

KIC 011656302

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})
011656302-01	OBS	0434.01	22.264806	150.838154	18213.1	8.817	1049.1	910.7	0.81	5681	11.96	27.83
011656302-02	OBS	No	22.264834	137.462875	1395.0	8.980	79.5	80.7	0.81	5681	3.68	27.83
011656302-03	OBS	No	567.845168	247.970528	471.1	12.327	11.7	7.1	0.81	5681	1.89	0.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011656302-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS
011656302-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
011656302-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

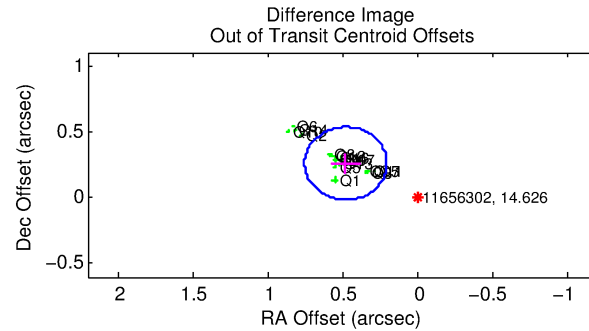
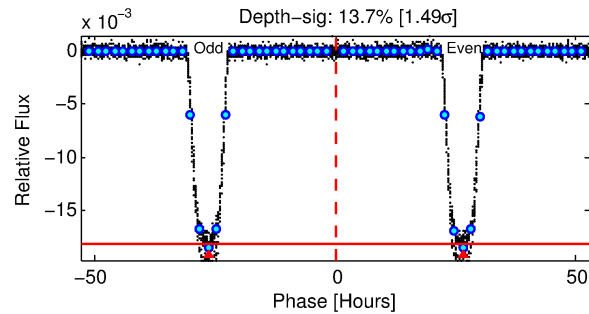
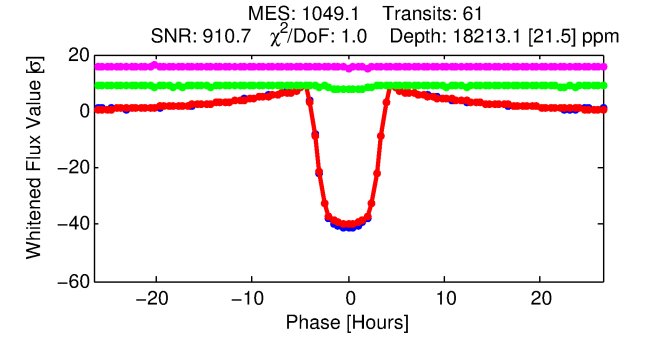
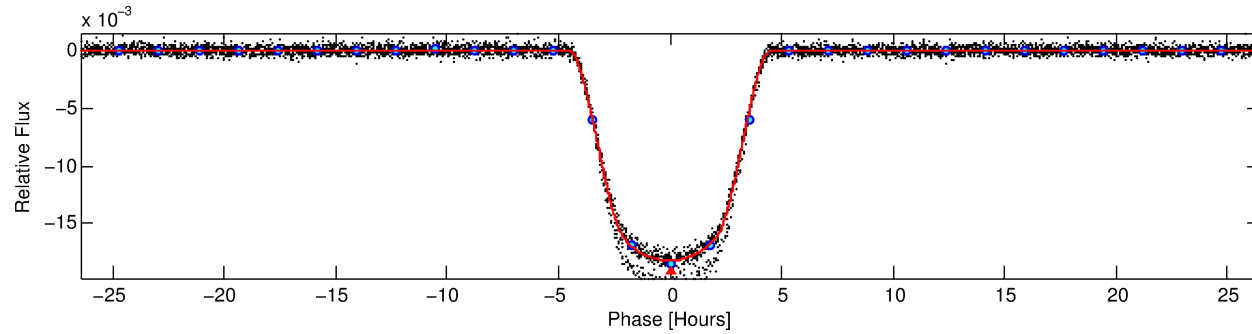
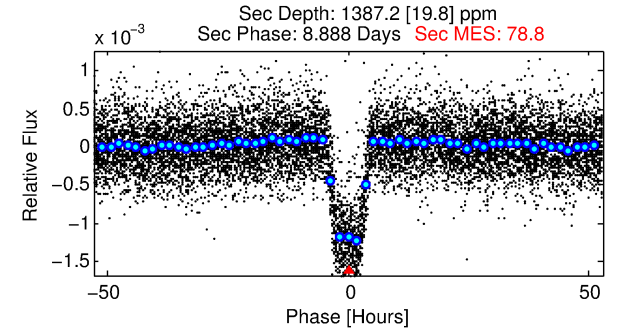
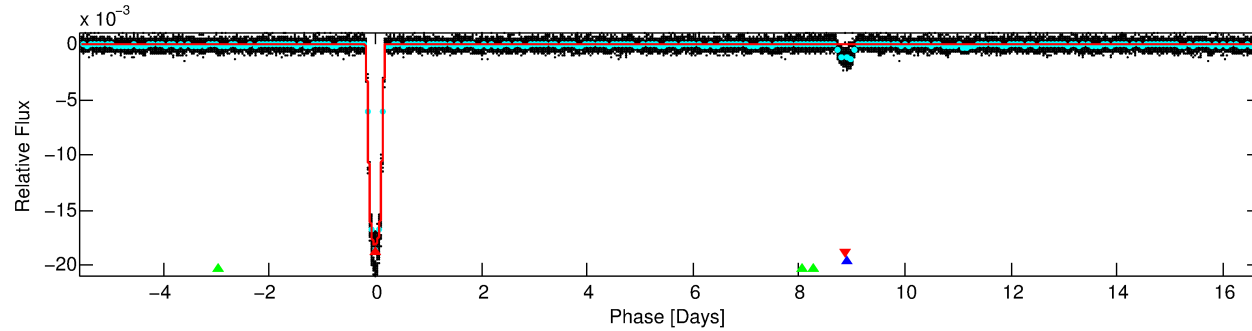
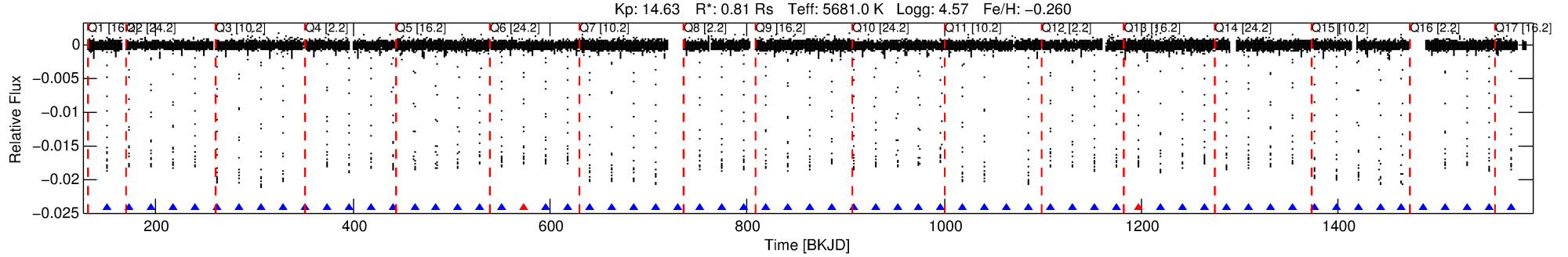
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011656302-01

No Significant Match Found

DV One-Page Summary

KIC: 11656302 Candidate: 1 of 3 Period: 22.265 d
KOI: K00434.01 Corr: 0.962



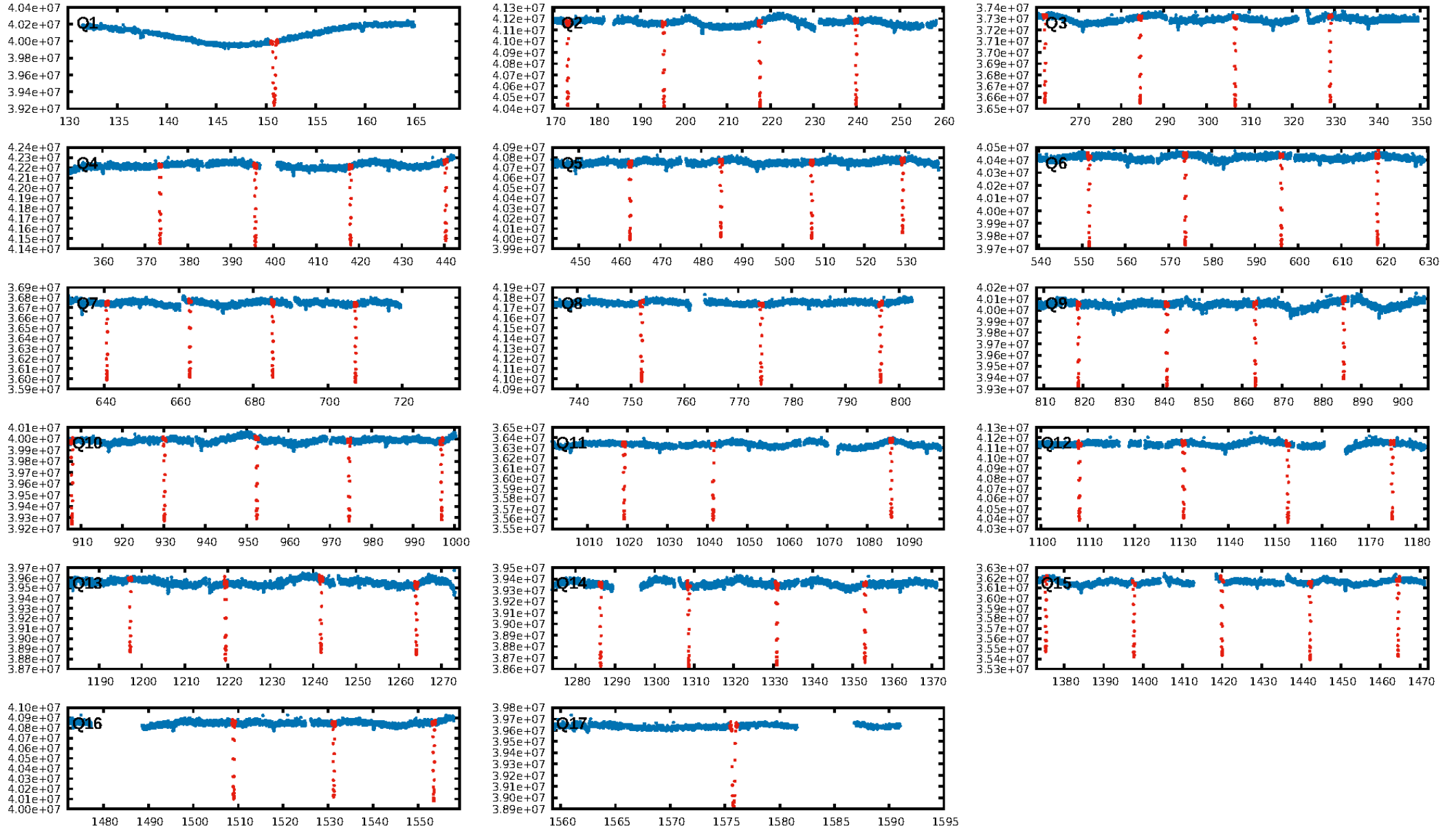
DV Fit Results:

Period = 22.26481 [0.00000] d
Epoch = 150.8382 [0.0002] BKJD
Rp/R* = 0.1348 [0.0001]
a/R* = 16.48 [0.04]
b = 0.75 [0.00]
Seff = 27.83 [9.70]
Teq = 586 [51] K
Rp = 11.96 [3.21] Re
a = 0.1489 [0.0336] AU
Ag = 118.21 [38.79] [3.02 σ]
Teffp = 2986 [89] K [23.30 σ]

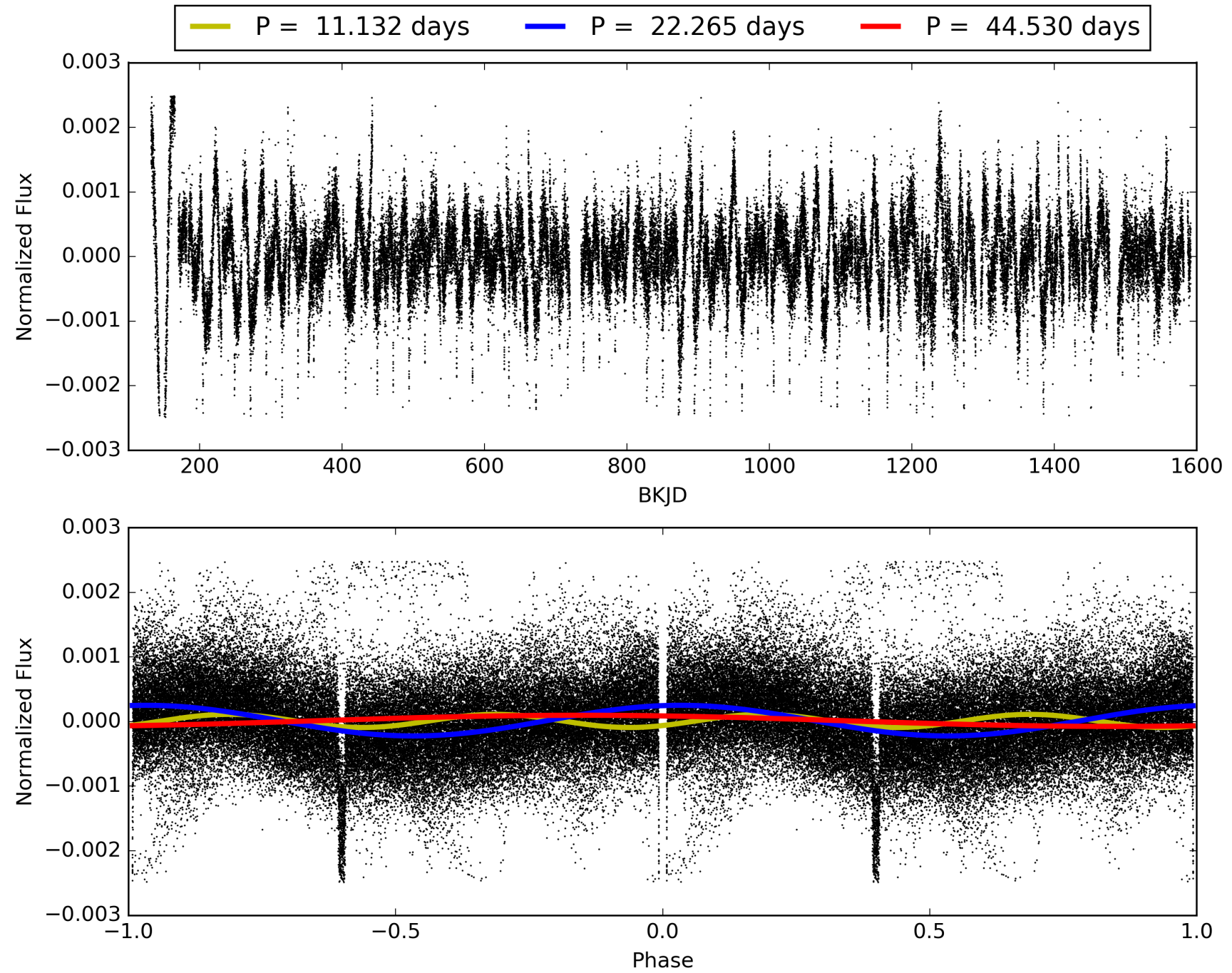
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.97 [57/59]
GhostDiagnostic-chr: 4.064
Centroid-sig: 0.0%
Centroid-so: 0.219 arcsec [25.41 σ]
OotOffset-rm: 0.542 arcsec [5.91 σ]
KicOffset-rm: 0.108 arcsec [1.59 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011656302-01, PDC Light Curves

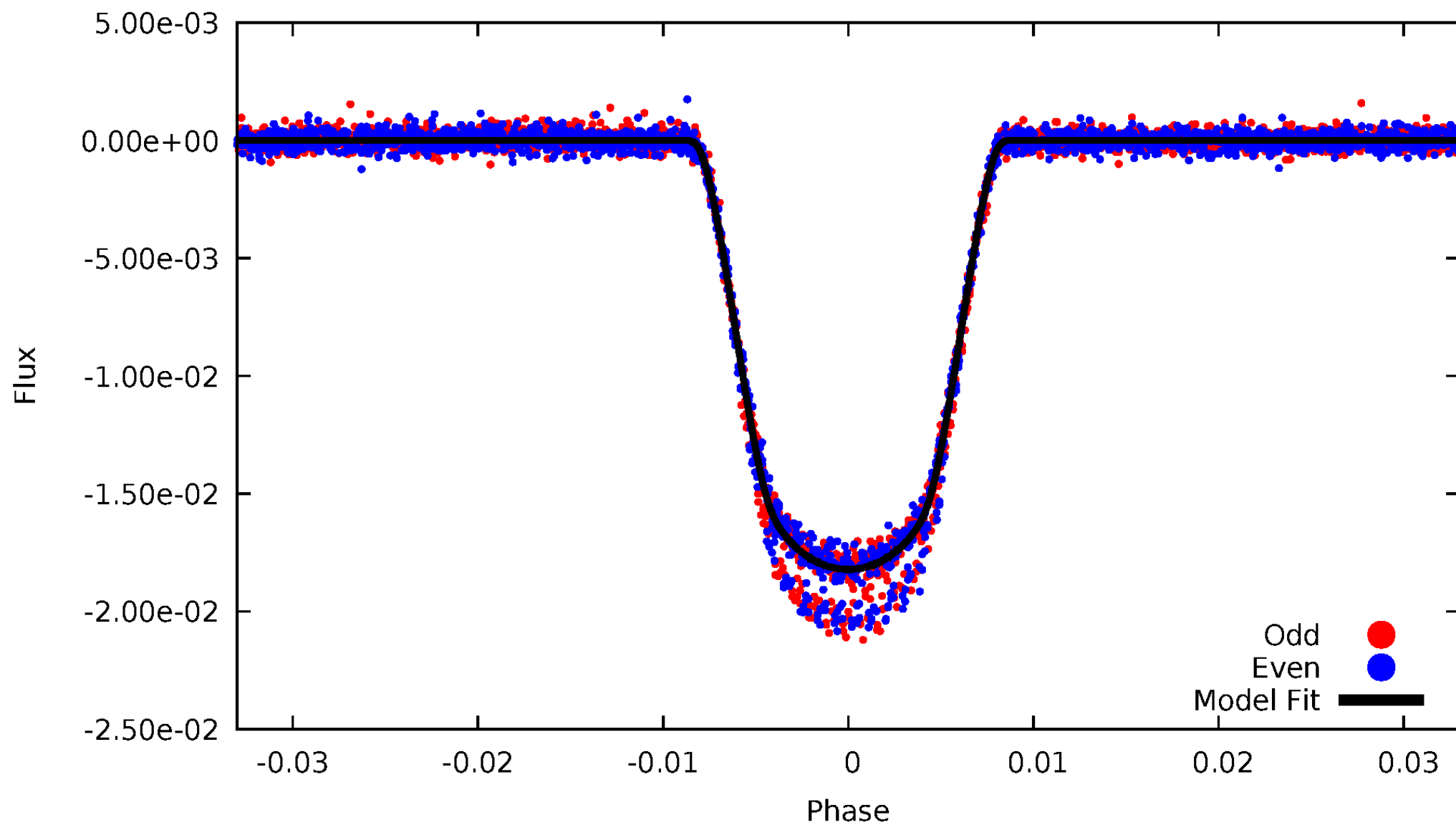


TCE 011656302-01



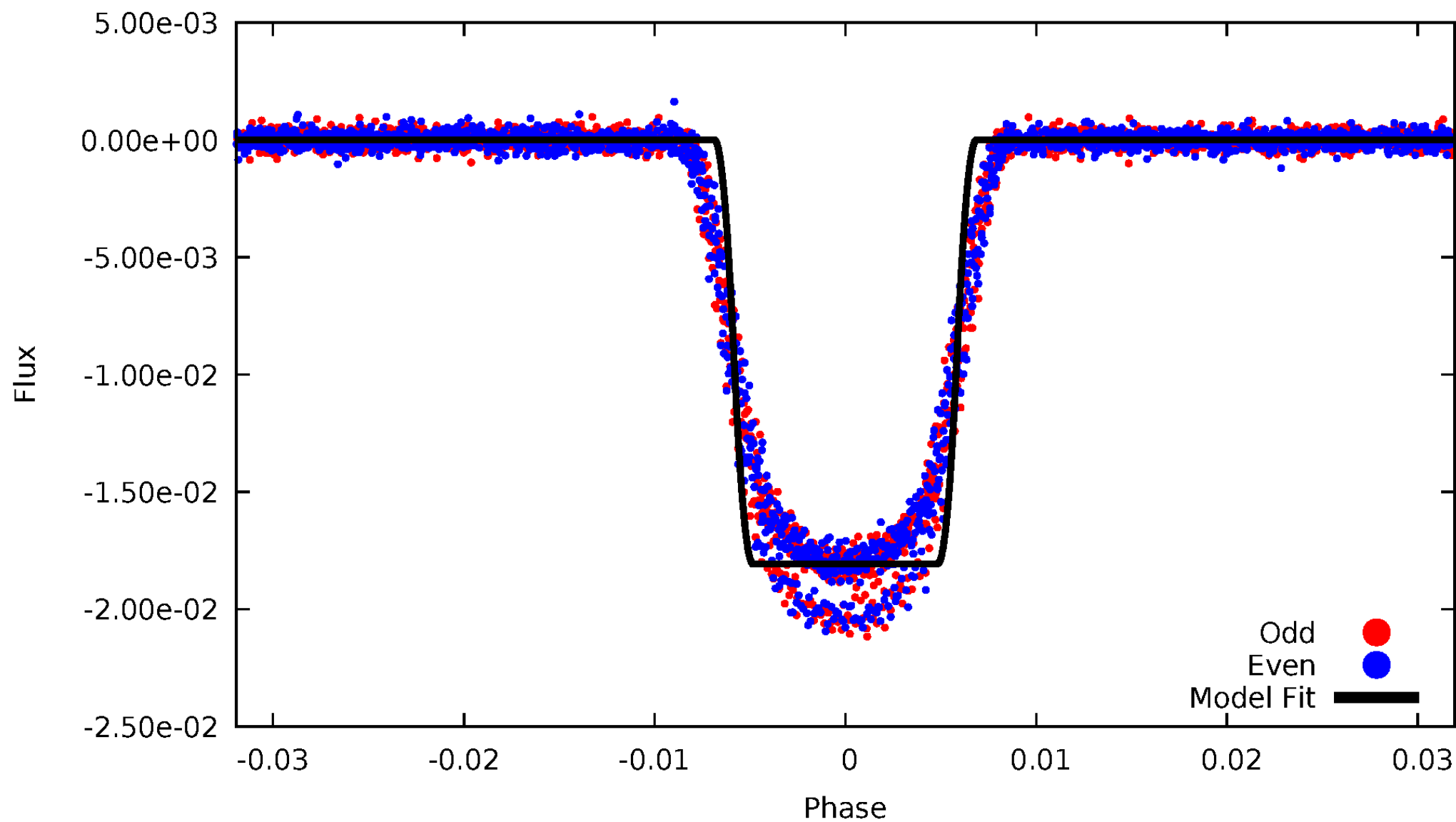
DV Odd/Even

TCE 011656302-01



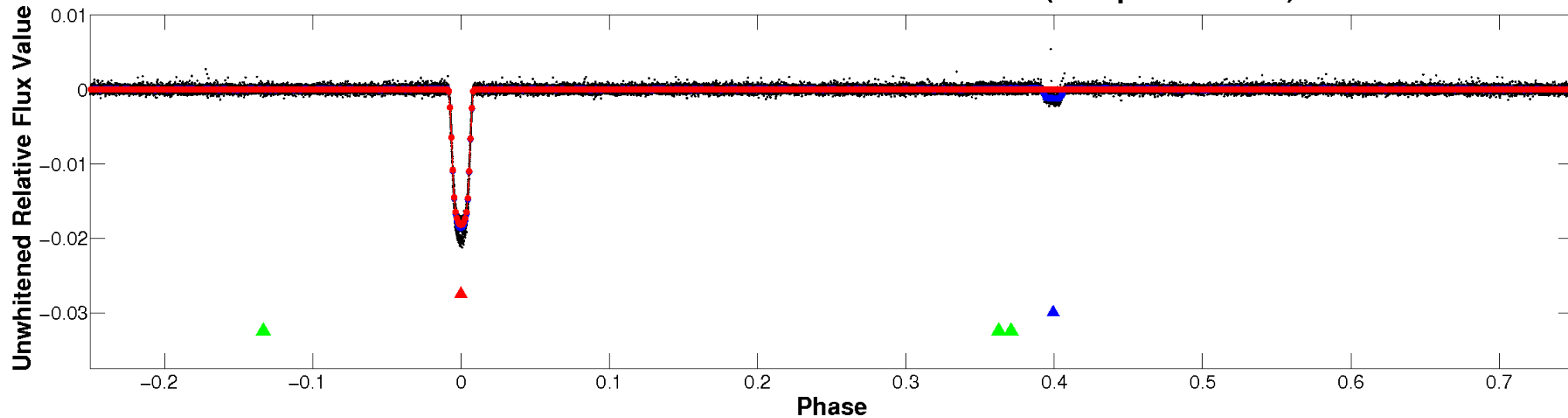
ALT Odd/Even

TCE 011656302-01

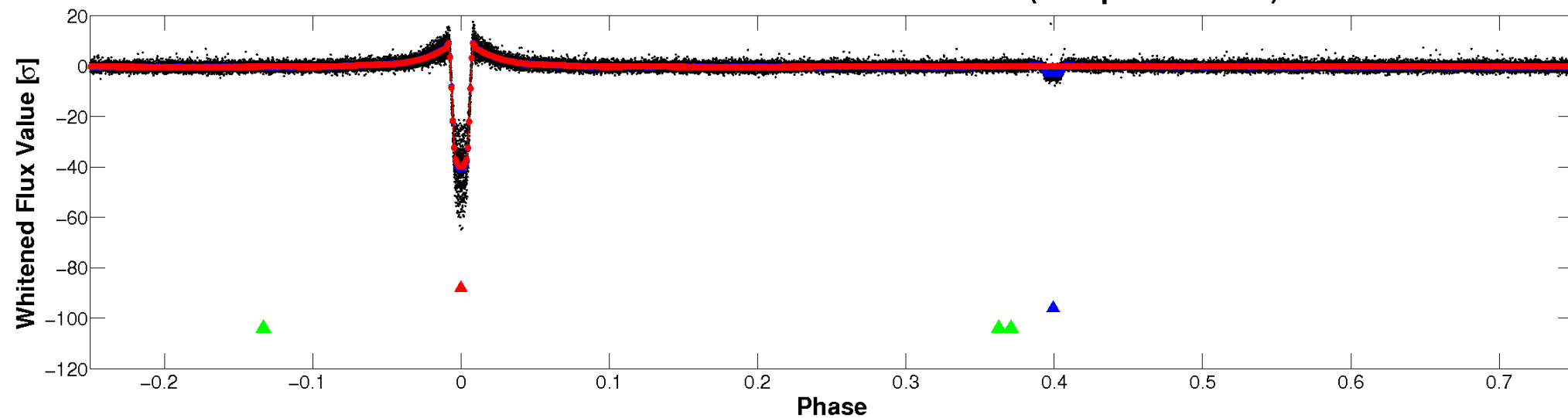


Non-Whitened Vs. Whitened Light Curve

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

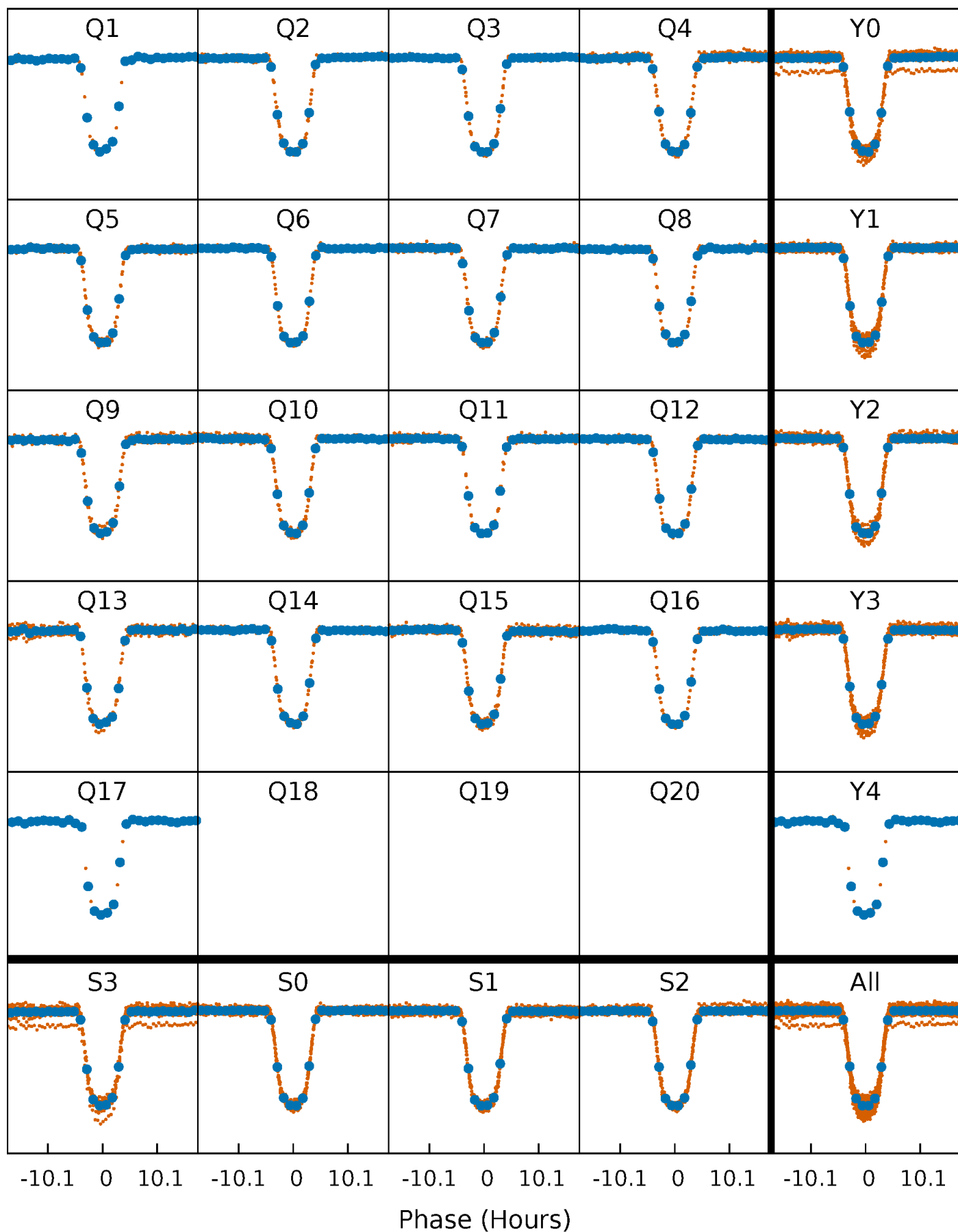


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



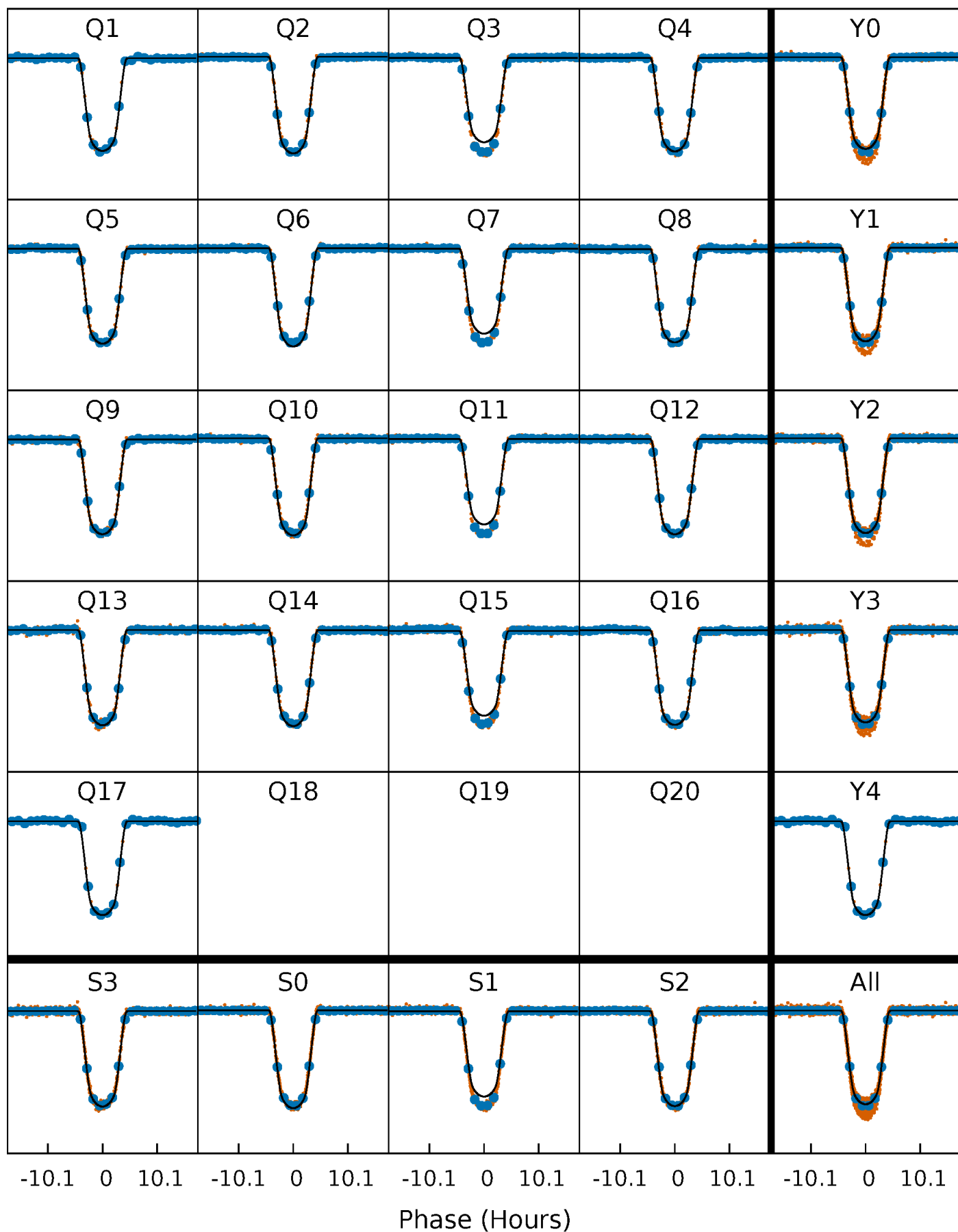
PDC Quarter-Phased Transit Curves

TCE 011656302-01 P= 22.264806 Days $T_0=150.838154$ (BKJD)



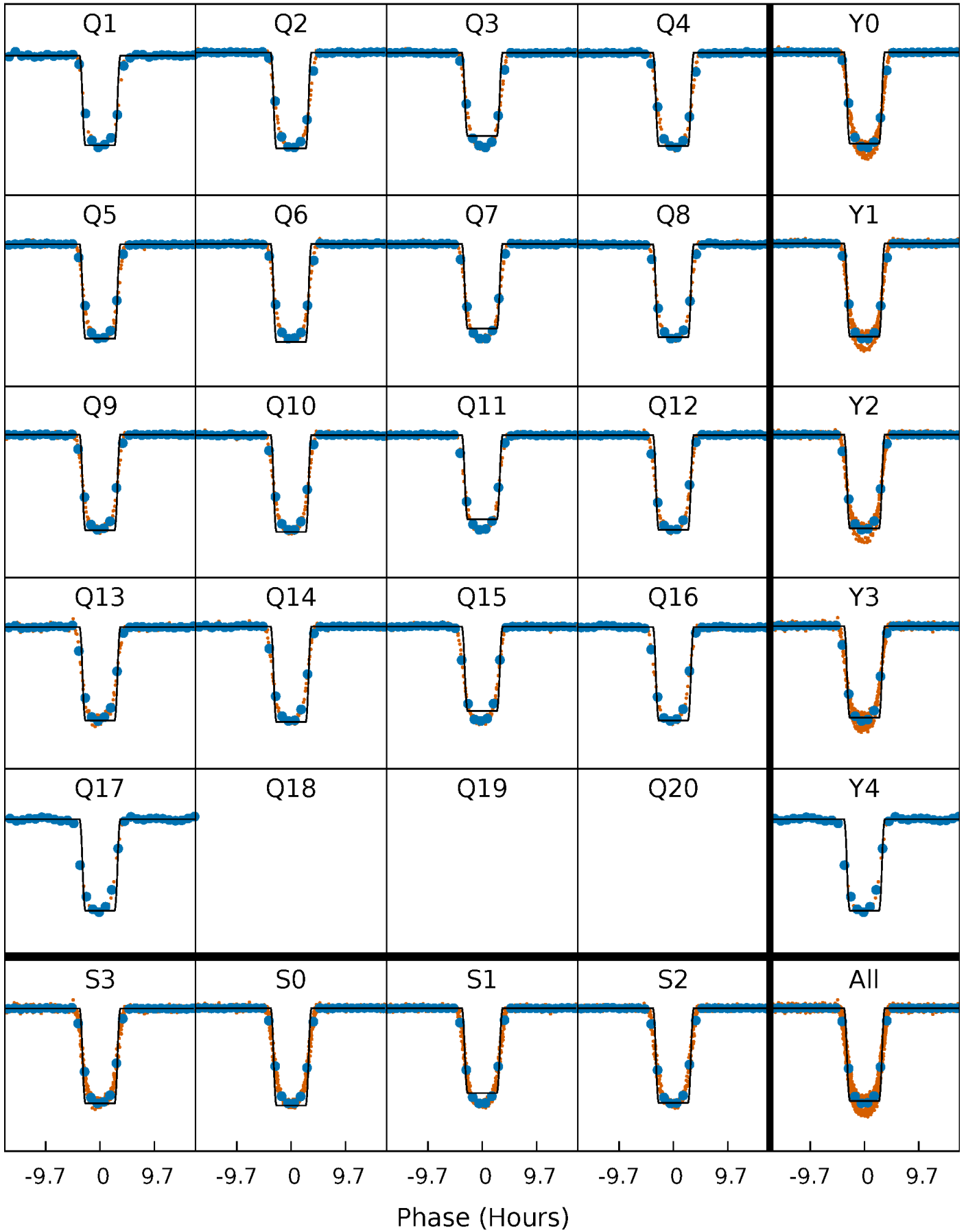
DV Quarter-Phased Transit Curves

TCE 011656302-01 P= 22.264806 Days $T_0=150.838154$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

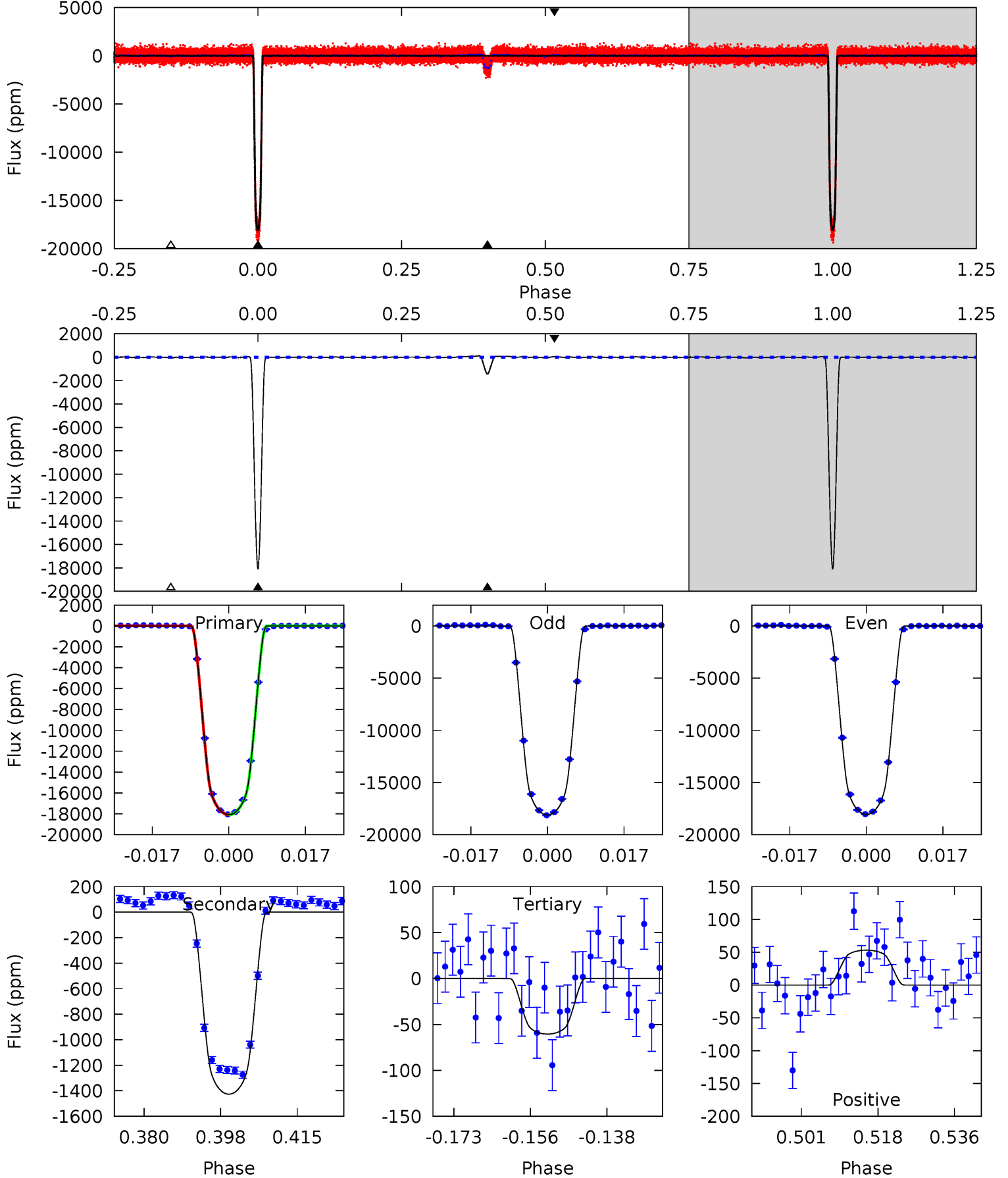
TCE 011656302-01 P= 22.265147 Days $T_0=150.827868$ (BKJD)



DV Model-Shift Uniqueness Test

011656302-01, P = 22.264806 Days, E = 128.573348 Days

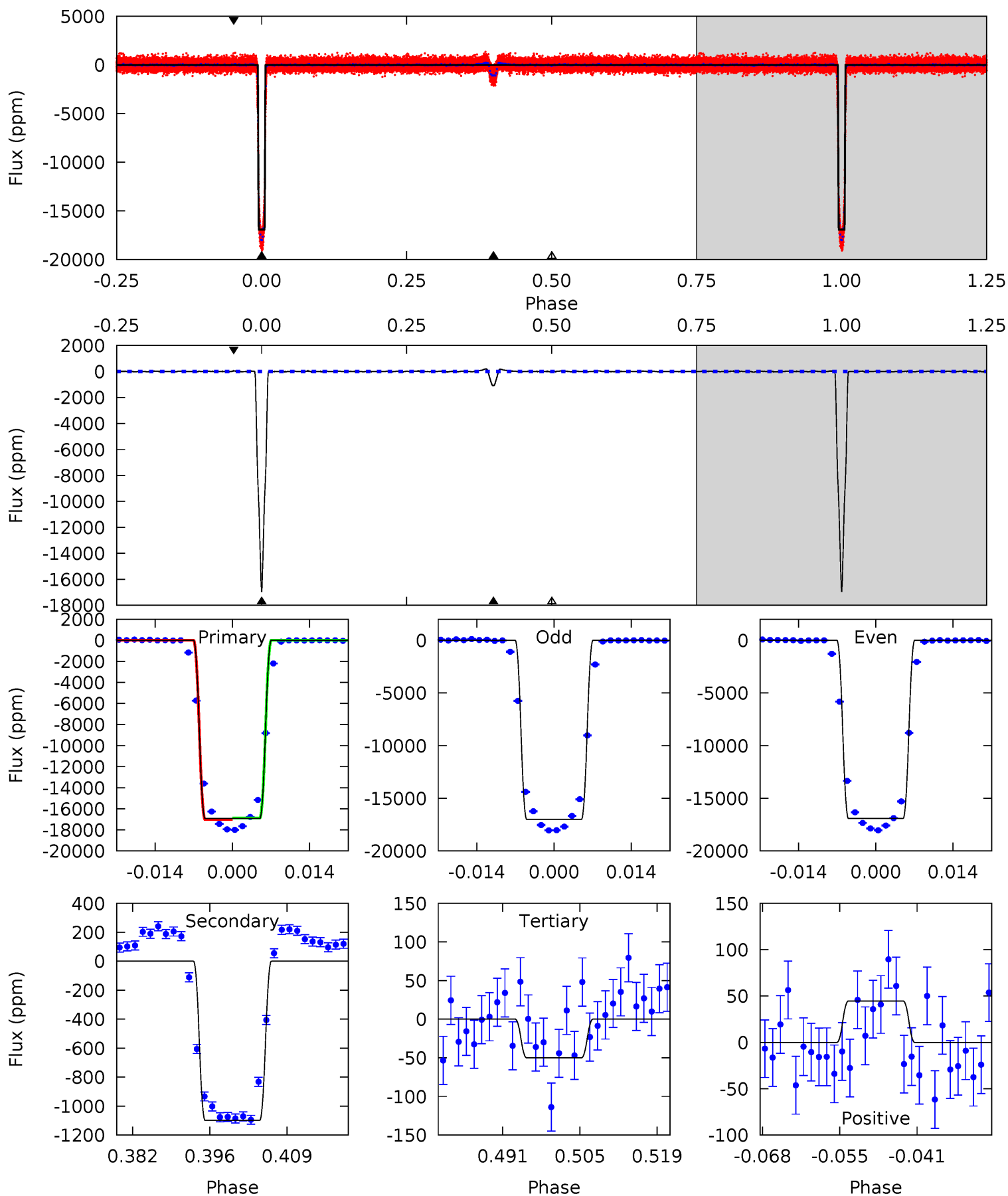
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1880	148.3	6.29	5.53	4.92	2.38	2.66	1874	1875	142.0	142.8	2.57	1.02	0.01	0



Alt Model-Shift Uniqueness Test

011656302-01, P = 22.265147 Days, E = 128.562721 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1417	91.9	4.20	3.74	4.97	2.47	1.98	1413	1414	87.7	88.2	3.92	1.02	0.01	5.21



Stellar Parameters For KIC 011656302

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5681^{+169}_{-152}	$4.566^{+0.042}_{-0.179}$	$-0.260^{+0.300}_{-0.300}$	$0.813^{+0.218}_{-0.073}$	$0.888^{+0.097}_{-0.097}$	$2.326^{+0.417}_{-1.071}$
	+3%/-3%	+1%/-4%	+115%/-115%	+27%/-9%	+11%/-11%	+18%/-46%
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 011656302-01 / KOI 0434.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1426 ± 10	$12.22^{+1.68}_{-0.71}$	836^{+53}_{-34}	3491^{+75}_{-64}	114^{+13}_{-23}
Alt.	-1098 ± 12	$12.11^{+1.76}_{-0.75}$	835^{+52}_{-36}	3355^{+64}_{-61}	90^{+9}_{-20}

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

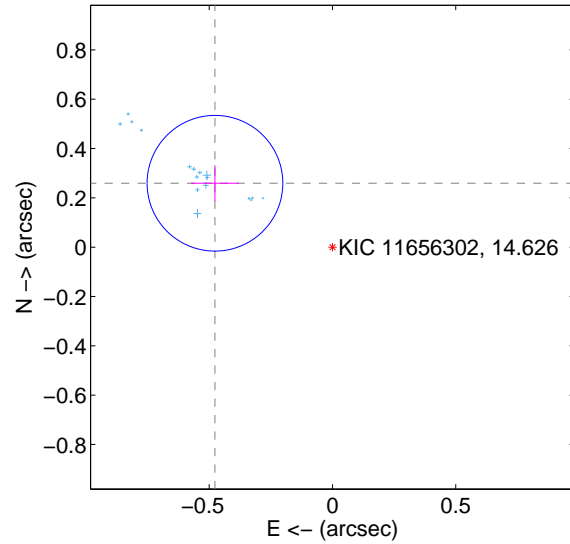
Supplemental centroid analysis for 011656302-01. Kepler magnitude: 14.63. Transit SNR 910.69

There are 17 quarters with good PRF difference image offsets

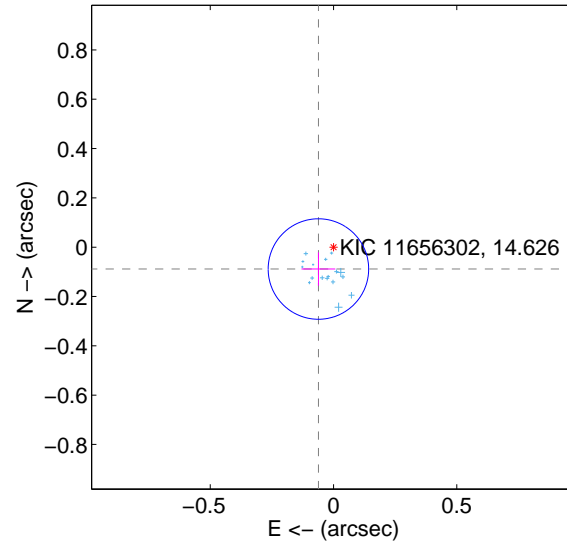
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.542 ± 0.092	5.91	0.477 ± 0.097	0.259 ± 0.073
PRF-fit source offset from KIC position	0.108 ± 0.068	1.59	0.061 ± 0.068	-0.089 ± 0.068
photometric centroid source offset	0.22 ± 0.01	25.41	0.10 ± 0.01	-0.20 ± 0.01

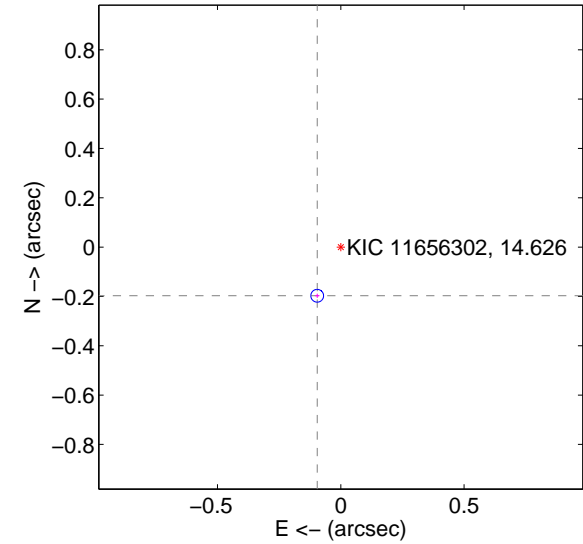
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

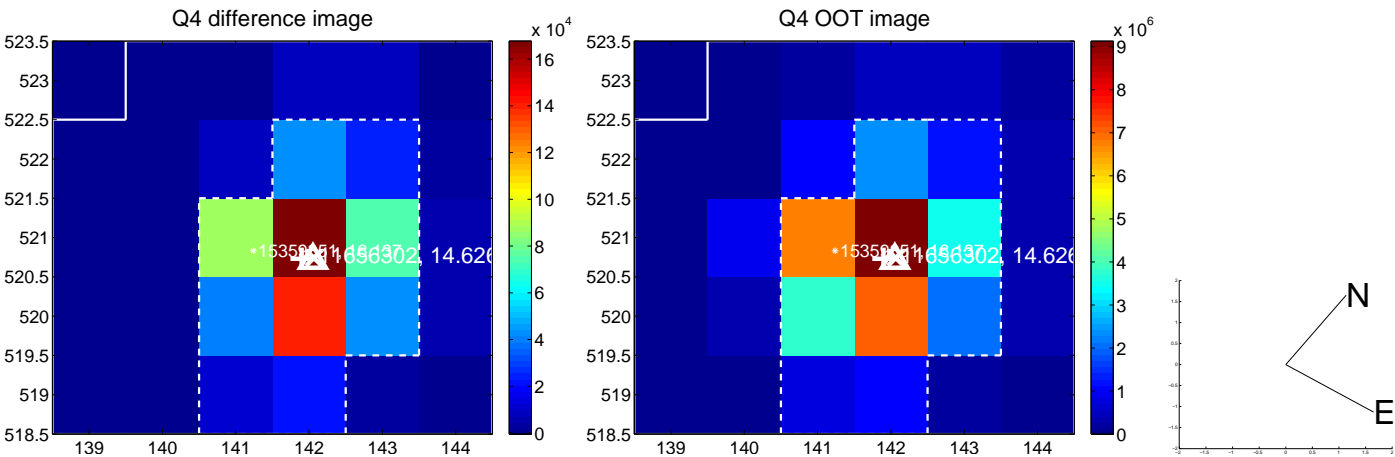
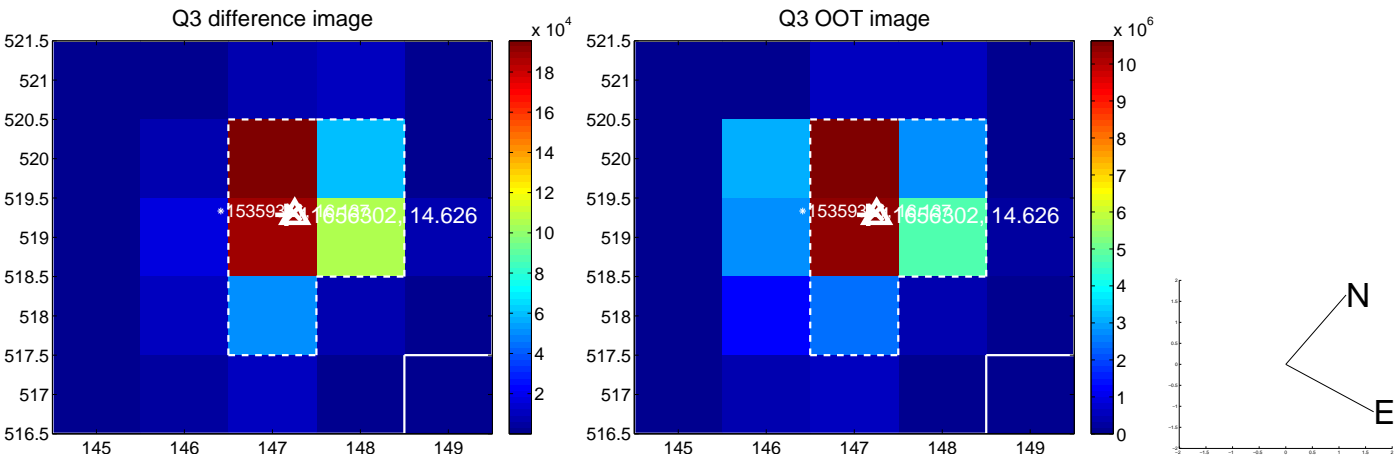
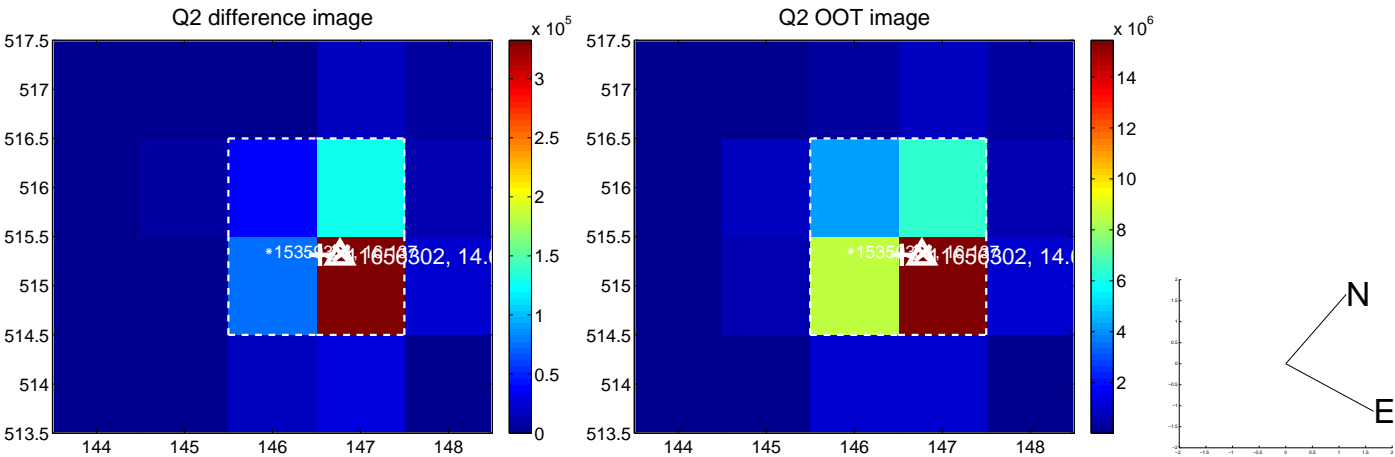
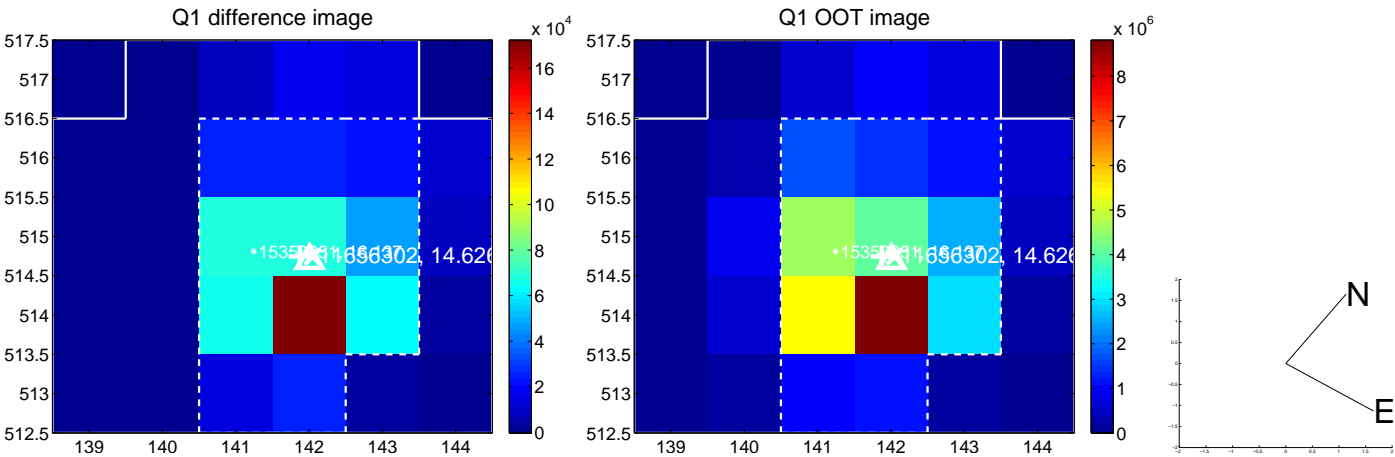


offset from photometric centroids

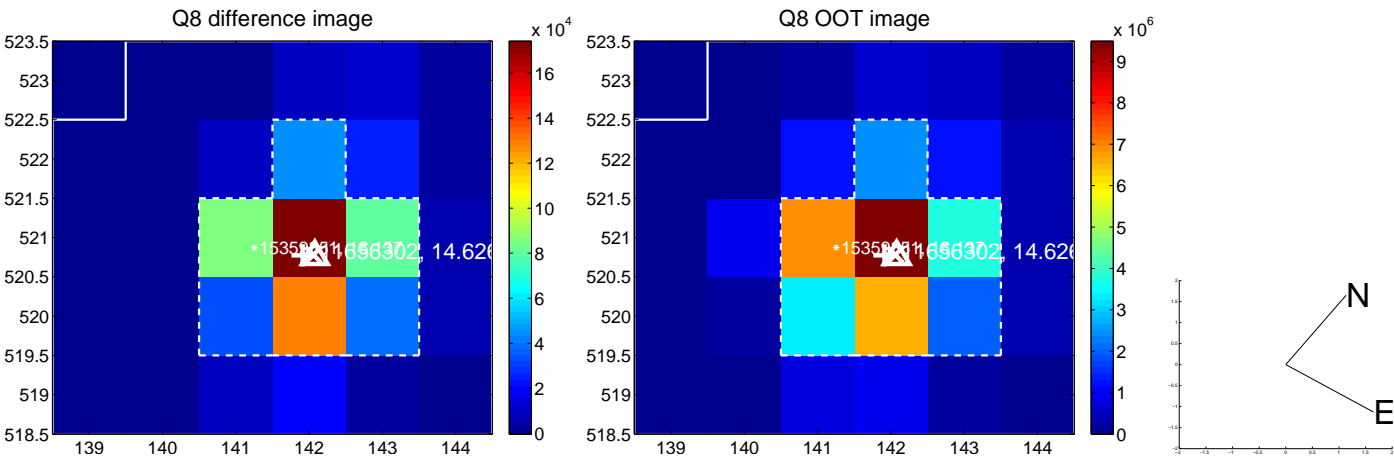
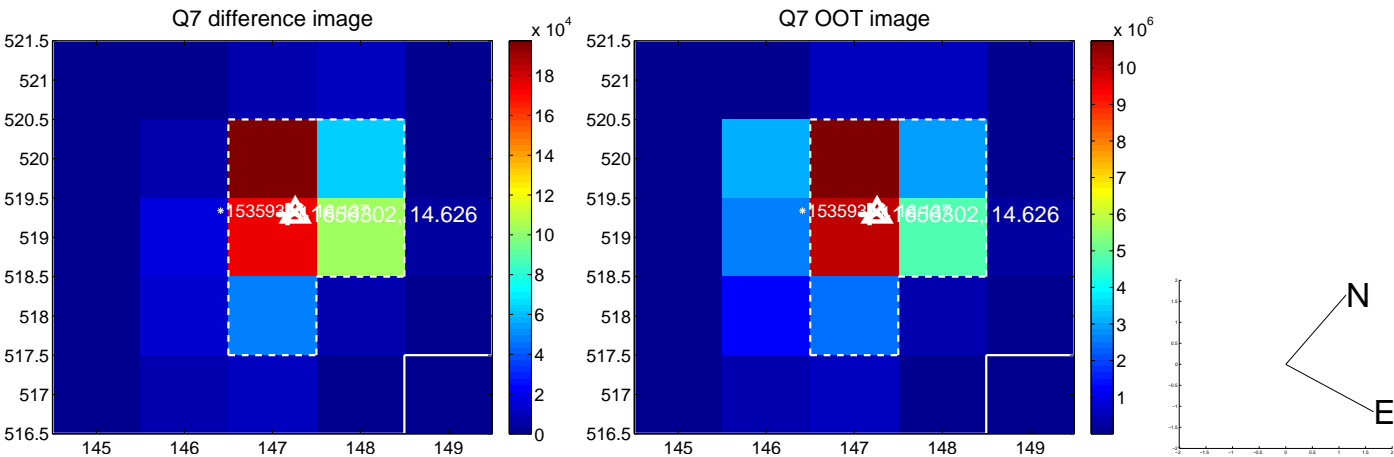
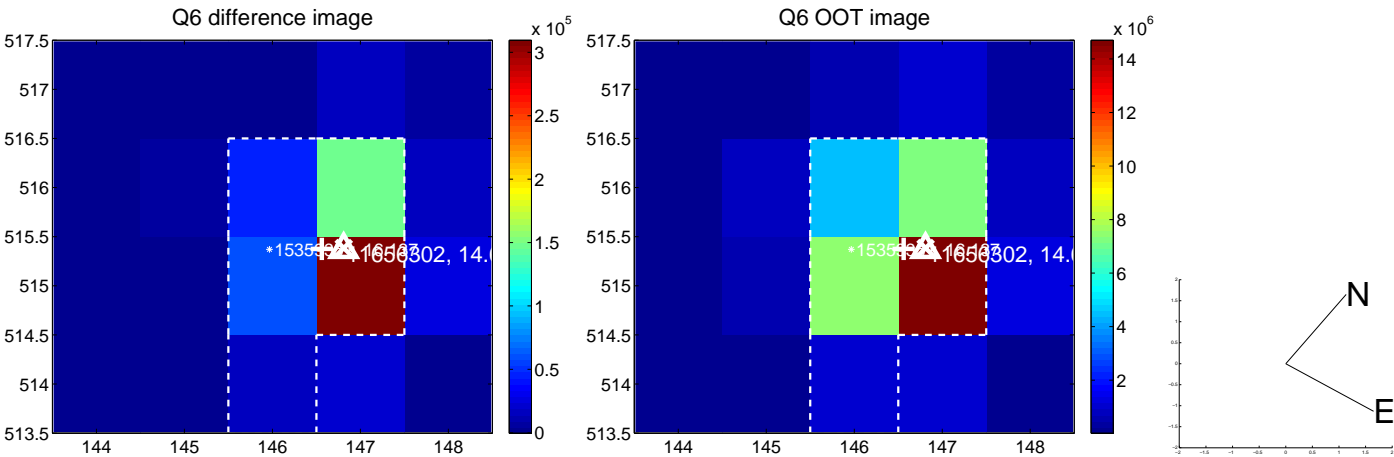
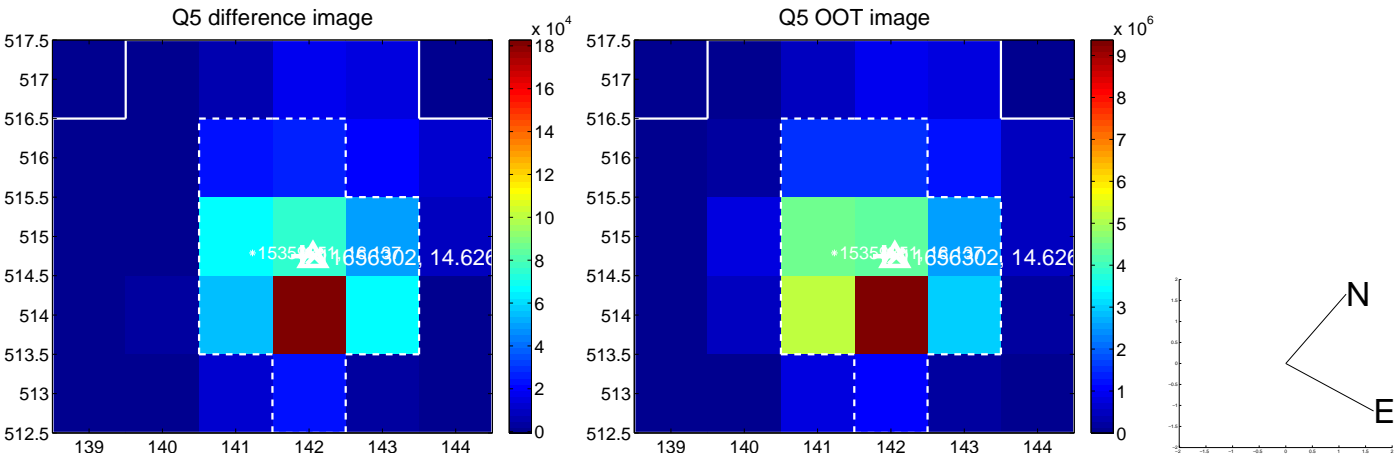


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

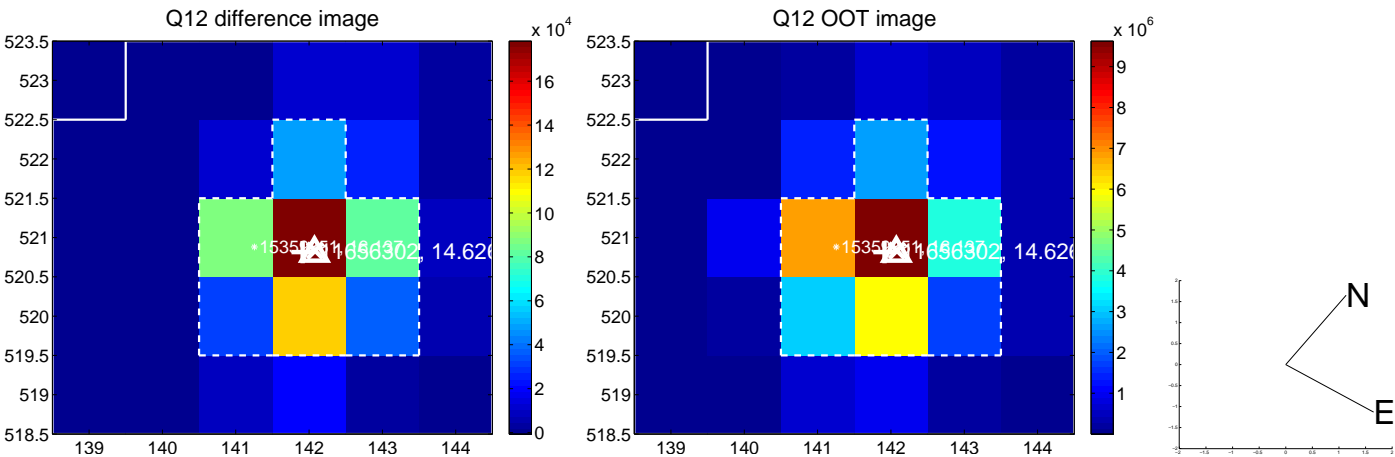
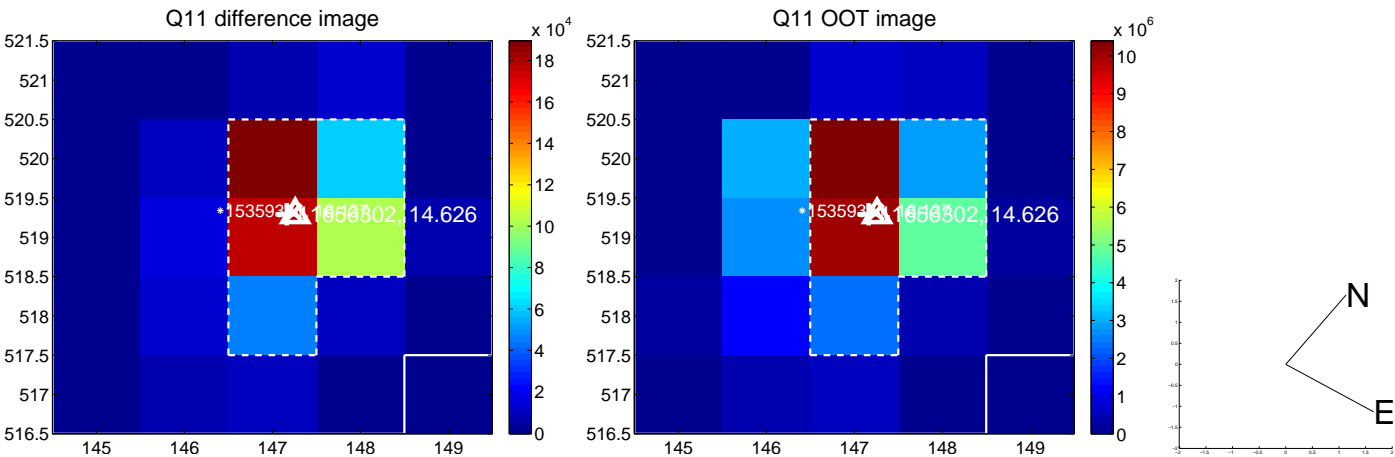
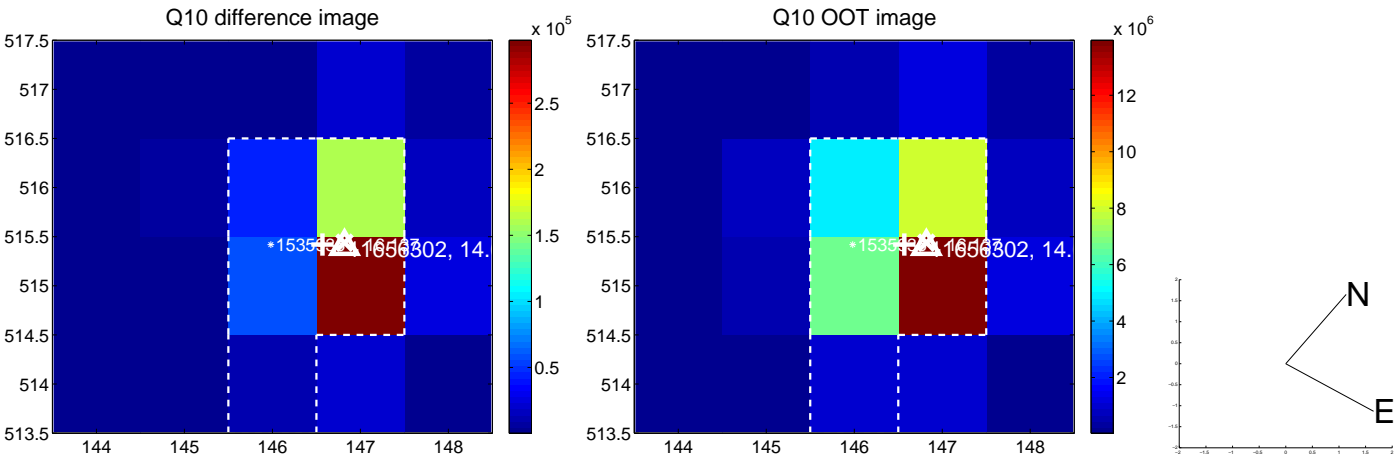
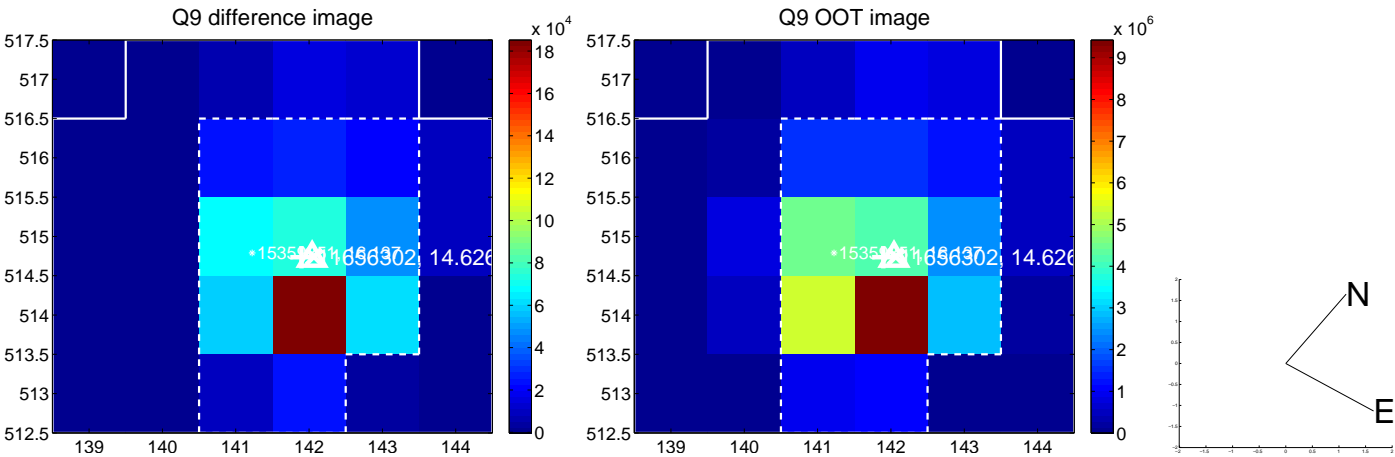
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



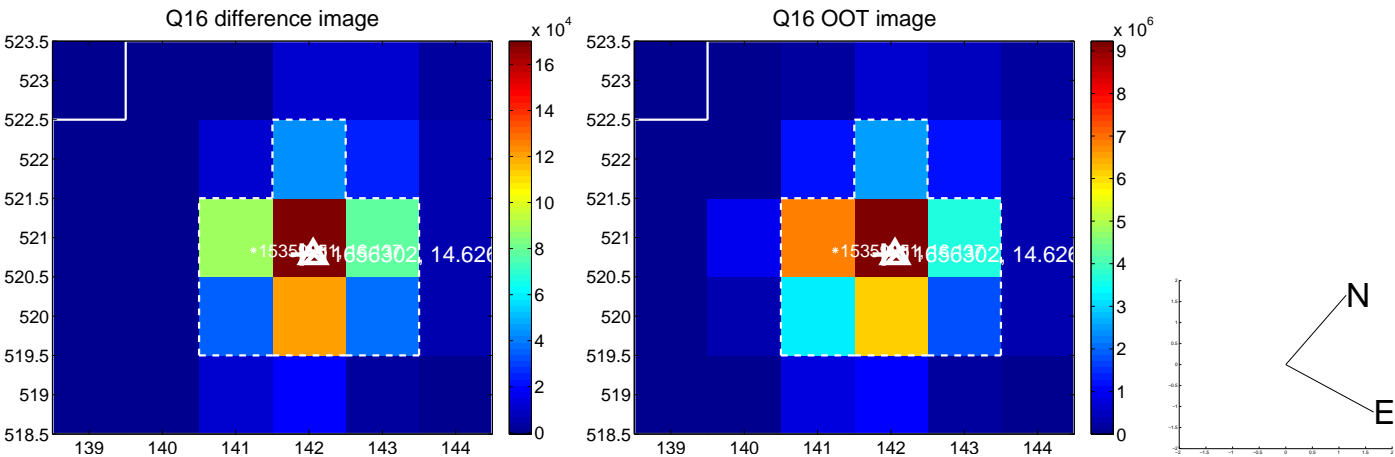
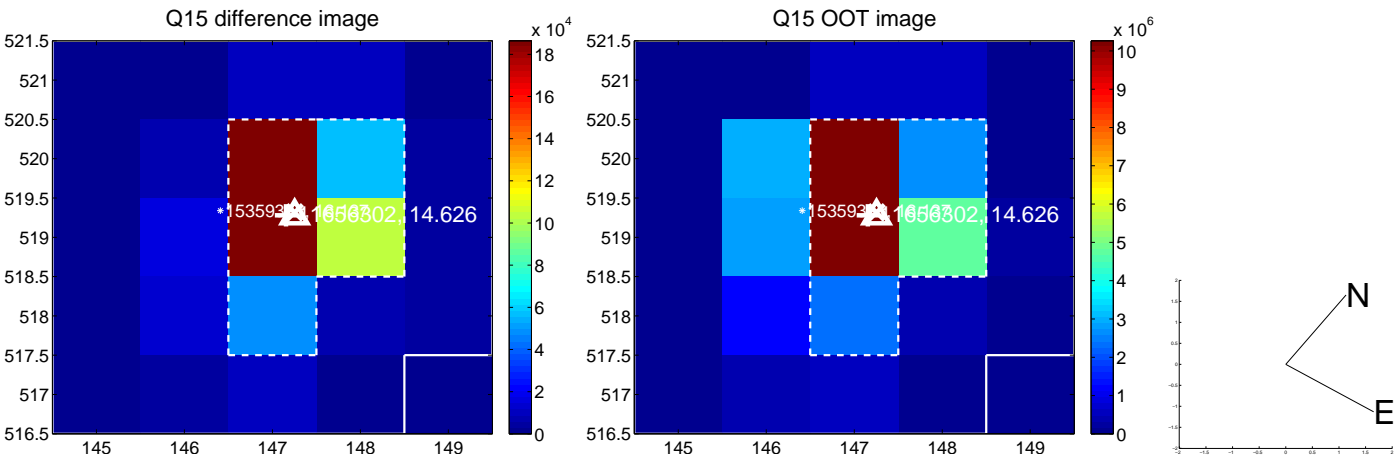
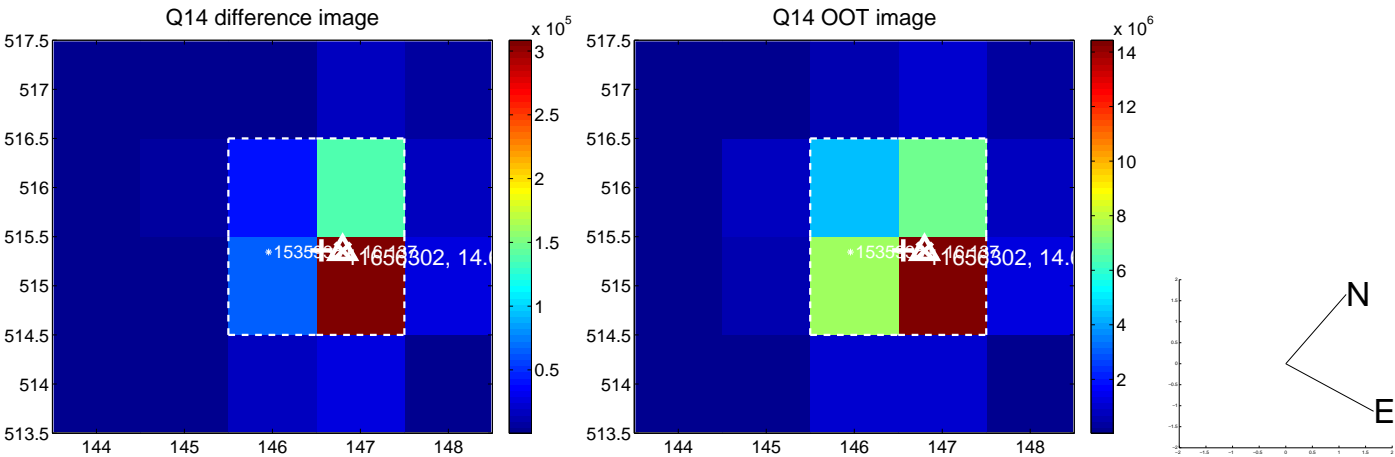
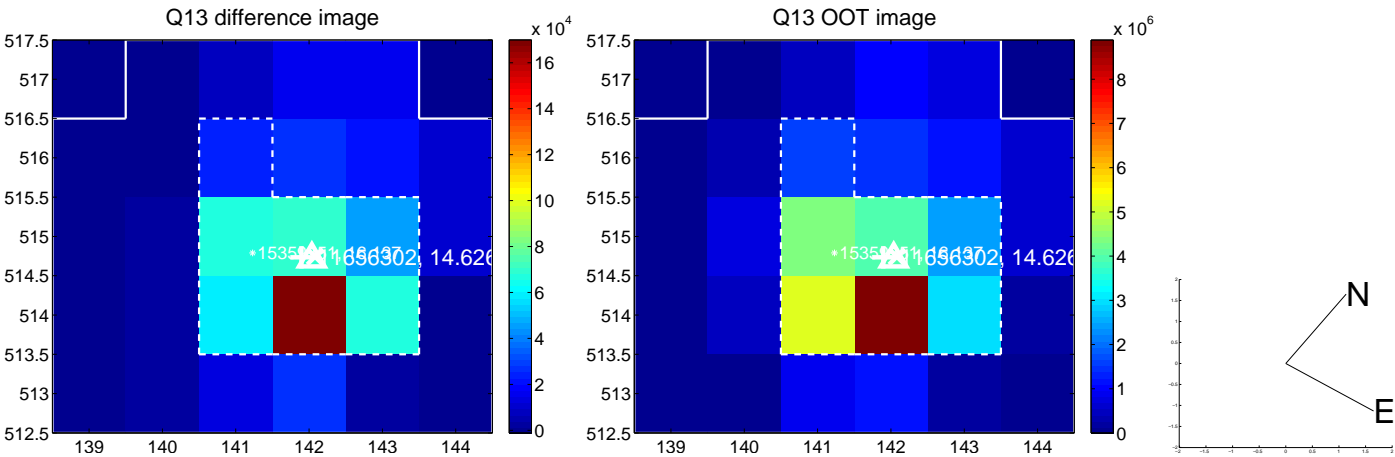
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



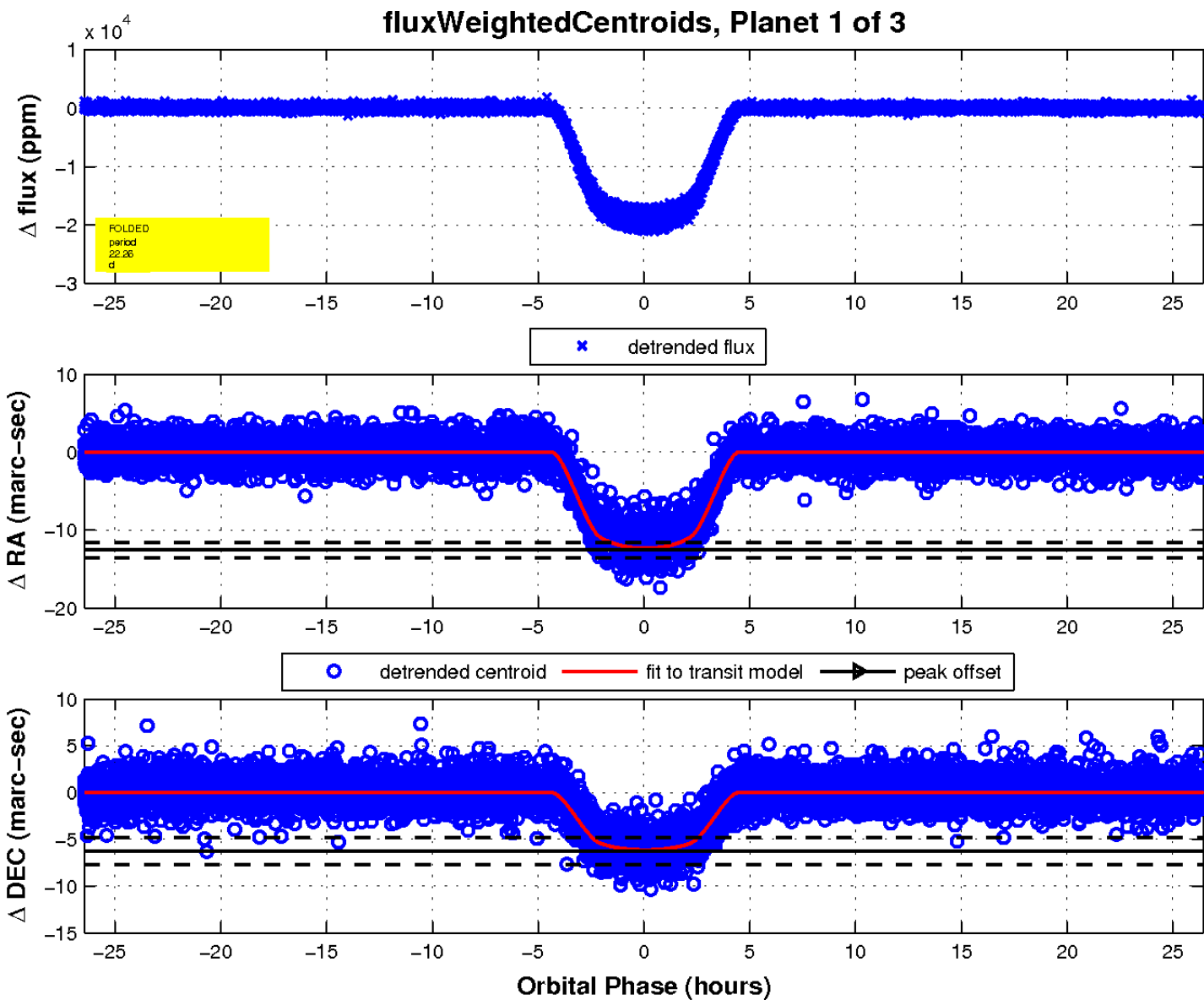
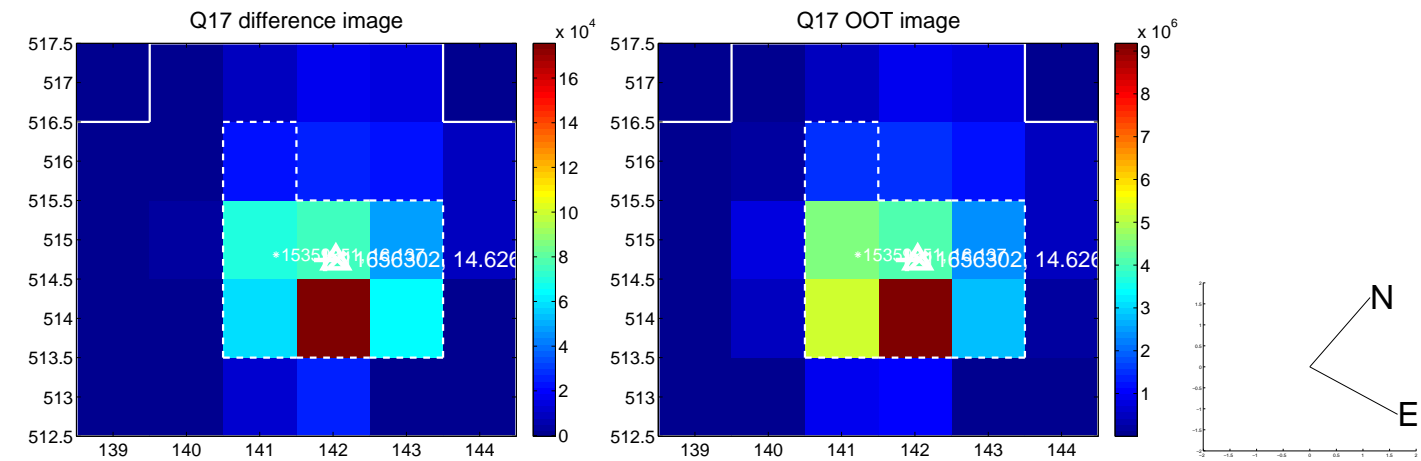
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

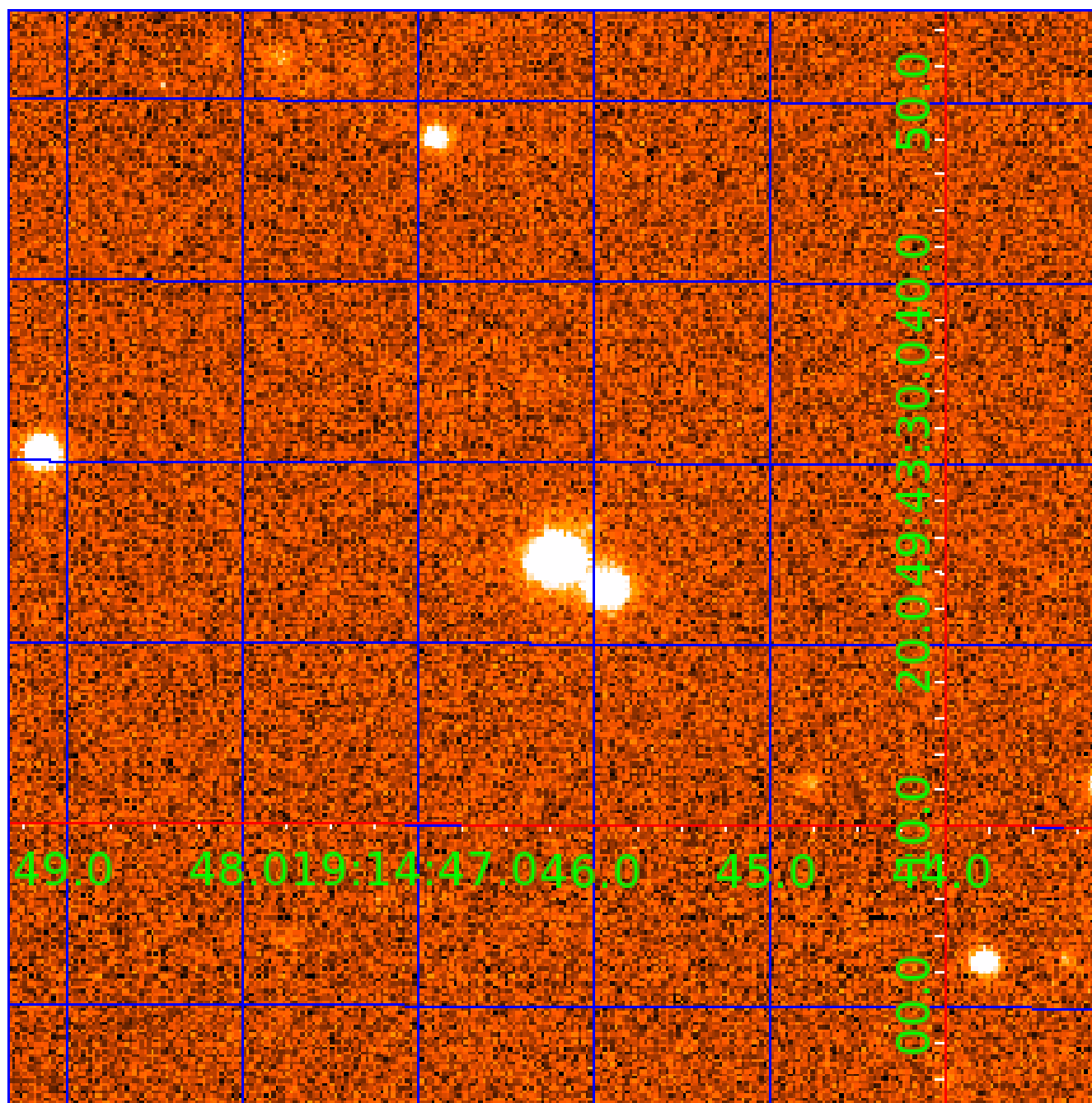


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011656302

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})
011656302-01	OBS	0434.01	22.264806	150.838154	18213.1	8.817	1049.1	910.7	0.81	5681	11.96	27.83
011656302-02	OBS	No	22.264834	137.462875	1395.0	8.980	79.5	80.7	0.81	5681	3.68	27.83
011656302-03	OBS	No	567.845168	247.970528	471.1	12.327	11.7	7.1	0.81	5681	1.89	0.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011656302-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS
011656302-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
011656302-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

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

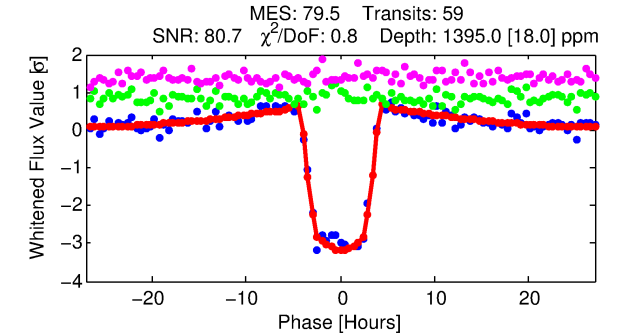
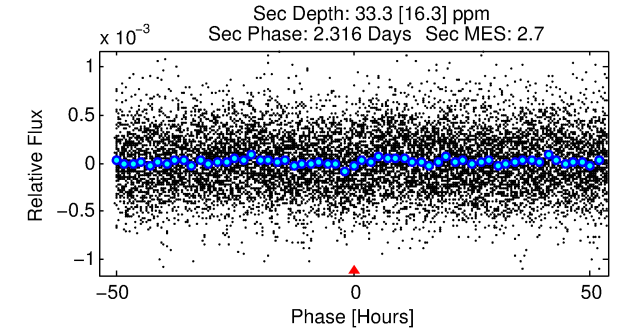
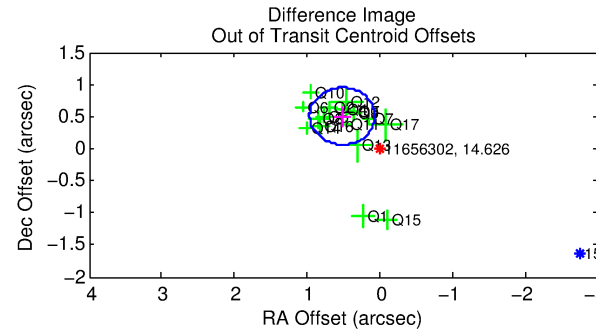
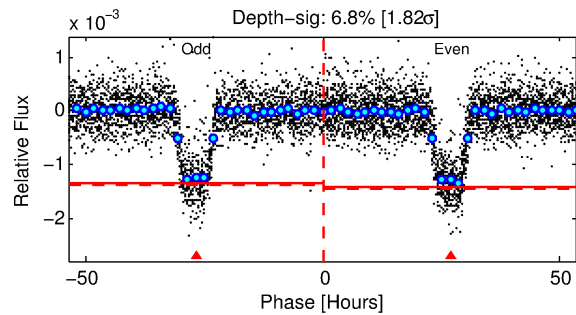
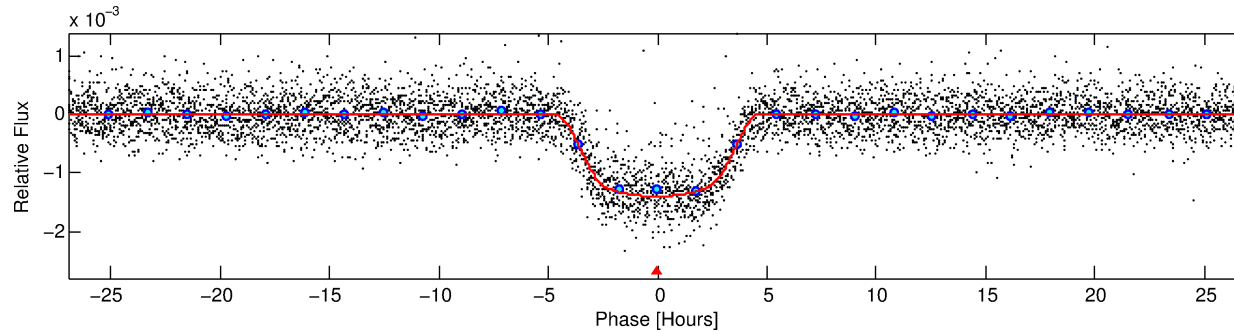
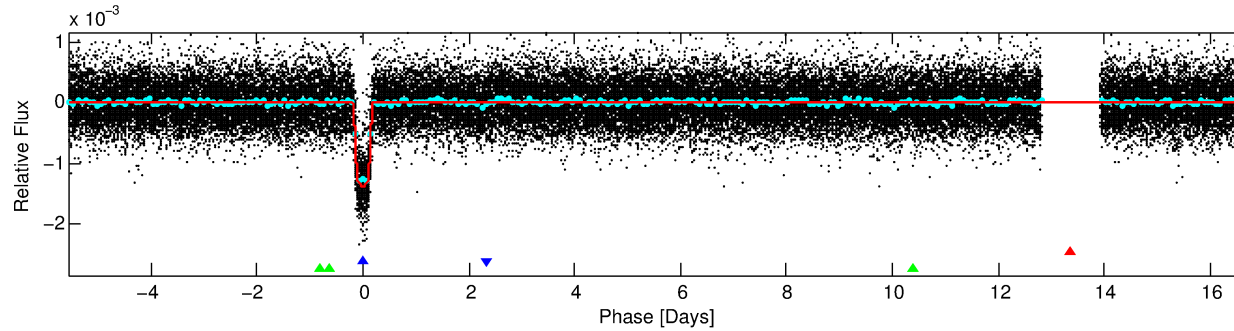
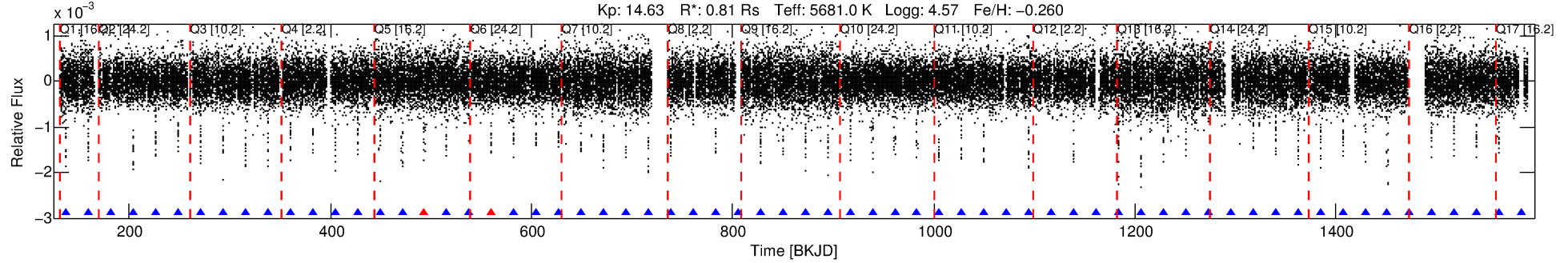
Ephemeris Match Information For 011656302-02

No Significant Match Found

DV One-Page Summary

KIC: 11656302 Candidate: 2 of 3 Period: 22.265 d
KOI: K00434 Corr: No Ephemeris Match

Kp: 14.63 R*: 0.81 Rs Teff: 5681.0 K Logg: 4.57 Fe/H: -0.260



DV Fit Results:

Period = 22.26483 [0.00006] d
Epoch = 137.4629 [0.0019] BKJD
Rp/R* = 0.0415 [0.0004]
a/R* = 9.36 [0.28]
b = 0.92 [0.01]
Seff = 27.83 [9.70]
Teq = 586 [51] K
Rp = 3.68 [0.99] Re
a = 0.1489 [0.0336] AU
Ag = 29.89 [17.61] [1.64σ]
Teffp = 2117 [267] K [5.64σ]

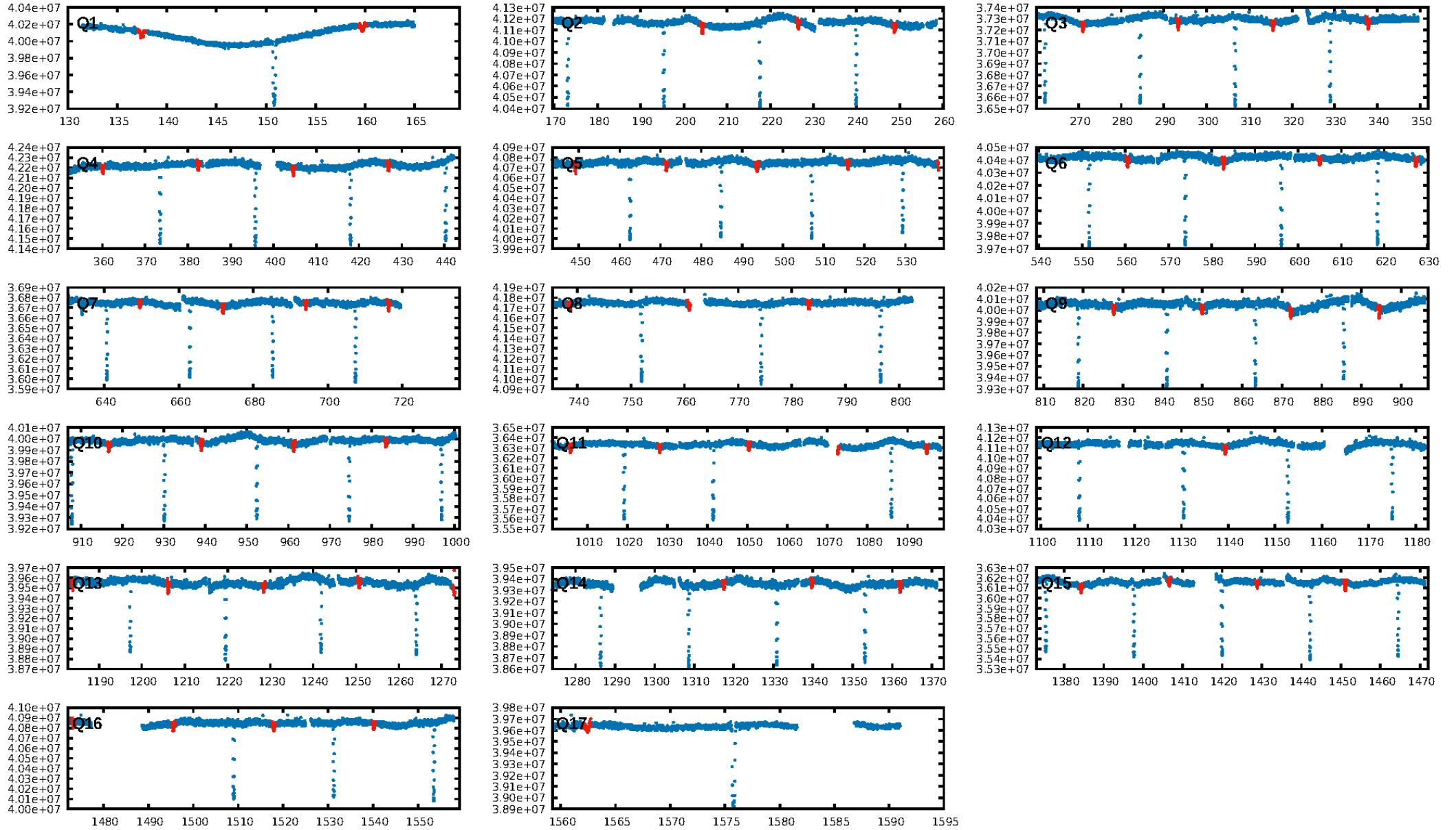
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [858.57σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.96 [54/56]
GhostDiagnostic-chr: 5.079
Centroid-sig: 0.0%
Centroid-so: 0.209 arcsec [1.74σ]
OotOffset-rm: 0.725 arcsec [4.88σ]
KicOffset-rm: 0.152 arcsec [1.05σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

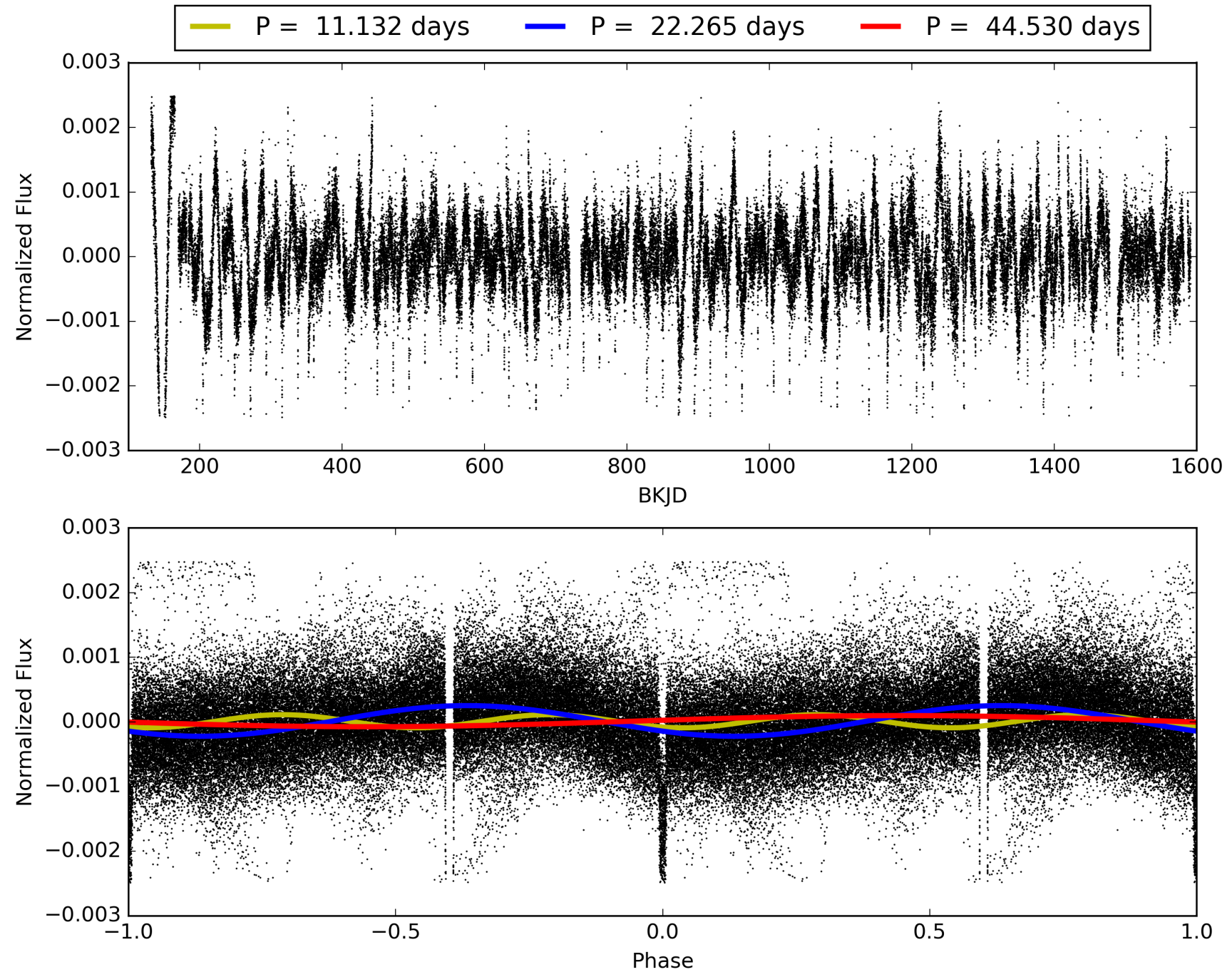
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:11:55 Z

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

TCE 011656302-02, PDC Light Curves

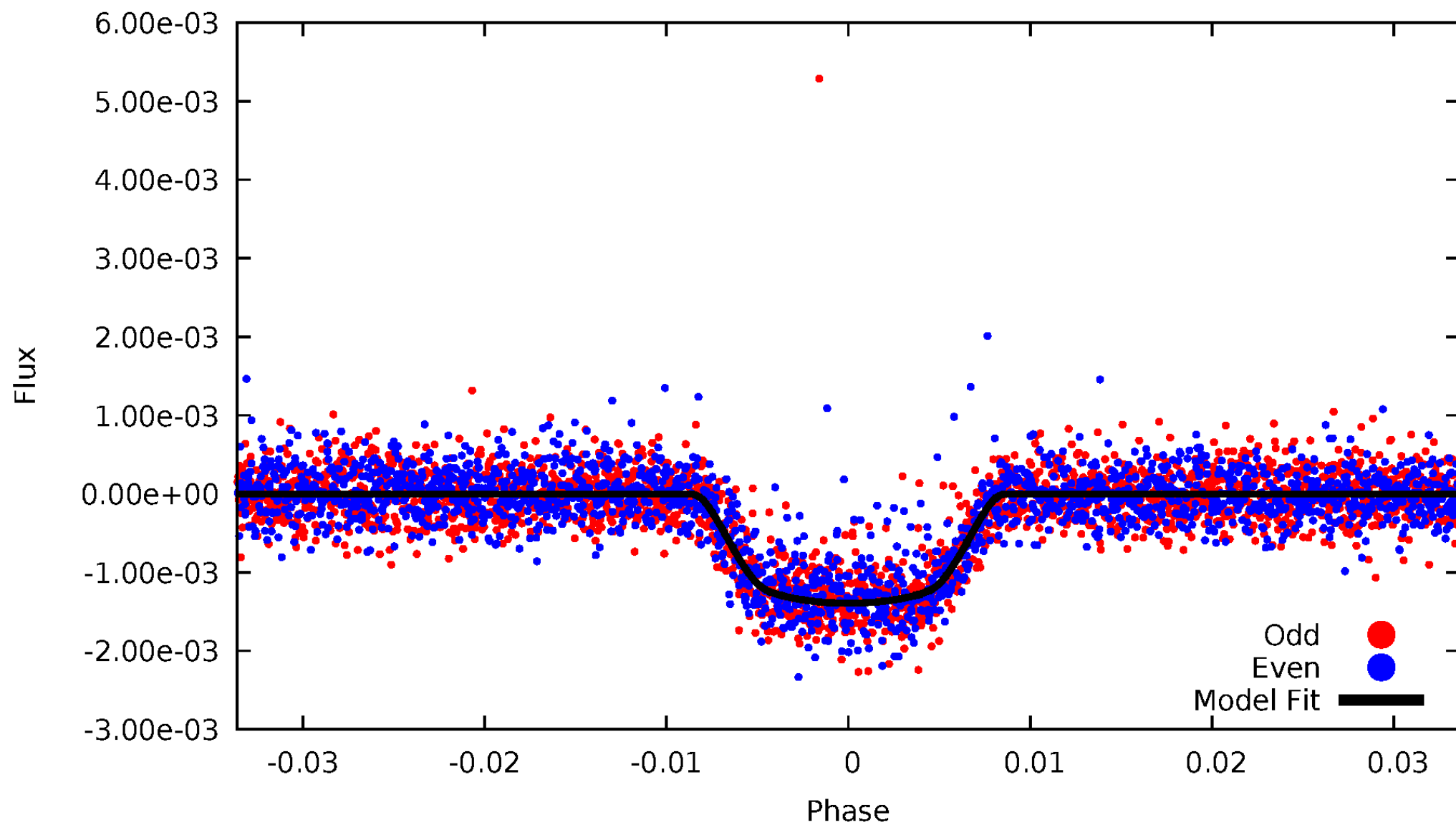


TCE 011656302-02



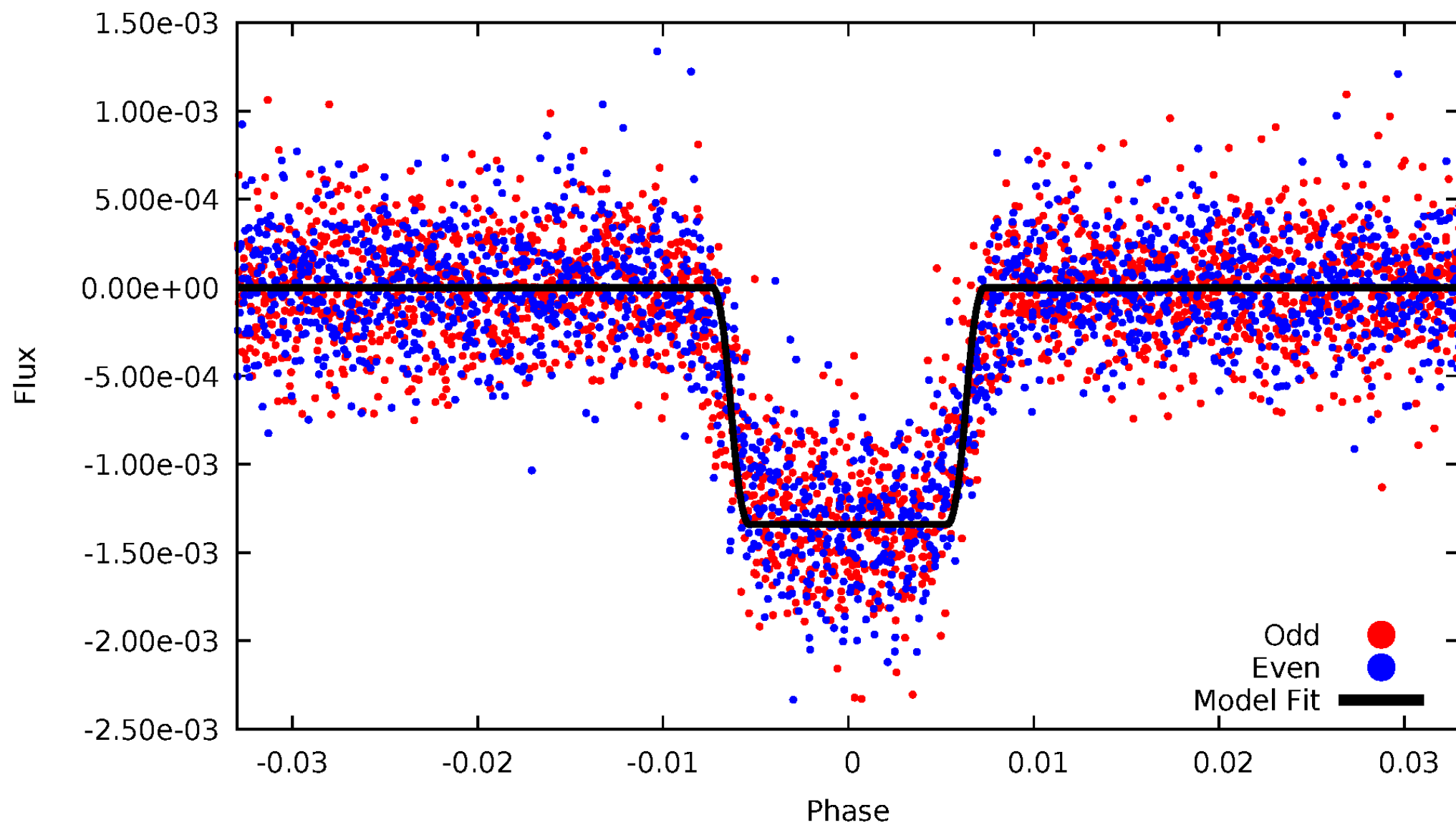
DV Odd/Even

TCE 011656302-02



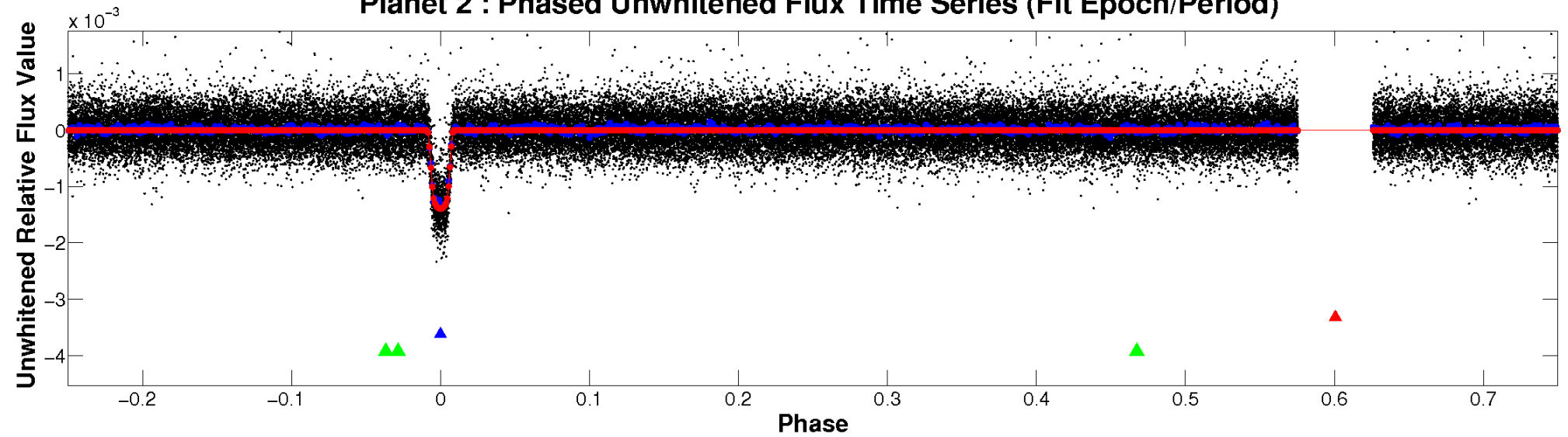
ALT Odd/Even

TCE 011656302-02

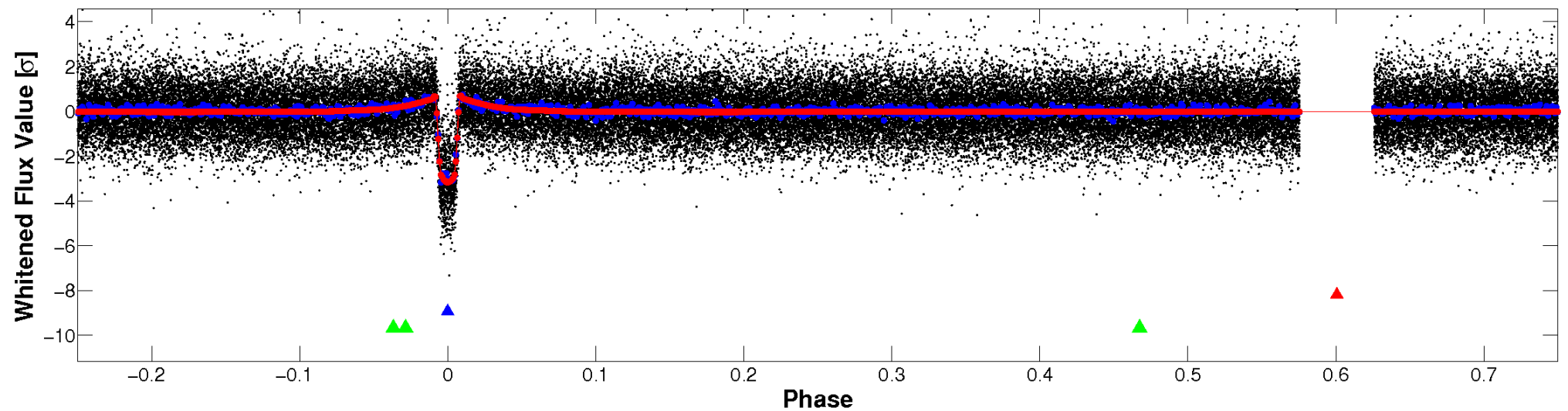


Non-Whitened Vs. Whitened Light Curve

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

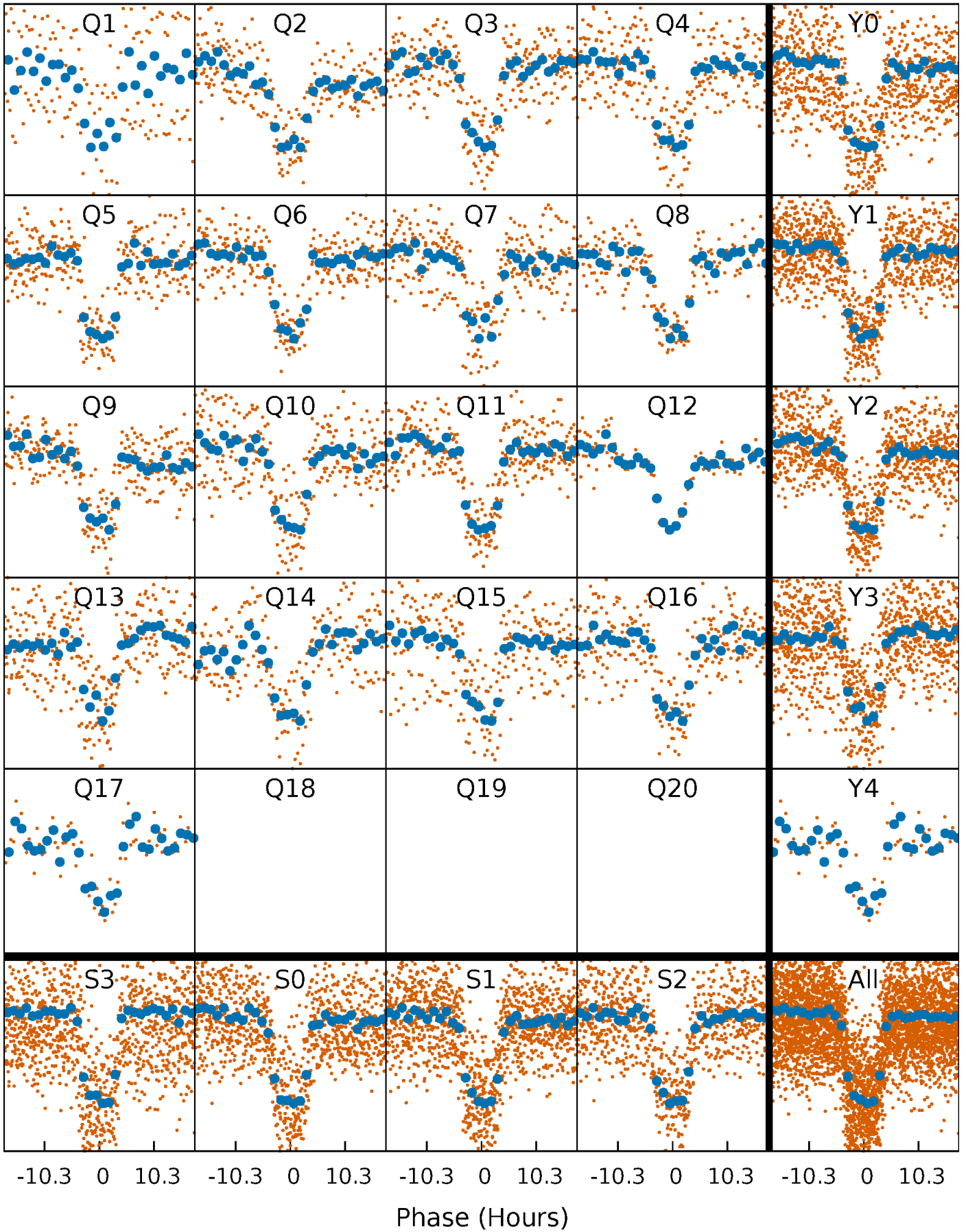


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



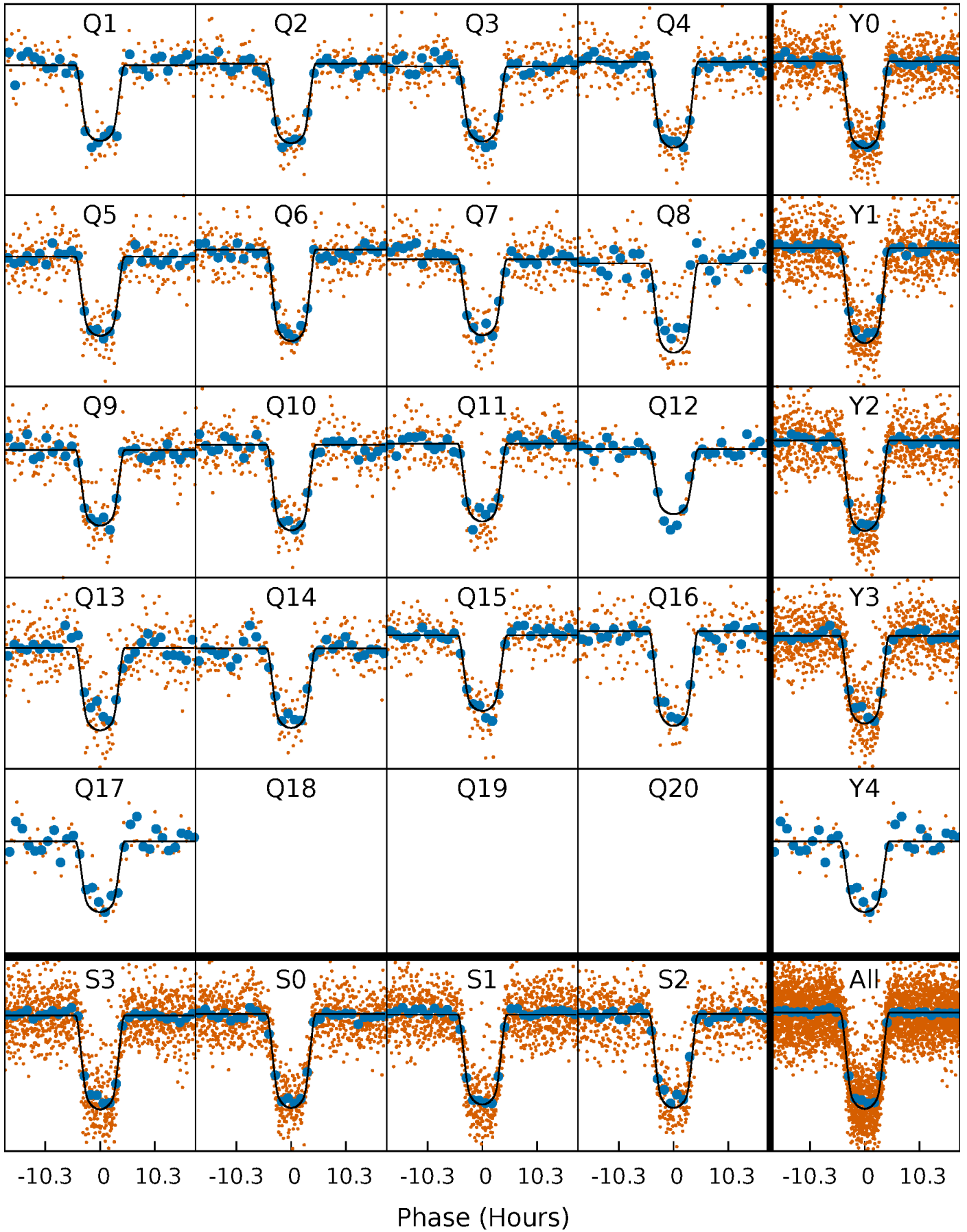
PDC Quarter-Phased Transit Curves

TCE 011656302-02 P= 22.264834 Days $T_0=137.462875$ (BKJD)



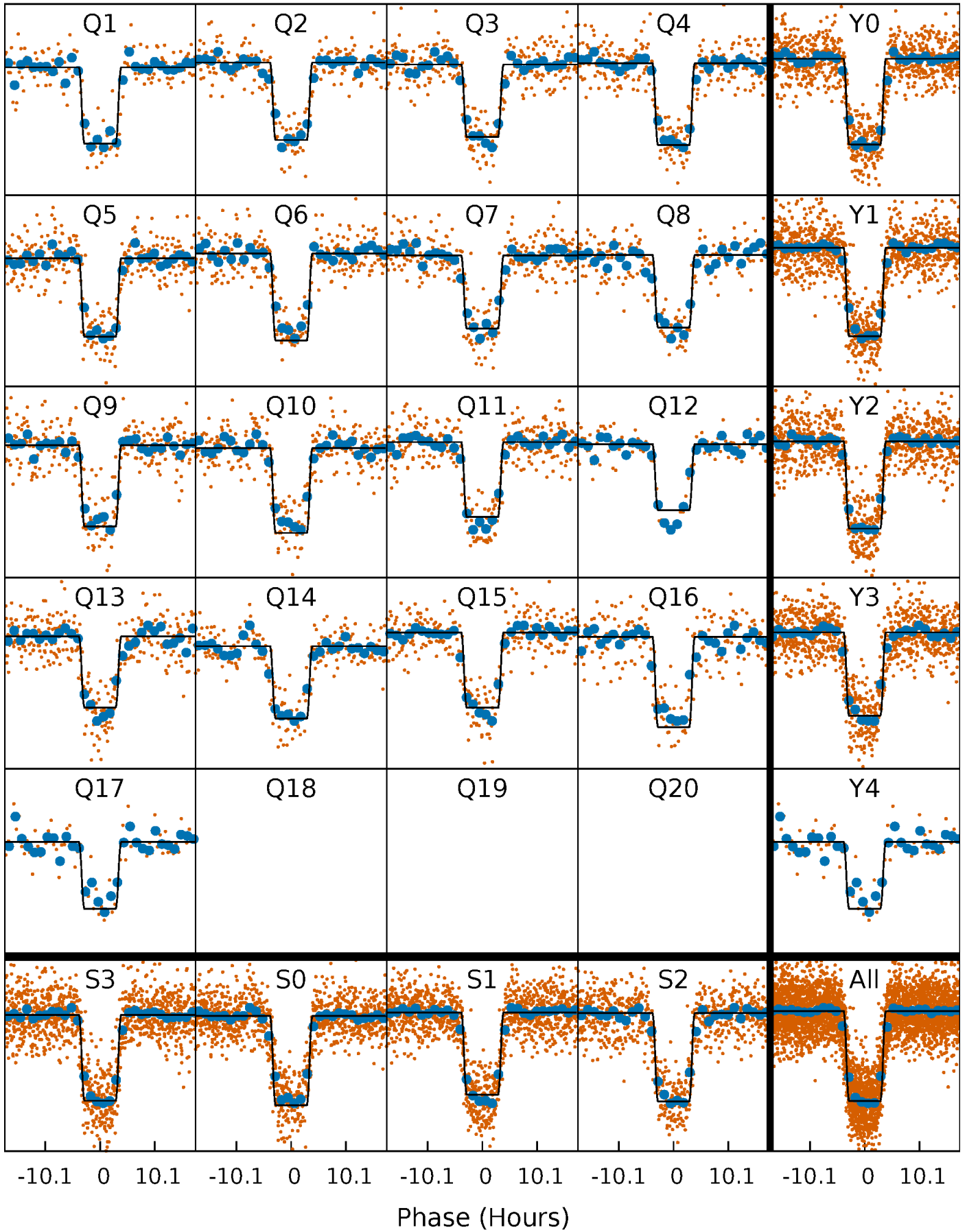
DV Quarter-Phased Transit Curves

TCE 011656302-02 P= 22.264834 Days $T_0=137.462875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

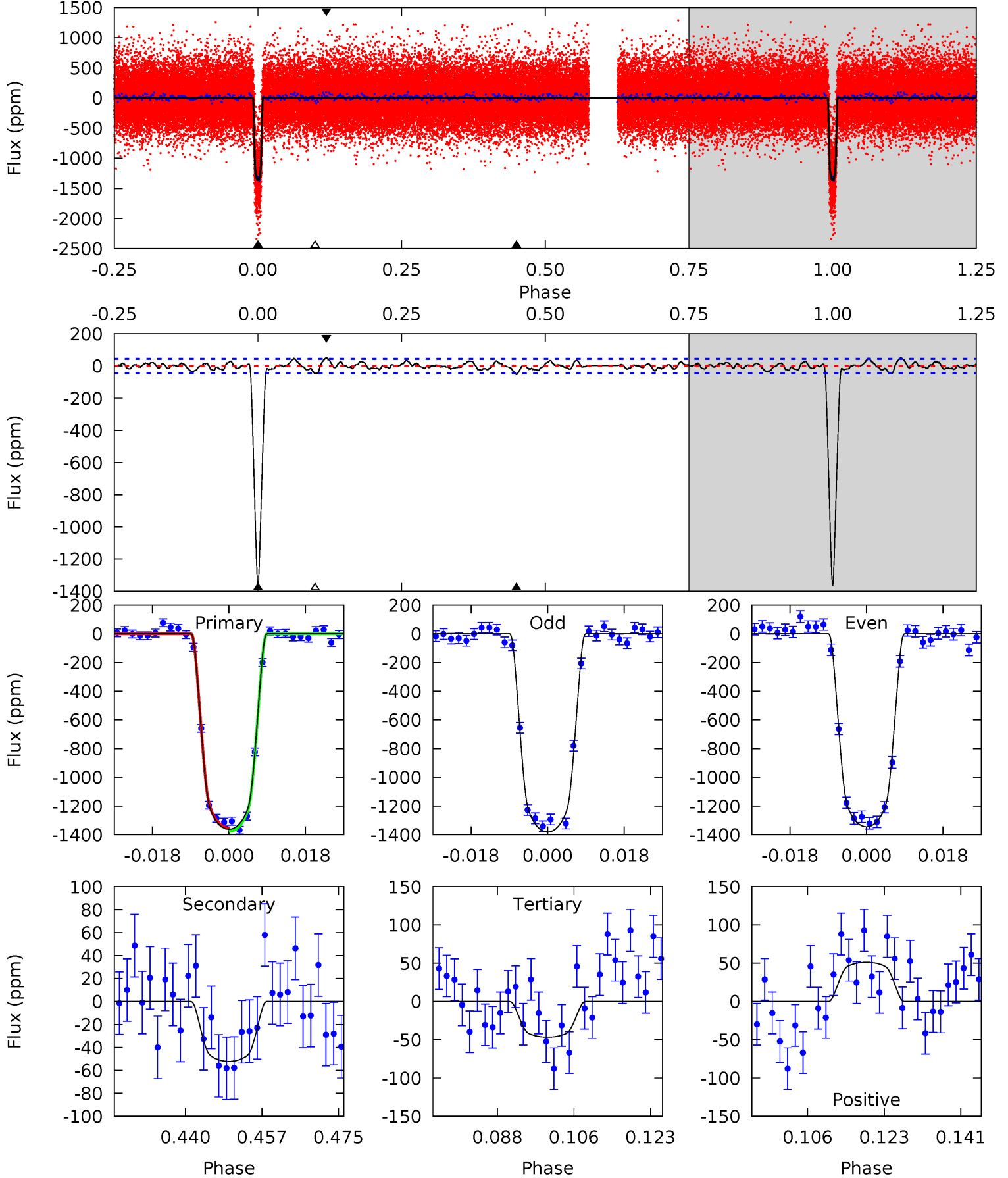
TCE 011656302-02 $P = 22.265147$ Days $T_0 = 137.452978$ (BKJD)



DV Model-Shift Uniqueness Test

011656302-02, P = 22.264834 Days, E = 115.198041 Days

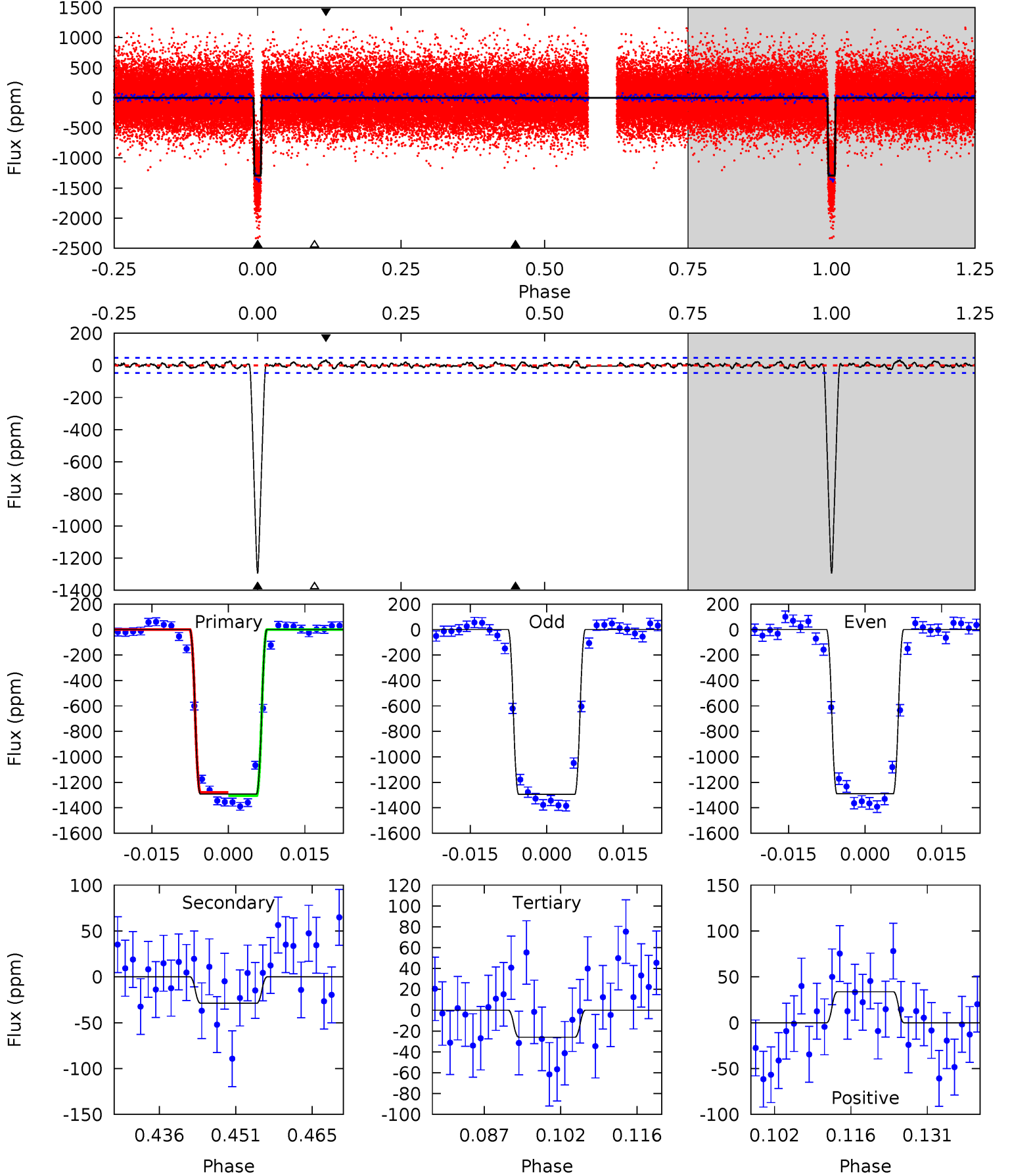
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
150.1	5.75	5.13	5.63	4.92	2.37	1.82	145.0	144.5	0.62	0.12	1.99	0.95	0.04	1.19



Alt Model-Shift Uniqueness Test

011656302-02, $P = 22.265147$ Days, $E = 115.187831$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
136.2	3.04	2.73	3.56	4.95	2.44	1.10	133.5	132.6	0.31	-0.51	0.17	1.00	0.03	1.41



Stellar Parameters For KIC 011656302

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5681^{+169}_{-152}	$4.566^{+0.042}_{-0.179}$	$-0.260^{+0.300}_{-0.300}$	$0.813^{+0.218}_{-0.073}$	$0.888^{+0.097}_{-0.097}$	$2.326^{+0.417}_{-1.071}$
	+3%/-3%	+1%/-4%	+115%/-115%	+27%/-9%	+11%/-11%	+18%/-46%
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 011656302-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-52 ± 9	$3.78^{+0.52}_{-0.27}$	836^{+49}_{-35}	3020^{+95}_{-94}	42^{+11}_{-10}
Alt.	-29 ± 9	$3.30^{+0.46}_{-0.23}$	834^{+52}_{-35}	2881^{+128}_{-150}	30^{+12}_{-10}

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

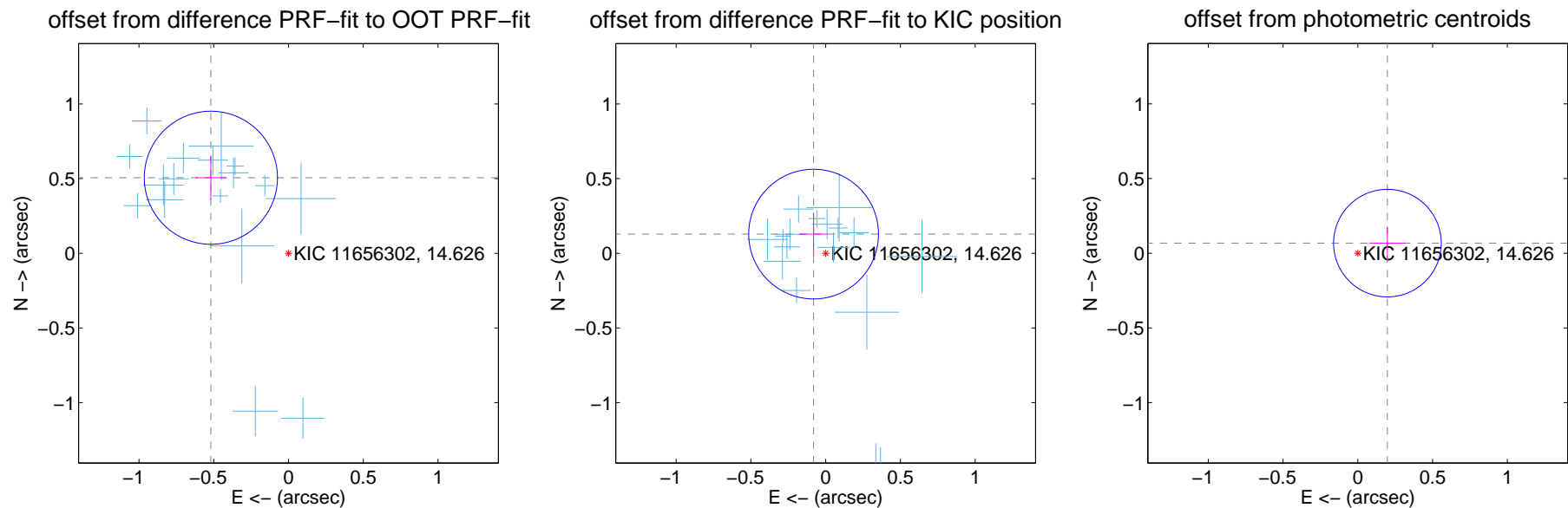
DV Centroid Data

Supplemental centroid analysis for 011656302-02. Kepler magnitude: 14.63. Transit SNR 80.72

There are 17 quarters with good PRF difference image offsets

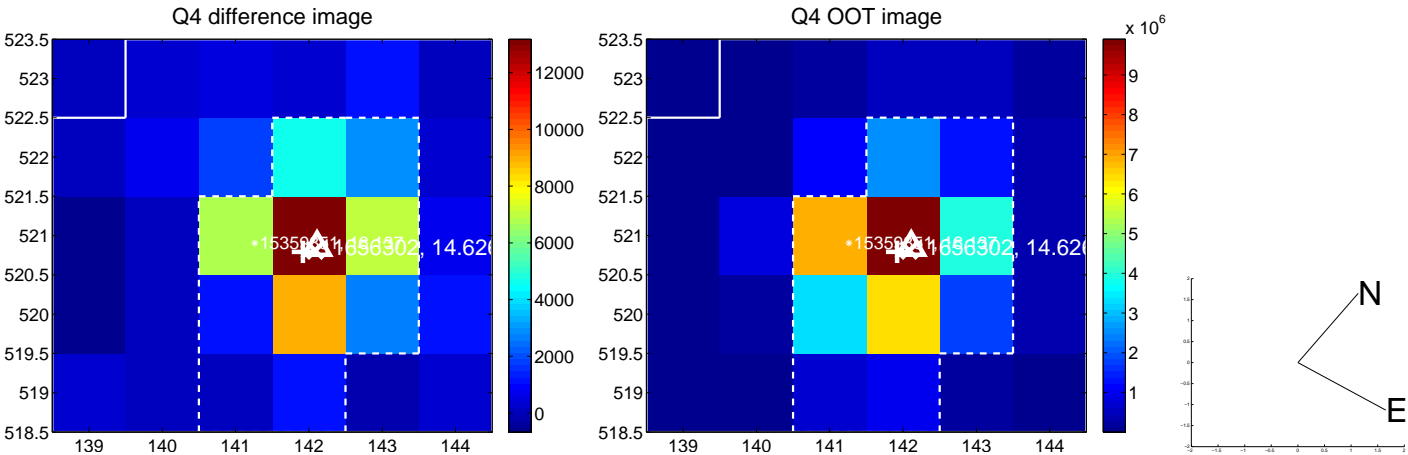
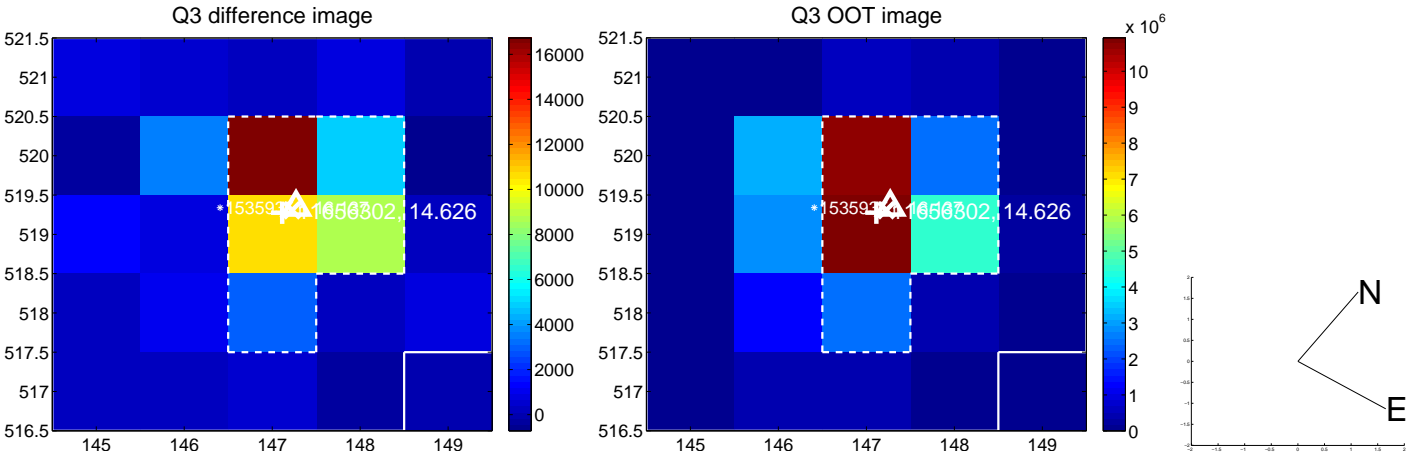
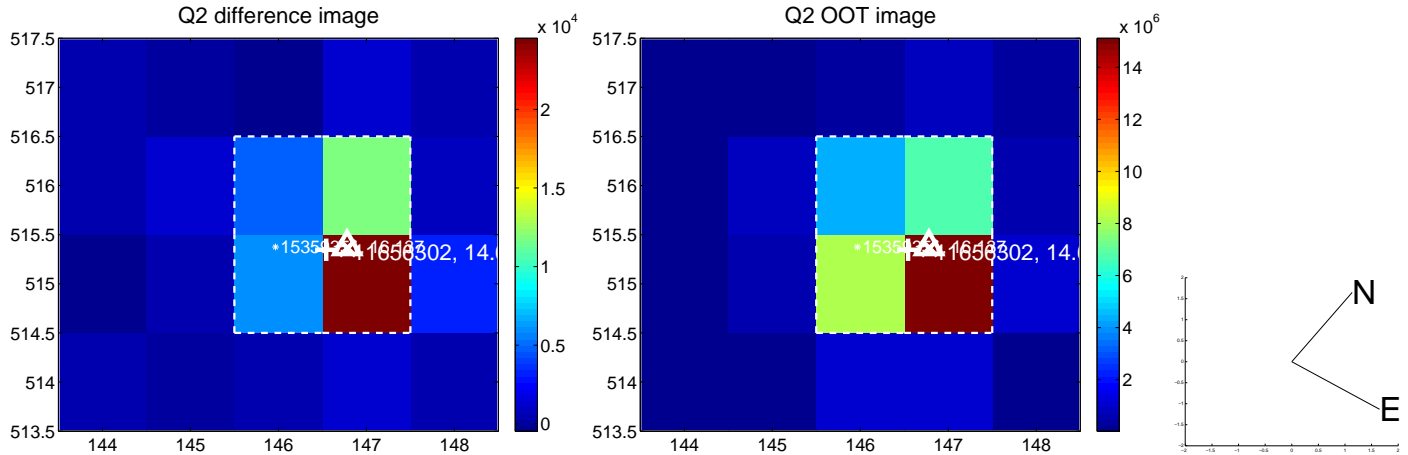
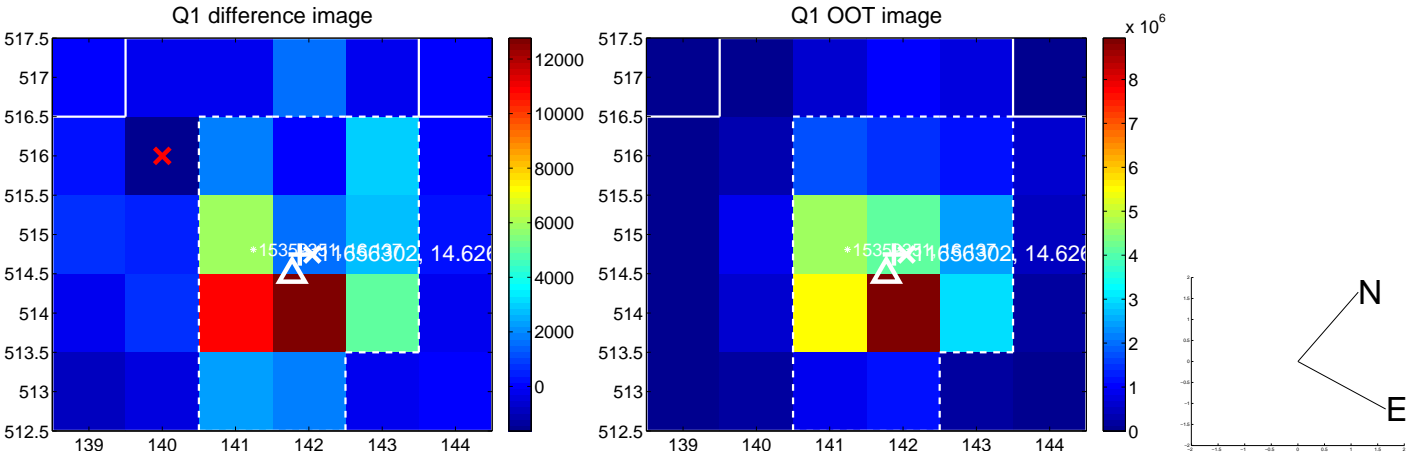
The direct PRF centroid is offset from the target star catalog position by about 0.68 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.725 \pm 0.149	4.88	0.519 \pm 0.105	0.506 \pm 0.146
PRF-fit source offset from KIC position	0.152 \pm 0.145	1.05	0.081 \pm 0.096	0.128 \pm 0.143
photometric centroid source offset	0.21 \pm 0.12	1.74	-0.20 \pm 0.12	0.07 \pm 0.11

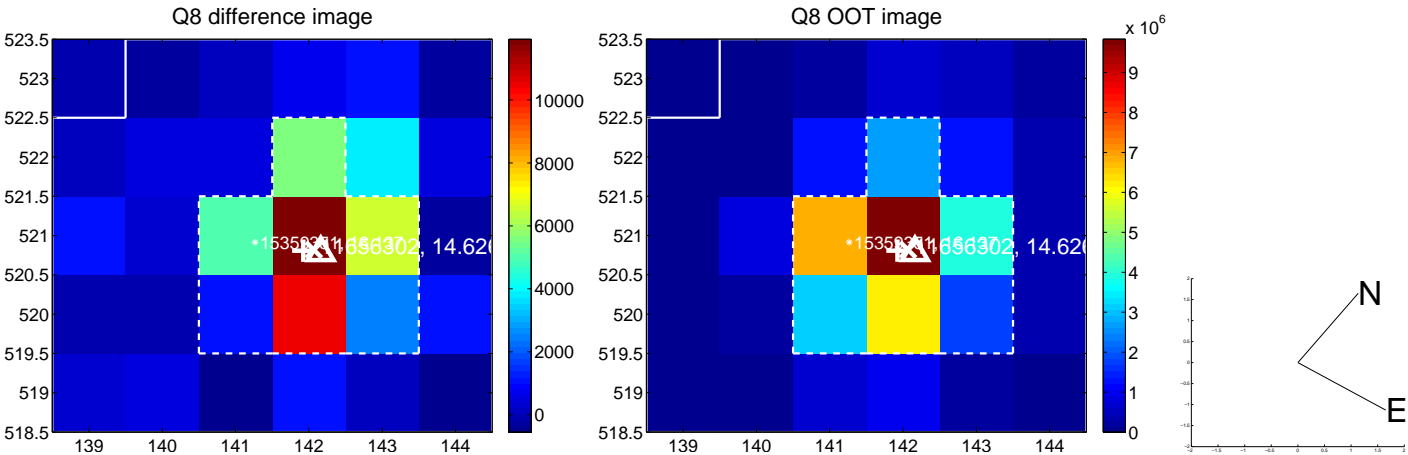
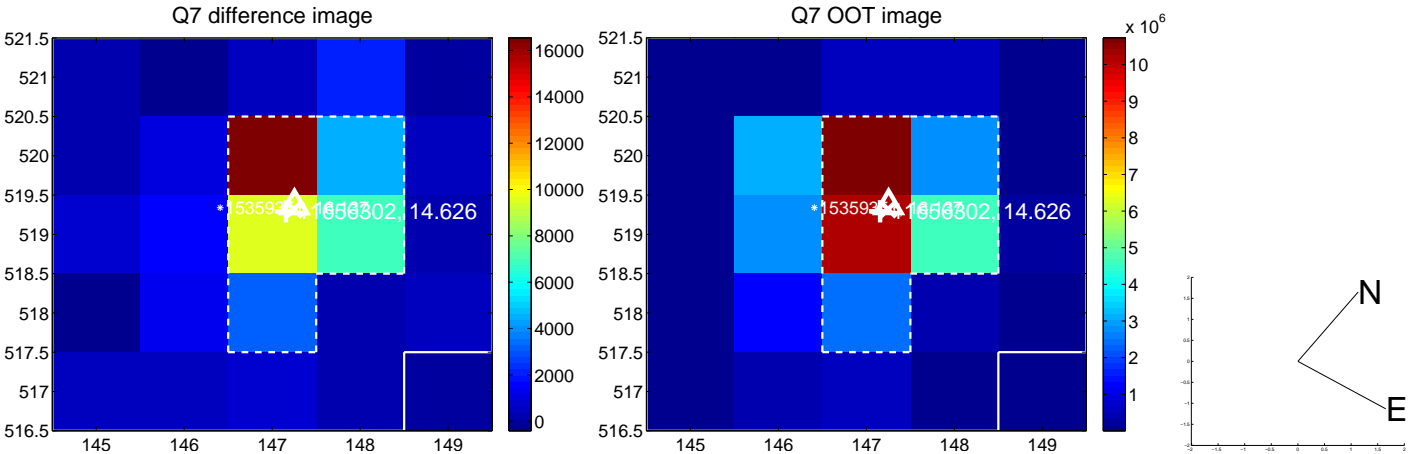
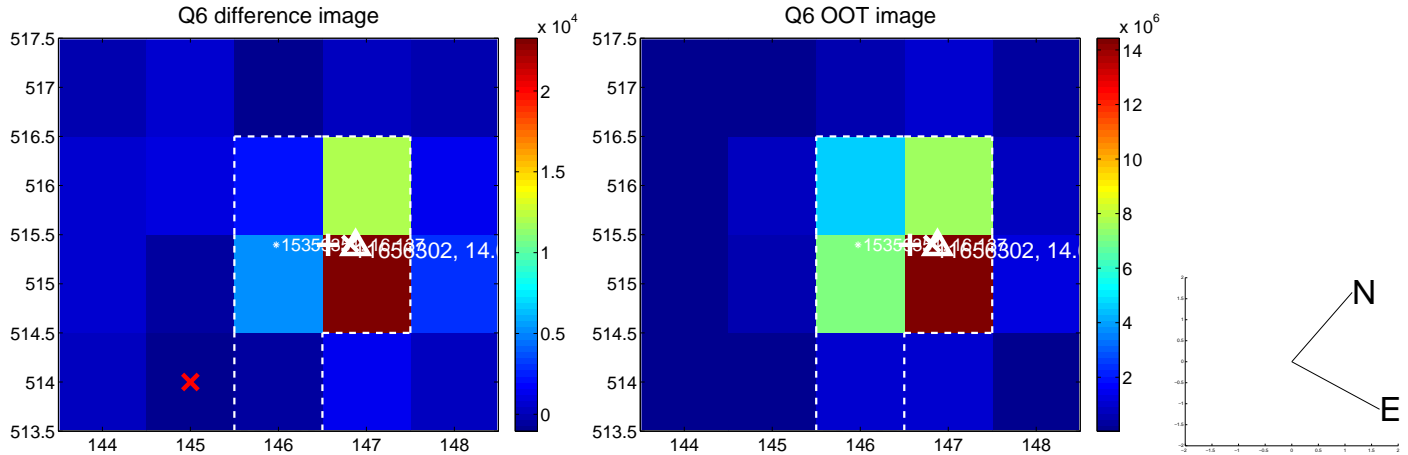
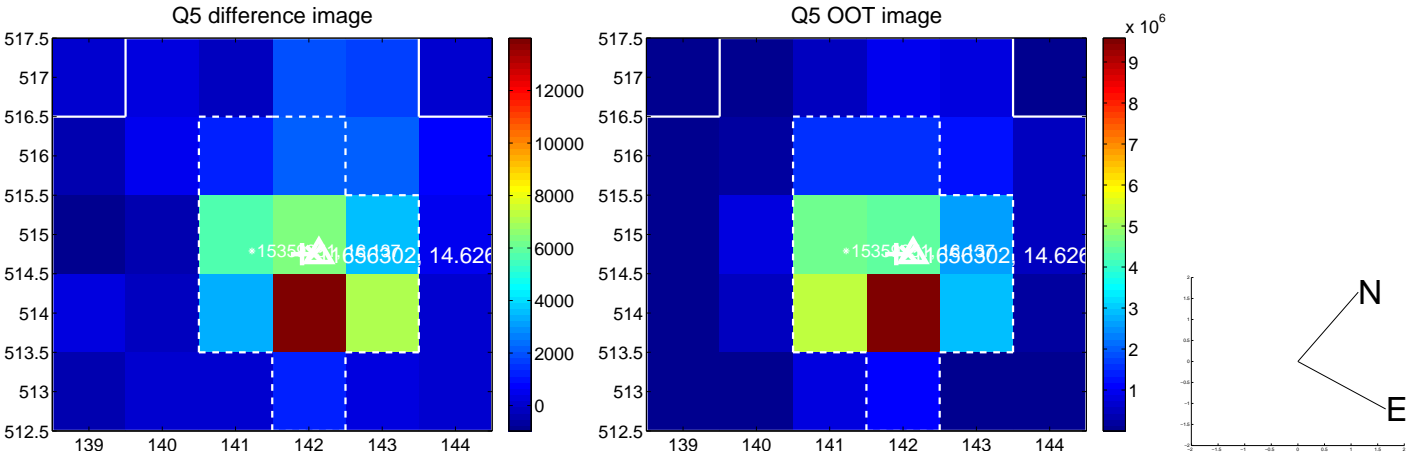


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

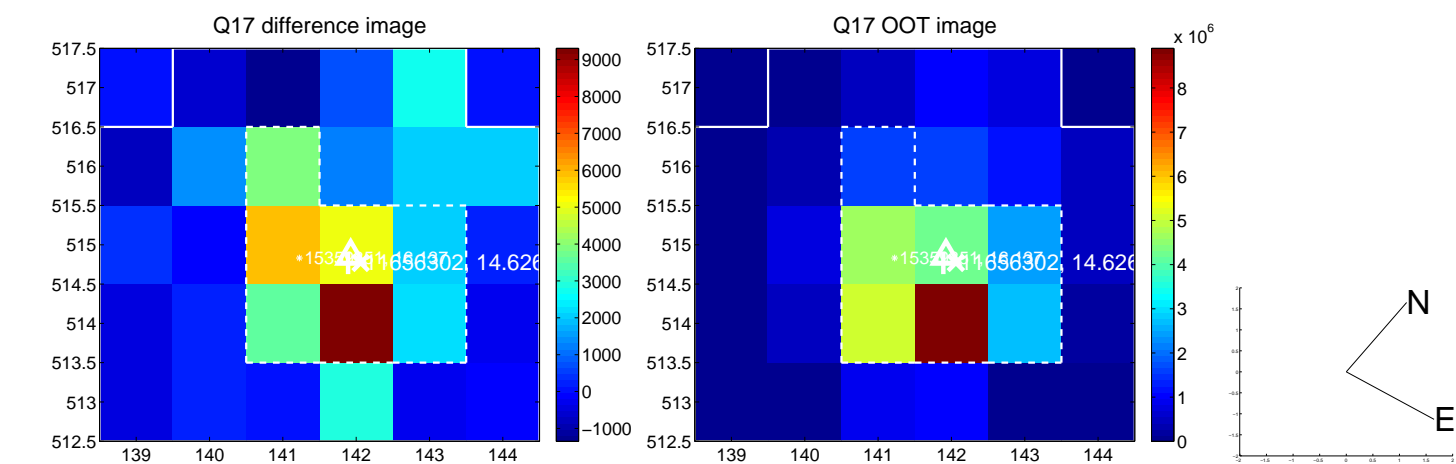
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



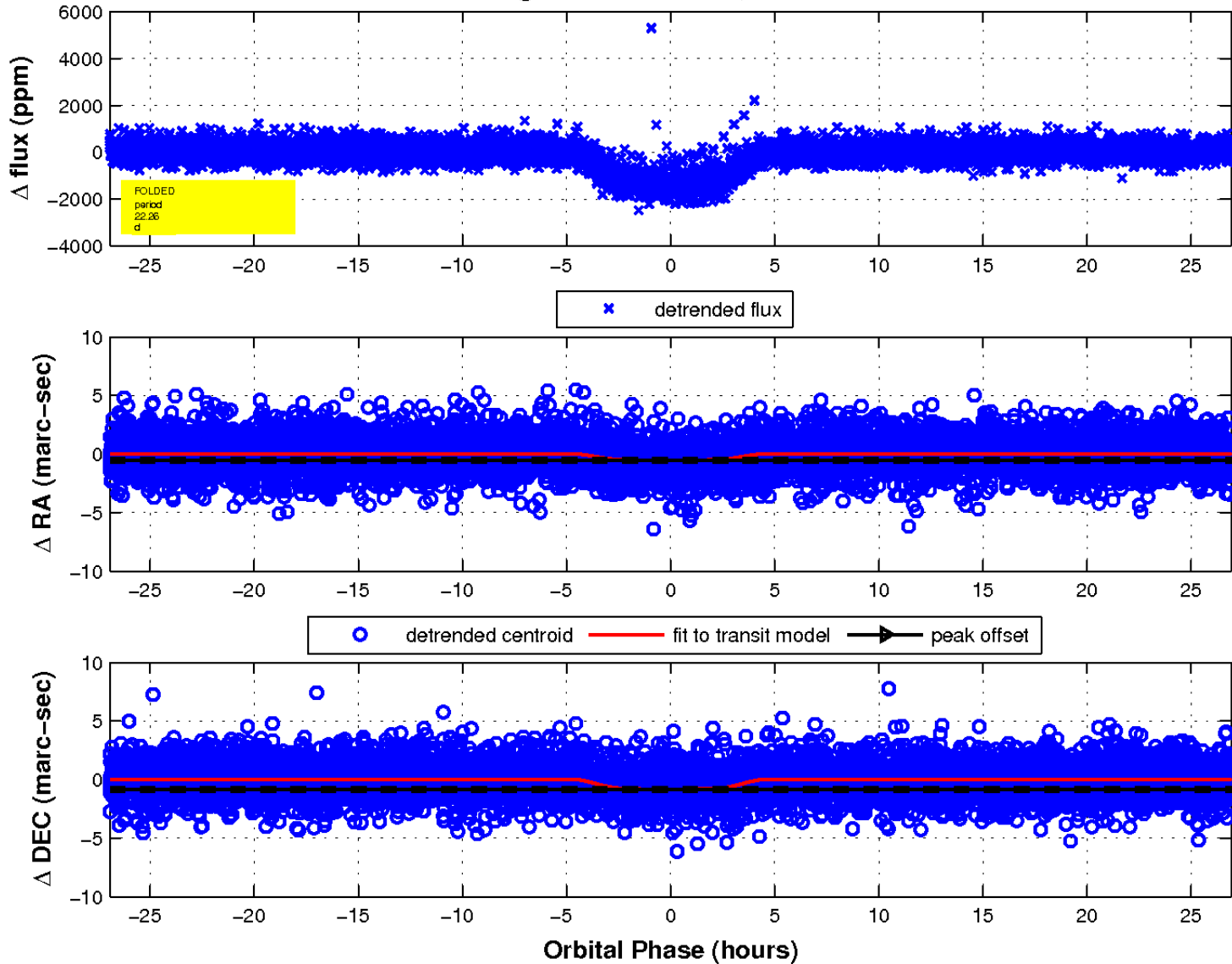
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

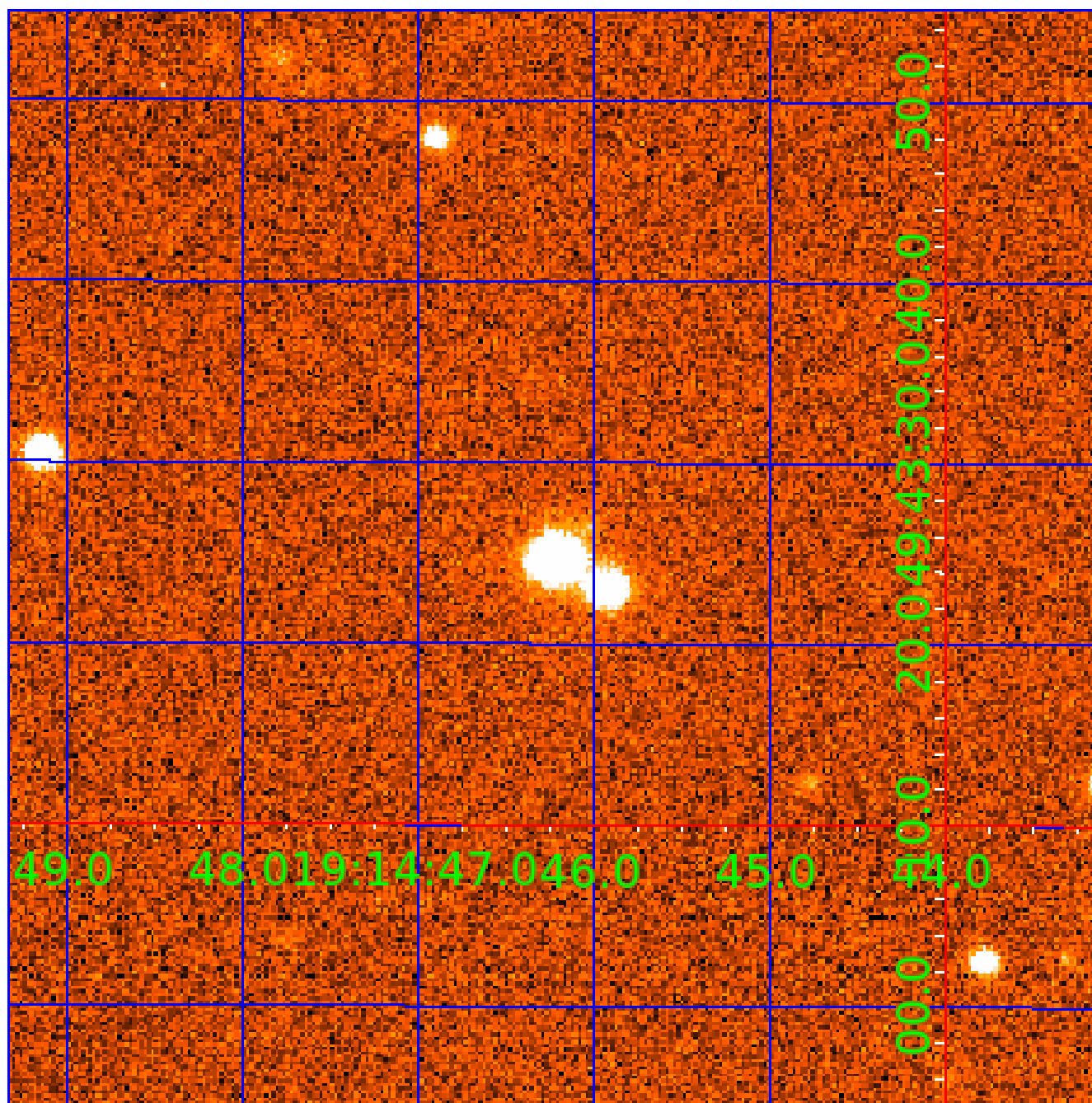


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 011656302

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})
011656302-01	OBS	0434.01	22.264806	150.838154	18213.1	8.817	1049.1	910.7	0.81	5681	11.96	27.83
011656302-02	OBS	No	22.264834	137.462875	1395.0	8.980	79.5	80.7	0.81	5681	3.68	27.83
011656302-03	OBS	No	567.845168	247.970528	471.1	12.327	11.7	7.1	0.81	5681	1.89	0.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011656302-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS
011656302-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS
011656302-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

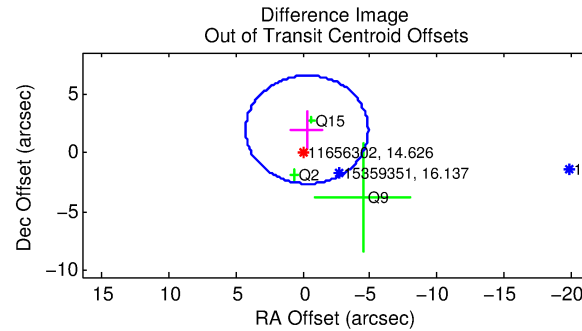
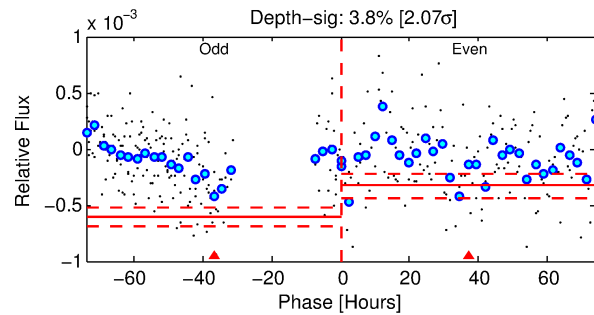
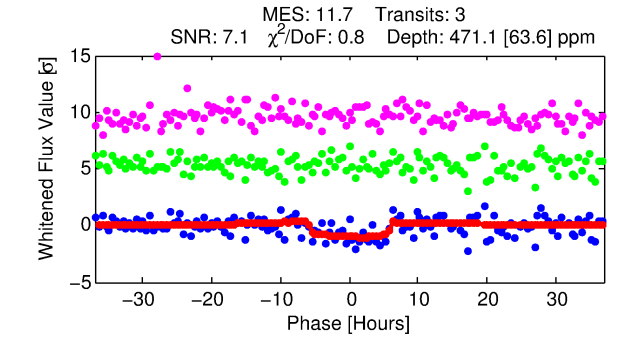
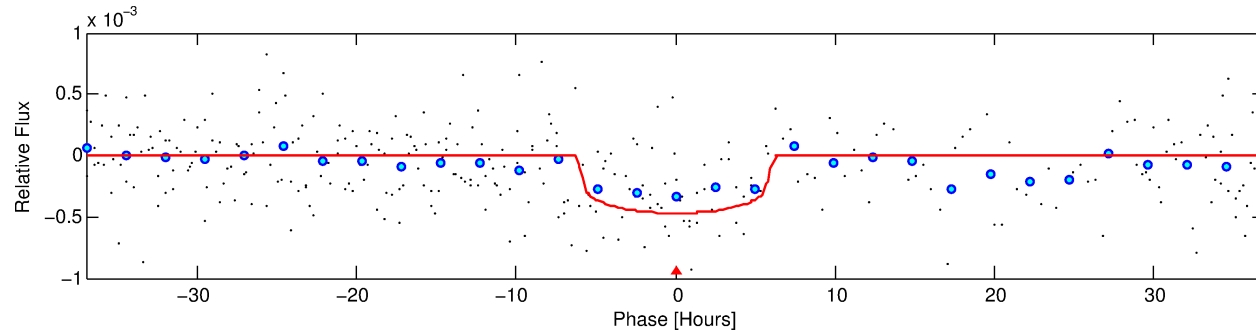
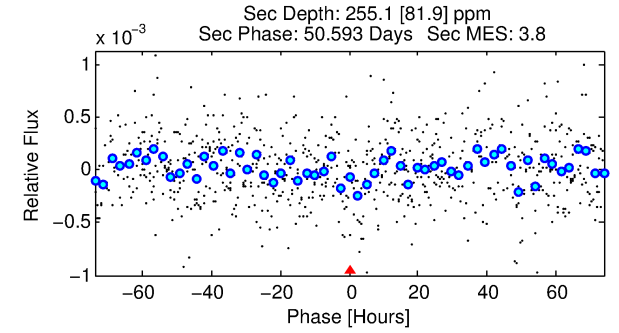
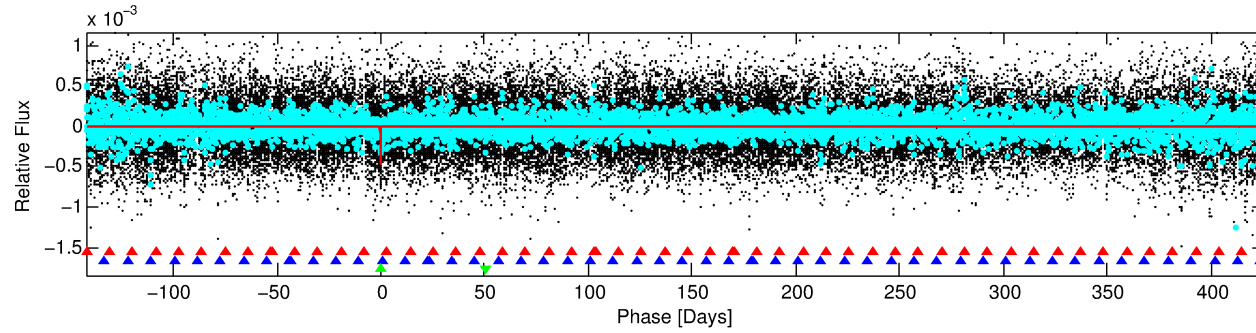
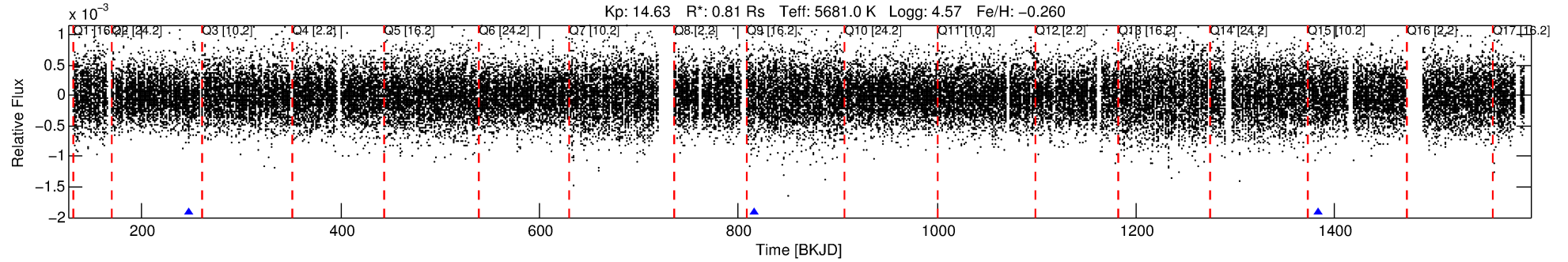
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011656302-03

No Significant Match Found

DV One-Page Summary

KIC: 11656302 Candidate: 3 of 3 Period: 567.845 d
KOI: K00434 Corr: No Ephemeris Match



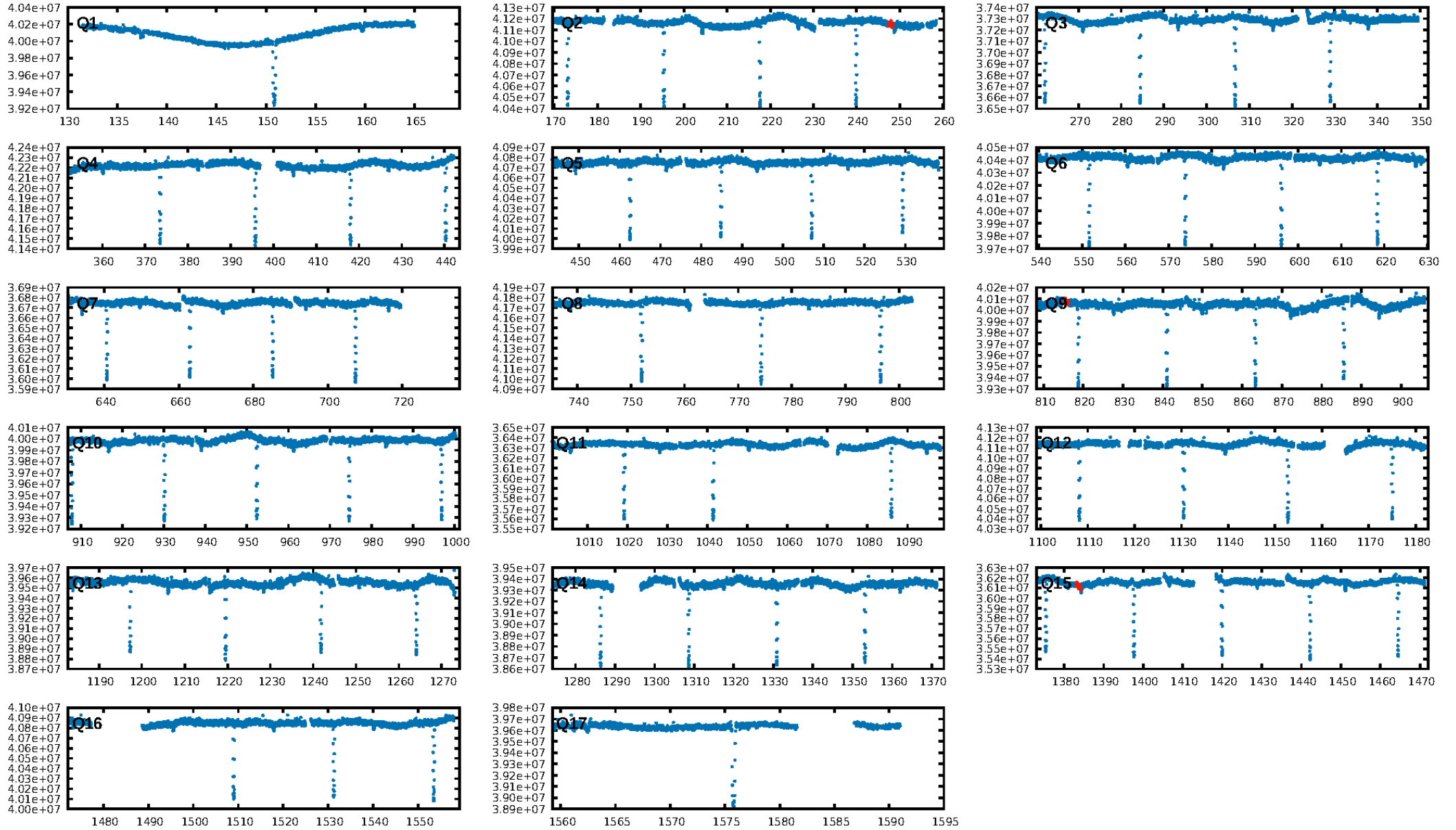
DV Fit Results:

Period = 567.84517 [0.01488] d
Epoch = 247.9705 [0.0177] BKJD
Rp/R* = 0.0212 [0.0113]
a/R* = 260.81 [610.01]
b = 0.70 [1.69]
Seff = 0.37 [0.13]
T_{eq} = 199 [17] K
Rp = 1.89 [1.12] R_e
a = 1.2900 [0.2908] AU
Ag = 65718.28 [75872.77] [0.87 σ]
Teff = 4925 [1371] K [3.45 σ]

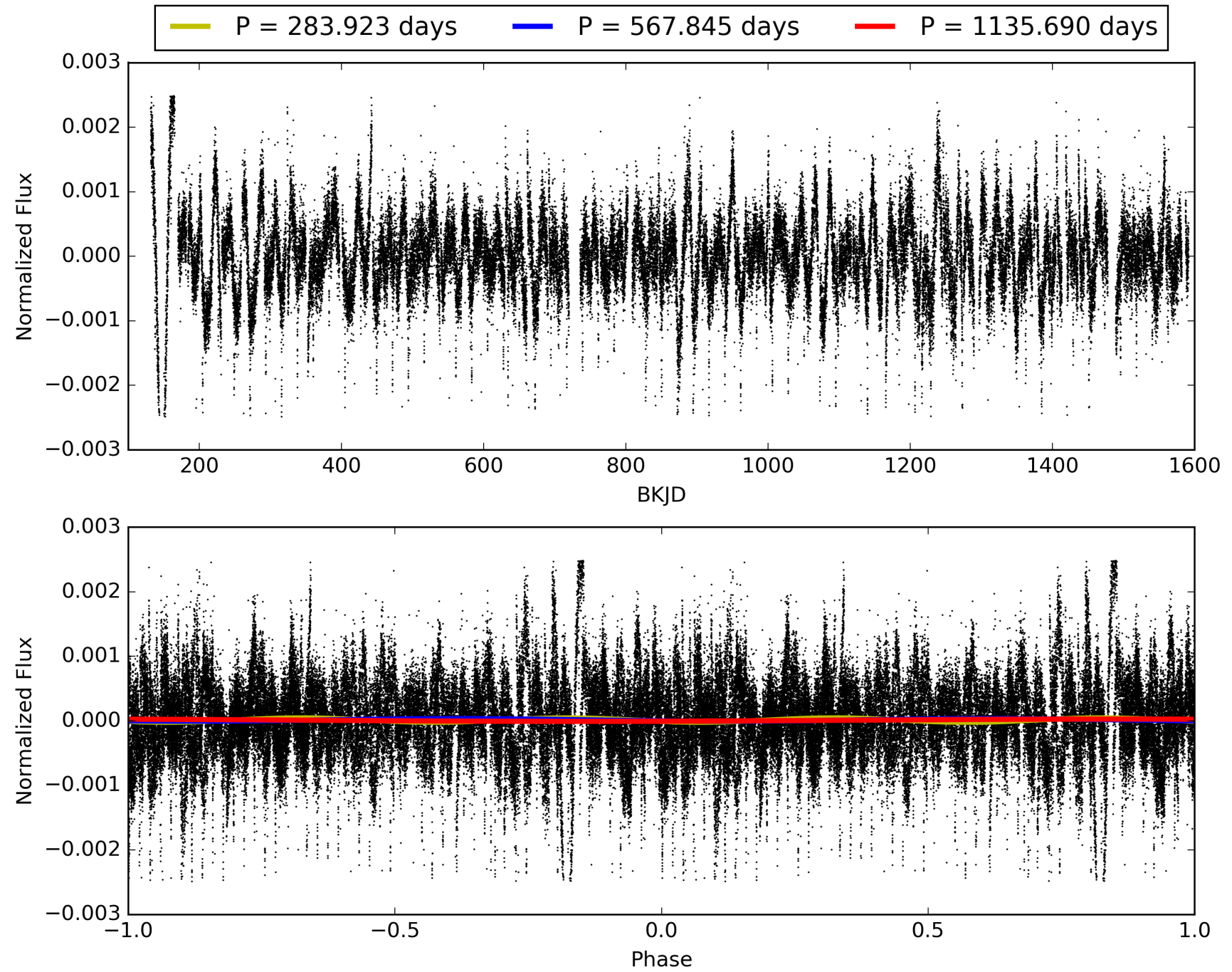
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [858.57 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.24e-26
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.354
Centroid-sig: 21.4%
Centroid-so: 1.393 arcsec [0.98 σ]
OotOffset-rm: 1.981 arcsec [1.30 σ]
KicOffset-rm: 1.675 arcsec [0.95 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.33 [1/3]

TCE 011656302-03, PDC Light Curves

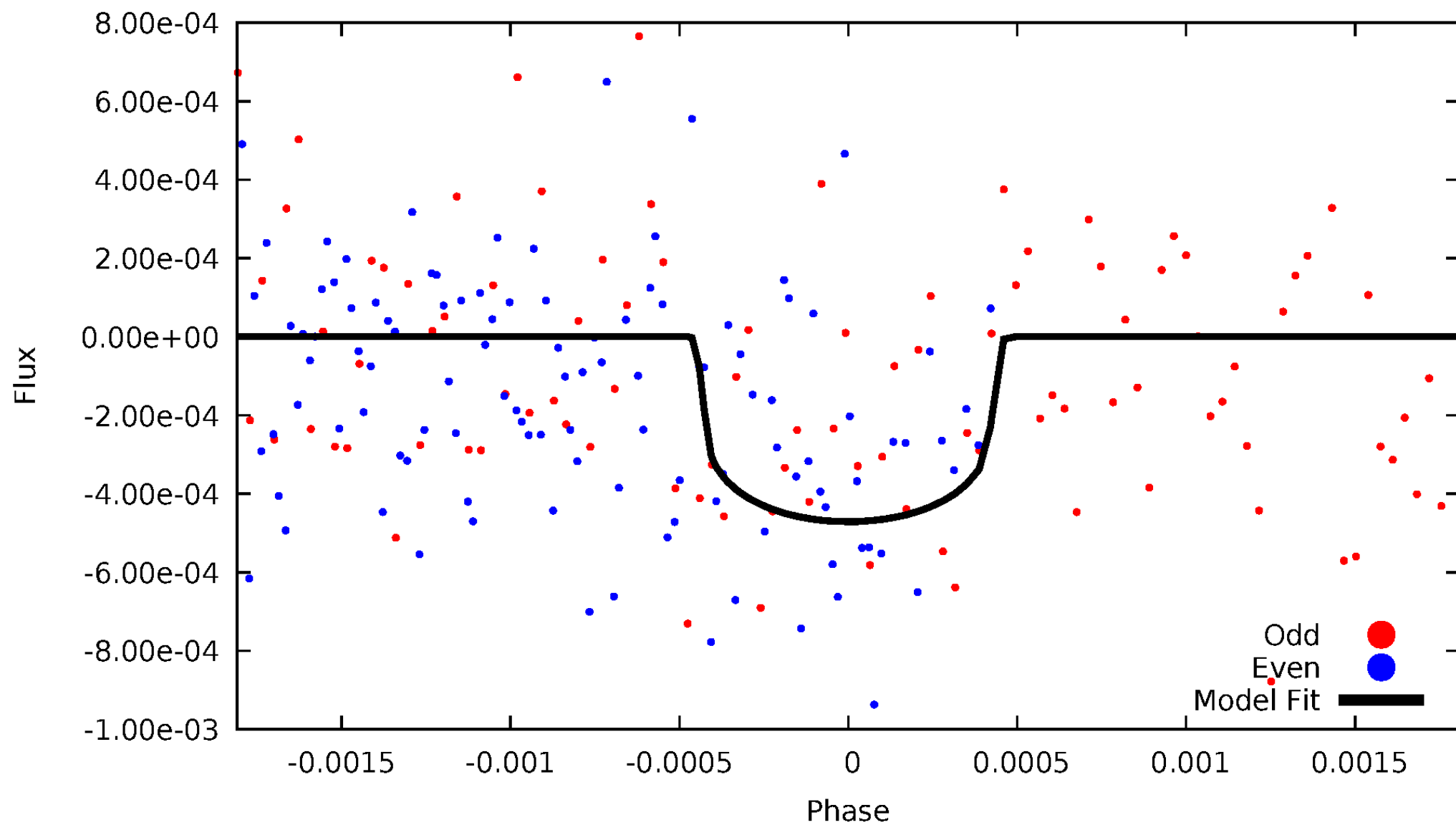


TCE 011656302-03



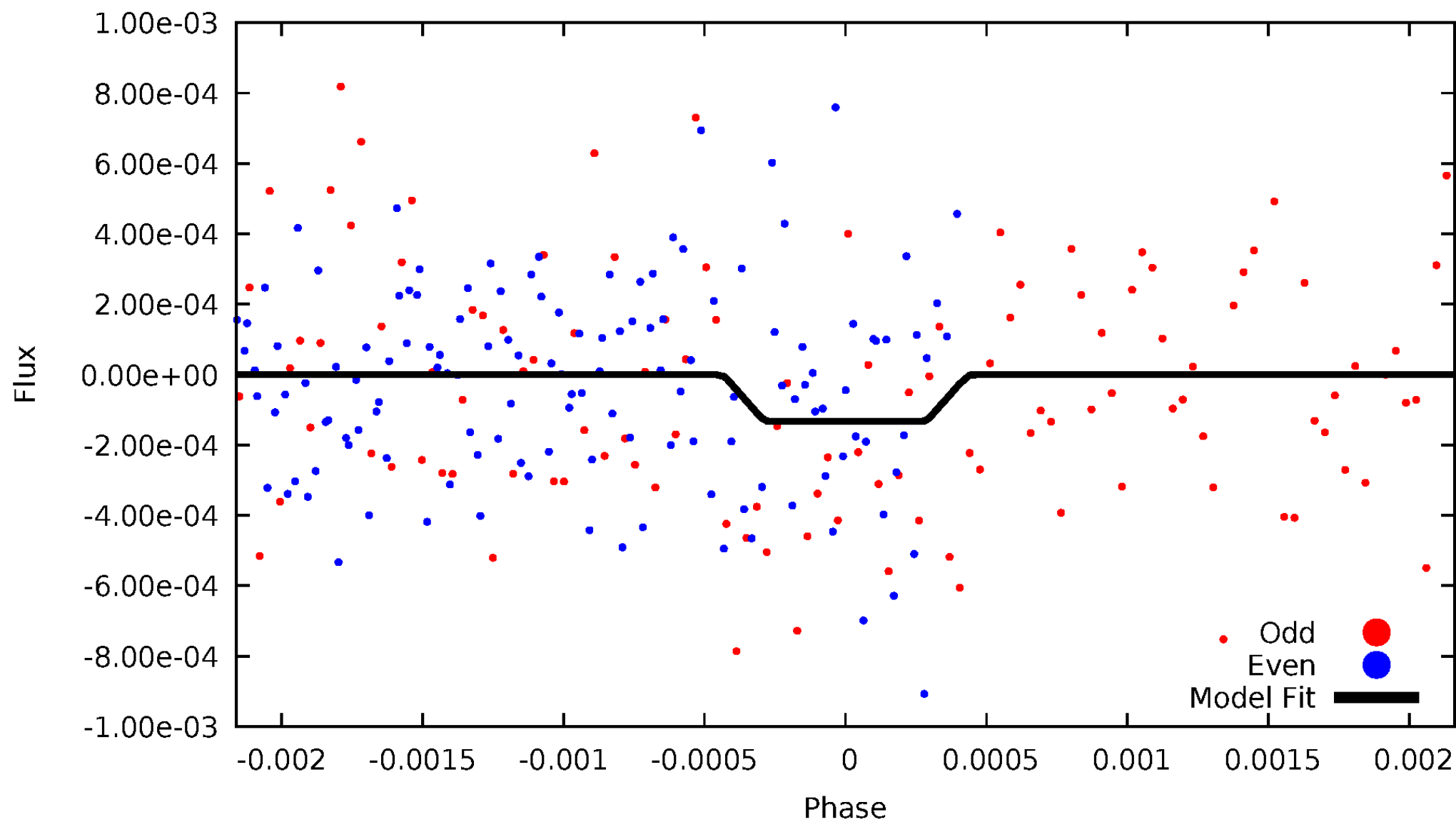
DV Odd/Even

TCE 011656302-03

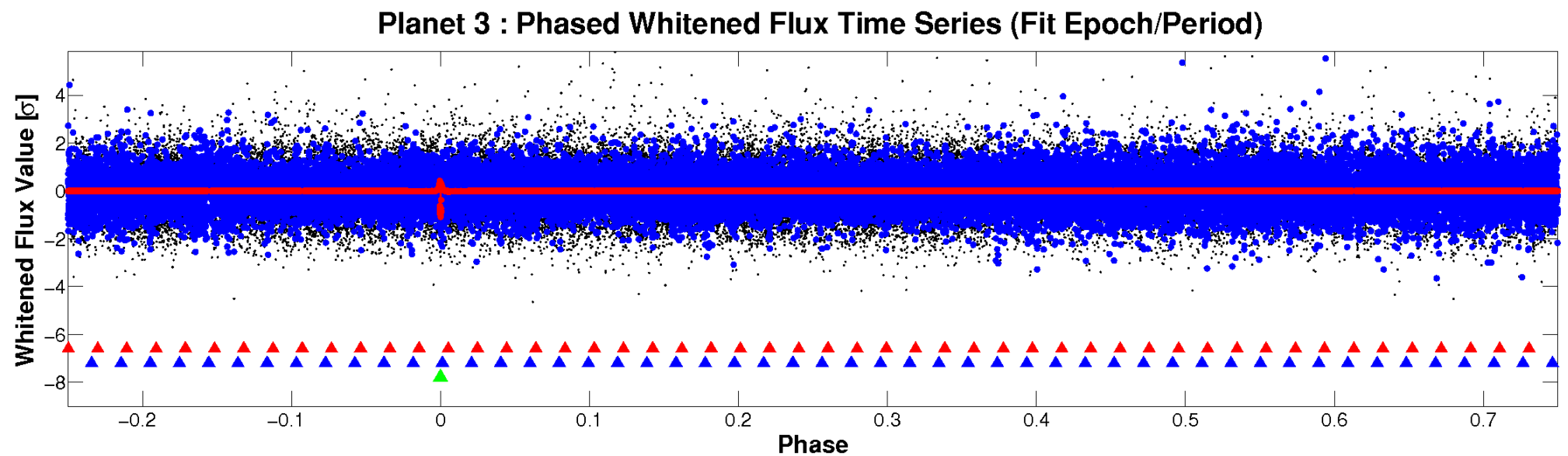
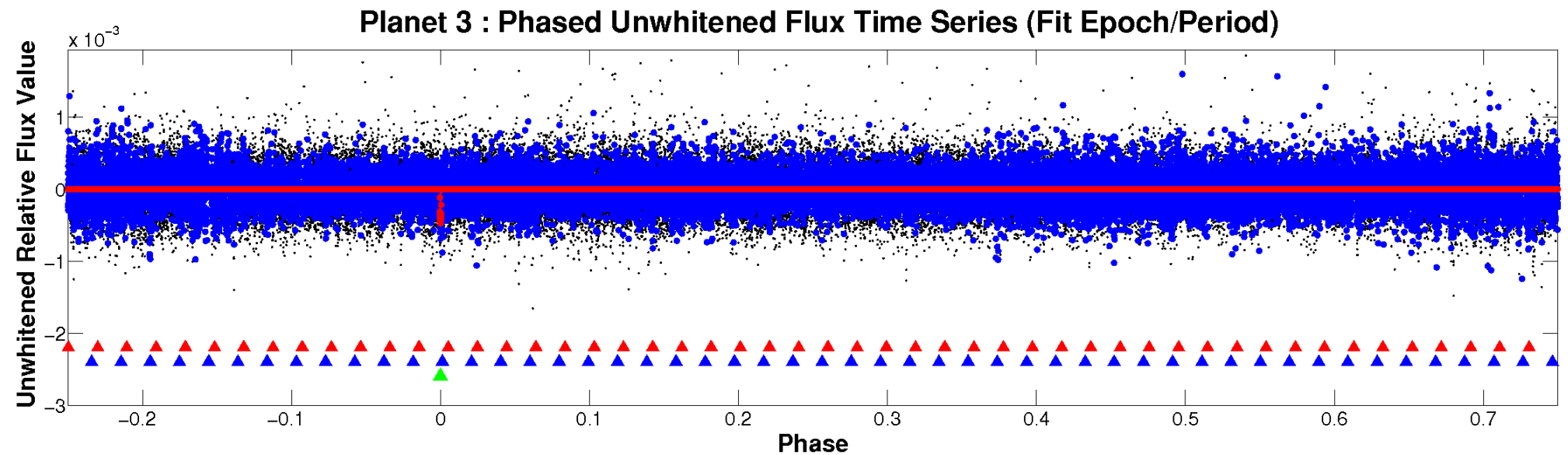


ALT Odd/Even

TCE 011656302-03

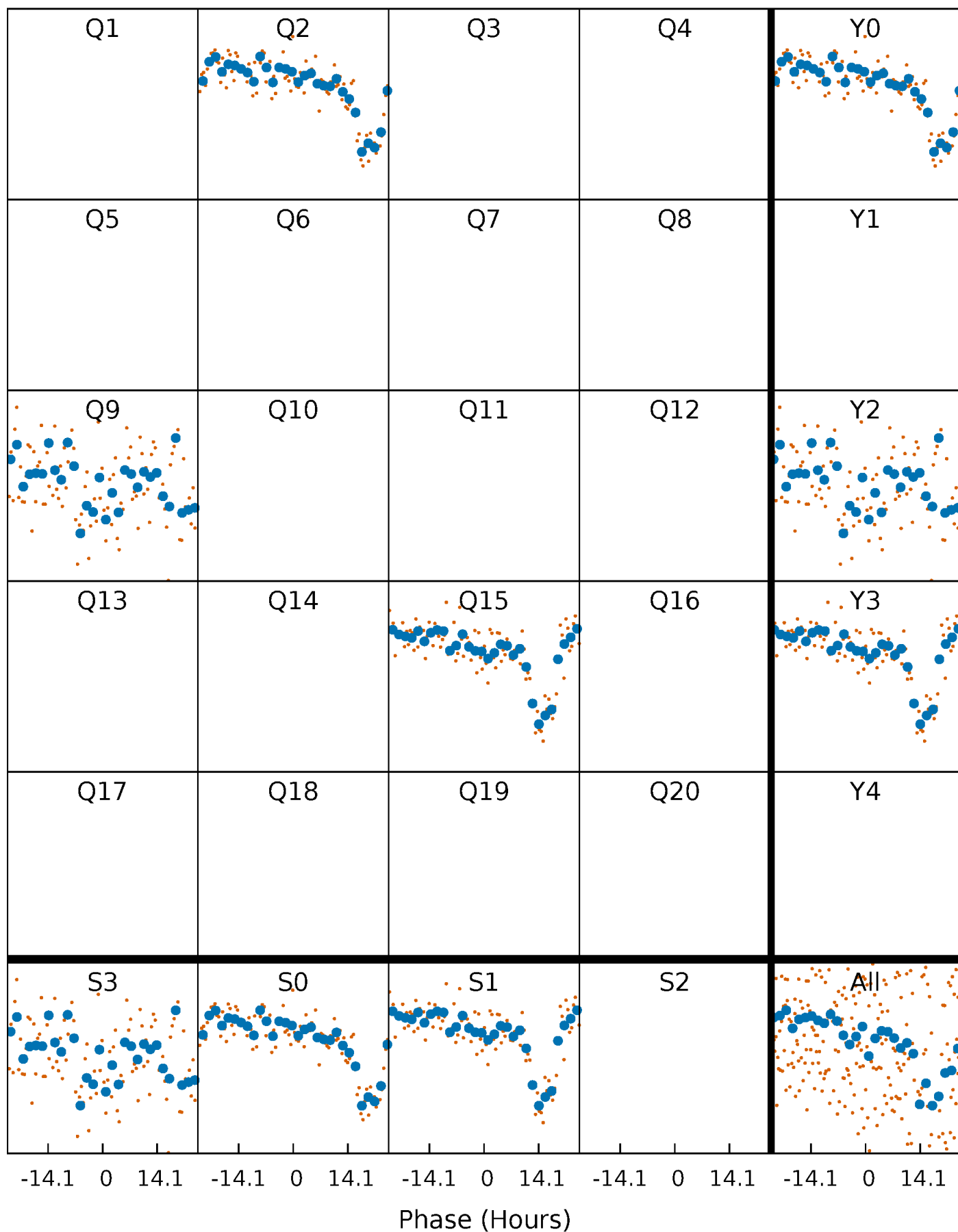


Non-Whitened Vs. Whitened Light Curve



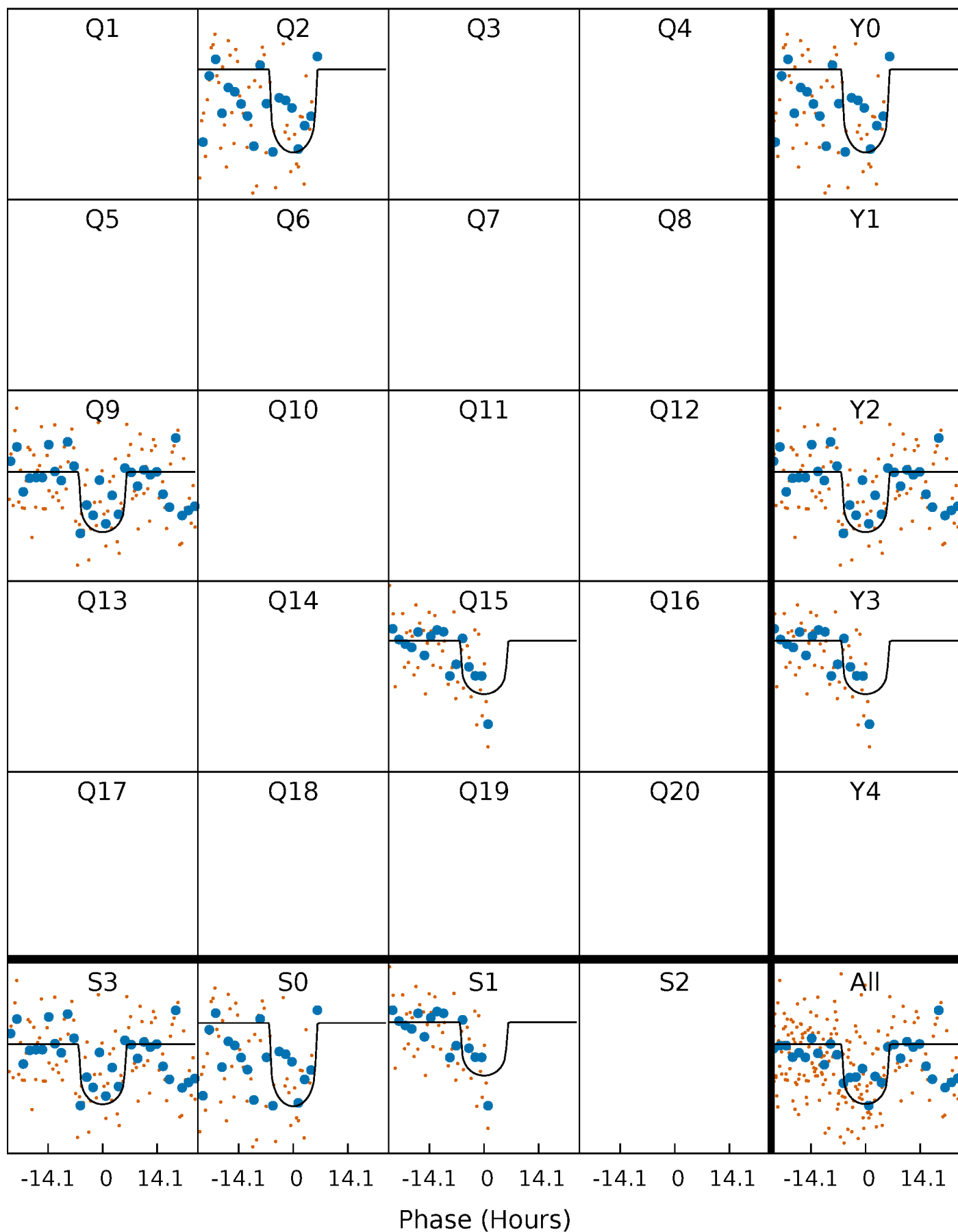
PDC Quarter-Phased Transit Curves

TCE 011656302-03 $P=567.845168$ Days $T_0=247.970528$ (BKJD)



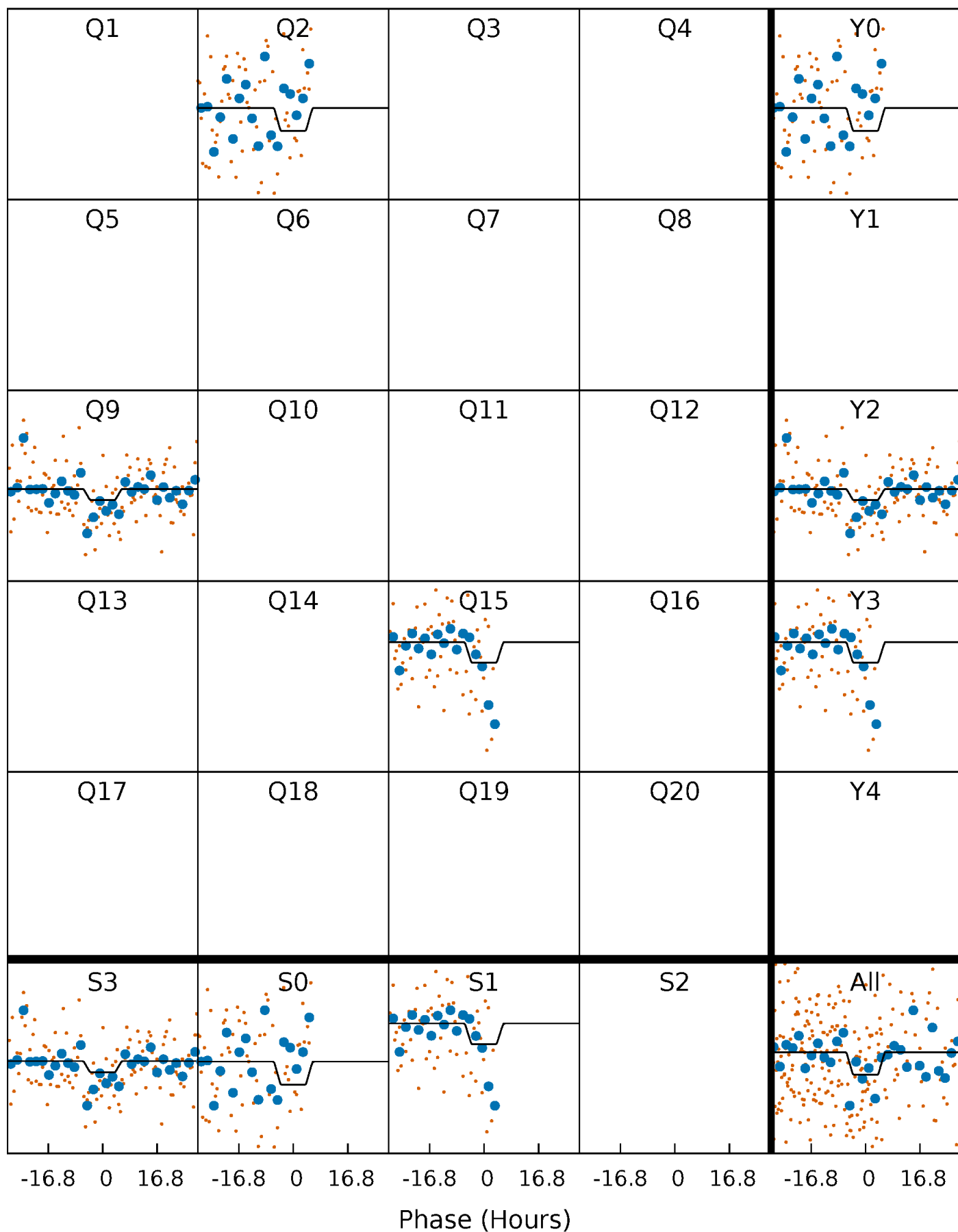
DV Quarter-Phased Transit Curves

TCE 011656302-03 $P=567.845168$ Days $T_0=247.970528$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

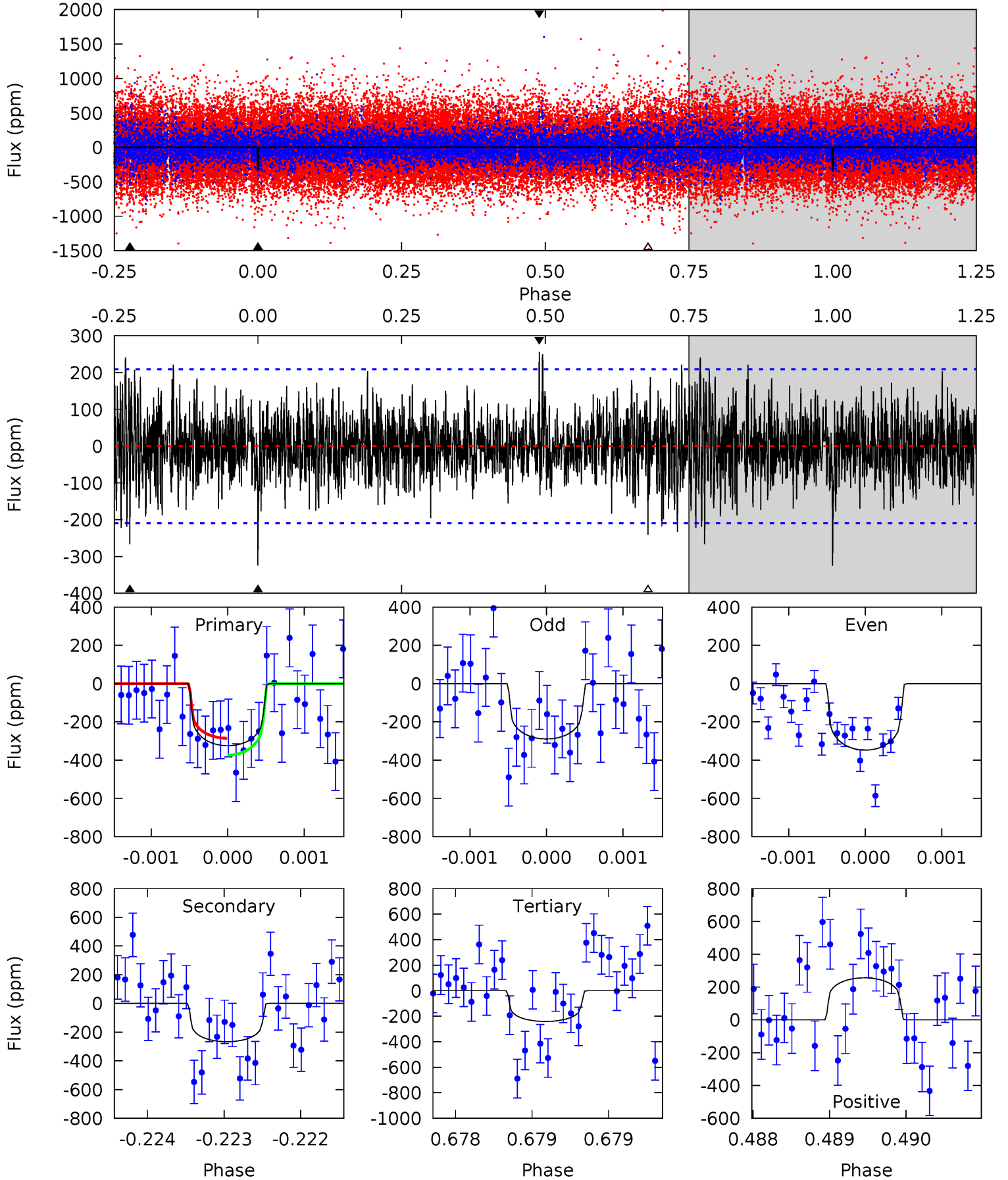
TCE 011656302-03 P=567.780520 Days $T_0=247.984537$ (BKJD)



DV Model-Shift Uniqueness Test

011656302-03, P = 567.845168 Days, E = 247.970528 Days

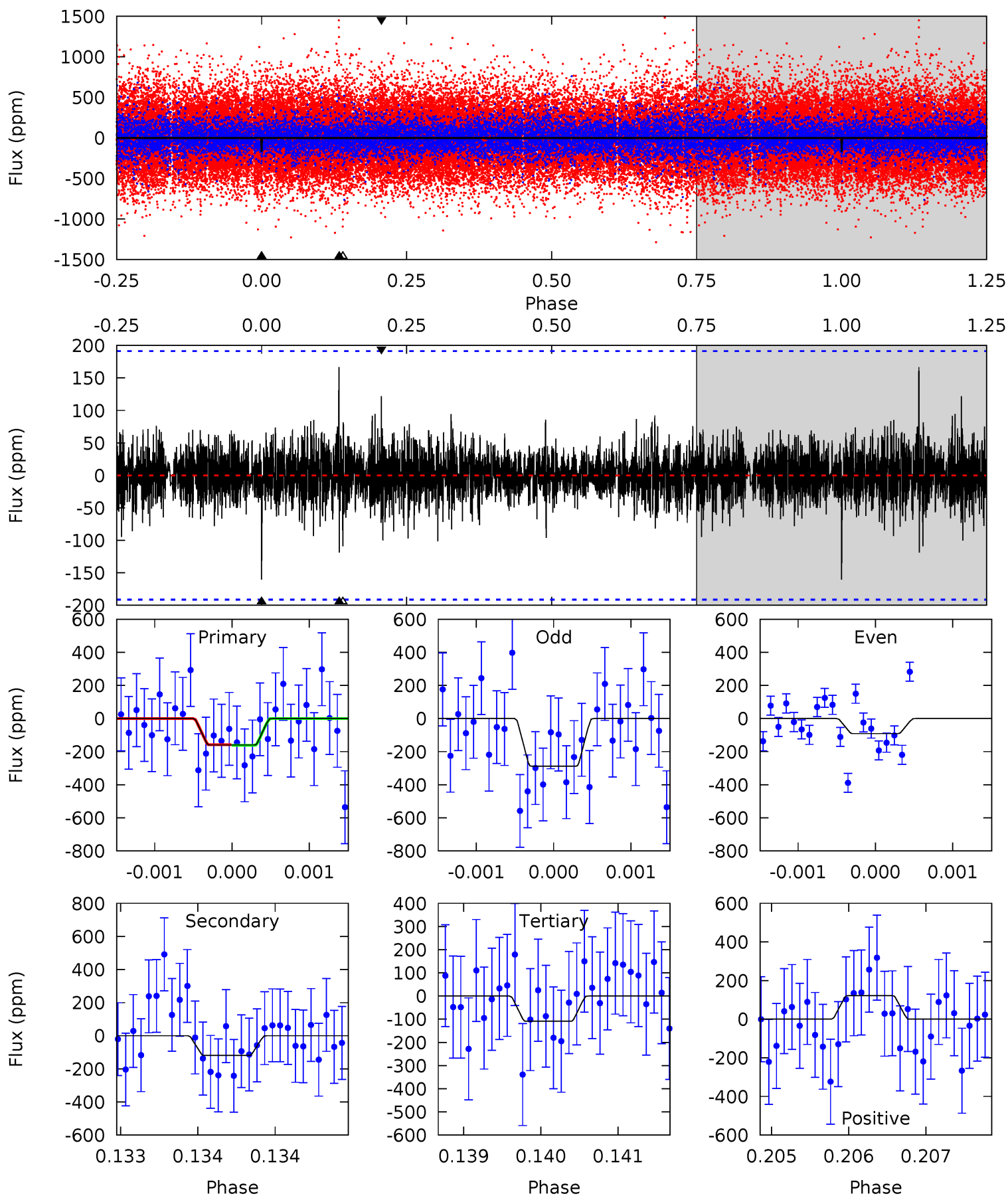
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.49	6.97	6.30	6.69	5.47	3.32	1.68	2.18	1.80	0.67	0.28	0.75	0.99	0.44	1.14



Alt Model-Shift Uniqueness Test

011656302-03, P = 567.780520 Days, E = 247.984537 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.58	3.39	3.12	3.48	5.47	3.32	0.76	1.46	1.09	0.27	-0.09	2.74	0.67	0.51	0.03



Stellar Parameters For KIC 011656302

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5681^{+169}_{-152}	$4.566^{+0.042}_{-0.179}$	$-0.260^{+0.300}_{-0.300}$	$0.813^{+0.218}_{-0.073}$	$0.888^{+0.097}_{-0.097}$	$2.326^{+0.417}_{-1.071}$
	+3%/-3%	+1%/-4%	+115%/-115%	+27%/-9%	+11%/-11%	+18%/-46%
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 011656302-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-267 ± 38	$2.00^{+1.06}_{-1.05}$	284^{+18}_{-13}	5057^{+2195}_{-784}	$61633^{+202986}_{-35701}$
Alt.	-119 ± 35	$1.25^{+1.05}_{-0.80}$	284^{+18}_{-12}	5099^{+3710}_{-1067}	$65036^{+434408}_{-45886}$

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 $A_{obs} \gg 1.0$

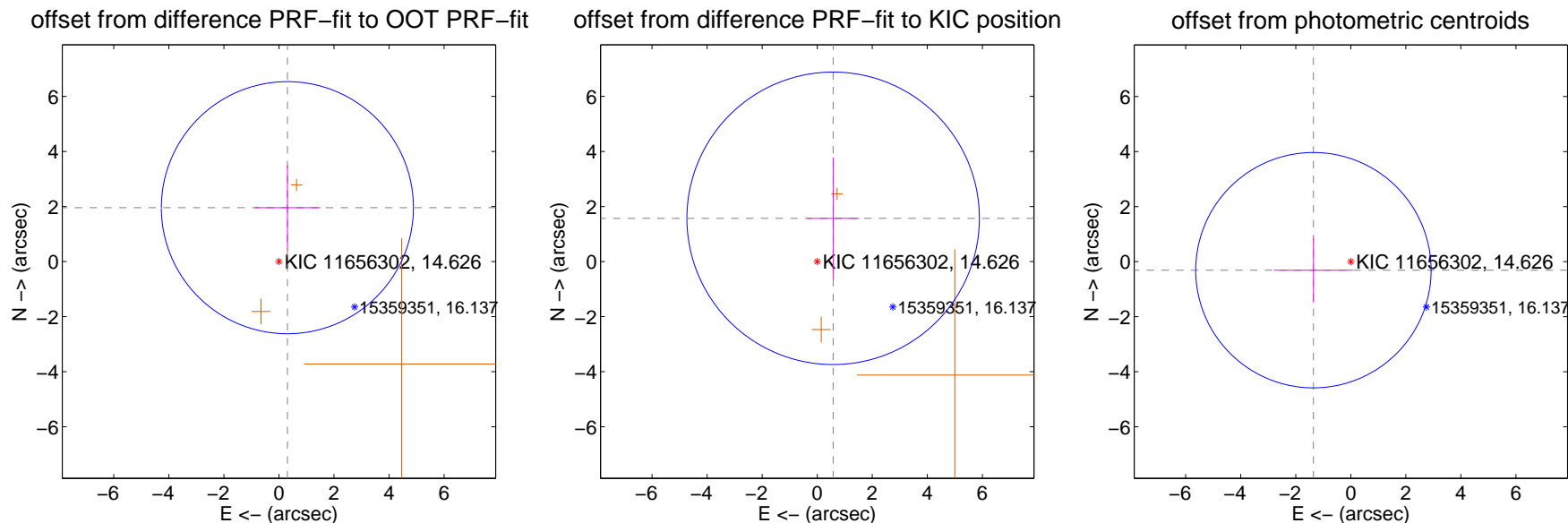
DV Centroid Data

Supplemental centroid analysis for 011656302-03. Kepler magnitude: 14.63. Transit SNR 7.10

There are 0 quarters with good PRF difference image offsets

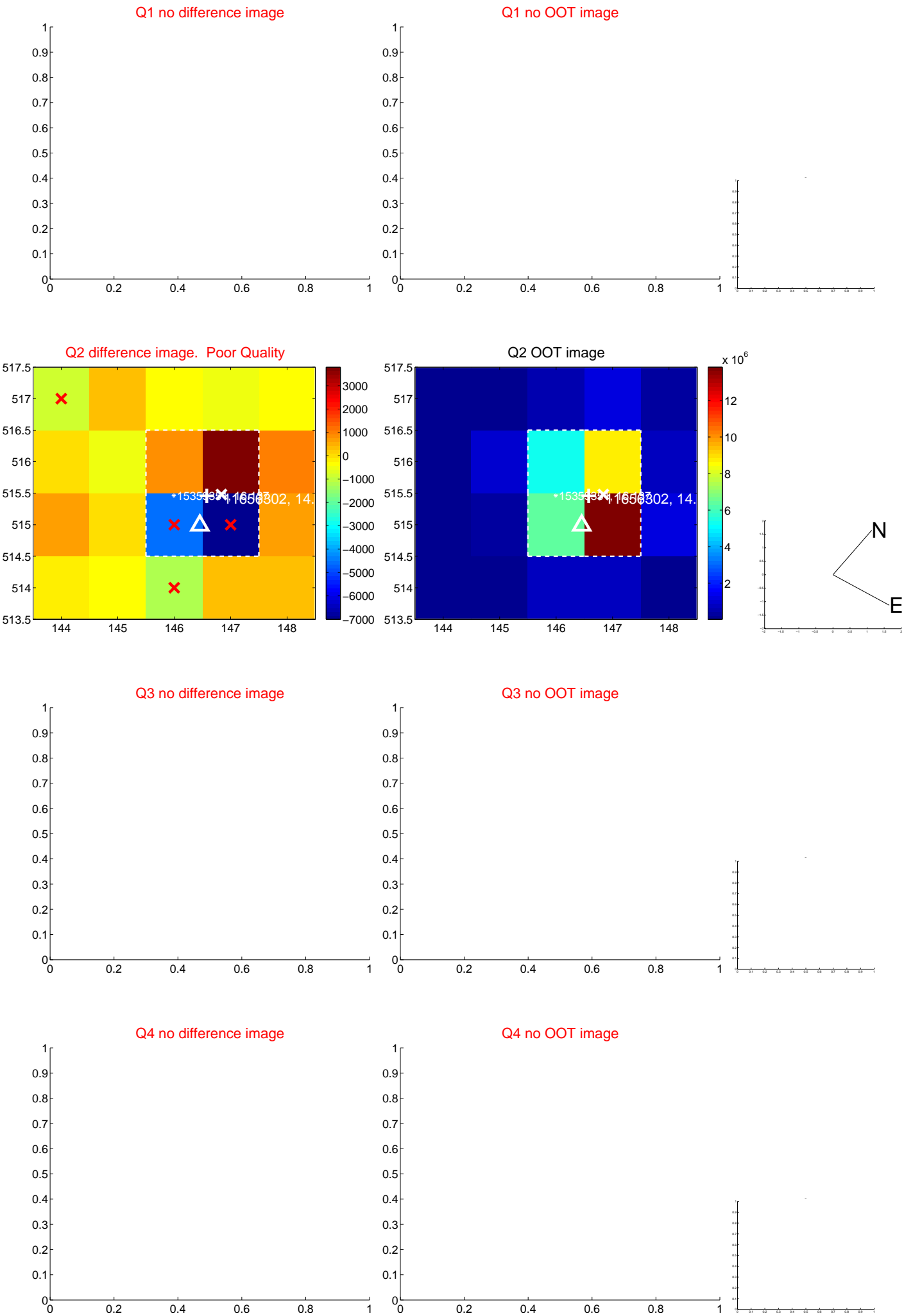
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.981 ± 1.526	1.30	-0.306 ± 1.193	1.957 ± 1.533
PRF-fit source offset from KIC position	1.675 ± 1.770	0.95	-0.579 ± 0.945	1.572 ± 2.210
photometric centroid source offset	1.39 ± 1.43	0.98	1.36 ± 1.44	-0.31 ± 1.18



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.

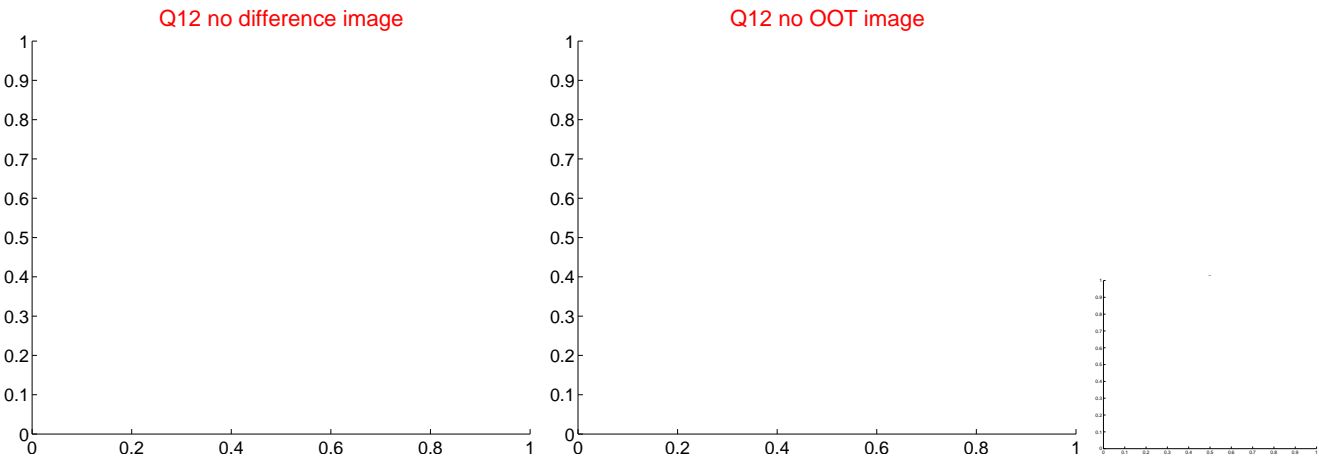
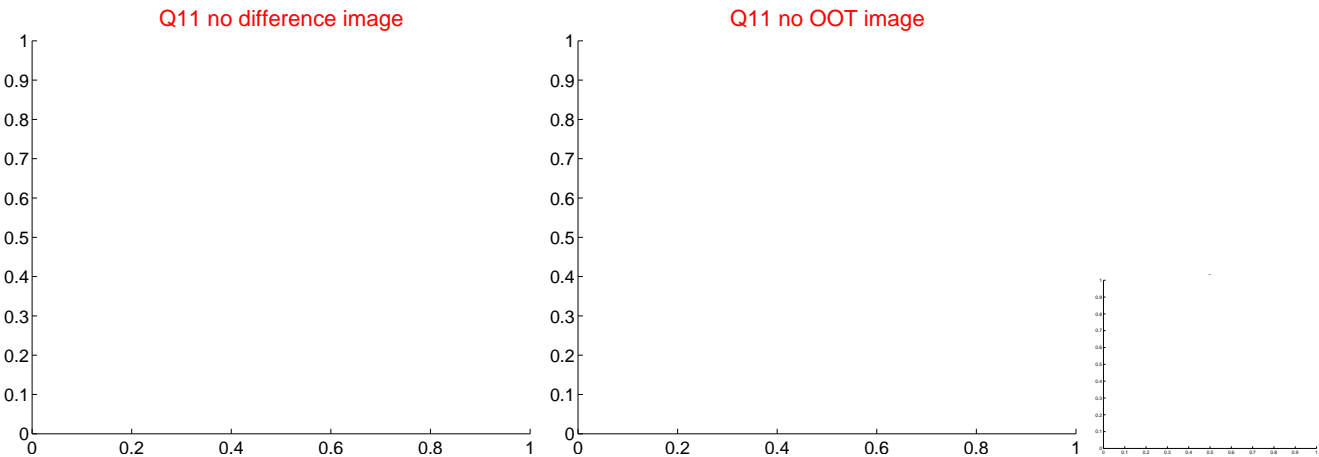
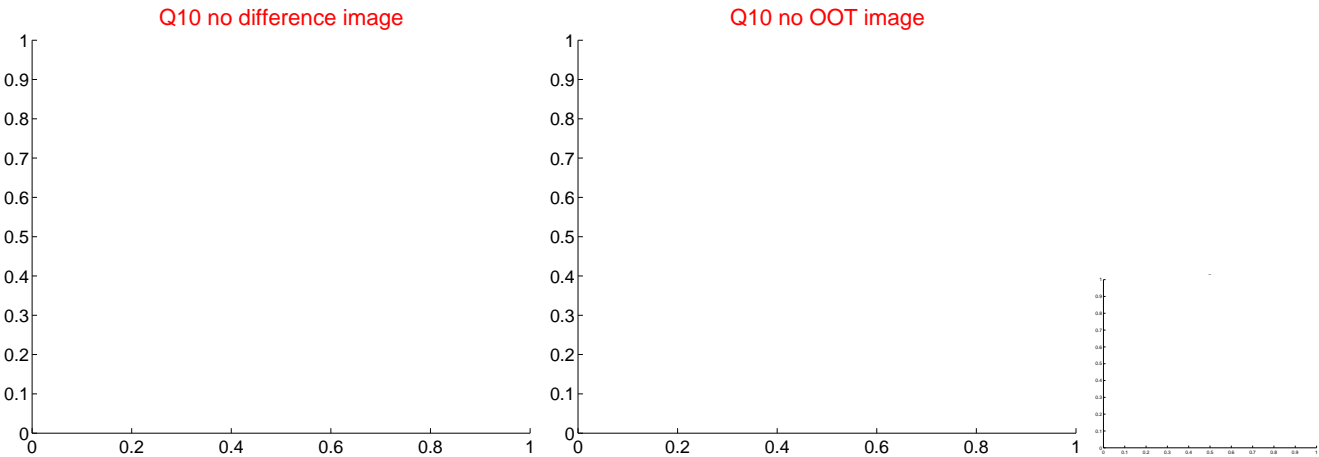
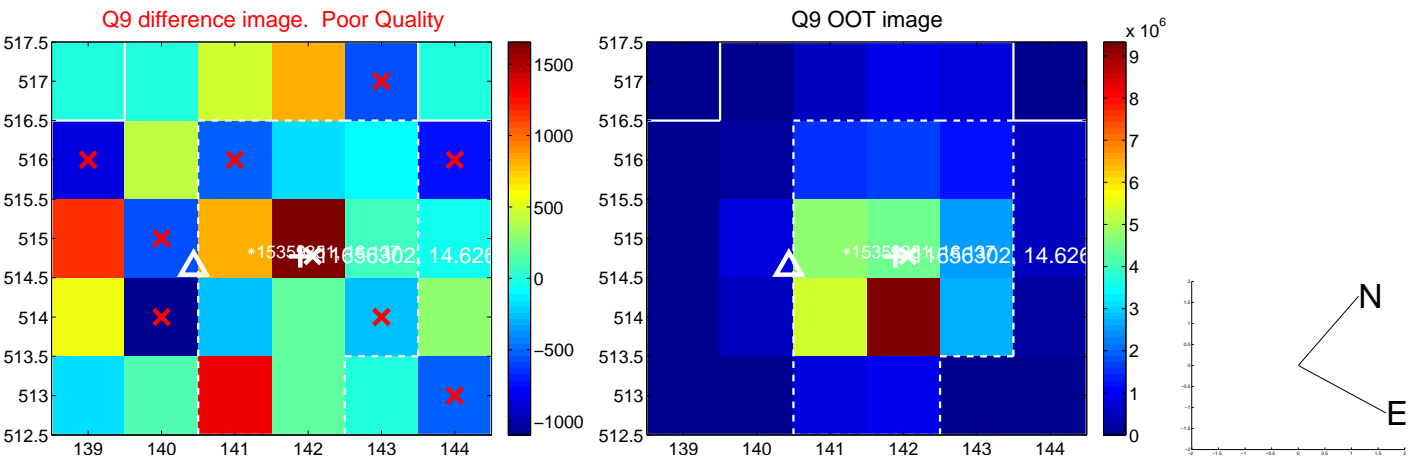
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



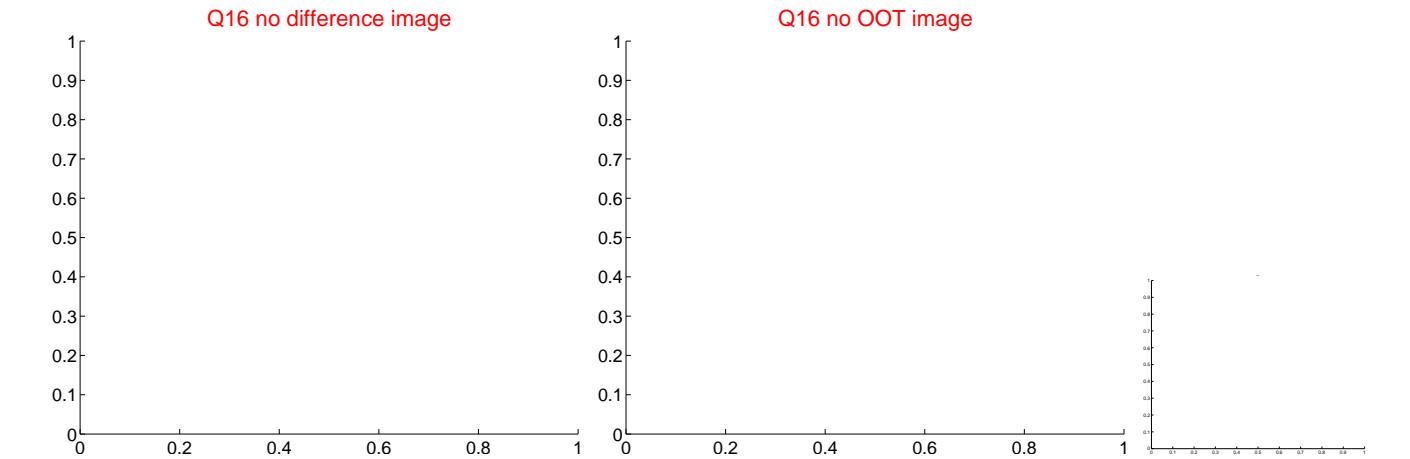
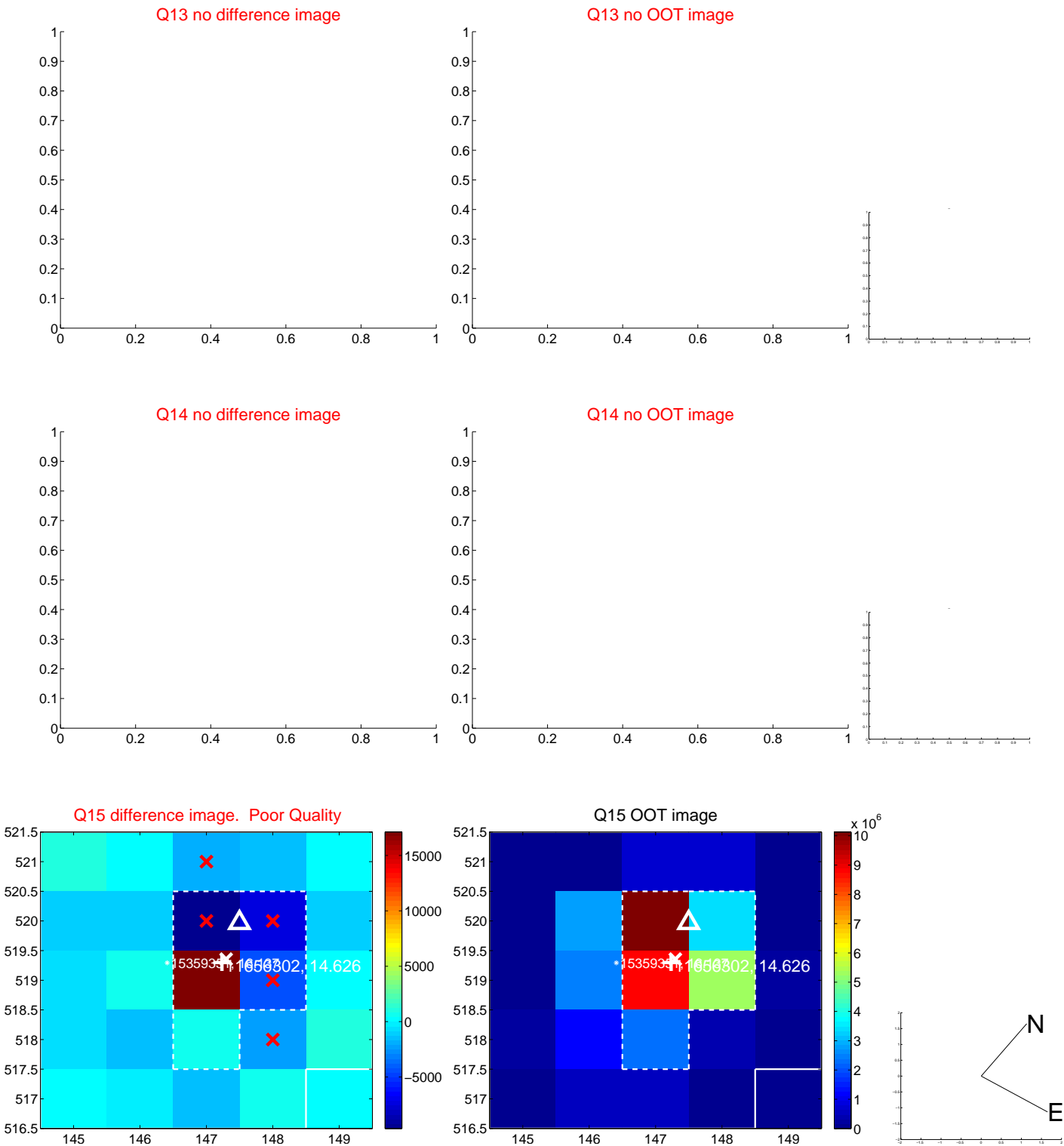
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



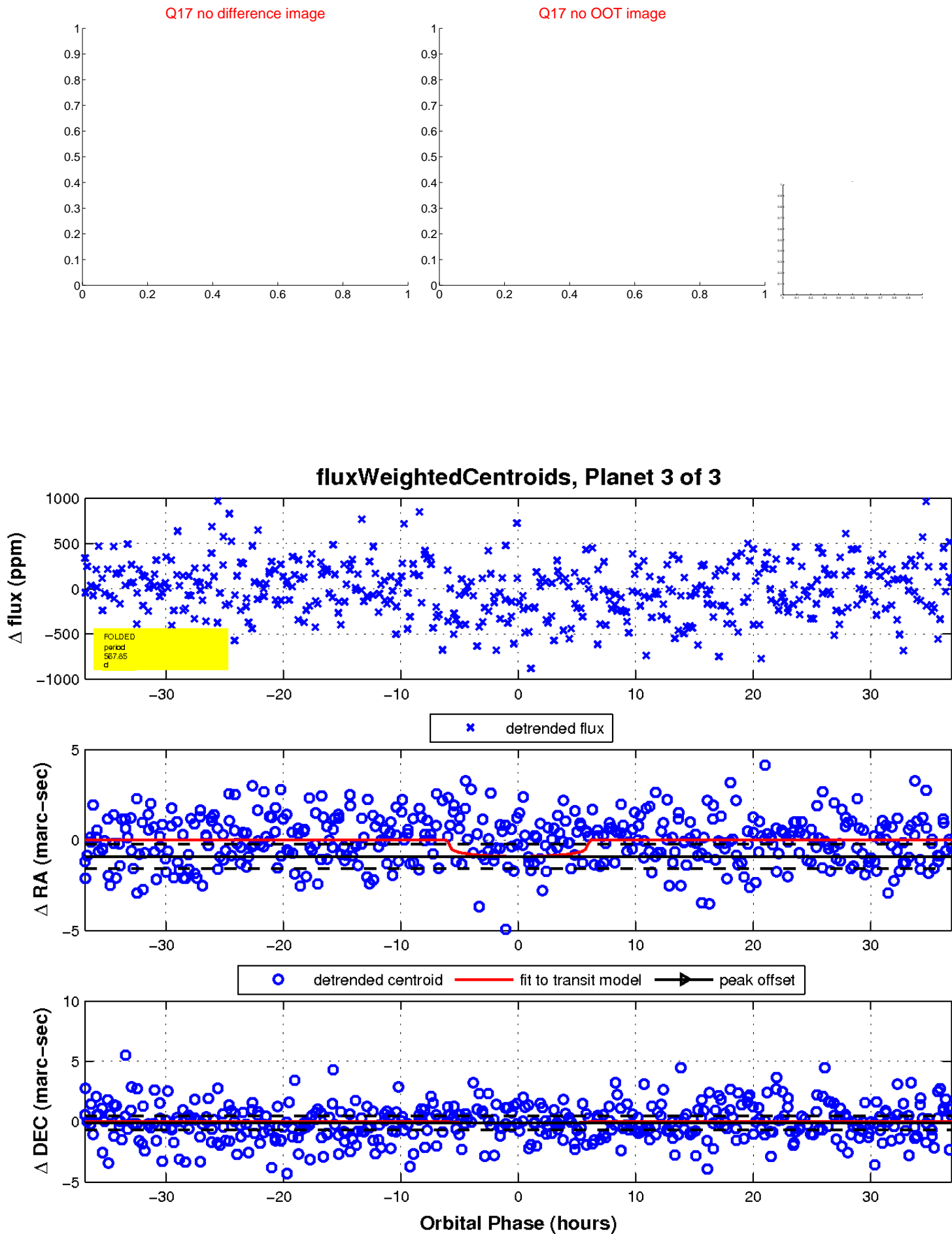
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

