

KIC 004569590

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})
004569590-01	OBS	6426.01	41.370622	166.479530	4619.1	11.630	62.2	50.4	6.88	4764	54.15	389.98
004569590-02	OBS	No	413.704815	329.576068	6928.0	6.790	31.3	38.5	6.88	4764	108.71	18.10
004569590-03	OBS	No	227.547472	288.337947	3697.9	16.015	21.2	13.9	6.88	4764	52.78	40.17
004569590-04	OBS	No	124.106632	247.028720	347.7	15.000	22.3	-1.0	6.88	4764	12.37	90.14
004569590-05	OBS	No	41.370562	164.108012	1069.7	2.447	18.0	18.0	6.88	4764	46.44	389.98
004569590-06	OBS	No	41.370159	145.839688	1779.9	11.143	15.5	21.2	6.88	4764	58.20	389.99
004569590-07	OBS	No	41.369741	143.577011	200.3	12.000	13.2	-1.0	6.88	4764	9.39	389.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004569590-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004569590-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—SAME_NTL_PERIOD
004569590-03	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS
004569590-04	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST
004569590-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD
004569590-06	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
004569590-07	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

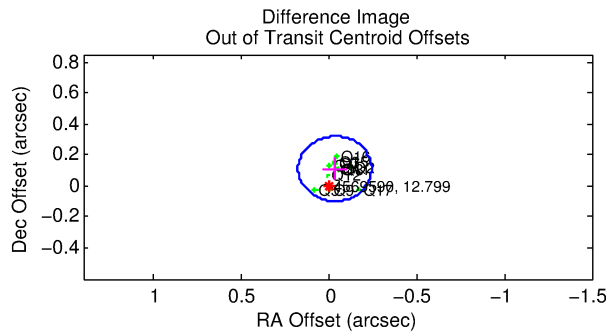
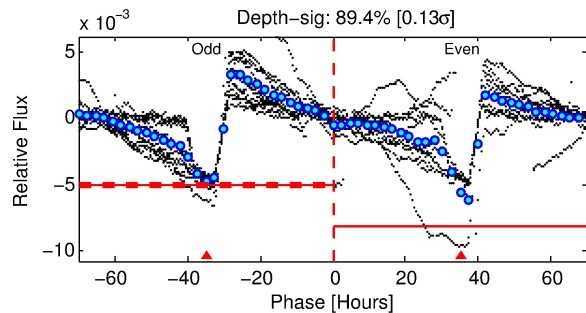
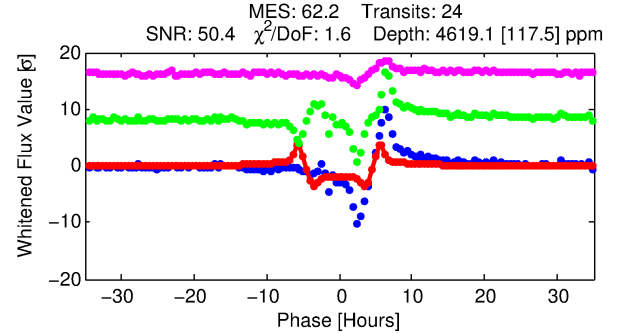
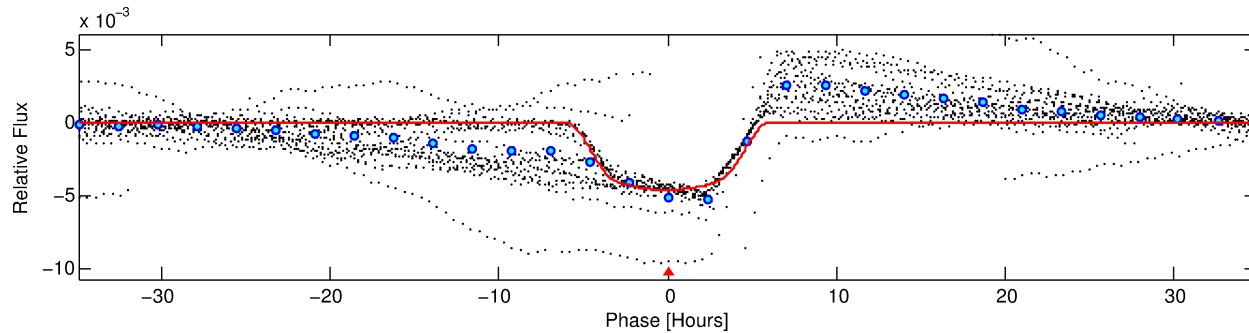
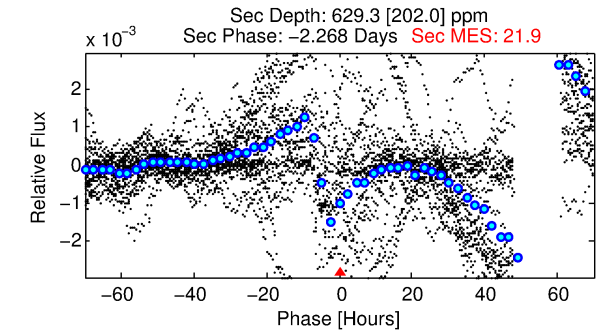
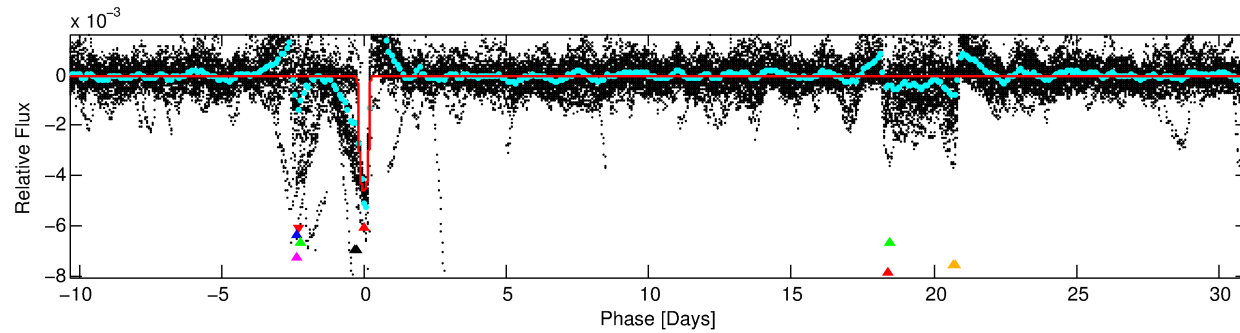
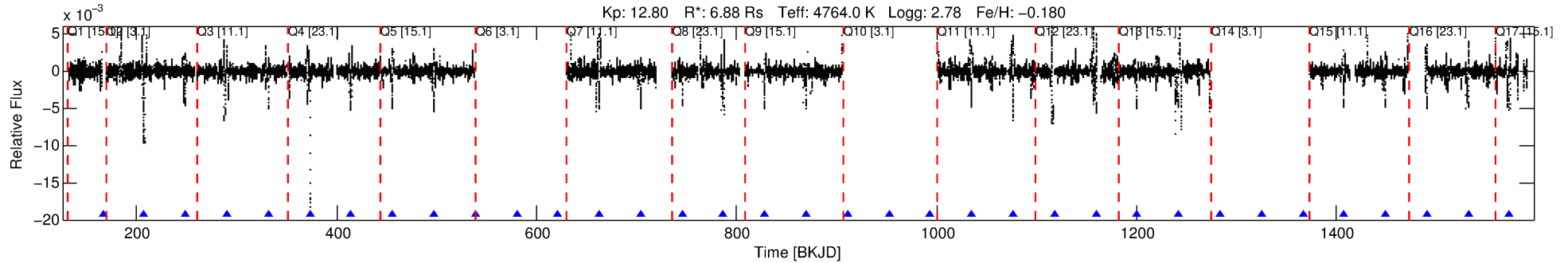
Ephemeris Match Information For 004569590-01

No Significant Match Found

DV One-Page Summary

KIC: 4569590 Candidate: 1 of 7 Period: 41.371 d
KOI: K06426 Corr: No Ephemeris Match

Kp: 12.80 R*: 6.88 Rs Teff: 4764.0 K Logg: 2.78 Fe/H: -0.180



DV Fit Results:

Period = 41.37062 [0.00009] d
Epoch = 166.4795 [0.0018] BKJD
Rp/R* = 0.0721 [0.0010]
a/R* = 18.09 [0.21]
b = 0.84 [0.00]
Seff = 389.98 [285.99]
Teq = 1133 [208] K
Rp = 54.15 [30.70] Re
a = 0.2368 [0.1155] AU
Ag = 6.62 [5.24] [1.07σ]
Teffp = 2810 [241] K [5.27σ]

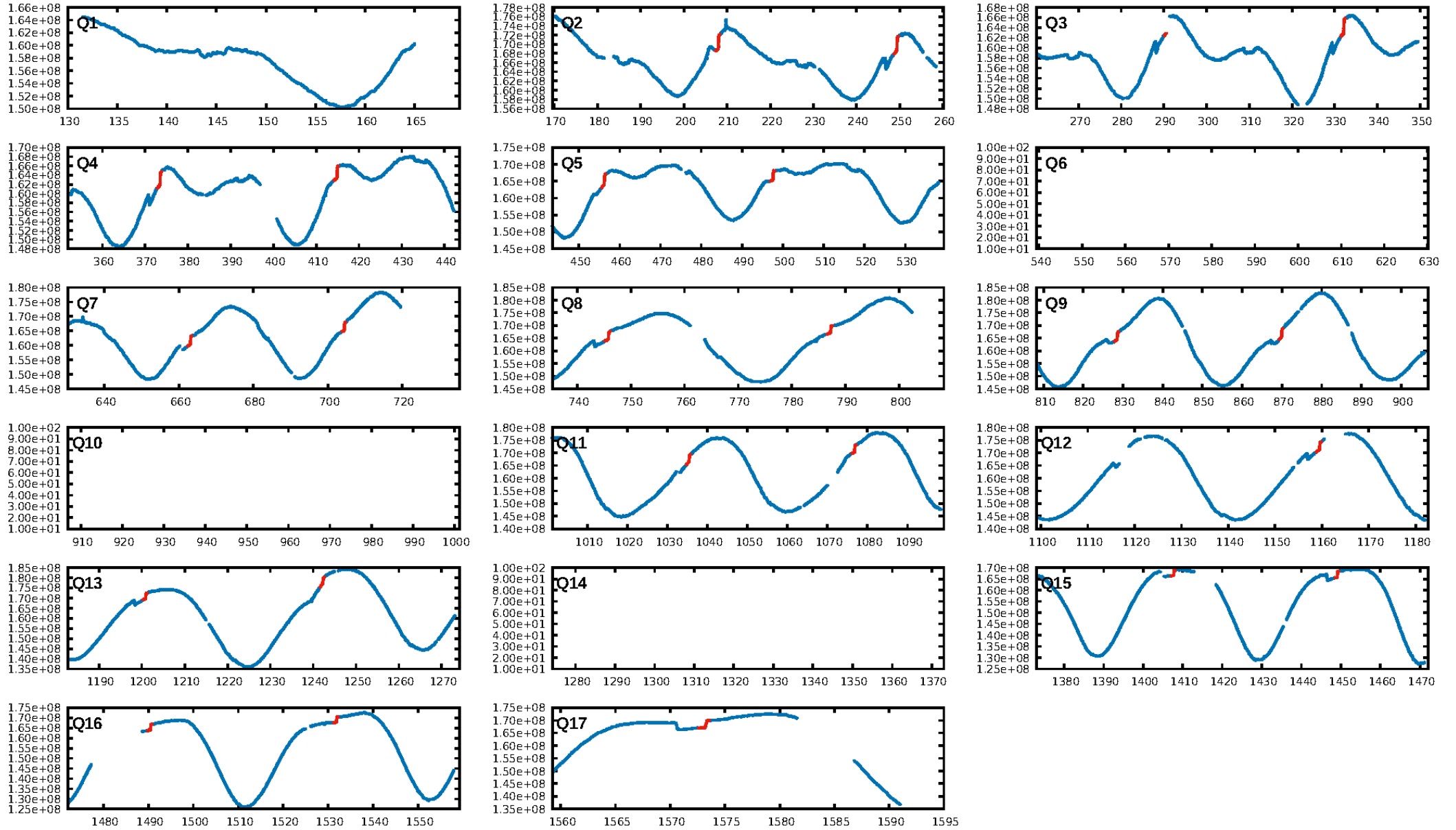
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [104.62σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 1.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: 1.004
Centroid-sig: 0.0%
Centroid-so: 0.488 arcsec [4.45σ]
OotOffset-rm: 0.116 arcsec [1.67σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-rm: 0.016 arcsec [0.23σ]
KicOffset-st: 1/4/4/3 [12]
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DiffImageOverlap-fno: 1.00 [12/12]

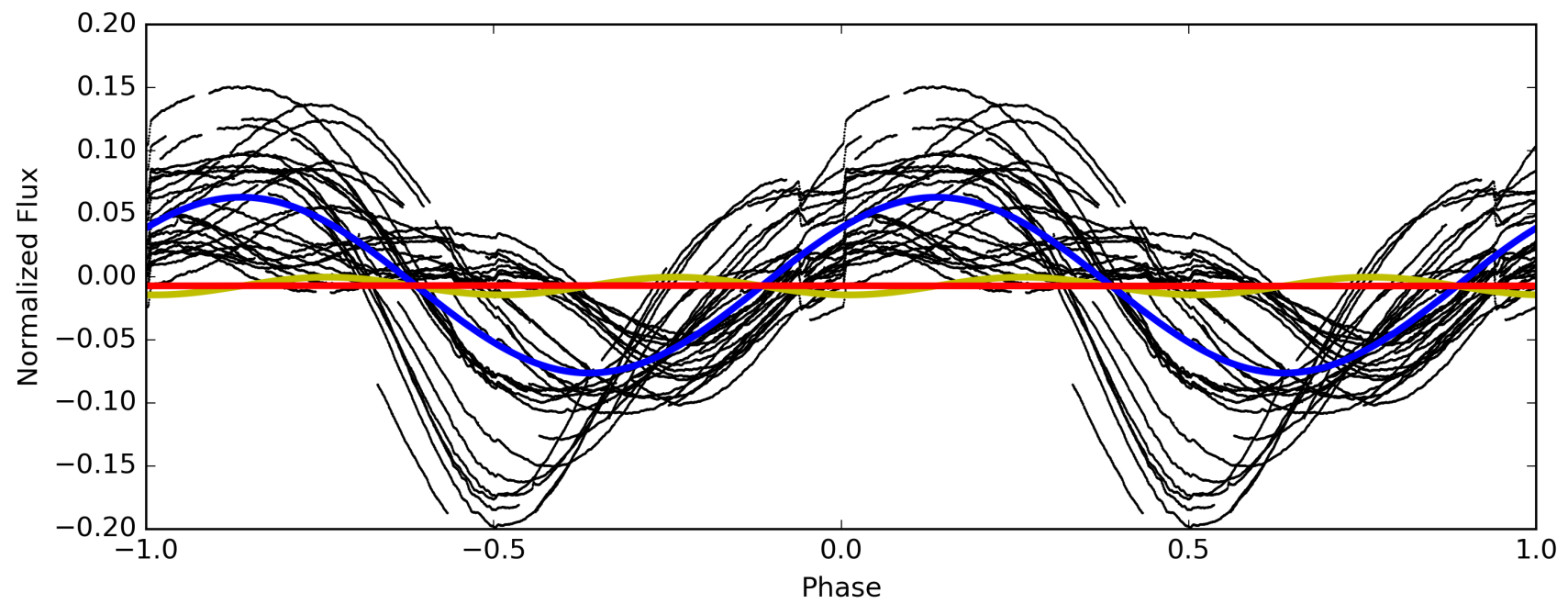
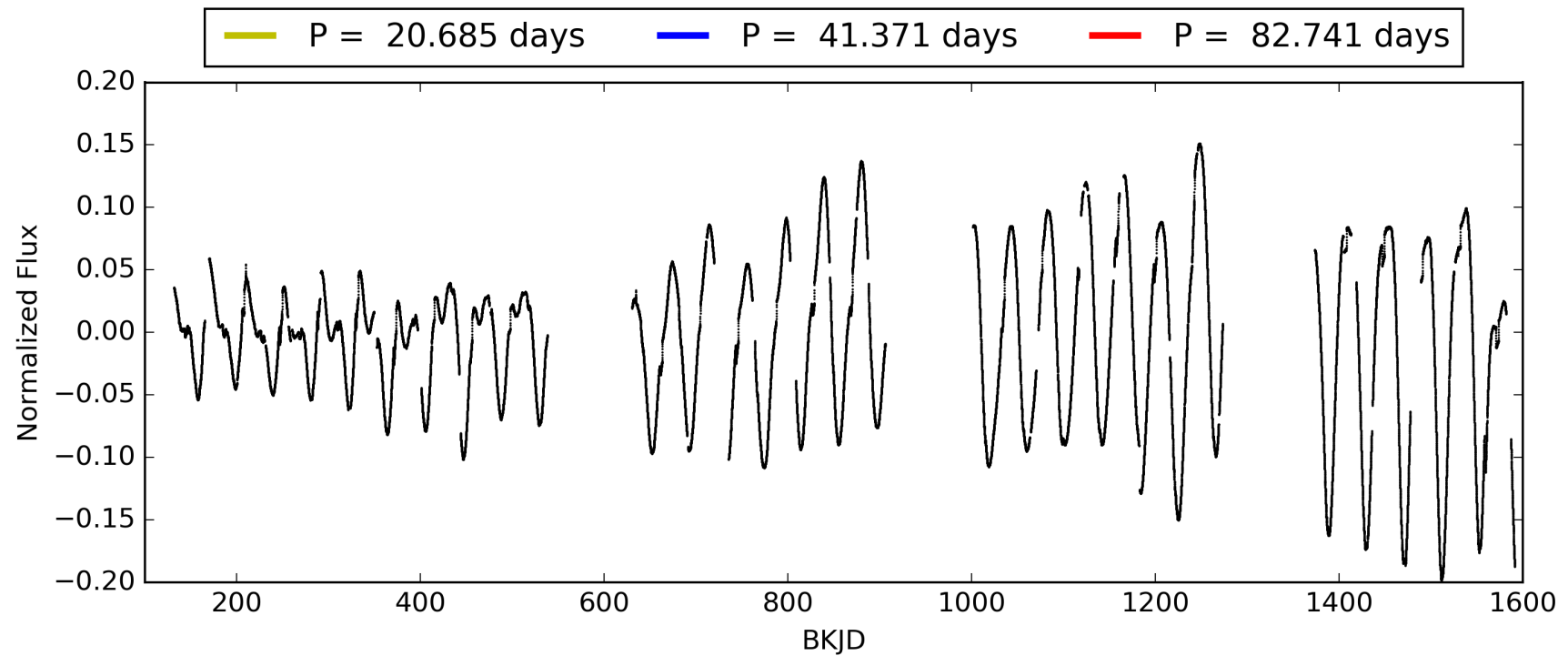
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:50:36 Z

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

TCE 004569590-01, PDC Light Curves

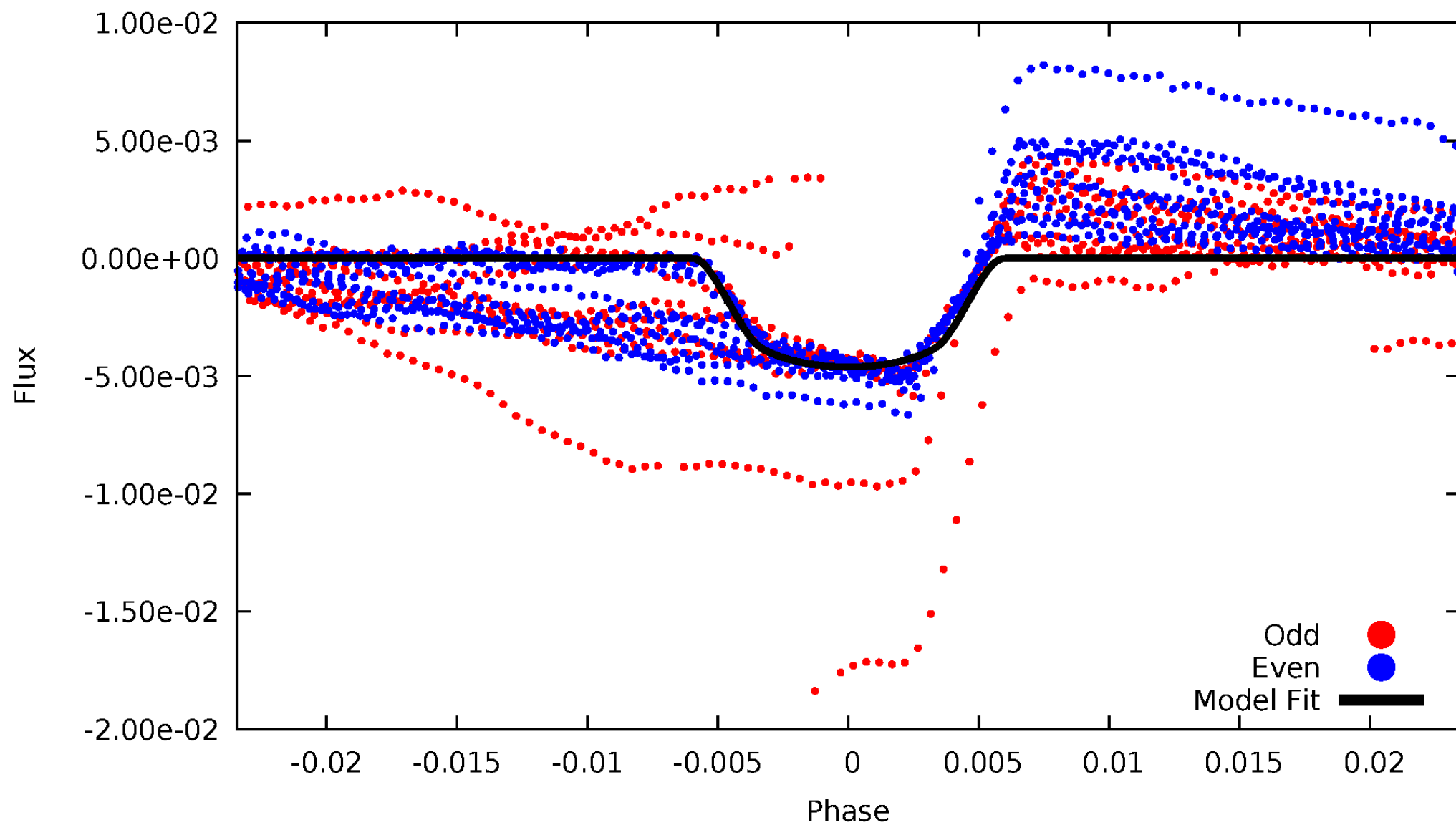


TCE 004569590-01



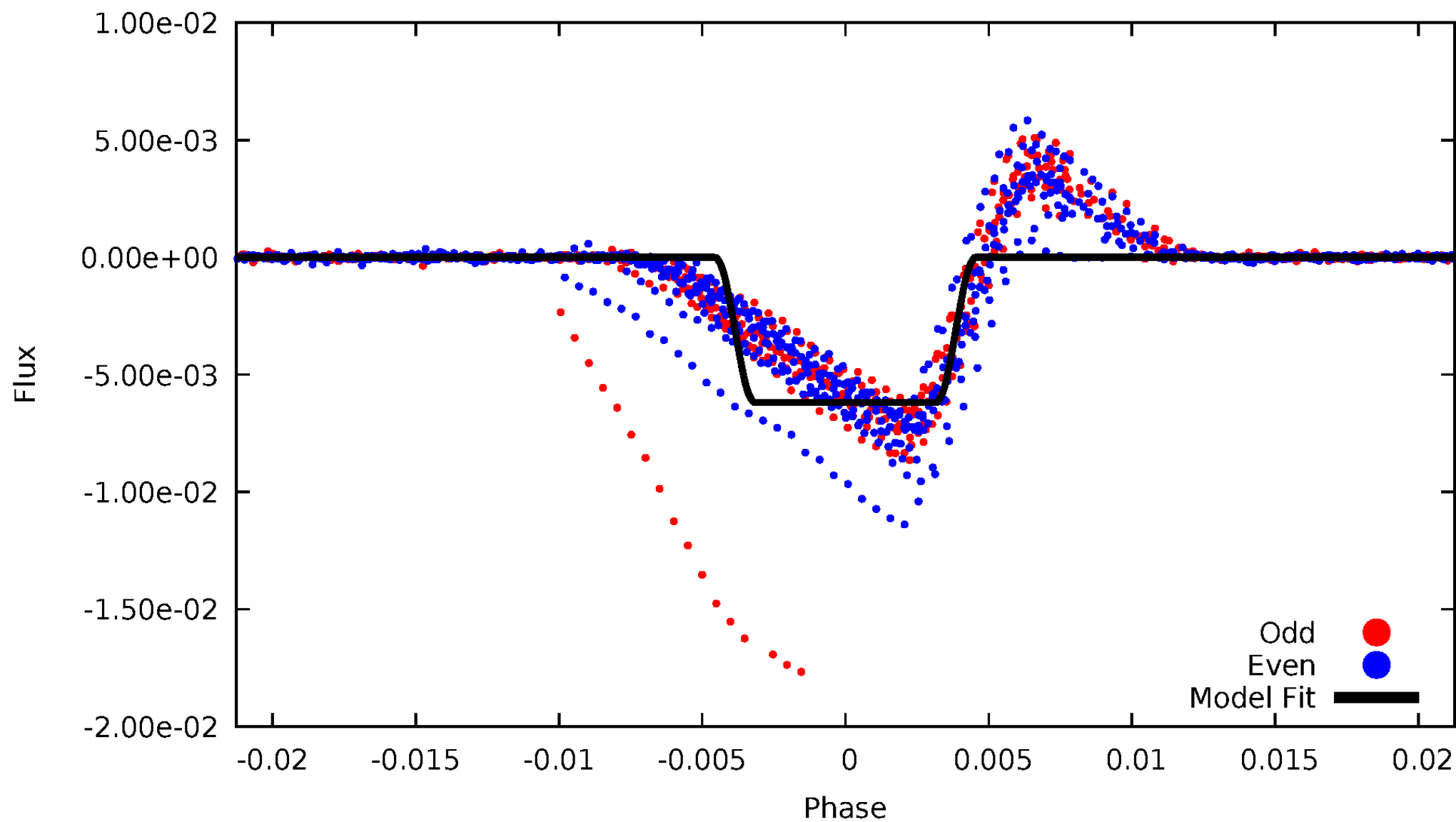
DV Odd/Even

TCE 004569590-01

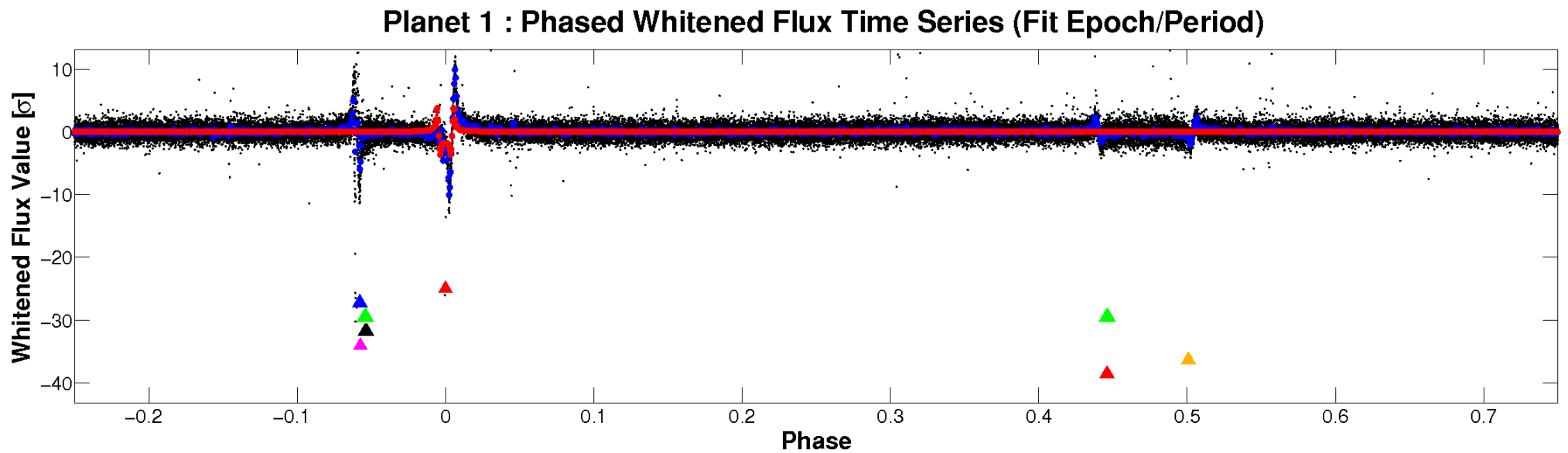
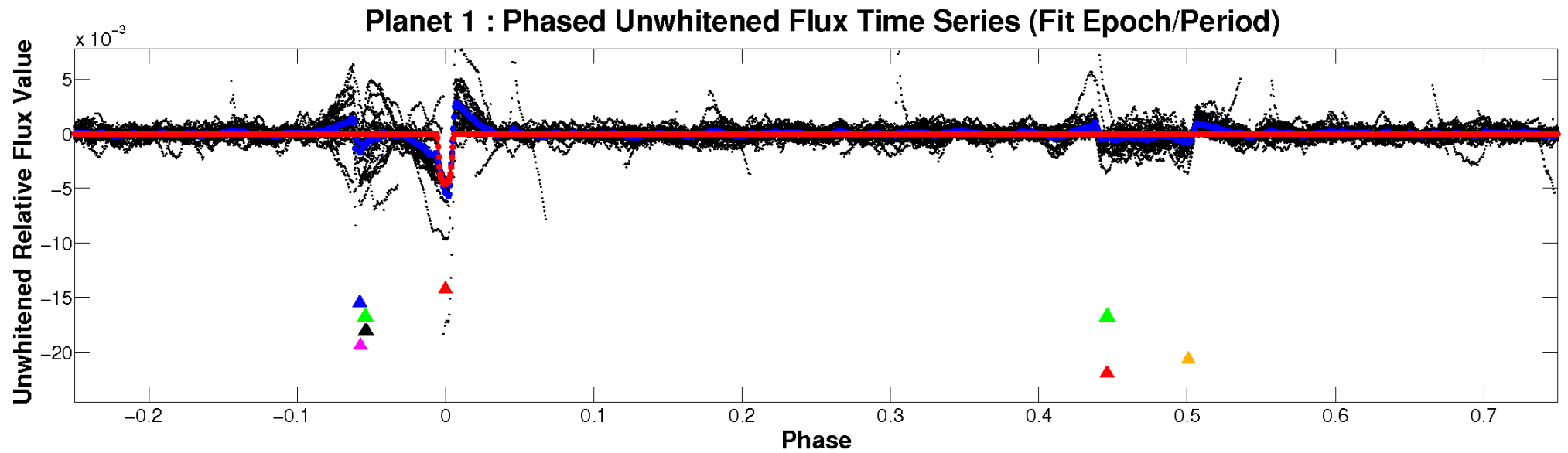


ALT Odd/Even

TCE 004569590-01

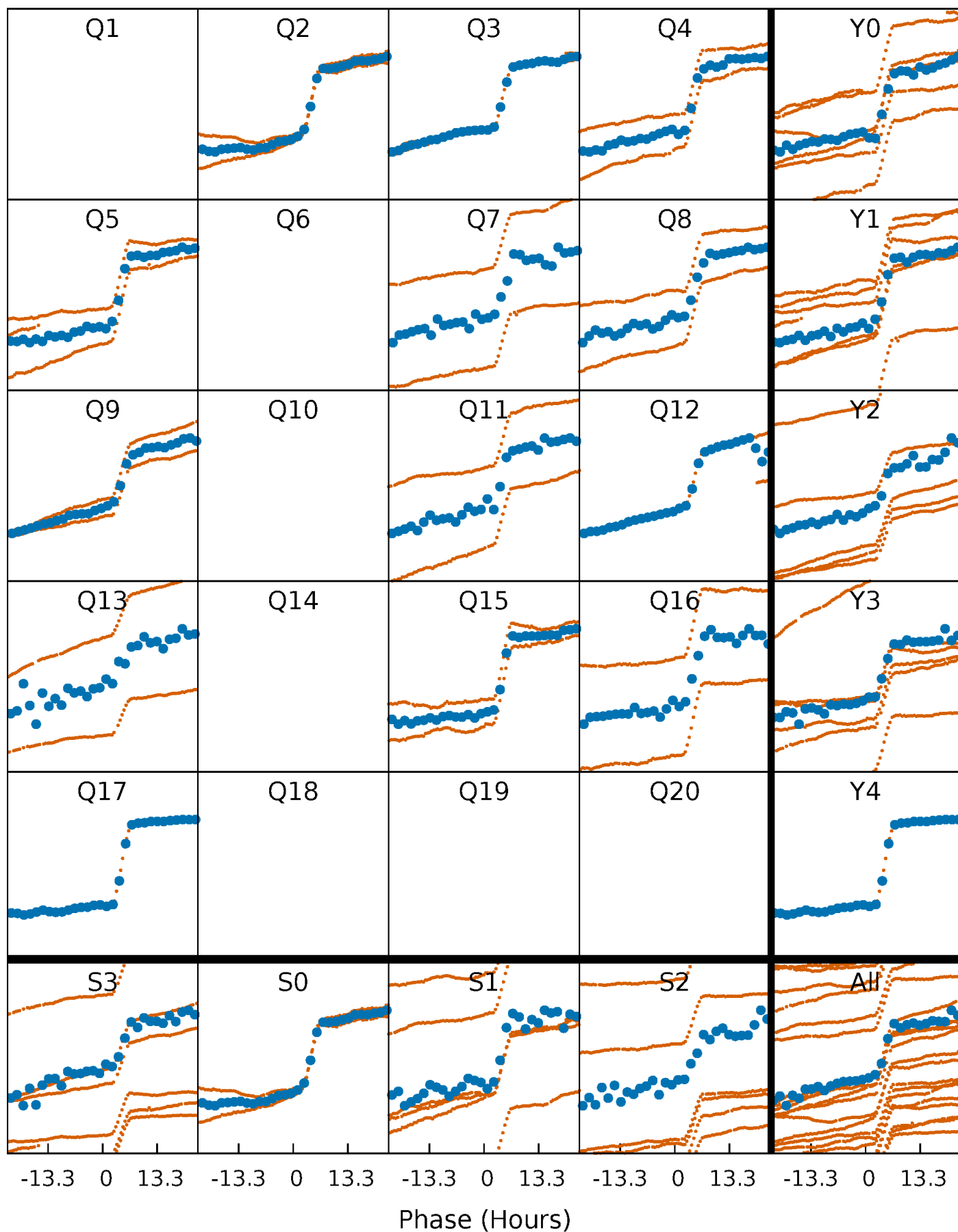


Non-Whitened Vs. Whitened Light Curve



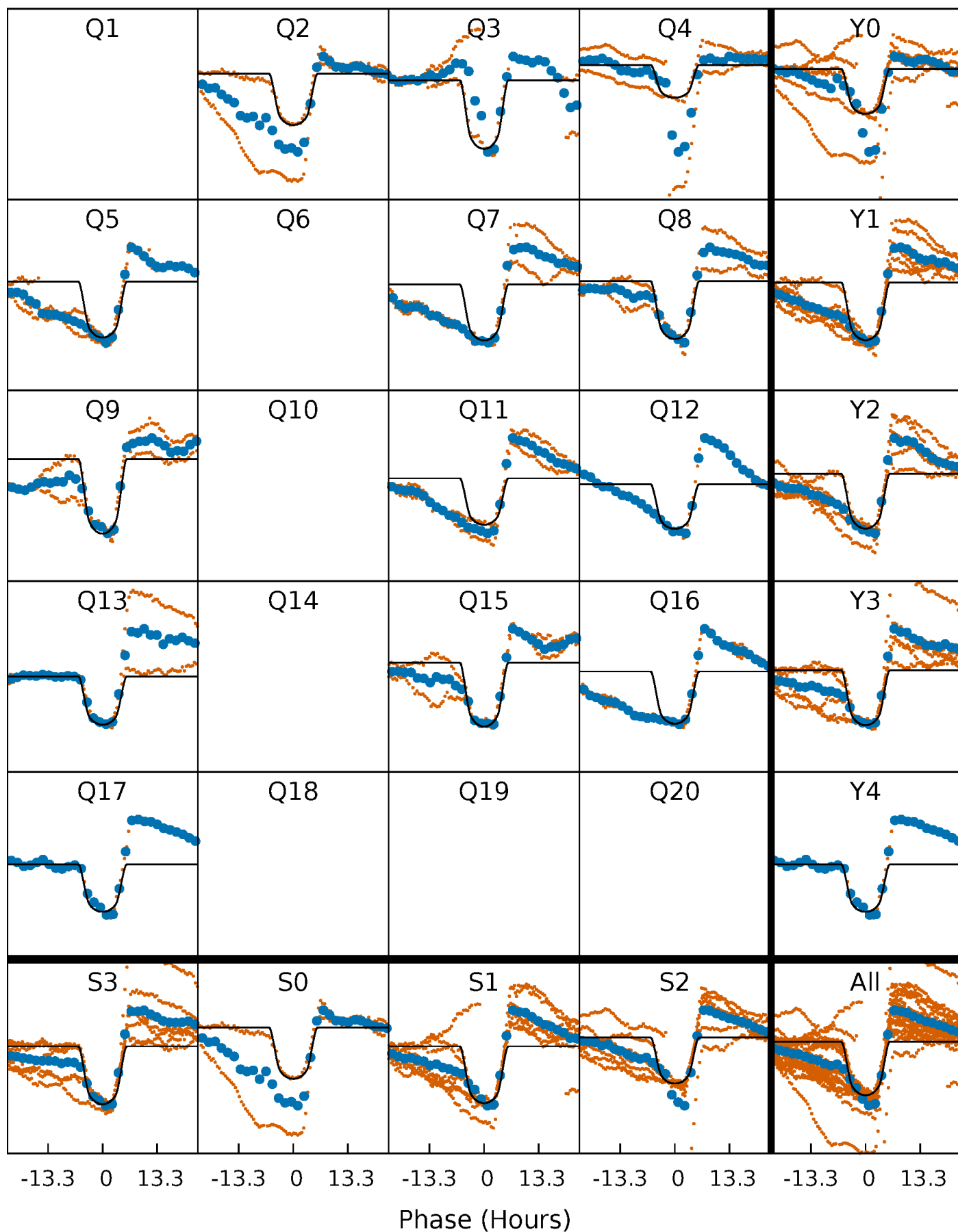
PDC Quarter-Phased Transit Curves

TCE 004569590-01 P= 41.370622 Days $T_0=166.479530$ (BKJD)



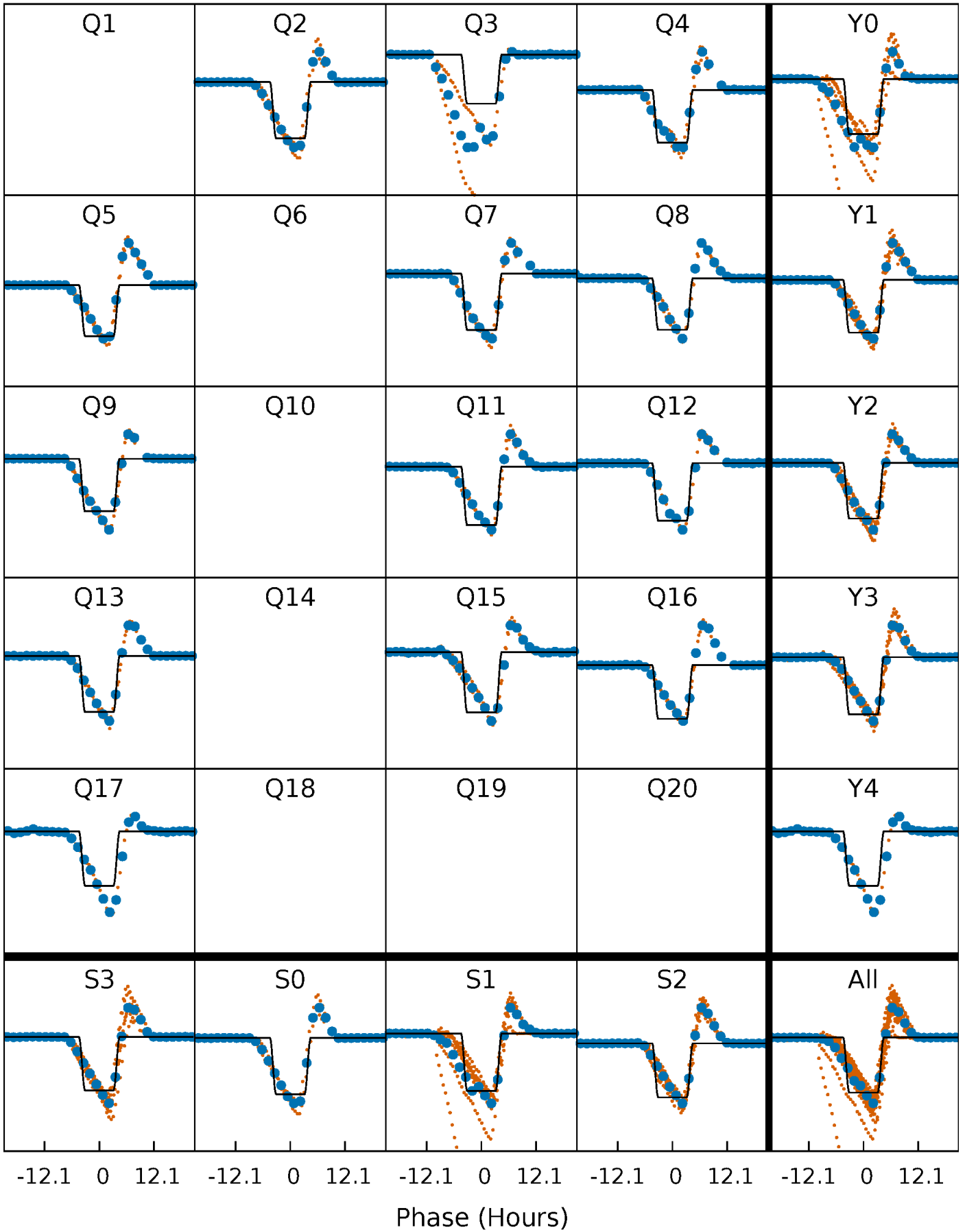
DV Quarter-Phased Transit Curves

TCE 004569590-01 P= 41.370622 Days $T_0=166.479530$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

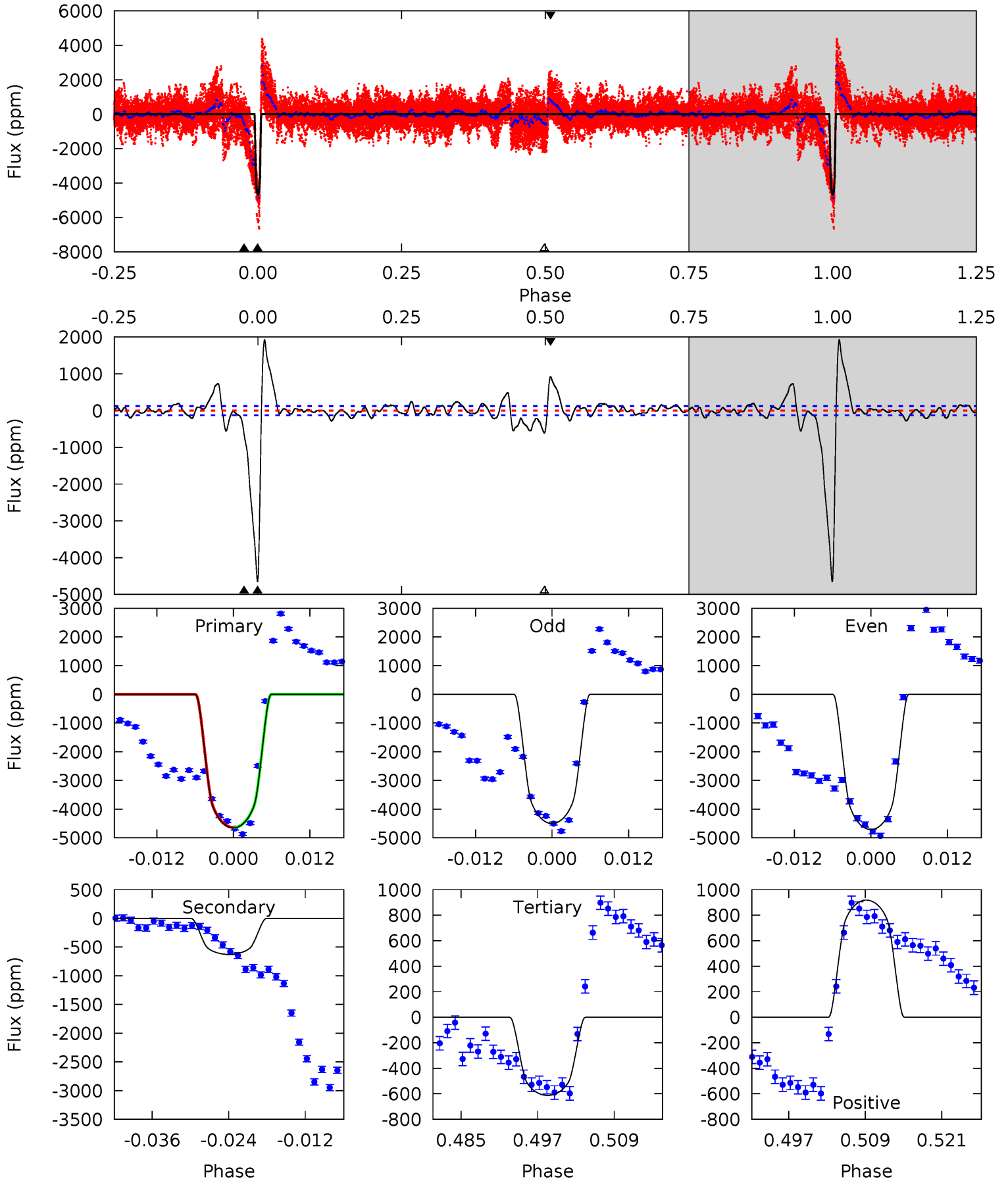
TCE 004569590-01 $P = 41.369741$ Days $T_0 = 166.502097$ (BKJD)



DV Model-Shift Uniqueness Test

004569590-01, P = 41.370622 Days, E = 125.108908 Days

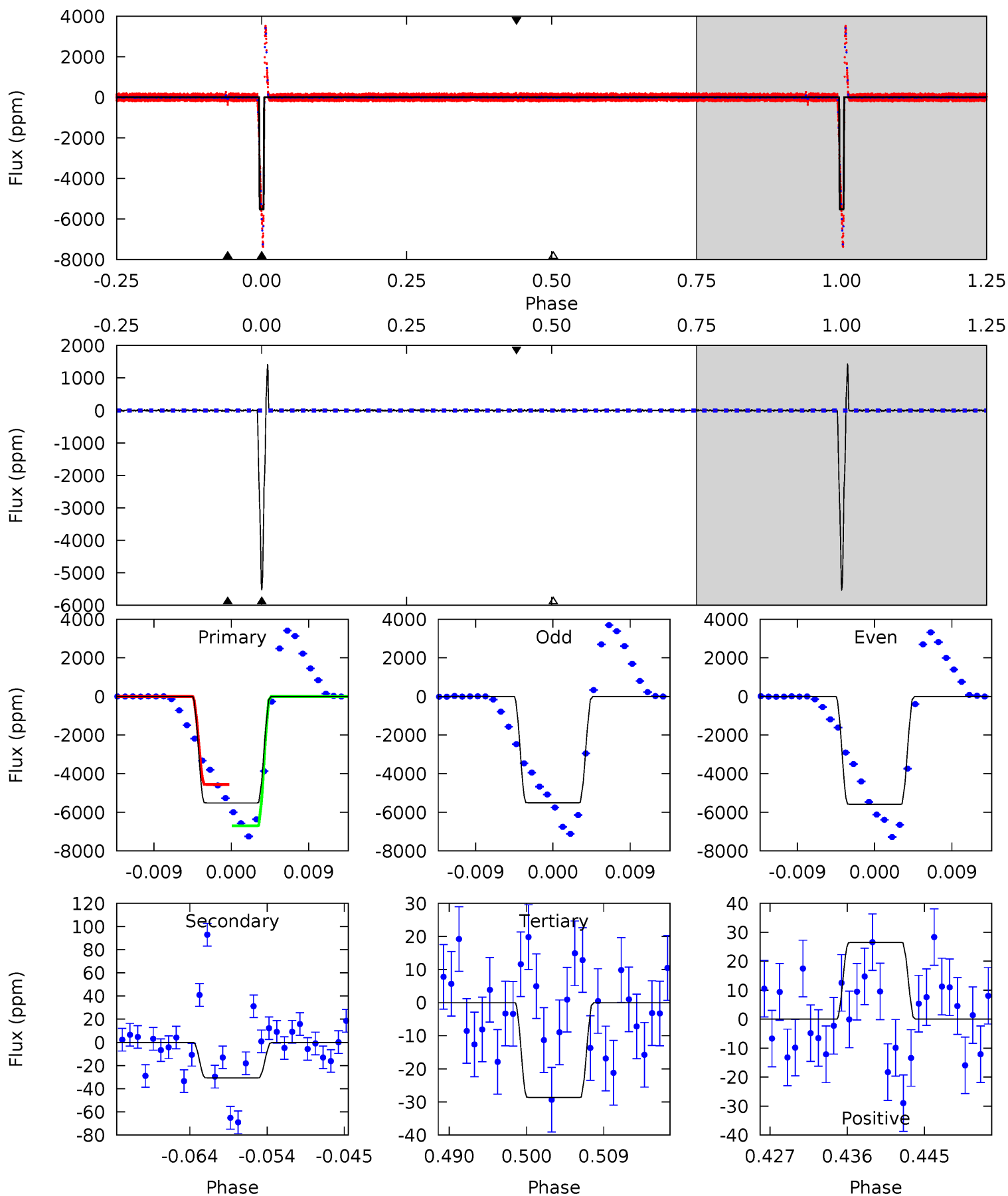
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
188.2	25.4	24.8	37.1	4.99	2.51	9.98	163.4	151.1	0.59	-11.8	4.02	1.09	0.29	0.14



Alt Model-Shift Uniqueness Test

004569590-01, P = 41.369741 Days, E = 125.132356 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
781.7	4.34	4.06	3.75	5.04	2.61	4.48	777.6	777.9	0.28	0.59	6.05	1.15	0.21	0



Stellar Parameters For KIC 004569590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+142}_{-107}	$2.777^{+0.402}_{-0.329}$	$-0.180^{+0.300}_{-0.200}$	$6.883^{+3.901}_{-2.601}$	$1.035^{+0.388}_{-0.114}$	$0.004^{+0.015}_{-0.003}$
	+3%/-2%	+14%/-12%	+167%/-111%	+57%/-38%	+37%/-11%	+329%/-71%
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 004569590-01 / KOI 6426.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-627 ± 25	$54.19^{+17.31}_{-11.35}$	1575^{+223}_{-186}	3275^{+69}_{-70}	$6.747^{+4.366}_{-2.714}$
Alt.	-31 ± 7	$59.64^{+18.86}_{-13.00}$	1583^{+215}_{-184}	-1729^{+3697}_{-416}	$0.272^{+0.183}_{-0.117}$

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

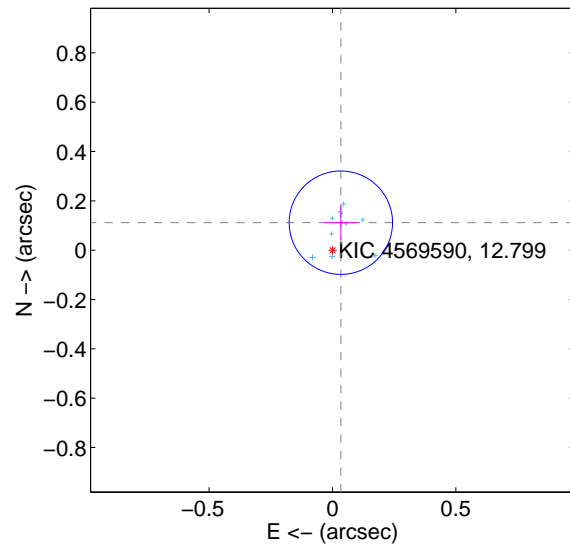
Supplemental centroid analysis for 004569590-01. Kepler magnitude: 12.80. Transit SNR 50.36

There are 12 quarters with good PRF difference image offsets

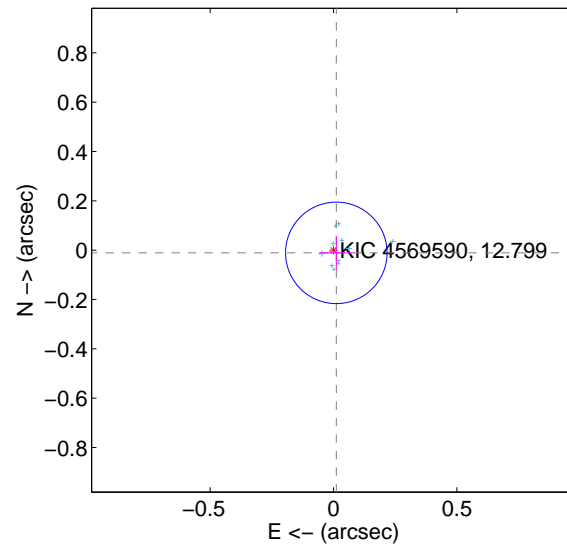
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.116 ± 0.070	1.67	-0.034 ± 0.068	0.111 ± 0.070
PRF-fit source offset from KIC position	0.016 ± 0.069	0.23	-0.011 ± 0.070	-0.011 ± 0.069
photometric centroid source offset	0.49 ± 0.11	4.45	-0.04 ± 0.04	-0.49 ± 0.11

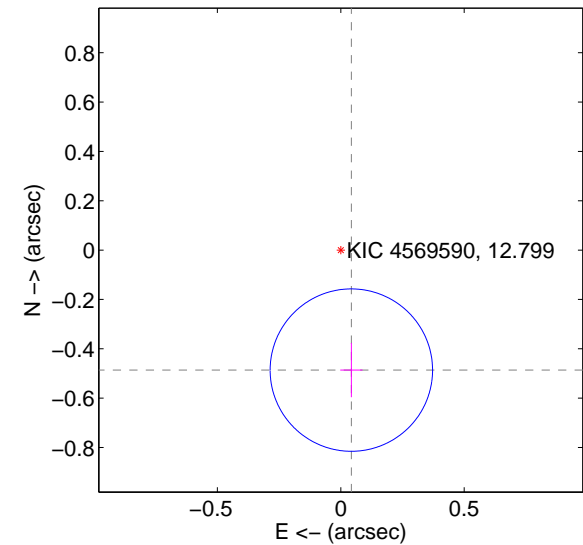
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

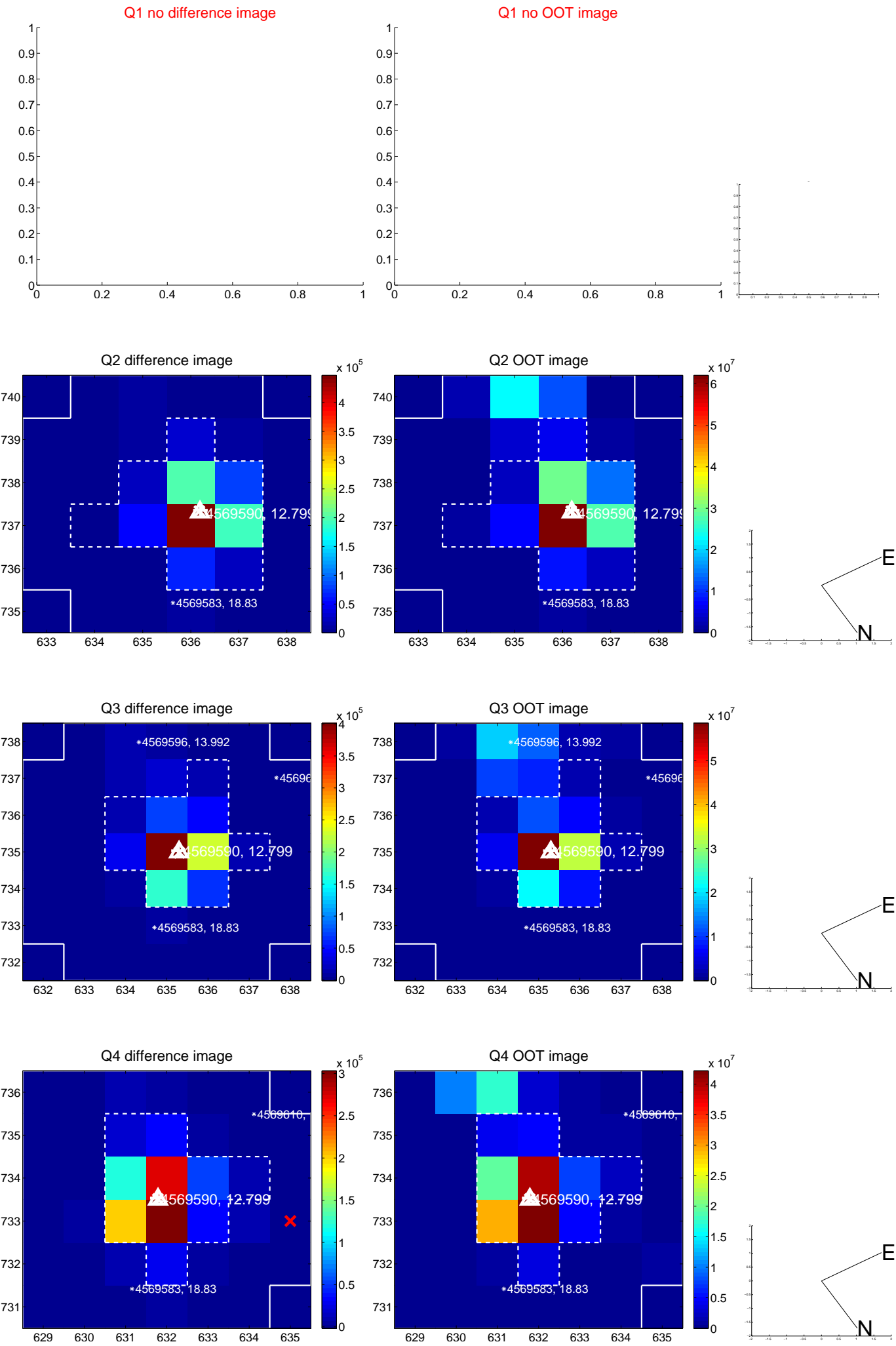


offset from photometric centroids

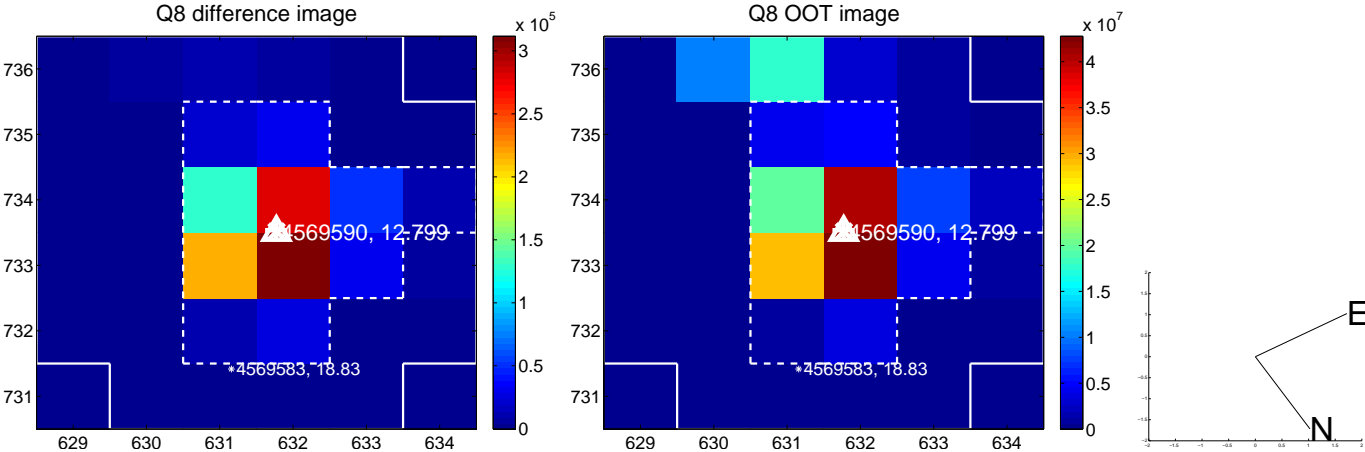
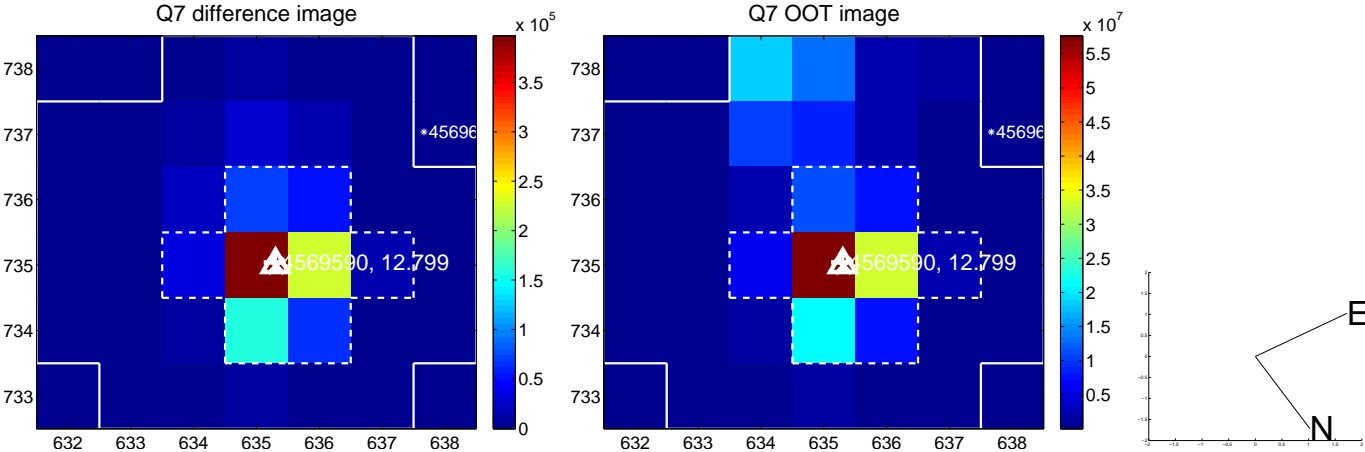
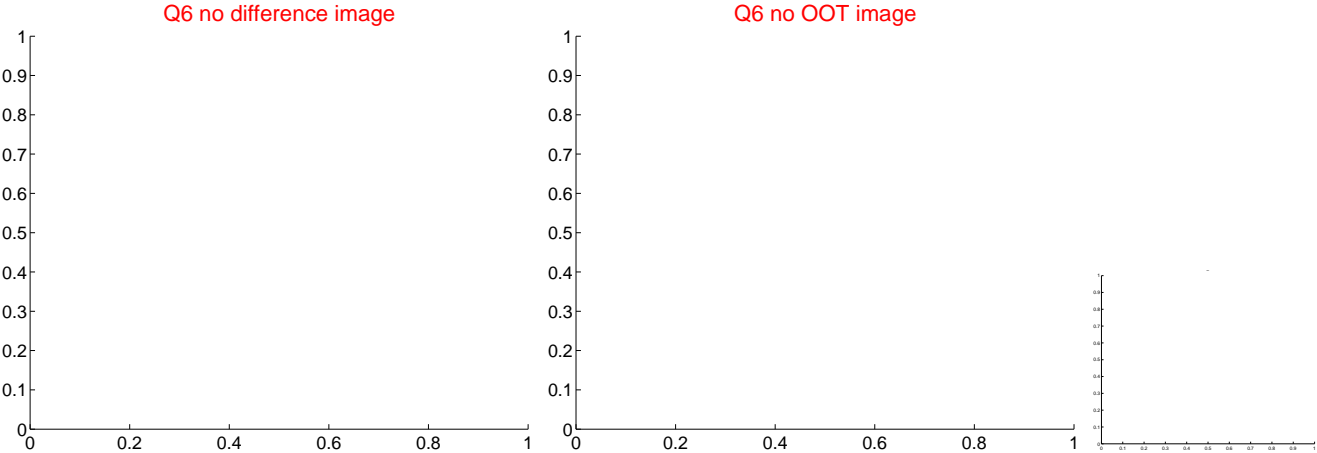
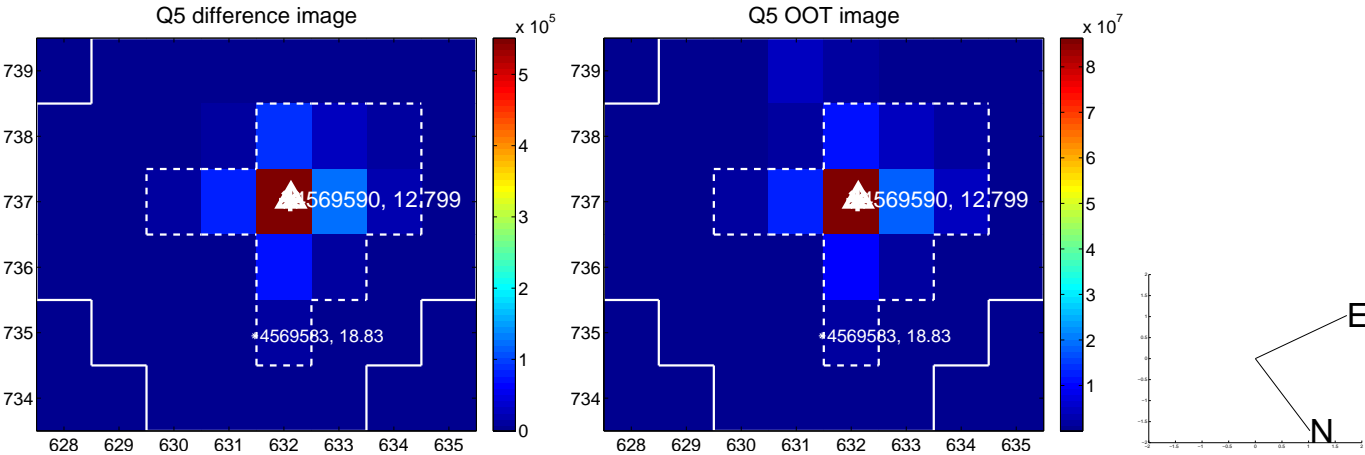


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

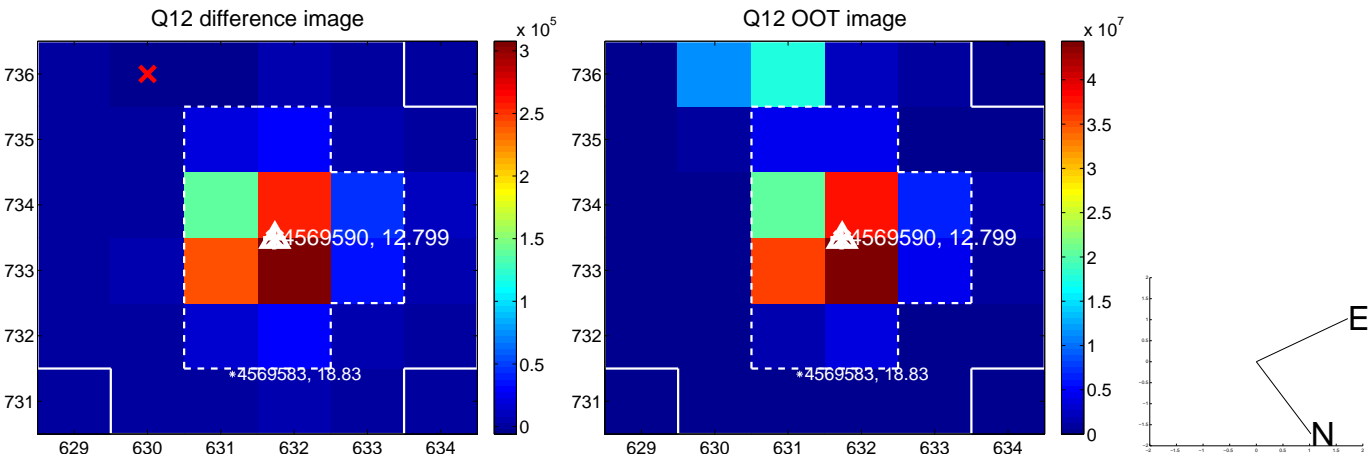
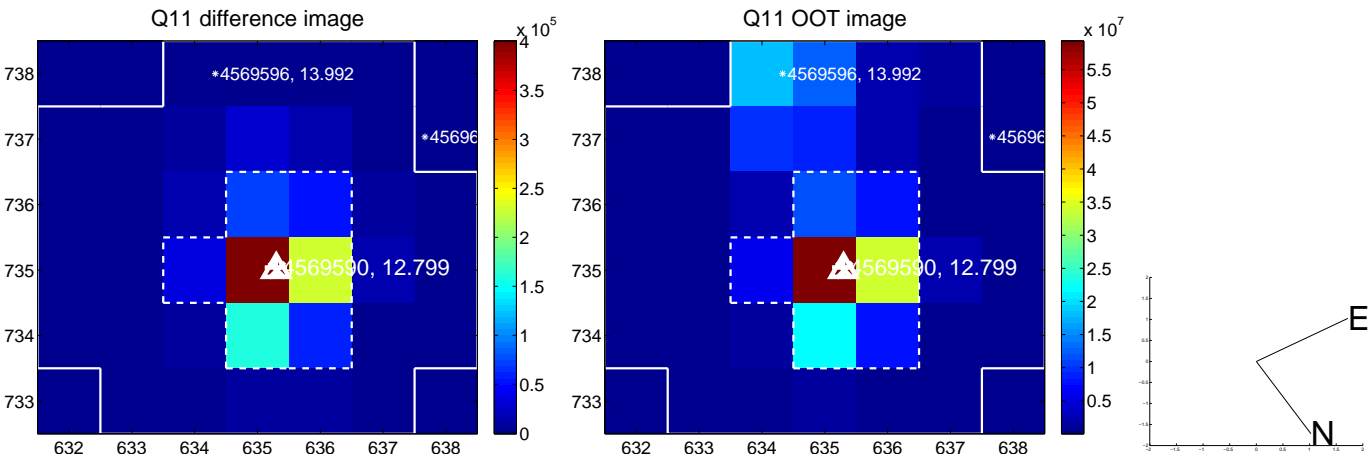
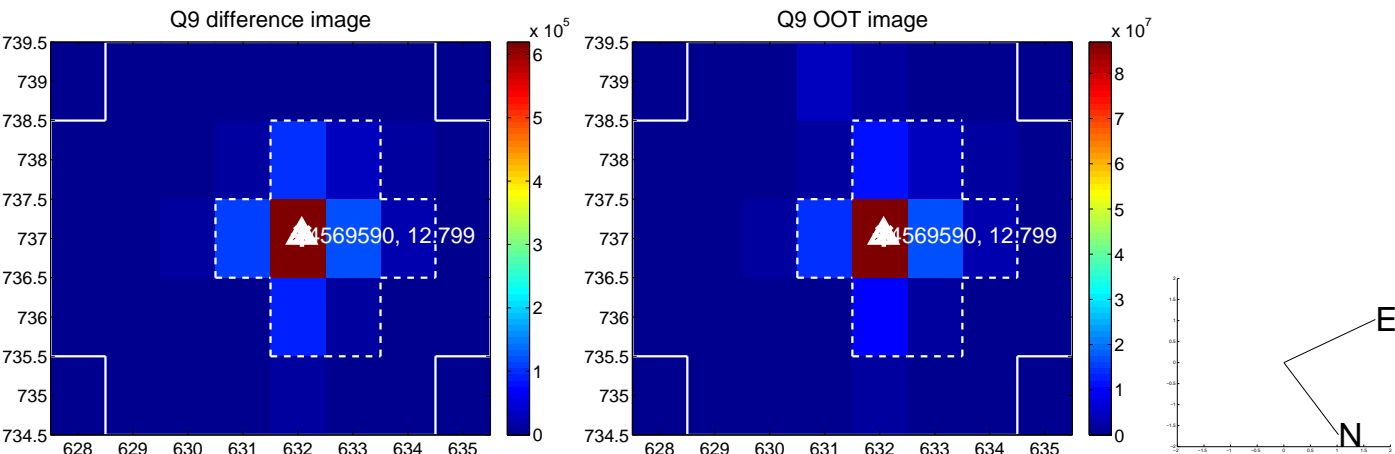
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



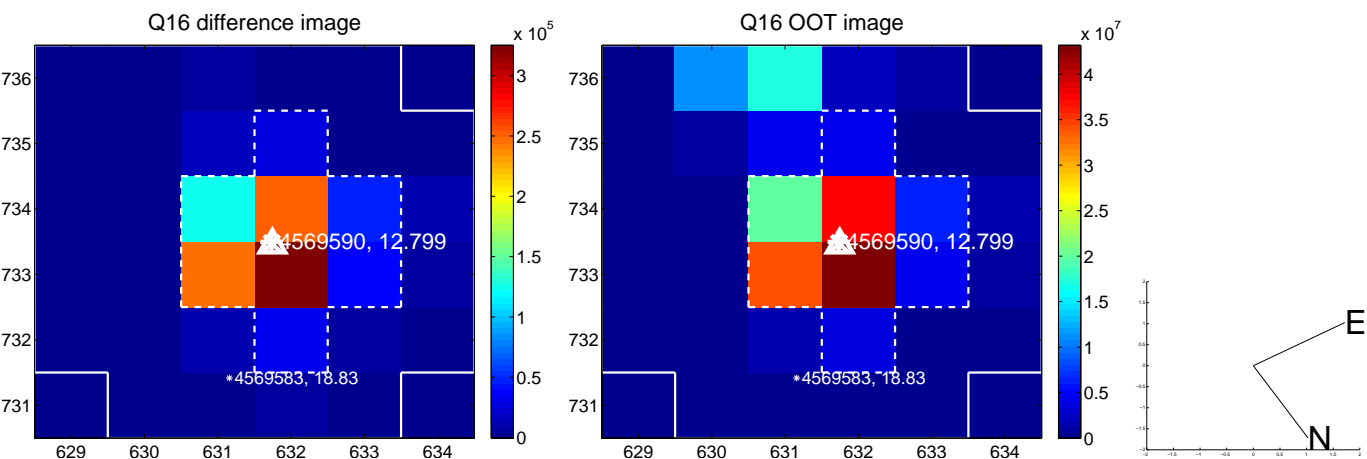
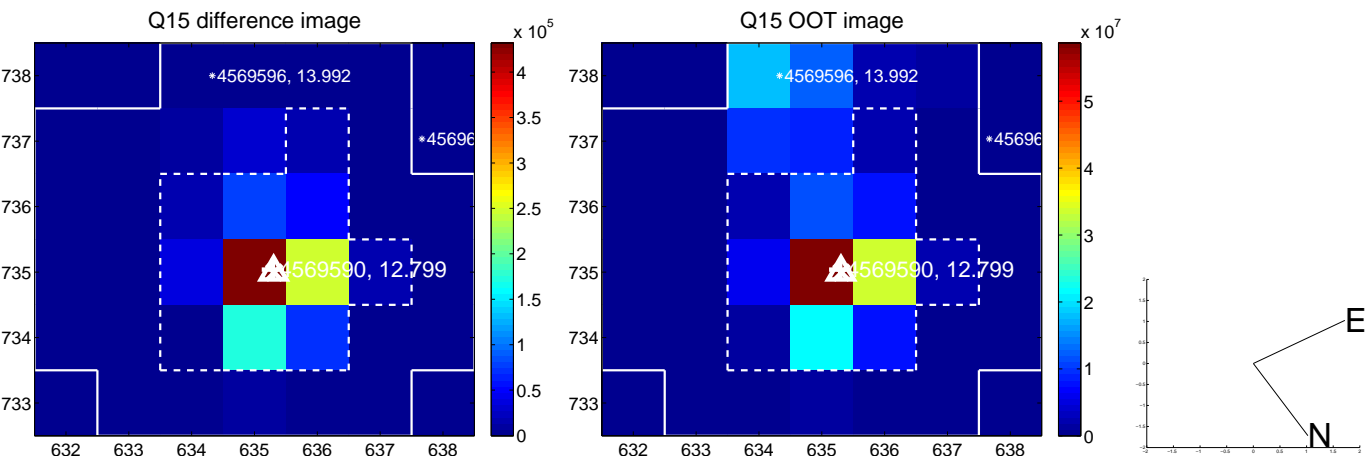
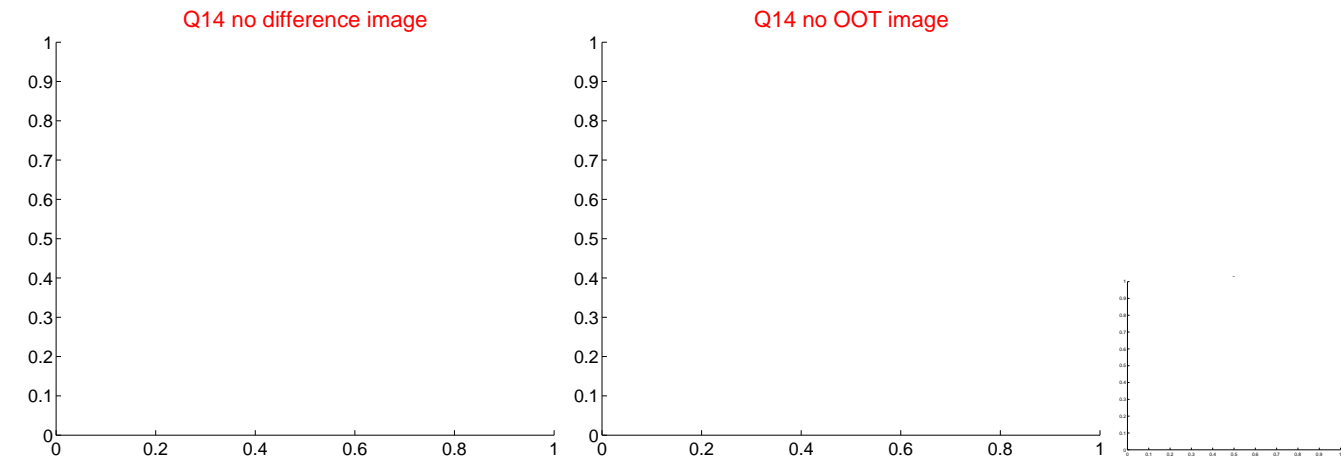
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



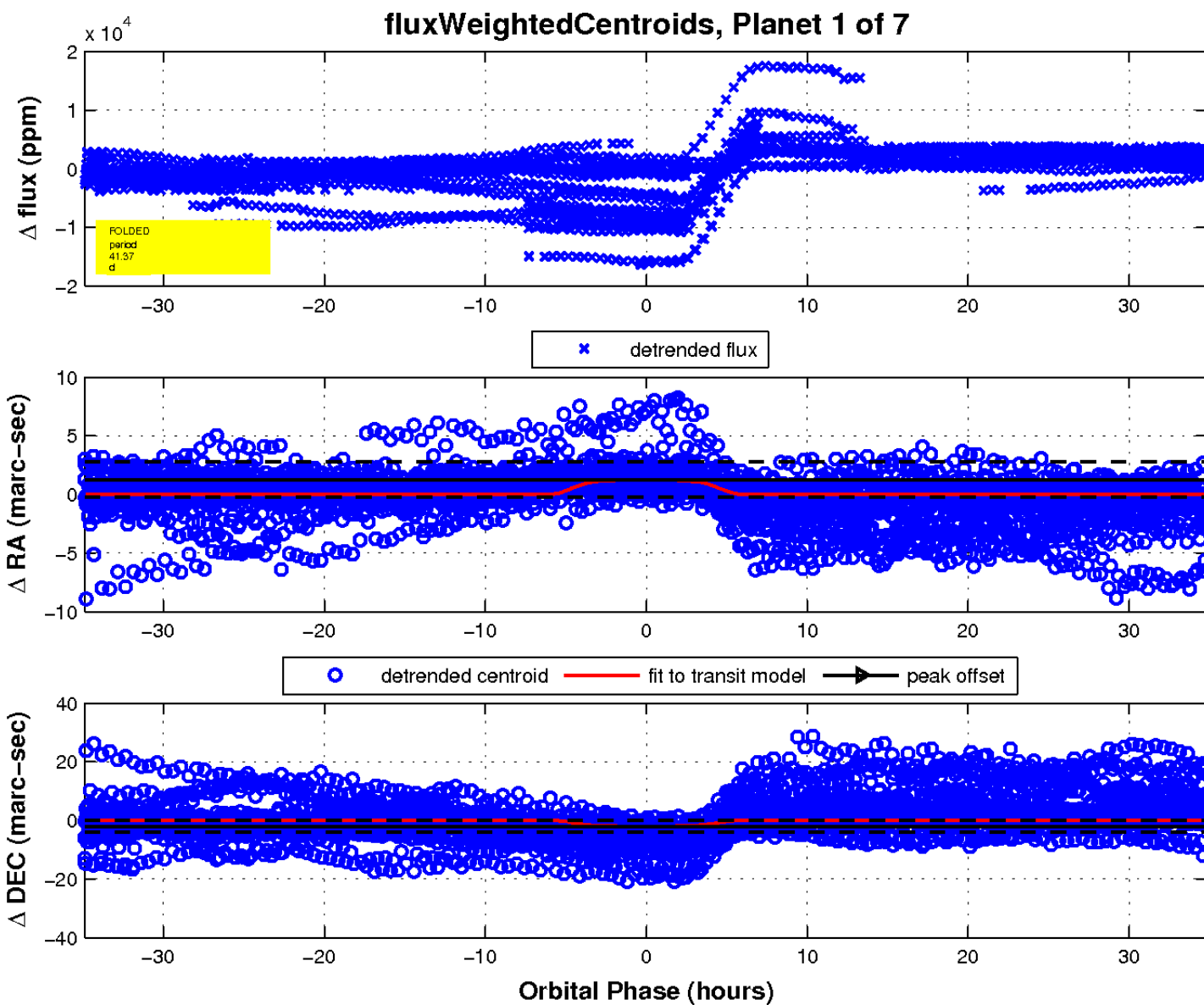
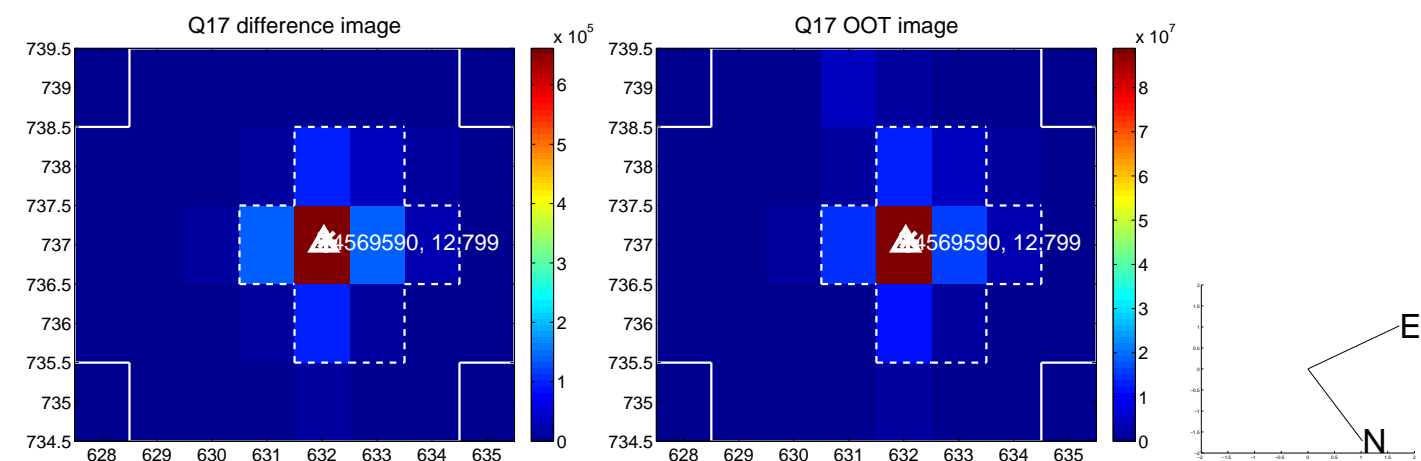
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

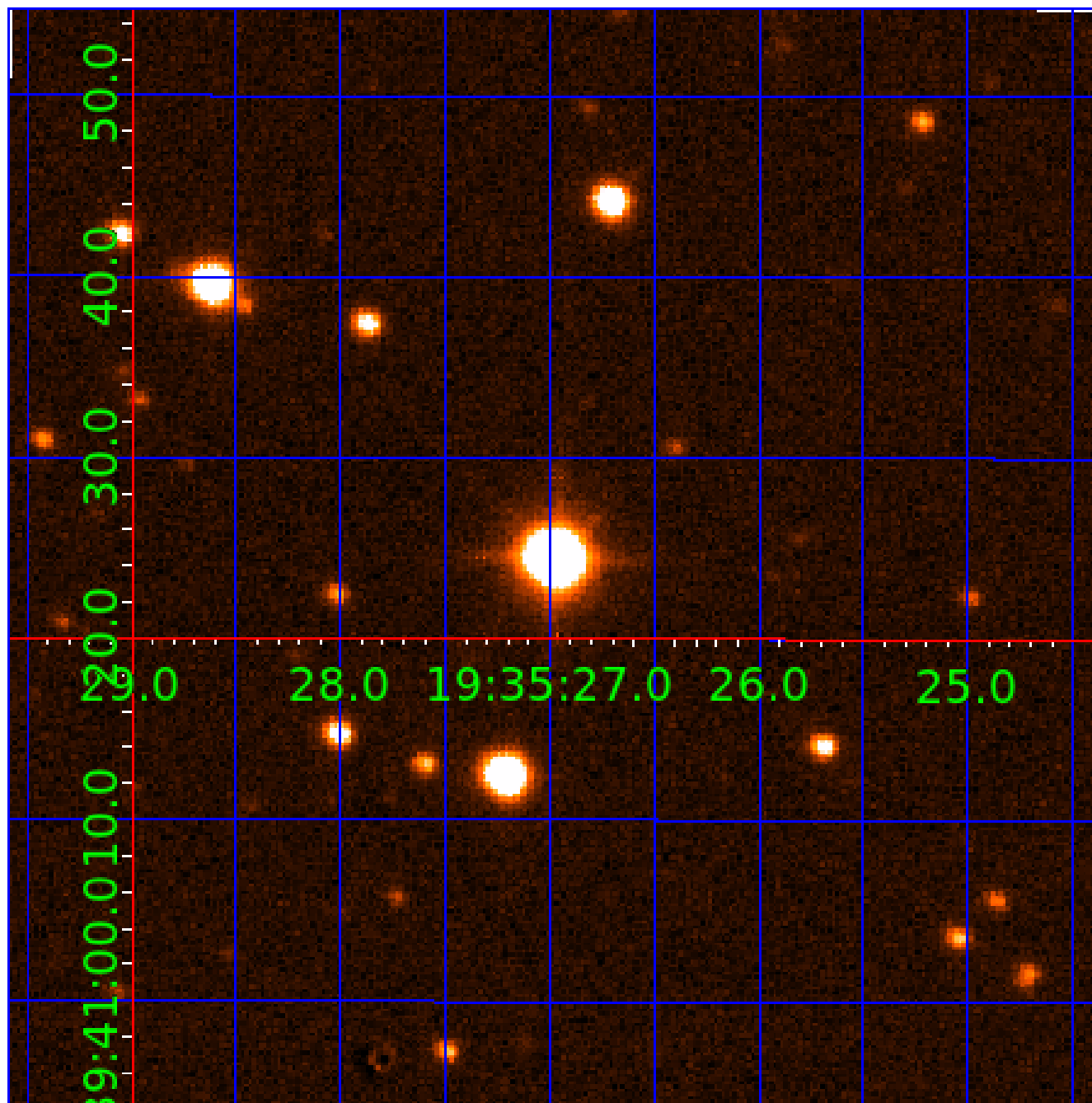


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004569590

Q1-17 DR25 TCE Parameters

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004569590-06	OBS	No	41.370159	145.839688	1779.9	11.143	15.5	21.2	6.88	4764	58.20	389.99
004569590-07	OBS	No	41.369741	143.577011	200.3	12.000	13.2	-1.0	6.88	4764	9.39	389.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004569590-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004569590-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—SAME_NTL_PERIOD
004569590-03	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS
004569590-04	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST
004569590-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD
004569590-06	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
004569590-07	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

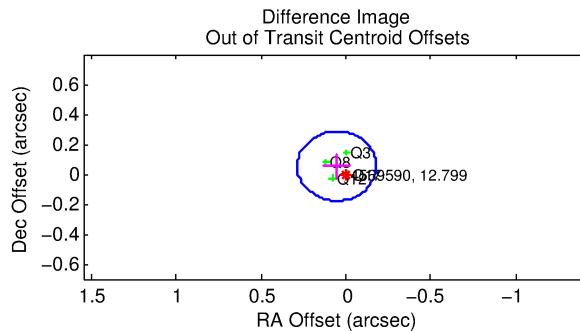
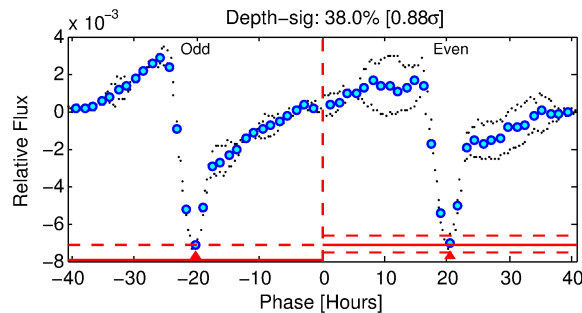
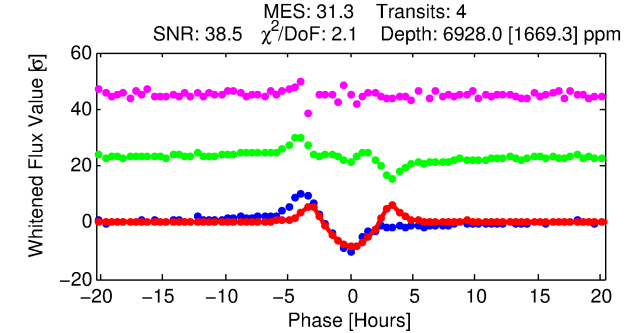
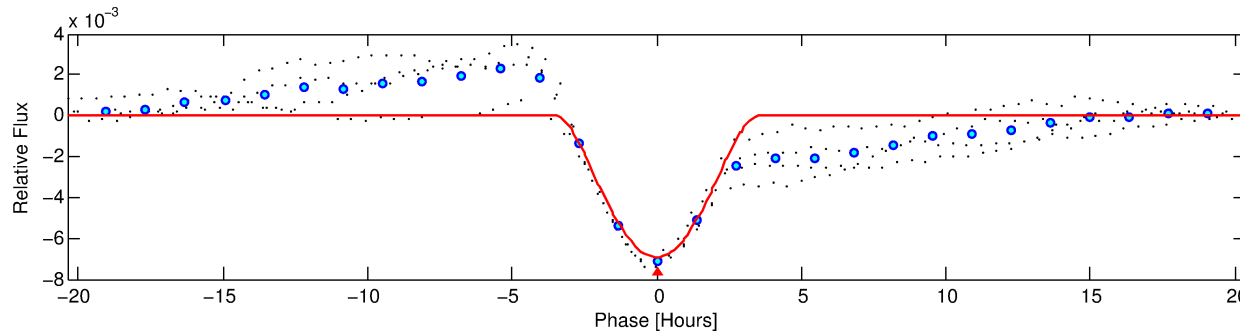
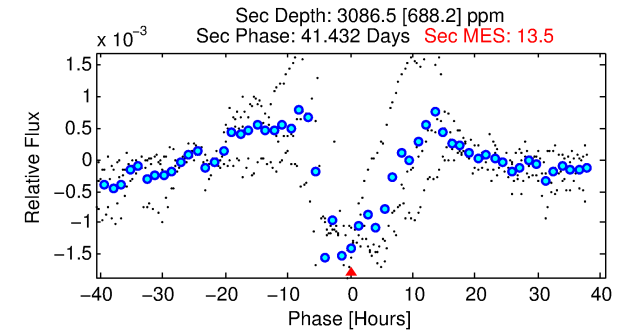
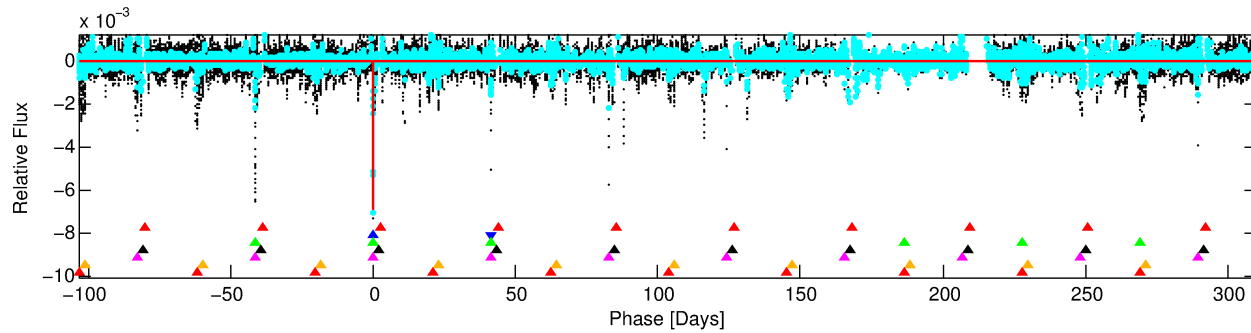
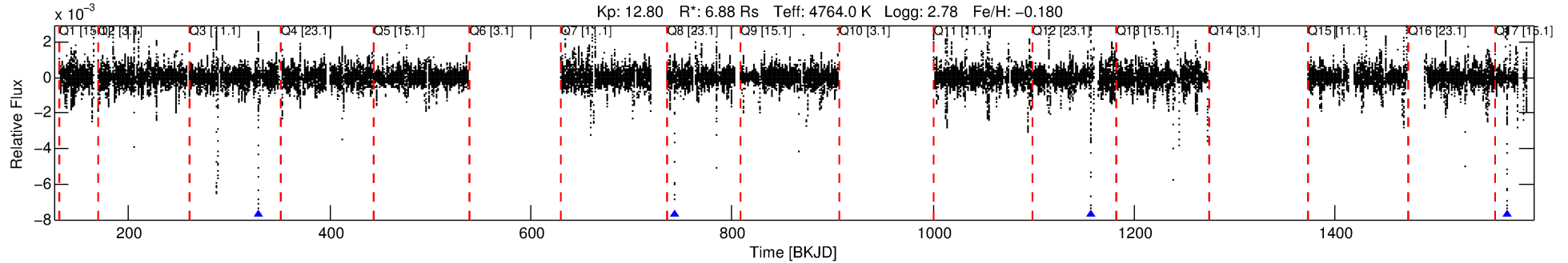
Ephemeris Match Information For 004569590-02

No Significant Match Found

DV One-Page Summary

KIC: 4569590 Candidate: 2 of 7 Period: 413.705 d
KOI: K06426 Corr: No Ephemeris Match

Kp: 12.80 R*: 6.88 Rs Teff: 4764.0 K Logg: 2.78 Fe/H: -0.180



DV Fit Results:

Period = 413.70482 [0.00157] d
Epoch = 329.5761 [0.0030] BKJD
Rp/R* = 0.1447 [0.0826]
a/R* = 259.36 [21.97]
b = 1.00 [0.09]
Seff = 18.10 [13.27]
Teq = 526 [96] K
Rp = 108.71 [87.44] Re
a = 1.0990 [0.5361] AU
Ag = 173.55 [237.72] [0.73sigma]
Teffp = 2952 [863] K [2.79sigma]

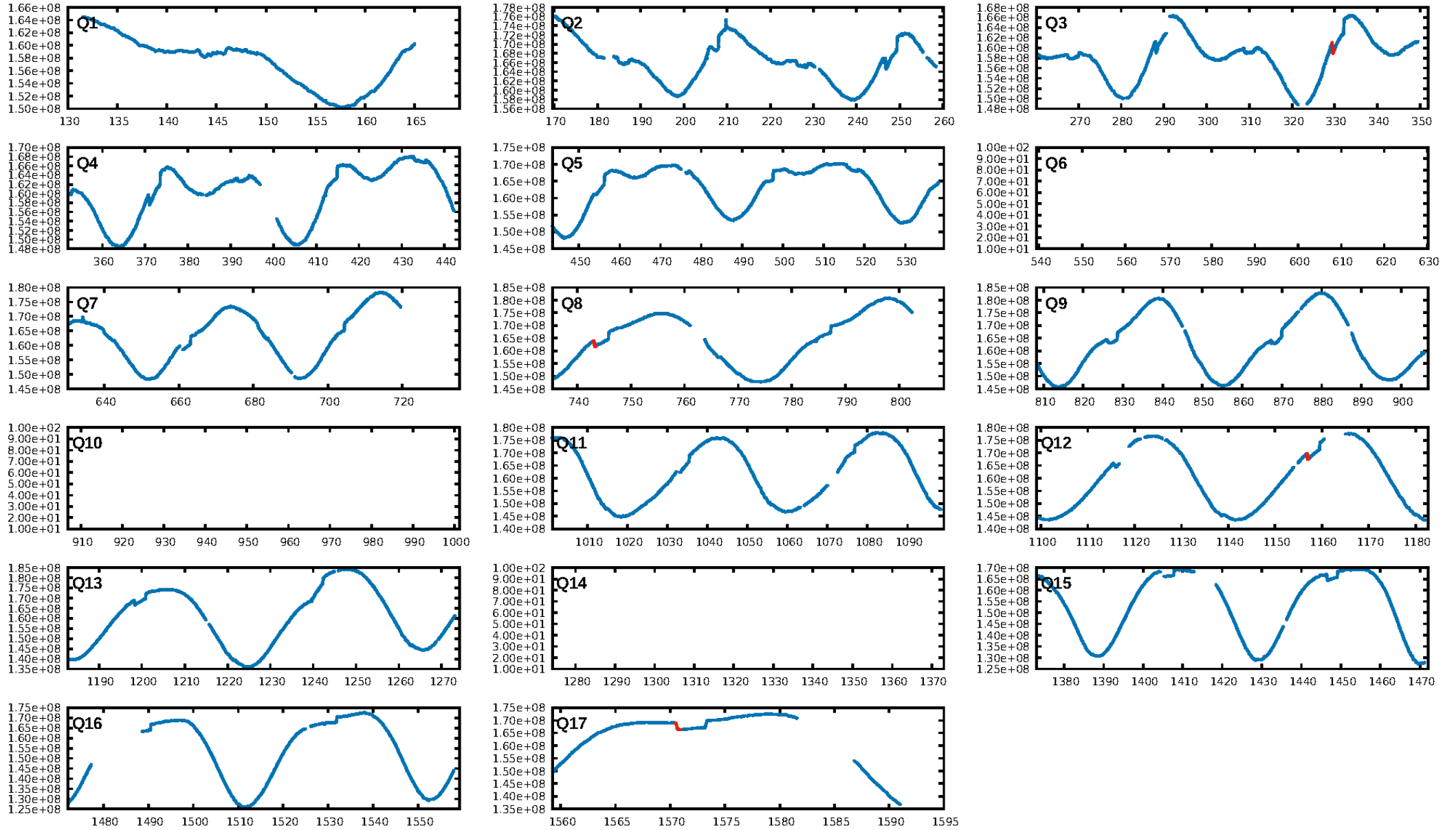
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [256.85sigma]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.2%
ModelChiSquareGof-sig: 8.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.735
Centroid-sig: 0.0%
Centroid-so: 0.328 arcsec [2.55sigma]
OotOffset-rm: 0.078 arcsec [1.00sigma]
KicOffset-rm: 0.074 arcsec [0.91sigma]
OotOffset-st: 0/1/2/1 [4]
KicOffset-st: 0/1/2/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
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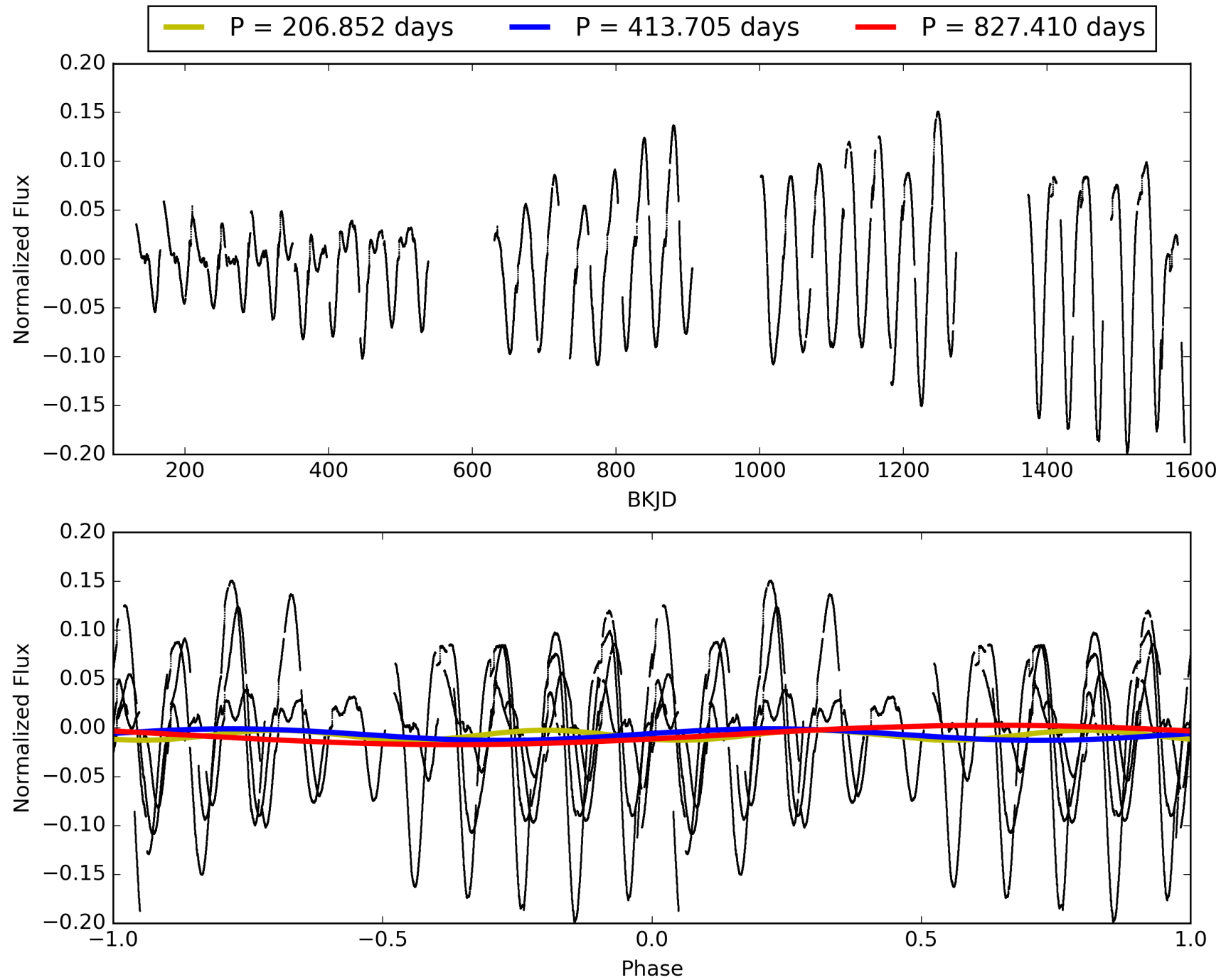
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:50:46 Z

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

TCE 004569590-02, PDC Light Curves

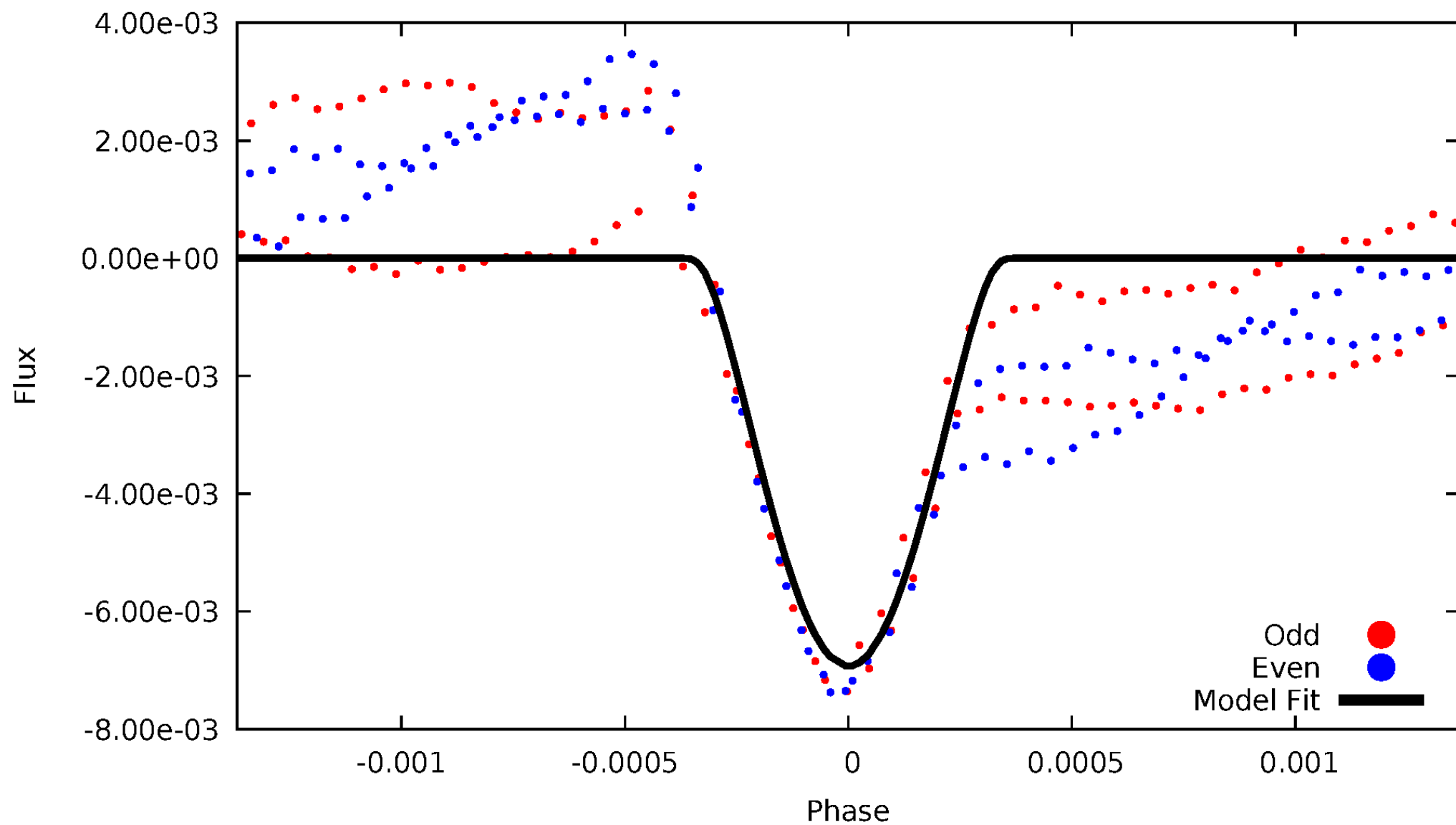


TCE 004569590-02



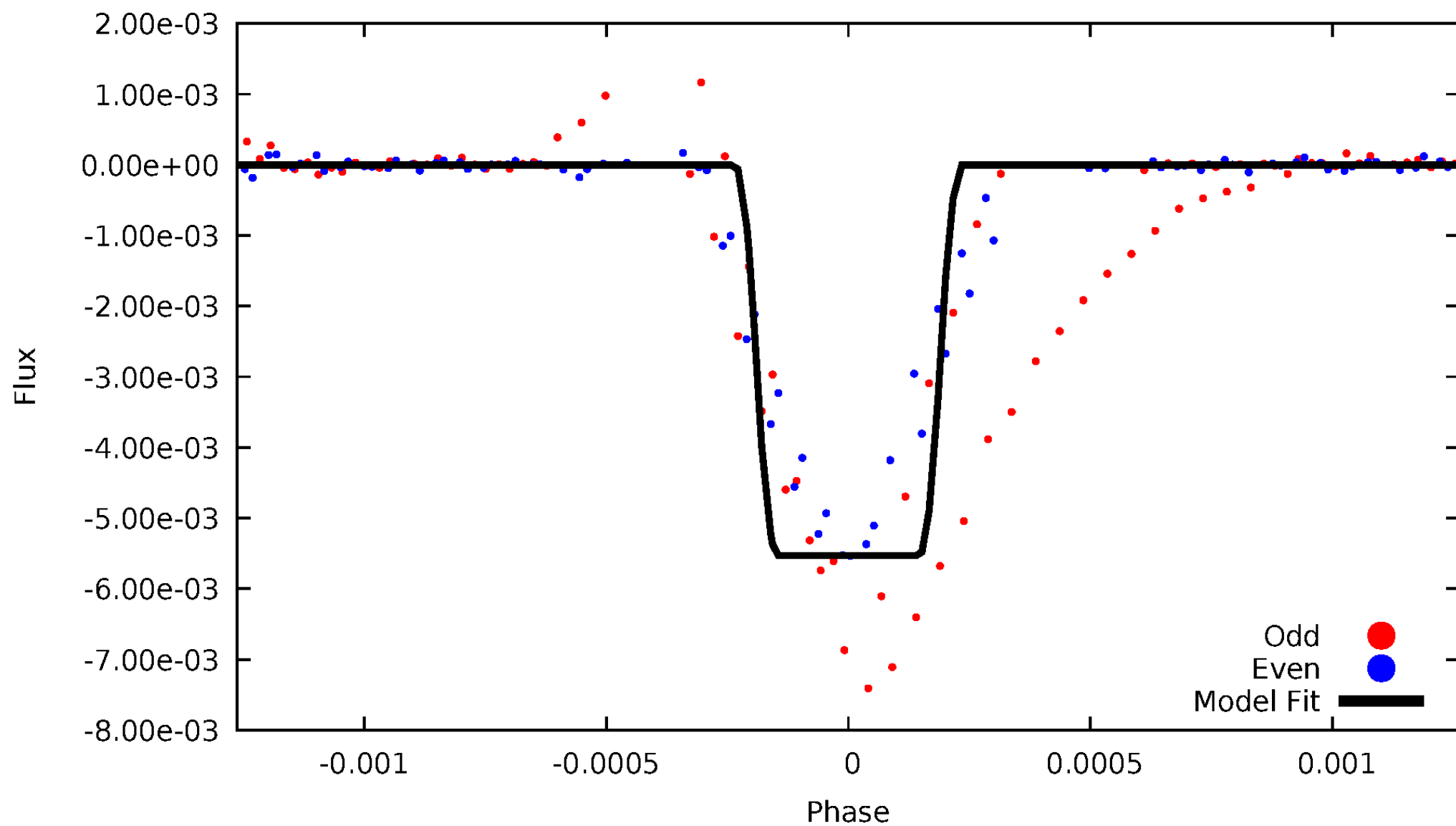
DV Odd/Even

TCE 004569590-02



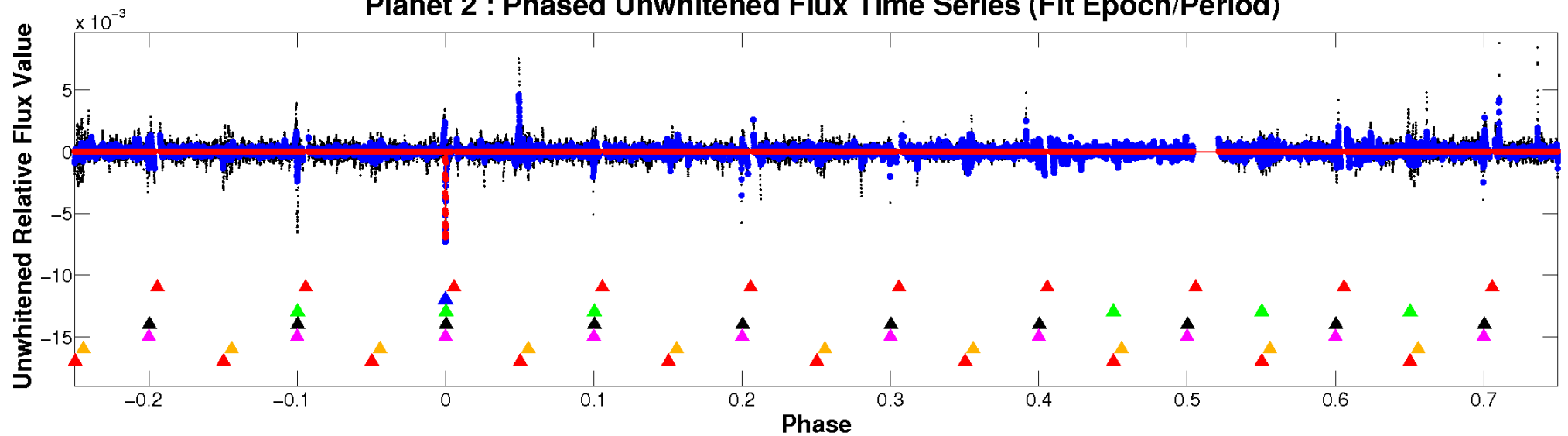
ALT Odd/Even

TCE 004569590-02

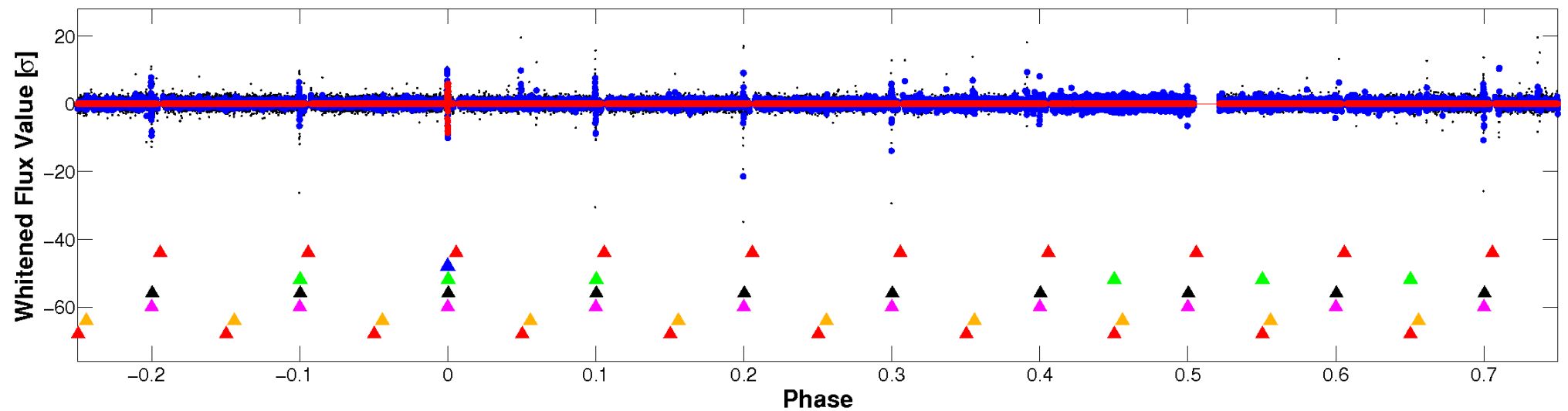


Non-Whitened Vs. Whitened Light Curve

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

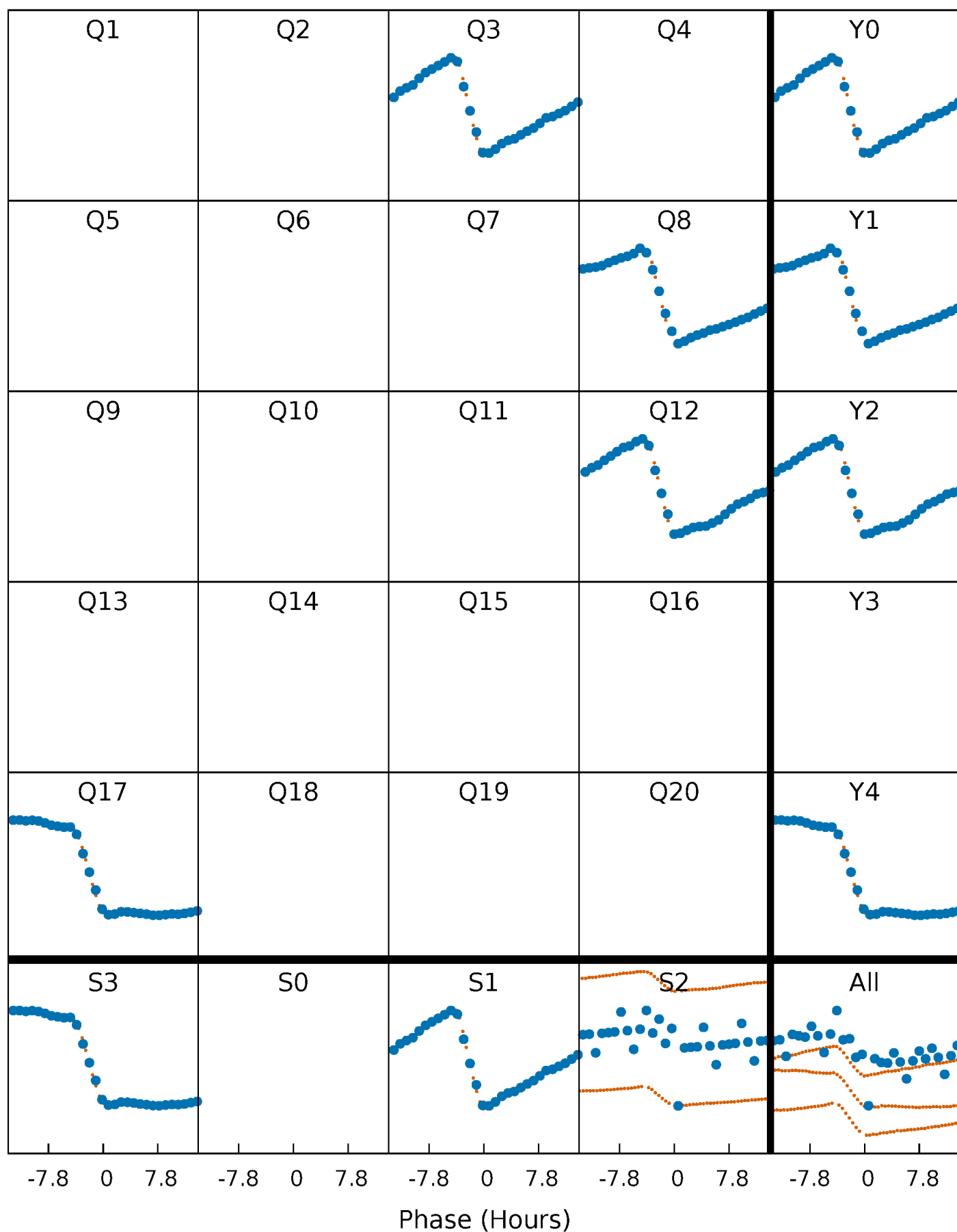


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



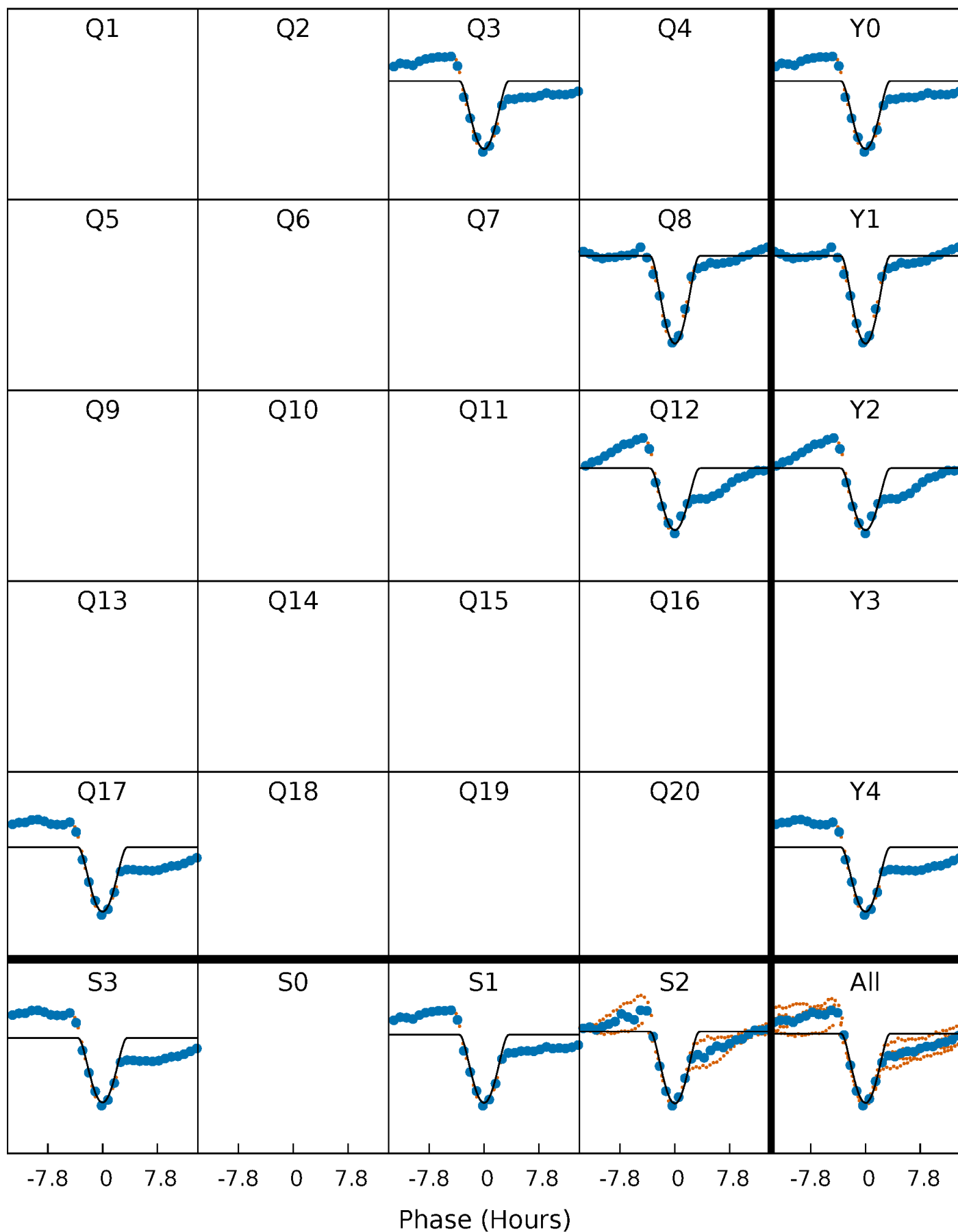
PDC Quarter-Phased Transit Curves

TCE 004569590-02 $P=413.704815$ Days $T_0=329.576068$ (BKJD)



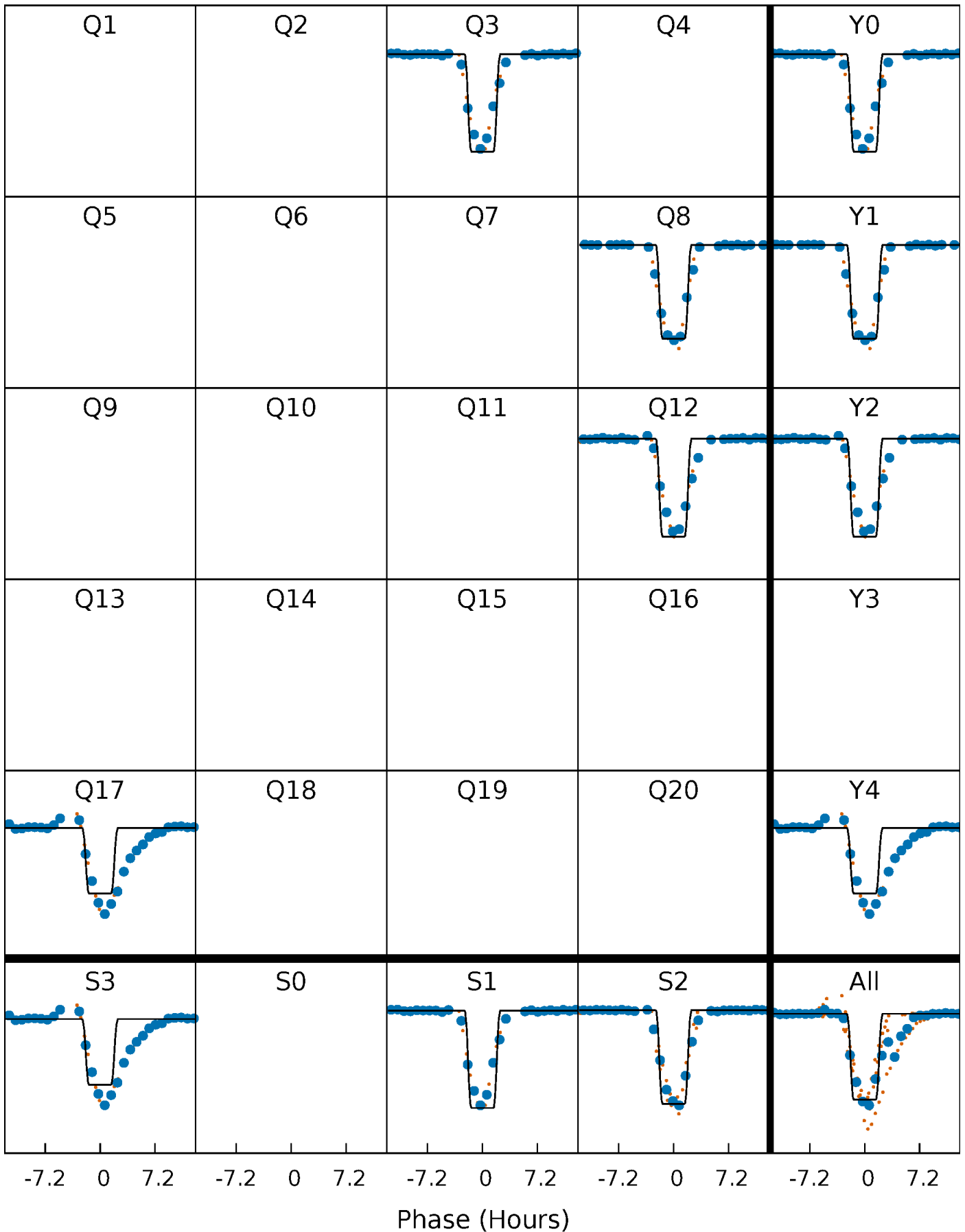
DV Quarter-Phased Transit Curves

TCE 004569590-02 $P=413.704815$ Days $T_0=329.576068$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

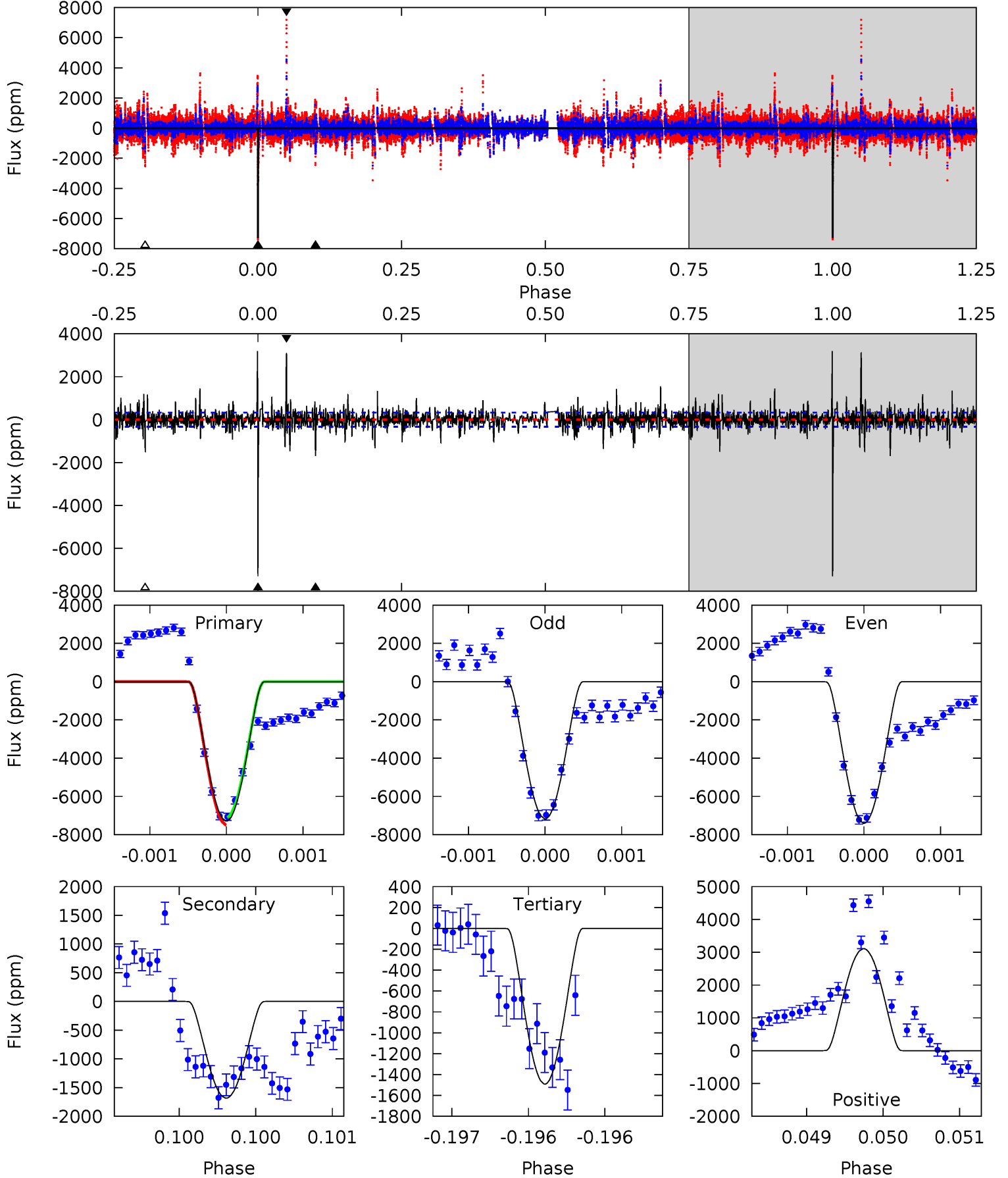
TCE 004569590-02 P=413.704667 Days $T_0=329.558248$ (BKJD)



DV Model-Shift Uniqueness Test

004569590-02, P = 413.704815 Days, E = 329.576068 Days

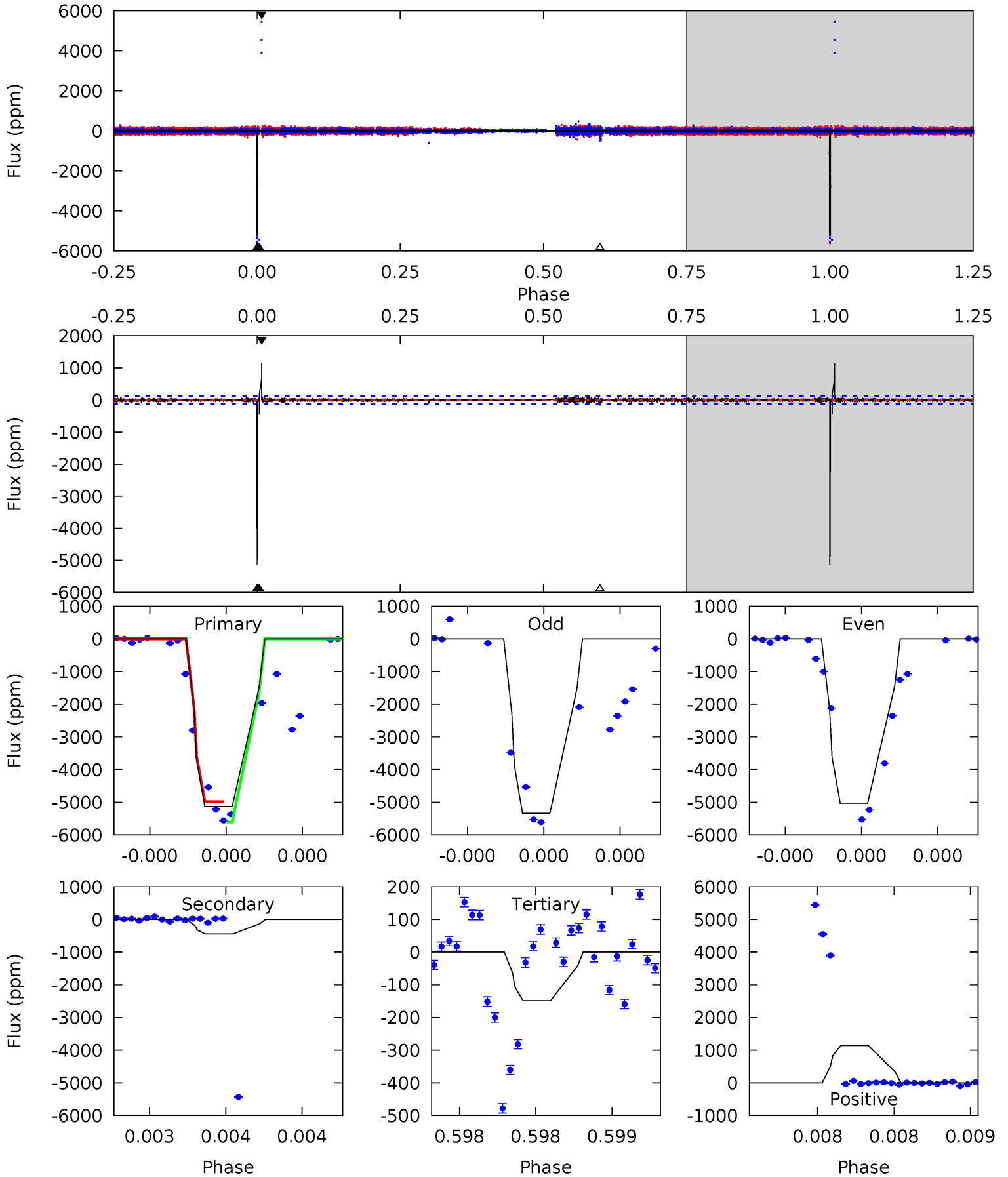
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
121.2	28.0	24.8	51.7	5.51	3.38	5.17	96.3	69.5	3.20	-23.7	1.79	0.98	0.30	3.27



Alt Model-Shift Uniqueness Test

004569590-02, P = 413.704667 Days, E = 329.558248 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
239.7	20.9	6.95	53.5	5.59	3.50	1.37	232.8	186.3	14.0	-32.5	7.37	1.05	0.18	0



Stellar Parameters For KIC 004569590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+142}_{-107}	$2.777^{+0.402}_{-0.329}$	$-0.180^{+0.300}_{-0.200}$	$6.883^{+3.901}_{-2.601}$	$1.035^{+0.388}_{-0.114}$	$0.004^{+0.015}_{-0.003}$
	+3%/-2%	+14%/-12%	+167%/-111%	+57%/-38%	+37%/-11%	+329%/-71%
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 004569590-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1685 ± 60	$106.96^{+79.57}_{-57.48}$	740^{+112}_{-90}	3117^{+787}_{-358}	104^{+371}_{-69}
Alt.	-448 ± 21	$69.87^{+68.37}_{-45.61}$	733^{+105}_{-87}	2933^{+1005}_{-462}	63^{+449}_{-47}

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

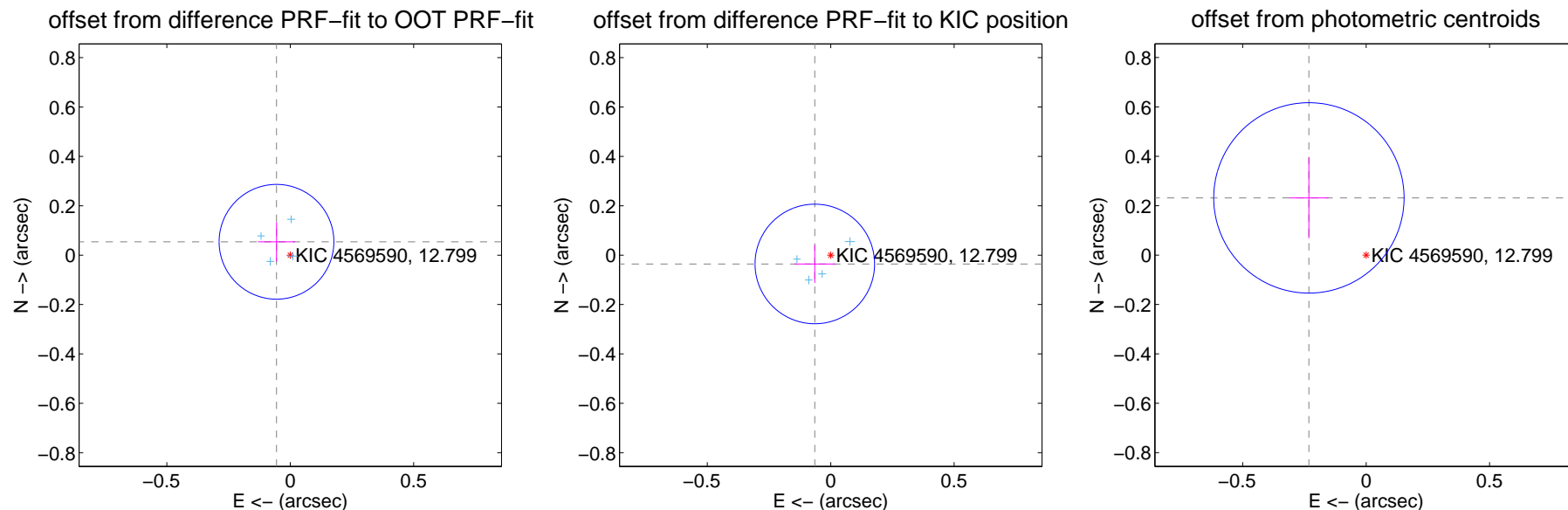
DV Centroid Data

Supplemental centroid analysis for 004569590-02. Kepler magnitude: 12.80. Transit SNR 38.49

There are 4 quarters with good PRF difference image offsets

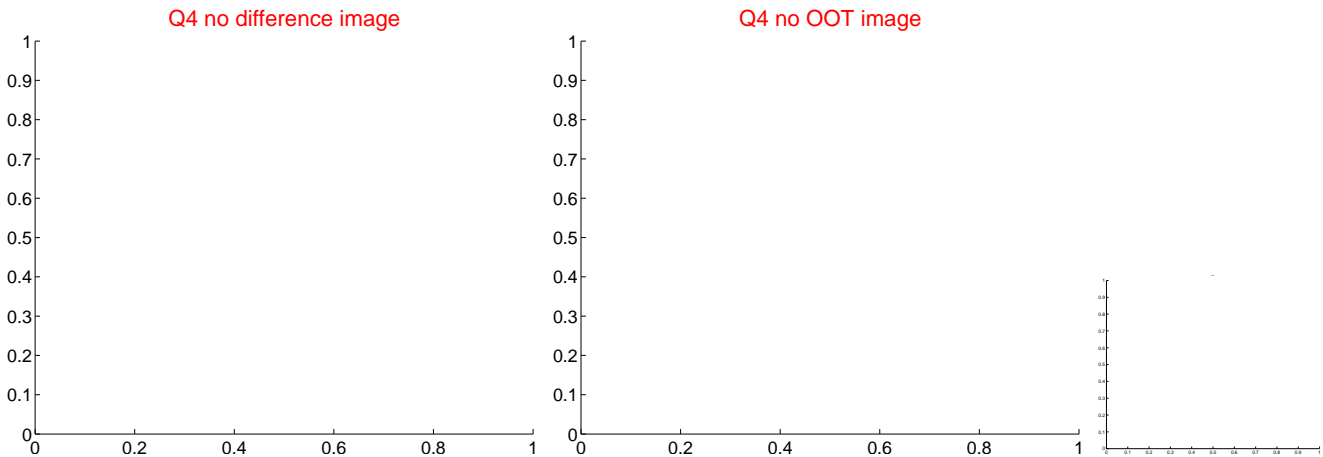
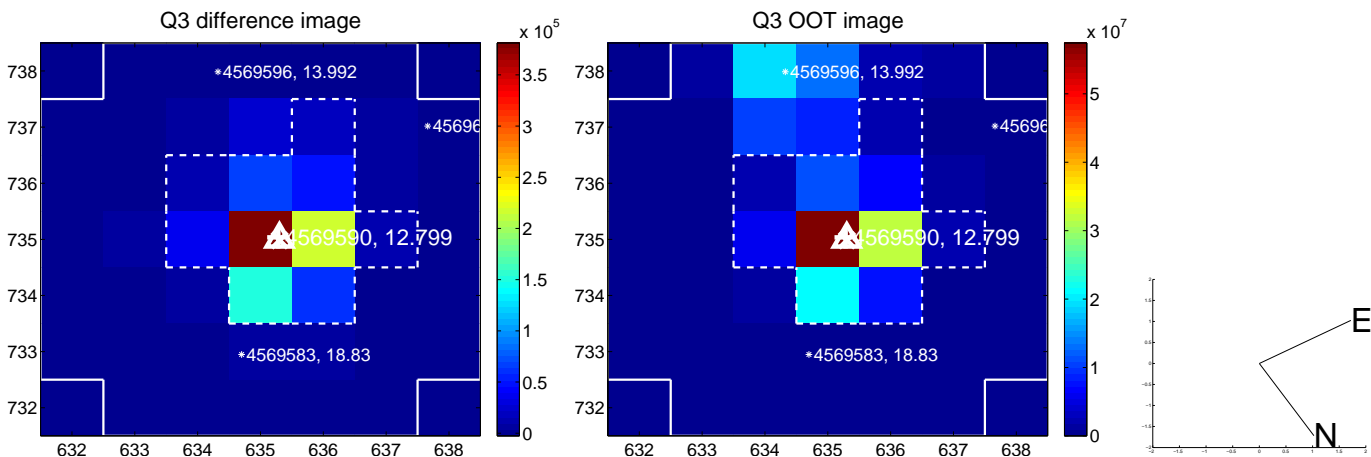
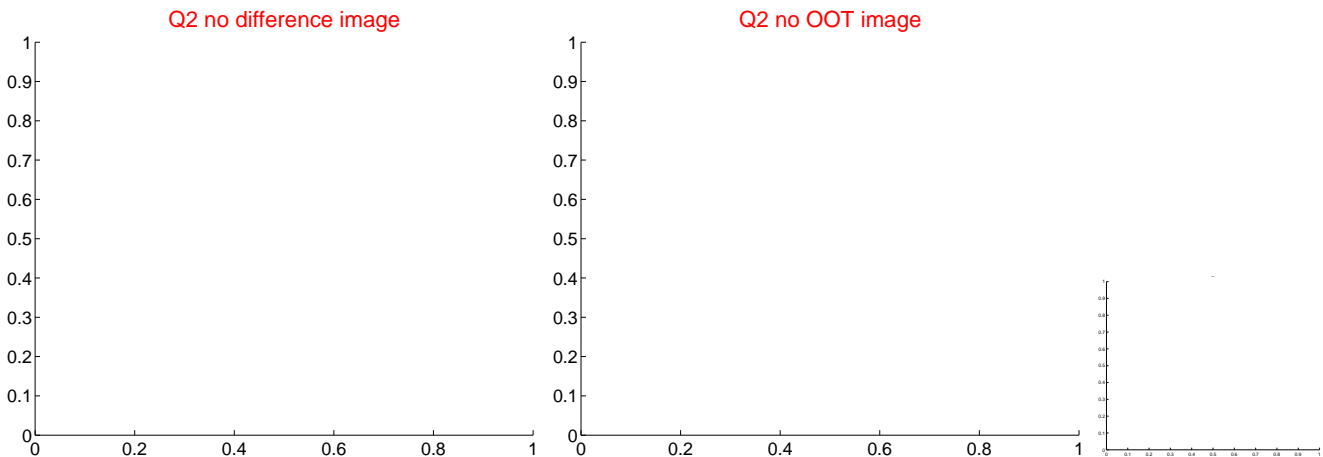
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.077	1.00	0.056 ± 0.075	0.054 ± 0.080
PRF-fit source offset from KIC position	0.074 ± 0.081	0.91	0.064 ± 0.082	-0.036 ± 0.077
photometric centroid source offset	0.33 ± 0.13	2.55	0.23 ± 0.08	0.23 ± 0.16

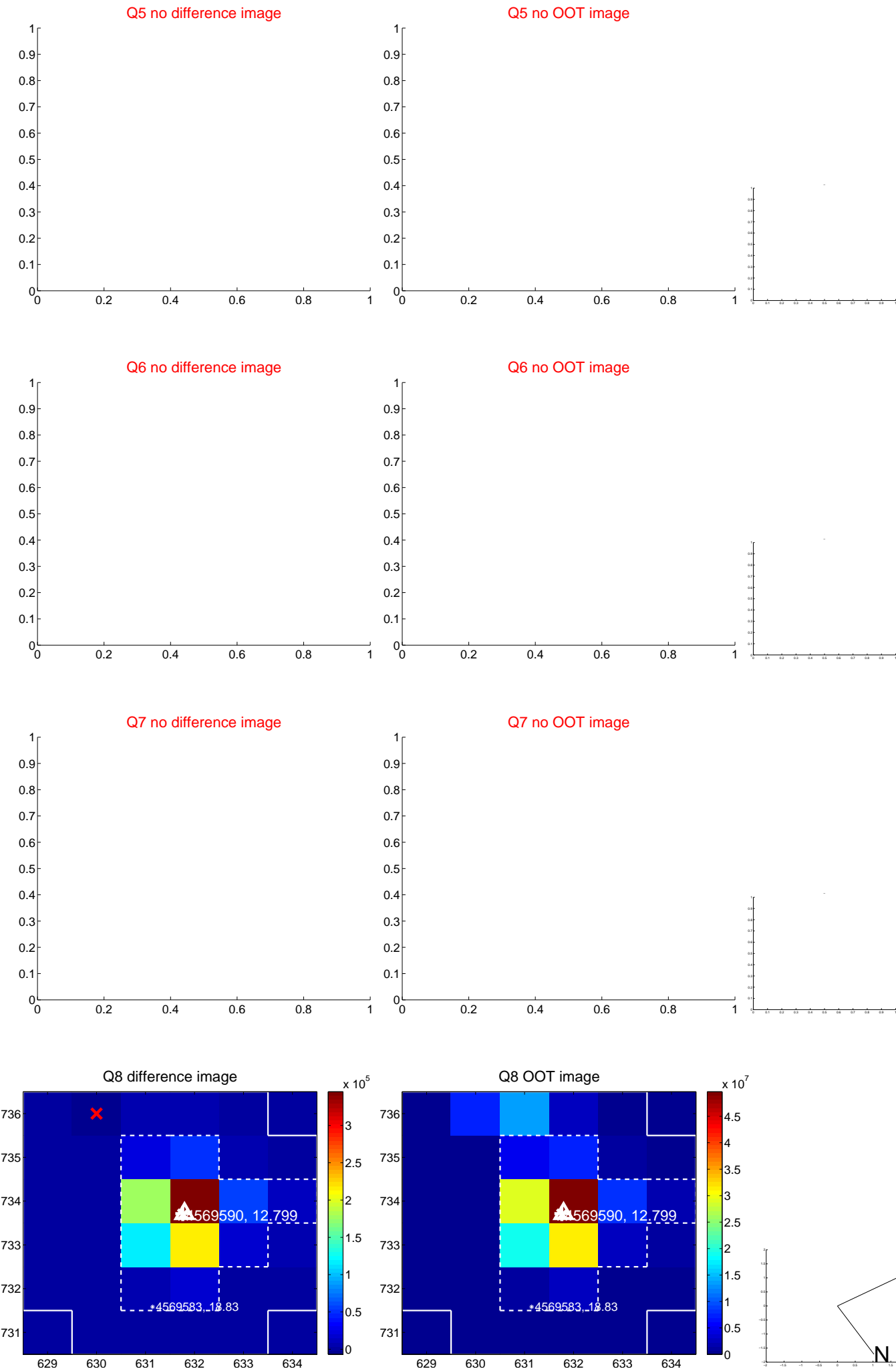


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

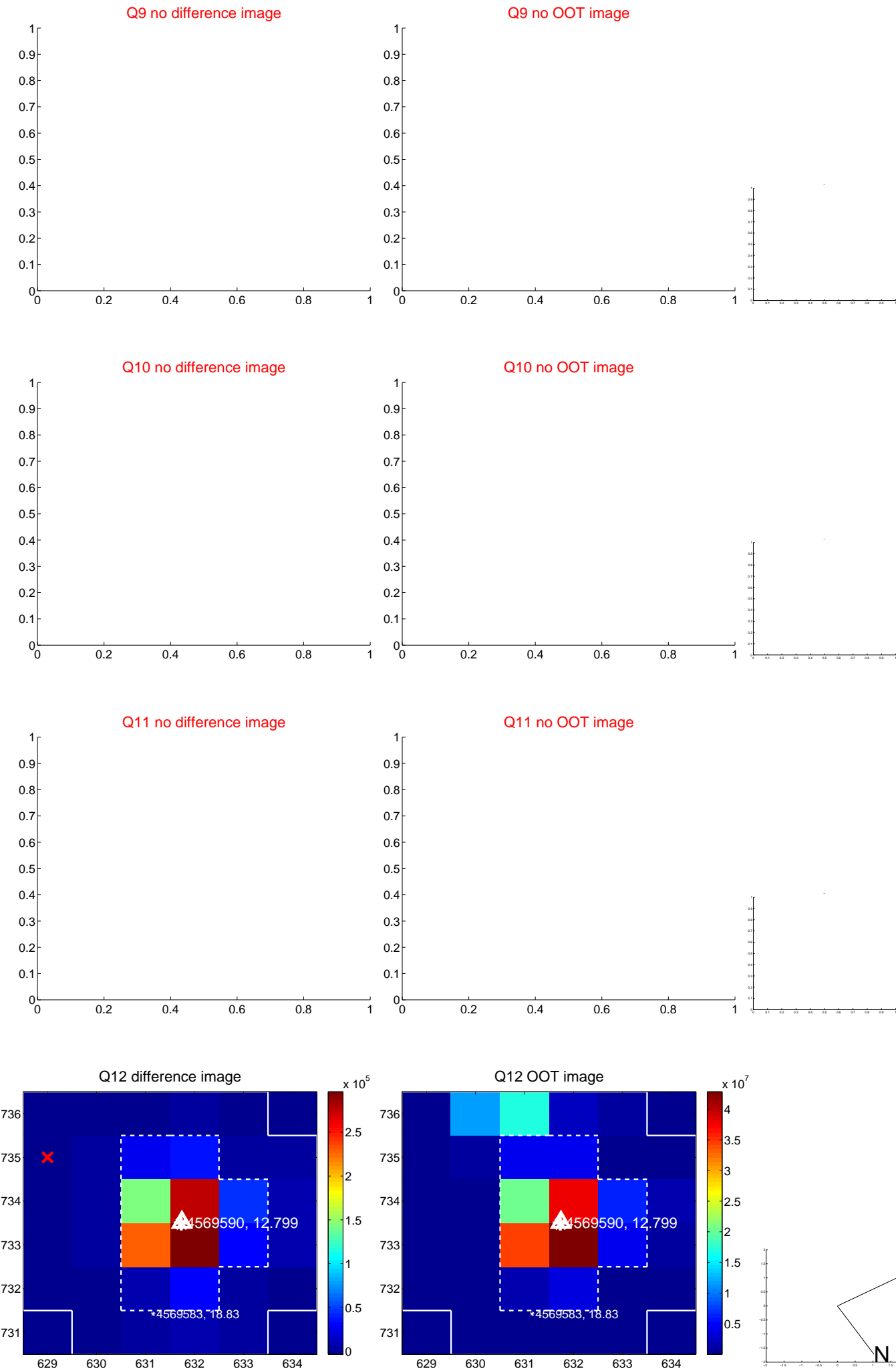
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



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

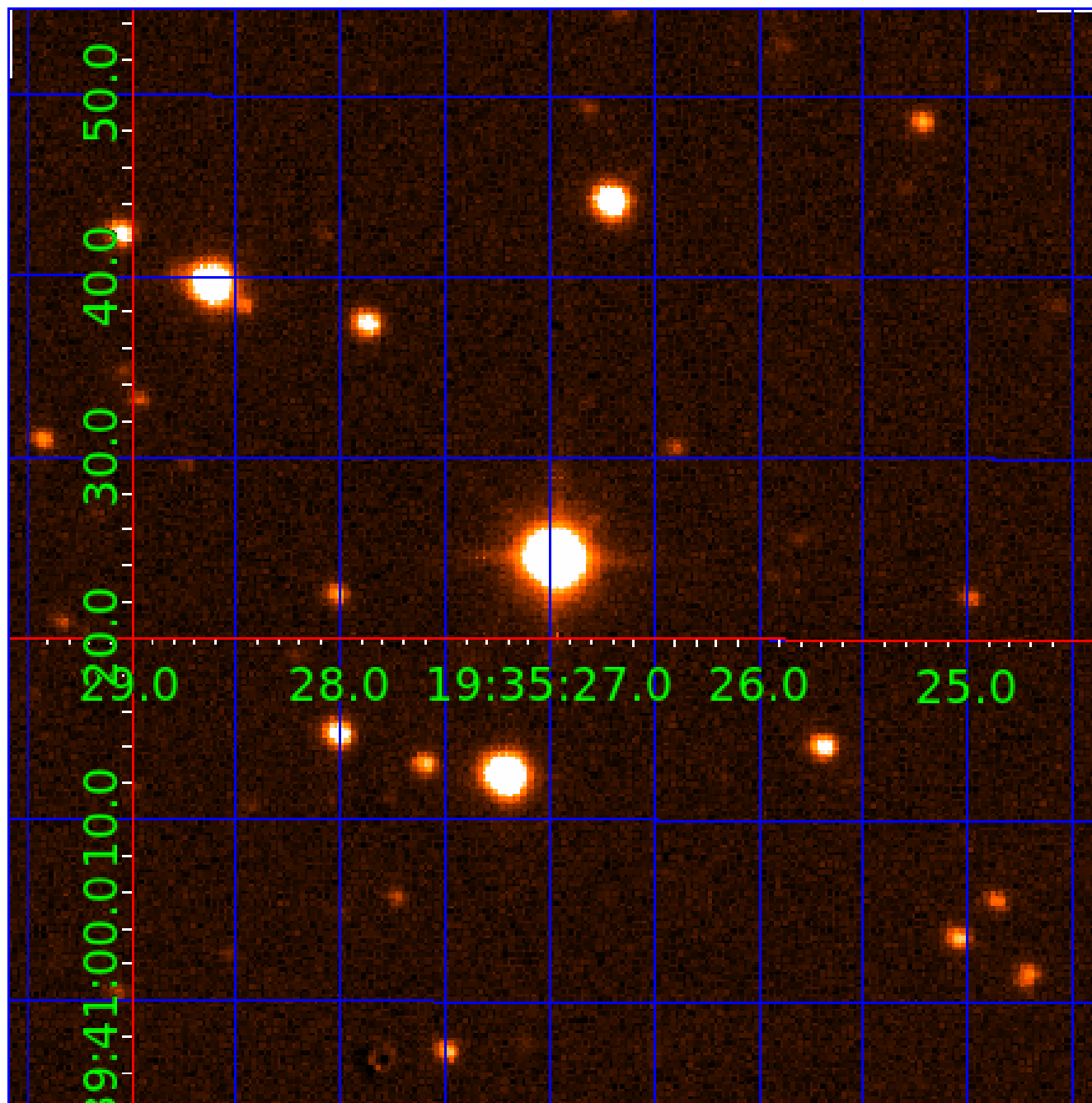


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004569590

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})
004569590-01	OBS	6426.01	41.370622	166.479530	4619.1	11.630	62.2	50.4	6.88	4764	54.15	389.98
004569590-02	OBS	No	413.704815	329.576068	6928.0	6.790	31.3	38.5	6.88	4764	108.71	18.10
004569590-03	OBS	No	227.547472	288.337947	3697.9	16.015	21.2	13.9	6.88	4764	52.78	40.17
004569590-04	OBS	No	124.106632	247.028720	347.7	15.000	22.3	-1.0	6.88	4764	12.37	90.14
004569590-05	OBS	No	41.370562	164.108012	1069.7	2.447	18.0	18.0	6.88	4764	46.44	389.98
004569590-06	OBS	No	41.370159	145.839688	1779.9	11.143	15.5	21.2	6.88	4764	58.20	389.99
004569590-07	OBS	No	41.369741	143.577011	200.3	12.000	13.2	-1.0	6.88	4764	9.39	389.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004569590-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004569590-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—SAME_NTL_PERIOD
004569590-03	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS
004569590-04	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST
004569590-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD
004569590-06	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
004569590-07	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

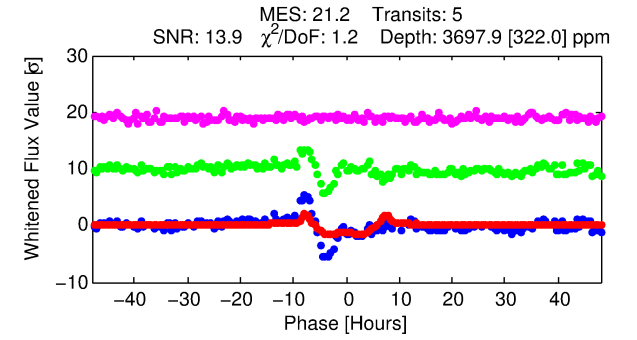
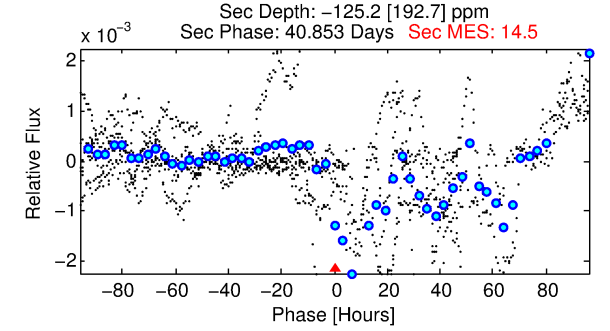
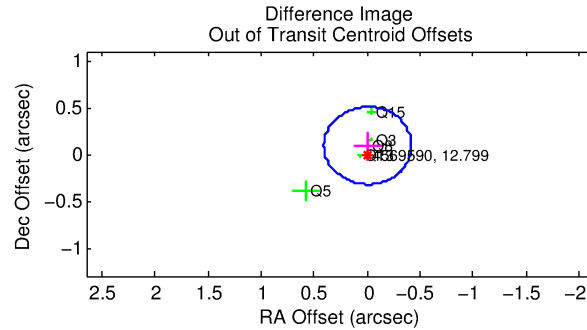
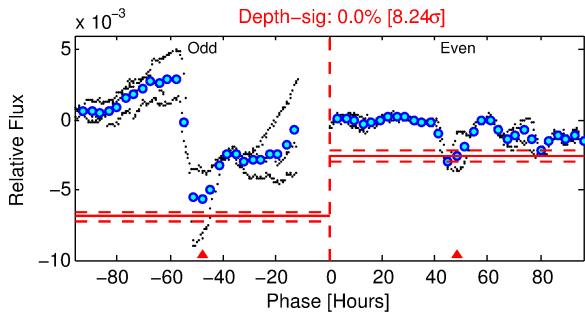
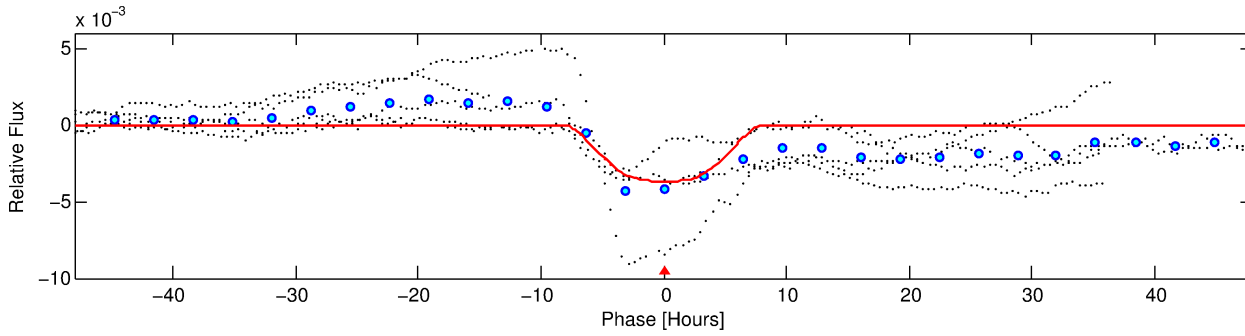
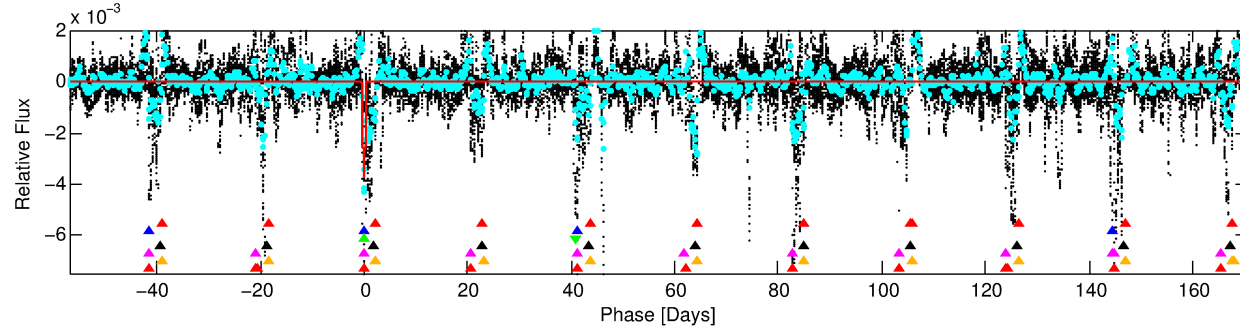
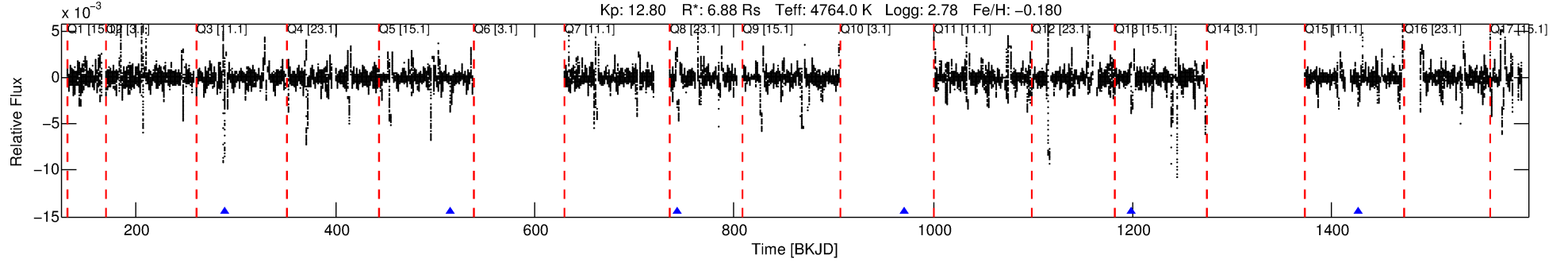
Ephemeris Match Information For 004569590-03

No Significant Match Found

DV One-Page Summary

KIC: 4569590 Candidate: 3 of 7 Period: 227.547 d
KOI: K06426 Corr: No Ephemeris Match

Kp: 12.80 R*: 6.88 Rs Teff: 4764.0 K Logg: 2.78 Fe/H: -0.180



DV Fit Results:

Period = 227.54747 [0.00276] d
Epoch = 288.3379 [0.0090] BKJD
Rp/R* = 0.0703 [0.0033]
a/R* = 59.85 [1.81]
b = 0.92 [0.01]
Seff = 40.17 [29.46]
Teq = 642 [118] K
Rp = 52.78 [30.01] Re
a = 0.7378 [0.3599] AU
Ag = N/A
Teffp = N/A

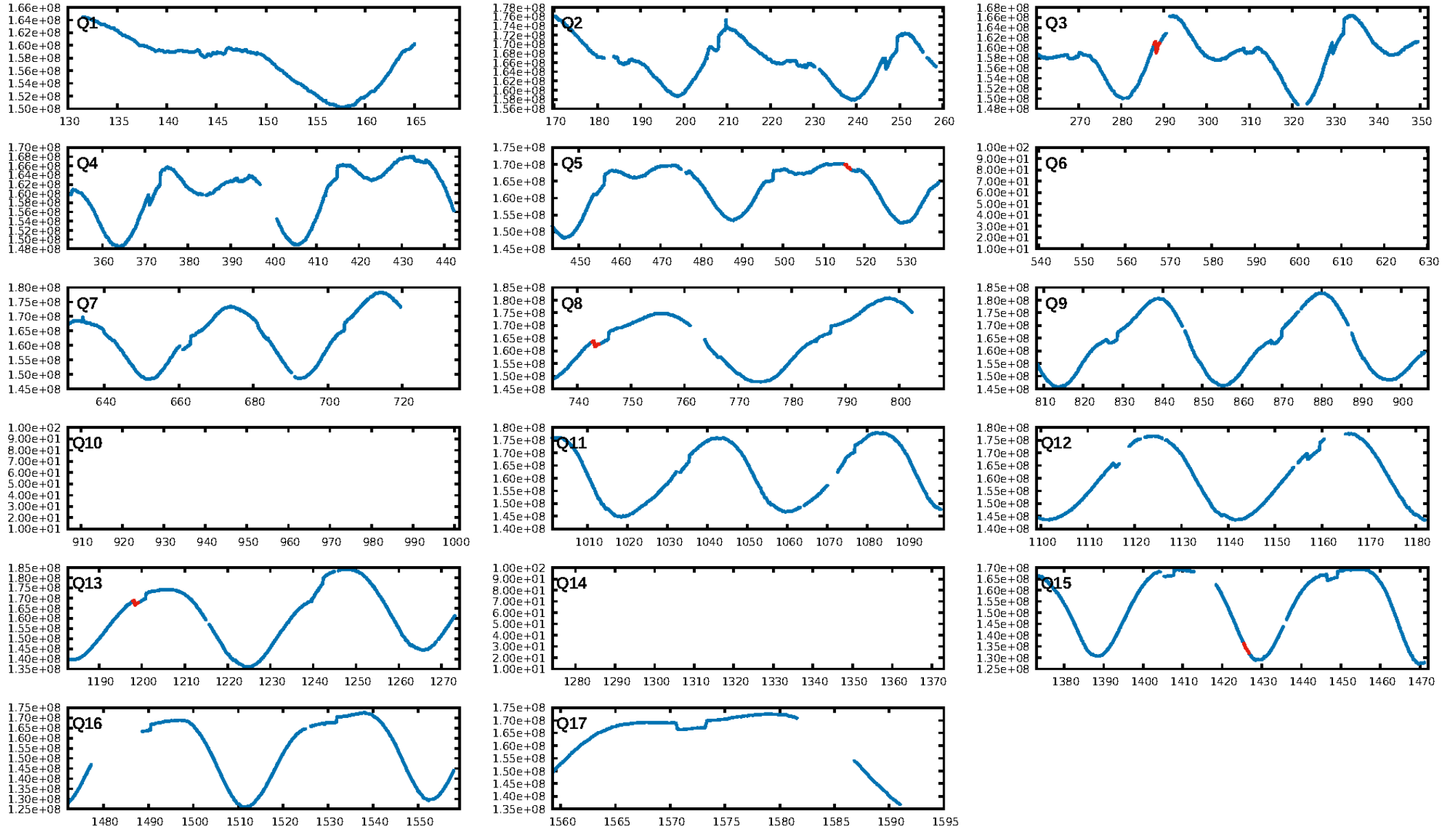
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [113.14σ]
LongPeriod-sig: 100.0% [256.85σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.626
Centroid-sig: 0.9%
Centroid-so: 0.784 arcsec [2.10σ]
OotOffset-rm: 0.092 arcsec [0.67σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-rm: 0.013 arcsec [0.12σ]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 0.00 [0/5]

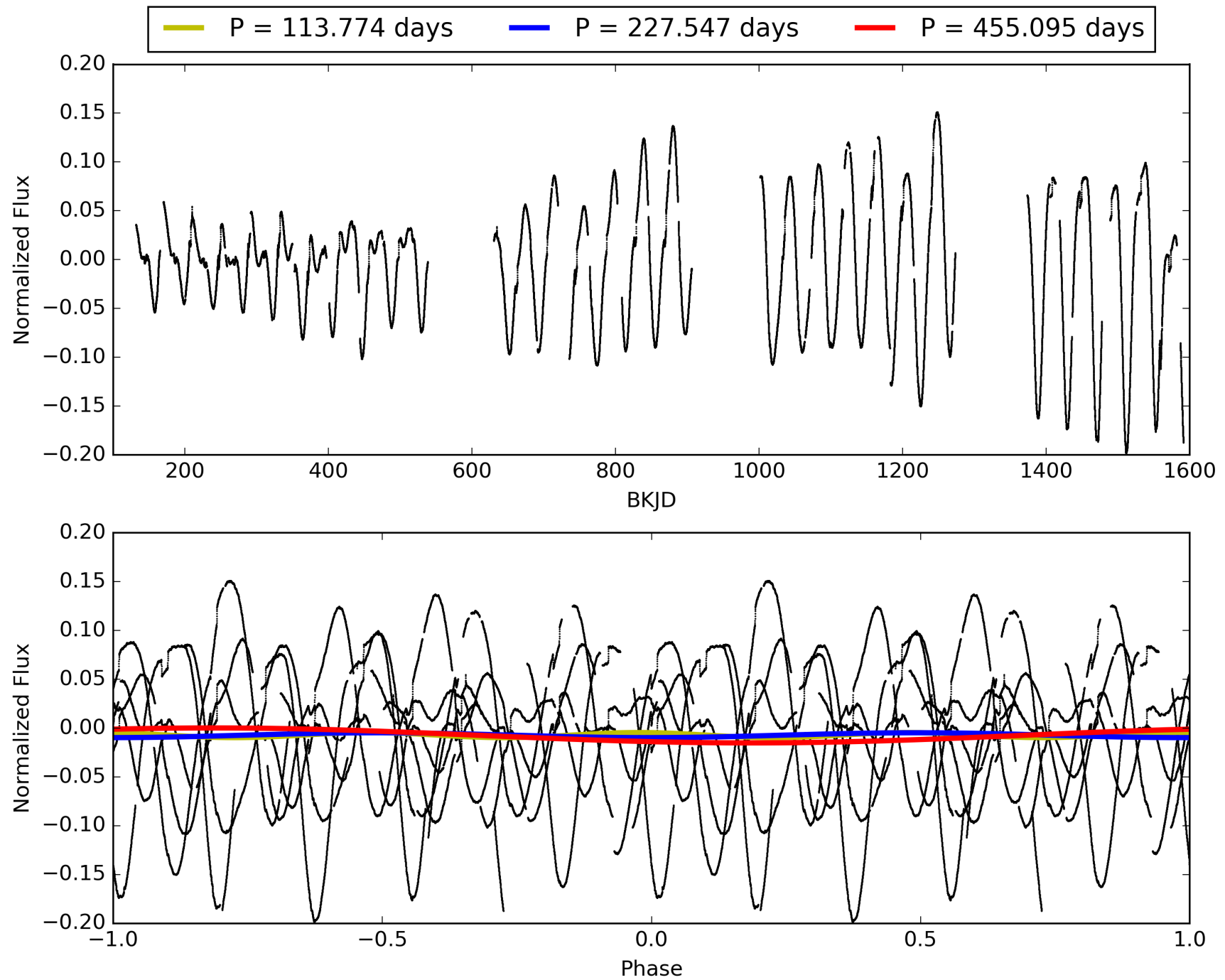
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:50:53 Z

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

TCE 004569590-03, PDC Light Curves

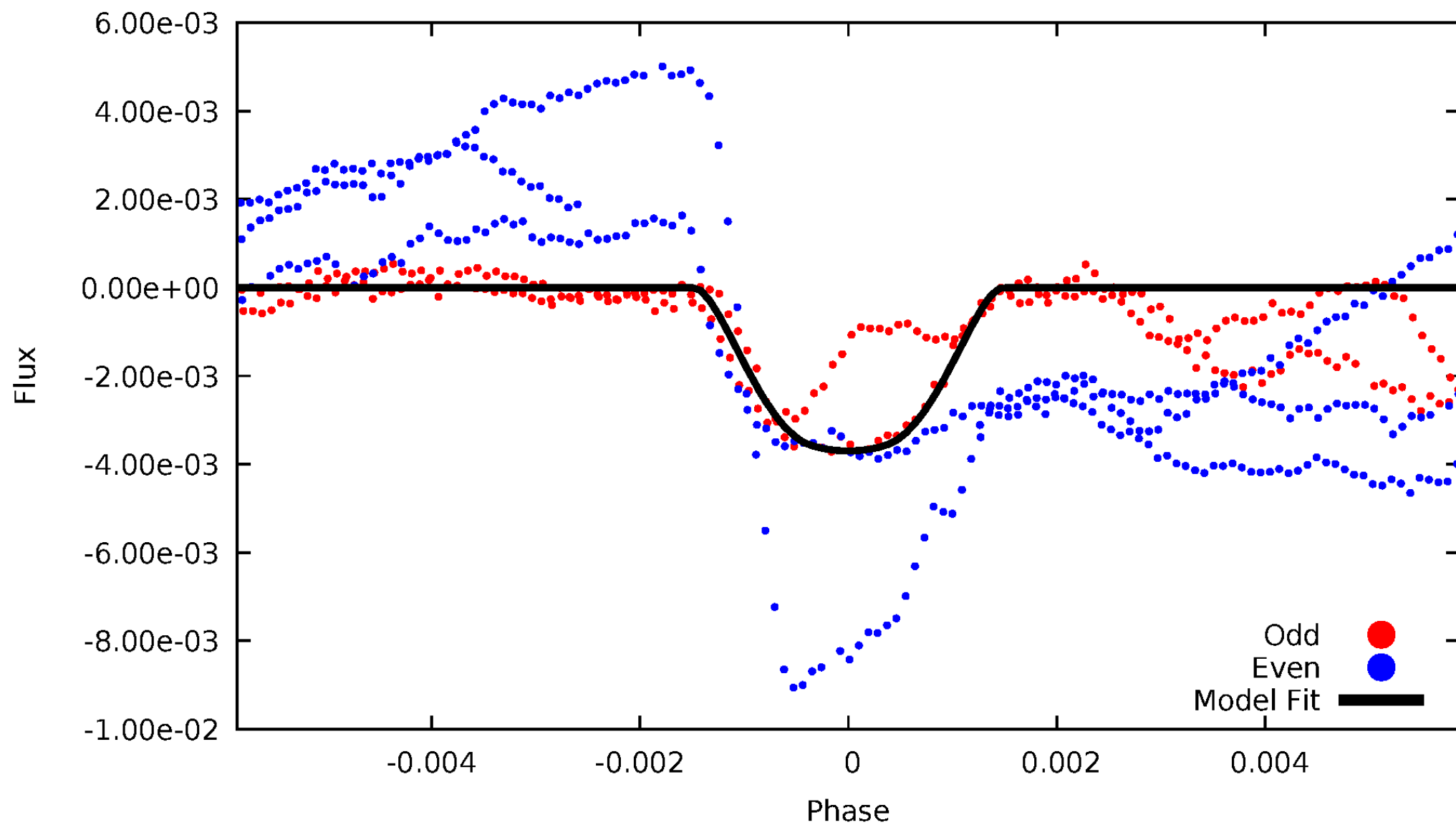


TCE 004569590-03



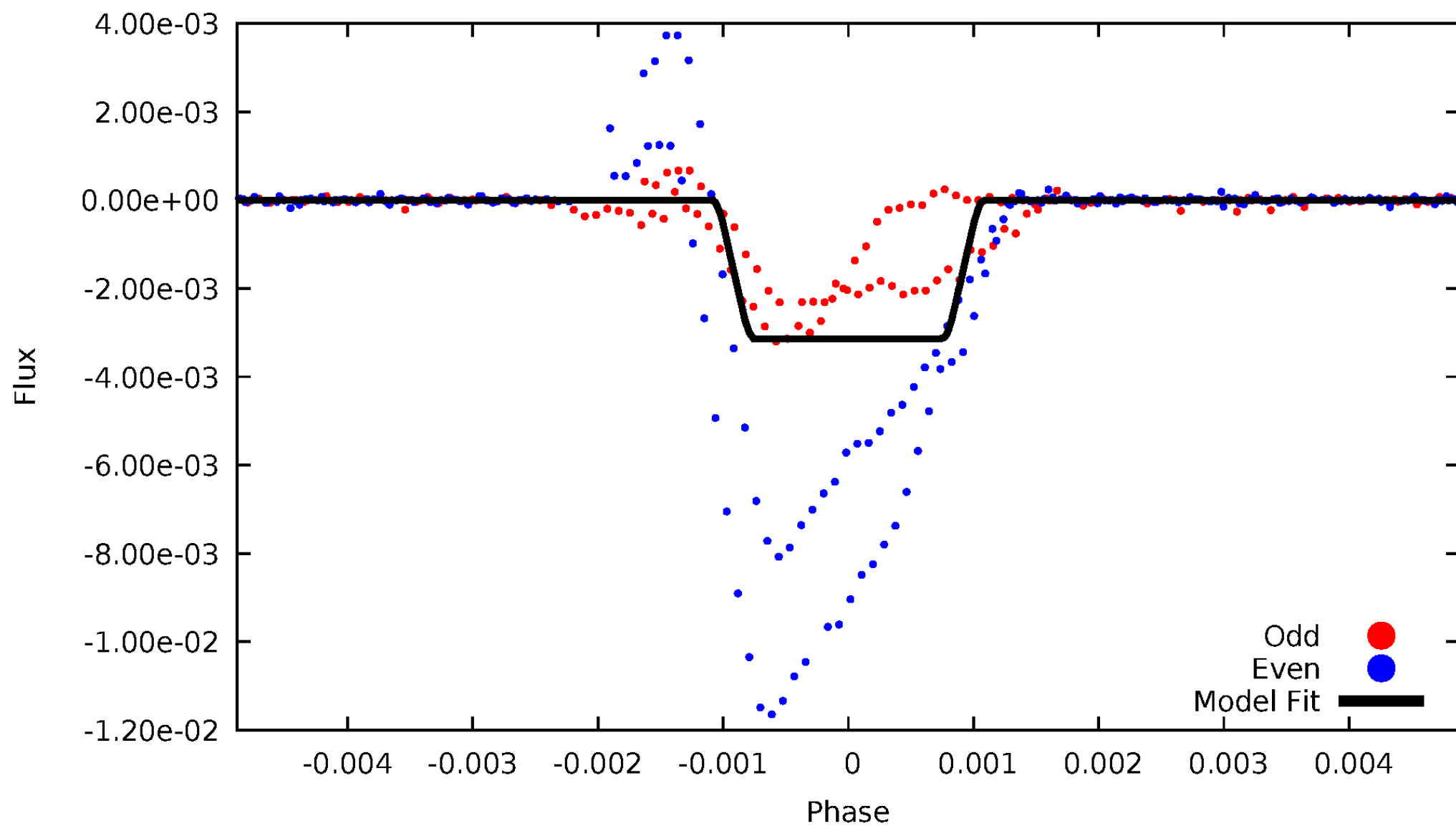
DV Odd/Even

TCE 004569590-03

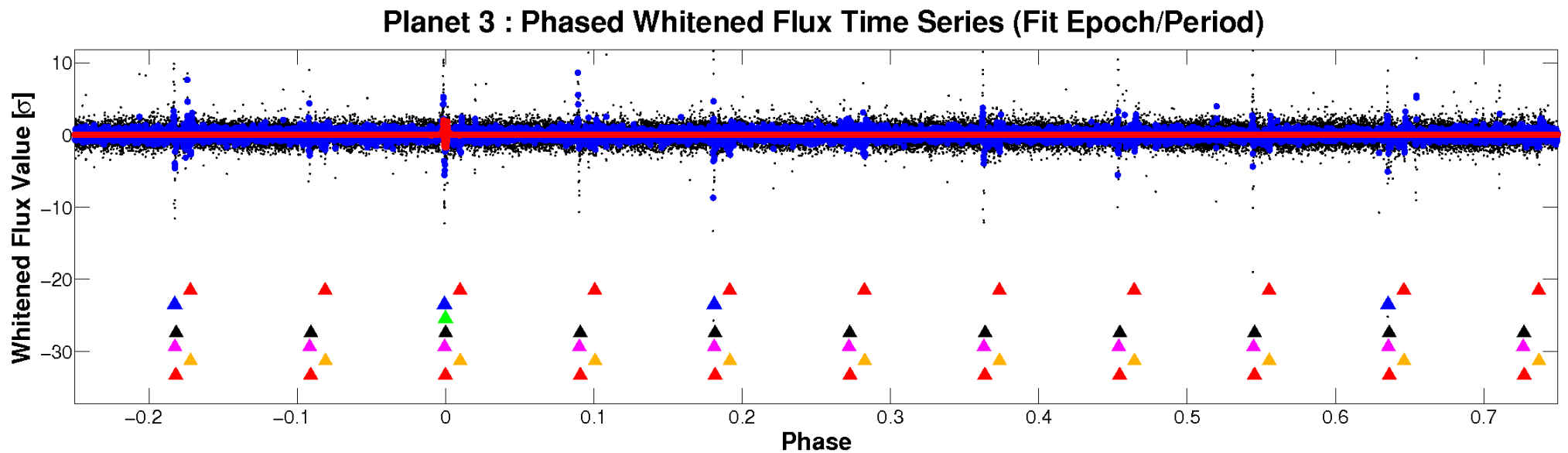
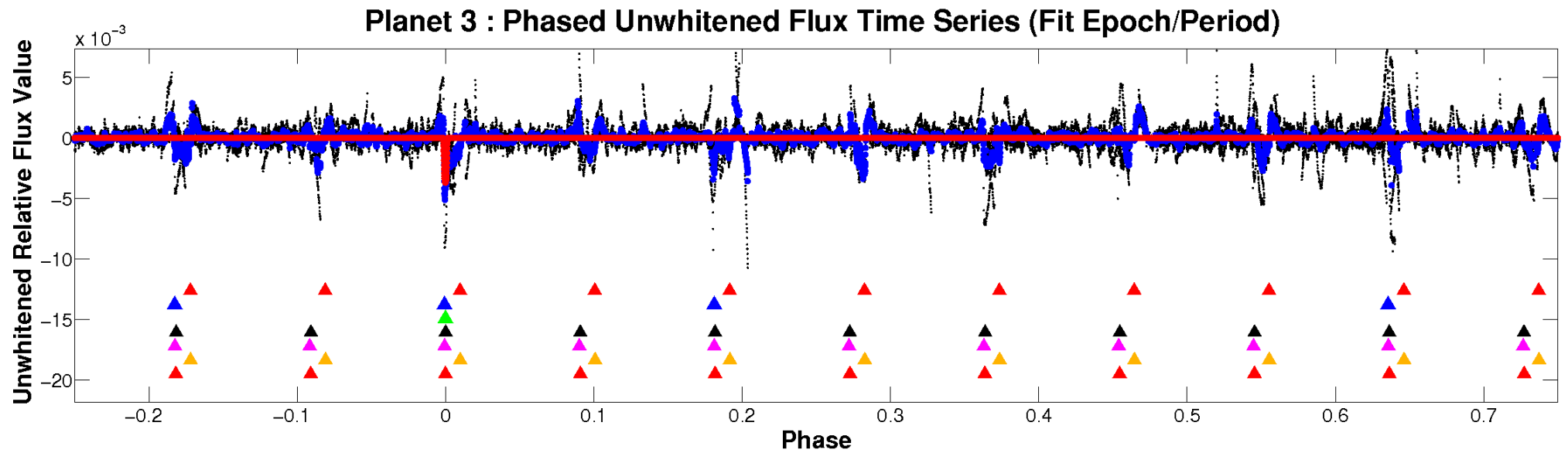


ALT Odd/Even

TCE 004569590-03

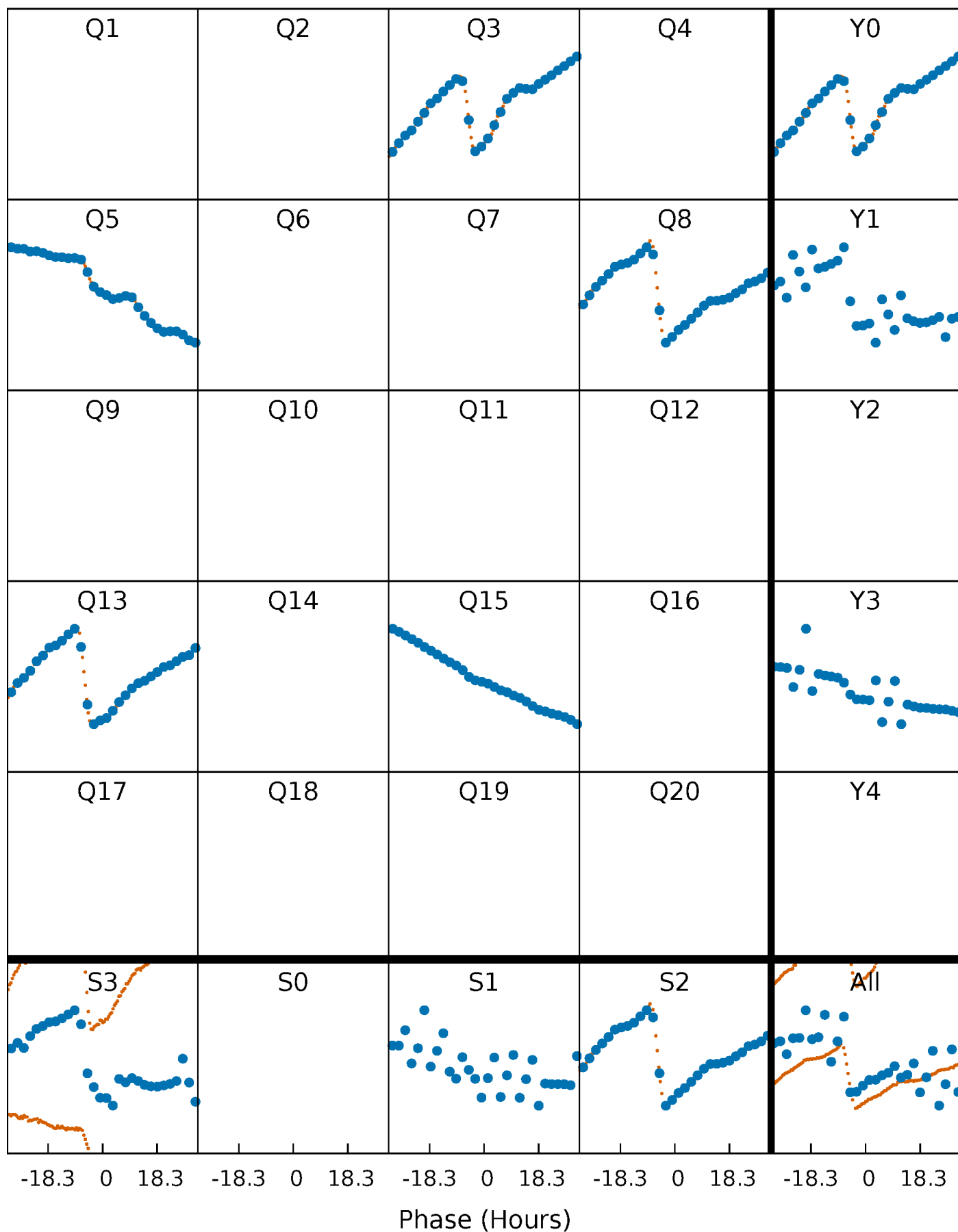


Non-Whitened Vs. Whitened Light Curve



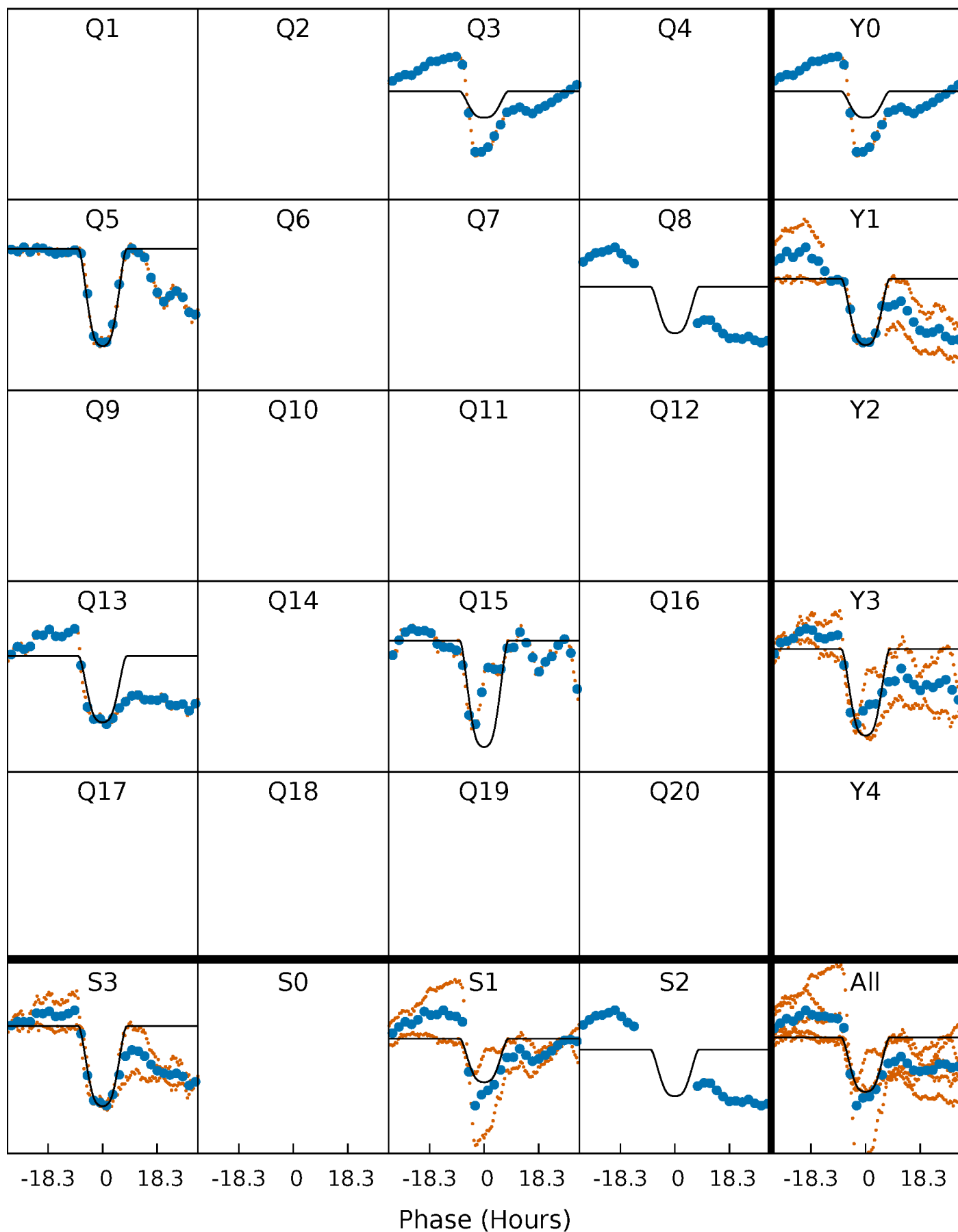
PDC Quarter-Phased Transit Curves

TCE 004569590-03 $P=227.547472$ Days $T_0=288.337947$ (BKJD)



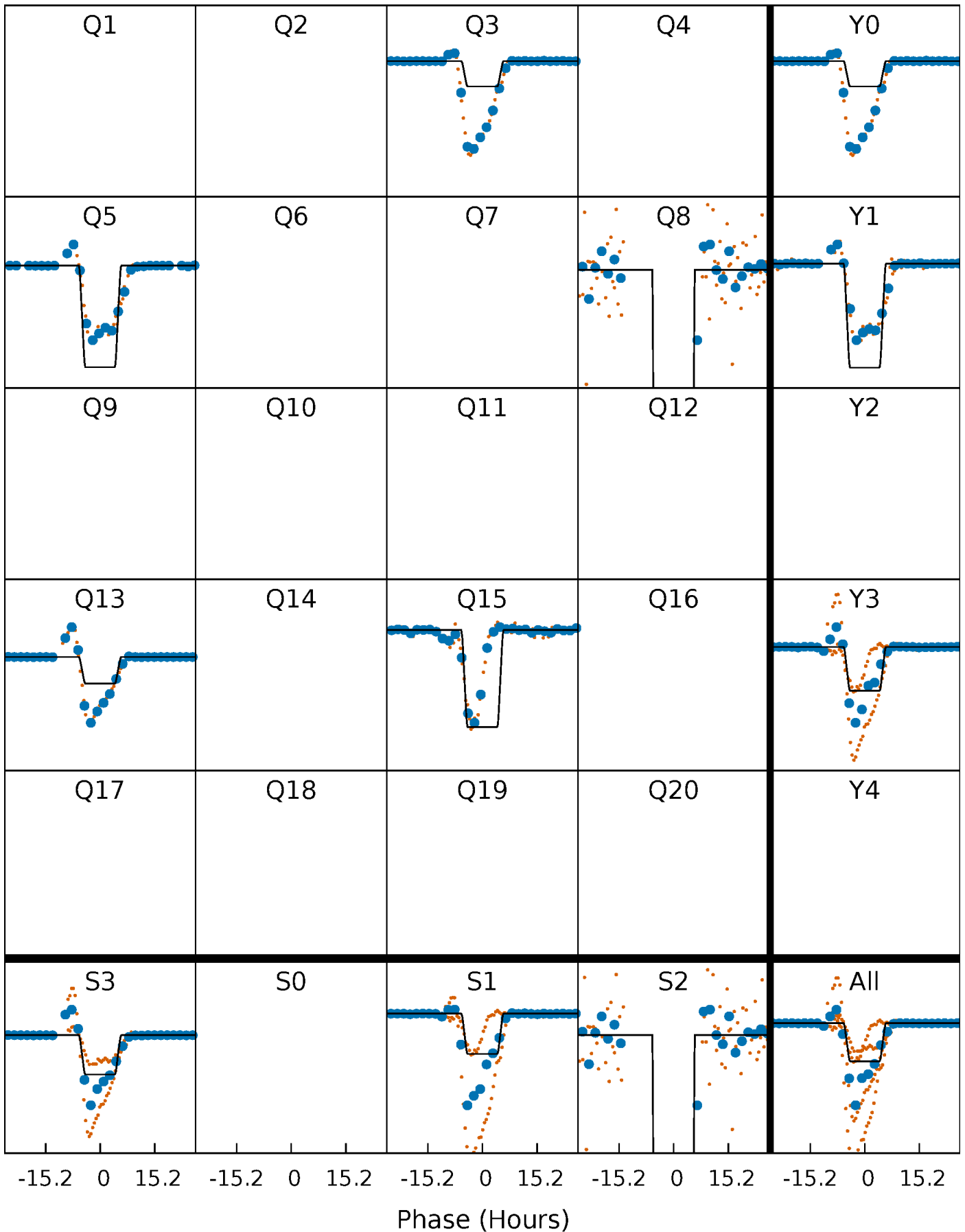
DV Quarter-Phased Transit Curves

TCE 004569590-03 $P=227.547472$ Days $T_0=288.337947$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

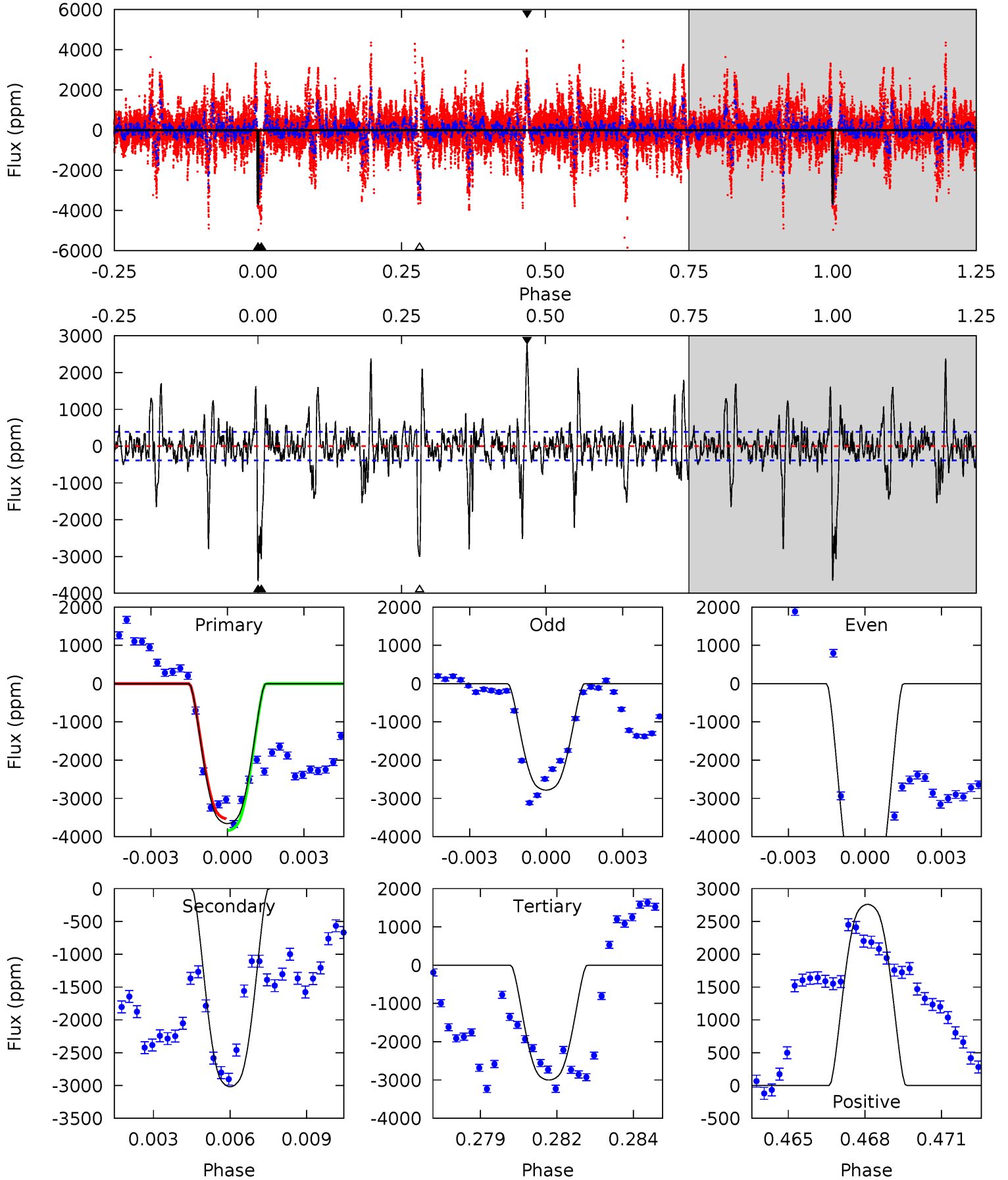
TCE 004569590-03 $P=227.534502$ Days $T_0=288.357285$ (BKJD)



DV Model-Shift Uniqueness Test

004569590-03, P = 227.547472 Days, E = 60.790475 Days

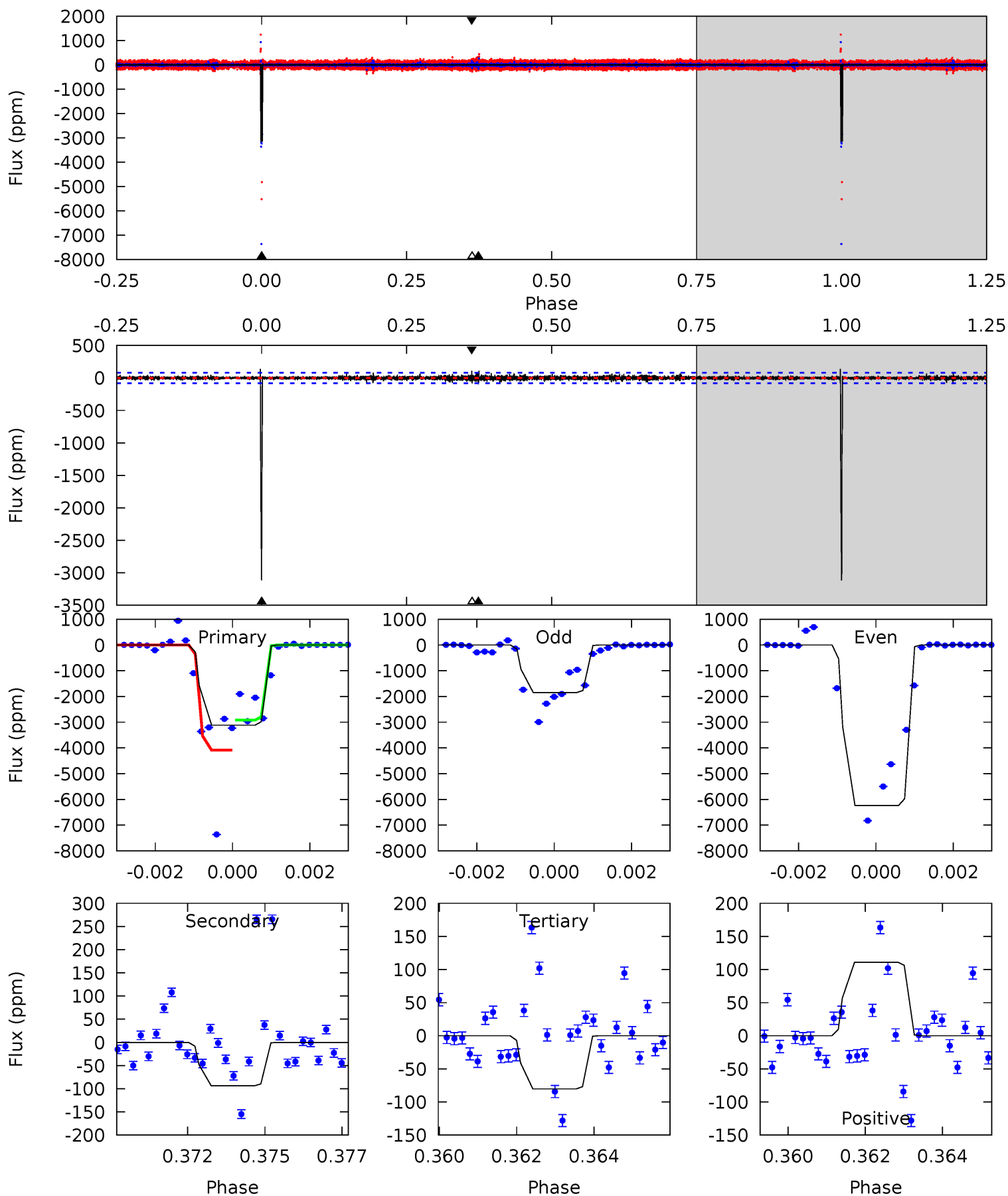
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.4	40.8	40.6	37.3	5.25	2.97	7.16	8.87	12.1	0.25	3.51	21.7	2.12	0.43	2.06



Alt Model-Shift Uniqueness Test

004569590-03, P = 227.534502 Days, E = 60.822783 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
205.5	6.17	5.30	7.33	5.32	3.07	0.95	200.2	198.2	0.88	-1.15	202.9	1.16	0.04	37.9



Stellar Parameters For KIC 004569590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4764^{+142}_{-107}	$2.777^{+0.402}_{-0.329}$	$-0.180^{+0.300}_{-0.200}$	$6.883^{+3.901}_{-2.601}$	$1.035^{+0.388}_{-0.114}$	$0.004^{+0.015}_{-0.003}$
	+3%/-2%	+14%/-12%	+167%/-111%	+57%/-38%	+37%/-11%	+329%/-71%
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 004569590-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3020 ± 74	$53.36^{+17.97}_{-12.62}$	896^{+126}_{-109}	4337^{+149}_{-124}	334^{+228}_{-140}
Alt.	-94 ± 15	$42.33^{+13.79}_{-9.49}$	890^{+134}_{-98}	2709^{+79}_{-89}	16^{+10}_{-7}

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

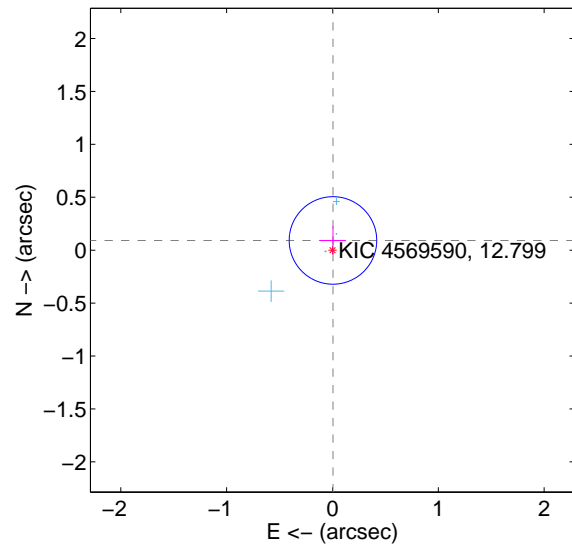
Supplemental centroid analysis for 004569590-03. Kepler magnitude: 12.80. Transit SNR 13.88

There are 5 quarters with good PRF difference image offsets

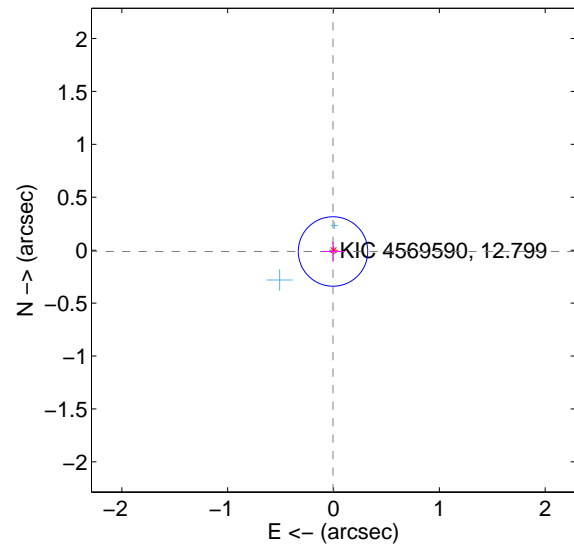
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.092 ± 0.138	0.67	-0.005 ± 0.123	0.092 ± 0.134
PRF-fit source offset from KIC position	0.013 ± 0.109	0.12	0.005 ± 0.107	-0.012 ± 0.094
photometric centroid source offset	0.78 ± 0.37	2.10	-0.09 ± 0.16	-0.78 ± 0.38

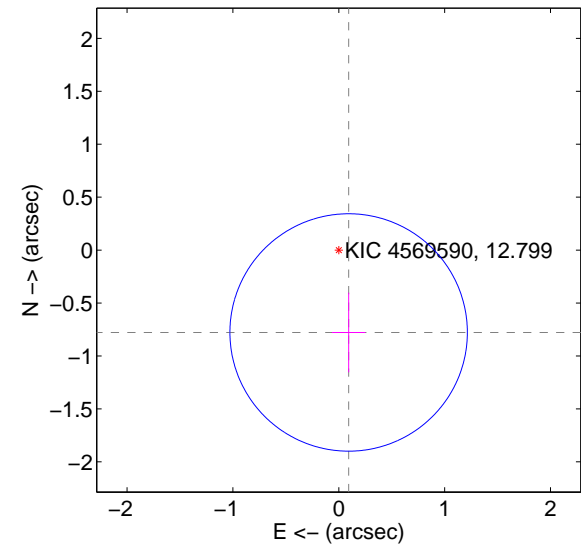
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

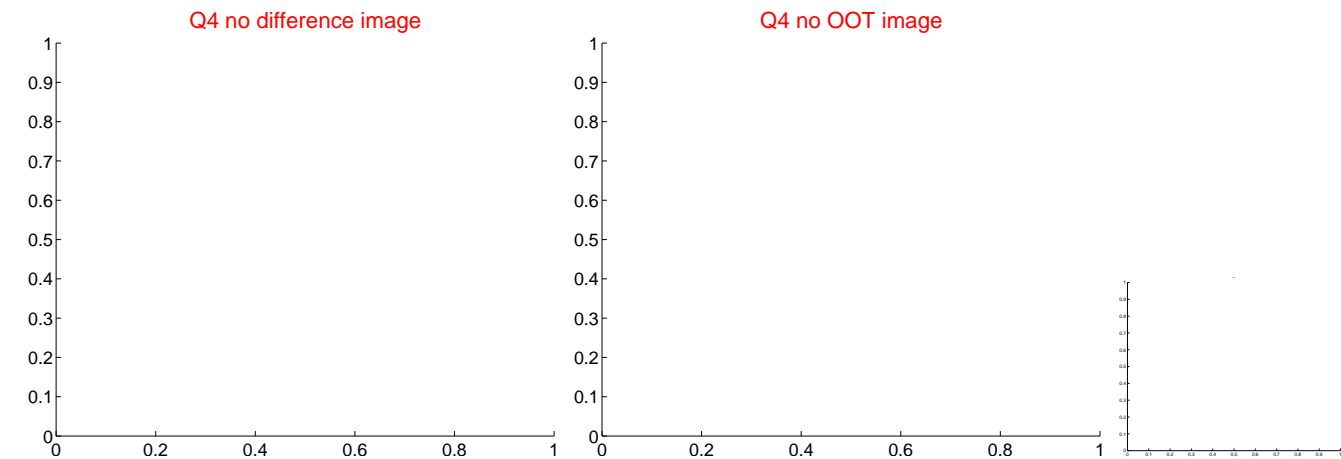
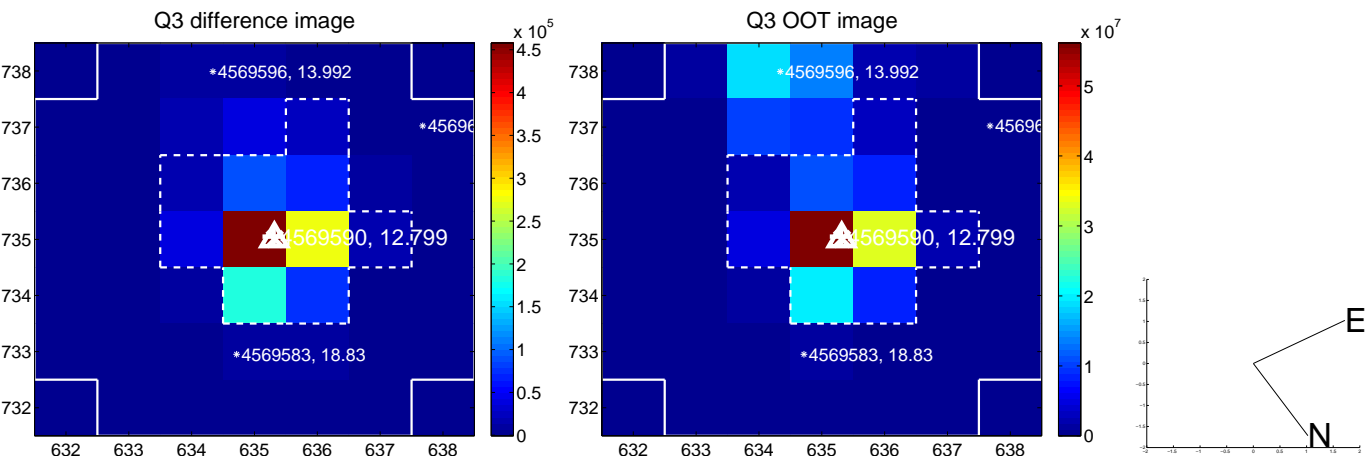


offset from photometric centroids

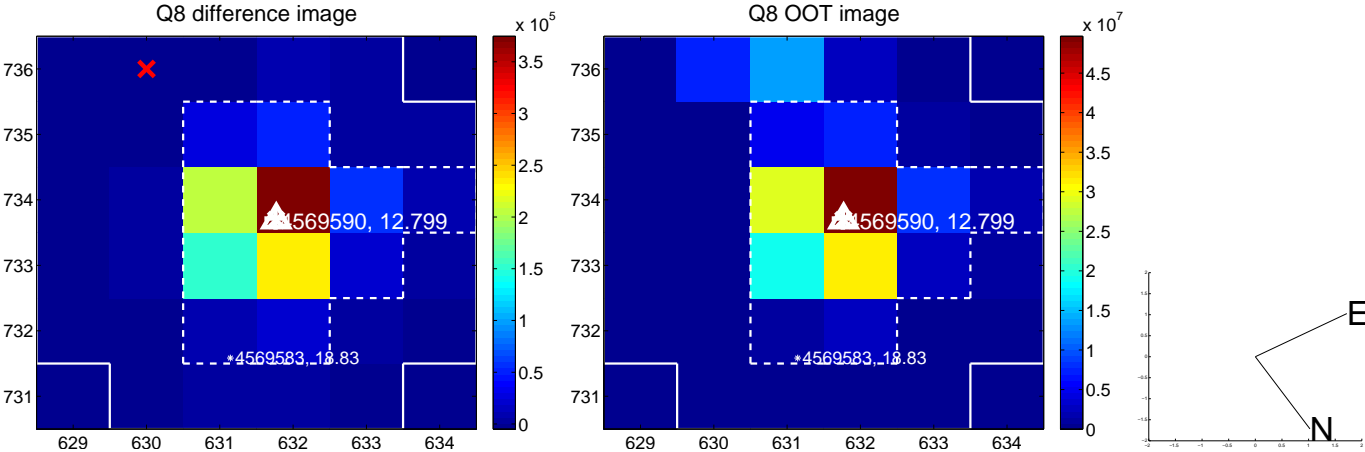
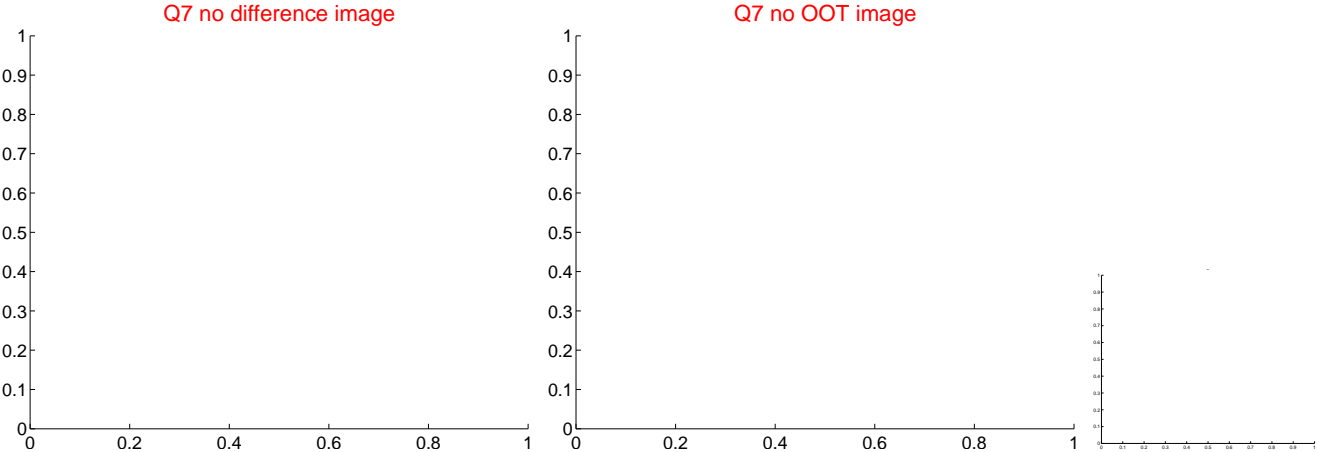
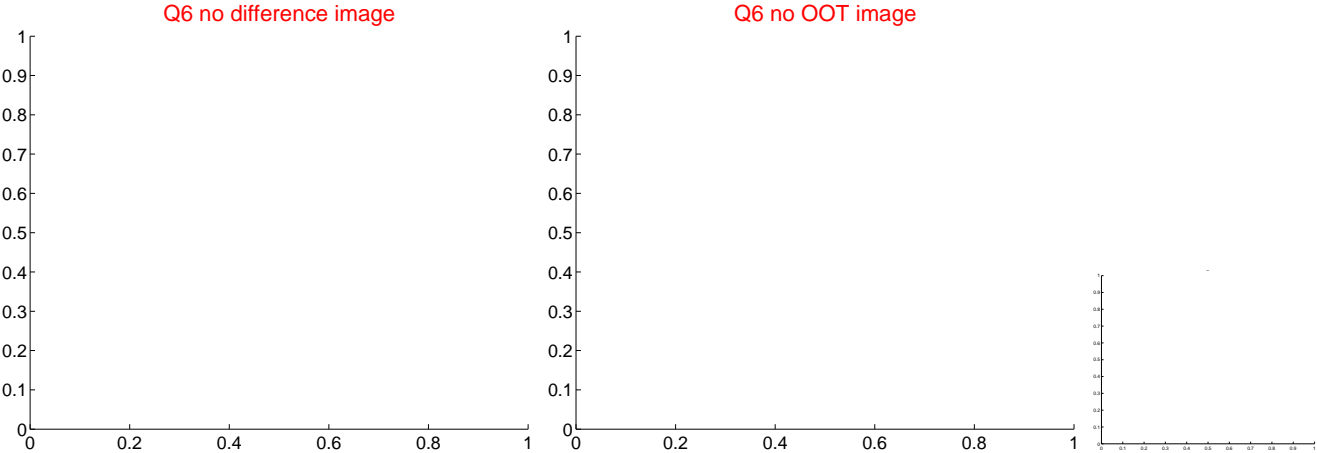
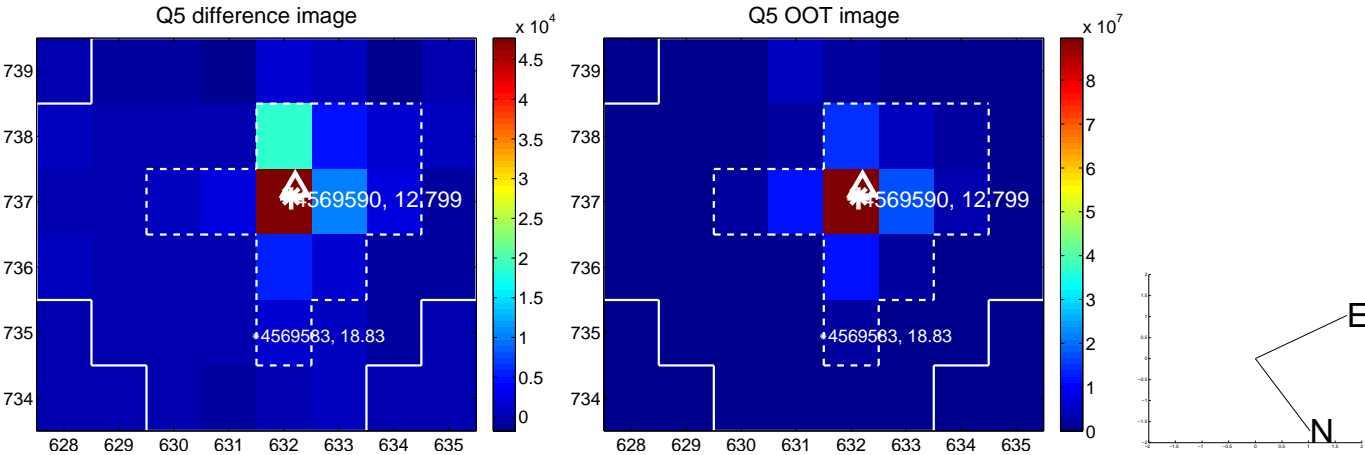


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



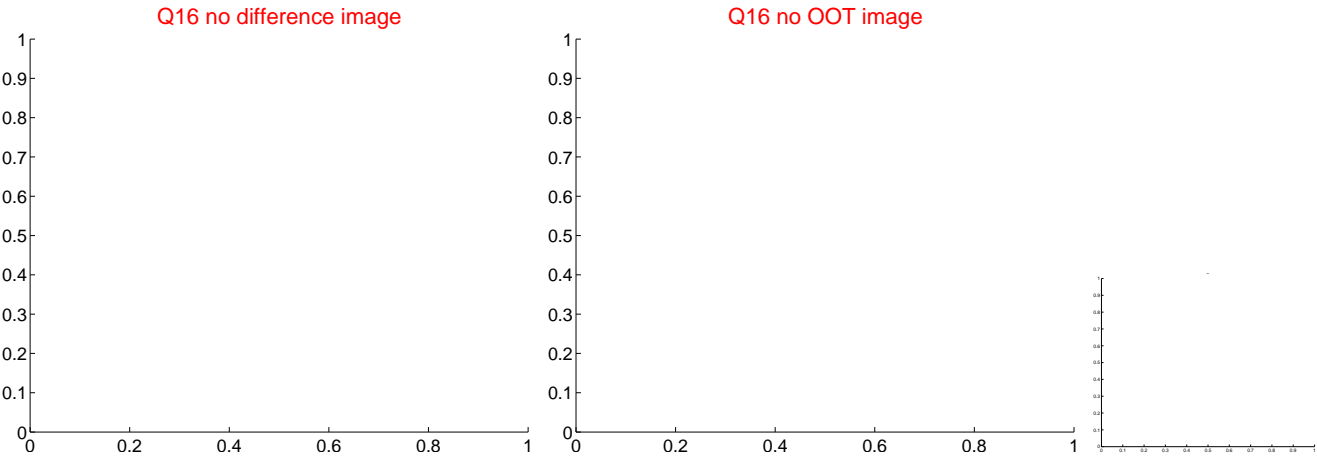
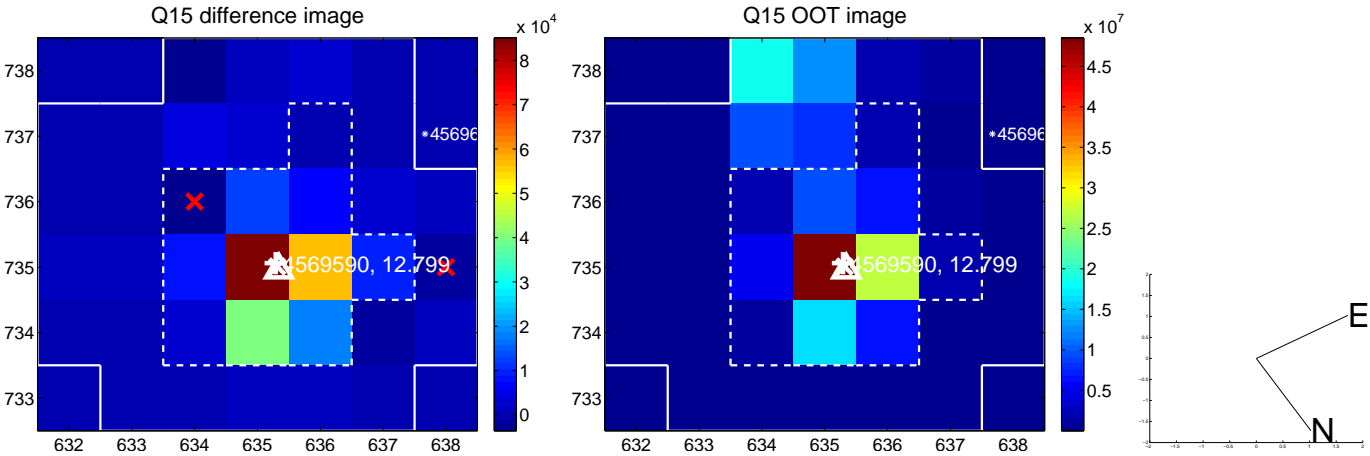
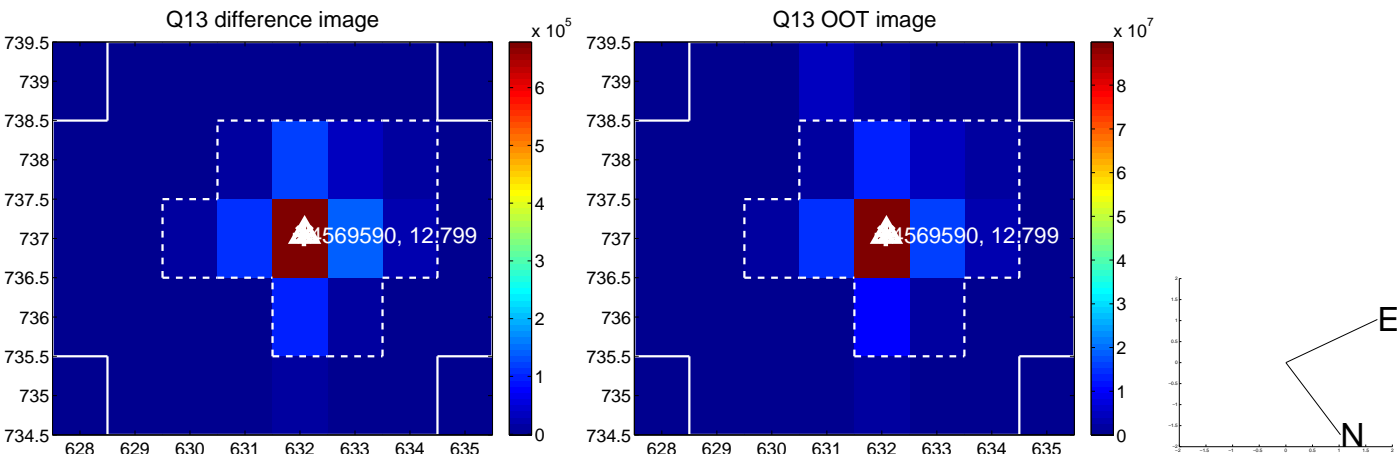
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



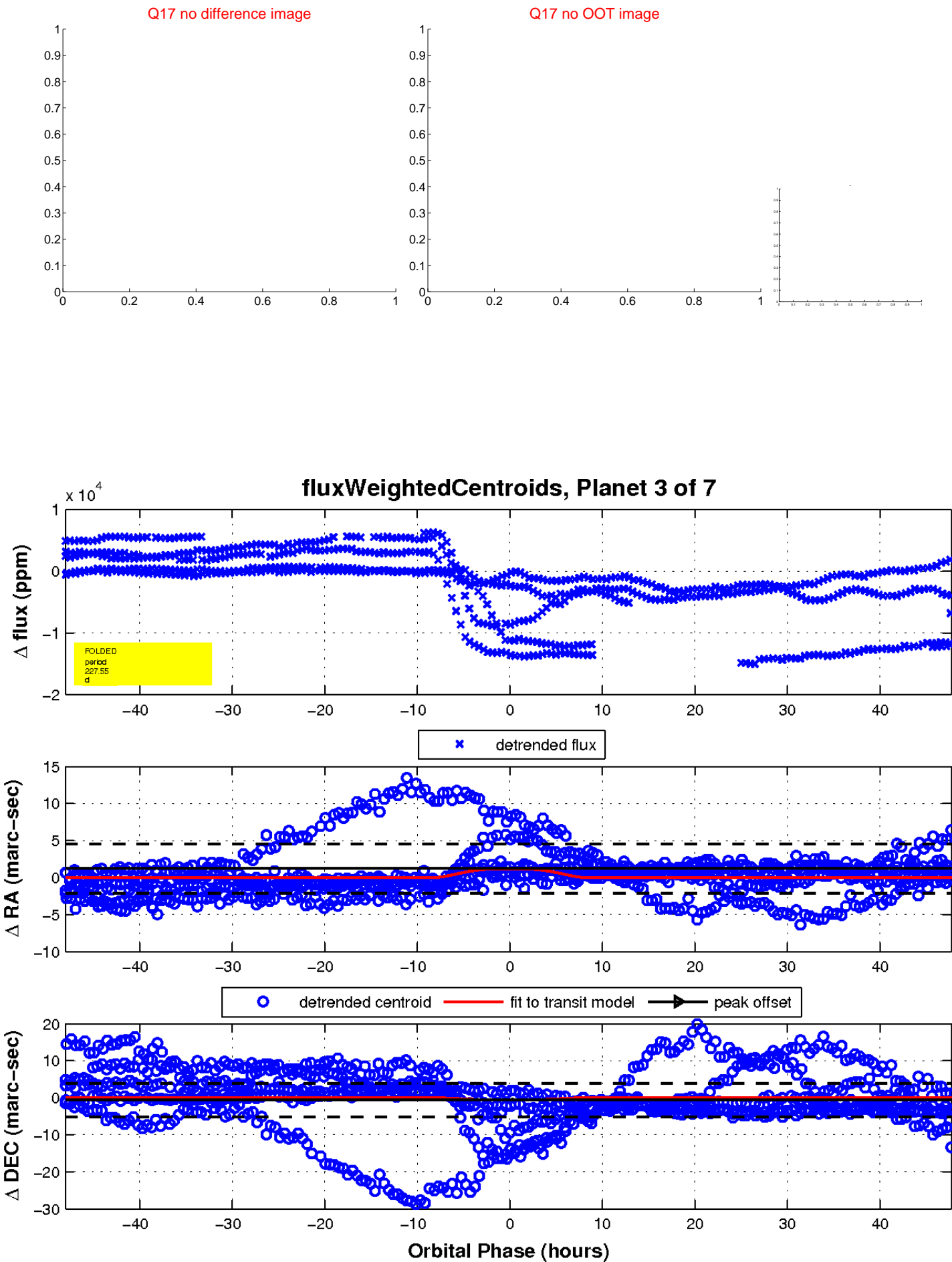
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



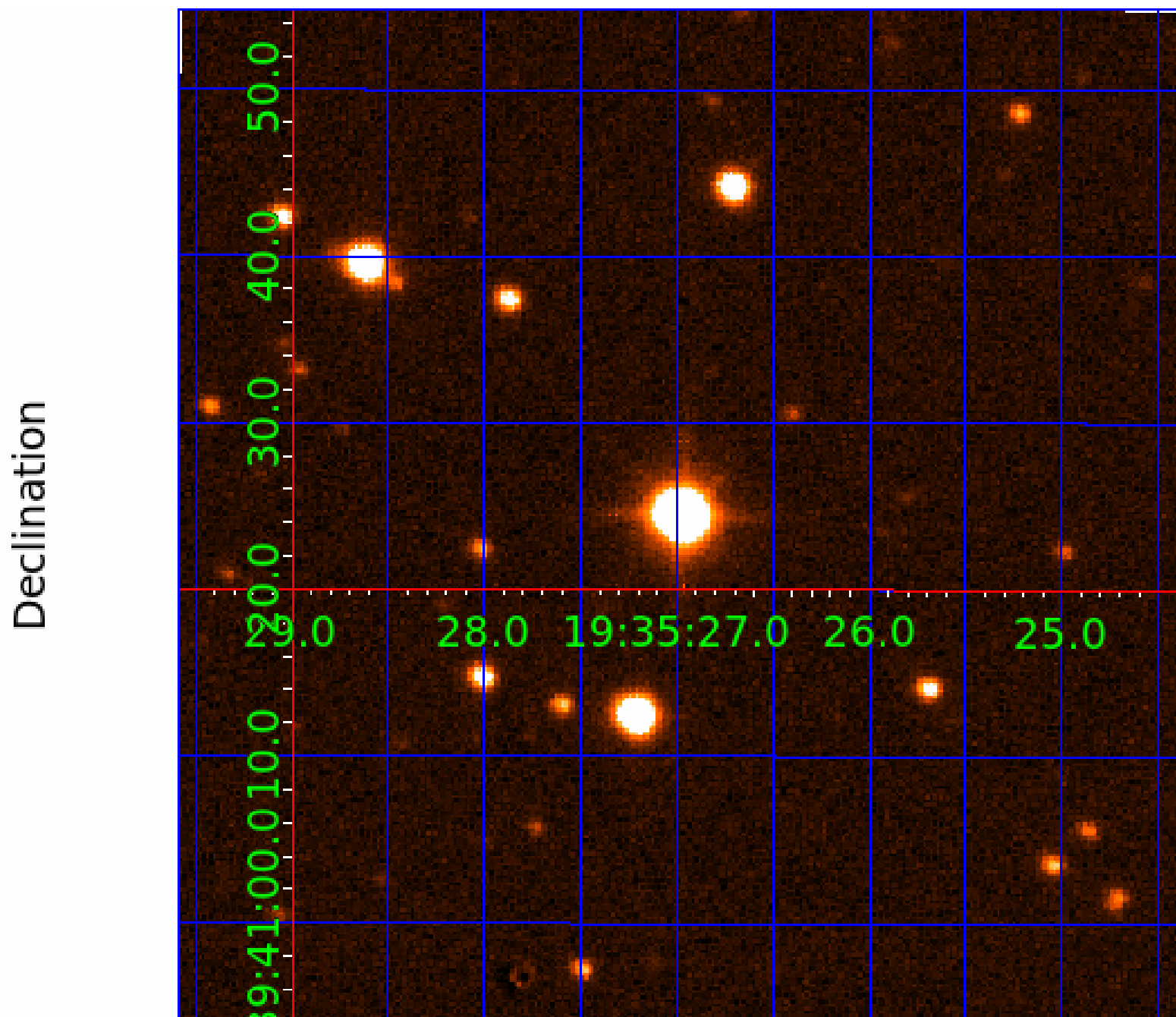
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004569590

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})
004569590-01	OBS	6426.01	41.370622	166.479530	4619.1	11.630	62.2	50.4	6.88	4764	54.15	389.98
004569590-02	OBS	No	413.704815	329.576068	6928.0	6.790	31.3	38.5	6.88	4764	108.71	18.10
004569590-03	OBS	No	227.547472	288.337947	3697.9	16.015	21.2	13.9	6.88	4764	52.78	40.17
004569590-04	OBS	No	124.106632	247.028720	347.7	15.000	22.3	-1.0	6.88	4764	12.37	90.14
004569590-05	OBS	No	41.370562	164.108012	1069.7	2.447	18.0	18.0	6.88	4764	46.44	389.98
004569590-06	OBS	No	41.370159	145.839688	1779.9	11.143	15.5	21.2	6.88	4764	58.20	389.99
004569590-07	OBS	No	41.369741	143.577011	200.3	12.000	13.2	-1.0	6.88	4764	9.39	389.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004569590-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004569590-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—SAME_NTL_PERIOD
004569590-03	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS
004569590-04	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST
004569590-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD
004569590-06	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
004569590-07	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

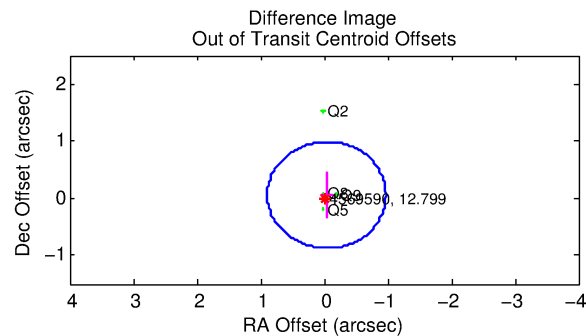
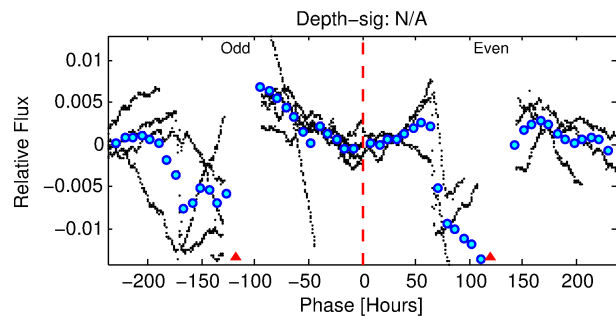
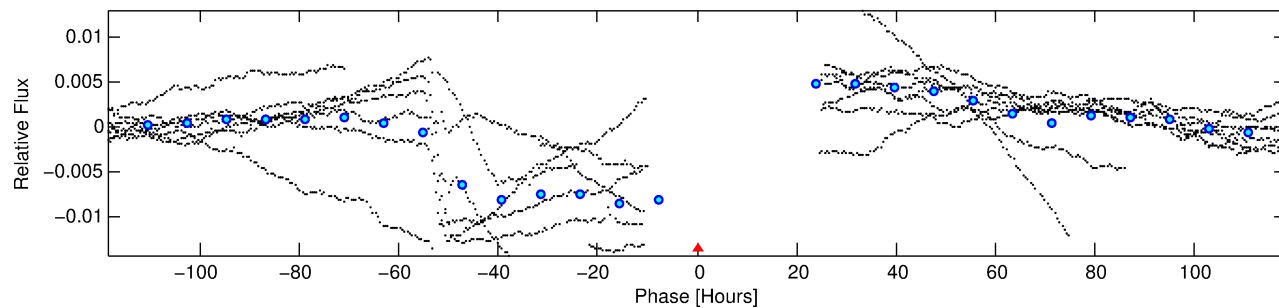
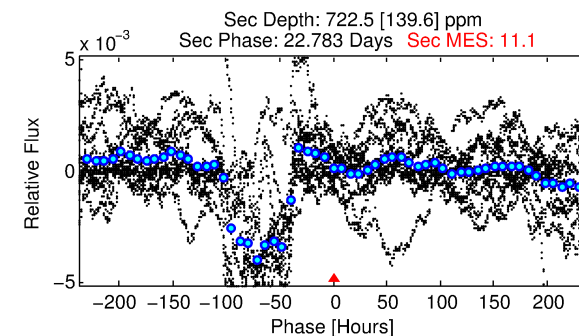
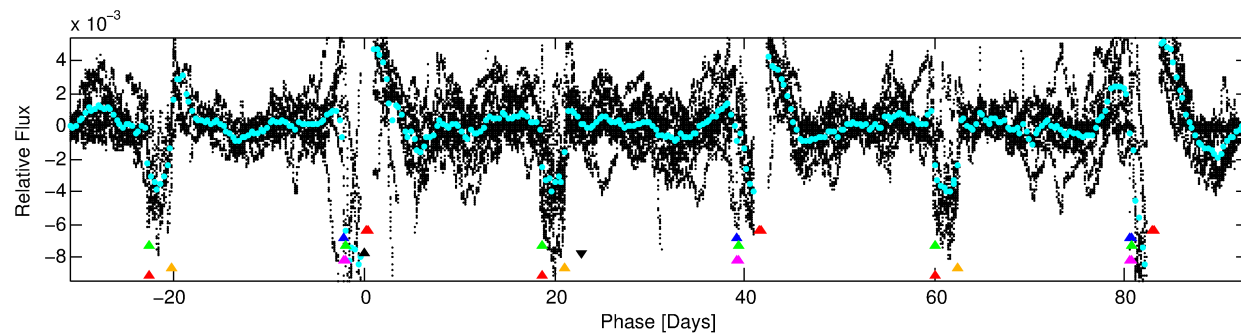
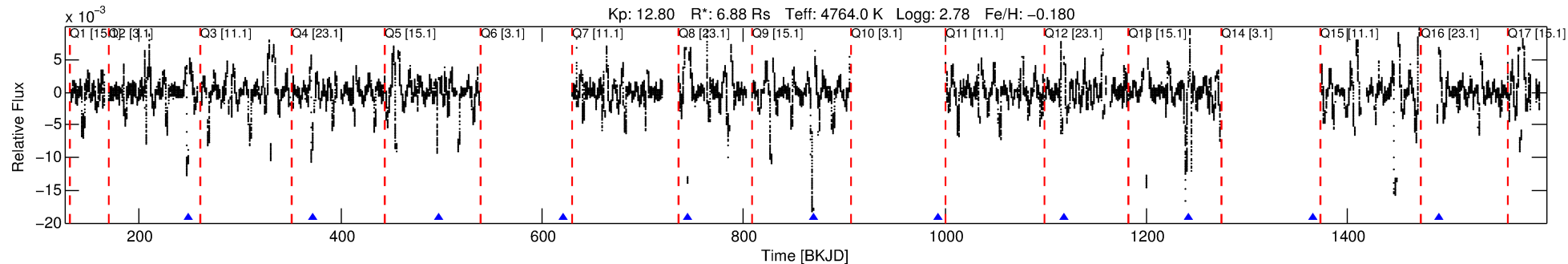
Ephemeris Match Information For 004569590-04

No Significant Match Found

DV One-Page Summary

KIC: 4569590 Candidate: 4 of 7 Period: 124.107 d
KOI: K06426 Corr: No Ephemeris Match

Kp: 12.80 R*: 6.88 Rs Teff: 4764.0 K Logg: 2.78 Fe/H: -0.180



TPS TCE Results:

Period = 124.10663 d
Epoch = 247.0287 BKJD

DV fit results are unavailable

DV Diagnostic Results:

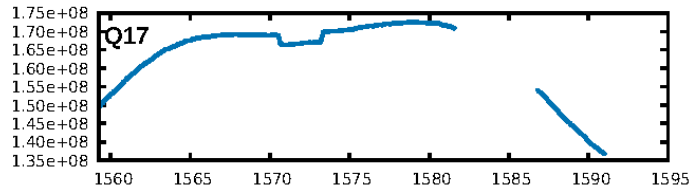
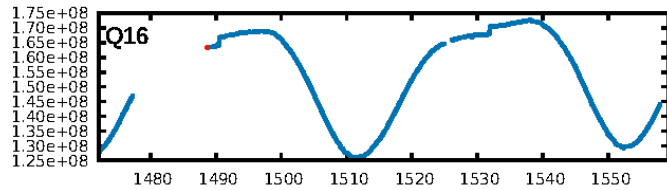
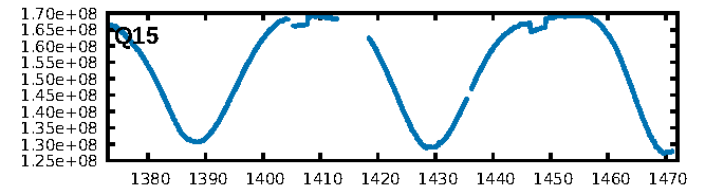
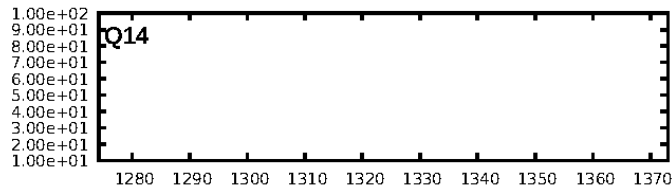
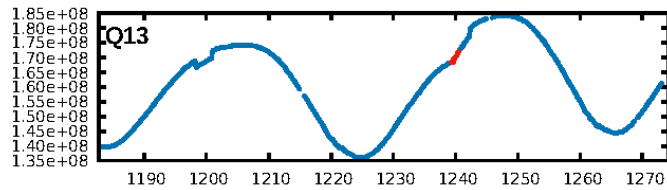
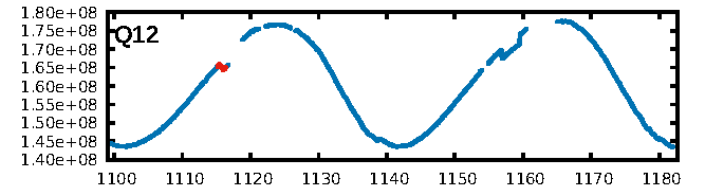
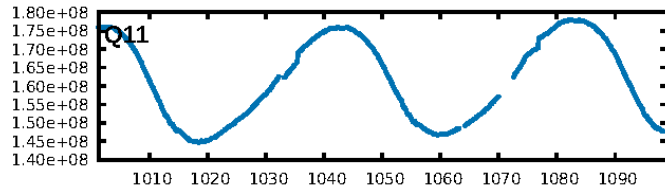
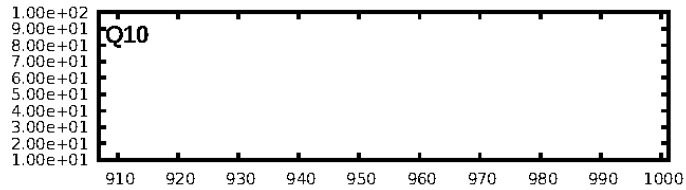
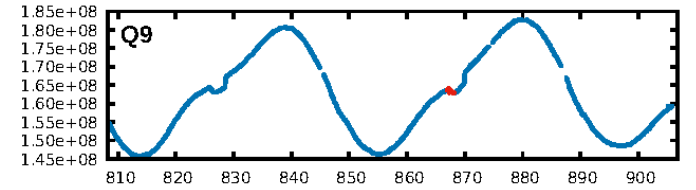
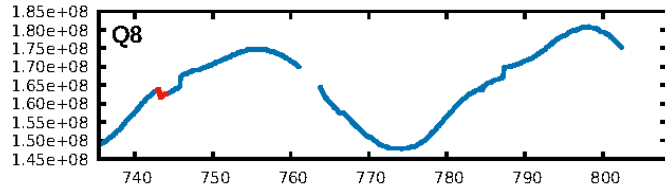
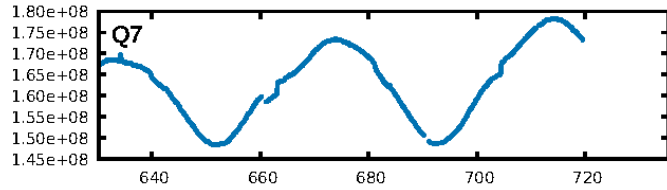
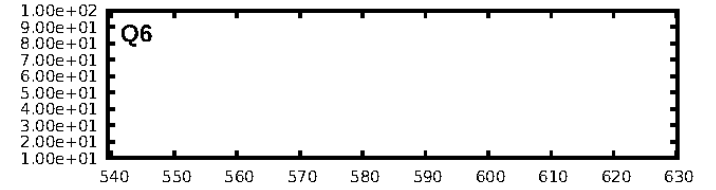
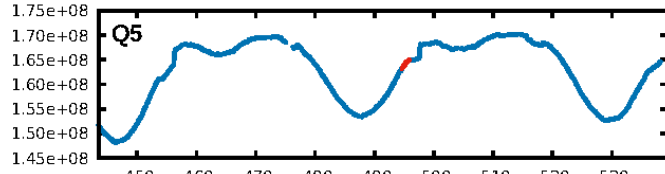
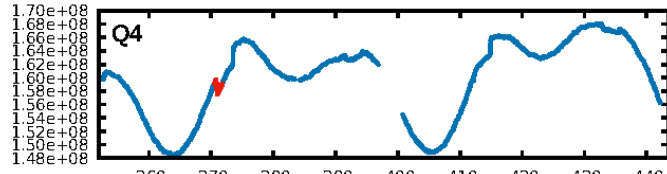
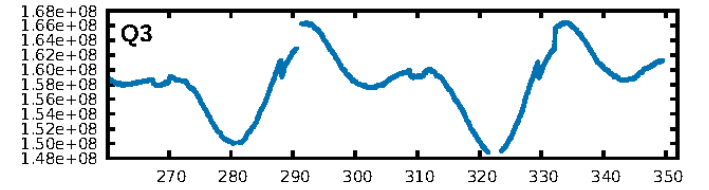
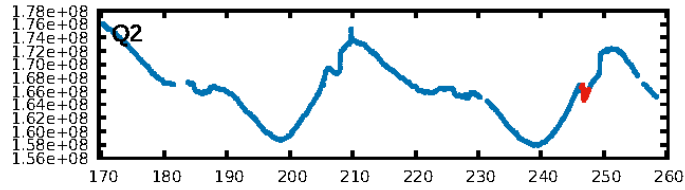
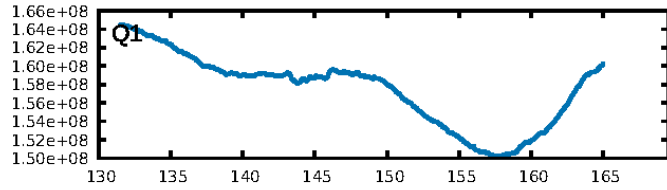
ShortPeriod-sig: 100.0% [104.62σ]
LongPeriod-sig: 100.0% [113.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.09742

Centroid-sig: 2.6%
Centroid-so: 0.200 arcsec [0.36σ]
OotOffset-rm: 0.070 arcsec [0.23σ]
KicOffset-rm: 0.083 arcsec [0.49σ]
OotOffset-st: 1/0/1/2 [4]
KicOffset-st: 1/0/1/2 [4]
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DiffImageOverlap-fno: 0.00 [0/4]

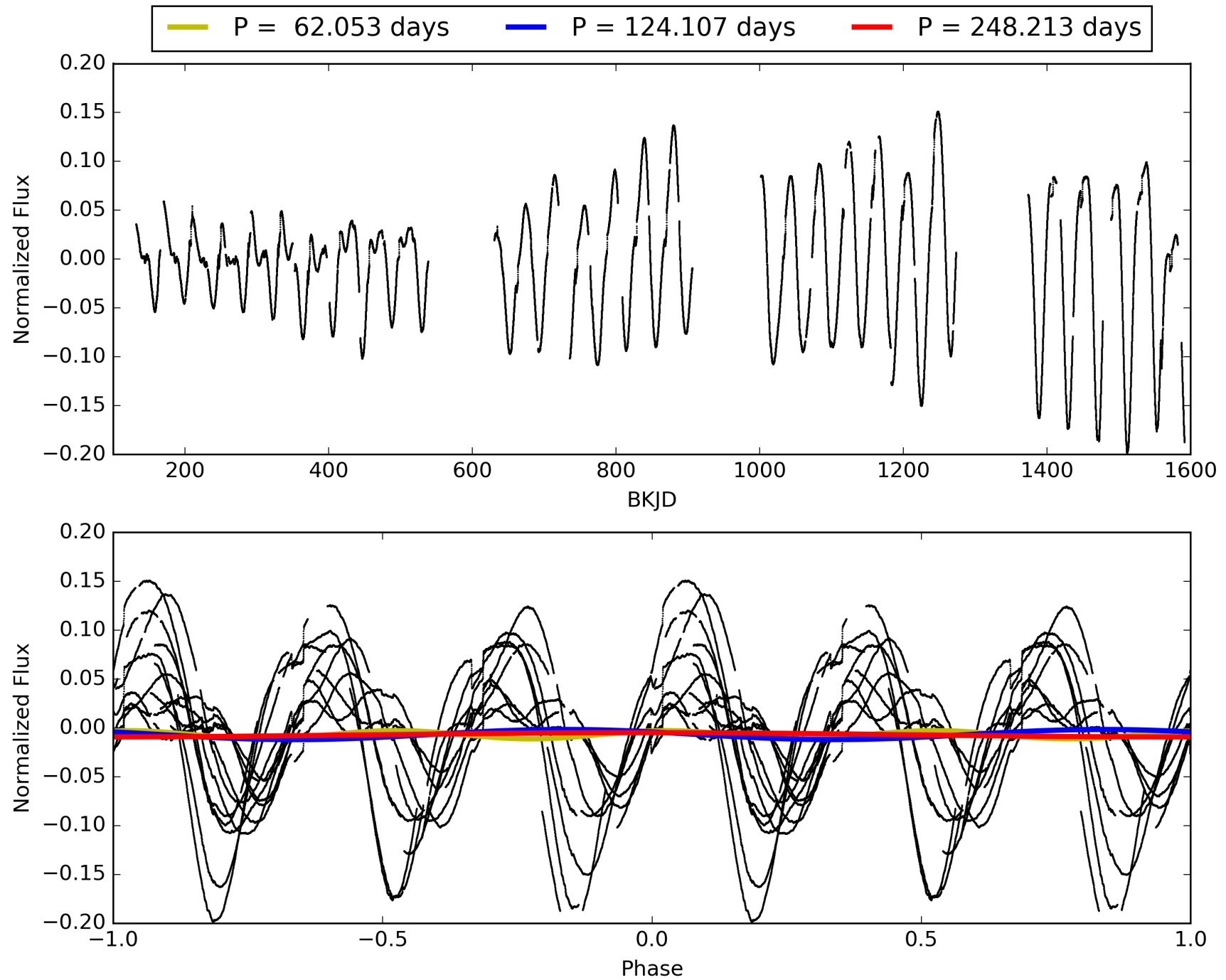
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:50:59 Z

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

TCE 004569590-04, PDC Light Curves

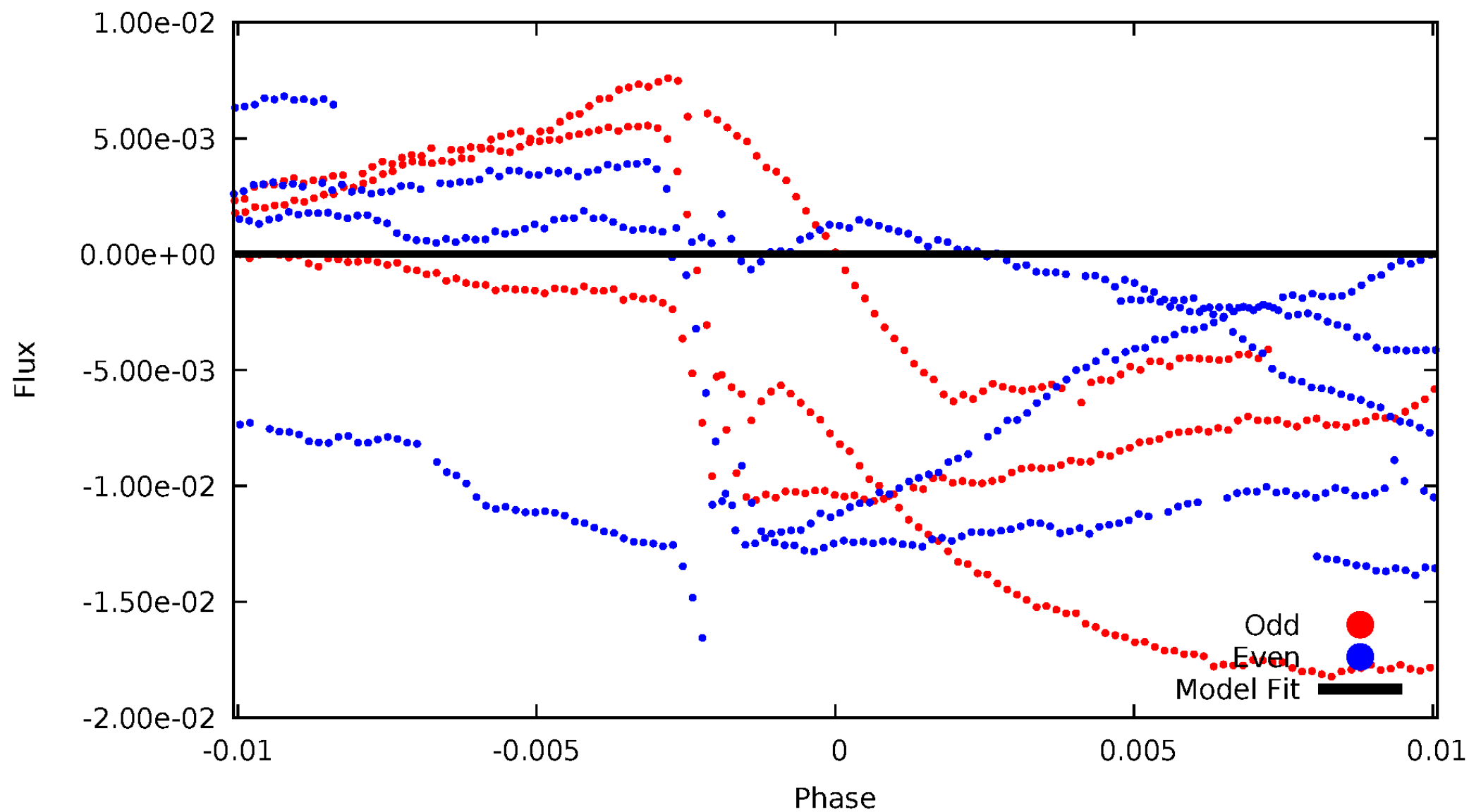


TCE 004569590-04



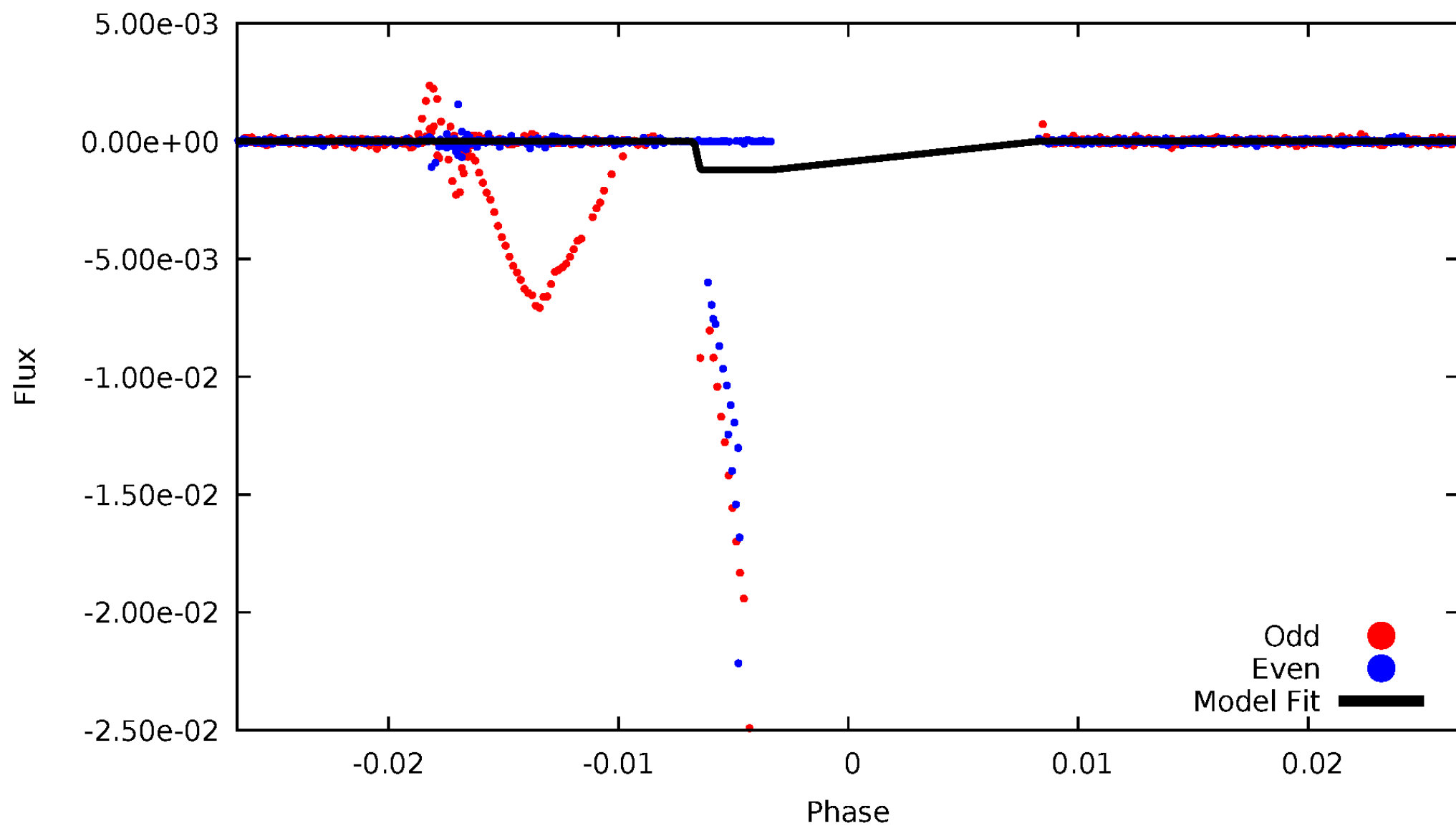
DV Odd/Even

TCE 004569590-04



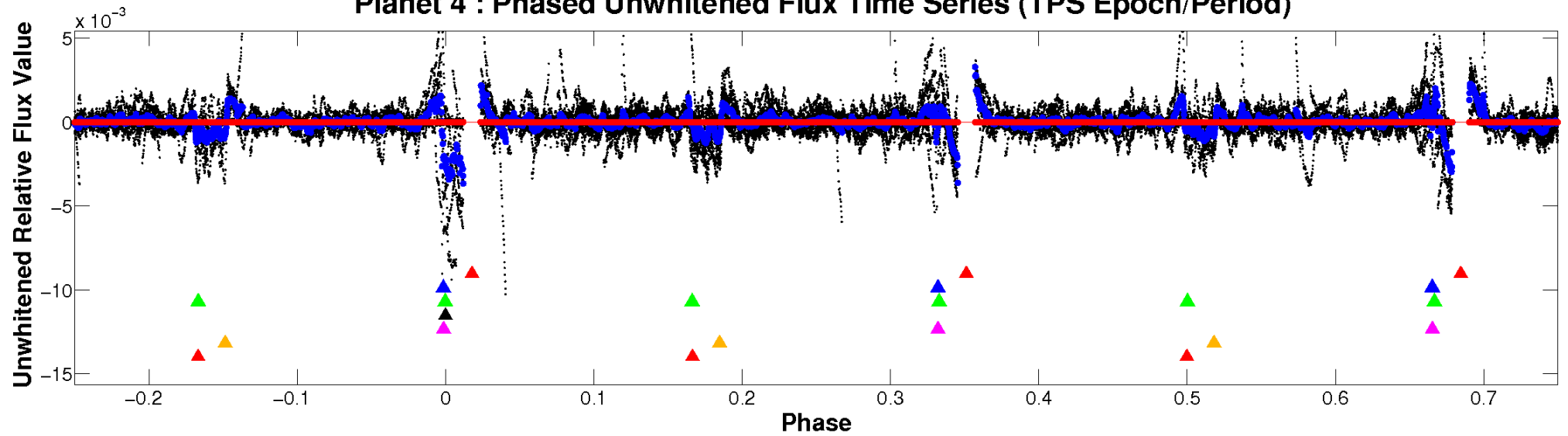
ALT Odd/Even

TCE 004569590-04



Non-Whitened Vs. Whitened Light Curve

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

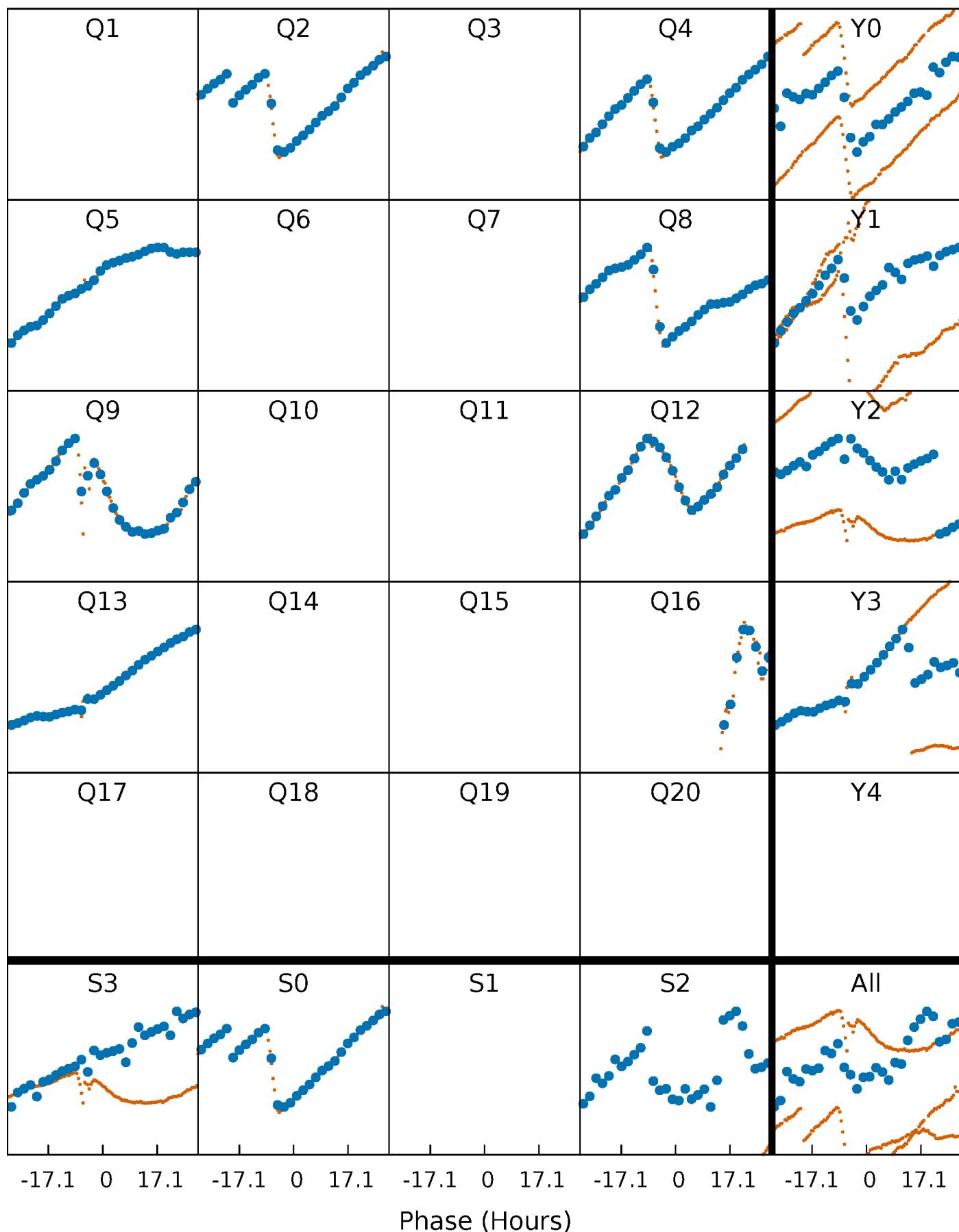


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



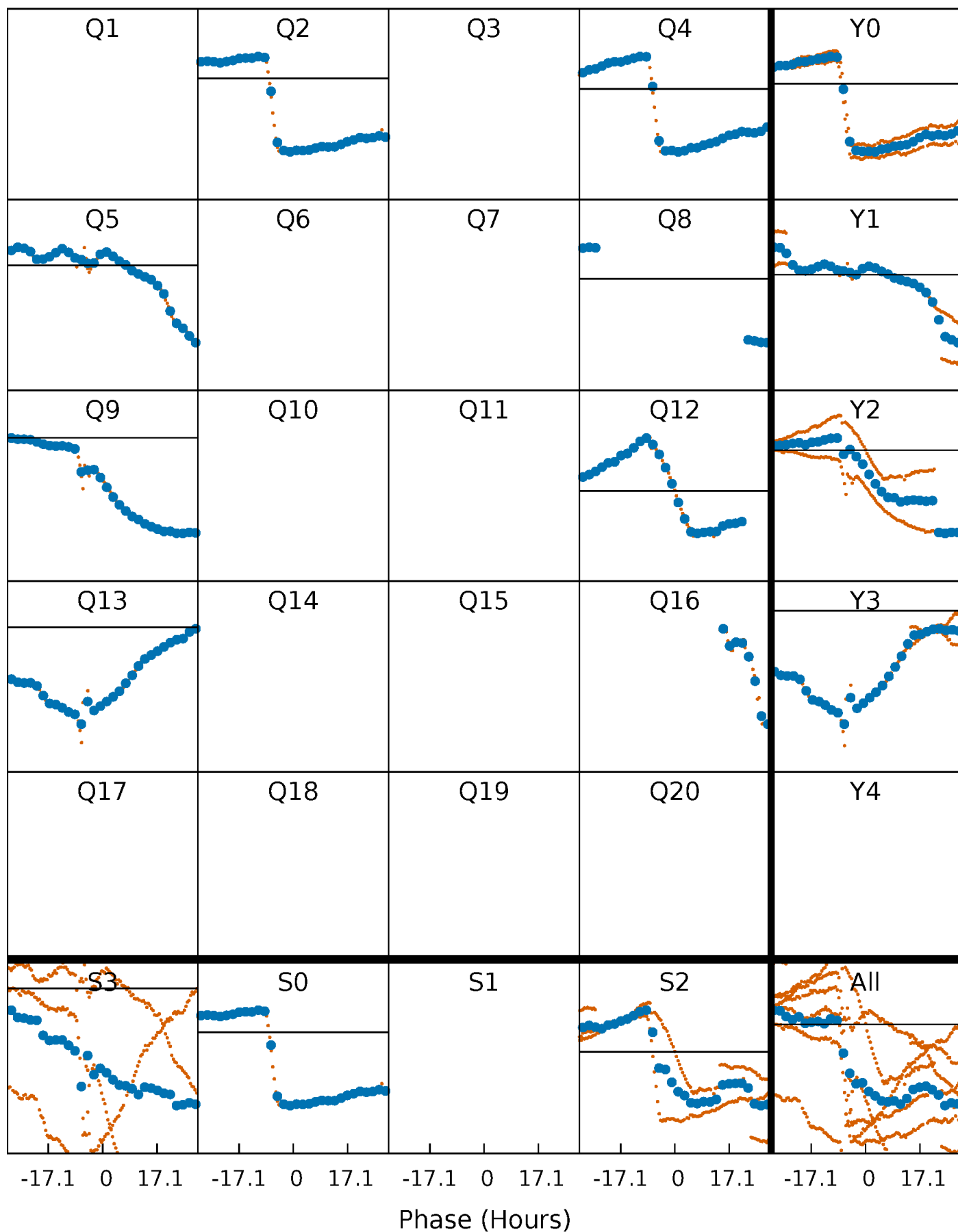
PDC Quarter-Phased Transit Curves

TCE 004569590-04 $P=124.106632$ Days $T_0=247.028720$ (BKJD)



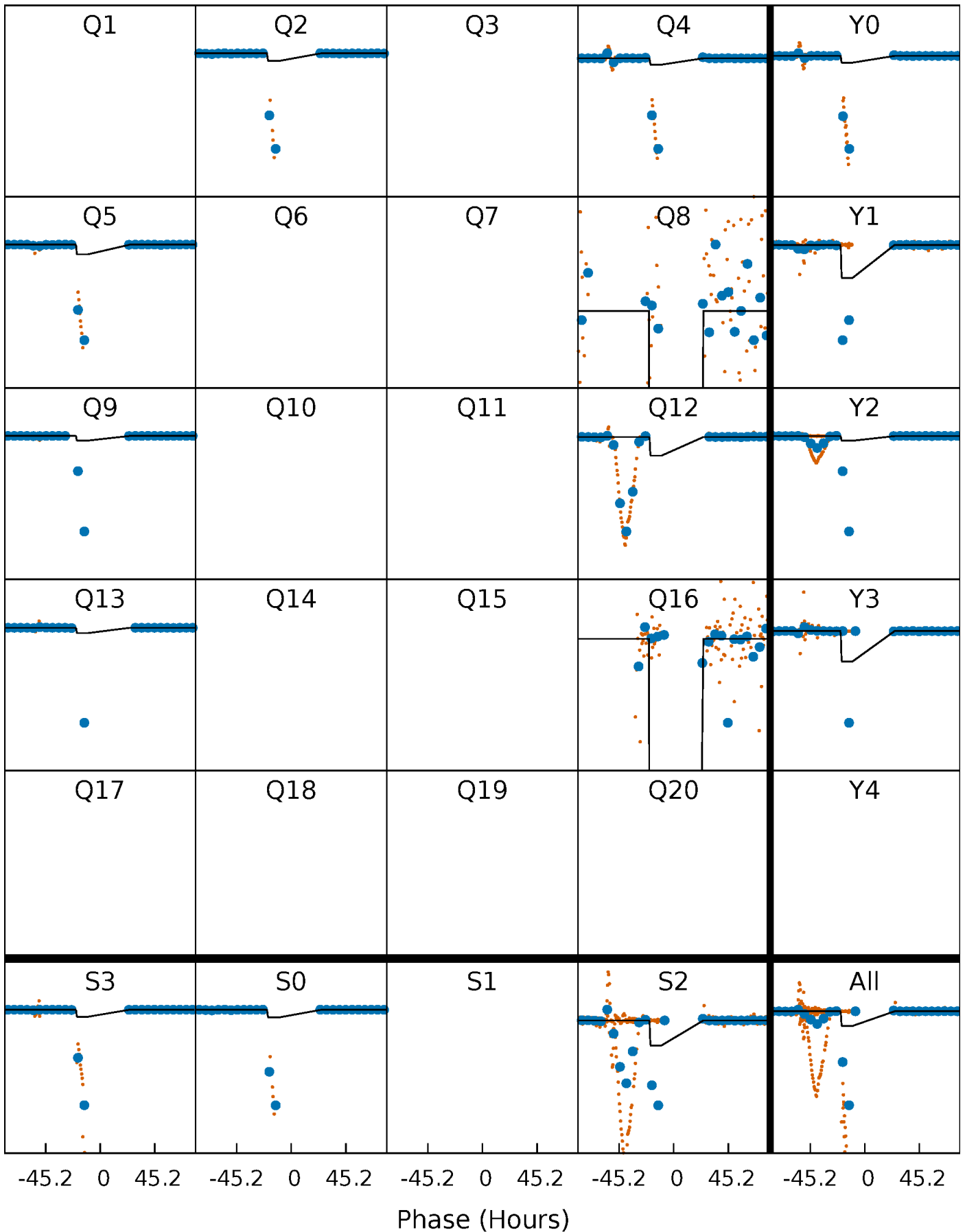
DV Quarter-Phased Transit Curves

TCE 004569590-04 $P=124.106632$ Days $T_0=247.028720$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

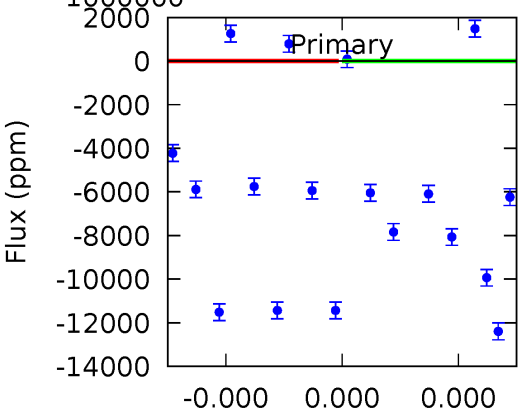
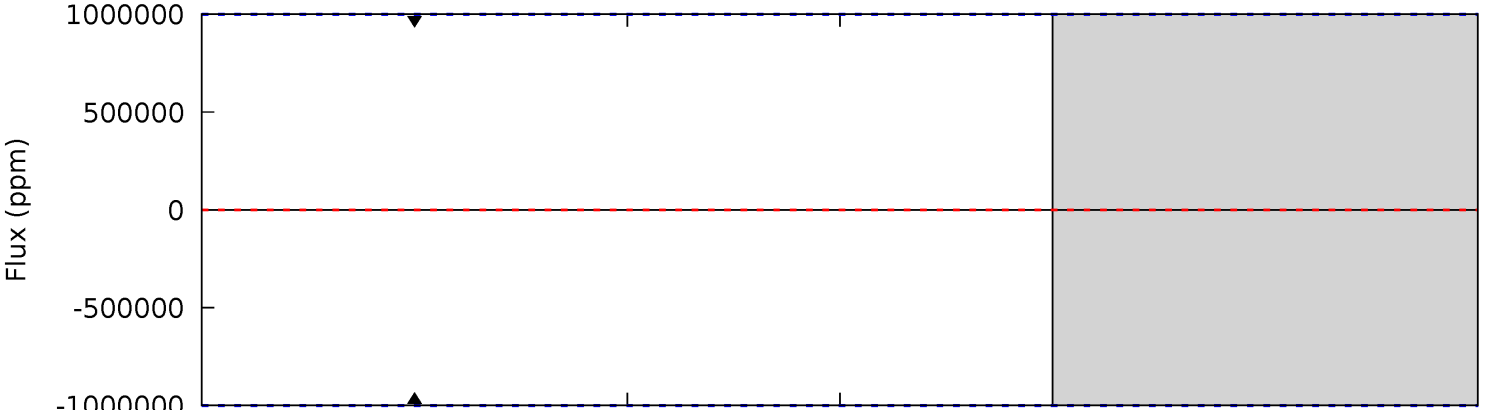
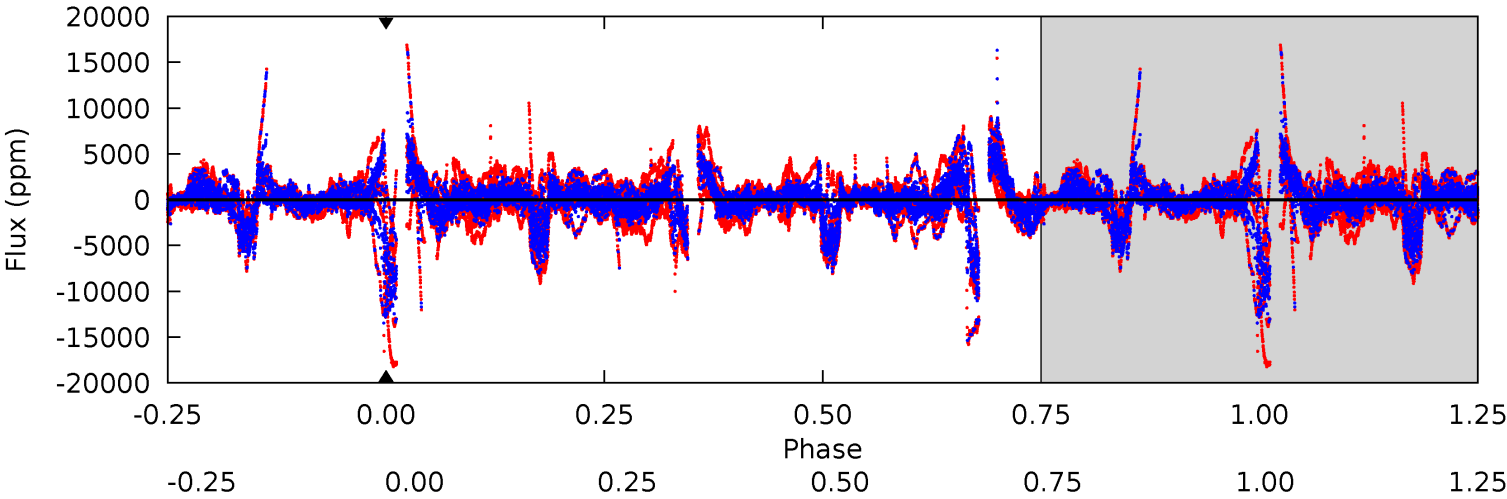
TCE 004569590-04 $P=124.106632$ Days $T_0=248.940068$ (BKJD)



DV Model-Shift Uniqueness Test

004569590-04, P = 124.106632 Days, E = 122.922088 Days

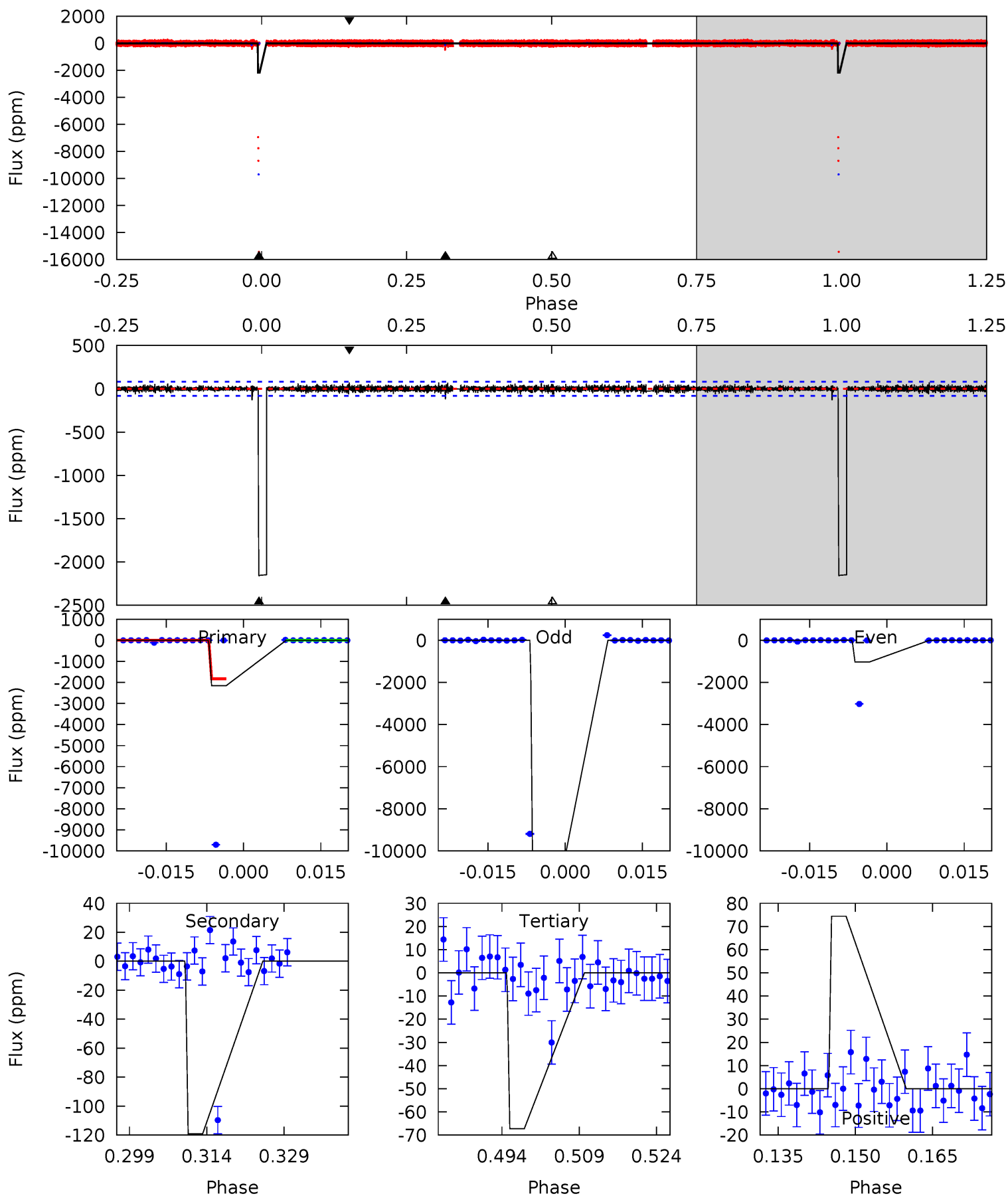
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004569590-04, P = 124.106632 Days, E = 124.833436 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
132.3	7.30	4.12	4.56	4.95	2.43	0.98	128.2	127.7	3.18	2.74	362.5	0	0.03	0



Stellar Parameters For KIC 004569590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+142}_{-107}	$2.777^{+0.402}_{-0.329}$	$-0.180^{+0.300}_{-0.200}$	$6.883^{+3.901}_{-2.601}$	$1.035^{+0.388}_{-0.114}$	$0.004^{+0.015}_{-0.003}$
	+3%/-2%	+14%/-12%	+167%/-111%	+57%/-38%	+37%/-11%	+329%/-71%
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 004569590-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$56.38^{+59.06}_{-39.27}$	1093^{+151}_{-120}	-4249^{+16568}_{-9515}	$-128.264^{+5963.326}_{-9275.749}$
Alt.	-119 ± 16	$64.70^{+68.31}_{-44.38}$	1108^{+150}_{-133}	2501^{+981}_{-431}	$4.106^{+39.250}_{-3.144}$

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

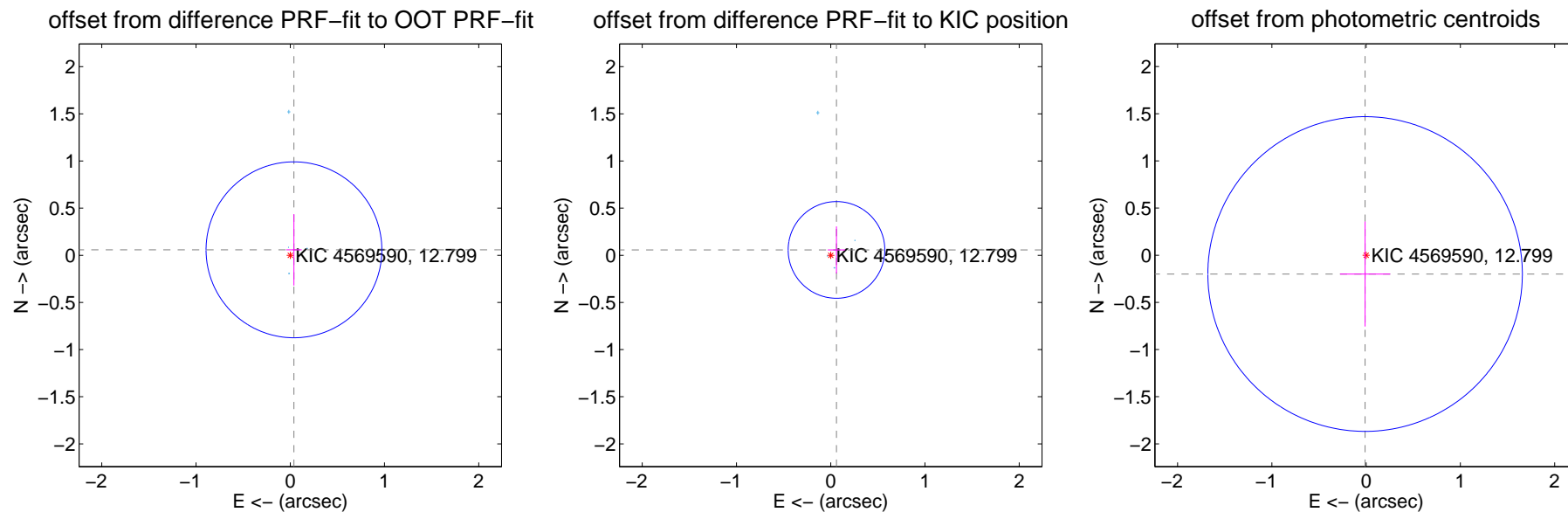
DV Centroid Data

Supplemental centroid analysis for 004569590-04. Kepler magnitude: 12.80. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

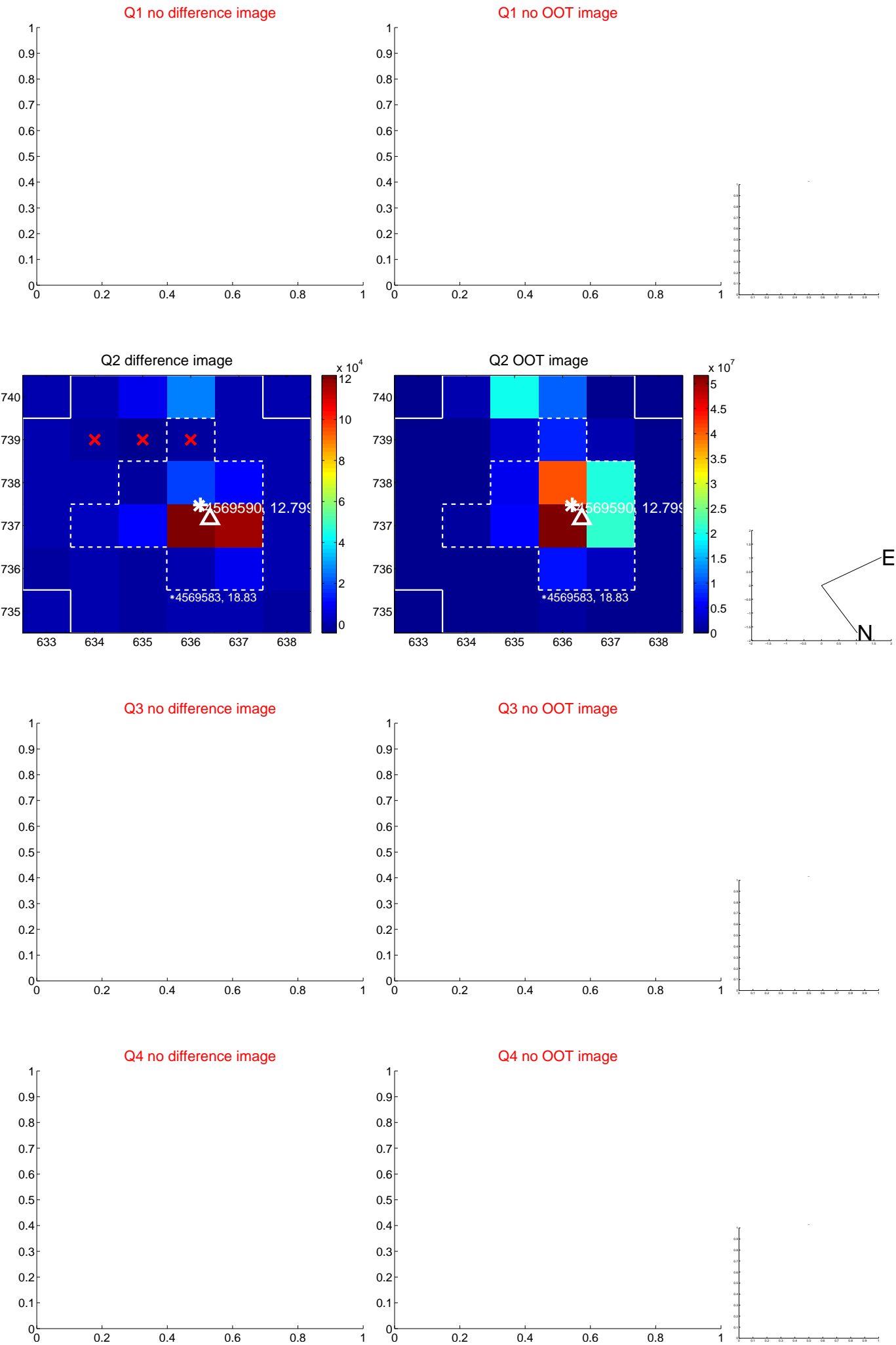
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.070 ± 0.311	0.23	-0.039 ± 0.082	0.058 ± 0.379
PRF-fit source offset from KIC position	0.083 ± 0.171	0.49	-0.061 ± 0.092	0.057 ± 0.249
photometric centroid source offset	0.20 ± 0.56	0.36	0.01 ± 0.27	-0.20 ± 0.56

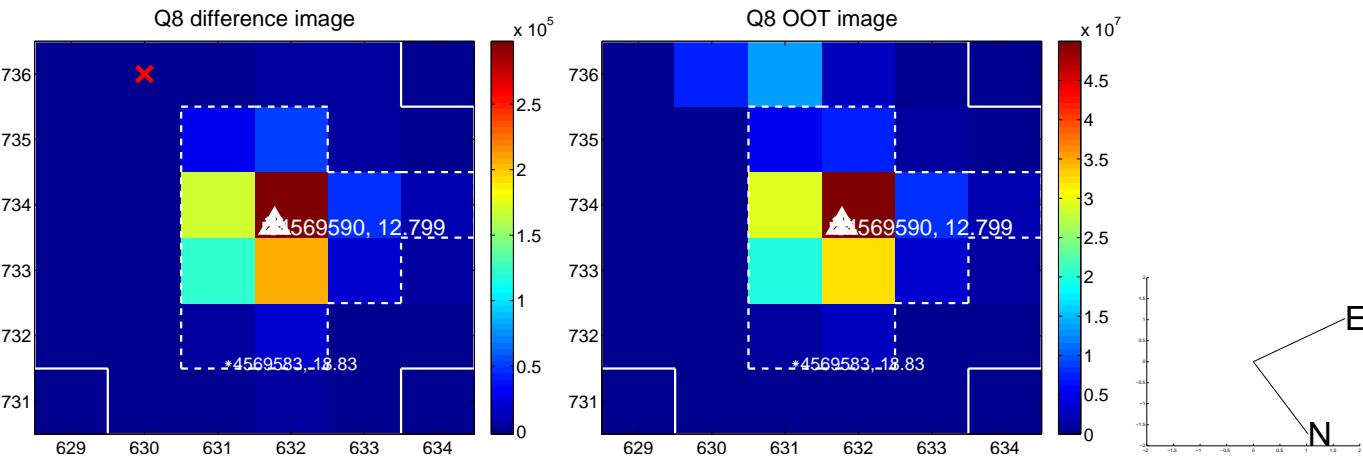
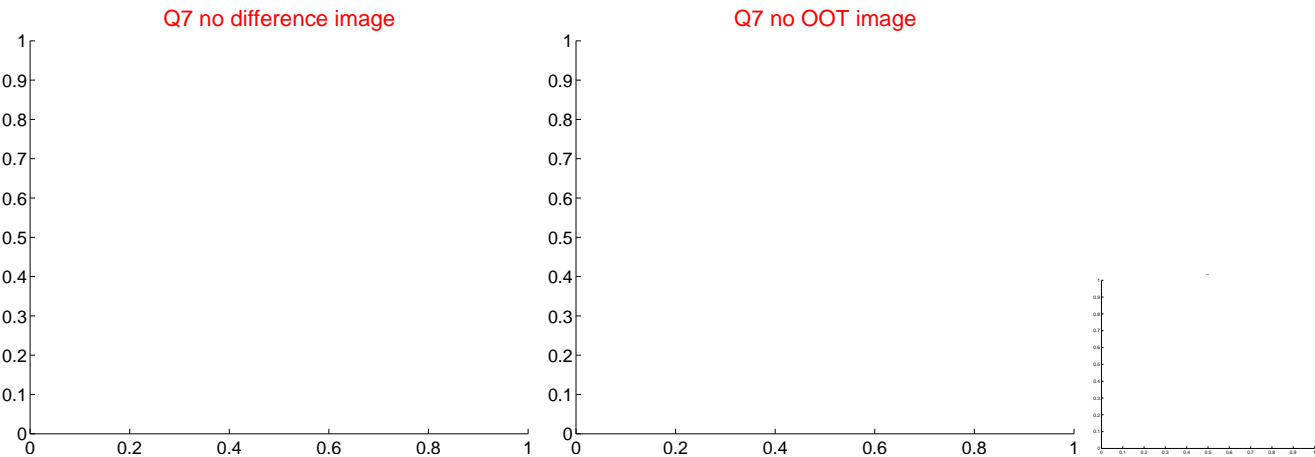
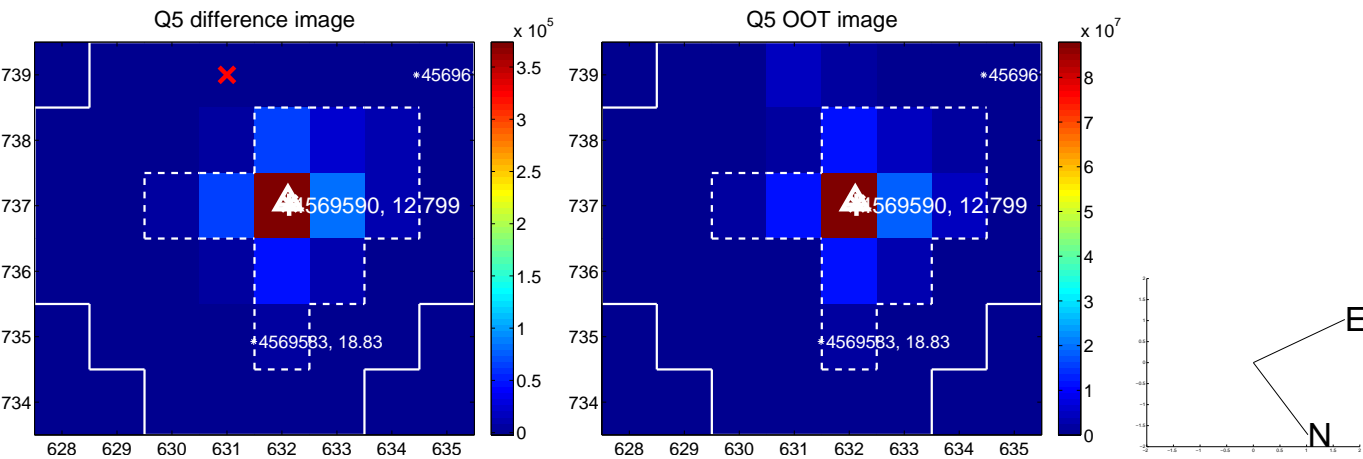


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

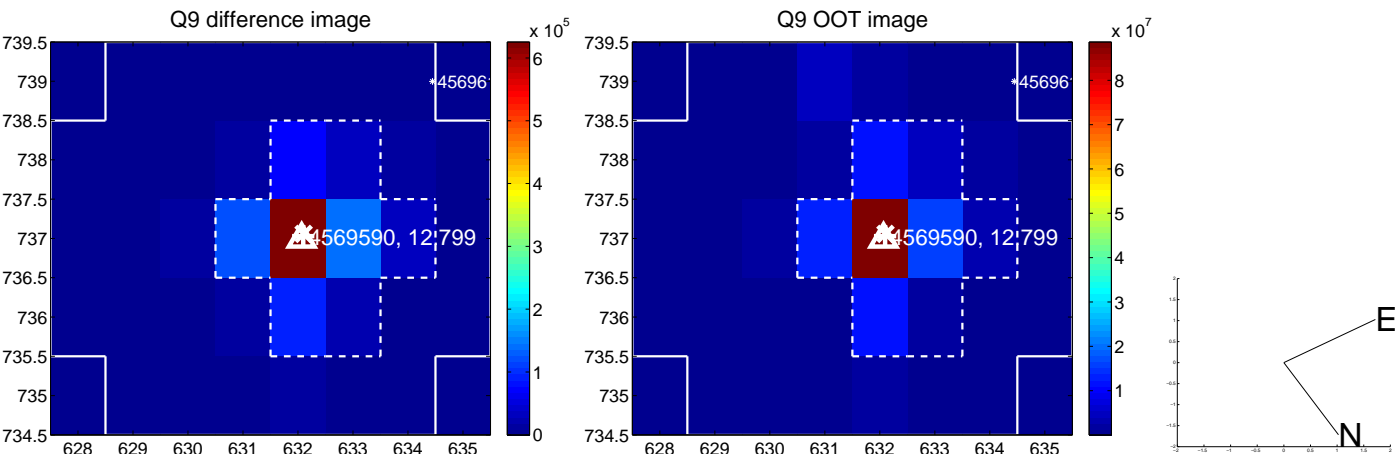
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



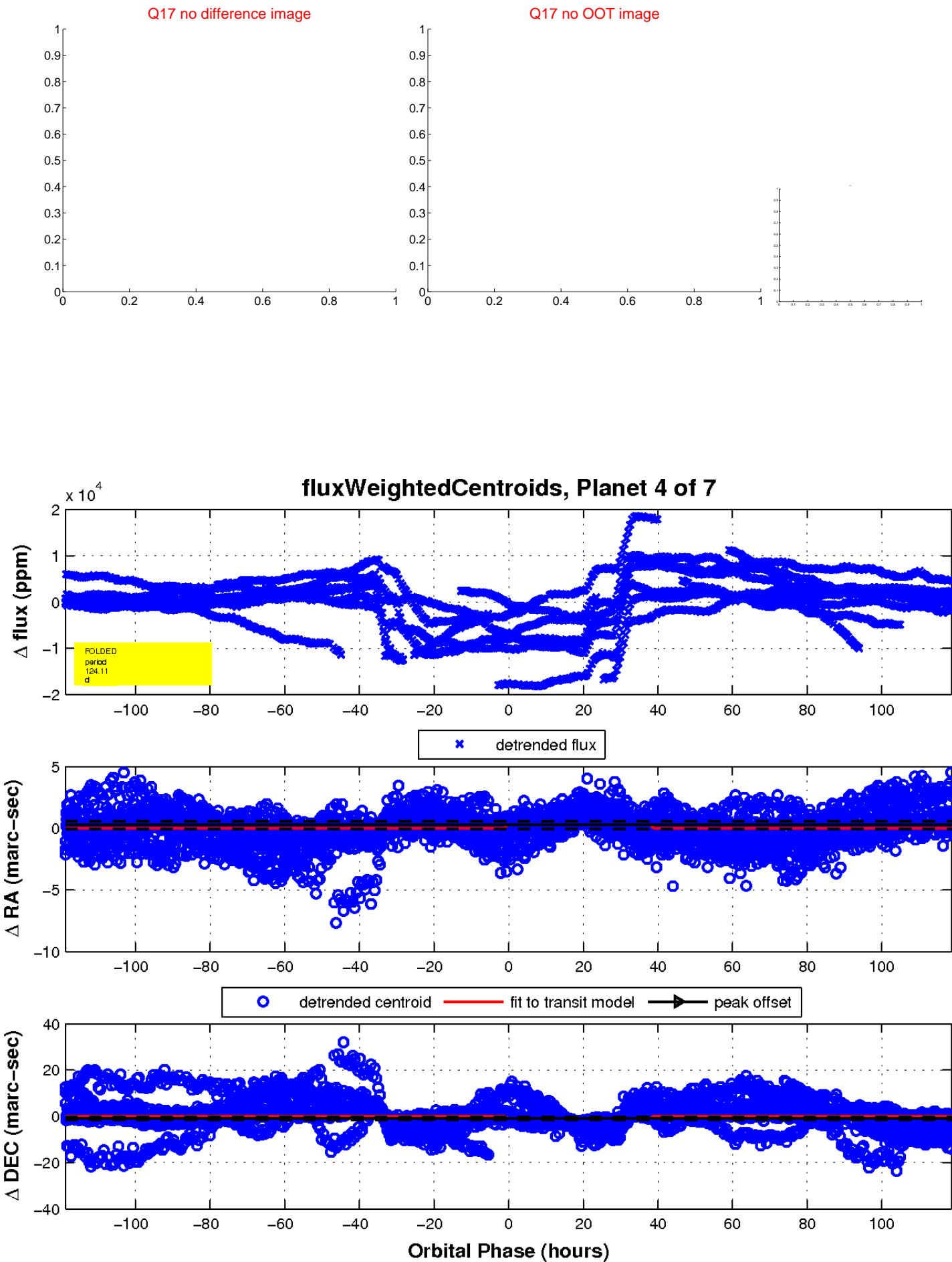
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

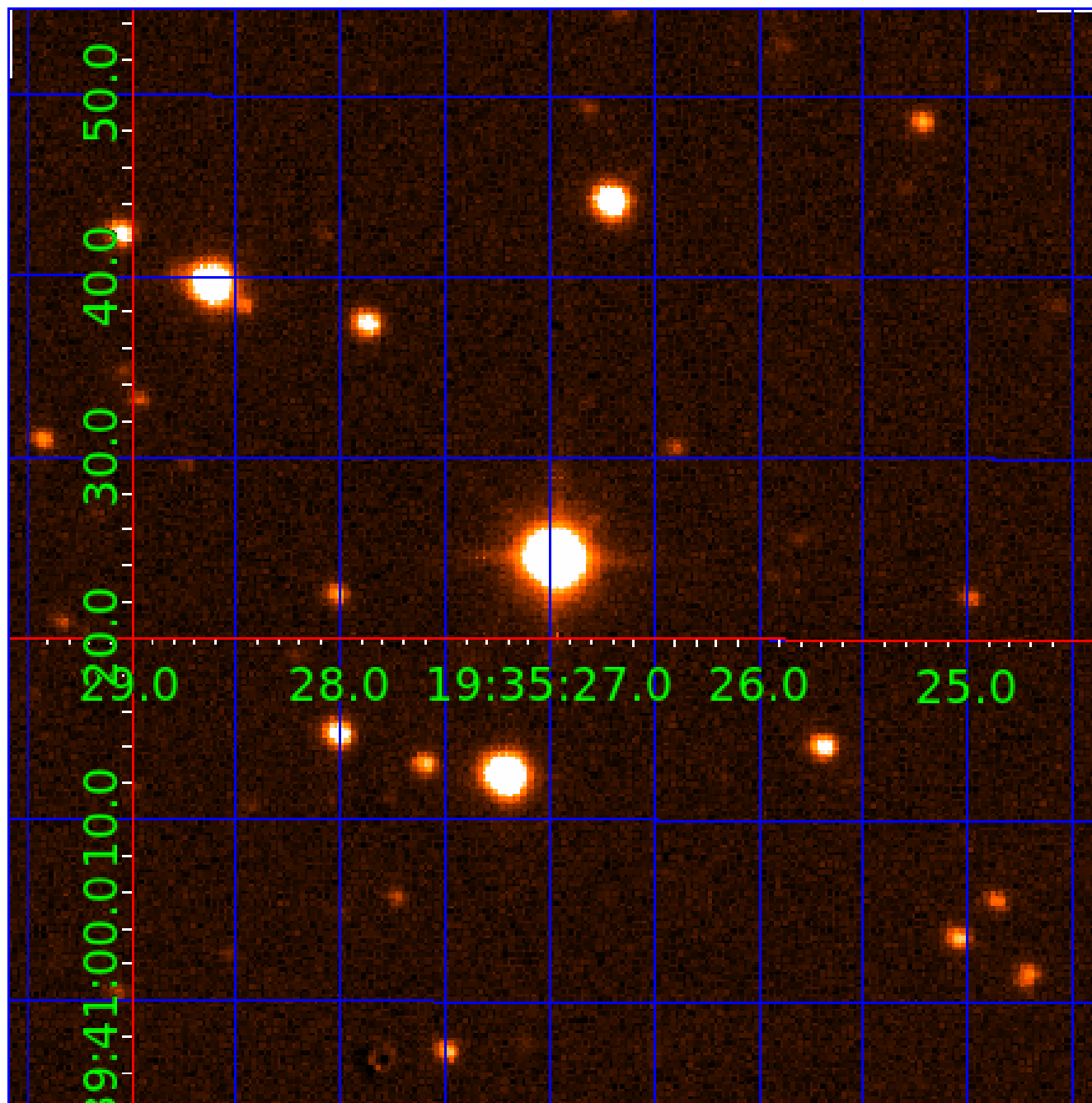


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004569590

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})
004569590-01	OBS	6426.01	41.370622	166.479530	4619.1	11.630	62.2	50.4	6.88	4764	54.15	389.98
004569590-02	OBS	No	413.704815	329.576068	6928.0	6.790	31.3	38.5	6.88	4764	108.71	18.10
004569590-03	OBS	No	227.547472	288.337947	3697.9	16.015	21.2	13.9	6.88	4764	52.78	40.17
004569590-04	OBS	No	124.106632	247.028720	347.7	15.000	22.3	-1.0	6.88	4764	12.37	90.14
004569590-05	OBS	No	41.370562	164.108012	1069.7	2.447	18.0	18.0	6.88	4764	46.44	389.98
004569590-06	OBS	No	41.370159	145.839688	1779.9	11.143	15.5	21.2	6.88	4764	58.20	389.99
004569590-07	OBS	No	41.369741	143.577011	200.3	12.000	13.2	-1.0	6.88	4764	9.39	389.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004569590-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004569590-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—SAME_NTL_PERIOD
004569590-03	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS
004569590-04	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST
004569590-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD
004569590-06	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
004569590-07	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

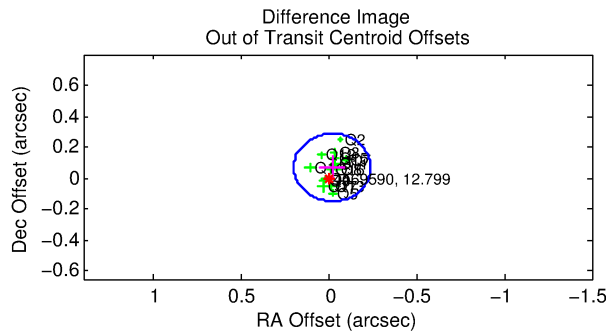
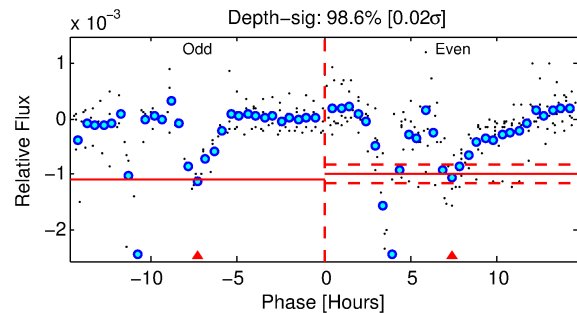
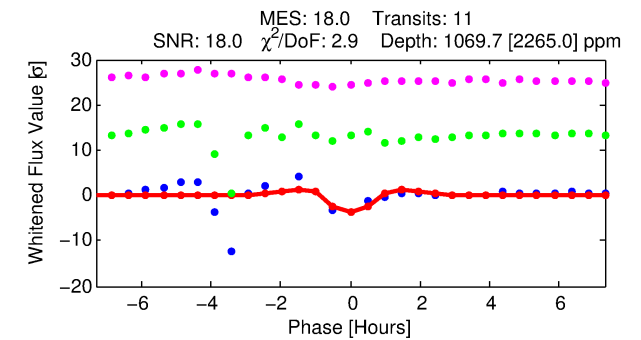
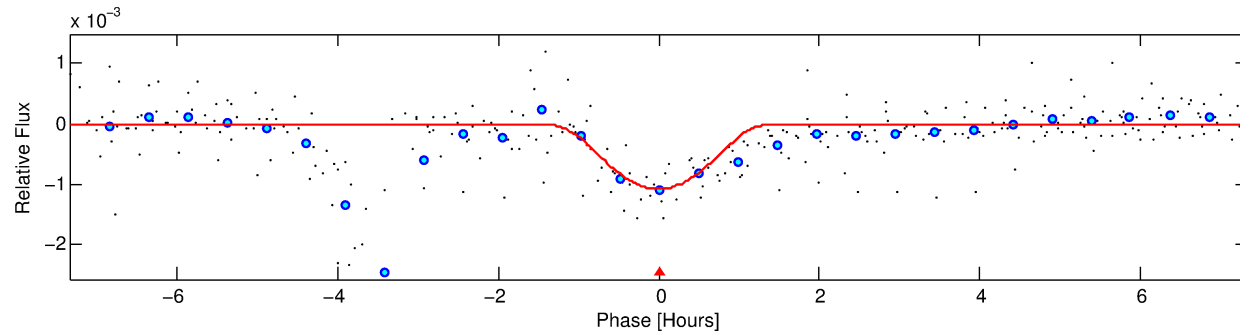
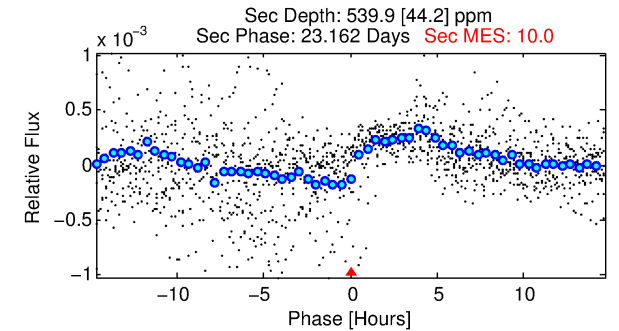
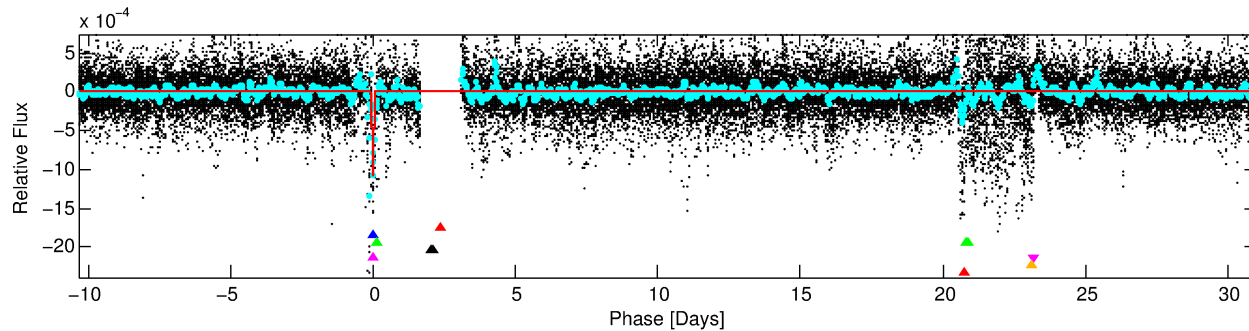
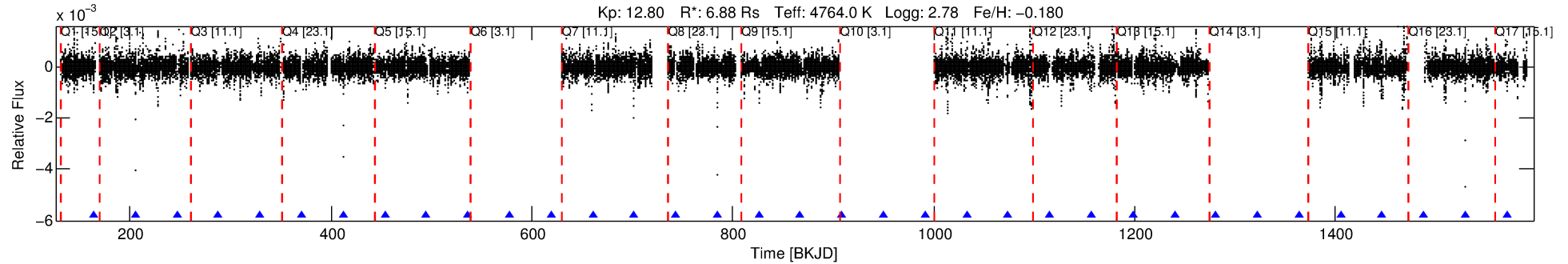
Ephemeris Match Information For 004569590-05

No Significant Match Found

DV One-Page Summary

KIC: 4569590 Candidate: 5 of 7 Period: 41.371 d
KOI: K06426 Corr: No Ephemeris Match

Kp: 12.80 R*: 6.88 Rs Teff: 4764.0 K Logg: 2.78 Fe/H: -0.180



DV Fit Results:

Period = 41.37056 [0.00023] d
Epoch = 164.1080 [0.0041] BKJD
Rp/R* = 0.0618 [0.2338]
a/R* = 46.13 [39.70]
b = 1.00 [0.25]
Seff = 389.98 [285.99]
Teq = 1133 [208] K
Rp = 46.44 [177.54] Re
a = 0.2368 [0.1155] AU
Ag = 7.72 [58.64] [0.11σ]
Teffp = 2920 [5521] K [0.32σ]

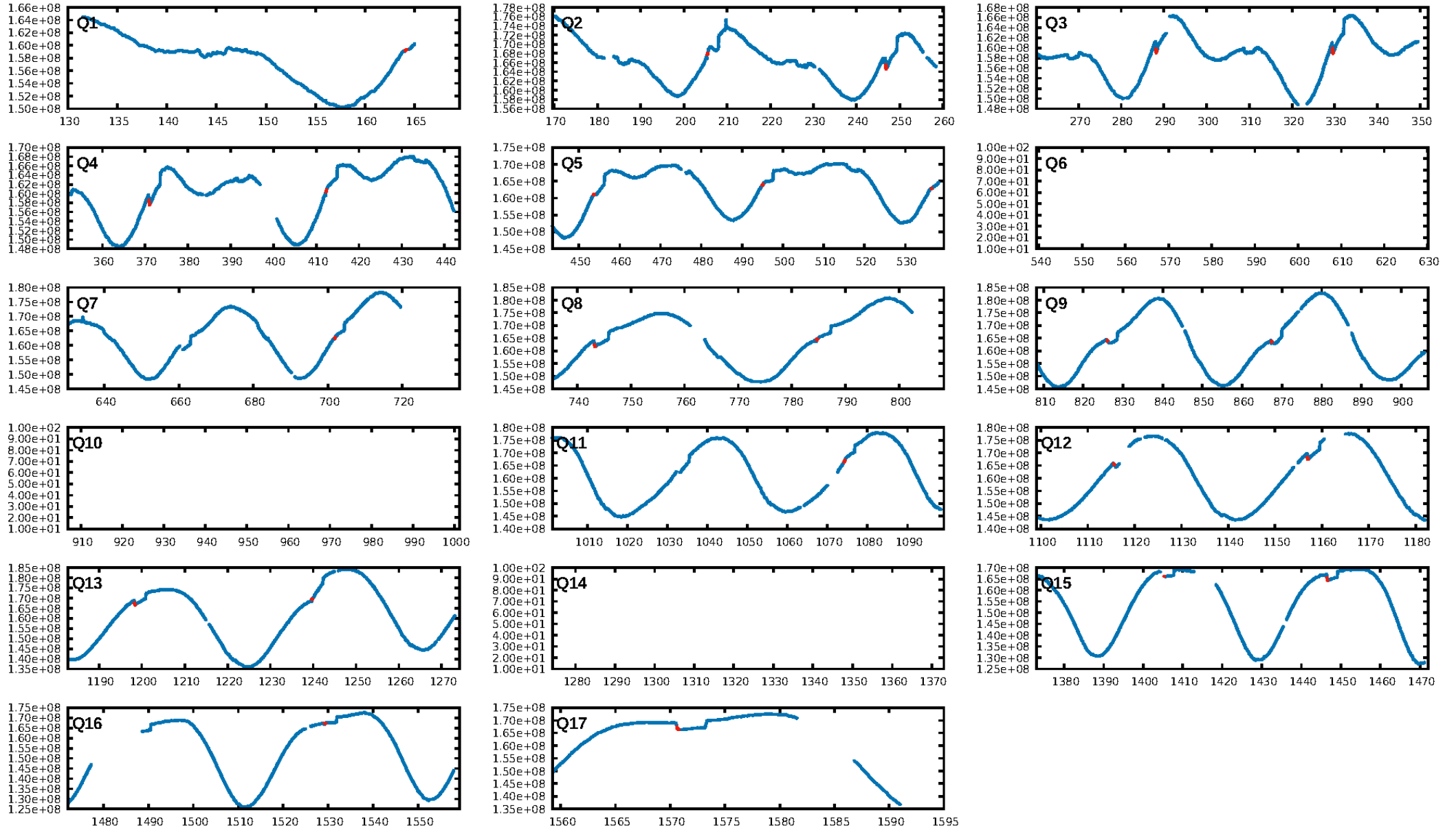
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 0.968
Centroid-sig: 0.0%
Centroid-so: 0.823 arcsec [2.43σ]
OotOffset-rm: 0.072 arcsec [0.99σ]
KicOffset-rm: 0.030 arcsec [0.42σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.86 [12/14]

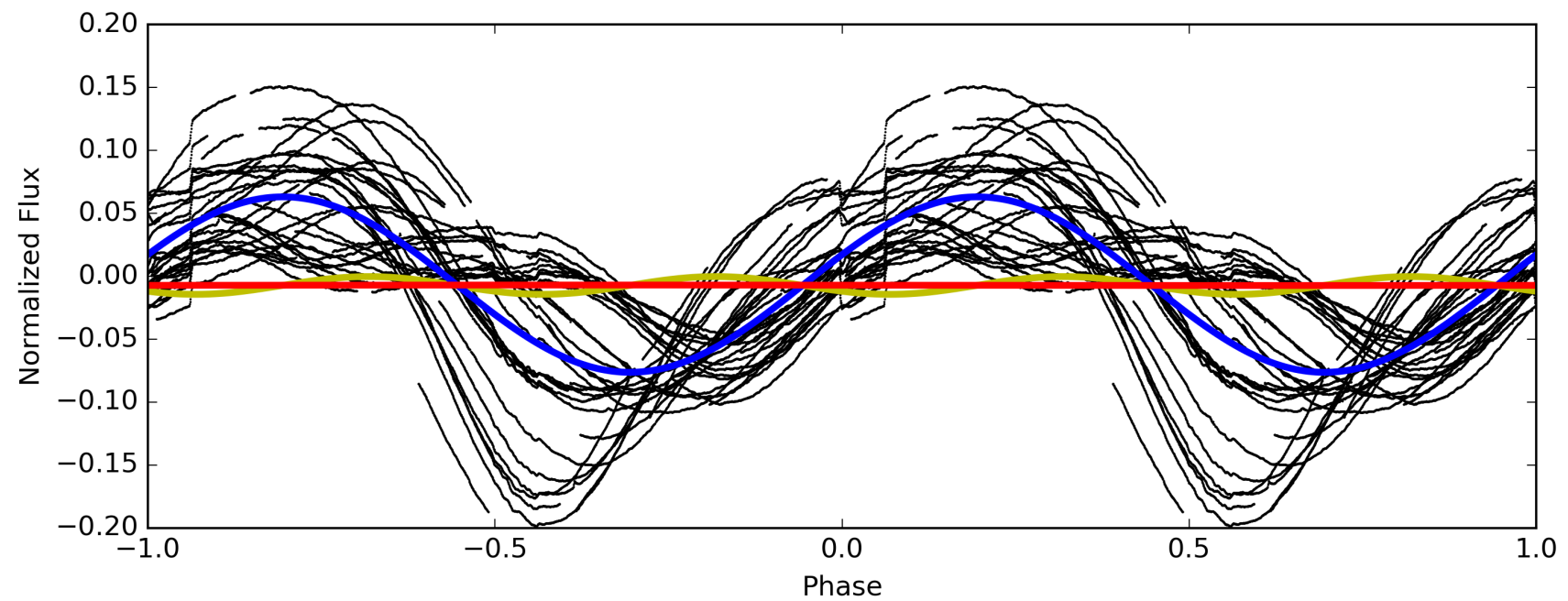
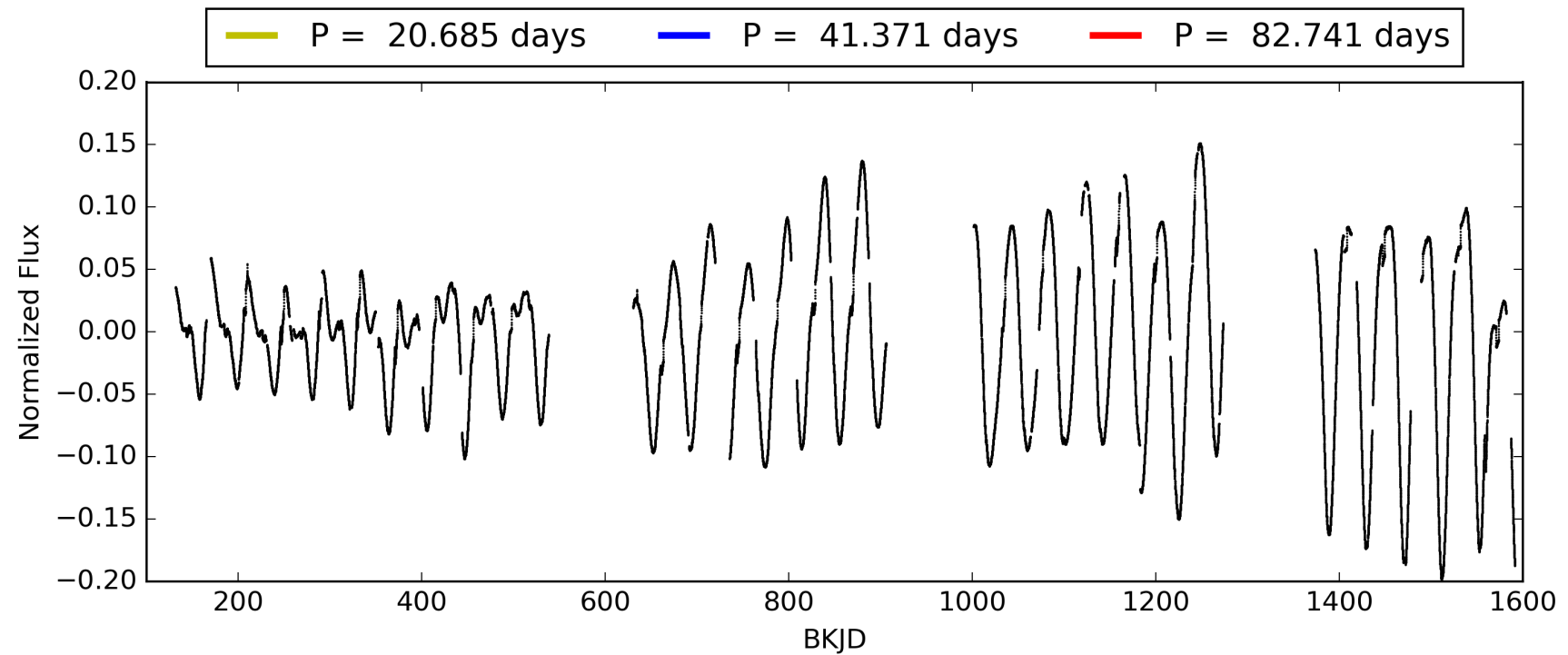
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:51:05 Z

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

TCE 004569590-05, PDC Light Curves

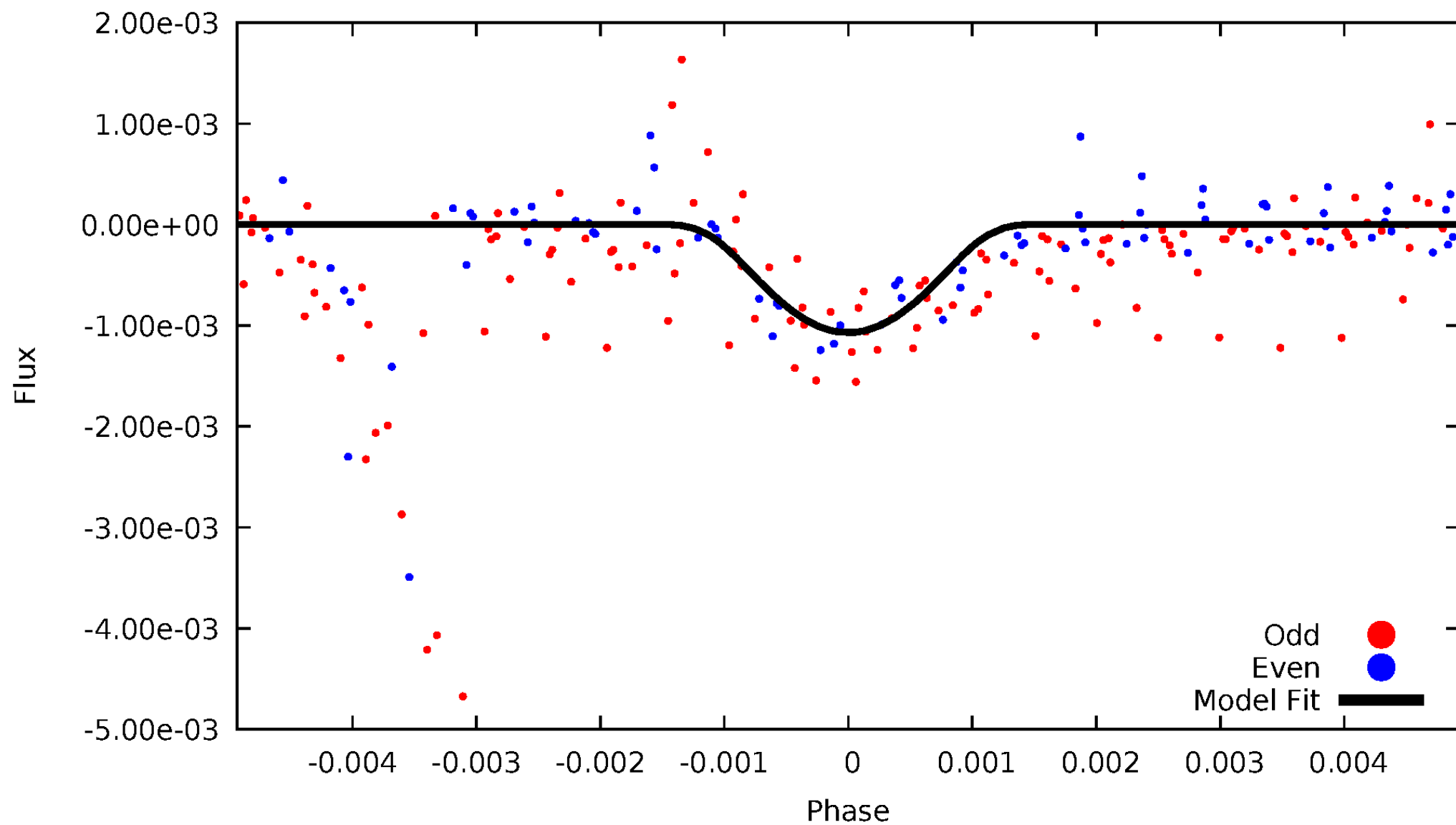


TCE 004569590-05



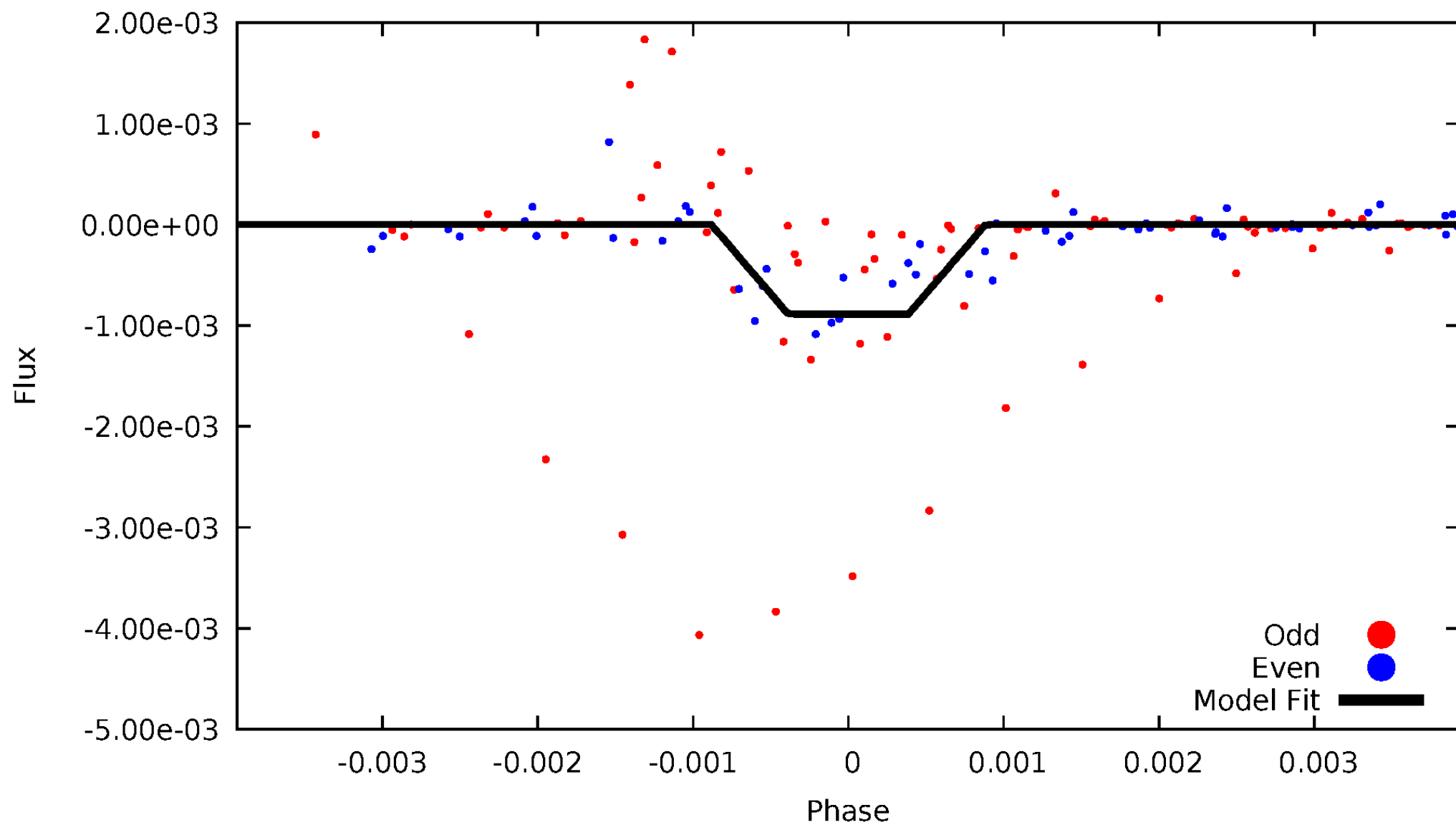
DV Odd/Even

TCE 004569590-05



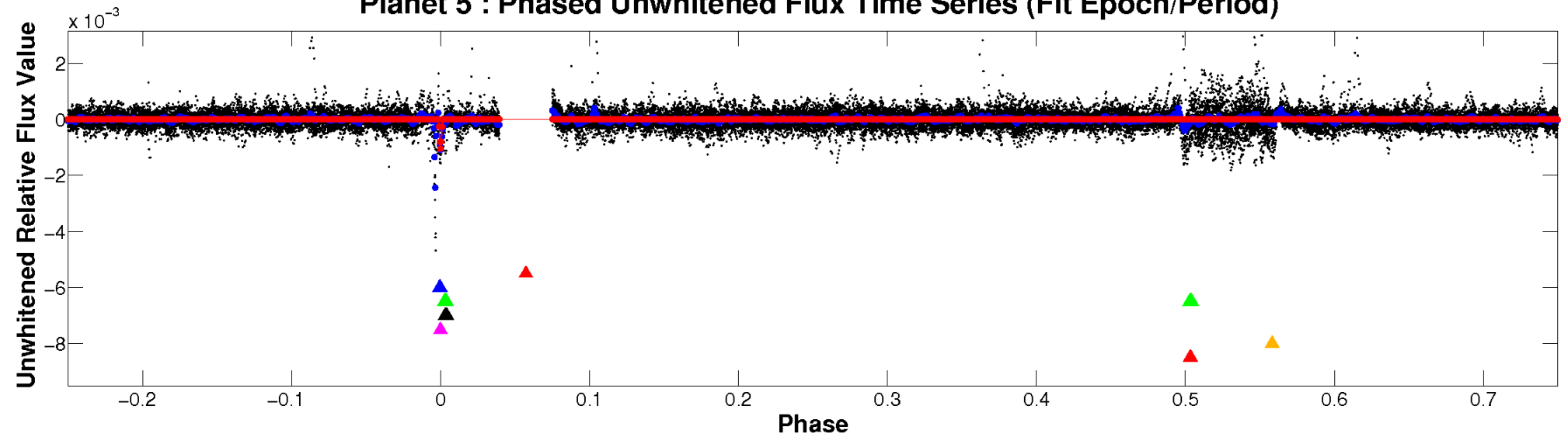
ALT Odd/Even

TCE 004569590-05

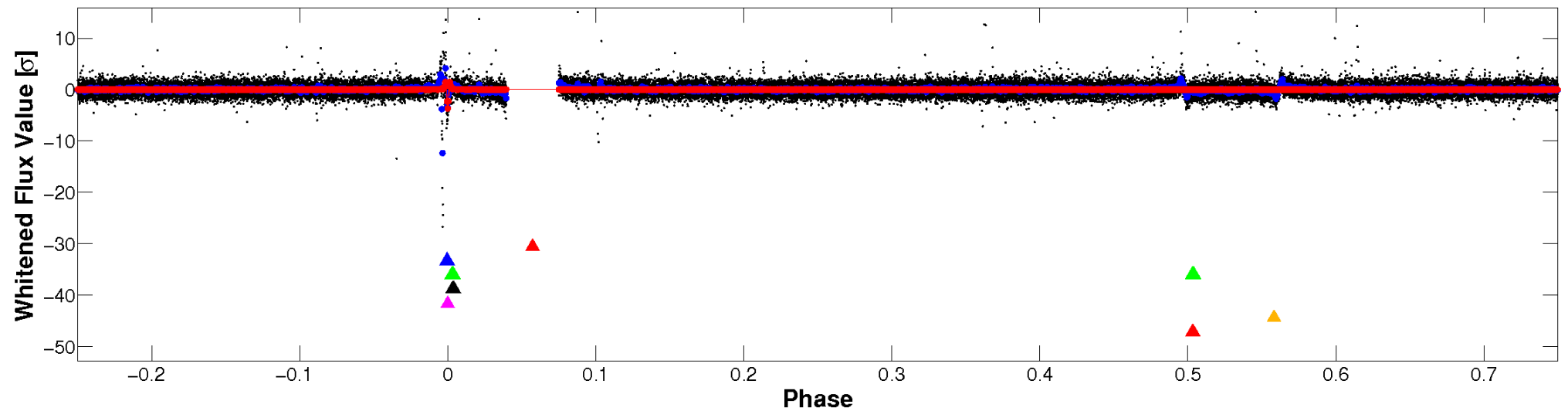


Non-Whitened Vs. Whitened Light Curve

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

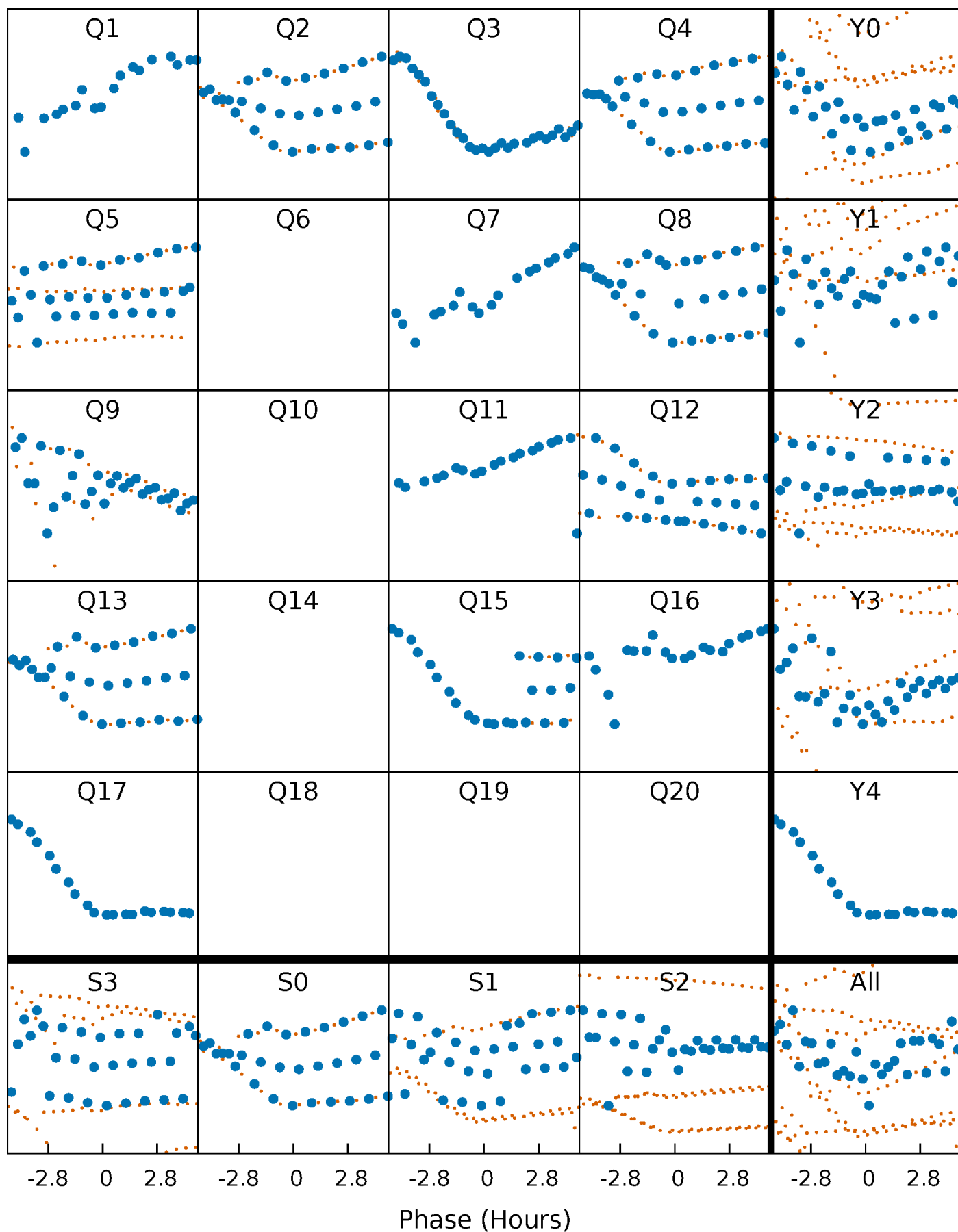


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



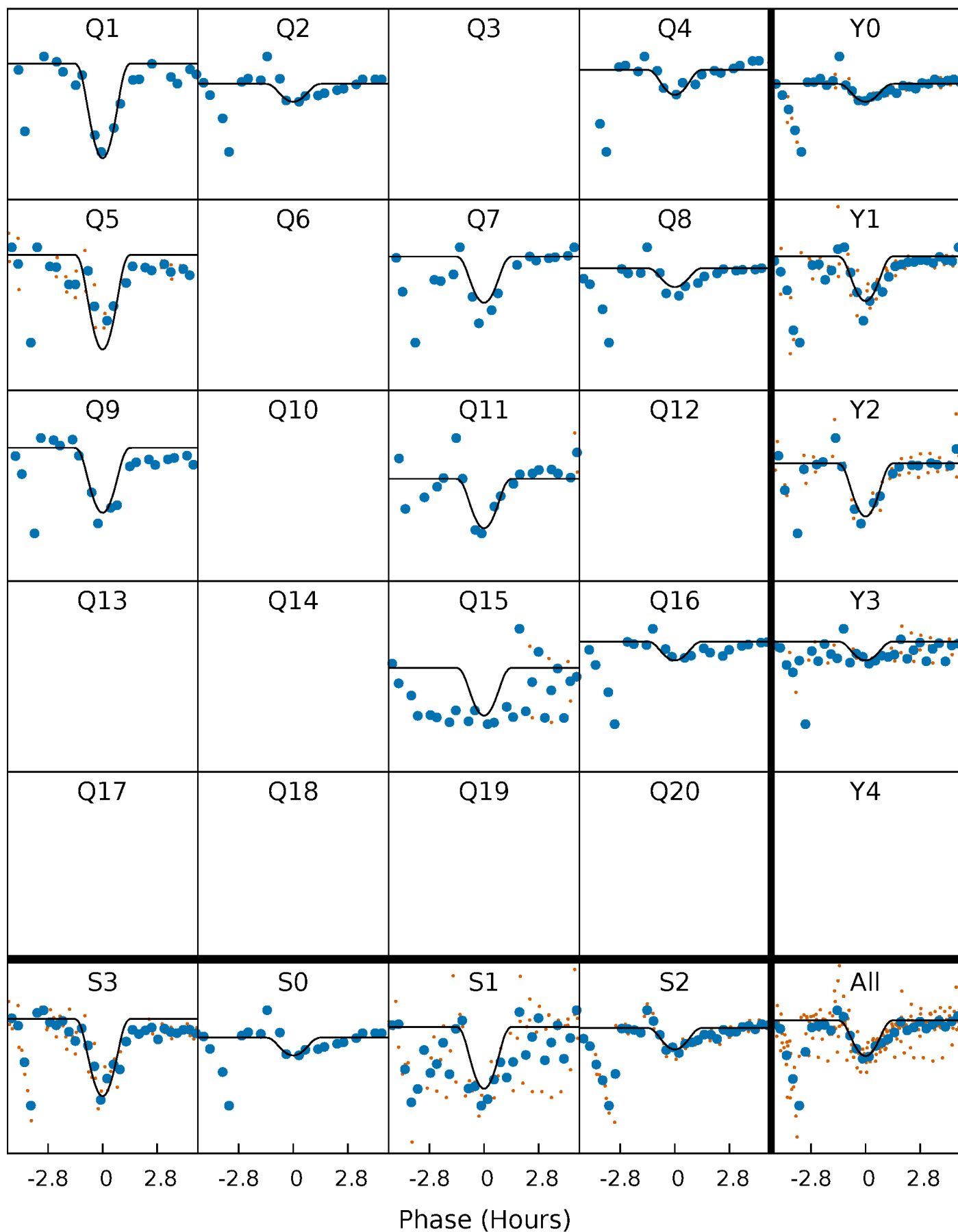
PDC Quarter-Phased Transit Curves

TCE 004569590-05 $P = 41.370562$ Days $T_0 = 164.108012$ (BKJD)



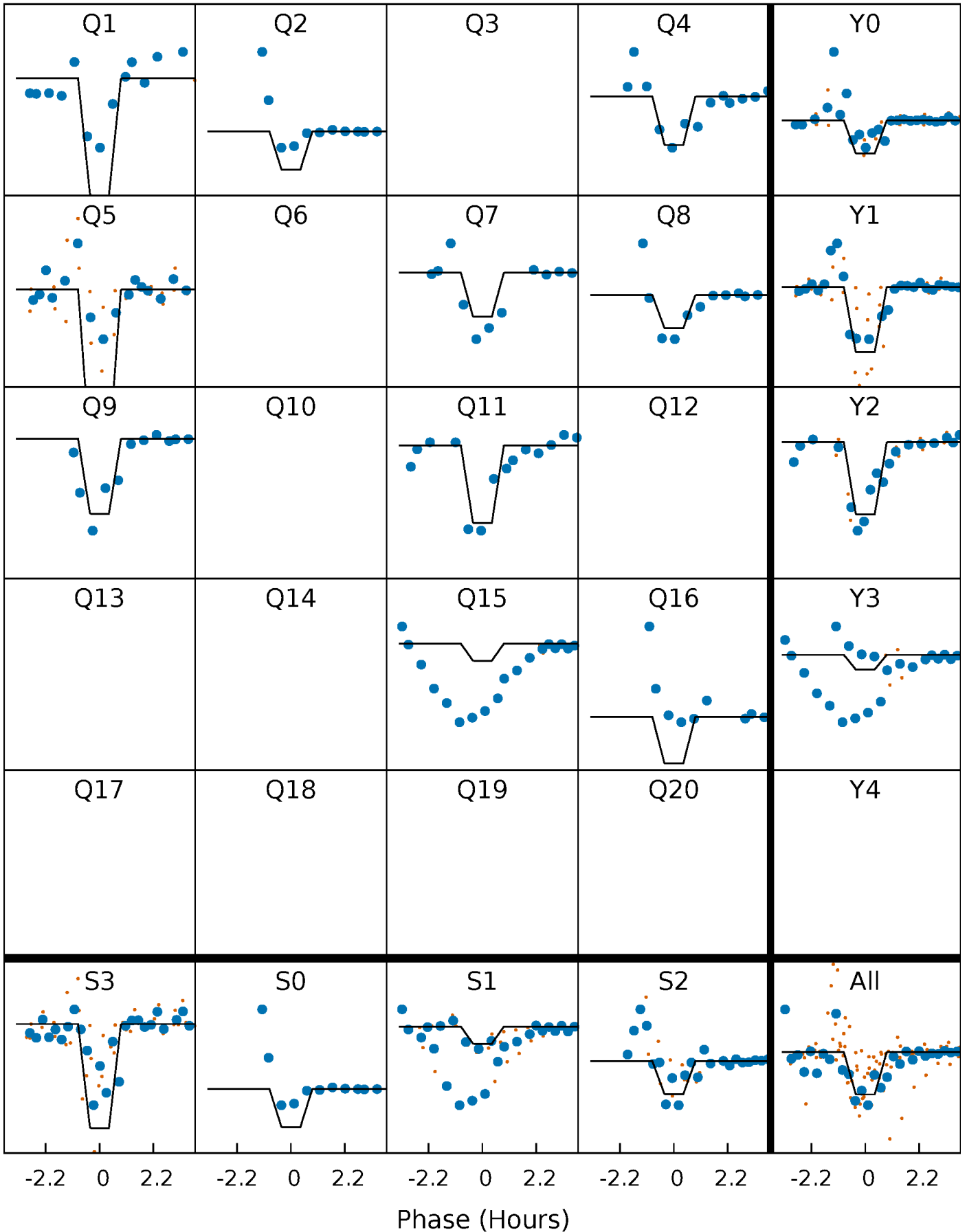
DV Quarter-Phased Transit Curves

TCE 004569590-05 $P = 41.370562$ Days $T_0 = 164.108012$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

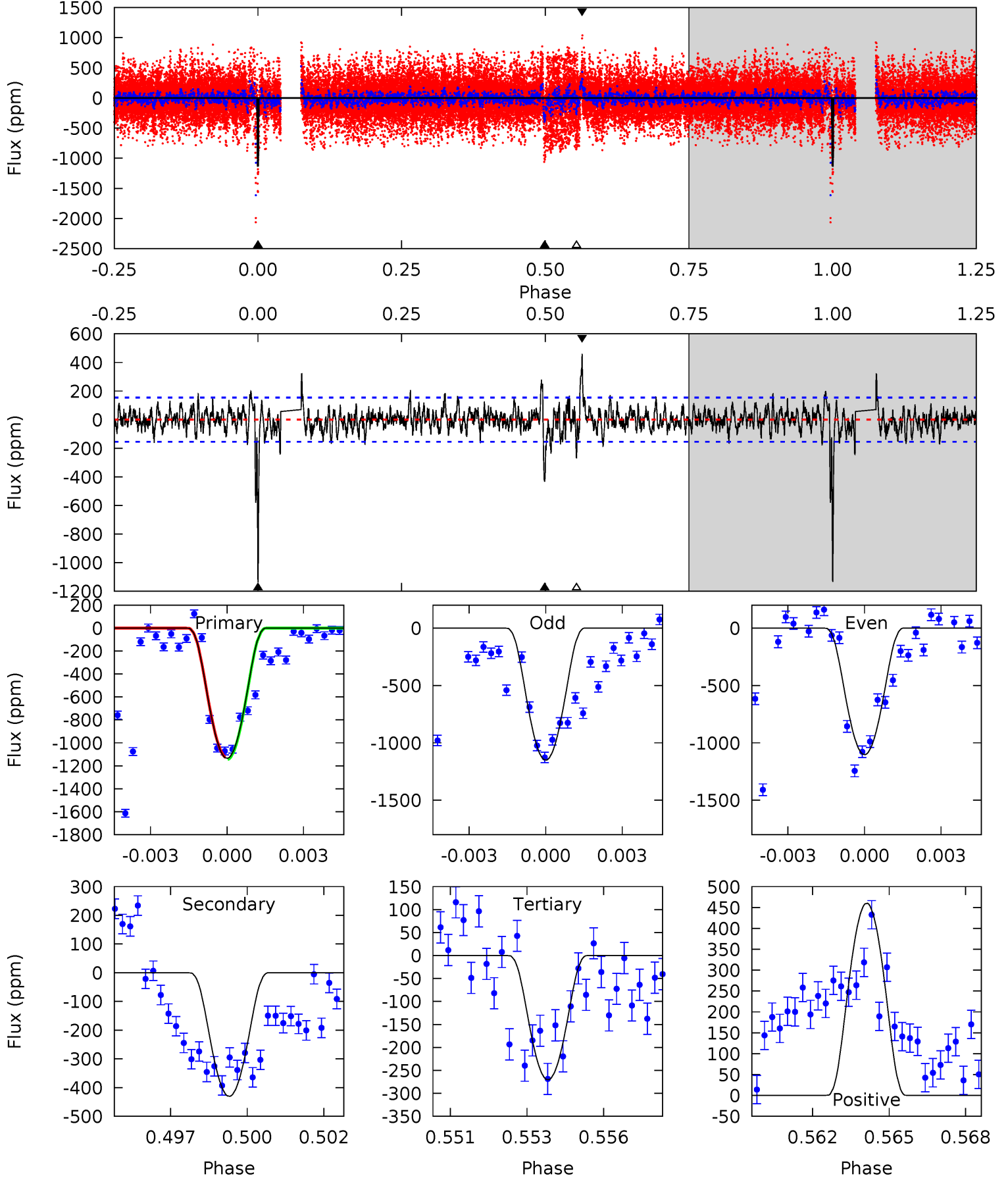
TCE 004569590-05 $P = 41.370606$ Days $T_0 = 164.106702$ (BKJD)



DV Model-Shift Uniqueness Test

004569590-05, P = 41.370562 Days, E = 122.737450 Days

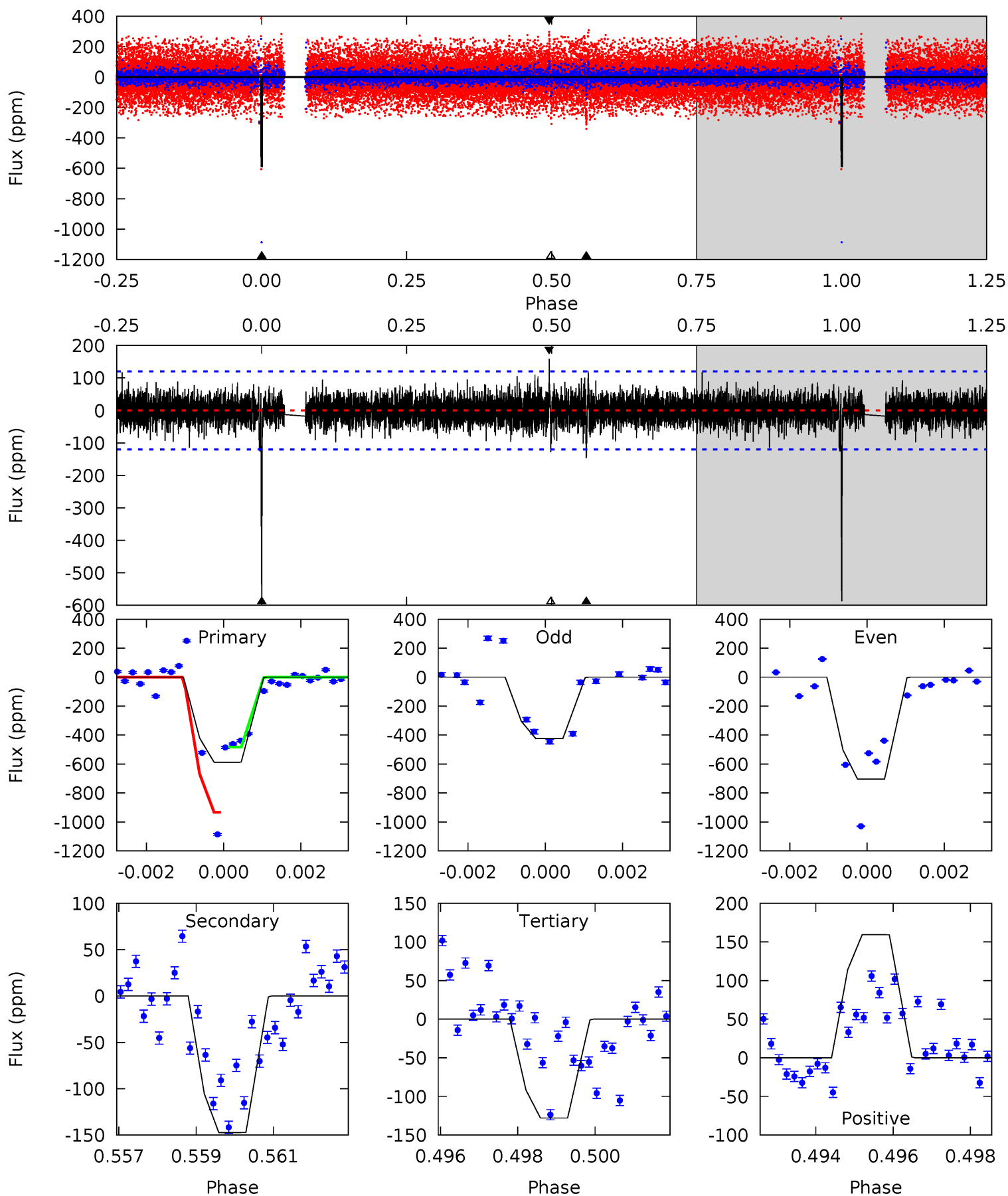
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.7	14.7	9.24	15.7	5.26	2.98	2.36	29.5	23.0	5.46	-1.02	0.79	1.12	0.29	0.33



Alt Model-Shift Uniqueness Test

004569590-05, P = 41.370606 Days, E = 122.736096 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.1	6.55	5.69	7.08	5.36	3.14	1.21	20.4	19.0	0.85	-0.54	6.48	1.15	0.21	0



Stellar Parameters For KIC 004569590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+142}_{-107}	$2.777^{+0.402}_{-0.329}$	$-0.180^{+0.300}_{-0.200}$	$6.883^{+3.901}_{-2.601}$	$1.035^{+0.388}_{-0.114}$	$0.004^{+0.015}_{-0.003}$
	+3%/-2%	+14%/-12%	+167%/-111%	+57%/-38%	+37%/-11%	+329%/-71%
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 004569590-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-430 ± 29	$140.03^{+161.10}_{-96.01}$	1594^{+224}_{-196}	2269^{+1013}_{-4350}	$0.723^{+5.871}_{-0.570}$
Alt.	-147 ± 22	$128.27^{+167.56}_{-88.39}$	1583^{+226}_{-187}	-1578^{+4384}_{-641}	$0.288^{+2.717}_{-0.236}$

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 $A_{obs} \gg 1.0$

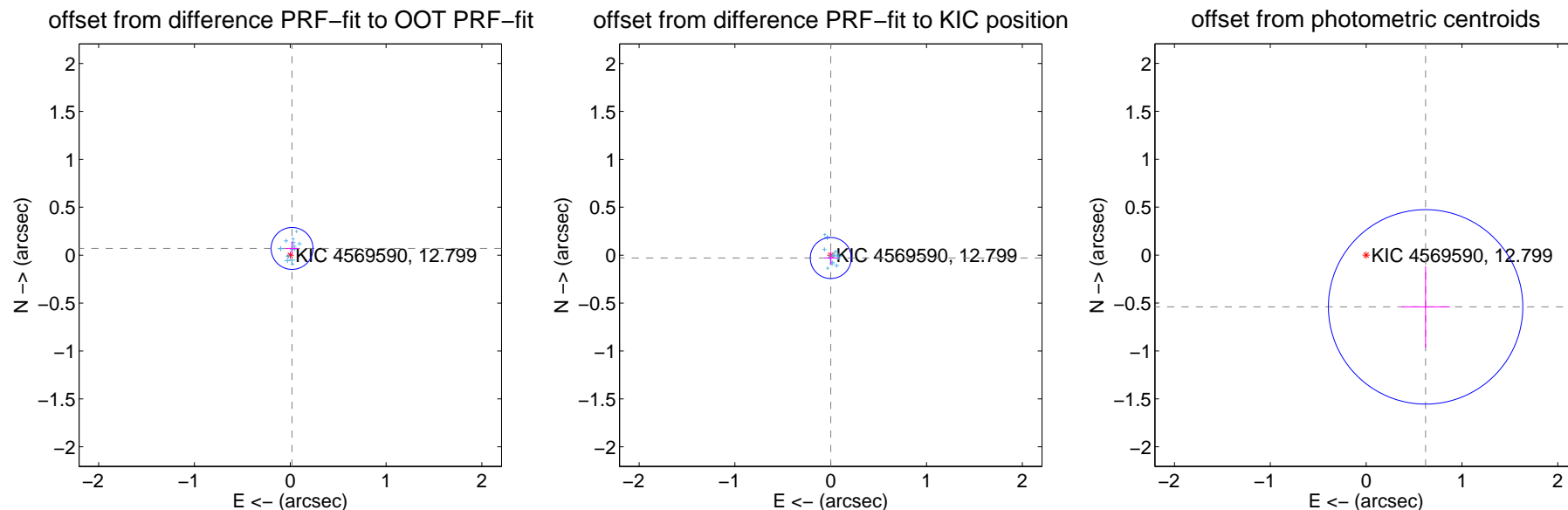
DV Centroid Data

Supplemental centroid analysis for 004569590-05. Kepler magnitude: 12.80. Transit SNR 18.00

There are 14 quarters with good PRF difference image offsets

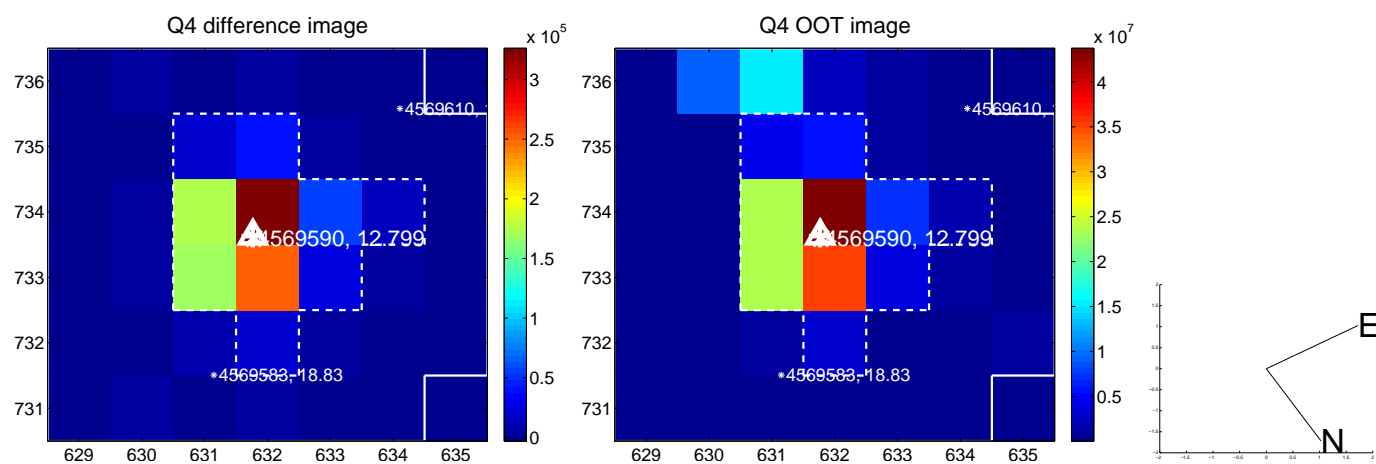
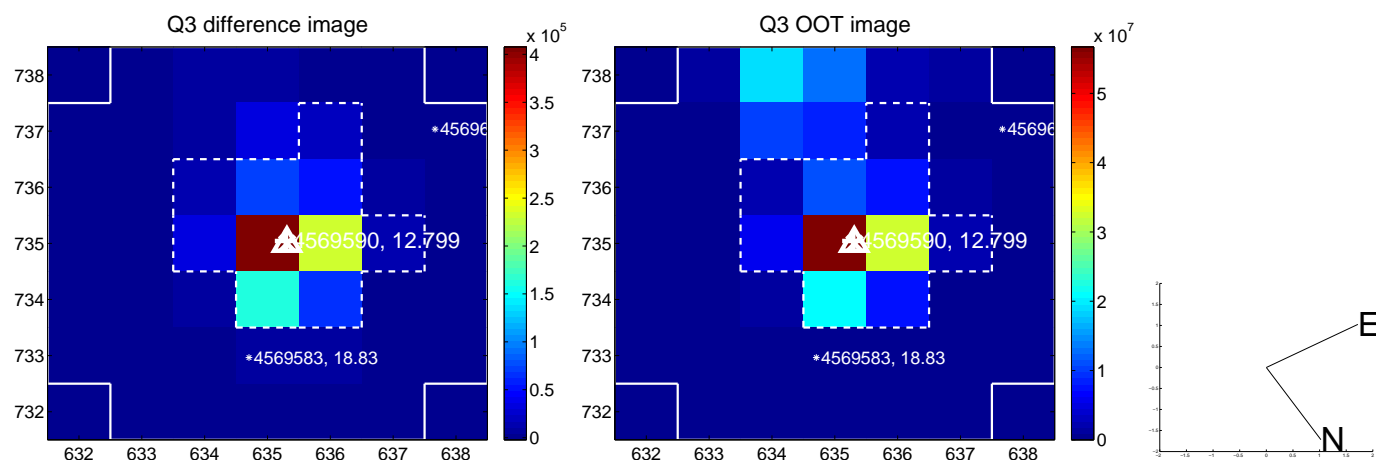
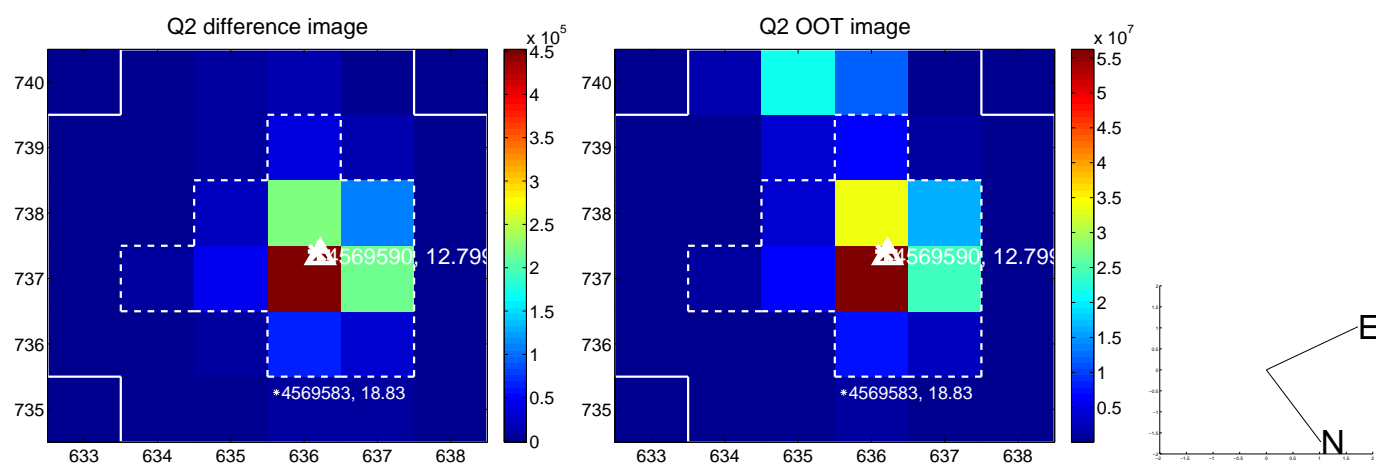
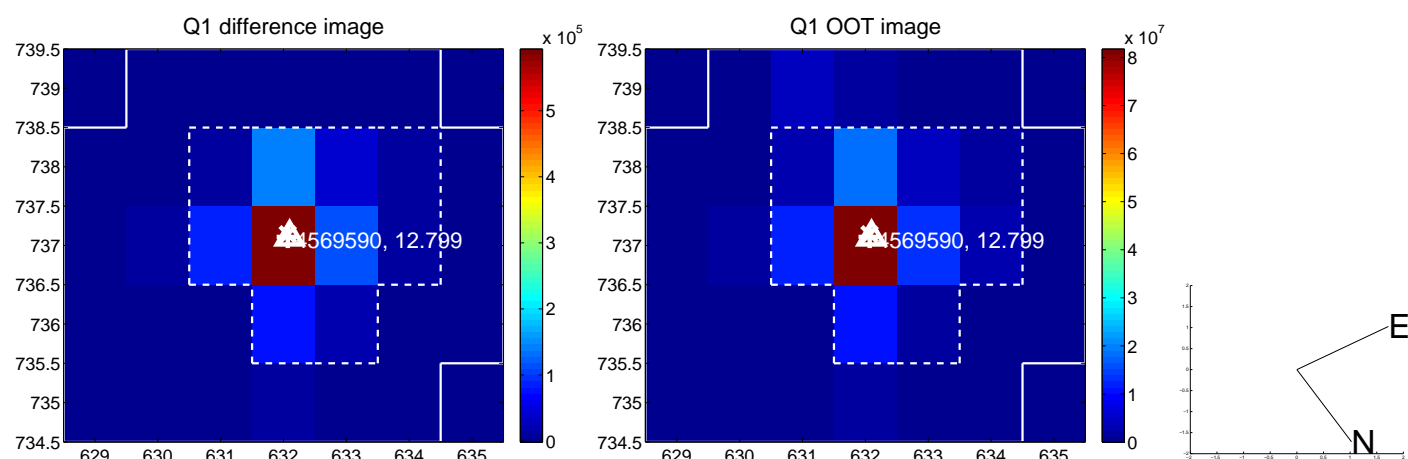
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.072 ± 0.073	0.99	-0.019 ± 0.068	0.070 ± 0.073
PRF-fit source offset from KIC position	0.030 ± 0.071	0.42	-0.001 ± 0.068	-0.030 ± 0.071
photometric centroid source offset	0.82 ± 0.34	2.43	-0.62 ± 0.25	-0.54 ± 0.42

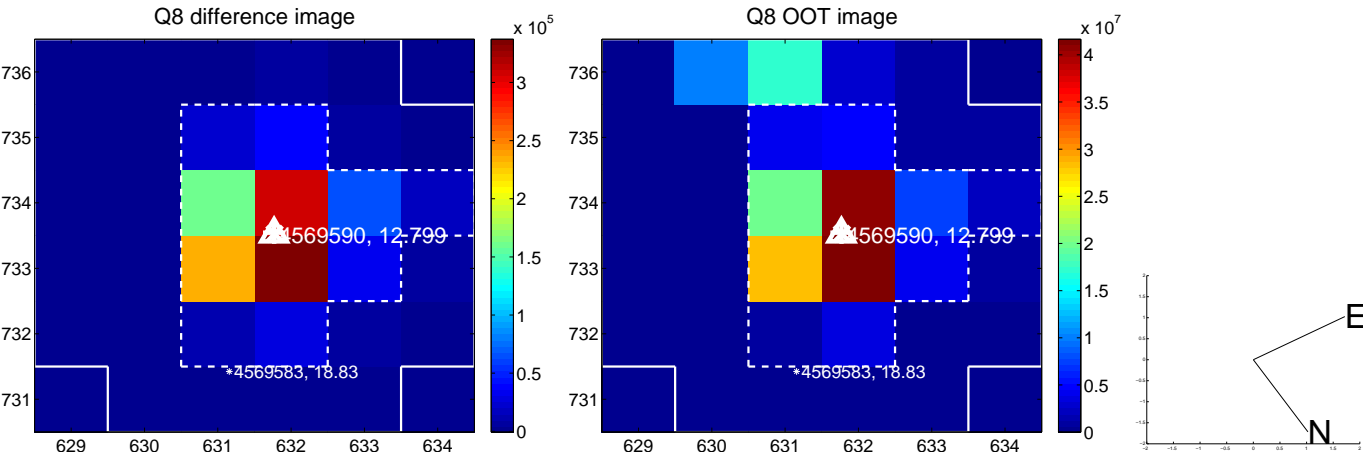
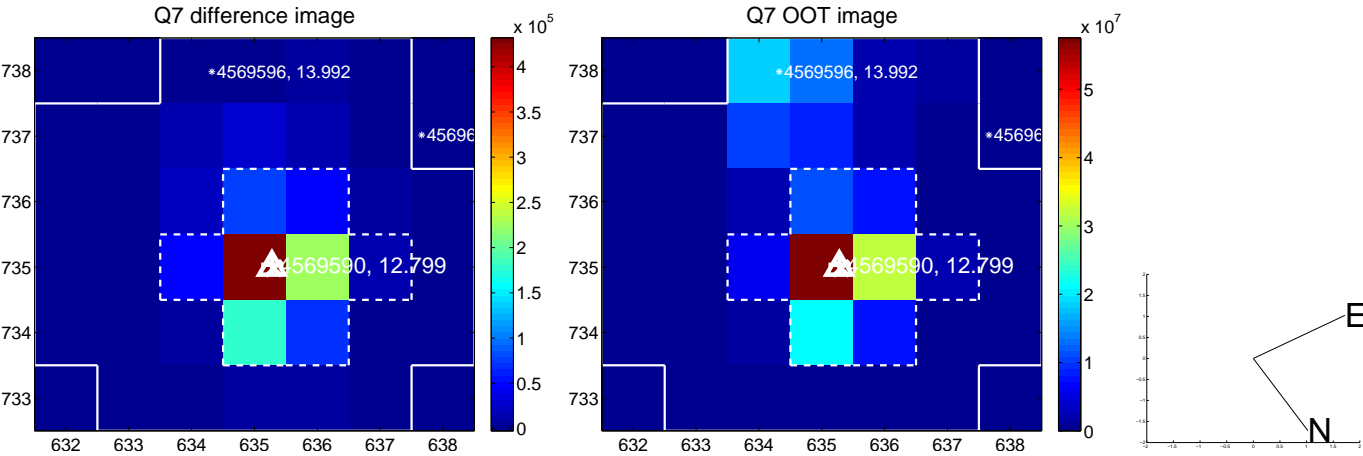
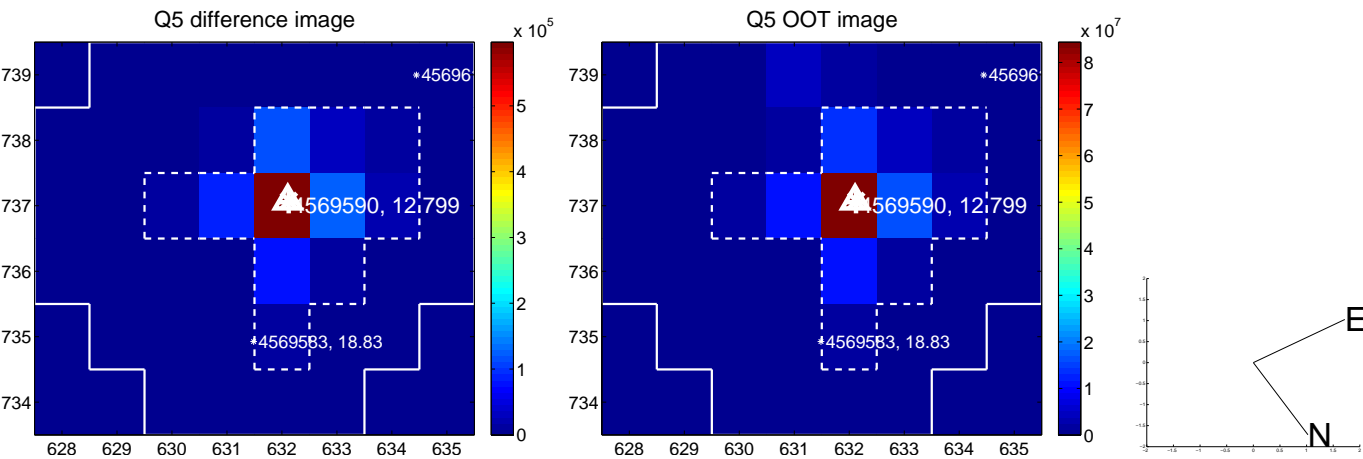


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

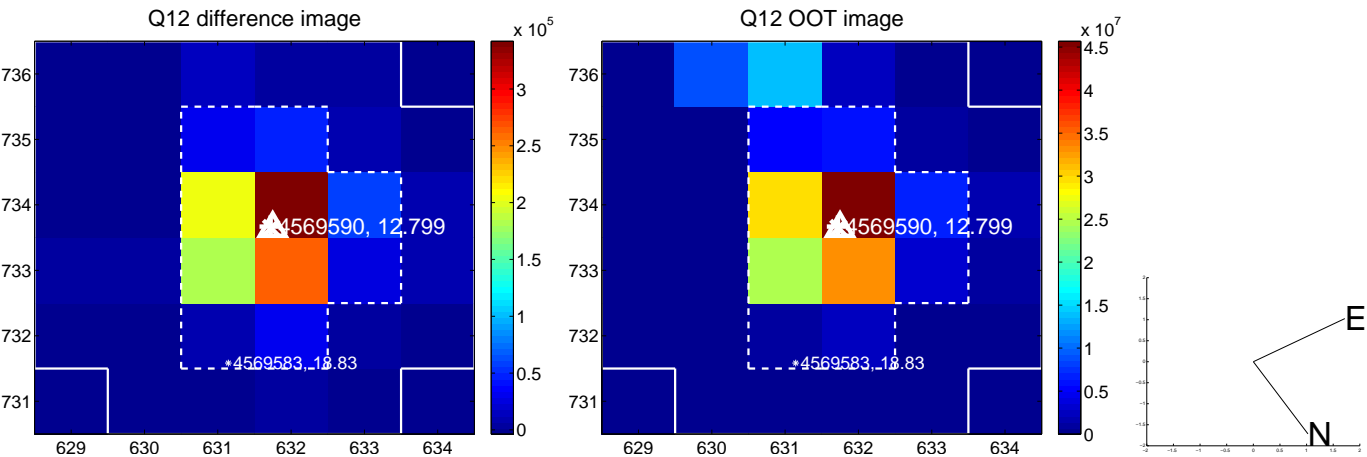
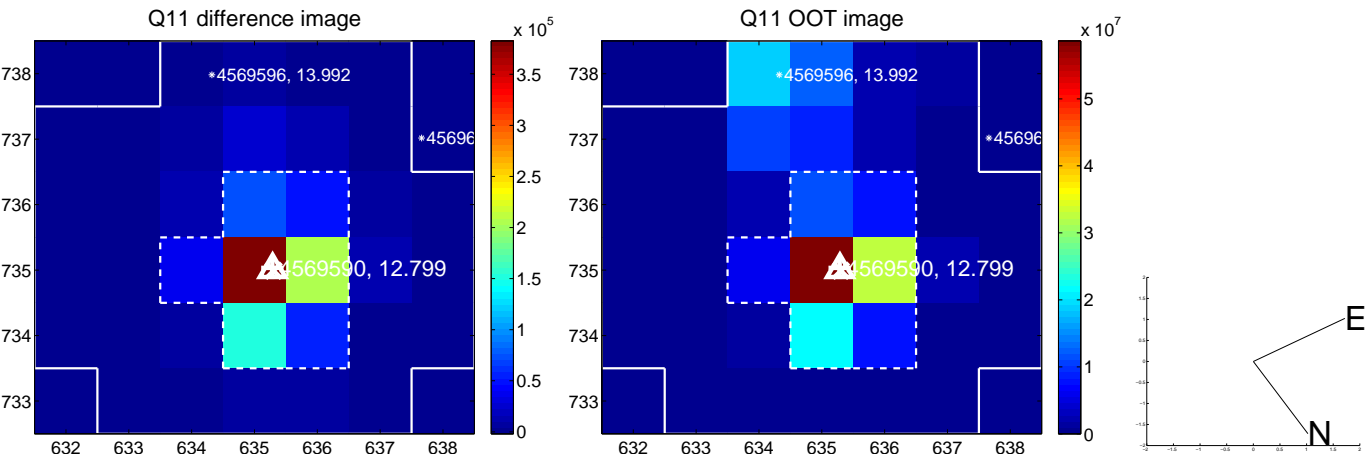
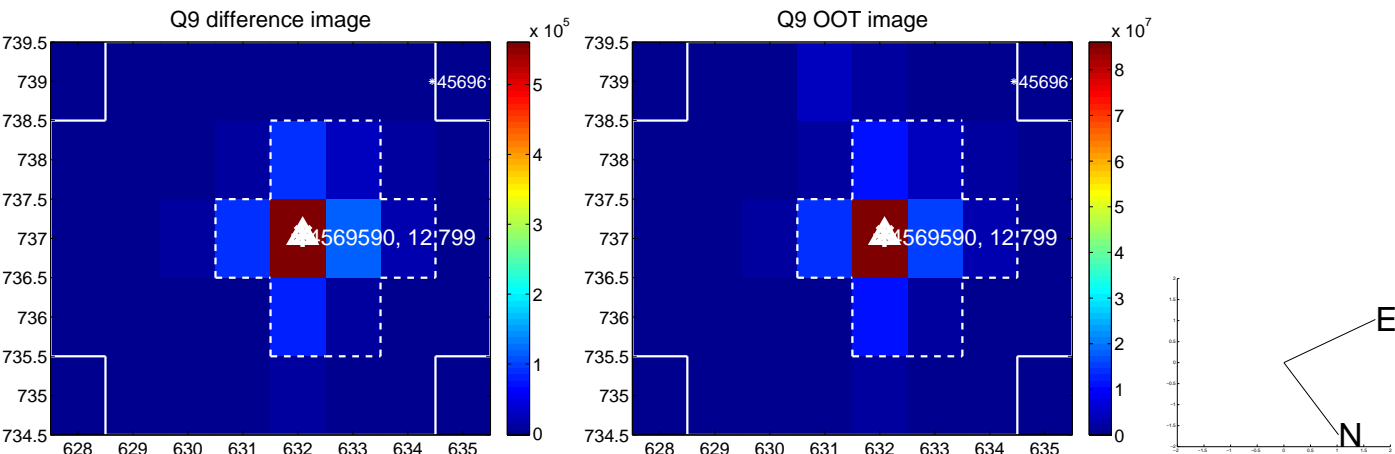
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



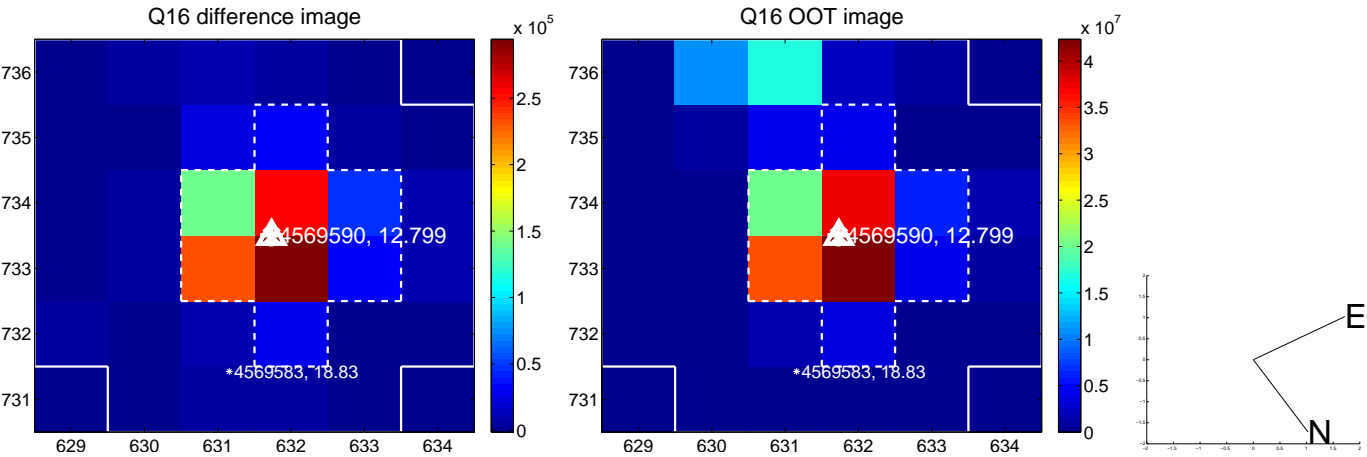
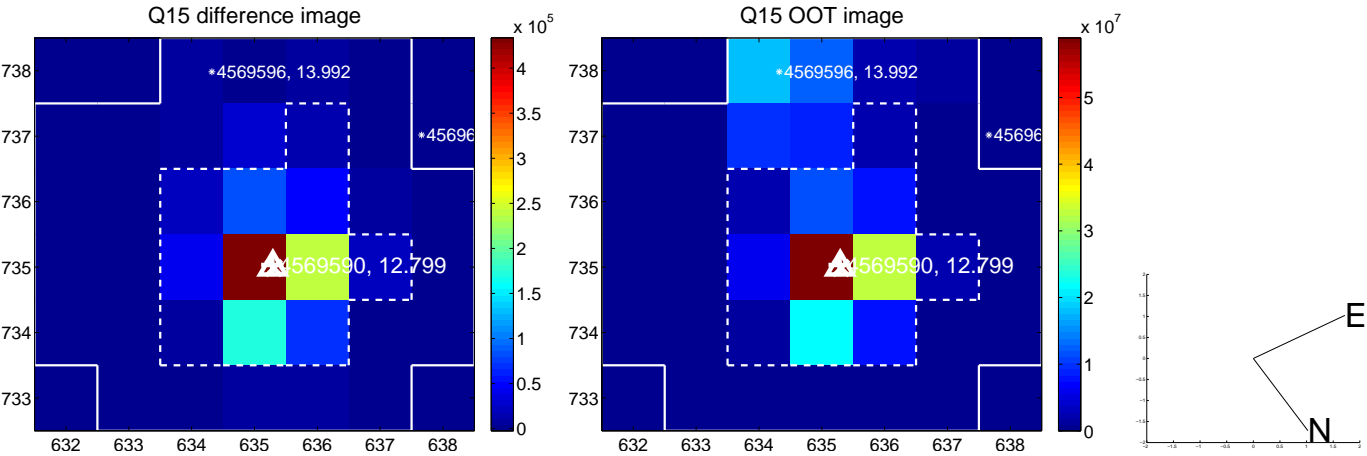
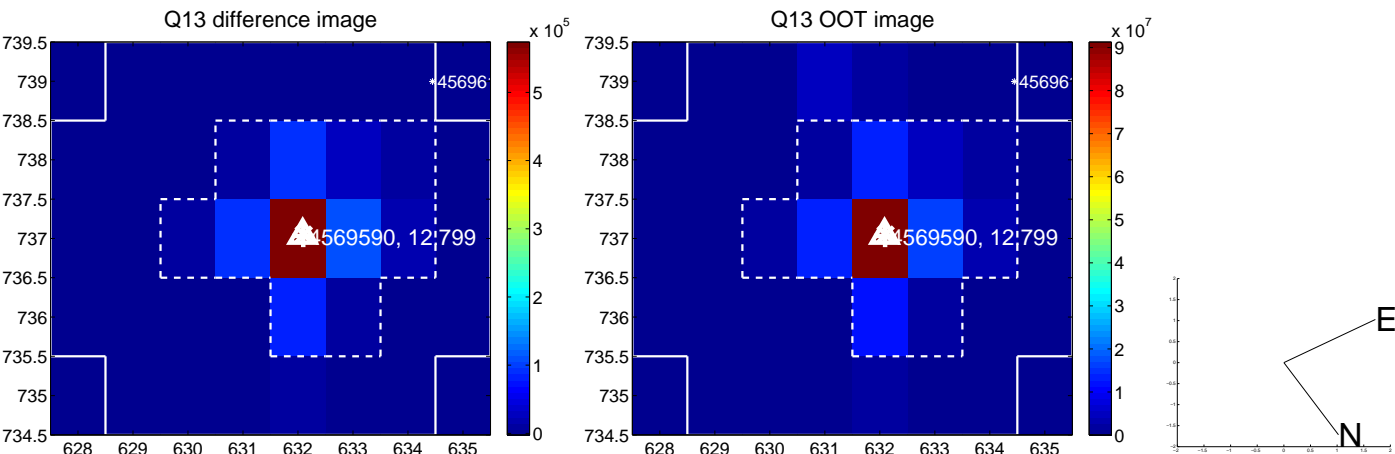
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



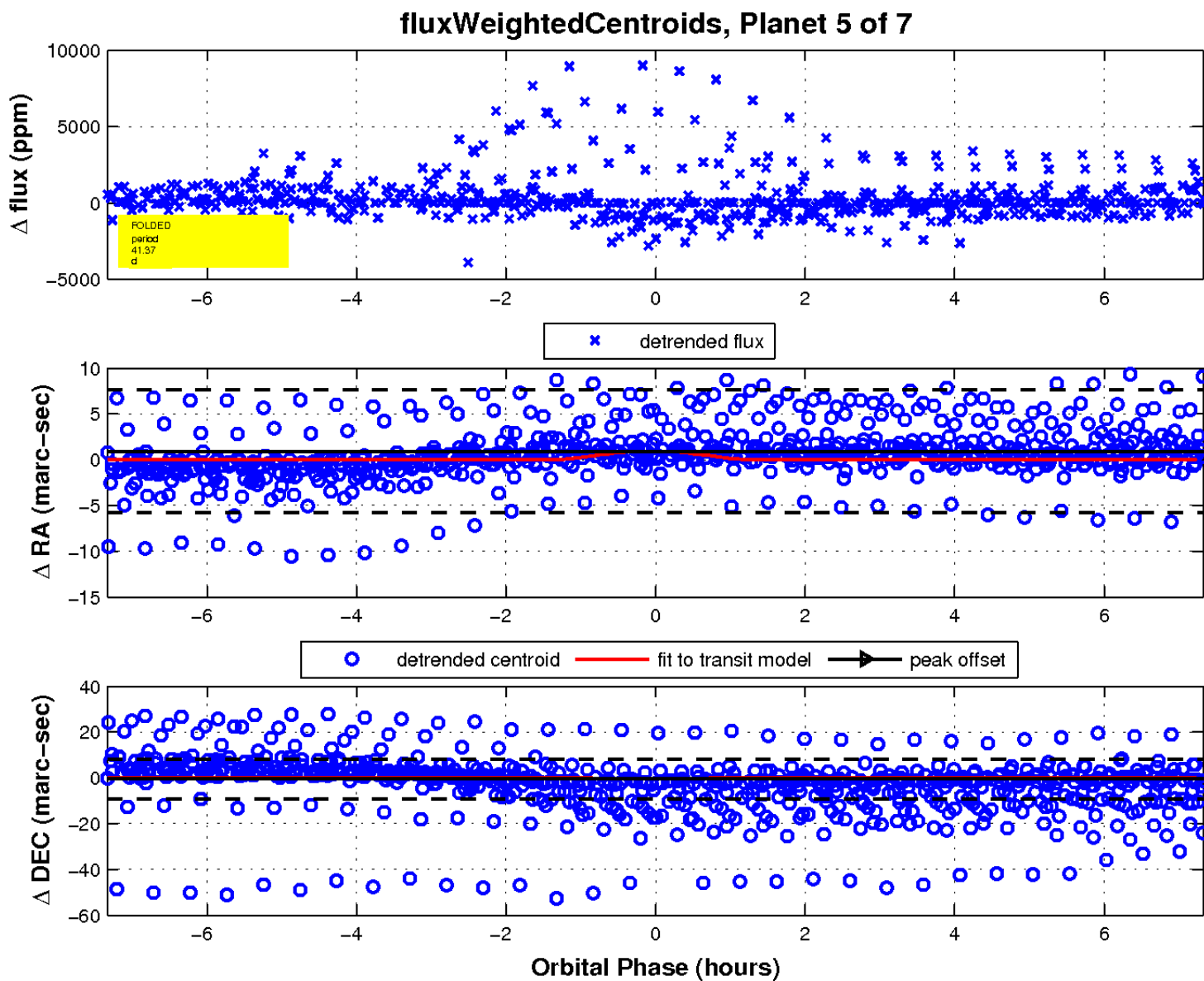
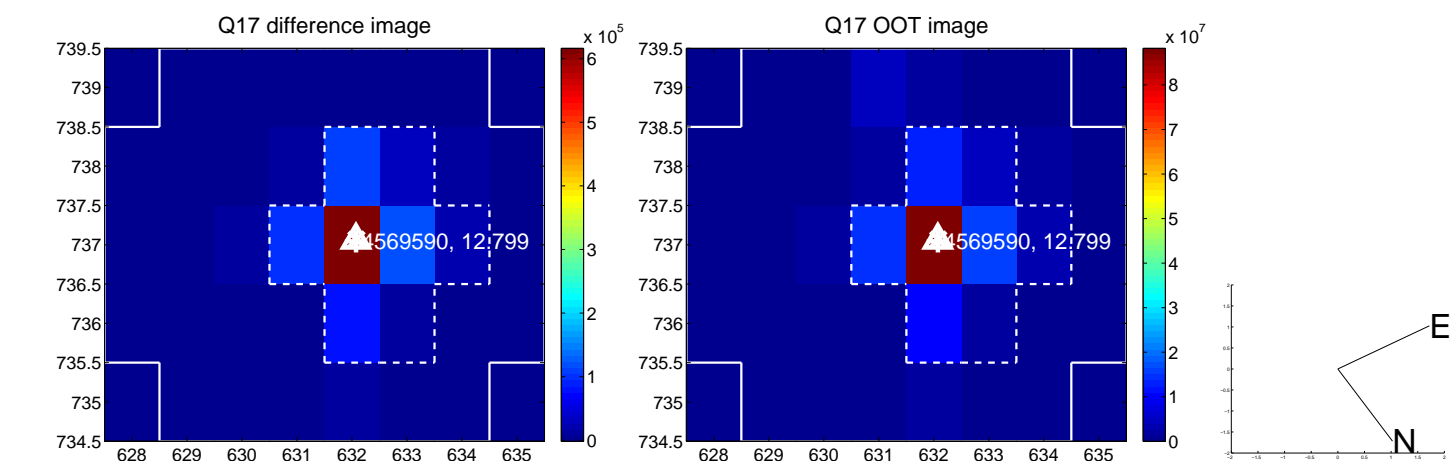
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



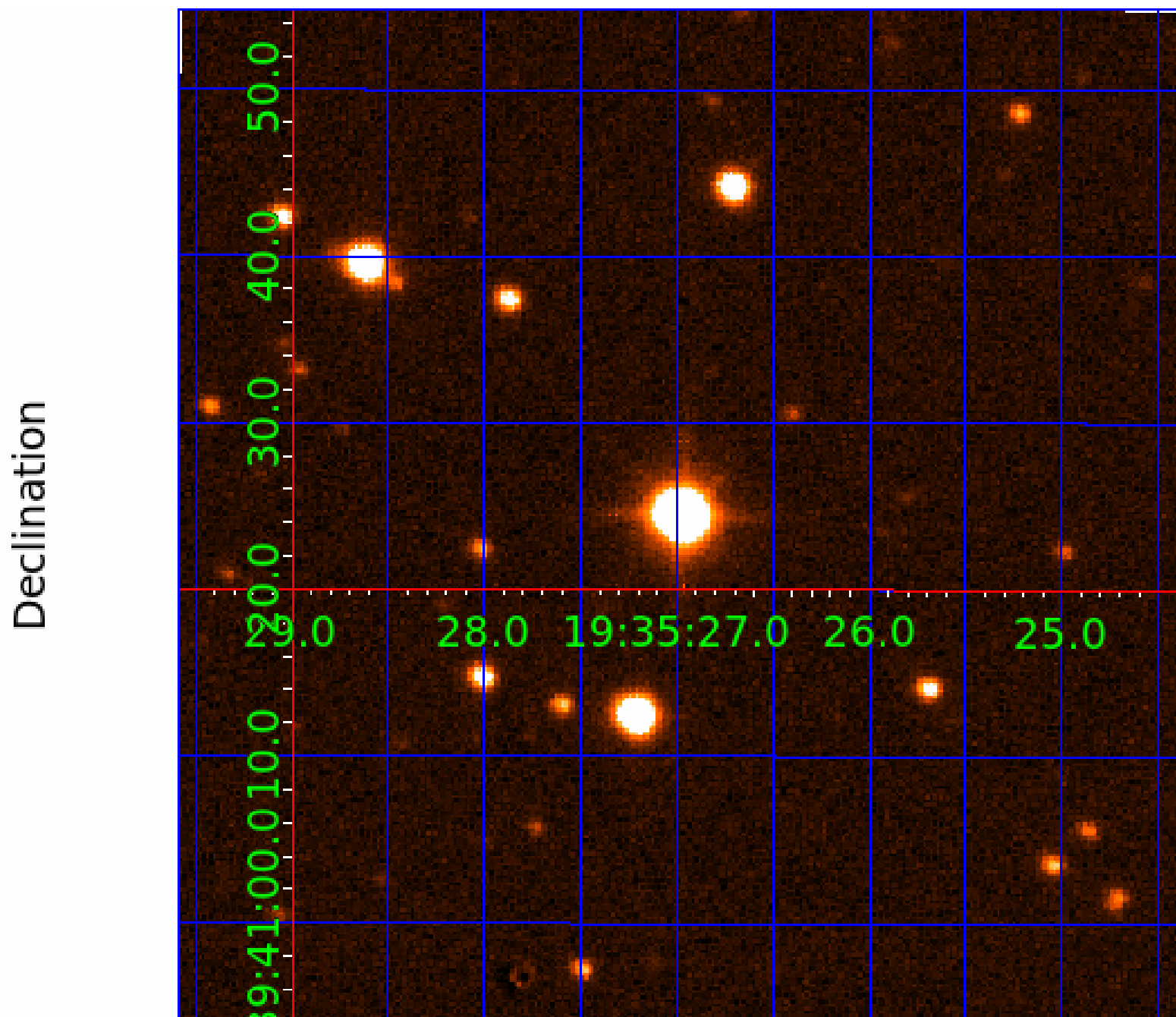
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004569590

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})
004569590-01	OBS	6426.01	41.370622	166.479530	4619.1	11.630	62.2	50.4	6.88	4764	54.15	389.98
004569590-02	OBS	No	413.704815	329.576068	6928.0	6.790	31.3	38.5	6.88	4764	108.71	18.10
004569590-03	OBS	No	227.547472	288.337947	3697.9	16.015	21.2	13.9	6.88	4764	52.78	40.17
004569590-04	OBS	No	124.106632	247.028720	347.7	15.000	22.3	-1.0	6.88	4764	12.37	90.14
004569590-05	OBS	No	41.370562	164.108012	1069.7	2.447	18.0	18.0	6.88	4764	46.44	389.98
004569590-06	OBS	No	41.370159	145.839688	1779.9	11.143	15.5	21.2	6.88	4764	58.20	389.99
004569590-07	OBS	No	41.369741	143.577011	200.3	12.000	13.2	-1.0	6.88	4764	9.39	389.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004569590-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004569590-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—SAME_NTL_PERIOD
004569590-03	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS
004569590-04	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST
004569590-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD
004569590-06	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
004569590-07	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

Ephemeris Match Information For 004569590-06

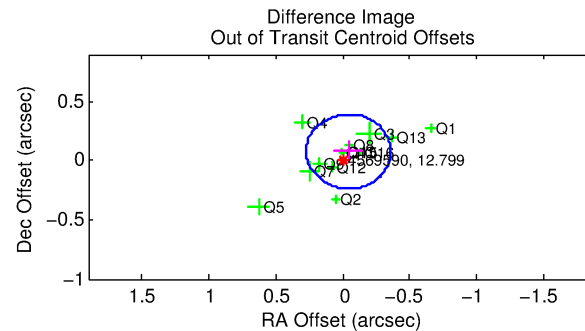
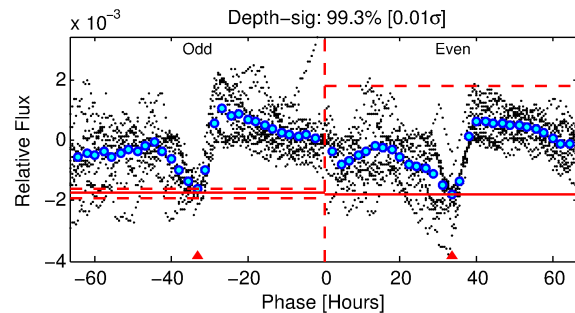
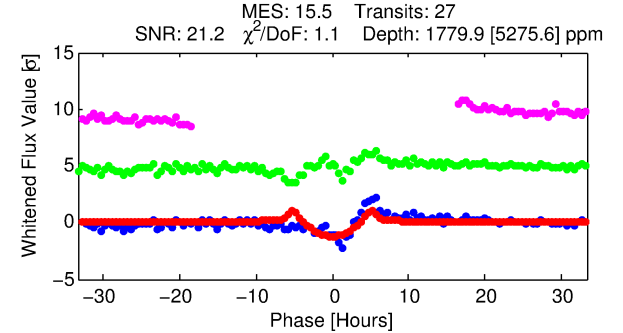
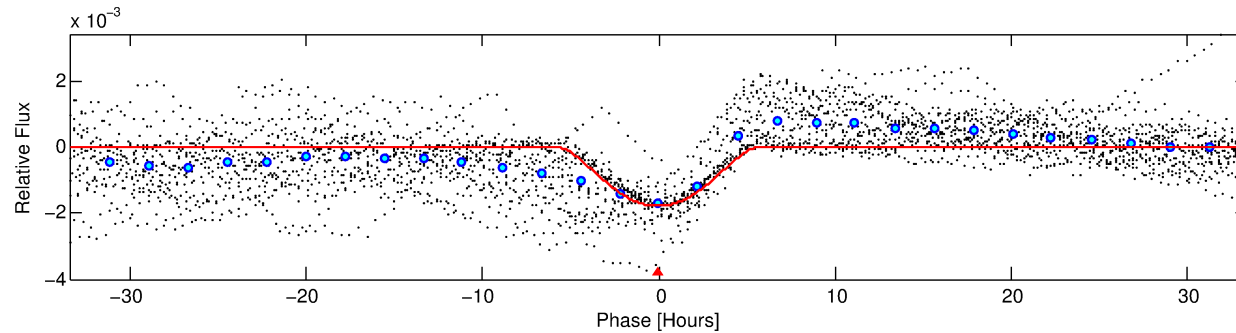
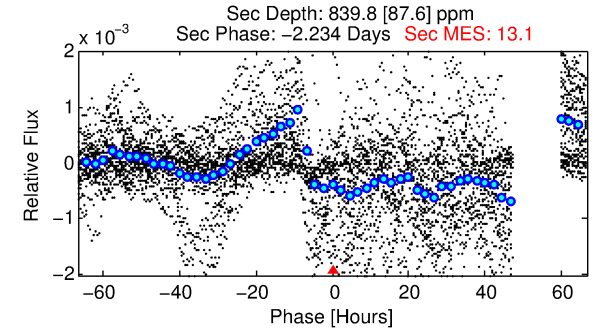
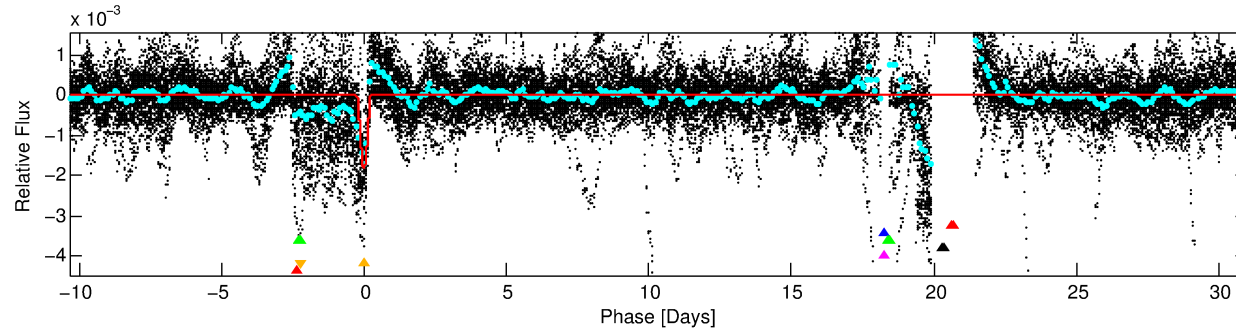
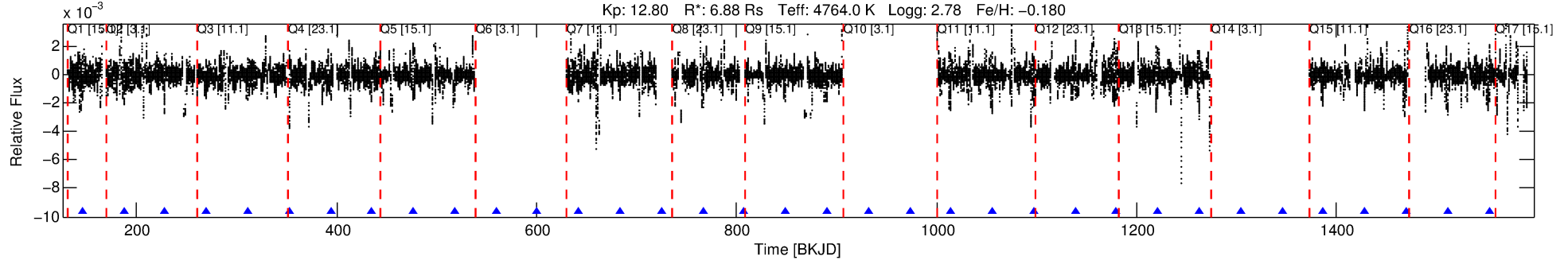
No Significant Match Found

DV One-Page Summary

KIC: 4569590 Candidate: 6 of 7 Period: 41.370 d

KOI: K06426 Corr: No Ephemeris Match

Kp: 12.80 R*: 6.88 Rs Teff: 4764.0 K Logg: 2.78 Fe/H: -0.180



DV Fit Results:

Period = 41.37016 [0.00032] d
Epoch = 145.8397 [0.0064] BKJD
Rp/R* = 0.0775 [0.0390]
a/R* = 11.43 [1.11]
b = 1.00 [0.09]
Seff = 389.99 [285.99]
Teq = 1133 [208] K
Rp = 58.20 [44.14] Re
a = 0.2368 [0.1155] AU
Ag = 7.65 [9.52] [0.70σ]
Teffp = 2913 [743] K [2.31σ]

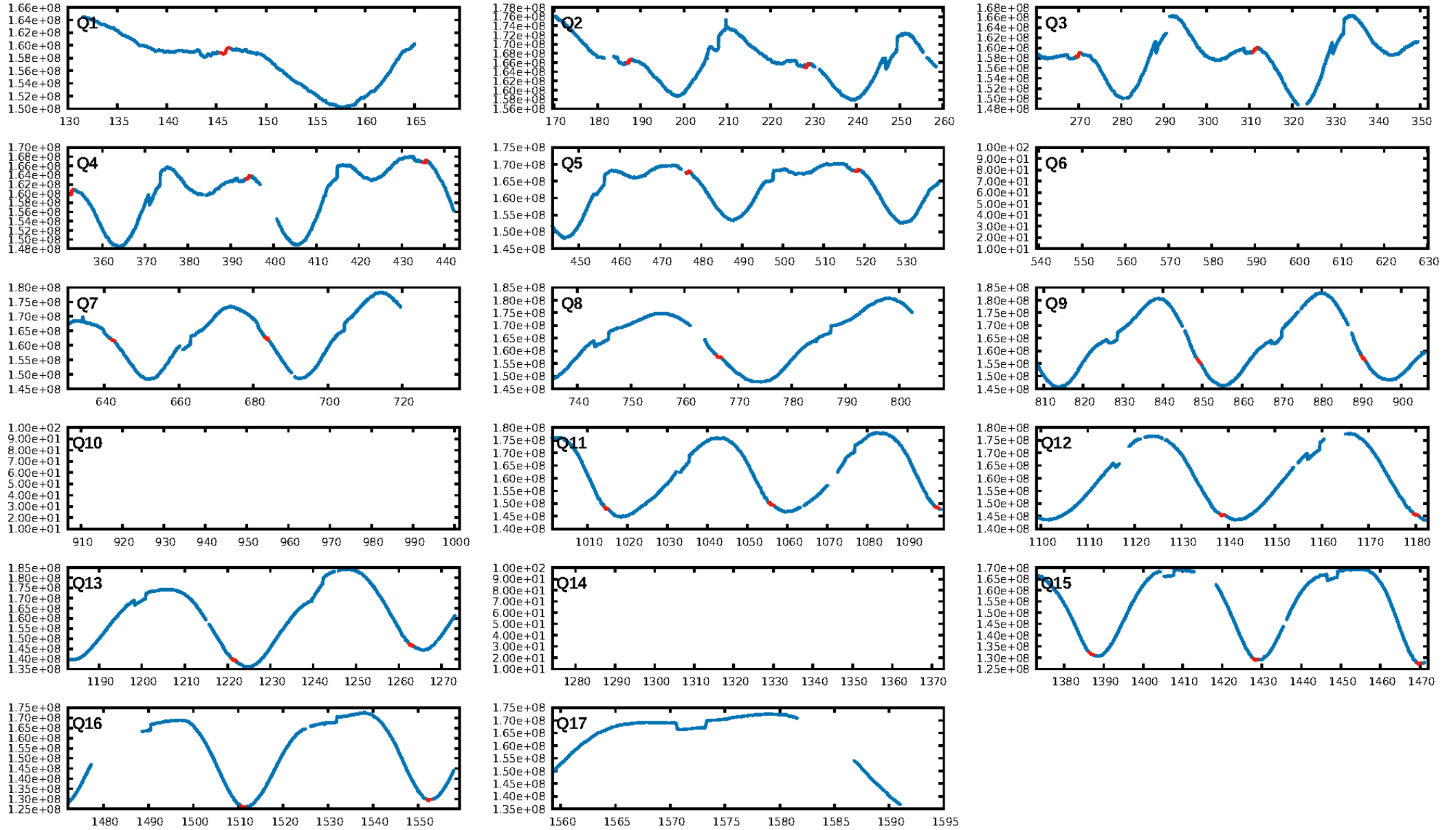
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 94.8%
ModelChiSquareGof-sig: 83.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: 0.5972
Centroid-sig: 8.6%
Centroid-so: 0.708 arcsec [2.72σ]
OotOffset-rm: 0.089 arcsec [0.85σ]
KicOffset-rm: 0.057 arcsec [0.67σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

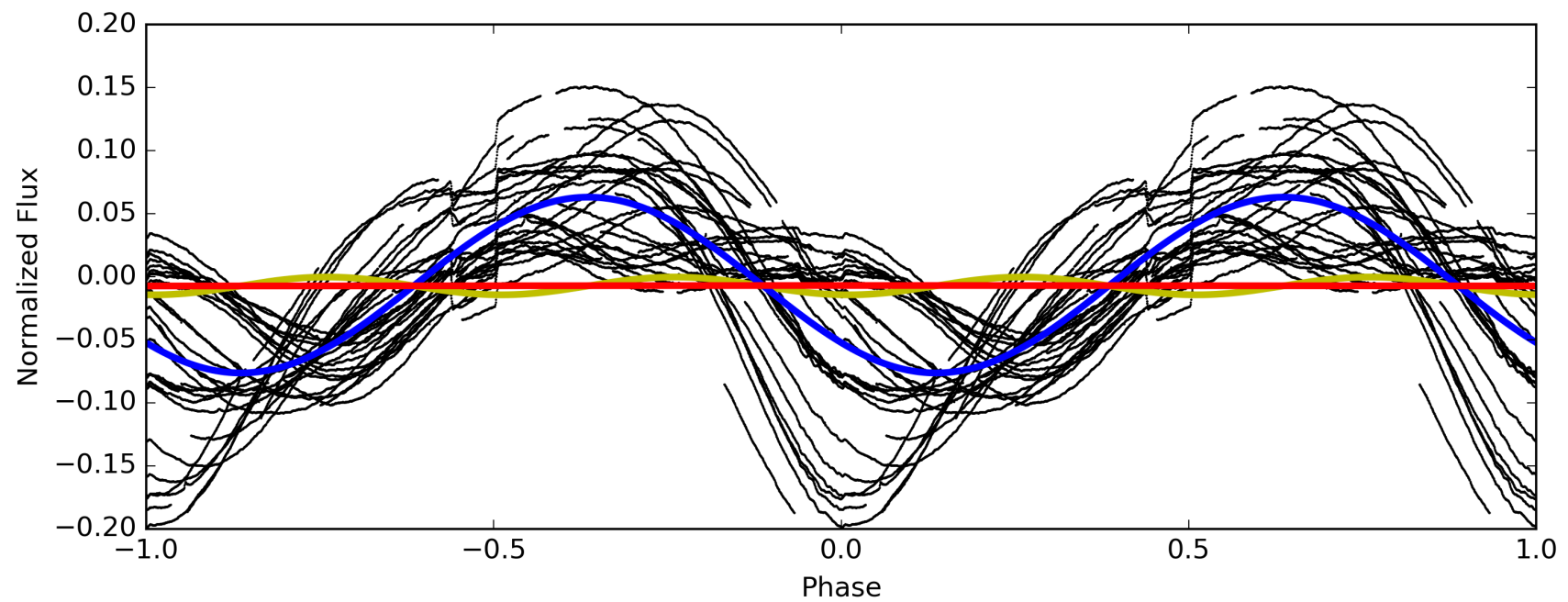
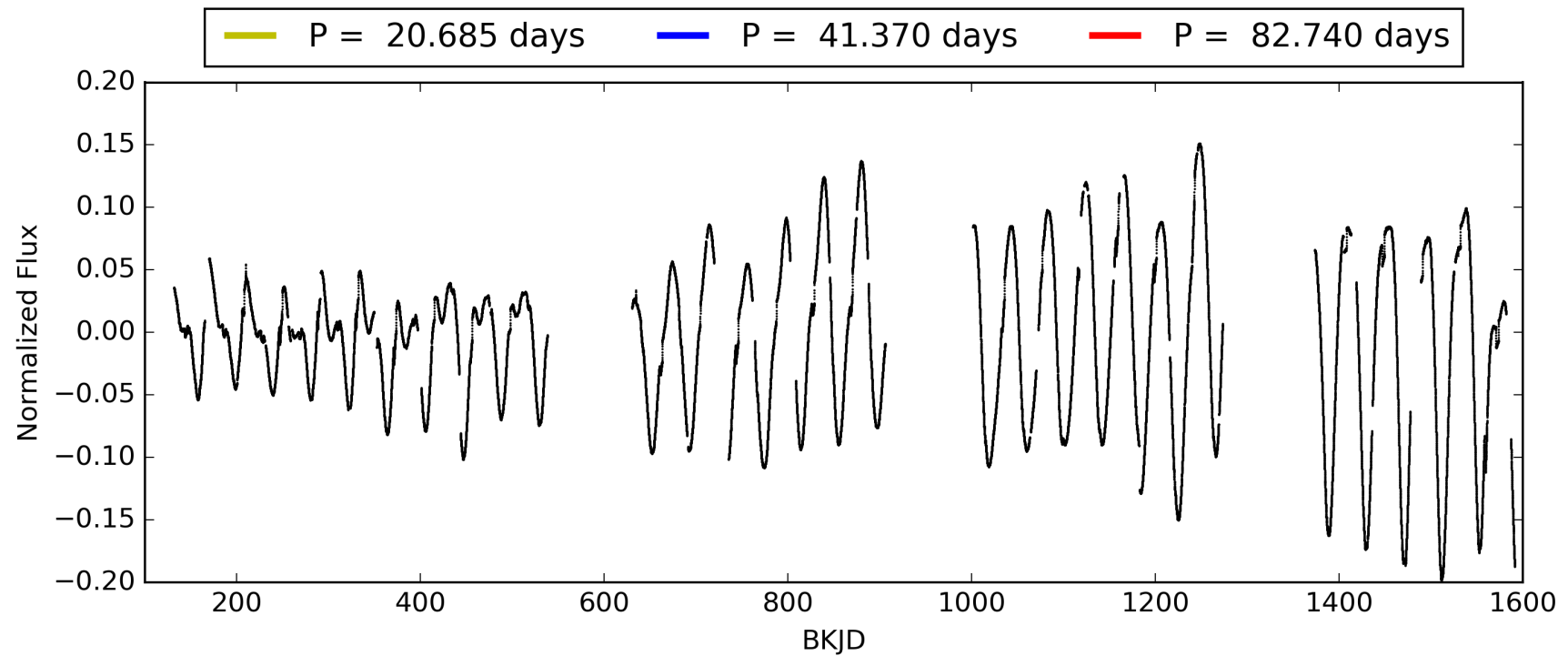
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:51:11 Z

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

TCE 004569590-06, PDC Light Curves

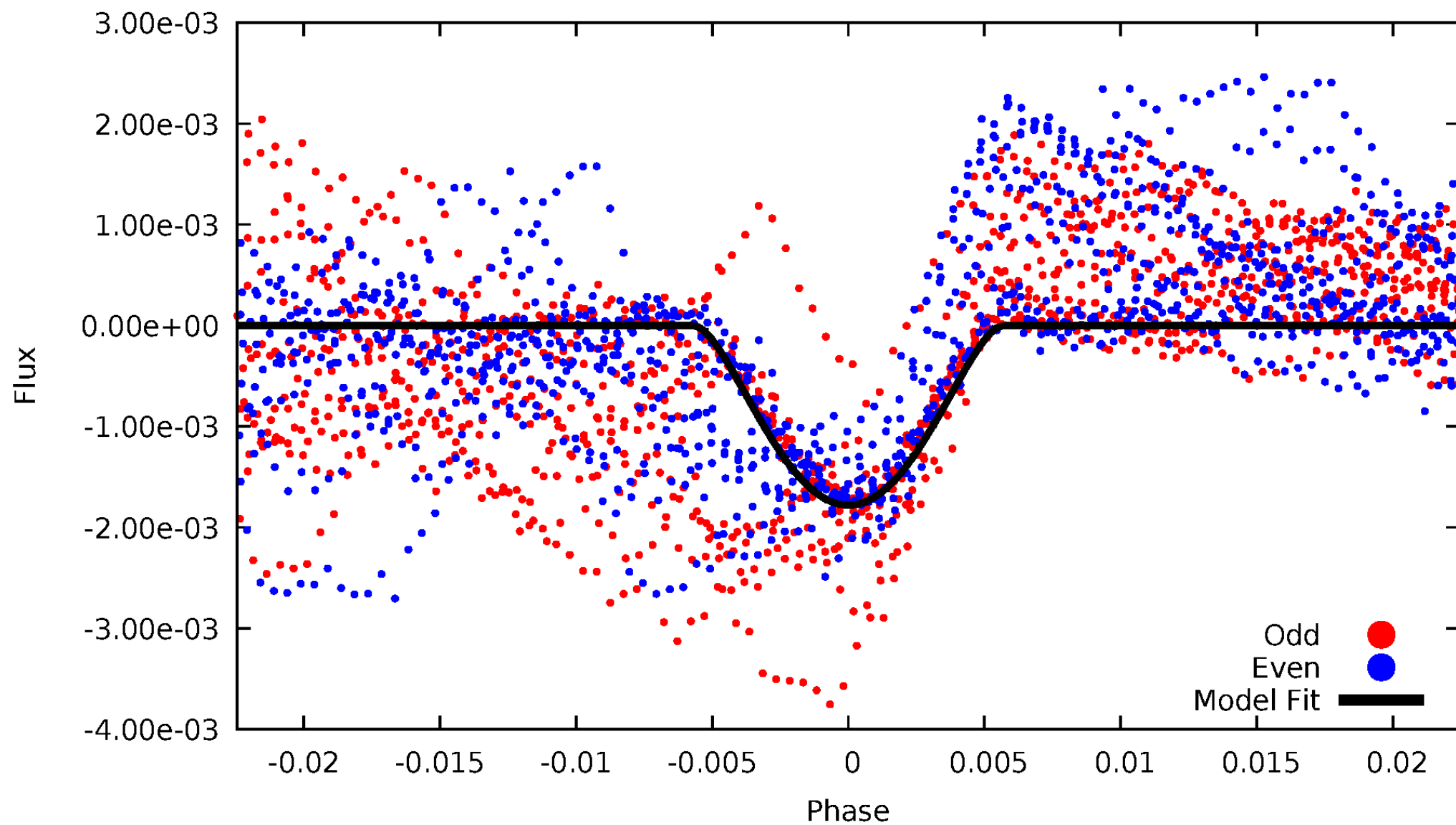


TCE 004569590-06



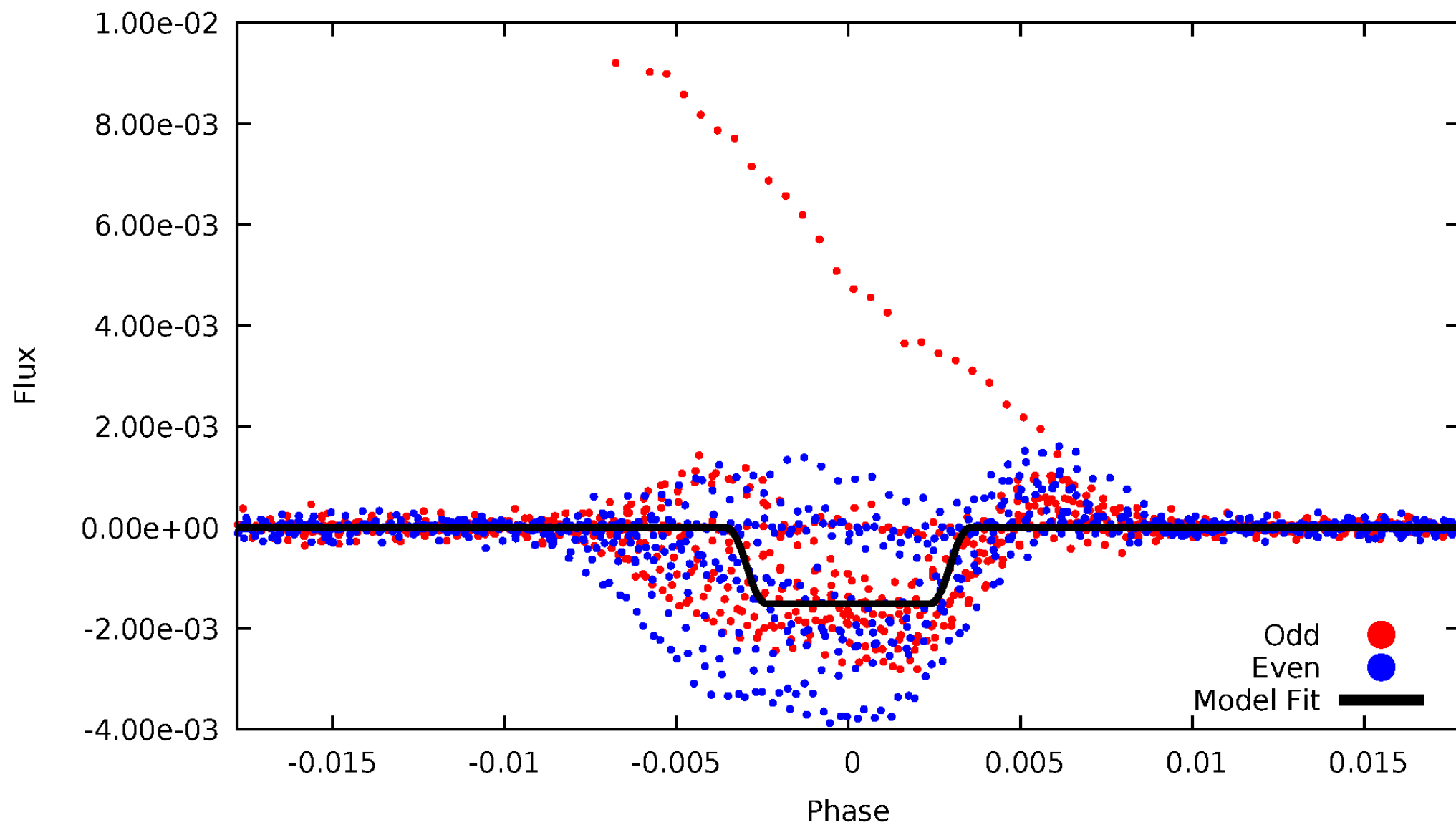
DV Odd/Even

TCE 004569590-06



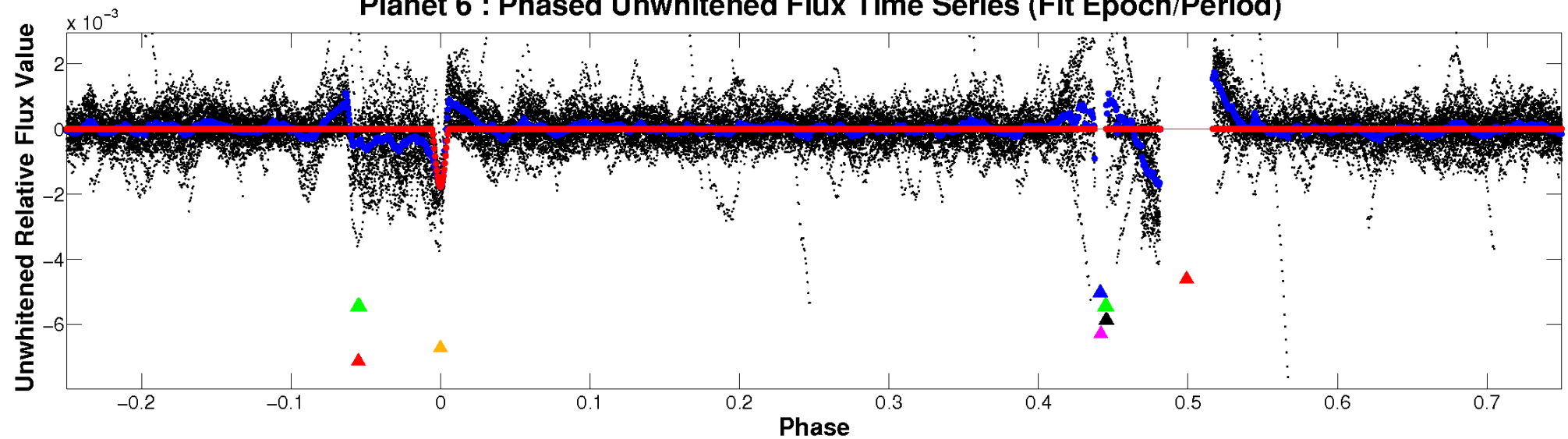
ALT Odd/Even

TCE 004569590-06

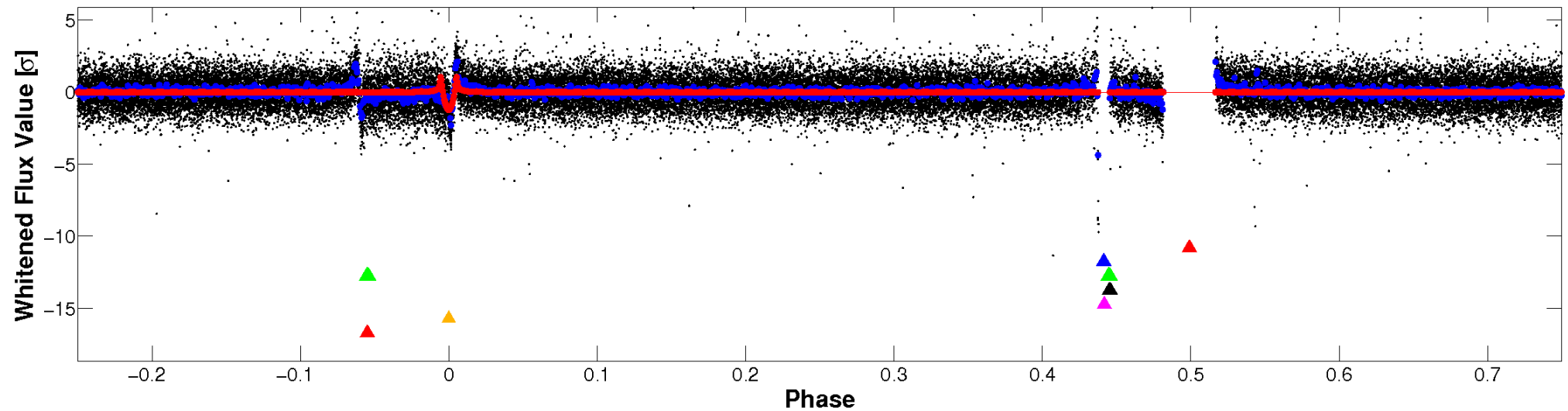


Non-Whitened Vs. Whitened Light Curve

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

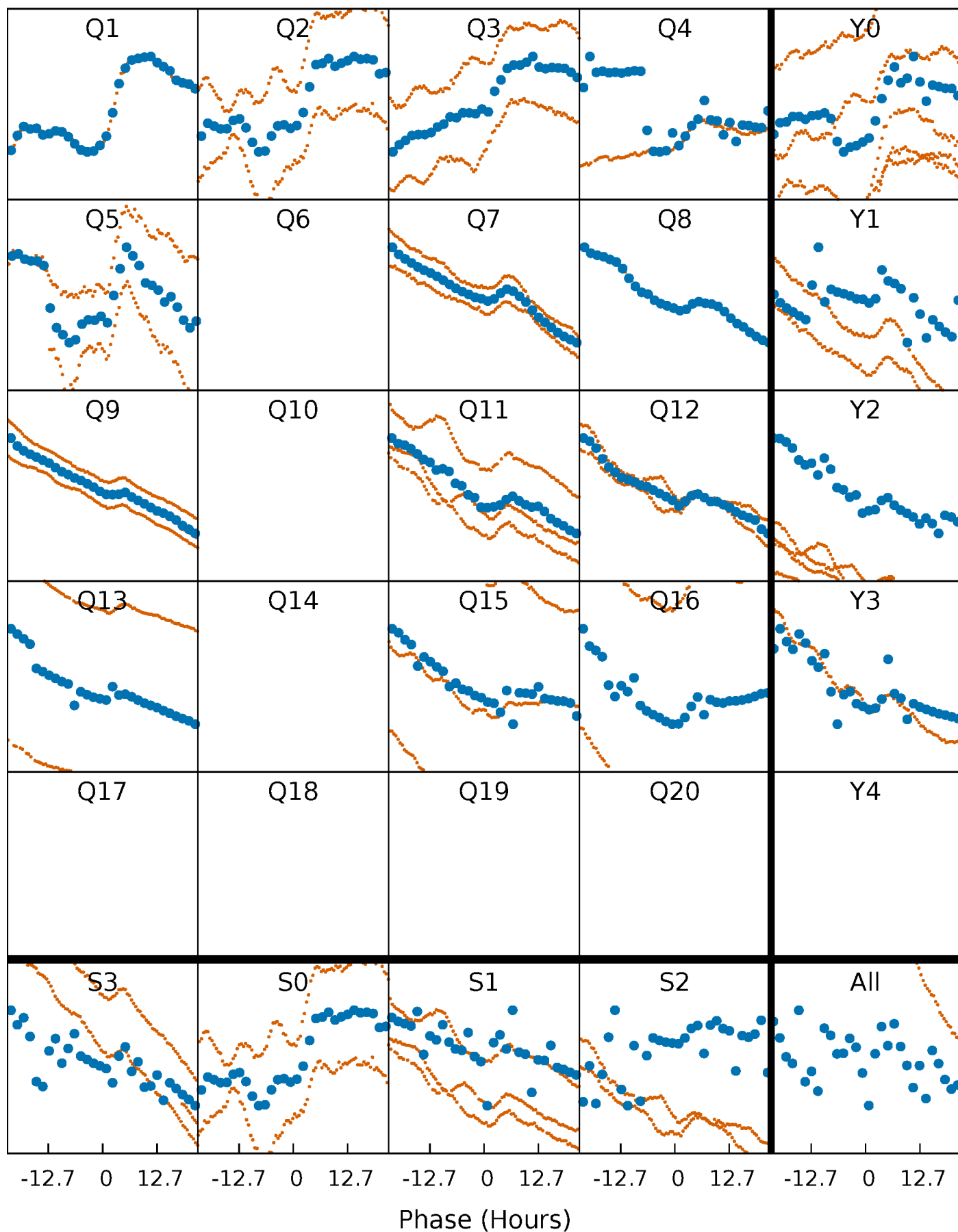


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



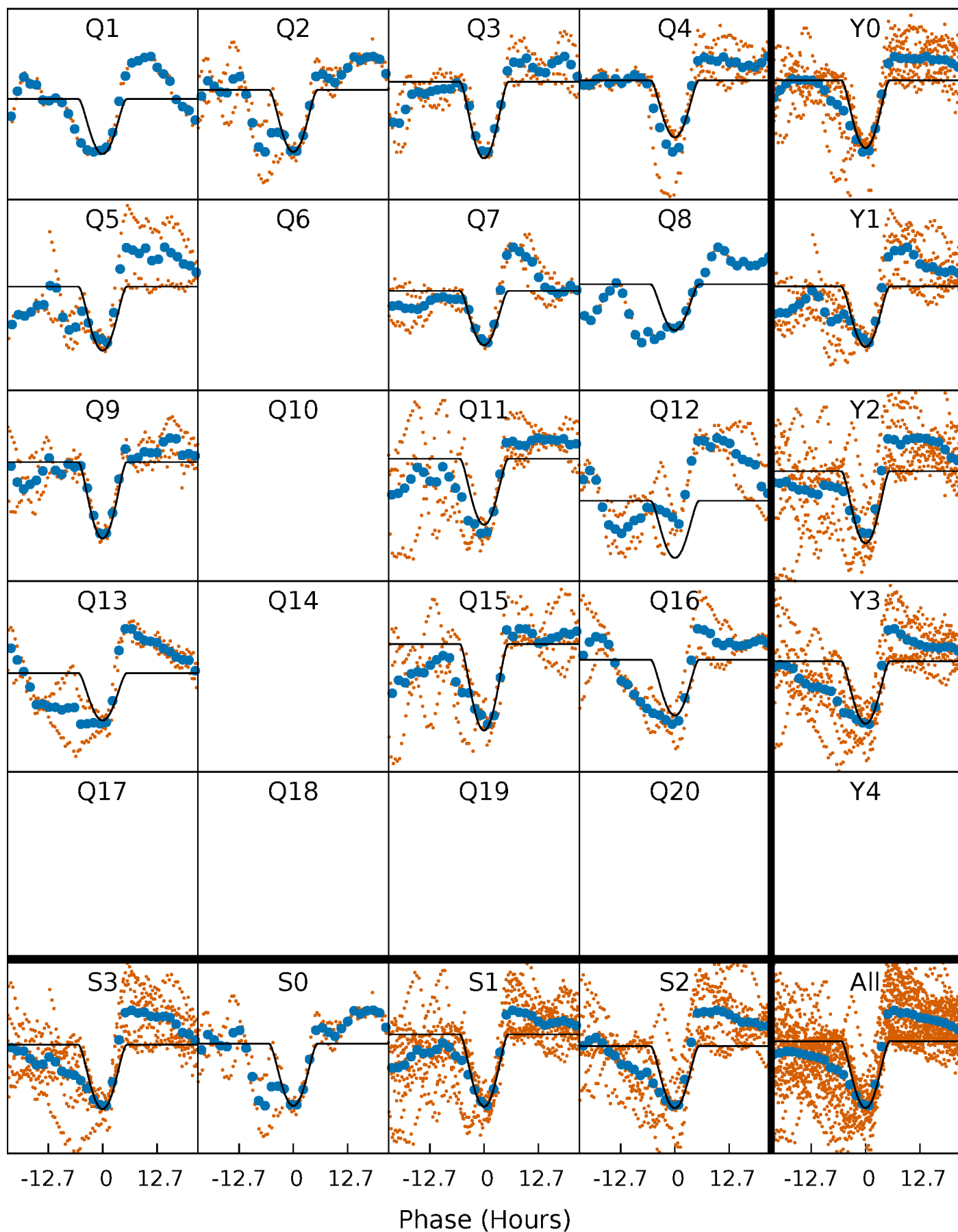
PDC Quarter-Phased Transit Curves

TCE 004569590-06 $P = 41.370159$ Days $T_0 = 145.839688$ (BKJD)



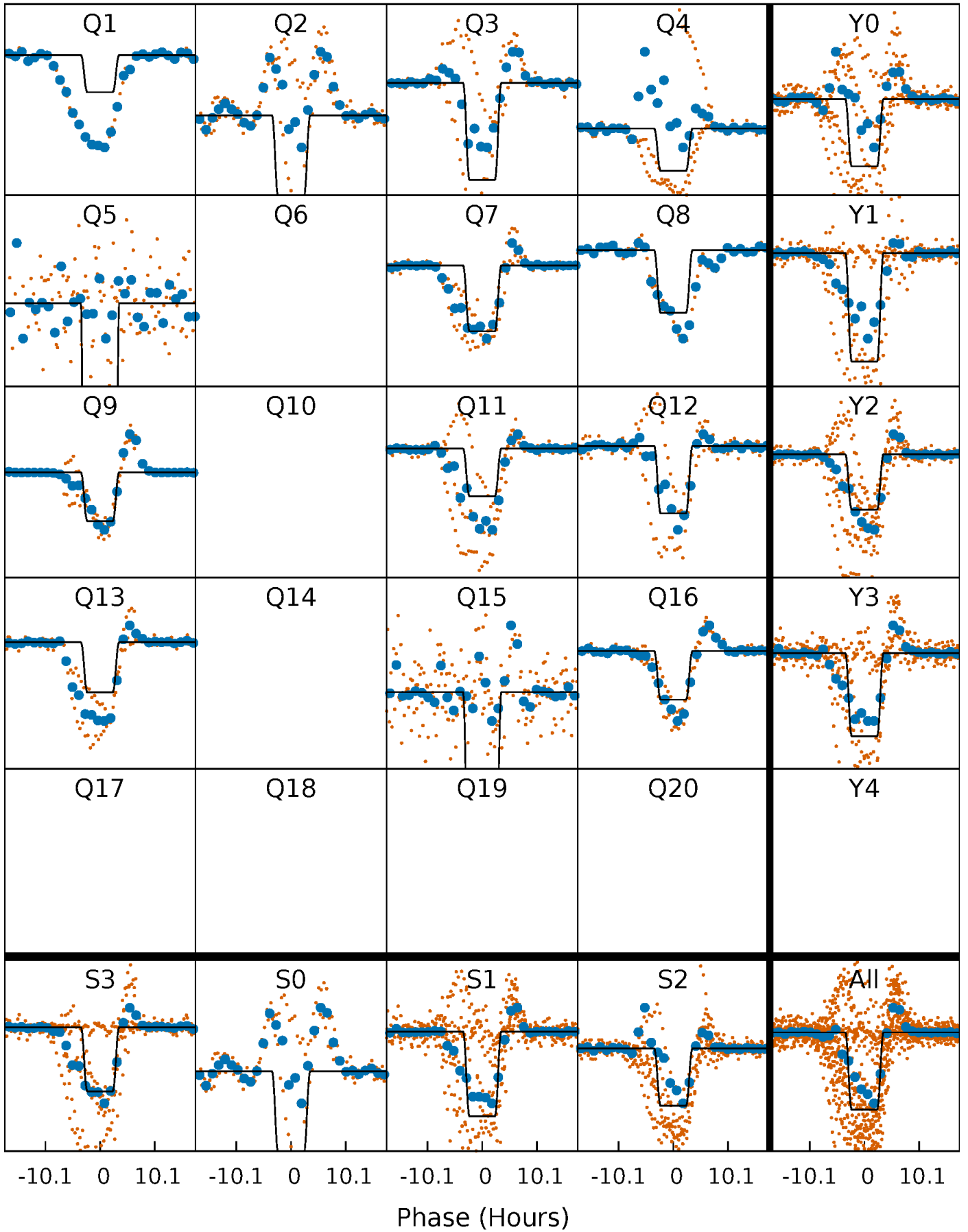
DV Quarter-Phased Transit Curves

TCE 004569590-06 P= 41.370159 Days $T_0=145.839688$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

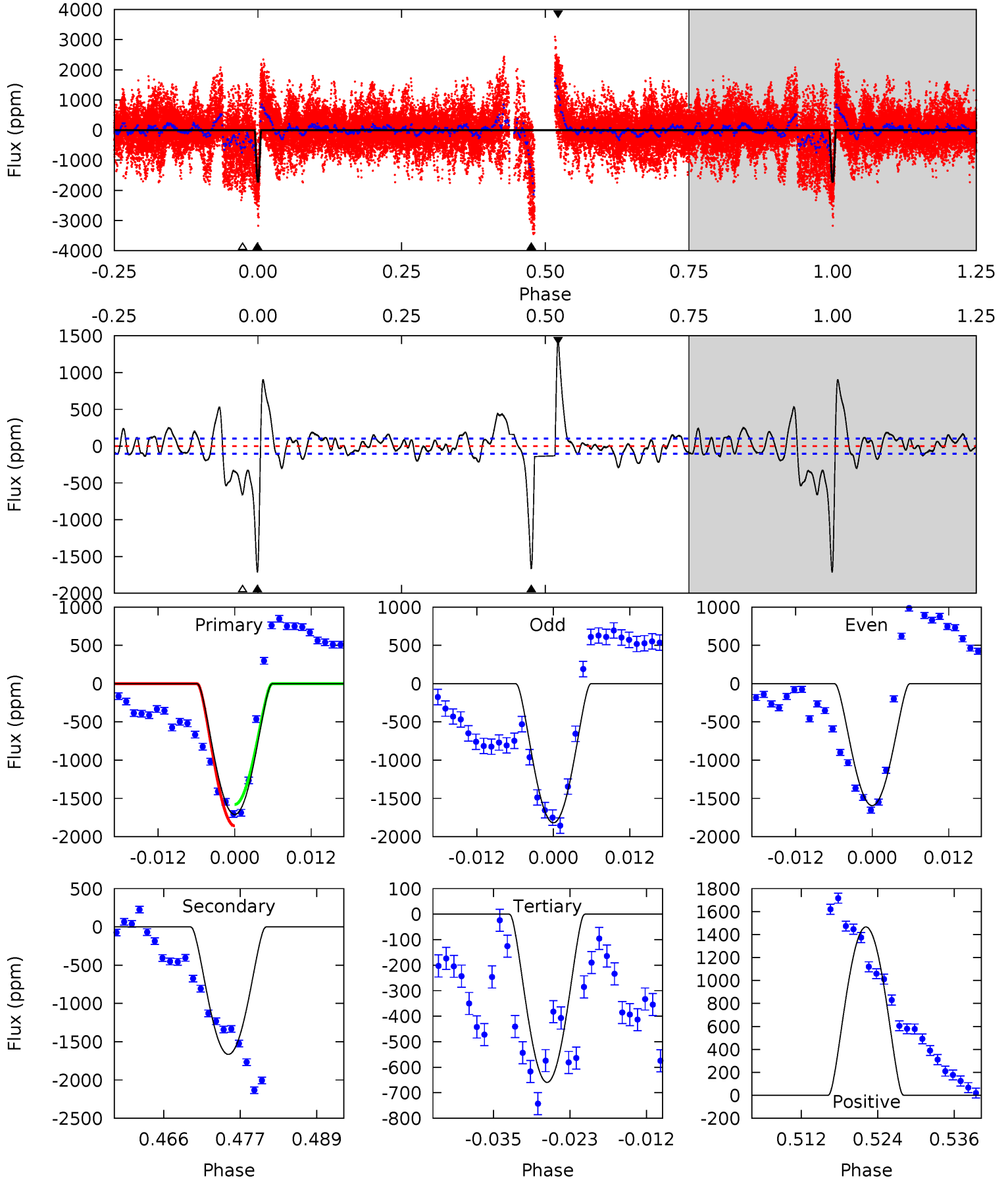
TCE 004569590-06 $P = 41.370205$ Days $T_0 = 145.825650$ (BKJD)



DV Model-Shift Uniqueness Test

004569590-06, P = 41.370159 Days, E = 104.469529 Days

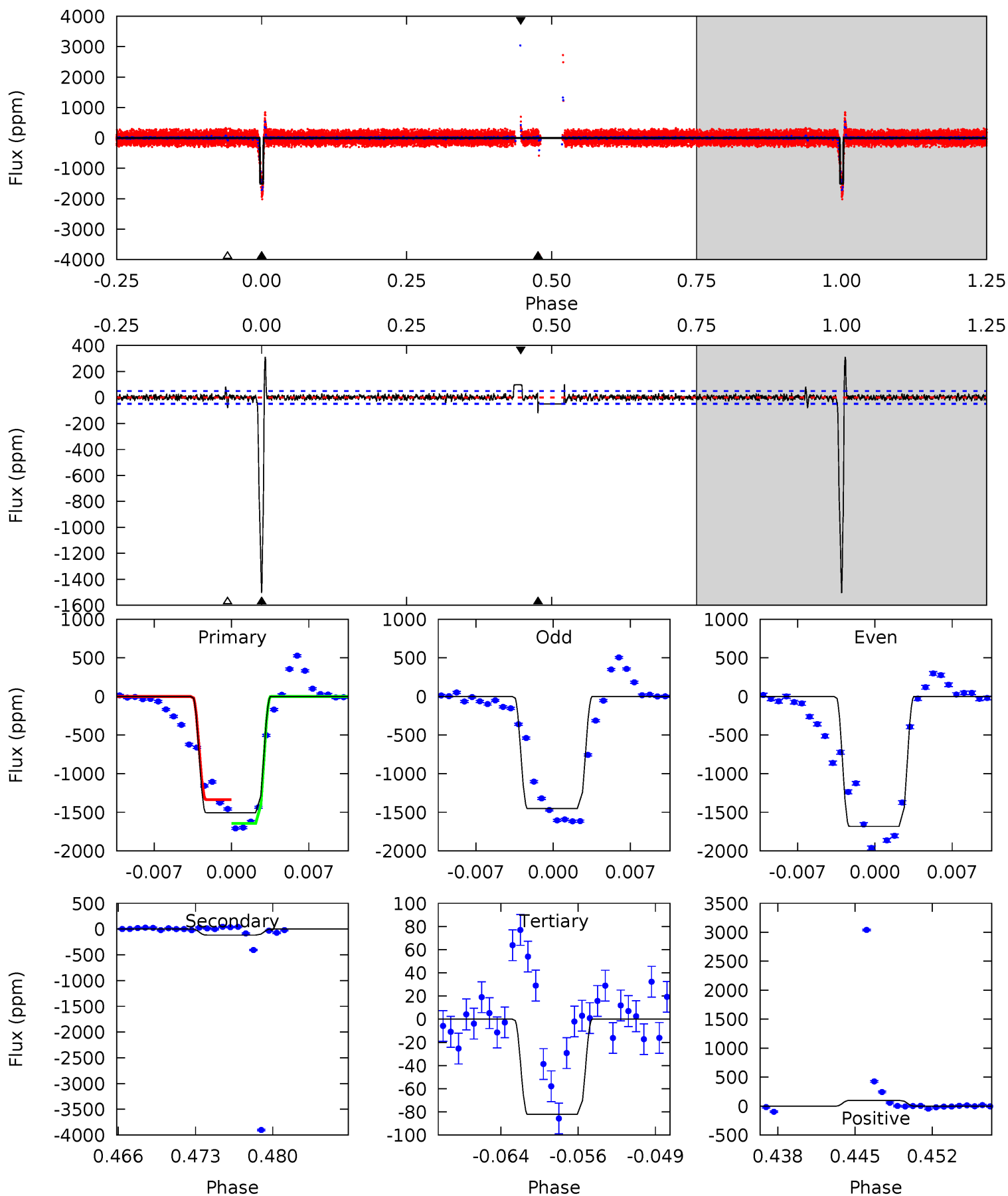
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.6	80.4	31.8	70.8	5.00	2.52	10.3	50.8	11.8	48.6	9.61	5.44	1.06	0.46	7.09



Alt Model-Shift Uniqueness Test

004569590-06, P = 41.370205 Days, E = 104.455445 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
155.3	12.0	8.47	10.2	5.09	2.69	1.29	146.8	145.1	3.55	1.84	12.5	0.69	0.17	0



Stellar Parameters For KIC 004569590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+142}_{-107}	$2.777^{+0.402}_{-0.329}$	$-0.180^{+0.300}_{-0.200}$	$6.883^{+3.901}_{-2.601}$	$1.035^{+0.388}_{-0.114}$	$0.004^{+0.015}_{-0.003}$
	+3%/-2%	+14%/-12%	+167%/-111%	+57%/-38%	+37%/-11%	+329%/-71%
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 004569590-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1665 ± 21	$58.17^{+40.86}_{-28.70}$	1586^{+217}_{-209}	3728^{+985}_{-491}	16^{+47}_{-10}
Alt.	-116 ± 10	$35.71^{+31.23}_{-22.97}$	1577^{+204}_{-184}	2853^{+1026}_{-452}	$2.927^{+20.894}_{-2.107}$

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

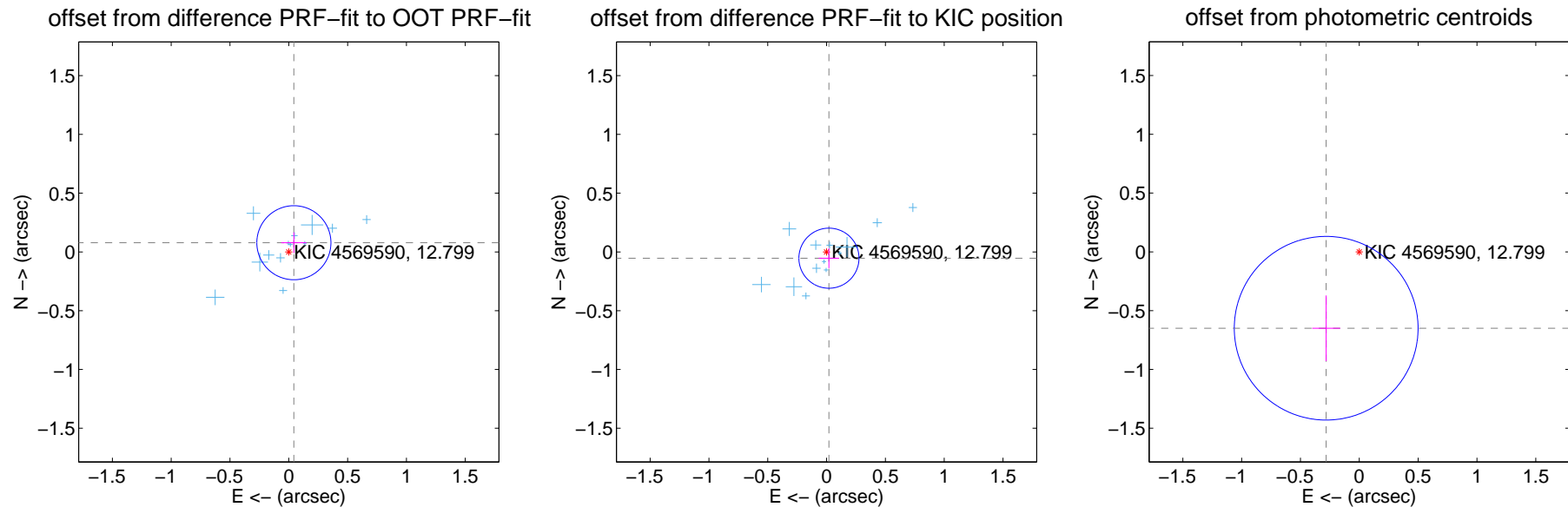
DV Centroid Data

Supplemental centroid analysis for 004569590-06. Kepler magnitude: 12.80. Transit SNR 21.17

There are 13 quarters with good PRF difference image offsets

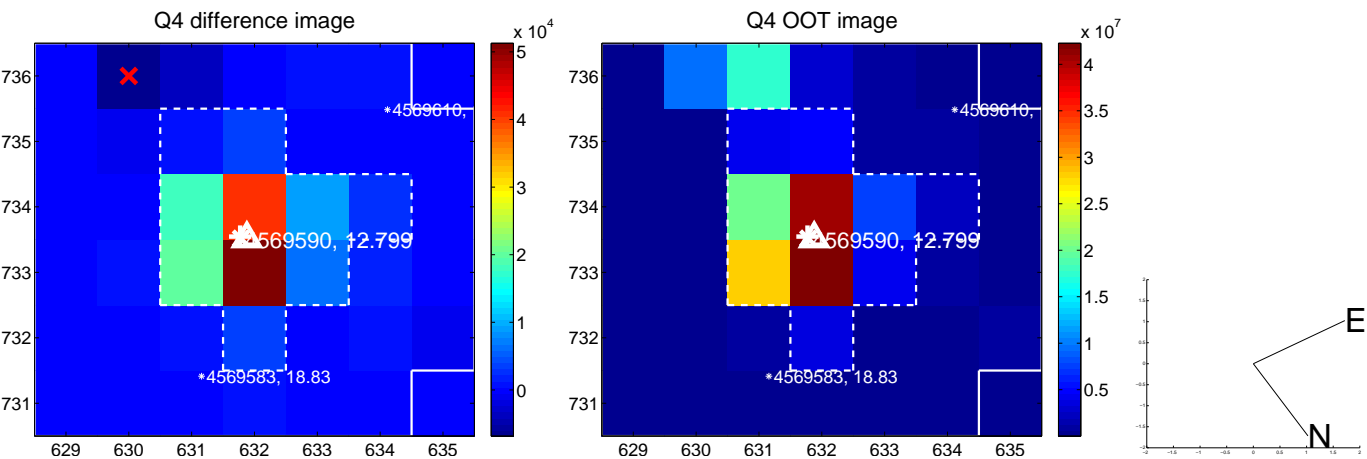
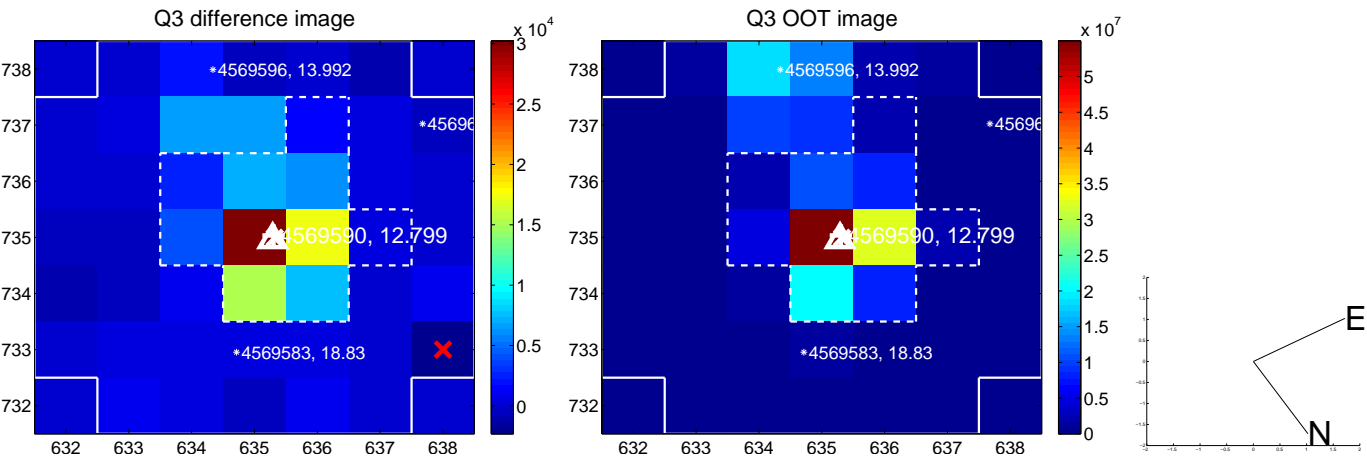
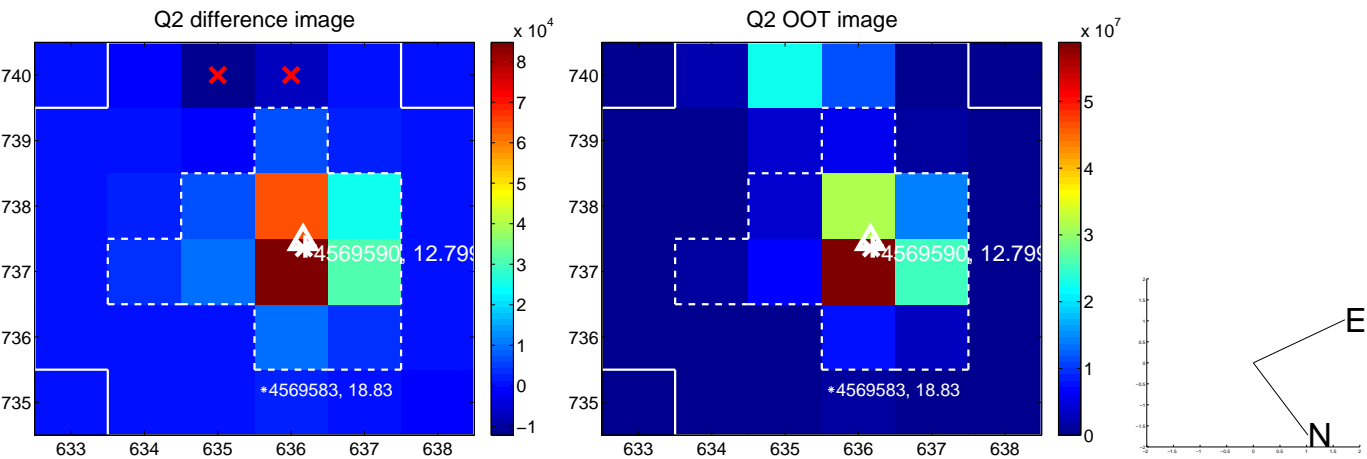
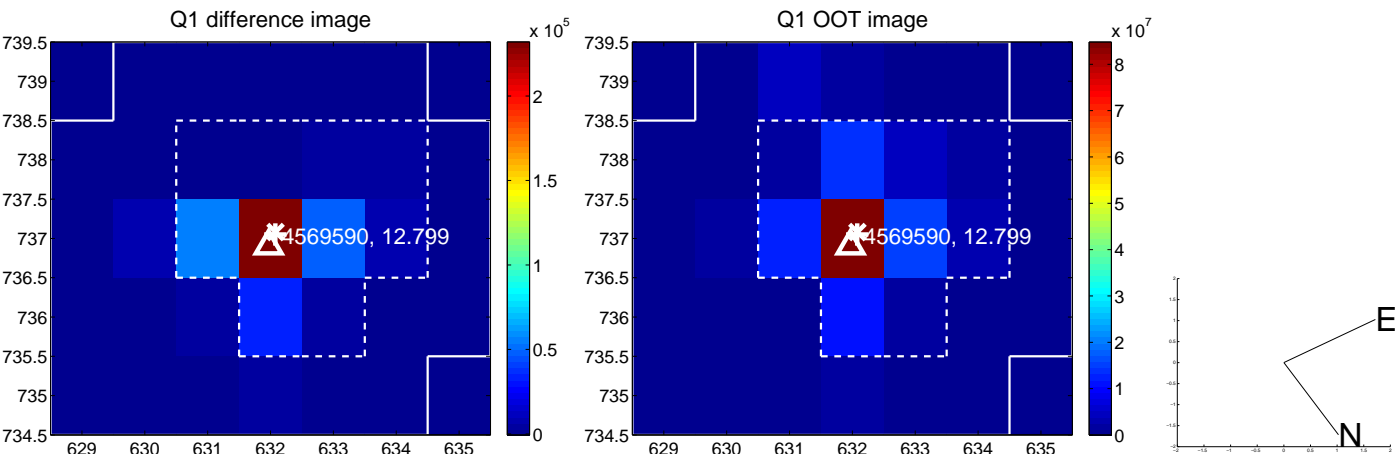
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.089 ± 0.105	0.85	-0.043 ± 0.107	0.078 ± 0.088
PRF-fit source offset from KIC position	0.057 ± 0.085	0.67	-0.020 ± 0.087	-0.053 ± 0.085
photometric centroid source offset	0.71 ± 0.26	2.72	0.28 ± 0.12	-0.65 ± 0.28

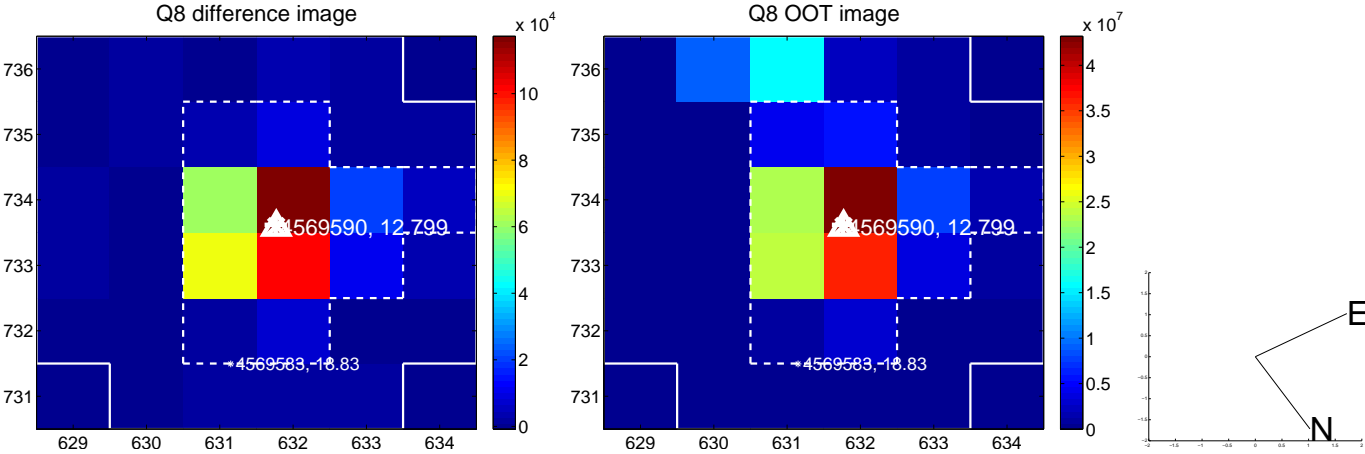
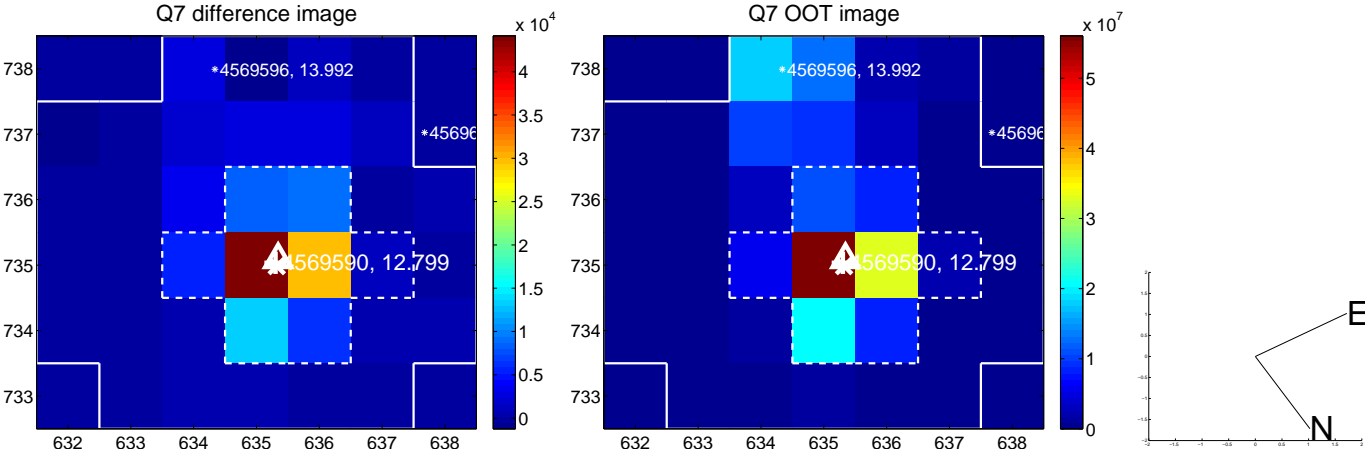
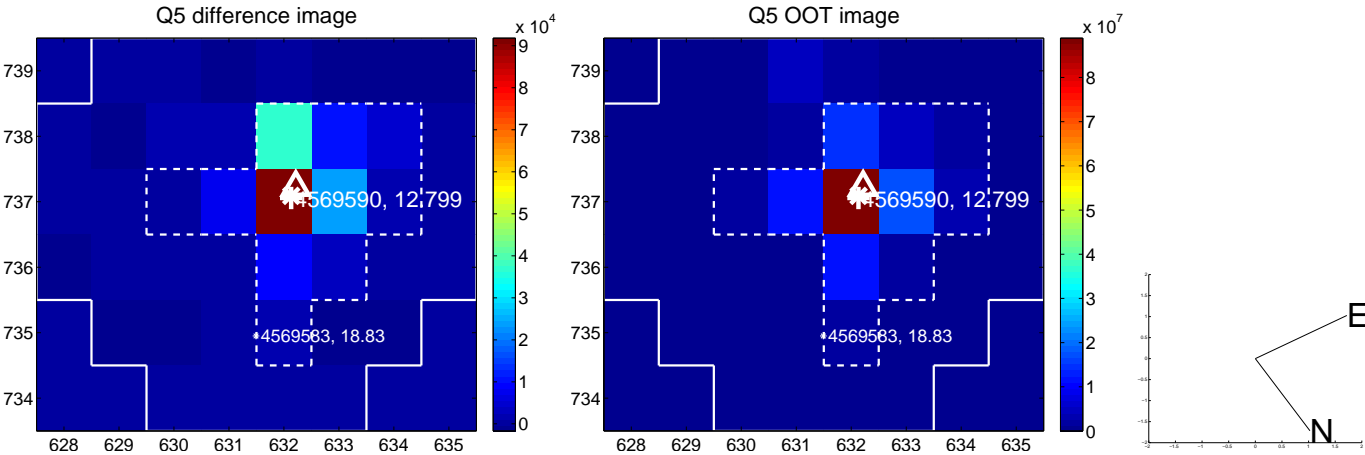


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

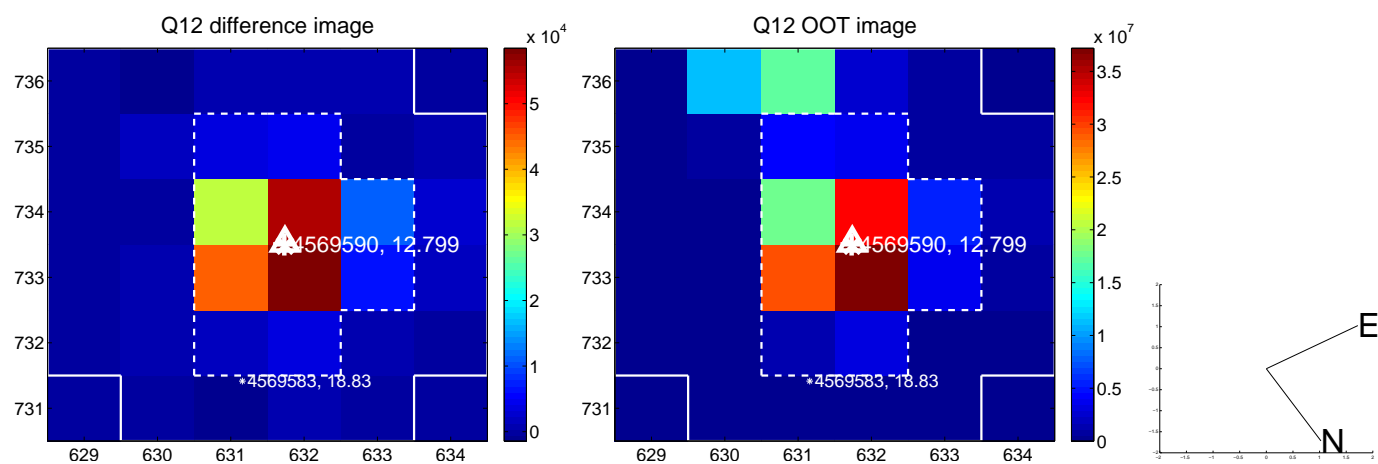
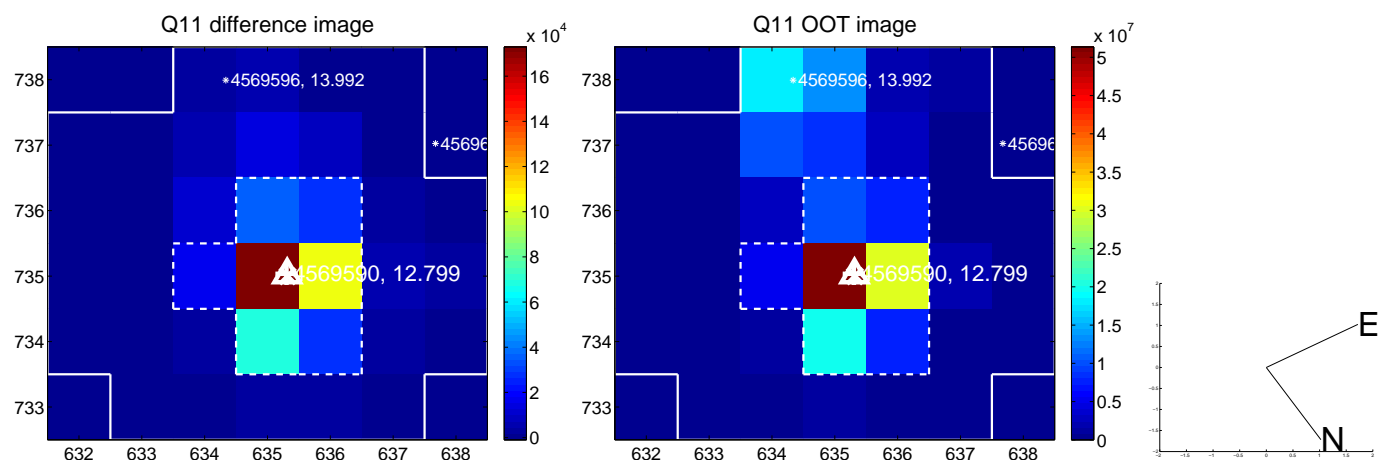
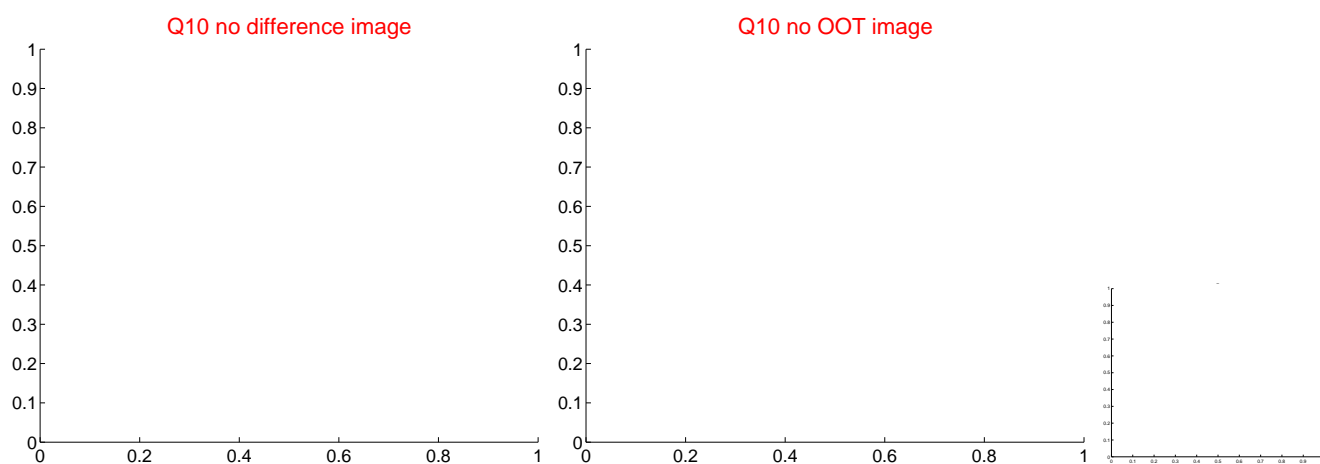
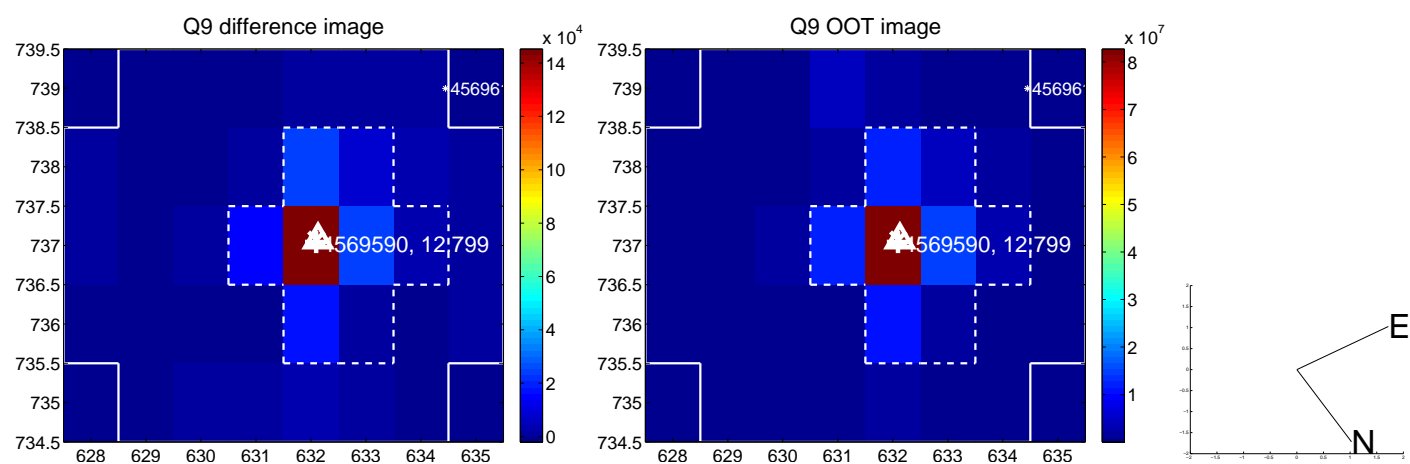
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



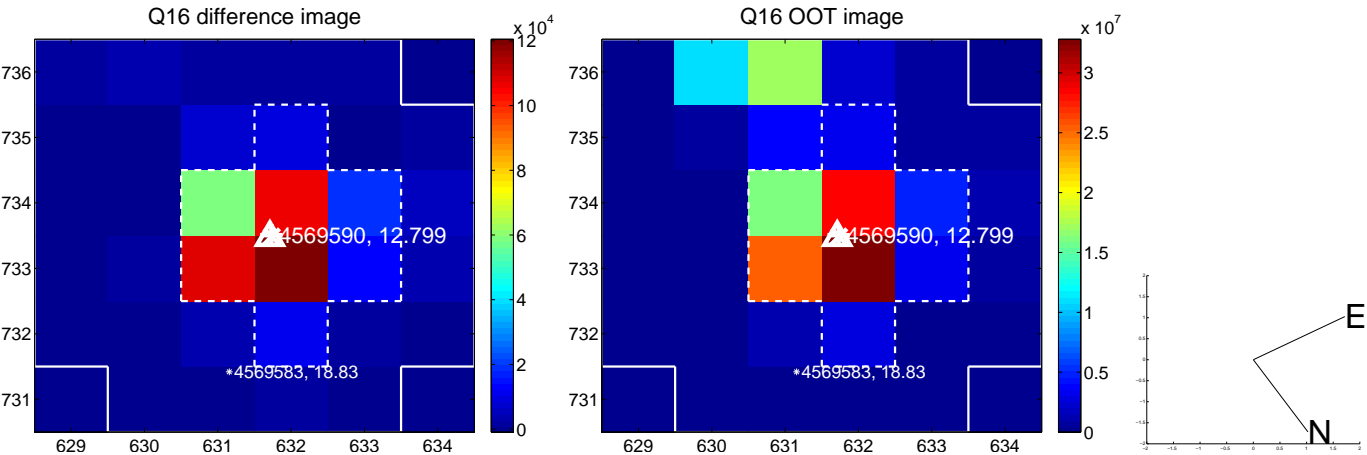
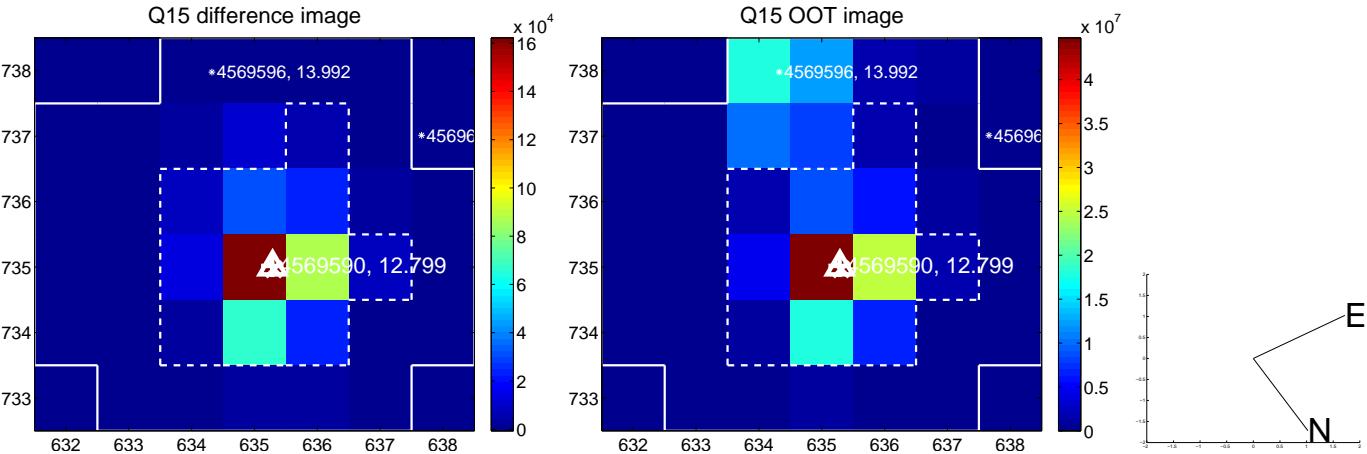
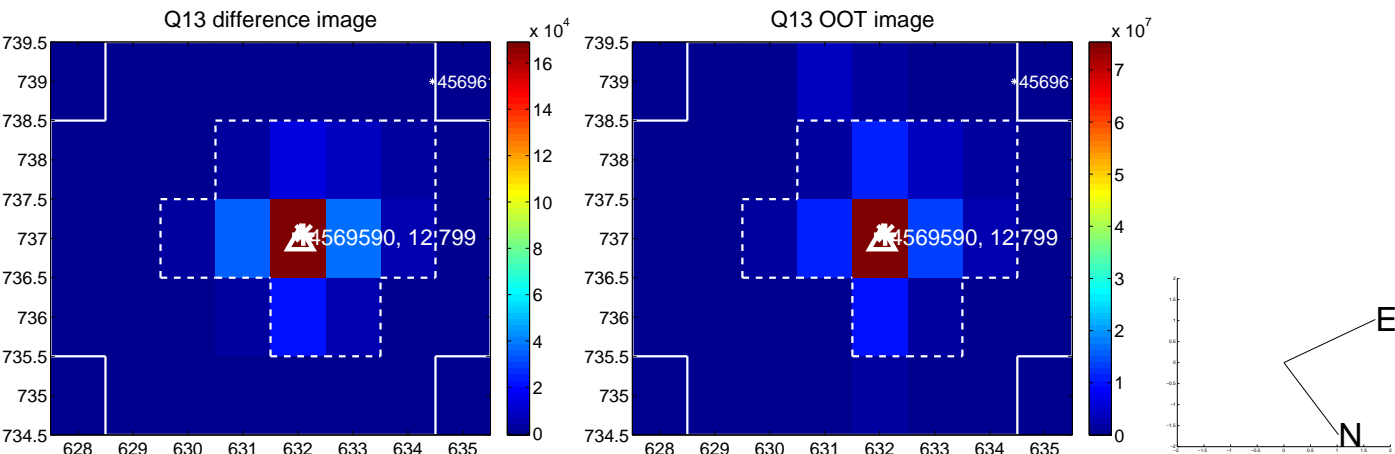
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



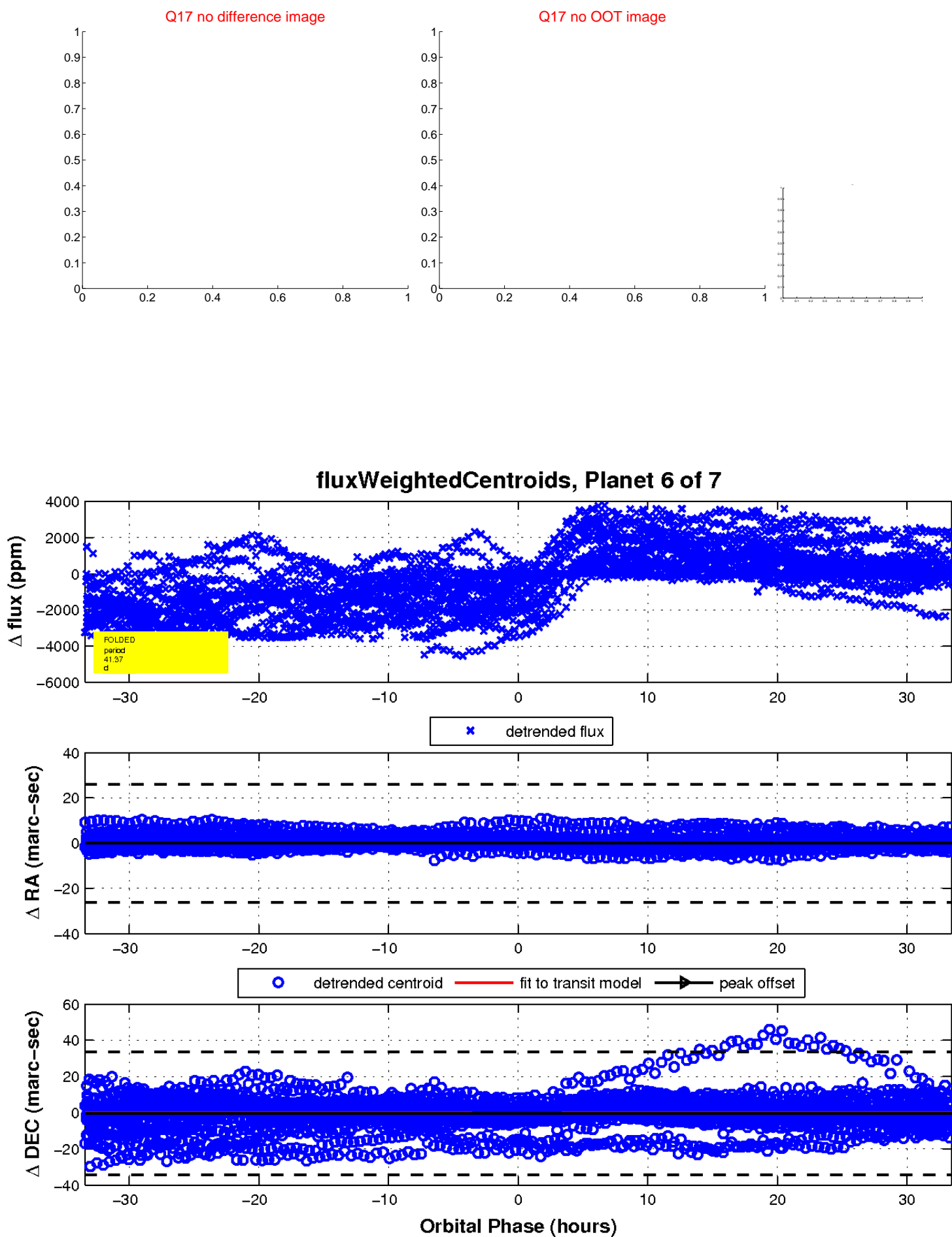
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



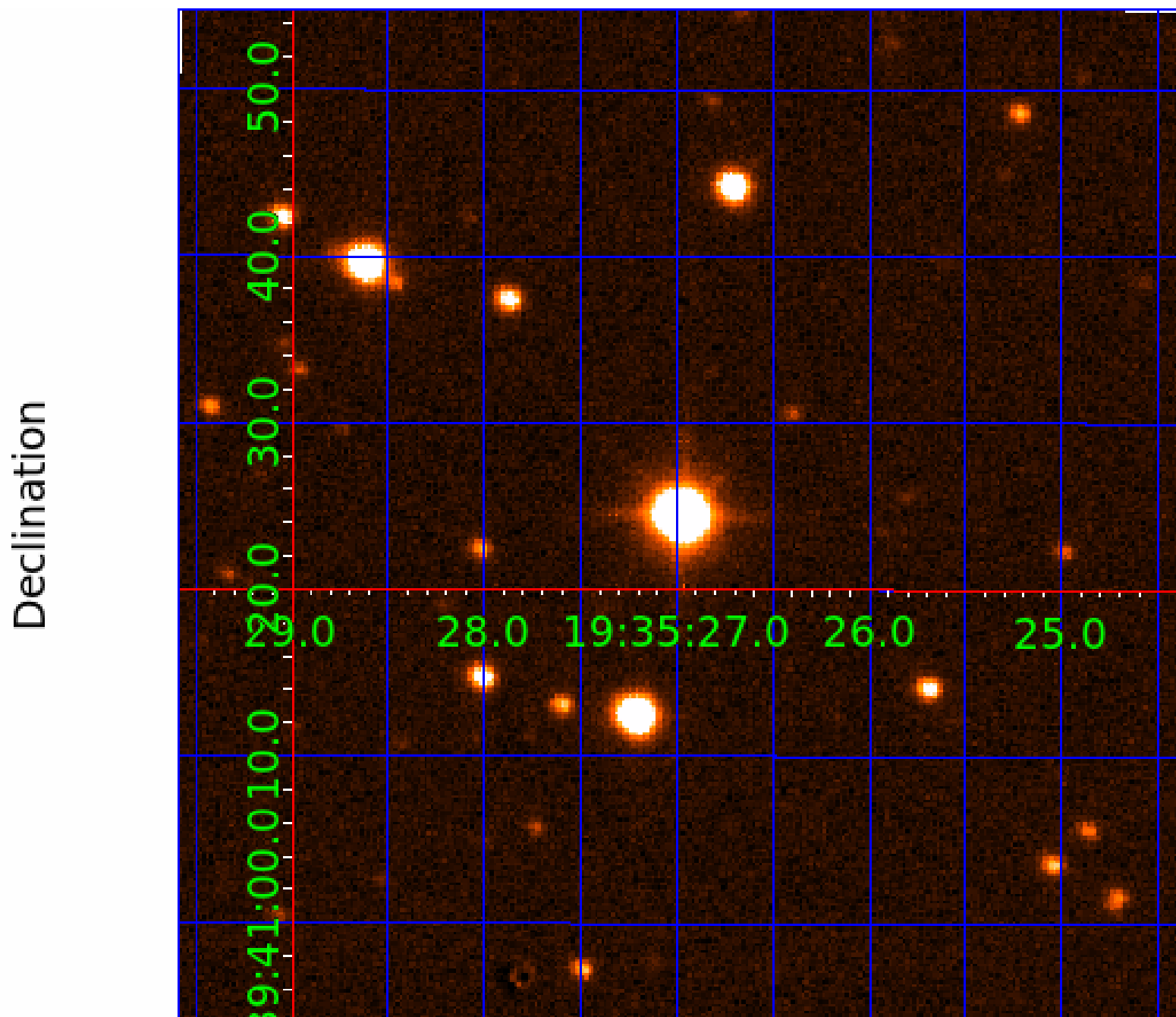
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004569590

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})
004569590-01	OBS	6426.01	41.370622	166.479530	4619.1	11.630	62.2	50.4	6.88	4764	54.15	389.98
004569590-02	OBS	No	413.704815	329.576068	6928.0	6.790	31.3	38.5	6.88	4764	108.71	18.10
004569590-03	OBS	No	227.547472	288.337947	3697.9	16.015	21.2	13.9	6.88	4764	52.78	40.17
004569590-04	OBS	No	124.106632	247.028720	347.7	15.000	22.3	-1.0	6.88	4764	12.37	90.14
004569590-05	OBS	No	41.370562	164.108012	1069.7	2.447	18.0	18.0	6.88	4764	46.44	389.98
004569590-06	OBS	No	41.370159	145.839688	1779.9	11.143	15.5	21.2	6.88	4764	58.20	389.99
004569590-07	OBS	No	41.369741	143.577011	200.3	12.000	13.2	-1.0	6.88	4764	9.39	389.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004569590-01	OBS	FP	0.00	1	0	0	0	LPP_DV
004569590-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—SAME_NTL_PERIOD
004569590-03	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS
004569590-04	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS—HALO_GHOST
004569590-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD
004569590-06	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
004569590-07	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

Ephemeris Match Information For 004569590-07

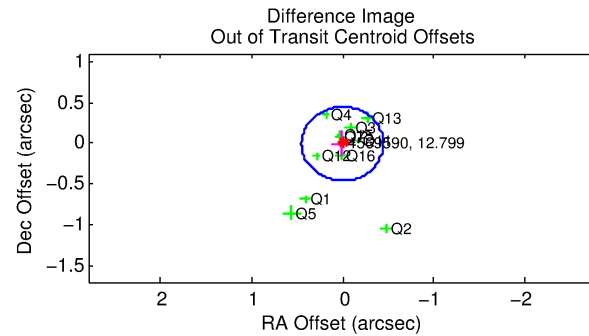
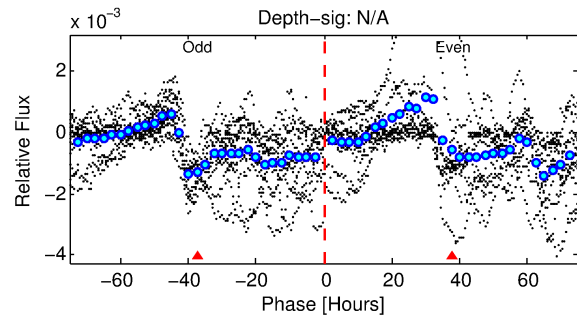
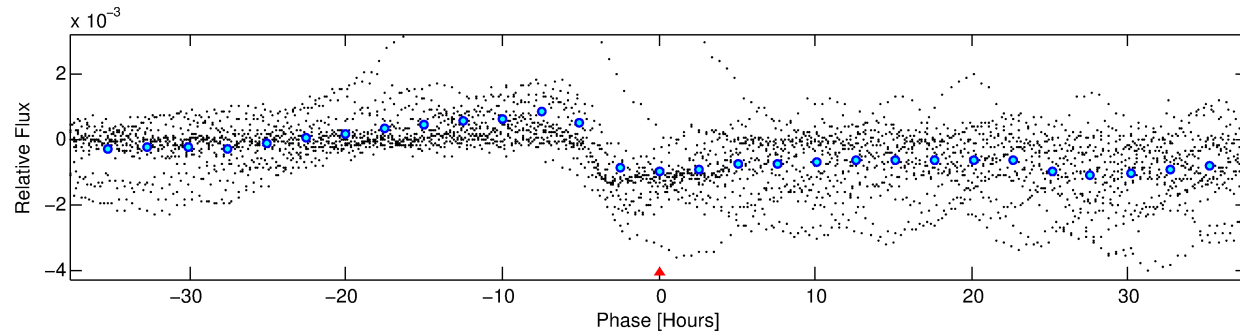
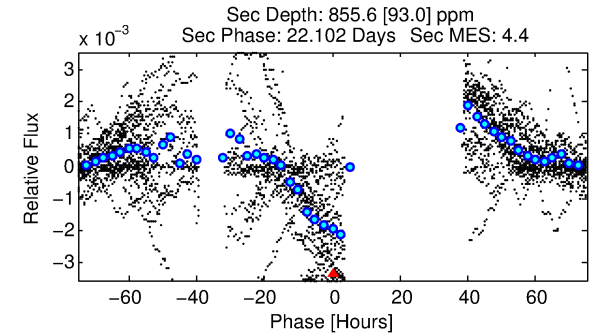
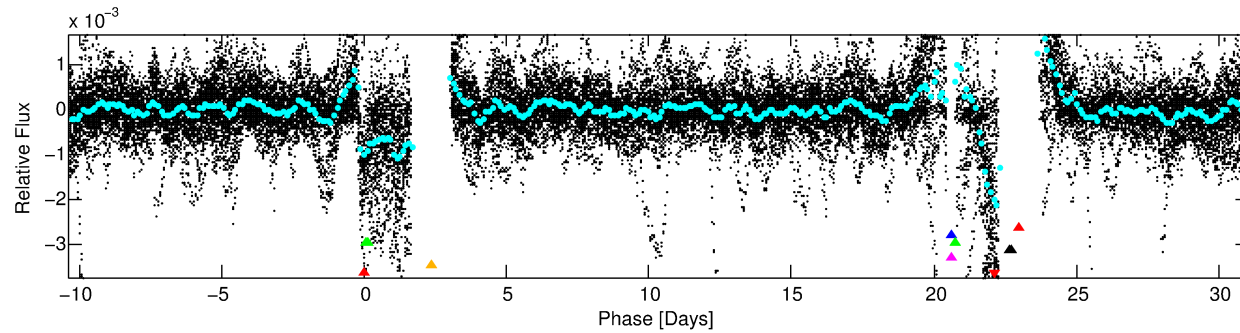
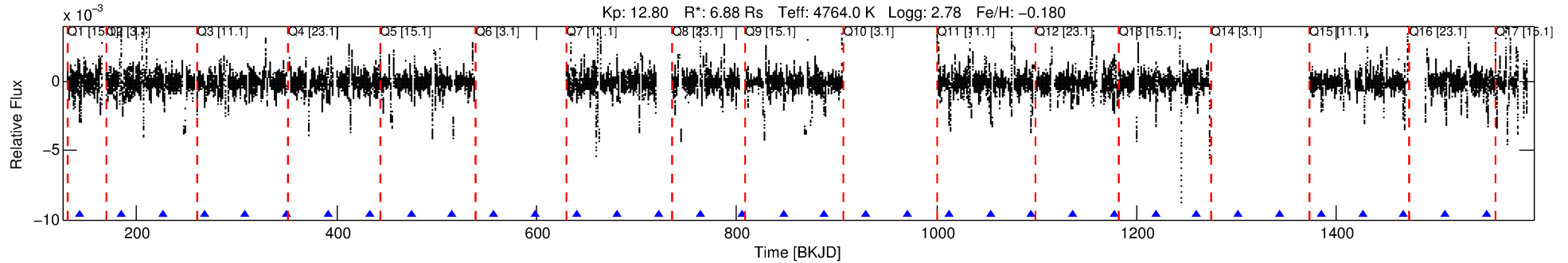
No Significant Match Found

DV One-Page Summary

KIC: 4569590 Candidate: 7 of 7 Period: 41.370 d

KOI: K06426 Corr: No Ephemeris Match

Kp: 12.80 R*: 6.88 Rs Teff: 4764.0 K Logg: 2.78 Fe/H: -0.180



TPS TCE Results:

Period = 41.36974 d
Epoch = 143.5770 BKJD

DV fit results are unavailable

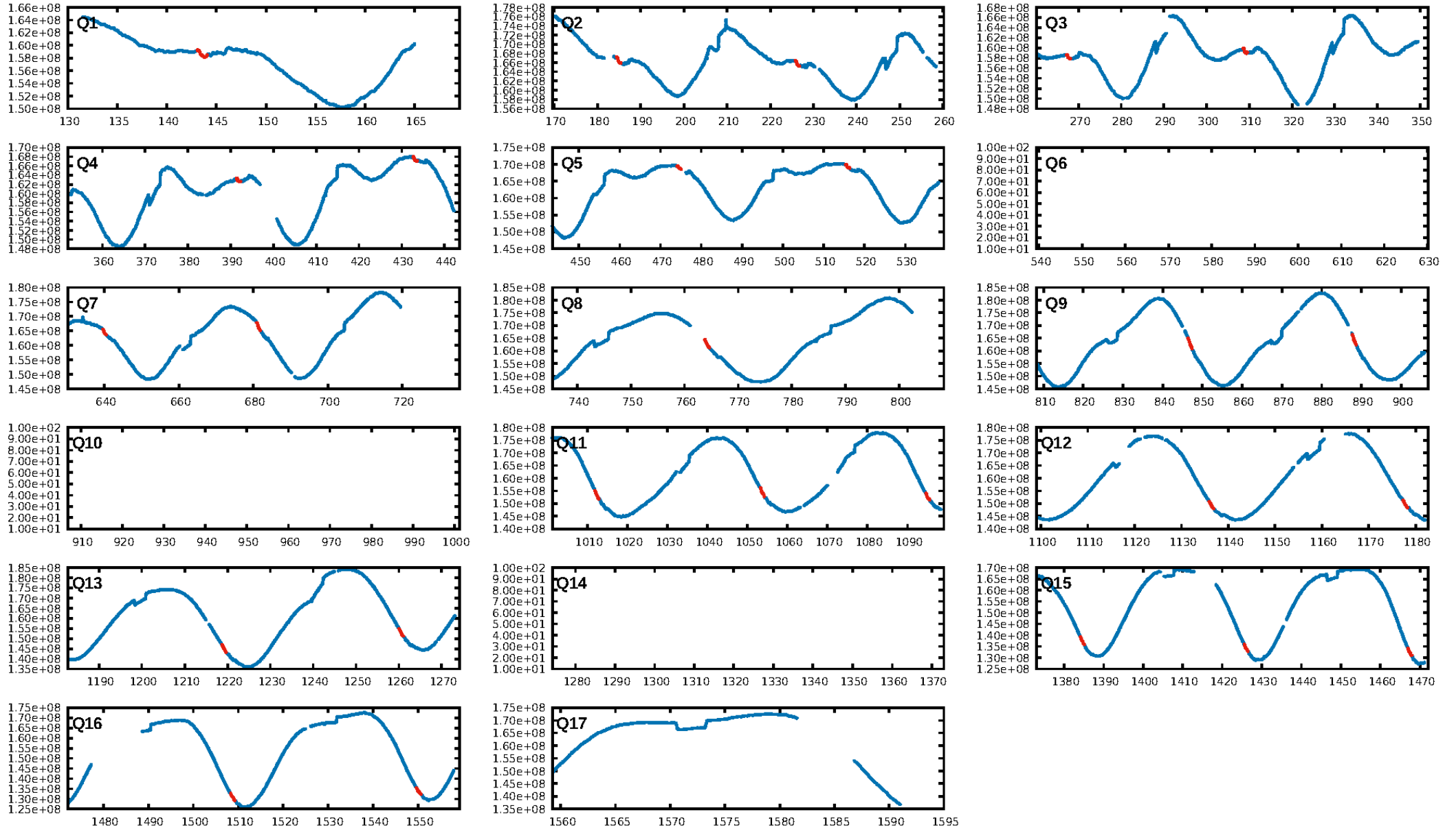
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: 0.5261
Centroid-sig: 0.0%
Centroid-so: 0.029 arcsec [0.08σ]
OotOffset-rm: 0.005 arcsec [0.03σ]
KicOffset-rm: 0.124 arcsec [0.92σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 0.91 [10/11]

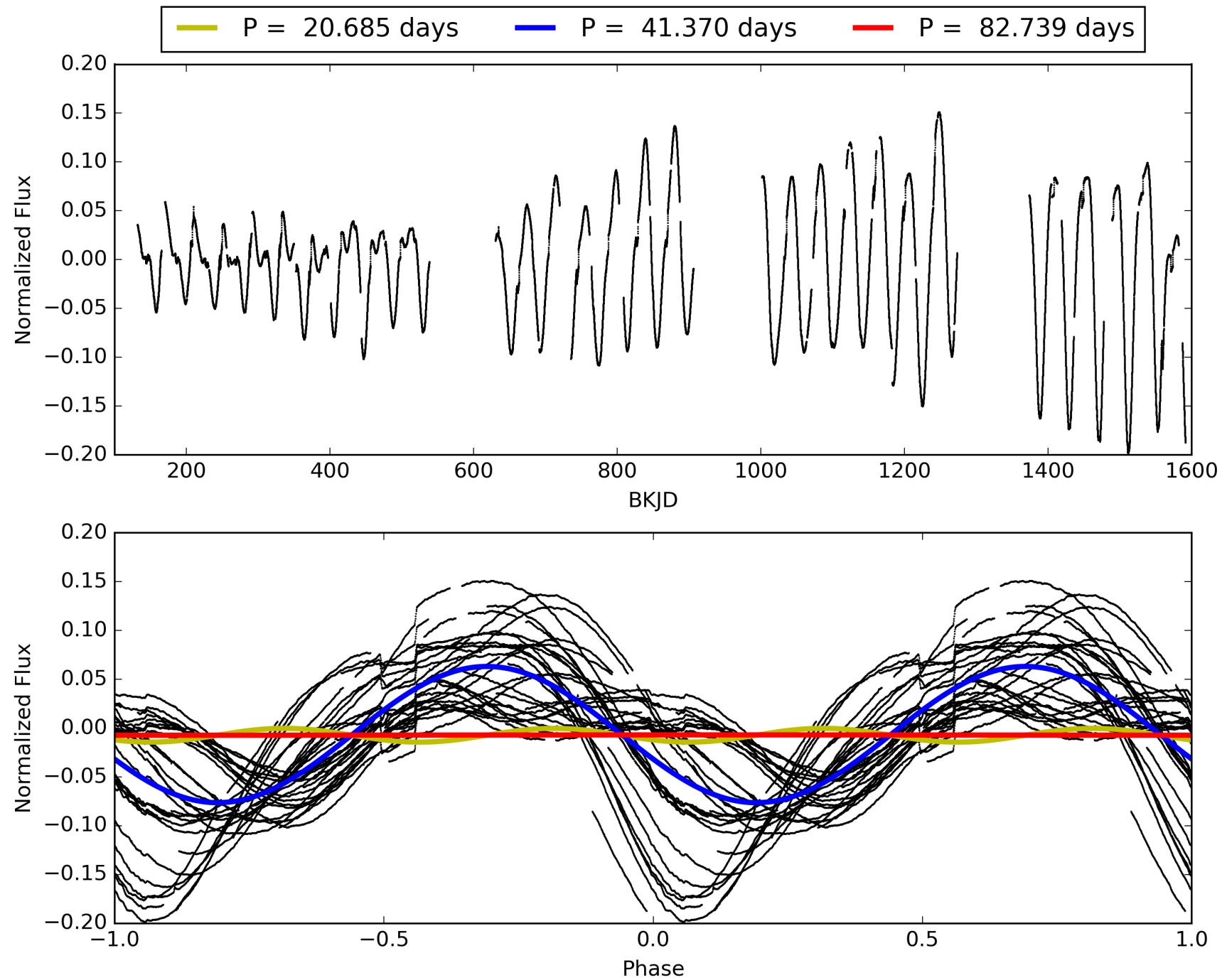
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:51:16 Z

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

TCE 004569590-07, PDC Light Curves

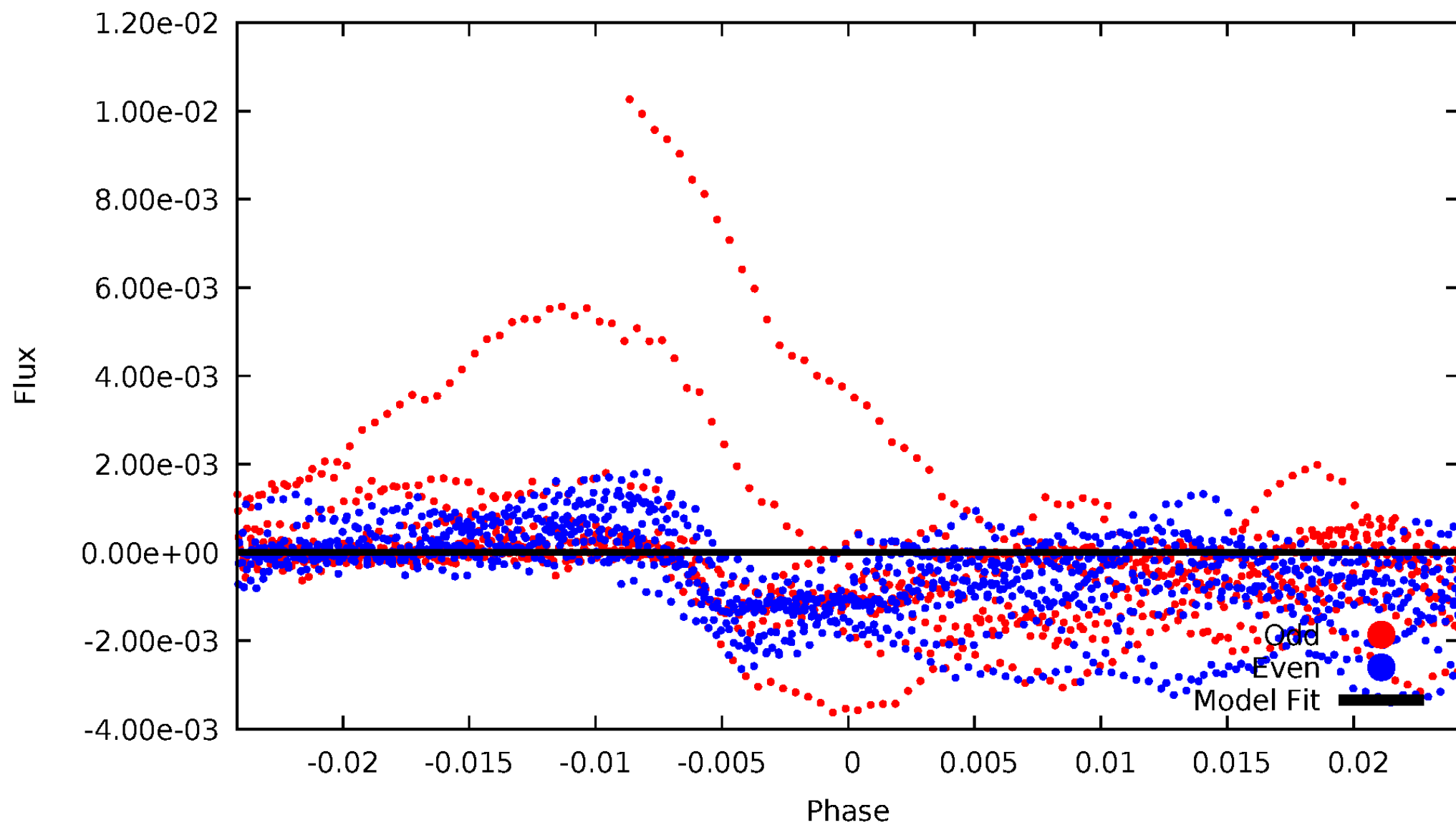


TCE 004569590-07



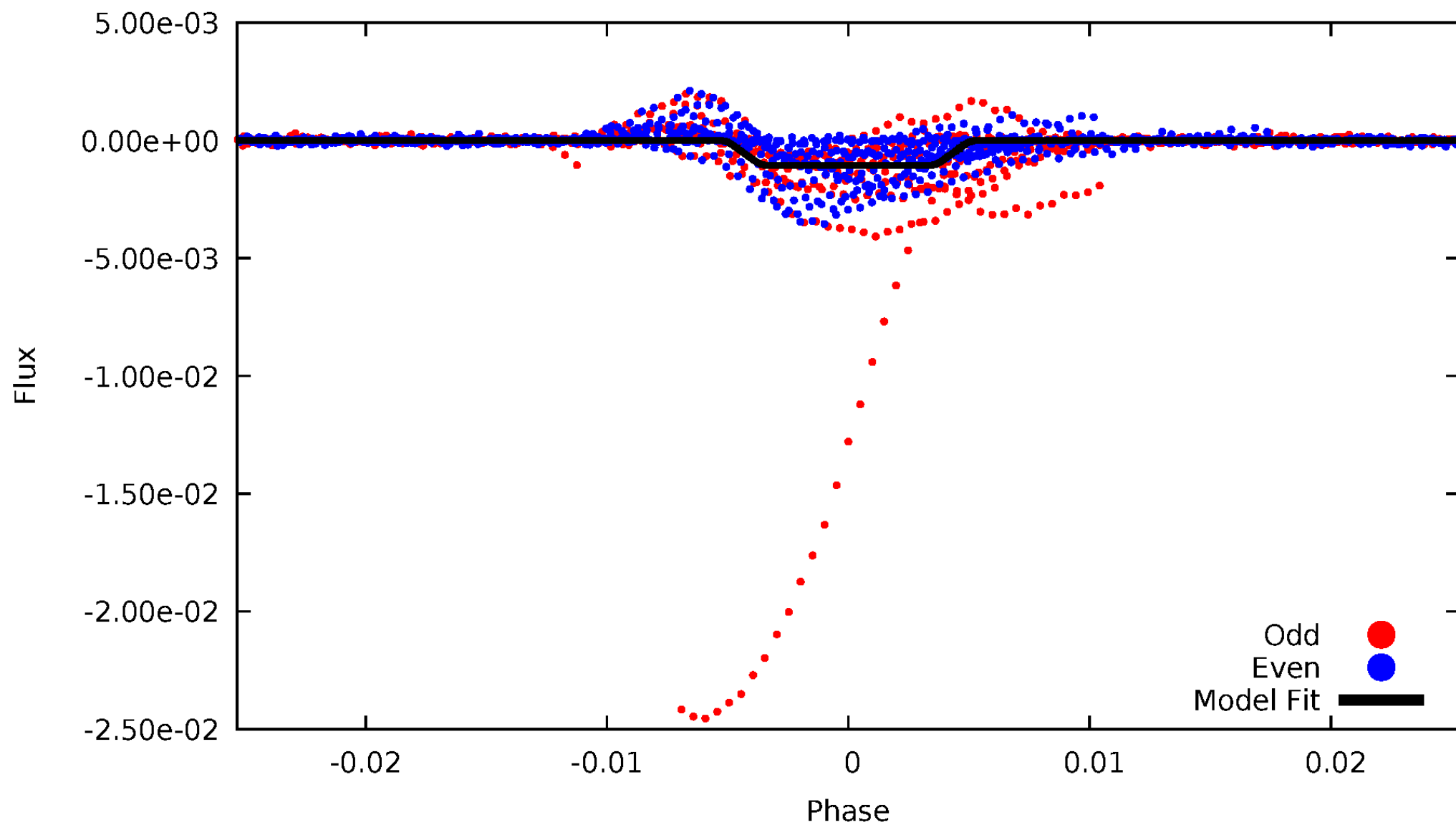
DV Odd/Even

TCE 004569590-07



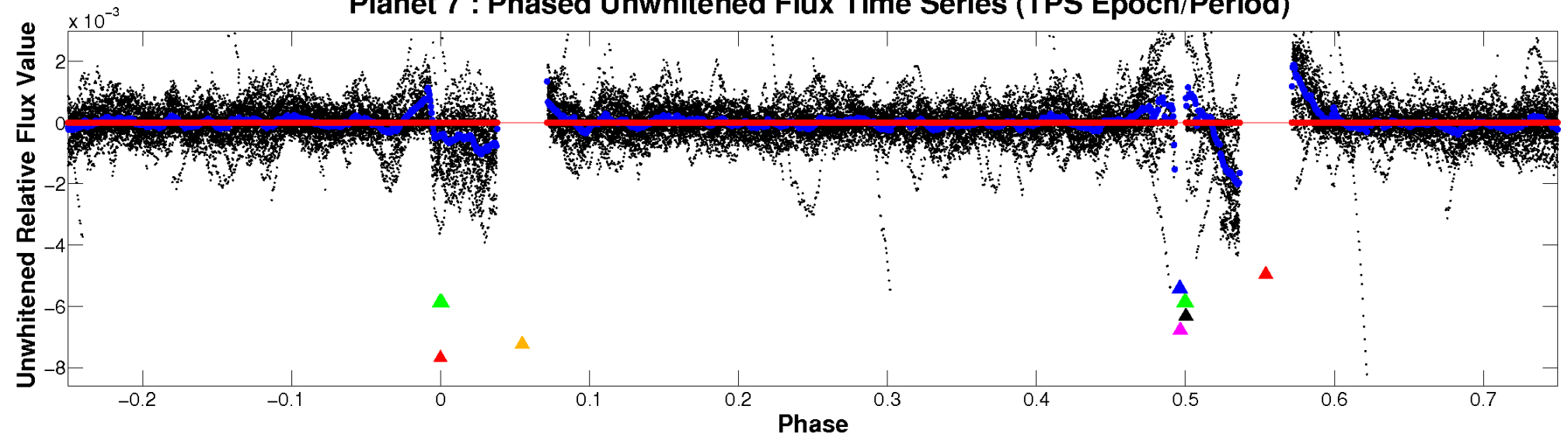
ALT Odd/Even

TCE 004569590-07



Non-Whitened Vs. Whitened Light Curve

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

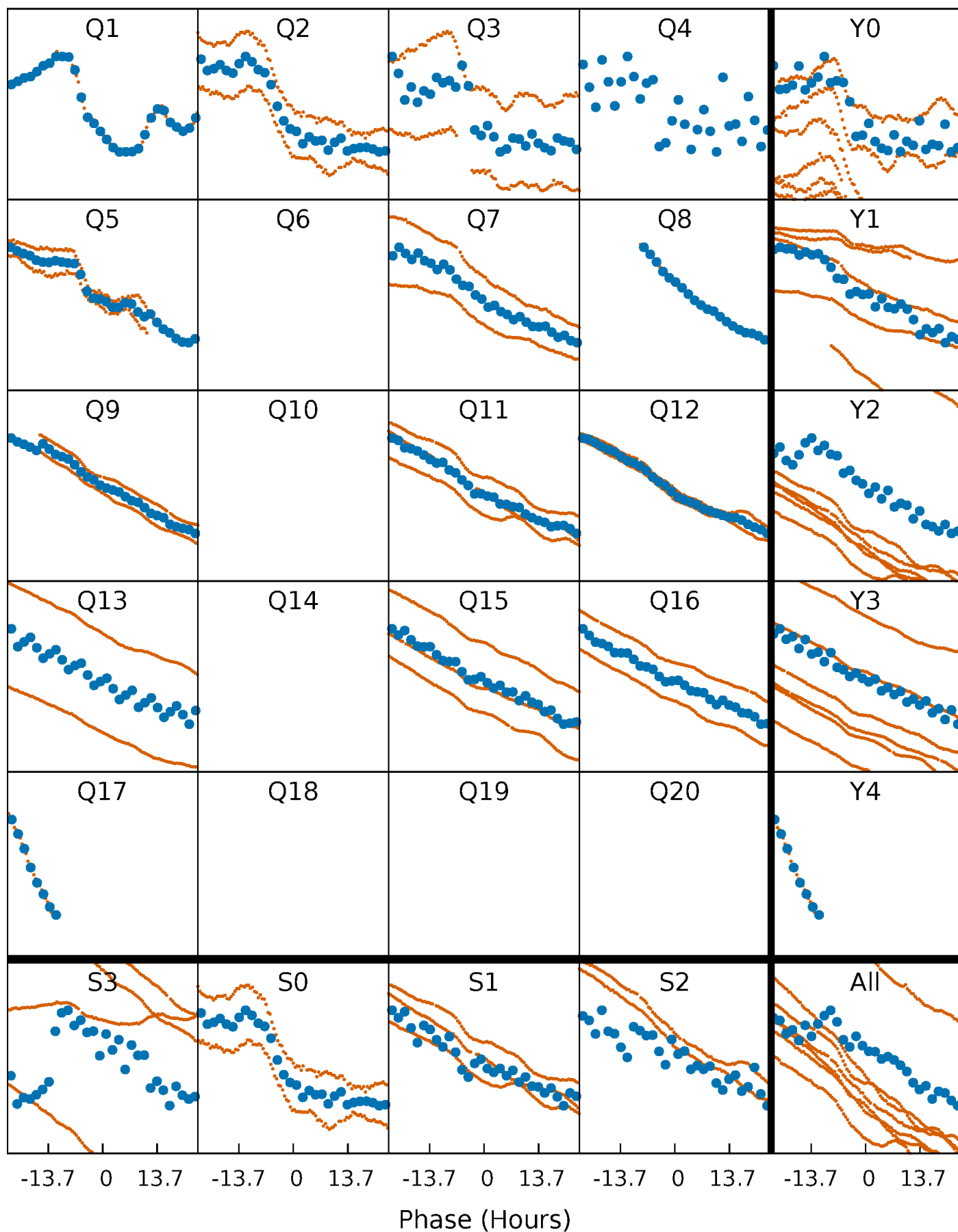


Planet 7 : Phased Whitened Flux Time Series (TPS Epoch/Period)



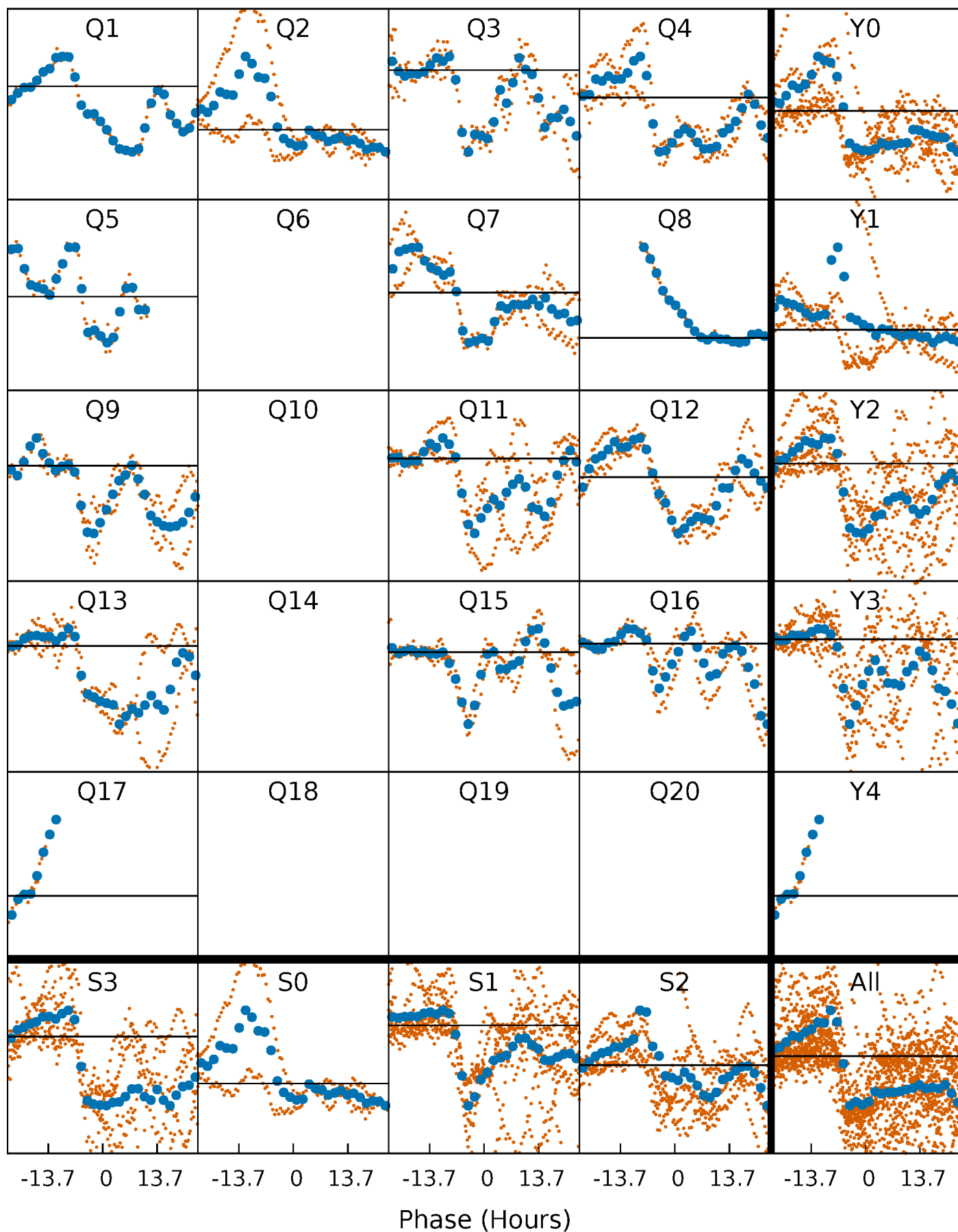
PDC Quarter-Phased Transit Curves

TCE 004569590-07 $P = 41.369741$ Days $T_0 = 143.577011$ (BKJD)



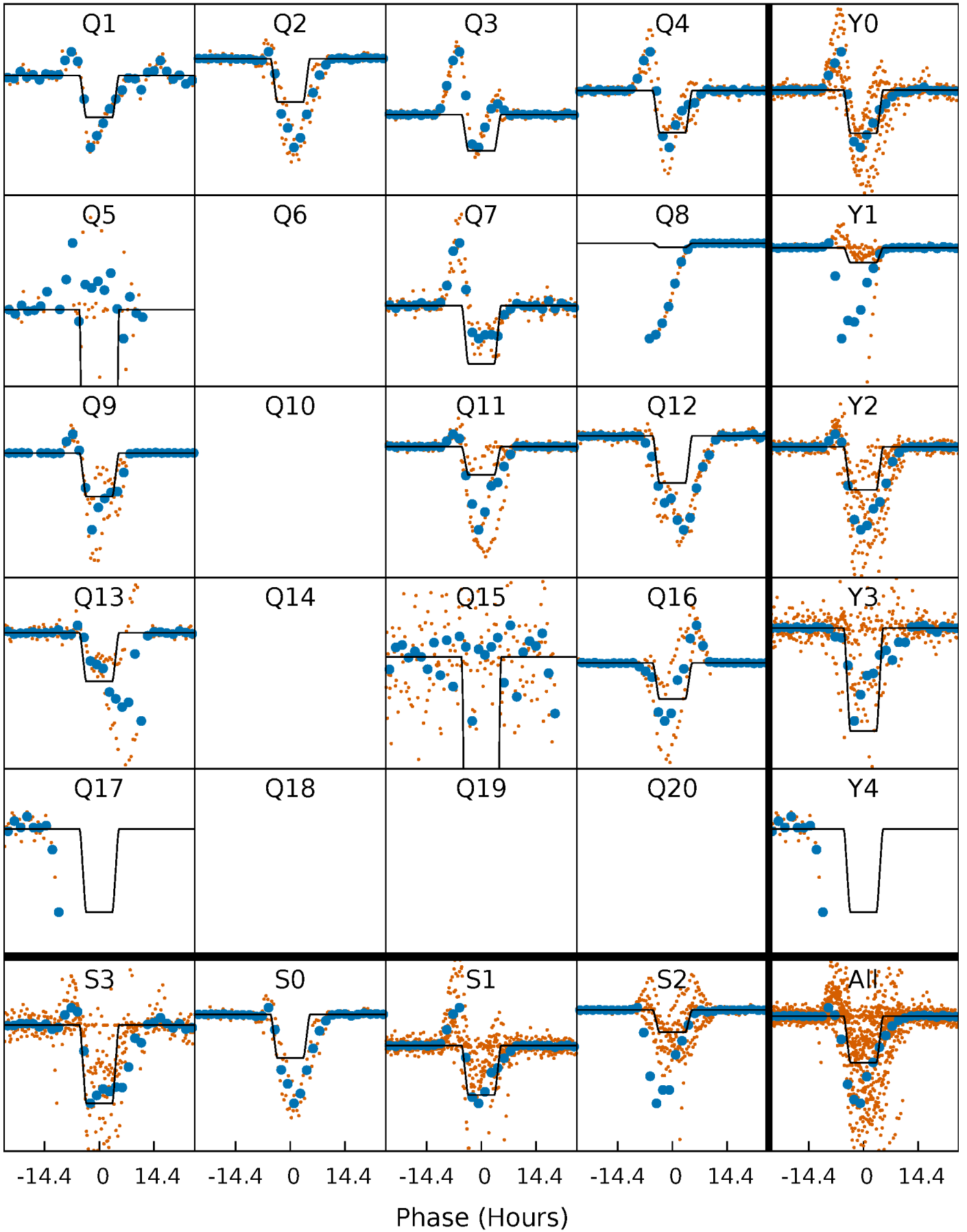
DV Quarter-Phased Transit Curves

TCE 004569590-07 $P = 41.369741$ Days $T_0 = 143.577011$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

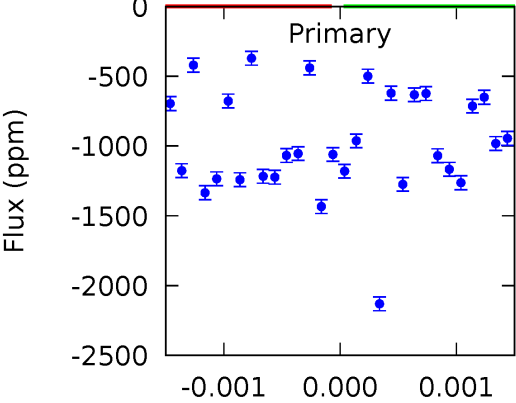
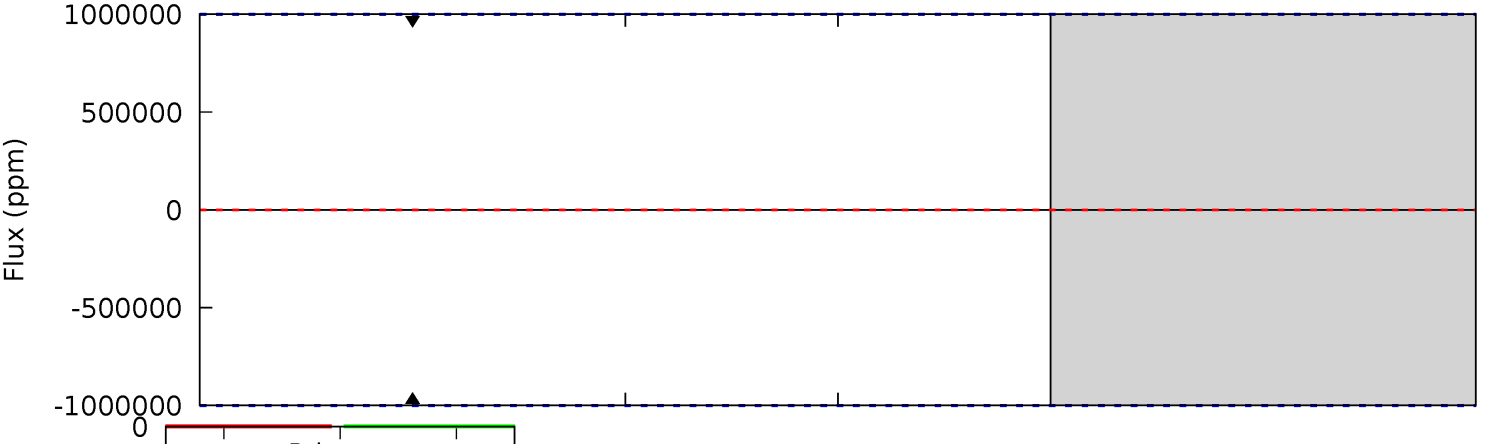
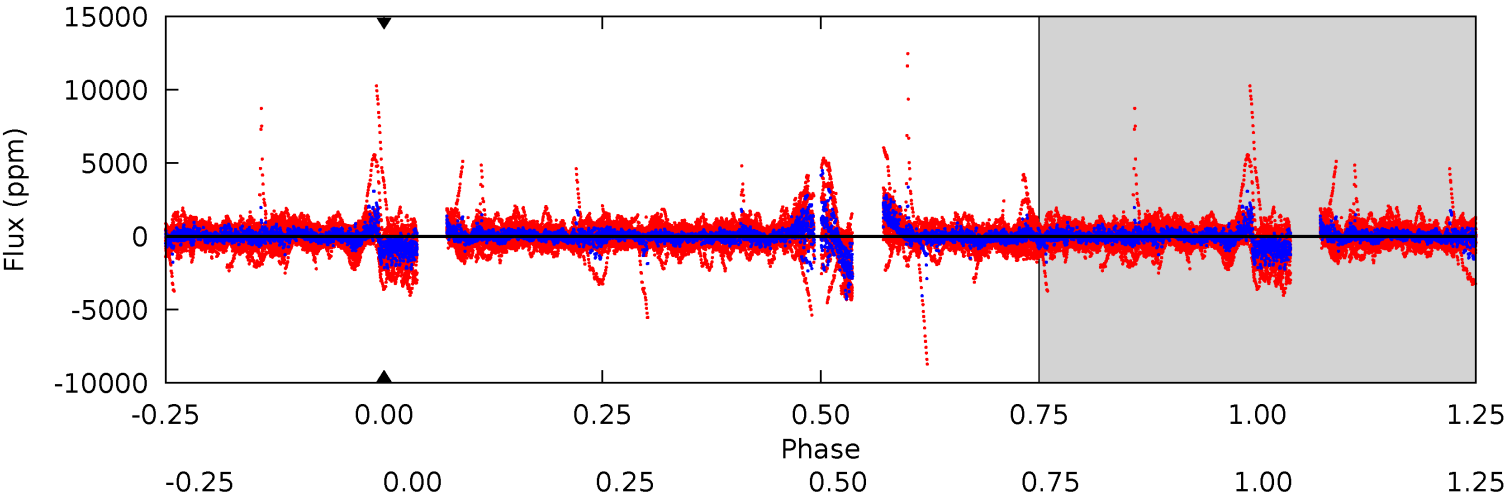
TCE 004569590-07 $P = 41.369741$ Days $T_0 = 143.505143$ (BKJD)



DV Model-Shift Uniqueness Test

004569590-07, P = 41.369741 Days, E = 102.207270 Days

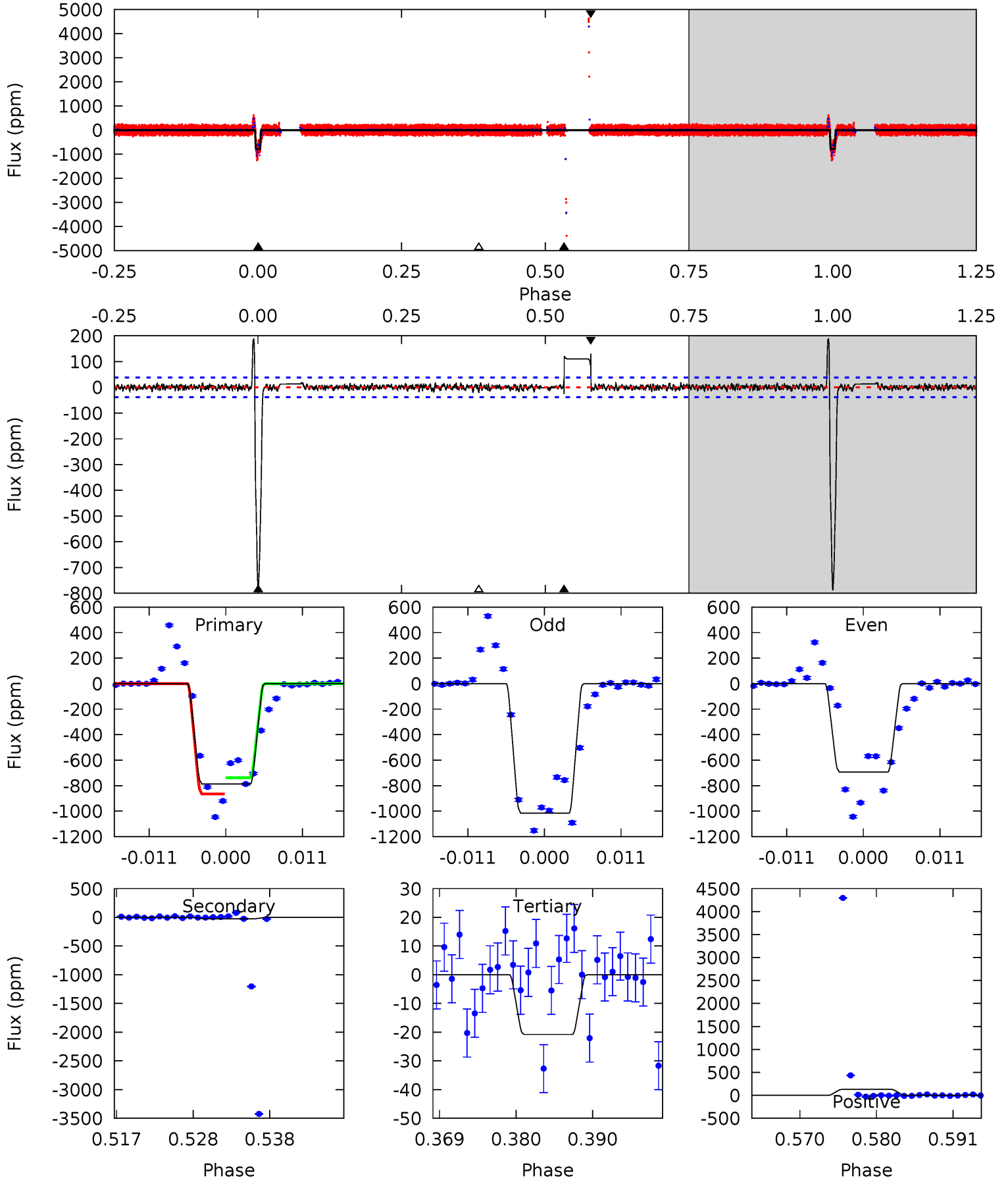
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004569590-07, P = 41.369741 Days, E = 102.135402 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.4	3.32	2.73	17.2	5.02	2.56	0.92	100.6	86.2	0.58	-13.9	18.4	1.64	0.19	0



Stellar Parameters For KIC 004569590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4764^{+142}_{-107}	$2.777^{+0.402}_{-0.329}$	$-0.180^{+0.300}_{-0.200}$	$6.883^{+3.901}_{-2.601}$	$1.035^{+0.388}_{-0.114}$	$0.004^{+0.015}_{-0.003}$
	+3%/-2%	+14%/-12%	+167%/-111%	+57%/-38%	+37%/-11%	+329%/-71%
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 004569590-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$56.70^{+68.99}_{-40.48}$	1578^{+230}_{-191}	-2955^{+16990}_{-10106}	$-1.491^{+2108.821}_{-1686.507}$
Alt.	-25 ± 8	$60.37^{+65.09}_{-41.75}$	1569^{+232}_{-178}	-1893^{+4623}_{-331}	$0.220^{+2.186}_{-0.171}$

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

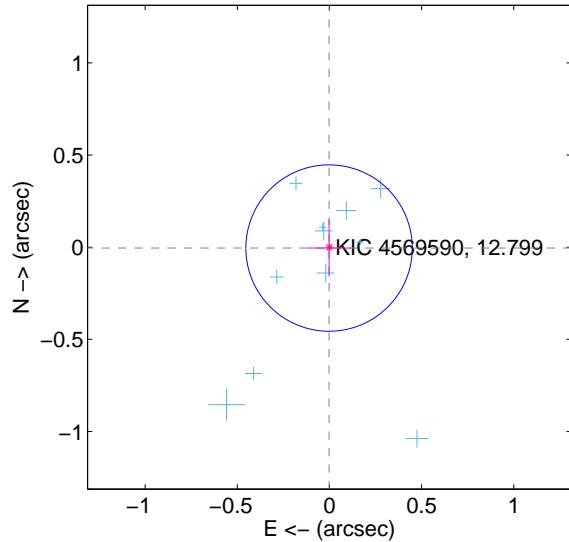
Supplemental centroid analysis for 004569590-07. Kepler magnitude: 12.80. Transit SNR -1.00

There are 11 quarters with good PRF difference image offsets

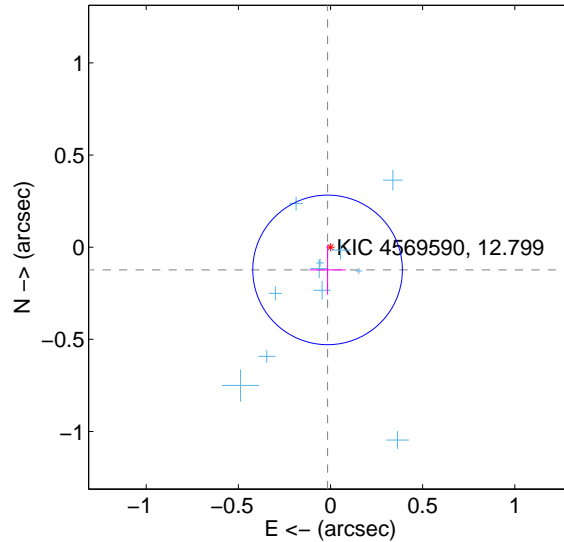
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.150	0.03	0.002 ± 0.119	-0.005 ± 0.154
PRF-fit source offset from KIC position	0.124 ± 0.135	0.92	0.016 ± 0.097	-0.123 ± 0.134
photometric centroid source offset	0.03 ± 0.36	0.08	-0.00 ± 0.16	-0.03 ± 0.36

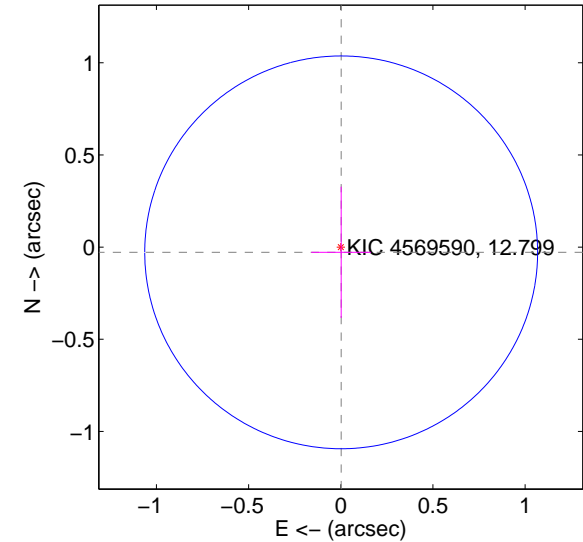
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

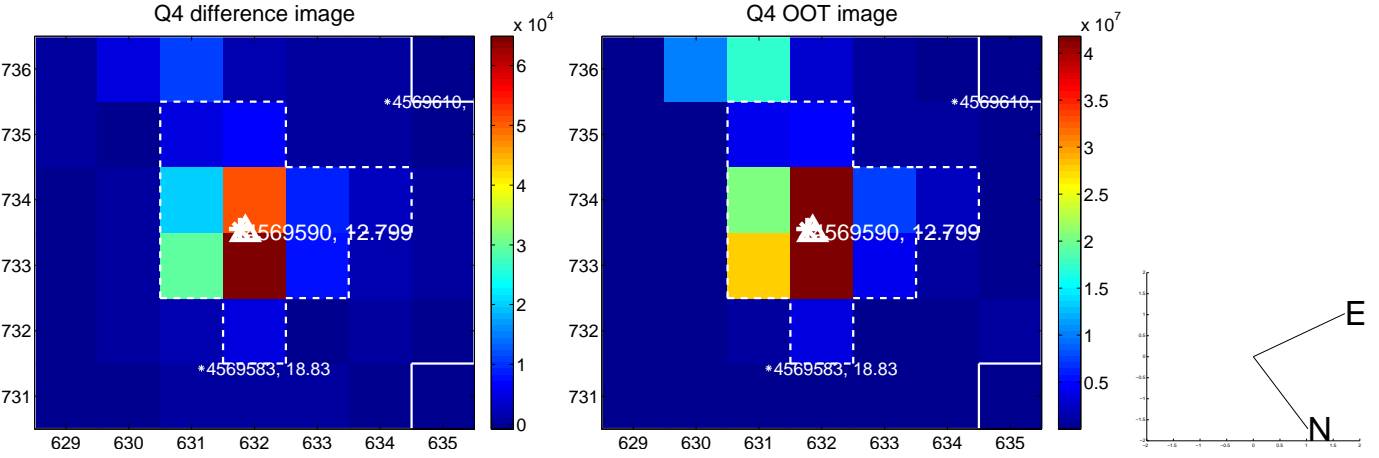
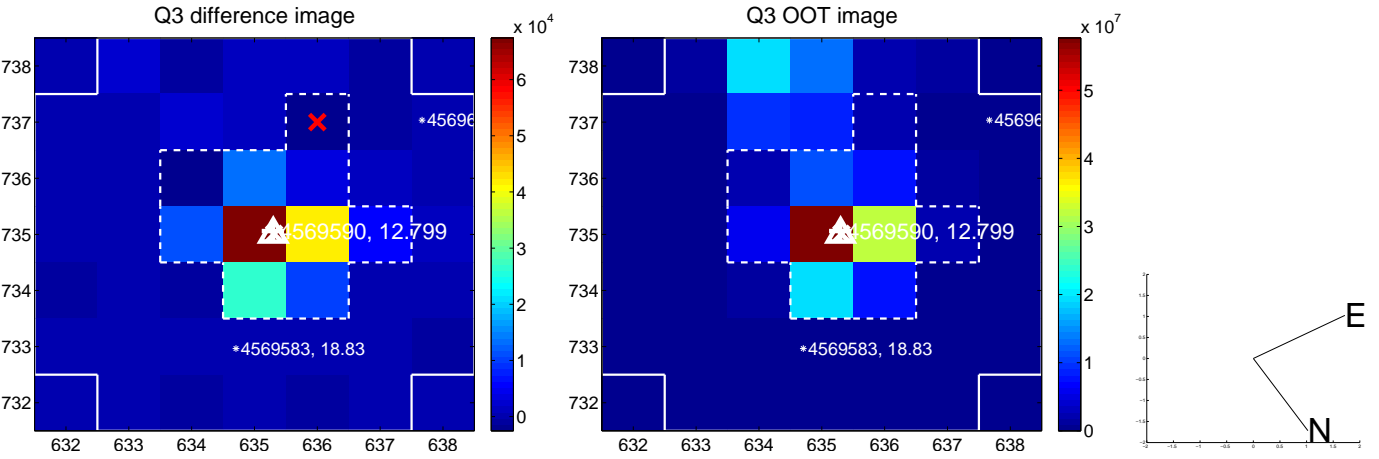
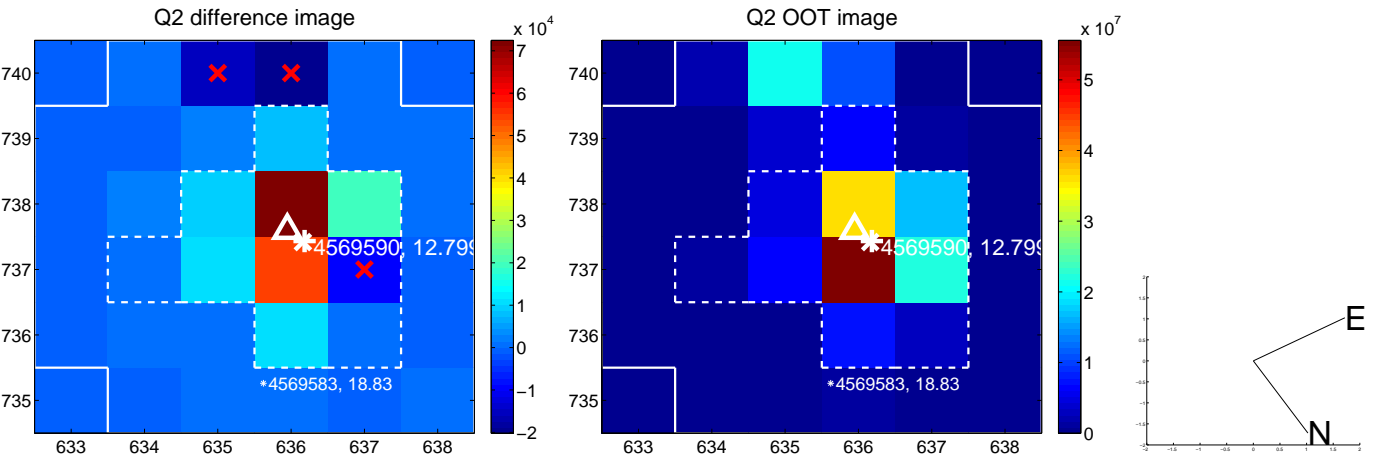
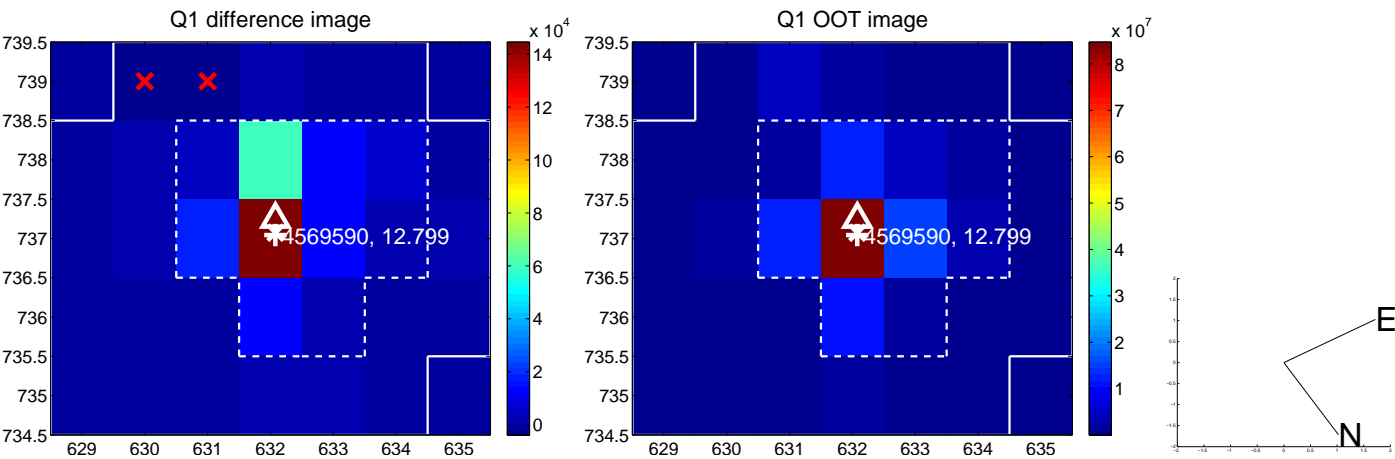


offset from photometric centroids

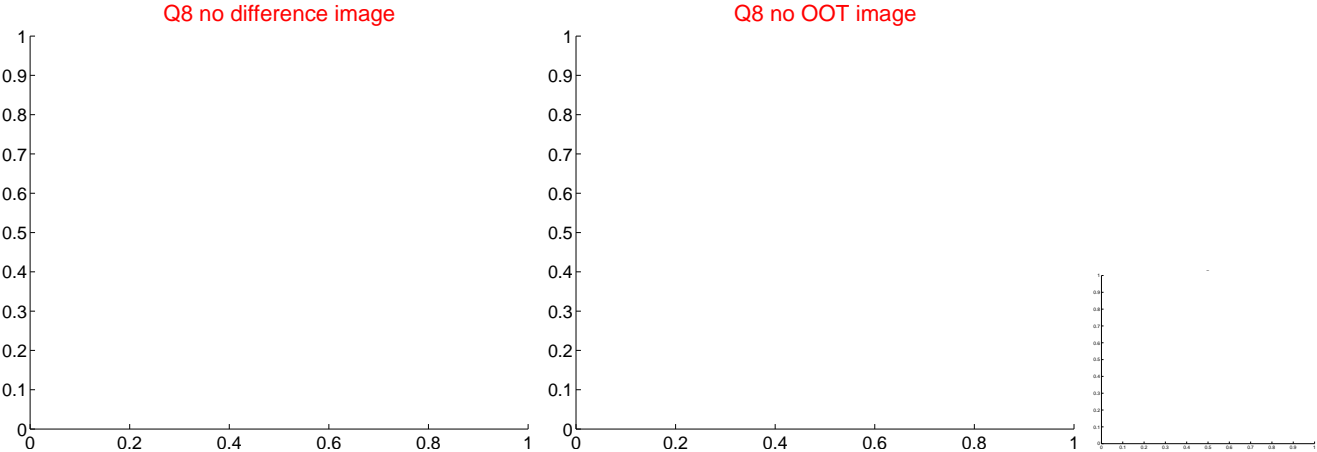
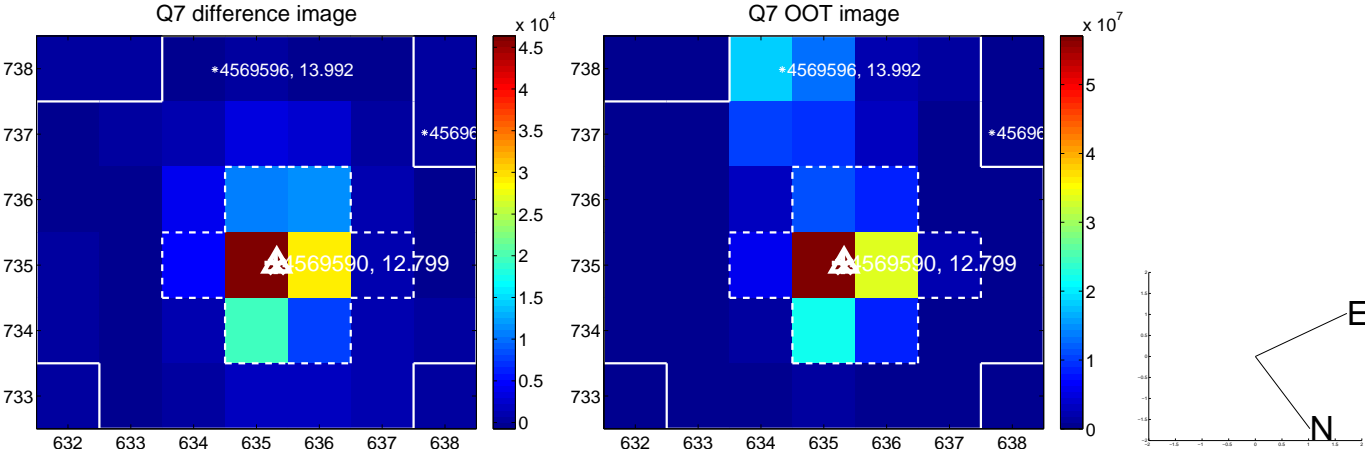
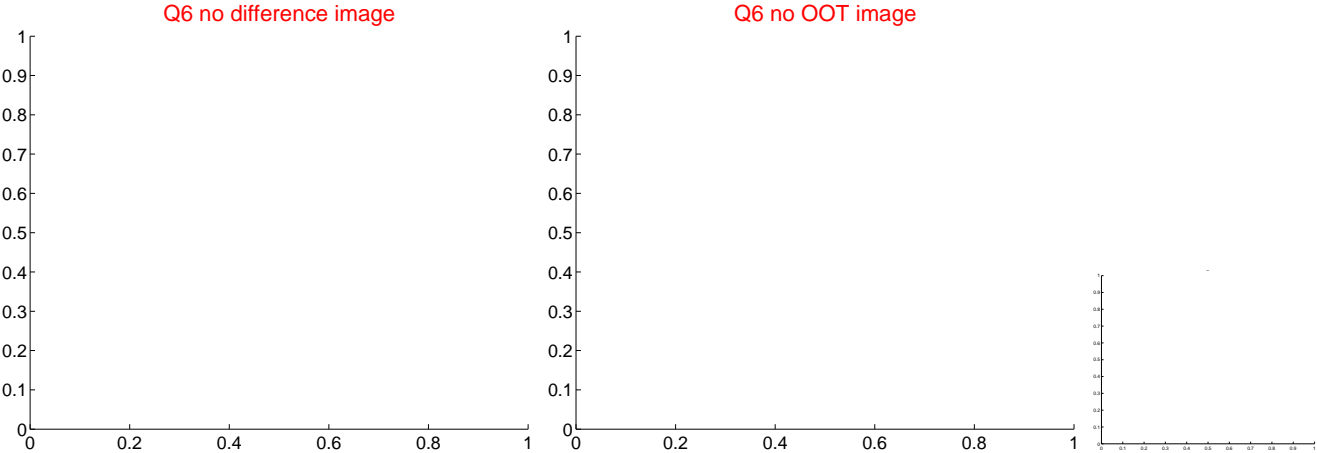
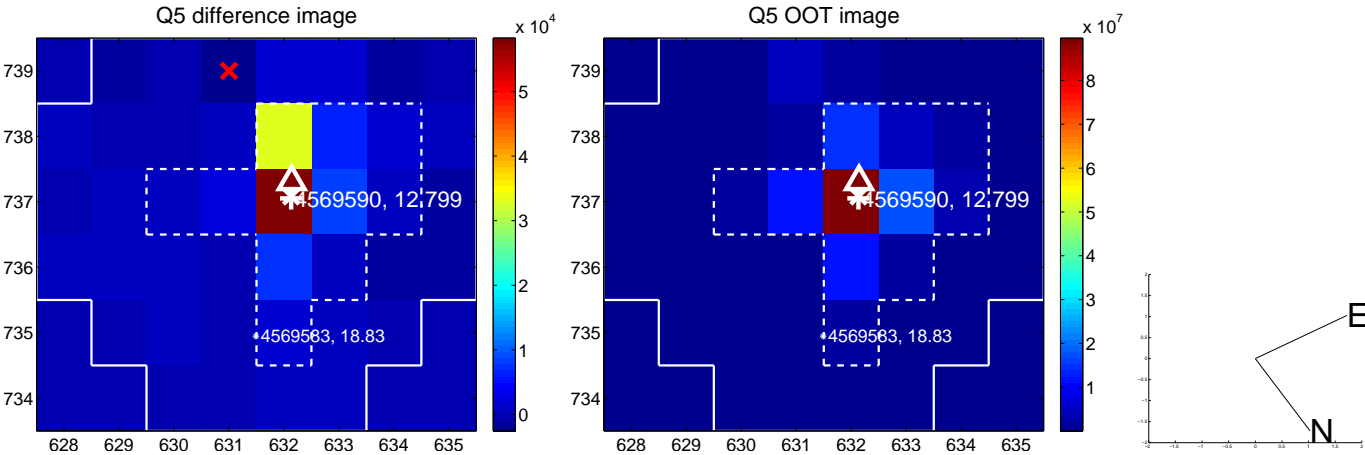


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

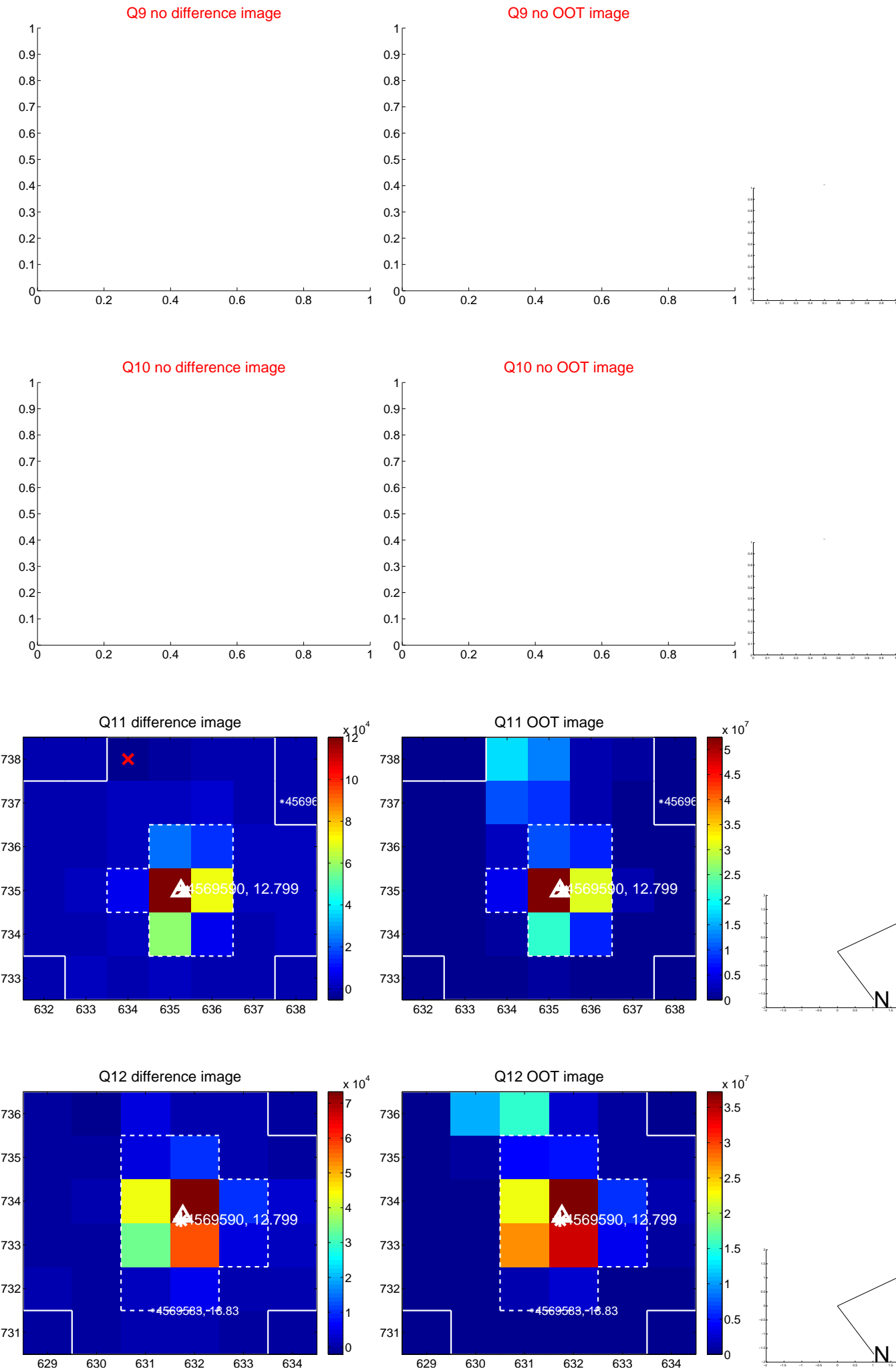
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



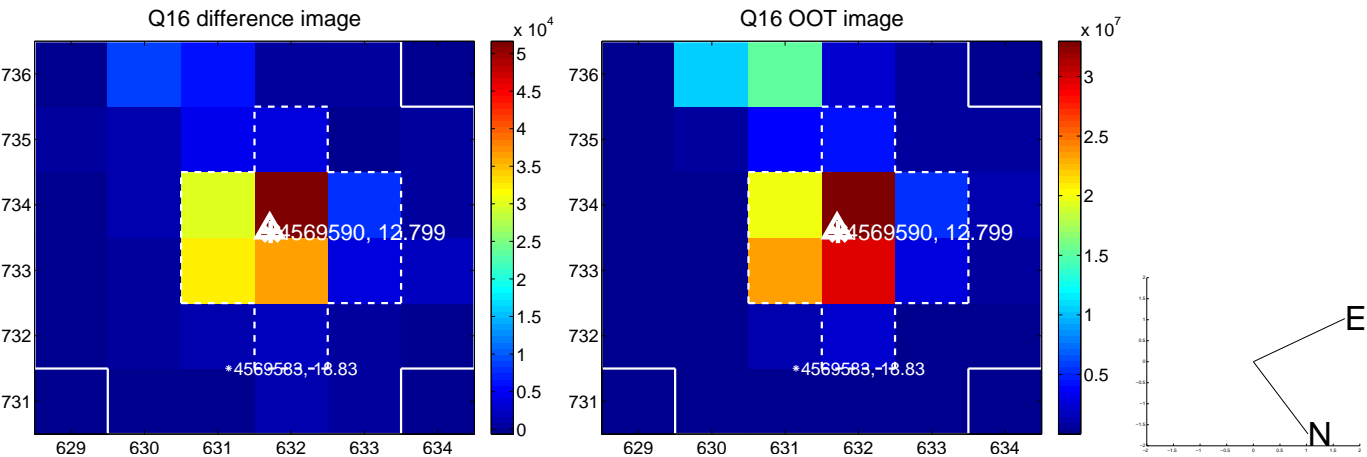
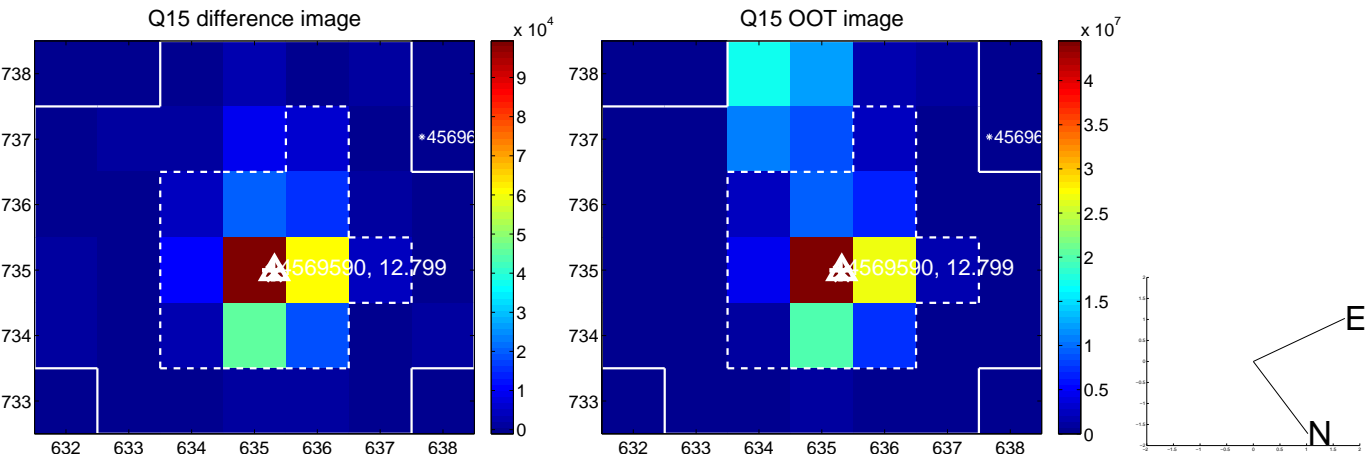
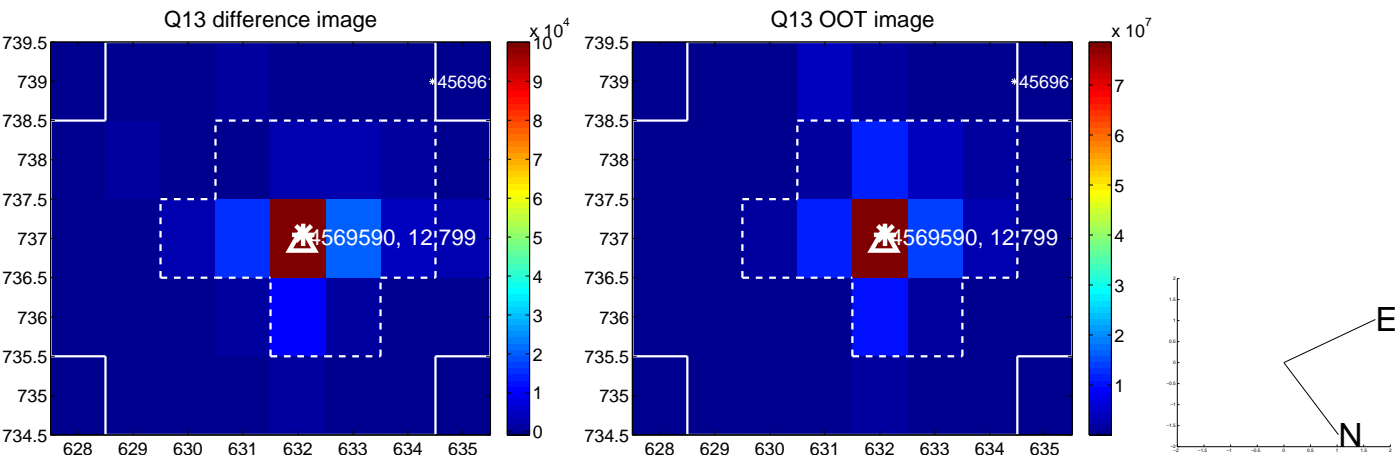
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



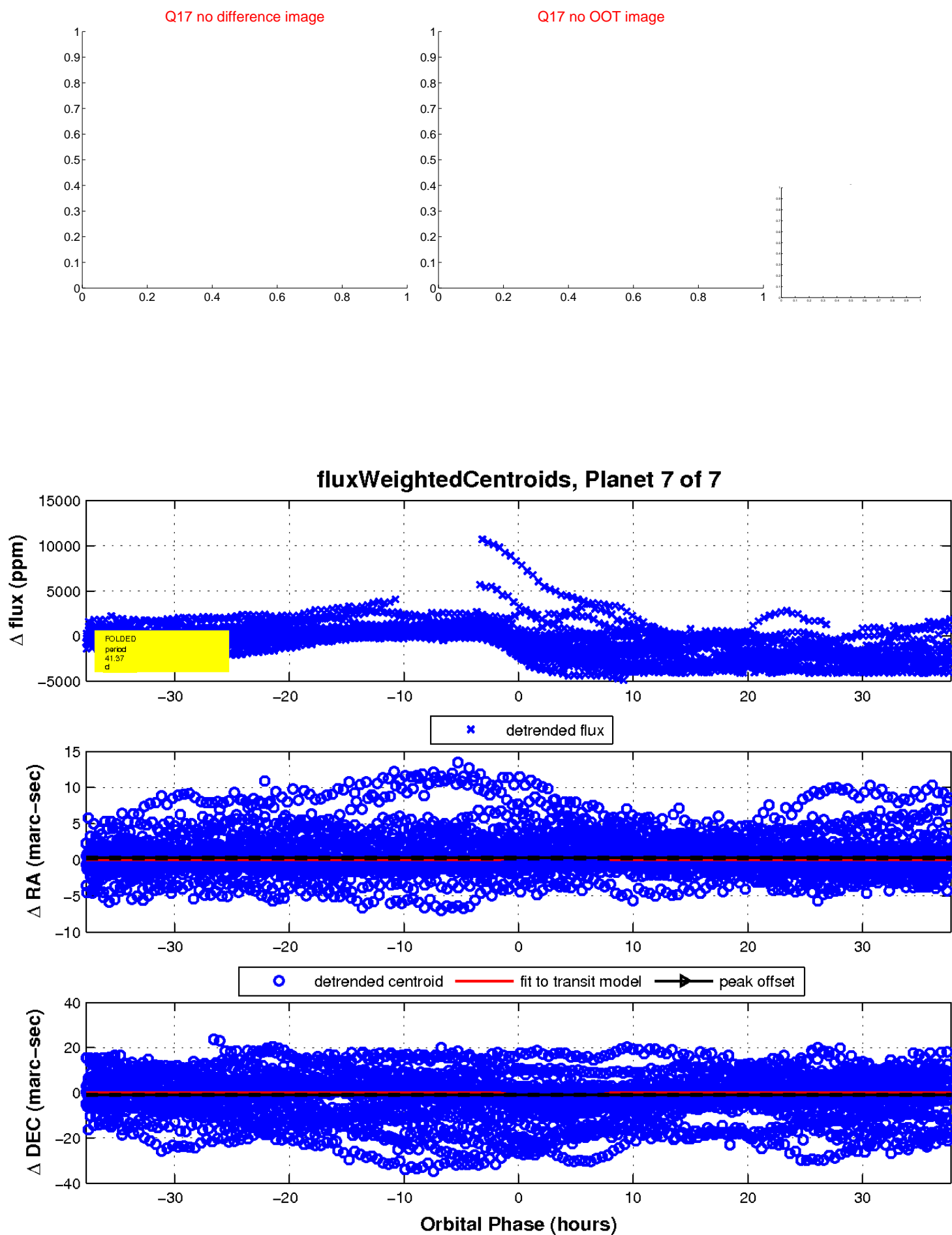
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

