

KIC 006268648

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})
006268648-01	OBS	1613.01	15.866246	141.086995	76.5	4.317	22.0	22.9	1.31	6099	1.32	141.37
006268648-02	OBS	1613.02	94.088466	196.801493	53.9	15.367	9.0	8.7	1.31	6099	1.04	13.17
006268648-03	OBS	No	513.254492	150.924727	109.3	8.642	8.9	8.2	1.31	6099	1.59	1.37
006268648-04	OBS	1613.03	20.605460	146.512665	38.7	3.596	8.1	9.1	1.31	6099	0.95	99.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006268648-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006268648-04	OBS	PC	0.99	0	0	0	0	CENT_SATURATED

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

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

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

Ephemeris Match Information For 006268648-01

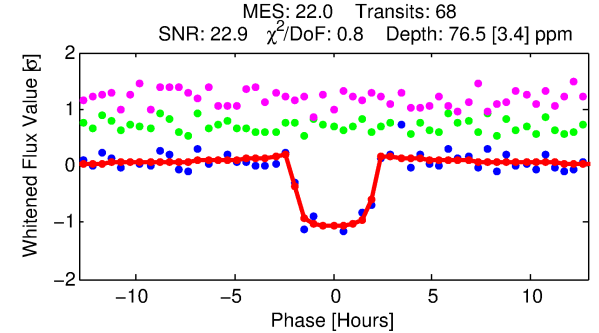
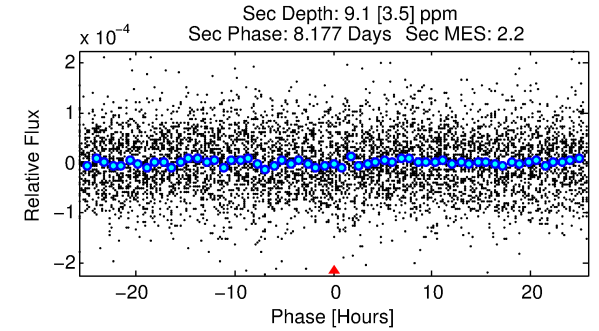
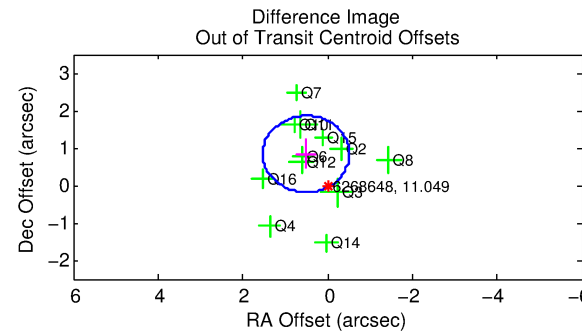
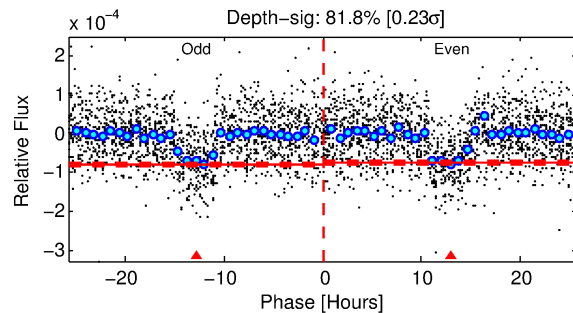
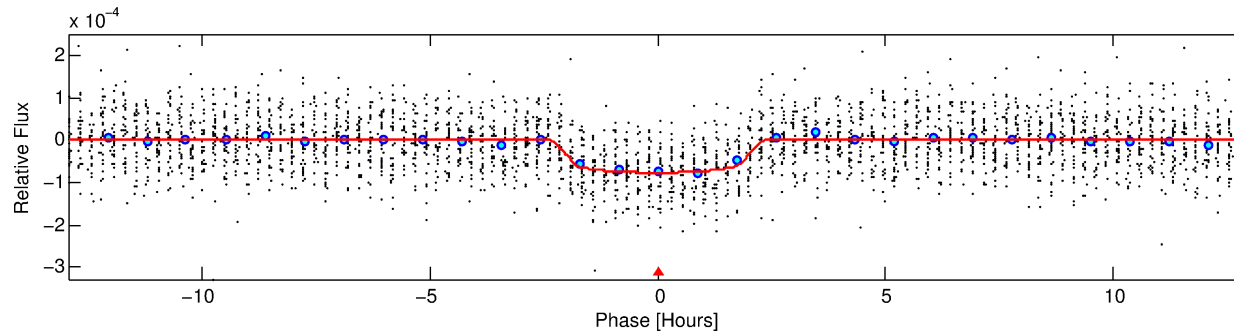
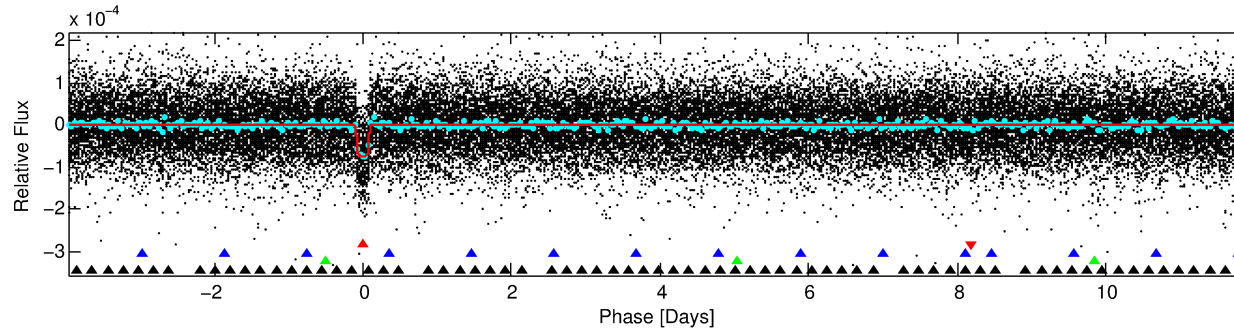
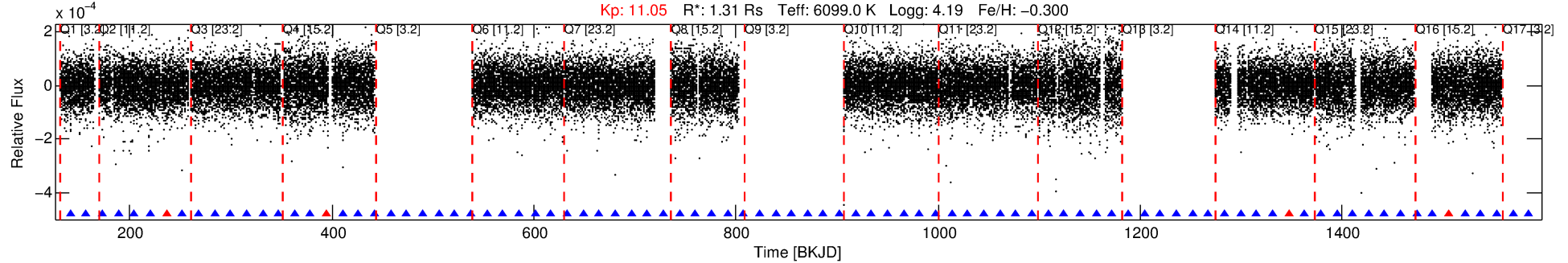
No Significant Match Found

DV One-Page Summary

KIC: 6268648 Candidate: 1 of 4 Period: 15.866 d

KOI: K01613.01 Corr: 0.980

Kp: 11.05 R*: 1.31 Rs Teff: 6099.0 K Logg: 4.19 Fe/H: -0.300



DV Fit Results:

Period = 15.86625 [0.00007] d
Epoch = 141.0870 [0.0032] BKJD
Rp/R* = 0.0093 [0.0020]
a/R* = 13.88 [15.56]
b = 0.88 [0.29]
Seff = 141.37 [9.62]
Teq = 879 [15] K
Rp = 1.32 [0.29] Re
a = 0.1225 [0.0038] AU
Ag = 42.93 [24.54] [1.71σ]
Teff = 3480 [498] K [5.21σ]

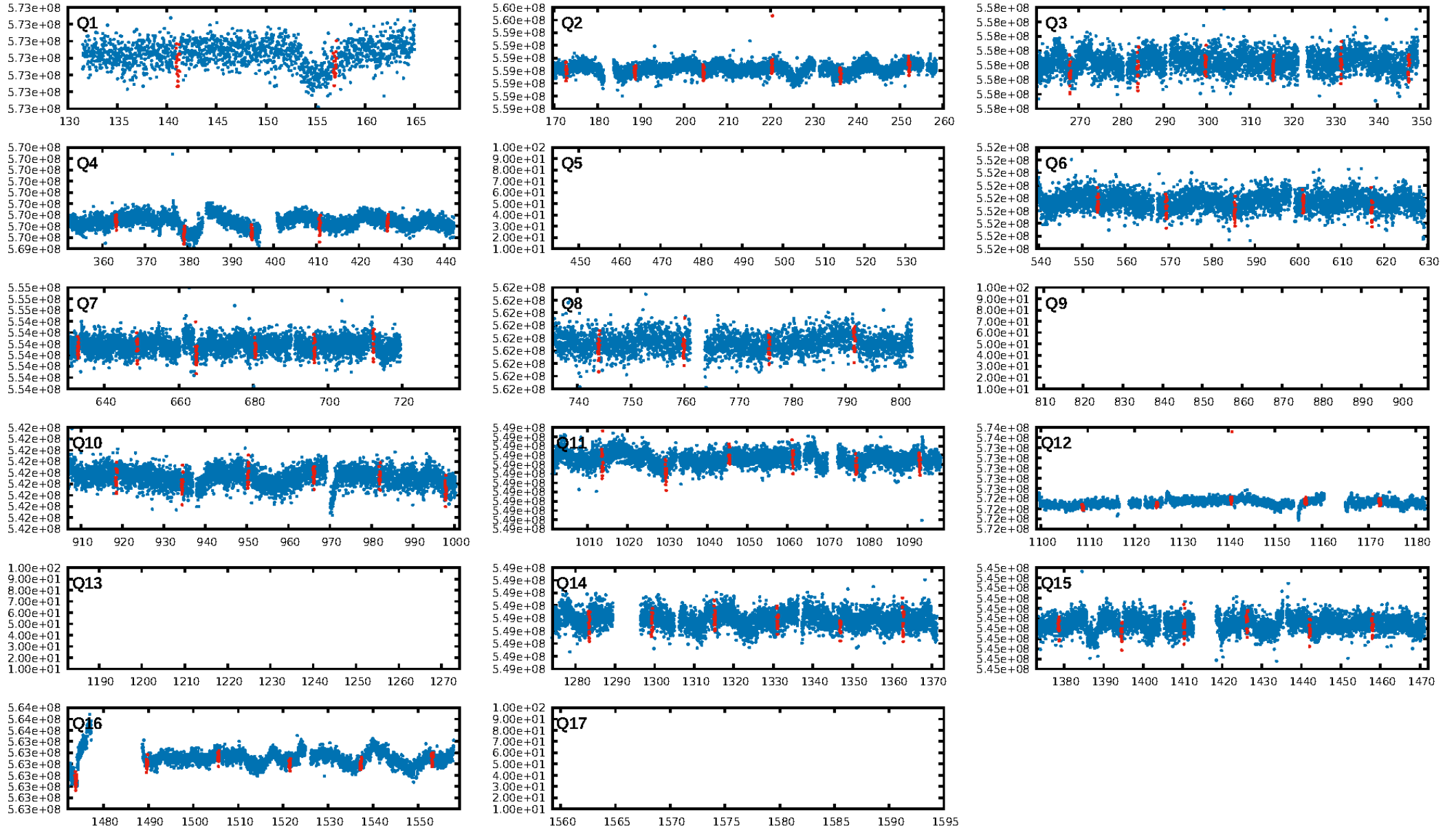
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [20.25σ]
ModelChiSquare2-sig: 95.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.43e-99
RollingBand-fgt: 0.94 [62/66]
GhostDiagnostic-chr: 20.15
Centroid-sig: 75.8%
Centroid-so: 0.346 arcsec [0.72σ]
OotOffset-rm: 0.977 arcsec [2.87σ]
KicOffset-rm: 0.814 arcsec [2.35σ]
OotOffset-st: 4/4/4/0 [12]
KicOffset-st: 4/4/4/0 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [13/13]

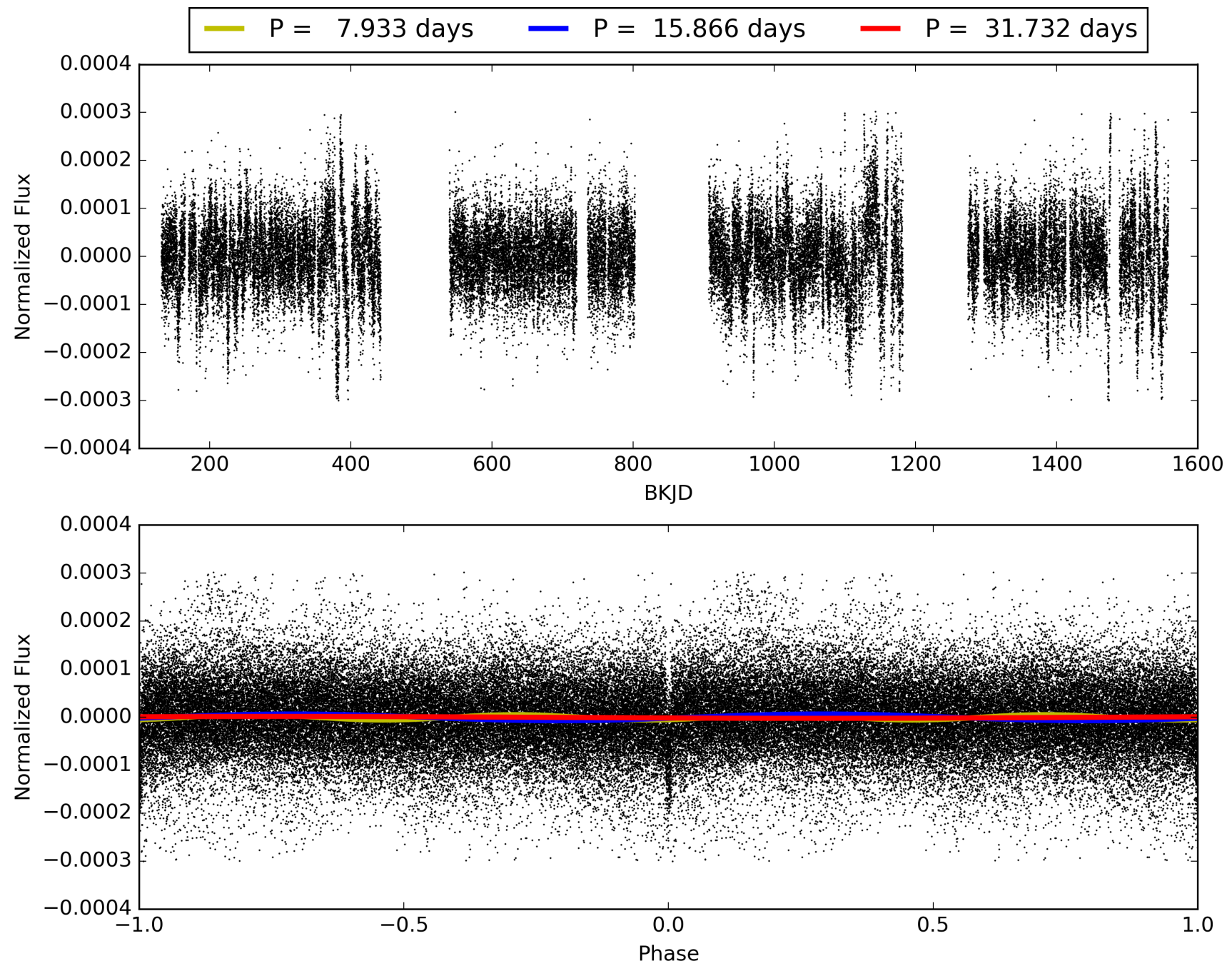
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:24:25 Z

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

TCE 006268648-01, PDC Light Curves

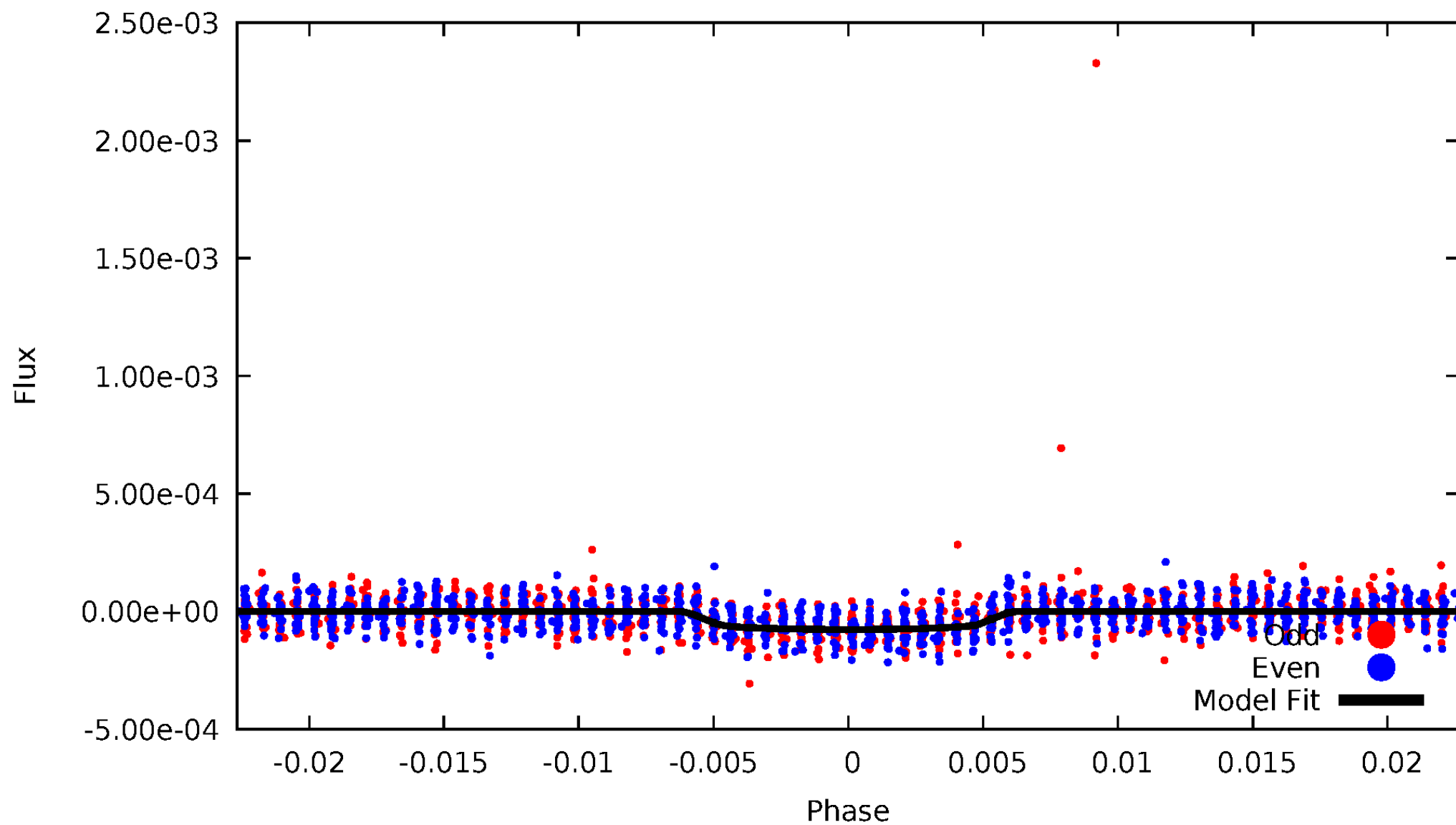


TCE 006268648-01



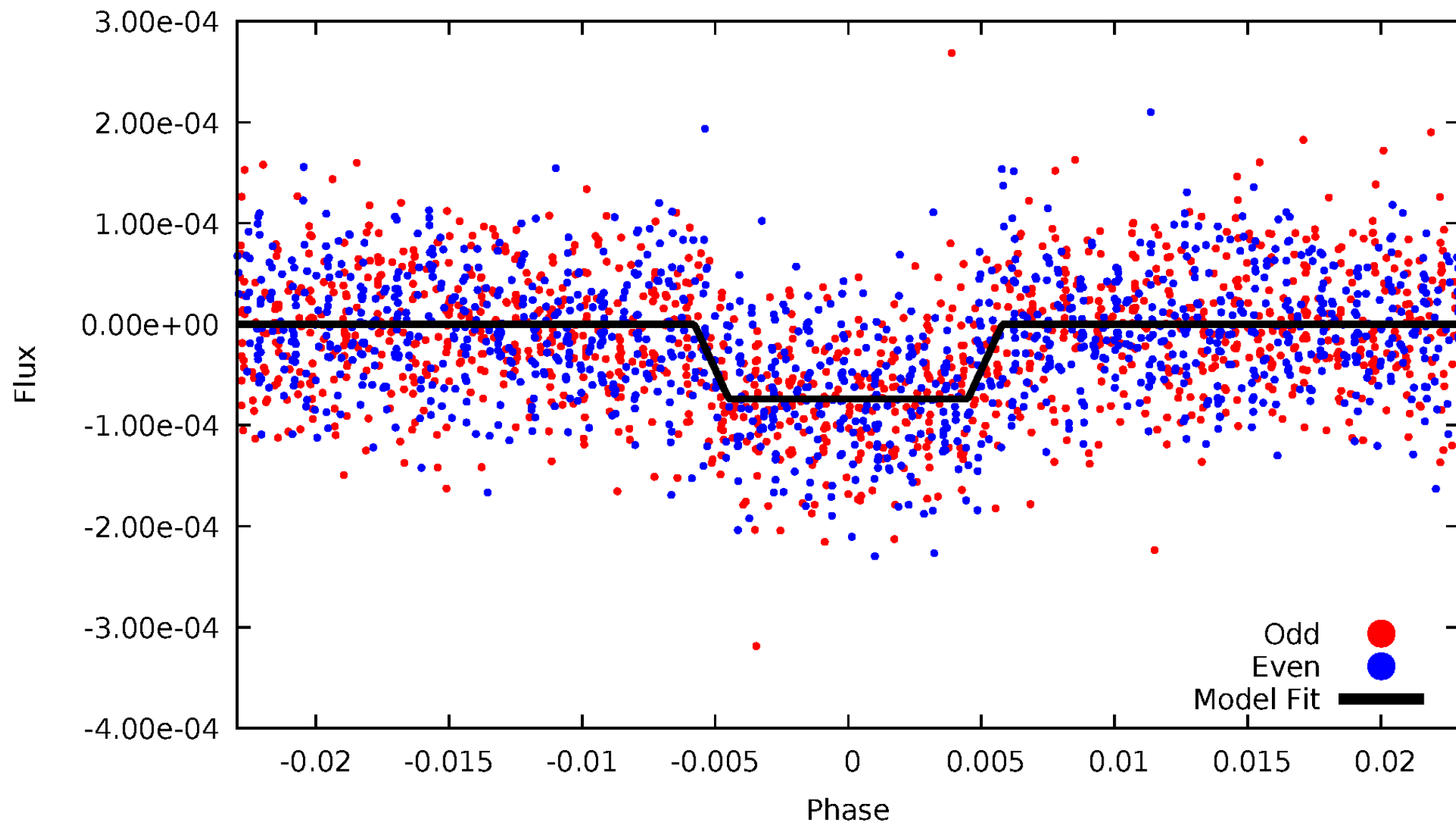
DV Odd/Even

TCE 006268648-01

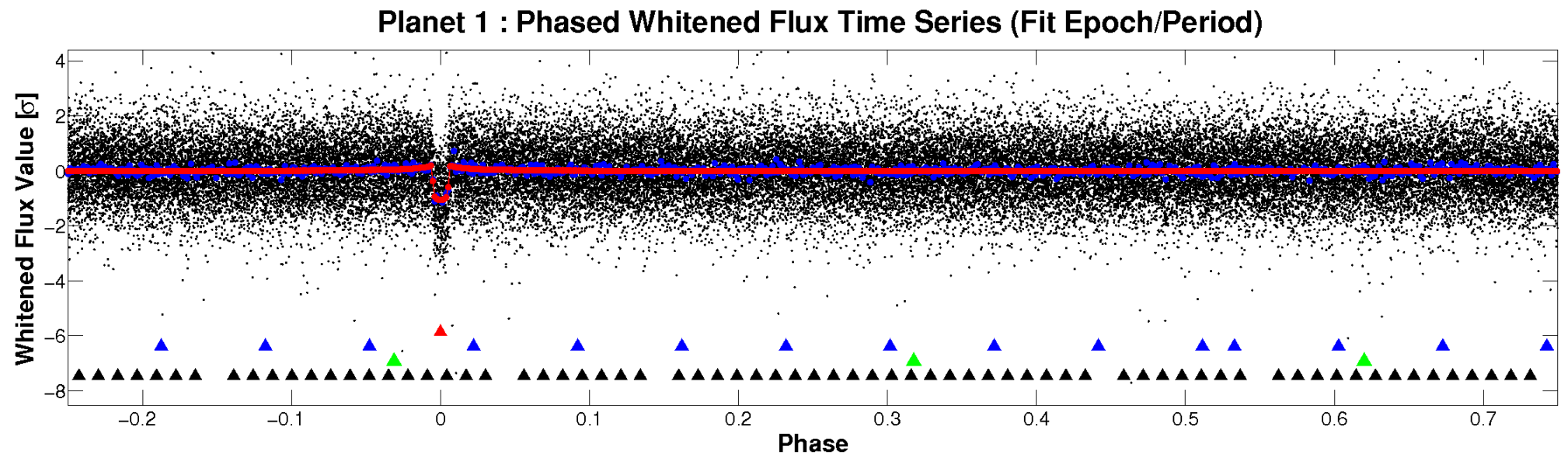
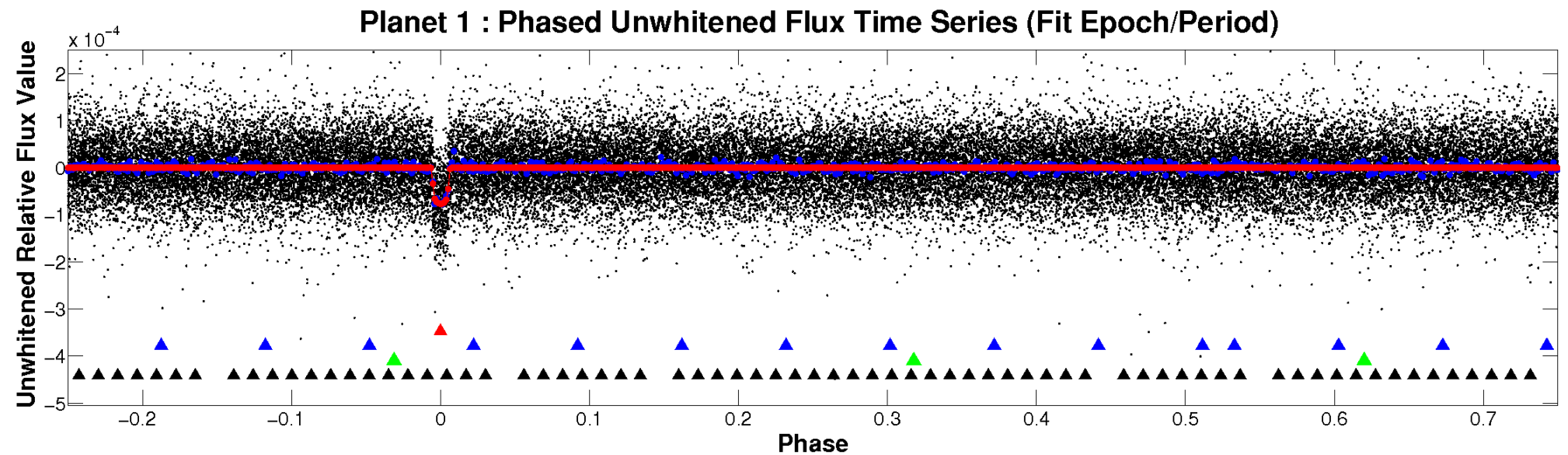


ALT Odd/Even

TCE 006268648-01

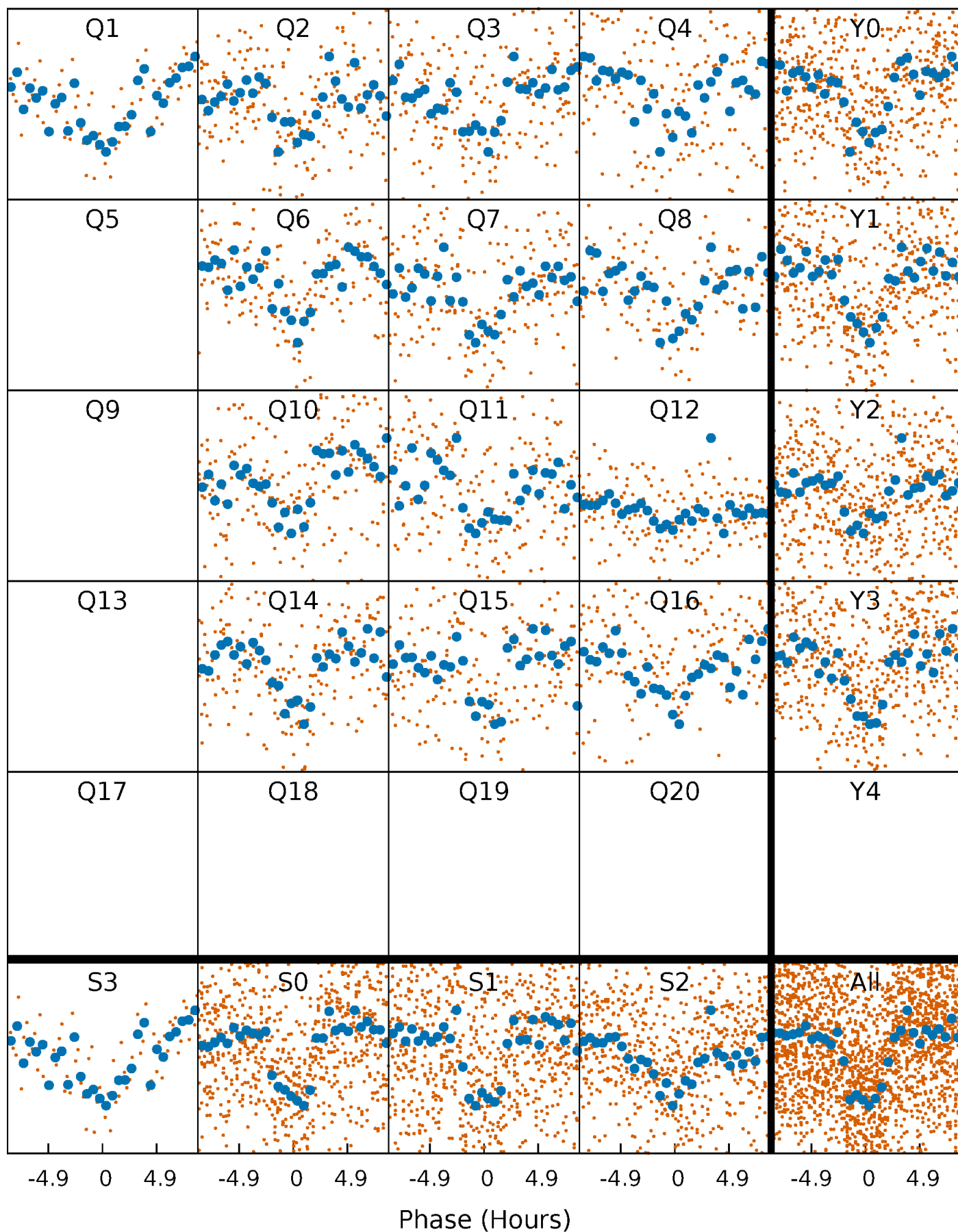


Non-Whitened Vs. Whitened Light Curve



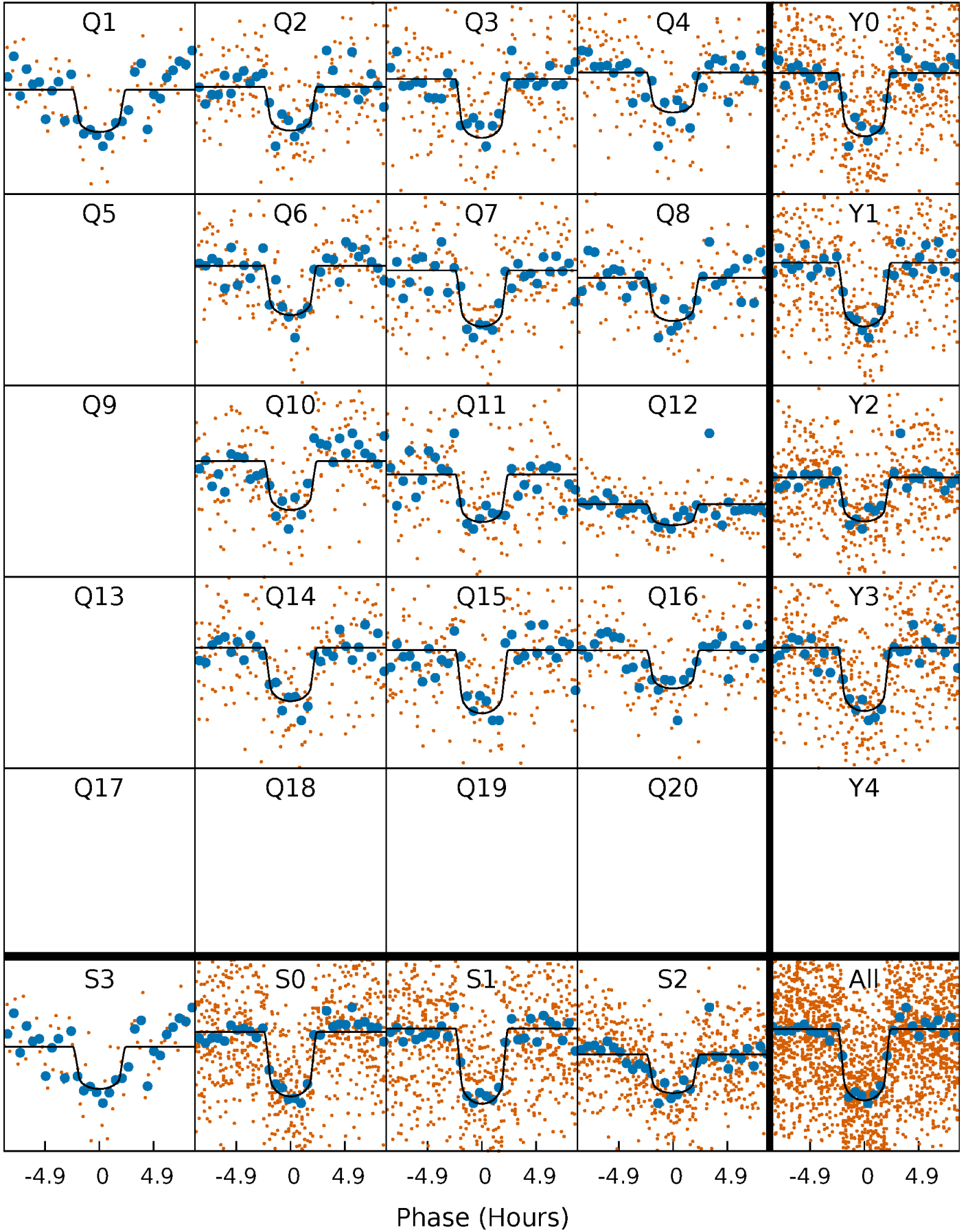
PDC Quarter-Phased Transit Curves

TCE 006268648-01 P= 15.866246 Days $T_0=141.086995$ (BKJD)



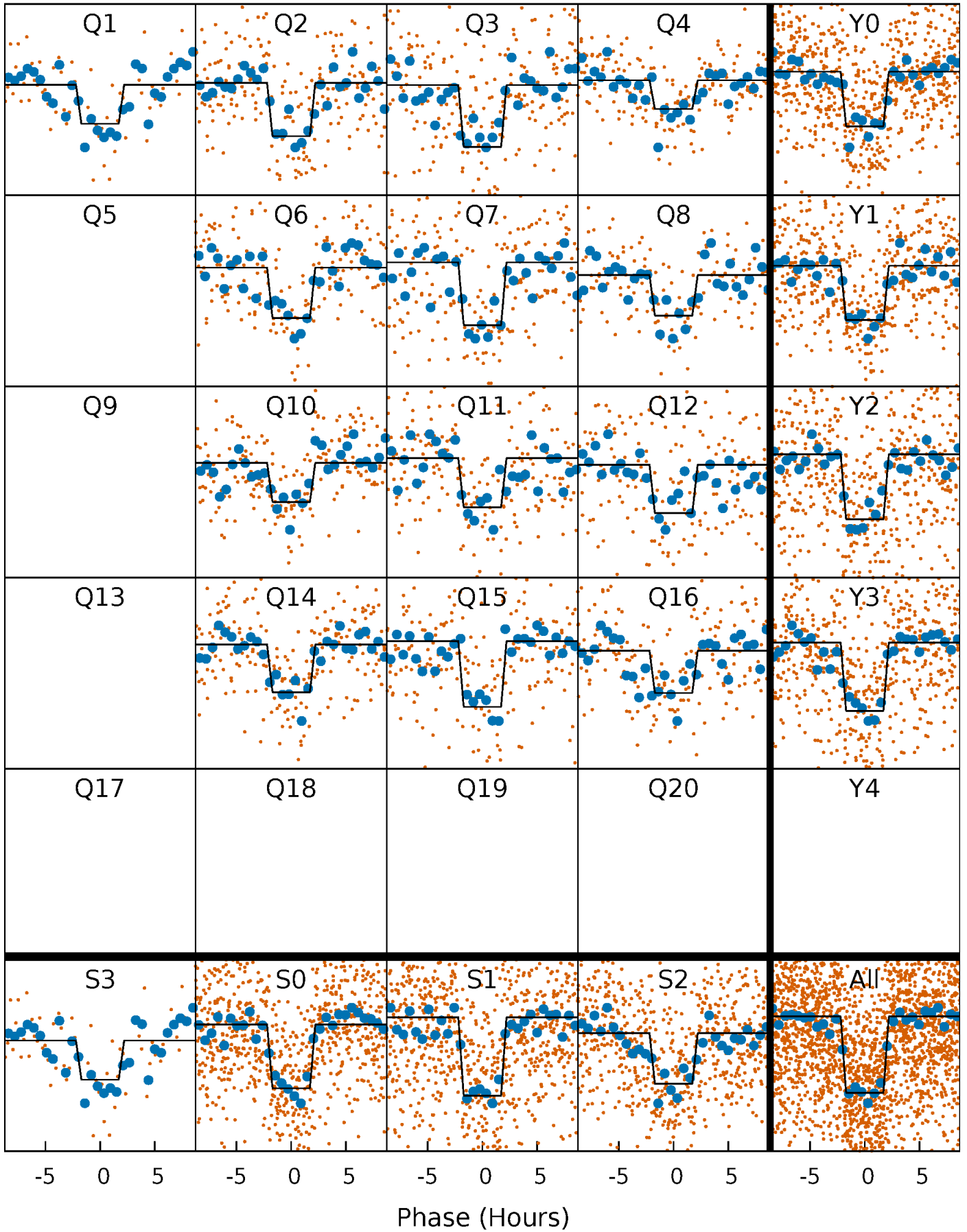
DV Quarter-Phased Transit Curves

TCE 006268648-01 P= 15.866246 Days $T_0=141.086995$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

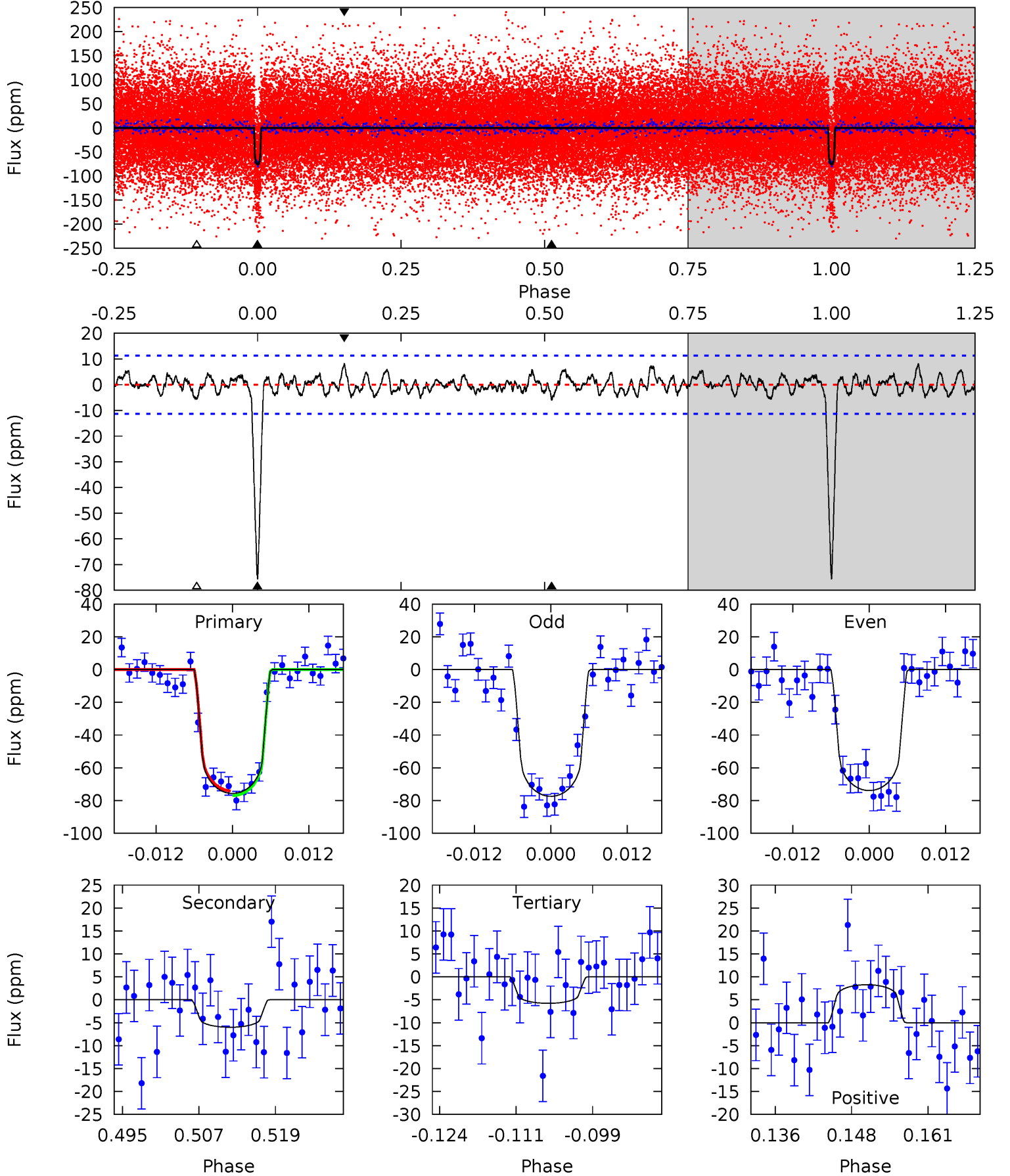
TCE 006268648-01 P= 15.866402 Days $T_0=141.081021$ (BKJD)



DV Model-Shift Uniqueness Test

006268648-01, P = 15.866246 Days, E = 125.220749 Days

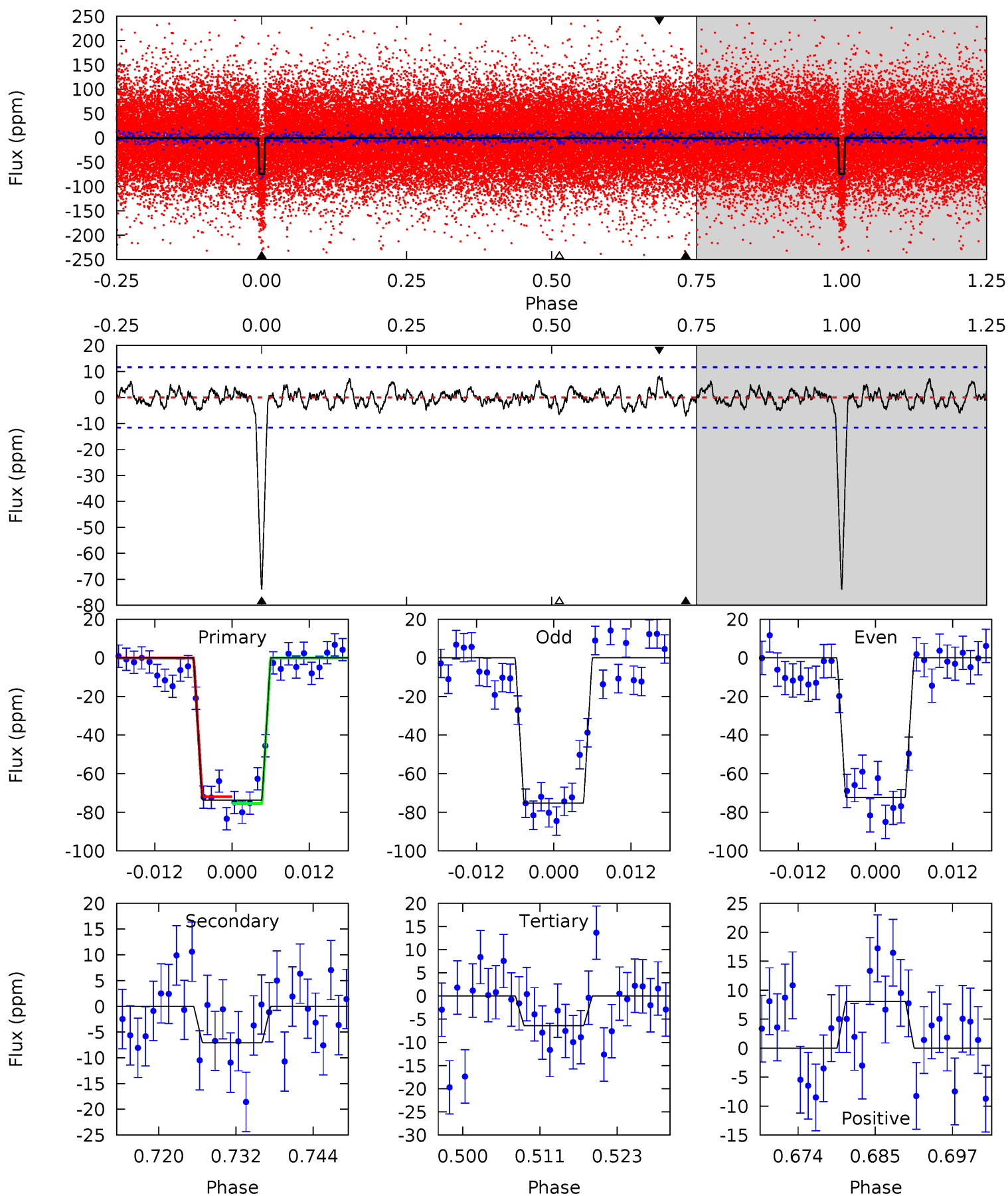
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.3	2.64	2.54	3.64	4.99	2.50	1.10	30.7	29.6	0.10	-1.00	0.78	1.01	0.10	0.62



Alt Model-Shift Uniqueness Test

006268648-01, P = 15.866402 Days, E = 125.214619 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.6	3.03	2.74	3.45	5.00	2.52	1.07	28.8	28.1	0.29	-0.43	0.63	0.97	0.10	0.76



Stellar Parameters For KIC 006268648

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6099^{+79}_{-85}	$4.193^{+0.016}_{-0.018}$	$-0.300^{+0.150}_{-0.150}$	$1.308^{+0.054}_{-0.054}$	$0.974^{+0.071}_{-0.064}$	$0.613^{+0.044}_{-0.041}$
	+1%/-1%	+0%/-0%	+50%/-50%	+4%/-4%	+7%/-7%	+7%/-7%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 006268648-01 / KOI 1613.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 2	$1.30^{+0.30}_{-0.25}$	1229^{+19}_{-19}	3578^{+385}_{-313}	28^{+23}_{-13}
Alt.	-7 ± 2	$1.22^{+0.28}_{-0.28}$	1230^{+17}_{-19}	3789^{+431}_{-342}	40^{+32}_{-18}

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

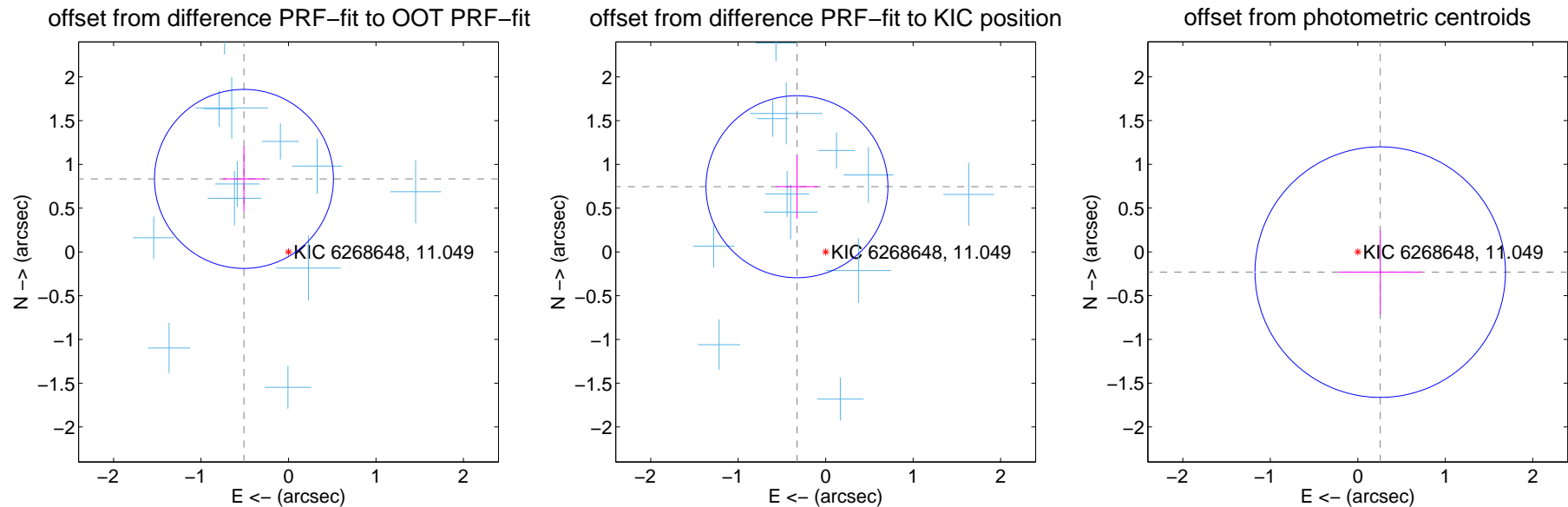
DV Centroid Data

Supplemental centroid analysis for 006268648-01. **Kepler magnitude: 11.05.** Transit SNR 22.88

There are 12 quarters with good PRF difference image offsets

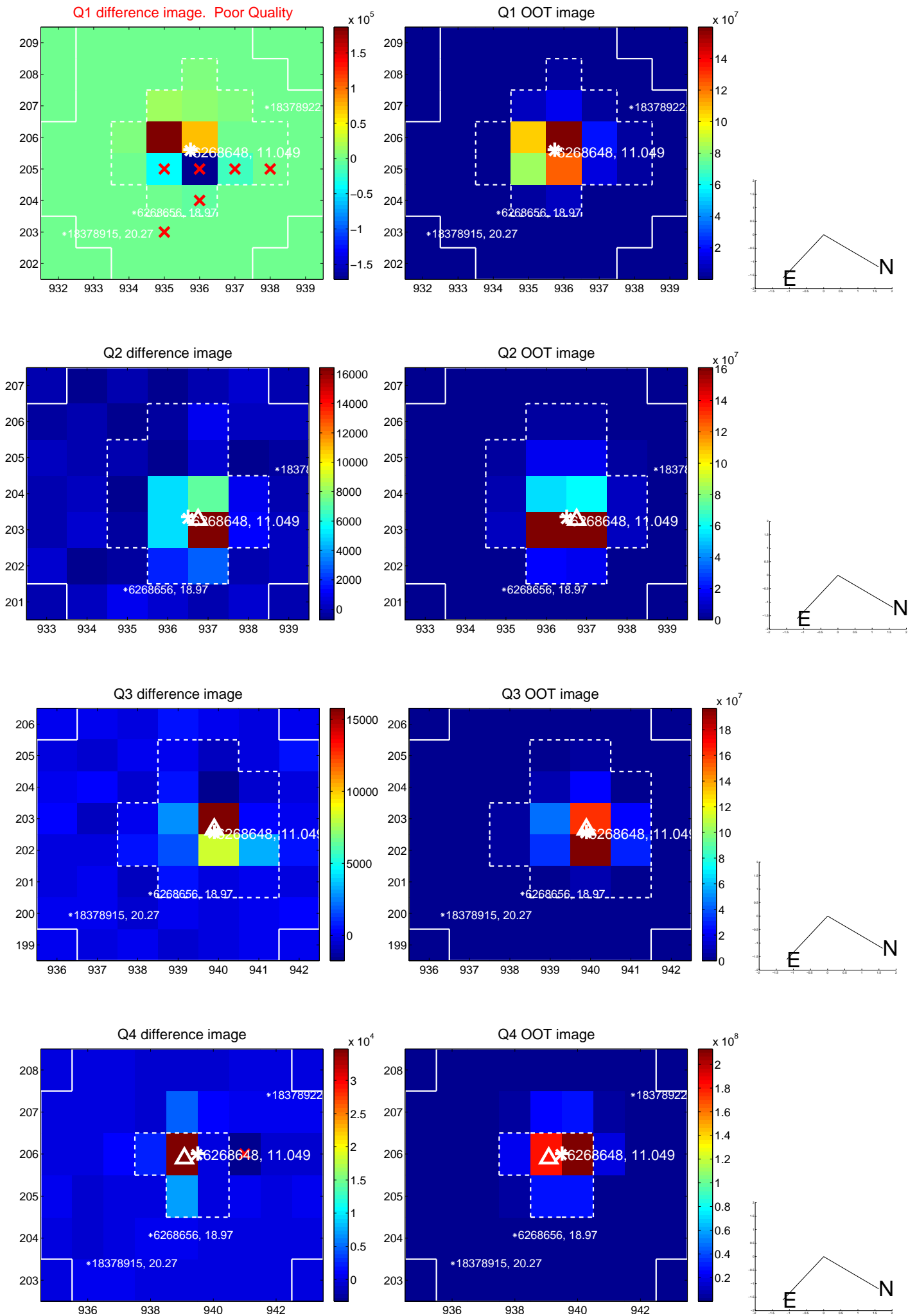
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.977 ± 0.341	2.87	0.509 ± 0.239	0.834 ± 0.372
PRF-fit source offset from KIC position	0.814 ± 0.347	2.35	0.328 ± 0.237	0.745 ± 0.364
photometric centroid source offset	0.35 ± 0.48	0.72	-0.26 ± 0.47	-0.23 ± 0.48

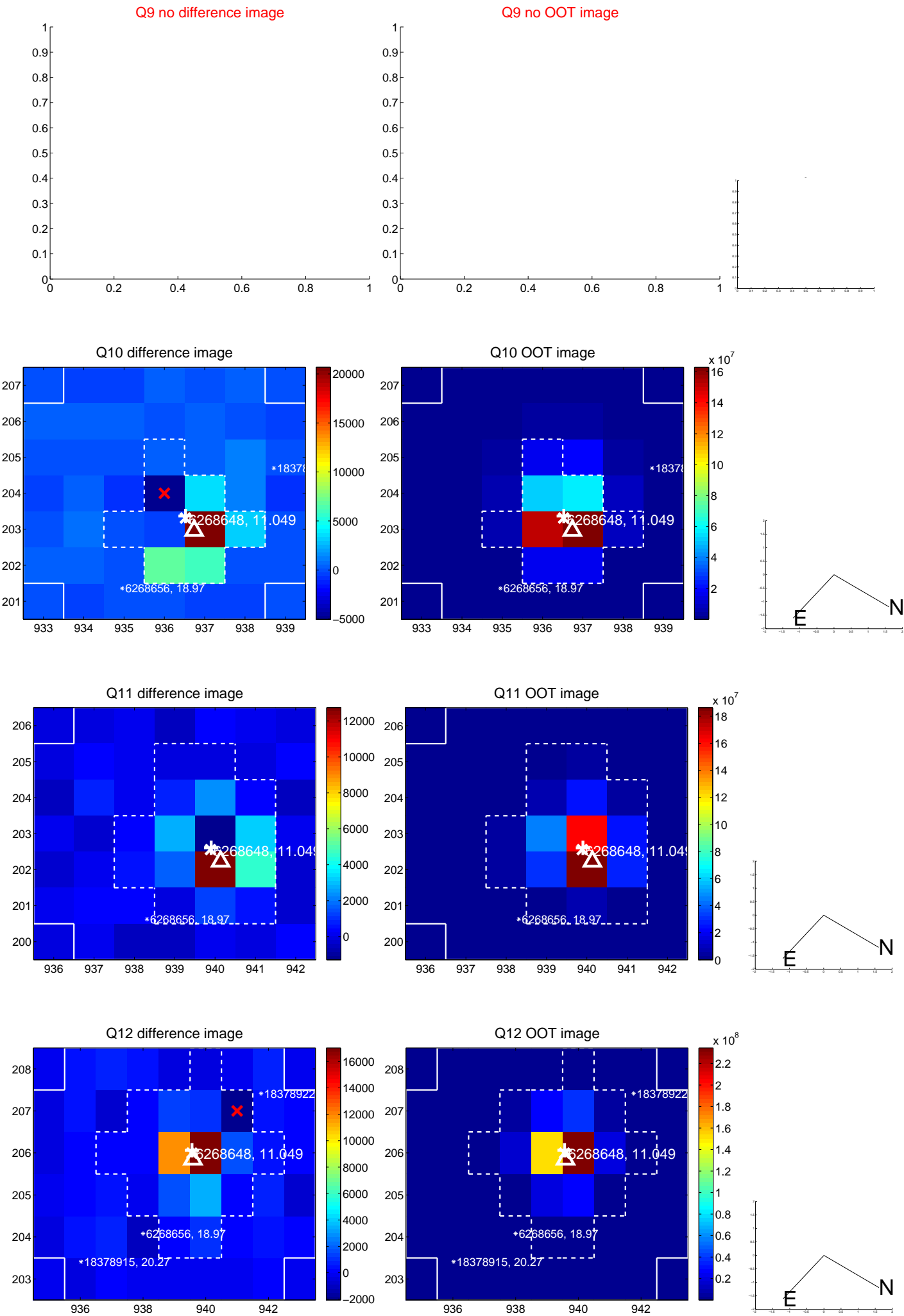


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

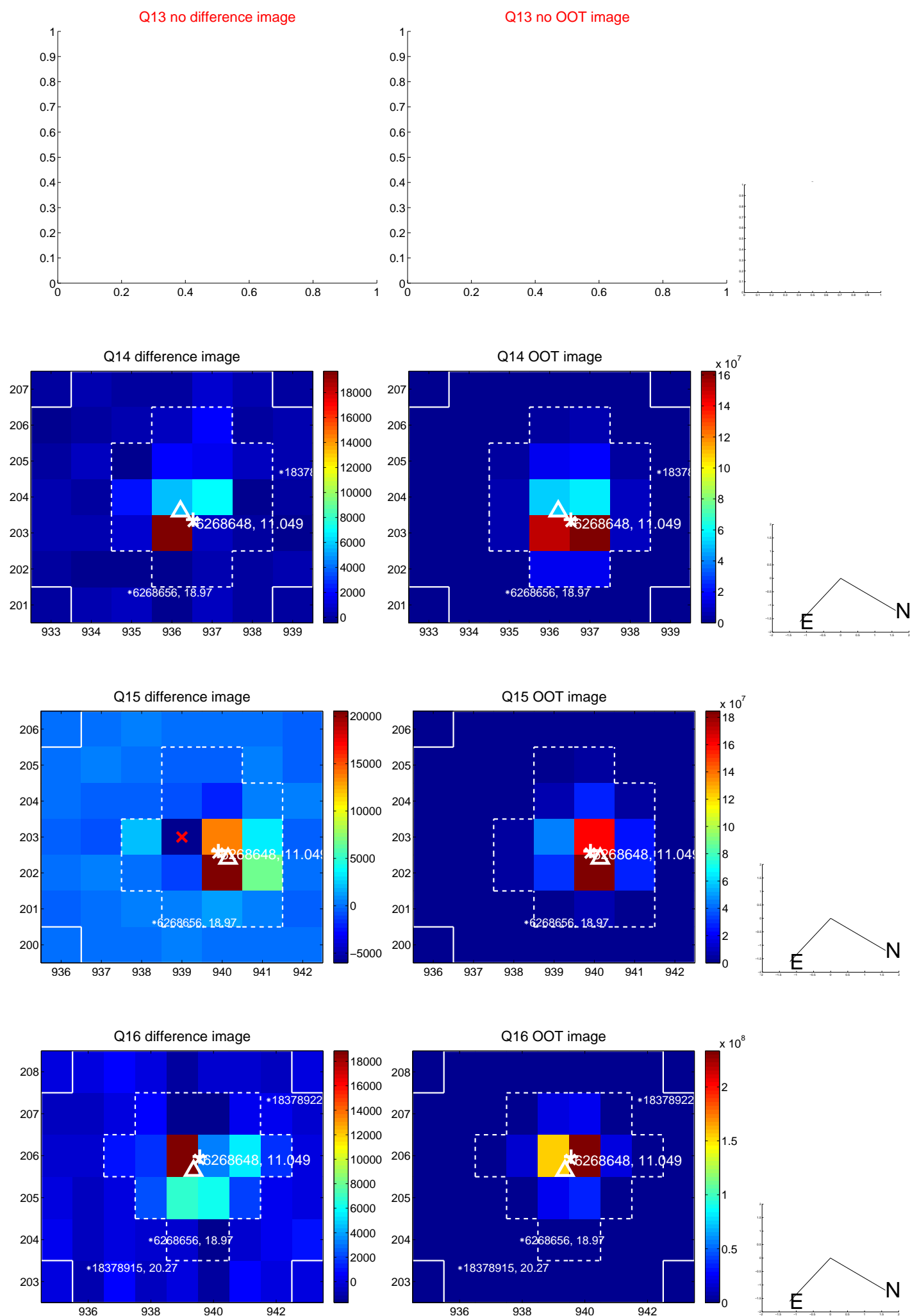
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



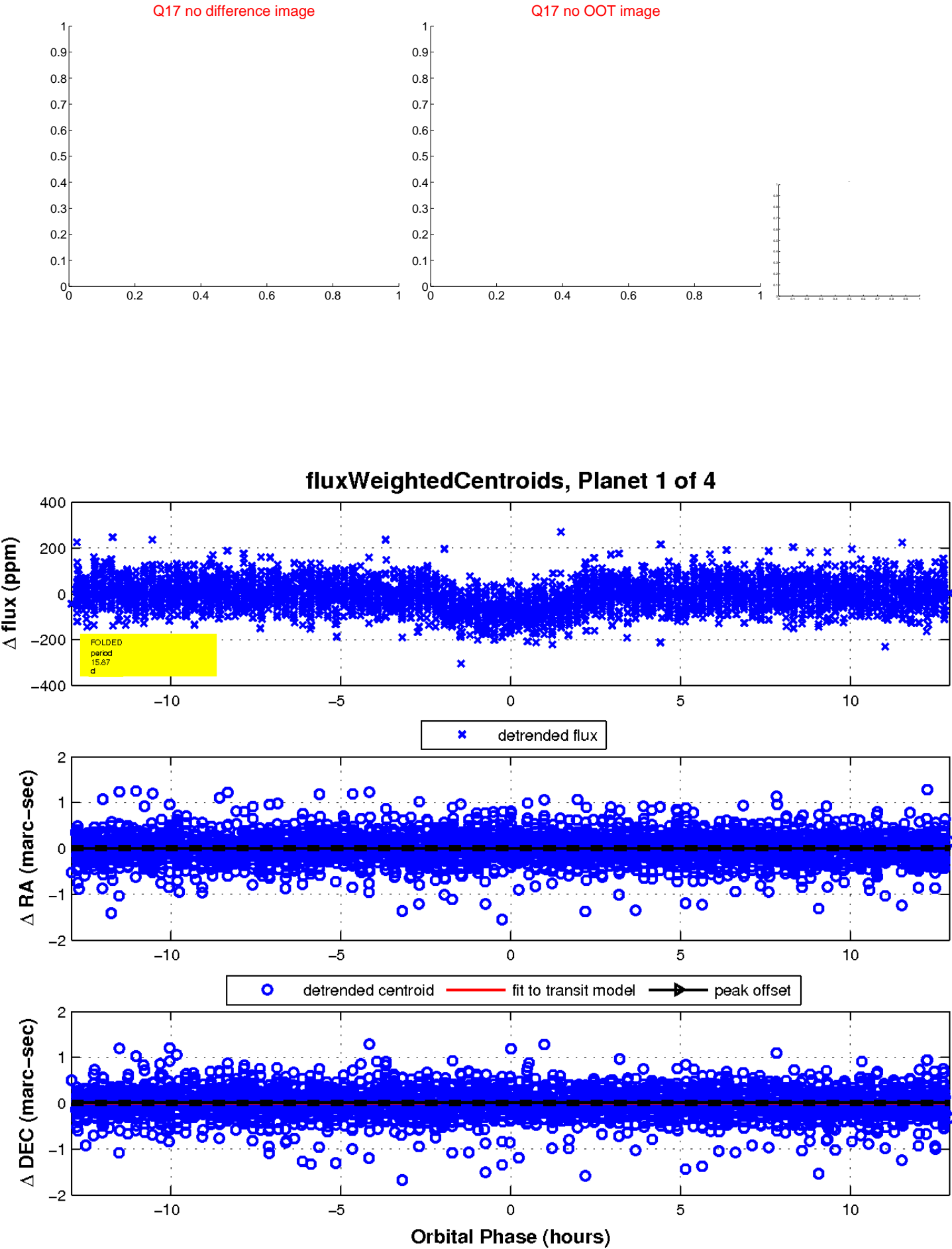
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

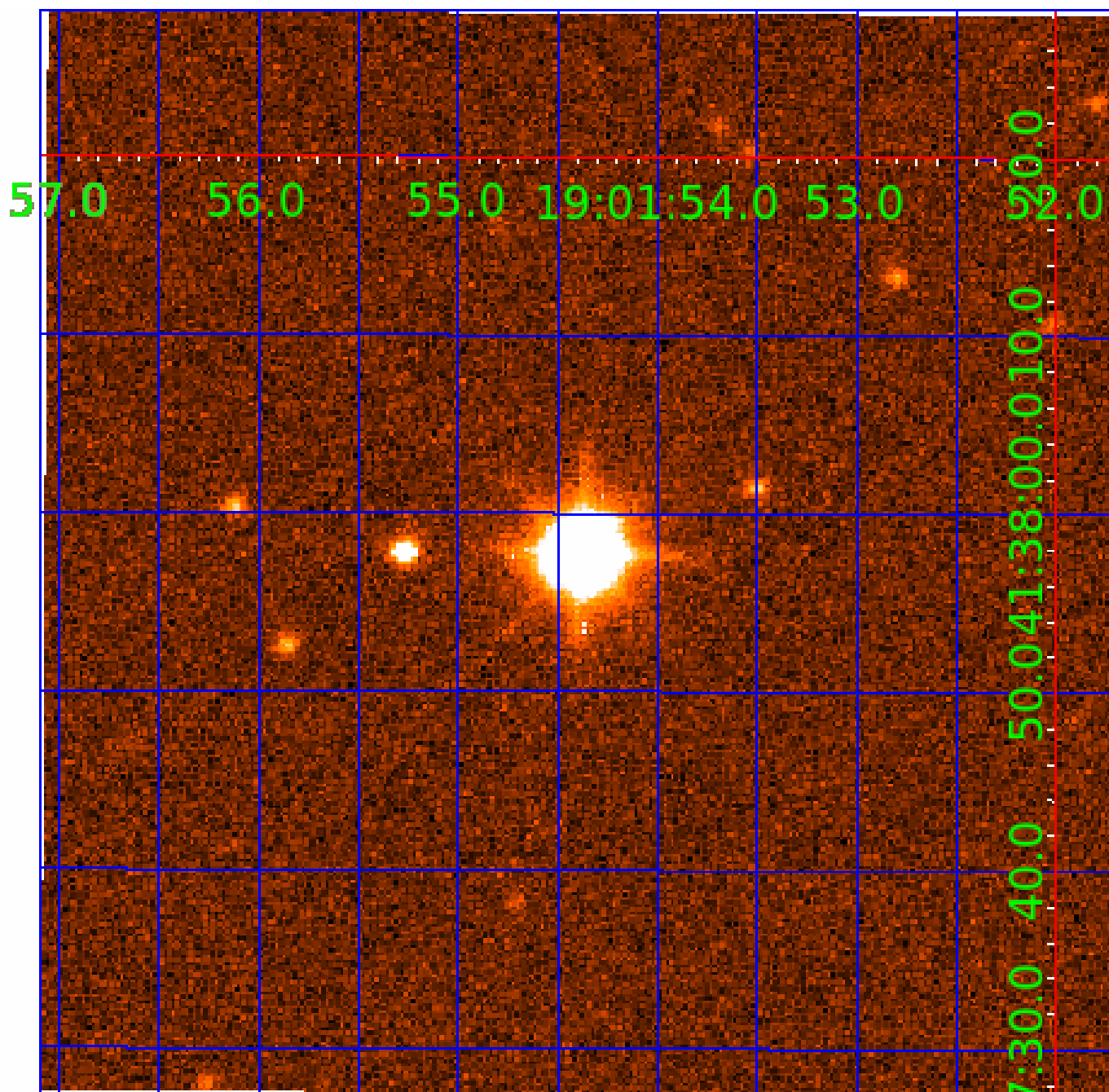


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006268648

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})
006268648-01	OBS	1613.01	15.866246	141.086995	76.5	4.317	22.0	22.9	1.31	6099	1.32	141.37
006268648-02	OBS	1613.02	94.088466	196.801493	53.9	15.367	9.0	8.7	1.31	6099	1.04	13.17
006268648-03	OBS	No	513.254492	150.924727	109.3	8.642	8.9	8.2	1.31	6099	1.59	1.37
006268648-04	OBS	1613.03	20.605460	146.512665	38.7	3.596	8.1	9.1	1.31	6099	0.95	99.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006268648-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006268648-04	OBS	PC	0.99	0	0	0	0	CENT_SATURATED

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

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

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

Ephemeris Match Information For 006268648-02

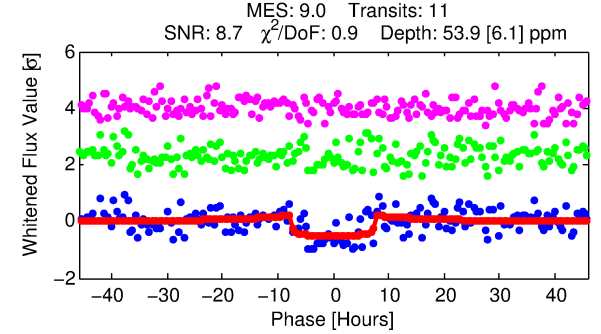
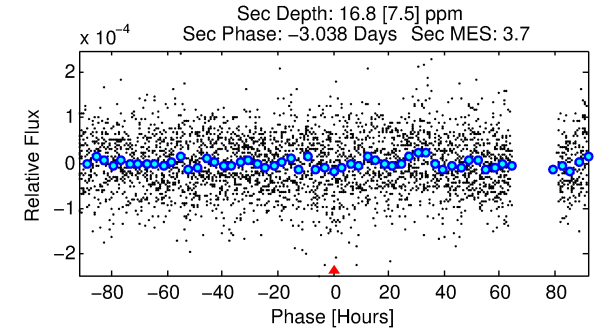
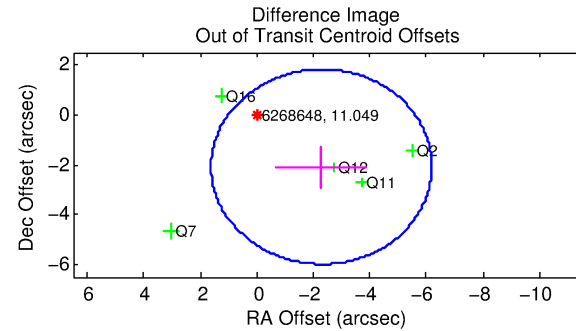
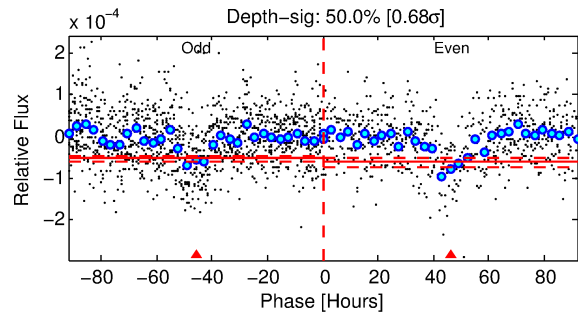
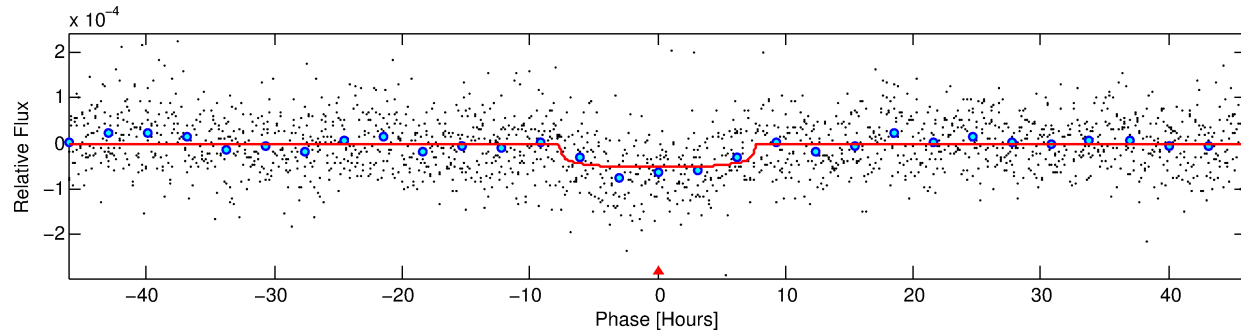
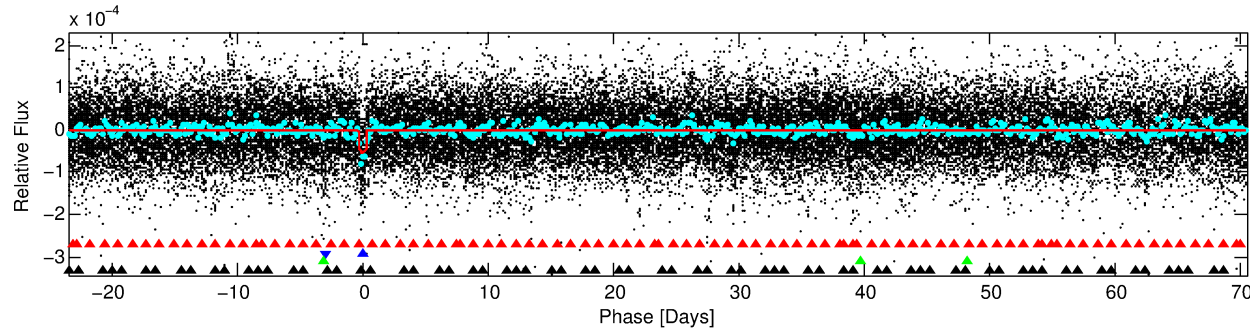
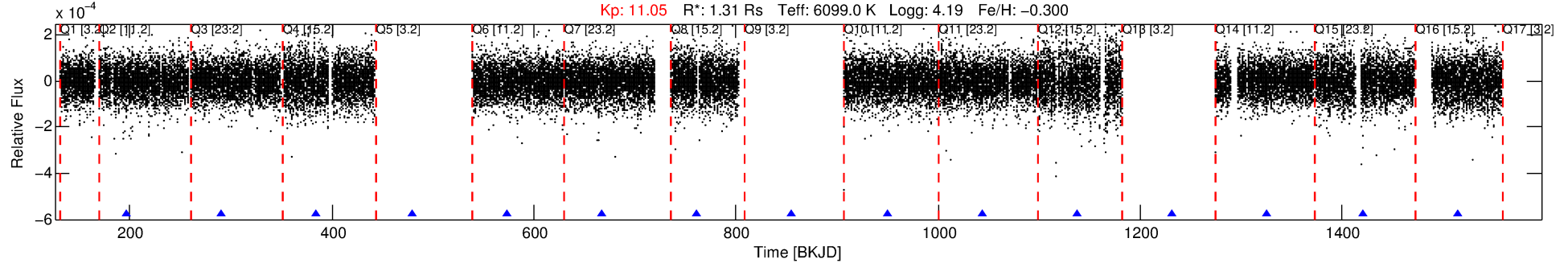
No Significant Match Found

DV One-Page Summary

KIC: 6268648 Candidate: 2 of 4 Period: 94.088 d

KOI: K01613.02 Corr: 0.838

Kp: 11.05 R*: 1.31 Rs Teff: 6099.0 K Logg: 4.19 Fe/H: -0.300



DV Fit Results:

Period = 94.08847 [0.00187] d
Epoch = 196.8015 [0.0168] BKJD
Rp/R* = 0.0073 [0.0021]
a/R* = 32.05 [47.19]
b = 0.74 [0.91]
Seff = 13.17 [0.90]
Teq = 486 [8] K
Rp = 1.04 [0.31] Re
a = 0.4013 [0.0124] AU
Ag = 1383.73 [1017.43] [1.36σ]
Teff = 4581 [843] K [4.86σ]

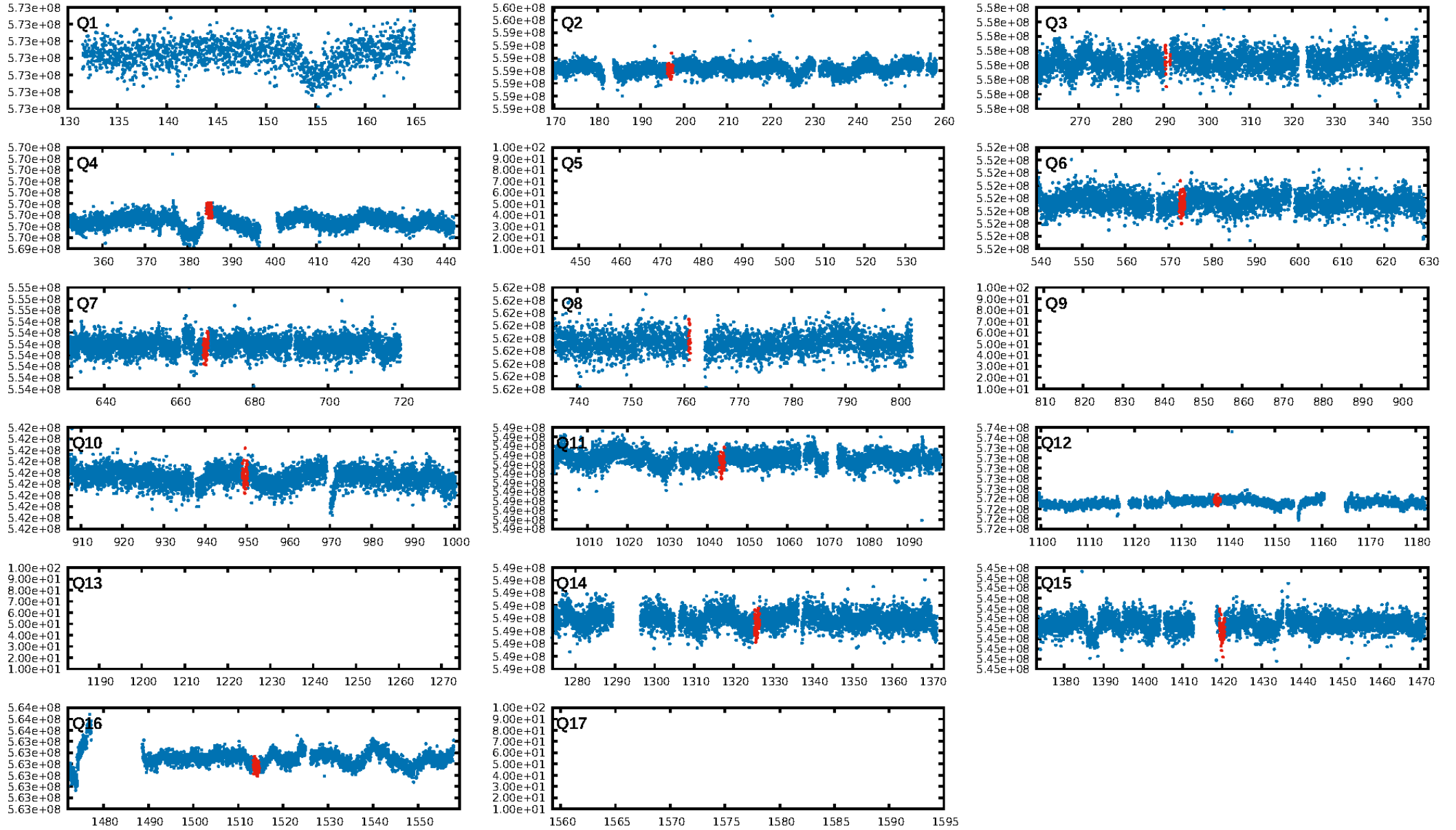
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [111.75σ]
LongPeriod-sig: 100.0% [570.60σ]
ModelChiSquare2-sig: 90.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.03e-17
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 2.073
Centroid-sig: 6.5%
Centroid-so: 2.250 arcsec [1.51σ]
OotOffset-rm: 3.094 arcsec [2.38σ]
KicOffset-rm: 3.319 arcsec [2.53σ]
OotOffset-st: 1/2/2/0 [5]
KicOffset-st: 1/2/2/0 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.88 [7/8]

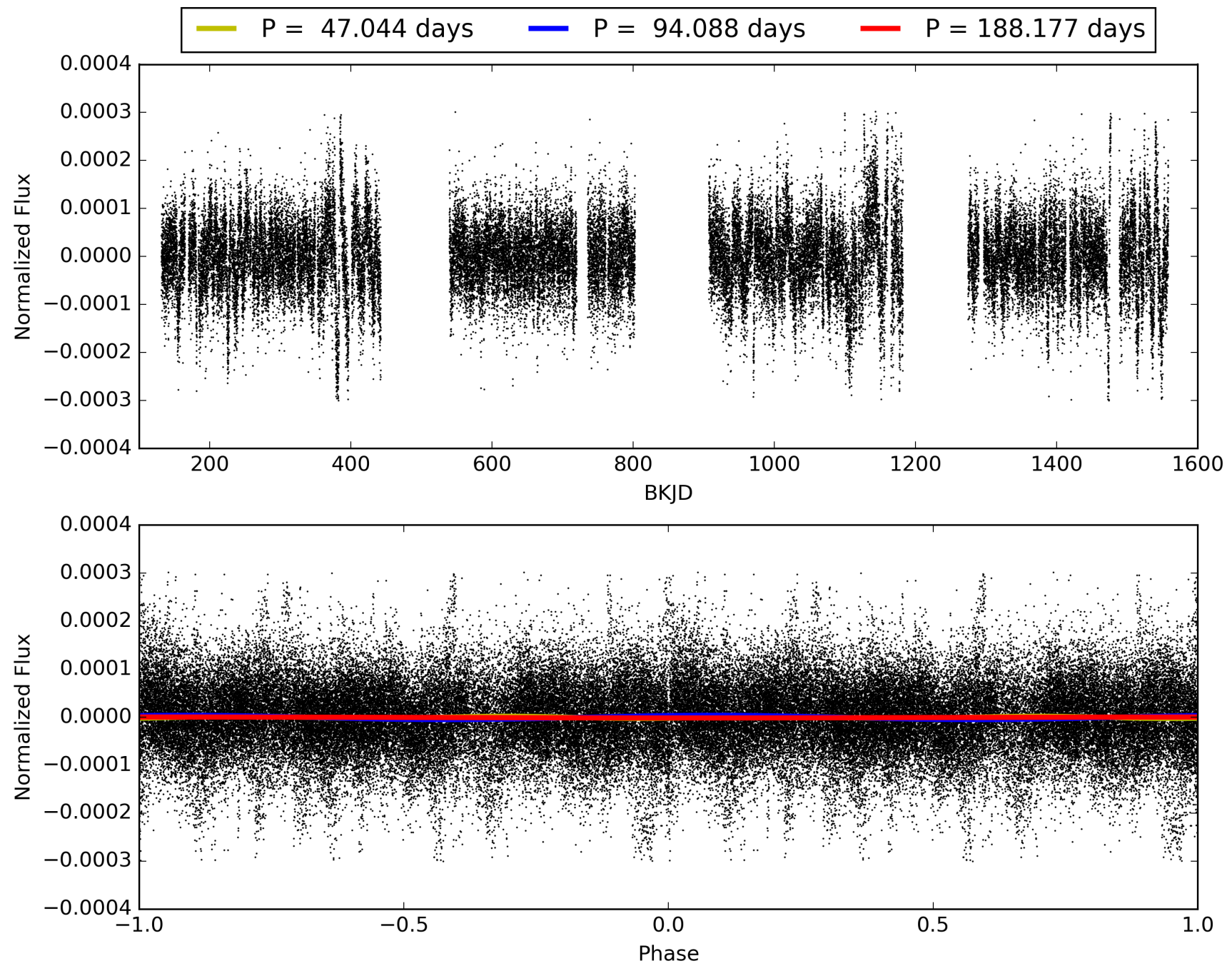
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:24:32 Z

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

TCE 006268648-02, PDC Light Curves

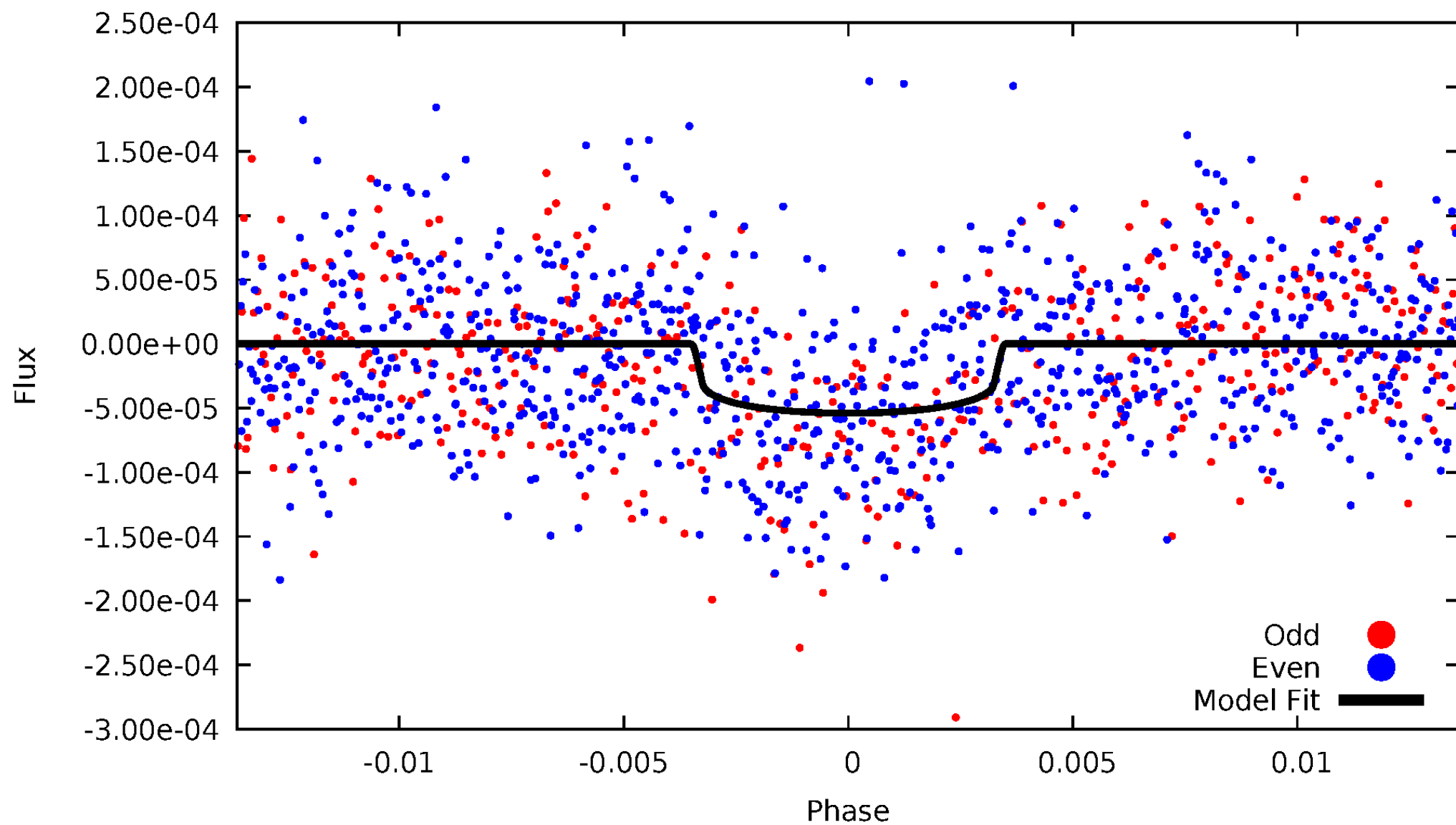


TCE 006268648-02



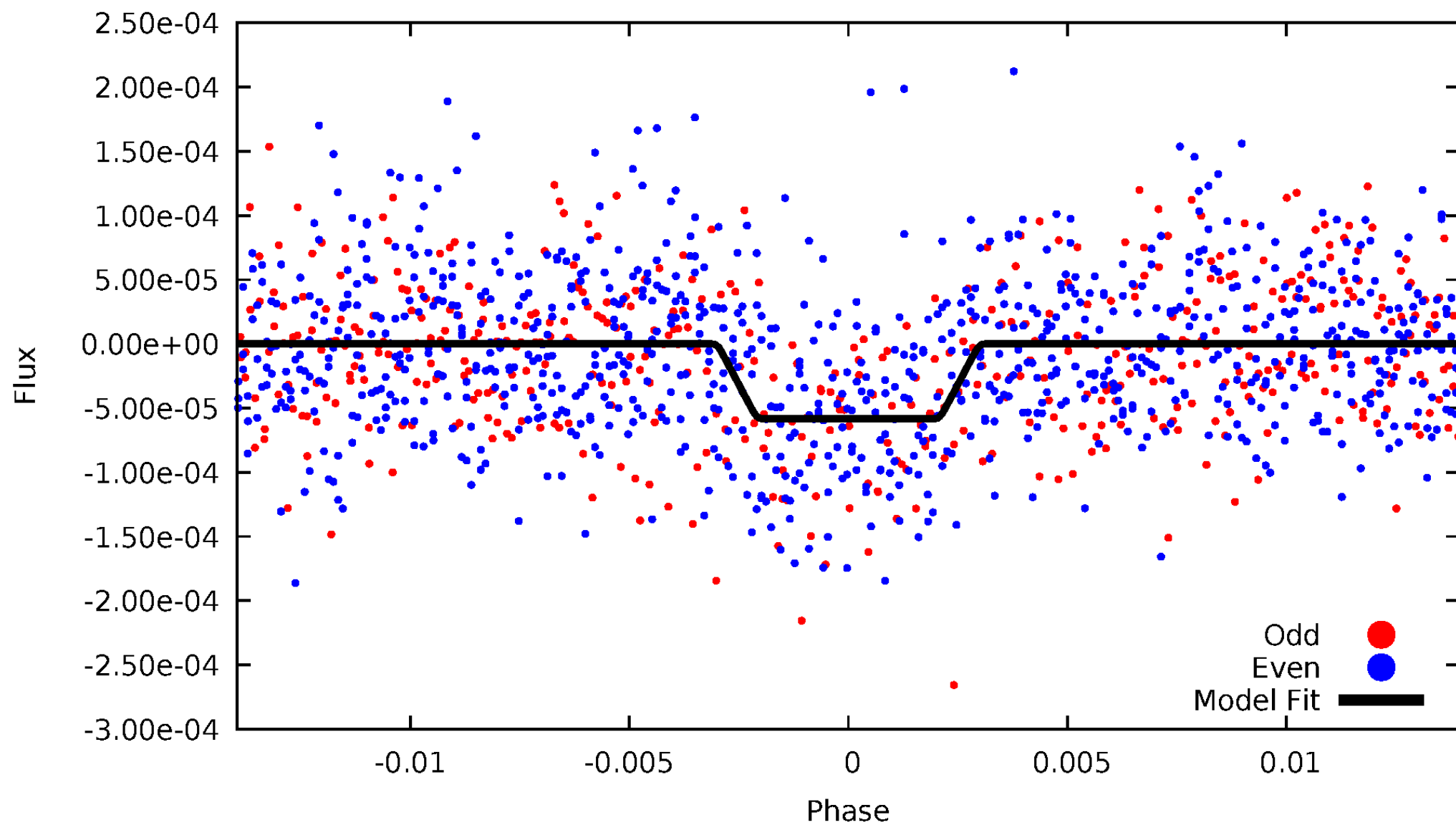
DV Odd/Even

TCE 006268648-02



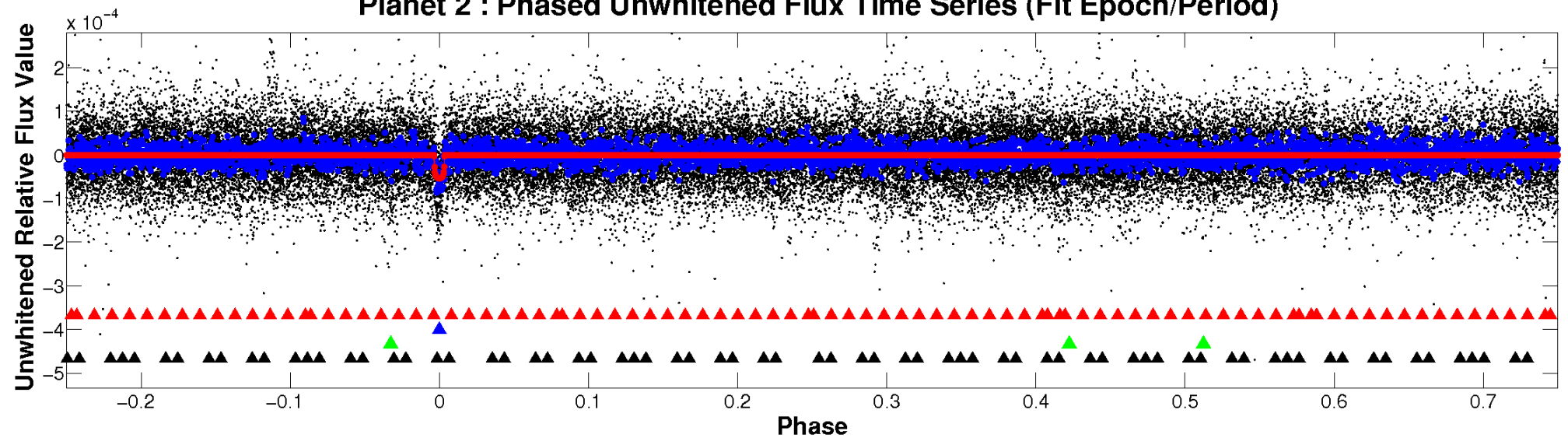
ALT Odd/Even

TCE 006268648-02

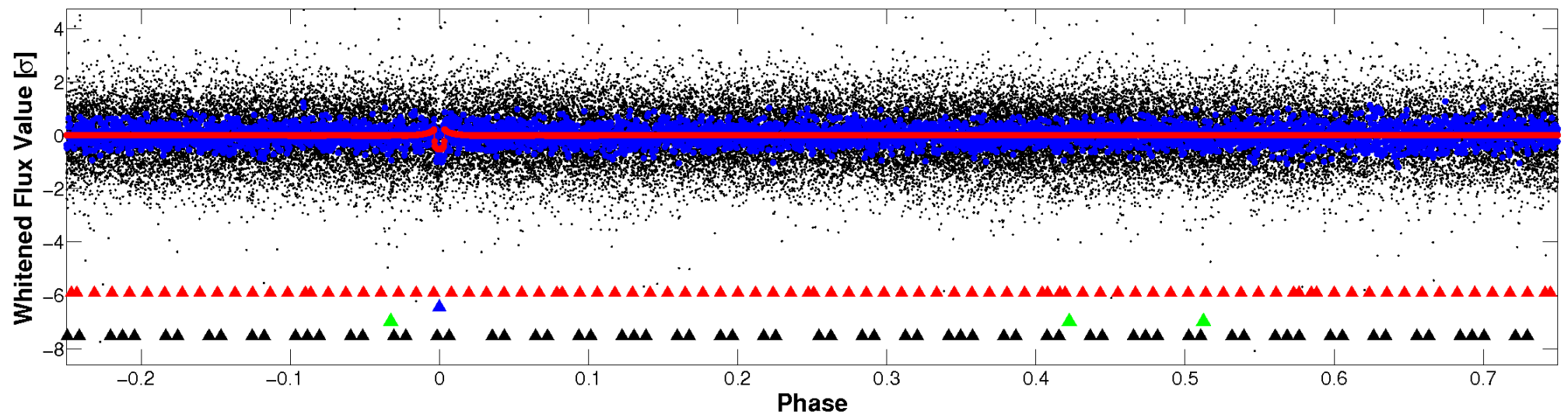


Non-Whitened Vs. Whitened Light Curve

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

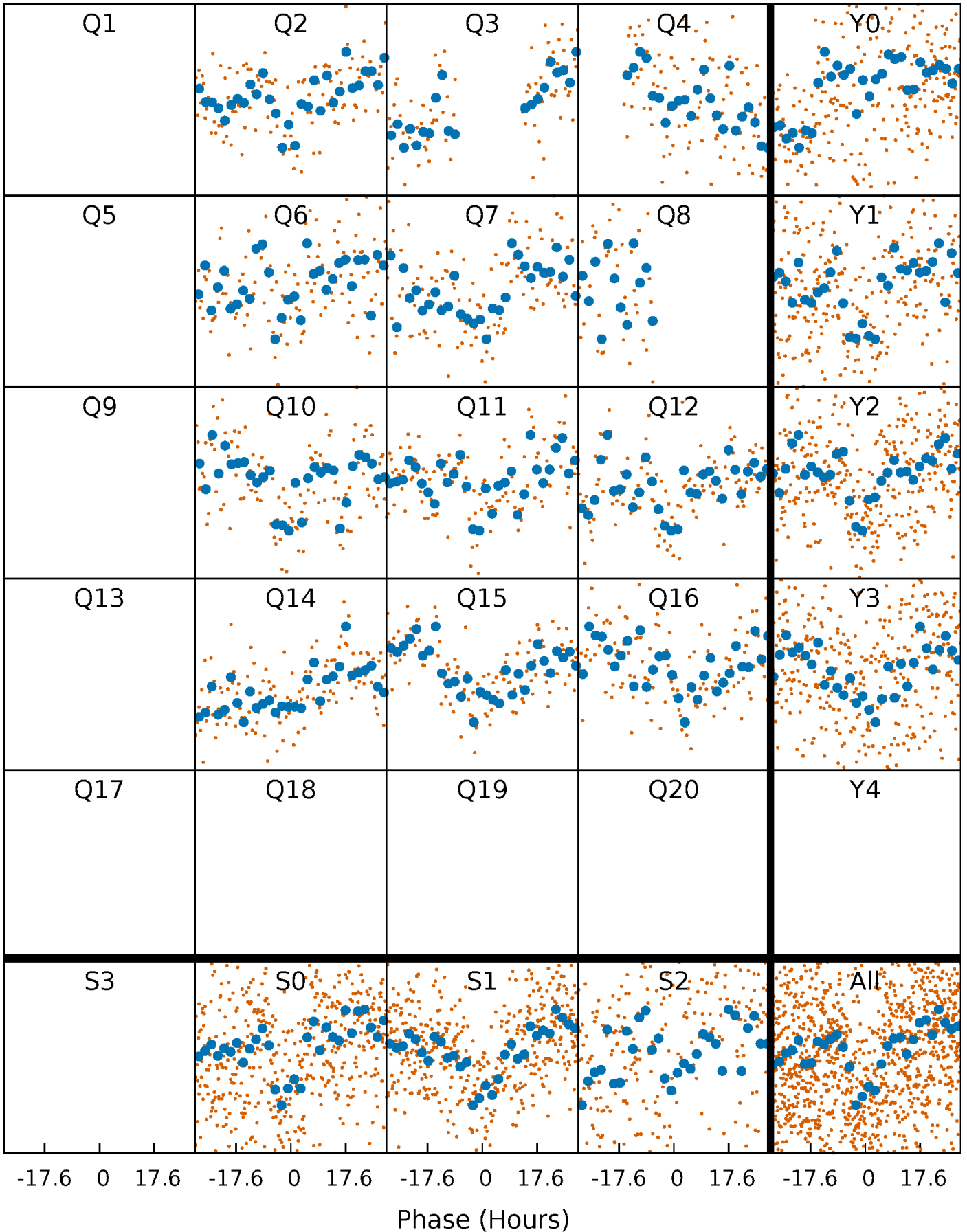


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



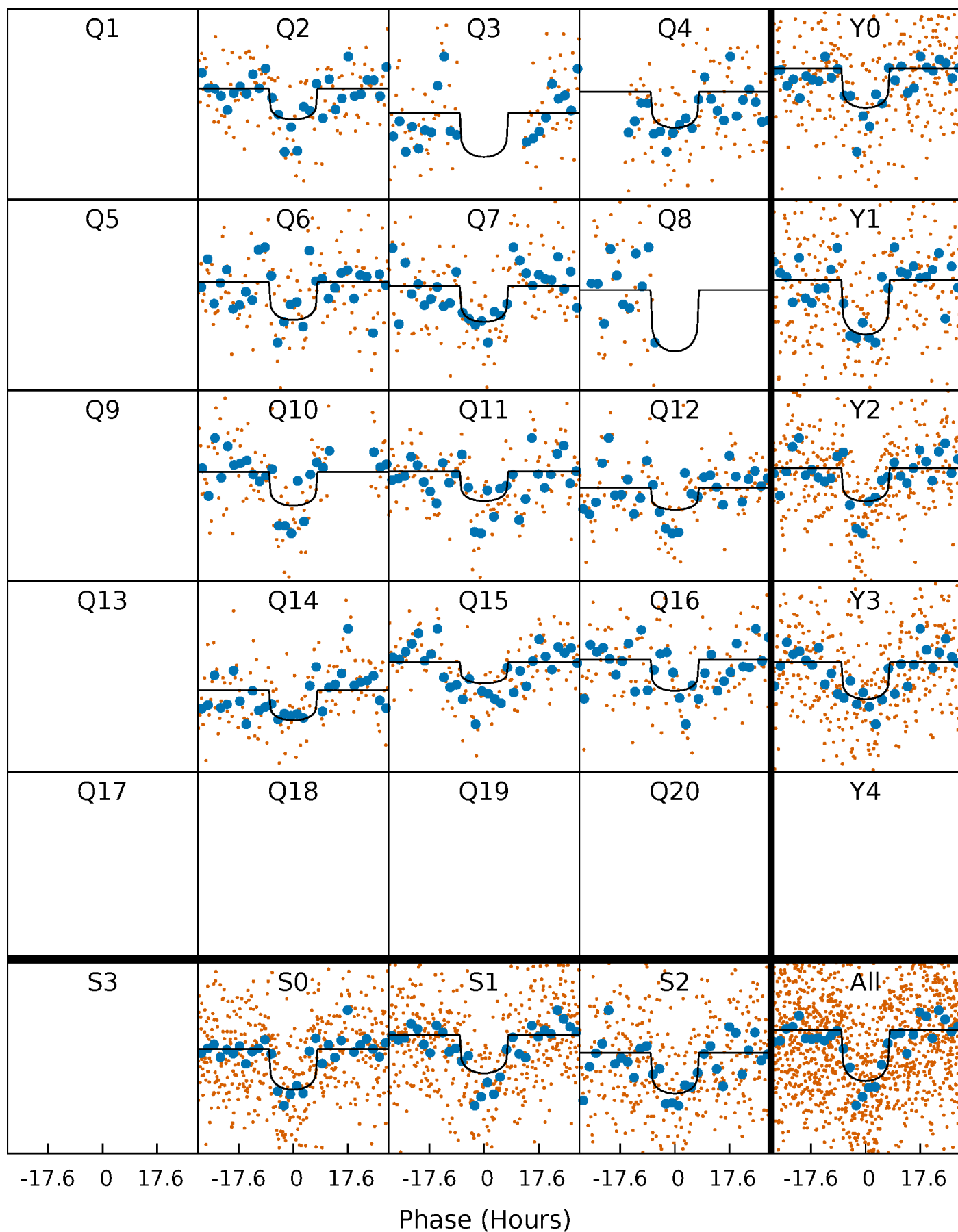
PDC Quarter-Phased Transit Curves

TCE 006268648-02 P= 94.088466 Days $T_0=196.801493$ (BKJD)



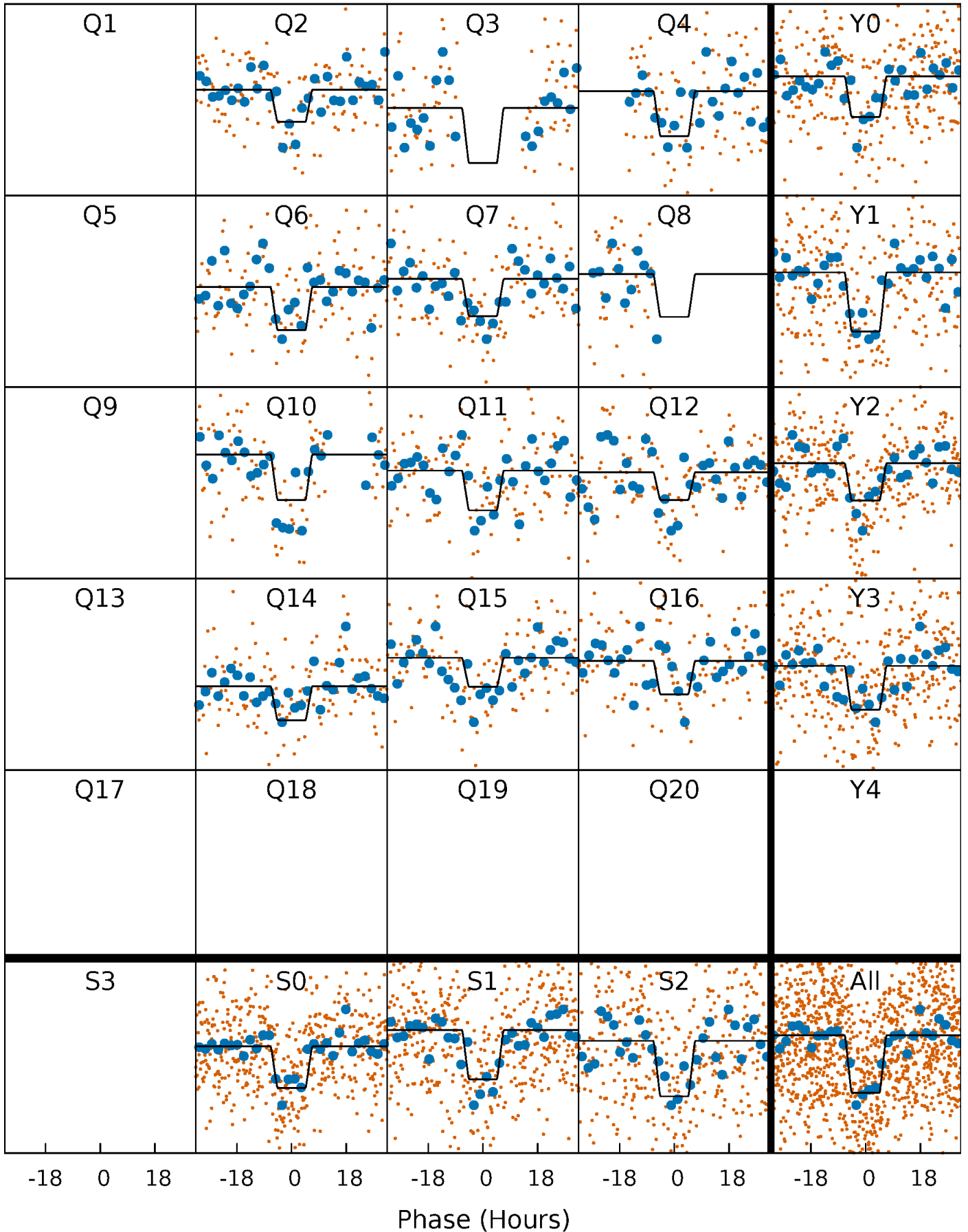
DV Quarter-Phased Transit Curves

TCE 006268648-02 P= 94.088466 Days $T_0=196.801493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

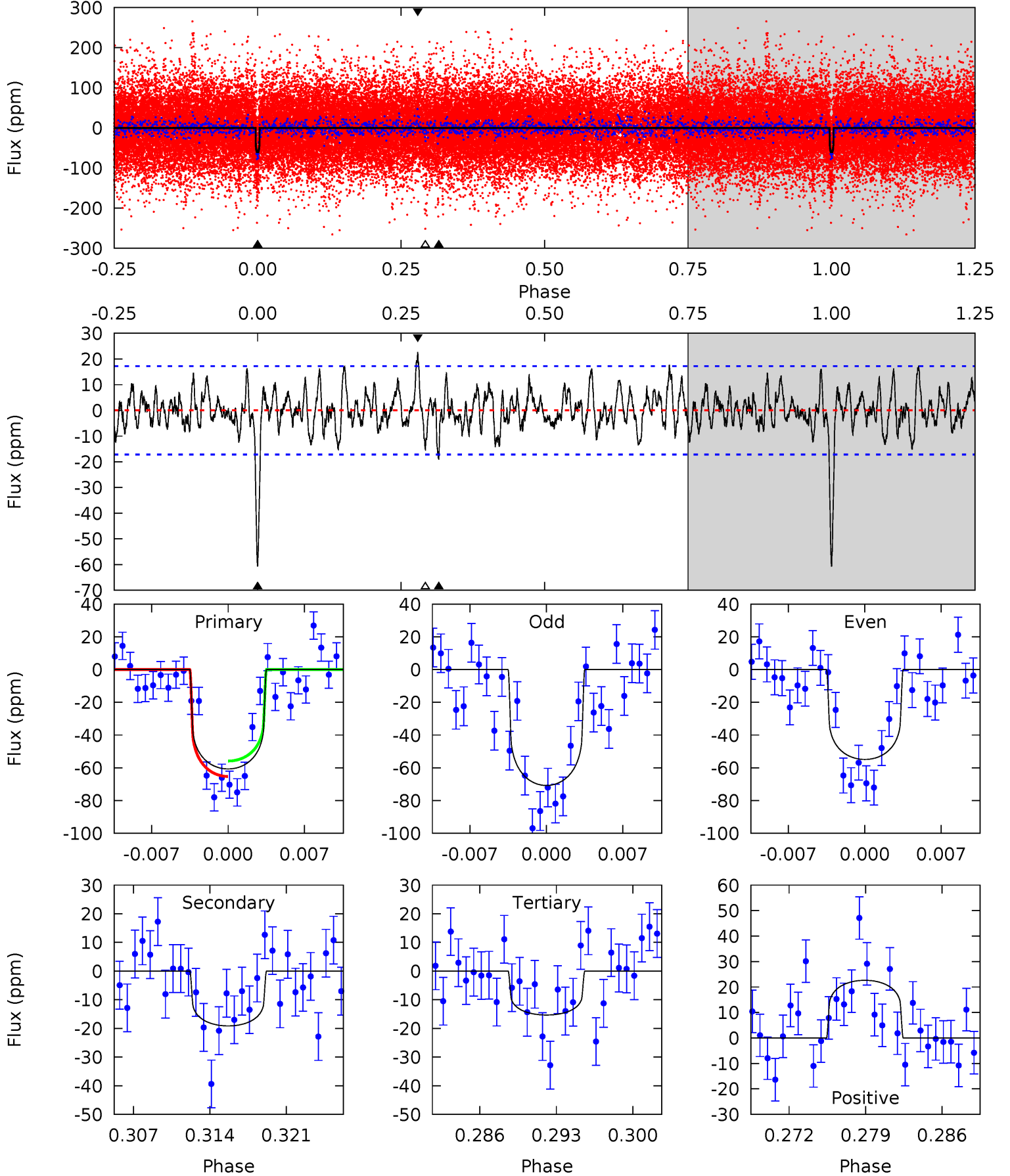
TCE 006268648-02 P= 94.089106 Days $T_0=196.791822$ (BKJD)



DV Model-Shift Uniqueness Test

006268648-02, P = 94.088466 Days, E = 102.713027 Days

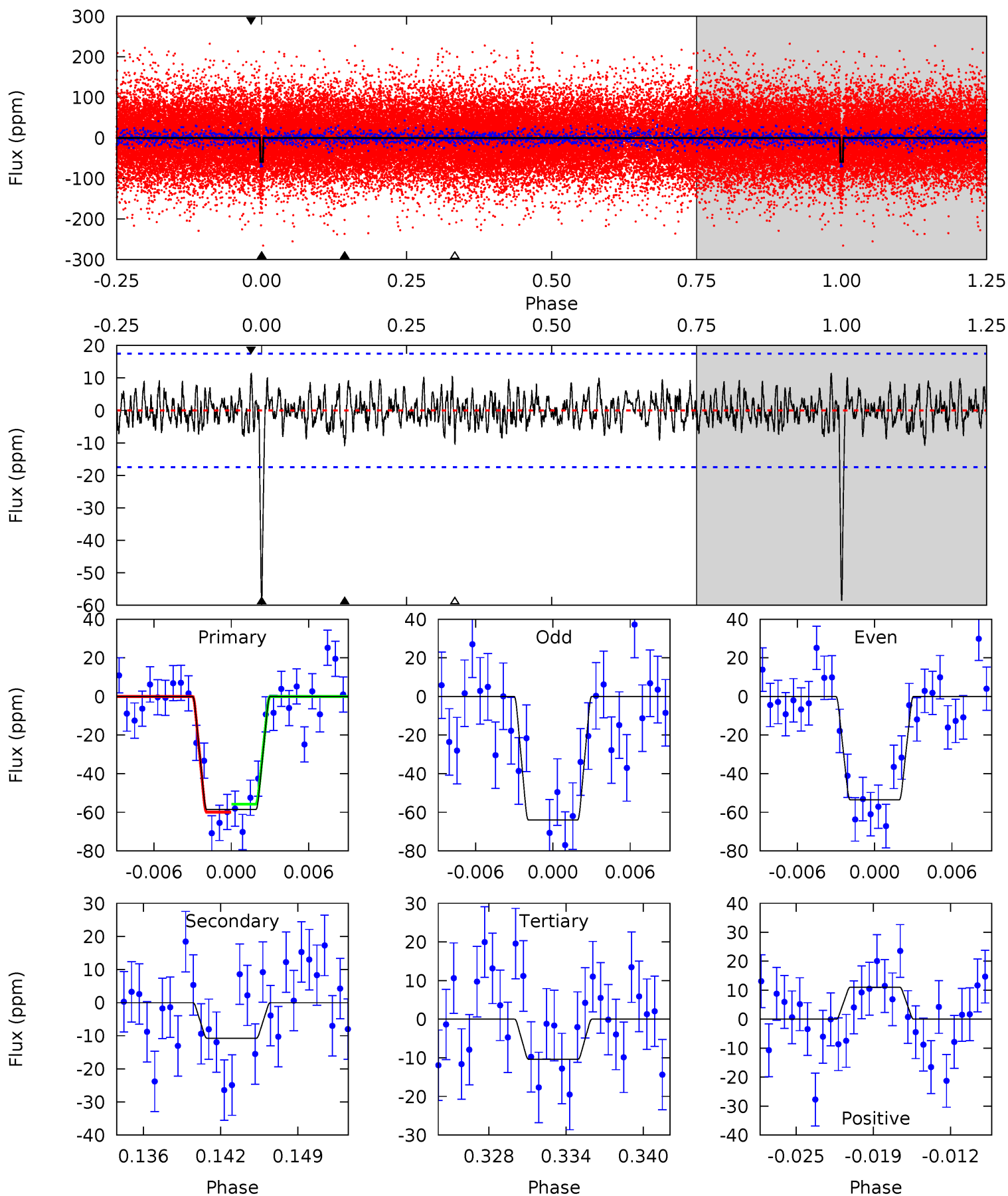
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	5.67	4.54	6.70	5.09	2.70	1.78	13.4	11.3	1.13	-1.04	2.21	1.01	0.27	1.40



Alt Model-Shift Uniqueness Test

006268648-02, P = 94.089106 Days, E = 102.702716 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	3.15	3.04	3.24	5.12	2.74	1.08	14.1	13.9	0.11	-0.09	1.43	1.00	0.16	0.60



Stellar Parameters For KIC 006268648

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6099^{+79}_{-85}	$4.193^{+0.016}_{-0.018}$	$-0.300^{+0.150}_{-0.150}$	$1.308^{+0.054}_{-0.054}$	$0.974^{+0.071}_{-0.064}$	$0.613^{+0.044}_{-0.041}$
	+1%/-1%	+0%/-0%	+50%/-50%	+4%/-4%	+7%/-7%	+7%/-7%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 006268648-02 / KOI 1613.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 3	$1.06^{+0.31}_{-0.31}$	679^{+10}_{-11}	4771^{+801}_{-467}	1453^{+1559}_{-593}
Alt.	-11 ± 3	$1.11^{+0.31}_{-0.34}$	679^{+11}_{-11}	4229^{+709}_{-455}	773^{+924}_{-366}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

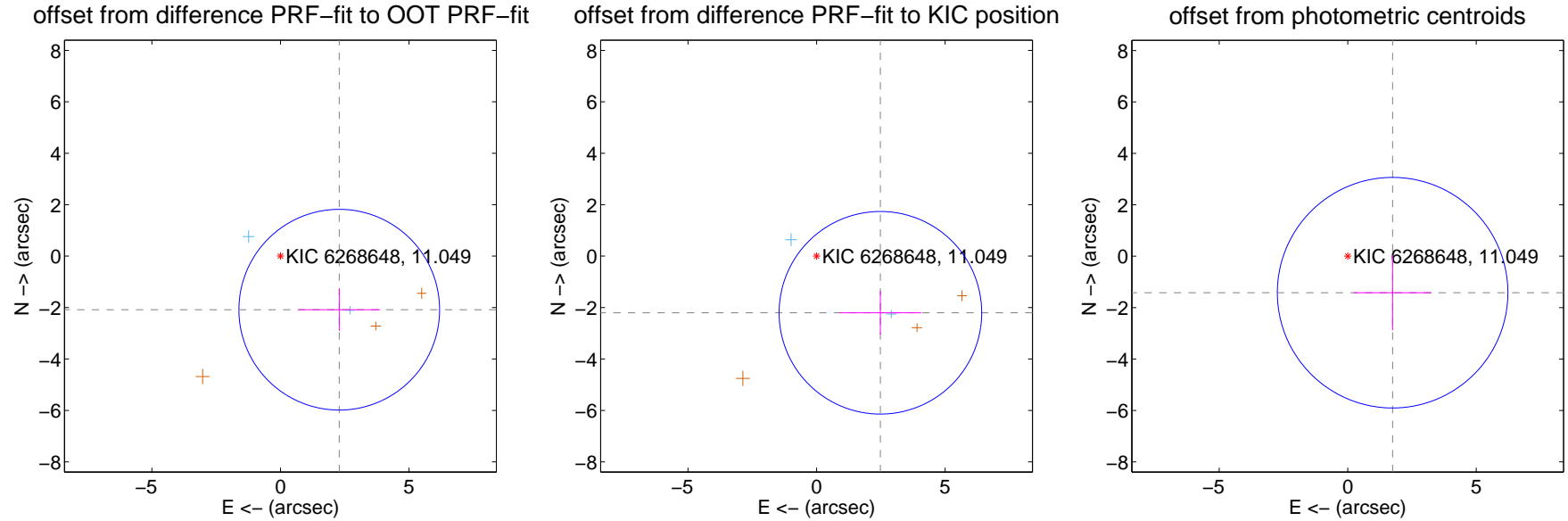
DV Centroid Data

Supplemental centroid analysis for 006268648-02. **Kepler magnitude: 11.05.** Transit SNR 8.70

There are 2 quarters with good PRF difference image offsets

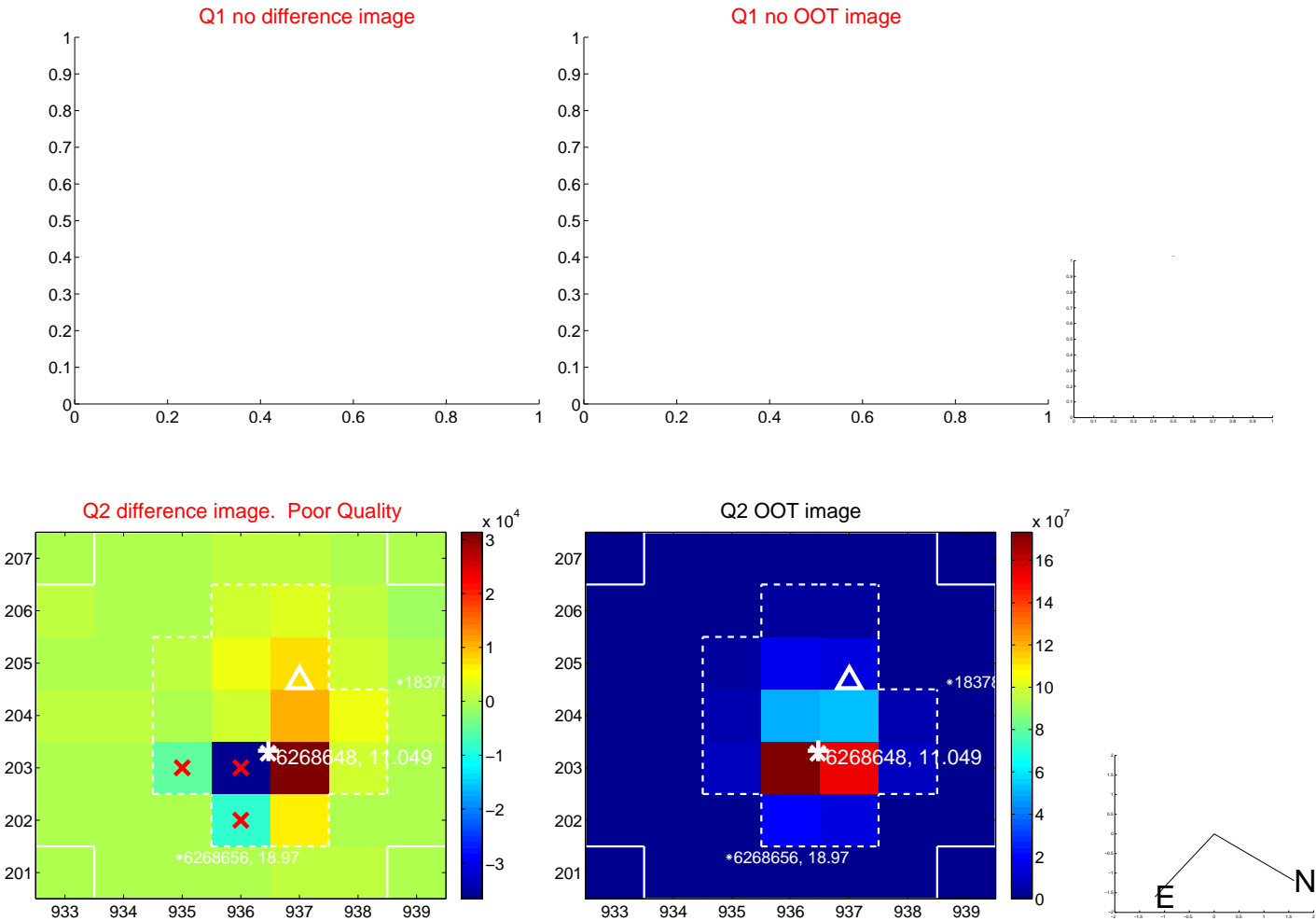
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.094 ± 1.301	2.38	-2.287 ± 1.591	-2.083 ± 0.827
PRF-fit source offset from KIC position	3.319 ± 1.313	2.53	-2.483 ± 1.587	-2.203 ± 0.846
photometric centroid source offset	2.25 ± 1.49	1.51	-1.75 ± 1.51	-1.42 ± 1.47

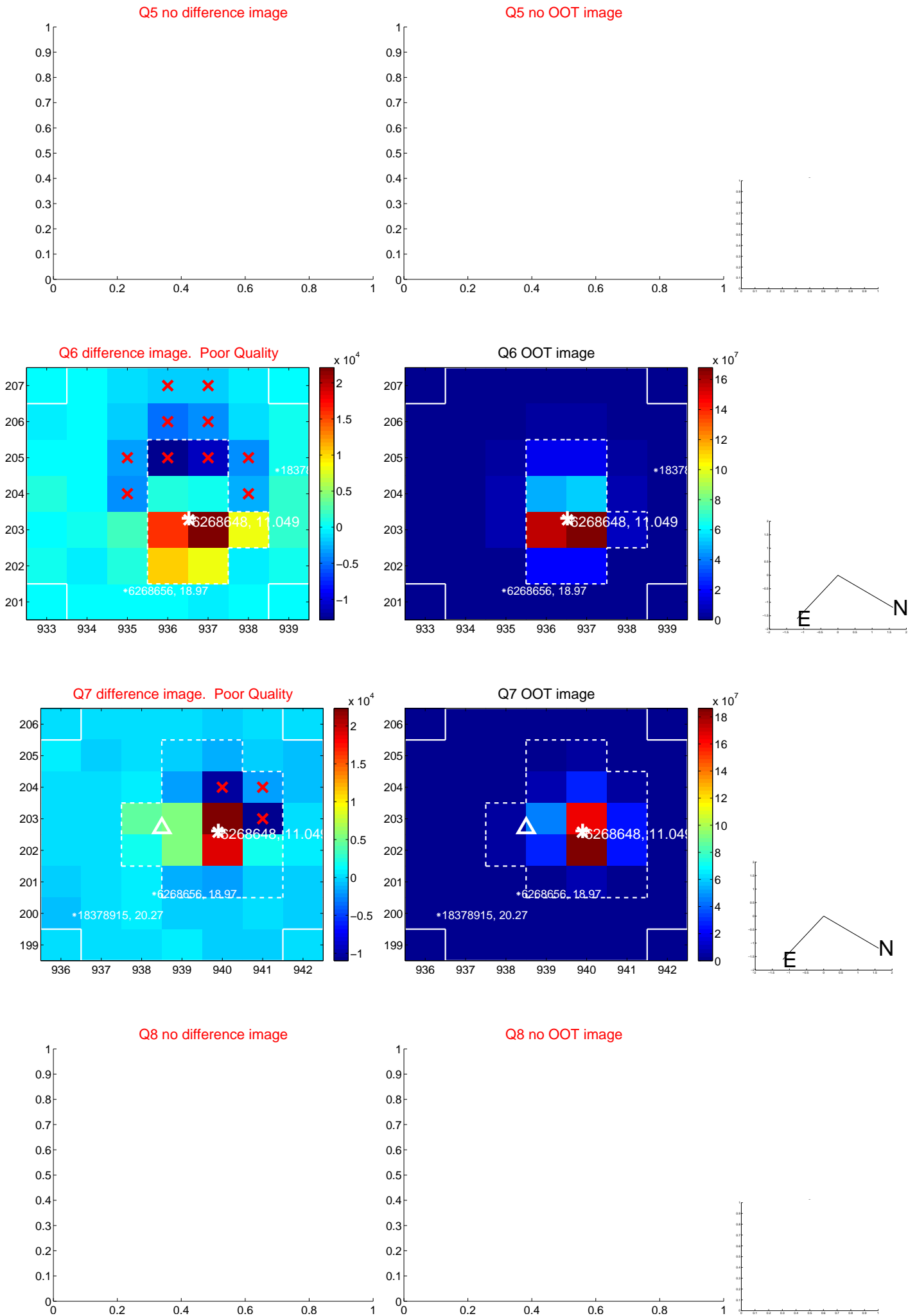


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

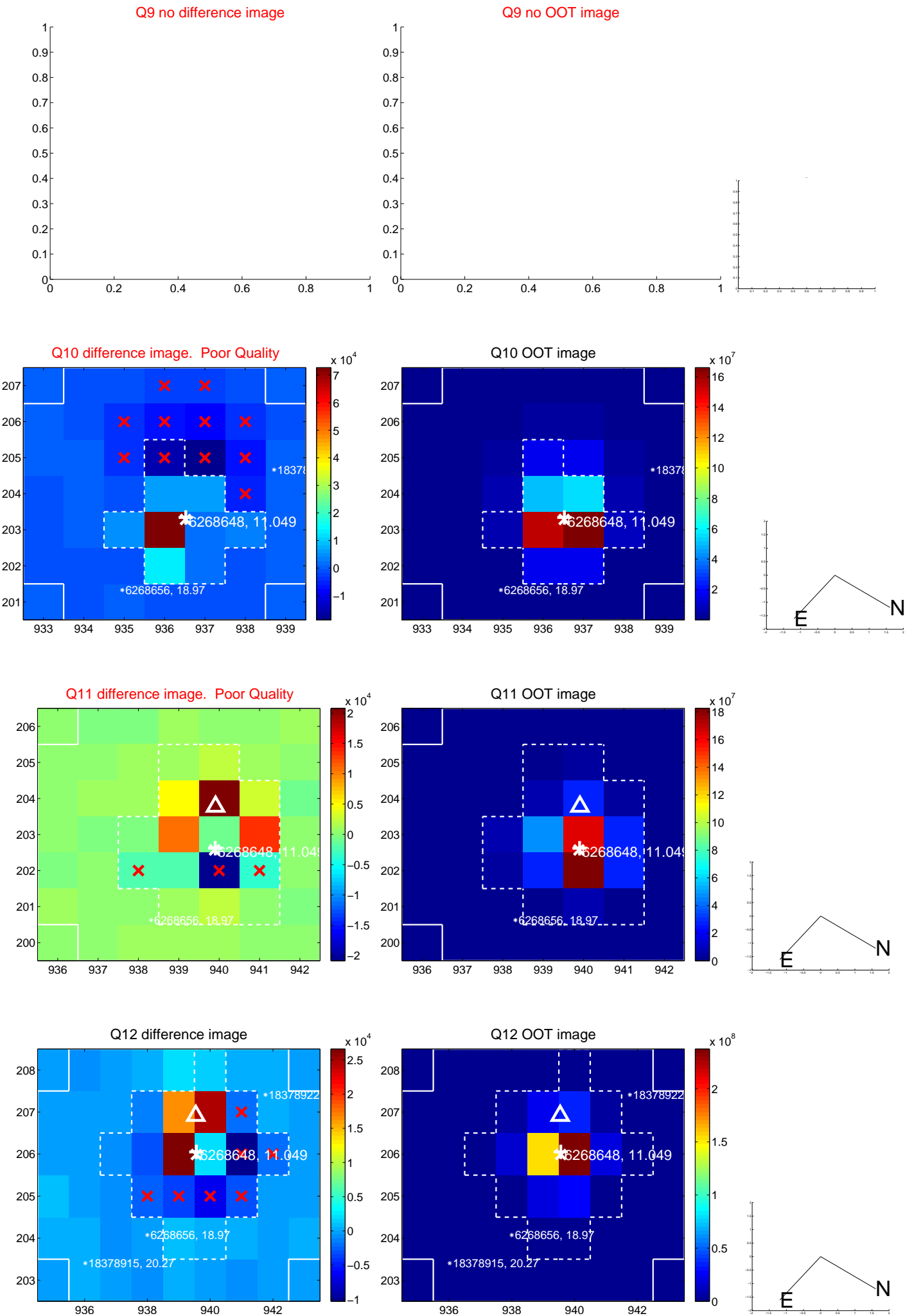
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



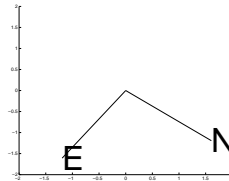
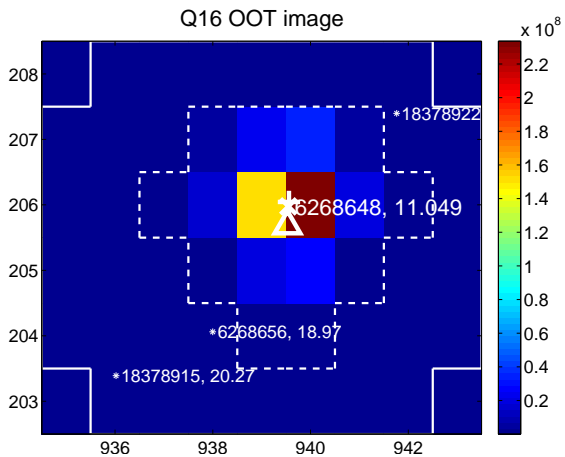
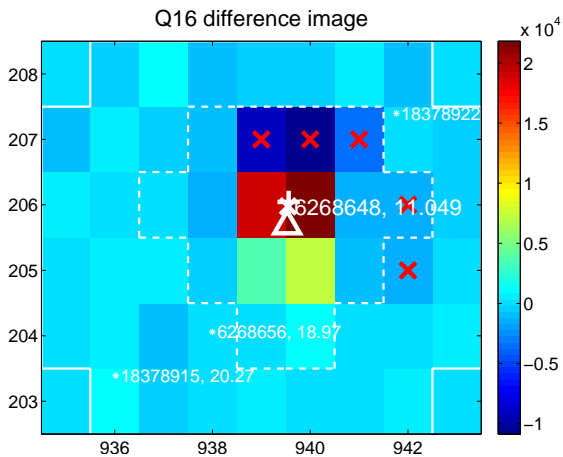
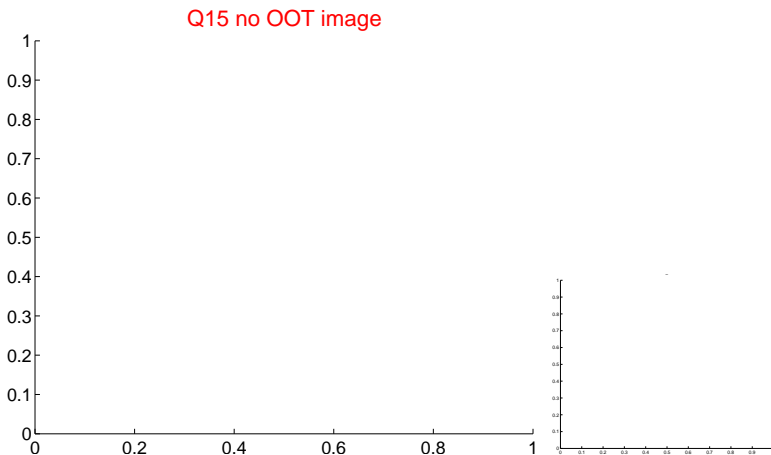
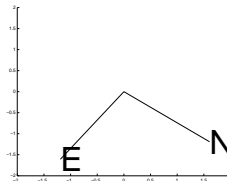
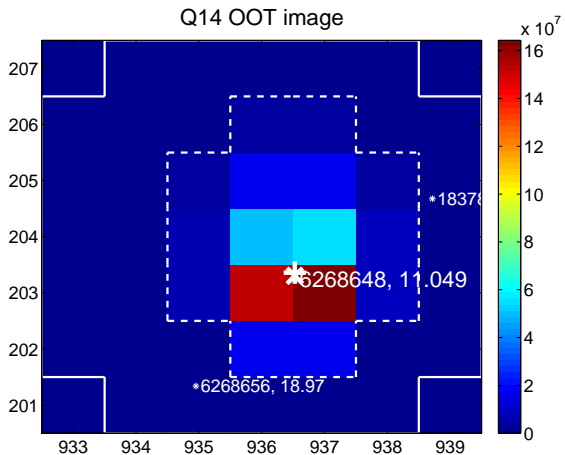
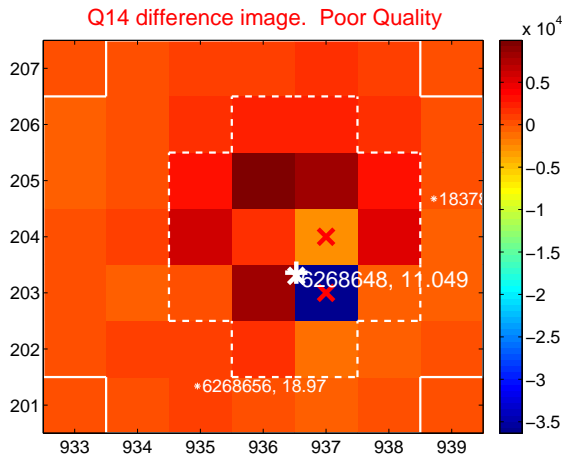
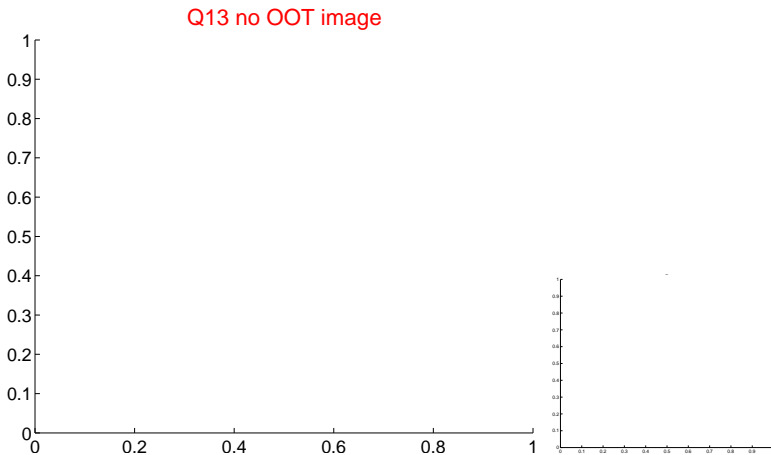
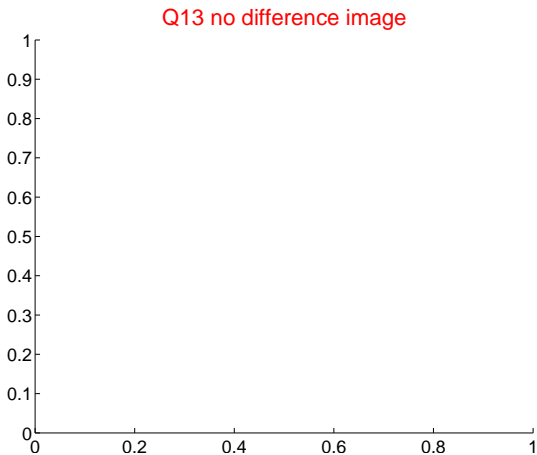
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



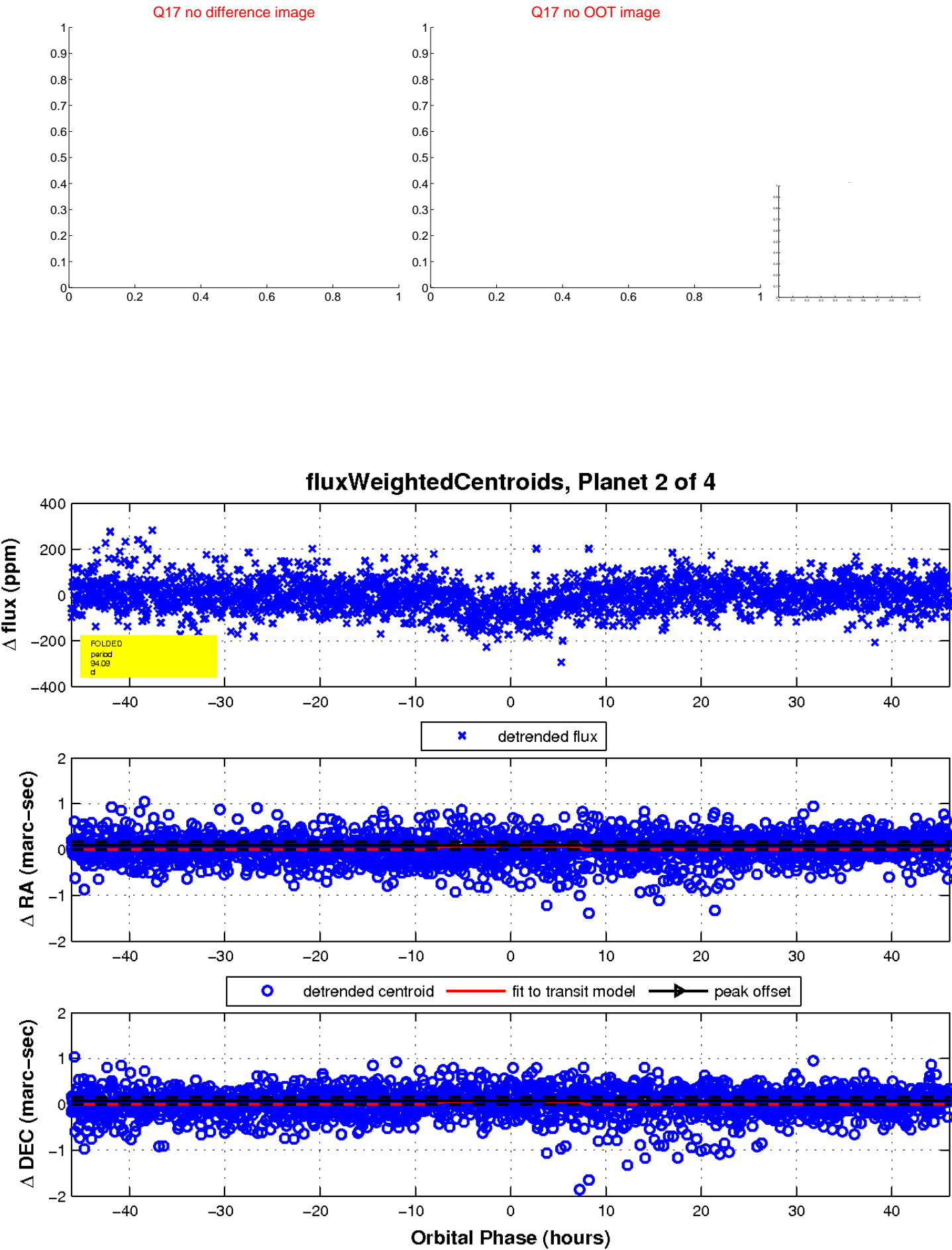
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

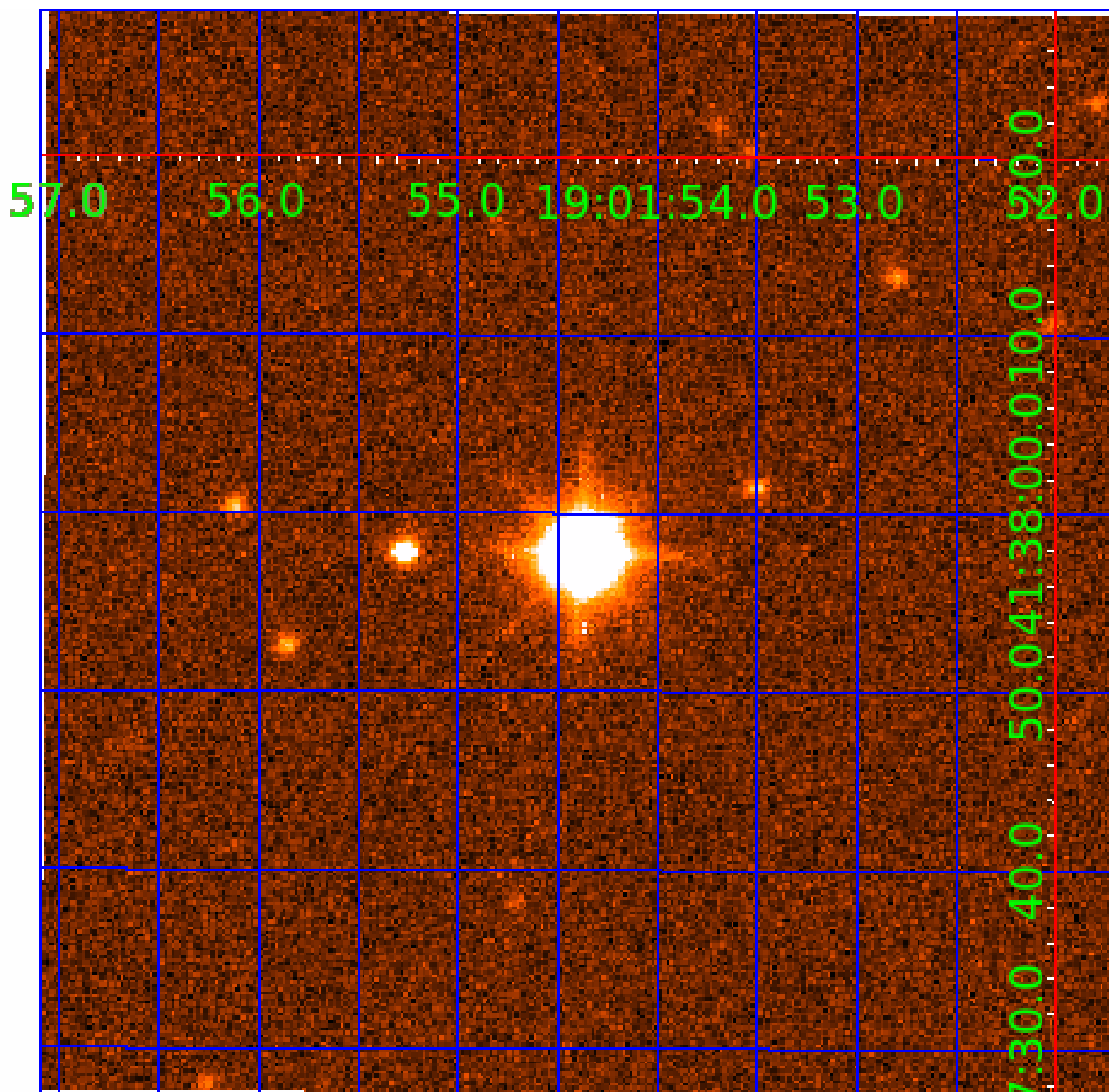


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006268648

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})
006268648-01	OBS	1613.01	15.866246	141.086995	76.5	4.317	22.0	22.9	1.31	6099	1.32	141.37
006268648-02	OBS	1613.02	94.088466	196.801493	53.9	15.367	9.0	8.7	1.31	6099	1.04	13.17
006268648-03	OBS	No	513.254492	150.924727	109.3	8.642	8.9	8.2	1.31	6099	1.59	1.37
006268648-04	OBS	1613.03	20.605460	146.512665	38.7	3.596	8.1	9.1	1.31	6099	0.95	99.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006268648-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006268648-04	OBS	PC	0.99	0	0	0	0	CENT_SATURATED

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

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

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

Ephemeris Match Information For 006268648-03

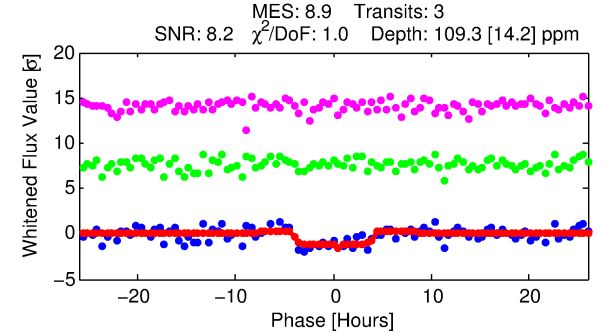
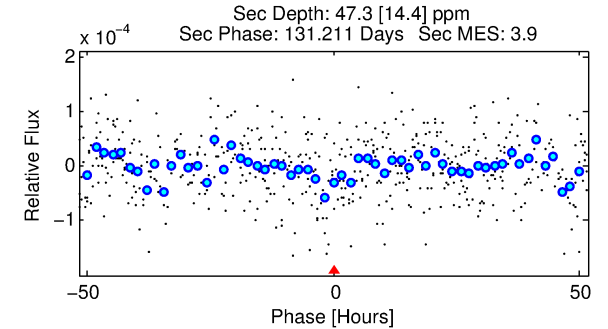
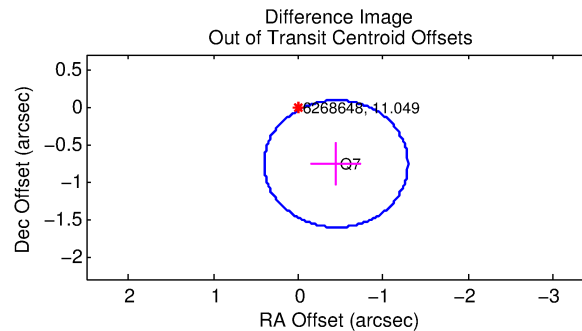
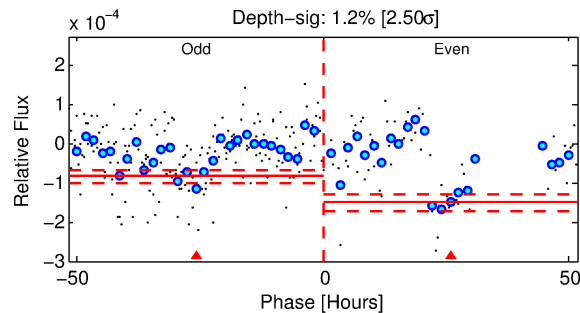
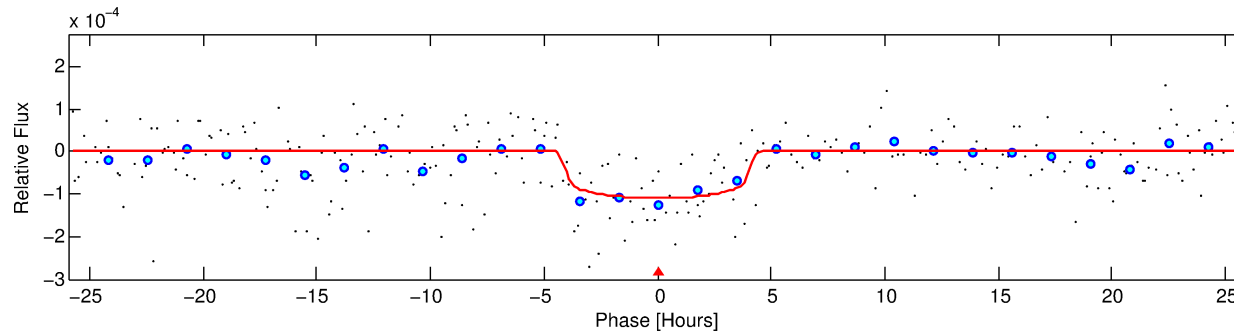
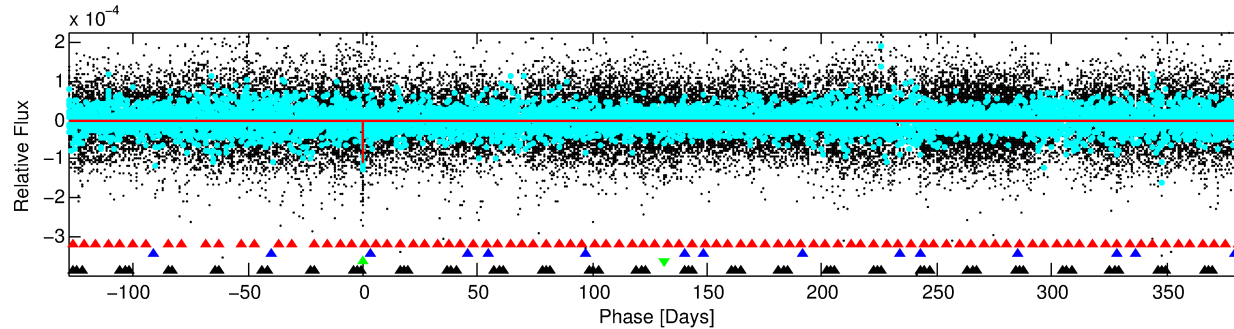
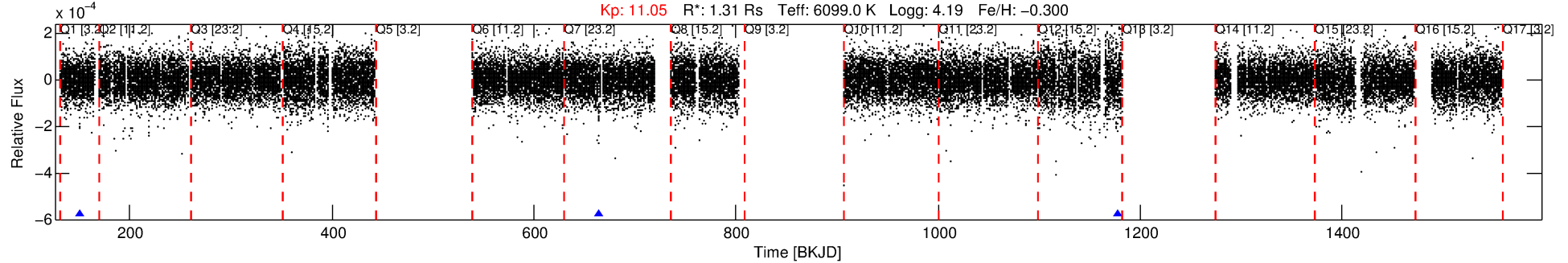
No Significant Match Found

DV One-Page Summary

KIC: 6268648 Candidate: 3 of 4 Period: 513.254 d

KOI: K01613 Corr: No Ephemeris Match

Kp: 11.05 R*: 1.31 Rs Teff: 6099.0 K Logg: 4.19 Fe/H: -0.300



DV Fit Results:

Period = 513.25449 [0.00963] d
Epoch = 150.9247 [0.0118] BKJD
Rp/R* = 0.0111 [0.0029]
a/R* = 218.87 [292.83]
b = 0.89 [0.32]
Seff = 1.37 [0.09]
Teq = 276 [5] K
Rp = 1.59 [0.42] Re
a = 1.2435 [0.0383] AU
Ag = 15891.18 [9626.69] [1.65σ]
Teffp = 4790 [727] K [6.21σ]

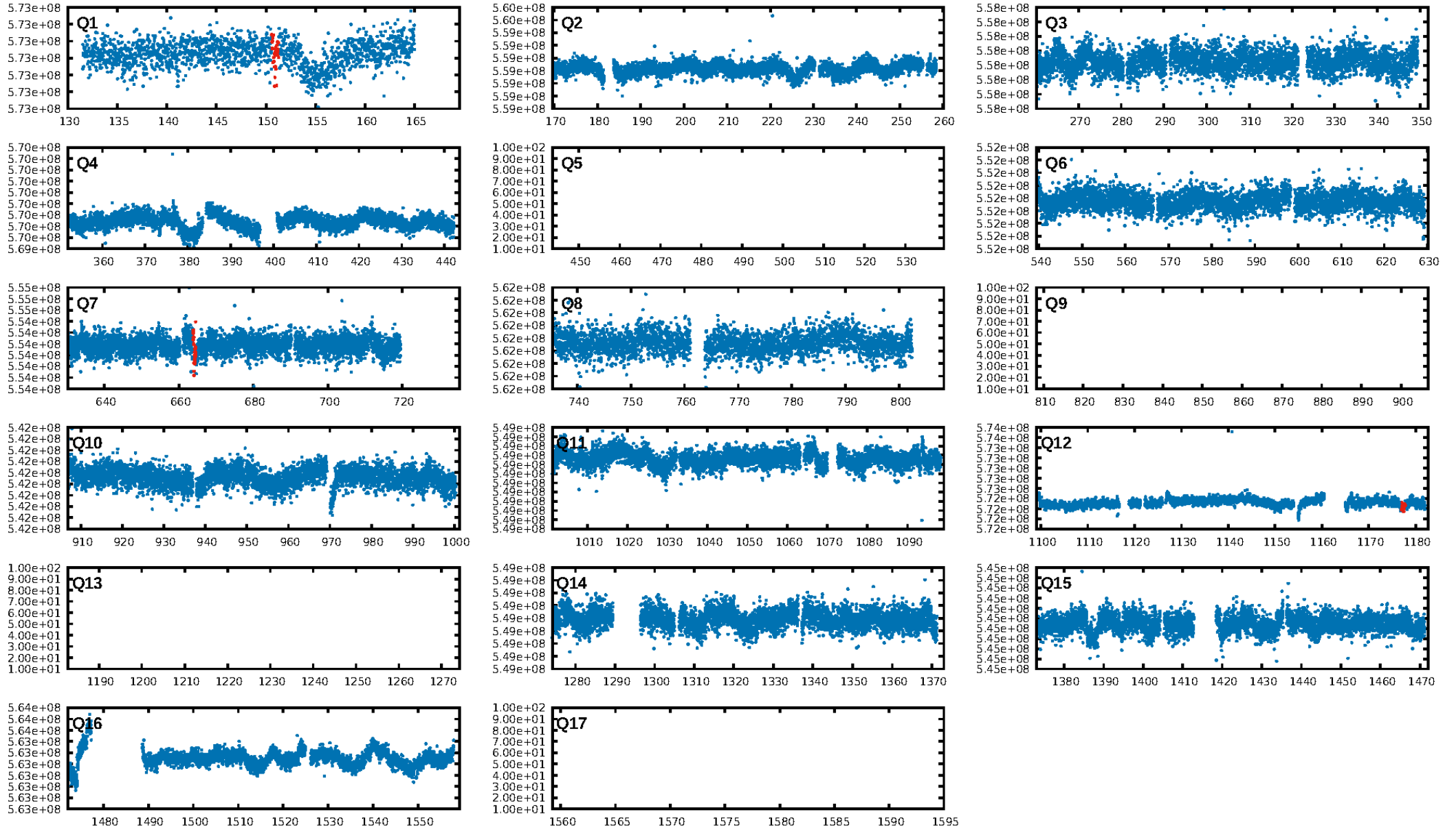
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [570.60σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.9%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 3.21e-17
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.634
Centroid-sig: 3.2%
Centroid-so: 2.354 arcsec [1.84σ]
OotOffset-rm: 0.885 arcsec [3.13σ]
KicOffset-rm: 1.031 arcsec [3.63σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.50 [1/2]

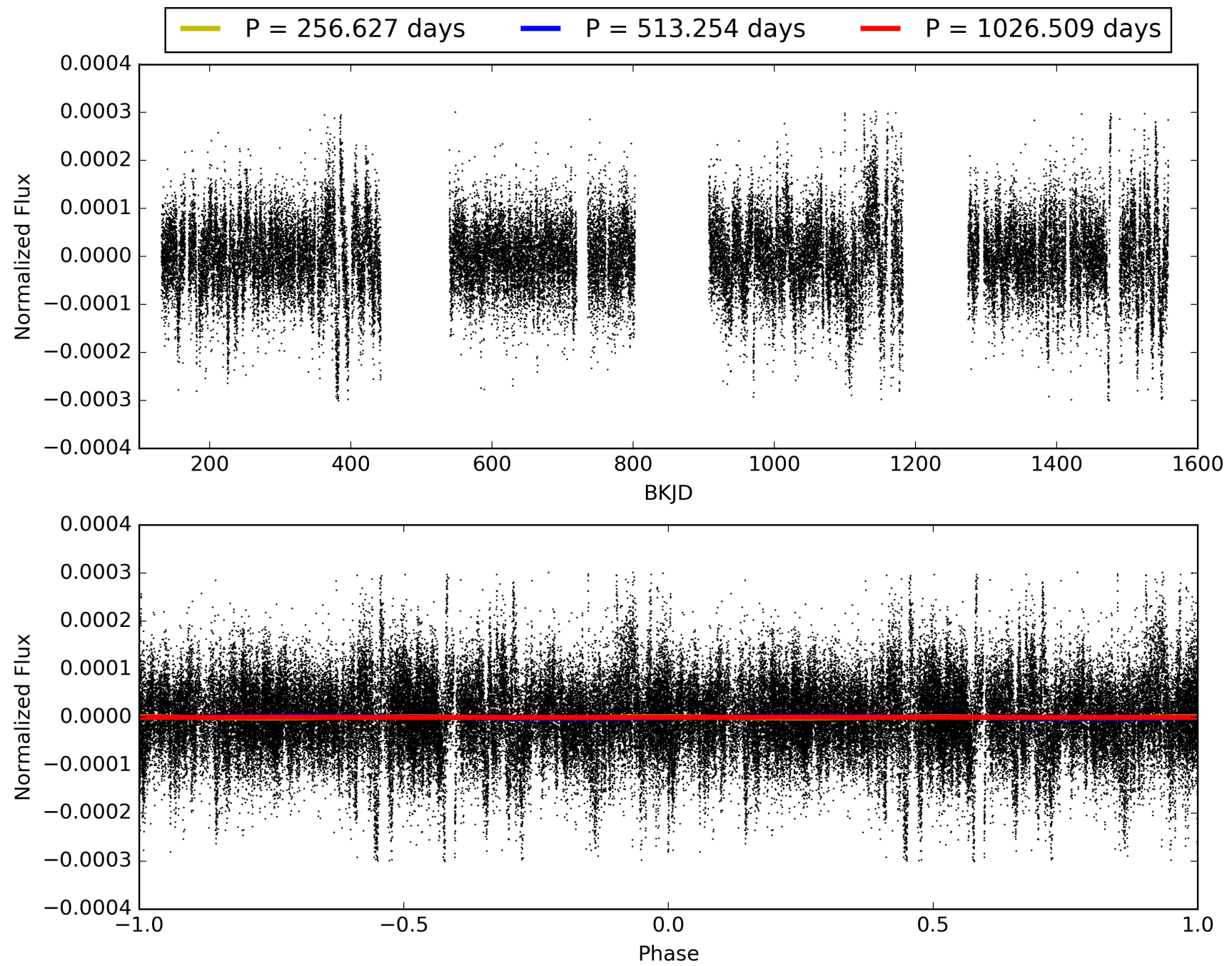
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:24:42 Z

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

TCE 006268648-03, PDC Light Curves

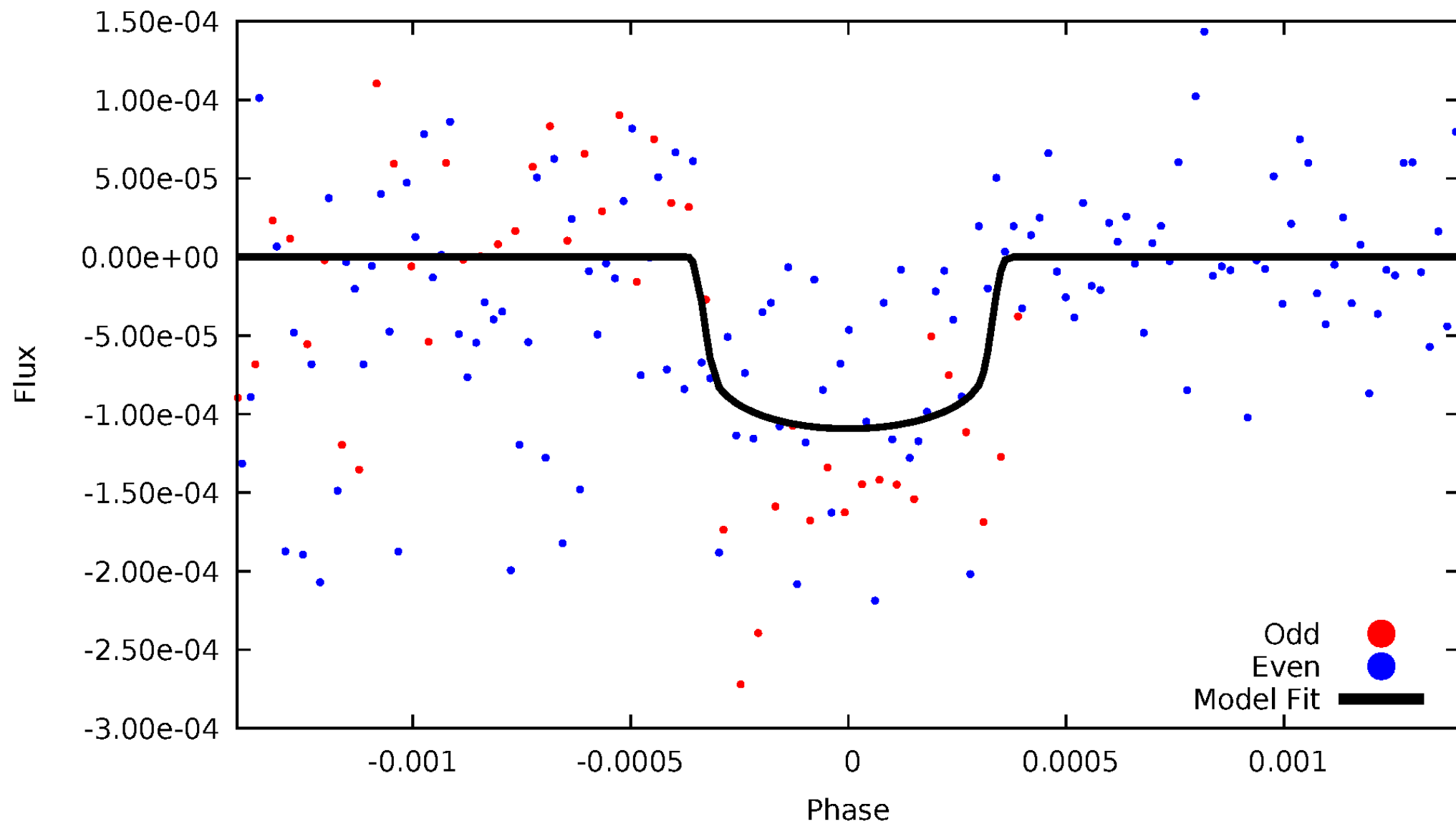


TCE 006268648-03



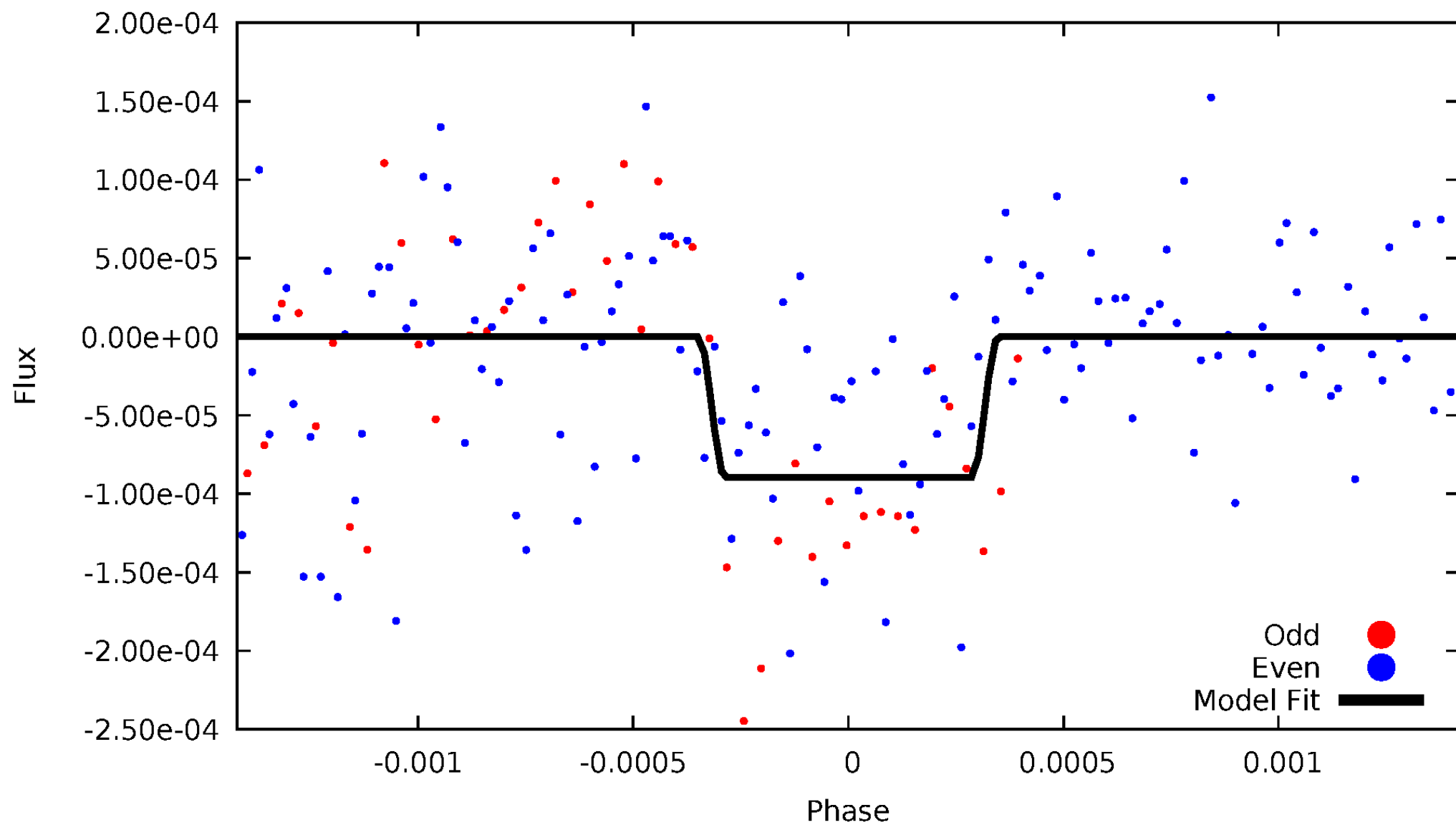
DV Odd/Even

TCE 006268648-03



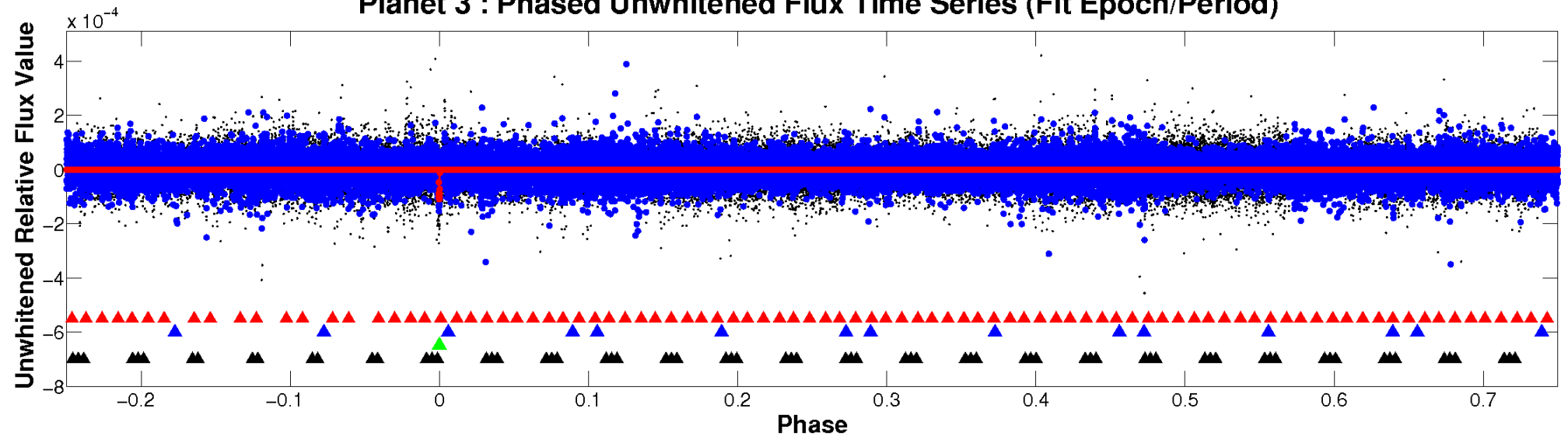
ALT Odd/Even

TCE 006268648-03

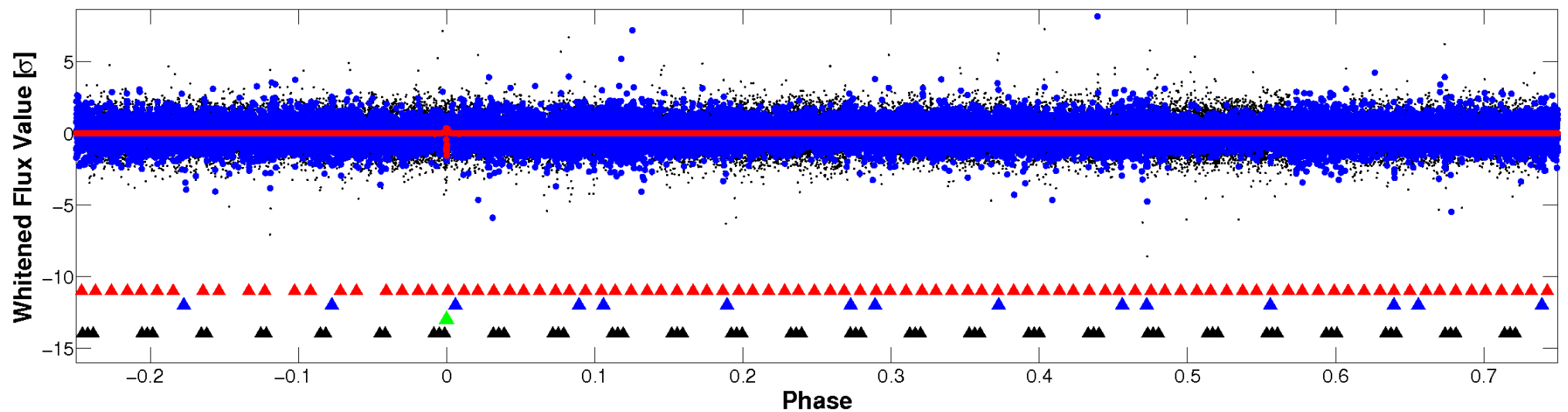


Non-Whitened Vs. Whitened Light Curve

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

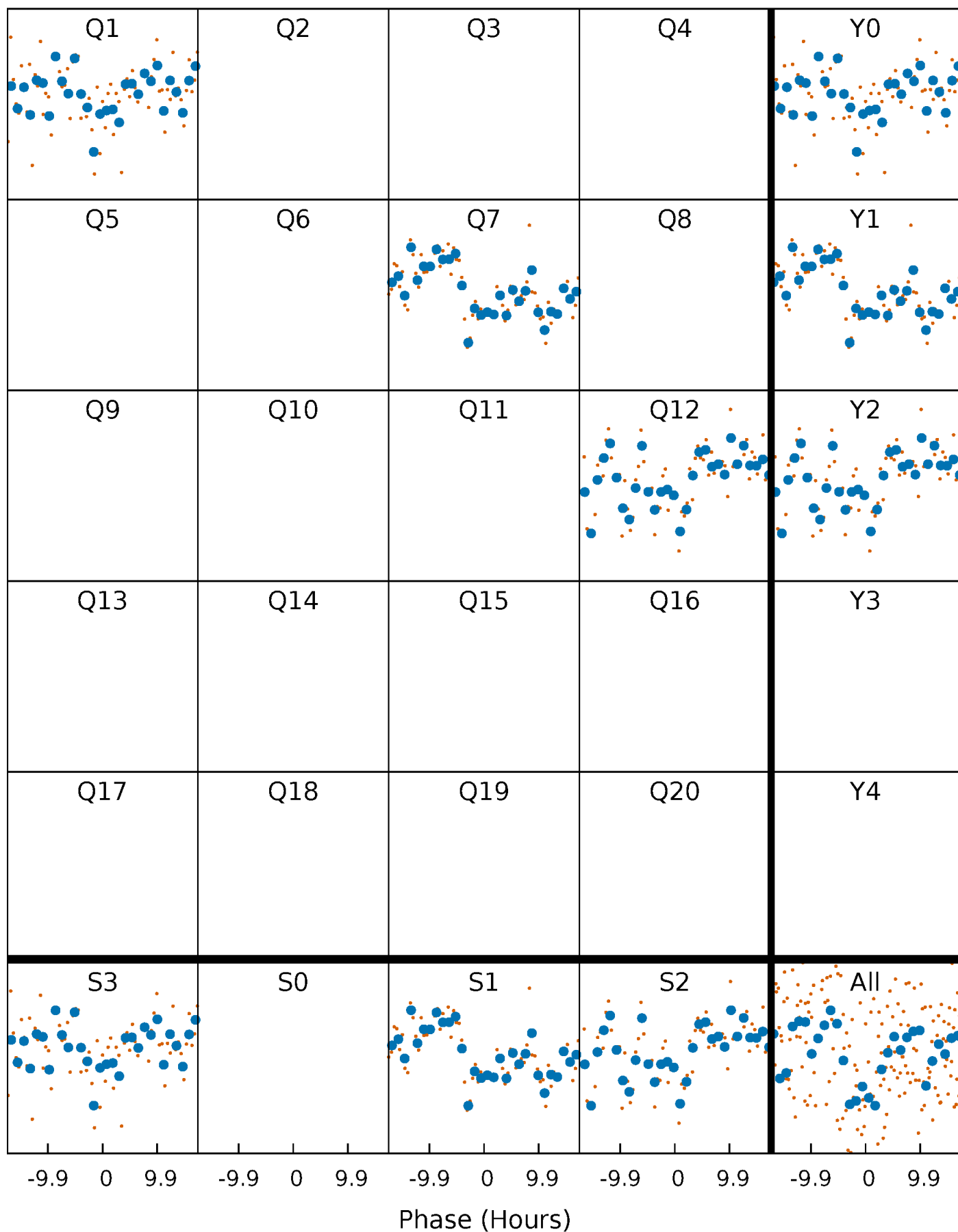


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



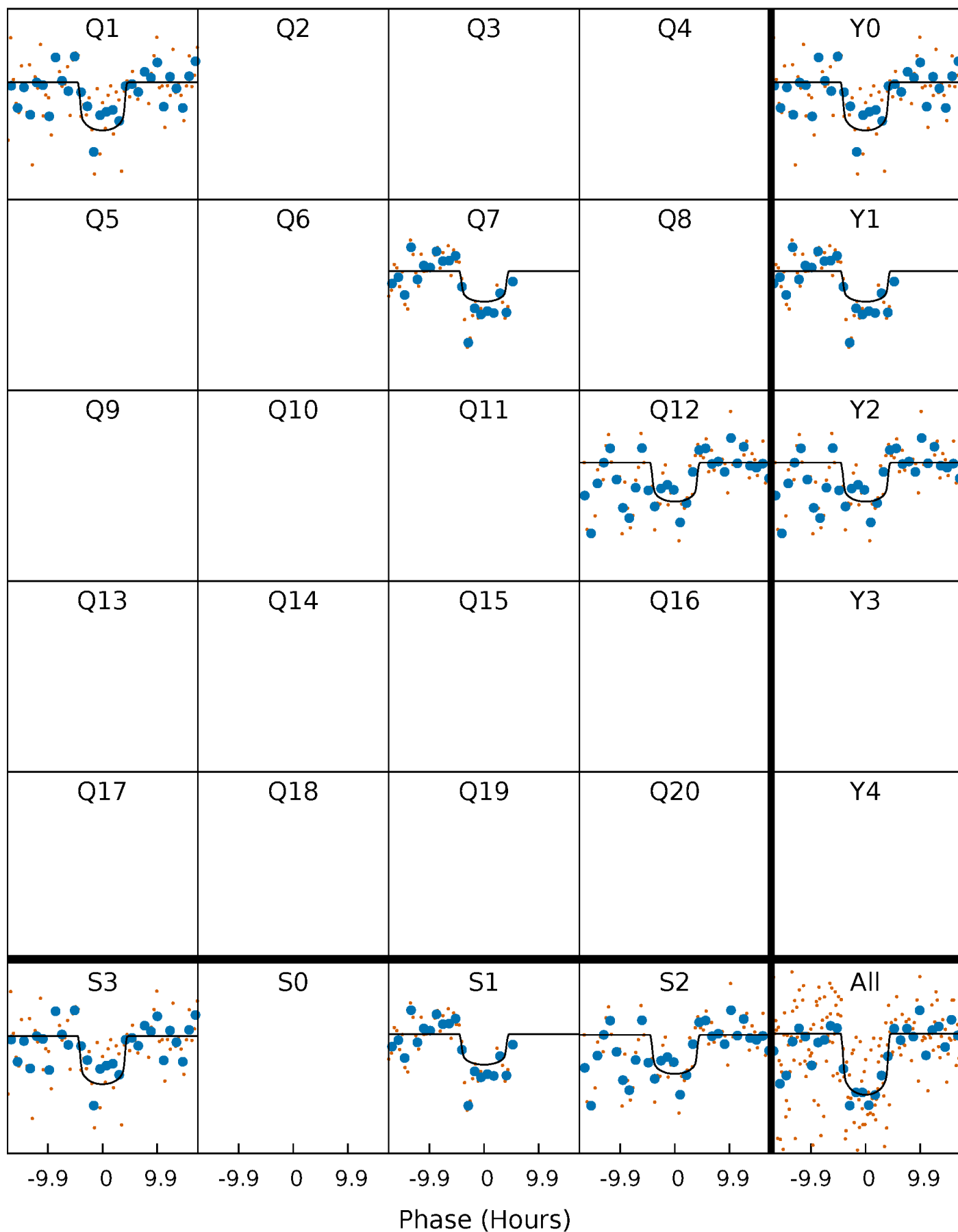
PDC Quarter-Phased Transit Curves

TCE 006268648-03 P=513.254492 Days $T_0=150.924727$ (BKJD)



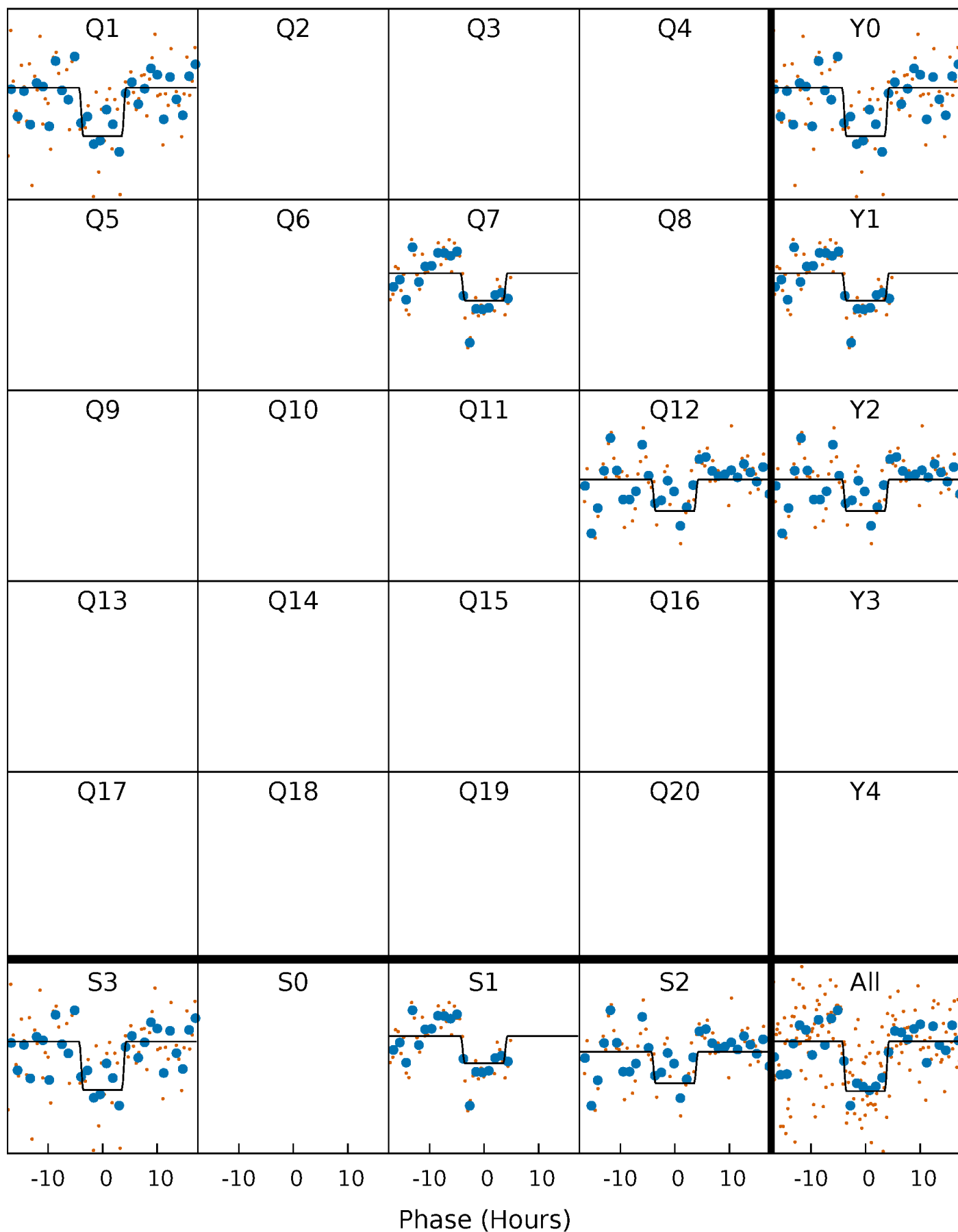
DV Quarter-Phased Transit Curves

TCE 006268648-03 $P=513.254492$ Days $T_0=150.924727$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

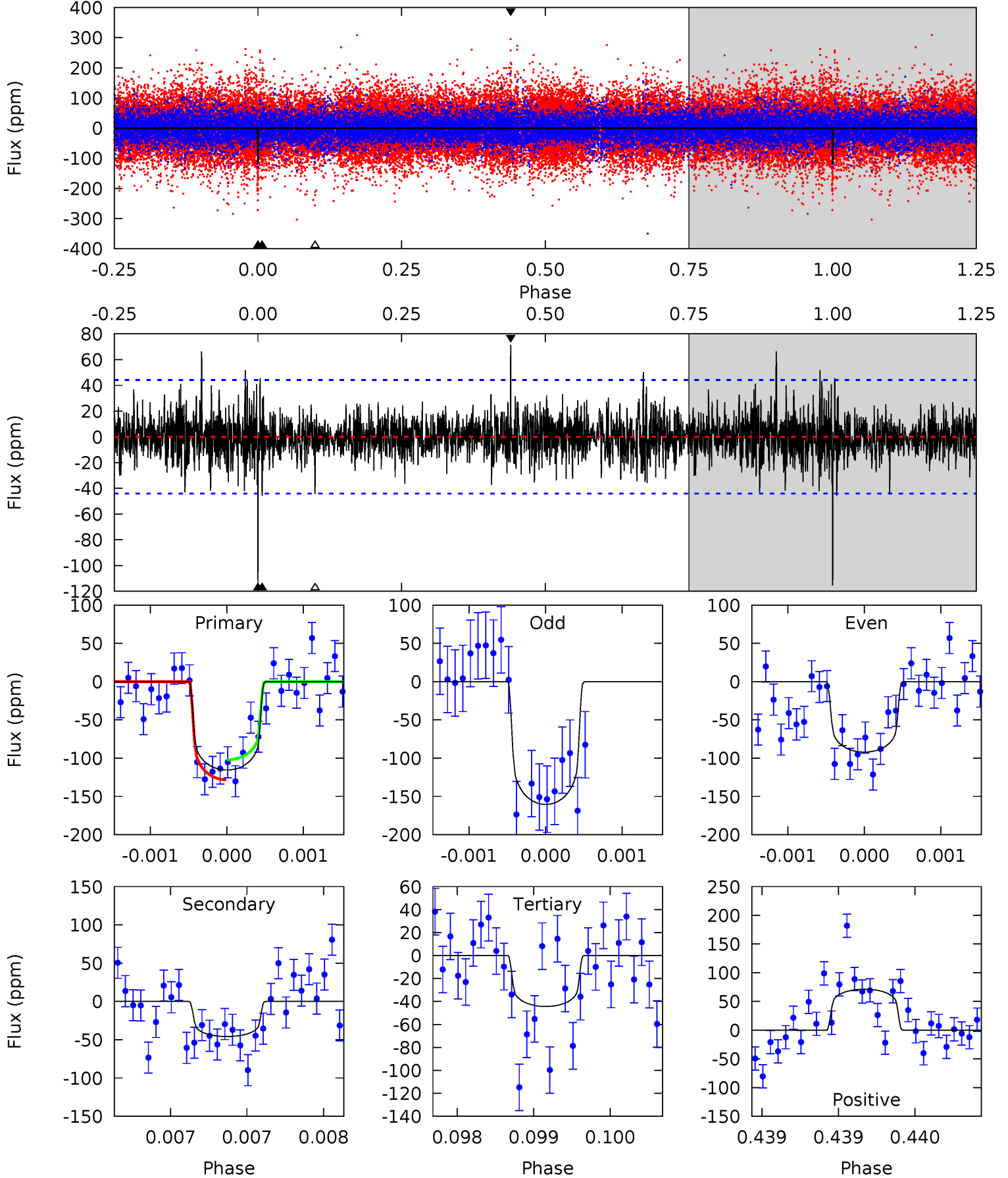
TCE 006268648-03 P=513.243349 Days $T_0=150.933703$ (BKJD)



DV Model-Shift Uniqueness Test

006268648-03, P = 513.254492 Days, E = 150.924727 Days

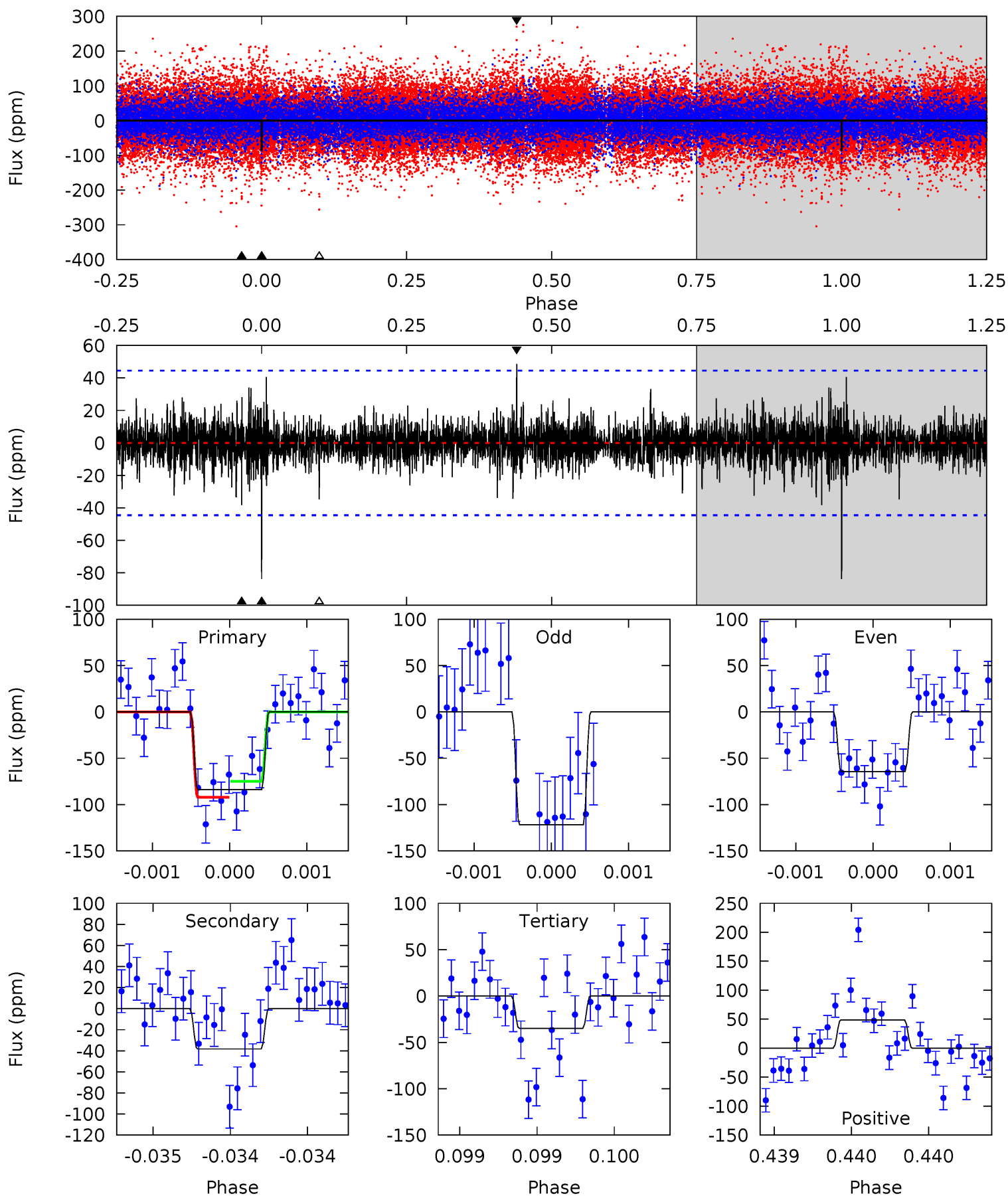
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	5.72	5.54	8.91	5.50	3.37	1.50	8.87	5.51	0.17	-3.19	4.05	1.17	0.38	1.63



Alt Model-Shift Uniqueness Test

006268648-03, P = 513.243349 Days, E = 150.933703 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	4.74	4.31	6.03	5.52	3.39	1.01	6.08	4.36	0.43	-1.29	3.38	1.10	0.37	1.07



Stellar Parameters For KIC 006268648

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6099^{+79}_{-85}	$4.193^{+0.016}_{-0.018}$	$-0.300^{+0.150}_{-0.150}$	$1.308^{+0.054}_{-0.054}$	$0.974^{+0.071}_{-0.064}$	$0.613^{+0.044}_{-0.041}$
	+1%/-1%	+0%/-0%	+50%/-50%	+4%/-4%	+7%/-7%	+7%/-7%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 006268648-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-46 ± 8	$1.59^{+0.42}_{-0.41}$	386^{+6}_{-6}	4871^{+670}_{-452}	15454^{+12367}_{-6066}
Alt.	-38 ± 8	$1.35^{+0.41}_{-0.41}$	386^{+6}_{-6}	5015^{+881}_{-568}	17714^{+18256}_{-8015}

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

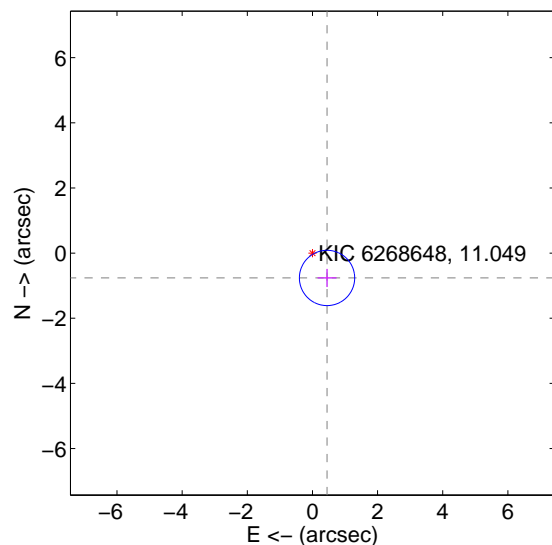
Supplemental centroid analysis for 006268648-03. **Kepler magnitude: 11.05.** Transit SNR 8.21

There are 1 quarters with good PRF difference image offsets

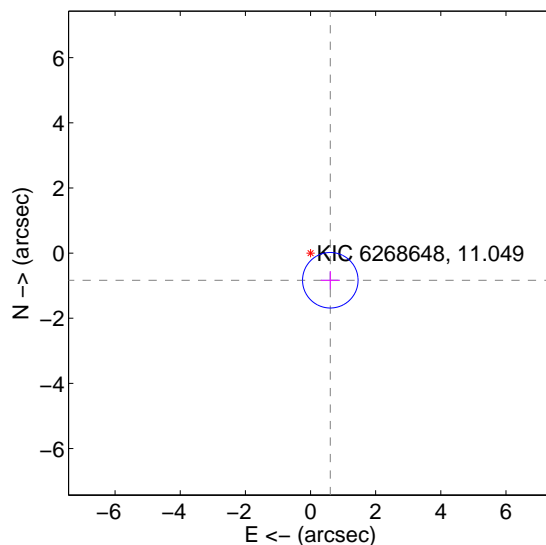
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.885 ± 0.283	3.13	-0.448 ± 0.292	-0.763 ± 0.280
PRF-fit source offset from KIC position	1.031 ± 0.284	3.63	-0.607 ± 0.292	-0.833 ± 0.280
photometric centroid source offset	2.35 ± 1.28	1.84	-2.20 ± 1.27	0.82 ± 1.32

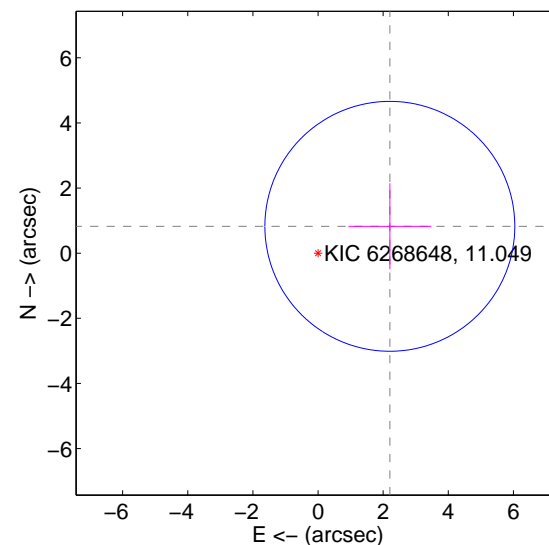
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

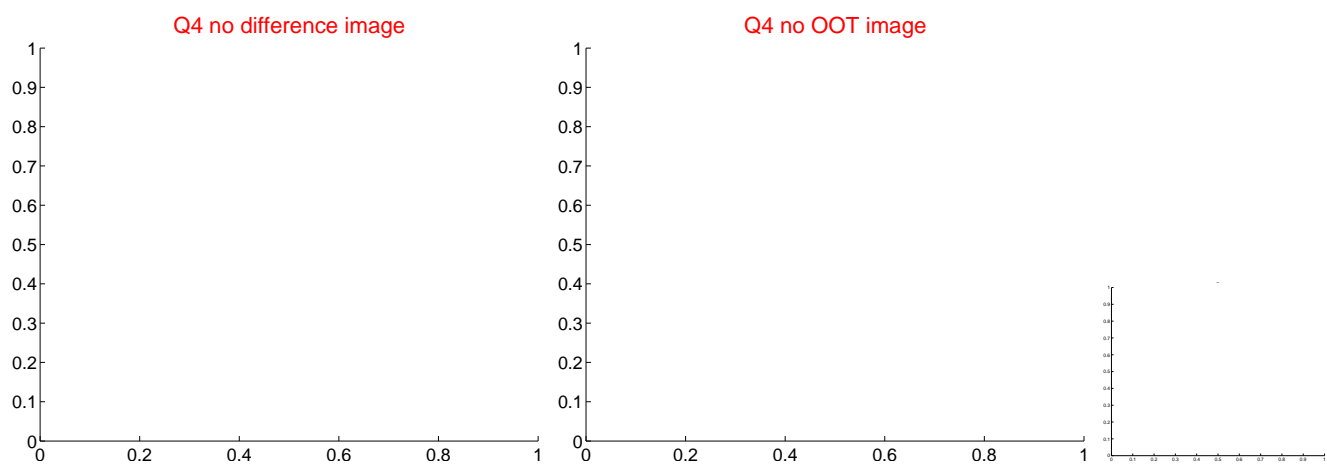
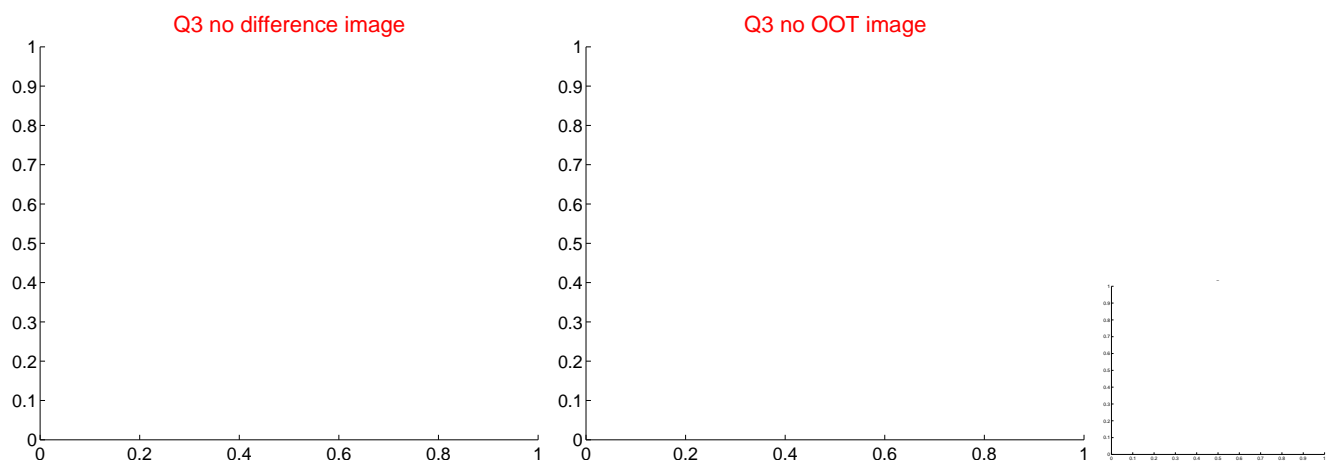
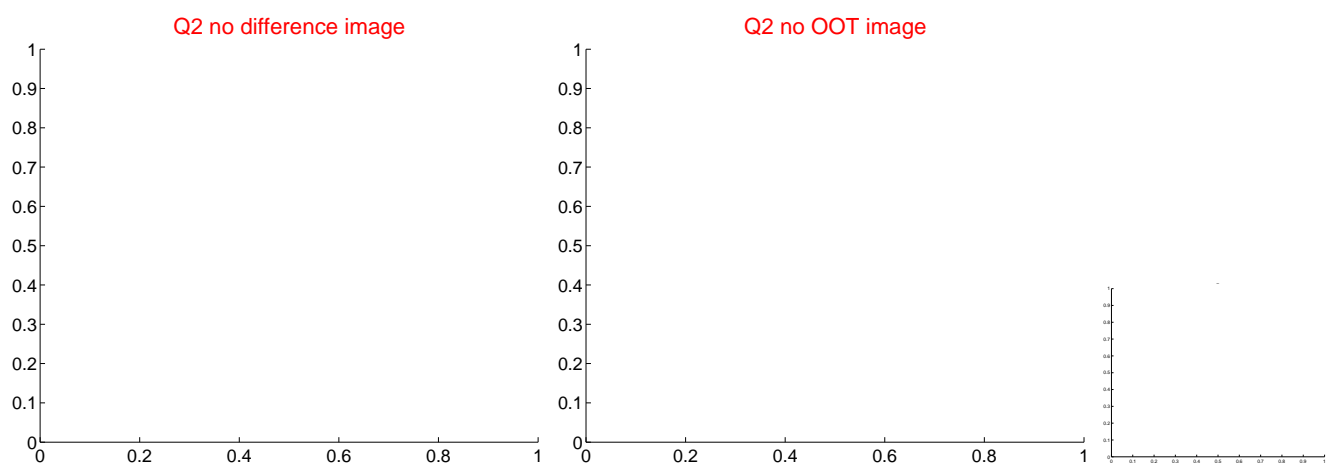
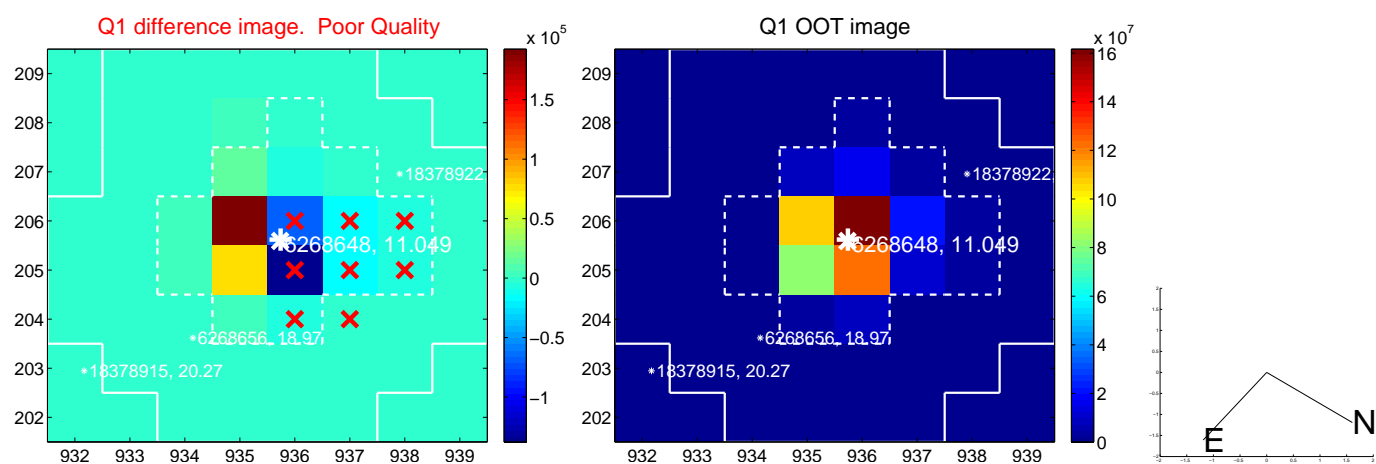


offset from photometric centroids



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

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



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

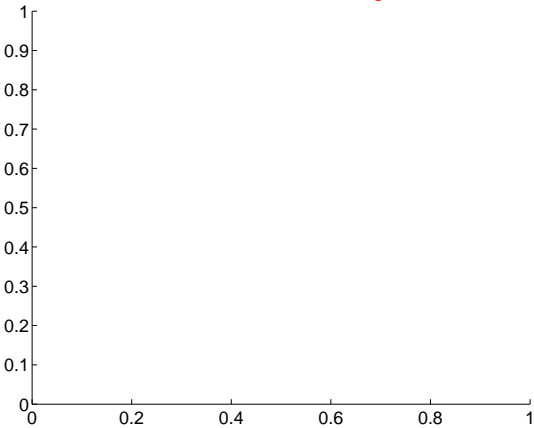
Q5 no difference image



Q5 no OOT image



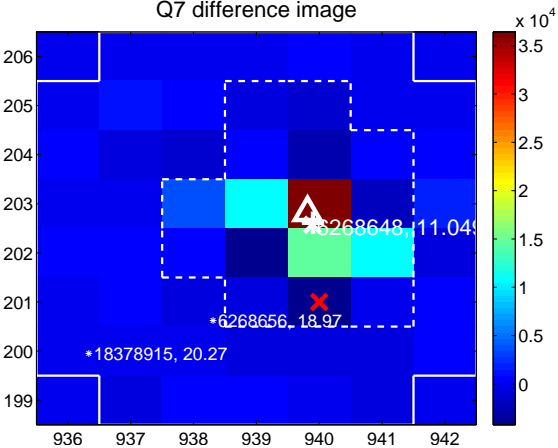
Q6 no difference image



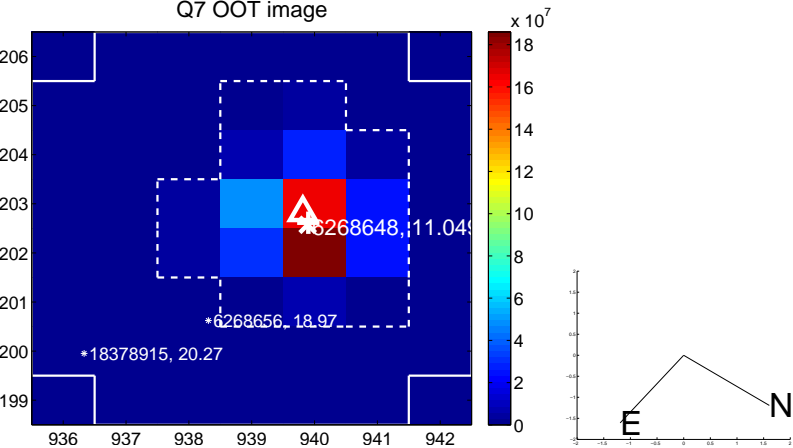
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



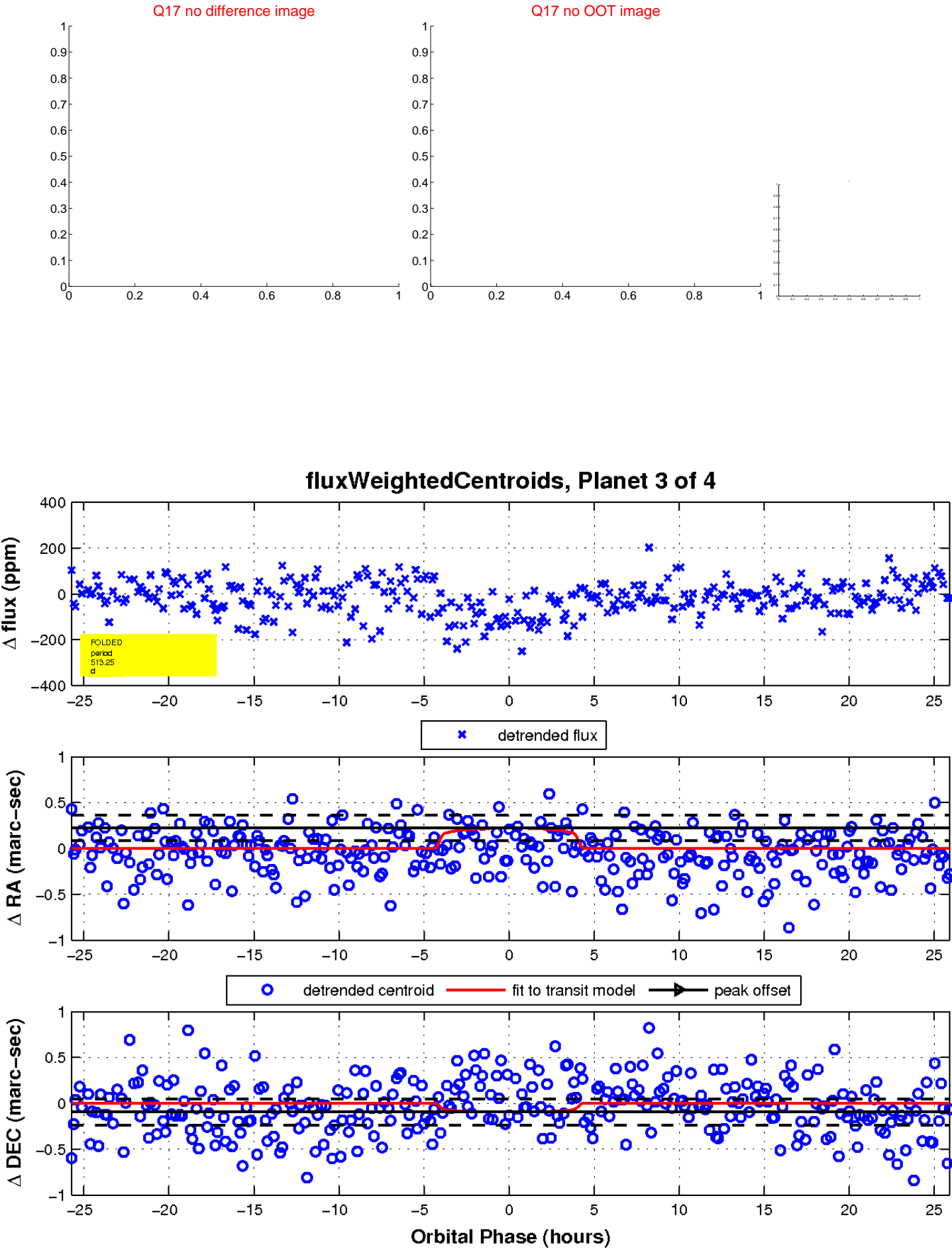
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

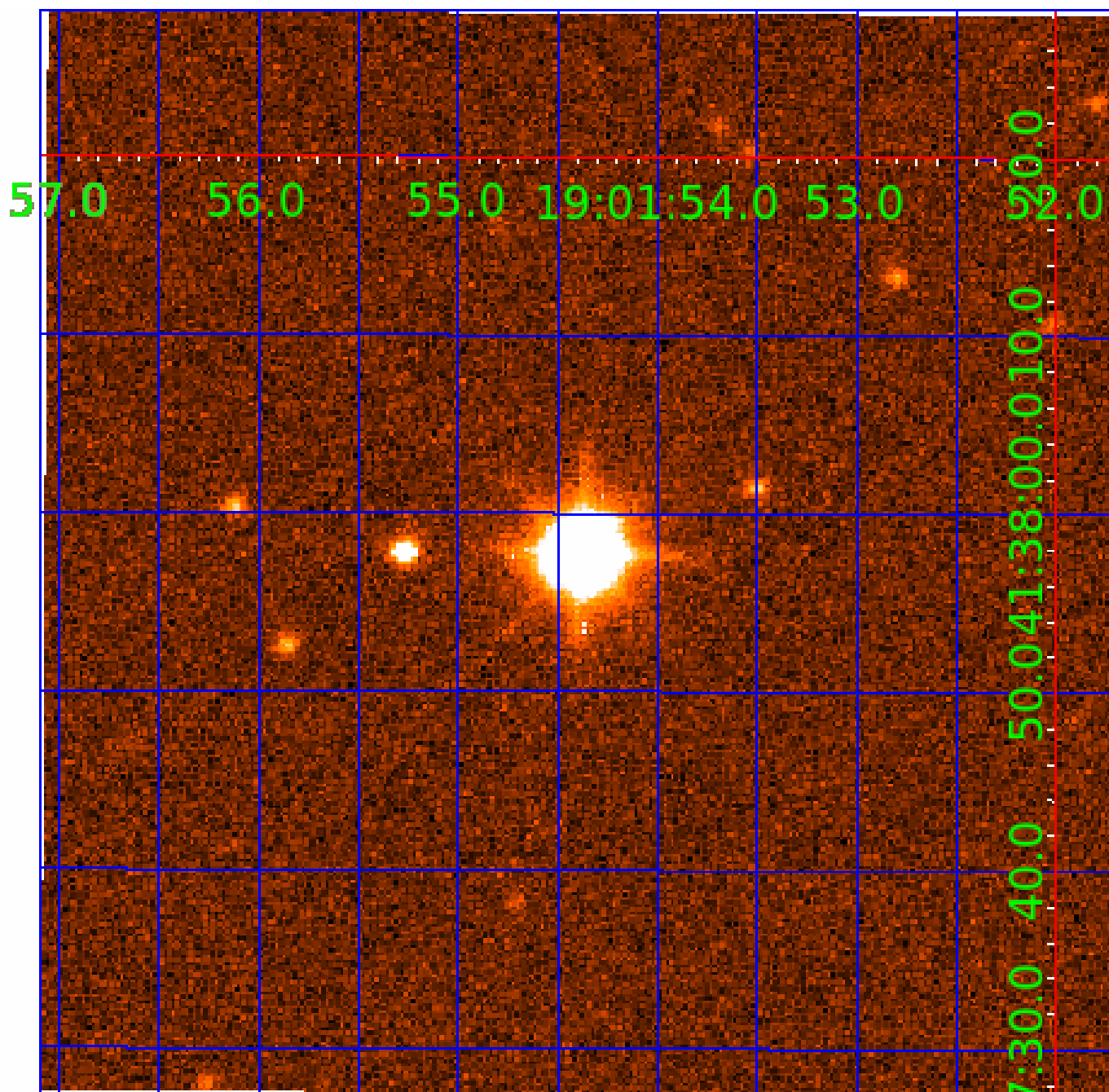


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006268648

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})
006268648-01	OBS	1613.01	15.866246	141.086995	76.5	4.317	22.0	22.9	1.31	6099	1.32	141.37
006268648-02	OBS	1613.02	94.088466	196.801493	53.9	15.367	9.0	8.7	1.31	6099	1.04	13.17
006268648-03	OBS	No	513.254492	150.924727	109.3	8.642	8.9	8.2	1.31	6099	1.59	1.37
006268648-04	OBS	1613.03	20.605460	146.512665	38.7	3.596	8.1	9.1	1.31	6099	0.95	99.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006268648-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
006268648-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006268648-04	OBS	PC	0.99	0	0	0	0	CENT_SATURATED

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

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

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

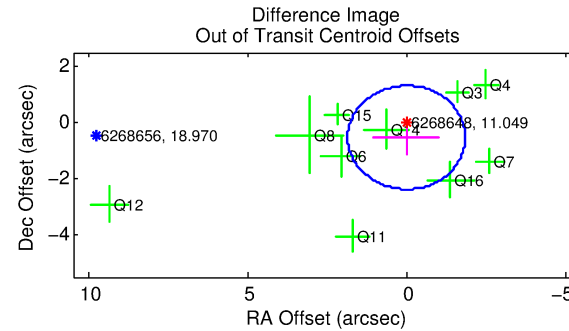
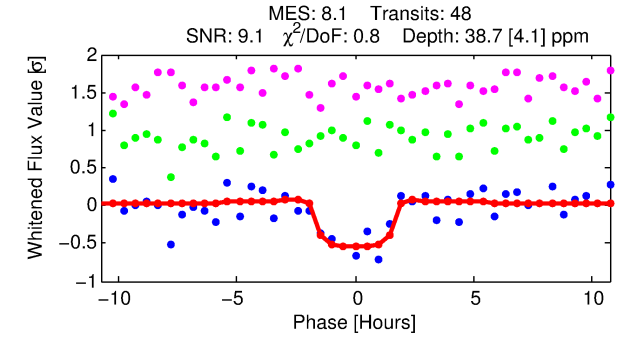
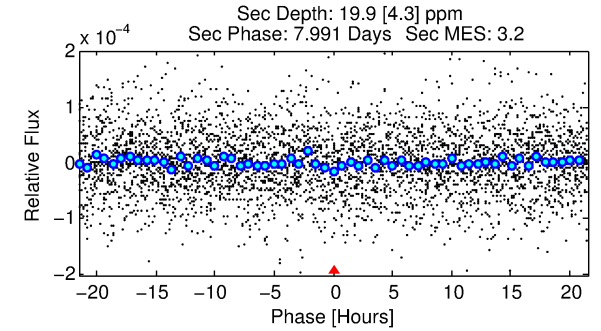
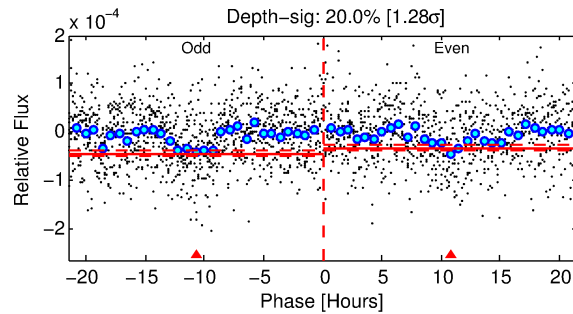
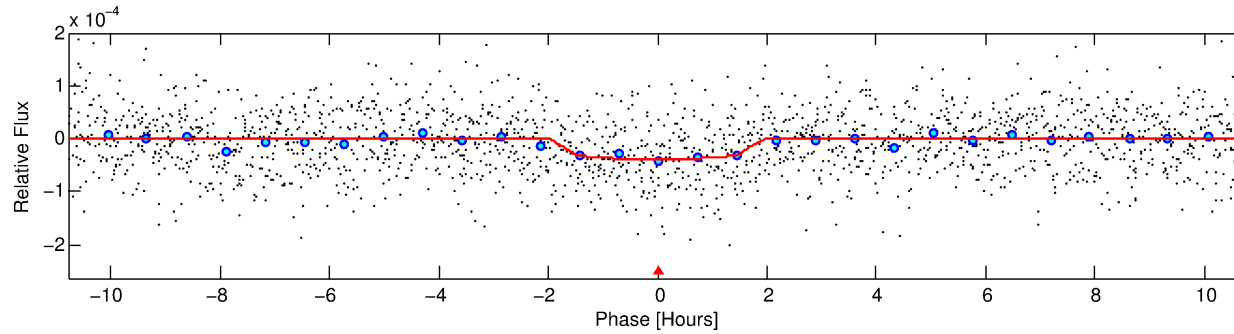
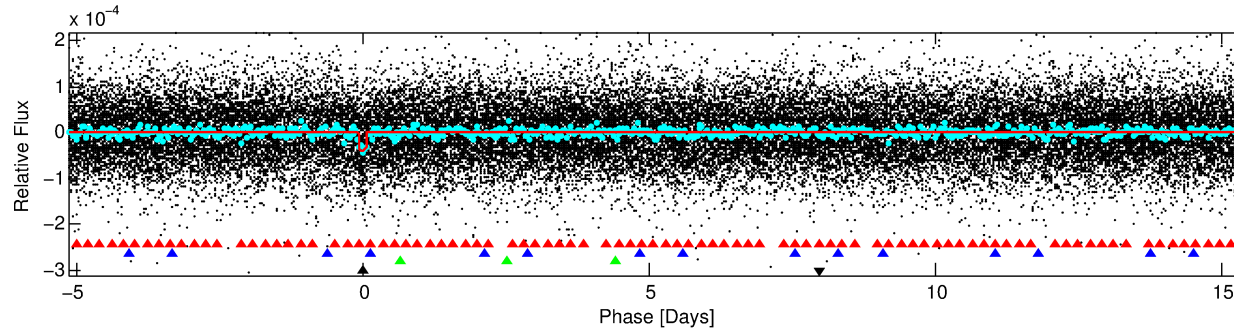
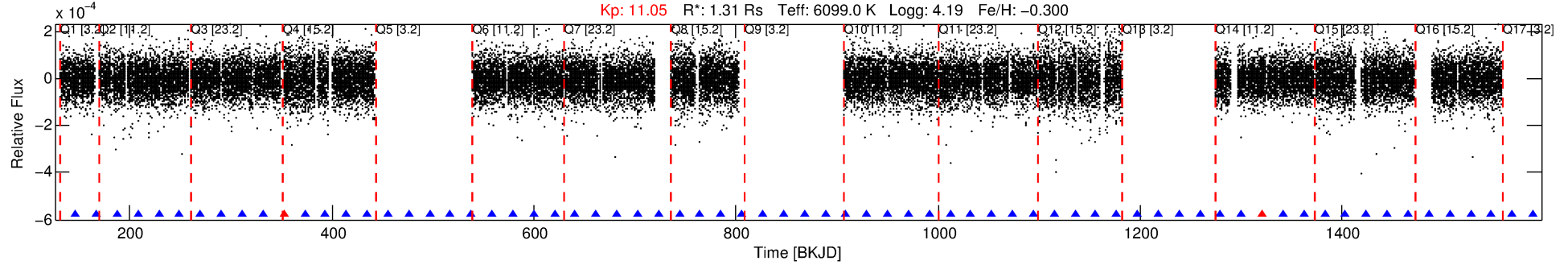
Ephemeris Match Information For 006268648-04

No Significant Match Found

DV One-Page Summary

KIC: 6268648 Candidate: 4 of 4 Period: 20.605 d
KOI: K01613 Corr: No Ephemeris Match

Kp: 11.05 R*: 1.31 Rs Teff: 6099.0 K Logg: 4.19 Fe/H: -0.300



DV Fit Results:

Period = 20.60546 [0.00017] d
Epoch = 146.5127 [0.0072] BKJD
Rp/R* = 0.0067 [0.0033]
a/R* = 20.34 [53.79]
b = 0.89 [0.61]
Seff = 99.78 [6.79]
Teq = 806 [14] K
Rp = 0.95 [0.47] Re
a = 0.1458 [0.0045] AU
Ag = 257.26 [257.94] [0.99σ]
Teff = 4990 [1252] K [3.34σ]

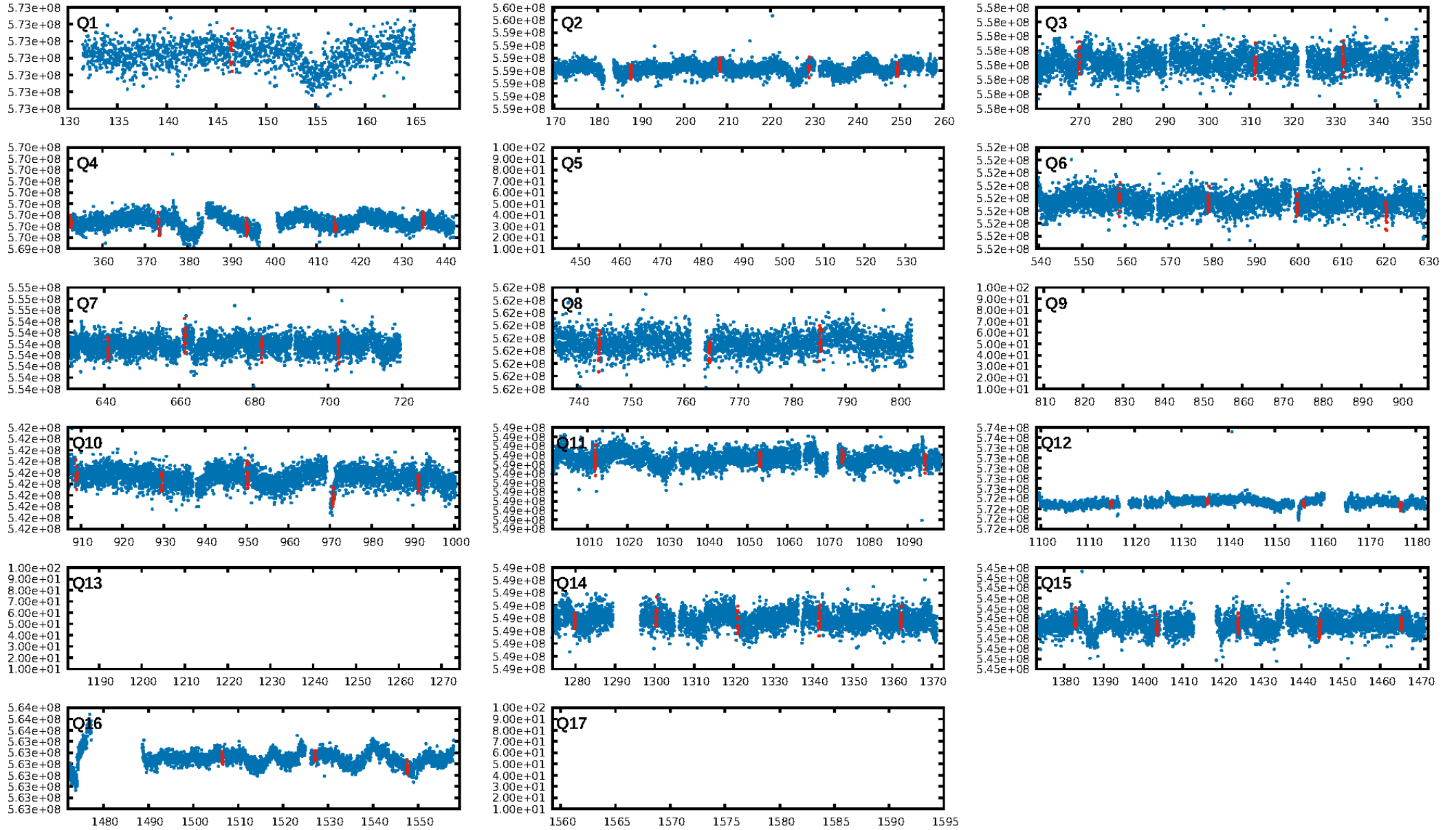
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.25σ]
LongPeriod-sig: 100.0% [111.75σ]
ModelChiSquare2-sig: 98.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.40e-15
RollingBand-fgt: 0.96 [45/47]
GhostDiagnostic-chr: 6.412
Centroid-sig: 20.5%
Centroid-so: 0.999 arcsec [0.85σ]
OotOffset-rm: 0.533 arcsec [0.87σ]
OotOffset-st: 2/4/4/0 [10]
KicOffset-rm: 0.630 arcsec [0.95σ]
KicOffset-st: 2/4/4/0 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [13/13]

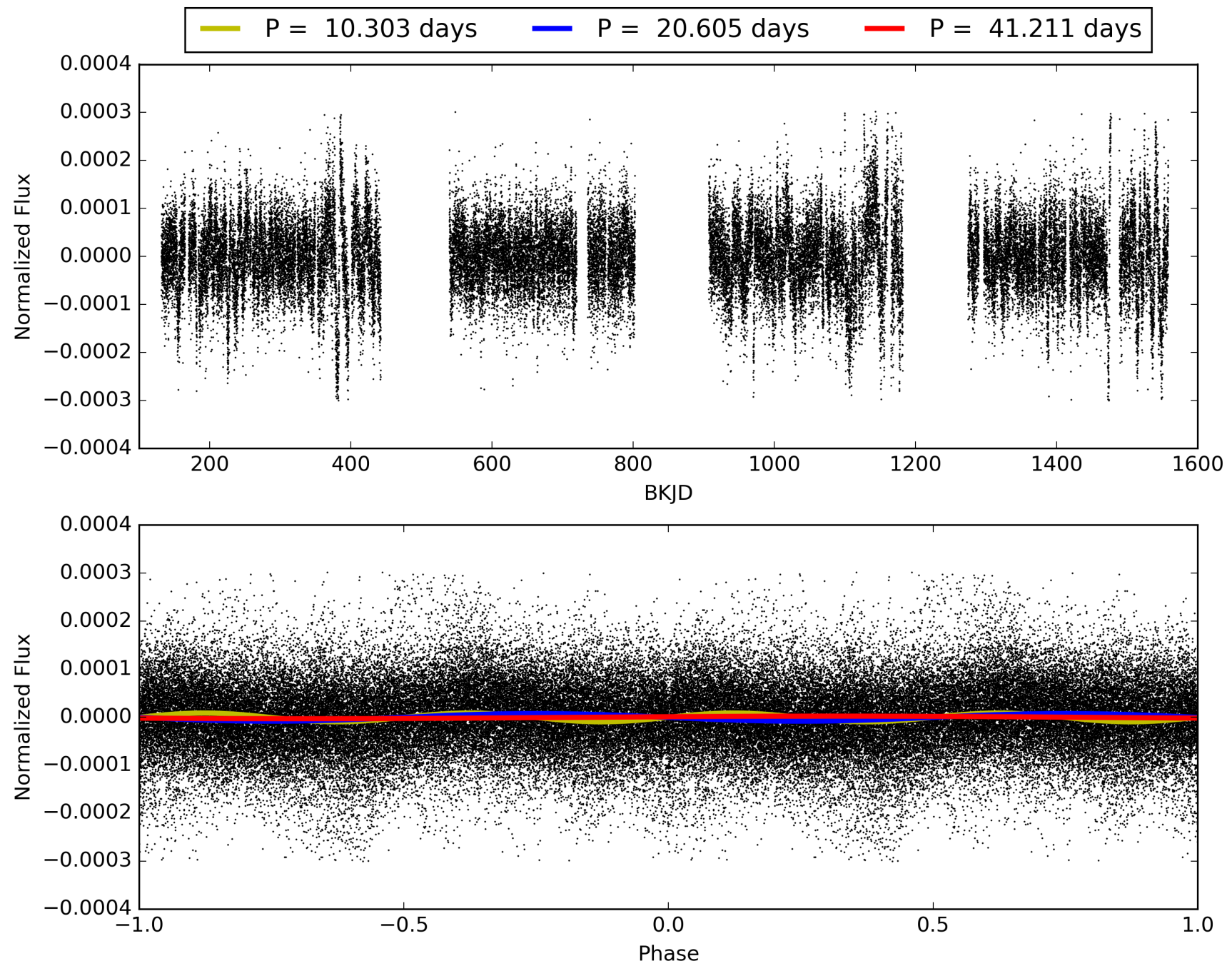
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:24:48 Z

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

TCE 006268648-04, PDC Light Curves

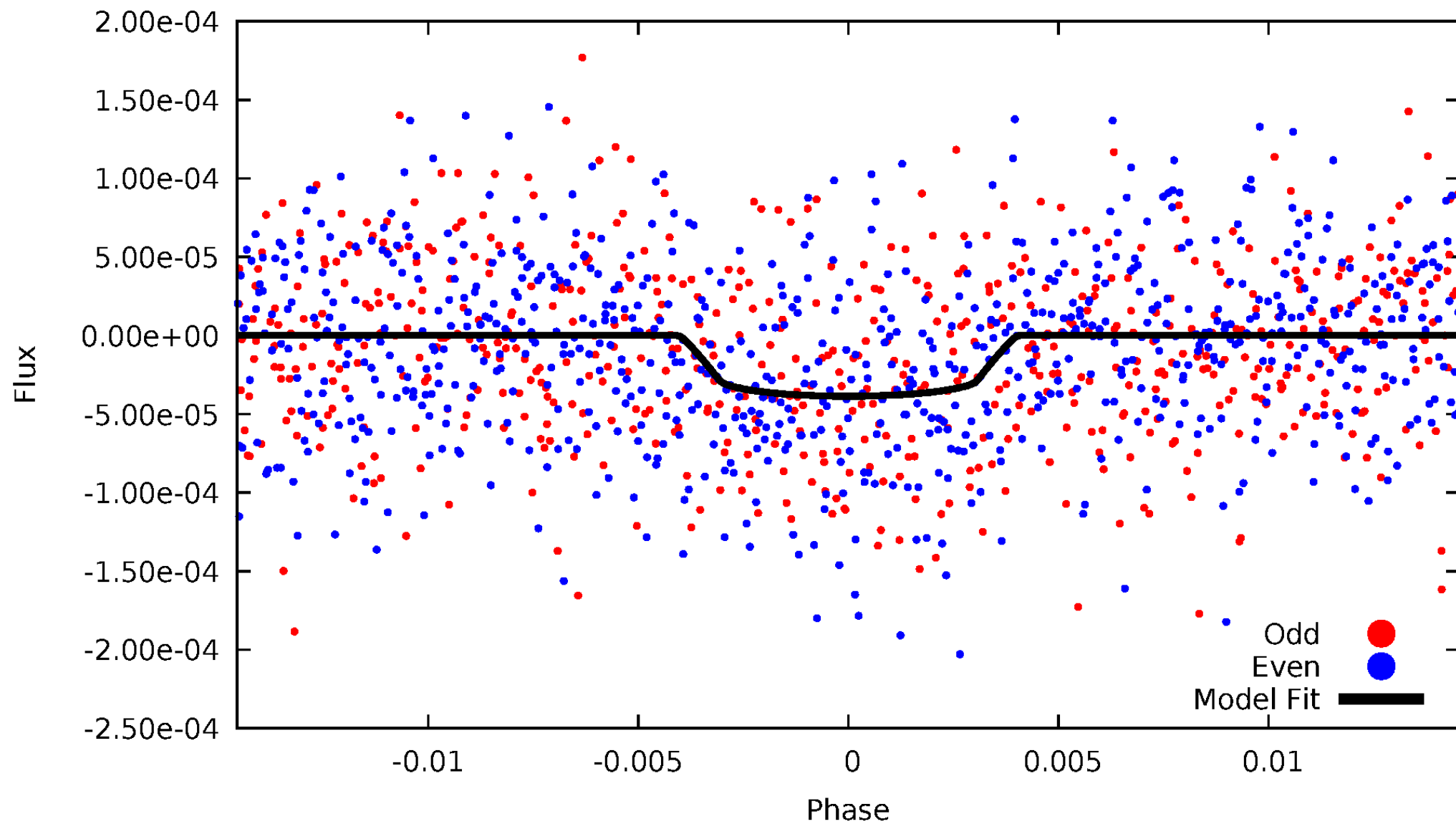


TCE 006268648-04



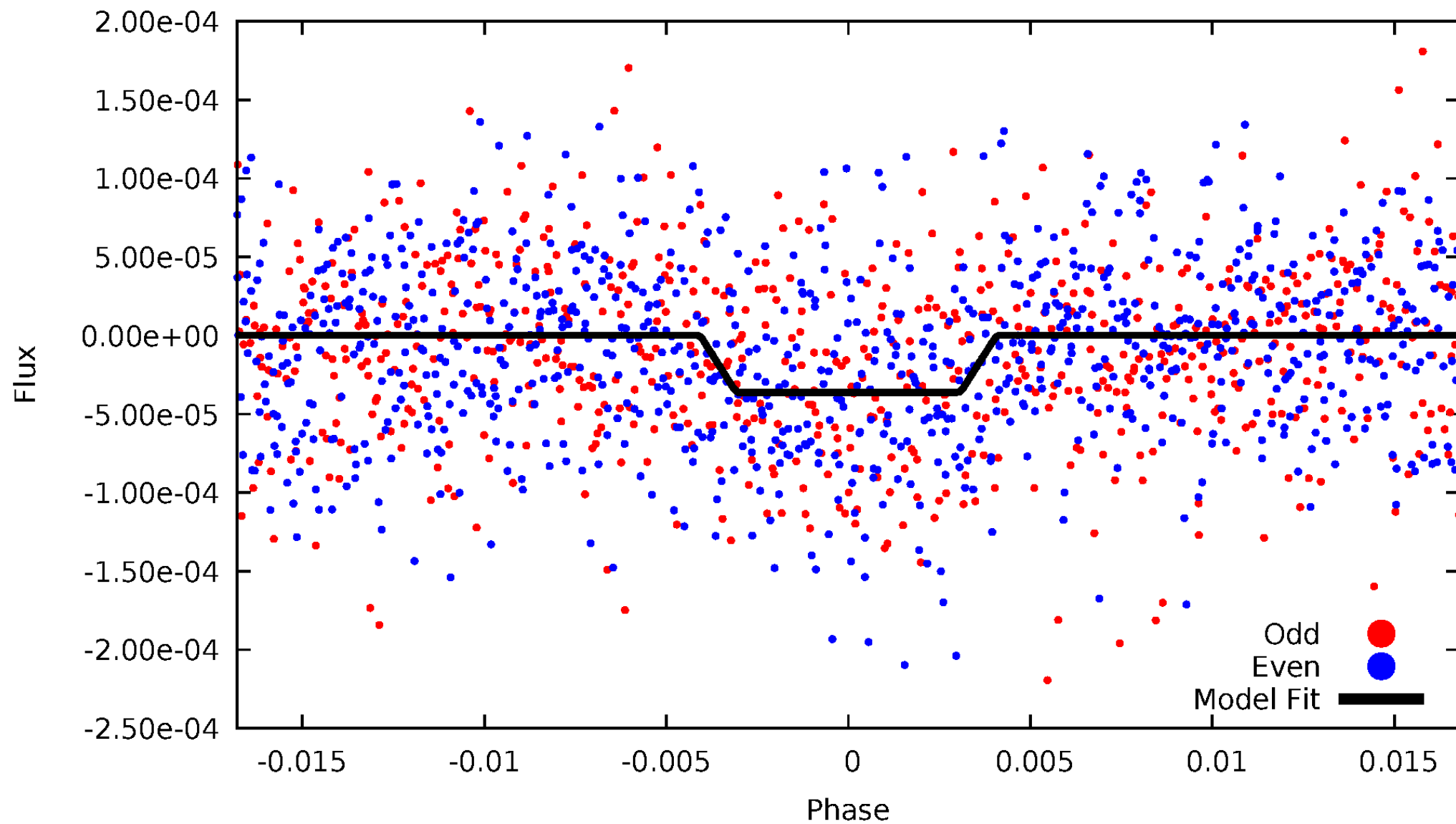
DV Odd/Even

TCE 006268648-04



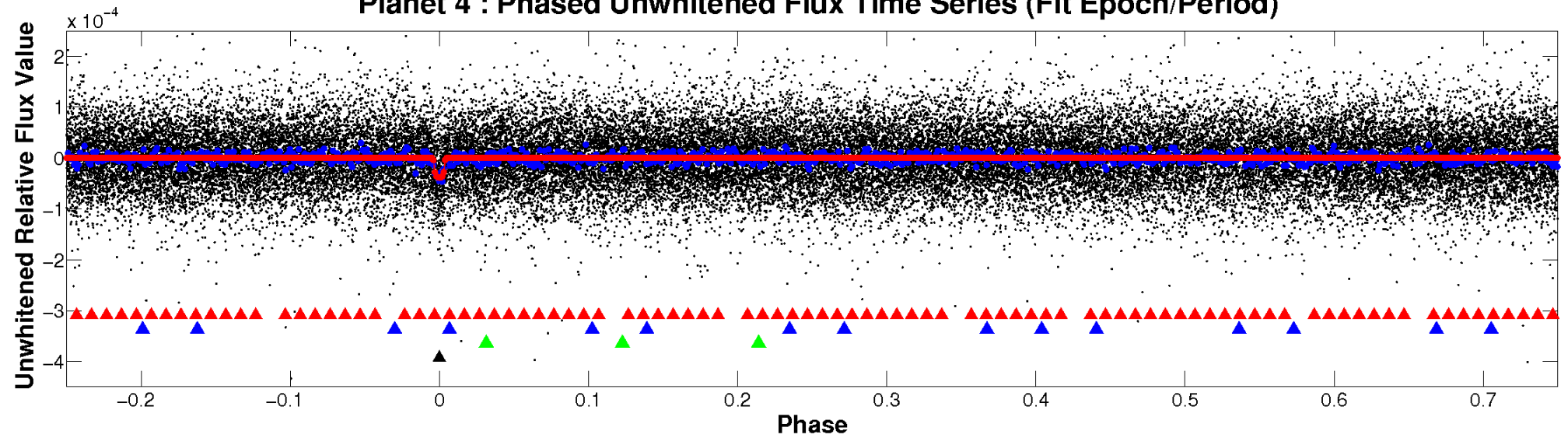
ALT Odd/Even

TCE 006268648-04

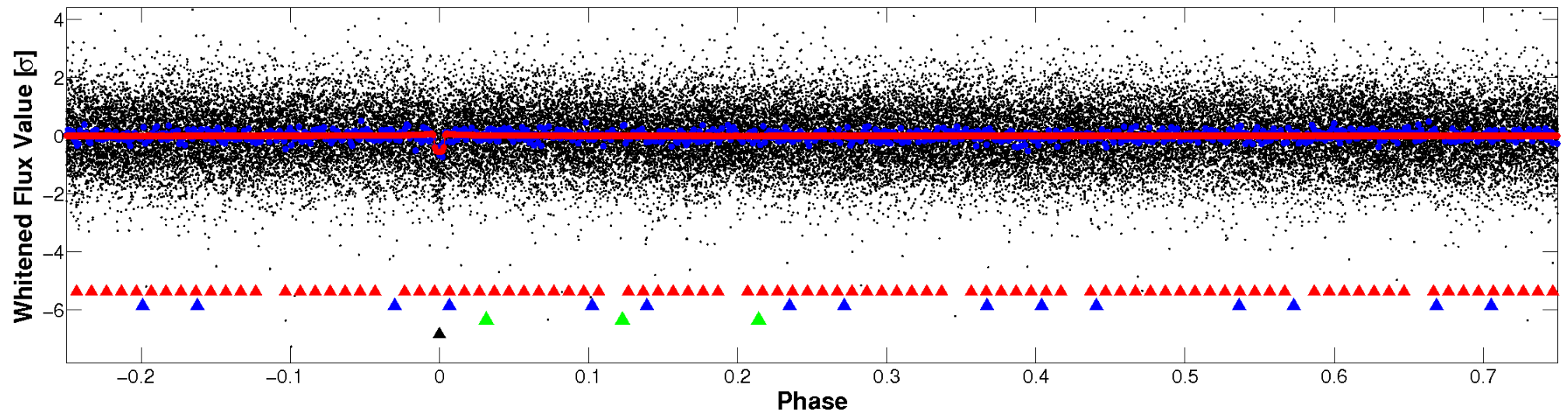


Non-Whitened Vs. Whitened Light Curve

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

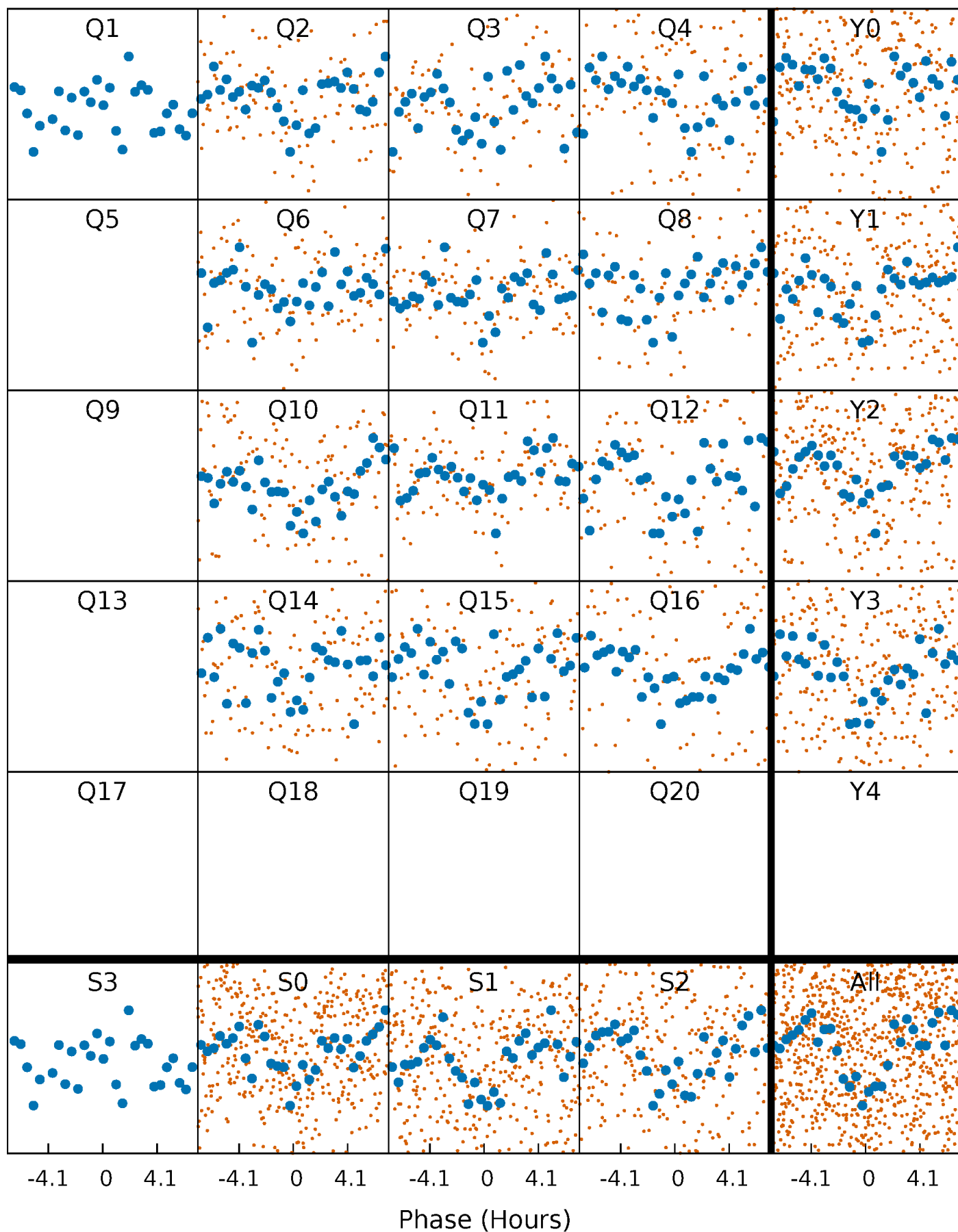


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



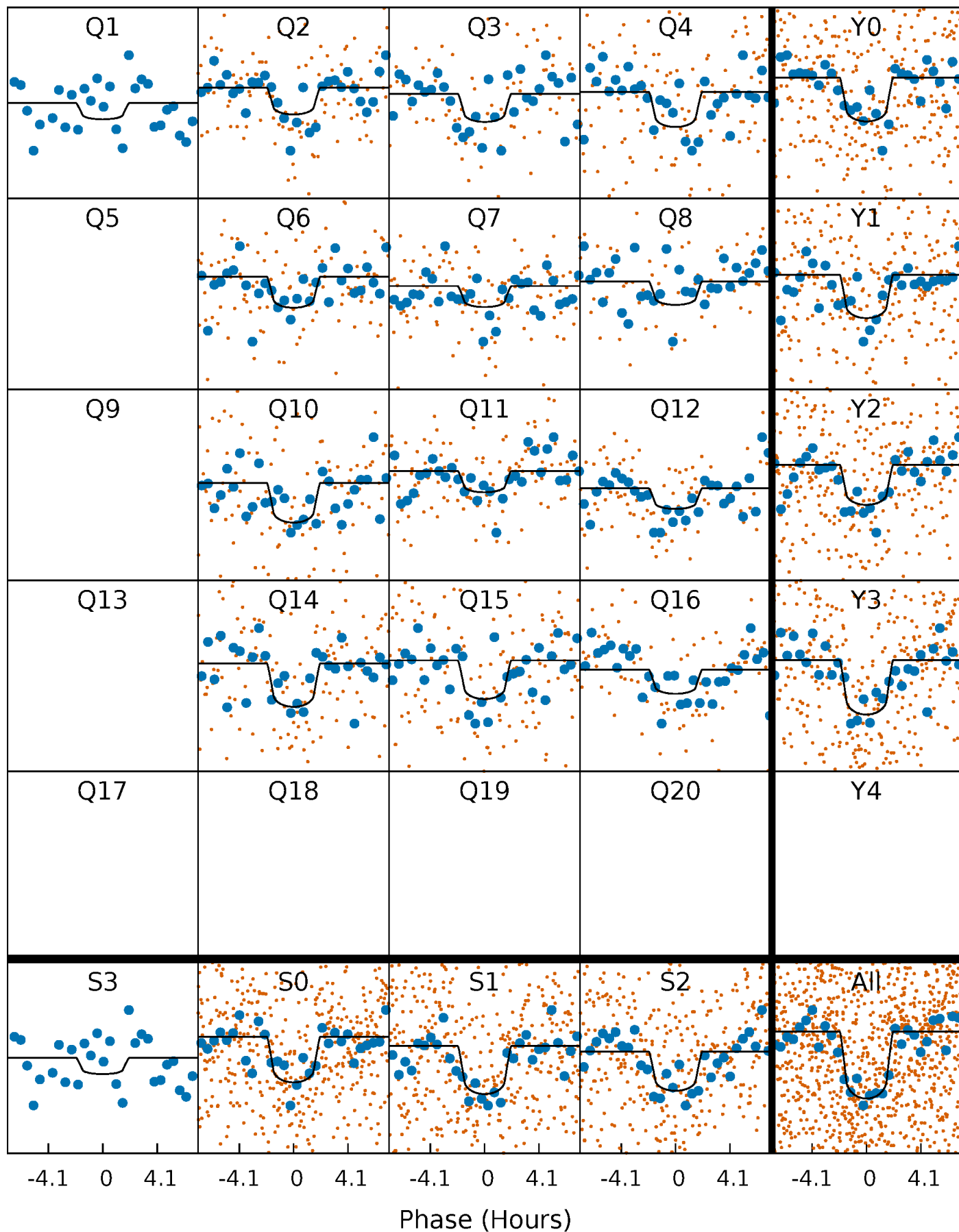
PDC Quarter-Phased Transit Curves

TCE 006268648-04 P= 20.605460 Days $T_0=146.512665$ (BKJD)



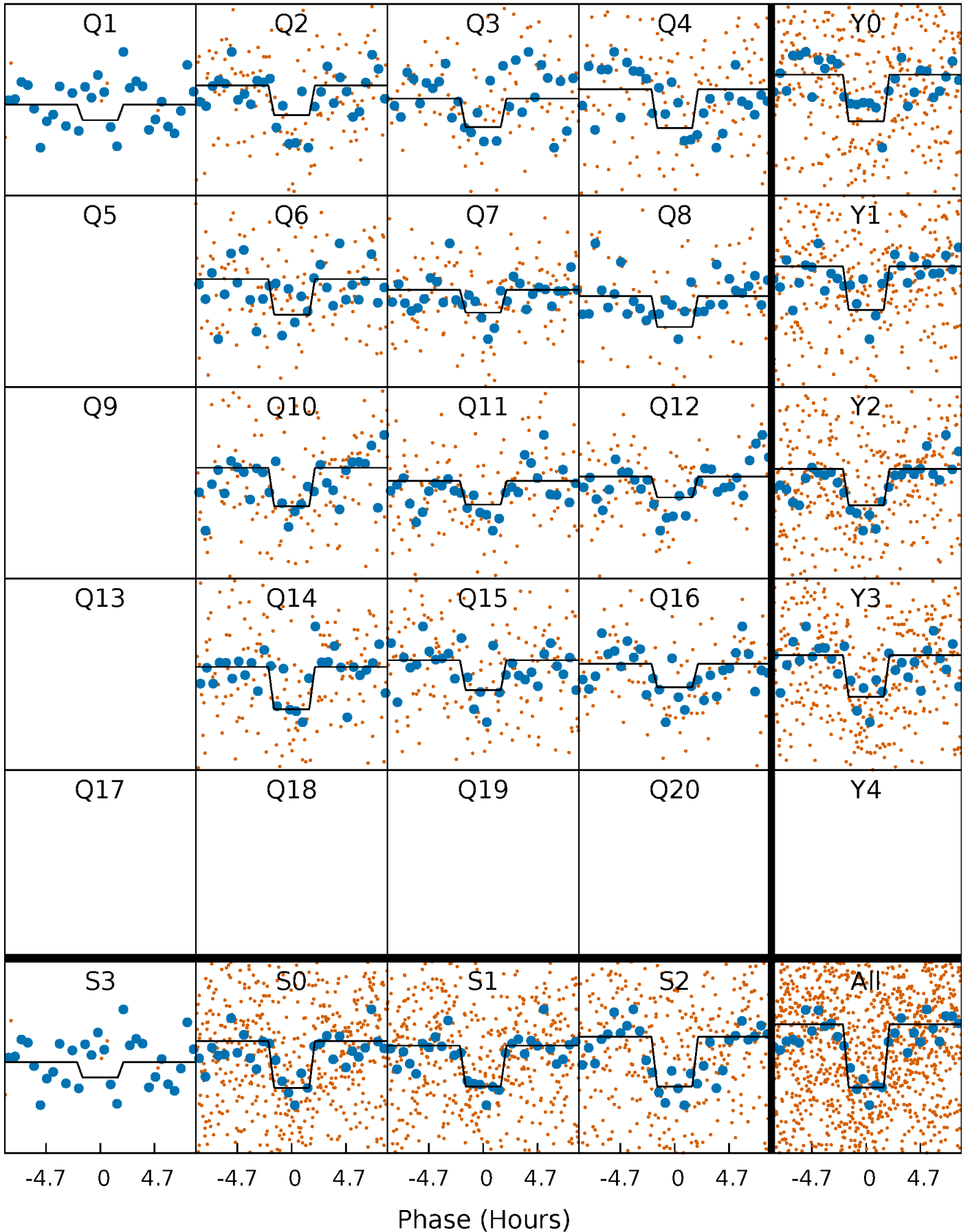
DV Quarter-Phased Transit Curves

TCE 006268648-04 P= 20.605460 Days $T_0=146.512665$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

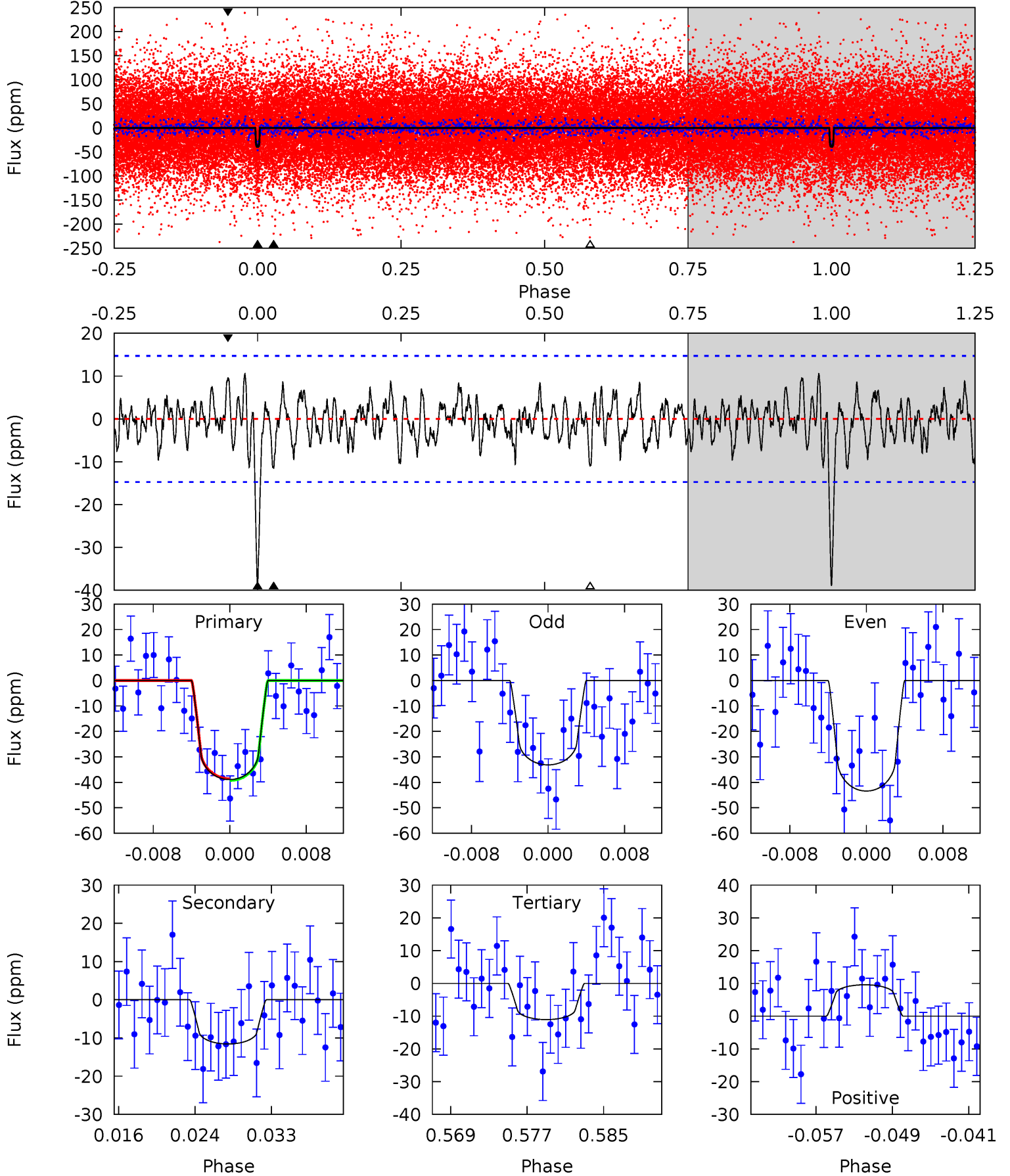
TCE 006268648-04 $P = 20.605448$ Days $T_0 = 146.506911$ (BKJD)



DV Model-Shift Uniqueness Test

006268648-04, P = 20.605460 Days, E = 125.907205 Days

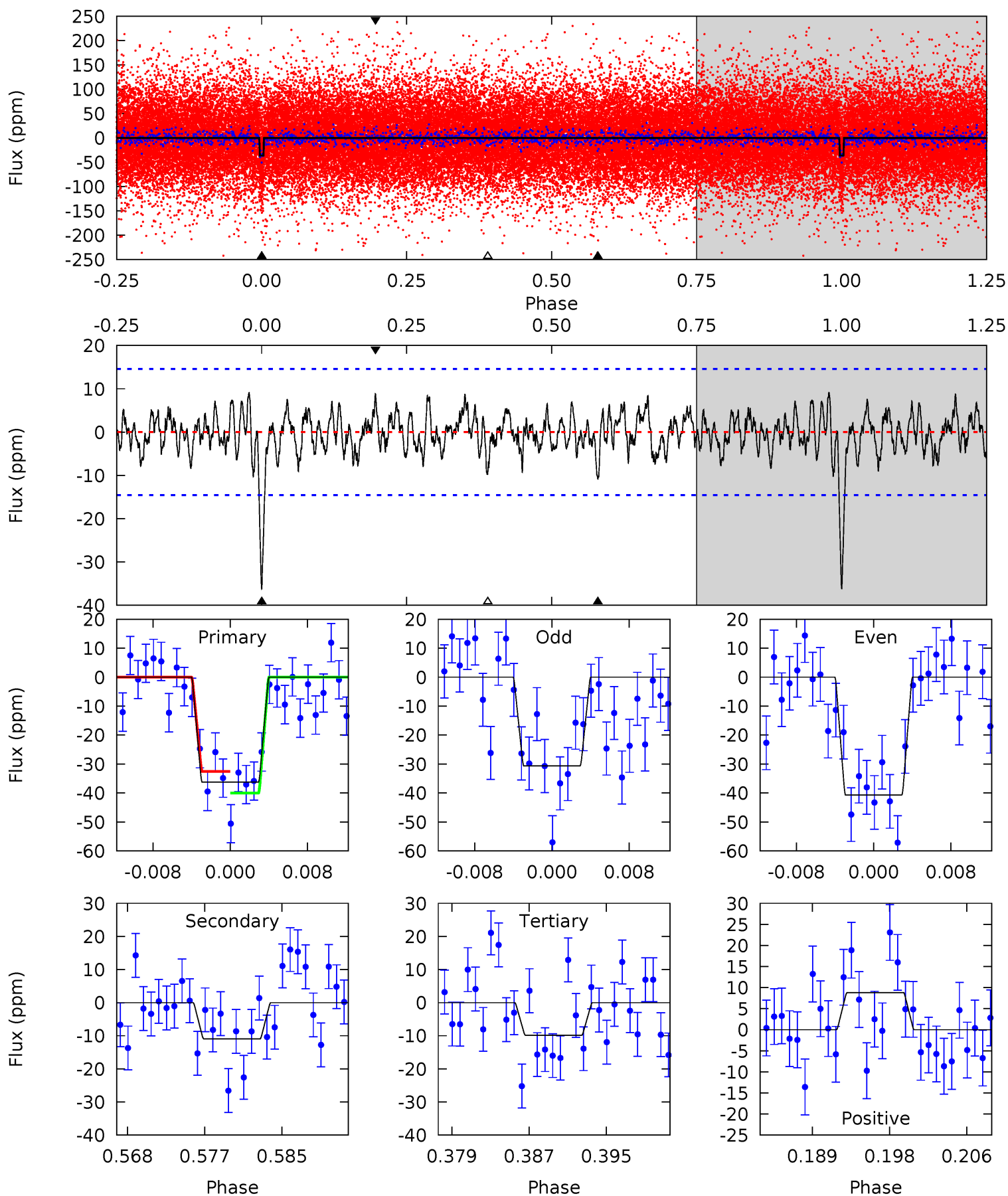
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	3.98	3.81	3.29	5.07	2.65	1.33	9.59	10.1	0.18	0.69	1.76	1.05	0.21	0.11



Alt Model-Shift Uniqueness Test

006268648-04, P = 20.605448 Days, E = 125.901463 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	3.80	3.42	3.07	5.06	2.64	1.26	9.19	9.54	0.38	0.73	1.74	1.12	0.20	1.30



Stellar Parameters For KIC 006268648

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6099^{+79}_{-85}	$4.193^{+0.016}_{-0.018}$	$-0.300^{+0.150}_{-0.150}$	$1.308^{+0.054}_{-0.054}$	$0.974^{+0.071}_{-0.064}$	$0.613^{+0.044}_{-0.041}$
	+1%/-1%	+0%/-0%	+50%/-50%	+4%/-4%	+7%/-7%	+7%/-7%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 006268648-04 / KOI 1613.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 3	$0.95^{+0.43}_{-0.45}$	1127^{+17}_{-18}	4563^{+1450}_{-675}	156^{+406}_{-91}
Alt.	-11 ± 3	$0.89^{+0.45}_{-0.44}$	1127^{+18}_{-18}	4624^{+1701}_{-710}	161^{+493}_{-94}

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

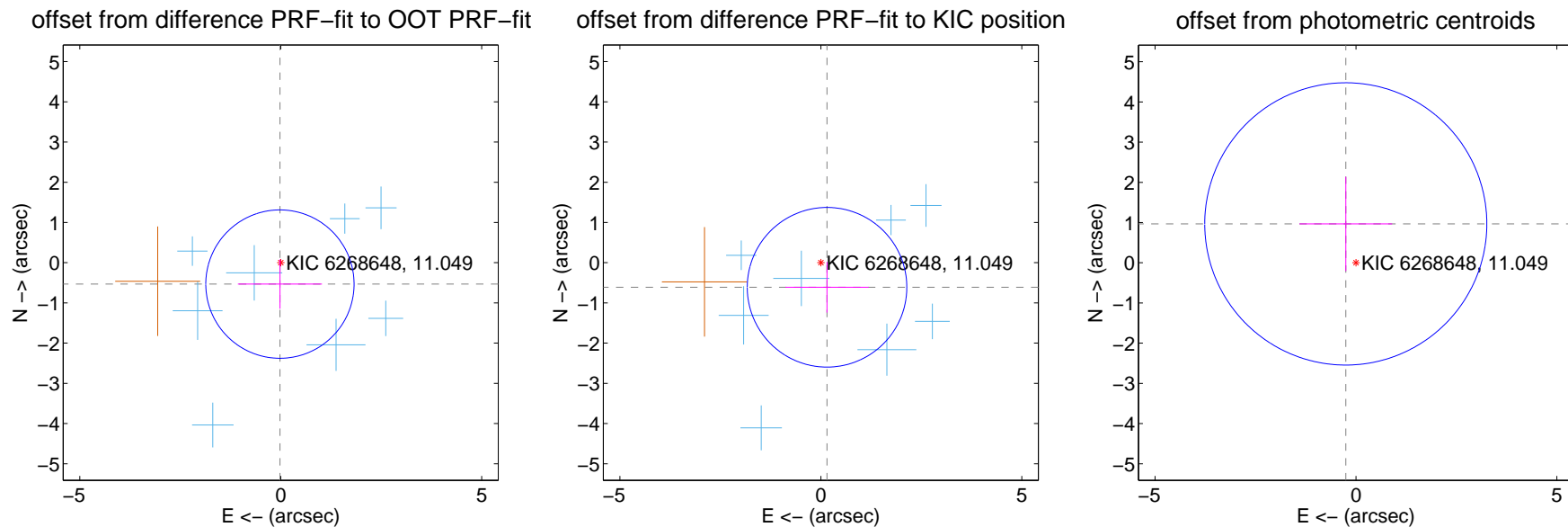
DV Centroid Data

Supplemental centroid analysis for 006268648-04. **Kepler magnitude: 11.05.** Transit SNR 9.08

There are 8 quarters with good PRF difference image offsets

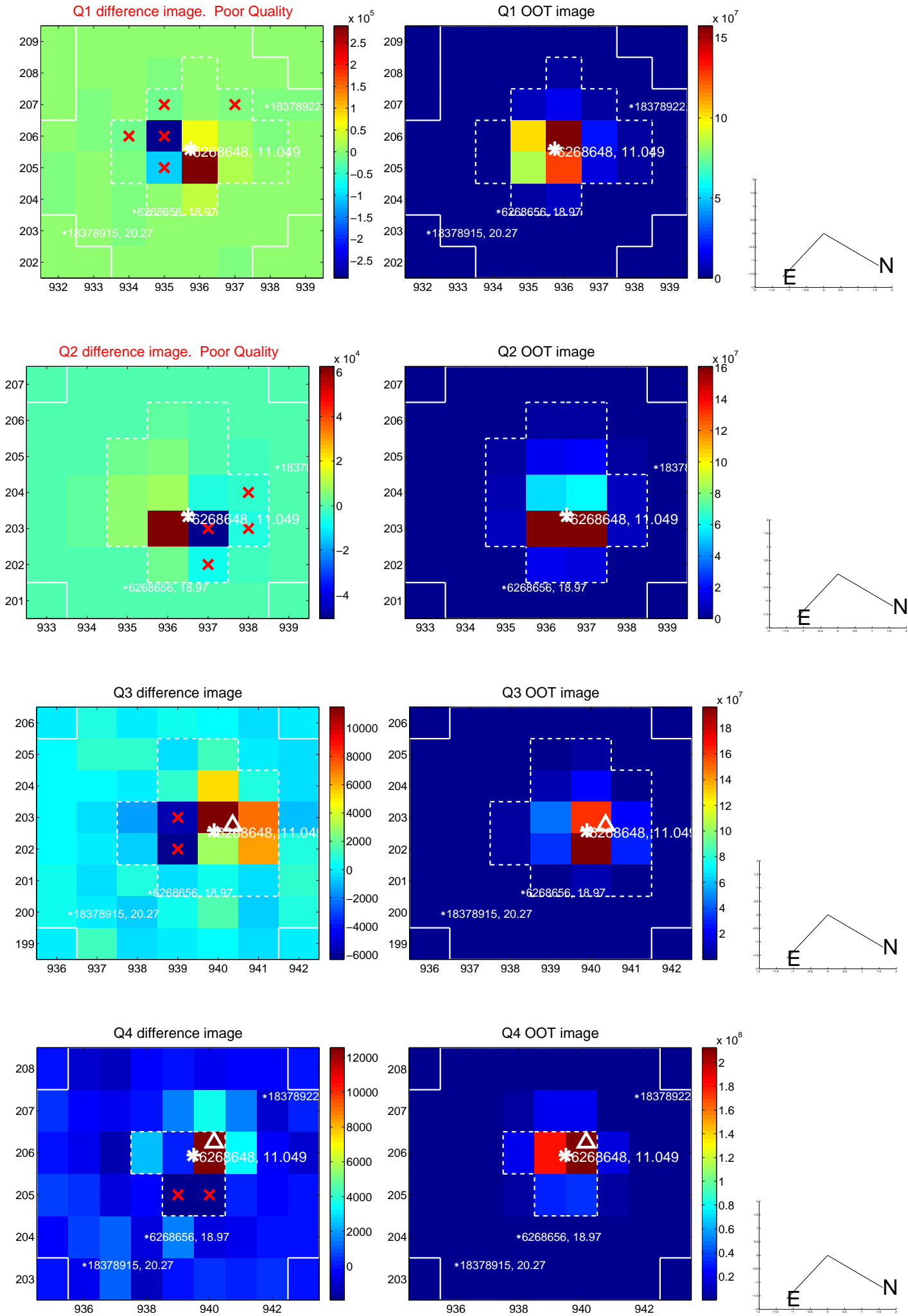
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.533 ± 0.615	0.87	0.020 ± 1.047	-0.532 ± 0.614
PRF-fit source offset from KIC position	0.630 ± 0.662	0.95	-0.154 ± 1.037	-0.611 ± 0.631
photometric centroid source offset	1.00 ± 1.17	0.85	0.25 ± 1.15	0.97 ± 1.17

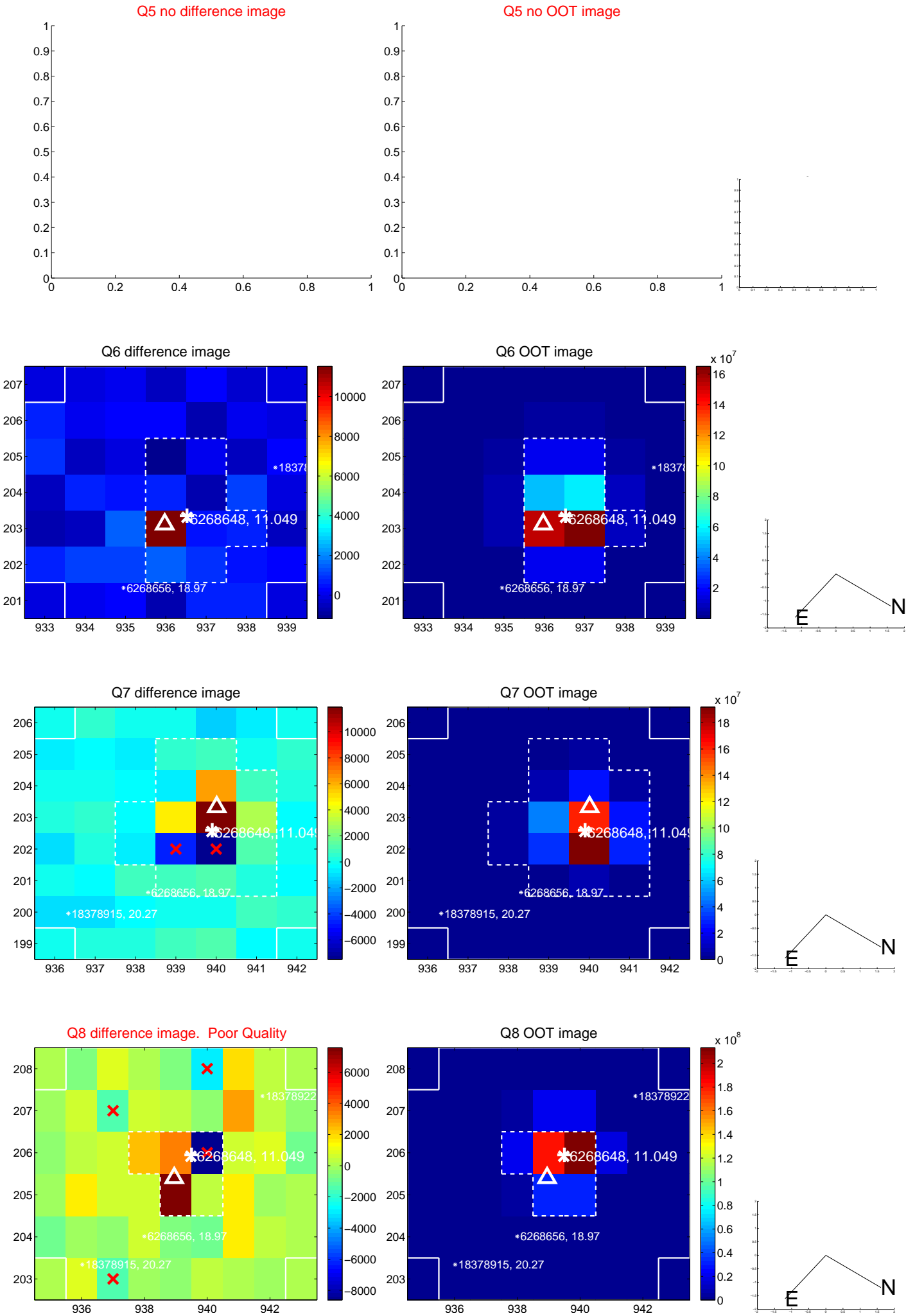


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

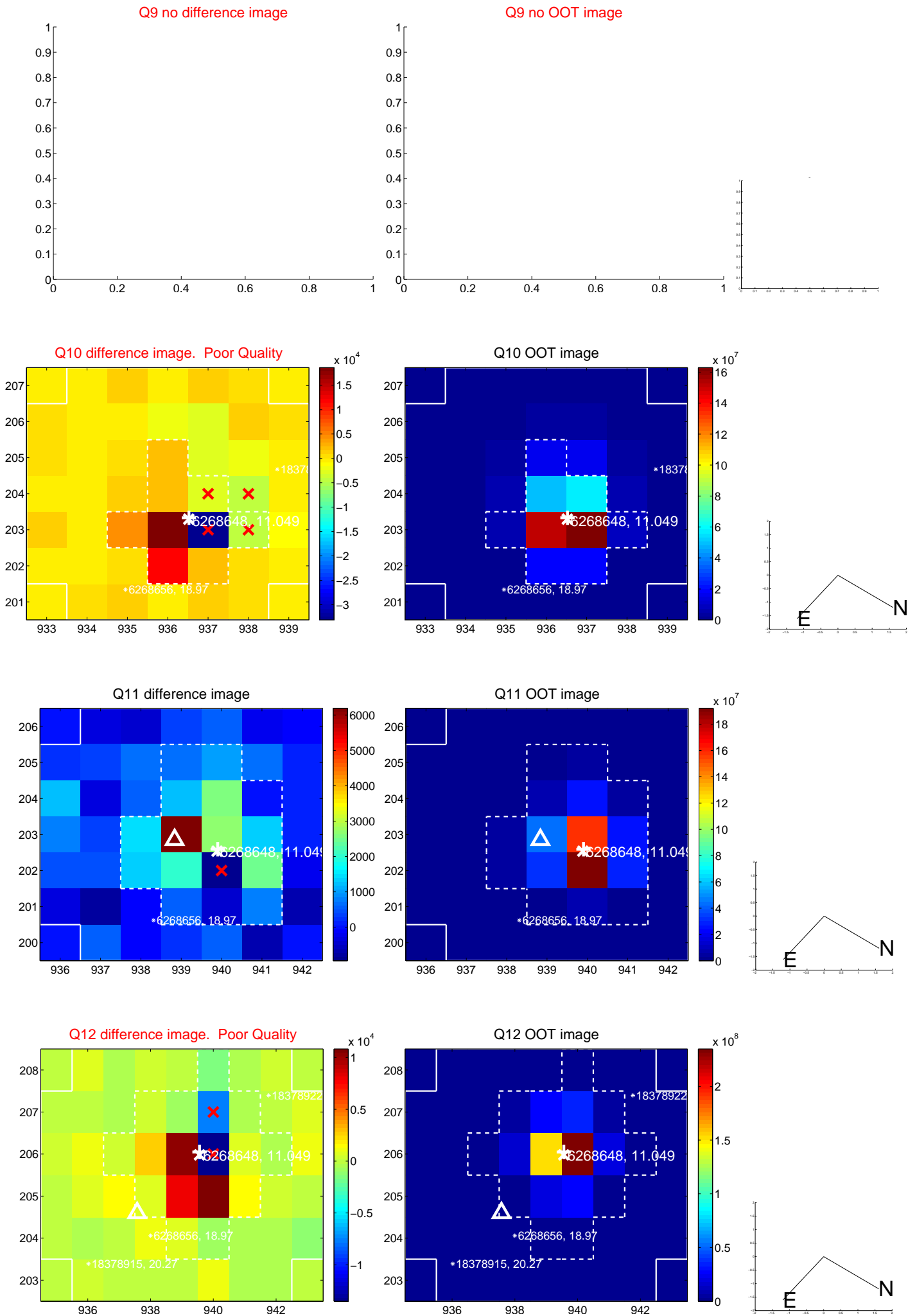
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



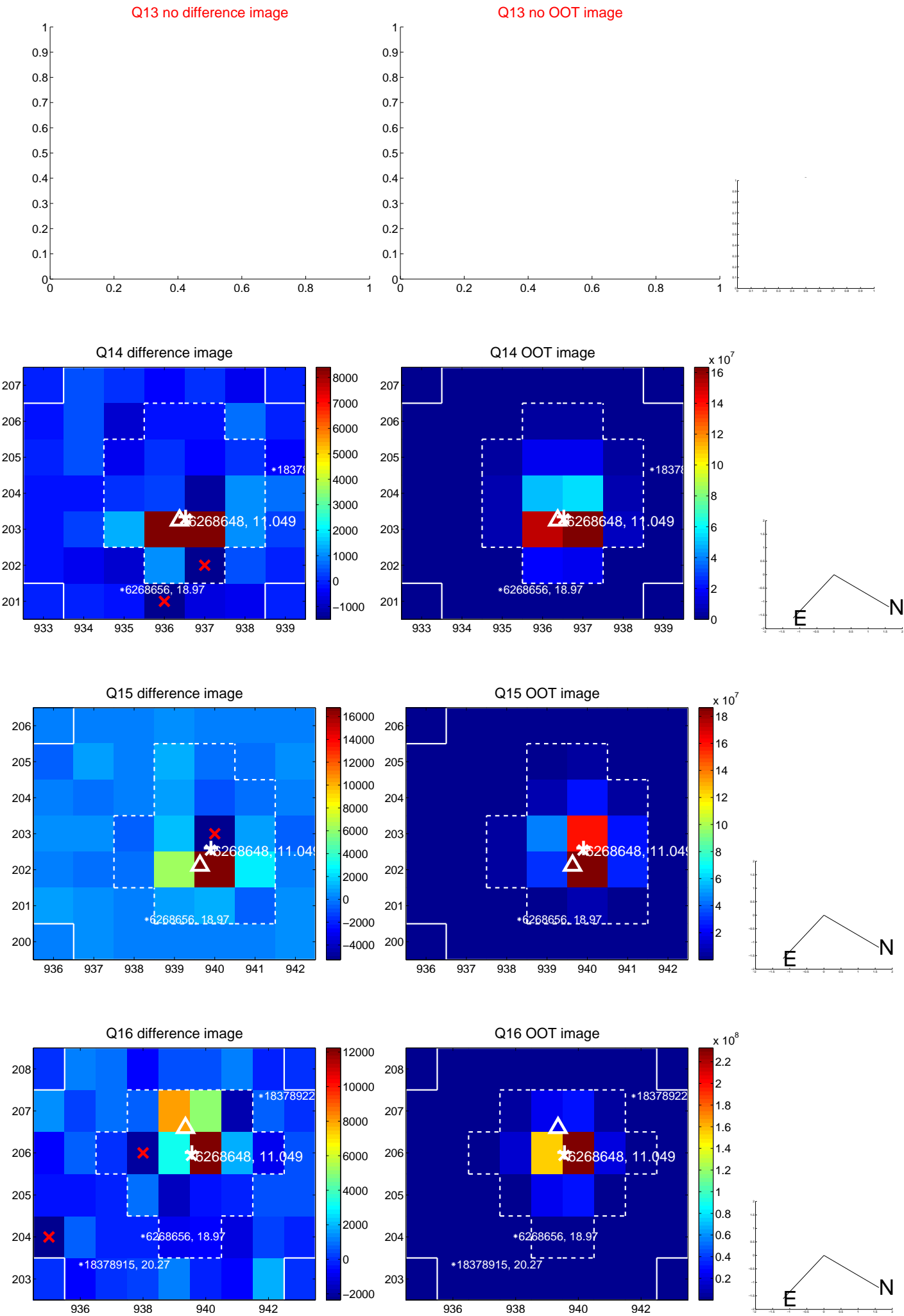
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



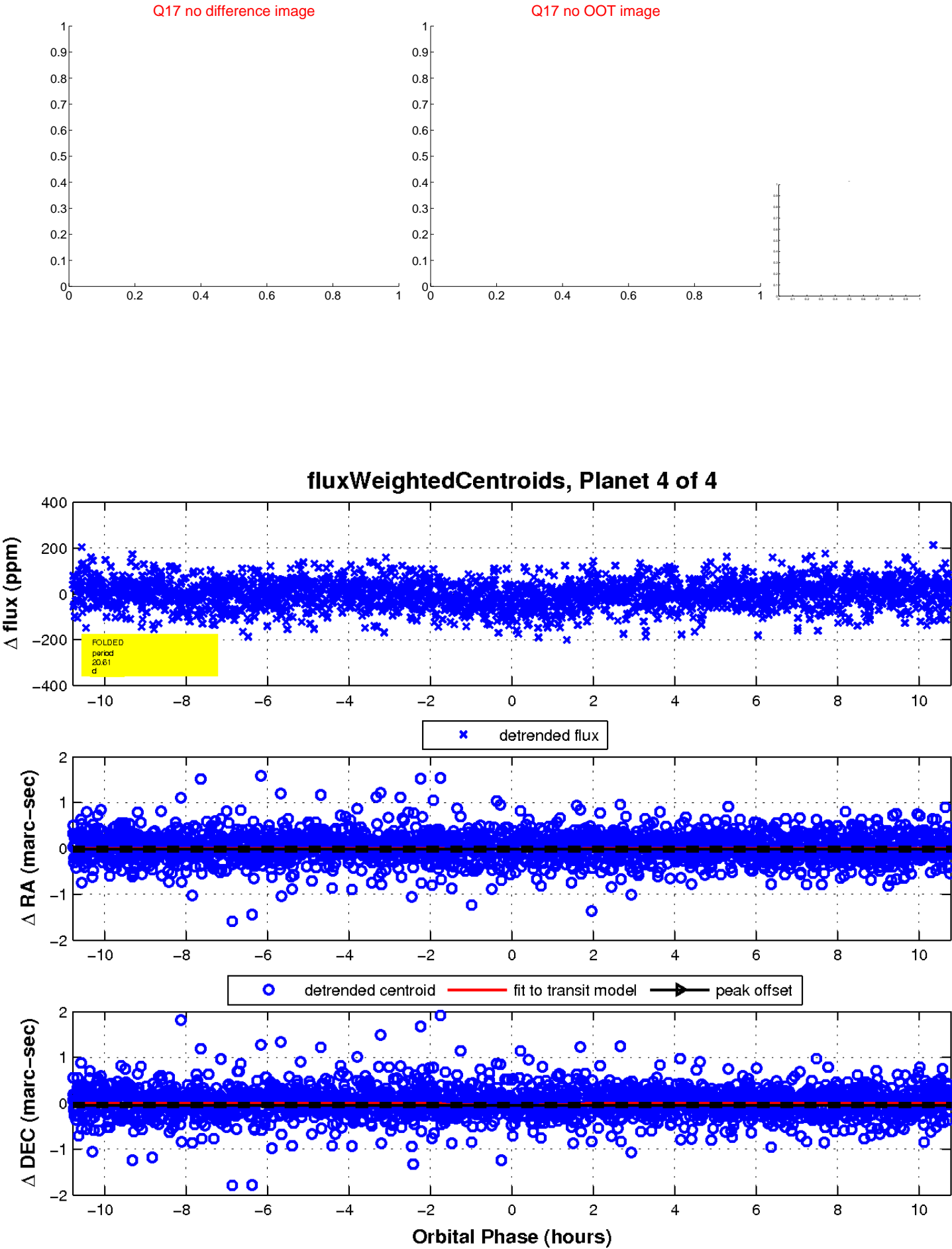
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

