

KIC 004275328

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})
004275328-01	OBS	5995.01	6.150534	132.521633	2417.7	4.372	341.3	337.3	1.56	6691	14.08	965.27
004275328-02	OBS	No	6.150498	135.708093	386.9	4.446	57.8	62.9	1.56	6691	4.04	965.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004275328-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
004275328-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_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.

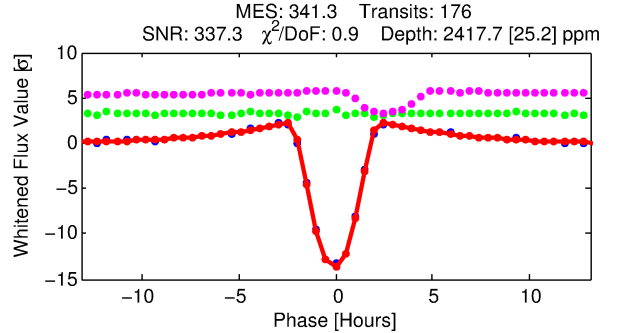
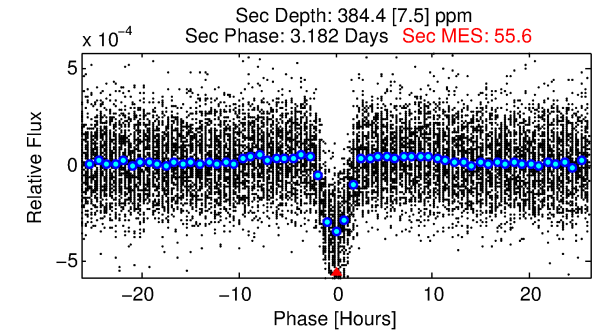
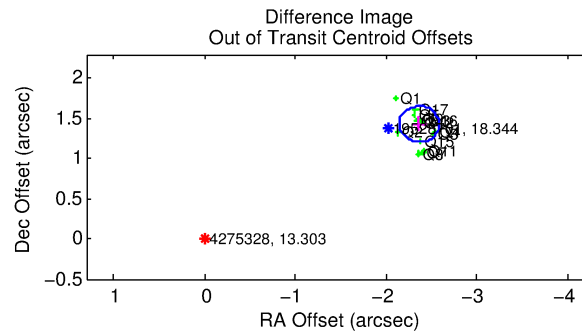
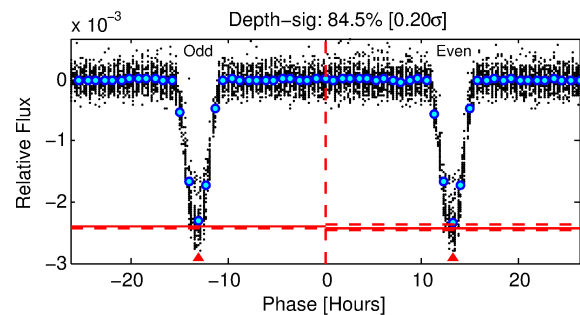
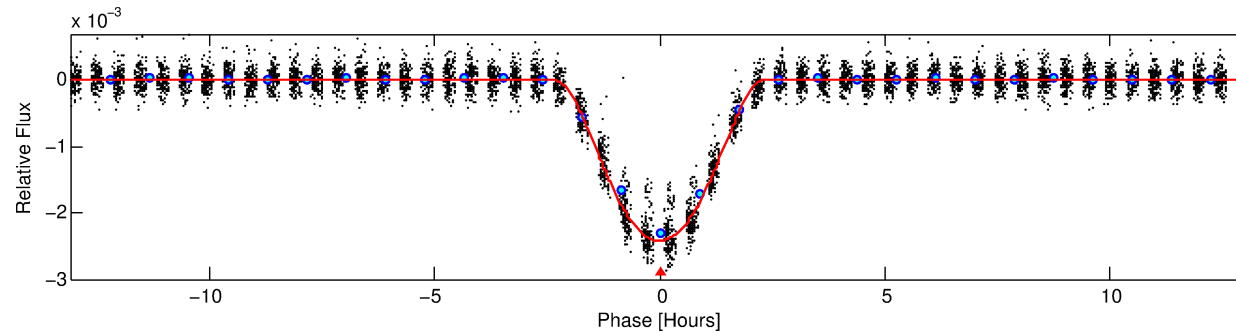
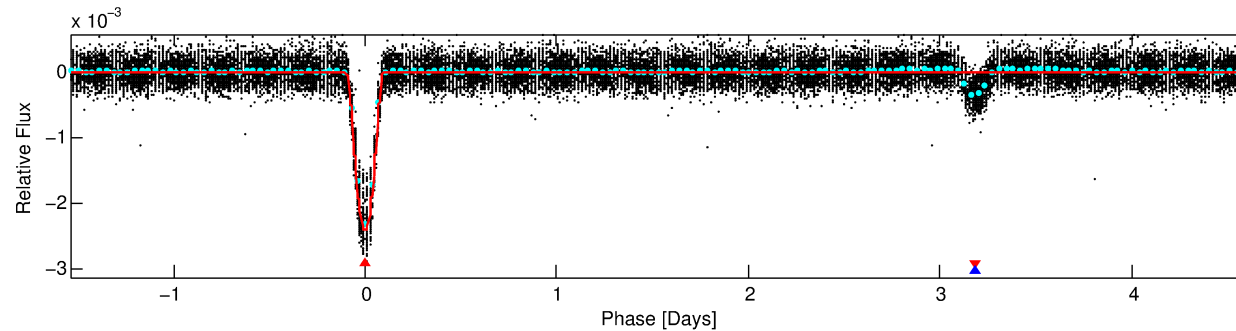
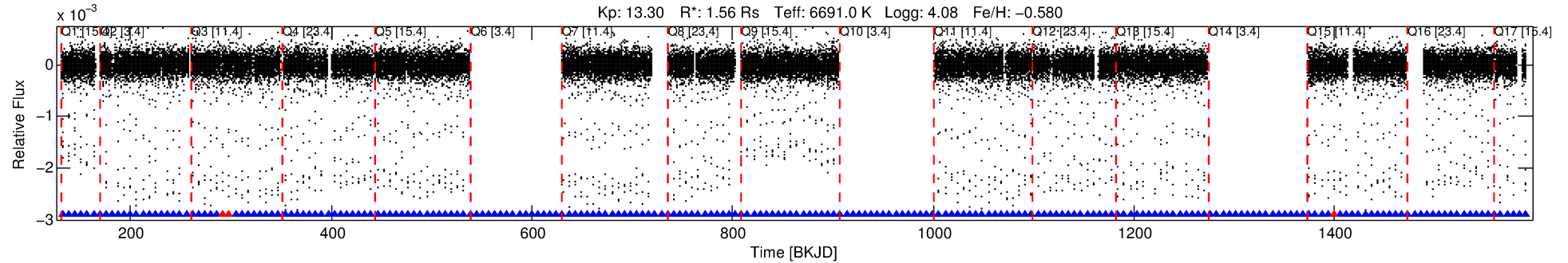
Ephemeris Match Information For 004275328-01

No Significant Match Found

DV One-Page Summary

KIC: 4275328 Candidate: 1 of 2 Period: 6.151 d
KOI: K05995.01 Corr: 0.990

Kp: 13.30 R*: 1.56 Rs Teff: 6691.0 K Logg: 4.08 Fe/H: -0.580



DV Fit Results:

Period = 6.15053 [0.00000] d
Epoch = 132.5216 [0.0003] BKJD
Rp/R* = 0.0824 [0.0097]
a/R* = 4.58 [0.11]
b = 1.00 [0.01]
Seff = 965.27 [501.33]
Teq = 1421 [185] K
Rp = 14.08 [4.88] Re
a = 0.0675 [0.0211] AU
Ag = 4.86 [2.69] [1.44σ]
Teff = 3263 [225] K [6.33σ]

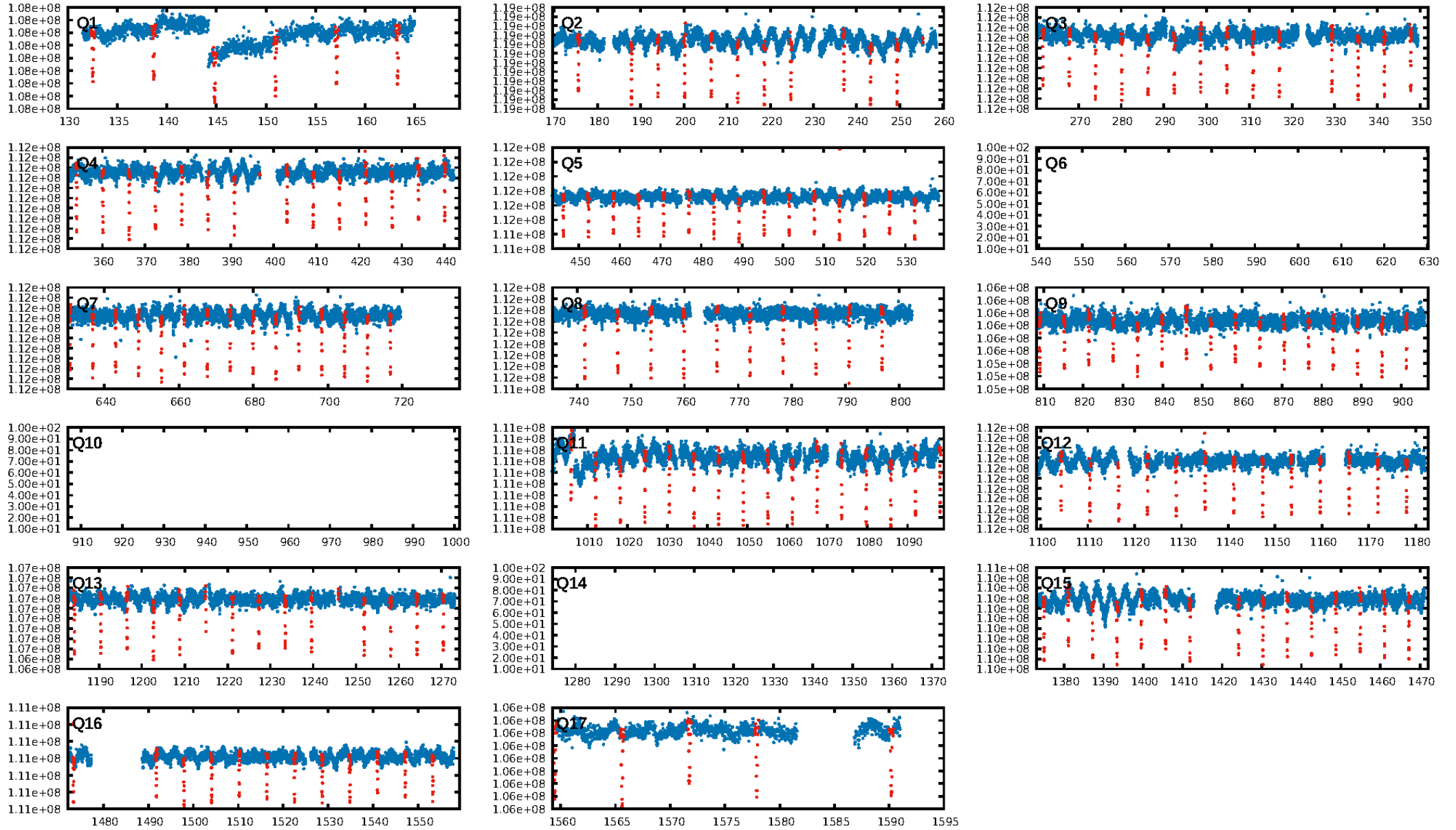
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [162/165]
GhostDiagnostic-chr: 3.457
Centroid-sig: 0.0%
Centroid-so: 1.983 arcsec [61.24σ]
OotOffset-rm: 2.760 arcsec [37.20σ]
KicOffset-rm: 2.486 arcsec [36.34σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

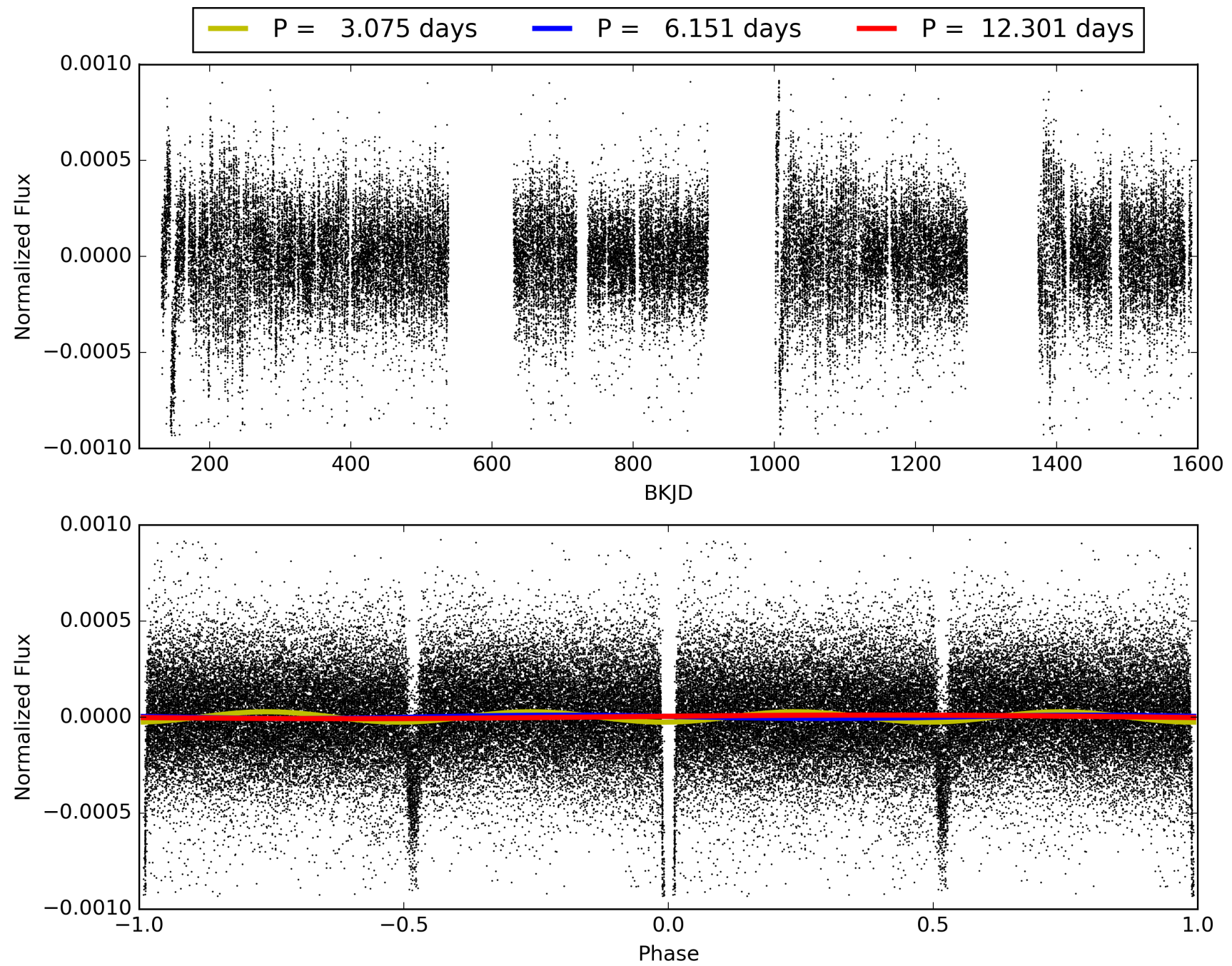
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:36:46 Z

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

TCE 004275328-01, PDC Light Curves

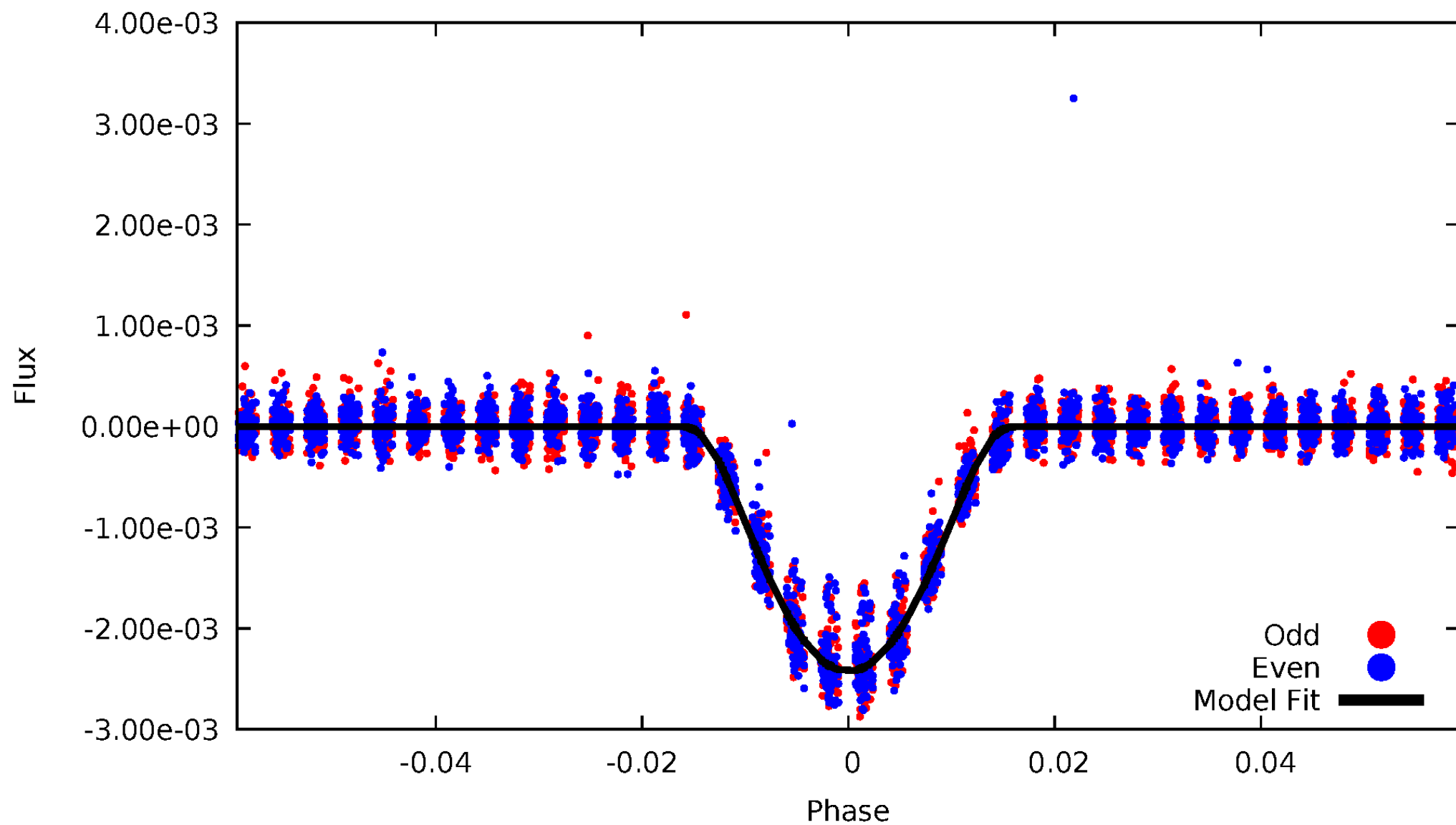


TCE 004275328-01



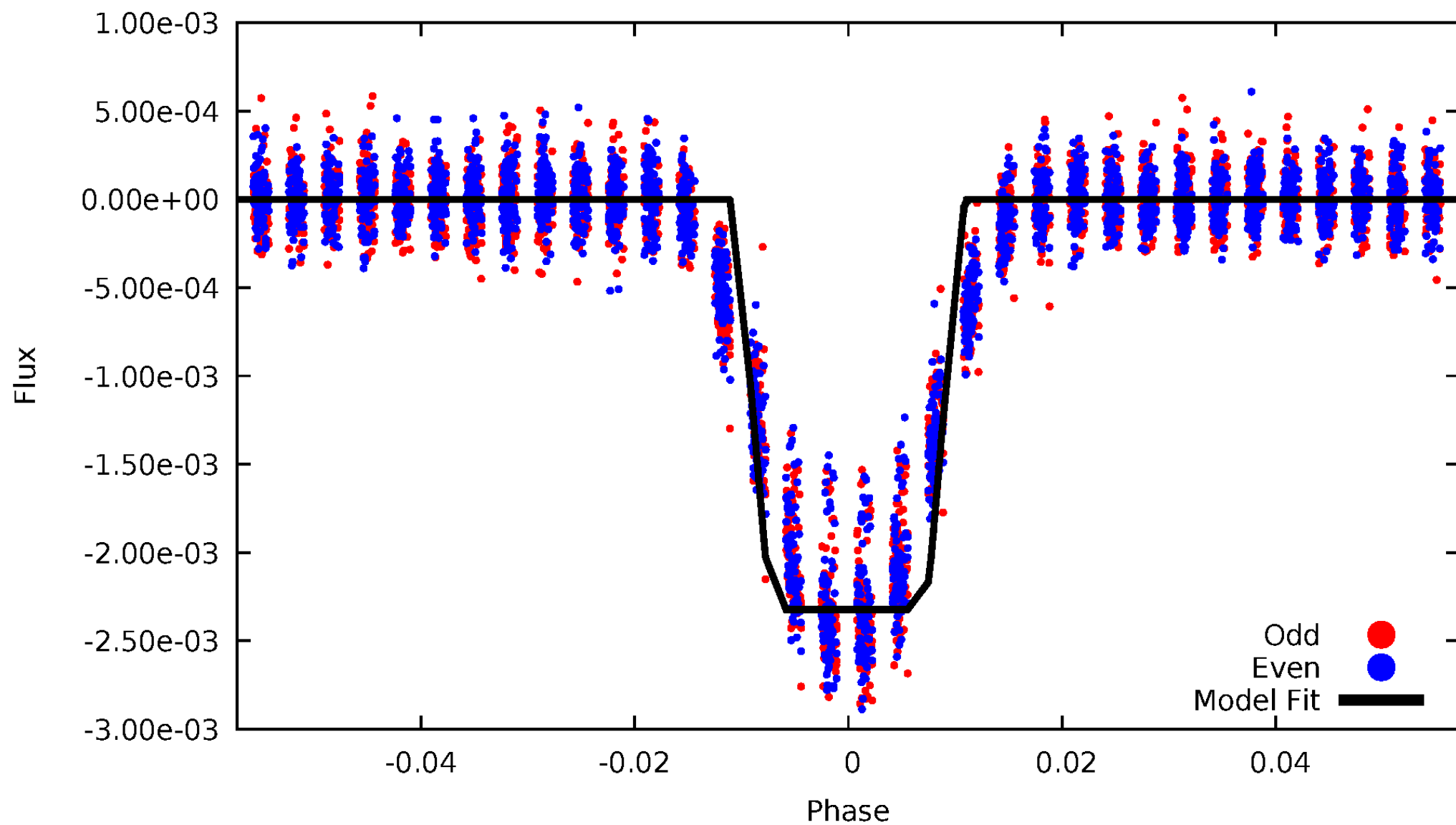
DV Odd/Even

TCE 004275328-01



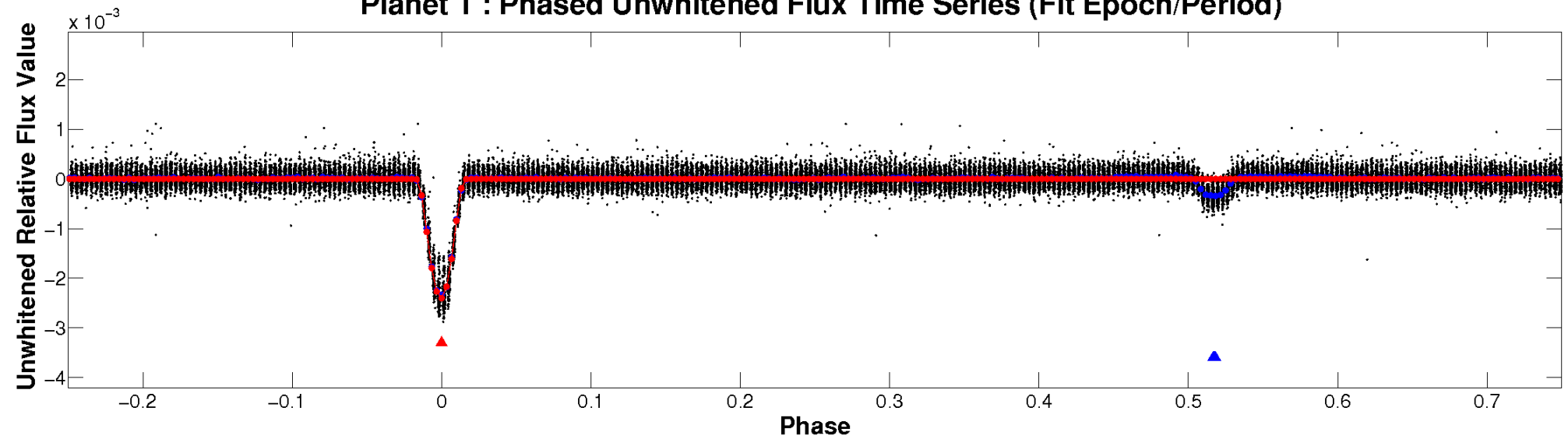
ALT Odd/Even

TCE 004275328-01

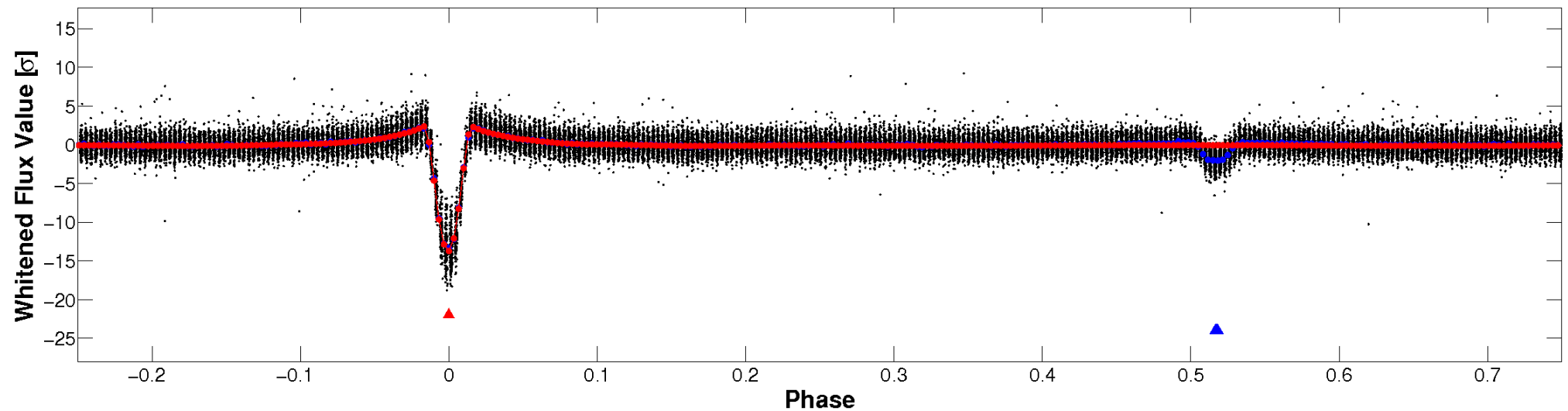


Non-Whitened Vs. Whitened Light Curve

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

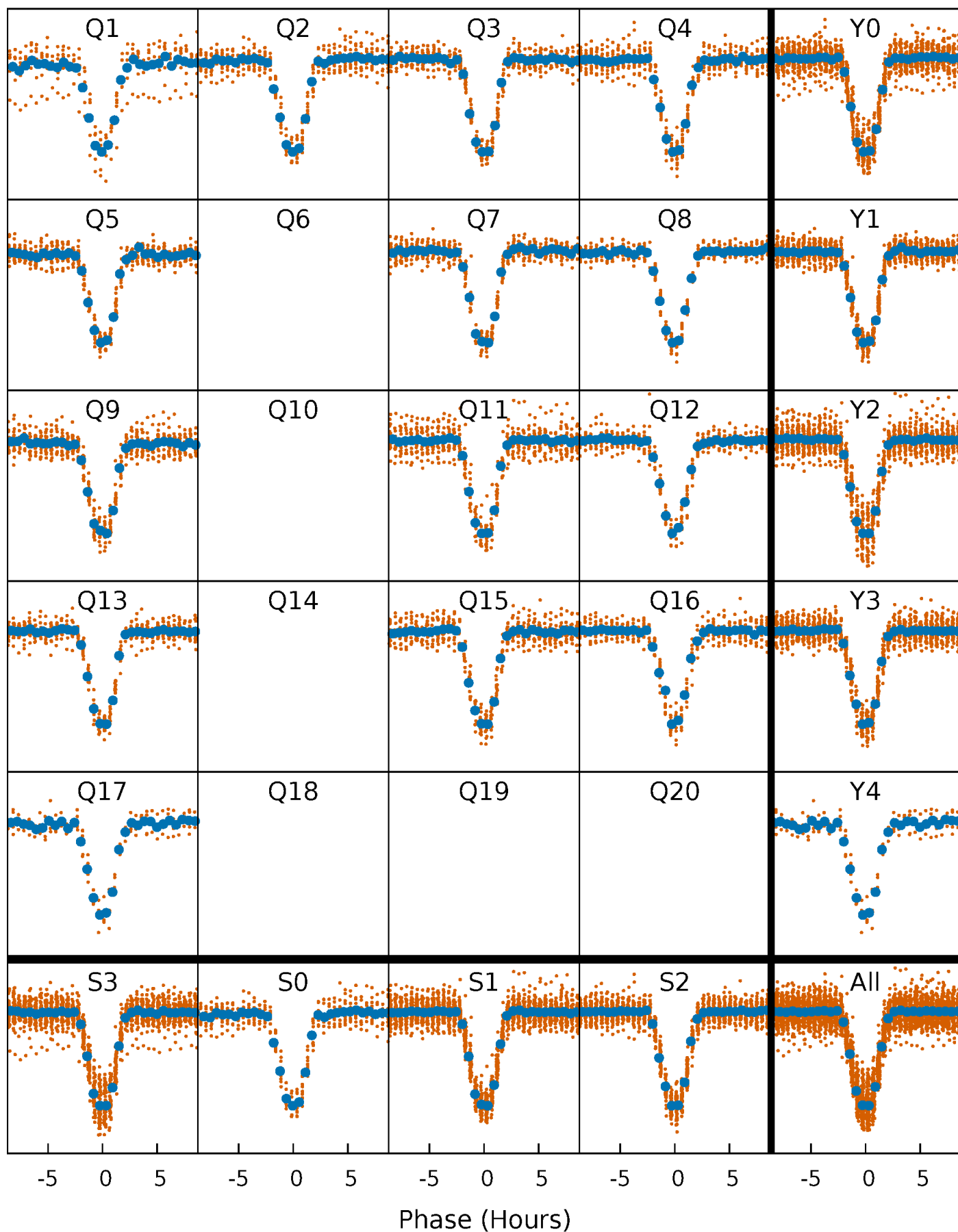


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



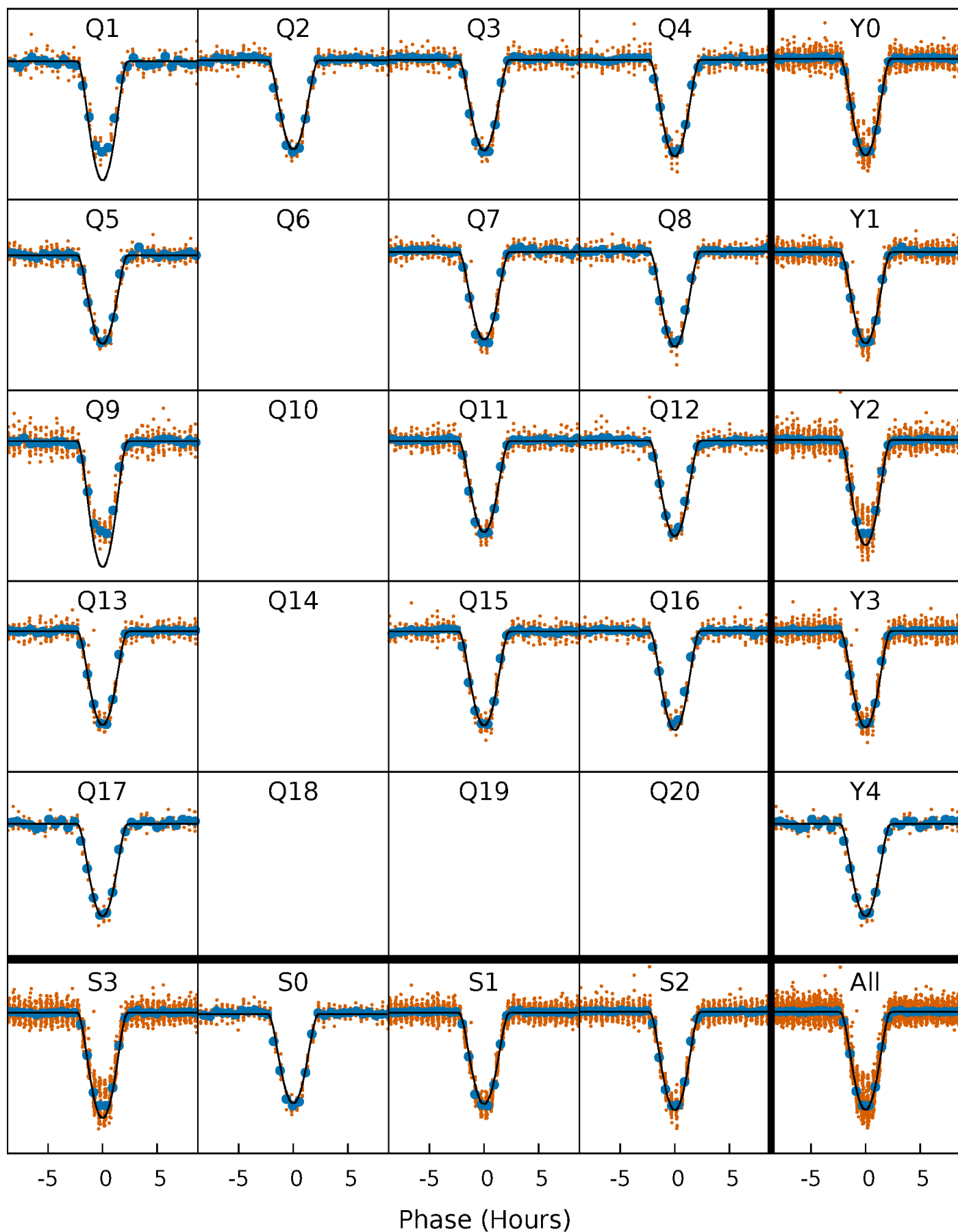
PDC Quarter-Phased Transit Curves

TCE 004275328-01 P= 6.150534 Days $T_0=132.521633$ (BKJD)



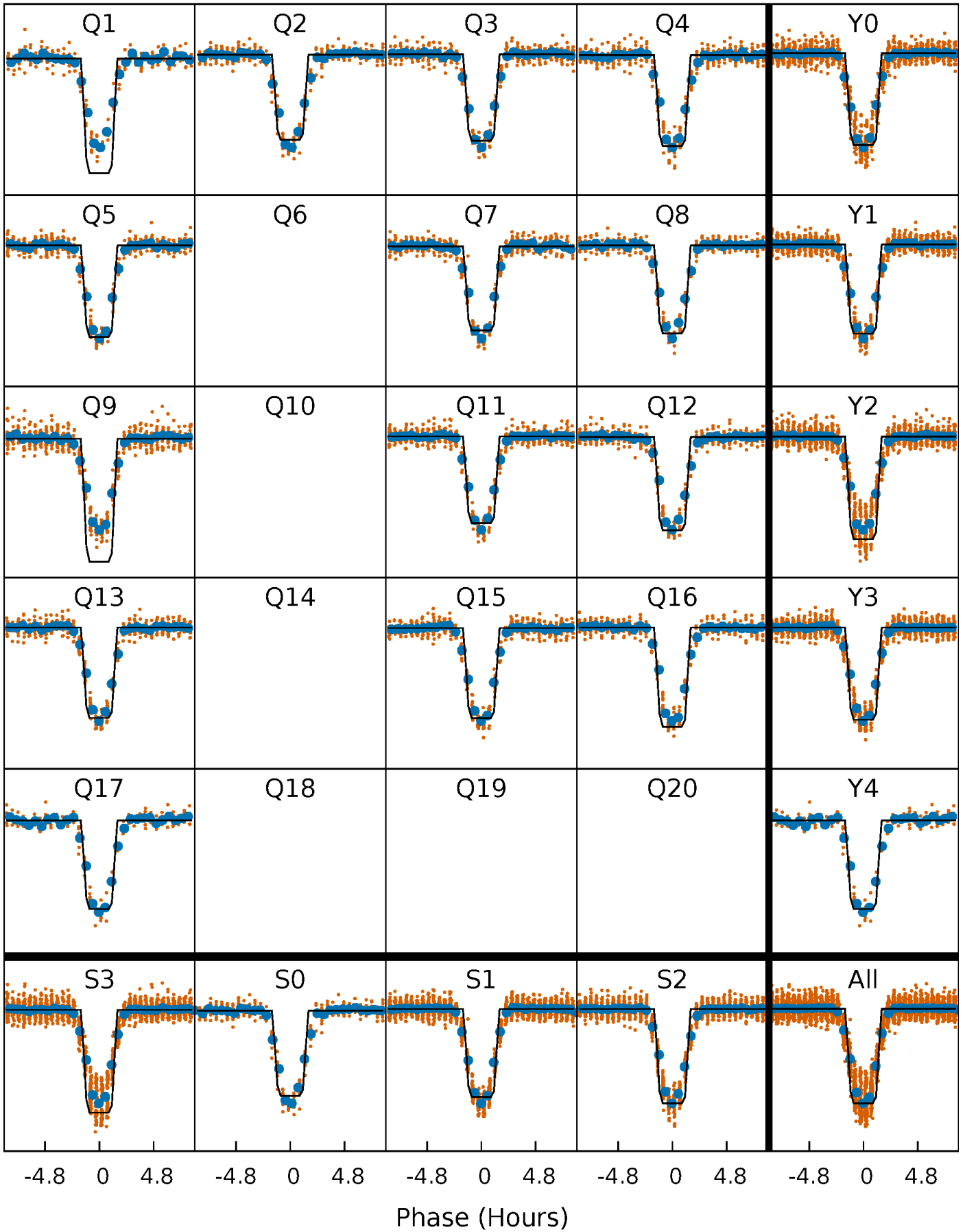
DV Quarter-Phased Transit Curves

TCE 004275328-01 P= 6.150534 Days $T_0=132.521633$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

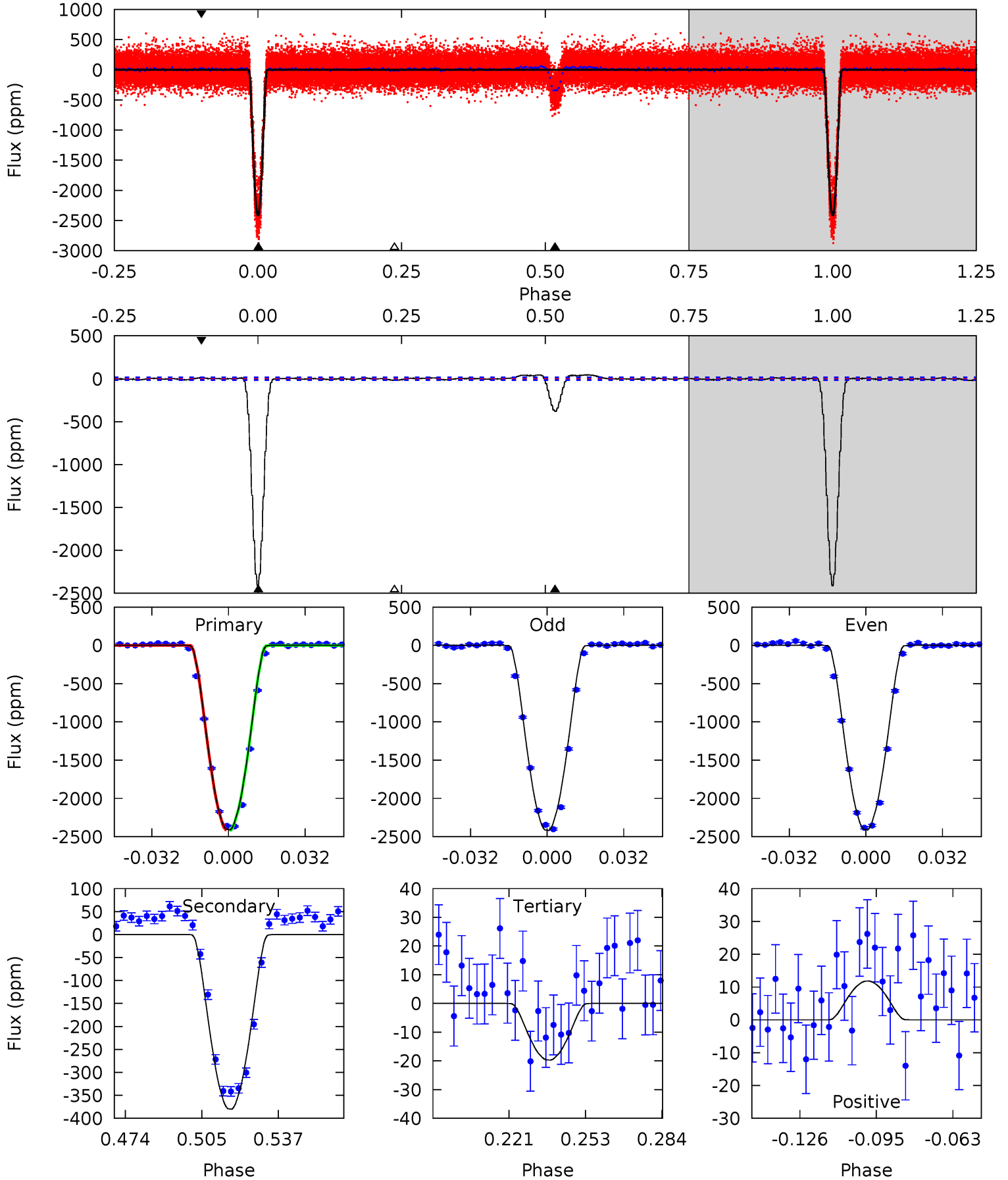
TCE 004275328-01 P= 6.150526 Days $T_0=132.522550$ (BKJD)



DV Model-Shift Uniqueness Test

004275328-01, P = 6.150534 Days, E = 126.371099 Days

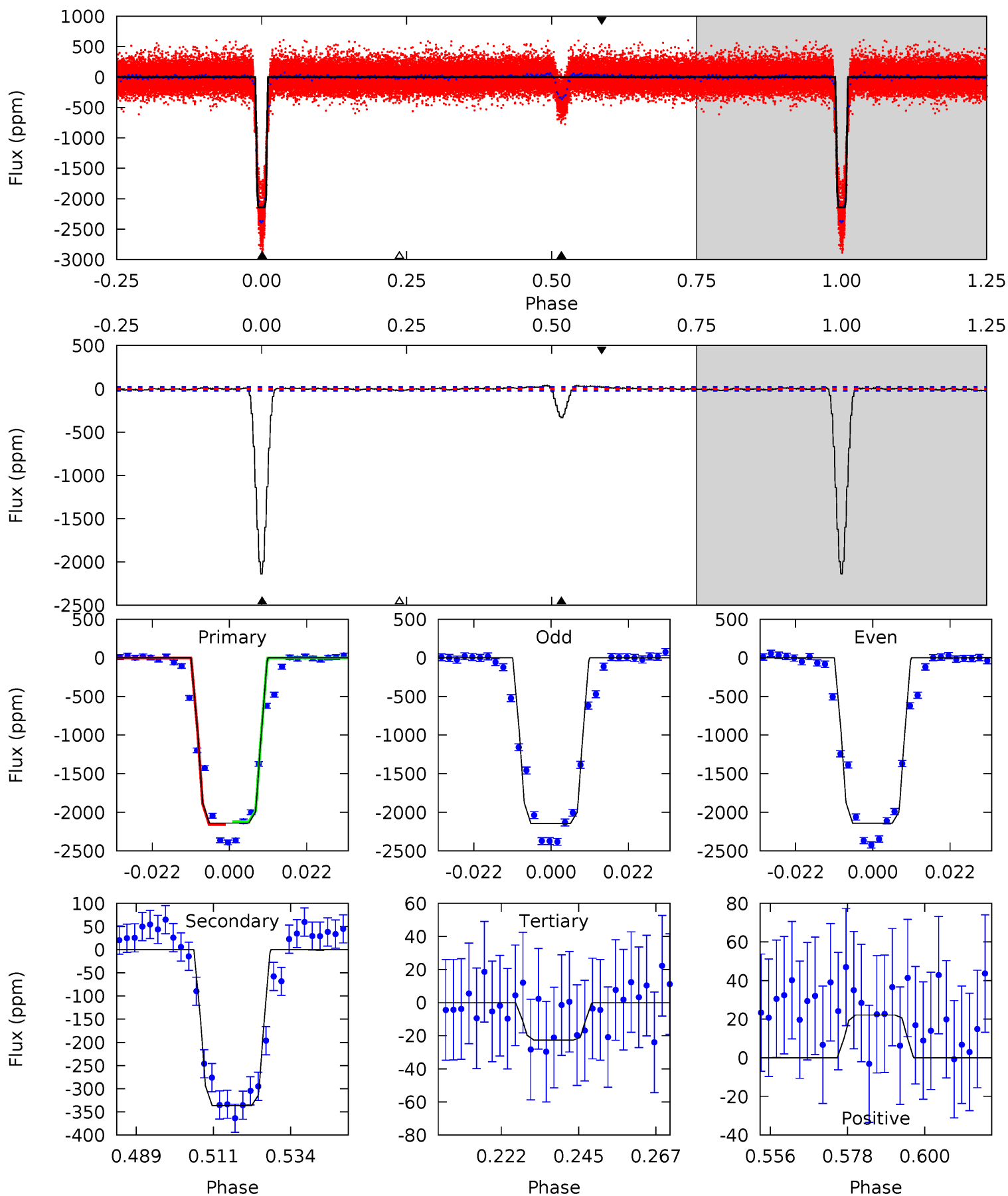
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
698.3	110.1	5.71	3.42	4.80	2.15	3.60	692.6	694.9	104.4	106.7	0.99	0.97	0.02	0.94



Alt Model-Shift Uniqueness Test

004275328-01, P = 6.150526 Days, E = 126.372024 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
480.7	75.5	5.07	4.98	4.87	2.29	2.40	475.6	475.7	70.5	70.6	0.44	0.97	0.02	4.00



Stellar Parameters For KIC 004275328

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6691^{+190}_{-238}	$4.084^{+0.293}_{-0.158}$	$-0.580^{+0.300}_{-0.300}$	$1.565^{+0.417}_{-0.510}$	$1.083^{+0.163}_{-0.134}$	$0.398^{+0.746}_{-0.172}$
	+3%/-4%	+7%/-4%	+52%/-52%	+27%/-33%	+15%/-12%	+187%/-43%
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 004275328-01 / KOI 5995.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-380 ± 3	$13.73^{+2.87}_{-2.67}$	1956^{+165}_{-170}	3630^{+167}_{-162}	$5.126^{+2.738}_{-1.599}$
Alt.	-336 ± 4	$8.05^{+2.15}_{-1.97}$	1949^{+154}_{-170}	4298^{+394}_{-297}	13^{+10}_{-5}

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

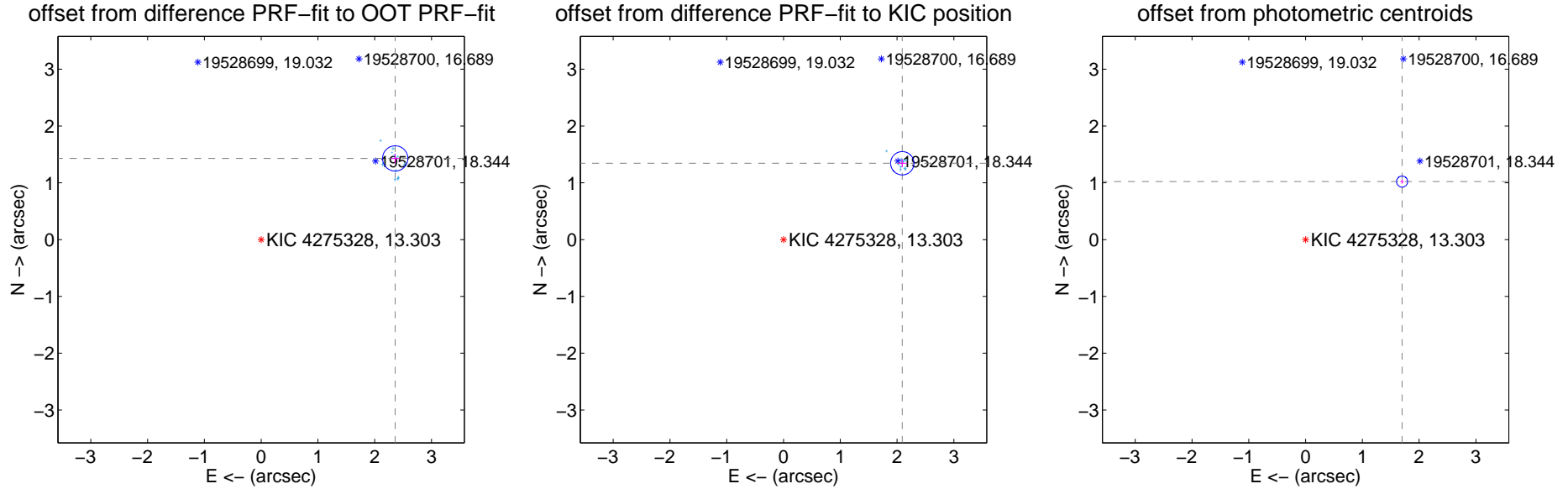
DV Centroid Data

Supplemental centroid analysis for 004275328-01. Kepler magnitude: 13.30. Transit SNR 337.32

There are 14 quarters with good PRF difference image offsets

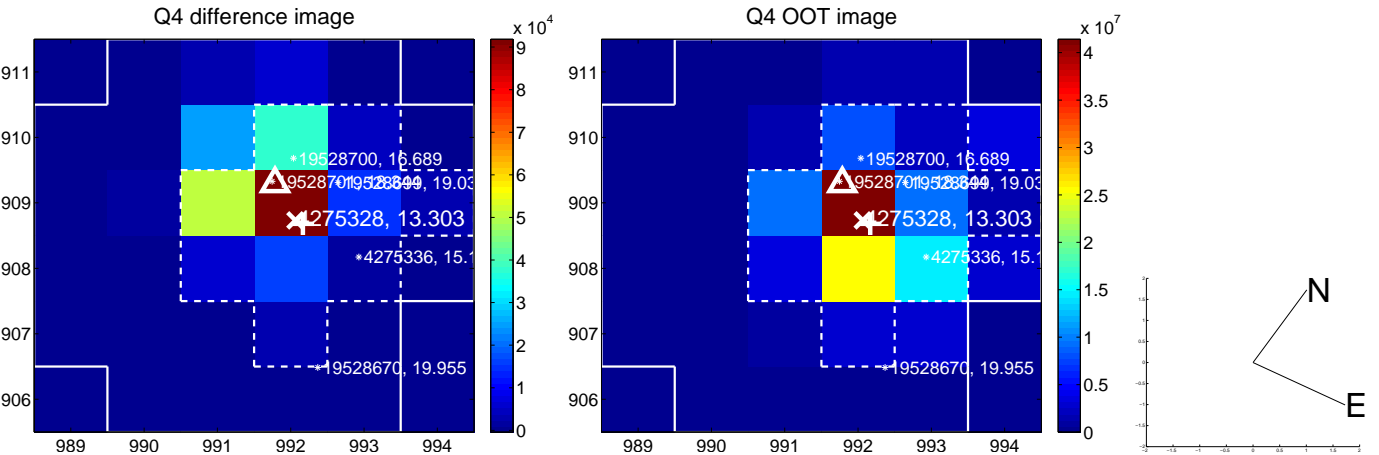
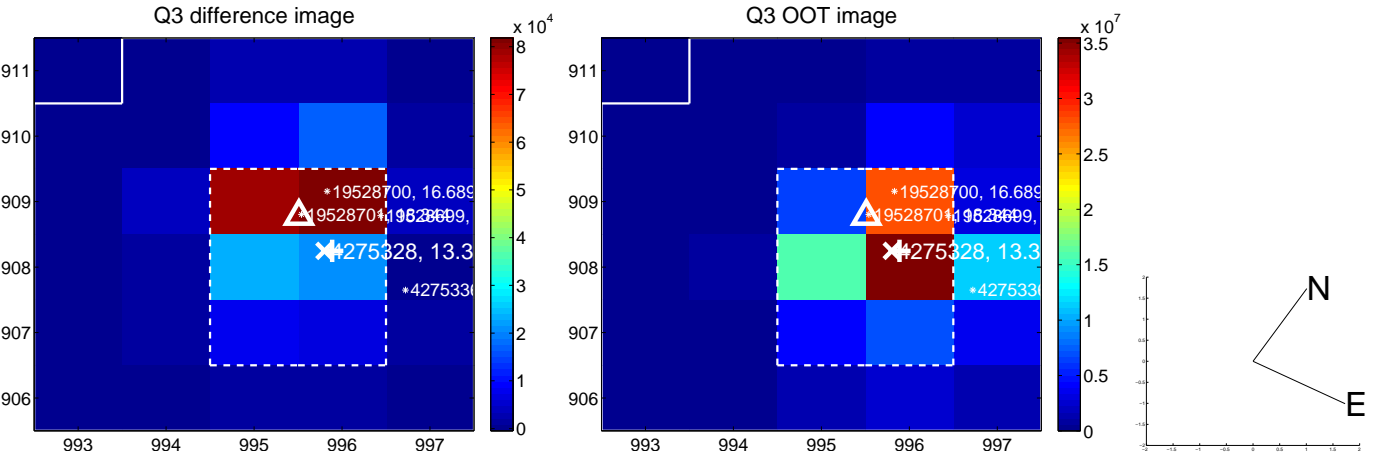
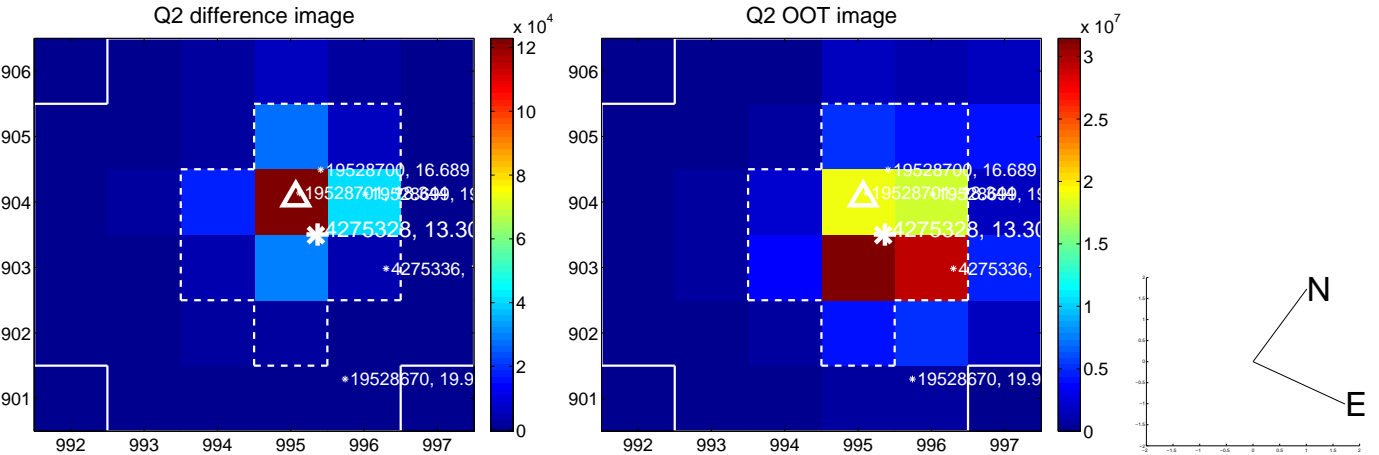
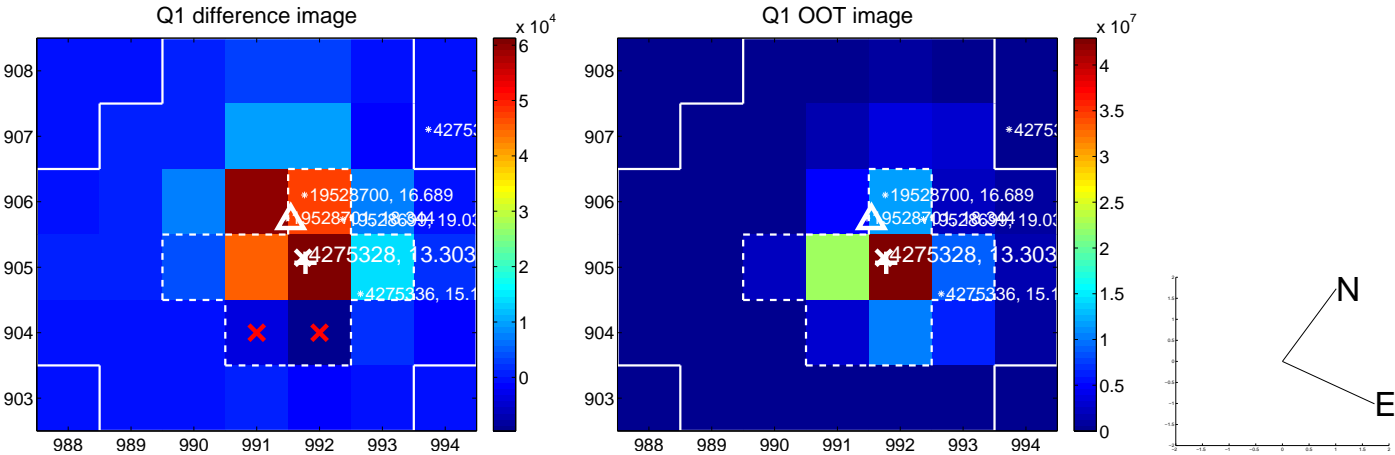
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.760 ± 0.074	37.20	-2.361 ± 0.071	1.429 ± 0.081
PRF-fit source offset from KIC position	2.486 ± 0.068	36.34	-2.092 ± 0.070	1.344 ± 0.071
photometric centroid source offset	1.98 ± 0.03	61.24	-1.70 ± 0.03	1.02 ± 0.04

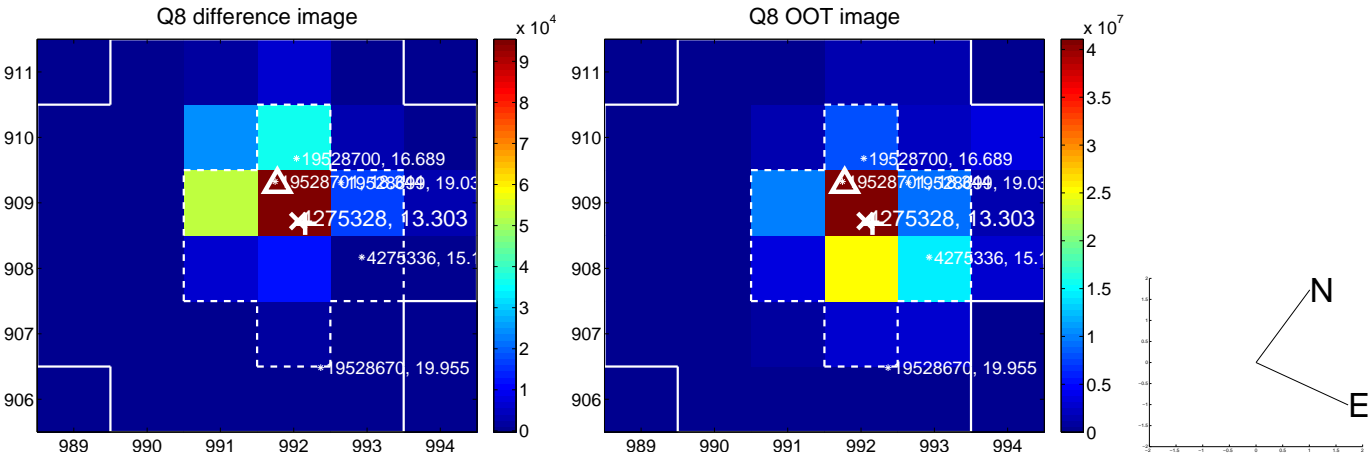
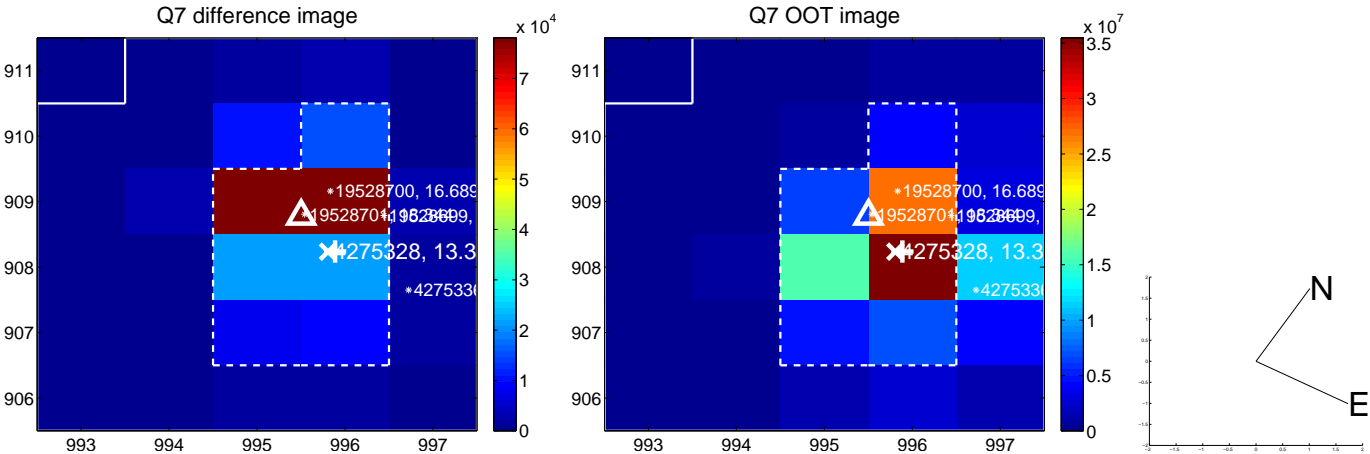
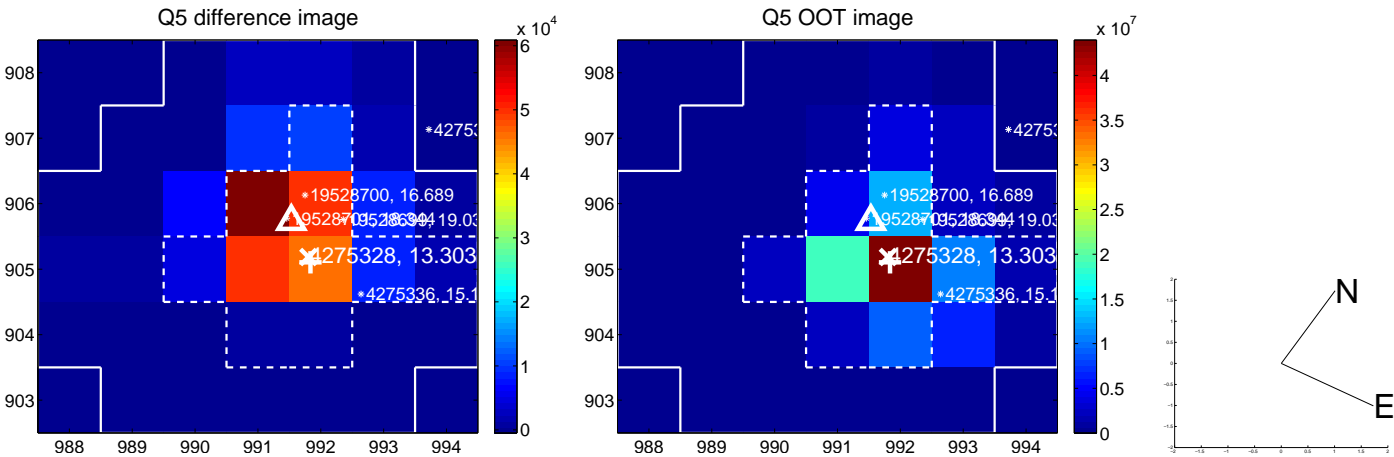


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

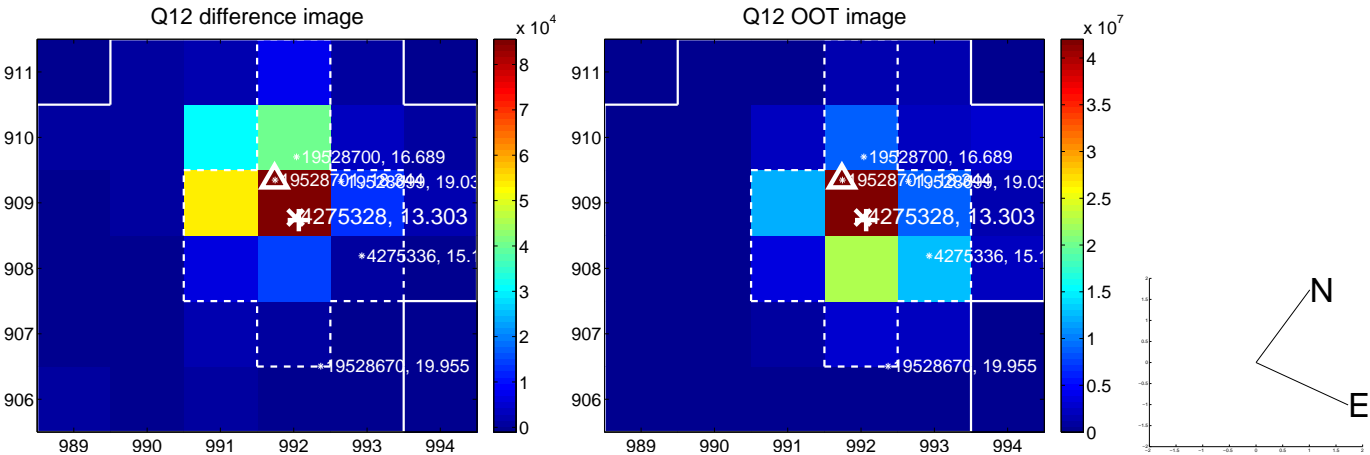
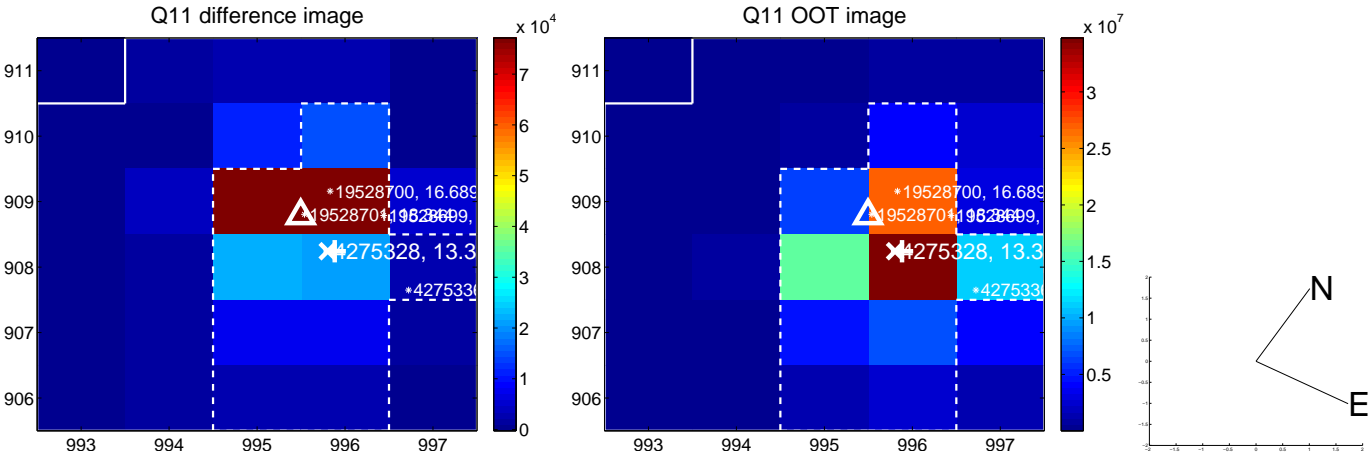
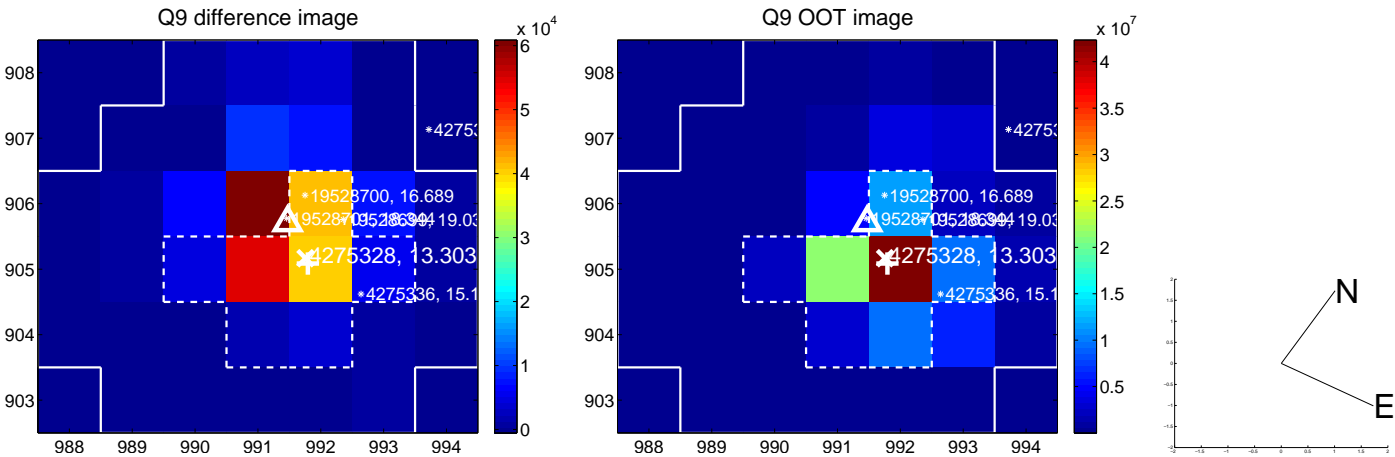
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



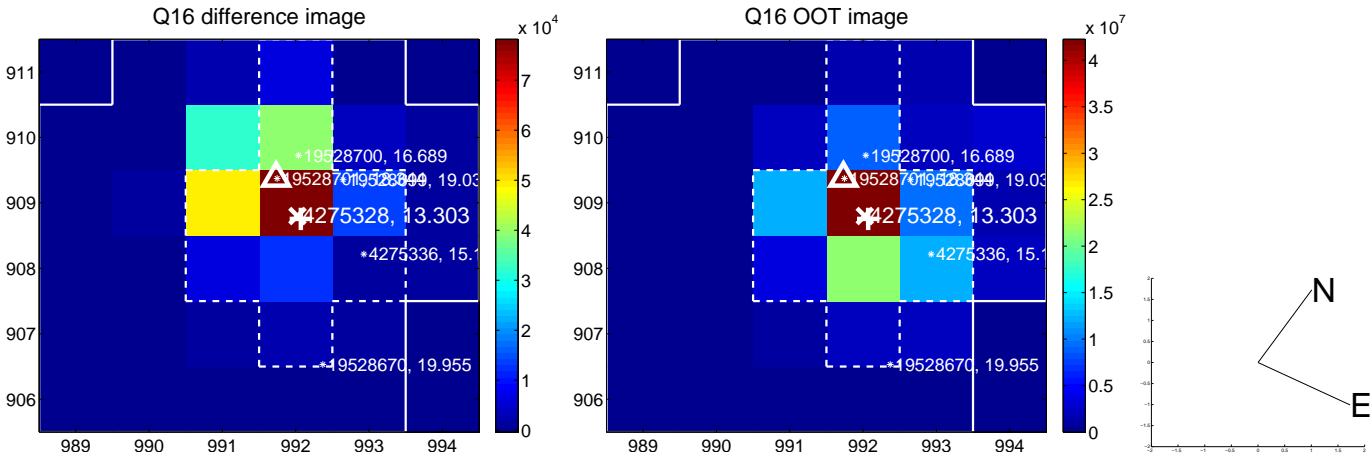
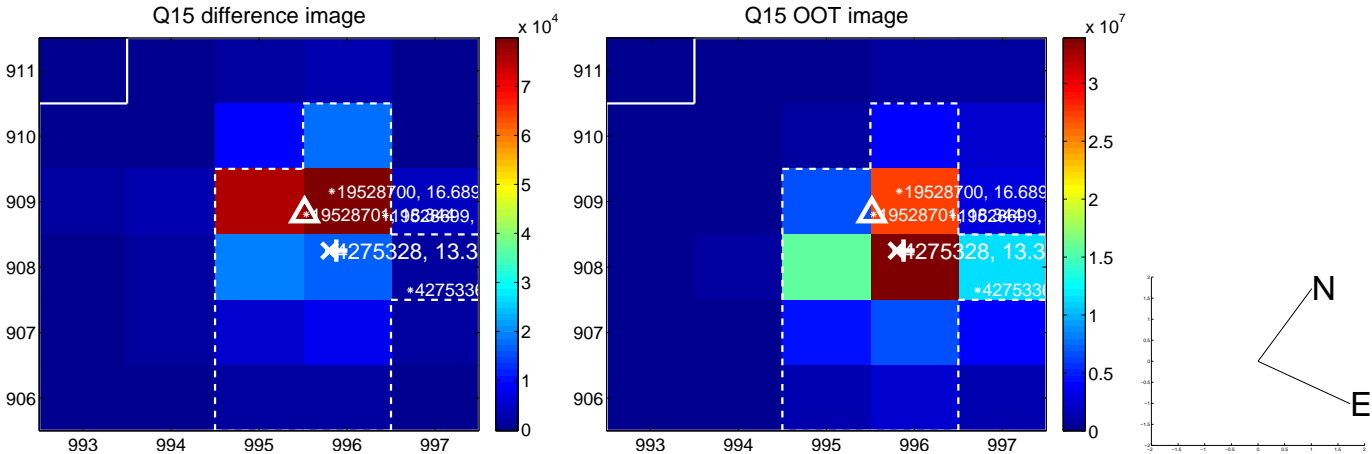
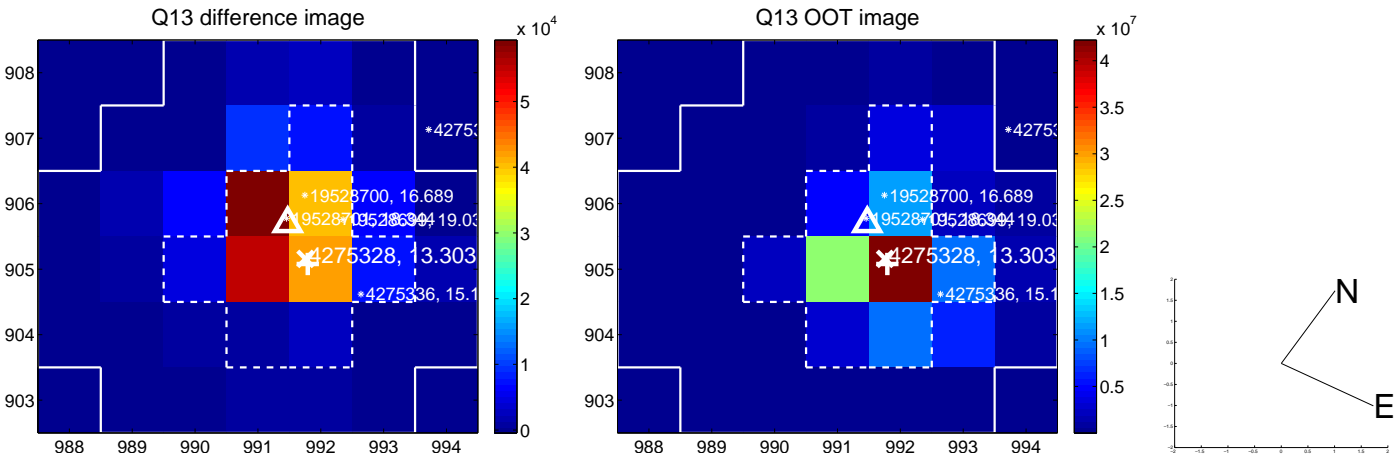
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



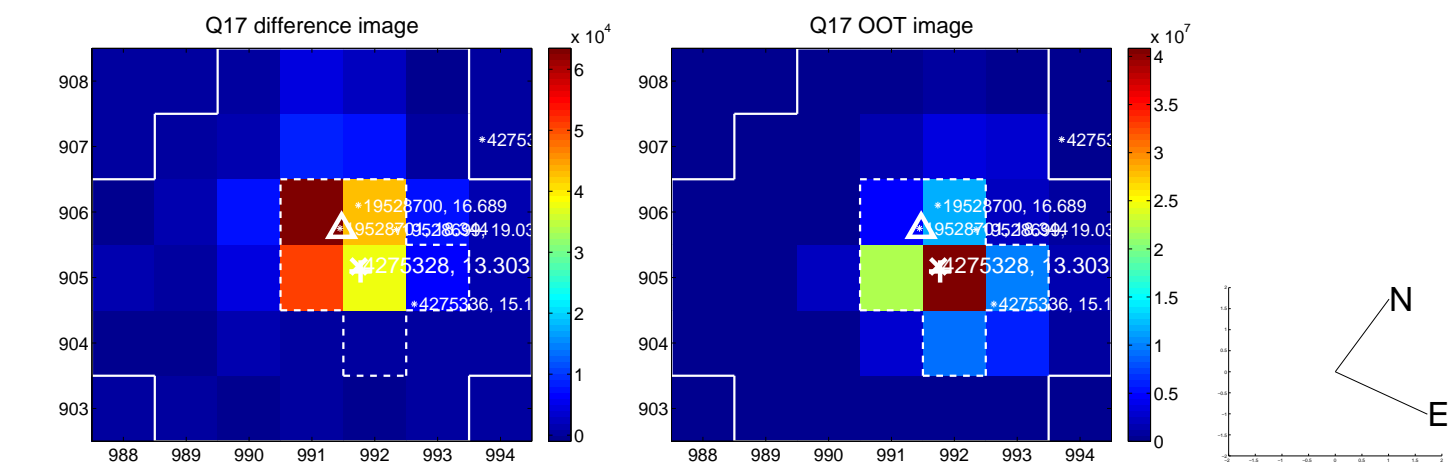
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



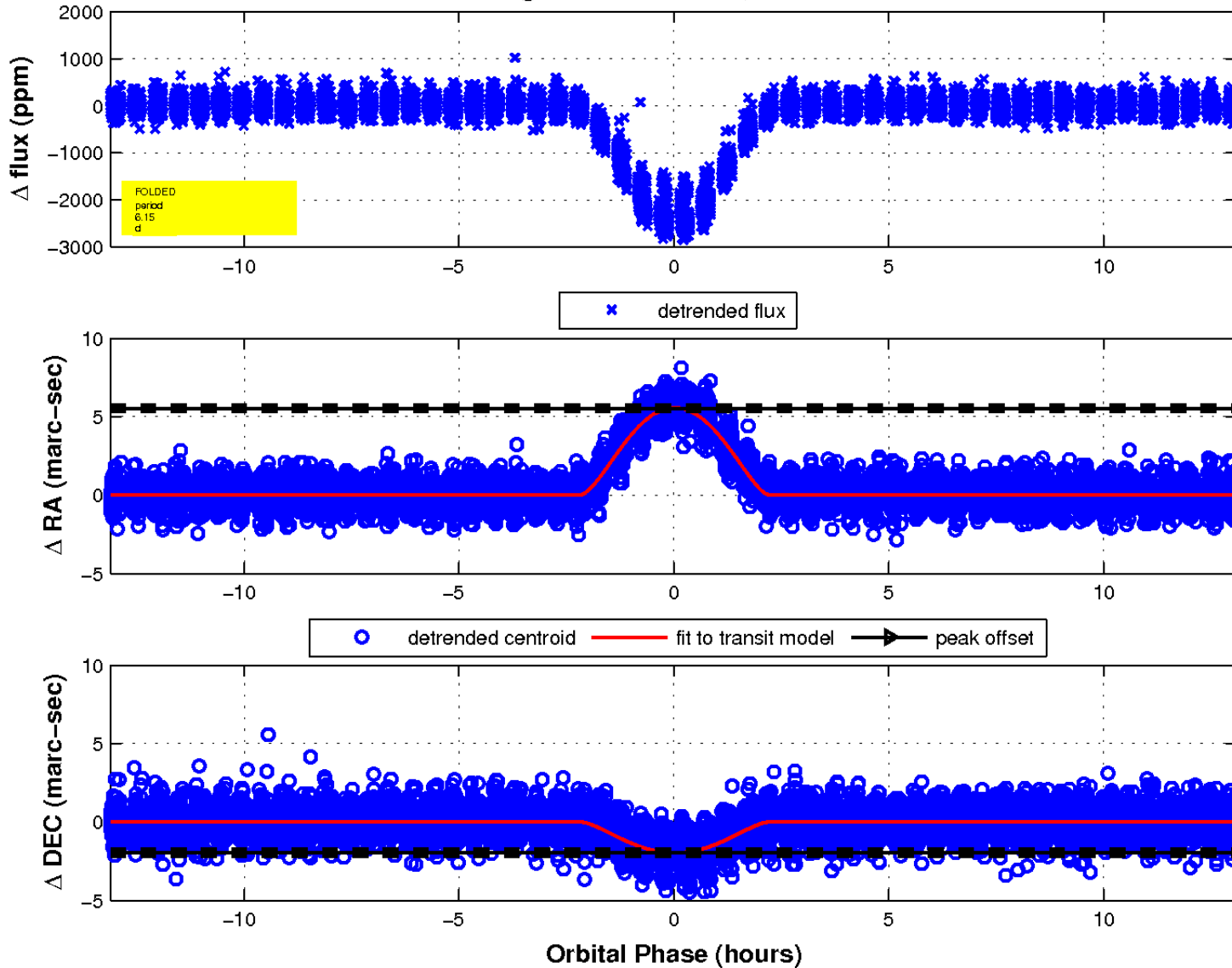
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

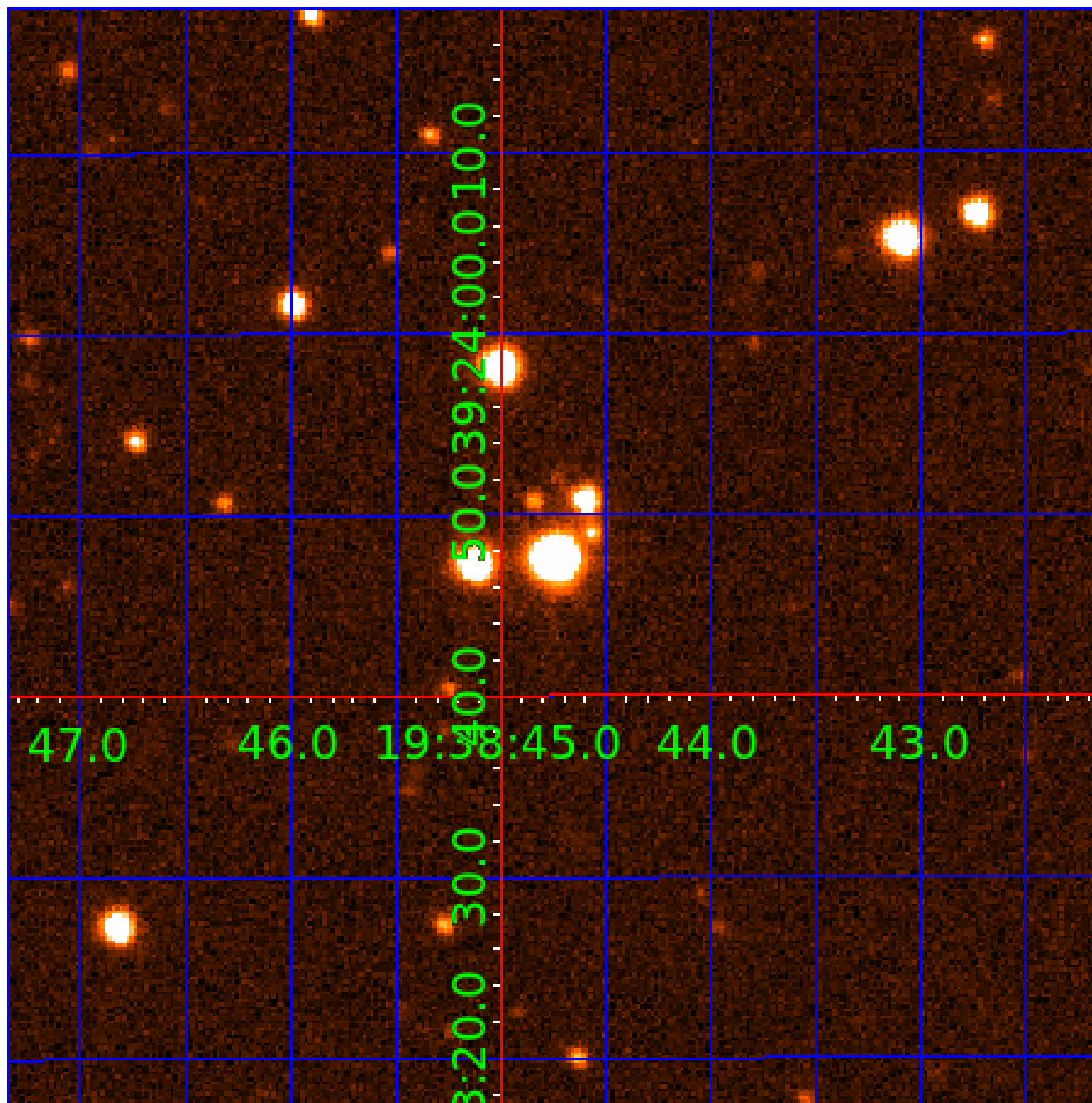


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 004275328

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})
004275328-01	OBS	5995.01	6.150534	132.521633	2417.7	4.372	341.3	337.3	1.56	6691	14.08	965.27
004275328-02	OBS	No	6.150498	135.708093	386.9	4.446	57.8	62.9	1.56	6691	4.04	965.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004275328-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
004275328-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_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.

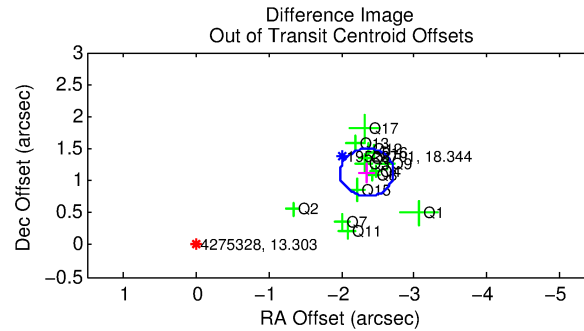
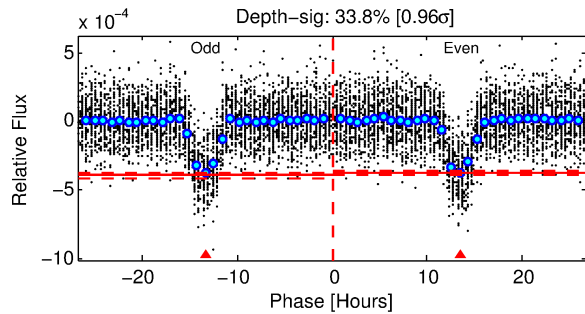
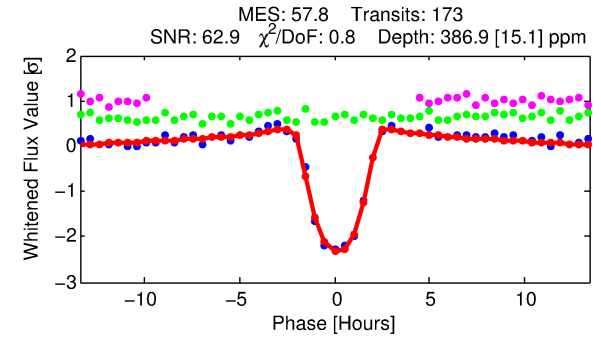
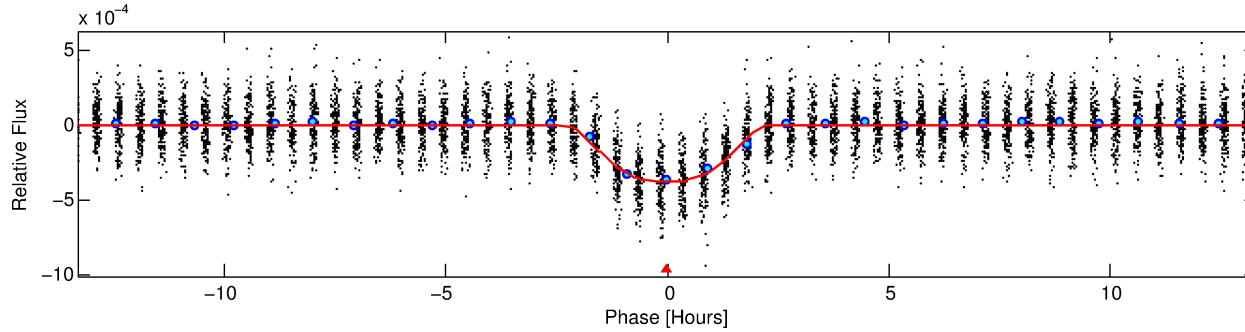
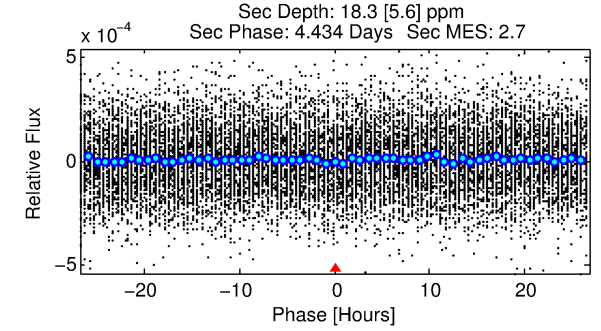
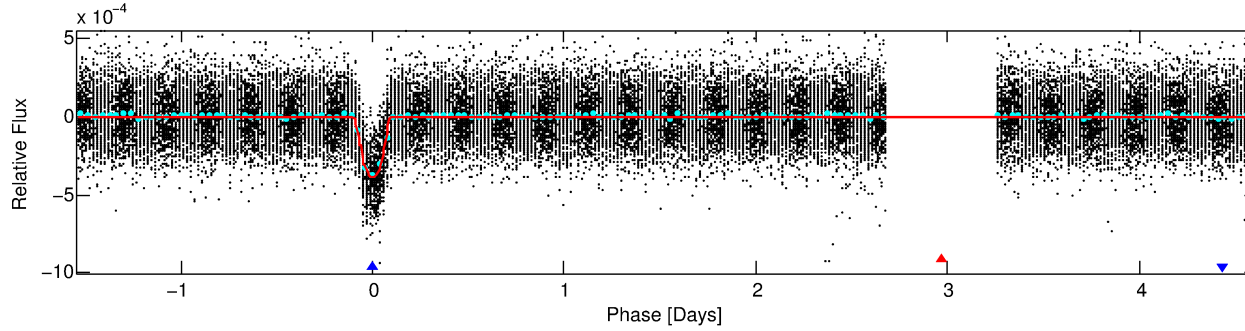
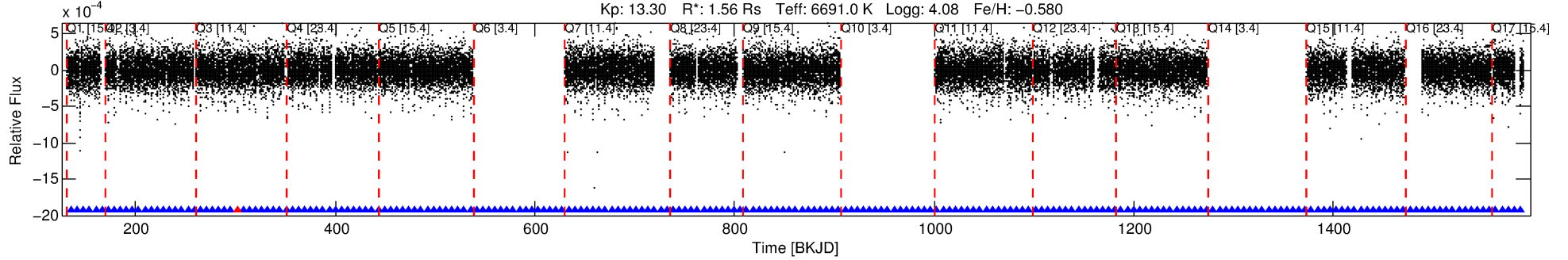
Ephemeris Match Information For 004275328-02

No Significant Match Found

DV One-Page Summary

KIC: 4275328 Candidate: 2 of 2 Period: 6.150 d
KOI: K05995 Corr: No Ephemeris Match

Kp: 13.30 R*: 1.56 Rs Teff: 6691.0 K Logg: 4.08 Fe/H: -0.580



DV Fit Results:

Period = 6.15050 [0.00001] d
Epoch = 135.7081 [0.0014] BKJD
Rp/R* = 0.0237 [0.0007]
a/R* = 3.38 [0.12]
b = 0.98 [0.00]
Seff = 965.28 [501.33]
Teq = 1421 [185] K
Rp = 4.04 [1.32] Re
a = 0.0675 [0.0211] AU
Ag = 2.80 [1.65] [1.09σ]
Teffp = 2844 [243] K [4.66σ]

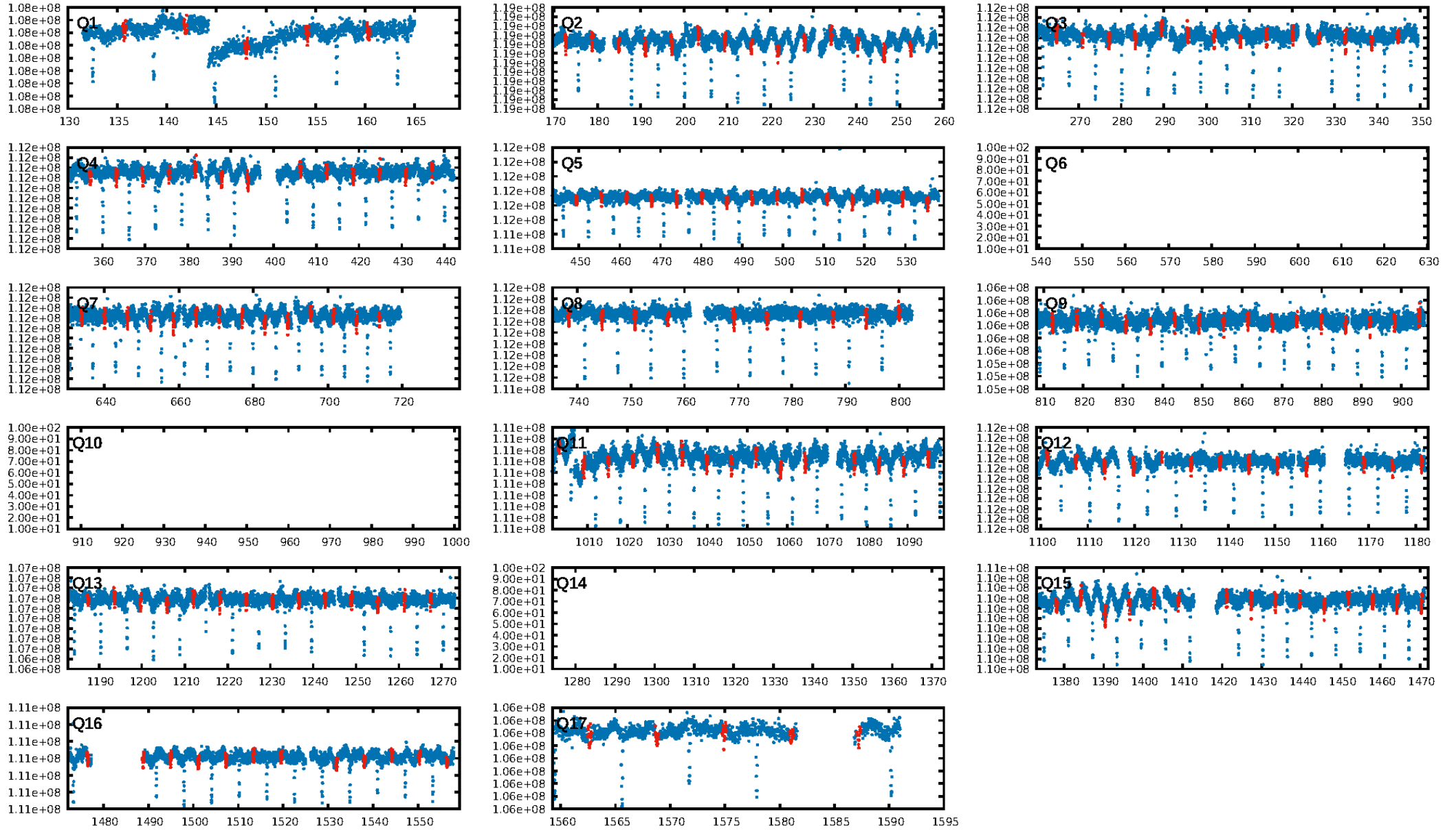
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [162/163]
GhostDiagnostic-chr: 2.727
Centroid-sig: 0.0%
Centroid-so: 1.916 arcsec [10.08σ]
OotOffset-rm: 2.606 arcsec [21.16σ]
KicOffset-rm: 2.314 arcsec [20.41σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

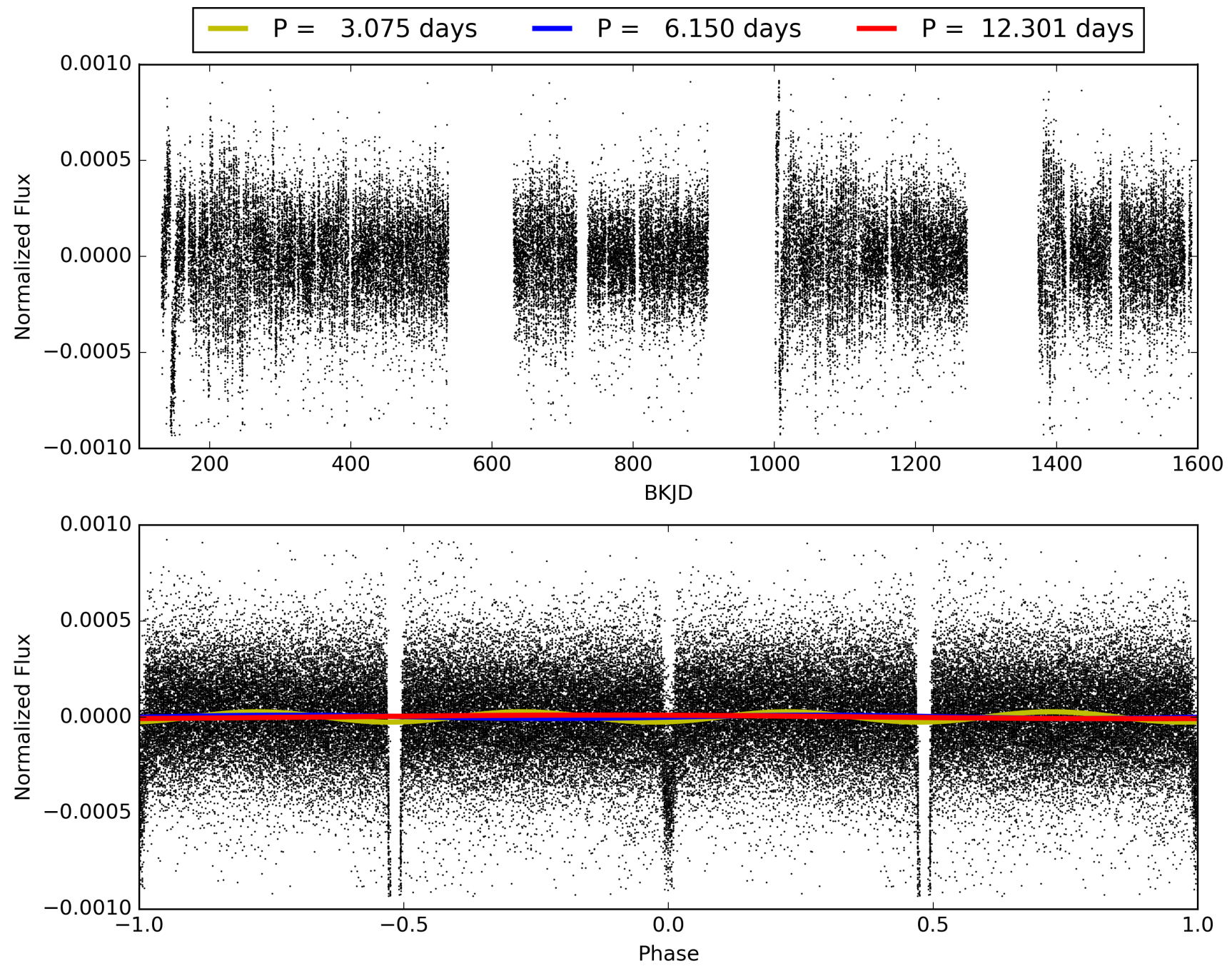
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:36:52 Z

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

TCE 004275328-02, PDC Light Curves

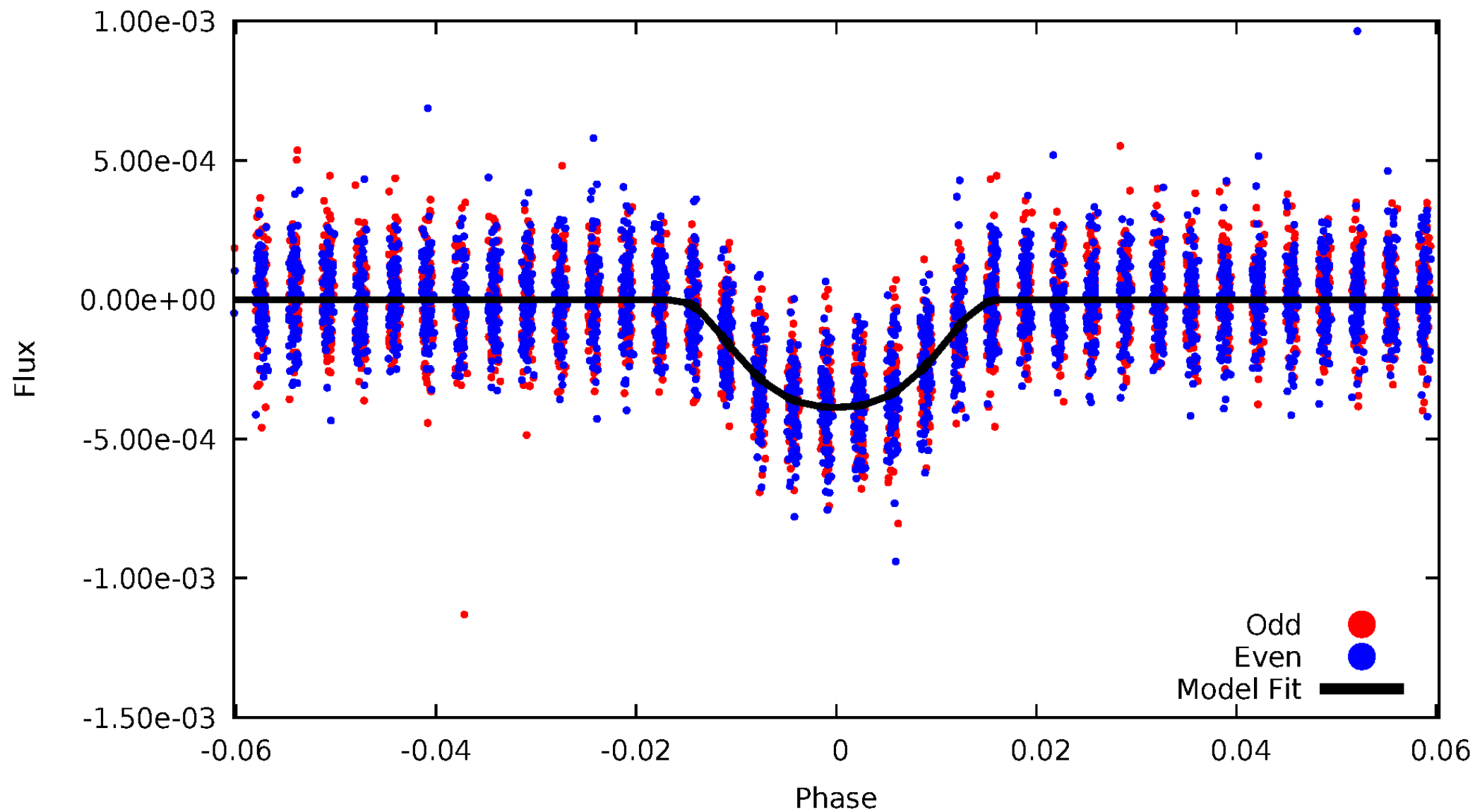


TCE 004275328-02



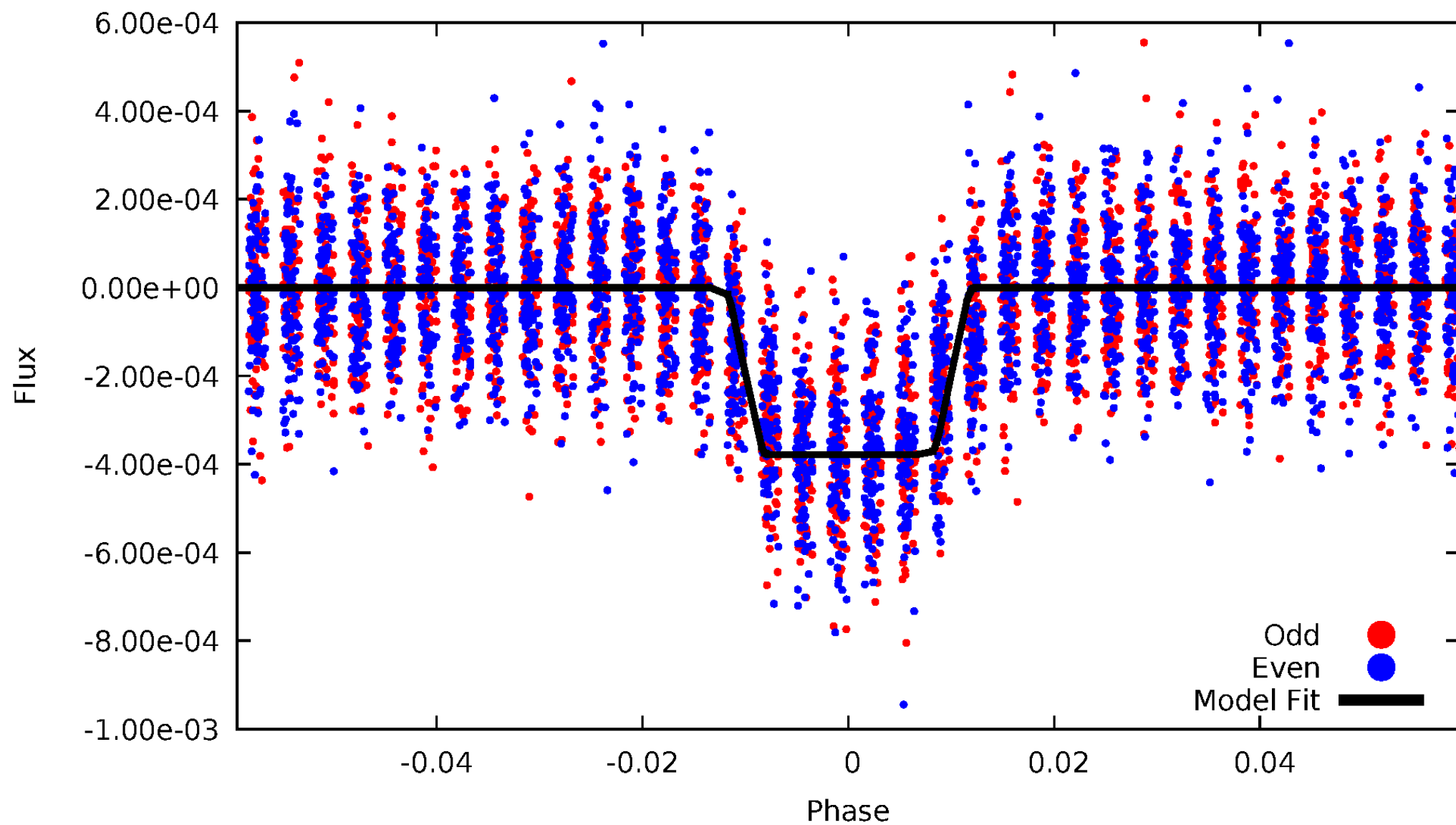
DV Odd/Even

TCE 004275328-02



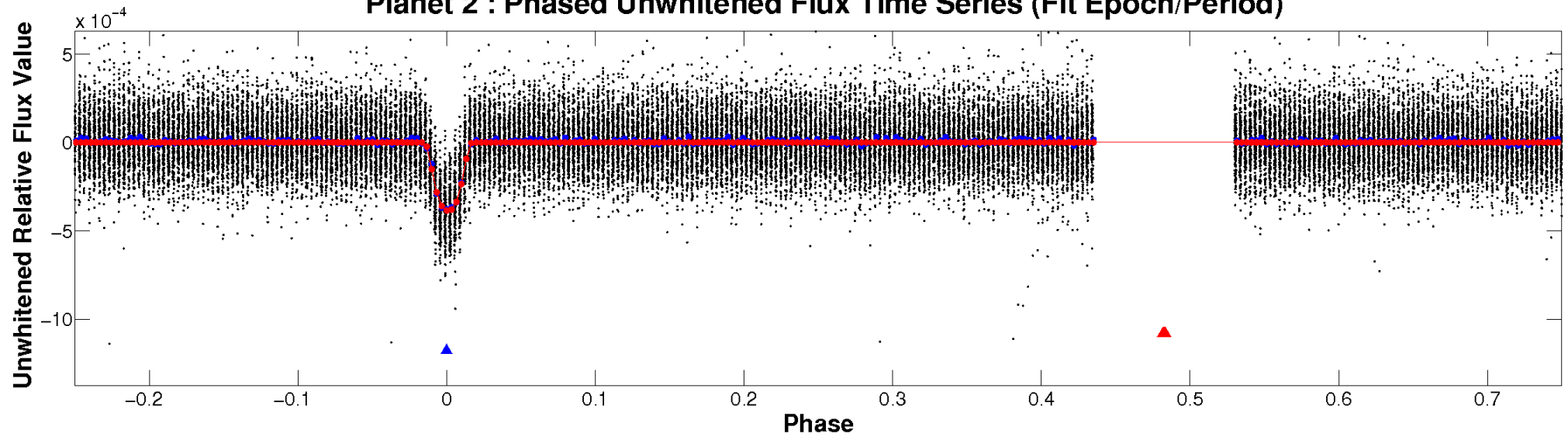
ALT Odd/Even

TCE 004275328-02

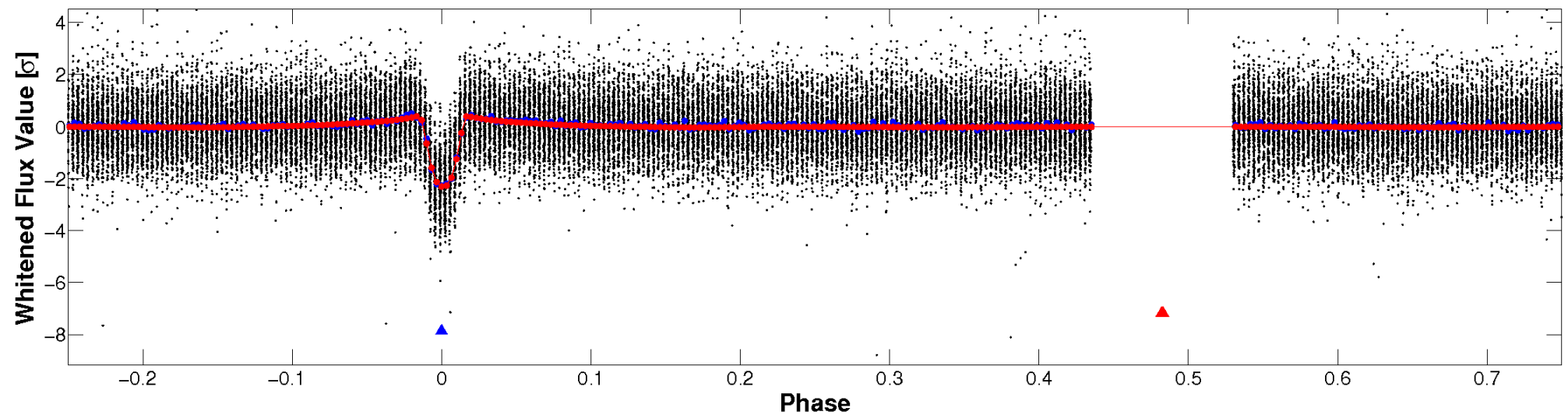


Non-Whitened Vs. Whitened Light Curve

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

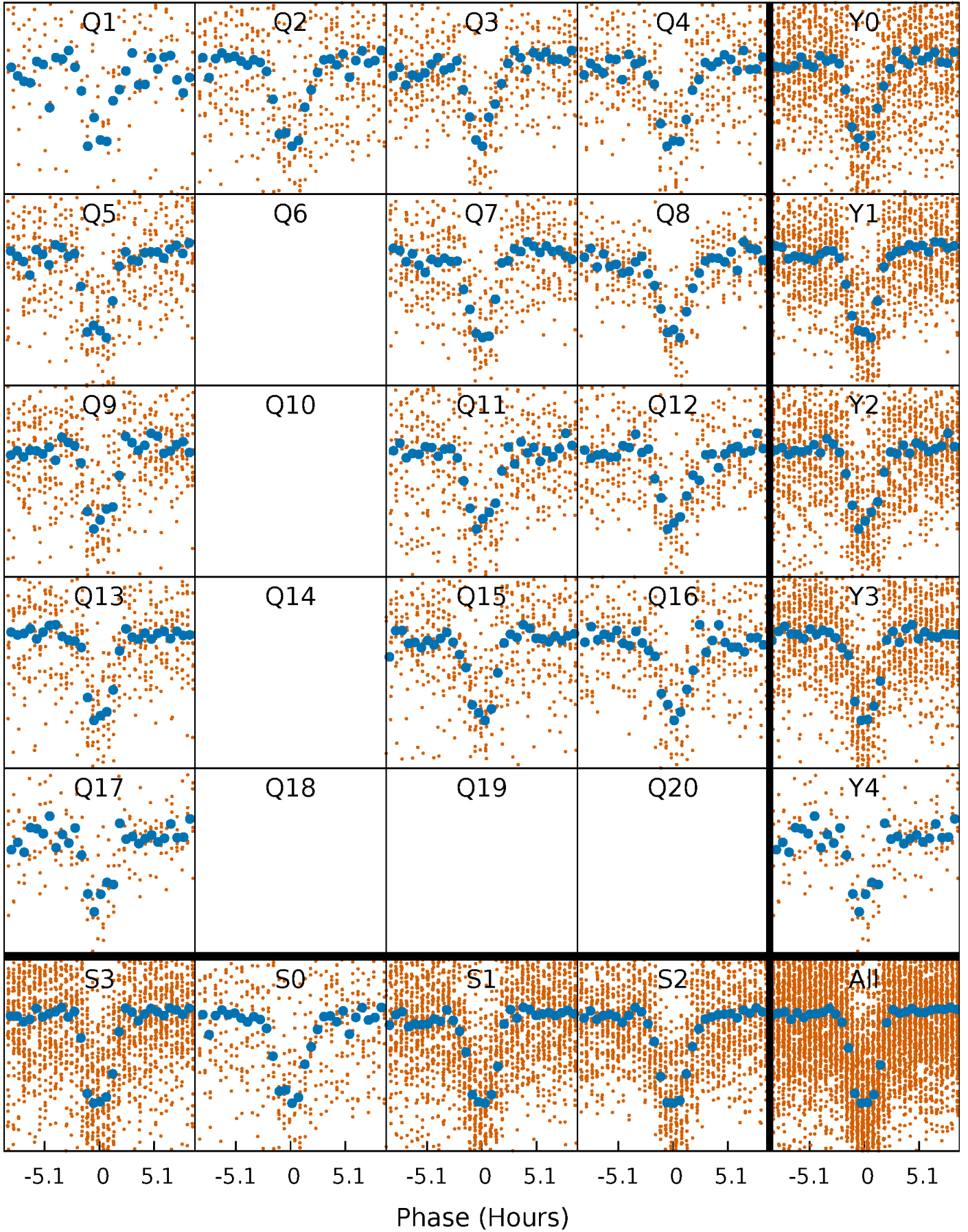


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



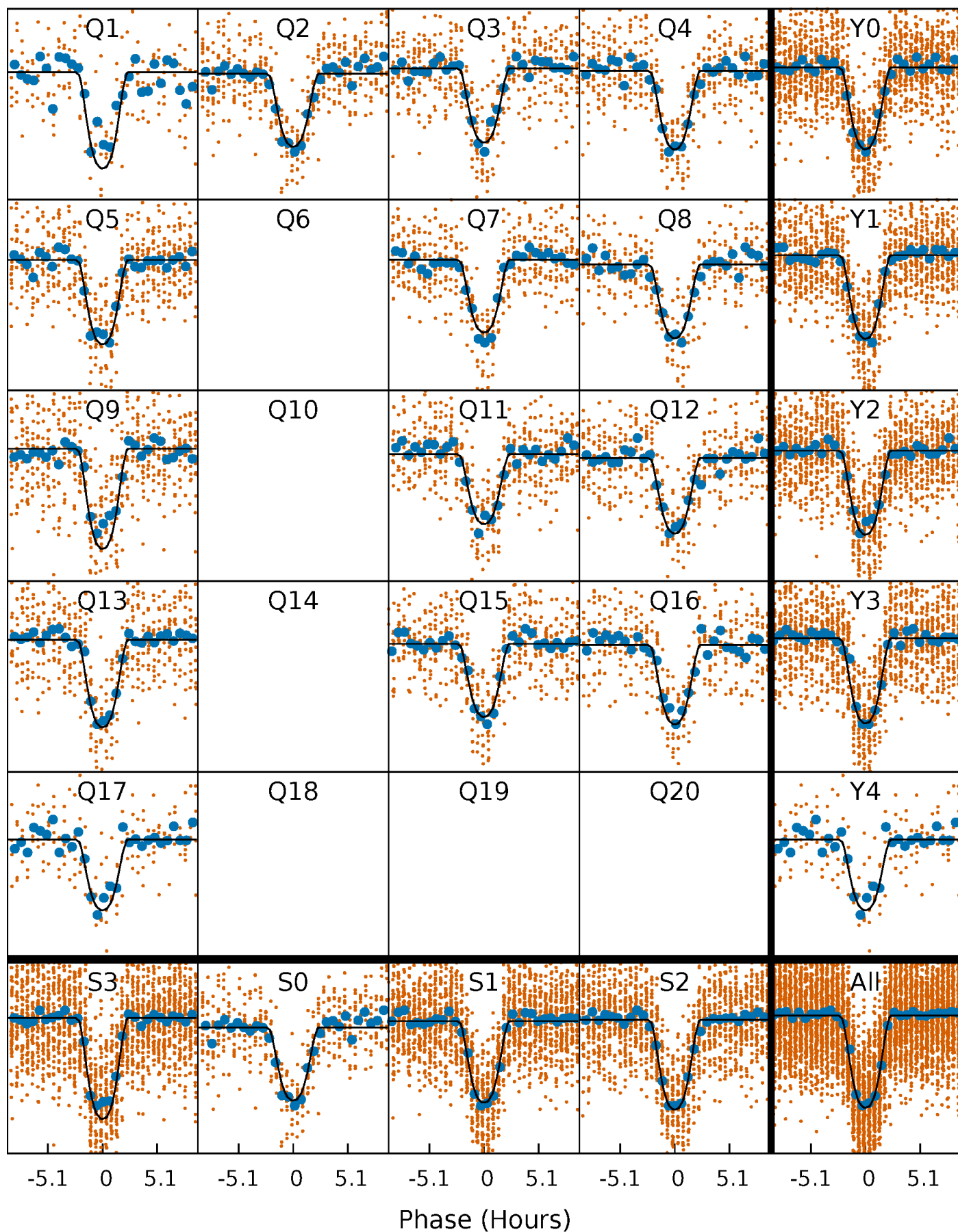
PDC Quarter-Phased Transit Curves

TCE 004275328-02 P= 6.150498 Days $T_0=135.708092$ (BKJD)



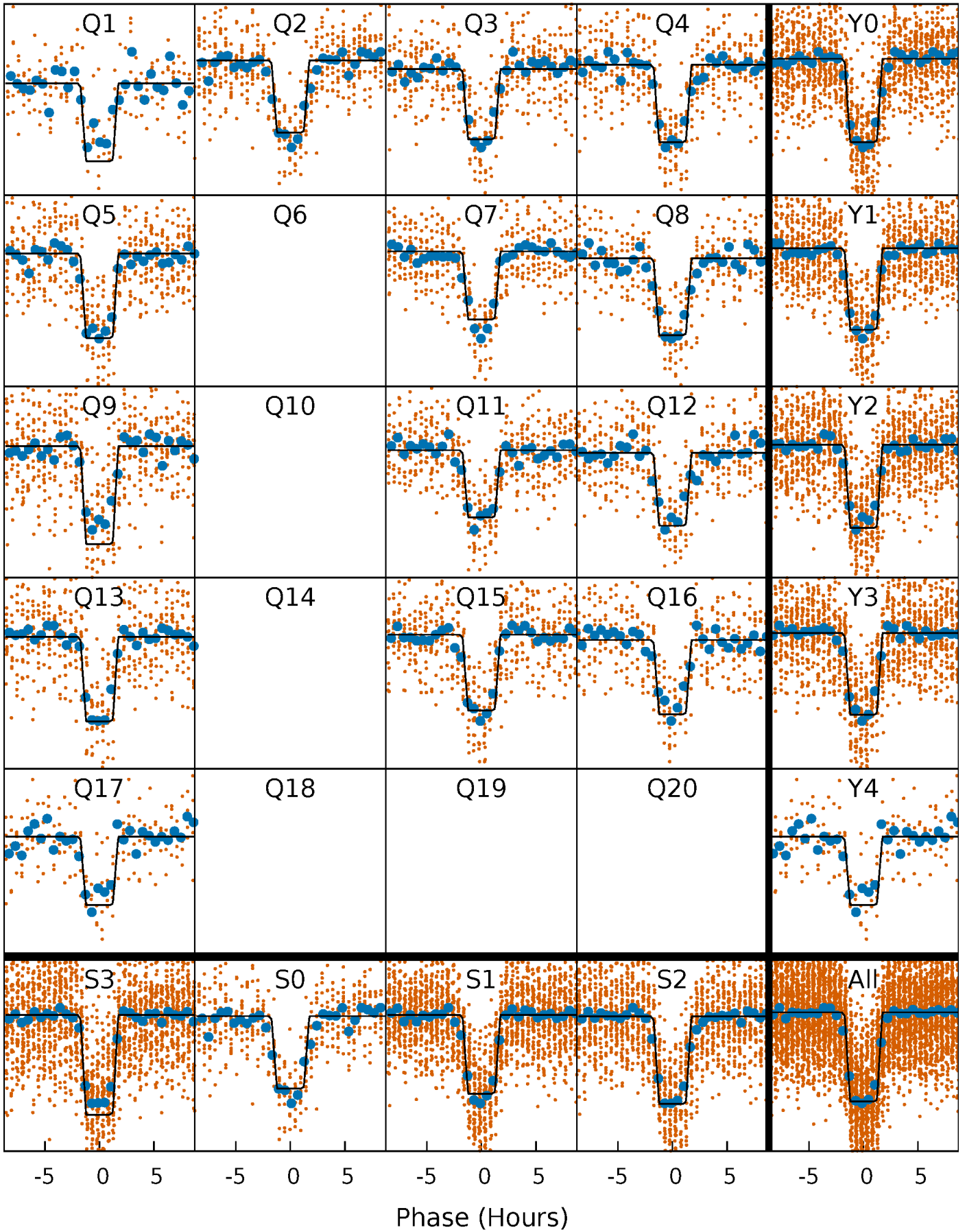
DV Quarter-Phased Transit Curves

TCE 004275328-02 P= 6.150498 Days $T_0=135.708092$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

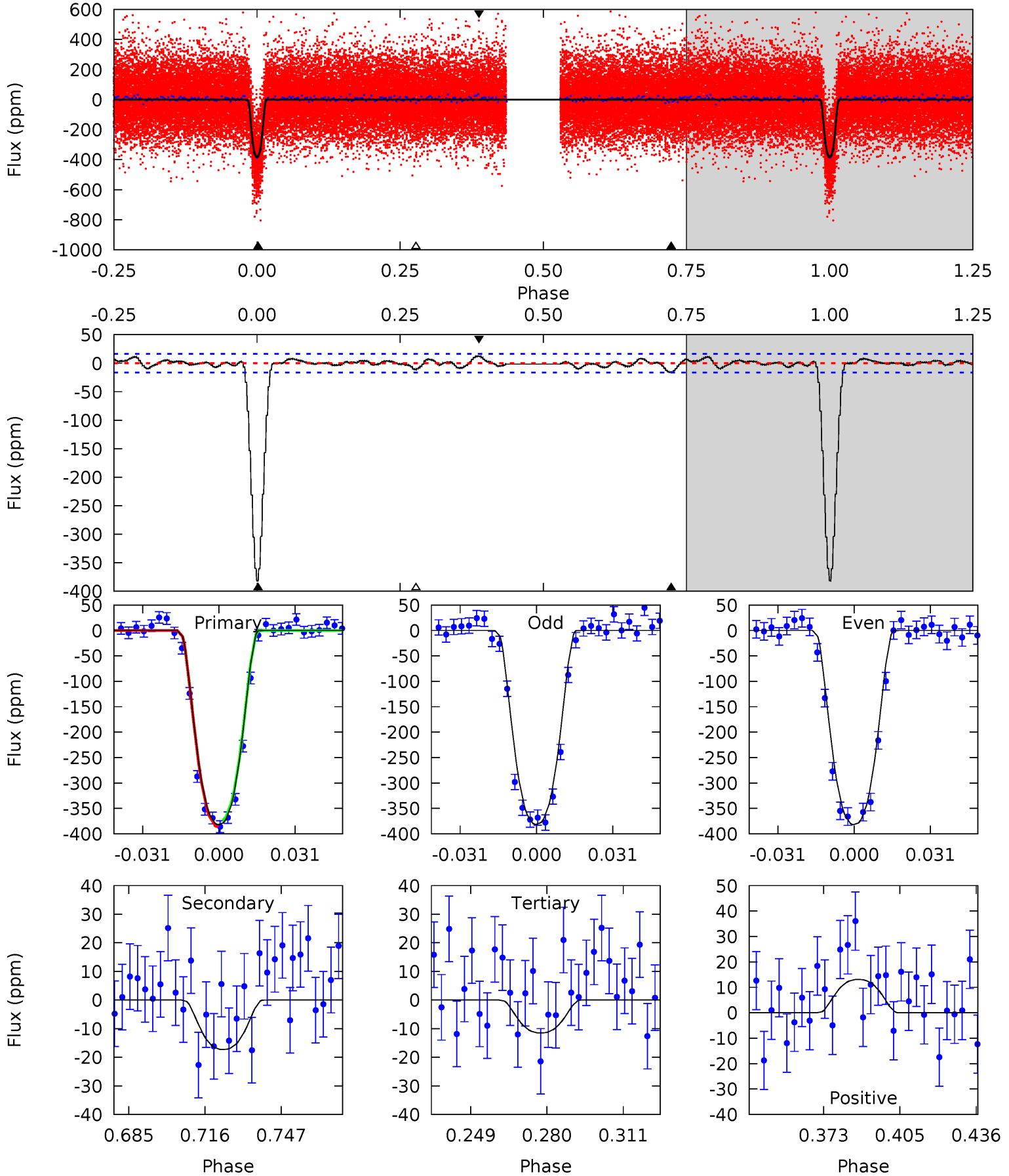
TCE 004275328-02 P= 6.150532 Days $T_0=135.704352$ (BKJD)



DV Model-Shift Uniqueness Test

004275328-02, P = 6.150498 Days, E = 129.557594 Days

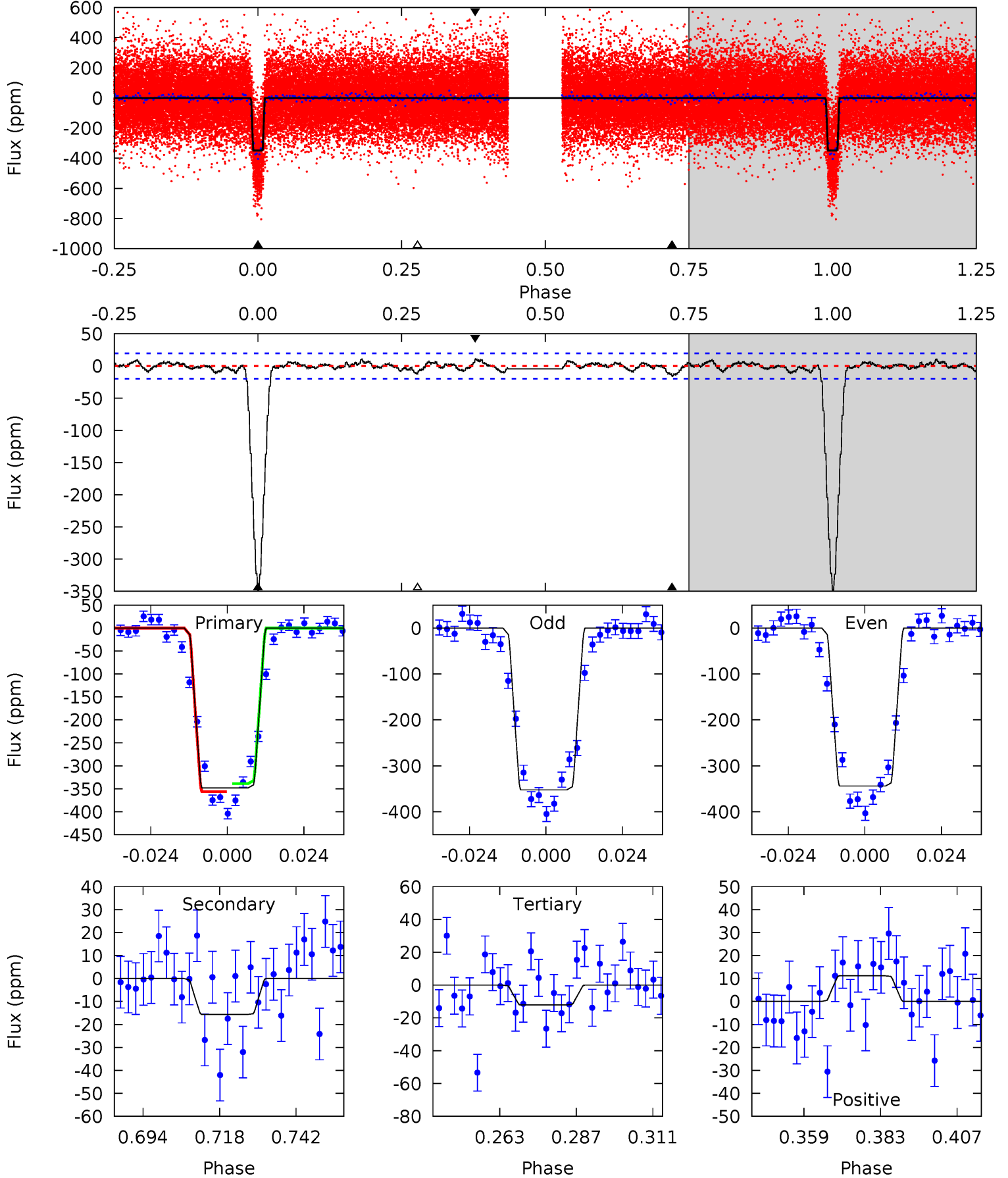
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
111.2	5.04	3.35	3.82	4.80	2.16	1.32	107.8	107.3	1.69	1.22	0.09	1.00	0.03	1.64



Alt Model-Shift Uniqueness Test

004275328-02, P = 6.150532 Days, E = 129.553820 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
86.1	3.87	2.99	2.76	4.86	2.26	1.08	83.1	83.3	0.88	1.11	1.05	1.00	0.03	2.19



Stellar Parameters For KIC 004275328

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6691^{+190}_{-238}	$4.084^{+0.293}_{-0.158}$	$-0.580^{+0.300}_{-0.300}$	$1.565^{+0.417}_{-0.510}$	$1.083^{+0.163}_{-0.134}$	$0.398^{+0.746}_{-0.172}$
	+3%/-4%	+7%/-4%	+52%/-52%	+27%/-33%	+15%/-12%	+187%/-43%
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 004275328-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-17 ± 3	$3.97^{+0.65}_{-0.64}$	1964^{+154}_{-173}	3289^{+123}_{-147}	$2.760^{+1.329}_{-0.879}$
Alt.	-16 ± 4	$3.28^{+0.52}_{-0.56}$	1958^{+145}_{-175}	3437^{+168}_{-185}	$3.654^{+2.053}_{-1.183}$

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

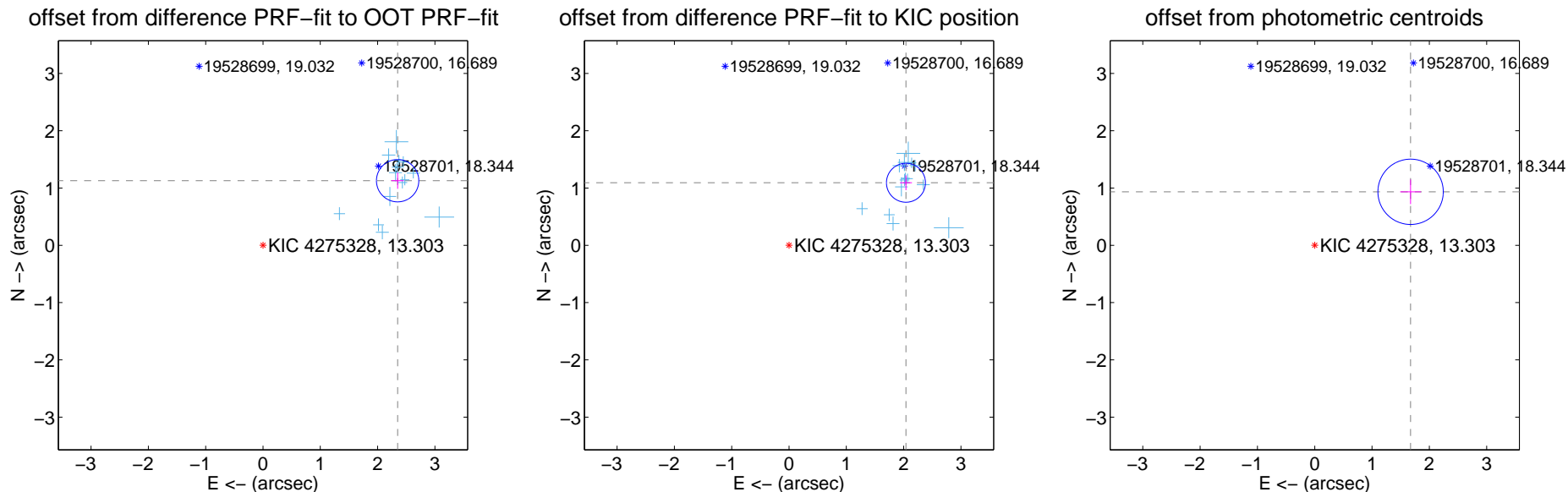
DV Centroid Data

Supplemental centroid analysis for 004275328-02. Kepler magnitude: 13.30. Transit SNR 62.90

There are 14 quarters with good PRF difference image offsets

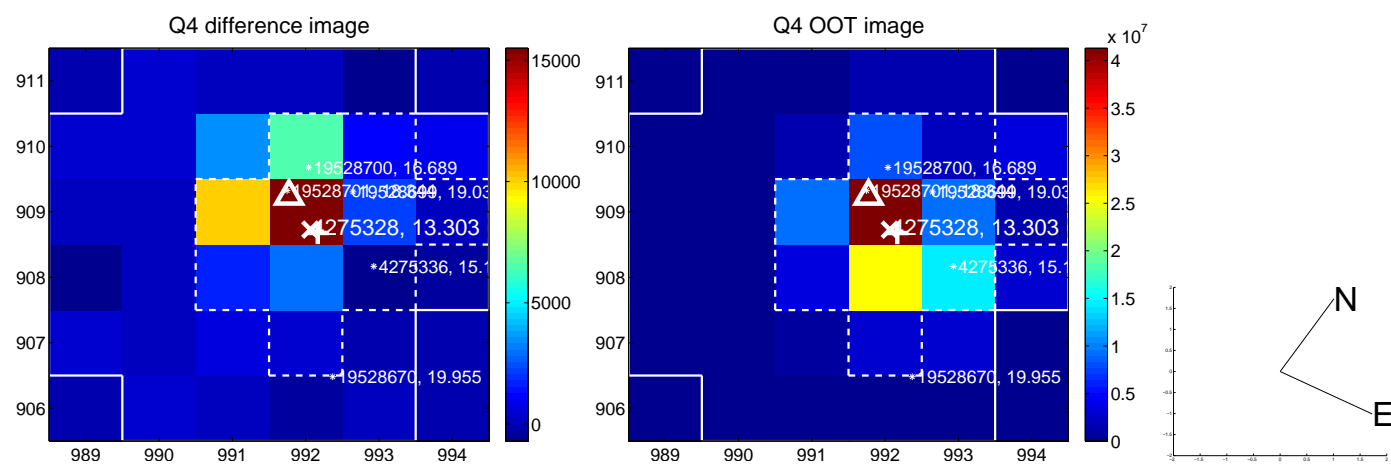
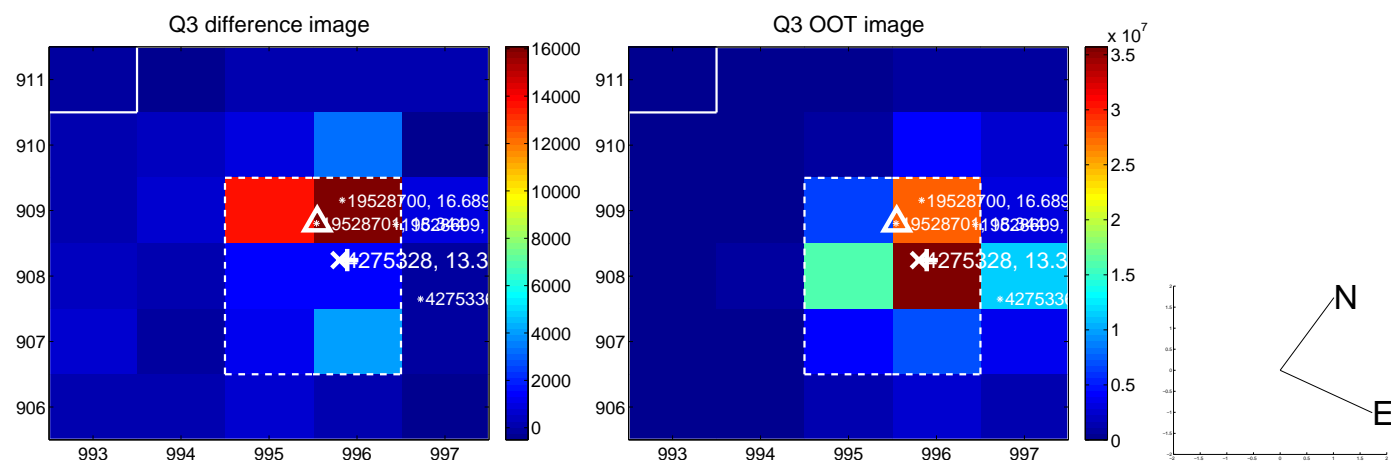
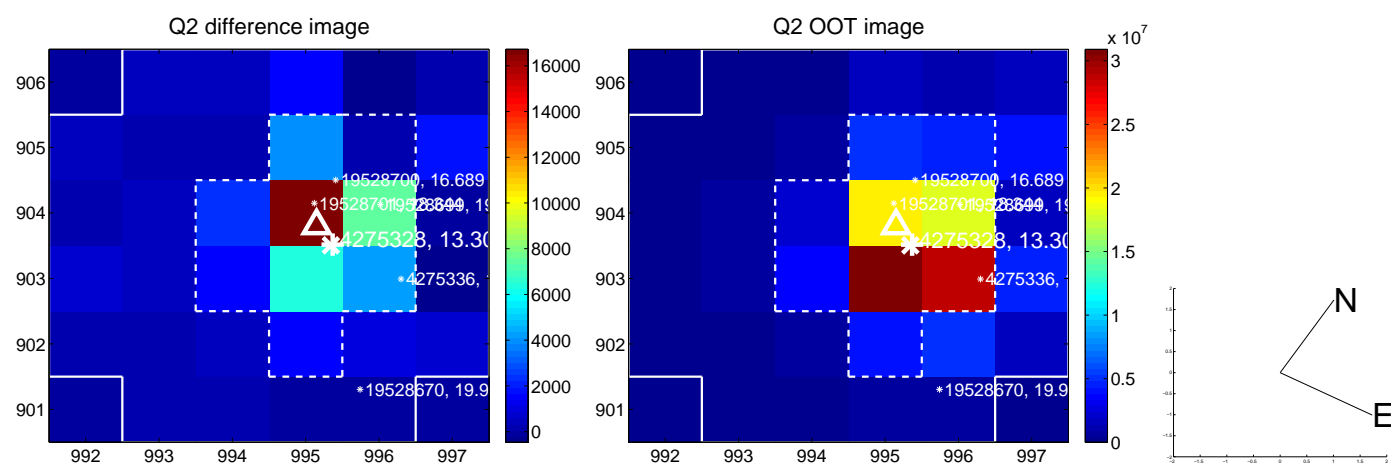
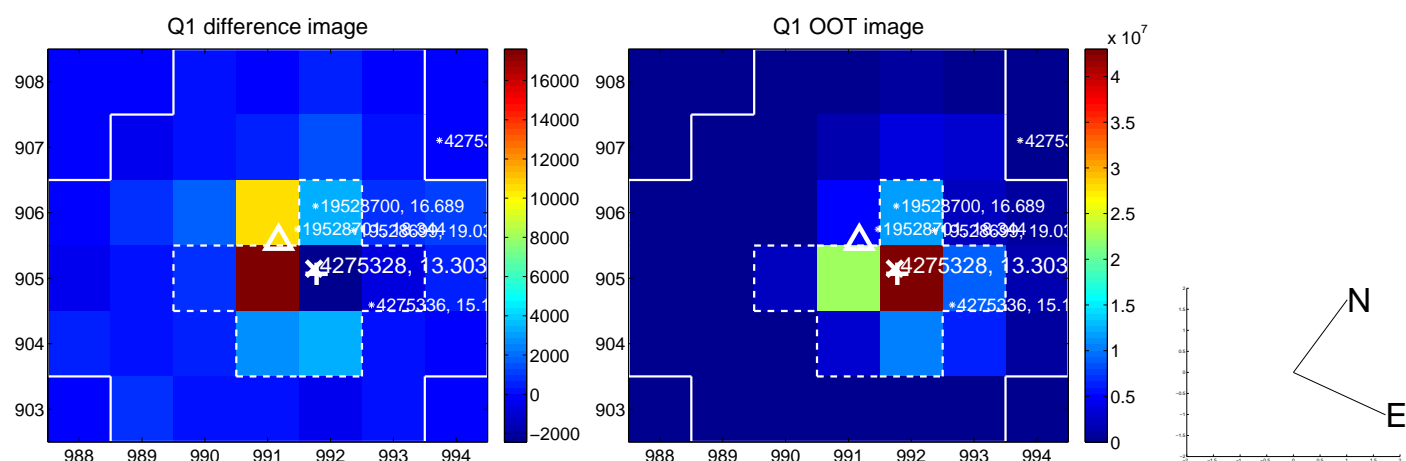
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.606 ± 0.123	21.16	-2.349 ± 0.109	1.128 ± 0.142
PRF-fit source offset from KIC position	2.314 ± 0.113	20.41	-2.040 ± 0.105	1.092 ± 0.129
photometric centroid source offset	1.92 ± 0.19	10.08	-1.67 ± 0.18	0.93 ± 0.21

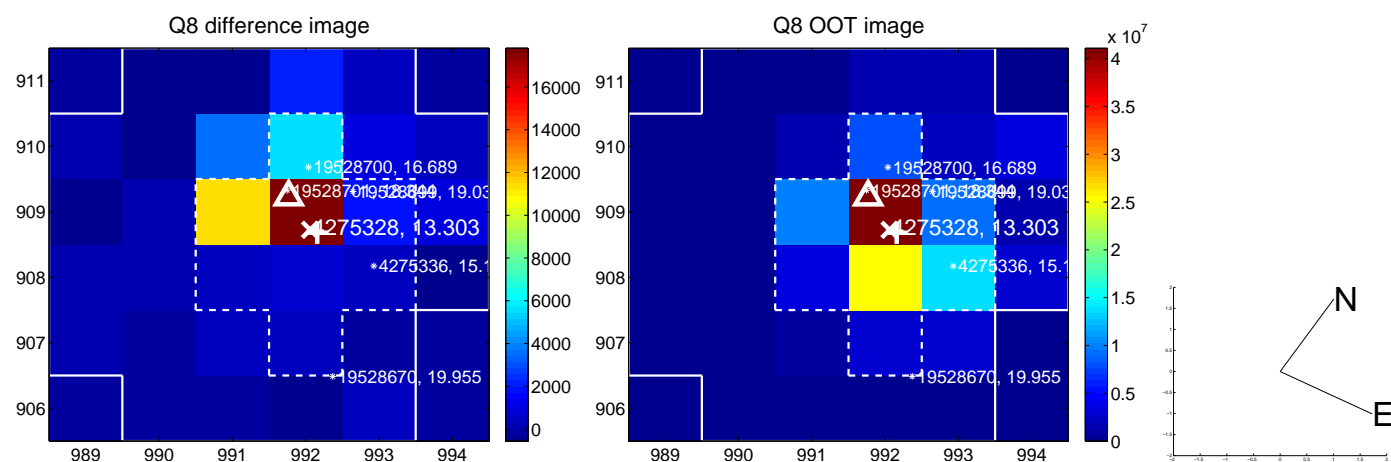
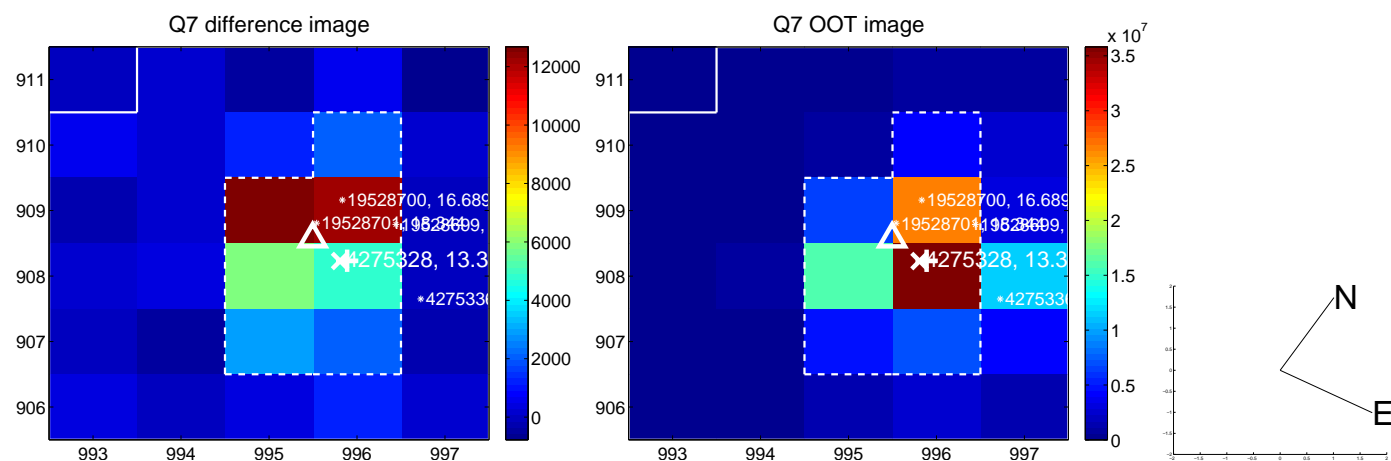
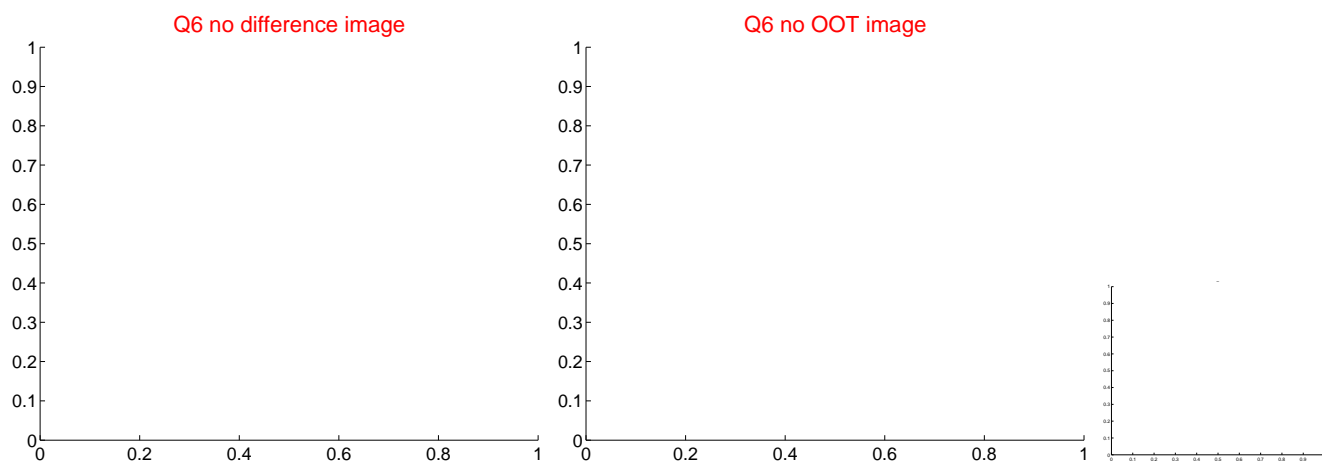
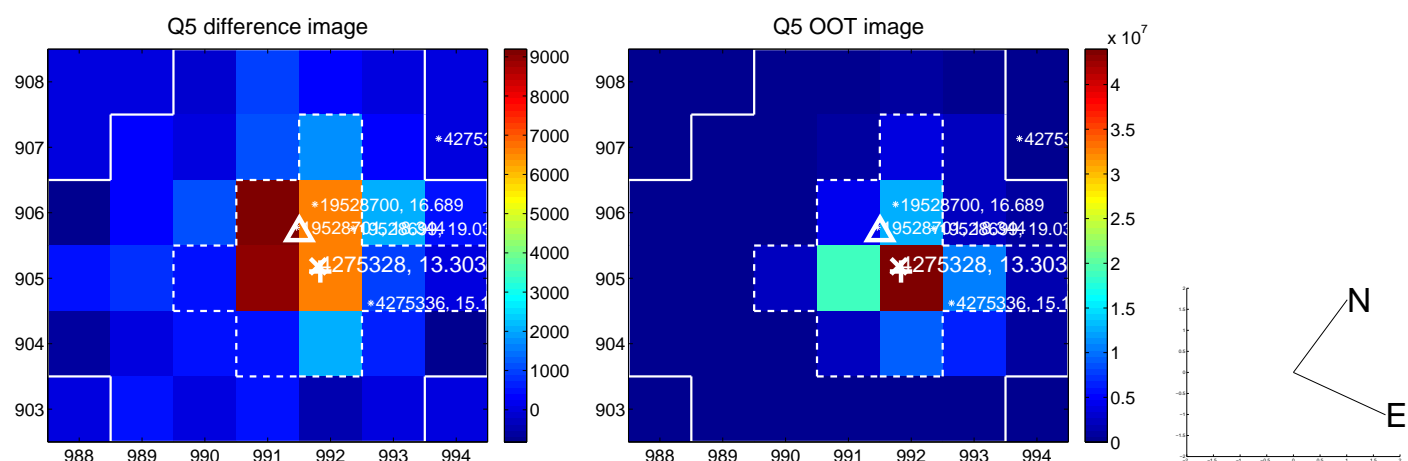


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

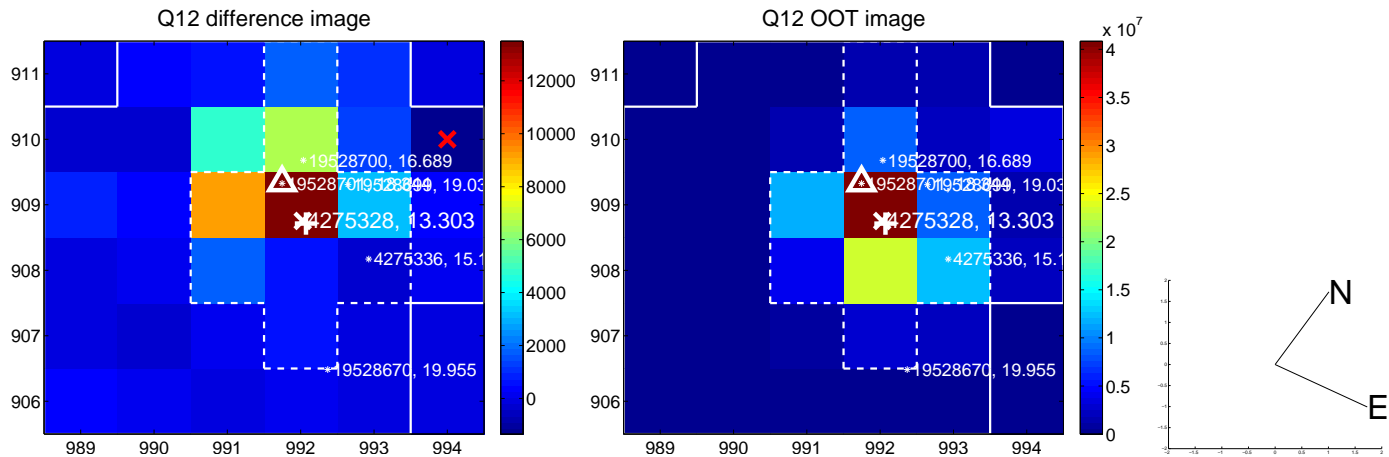
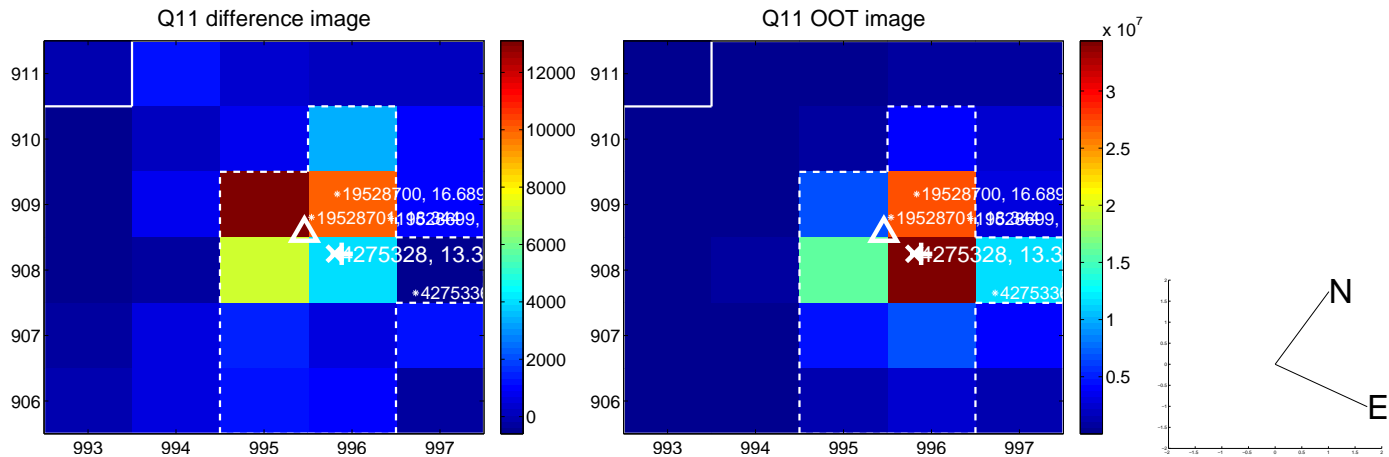
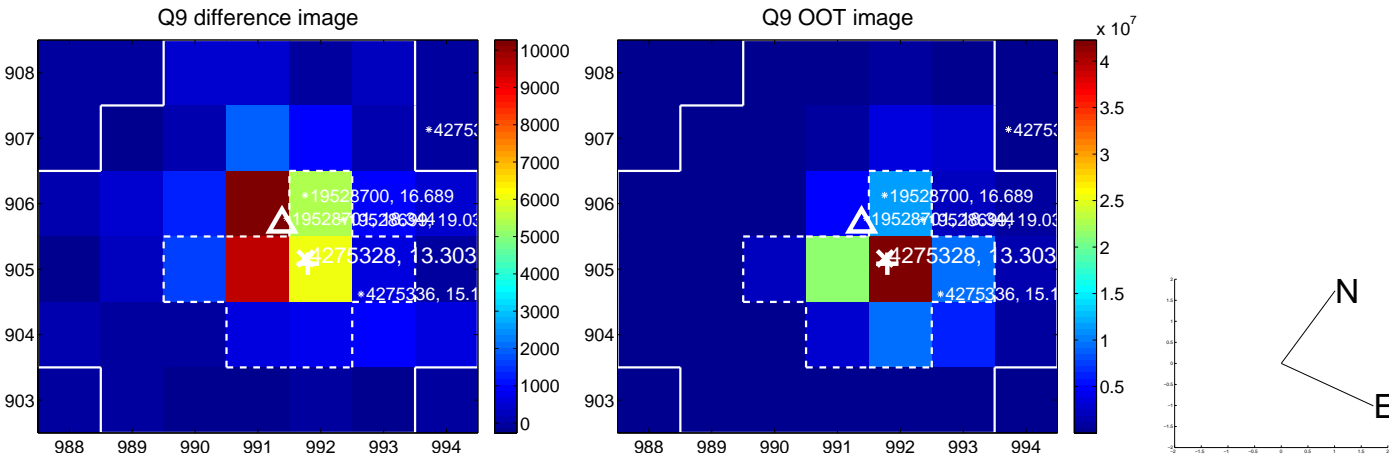
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



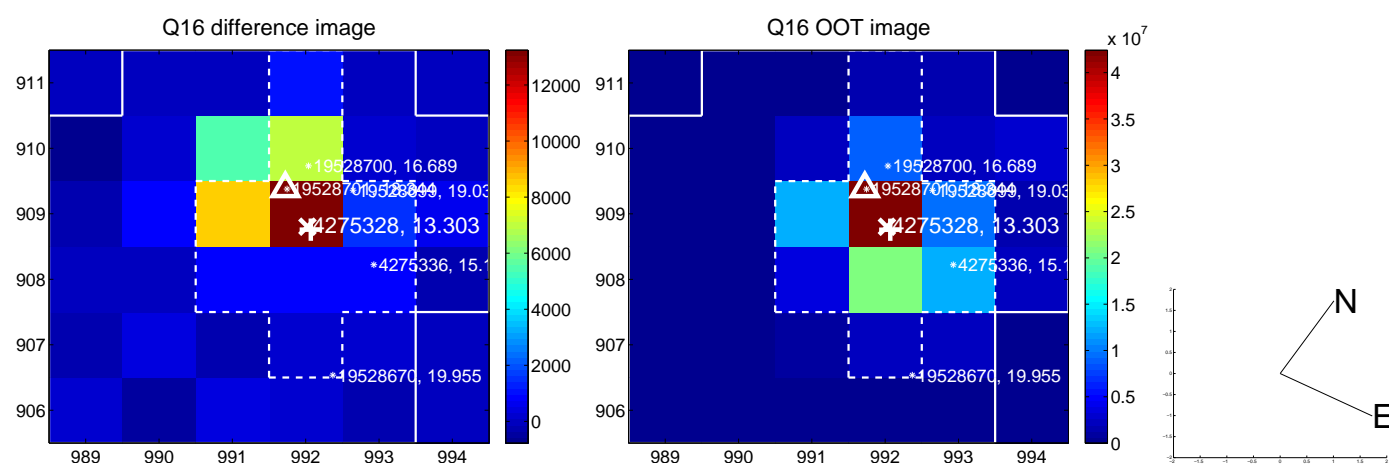
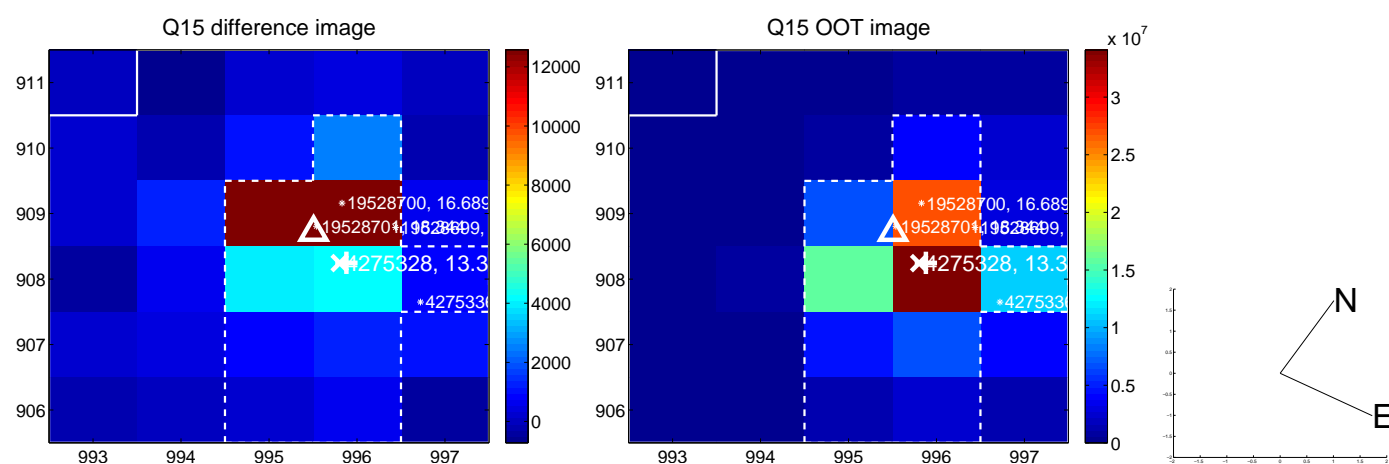
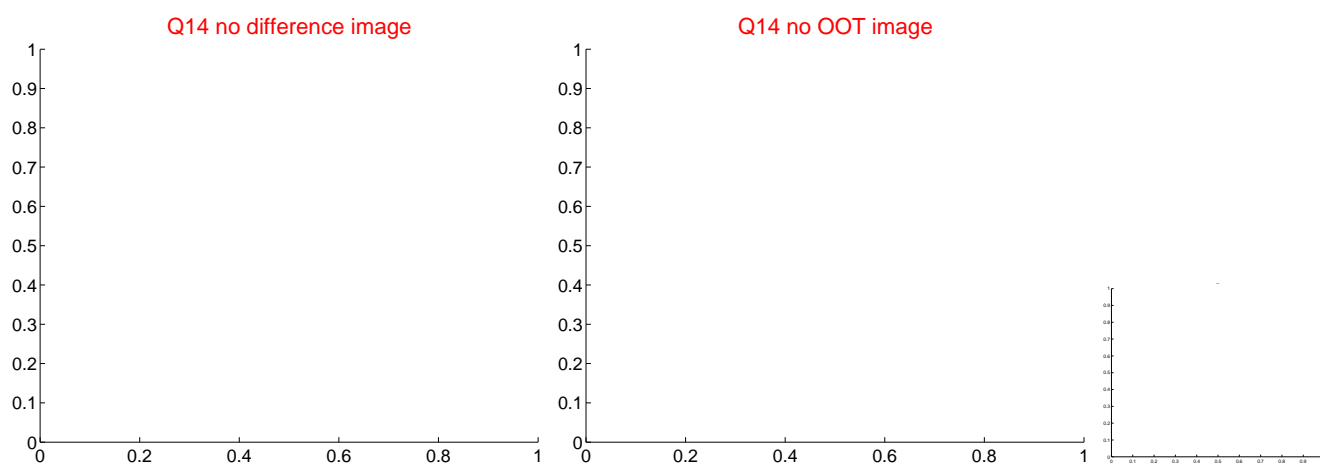
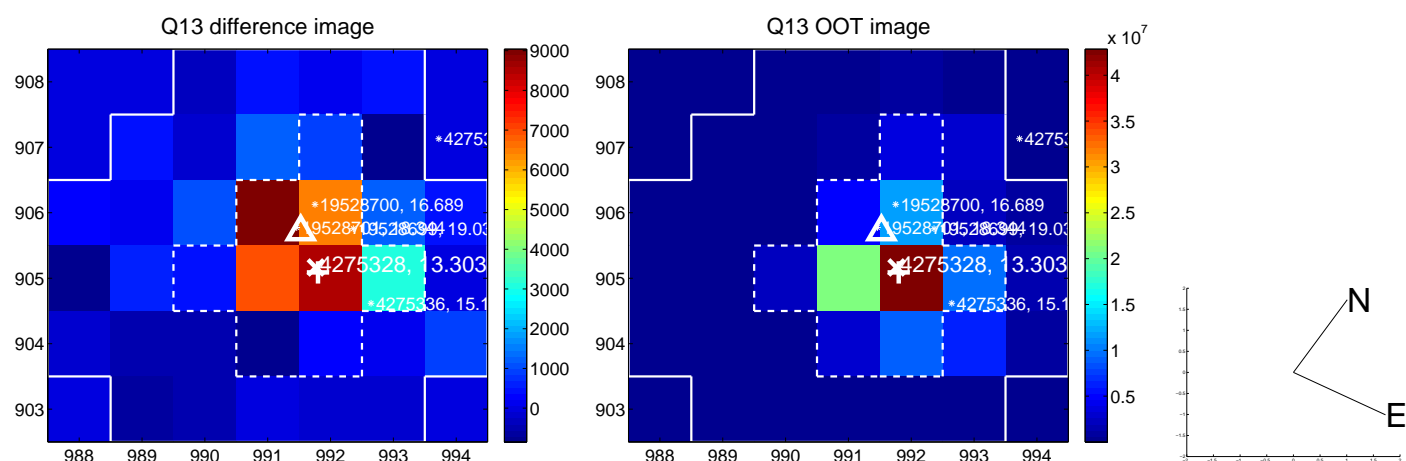
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



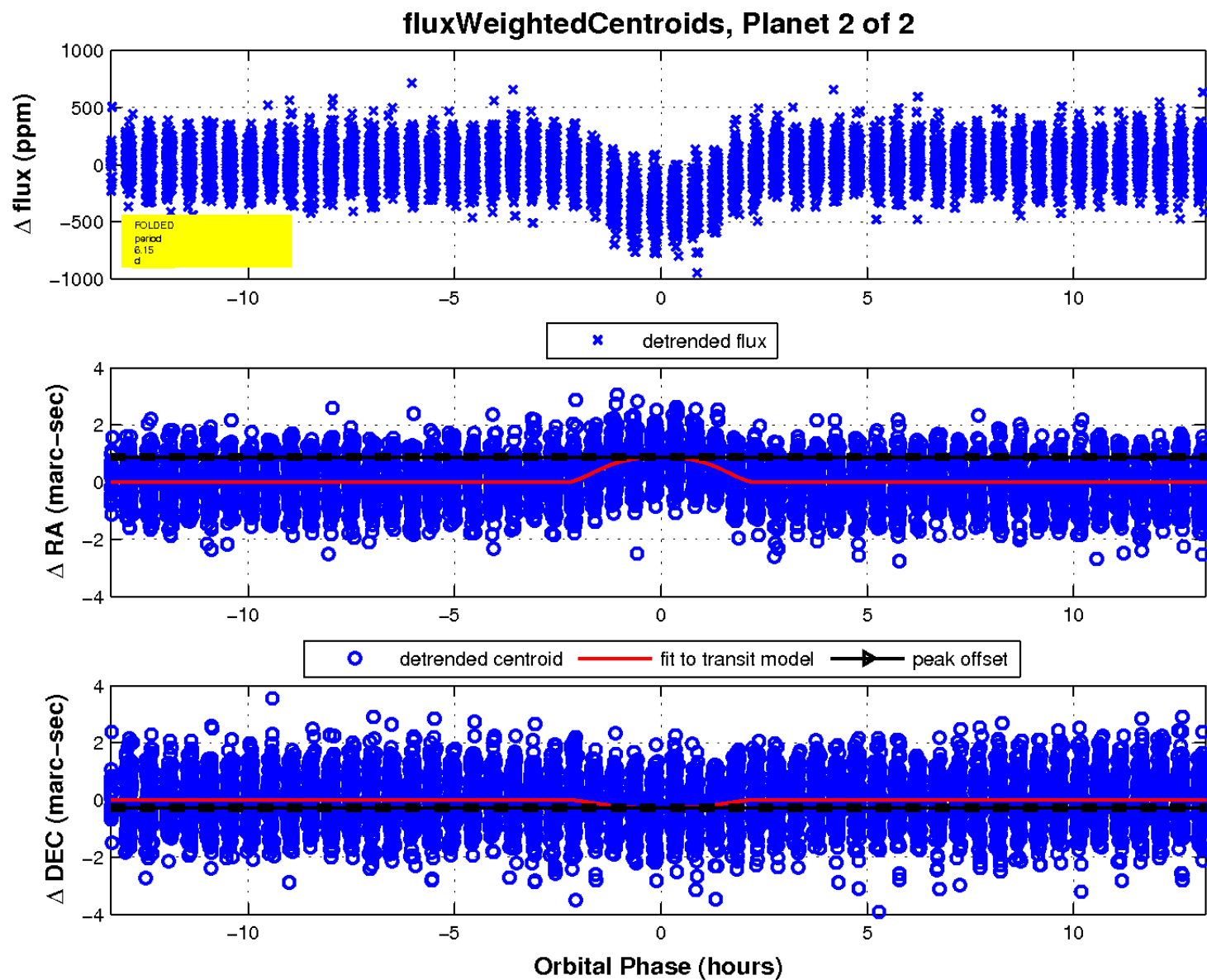
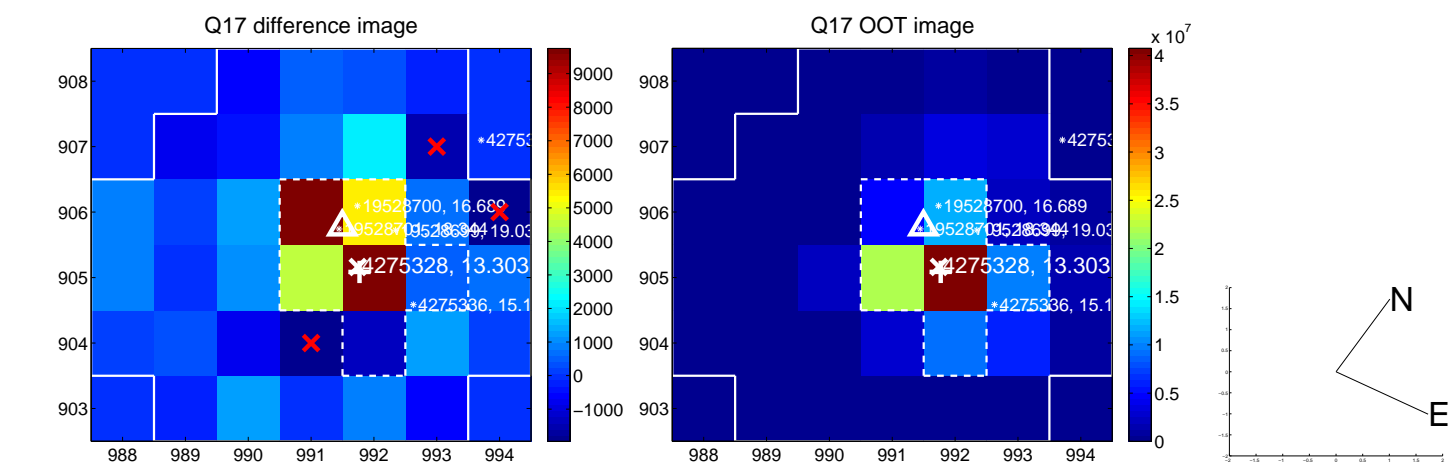
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white \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

