

KIC 002568519

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})
002568519-01	OBS	No	0.916920	131.840916	8.7	3.700	8.3	4.7	2.73	6311	0.94	31368.85
002568519-02	OBS	No	111.094531	189.799139	191.0	3.789	8.1	8.0	2.73	6311	4.29	52.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002568519-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
002568519-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

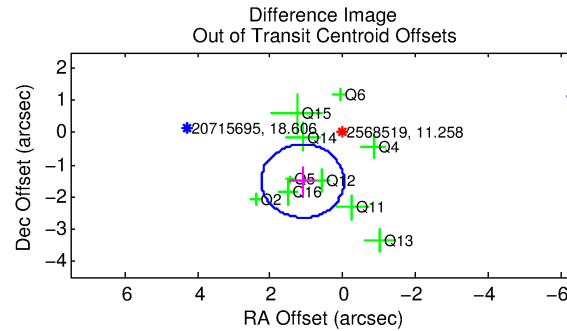
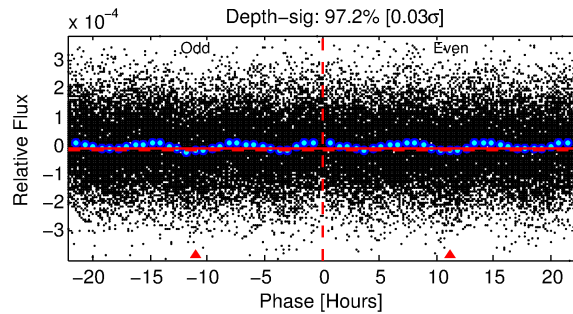
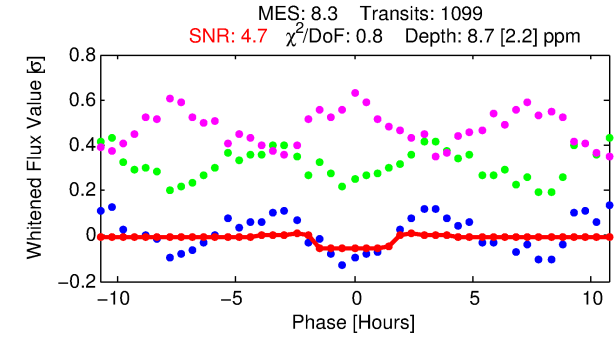
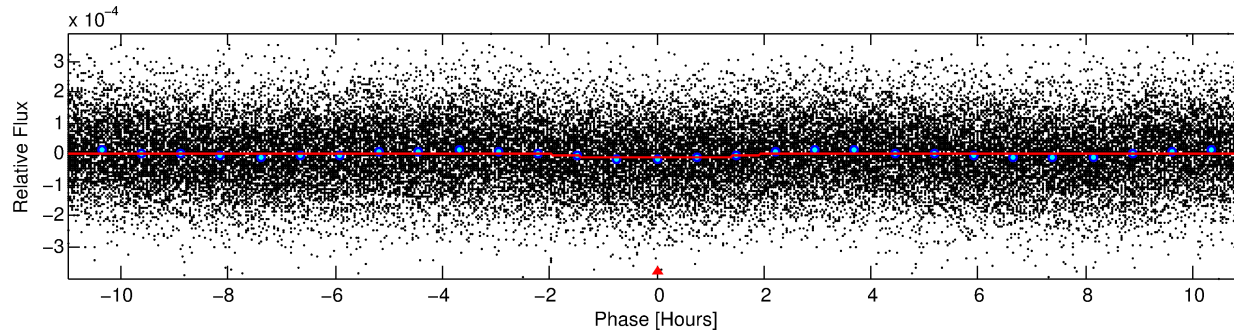
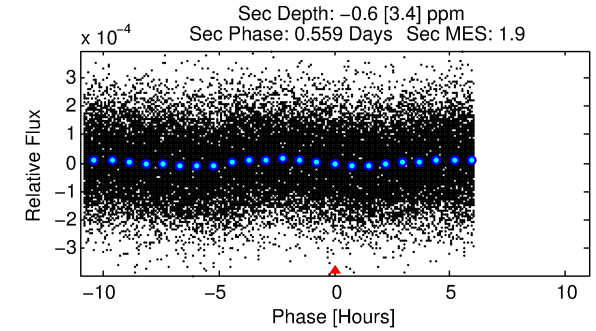
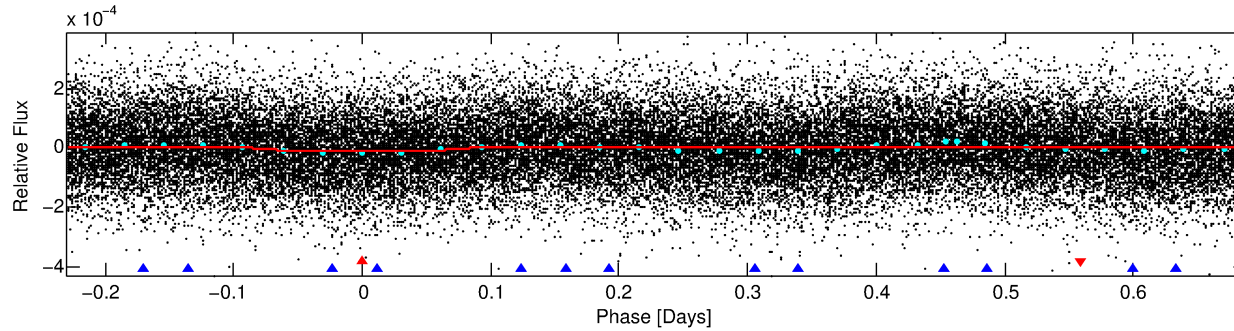
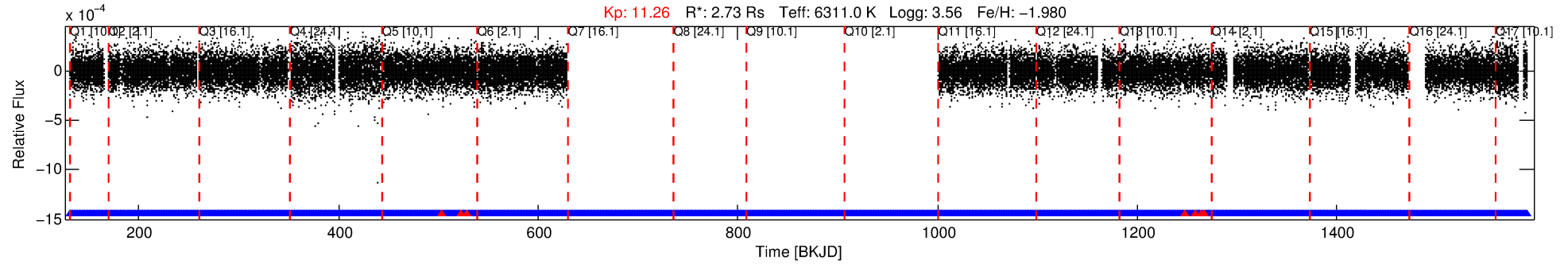
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002568519-01

No Significant Match Found

DV One-Page Summary

KIC: 2568519 Candidate: 1 of 2 Period: 0.917 d



DV Fit Results:

Period = 0.91692 [0.00002] d
Epoch = 131.8409 [0.0061] BKJD
Rp/R* = 0.0032 [0.0011]
a/R* = 1.26 [0.93]
b = 0.90 [0.43]
Seff = 31368.86 [15024.97]
Teq = 3394 [406] K
Rp = 0.94 [0.46] Re
a = 0.0184 [0.0055] AU
Ag = N/A
Teffp = N/A

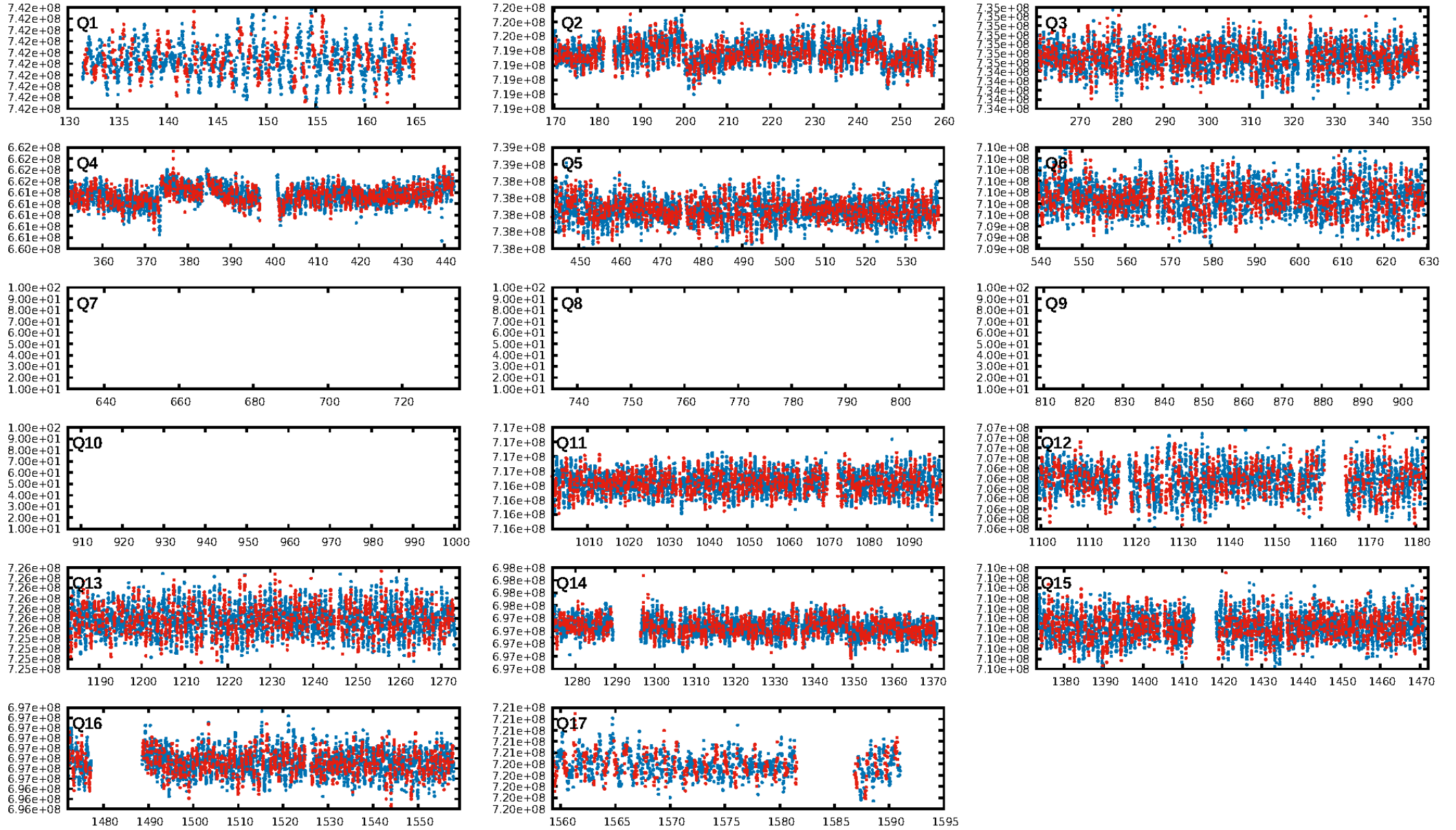
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [499.32σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.65e-11
RollingBand-fgt: 0.99 [1025/1032]
GhostDiagnostic-chr: 1.727
Centroid-sig: 6.1%
Centroid-so: 1.428 arcsec [1.12σ]
OotOffset-rm: 1.874 arcsec [4.93σ]
KicOffset-rm: 1.866 arcsec [4.67σ]
OotOffset-st: 3/2/3/2 [10]
KicOffset-st: 3/2/3/2 [10]
DiffImageQuality-fgm: 0.90 [9/10]
DiffImageOverlap-fno: 1.00 [13/13]

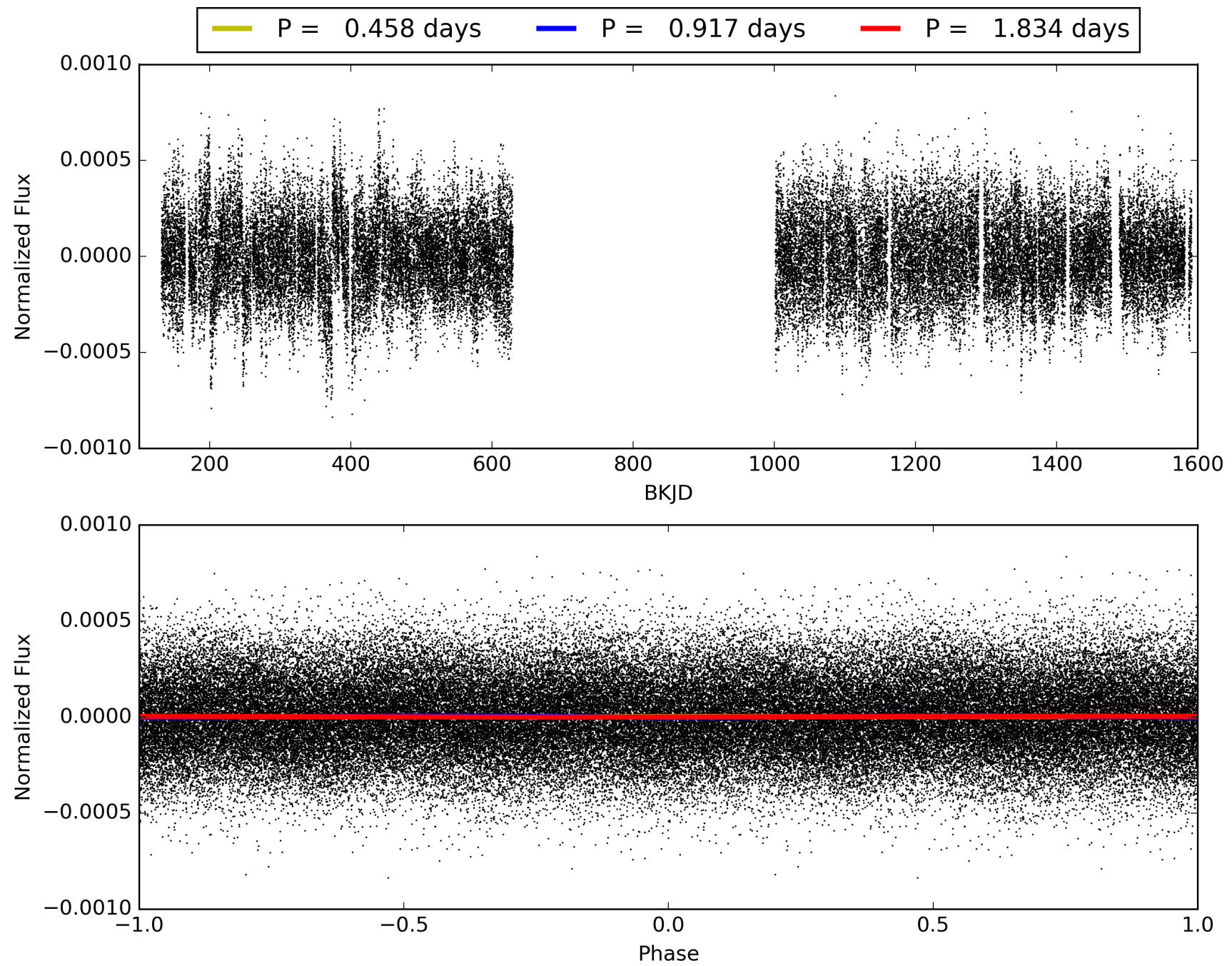
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:44:24 Z

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

TCE 002568519-01, PDC Light Curves

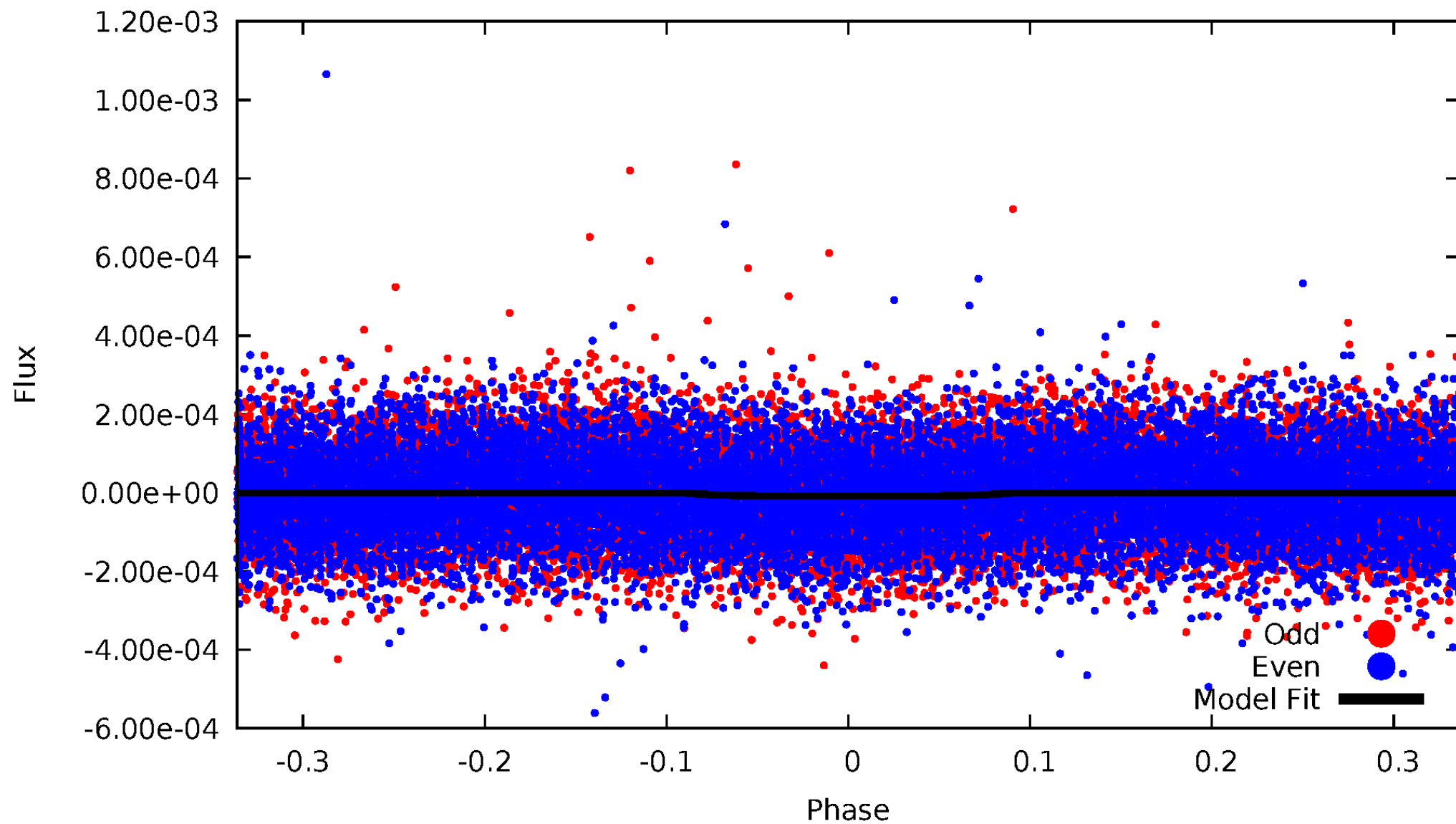


TCE 002568519-01



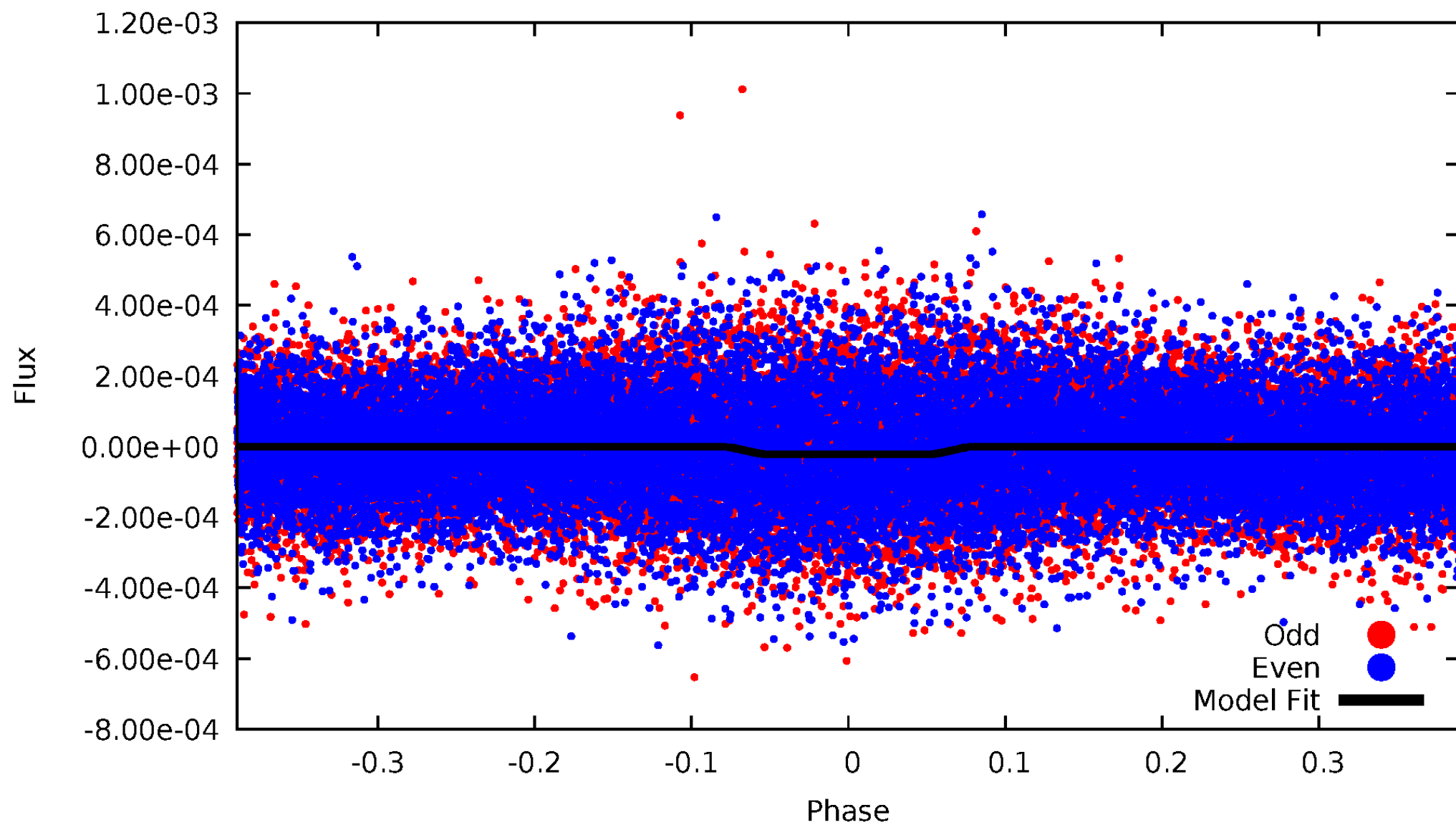
DV Odd/Even

TCE 002568519-01



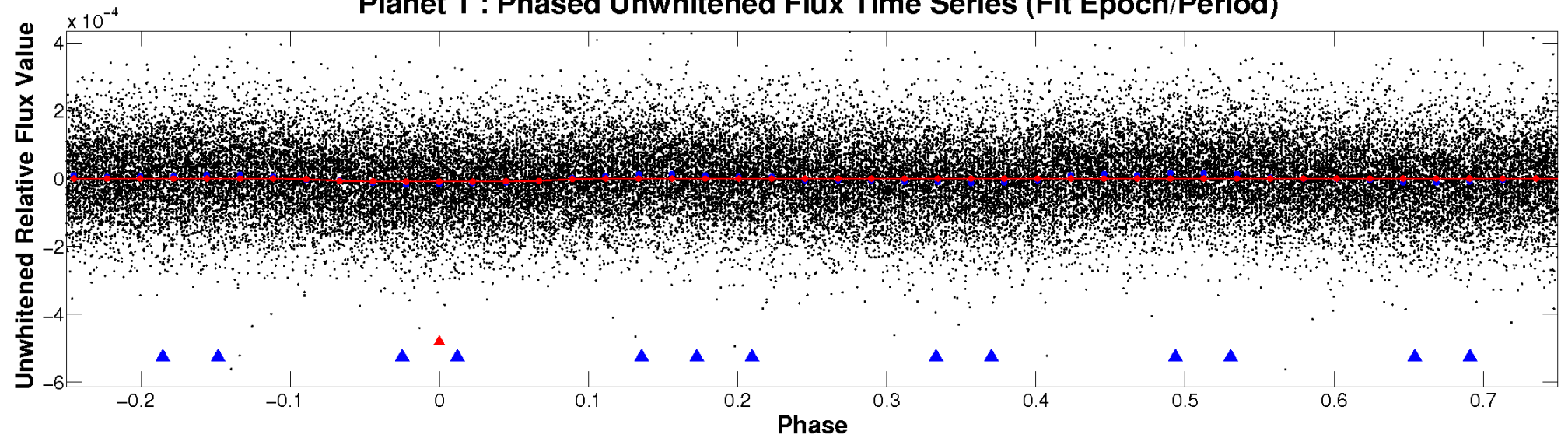
ALT Odd/Even

TCE 002568519-01

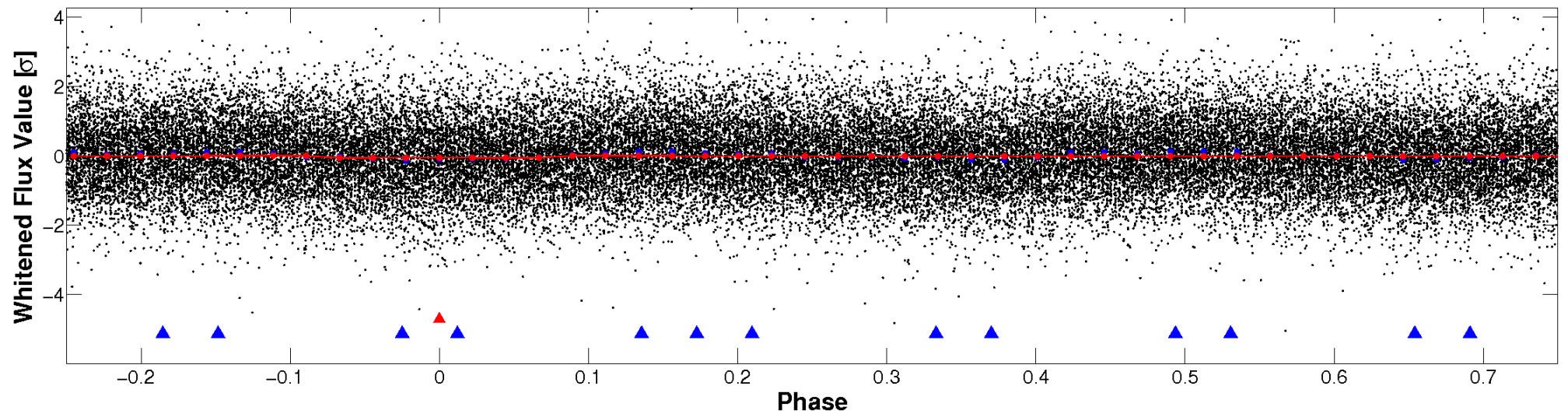


Non-Whitened Vs. Whitened Light Curve

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

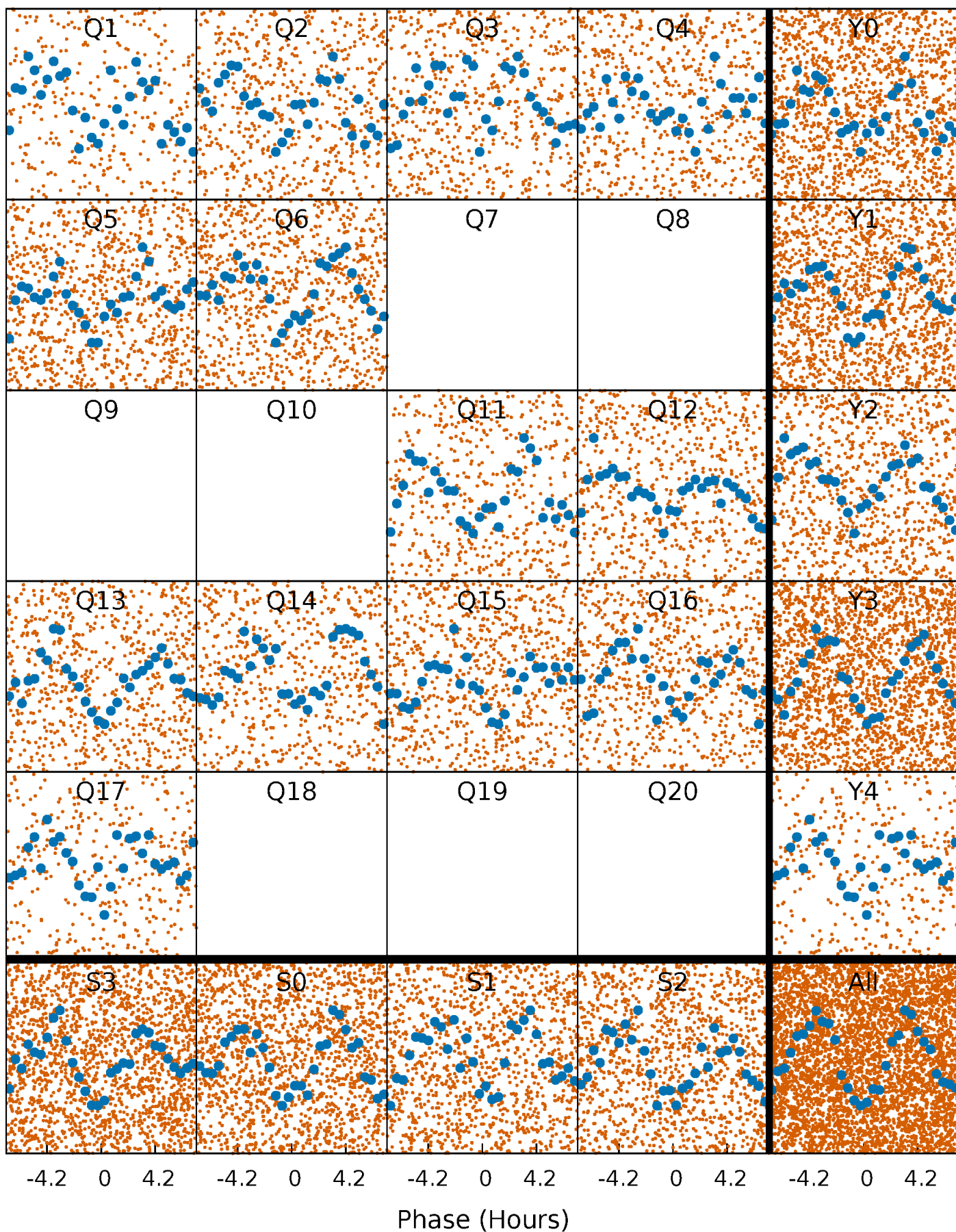


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



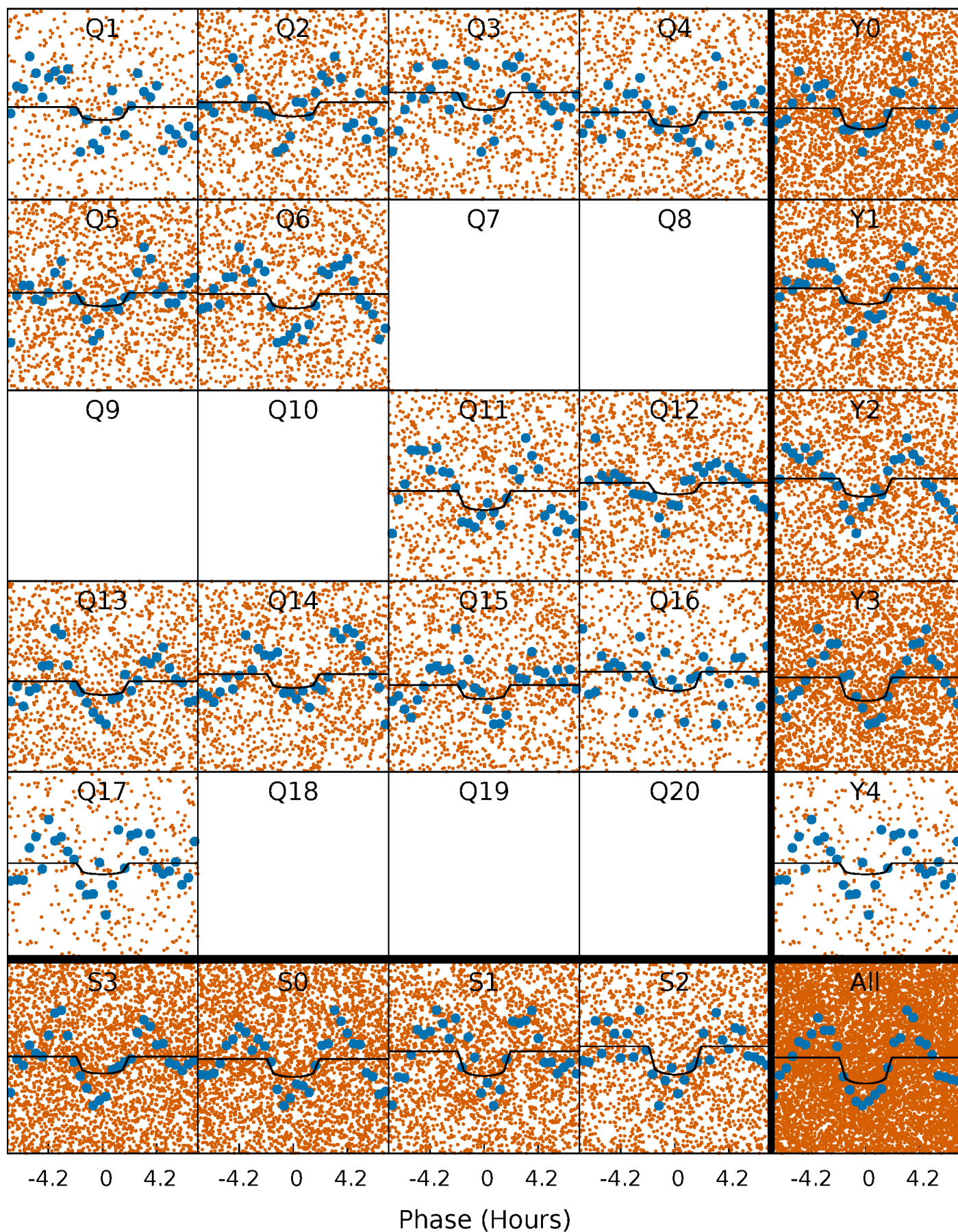
PDC Quarter-Phased Transit Curves

TCE 002568519-01 P= 0.916920 Days $T_0=131.840916$ (BKJD)



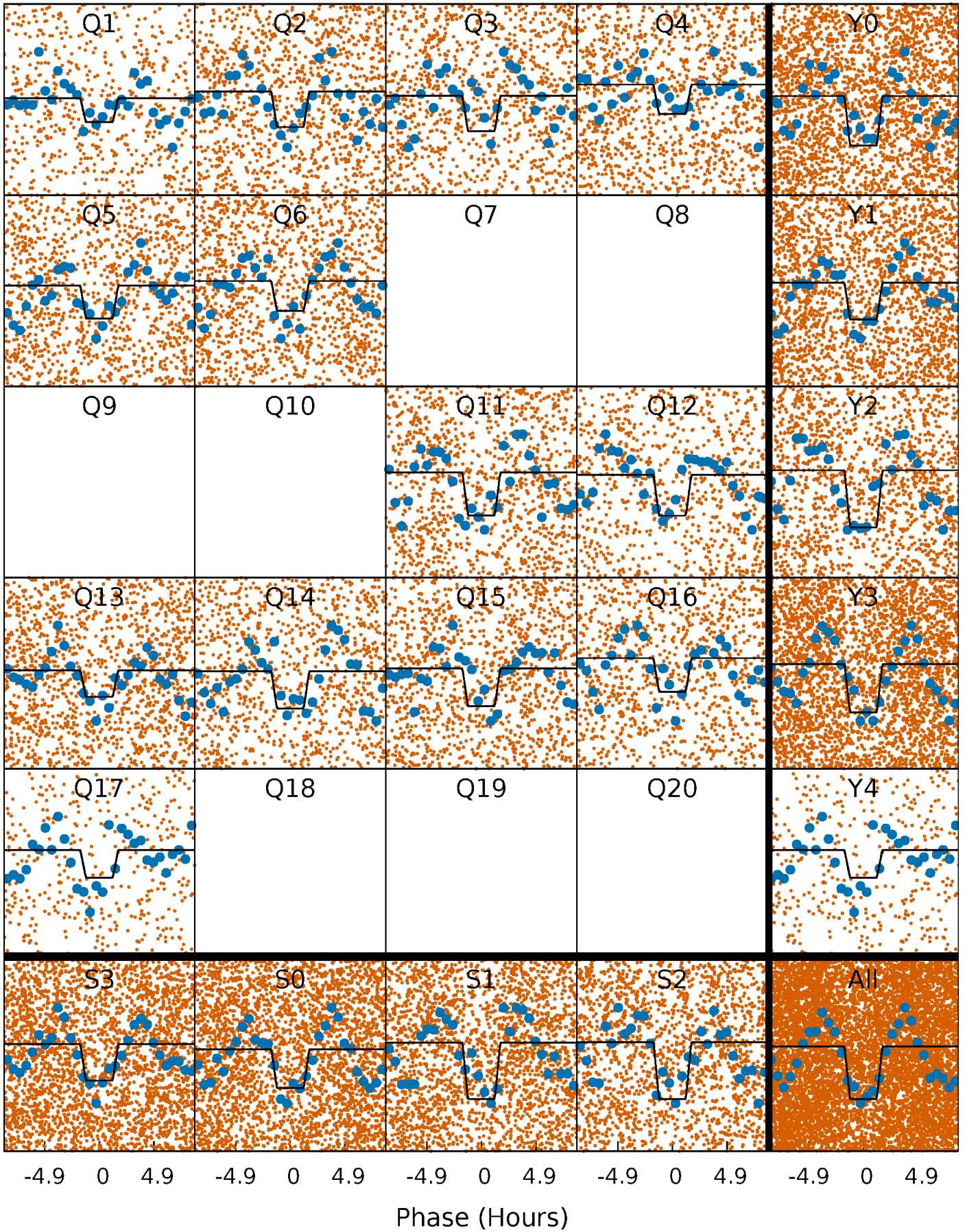
DV Quarter-Phased Transit Curves

TCE 002568519-01 P= 0.916920 Days $T_0=131.840916$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

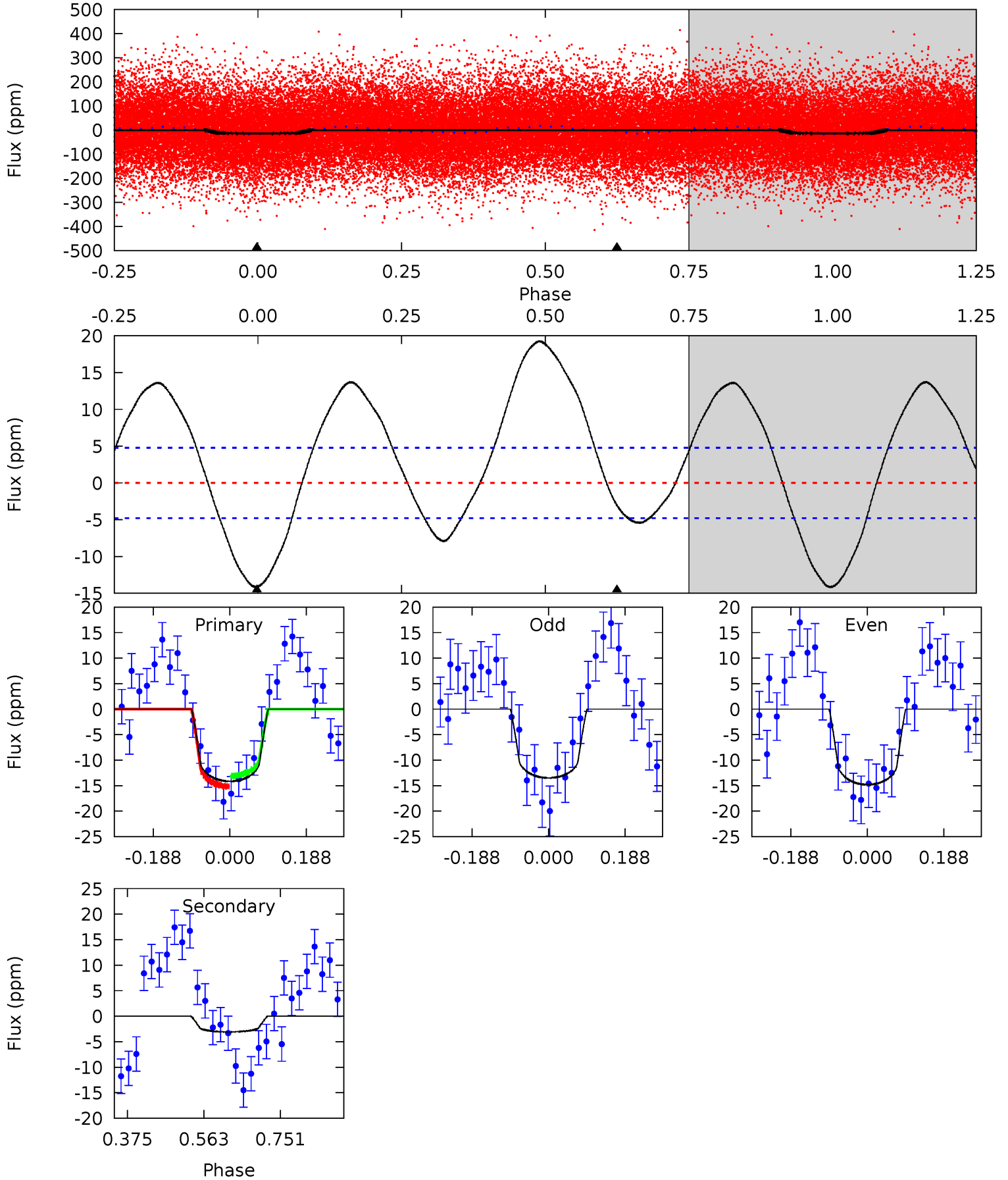
TCE 002568519-01 P= 0.916937 Days $T_0=131.824725$ (BKJD)



DV Model-Shift Uniqueness Test

002568519-01, P = 0.916920 Days, E = 130.923996 Days

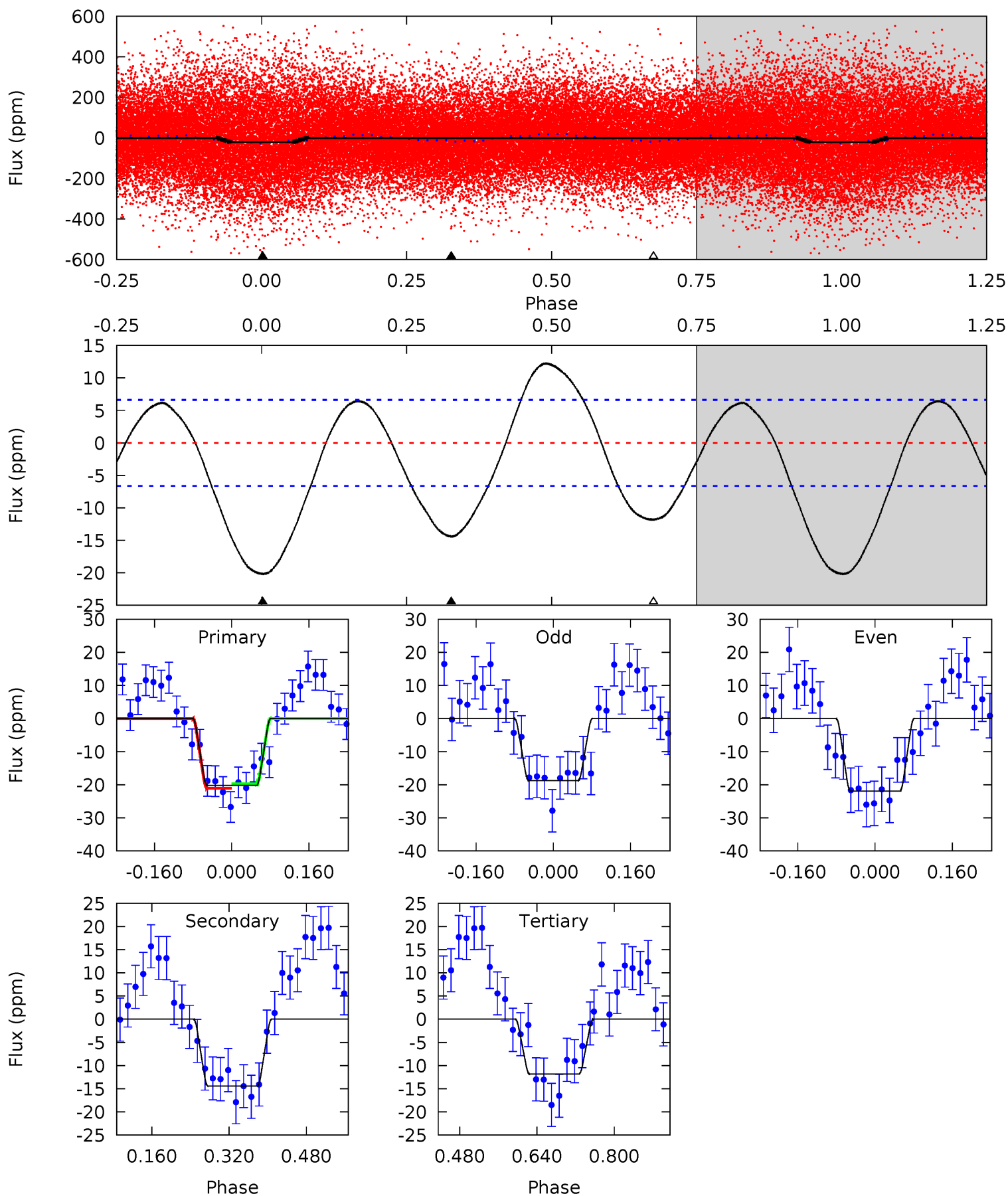
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	2.84	0	0	4.43	1.32	5.69	13.1	13.1	2.84	2.84	0.61	0.94	0.58	0.97



Alt Model-Shift Uniqueness Test

002568519-01, P = 0.916937 Days, E = 130.907788 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	9.73	7.98	0	4.47	1.41	5.35	5.65	13.6	1.75	9.73	1.08	0.75	0.38	0.46



Stellar Parameters For KIC 002568519

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6311^{+157}_{-189}	$3.559^{+0.266}_{-0.143}$	$-1.980^{+0.250}_{-0.050}$	$2.732^{+0.737}_{-0.901}$	$0.985^{+0.155}_{-0.172}$	$0.068^{+0.120}_{-0.028}$
	+2%/-3%	+7%/-4%	+13%/-3%	+27%/-33%	+16%/-17%	+176%/-41%
Source	PHO1	FLK73	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 002568519-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3 ± 1	$0.90^{+0.36}_{-0.34}$	4669^{+325}_{-419}	4270^{+1461}_{-6516}	$0.689^{+1.222}_{-0.393}$
Alt.	-14 ± 1	$1.35^{+0.42}_{-0.39}$	4714^{+307}_{-410}	5388^{+963}_{-669}	$1.504^{+1.356}_{-0.668}$

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 $A_{obs} \gg 1.0$

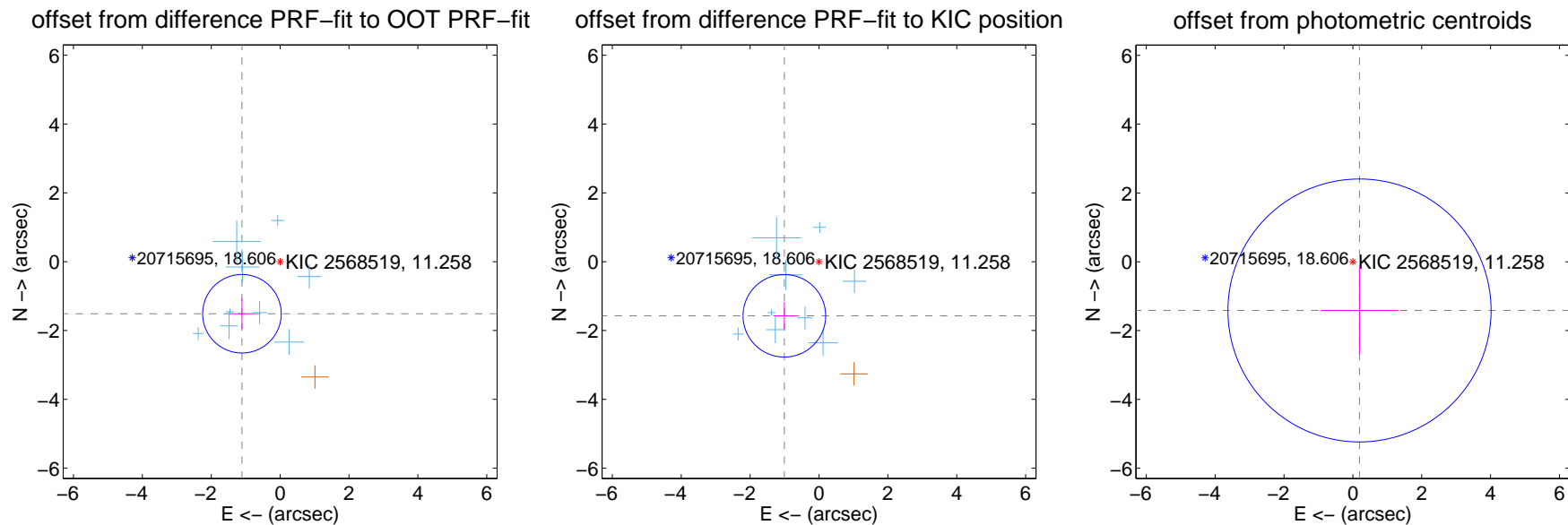
DV Centroid Data

Supplemental centroid analysis for 002568519-01. **Kepler magnitude: 11.26.** Transit SNR 4.68

There are 9 quarters with good PRF difference image offsets

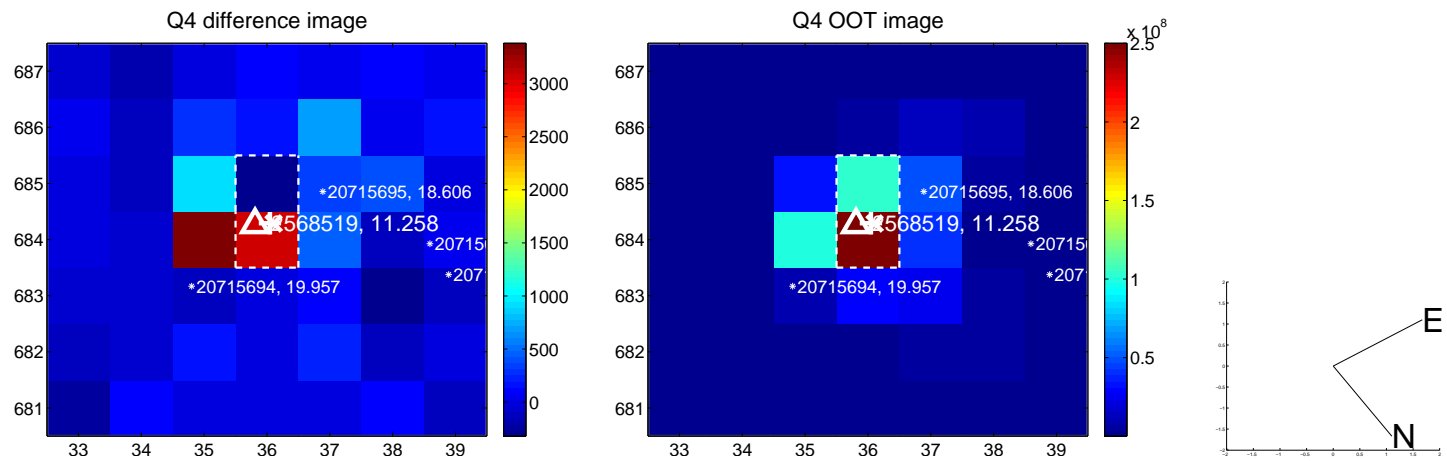
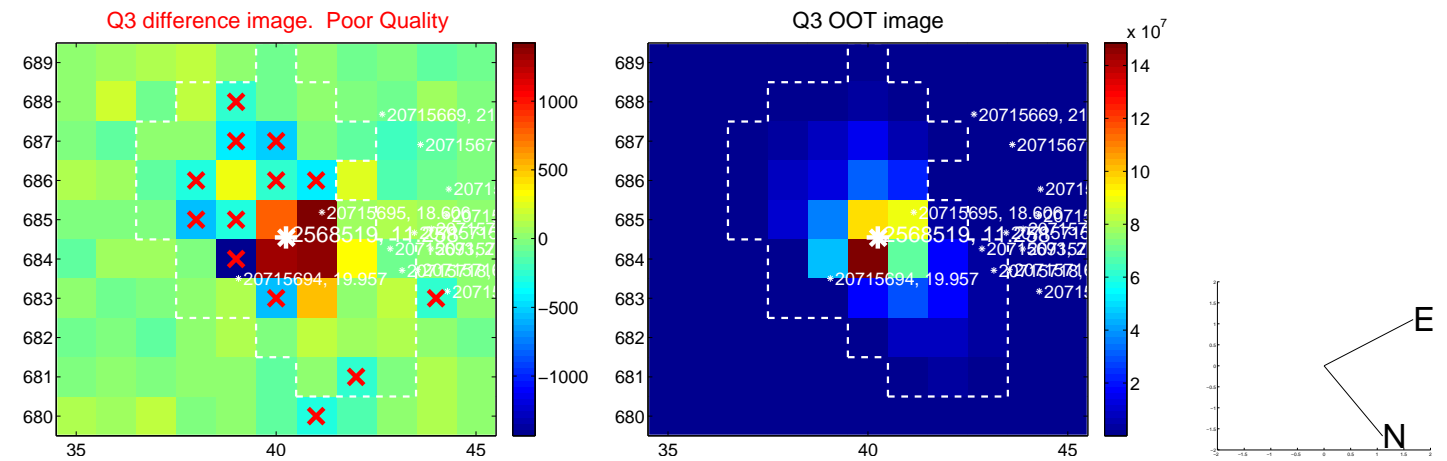
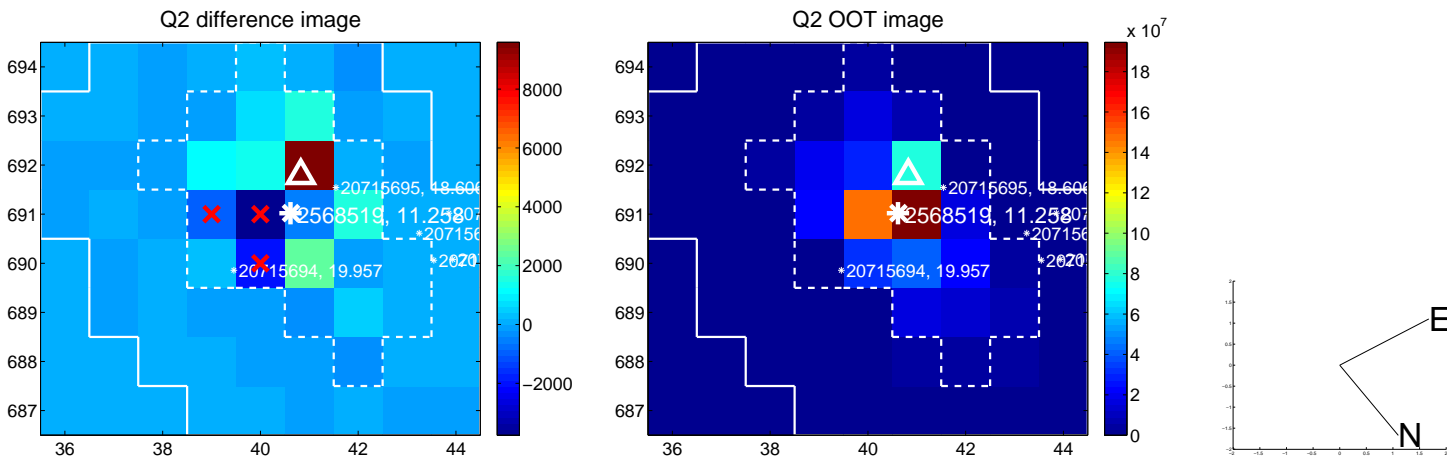
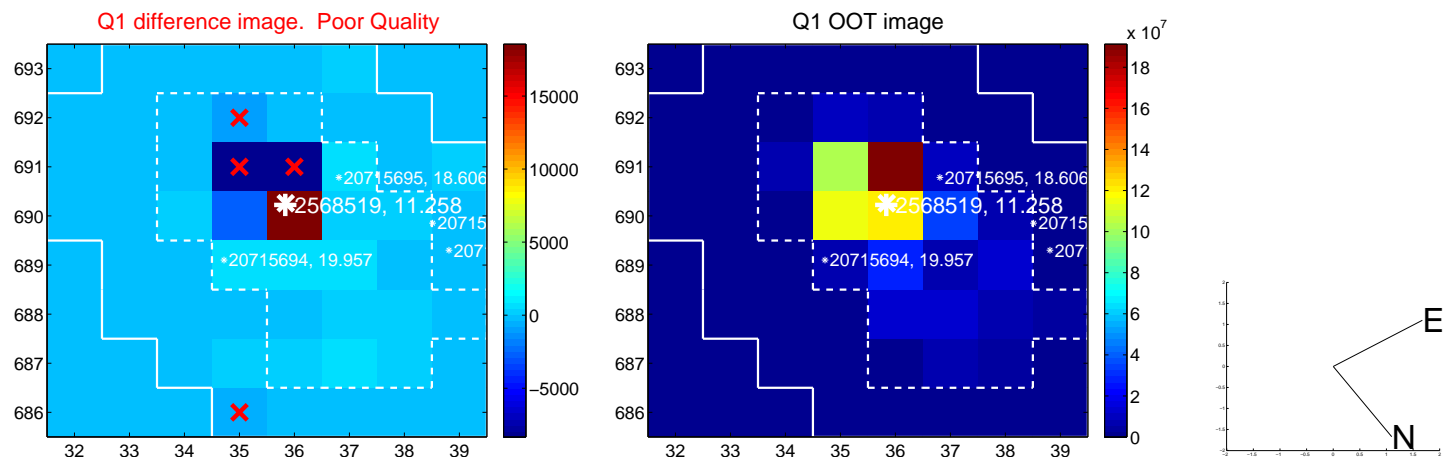
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.874 ± 0.380	4.93	1.108 ± 0.332	-1.512 ± 0.446
PRF-fit source offset from KIC position	1.866 ± 0.400	4.67	1.006 ± 0.315	-1.571 ± 0.398
photometric centroid source offset	1.43 ± 1.27	1.12	-0.19 ± 1.13	-1.42 ± 1.28

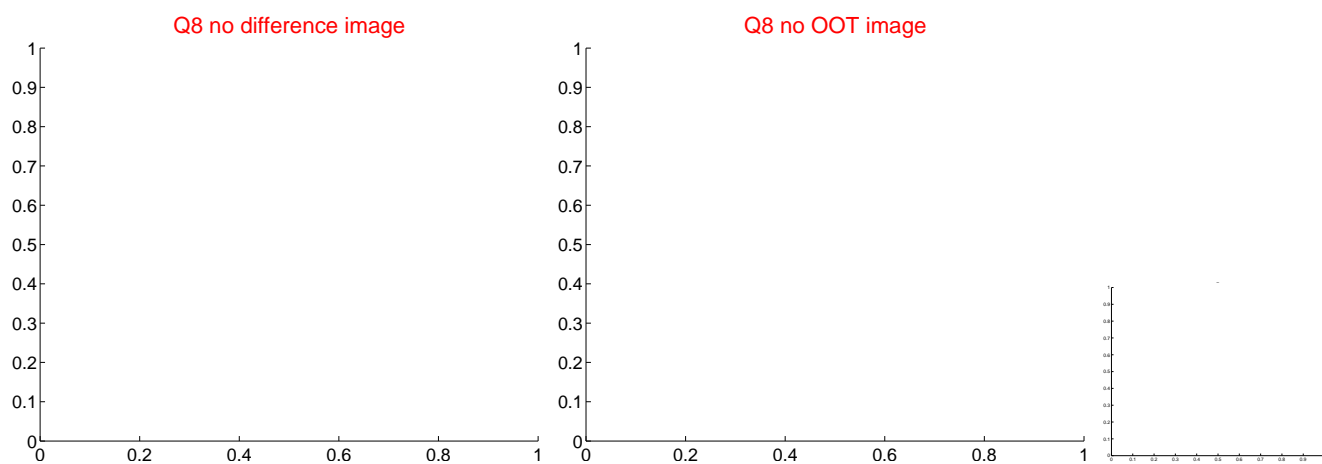
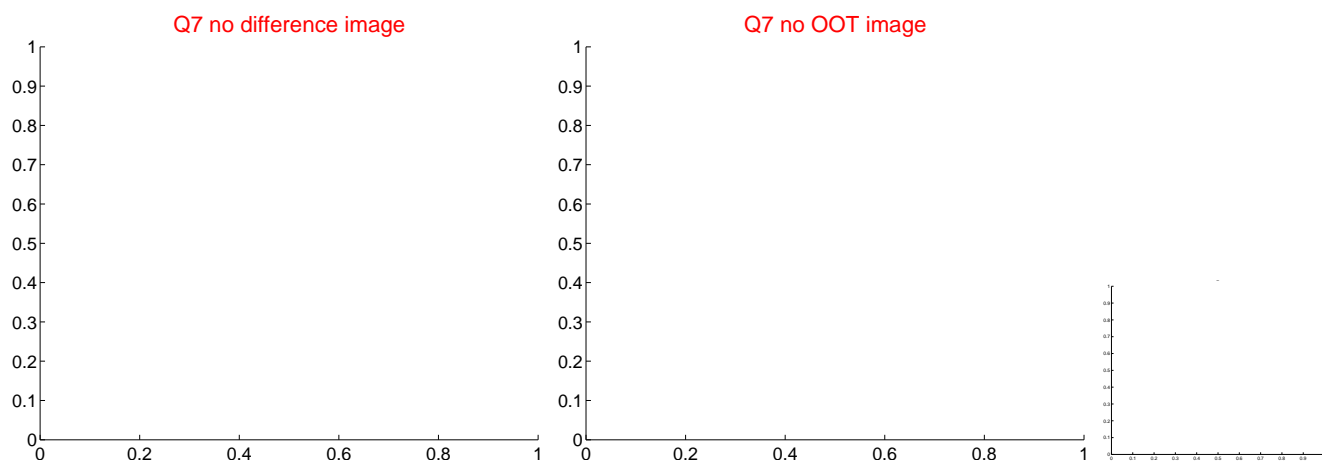
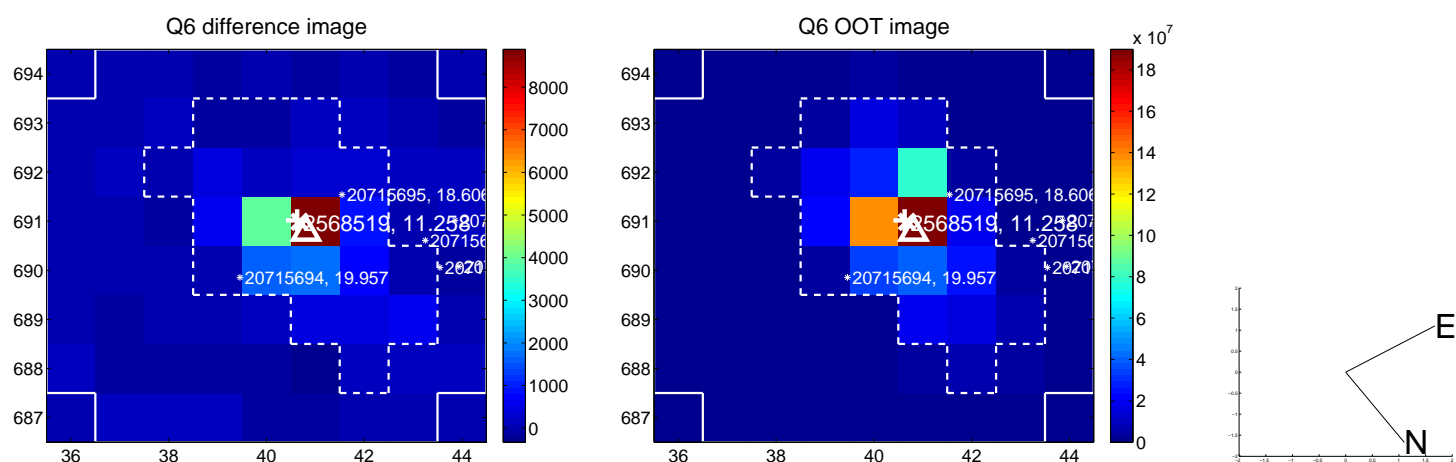
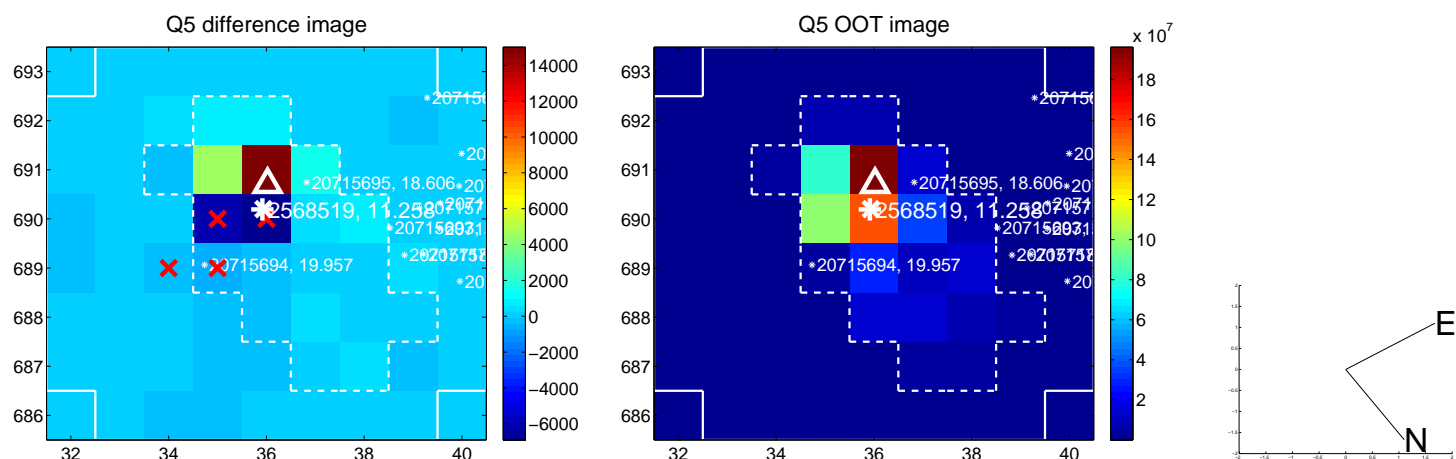


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

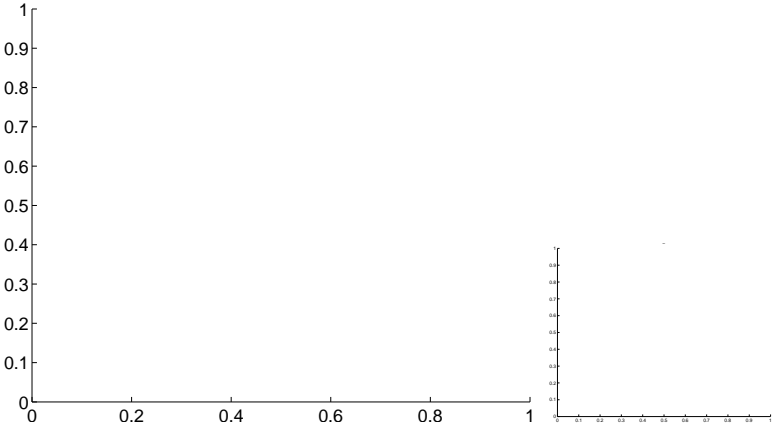


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q9 no difference image



Q9 no OOT image



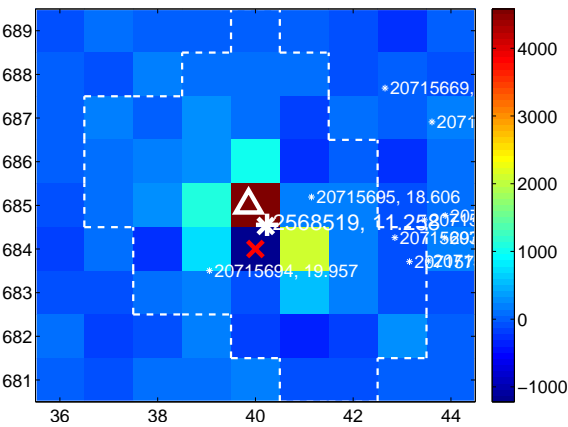
Q10 no difference image



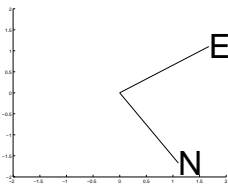
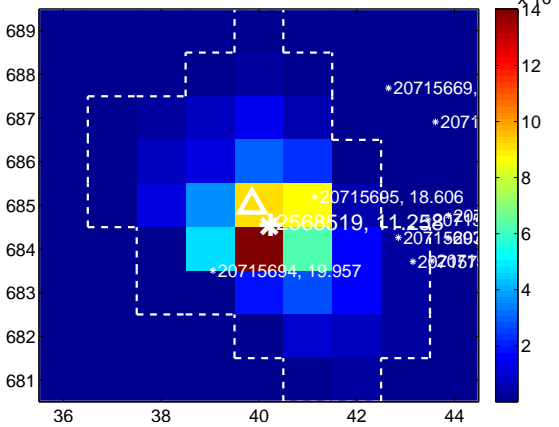
Q10 no OOT image



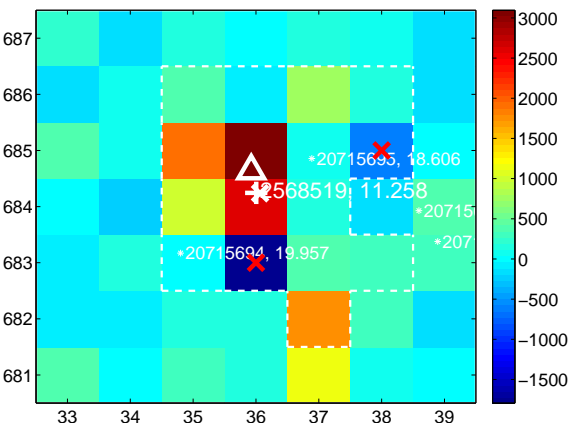
Q11 difference image



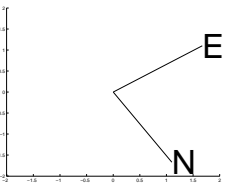
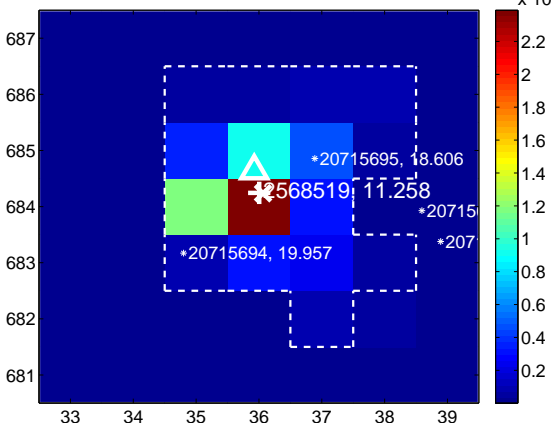
Q11 OOT image



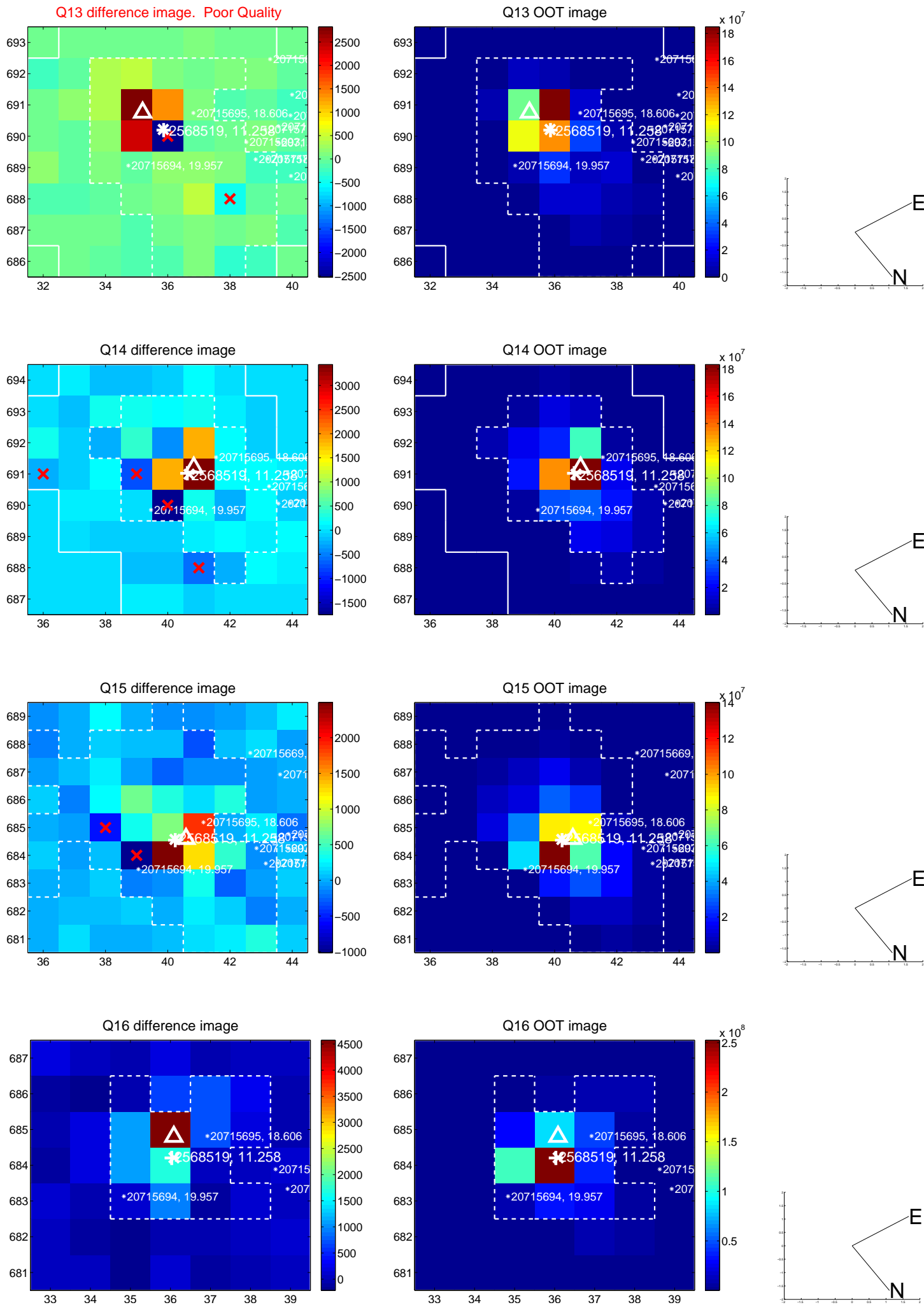
Q12 difference image



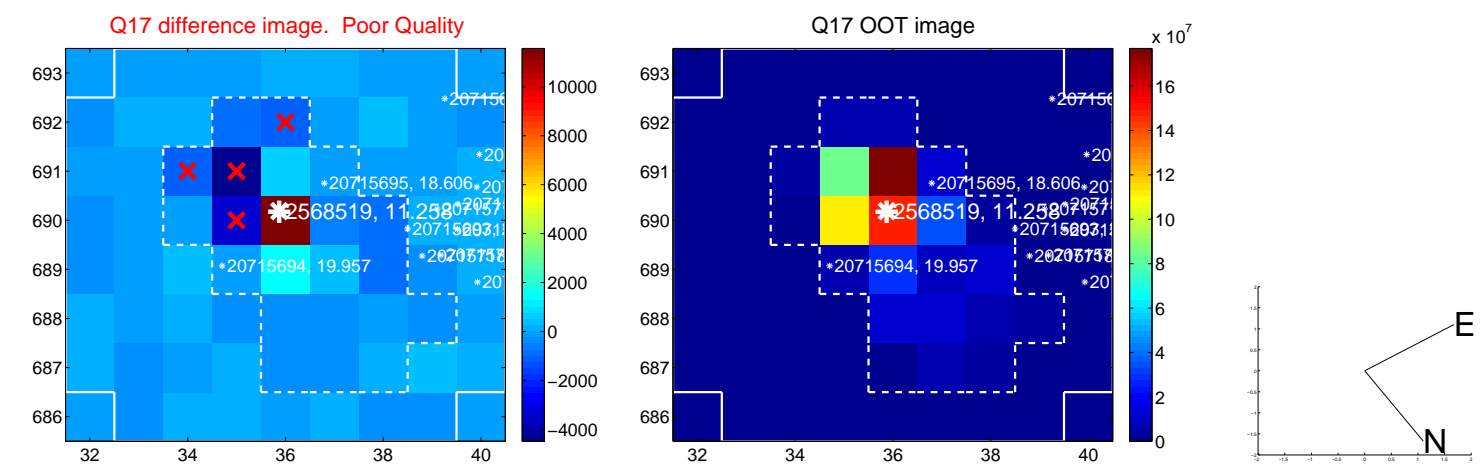
Q12 OOT image



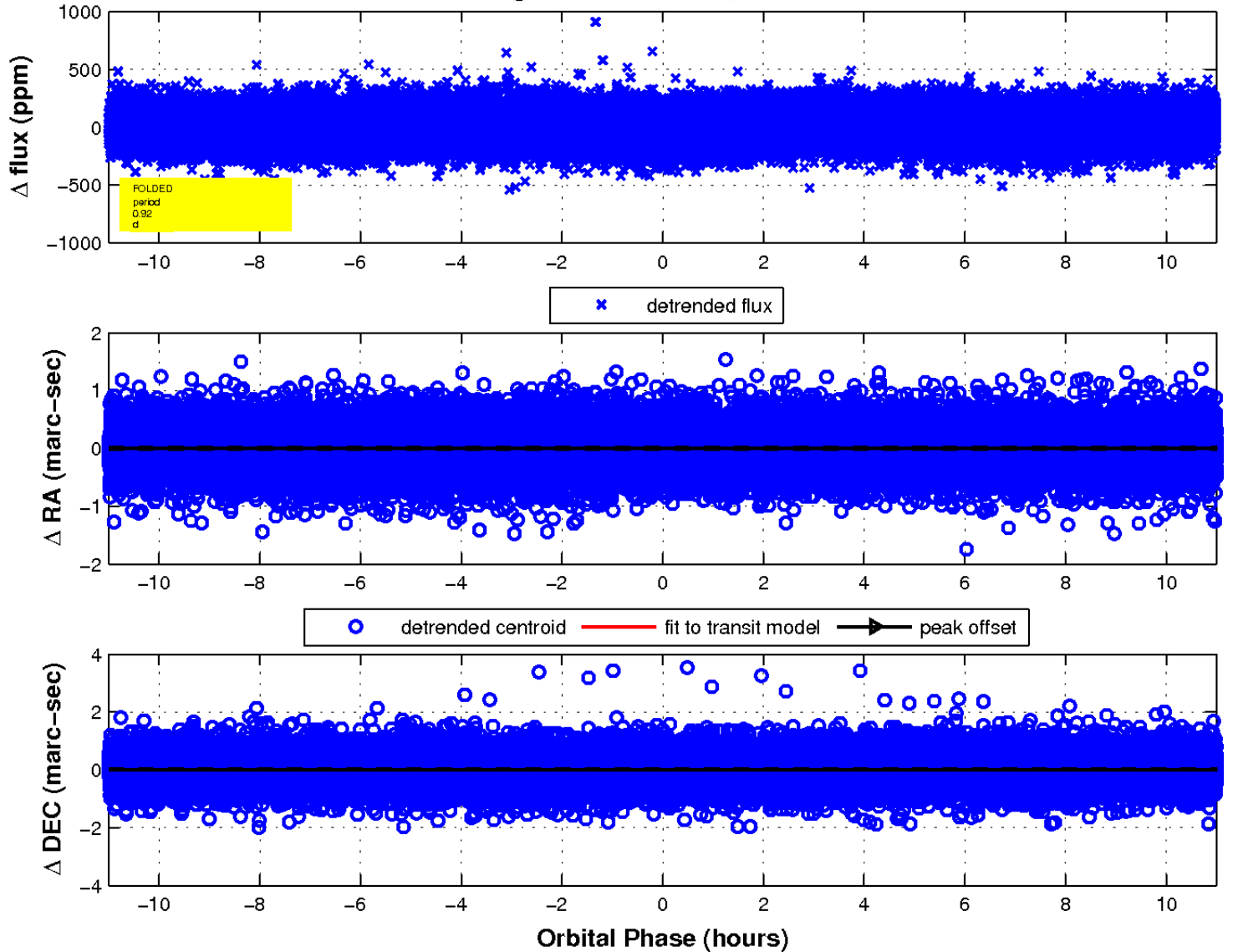
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

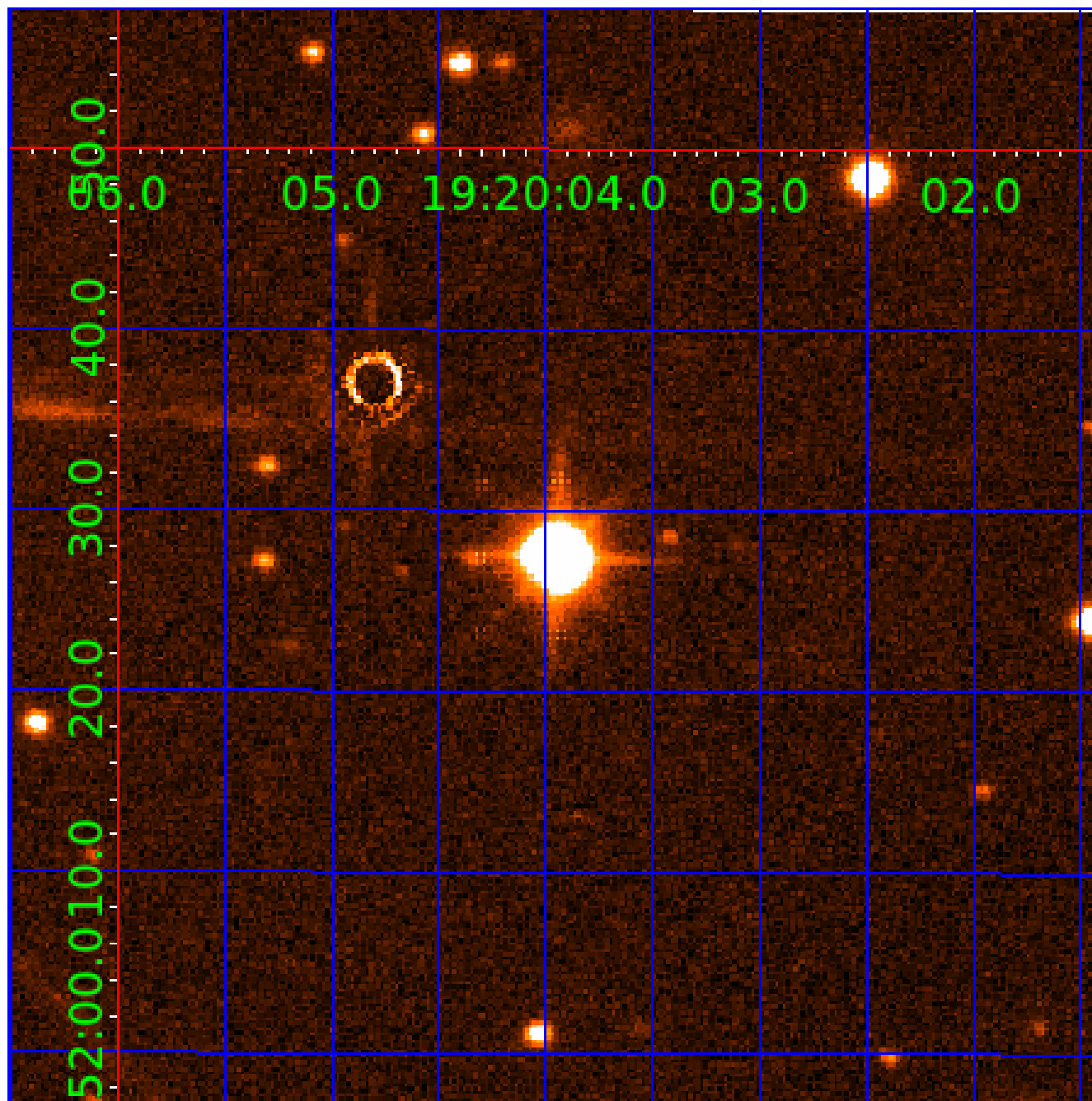


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 002568519

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})
002568519-01	OBS	No	0.916920	131.840916	8.7	3.700	8.3	4.7	2.73	6311	0.94	31368.85
002568519-02	OBS	No	111.094531	189.799139	191.0	3.789	8.1	8.0	2.73	6311	4.29	52.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002568519-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
002568519-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

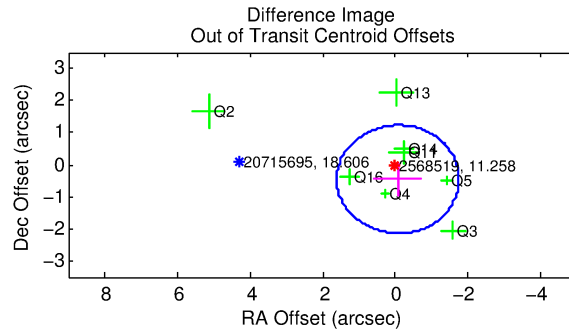
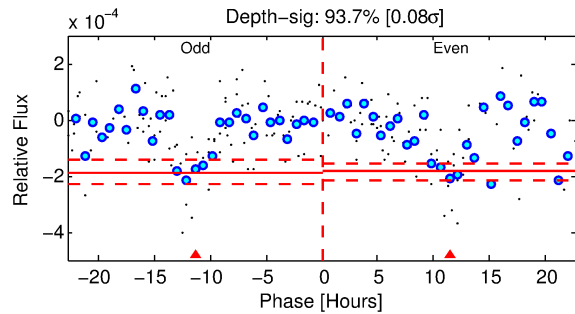
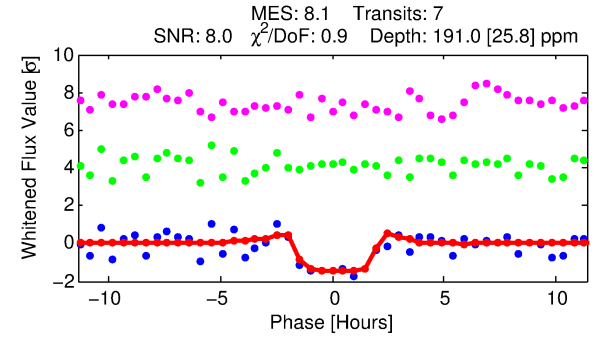
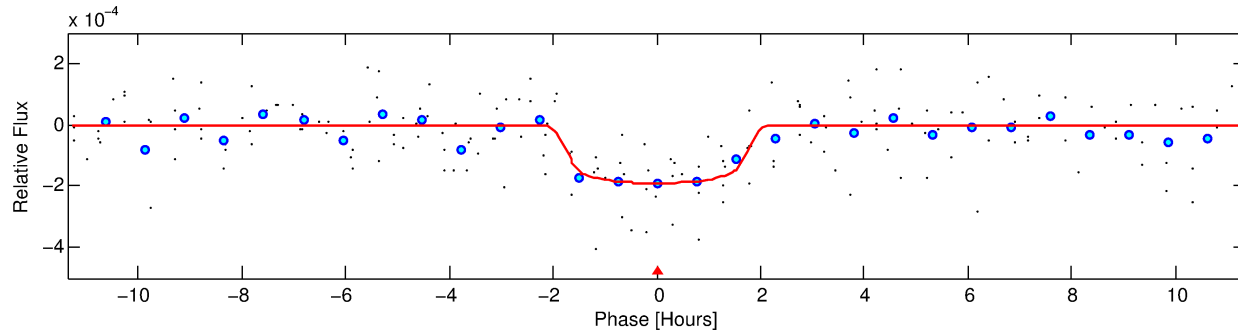
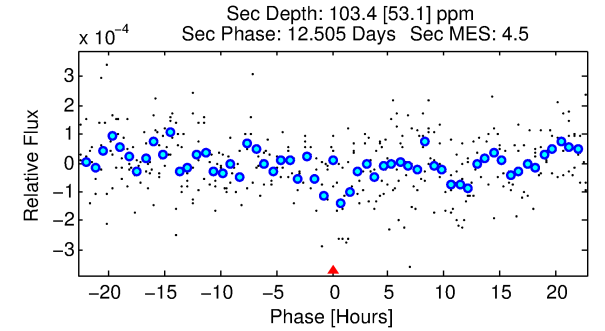
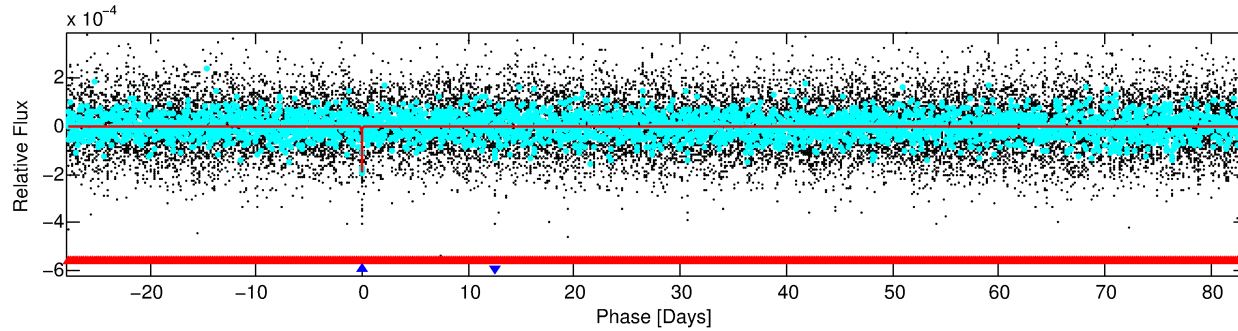
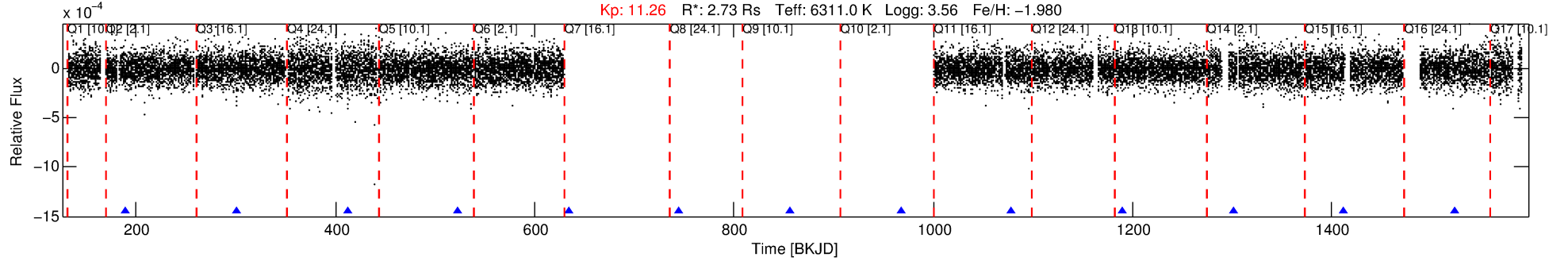
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002568519-02

No Significant Match Found

DV One-Page Summary

KIC: 2568519 Candidate: 2 of 2 Period: 111.095 d



DV Fit Results:

Period = 111.09453 [0.00094] d
Epoch = 189.7991 [0.0063] BKJD
Rp/R* = 0.0144 [0.0090]
a/R* = 120.05 [427.48]
b = 0.86 [1.08]
Seff = 52.32 [25.06]
Teff = 686 [82] K
Rp = 4.29 [3.03] Re
a = 0.4503 [0.1351] AU
Ag = 626.07 [893.66] [0.70σ]
Teffp = 5304 [1797] K [2.57σ]

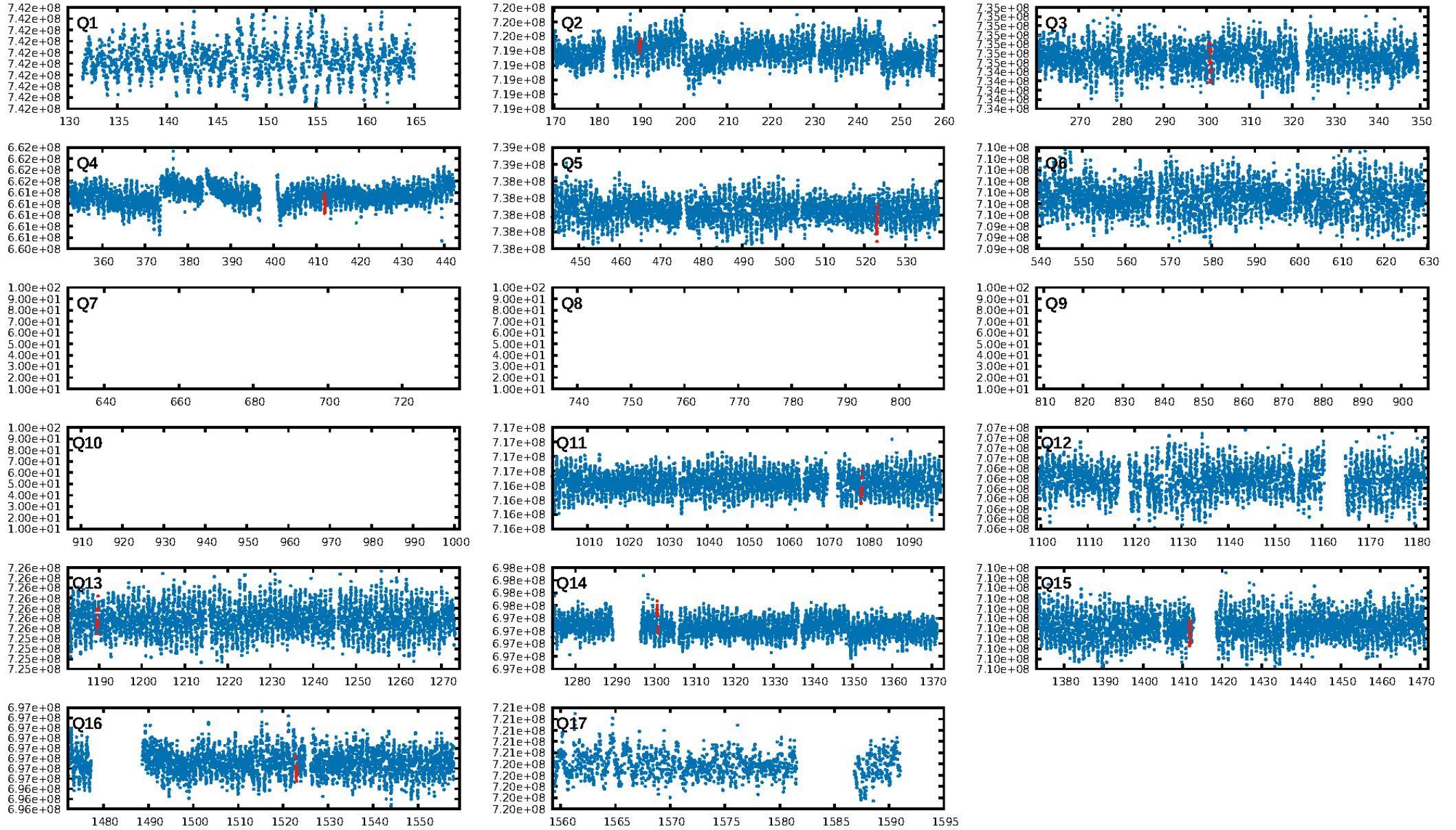
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [499.32σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 80.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.09e-10
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 1.717
Centroid-sig: 20.8%
Centroid-so: 0.616 arcsec [1.01σ]
OotOffset-rm: 0.461 arcsec [0.82σ]
KicOffset-rm: 0.551 arcsec [1.04σ]
OotOffset-st: 2/2/2 [8]
KicOffset-st: 2/2/2 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 0.11 [1/9]

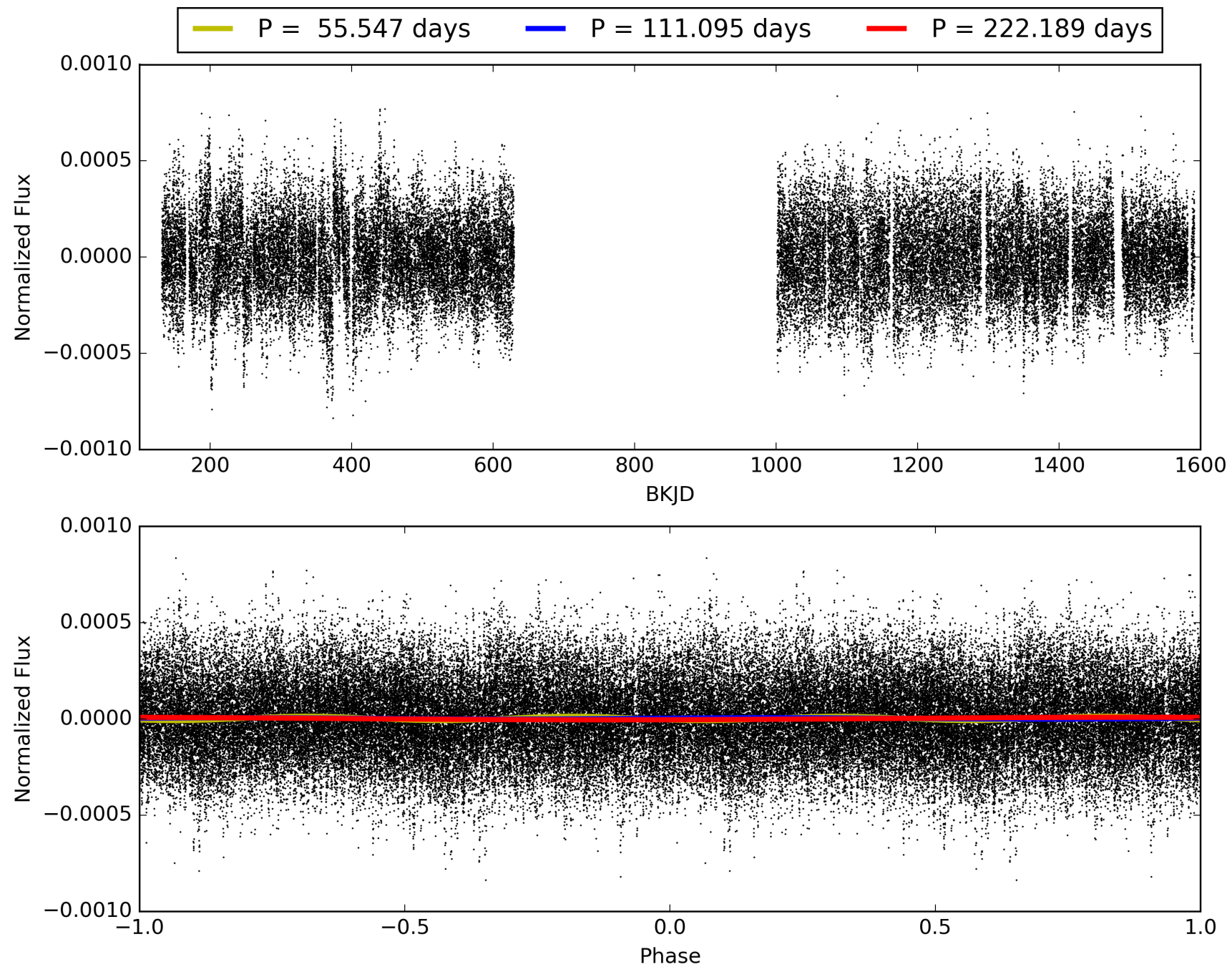
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:44:34 Z

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

TCE 002568519-02, PDC Light Curves

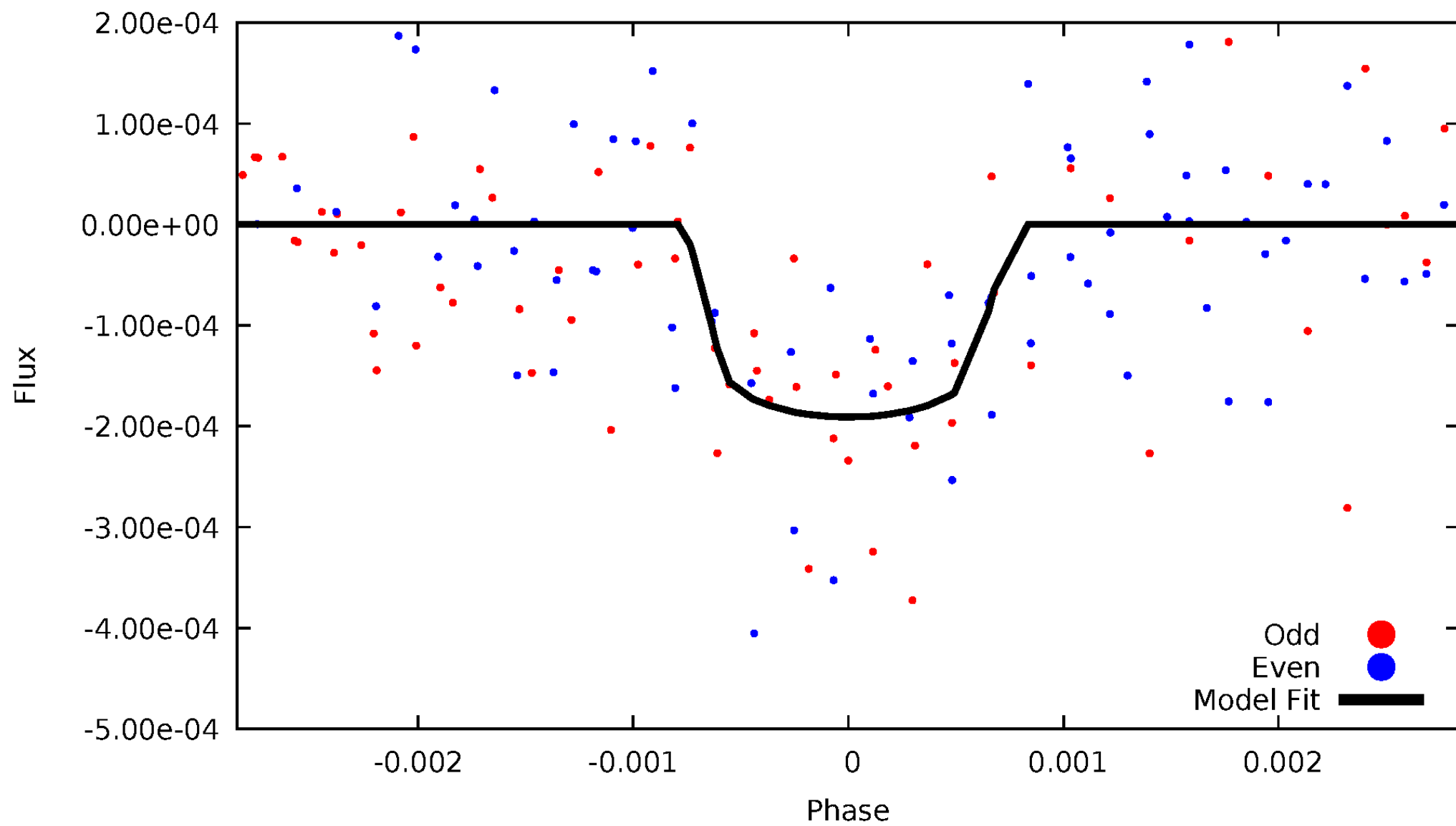


TCE 002568519-02



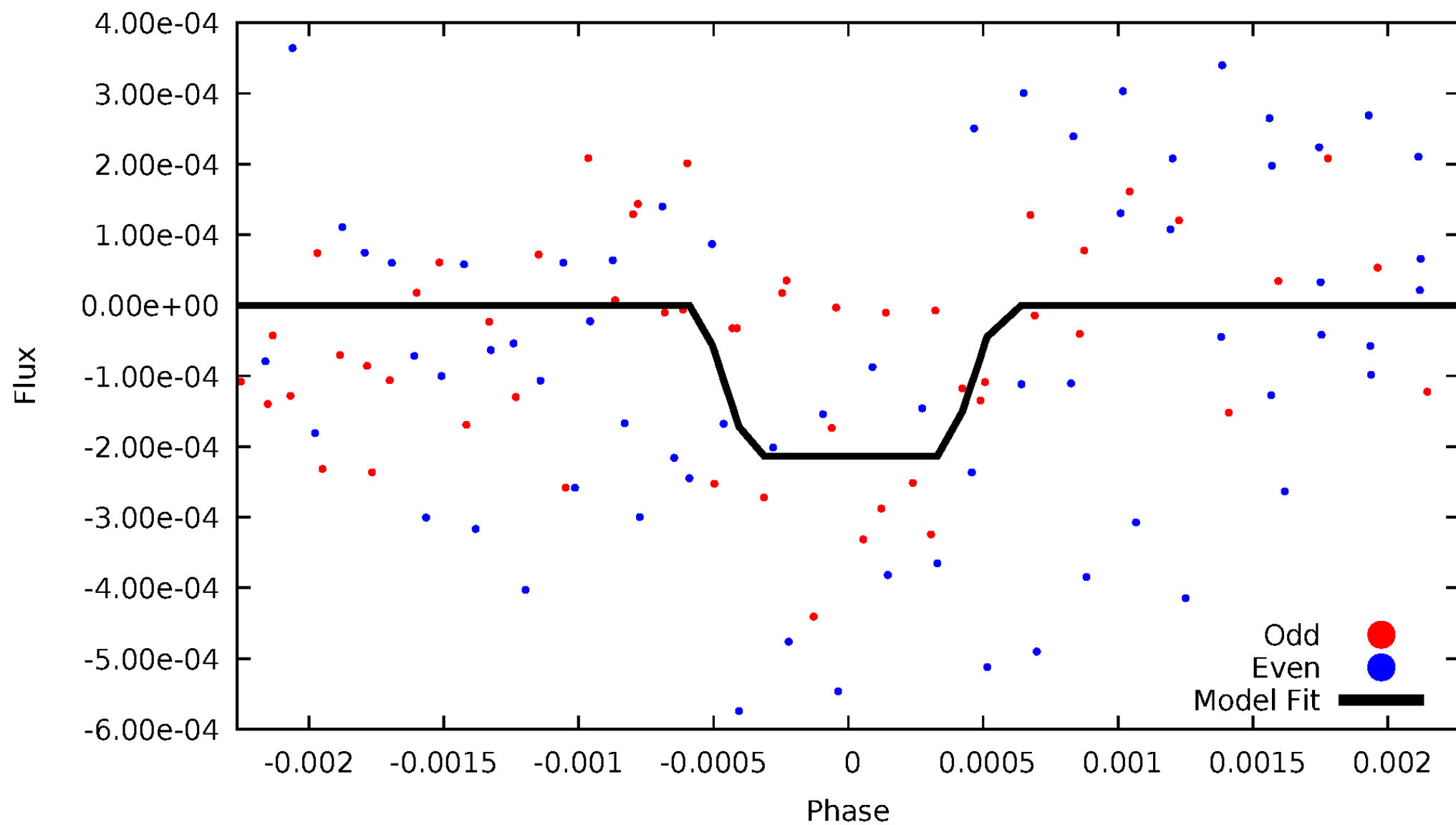
DV Odd/Even

TCE 002568519-02



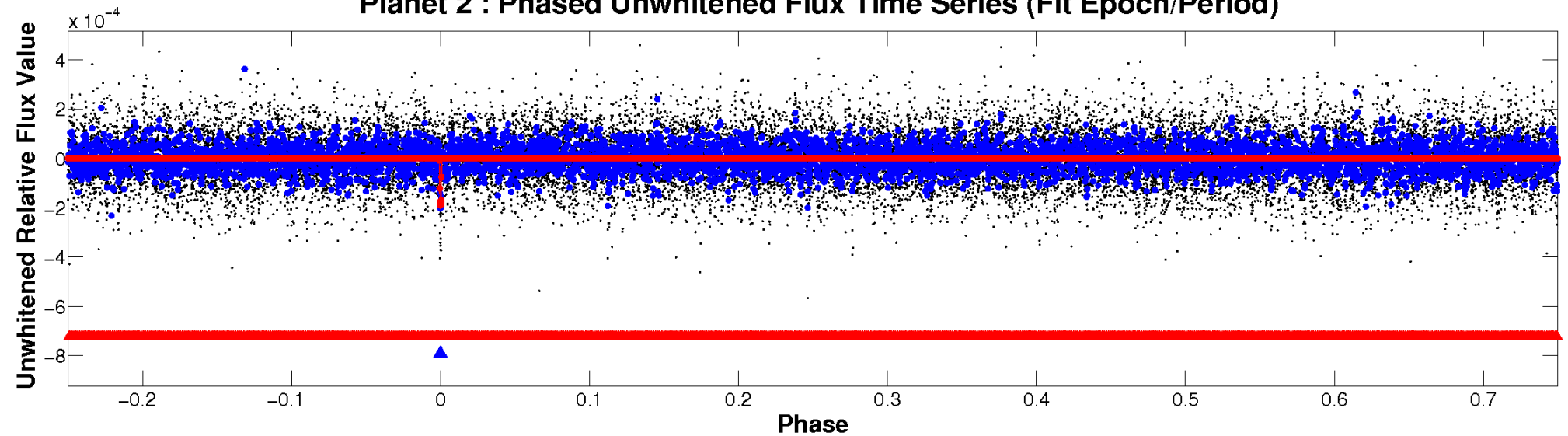
ALT Odd/Even

TCE 002568519-02

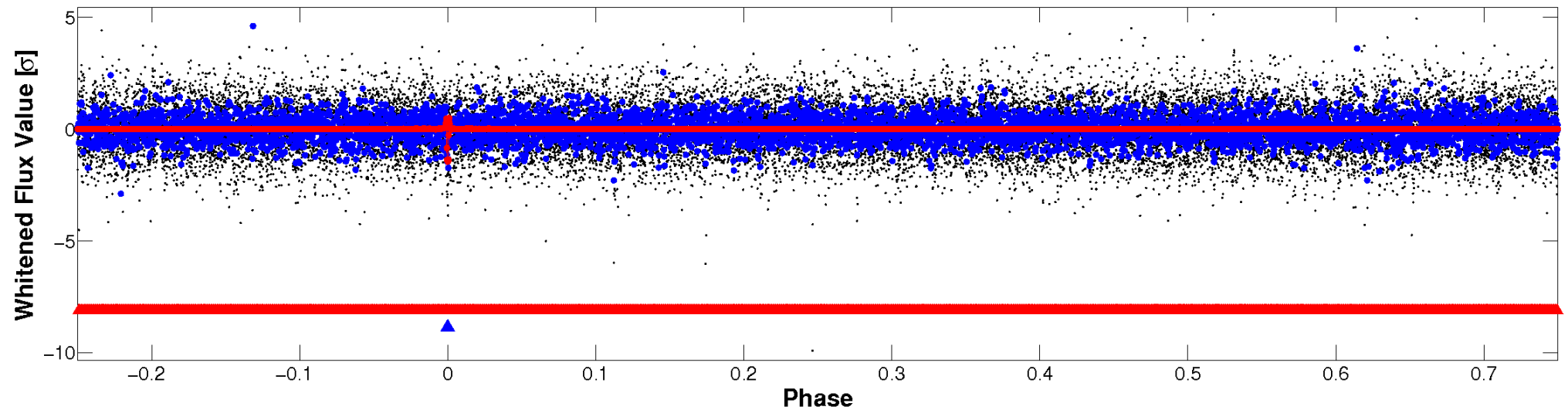


Non-Whitened Vs. Whitened Light Curve

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

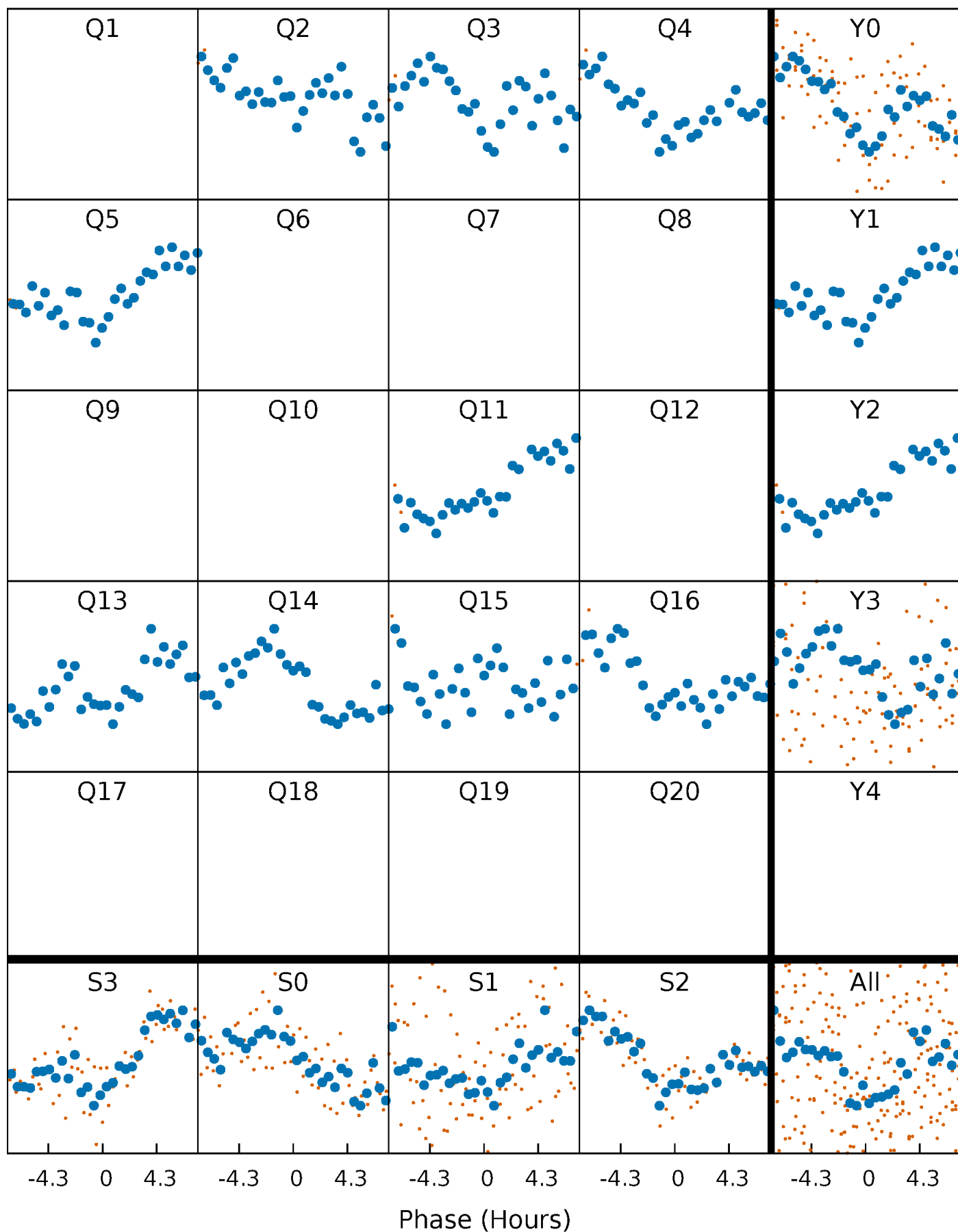


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



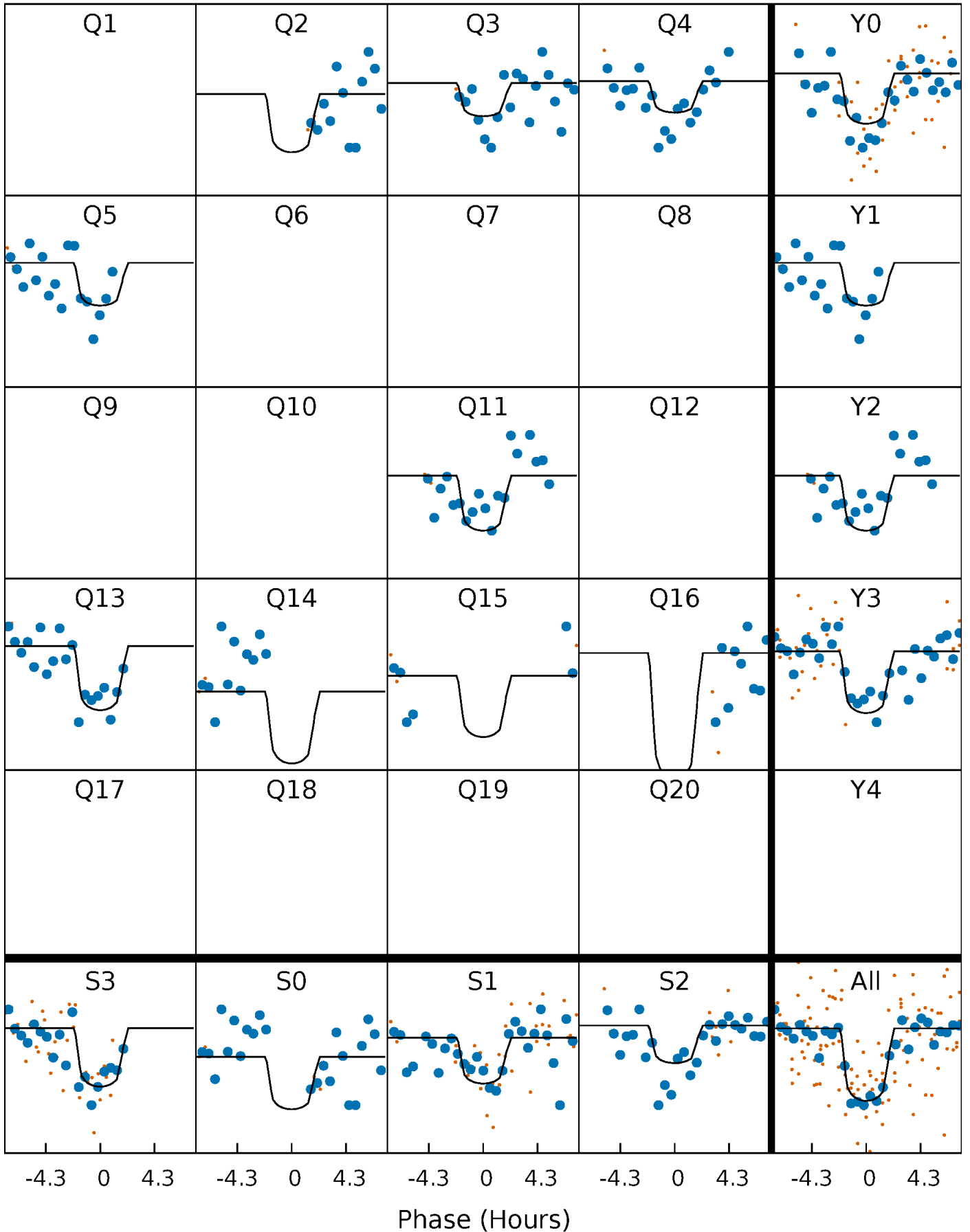
PDC Quarter-Phased Transit Curves

TCE 002568519-02 P=111.094531 Days $T_0=189.799139$ (BKJD)



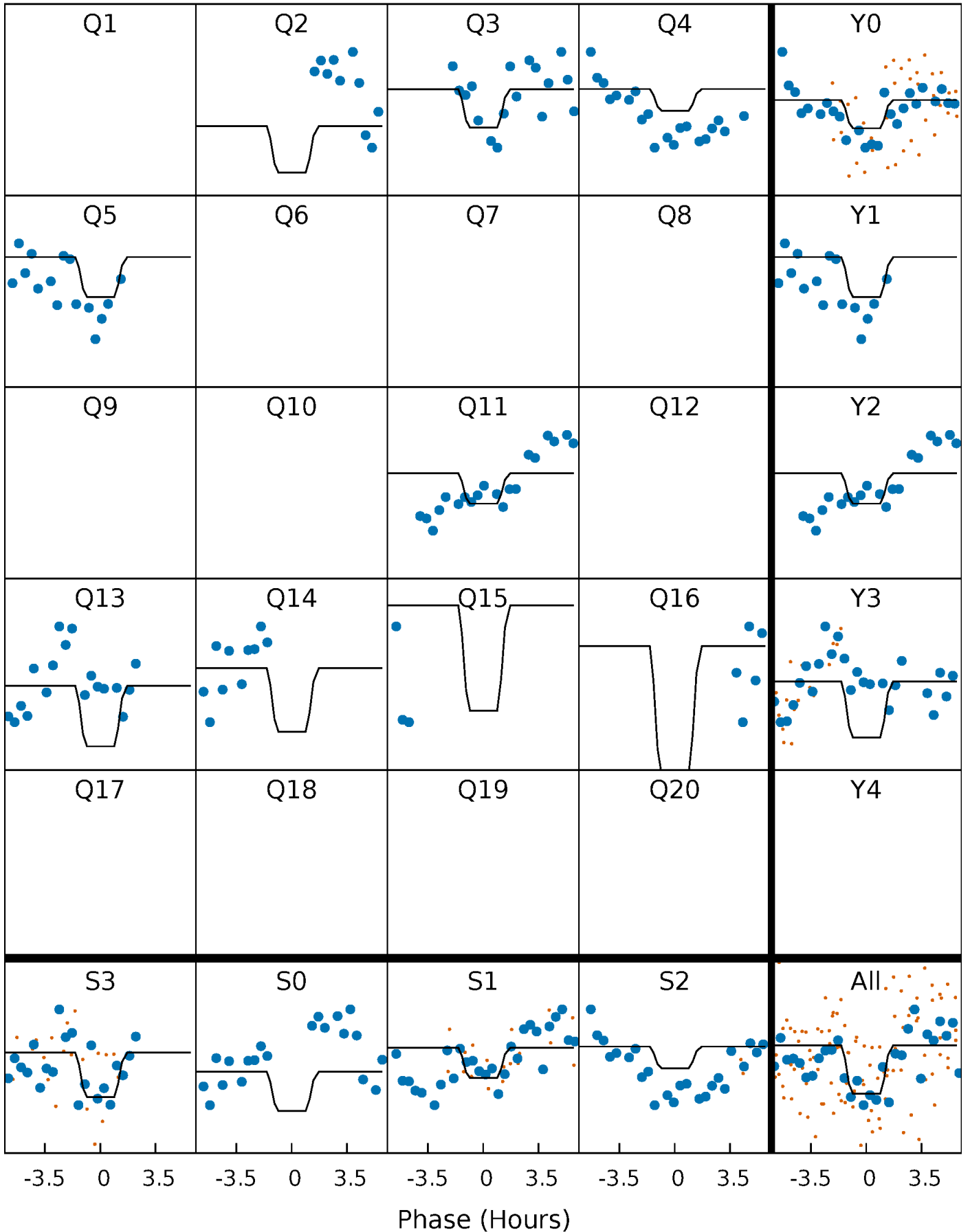
DV Quarter-Phased Transit Curves

TCE 002568519-02 $P=111.094531$ Days $T_0=189.799139$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

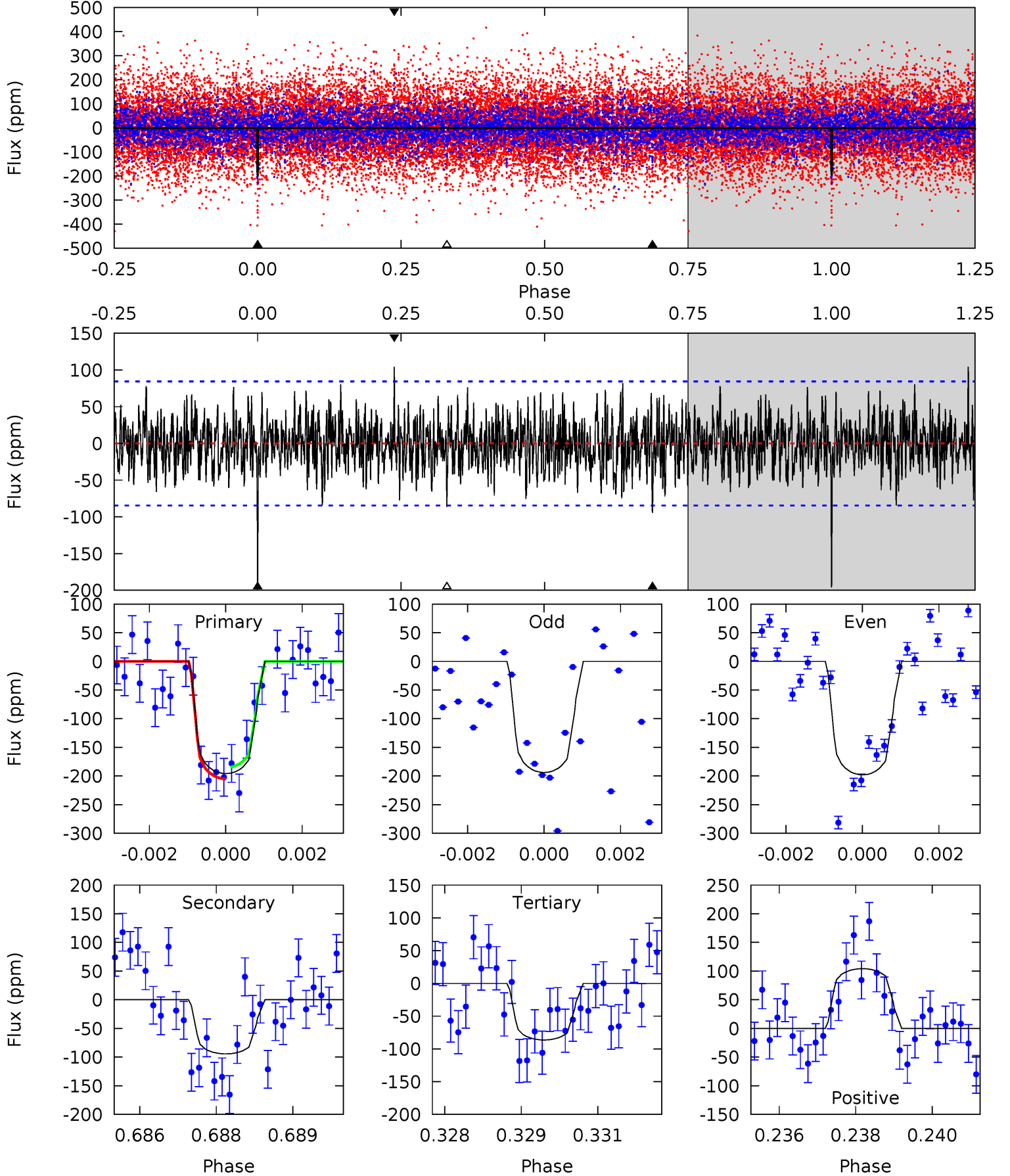
TCE 002568519-02 P=111.091909 Days $T_0=189.800856$ (BKJD)



DV Model-Shift Uniqueness Test

002568519-02, $P = 111.094531$ Days, $E = 78.704608$ Days

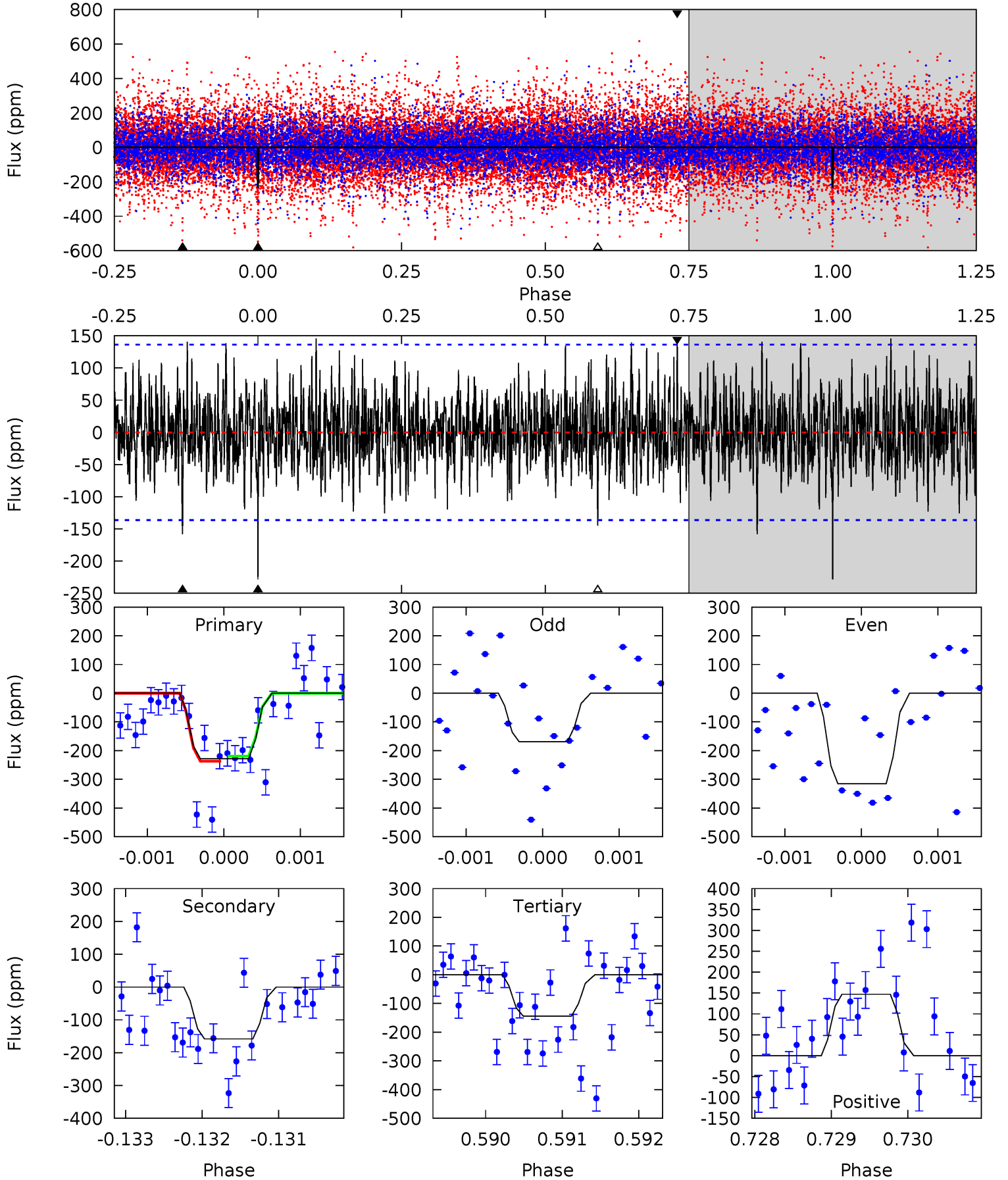
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	6.00	5.49	6.62	5.36	3.15	1.77	6.95	5.81	0.51	-0.62	0.13	1.01	0.35	0.65



Alt Model-Shift Uniqueness Test

002568519-02, P = 111.091909 Days, E = 78.708947 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.12	6.32	5.75	5.87	5.45	3.29	1.70	3.38	3.25	0.57	0.44	2.92	1.29	0.39	0.35



Stellar Parameters For KIC 002568519

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6311^{+157}_{-189}	$3.559^{+0.266}_{-0.143}$	$-1.980^{+0.250}_{-0.050}$	$2.732^{+0.737}_{-0.901}$	$0.985^{+0.155}_{-0.172}$	$0.068^{+0.120}_{-0.028}$
	+2%/-3%	+7%/-4%	+13%/-3%	+27%/-33%	+16%/-17%	+176%/-41%
Source	PHO1	FLK73	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 002568519-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-94 ± 16	$4.28^{+2.45}_{-2.38}$	946^{+72}_{-76}	5146^{+2456}_{-866}	572^{+2212}_{-346}
Alt.	-158 ± 25	$4.22^{+2.68}_{-2.30}$	948^{+69}_{-89}	5793^{+3225}_{-1096}	938^{+3673}_{-582}

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 $A_{obs} \gg 1.0$

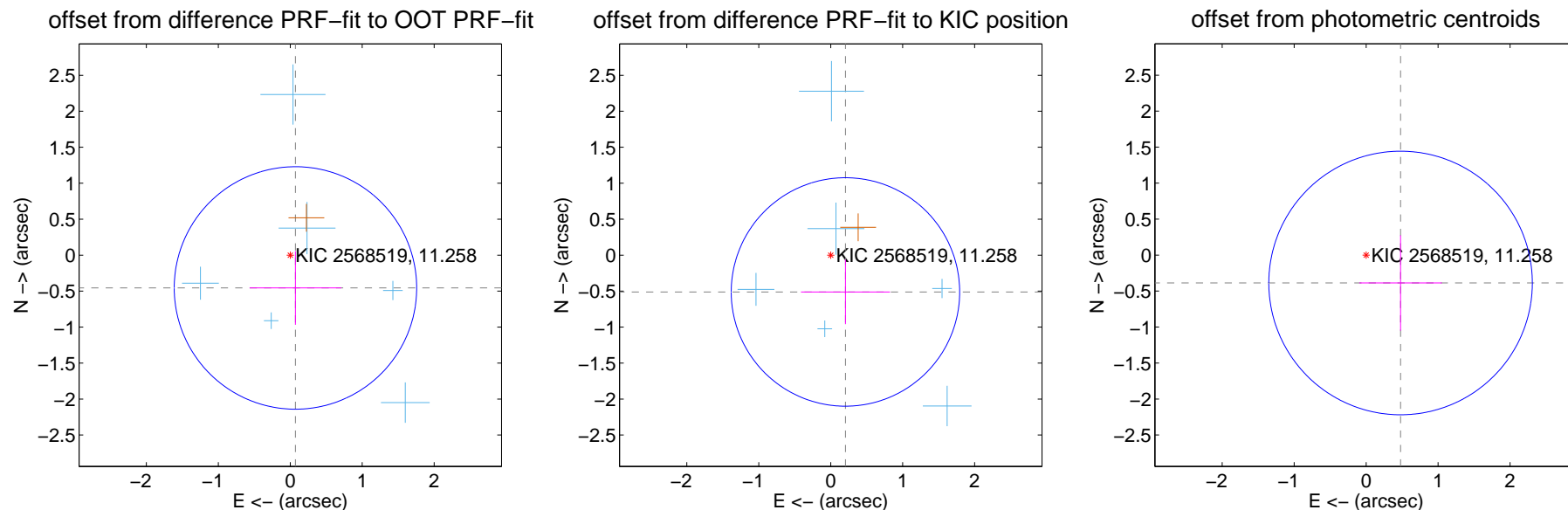
DV Centroid Data

Supplemental centroid analysis for 002568519-02. **Kepler magnitude: 11.26.** Transit SNR 8.04

There are 6 quarters with good PRF difference image offsets

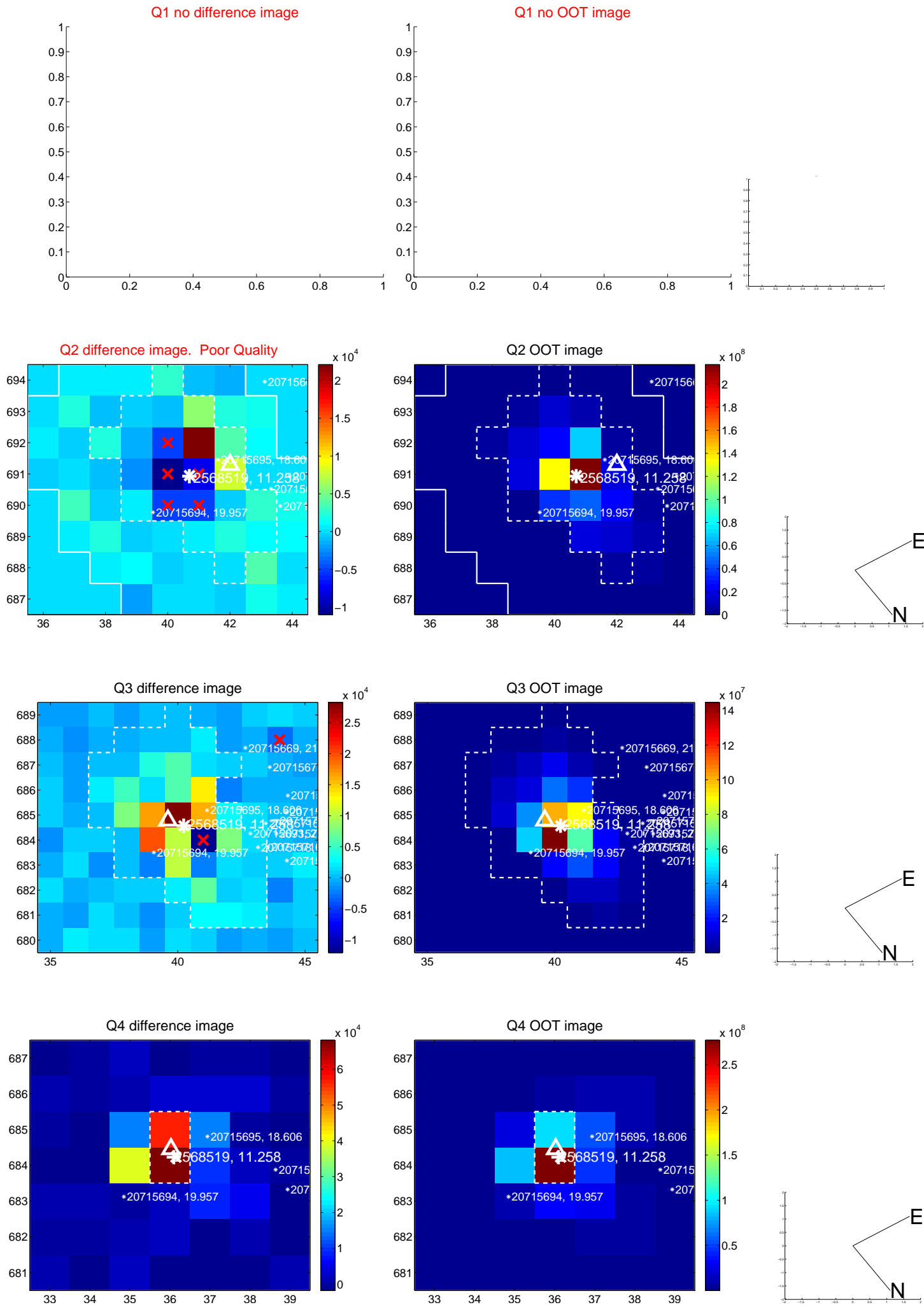
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.461 ± 0.562	0.82	-0.072 ± 0.637	-0.456 ± 0.513
PRF-fit source offset from KIC position	0.551 ± 0.529	1.04	-0.205 ± 0.619	-0.512 ± 0.448
photometric centroid source offset	0.62 ± 0.61	1.01	-0.48 ± 0.57	-0.39 ± 0.66

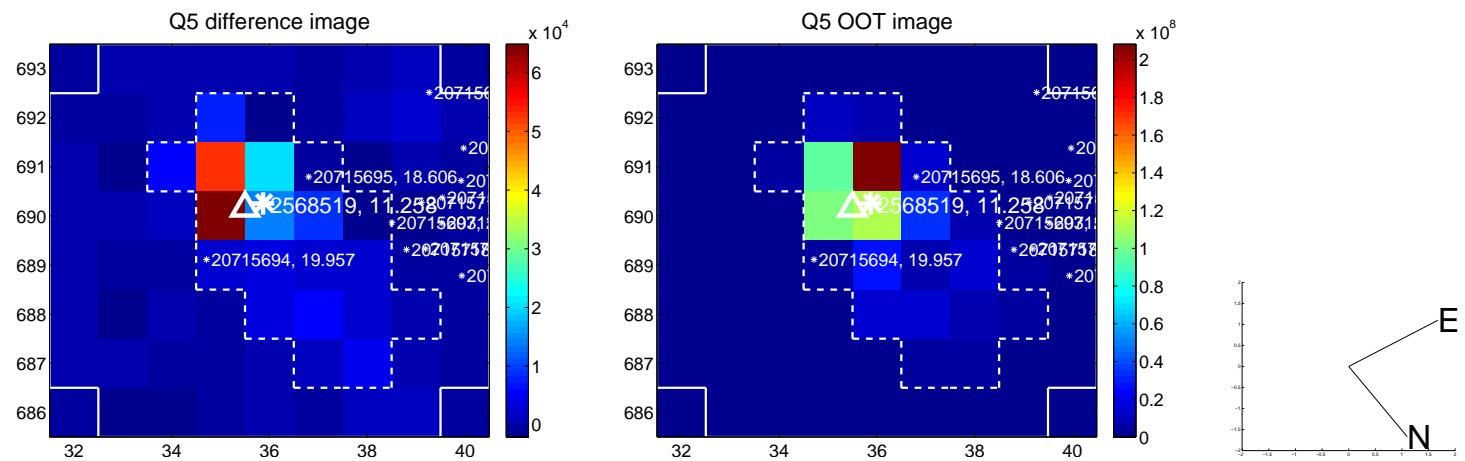


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

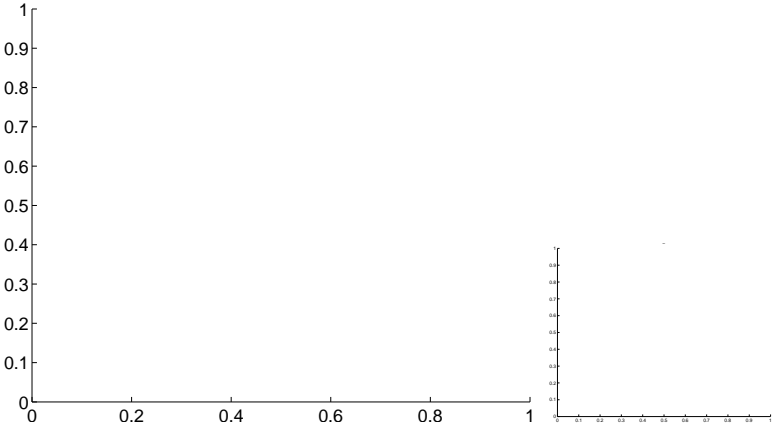


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q9 no difference image



Q9 no OOT image



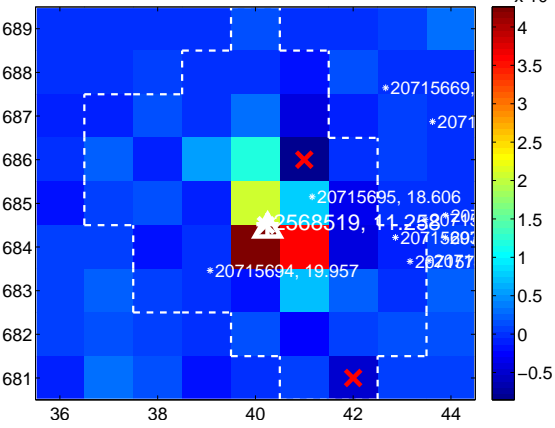
Q10 no difference image



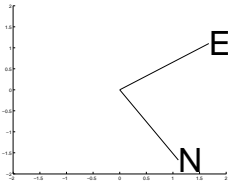
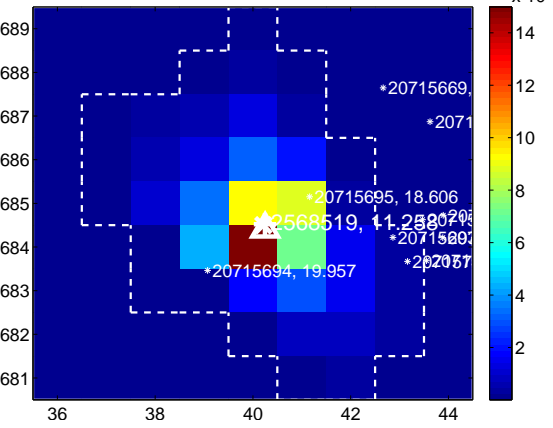
Q10 no OOT image



Q11 difference image



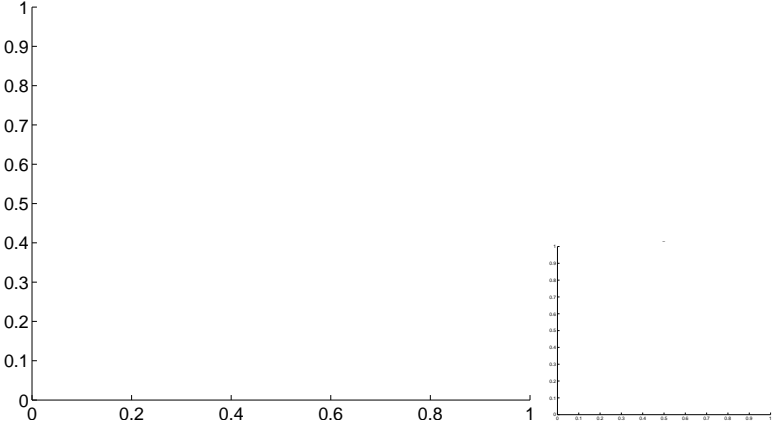
Q11 OOT image



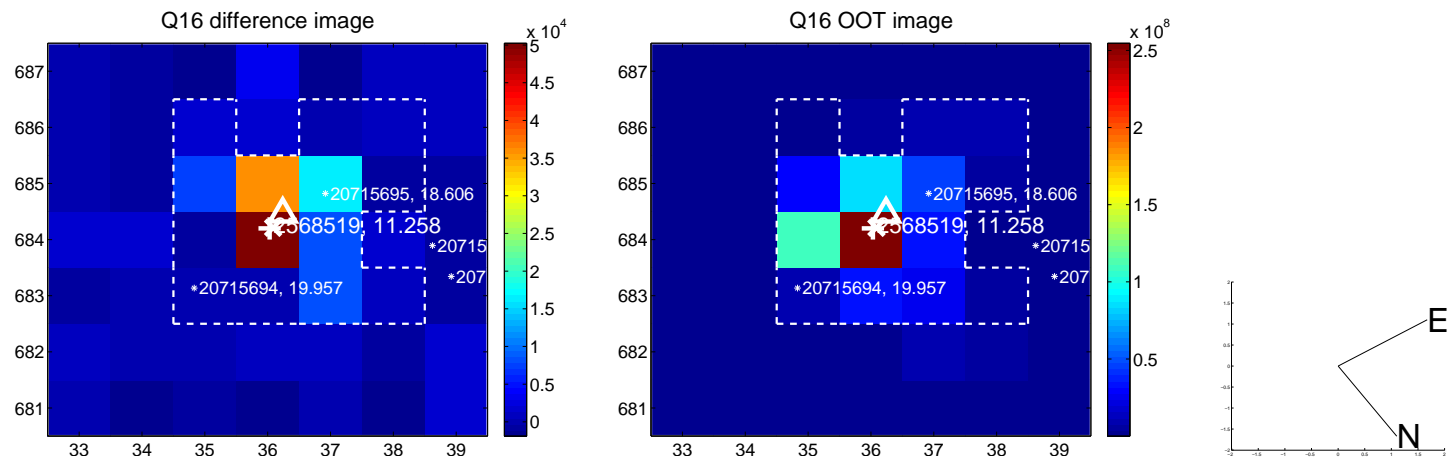
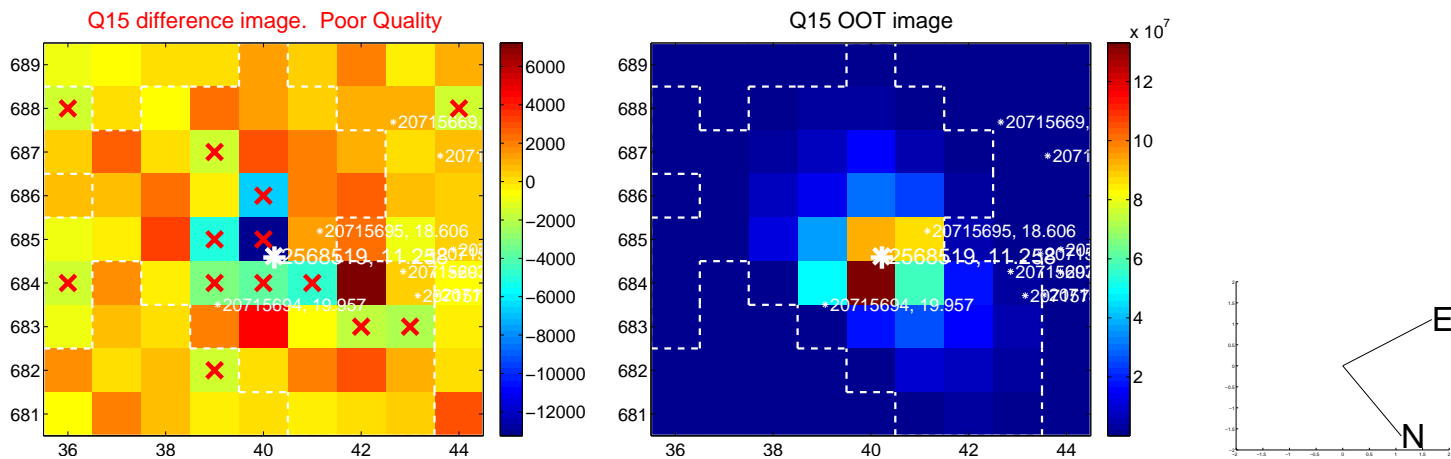
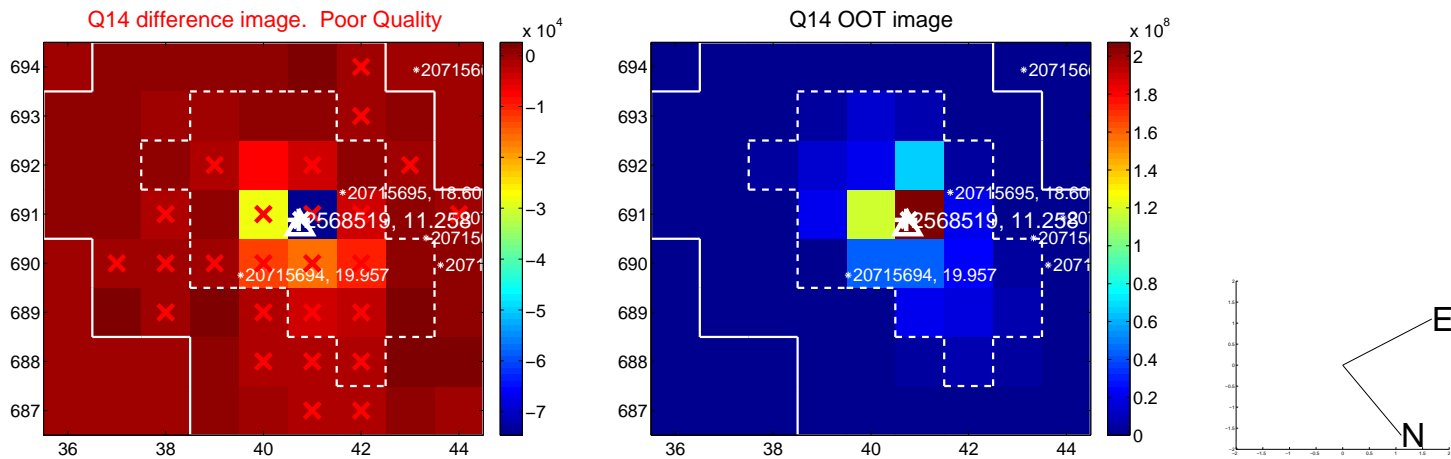
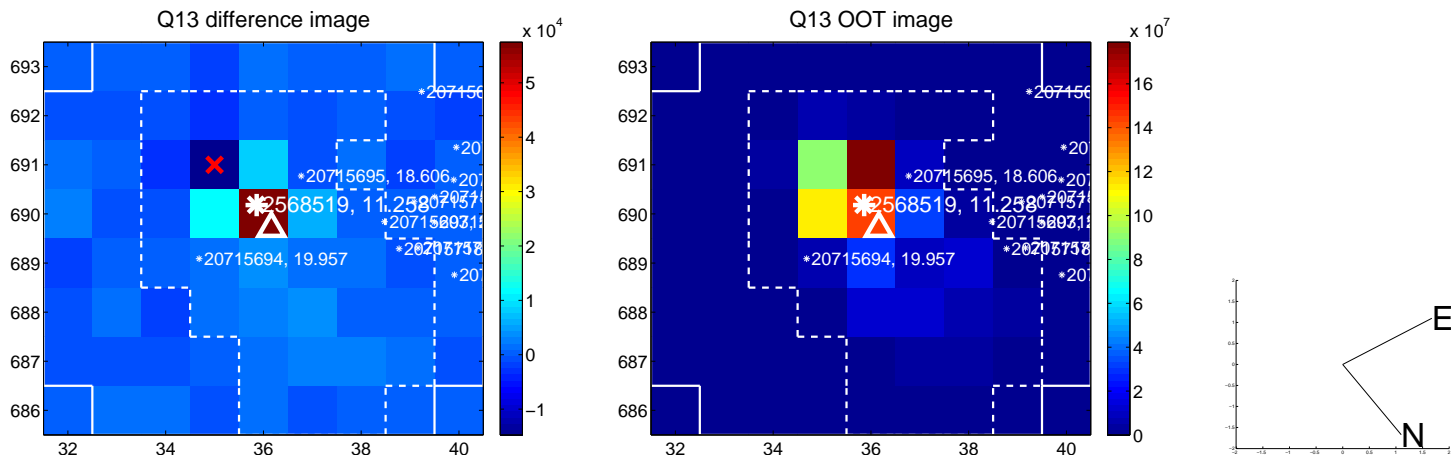
Q12 no difference image



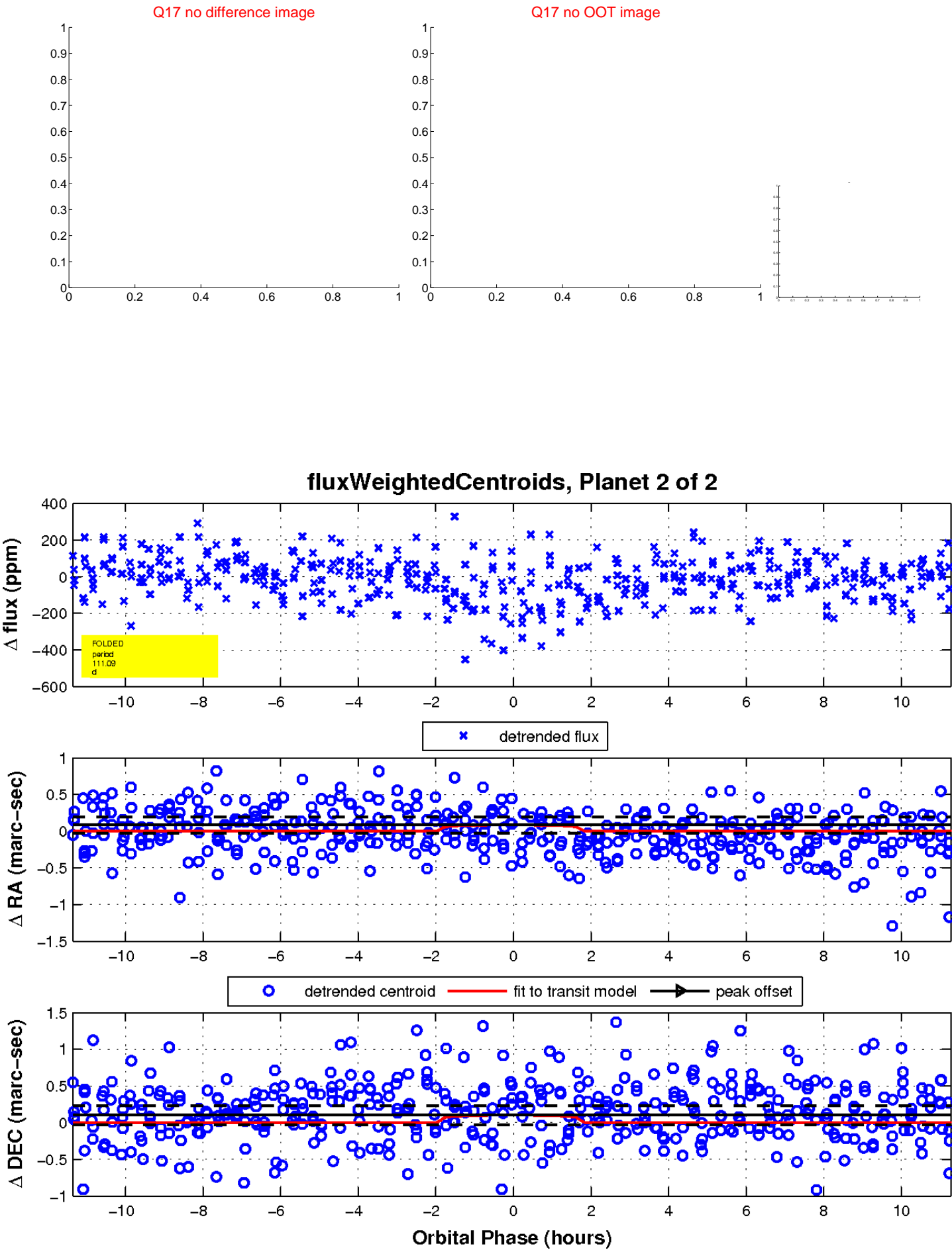
Q12 no OOT image



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



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



UKIRT Image

Declination

