

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})
006515722-01	OBS	No	3.816948	131.795010	115.5	4.367	33.7	44.8	2.47	9174	3.06	9744.42
006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
006515722-03	OBS	3818.01	1.908478	131.784896	26.8	13.210	14.8	12.7	2.47	9174	1.47	24554.33
006515722-04	OBS	No	65.907630	178.450869	206.8	5.112	15.0	13.4	2.47	9174	4.71	218.34
006515722-05	OBS	No	44.244481	166.353563	195.8	2.135	14.8	12.3	2.47	9174	3.85	371.45
006515722-06	OBS	No	35.852419	138.194916	73.8	1.567	12.1	4.8	2.47	9174	2.29	491.68
006515722-07	OBS	No	71.694191	174.649085	150.8	3.600	12.2	10.3	2.47	9174	3.54	195.16
006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
006515722-09	OBS	No	34.261551	155.046315	119.1	3.146	11.3	11.8	2.47	9174	3.02	522.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006515722-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

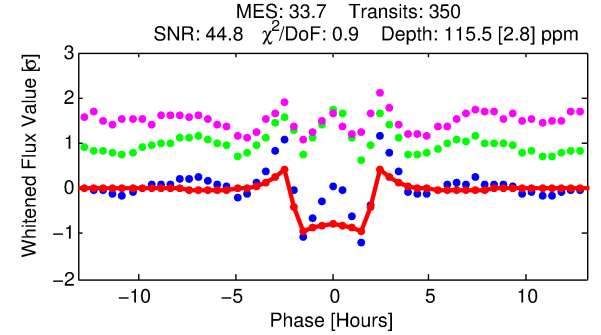
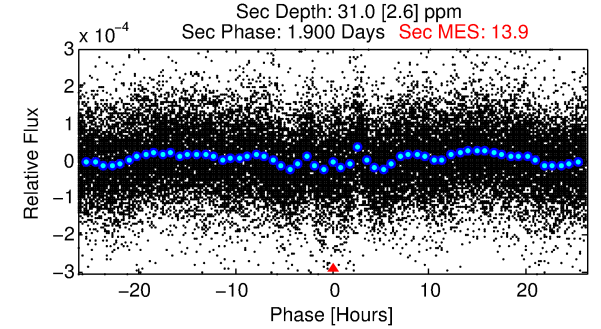
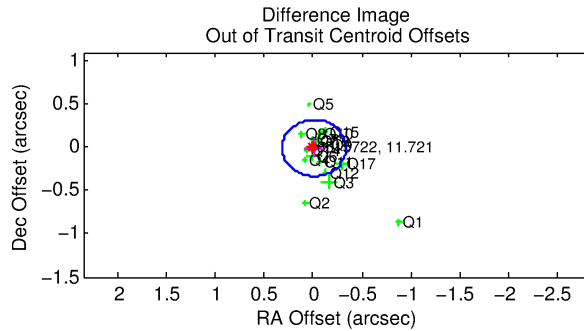
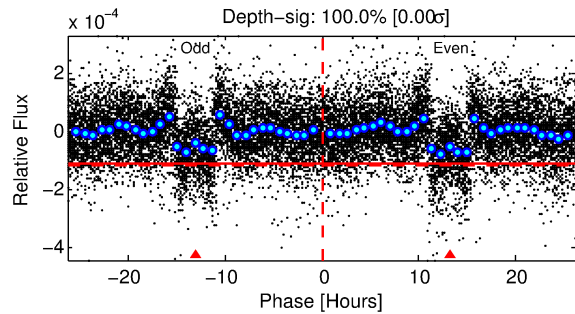
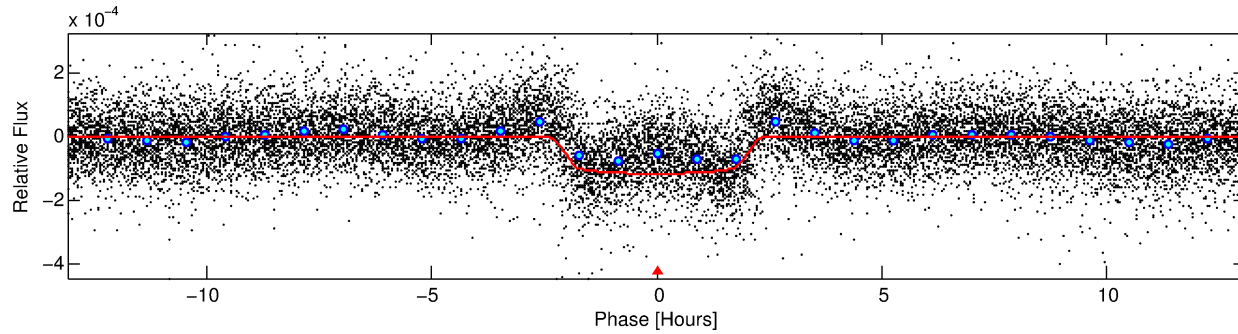
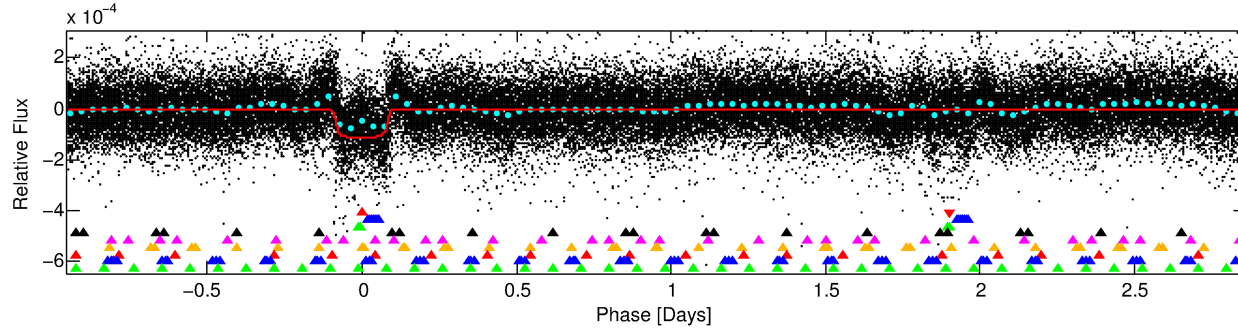
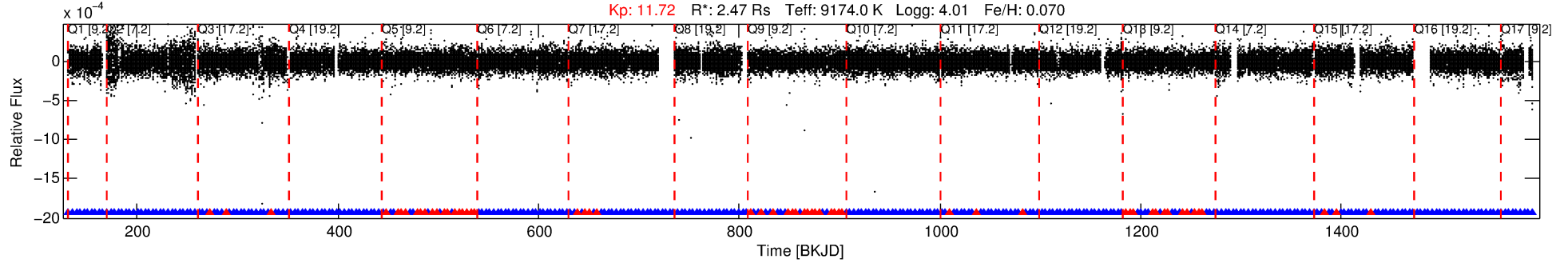
Ephemeris Match Information For 006515722-01

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 1 of 9 Period: 3.817 d

KOI: K03818 Corr: No Ephemeris Match



DV Fit Results:

Period = 3.81695 [0.00000] d
Epoch = 131.7950 [0.0008] BKJD
Rp/R* = 0.0113 [0.0004]
a/R* = 3.22 [0.75]
b = 0.90 [0.05]
Seff = 9744.42 [4266.63]
Teq = 2533 [277] K
Rp = 3.06 [1.01] Re
a = 0.0631 [0.0173] AU
Ag = 7.25 [2.98] [2.10 σ]
Teffp = 6428 [351] K [8.70 σ]

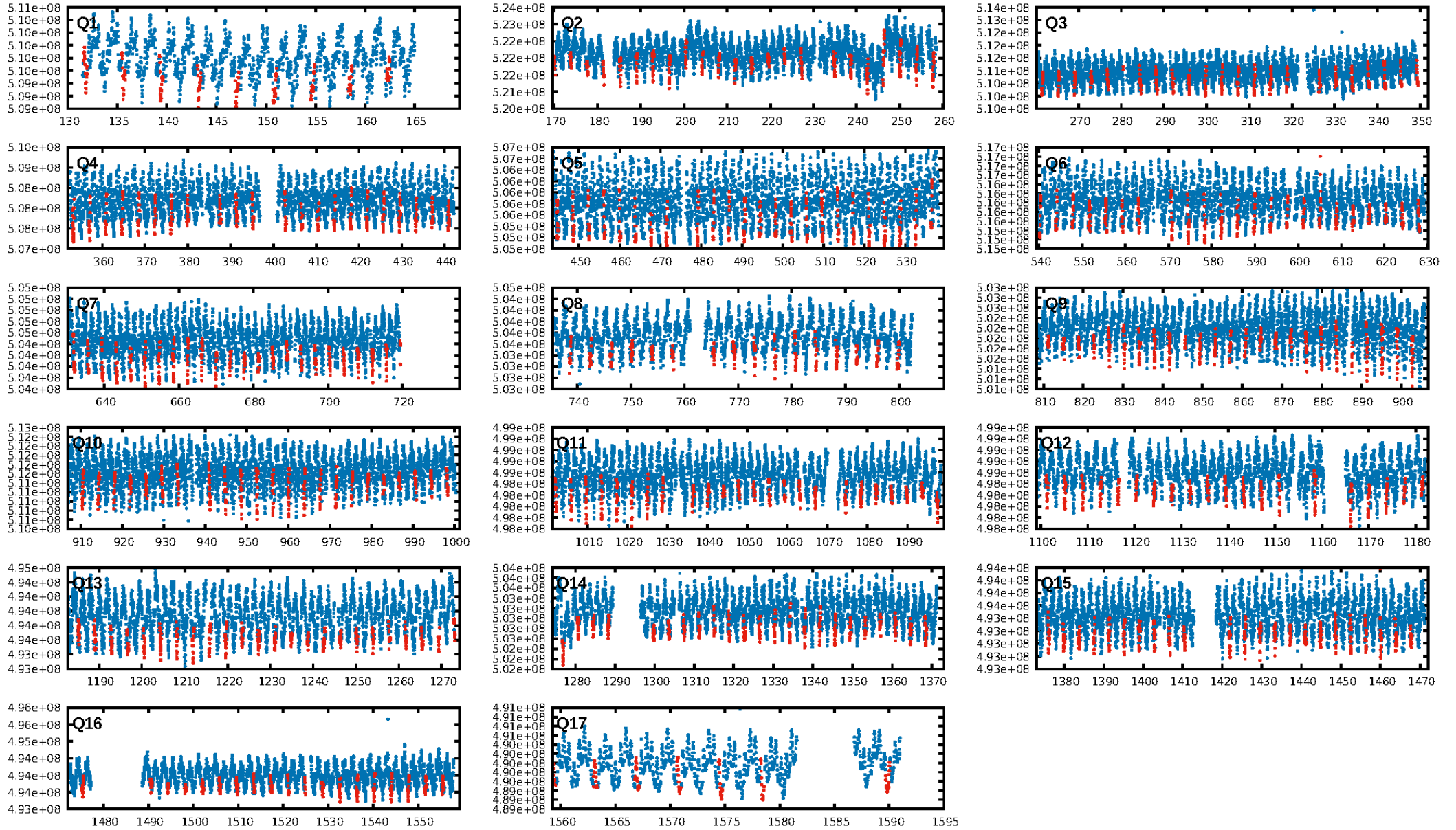
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.69 σ]
LongPeriod-sig: 100.0% [75.11 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.83 [277/334]
GhostDiagnostic-chr: 2.73
Centroid-sig: 0.0%
Centroid-so: 0.331 arcsec [1.96 σ]
OotOffset-rm: 0.010 arcsec [0.09 σ]
KicOffset-rm: 0.074 arcsec [0.79 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

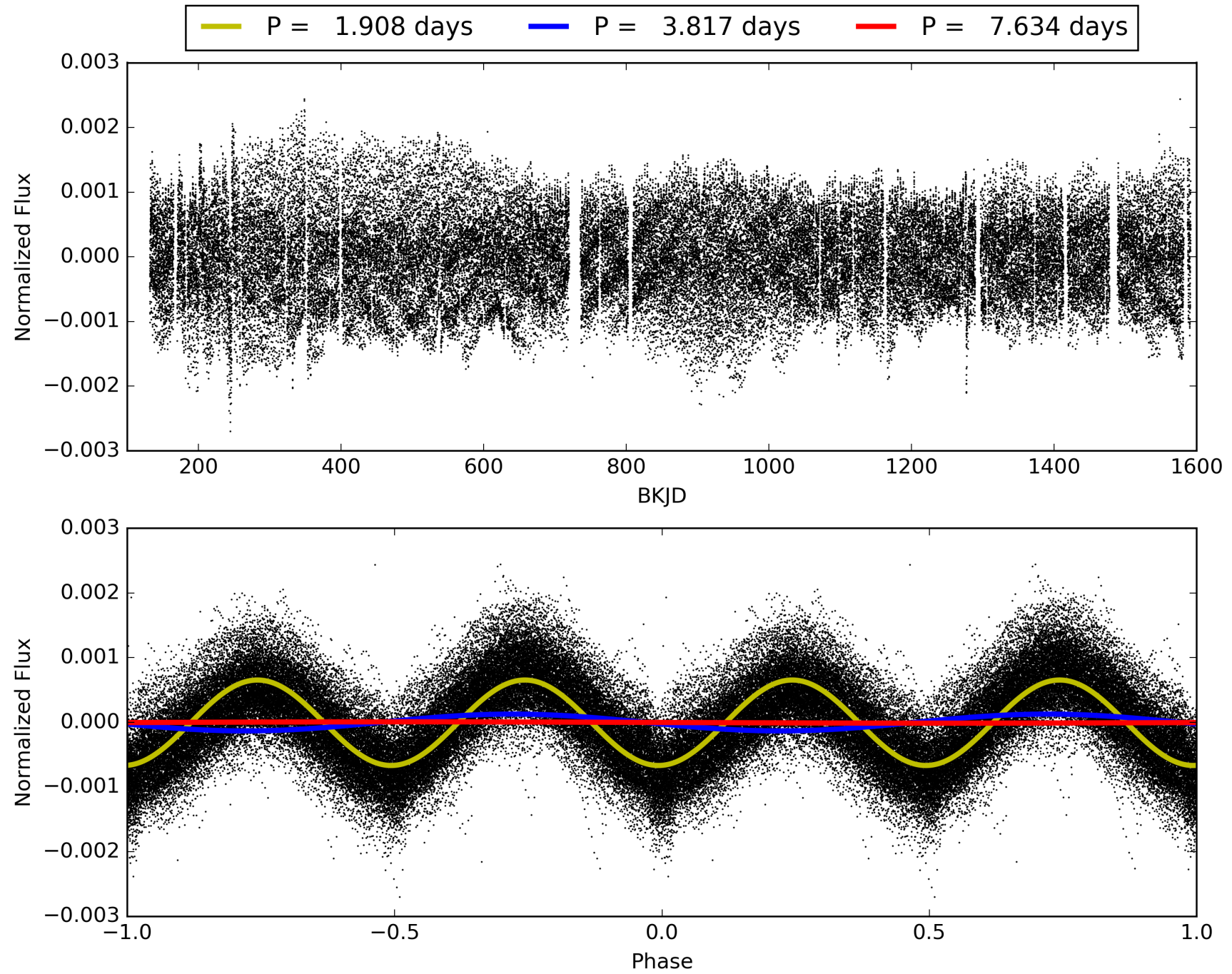
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006515722-01, PDC Light Curves

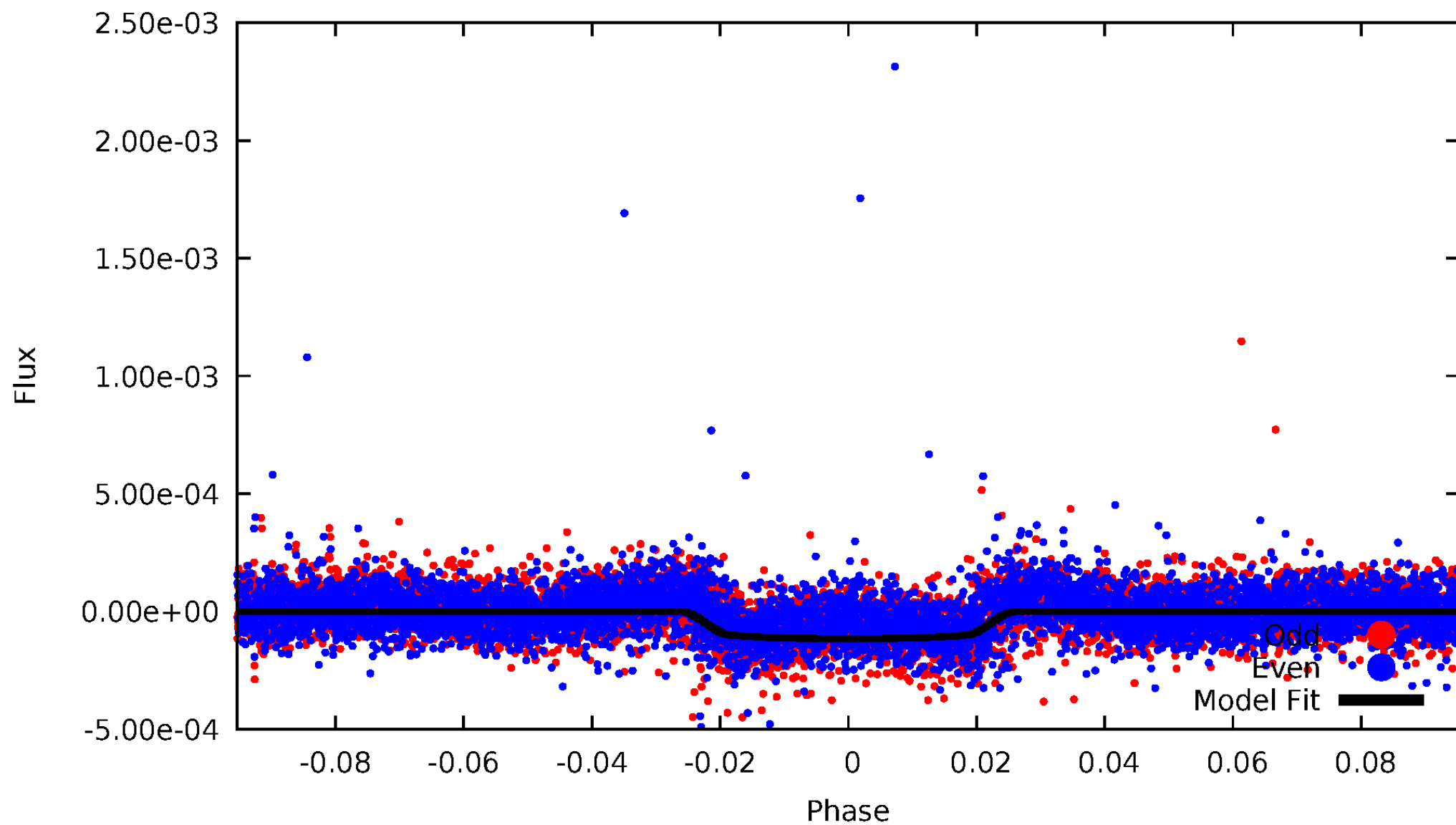


TCE 006515722-01



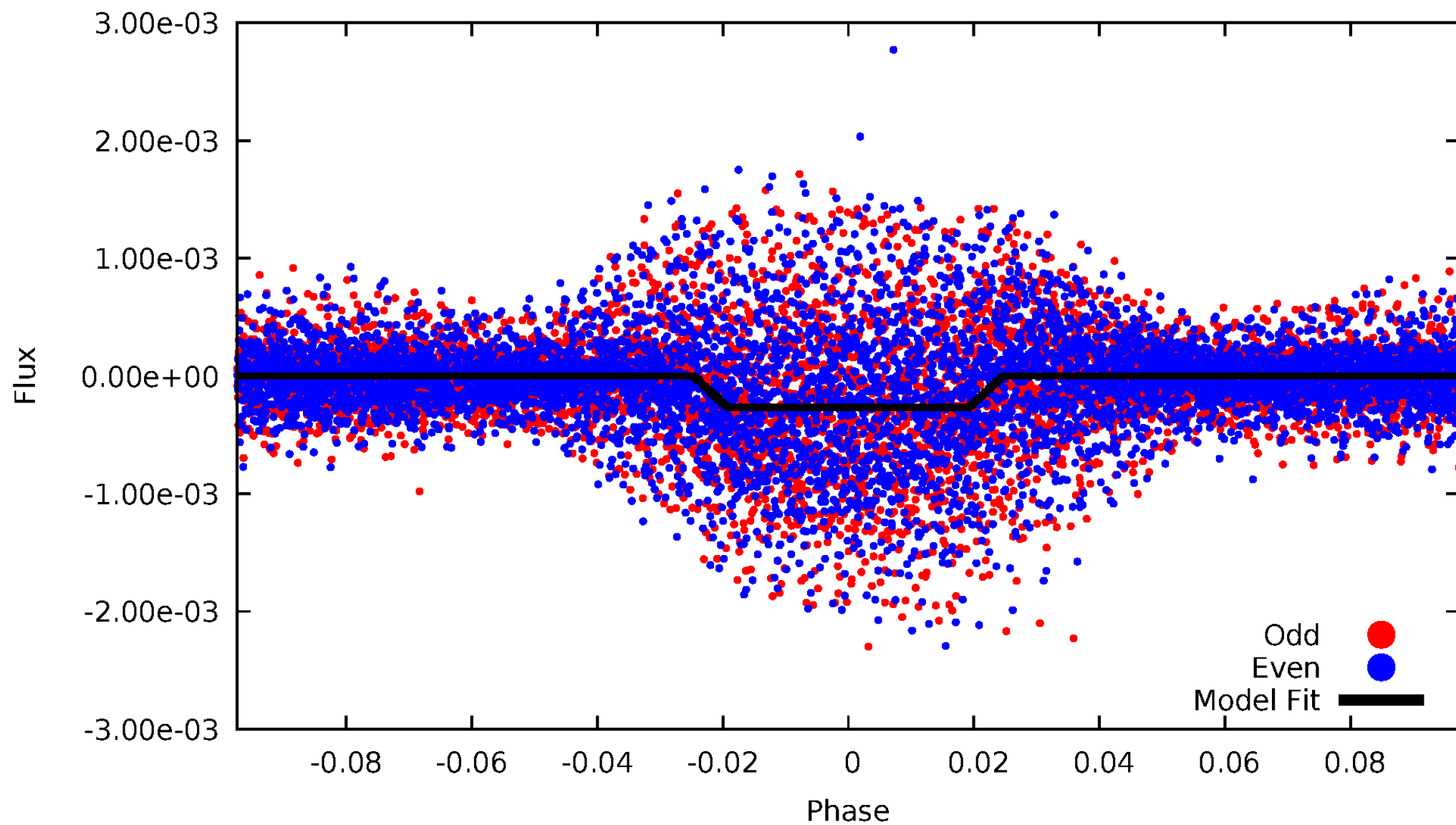
DV Odd/Even

TCE 006515722-01



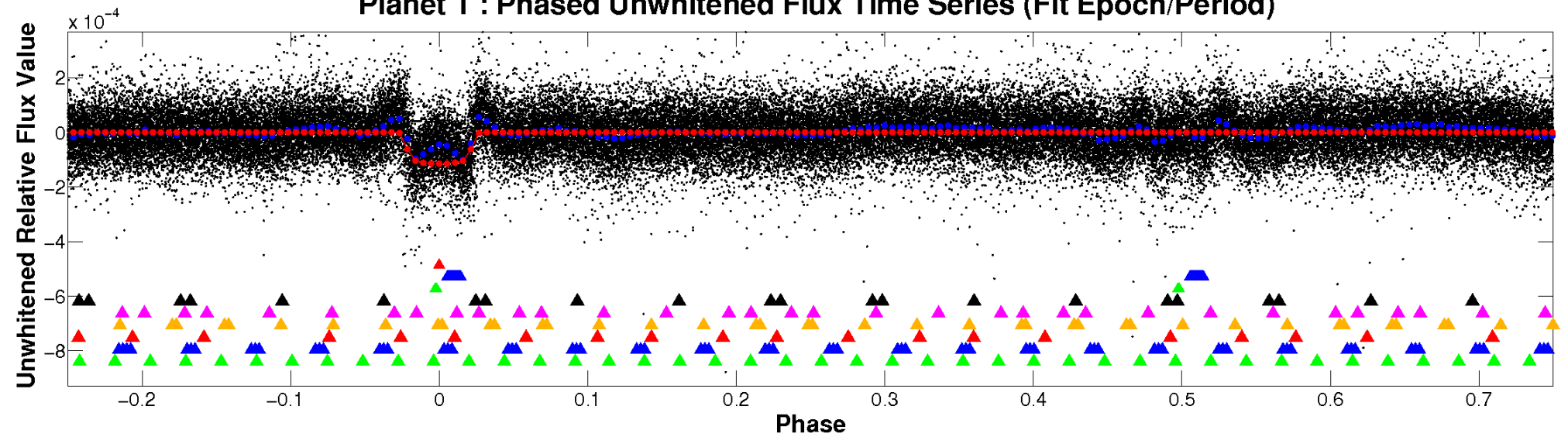
ALT Odd/Even

TCE 006515722-01

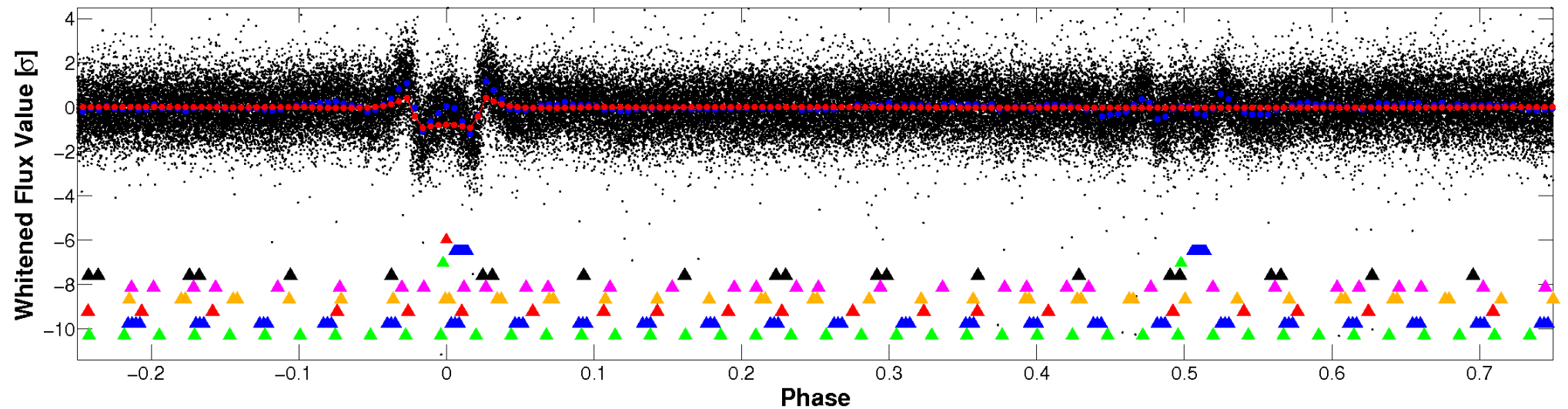


Non-Whitened Vs. Whitened Light Curve

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

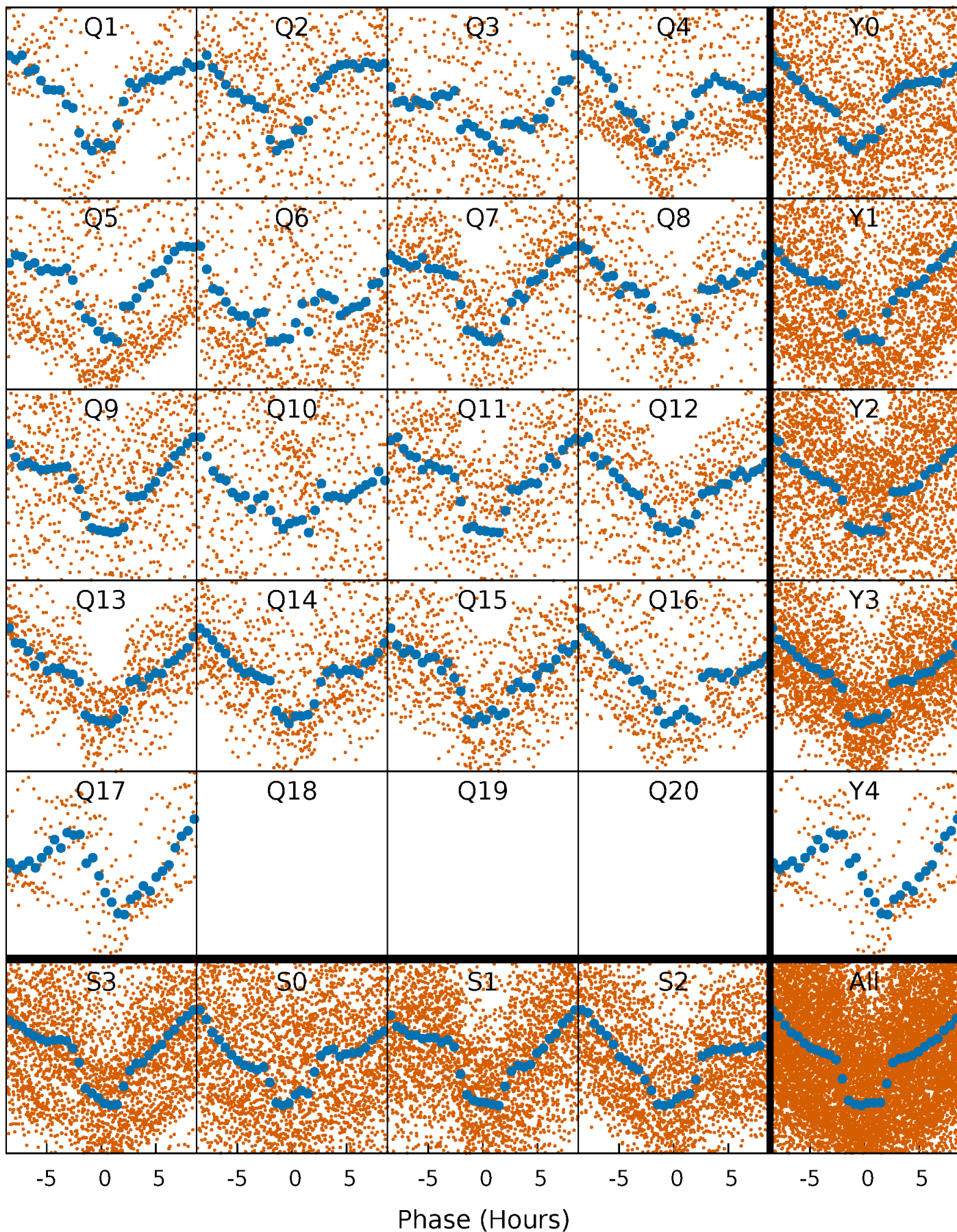


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



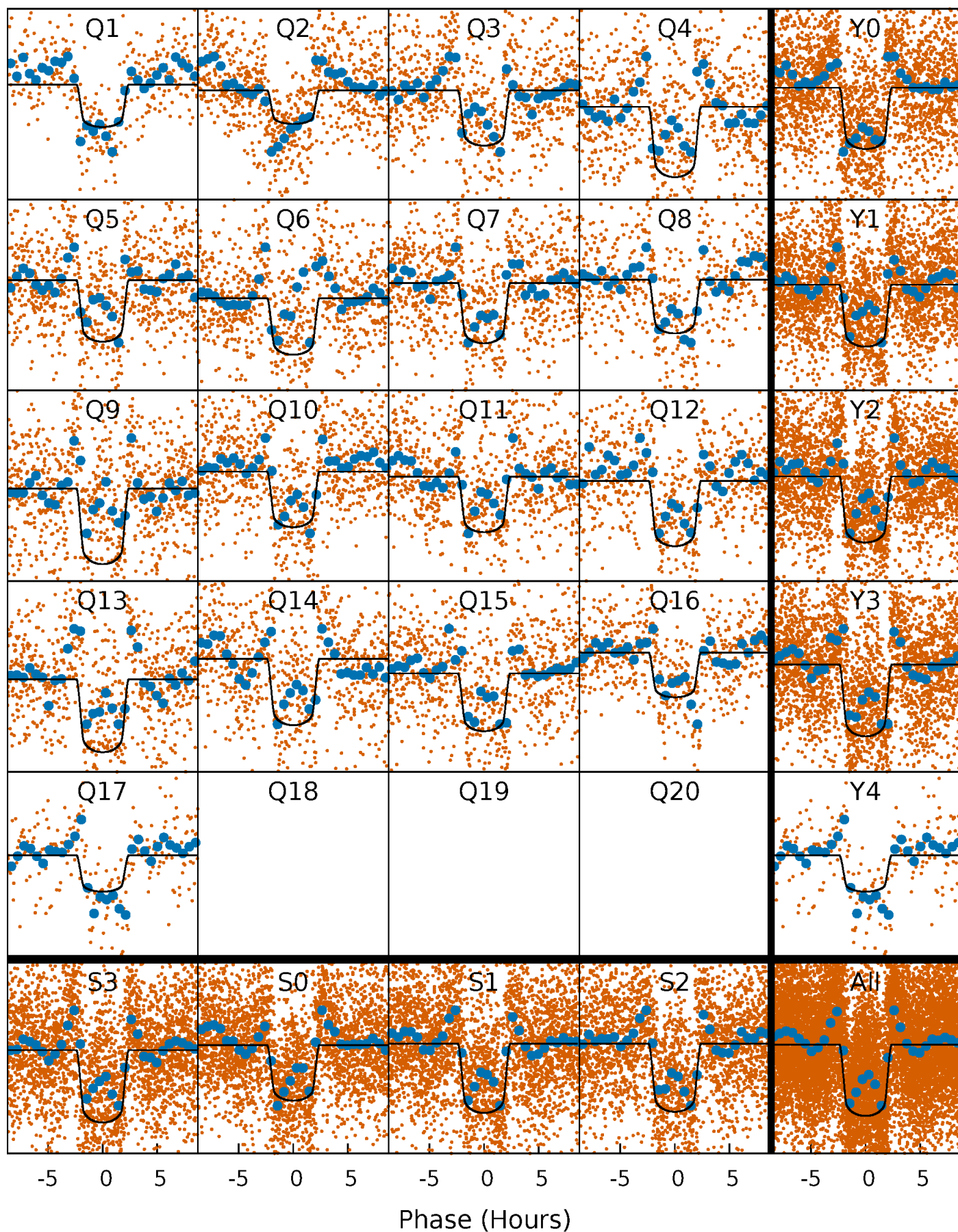
PDC Quarter-Phased Transit Curves

TCE 006515722-01 P= 3.816948 Days $T_0=131.795010$ (BKJD)



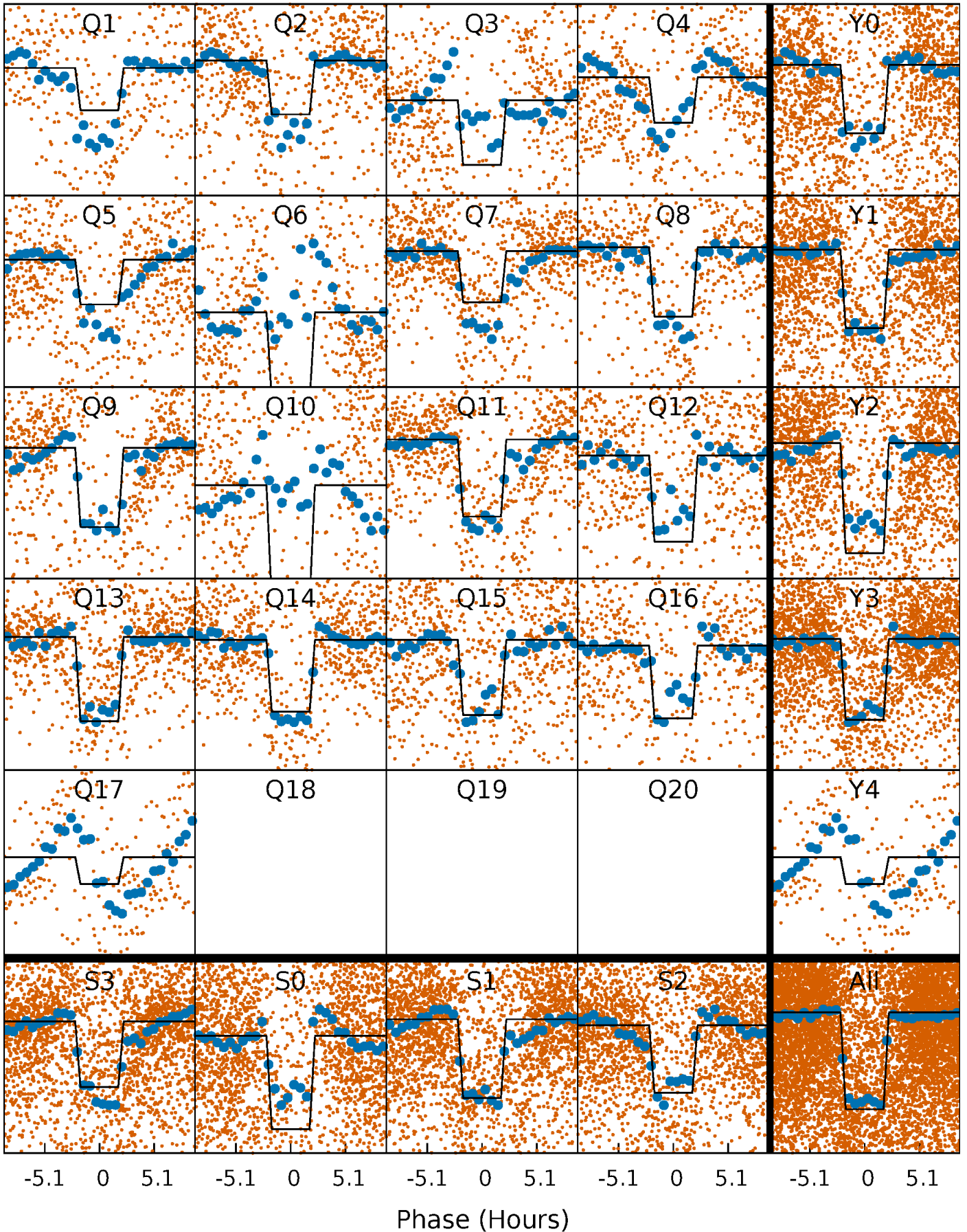
DV Quarter-Phased Transit Curves

TCE 006515722-01 P= 3.816948 Days $T_0=131.795010$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

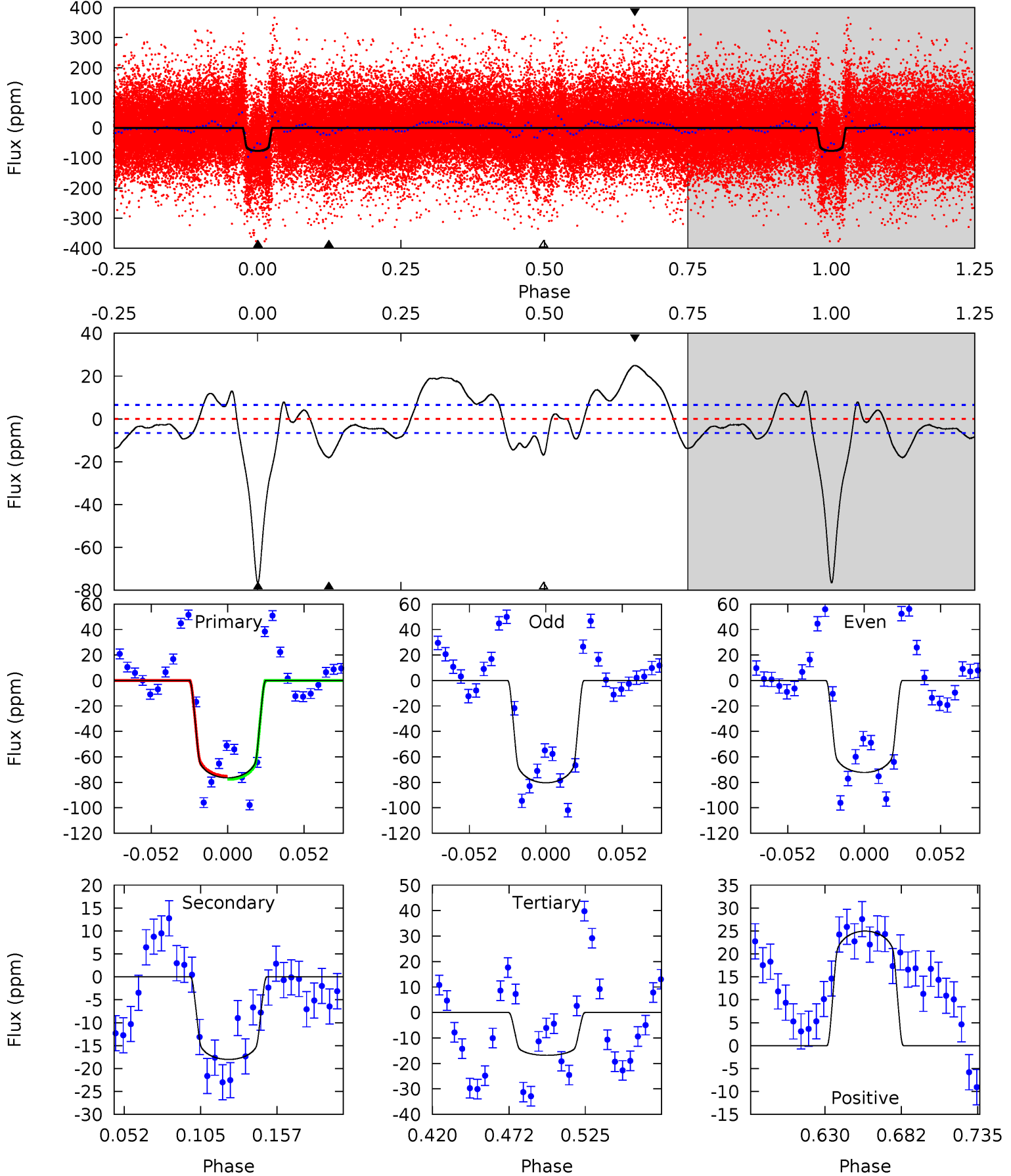
TCE 006515722-01 P= 3.816986 Days $T_0=131.790353$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-01, P = 3.816948 Days, E = 127.978062 Days

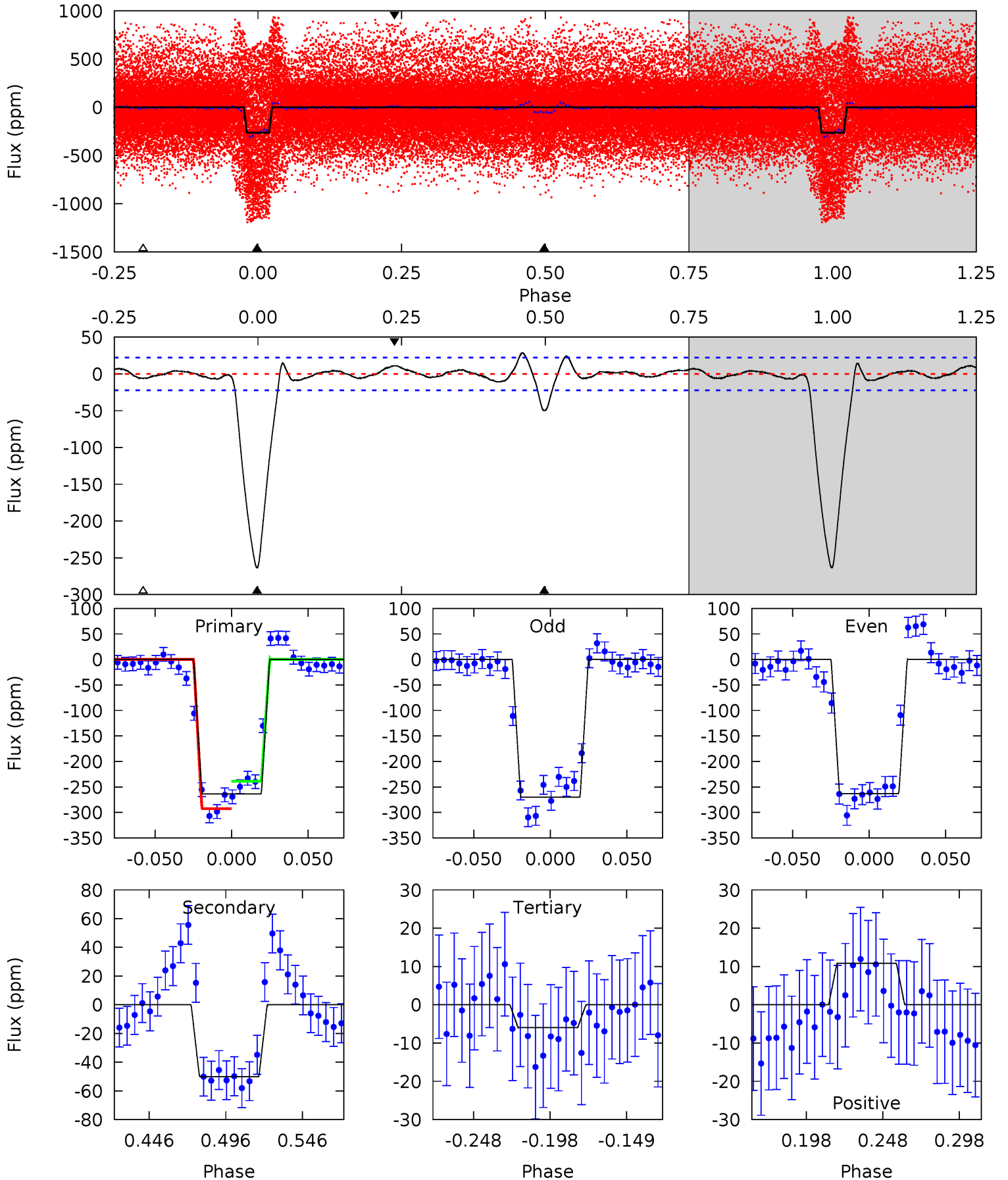
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.9	12.9	12.1	17.9	4.70	1.94	7.78	42.8	36.9	0.86	-4.99	2.92	0.97	0.25	0.88



Alt Model-Shift Uniqueness Test

006515722-01, P = 3.816986 Days, E = 127.973367 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.8	10.6	1.27	2.29	4.71	1.96	0.98	54.5	53.5	9.33	8.30	0.75	1.02	0.10	0



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 1	$3.06^{+0.51}_{-0.51}$	3536^{+290}_{-312}	5237^{+187}_{-195}	$4.151^{+1.643}_{-1.043}$
Alt.	-50 ± 5	$4.37^{+0.75}_{-0.79}$	3512^{+301}_{-303}	5613^{+211}_{-227}	$5.646^{+2.194}_{-1.532}$

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

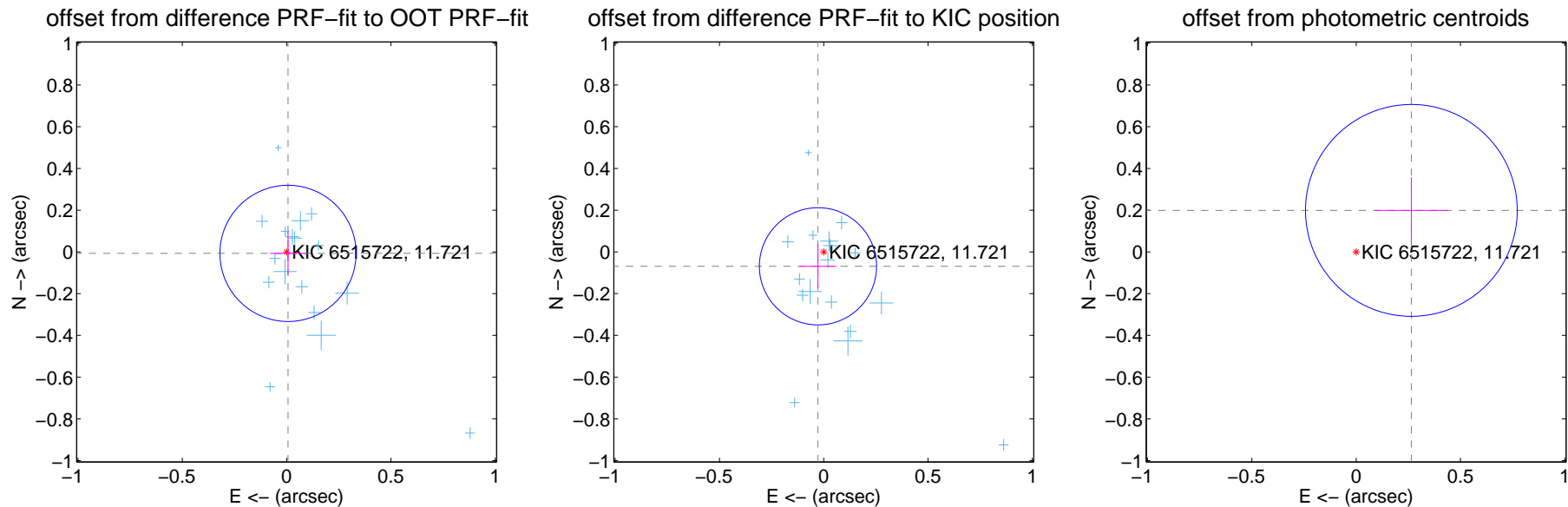
DV Centroid Data

Supplemental centroid analysis for 006515722-01. **Kepler magnitude: 11.72.** Transit SNR 44.82

There are 17 quarters with good PRF difference image offsets

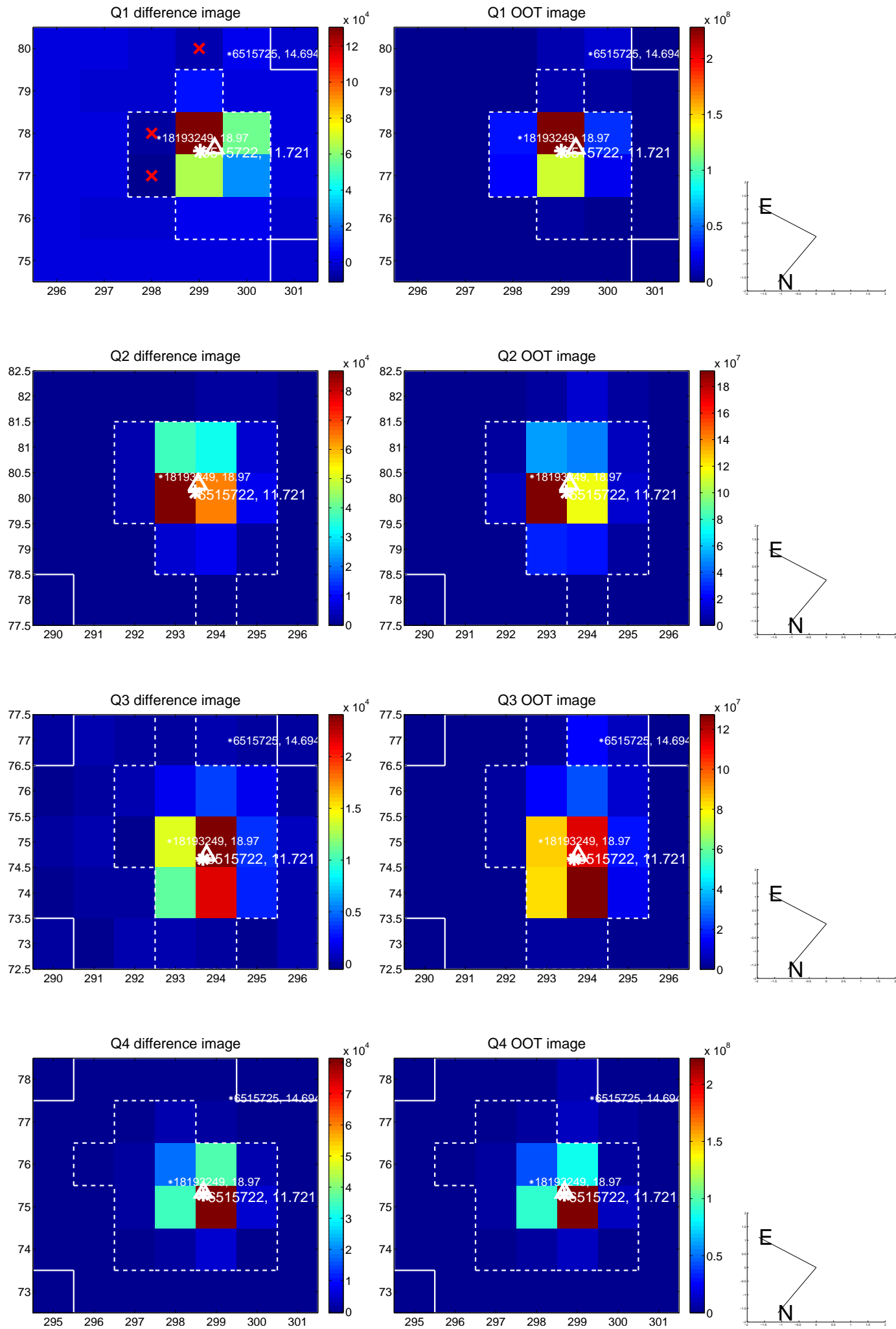
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.109	0.09	-0.007 ± 0.086	-0.007 ± 0.102
PRF-fit source offset from KIC position	0.074 ± 0.094	0.79	0.028 ± 0.088	-0.069 ± 0.106
photometric centroid source offset	0.33 ± 0.17	1.96	-0.26 ± 0.17	0.20 ± 0.16

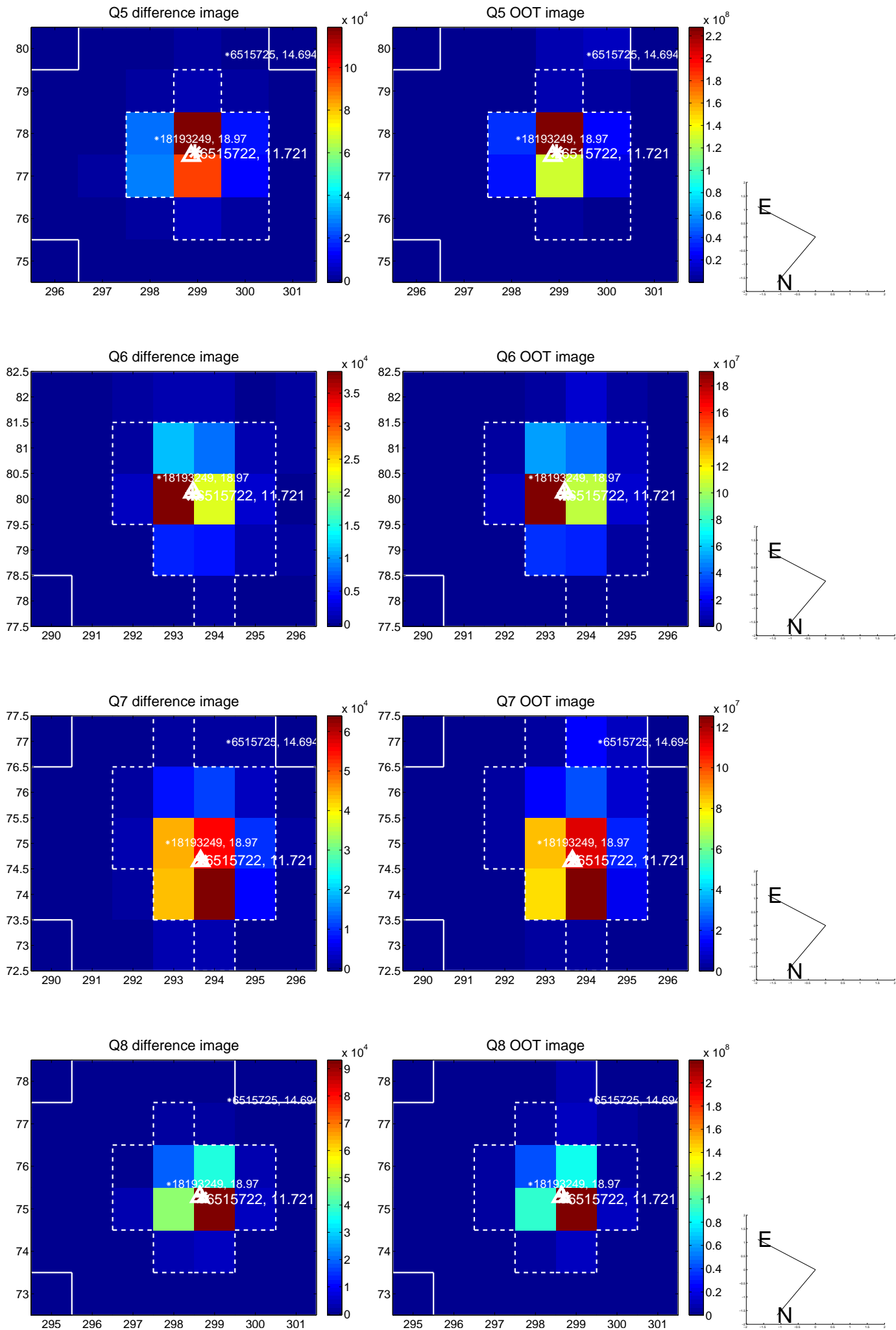


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

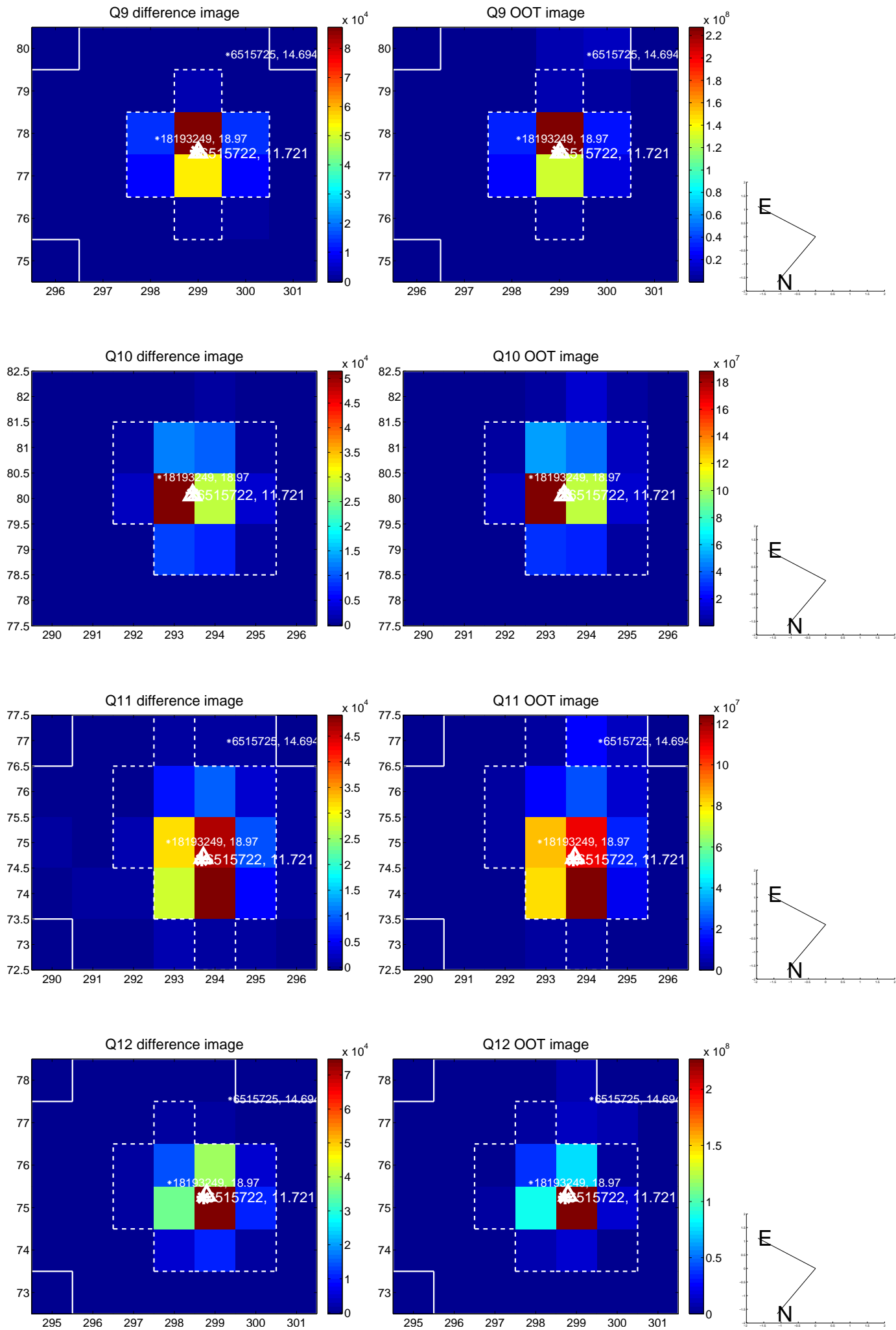
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



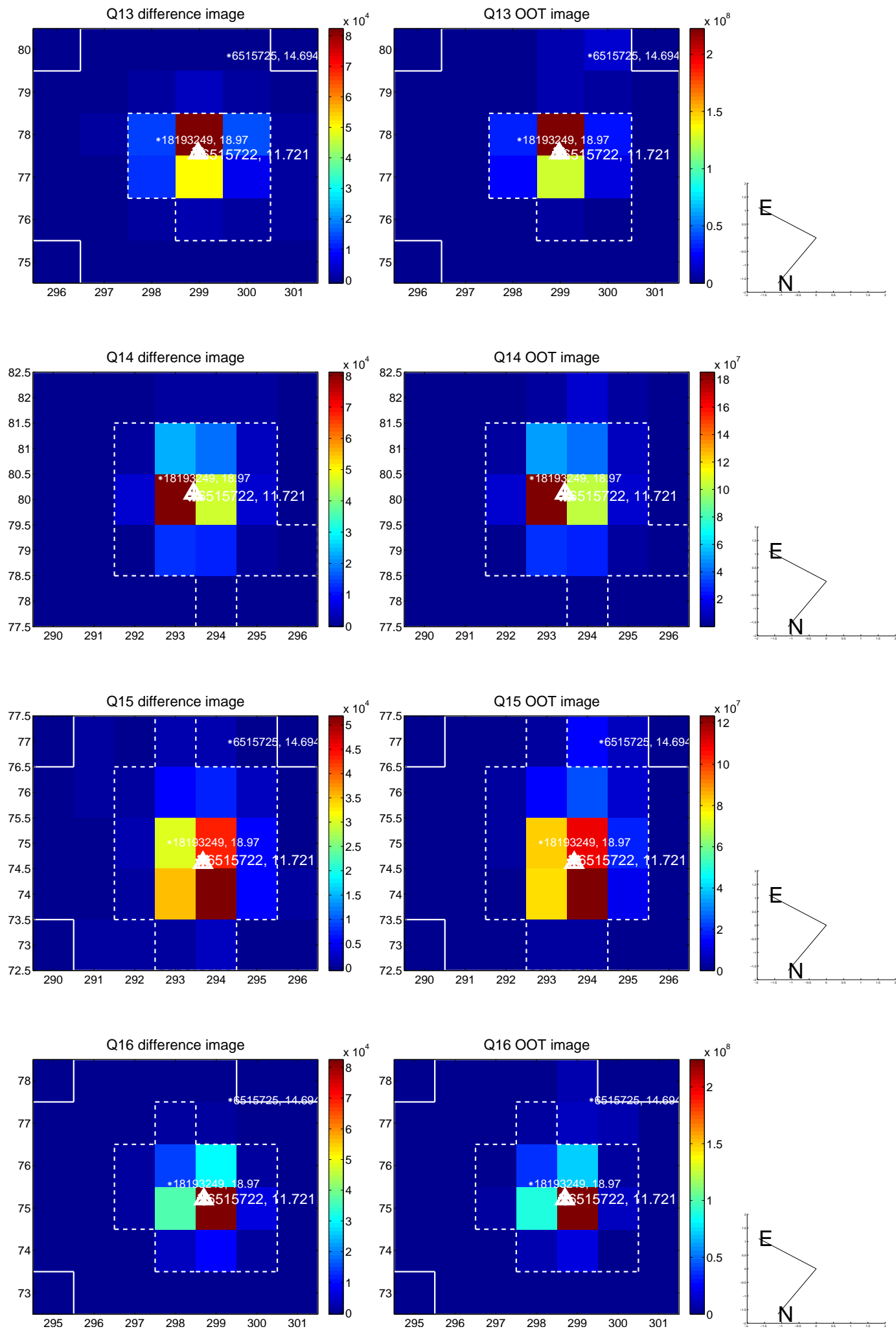
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



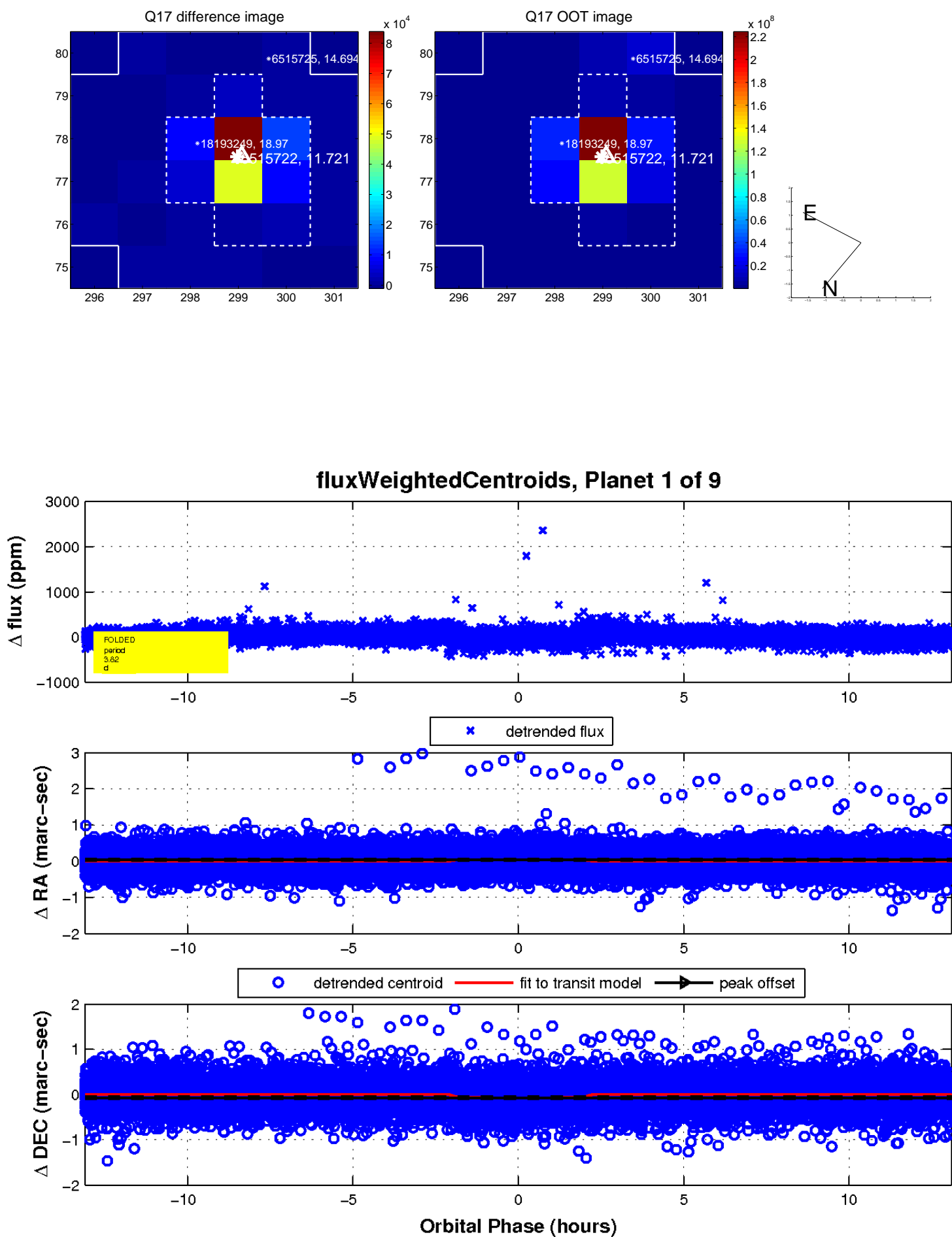
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



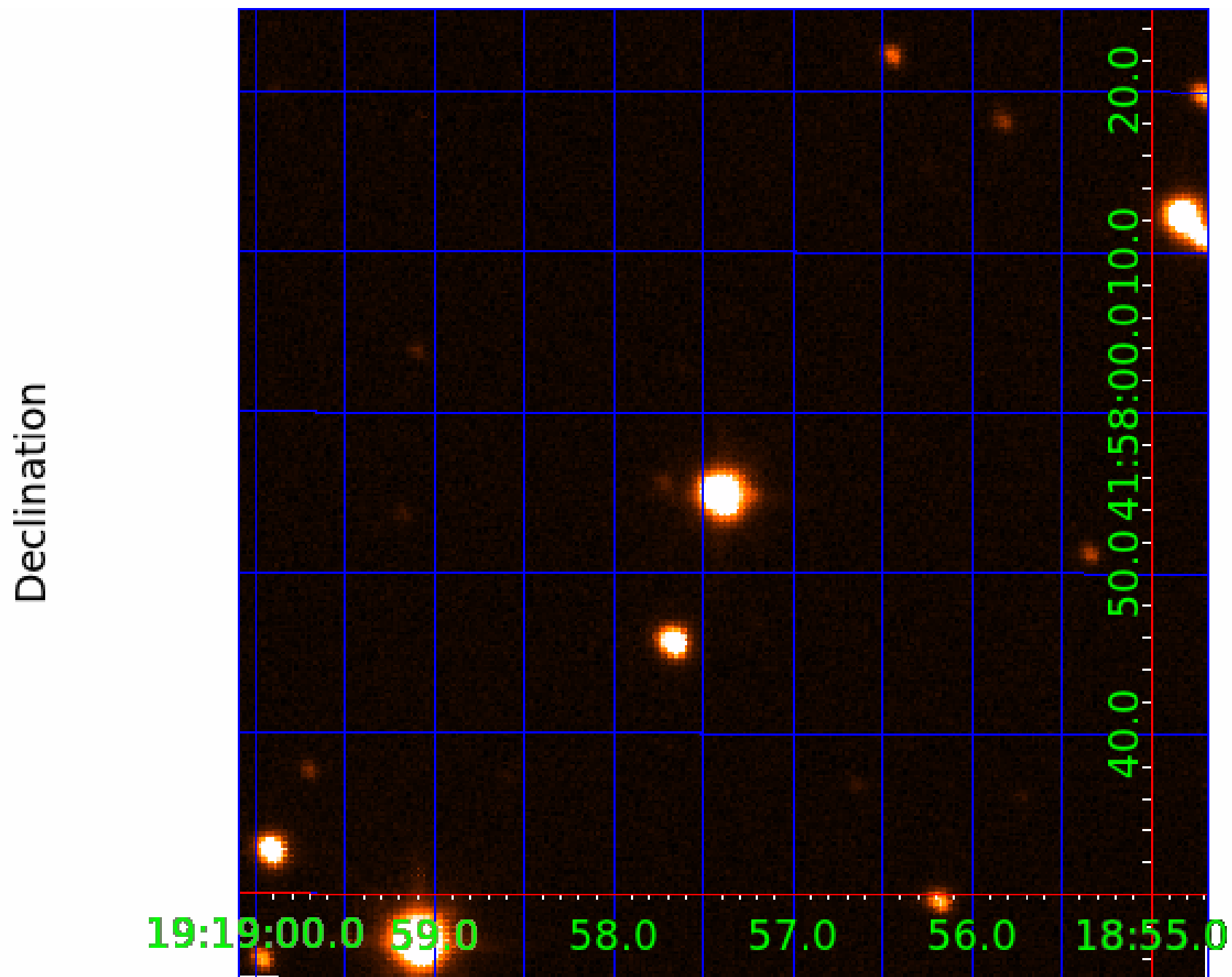
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
006515722-01	OBS	No	3.816948	131.795010	115.5	4.367	33.7	44.8	2.47	9174	3.06	9744.42
006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
006515722-03	OBS	3818.01	1.908478	131.784896	26.8	13.210	14.8	12.7	2.47	9174	1.47	24554.33
006515722-04	OBS	No	65.907630	178.450869	206.8	5.112	15.0	13.4	2.47	9174	4.71	218.34
006515722-05	OBS	No	44.244481	166.353563	195.8	2.135	14.8	12.3	2.47	9174	3.85	371.45
006515722-06	OBS	No	35.852419	138.194916	73.8	1.567	12.1	4.8	2.47	9174	2.29	491.68
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006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
006515722-09	OBS	No	34.261551	155.046315	119.1	3.146	11.3	11.8	2.47	9174	3.02	522.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006515722-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

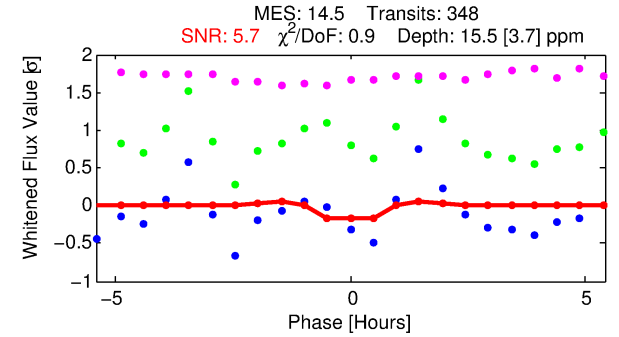
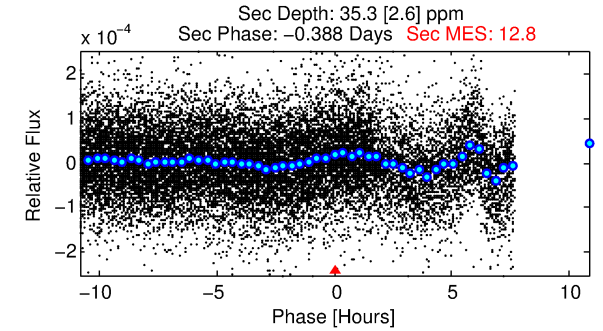
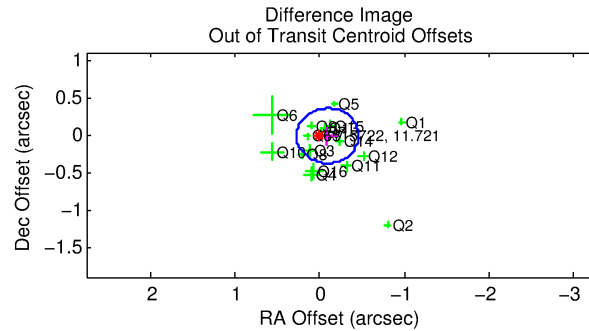
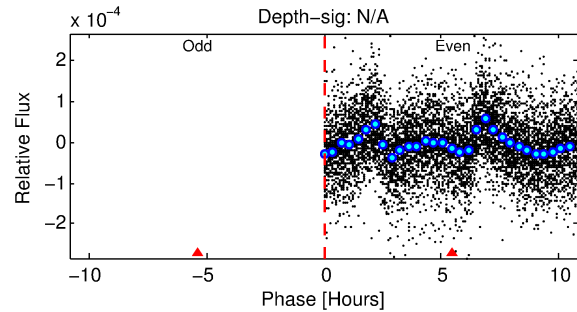
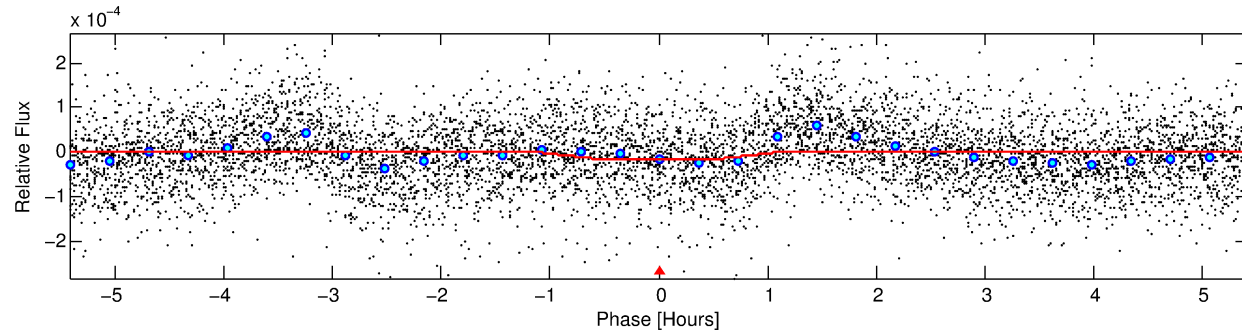
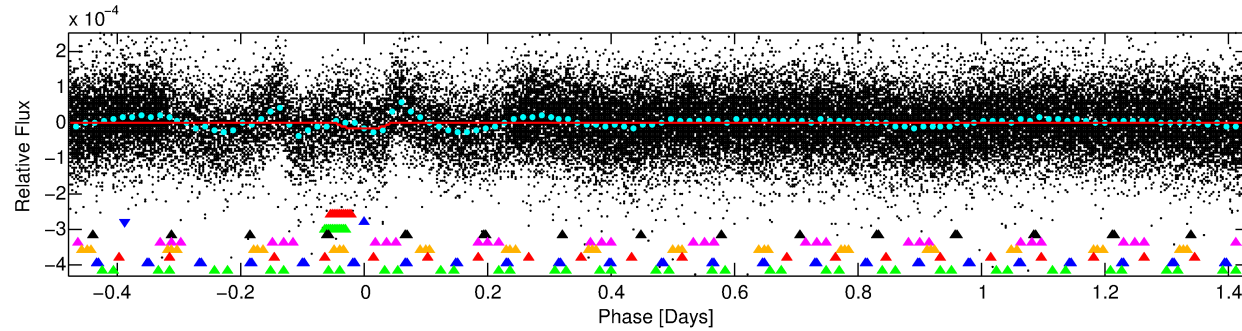
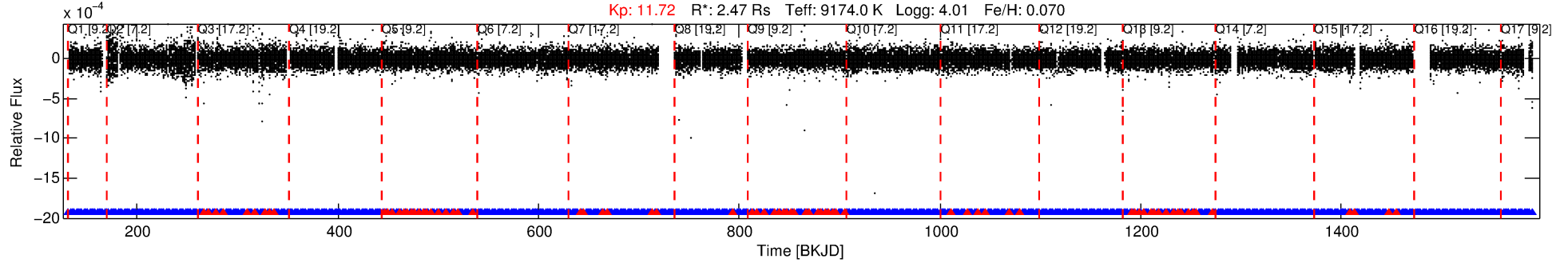
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006515722-02

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 2 of 9 Period: 1.909 d
KOI: K03818 Corr: No Ephemeris Match



DV Fit Results:

Period = 1.90852 [0.00002] d
Epoch = 131.8154 [0.0040] BKJD
Rp/R* = 0.0042 [0.0008]
a/R* = 3.71 [4.25]
b = 0.90 [0.26]
Seff = 24553.61 [10750.88]
Teq = 3192 [349] K
Rp = 1.12 [0.43] Re
a = 0.0397 [0.0109] AU
Ag = 24.35 [13.94] [1.68σ]
Teffp = 10963 [1245] K [6.01σ]

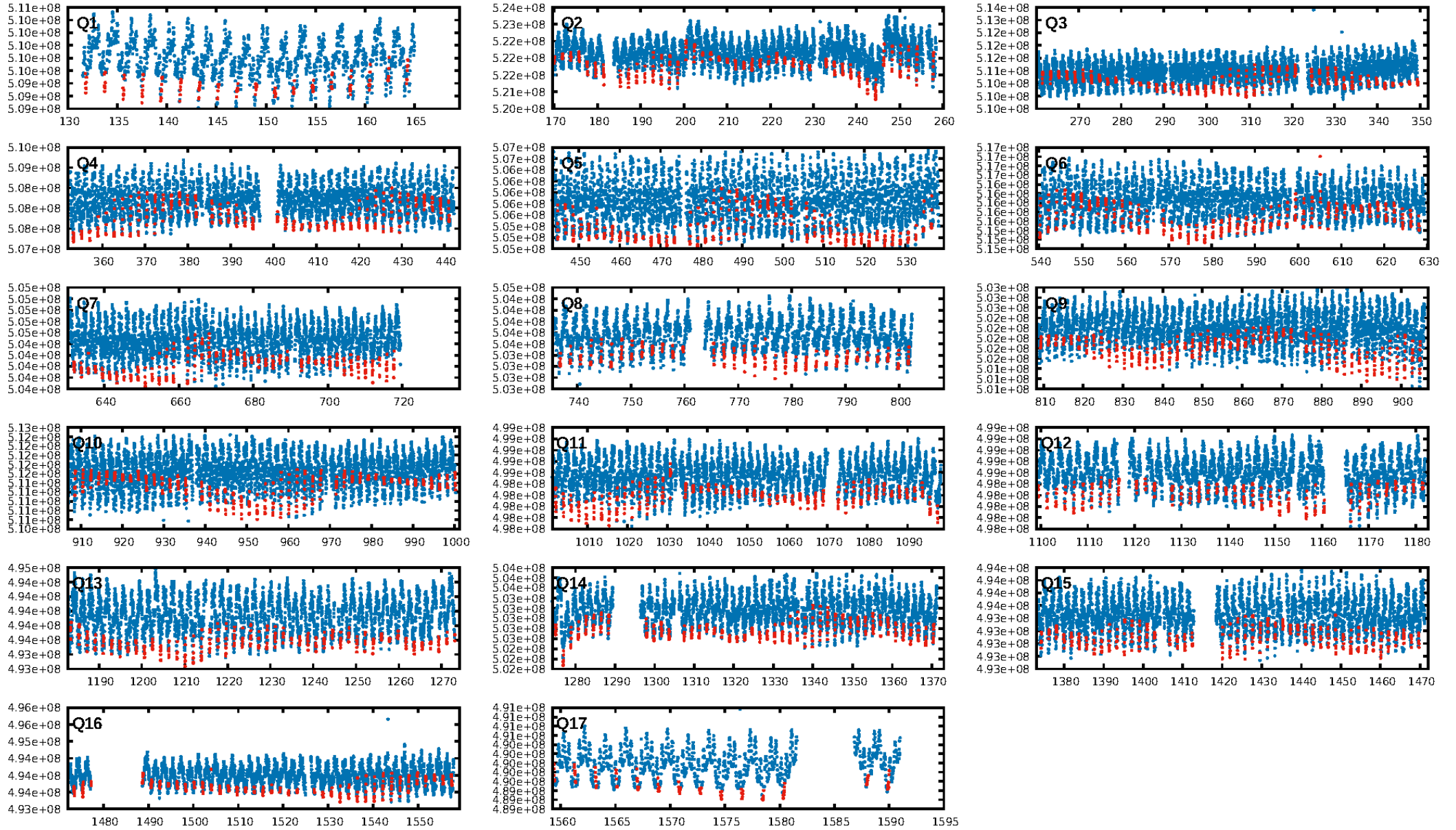
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [9.69σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.77 [256/332]
GhostDiagnostic-chr: 1.514
Centroid-sig: 29.0%
Centroid-so: 1.128 arcsec [0.91σ]
OotOffset-rm: 0.093 arcsec [0.76σ]
KicOffset-rm: 0.066 arcsec [0.55σ]
OotOffset-st: 4/4/4/5 [17]
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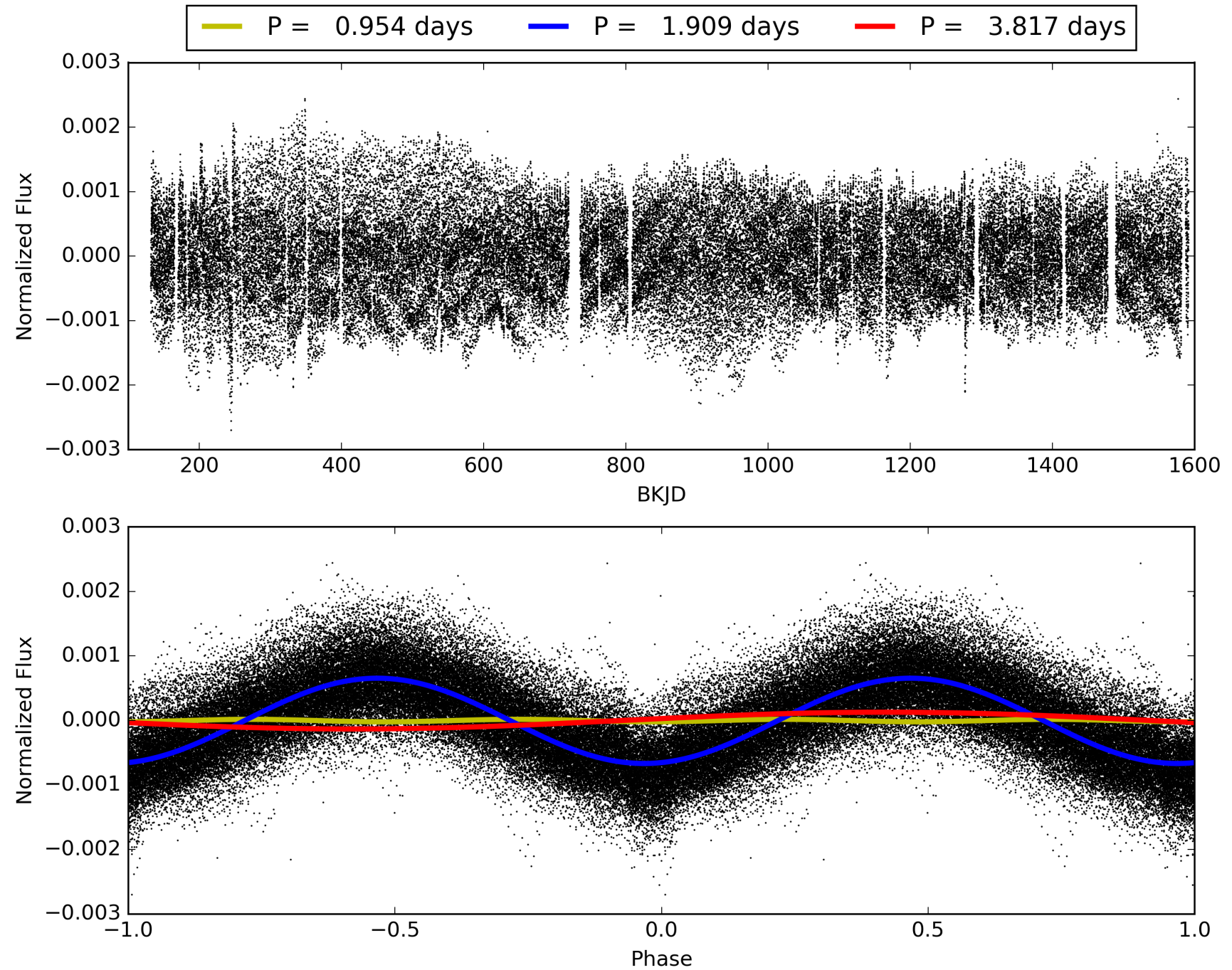
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006515722-02, PDC Light Curves

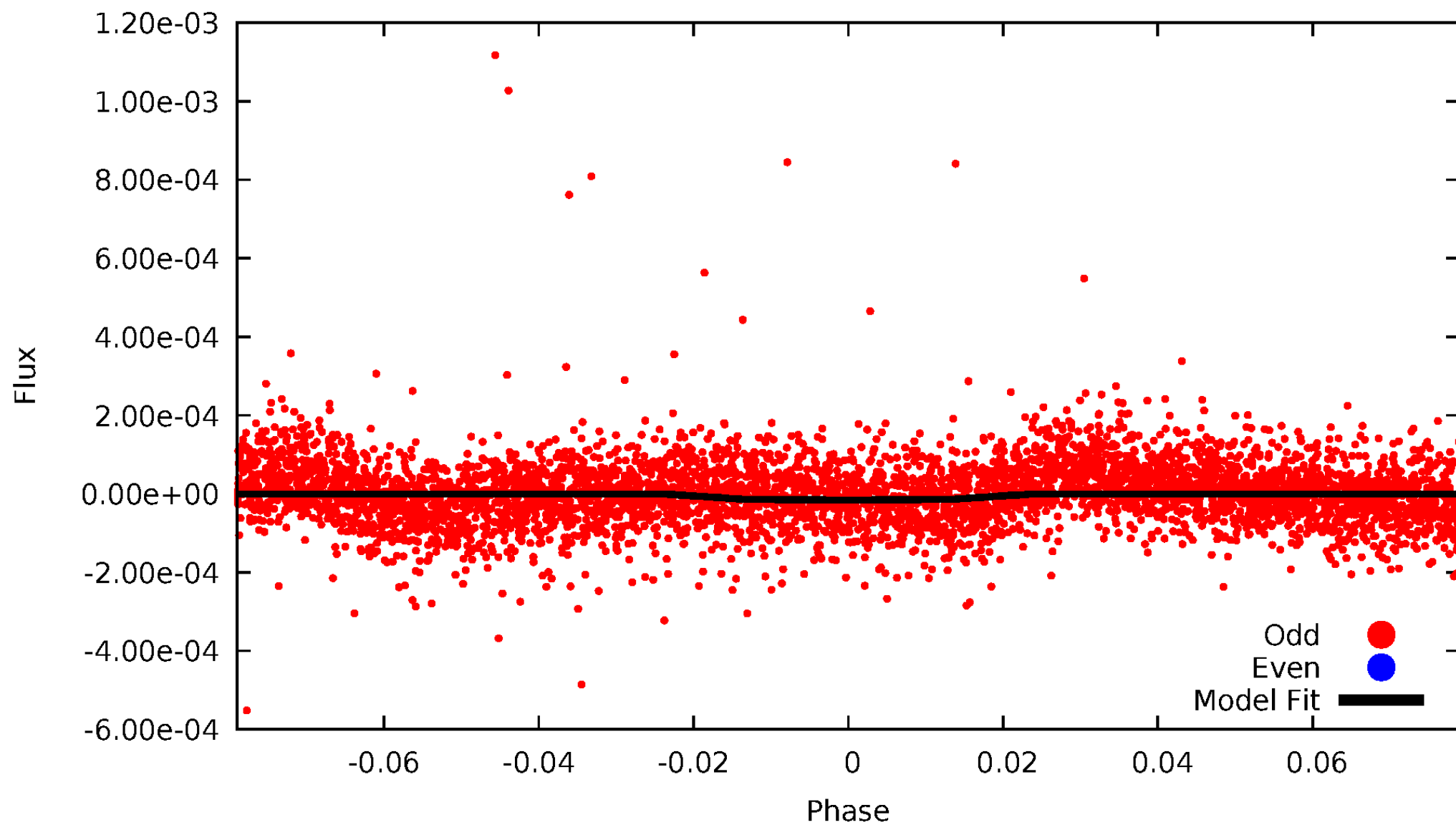


TCE 006515722-02



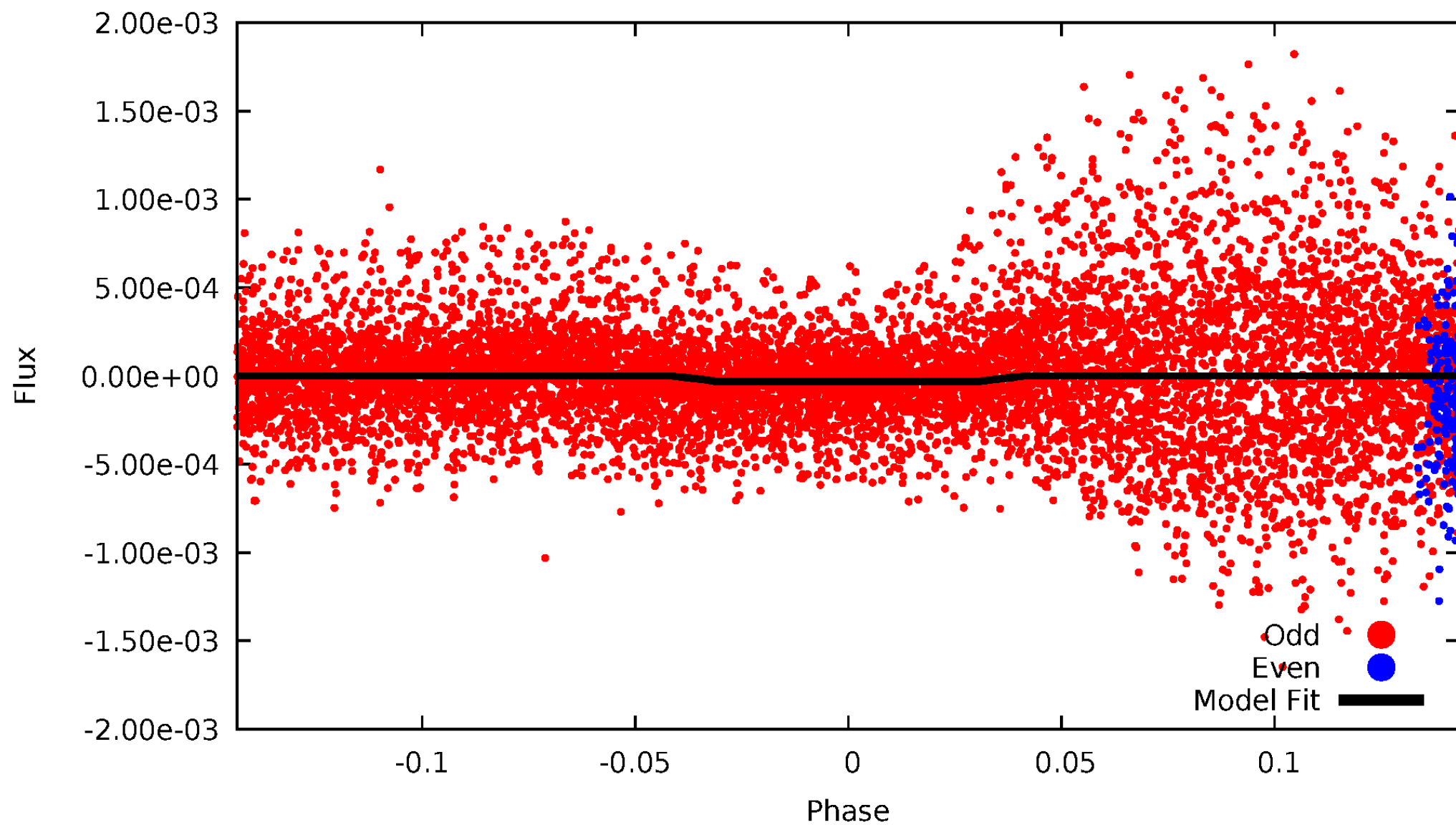
DV Odd/Even

TCE 006515722-02



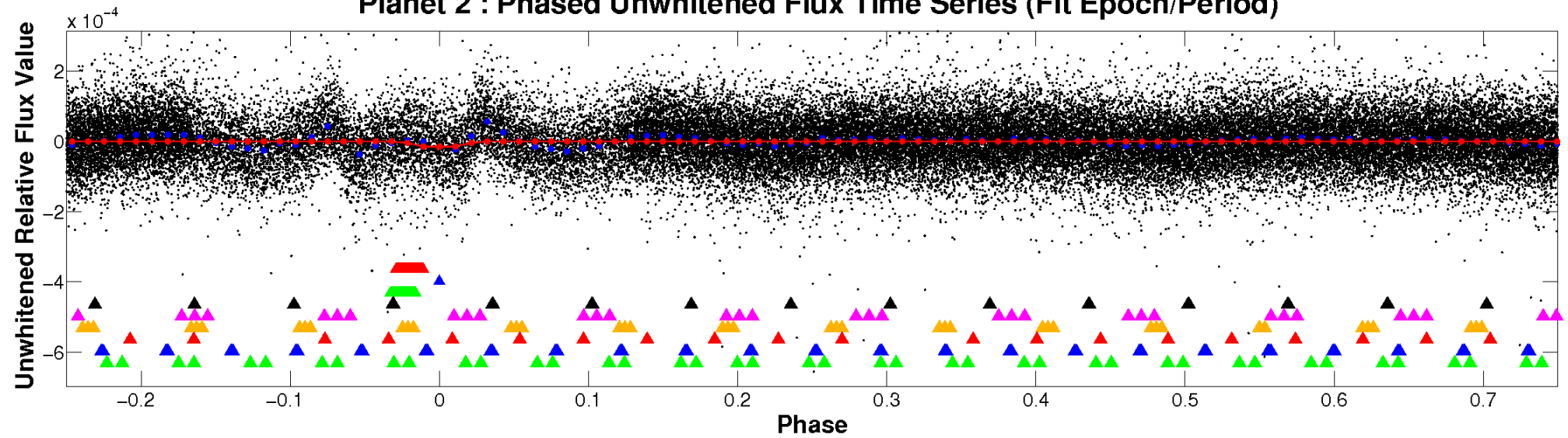
ALT Odd/Even

TCE 006515722-02

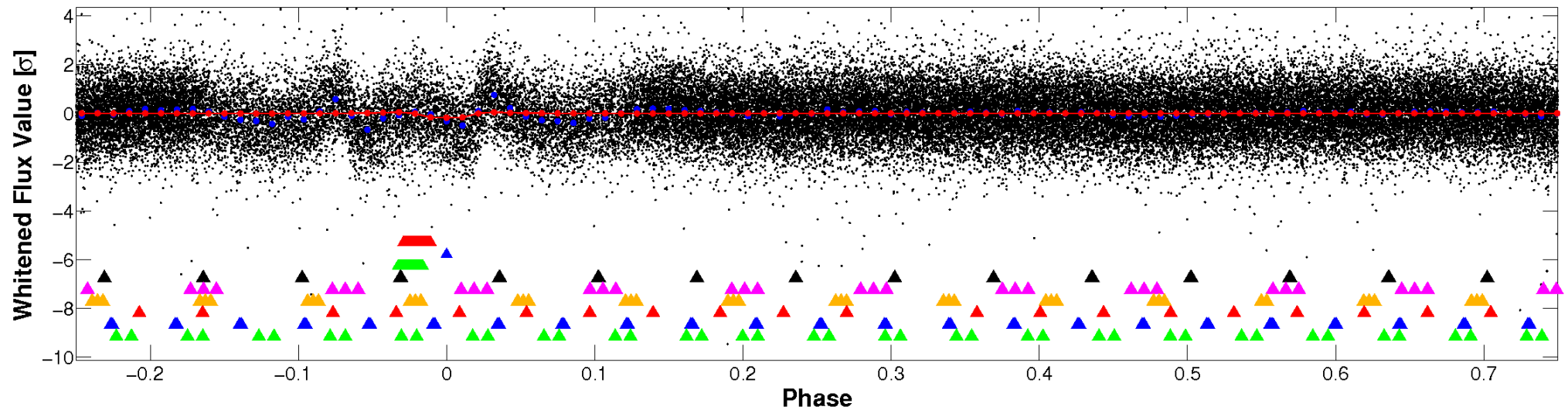


Non-Whitened Vs. Whitened Light Curve

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

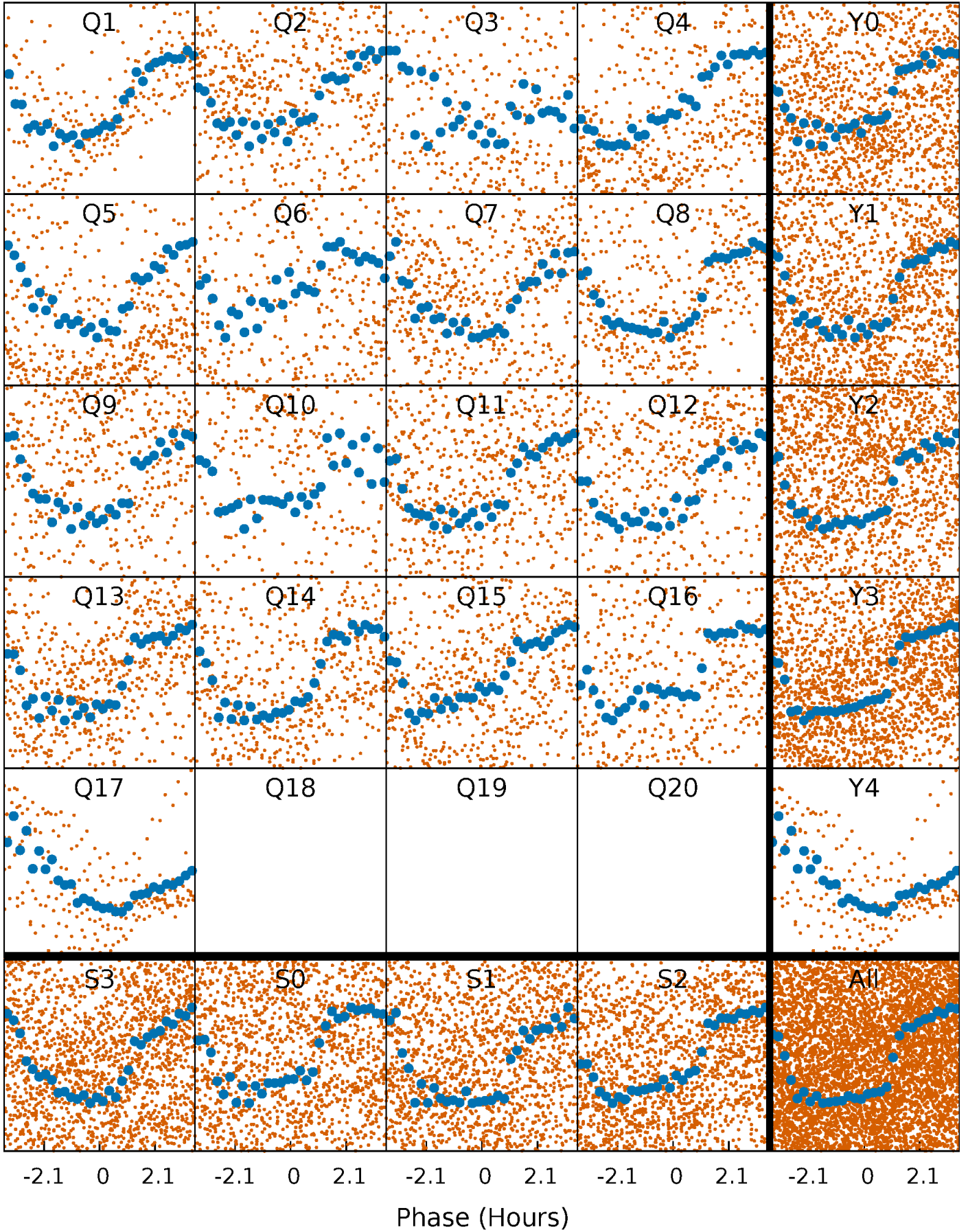


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



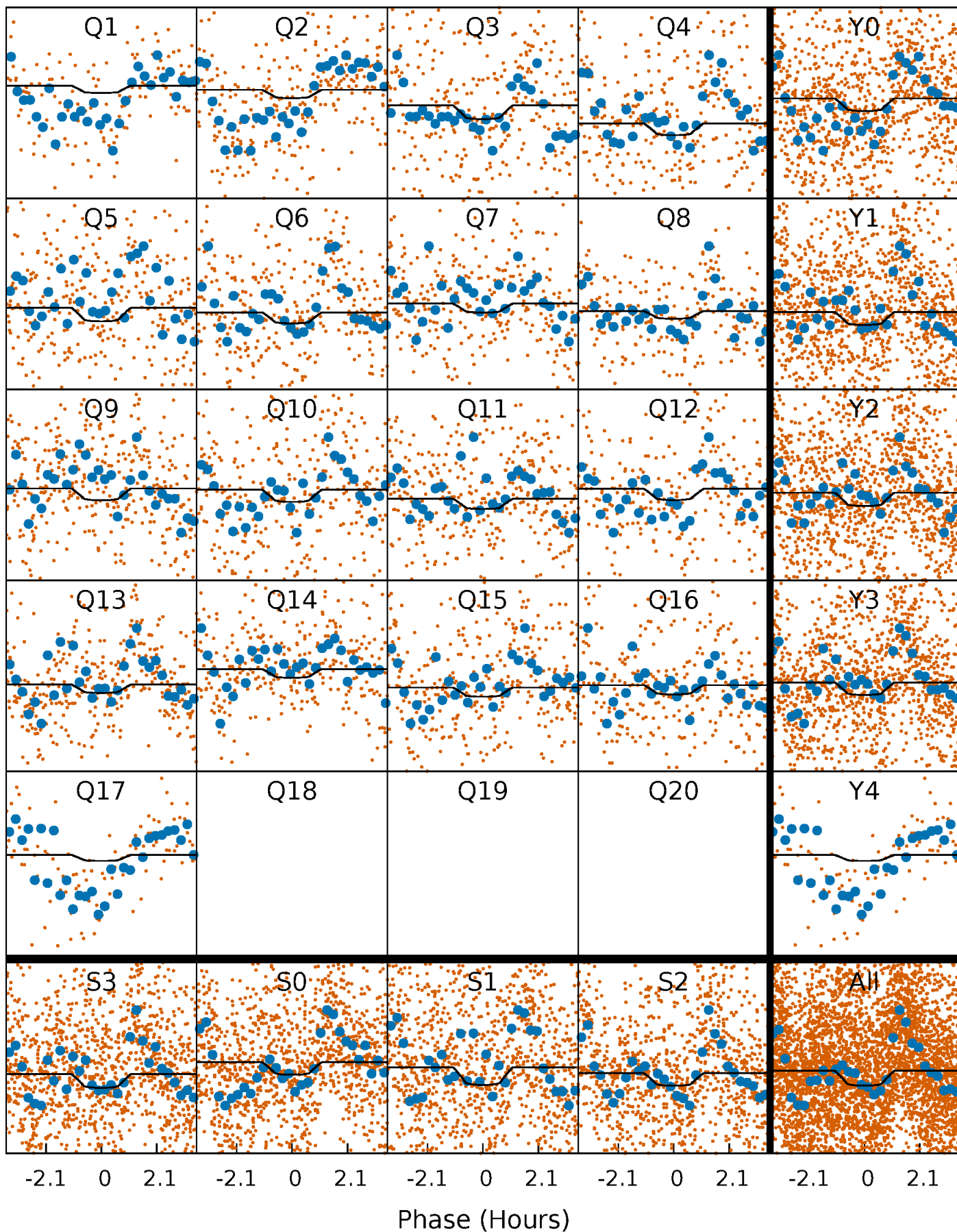
PDC Quarter-Phased Transit Curves

TCE 006515722-02 P= 1.908520 Days $T_0=131.815423$ (BKJD)



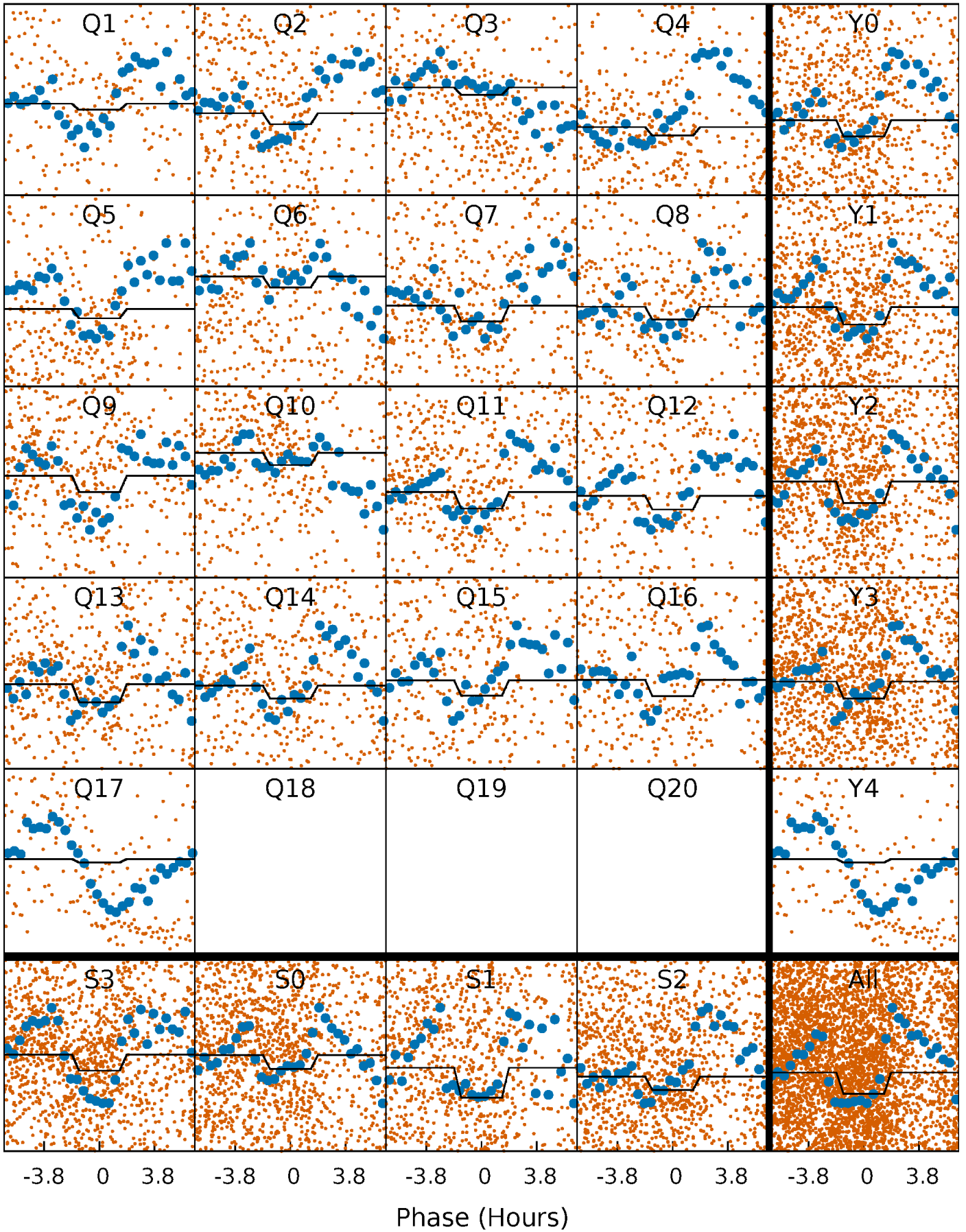
DV Quarter-Phased Transit Curves

TCE 006515722-02 P= 1.908520 Days $T_0=131.815423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

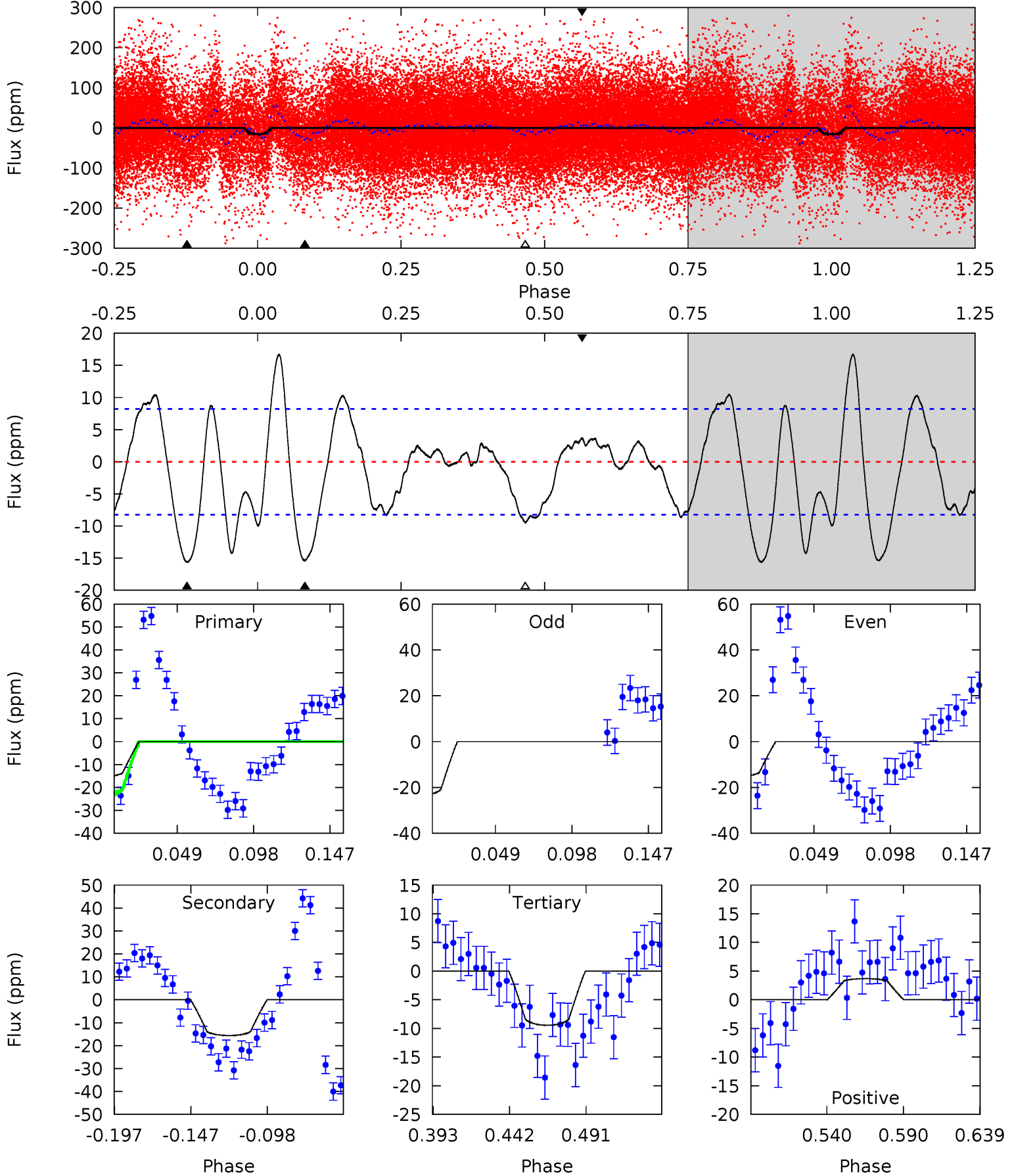
TCE 006515722-02 P= 1.908501 Days $T_0=131.804222$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-02, P = 1.908520 Days, E = 131.815423 Days

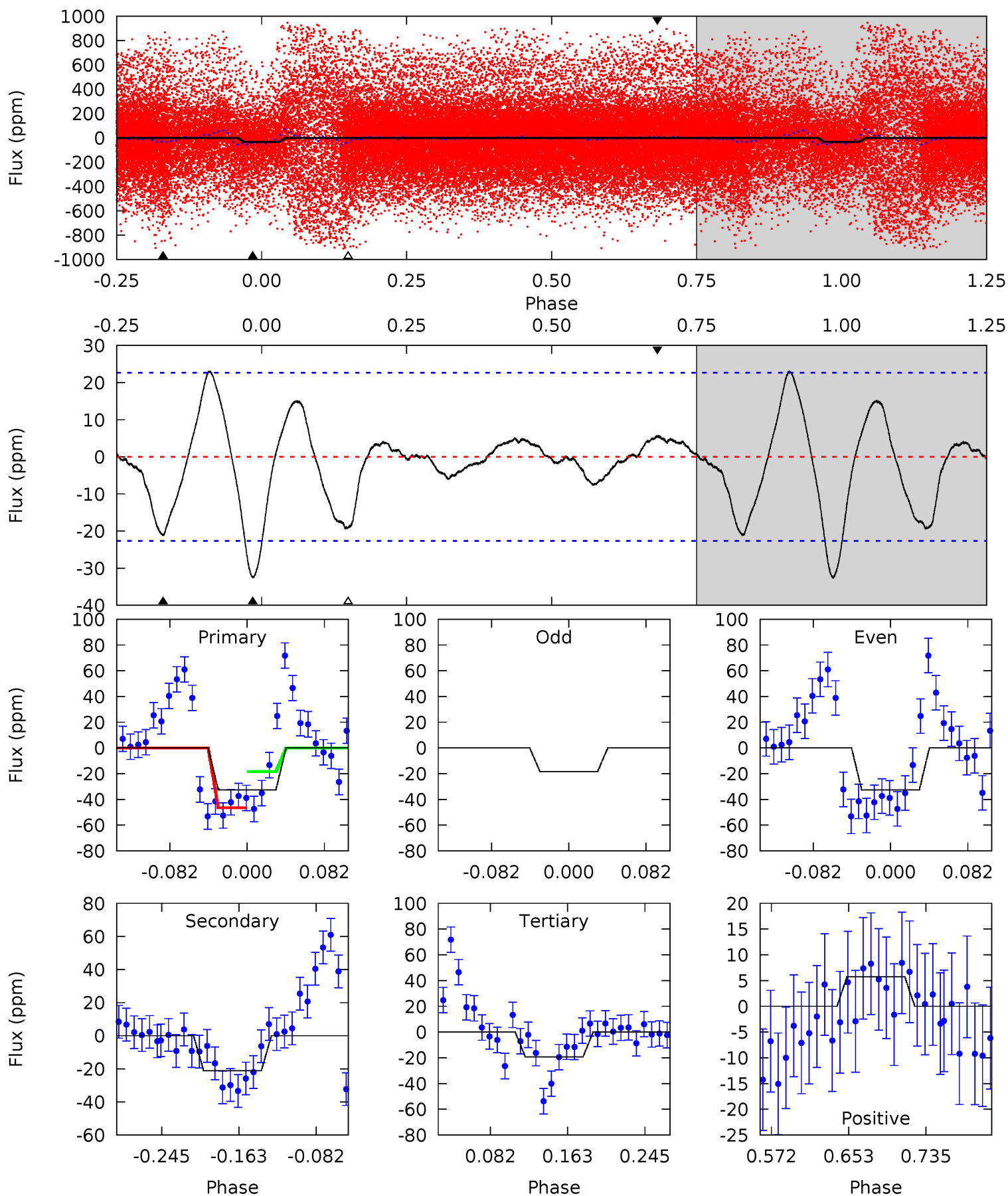
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.79	8.92	5.40	2.11	4.71	1.97	2.96	3.38	6.68	3.52	6.82	2.75	1.03	0.52	4.83



Alt Model-Shift Uniqueness Test

006515722-02, P = 1.908501 Days, E = 131.804222 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.62	4.30	3.93	1.17	4.61	1.74	1.08	2.69	5.45	0.37	3.13	1.71	1.12	0.41	3.02



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-16 ± 2	$1.09^{+0.35}_{-0.26}$	4439^{+377}_{-378}	8769^{+1440}_{-1122}	11^{+7}_{-4}
Alt.	-21 ± 5	$1.48^{+0.36}_{-0.34}$	4423^{+351}_{-376}	7926^{+1186}_{-891}	$8.101^{+5.697}_{-3.010}$

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 $A_{obs} \gg 1.0$

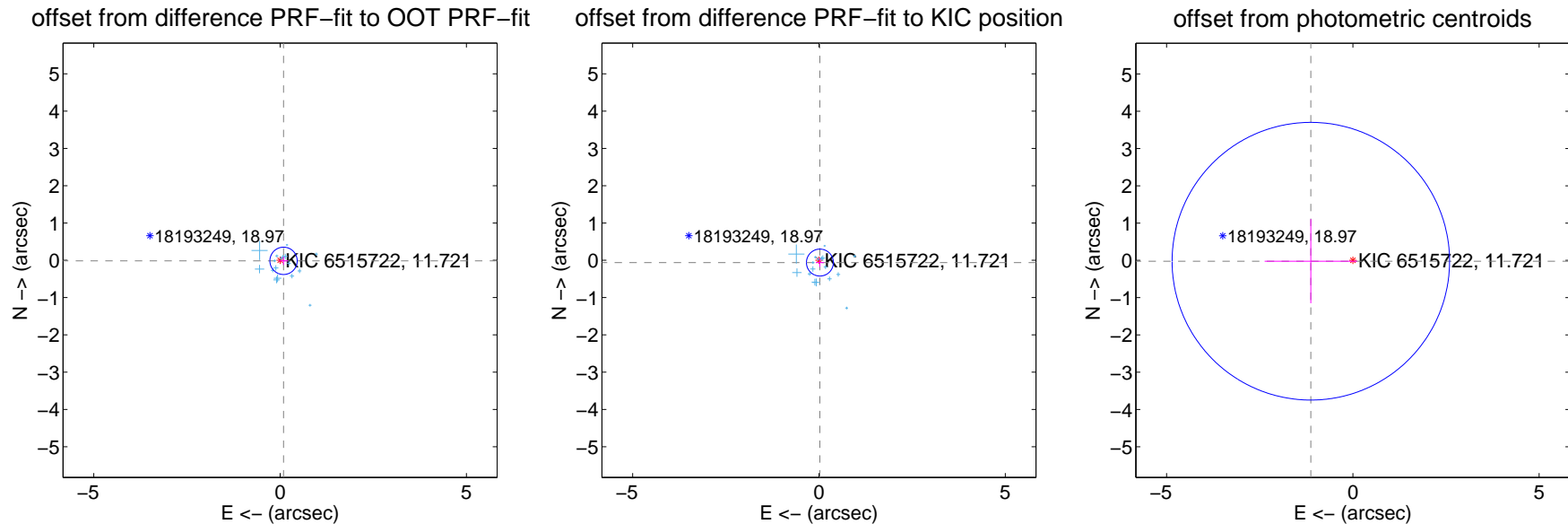
DV Centroid Data

Supplemental centroid analysis for 006515722-02. **Kepler magnitude: 11.72.** Transit SNR 5.66

There are 17 quarters with good PRF difference image offsets

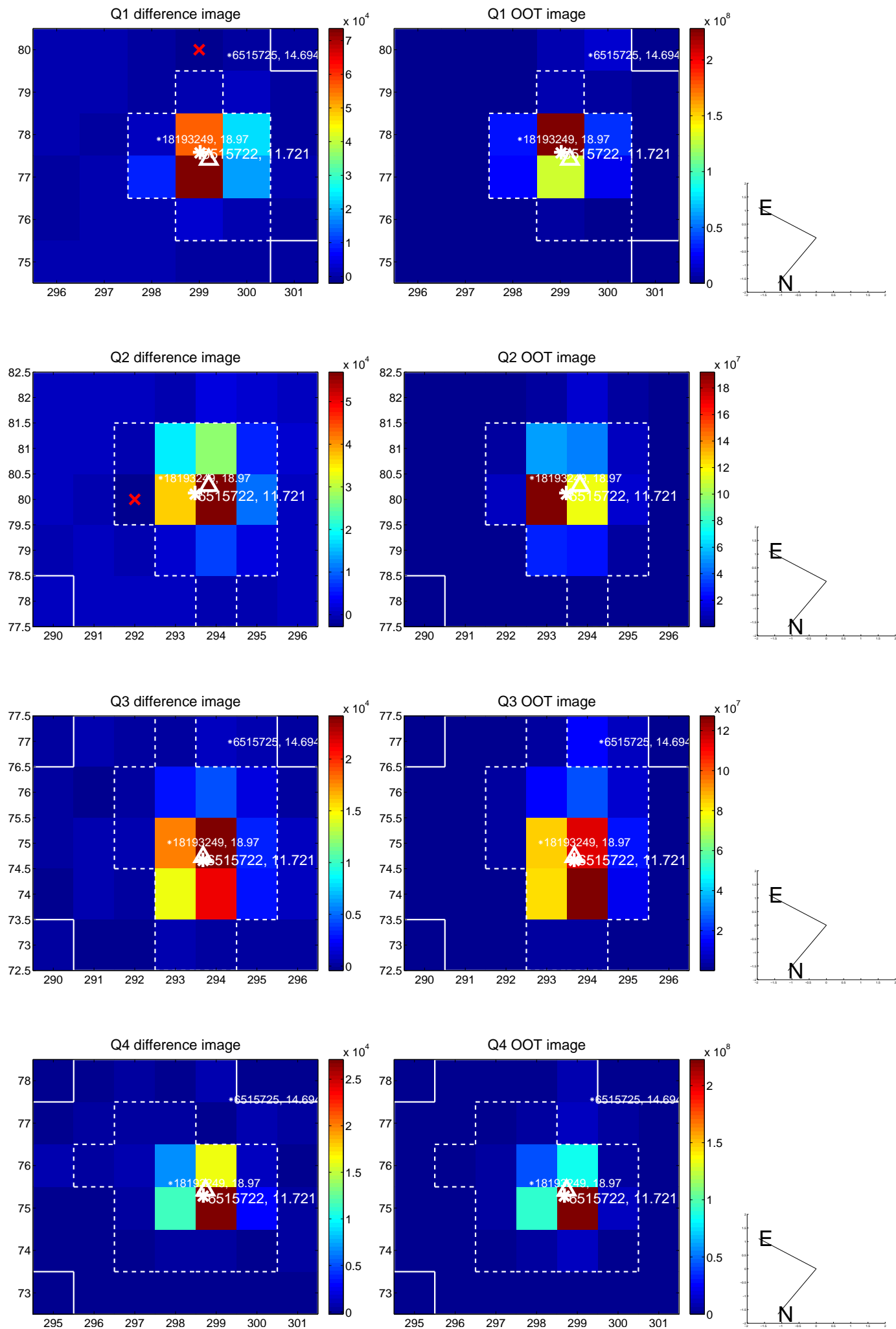
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.093 ± 0.122	0.76	-0.092 ± 0.118	-0.014 ± 0.111
PRF-fit source offset from KIC position	0.066 ± 0.120	0.55	-0.025 ± 0.113	-0.061 ± 0.116
photometric centroid source offset	1.13 ± 1.24	0.91	1.13 ± 1.24	-0.02 ± 1.13

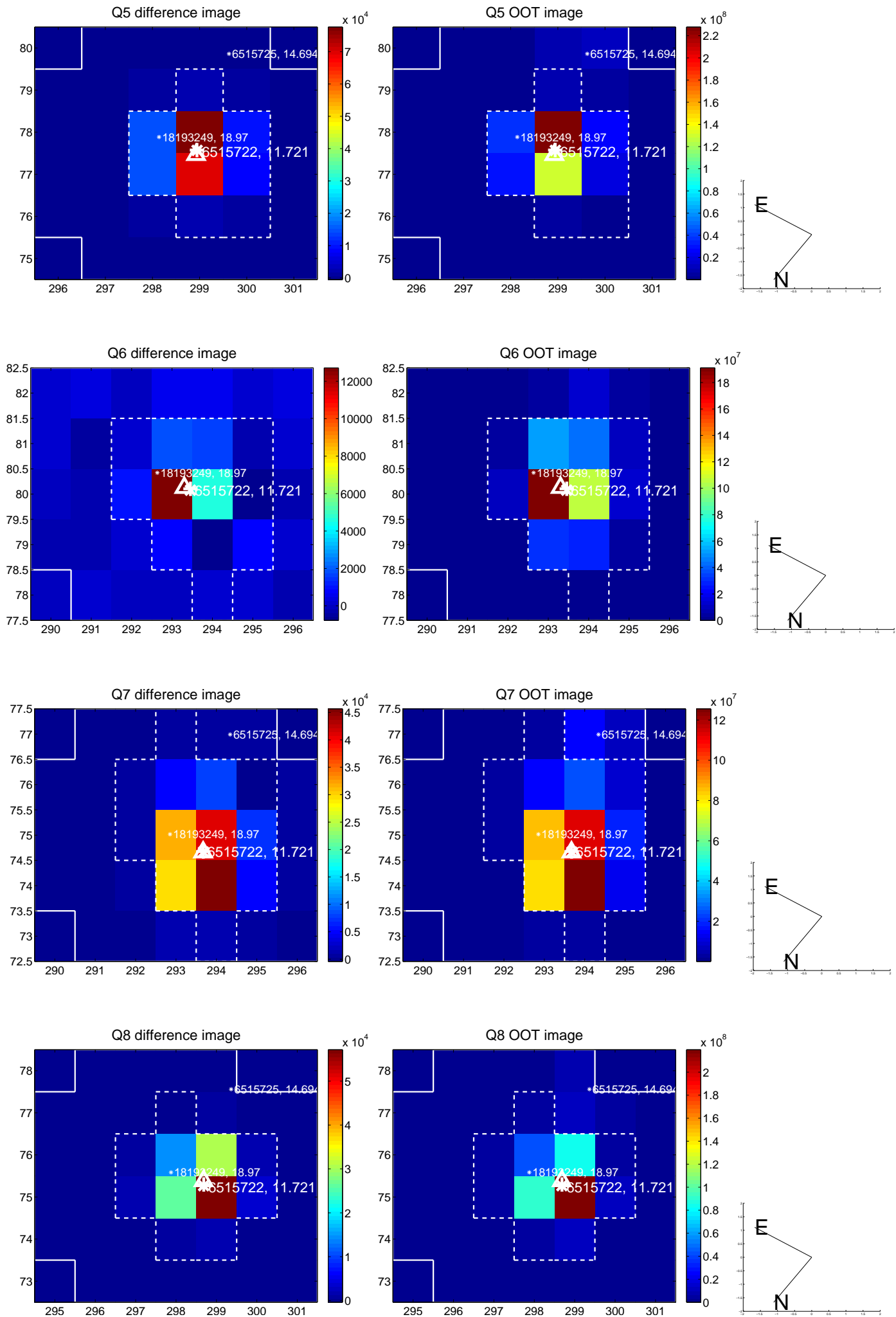


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

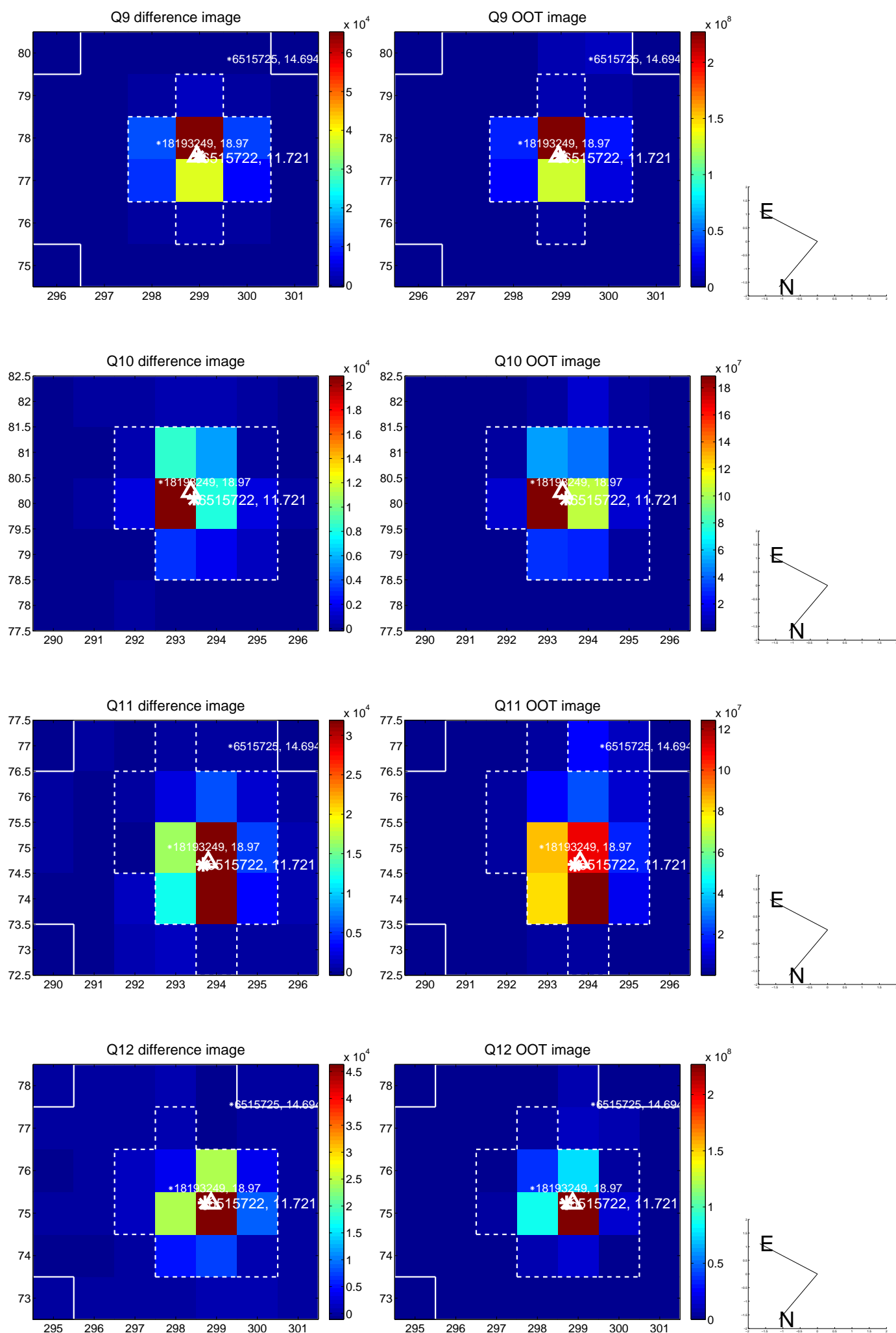
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



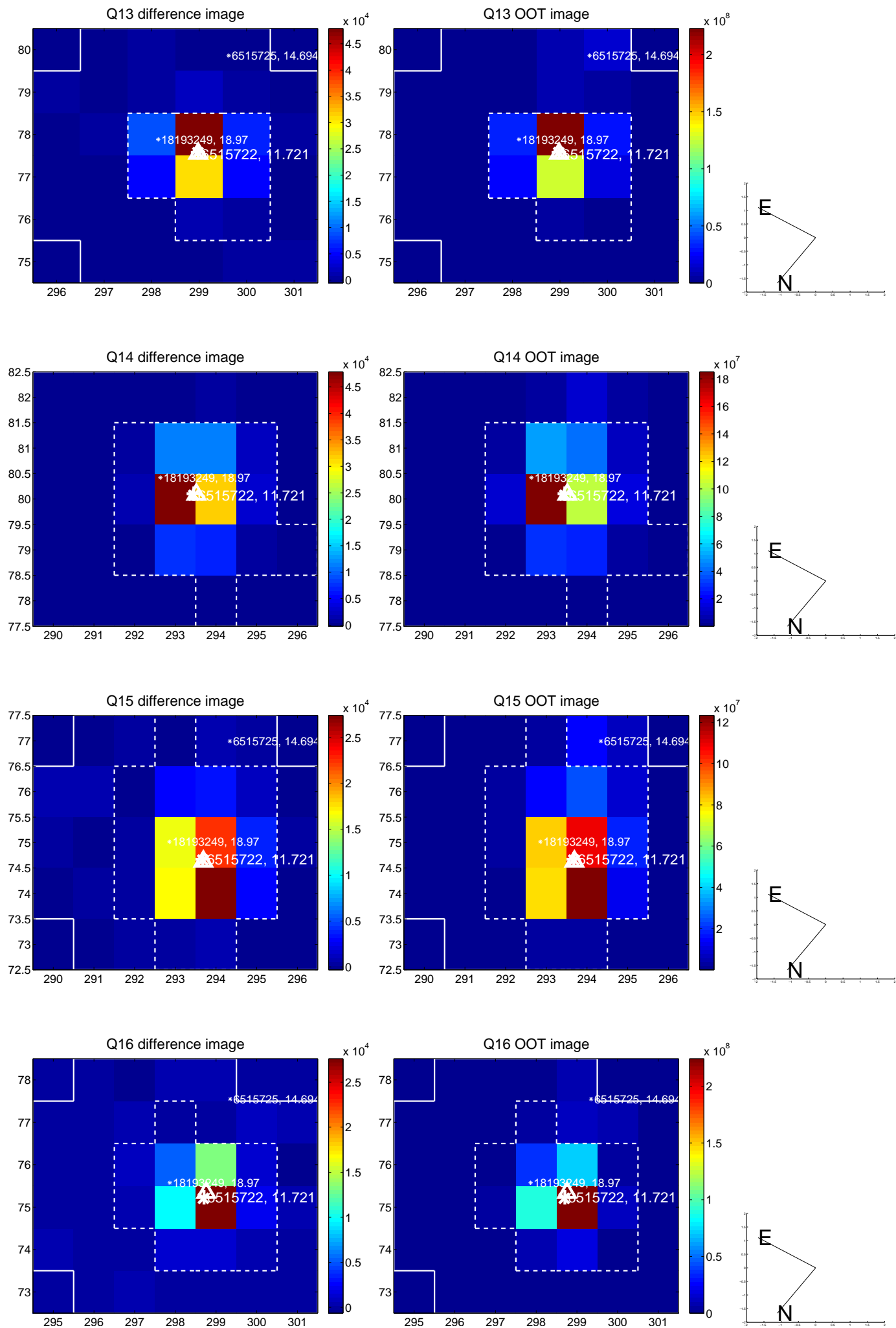
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



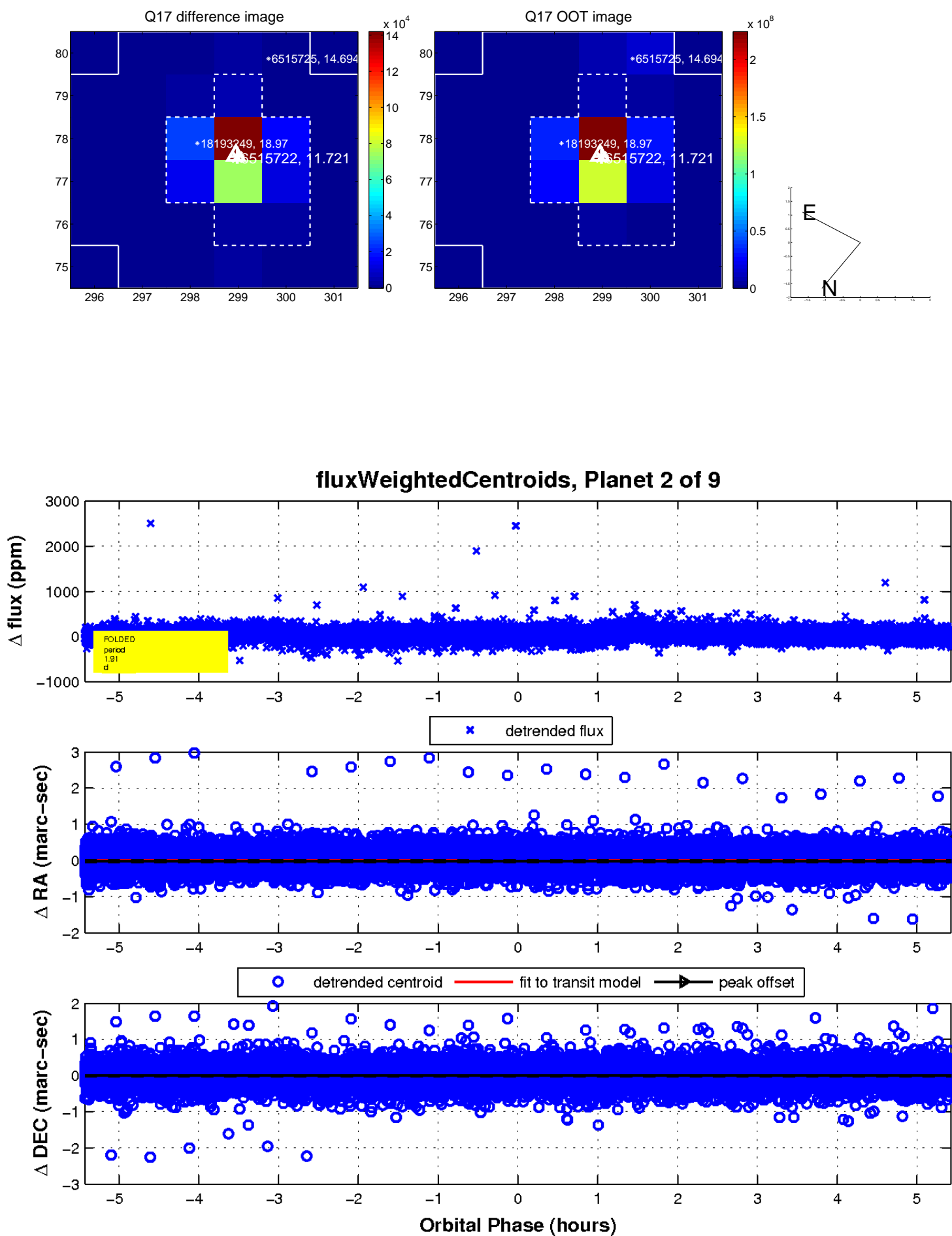
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



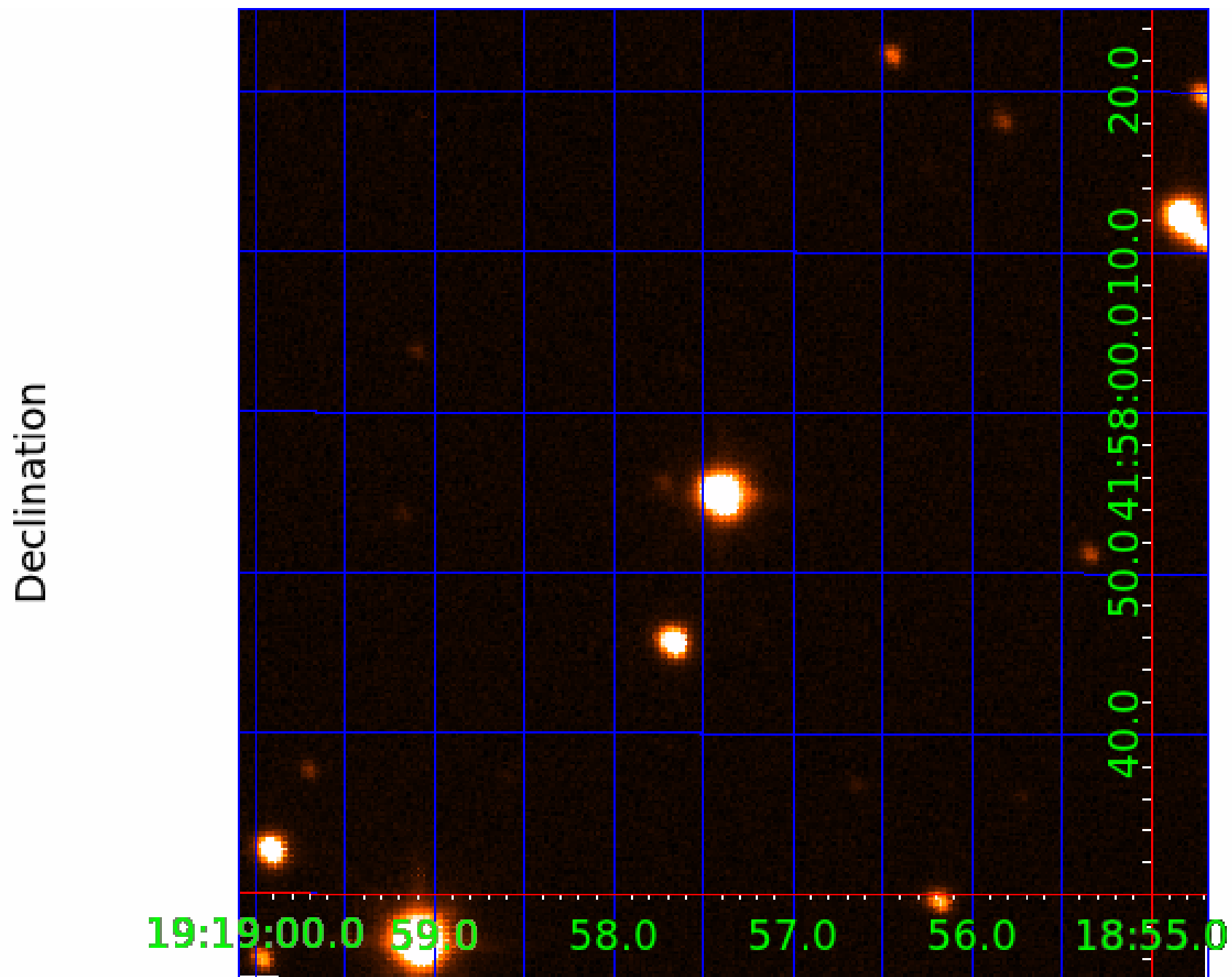
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
006515722-01	OBS	No	3.816948	131.795010	115.5	4.367	33.7	44.8	2.47	9174	3.06	9744.42
006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
006515722-03	OBS	3818.01	1.908478	131.784896	26.8	13.210	14.8	12.7	2.47	9174	1.47	24554.33
006515722-04	OBS	No	65.907630	178.450869	206.8	5.112	15.0	13.4	2.47	9174	4.71	218.34
006515722-05	OBS	No	44.244481	166.353563	195.8	2.135	14.8	12.3	2.47	9174	3.85	371.45
006515722-06	OBS	No	35.852419	138.194916	73.8	1.567	12.1	4.8	2.47	9174	2.29	491.68
006515722-07	OBS	No	71.694191	174.649085	150.8	3.600	12.2	10.3	2.47	9174	3.54	195.16
006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
006515722-09	OBS	No	34.261551	155.046315	119.1	3.146	11.3	11.8	2.47	9174	3.02	522.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006515722-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

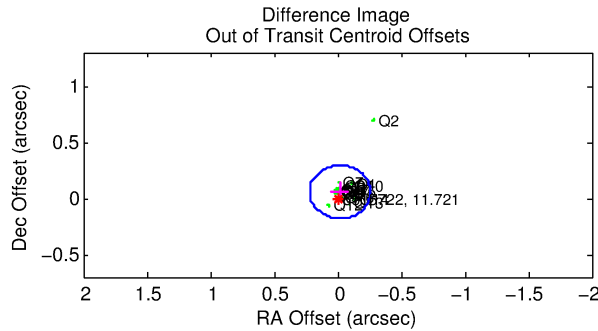
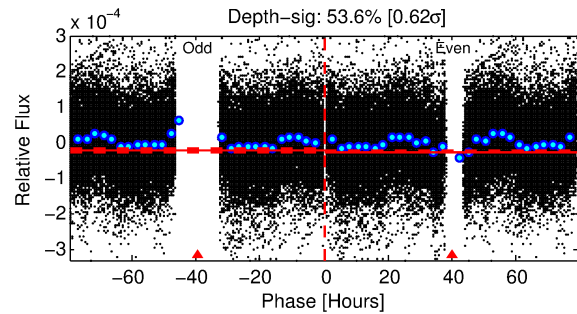
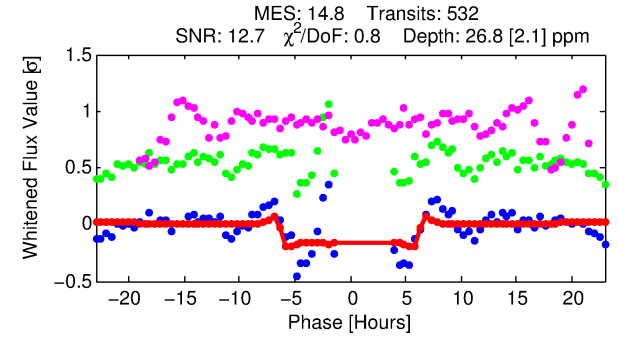
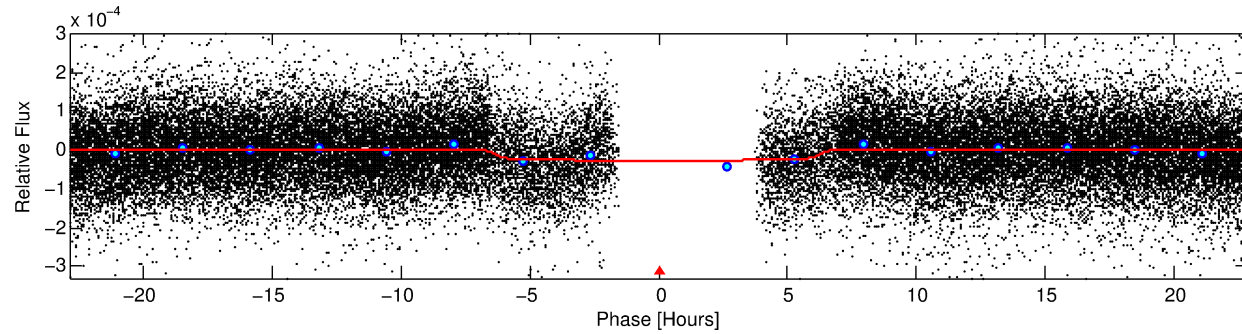
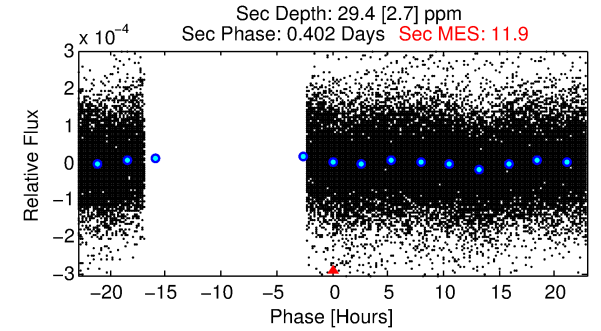
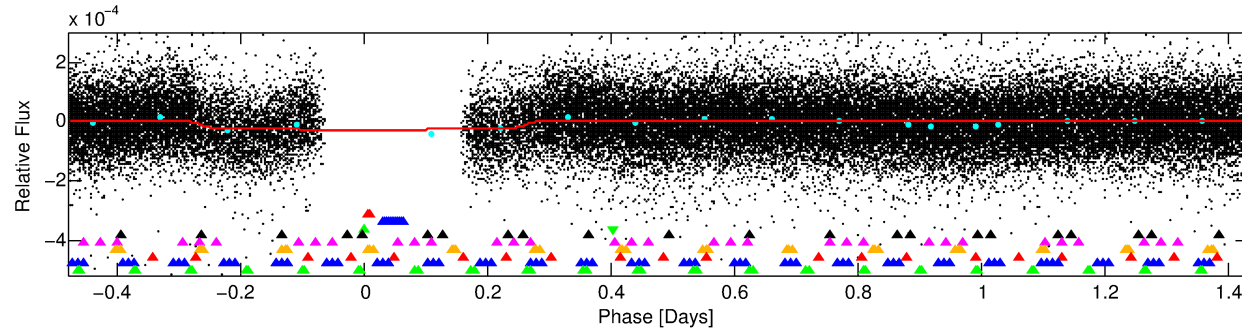
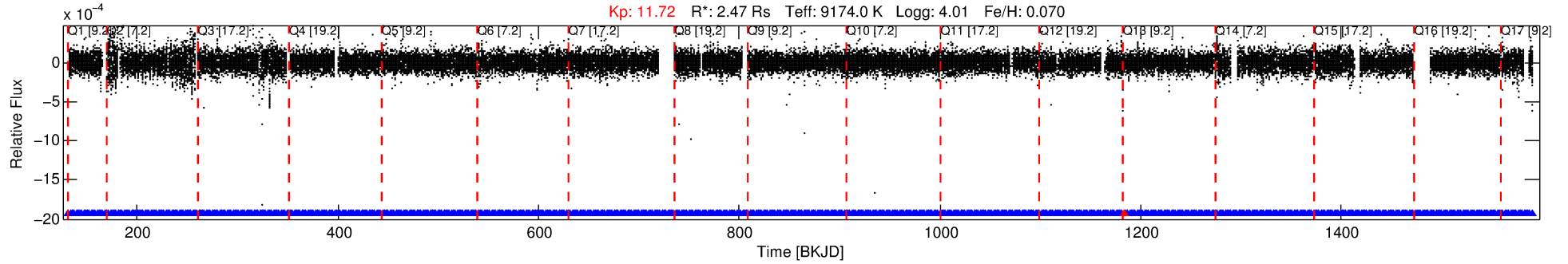
Ephemeris Match Information For 006515722-03

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 3 of 9 Period: 1.908 d

KOI: K03818 Corr: No Ephemeris Match



DV Fit Results:

Period = 1.90848 [0.00001] d
Epoch = 131.7849 [0.0033] BKJD
Rp/R* = 0.0055 [0.0004]
a/R* = 1.06 [0.05]
b = 0.90 [0.09]
Seff = 24554.33 [10751.19]
Teq = 3192 [349] K
Rp = 1.47 [0.49] Re
a = 0.0397 [0.0109] AU
Ag = 11.78 [5.05] [2.14σ]
Teffp = 9142 [570] K [8.90σ]

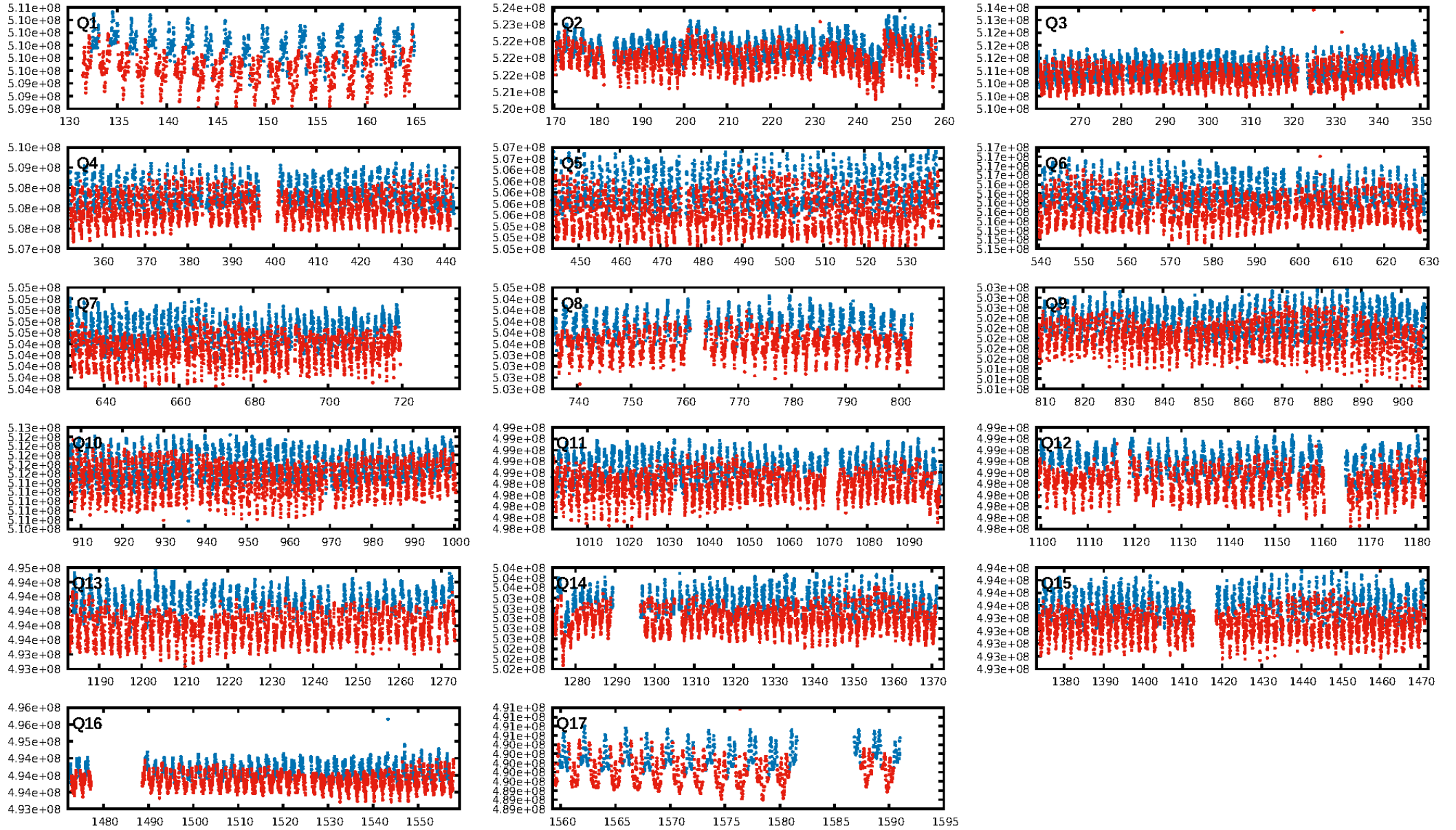
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [508/509]
GhostDiagnostic-chr: 2.378
Centroid-sig: 0.0%
Centroid-so: 1.705 arcsec [5.31σ]
OotOffset-rm: 0.058 arcsec [0.74σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.011 arcsec [0.15σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

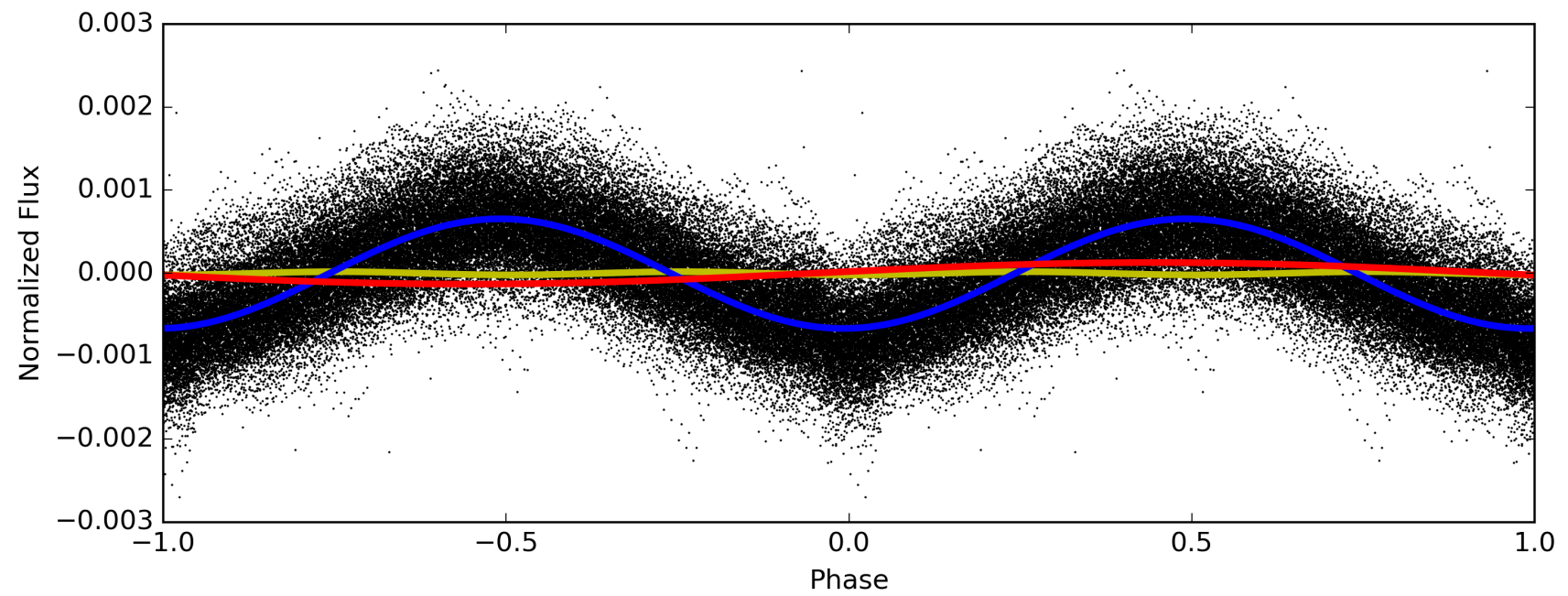
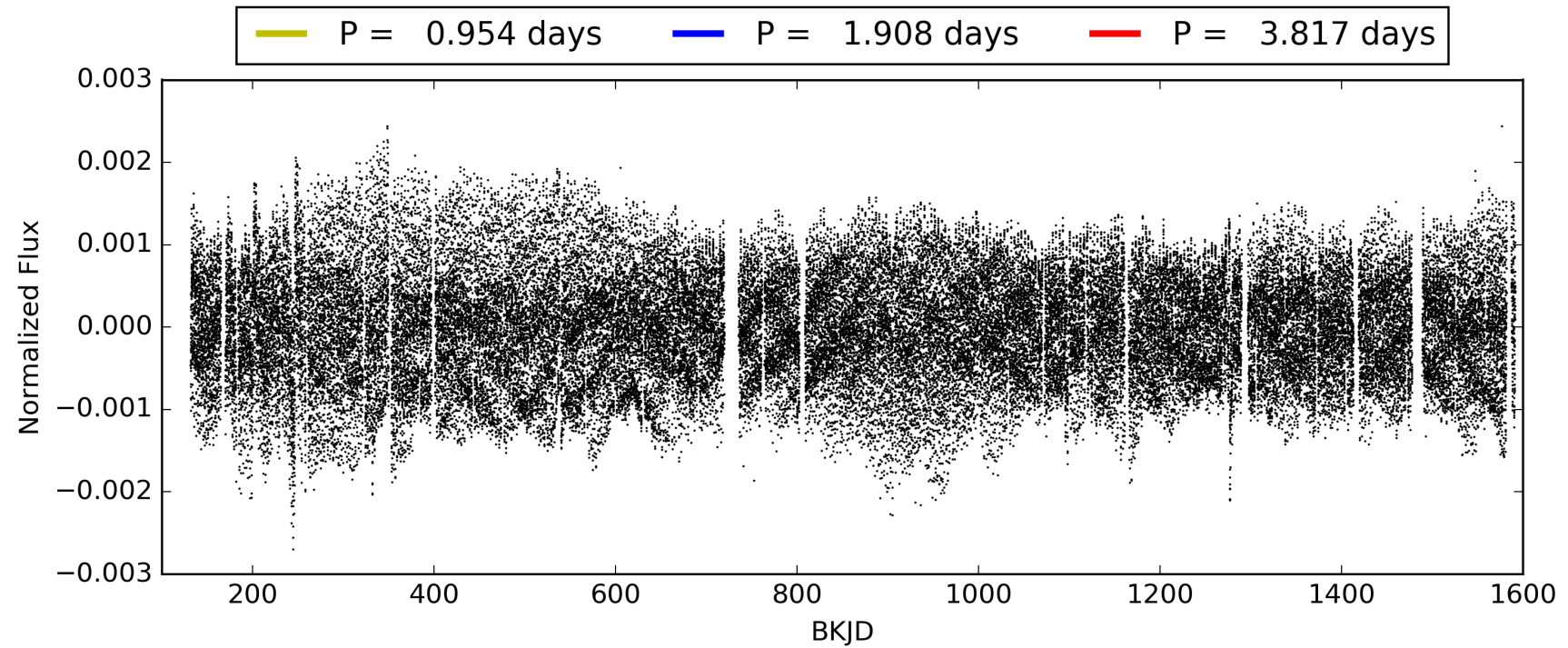
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:18:11 Z

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

TCE 006515722-03, PDC Light Curves

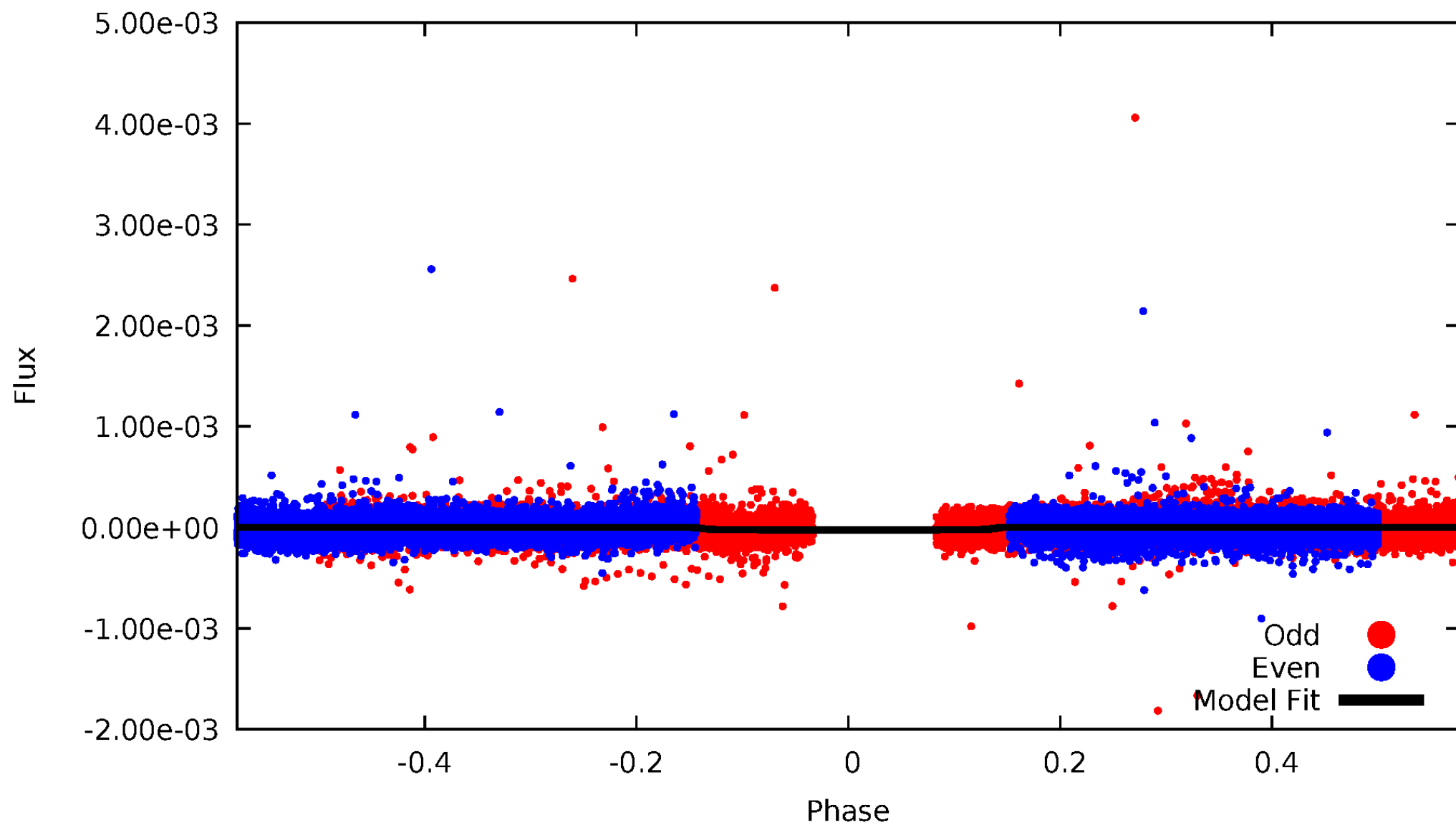


TCE 006515722-03



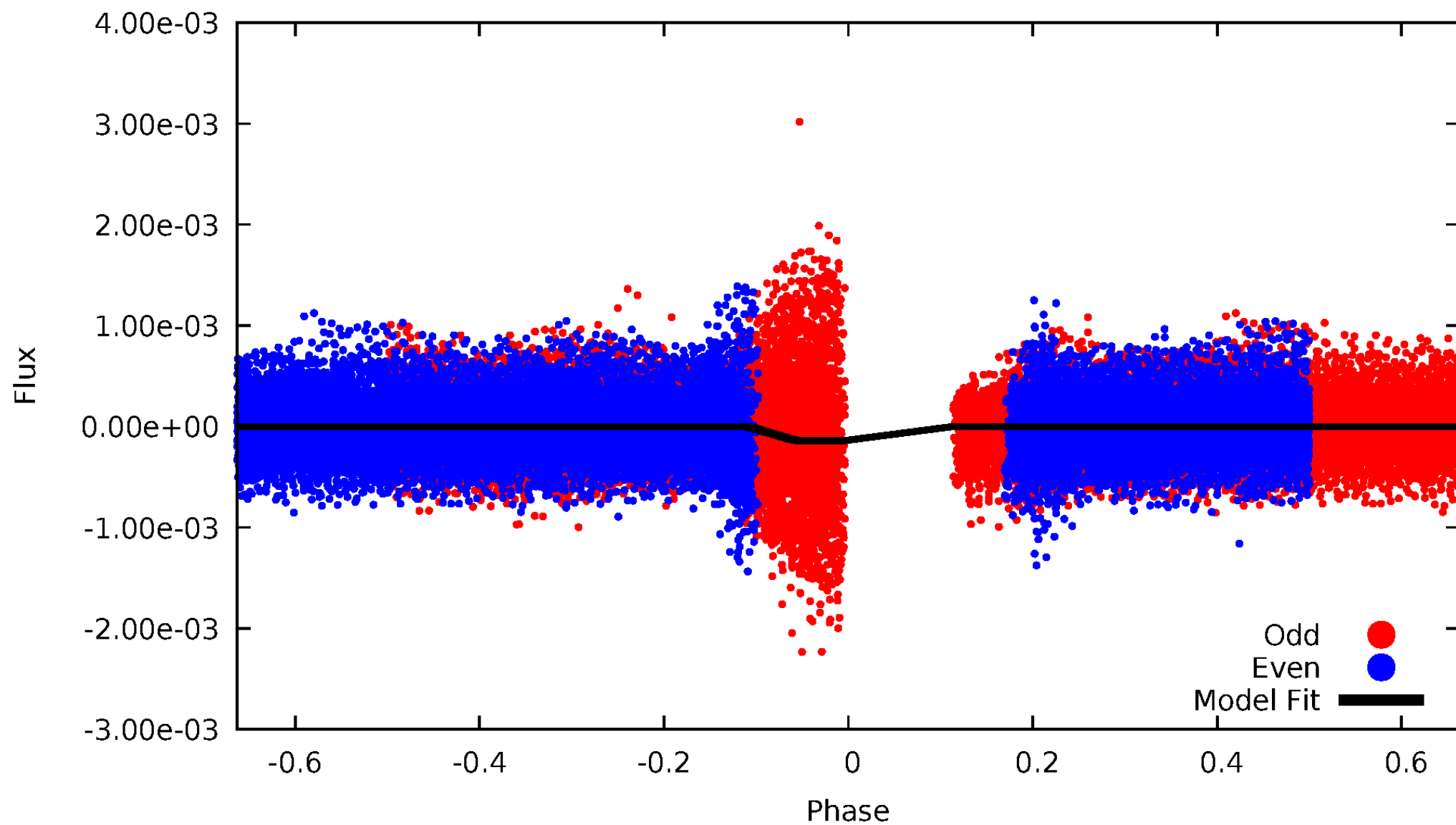
DV Odd/Even

TCE 006515722-03

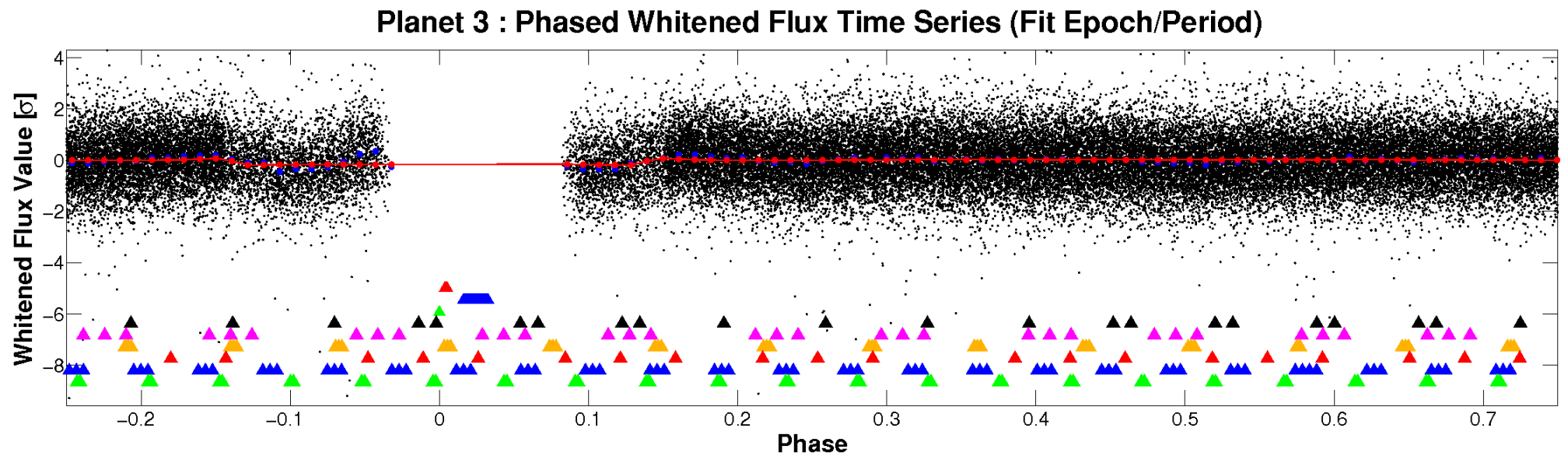
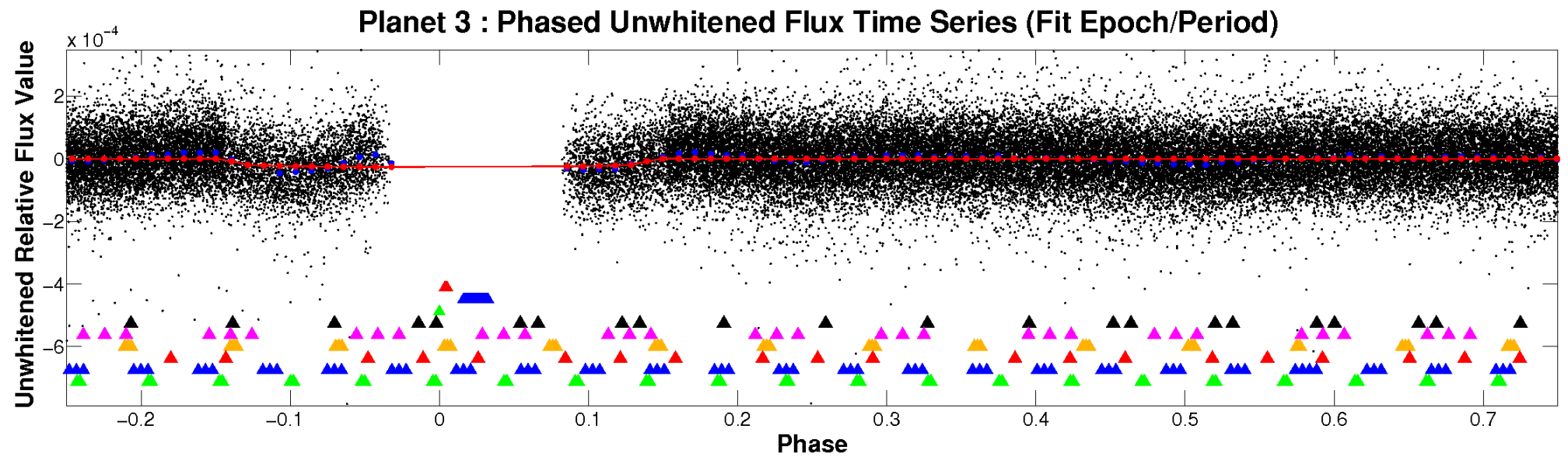


ALT Odd/Even

TCE 006515722-03

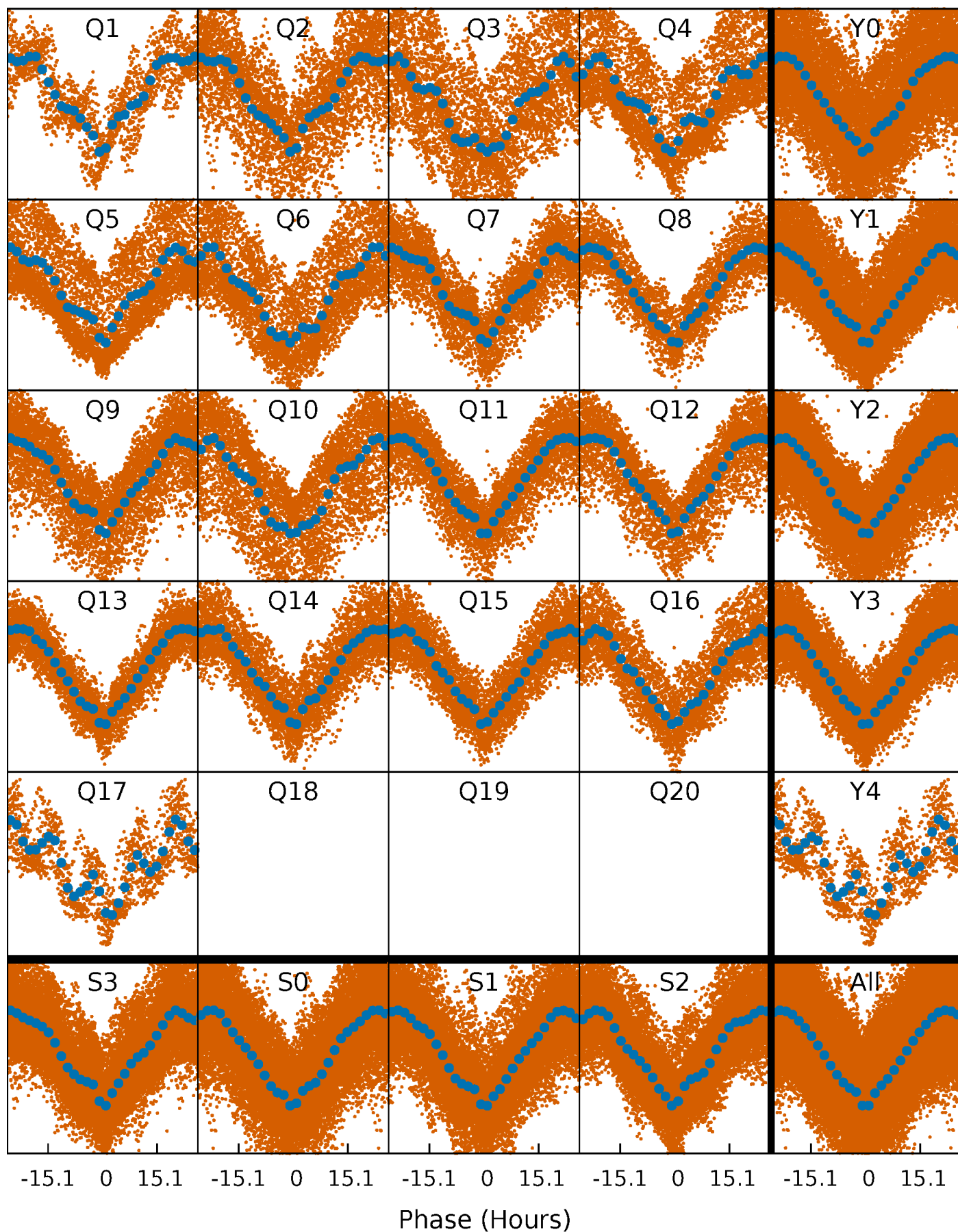


Non-Whitened Vs. Whitened Light Curve



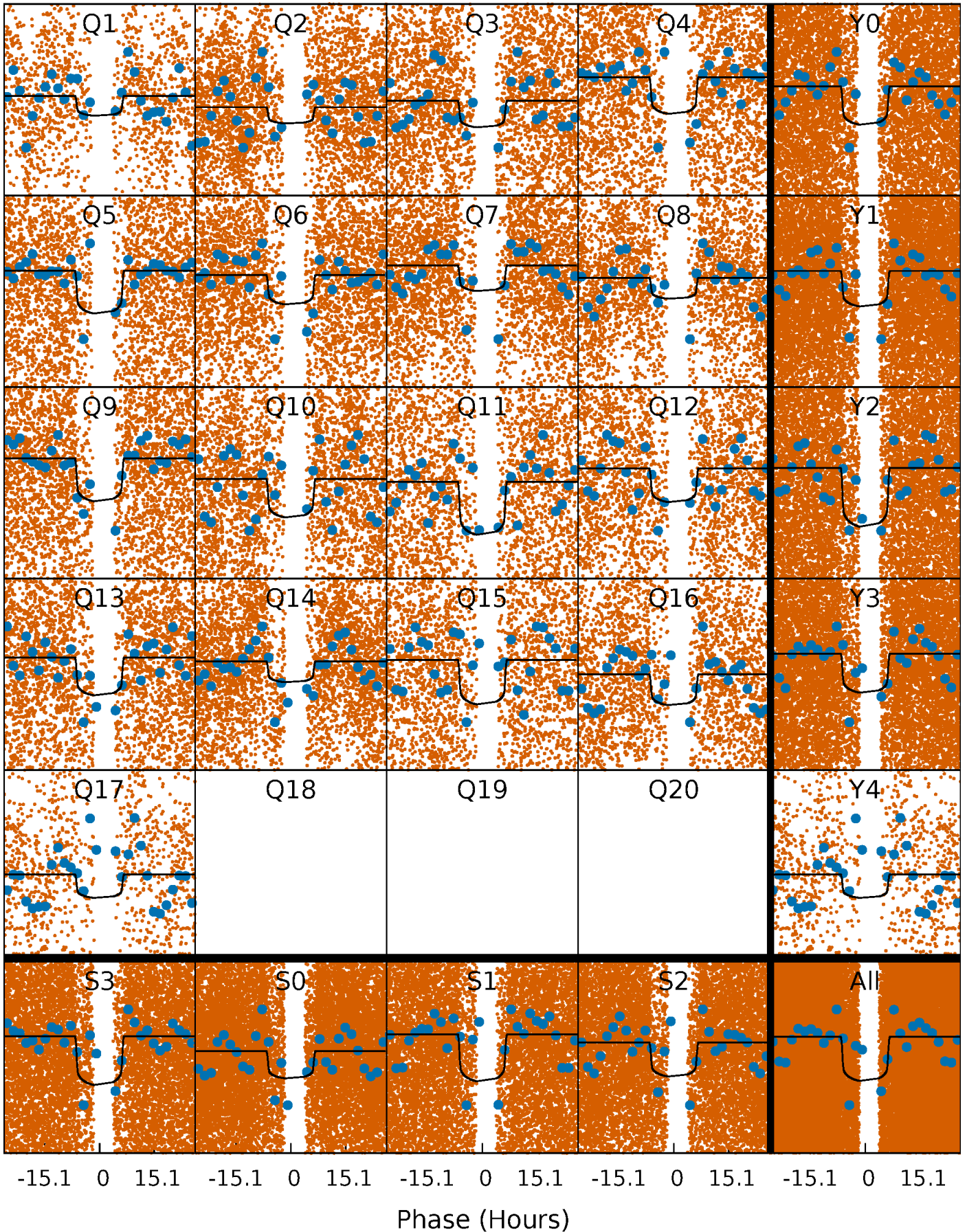
PDC Quarter-Phased Transit Curves

TCE 006515722-03 P= 1.908478 Days $T_0=131.784896$ (BKJD)



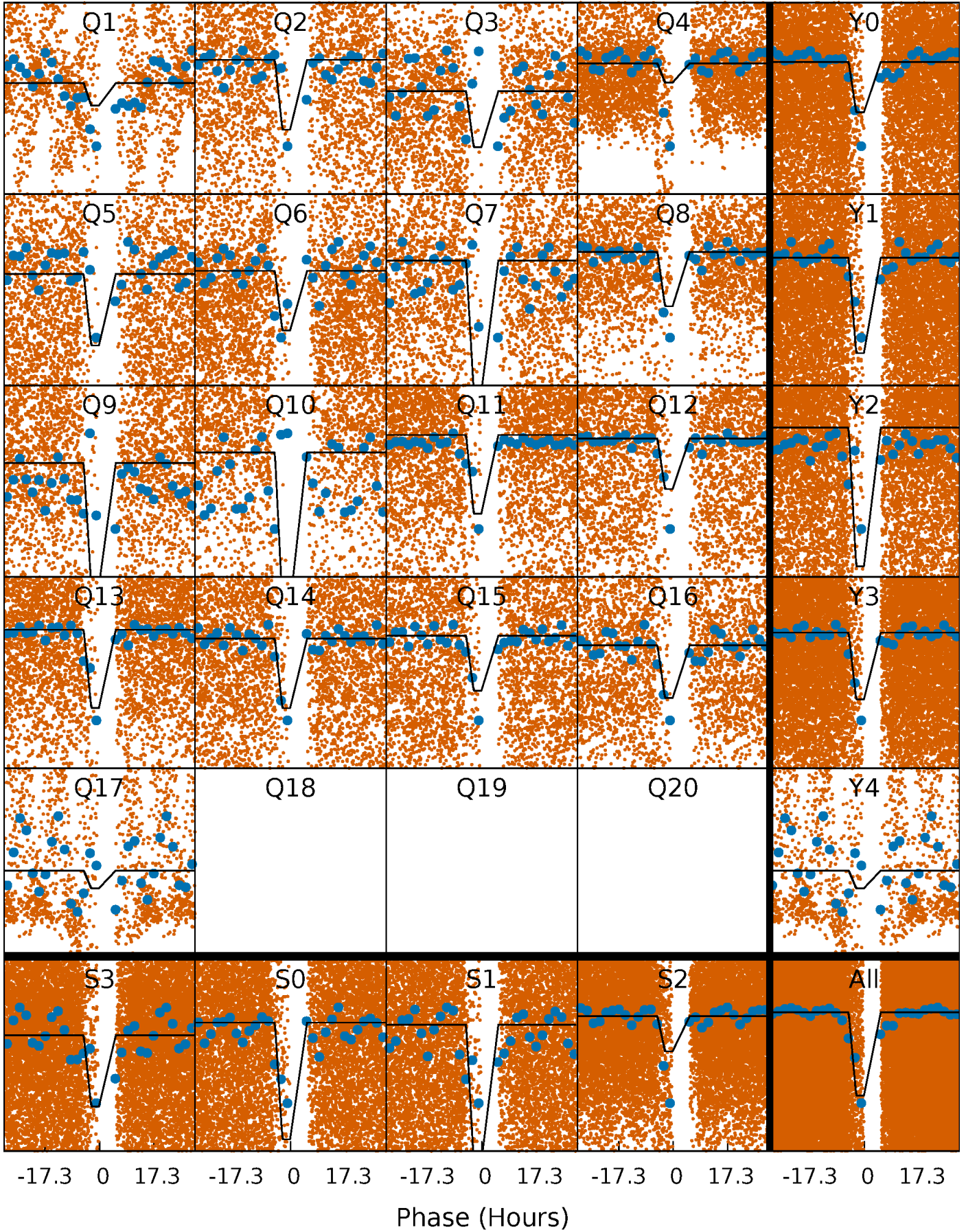
DV Quarter-Phased Transit Curves

TCE 006515722-03 P= 1.908478 Days $T_0=131.784896$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

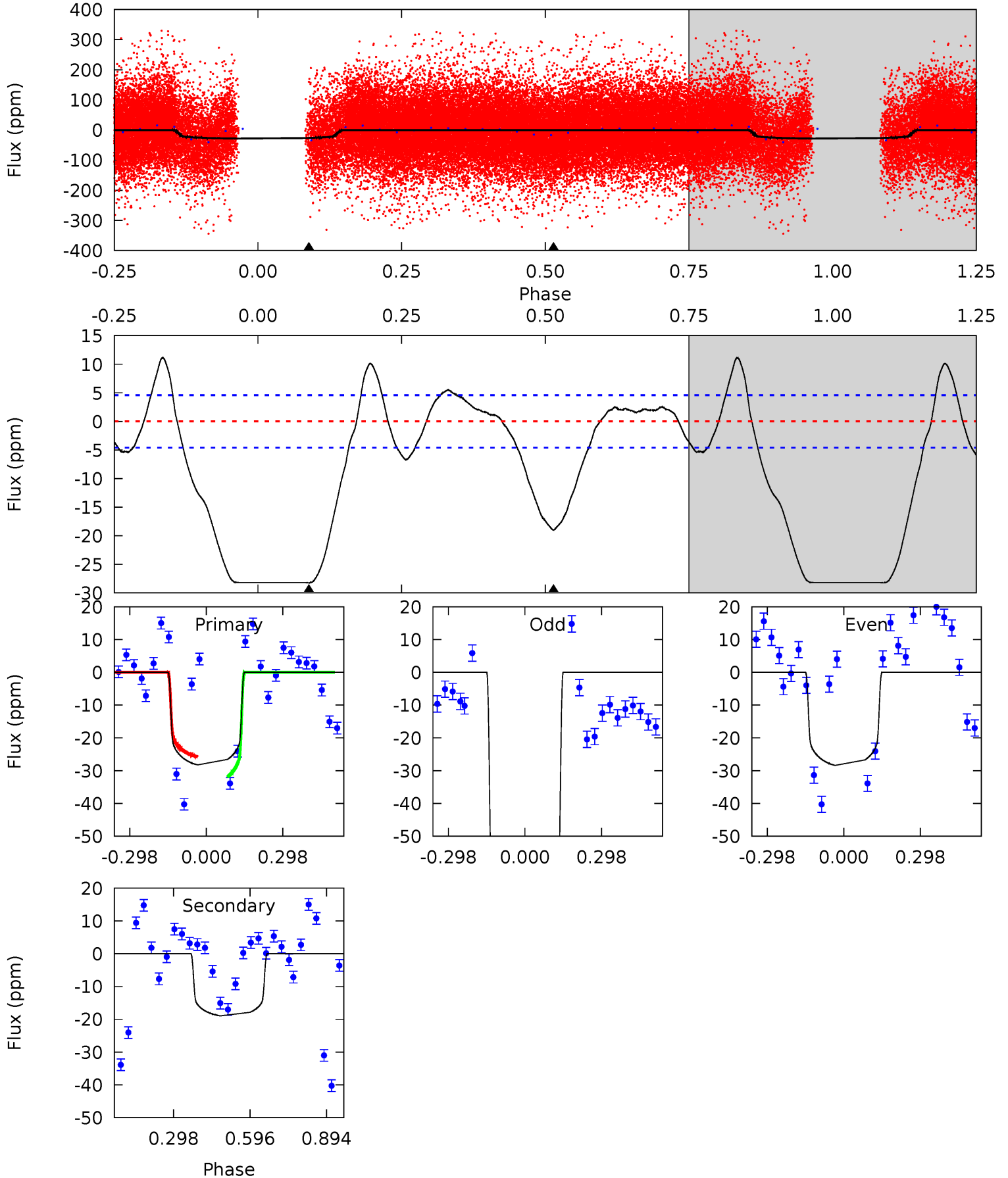
TCE 006515722-03 P= 1.908554 Days $T_0=131.695714$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-03, P = 1.908478 Days, E = 131.784896 Days

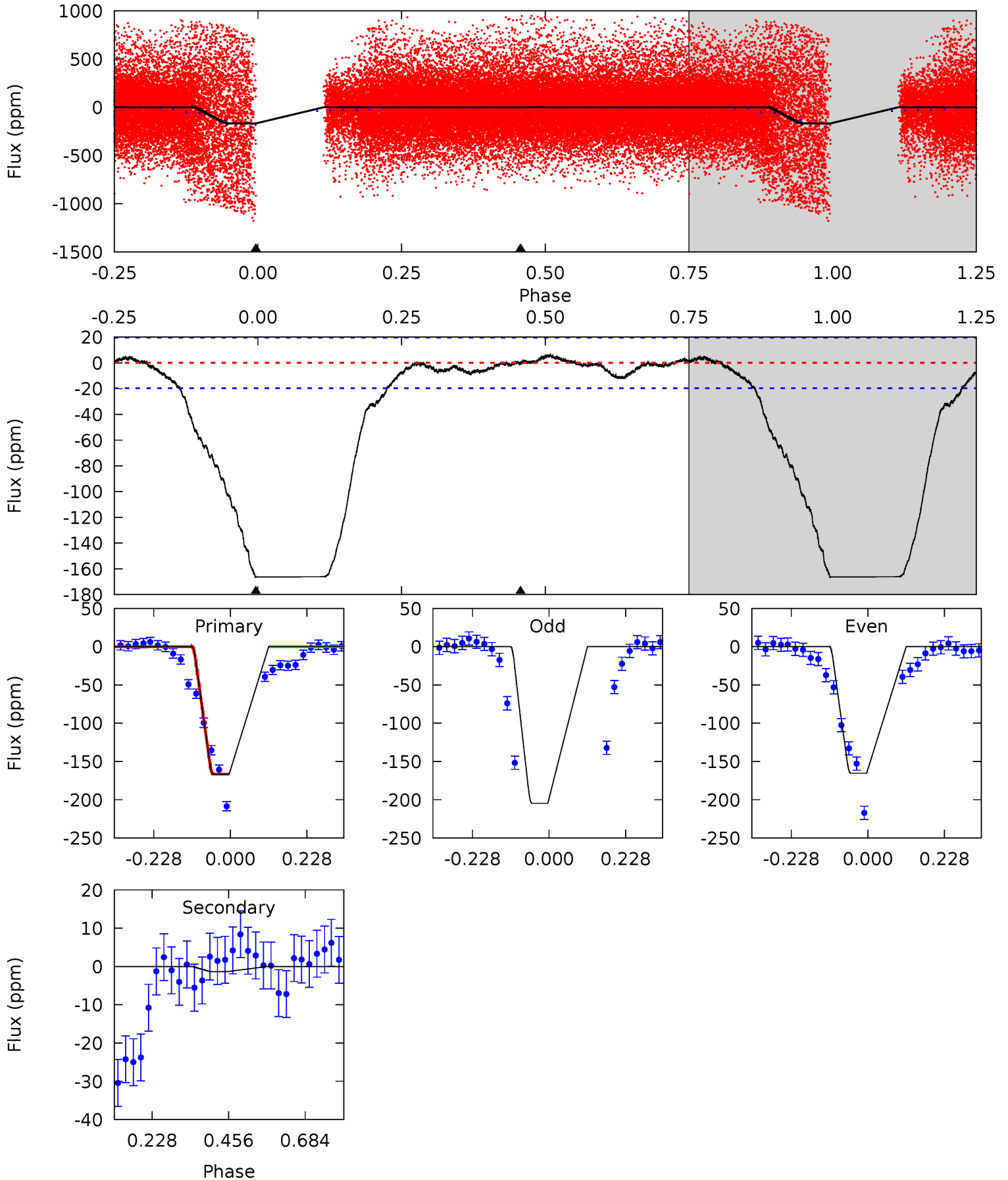
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.6	17.9	0	0	4.33	1.04	5.71	26.6	26.6	17.9	17.9	9.12	1.00	0.28	2.82



Alt Model-Shift Uniqueness Test

006515722-03, P = 1.908554 Days, E = 131.695714 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.1	0.29	0	0	4.39	1.21	1.05	37.1	37.1	0.29	0.29	1.65	0	0.04	0



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-03 / KOI 3818.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 1	$1.45^{+0.29}_{-0.26}$	4415^{+388}_{-343}	7781^{+478}_{-440}	$7.688^{+2.957}_{-2.256}$
Alt.	-1 ± 4	$3.16^{+0.55}_{-0.56}$	4403^{+383}_{-368}	-3512^{+7106}_{-743}	$0.124^{+0.394}_{-0.366}$

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

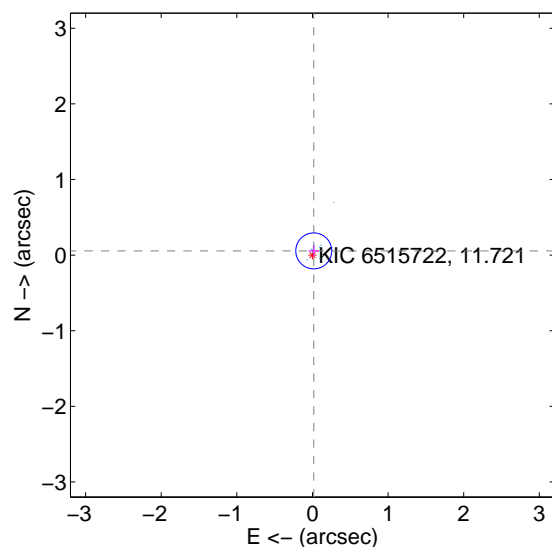
Supplemental centroid analysis for 006515722-03. **Kepler magnitude: 11.72.** Transit SNR 12.72

There are 17 quarters with good PRF difference image offsets

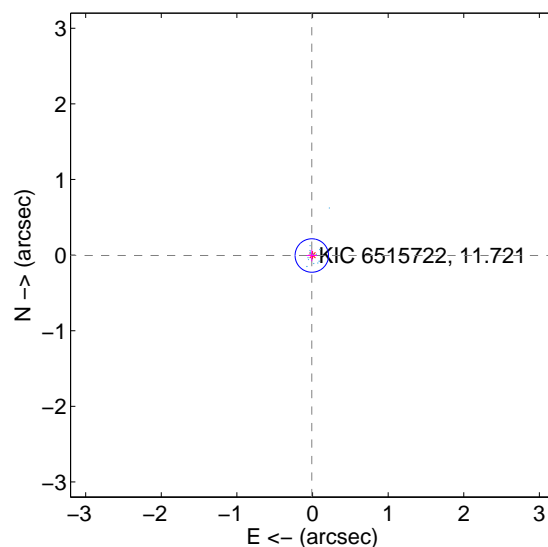
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.058 ± 0.079	0.74	-0.017 ± 0.069	0.056 ± 0.078
PRF-fit source offset from KIC position	0.011 ± 0.074	0.15	0.009 ± 0.069	-0.005 ± 0.077
photometric centroid source offset	1.70 ± 0.32	5.31	-1.55 ± 0.33	-0.72 ± 0.28

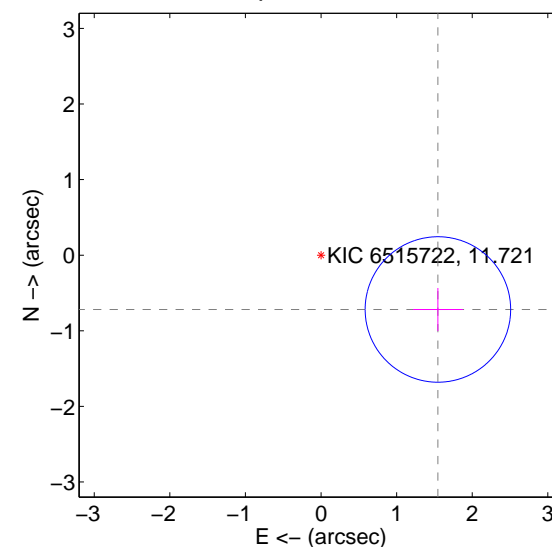
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

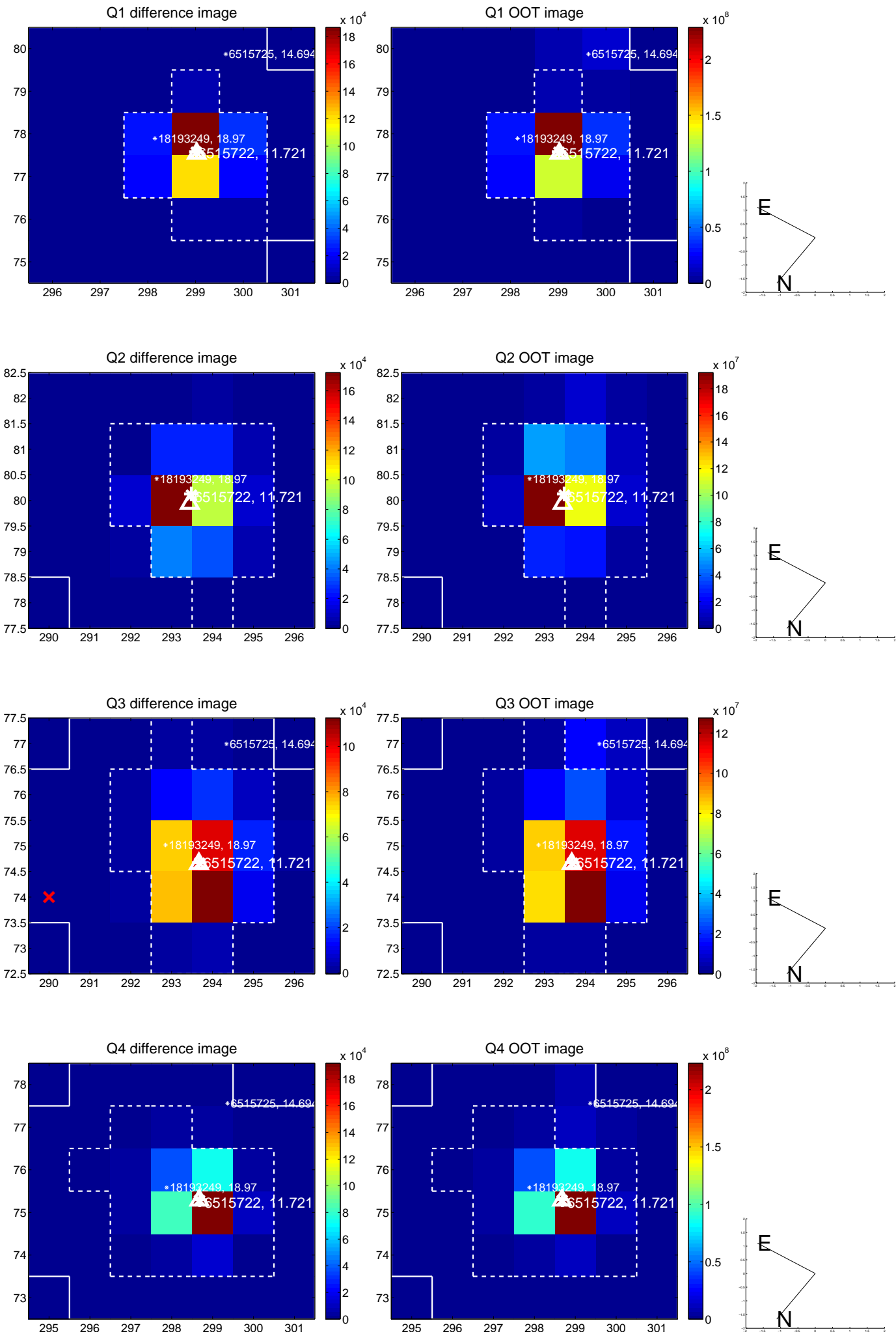


offset from photometric centroids

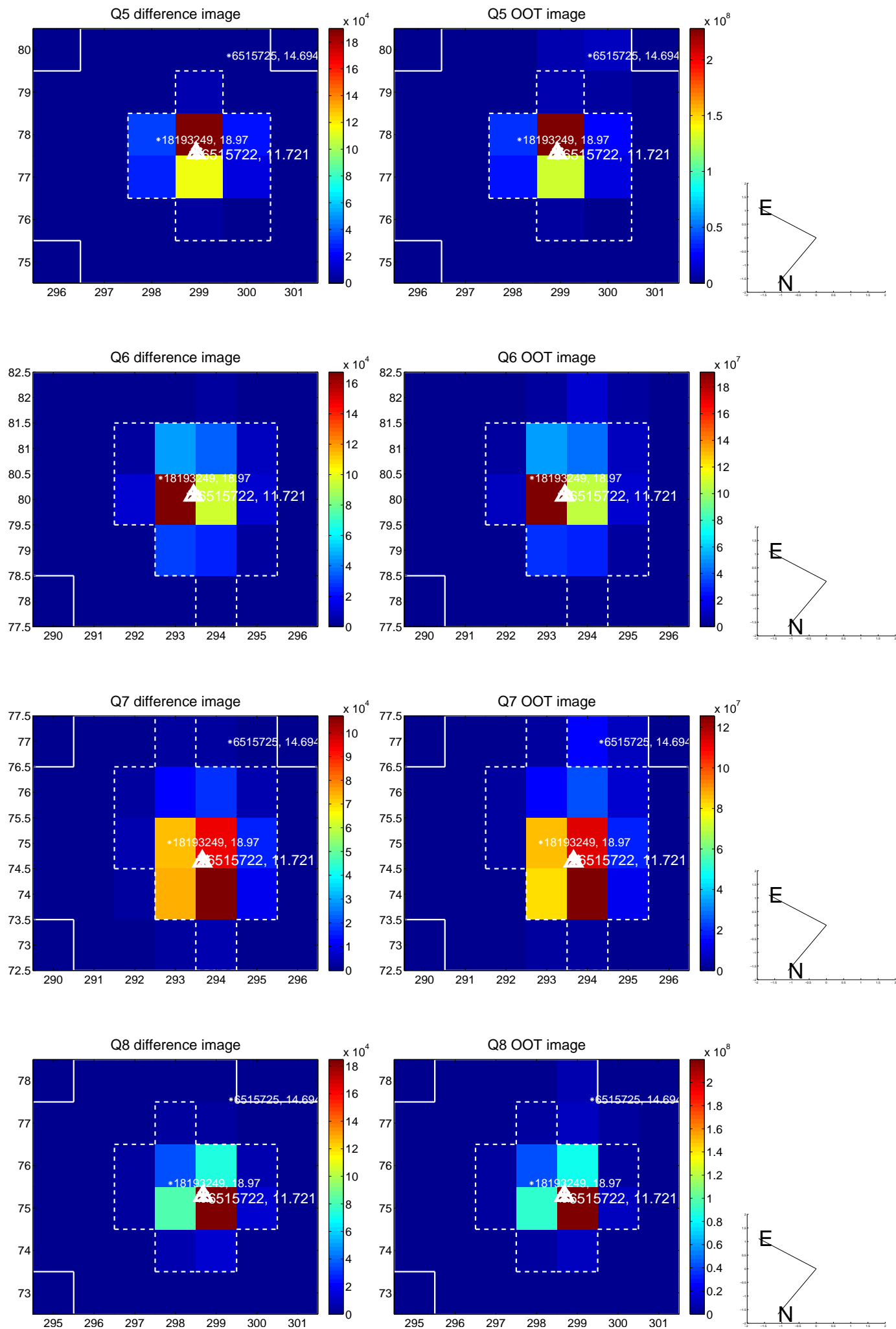


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

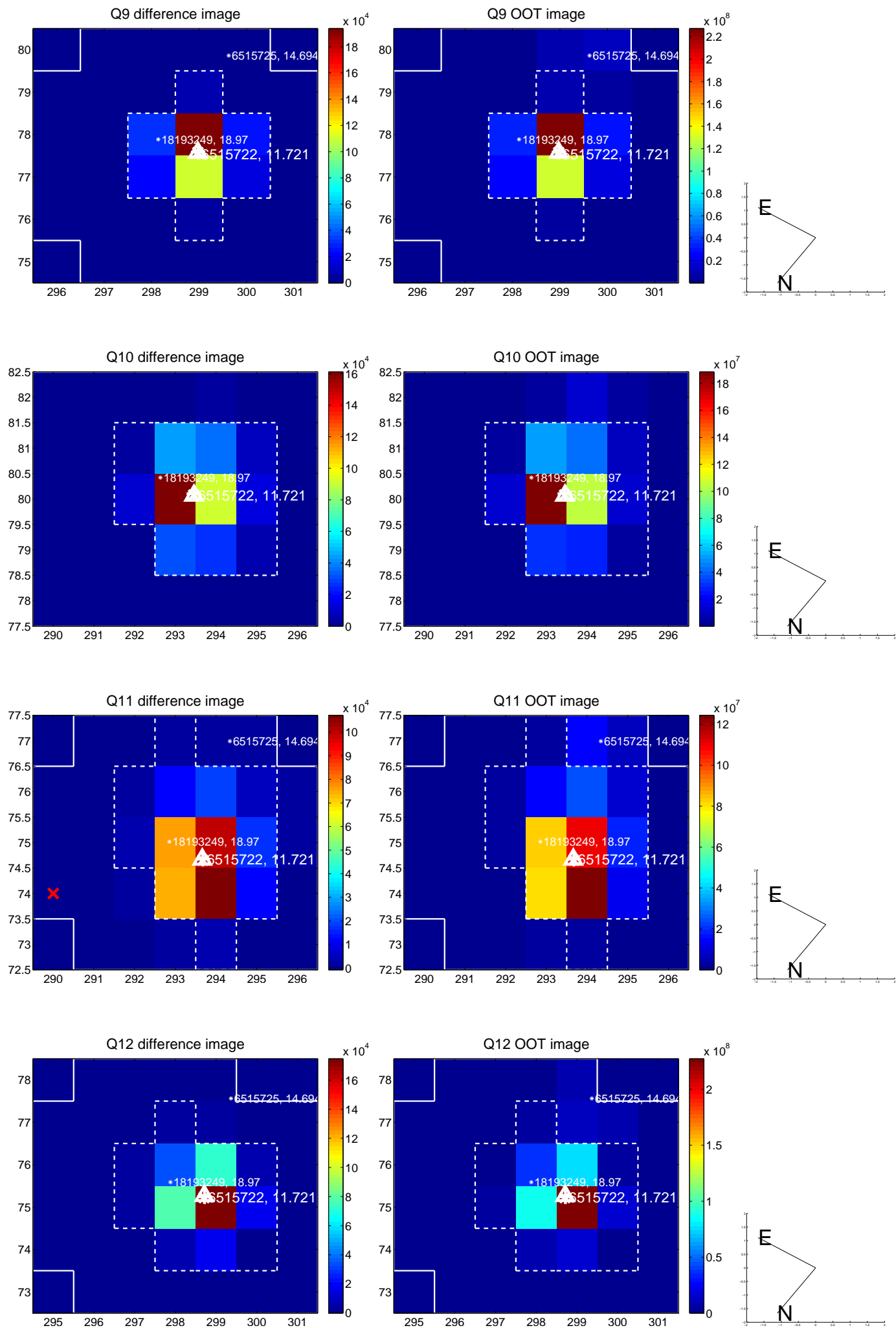
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



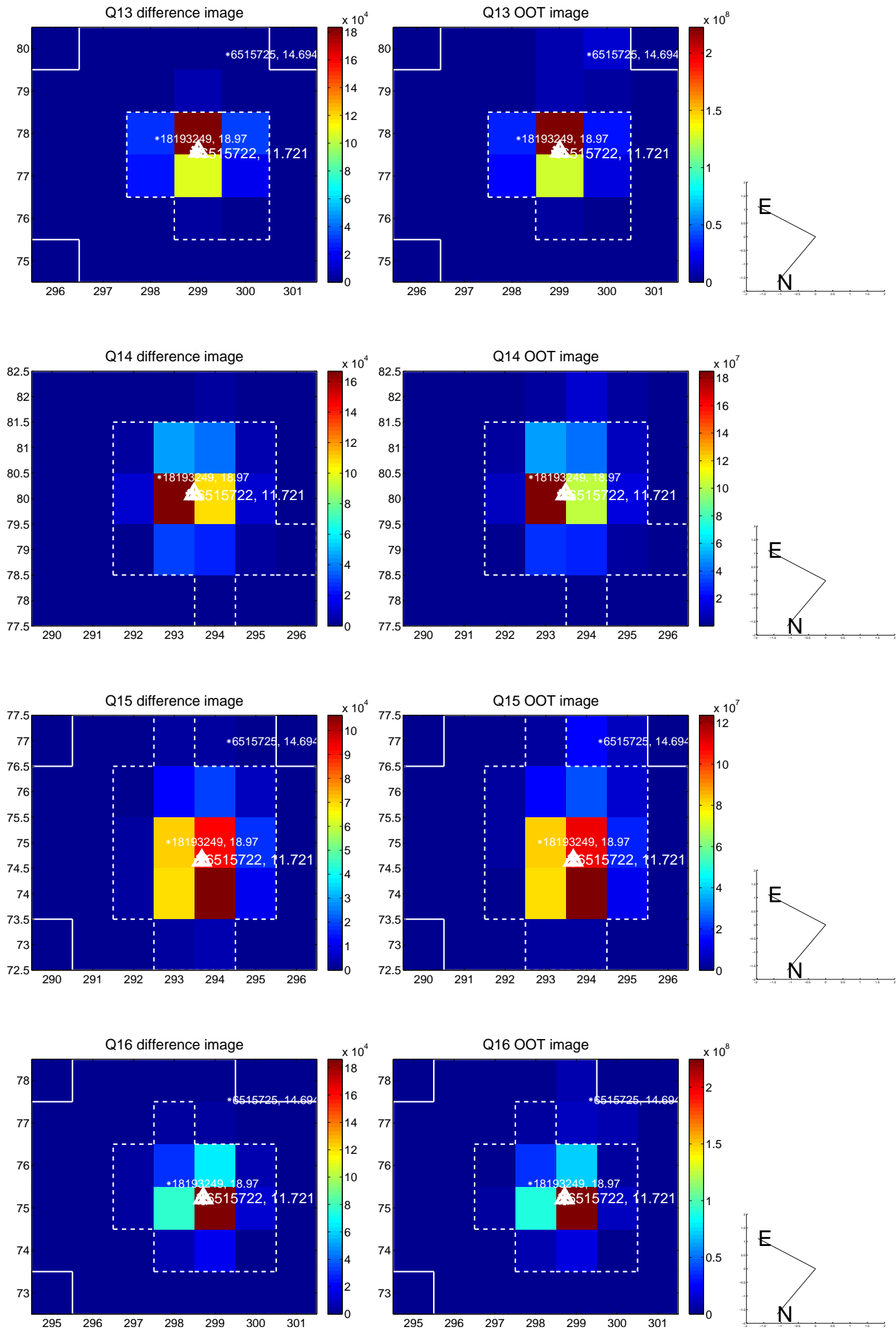
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



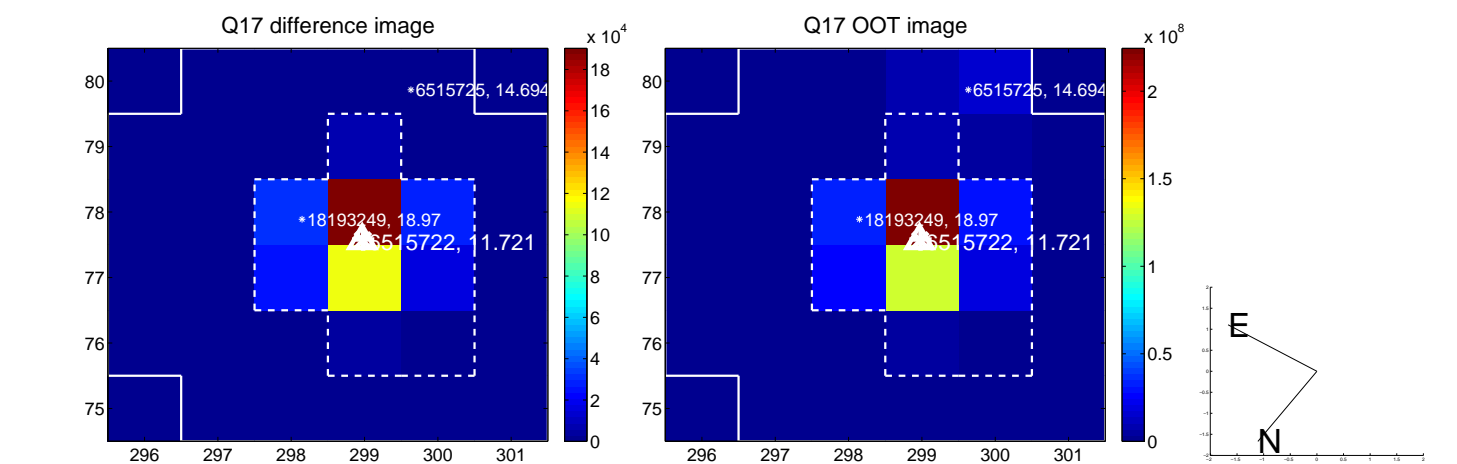
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



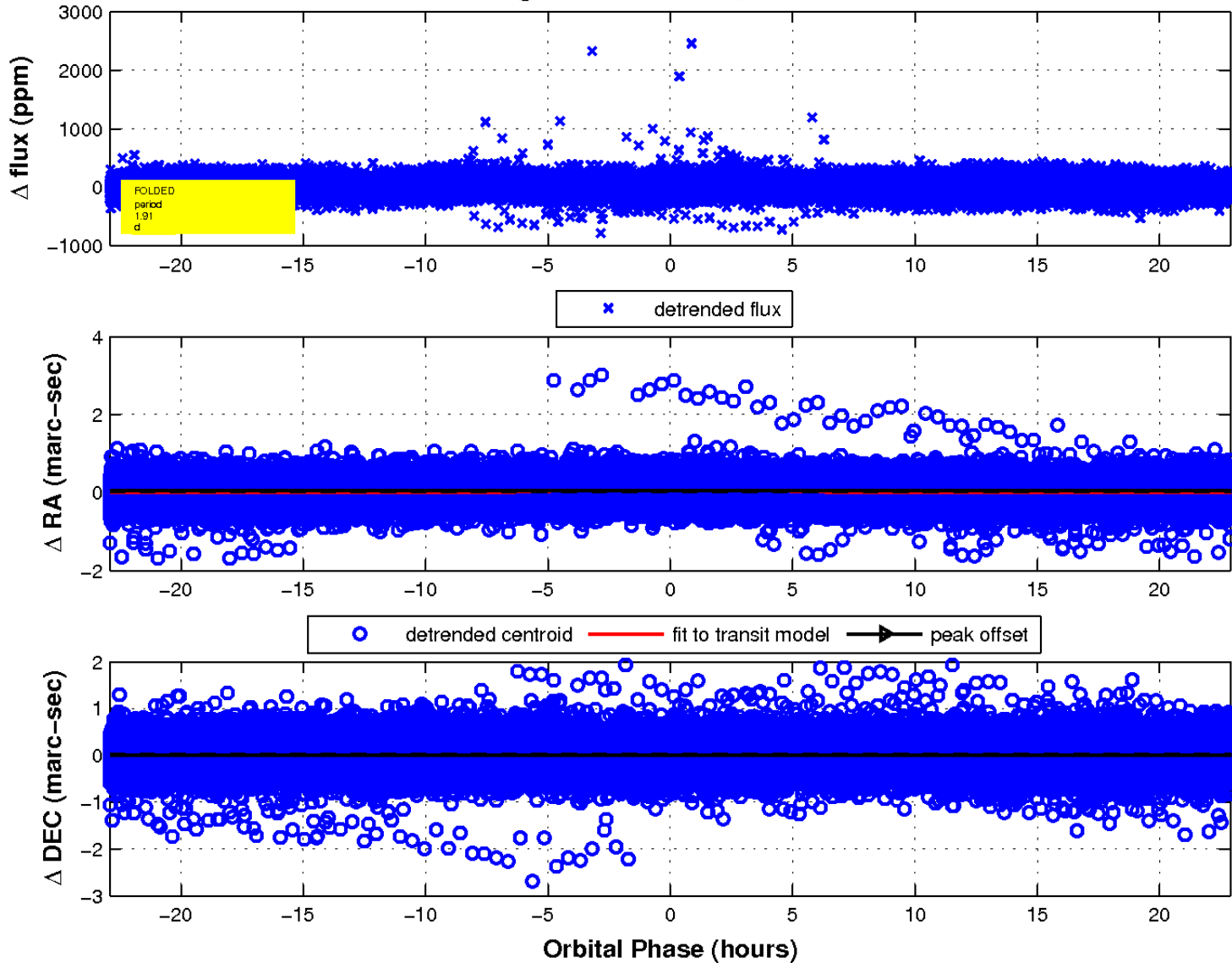
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



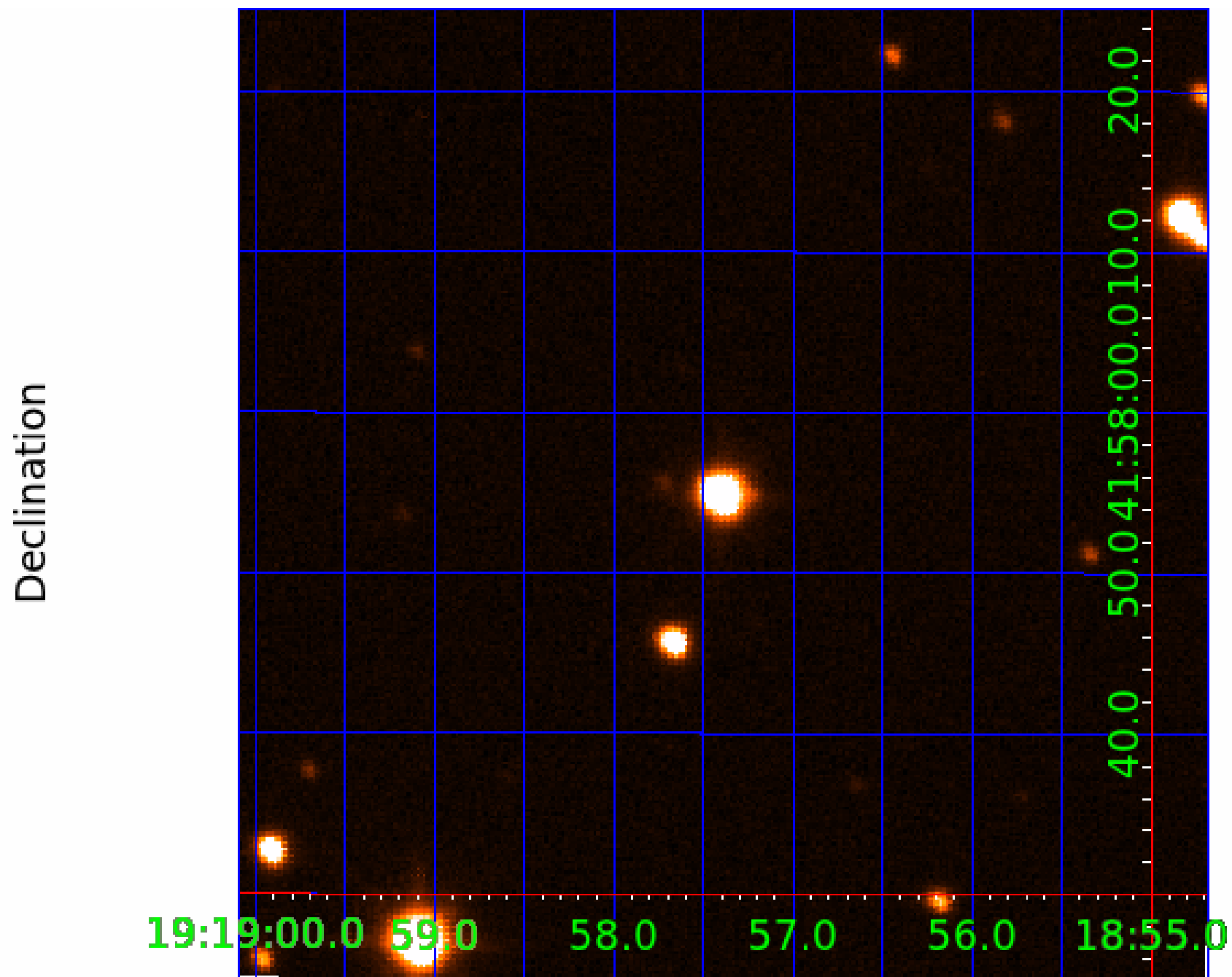
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 9



UKIRT Image



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})
006515722-01	OBS	No	3.816948	131.795010	115.5	4.367	33.7	44.8	2.47	9174	3.06	9744.42
006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
006515722-03	OBS	3818.01	1.908478	131.784896	26.8	13.210	14.8	12.7	2.47	9174	1.47	24554.33
006515722-04	OBS	No	65.907630	178.450869	206.8	5.112	15.0	13.4	2.47	9174	4.71	218.34
006515722-05	OBS	No	44.244481	166.353563	195.8	2.135	14.8	12.3	2.47	9174	3.85	371.45
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006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
006515722-09	OBS	No	34.261551	155.046315	119.1	3.146	11.3	11.8	2.47	9174	3.02	522.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006515722-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

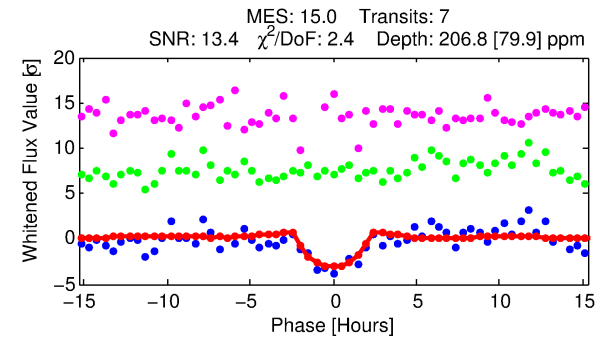
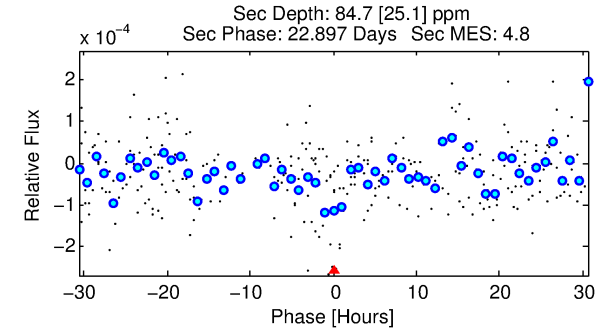
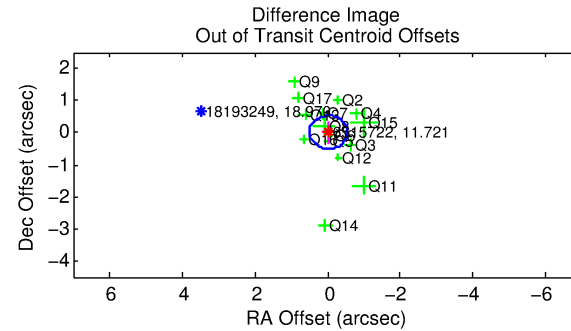
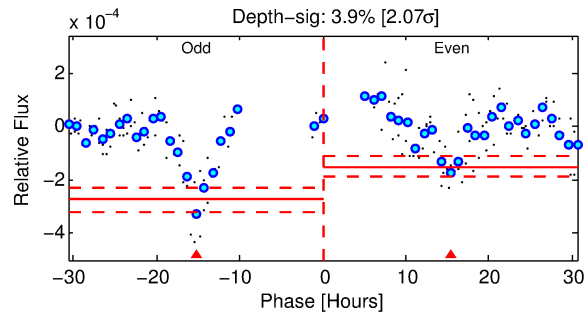
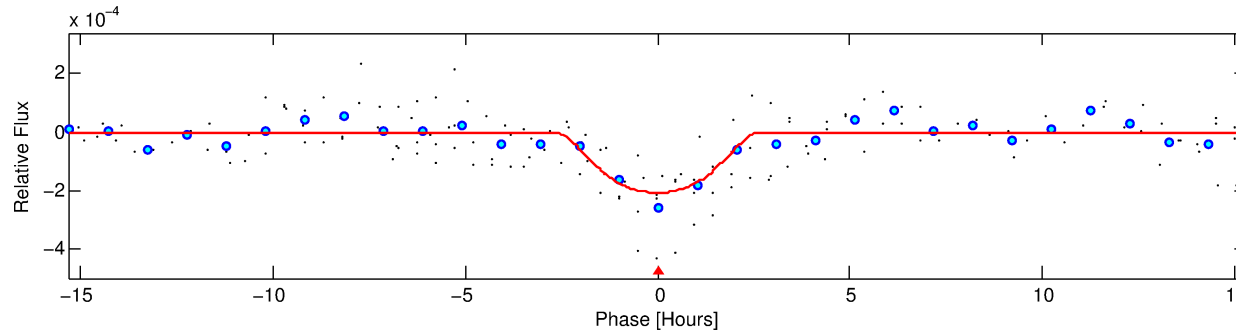
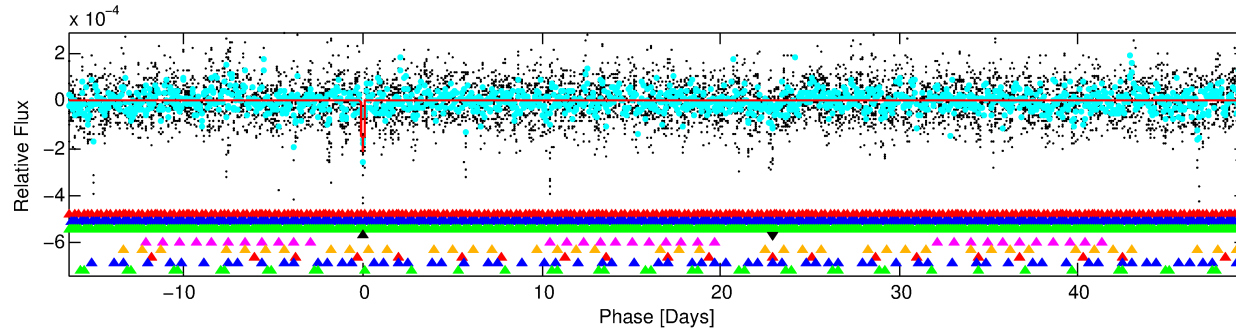
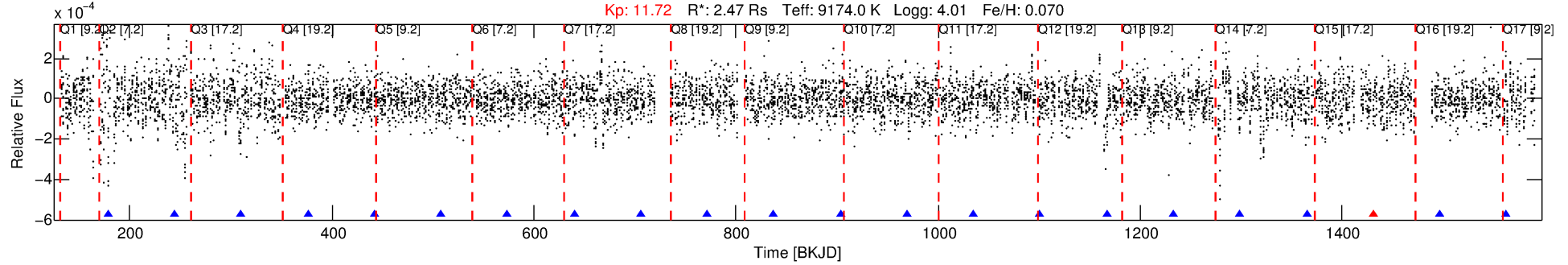
Ephemeris Match Information For 006515722-04

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 4 of 9 Period: 65.908 d
KOI: K03818 Corr: No Ephemeris Match

Kp: 11.72 R*: 2.47 Rs Teff: 9174.0 K Logg: 4.01 Fe/H: 0.070



DV Fit Results:

Period = 65.90763 [0.00092] d
Epoch = 178.4509 [0.0112] BKJD
Rp/R* = 0.0174 [0.0059]
a/R* = 24.95 [7.26]
b = 0.99 [0.02]
Seff = 218.34 [95.60]
Teq = 980 [107] K
Rp = 4.71 [2.21] Re
a = 0.4213 [0.1153] AU
Ag = 373.57 [312.39] [1.19σ]
Teffp = 6663 [1266] K [4.47σ]

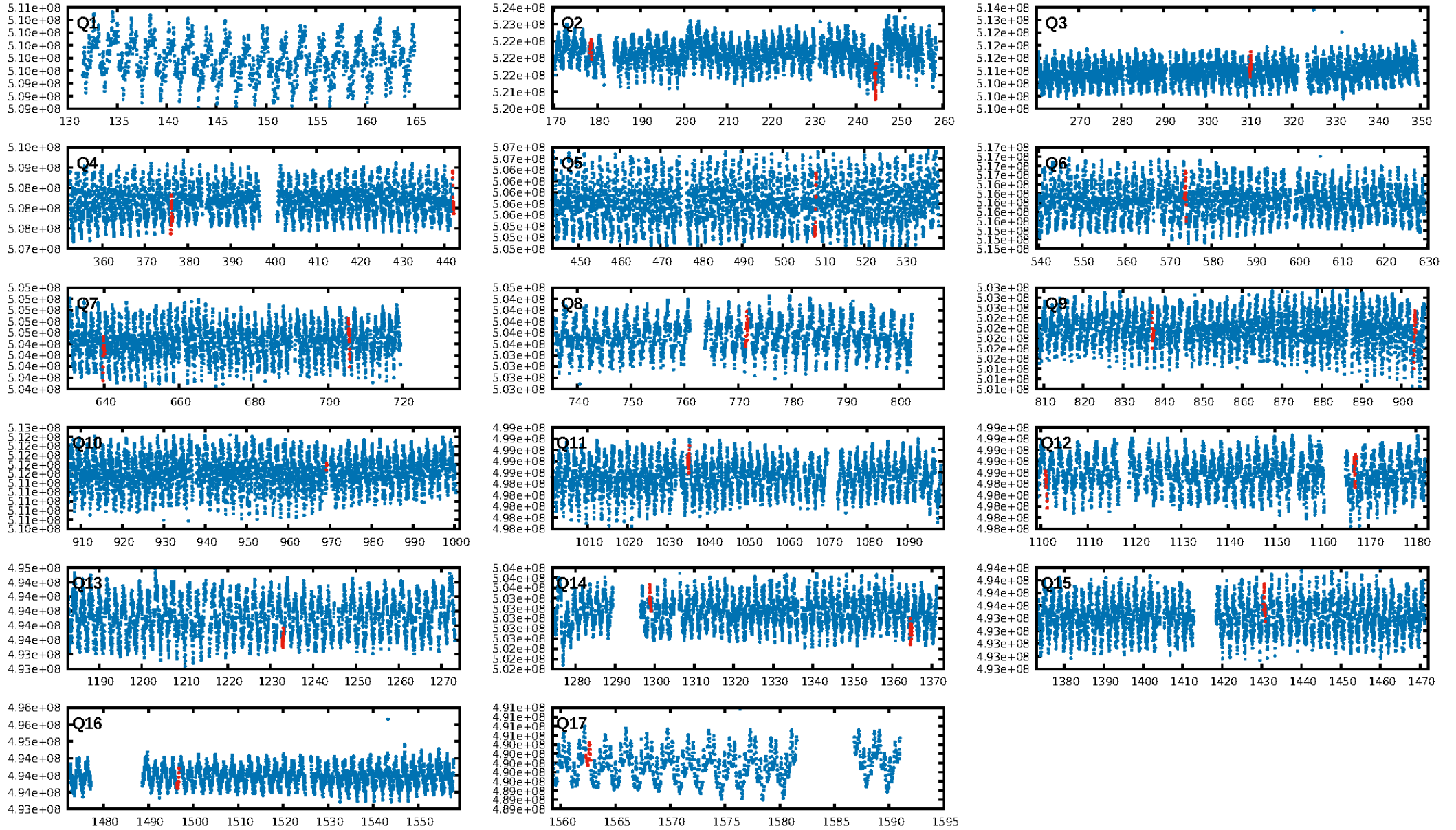
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [93.84σ]
LongPeriod-sig: 100.0% [22.21σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 88.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: -0.08288
Centroid-sig: 57.6%
Centroid-so: 0.249 arcsec [0.65σ]
OotOffset-rm: 0.026 arcsec [0.15σ]
KicOffset-rm: 0.062 arcsec [0.23σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 0.33 [5/15]

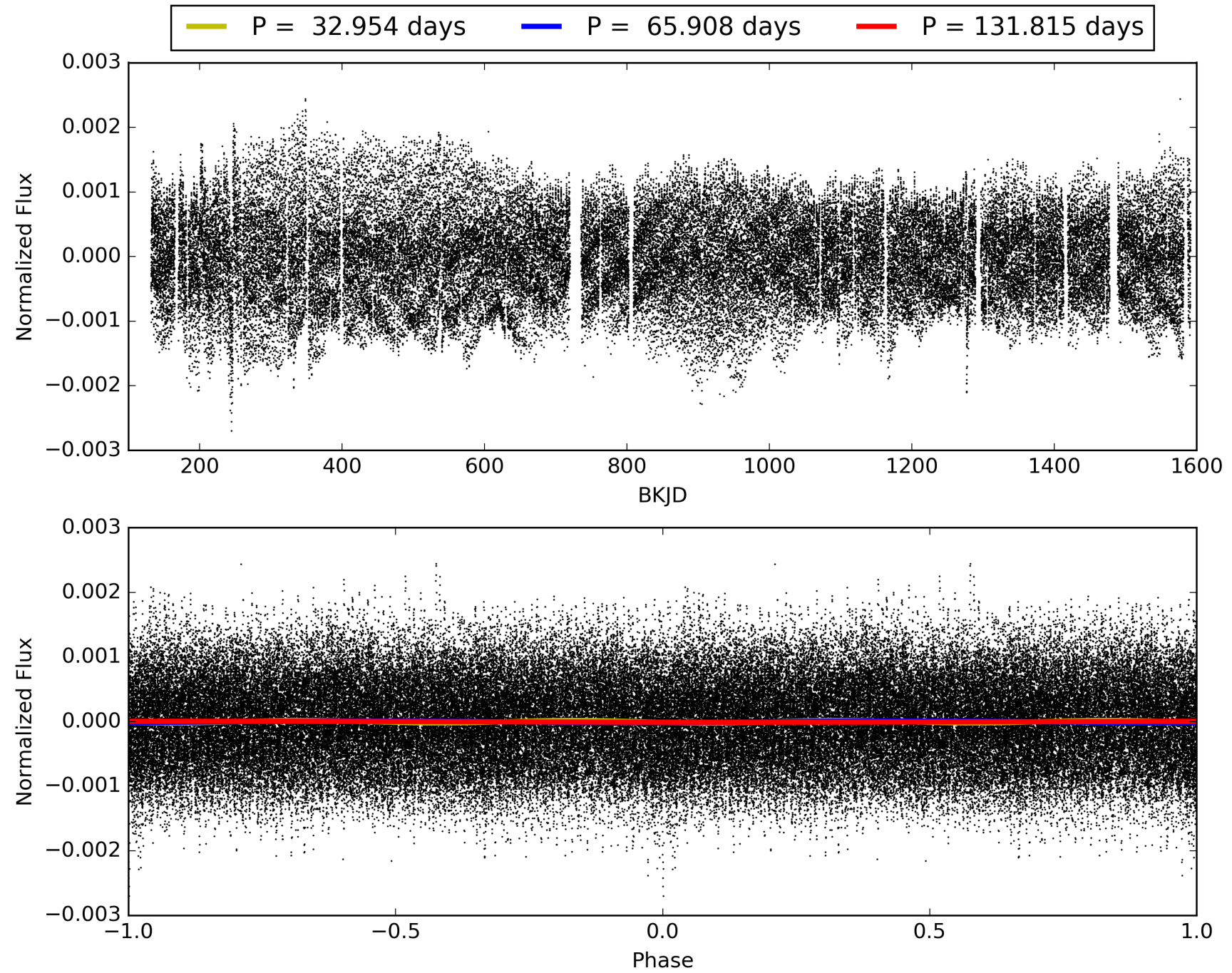
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:18:21 Z

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

TCE 006515722-04, PDC Light Curves

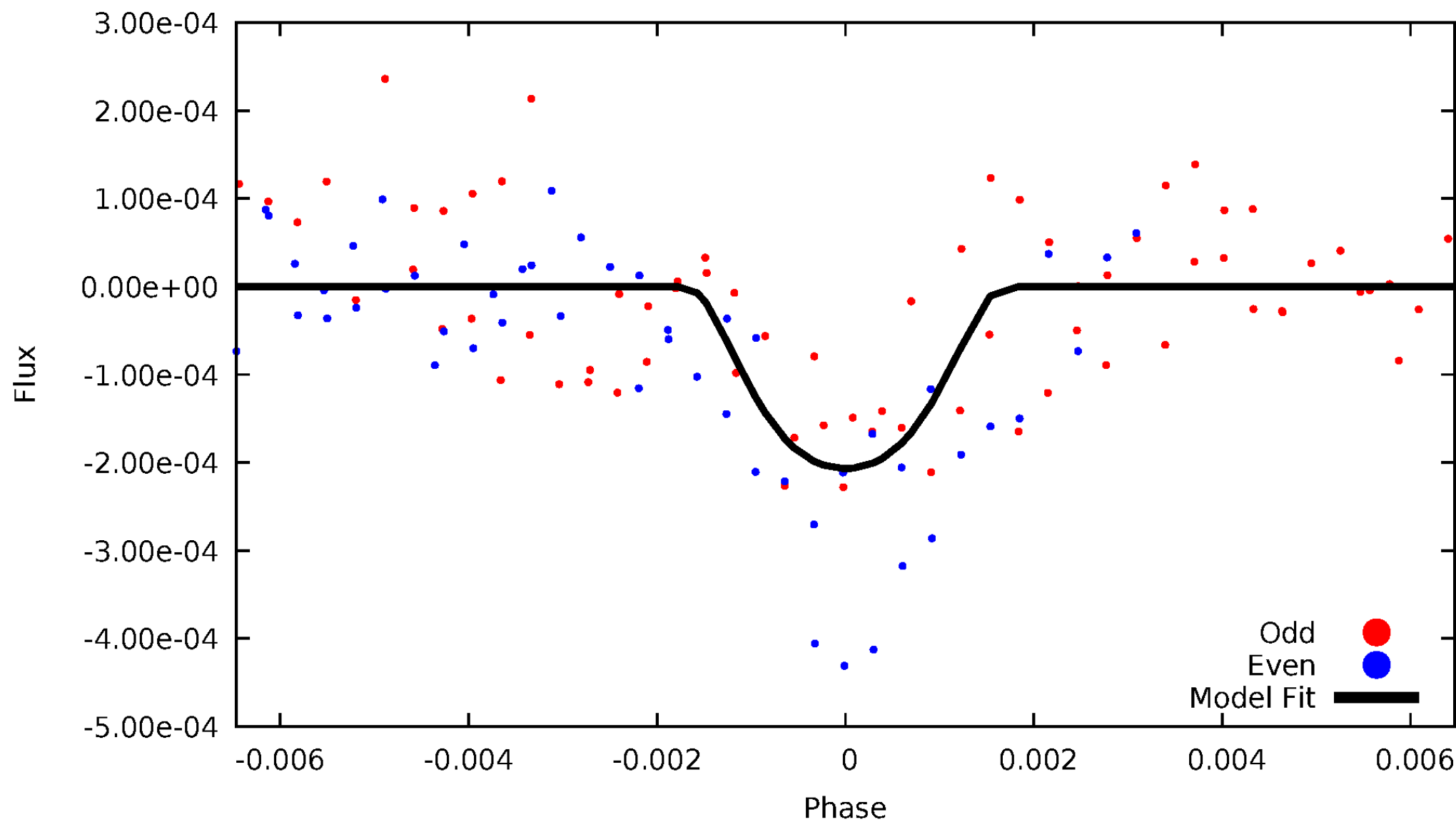


TCE 006515722-04



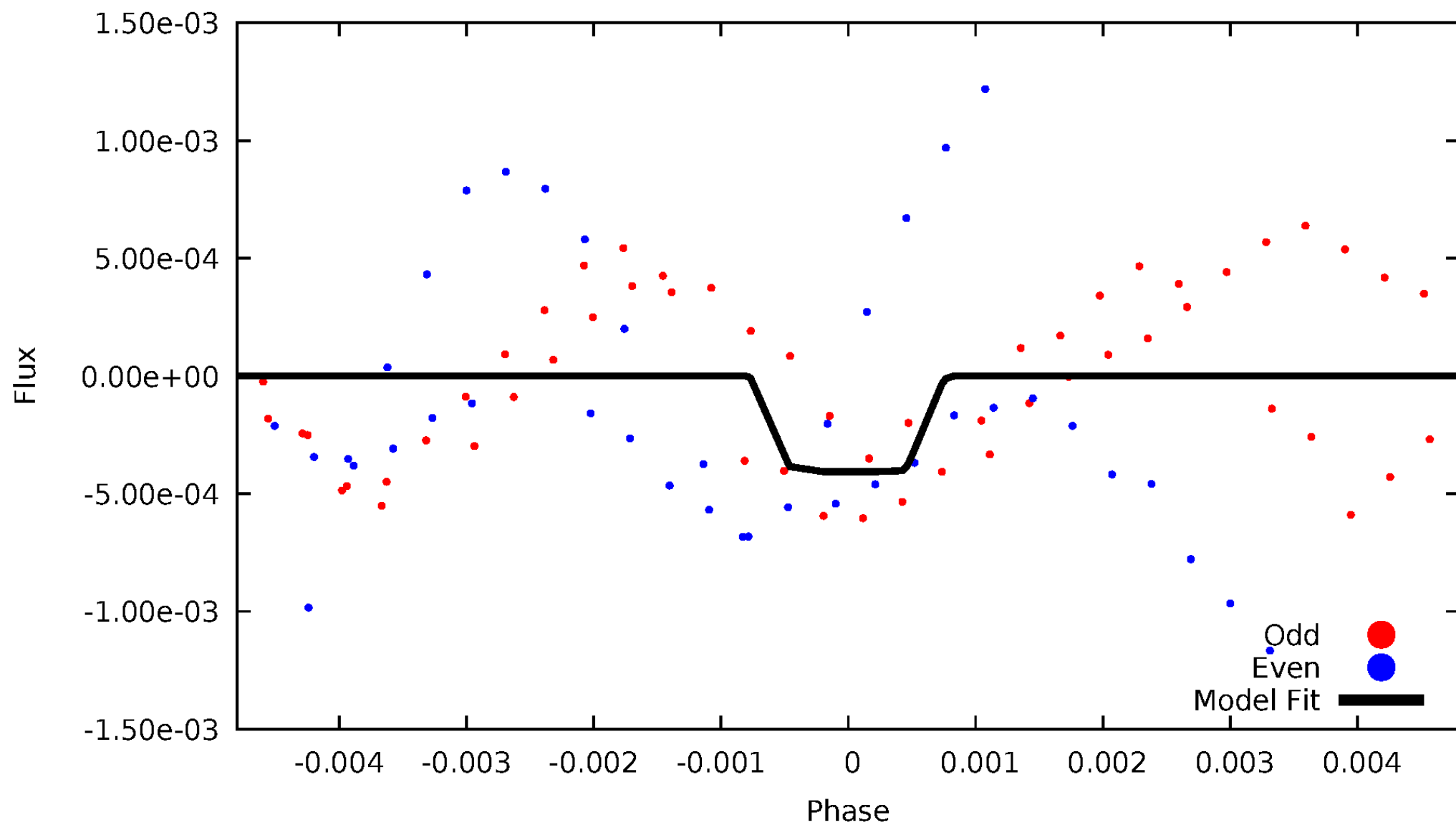
DV Odd/Even

TCE 006515722-04



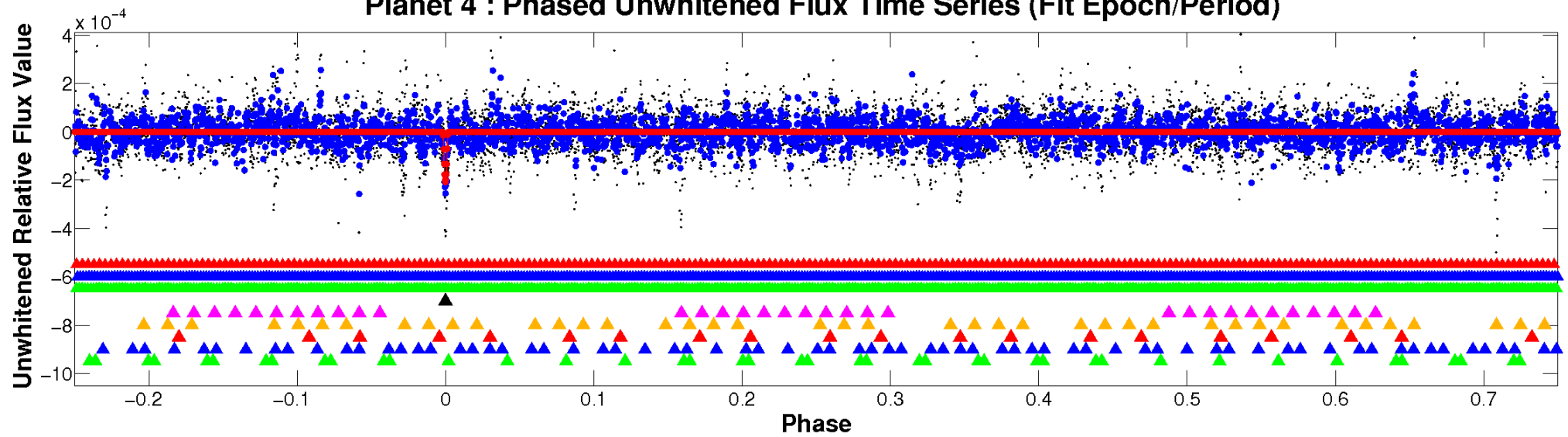
ALT Odd/Even

TCE 006515722-04

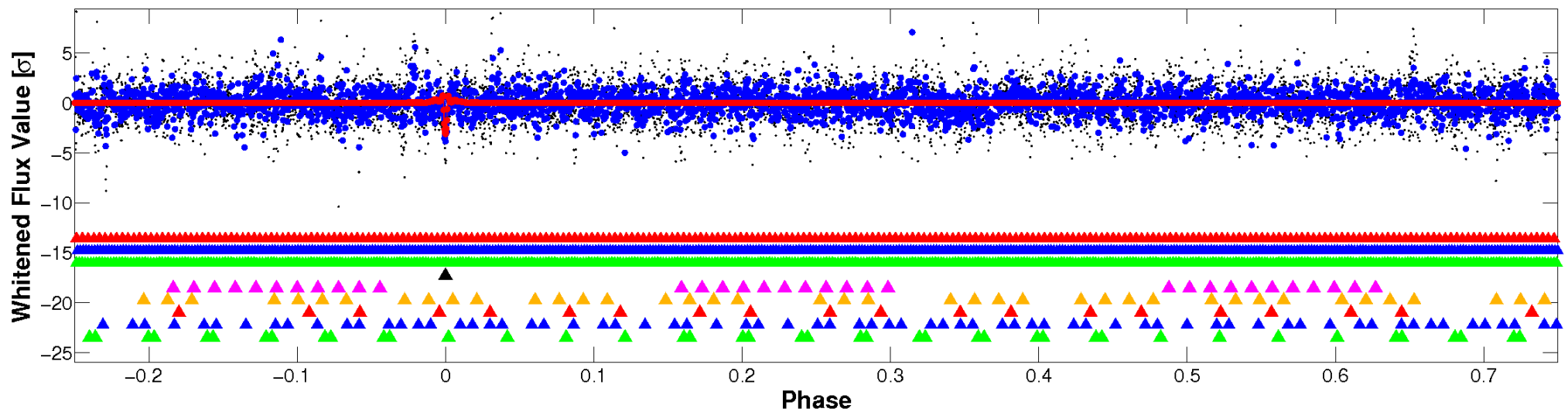


Non-Whitened Vs. Whitened Light Curve

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

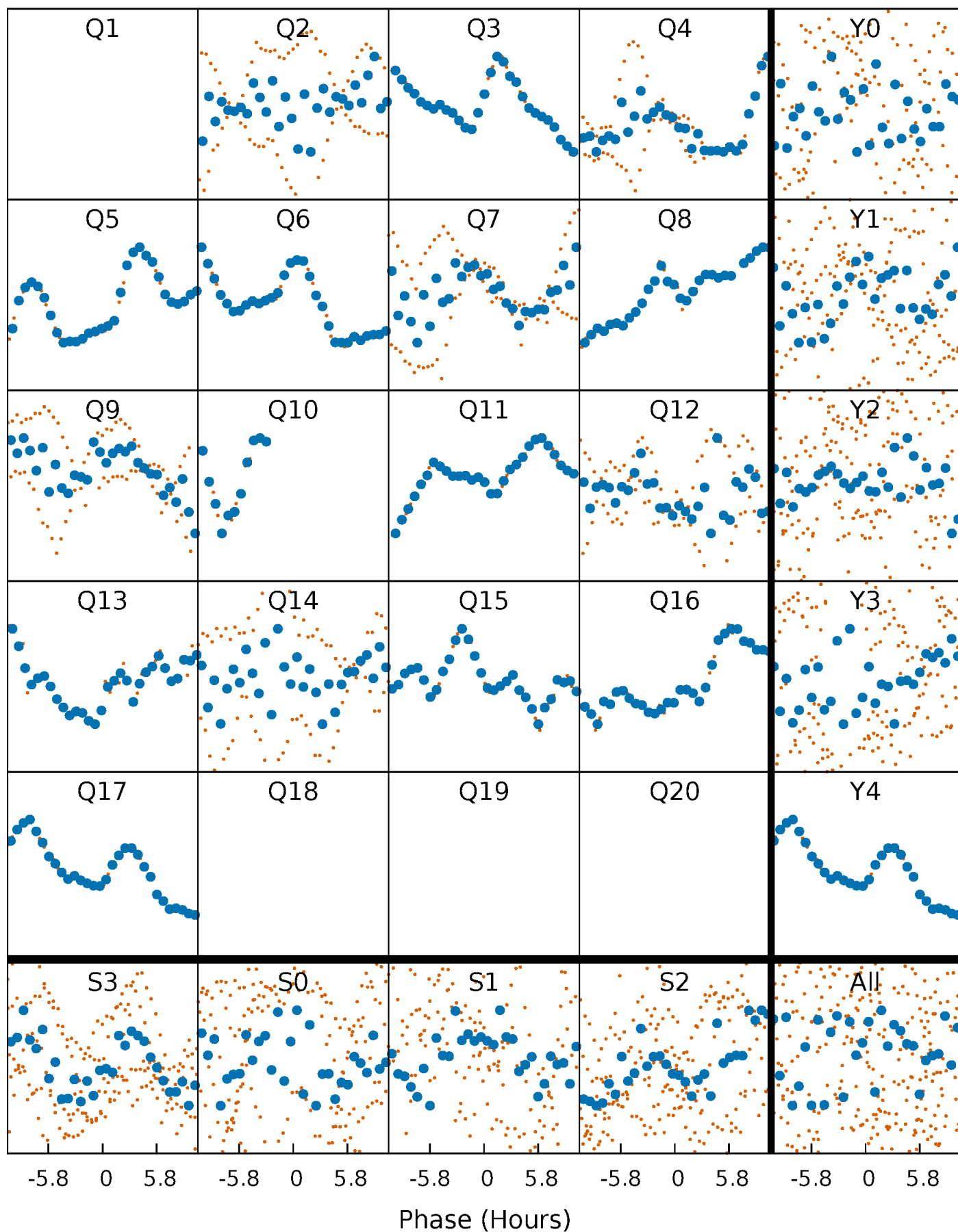


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



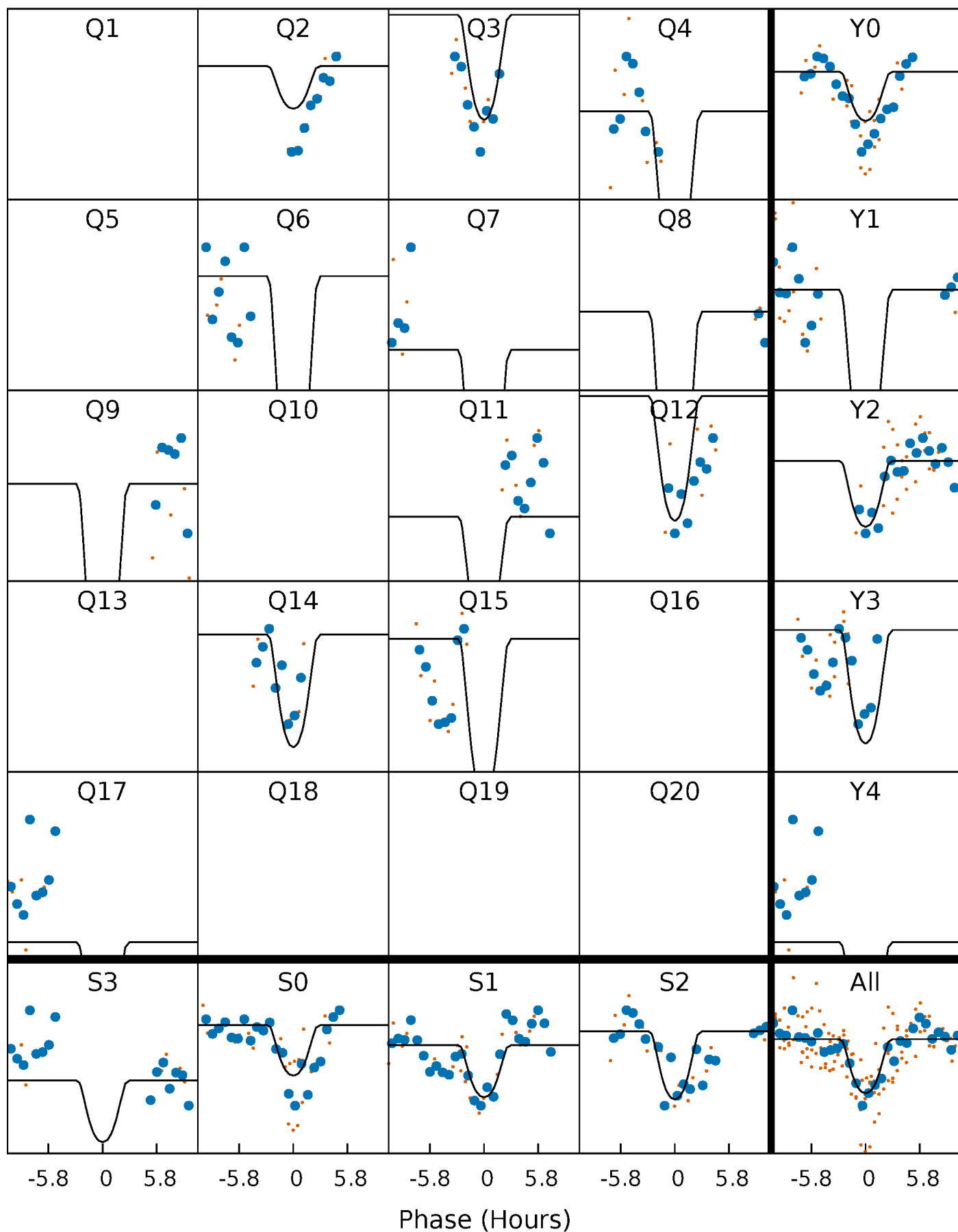
PDC Quarter-Phased Transit Curves

TCE 006515722-04 P= 65.907630 Days $T_0=178.450869$ (BKJD)



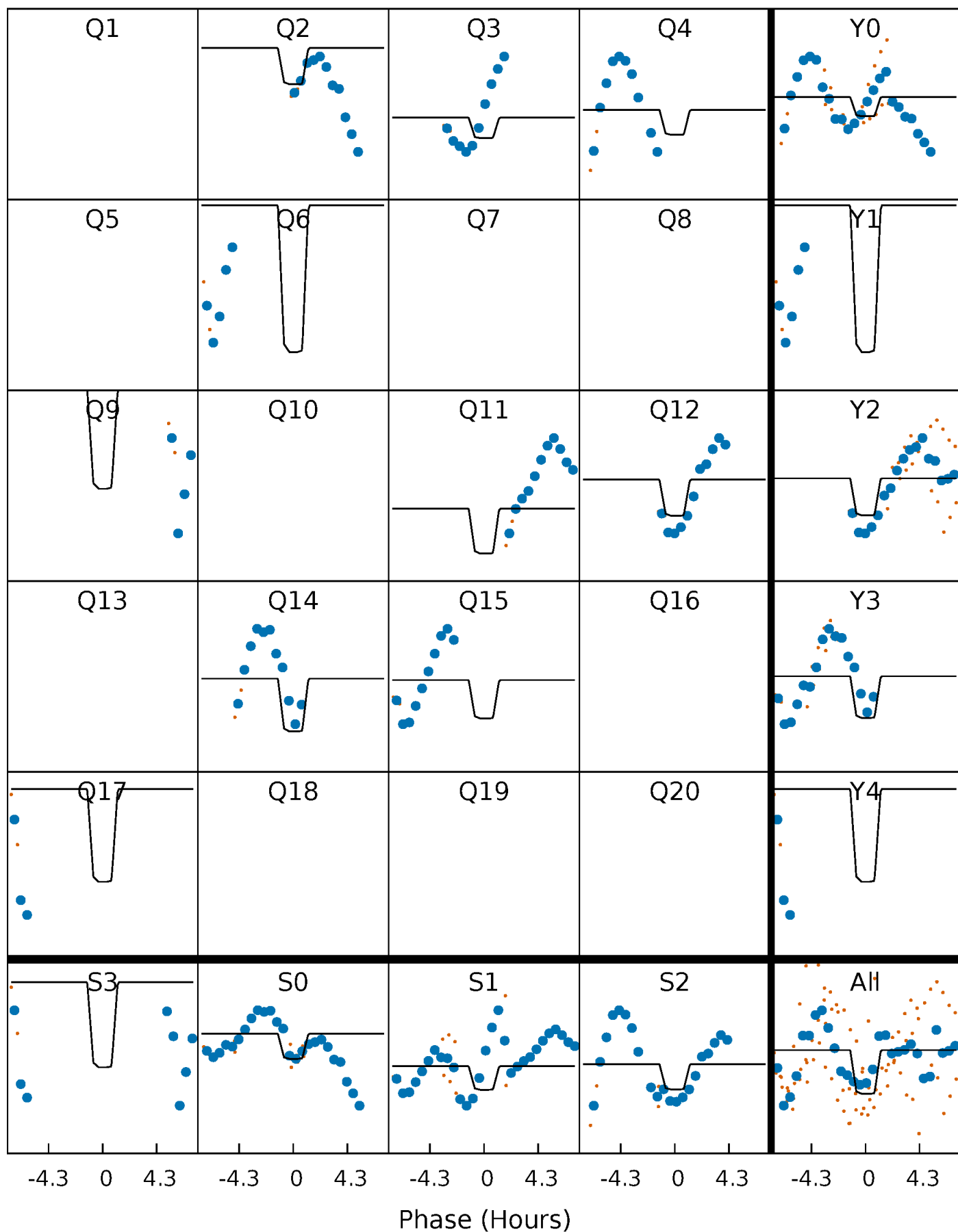
DV Quarter-Phased Transit Curves

TCE 006515722-04 P= 65.907630 Days $T_0=178.450869$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

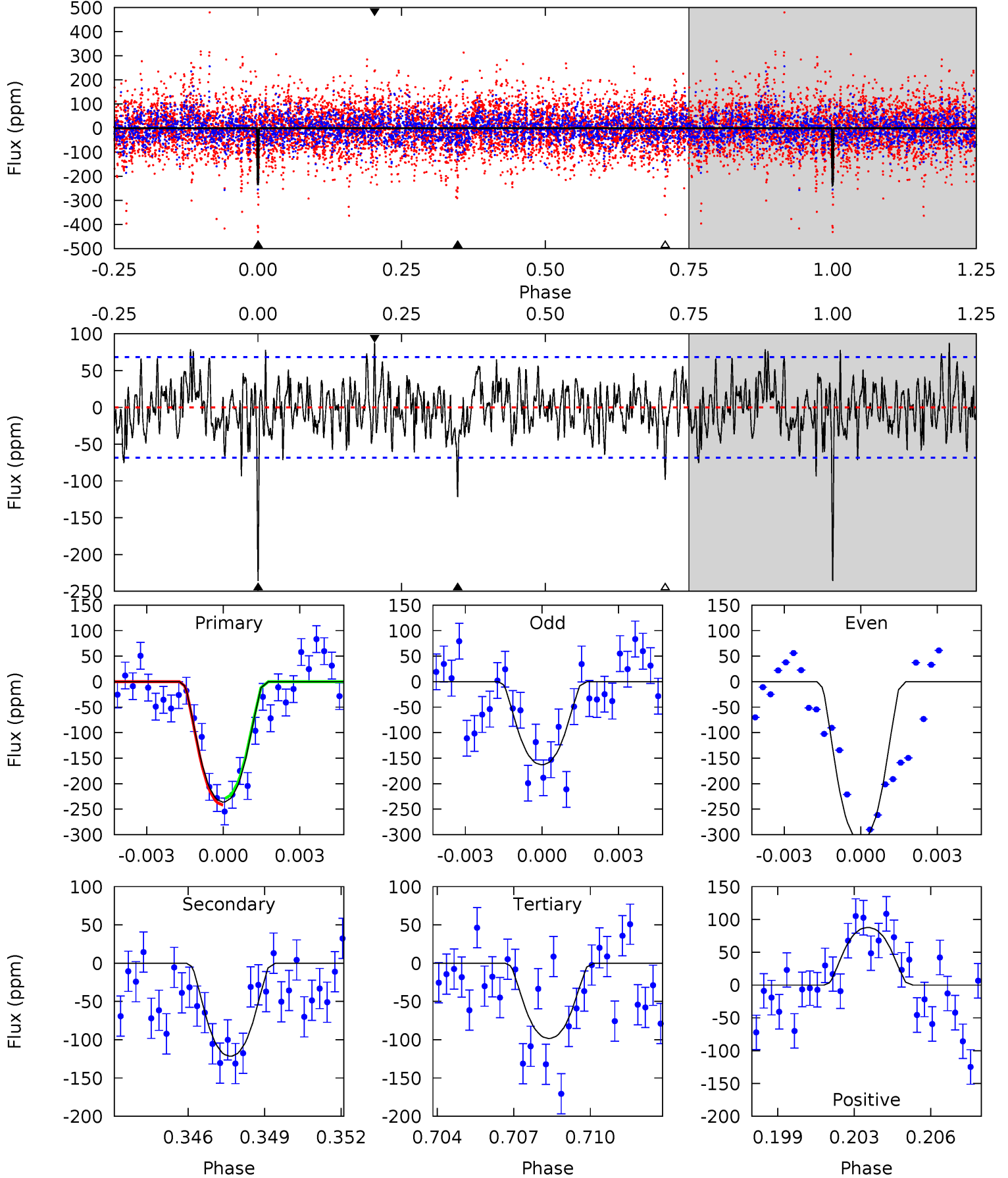
TCE 006515722-04 P= 65.909366 Days $T_0=178.436200$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-04, P = 65.907630 Days, E = 112.543239 Days

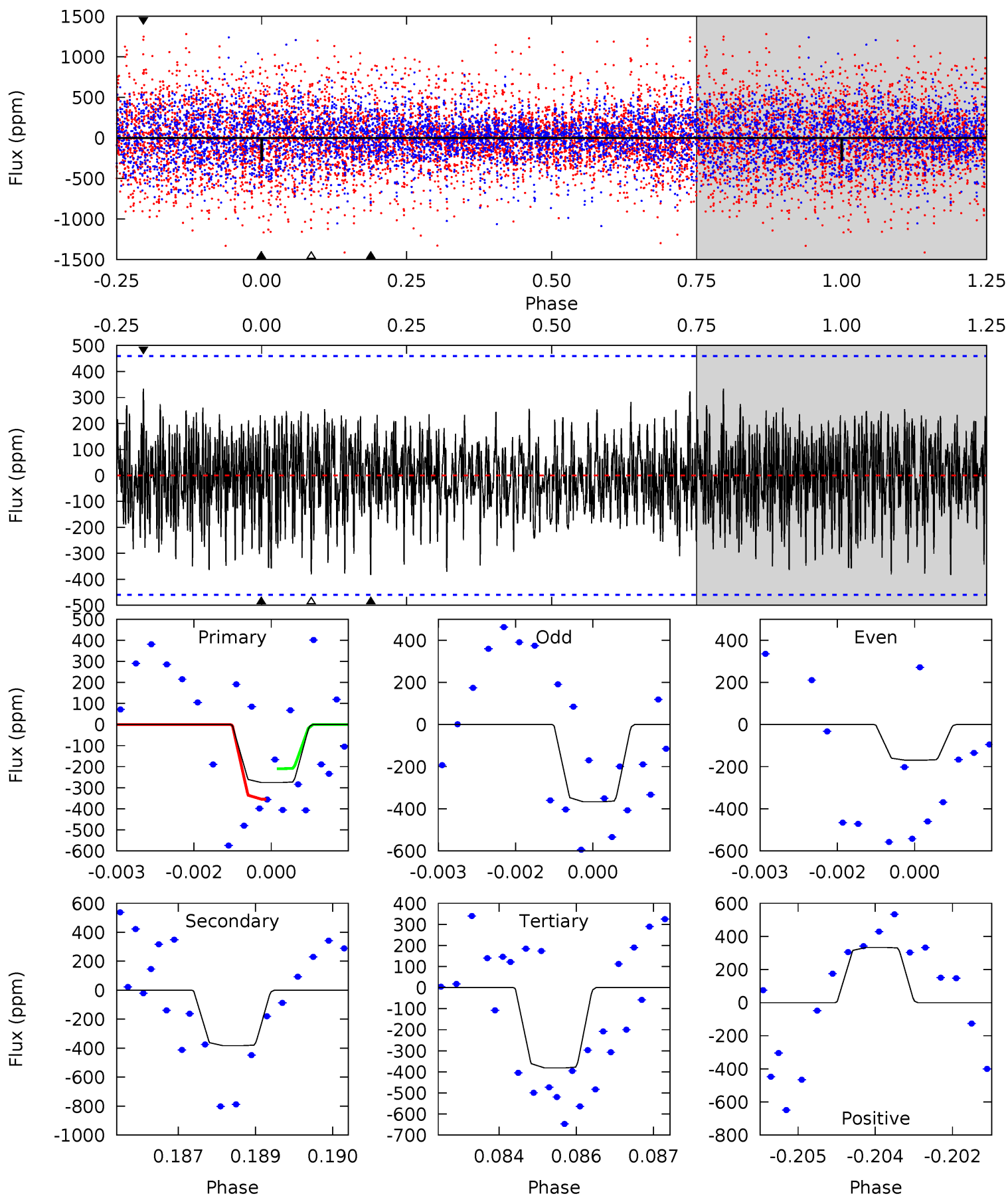
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	9.34	7.55	6.74	5.25	2.96	2.08	10.6	11.4	1.78	2.60	5.49	0.95	0.27	0.49



Alt Model-Shift Uniqueness Test

006515722-04, P = 65.909366 Days, E = 112.526834 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.22	4.48	4.46	3.90	5.37	3.17	1.43	-1.24	-0.68	0.02	0.58	1.15	0.89	0.47	0.84



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-122 ± 13	$4.66^{+1.74}_{-1.80}$	1357^{+116}_{-111}	6818^{+2041}_{-891}	540^{+839}_{-260}
Alt.	-383 ± 86	$5.17^{+2.02}_{-1.64}$	1353^{+114}_{-106}	9016^{+2742}_{-1665}	1326^{+1577}_{-638}

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

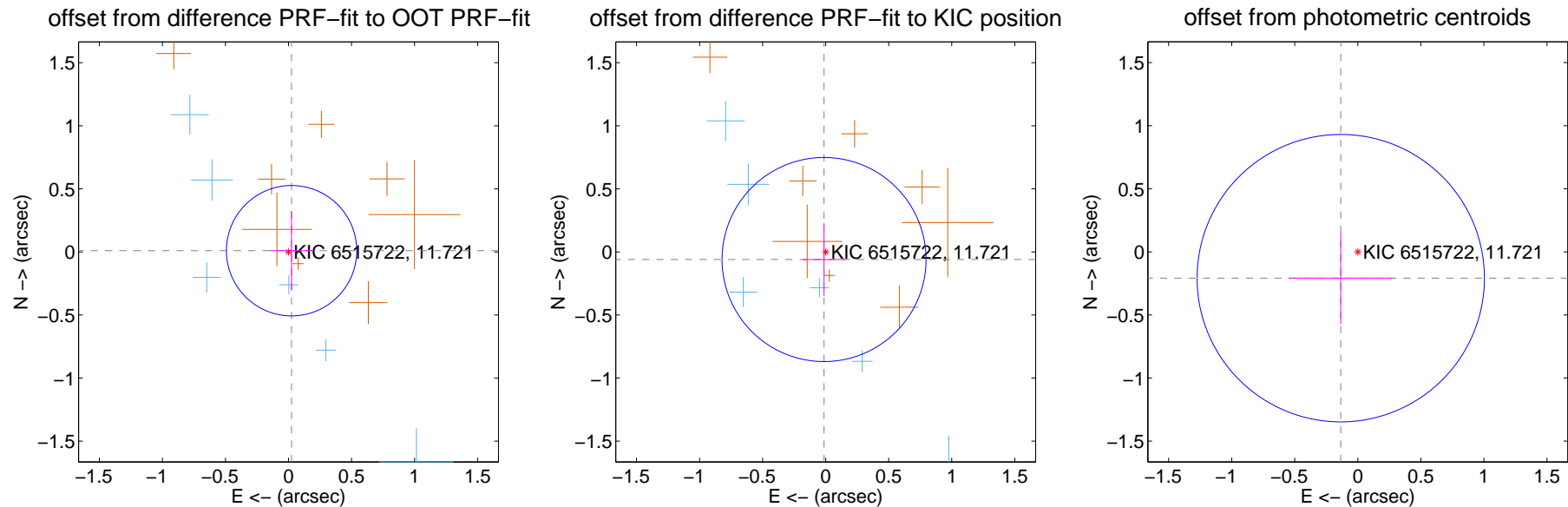
DV Centroid Data

Supplemental centroid analysis for 006515722-04. **Kepler magnitude: 11.72**. Transit SNR 13.39

There are 6 quarters with good PRF difference image offsets

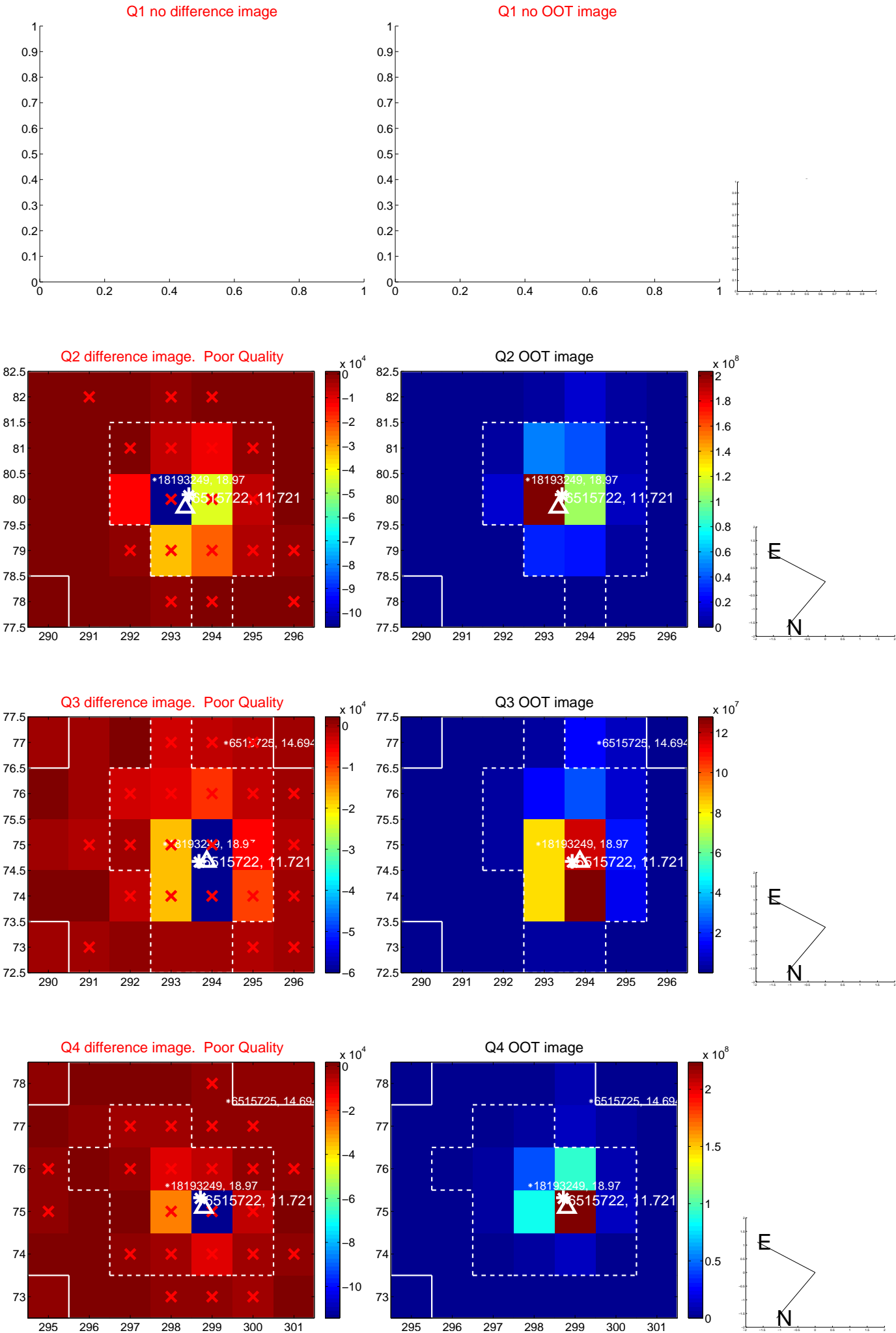
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.026 ± 0.172	0.15	-0.024 ± 0.176	0.010 ± 0.315
PRF-fit source offset from KIC position	0.062 ± 0.270	0.23	0.013 ± 0.170	-0.060 ± 0.288
photometric centroid source offset	0.25 ± 0.38	0.65	0.14 ± 0.41	-0.21 ± 0.36

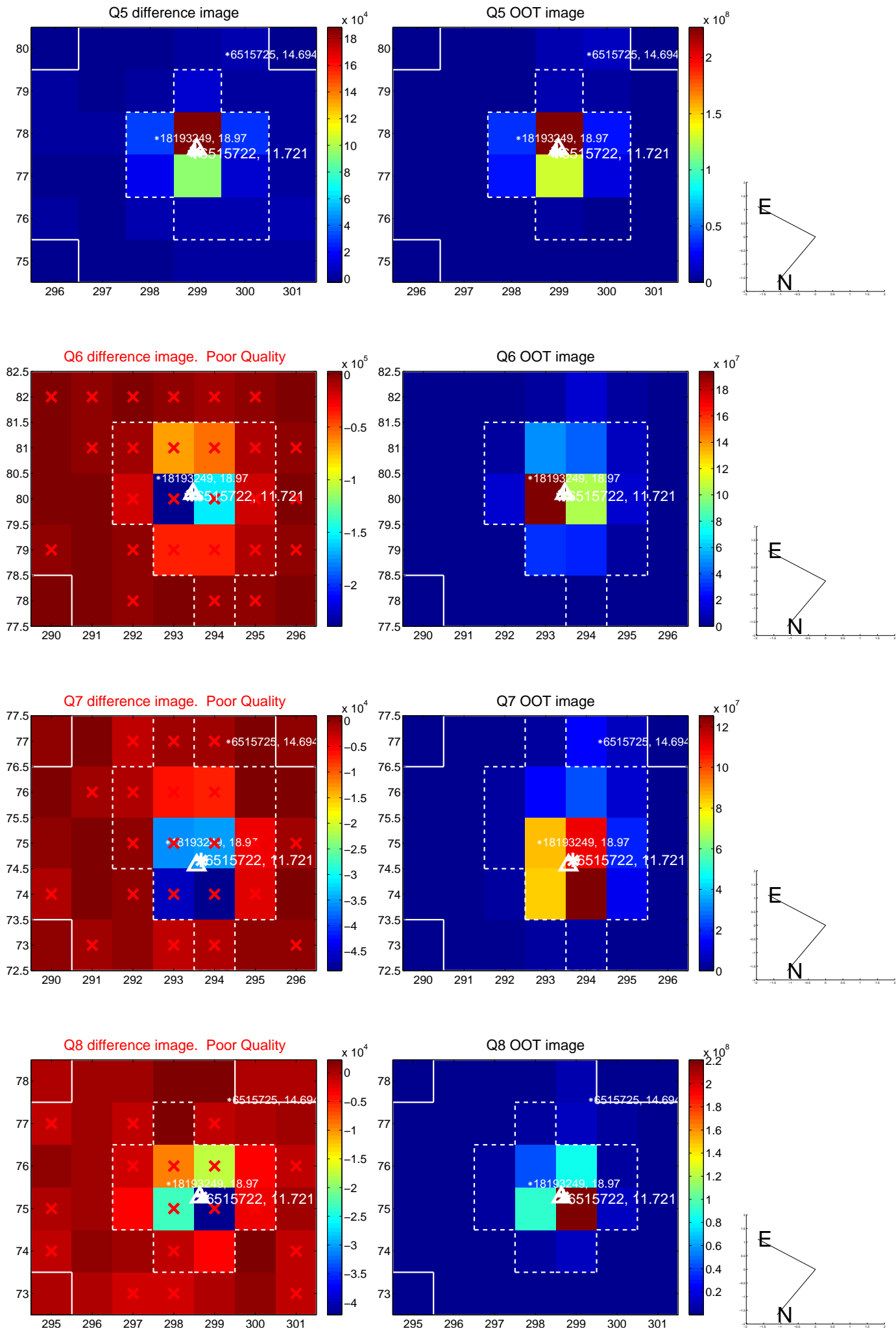


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

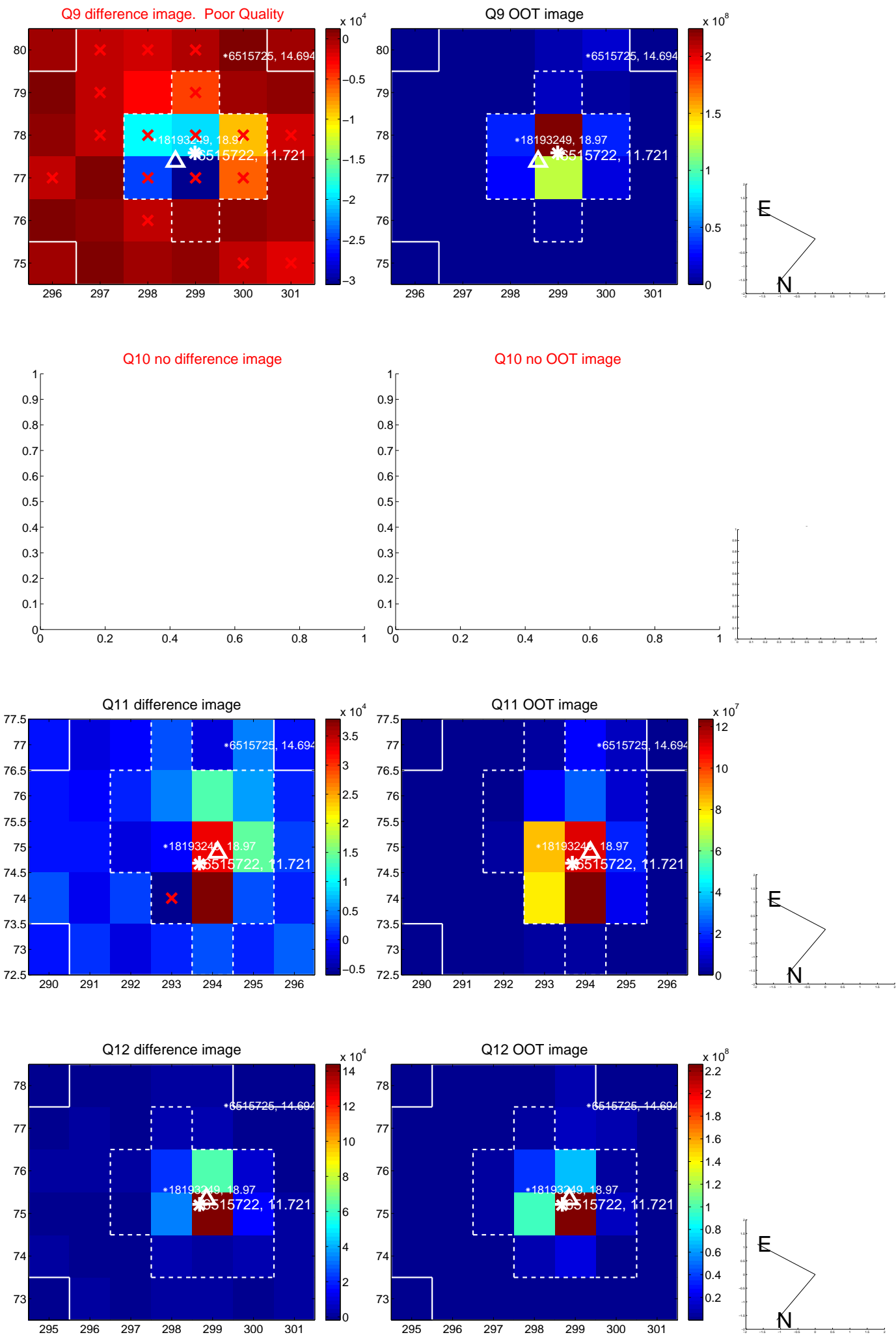
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



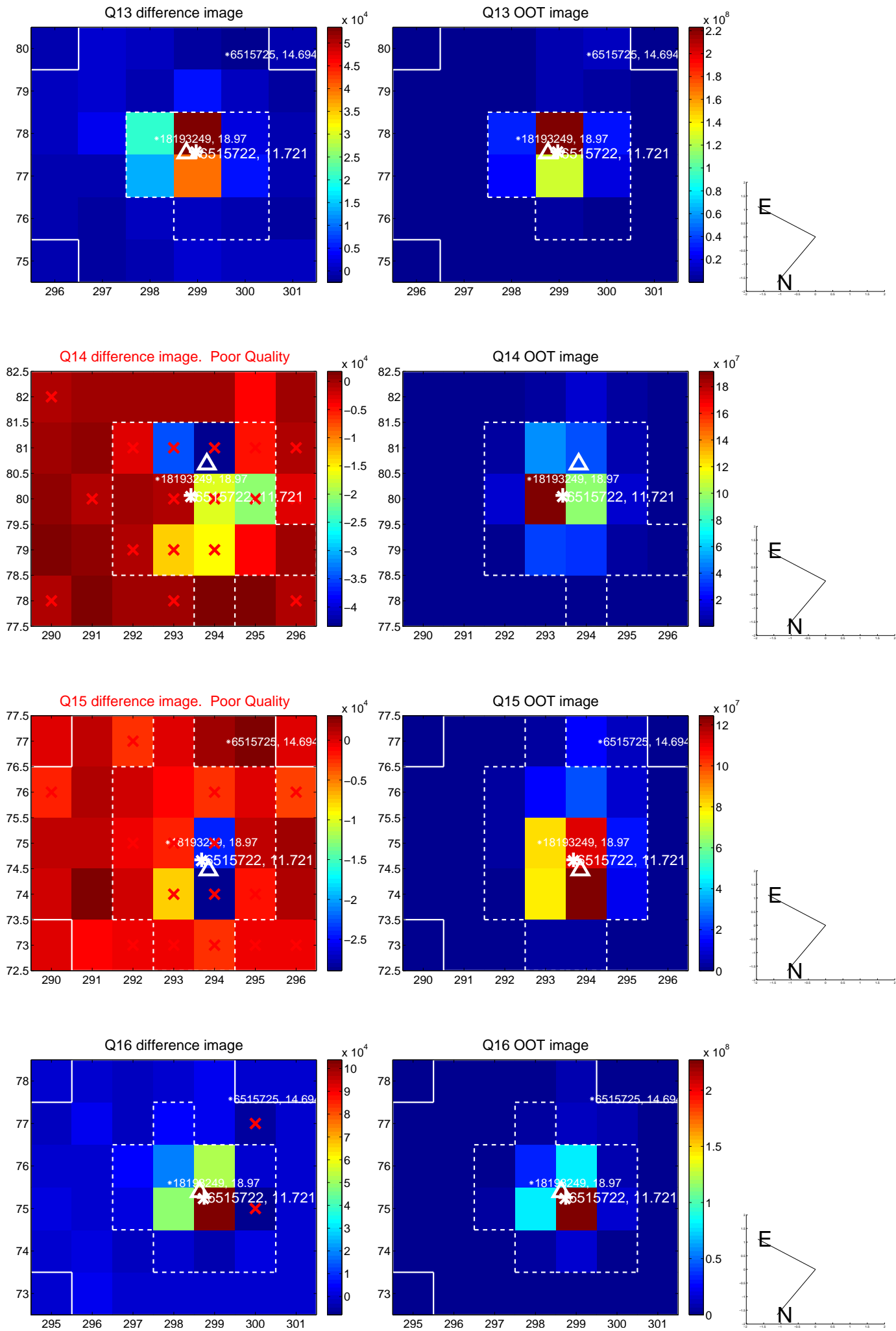
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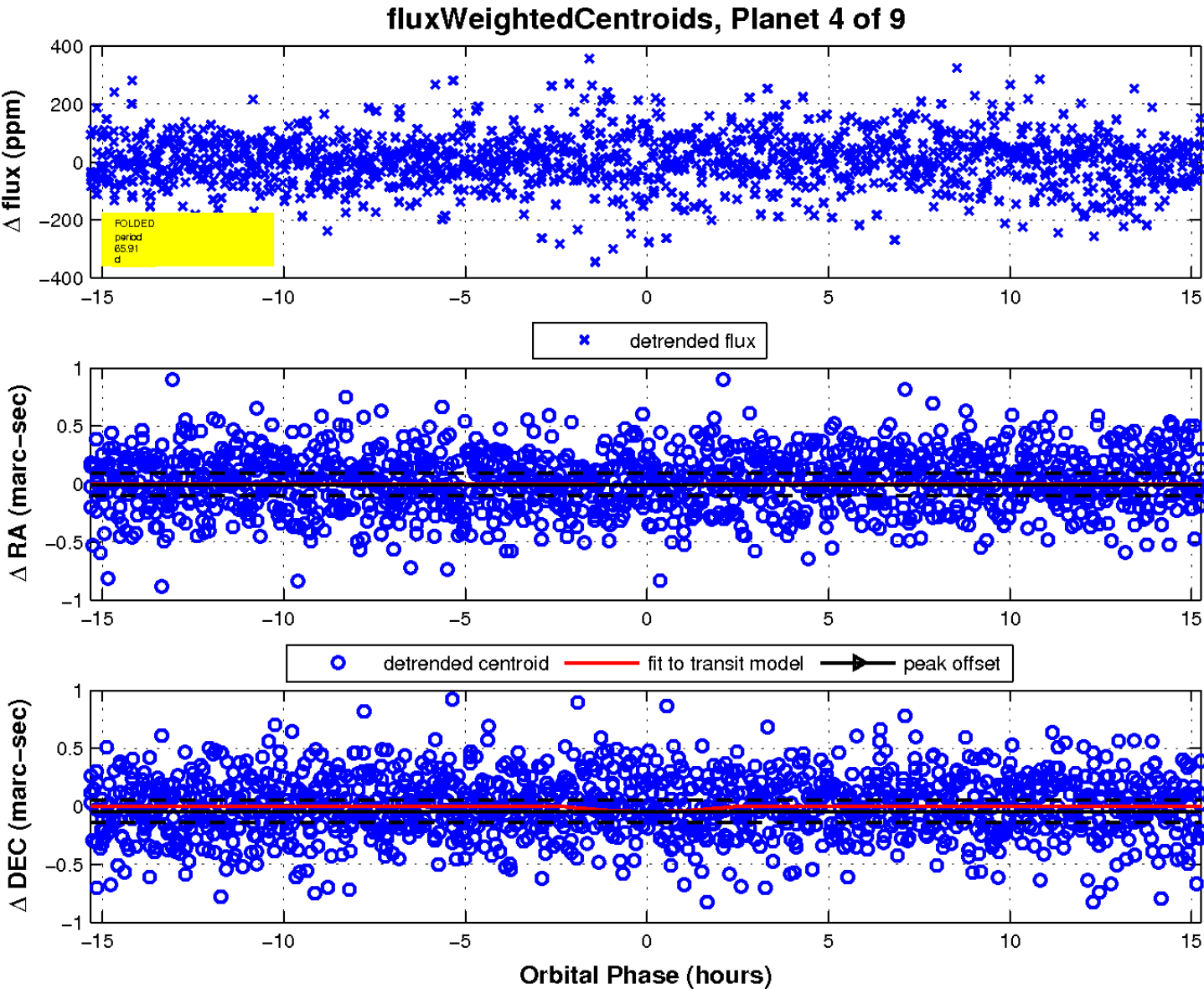
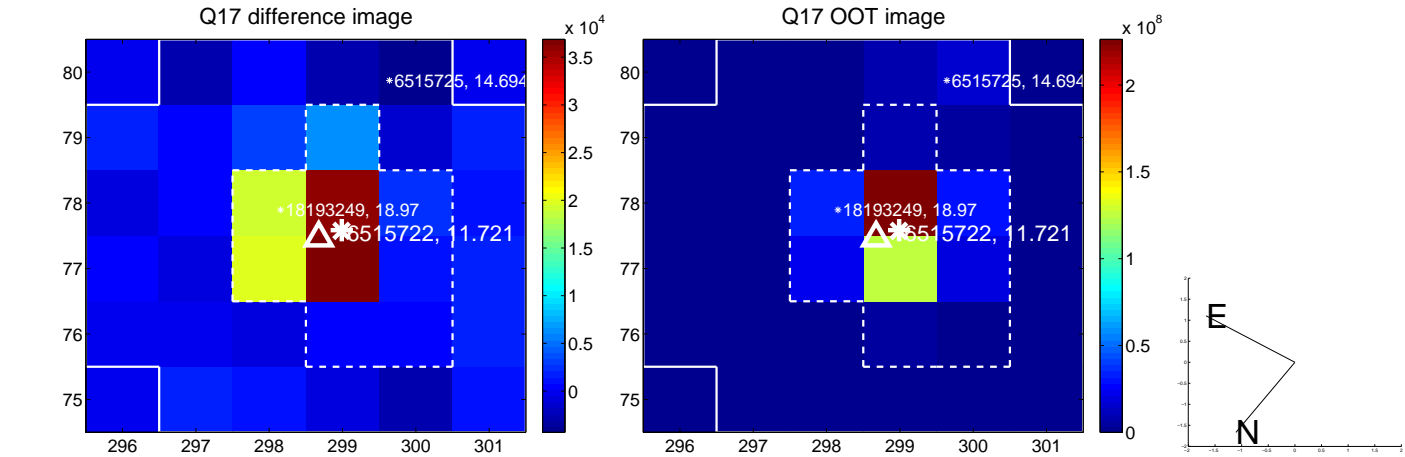
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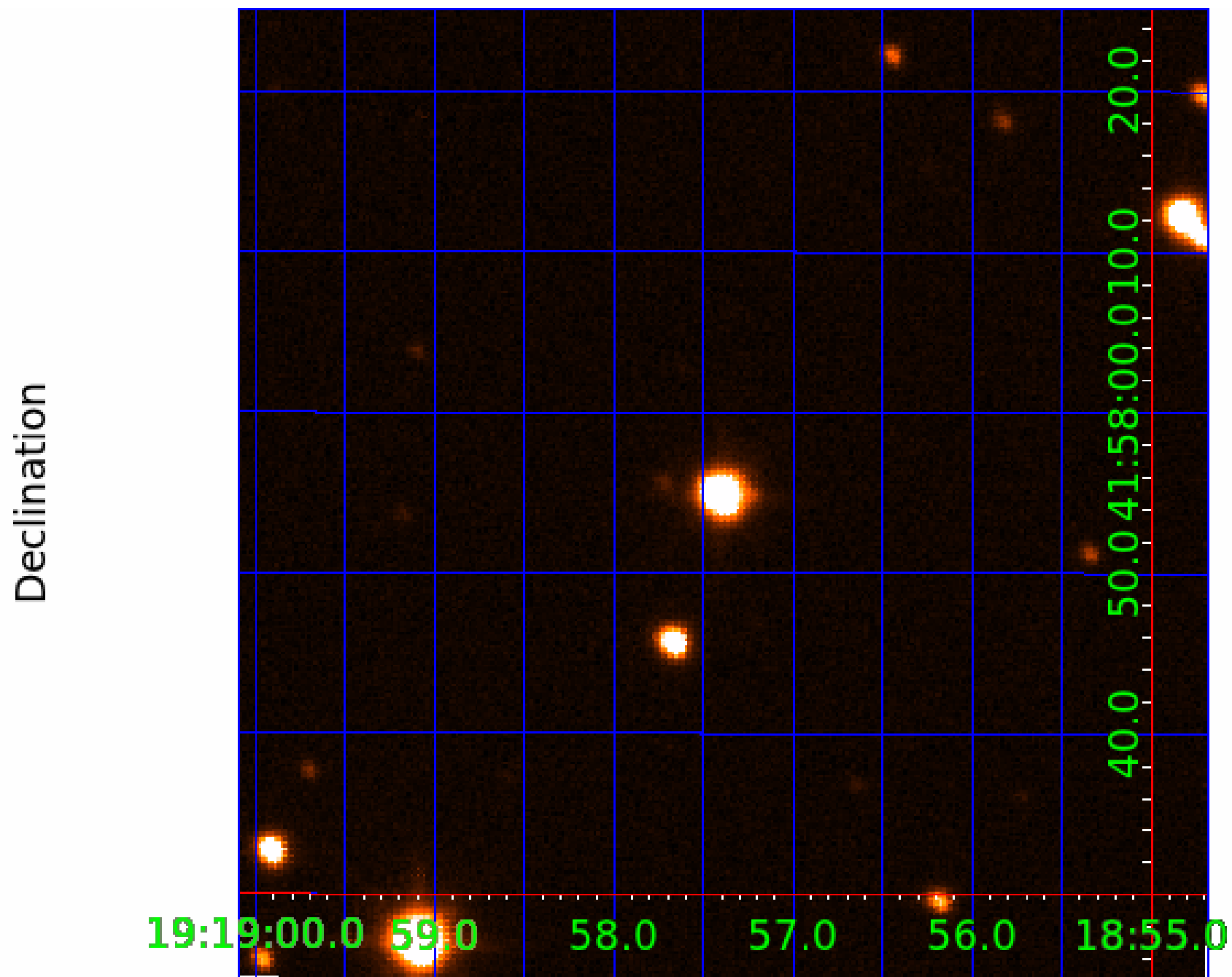
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white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image



Q1-17 DR25 TCE Parameters

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006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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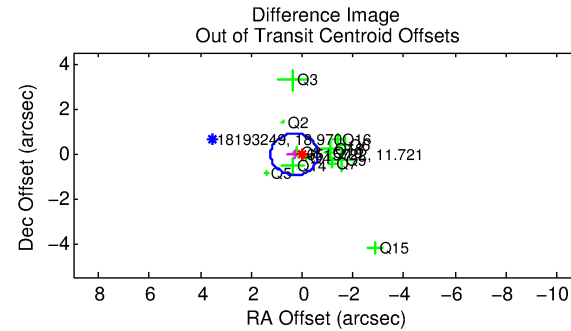
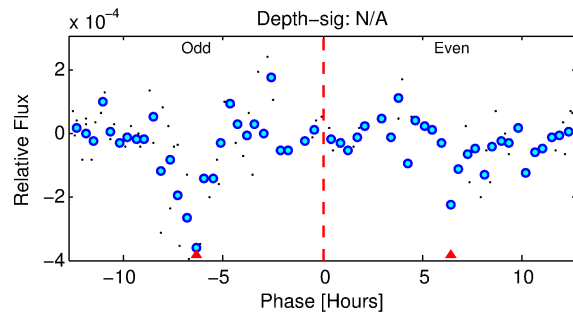
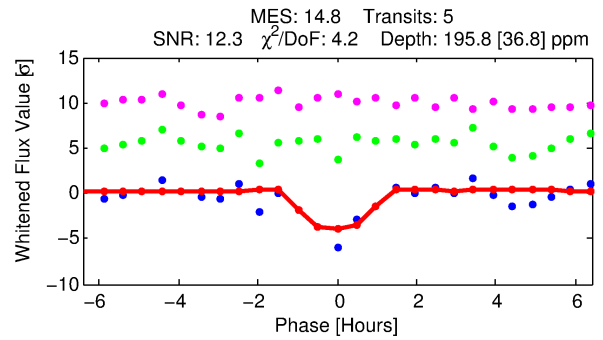
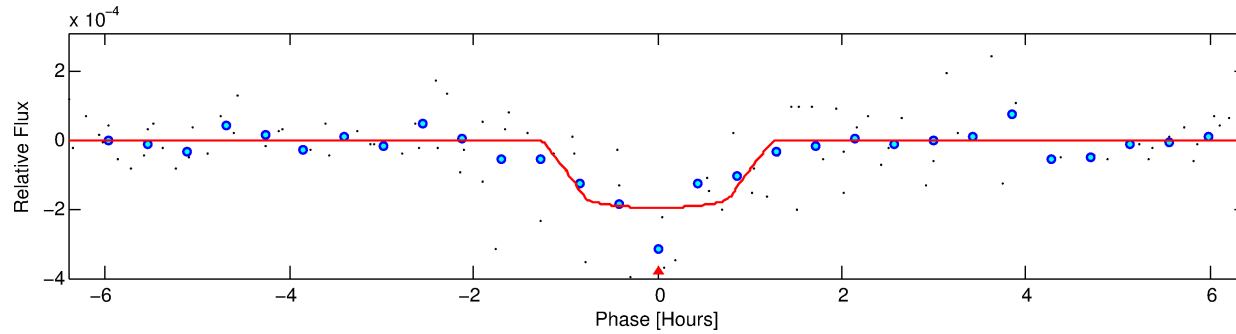
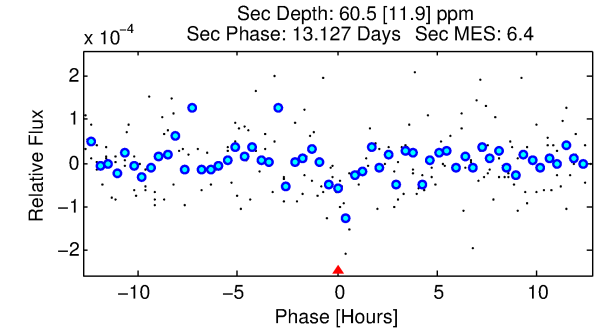
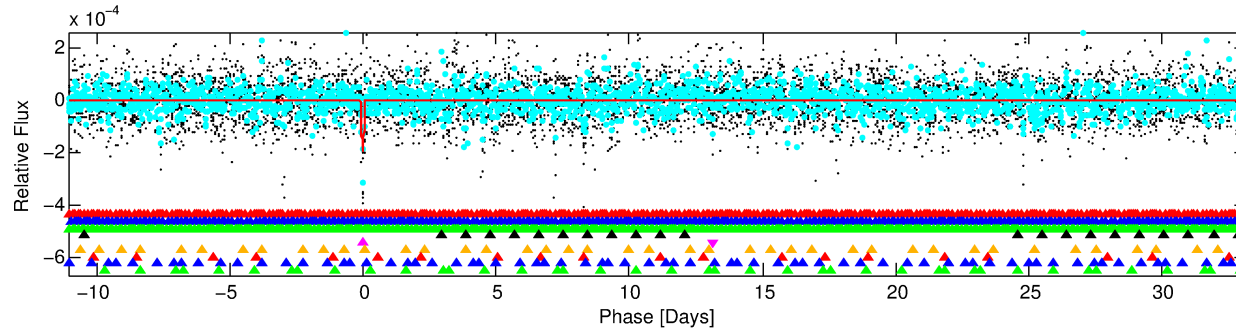
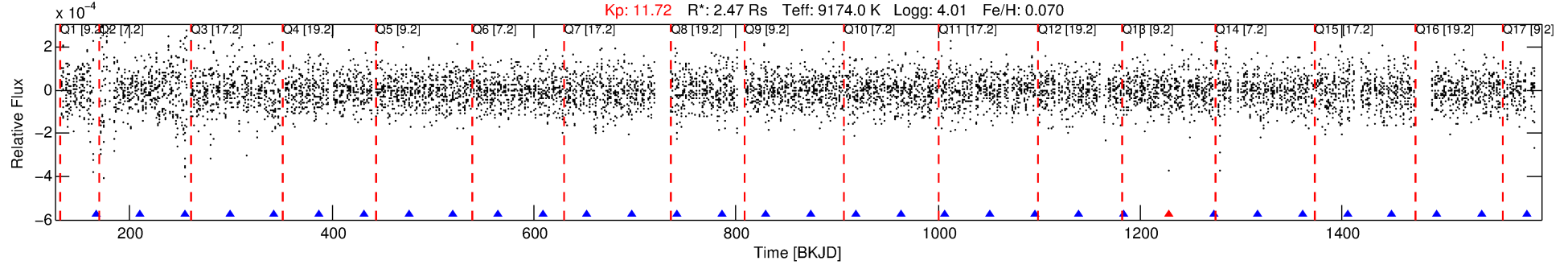
Ephemeris Match Information For 006515722-05

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 5 of 9 Period: 44.244 d
KOI: K03818 Corr: No Ephemeris Match

Kp: 11.72 R*: 2.47 Rs Teff: 9174.0 K Logg: 4.01 Fe/H: 0.070



DV Fit Results:

Period = 44.24448 [0.00050] d
Epoch = 166.3536 [0.0088] BKJD
Rp/R* = 0.0143 [0.0154]
a/R* = 92.83 [705.41]
b = 0.83 [2.93]
Seff = 371.45 [162.64]
Teq = 1119 [123] K
Rp = 3.85 [4.34] Re
a = 0.3230 [0.0884] AU
Ag = 234.46 [516.53] [0.45σ]
Teffp = 6773 [3683] K [1.53σ]

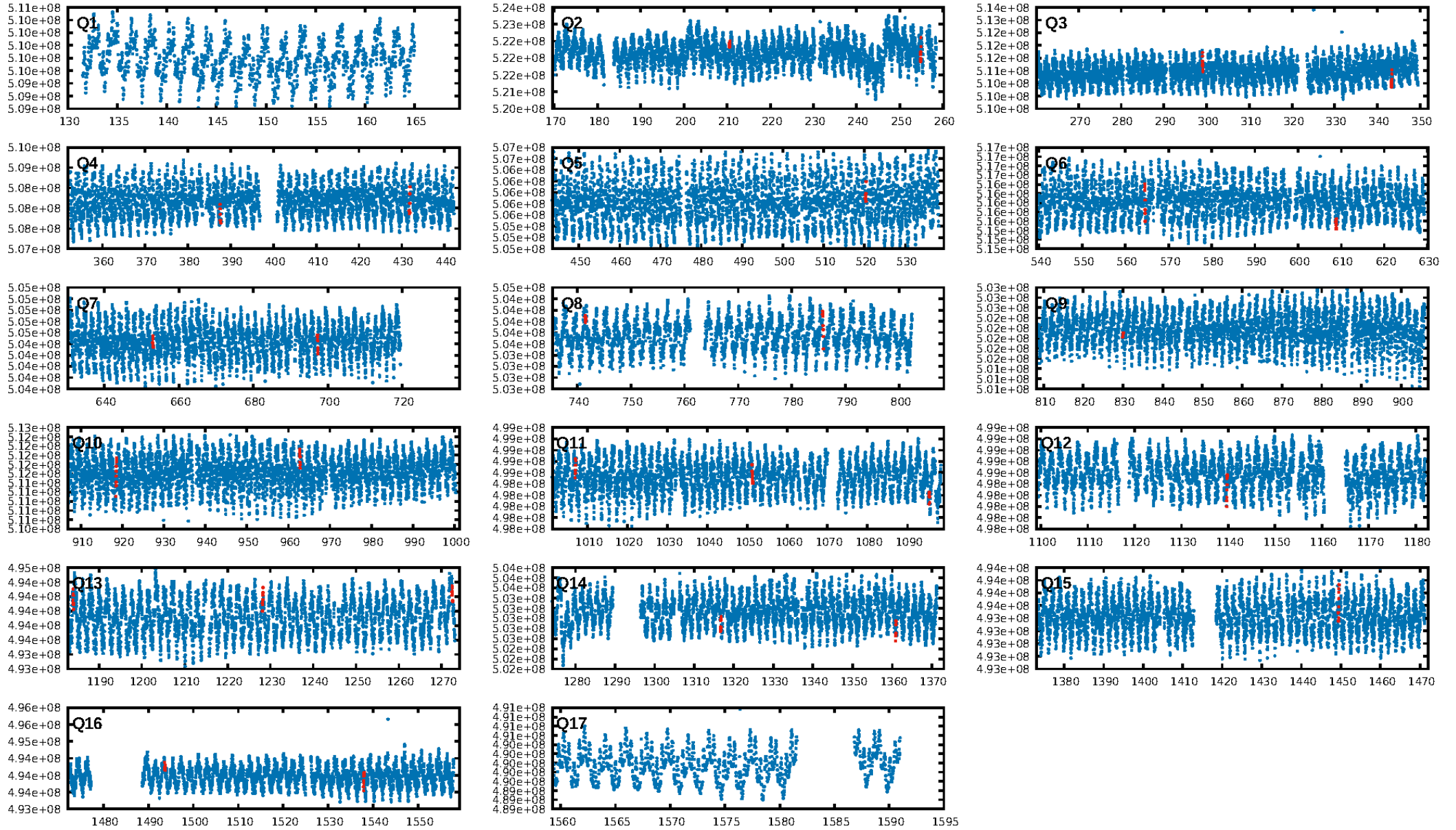
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [76.04σ]
LongPeriod-sig: 100.0% [93.84σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.80 [4/5]
GhostDiagnostic-chr: -1.399
Centroid-sig: 66.3%
Centroid-so: 0.511 arcsec [1.40σ]
OotOffset-rm: 0.305 arcsec [0.98σ]
KicOffset-rm: 0.376 arcsec [1.23σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 0.60 [9/15]

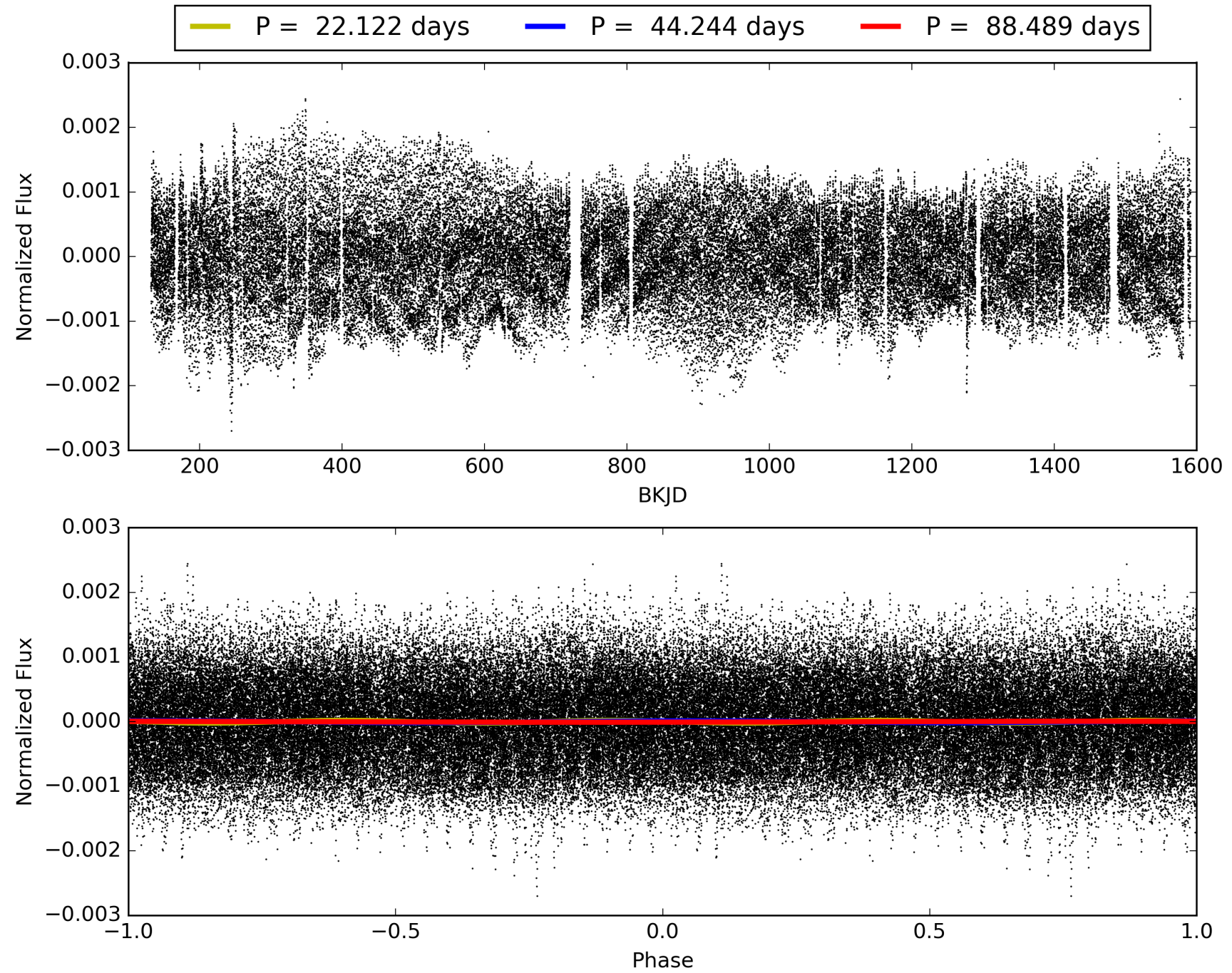
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:18:24 Z

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

TCE 006515722-05, PDC Light Curves

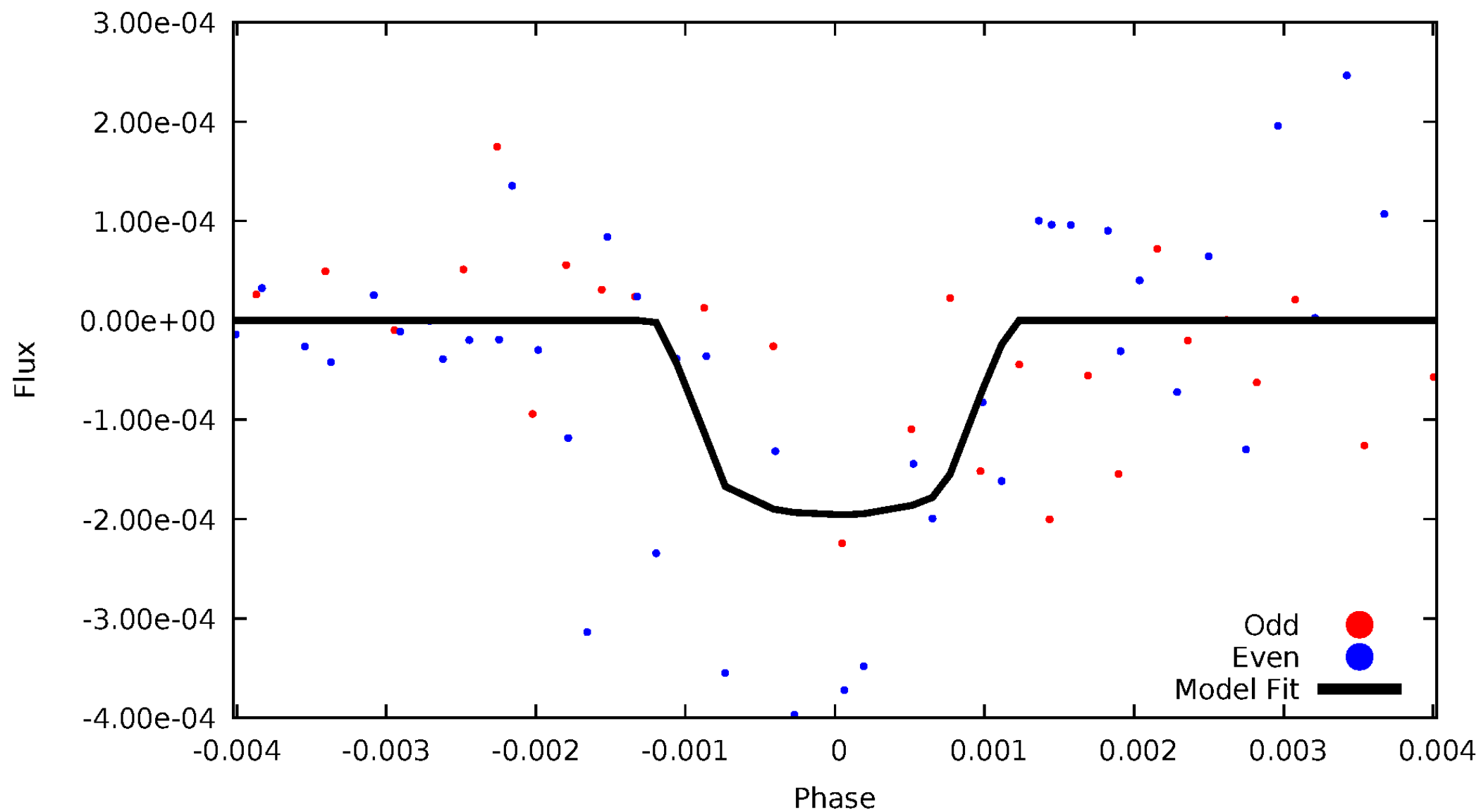


TCE 006515722-05



DV Odd/Even

TCE 006515722-05

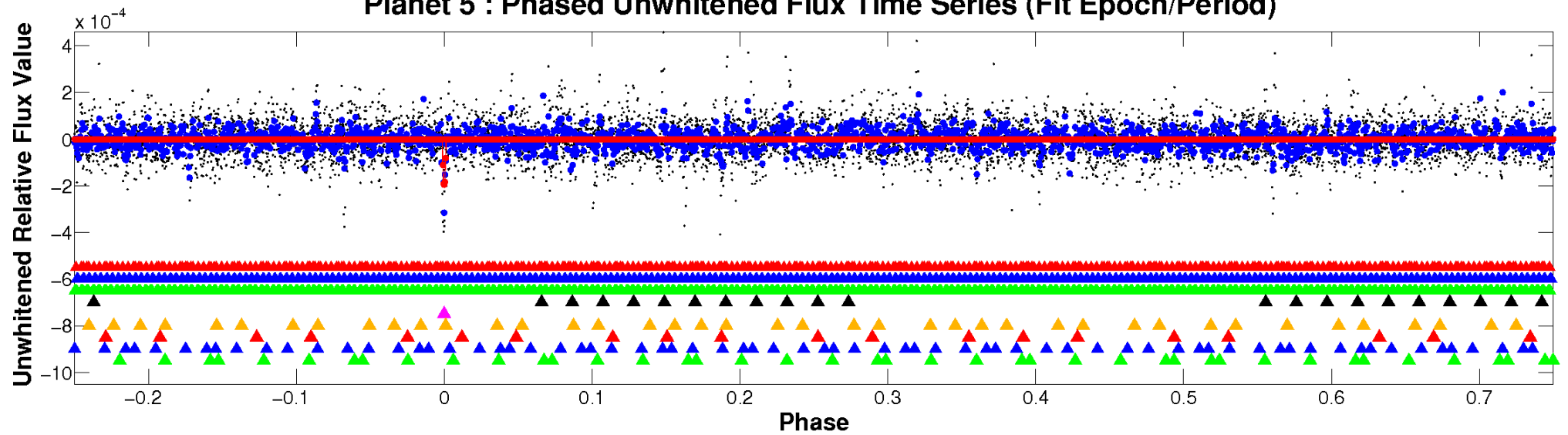


ALT Odd/Even

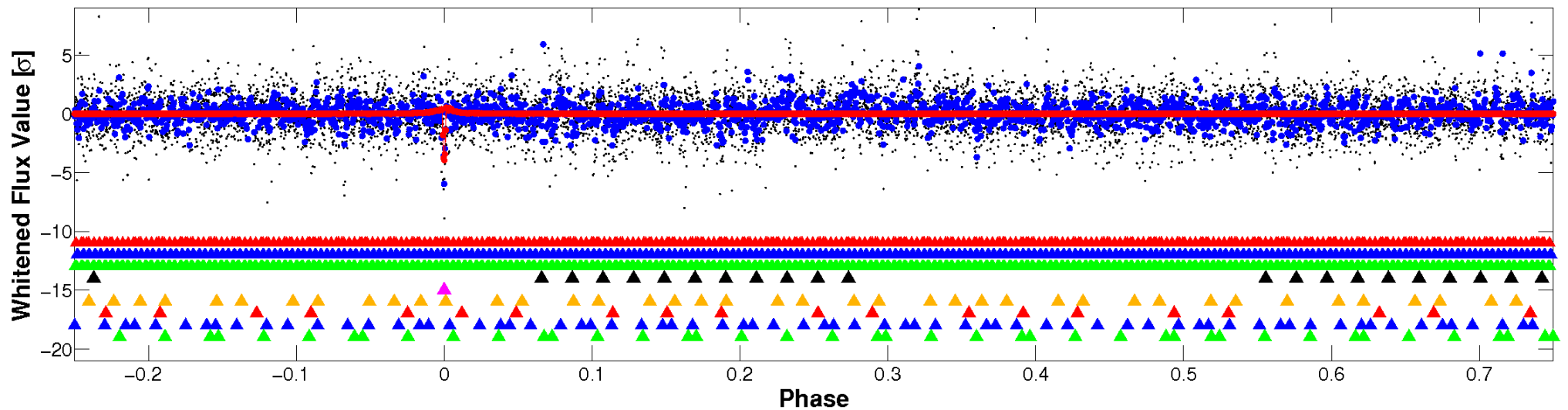
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

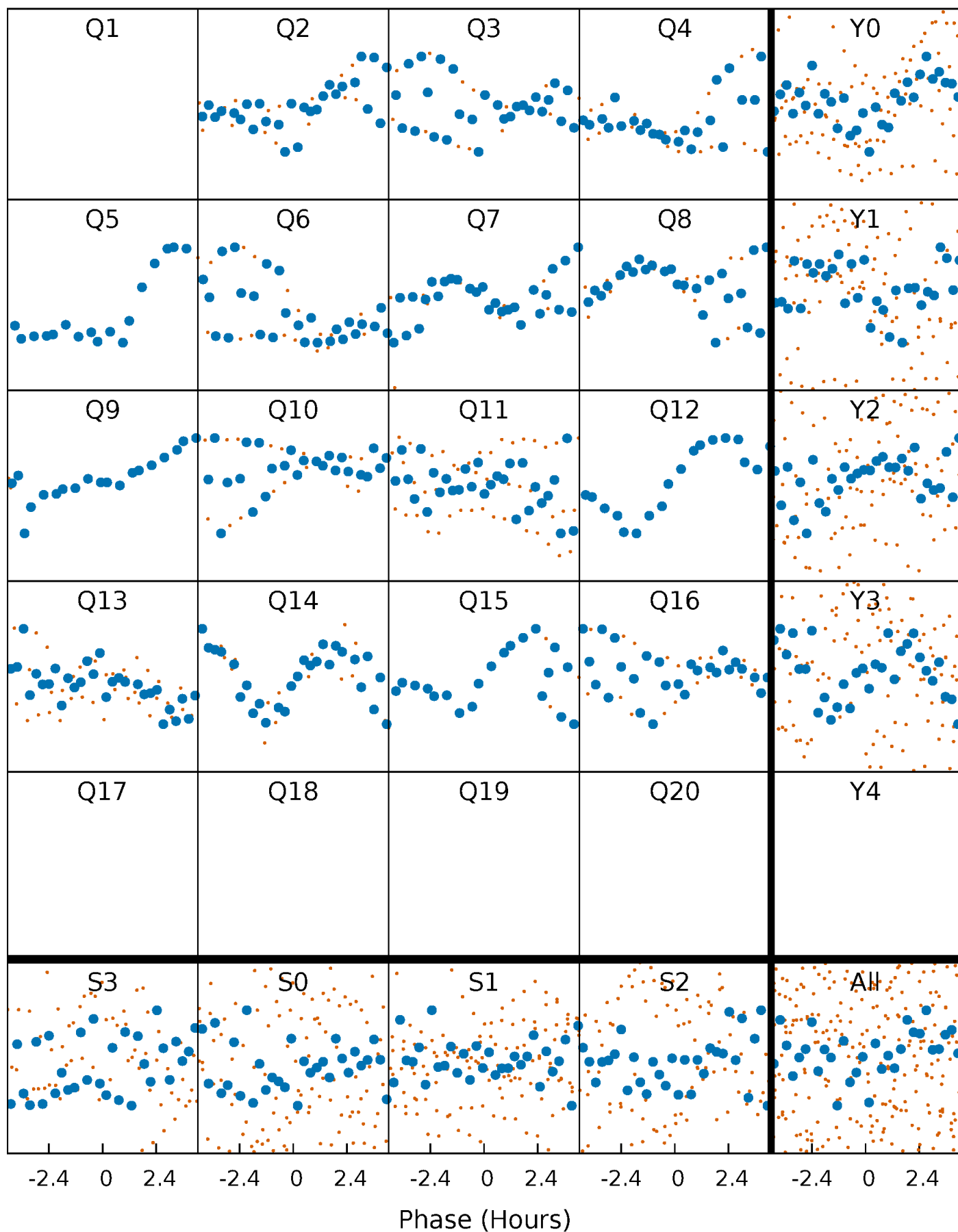


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



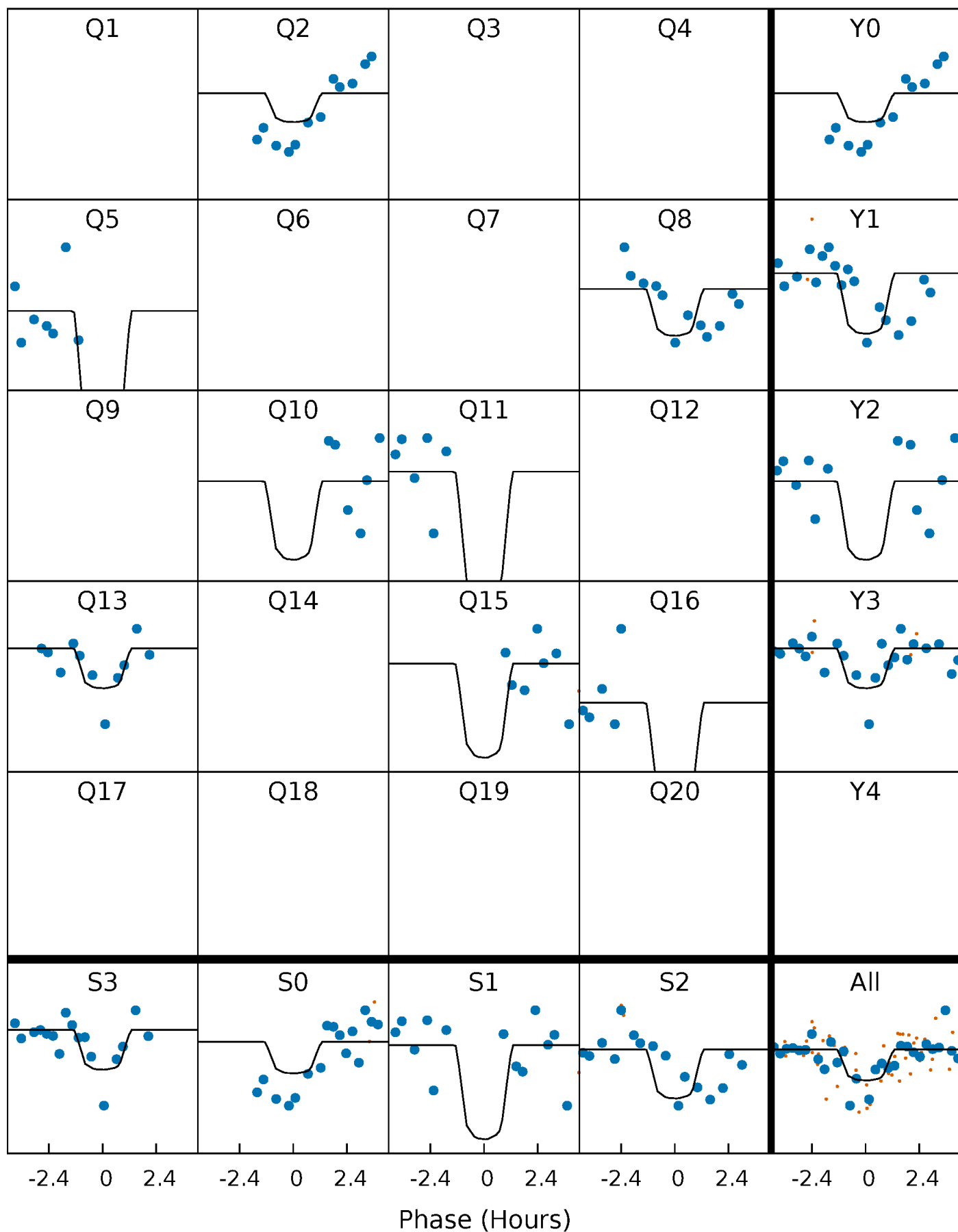
PDC Quarter-Phased Transit Curves

TCE 006515722-05 $P = 44.244481$ Days $T_0 = 166.353563$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006515722-05 P= 44.244481 Days $T_0=166.353563$ (BKJD)

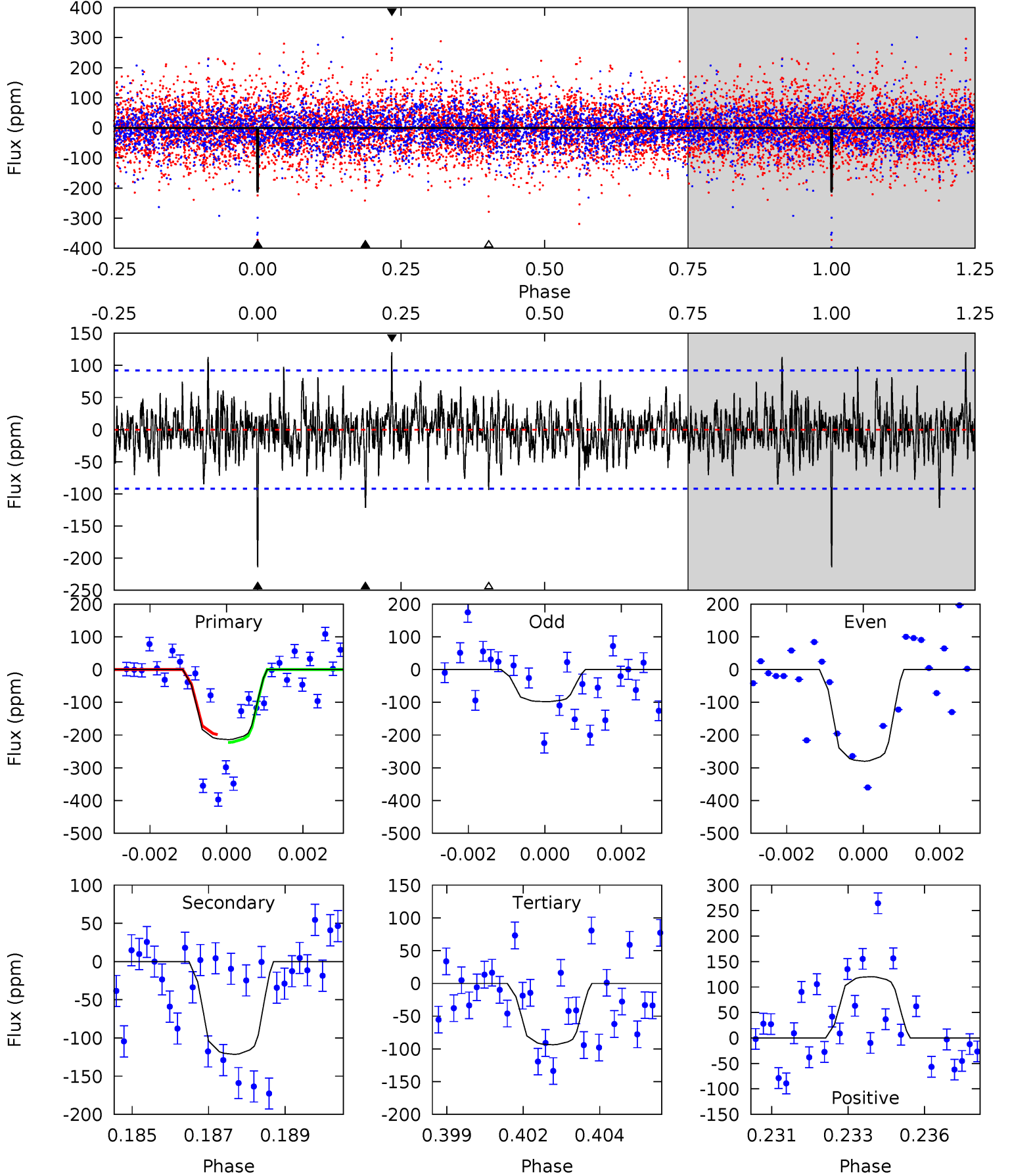


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

006515722-05, $P = 44.244481$ Days, $E = 122.109082$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	7.00	5.40	6.94	5.30	3.05	1.56	6.92	5.39	1.60	0.06	5.08	1.10	0.36	0.69



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-121±17	$4.66^{+4.18}_{-3.12}$	1550^{+126}_{-121}	6804^{+7991}_{-1742}	319^{+2672}_{-231}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

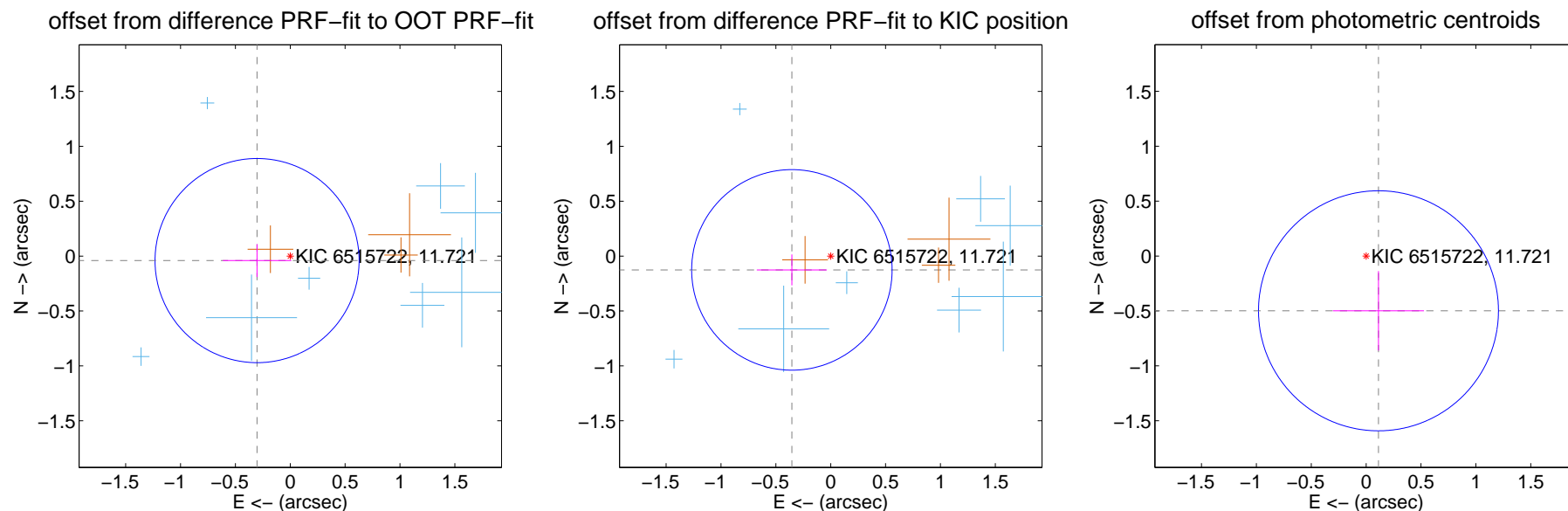
DV Centroid Data

Supplemental centroid analysis for 006515722-05. **Kepler magnitude: 11.72.** Transit SNR 12.28

There are 9 quarters with good PRF difference image offsets

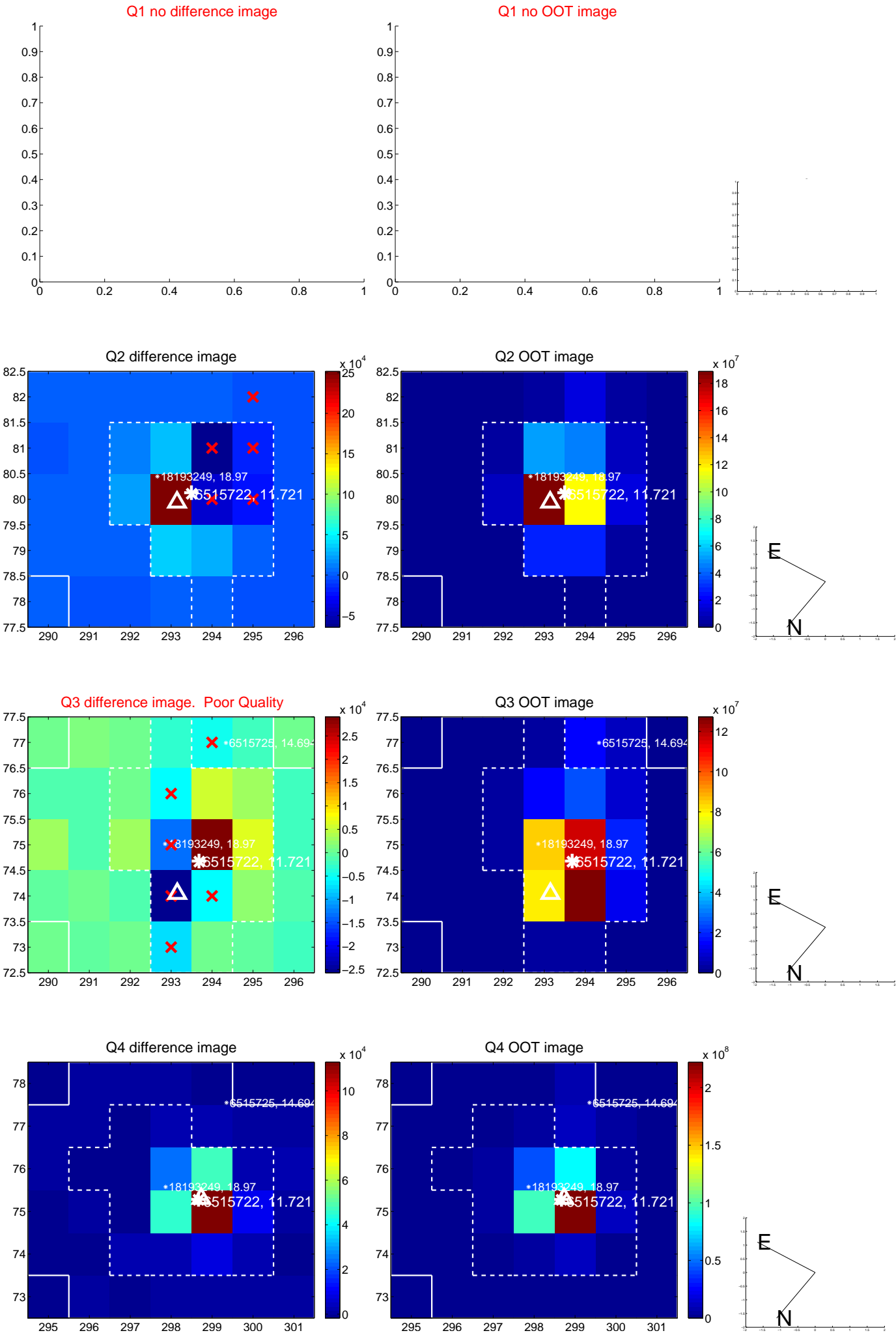
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.305 ± 0.310	0.98	0.302 ± 0.312	-0.041 ± 0.149
PRF-fit source offset from KIC position	0.376 ± 0.304	1.23	0.354 ± 0.319	-0.126 ± 0.140
photometric centroid source offset	0.51 ± 0.36	1.40	-0.11 ± 0.41	-0.50 ± 0.36

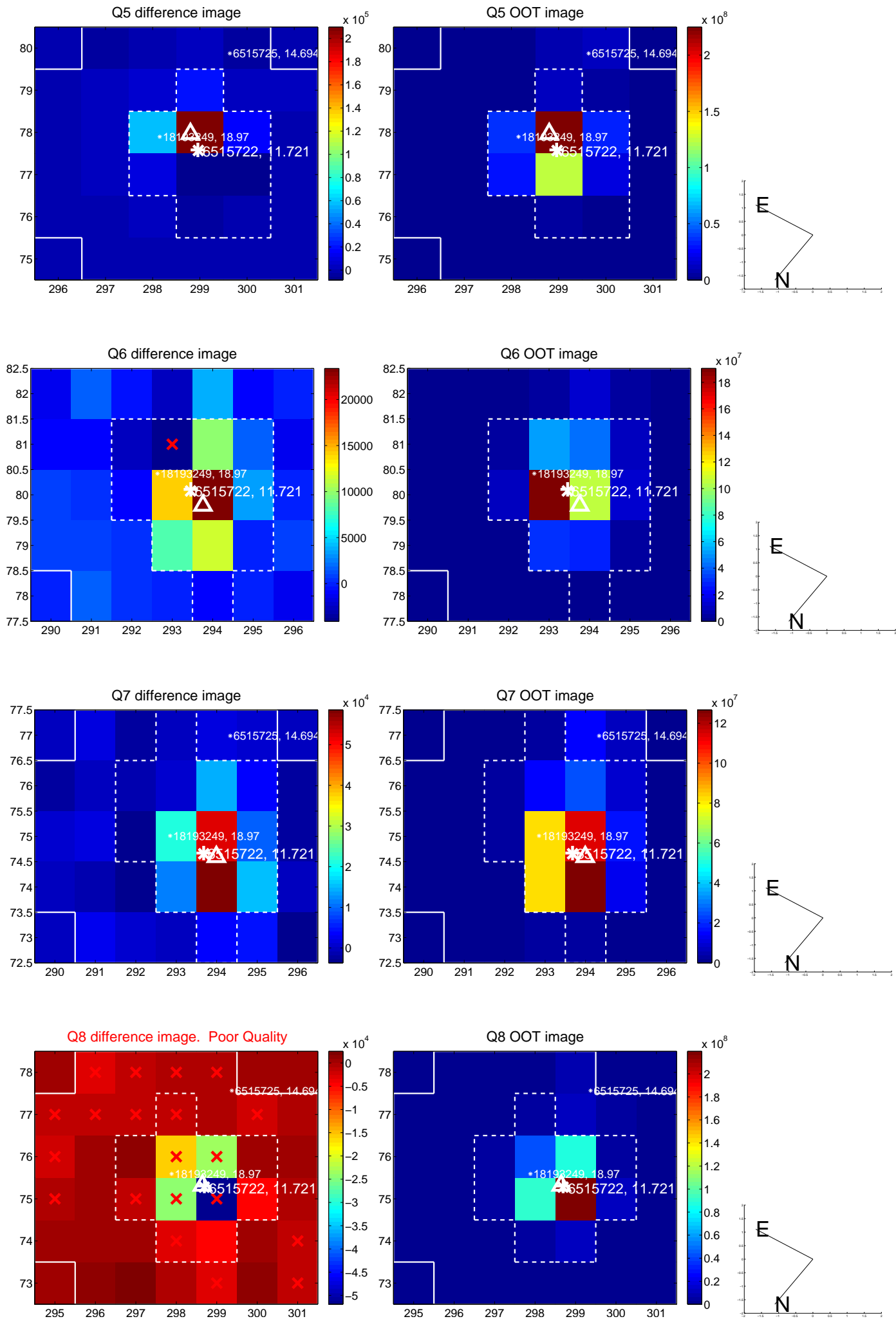


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

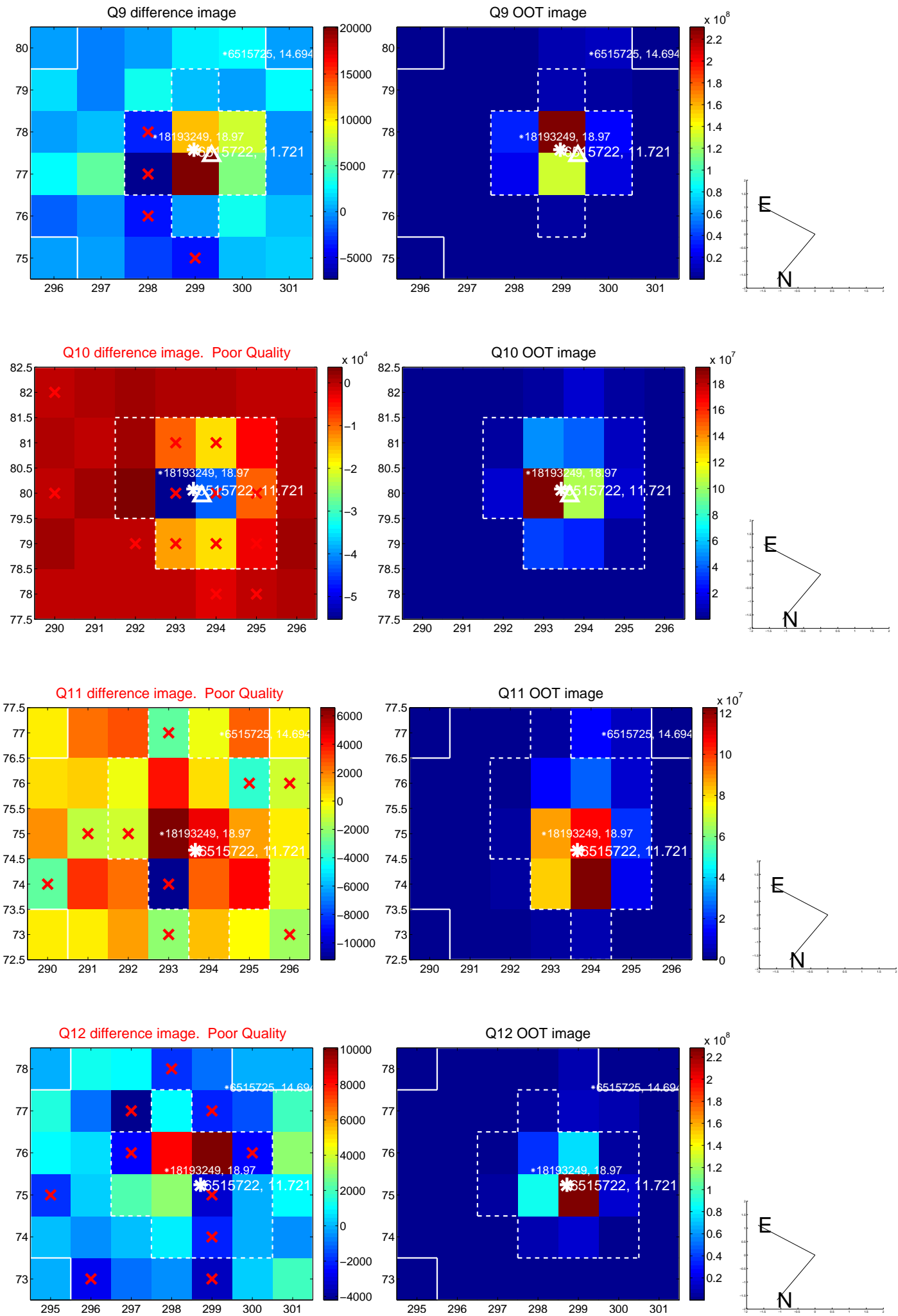
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



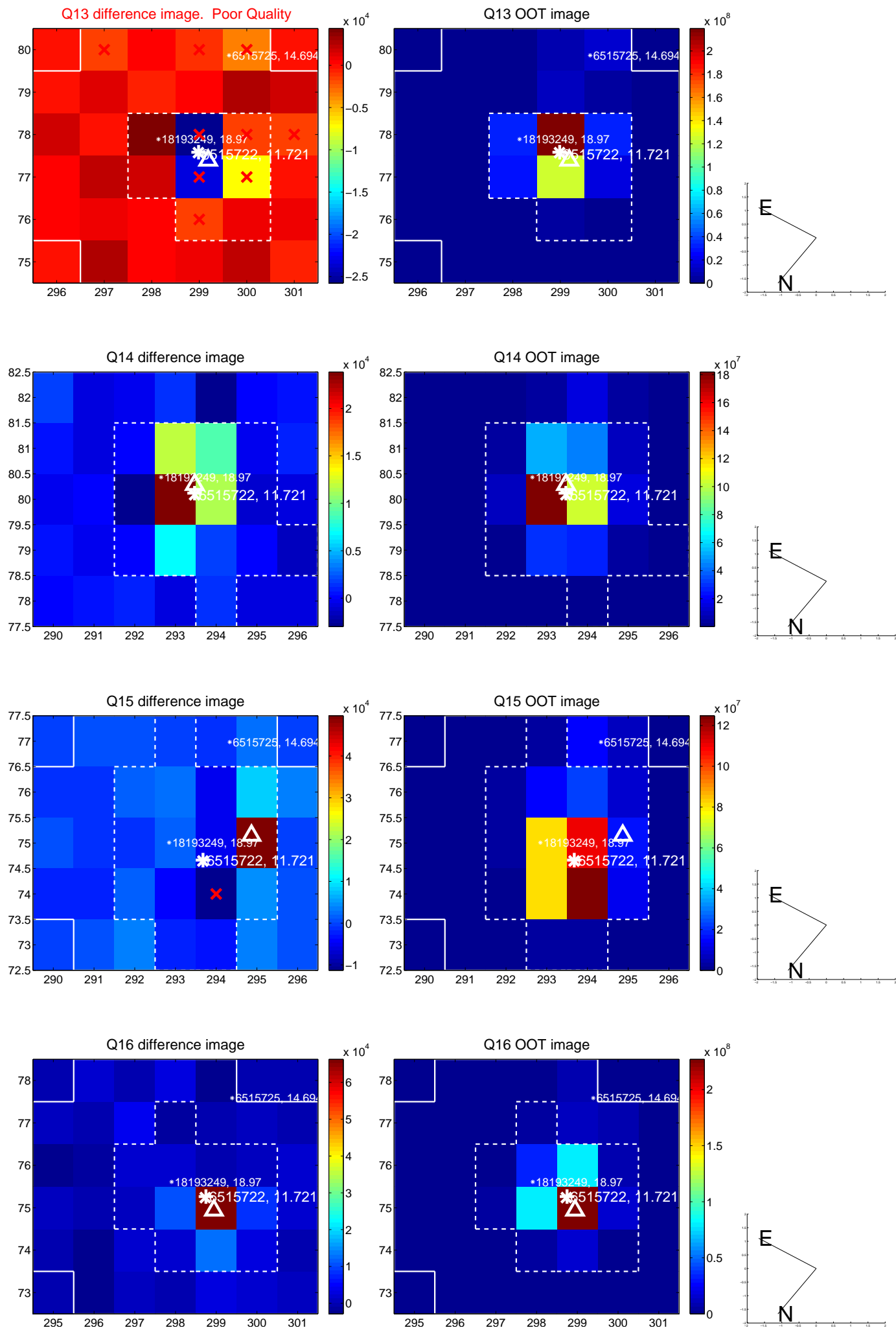
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



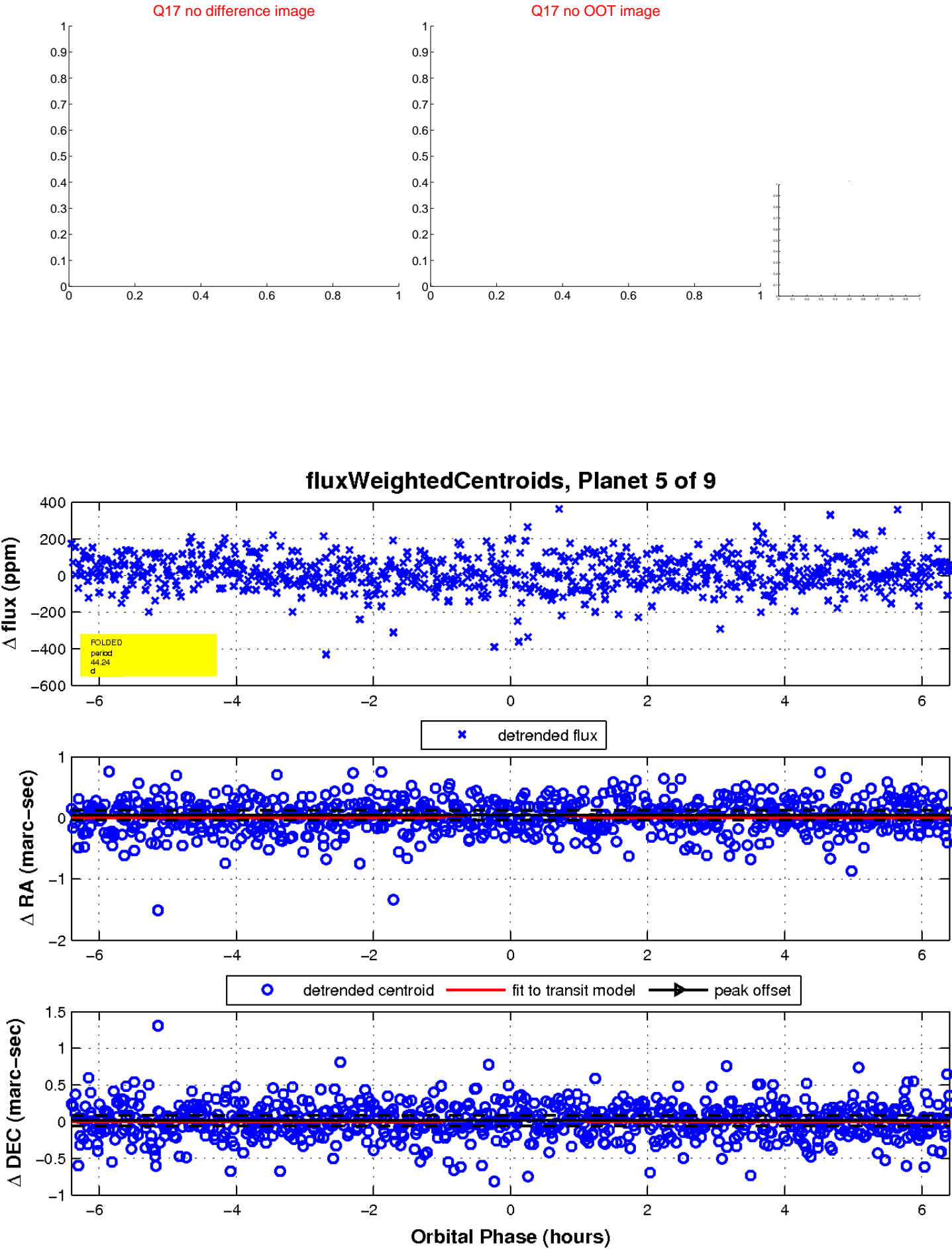
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



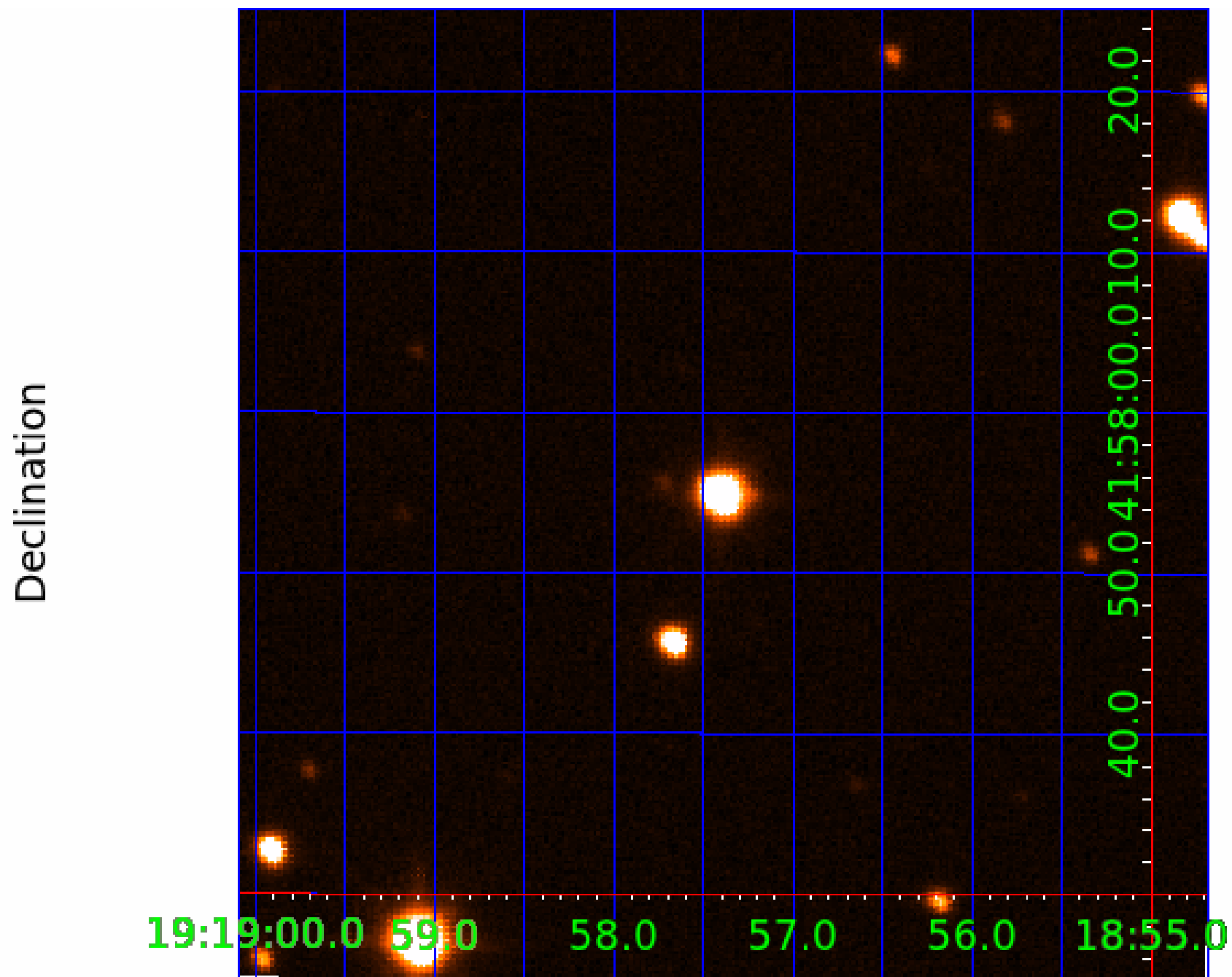
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
006515722-01	OBS	No	3.816948	131.795010	115.5	4.367	33.7	44.8	2.47	9174	3.06	9744.42
006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
006515722-03	OBS	3818.01	1.908478	131.784896	26.8	13.210	14.8	12.7	2.47	9174	1.47	24554.33
006515722-04	OBS	No	65.907630	178.450869	206.8	5.112	15.0	13.4	2.47	9174	4.71	218.34
006515722-05	OBS	No	44.244481	166.353563	195.8	2.135	14.8	12.3	2.47	9174	3.85	371.45
006515722-06	OBS	No	35.852419	138.194916	73.8	1.567	12.1	4.8	2.47	9174	2.29	491.68
006515722-07	OBS	No	71.694191	174.649085	150.8	3.600	12.2	10.3	2.47	9174	3.54	195.16
006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
006515722-09	OBS	No	34.261551	155.046315	119.1	3.146	11.3	11.8	2.47	9174	3.02	522.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006515722-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

Ephemeris Match Information For 006515722-06

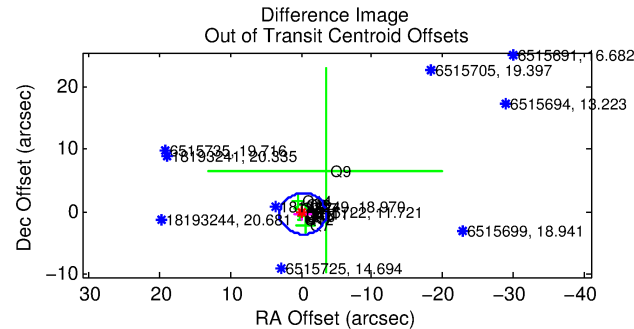
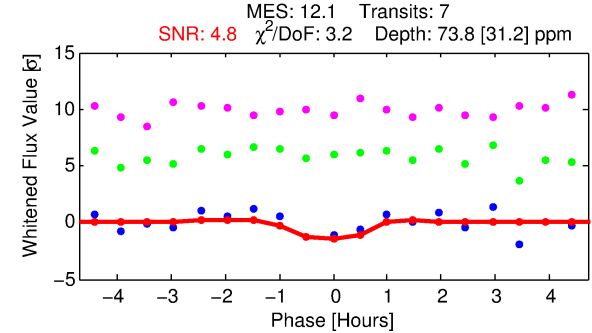
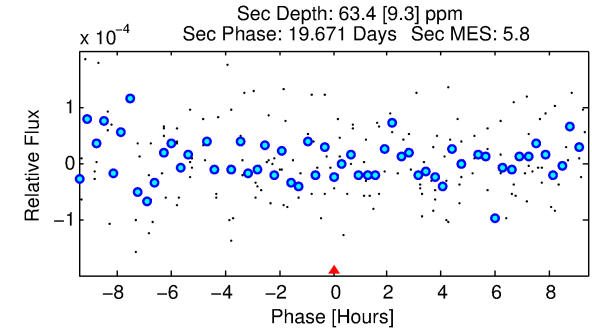
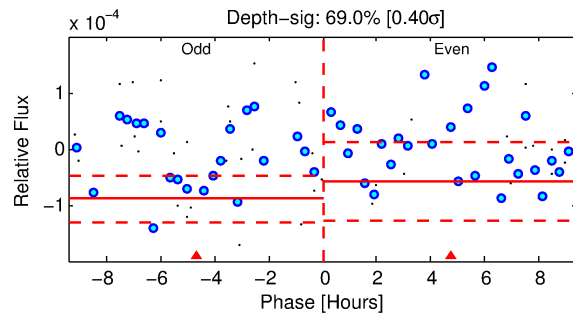
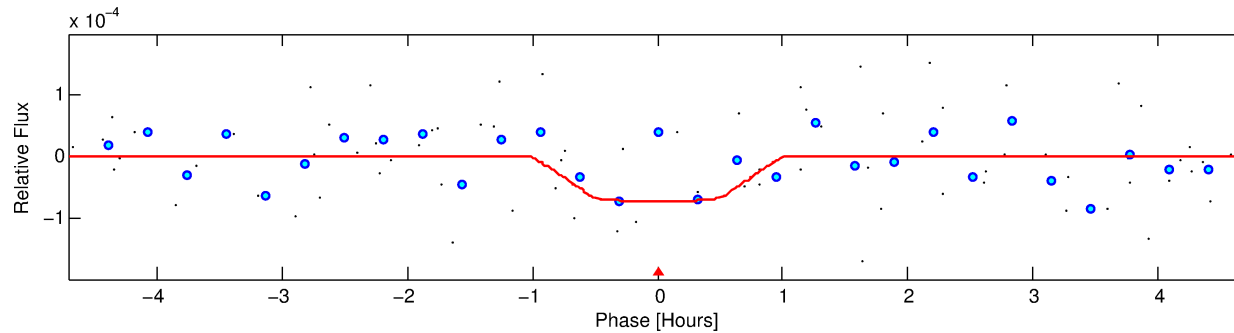
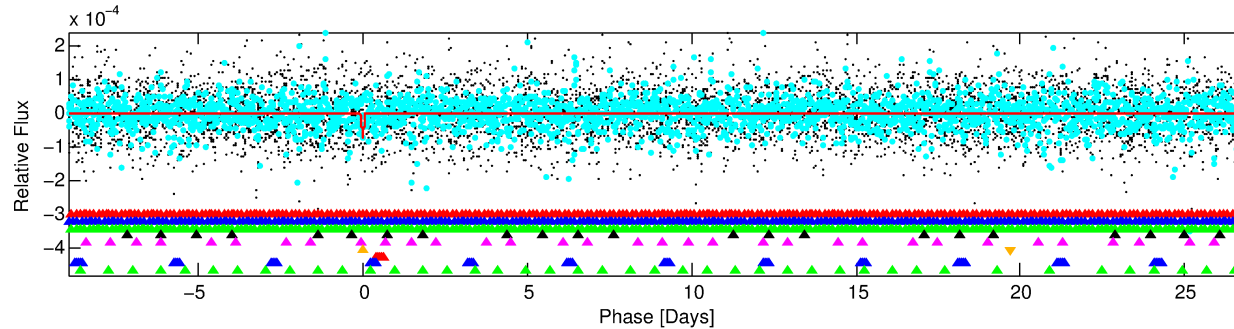
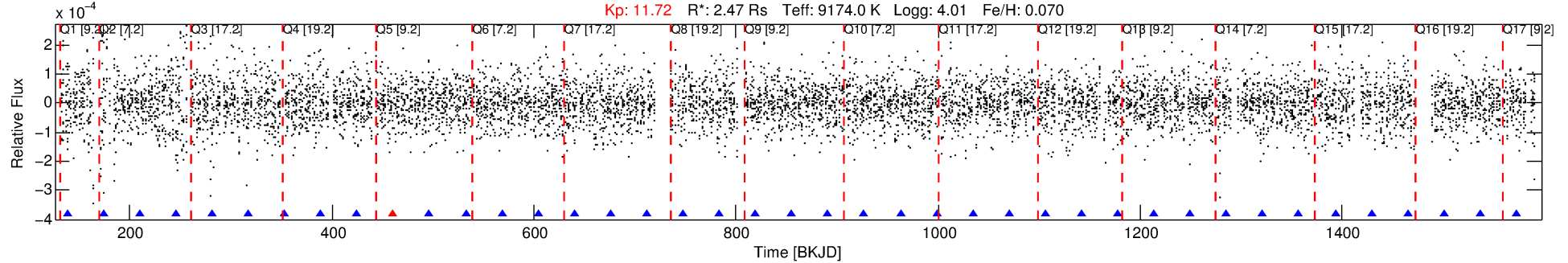
No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 6 of 9 Period: 35.852 d

KOI: K03818 Corr: No Ephemeris Match

Kp: 11.72 R*: 2.47 Rs Teff: 9174.0 K Logg: 4.01 Fe/H: 0.070



DV Fit Results:

Period = 35.85242 [0.00086] d
Epoch = 138.1949 [0.0192] BKJD
Rp/R* = 0.0085 [0.0147]
a/R* = 126.93 [1465.15]
b = 0.70 [8.53]
Seff = 491.68 [215.29]
Teq = 1201 [131] K
Rp = 2.29 [4.04] Re
a = 0.2807 [0.0768] AU
Ag = 526.04 [1839.69] [0.29σ]
Teffp = 8891 [7735] K [0.99σ]

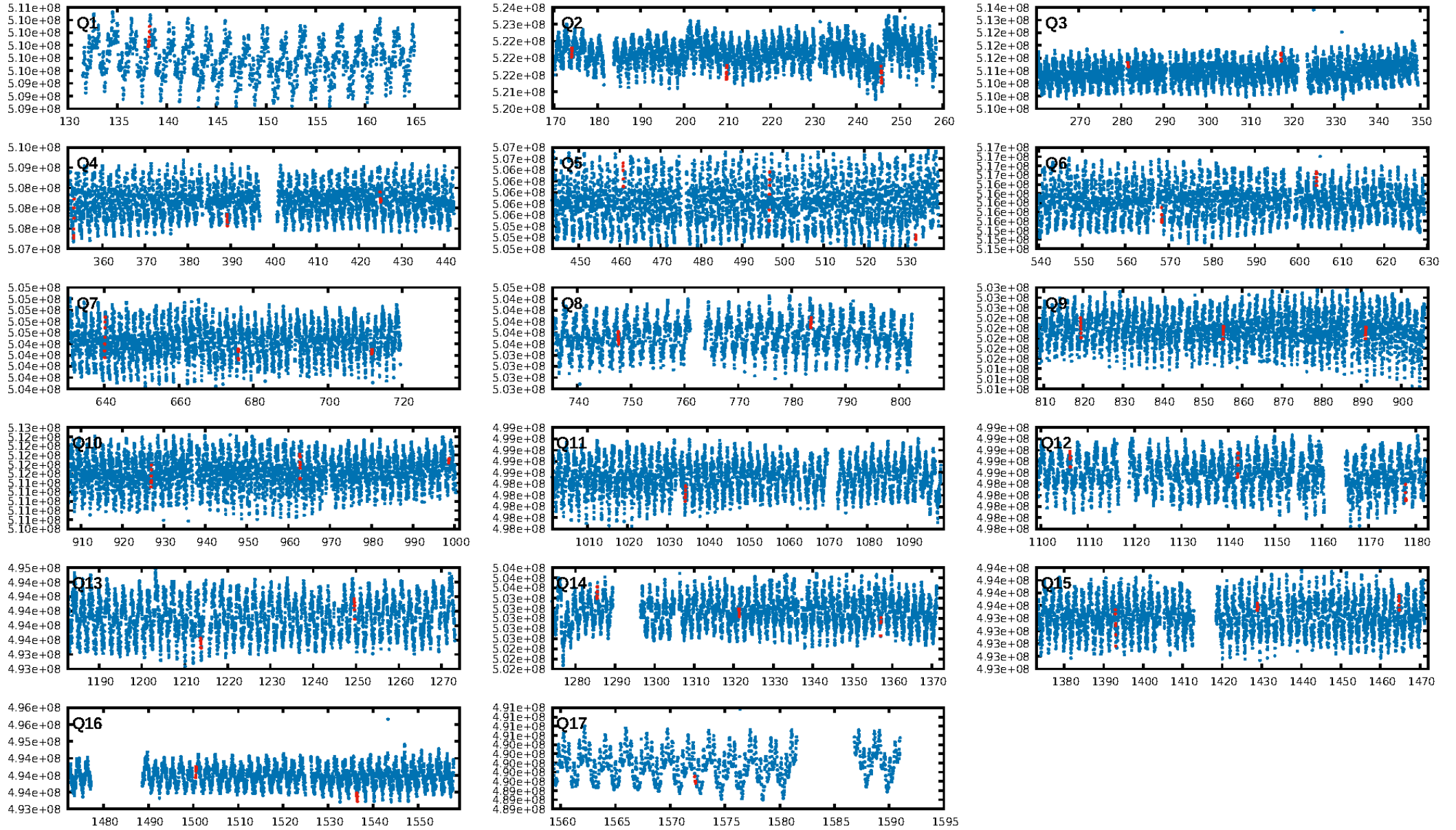
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.86σ]
LongPeriod-sig: 100.0% [76.04σ]
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 90.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: 1.429
Centroid-sig: 4.4%
Centroid-so: 1.317 arcsec [1.29σ]
OotOffset-rm: 0.430 arcsec [0.39σ]
KicOffset-rm: 0.470 arcsec [0.43σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.76 [13/17]

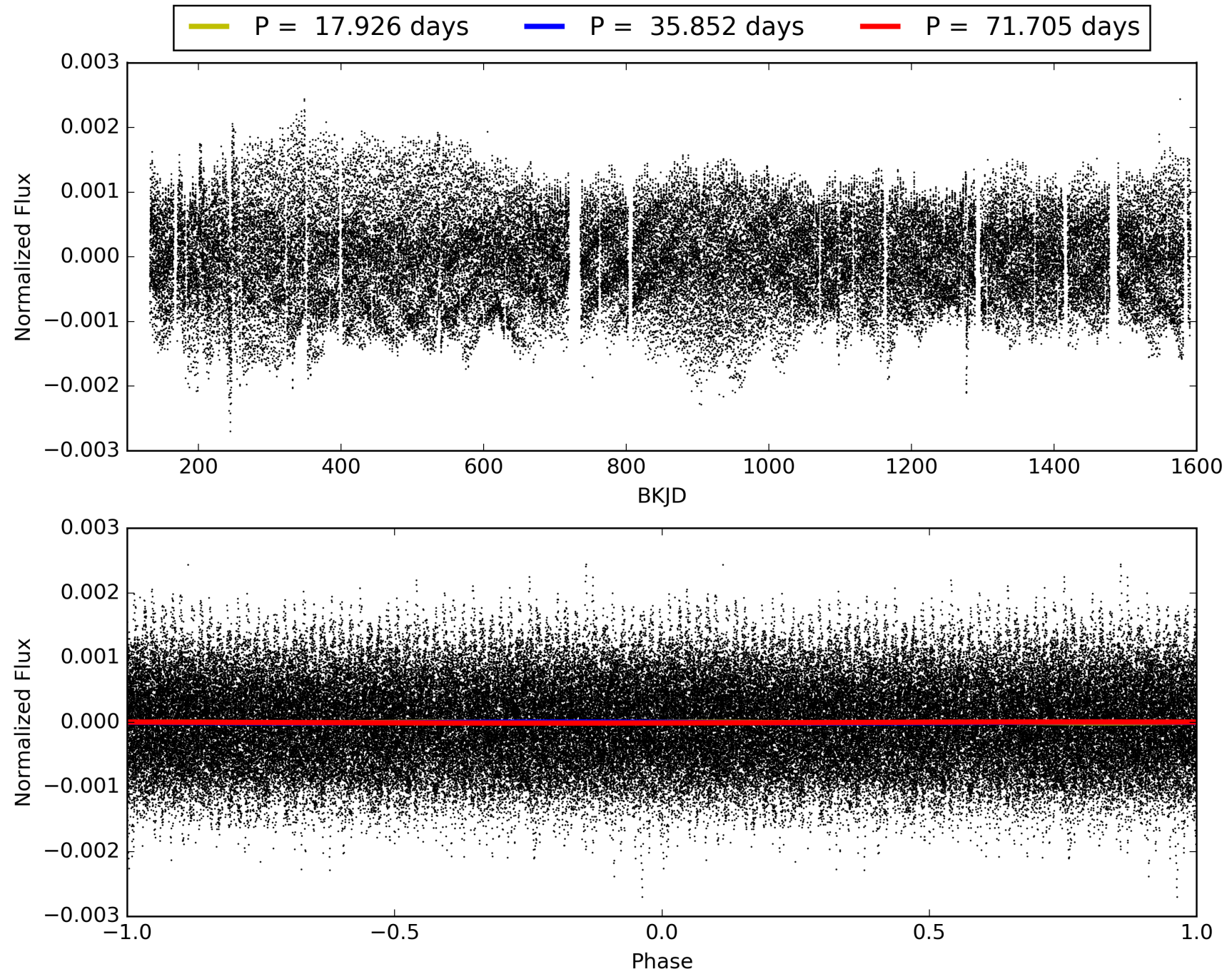
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:18:28 Z

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

TCE 006515722-06, PDC Light Curves

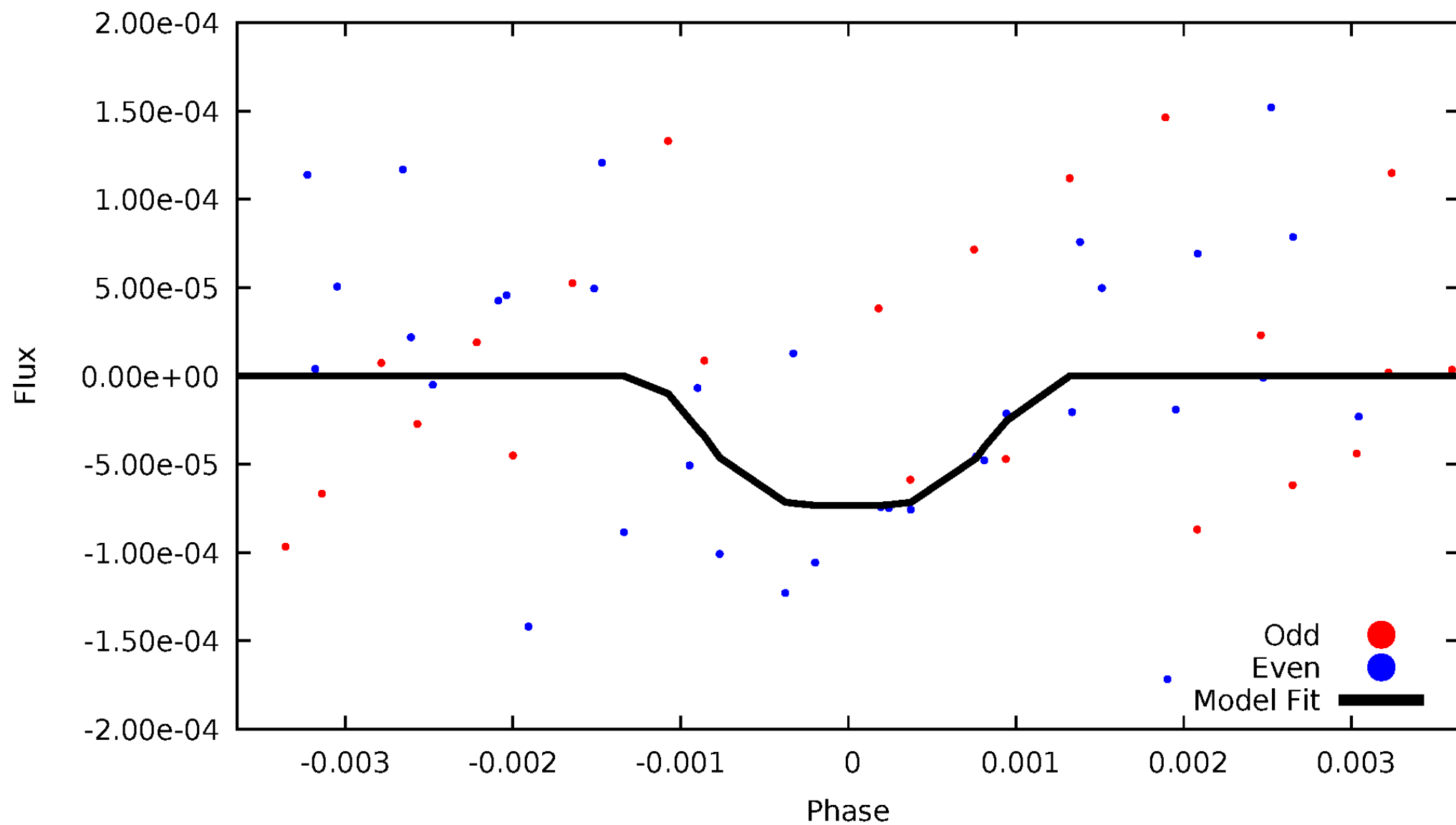


TCE 006515722-06



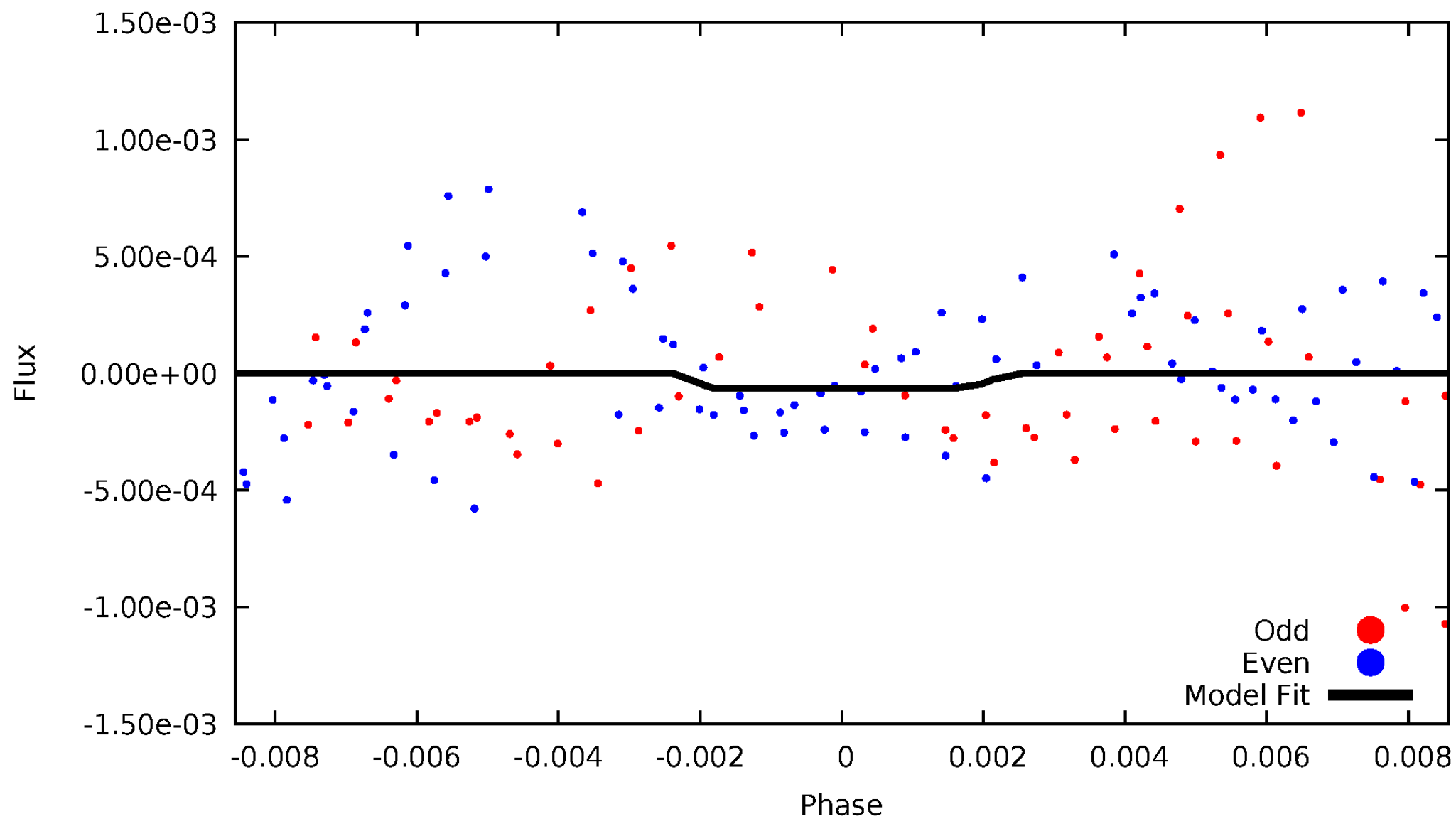
DV Odd/Even

TCE 006515722-06



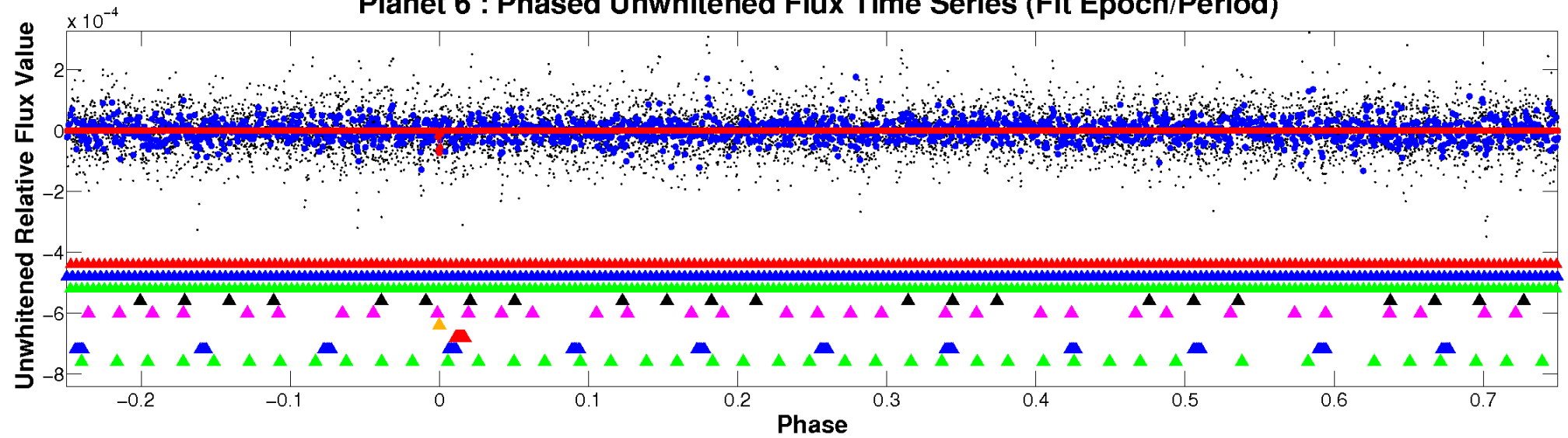
ALT Odd/Even

TCE 006515722-06

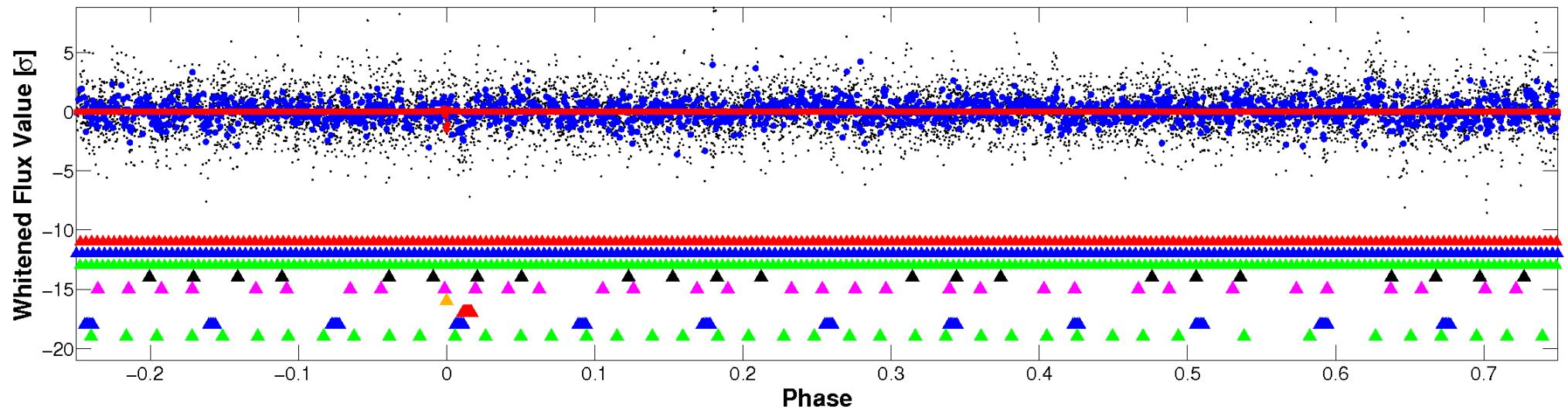


Non-Whitened Vs. Whitened Light Curve

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

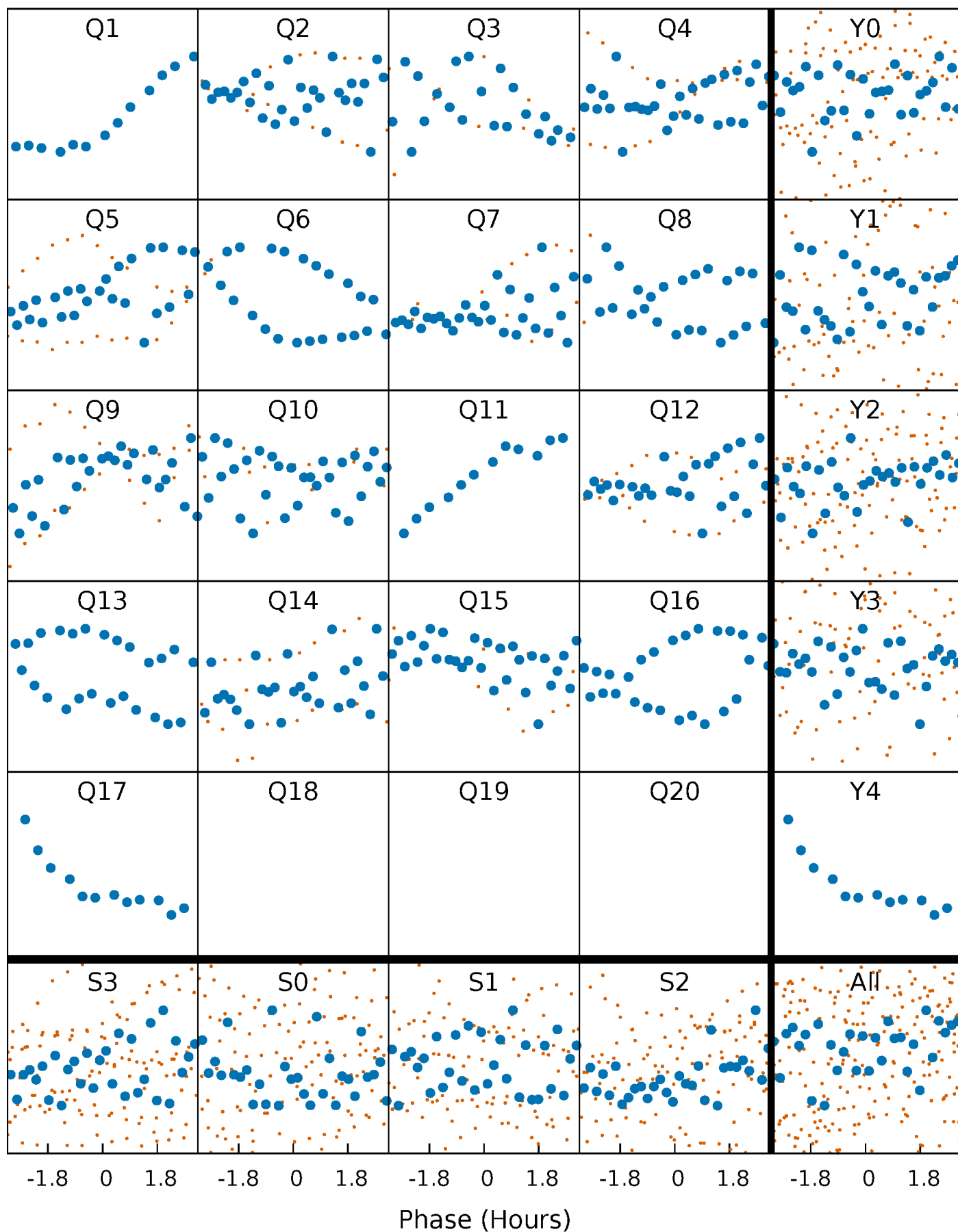


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



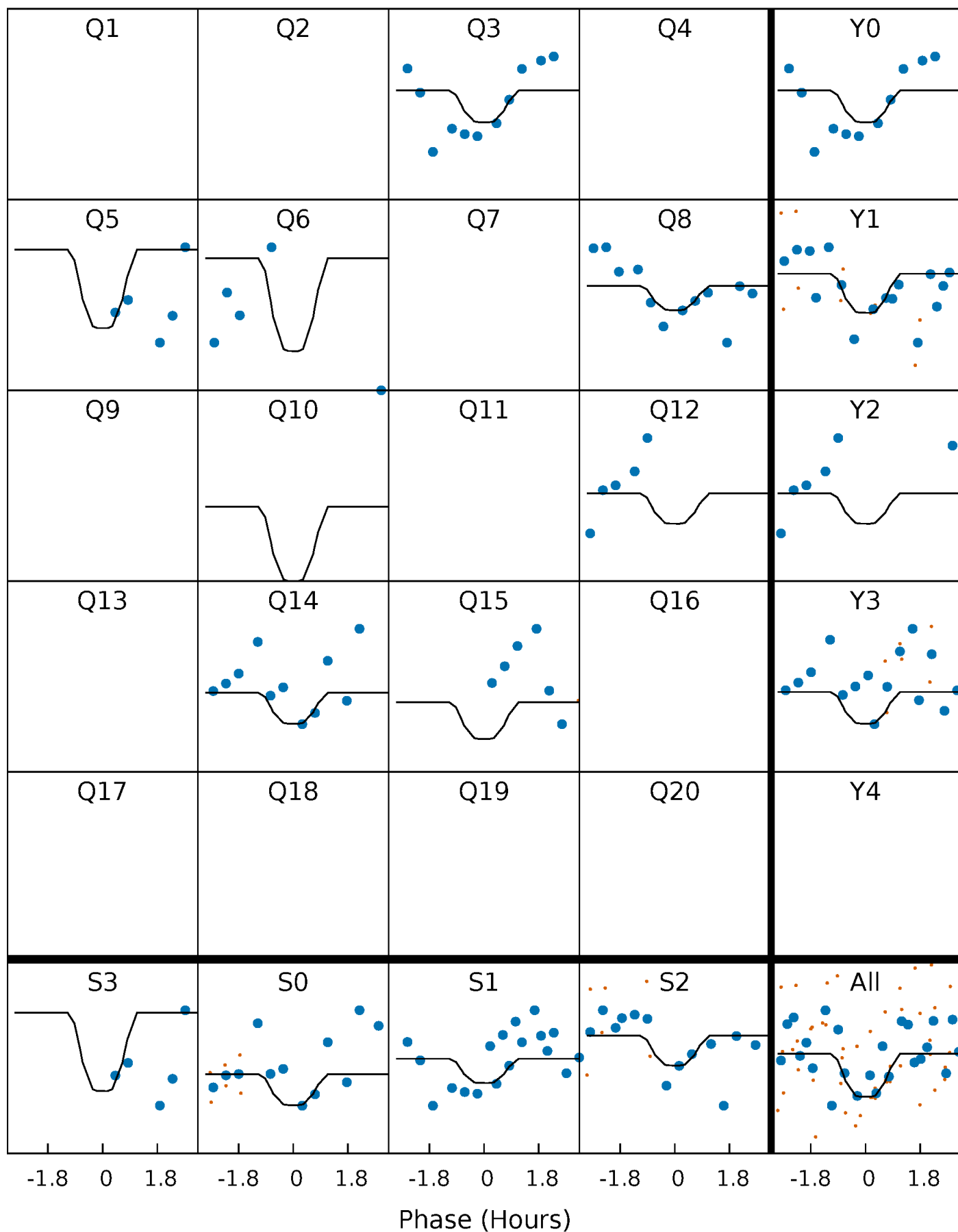
PDC Quarter-Phased Transit Curves

TCE 006515722-06 P= 35.852419 Days $T_0=138.194916$ (BKJD)



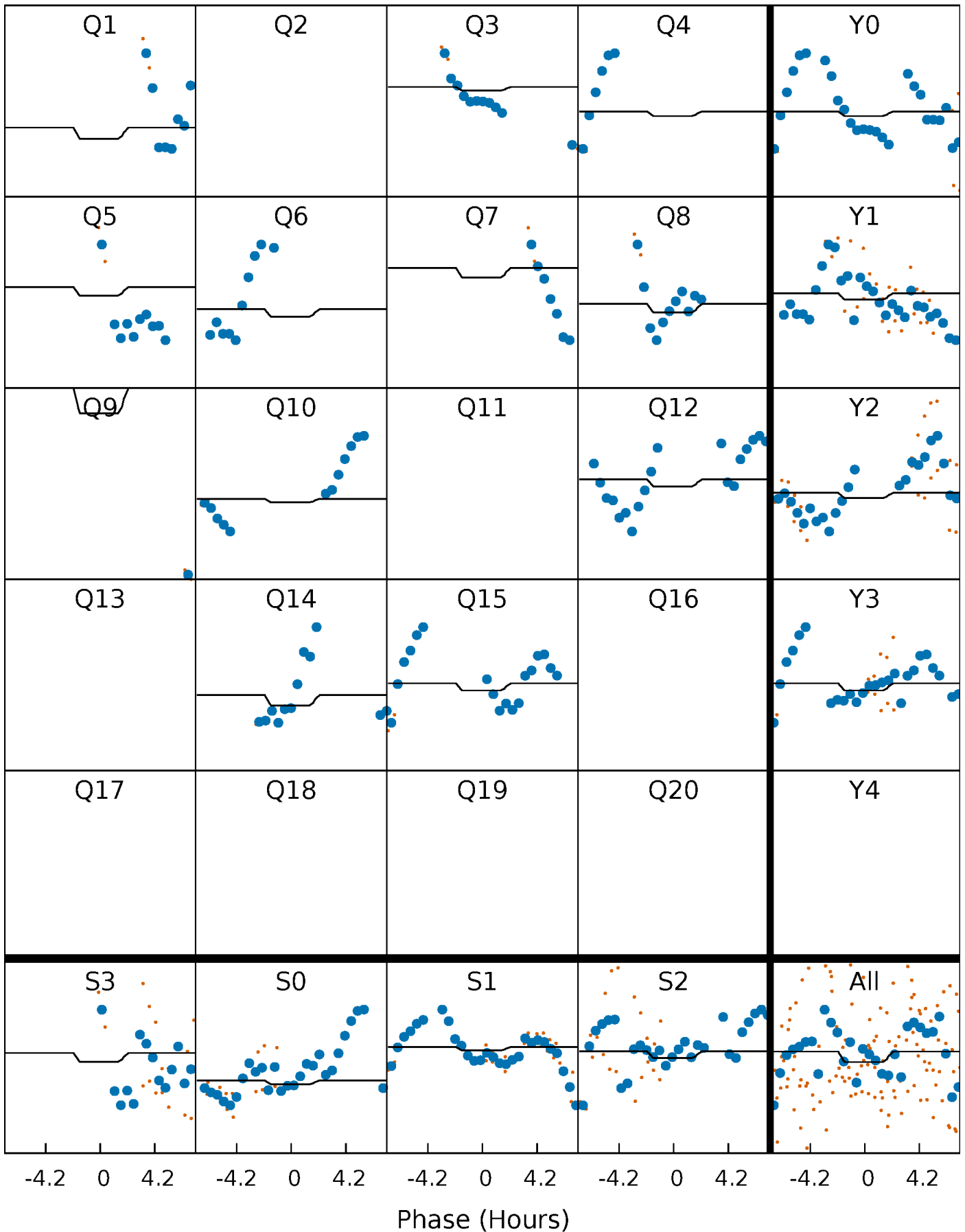
DV Quarter-Phased Transit Curves

TCE 006515722-06 P= 35.852419 Days $T_0=138.194916$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

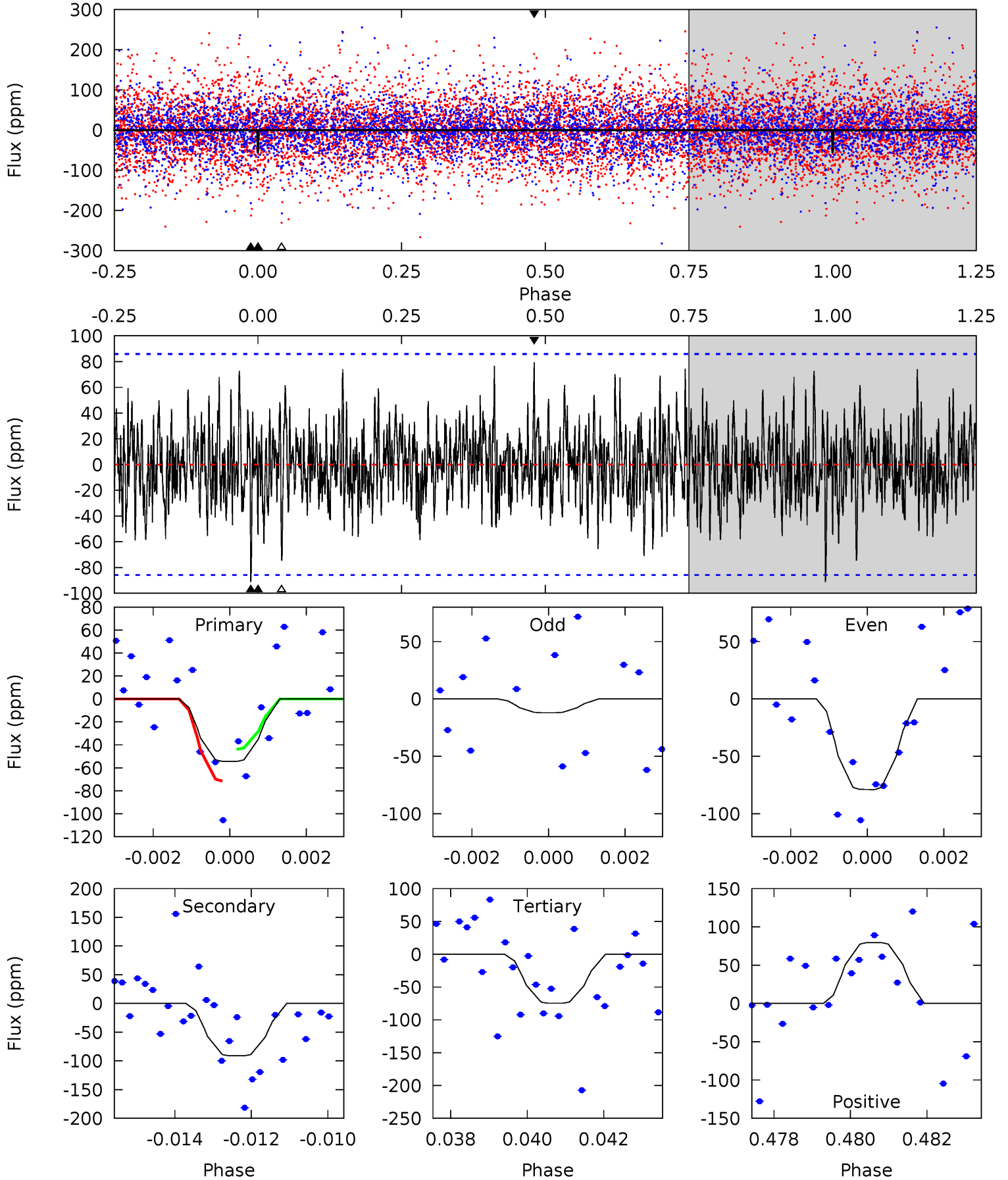
TCE 006515722-06 $P = 35.851594$ Days $T_0 = 138.220242$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-06, P = 35.852419 Days, E = 102.342497 Days

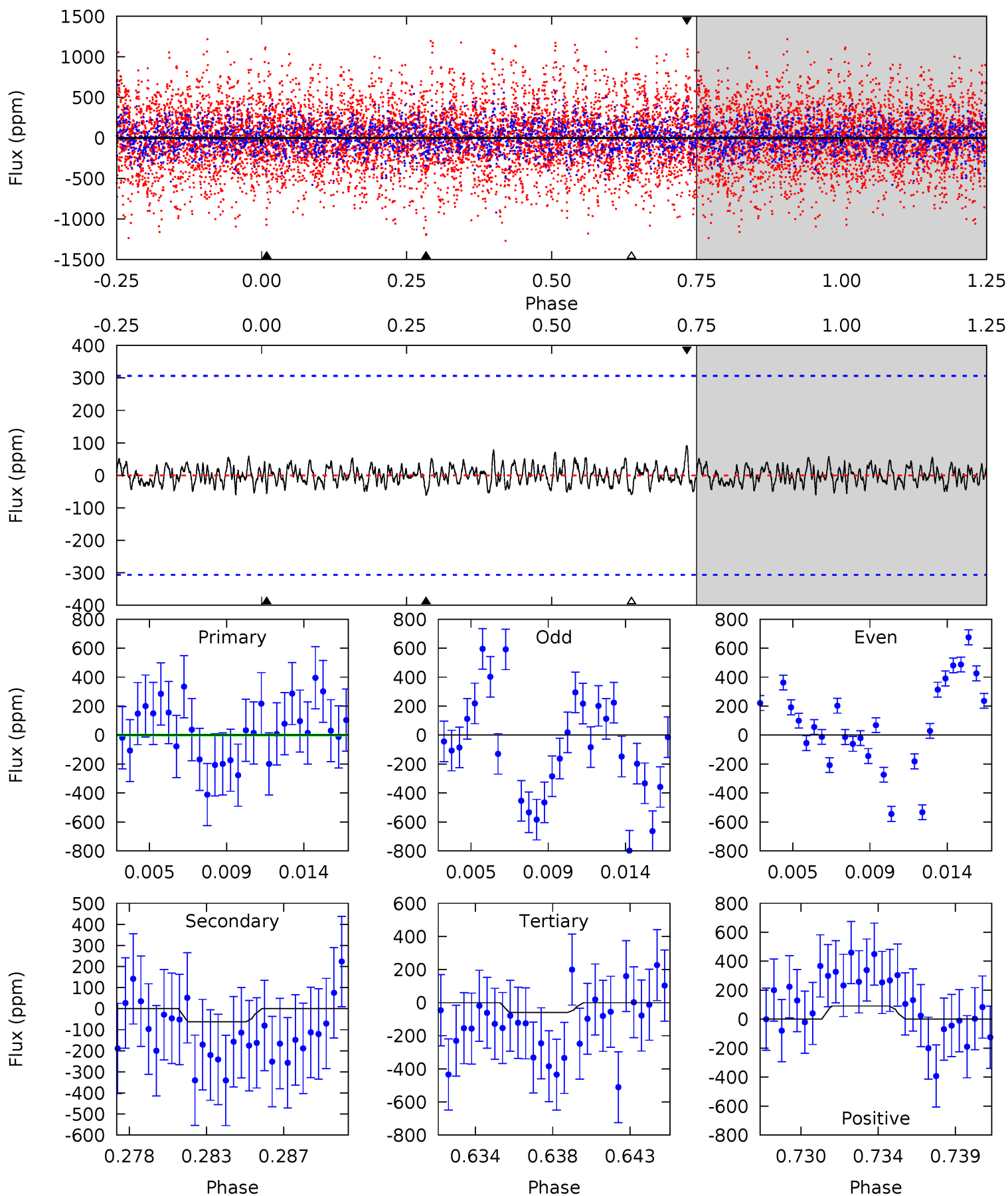
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.37	5.66	4.63	4.93	5.33	3.09	1.45	-1.26	-1.56	1.03	0.73	1.88	0.71	0.47	0.86



Alt Model-Shift Uniqueness Test

006515722-06, P = 35.851594 Days, E = 102.368648 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.95	1.06	1.01	1.54	5.17	2.84	0.42	-0.06	-0.59	0.04	-0.49	0.35	0.91	0.59	0.47



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-91 ± 16	$3.39^{+3.50}_{-2.14}$	1666^{+142}_{-144}	7463^{+9010}_{-2185}	324^{+2011}_{-242}
Alt.	-62 ± 59	$3.51^{+3.45}_{-2.38}$	1656^{+136}_{-132}	6229^{+7012}_{-2586}	177^{+1519}_{-168}

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 $A_{obs} \gg 1.0$

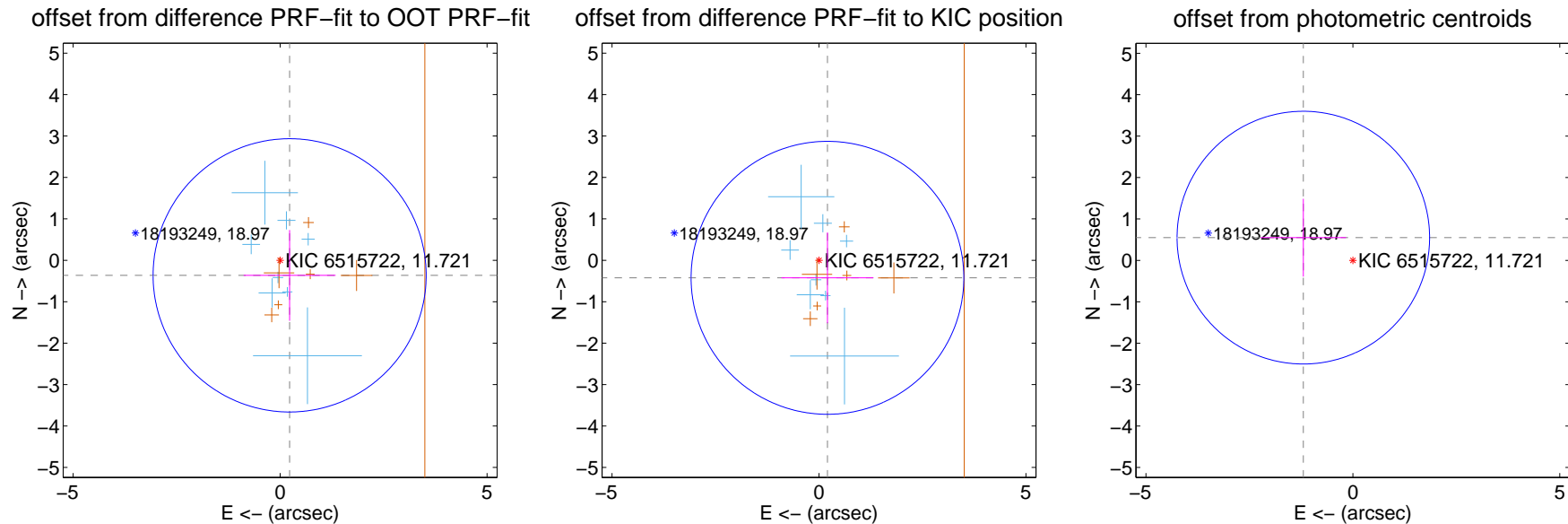
DV Centroid Data

Supplemental centroid analysis for 006515722-06. **Kepler magnitude: 11.72.** Transit SNR 4.80

There are 8 quarters with good PRF difference image offsets

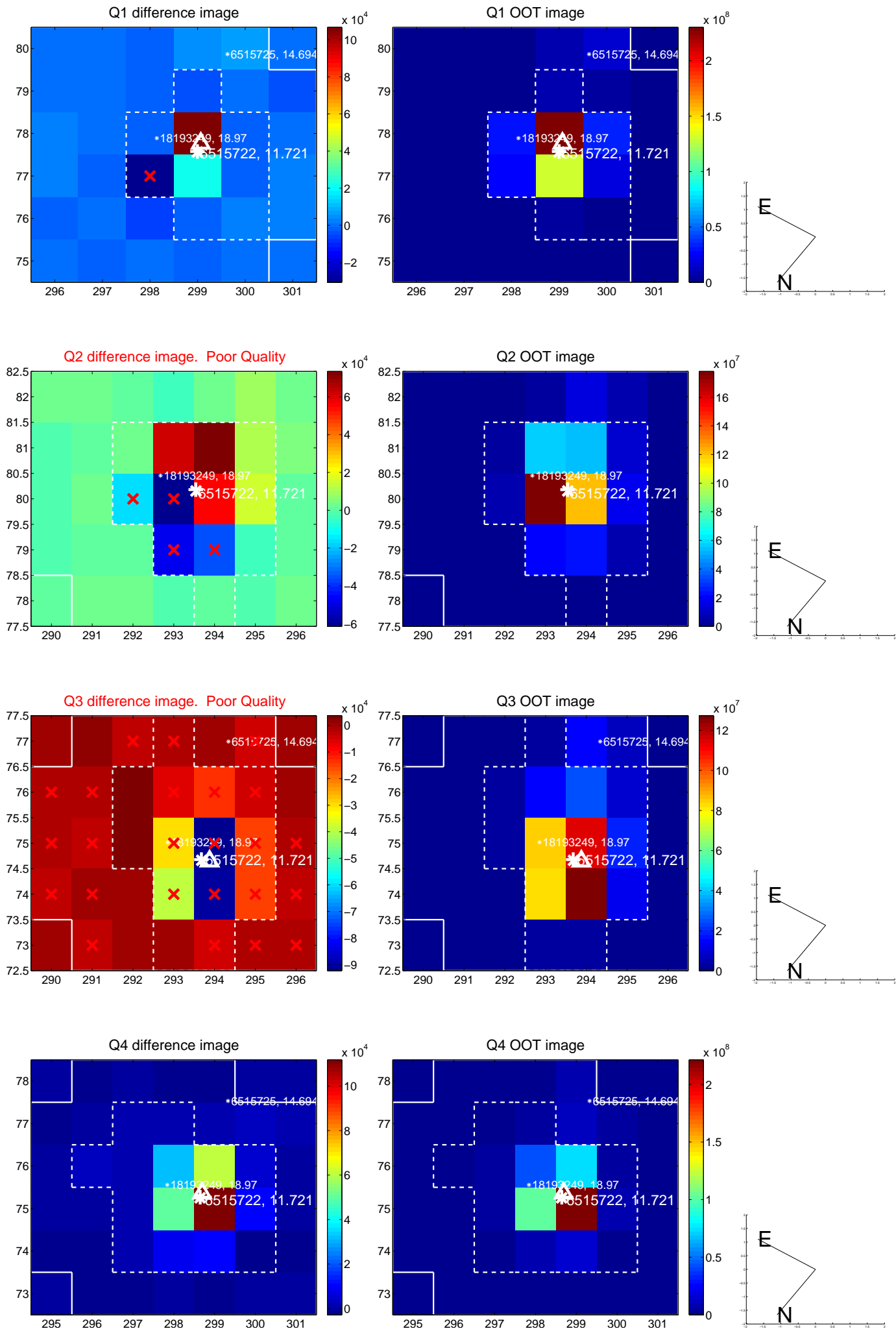
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.430 ± 1.100	0.39	-0.230 ± 1.110	-0.364 ± 1.095
PRF-fit source offset from KIC position	0.470 ± 1.098	0.43	-0.205 ± 1.110	-0.423 ± 1.095
photometric centroid source offset	1.32 ± 1.02	1.29	1.20 ± 1.03	0.55 ± 0.94

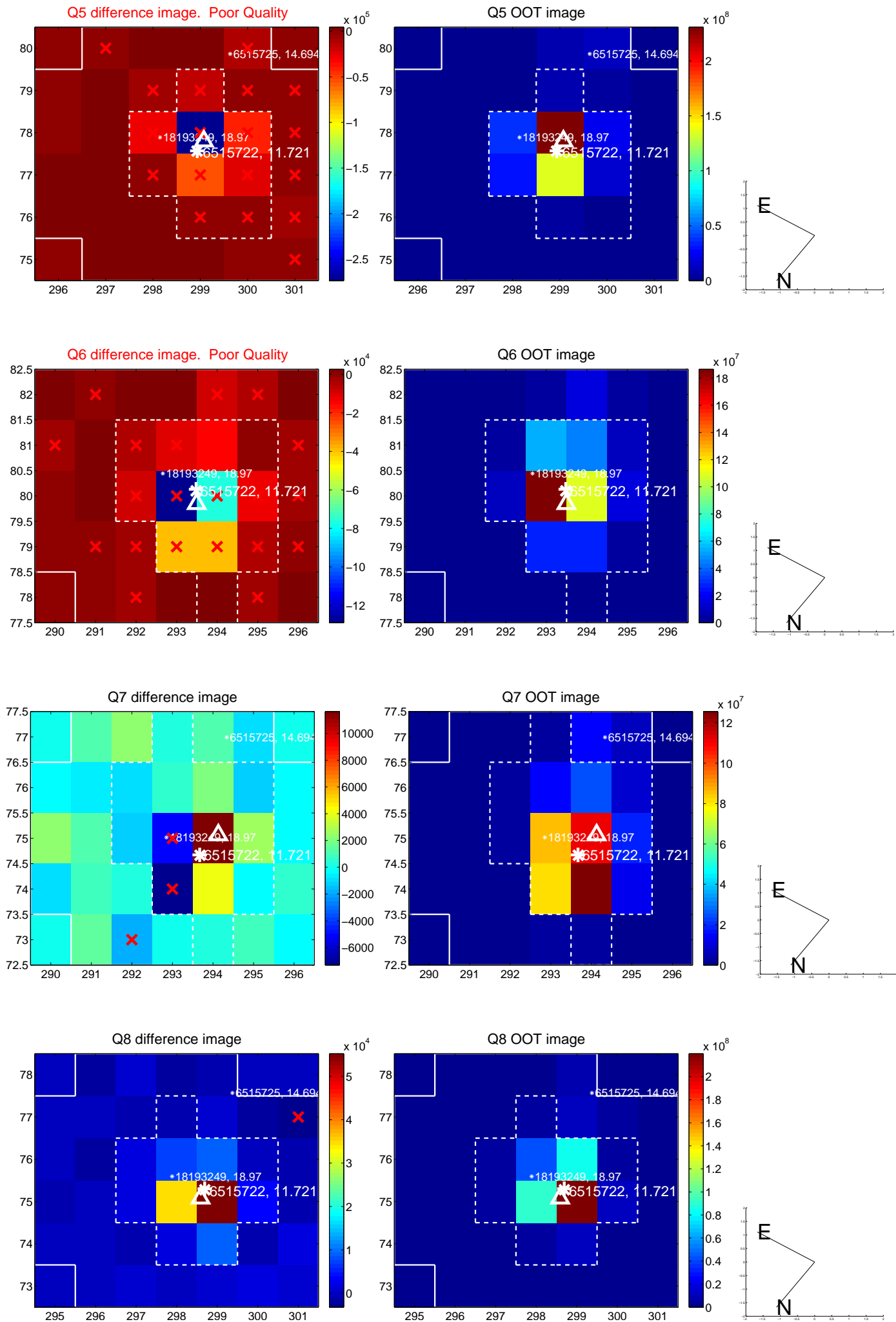


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

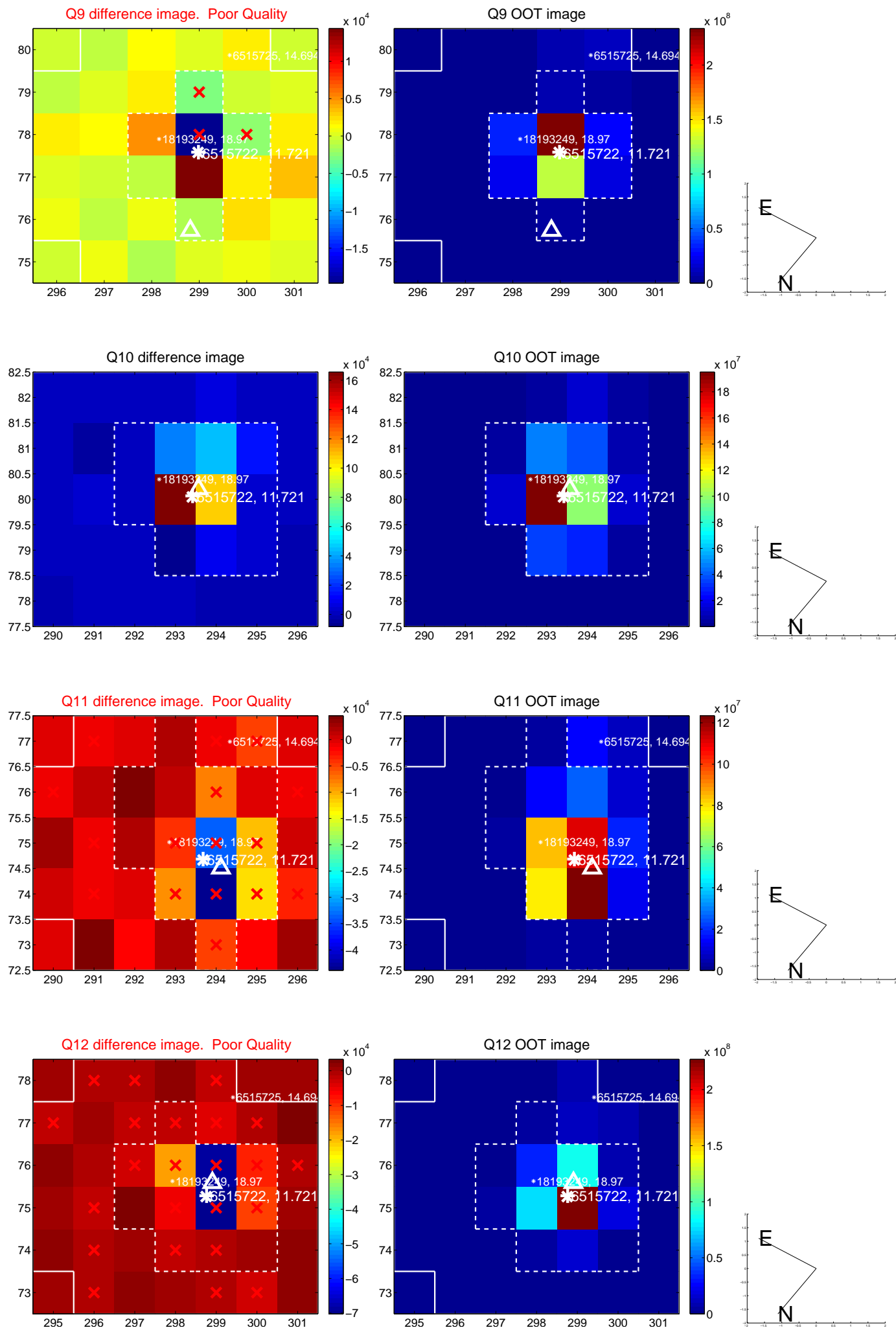
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



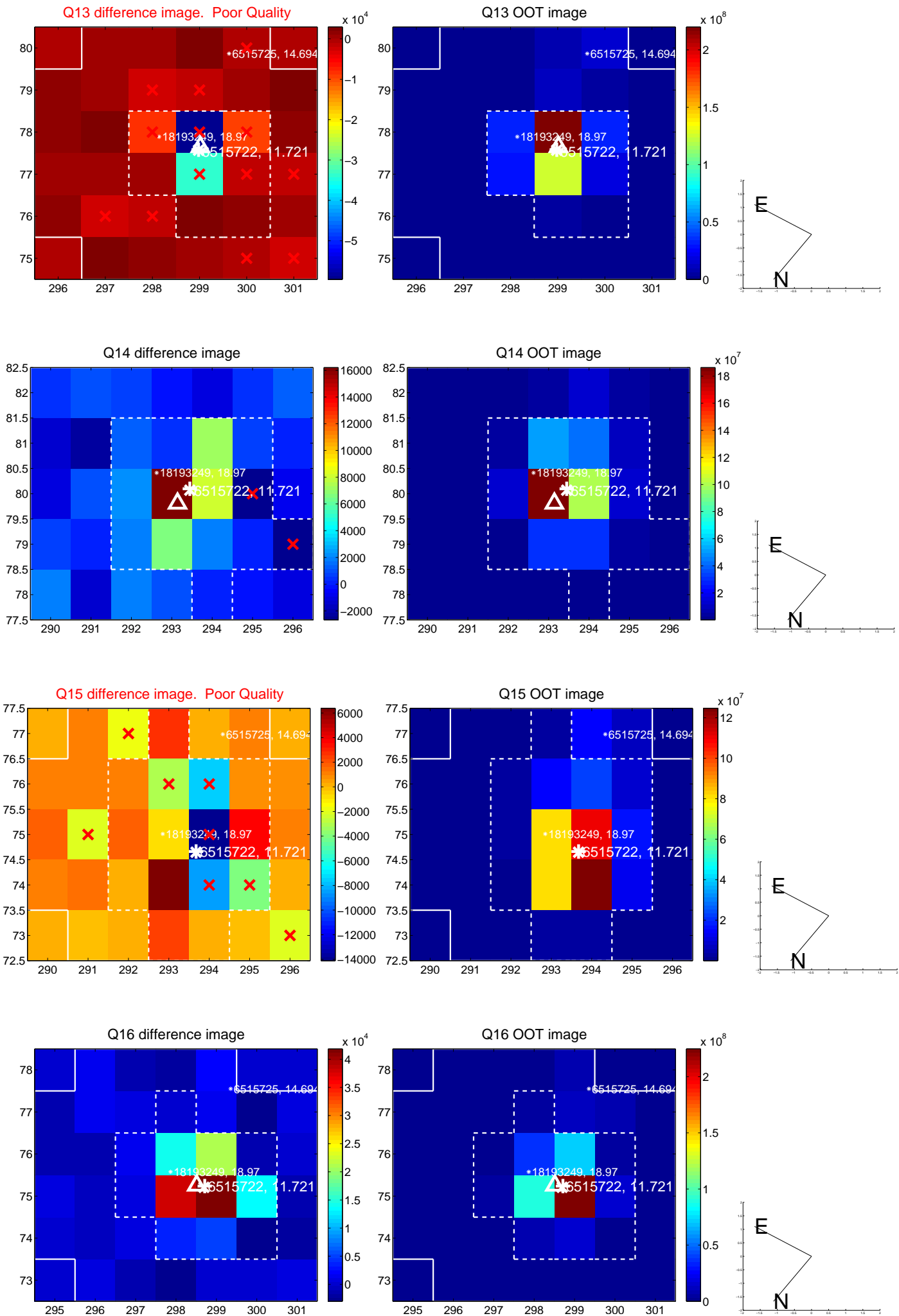
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



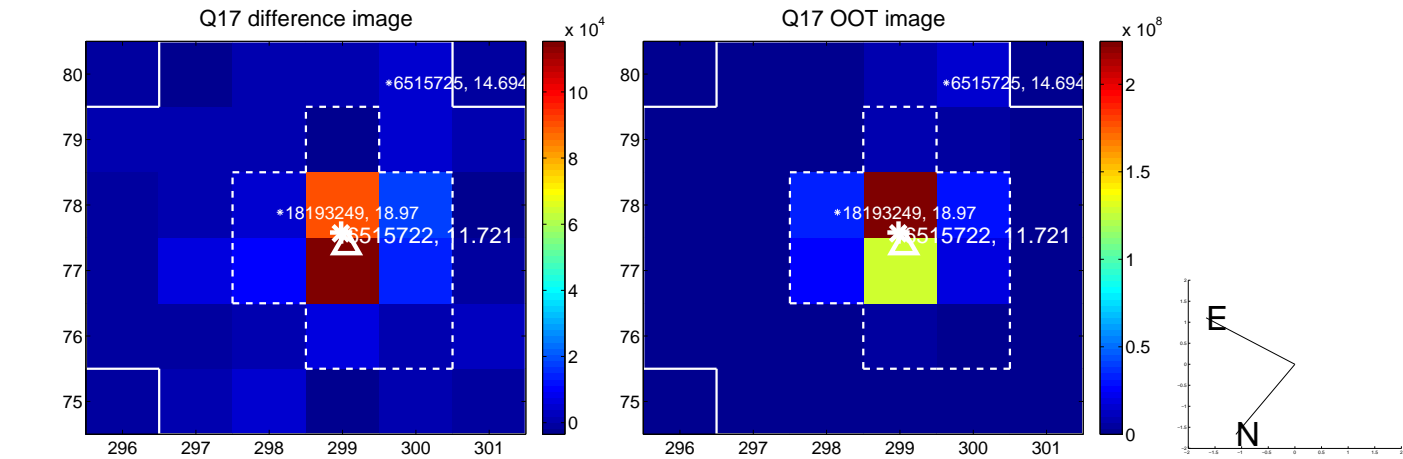
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



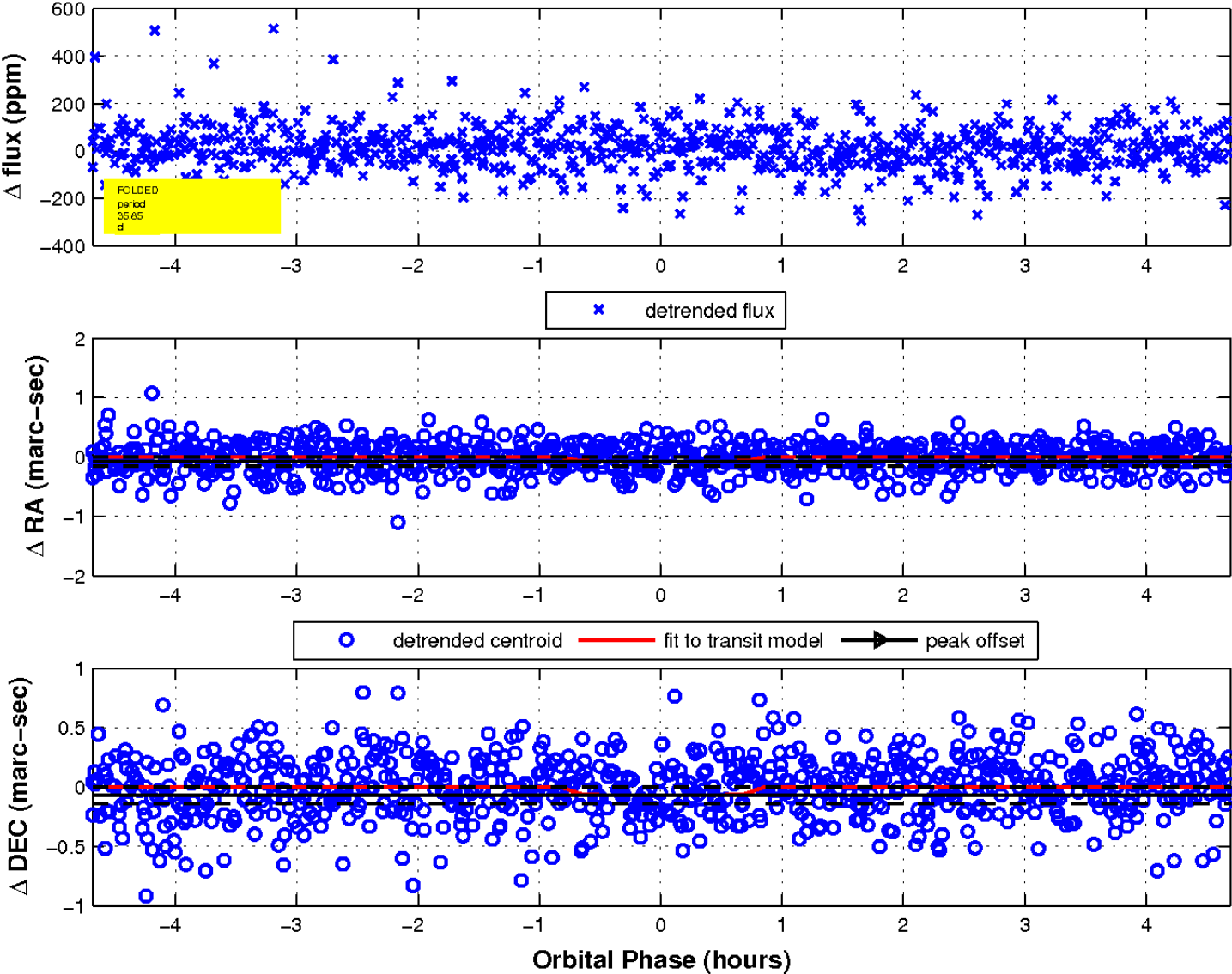
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



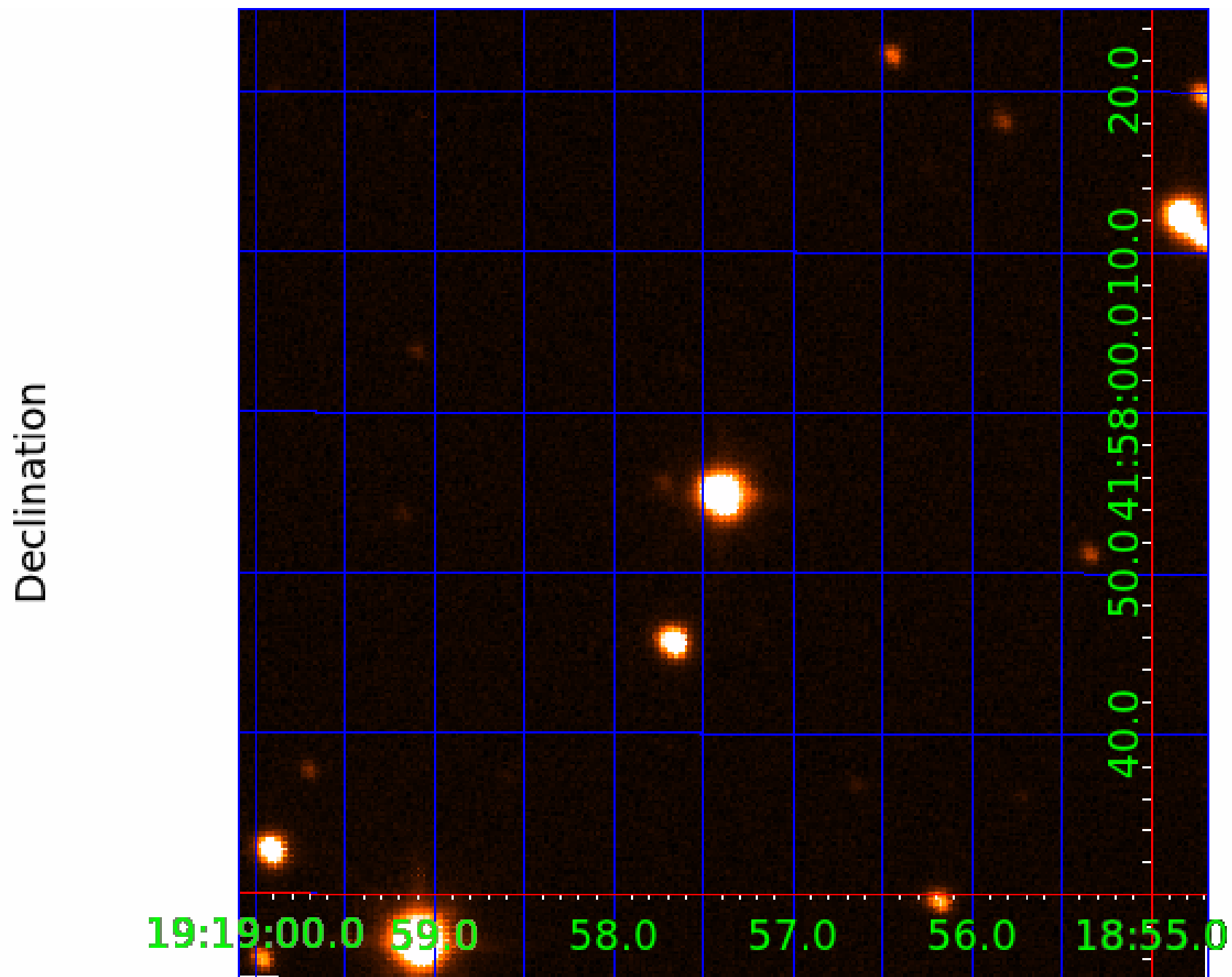
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 6 of 9



UKIRT Image



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})
006515722-01	OBS	No	3.816948	131.795010	115.5	4.367	33.7	44.8	2.47	9174	3.06	9744.42
006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
006515722-03	OBS	3818.01	1.908478	131.784896	26.8	13.210	14.8	12.7	2.47	9174	1.47	24554.33
006515722-04	OBS	No	65.907630	178.450869	206.8	5.112	15.0	13.4	2.47	9174	4.71	218.34
006515722-05	OBS	No	44.244481	166.353563	195.8	2.135	14.8	12.3	2.47	9174	3.85	371.45
006515722-06	OBS	No	35.852419	138.194916	73.8	1.567	12.1	4.8	2.47	9174	2.29	491.68
006515722-07	OBS	No	71.694191	174.649085	150.8	3.600	12.2	10.3	2.47	9174	3.54	195.16
006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
006515722-09	OBS	No	34.261551	155.046315	119.1	3.146	11.3	11.8	2.47	9174	3.02	522.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006515722-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

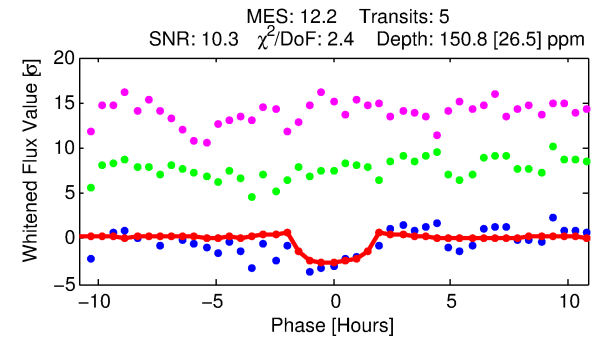
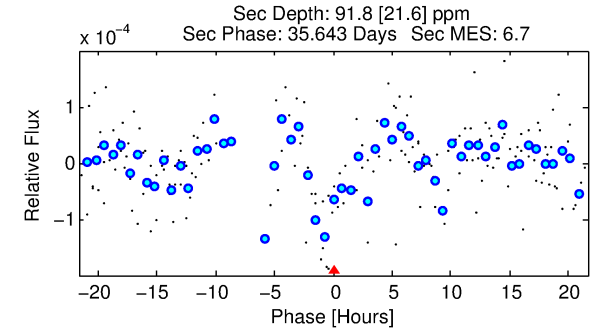
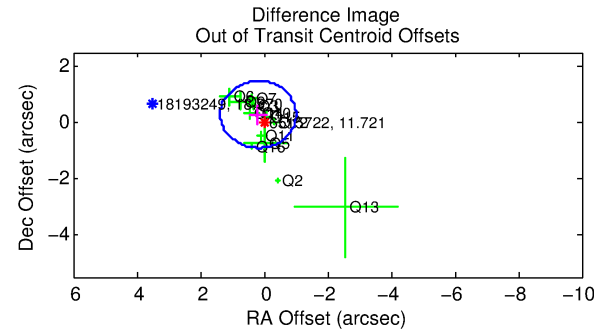
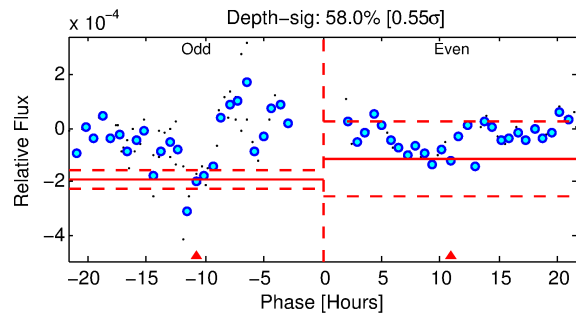
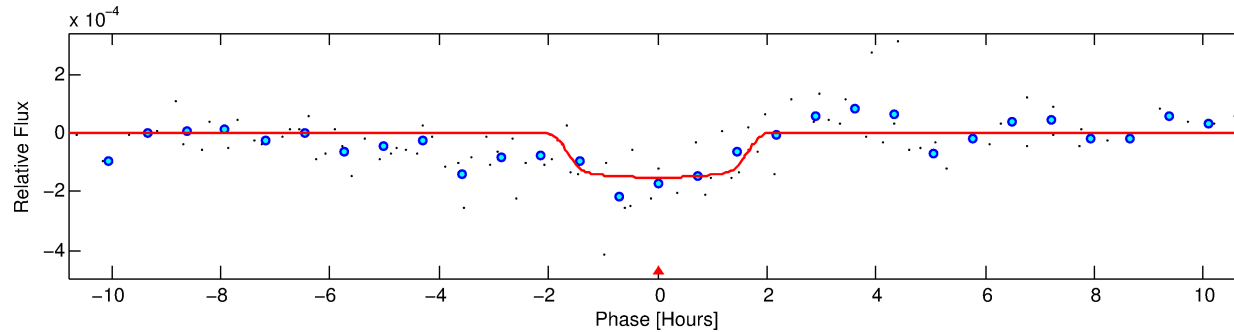
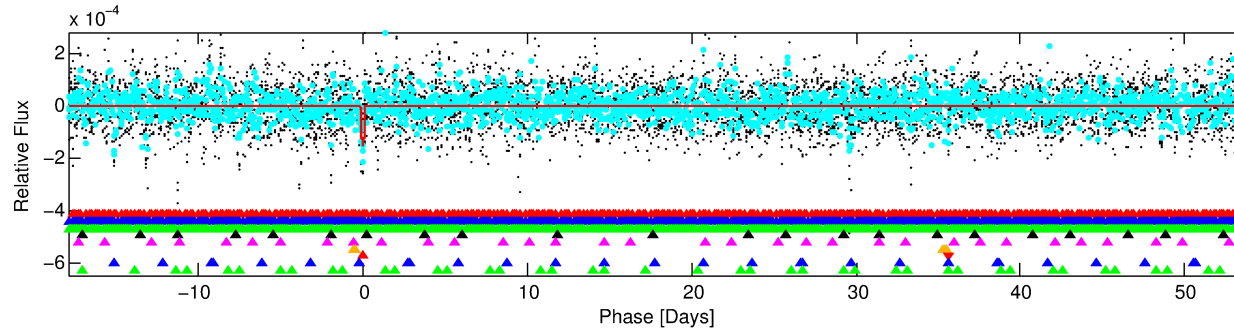
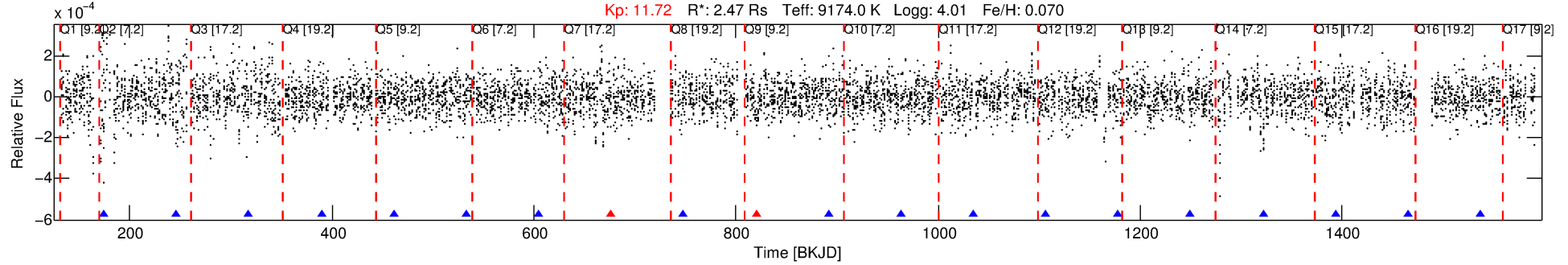
Ephemeris Match Information For 006515722-07

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 7 of 9 Period: 71.694 d
KOI: K03818 Corr: No Ephemeris Match

Kp: 11.72 R*: 2.47 Rs Teff: 9174.0 K Logg: 4.01 Fe/H: 0.070



DV Fit Results:

Period = 71.69419 [0.00090] d
Epoch = 174.6491 [0.0102] BKJD
Rp/R* = 0.0131 [0.0037]
a/R* = 65.72 [125.01]
b = 0.92 [0.33]
Seff = 195.16 [85.45]
Teq = 953 [104] K
Rp = 3.54 [1.53] Re
a = 0.4456 [0.1219] AU
Ag = 802.28 [583.53] [1.37σ]
Teffp = 7842 [1252] K [5.48σ]

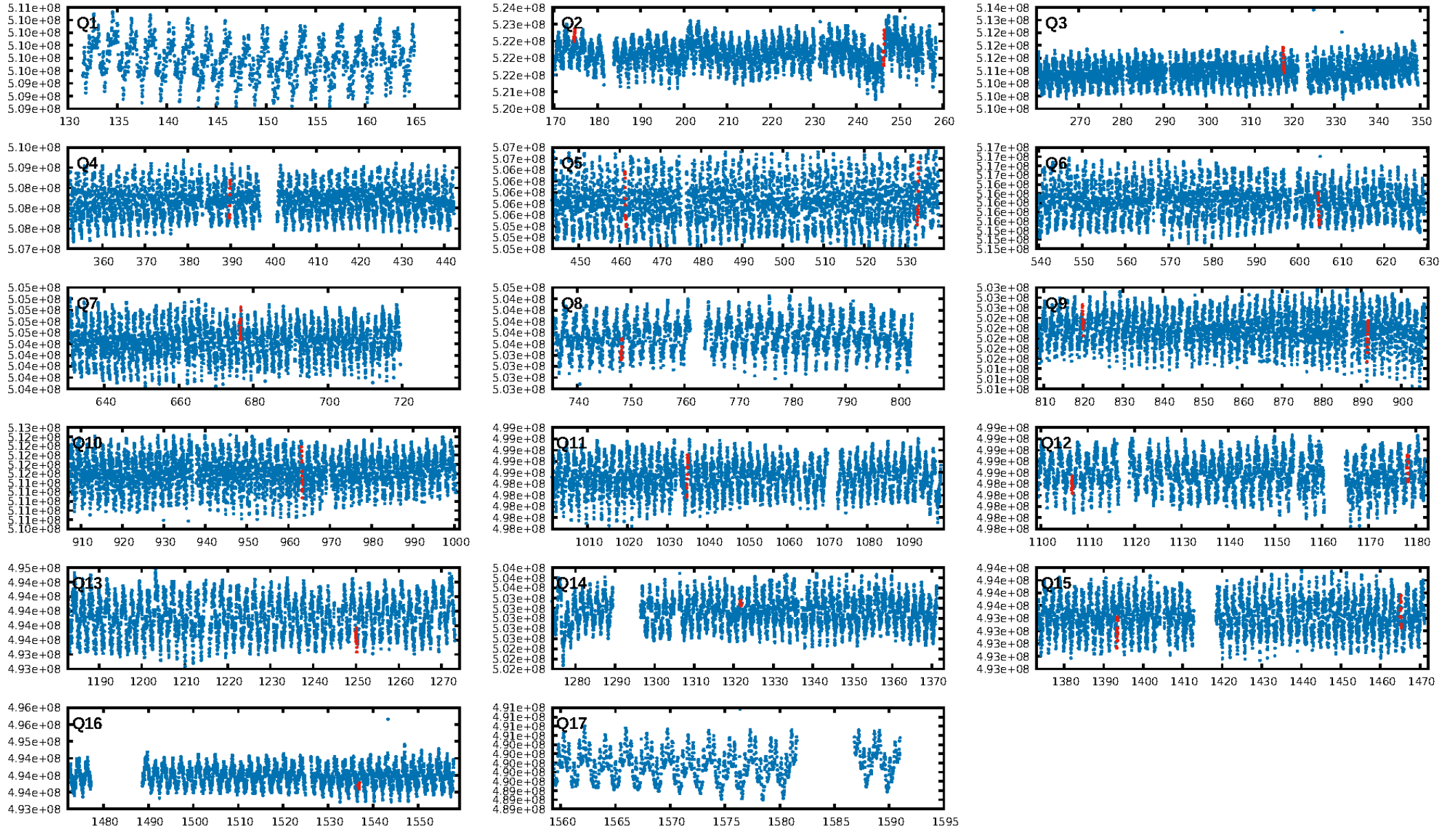
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 93.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.60 [3/5]
GhostDiagnostic-chr: -0.9595
Centroid-sig: 20.9%
Centroid-so: 0.516 arcsec [1.00σ]
OotOffset-rm: 0.340 arcsec [0.86σ]
OotOffset-st: 4/4/2/3 [13]
KicOffset-rm: 0.313 arcsec [0.90σ]
KicOffset-st: 4/4/2/3 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 0.47 [7/15]

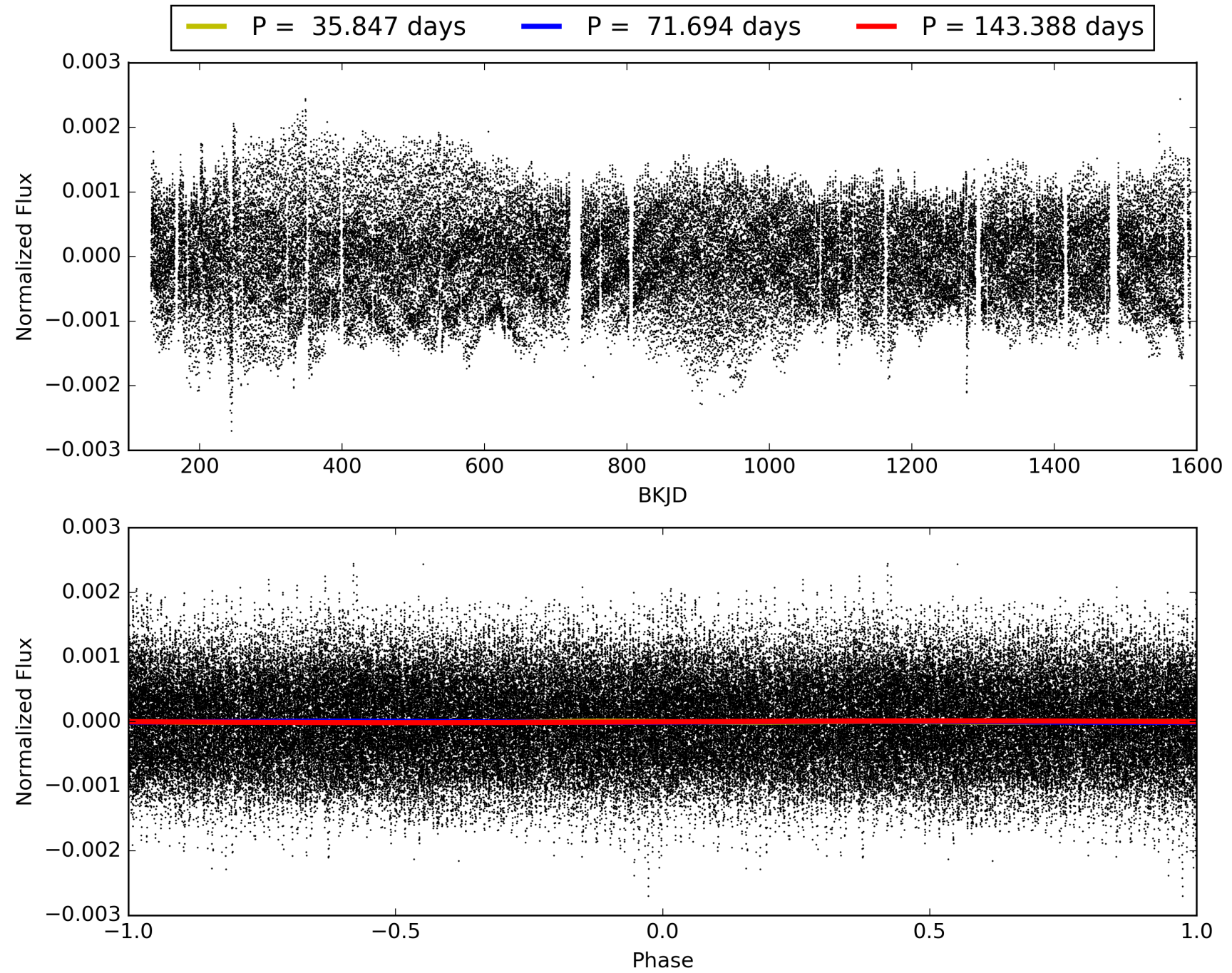
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:18:31 Z

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

TCE 006515722-07, PDC Light Curves

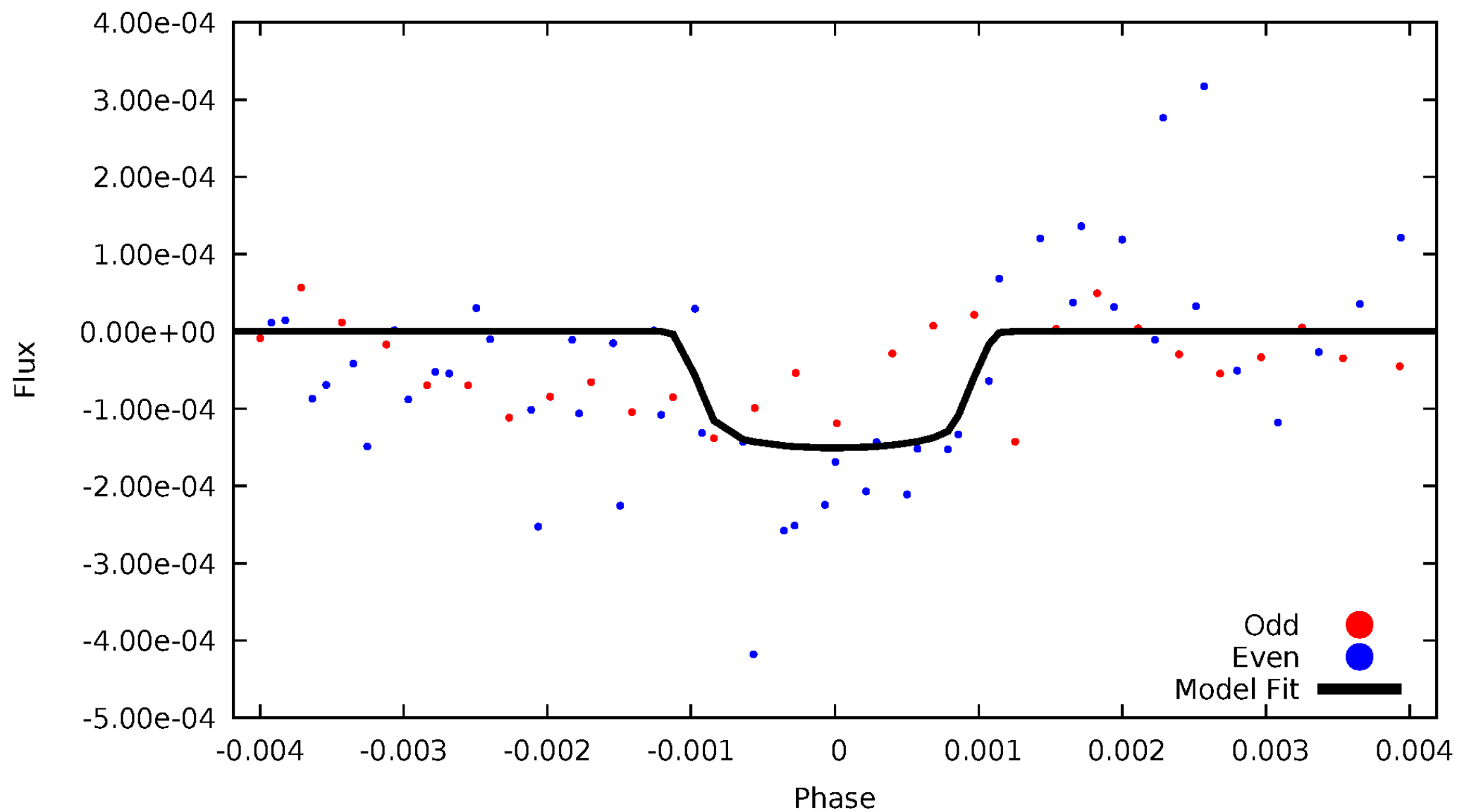


TCE 006515722-07



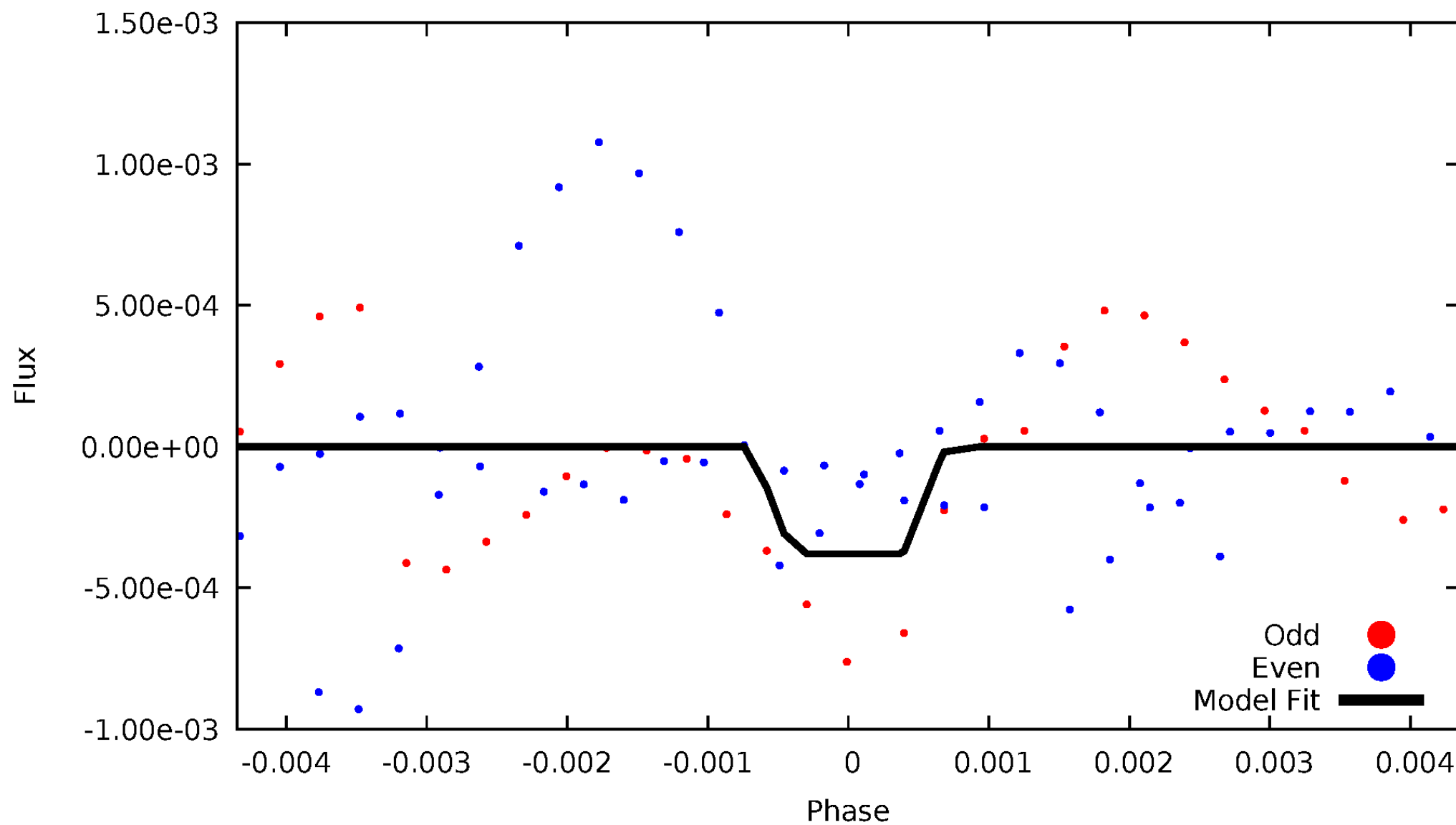
DV Odd/Even

TCE 006515722-07



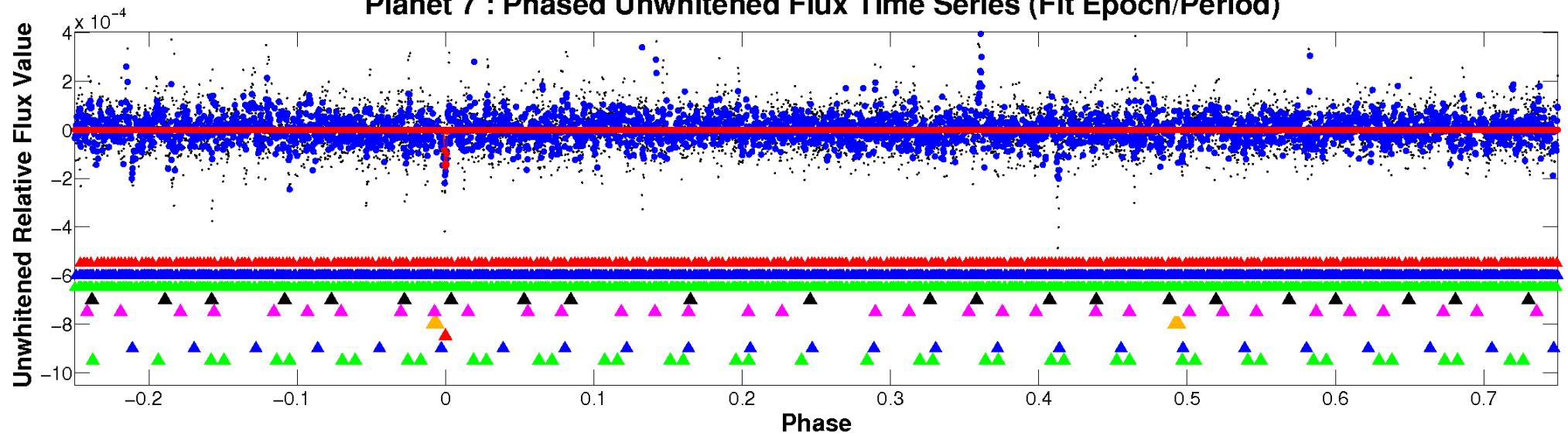
ALT Odd/Even

TCE 006515722-07

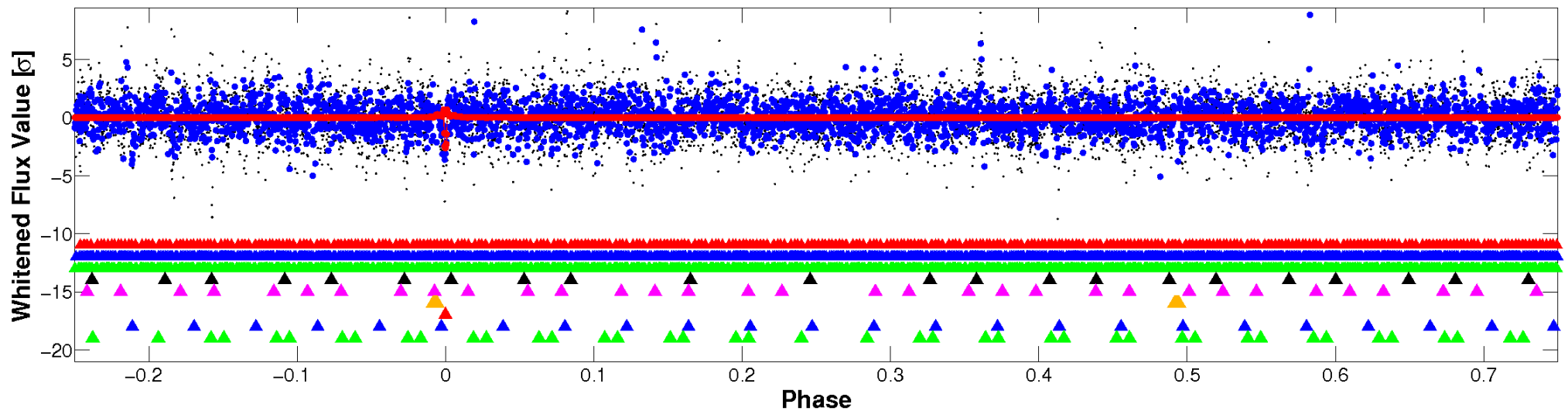


Non-Whitened Vs. Whitened Light Curve

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

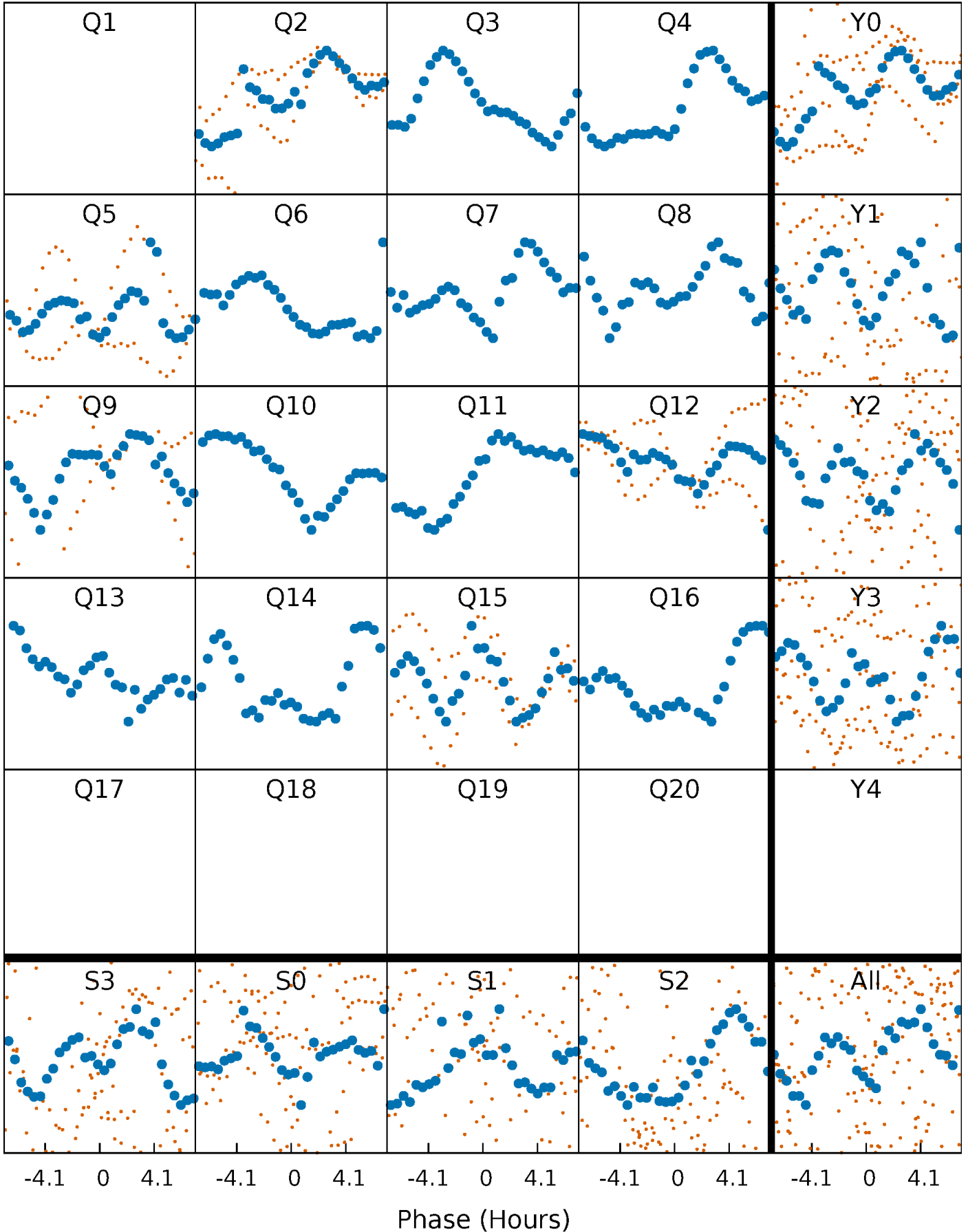


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



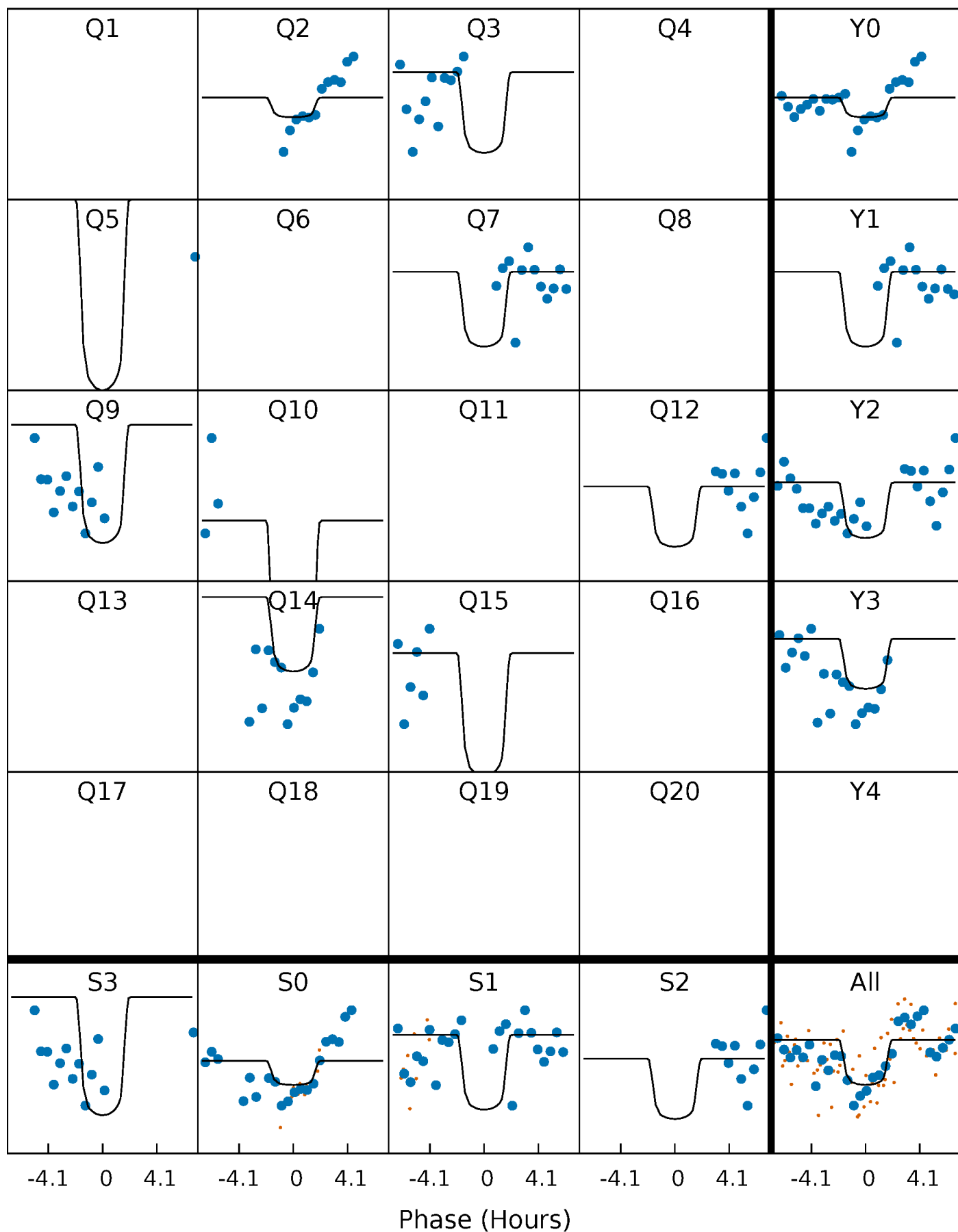
PDC Quarter-Phased Transit Curves

TCE 006515722-07 P= 71.694191 Days $T_0=174.649084$ (BKJD)



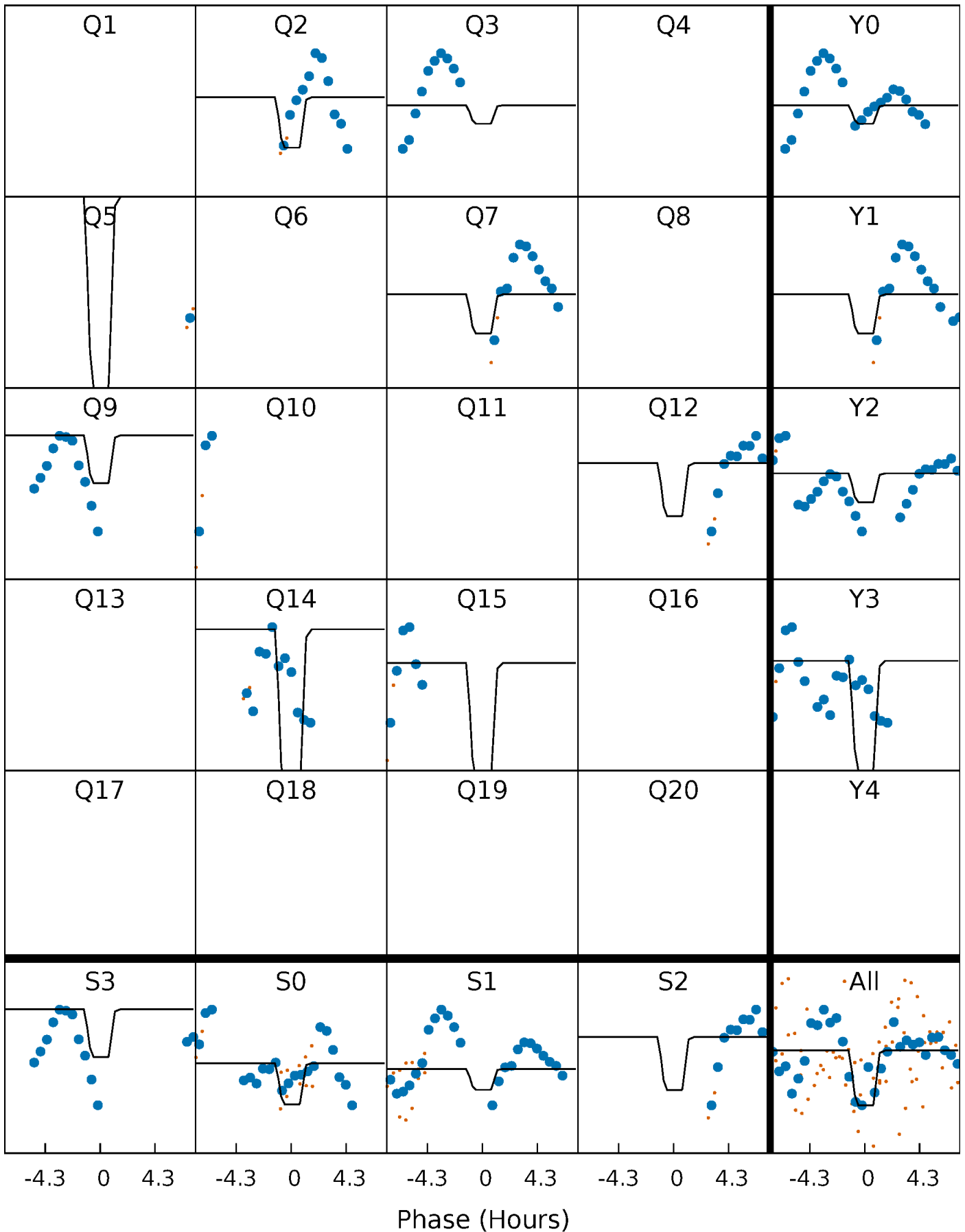
DV Quarter-Phased Transit Curves

TCE 006515722-07 P= 71.694191 Days $T_0=174.649084$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

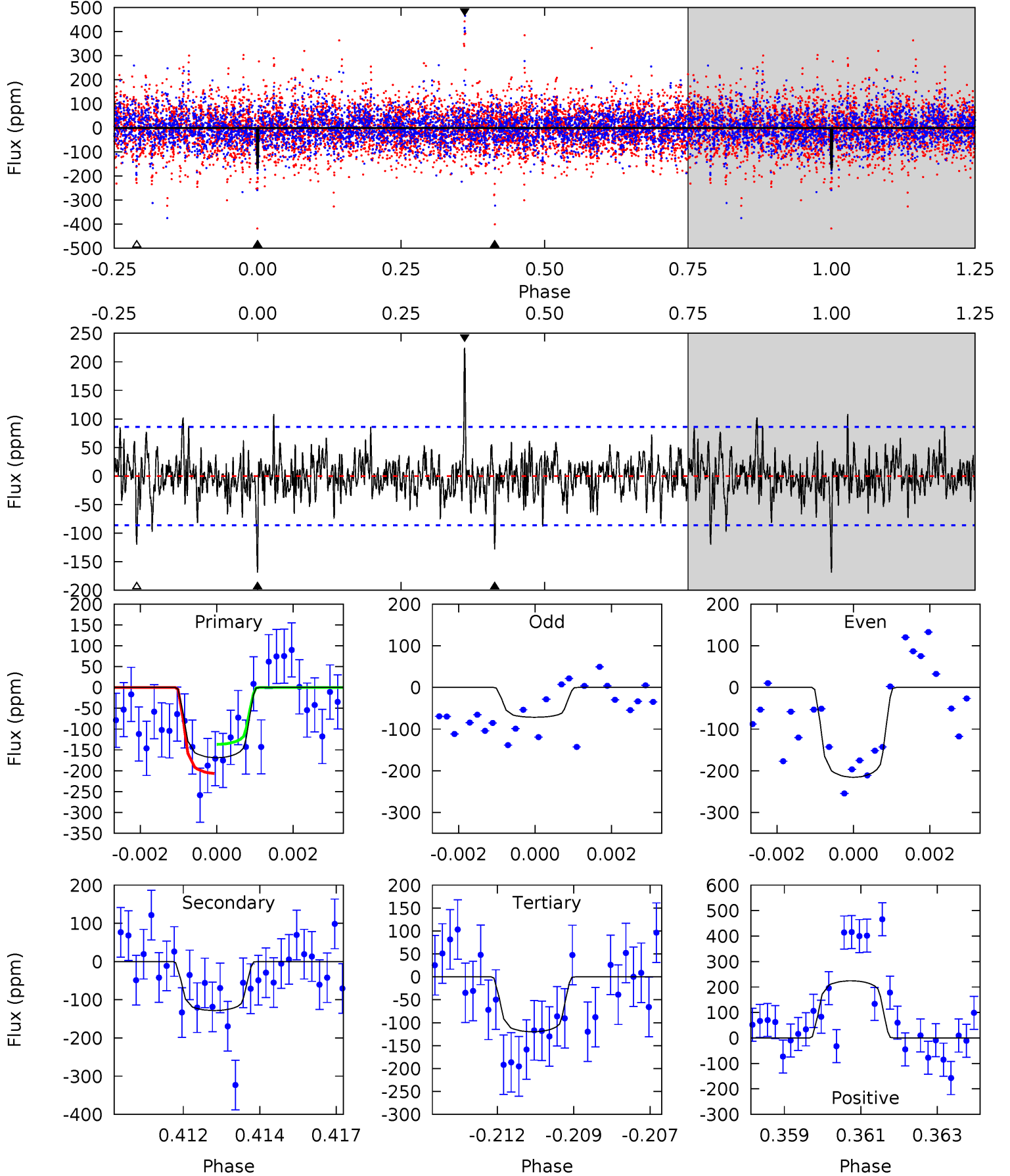
TCE 006515722-07 P= 71.694995 Days $T_0=174.643610$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-07, P = 71.694191 Days, E = 102.954893 Days

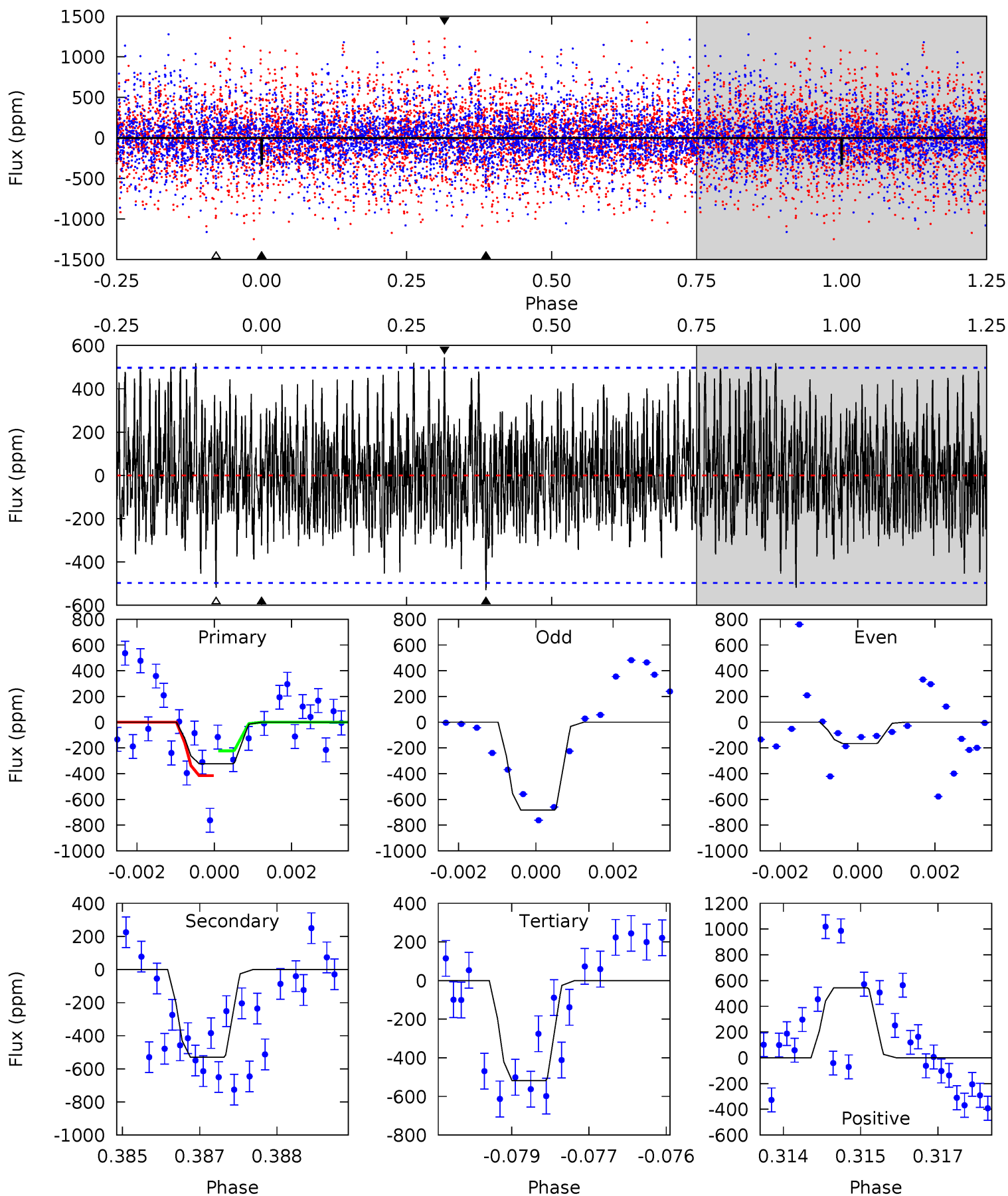
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	7.90	7.39	13.8	5.31	3.06	1.78	3.01	-3.43	0.51	-5.93	4.07	0.86	0.57	2.13



Alt Model-Shift Uniqueness Test

006515722-07, $P = 71.694995$ Days, $E = 102.948615$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.49	5.73	5.61	5.89	5.38	3.17	1.89	-2.12	-2.40	0.12	-0.16	2.54	0.95	0.51	1.03



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-128 ± 16	$3.36^{+1.30}_{-1.06}$	1329^{+112}_{-122}	8288^{+2274}_{-1185}	1169^{+1313}_{-531}
Alt.	-529 ± 92	$5.06^{+1.45}_{-1.31}$	1321^{+111}_{-112}	10338^{+2246}_{-1499}	2181^{+1650}_{-896}

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 $A_{obs} \gg 1.0$

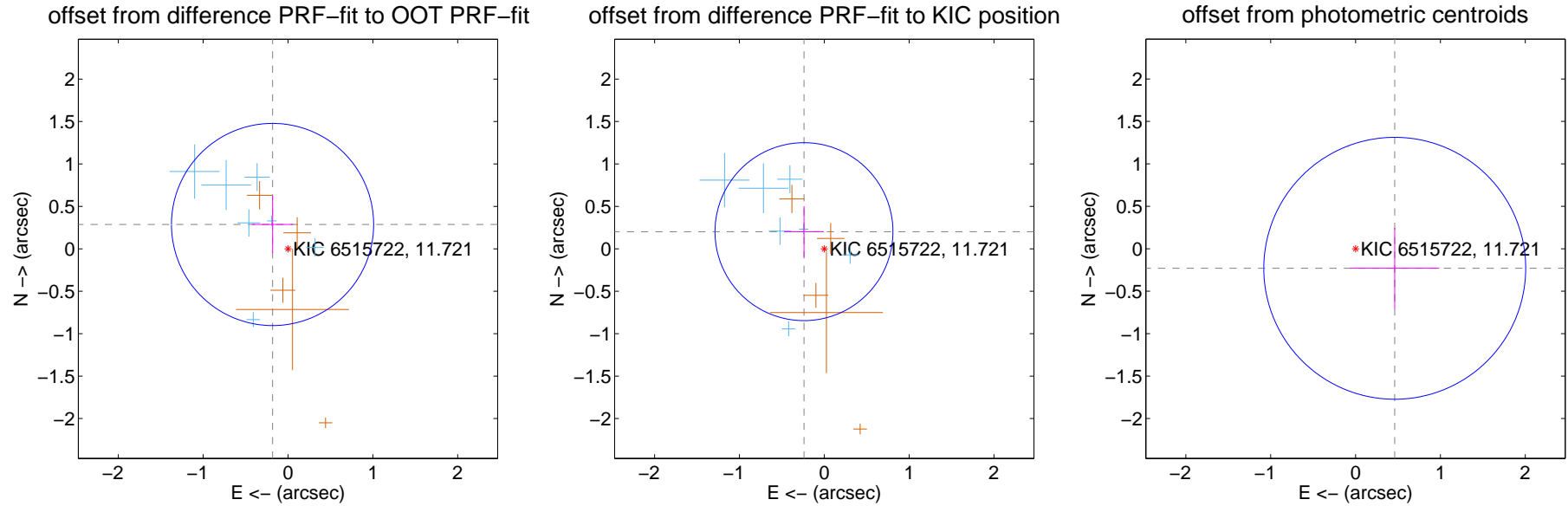
DV Centroid Data

Supplemental centroid analysis for 006515722-07. **Kepler magnitude: 11.72.** Transit SNR 10.26

There are 7 quarters with good PRF difference image offsets

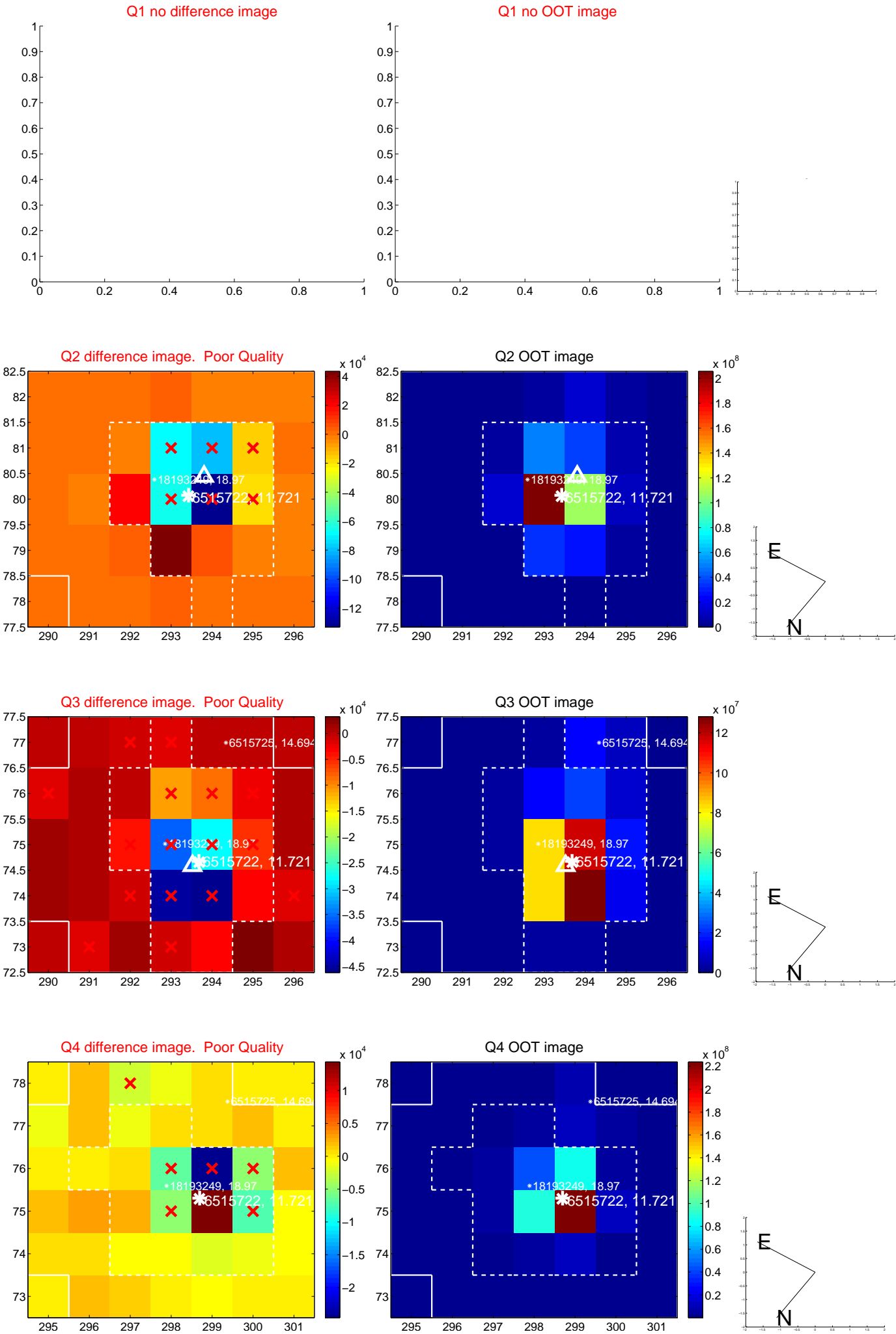
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.340 ± 0.397	0.86	0.182 ± 0.242	0.287 ± 0.336
PRF-fit source offset from KIC position	0.313 ± 0.349	0.90	0.239 ± 0.233	0.202 ± 0.300
photometric centroid source offset	0.52 ± 0.51	1.00	-0.46 ± 0.52	-0.23 ± 0.48

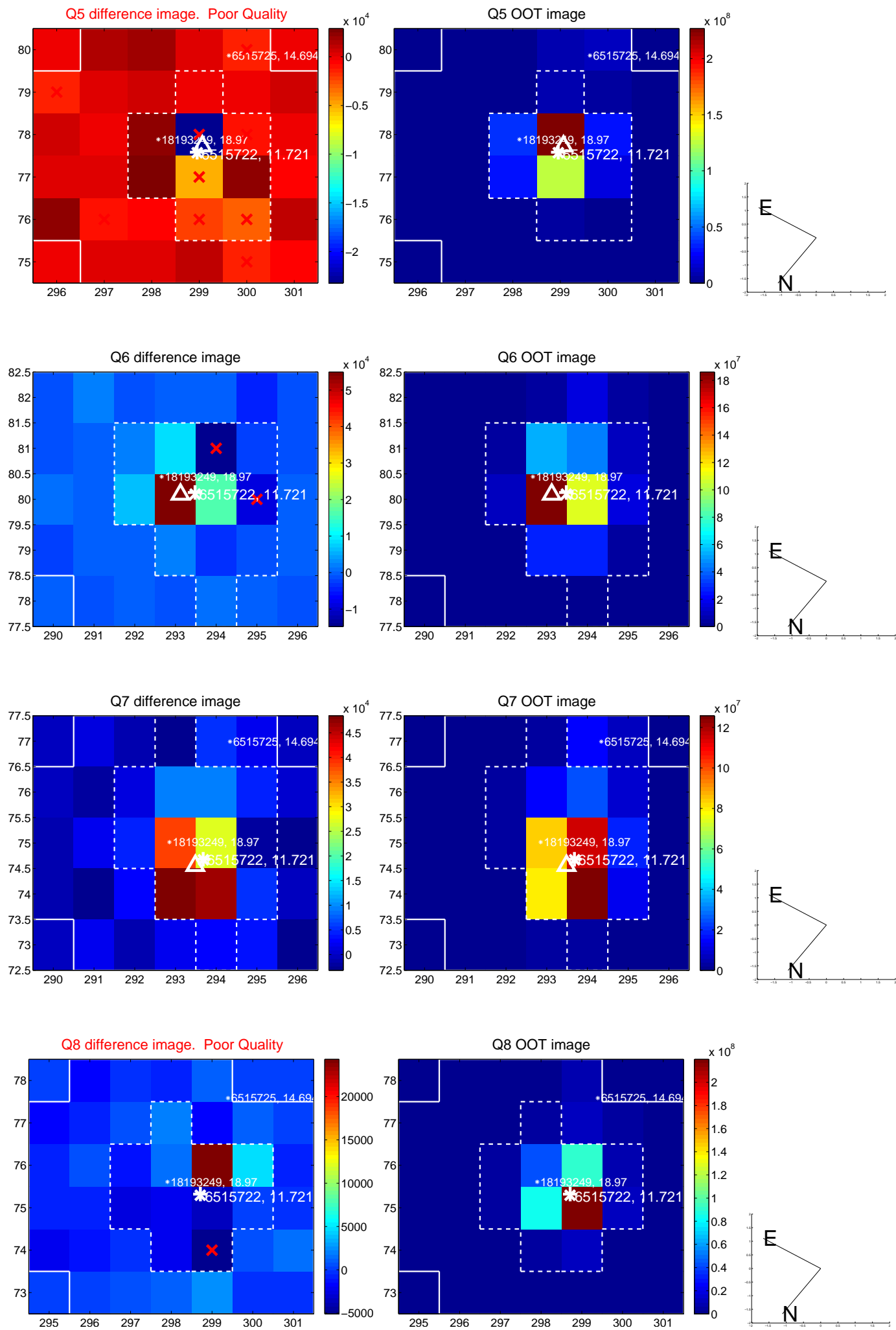


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

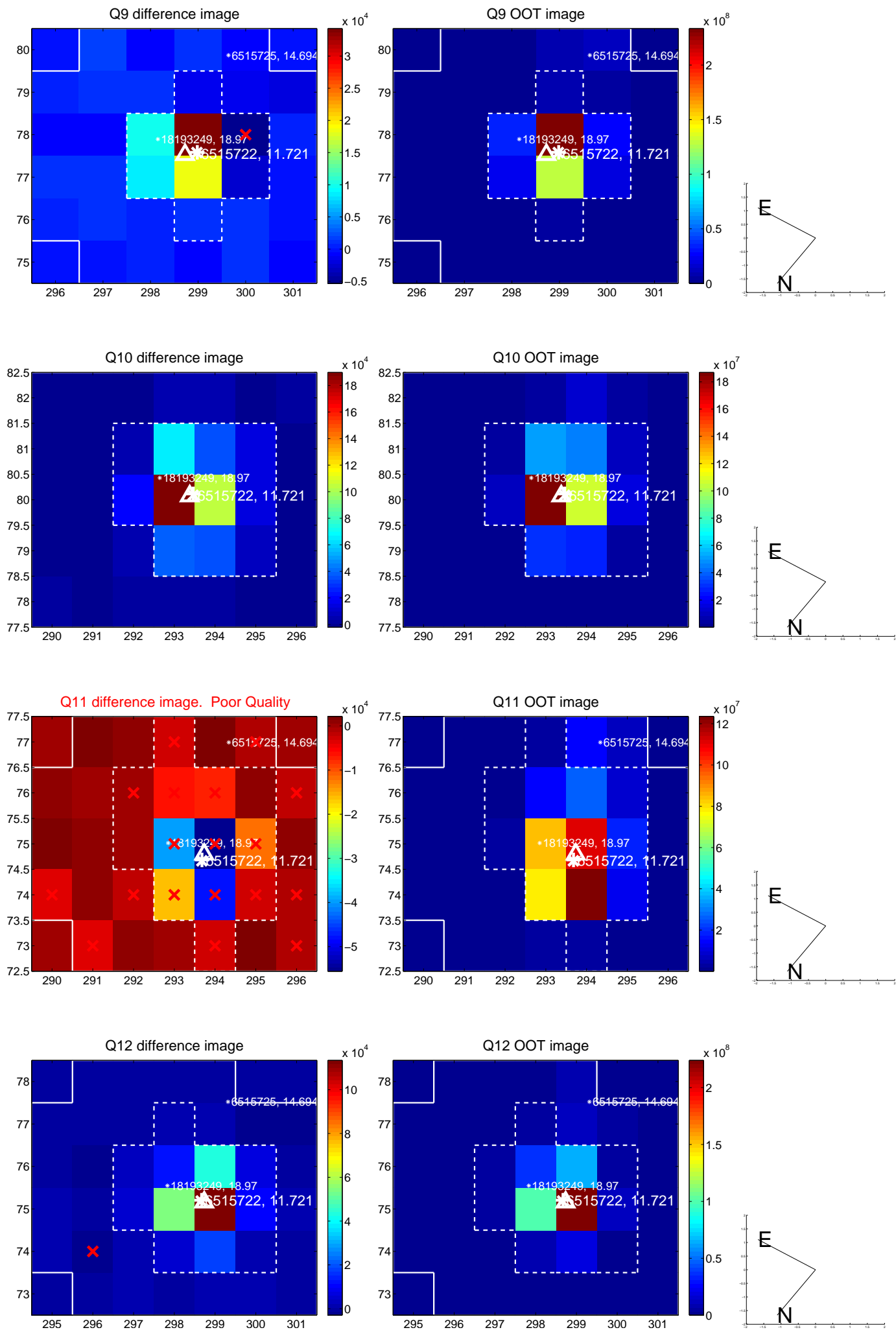
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



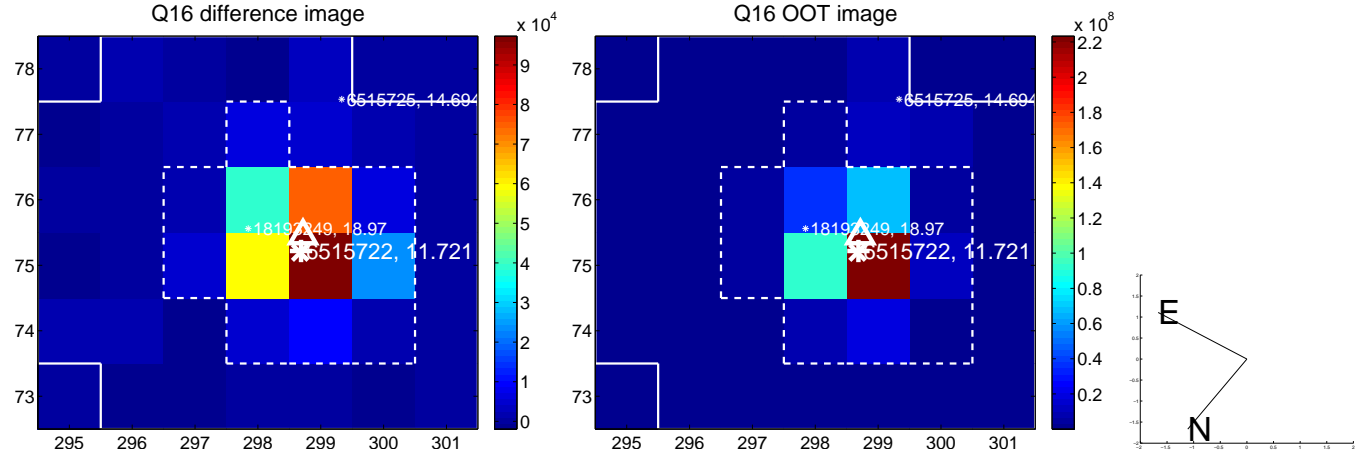
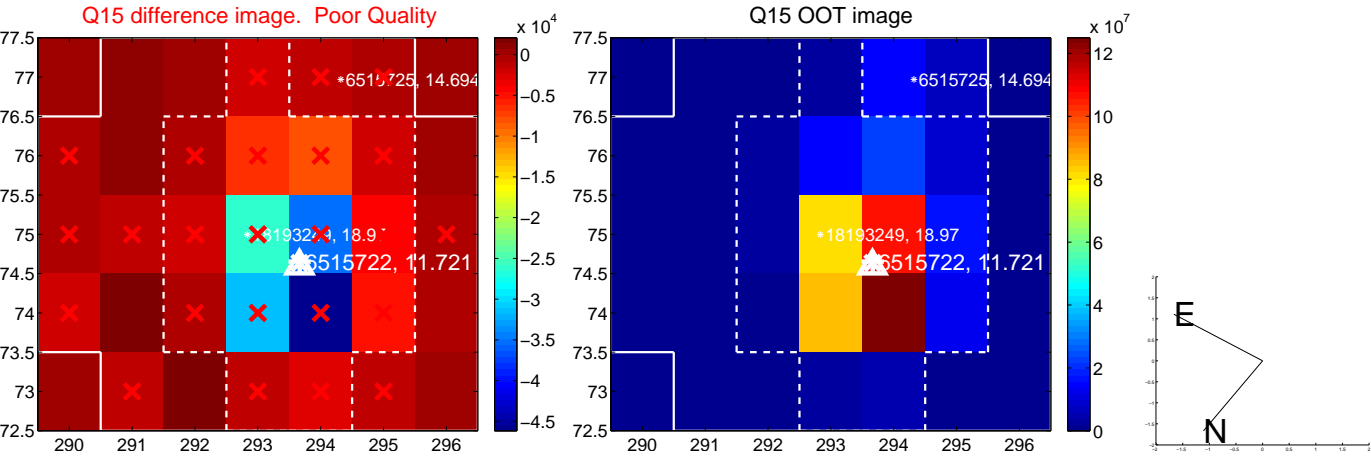
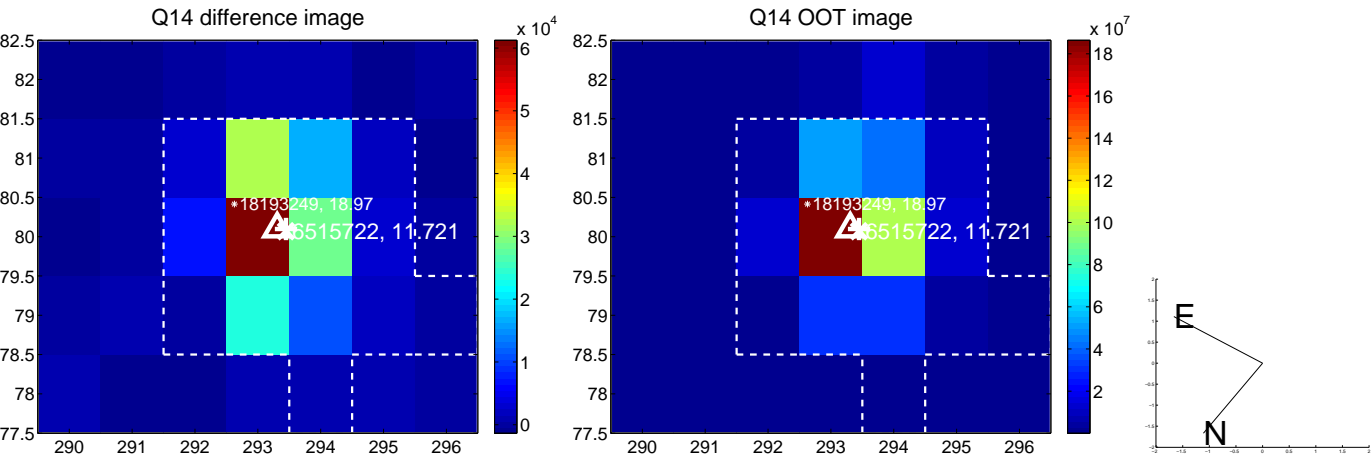
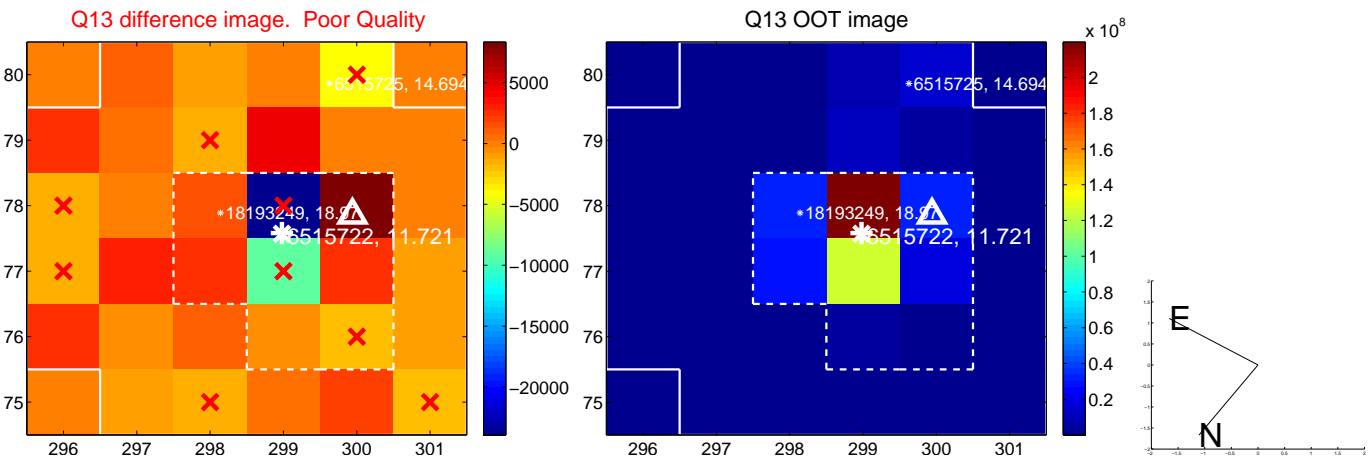
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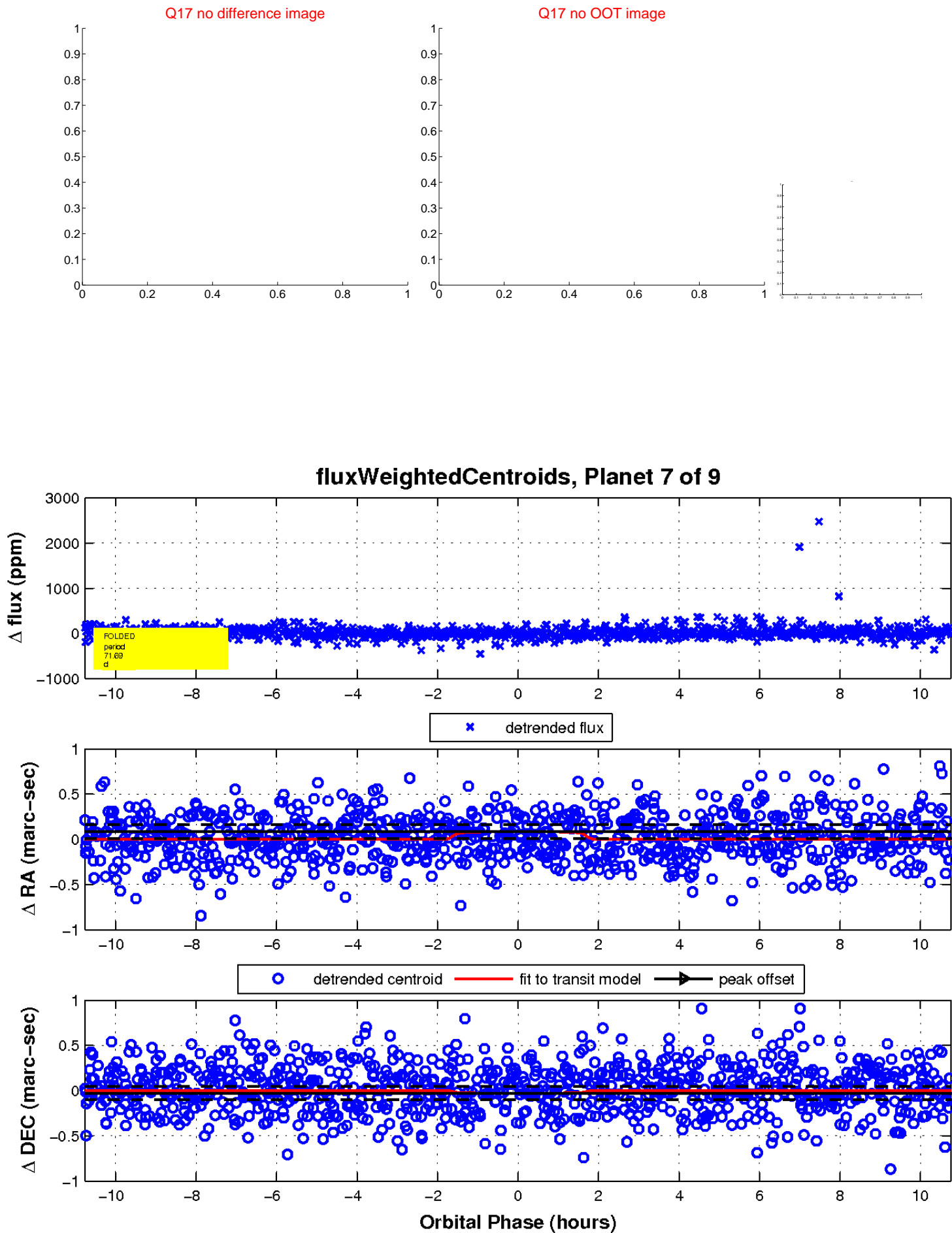
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



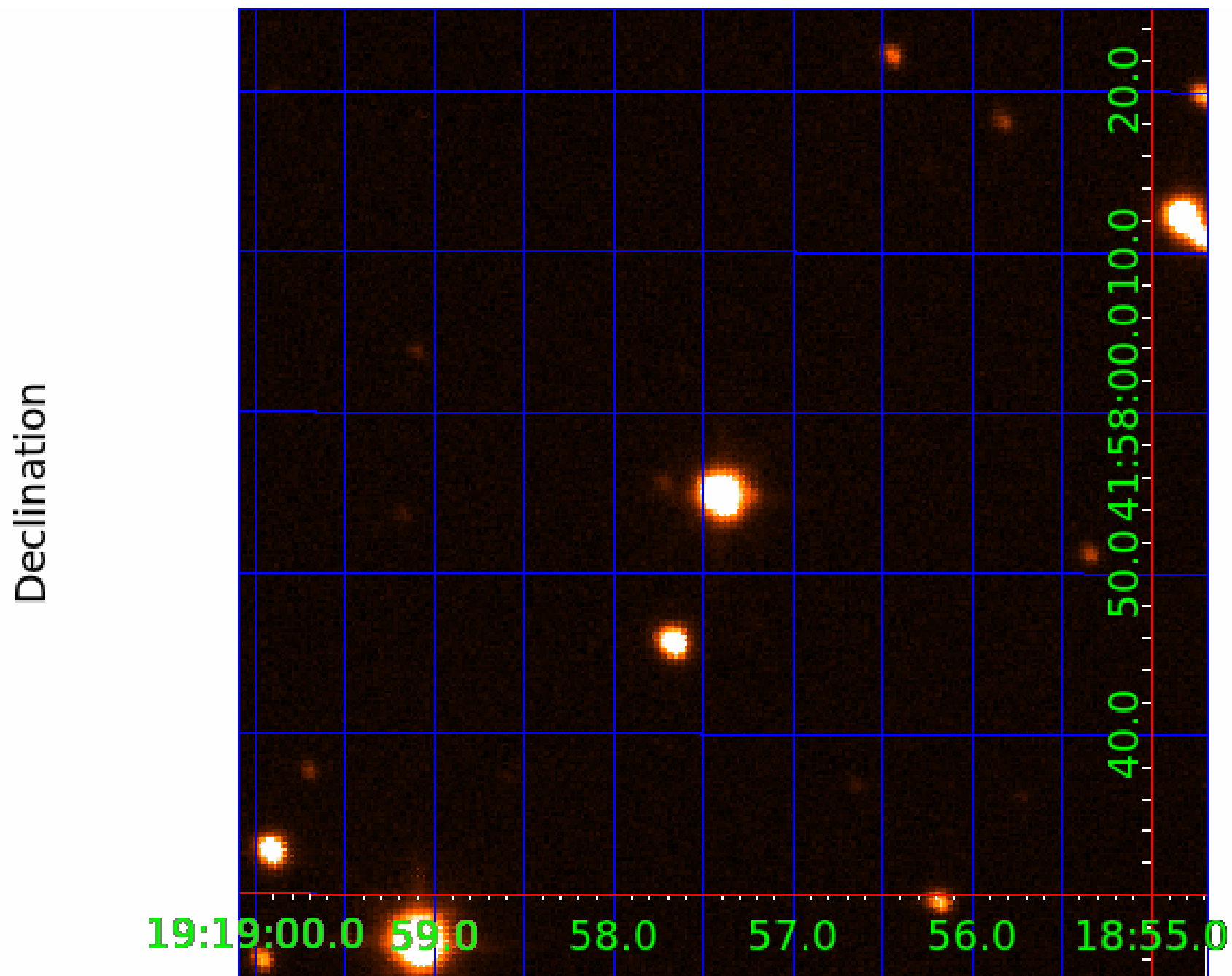
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
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006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
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006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

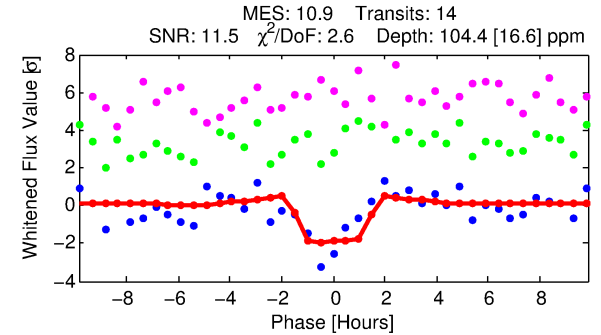
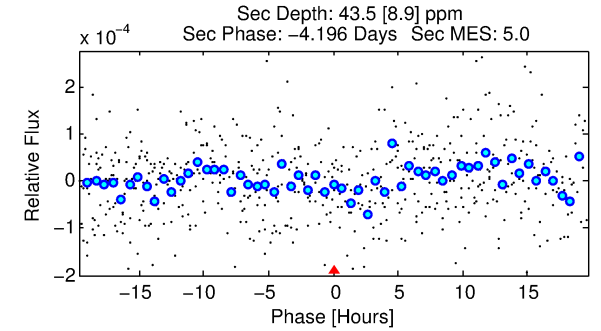
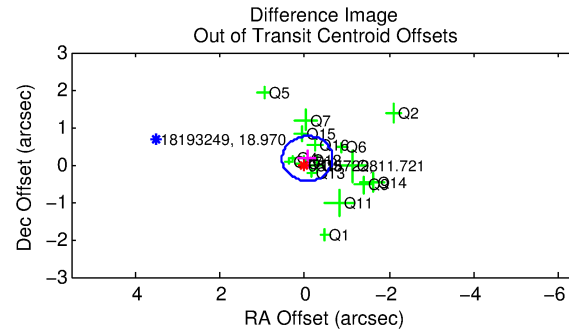
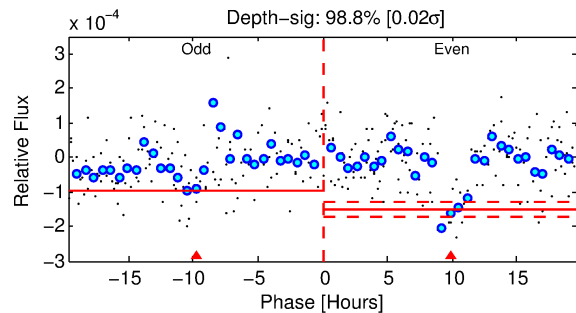
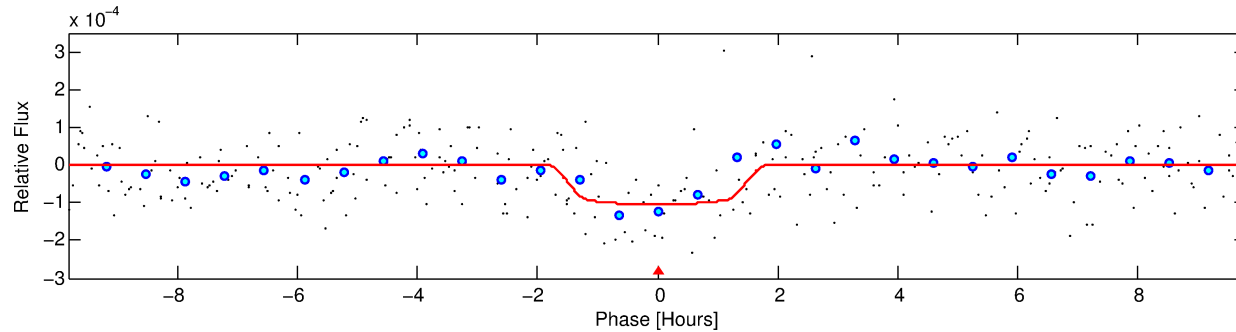
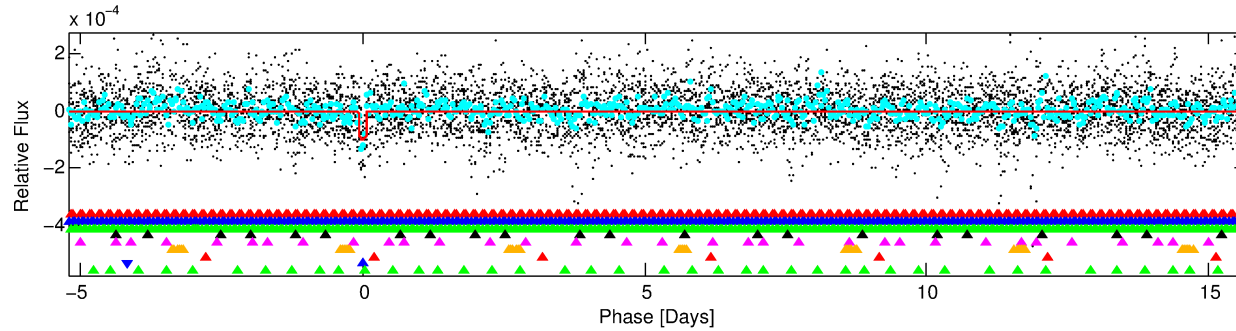
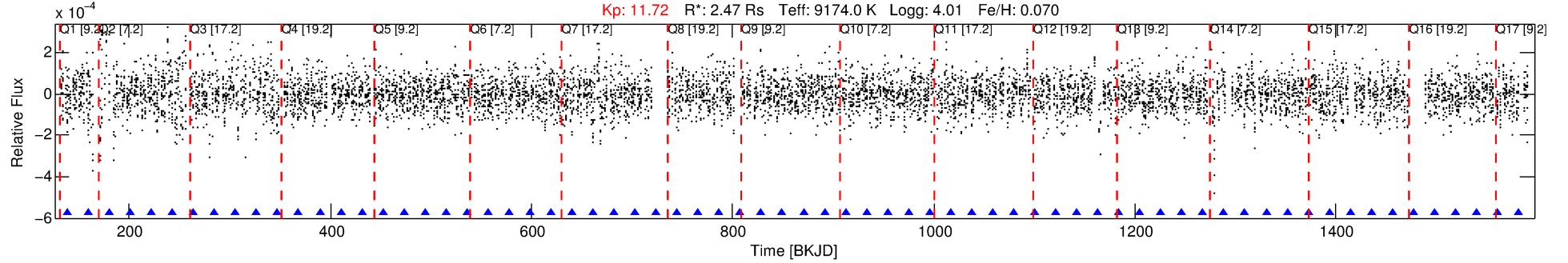
Ephemeris Match Information For 006515722-08

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 8 of 9 Period: 20.911 d
KOI: K03818 Corr: No Ephemeris Match

Kp: 11.72 R*: 2.47 Rs Teff: 9174.0 K Logg: 4.01 Fe/H: 0.070



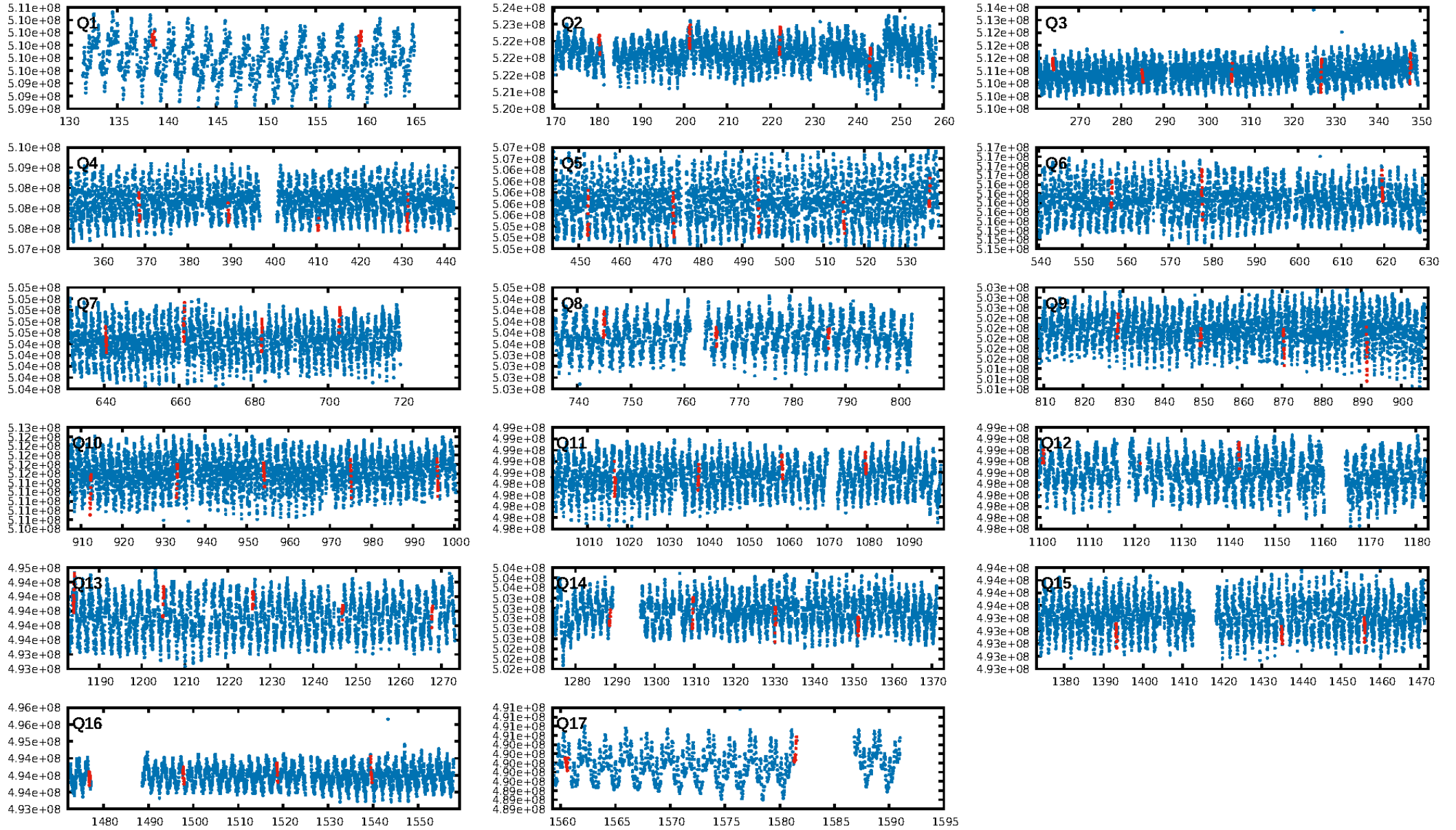
DV Fit Results:

Period = 20.91068 [0.00022] d
Epoch = 138.6057 [0.0075] BKJD
Rp/R* = 0.0111 [0.0044]
a/R* = 19.01 [56.29]
b = 0.93 [0.42]
Seff = 1008.99 [441.79]
Teq = 1437 [157] K
Rp = 2.98 [1.54] Re
a = 0.1960 [0.0536] AU
Ag = 103.23 [94.29] [1.08σ]
Teffp = 7082 [1495] K [3.76σ]

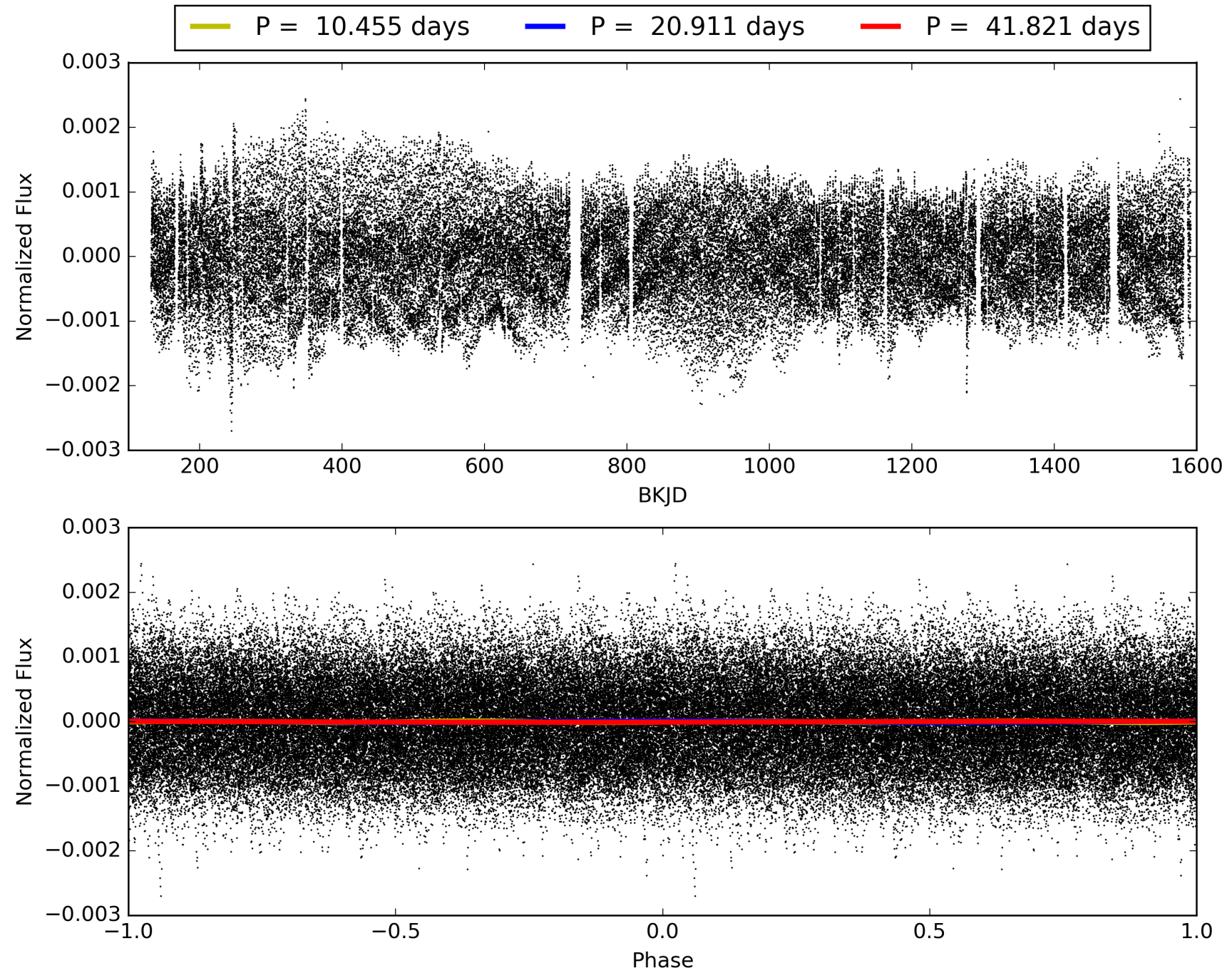
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [75.11σ]
LongPeriod-sig: 100.0% [70.50σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 65.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: -0.5258
Centroid-sig: 12.6%
Centroid-so: 0.912 arcsec [2.15σ]
OotOffset-rm: 0.178 arcsec [0.90σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.110 arcsec [0.53σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 0.41 [7/17]

TCE 006515722-08, PDC Light Curves

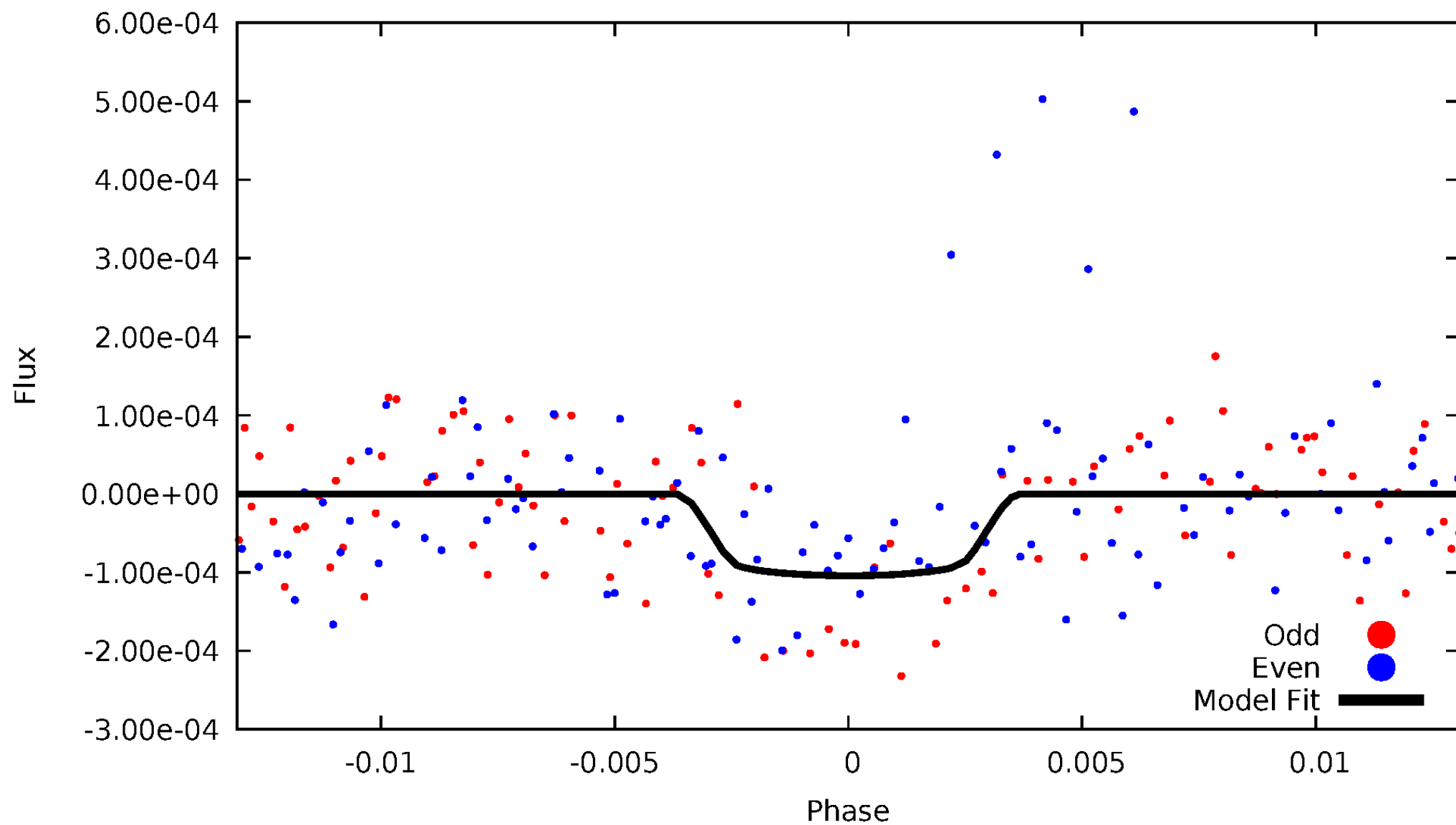


TCE 006515722-08



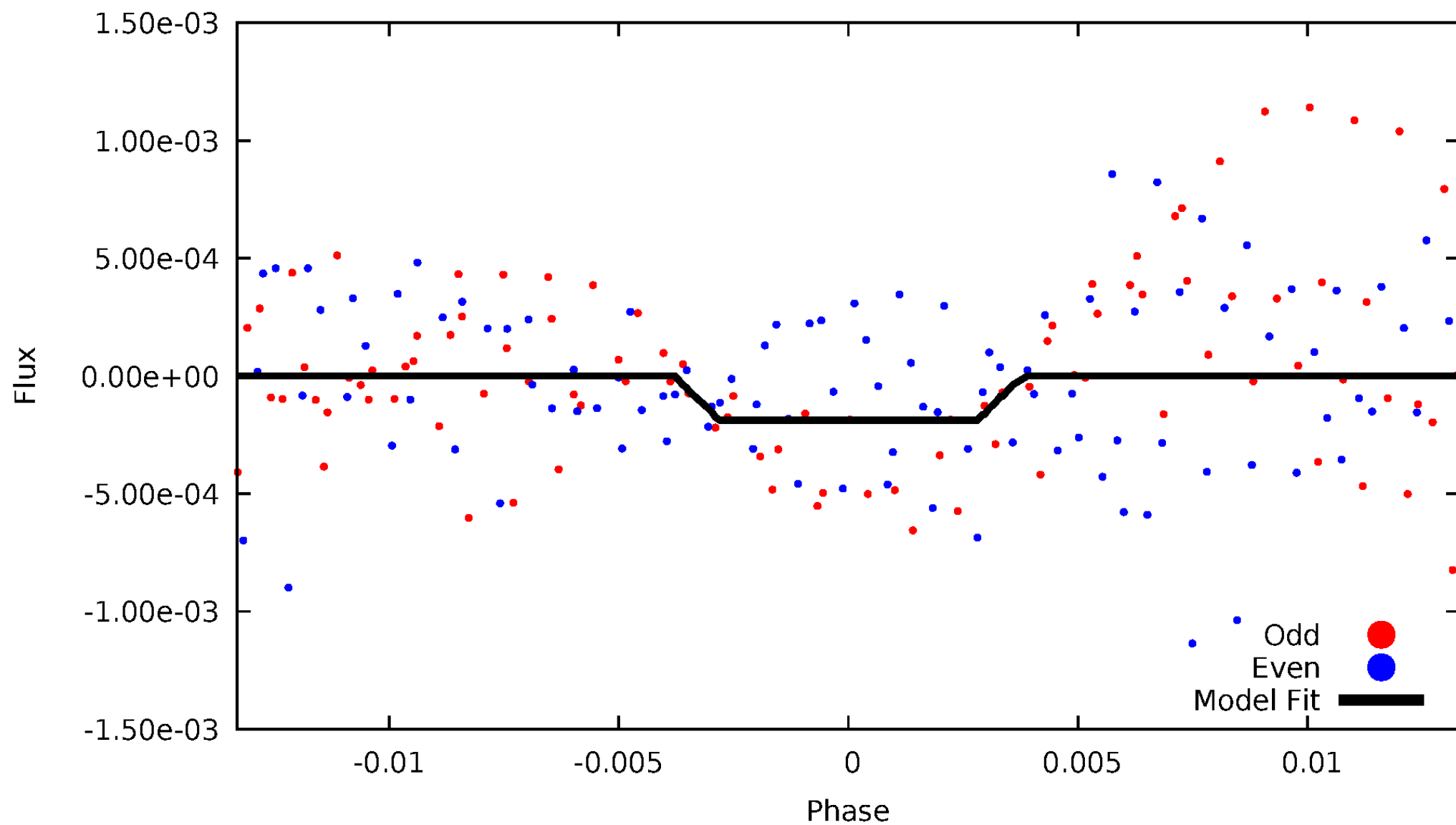
DV Odd/Even

TCE 006515722-08



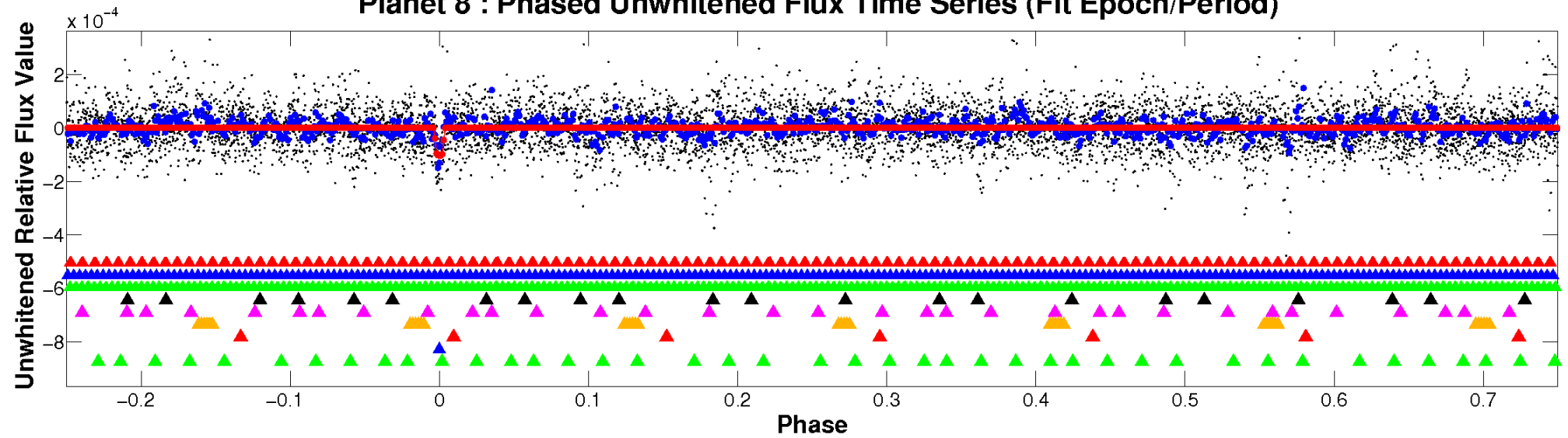
ALT Odd/Even

TCE 006515722-08

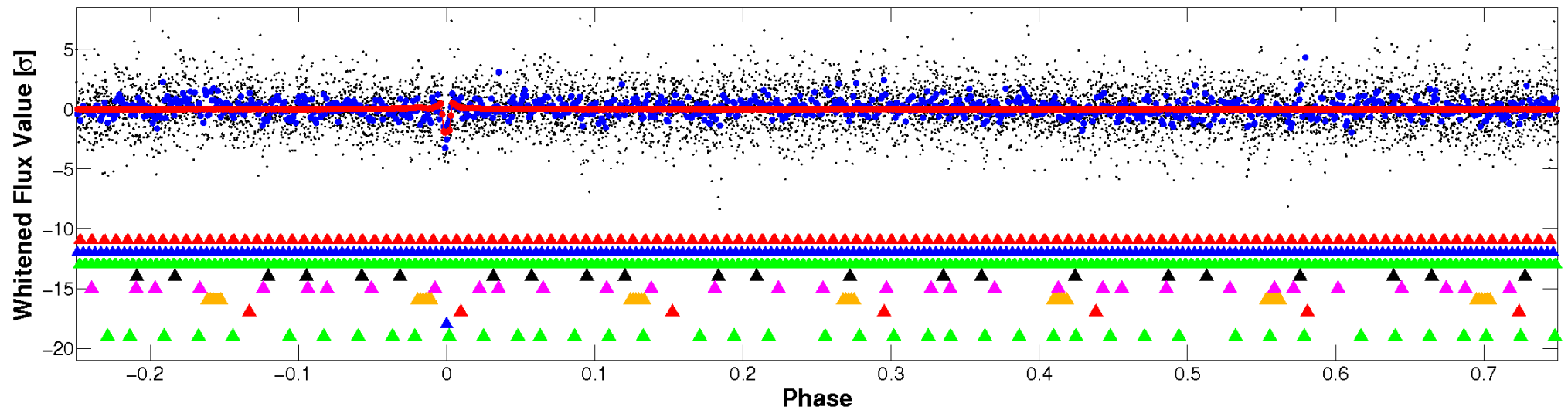


Non-Whitened Vs. Whitened Light Curve

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

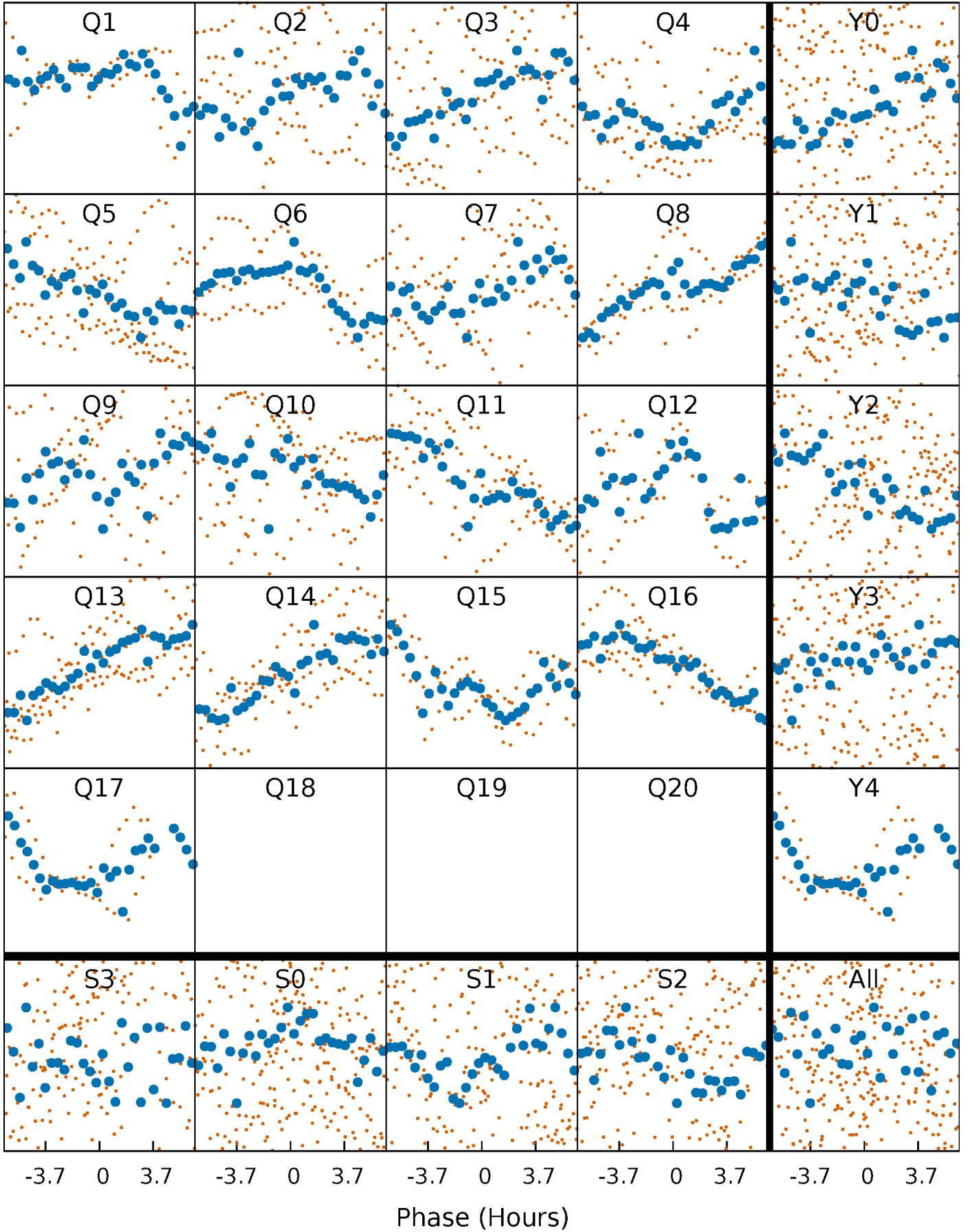


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



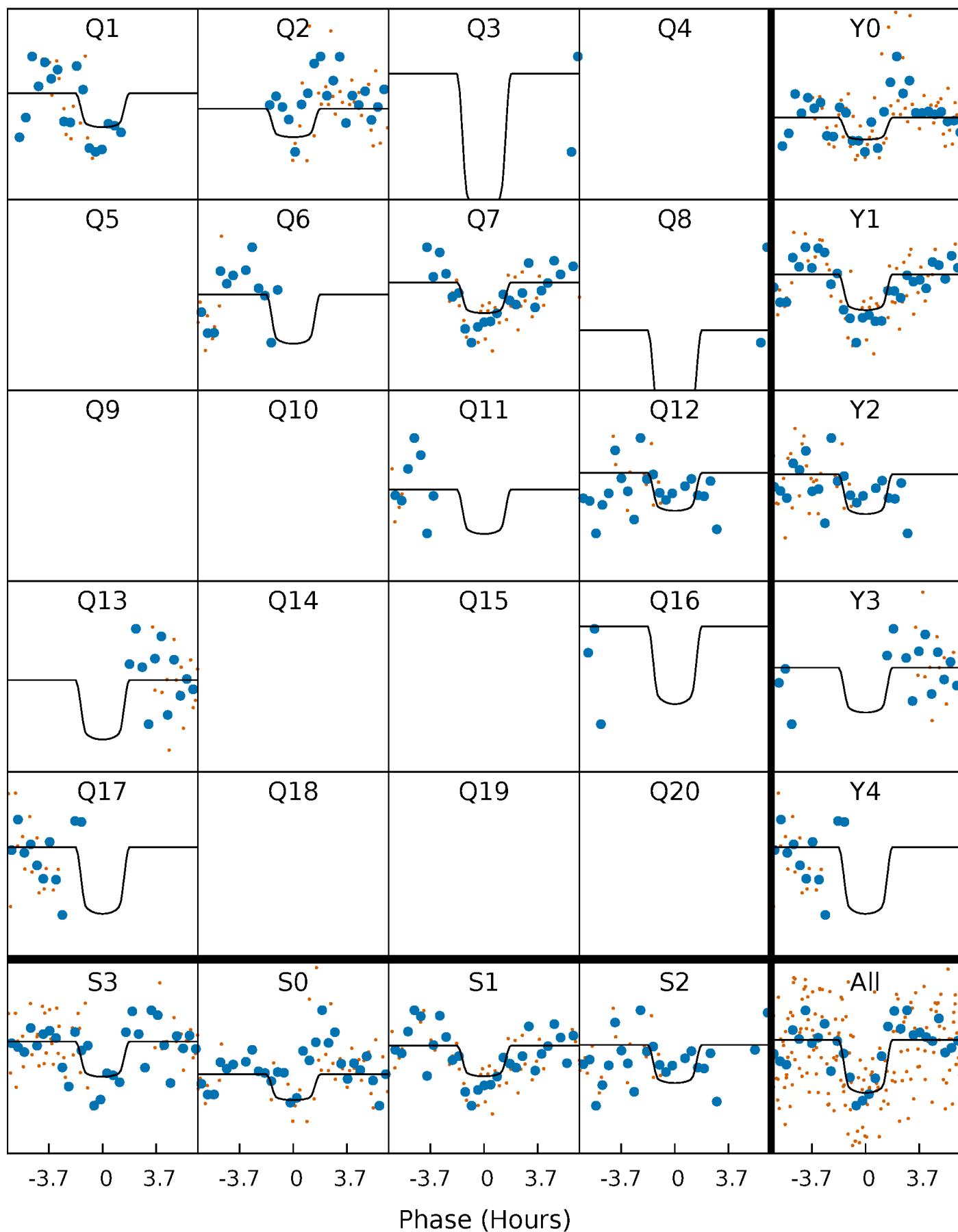
PDC Quarter-Phased Transit Curves

TCE 006515722-08 P= 20.910681 Days $T_0=138.605670$ (BKJD)



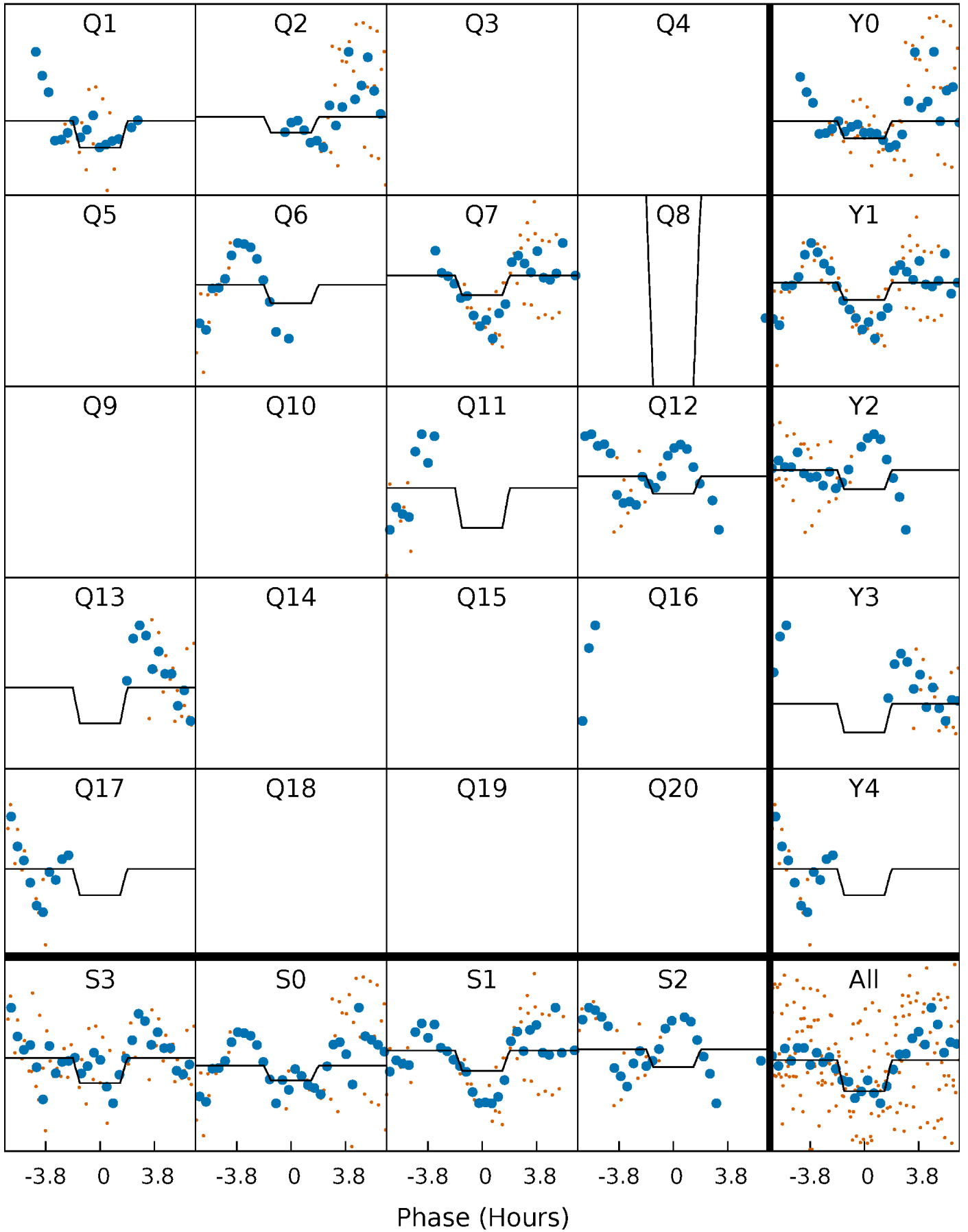
DV Quarter-Phased Transit Curves

TCE 006515722-08 P= 20.910681 Days $T_0=138.605670$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

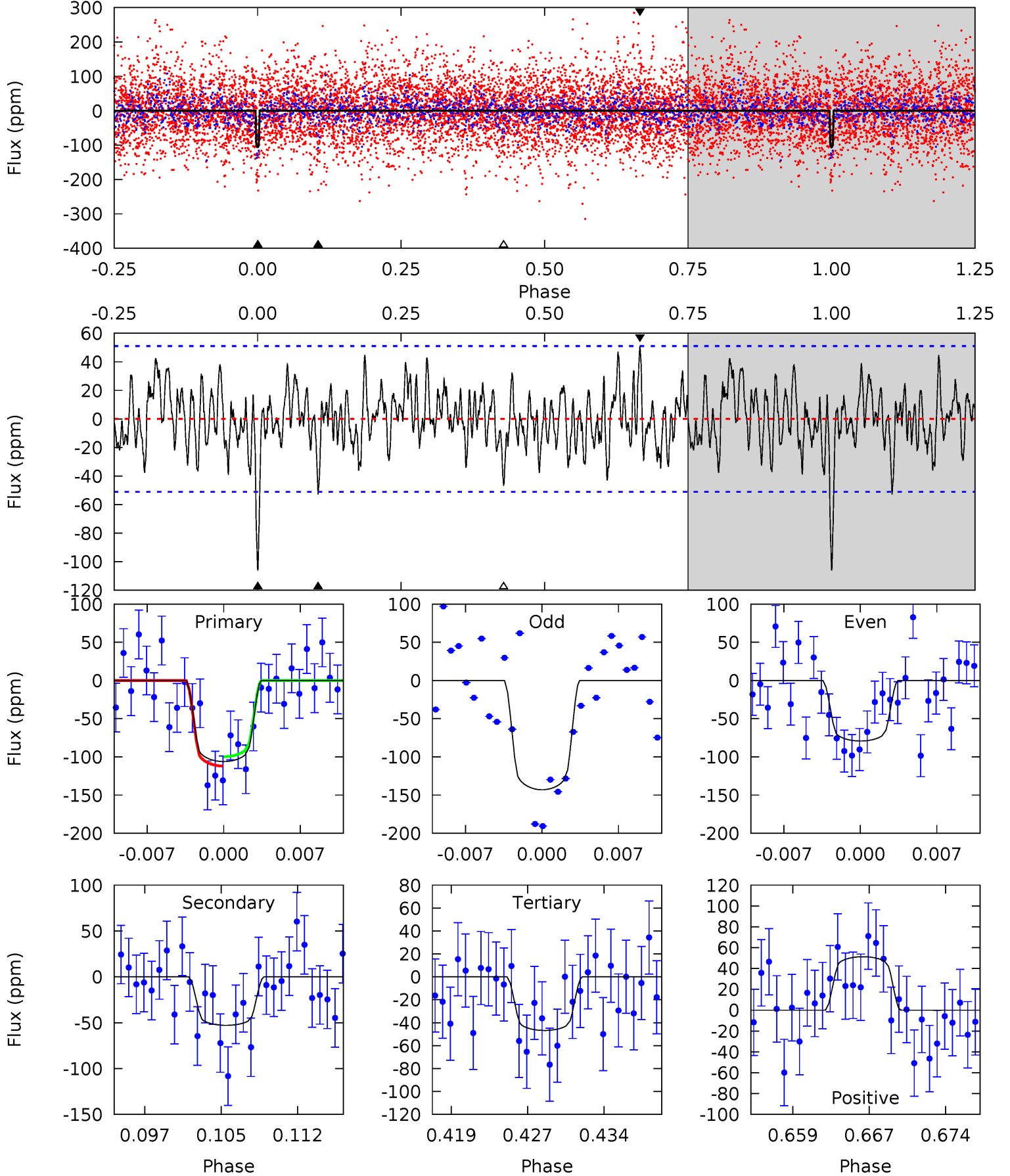
TCE 006515722-08 P= 20.911693 Days $T_0=138.554317$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-08, $P = 20.910681$ Days, $E = 117.694989$ Days

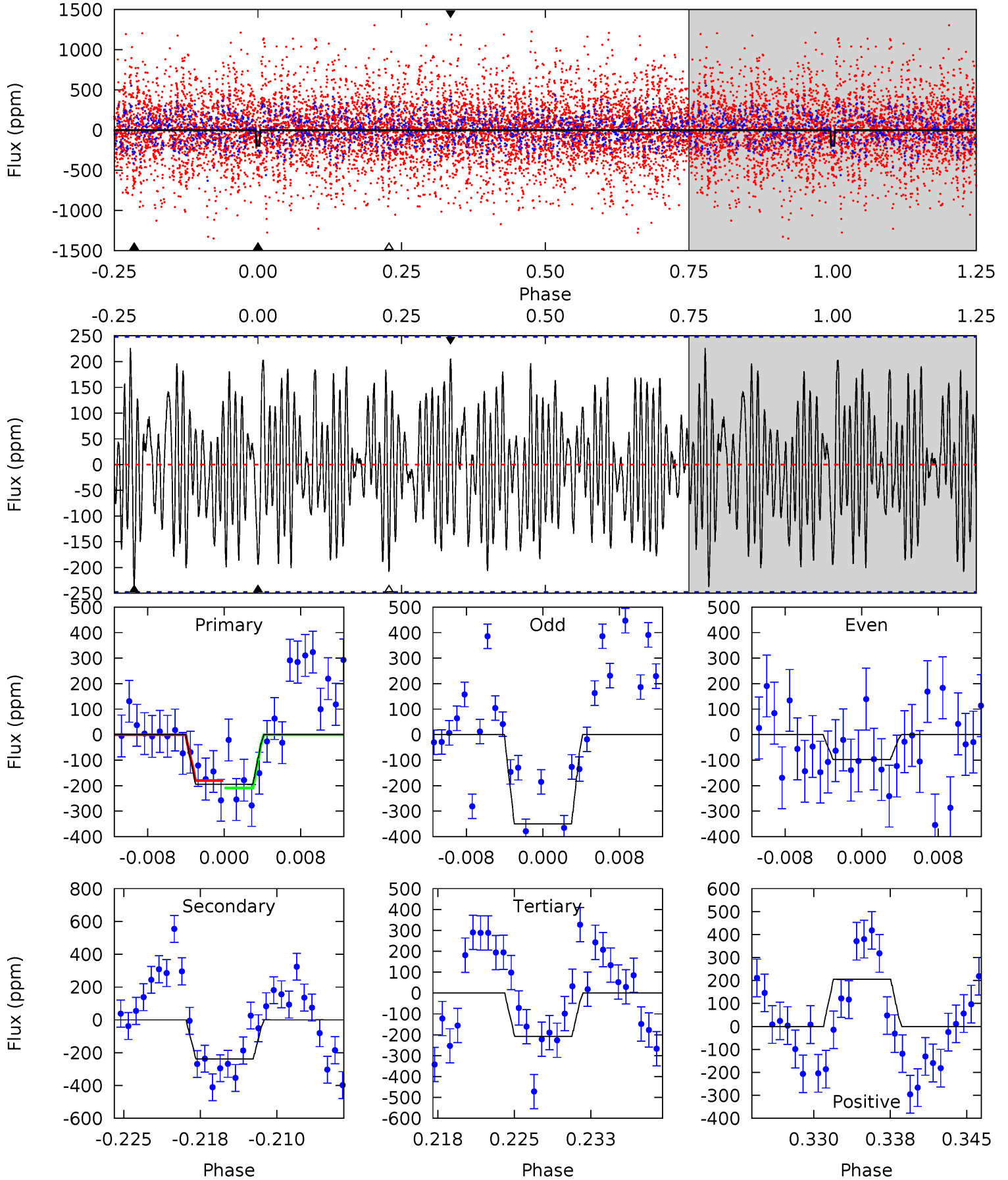
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	5.26	4.65	5.11	5.08	2.67	1.70	5.90	5.45	0.61	0.16	3.13	0.98	0.33	0.61



Alt Model-Shift Uniqueness Test

006515722-08, P = 20.911693 Days, E = 117.642624 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.99	4.87	4.25	4.21	5.08	2.67	1.82	-0.26	-0.22	0.63	0.66	2.52	0.87	0.49	0.30



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-53 ± 10	$2.88^{+1.38}_{-1.12}$	1996^{+164}_{-168}	7108^{+2424}_{-1294}	129^{+243}_{-70}
Alt.	-238 ± 49	$3.50^{+1.48}_{-1.20}$	1982^{+168}_{-157}	9966^{+3869}_{-1863}	401^{+556}_{-204}

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

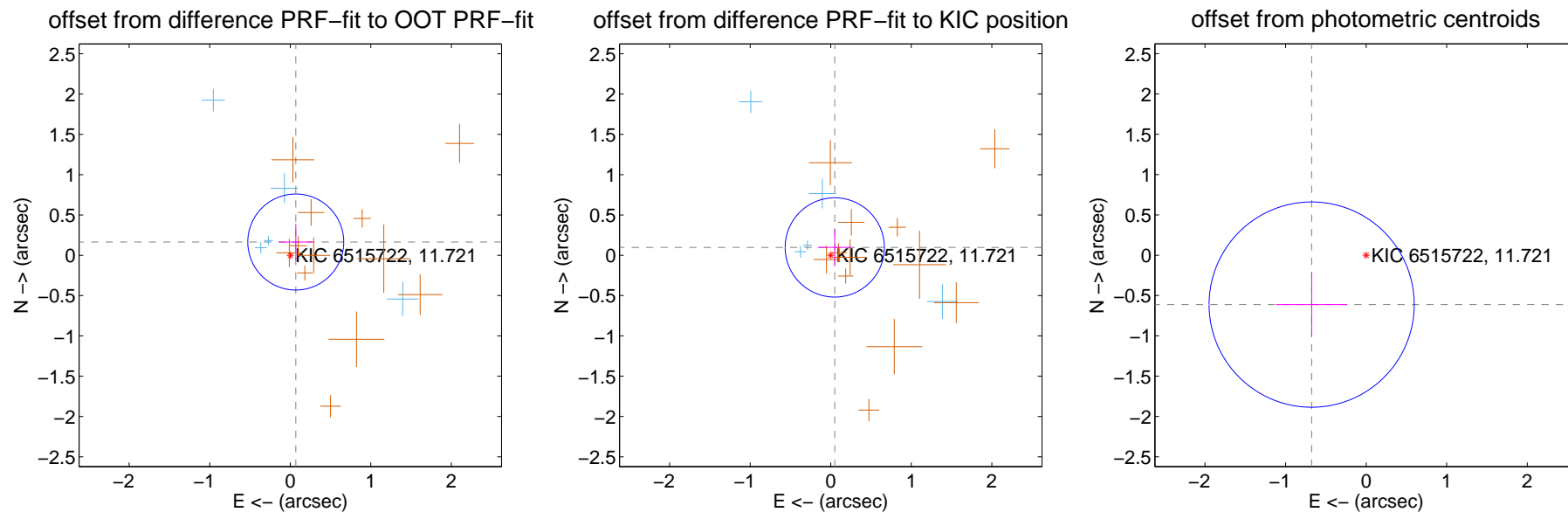
DV Centroid Data

Supplemental centroid analysis for 006515722-08. **Kepler magnitude: 11.72.** Transit SNR 11.51

There are 5 quarters with good PRF difference image offsets

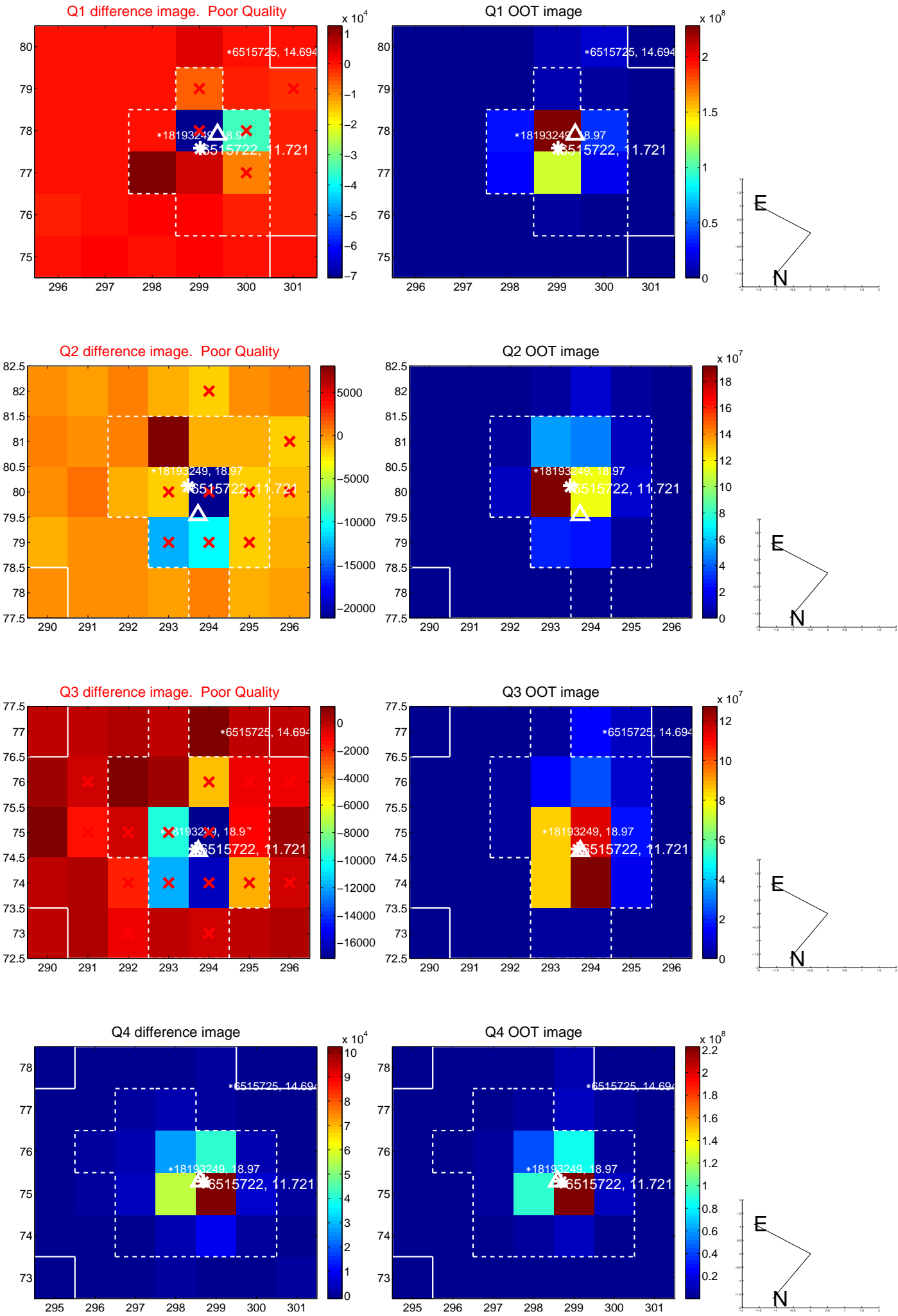
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.178 ± 0.199	0.90	-0.068 ± 0.209	0.164 ± 0.227
PRF-fit source offset from KIC position	0.110 ± 0.205	0.53	-0.050 ± 0.207	0.097 ± 0.235
photometric centroid source offset	0.91 ± 0.42	2.15	0.68 ± 0.44	-0.61 ± 0.40

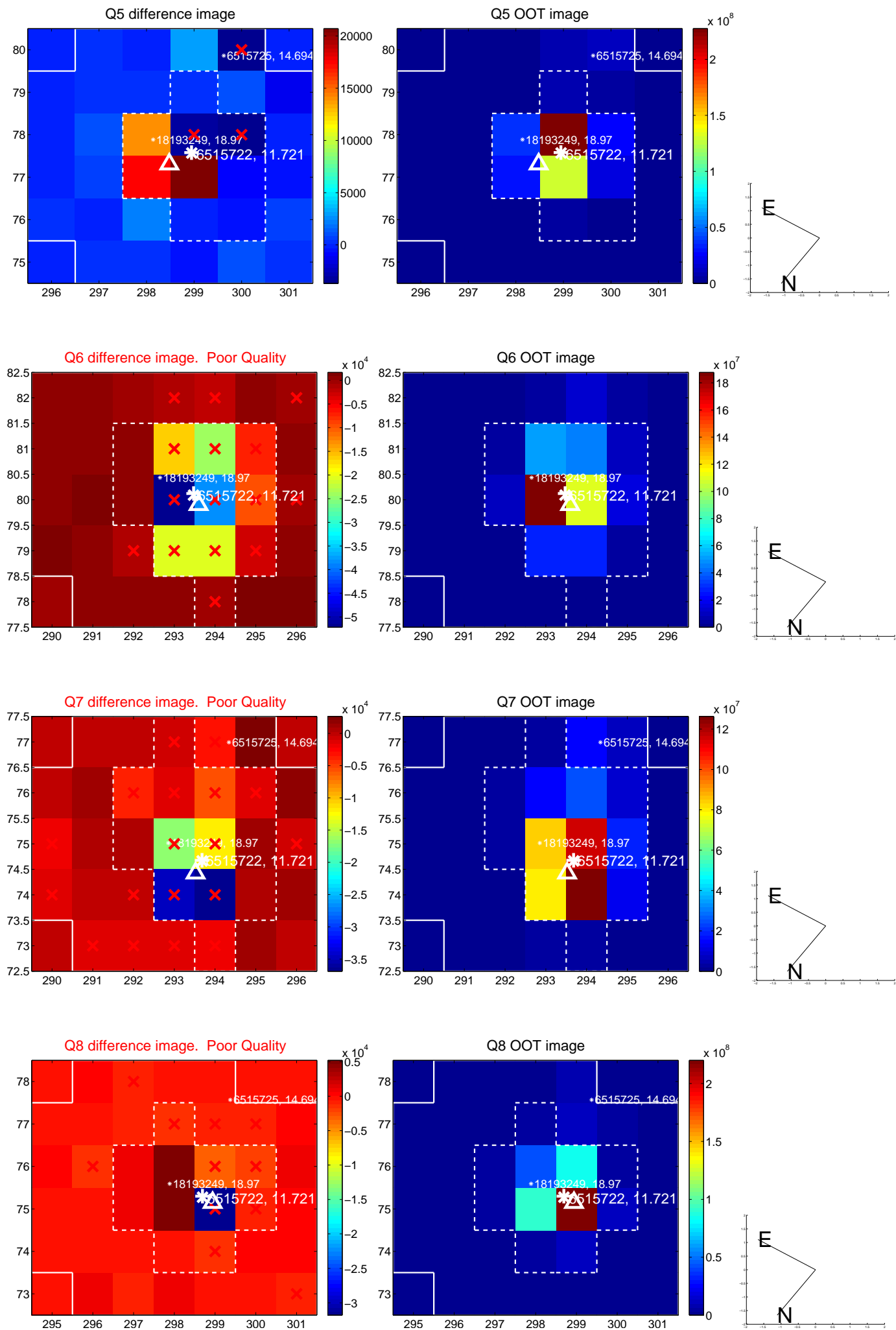


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

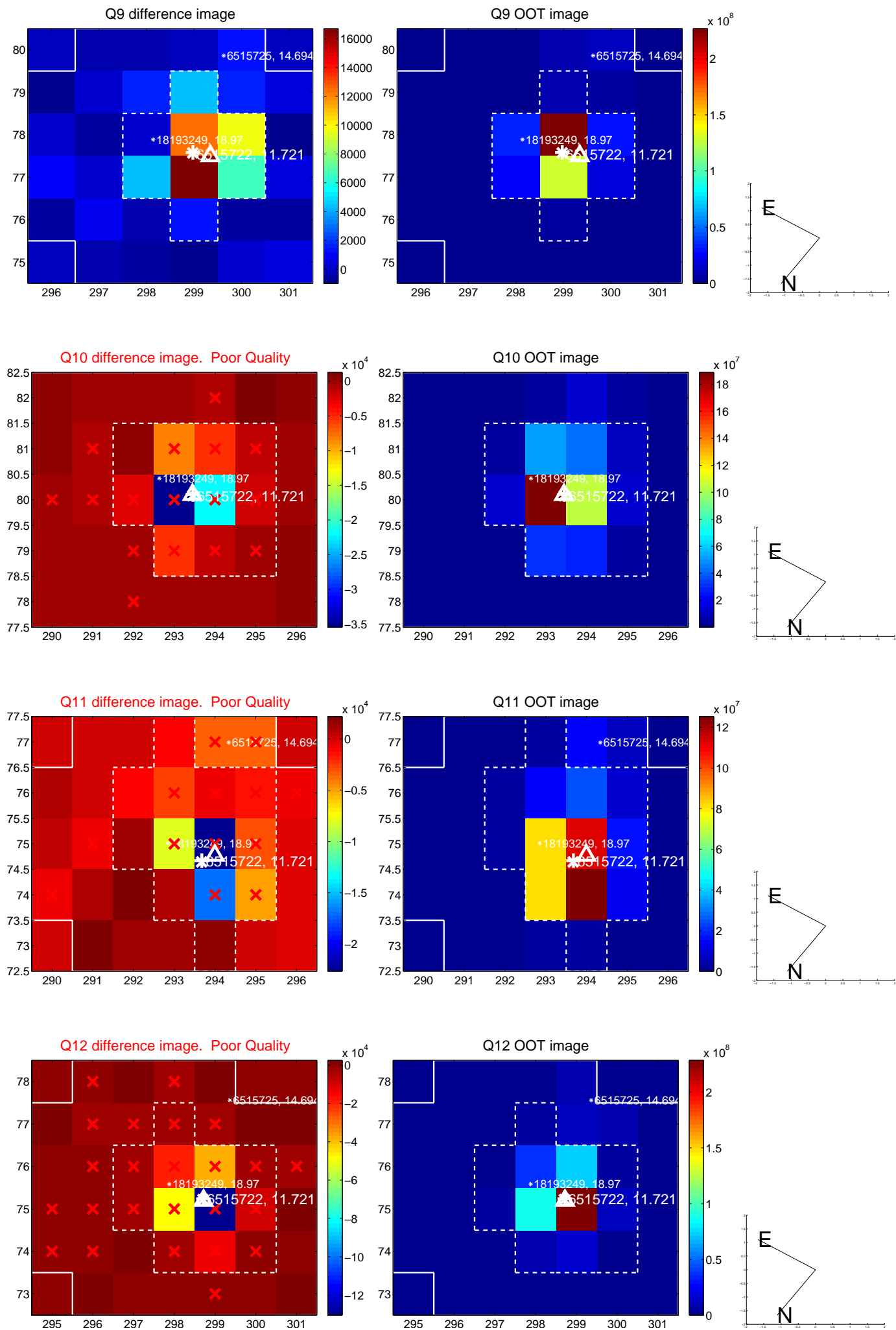
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



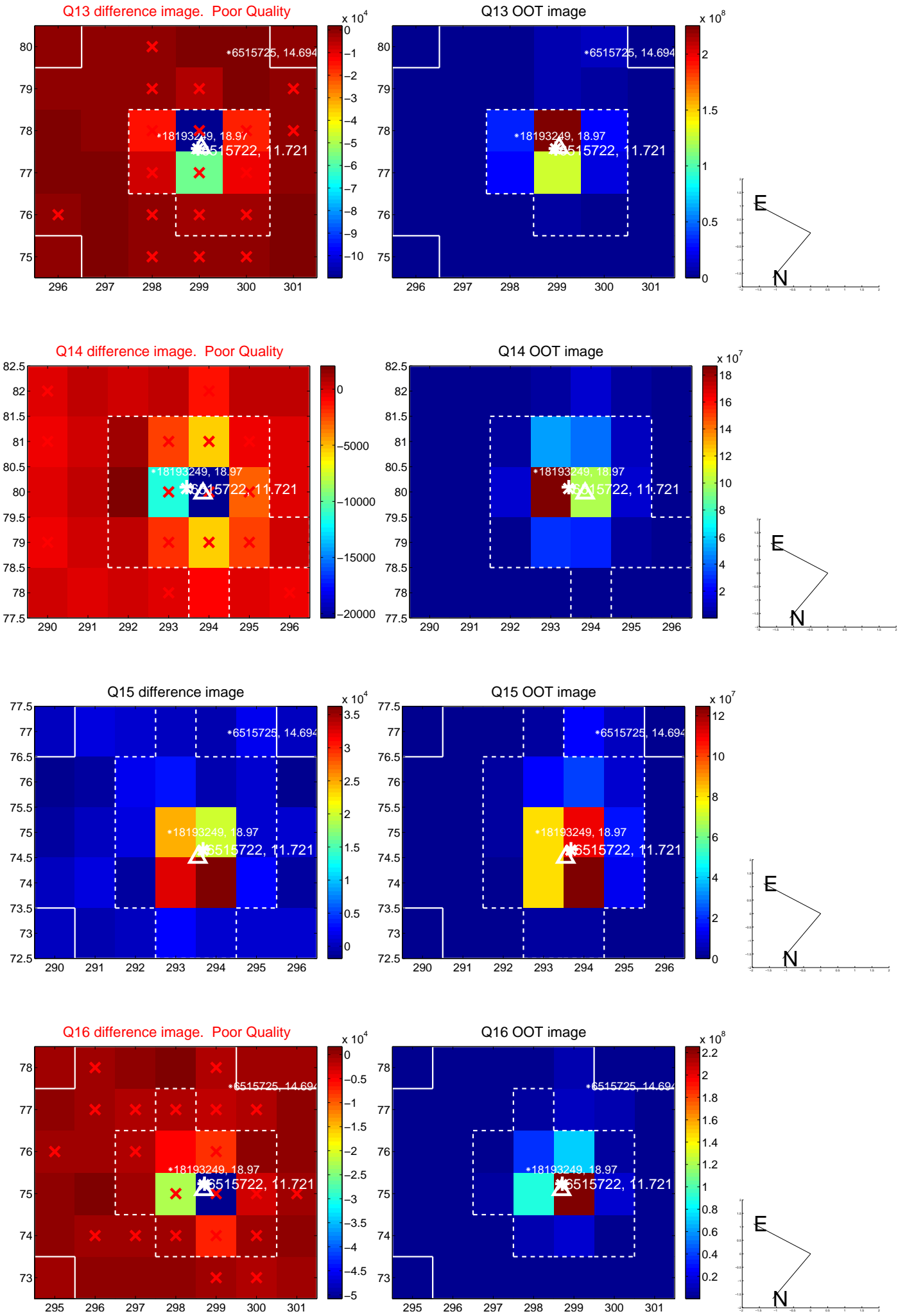
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



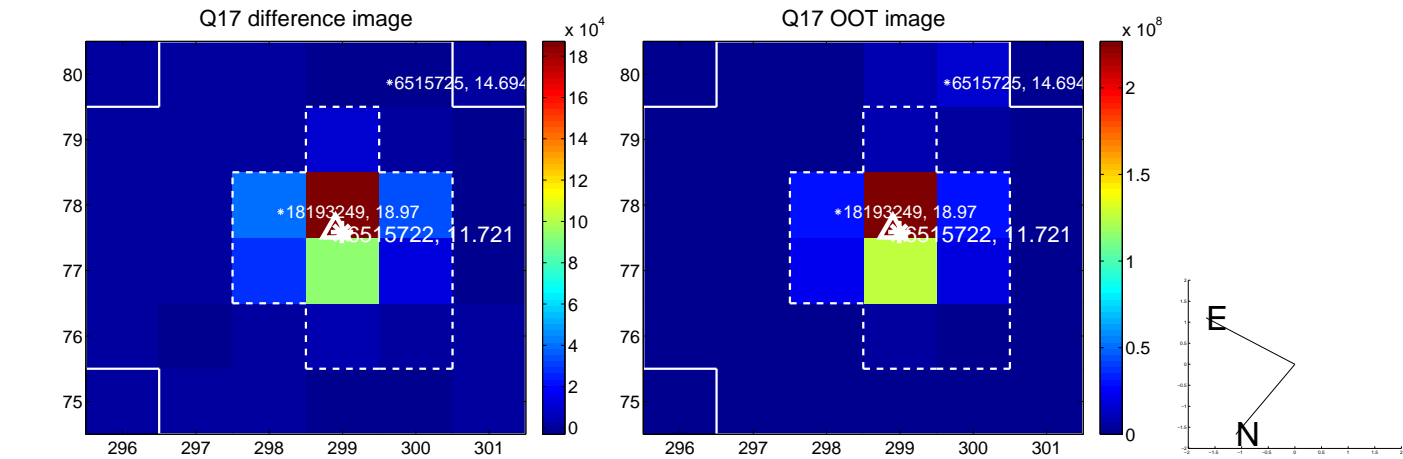
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



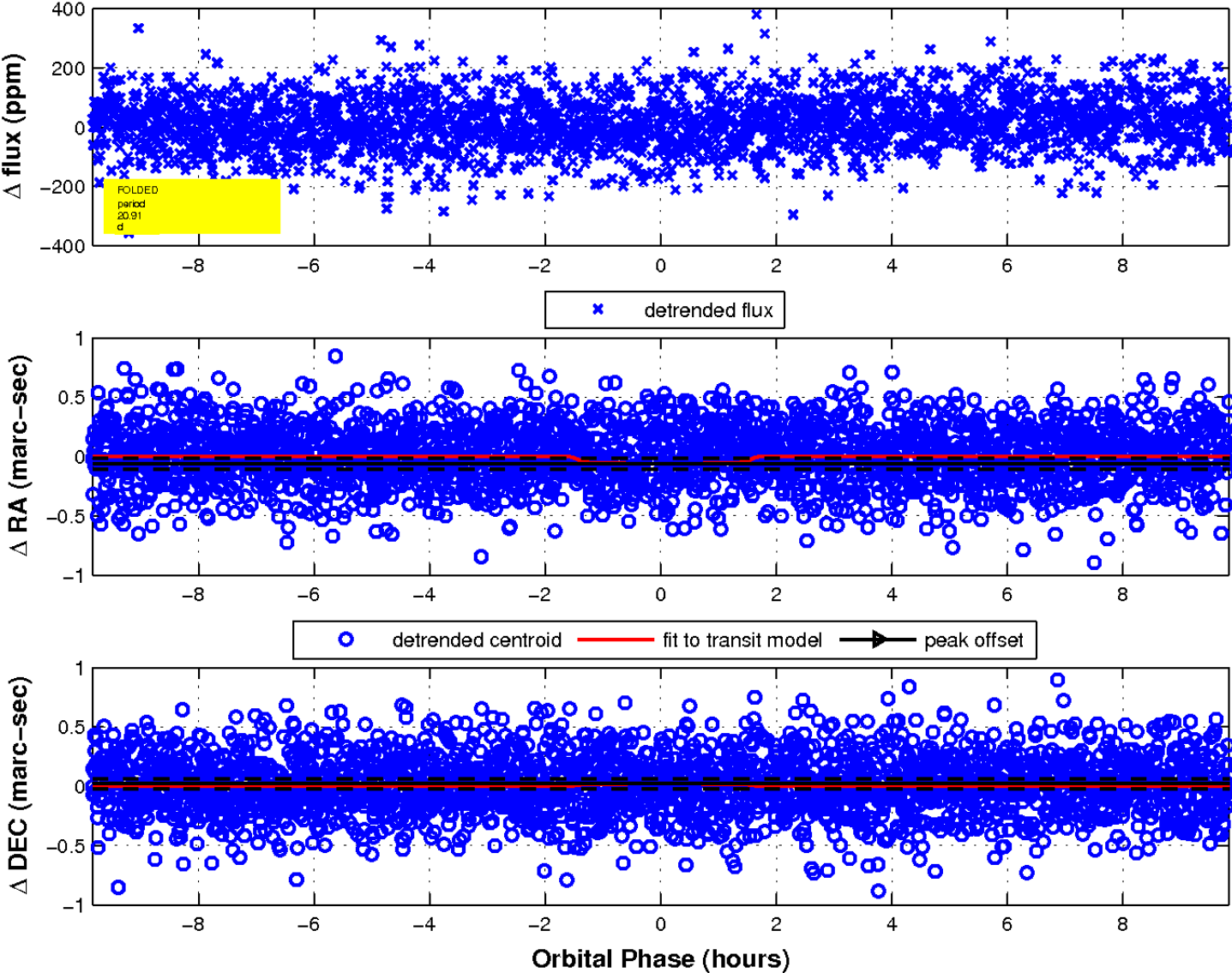
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



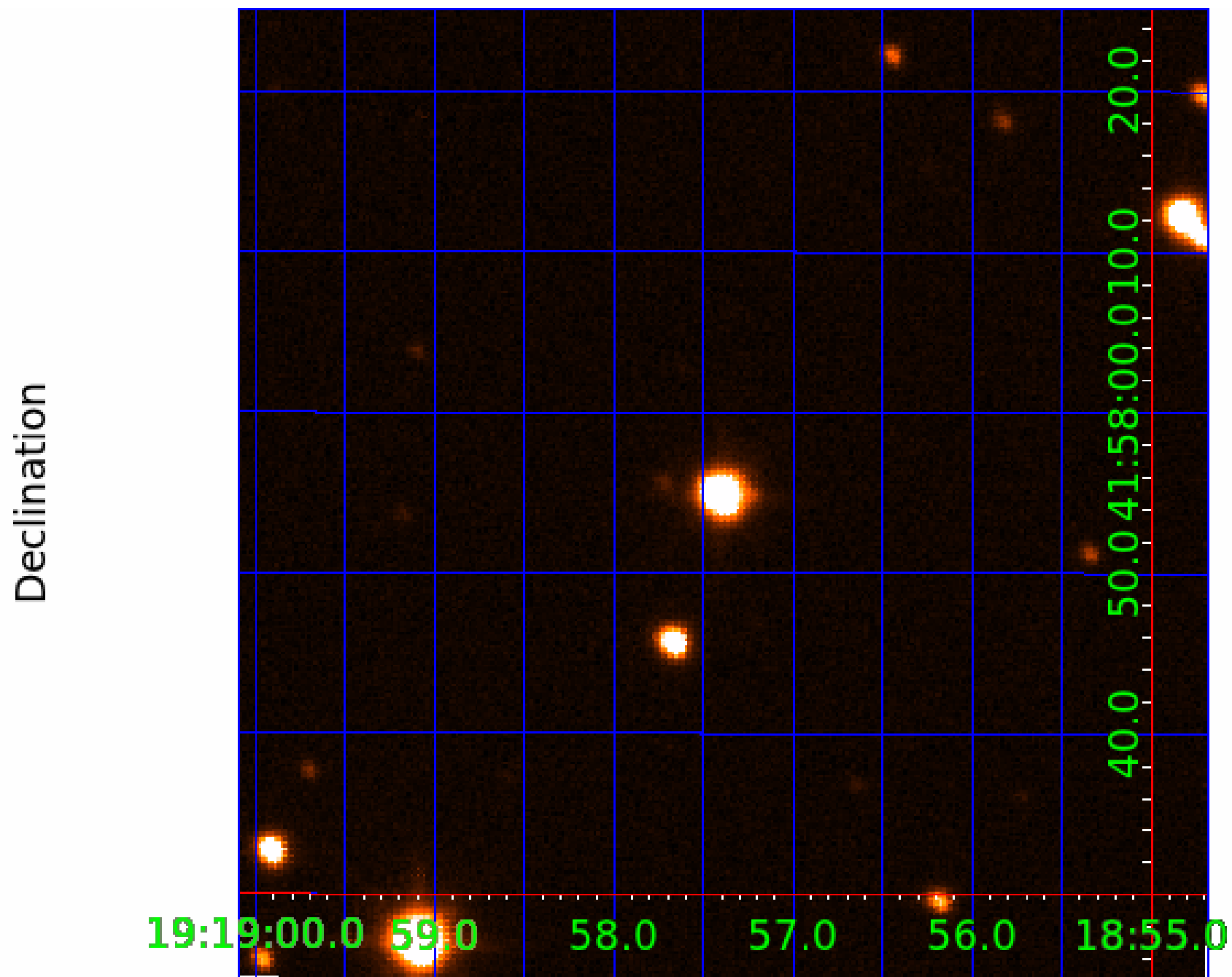
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 8 of 9



UKIRT Image



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})
006515722-01	OBS	No	3.816948	131.795010	115.5	4.367	33.7	44.8	2.47	9174	3.06	9744.42
006515722-02	OBS	No	1.908520	131.815423	15.5	1.809	14.5	5.7	2.47	9174	1.12	24553.61
006515722-03	OBS	3818.01	1.908478	131.784896	26.8	13.210	14.8	12.7	2.47	9174	1.47	24554.33
006515722-04	OBS	No	65.907630	178.450869	206.8	5.112	15.0	13.4	2.47	9174	4.71	218.34
006515722-05	OBS	No	44.244481	166.353563	195.8	2.135	14.8	12.3	2.47	9174	3.85	371.45
006515722-06	OBS	No	35.852419	138.194916	73.8	1.567	12.1	4.8	2.47	9174	2.29	491.68
006515722-07	OBS	No	71.694191	174.649085	150.8	3.600	12.2	10.3	2.47	9174	3.54	195.16
006515722-08	OBS	No	20.910681	138.605670	104.4	3.281	10.9	11.5	2.47	9174	2.98	1008.99
006515722-09	OBS	No	34.261551	155.046315	119.1	3.146	11.3	11.8	2.47	9174	3.02	522.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006515722-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006515722-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
006515722-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—SAME_NTL_PERIOD
006515722-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006515722-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—MOD_NONUNIQ_DV
006515722-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
006515722-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006515722-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

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

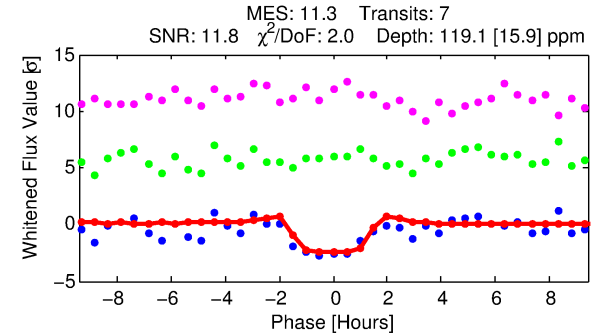
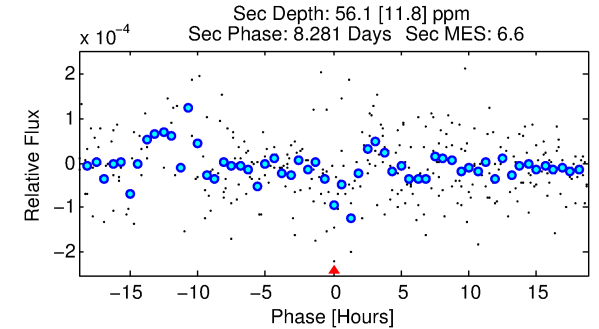
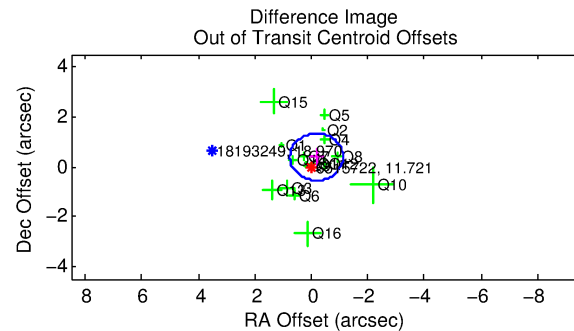
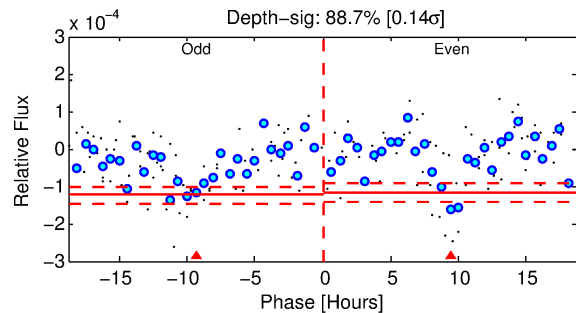
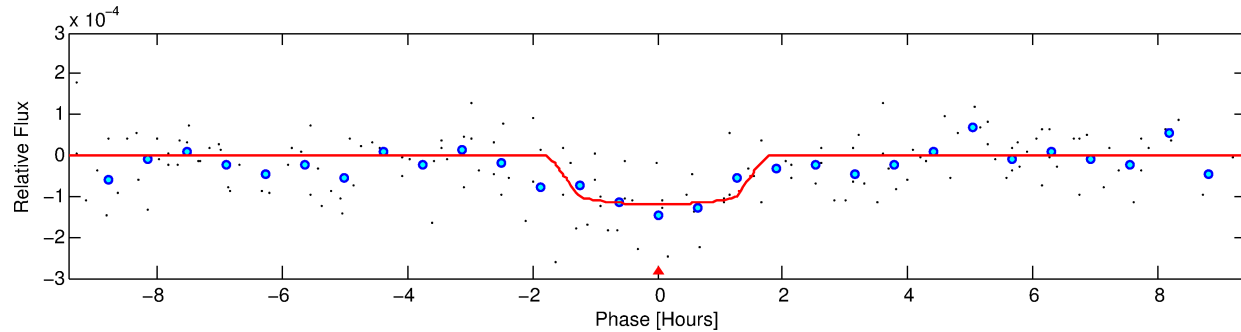
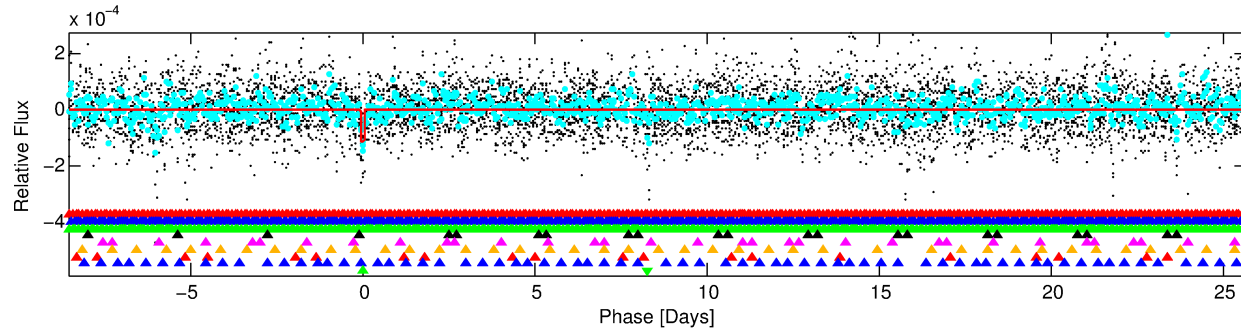
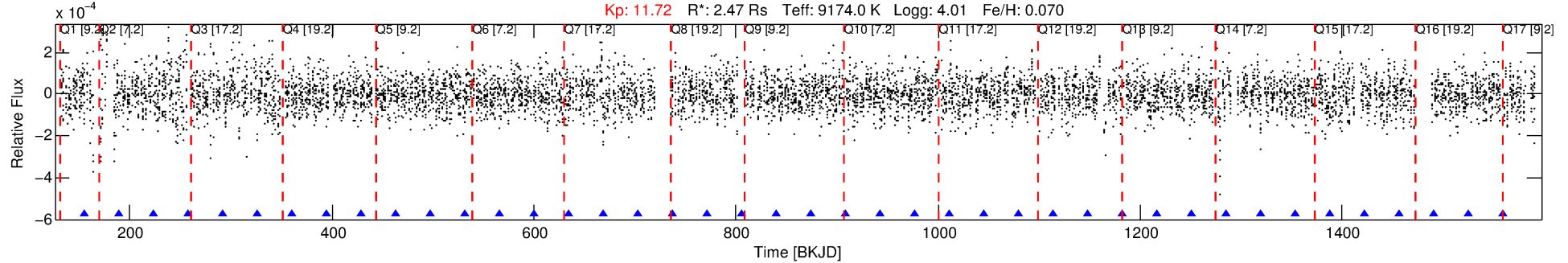
Ephemeris Match Information For 006515722-09

No Significant Match Found

DV One-Page Summary

KIC: 6515722 Candidate: 9 of 9 Period: 34.262 d
KOI: K03818 Corr: No Ephemeris Match

Kp: 11.72 R*: 2.47 Rs Teff: 9174.0 K Logg: 4.01 Fe/H: 0.070



DV Fit Results:

Period = 34.26155 [0.00036] d
Epoch = 155.0463 [0.0098] BKJD
Rp/R* = 0.0112 [0.0044]
a/R* = 46.33 [129.09]
b = 0.84 [0.95]
Seff = 522.36 [228.72]
Teq = 1219 [133] K
Rp = 3.02 [1.53] Re
a = 0.2724 [0.0745] AU
Ag = 251.12 [225.37] [1.11σ]
Teffp = 7503 [1551] K [4.04σ]

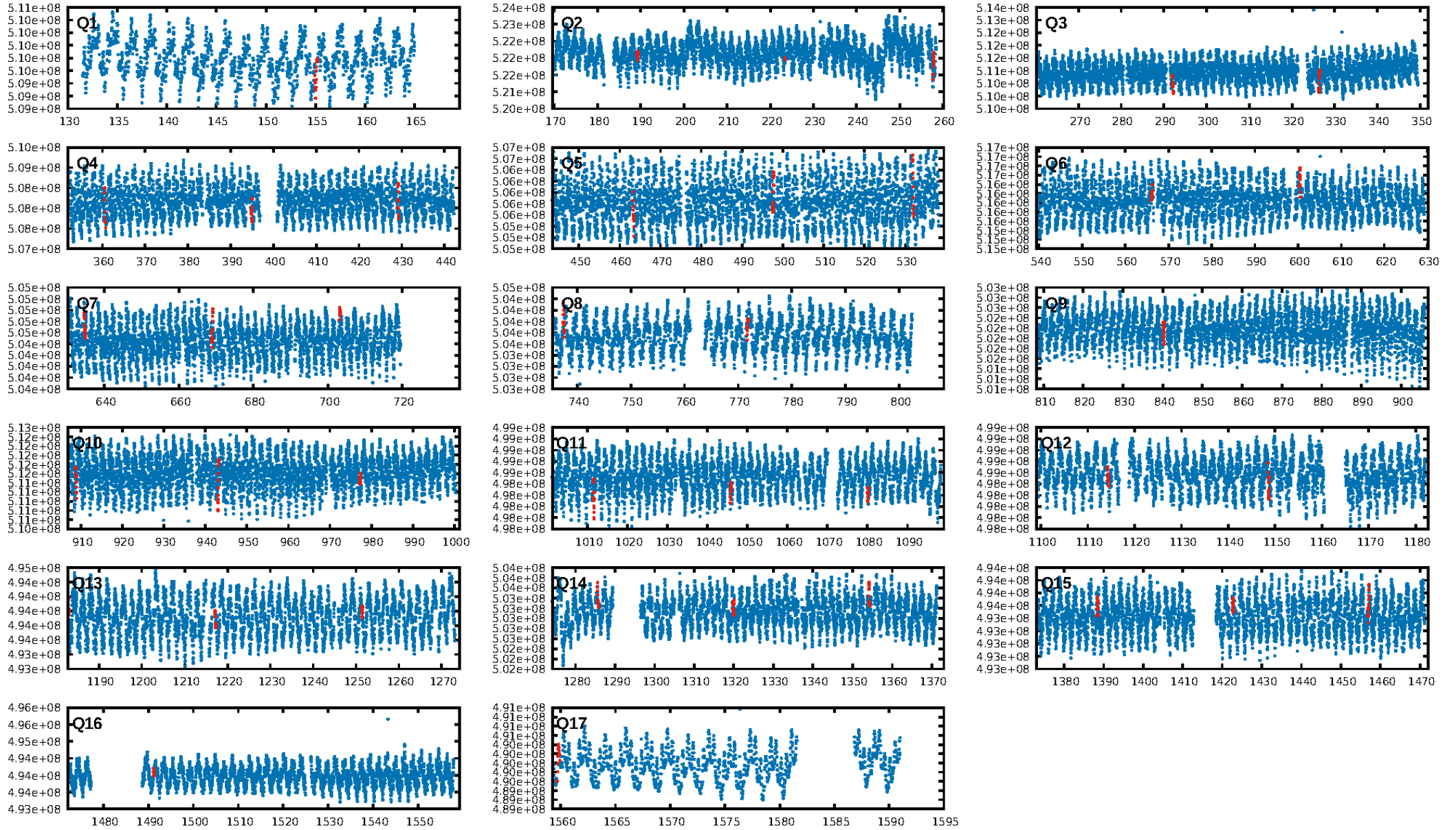
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [70.50σ]
LongPeriod-sig: 100.0% [10.86σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 78.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -29.25
Centroid-sig: 85.3%
Centroid-so: 0.420 arcsec [0.93σ]
OotOffset-rm: 0.428 arcsec [1.37σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.359 arcsec [1.20σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 0.50 [8/16]

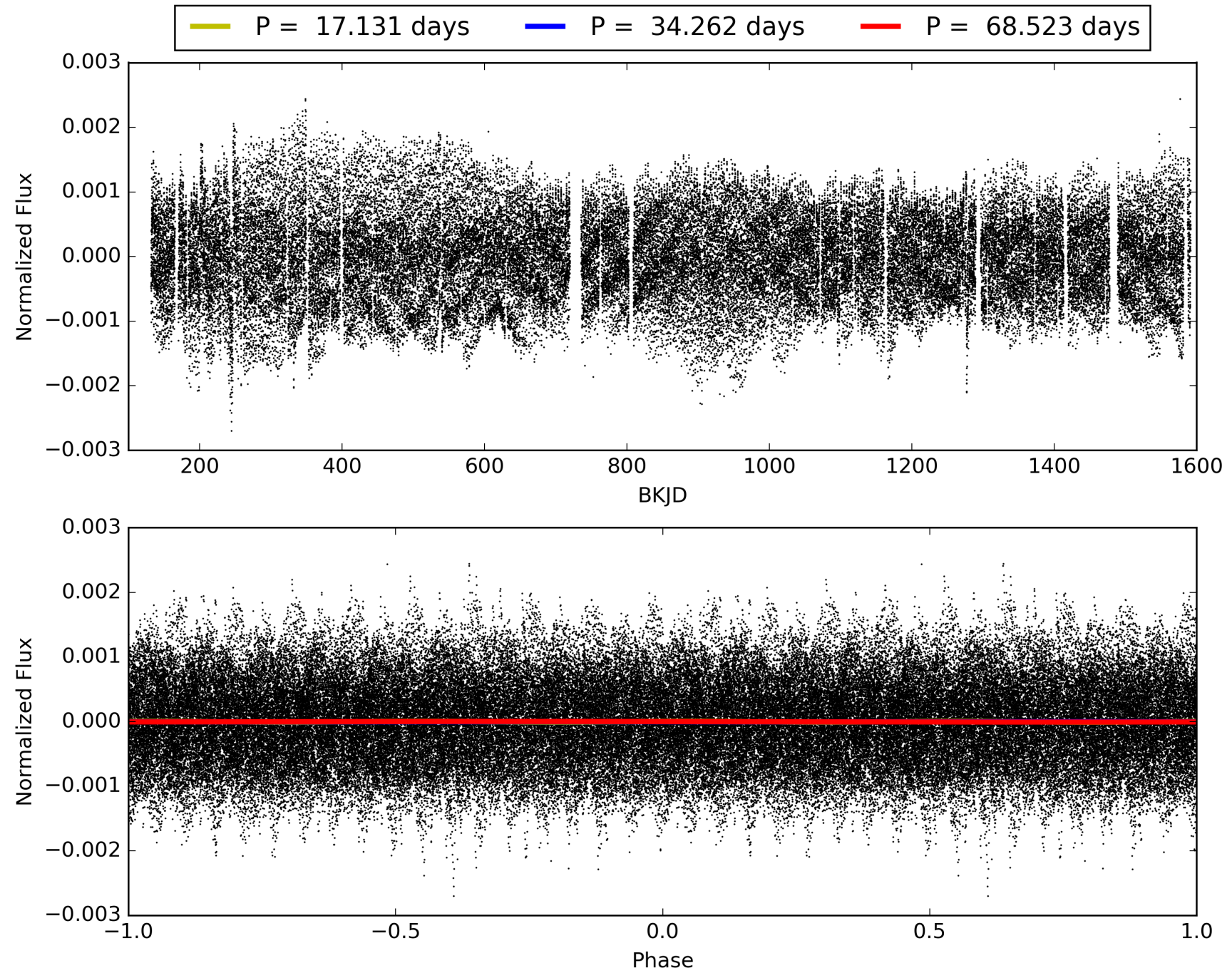
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:18:38 Z

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

TCE 006515722-09, PDC Light Curves

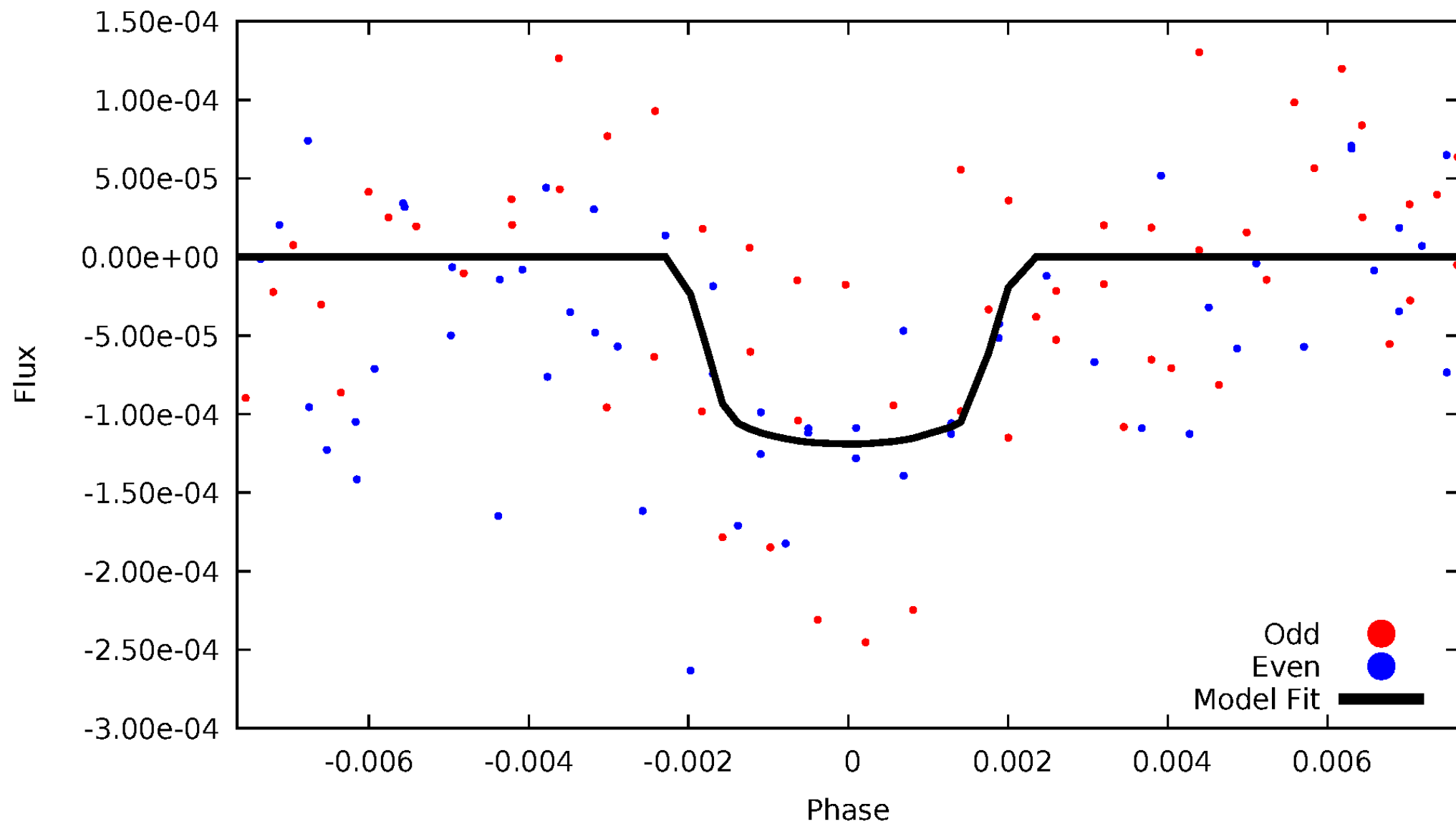


TCE 006515722-09



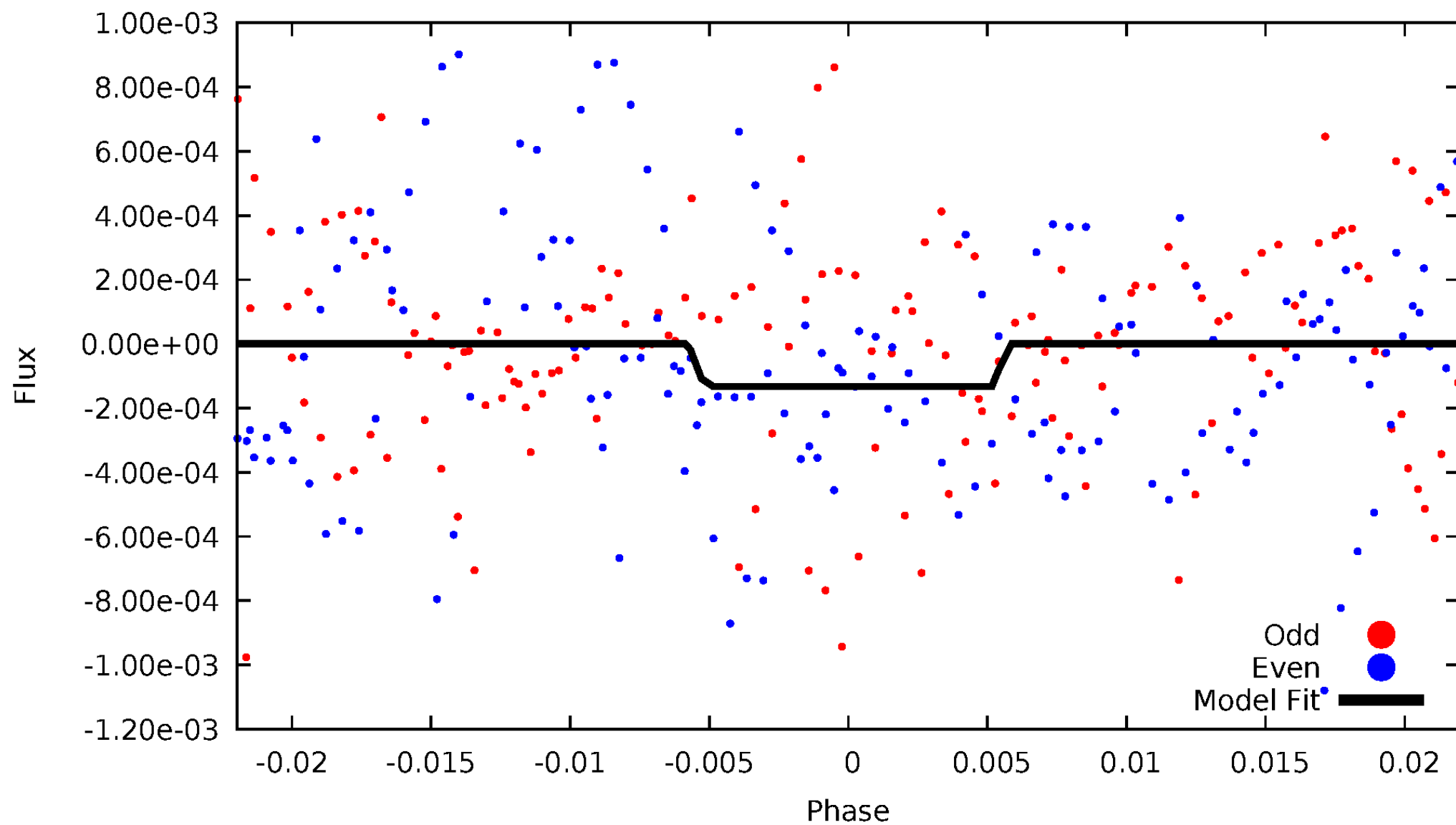
DV Odd/Even

TCE 006515722-09



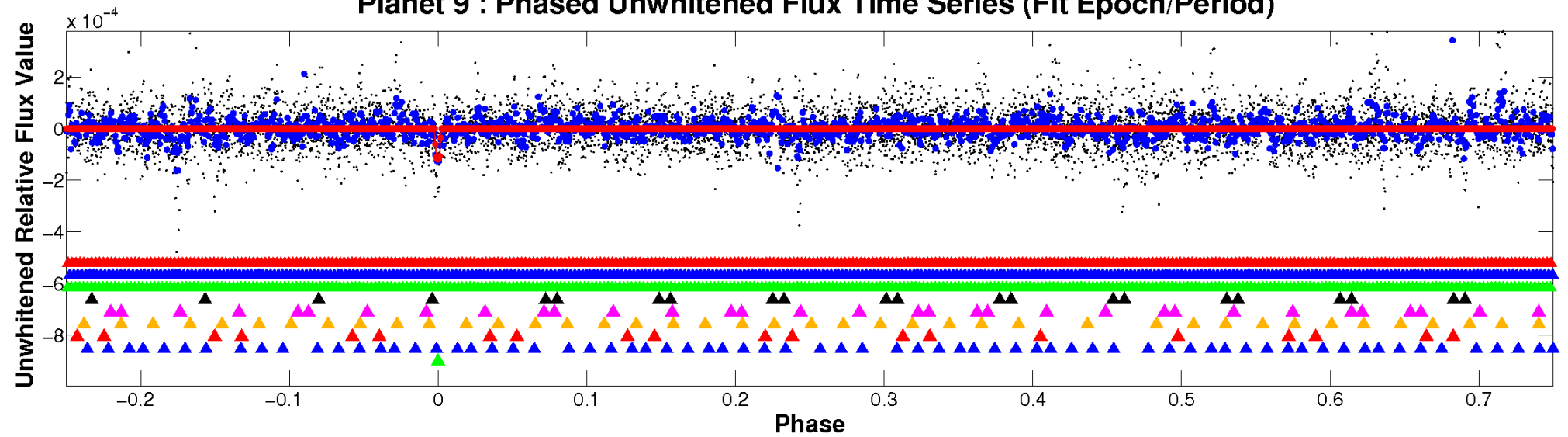
ALT Odd/Even

TCE 006515722-09

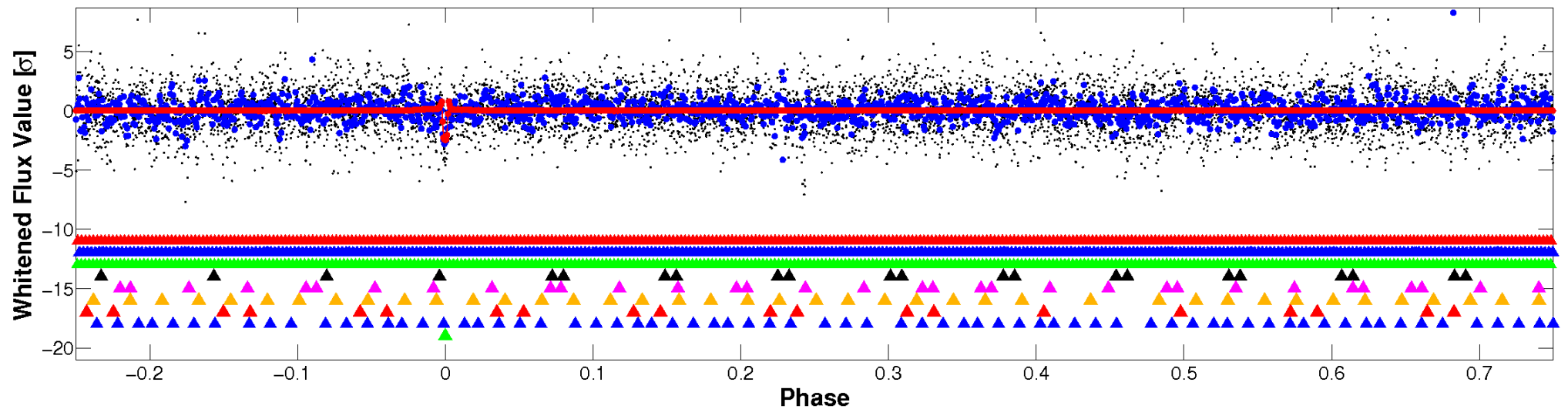


Non-Whitened Vs. Whitened Light Curve

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

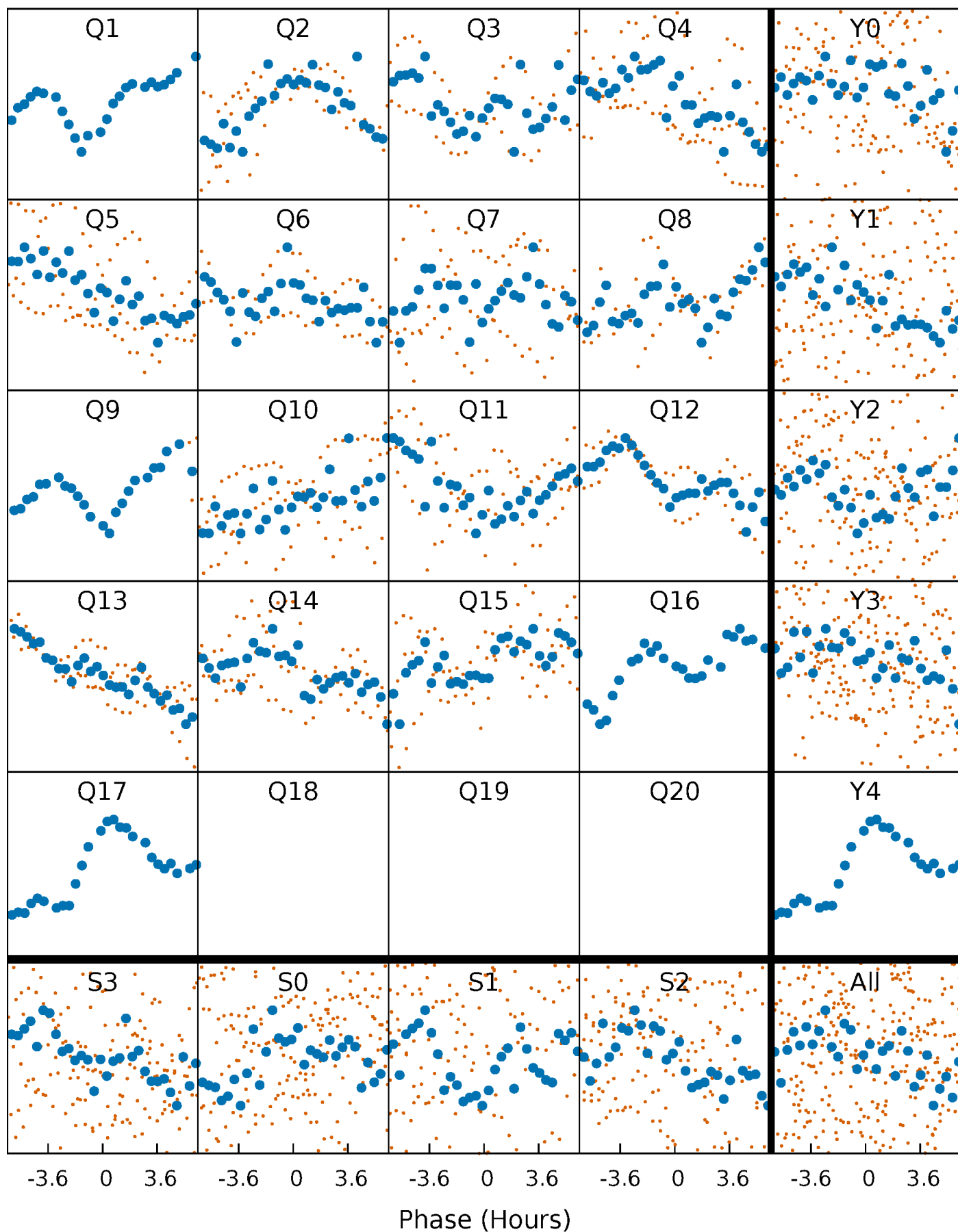


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



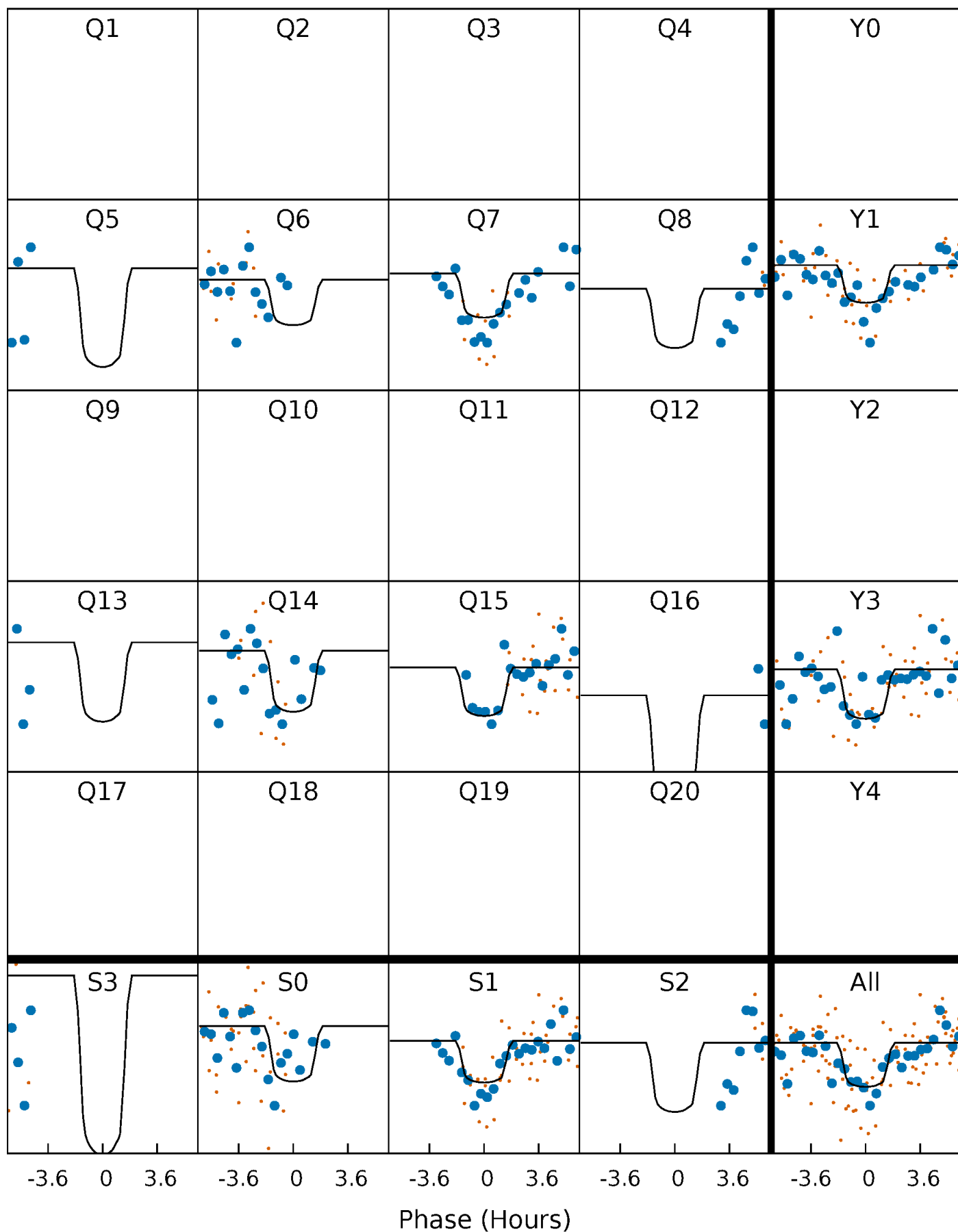
PDC Quarter-Phased Transit Curves

TCE 006515722-09 P= 34.261551 Days $T_0=155.046315$ (BKJD)



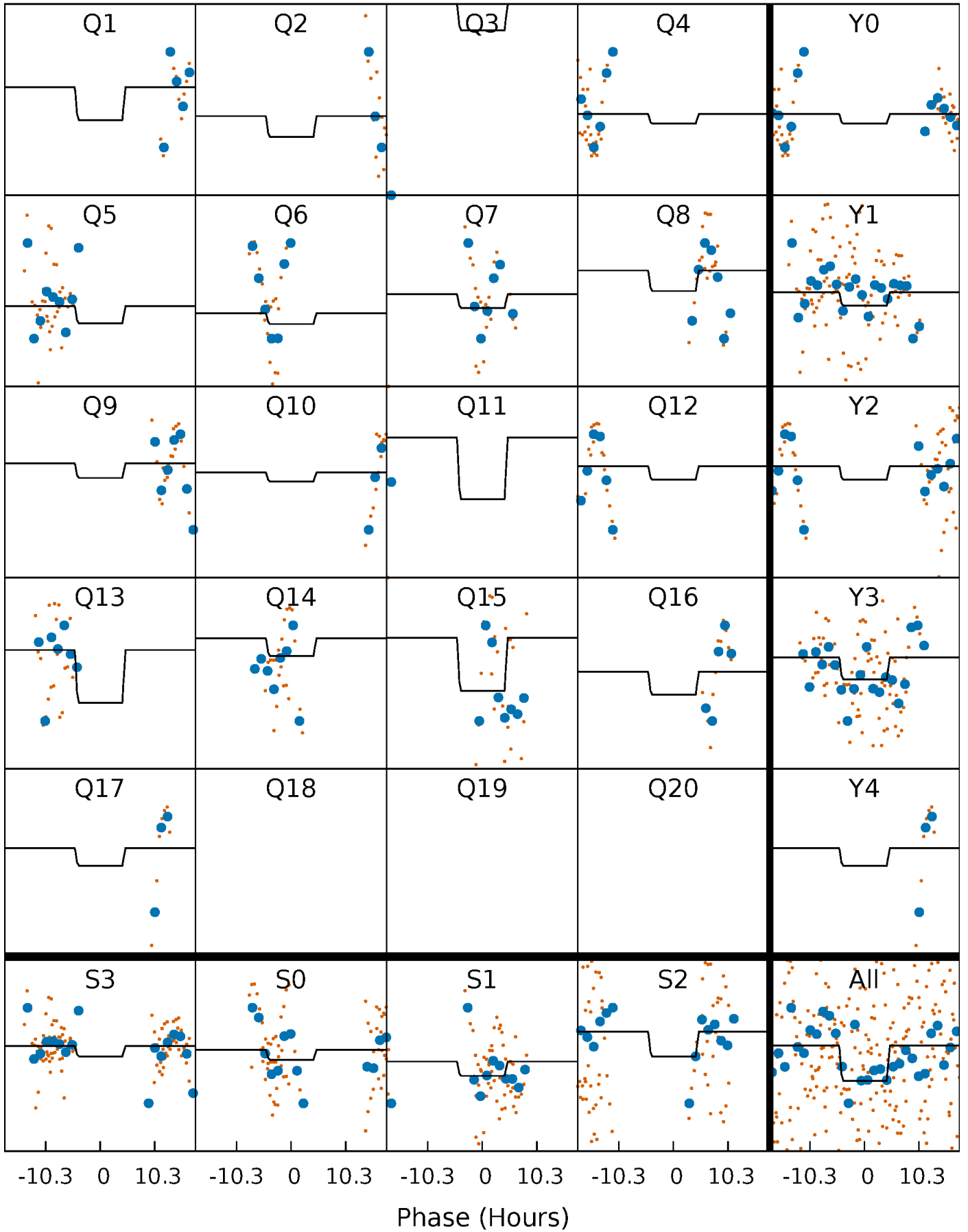
DV Quarter-Phased Transit Curves

TCE 006515722-09 P= 34.261551 Days $T_0=155.046315$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

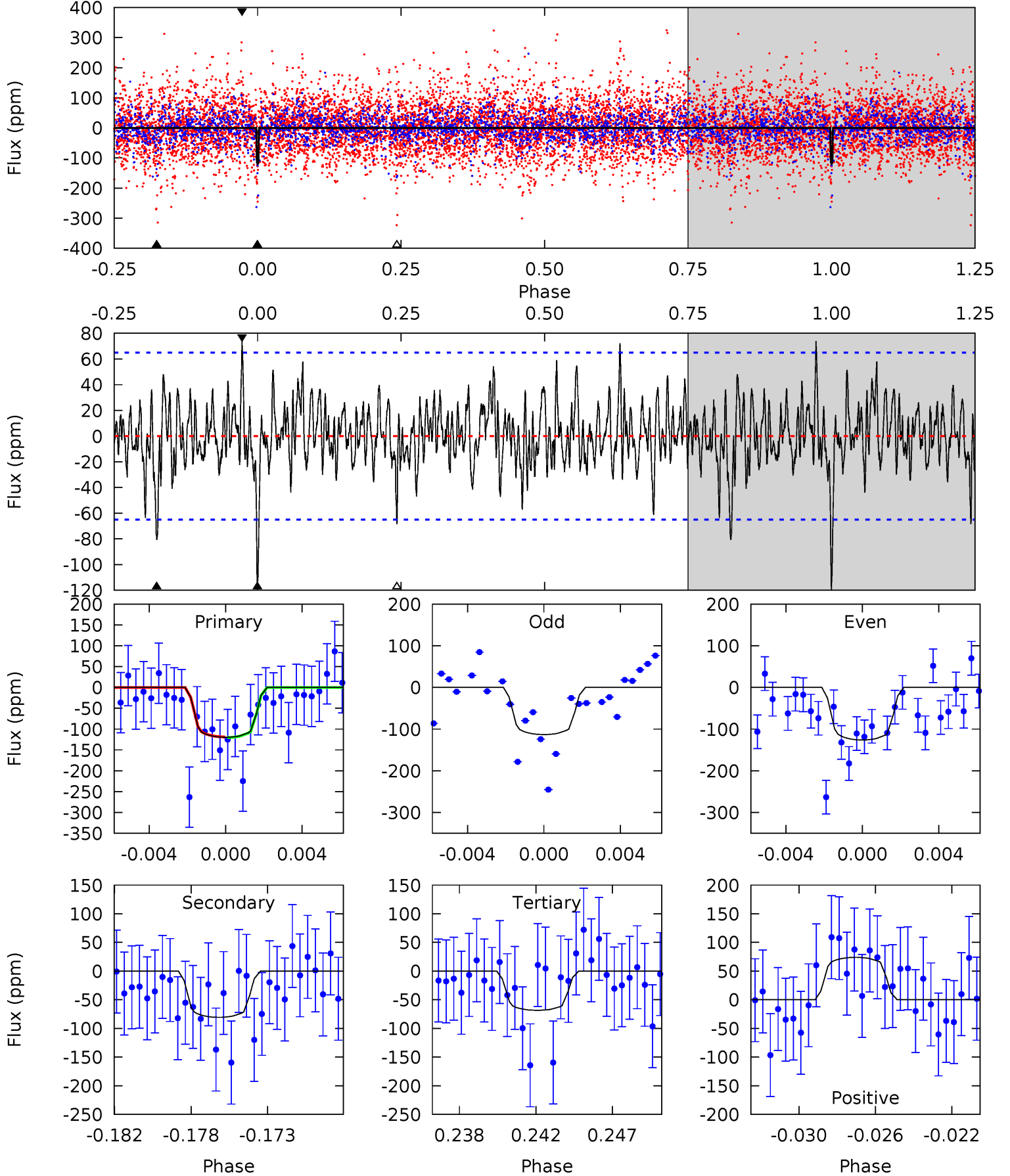
TCE 006515722-09 P= 34.261333 Days $T_0=155.044363$ (BKJD)



DV Model-Shift Uniqueness Test

006515722-09, P = 34.261551 Days, E = 120.784764 Days

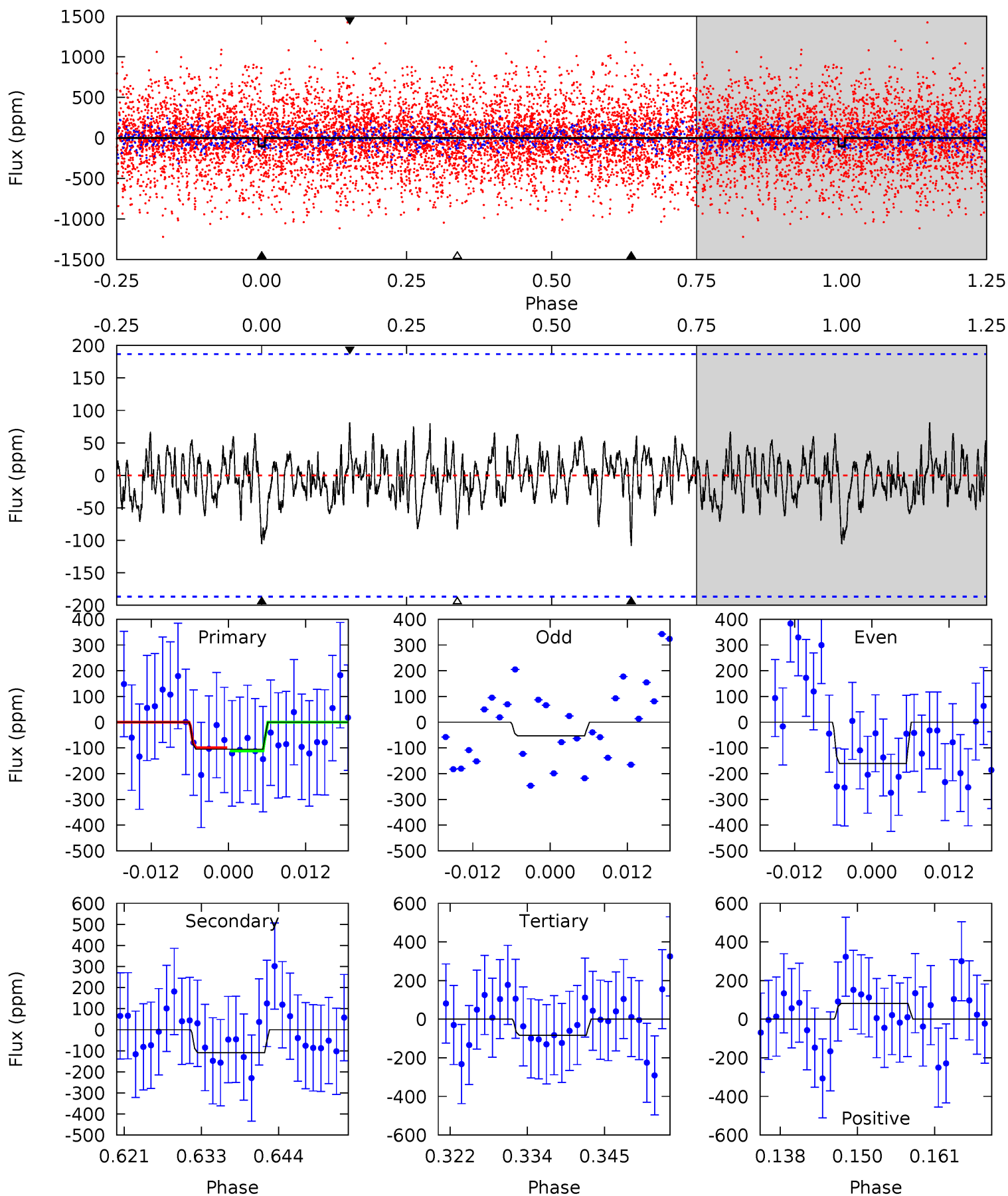
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.55	6.44	5.46	5.90	5.18	2.85	1.61	4.09	3.65	0.98	0.54	0.52	0.87	0.38	0.06



Alt Model-Shift Uniqueness Test

006515722-09, P = 34.261333 Days, E = 120.783030 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.81	2.91	2.21	2.17	5.00	2.53	0.78	0.59	0.64	0.69	0.74	1.43	0.68	0.43	0.17



Stellar Parameters For KIC 006515722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9174^{+286}_{-430}	$4.013^{+0.215}_{-0.176}$	$0.070^{+0.150}_{-0.700}$	$2.471^{+0.809}_{-0.809}$	$2.294^{+0.361}_{-0.670}$	$0.214^{+0.335}_{-0.109}$
	+3%/-5%	+5%/-4%	+214%/-1000%	+33%/-33%	+16%/-29%	+157%/-51%
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 006515722-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-81 ± 13	$2.91^{+1.37}_{-1.20}$	1688^{+143}_{-142}	8002^{+2911}_{-1469}	374^{+676}_{-201}
Alt.	-109 ± 37	$3.04^{+1.36}_{-1.26}$	1692^{+146}_{-145}	8429^{+3732}_{-1684}	461^{+859}_{-265}

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

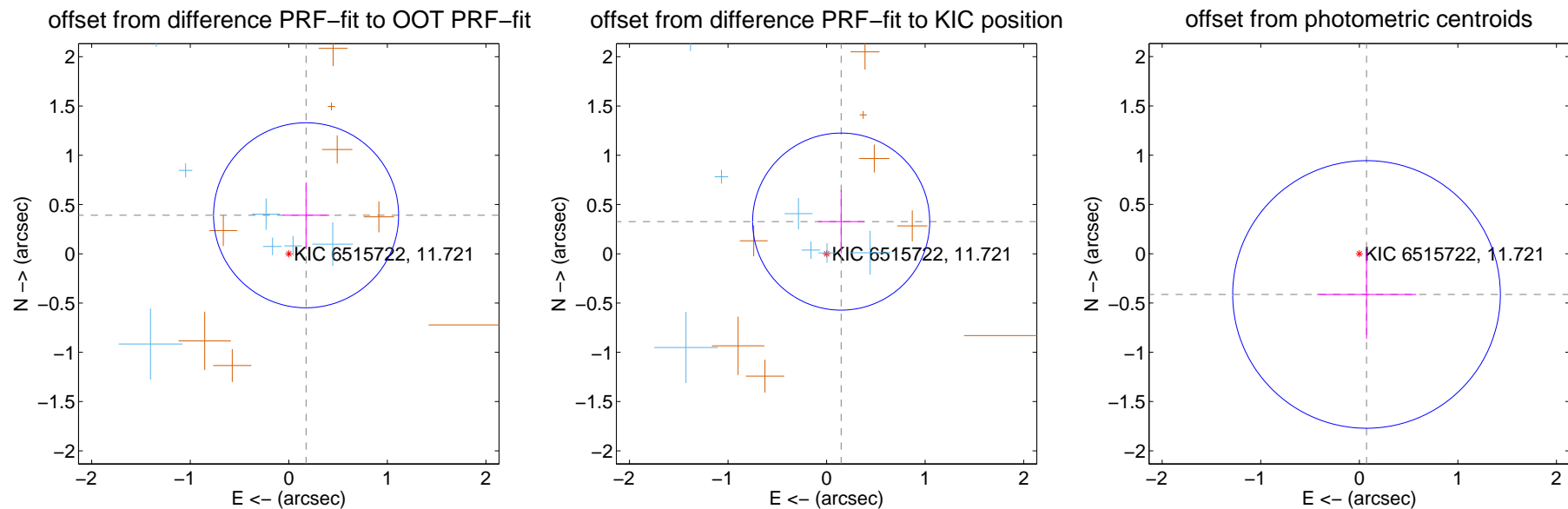
DV Centroid Data

Supplemental centroid analysis for 006515722-09. **Kepler magnitude: 11.72.** Transit SNR 11.84

There are 7 quarters with good PRF difference image offsets

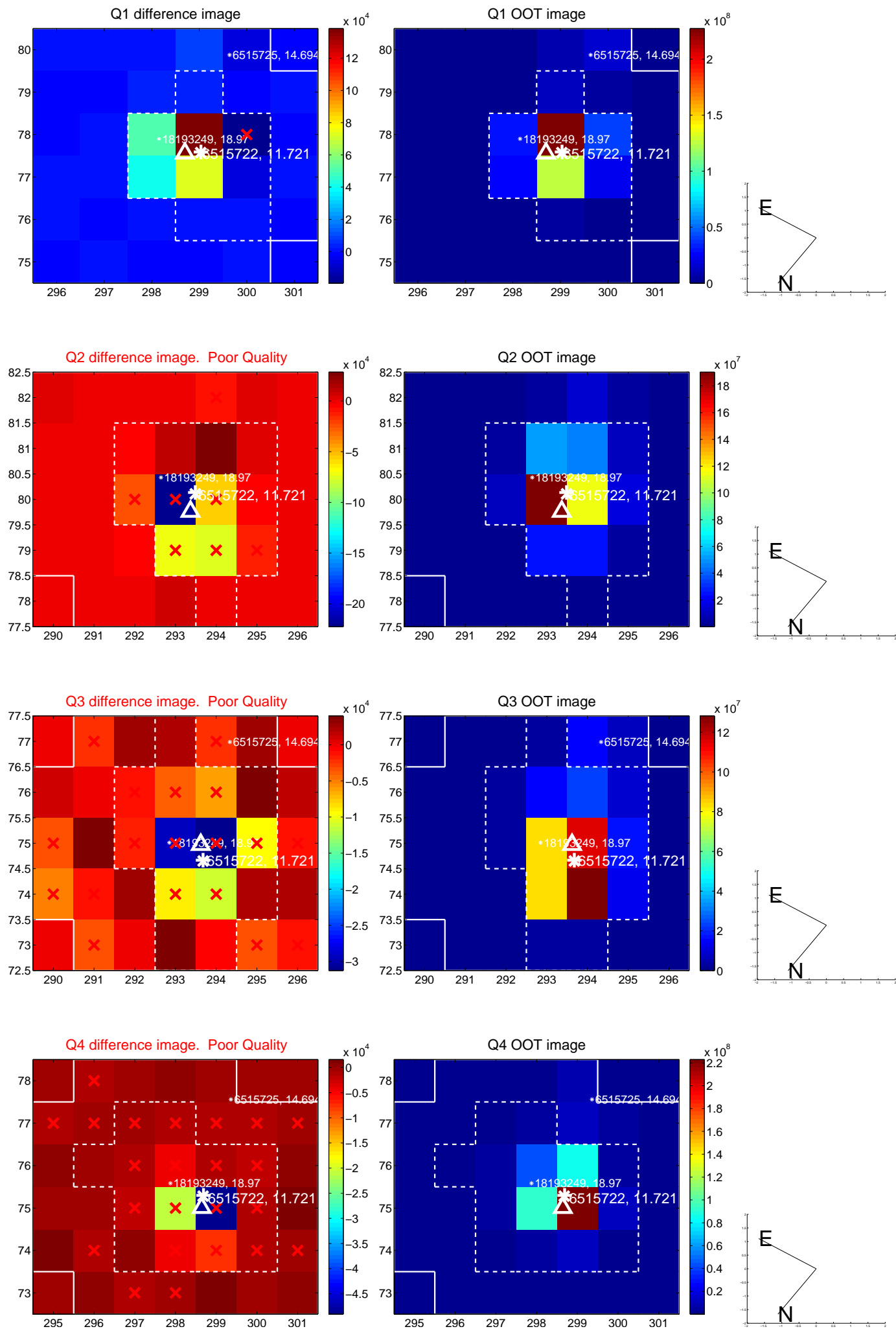
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.428 ± 0.313	1.37	-0.175 ± 0.236	0.391 ± 0.334
PRF-fit source offset from KIC position	0.359 ± 0.300	1.20	-0.148 ± 0.234	0.327 ± 0.322
photometric centroid source offset	0.42 ± 0.45	0.93	-0.07 ± 0.50	-0.41 ± 0.45

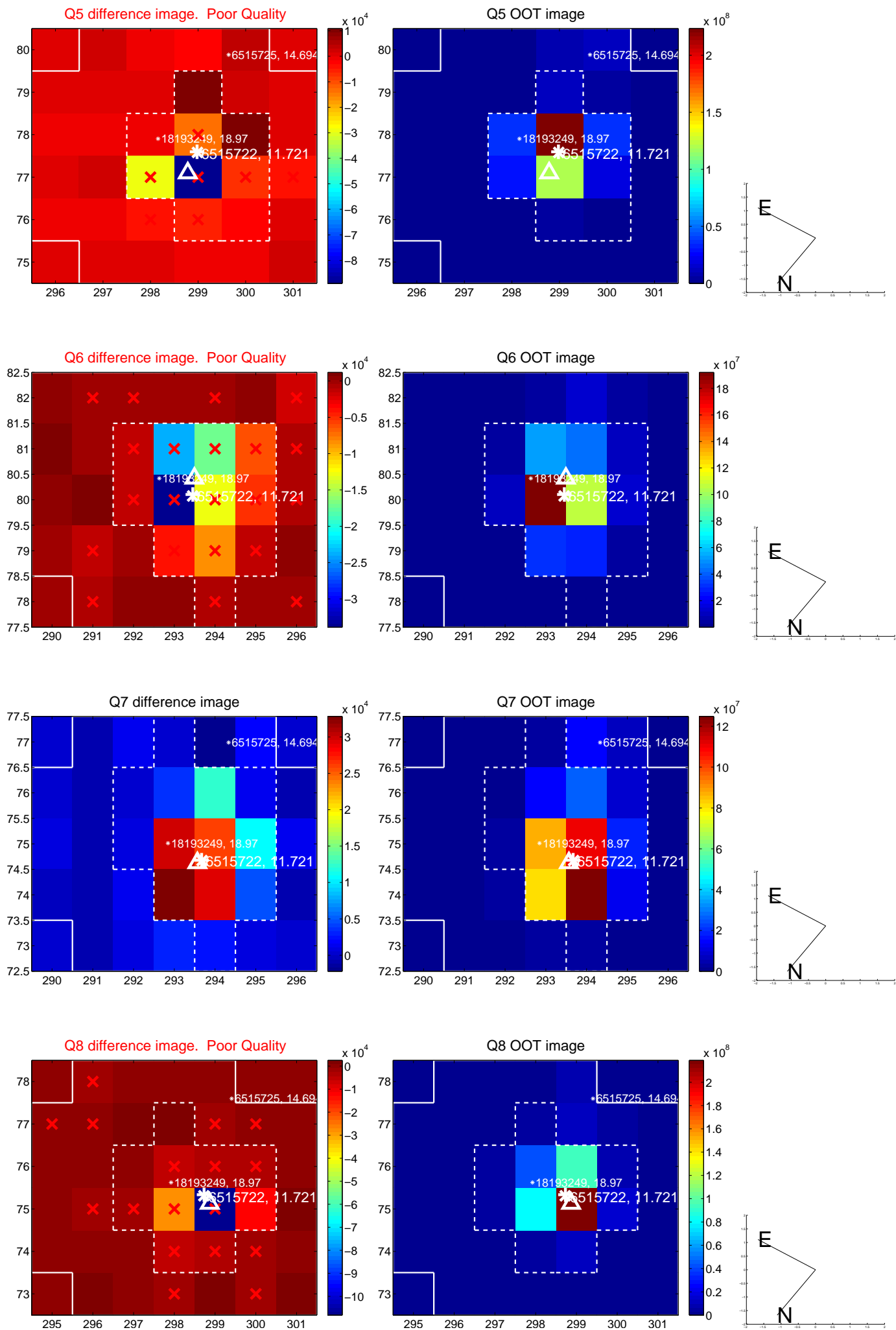


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

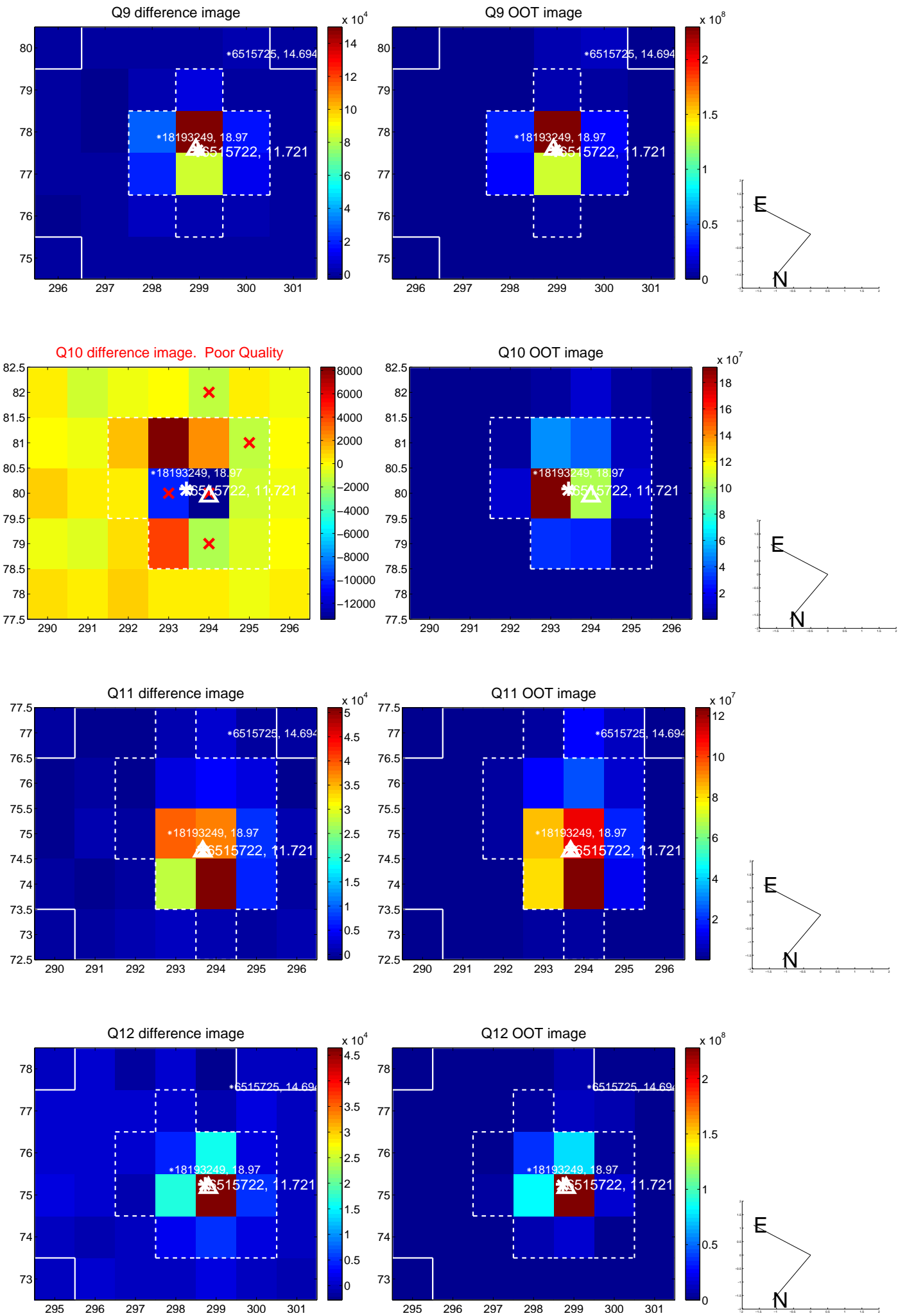
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



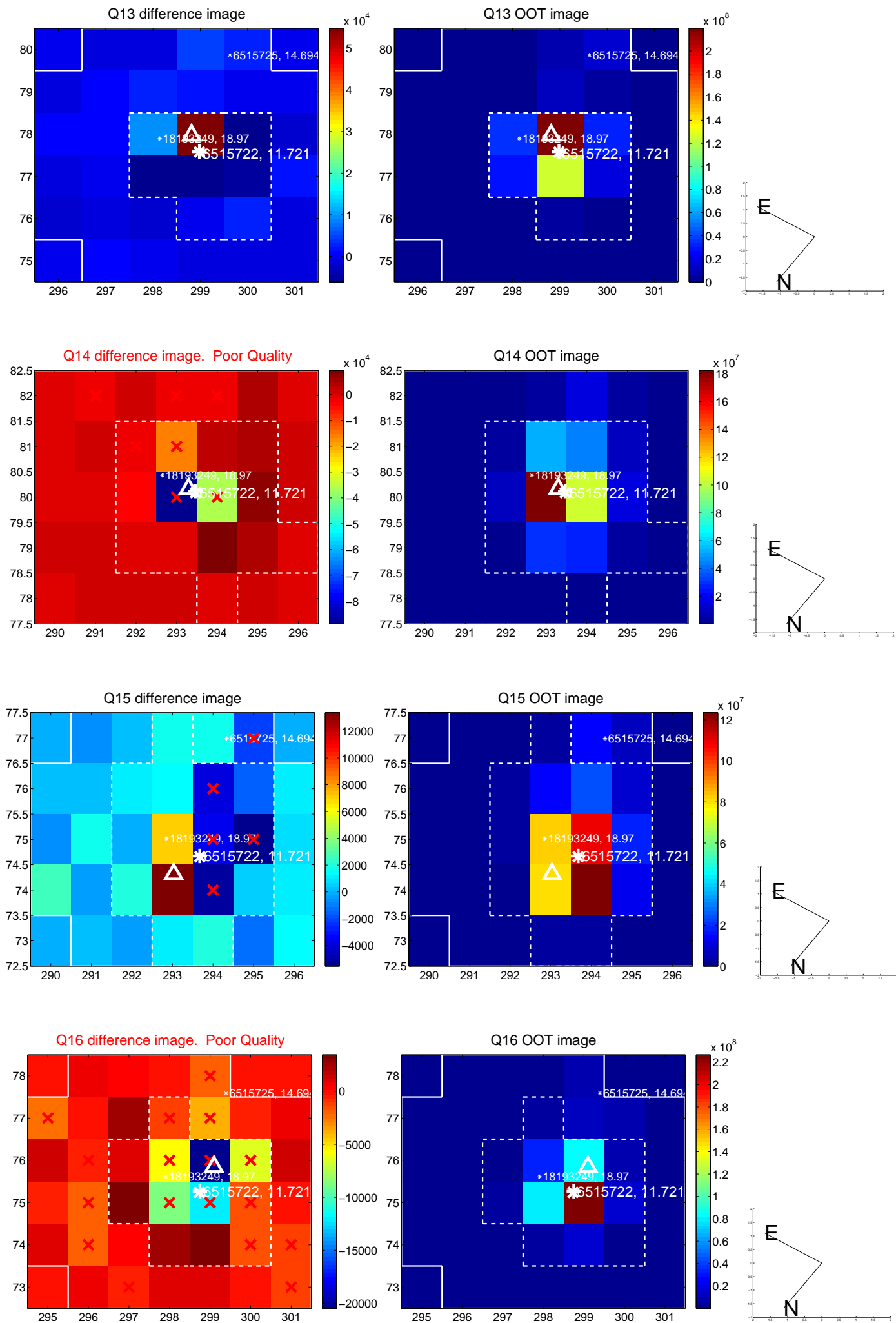
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



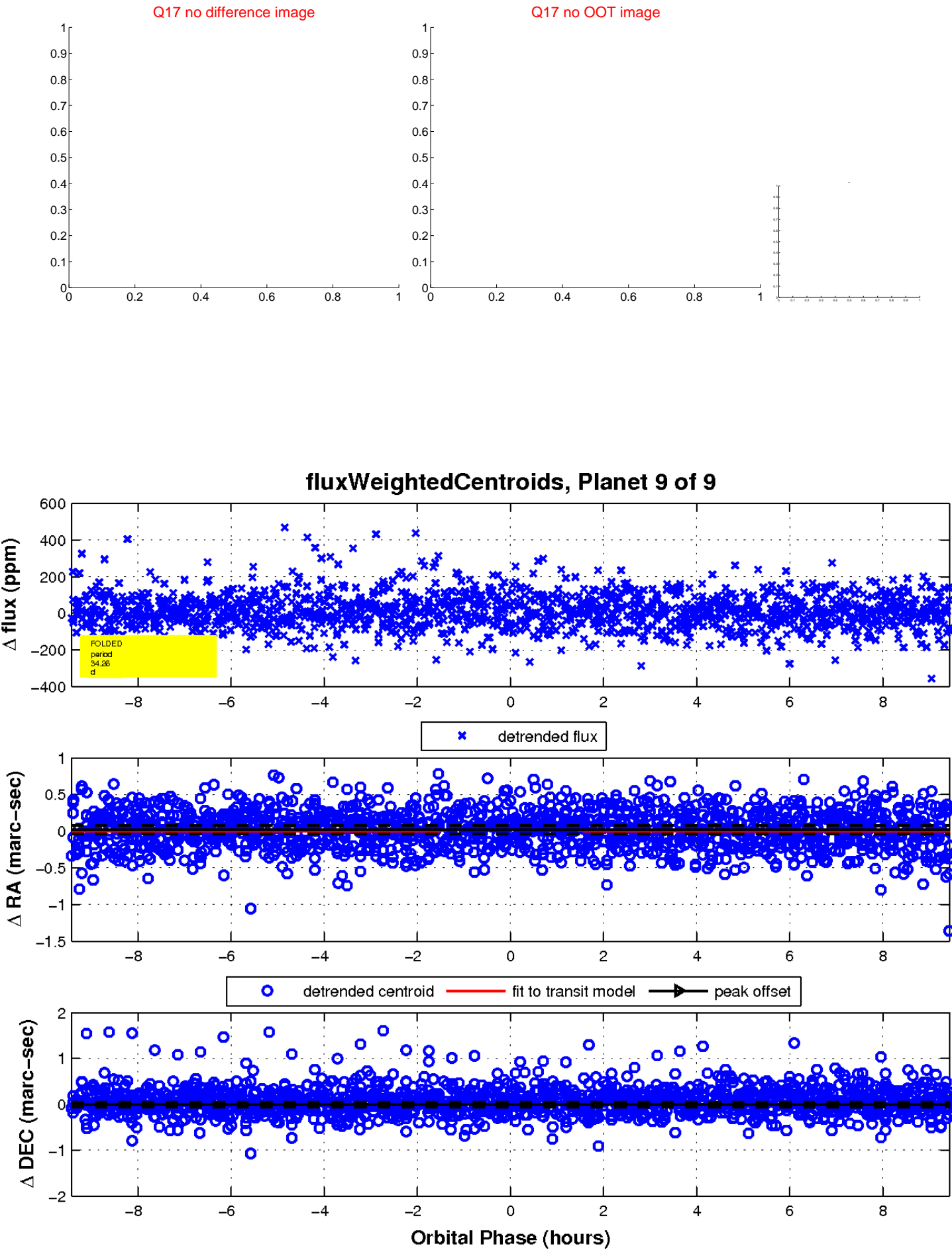
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

