

KIC 006612327

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})
006612327-01	OBS	3270.01	21.992991	131.686629	1415.0	8.239	62.2	47.6	0.75	5205	5.56	17.77
006612327-02	OBS	No	21.993292	147.178285	1071.9	5.278	50.5	31.6	0.75	5205	4.90	17.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006612327-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
006612327-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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 006612327-01

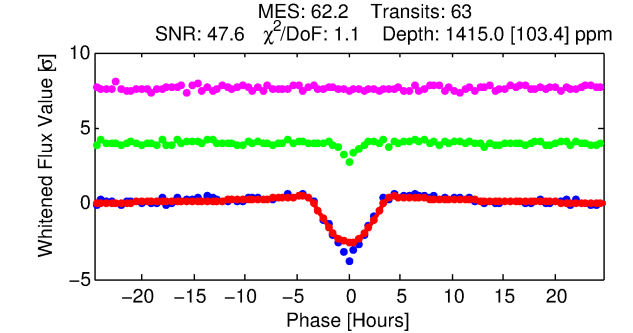
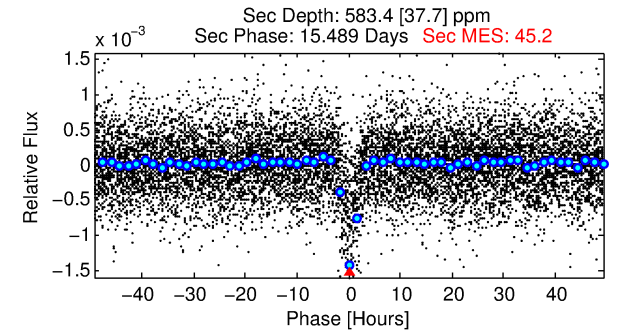
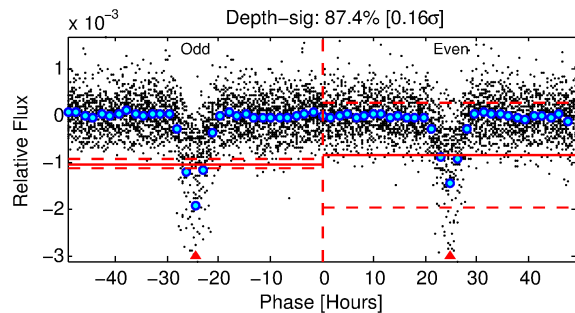
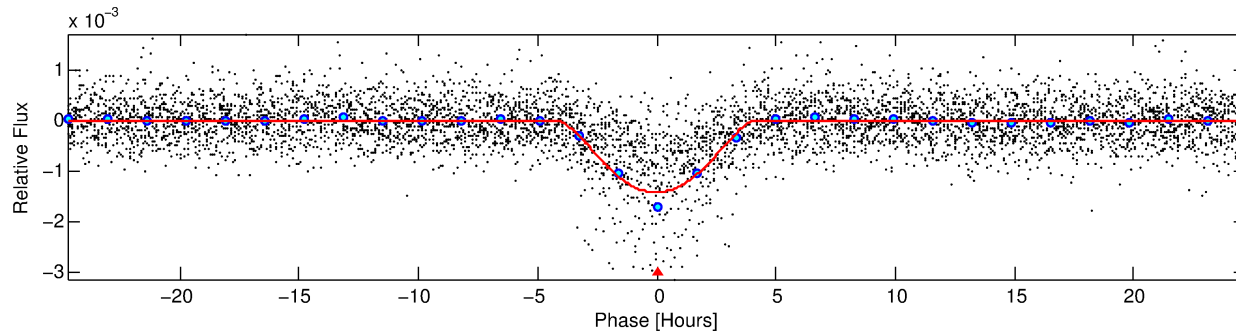
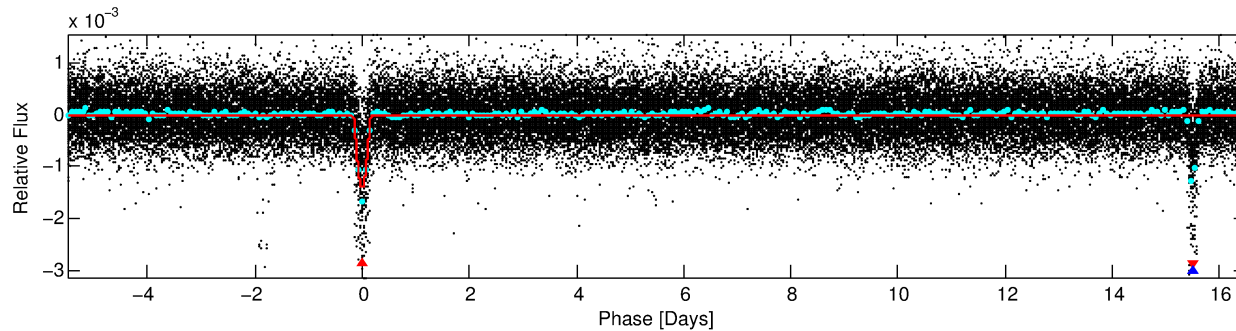
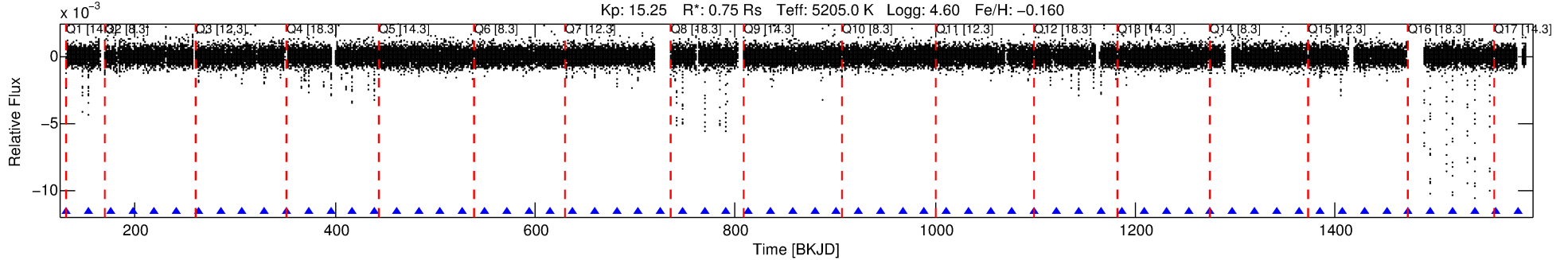
No Significant Match Found

DV One-Page Summary

KIC: 6612327 Candidate: 1 of 2 Period: 21.993 d

KOI: K03270.01 Corr: 0.975

Kp: 15.25 R*: 0.75 Rs Teff: 5205.0 K Logg: 4.60 Fe/H: -0.160



DV Fit Results:

Period = 21.99299 [0.00009] d
Epoch = 131.6866 [0.0036] BKJD
Rp/R* = 0.0682 [0.0509]
a/R* = 7.73 [1.25]
b = 1.00 [0.07]
Seff = 17.77 [3.48]
Teq = 524 [26] K
Rp = 5.56 [4.21] Re
a = 0.1437 [0.0156] AU
Ag = 214.26 [321.71] [0.66σ]
Teffp = 3097 [1160] K [2.22σ]

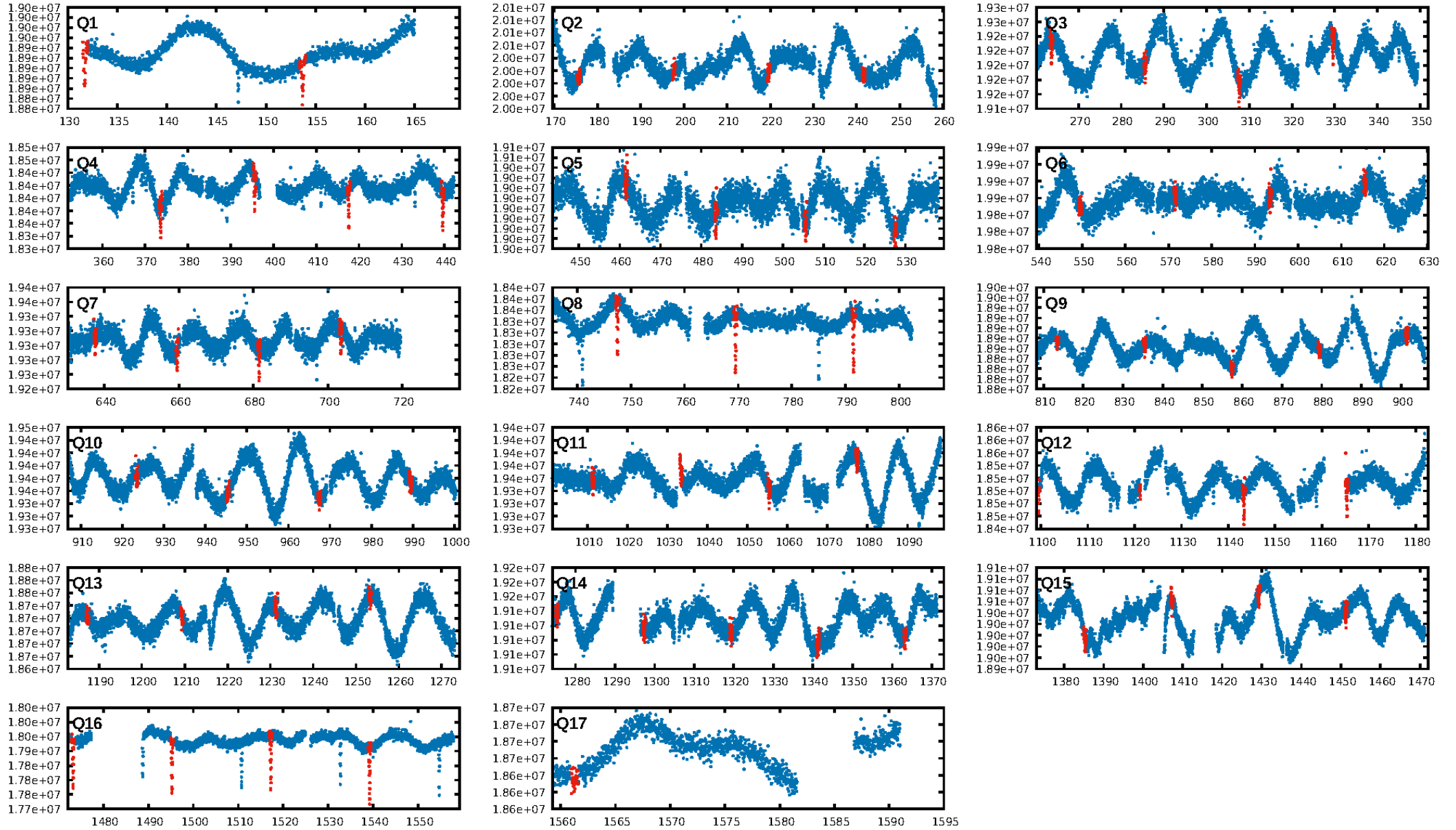
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [60/60]
GhostDiagnostic-chr: -0.3464
Centroid-sig: 0.0%
Centroid-so: 65.196 arcsec [382.25σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [16/16]

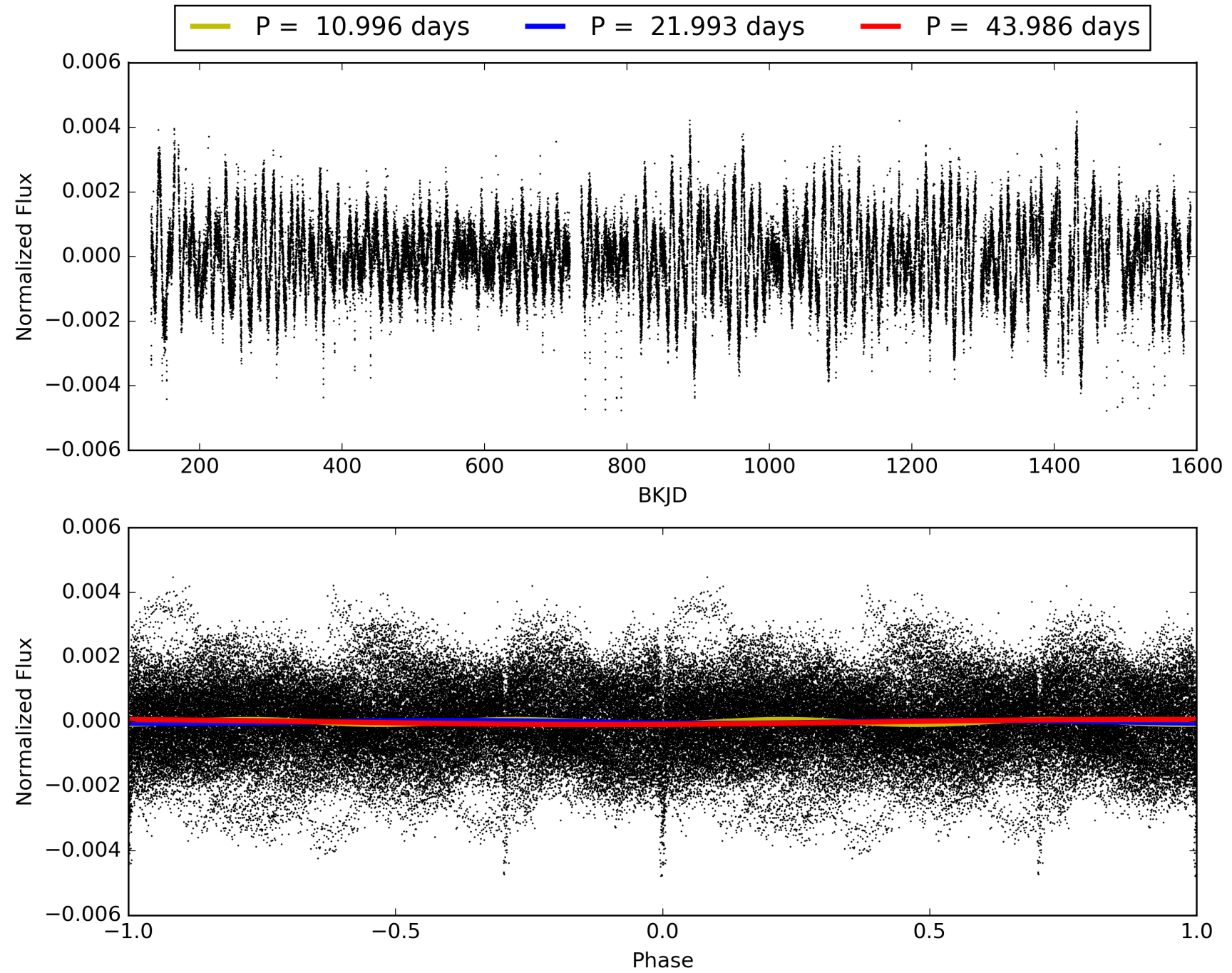
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:01:22 Z

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

TCE 006612327-01, PDC Light Curves

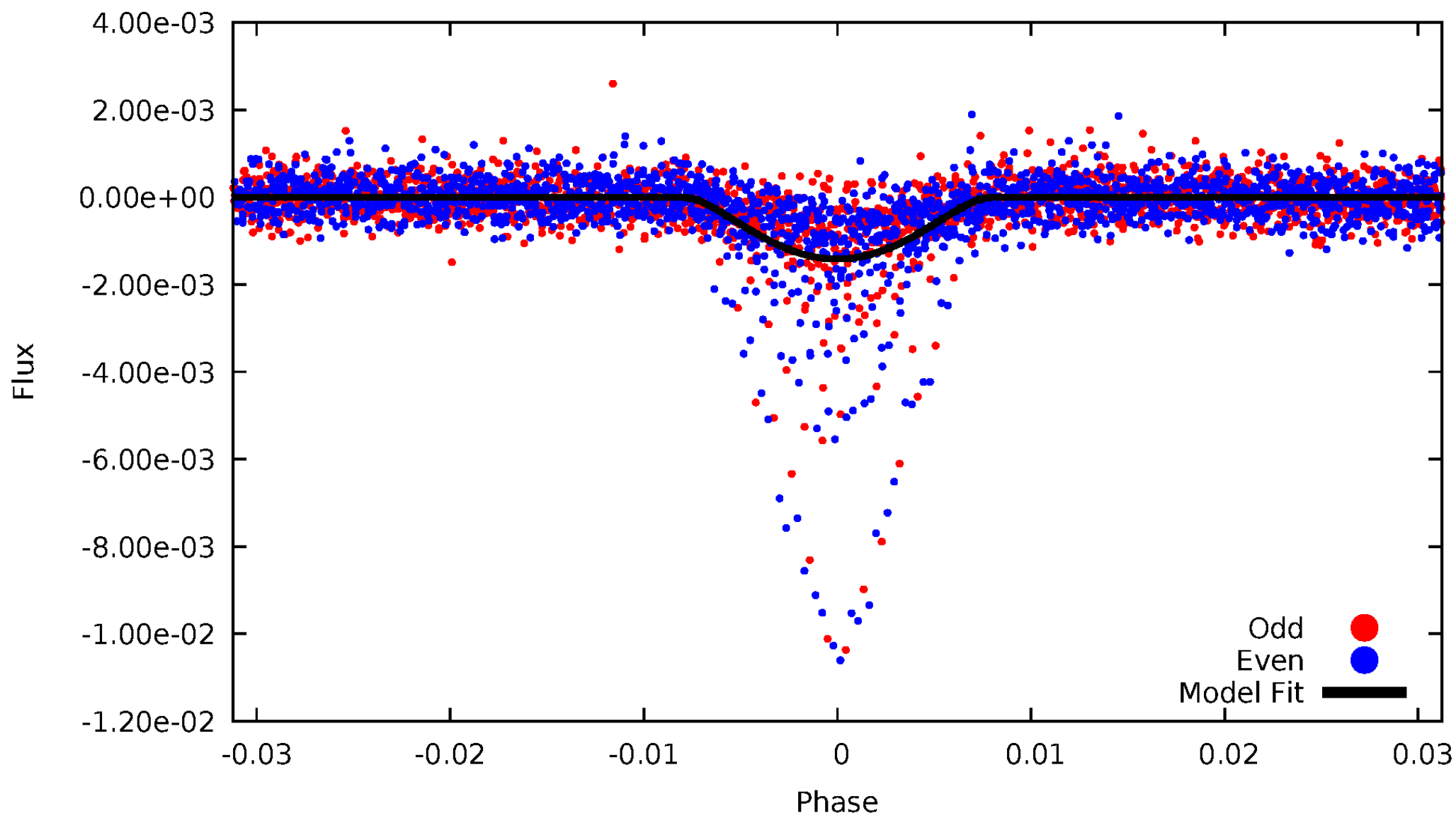


TCE 006612327-01



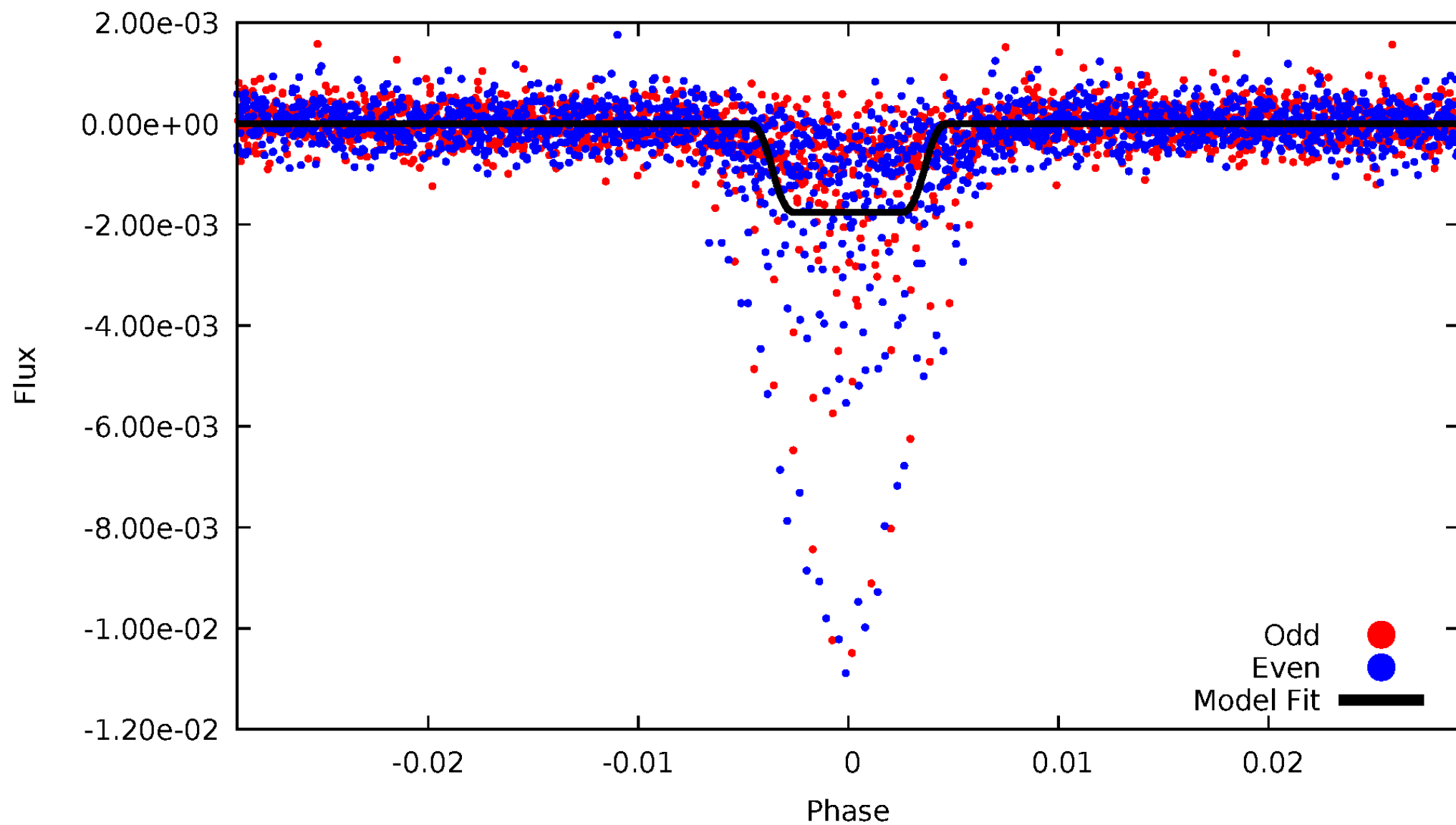
DV Odd/Even

TCE 006612327-01



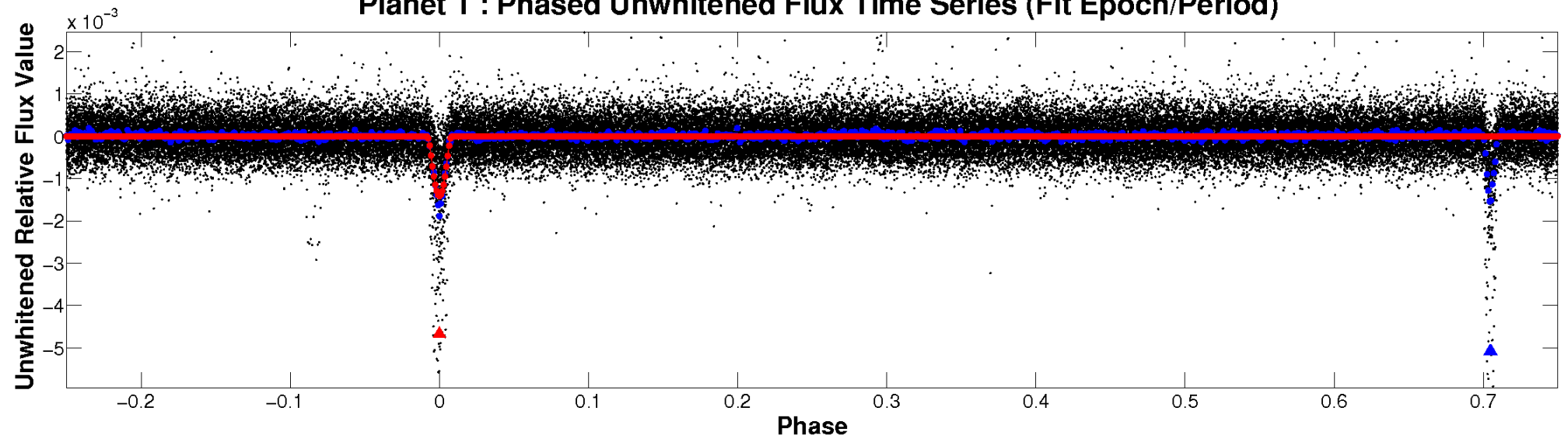
ALT Odd/Even

TCE 006612327-01

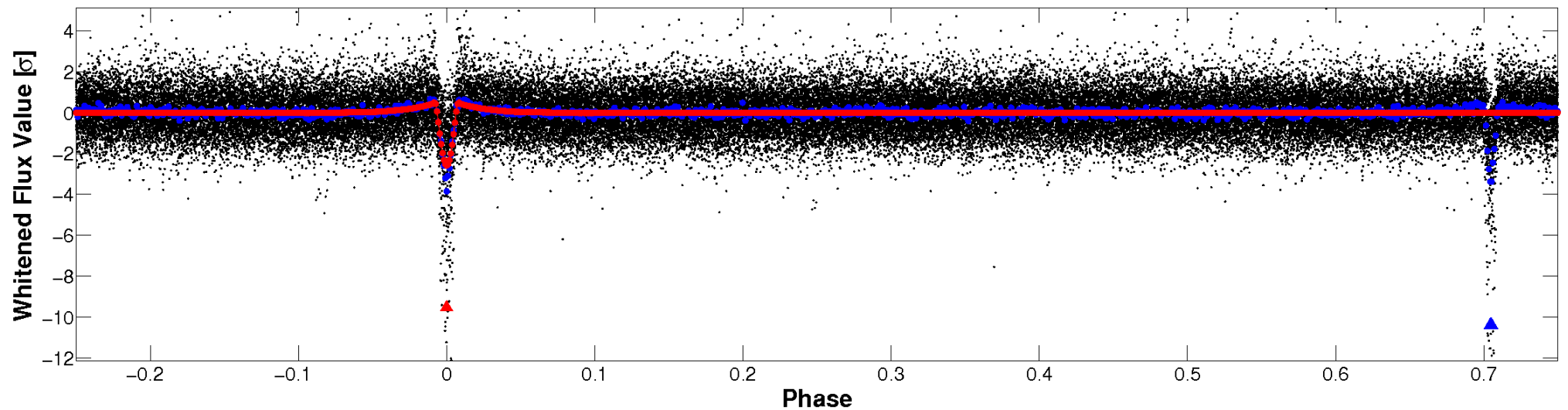


Non-Whitened Vs. Whitened Light Curve

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

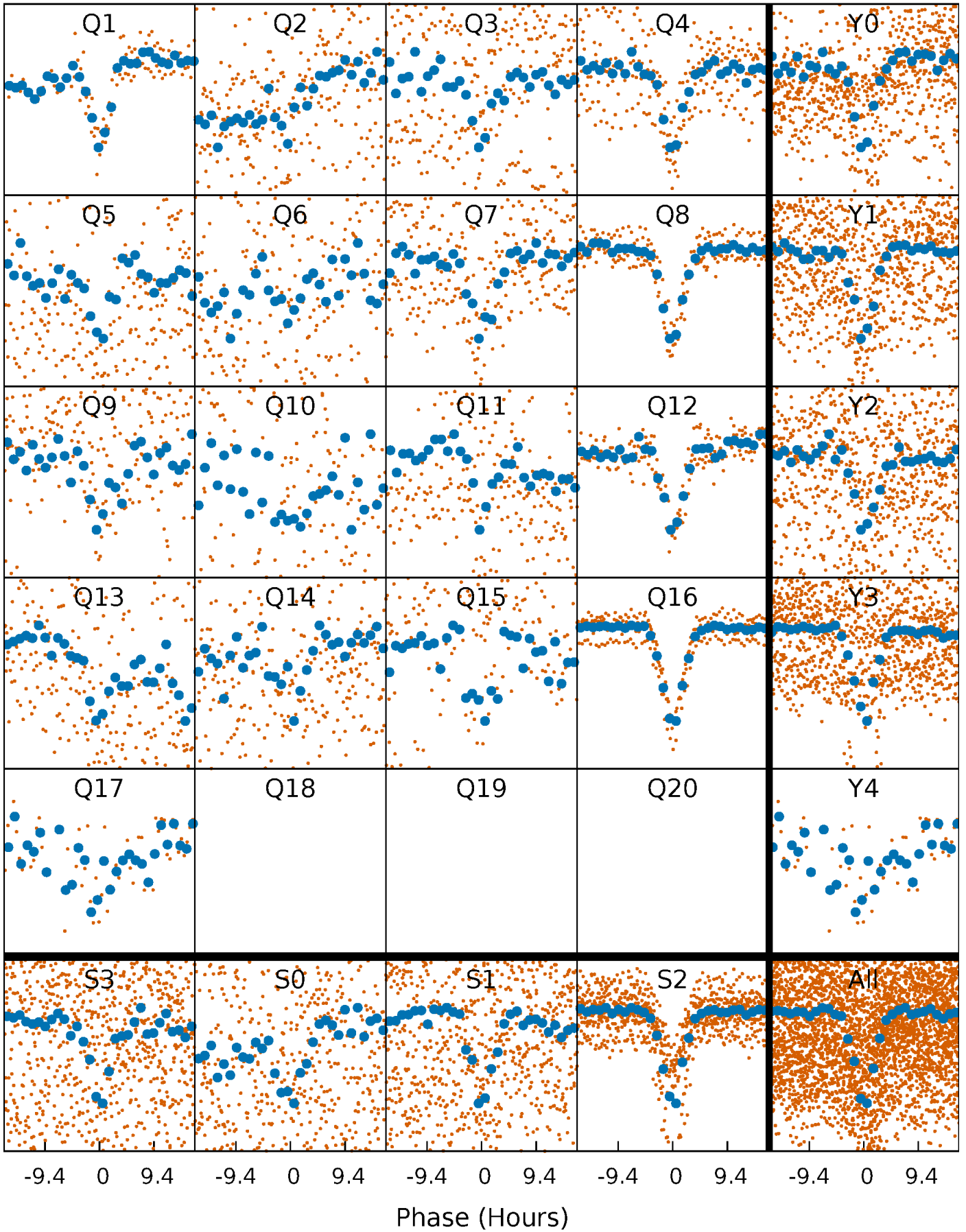


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



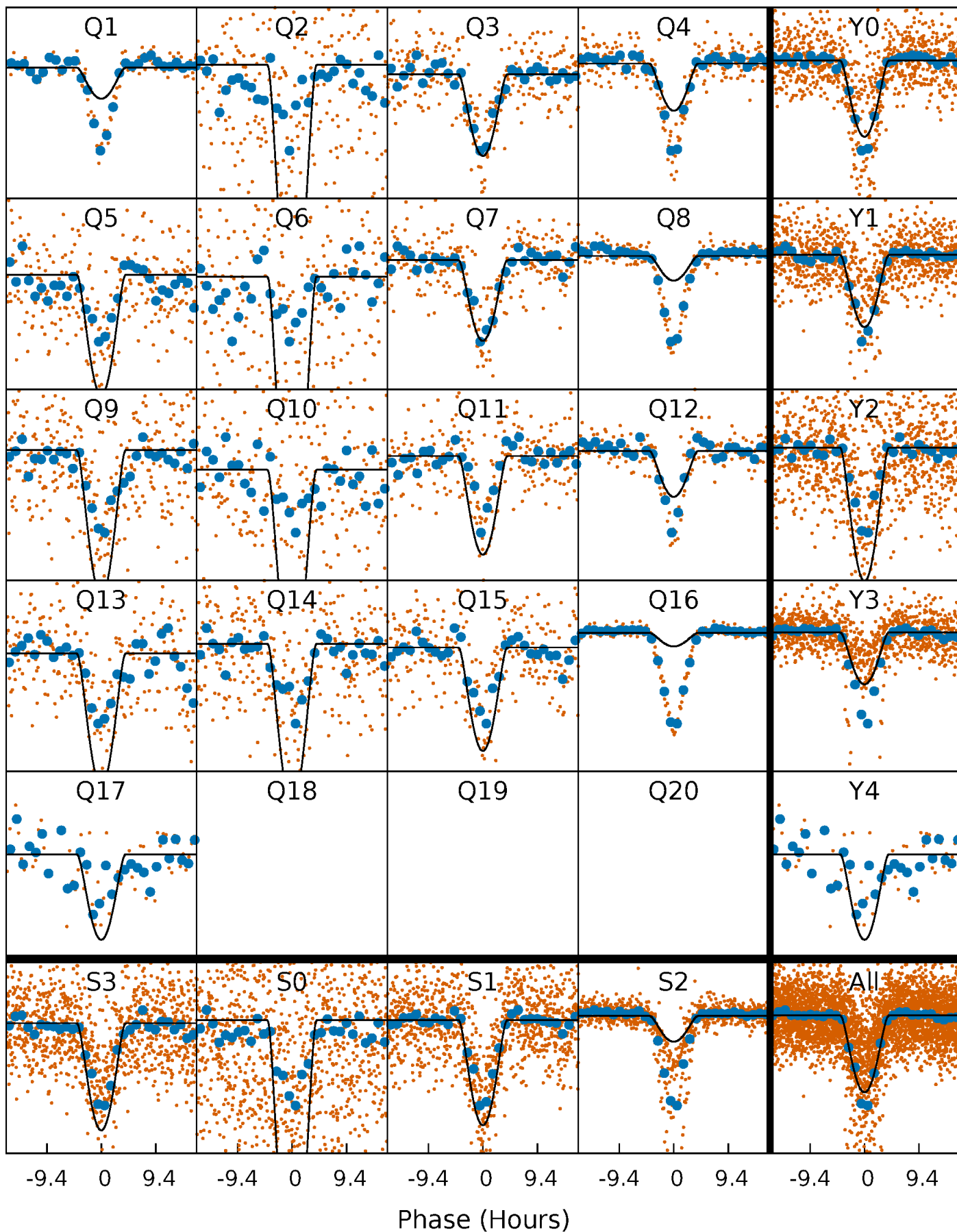
PDC Quarter-Phased Transit Curves

TCE 006612327-01 P= 21.992991 Days $T_0=131.686629$ (BKJD)



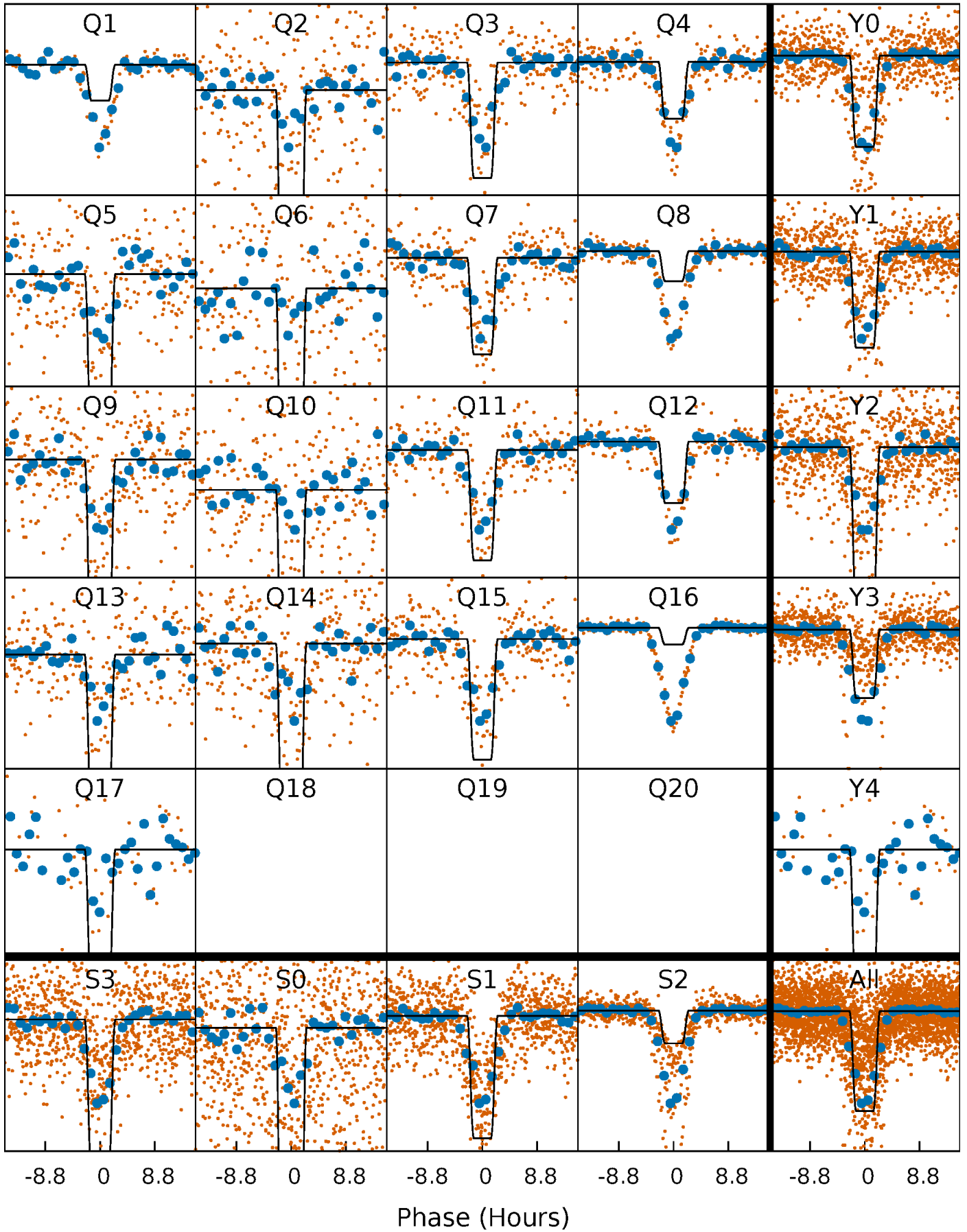
DV Quarter-Phased Transit Curves

TCE 006612327-01 P= 21.992991 Days $T_0=131.686629$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

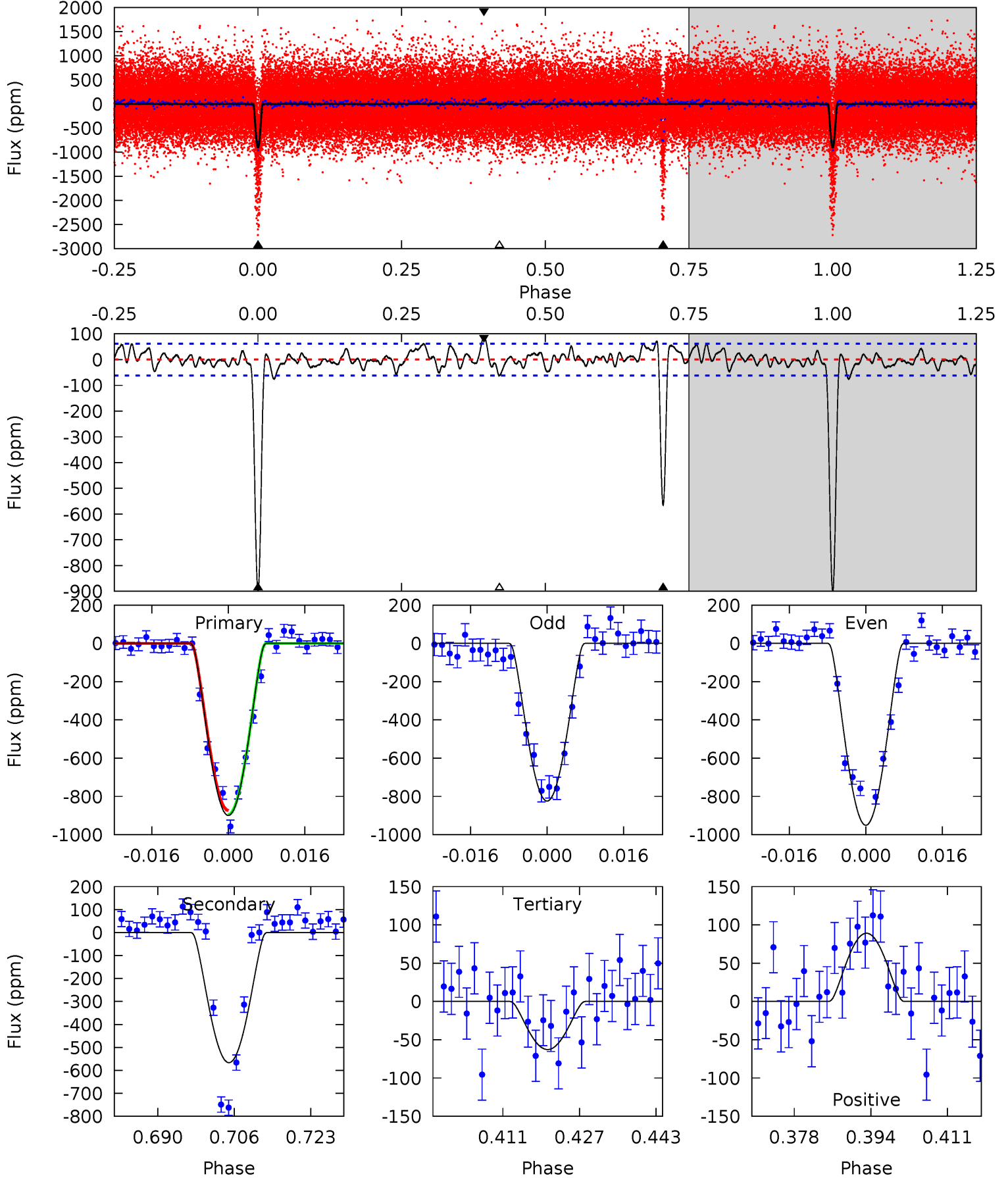
TCE 006612327-01 P= 21.993176 Days $T_0=131.680698$ (BKJD)



DV Model-Shift Uniqueness Test

006612327-01, P = 21.992991 Days, E = 109.693638 Days

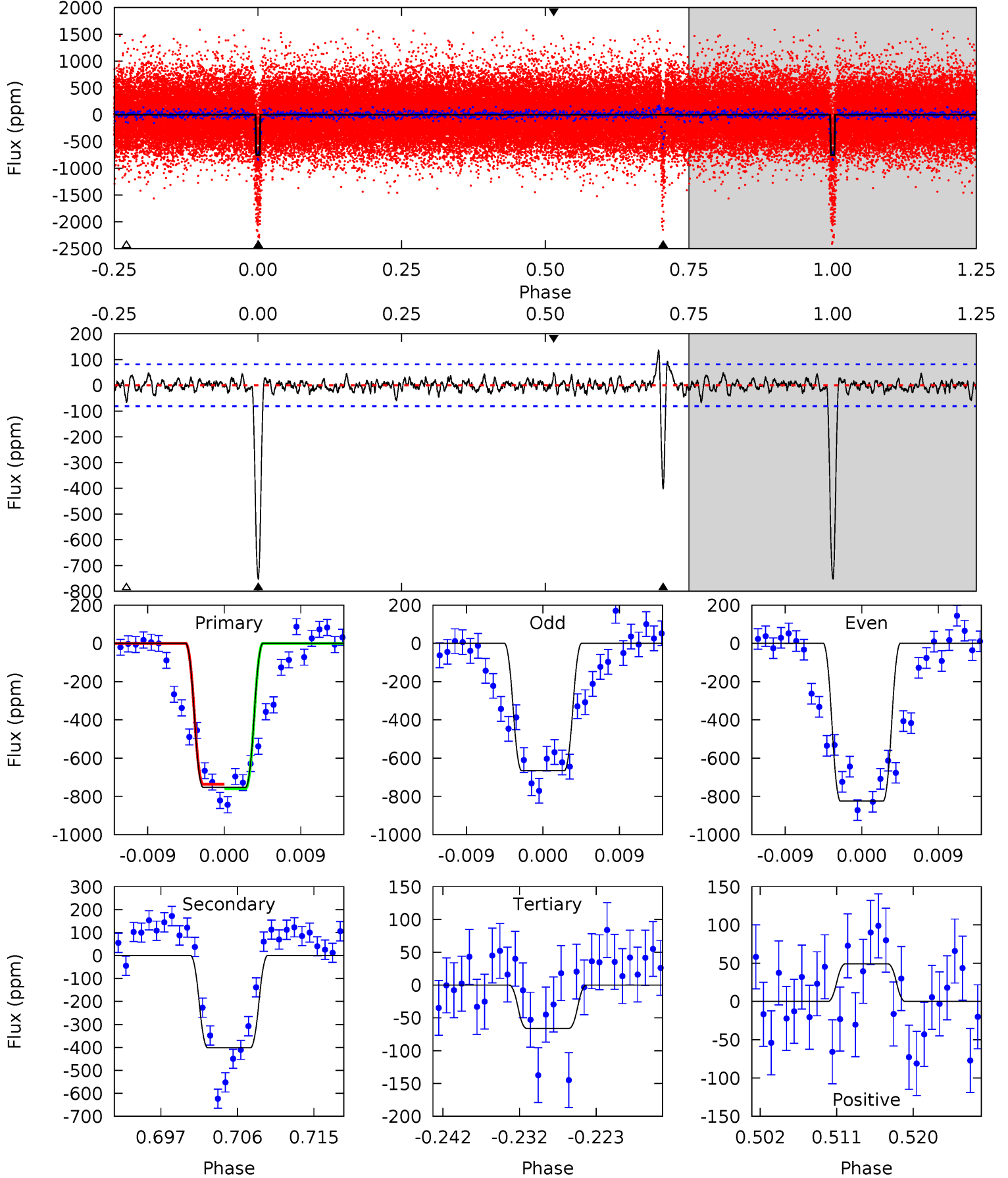
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.8	45.2	5.01	7.12	4.93	2.40	2.05	66.8	64.7	40.2	38.1	5.05	1.75	0.09	0.83



Alt Model-Shift Uniqueness Test

006612327-01, P = 21.993176 Days, E = 109.687522 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.7	24.9	4.09	3.05	5.04	2.60	1.13	42.6	43.6	20.9	21.9	4.92	1.86	0.15	0.70



Stellar Parameters For KIC 006612327

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5205^{+154}_{-154}	$4.604^{+0.036}_{-0.084}$	$-0.160^{+0.300}_{-0.300}$	$0.747^{+0.098}_{-0.066}$	$0.827^{+0.066}_{-0.091}$	$2.790^{+0.517}_{-0.805}$
	+3%/-3%	+1%/-2%	+188%/-188%	+13%/-9%	+8%/-11%	+19%/-29%
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 006612327-01 / KOI 3270.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-567 ± 13	$6.01^{+4.06}_{-3.76}$	740^{+30}_{-27}	3462^{+1506}_{-485}	179^{+1074}_{-116}
Alt.	-402 ± 16	$4.61^{+3.86}_{-3.00}$	740^{+30}_{-26}	3562^{+1754}_{-610}	208^{+1531}_{-144}

T_{max} = Theoretical Maximum Planetary Temperature

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

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

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

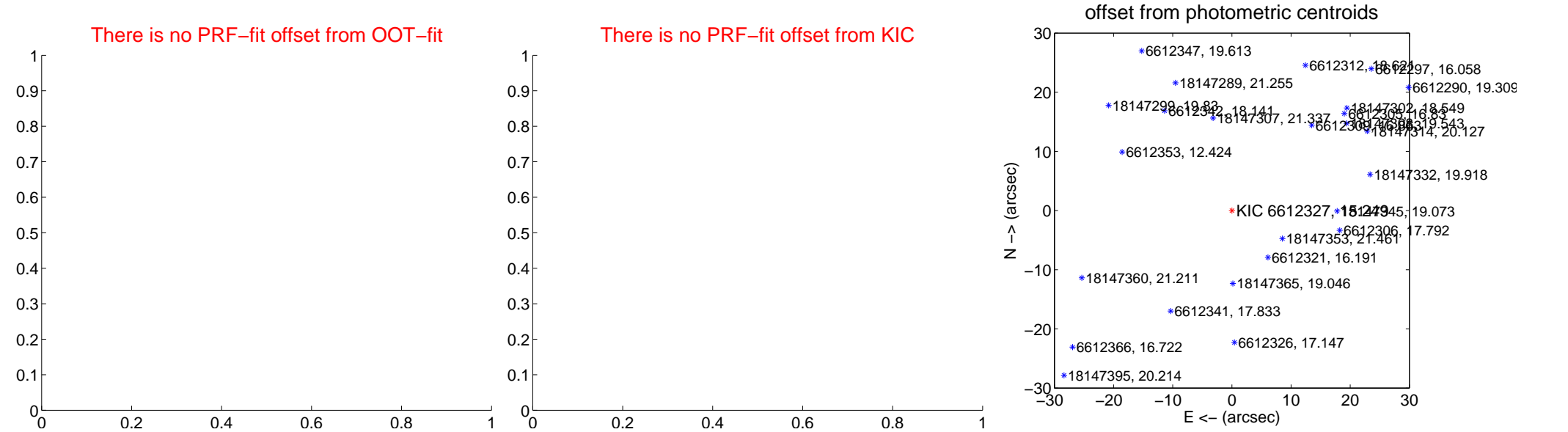
DV Centroid Data

Supplemental centroid analysis for 006612327-01. Kepler magnitude: 15.25. Transit SNR 47.59

There are 0 quarters with good PRF difference image offsets

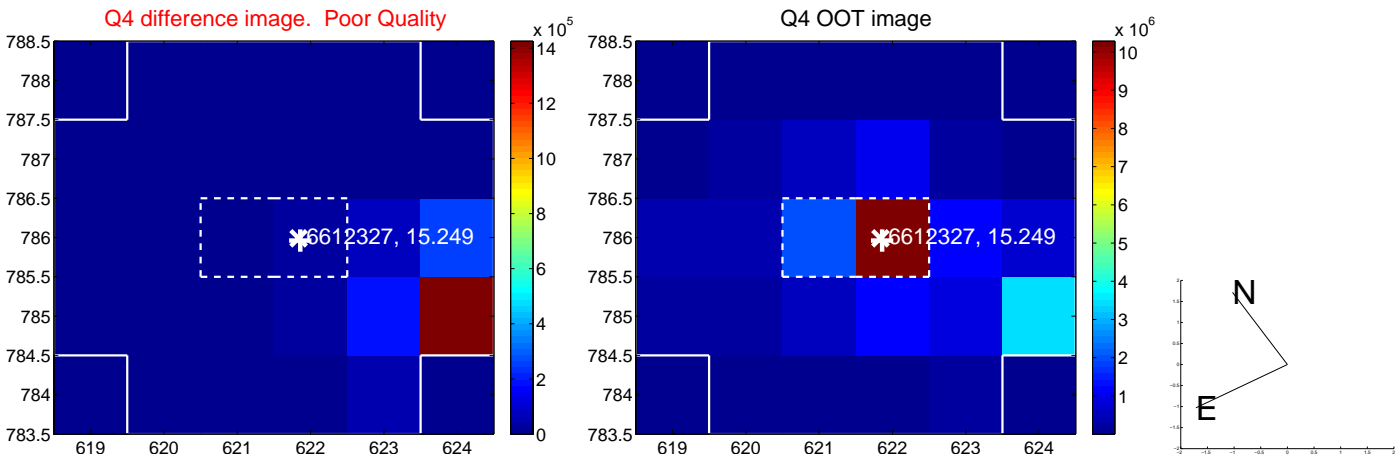
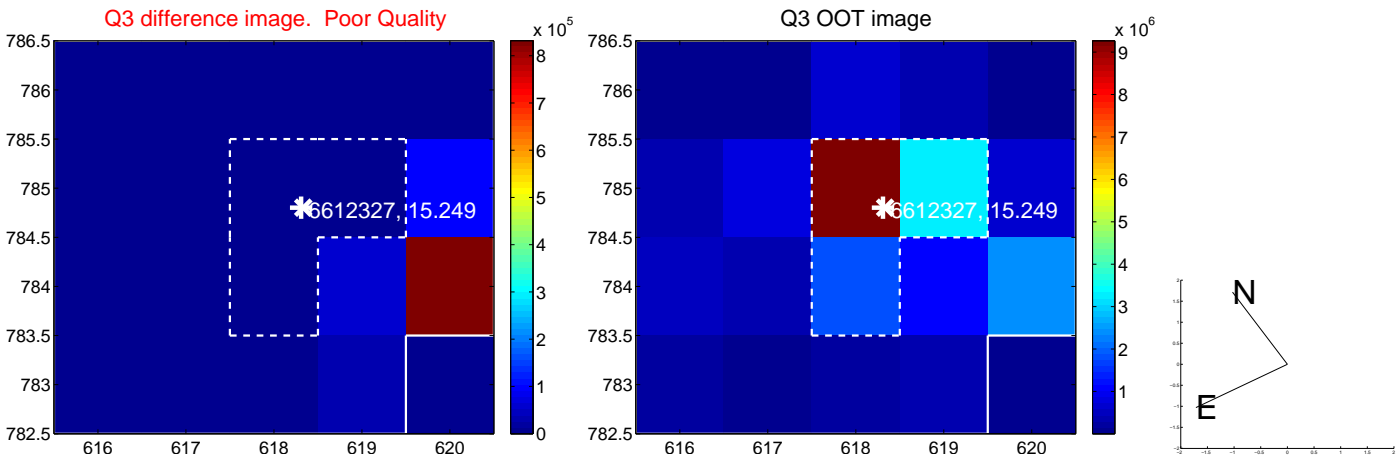
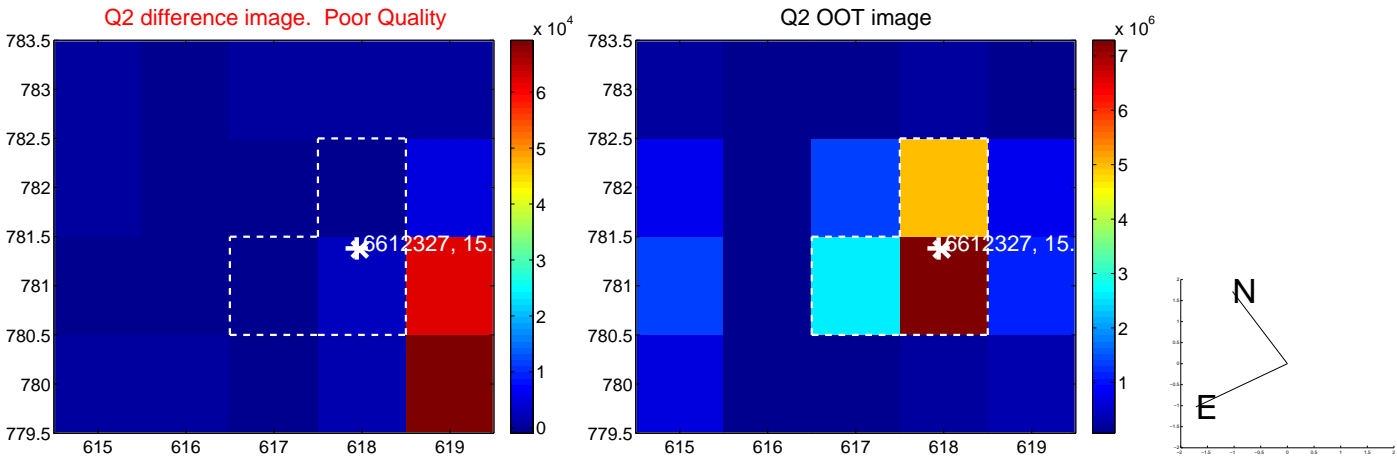
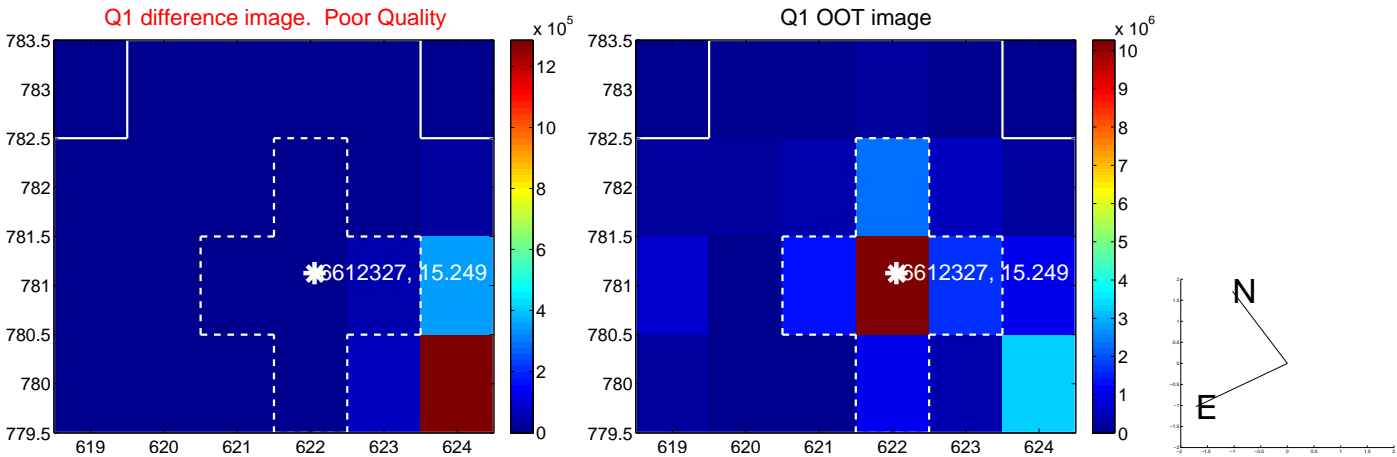
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	65.20 ± 0.17	382.24	-30.79 ± 0.17	-57.47 ± 0.17

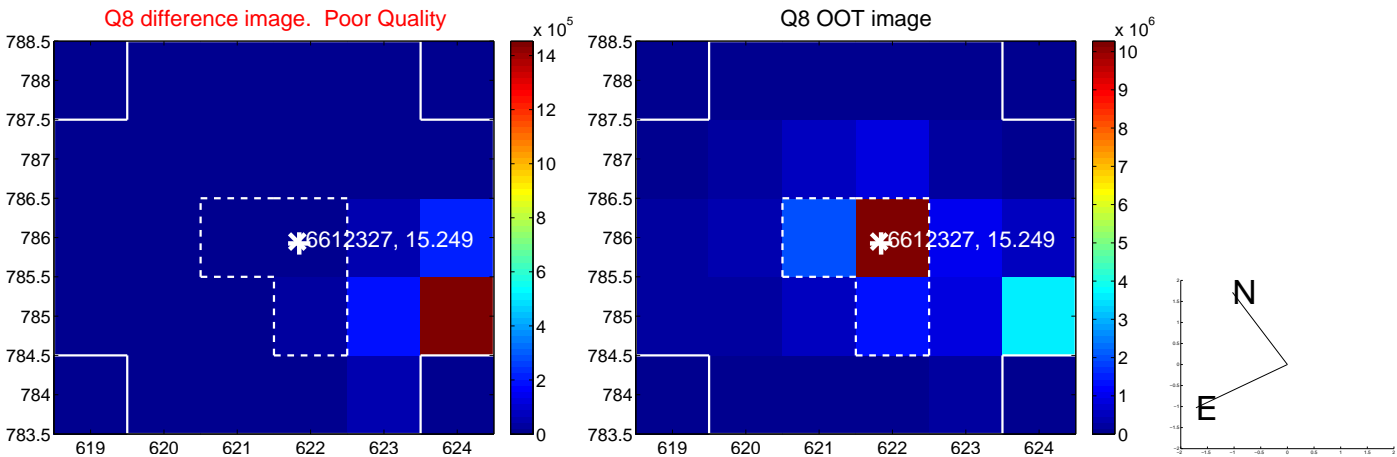
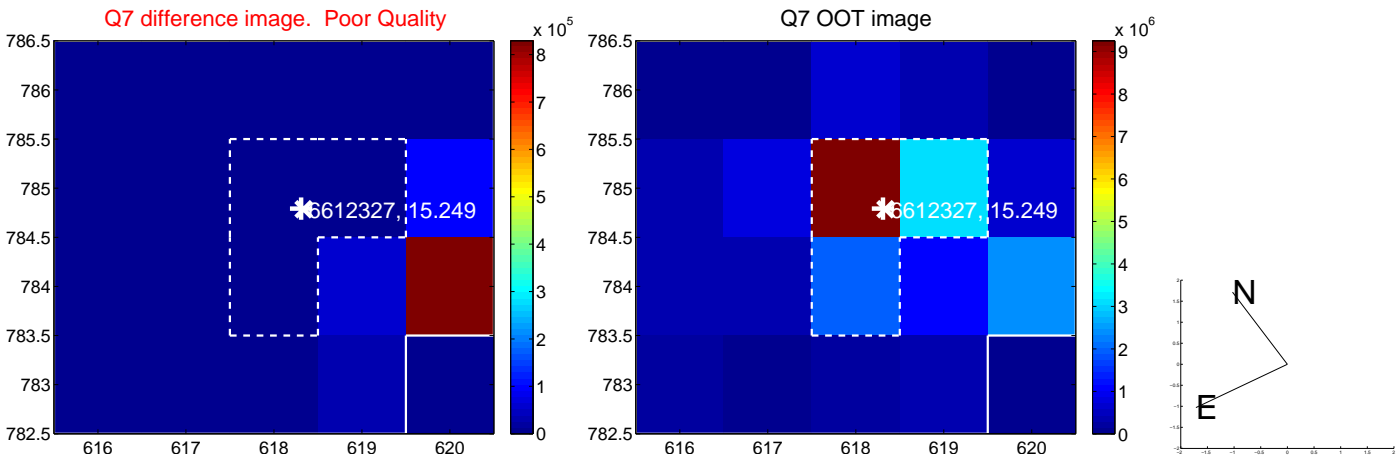
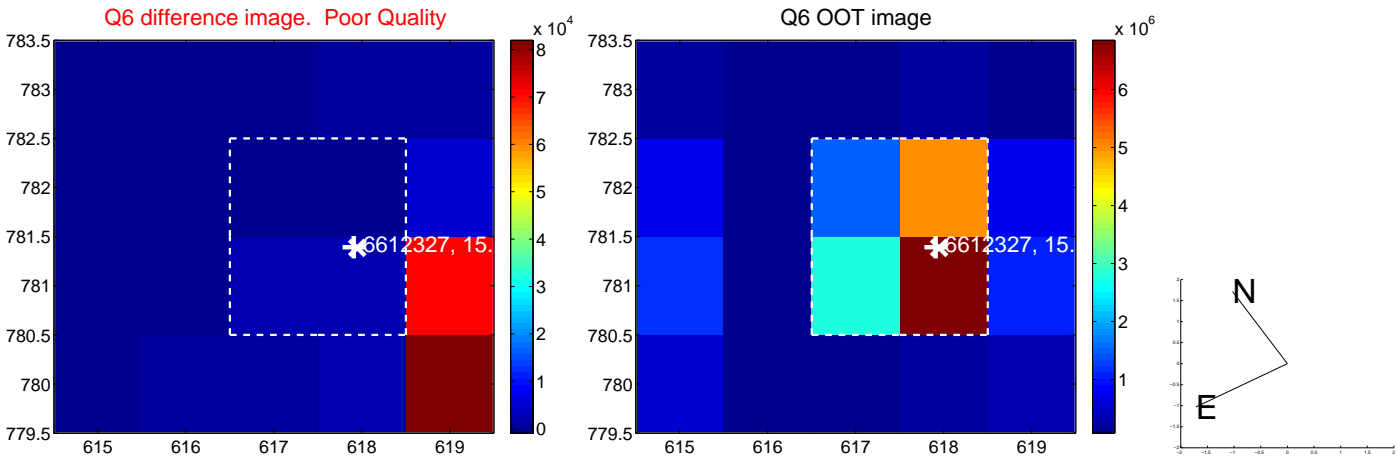
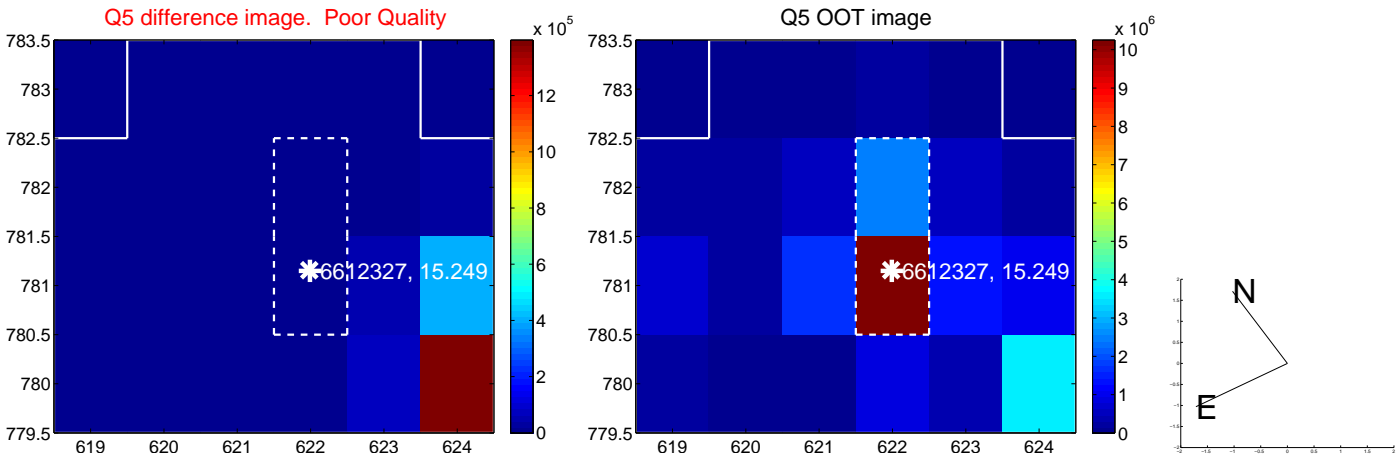


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

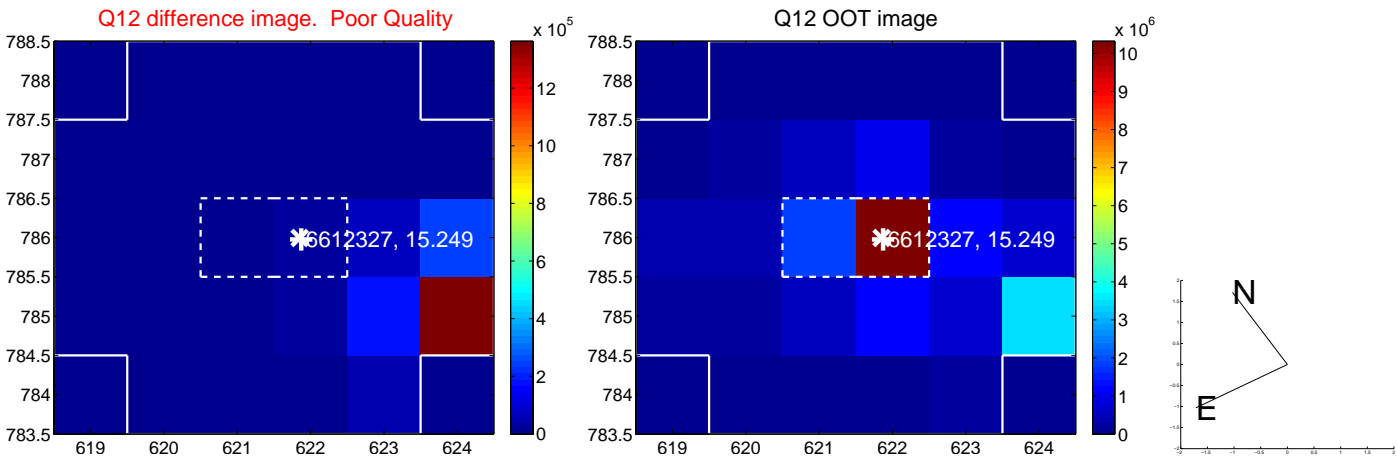
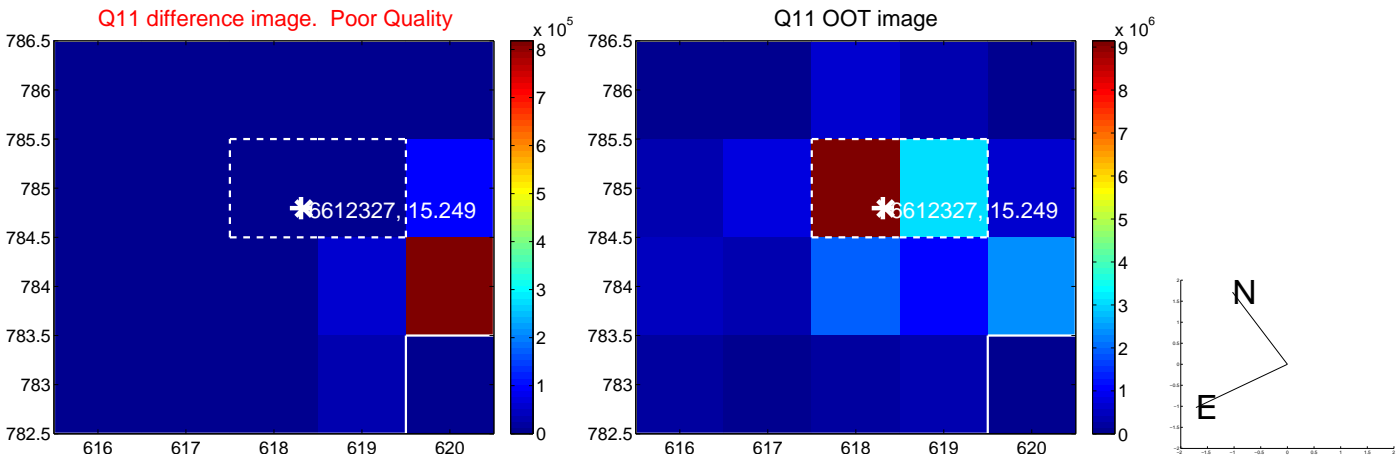
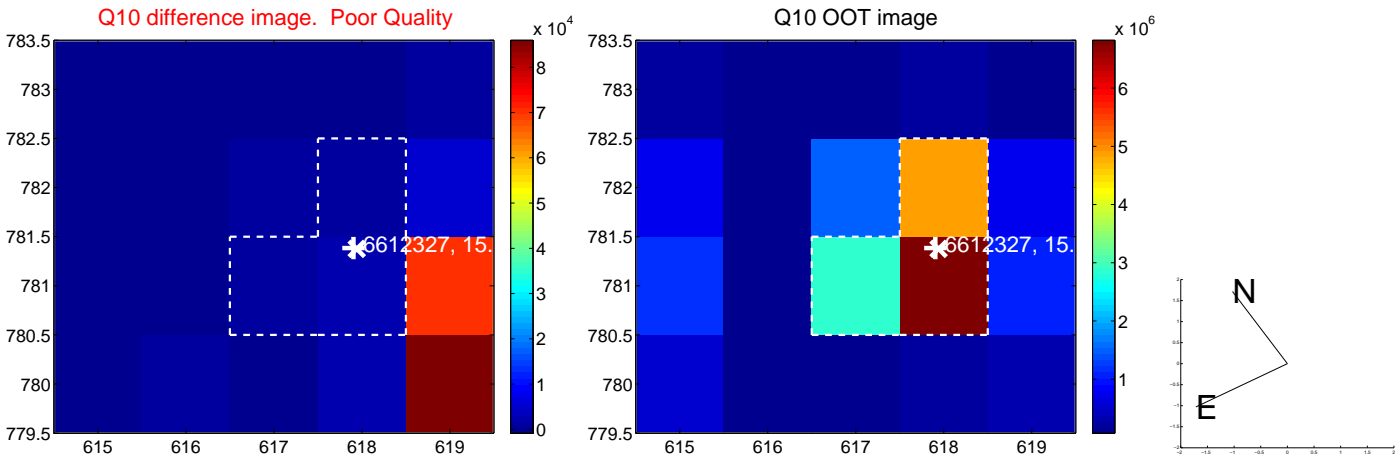
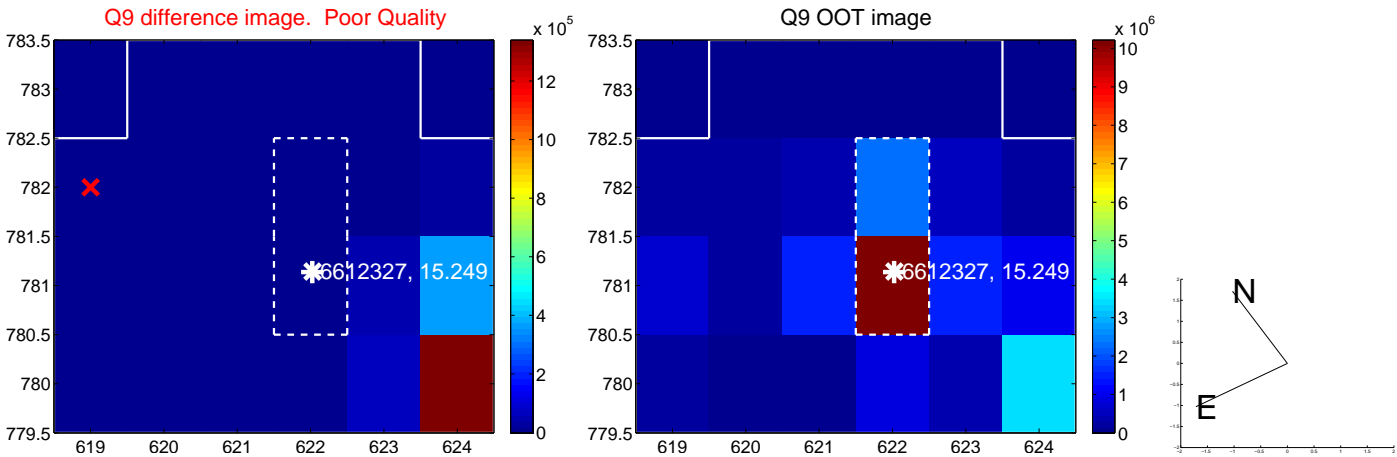
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



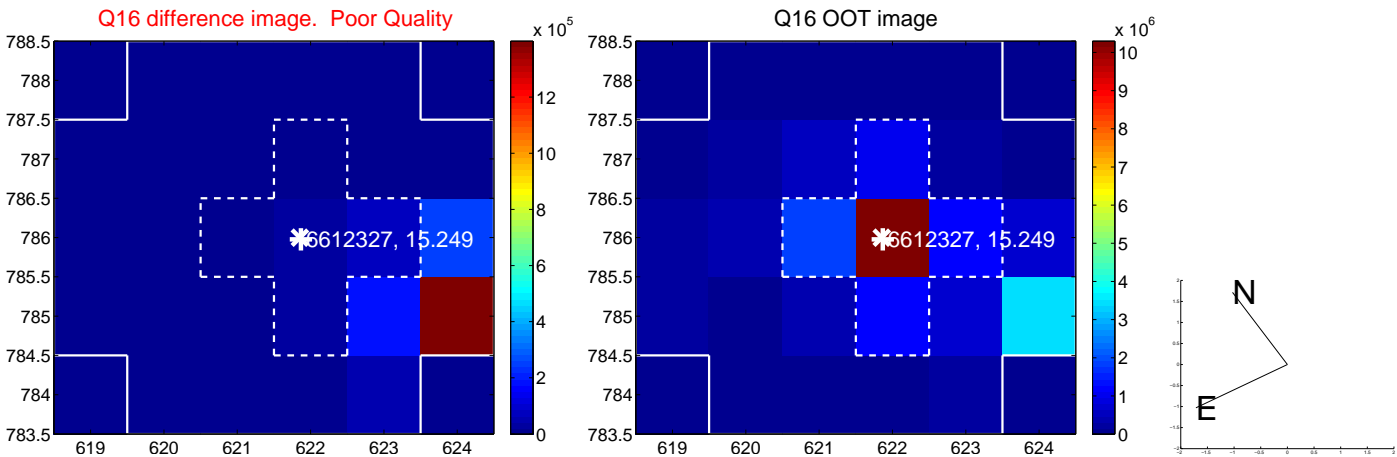
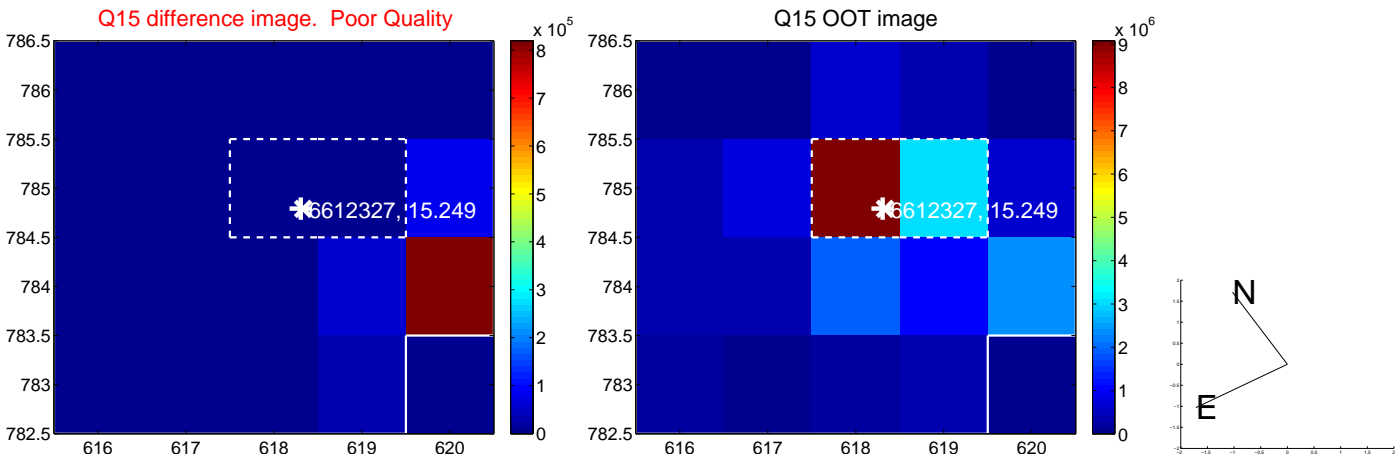
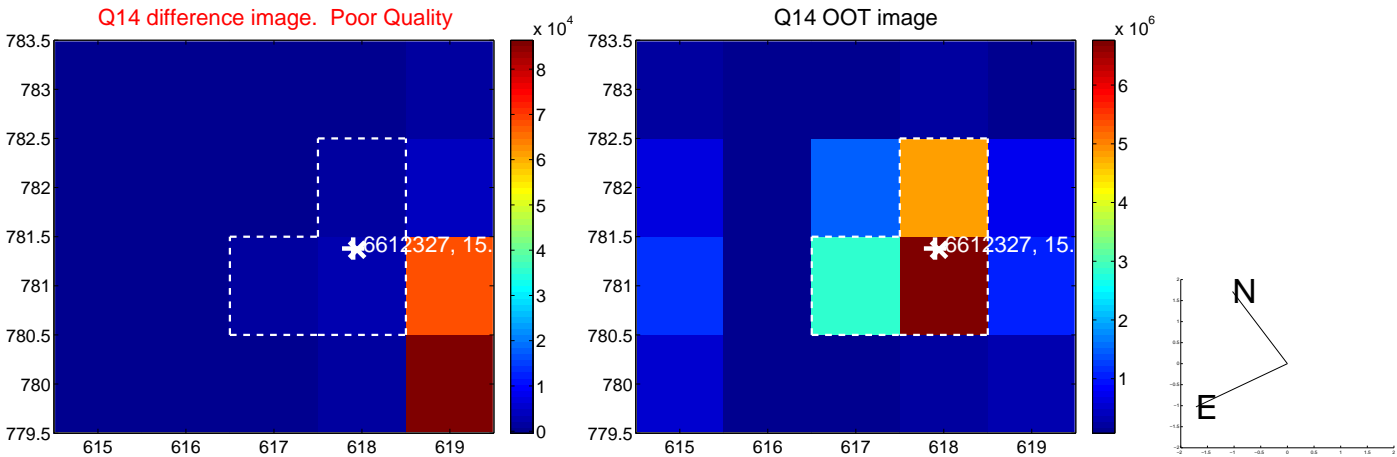
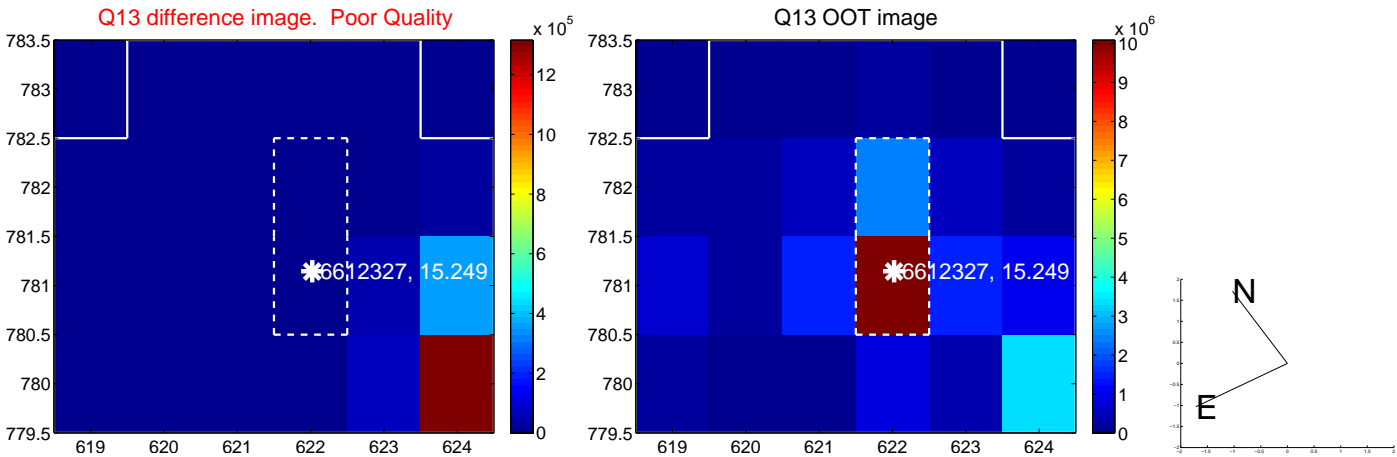
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



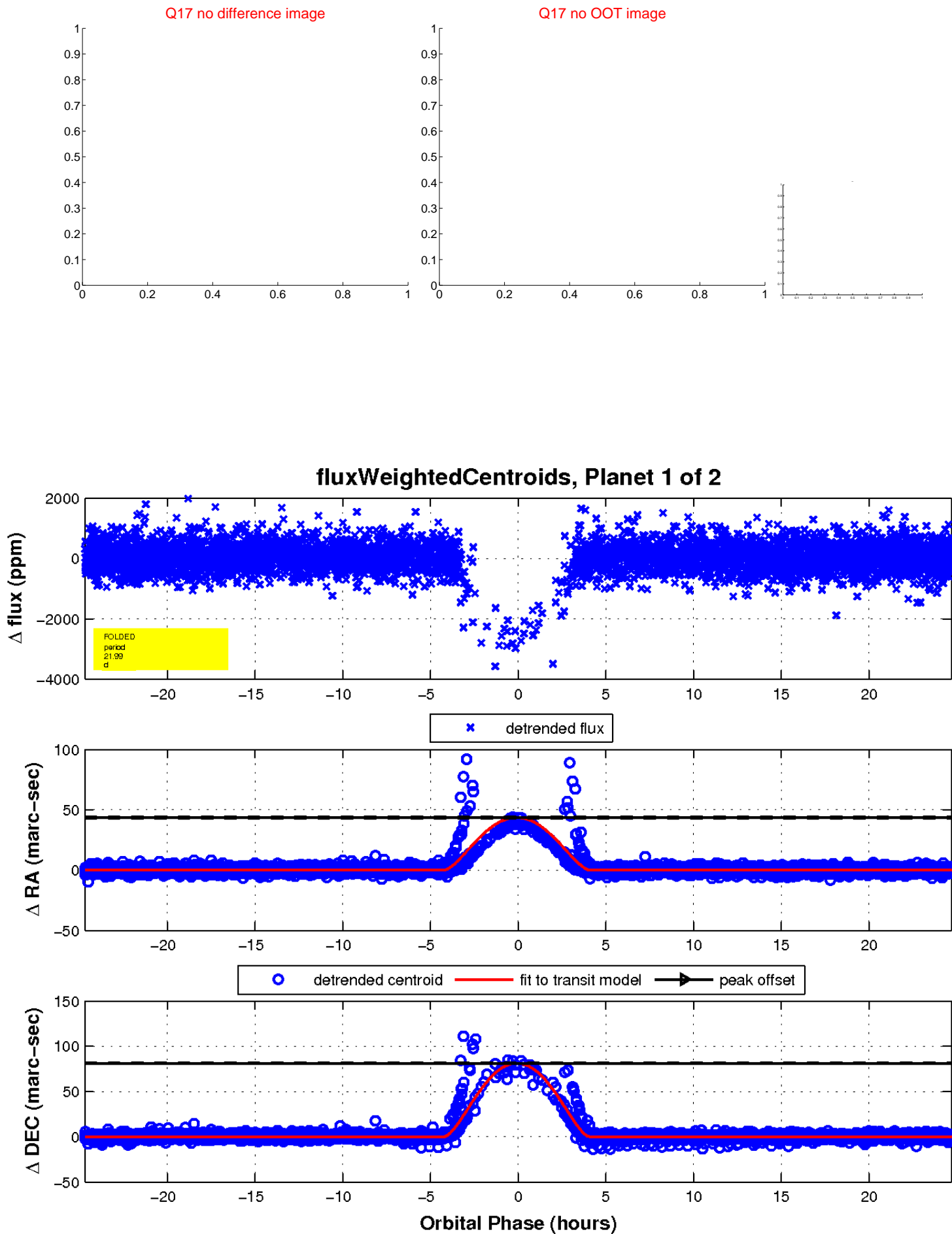
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

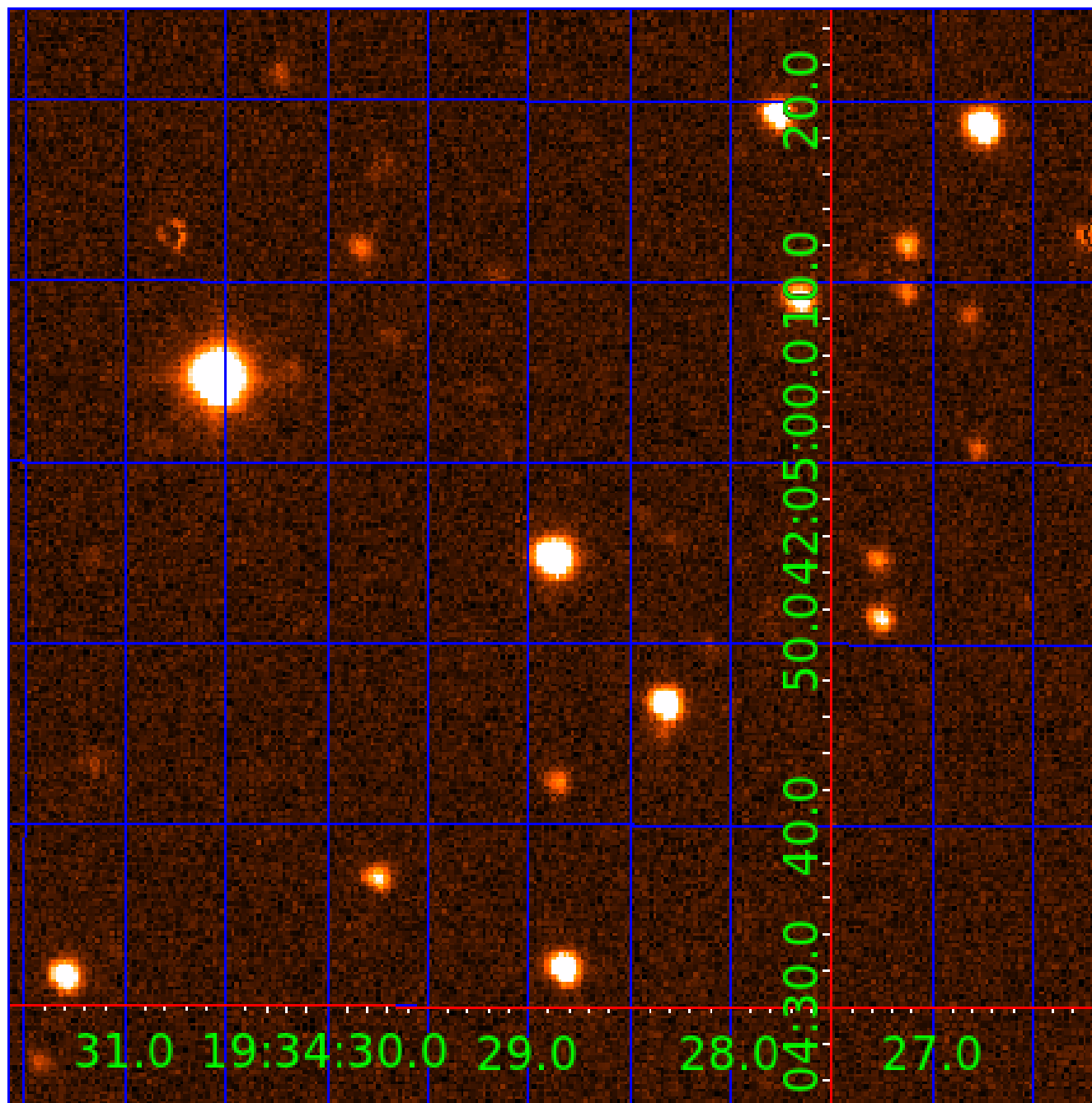


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006612327

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})
006612327-01	OBS	3270.01	21.992991	131.686629	1415.0	8.239	62.2	47.6	0.75	5205	5.56	17.77
006612327-02	OBS	No	21.993292	147.178285	1071.9	5.278	50.5	31.6	0.75	5205	4.90	17.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006612327-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
006612327-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

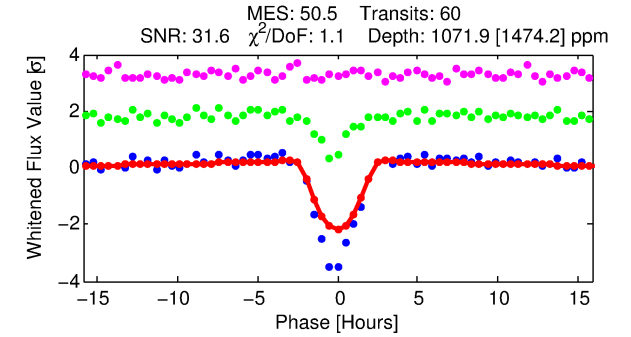
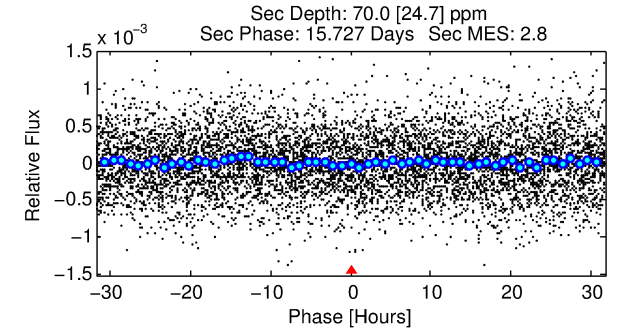
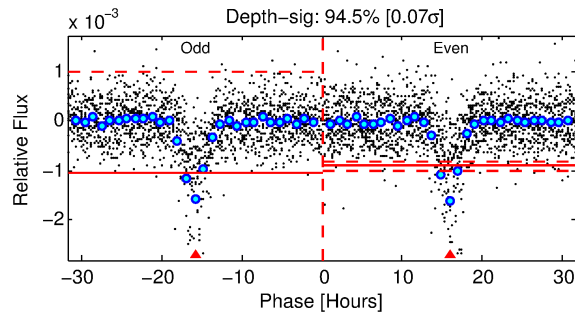
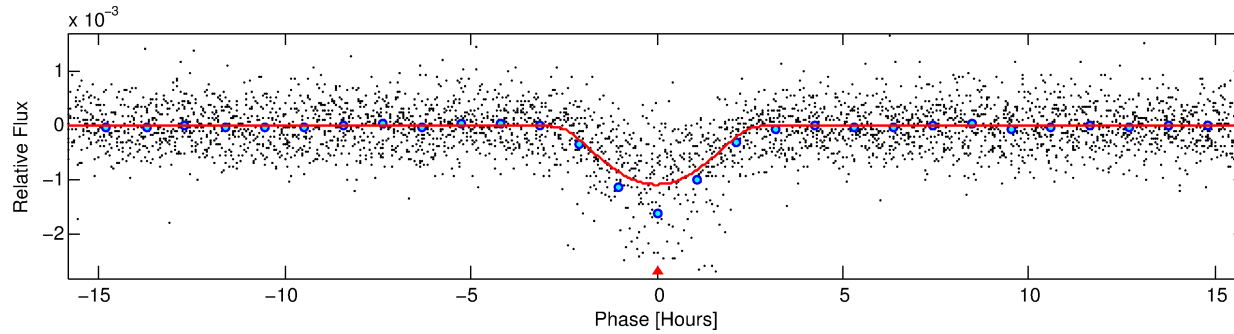
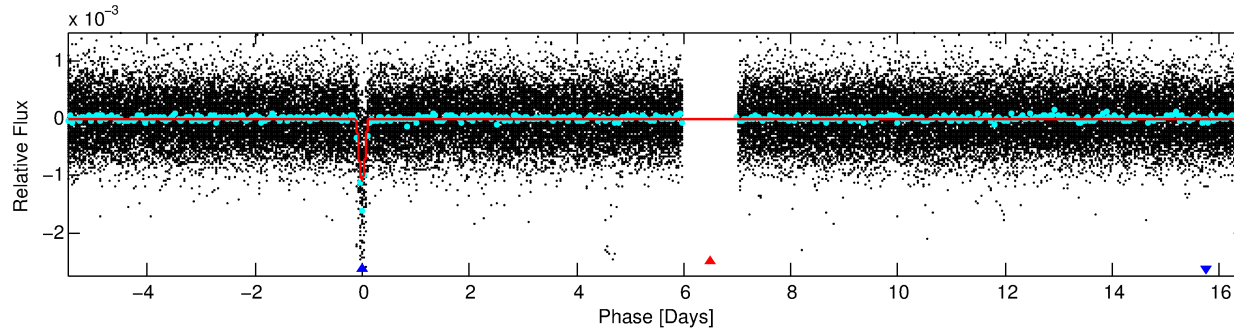
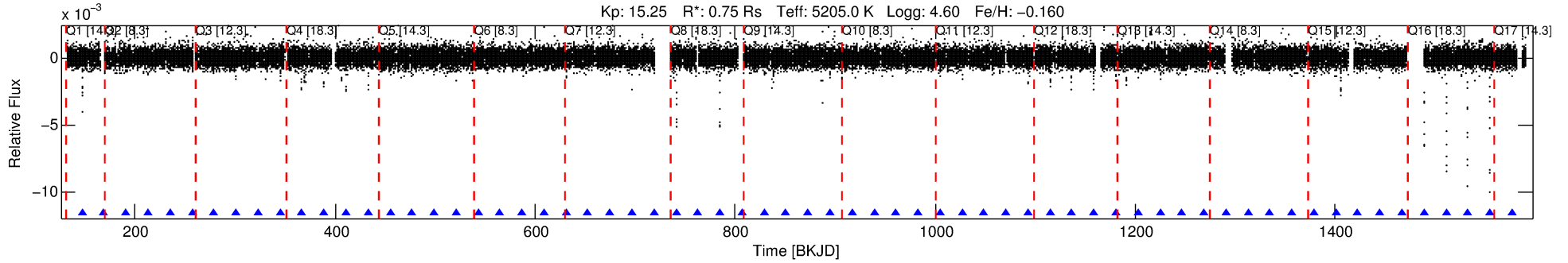
Ephemeris Match Information For 006612327-02

No Significant Match Found

DV One-Page Summary

KIC: 6612327 Candidate: 2 of 2 Period: 21.993 d
KOI: K03270 Corr: No Ephemeris Match

Kp: 15.25 R*: 0.75 Rs Teff: 5205.0 K Logg: 4.60 Fe/H: -0.160



DV Fit Results:

Period = 21.99329 [0.00010] d
Epoch = 147.1783 [0.0037] BKJD
Rp/R* = 0.0601 [0.0736]
a/R* = 11.25 [3.13]
b = 1.00 [0.05]
Seff = 17.77 [3.48]
Teq = 524 [26] K
Rp = 4.90 [6.03] Re
a = 0.1437 [0.0156] AU
Ag = 33.11 [82.10] [0.39σ]
Teffp = 1942 [1203] K [1.18σ]

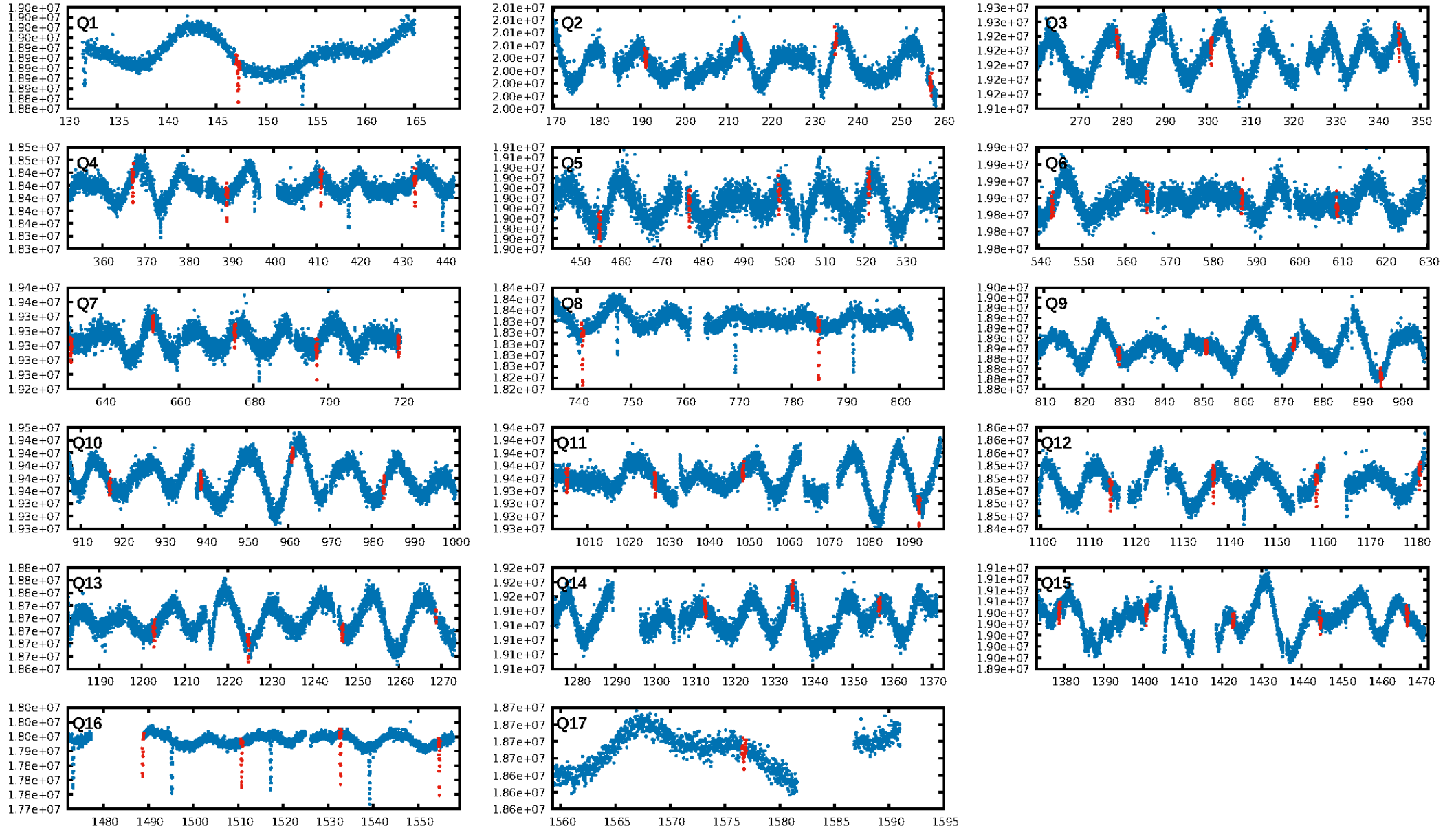
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [58/58]
GhostDiagnostic-chr: -0.2931
Centroid-sig: 0.0%
Centroid-so: 70.662 arcsec [255.56σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

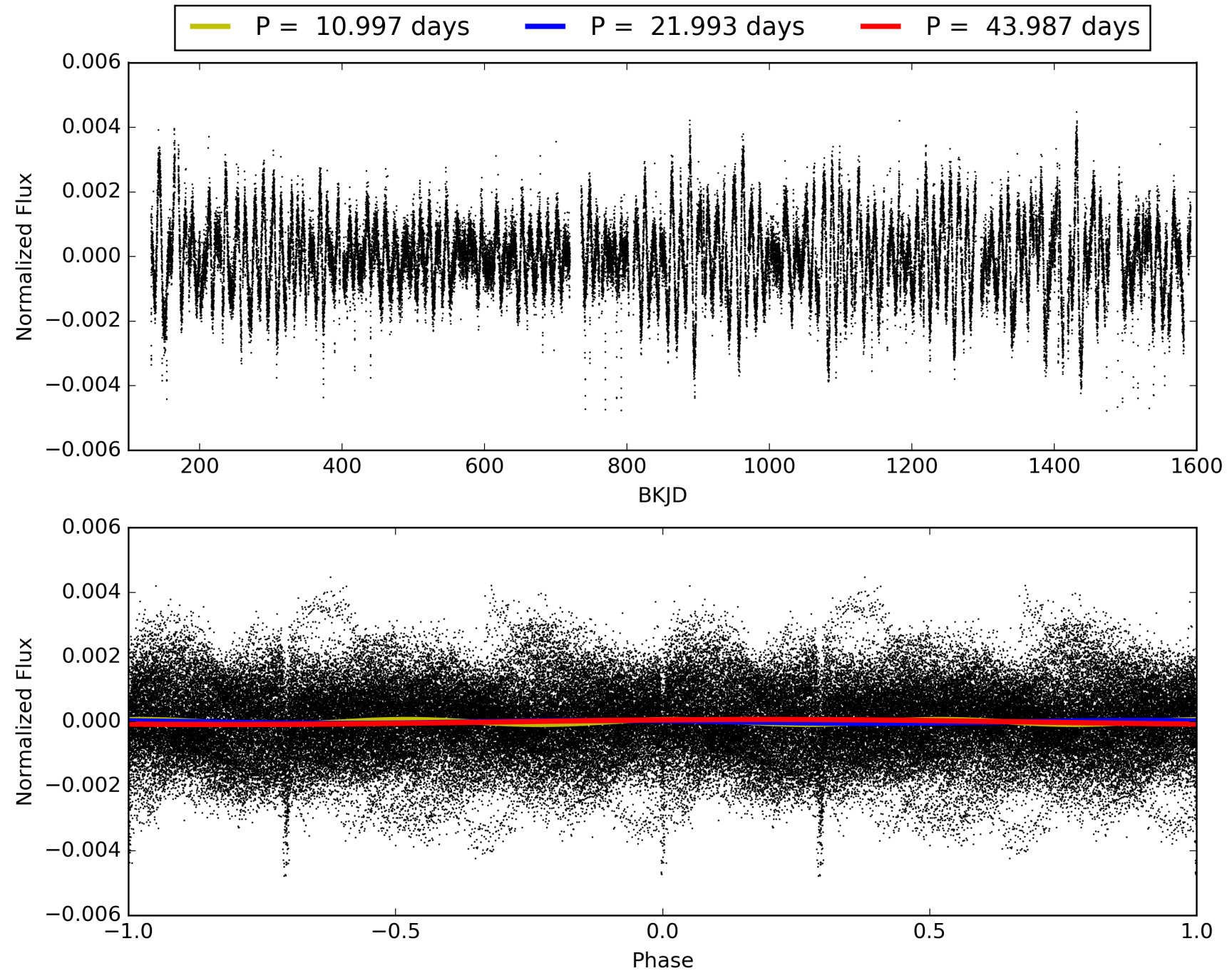
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:01:28 Z

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

TCE 006612327-02, PDC Light Curves

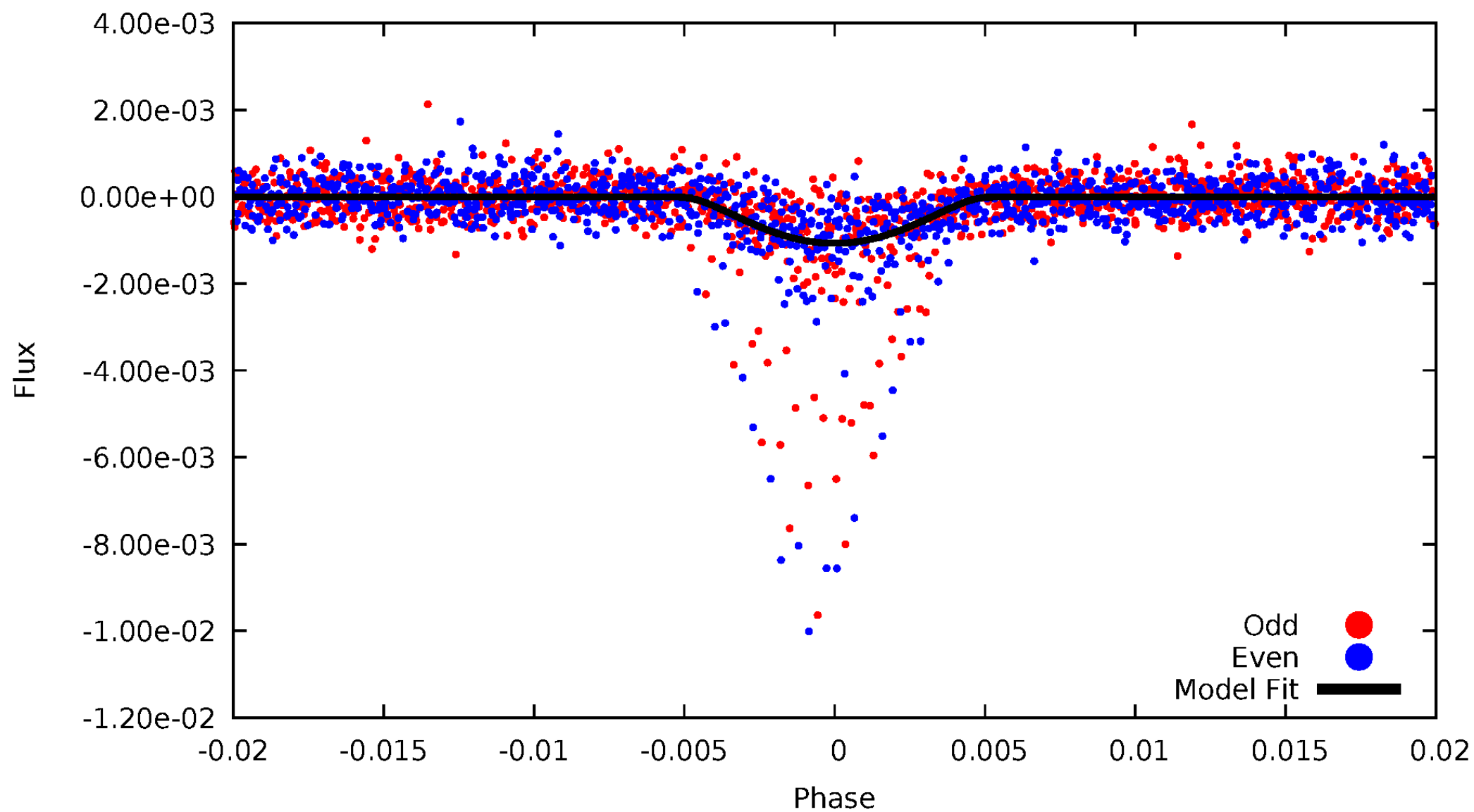


TCE 006612327-02



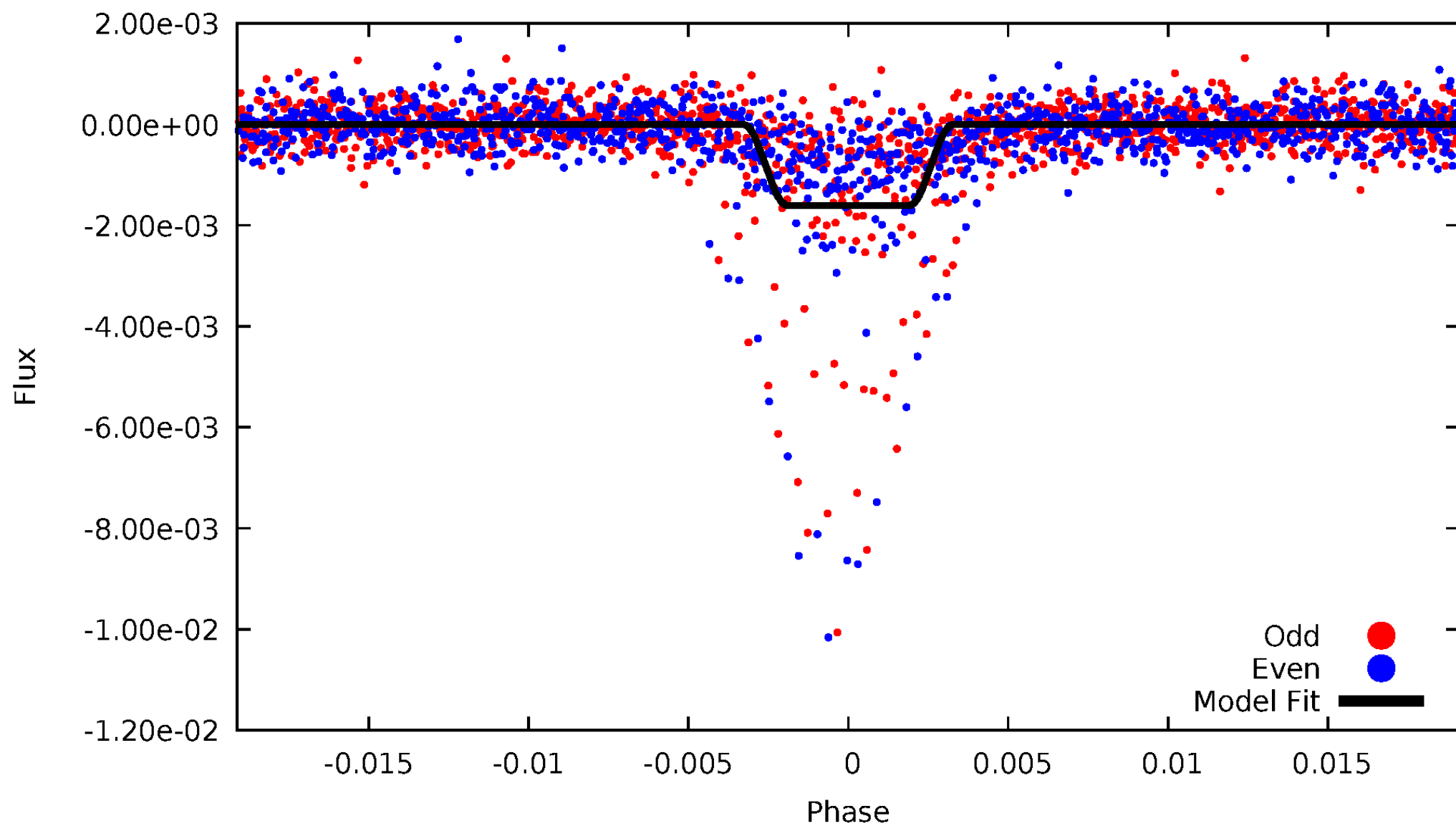
DV Odd/Even

TCE 006612327-02



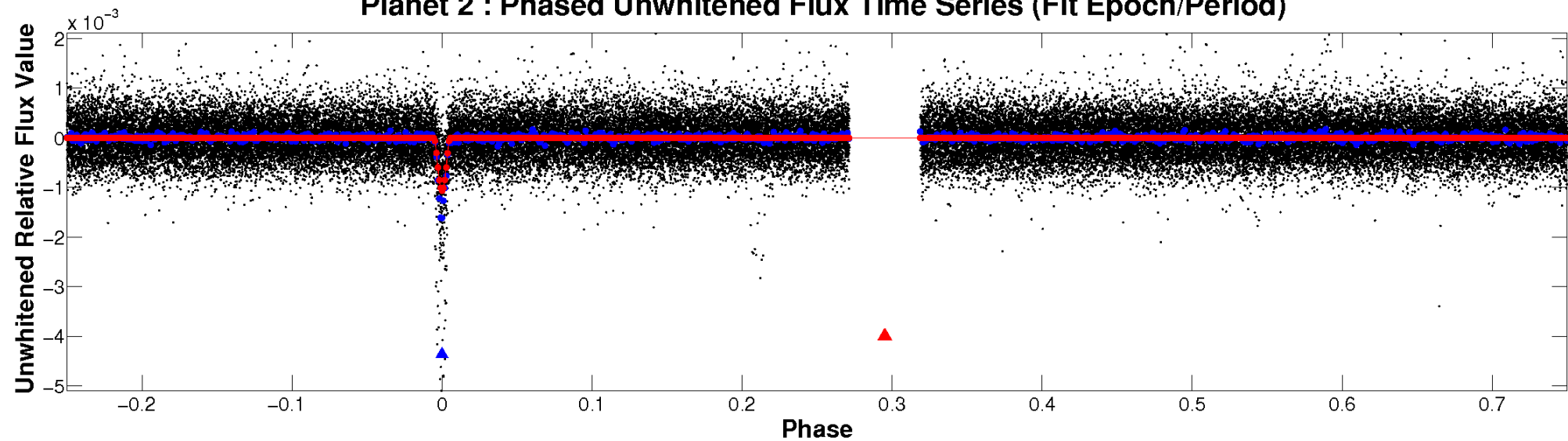
ALT Odd/Even

TCE 006612327-02

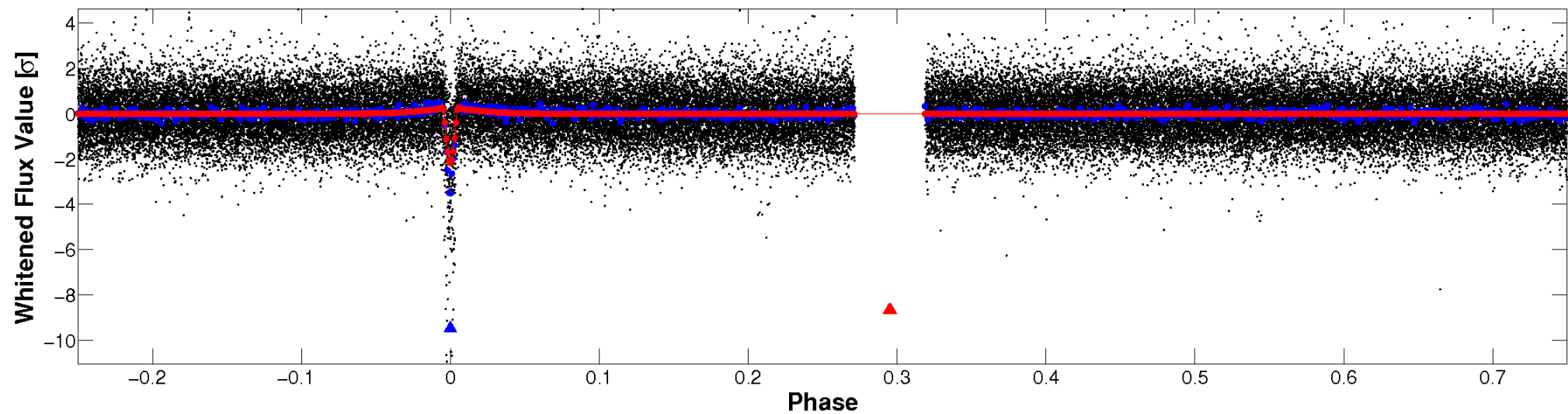


Non-Whitened Vs. Whitened Light Curve

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

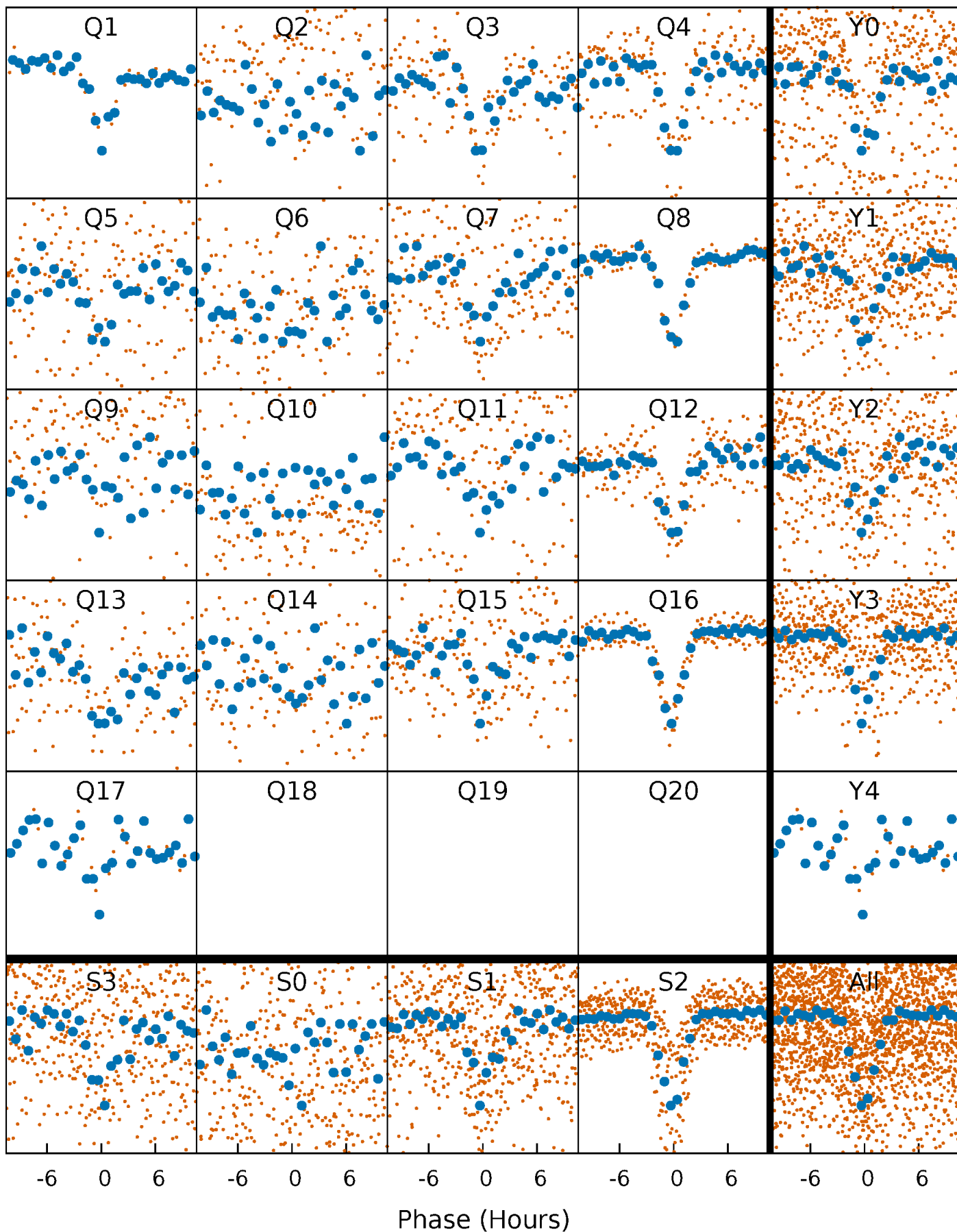


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



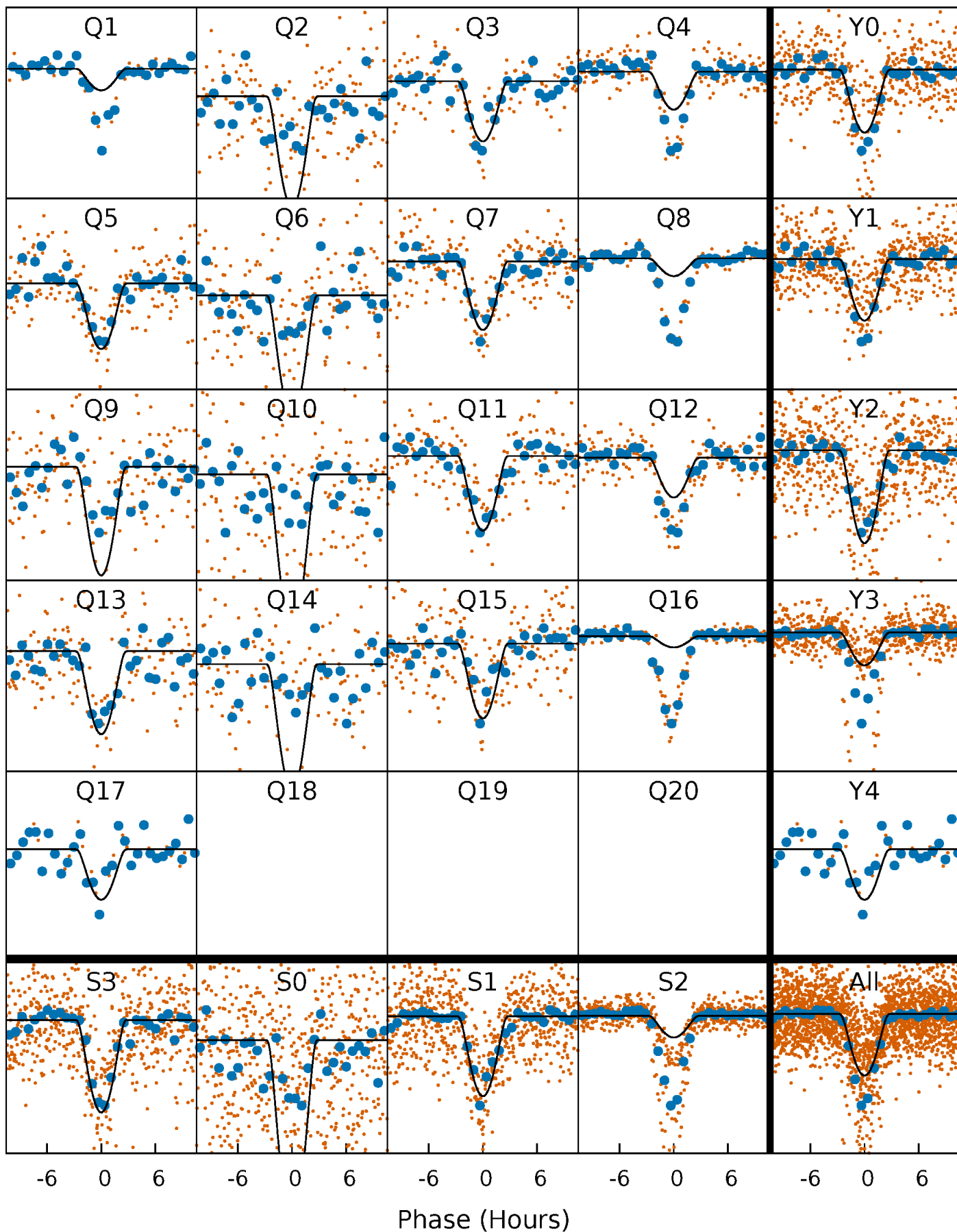
PDC Quarter-Phased Transit Curves

TCE 006612327-02 P= 21.993292 Days $T_0=147.178285$ (BKJD)



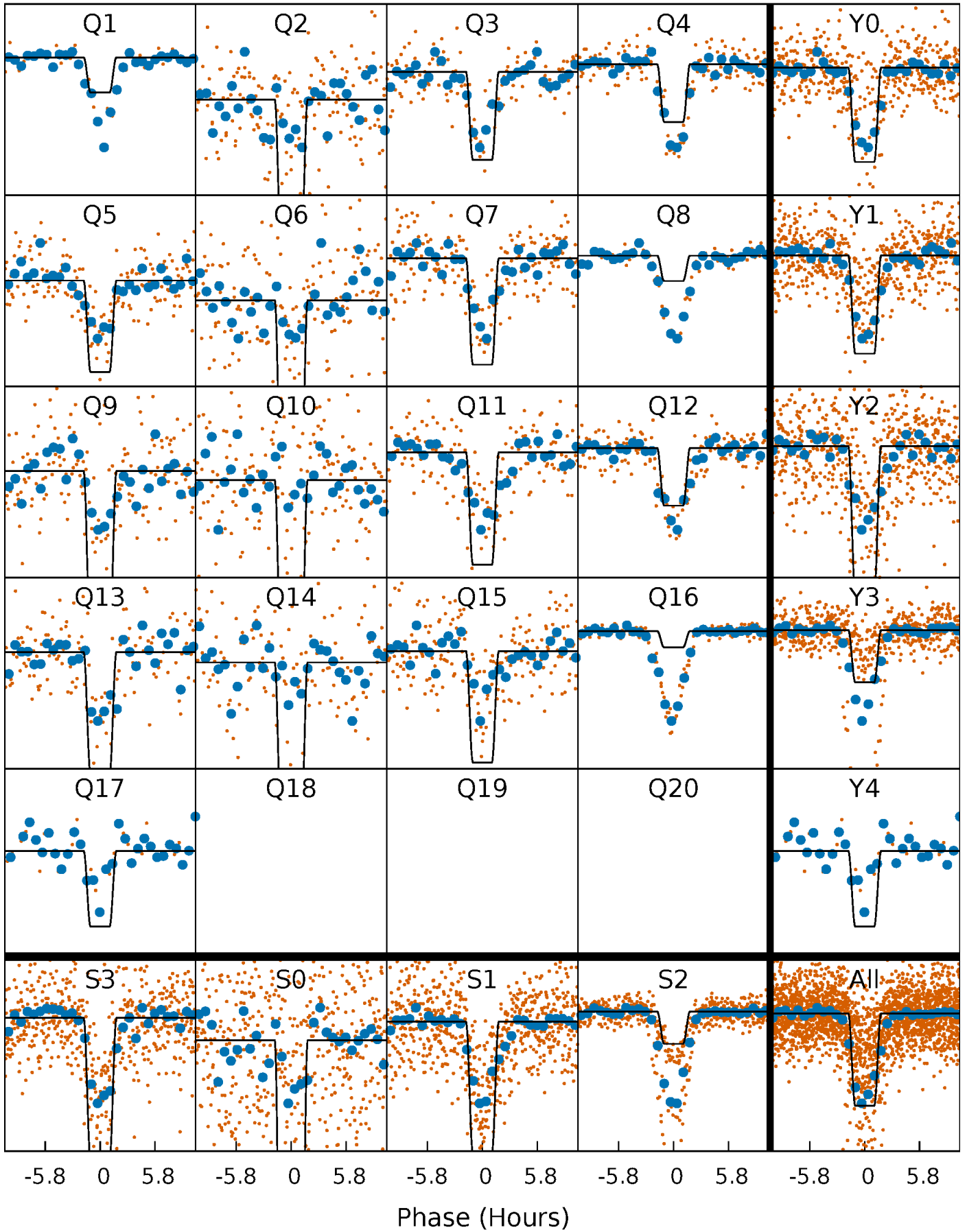
DV Quarter-Phased Transit Curves

TCE 006612327-02 P= 21.993292 Days $T_0=147.178285$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

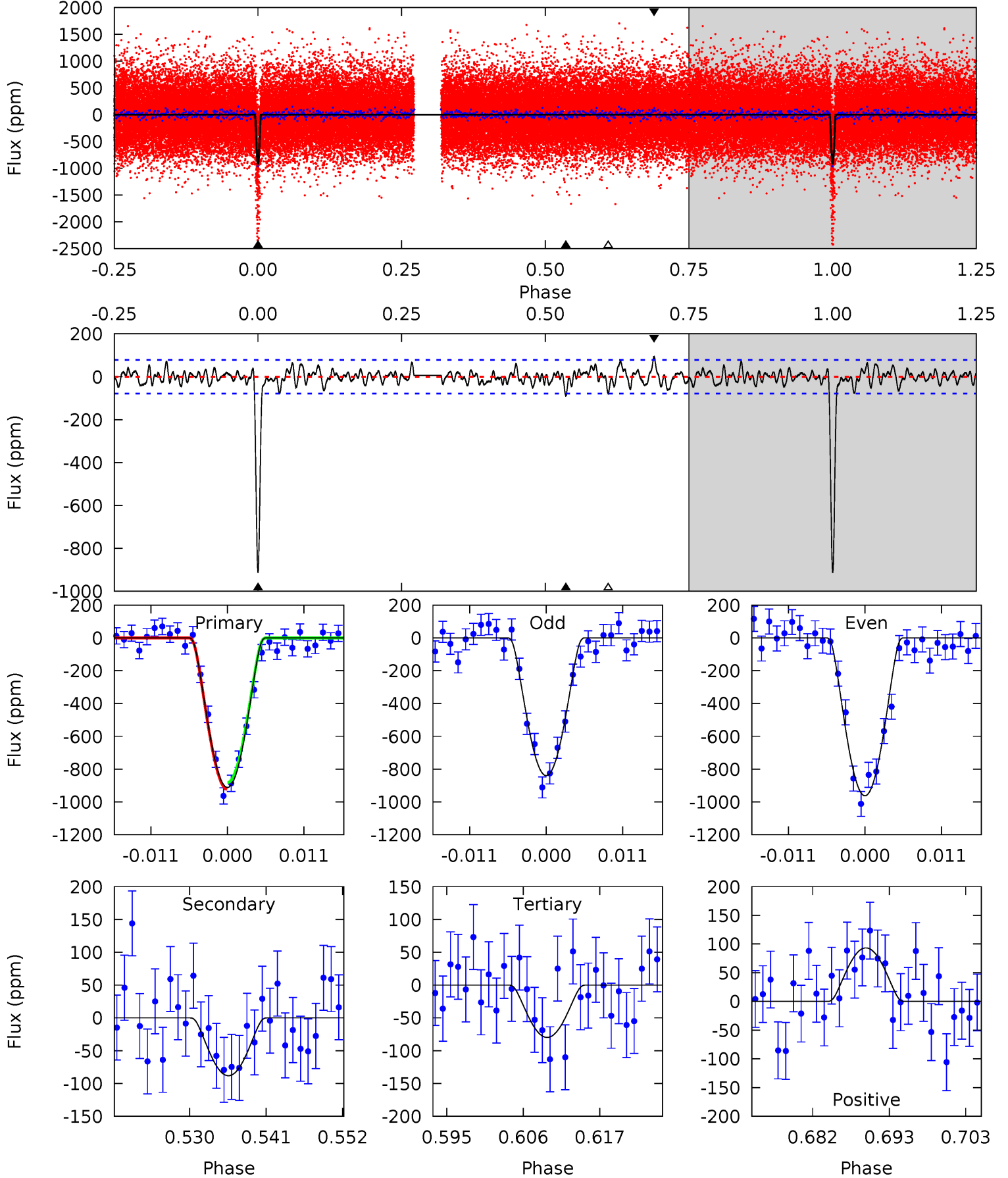
TCE 006612327-02 P= 21.993295 Days $T_0=147.173157$ (BKJD)



DV Model-Shift Uniqueness Test

006612327-02, P = 21.993292 Days, E = 125.184993 Days

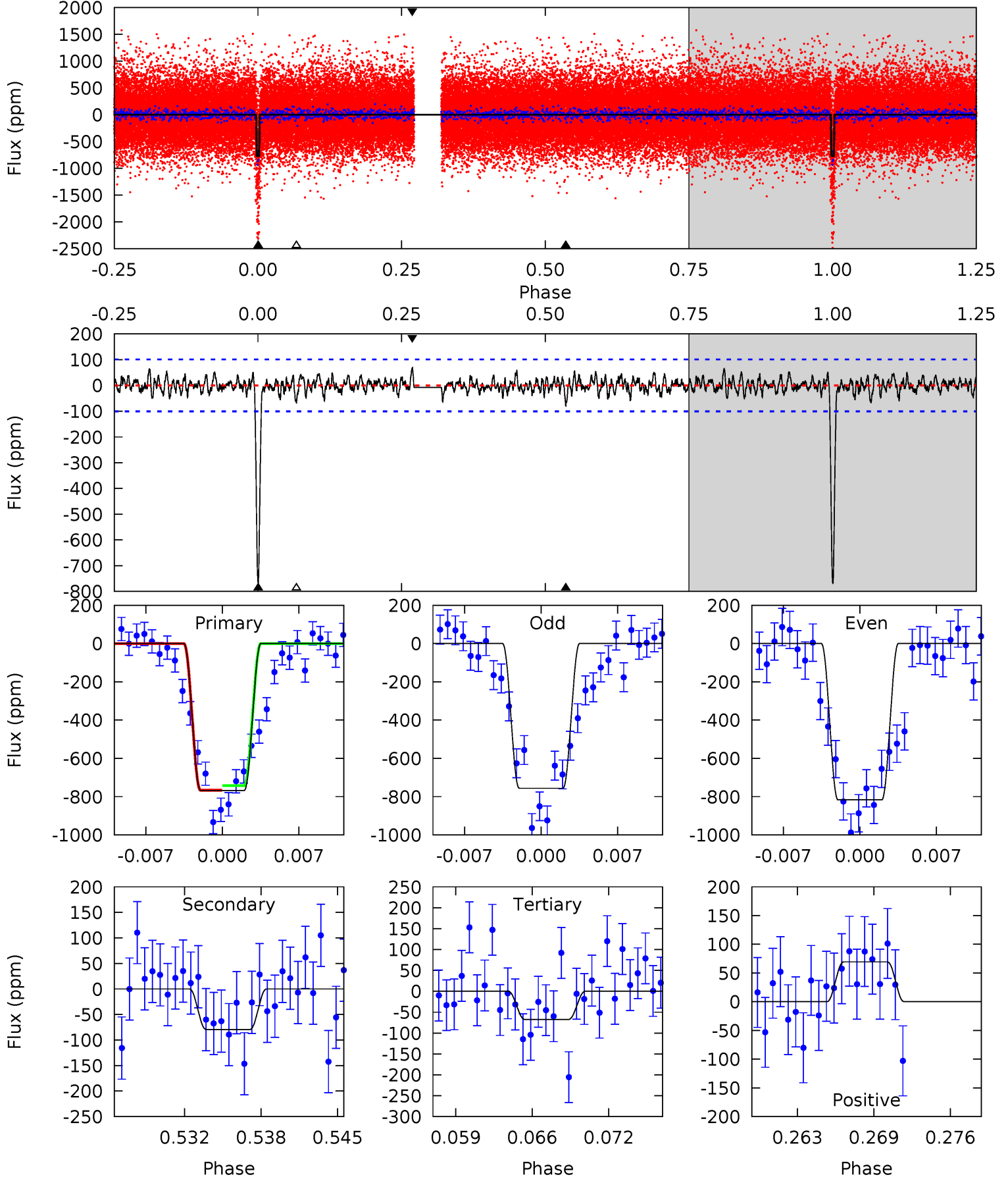
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.5	5.66	5.12	5.99	5.01	2.55	1.68	53.4	52.5	0.54	-0.33	3.94	1.66	0.09	0



Alt Model-Shift Uniqueness Test

006612327-02, P = 21.993295 Days, E = 125.179862 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.9	4.03	3.42	3.52	5.11	2.72	1.08	35.5	35.4	0.61	0.51	1.55	1.73	0.08	0.62



Stellar Parameters For KIC 006612327

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5205^{+154}_{-154}	$4.604^{+0.036}_{-0.084}$	$-0.160^{+0.300}_{-0.300}$	$0.747^{+0.098}_{-0.066}$	$0.827^{+0.066}_{-0.091}$	$2.790^{+0.517}_{-0.805}$
	+3%/-3%	+1%/-2%	+188%/-188%	+13%/-9%	+8%/-11%	+19%/-29%
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 006612327-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-88 ± 16	$6.74^{+5.29}_{-4.28}$	739^{+28}_{-28}	2571^{+834}_{-348}	21^{+139}_{-15}
Alt.	-79 ± 20	$5.72^{+5.15}_{-3.84}$	738^{+27}_{-26}	2648^{+1009}_{-406}	27^{+228}_{-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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

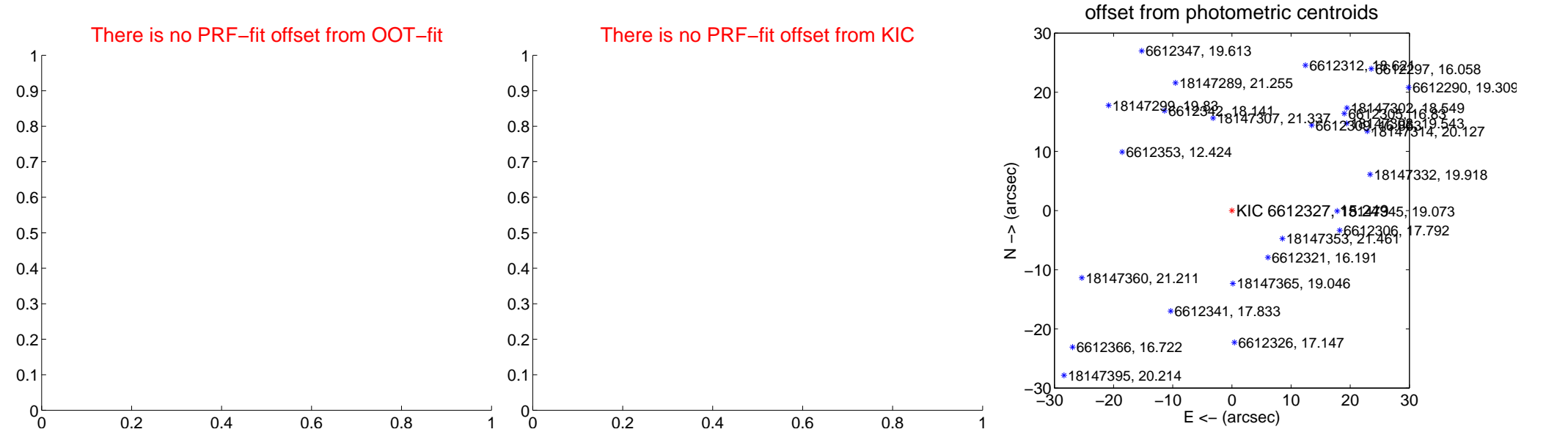
DV Centroid Data

Supplemental centroid analysis for 006612327-02. Kepler magnitude: 15.25. Transit SNR 31.58

There are 0 quarters with good PRF difference image offsets

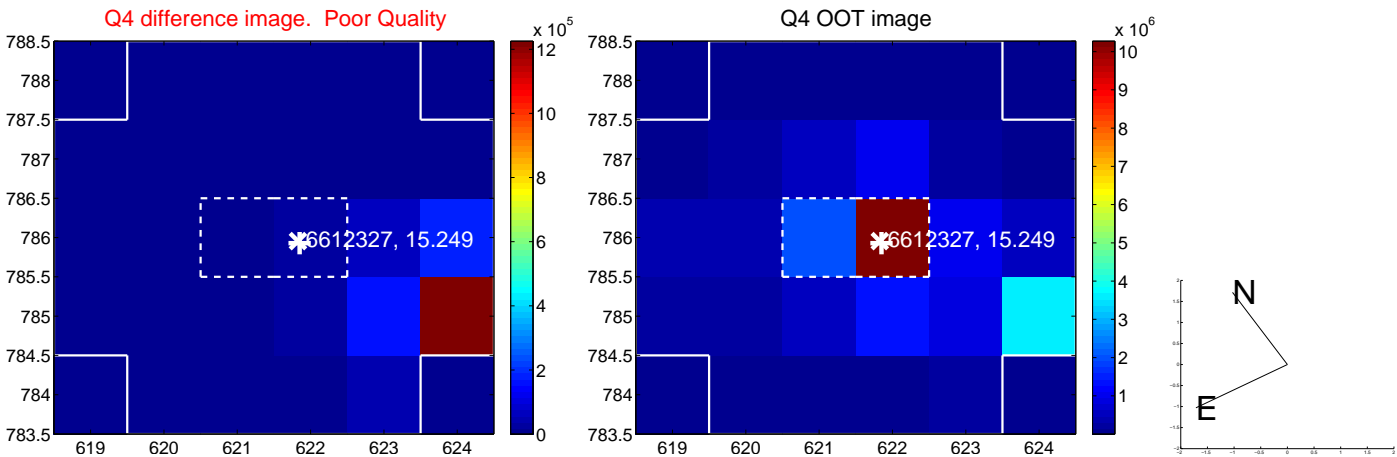
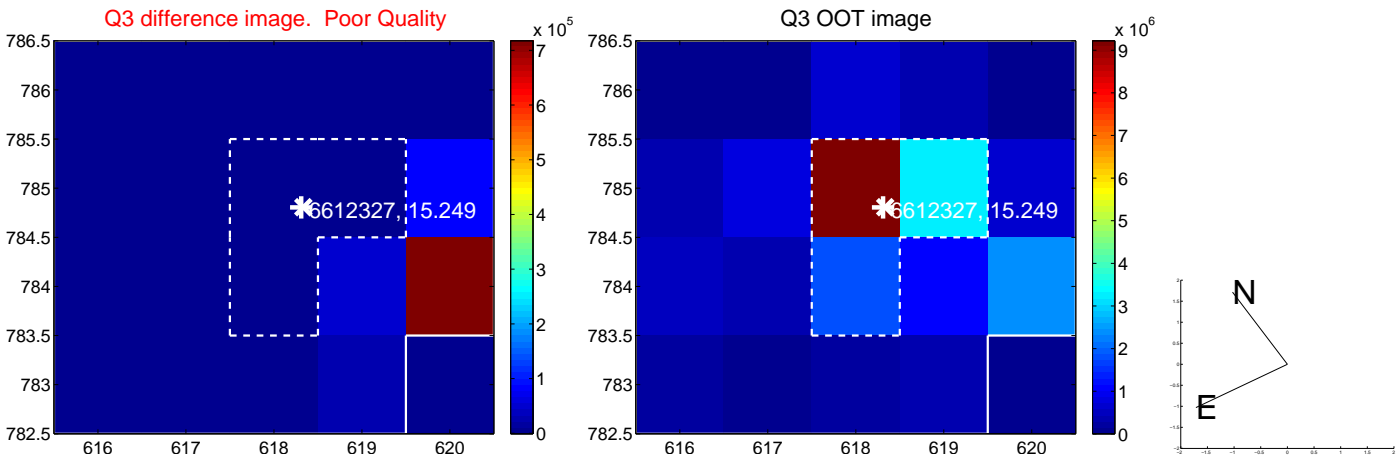
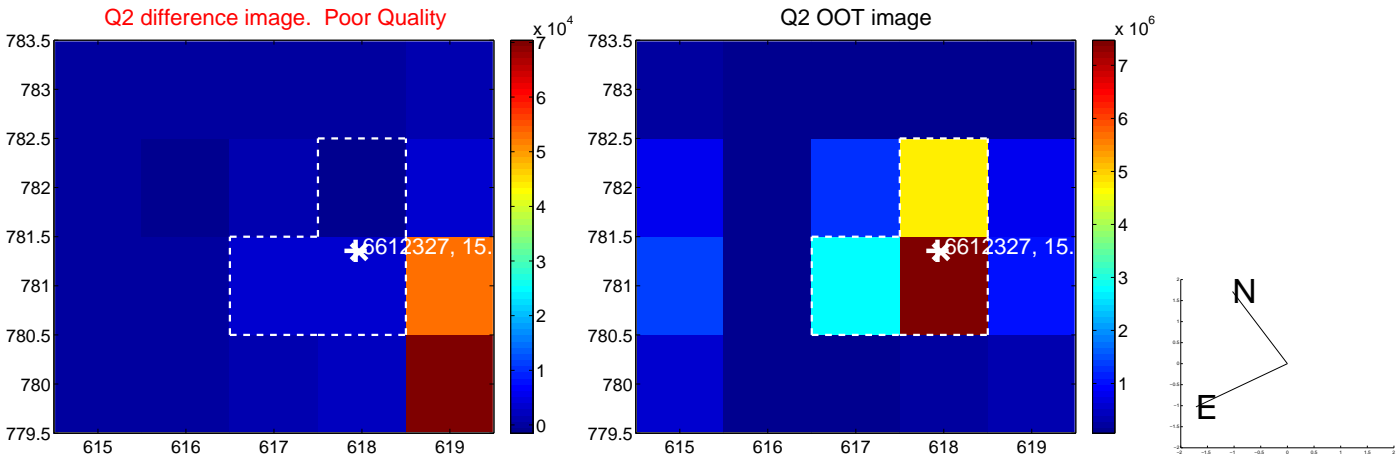
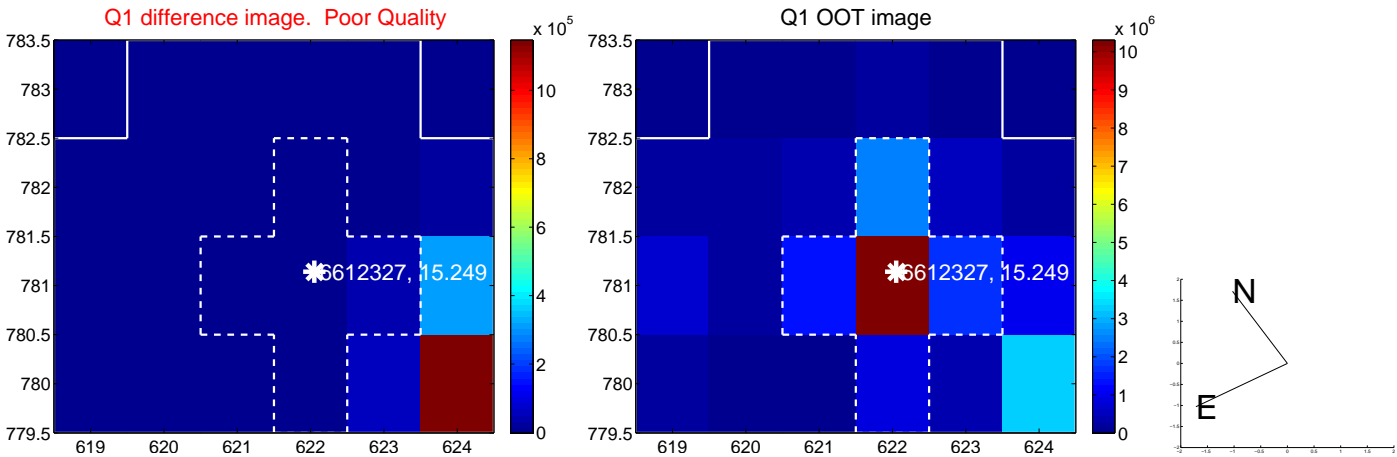
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	70.67 ± 0.28	255.56	-30.86 ± 0.28	-63.57 ± 0.27

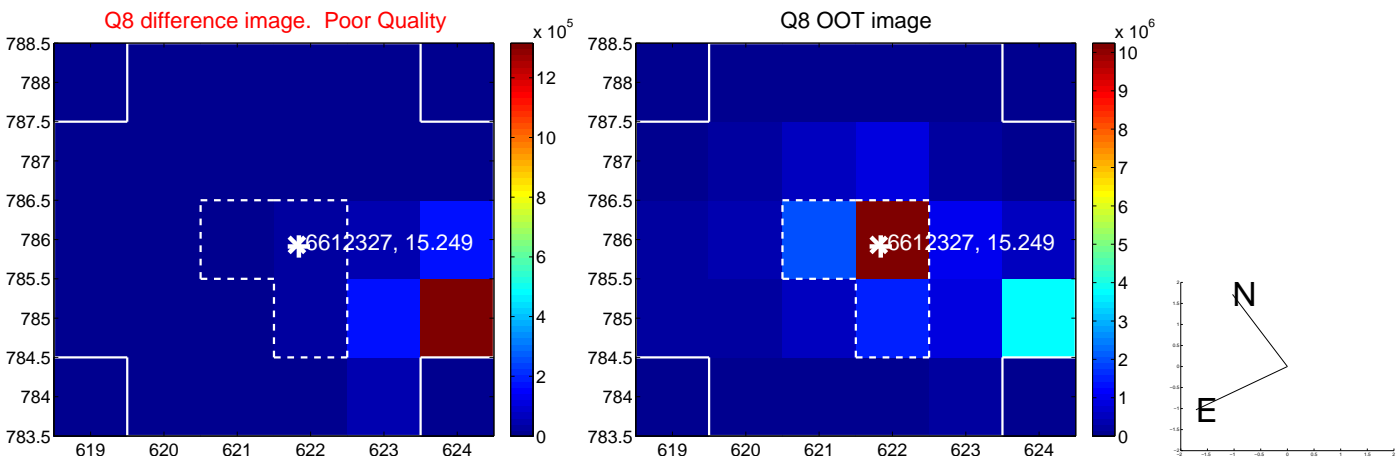
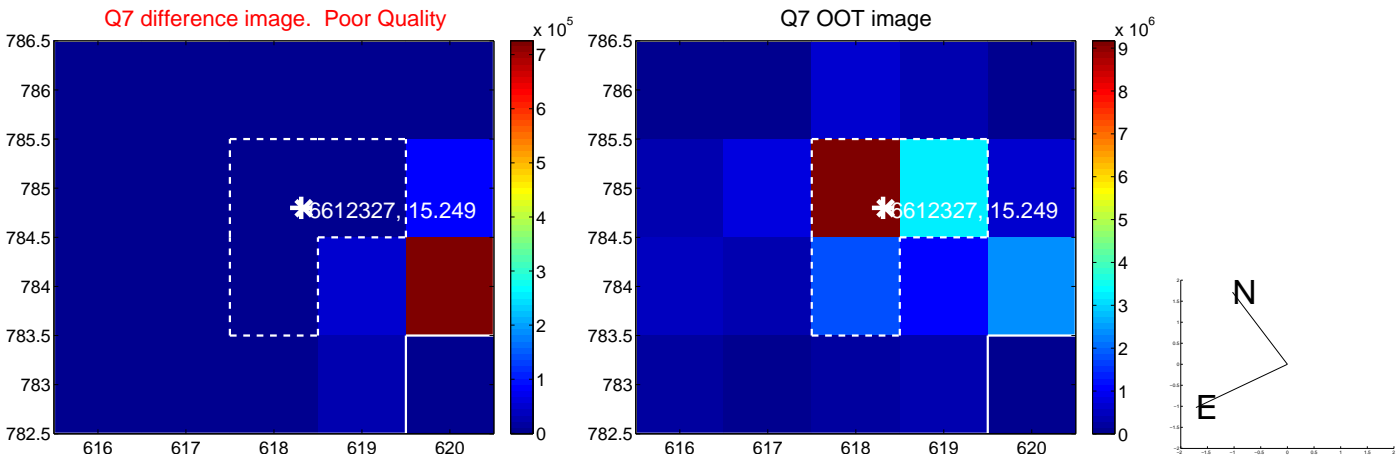
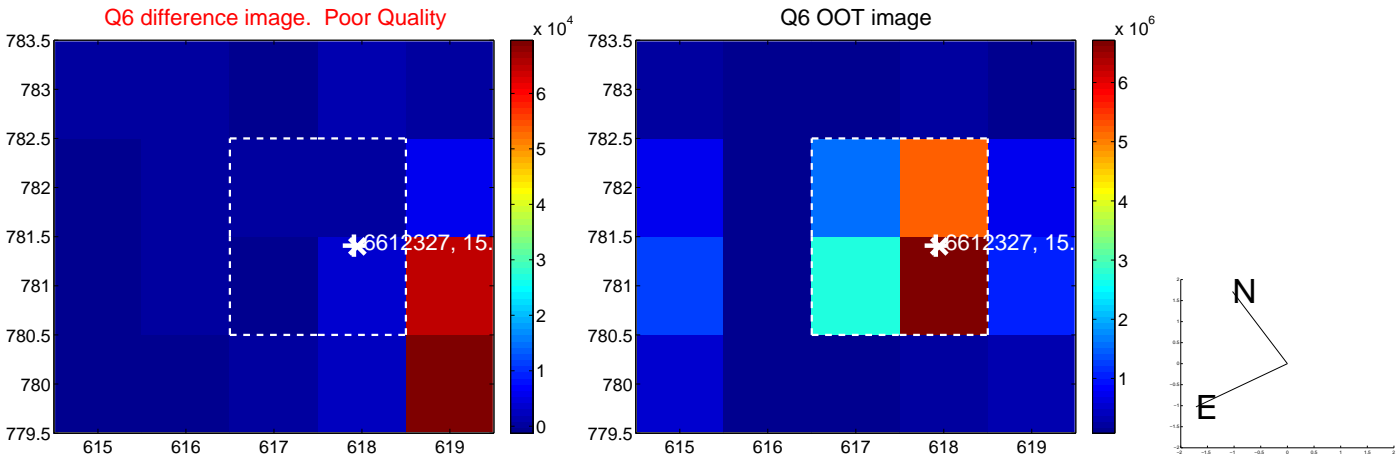
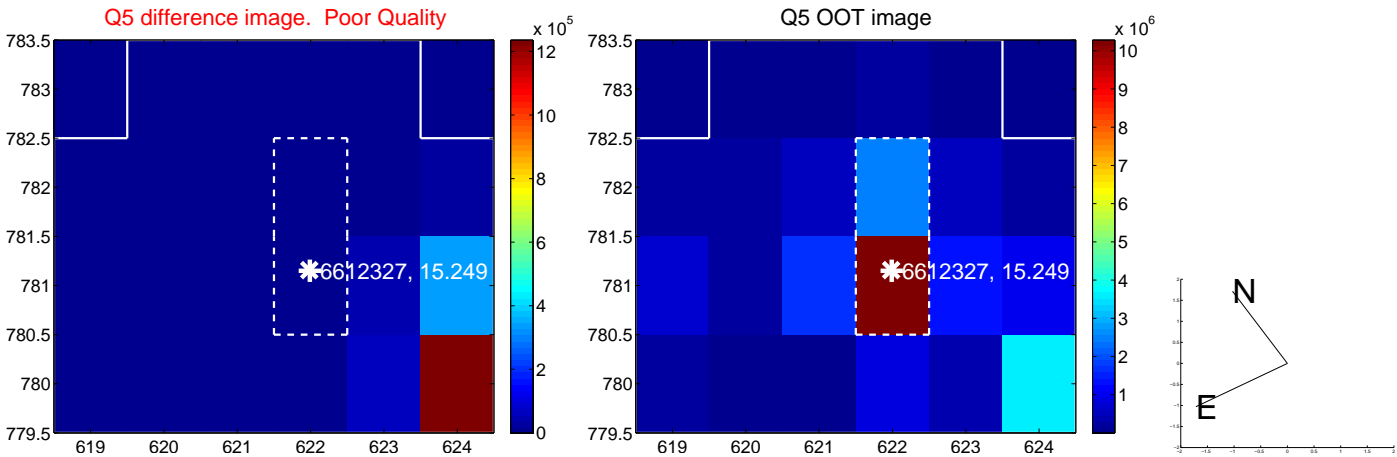


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

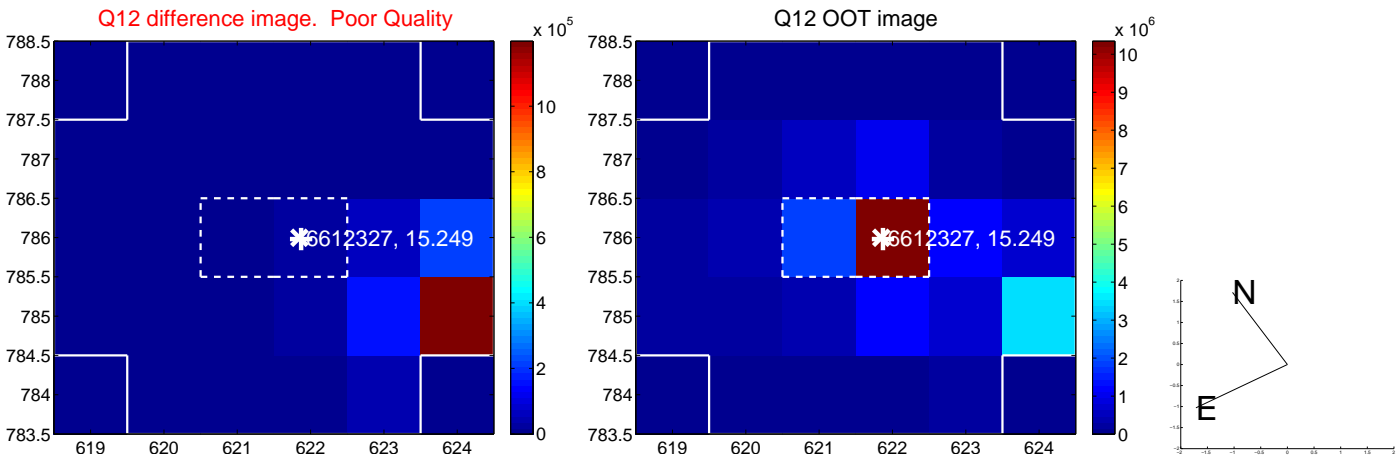
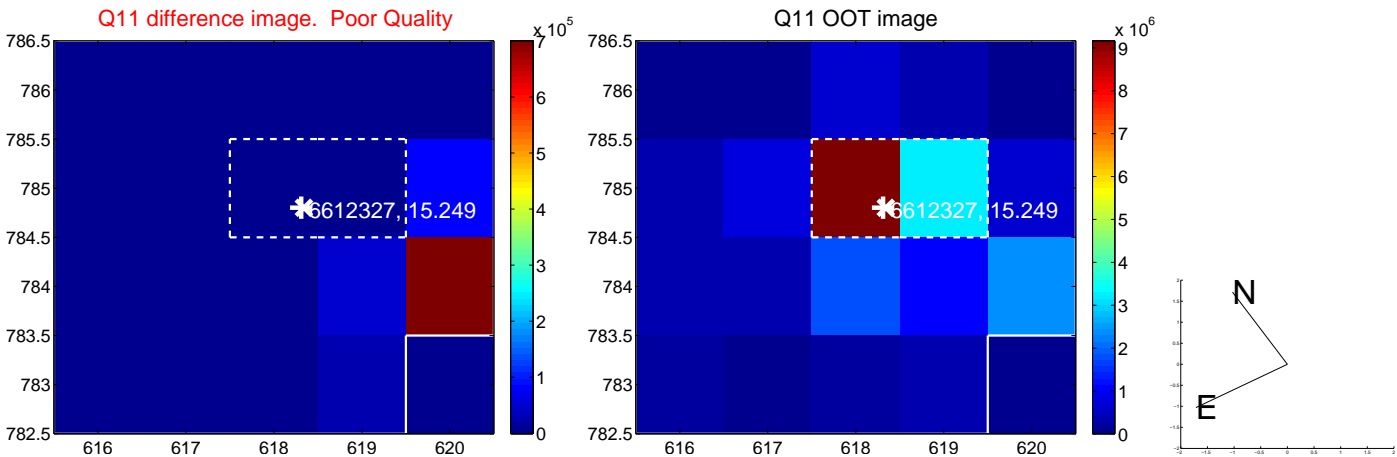
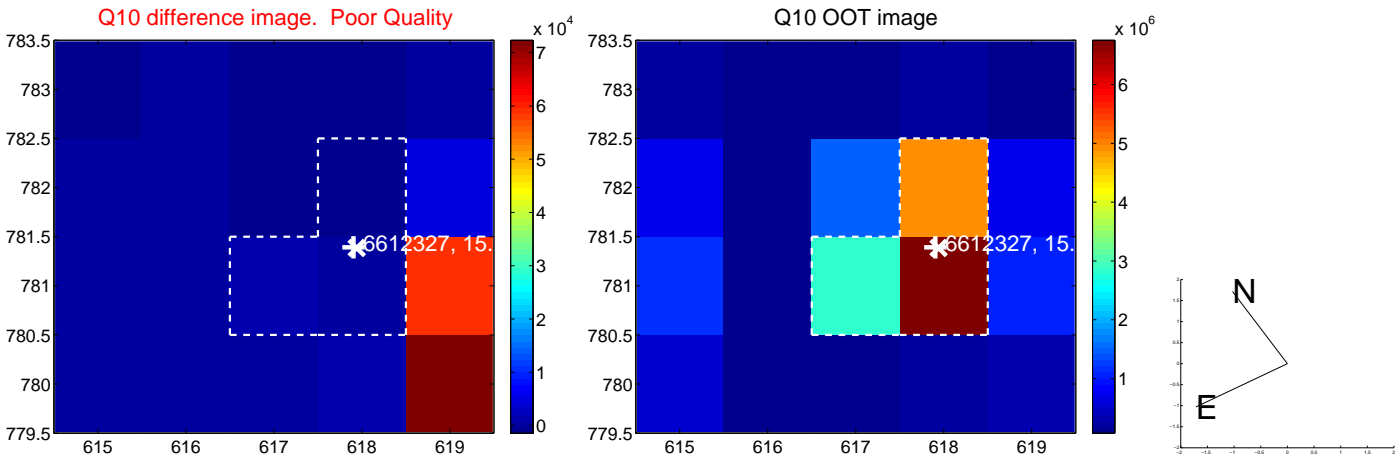
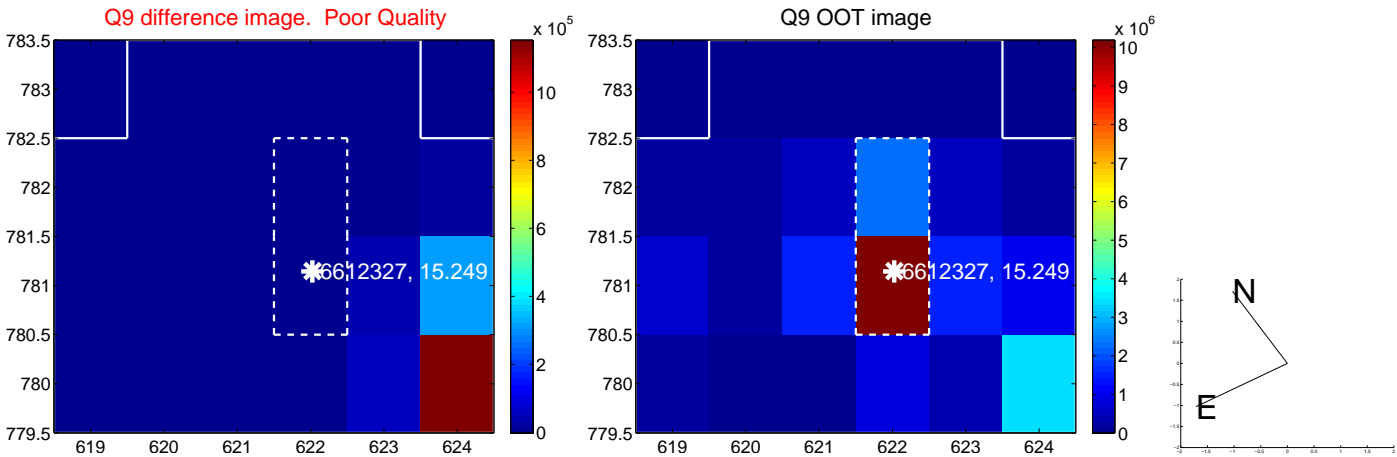
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



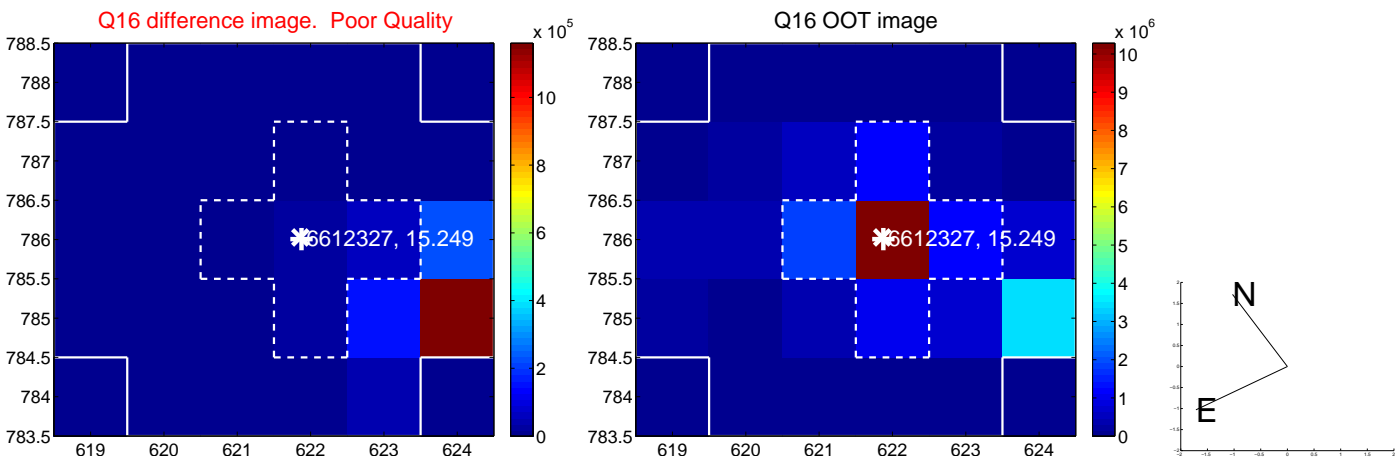
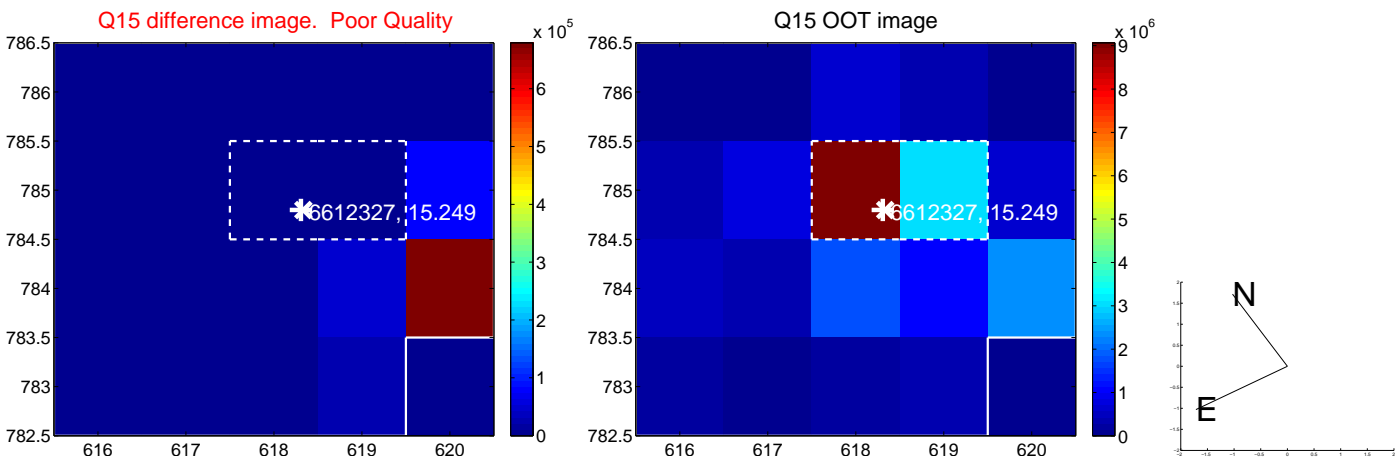
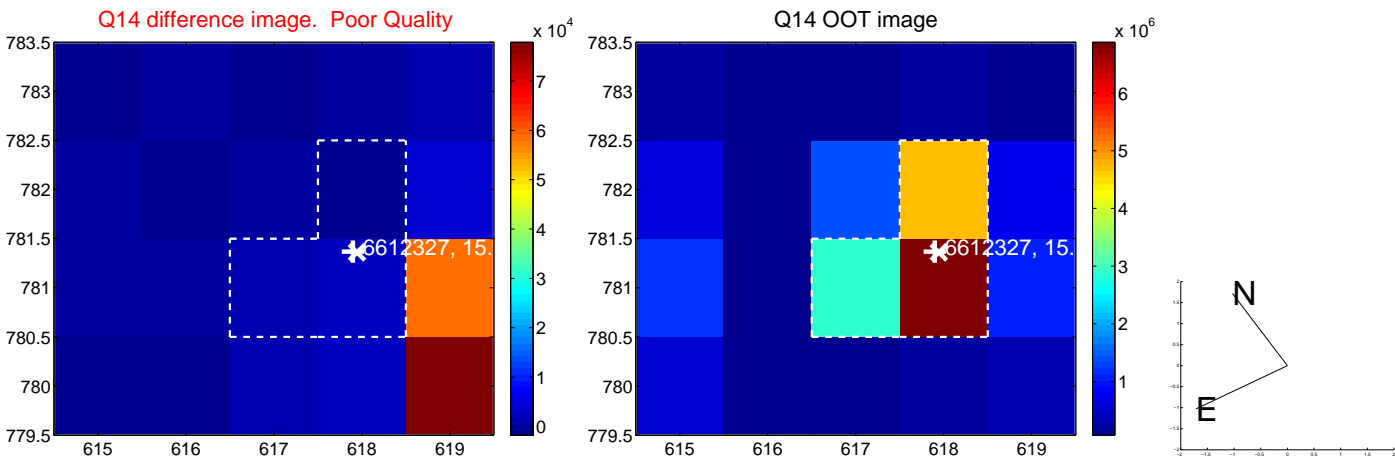
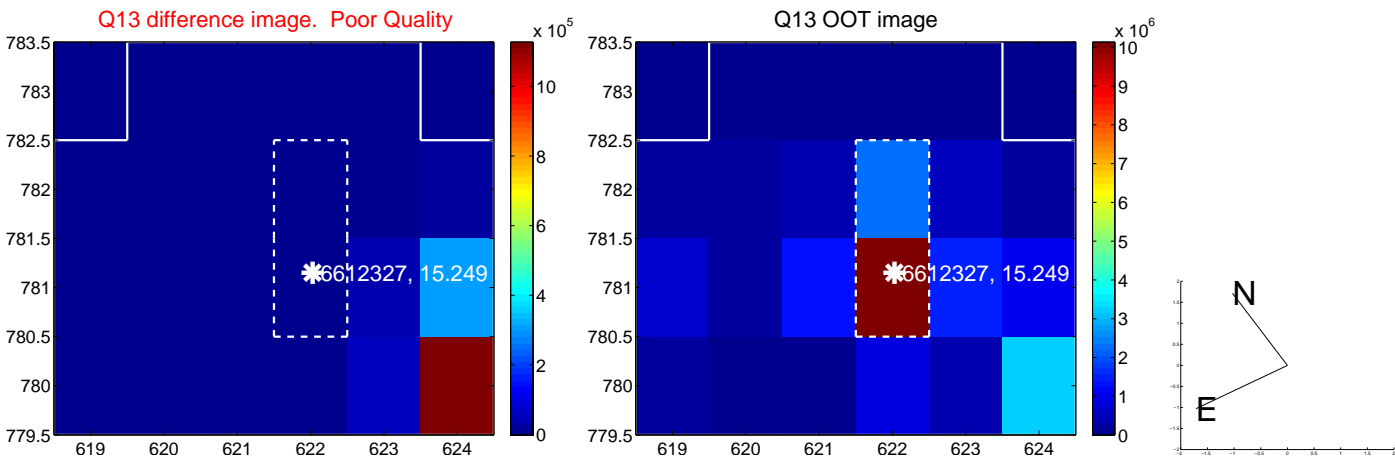
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



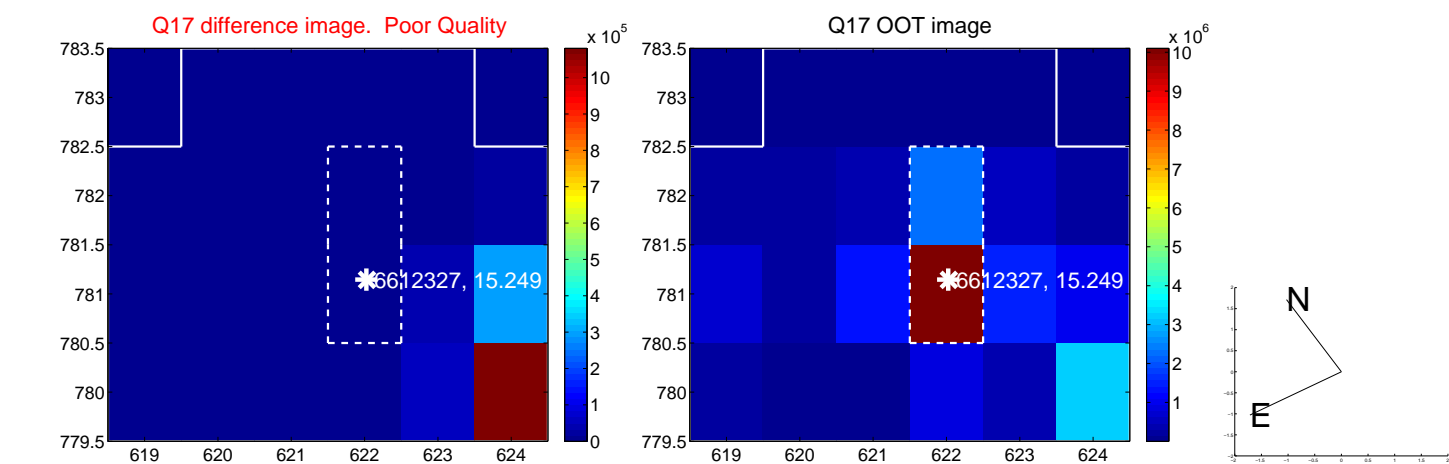
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



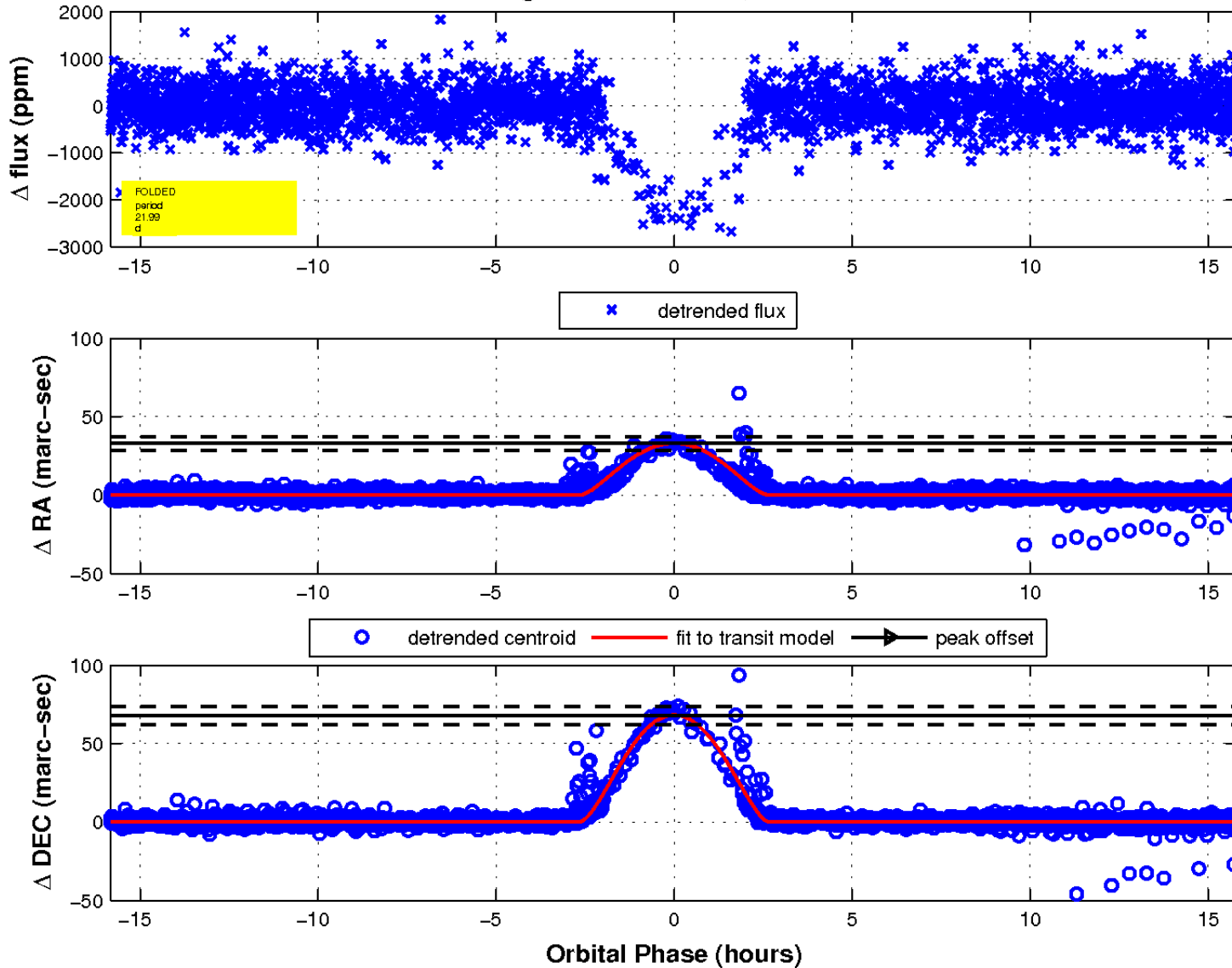
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

