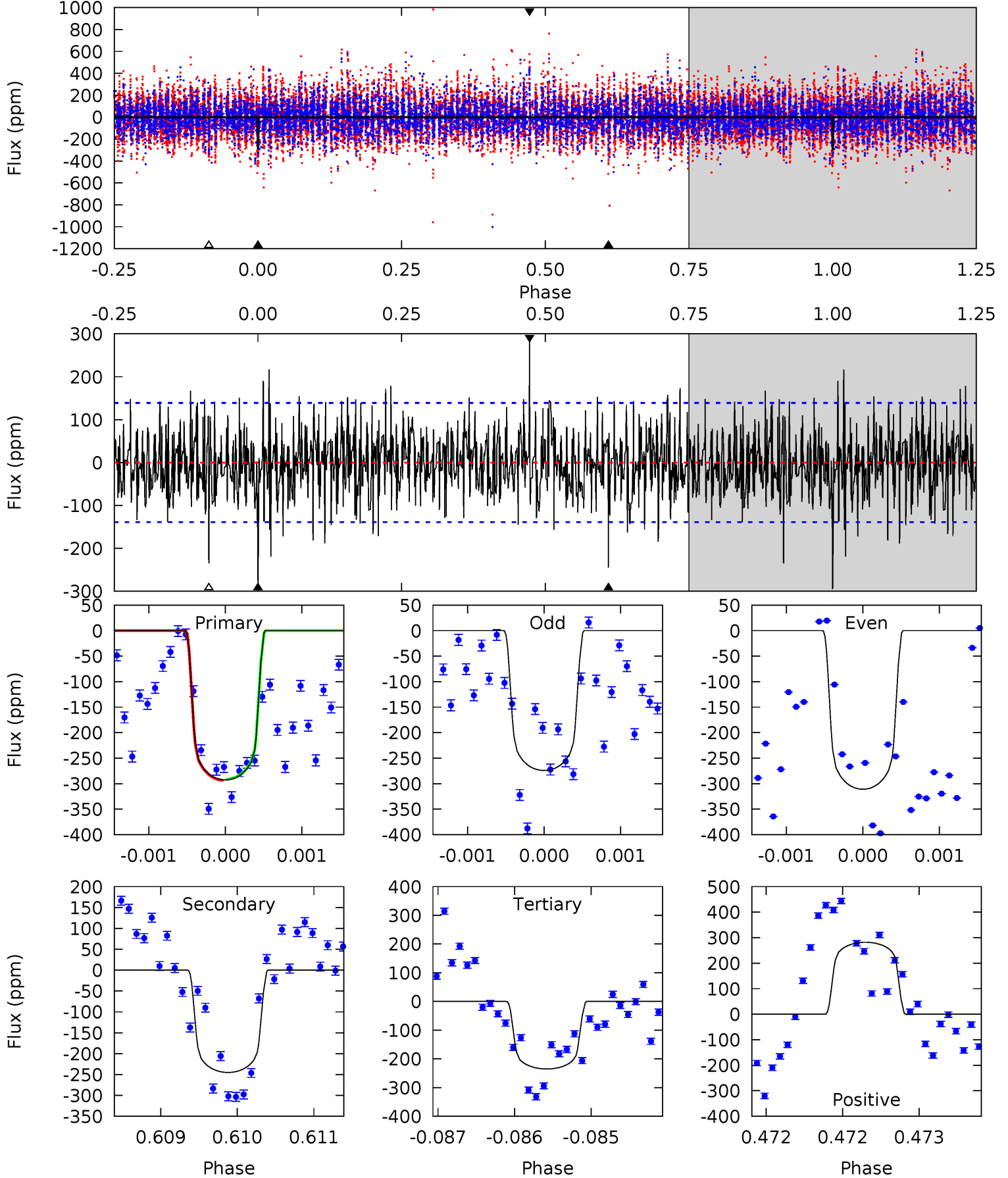
TCE 007385500-04 $P=412.587632$ Days $T_0=270.888100$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-04, P = 412.505014 Days, E = 270.954437 Days

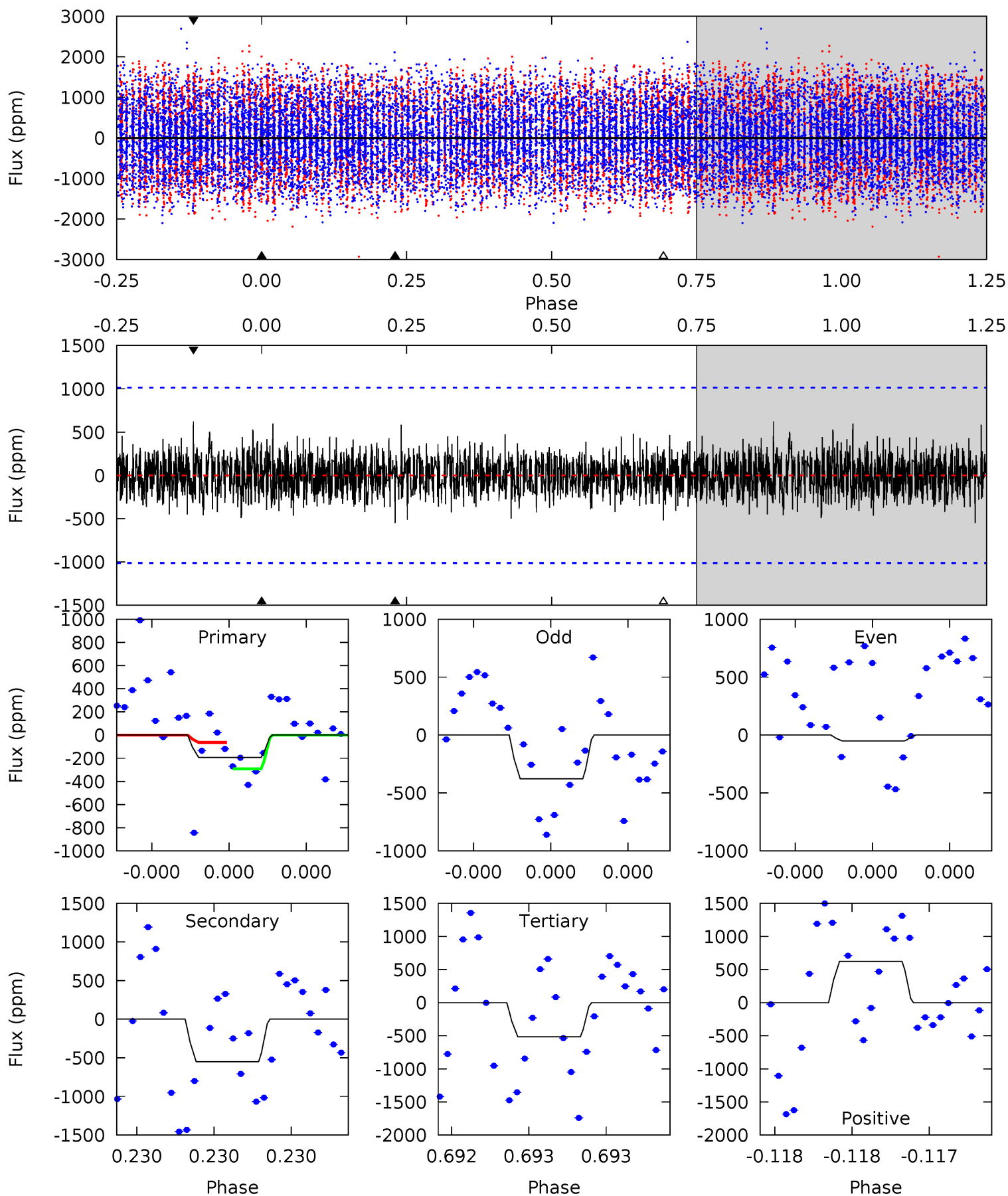
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	9.68	9.28	11.1	5.49	3.35	2.42	2.27	0.42	0.39	-1.46	0.72	1.00	0.49	0.05



Alt Model-Shift Uniqueness Test

007385500-04, P = 412.587632 Days, E = 270.888100 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.07	3.04	2.86	3.44	5.59	3.51	0.85	-1.79	-2.38	0.18	-0.40	0.92	2.09	0.53	0.62



Stellar Parameters For KIC 007385500

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	+3%/-4%	+23%/-2%	+58%/-48%	+7%/-67%	+7%/-38%	+1524%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-245 ± 25	$7.70^{+1.81}_{-2.60}$	779^{+48}_{-132}	6700^{+693}_{-504}	3983^{+4737}_{-1289}
Alt.	-550 ± 181	$5.52^{+1.54}_{-1.84}$	778^{+52}_{-124}	10625^{+2721}_{-2135}	17483^{+21094}_{-8282}

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

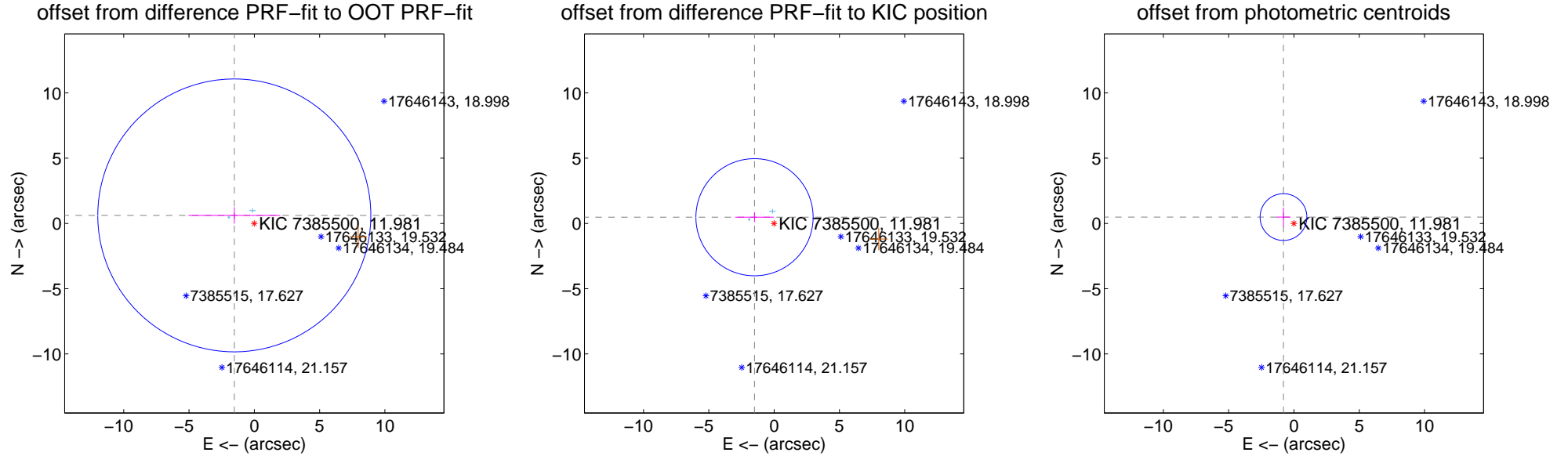
DV Centroid Data

Supplemental centroid analysis for 007385500-04. **Kepler magnitude: 11.98.** Transit SNR 7.02

There are 2 quarters with good PRF difference image offsets

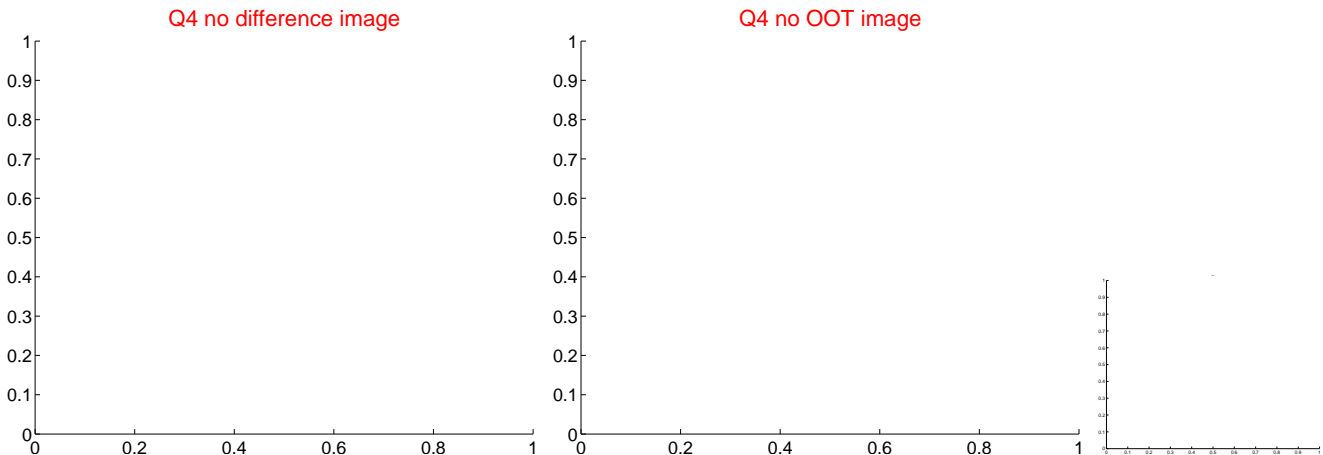
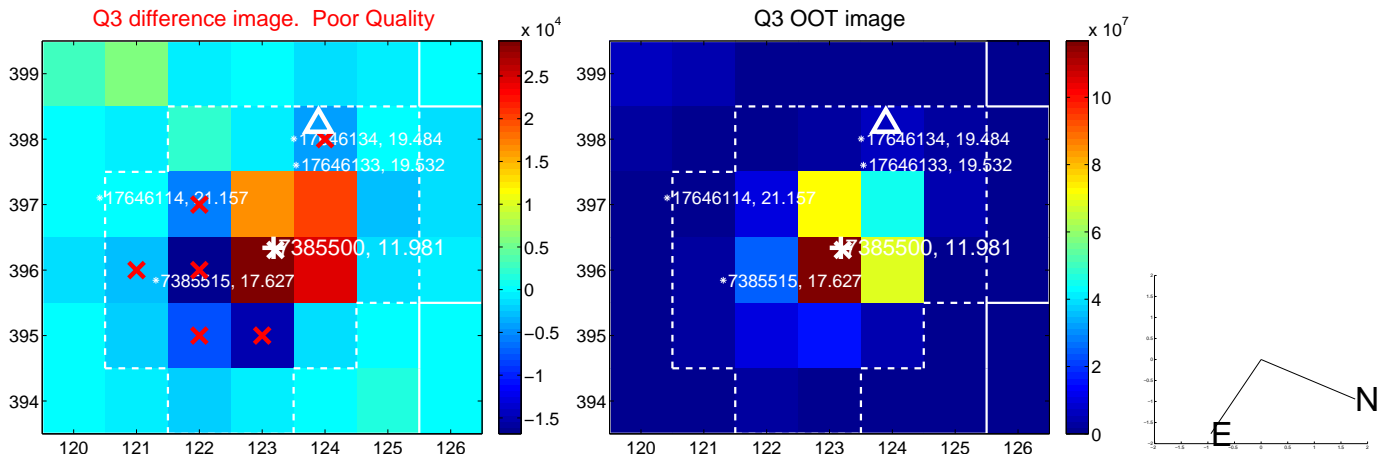
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.651 ± 3.485	0.47	1.532 ± 3.514	0.615 ± 0.631
PRF-fit source offset from KIC position	1.576 ± 1.496	1.05	1.502 ± 1.482	0.476 ± 0.379
photometric centroid source offset	0.94 ± 0.60	1.57	0.80 ± 0.54	0.49 ± 0.73

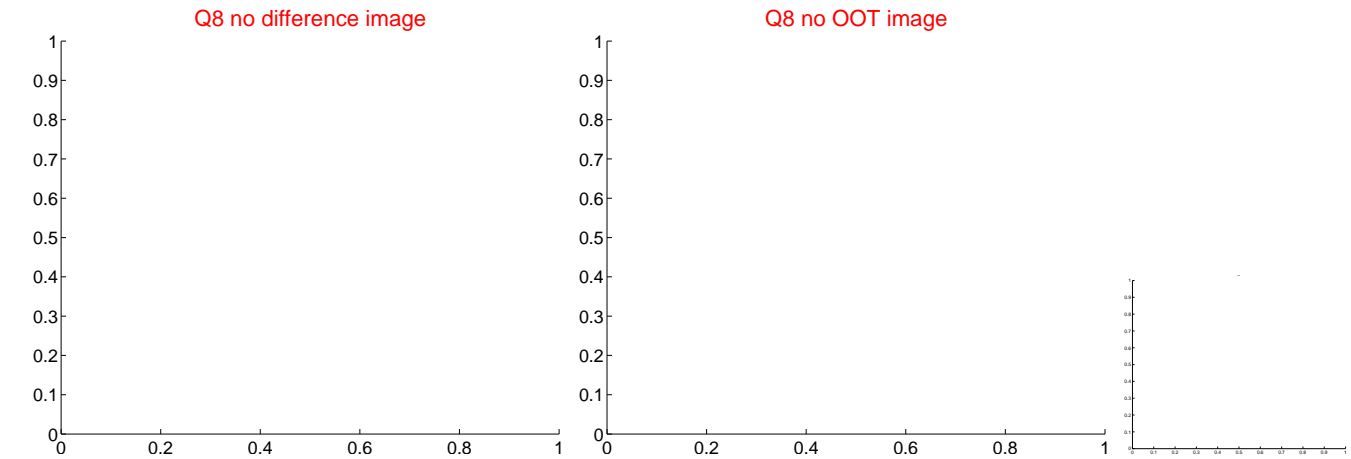
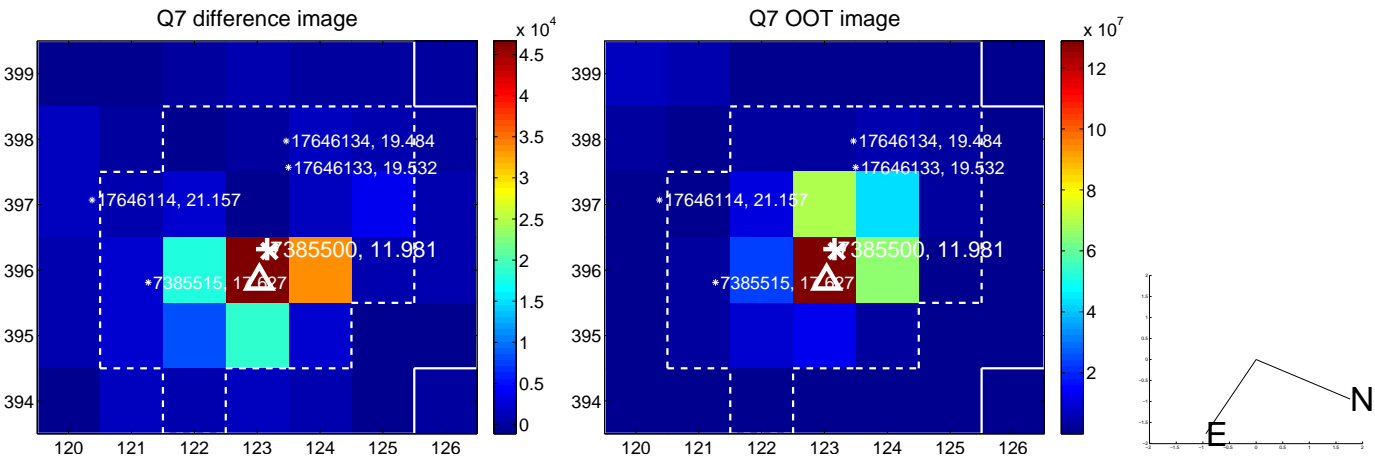
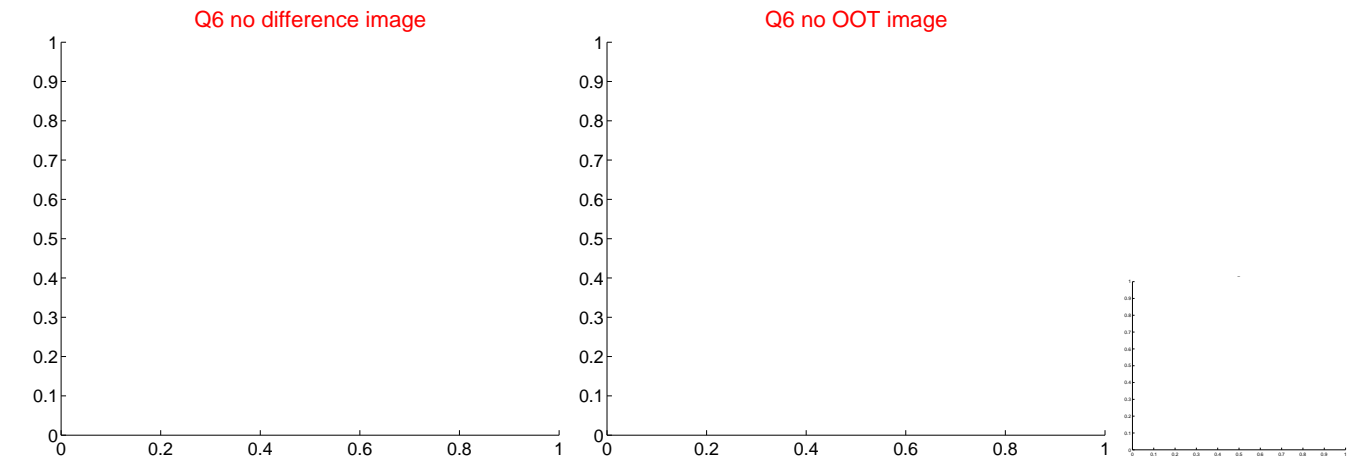
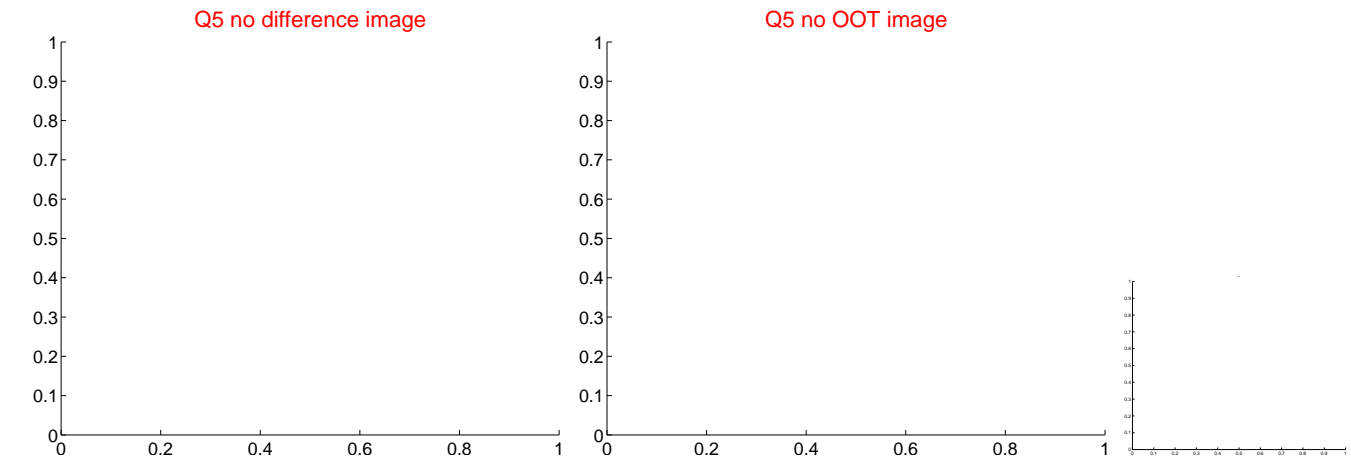


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



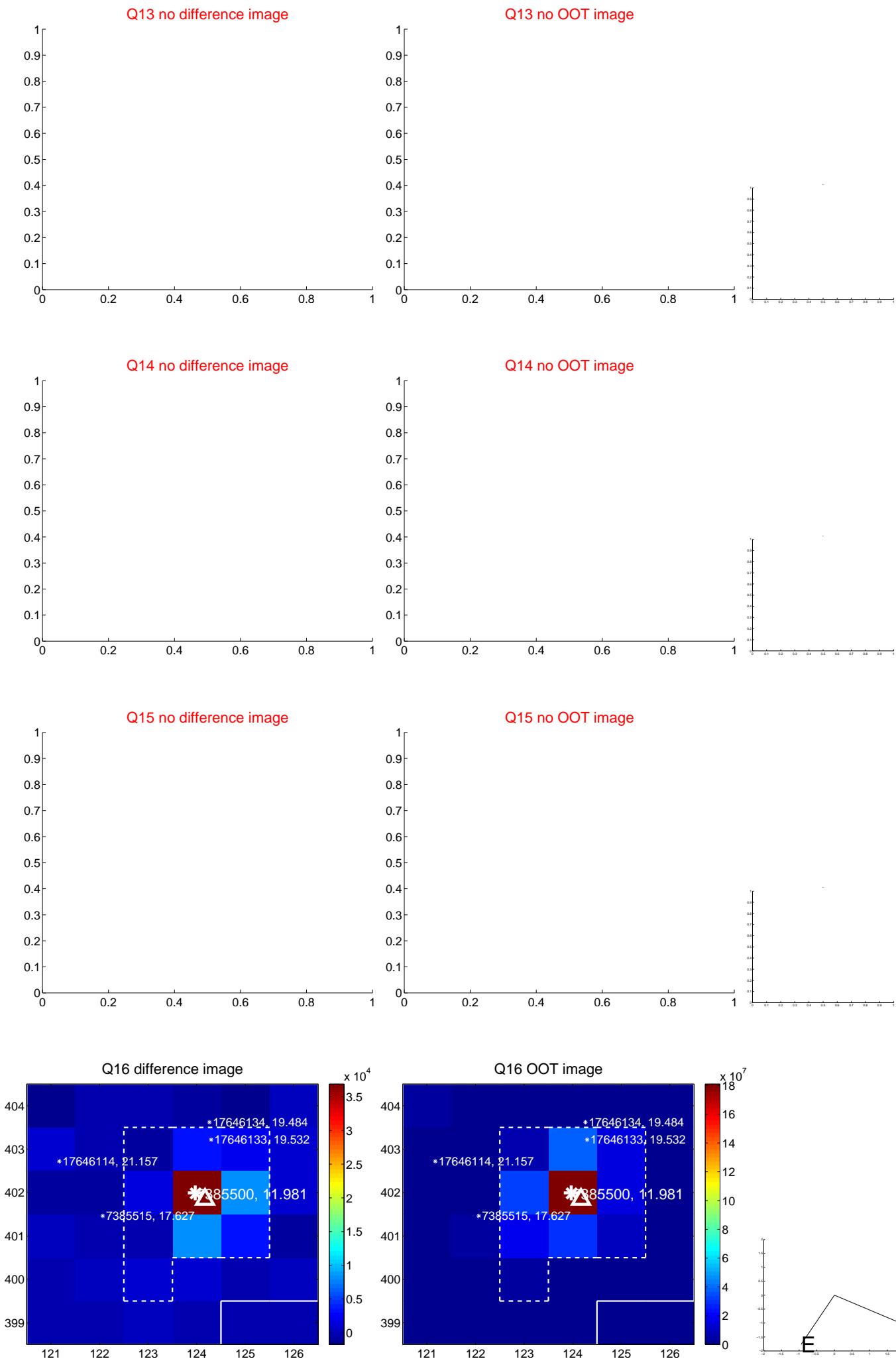
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



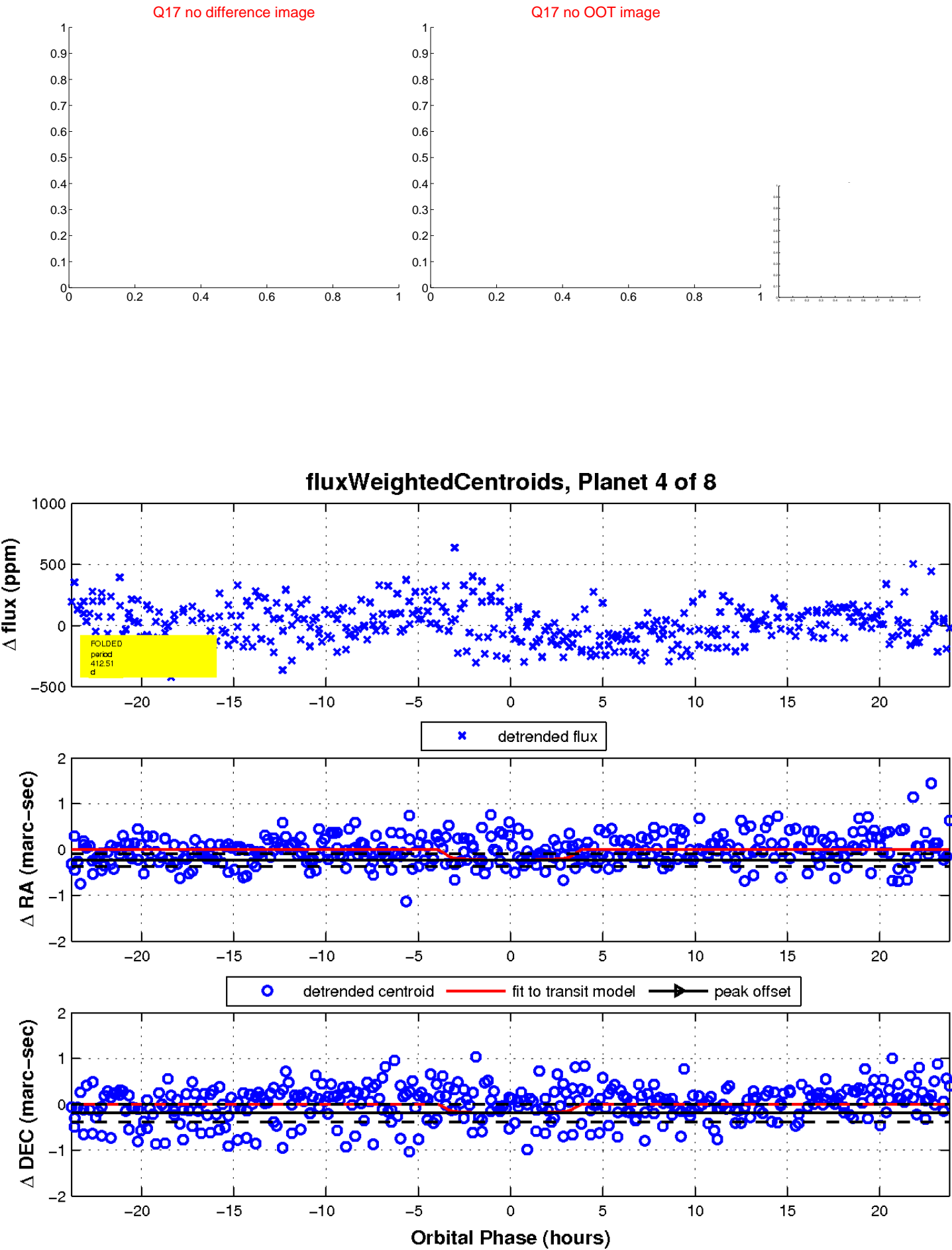
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

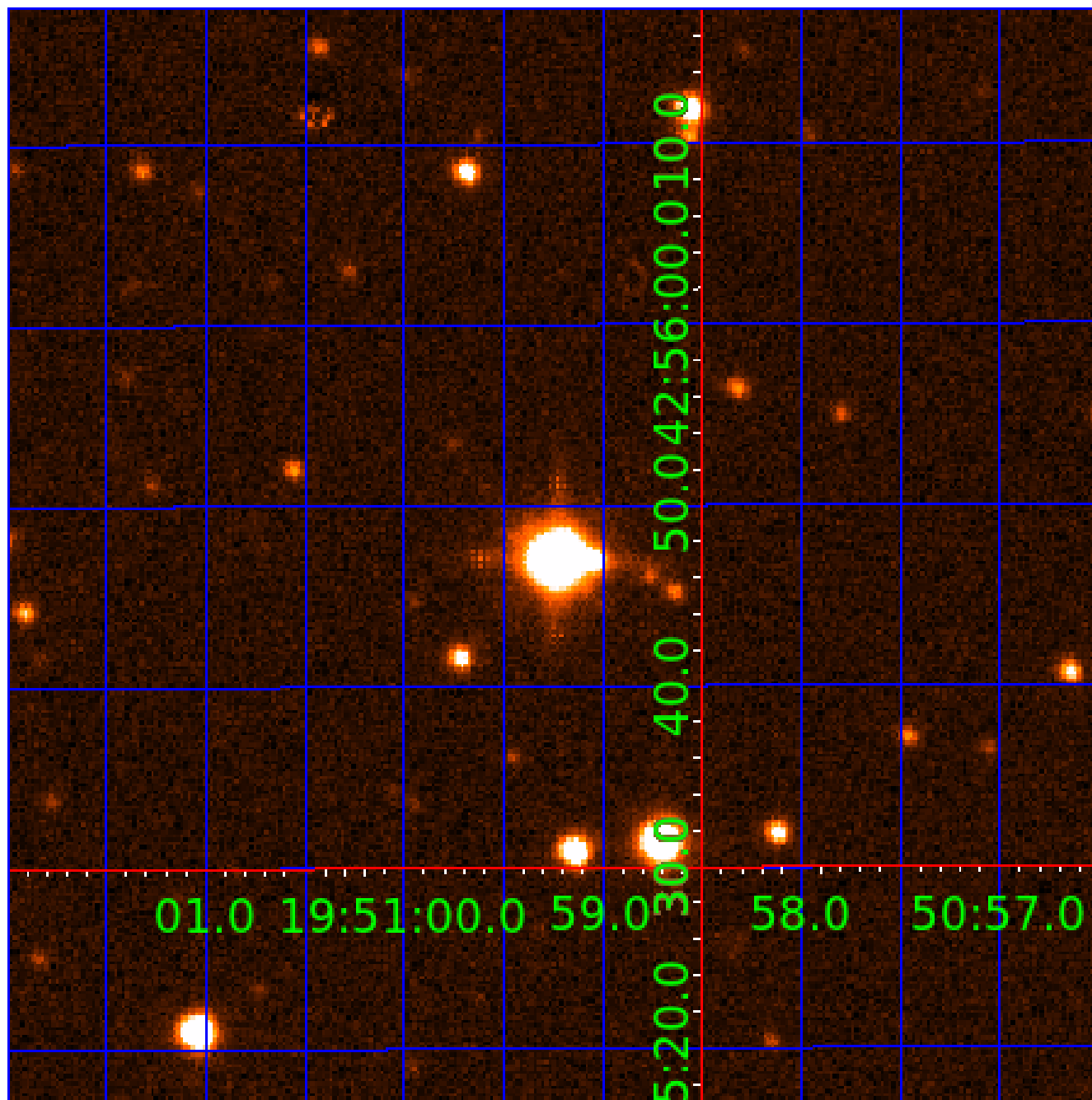


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

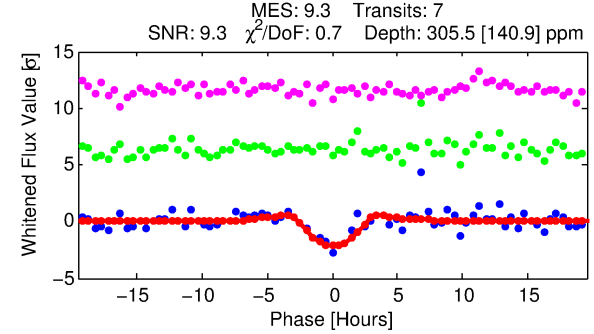
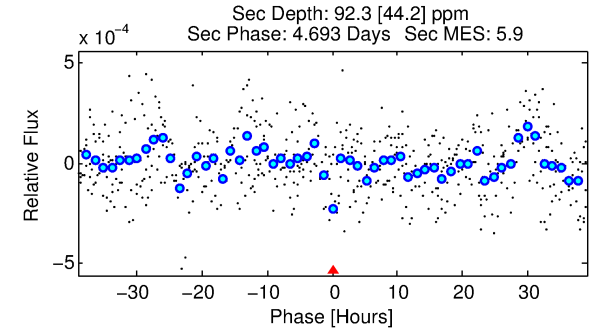
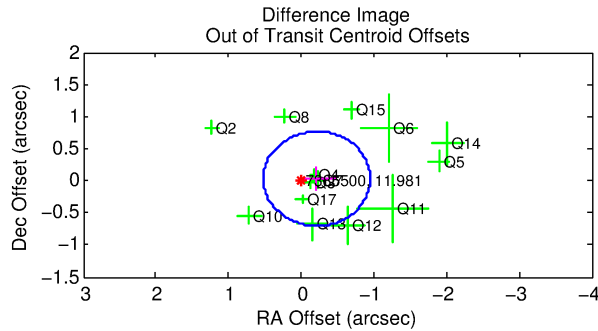
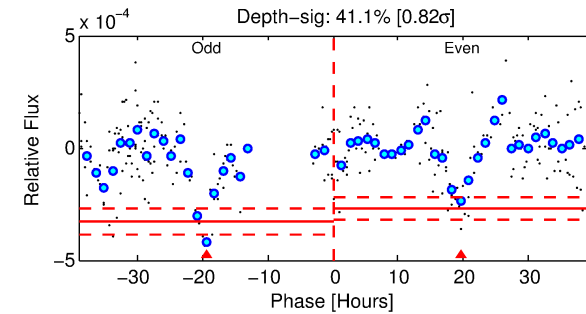
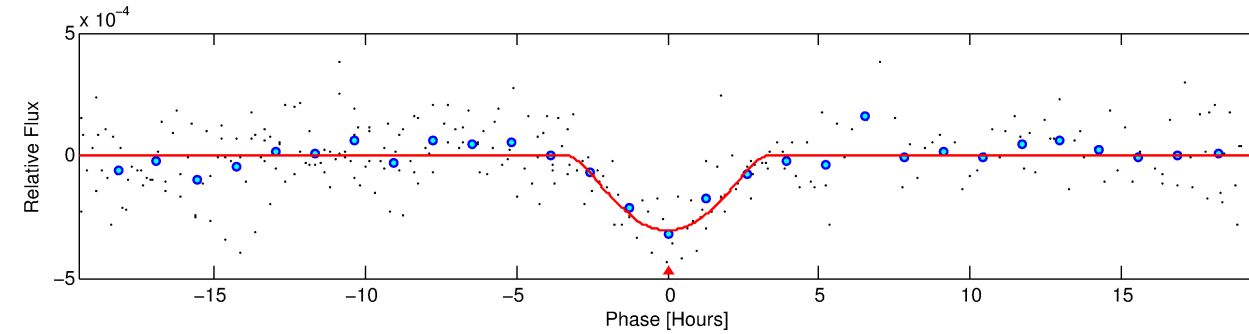
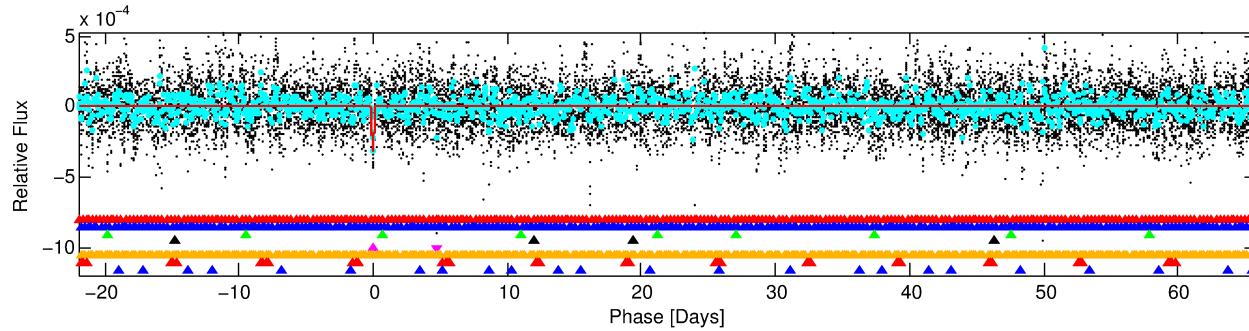
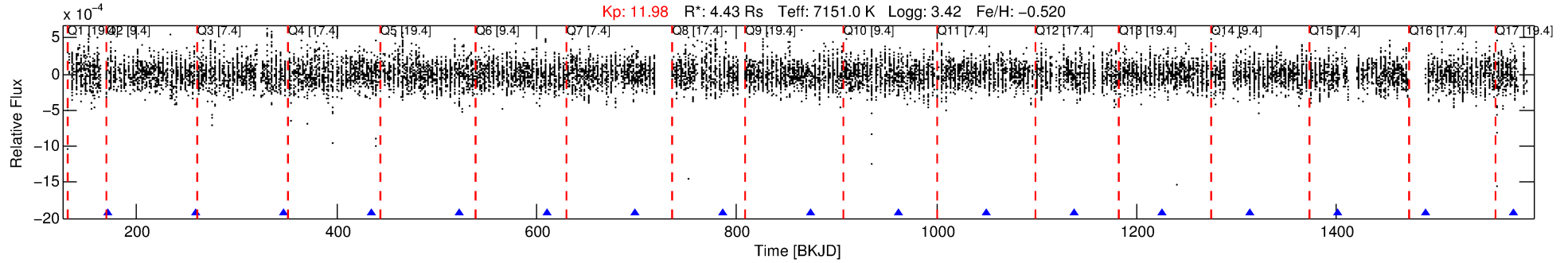
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-05

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 5 of 8 Period: 87.866 d



DV Fit Results:

Period = 87.86587 [0.00179] d
Epoch = 171.0688 [0.0161] BKJD
 R_p/R^* = 0.0307 [0.0743]
 a/R^* = 25.89 [16.47]
 b = 1.00 [0.12]
 S_{eff} = 200.60 [258.25]
 T_{eq} = 960 [309] K
 R_p = 14.86 [37.27] R_e
 a = 0.4790 [0.3574] AU
 A_g = 52.74 [264.89] [0.20 σ]
 T_{effp} = 3998 [4858] K [0.62 σ]

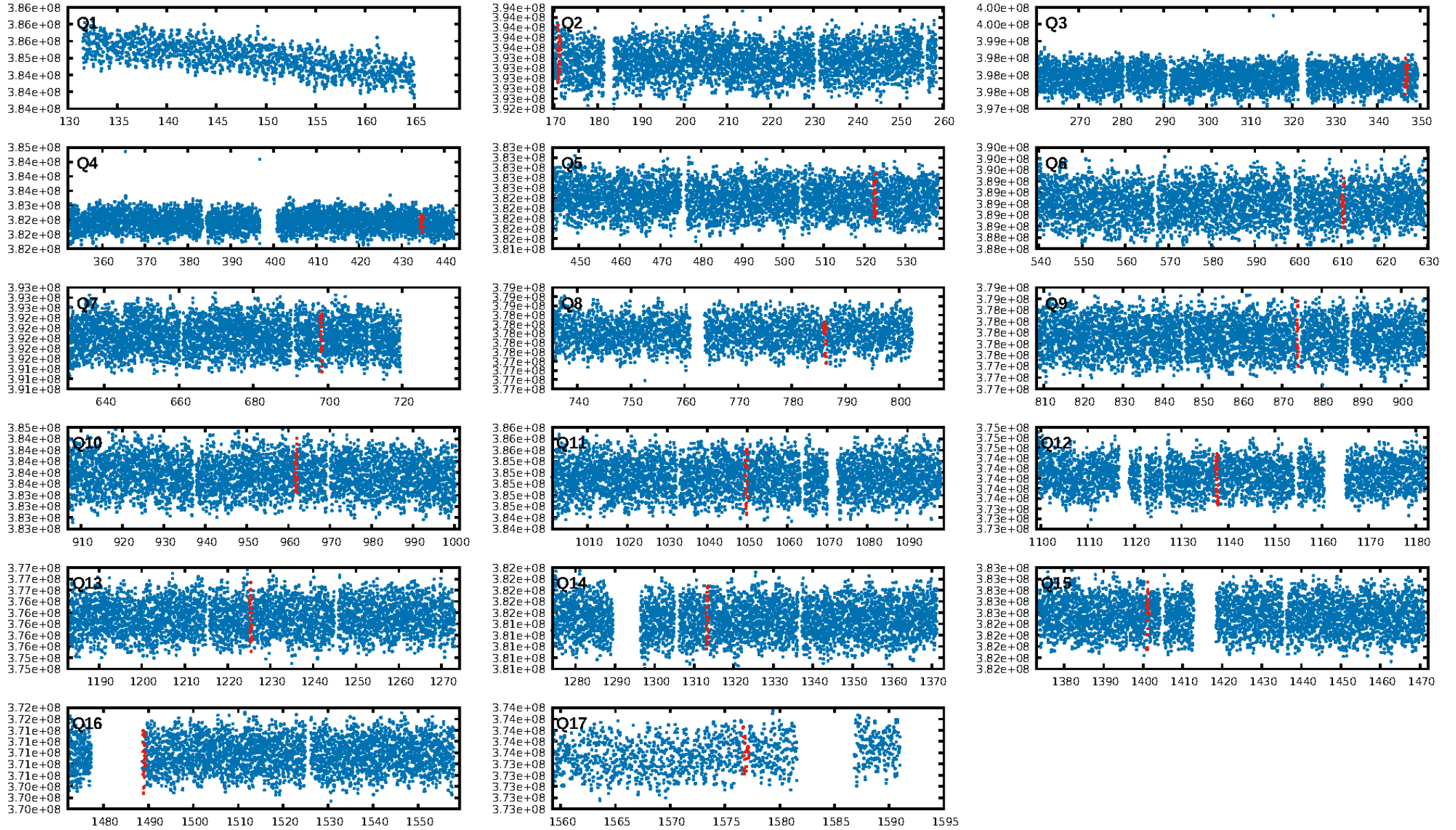
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [74.88 σ]
LongPeriod-sig: 100.0% [192.52 σ]
ModelChiSquare2-sig: 24.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.6471
Centroid-sig: 51.7%
Centroid-so: 0.151 arcsec [0.48 σ]
OotOffset-rm: 0.212 arcsec [0.87 σ]
KicOffset-rm: 0.253 arcsec [1.13 σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 0.00 [0/14]

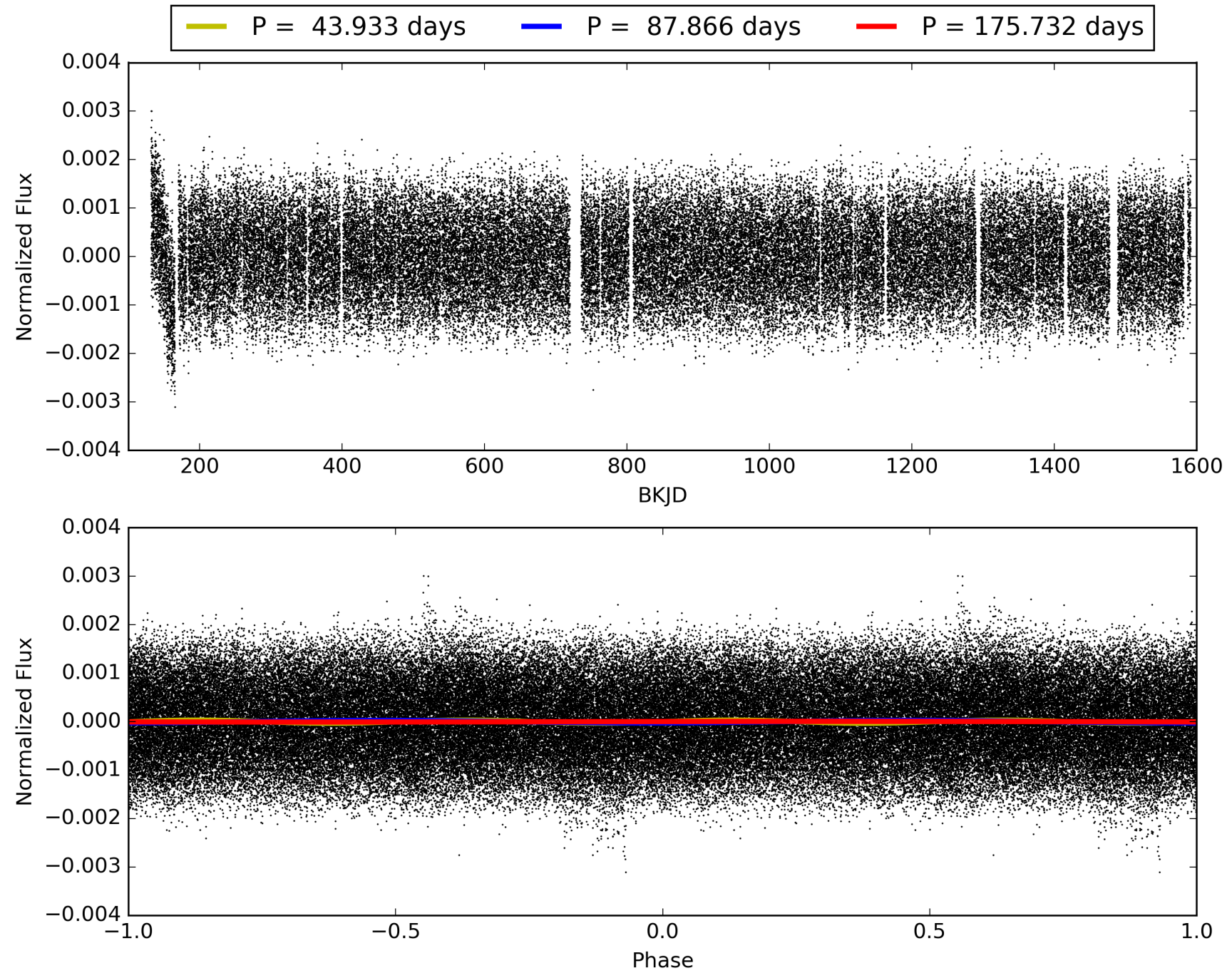
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:09:59 Z

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

TCE 007385500-05, PDC Light Curves

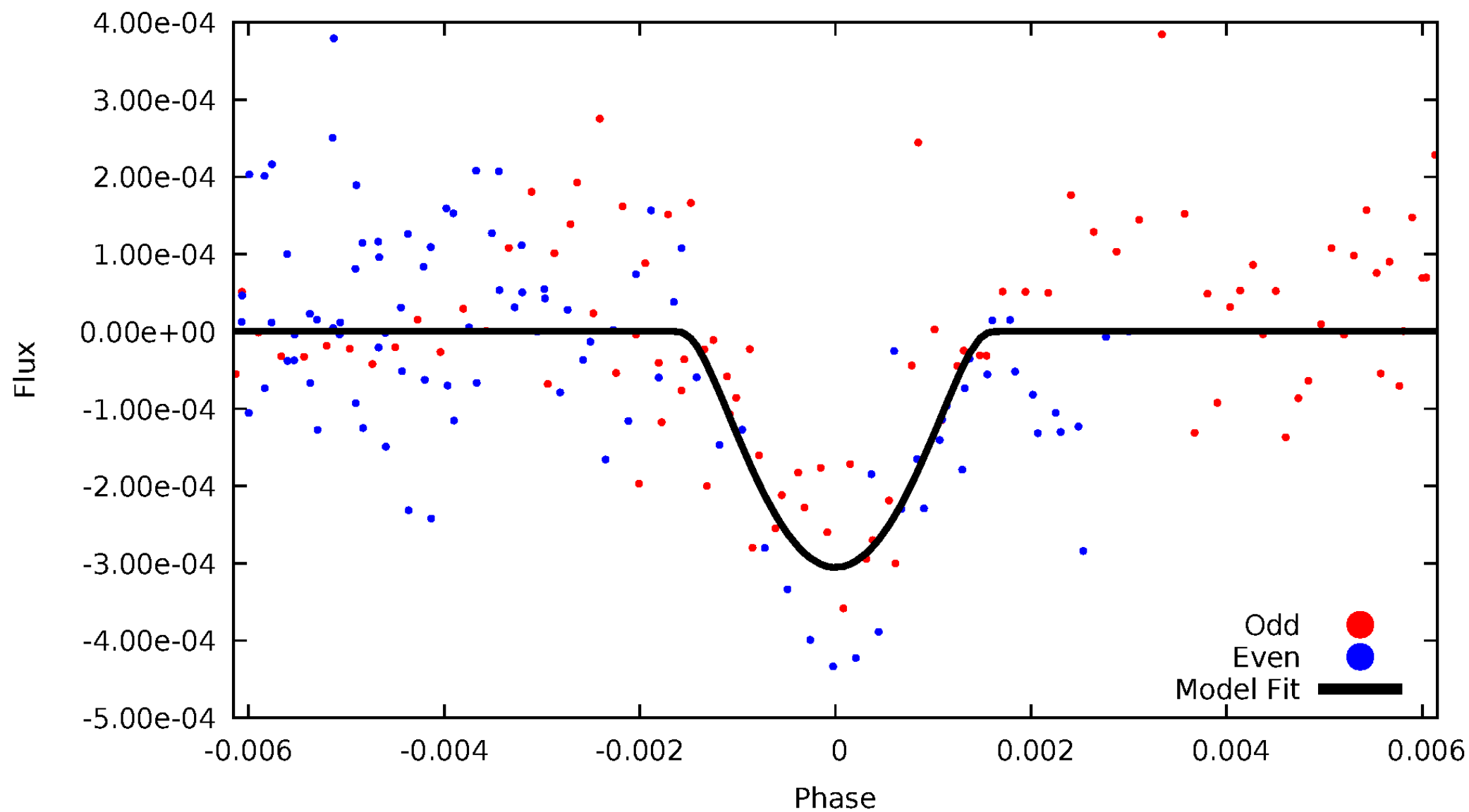


TCE 007385500-05



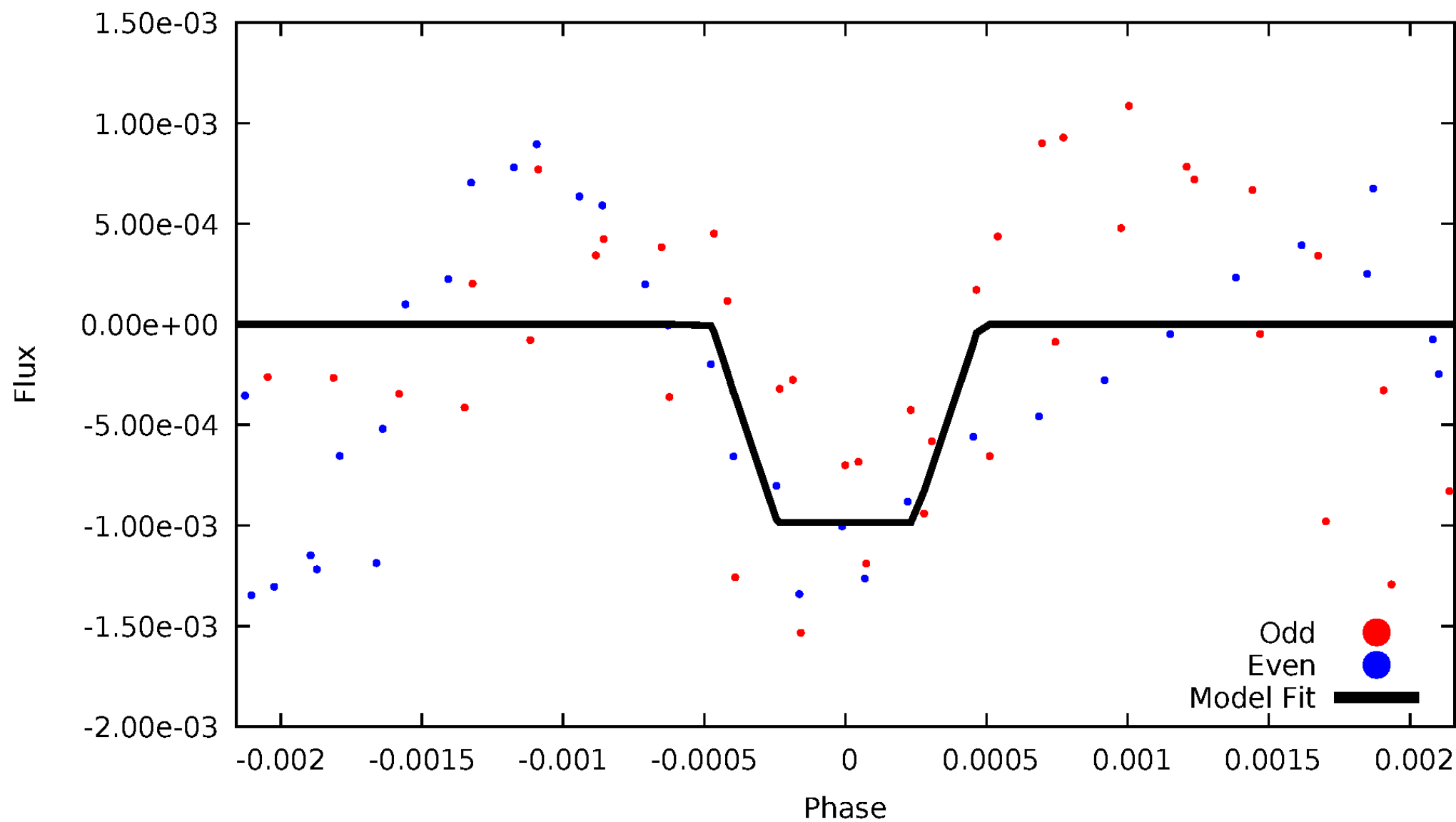
DV Odd/Even

TCE 007385500-05



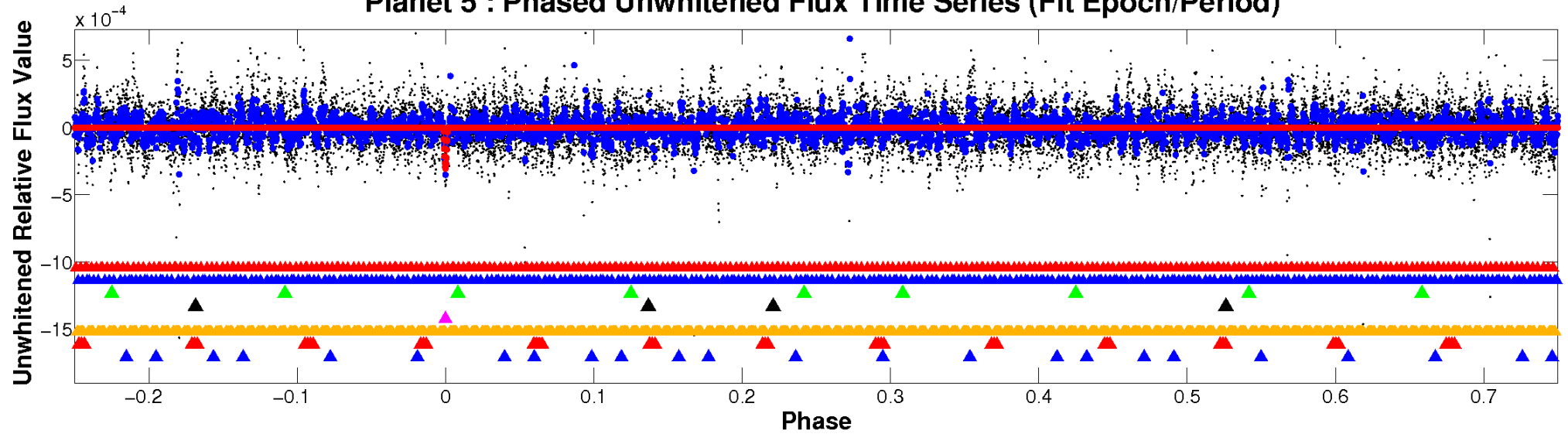
ALT Odd/Even

TCE 007385500-05

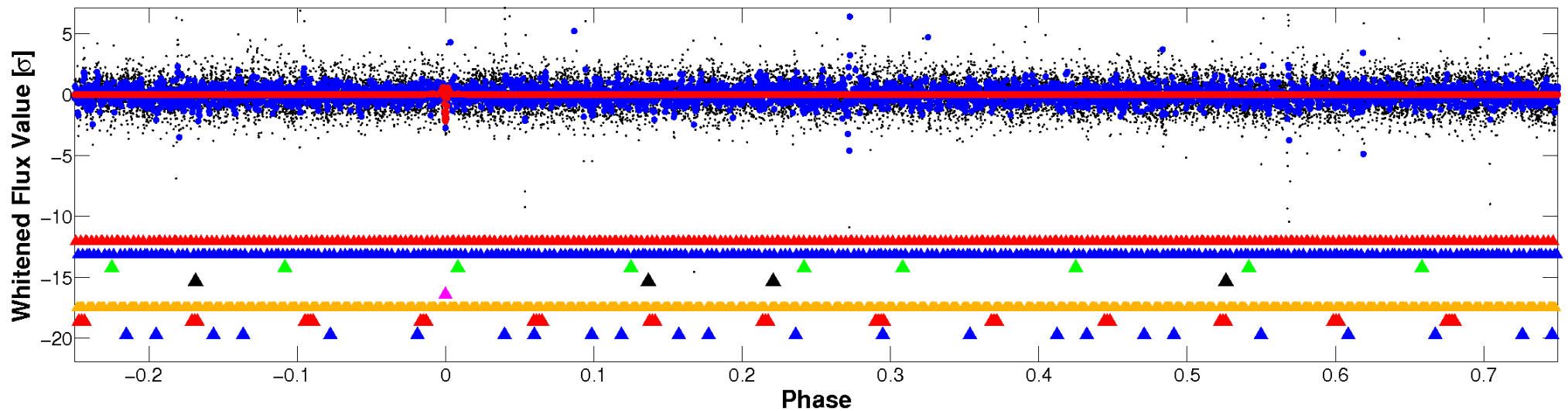


Non-Whitened Vs. Whitened Light Curve

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

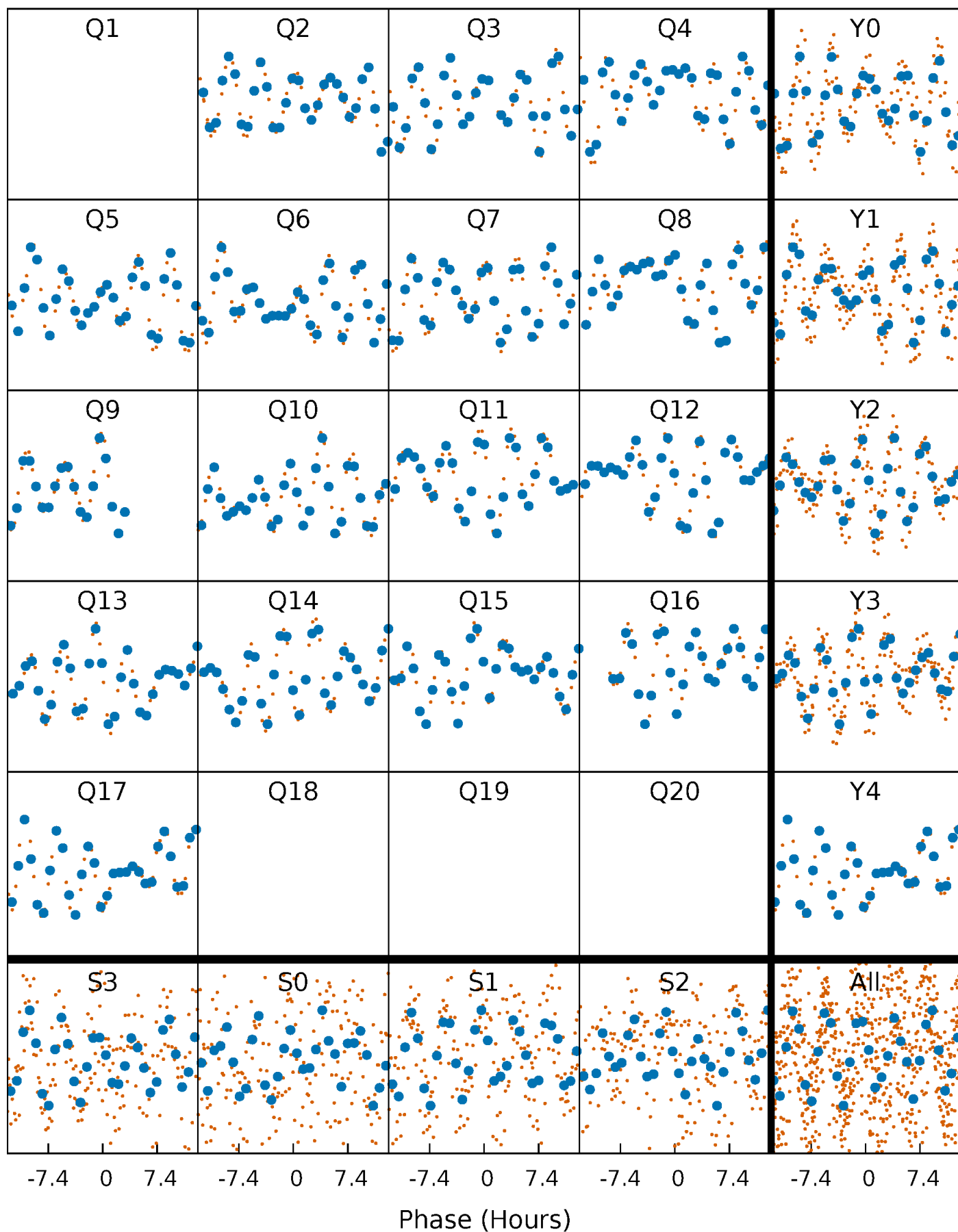


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



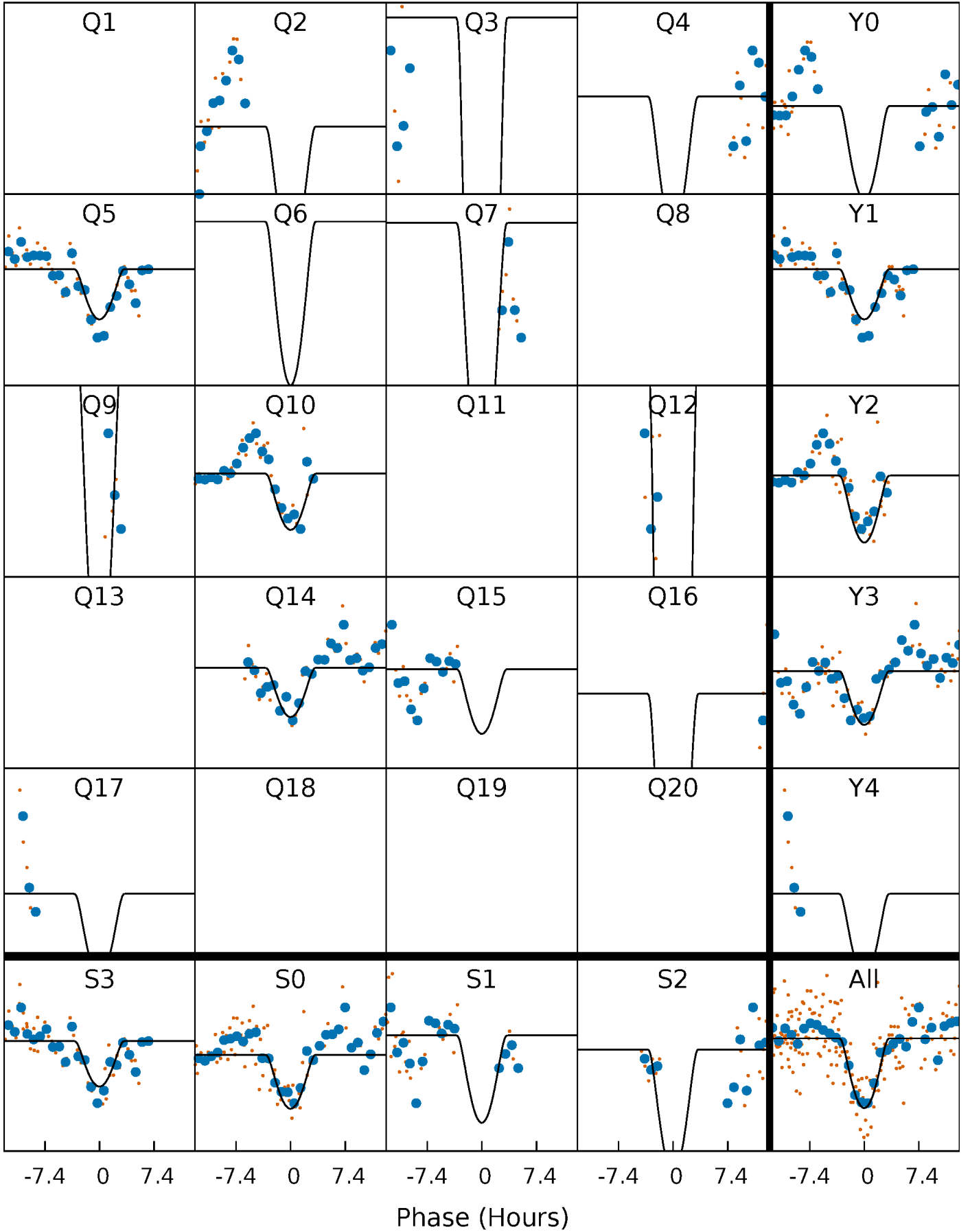
PDC Quarter-Phased Transit Curves

TCE 007385500-05 $P = 87.865868$ Days $T_0 = 171.068760$ (BKJD)



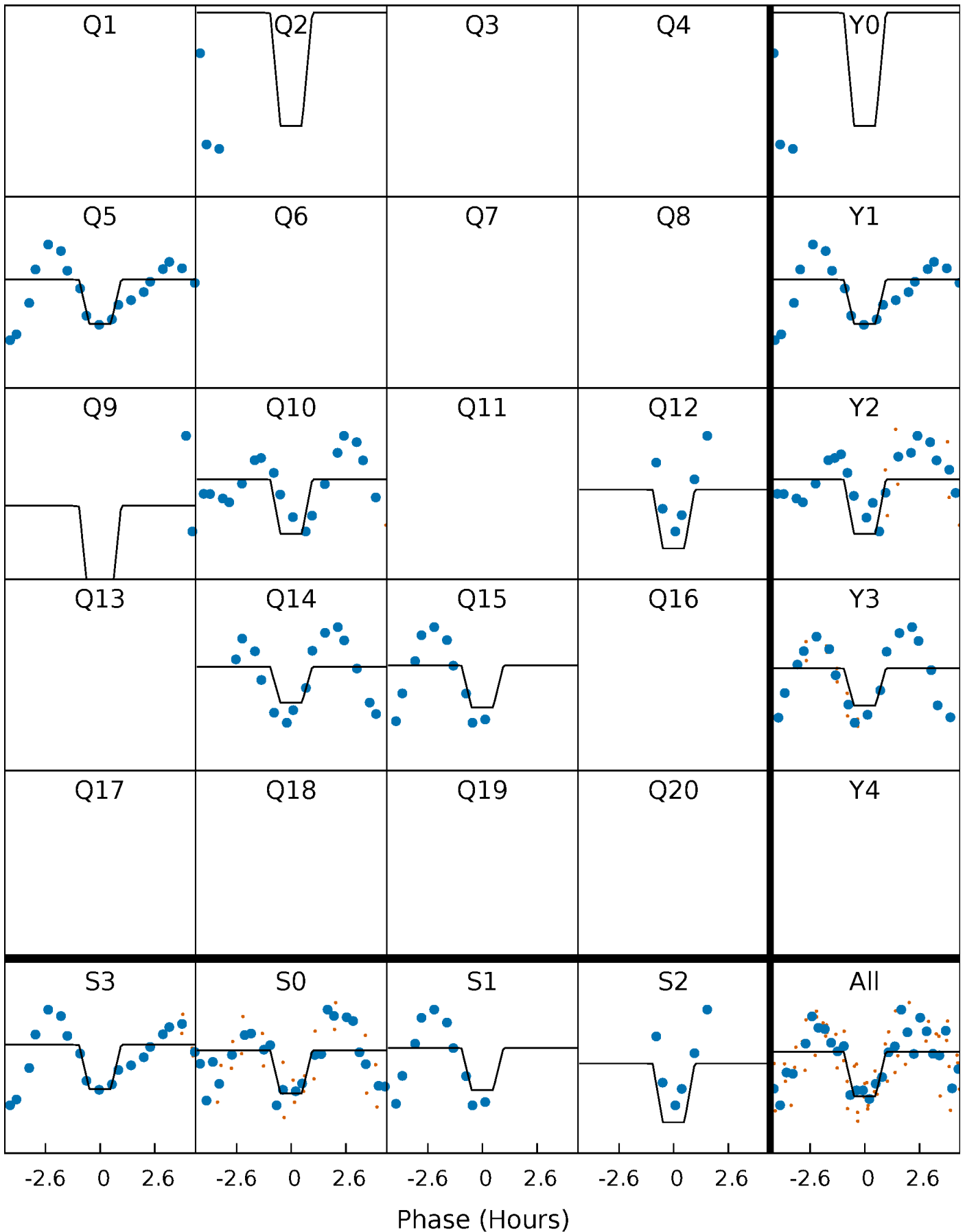
DV Quarter-Phased Transit Curves

TCE 007385500-05 P= 87.865868 Days $T_0=171.068760$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

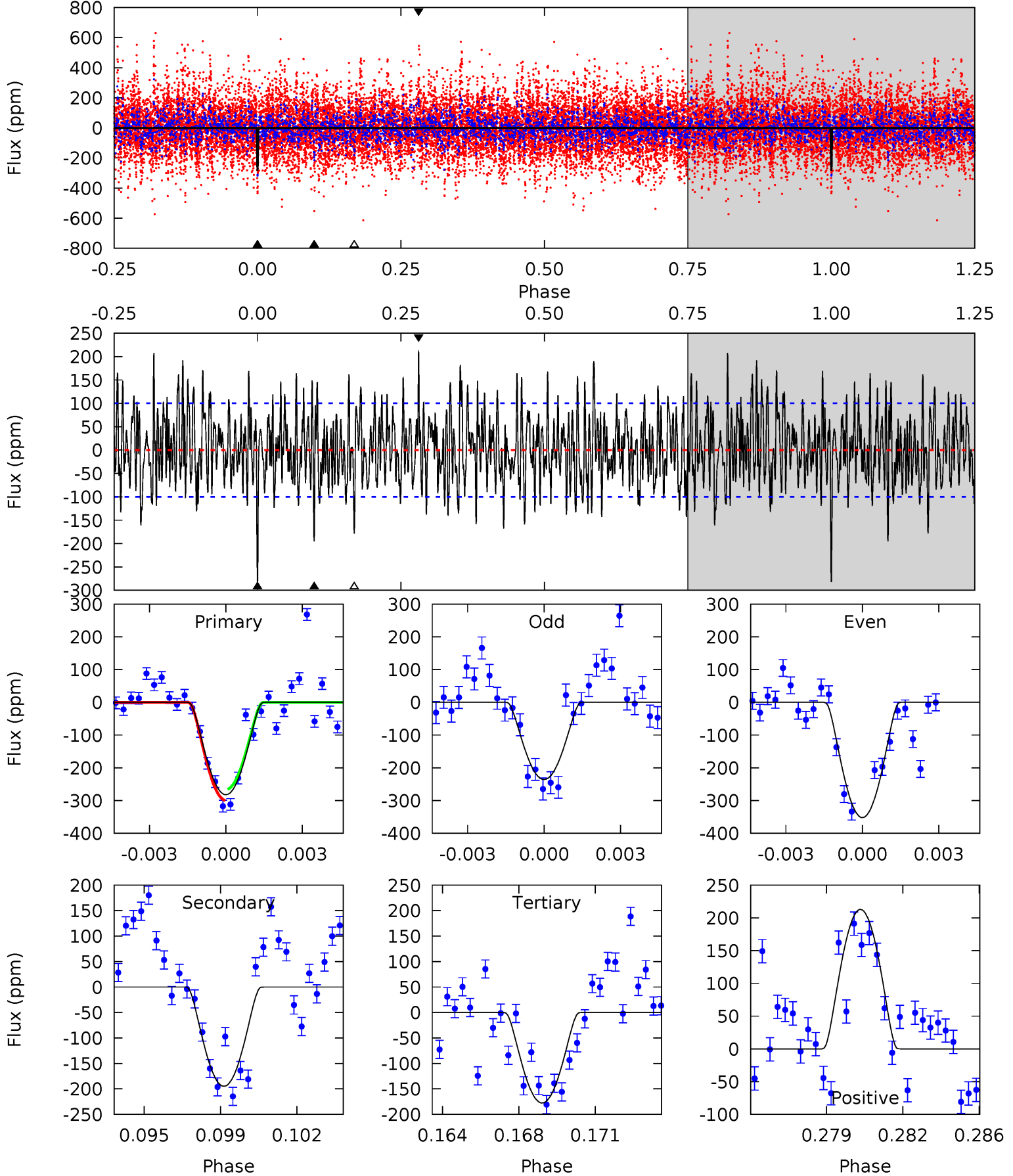
TCE 007385500-05 $P = 87.863799$ Days $T_0 = 170.953413$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-05, P = 87.865868 Days, E = 83.202892 Days

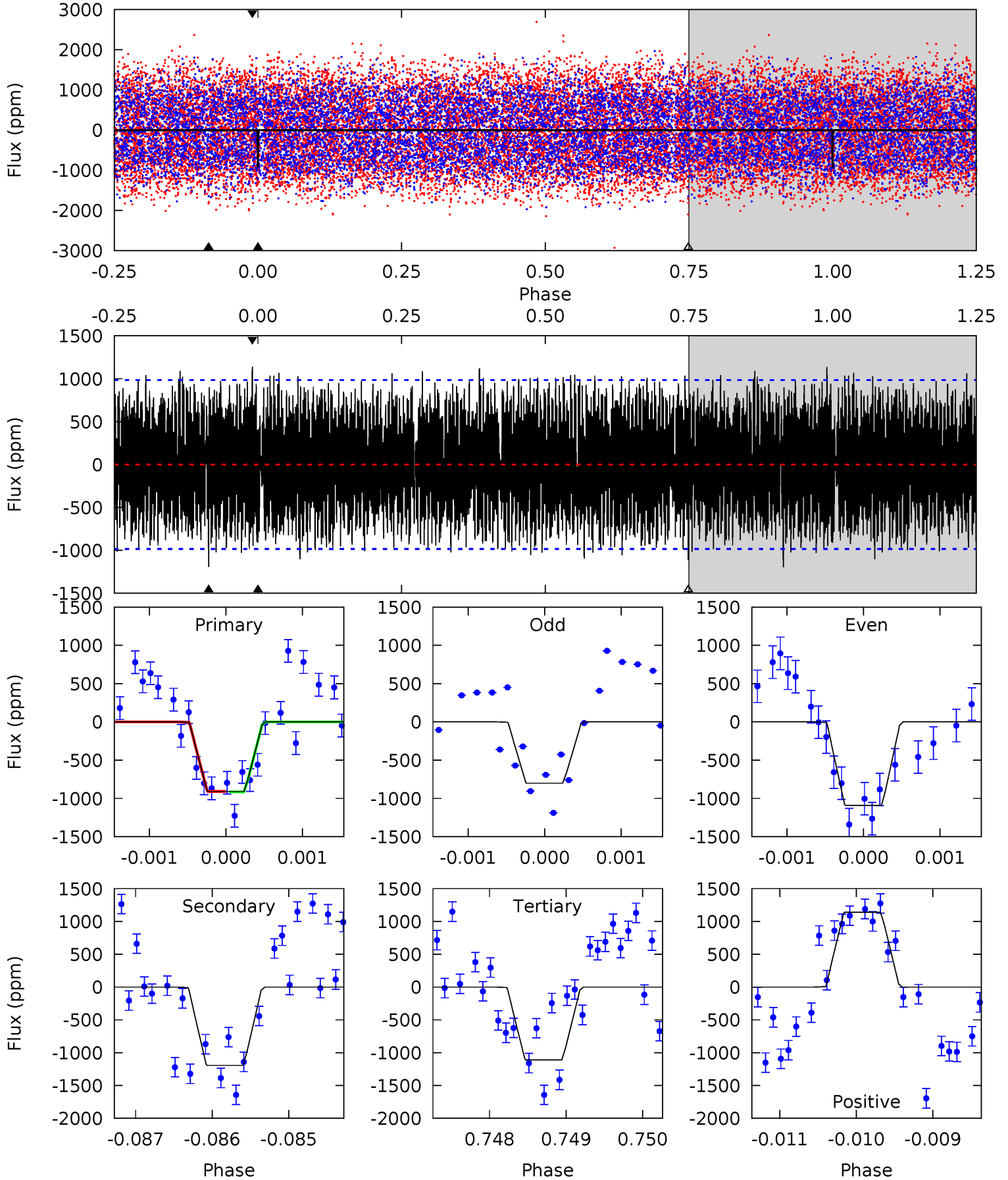
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	10.2	9.29	11.1	5.24	2.94	3.40	5.47	3.63	0.90	-0.94	3.02	1.04	0.43	0.89



Alt Model-Shift Uniqueness Test

007385500-05, P = 87.863799 Days, E = 83.089614 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.04	6.61	6.16	6.31	5.45	3.29	2.85	-1.12	-1.27	0.45	0.30	0.77	1.03	0.49	0.02



Stellar Parameters For KIC 007385500

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	+3%/-4%	+23%/-2%	+58%/-48%	+7%/-67%	+7%/-38%	+1524%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-195 ± 19	$24.84^{+28.29}_{-16.49}$	1295^{+91}_{-210}	3710^{+2116}_{-671}	38^{+284}_{-29}
Alt.	-1193 ± 181	$23.88^{+30.51}_{-15.83}$	1292^{+90}_{-214}	5228^{+4233}_{-1190}	251^{+2213}_{-202}

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

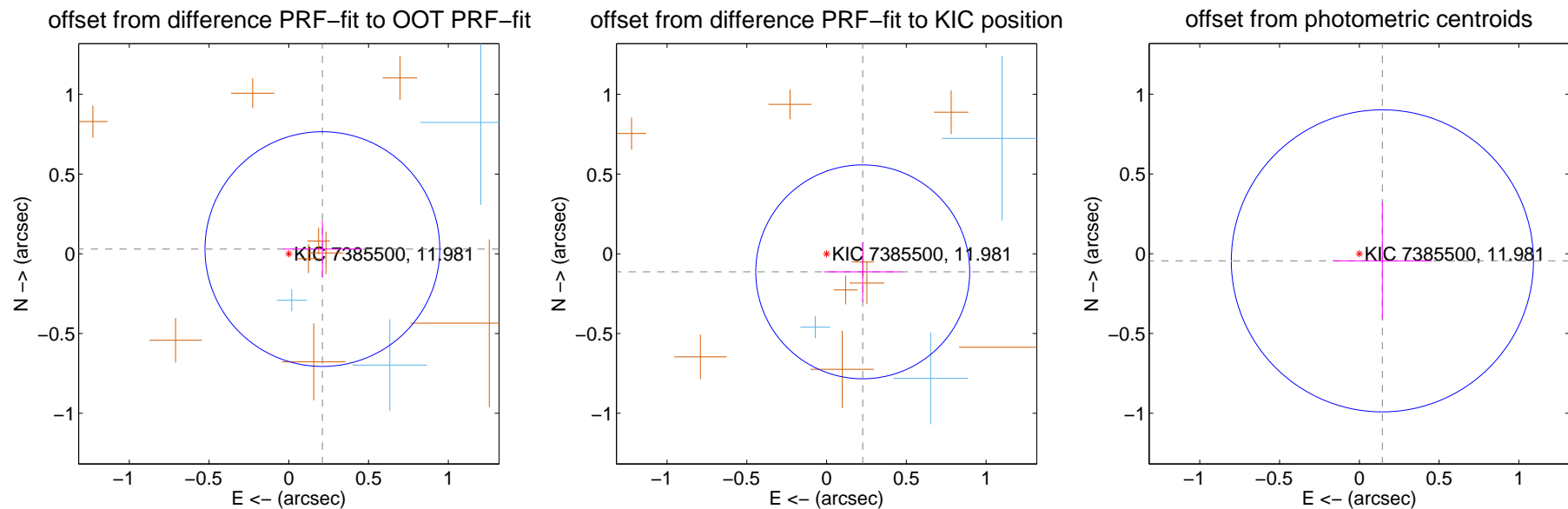
DV Centroid Data

Supplemental centroid analysis for 007385500-05. **Kepler magnitude: 11.98.** Transit SNR 9.32

There are 3 quarters with good PRF difference image offsets

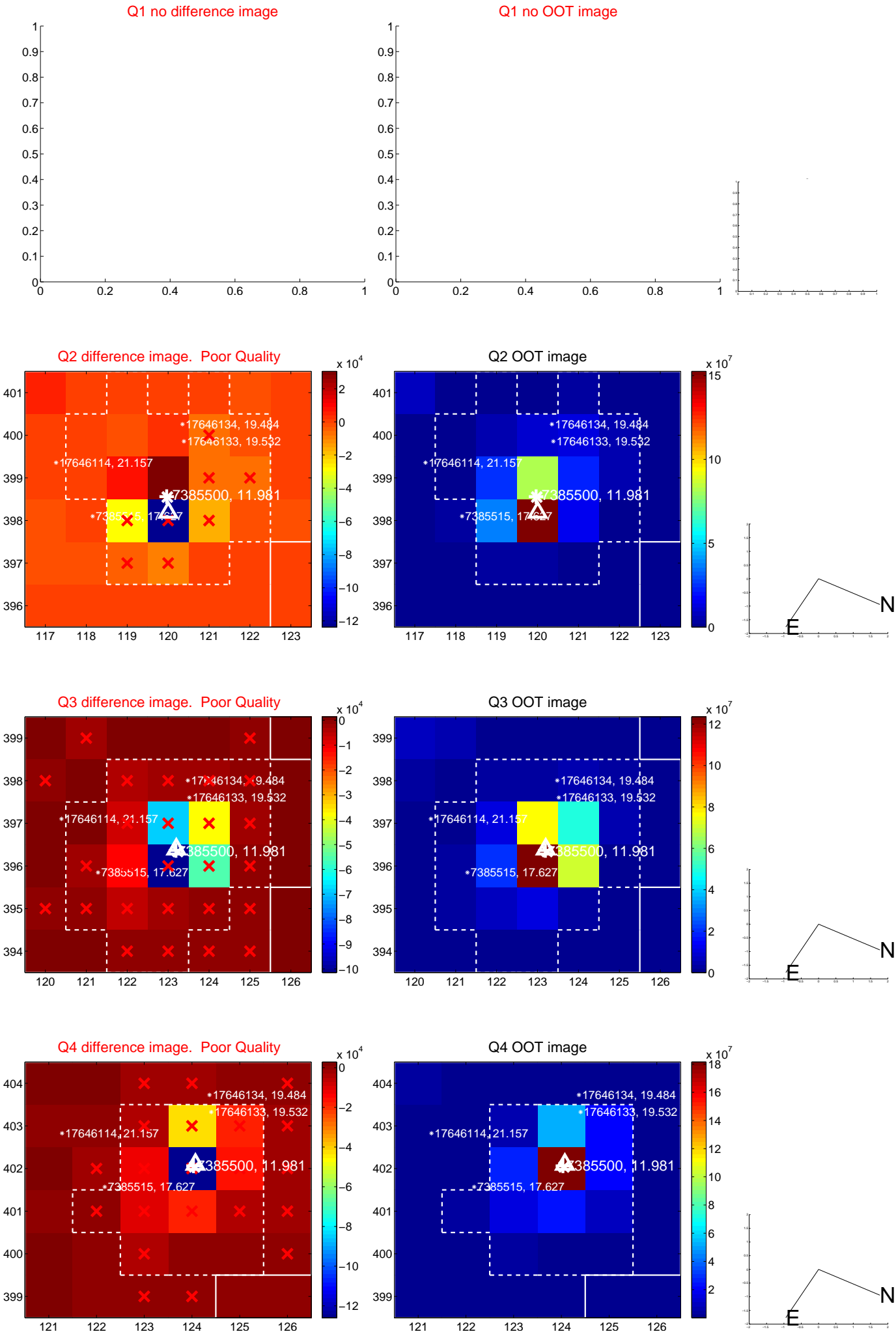
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.212 ± 0.245	0.87	-0.210 ± 0.246	0.029 ± 0.176
PRF-fit source offset from KIC position	0.253 ± 0.224	1.13	-0.227 ± 0.243	-0.113 ± 0.187
photometric centroid source offset	0.15 ± 0.32	0.48	-0.14 ± 0.31	-0.04 ± 0.36

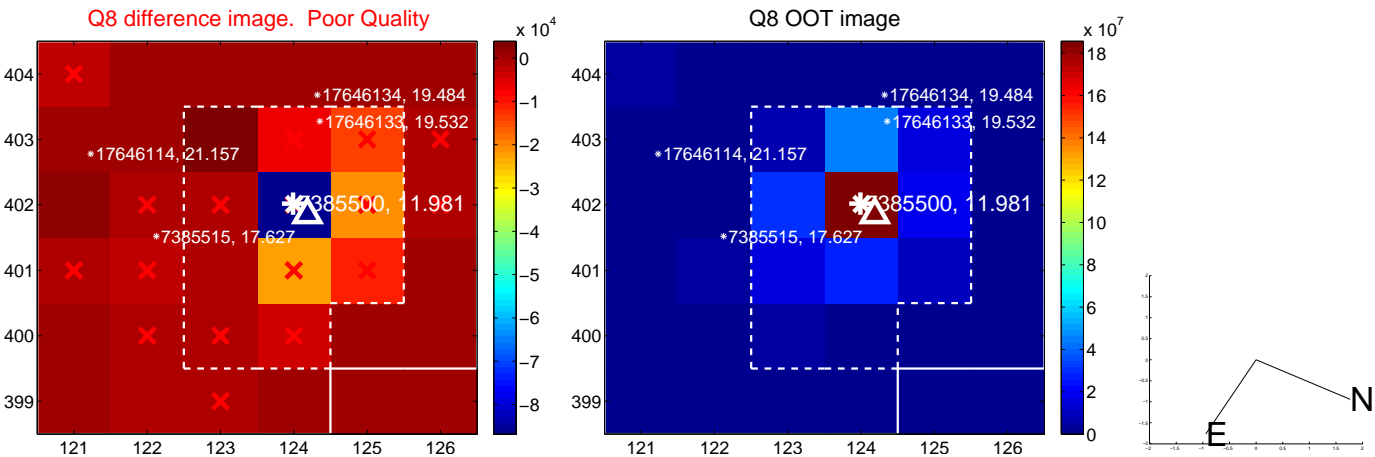
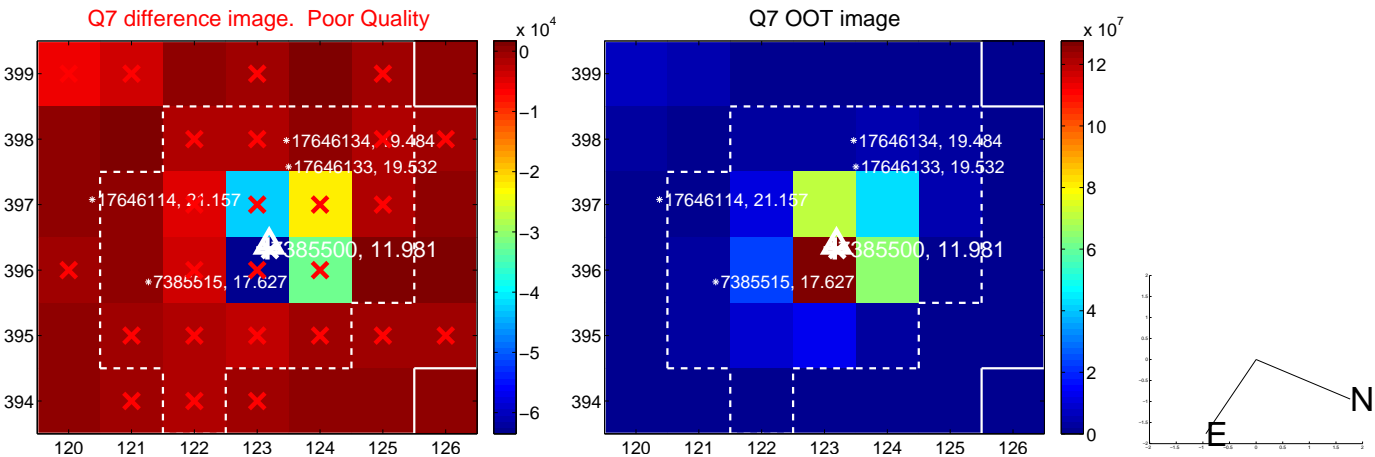
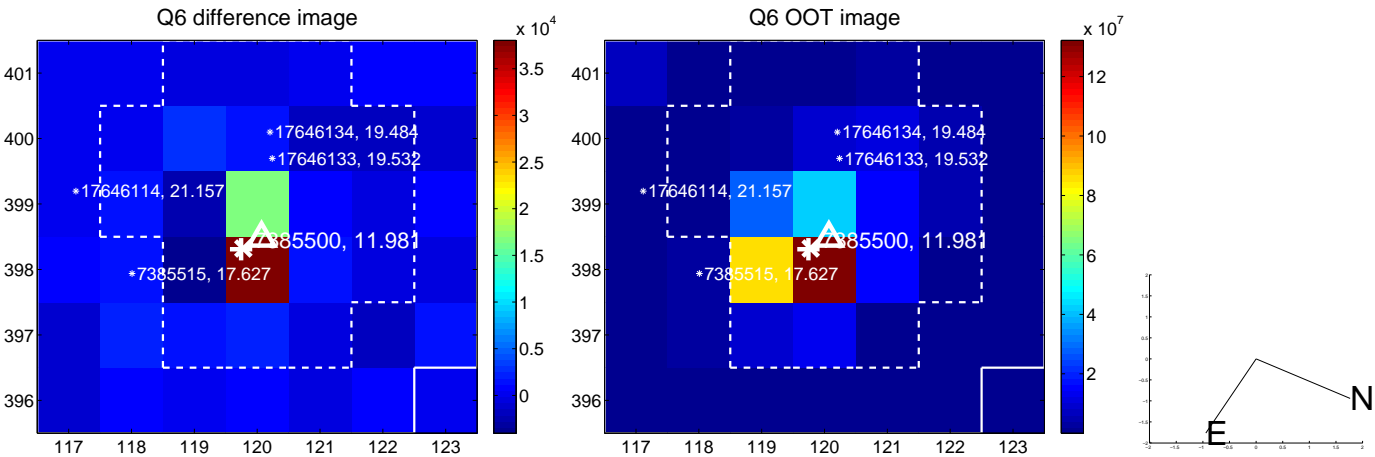
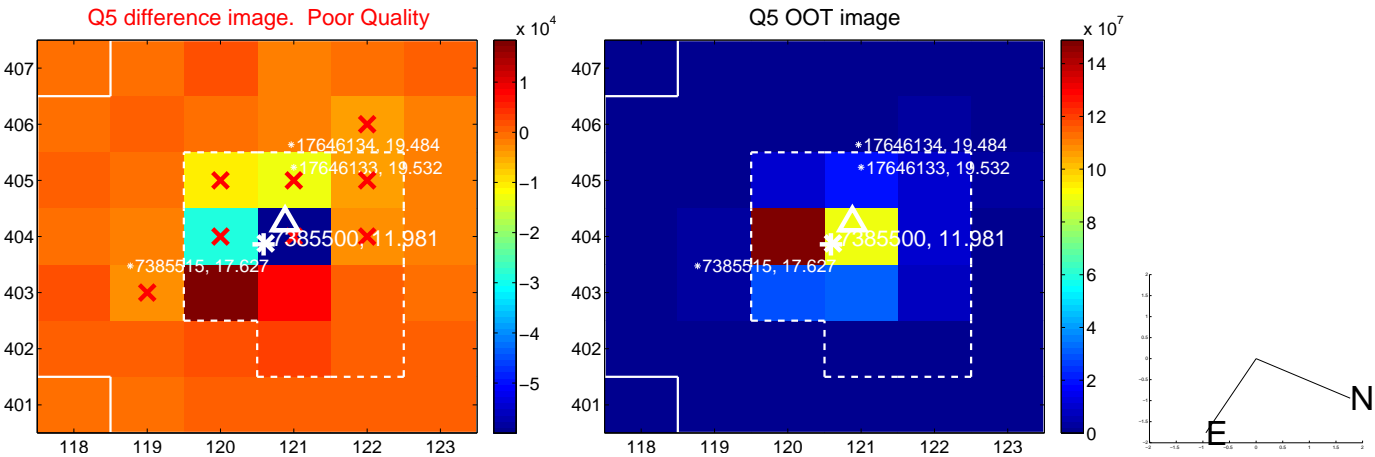


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

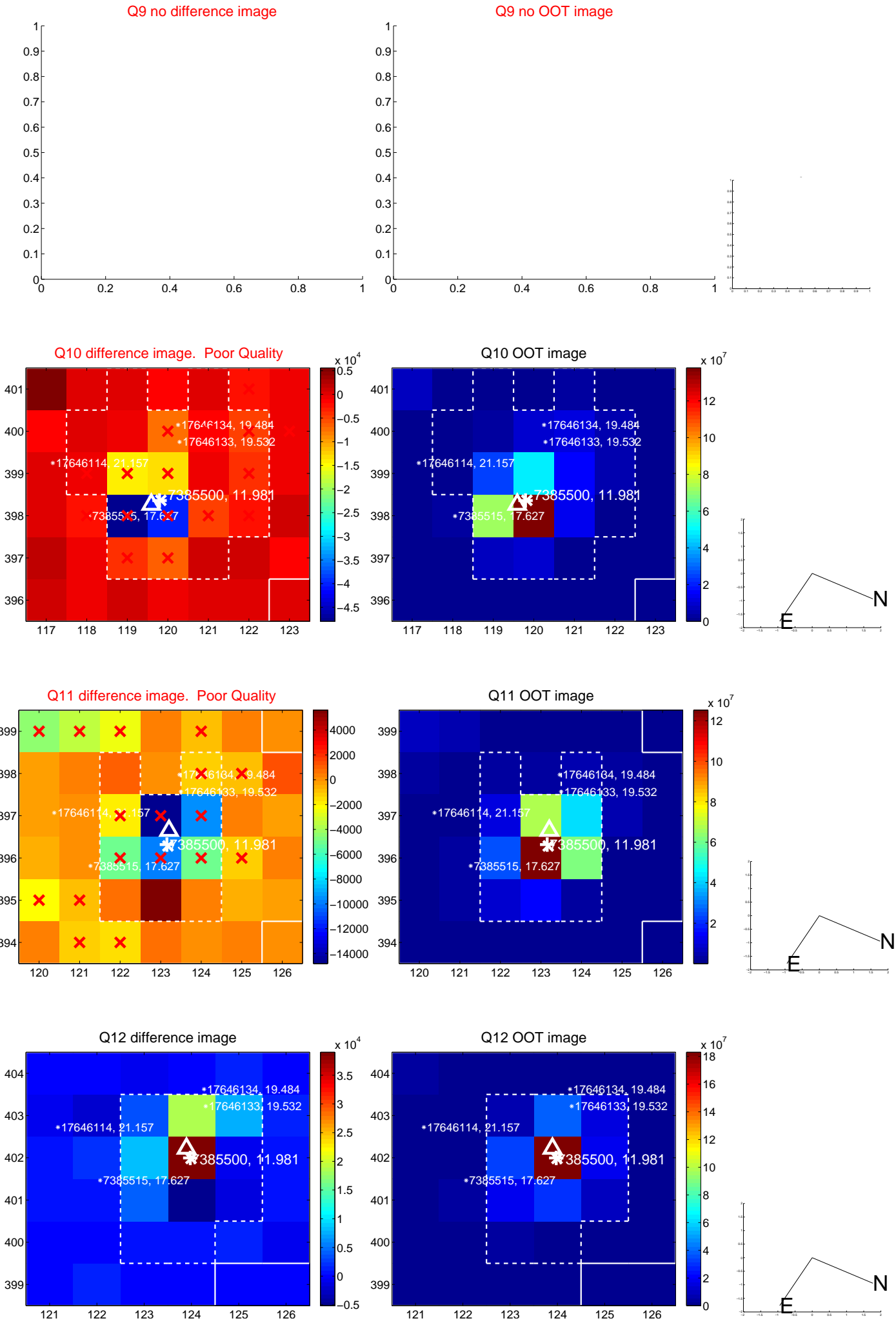
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



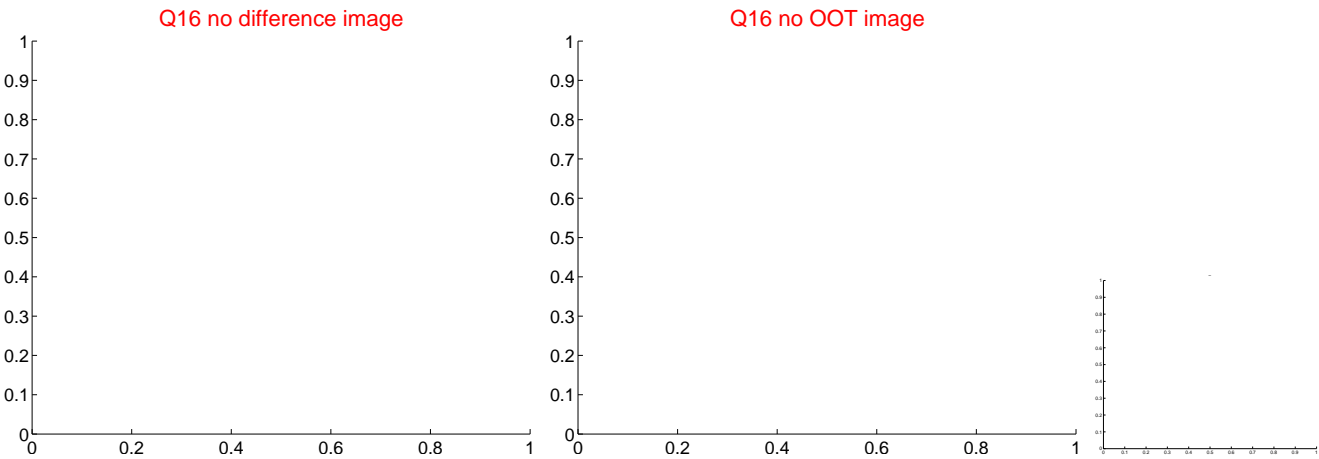
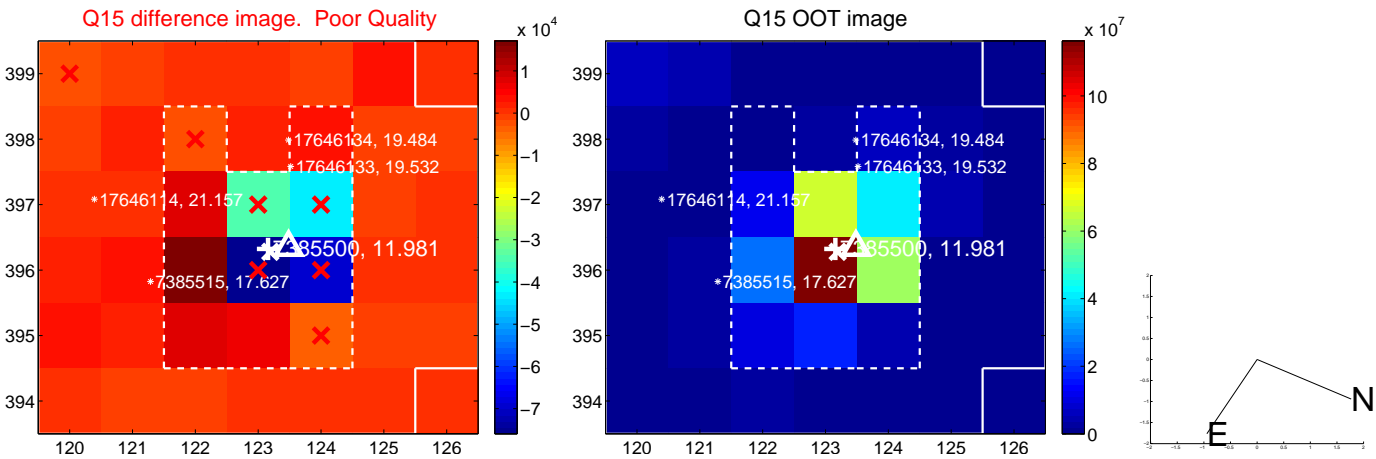
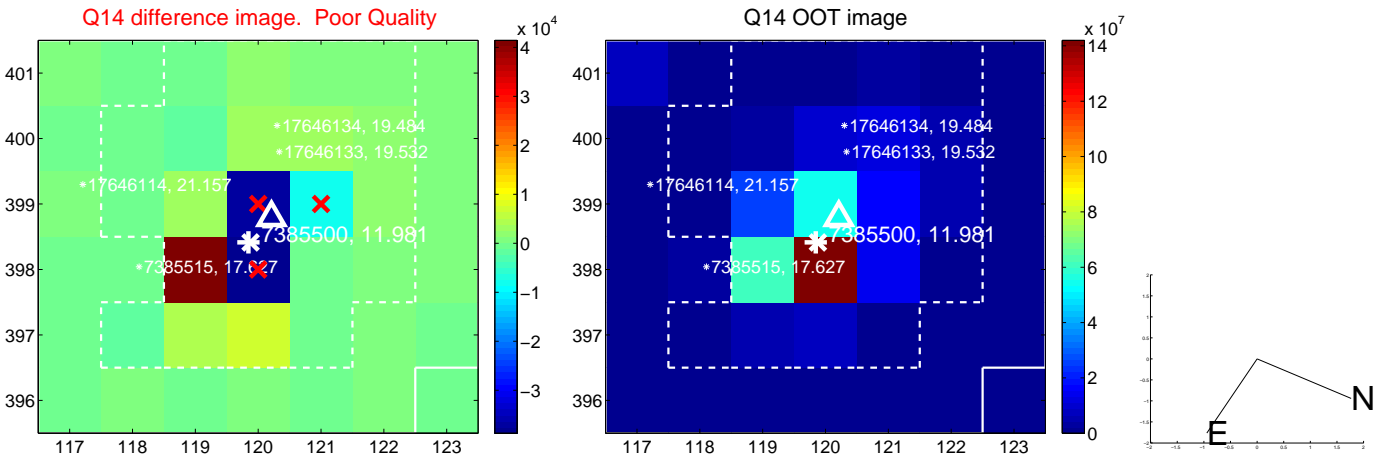
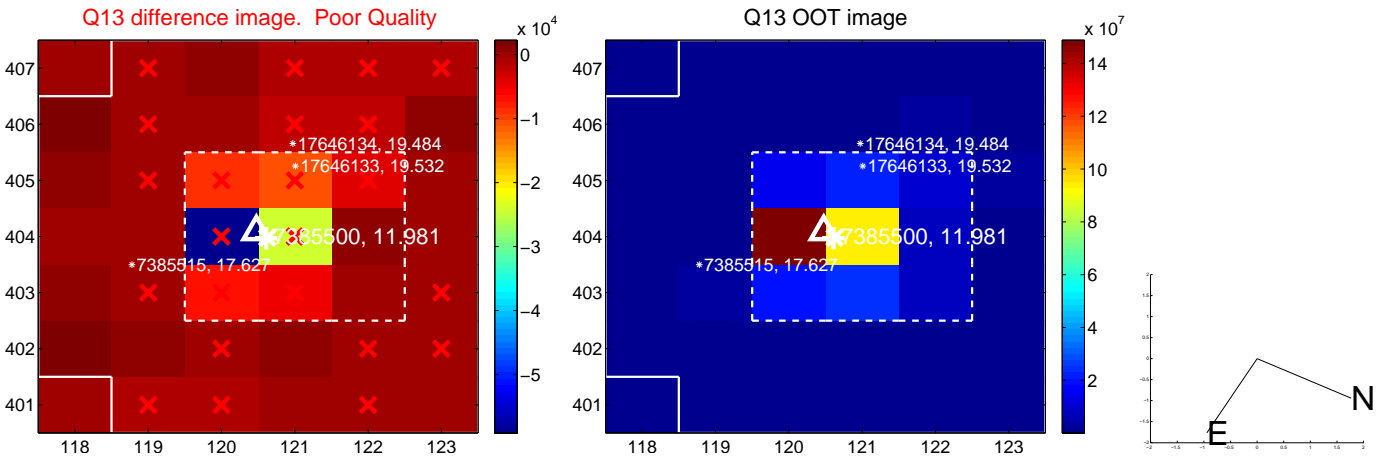
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



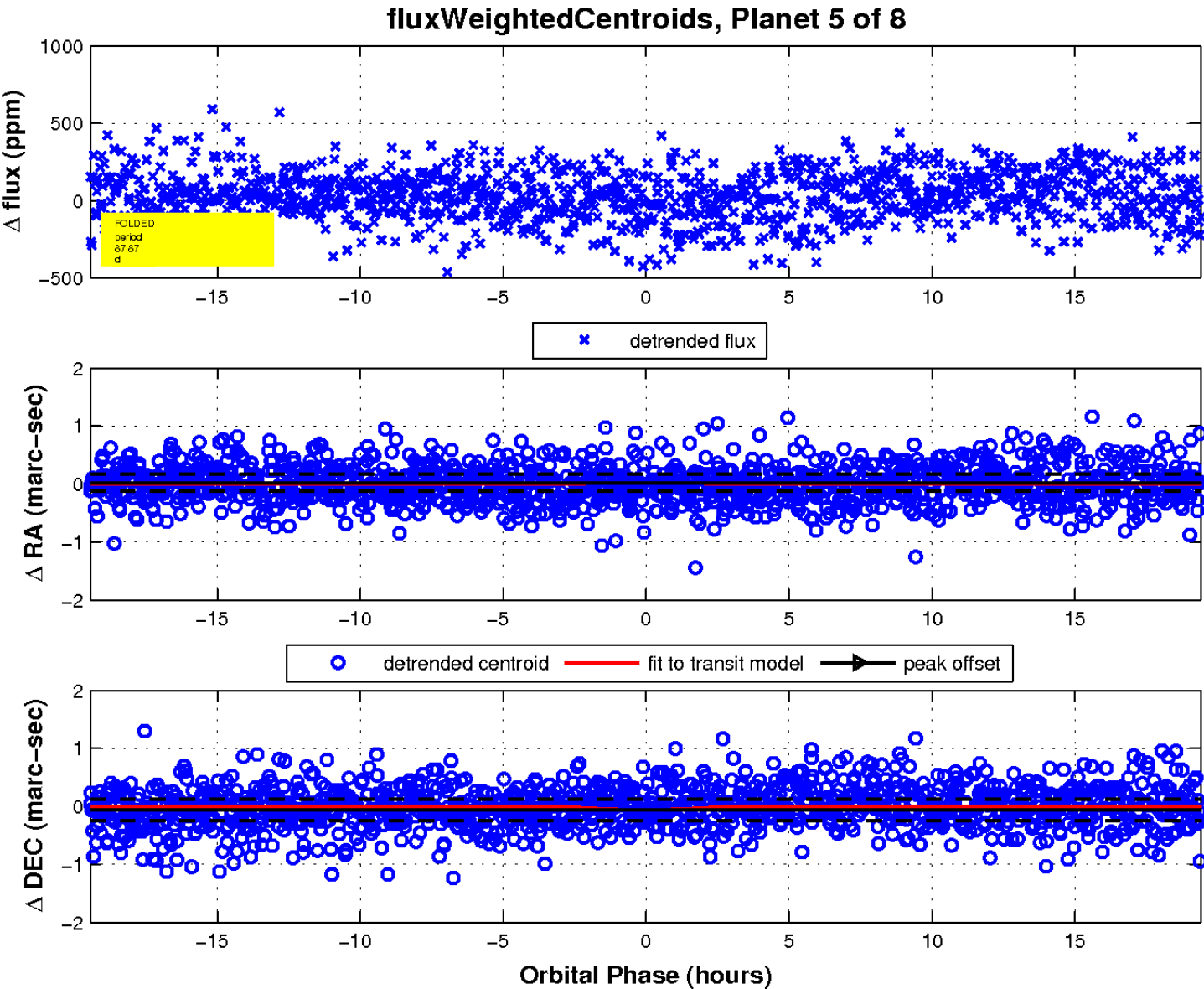
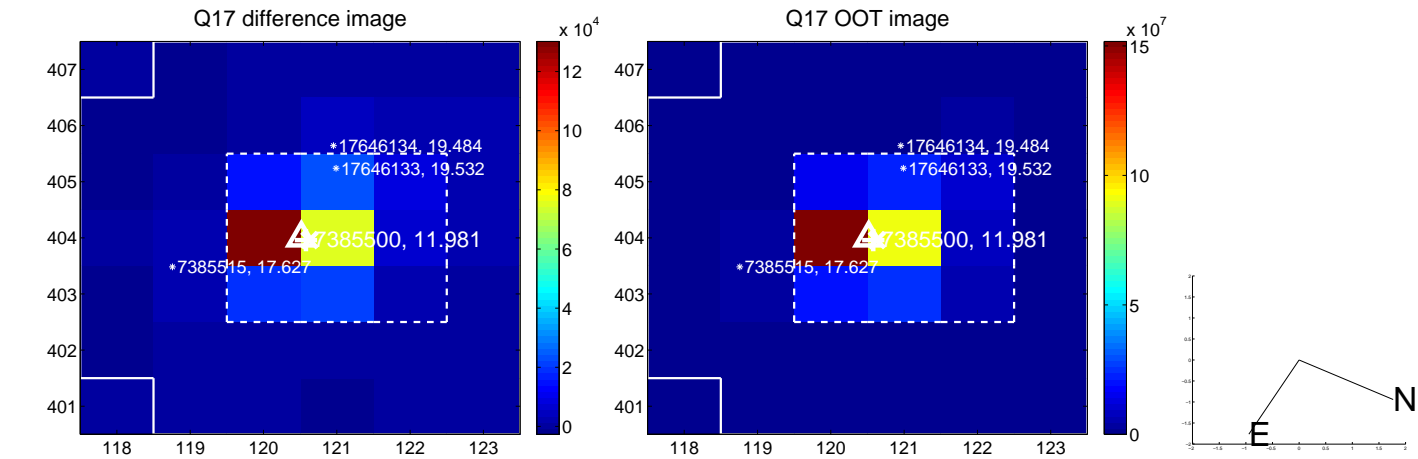
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



01.0 19:51:00.0 59.0 30.0

50:042:56:00.010.0

Declination

KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

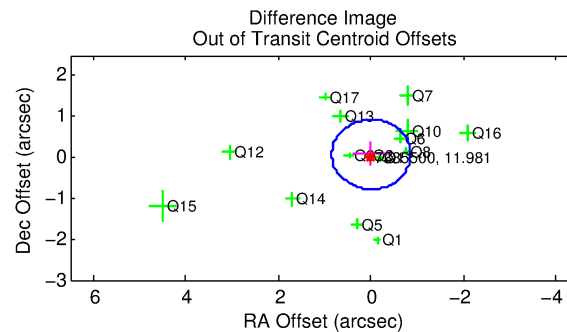
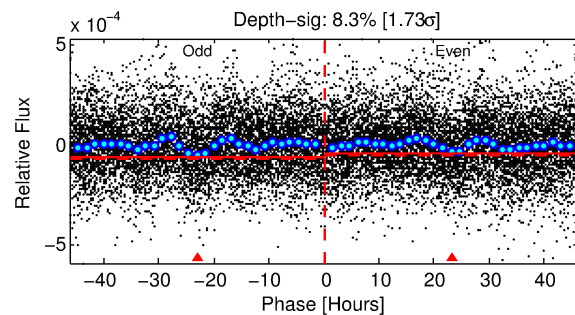
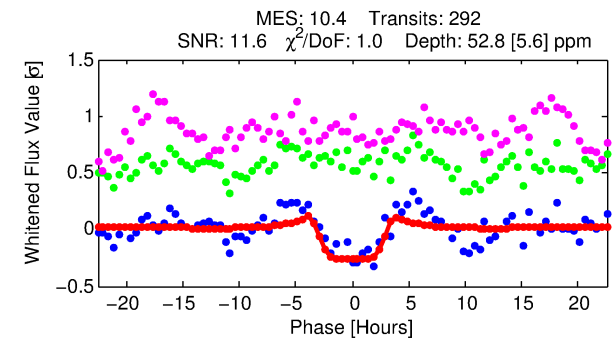
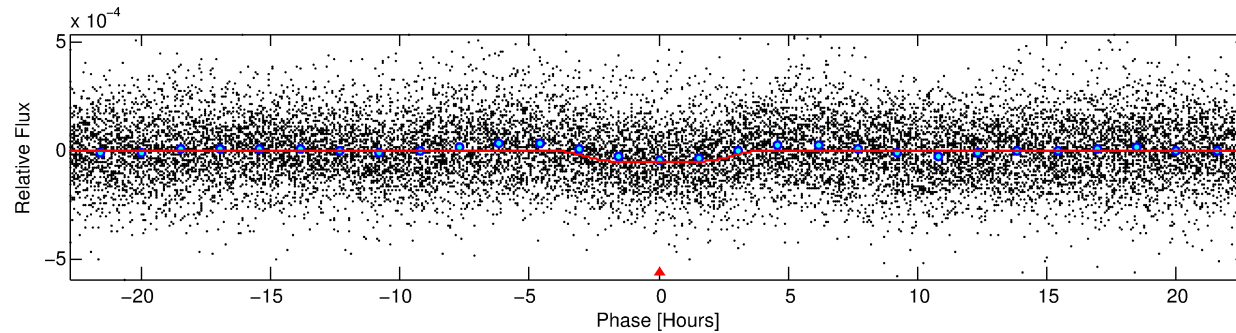
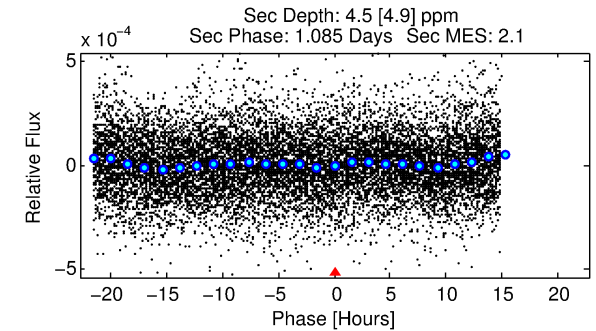
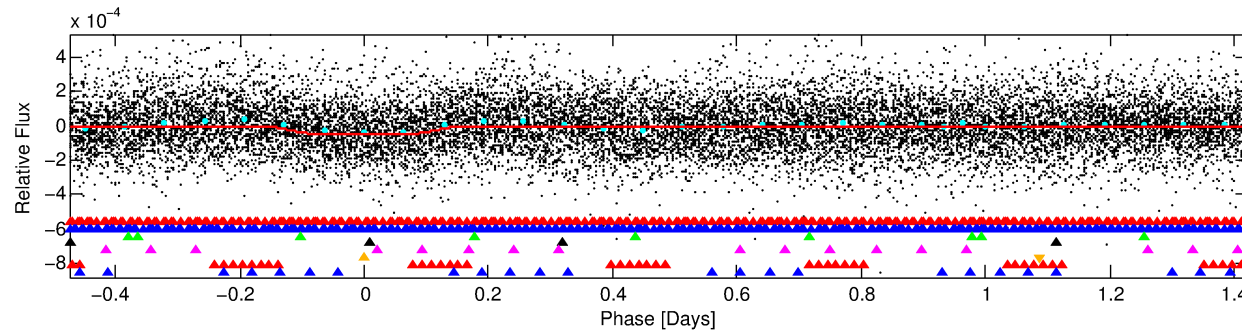
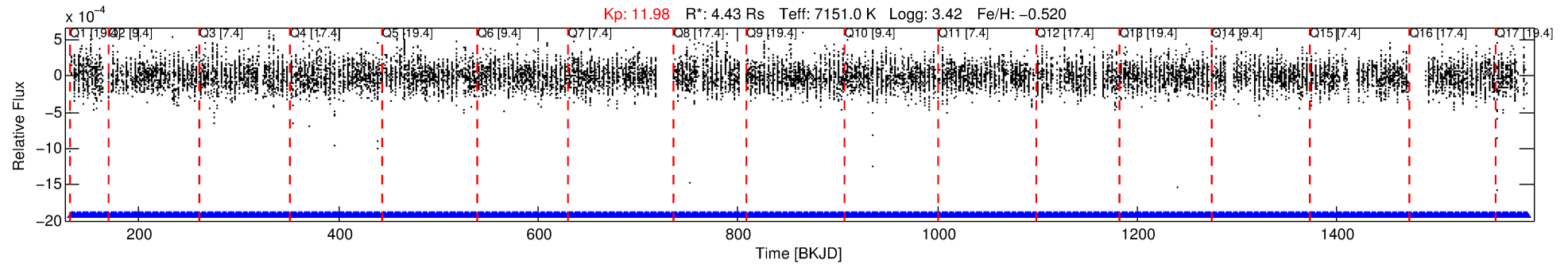
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-06

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 6 of 8 Period: 1.896 d



DV Fit Results:

Period = 1.89586 [0.00002] d
Epoch = 132.5469 [0.0085] BKJD
Rp/R* = 0.0089 [0.0005]
a/R* = 1.07 [0.02]
b = 0.99 [0.00]
Seff = 33395.34 [42991.91]
Teq = 3447 [1109] K
Rp = 4.30 [2.89] Re
a = 0.0371 [0.0277] AU
Ag = 0.19 [0.31] [-2.61σ]
Teffp = 3500 [966] K [0.04σ]

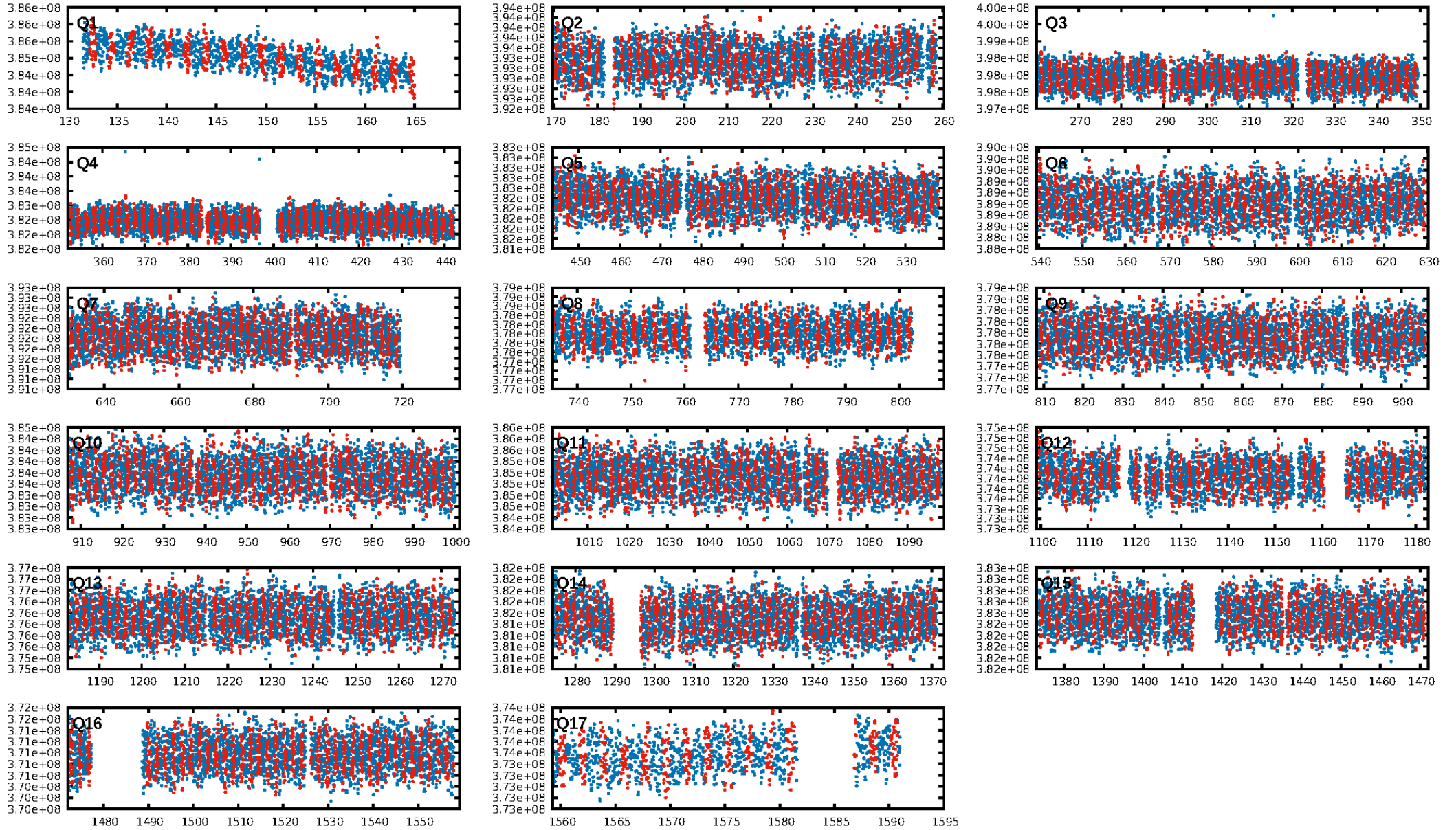
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [3.89σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [280/280]
GhostDiagnostic-chr: -0.1684
Centroid-sig: 2.6%
Centroid-so: 0.504 arcsec [2.35σ]
OotOffset-rm: 0.076 arcsec [0.27σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-rm: 0.052 arcsec [0.17σ]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 1.00 [17/17]

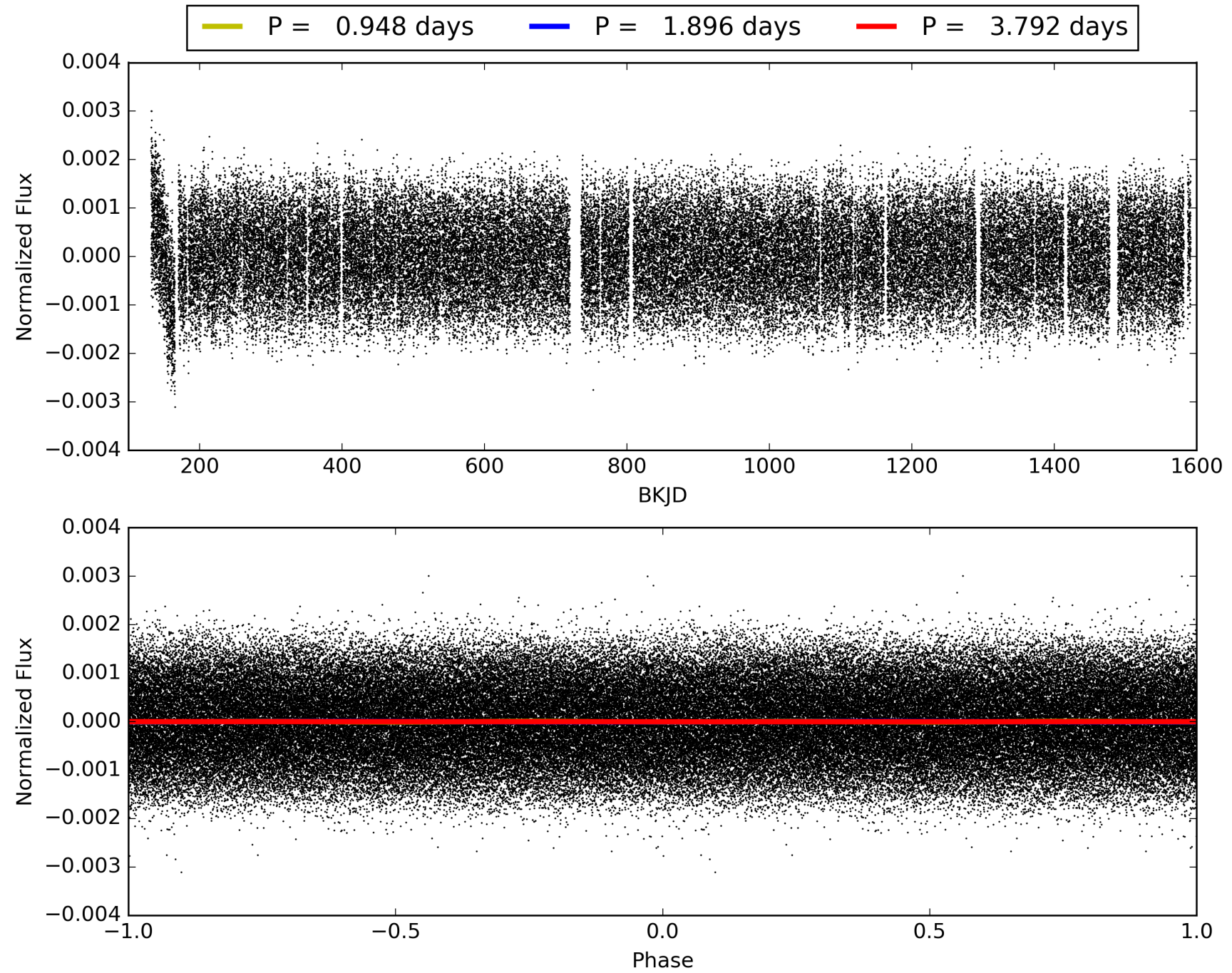
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:10:05 Z

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

TCE 007385500-06, PDC Light Curves

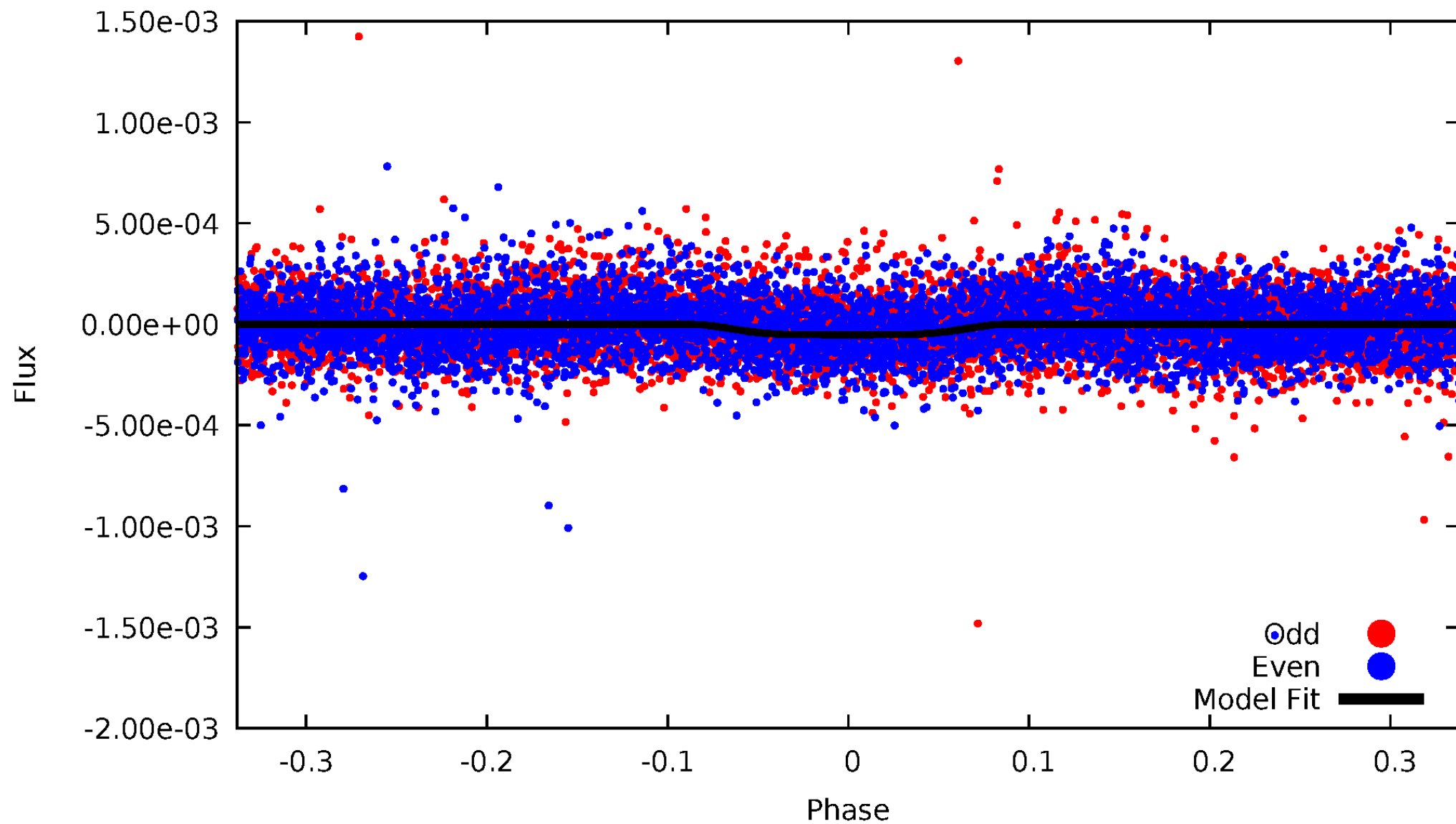


TCE 007385500-06



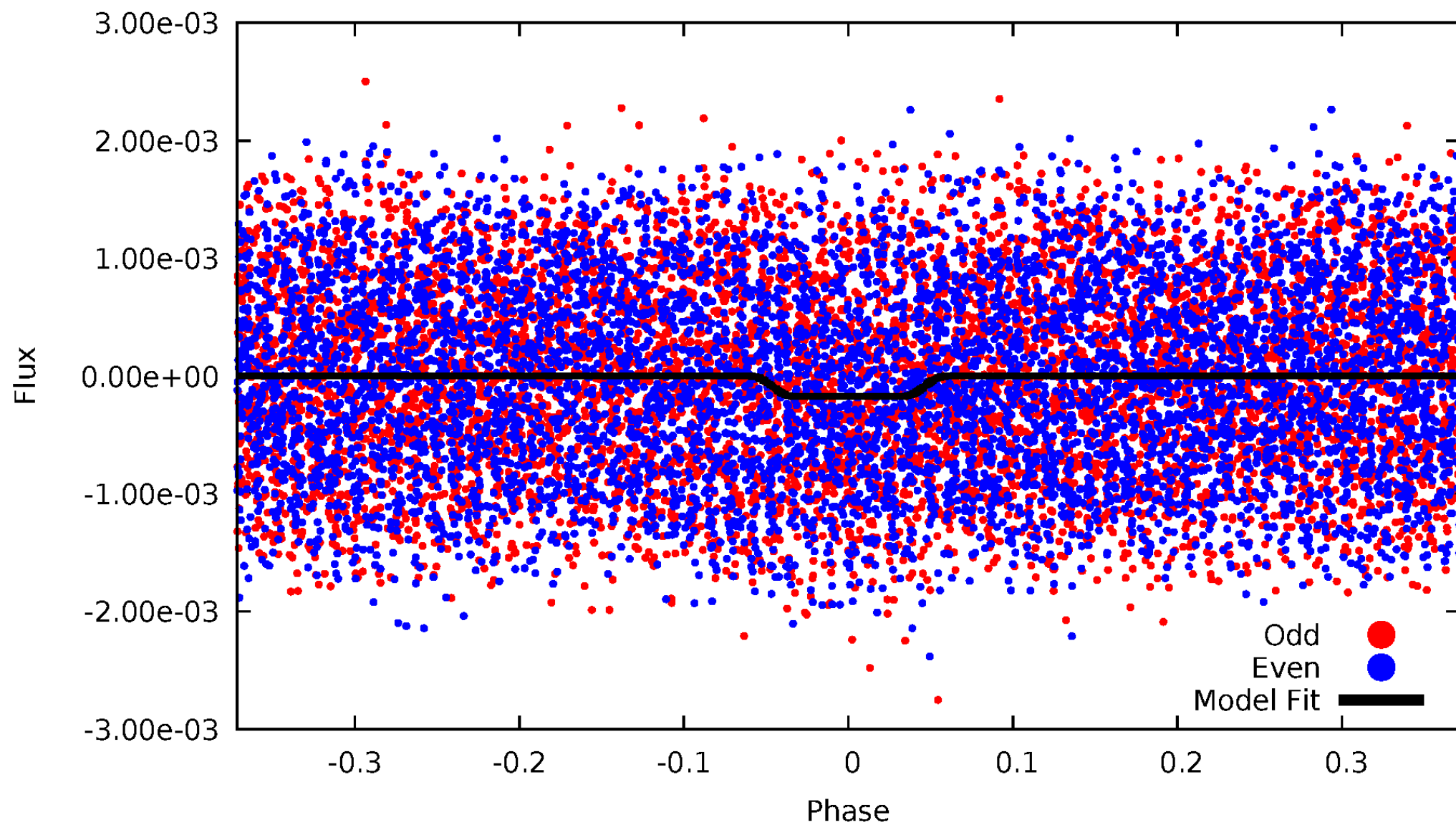
DV Odd/Even

TCE 007385500-06



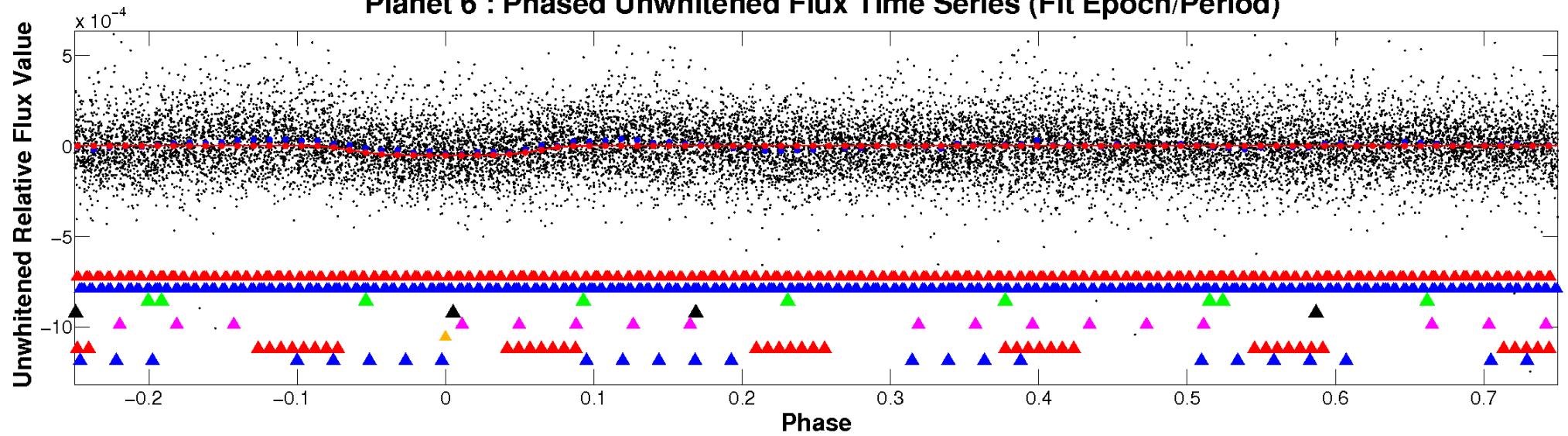
ALT Odd/Even

TCE 007385500-06

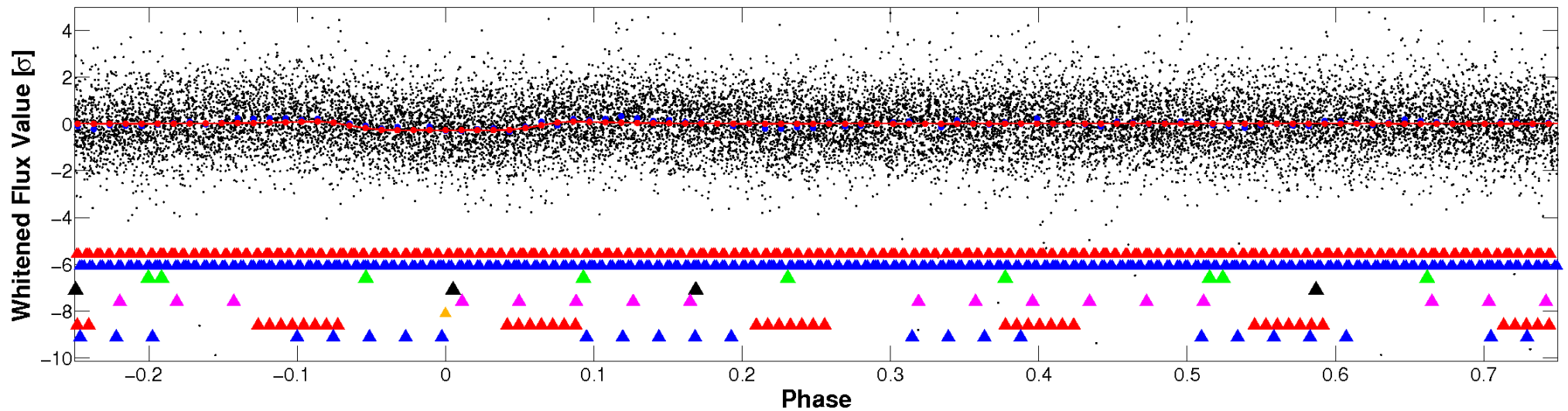


Non-Whitened Vs. Whitened Light Curve

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

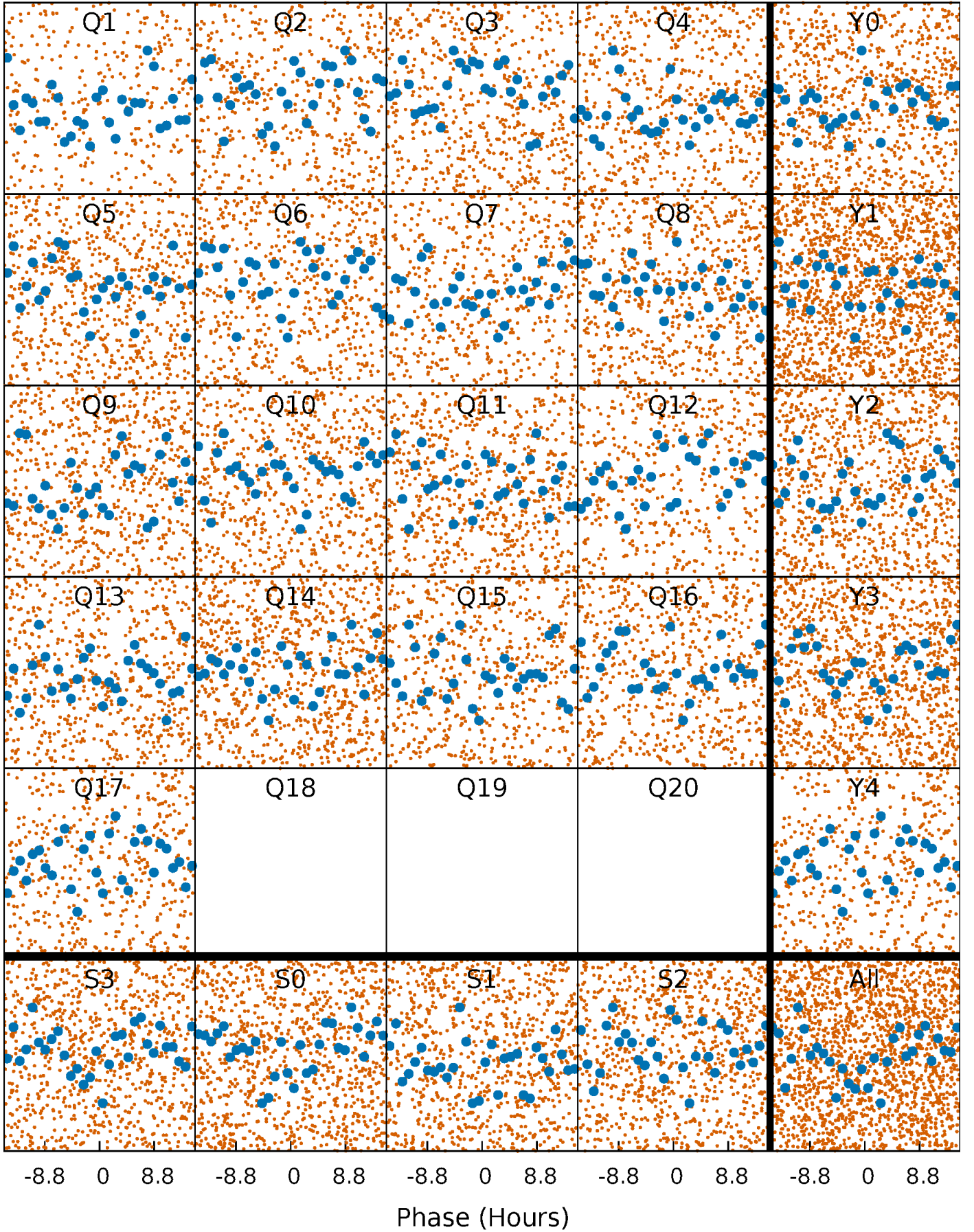


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



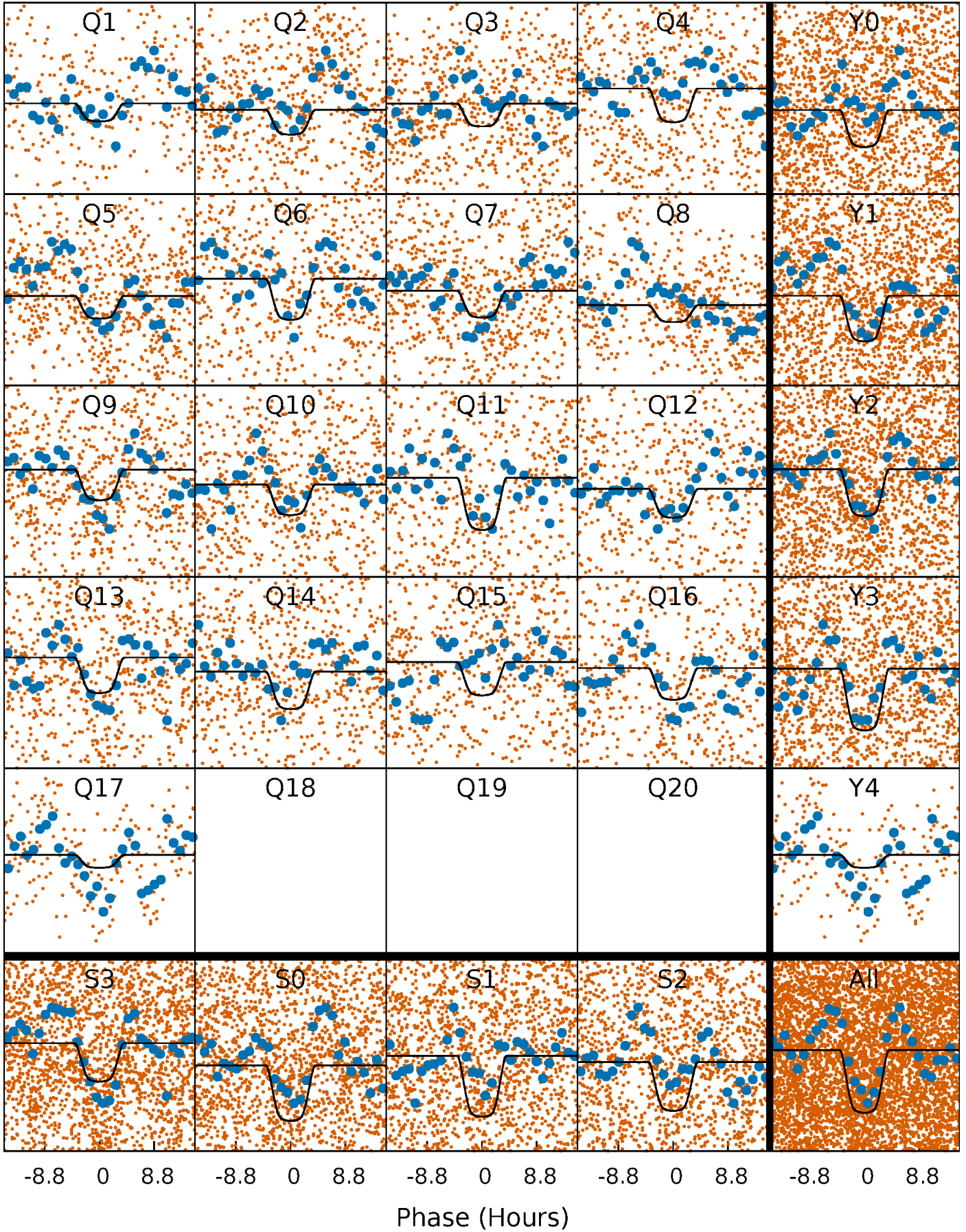
PDC Quarter-Phased Transit Curves

TCE 007385500-06 P= 1.895861 Days $T_0=132.546872$ (BKJD)



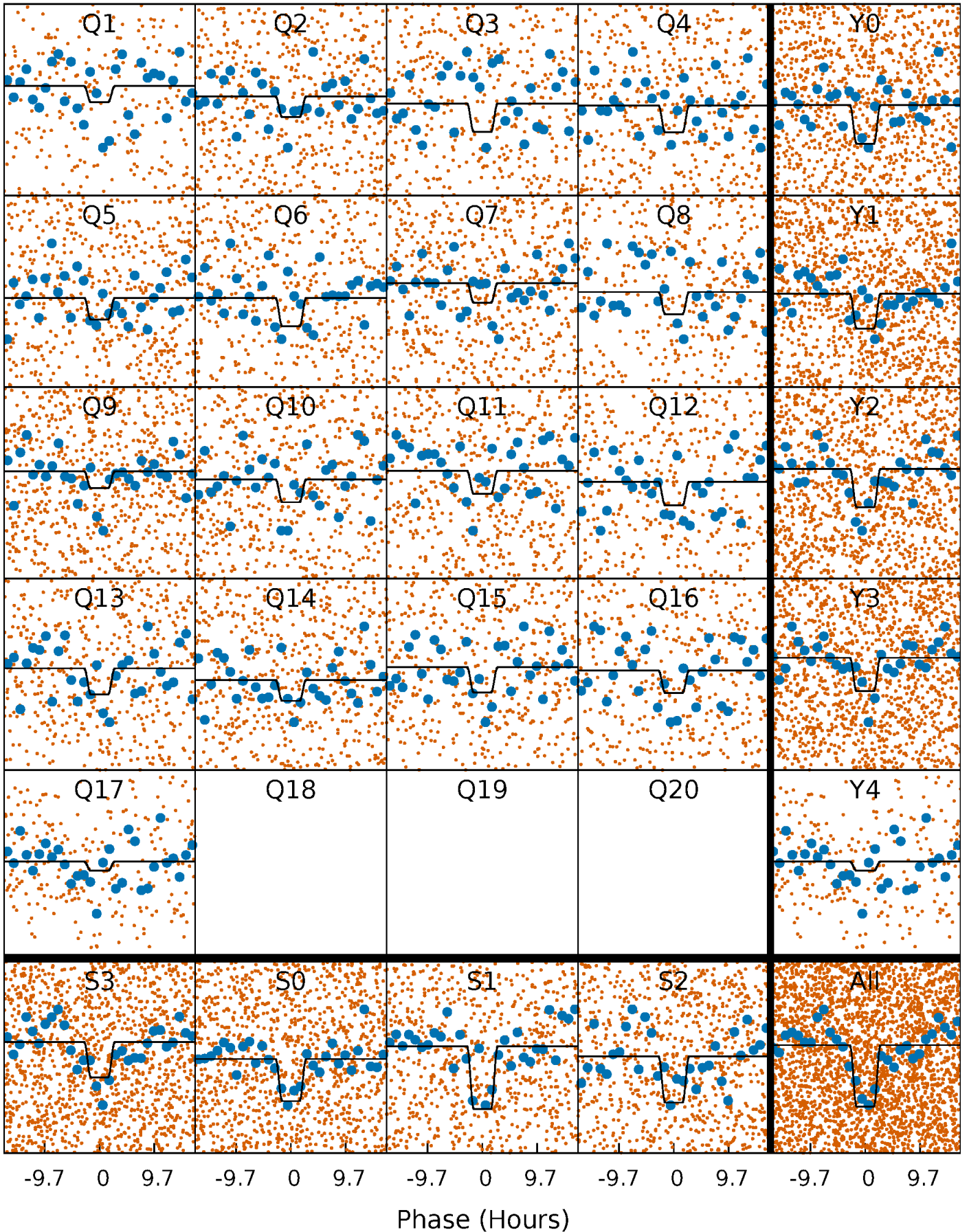
DV Quarter-Phased Transit Curves

TCE 007385500-06 P= 1.895861 Days $T_0=132.546872$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

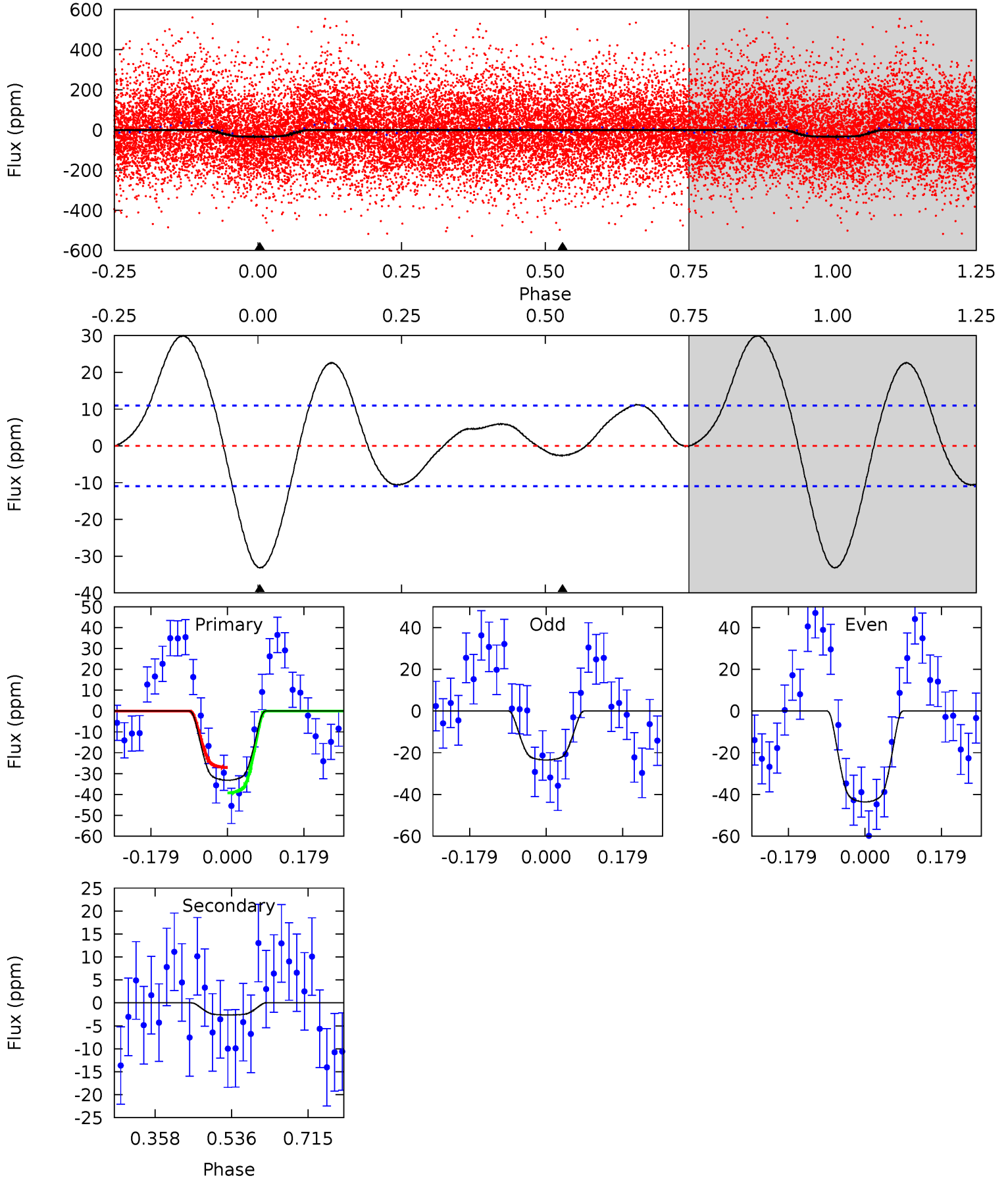
TCE 007385500-06 P= 1.895825 Days $T_0=132.591498$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-06, P = 1.895861 Days, E = 130.651011 Days

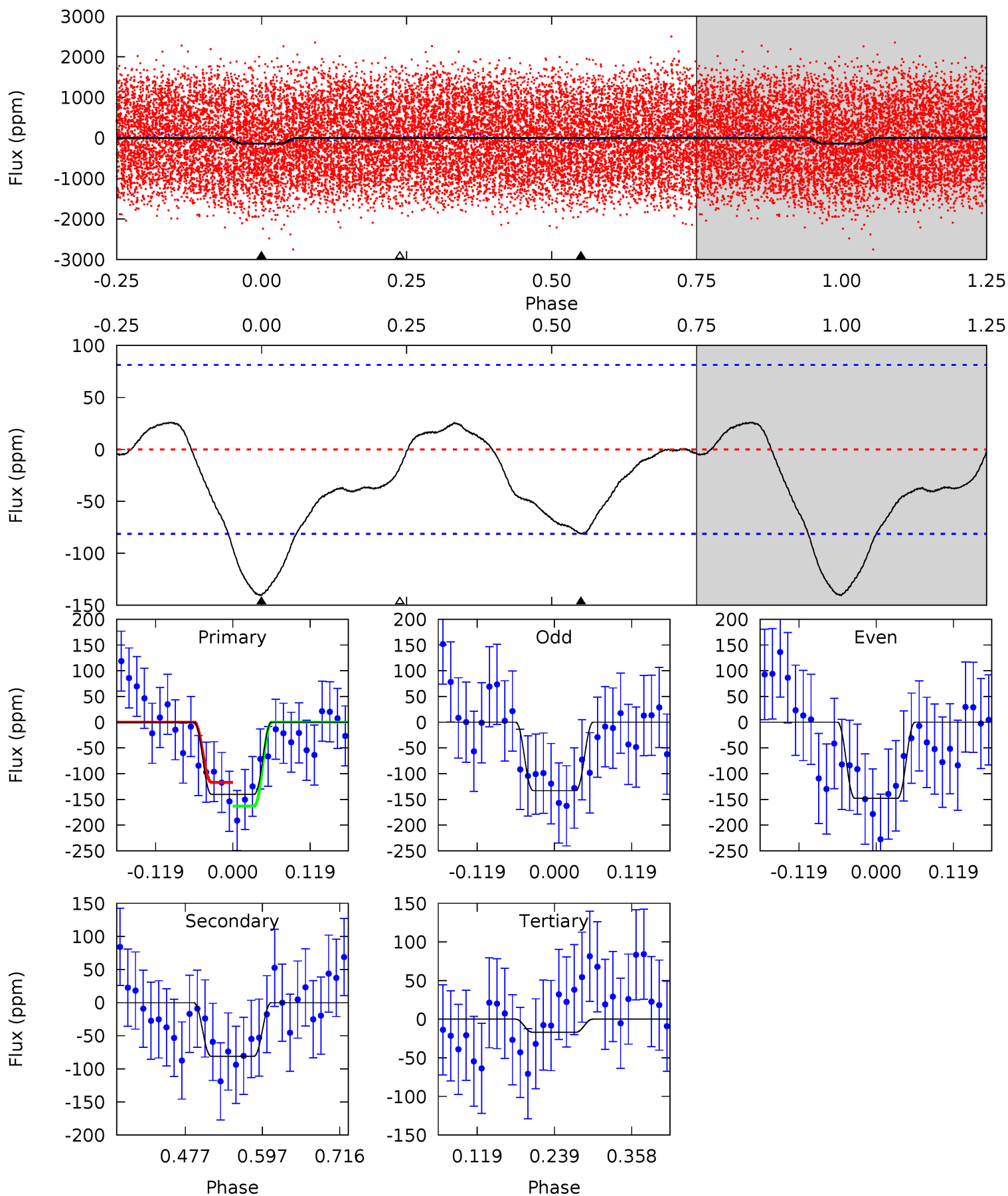
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	1.07	0	0	4.44	1.34	2.58	13.4	13.4	1.07	1.07	4.06	0.32	0.47	2.49



Alt Model-Shift Uniqueness Test

007385500-06, P = 1.895825 Days, E = 130.695673 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.81	4.52	0.95	0	4.53	1.56	1.22	6.86	7.81	3.57	4.52	0.42	1.08	0.16	1.28



Stellar Parameters For KIC 007385500

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	+3%/-4%	+23%/-2%	+58%/-48%	+7%/-67%	+7%/-38%	+1524%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3 ± 2	$4.08^{+0.53}_{-1.53}$	4663^{+324}_{-909}	-3646^{+6314}_{-450}	$0.136^{+0.193}_{-0.123}$
Alt.	-81 ± 18	$6.18^{+0.59}_{-2.26}$	4661^{+321}_{-804}	5588^{+407}_{-462}	$1.724^{+1.906}_{-0.518}$

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

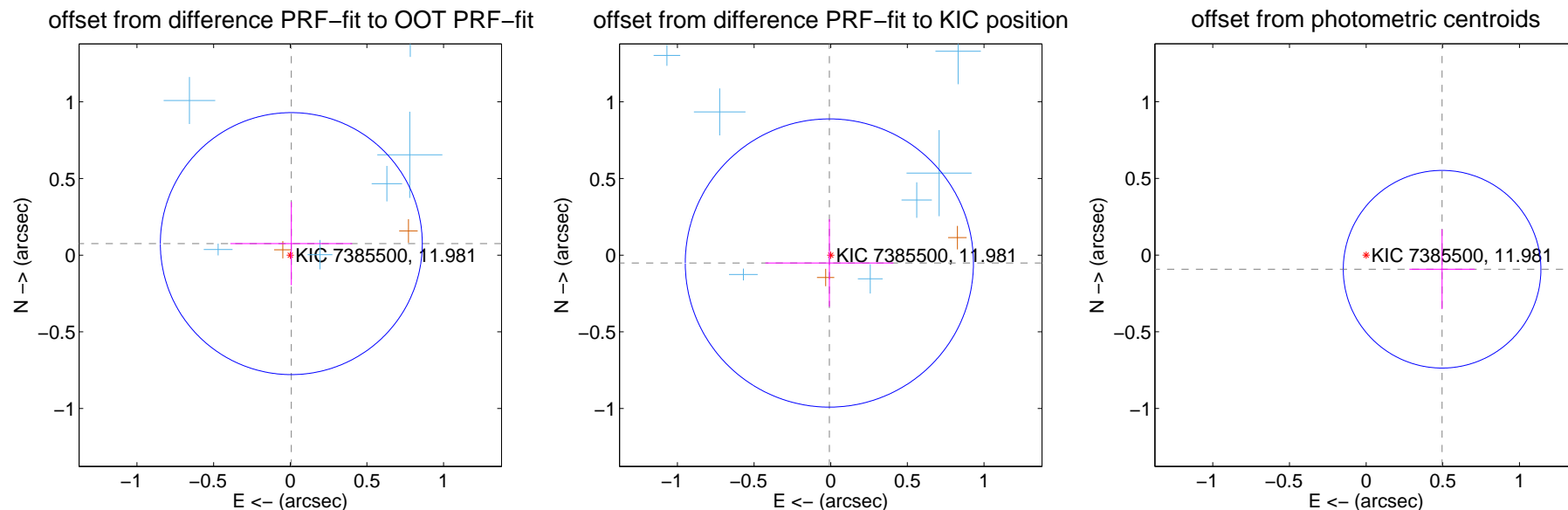
DV Centroid Data

Supplemental centroid analysis for 007385500-06. **Kepler magnitude: 11.98.** Transit SNR 11.64

There are 11 quarters with good PRF difference image offsets

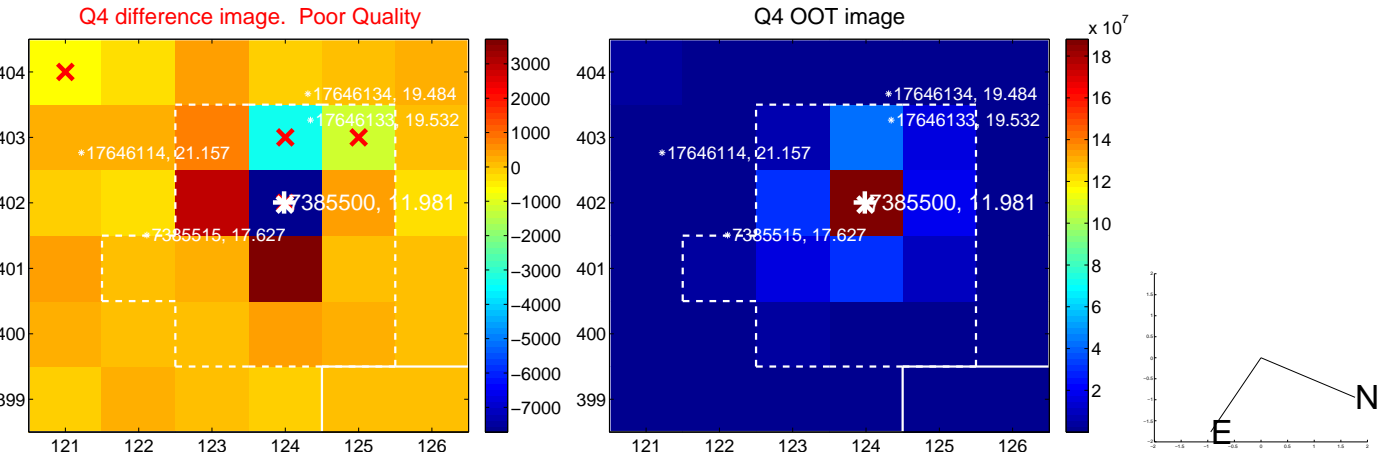
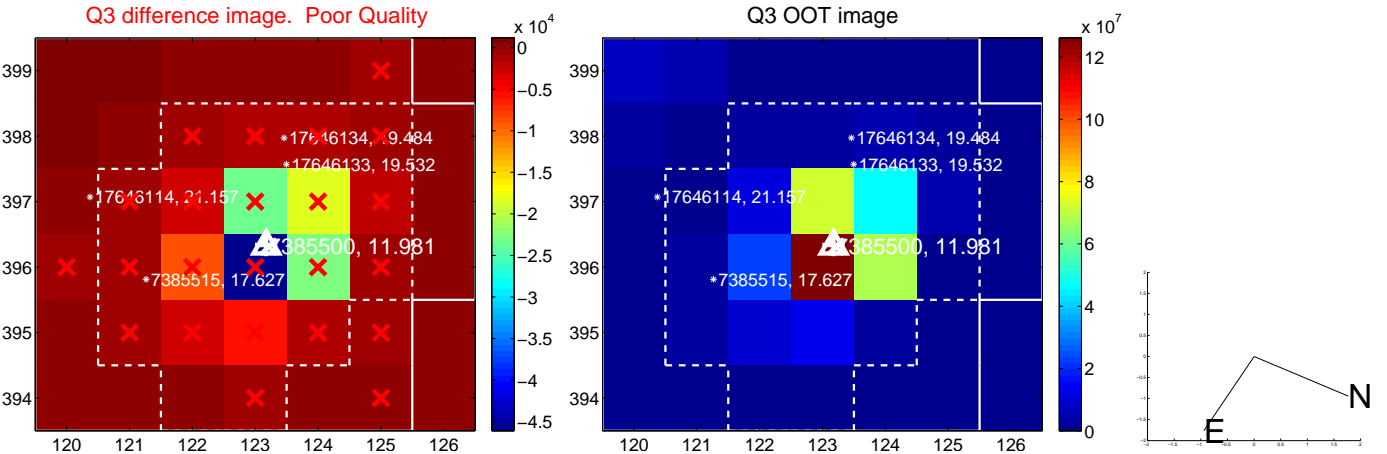
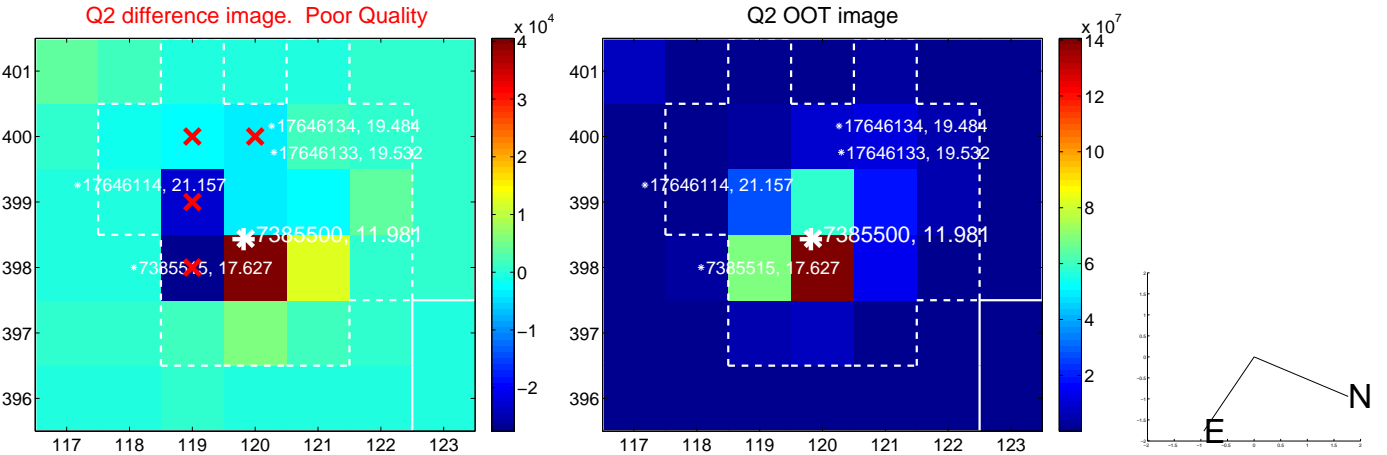
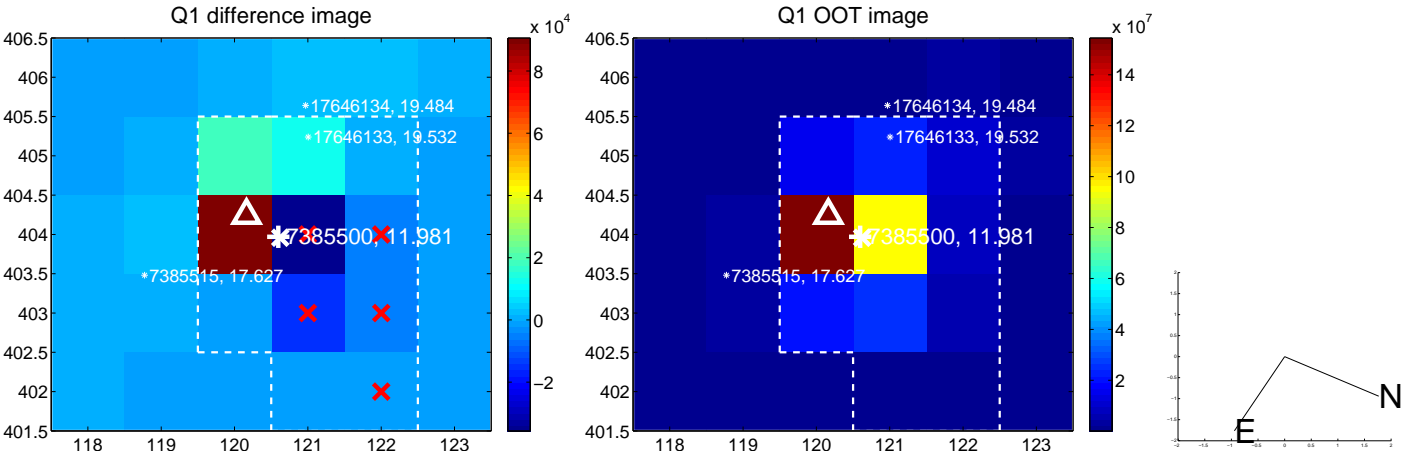
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.285	0.27	-0.007 ± 0.397	0.075 ± 0.271
PRF-fit source offset from KIC position	0.052 ± 0.313	0.17	0.009 ± 0.417	-0.051 ± 0.285
photometric centroid source offset	0.50 ± 0.21	2.35	-0.50 ± 0.21	-0.09 ± 0.26

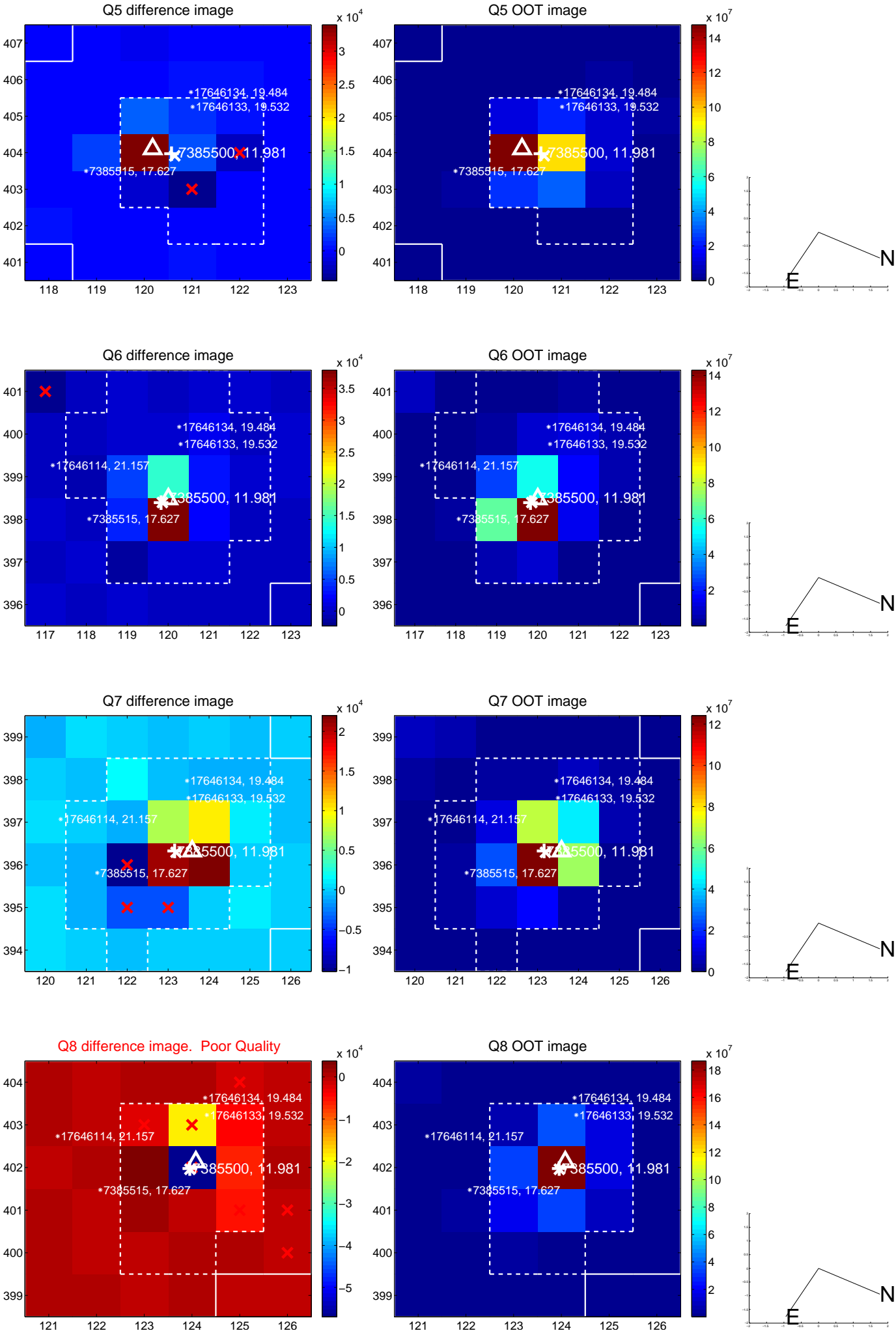


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

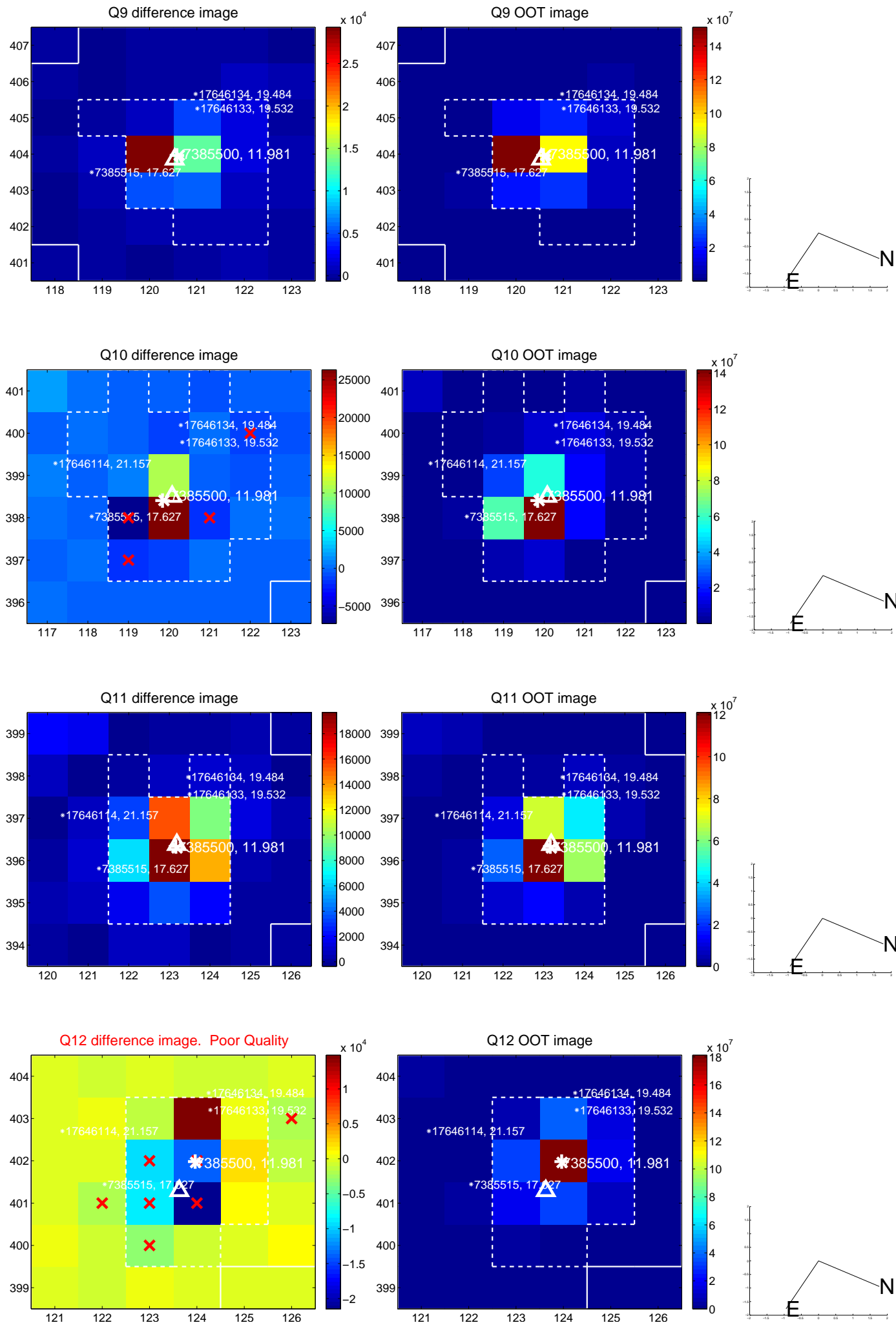
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



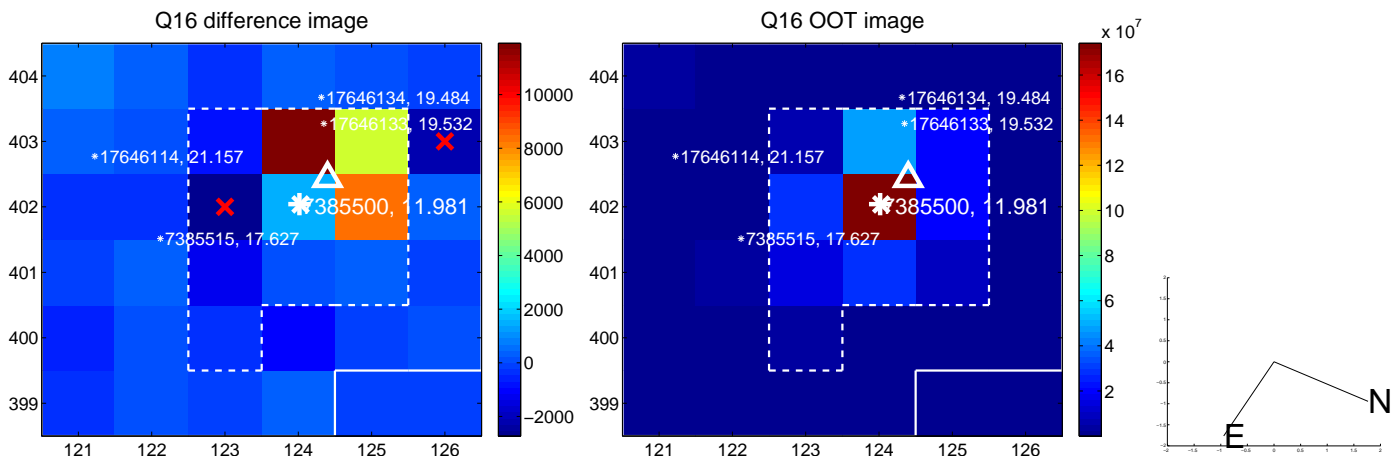
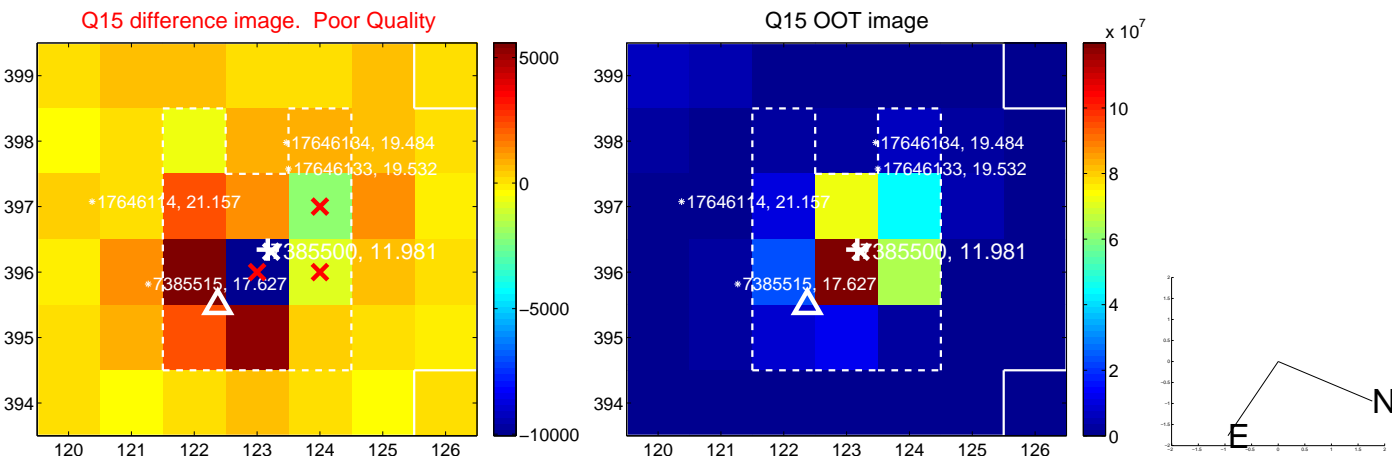
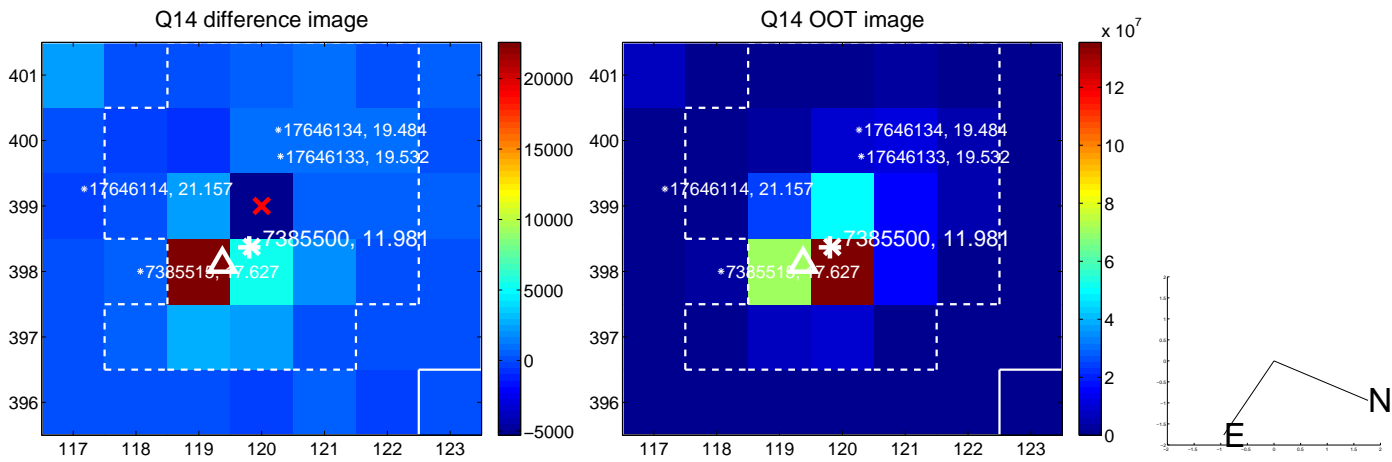
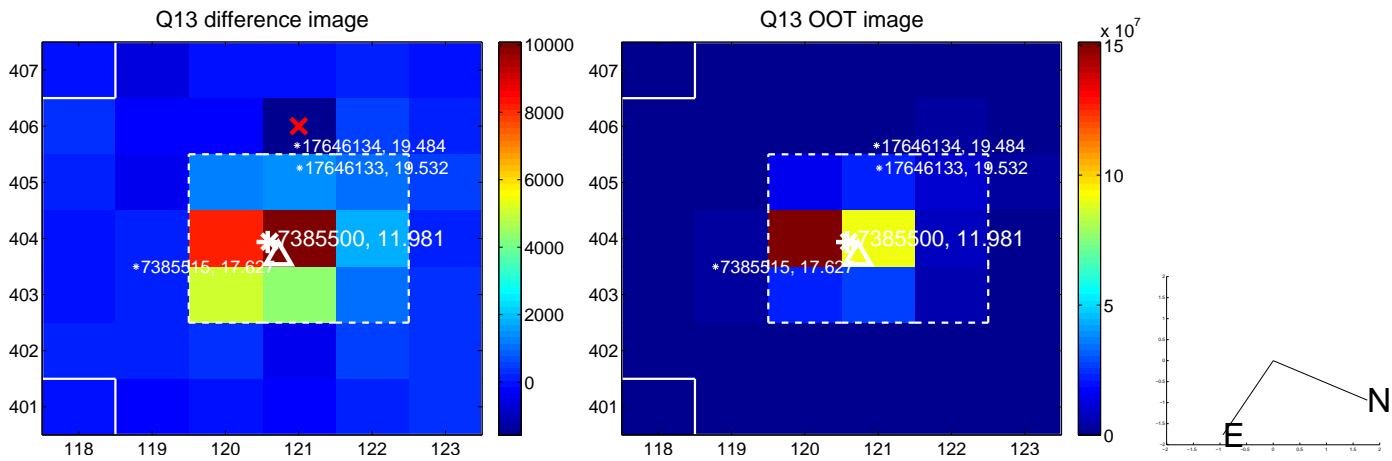
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



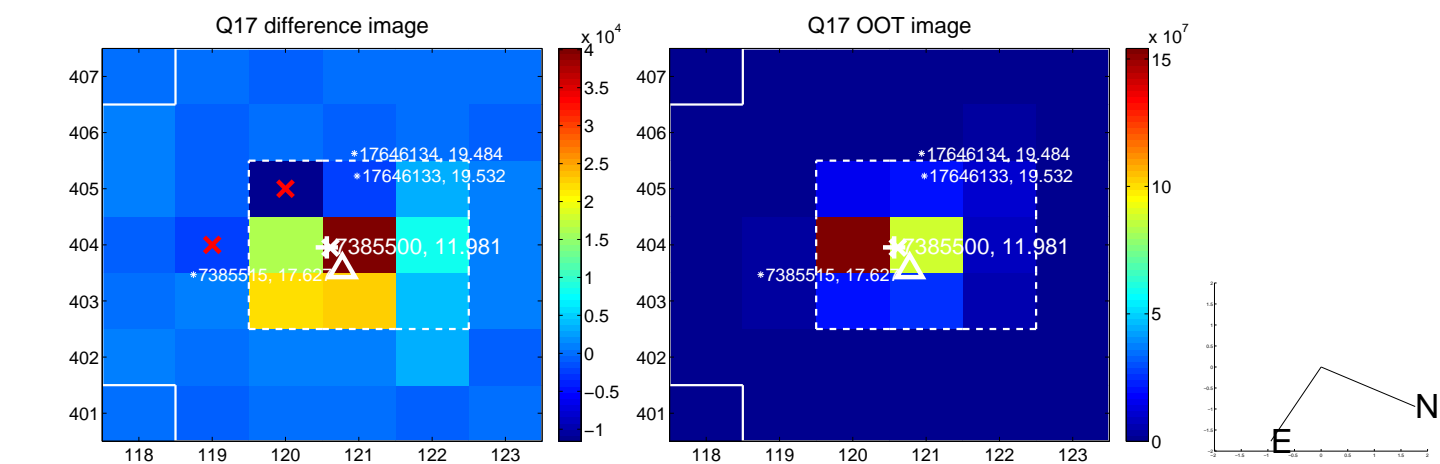
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



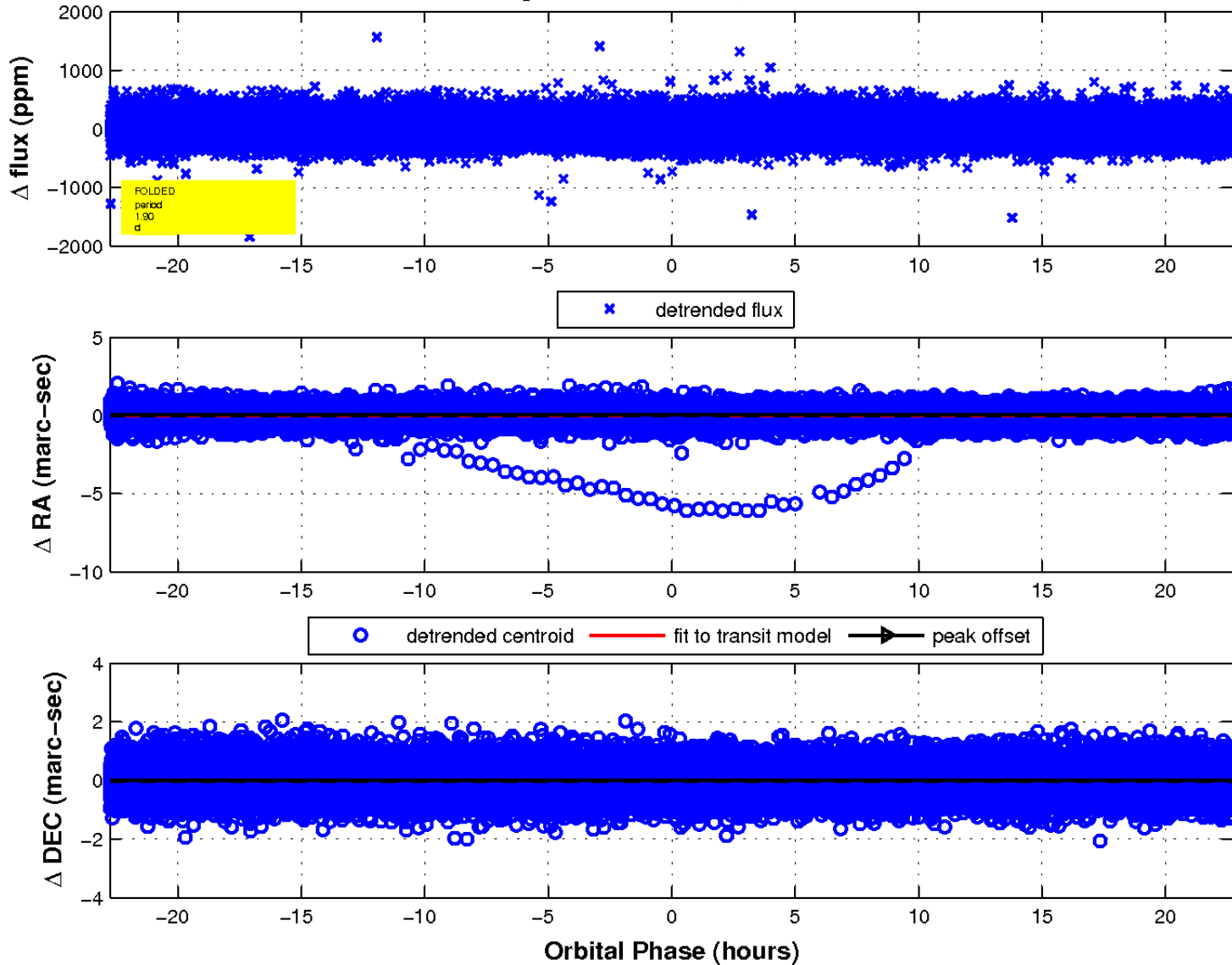
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

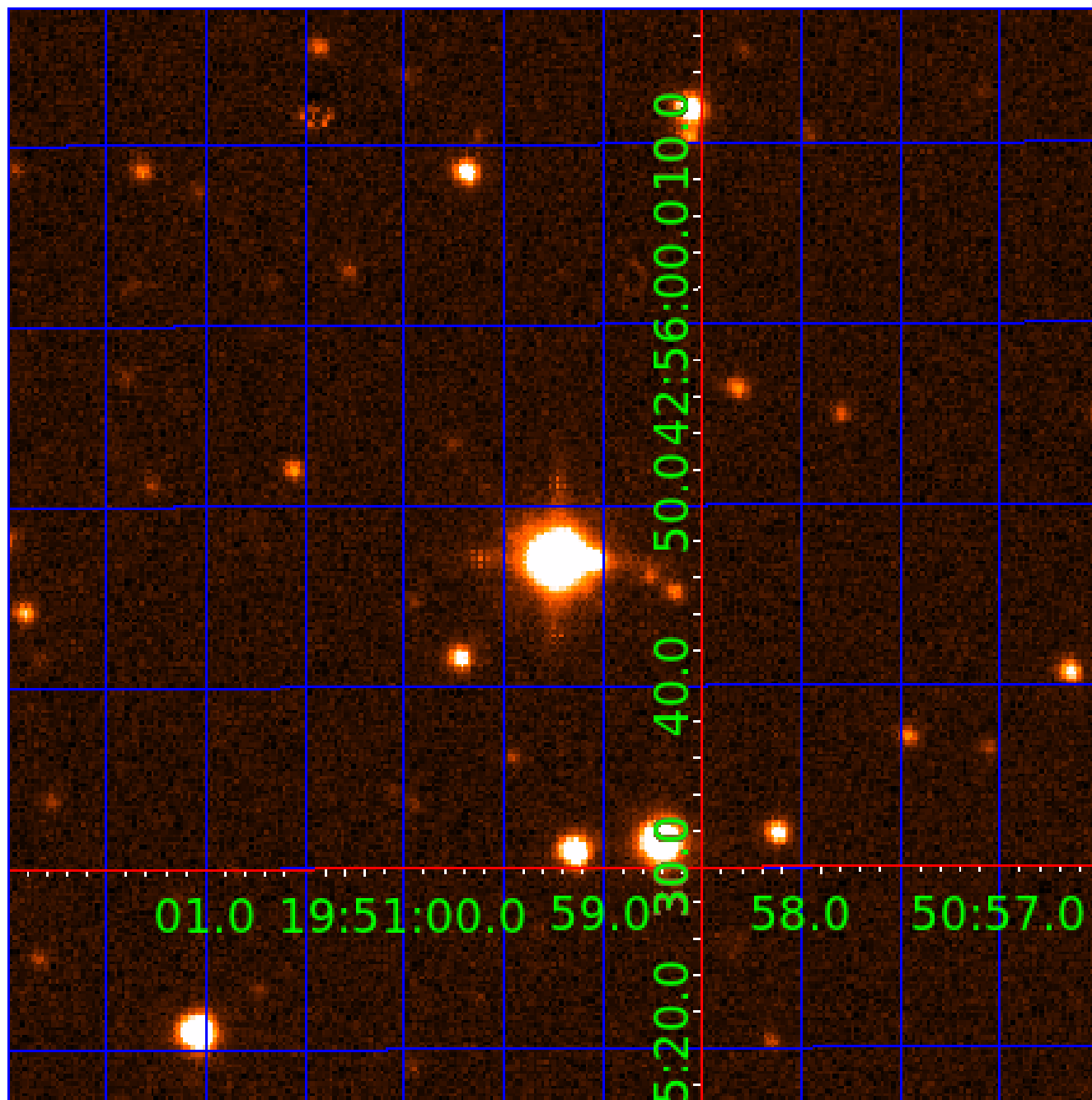


fluxWeightedCentroids, Planet 6 of 8



UKIRT Image

Declination



KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

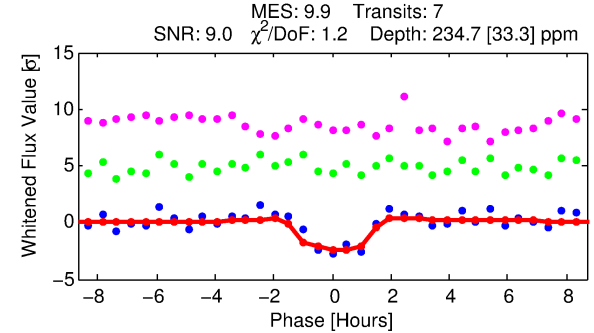
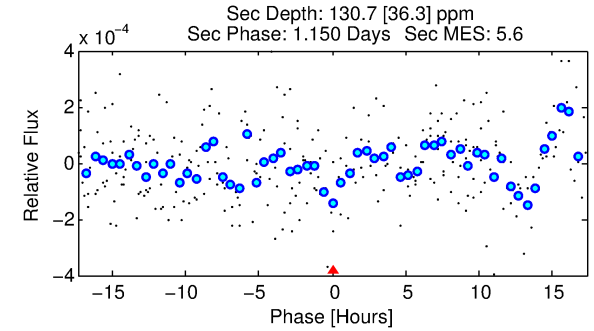
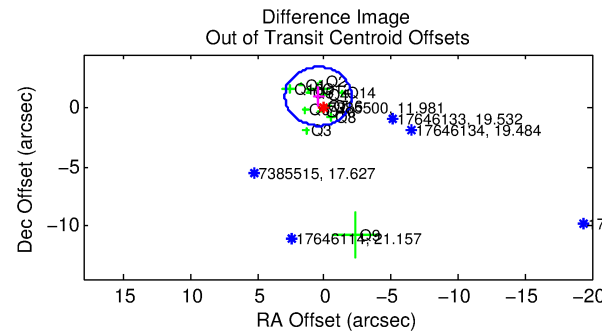
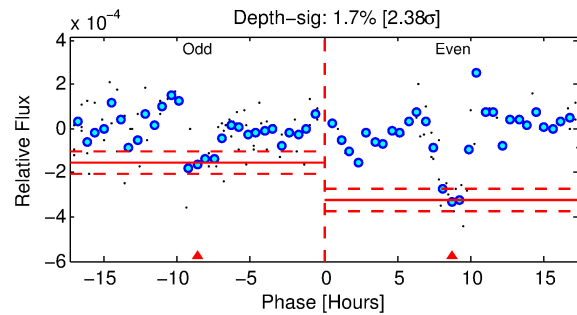
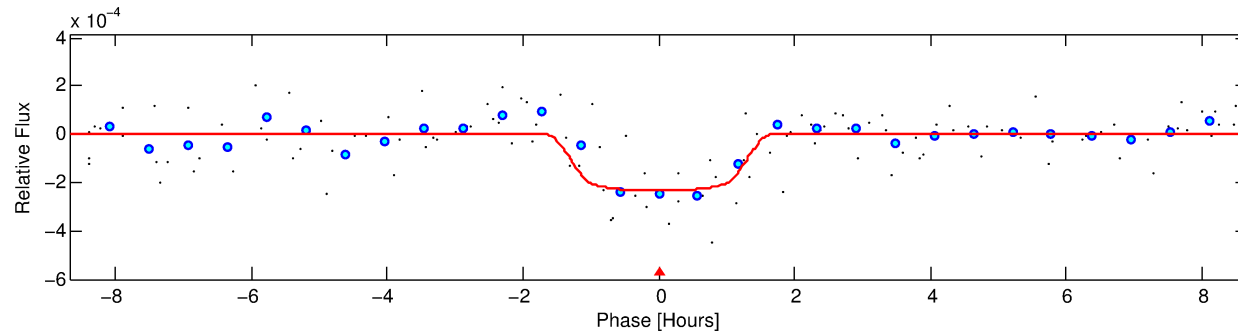
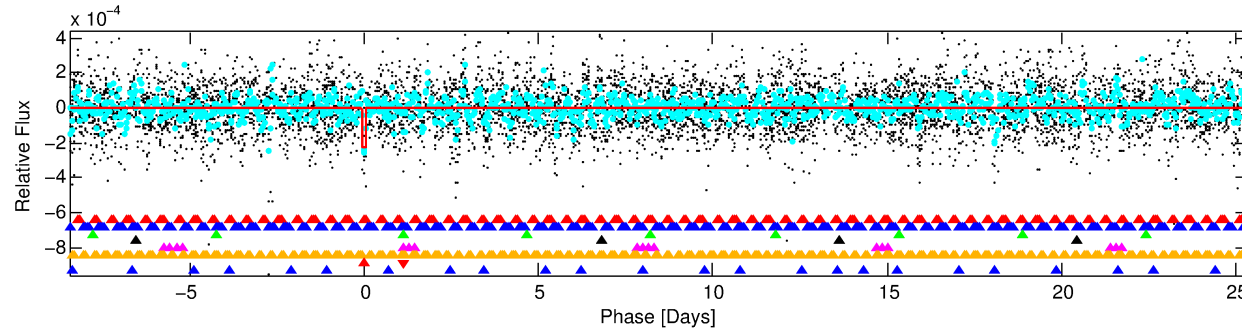
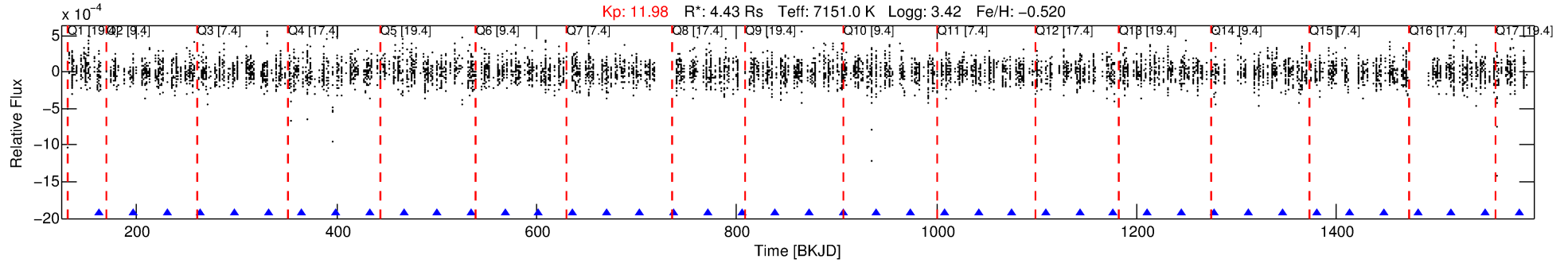
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-07

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 7 of 8 Period: 33.807 d



DV Fit Results:

Period = 33.80711 [0.00030] d
Epoch = 162.7430 [0.0064] BKJD
Rp/R* = 0.0163 [0.0097]
a/R* = 41.40 [154.57]
b = 0.90 [0.76]
Seff = 716.83 [922.82]
Teff = 1319 [425] K
Rp = 7.91 [7.07] Re
a = 0.2534 [0.1890] AU
Ag = 73.85 [130.27] [0.56 σ]
Teffp = 5980 [1838] K [2.47 σ]

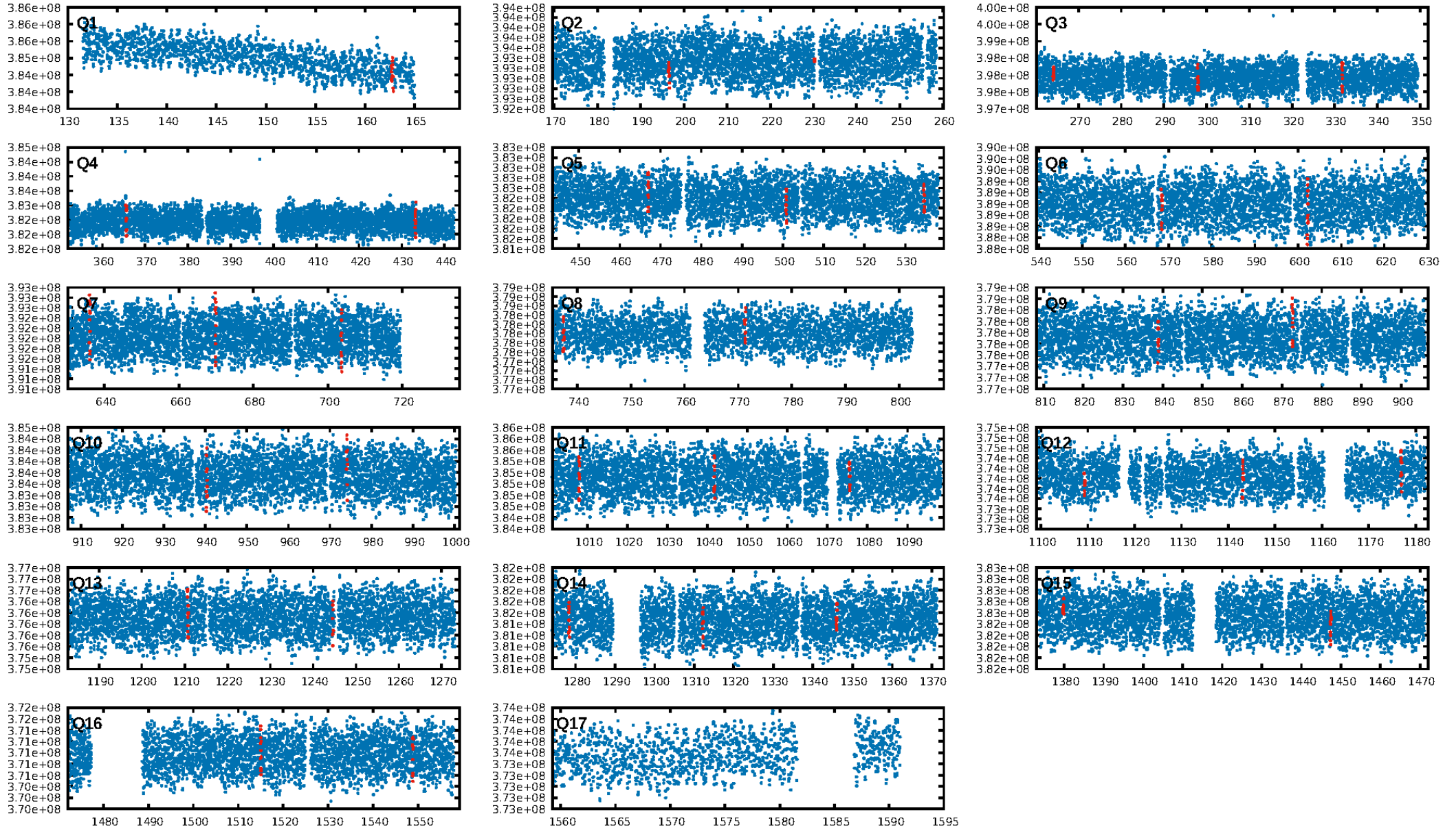
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.28 σ]
LongPeriod-sig: 100.0% [95.43 σ]
ModelChiSquare2-sig: 10.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -1.465
Centroid-sig: 44.8%
Centroid-so: 0.477 arcsec [1.50 σ]
OotOffset-rm: 1.049 arcsec [1.27 σ]
OotOffset-st: 4/2/4/4 [14]
KicOffset-rm: 0.942 arcsec [1.10 σ]
KicOffset-st: 4/2/4/4 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.27 [4/15]

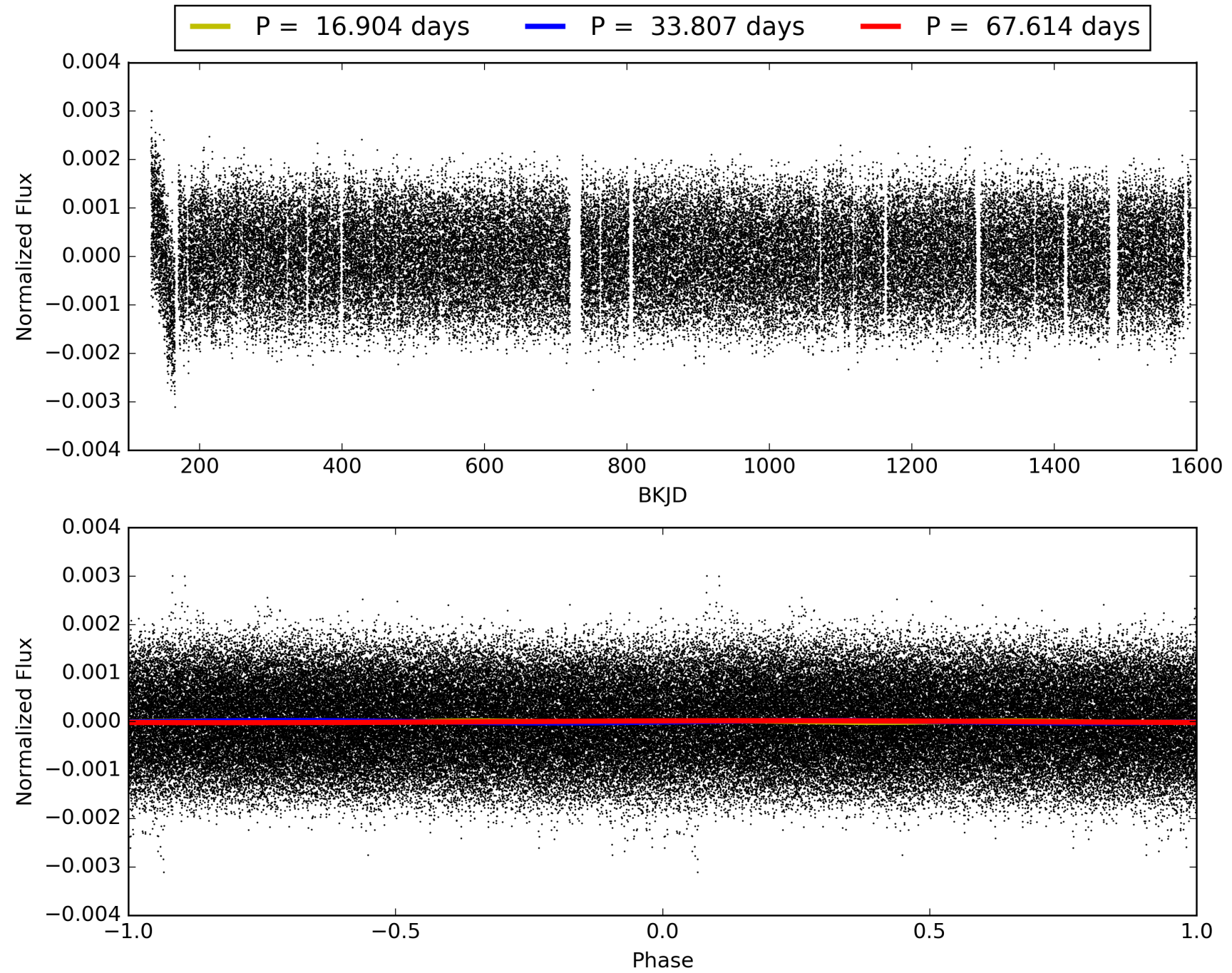
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:10:11 Z

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

TCE 007385500-07, PDC Light Curves

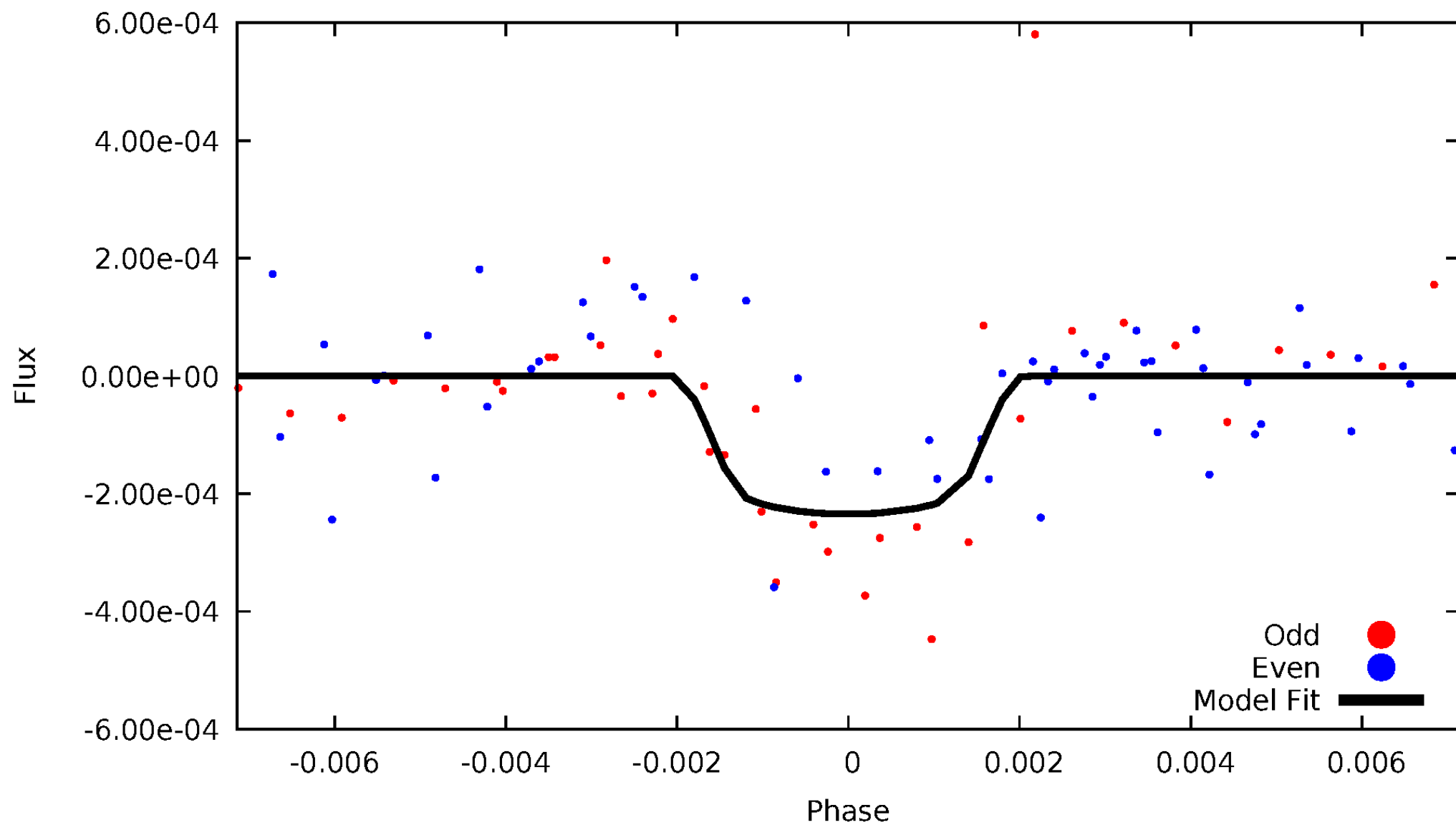


TCE 007385500-07



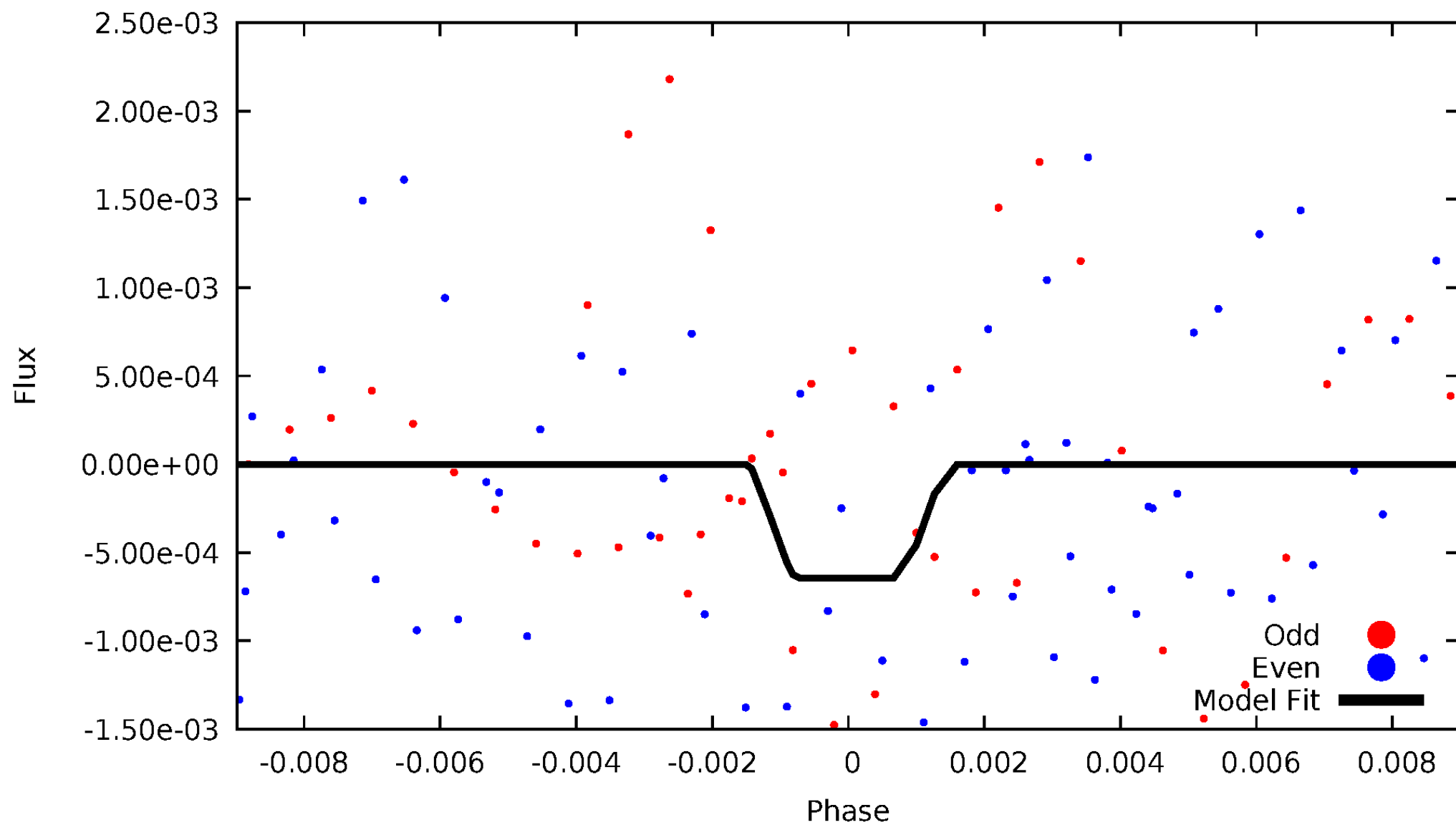
DV Odd/Even

TCE 007385500-07



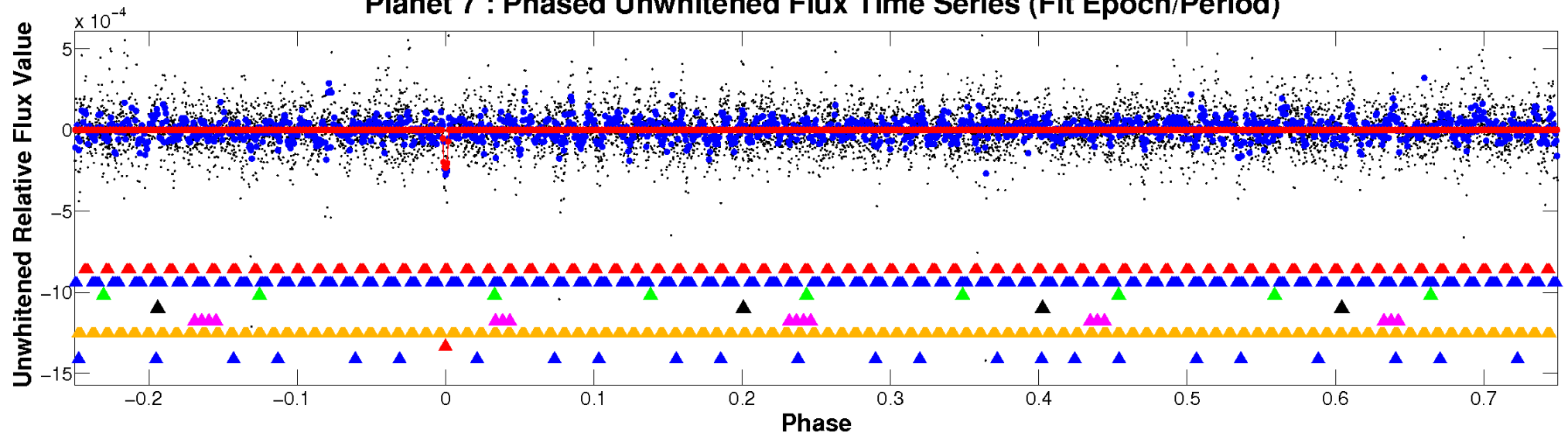
ALT Odd/Even

TCE 007385500-07

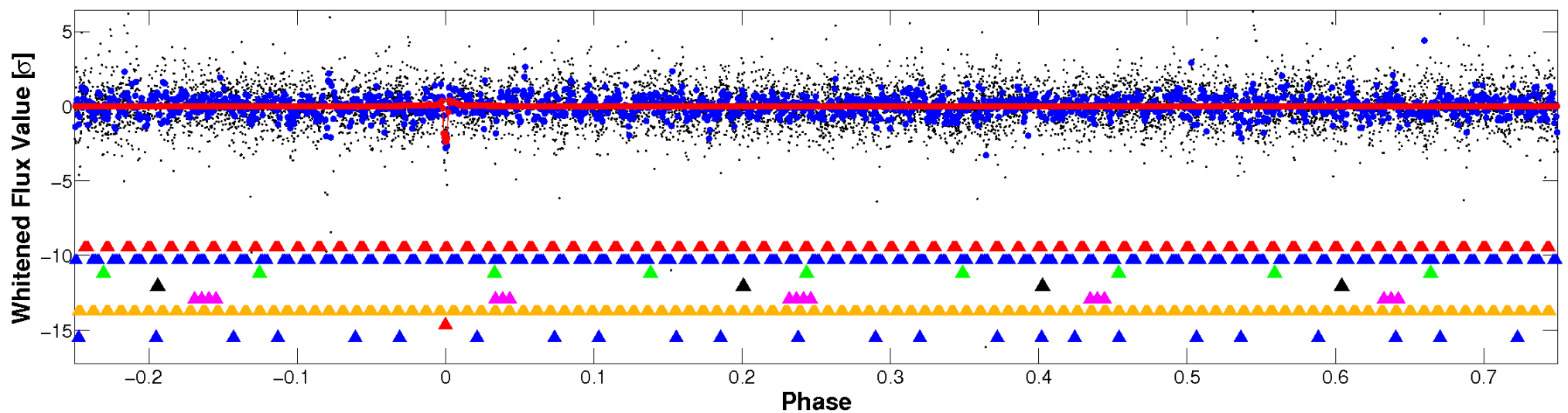


Non-Whitened Vs. Whitened Light Curve

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

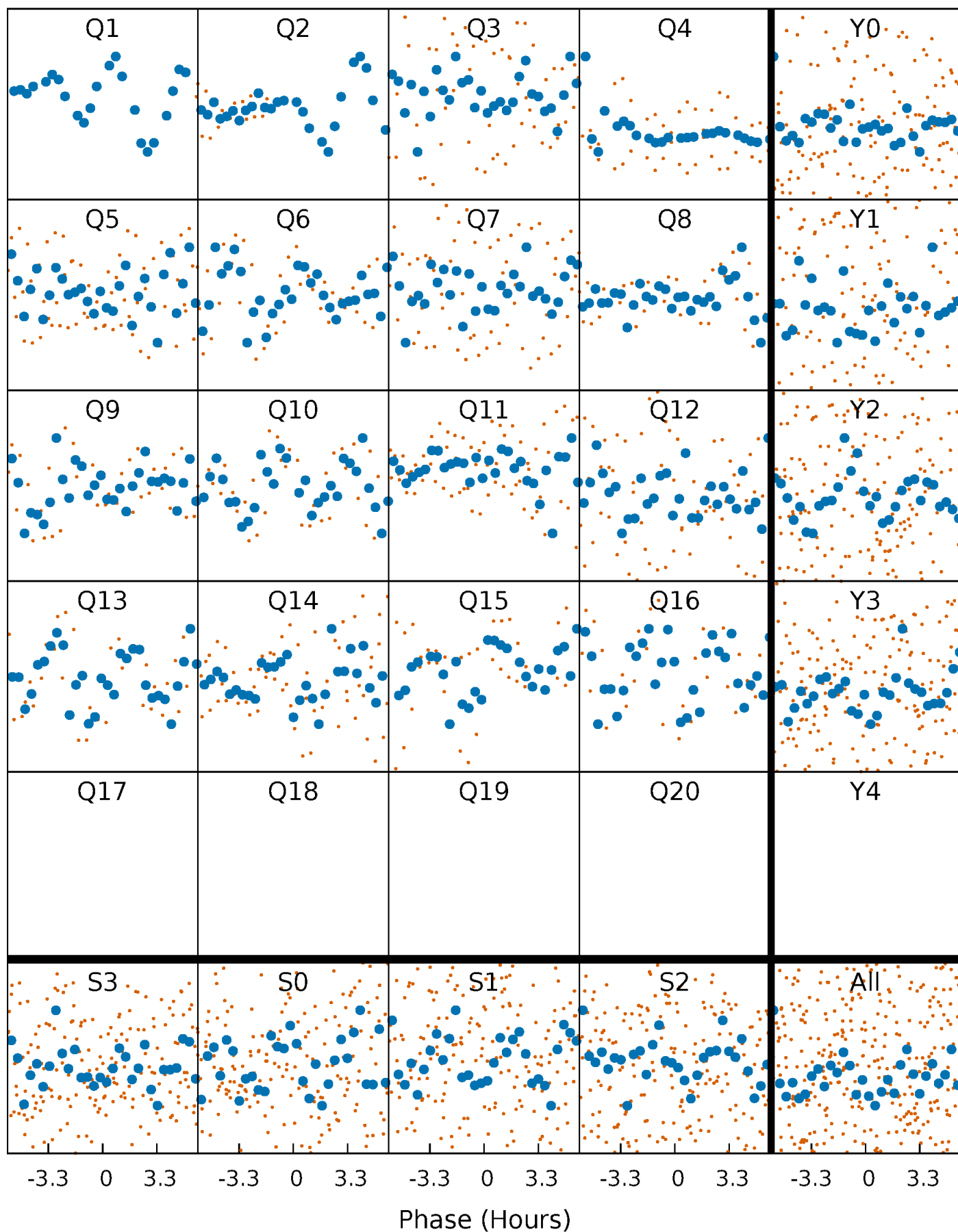


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



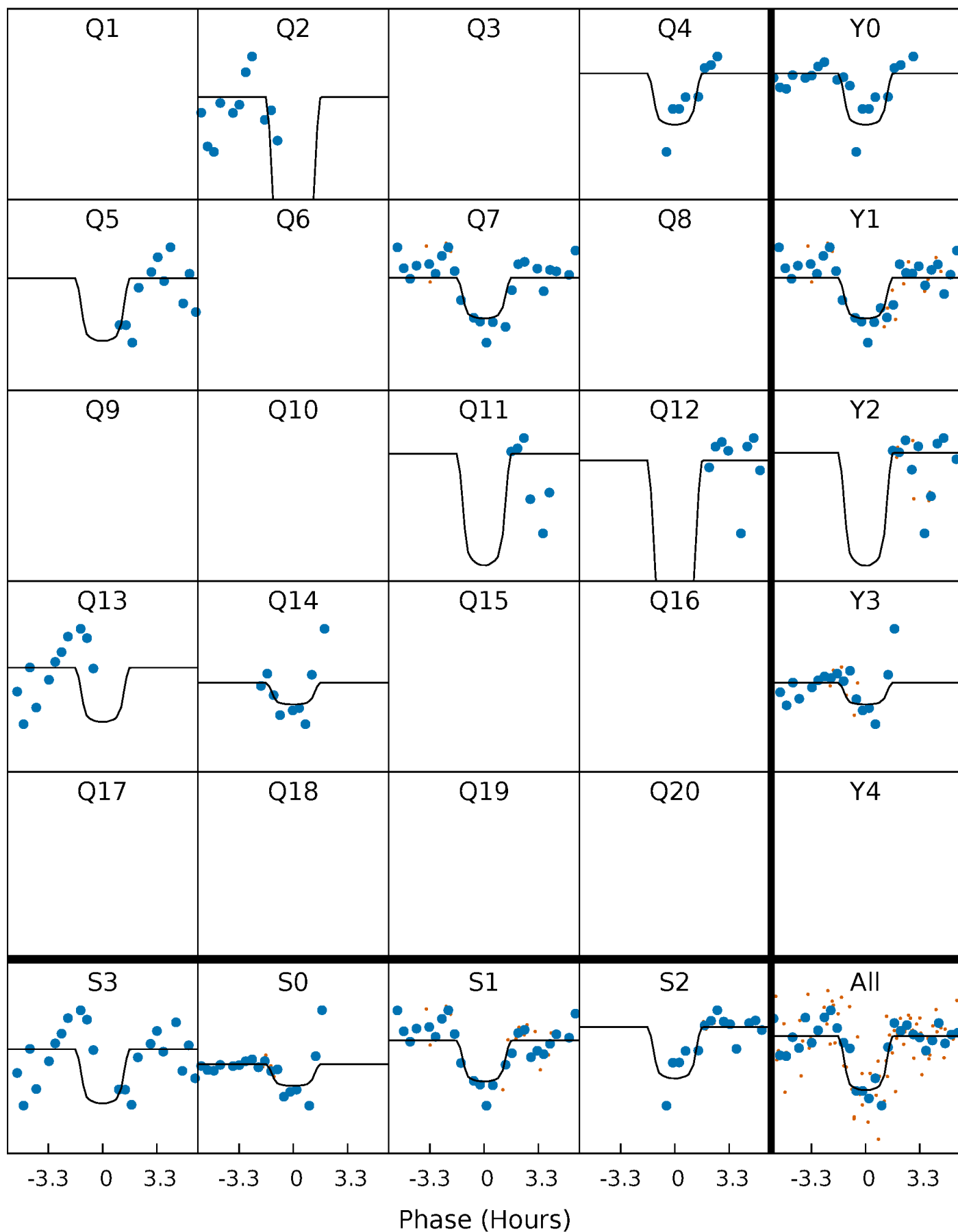
PDC Quarter-Phased Transit Curves

TCE 007385500-07 $P = 33.807106$ Days $T_0 = 162.742994$ (BKJD)



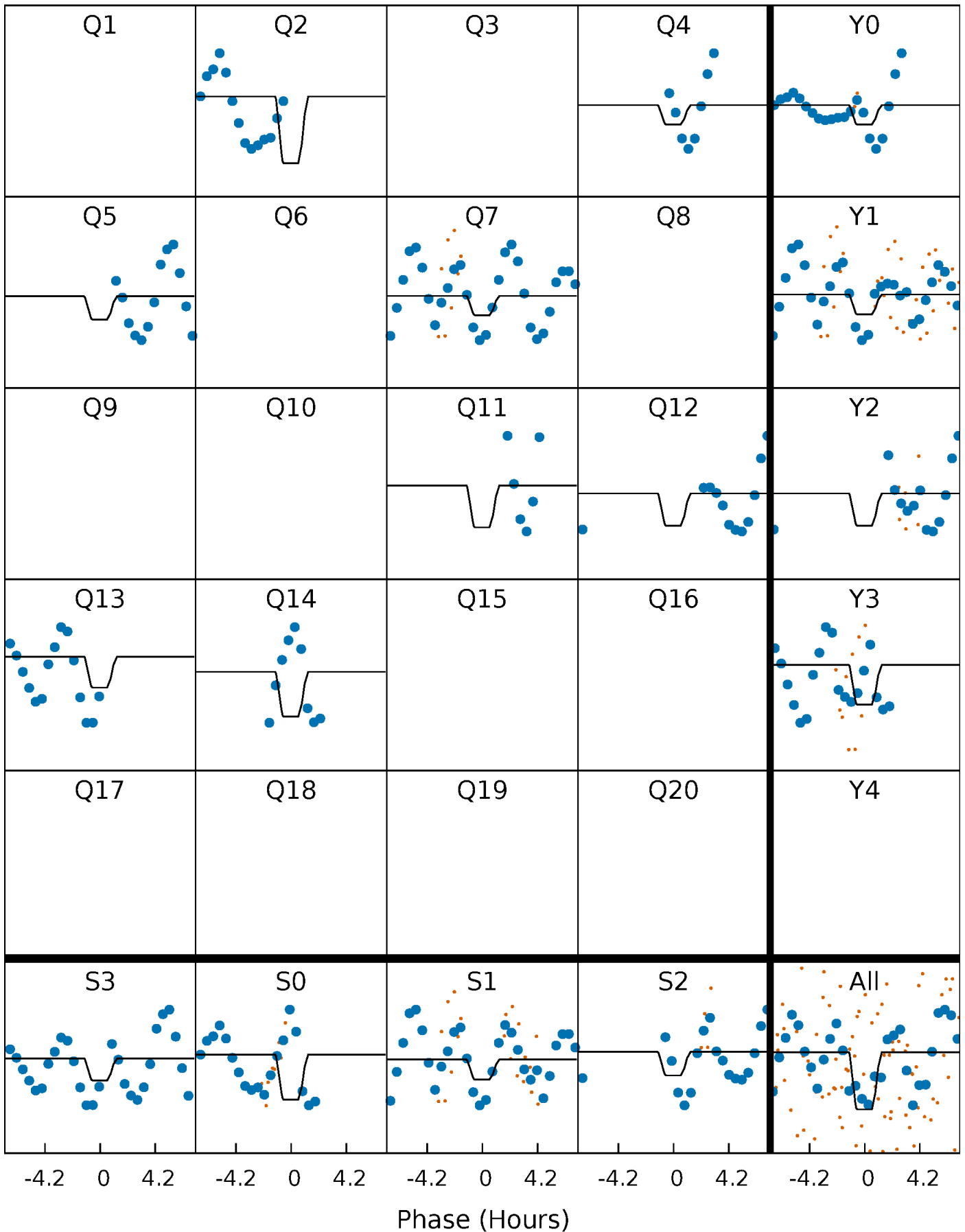
DV Quarter-Phased Transit Curves

TCE 007385500-07 $P = 33.807106$ Days $T_0 = 162.742994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

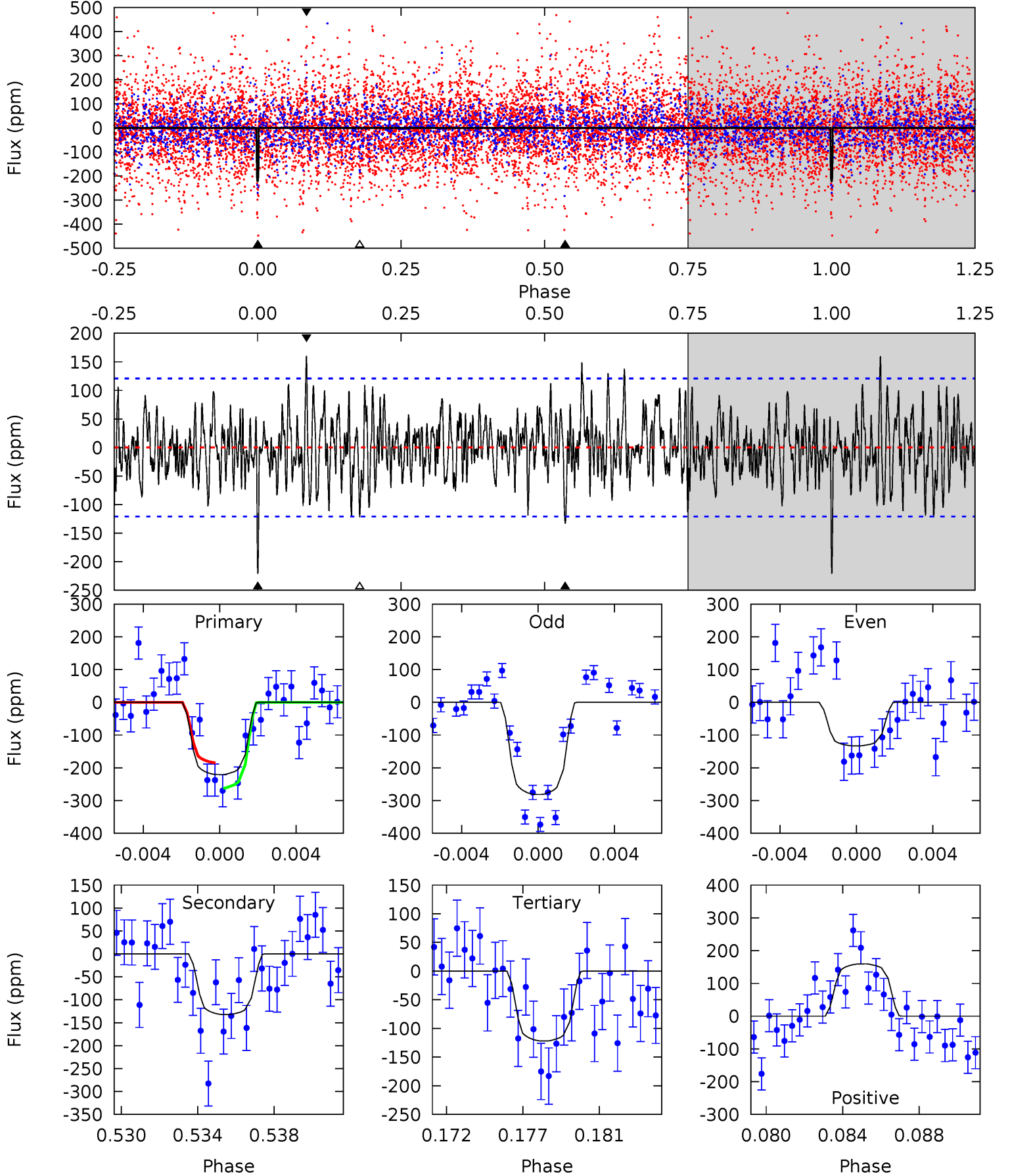
TCE 007385500-07 $P = 33.806919$ Days $T_0 = 162.739113$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-07, $P = 33.807106$ Days, $E = 128.935888$ Days

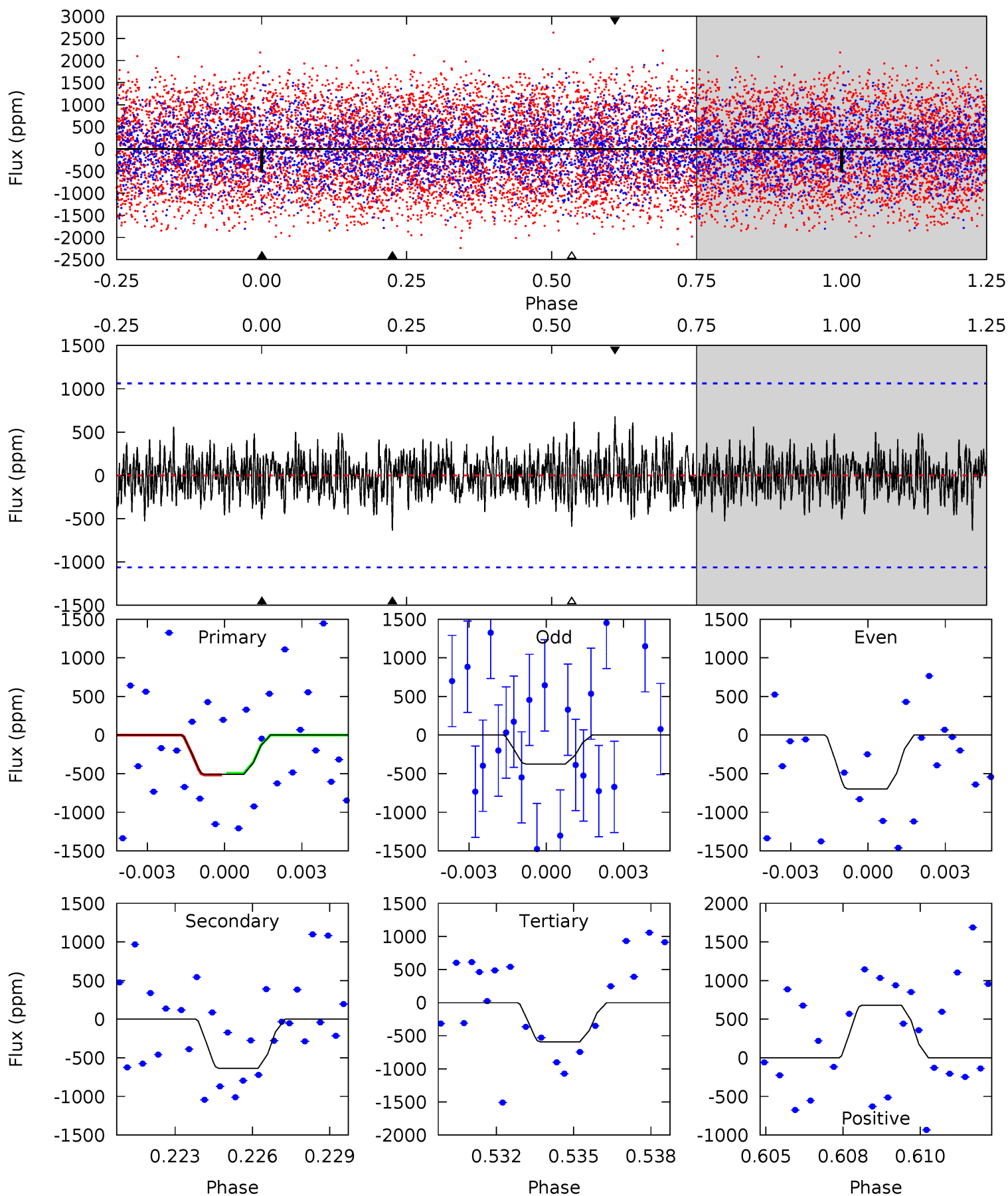
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.48	5.68	5.23	6.85	5.19	2.86	1.86	4.25	2.63	0.45	-1.17	3.14	0.79	0.42	1.68



Alt Model-Shift Uniqueness Test

007385500-07, P = 33.806919 Days, E = 128.932194 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.52	3.16	2.94	3.38	5.27	3.00	0.92	-0.42	-0.86	0.21	-0.23	0.80	0.73	0.52	0.05



Stellar Parameters For KIC 007385500

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	+3%/-4%	+23%/-2%	+58%/-48%	+7%/-67%	+7%/-38%	+1524%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-132 ± 23	$6.81^{+4.83}_{-4.03}$	1792^{+118}_{-320}	5869^{+3271}_{-1120}	94^{+479}_{-62}
Alt.	-636 ± 202	$10.19^{+5.62}_{-4.69}$	1774^{+126}_{-271}	7083^{+2662}_{-1265}	205^{+474}_{-126}

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

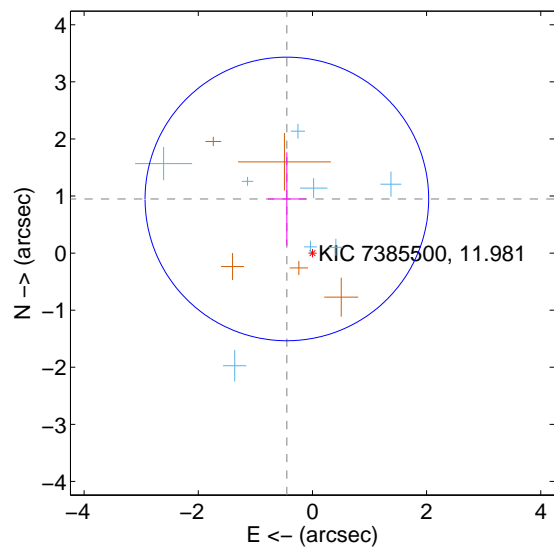
Supplemental centroid analysis for 007385500-07. **Kepler magnitude: 11.98.** Transit SNR 8.96

There are 8 quarters with good PRF difference image offsets

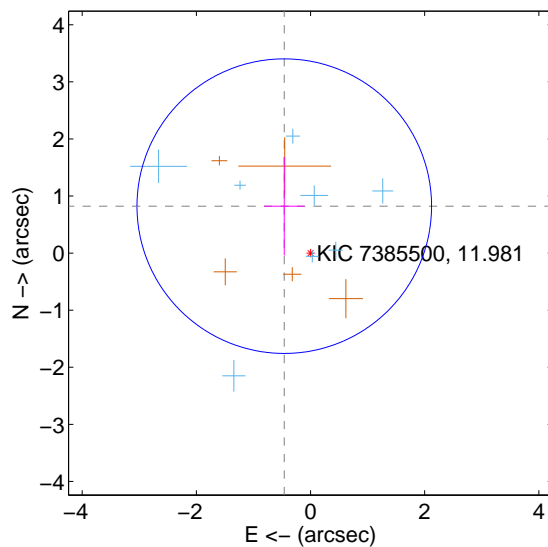
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.049 ± 0.828	1.27	0.448 ± 0.334	0.948 ± 0.818
PRF-fit source offset from KIC position	0.942 ± 0.860	1.10	0.460 ± 0.356	0.822 ± 0.863
photometric centroid source offset	0.48 ± 0.32	1.50	-0.18 ± 0.28	-0.44 ± 0.32

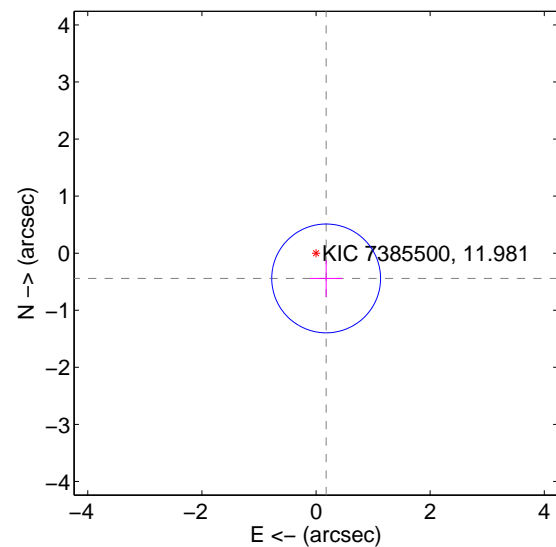
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

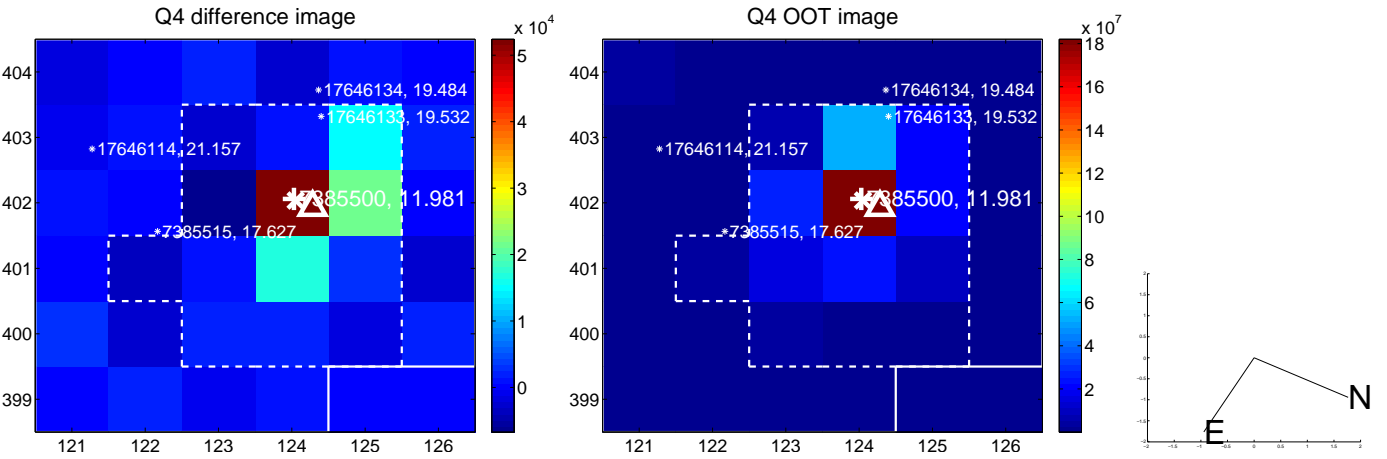
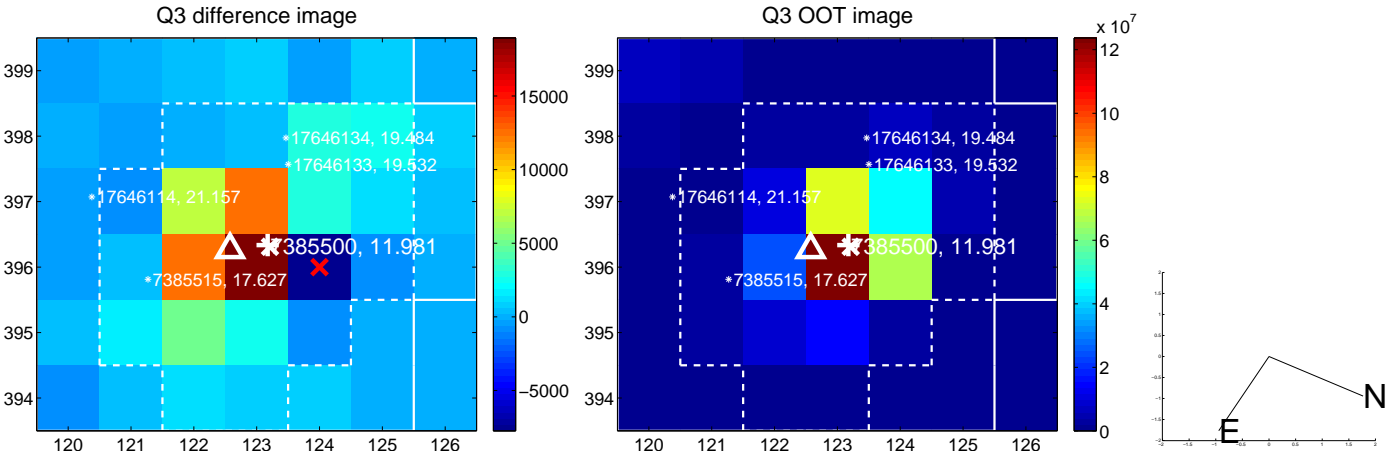
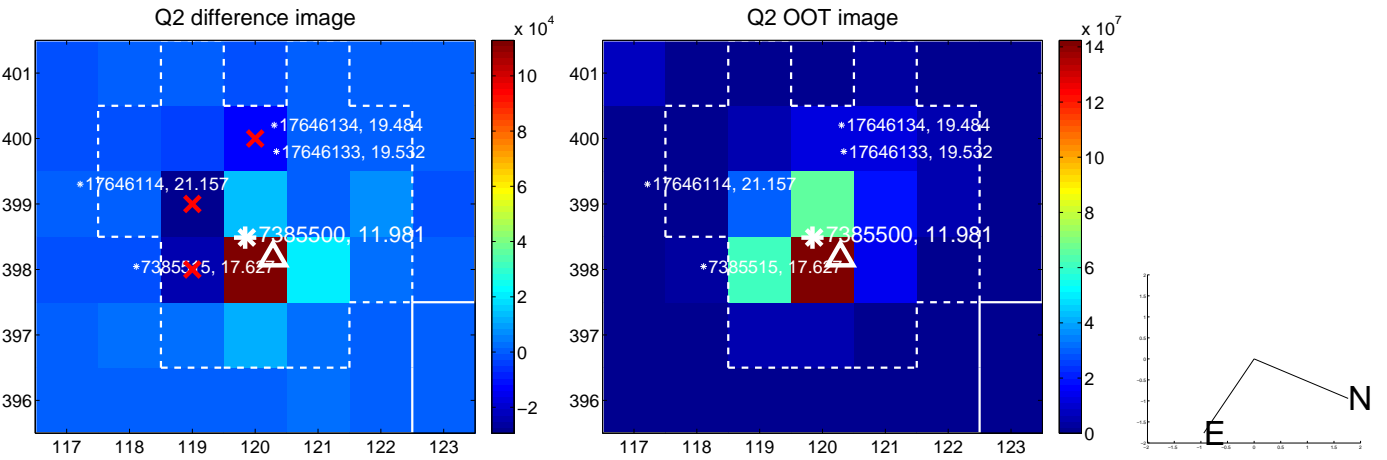
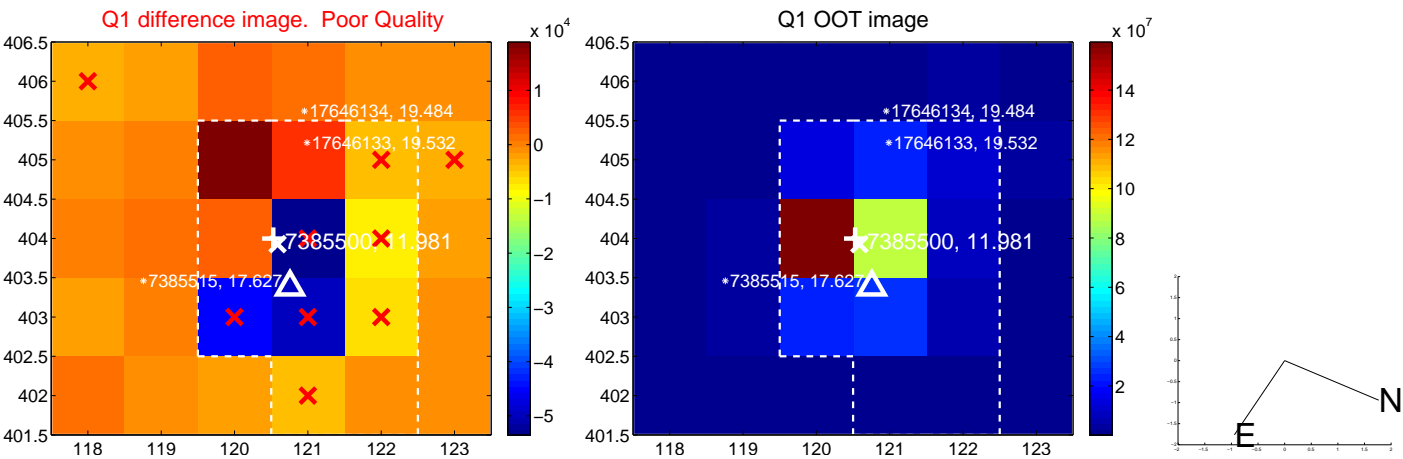


offset from photometric centroids

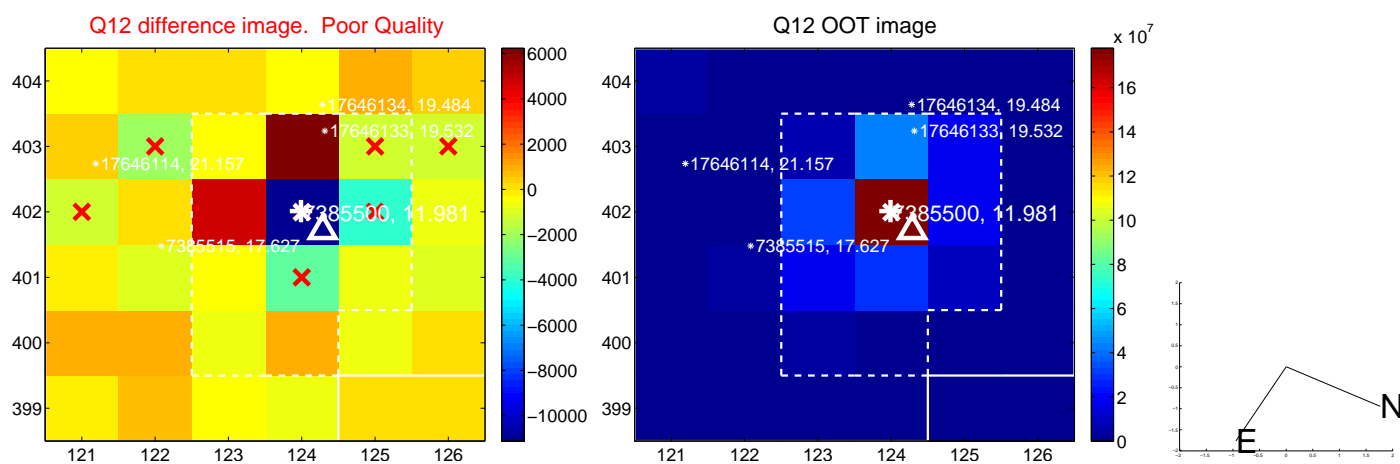
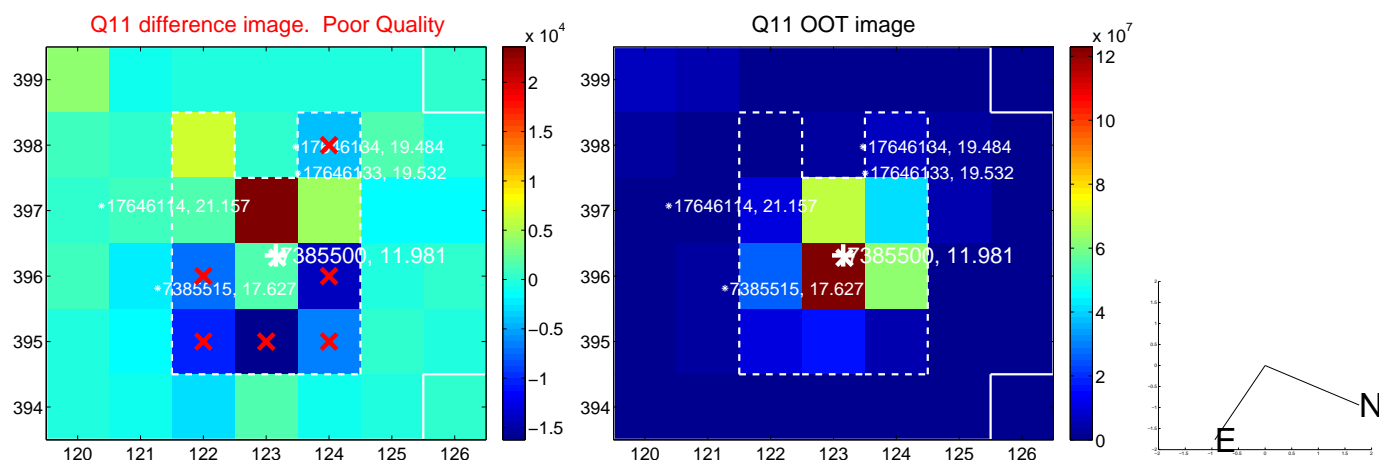
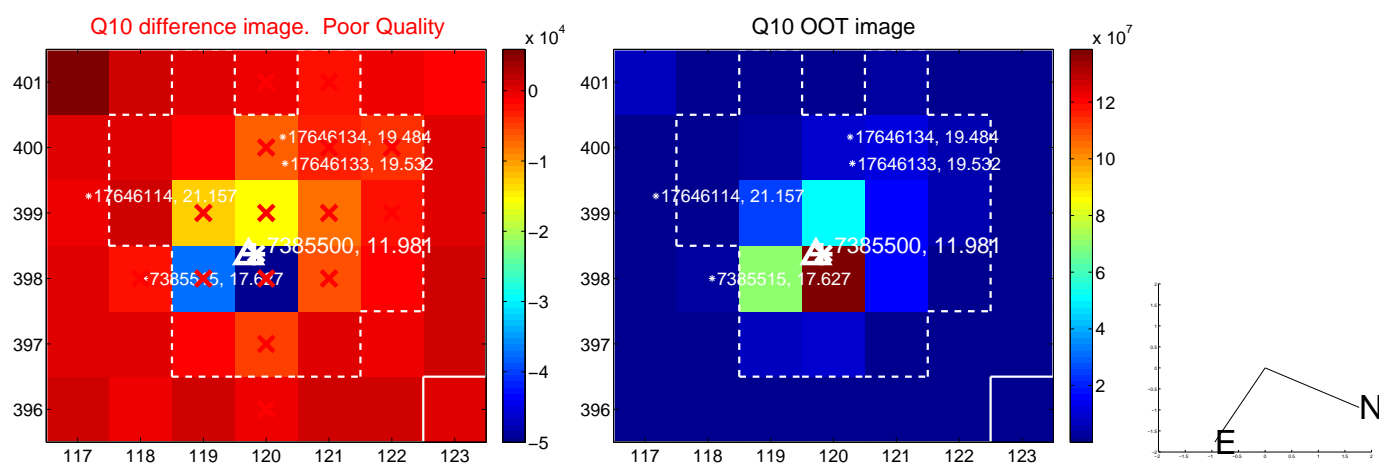
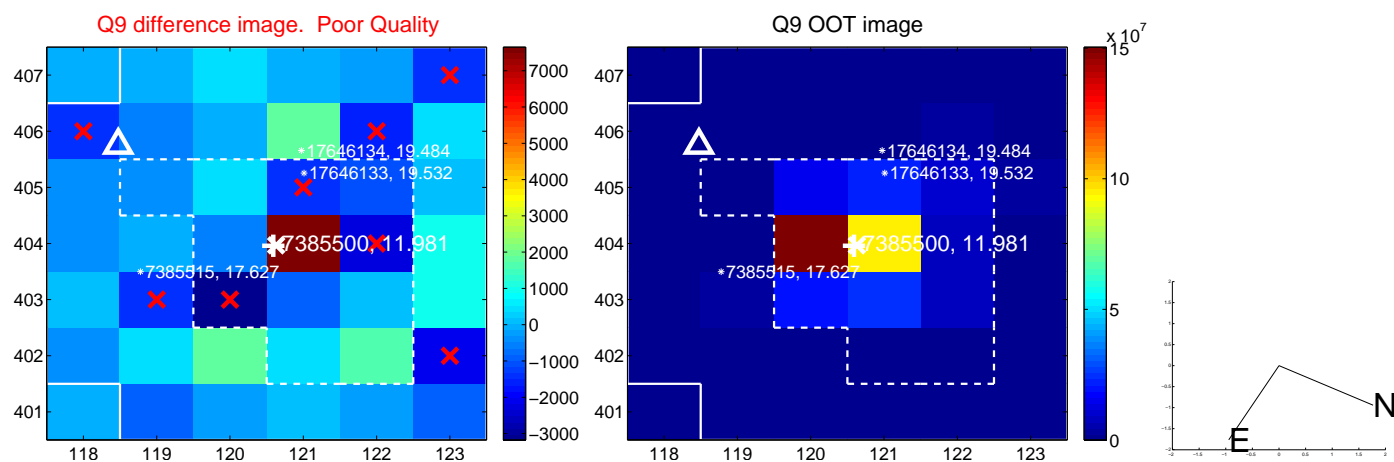


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

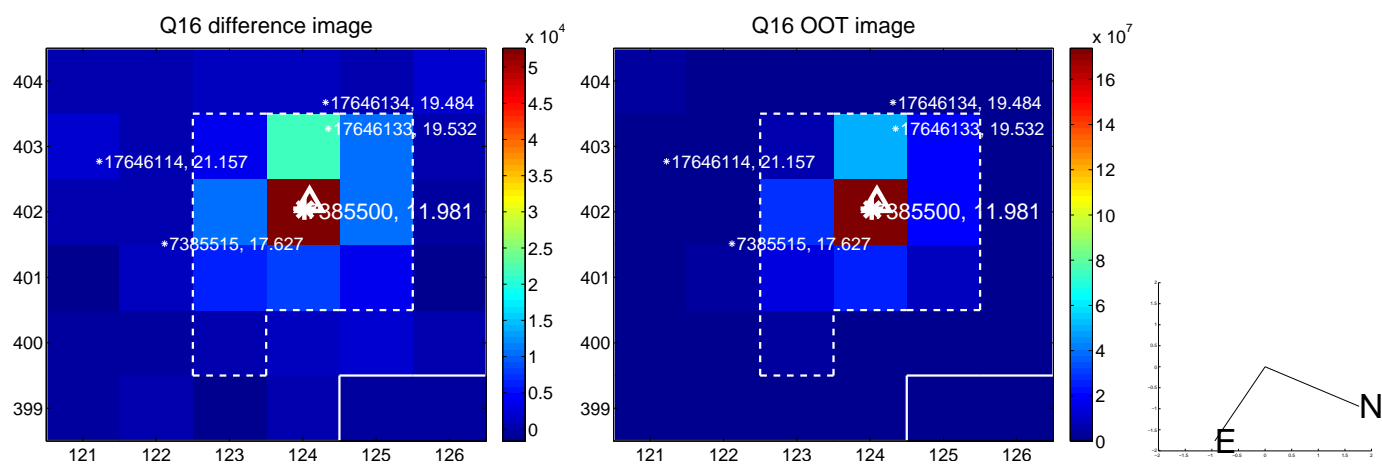
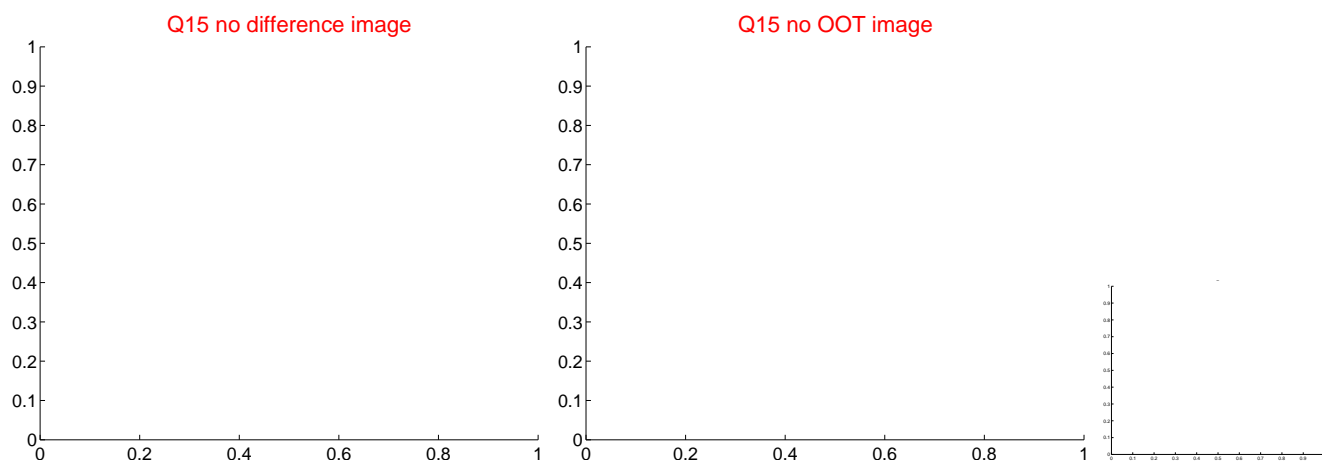
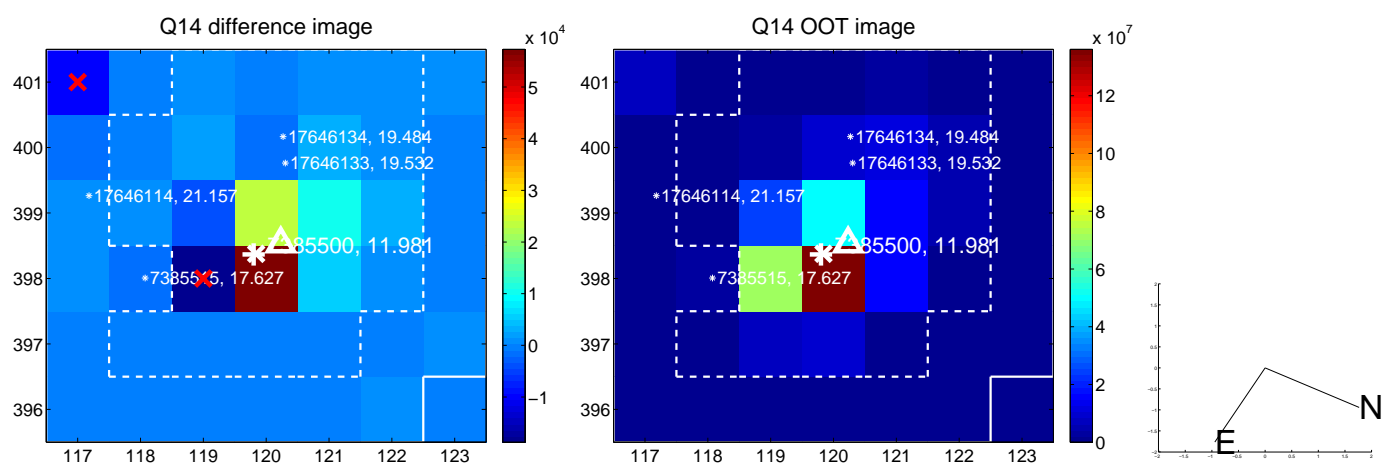
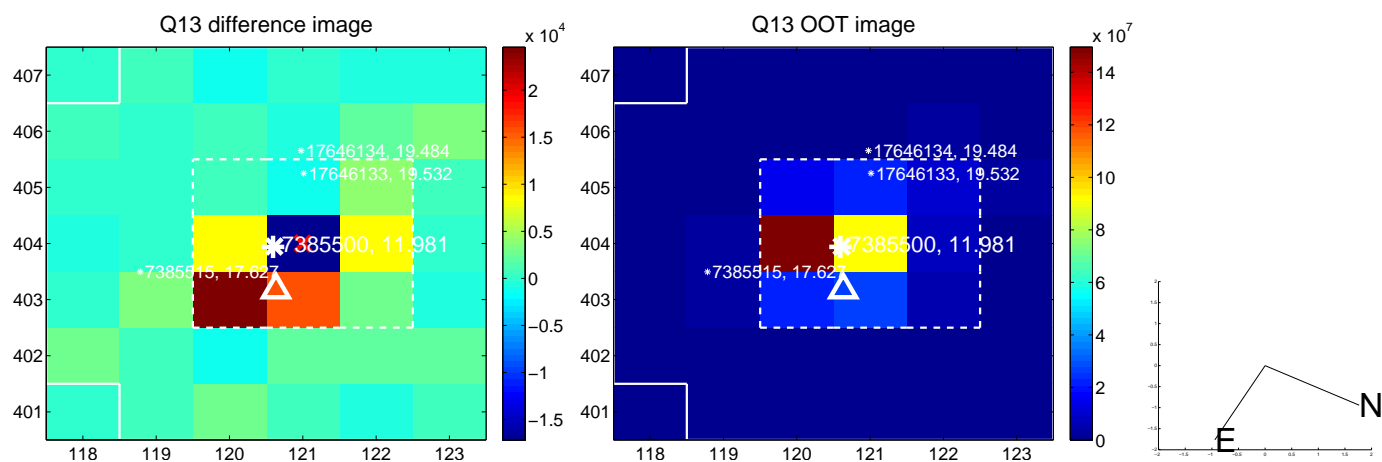
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



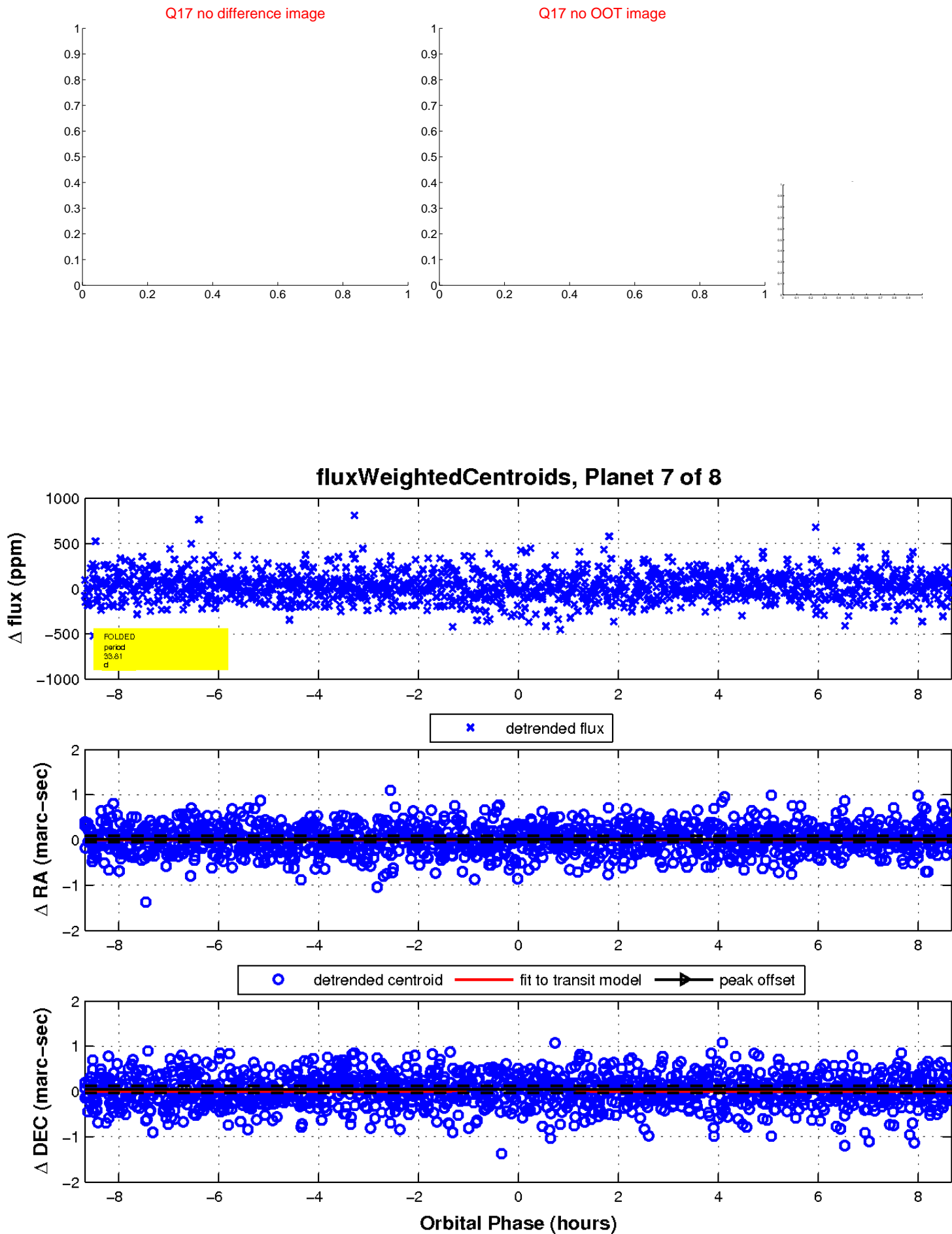
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

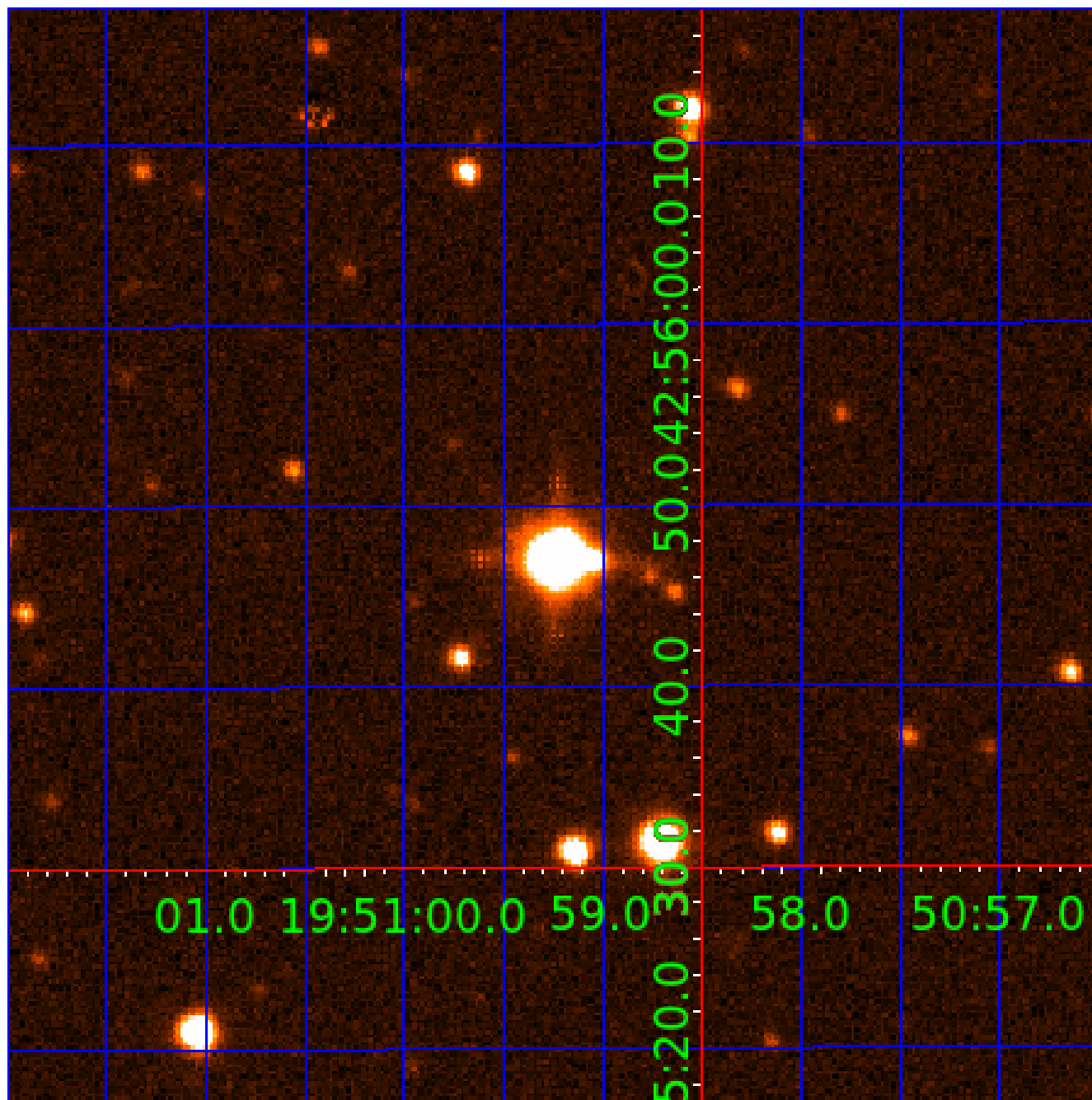


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007385500

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})
007385500-01	OBS	No	4.346955	134.213442	62.0	13.009	9.3	10.4	4.43	7151	4.87	11045.39
007385500-02	OBS	No	4.347180	132.447532	55.4	12.000	9.7	-1.0	4.43	7151	3.34	11044.63
007385500-03	OBS	No	165.479217	192.312170	367.0	7.179	13.2	7.2	4.43	7151	8.83	86.25
007385500-04	OBS	No	412.505014	270.954437	258.3	7.938	11.9	7.0	4.43	7151	8.42	25.52
007385500-05	OBS	No	87.865868	171.068760	305.5	6.487	9.3	9.3	4.43	7151	14.86	200.60
007385500-06	OBS	No	1.895861	132.546872	52.8	7.693	10.4	11.6	4.43	7151	4.30	33395.34
007385500-07	OBS	No	33.807106	162.742994	234.7	2.896	9.9	9.0	4.43	7151	7.91	716.83
007385500-08	OBS	No	60.297640	176.332008	115.6	6.000	8.9	-1.0	4.43	7151	4.82	331.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385500-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007385500-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007385500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007385500-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007385500-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-06	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
007385500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007385500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

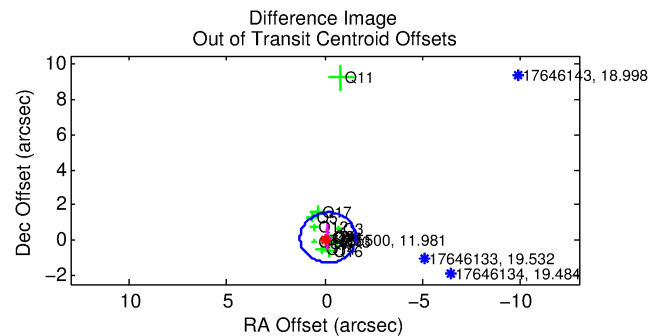
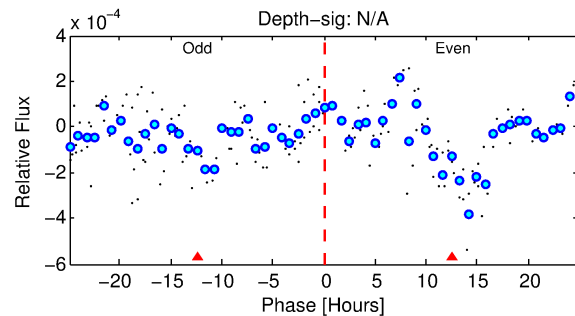
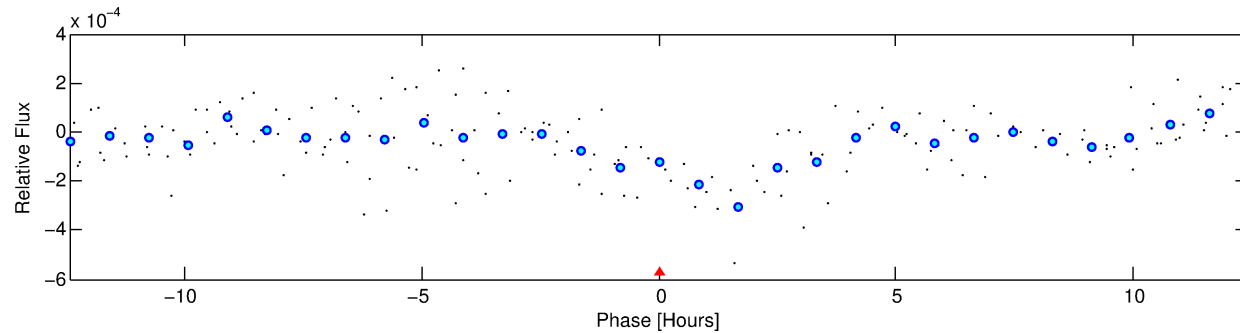
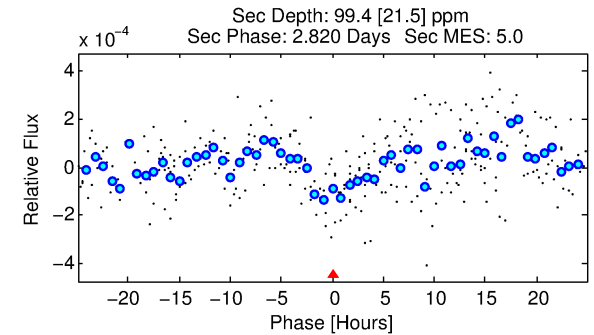
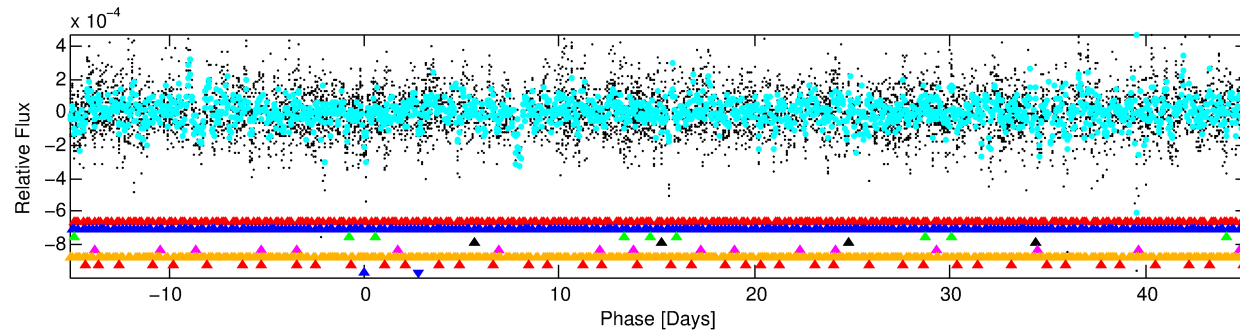
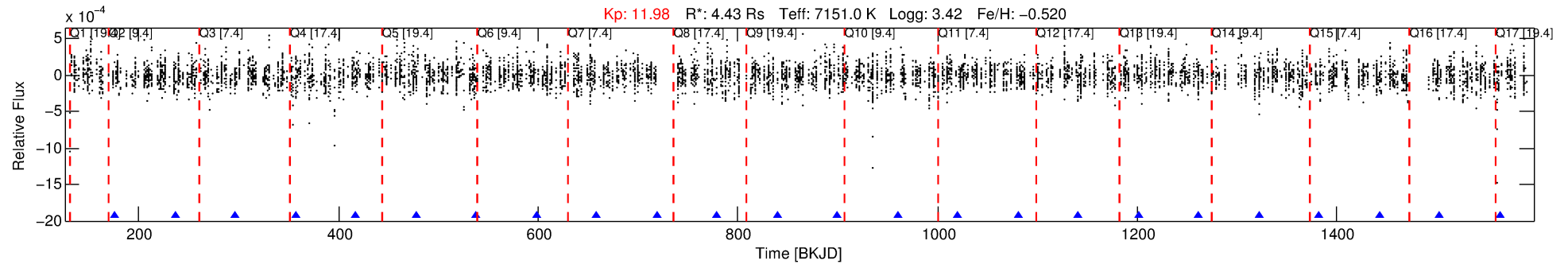
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007385500-08

No Significant Match Found

DV One-Page Summary

KIC: 7385500 Candidate: 8 of 8 Period: 60.298 d



TPS TCE Results:

Period = 60.29764 d
Epoch = 176.3320 BKJD

DV fit results are unavailable

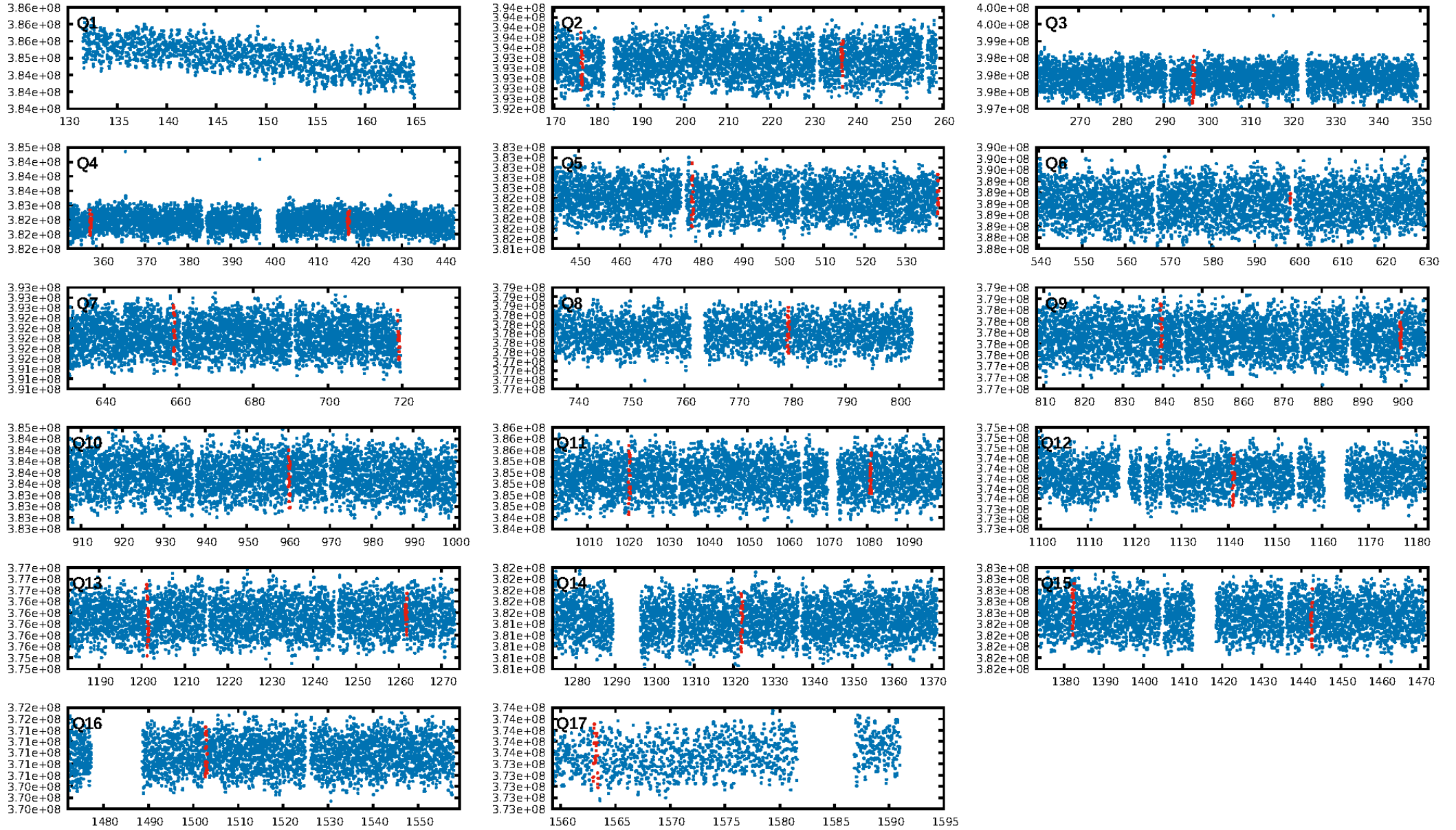
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [95.43 σ]
LongPeriod-sig: 100.0% [74.88 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -5.064
Centroid-sig: 10.8%
Centroid-so: 0.764 arcsec [1.84 σ]
OotOffset-rm: 0.213 arcsec [0.45 σ]
KicOffset-rm: 0.227 arcsec [1.43 σ]
OotOffset-st: 2/4/4/4 [14]
KicOffset-st: 2/4/4/4 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 0.20 [3/15]

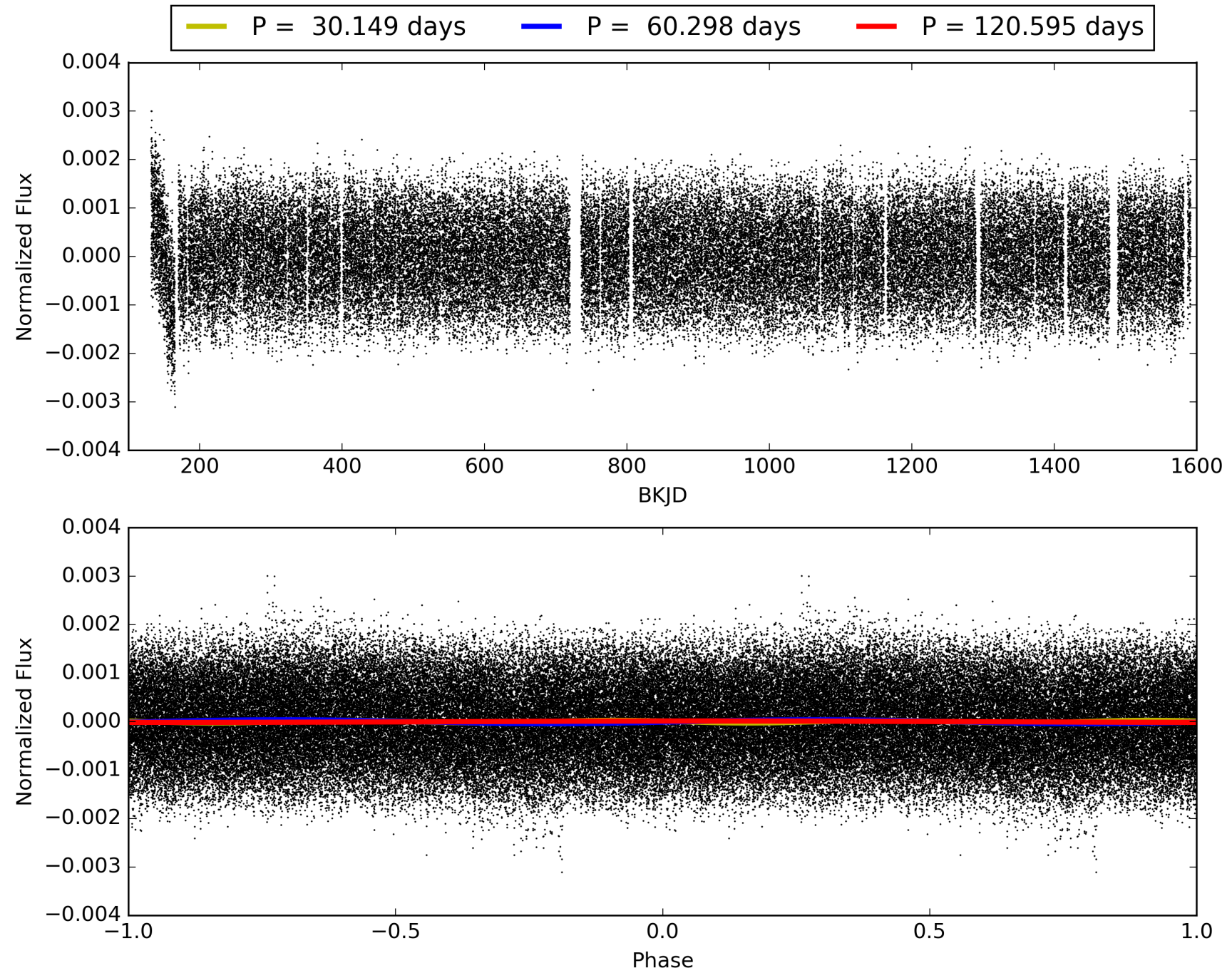
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:10:14 Z

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

TCE 007385500-08, PDC Light Curves

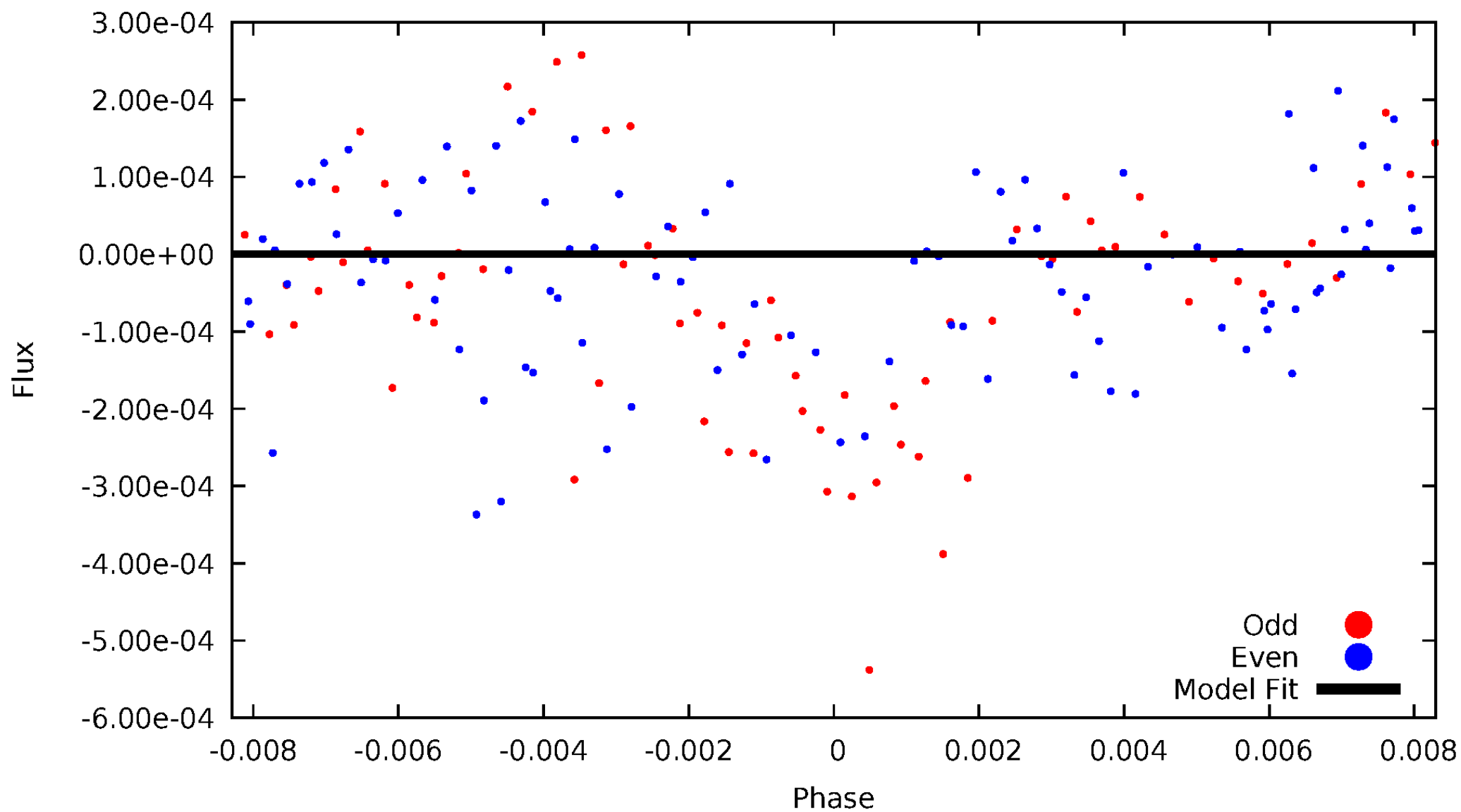


TCE 007385500-08



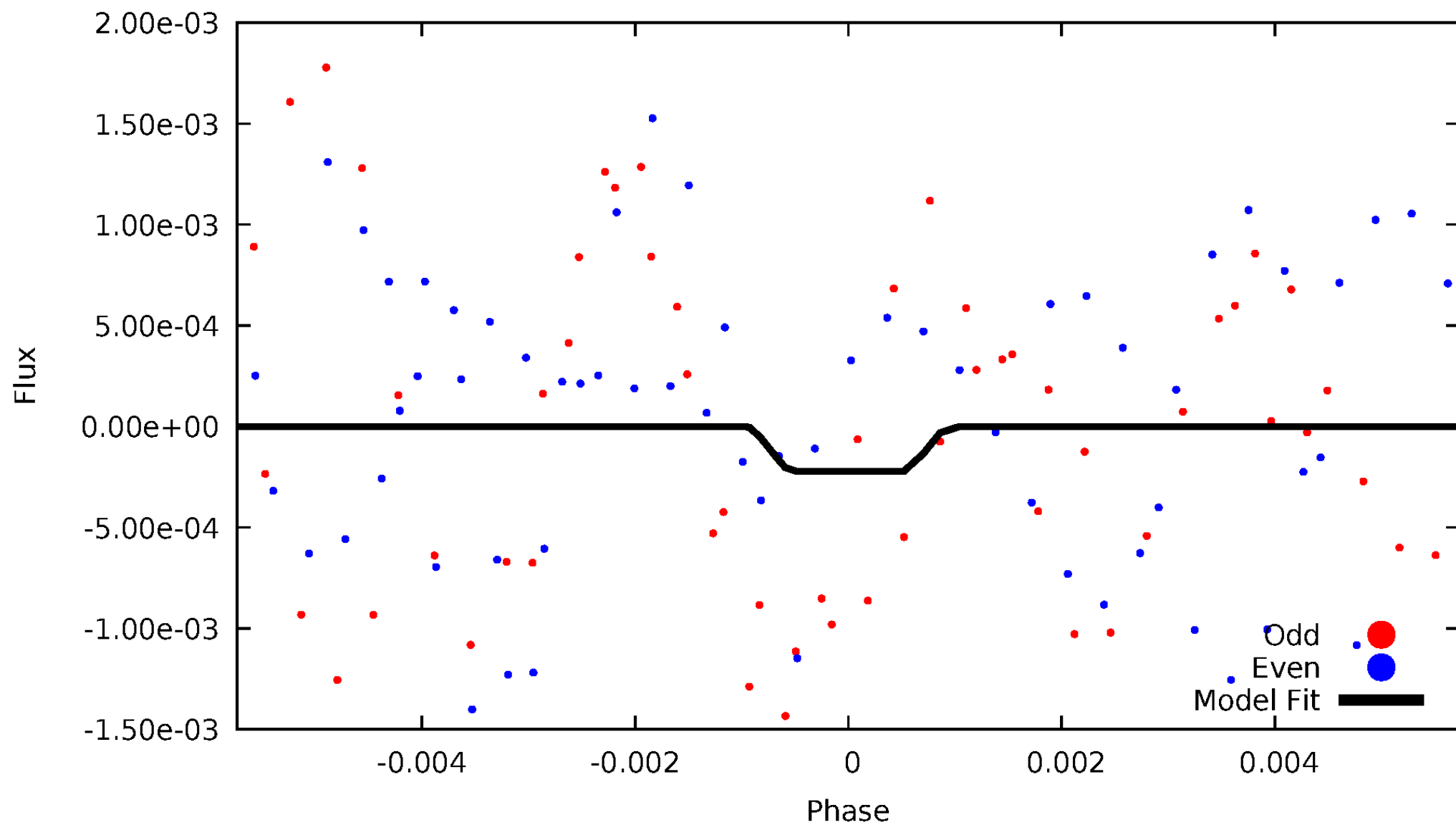
DV Odd/Even

TCE 007385500-08



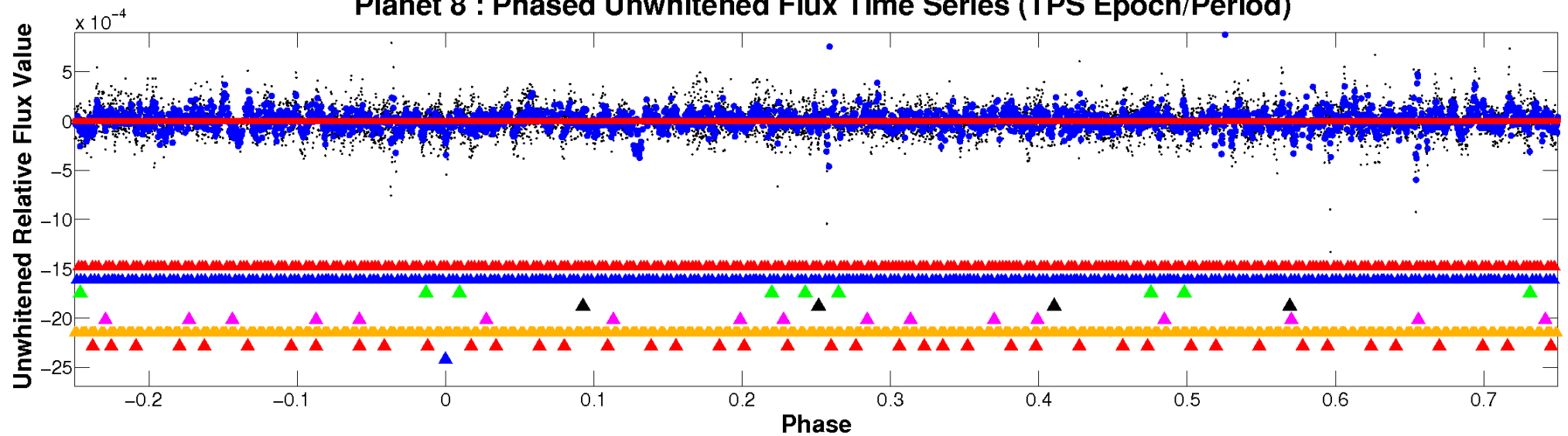
ALT Odd/Even

TCE 007385500-08

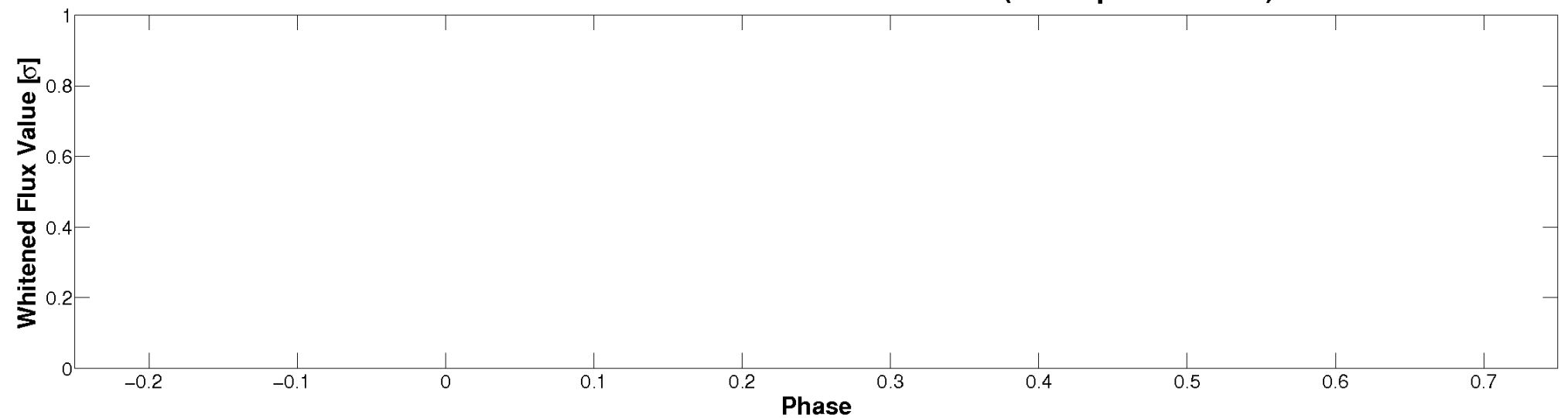


Non-Whitened Vs. Whitened Light Curve

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

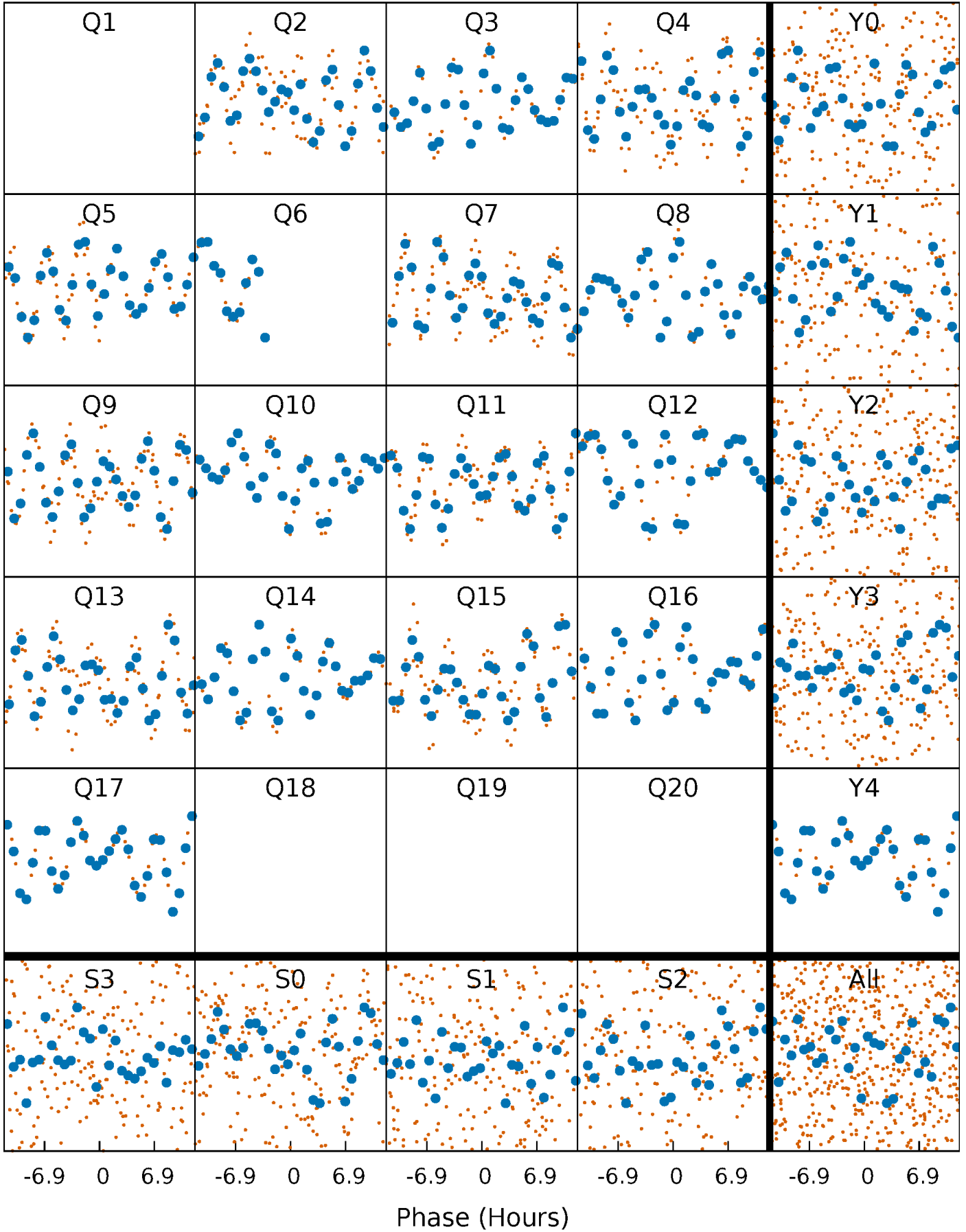


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



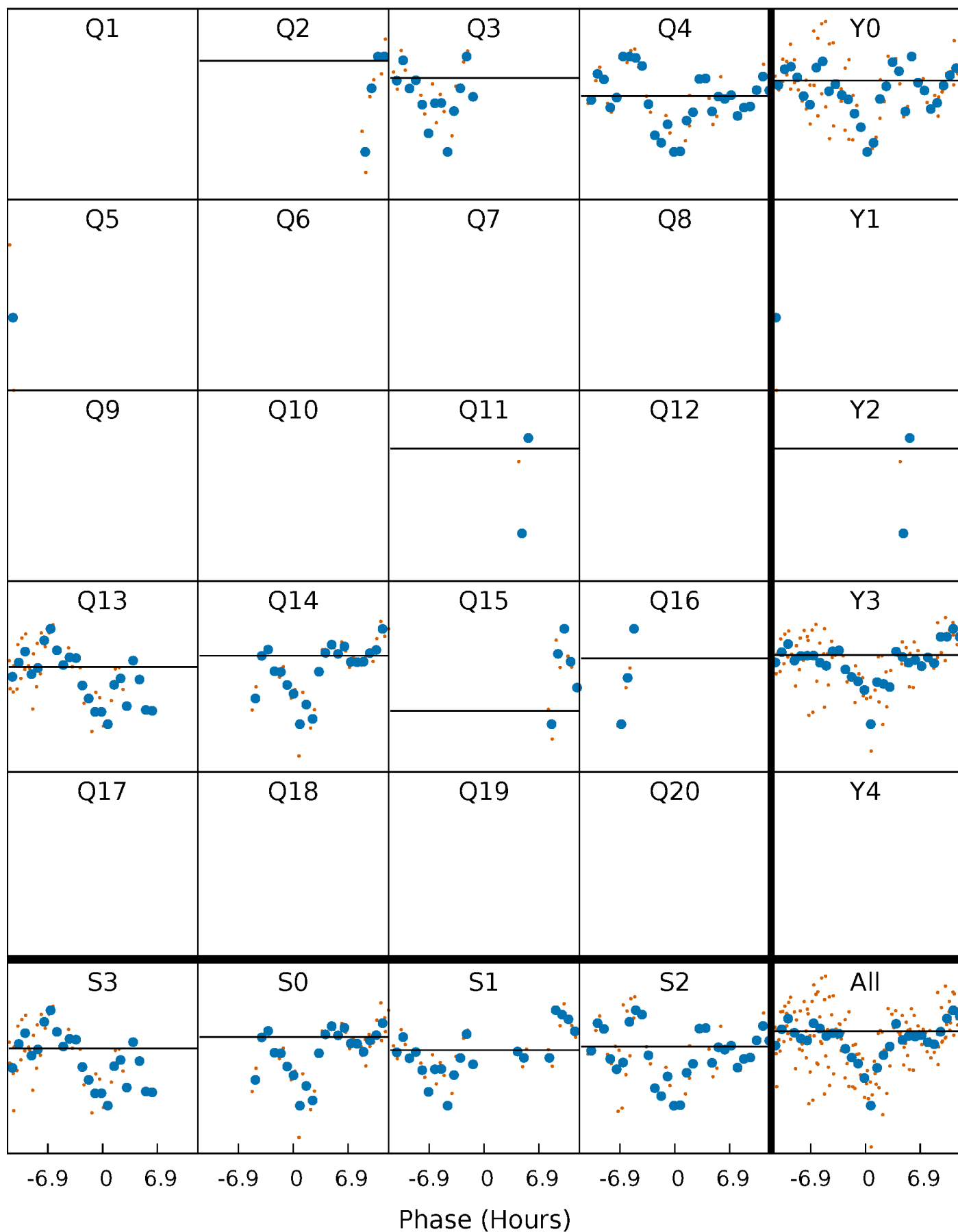
PDC Quarter-Phased Transit Curves

TCE 007385500-08 P= 60.297640 Days $T_0=176.332008$ (BKJD)



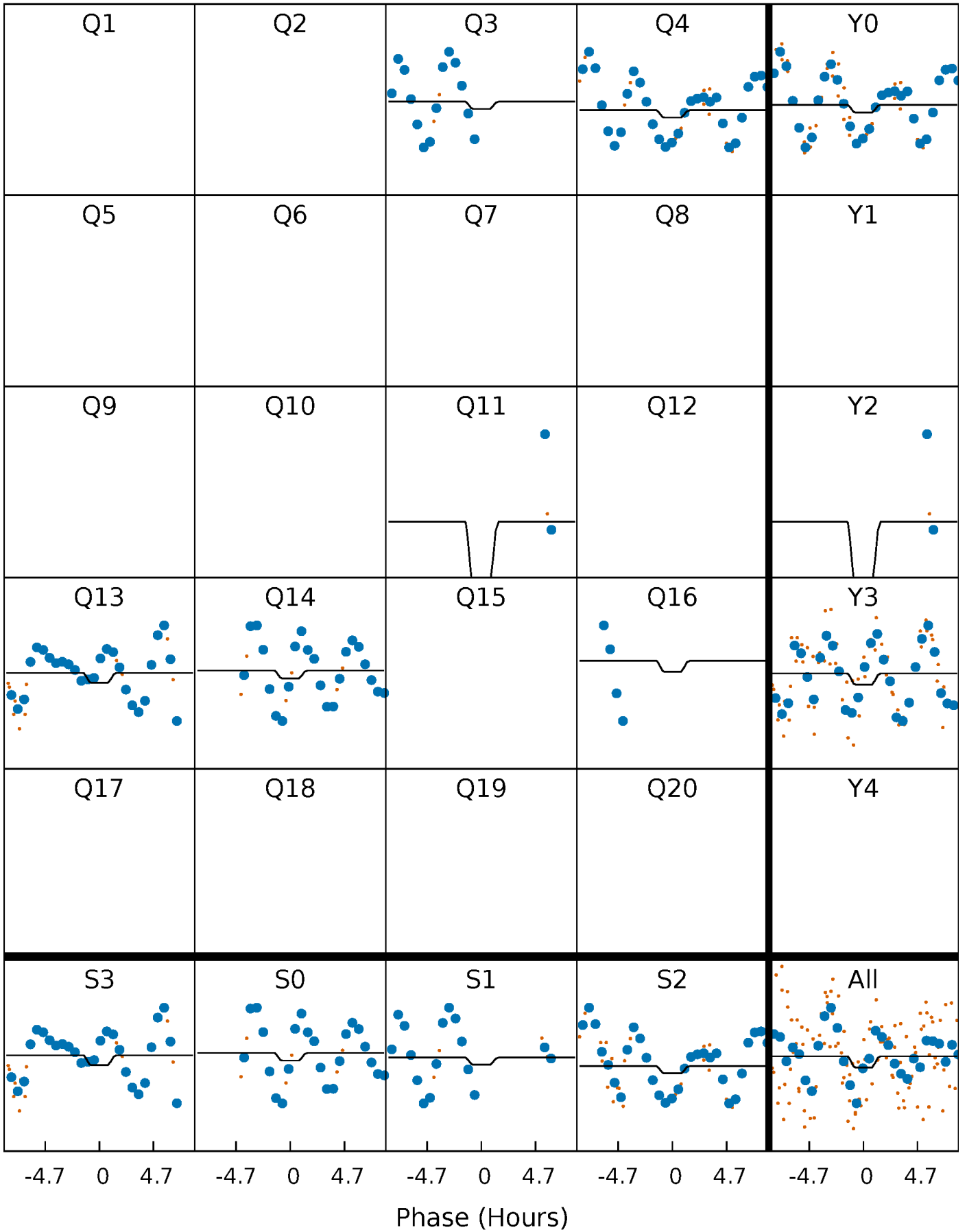
DV Quarter-Phased Transit Curves

TCE 007385500-08 $P = 60.297640$ Days $T_0 = 176.332008$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

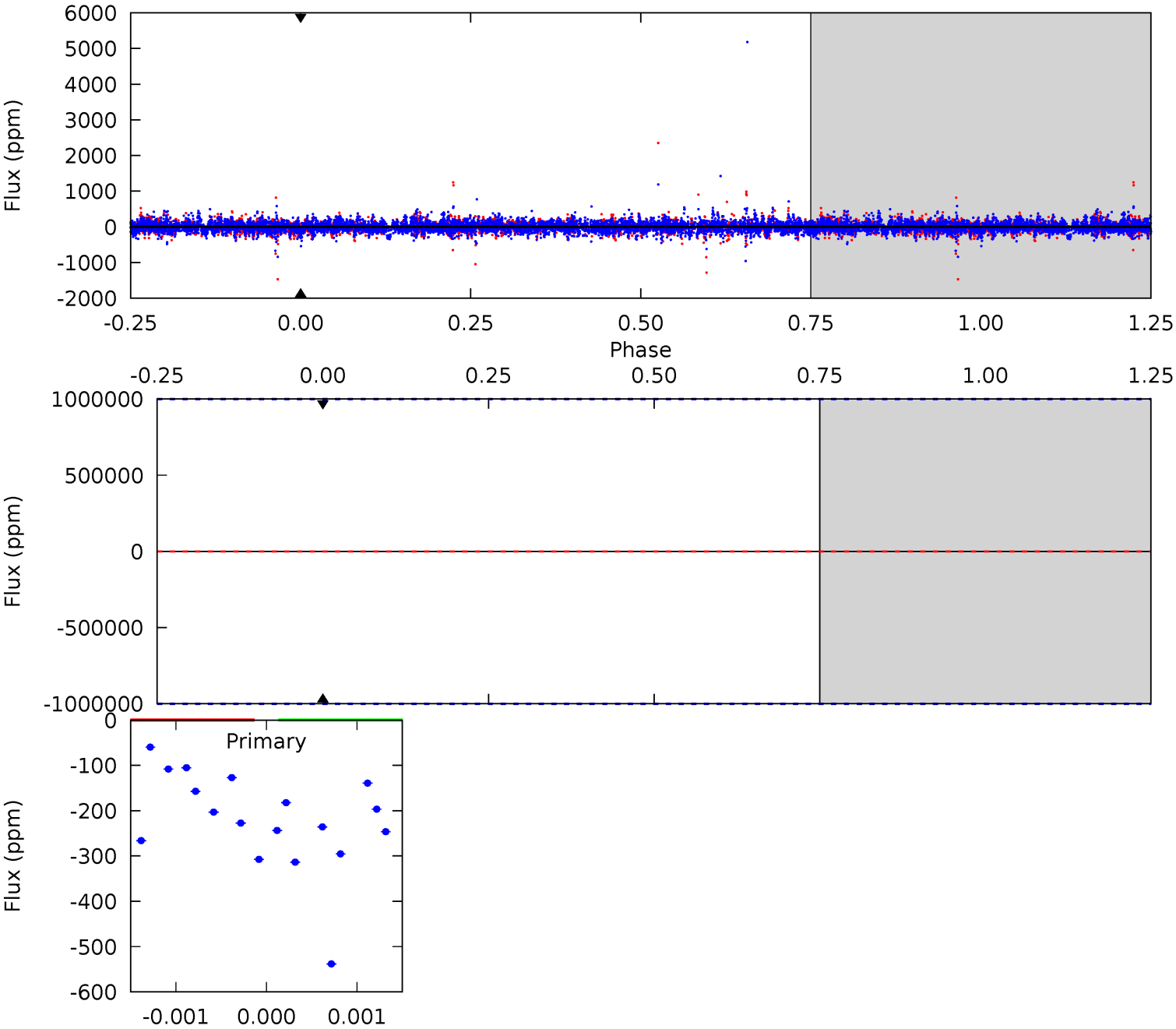
TCE 007385500-08 $P = 60.297640$ Days $T_0 = 176.295014$ (BKJD)



DV Model-Shift Uniqueness Test

007385500-08, P = 60.297640 Days, E = 116.034368 Days

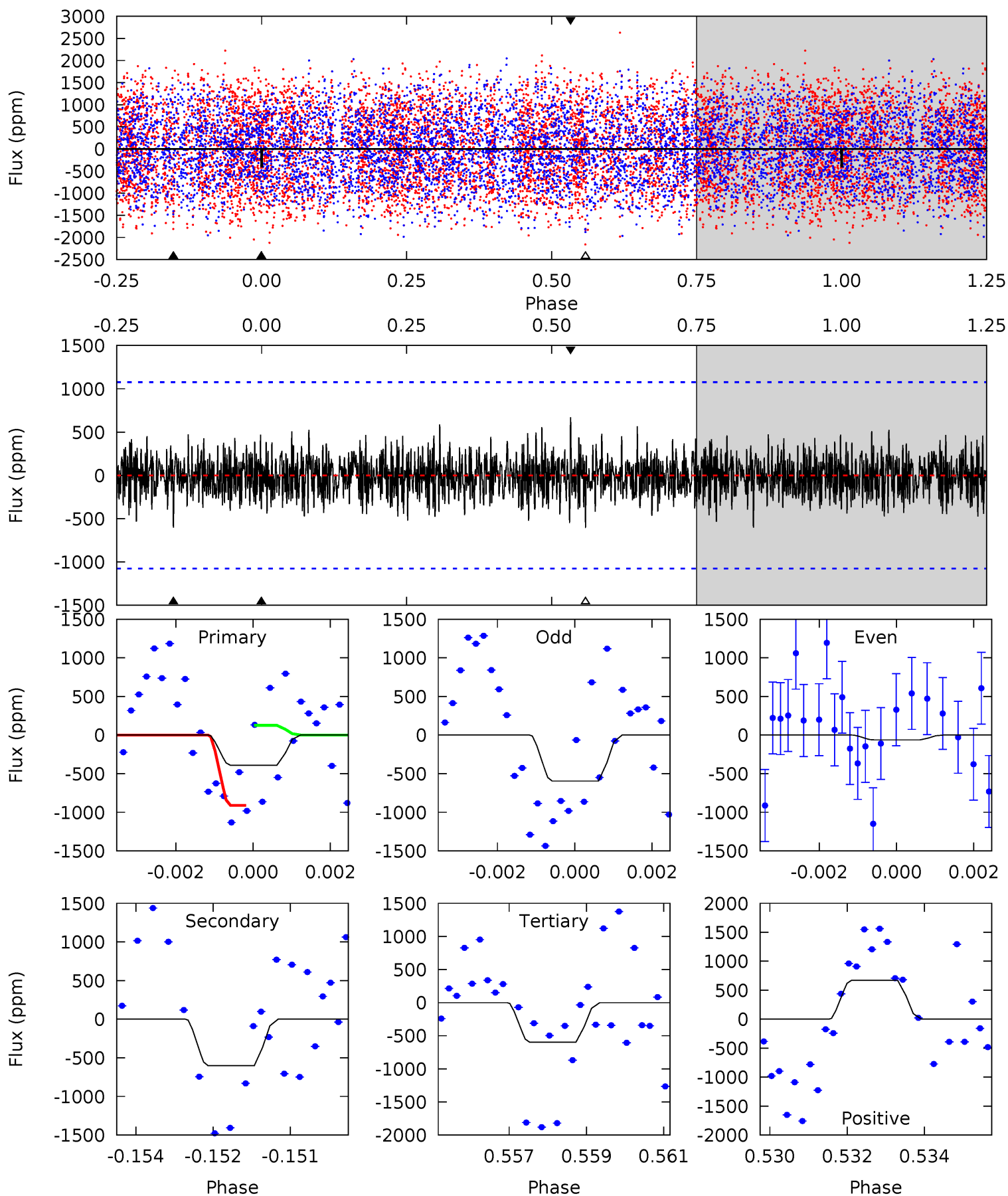
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007385500-08, P = 60.297640 Days, E = 115.997374 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.95	2.99	2.97	3.33	5.36	3.14	0.94	-1.02	-1.38	0.02	-0.34	1.32	0.89	0.53	1.96



Stellar Parameters For KIC 007385500

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7151^{+225}_{-300}	$3.423^{+0.779}_{-0.082}$	$-0.520^{+0.300}_{-0.250}$	$4.432^{+0.330}_{-2.967}$	$1.897^{+0.129}_{-0.729}$	$0.031^{+0.468}_{-0.008}$
	$+3\%/-4\%$	$+23\%/-2\%$	$+58\%/-48\%$	$+7\%/-67\%$	$+7\%/-38\%$	$+1524\%/-27\%$
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007385500-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$29.06^{+32.54}_{-20.47}$	1463^{+107}_{-253}	-3727^{+47669}_{-32683}	$-53.976^{+18558.447}_{-15407.392}$
Alt.	-601 ± 201	$29.14^{+34.05}_{-20.33}$	1464^{+109}_{-261}	4261^{+3280}_{-882}	51^{+534}_{-40}

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

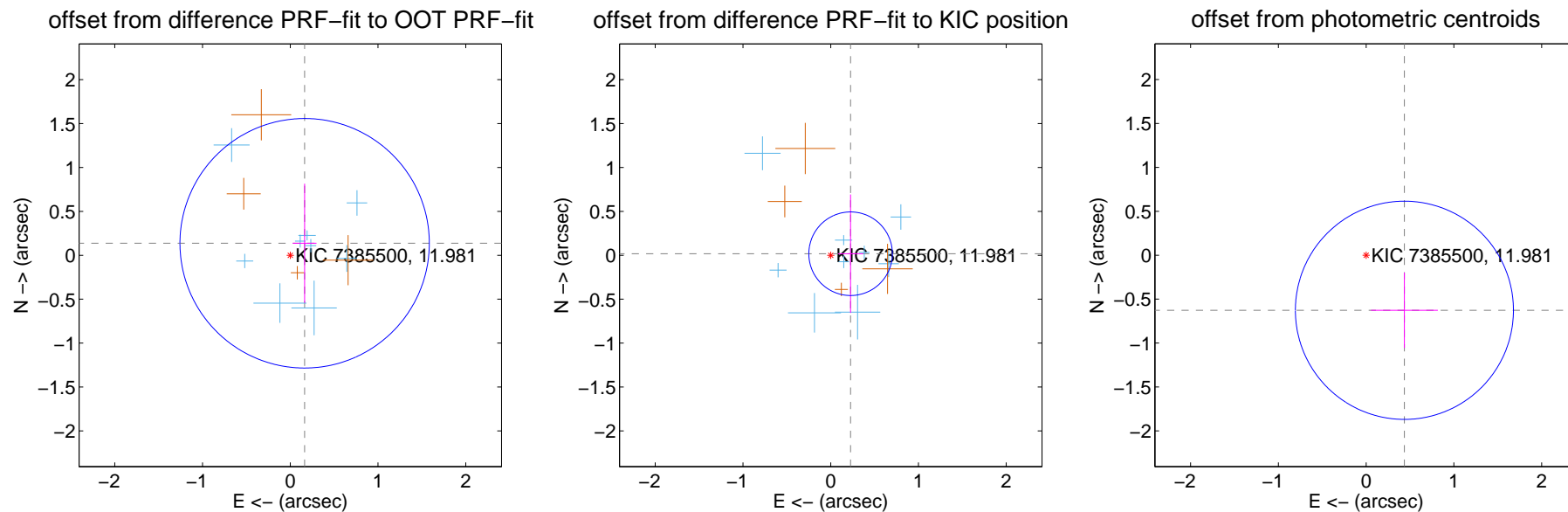
DV Centroid Data

Supplemental centroid analysis for 007385500-08. **Kepler magnitude: 11.98.** Transit SNR -1.00

There are 9 quarters with good PRF difference image offsets

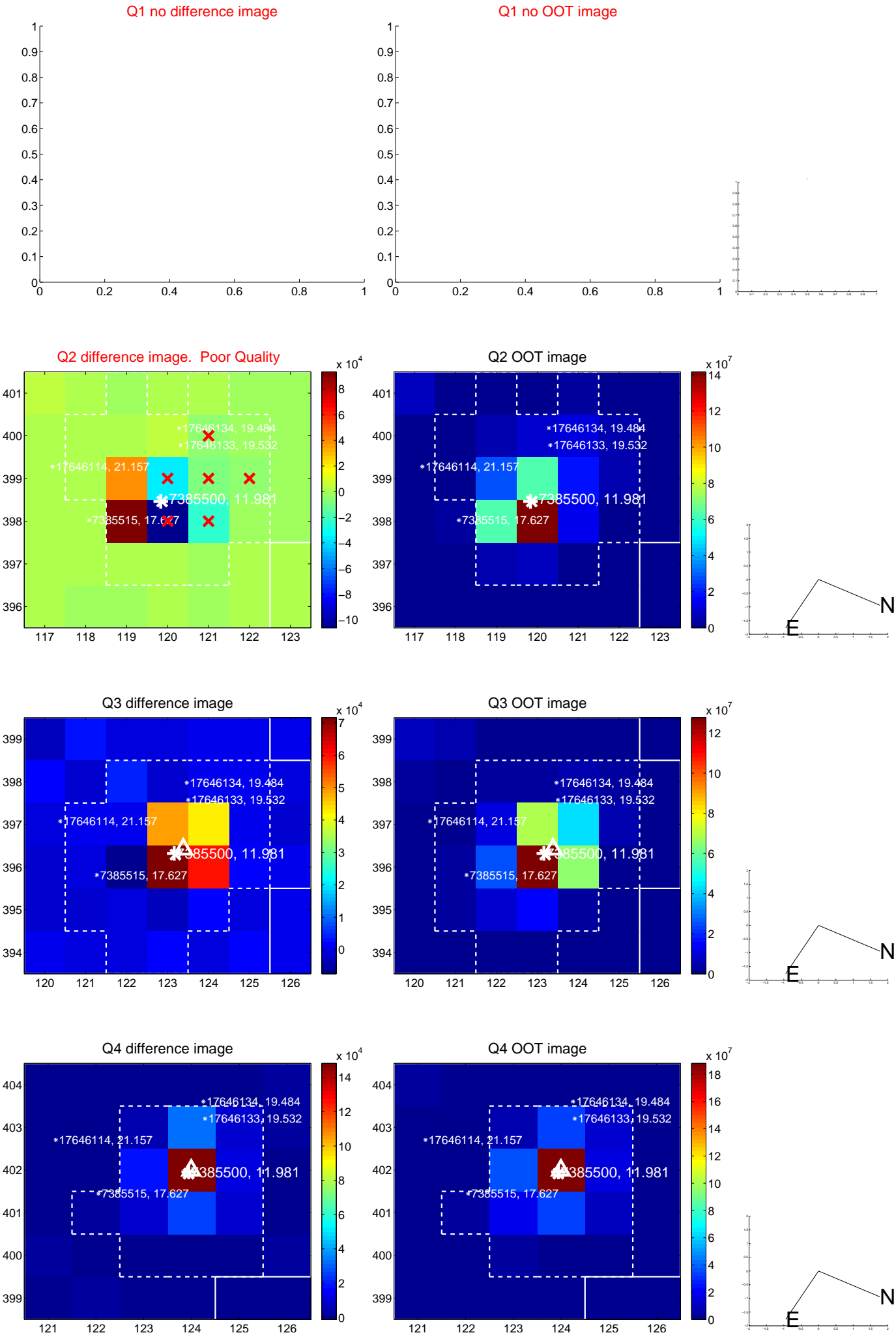
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.213 ± 0.474	0.45	-0.164 ± 0.136	0.137 ± 0.678
PRF-fit source offset from KIC position	0.227 ± 0.159	1.43	-0.227 ± 0.142	0.018 ± 0.674
photometric centroid source offset	0.76 ± 0.41	1.84	-0.44 ± 0.38	-0.63 ± 0.43

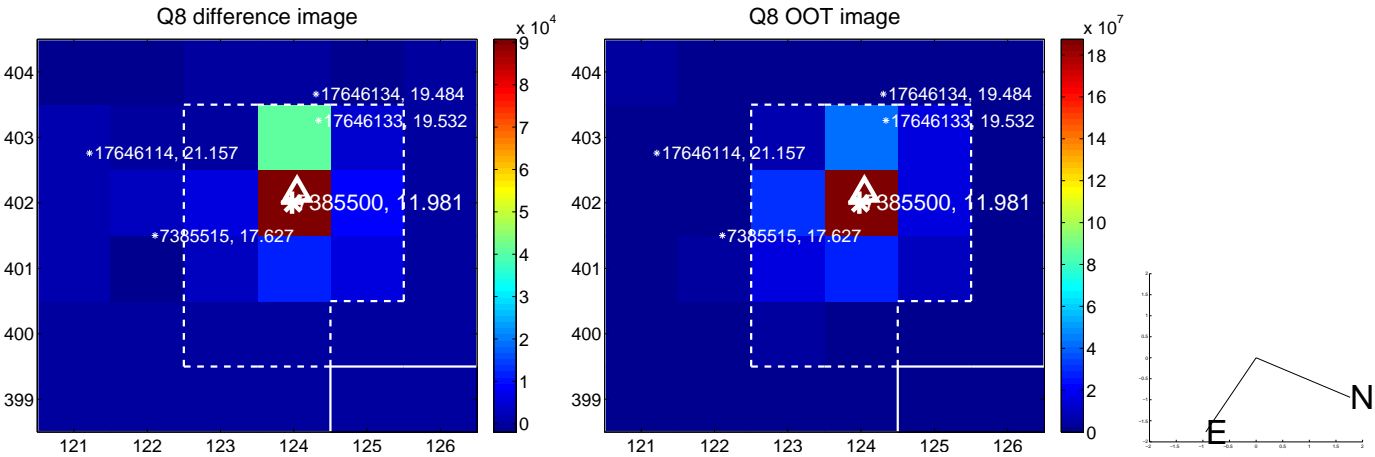
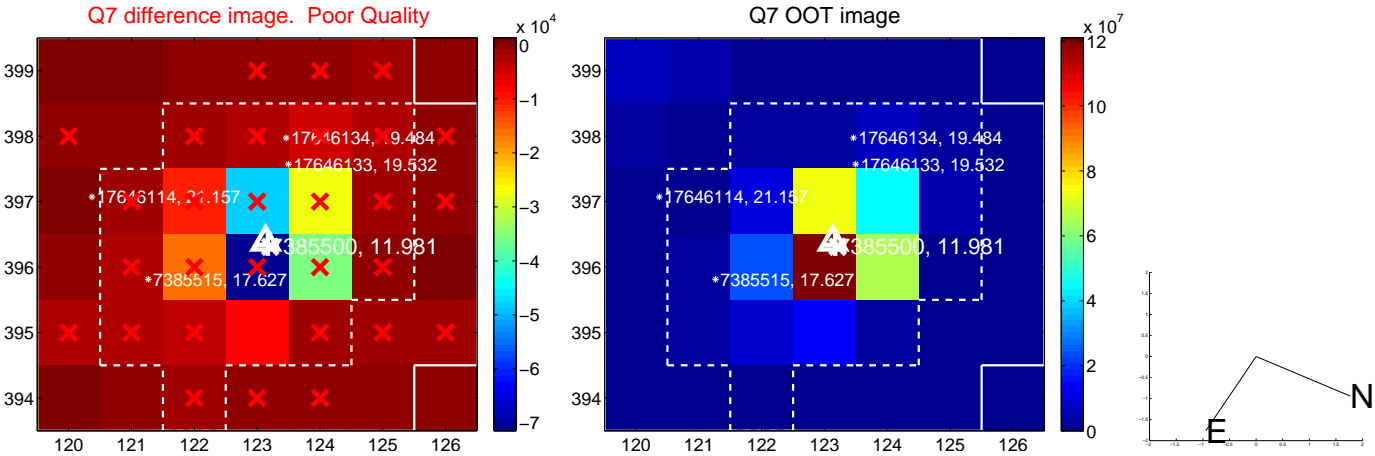
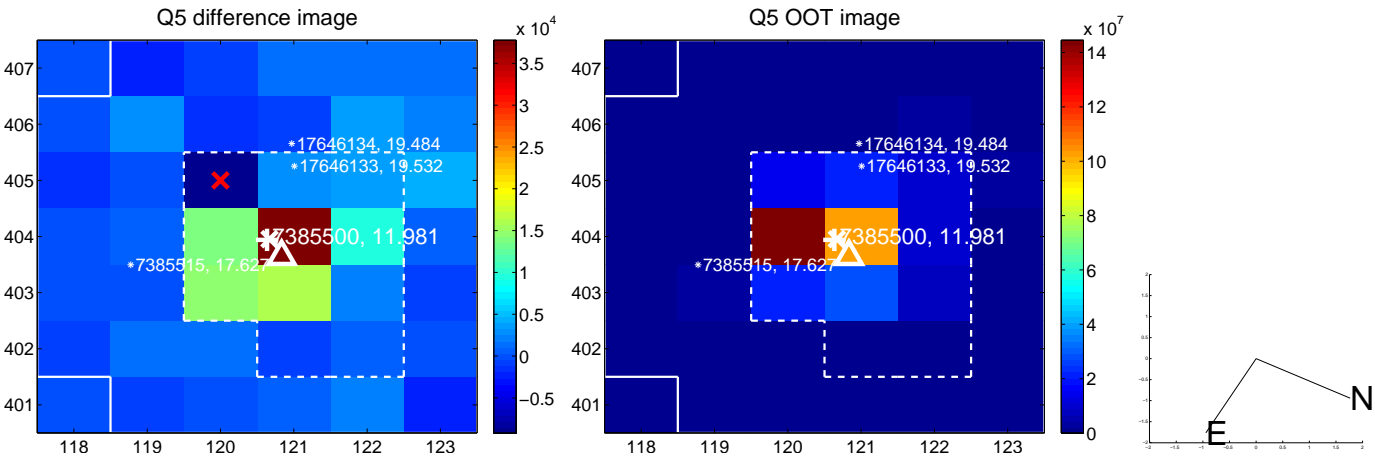


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

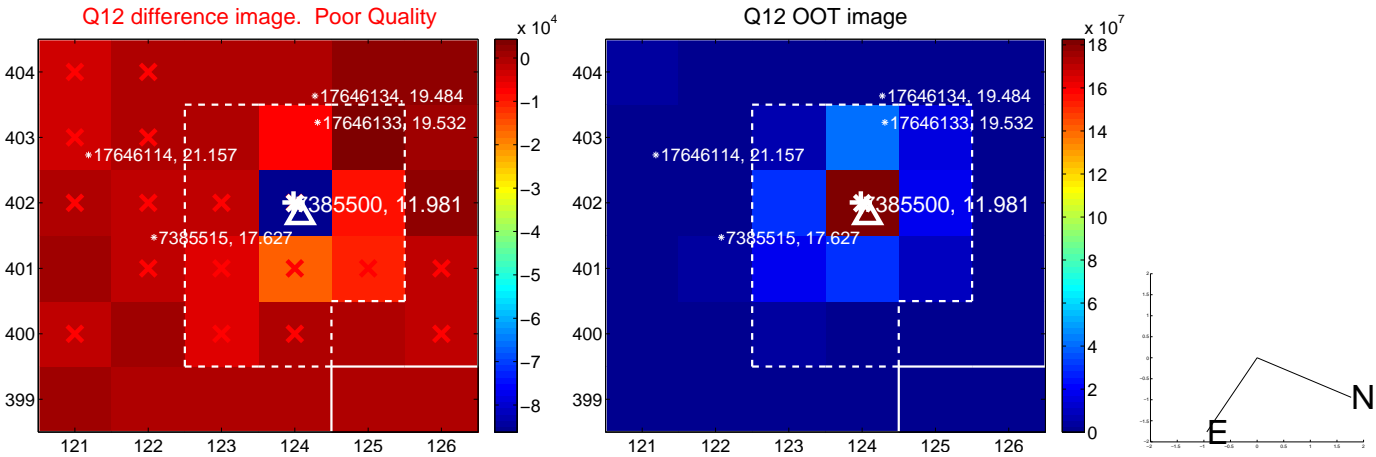
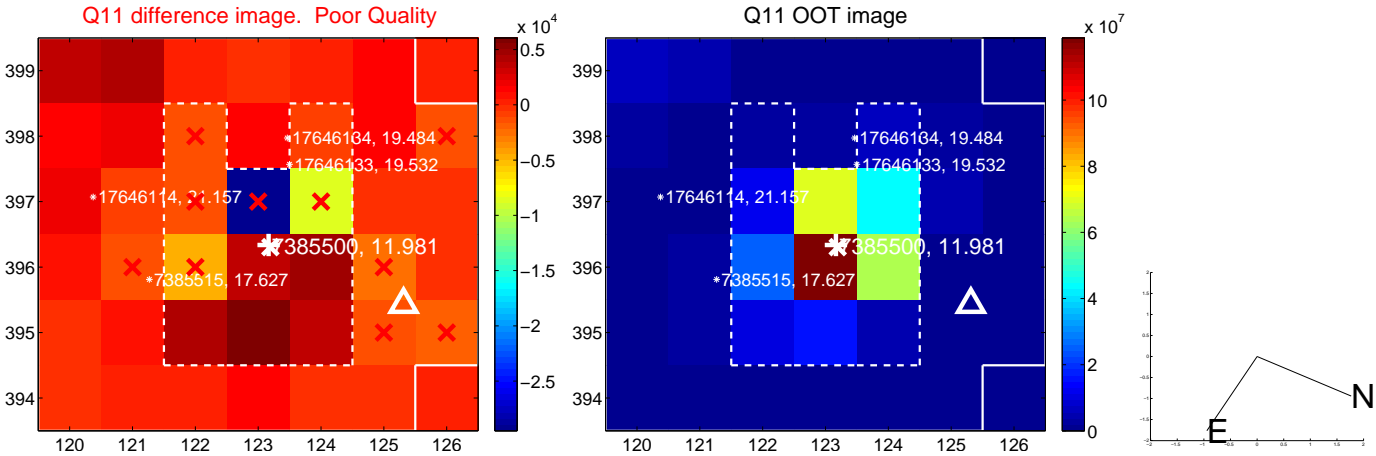
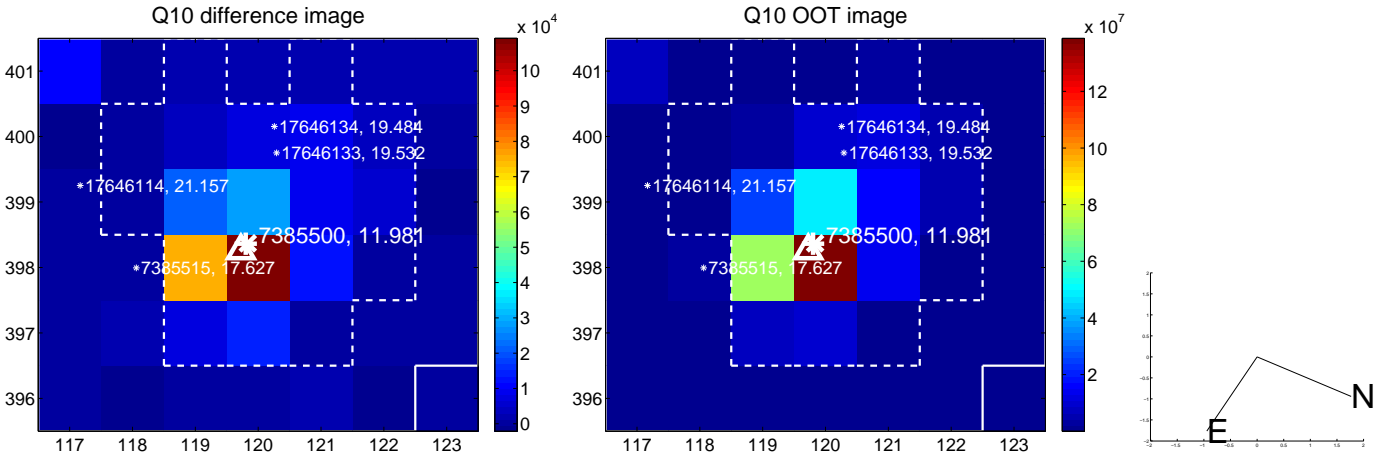
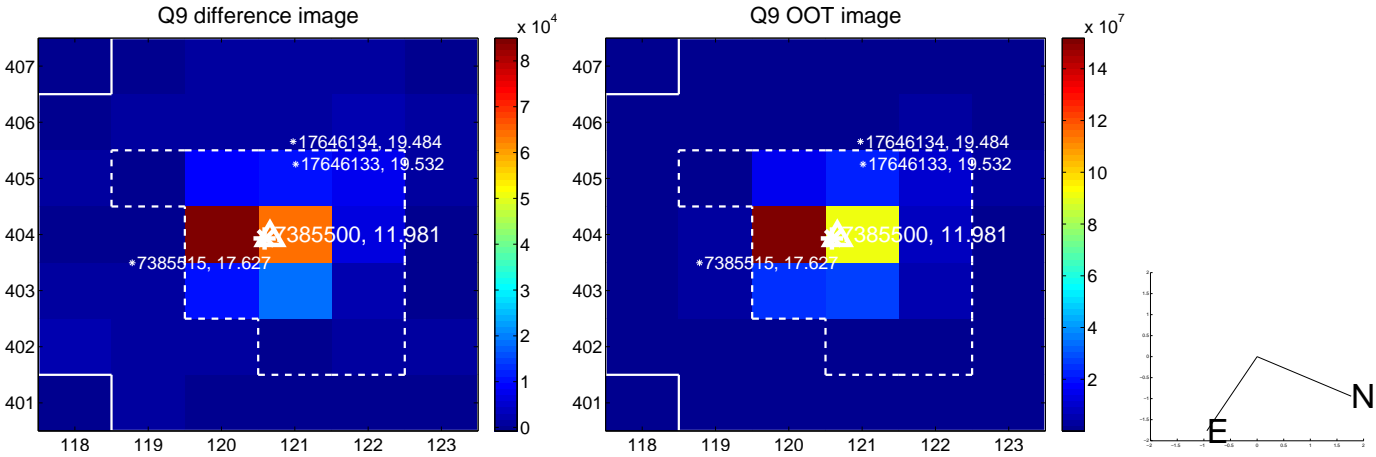
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



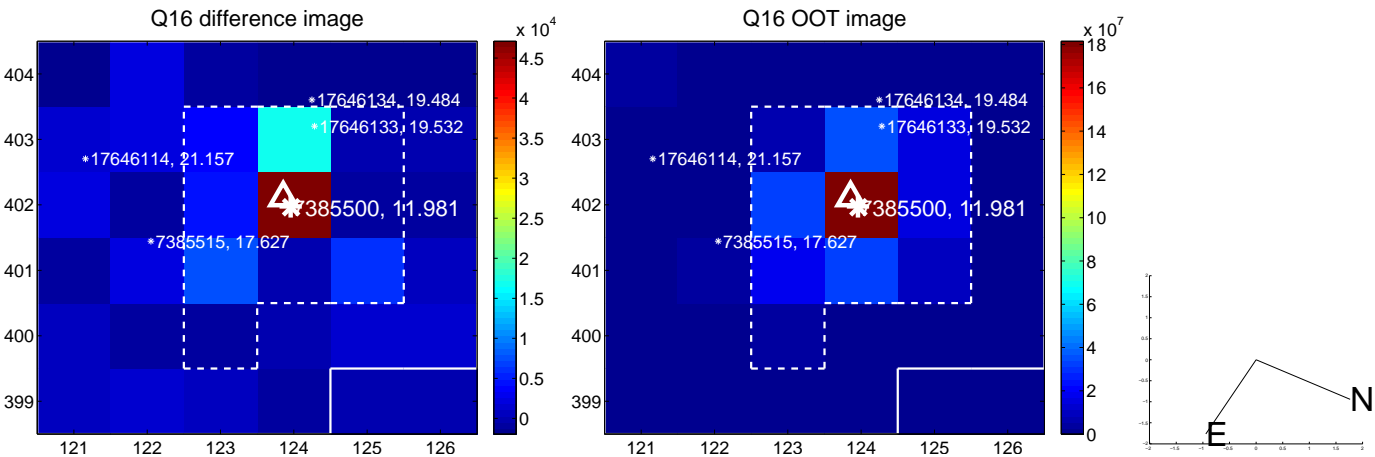
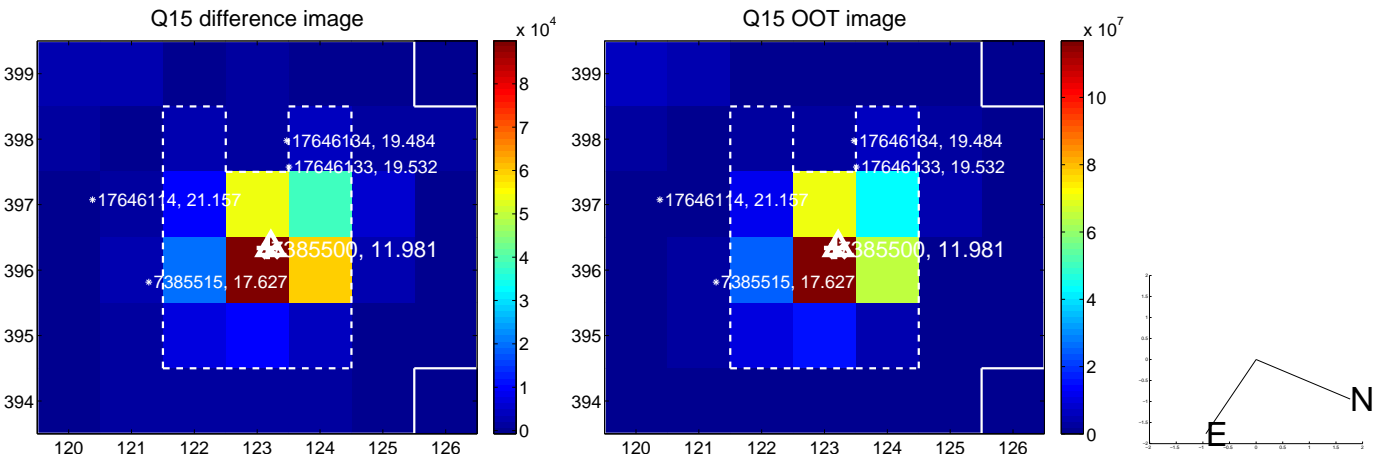
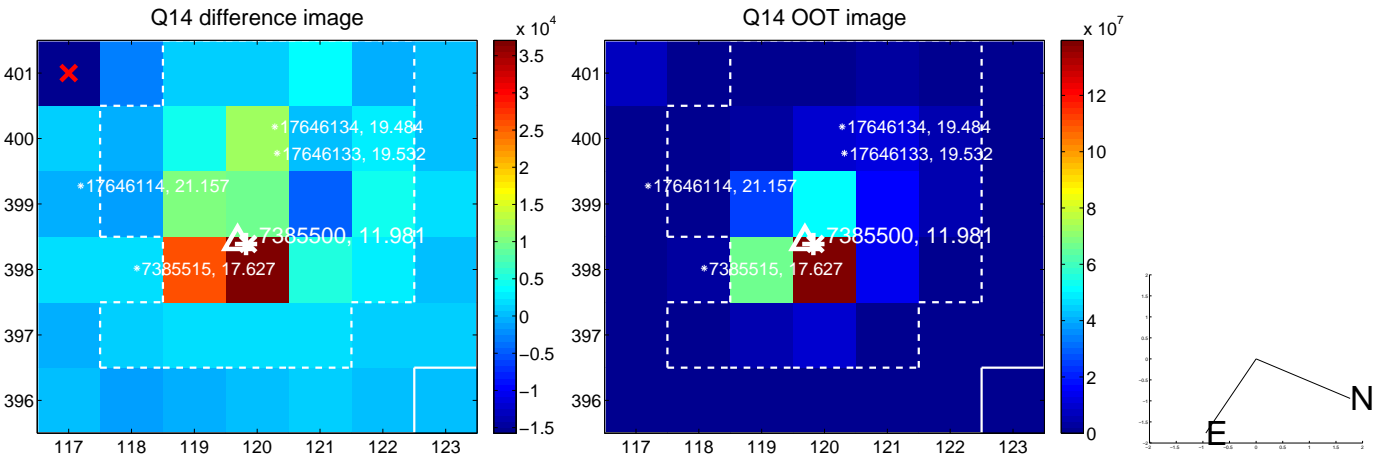
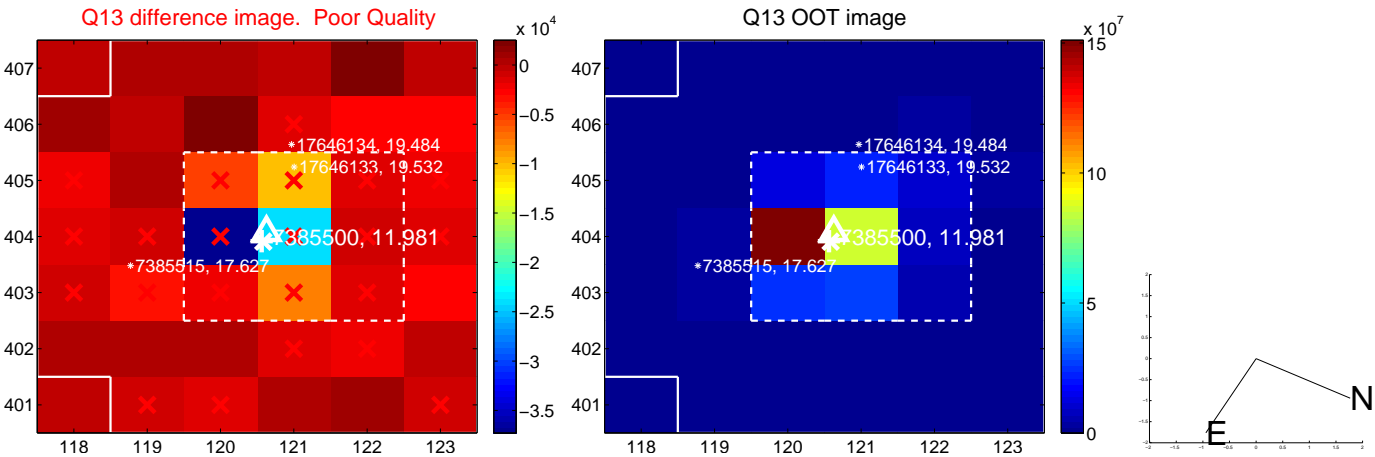
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



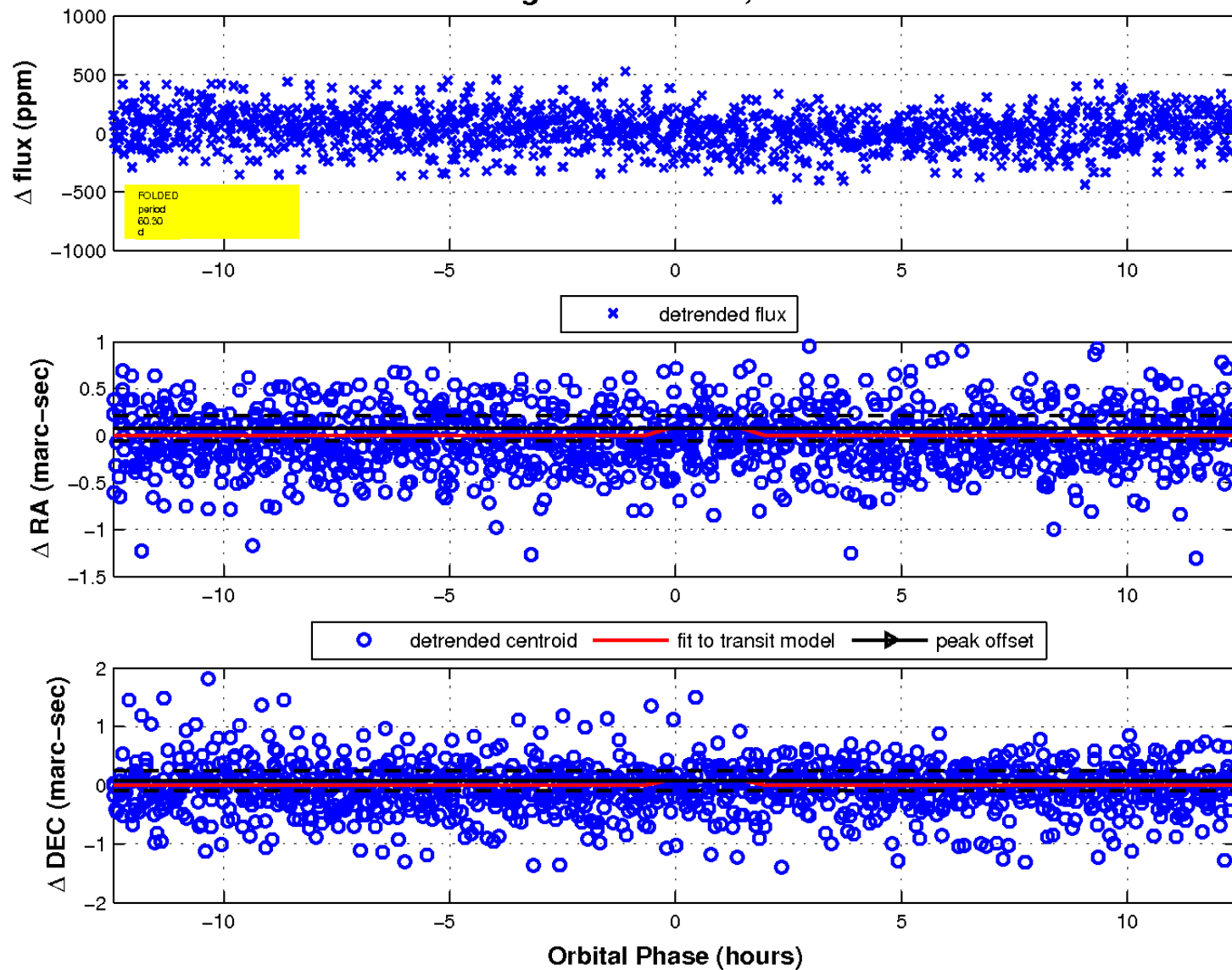
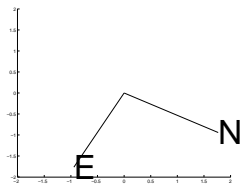
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



5



UKIRT Image

Declination

