

KIC 005458882

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})
005458882-01	OBS	No	2.247037	132.236633	41.3	10.199	10.9	8.9	1.23	6560	0.80	1965.16
005458882-02	OBS	No	125.675220	187.932919	174.2	5.380	8.4	3.7	1.23	6560	1.89	9.19
005458882-03	OBS	No	265.134691	390.117791	617.2	24.634	8.6	8.2	1.23	6560	3.60	3.40
005458882-04	OBS	No	203.999885	289.825075	261.8	11.909	7.8	5.0	1.23	6560	2.13	4.82
005458882-05	OBS	No	149.198218	187.180758	387.6	5.128	7.6	7.9	1.23	6560	2.66	7.31
005458882-06	OBS	No	200.021989	295.467024	314.1	13.376	7.5	7.2	1.23	6560	2.55	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005458882-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005458882-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005458882-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005458882-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005458882-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005458882-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

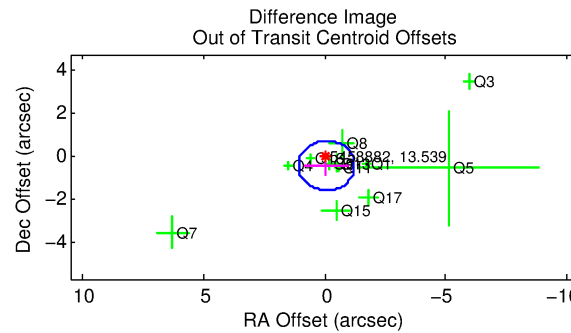
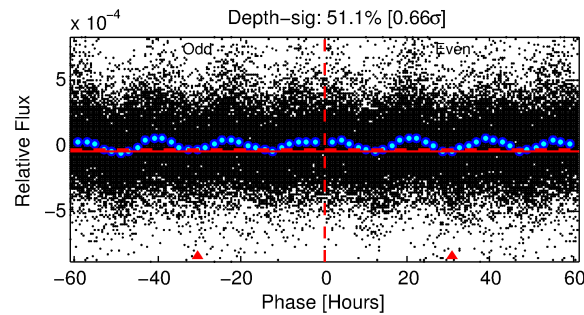
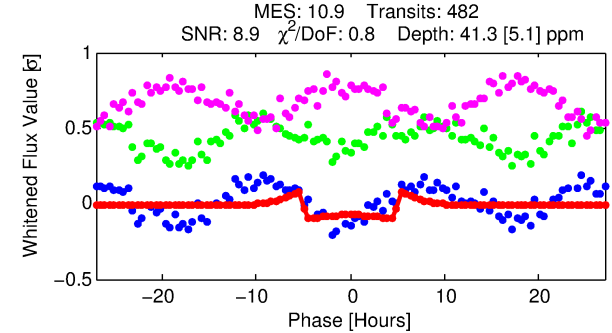
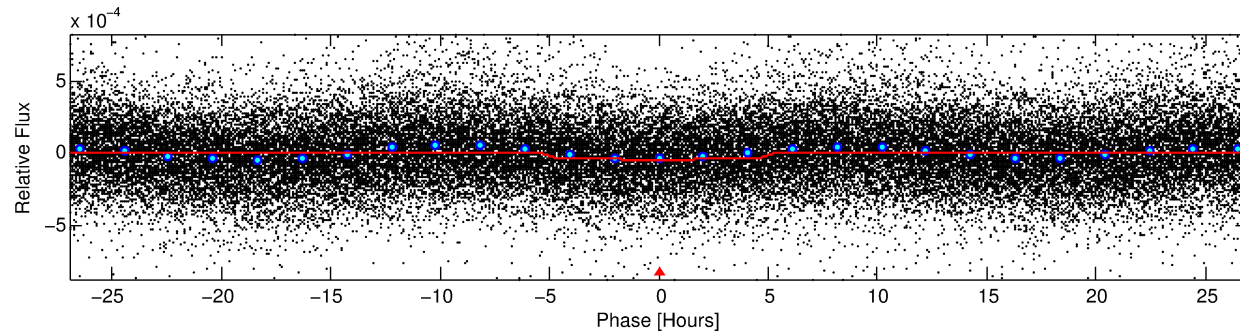
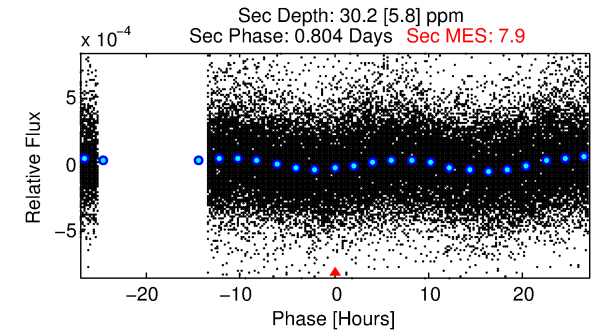
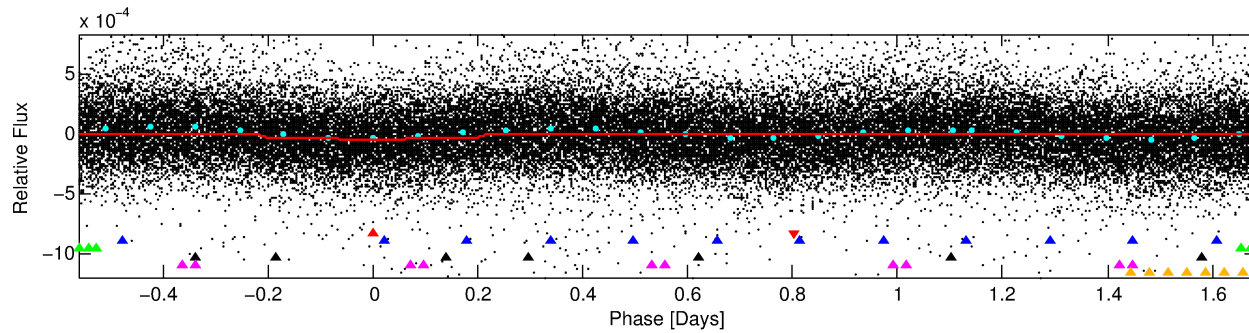
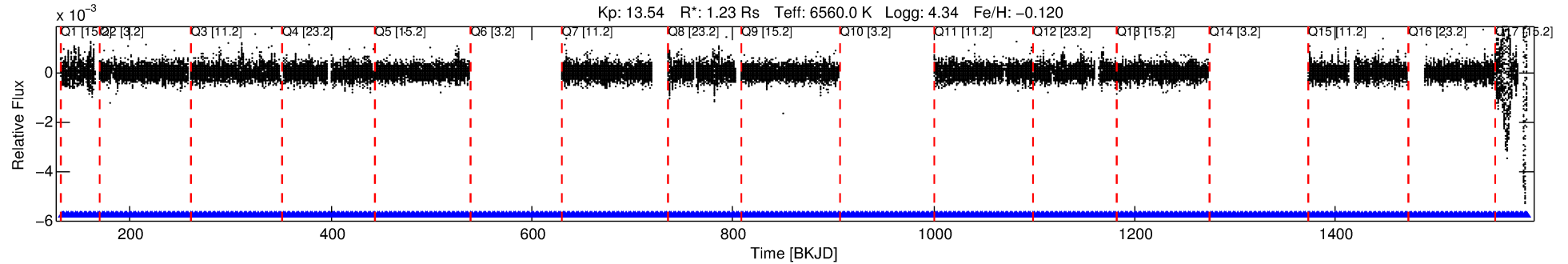
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005458882-01

No Significant Match Found

DV One-Page Summary

KIC: 5458882 Candidate: 1 of 6 Period: 2.247 d



DV Fit Results:

Period = 2.24704 [0.00002] d
Epoch = 132.2366 [0.0047] BKJD
Rp/R* = 0.0059 [0.0041]
a/R* = 1.76 [4.43]
b = 0.23 [15.18]
Seff = 1965.16 [791.55]
Teq = 1698 [171] K
Rp = 0.80 [0.61] Re
a = 0.0357 [0.0096] AU
Ag = 33.32 [47.87] [0.68σ]
Teffp = 6307 [2194] K [2.09σ]

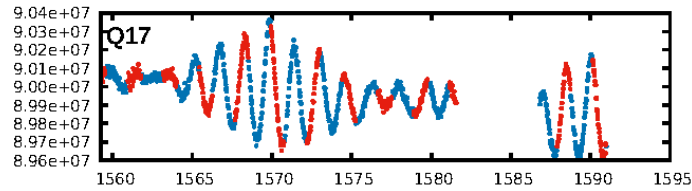
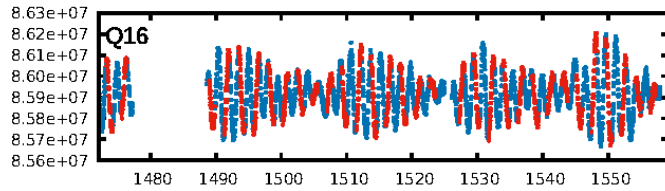
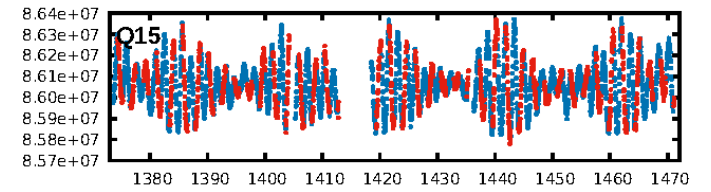
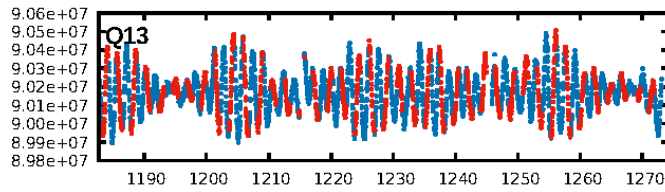
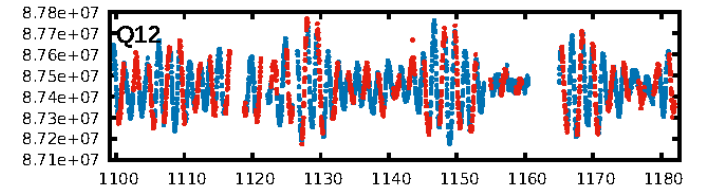
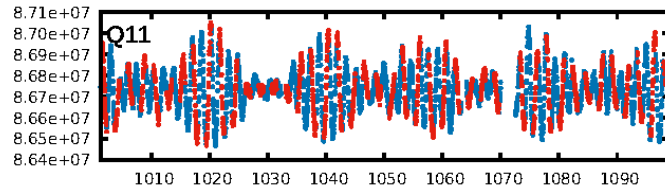
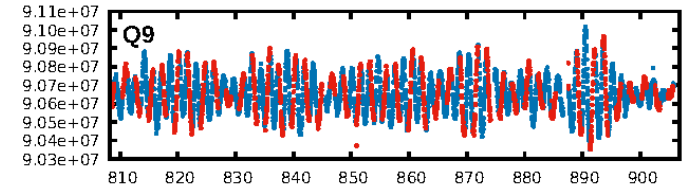
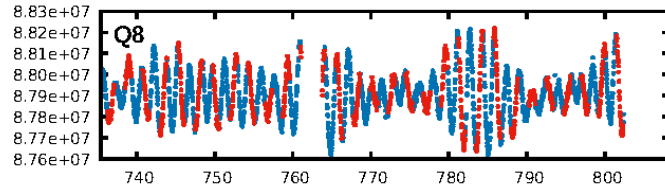
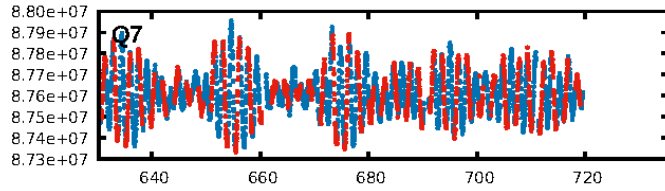
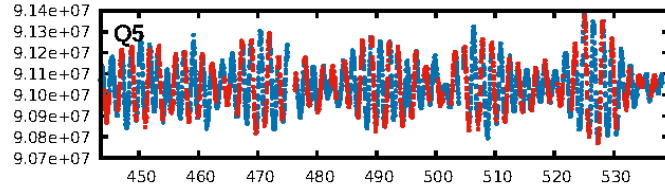
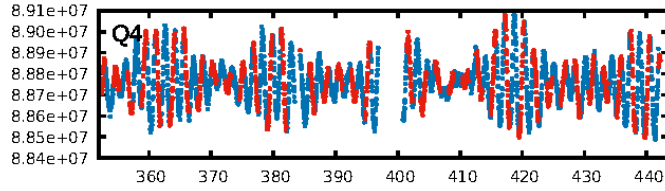
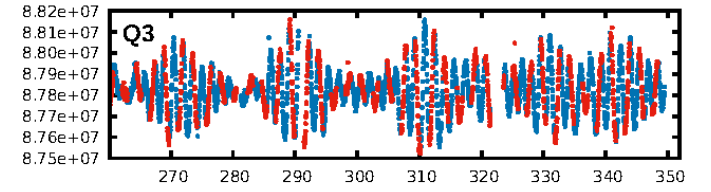
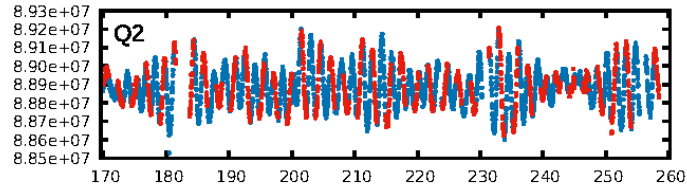
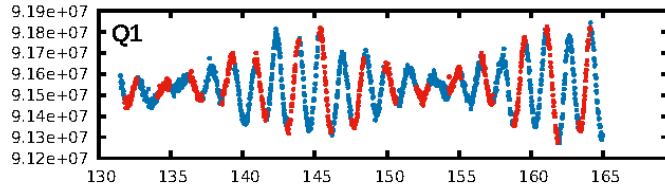
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [256.89σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.58e-17
RollingBand-fgt: 1.00 [454/454]
GhostDiagnostic-chr: 3.34
Centroid-sig: 16.6%
Centroid-so: 2.465 arcsec [2.13σ]
OotOffset-rm: 0.460 arcsec [1.19σ]
OotOffset-st: 0/4/3/5 [12]
KicOffset-rm: 0.472 arcsec [1.31σ]
KicOffset-st: 0/4/3/5 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [14/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:06:27 Z

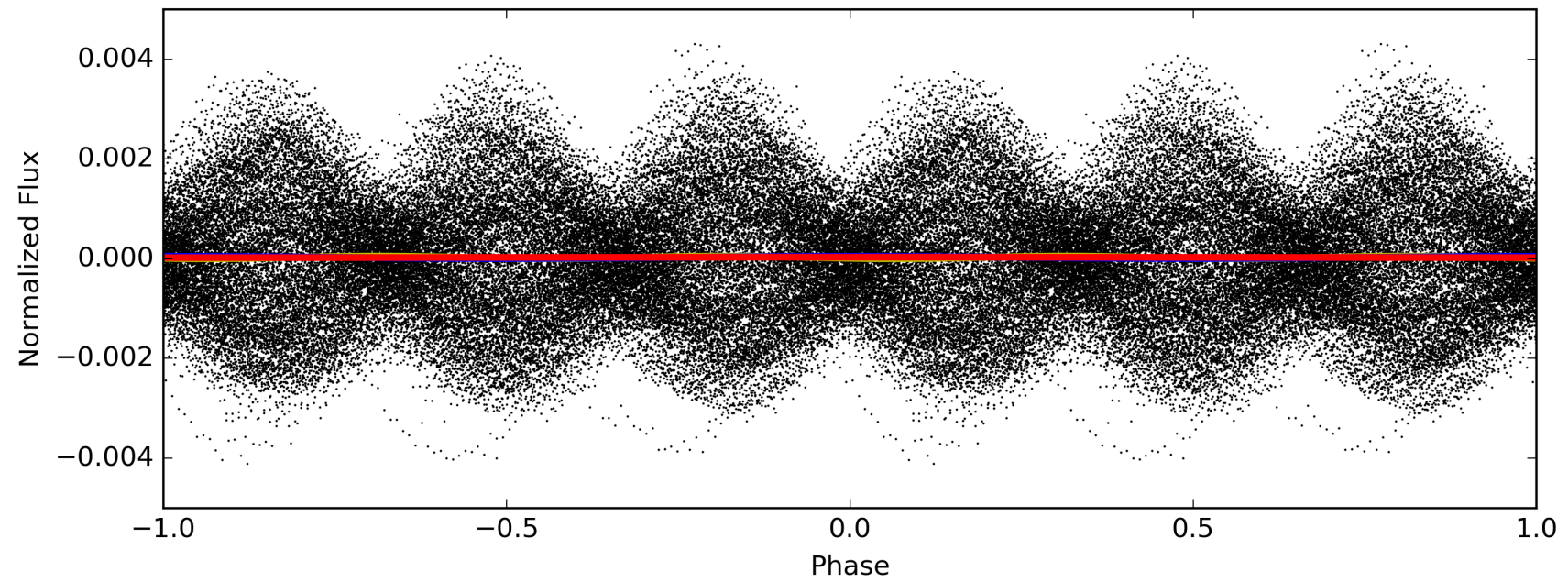
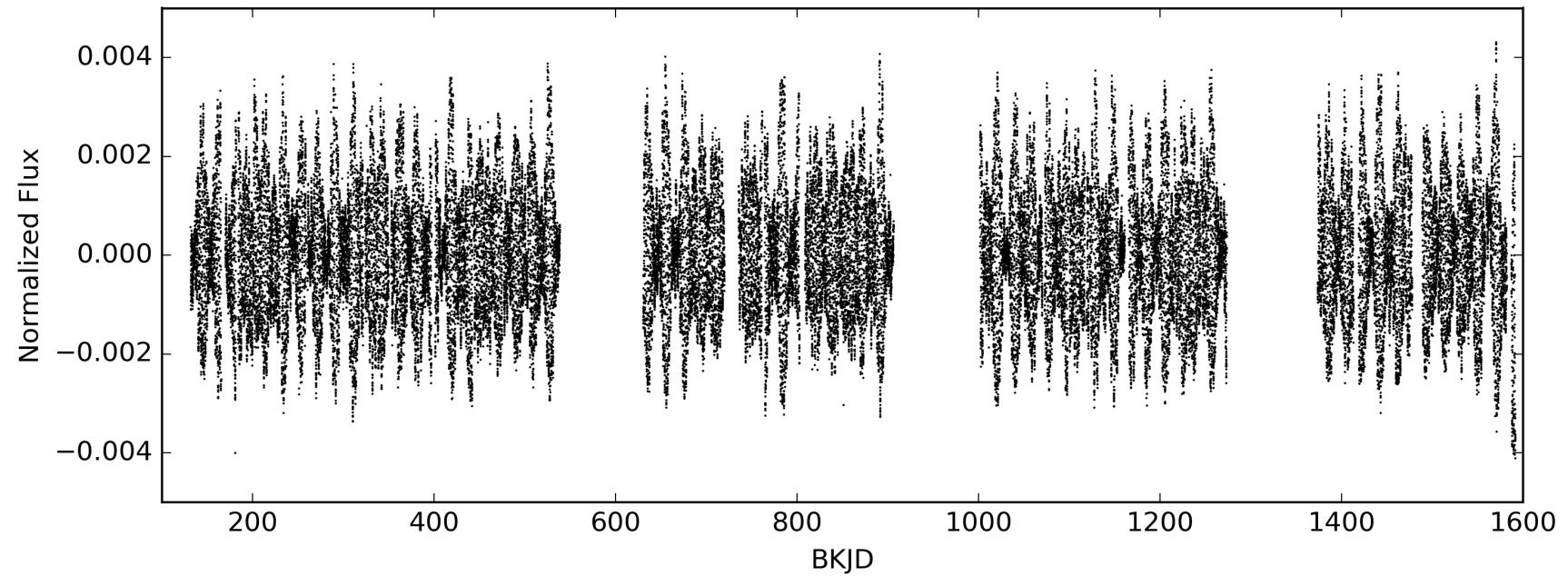
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005458882-01, PDC Light Curves



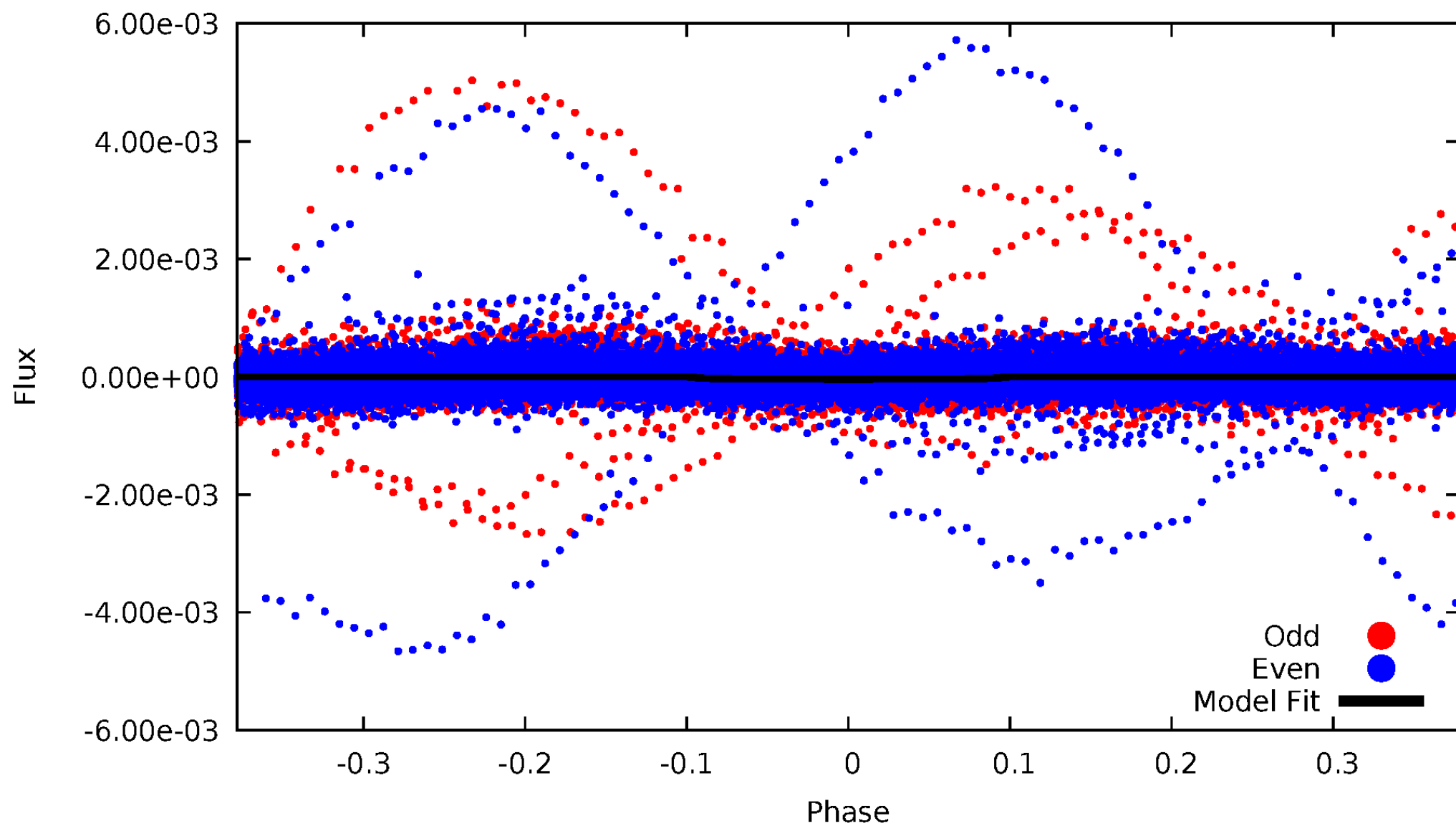
TCE 005458882-01

— P = 1.124 days — P = 2.247 days — P = 4.494 days



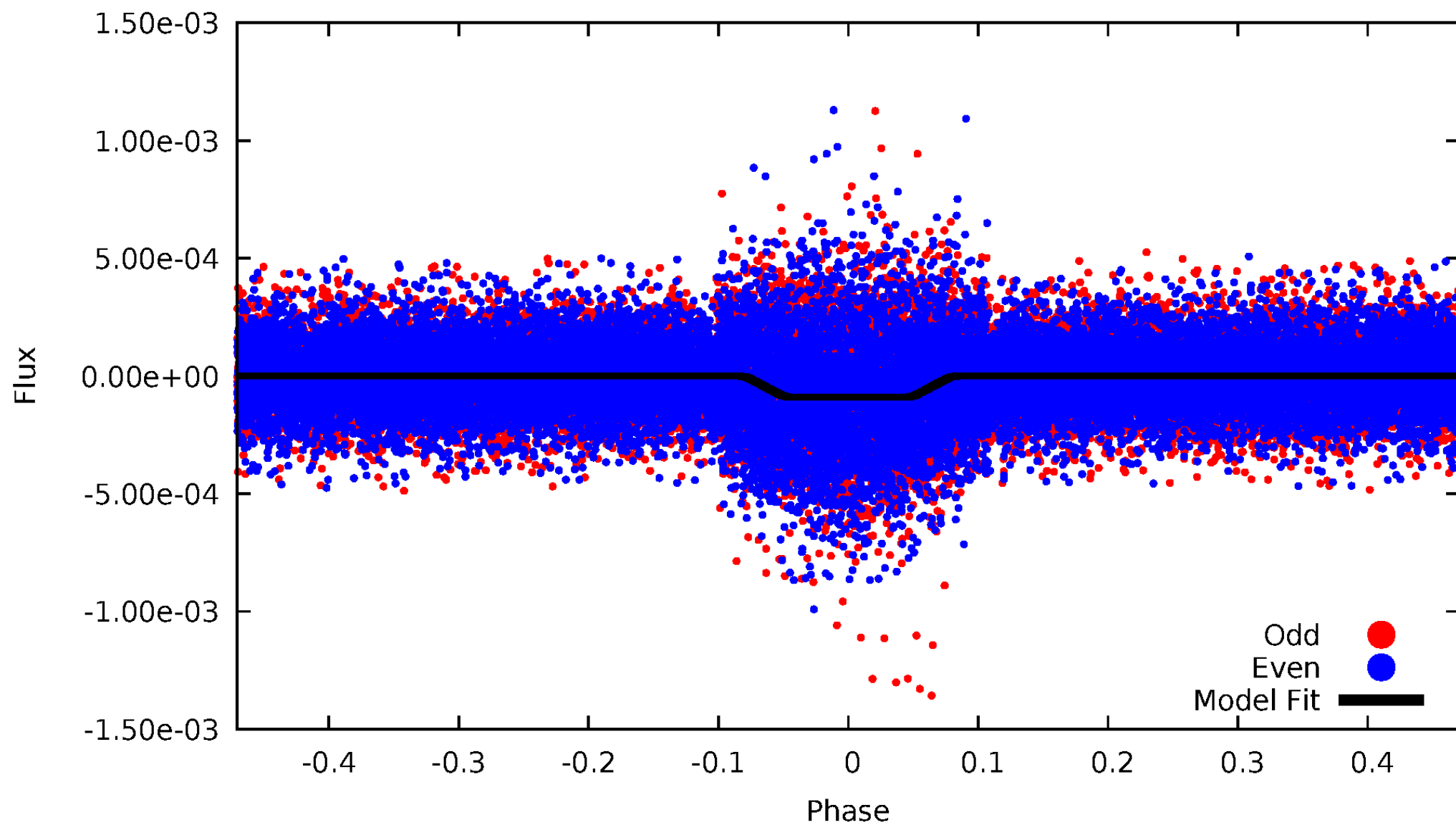
DV Odd/Even

TCE 005458882-01



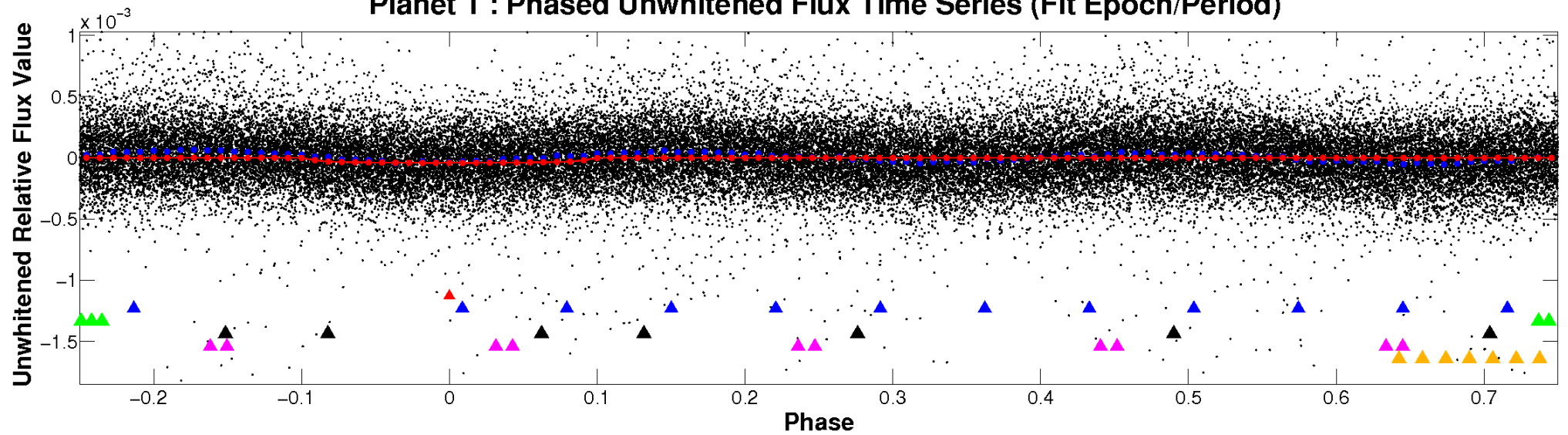
ALT Odd/Even

TCE 005458882-01

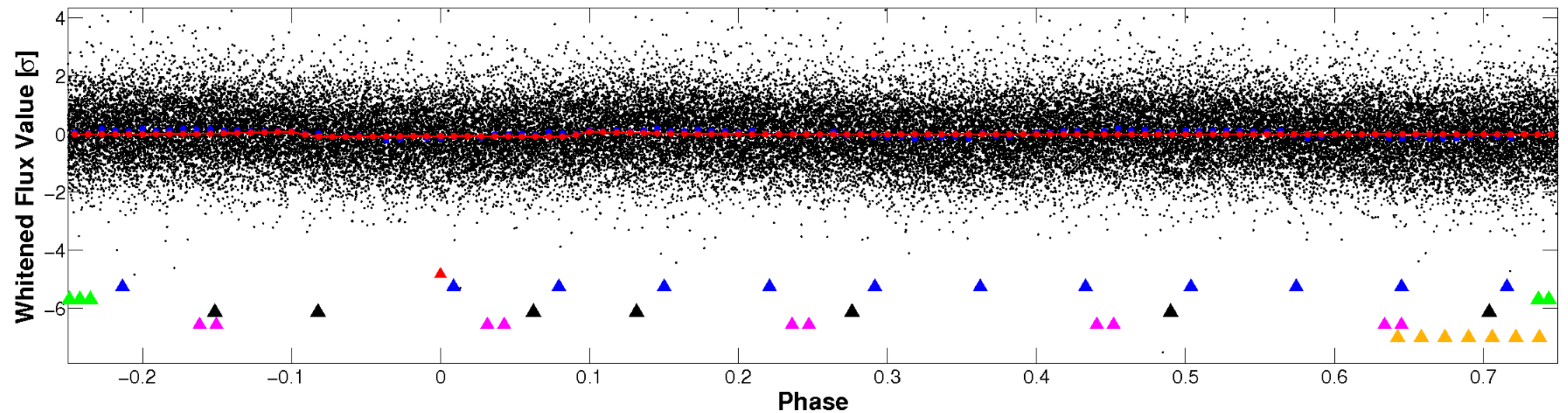


Non-Whitened Vs. Whitened Light Curve

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

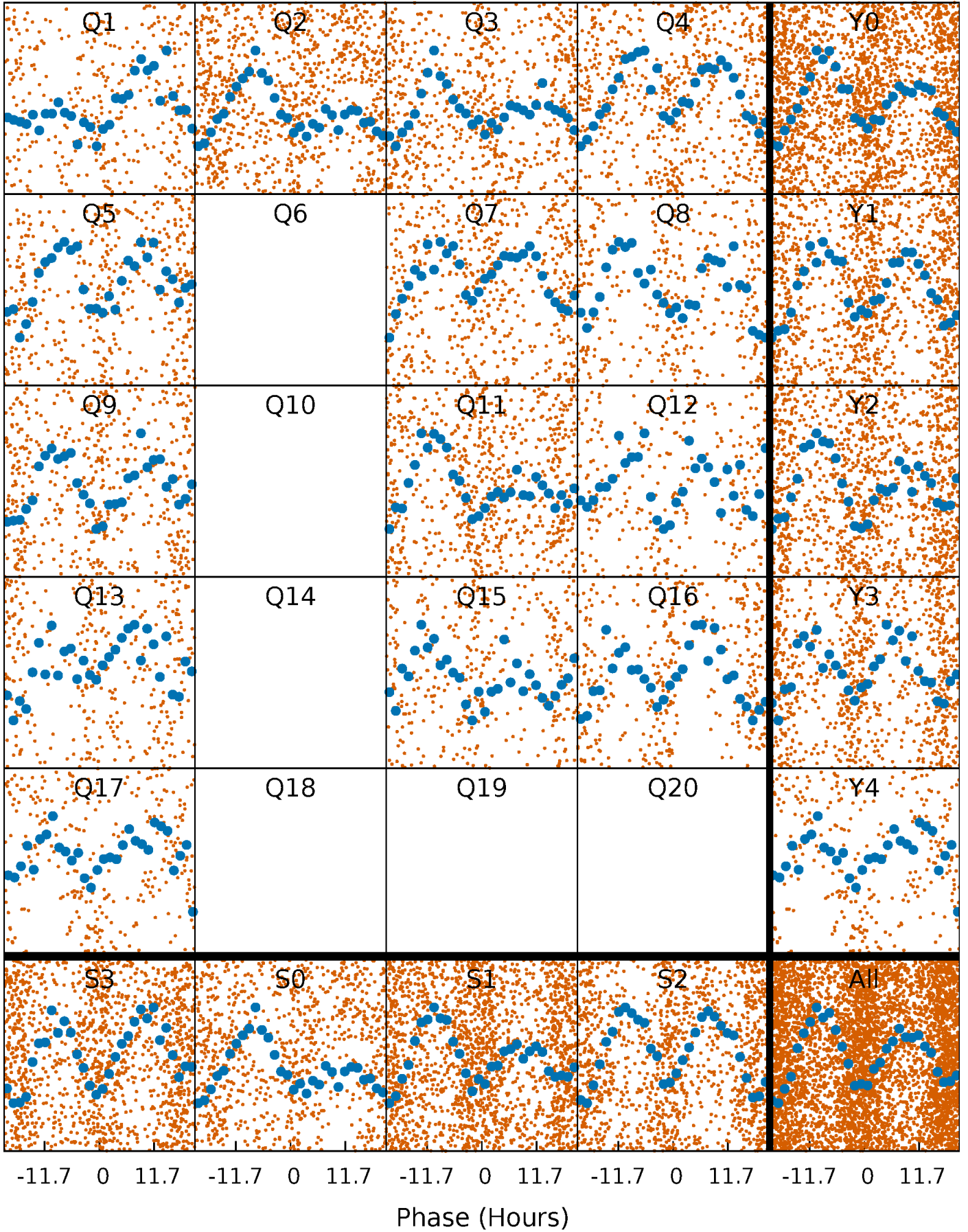


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



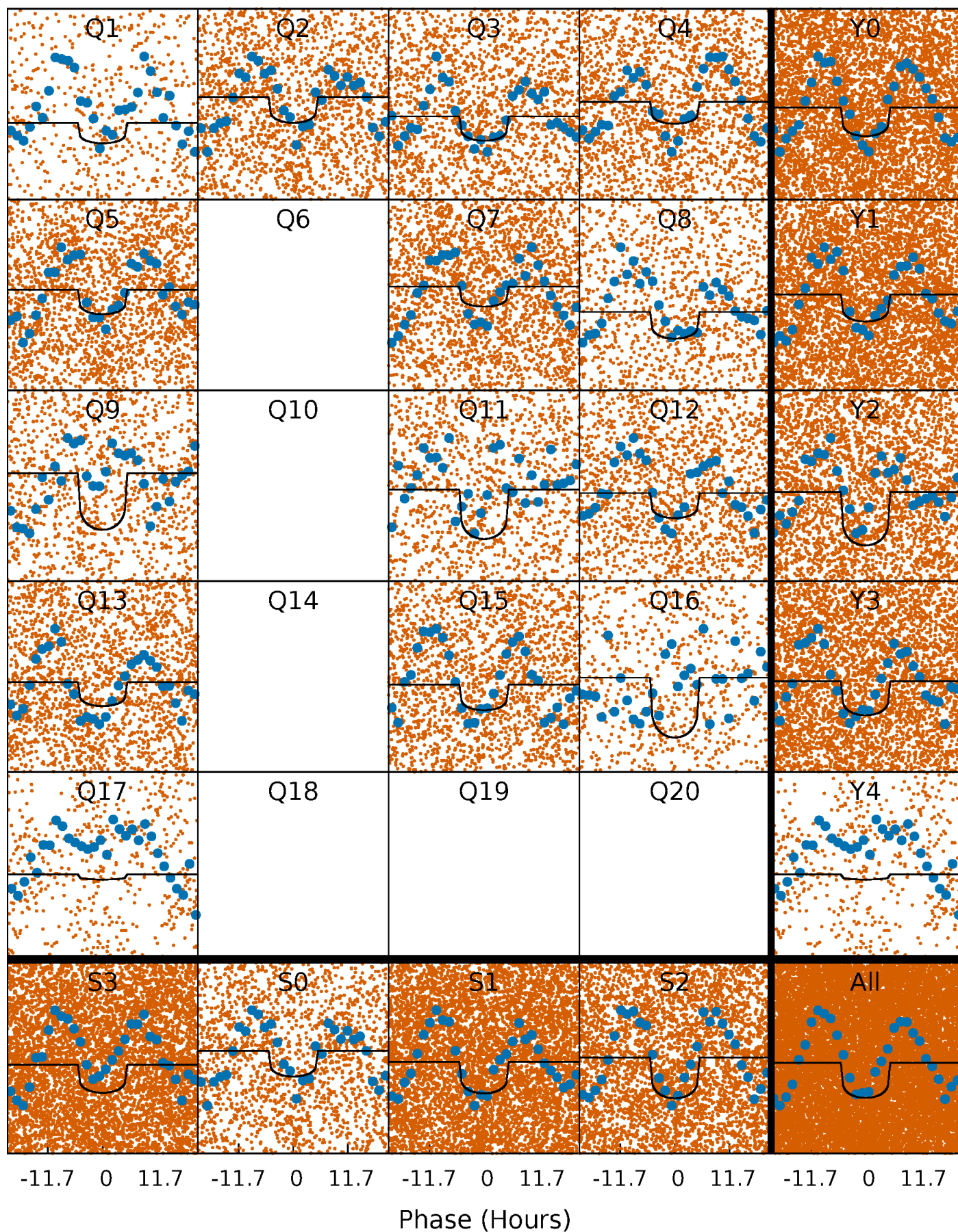
PDC Quarter-Phased Transit Curves

TCE 005458882-01 P= 2.247038 Days $T_0=132.236633$ (BKJD)



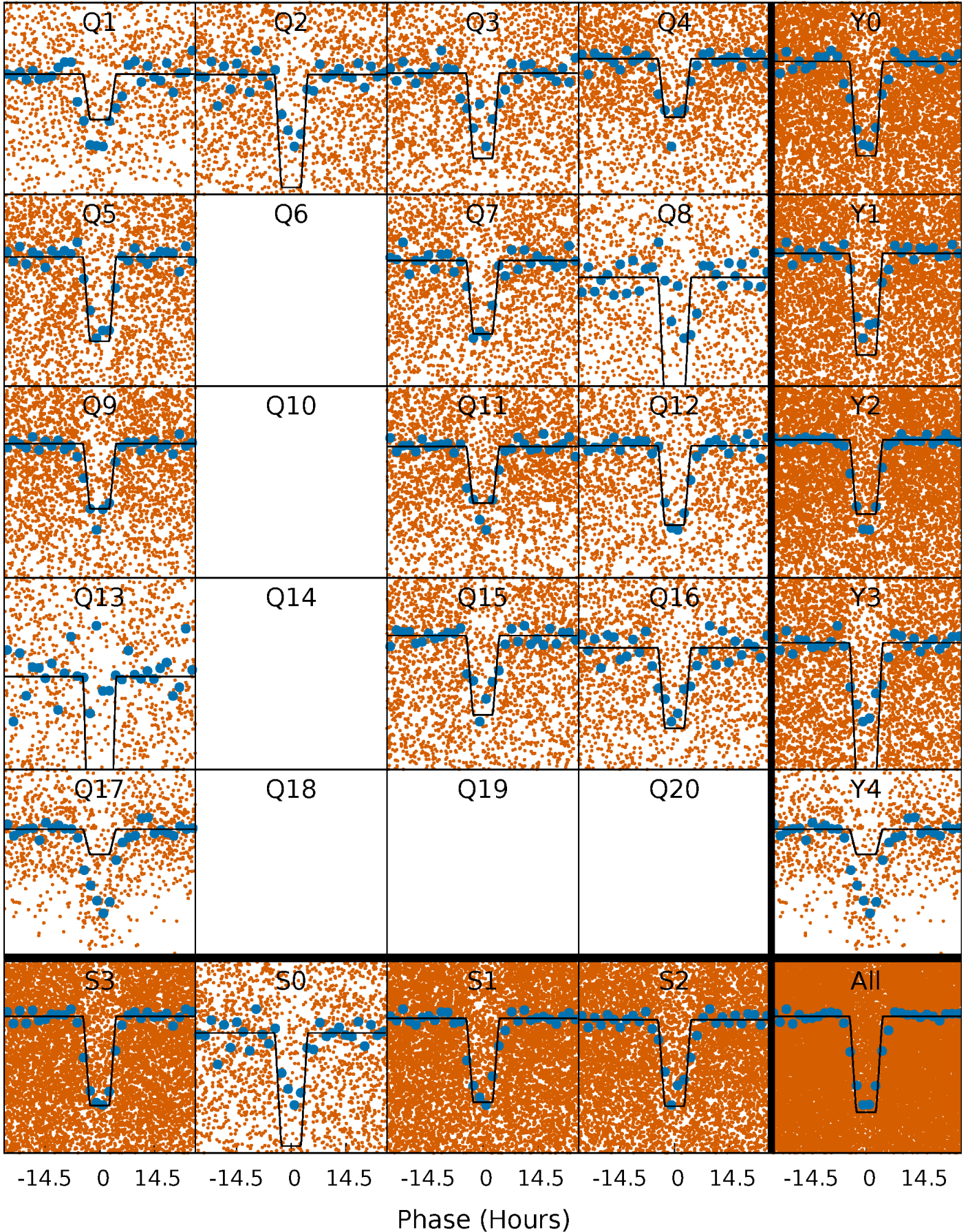
DV Quarter-Phased Transit Curves

TCE 005458882-01 P= 2.247038 Days $T_0=132.236633$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

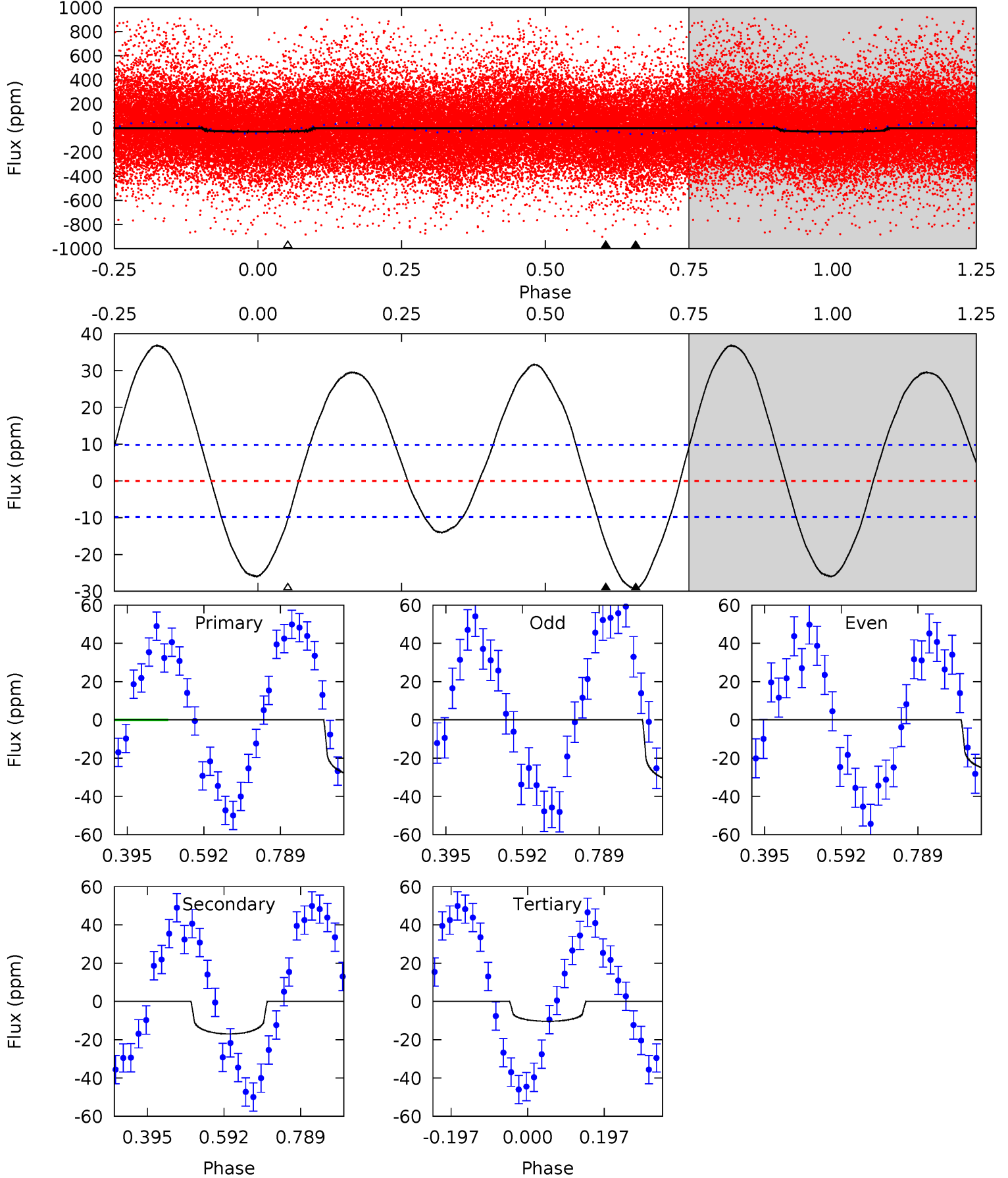
TCE 005458882-01 P= 2.246752 Days $T_0=132.281840$ (BKJD)



DV Model-Shift Uniqueness Test

005458882-01, P = 2.247038 Days, E = 129.989595 Days

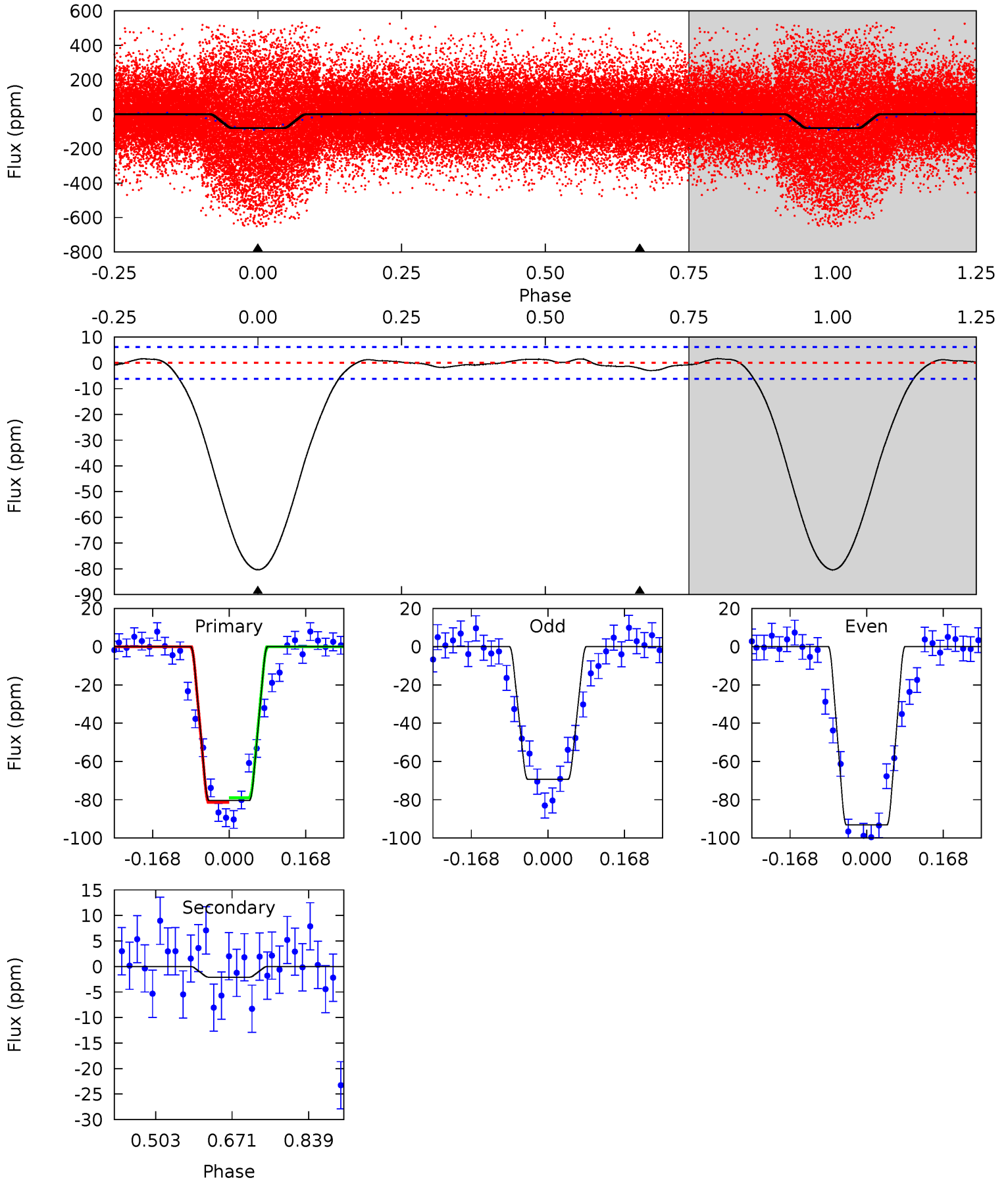
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	7.70	4.69	0	4.42	1.29	7.99	8.61	13.3	3.01	7.70	1.30	0.87	0.56	3.18



Alt Model-Shift Uniqueness Test

005458882-01, P = 2.246752 Days, E = 130.035088 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.9	1.51	0	0	4.46	1.38	0.67	57.9	57.9	1.51	1.51	8.59	1.10	0.02	0.88



Stellar Parameters For KIC 005458882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6560^{+149}_{-216}	$4.339^{+0.072}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.229^{+0.403}_{-0.144}$	$1.208^{+0.183}_{-0.164}$	$0.916^{+0.340}_{-0.476}$
	+2%/-3%	+2%/-5%	+208%/-250%	+33%/-12%	+15%/-14%	+37%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005458882-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 2	$0.90^{+0.55}_{-0.53}$	2412^{+170}_{-118}	5289^{+3247}_{-1003}	15^{+73}_{-10}
Alt.	-2 ± 1	$1.31^{+0.62}_{-0.56}$	2410^{+170}_{-114}	2916^{+820}_{-5225}	$0.774^{+1.943}_{-0.544}$

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 $A_{obs} \gg 1.0$

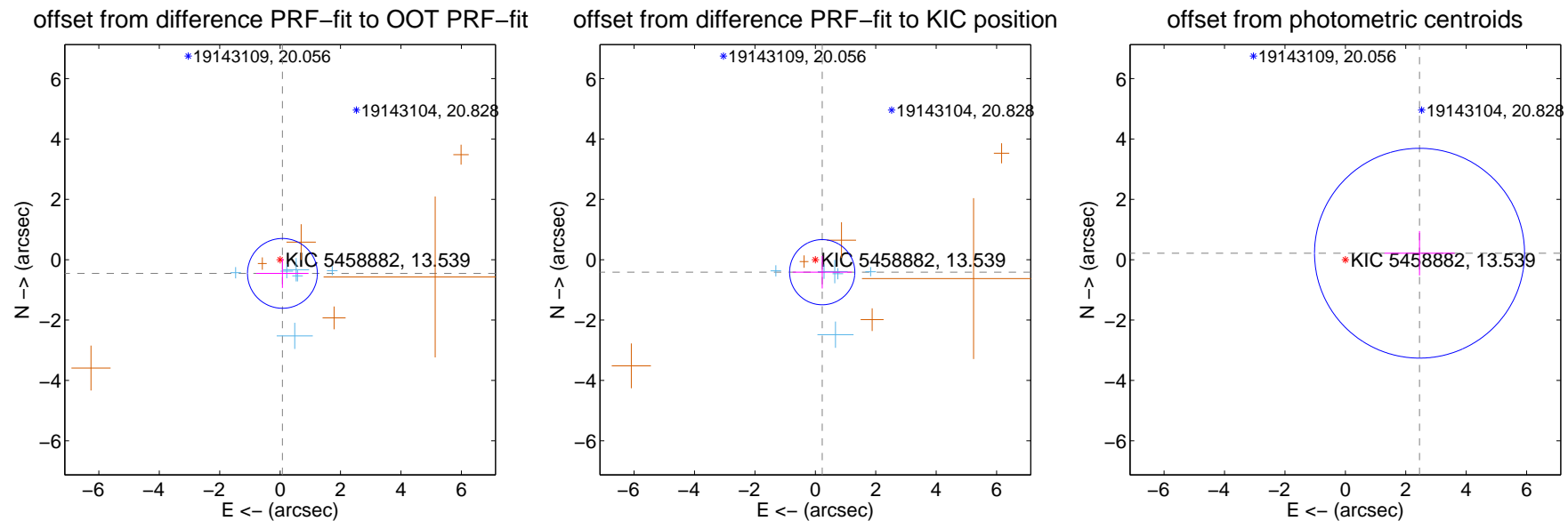
DV Centroid Data

Supplemental centroid analysis for 005458882-01. Kepler magnitude: 13.54. Transit SNR 8.88

There are 6 quarters with good PRF difference image offsets

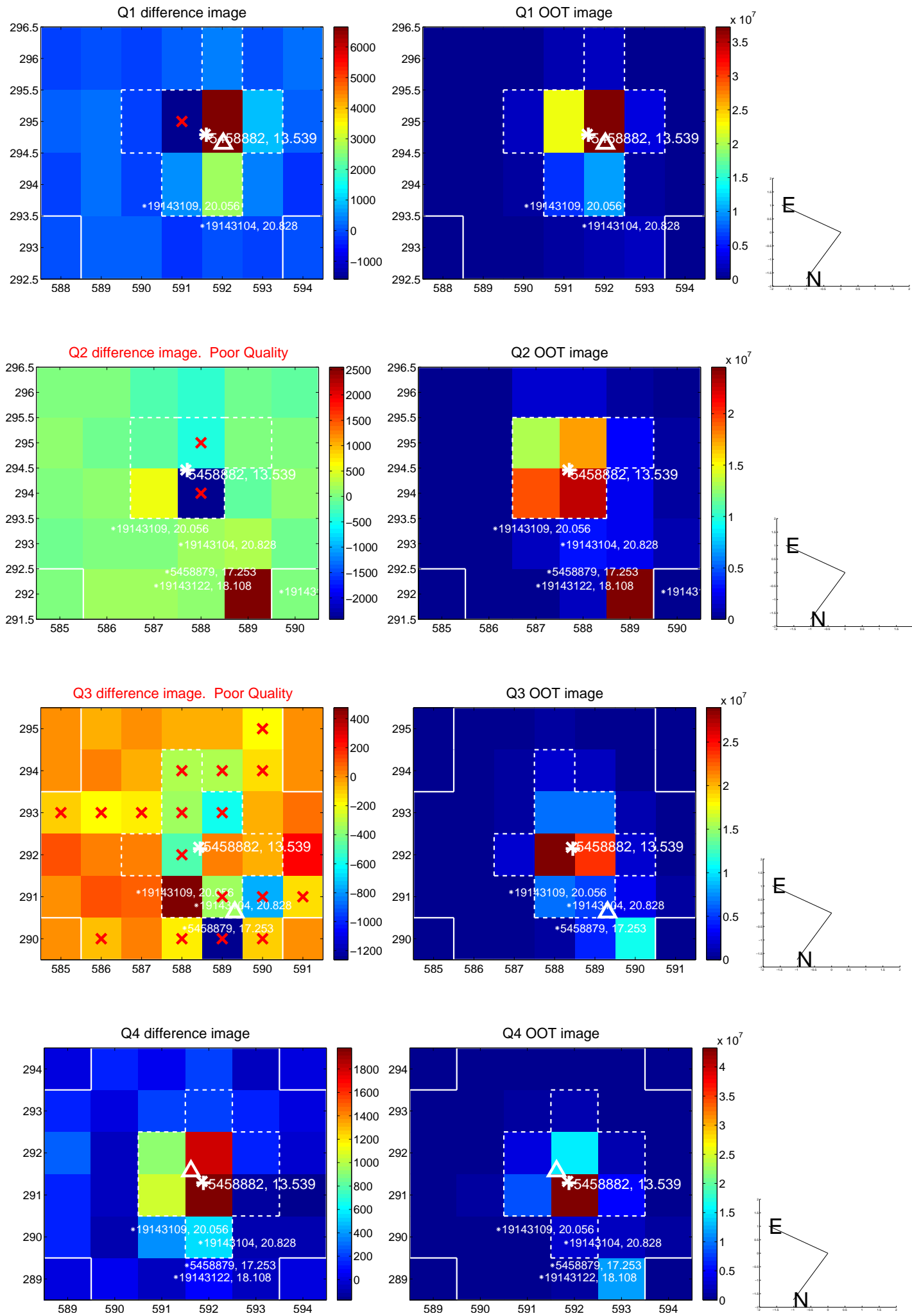
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.460 ± 0.386	1.19	-0.076 ± 0.865	-0.453 ± 0.484
PRF-fit source offset from KIC position	0.472 ± 0.360	1.31	-0.227 ± 0.978	-0.414 ± 0.540
photometric centroid source offset	2.47 ± 1.16	2.13	-2.46 ± 1.16	0.22 ± 0.74

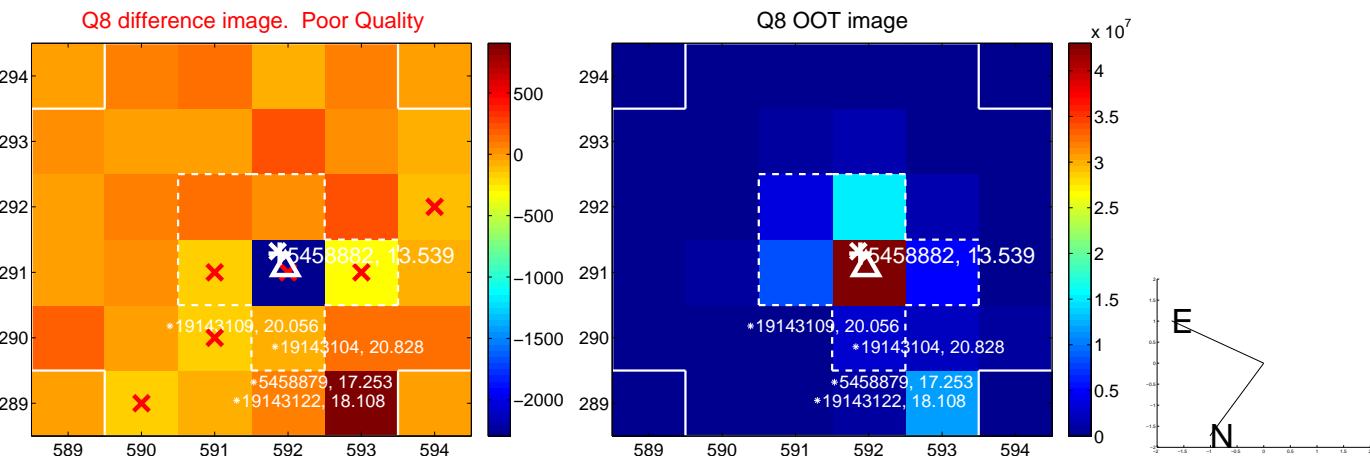
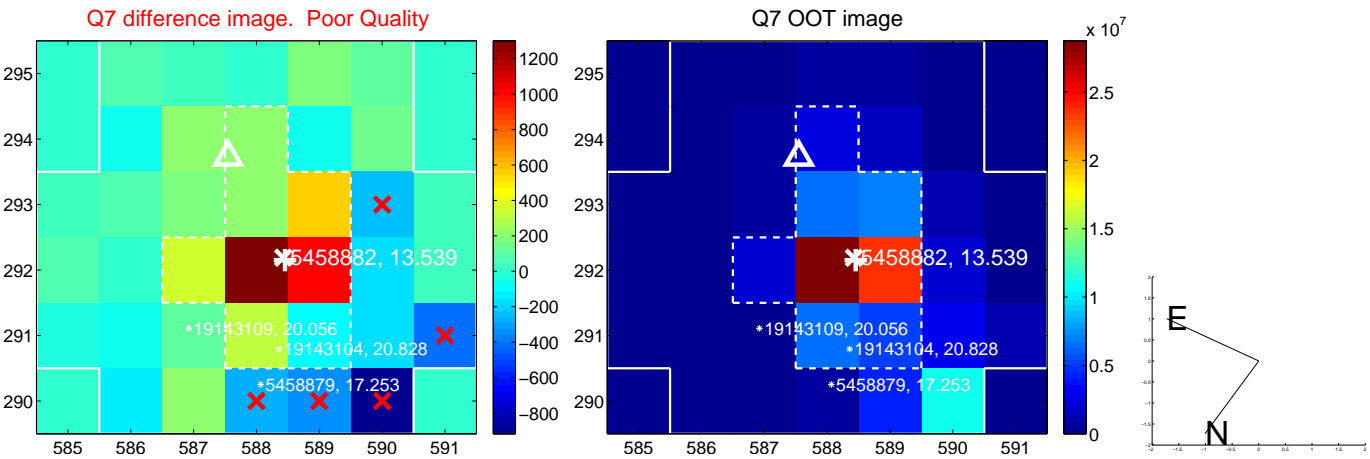
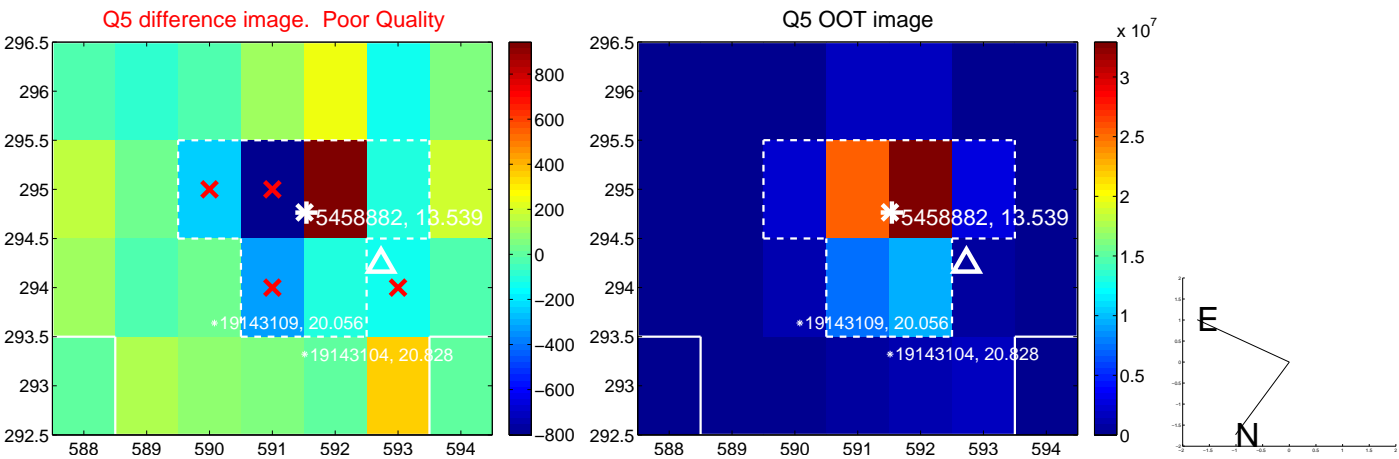


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

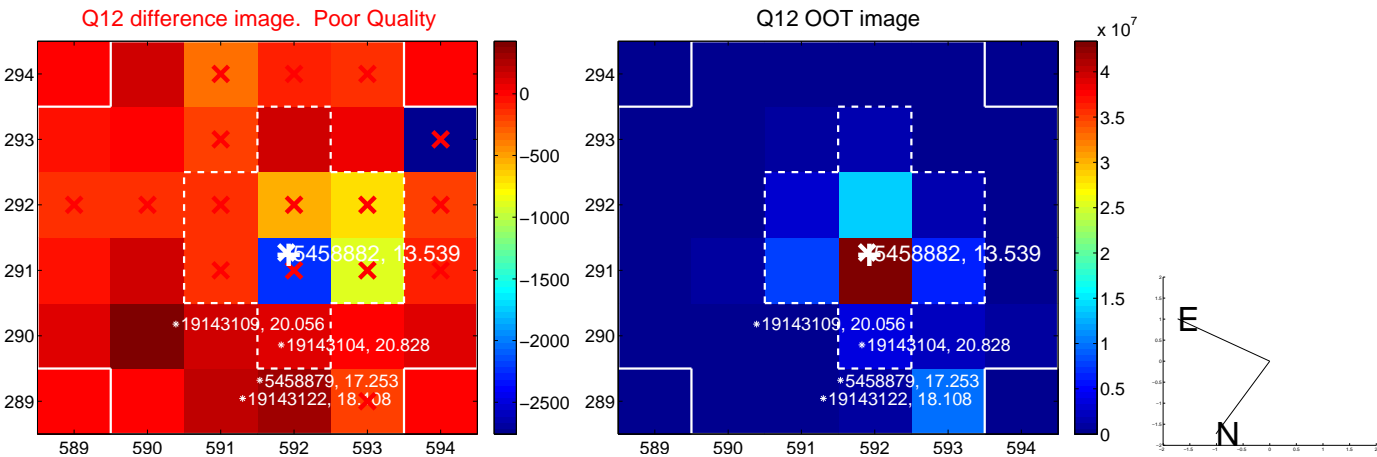
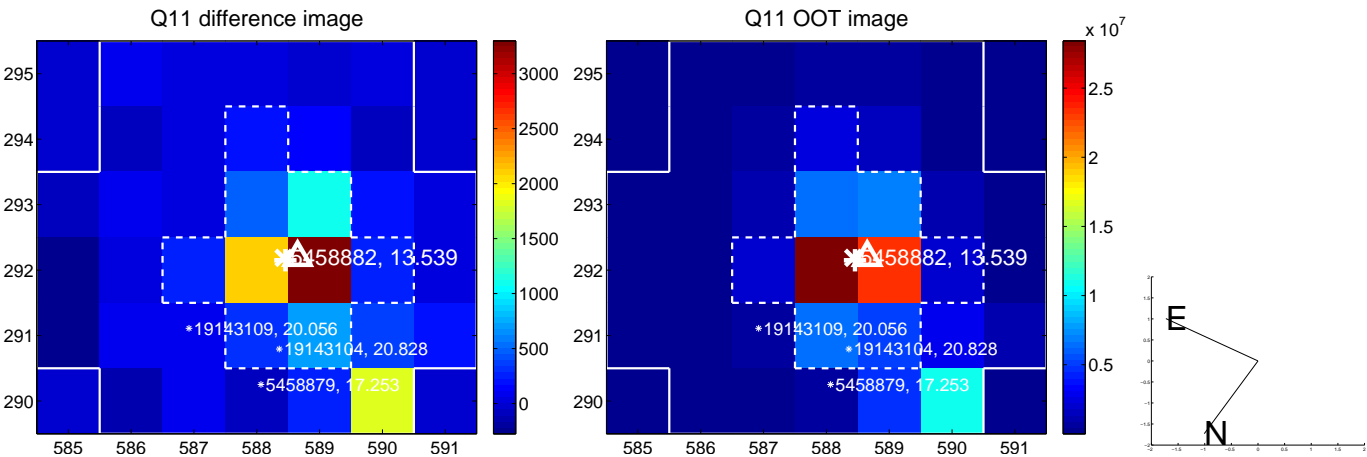
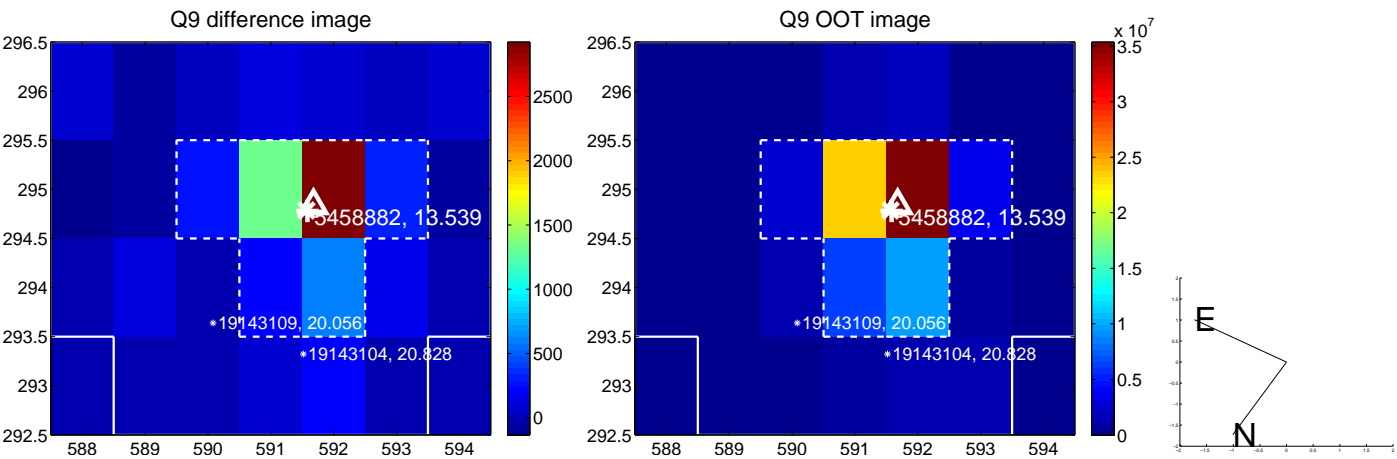
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



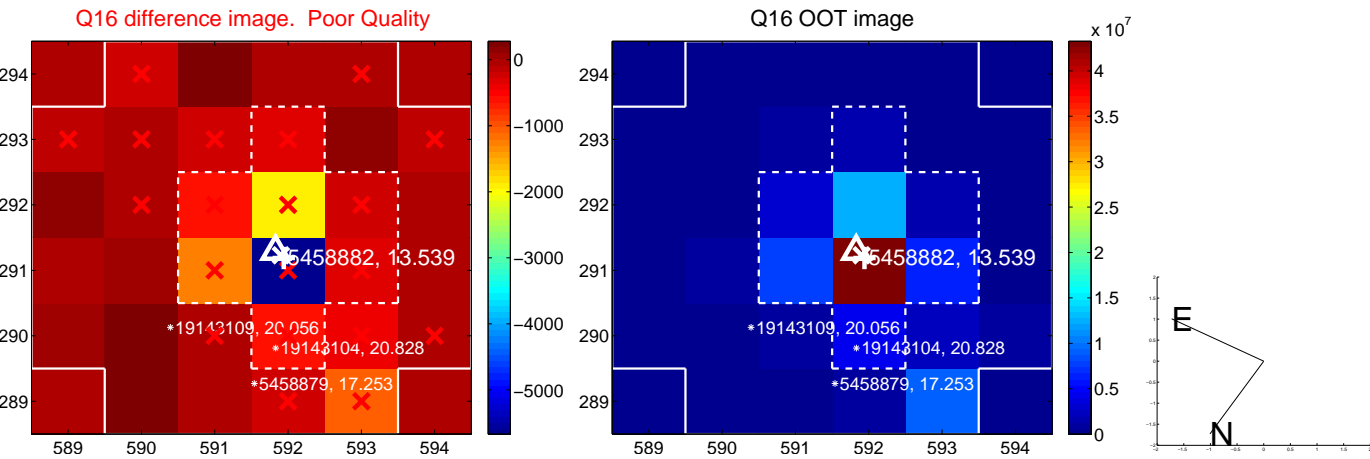
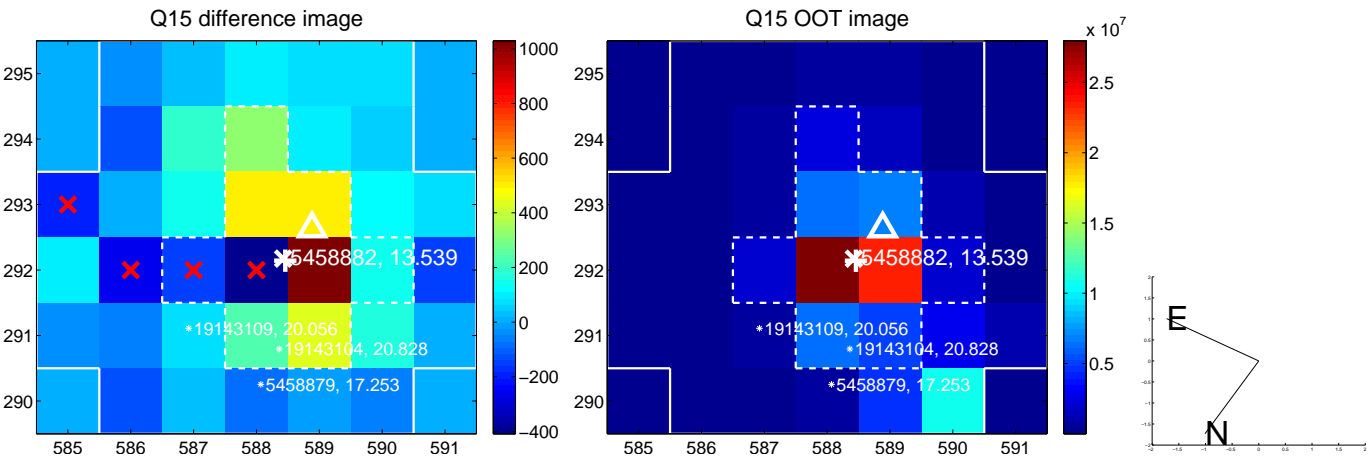
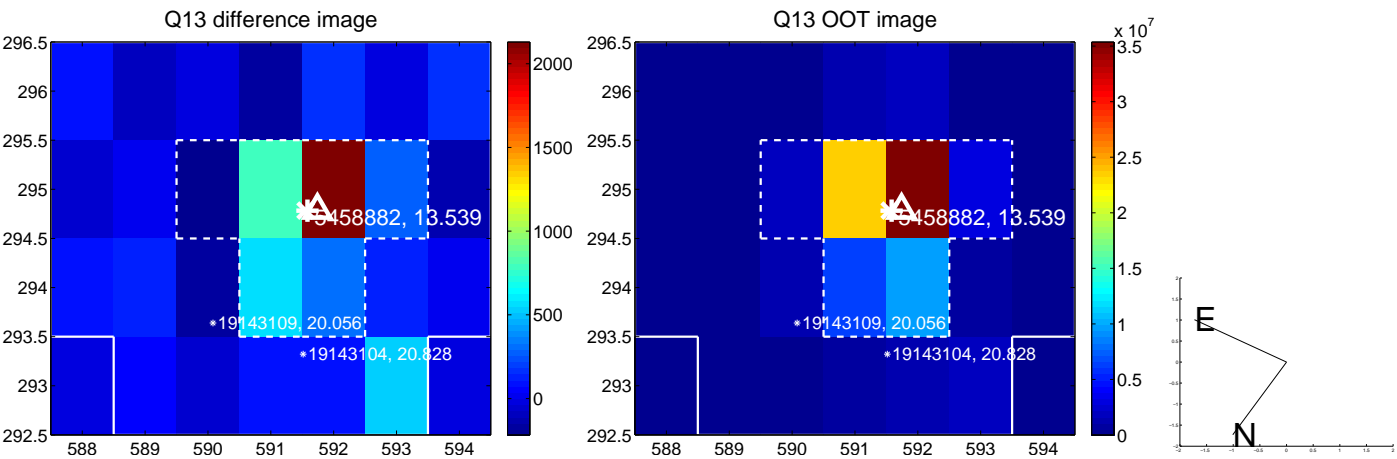
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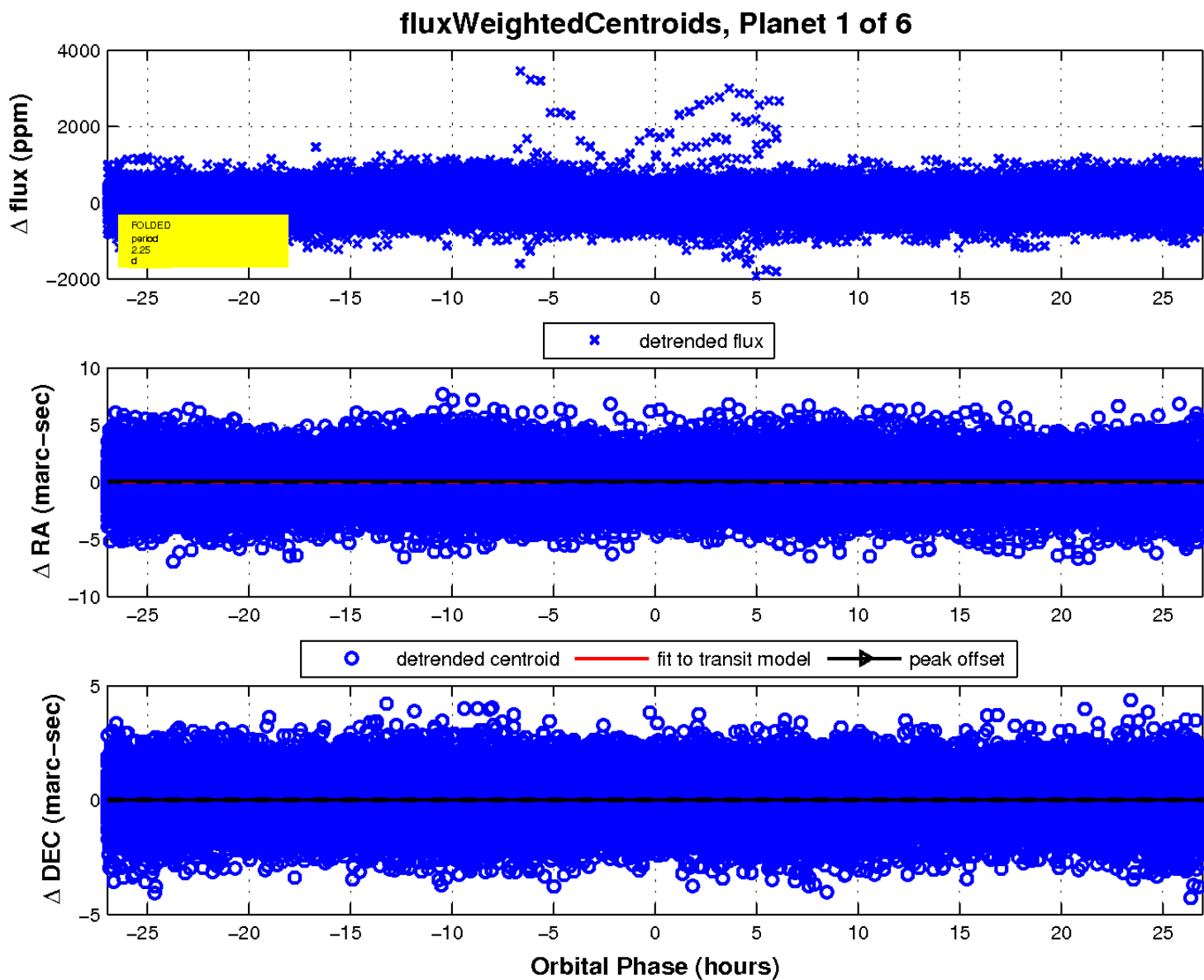
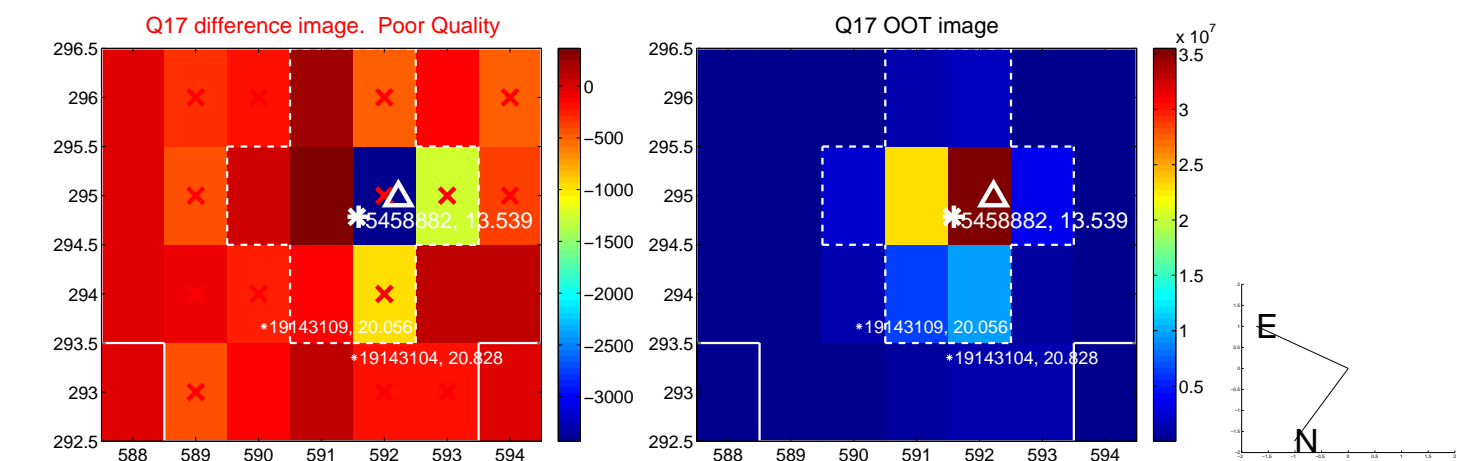
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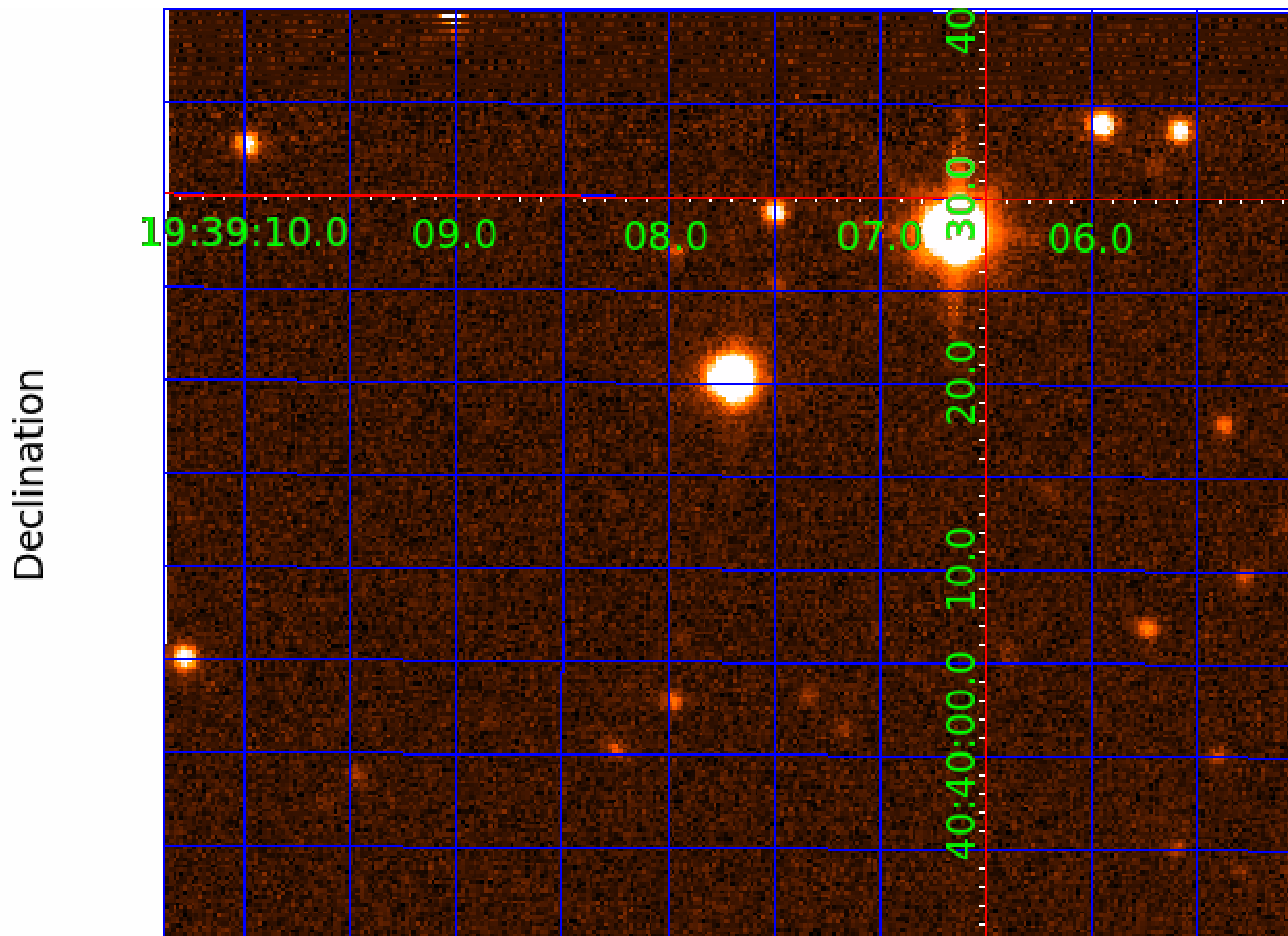
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UKIRT Image



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005458882-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005458882-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005458882-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
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N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

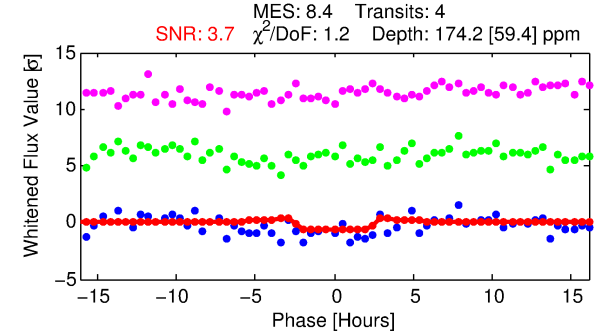
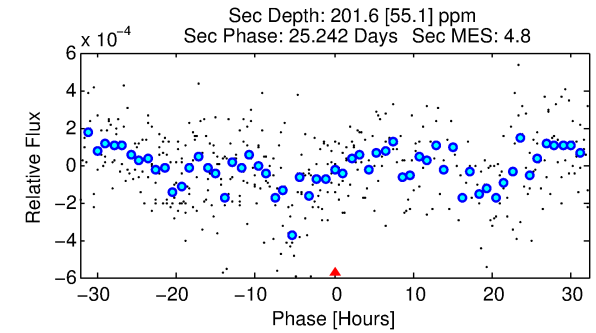
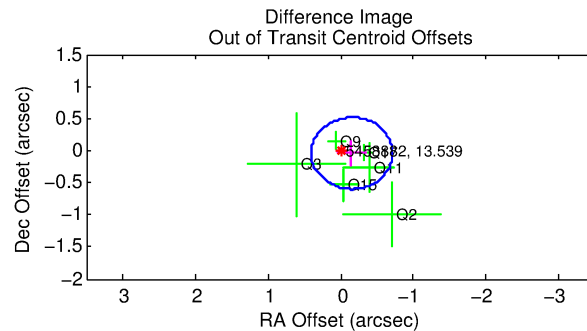
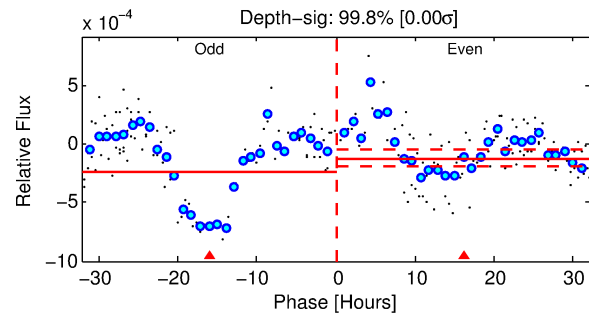
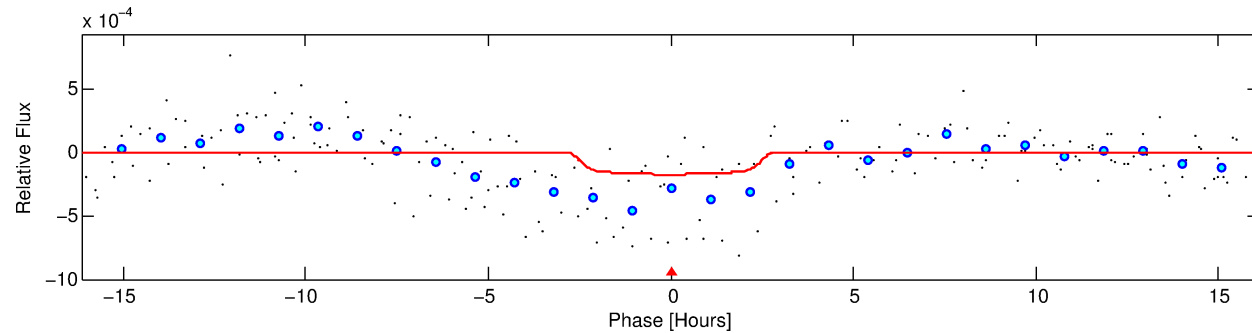
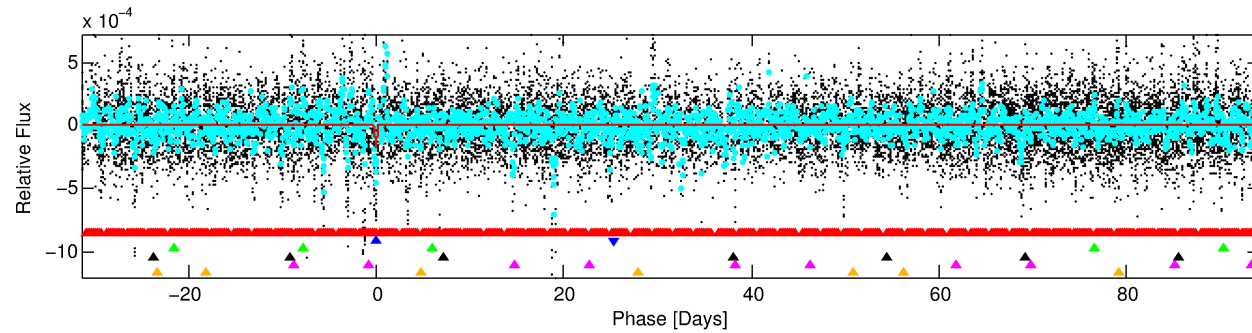
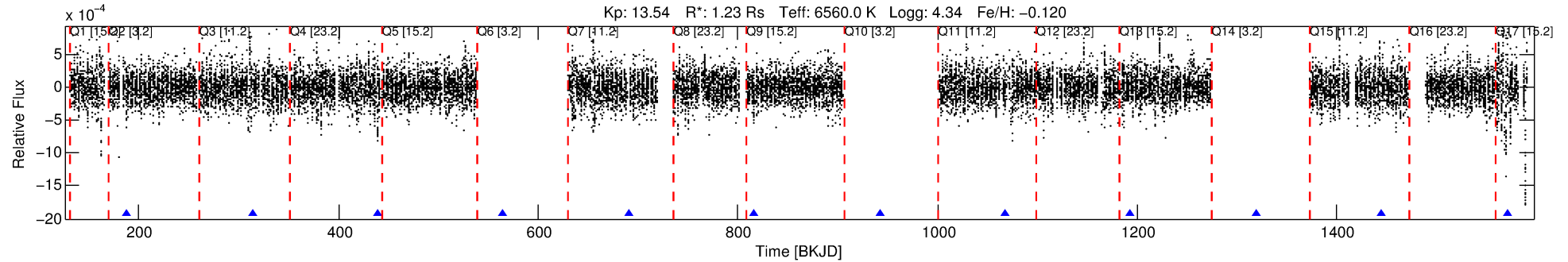
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005458882-02

No Significant Match Found

DV One-Page Summary

KIC: 5458882 Candidate: 2 of 6 Period: 125.675 d



DV Fit Results:

Period = 125.67522 [0.00670] d
Epoch = 187.9329 [0.0281] BKJD
Rp/R* = 0.0141 [0.0085]
a/R* = 83.67 [269.09]
b = 0.90 [0.69]
Seff = 9.19 [3.70]
Teq = 444 [45] K
Rp = 1.89 [1.30] Re
a = 0.5223 [0.1402] AU
Ag = 8444.97 [10907.67] [0.77σ]
Teffp = 6580 [2042] K [3.00σ]

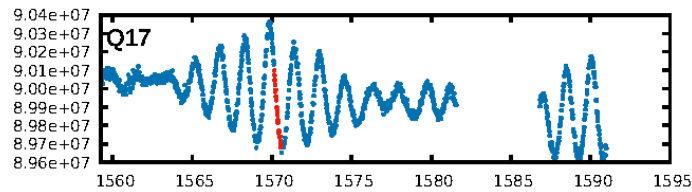
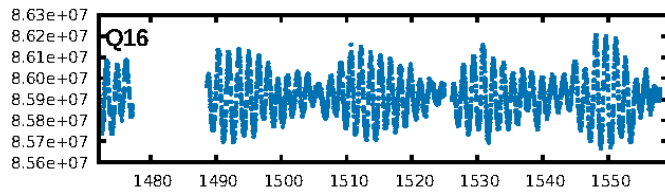
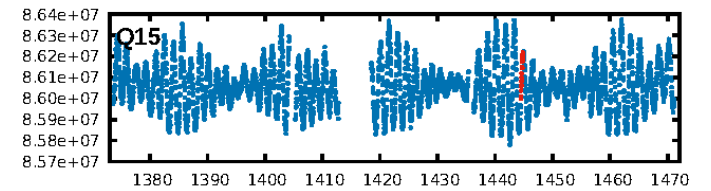
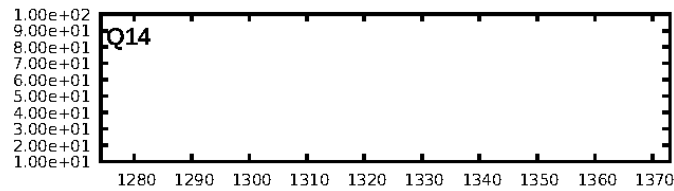
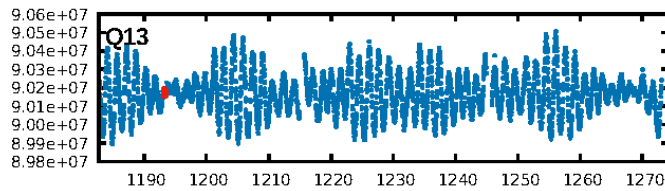
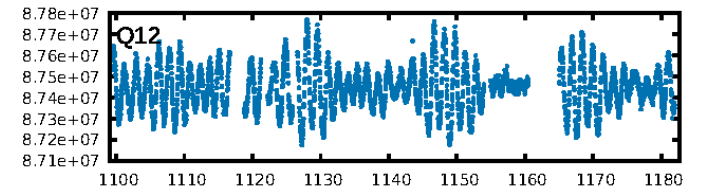
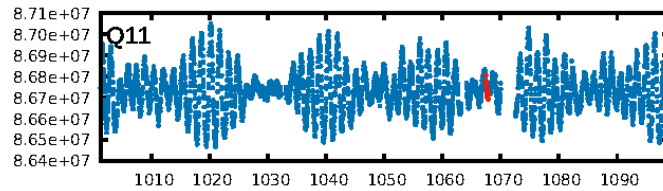
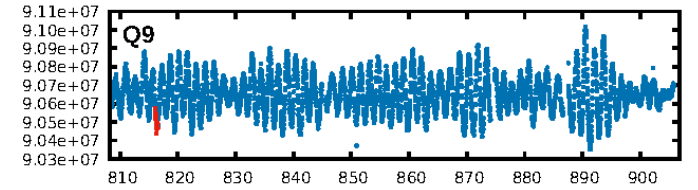
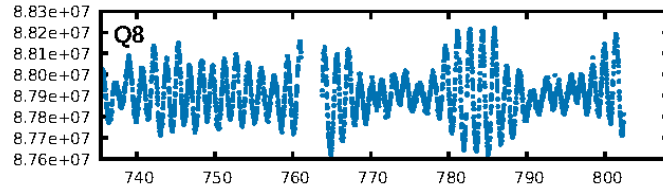
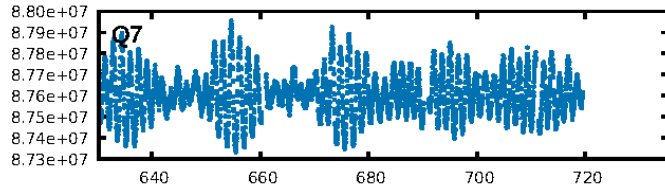
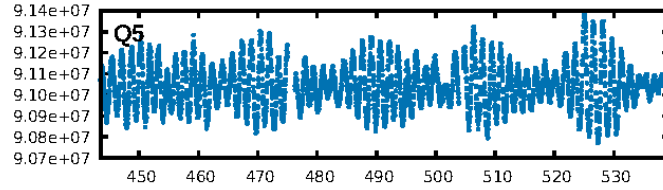
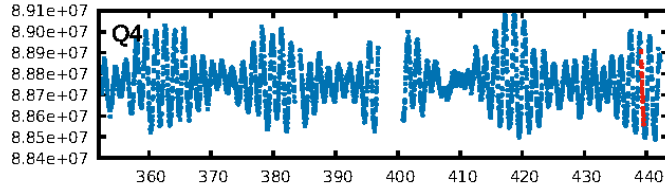
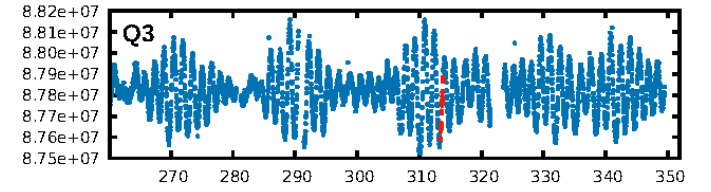
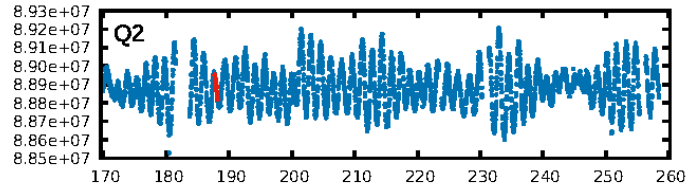
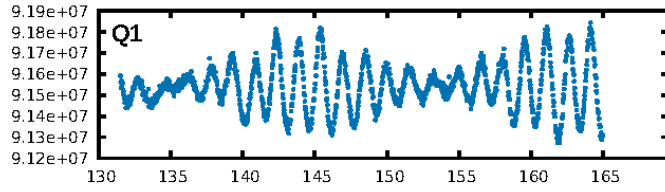
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [256.89σ]
LongPeriod-sig: 100.0% [75.96σ]
ModelChiSquare2-sig: 2.7%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 1.09e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.2822
Centroid-sig: 22.4%
Centroid-so: 0.955 arcsec [0.55σ]
OotOffset-rm: 0.158 arcsec [0.85σ]
OotOffset-st: 1/3/0/2 [6]
KicOffset-rm: 0.279 arcsec [1.50σ]
KicOffset-st: 1/3/0/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.25 [2/8]

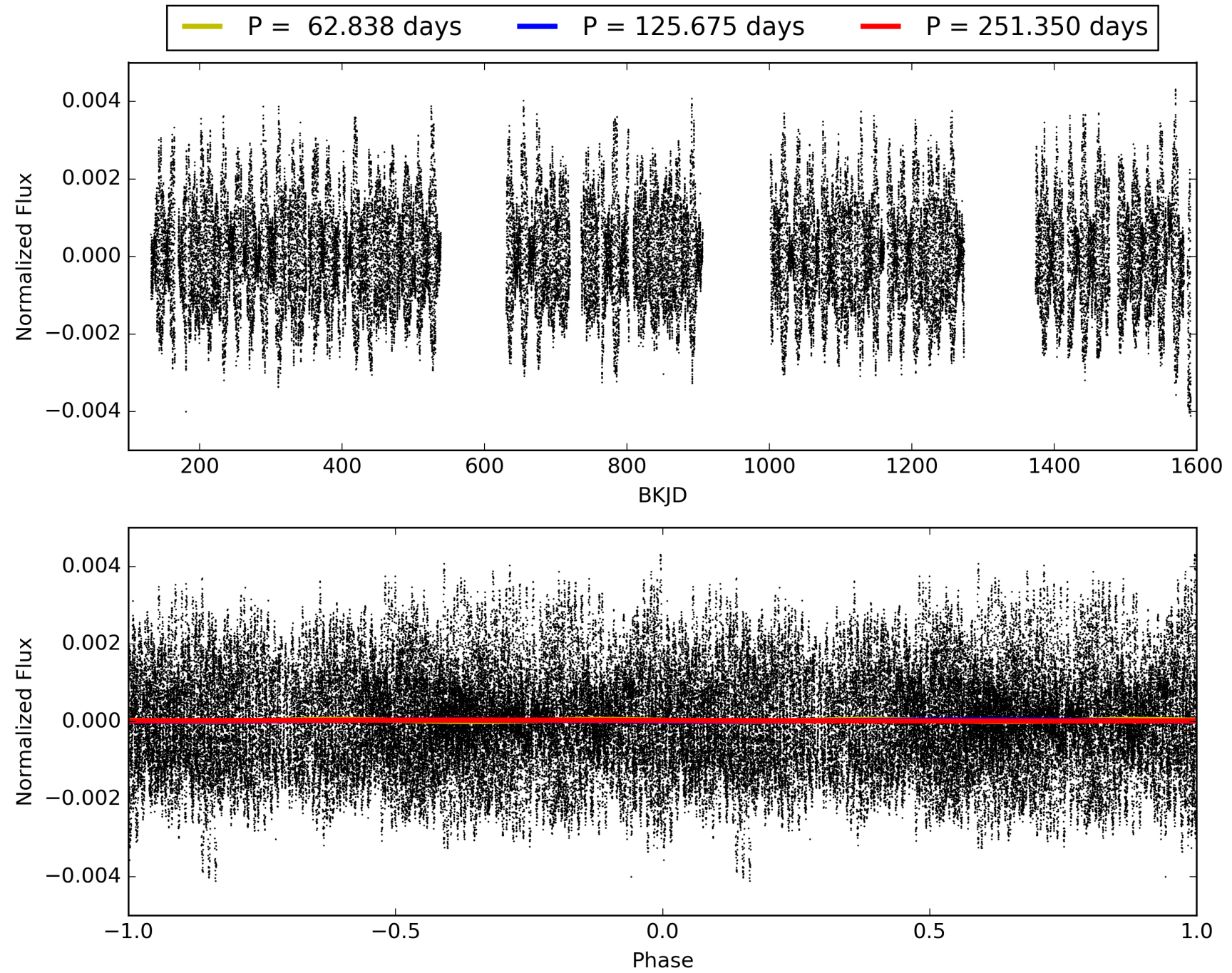
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:06:36 Z

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

TCE 005458882-02, PDC Light Curves

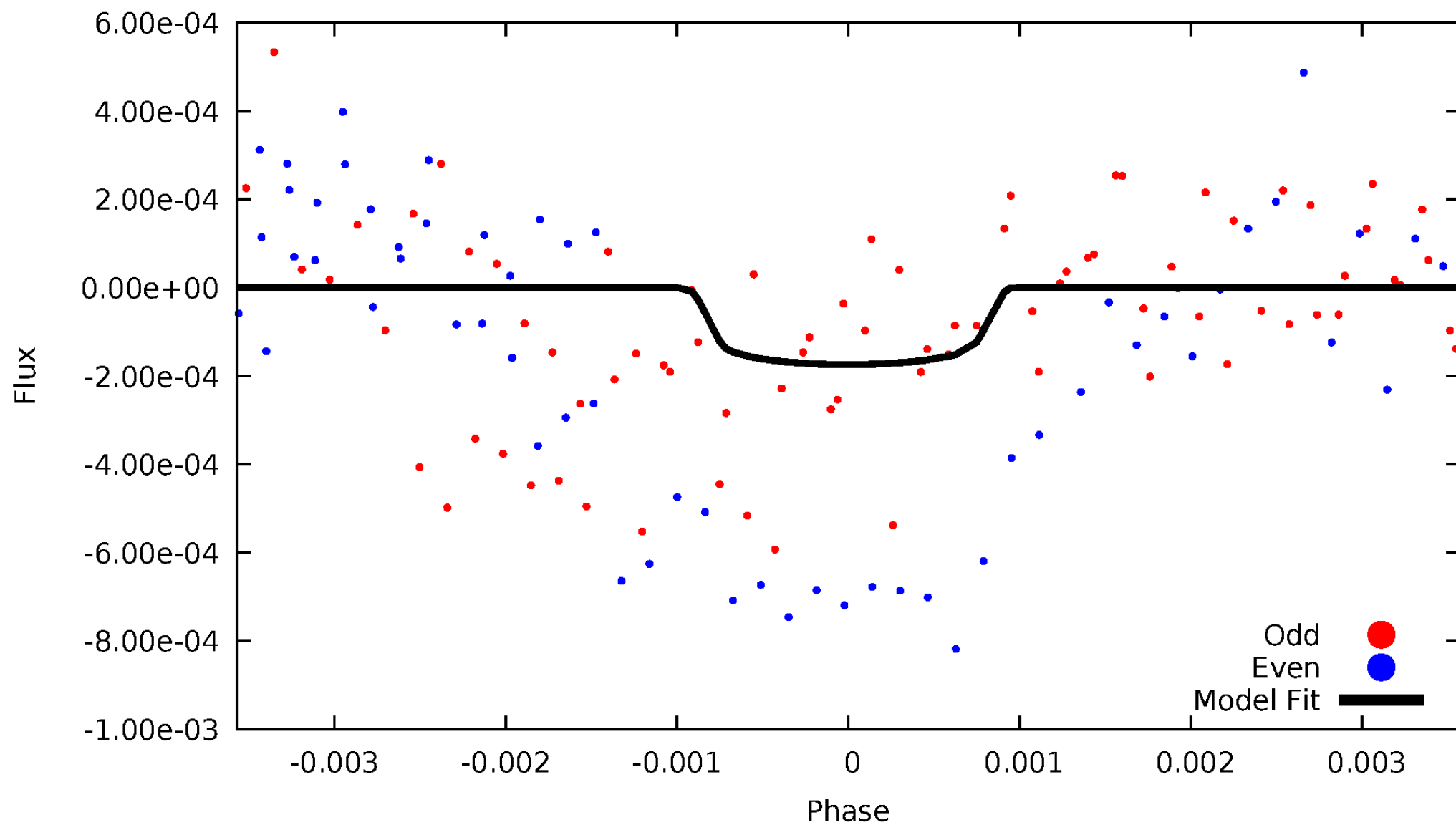


TCE 005458882-02



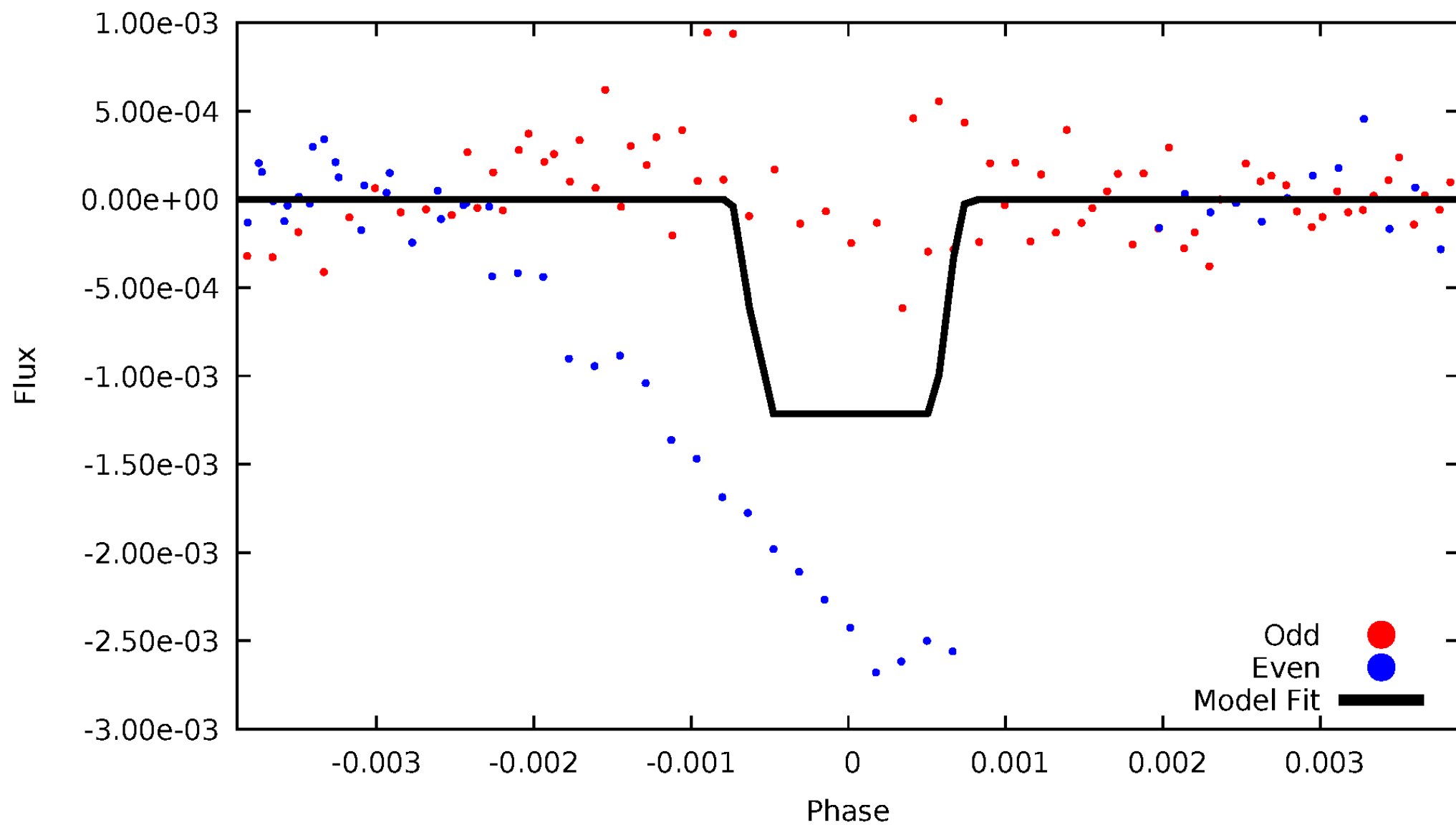
DV Odd/Even

TCE 005458882-02



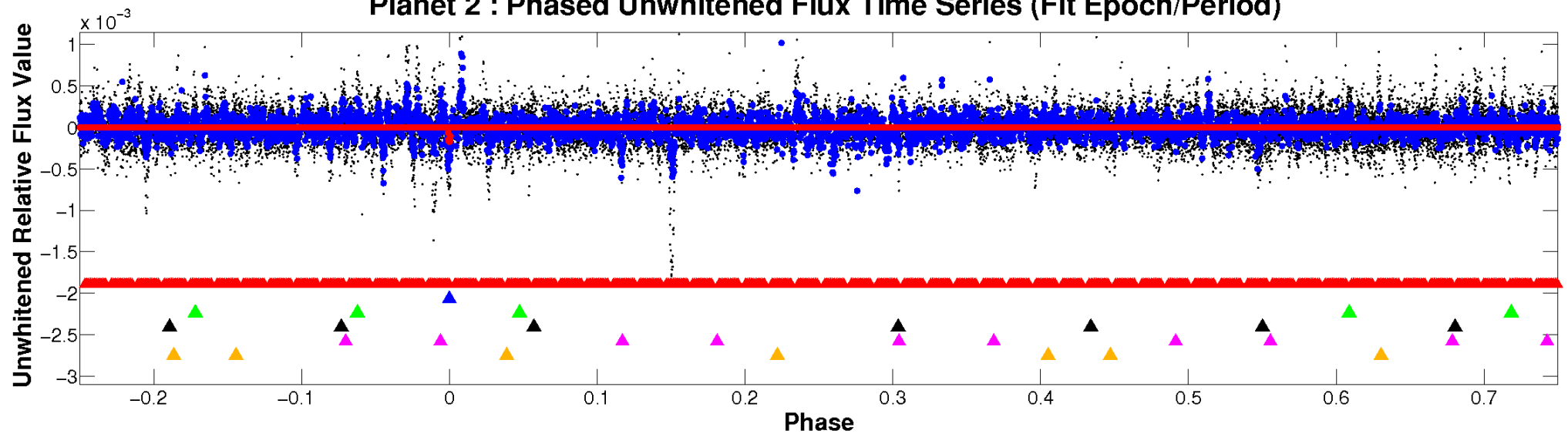
ALT Odd/Even

TCE 005458882-02

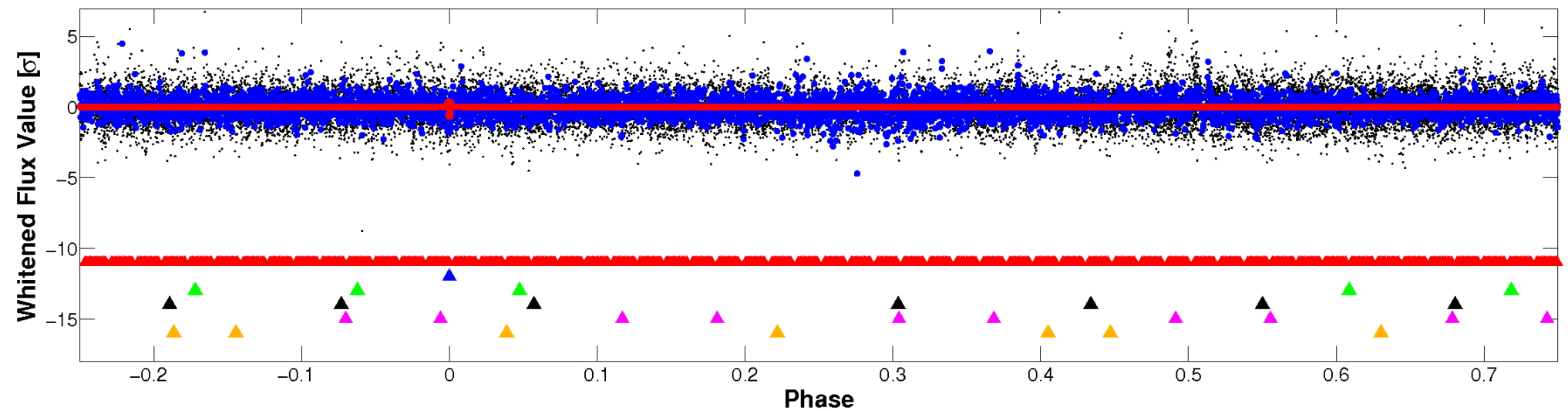


Non-Whitened Vs. Whitened Light Curve

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

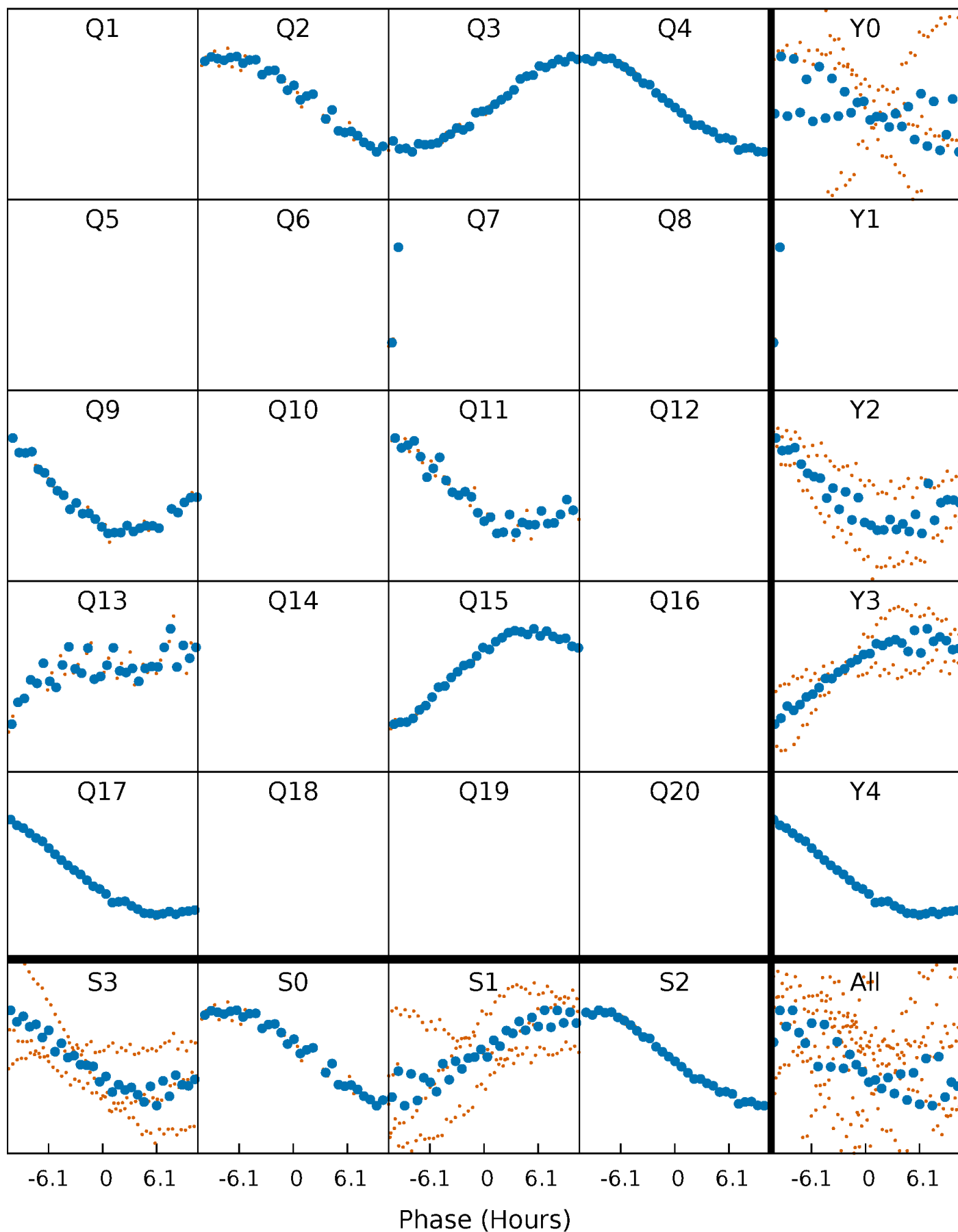


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



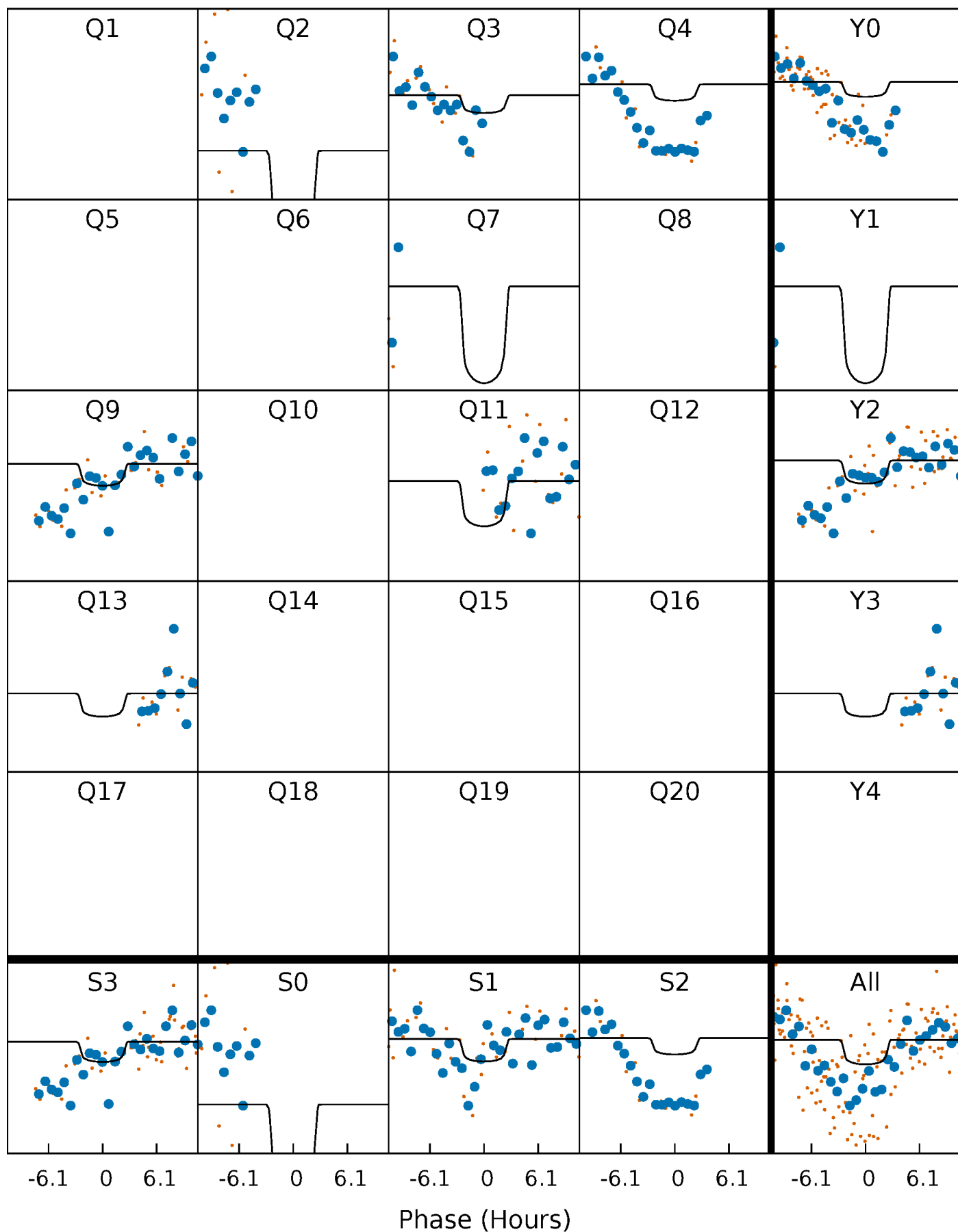
PDC Quarter-Phased Transit Curves

TCE 005458882-02 P=125.675220 Days $T_0=187.932919$ (BKJD)



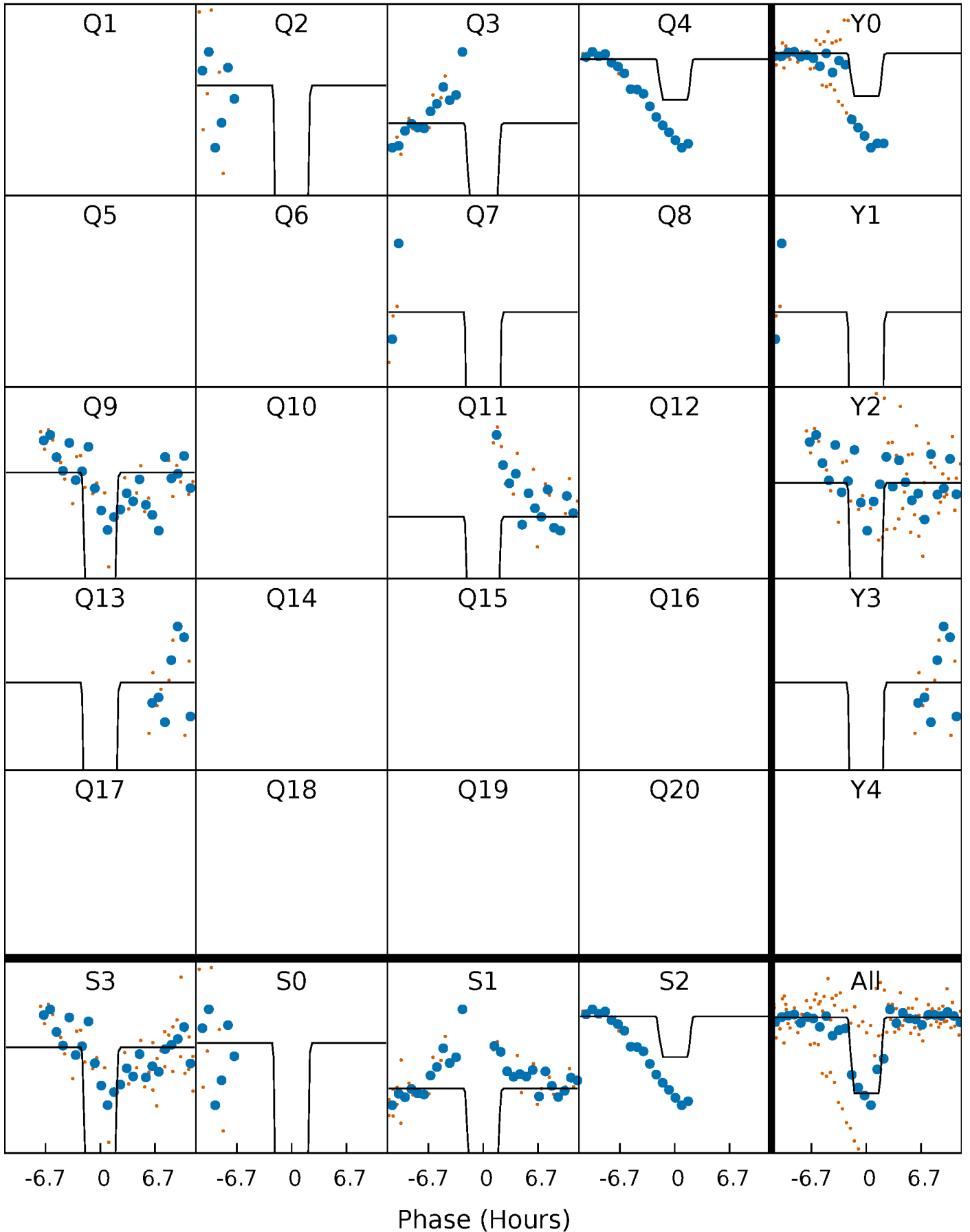
DV Quarter-Phased Transit Curves

TCE 005458882-02 P=125.675220 Days $T_0=187.932919$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

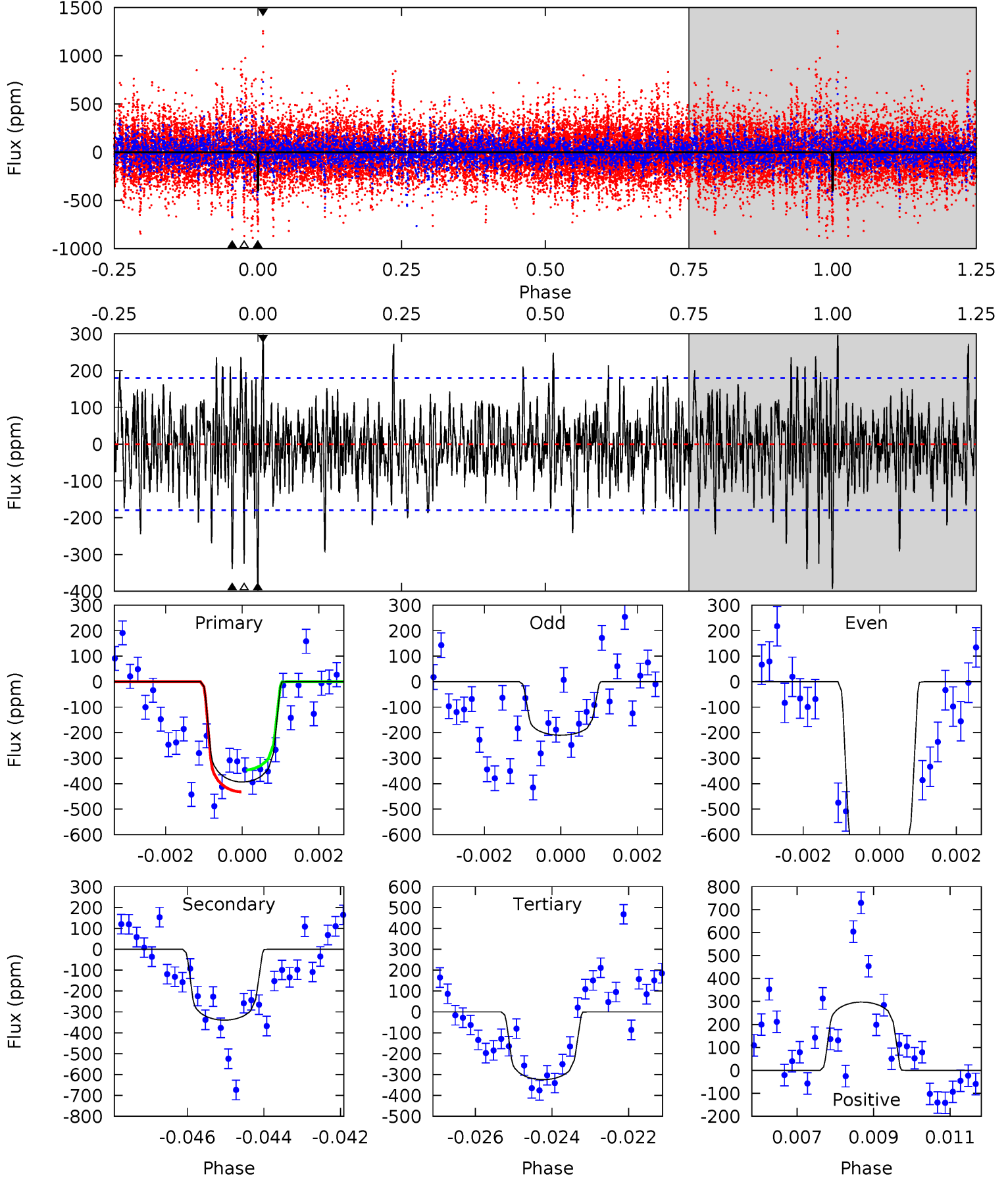
TCE 00545882-02 P=125.652772 Days $T_0=188.034684$ (BKJD)



DV Model-Shift Uniqueness Test

005458882-02, $P = 125.675220$ Days, $E = 62.257699$ Days

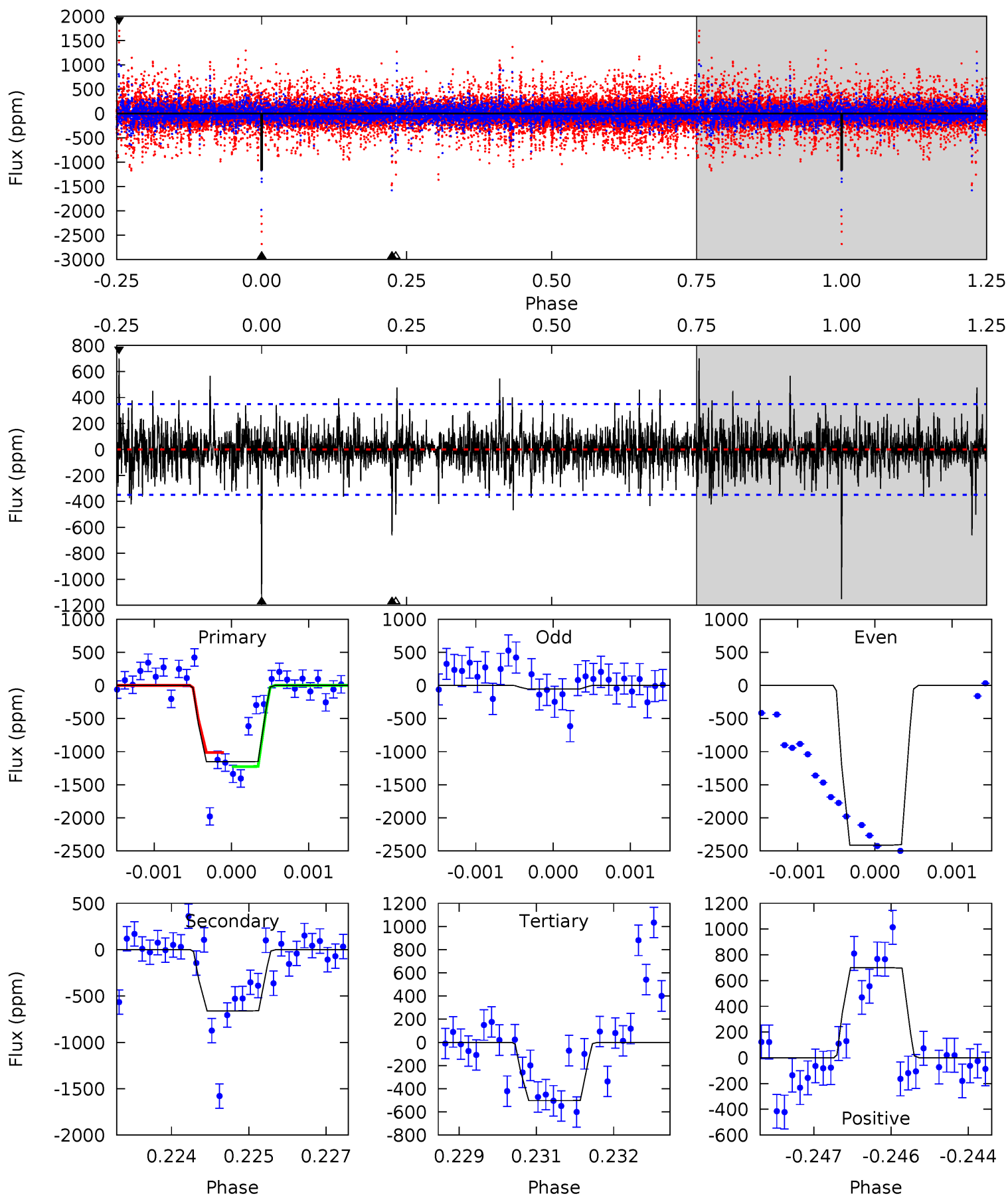
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	10.1	9.65	8.84	5.34	3.12	2.23	2.05	2.86	0.45	1.26	7.67	1.14	0.43	1.27



Alt Model-Shift Uniqueness Test

005458882-02, $P = 125.652772$ Days, $E = 62.381912$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	10.2	7.75	10.8	5.38	3.18	1.65	10.0	7.00	2.44	-0.59	17.9	3.58	0.38	1.52



Stellar Parameters For KIC 005458882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6560^{+149}_{-216}	$4.339^{+0.072}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.229^{+0.403}_{-0.144}$	$1.208^{+0.183}_{-0.164}$	$0.916^{+0.340}_{-0.476}$
	+2%/-3%	+2%/-5%	+208%/-250%	+33%/-12%	+15%/-14%	+37%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005458882-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-340 ± 34	$2.06^{+1.28}_{-1.12}$	630^{+45}_{-30}	7438^{+5362}_{-1645}	11662^{+42625}_{-7193}
Alt.	-661 ± 65	$4.79^{+1.46}_{-1.34}$	627^{+43}_{-31}	5669^{+879}_{-590}	4273^{+4019}_{-1693}

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

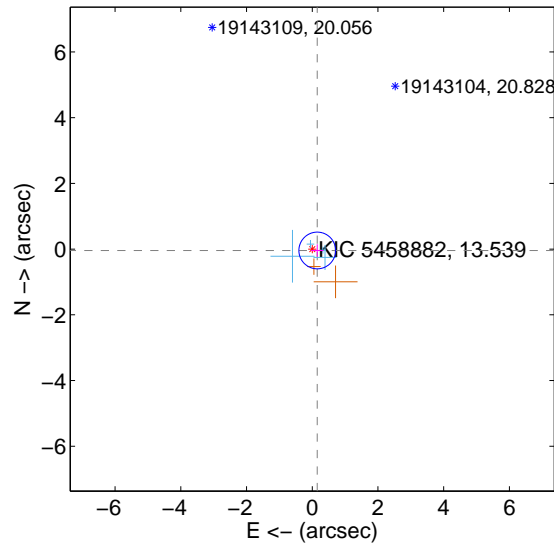
Supplemental centroid analysis for 005458882-02. Kepler magnitude: 13.54. Transit SNR 3.69

There are 4 quarters with good PRF difference image offsets

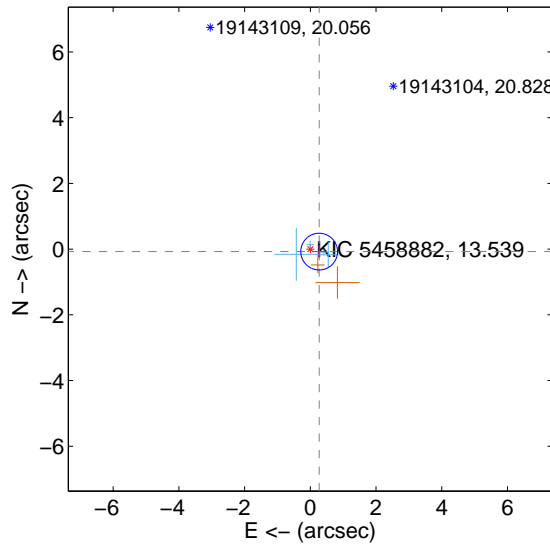
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.158 ± 0.186	0.85	-0.152 ± 0.186	-0.042 ± 0.189
PRF-fit source offset from KIC position	0.279 ± 0.186	1.50	-0.269 ± 0.186	-0.076 ± 0.189
photometric centroid source offset	0.95 ± 1.73	0.55	0.24 ± 2.16	-0.92 ± 1.69

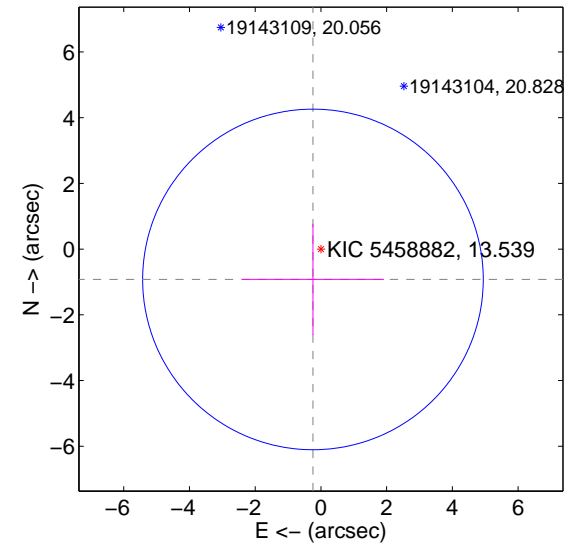
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

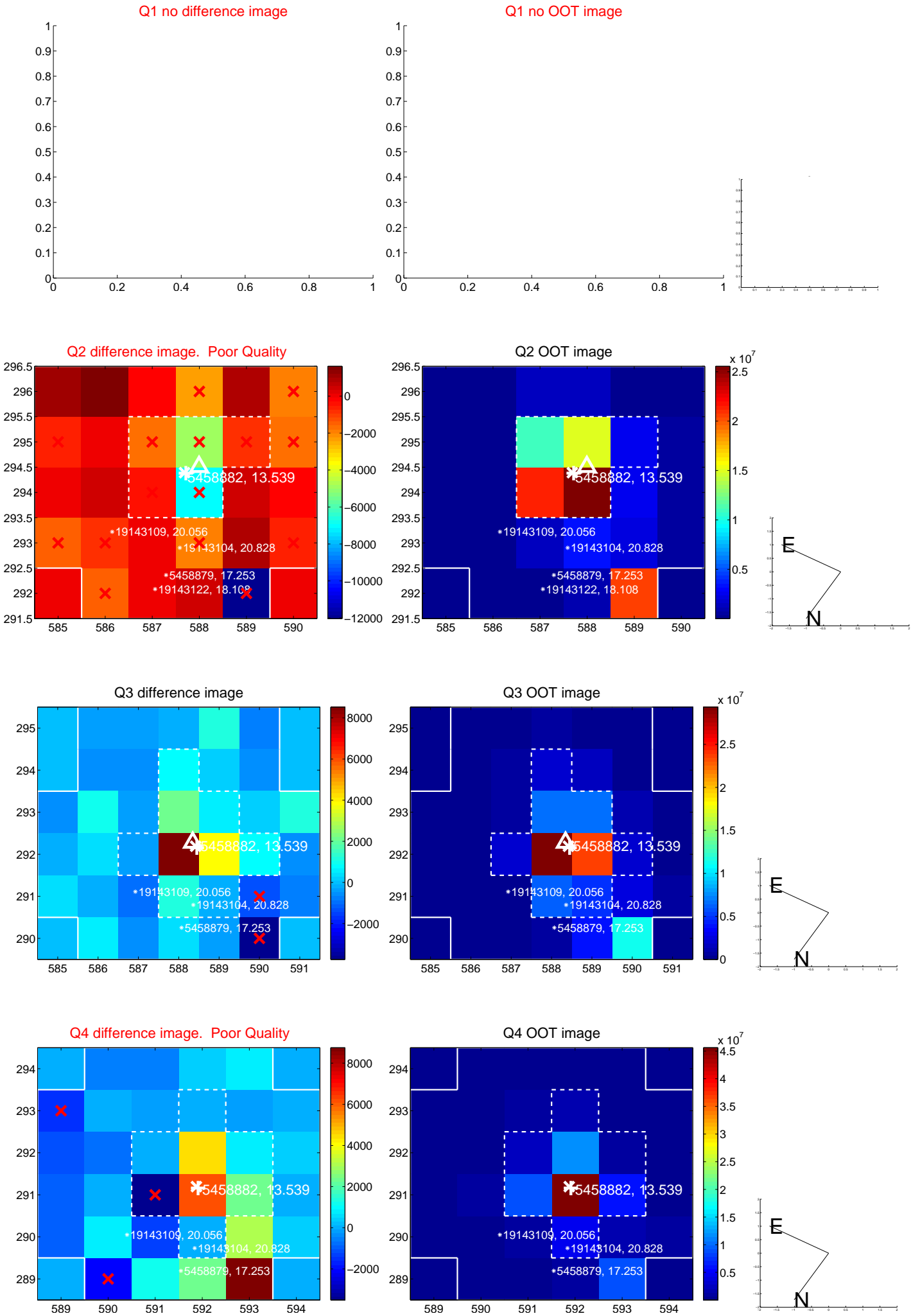


offset from photometric centroids



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.

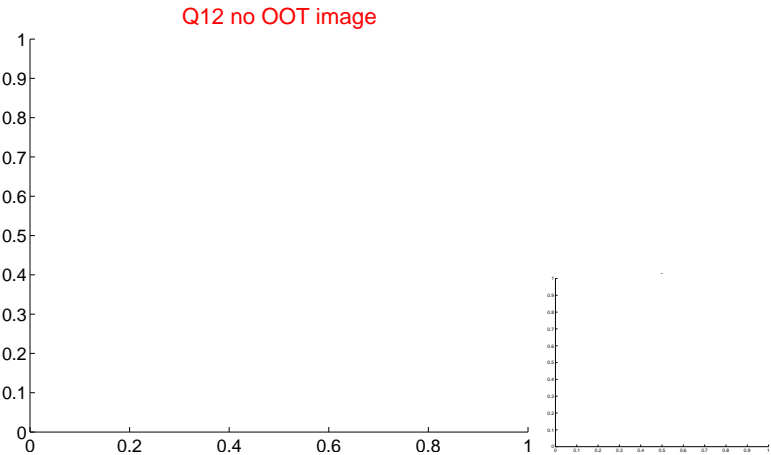
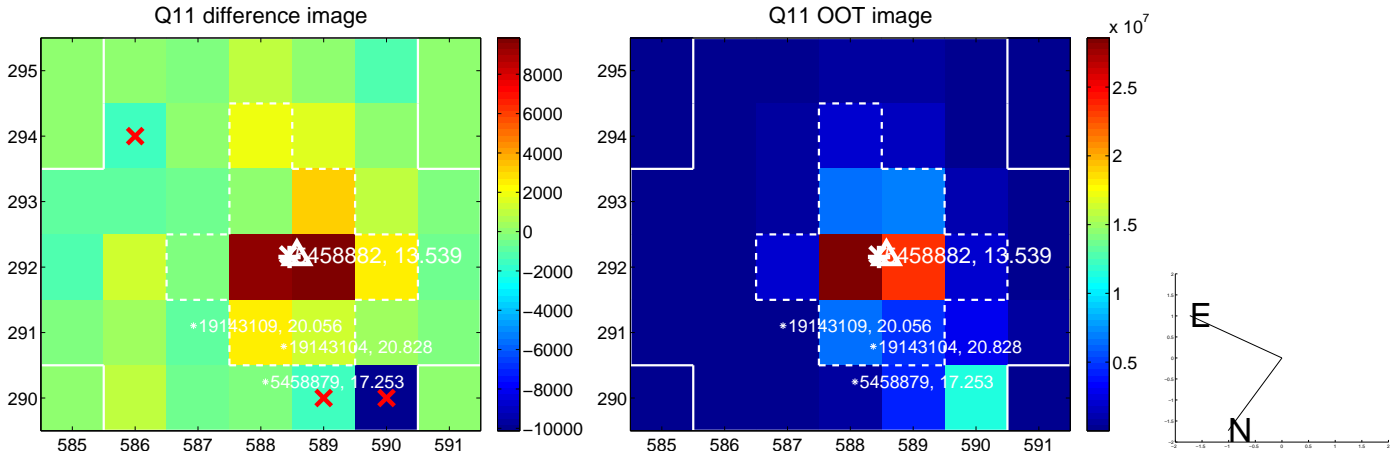
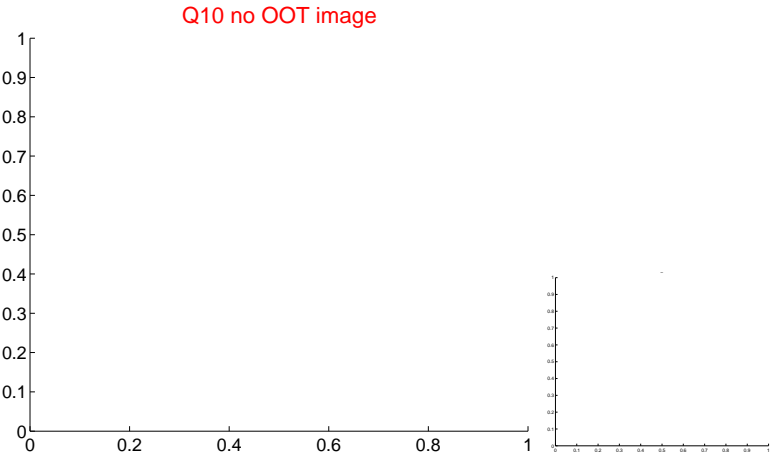
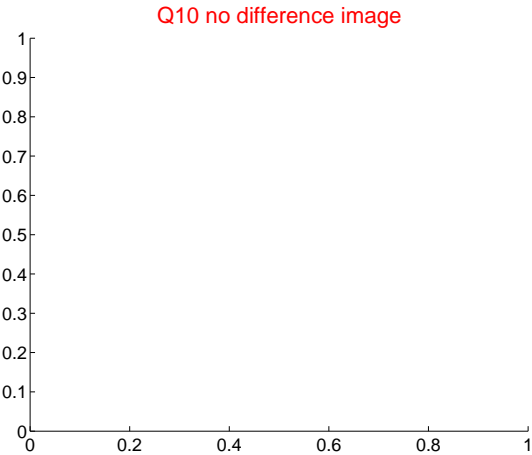
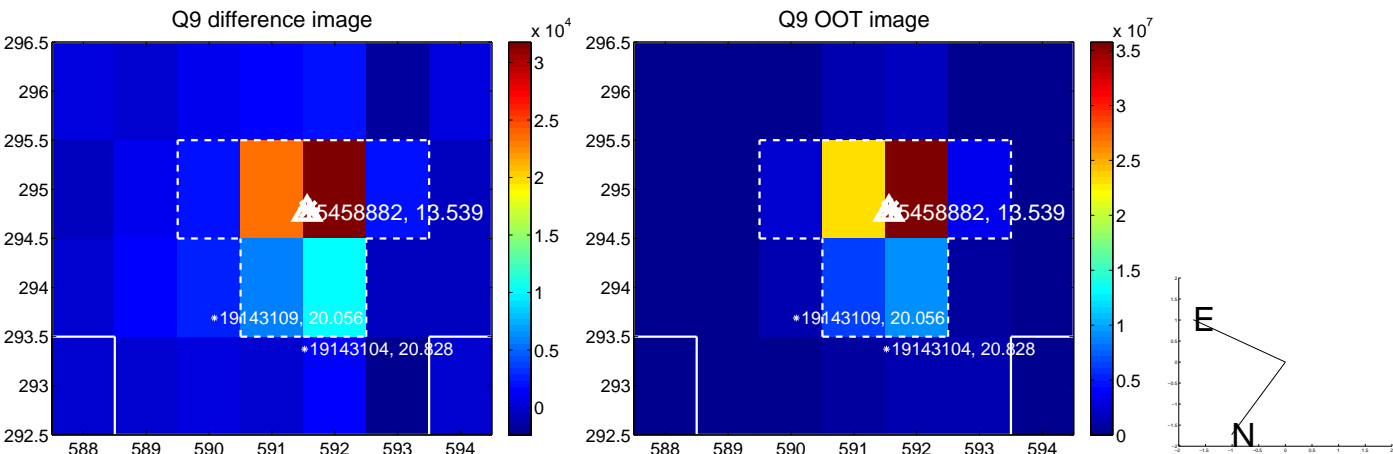
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



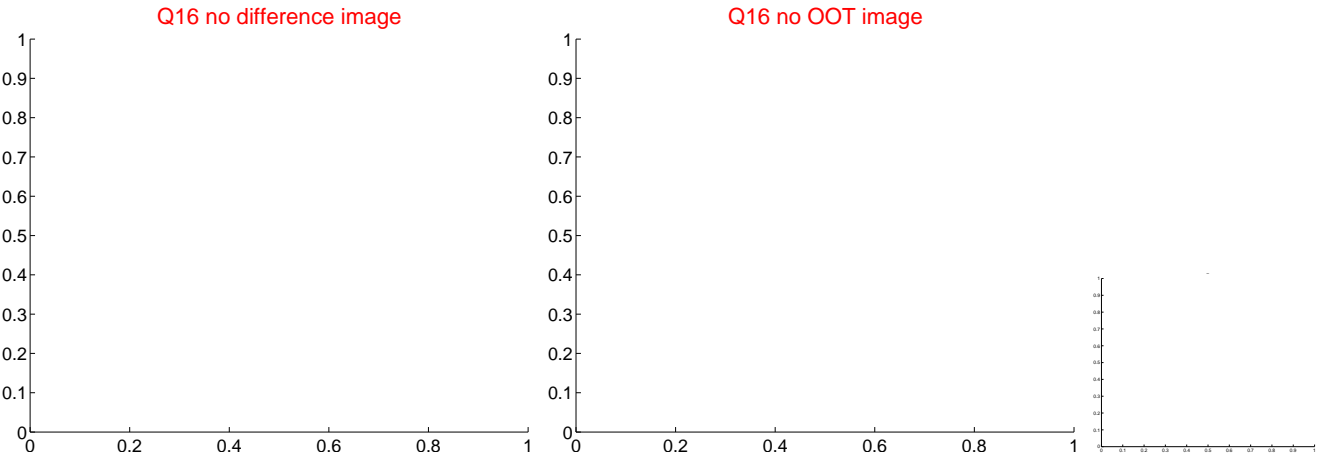
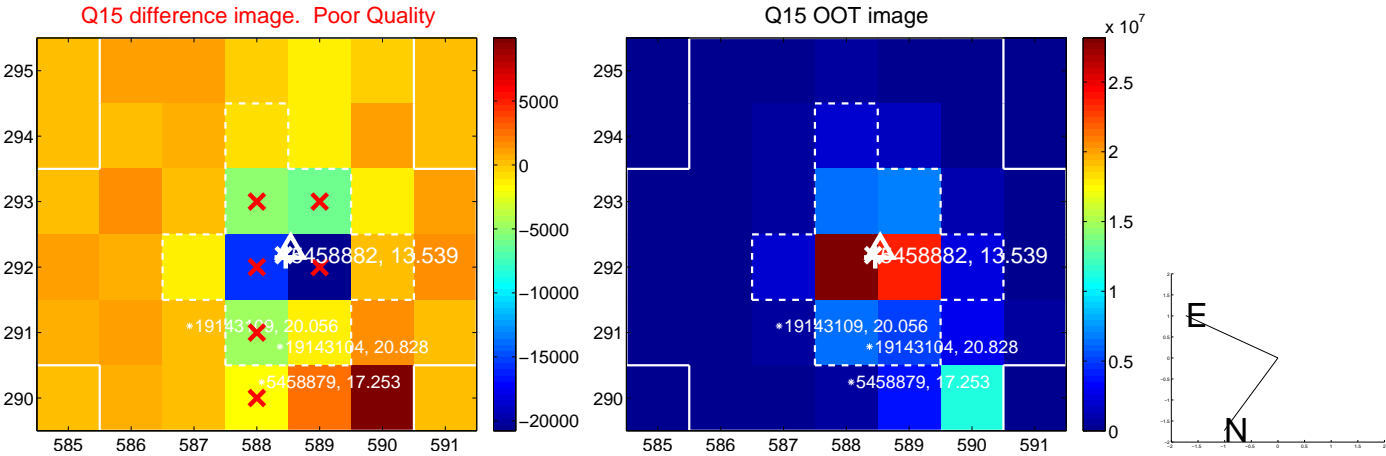
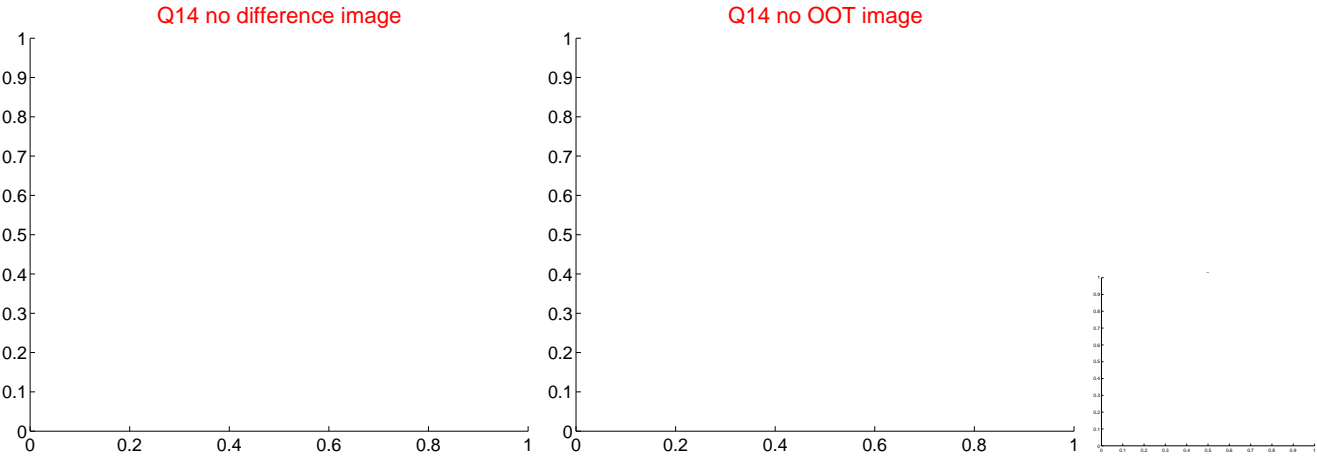
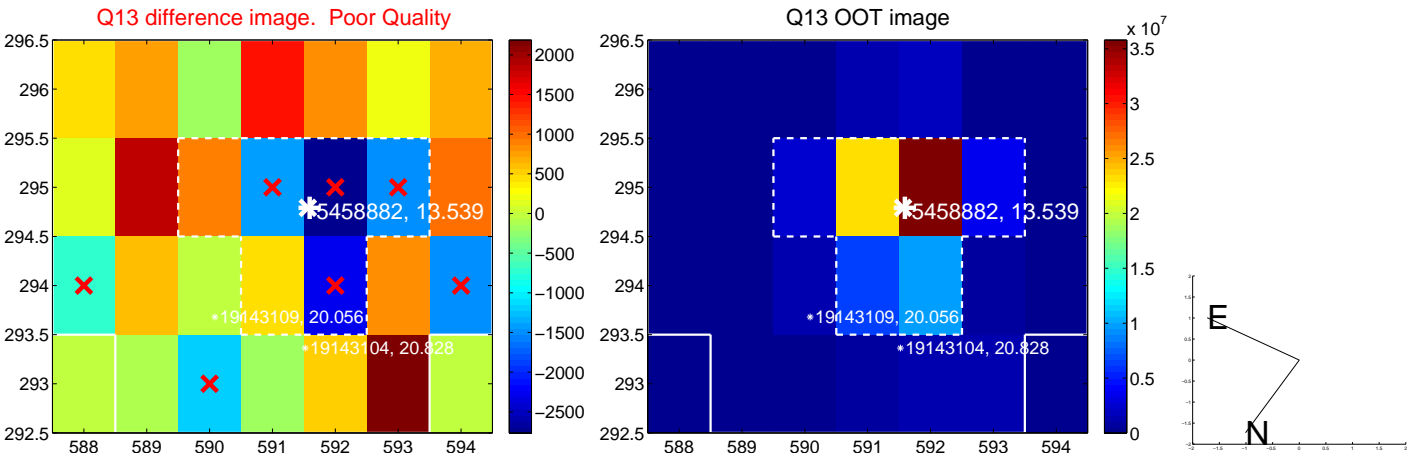
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



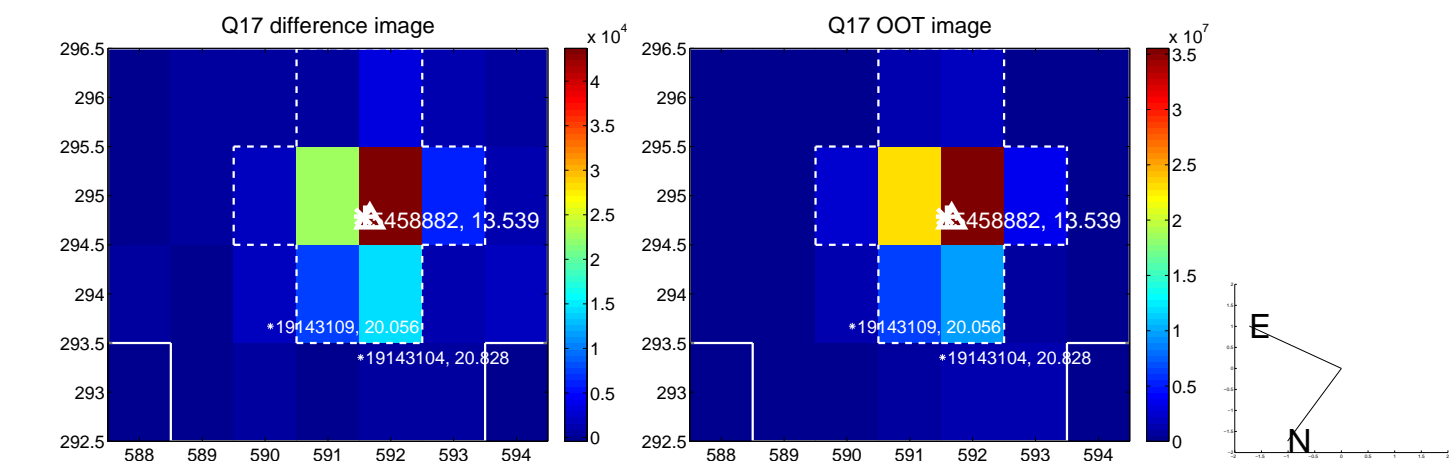
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



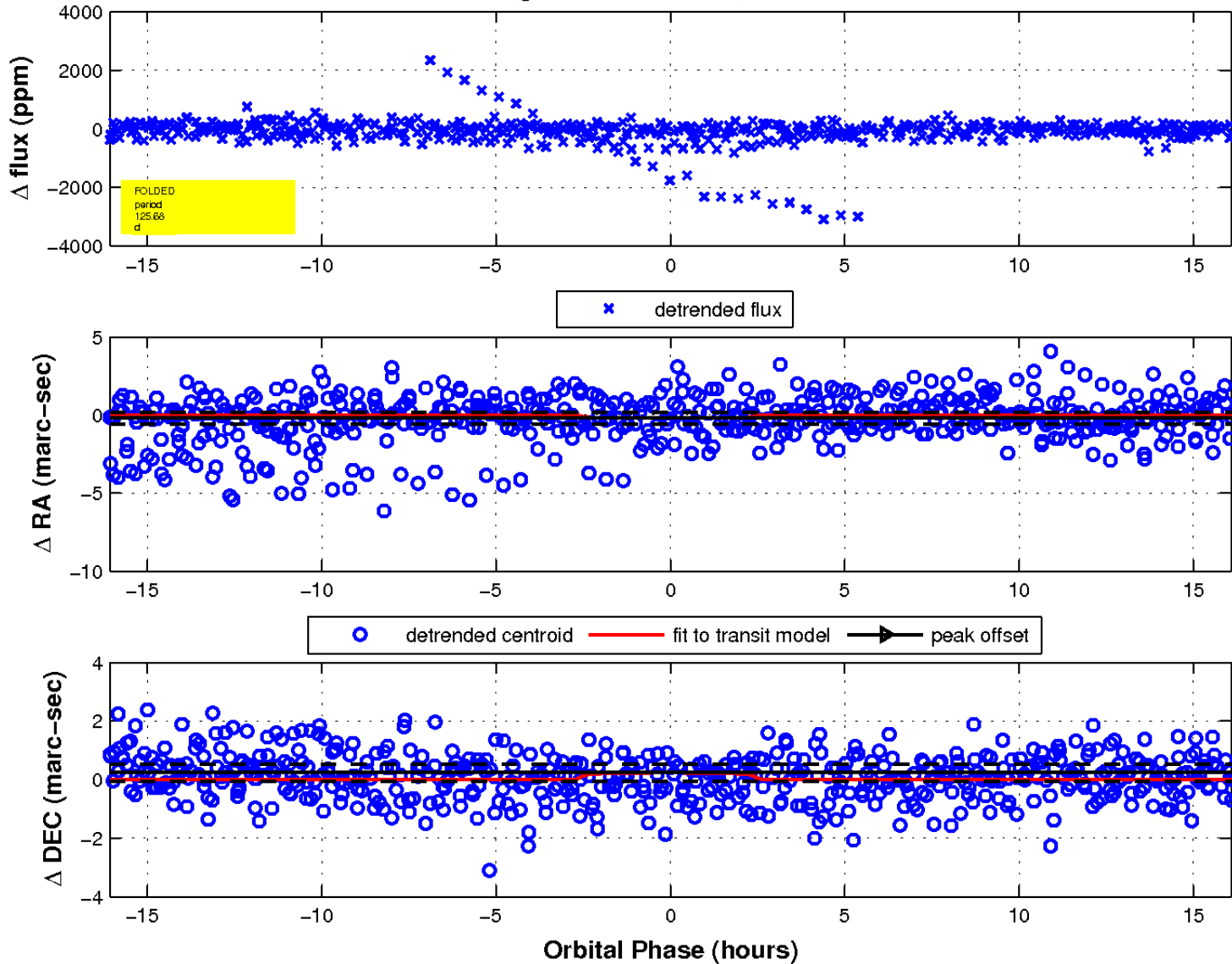
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



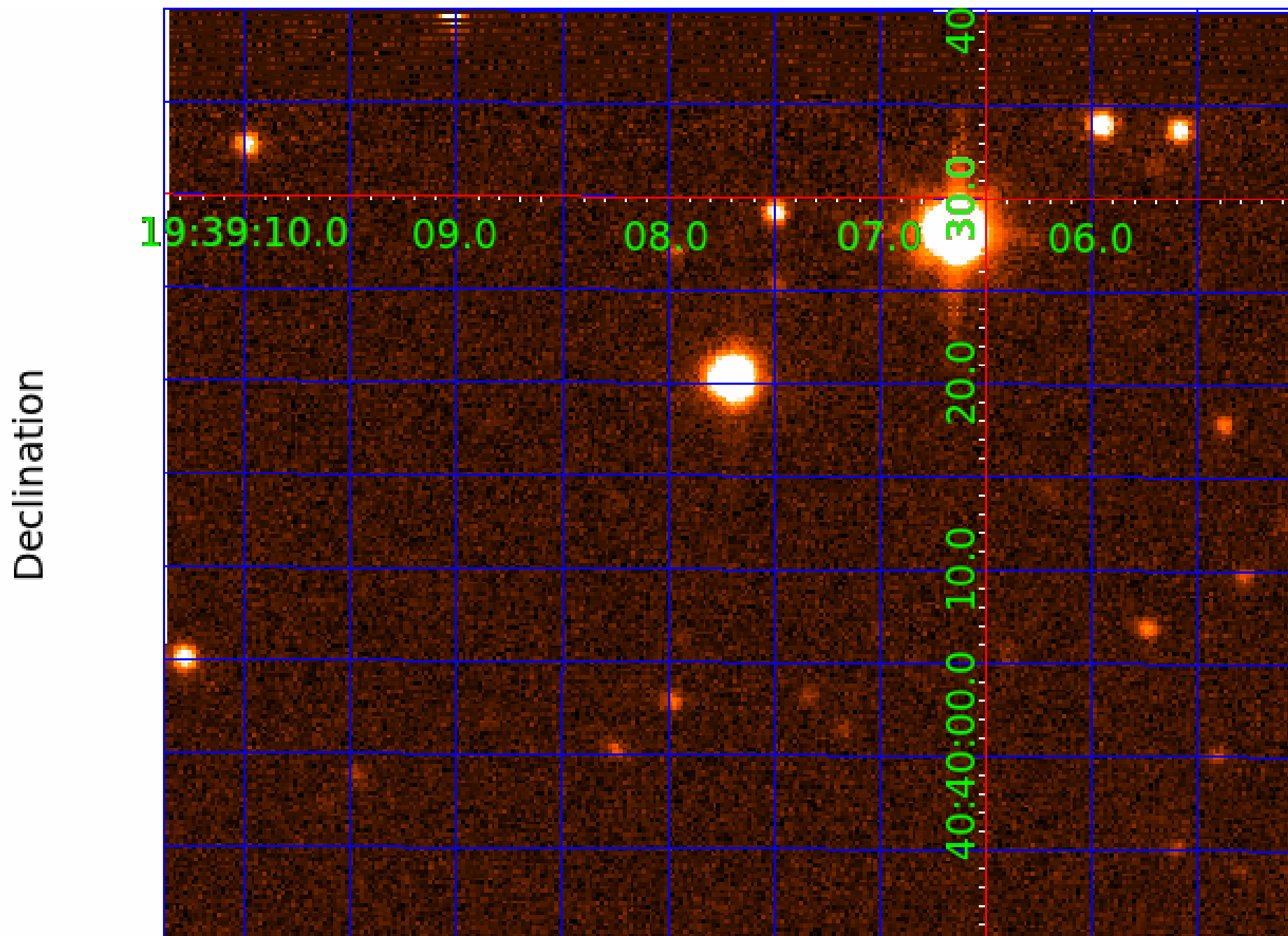
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 6



UKIRT Image



KIC 005458882

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})
005458882-01	OBS	No	2.247037	132.236633	41.3	10.199	10.9	8.9	1.23	6560	0.80	1965.16
005458882-02	OBS	No	125.675220	187.932919	174.2	5.380	8.4	3.7	1.23	6560	1.89	9.19
005458882-03	OBS	No	265.134691	390.117791	617.2	24.634	8.6	8.2	1.23	6560	3.60	3.40
005458882-04	OBS	No	203.999885	289.825075	261.8	11.909	7.8	5.0	1.23	6560	2.13	4.82
005458882-05	OBS	No	149.198218	187.180758	387.6	5.128	7.6	7.9	1.23	6560	2.66	7.31
005458882-06	OBS	No	200.021989	295.467024	314.1	13.376	7.5	7.2	1.23	6560	2.55	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005458882-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005458882-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005458882-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005458882-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005458882-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005458882-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

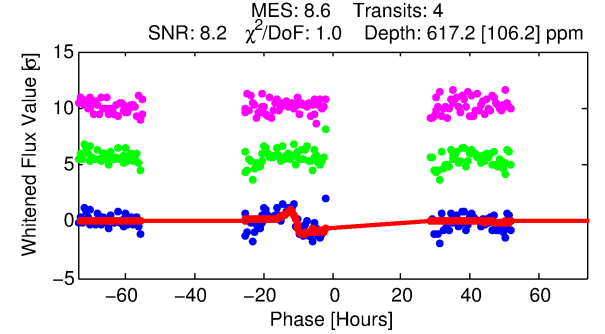
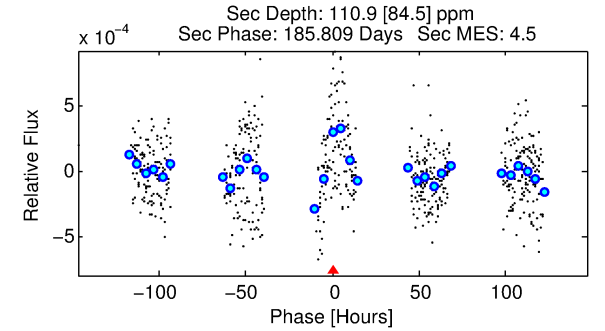
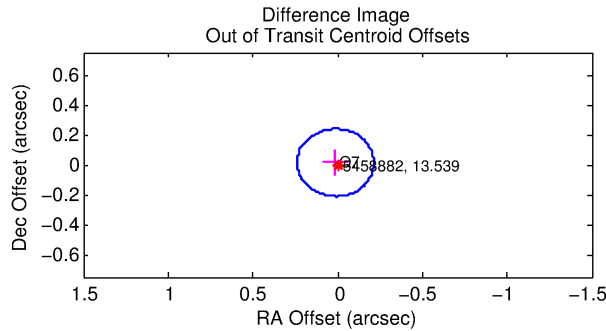
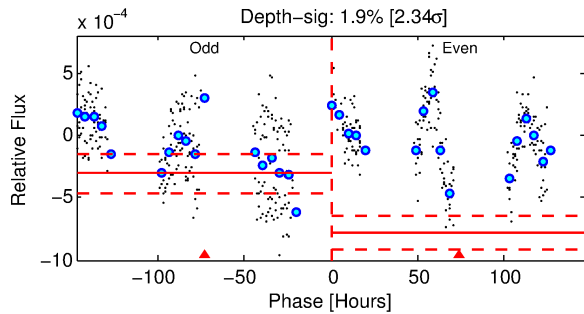
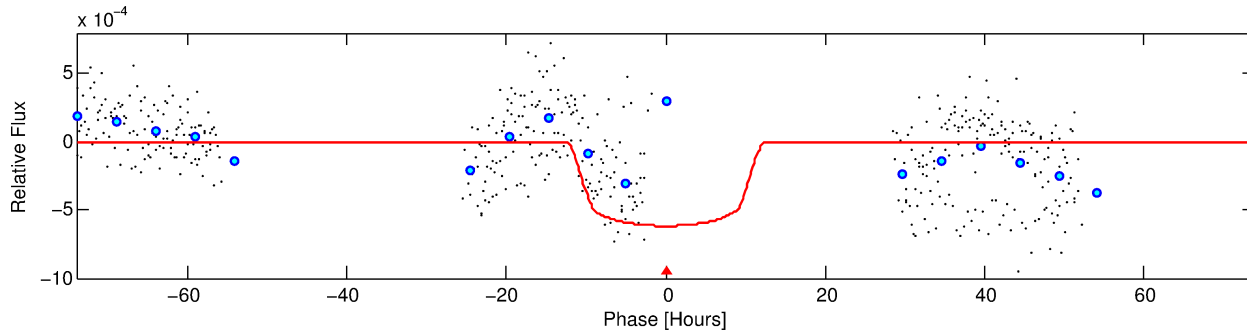
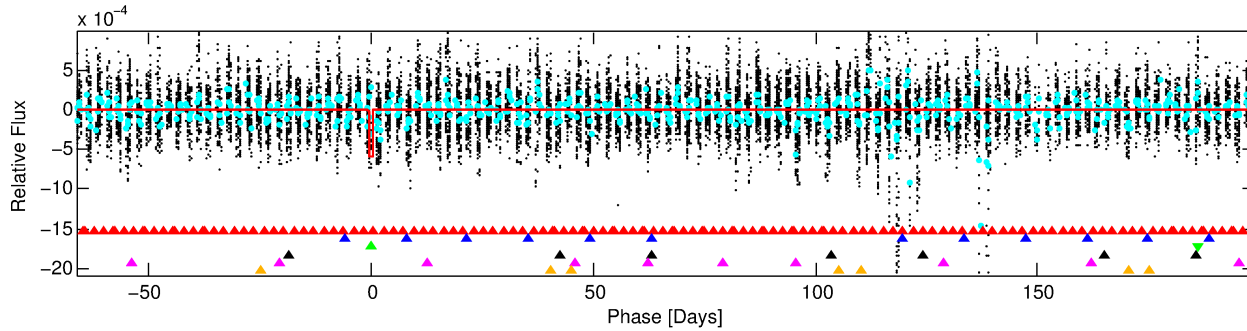
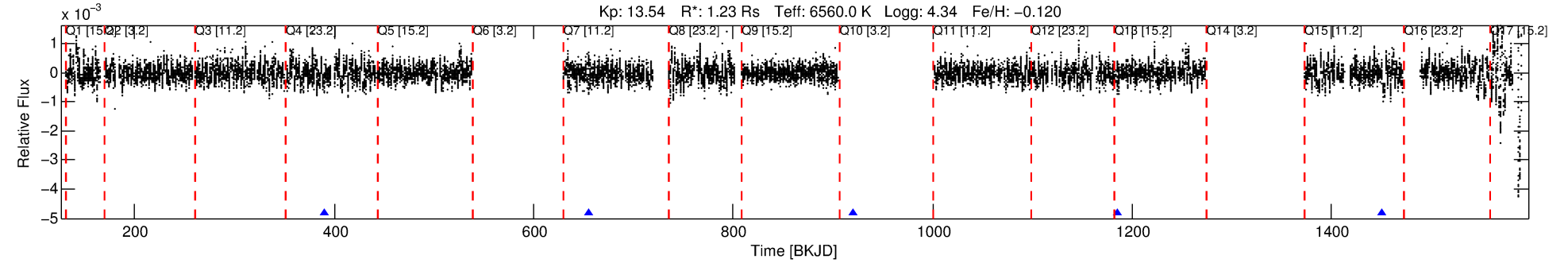
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005458882-03

No Significant Match Found

DV One-Page Summary

KIC: 5458882 Candidate: 3 of 6 Period: 265.135 d



DV Fit Results:

Period = 265.13469 [0.00843] d
Epoch = 390.1178 [0.1301] BKJD
Rp/R* = 0.0268 [0.0022]
a/R* = 39.22 [7.13]
b = 0.91 [0.05]
Seff = 3.40 [1.37]
Teq = 346 [35] K
Rp = 3.59 [1.21] Re
a = 0.8591 [0.2306] AU
Ag = 3484.40 [3022.09] [1.15σ]
Teffp = 4112 [812] K [4.63σ]

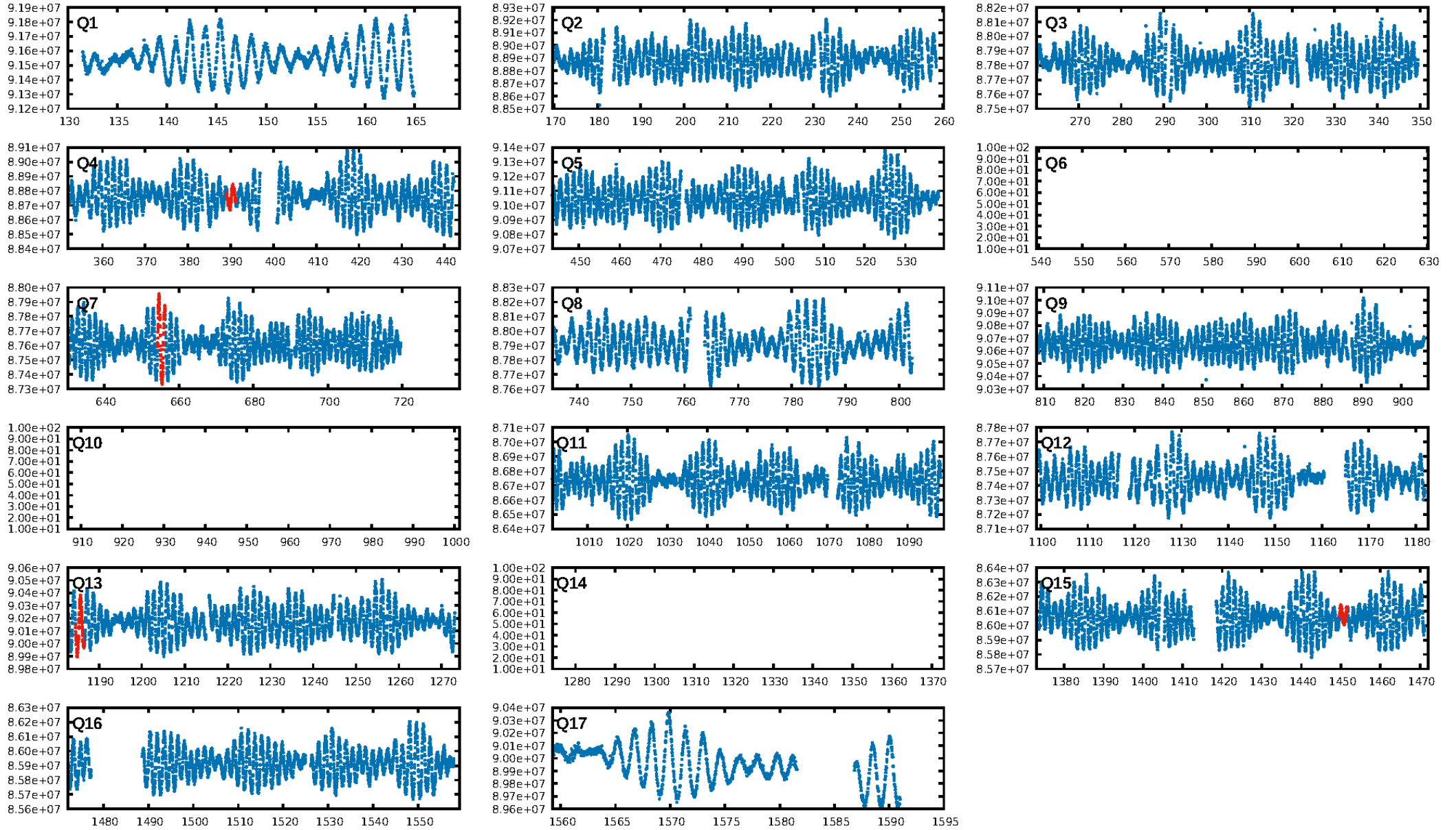
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [53.62σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.60e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.3529
Centroid-sig: 5.1%
Centroid-so: 0.396 arcsec [0.40σ]
OotOffset-rm: 0.019 arcsec [0.25σ]
KicOffset-rm: 0.180 arcsec [2.40σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/2]

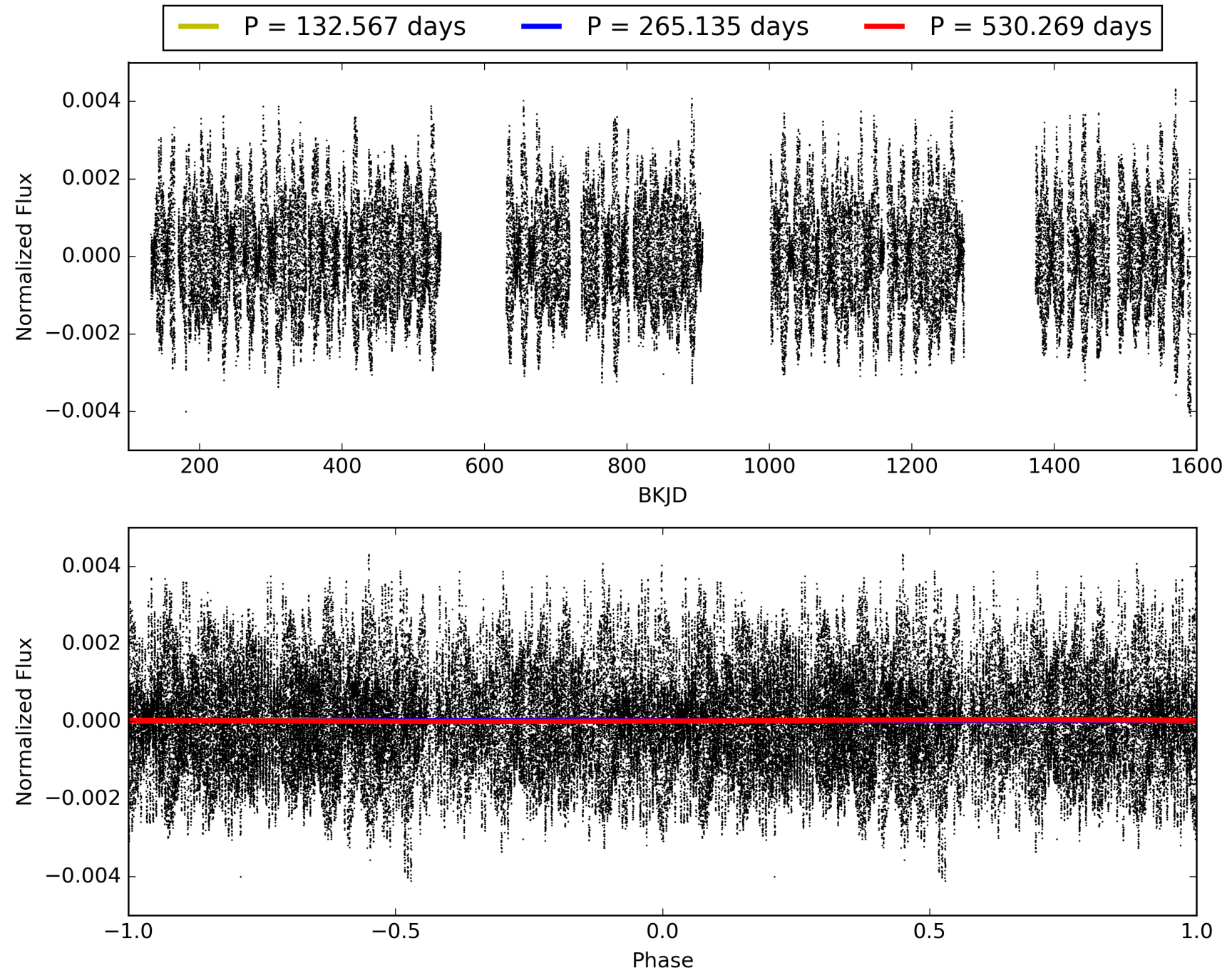
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:06:42 Z

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

TCE 005458882-03, PDC Light Curves

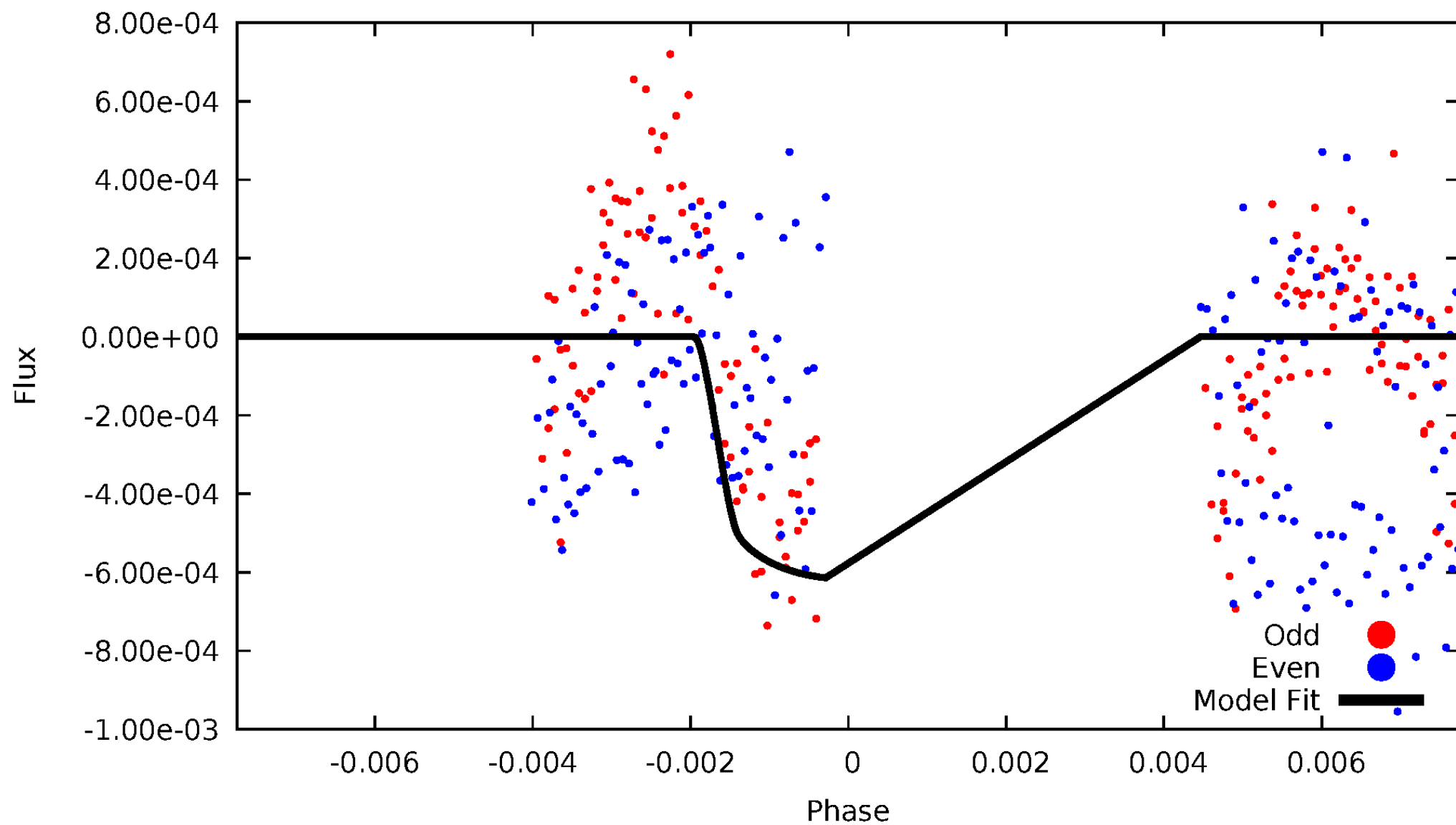


TCE 005458882-03



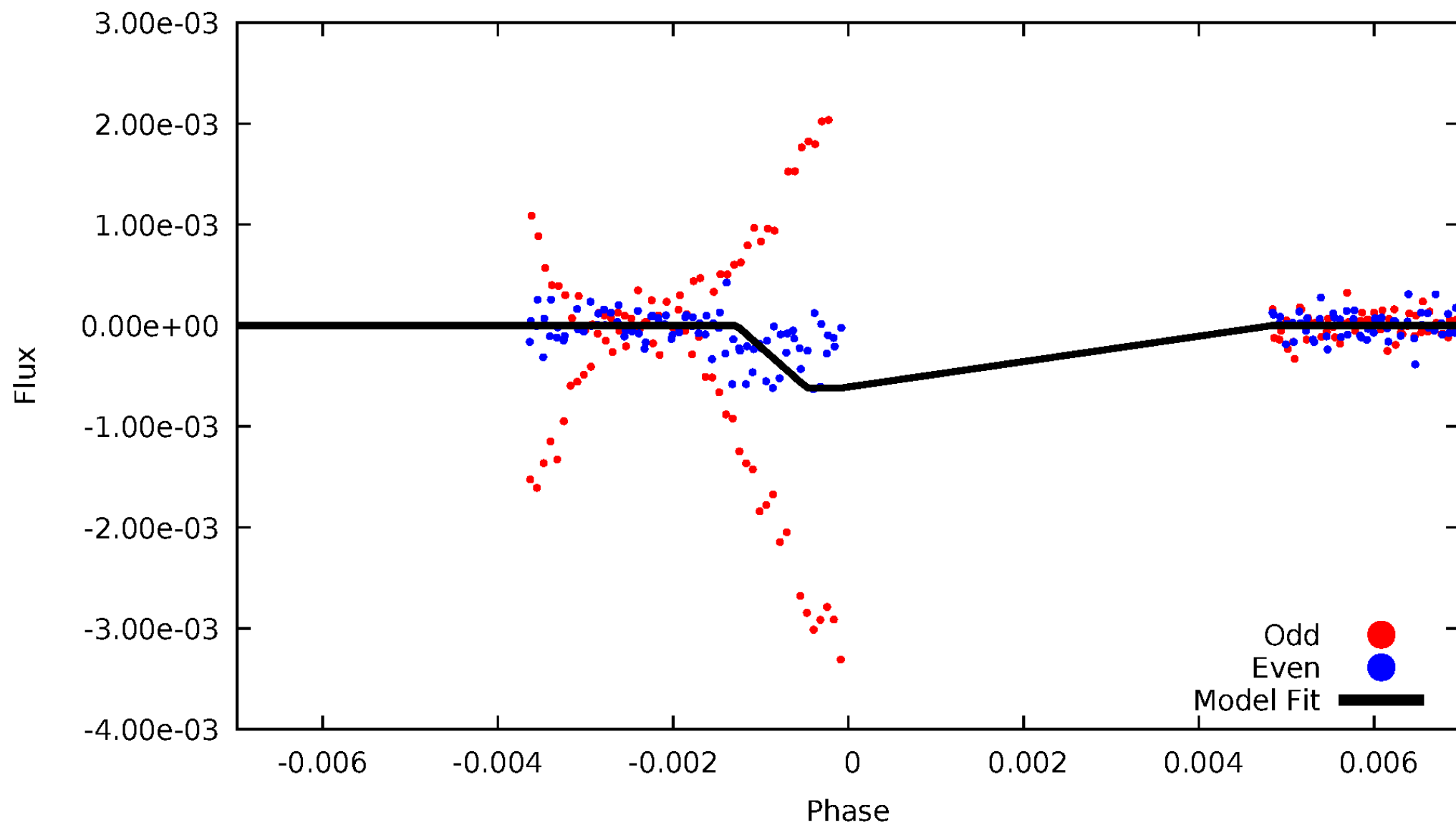
DV Odd/Even

TCE 005458882-03



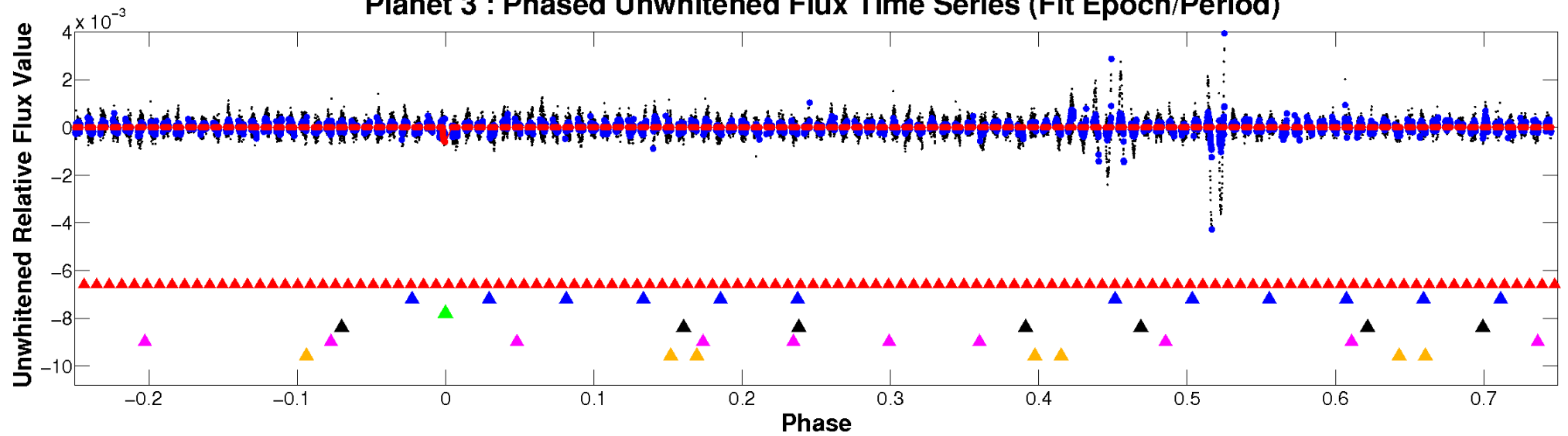
ALT Odd/Even

TCE 005458882-03

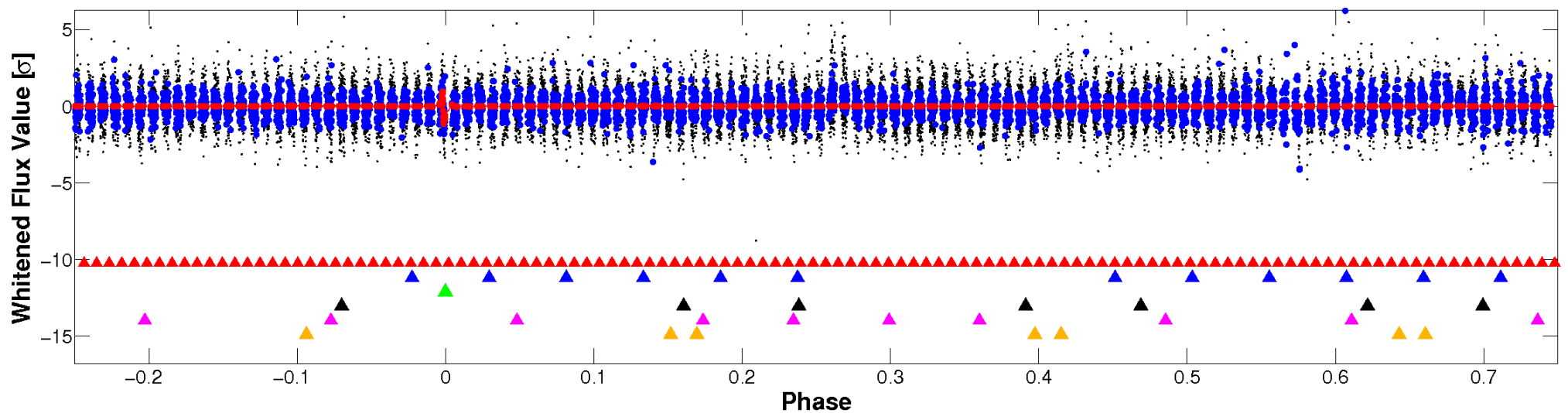


Non-Whitened Vs. Whitened Light Curve

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

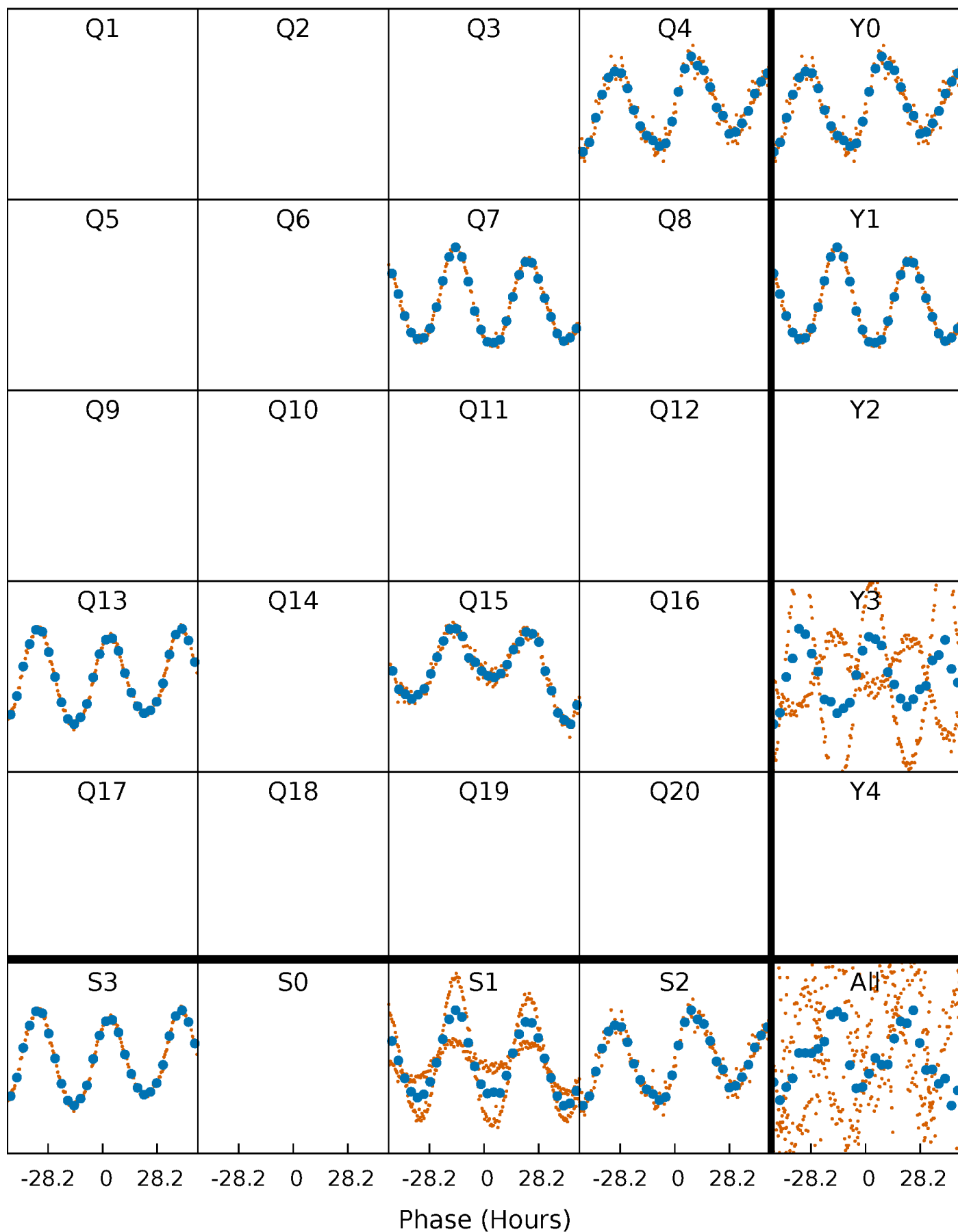


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 005458882-03 P=265.134691 Days $T_0=390.117791$ (BKJD)



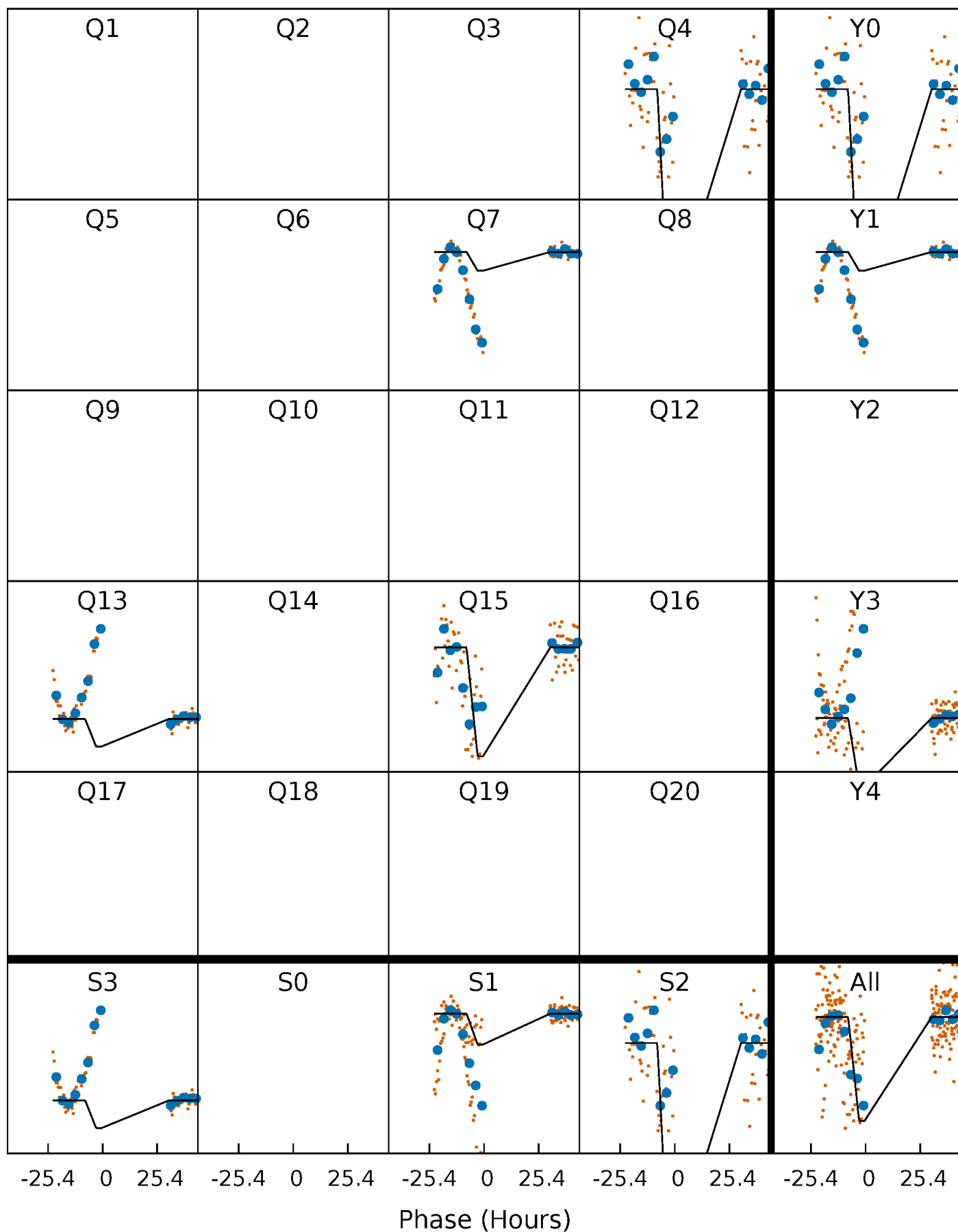
DV Quarter-Phased Transit Curves

TCE 005458882-03 $P=265.134691$ Days $T_0=390.117791$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

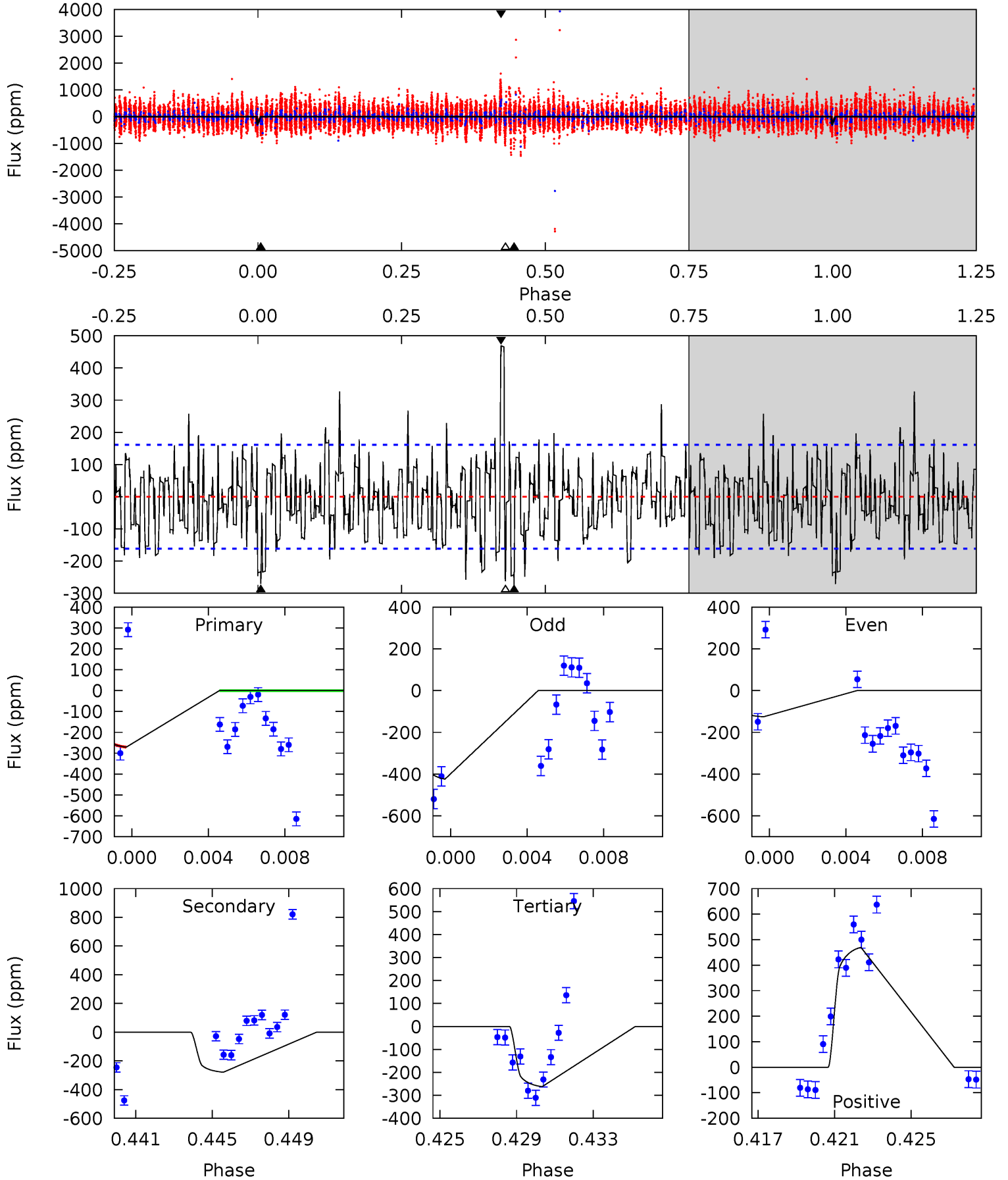
TCE 005458882-03 $P=265.152686$ Days $T_0=390.014969$ (BKJD)



DV Model-Shift Uniqueness Test

005458882-03, P = 265.134691 Days, E = 124.983100 Days

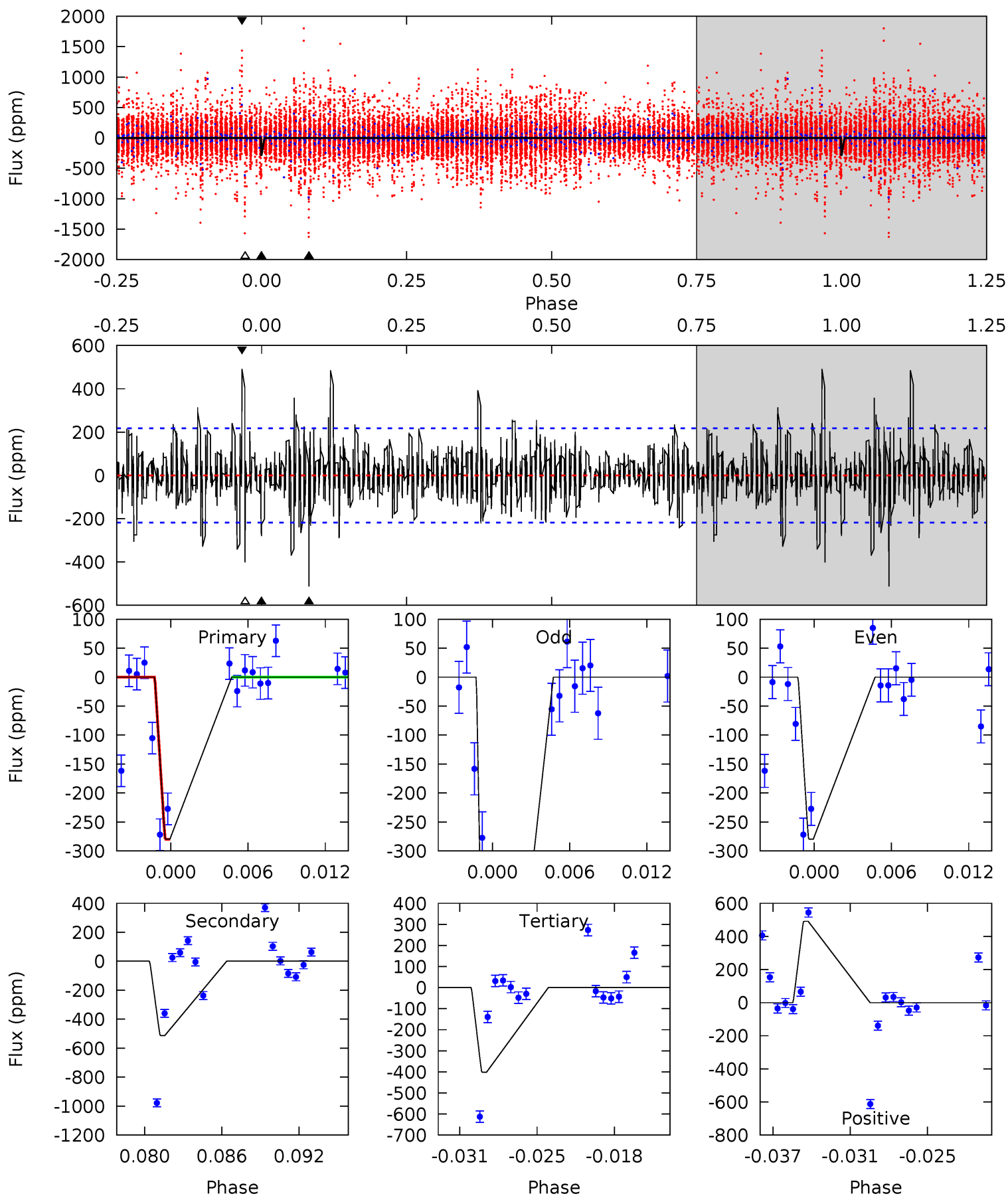
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.75	8.99	8.45	15.2	5.20	2.89	3.04	0.29	-6.41	0.54	-6.16	4.83	0	0.63	0



Alt Model-Shift Uniqueness Test

005458882-03, P = 265.152686 Days, E = 124.862283 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.58	12.1	9.46	11.5	5.12	2.74	1.74	-2.88	-4.97	2.60	0.51	8.87	0	0.49	0



Stellar Parameters For KIC 005458882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6560^{+149}_{-216}	$4.339^{+0.072}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.229^{+0.403}_{-0.144}$	$1.208^{+0.183}_{-0.164}$	$0.916^{+0.340}_{-0.476}$
	+2%/-3%	+2%/-5%	+208%/-250%	+33%/-12%	+15%/-14%	+37%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005458882-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-279 ± 31	$3.73^{+0.65}_{-0.50}$	491^{+37}_{-24}	5231^{+267}_{-259}	8028^{+2847}_{-2240}
Alt.	-513 ± 43	$3.41^{+0.61}_{-0.42}$	489^{+38}_{-23}	6239^{+367}_{-356}	17559^{+5470}_{-4431}

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 $A_{obs} \gg 1.0$

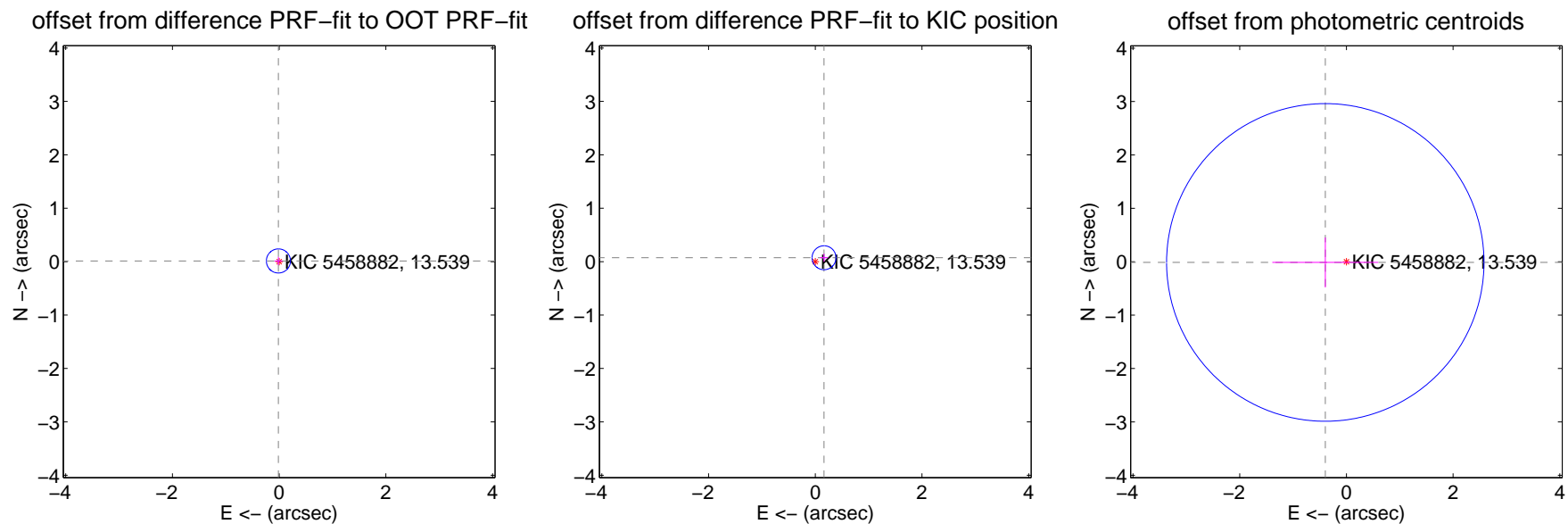
DV Centroid Data

Supplemental centroid analysis for 005458882-03. Kepler magnitude: 13.54. Transit SNR 8.25

There are 1 quarters with good PRF difference image offsets

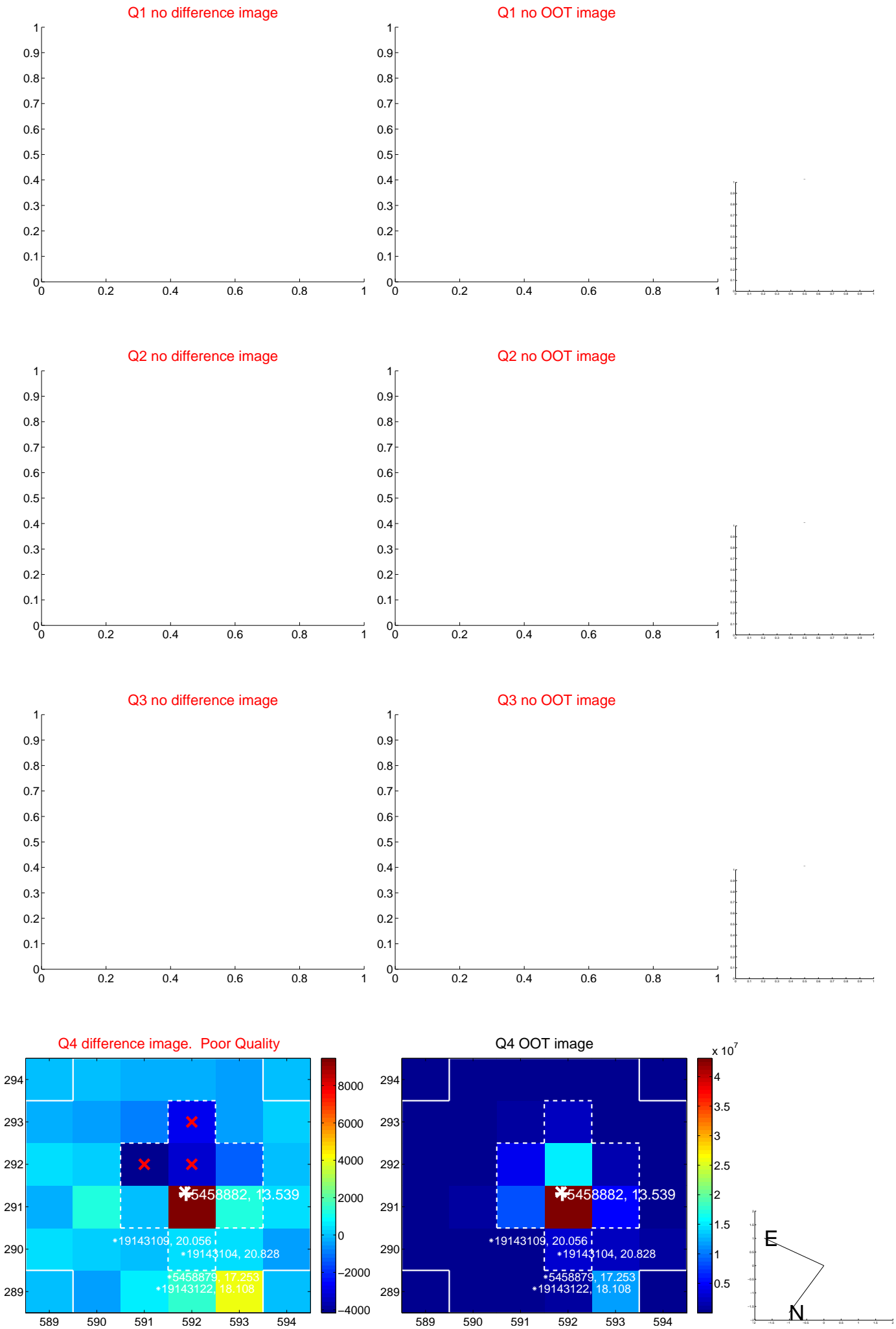
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.019 ± 0.075	0.25	0.013 ± 0.074	0.013 ± 0.076
PRF-fit source offset from KIC position	0.180 ± 0.075	2.40	-0.164 ± 0.074	0.073 ± 0.076
photometric centroid source offset	0.40 ± 0.99	0.40	0.40 ± 0.99	-0.01 ± 0.47

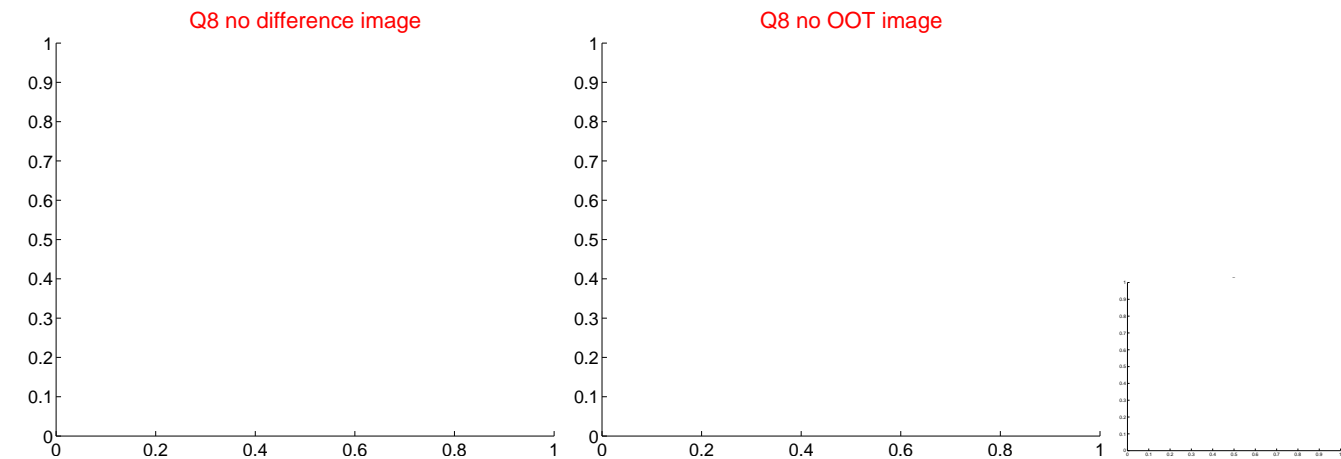
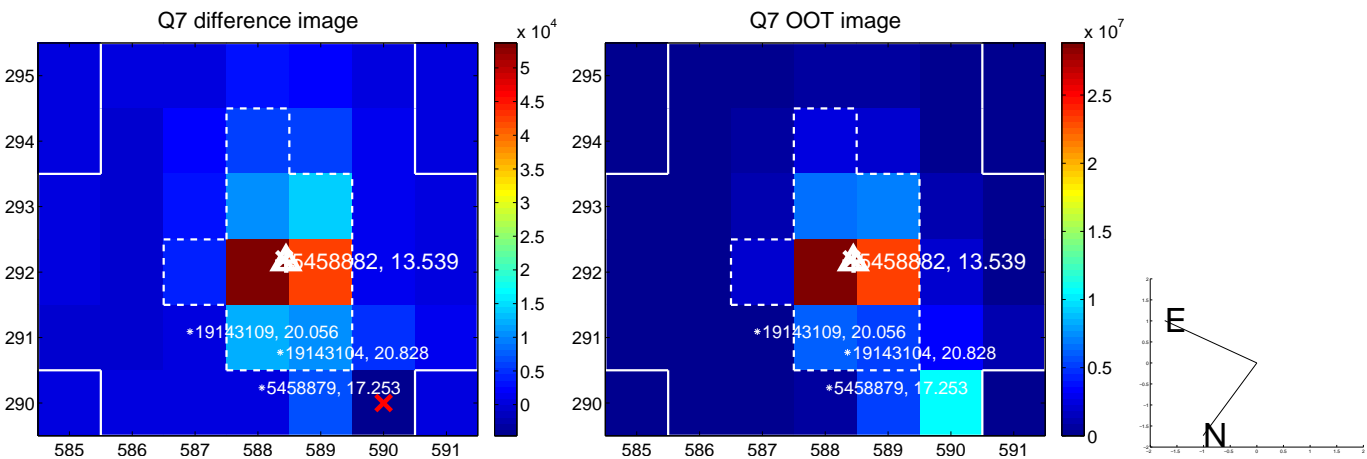


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



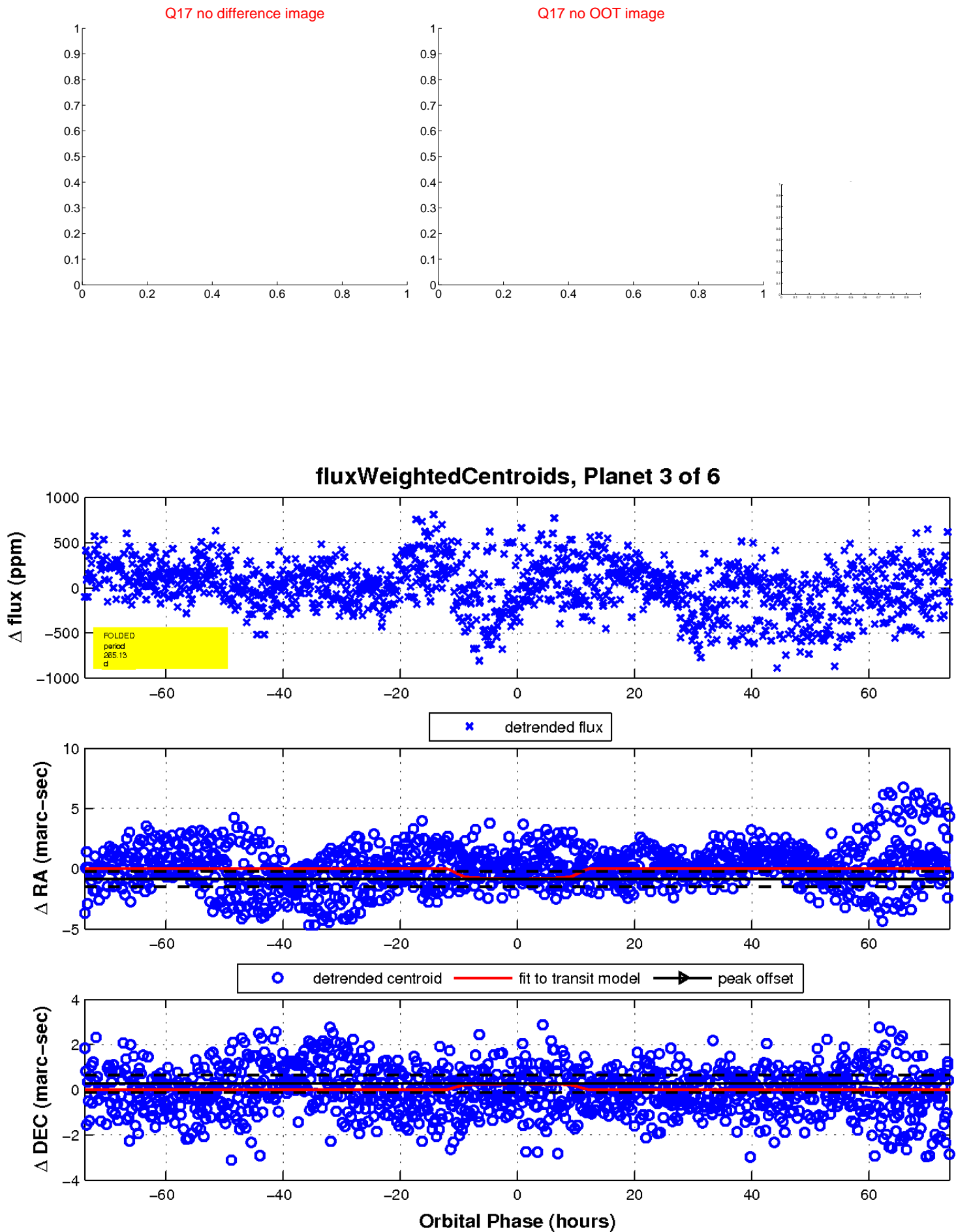
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



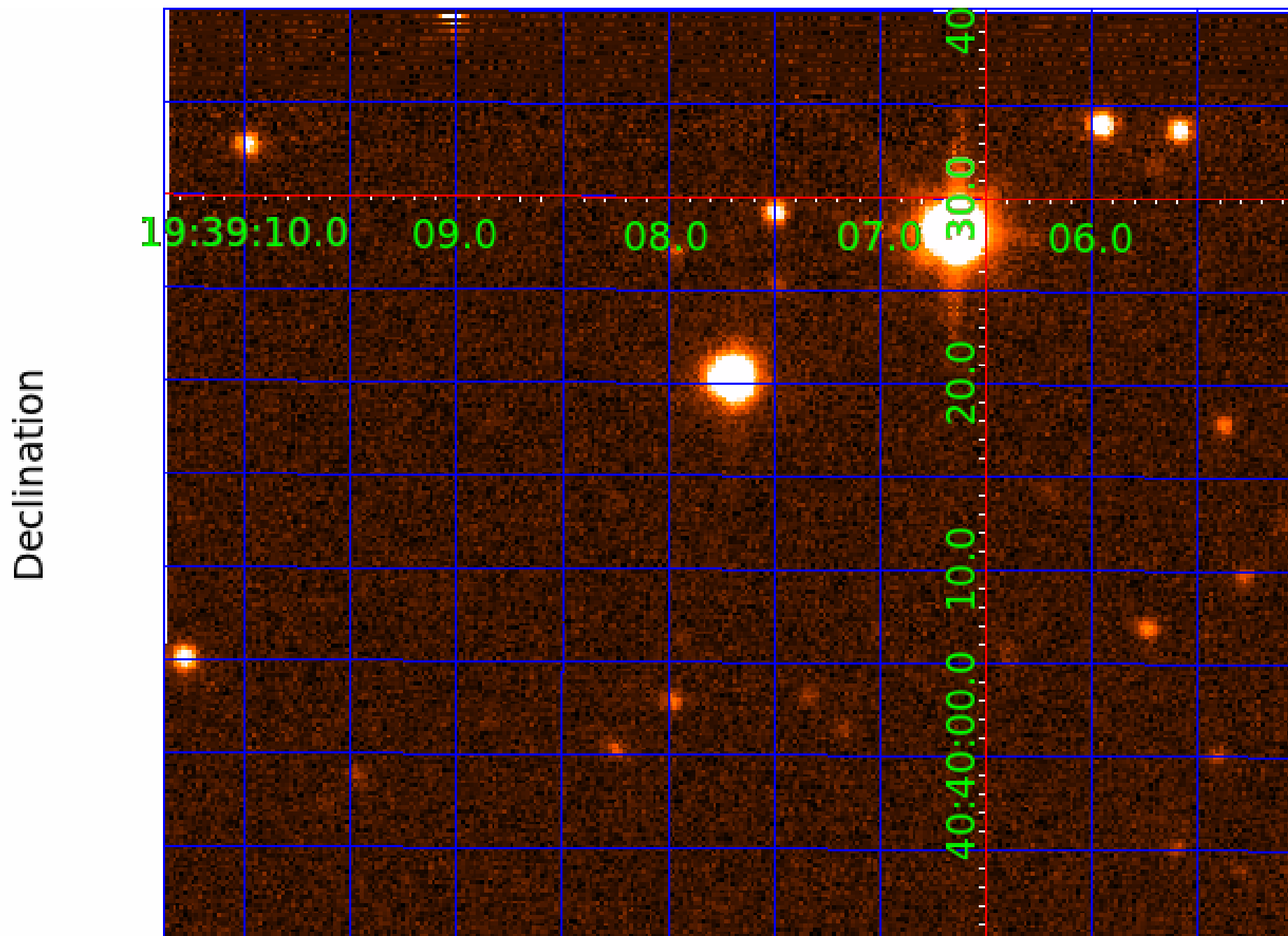
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005458882

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})
005458882-01	OBS	No	2.247037	132.236633	41.3	10.199	10.9	8.9	1.23	6560	0.80	1965.16
005458882-02	OBS	No	125.675220	187.932919	174.2	5.380	8.4	3.7	1.23	6560	1.89	9.19
005458882-03	OBS	No	265.134691	390.117791	617.2	24.634	8.6	8.2	1.23	6560	3.60	3.40
005458882-04	OBS	No	203.999885	289.825075	261.8	11.909	7.8	5.0	1.23	6560	2.13	4.82
005458882-05	OBS	No	149.198218	187.180758	387.6	5.128	7.6	7.9	1.23	6560	2.66	7.31
005458882-06	OBS	No	200.021989	295.467024	314.1	13.376	7.5	7.2	1.23	6560	2.55	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005458882-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005458882-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005458882-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005458882-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005458882-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005458882-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

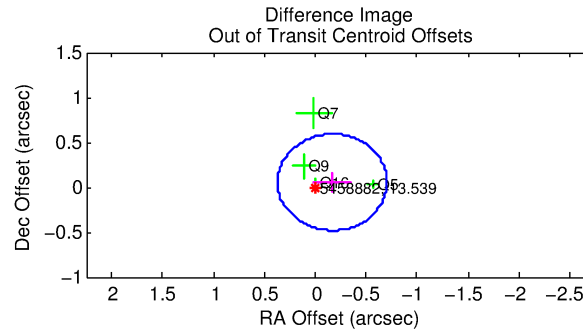
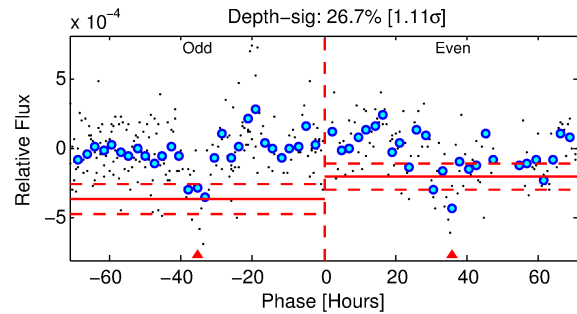
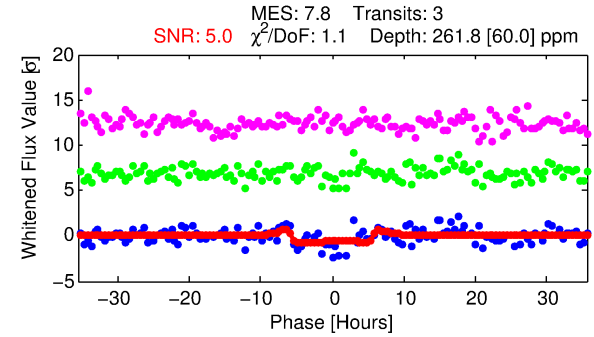
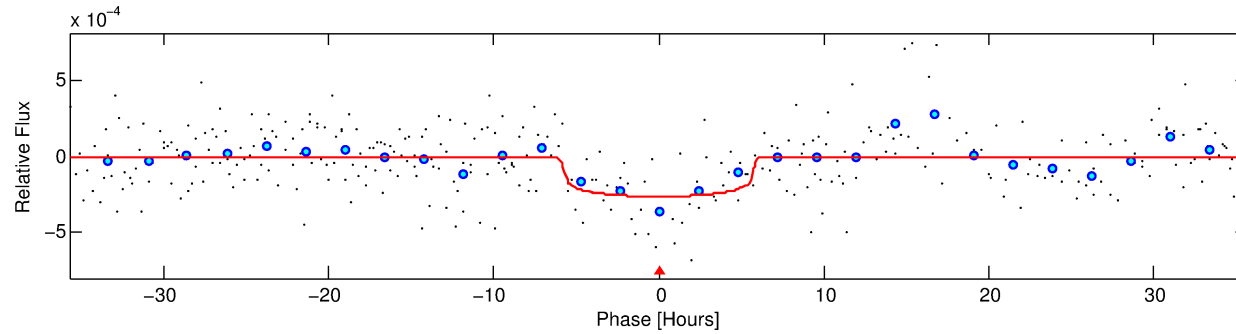
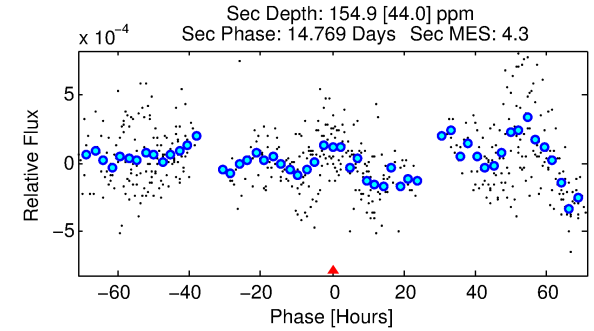
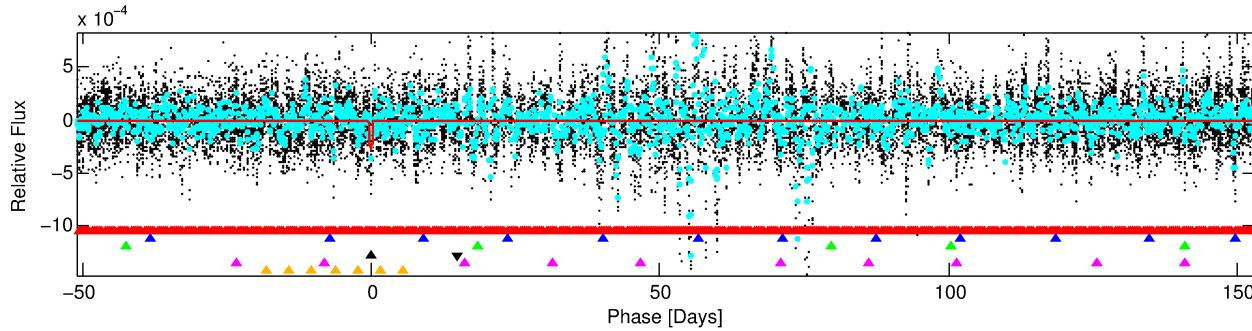
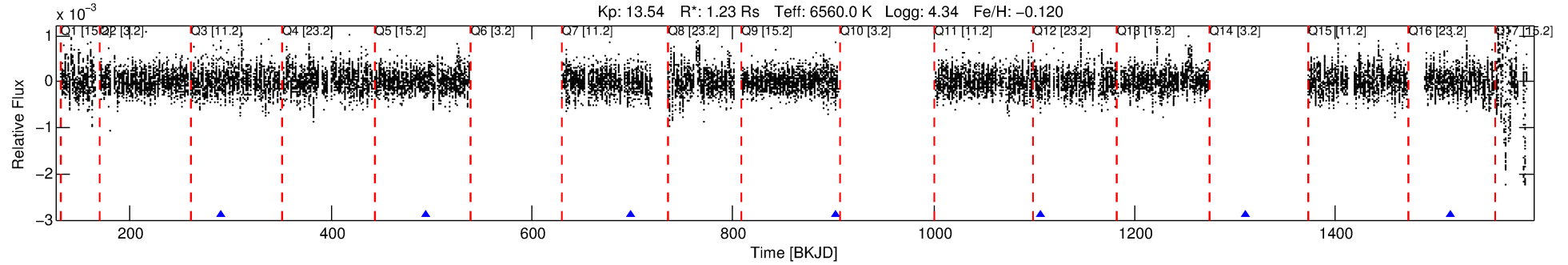
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005458882-04

No Significant Match Found

DV One-Page Summary

KIC: 5458882 Candidate: 4 of 6 Period: 204.000 d



DV Fit Results:

Period = 203.99989 [0.02047] d
Epoch = 289.8251 [0.0624] BKJD
Rp/R* = 0.0159 [0.0112]
a/R* = 96.56 [366.18]
b = 0.70 [2.82]
Seff = 4.82 [1.94]
Teq = 378 [38] K
Rp = 2.13 [1.65] Re
a = 0.7214 [0.1936] AU
Ag = 9800.01 [14563.47] [0.67σ]
Teffp = 5811 [2096] K [2.59σ]

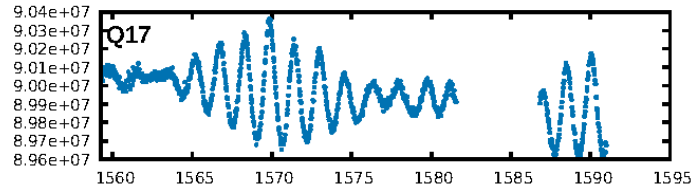
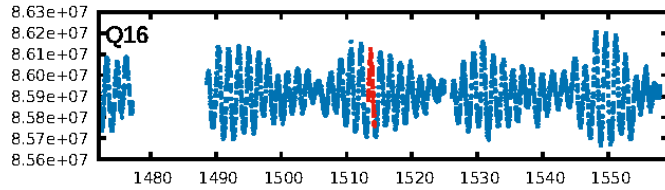
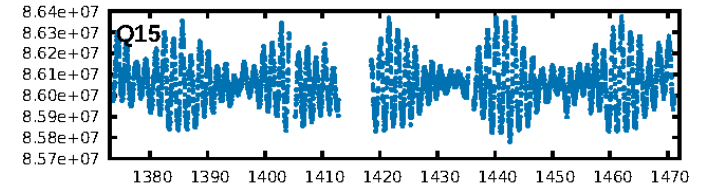
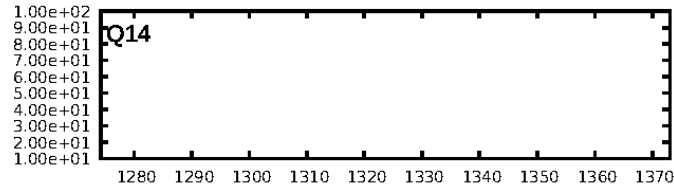
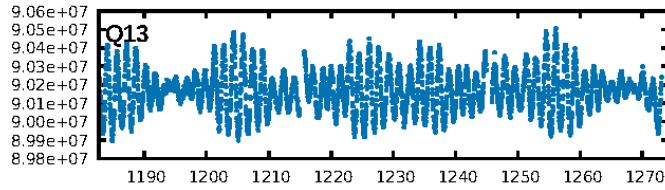
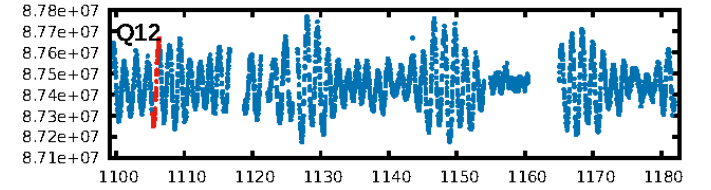
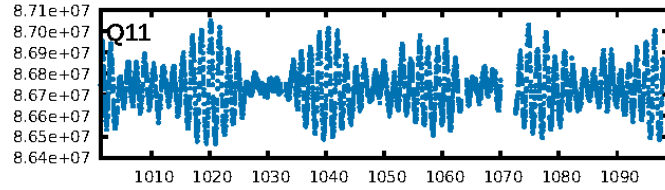
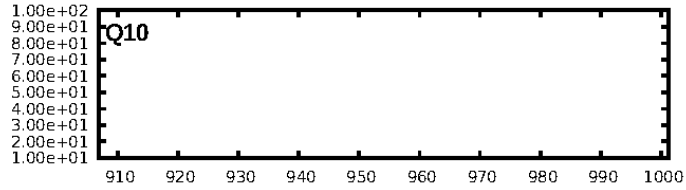
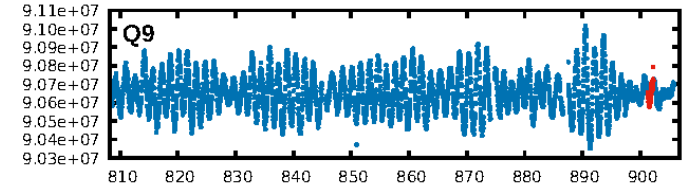
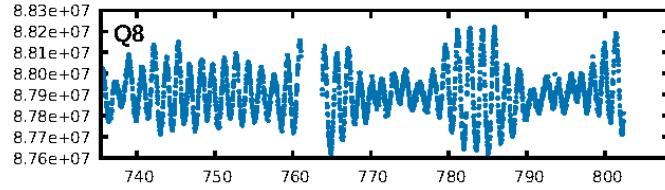
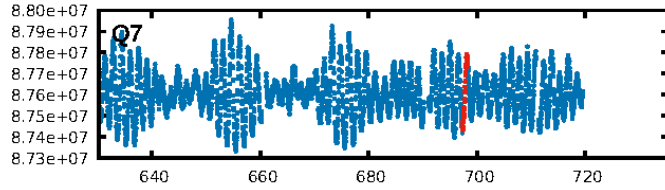
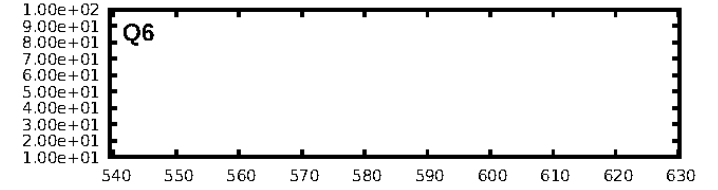
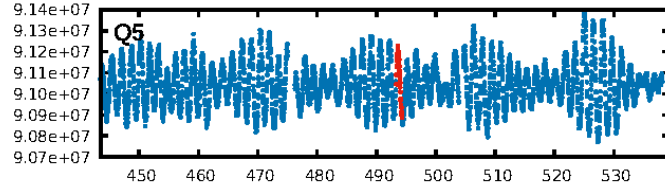
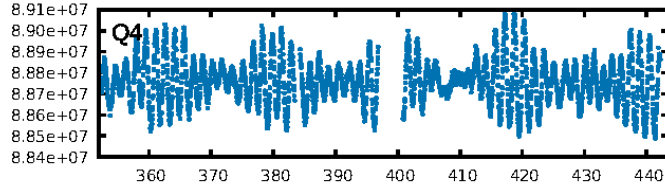
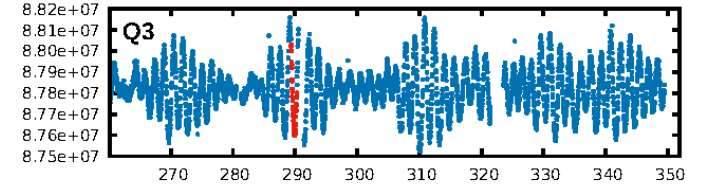
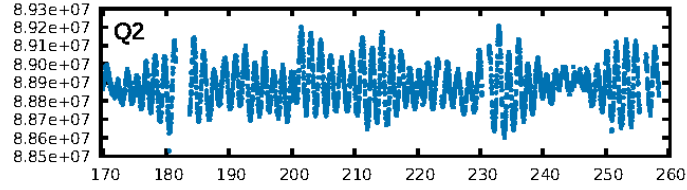
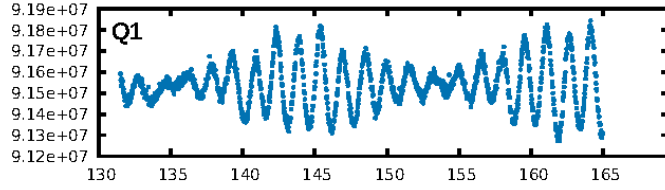
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.33σ]
LongPeriod-sig: 100.0% [53.62σ]
ModelChiSquare2-sig: 68.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.69e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.322
Centroid-sig: 26.8%
Centroid-so: 1.181 arcsec [0.63σ]
OotOffset-rm: 0.176 arcsec [0.98σ]
OotOffset-st: 0/1/1/2 [4]
KicOffset-rm: 0.337 arcsec [2.12σ]
KicOffset-st: 0/1/1/2 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.20 [1/5]

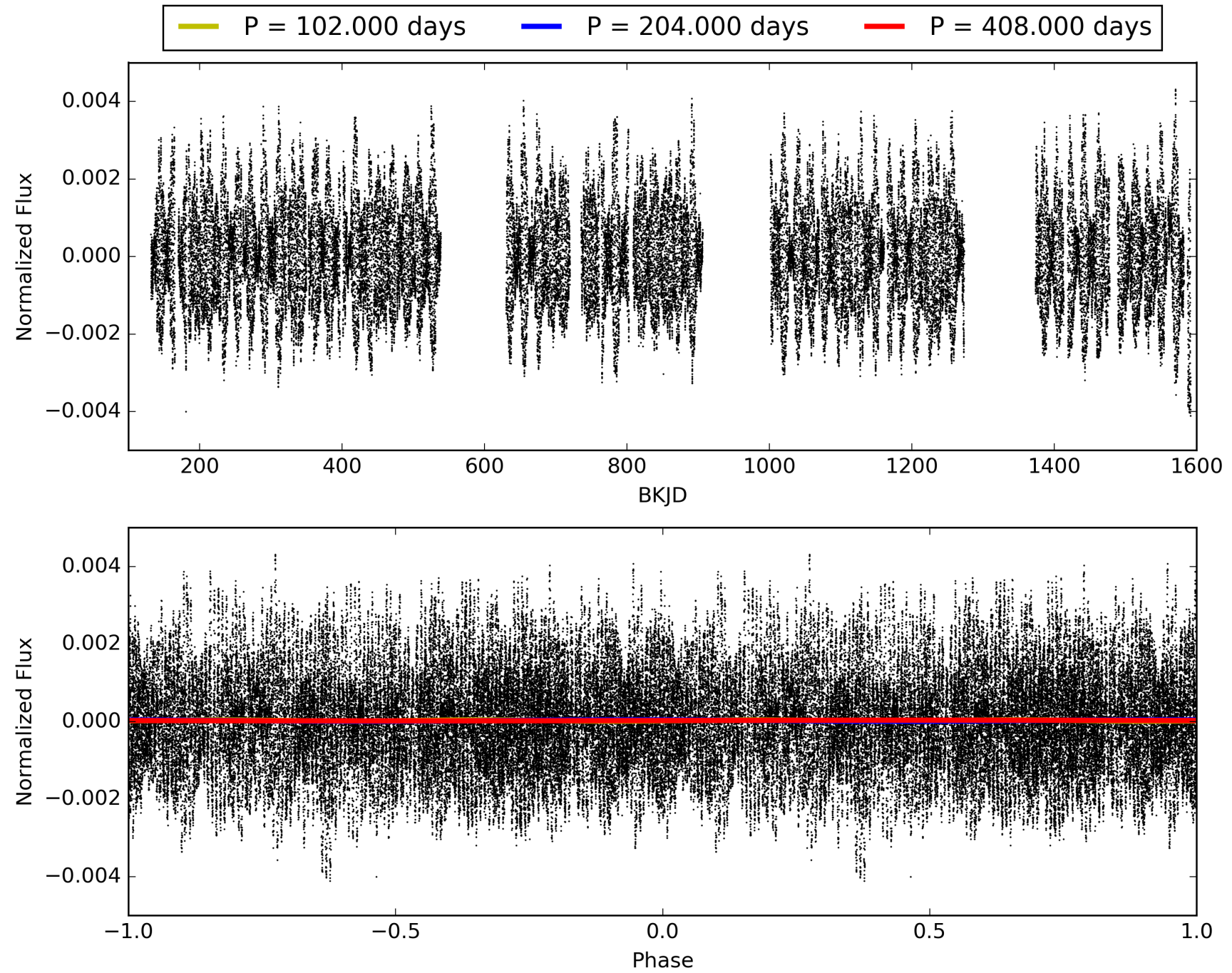
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:06:46 Z

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

TCE 005458882-04, PDC Light Curves

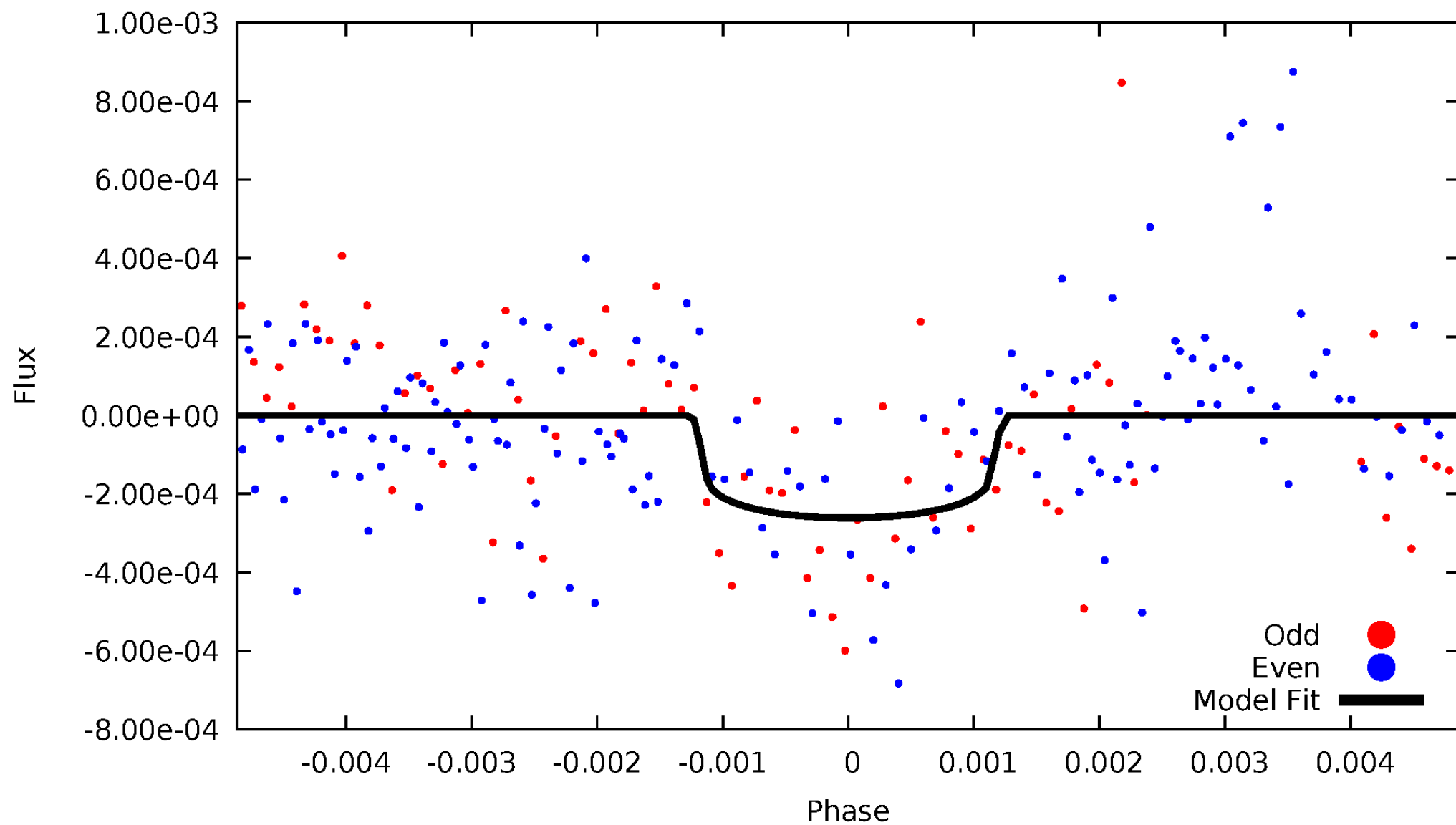


TCE 005458882-04



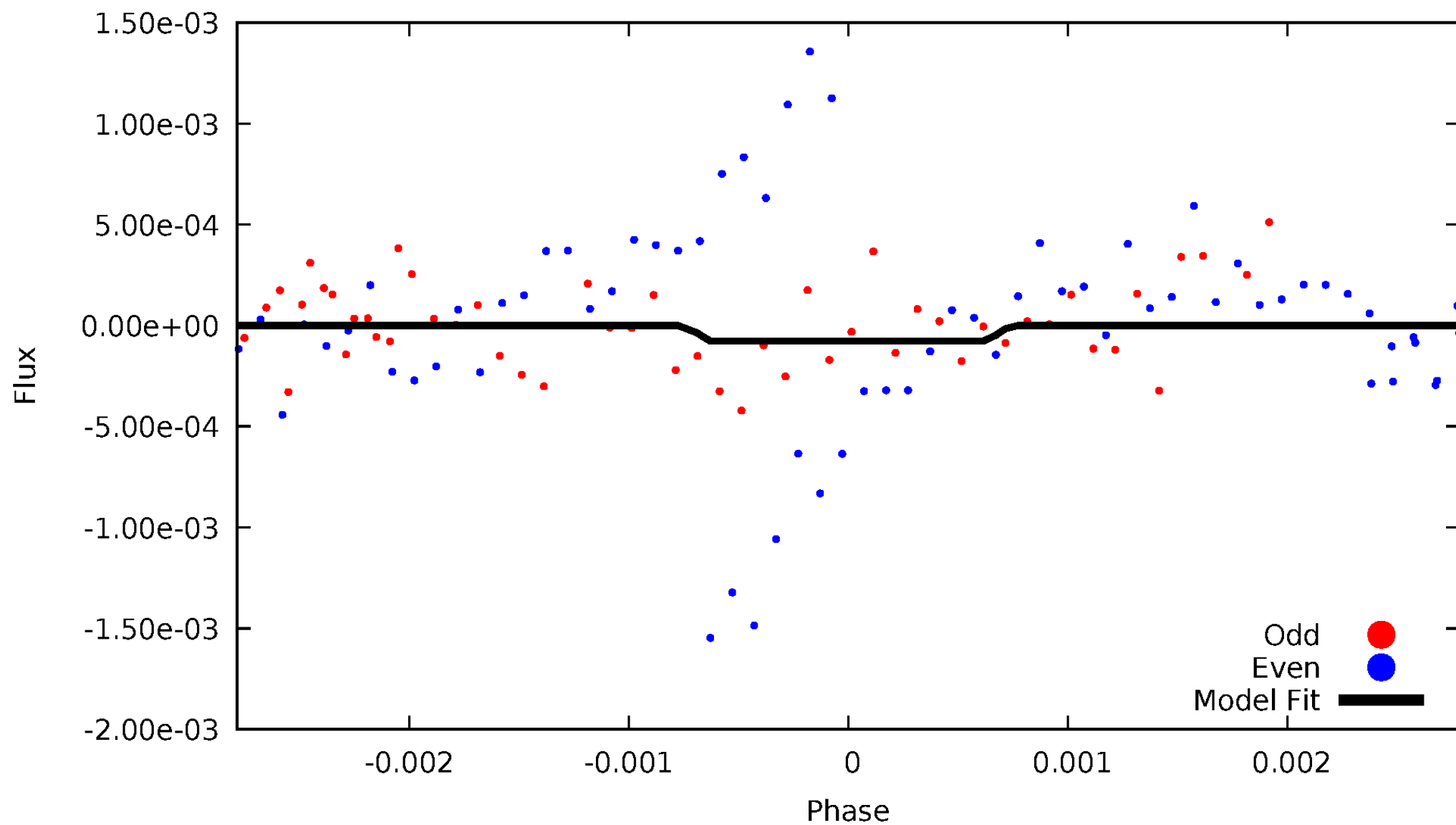
DV Odd/Even

TCE 005458882-04



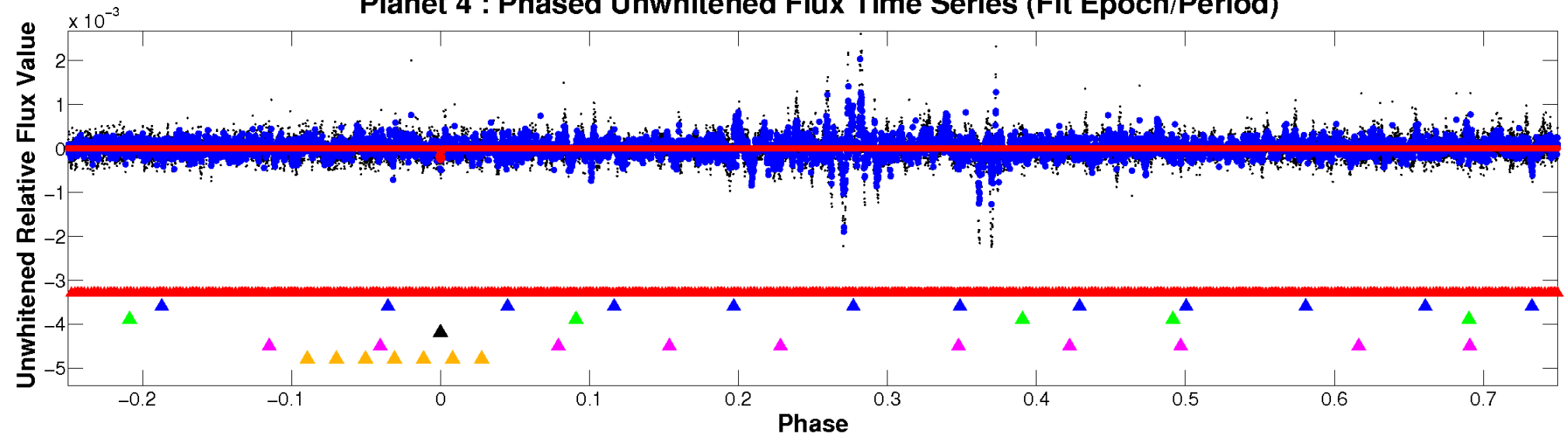
ALT Odd/Even

TCE 005458882-04

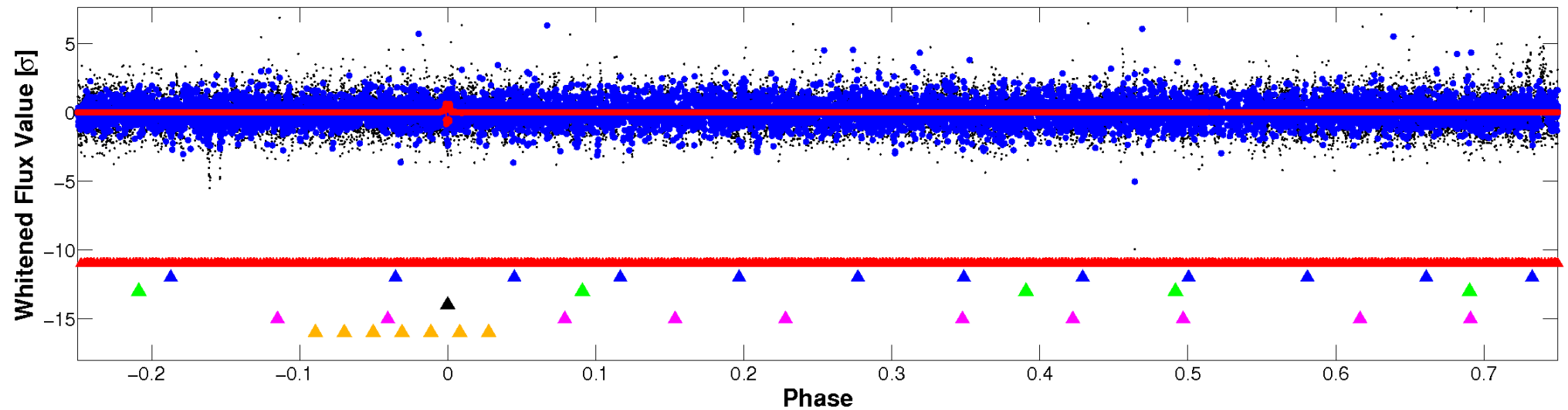


Non-Whitened Vs. Whitened Light Curve

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

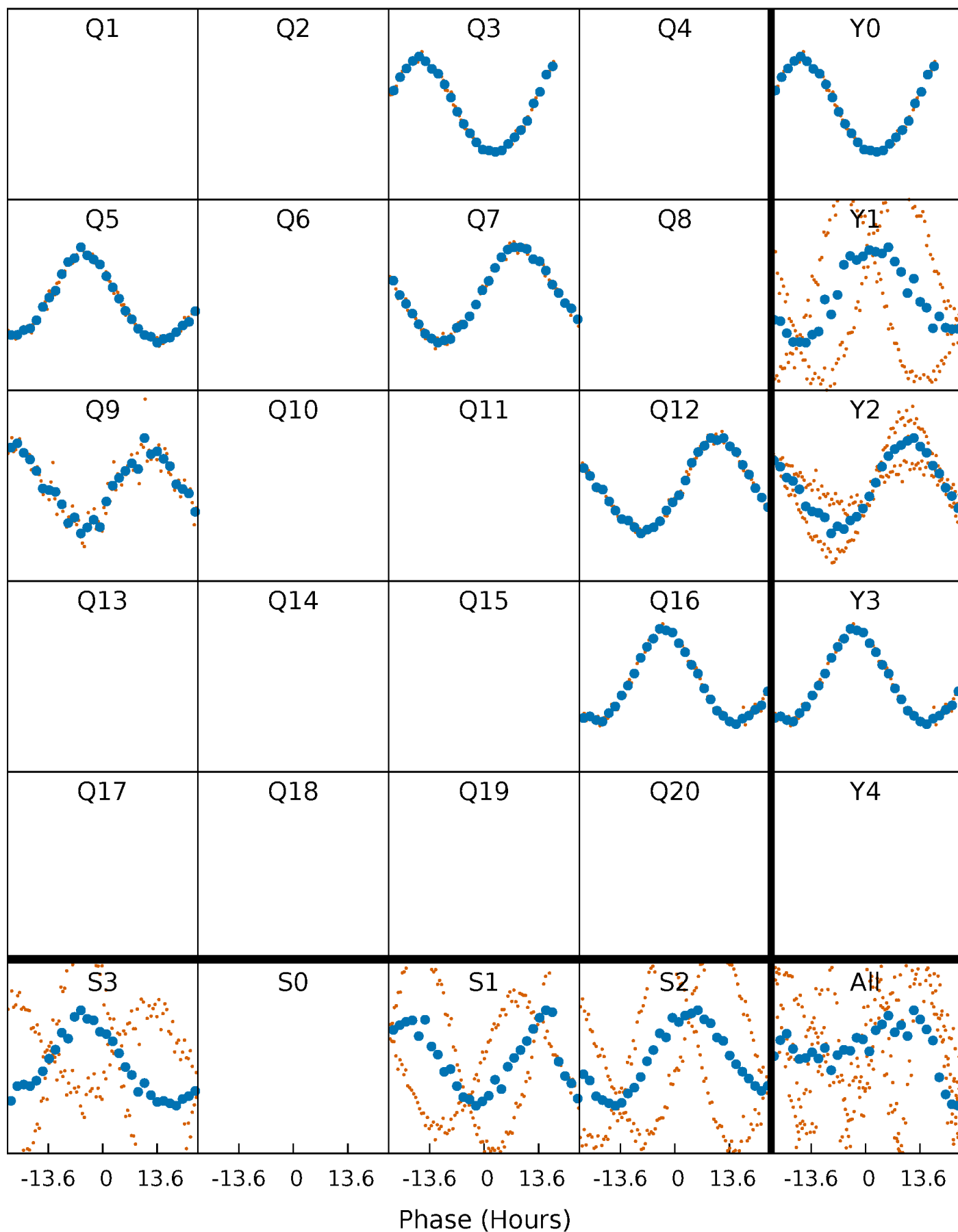


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



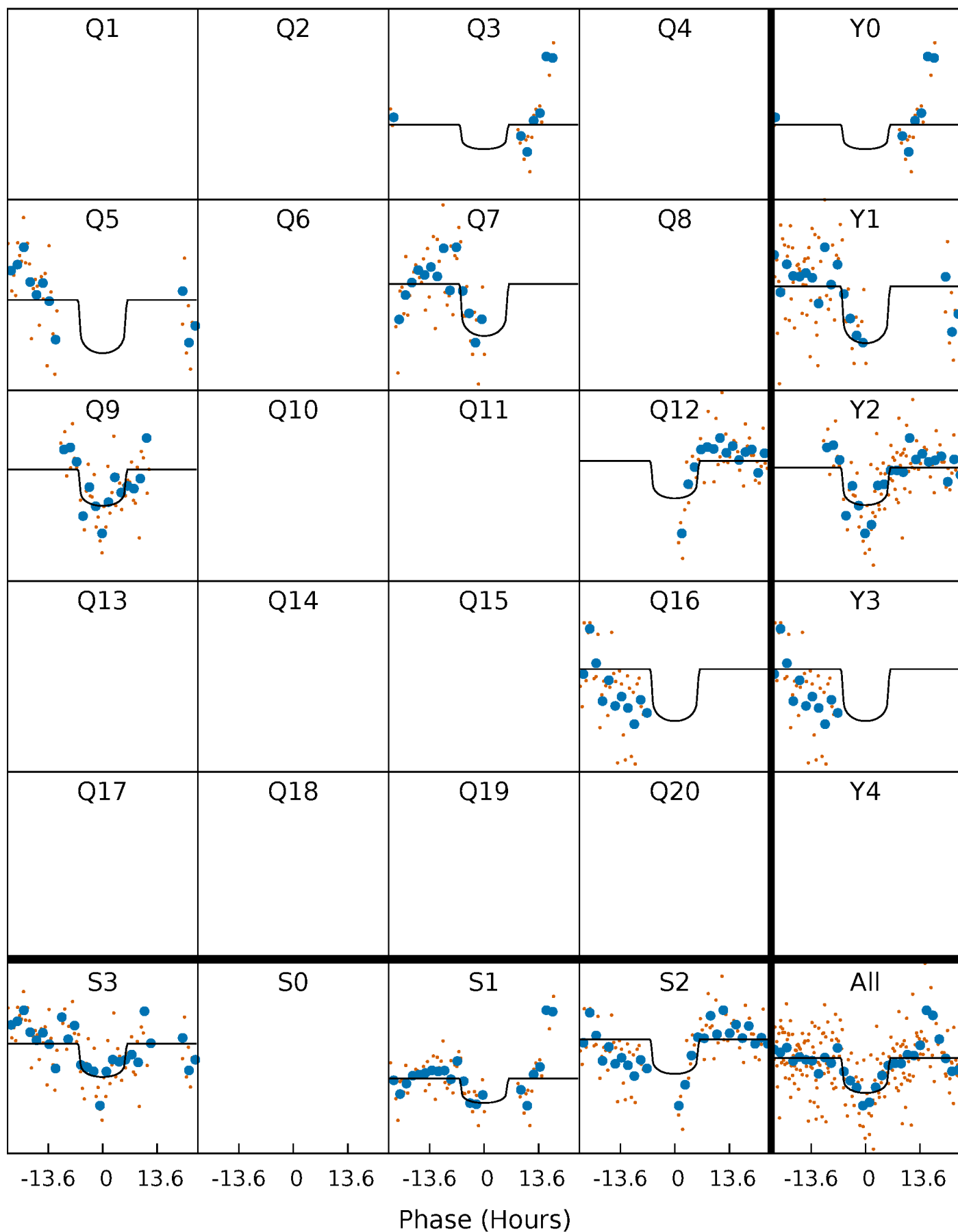
PDC Quarter-Phased Transit Curves

TCE 005458882-04 $P=203.999885$ Days $T_0=289.825075$ (BKJD)



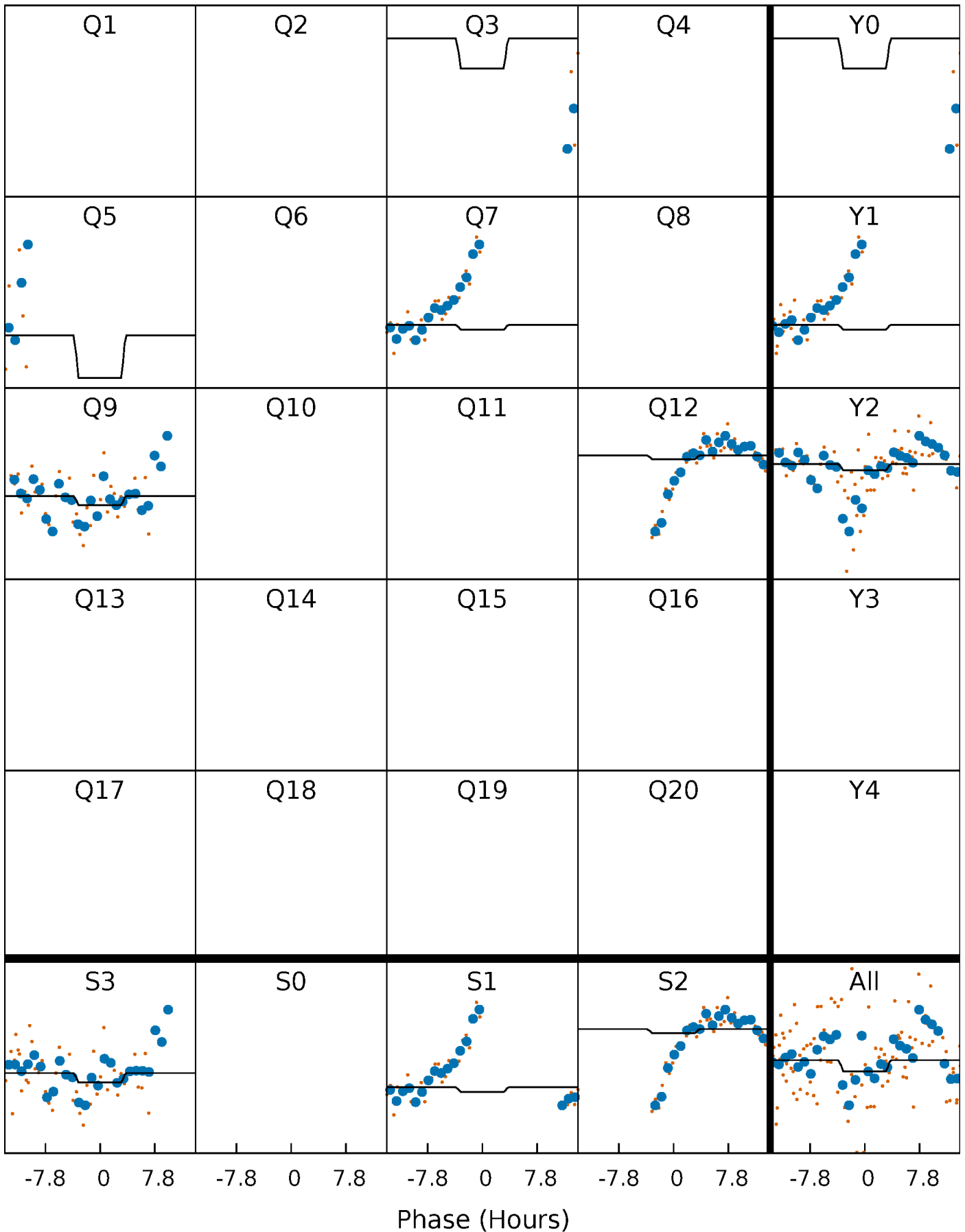
DV Quarter-Phased Transit Curves

TCE 005458882-04 $P=203.999885$ Days $T_0=289.825075$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

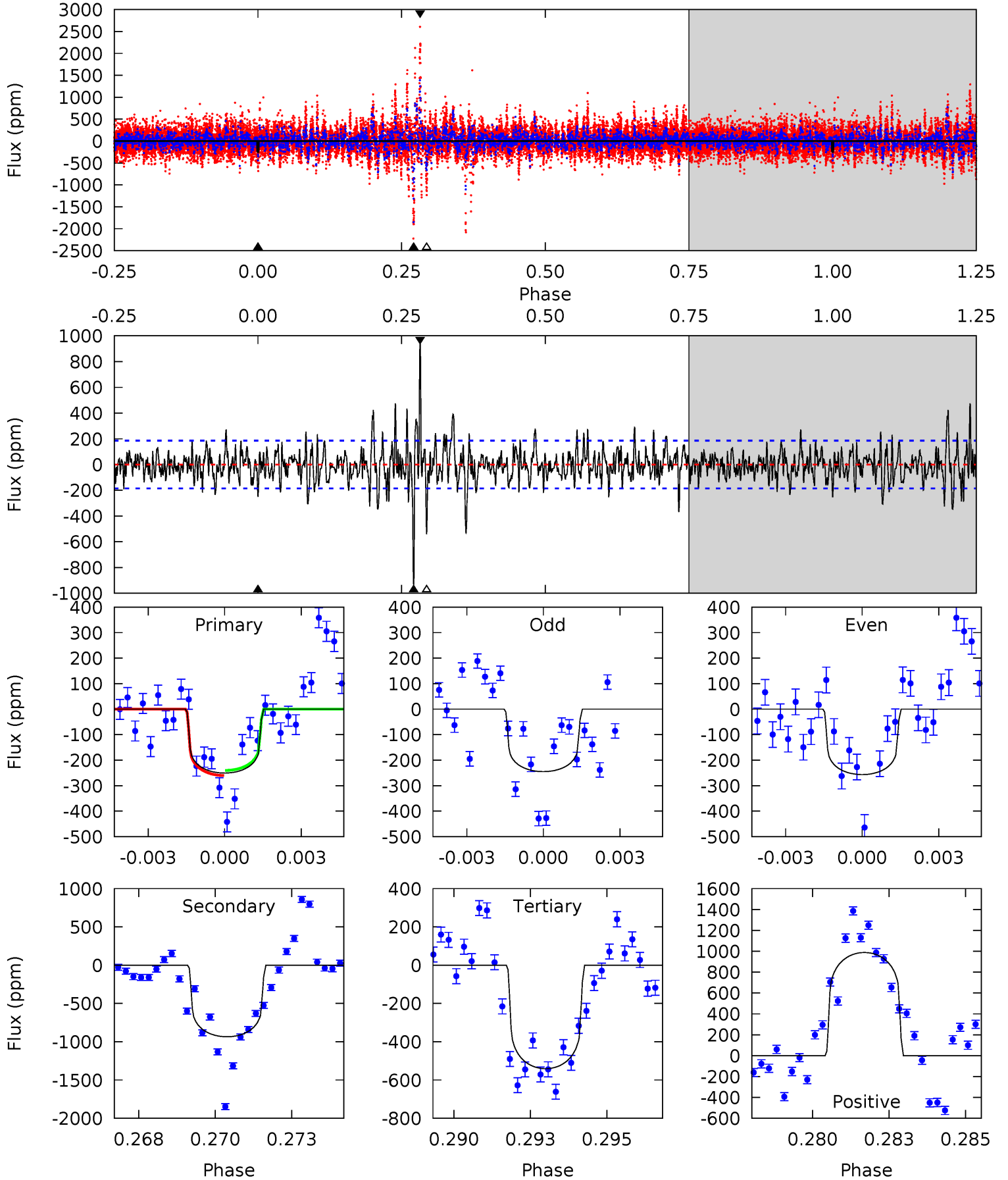
TCE 005458882-04 $P=204.075023$ Days $T_0=289.693464$ (BKJD)



DV Model-Shift Uniqueness Test

005458882-04, P = 203.999885 Days, E = 85.825190 Days

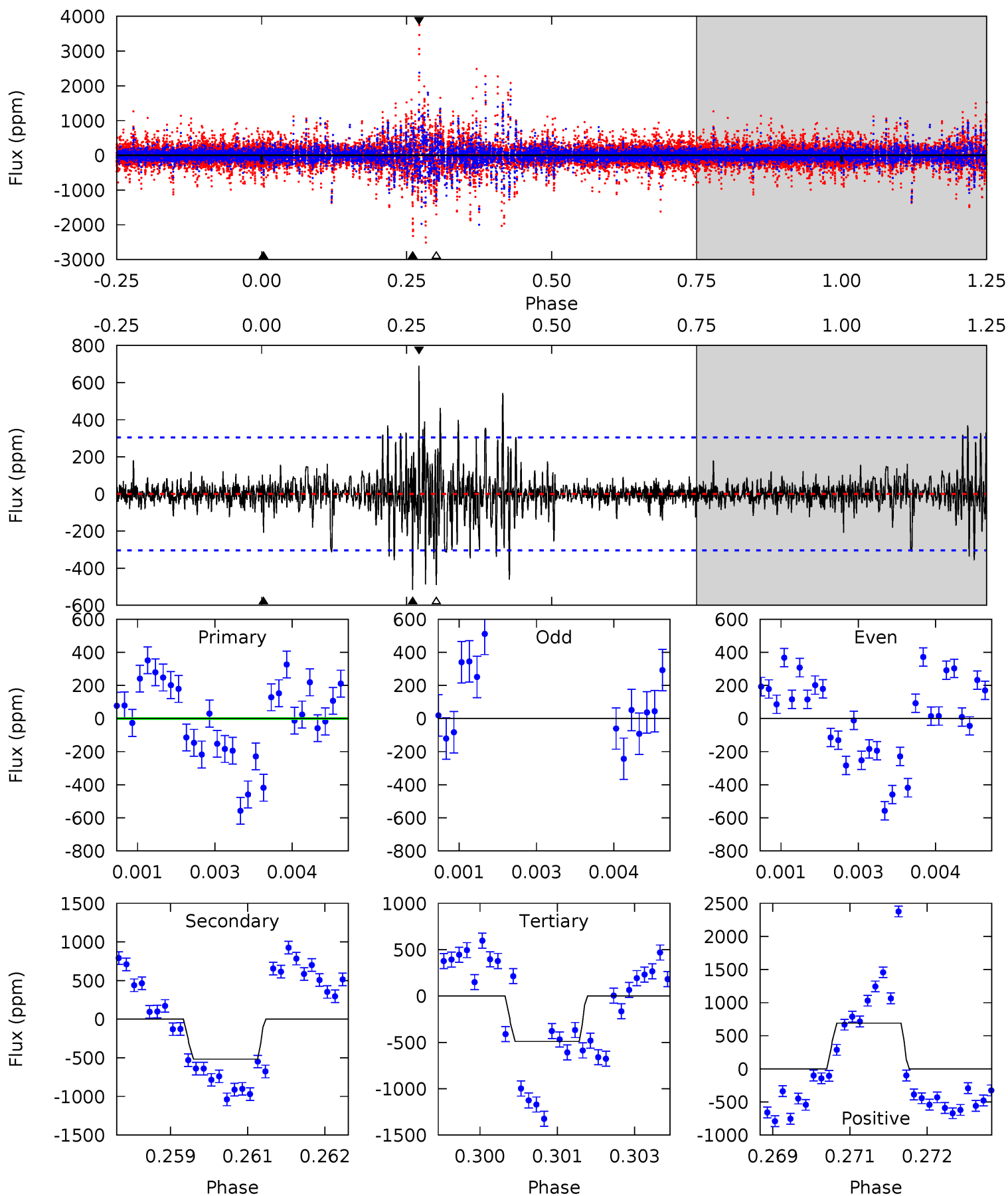
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.14	26.7	15.4	28.2	5.29	3.02	3.18	-8.27	-21.0	11.2	-1.51	0.17	1.04	0.51	0.28



Alt Model-Shift Uniqueness Test

005458882-04, P = 204.075023 Days, E = 85.618441 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.07	9.15	8.68	12.2	5.39	3.18	1.31	-5.62	-9.17	0.47	-3.08	0.39	-0.95	0.57	1.59



Stellar Parameters For KIC 005458882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6560^{+149}_{-216}	$4.339^{+0.072}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.229^{+0.403}_{-0.144}$	$1.208^{+0.183}_{-0.164}$	$0.916^{+0.340}_{-0.476}$
	+2%/-3%	+2%/-5%	+208%/-250%	+33%/-12%	+15%/-14%	+37%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005458882-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-935 ± 35	$2.36^{+1.51}_{-1.35}$	538^{+39}_{-29}	9401^{+9066}_{-2547}	$46929^{+219582}_{-29609}$
Alt.	-517 ± 56	$1.62^{+1.50}_{-1.02}$	534^{+36}_{-26}	9851^{+15323}_{-3277}	$54846^{+343681}_{-39785}$

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

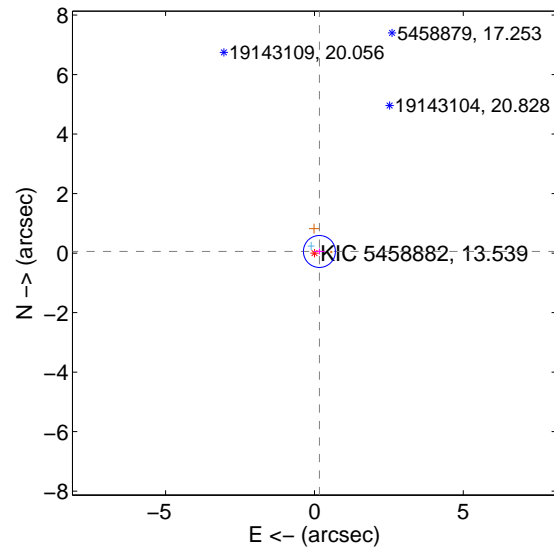
Supplemental centroid analysis for 005458882-04. Kepler magnitude: 13.54. Transit SNR 4.99

There are 1 quarters with good PRF difference image offsets

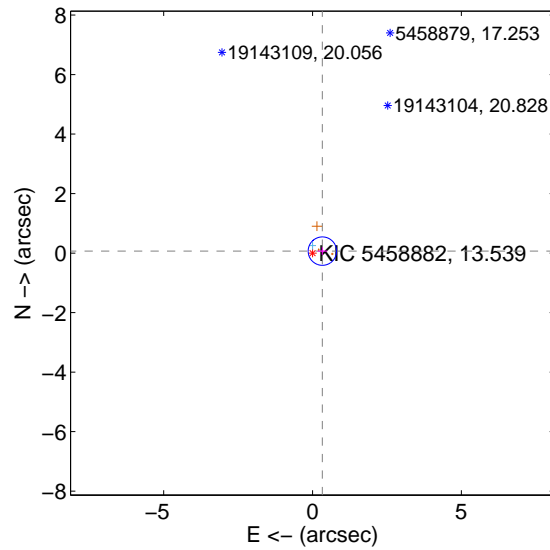
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.176 ± 0.179	0.98	-0.167 ± 0.185	0.054 ± 0.103
PRF-fit source offset from KIC position	0.337 ± 0.159	2.12	-0.331 ± 0.160	0.066 ± 0.127
photometric centroid source offset	1.18 ± 1.87	0.63	1.13 ± 1.91	0.34 ± 1.27

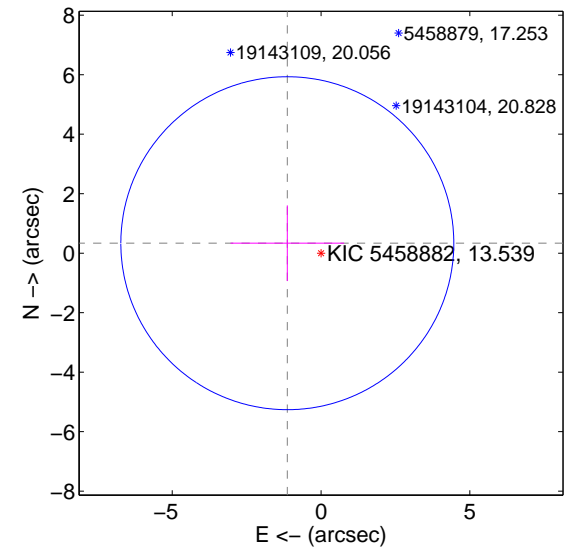
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

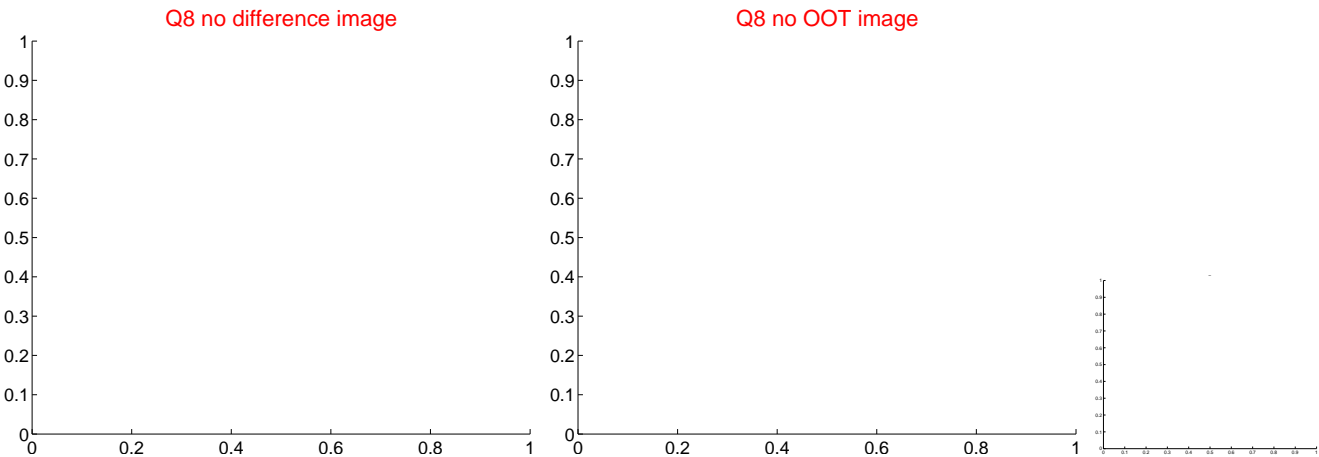
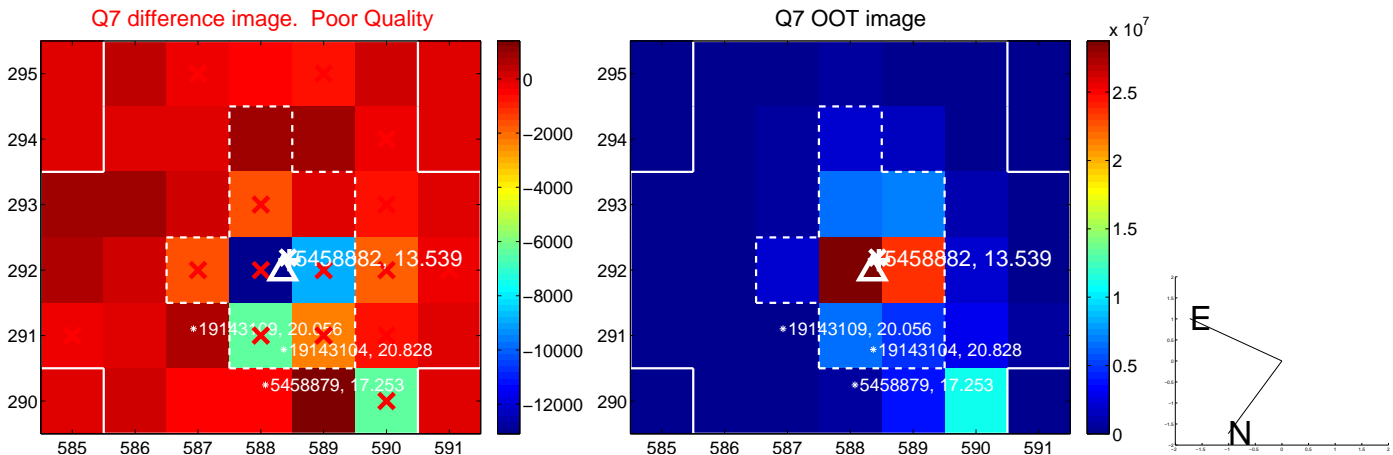
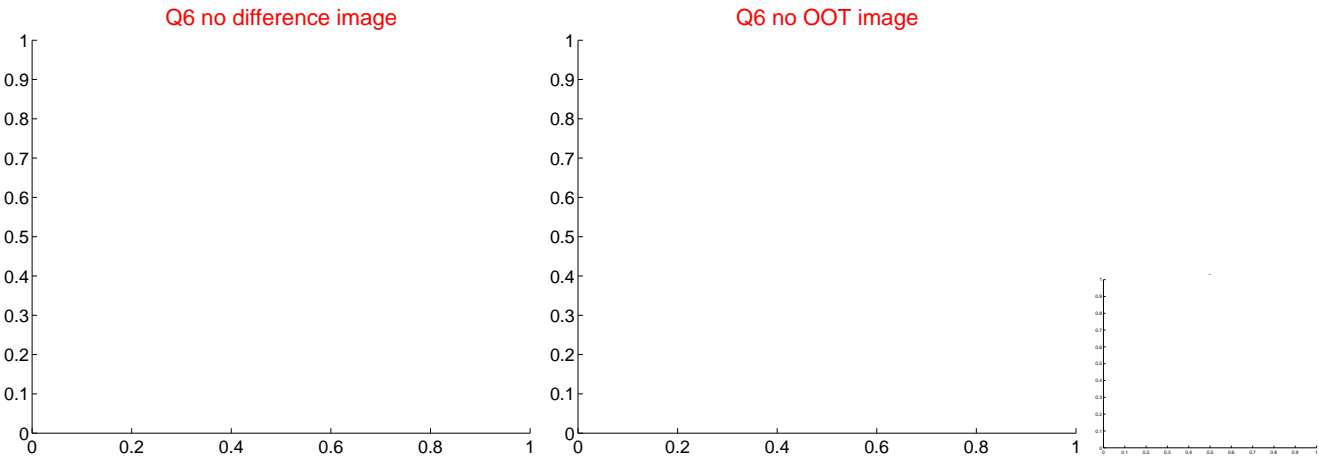
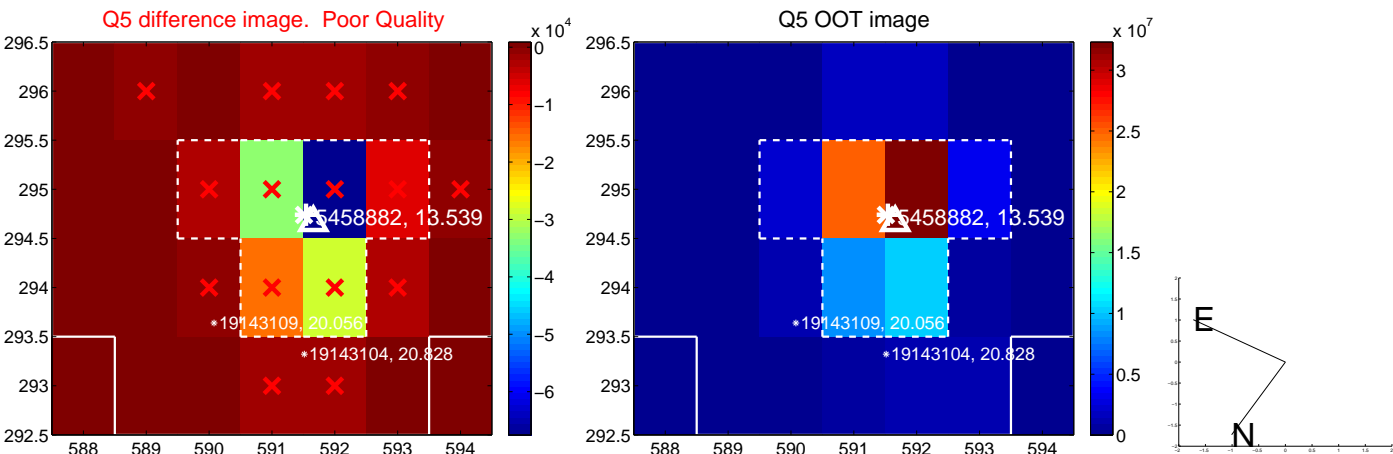


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

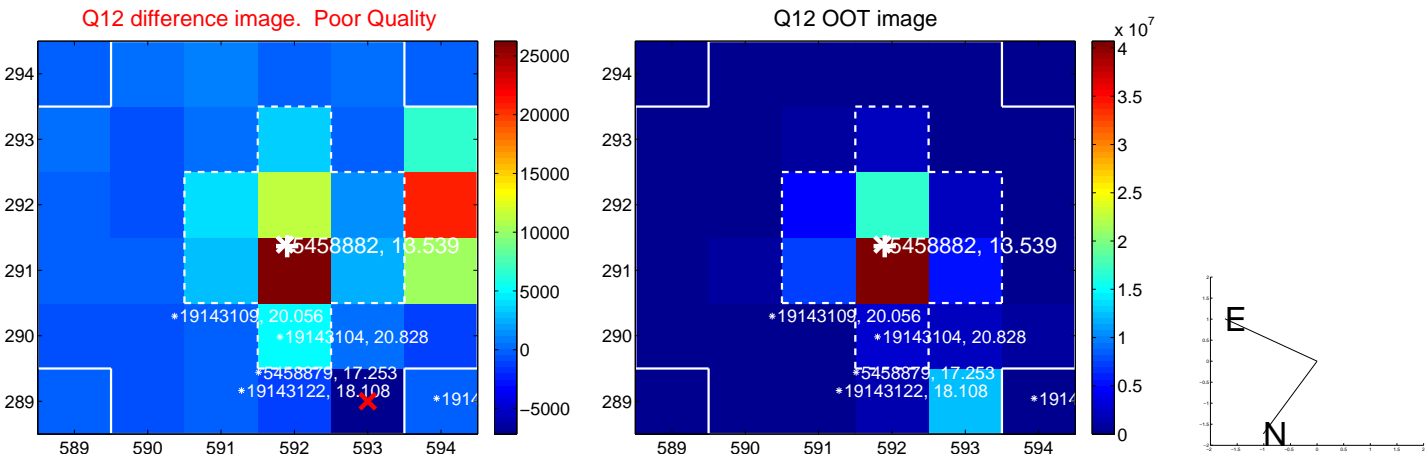
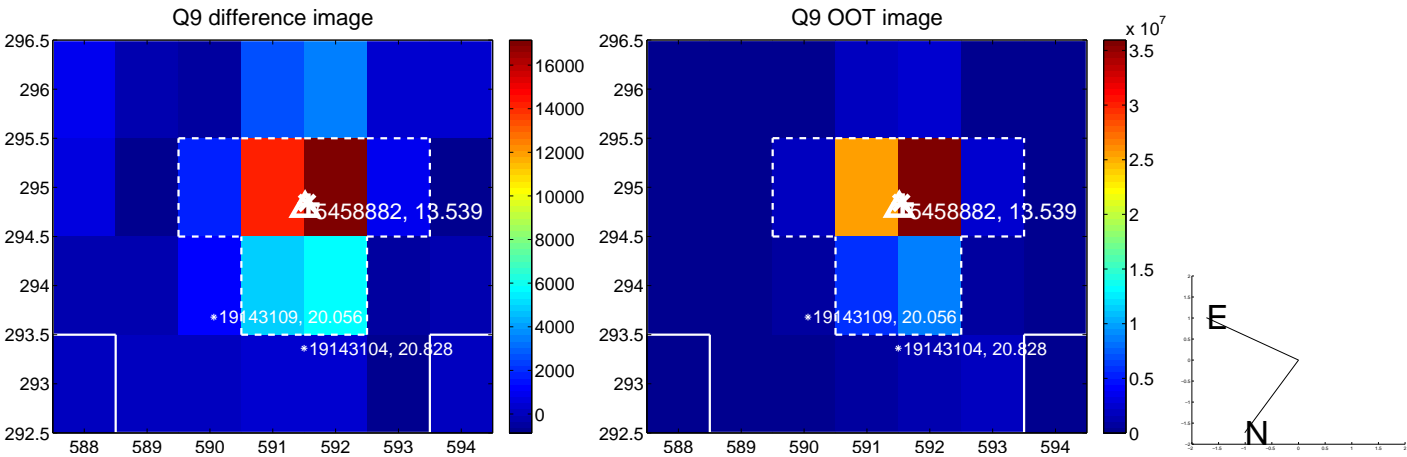
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



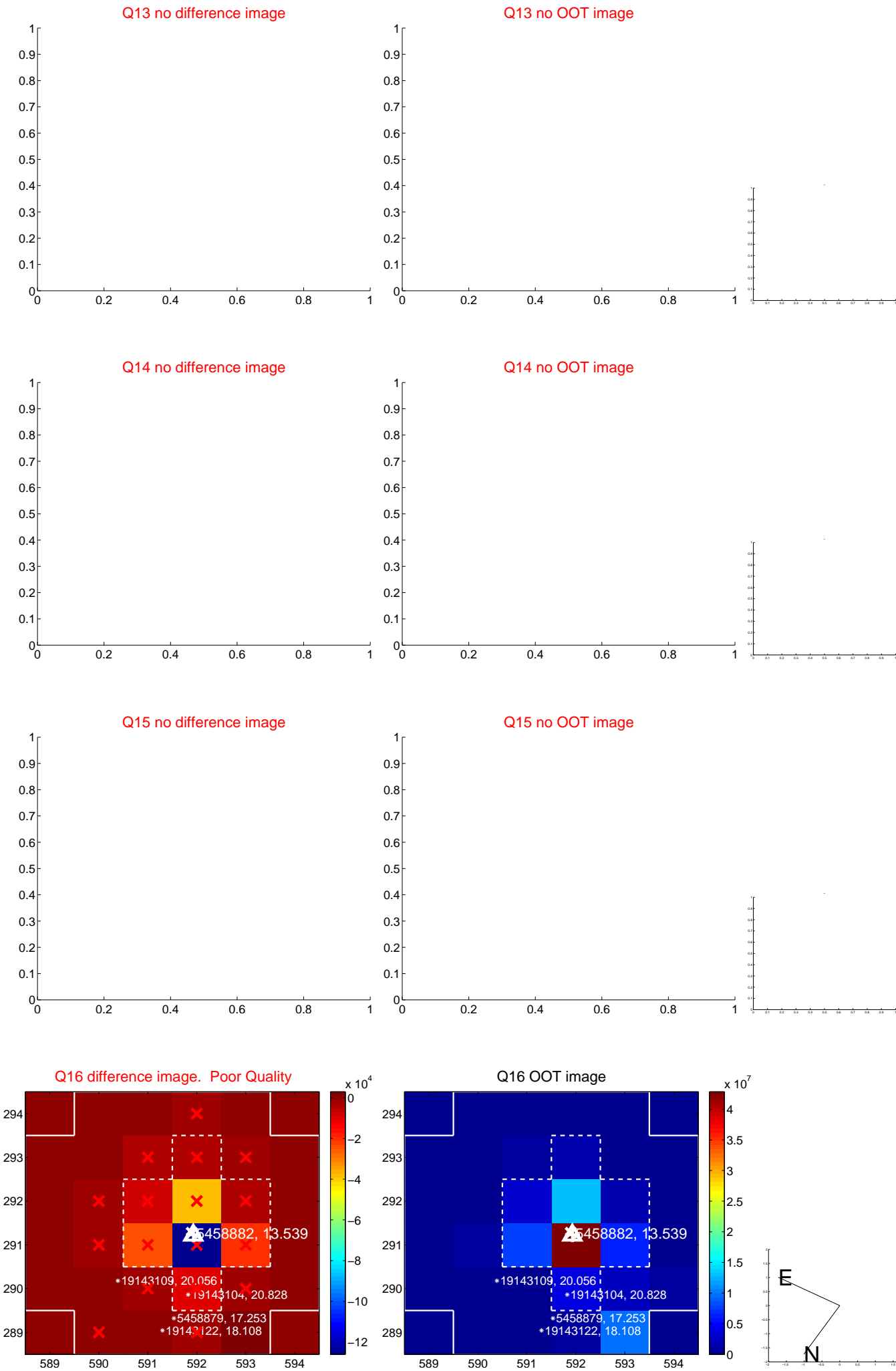
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



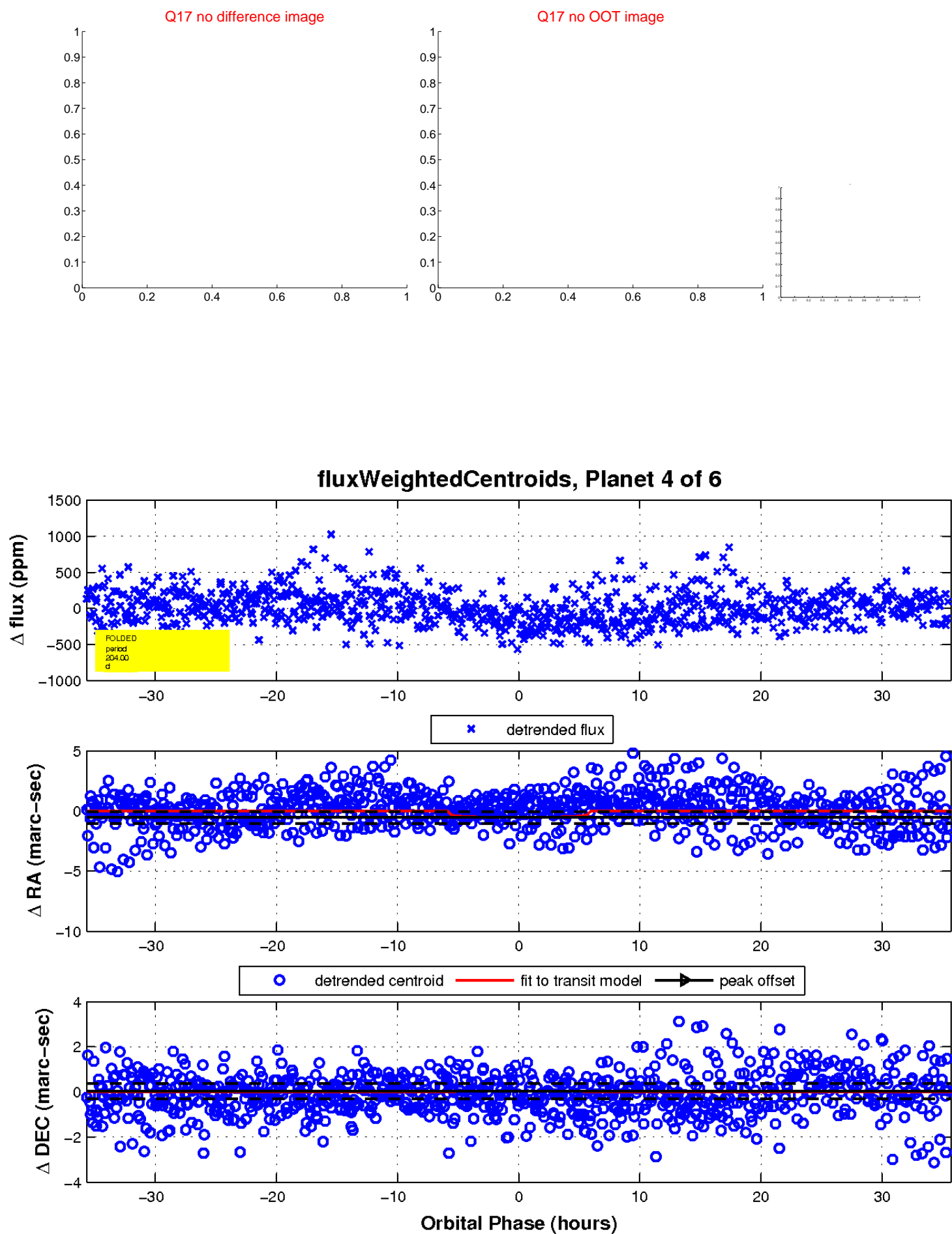
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



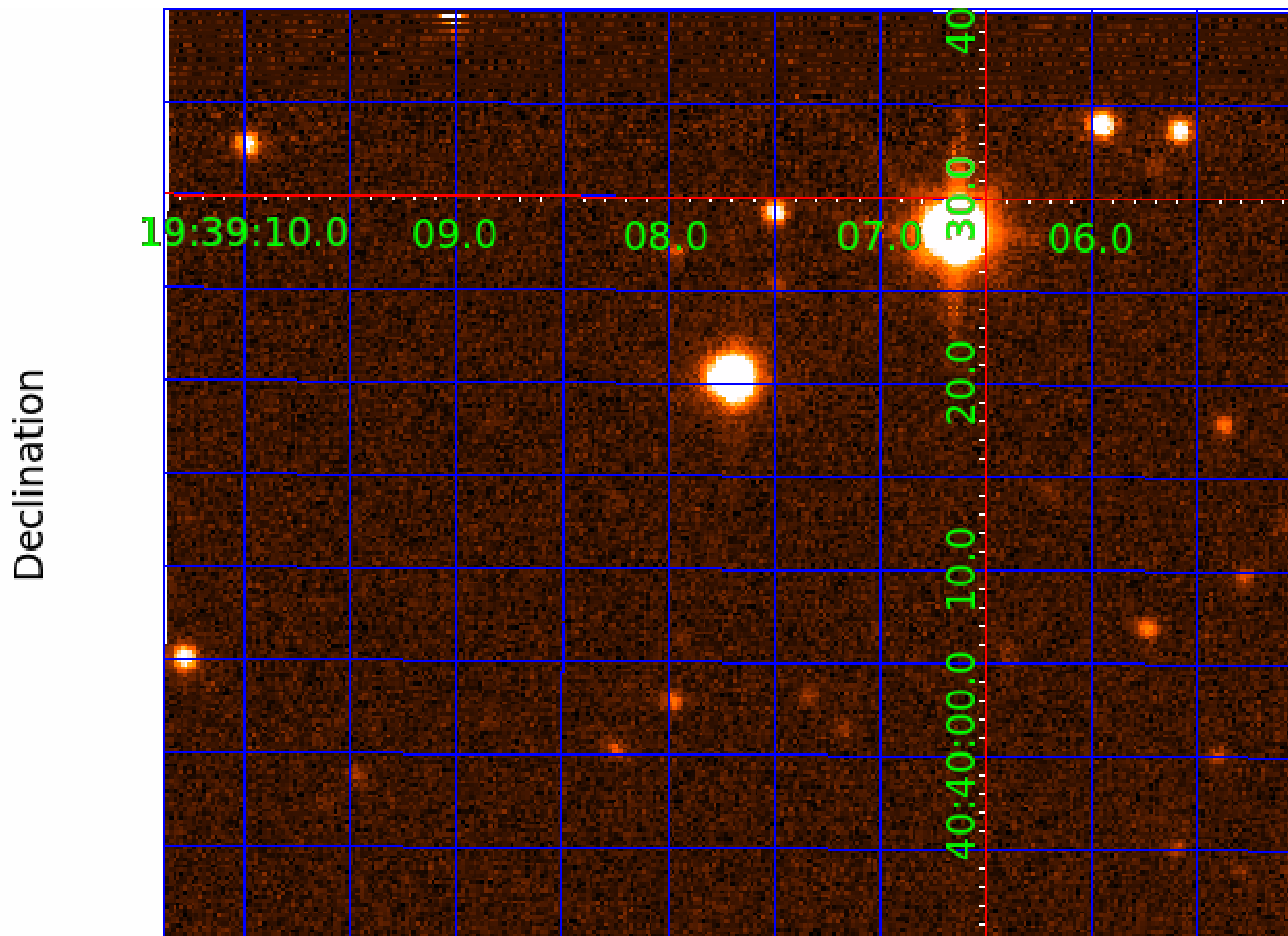
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005458882

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})
005458882-01	OBS	No	2.247037	132.236633	41.3	10.199	10.9	8.9	1.23	6560	0.80	1965.16
005458882-02	OBS	No	125.675220	187.932919	174.2	5.380	8.4	3.7	1.23	6560	1.89	9.19
005458882-03	OBS	No	265.134691	390.117791	617.2	24.634	8.6	8.2	1.23	6560	3.60	3.40
005458882-04	OBS	No	203.999885	289.825075	261.8	11.909	7.8	5.0	1.23	6560	2.13	4.82
005458882-05	OBS	No	149.198218	187.180758	387.6	5.128	7.6	7.9	1.23	6560	2.66	7.31
005458882-06	OBS	No	200.021989	295.467024	314.1	13.376	7.5	7.2	1.23	6560	2.55	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005458882-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005458882-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005458882-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005458882-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005458882-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005458882-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

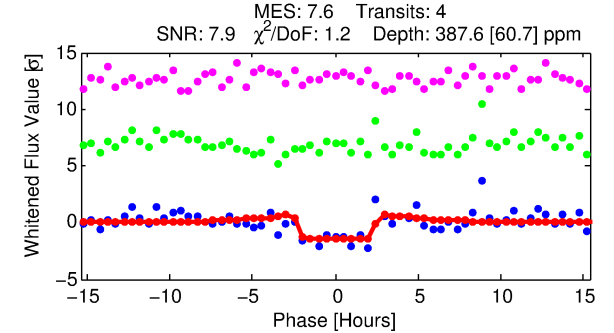
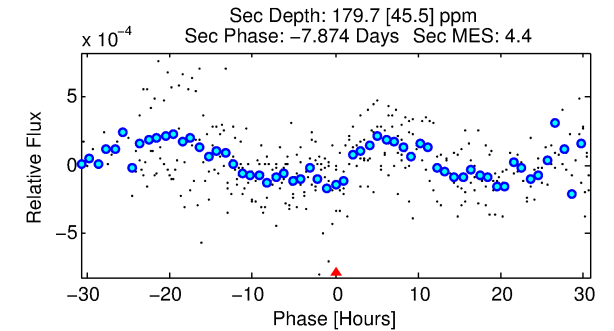
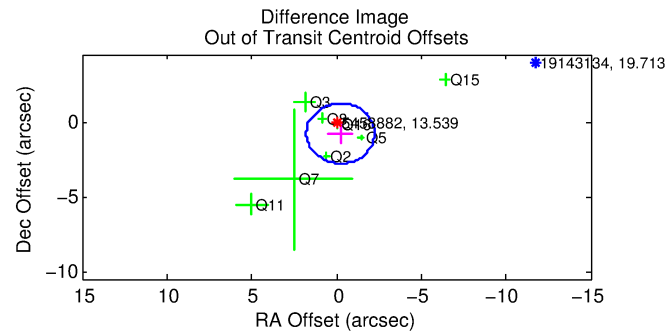
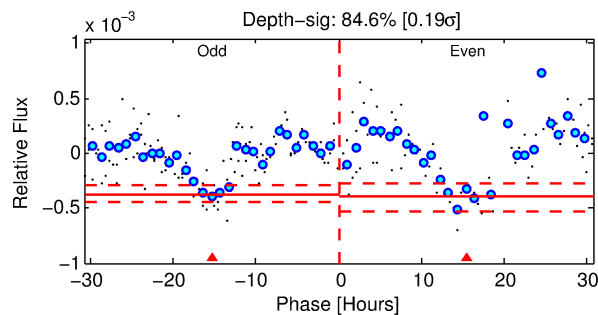
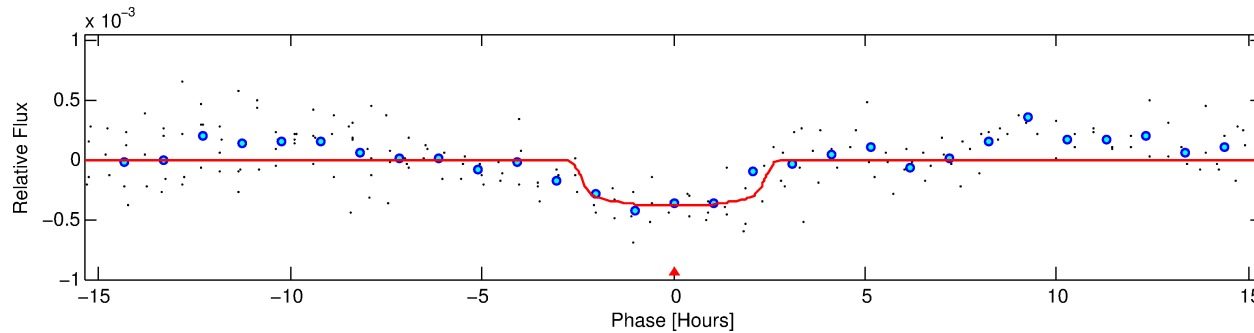
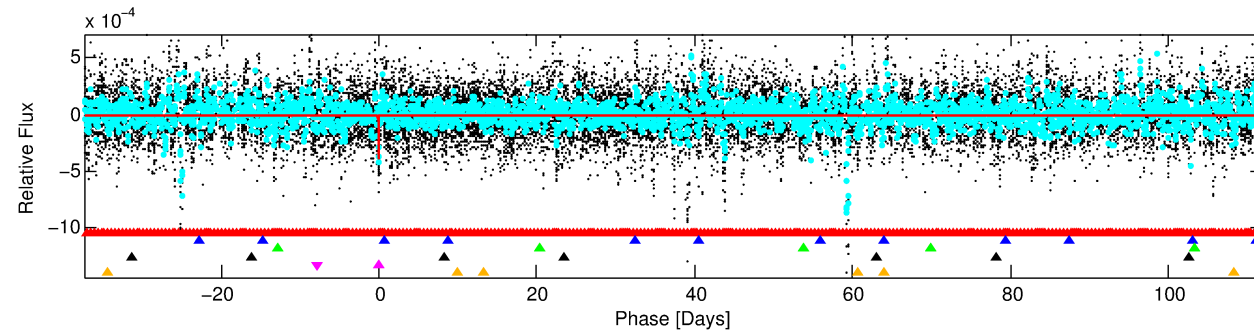
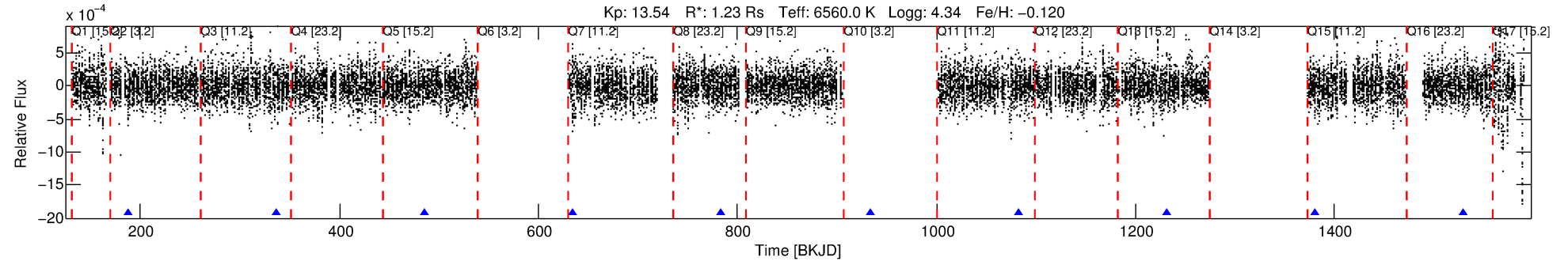
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005458882-05

No Significant Match Found

DV One-Page Summary

KIC: 5458882 Candidate: 5 of 6 Period: 149.198 d



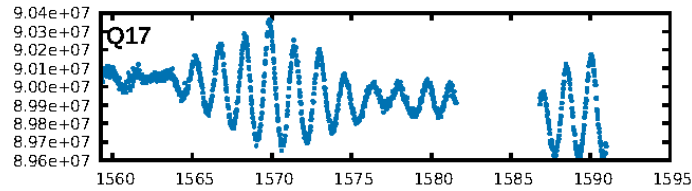
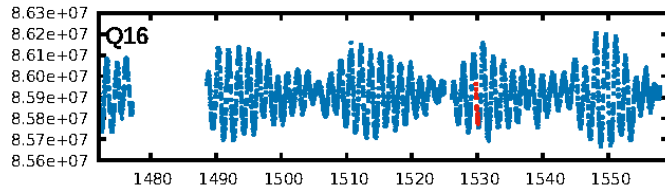
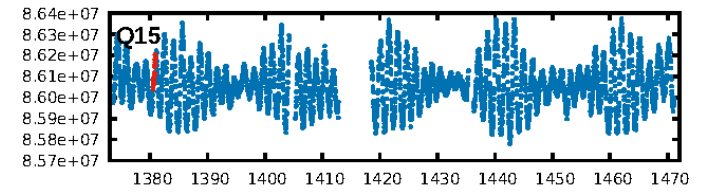
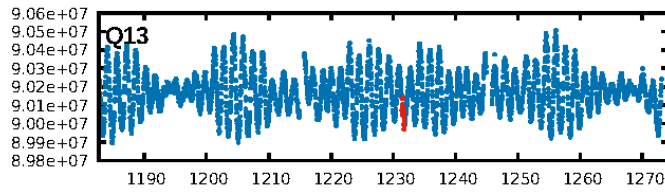
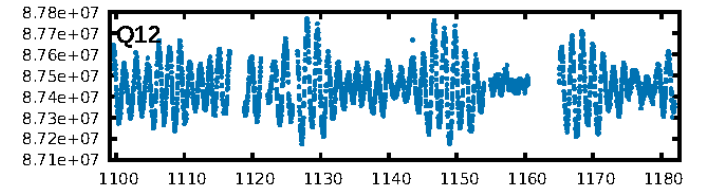
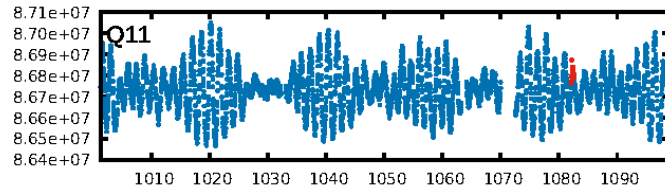
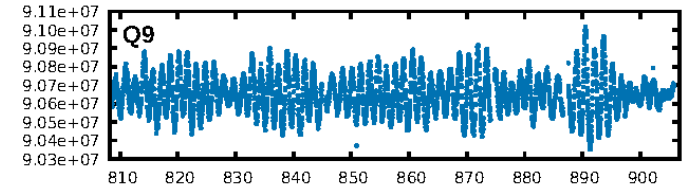
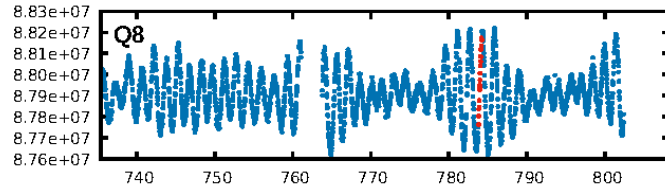
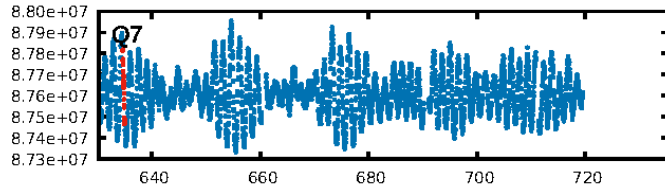
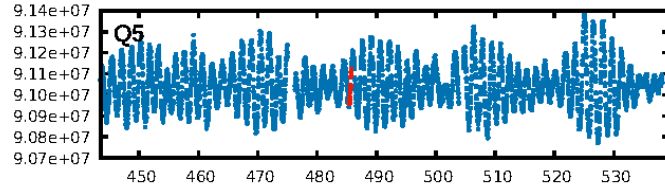
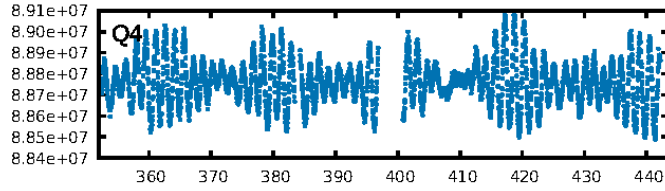
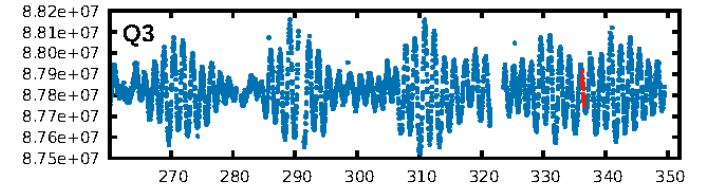
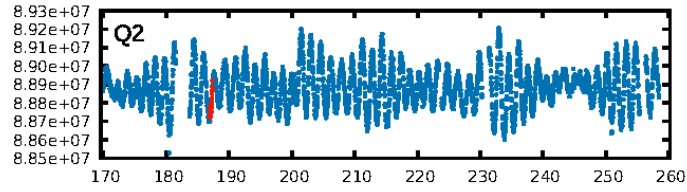
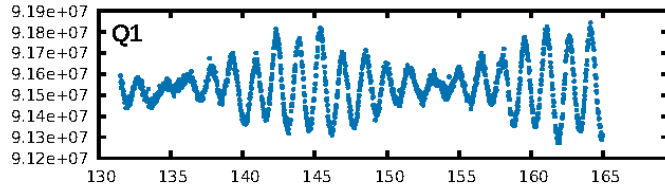
DV Fit Results:

Period = 149.19822 [0.00160] d
Epoch = 187.1808 [0.0089] BKJD
Rp/R* = 0.0198 [0.0162]
a/R* = 143.54 [643.92]
b = 0.79 [2.17]
Seff = 7.31 [2.94]
Teq = 419 [42] K
Rp = 2.66 [2.34] Re
a = 0.5856 [0.1572] AU
Ag = 4785.44 [8089.58] [0.59 σ]
Teffp = 5392 [2227] K [2.23 σ]

DV Diagnostic Results:

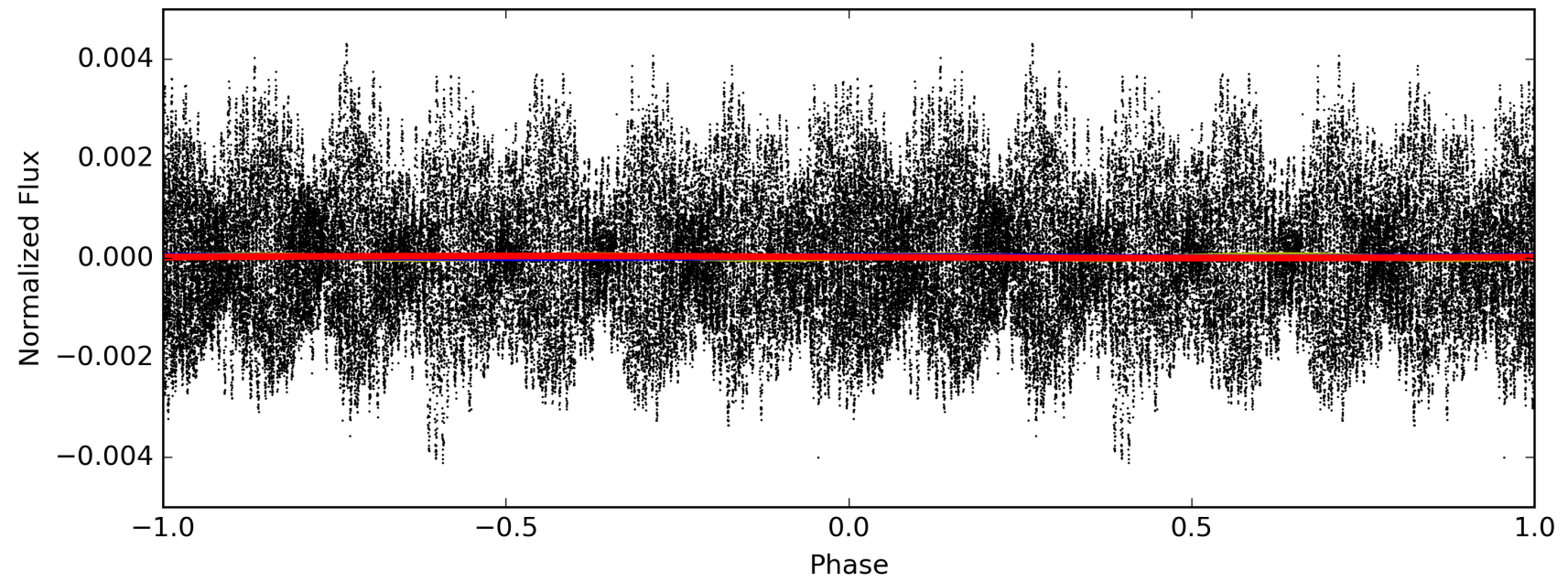
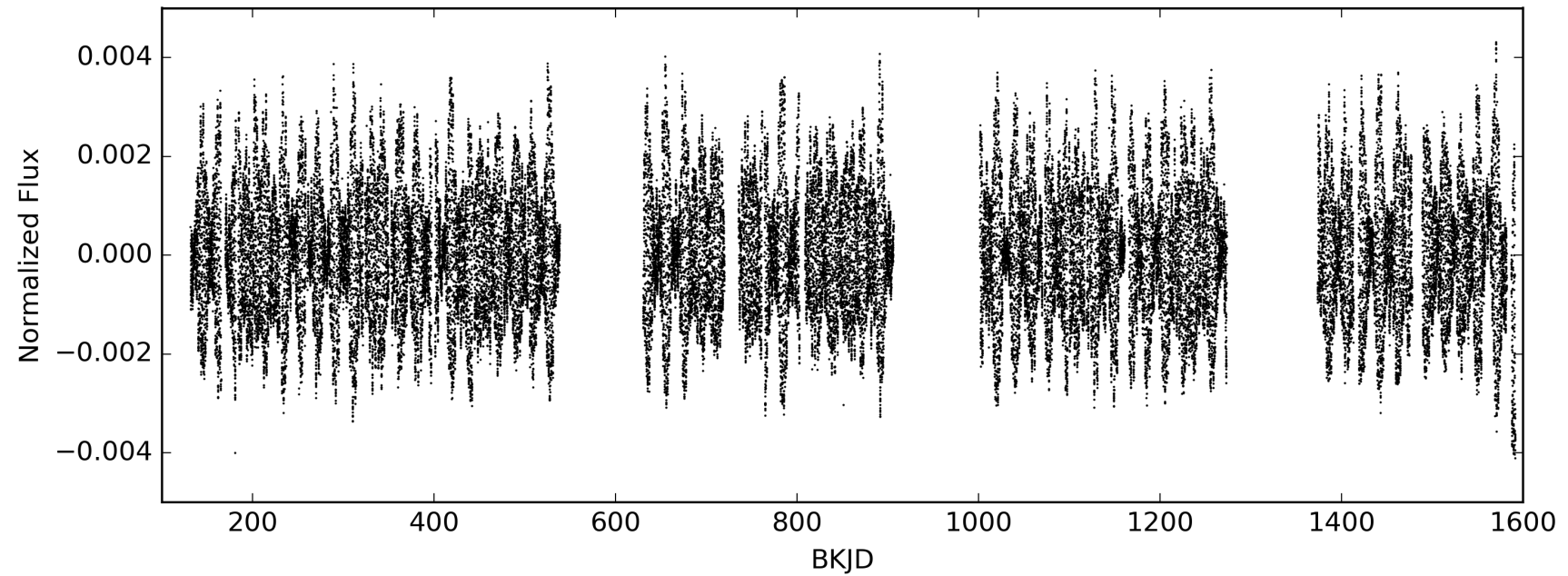
ShortPeriod-sig: 100.0% [75.96 σ]
LongPeriod-sig: 100.0% [85.15 σ]
ModelChiSquare2-sig: 68.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.14e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.485
Centroid-sig: 0.5%
Centroid-so: 2.094 arcsec [2.41 σ]
OotOffset-rm: 0.816 arcsec [1.22 σ]
OotOffset-st: 1/4/2/1 [8]
KicOffset-rm: 0.865 arcsec [1.29 σ]
KicOffset-st: 1/4/2/1 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.38 [3/8]

TCE 005458882-05, PDC Light Curves



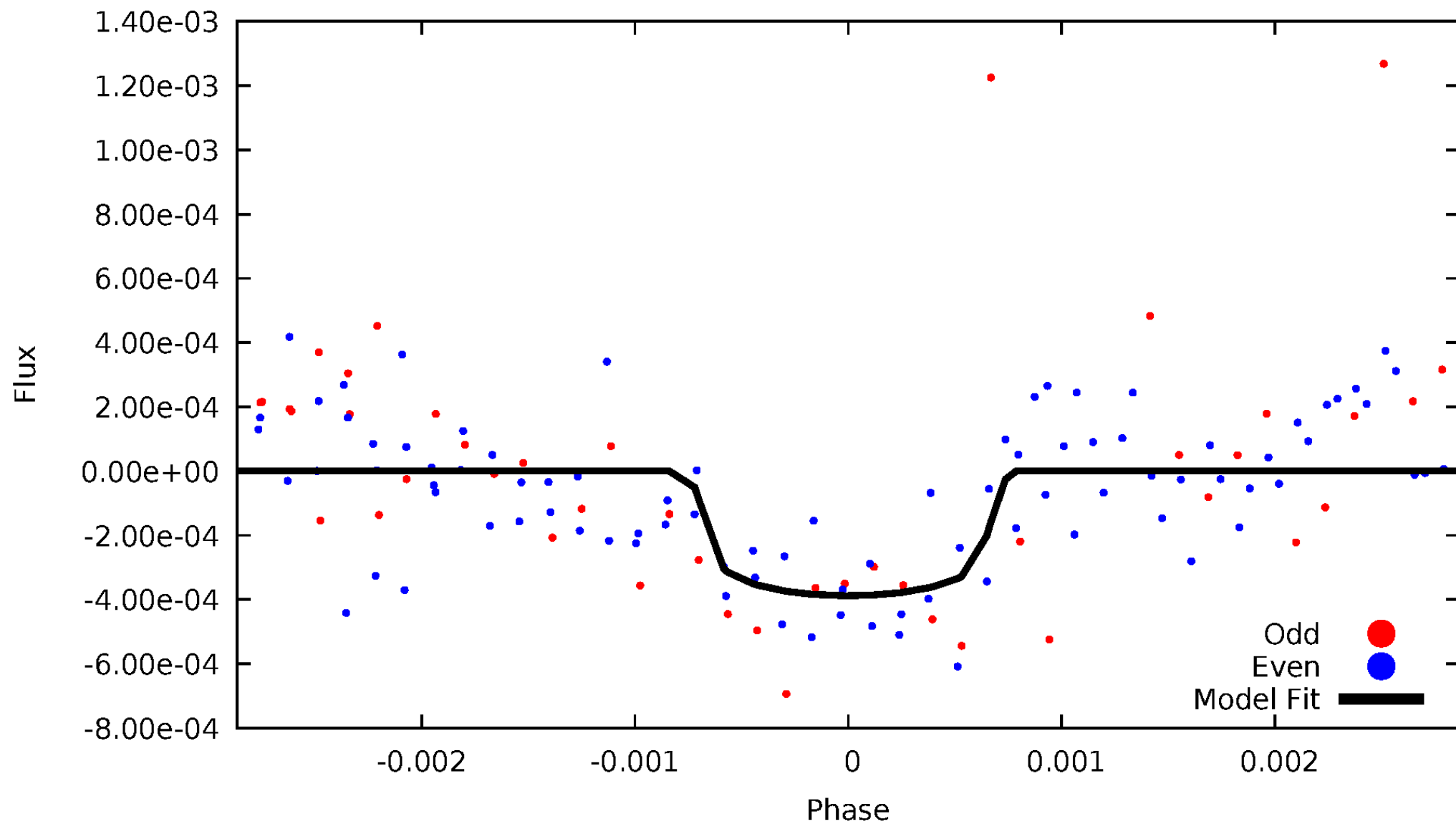
TCE 005458882-05

— P = 74.599 days — P = 149.198 days — P = 298.396 days



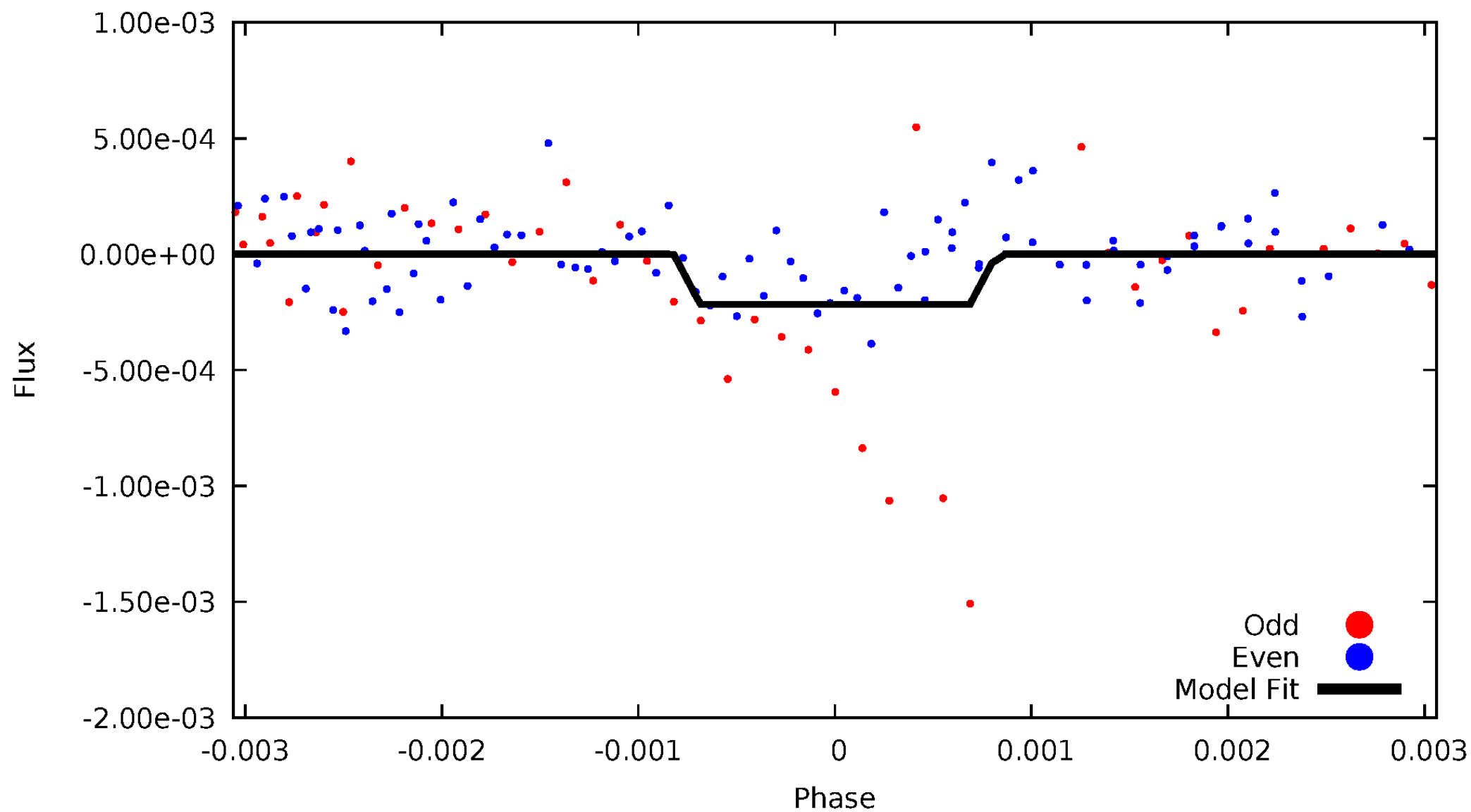
DV Odd/Even

TCE 005458882-05



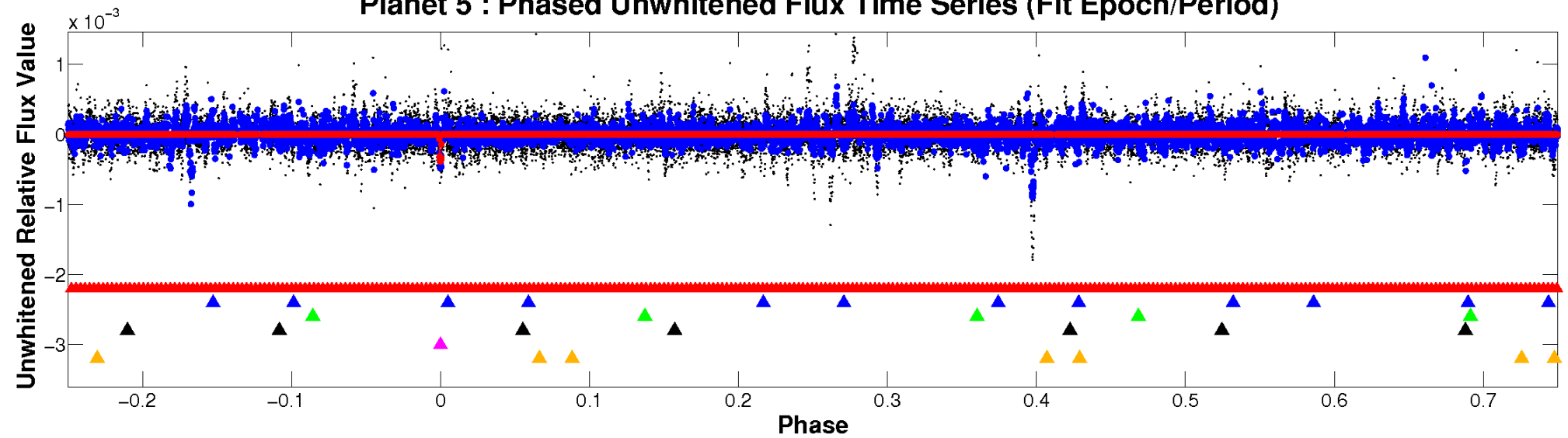
ALT Odd/Even

TCE 005458882-05

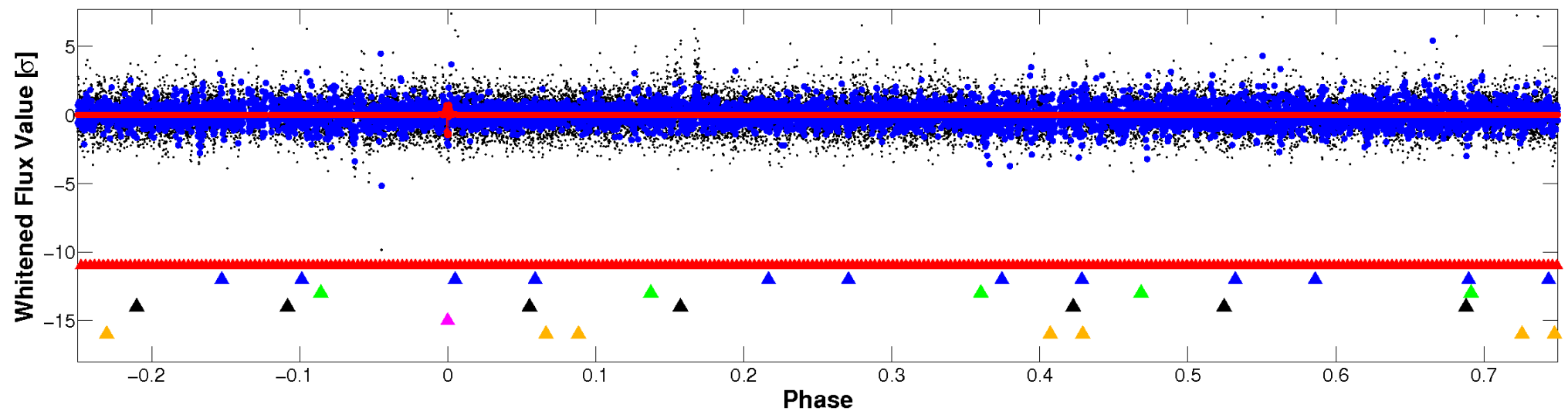


Non-Whitened Vs. Whitened Light Curve

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

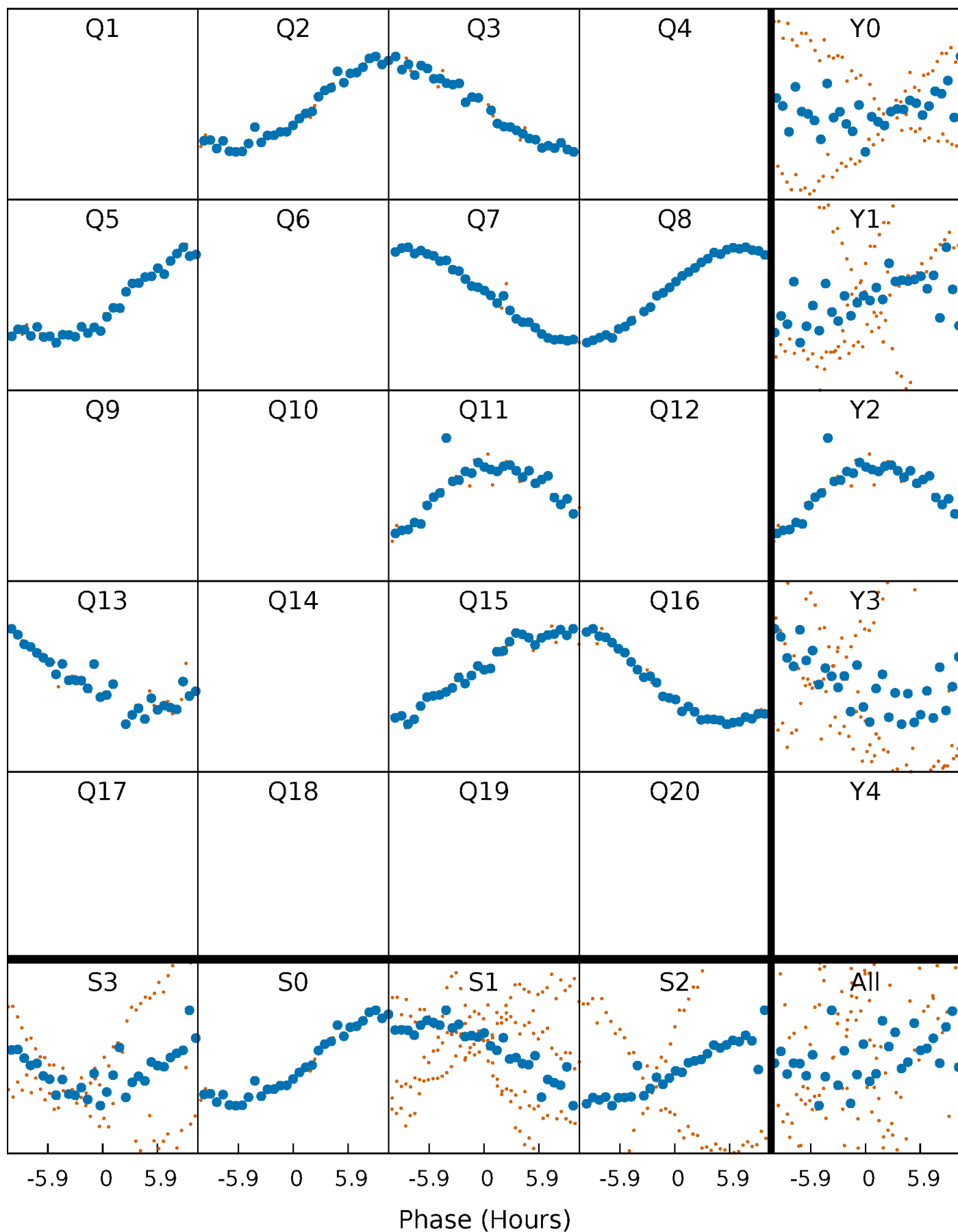


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



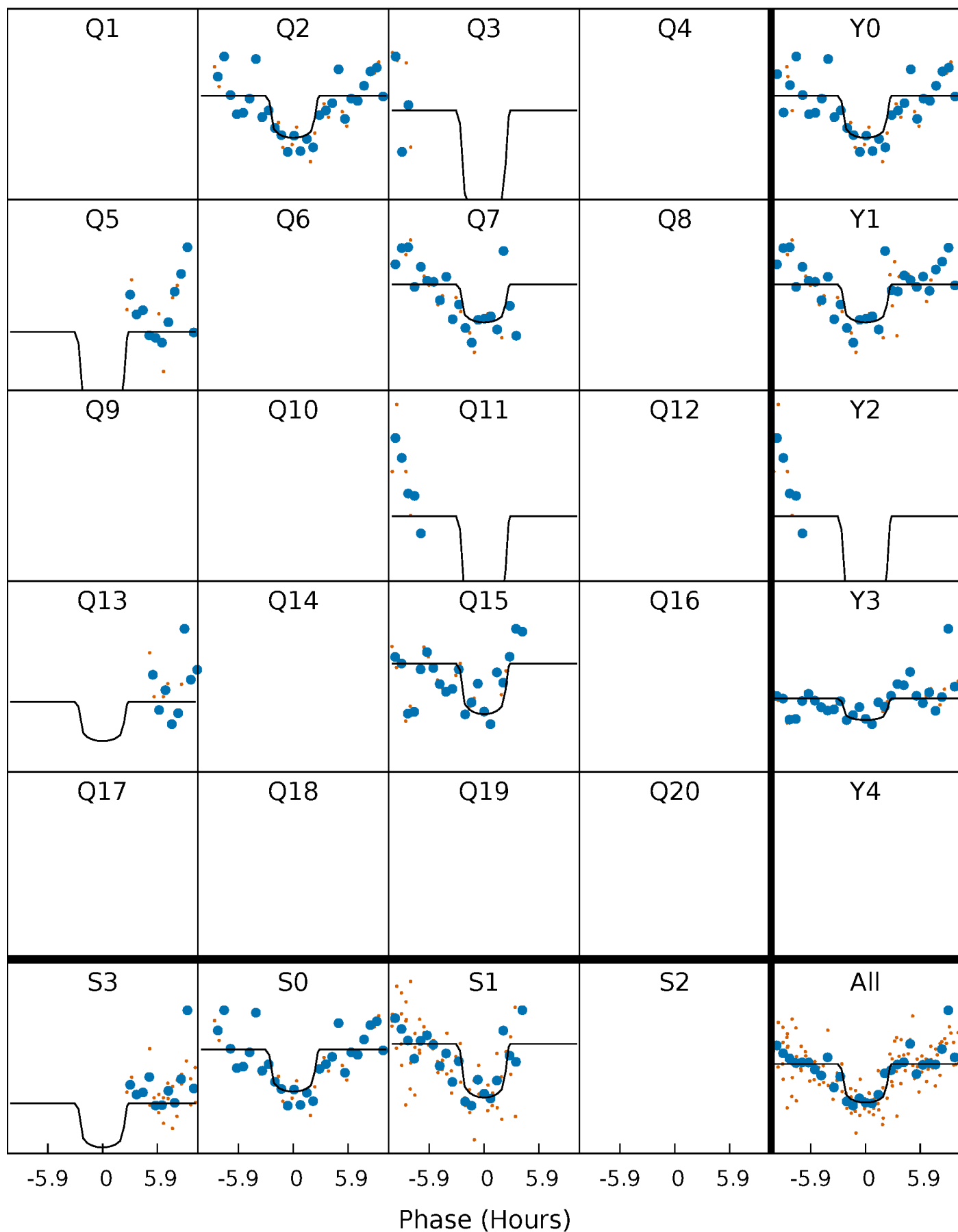
PDC Quarter-Phased Transit Curves

TCE 005458882-05 P=149.198218 Days $T_0=187.180758$ (BKJD)



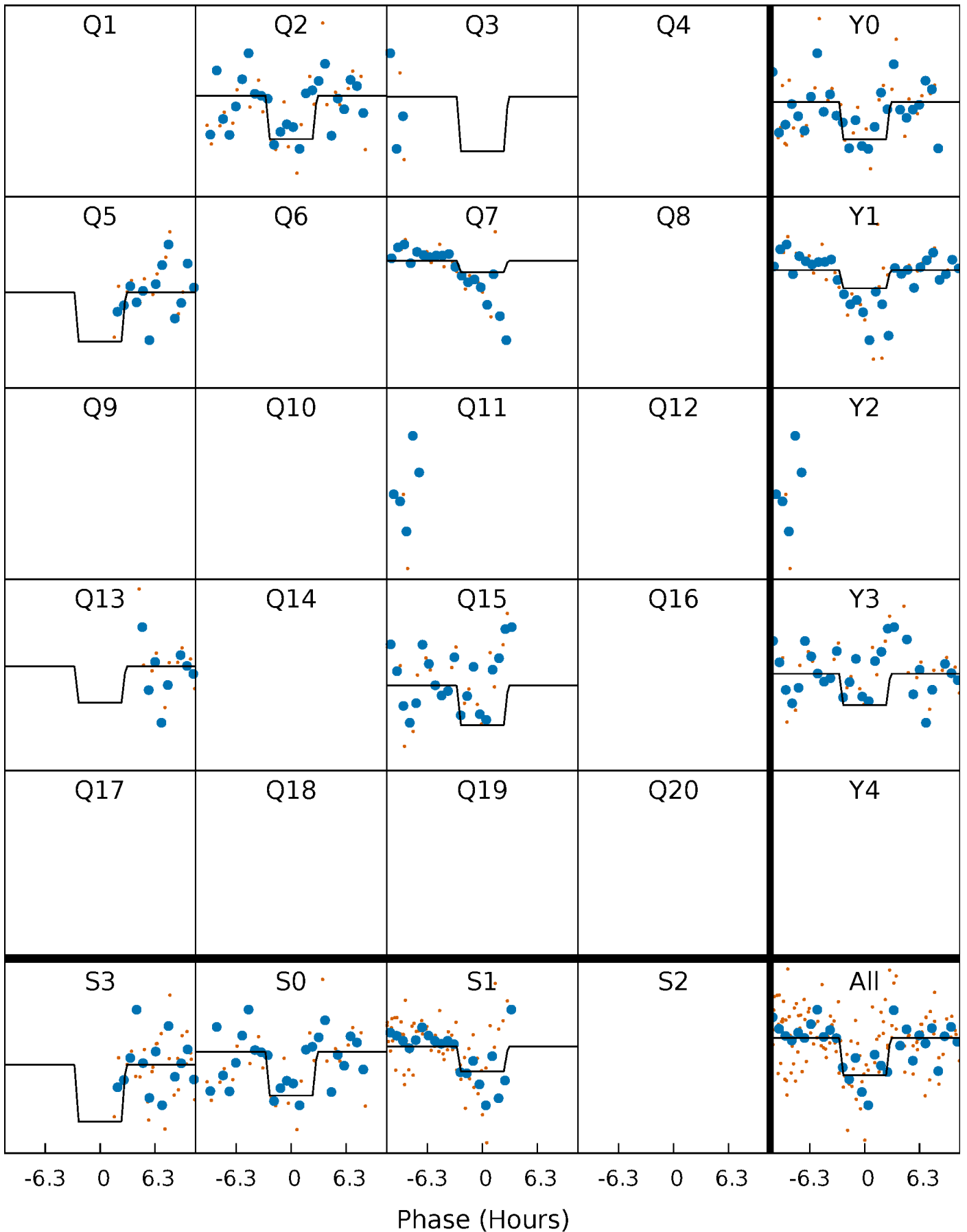
DV Quarter-Phased Transit Curves

TCE 005458882-05 P=149.198218 Days $T_0=187.180758$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

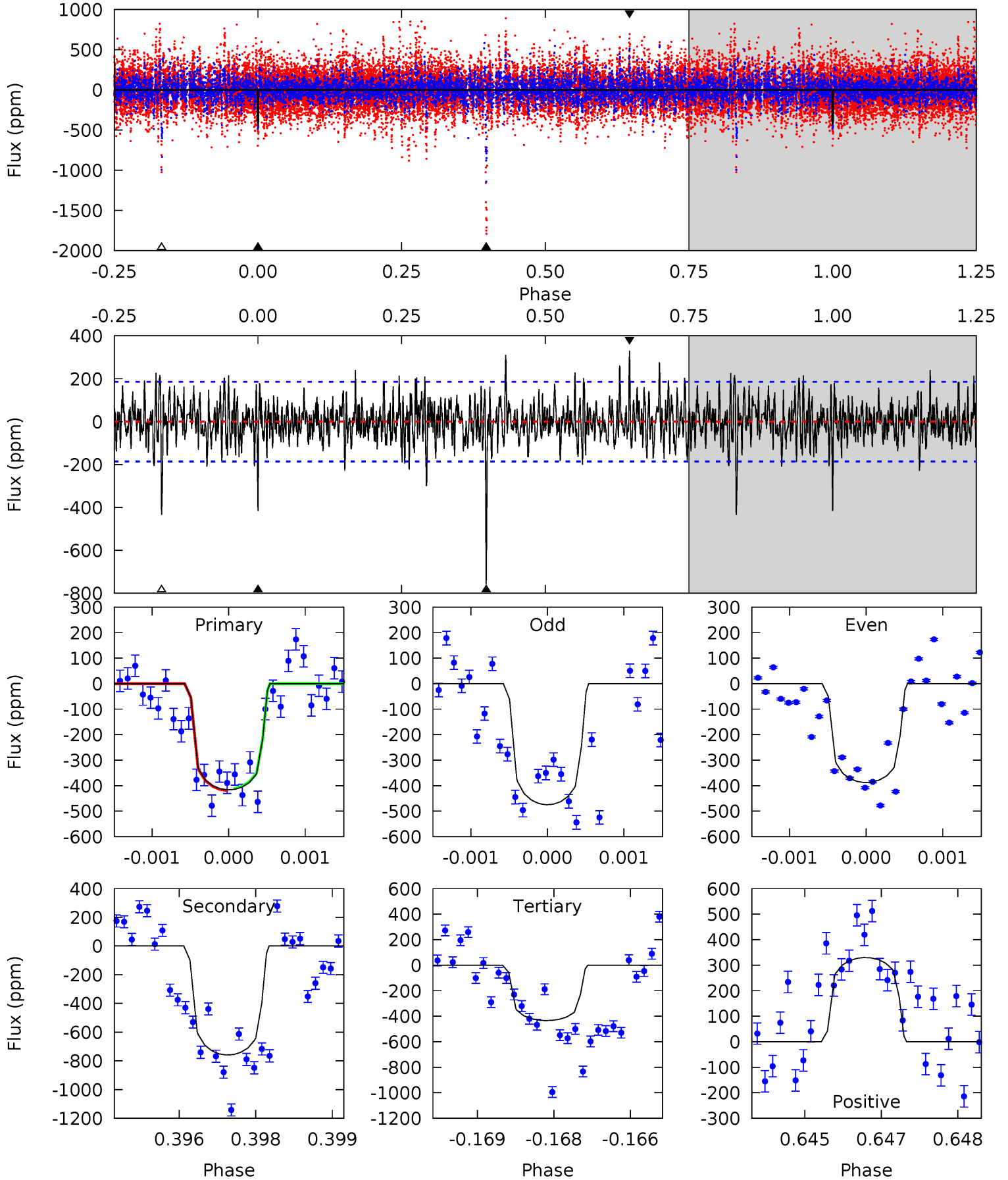
TCE 005458882-05 $P=149.194652$ Days $T_0=187.229456$ (BKJD)



DV Model-Shift Uniqueness Test

005458882-05, P = 149.198218 Days, E = 37.982540 Days

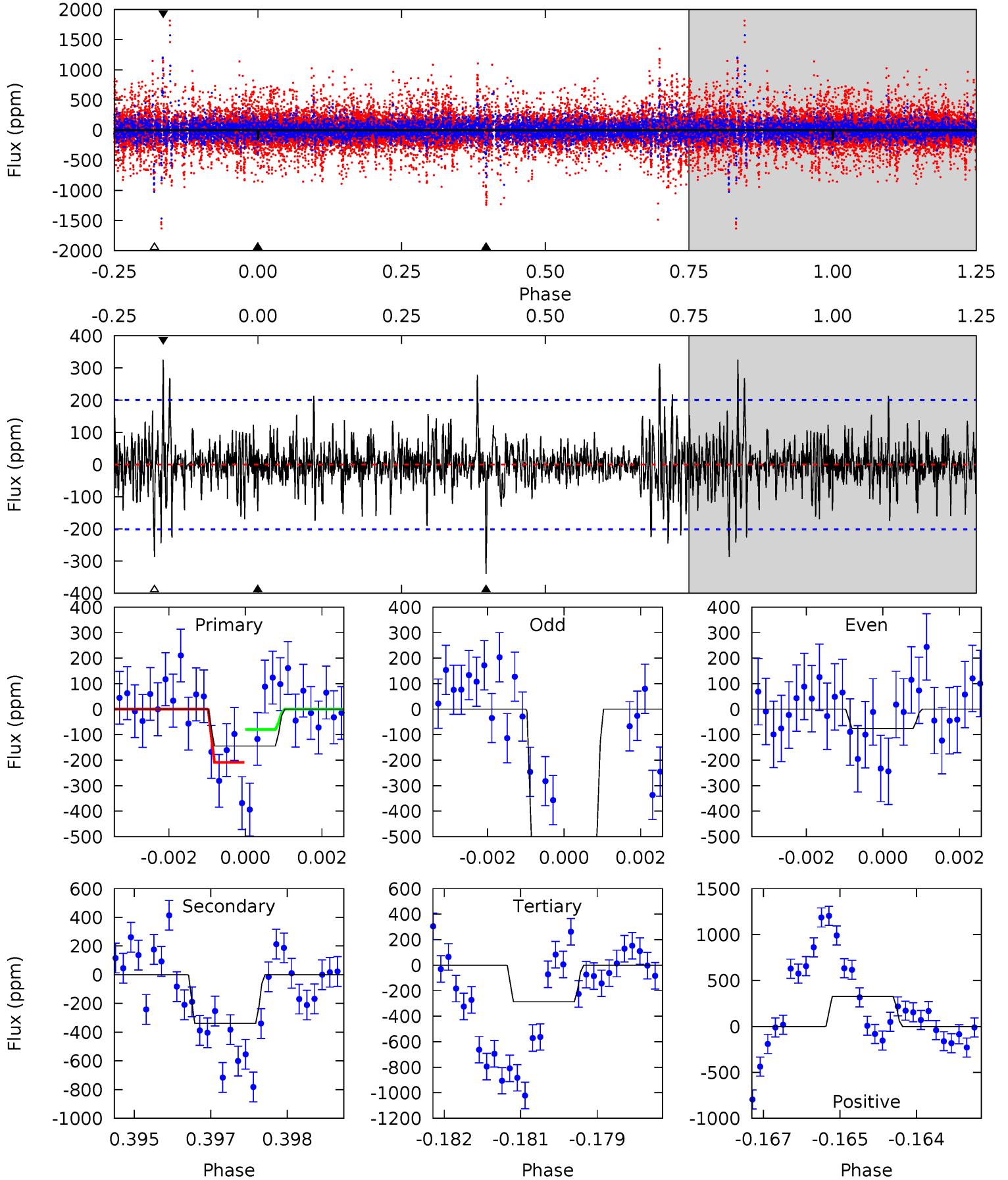
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	22.0	12.6	9.55	5.38	3.18	2.22	-0.52	2.51	9.41	12.4	1.13	0.97	0.30	0.10



Alt Model-Shift Uniqueness Test

005458882-05, P = 149.194652 Days, E = 38.034804 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.84	9.02	7.63	8.65	5.36	3.14	1.51	-3.79	-4.81	1.39	0.38	6.19	1.74	0.49	1.73



Stellar Parameters For KIC 005458882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6560^{+149}_{-216}	$4.339^{+0.072}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.229^{+0.403}_{-0.144}$	$1.208^{+0.183}_{-0.164}$	$0.916^{+0.340}_{-0.476}$
	+2%/-3%	+2%/-5%	+208%/-250%	+33%/-12%	+15%/-14%	+37%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005458882-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-759 ± 35	$3.15^{+2.39}_{-1.97}$	595^{+42}_{-32}	7251^{+7646}_{-1786}	14153^{+83377}_{-9526}
Alt.	-339 ± 38	$2.54^{+2.19}_{-1.66}$	595^{+46}_{-30}	6576^{+7410}_{-1620}	9851^{+74067}_{-6949}

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

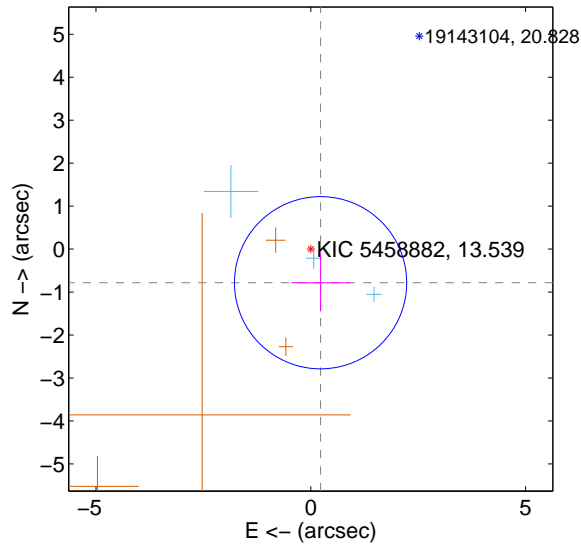
Supplemental centroid analysis for 005458882-05. Kepler magnitude: 13.54. Transit SNR 7.92

There are 3 quarters with good PRF difference image offsets

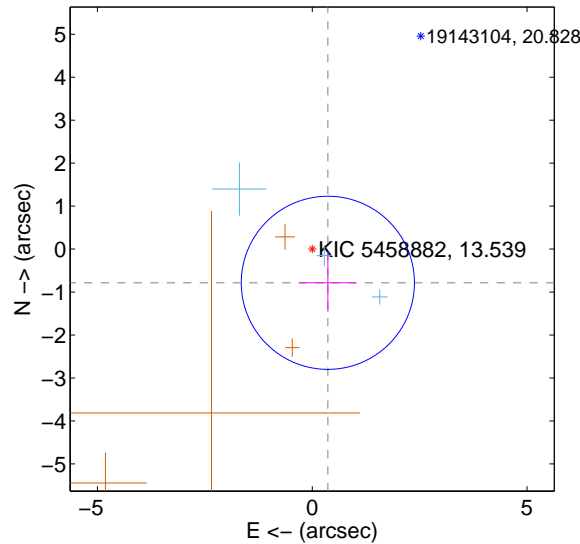
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.816 ± 0.668	1.22	-0.228 ± 0.677	-0.783 ± 0.667
PRF-fit source offset from KIC position	0.865 ± 0.672	1.29	-0.364 ± 0.664	-0.785 ± 0.673
photometric centroid source offset	2.09 ± 0.87	2.41	-0.88 ± 1.06	1.90 ± 0.82

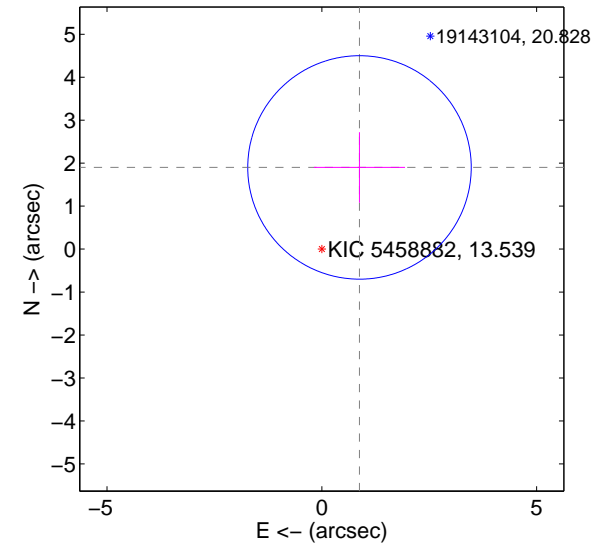
offset from difference PRF-fit to OOT PRF-fit



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; Δ : difference centroid. red \times : large negative pixel value.

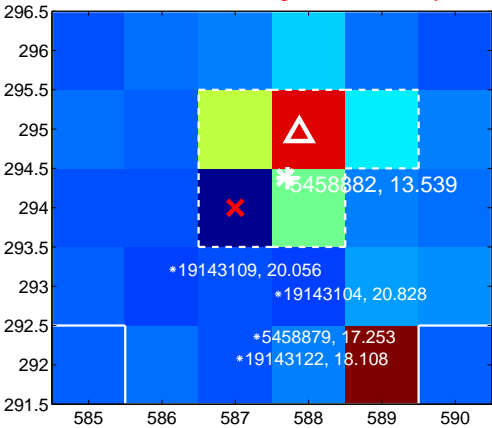
Q1 no difference image



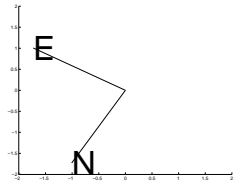
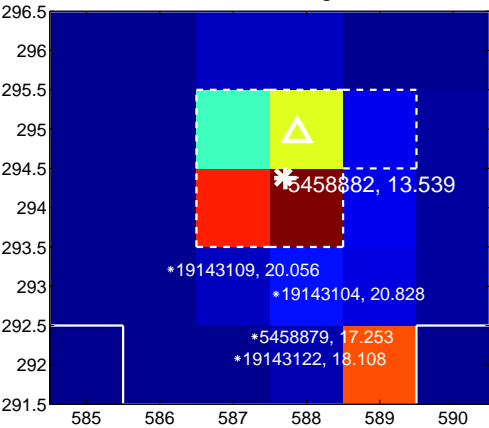
Q1 no OOT image



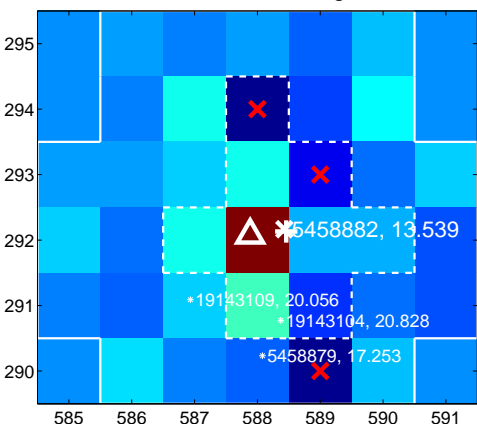
Q2 difference image. Poor Quality



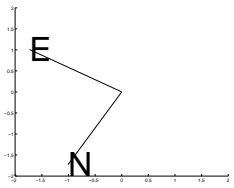
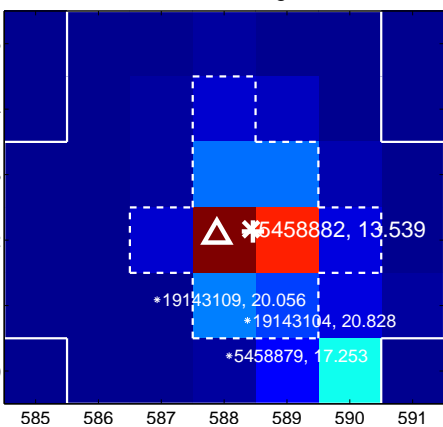
Q2 OOT image



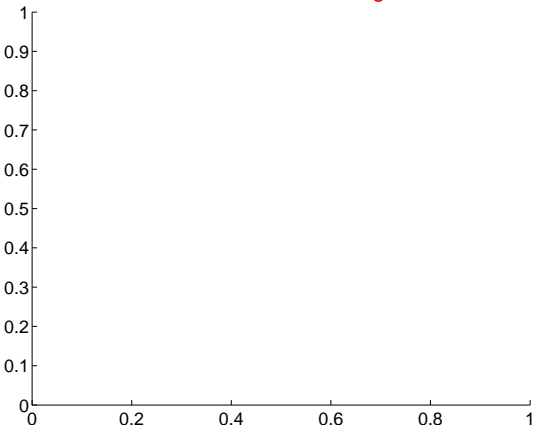
Q3 difference image



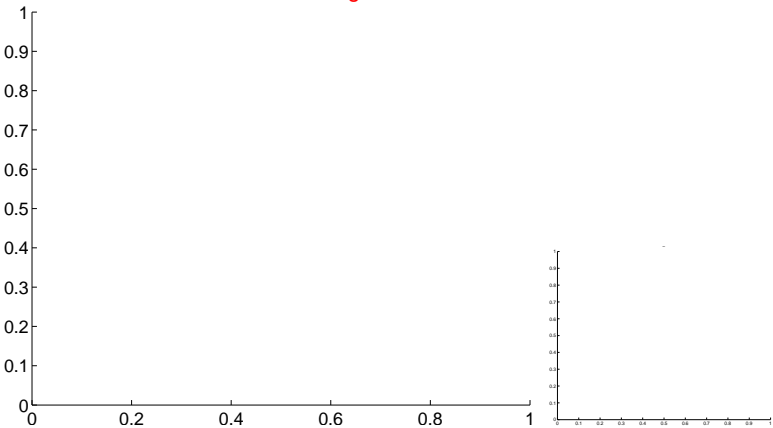
Q3 OOT image



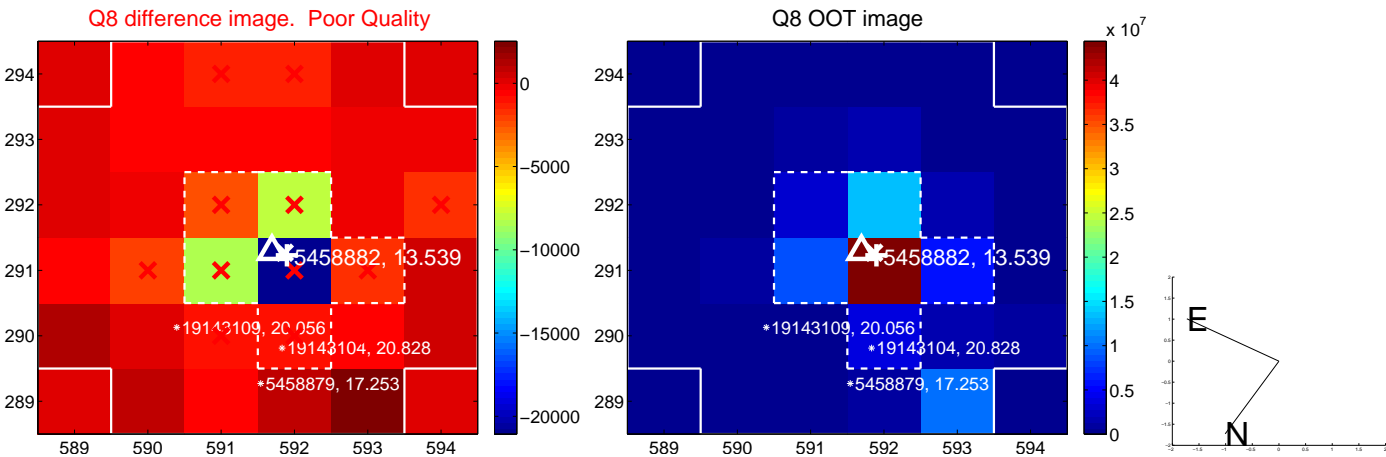
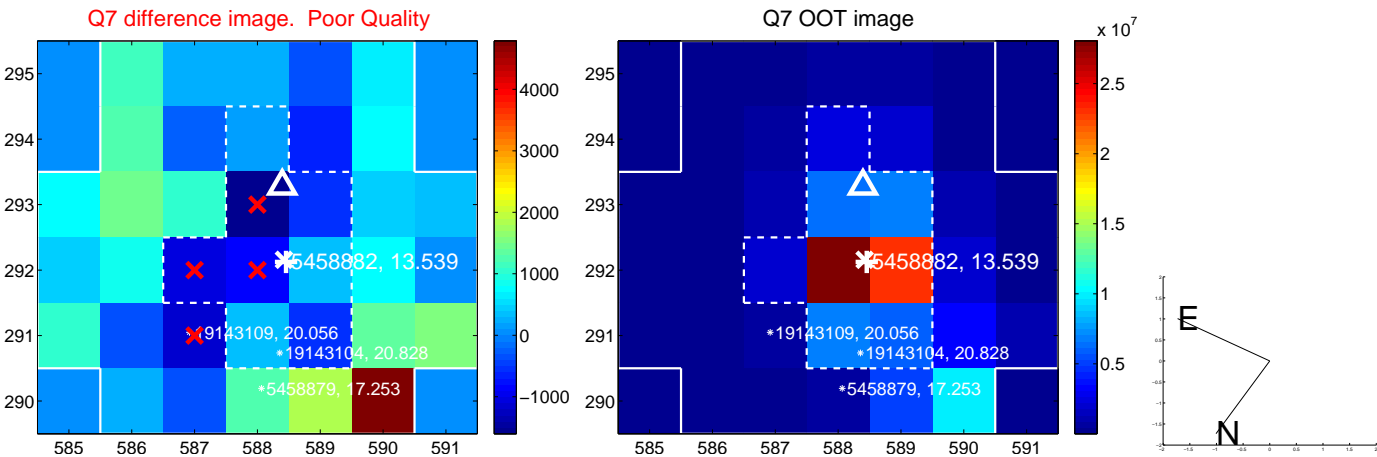
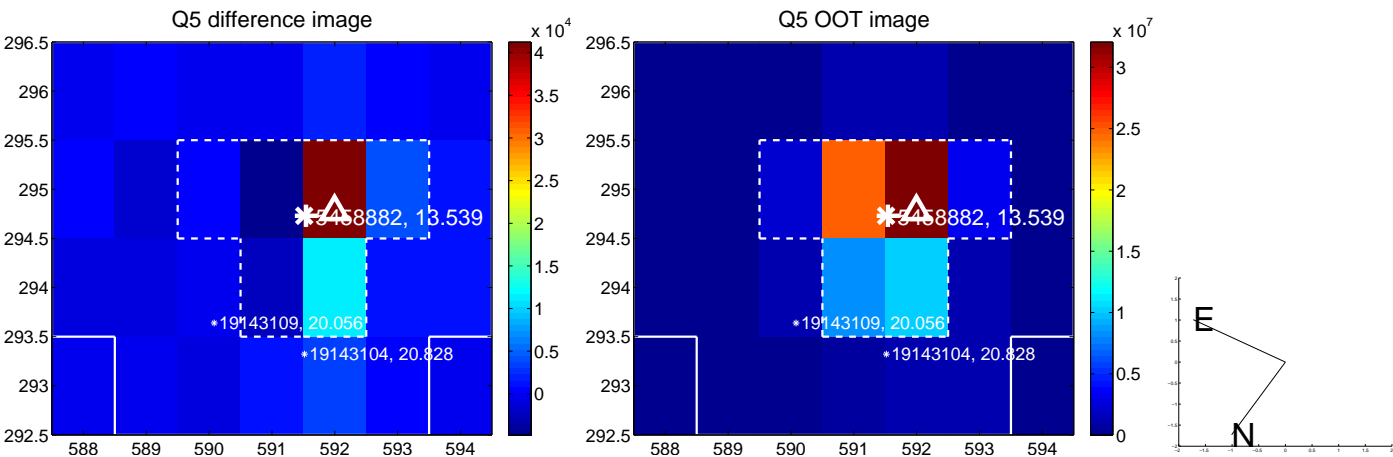
Q4 no difference image



Q4 no OOT image



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



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

Q9 no difference image



Q9 no OOT image



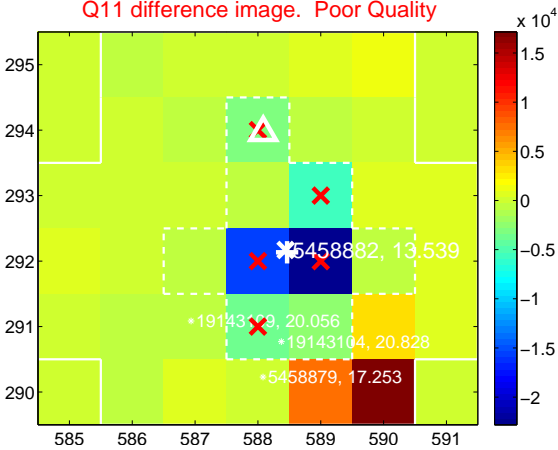
Q10 no difference image



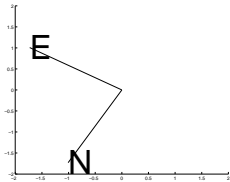
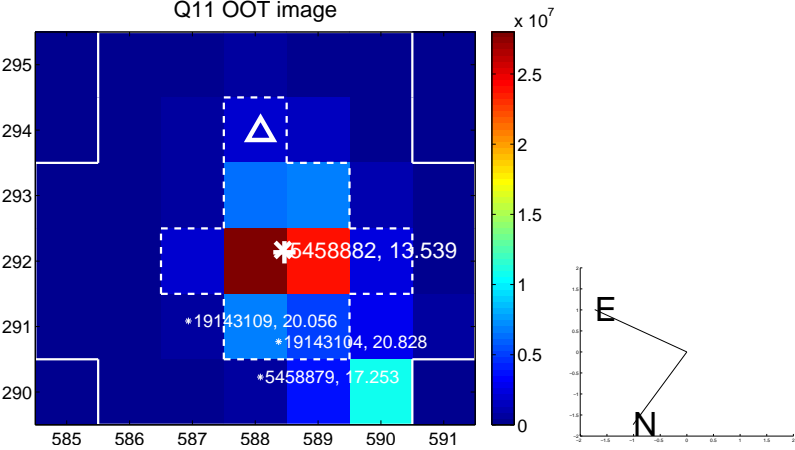
Q10 no OOT image



Q11 difference image. Poor Quality



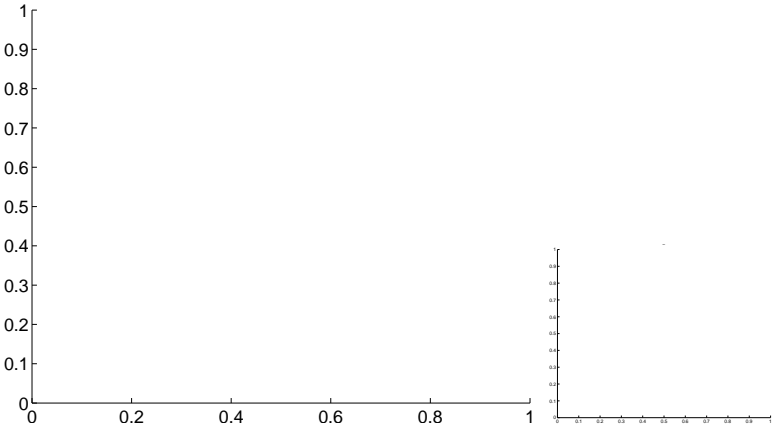
Q11 OOT image



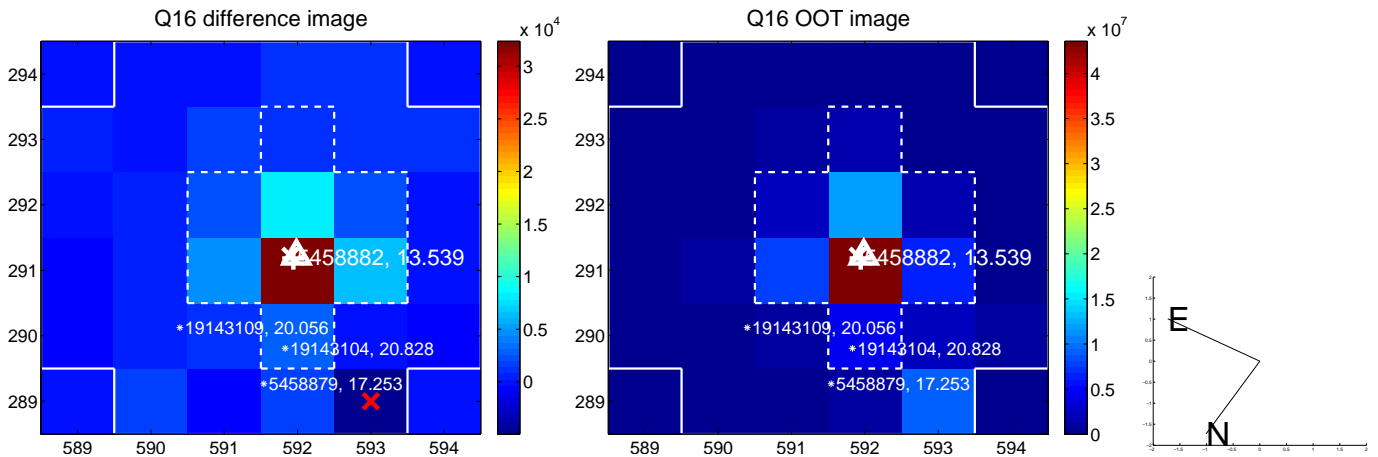
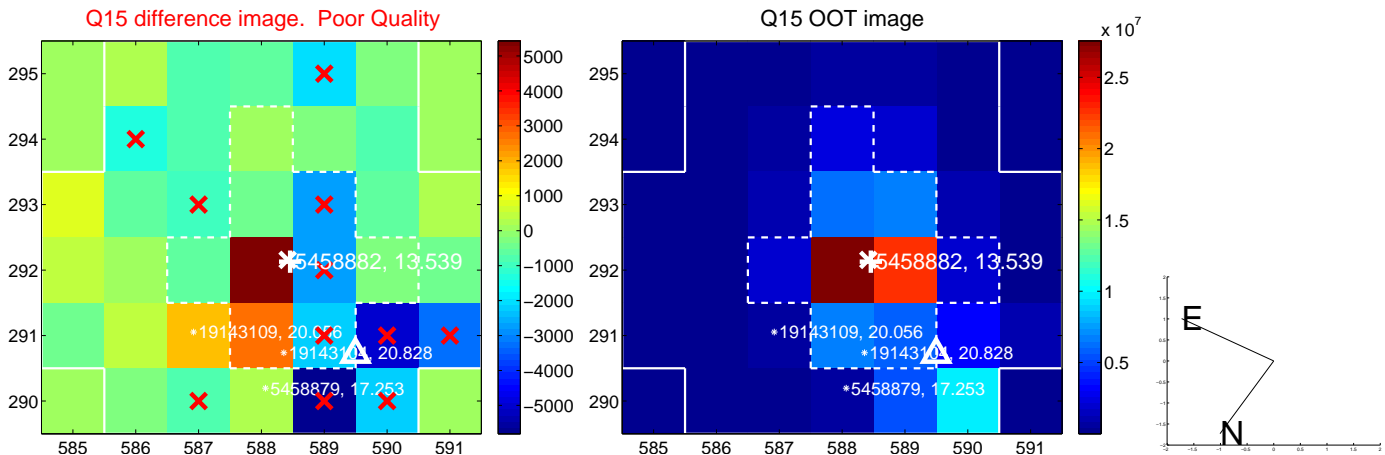
Q12 no difference image



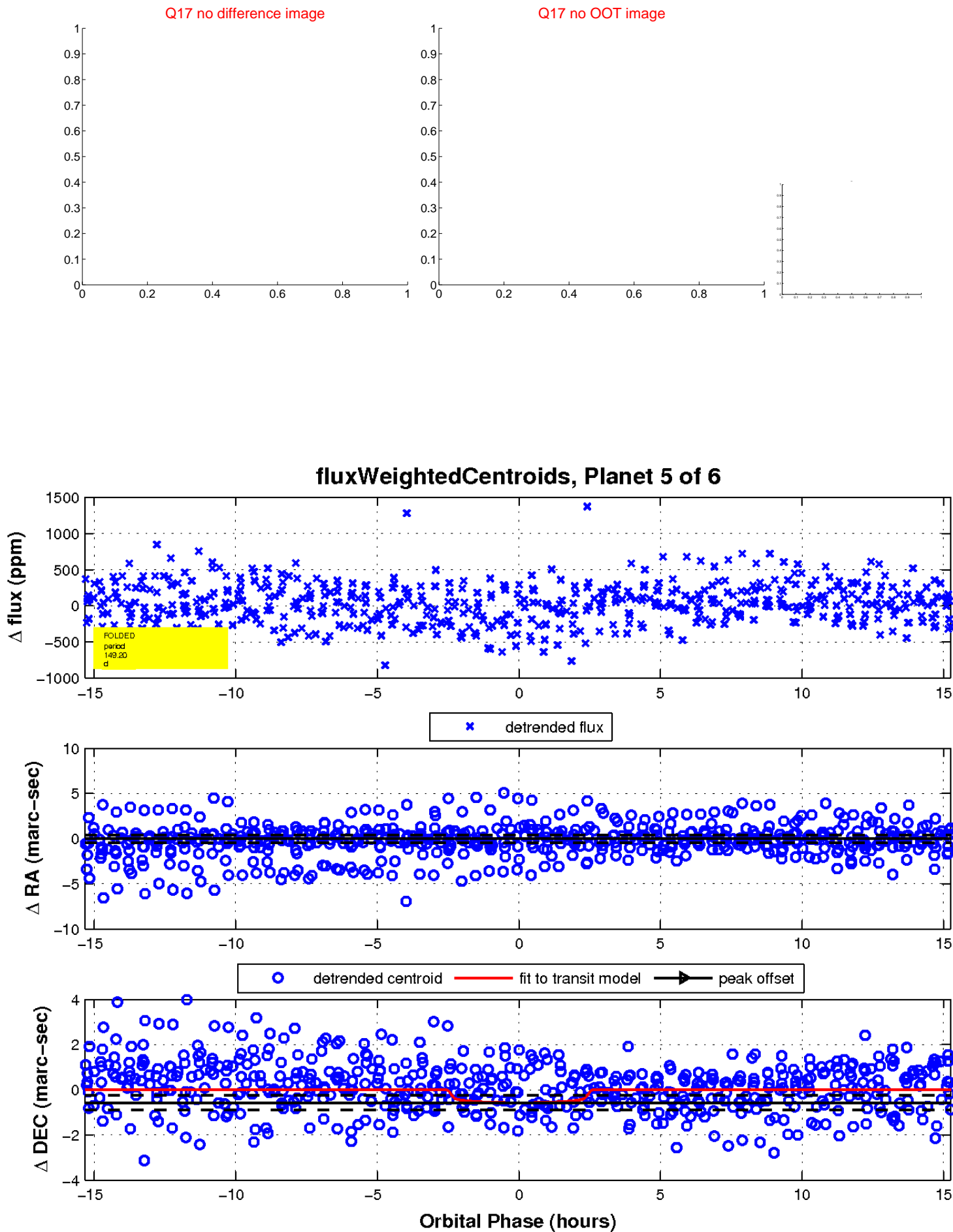
Q12 no OOT image



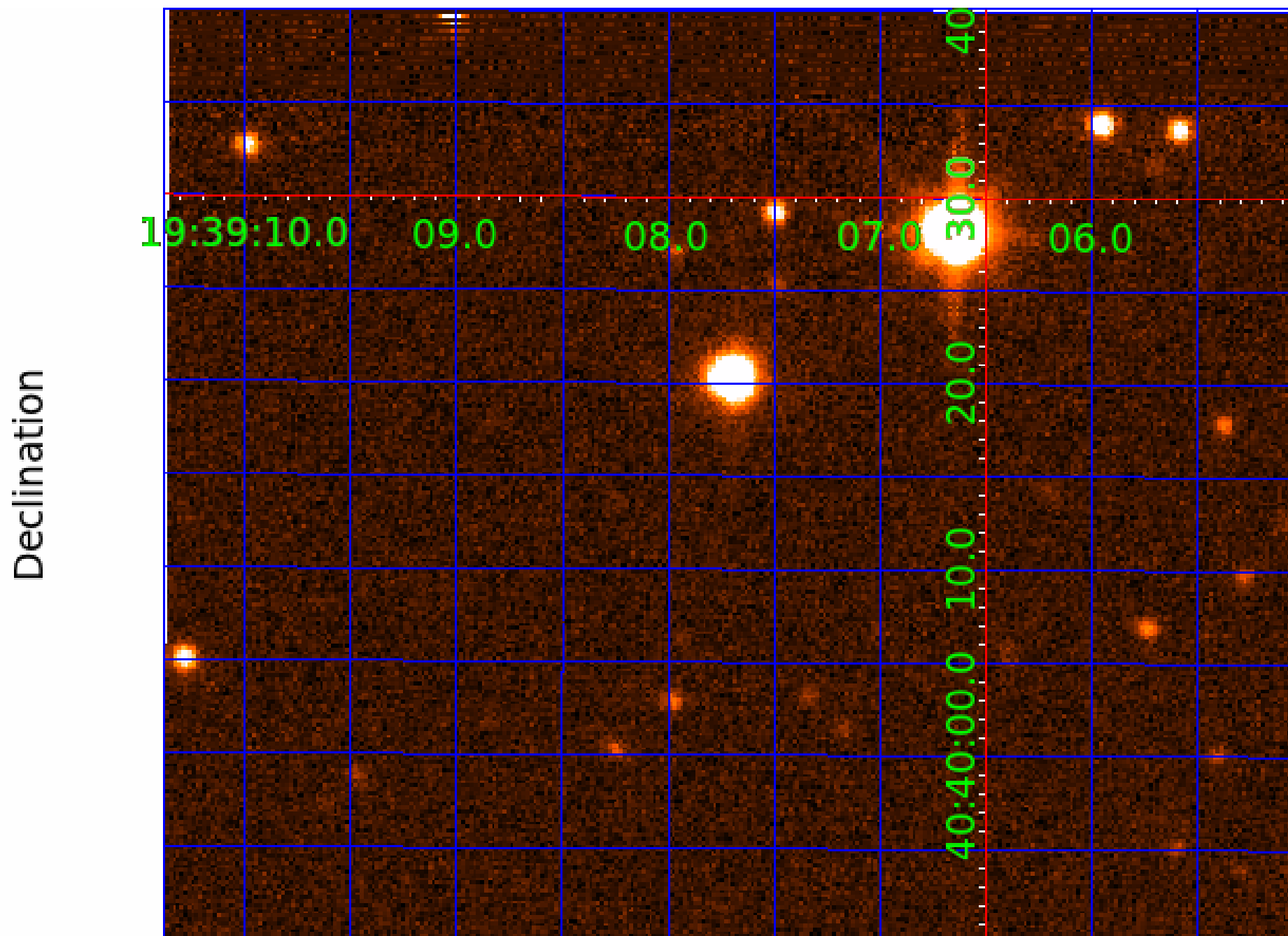
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 005458882

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})
005458882-01	OBS	No	2.247037	132.236633	41.3	10.199	10.9	8.9	1.23	6560	0.80	1965.16
005458882-02	OBS	No	125.675220	187.932919	174.2	5.380	8.4	3.7	1.23	6560	1.89	9.19
005458882-03	OBS	No	265.134691	390.117791	617.2	24.634	8.6	8.2	1.23	6560	3.60	3.40
005458882-04	OBS	No	203.999885	289.825075	261.8	11.909	7.8	5.0	1.23	6560	2.13	4.82
005458882-05	OBS	No	149.198218	187.180758	387.6	5.128	7.6	7.9	1.23	6560	2.66	7.31
005458882-06	OBS	No	200.021989	295.467024	314.1	13.376	7.5	7.2	1.23	6560	2.55	4.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005458882-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005458882-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005458882-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005458882-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005458882-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005458882-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

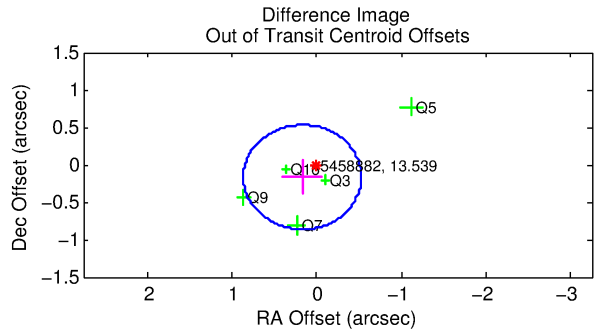
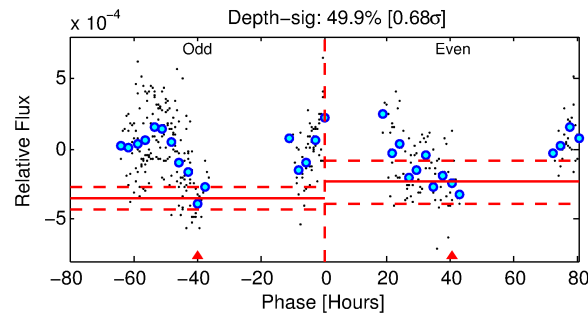
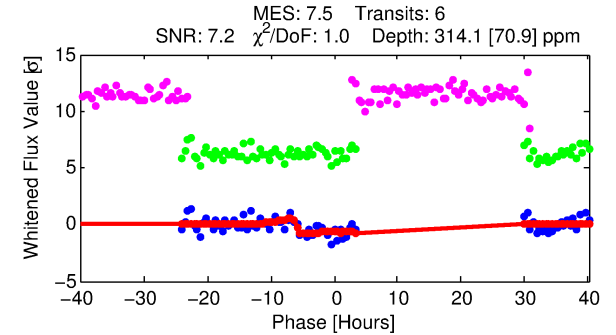
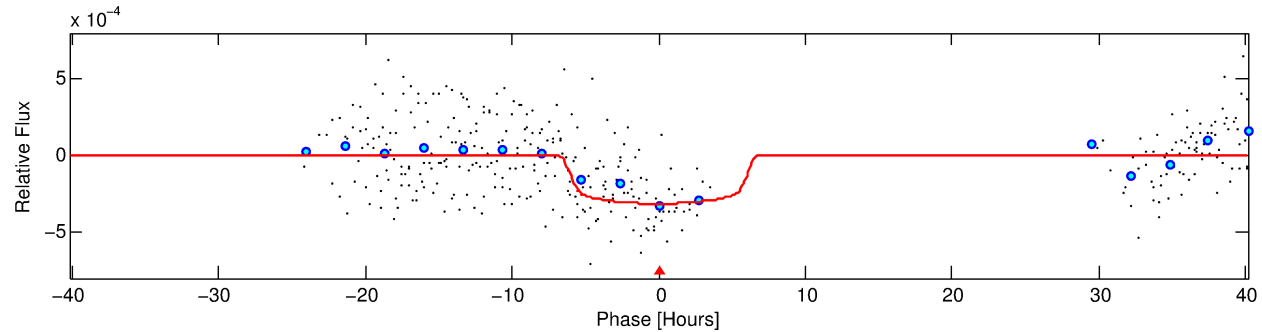
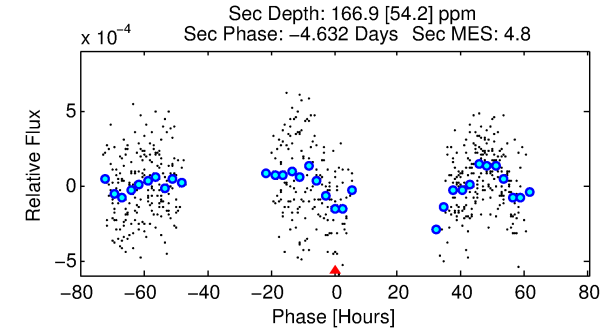
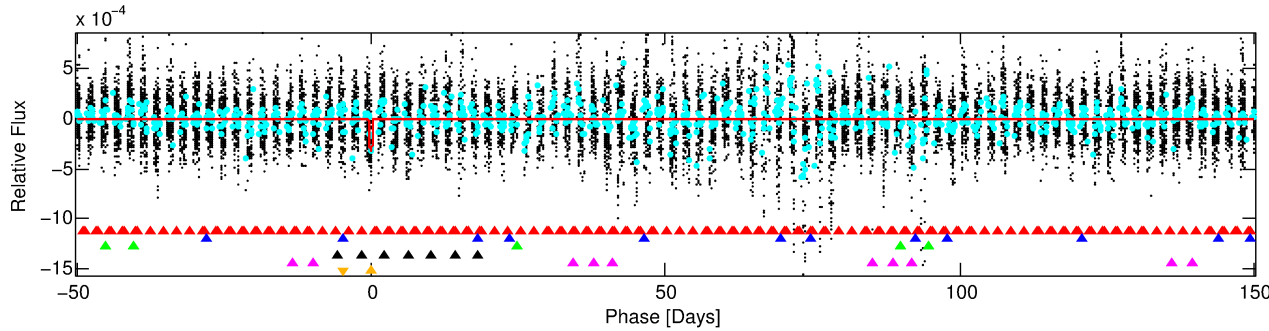
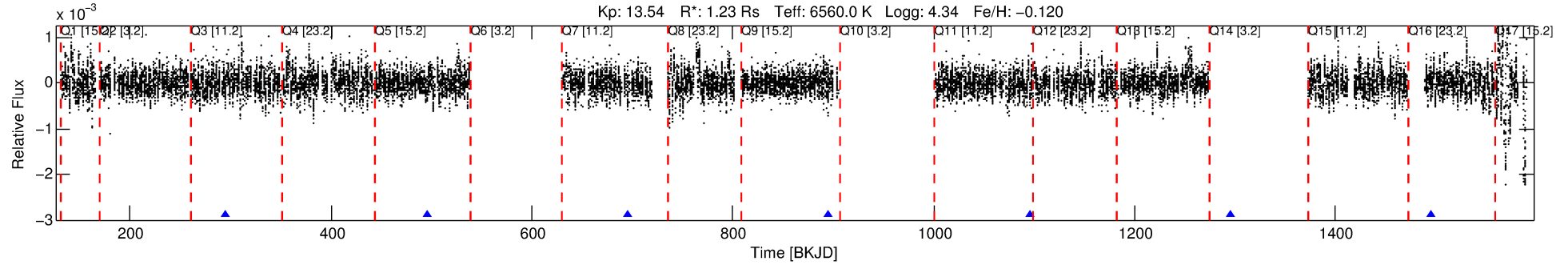
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005458882-06

No Significant Match Found

DV One-Page Summary

KIC: 5458882 Candidate: 6 of 6 Period: 200.022 d



DV Fit Results:

Period = 200.02199 [0.00512] d
Epoch = 295.4670 [0.0882] BKJD
Rp/R* = 0.0190 [0.0022]
a/R* = 54.26 [23.06]
b = 0.90 [0.12]
Seff = 4.94 [1.99]
Teq = 380 [38] K
Rp = 2.55 [0.88] Re
a = 0.7120 [0.1911] AU
Ag = 7178.32 [3948.24] [1.82σ]
Teffp = 5411 [566] K [8.87σ]

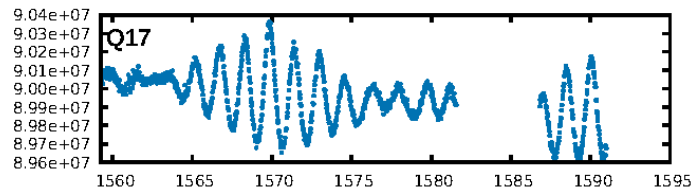
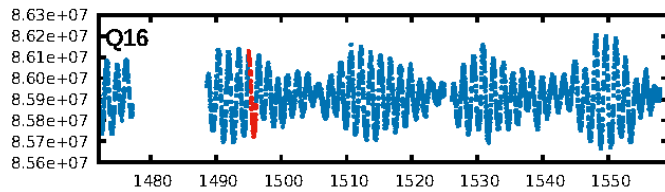
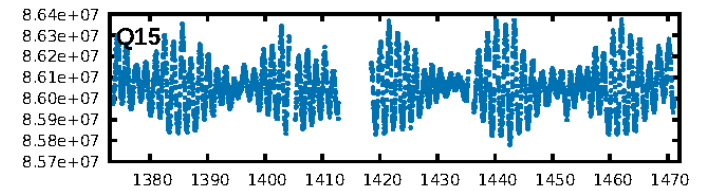
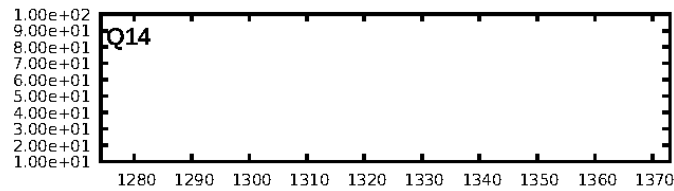
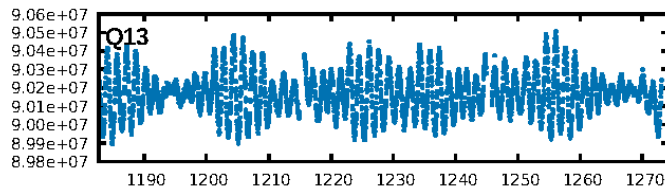
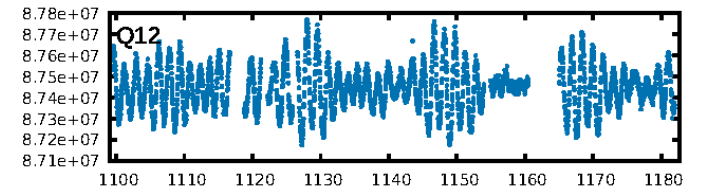
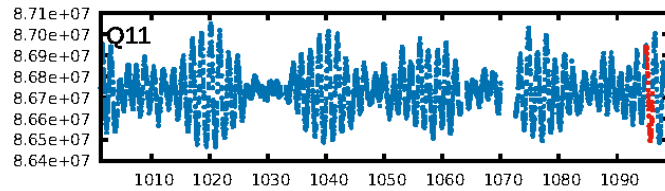
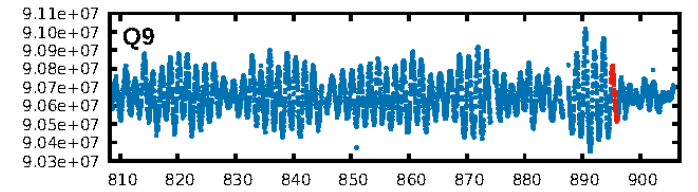
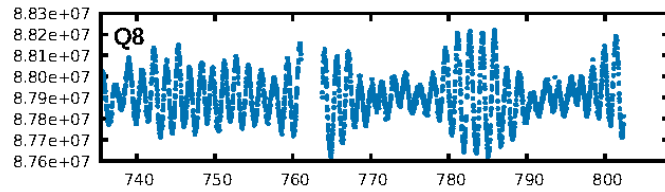
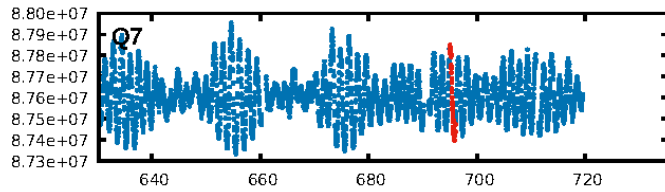
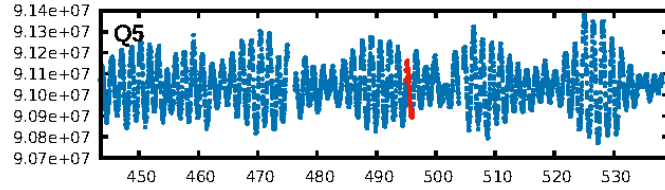
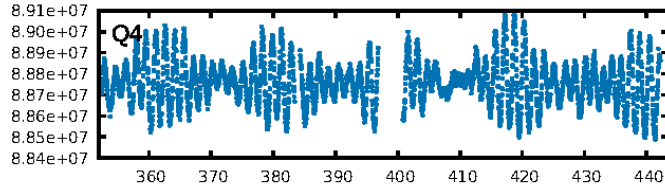
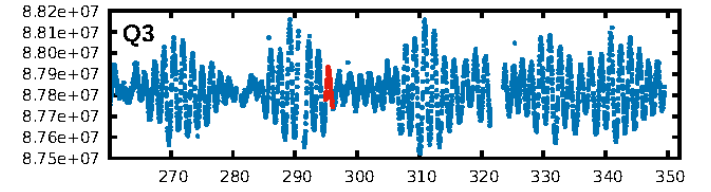
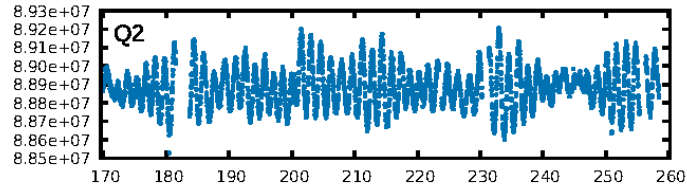
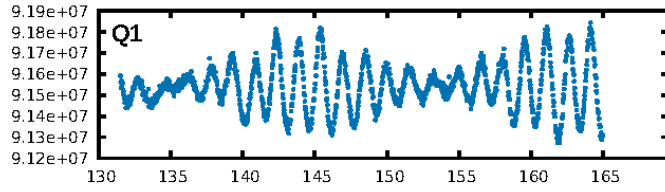
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [85.15σ]
LongPeriod-sig: 100.0% [5.33σ]
ModelChiSquare2-sig: 60.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.45e-08
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 4.638
Centroid-sig: 2.8%
Centroid-so: 1.869 arcsec [1.56σ]
OotOffset-rm: 0.236 arcsec [1.02σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-rm: 0.117 arcsec [0.49σ]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.00 [0/5]

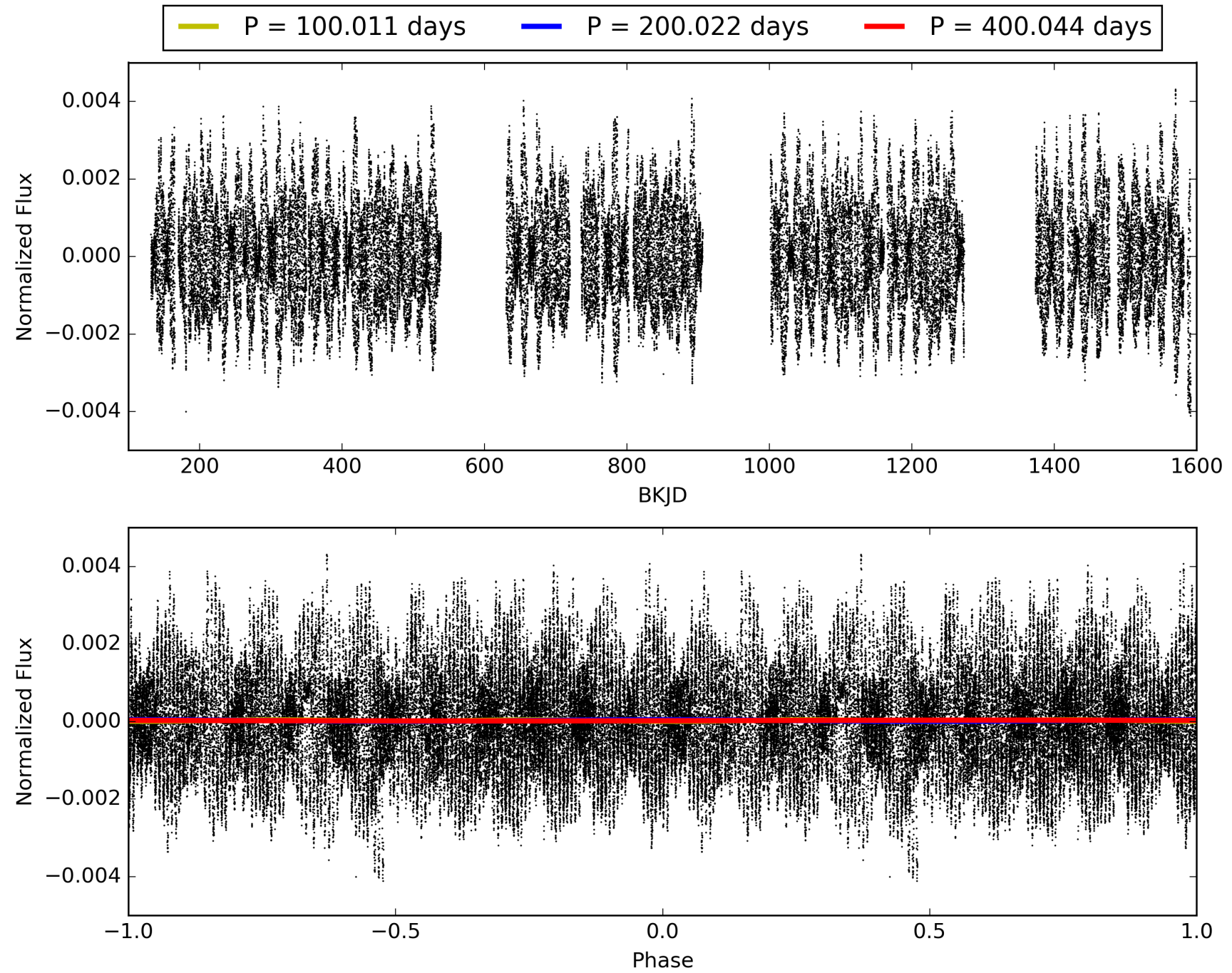
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:06:56 Z

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

TCE 005458882-06, PDC Light Curves

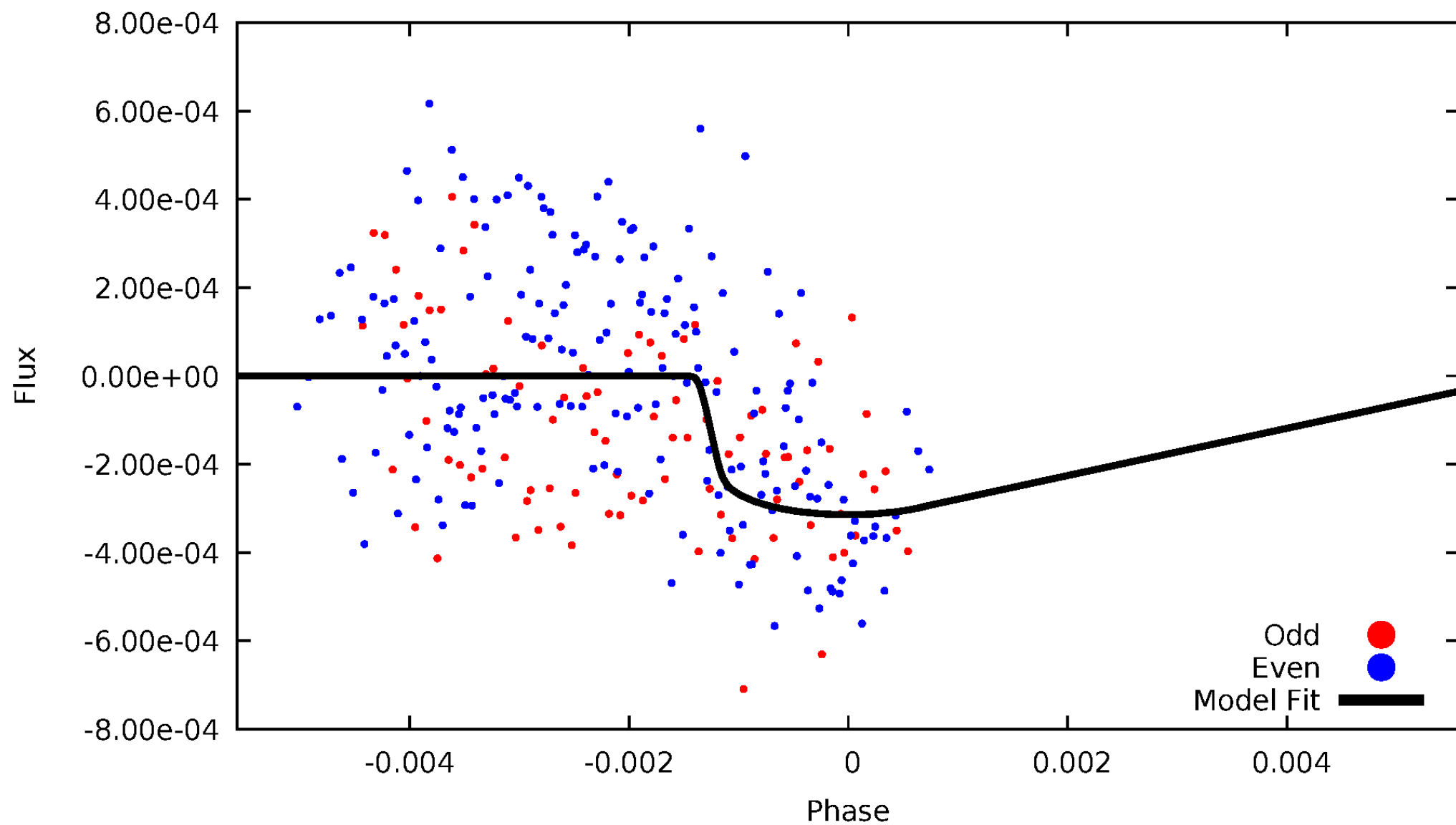


TCE 005458882-06



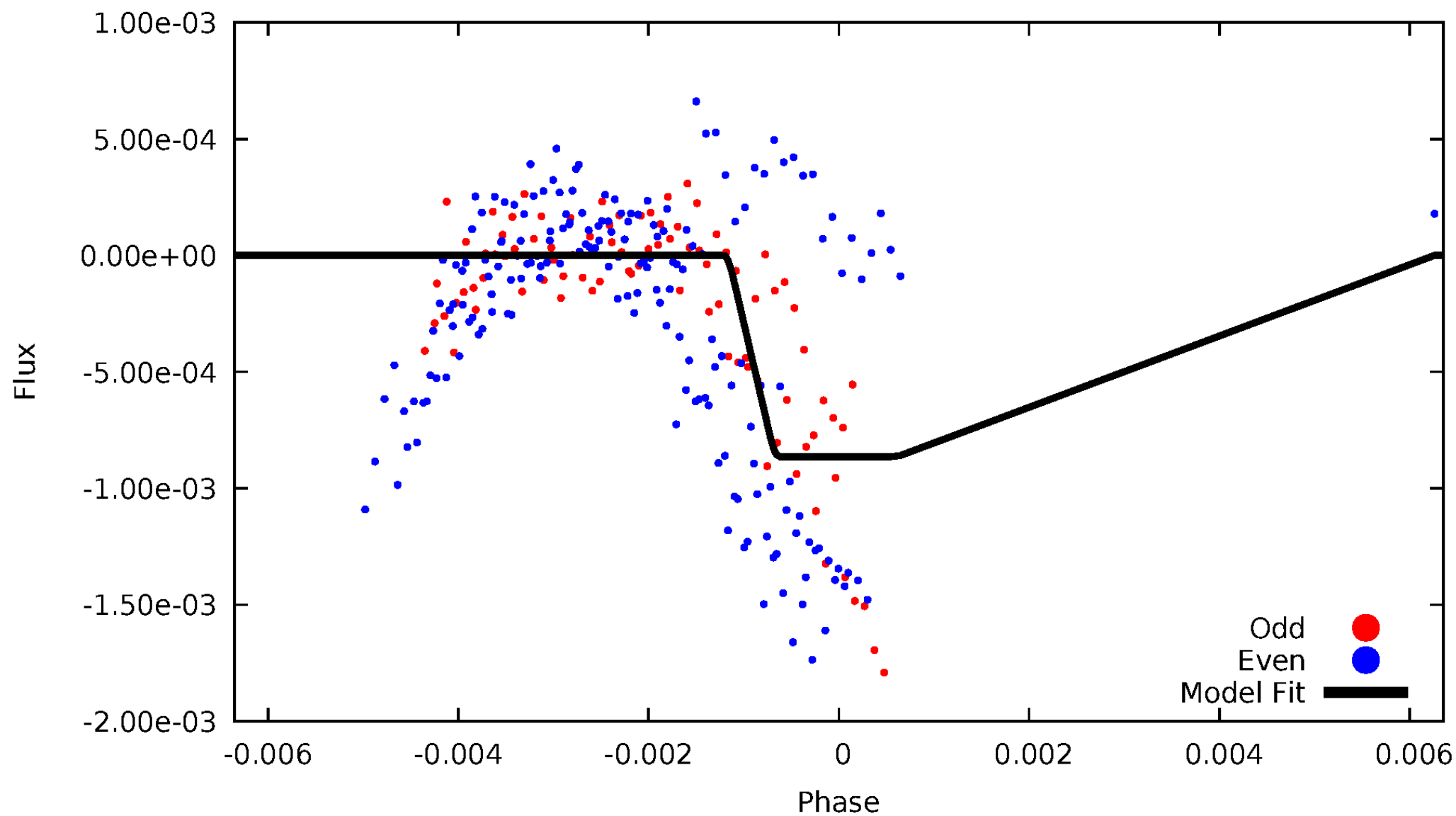
DV Odd/Even

TCE 005458882-06



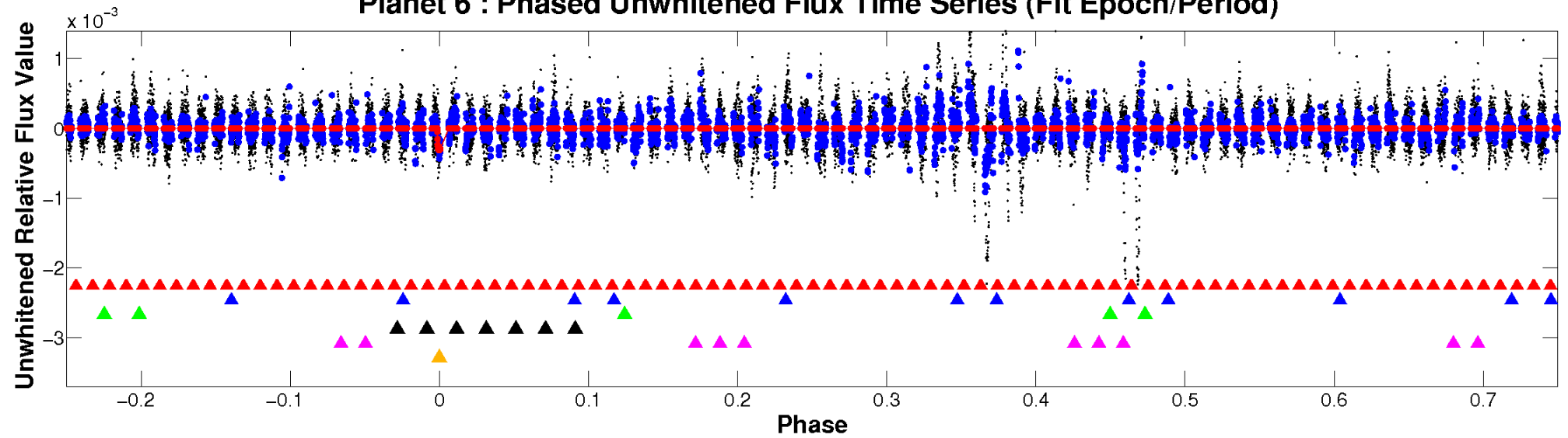
ALT Odd/Even

TCE 005458882-06

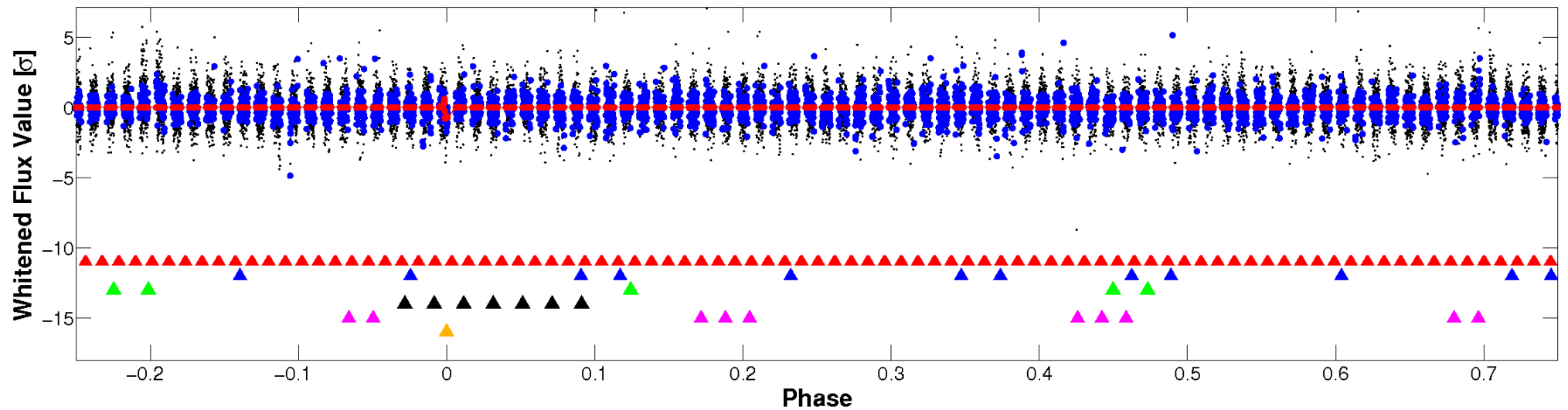


Non-Whitened Vs. Whitened Light Curve

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

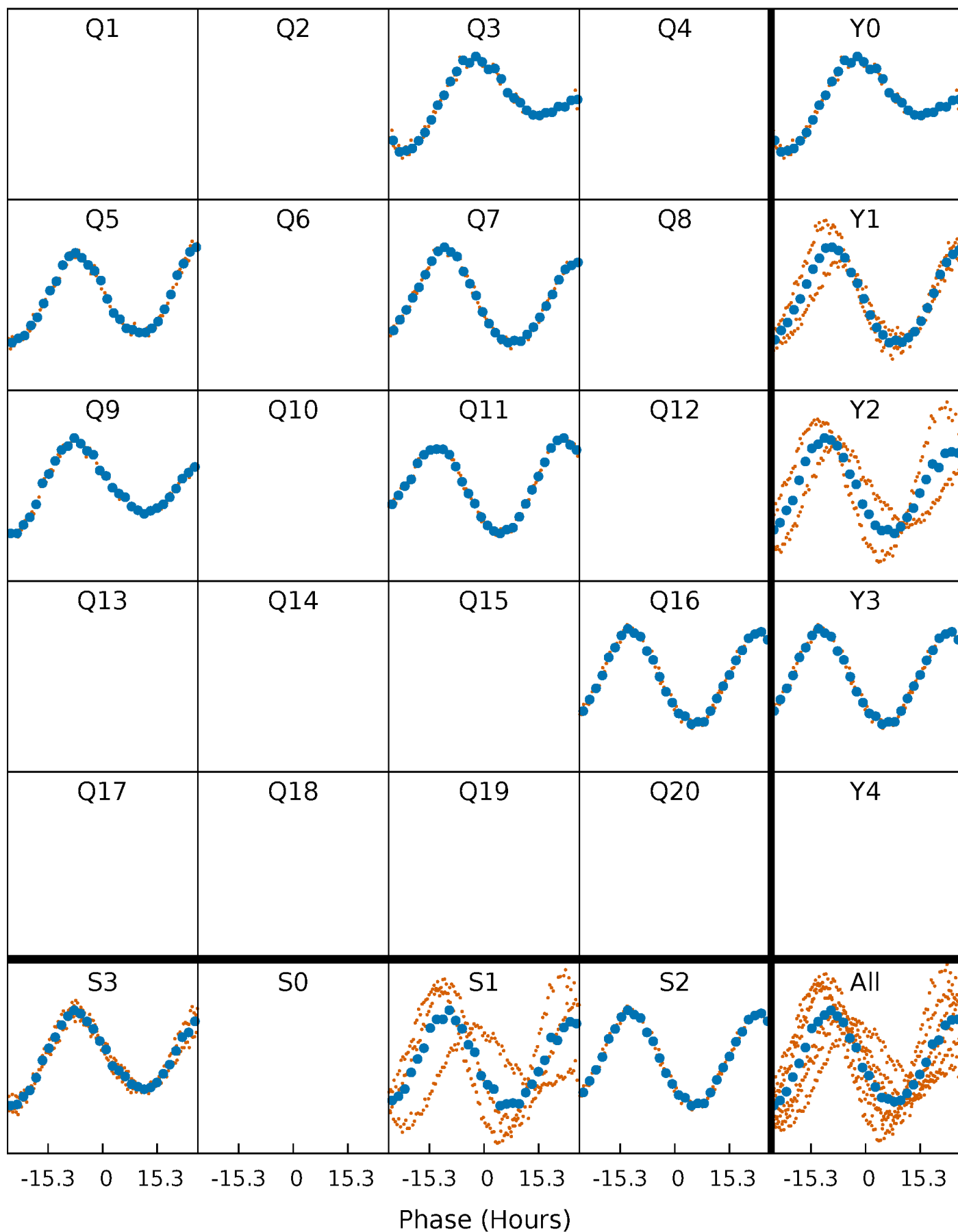


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



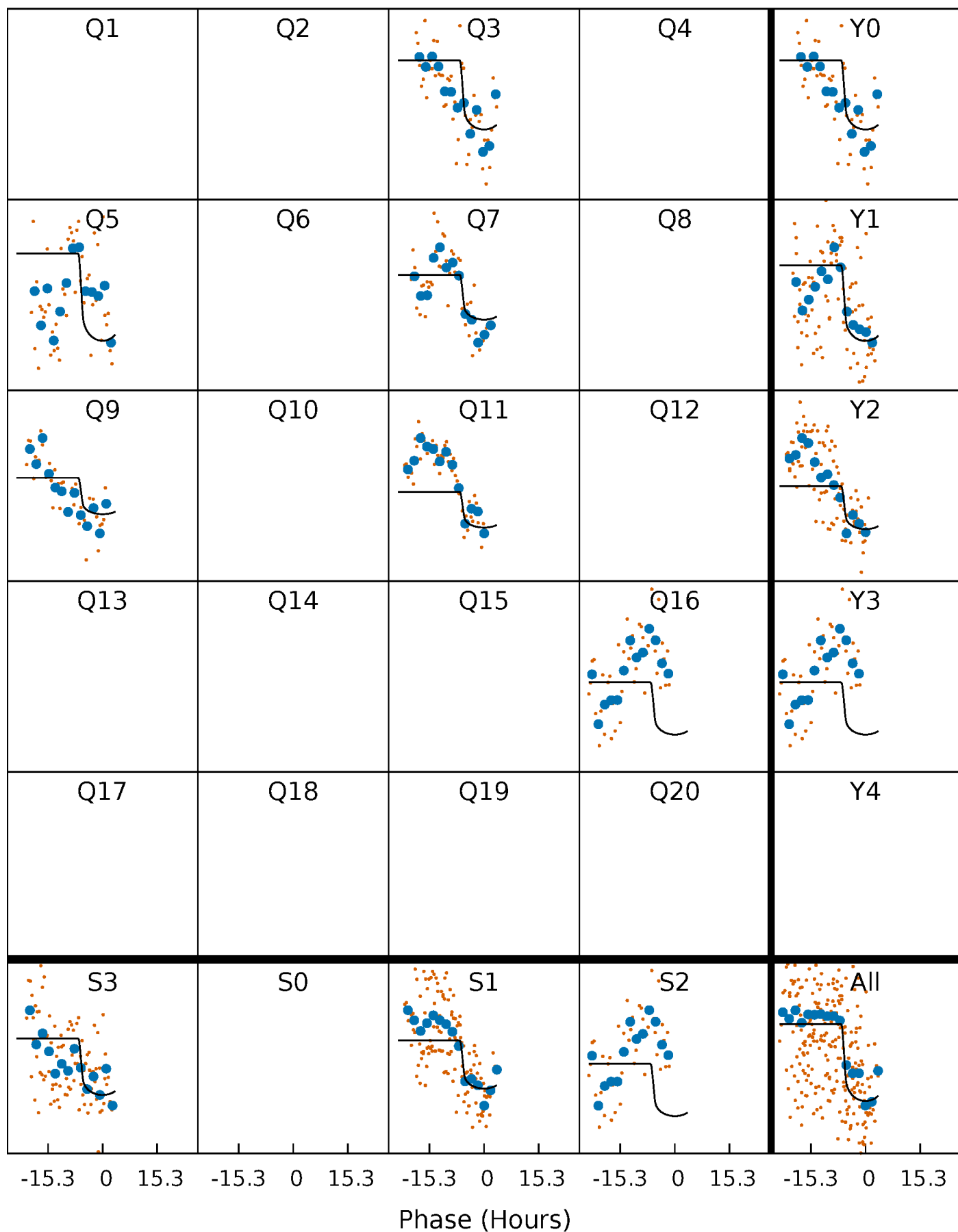
PDC Quarter-Phased Transit Curves

TCE 005458882-06 $P=200.021989$ Days $T_0=295.467024$ (BKJD)



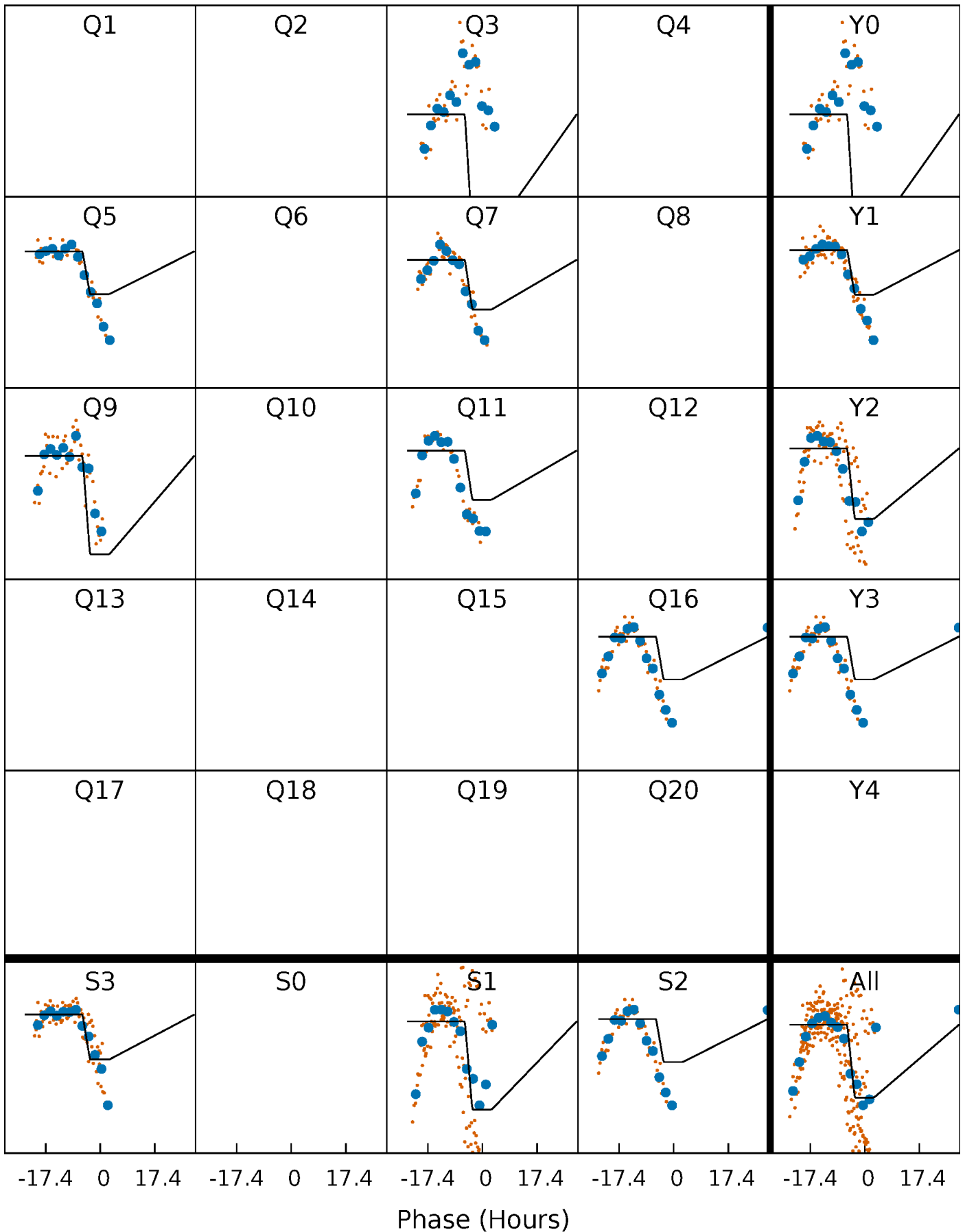
DV Quarter-Phased Transit Curves

TCE 005458882-06 $P=200.021989$ Days $T_0=295.467024$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

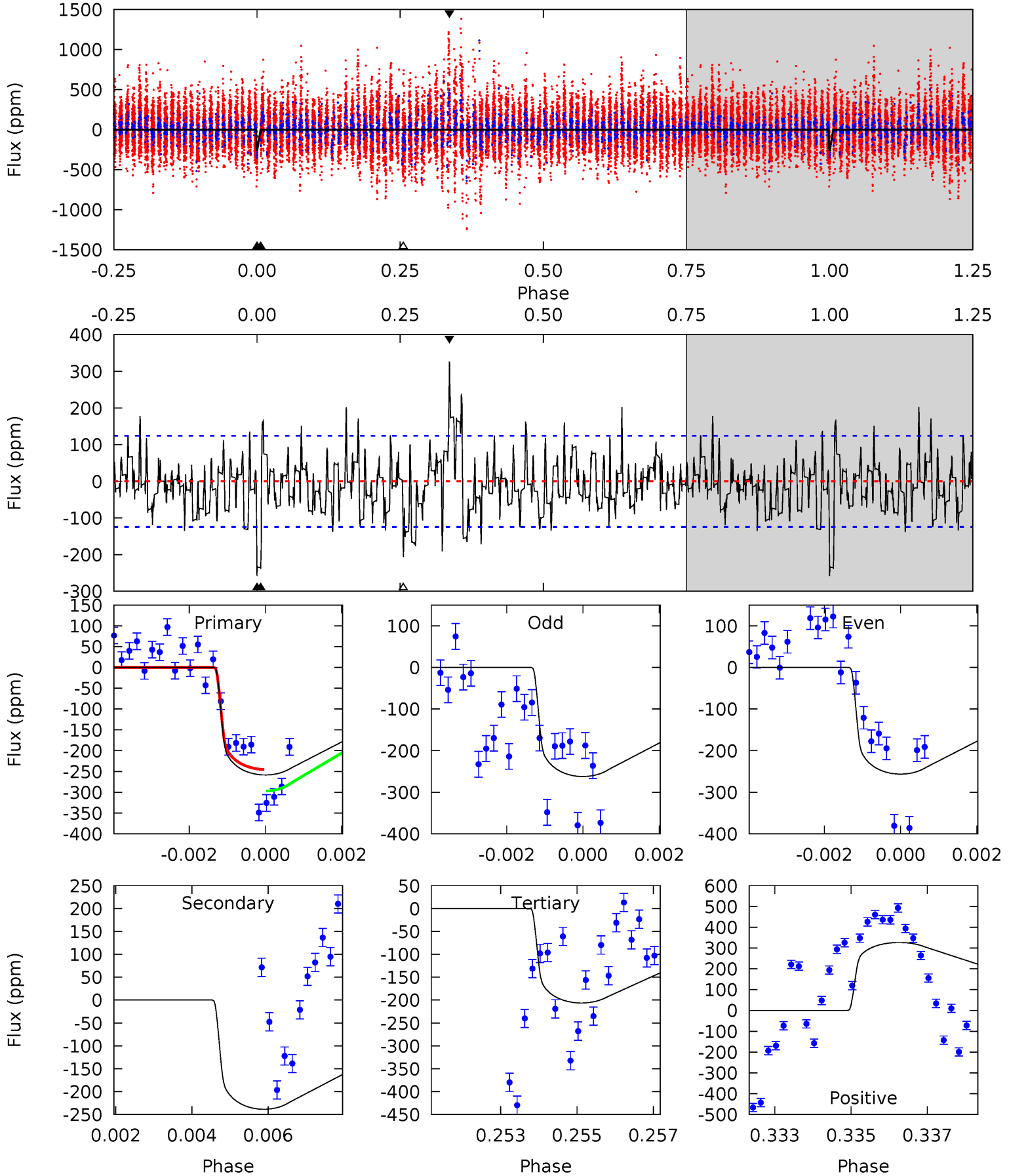
TCE 005458882-06 $P=200.017308$ Days $T_0=295.485438$ (BKJD)



DV Model-Shift Uniqueness Test

005458882-06, P = 200.021989 Days, E = 95.445035 Days

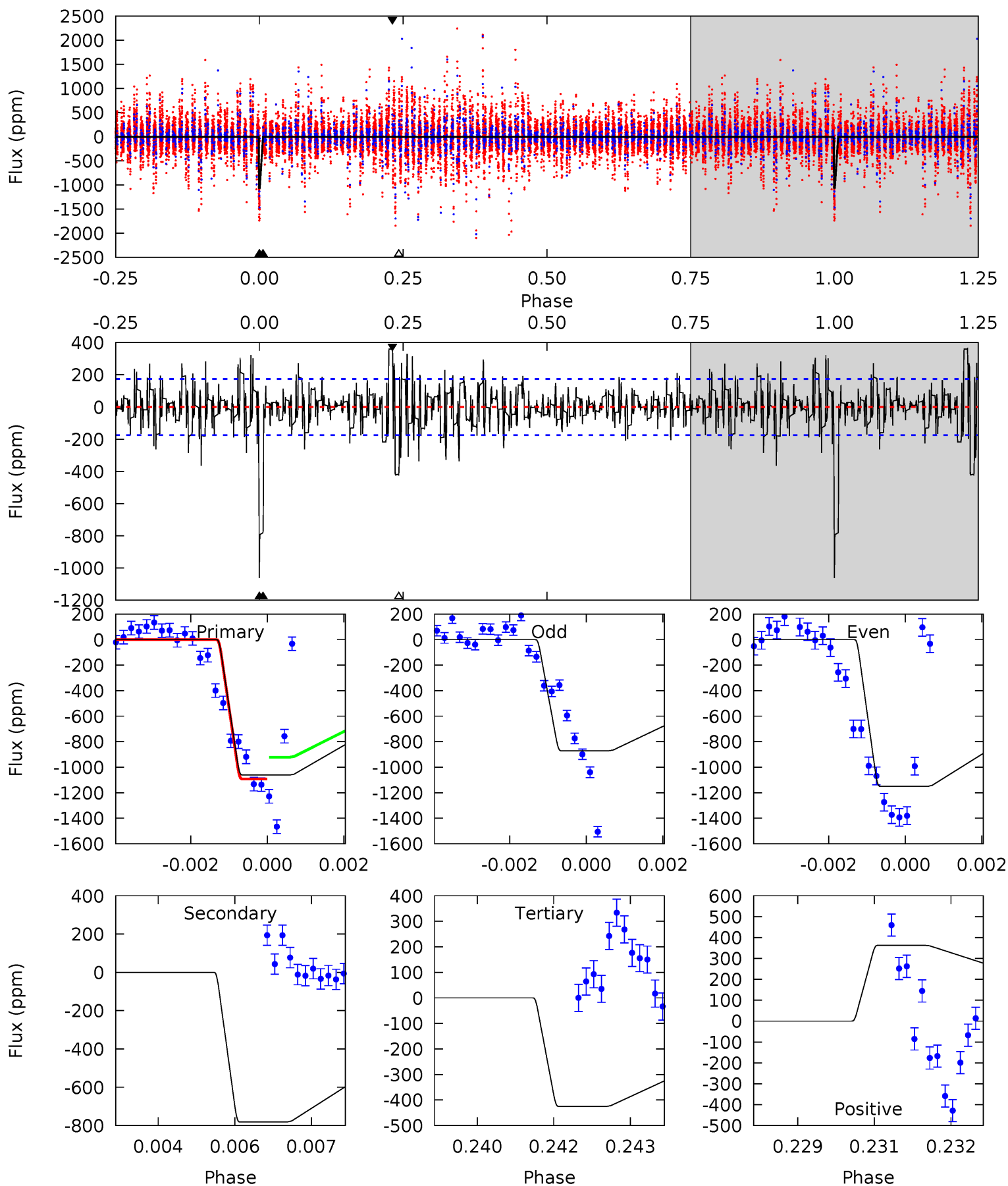
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	10.2	8.82	13.9	5.31	3.07	2.81	2.22	-2.91	1.37	-3.76	0.12	0.78	0.56	0.83



Alt Model-Shift Uniqueness Test

005458882-06, P = 200.017308 Days, E = 95.468130 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.5	23.9	13.0	11.1	5.34	3.11	2.75	19.5	21.4	10.9	12.8	4.00	0.80	0.25	1.82



Stellar Parameters For KIC 005458882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6560^{+149}_{-216}	$4.339^{+0.072}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.229^{+0.403}_{-0.144}$	$1.208^{+0.183}_{-0.164}$	$0.916^{+0.340}_{-0.476}$
	+2%/-3%	+2%/-5%	+208%/-250%	+33%/-12%	+15%/-14%	+37%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005458882-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-239 ± 23	$2.65^{+0.52}_{-0.42}$	538^{+41}_{-28}	5886^{+426}_{-383}	9379^{+3799}_{-2747}
Alt.	-781 ± 33	$4.05^{+0.79}_{-0.48}$	539^{+37}_{-26}	6372^{+331}_{-302}	13131^{+3195}_{-3397}

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

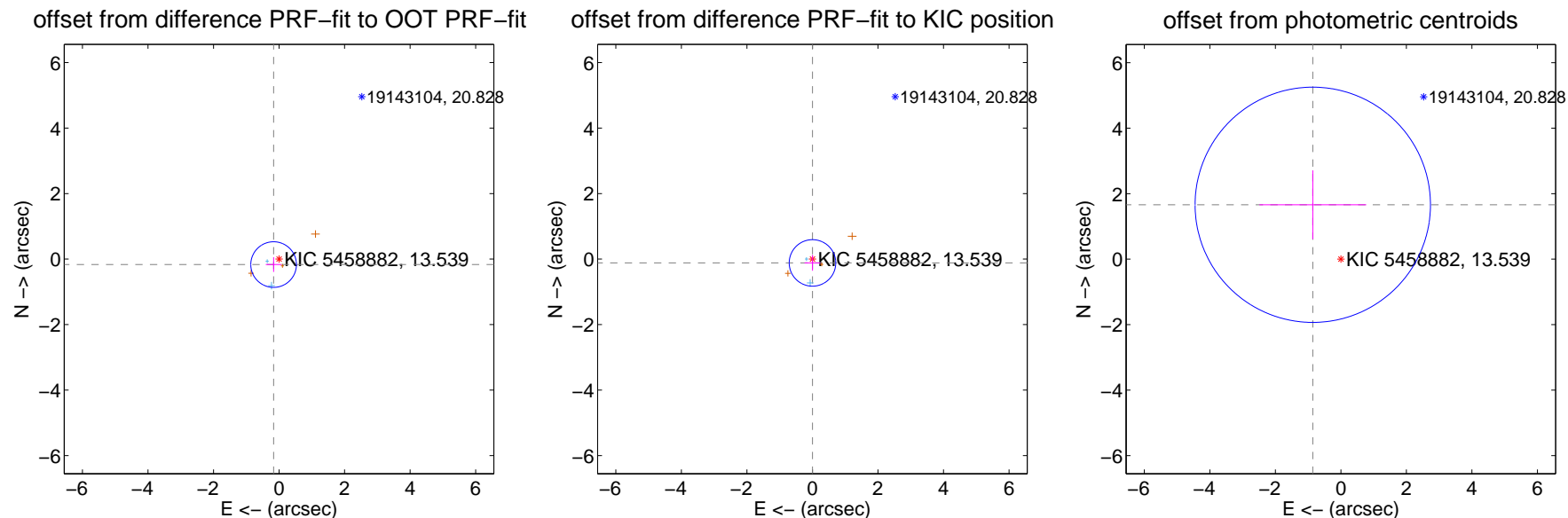
DV Centroid Data

Supplemental centroid analysis for 005458882-06. Kepler magnitude: 13.54. Transit SNR 7.25

There are 2 quarters with good PRF difference image offsets

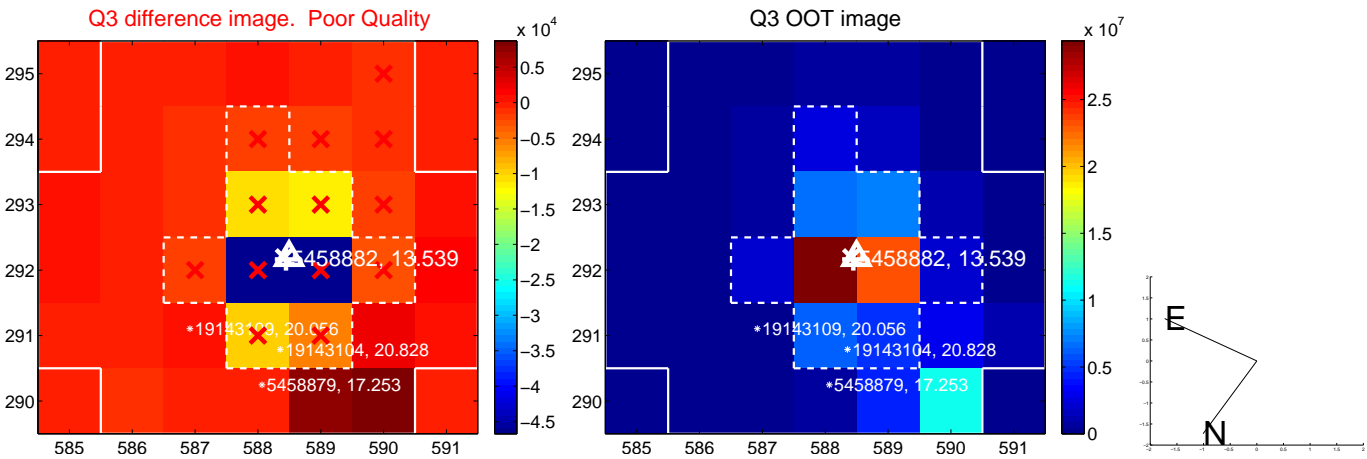
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.236 ± 0.232	1.02	0.167 ± 0.239	-0.167 ± 0.225
PRF-fit source offset from KIC position	0.117 ± 0.237	0.49	-0.001 ± 0.240	-0.117 ± 0.238
photometric centroid source offset	1.87 ± 1.20	1.56	0.86 ± 1.63	1.66 ± 1.05

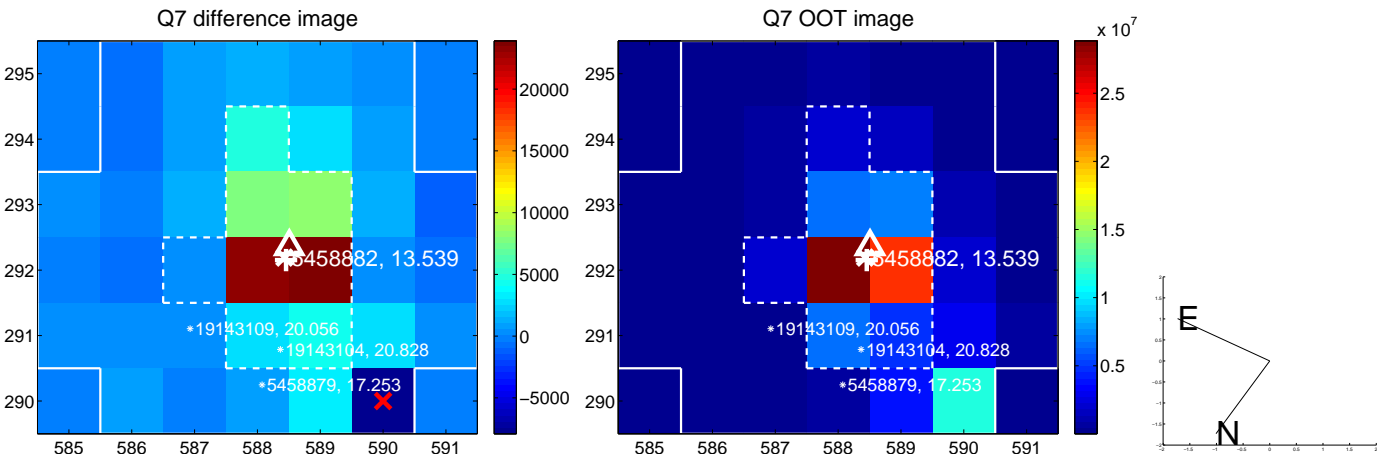
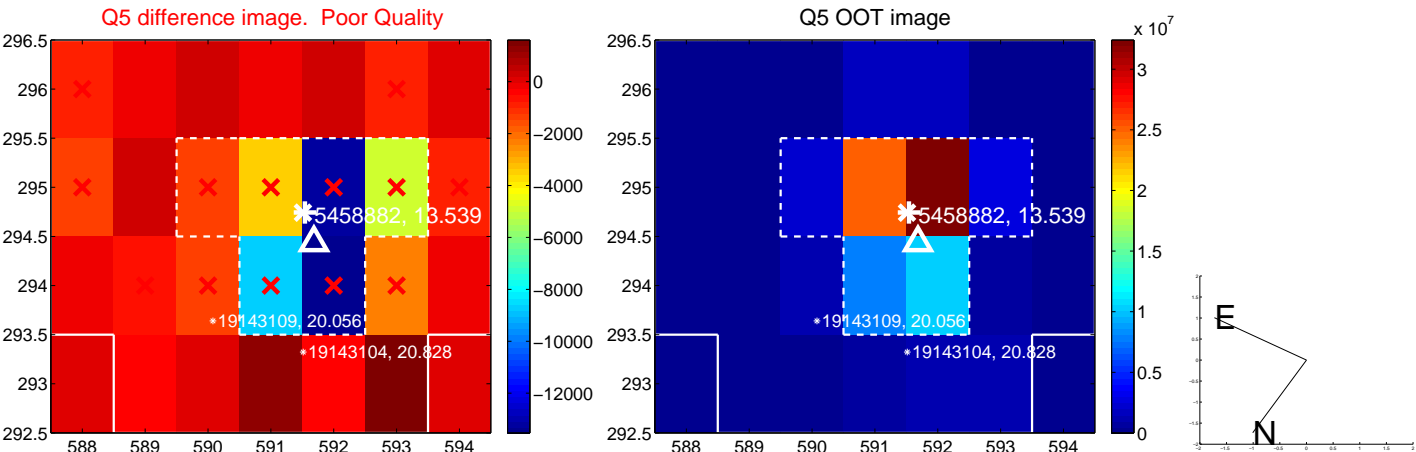


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

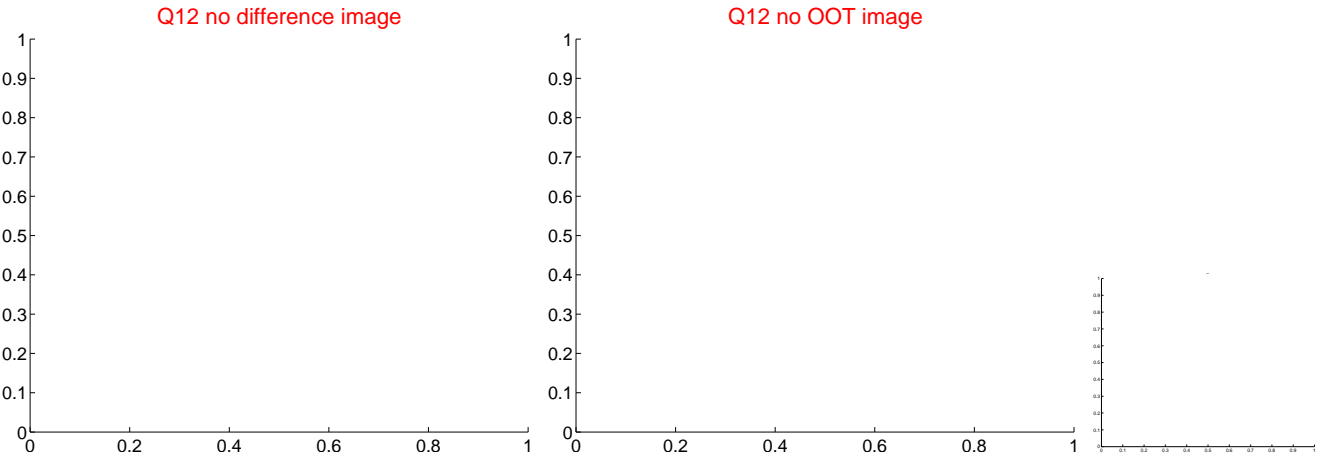
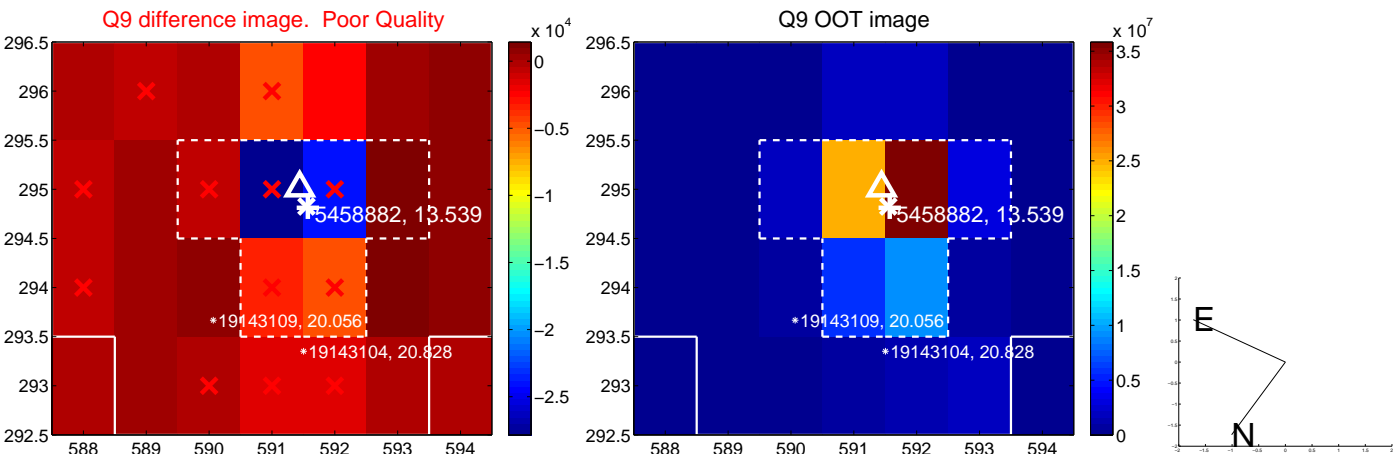
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



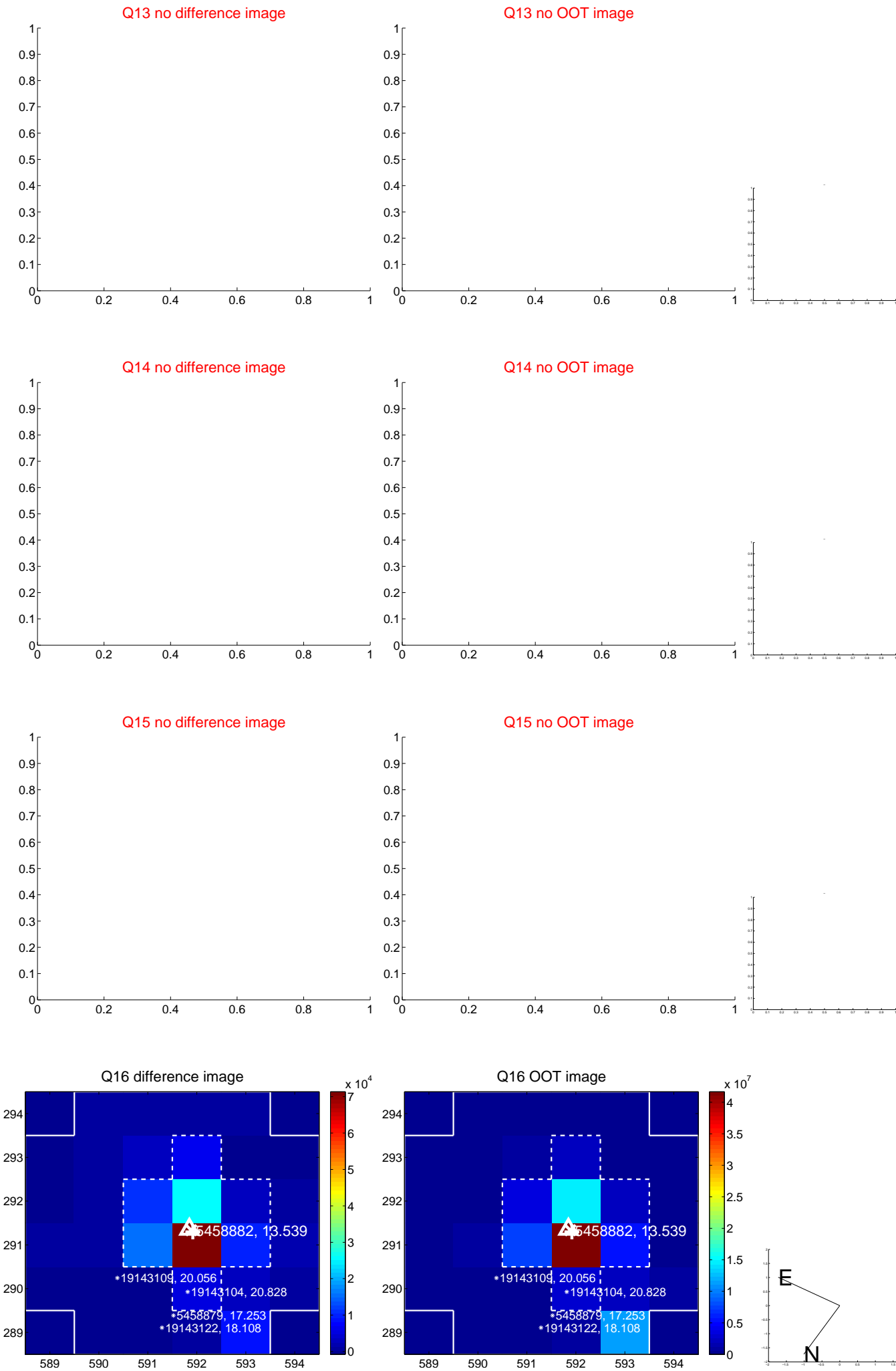
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



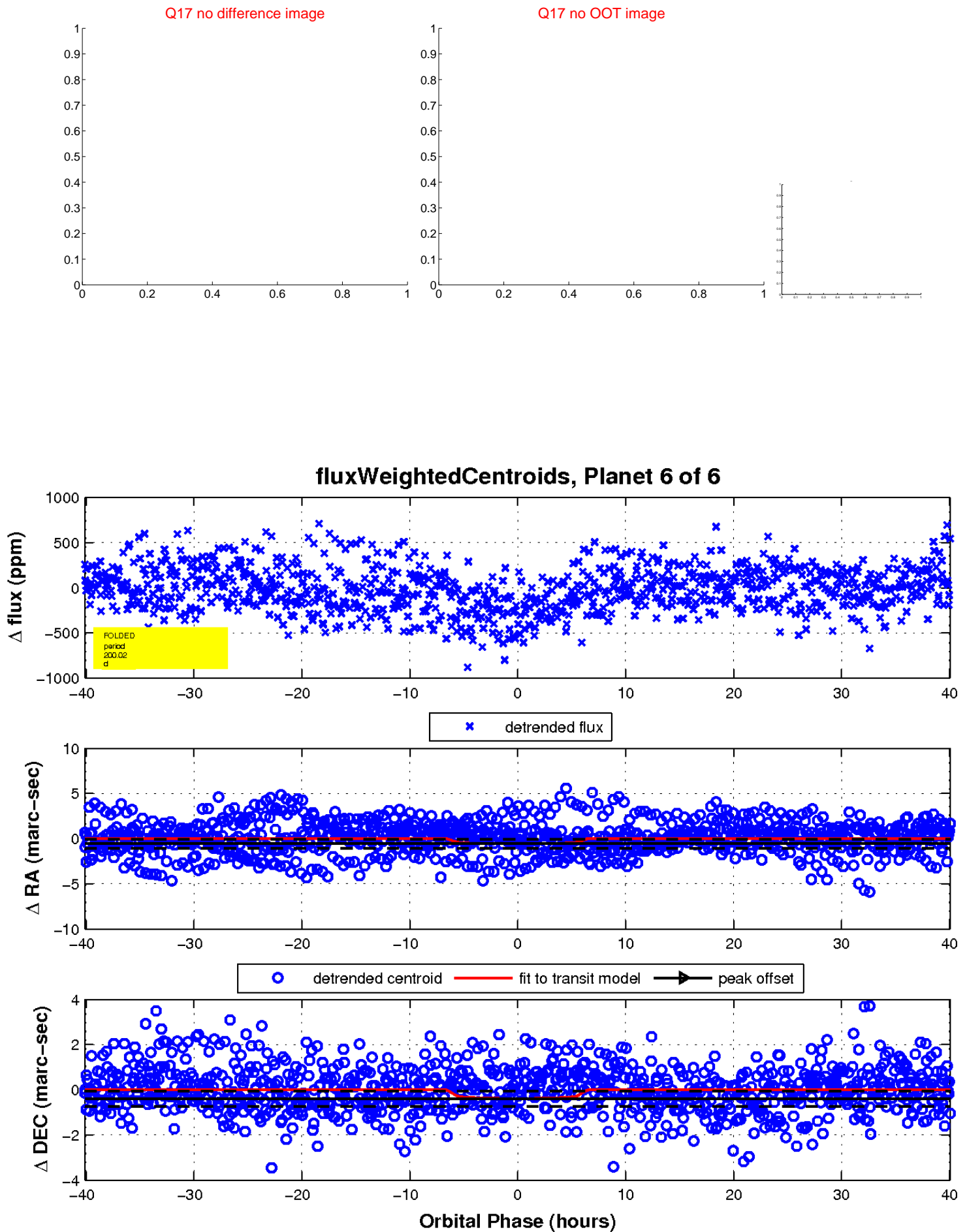
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

