

KIC 005622250

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})
005622250-01	OBS	6608.01	16.294214	143.193700	177892.1	6.030	10354.4	5881.1	1.51	6237	107.90	176.61
005622250-02	OBS	No	16.294212	131.772371	15056.8	6.271	933.6	947.4	1.51	6237	25.13	176.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005622250-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
005622250-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

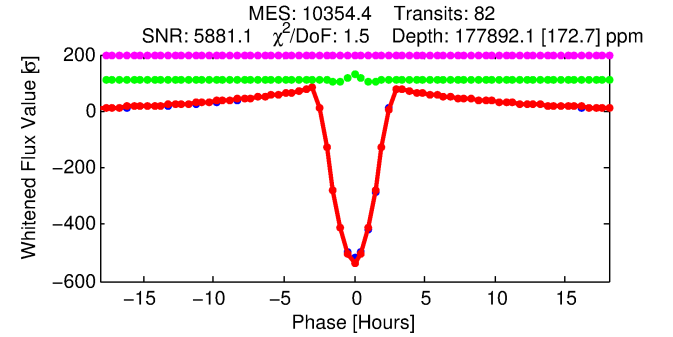
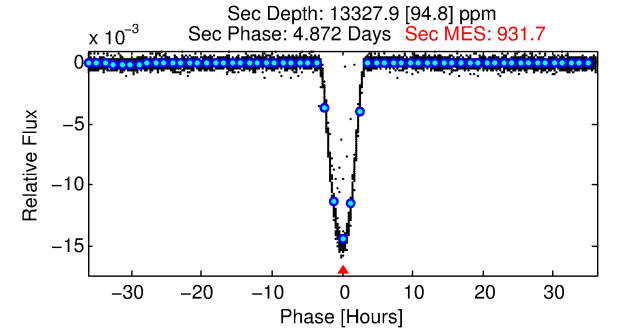
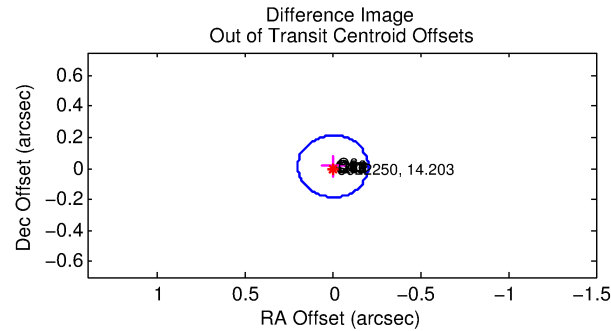
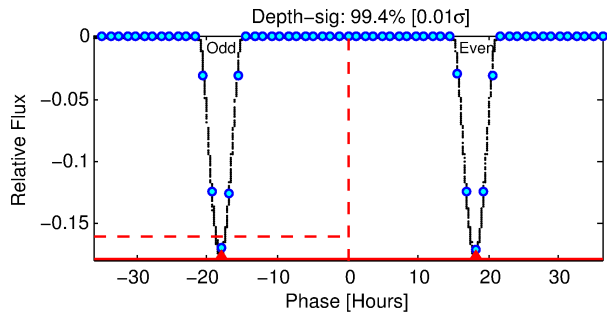
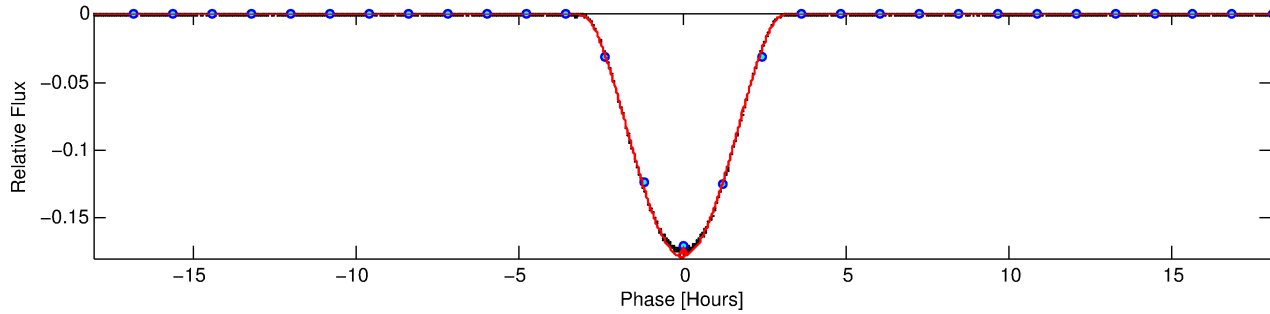
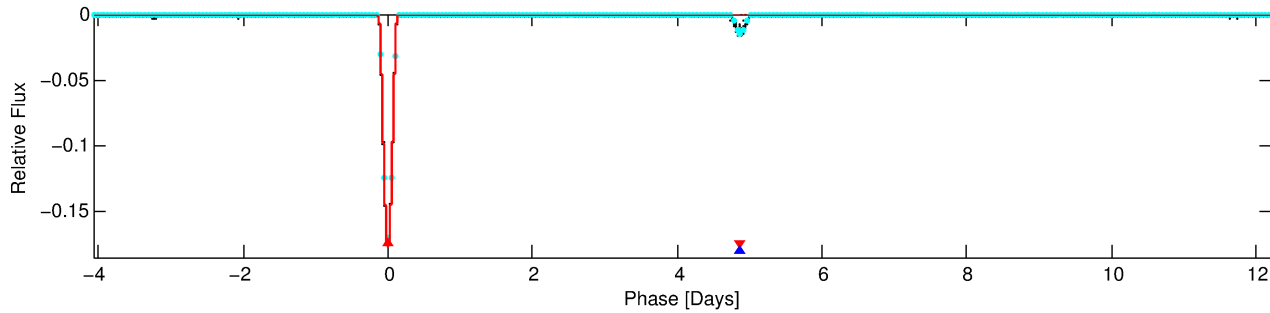
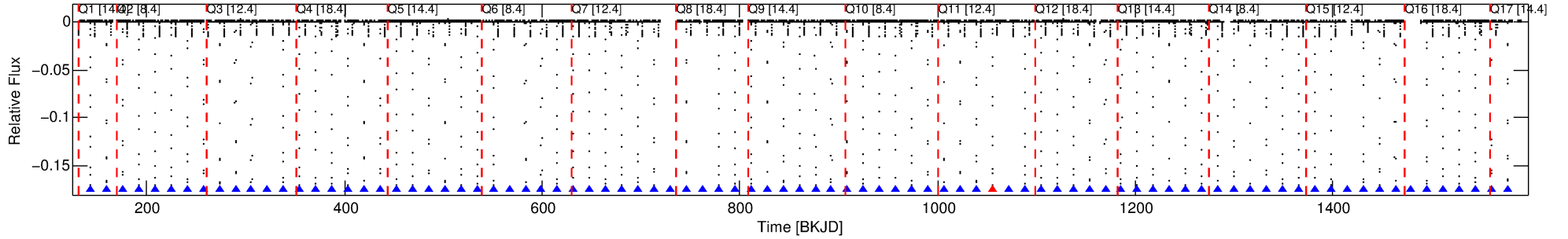
Ephemeris Match Information For 005622250-01

No Significant Match Found

DV One-Page Summary

KIC: 5622250 Candidate: 1 of 2 Period: 16.294 d
KOI: K06608.01 Corr: 0.998

Kp: 14.20 R*: 1.51 Rs Teff: 6237.0 K Logg: 4.14 Fe/H: 0.020



DV Fit Results:

Period = 16.29421 [0.00000] d
Epoch = 143.1937 [0.0000] BKJD
Rp/R* = 0.6557 [0.0062]
a/R* = 27.27 [0.04]
b = 1.00 [0.01]
Seff = 176.61 [48.76]
Teq = 930 [64] K
Rp = 107.90 [21.56] Re
a = 0.1321 [0.0235] AU
Ag = 10.99 [2.99] [3.34σ]
Teffp = 2617 [36] K [22.93σ]

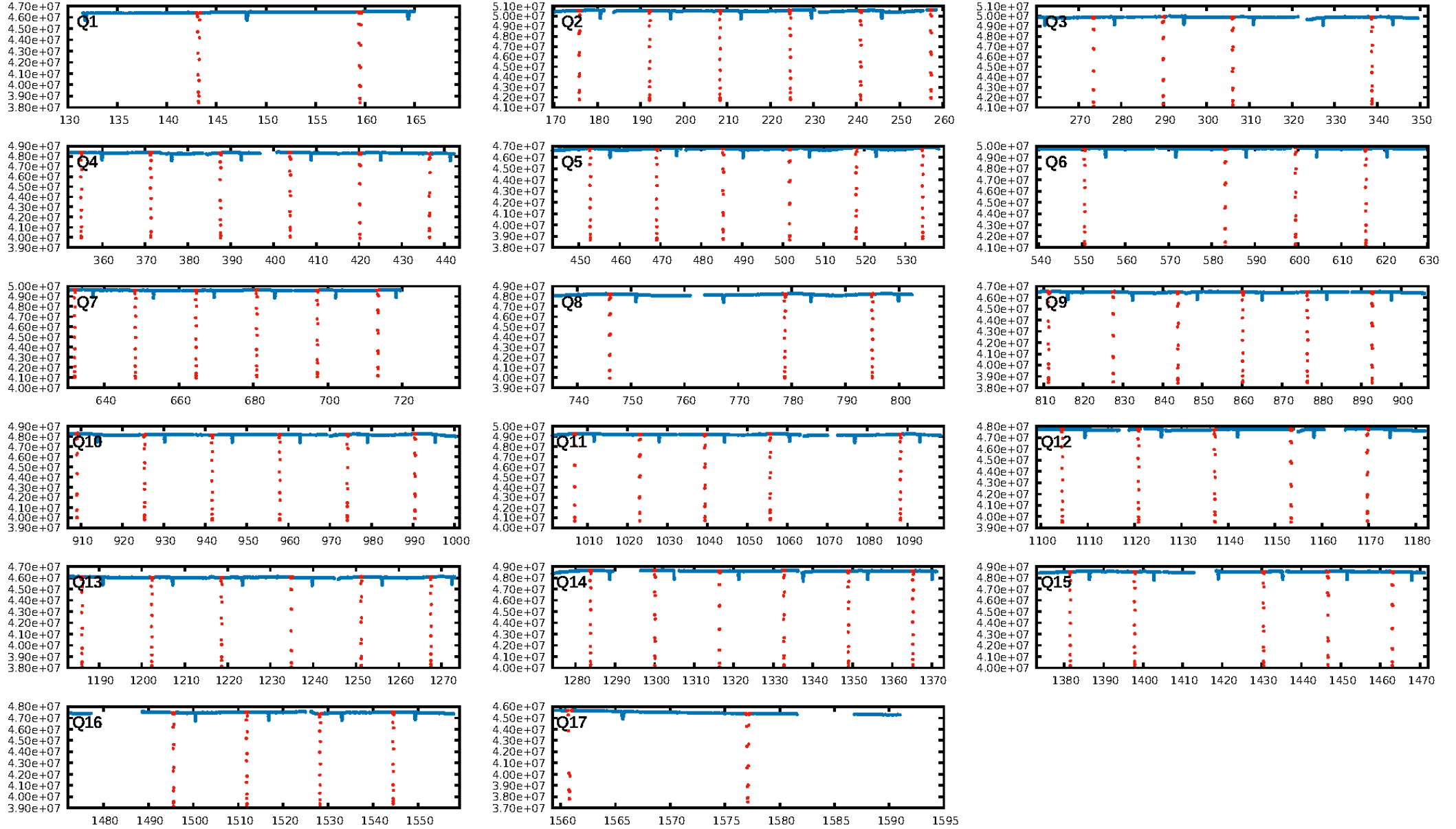
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 8.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [77/78]
GhostDiagnostic-chr: 11.33
Centroid-sig: 0.0%
Centroid-so: 0.089 arcsec [88.71σ]
OotOffset-rm: 0.014 arcsec [0.21σ]
KicOffset-rm: 0.110 arcsec [1.62σ]
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]

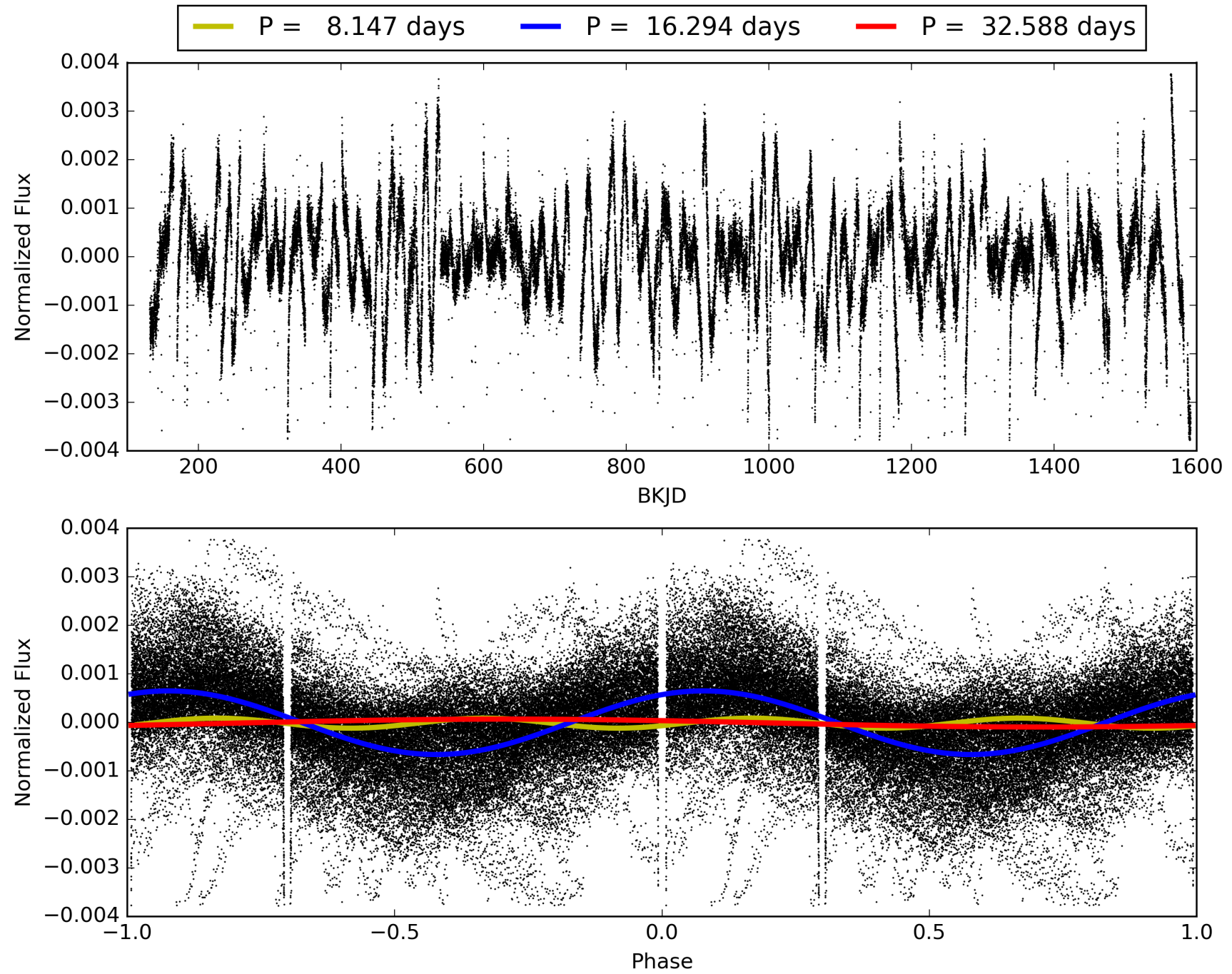
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:09:28 Z

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

TCE 005622250-01, PDC Light Curves

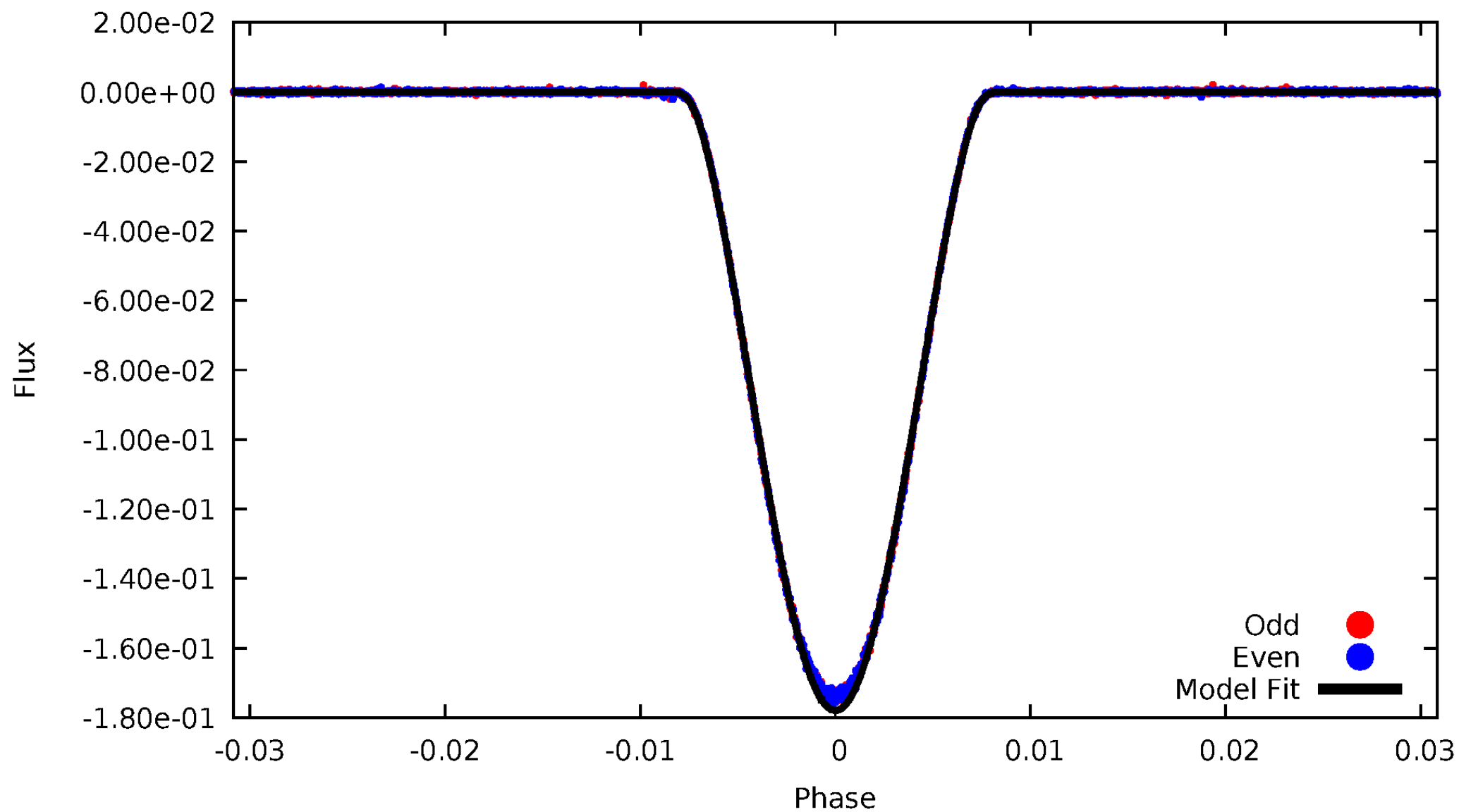


TCE 005622250-01



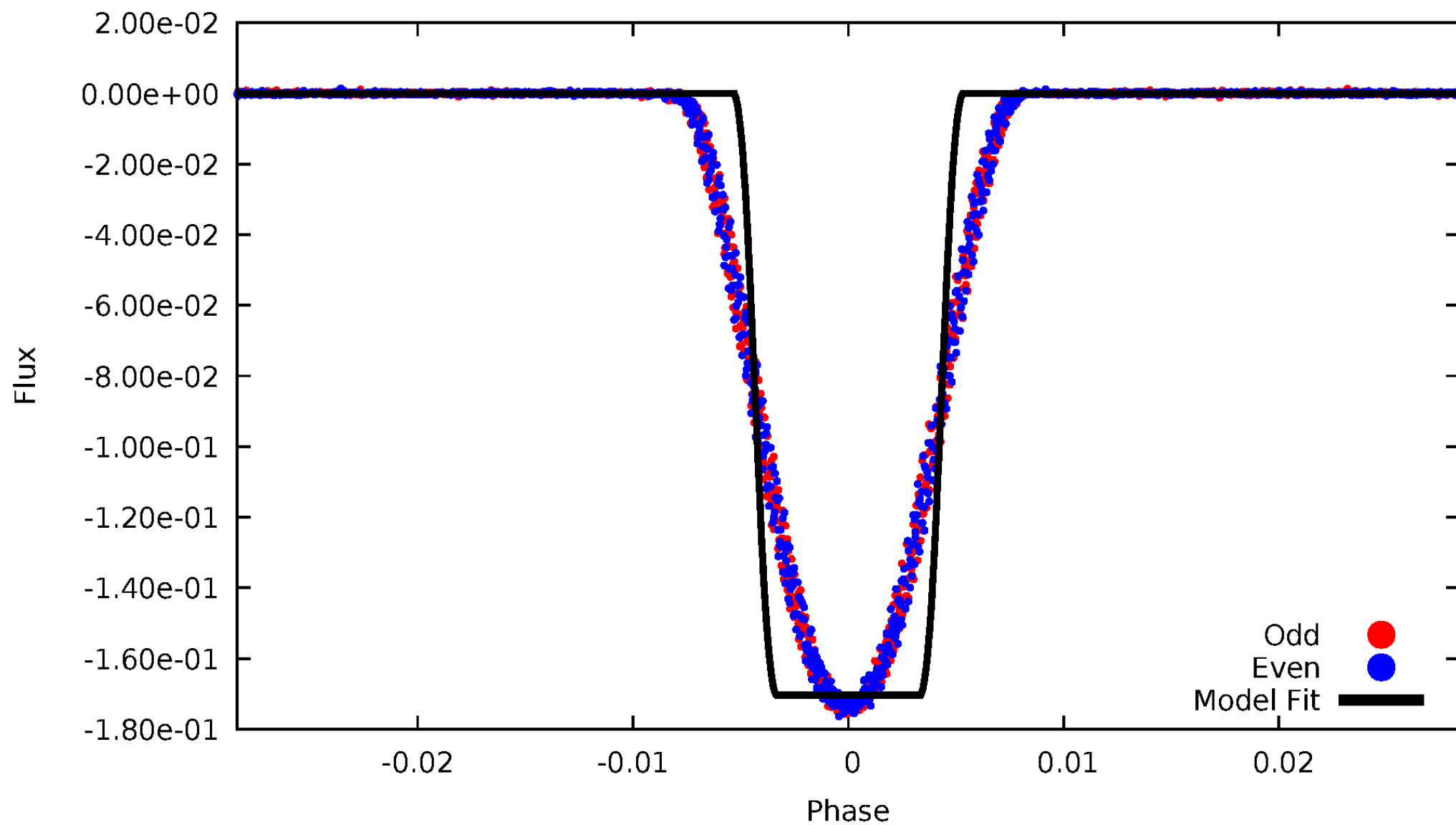
DV Odd/Even

TCE 005622250-01



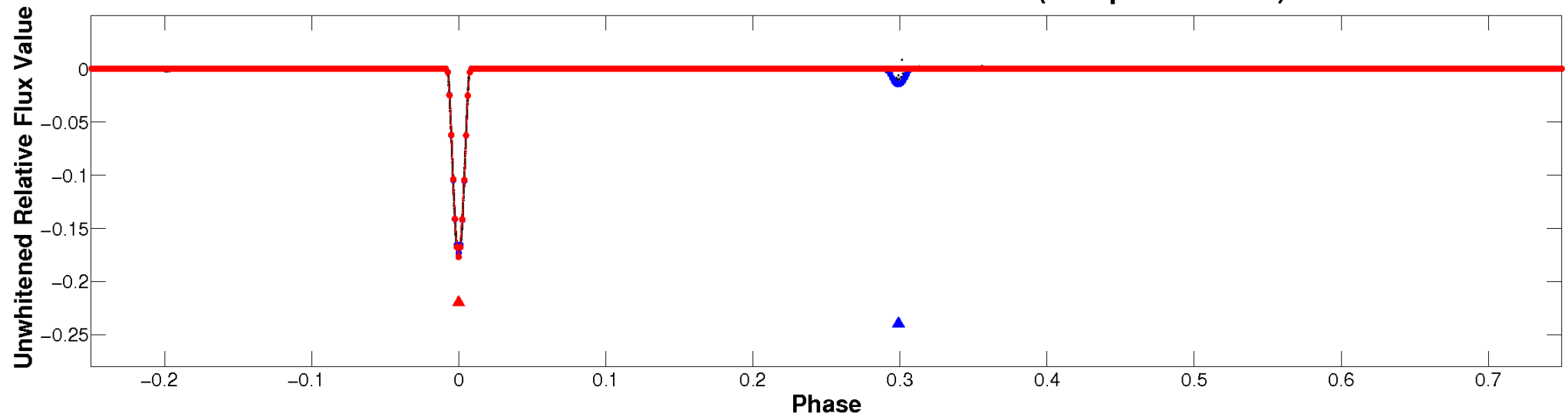
ALT Odd/Even

TCE 005622250-01

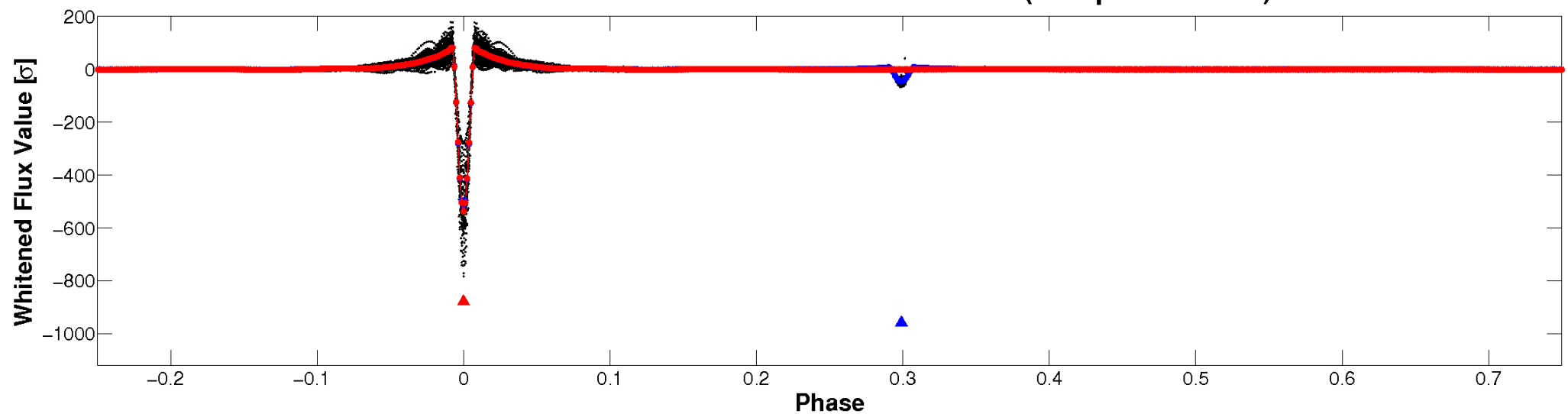


Non-Whitened Vs. Whitened Light Curve

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

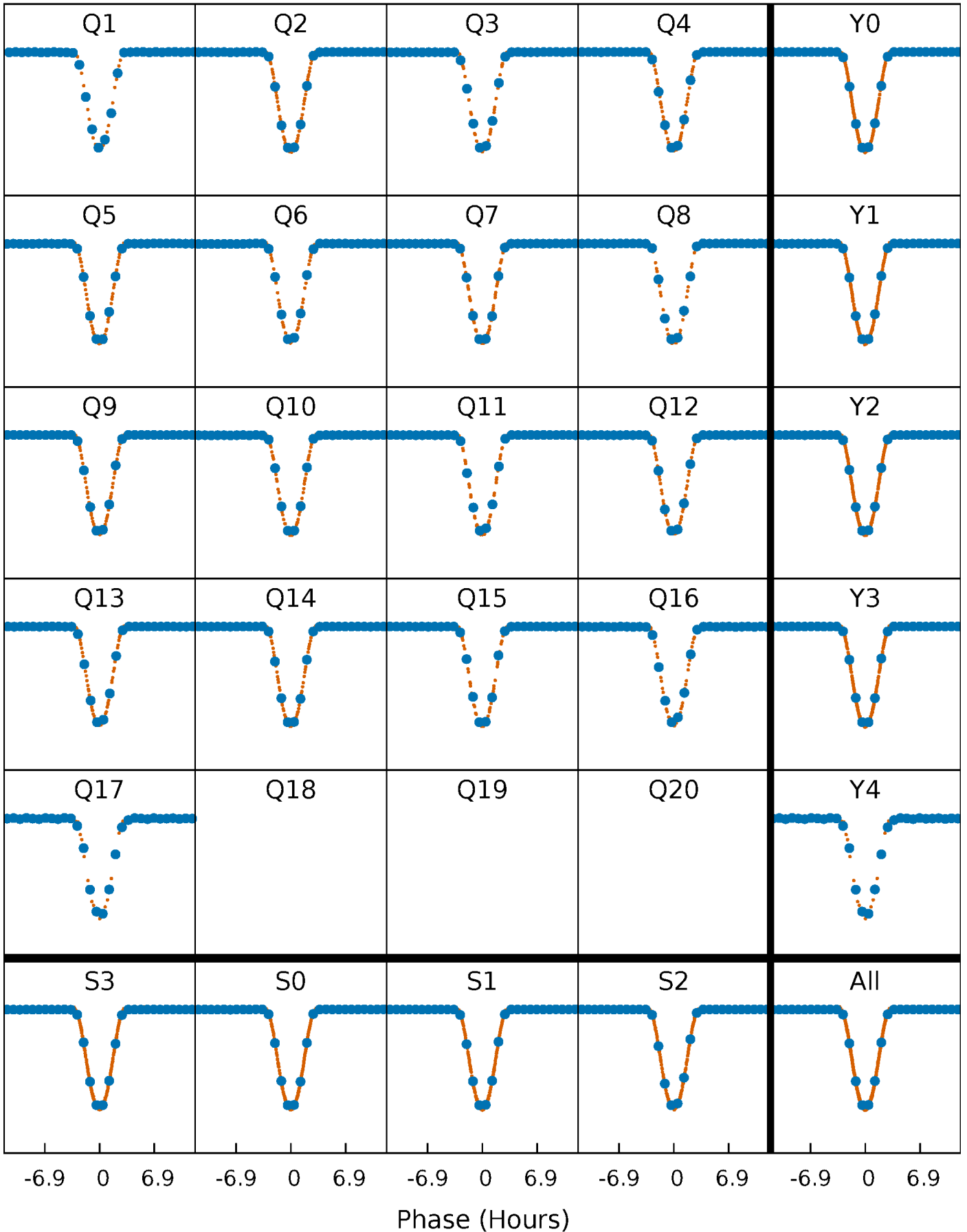


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



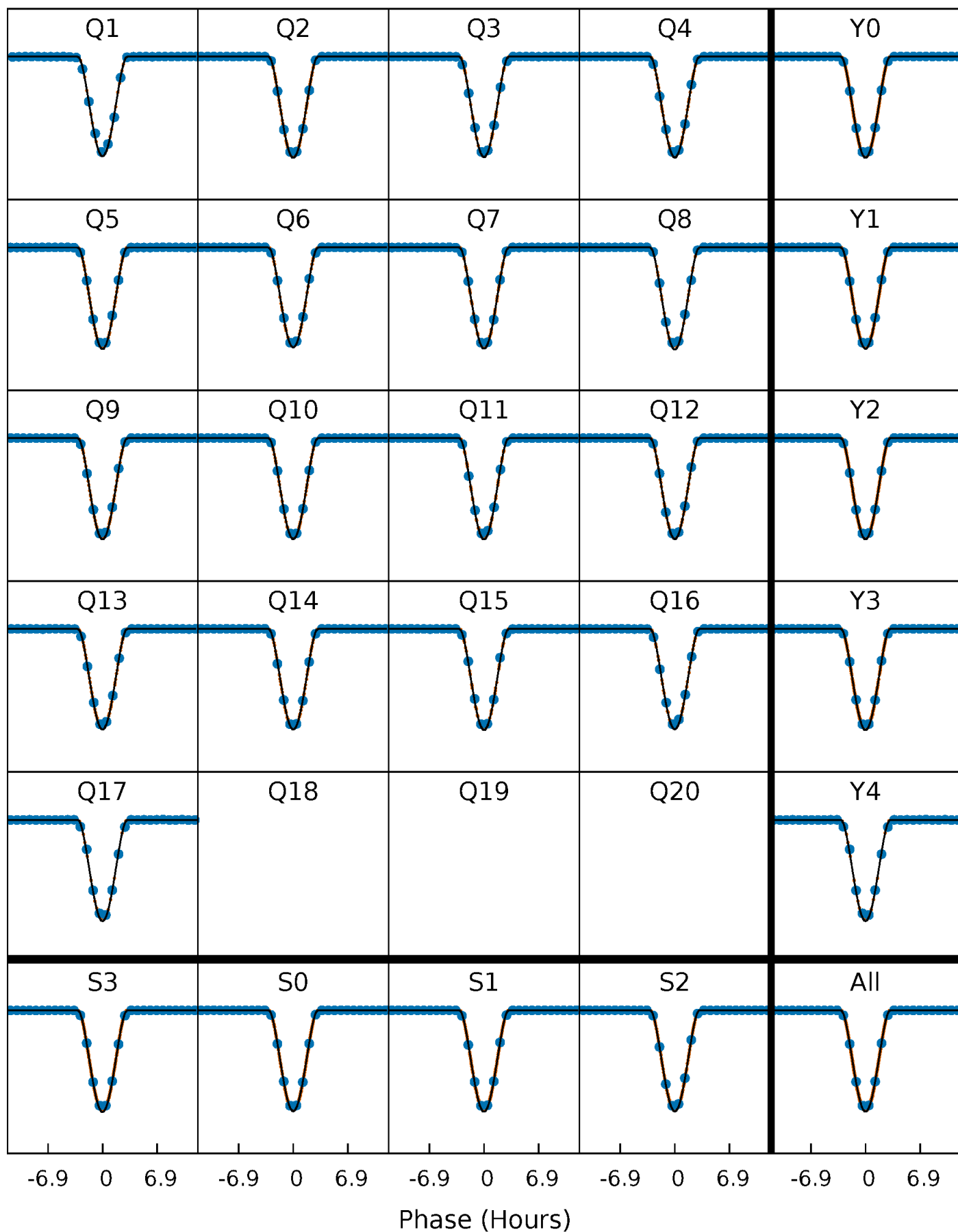
PDC Quarter-Phased Transit Curves

TCE 005622250-01 P= 16.294214 Days $T_0=143.193700$ (BKJD)



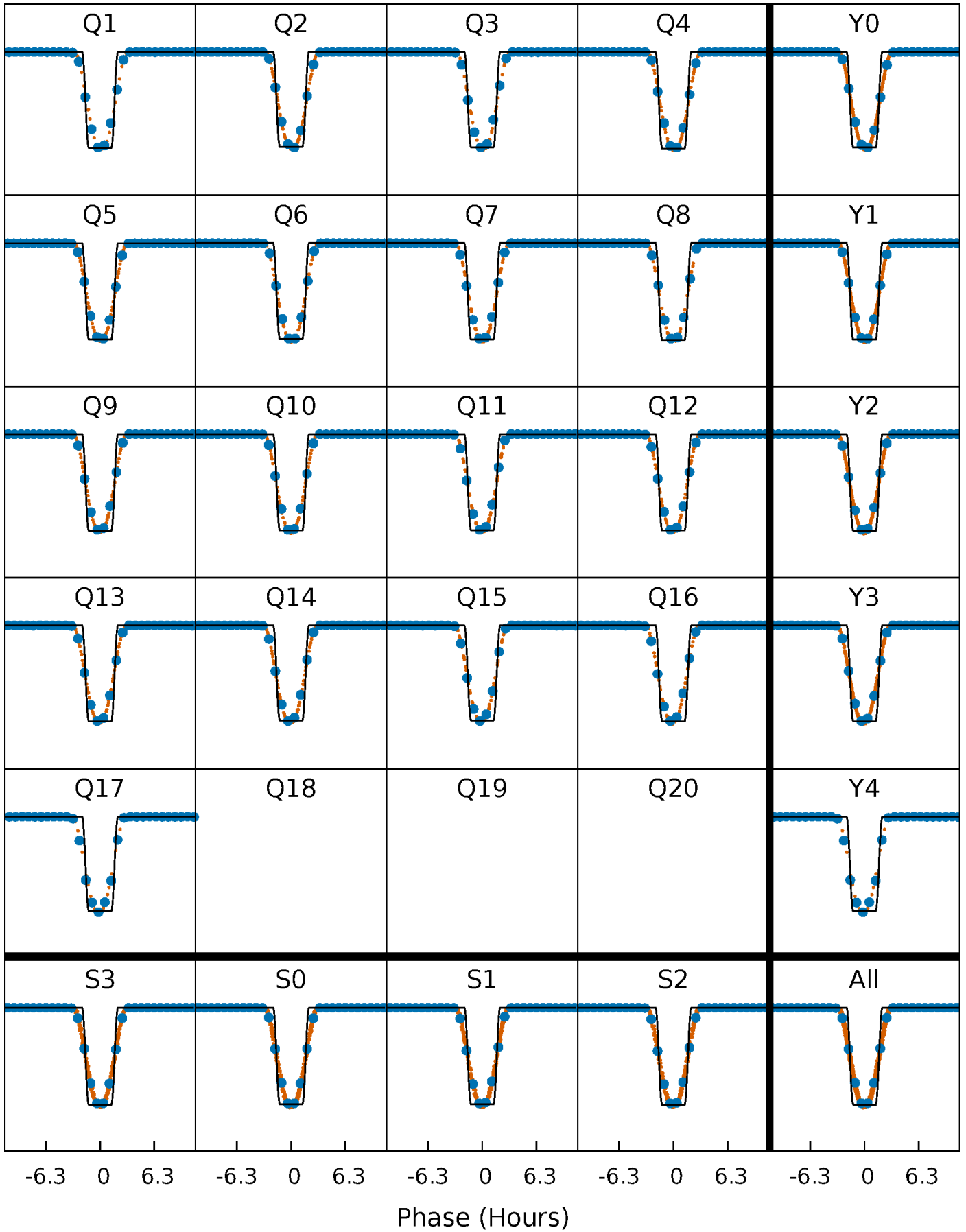
DV Quarter-Phased Transit Curves

TCE 005622250-01 P= 16.294214 Days $T_0=143.193700$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

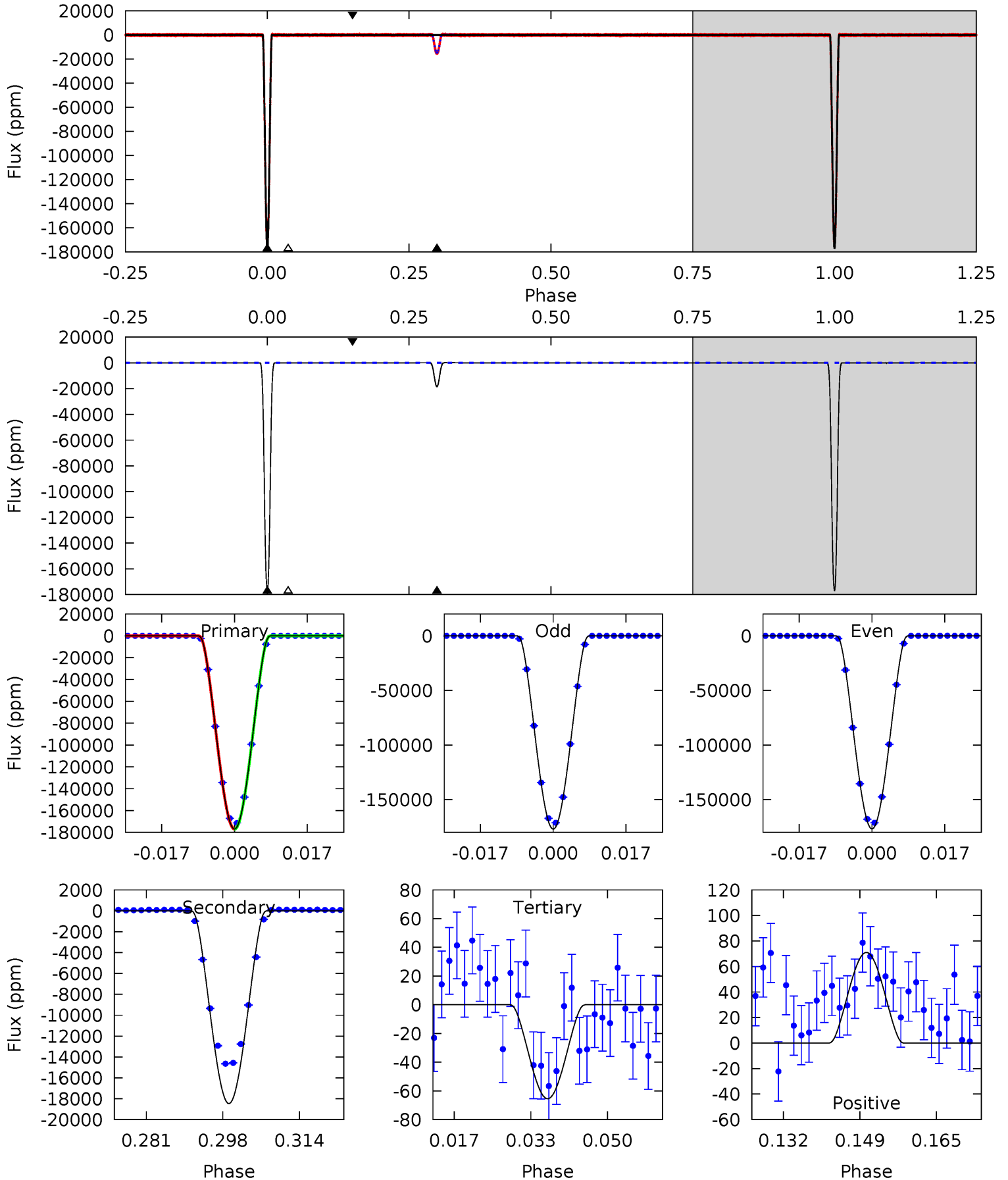
TCE 005622250-01 P= 16.294342 Days $T_0=143.188058$ (BKJD)



DV Model-Shift Uniqueness Test

005622250-01, P = 16.294214 Days, E = 126.899486 Days

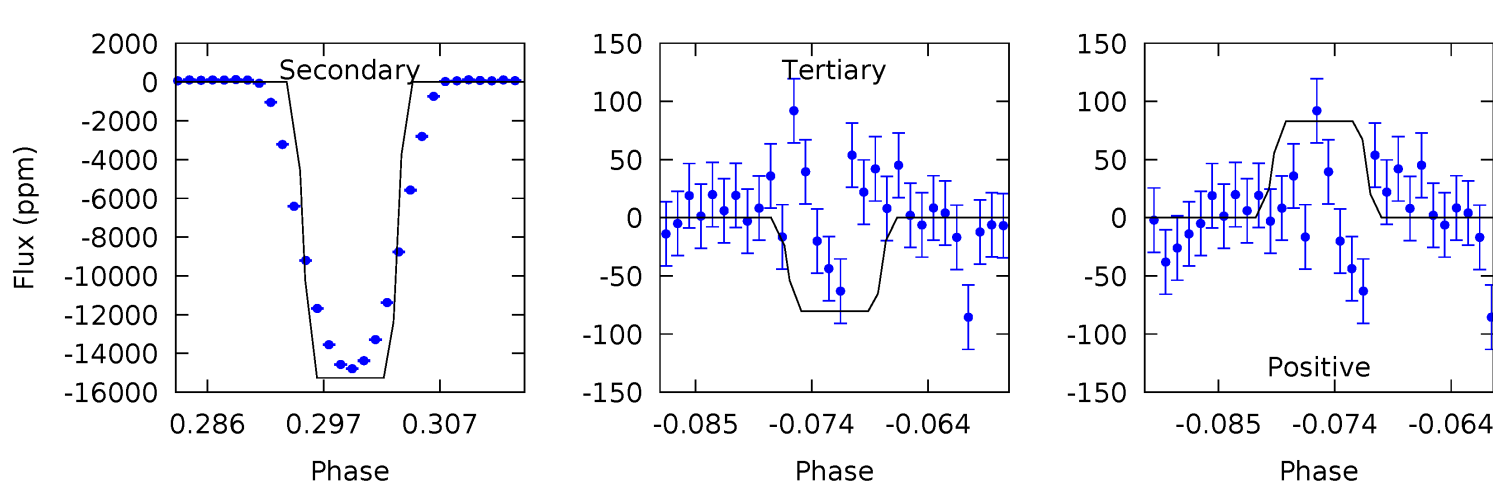
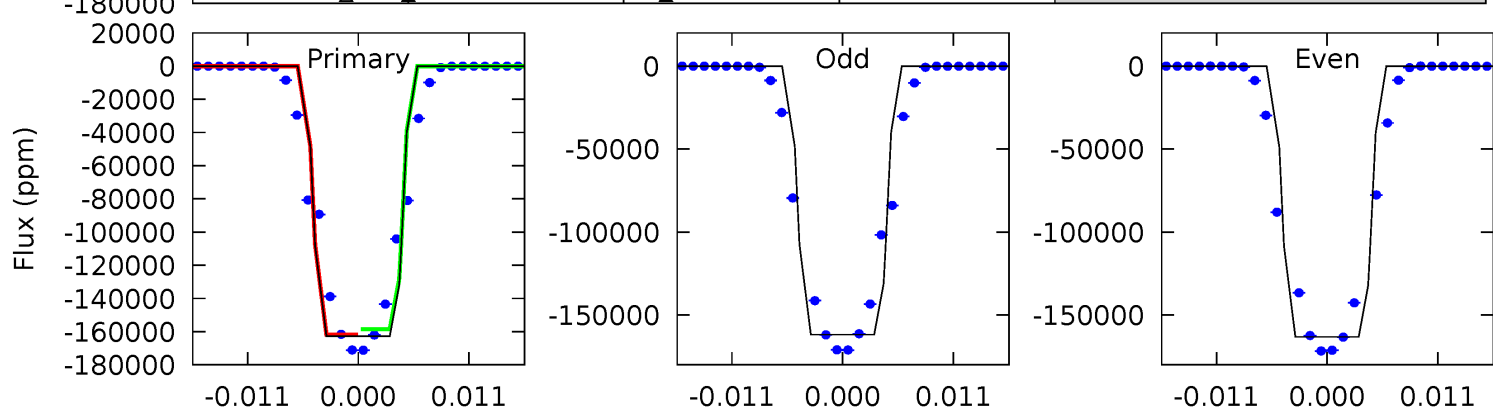
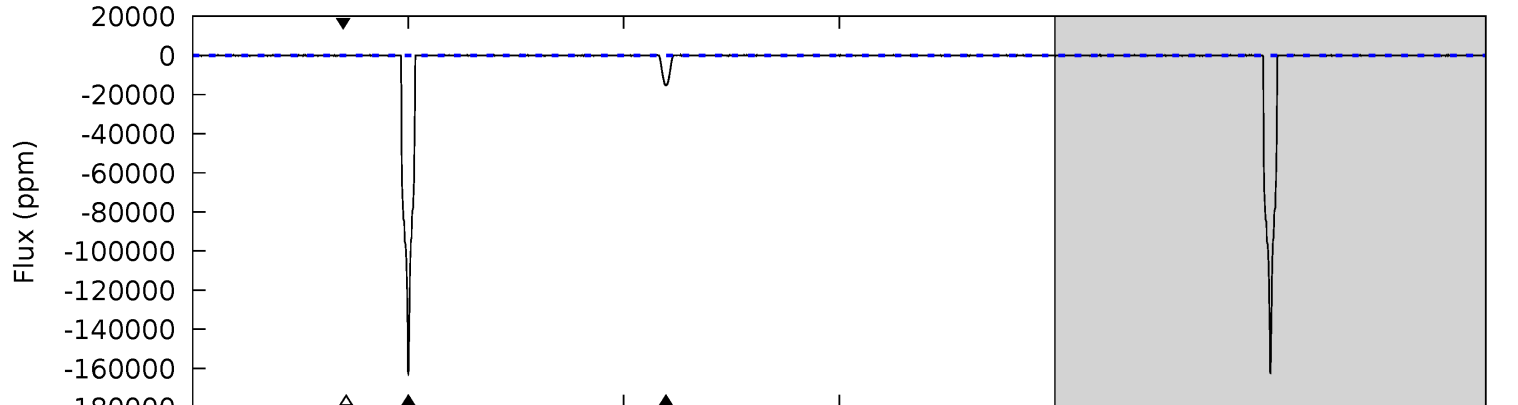
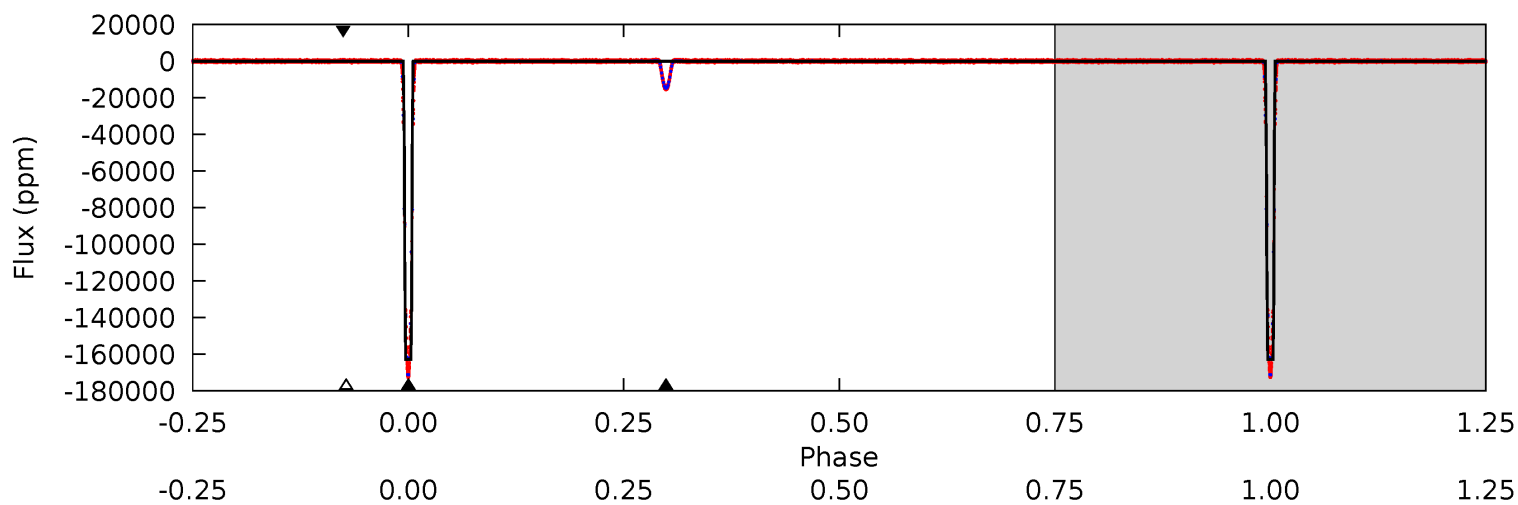
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21533	2248	7.97	8.65	4.93	2.40	3.68	21525	21525	2240	2239	12.1	1.00	0.00	1.01



Alt Model-Shift Uniqueness Test

005622250-01, P = 16.294342 Days, E = 126.893716 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7399	693.8	3.66	3.77	5.02	2.56	1.19	7395	7395	690.2	690.1	31.4	1.00	0.00	0



Stellar Parameters For KIC 005622250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6237^{+74}_{-80}	$4.145^{+0.154}_{-0.126}$	$0.020^{+0.150}_{-0.150}$	$1.508^{+0.301}_{-0.274}$	$1.156^{+0.127}_{-0.074}$	$0.475^{+0.359}_{-0.176}$
	+1%/-1%	+4%/-3%	+750%/-750%	+20%/-18%	+11%/-6%	+76%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005622250-01 / KOI 6608.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18464±8	$108.01^{+11.92}_{-11.04}$	1296^{+64}_{-67}	3370^{+29}_{-28}	16^{+4}_{-3}
Alt.	-15262±22	$67.71^{+7.96}_{-6.56}$	1295^{+67}_{-62}	3801^{+36}_{-40}	33^{+7}_{-6}

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 $A_{obs} \gg 1.0$

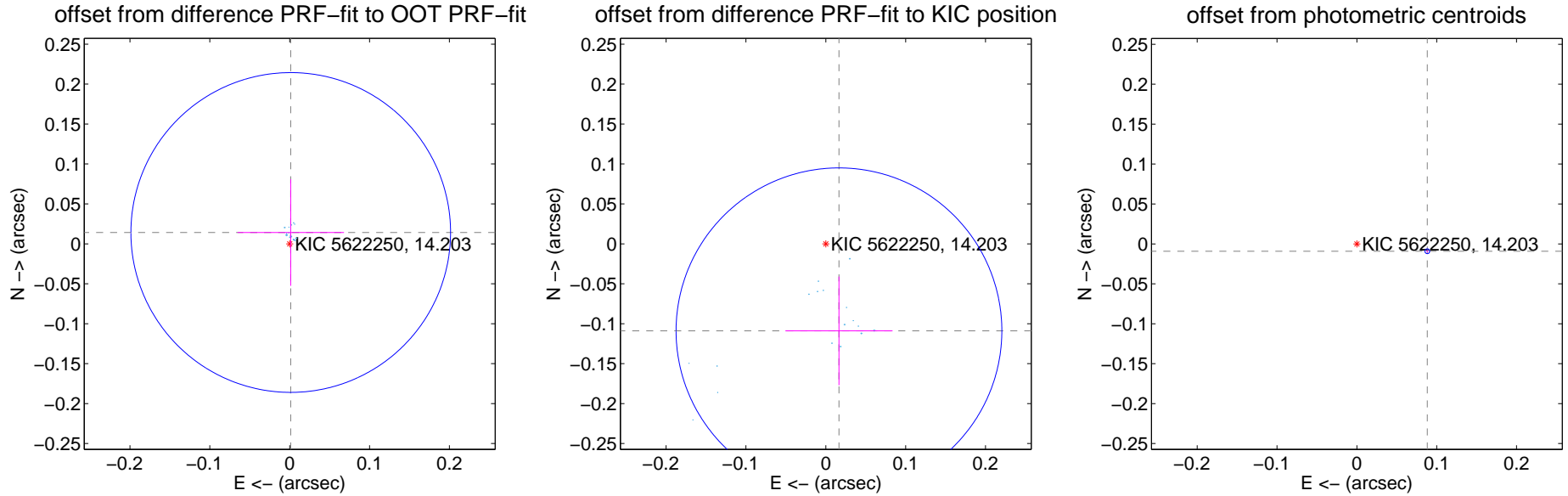
DV Centroid Data

Supplemental centroid analysis for 005622250-01. Kepler magnitude: 14.20. Transit SNR 5881.07

There are 17 quarters with good PRF difference image offsets

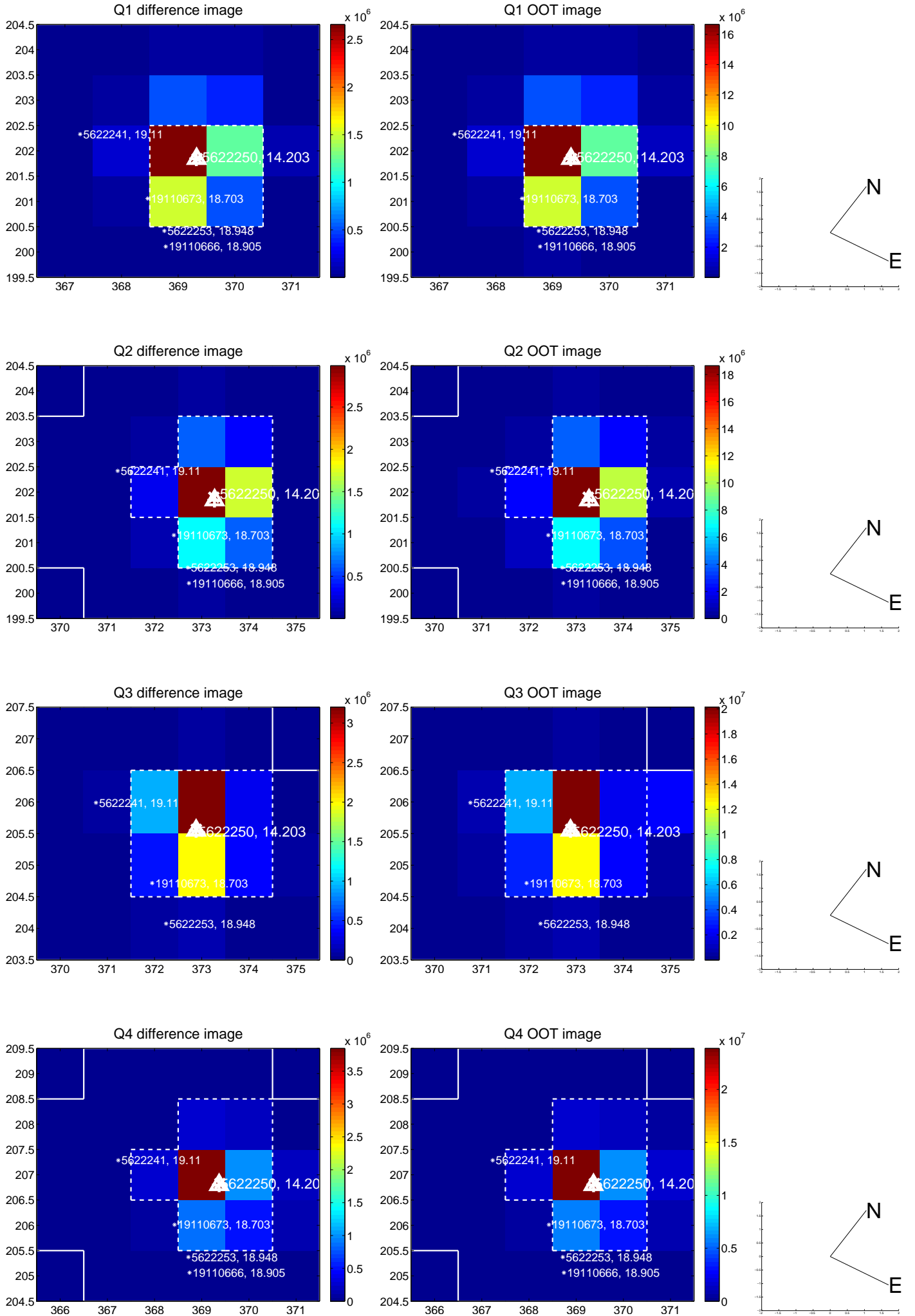
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.067	0.21	-0.001 ± 0.067	0.014 ± 0.067
PRF-fit source offset from KIC position	0.110 ± 0.068	1.62	-0.016 ± 0.067	-0.109 ± 0.068
photometric centroid source offset	0.09 ± 0.00	88.71	-0.09 ± 0.00	-0.01 ± 0.00

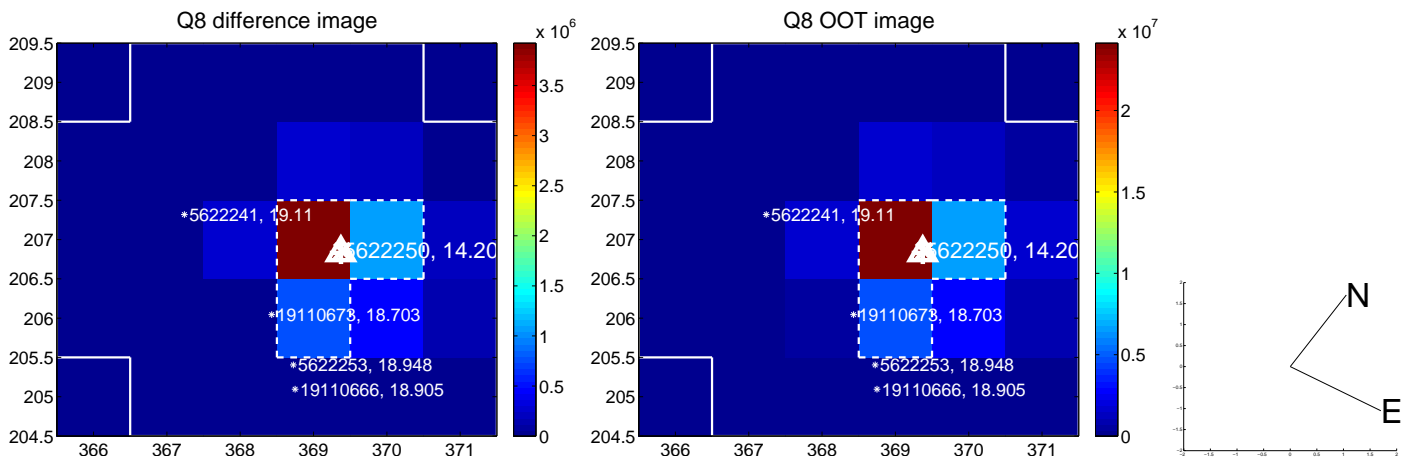
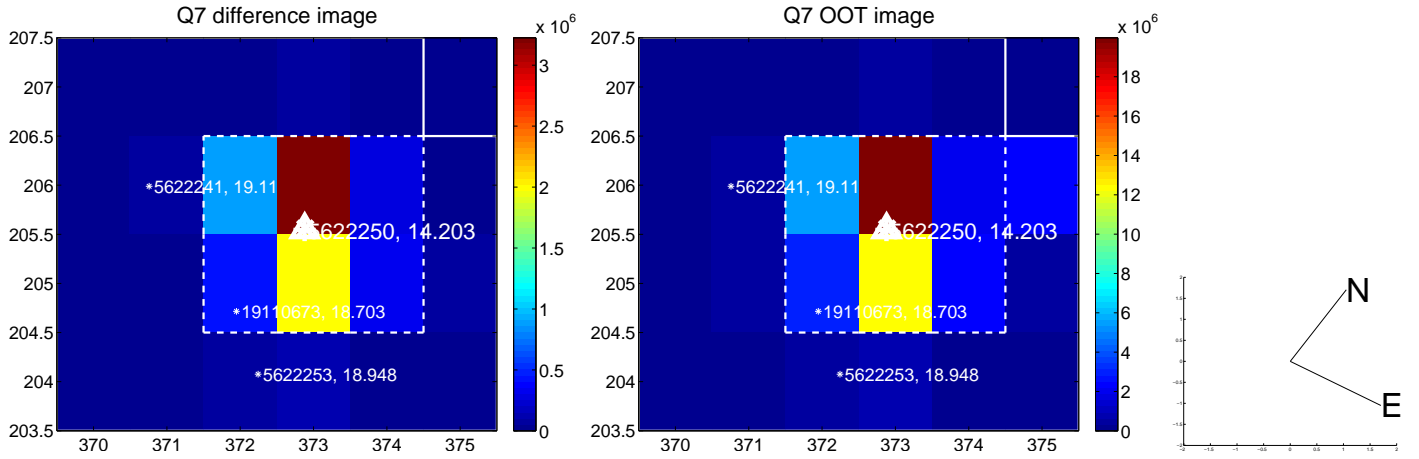
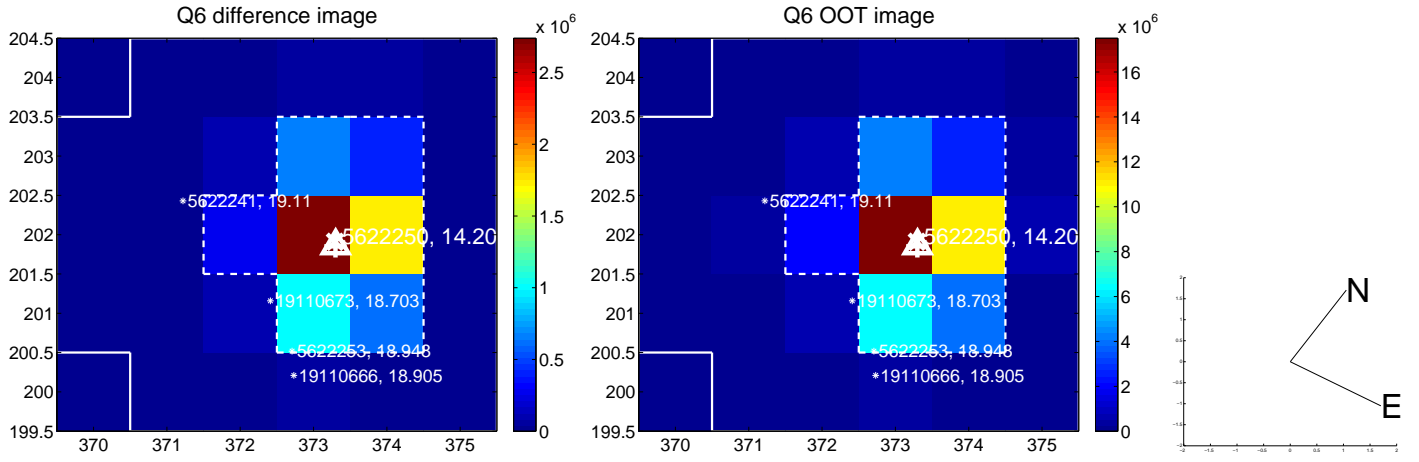
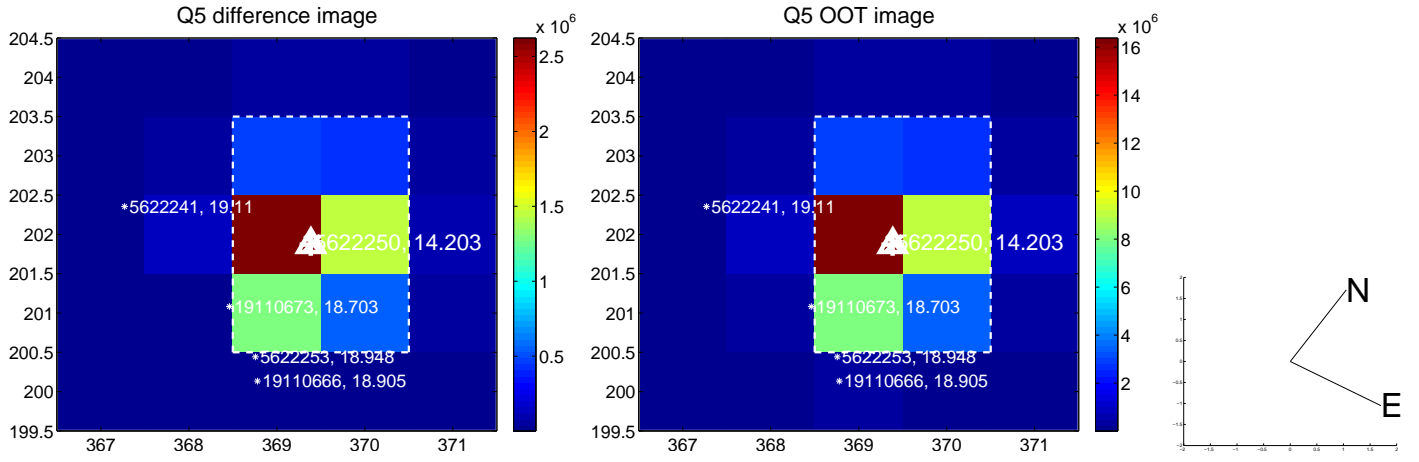


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

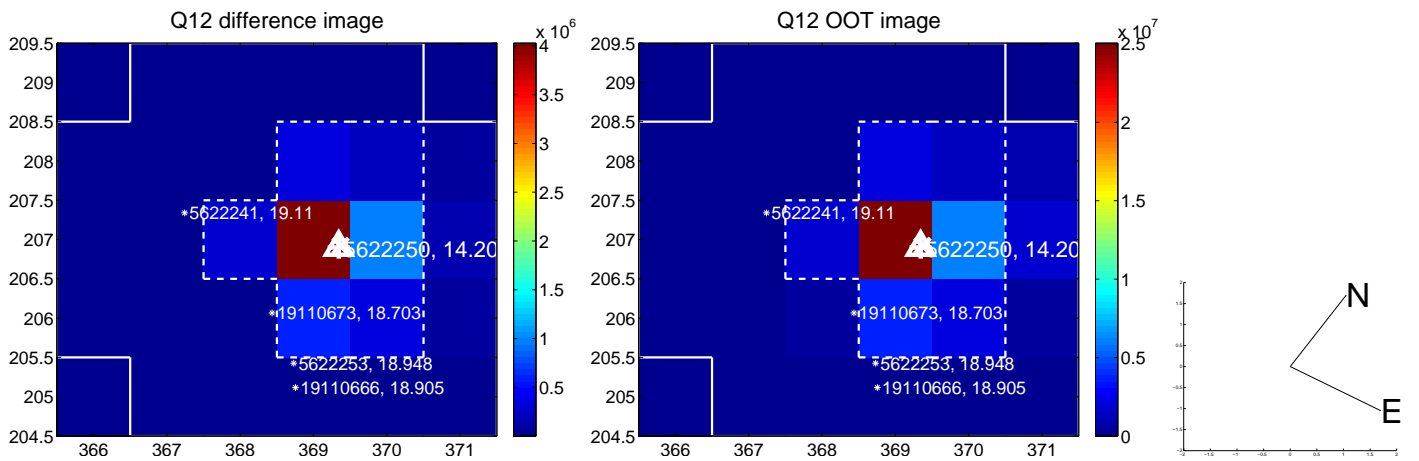
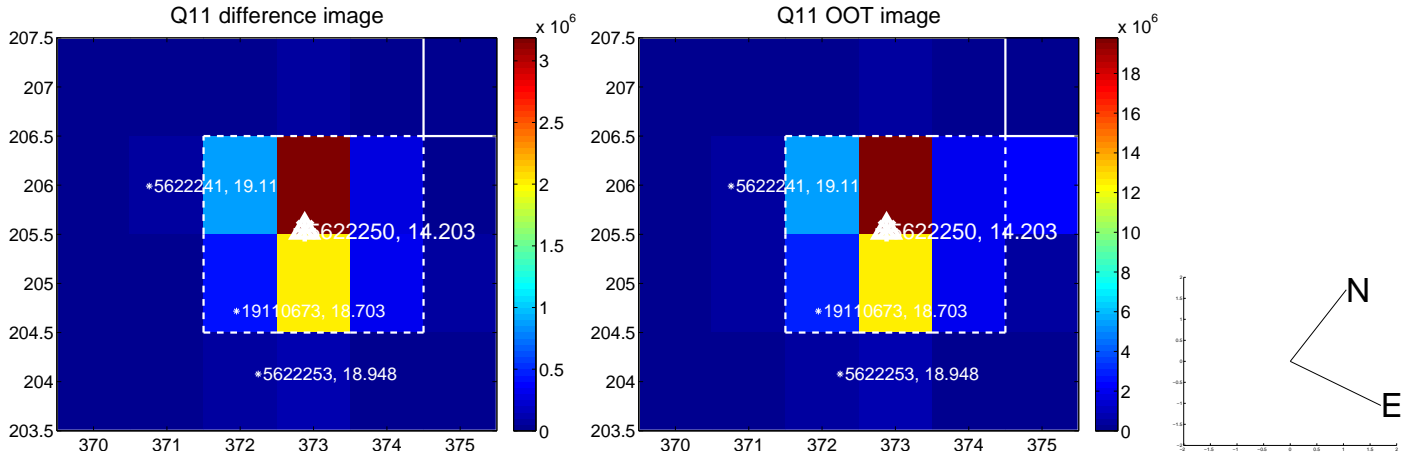
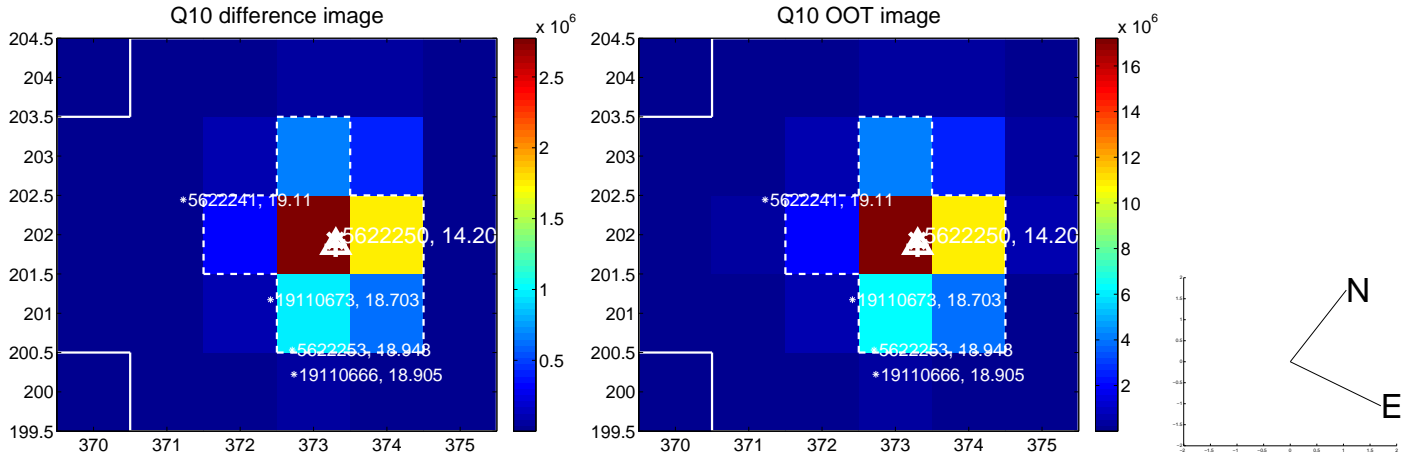
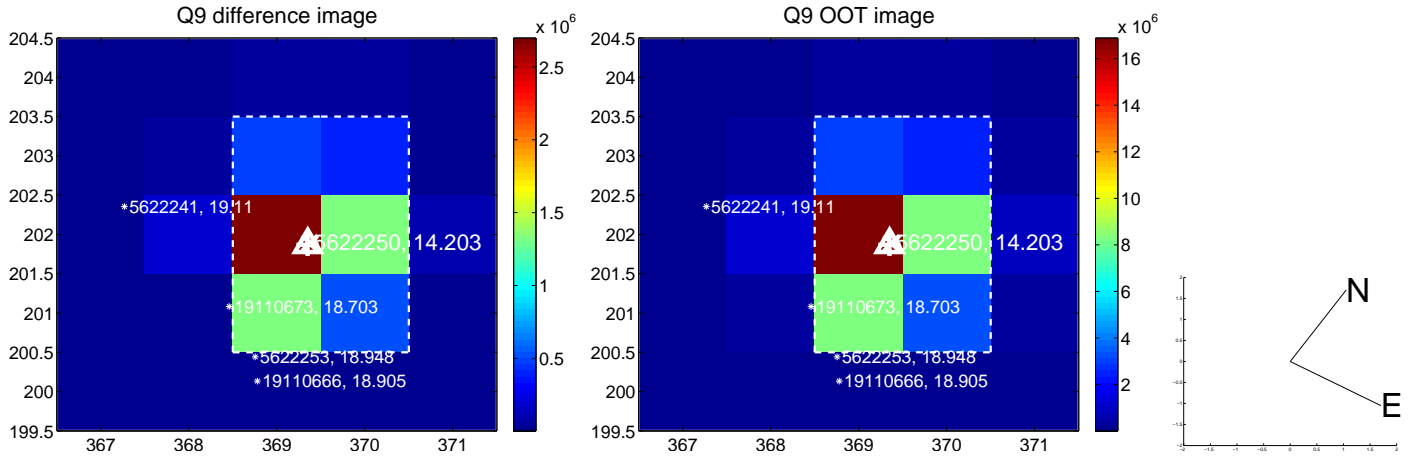
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



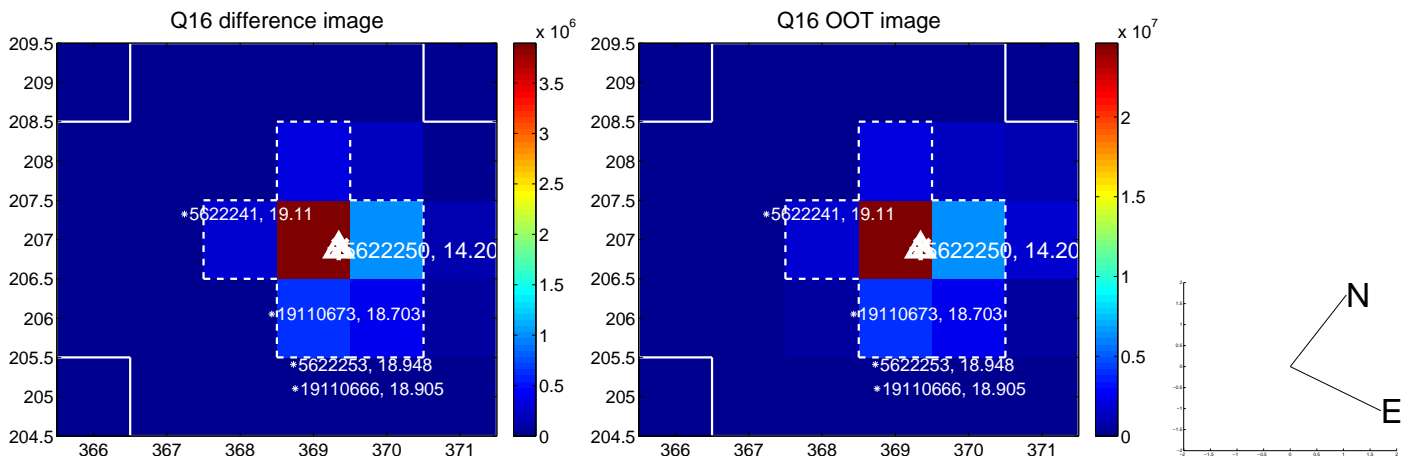
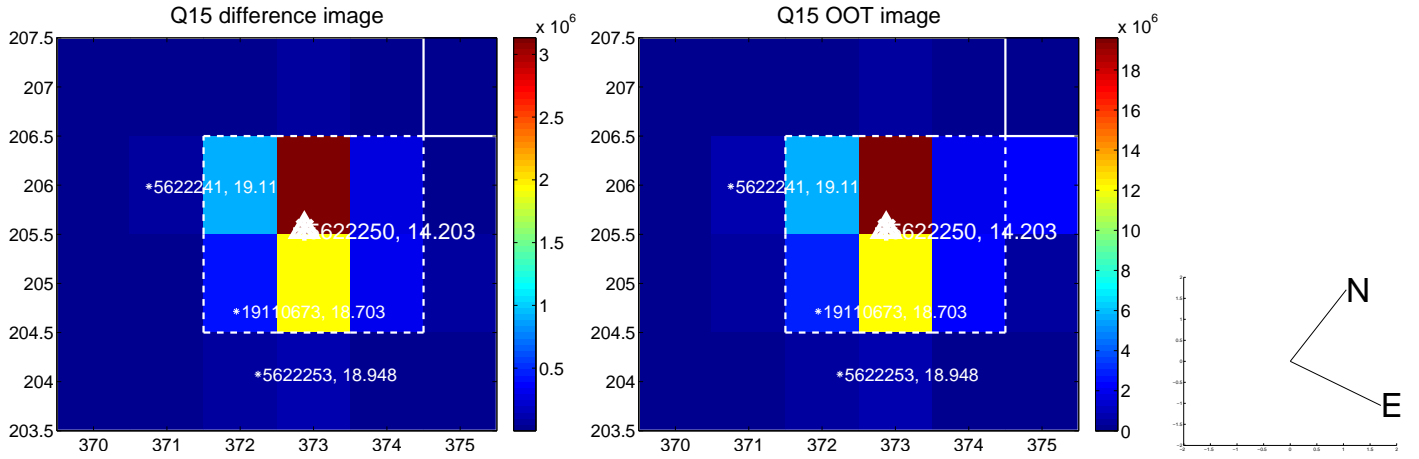
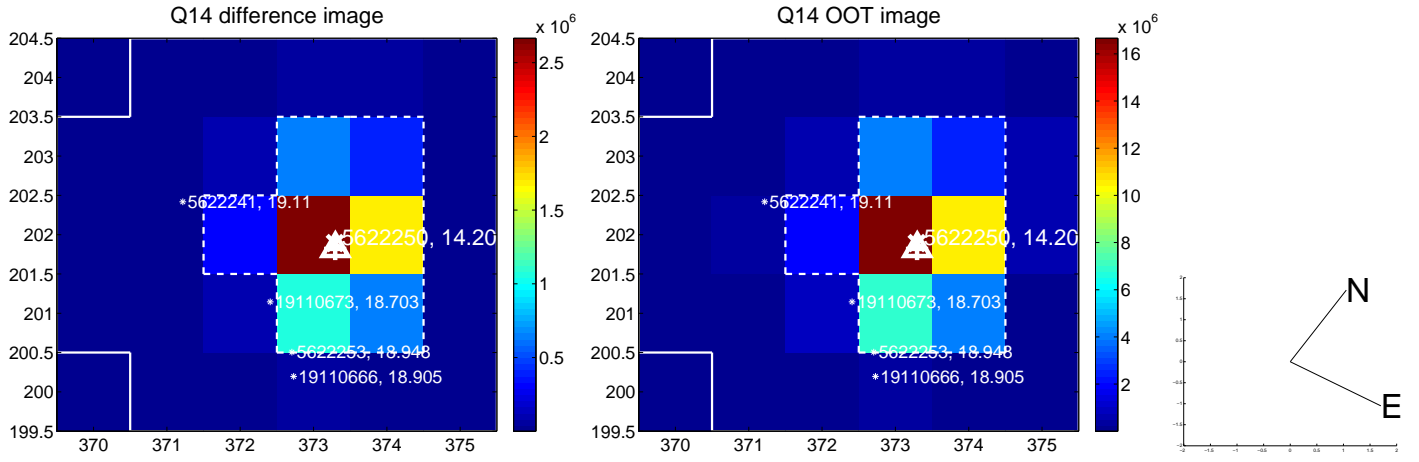
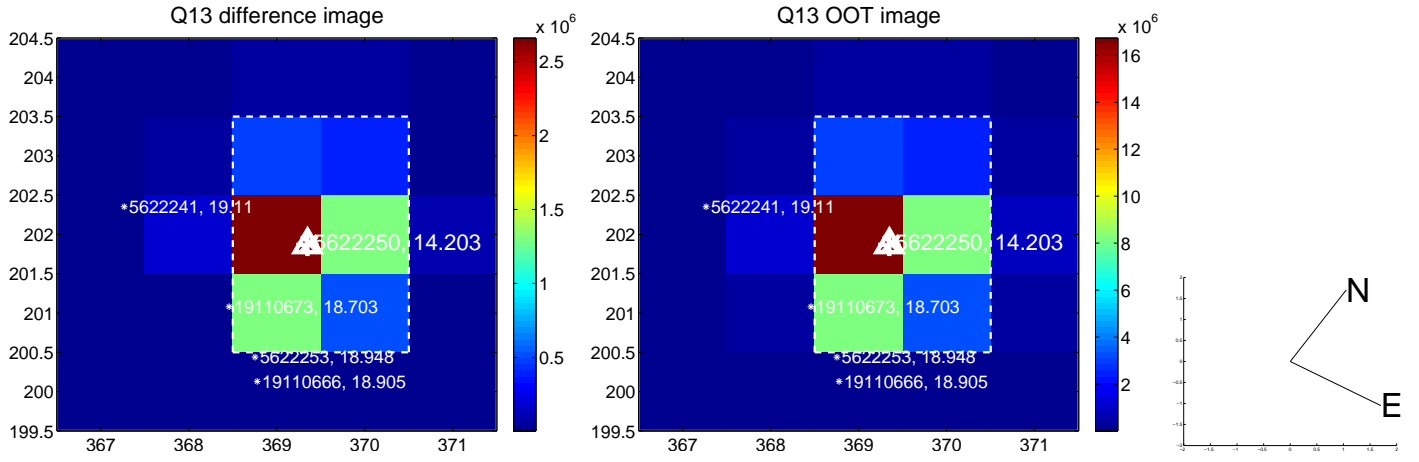
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



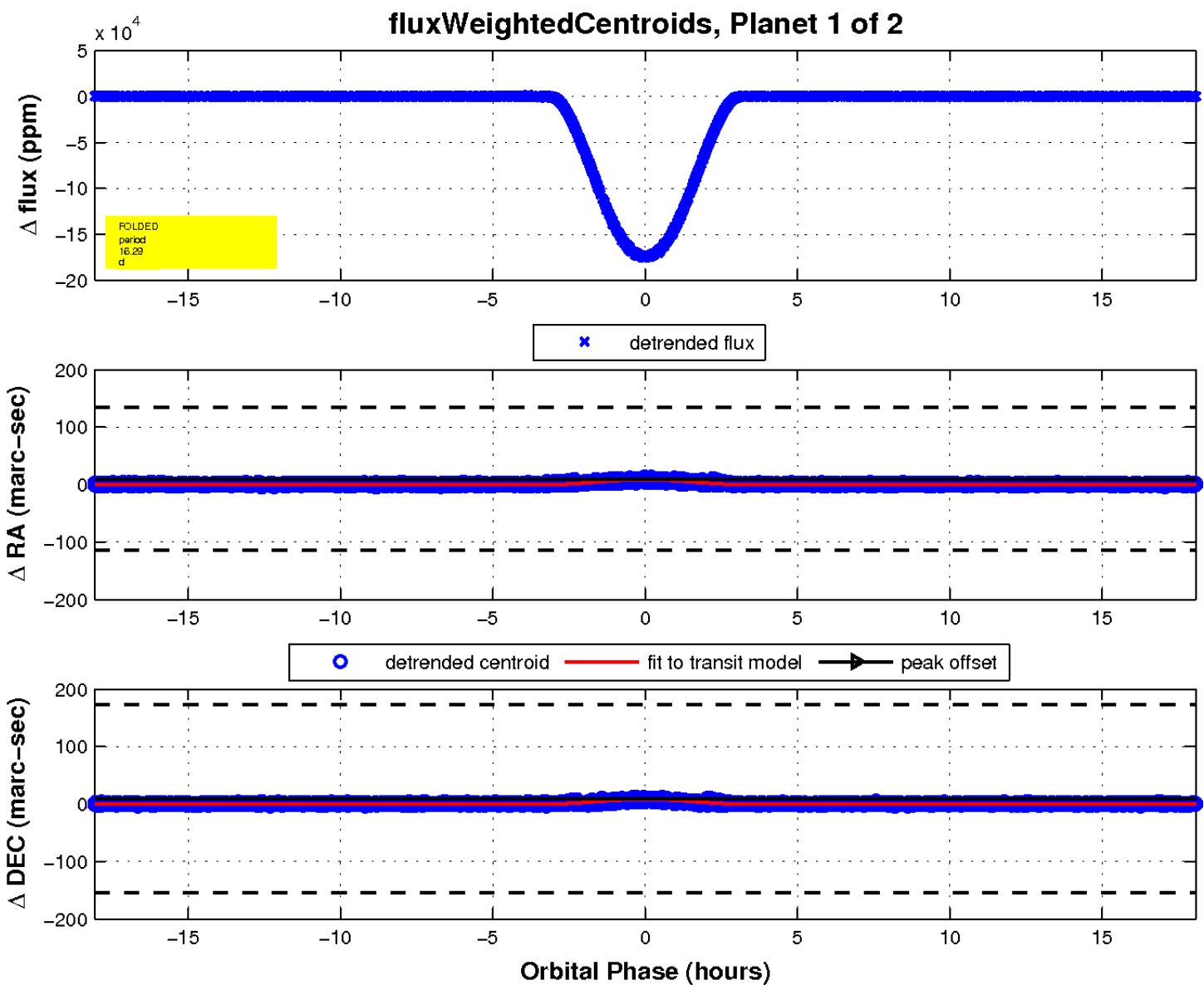
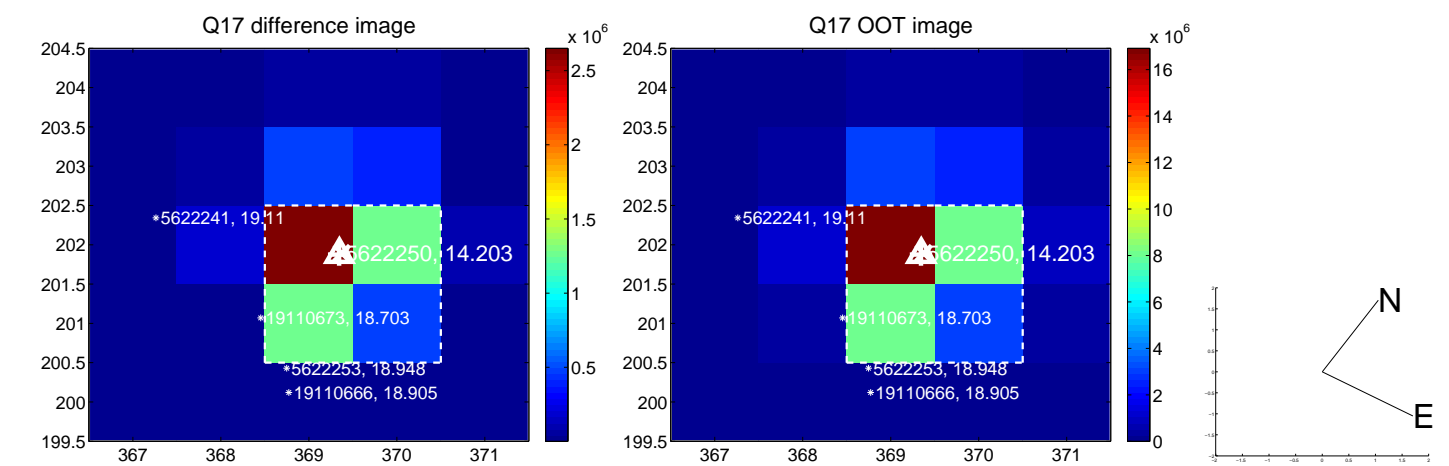
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

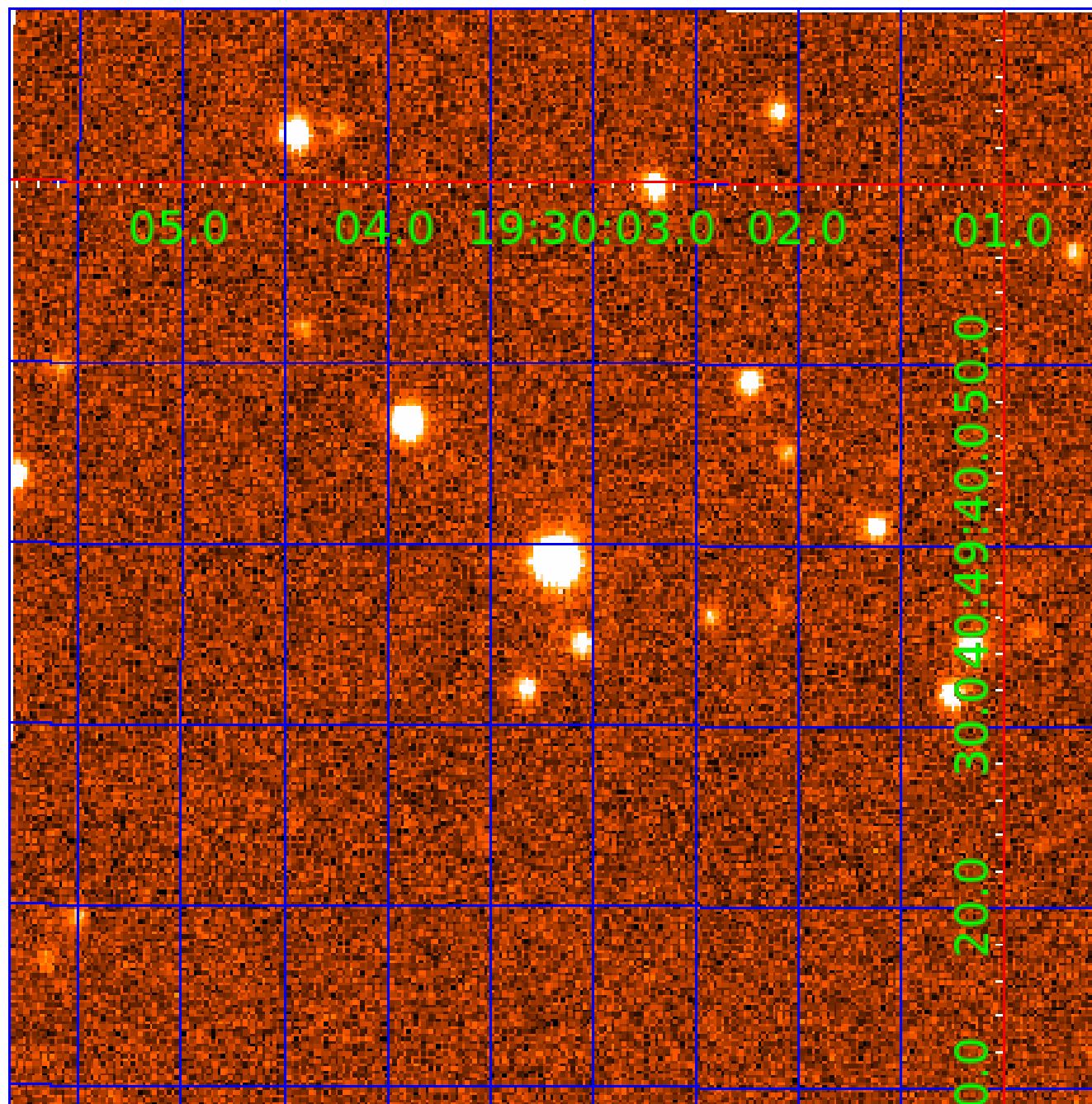


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005622250

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})
005622250-01	OBS	6608.01	16.294214	143.193700	177892.1	6.030	10354.4	5881.1	1.51	6237	107.90	176.61
005622250-02	OBS	No	16.294212	131.772371	15056.8	6.271	933.6	947.4	1.51	6237	25.13	176.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005622250-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
005622250-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

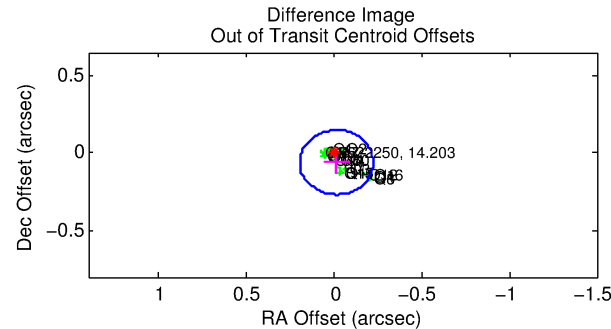
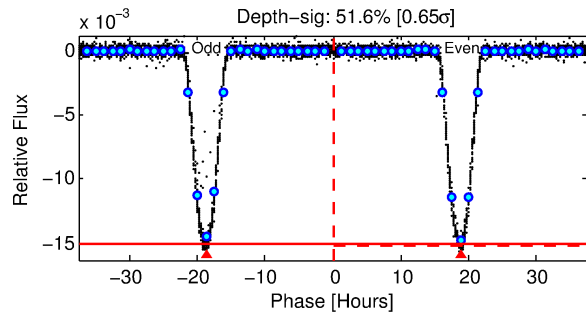
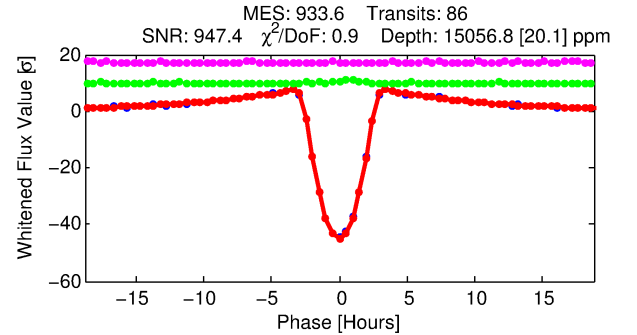
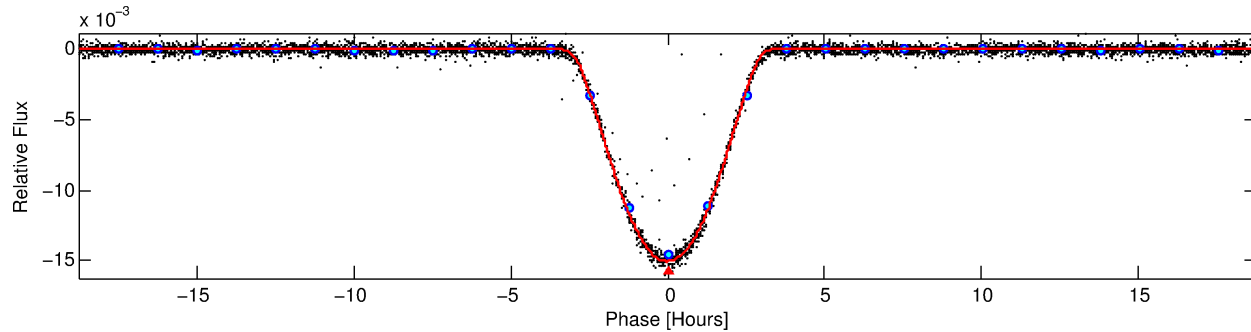
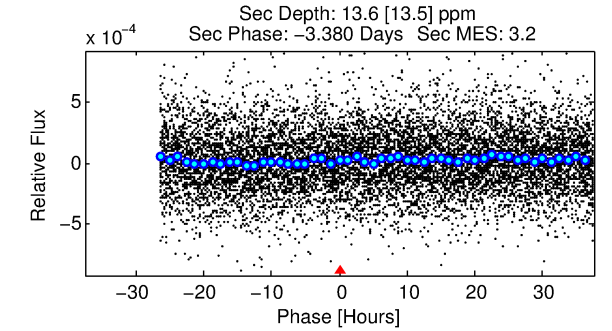
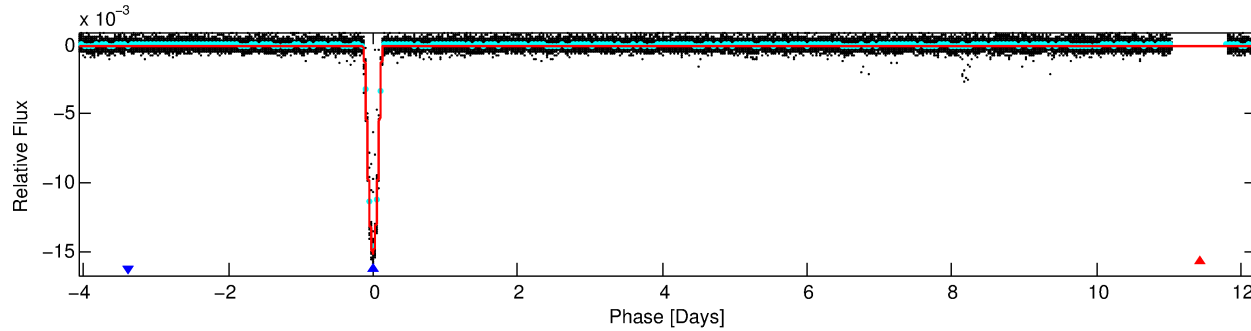
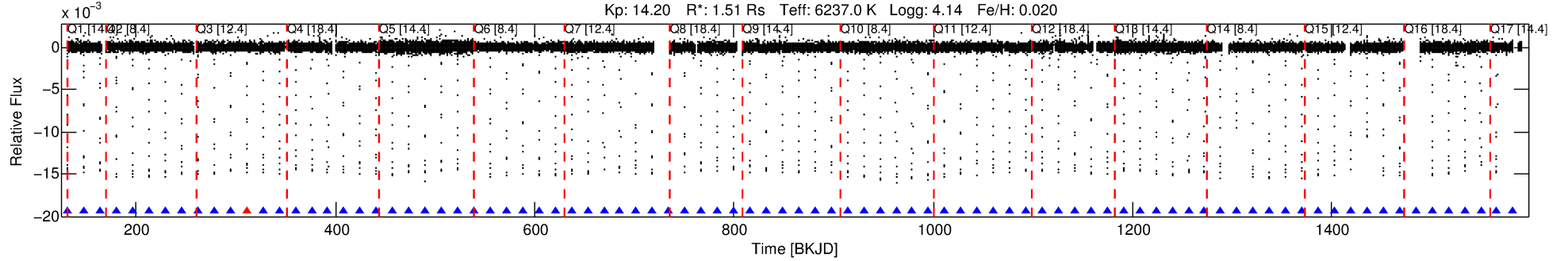
Ephemeris Match Information For 005622250-02

No Significant Match Found

DV One-Page Summary

KIC: 5622250 Candidate: 2 of 2 Period: 16.294 d

KOI: K06608 Corr: No Ephemeris Match



DV Fit Results:

Period = 16.29421 [0.00000] d
Epoch = 131.7724 [0.0001] BKJD
Rp/R* = 0.1527 [0.0019]
a/R* = 13.63 [0.05]
b = 0.93 [0.00]
Seff = 176.61 [48.76]
Teff = 930 [64] K
Rp = 25.13 [5.03] Re
a = 0.1321 [0.0235] AU
Ag = 0.21 [0.21] [-3.73 σ]
Teffp = 969 [241] K [0.16 σ]

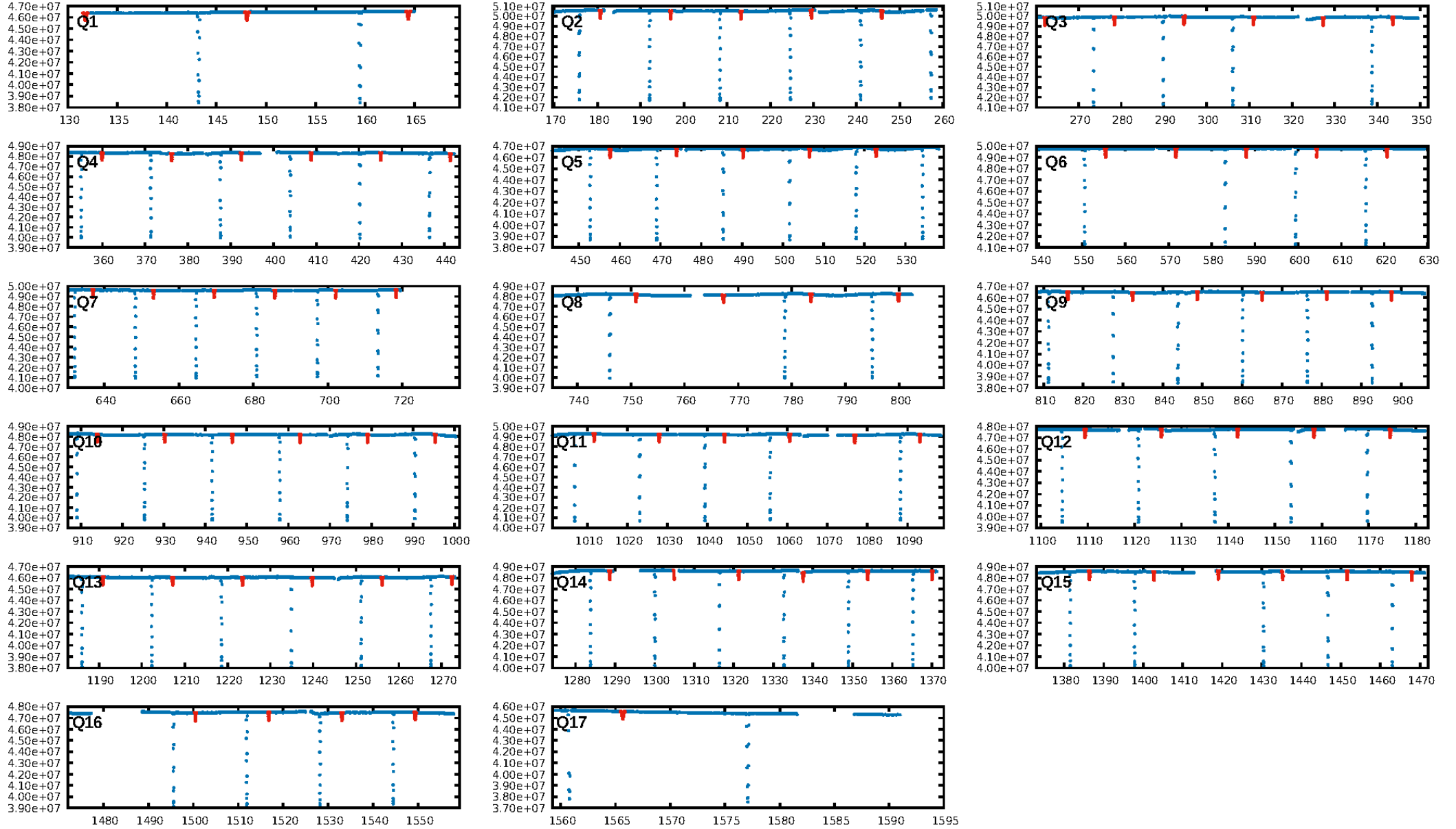
DV Diagnostic Results:

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: 0.99 [81/82]
GhostDiagnostic-chr: 7.556
Centroid-sig: 0.0%
Centroid-so: 0.121 arcsec [11.75 σ]
OotOffset-rm: 0.062 arcsec [0.89 σ]
KicOffset-rm: 0.185 arcsec [2.66 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]

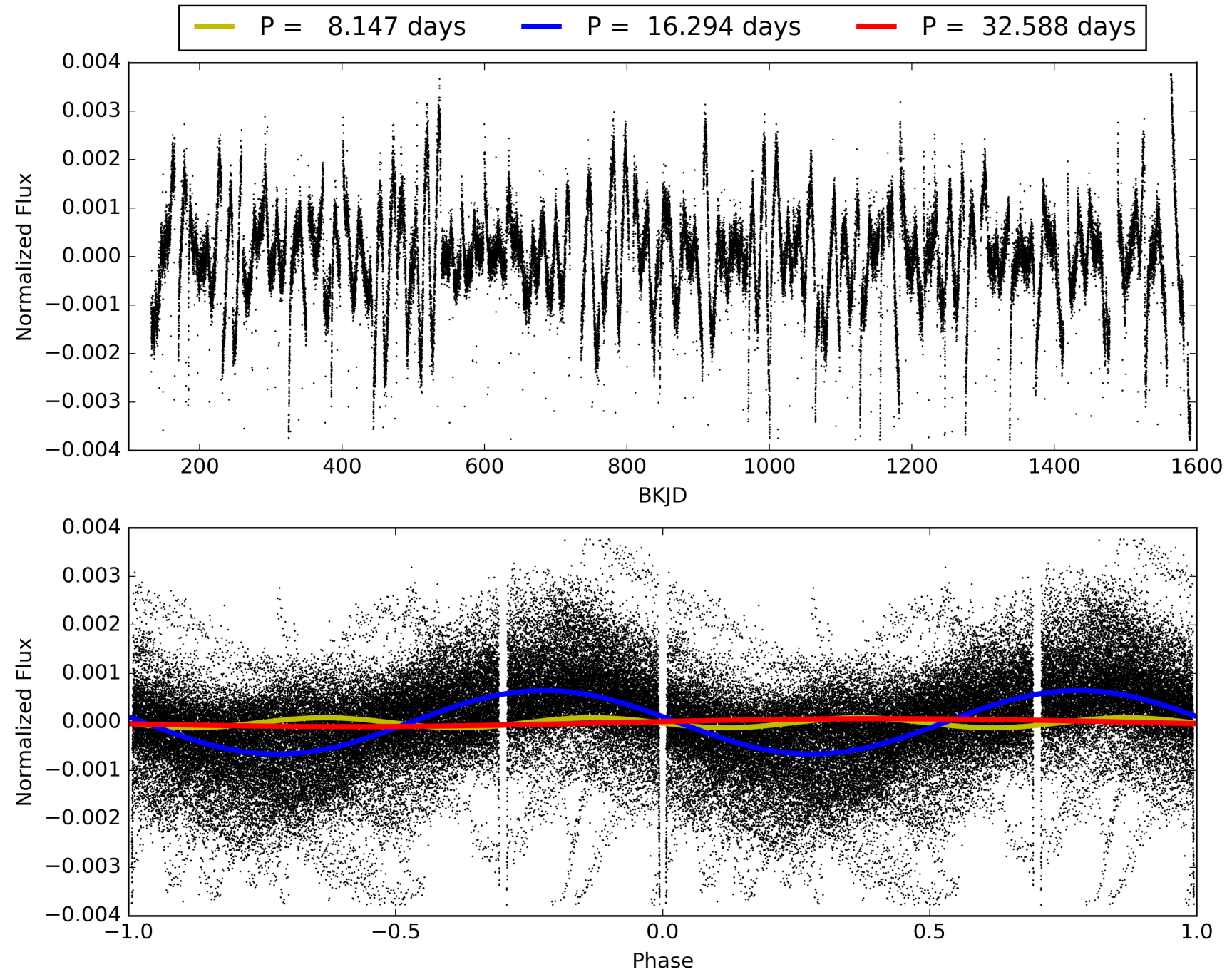
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:09:32 Z

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

TCE 005622250-02, PDC Light Curves

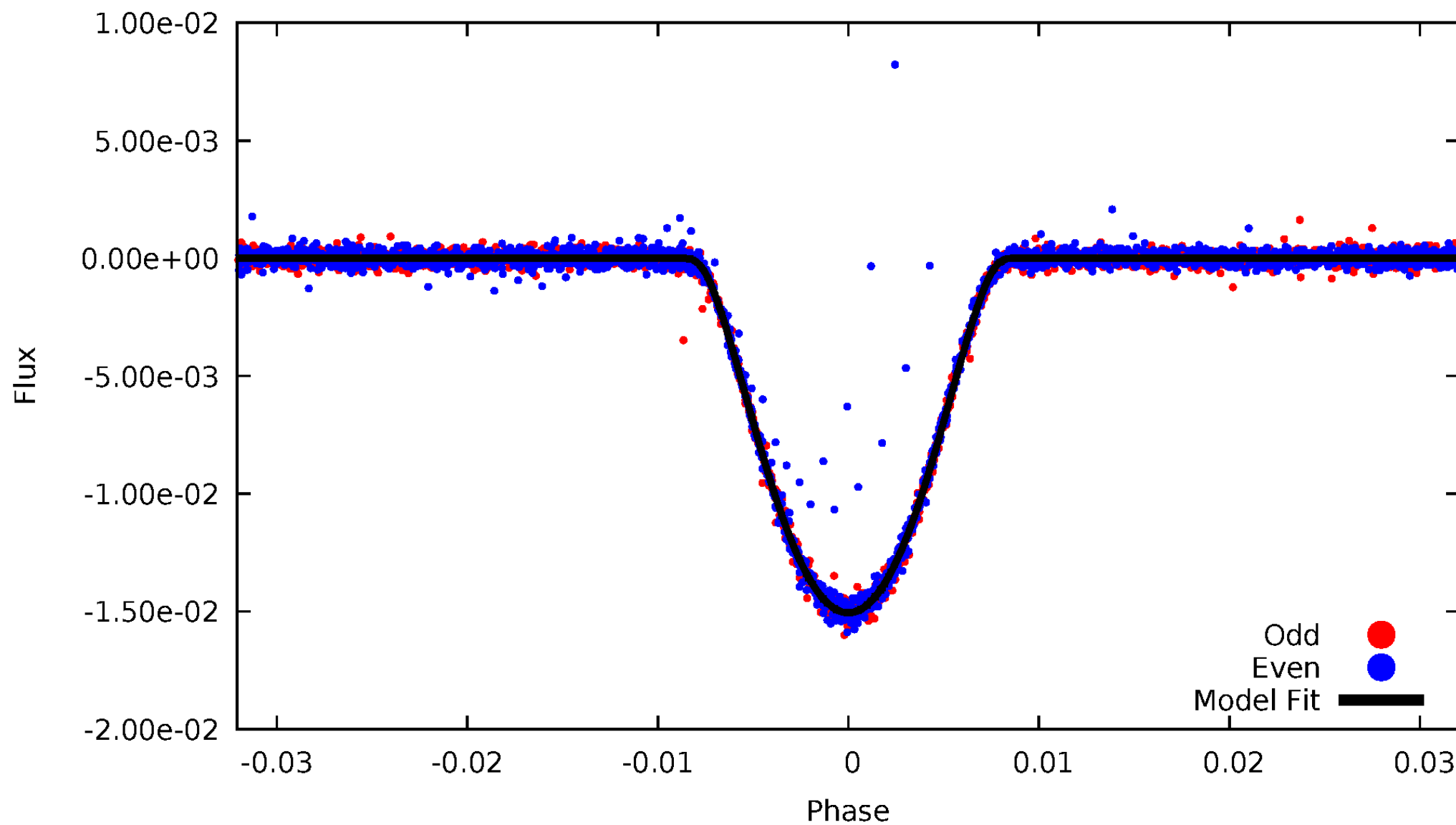


TCE 005622250-02



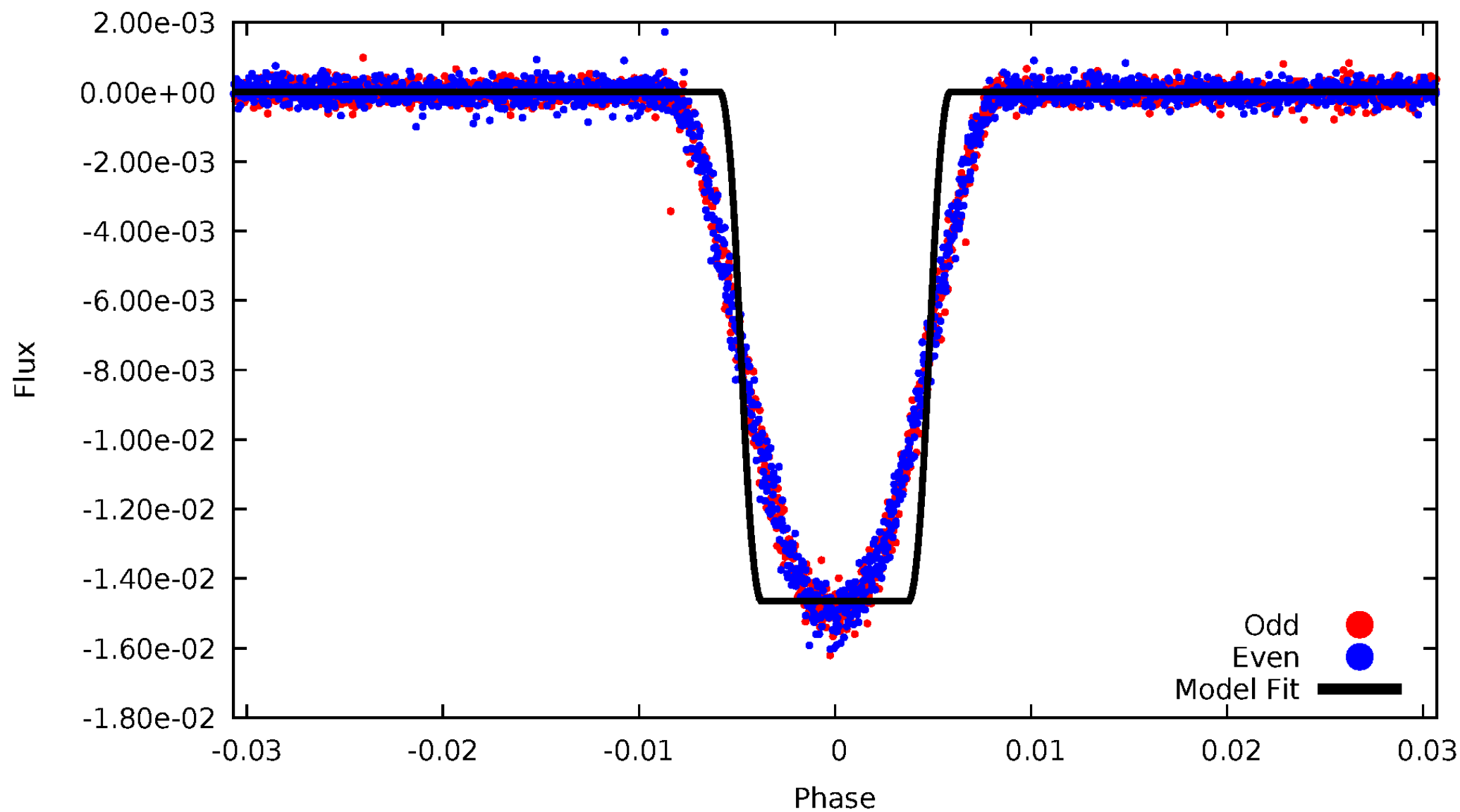
DV Odd/Even

TCE 005622250-02



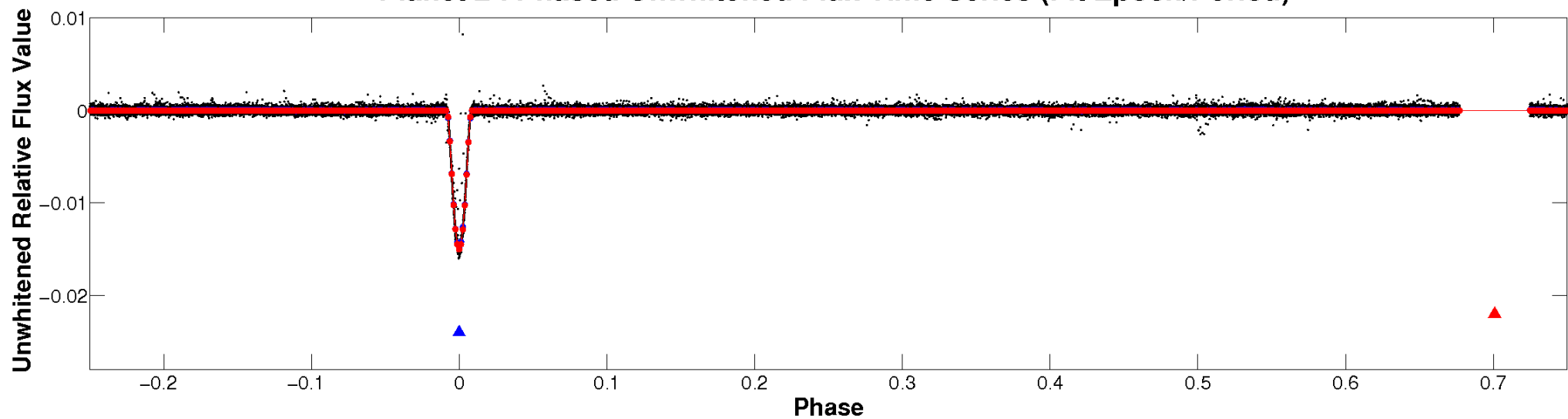
ALT Odd/Even

TCE 005622250-02

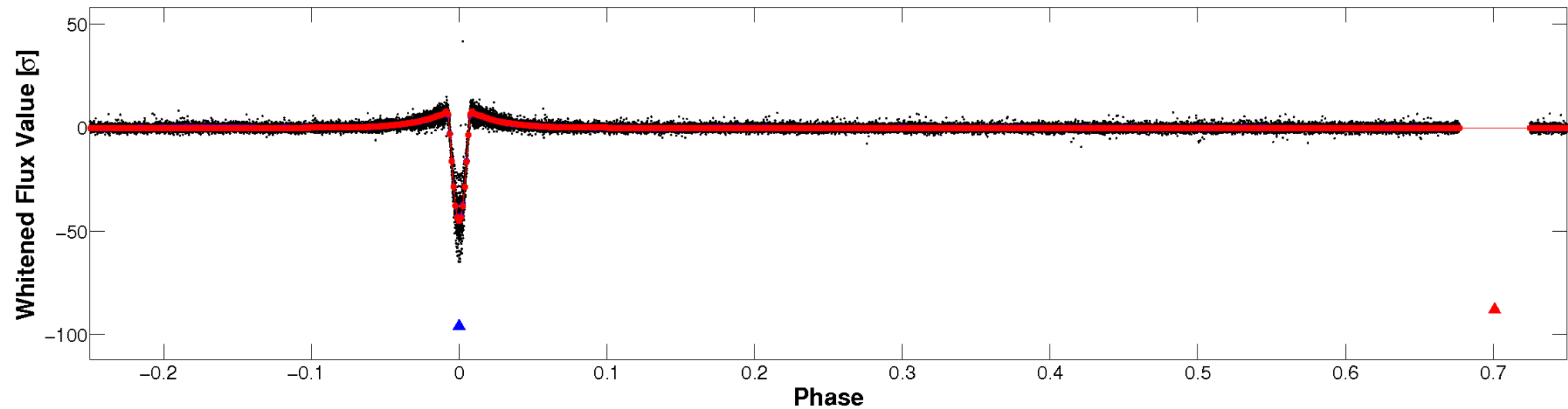


Non-Whitened Vs. Whitened Light Curve

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

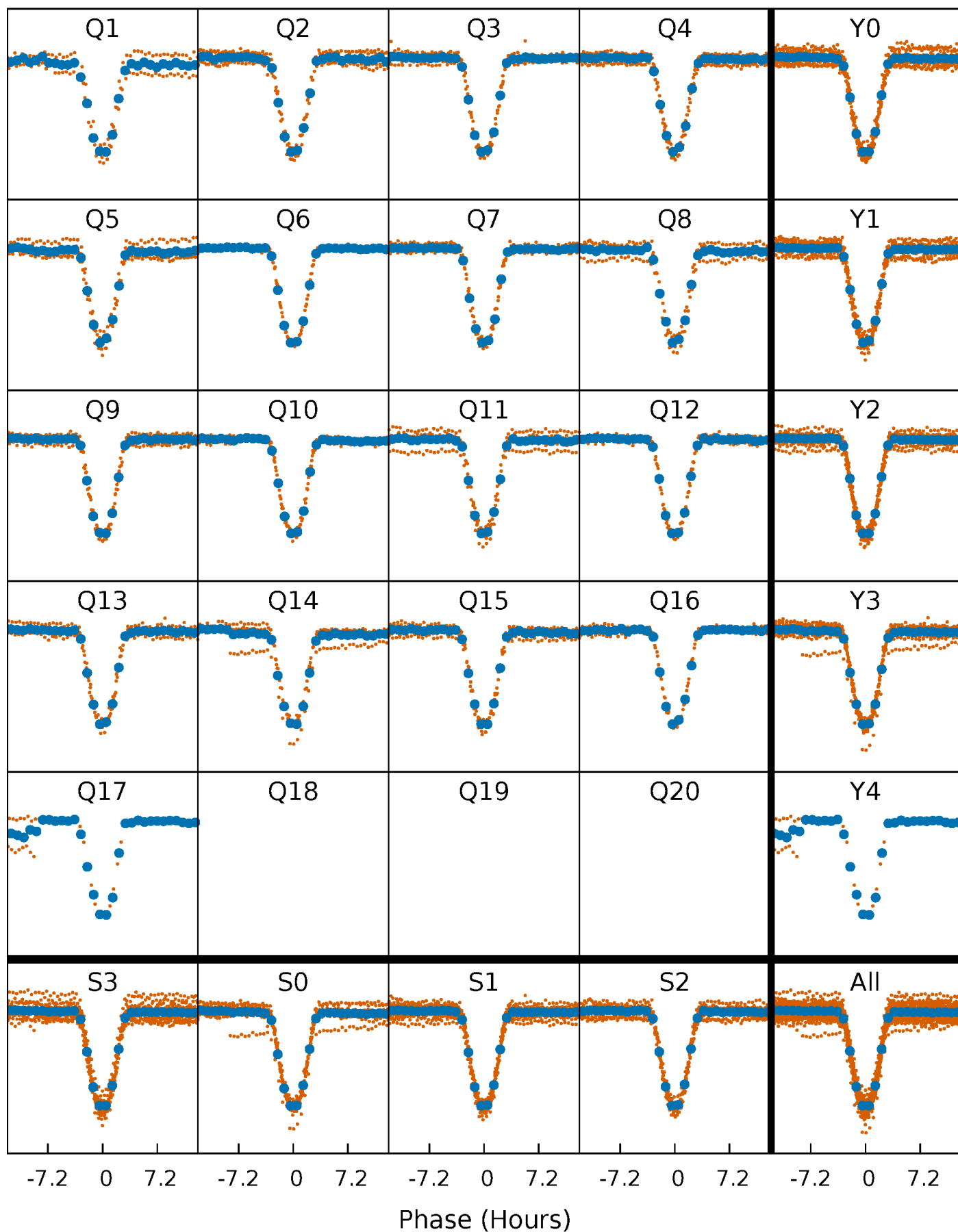


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



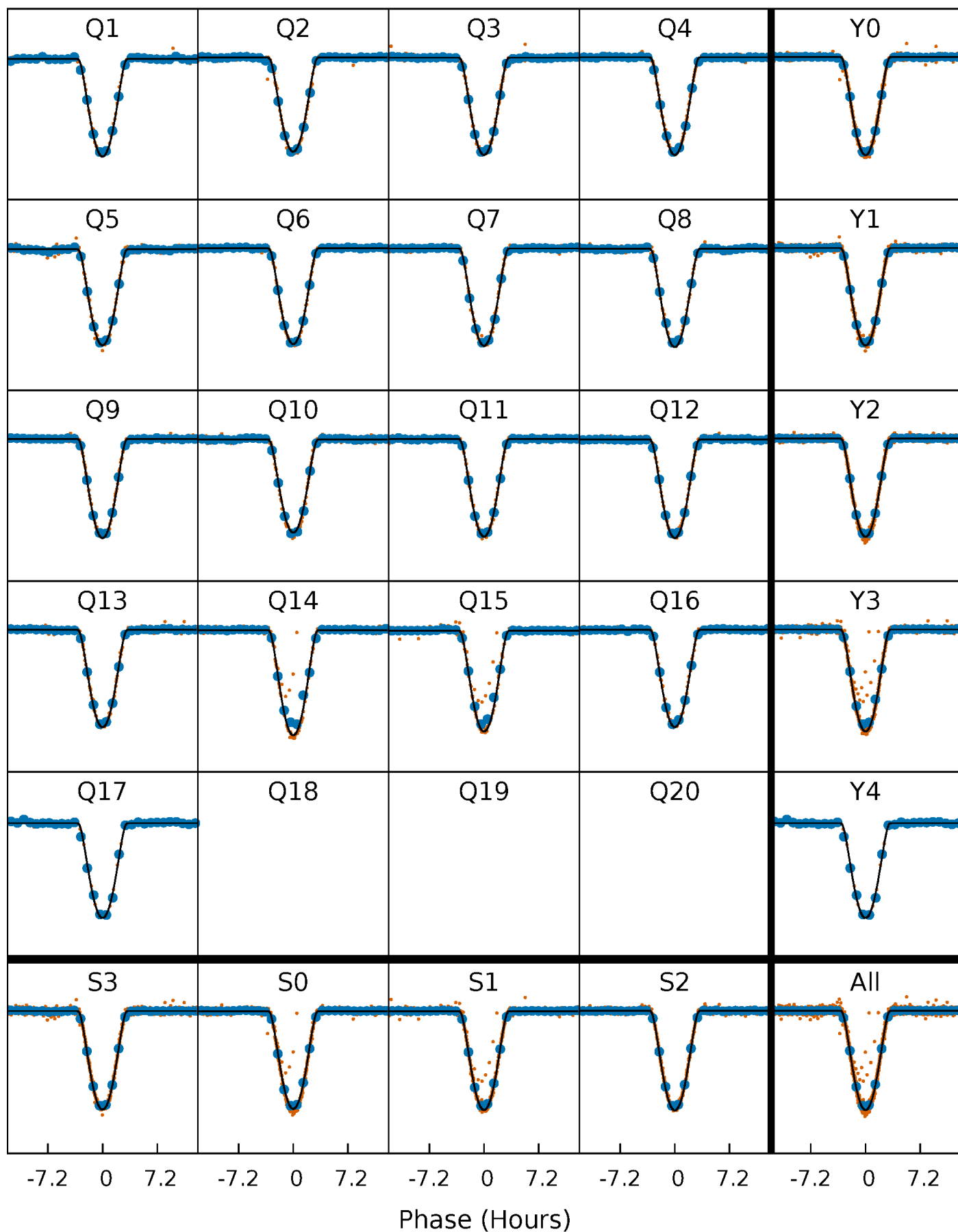
PDC Quarter-Phased Transit Curves

TCE 005622250-02 P= 16.294212 Days $T_0=131.772371$ (BKJD)



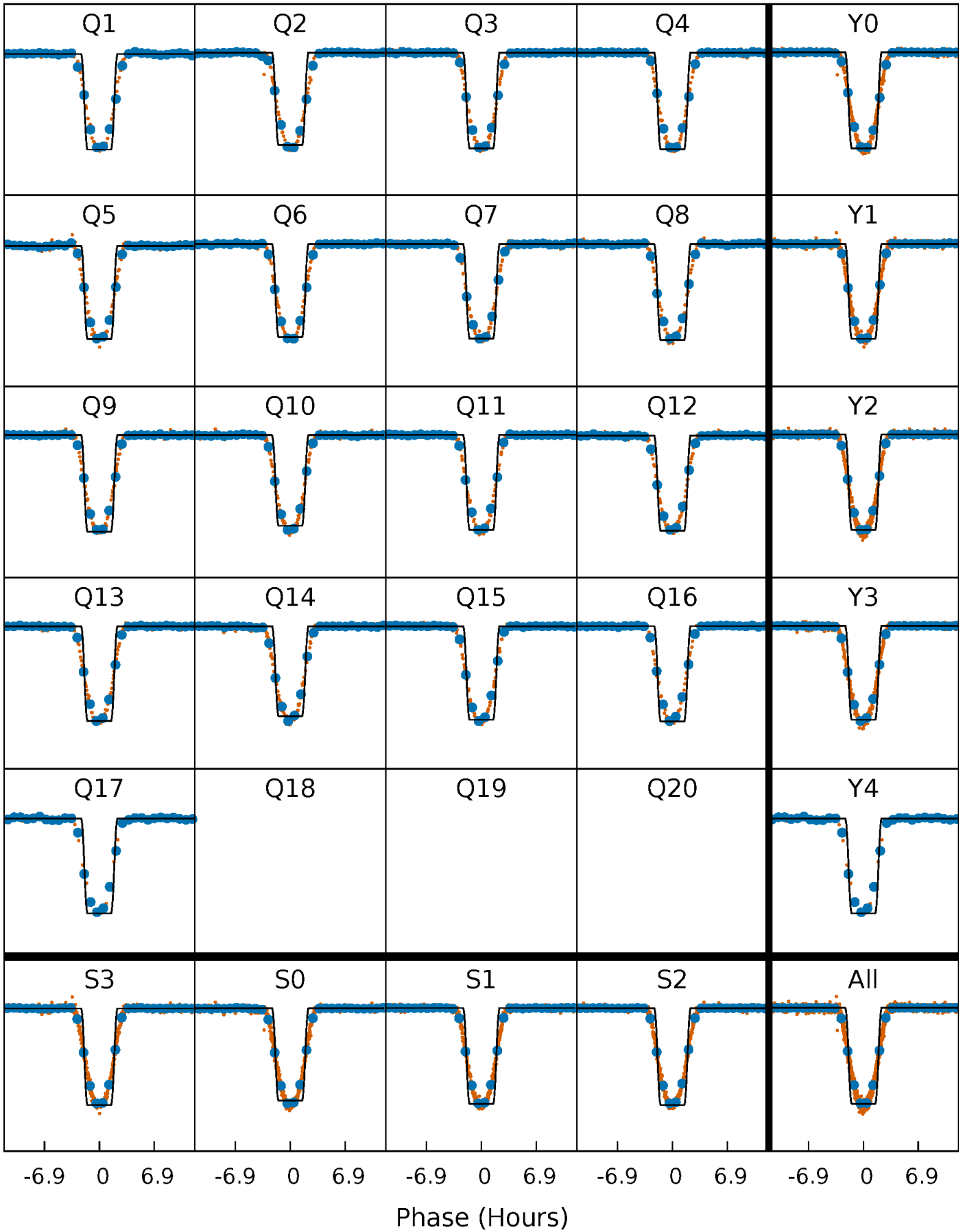
DV Quarter-Phased Transit Curves

TCE 005622250-02 P= 16.294212 Days $T_0=131.772371$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

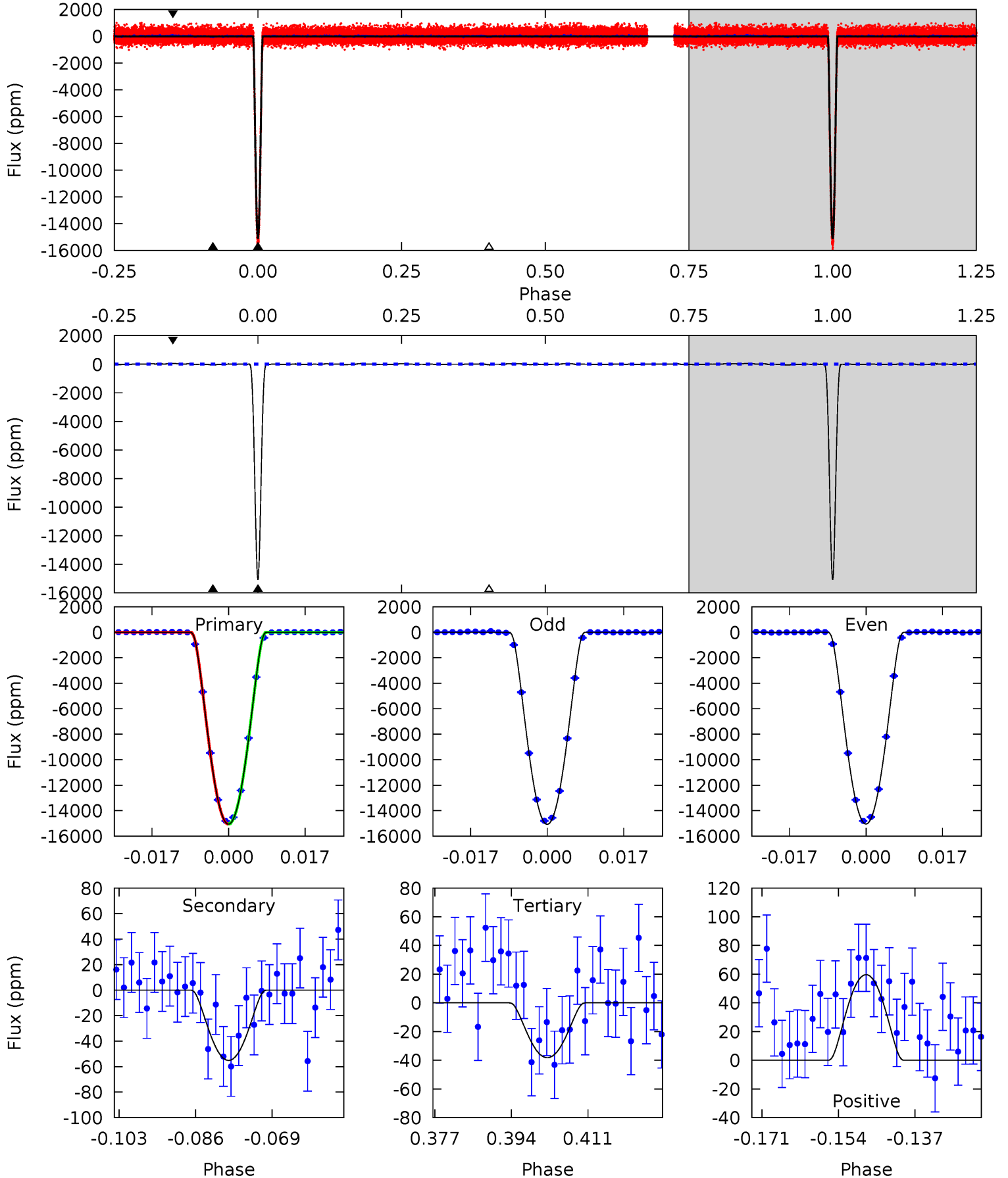
TCE 005622250-02 P= 16.294320 Days $T_0=131.767656$ (BKJD)



DV Model-Shift Uniqueness Test

005622250-02, P = 16.294212 Days, E = 115.478159 Days

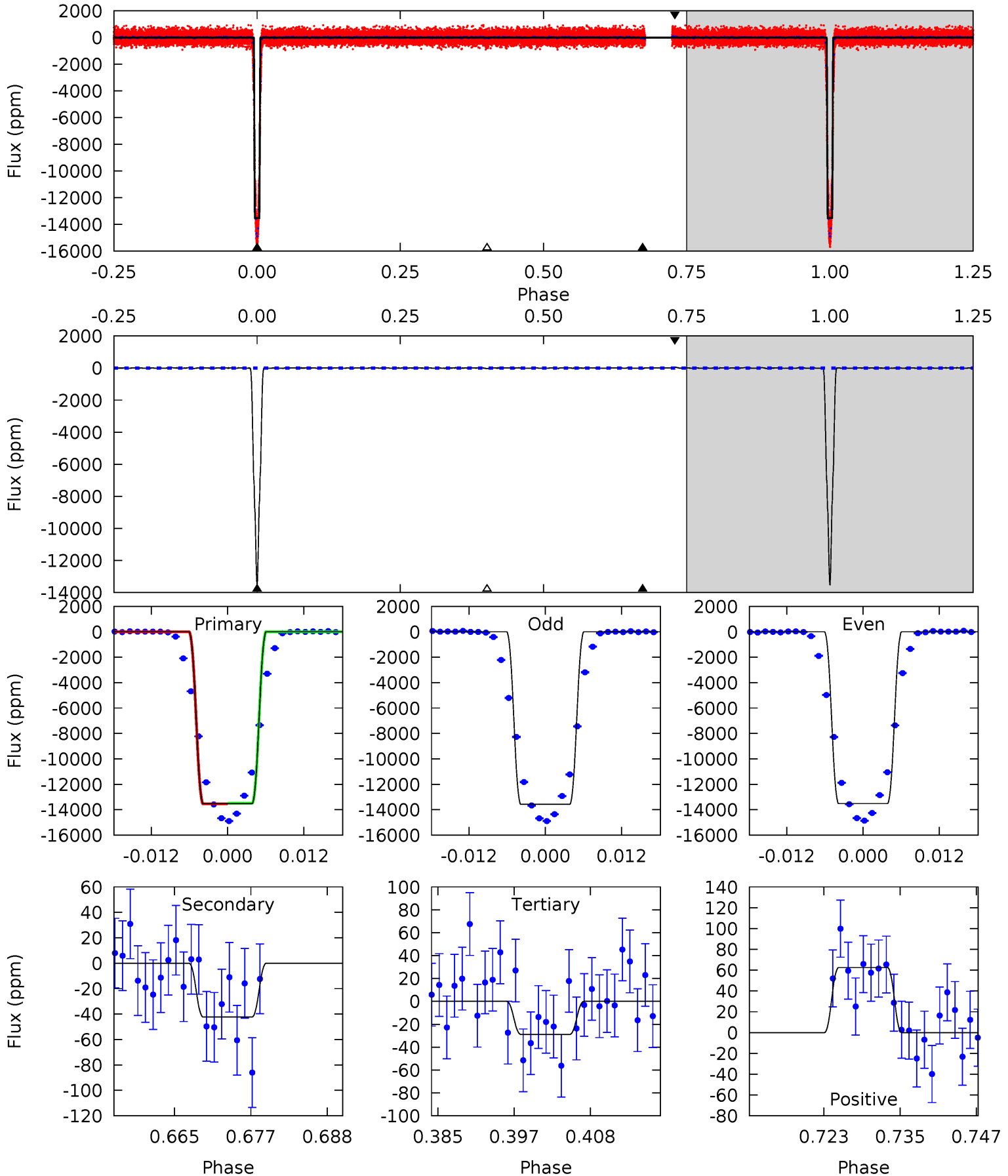
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2071	7.58	5.26	8.21	4.92	2.38	2.31	2066	2063	2.33	-0.63	1.85	0.99	0.00	0.46



Alt Model-Shift Uniqueness Test

005622250-02, P = 16.294320 Days, E = 115.473336 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1486	4.65	3.18	6.86	5.00	2.52	1.08	1483	1479	1.47	-2.21	3.57	1.01	0.00	2.68



Stellar Parameters For KIC 005622250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6237^{+74}_{-80}	$4.145^{+0.154}_{-0.126}$	$0.020^{+0.150}_{-0.150}$	$1.508^{+0.301}_{-0.274}$	$1.156^{+0.127}_{-0.074}$	$0.475^{+0.359}_{-0.176}$
	+1%/-1%	+4%/-3%	+750%/-750%	+20%/-18%	+11%/-6%	+76%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005622250-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-55 ± 7	$25.14^{+2.81}_{-2.61}$	1292^{+71}_{-68}	2186^{+56}_{-62}	$0.832^{+0.270}_{-0.169}$
Alt.	-42 ± 9	$20.01^{+1.98}_{-2.07}$	1297^{+67}_{-65}	2262^{+73}_{-91}	$1.038^{+0.323}_{-0.273}$

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 $A_{obs} \gg 1.0$

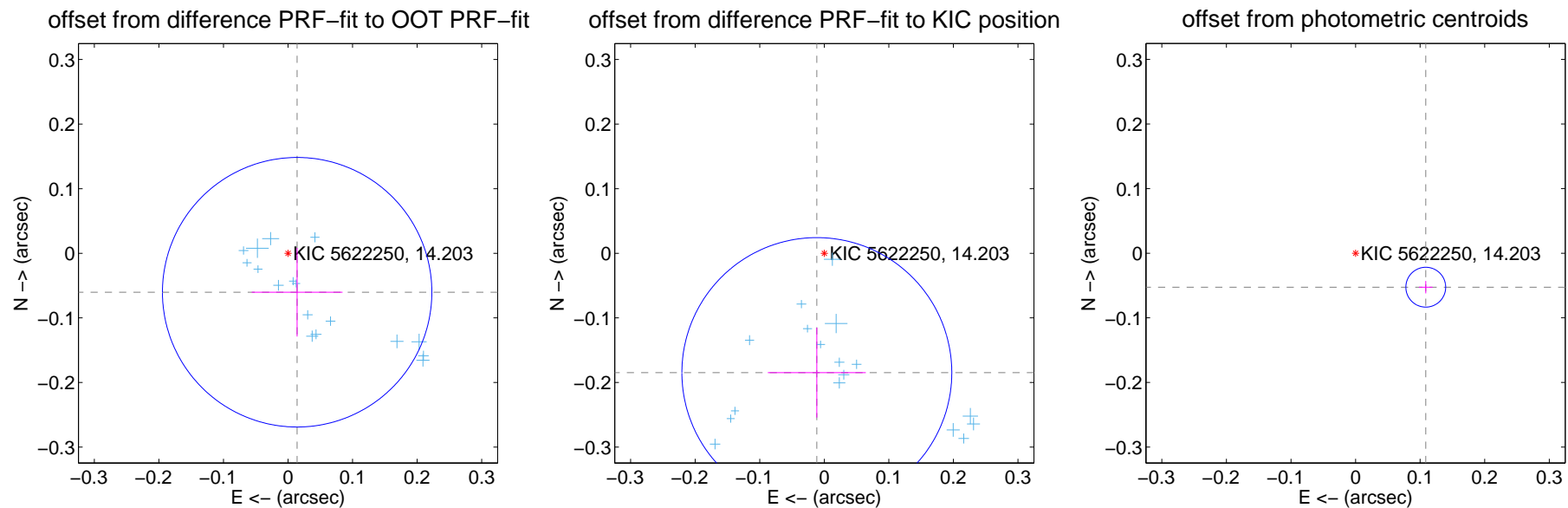
DV Centroid Data

Supplemental centroid analysis for 005622250-02. Kepler magnitude: 14.20. Transit SNR 947.36

There are 17 quarters with good PRF difference image offsets

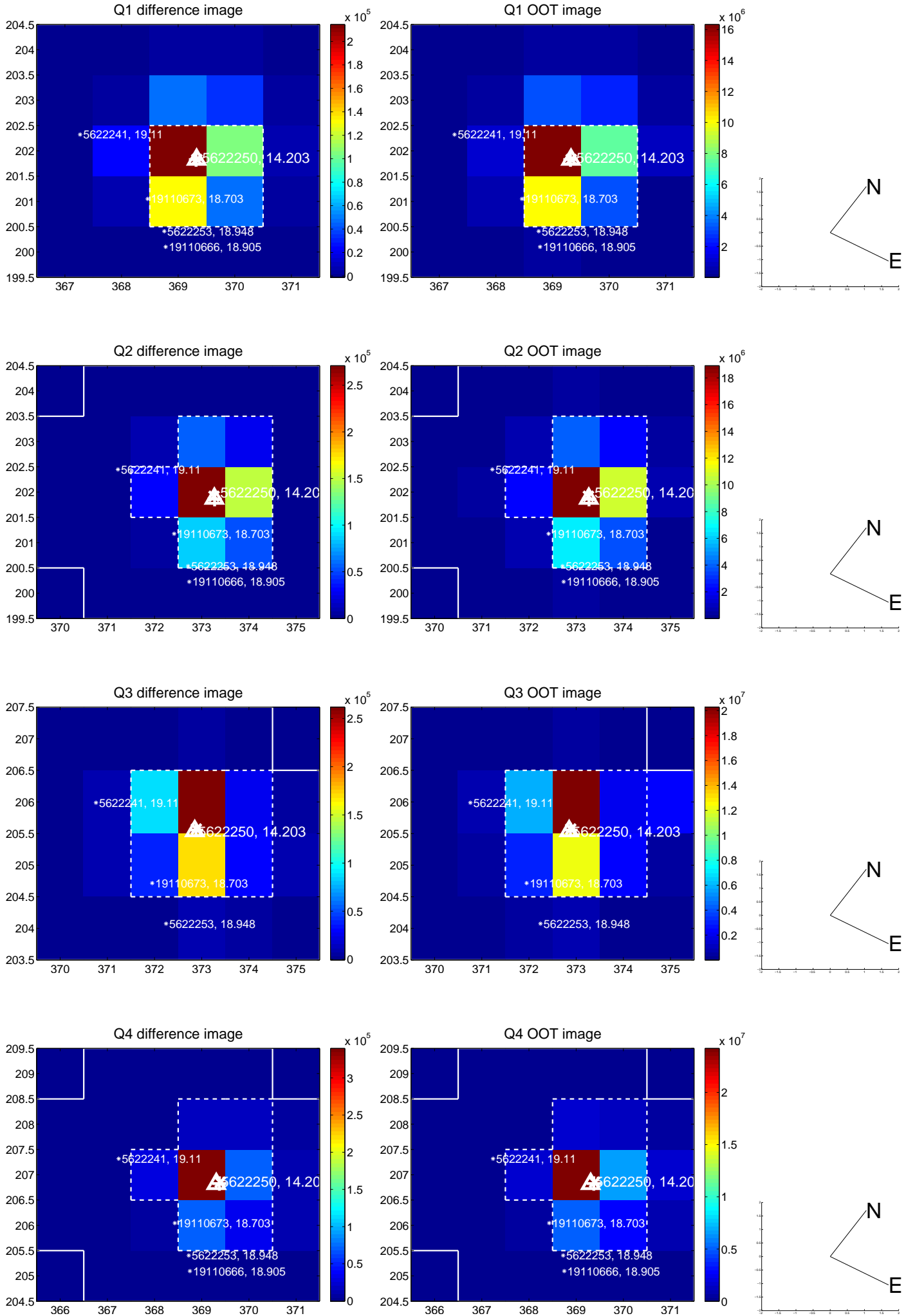
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.062 ± 0.070	0.89	-0.014 ± 0.070	-0.060 ± 0.069
PRF-fit source offset from KIC position	0.185 ± 0.070	2.66	0.012 ± 0.076	-0.185 ± 0.070
photometric centroid source offset	0.12 ± 0.01	11.75	-0.11 ± 0.01	-0.05 ± 0.01

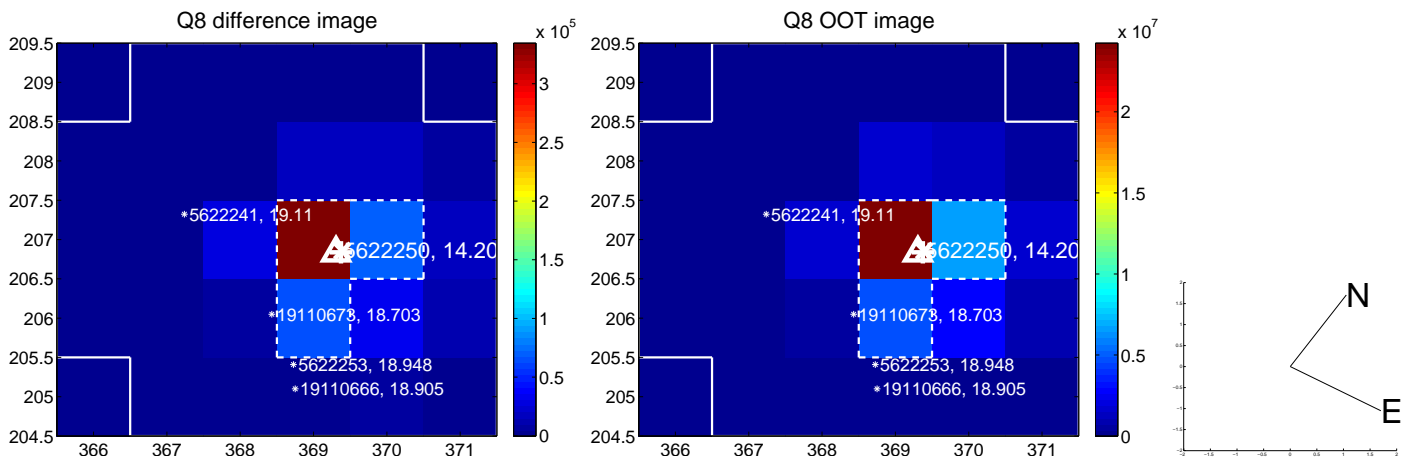
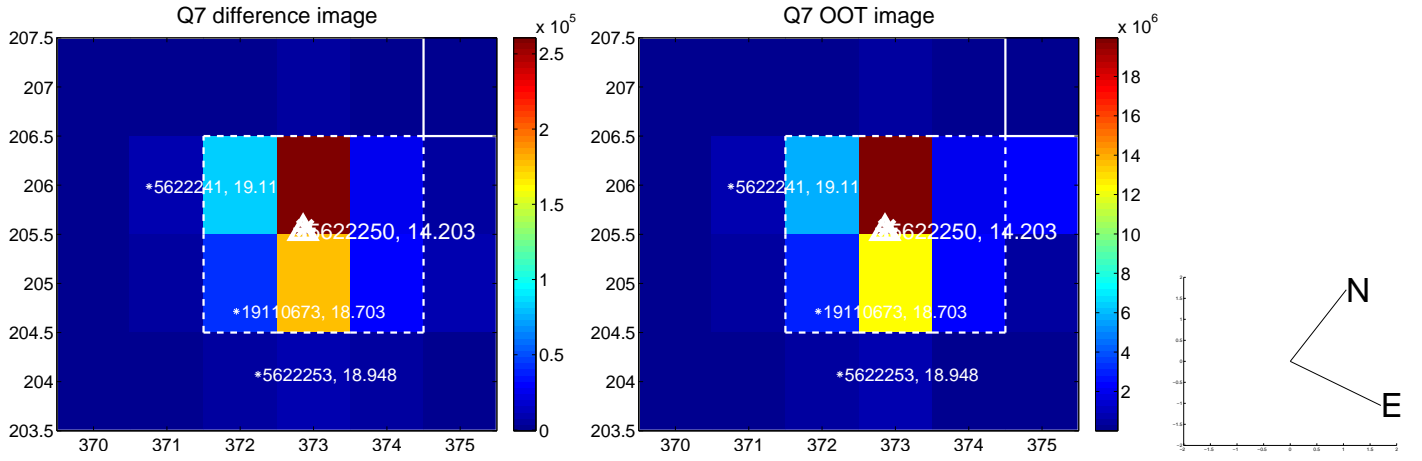
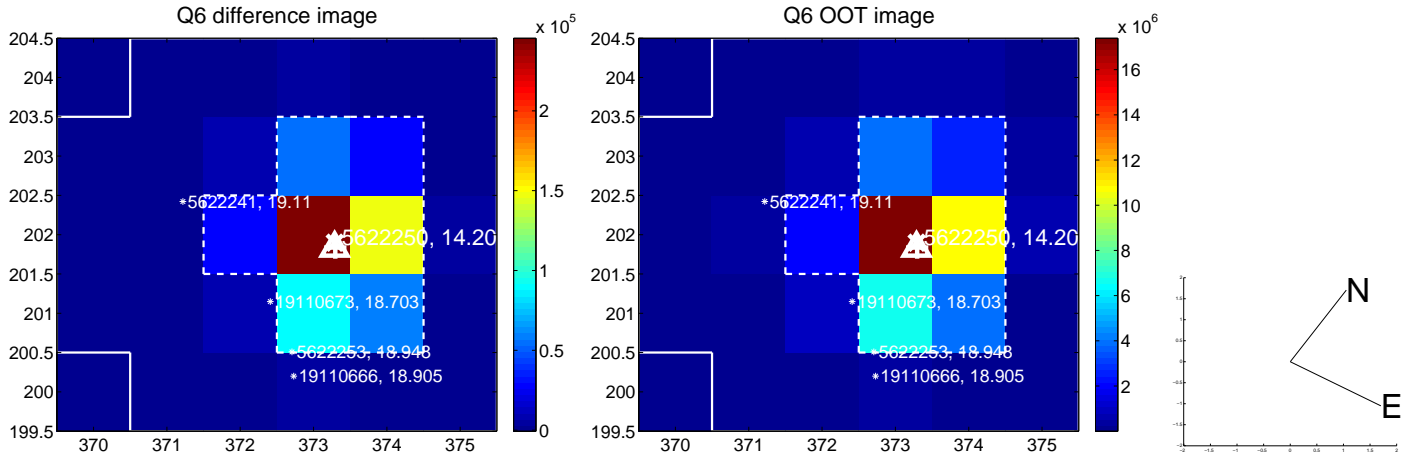
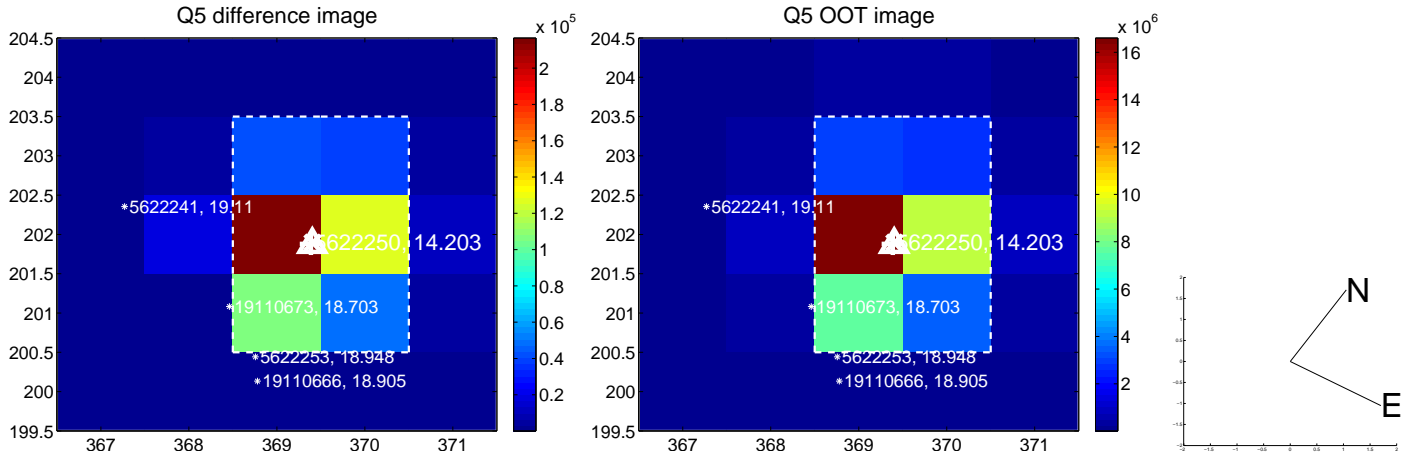


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

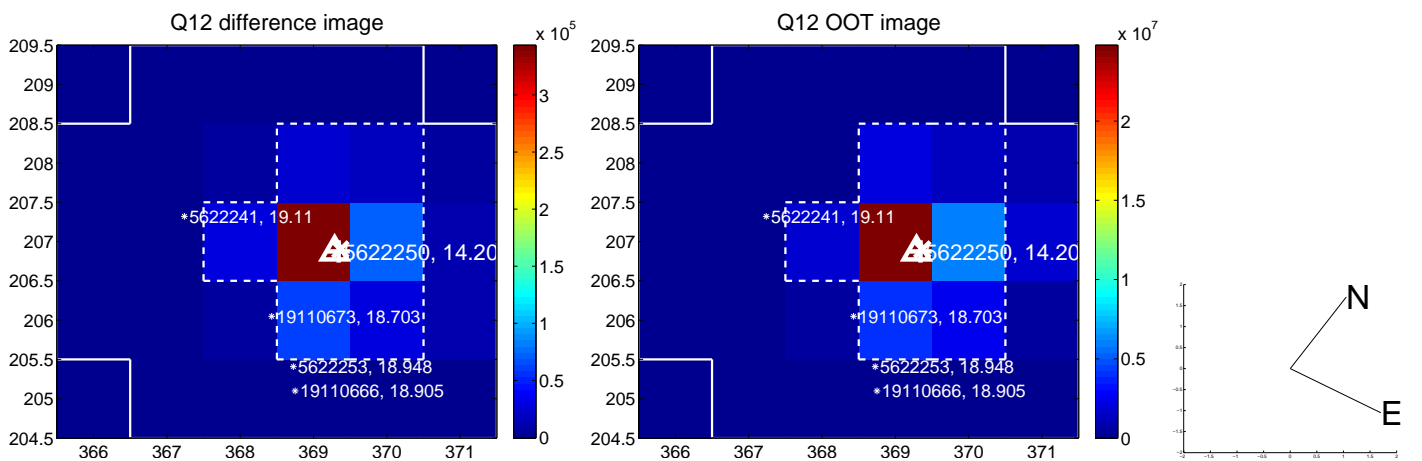
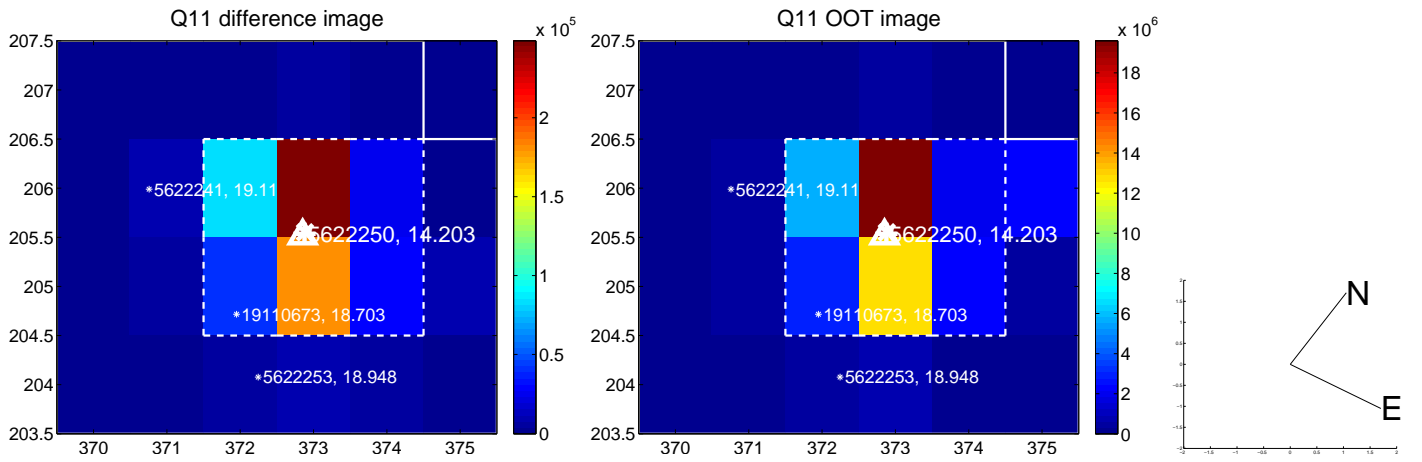
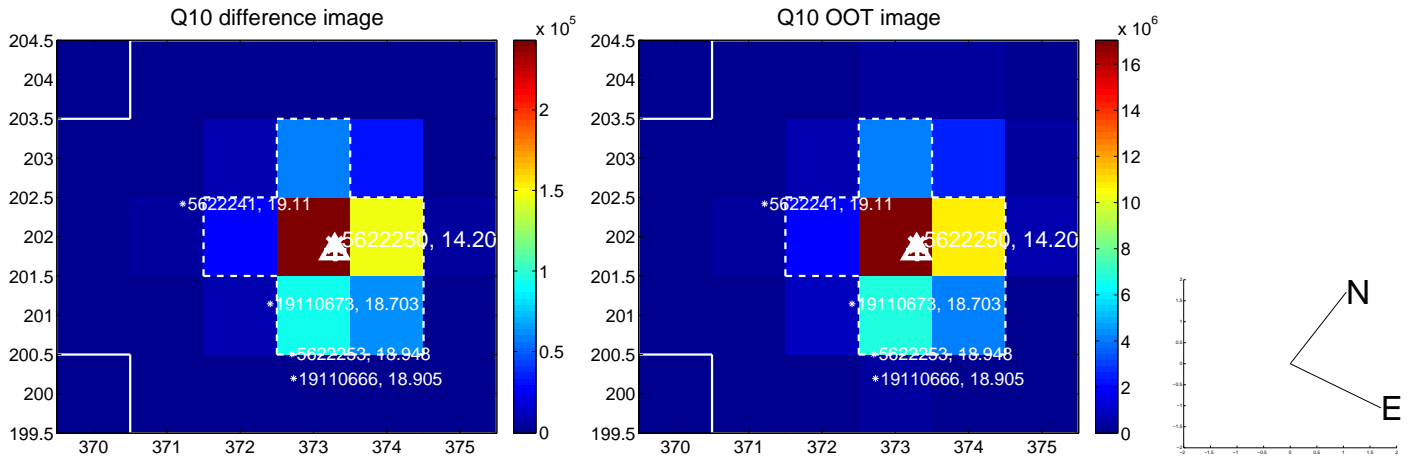
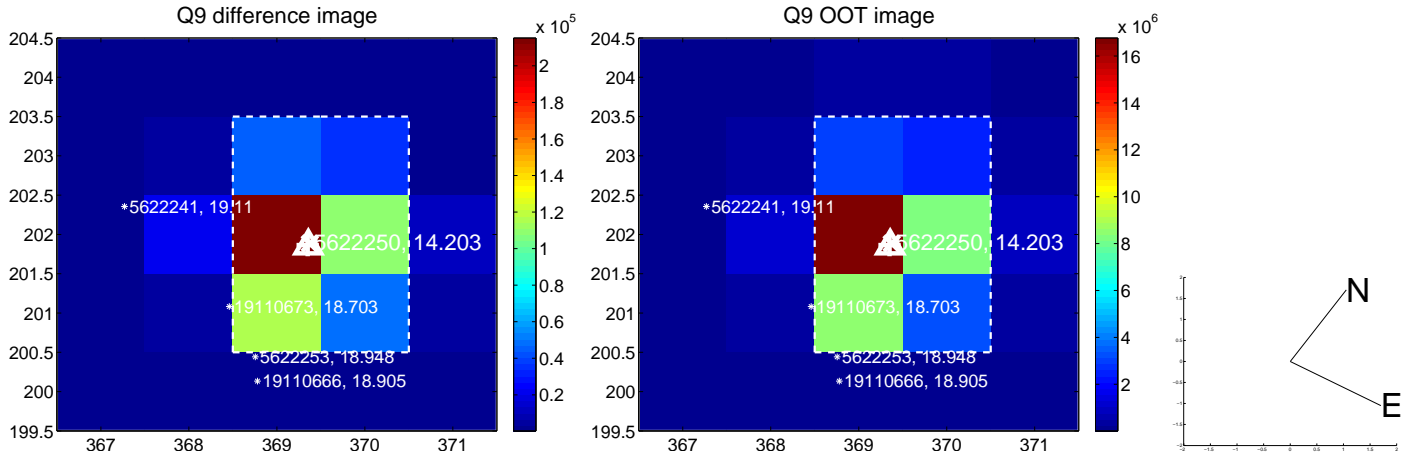
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



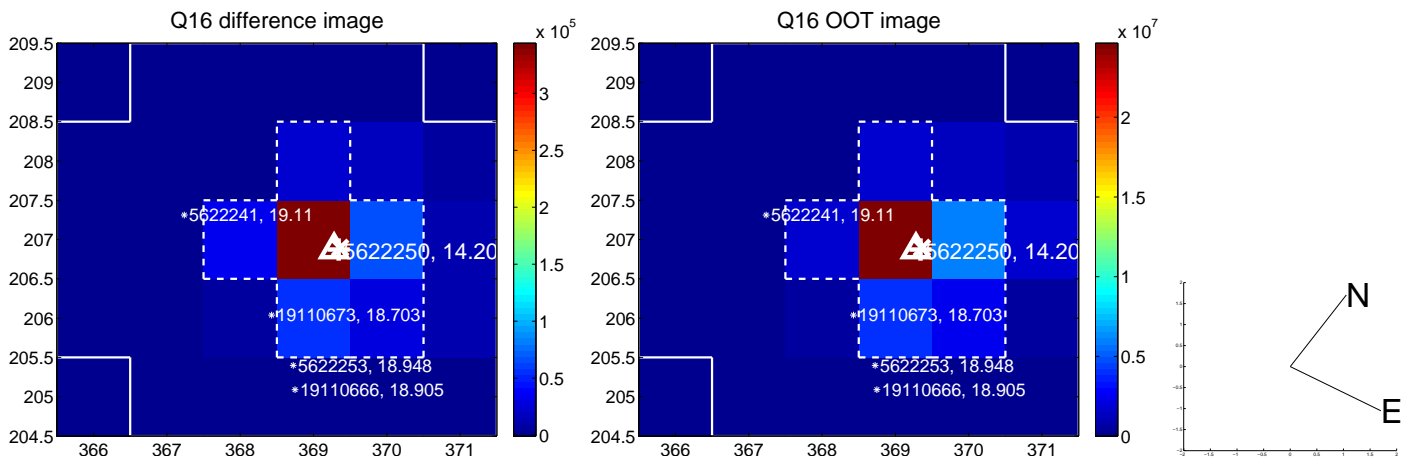
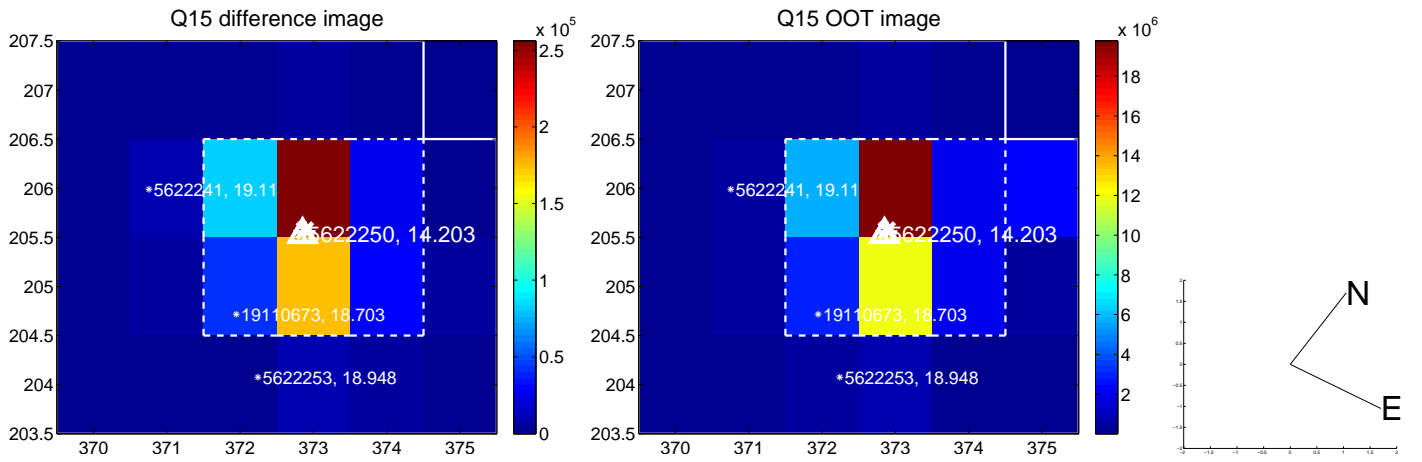
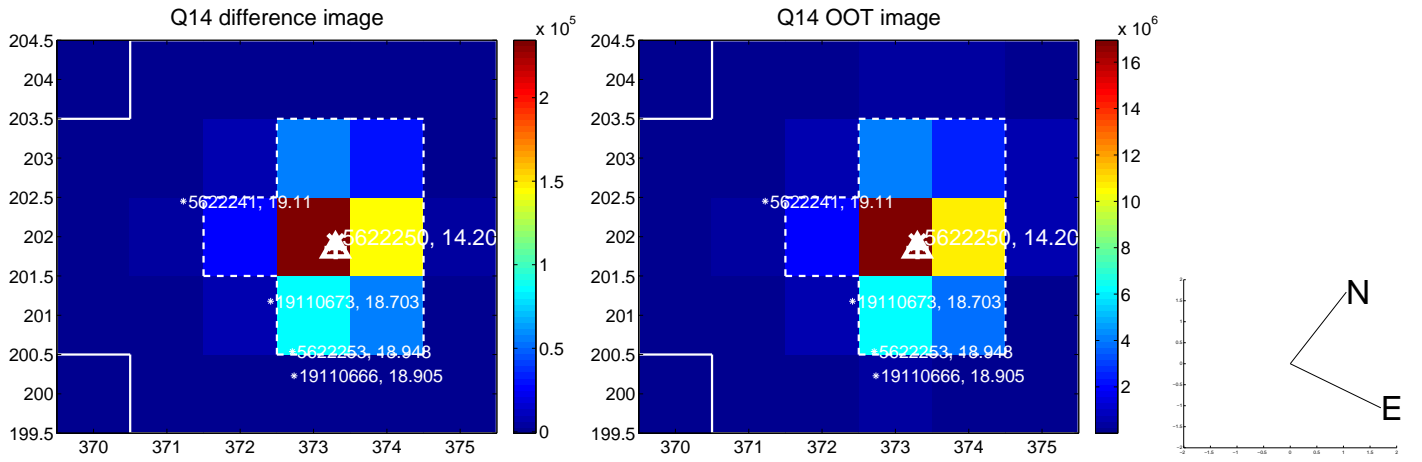
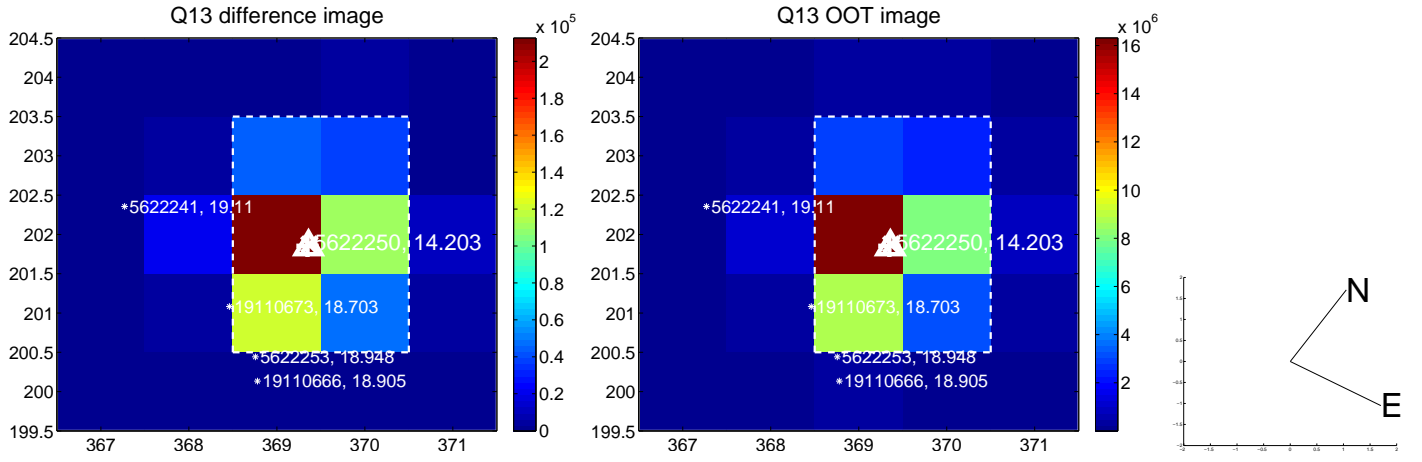
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



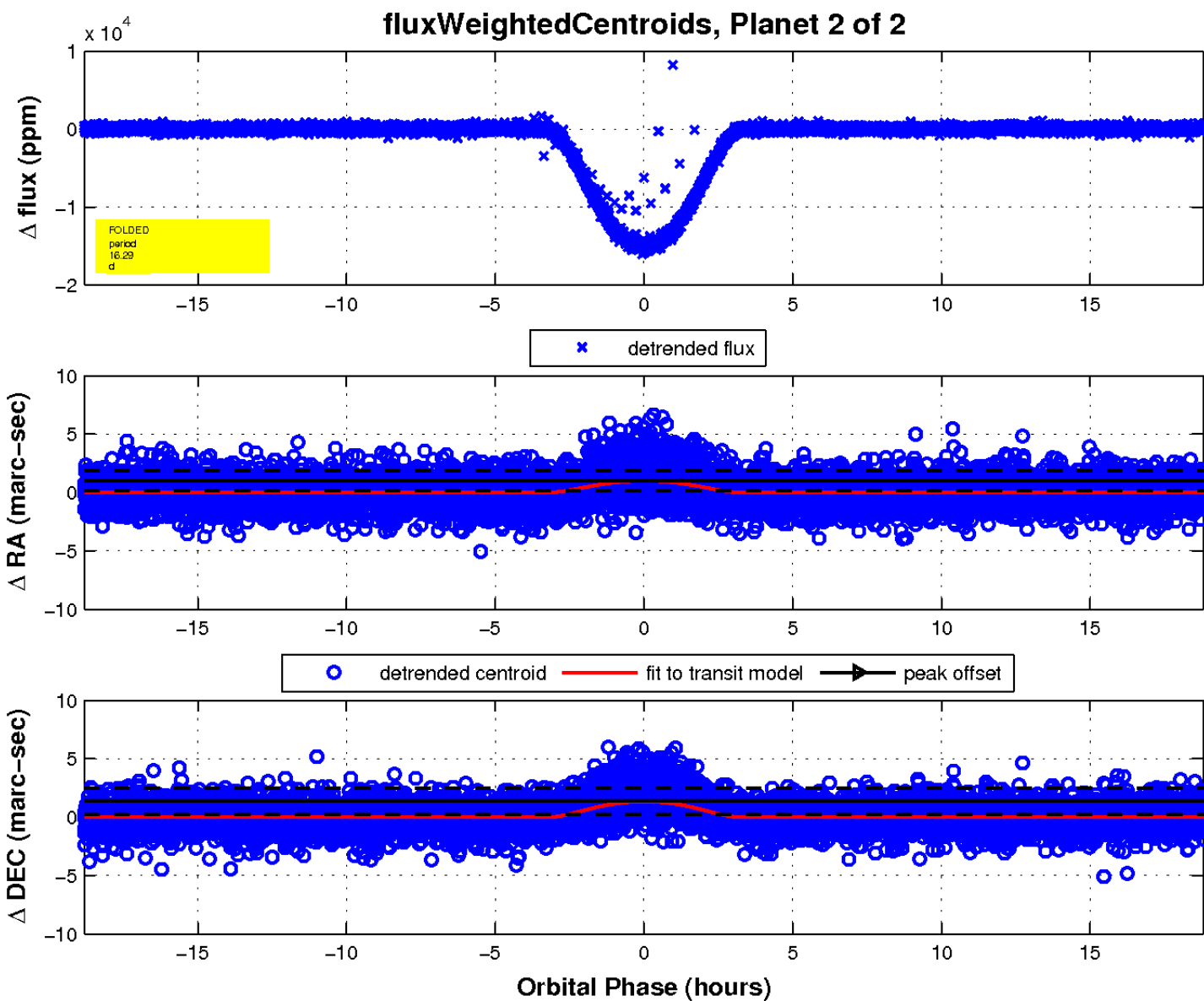
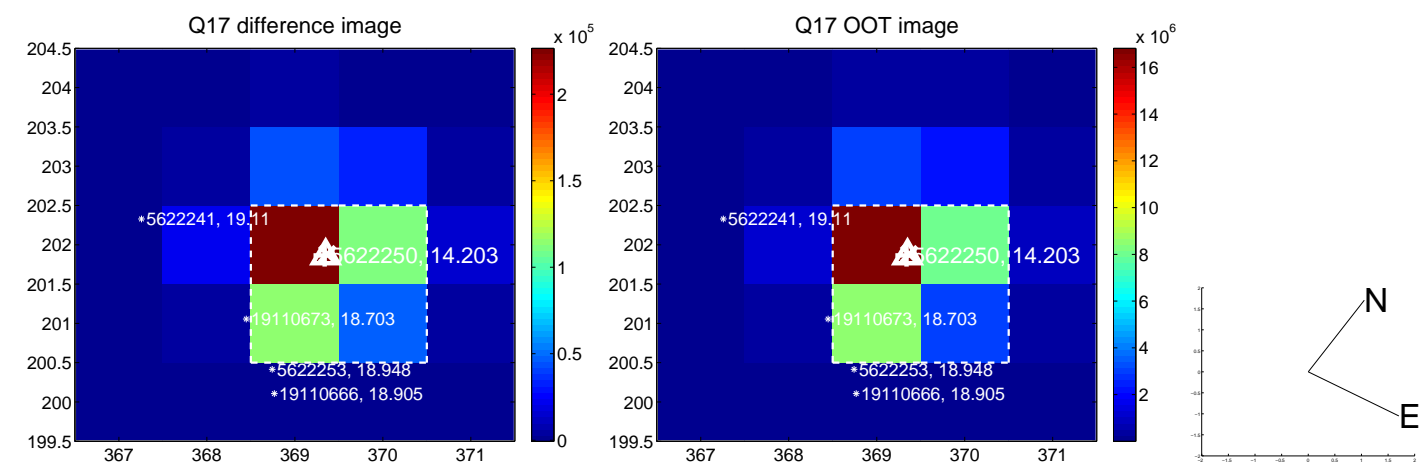
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

