

KIC 002445129

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})
002445129-01	OBS	0793.01	10.318729	132.040442	783.3	3.826	34.8	33.8	1.06	5927	5.07	139.62
002445129-02	OBS	No	10.318638	134.828761	367.9	3.409	18.1	19.4	1.06	5927	2.41	139.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002445129-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
002445129-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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 002445129-01

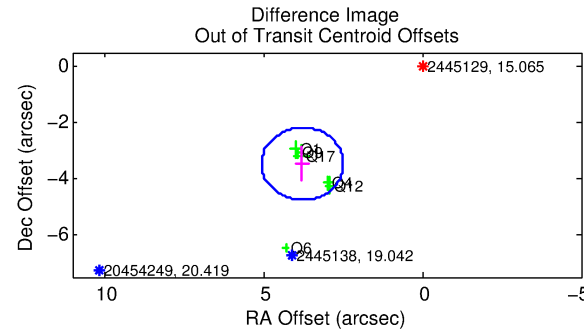
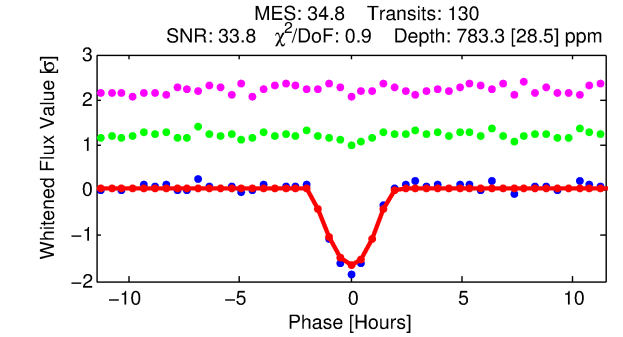
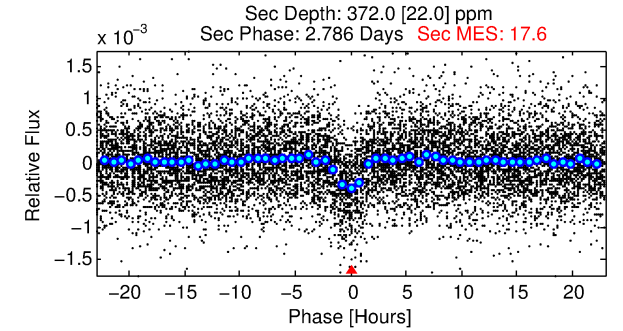
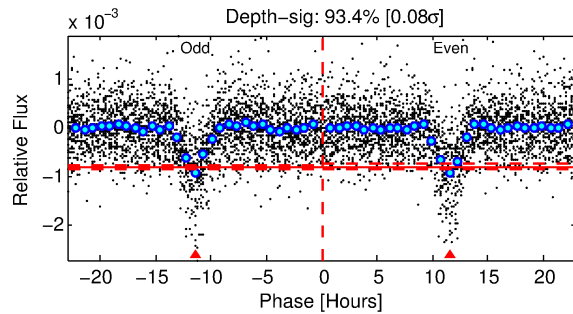
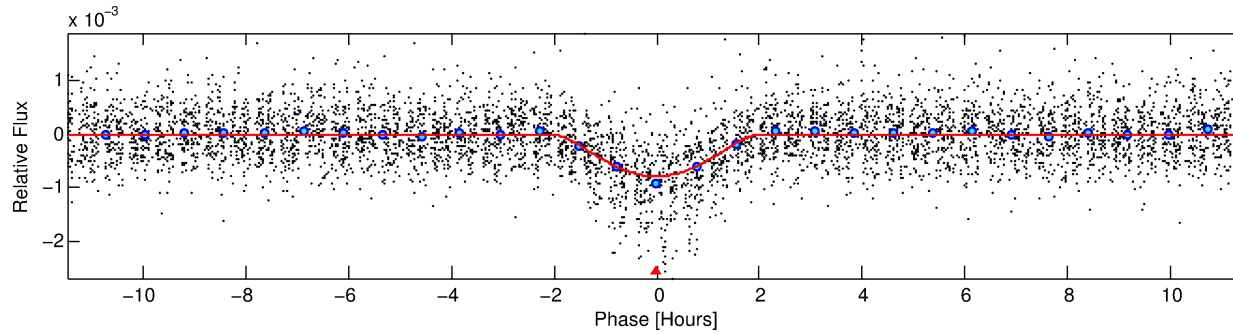
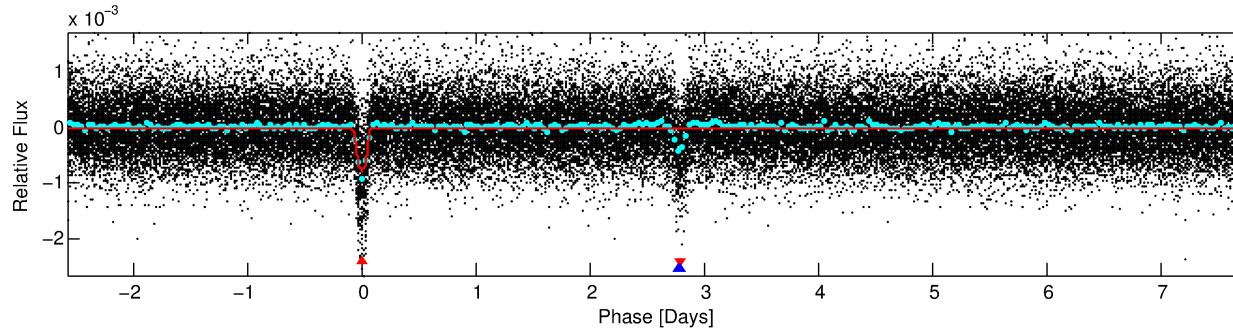
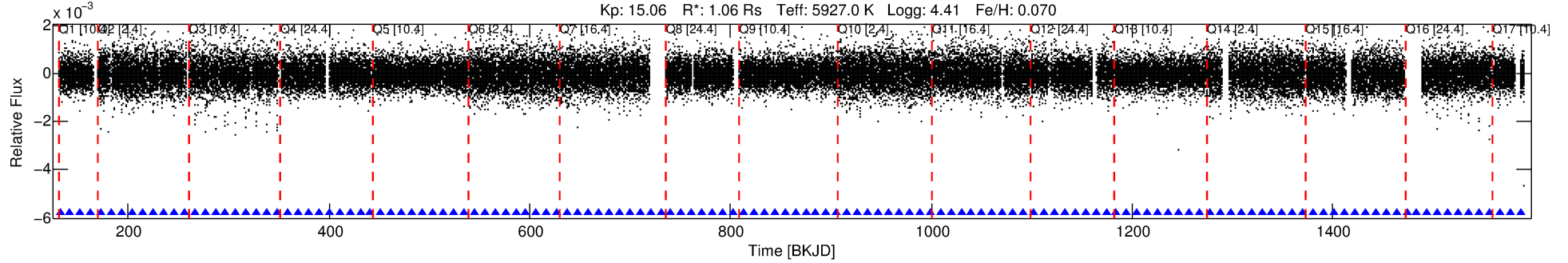
No Significant Match Found

DV One-Page Summary

KIC: 2445129 Candidate: 1 of 2 Period: 10.319 d

KOI: K00793.01 Corr: 0.992

Kp: 15.06 R*: 1.06 Rs Teff: 5927.0 K Logg: 4.41 Fe/H: 0.070



DV Fit Results:

Period = 10.31873 [0.00003] d
Epoch = 132.0404 [0.0027] BKJD
Rp/R* = 0.0439 [0.0322]
a/R* = 6.90 [1.52]
b = 0.99 [0.05]
Seff = 139.62 [53.66]
Teq = 877 [84] K
Rp = 5.07 [4.03] Re
a = 0.0943 [0.0237] AU
Ag = 70.73 [107.02] [0.65σ]
Teff = 3930 [1449] K [2.10σ]

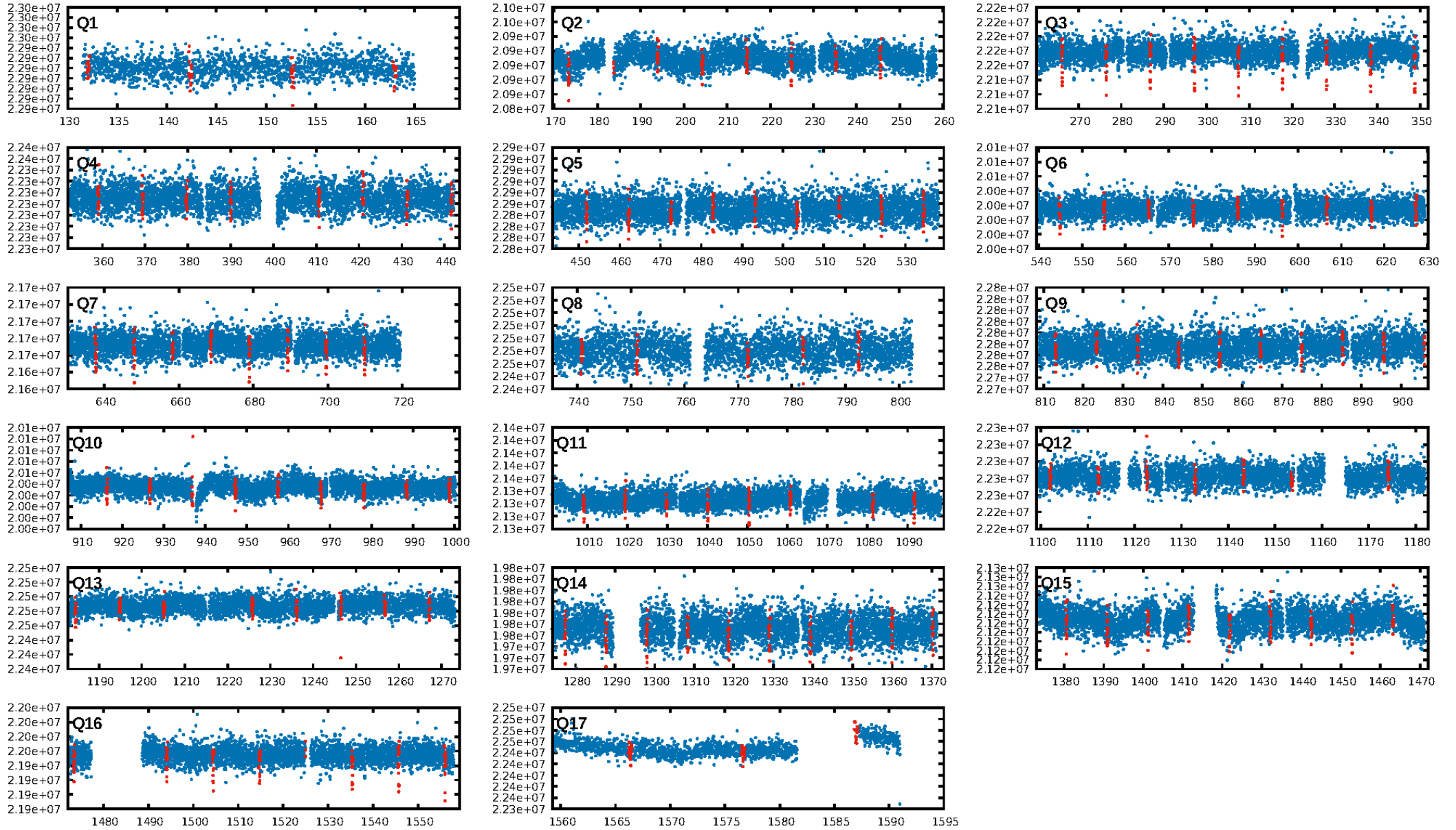
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 7.43e-260
RollingBand-fgt: 1.00 [123/123]
GhostDiagnostic-chr: -0.1882
Centroid-sig: 0.0%
Centroid-so: 10.811 arcsec [31.24σ]
OotOffset-rm: 5.122 arcsec [11.94σ]
KicOffset-rm: 4.767 arcsec [12.38σ]
OotOffset-st: 1/0/2/3 [6]
KicOffset-st: 1/0/2/3 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [17/17]

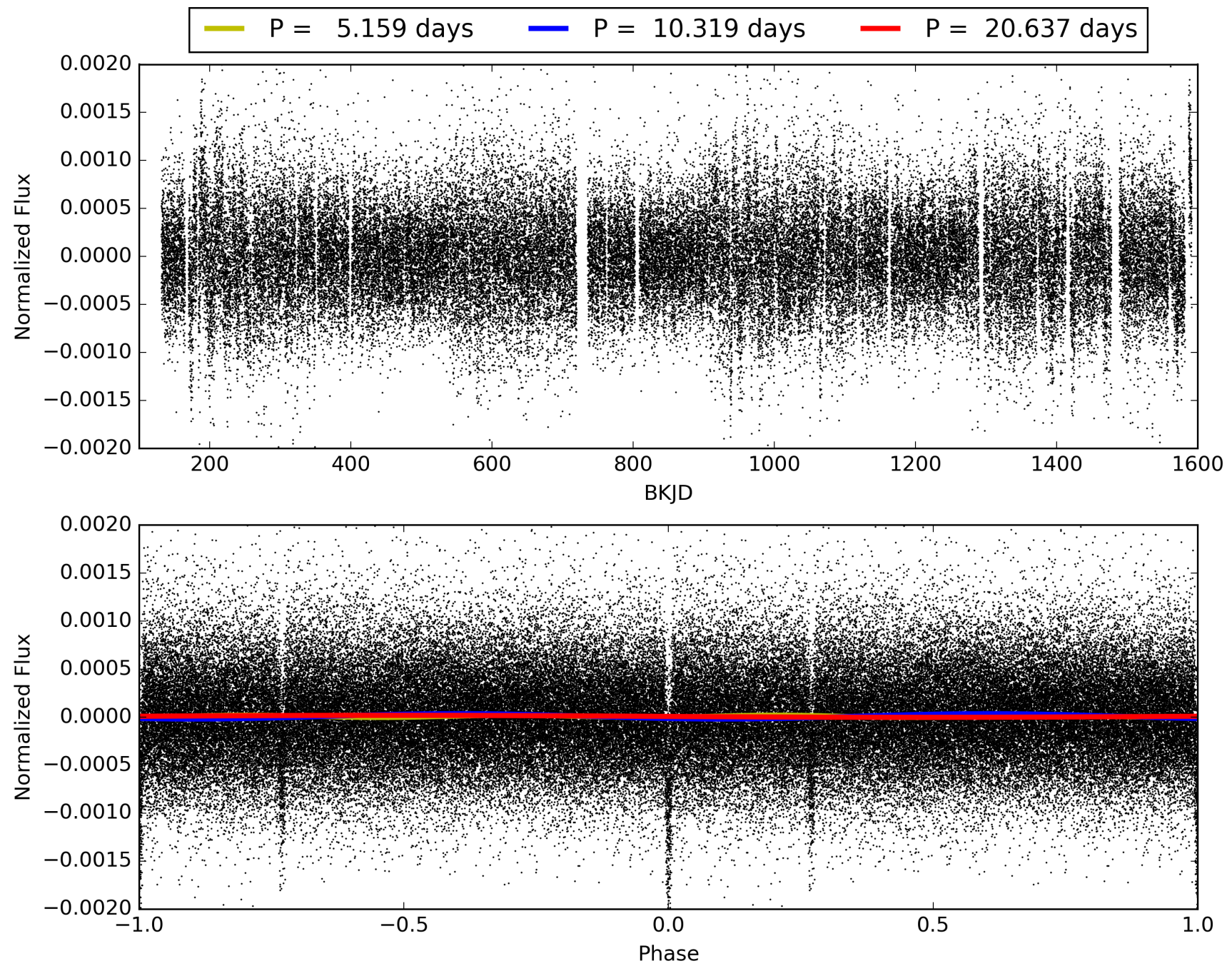
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:20:38 Z

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

TCE 002445129-01, PDC Light Curves

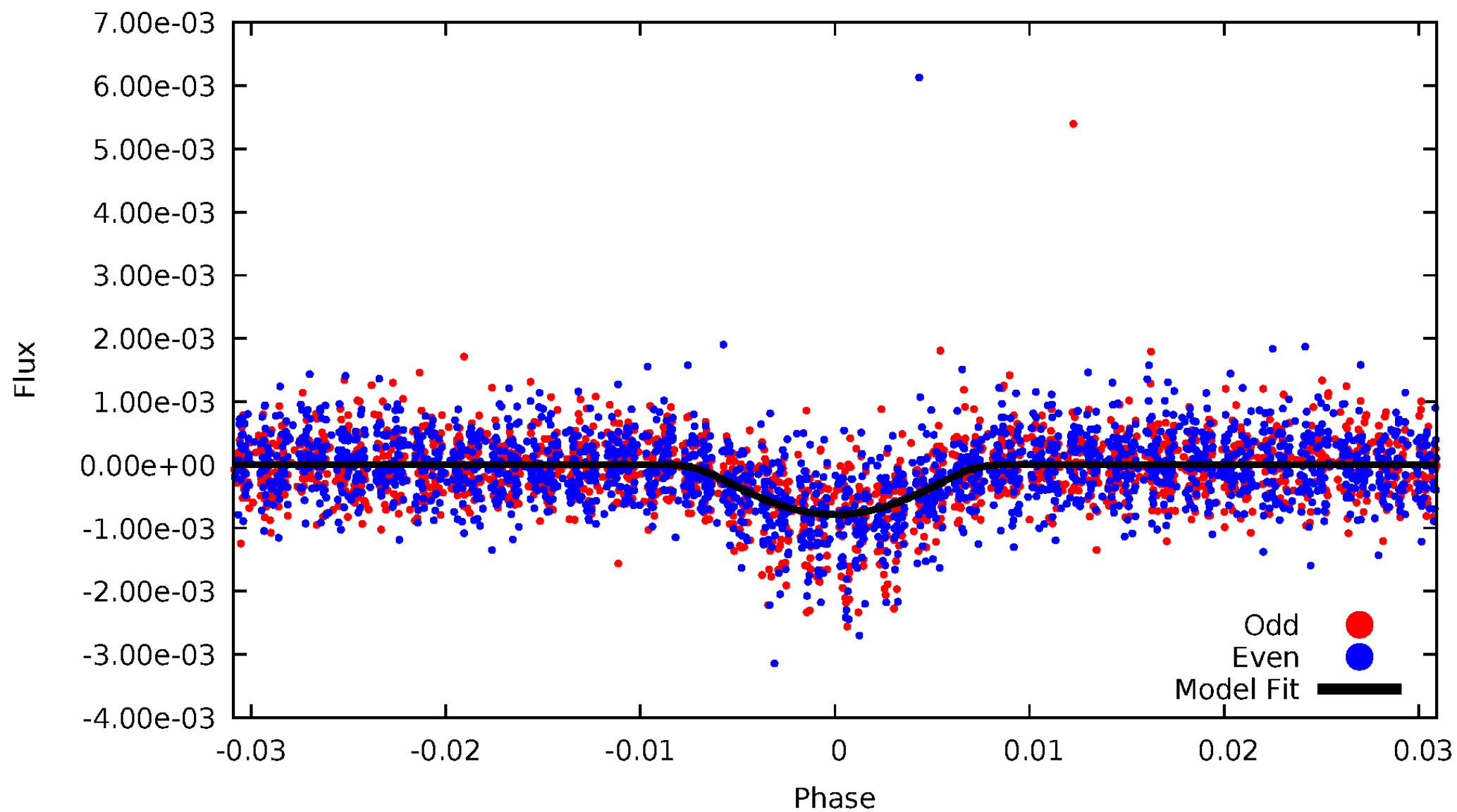


TCE 002445129-01



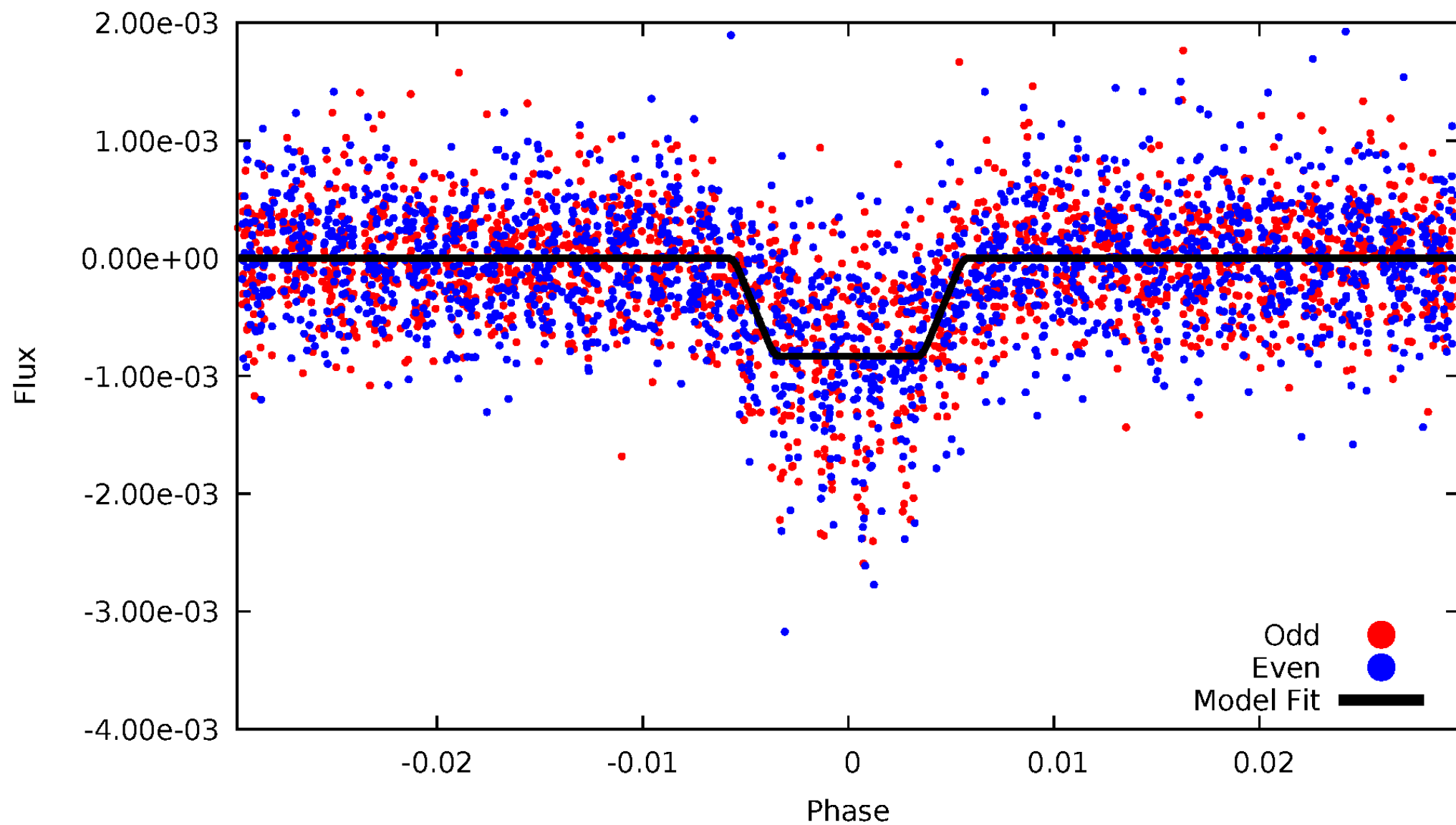
DV Odd/Even

TCE 002445129-01



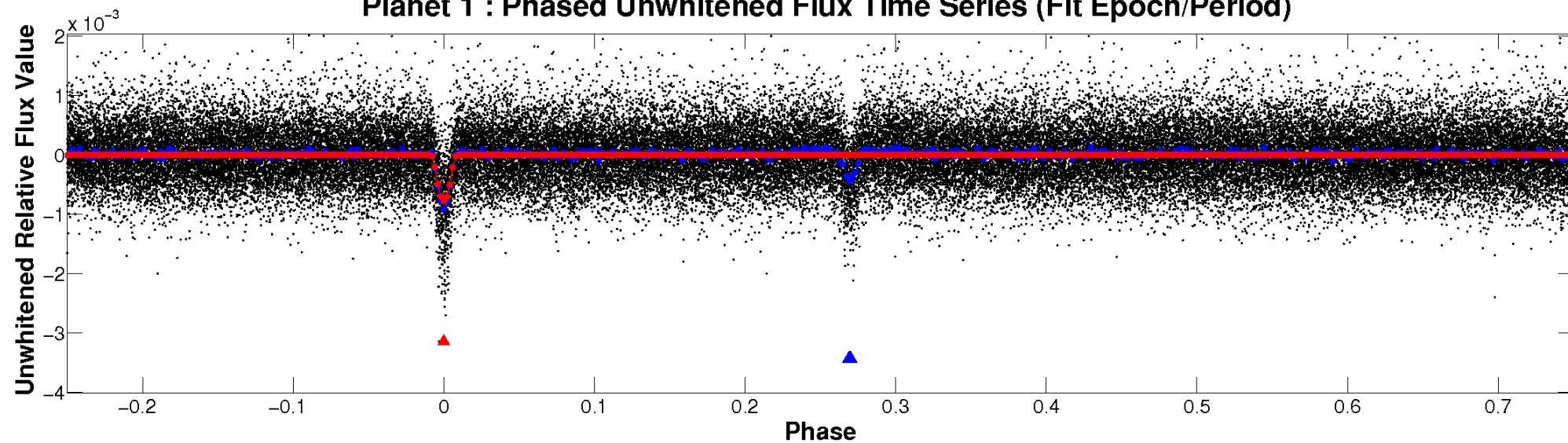
ALT Odd/Even

TCE 002445129-01

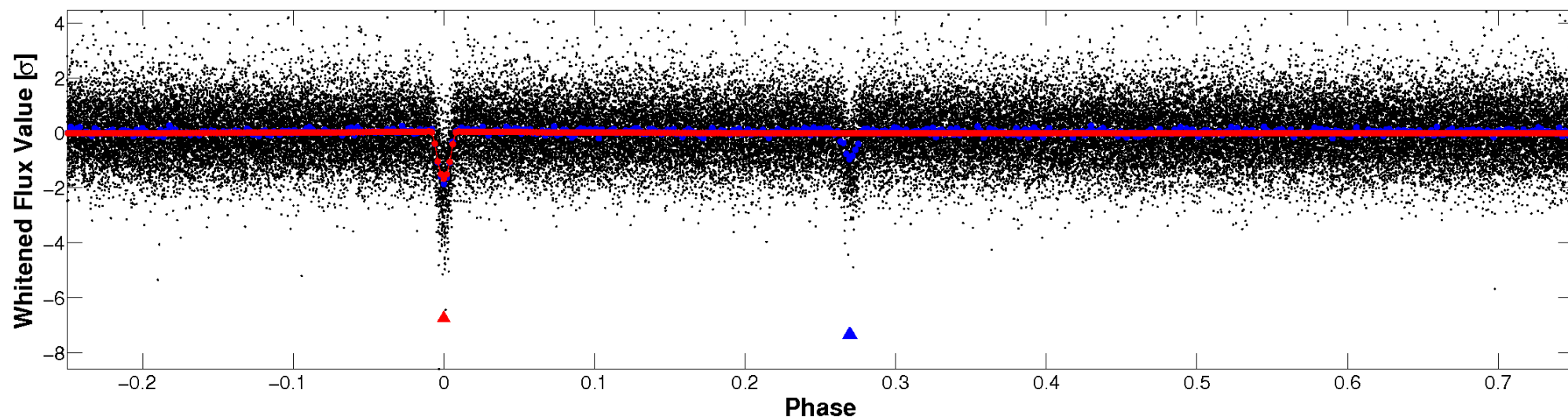


Non-Whitened Vs. Whitened Light Curve

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

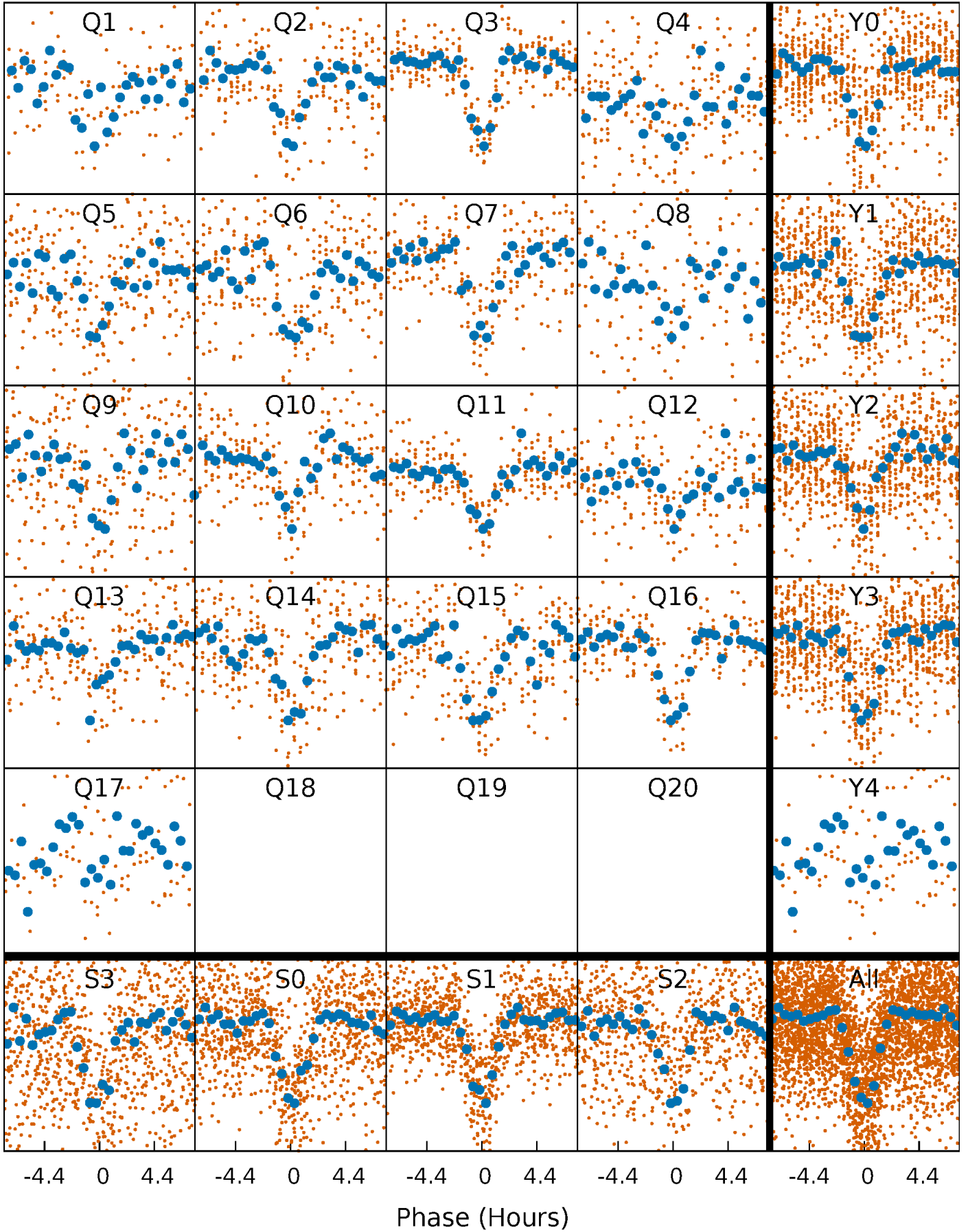


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



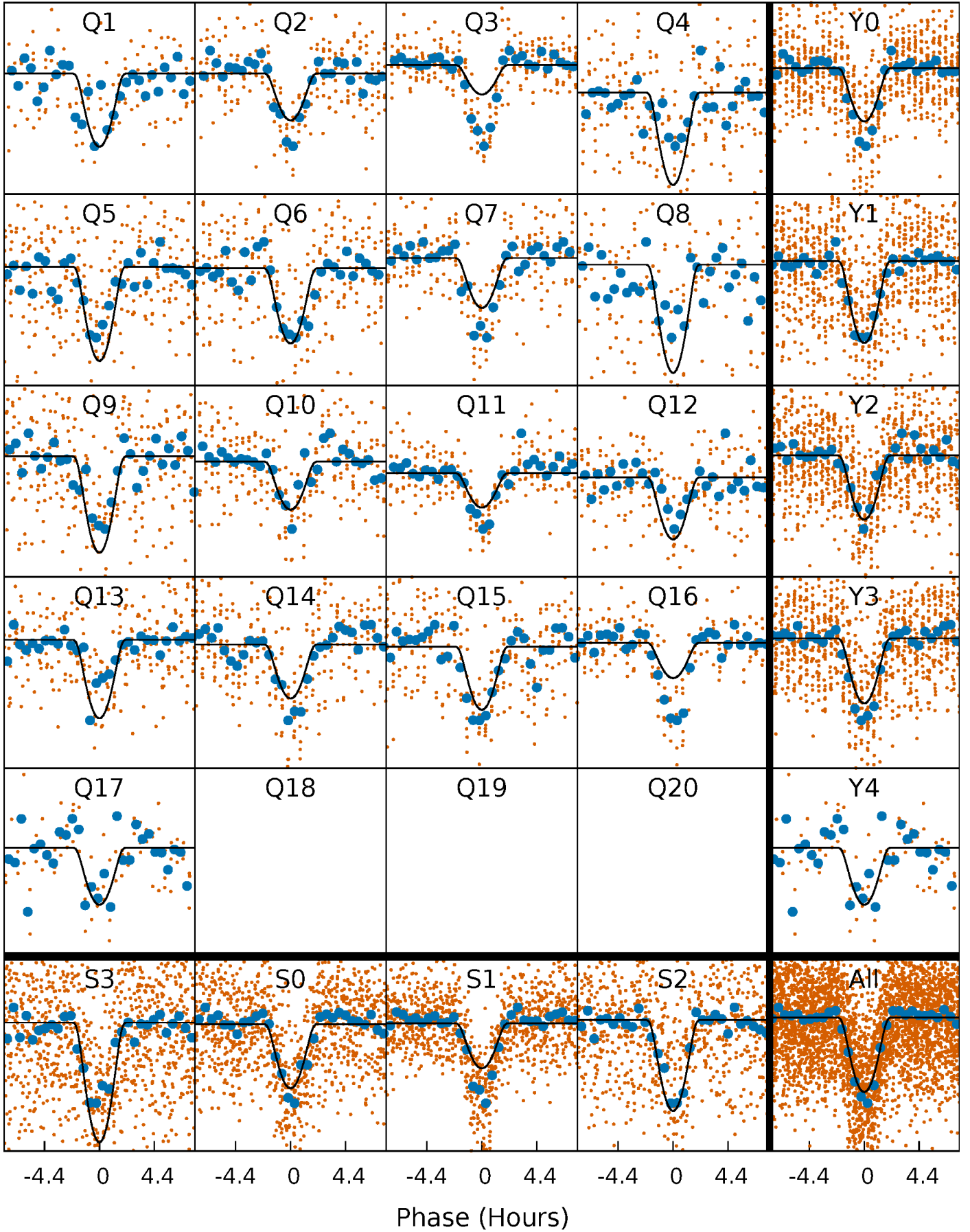
PDC Quarter-Phased Transit Curves

TCE 002445129-01 $P = 10.318729$ Days $T_0 = 132.040442$ (BKJD)



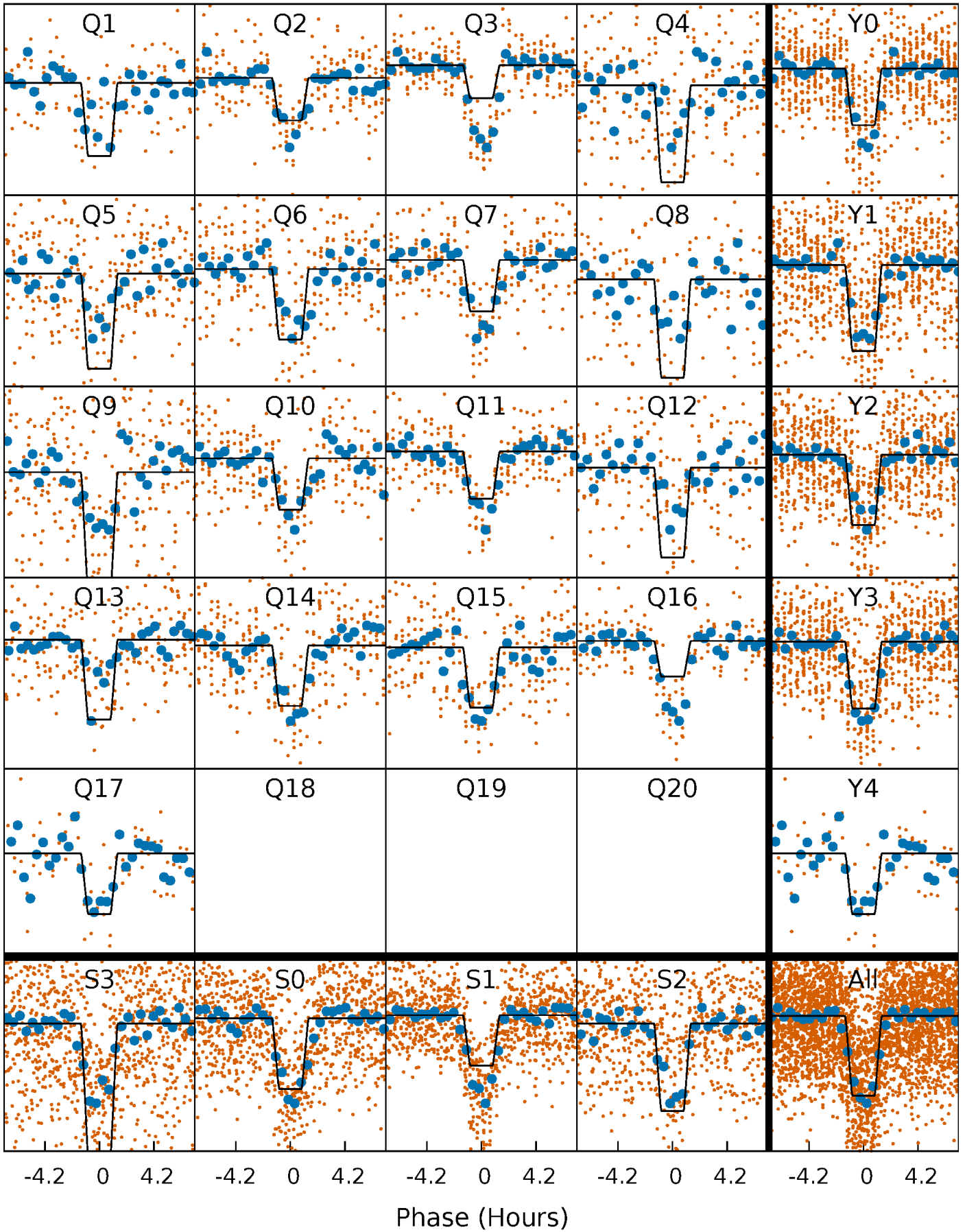
DV Quarter-Phased Transit Curves

TCE 002445129-01 P= 10.318729 Days $T_0=132.040442$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

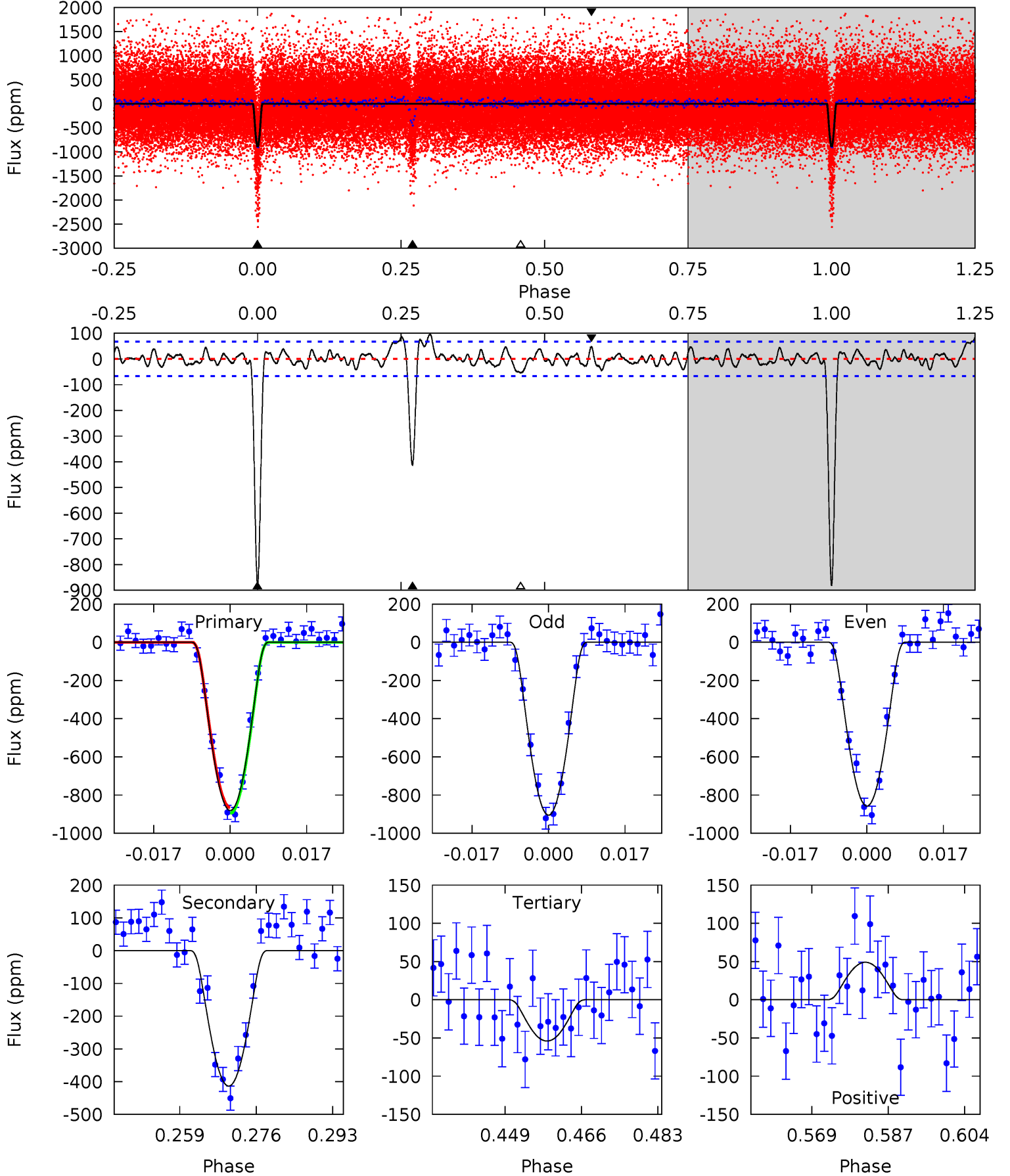
TCE 002445129-01 P= 10.318738 Days $T_0=132.039209$ (BKJD)



DV Model-Shift Uniqueness Test

002445129-01, $P = 10.318729$ Days, $E = 121.721713$ Days

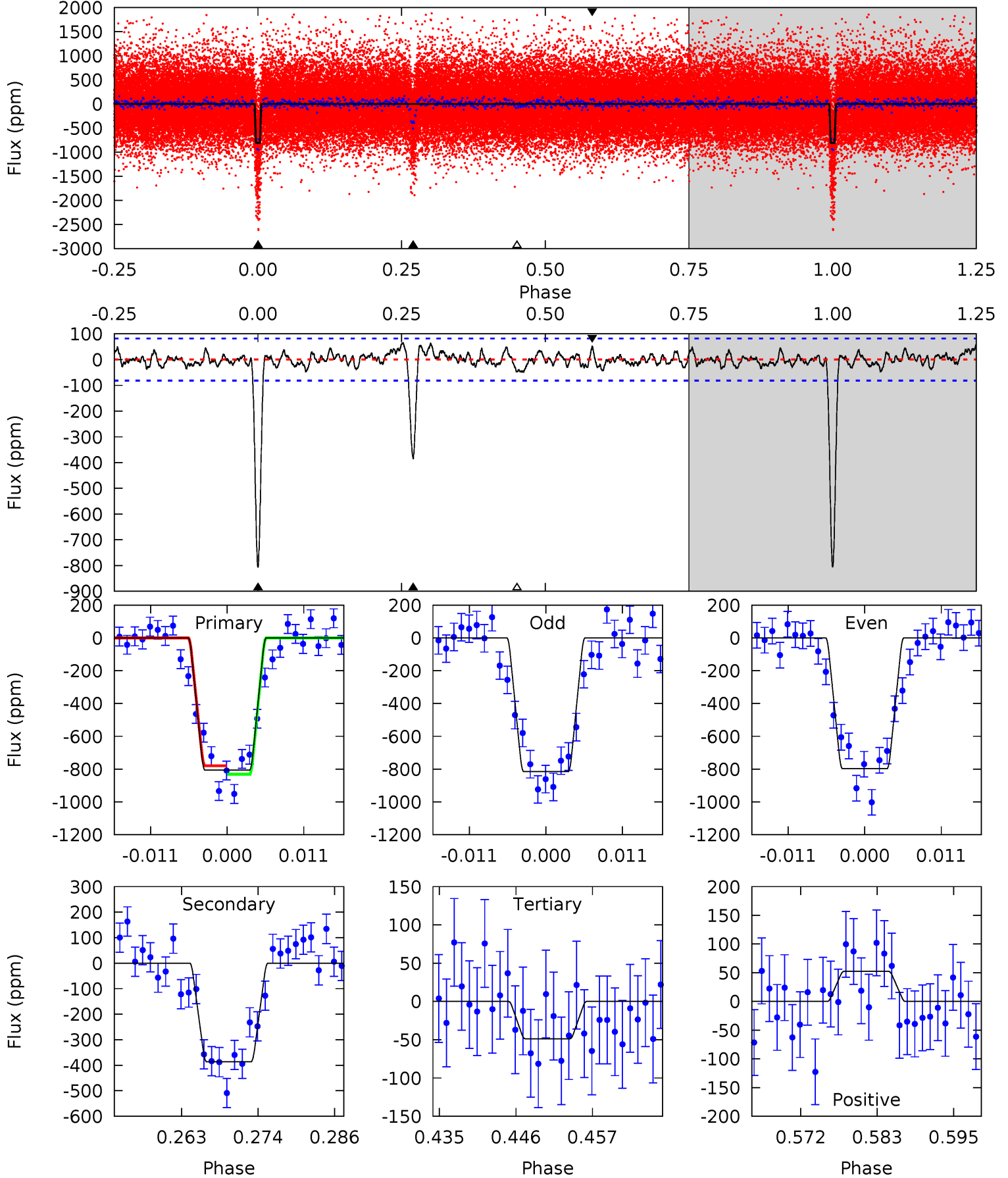
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.6	30.3	3.96	3.60	4.92	2.38	1.75	60.6	61.0	26.4	26.7	1.74	1.09	0.10	1.11



Alt Model-Shift Uniqueness Test

002445129-01, P = 10.318738 Days, E = 121.720471 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.2	23.6	2.98	3.21	5.00	2.53	1.26	46.3	46.0	20.6	20.4	0.56	1.19	0.07	1.57



Stellar Parameters For KIC 002445129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5927^{+176}_{-193}	$4.409^{+0.084}_{-0.196}$	$0.070^{+0.250}_{-0.300}$	$1.060^{+0.319}_{-0.137}$	$1.050^{+0.140}_{-0.127}$	$1.243^{+0.473}_{-0.663}$
	+3%/-3%	+2%/-4%	+357%/-429%	+30%/-13%	+13%/-12%	+38%/-53%
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 002445129-01 / KOI 0793.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-414 ± 14	$5.80^{+3.79}_{-3.46}$	1242^{+90}_{-65}	4104^{+1966}_{-611}	60^{+300}_{-38}
Alt.	-386 ± 16	$4.41^{+3.93}_{-2.74}$	1240^{+93}_{-61}	4521^{+2395}_{-906}	95^{+560}_{-68}

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 $A_{obs} \gg 1.0$

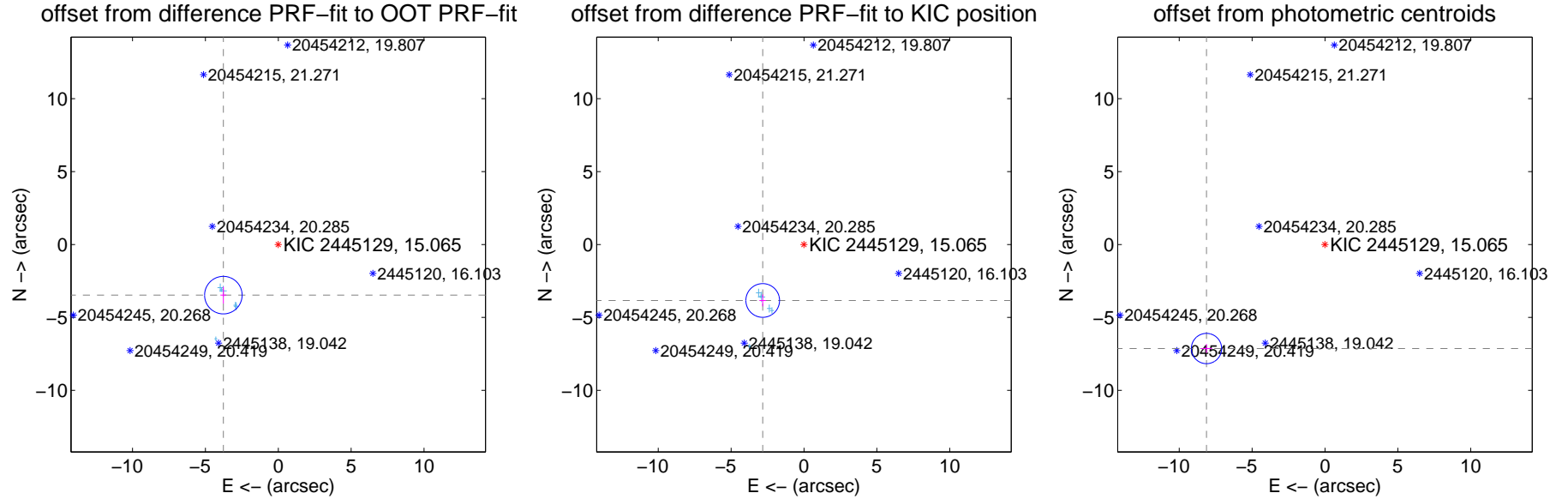
DV Centroid Data

Supplemental centroid analysis for 002445129-01. Kepler magnitude: 15.06. Transit SNR 33.81

There are 6 quarters with good PRF difference image offsets

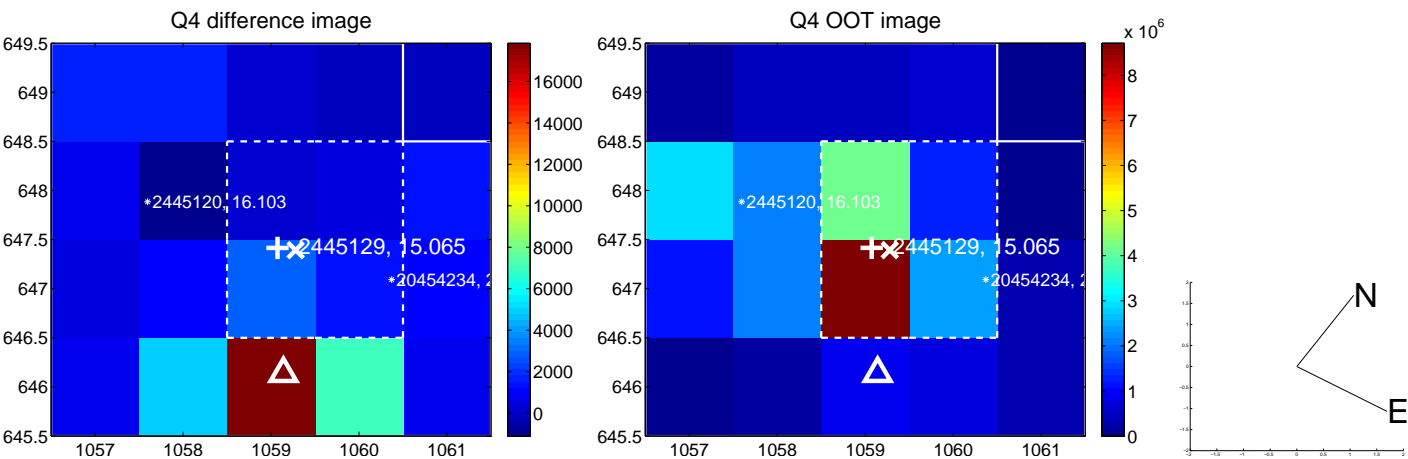
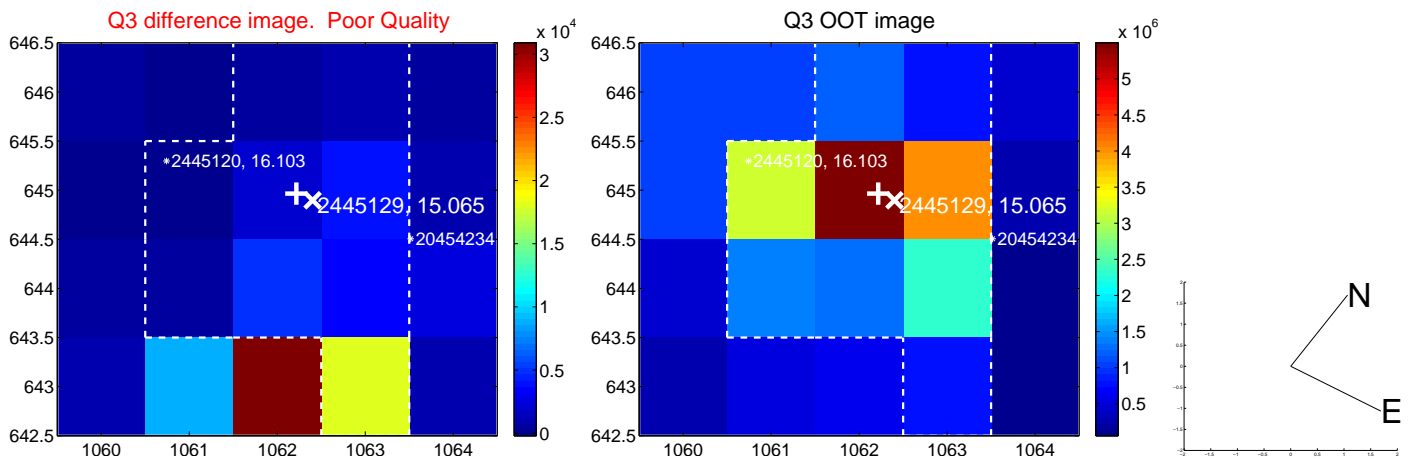
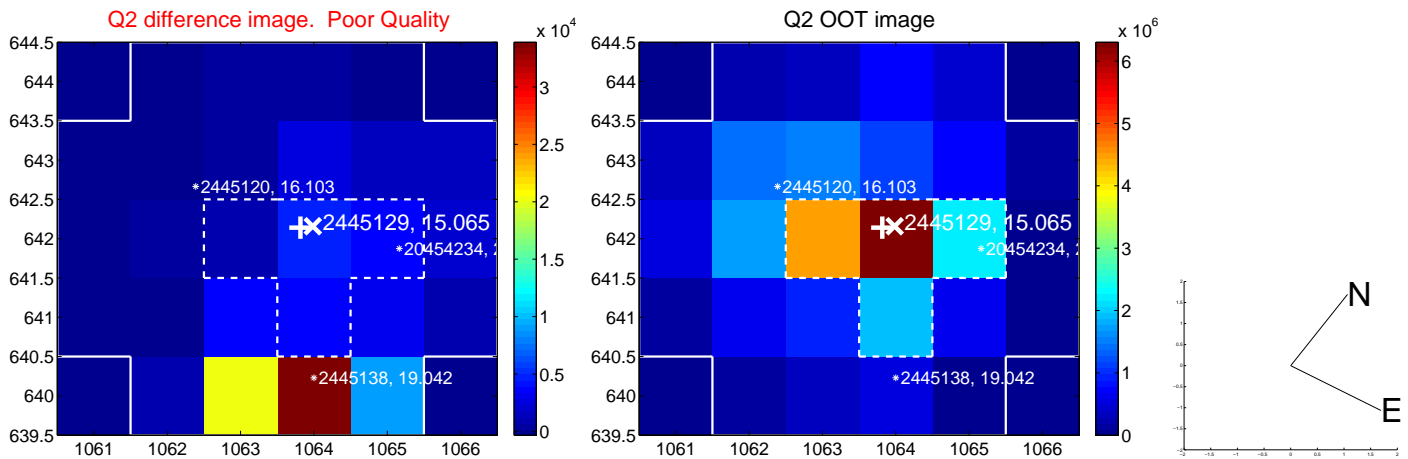
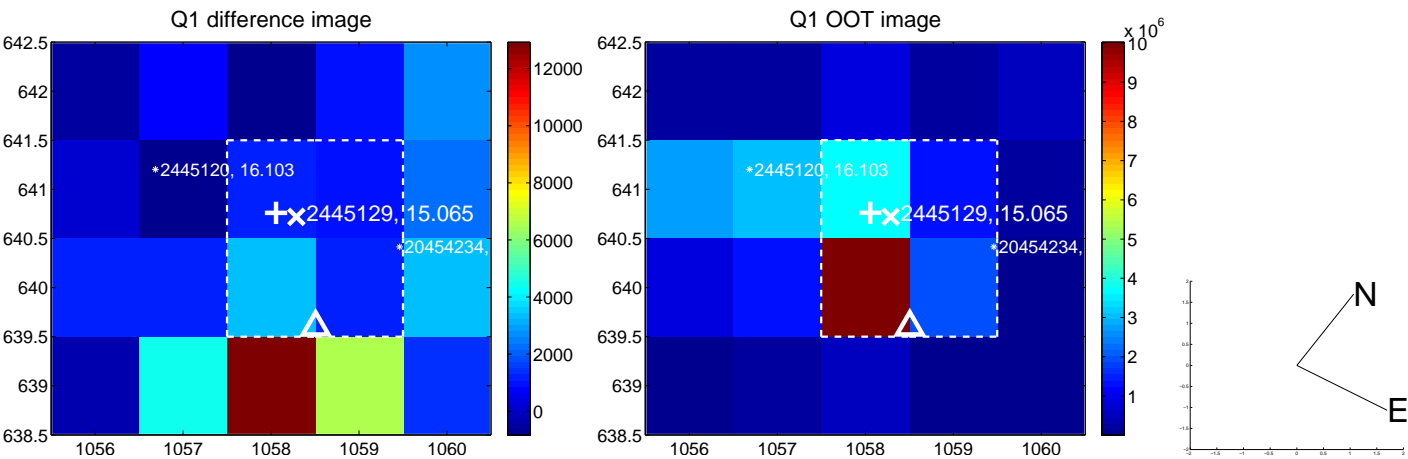
The direct PRF centroid is offset from the target star catalog position by about 0.97 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.122 \pm 0.429	11.94	3.767 \pm 0.201	-3.471 \pm 0.577
PRF-fit source offset from KIC position	4.767 \pm 0.385	12.38	2.831 \pm 0.231	-3.836 \pm 0.408
photometric centroid source offset	10.81 \pm 0.35	31.24	8.13 \pm 0.38	-7.13 \pm 0.30

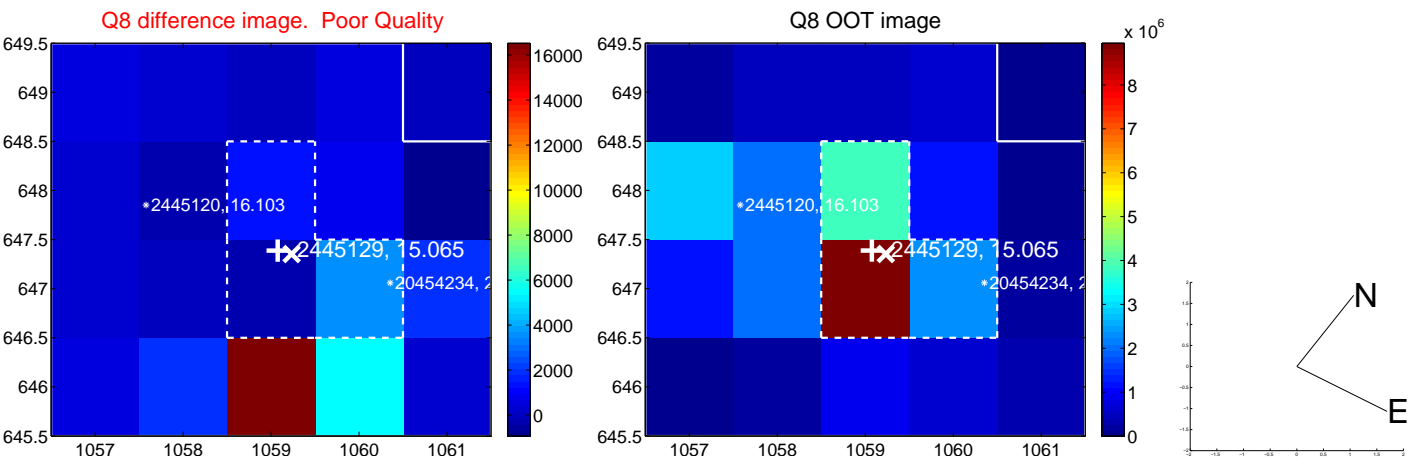
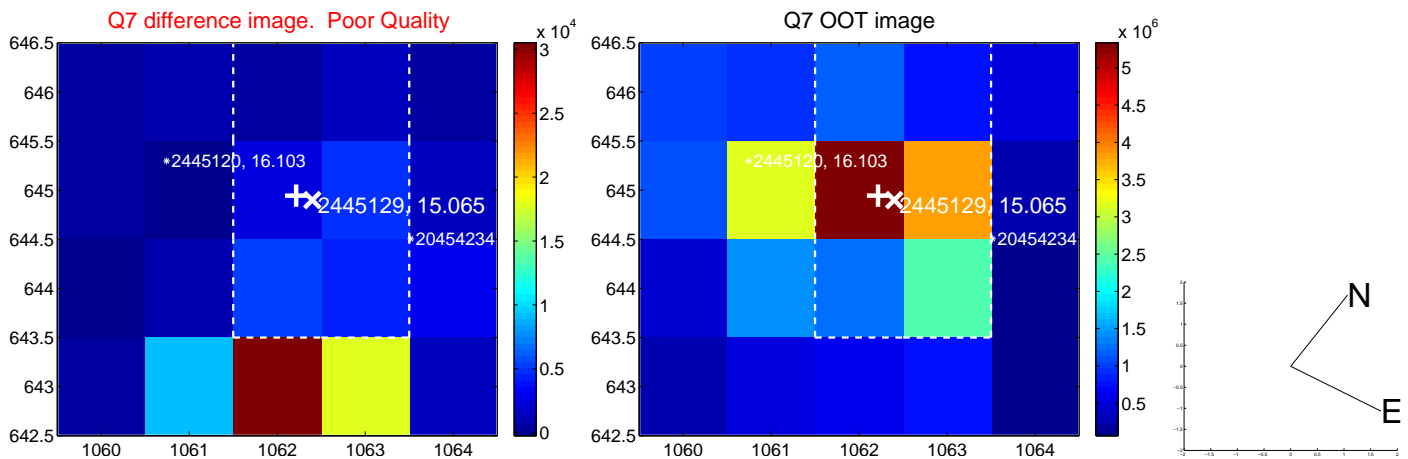
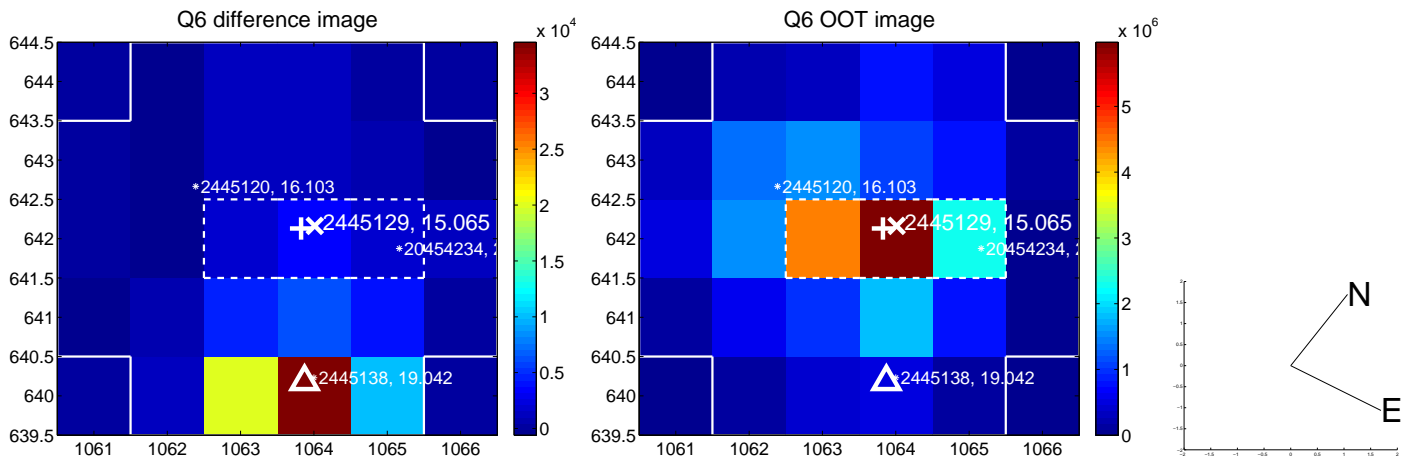
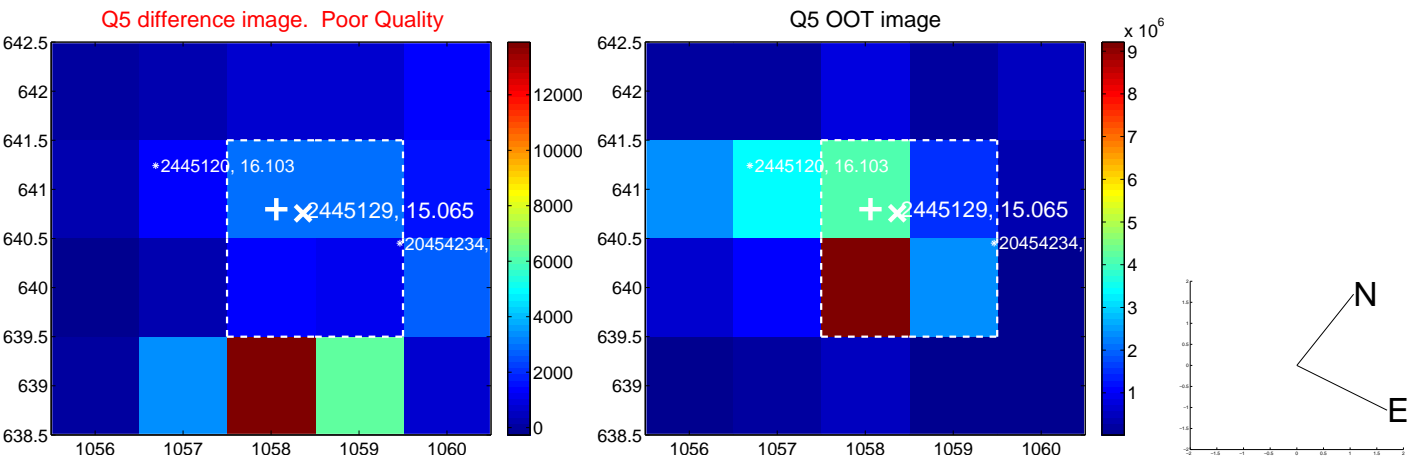


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

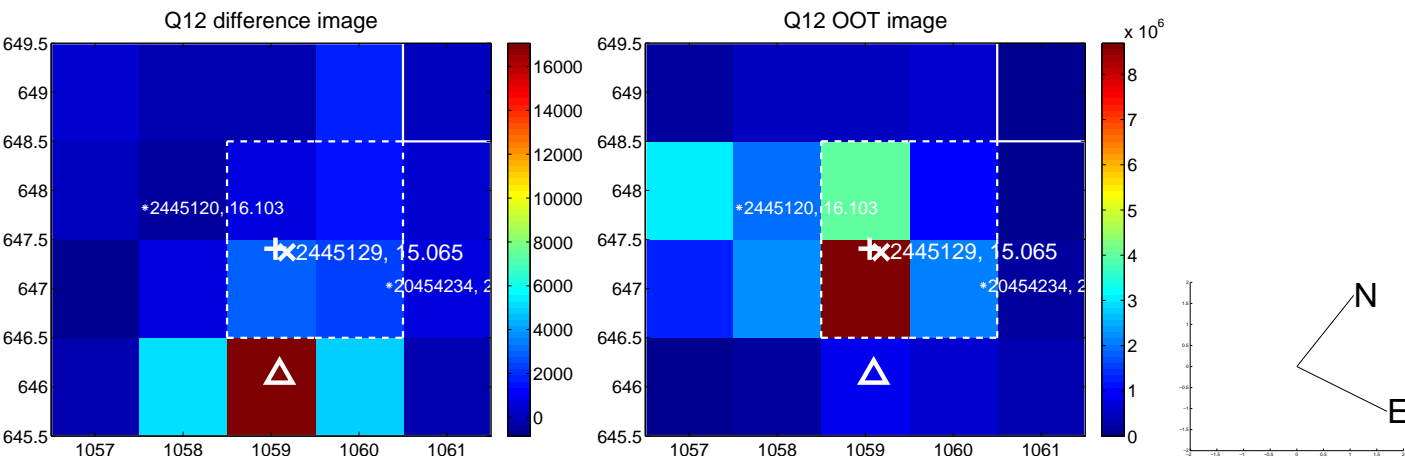
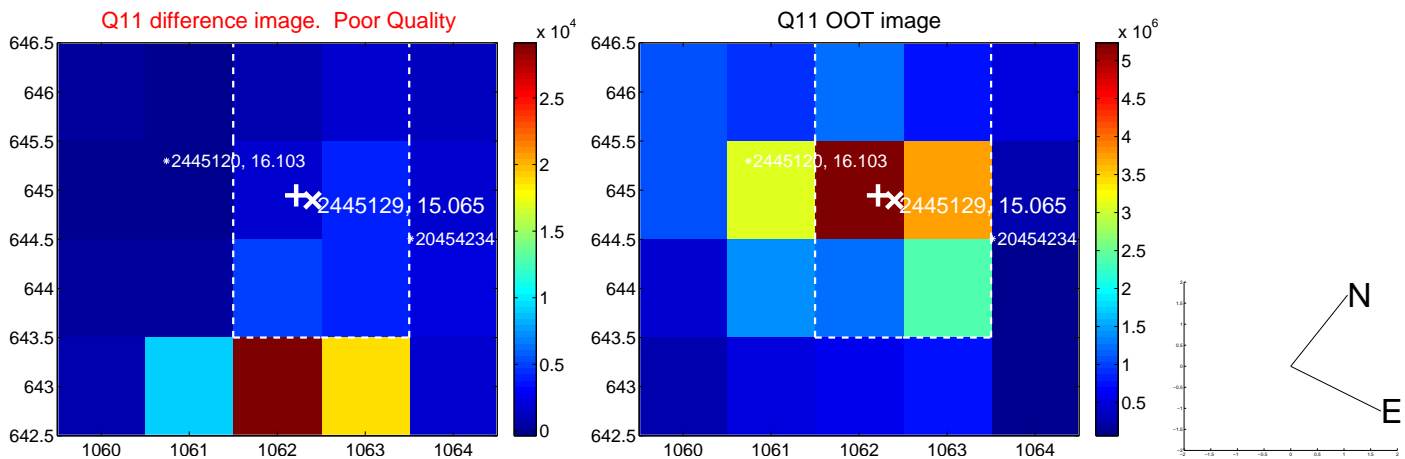
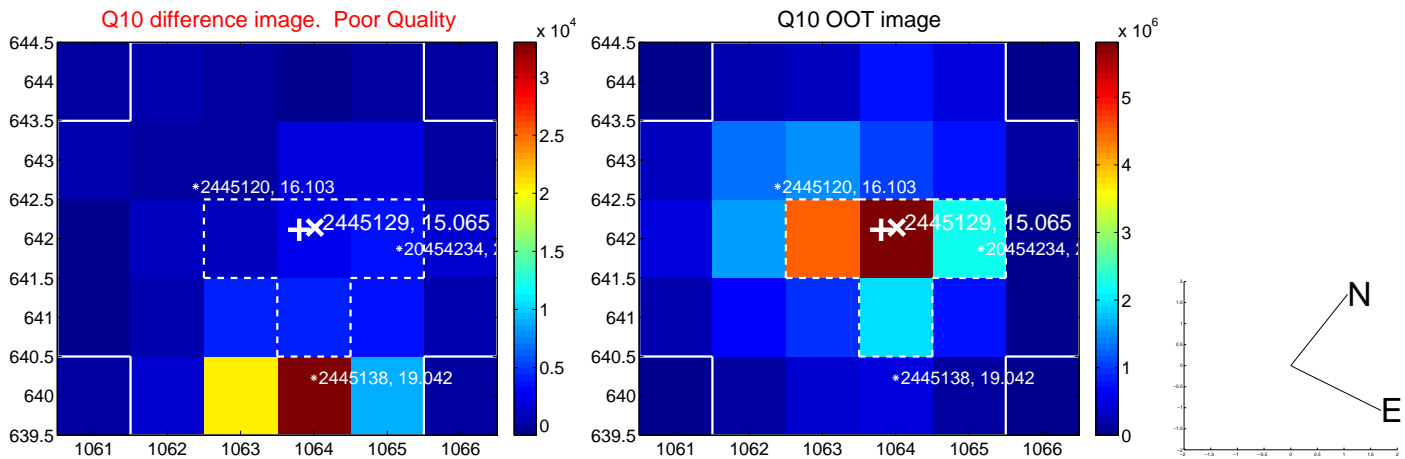
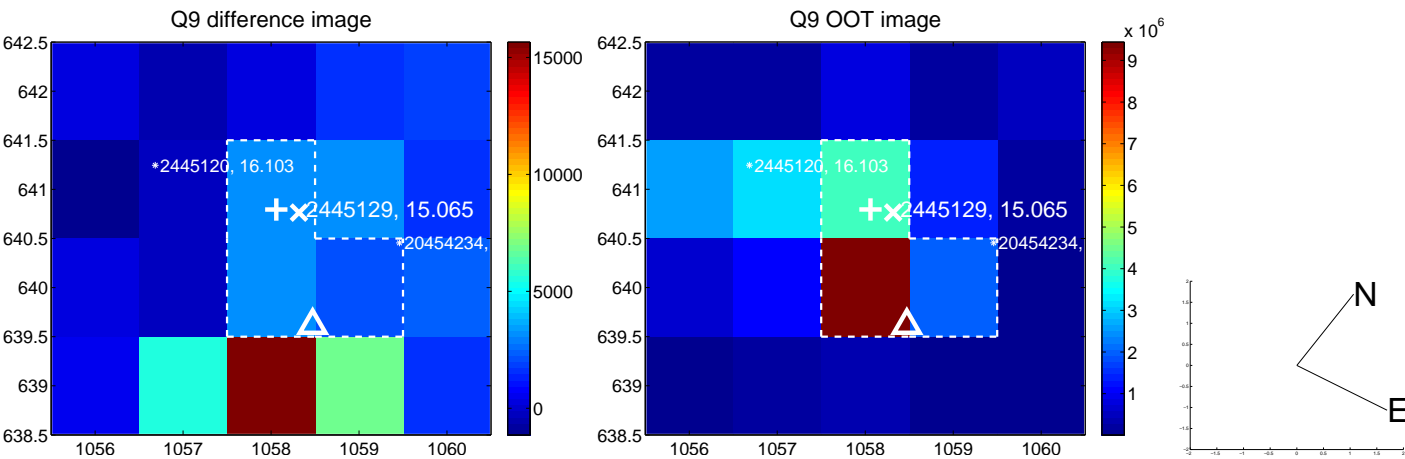
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



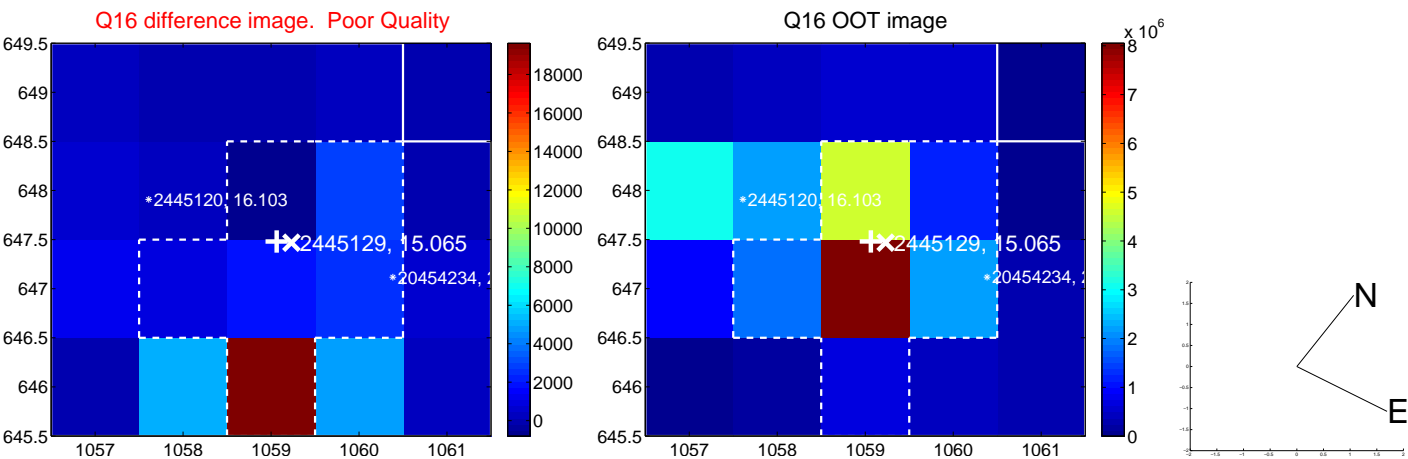
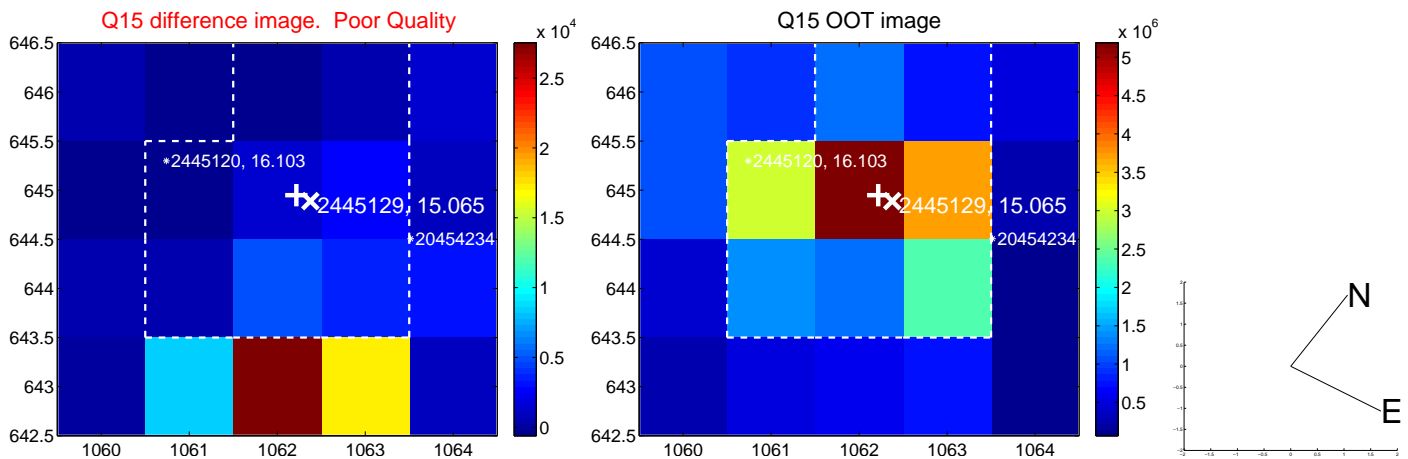
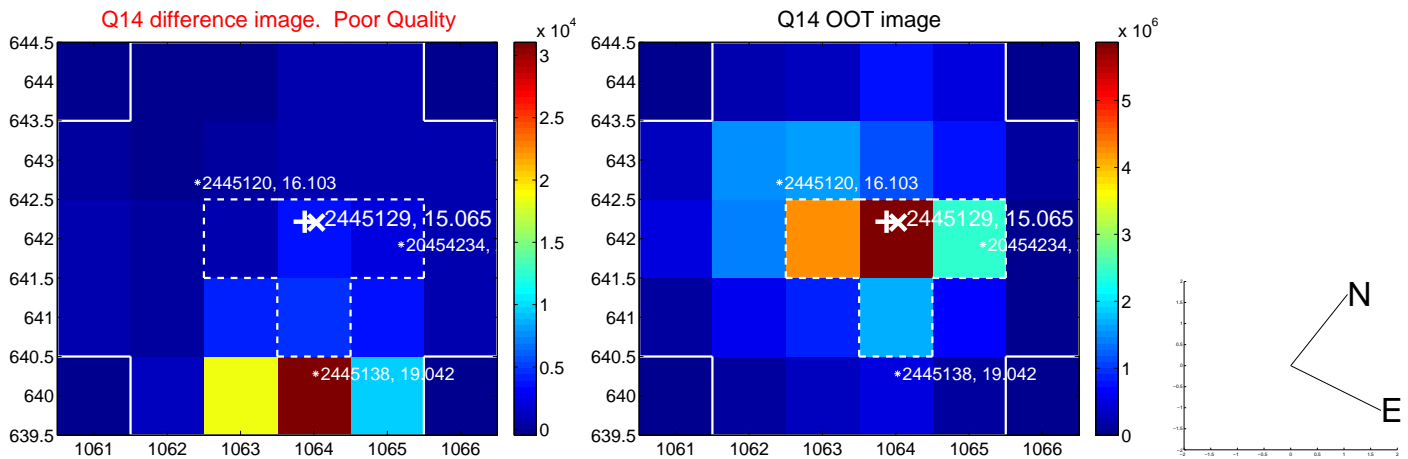
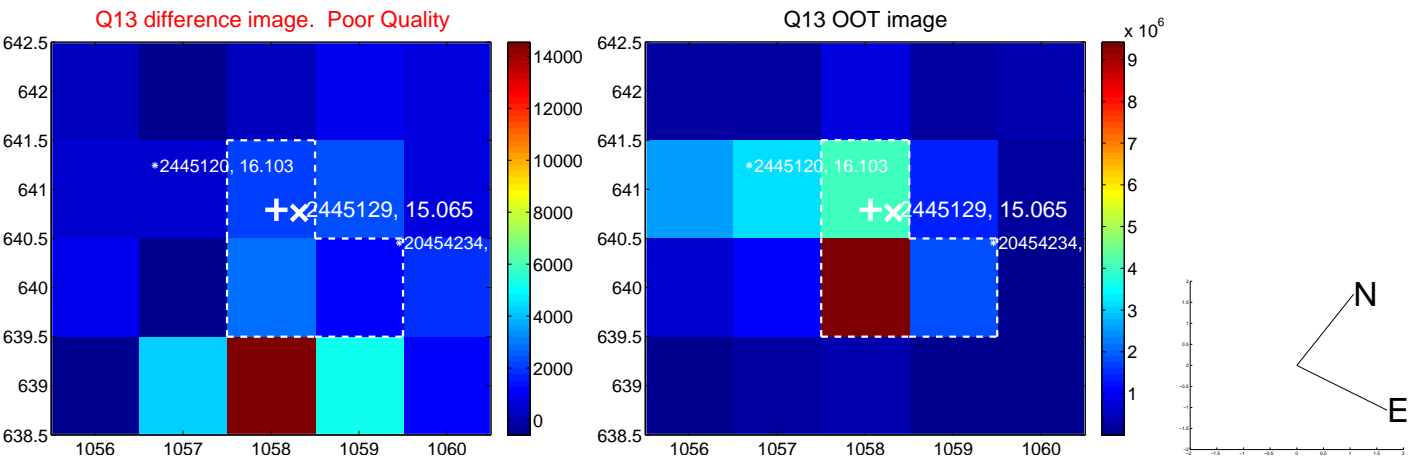
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



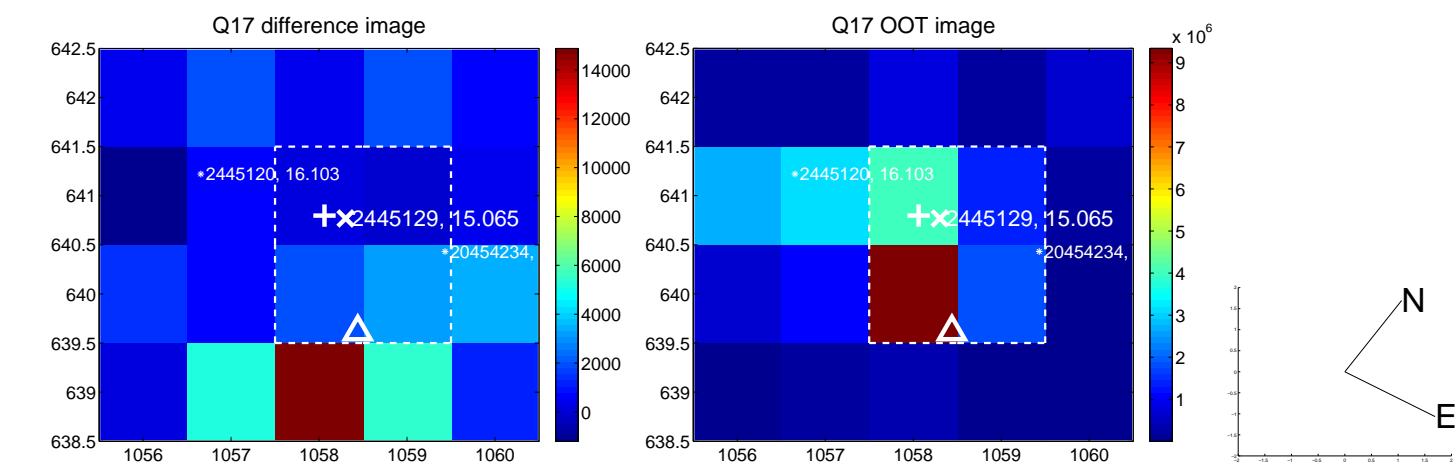
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



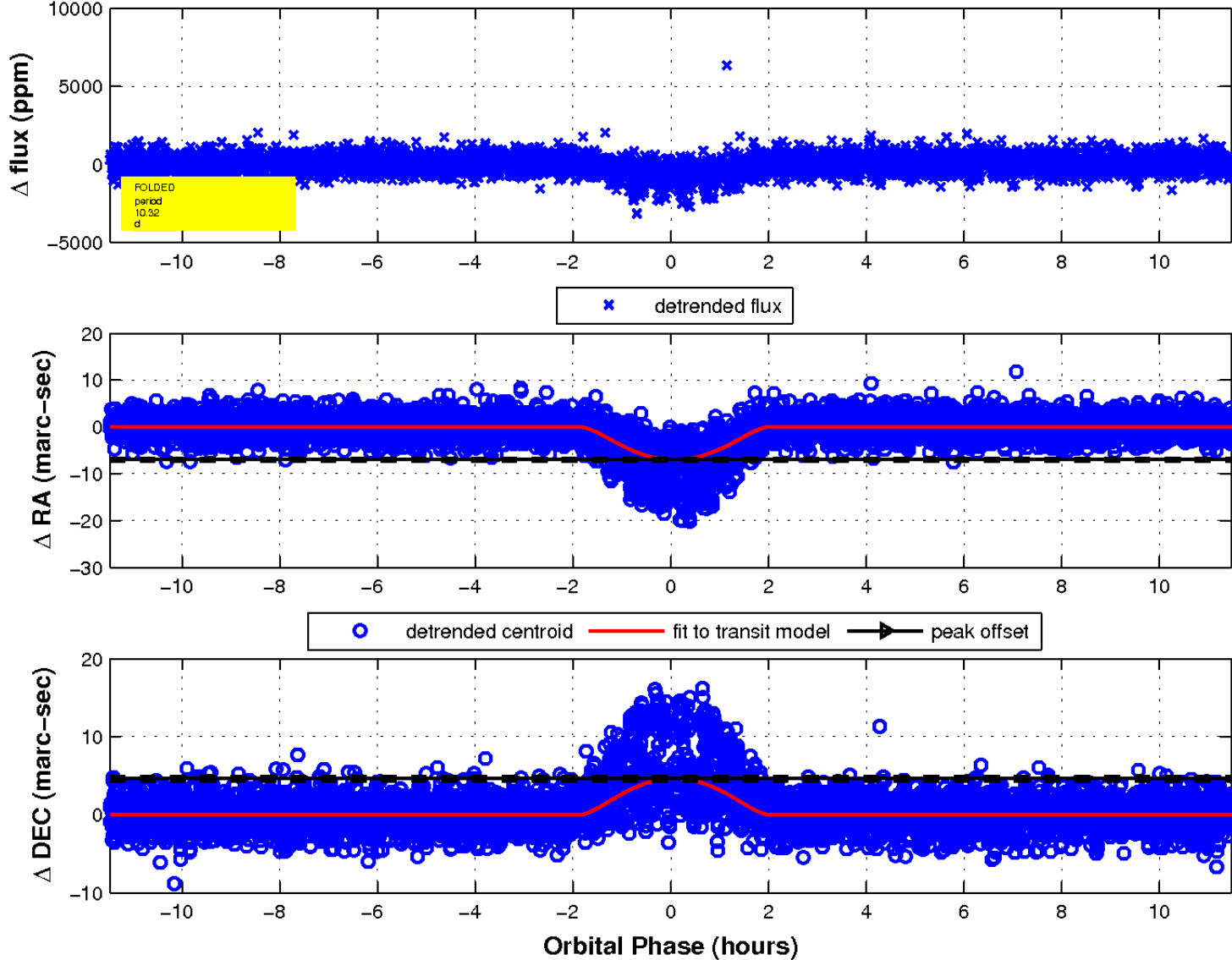
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

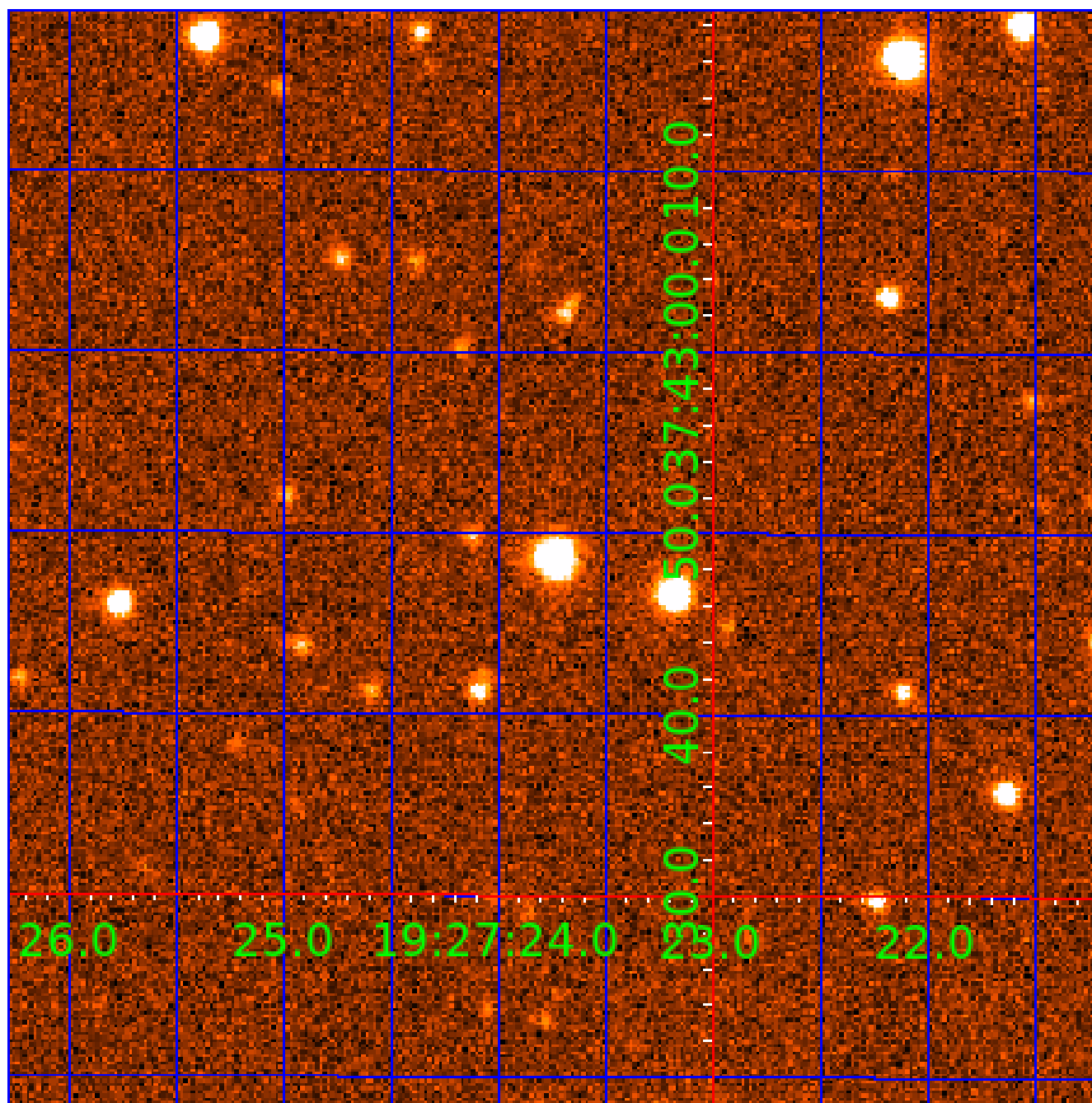


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 002445129

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})
002445129-01	OBS	0793.01	10.318729	132.040442	783.3	3.826	34.8	33.8	1.06	5927	5.07	139.62
002445129-02	OBS	No	10.318638	134.828761	367.9	3.409	18.1	19.4	1.06	5927	2.41	139.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002445129-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
002445129-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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.

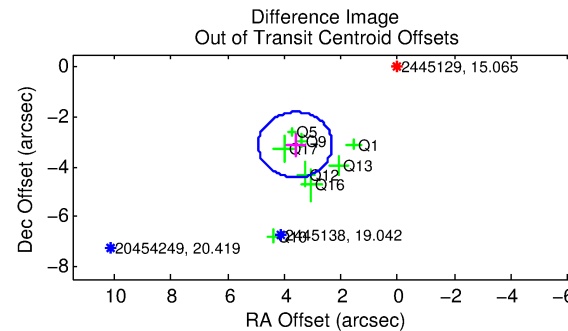
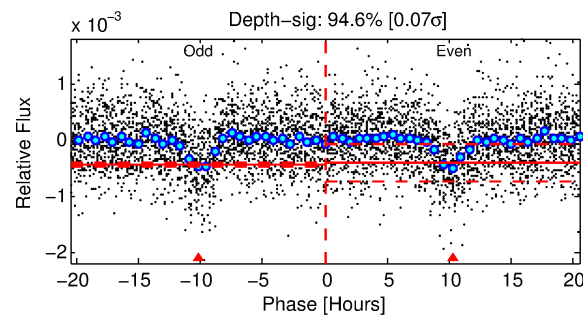
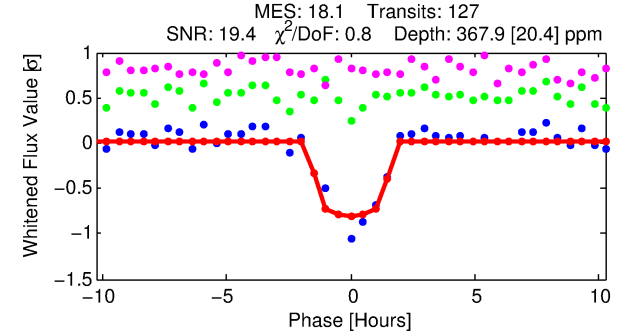
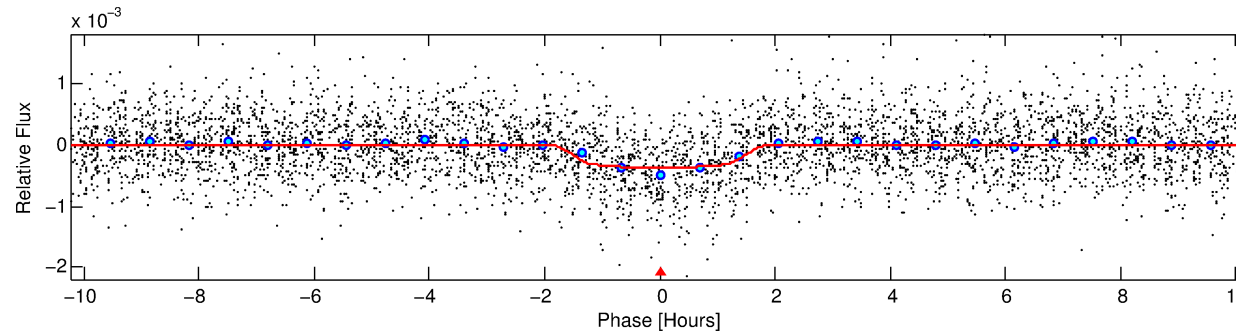
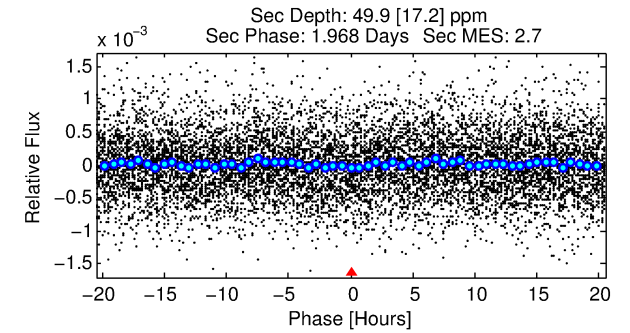
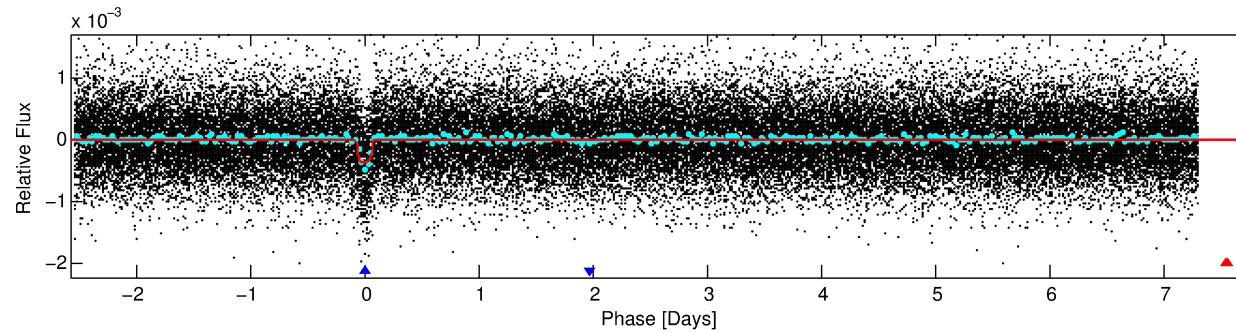
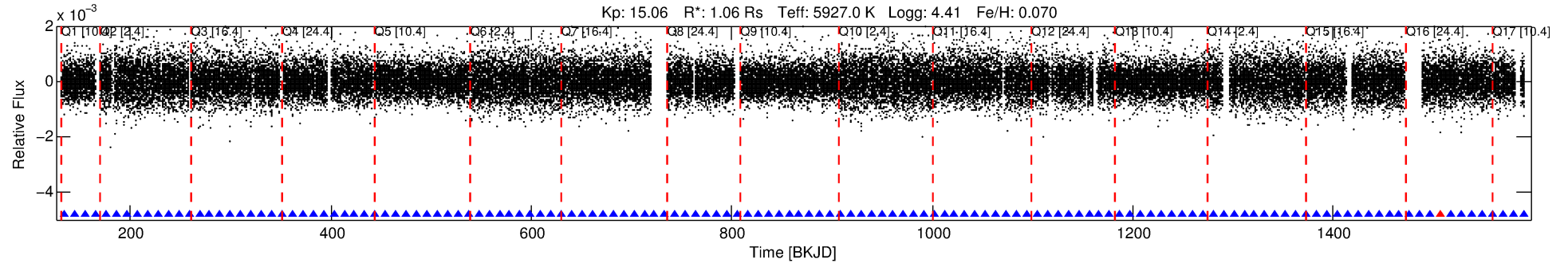
Ephemeris Match Information For 002445129-02

No Significant Match Found

DV One-Page Summary

KIC: 2445129 Candidate: 2 of 2 Period: 10.319 d
KOI: K00793 Corr: No Ephemeris Match

Kp: 15.06 R*: 1.06 Rs Teff: 5927.0 K Logg: 4.41 Fe/H: 0.070



DV Fit Results:

Period = 10.31864 [0.00005] d
Epoch = 134.8288 [0.0039] BKJD
Rp/R* = 0.0208 [0.0041]
a/R* = 11.18 [10.47]
b = 0.90 [0.20]
Seff = 139.62 [53.67]
Teq = 877 [84] K
Rp = 2.41 [0.87] Re
a = 0.0943 [0.0237] AU
Ag = 42.04 [26.77] [1.53σ]
Teff = 3451 [466] K [5.44σ]

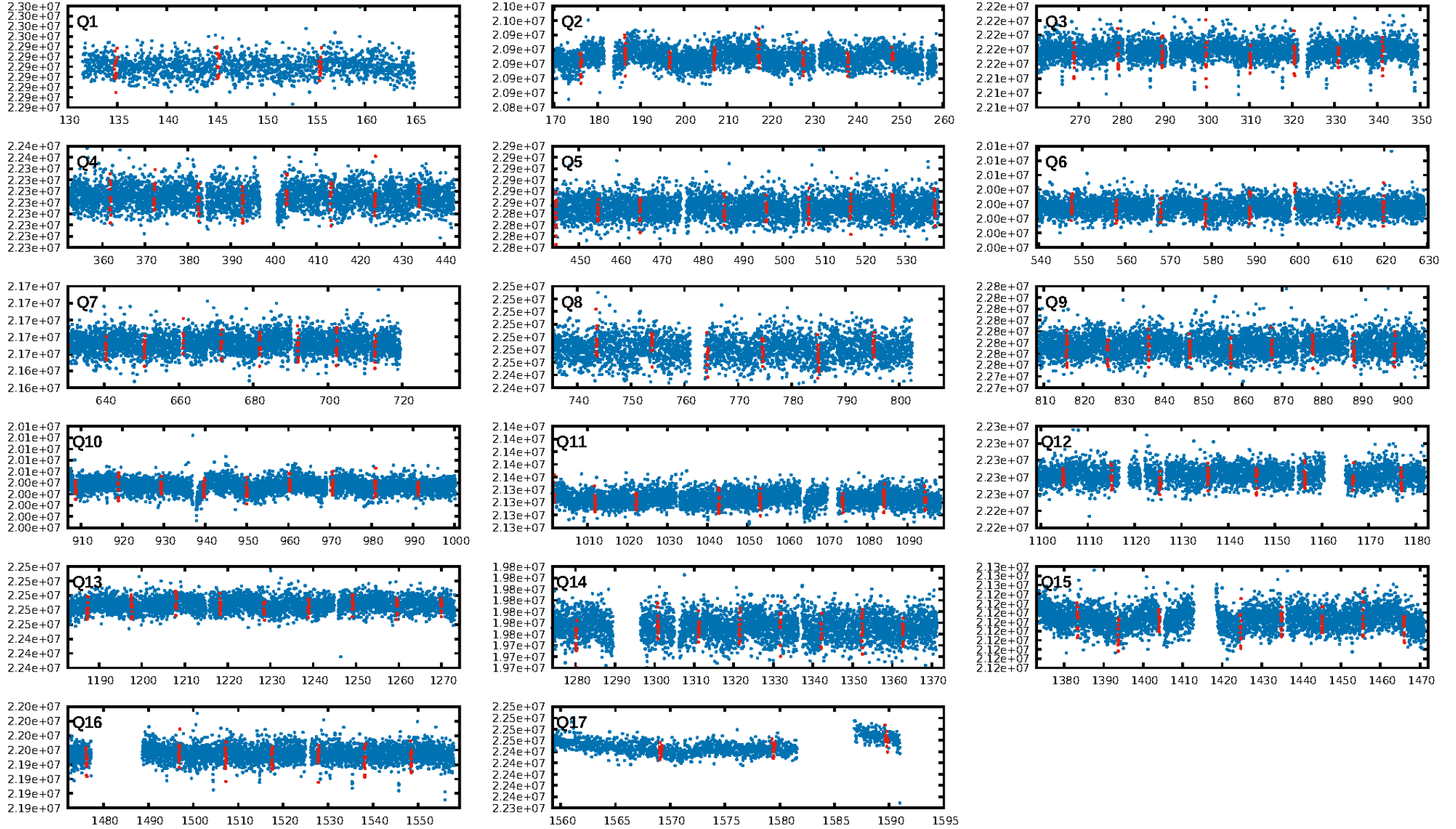
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 42.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.42e-72
RollingBand-fgt: 0.99 [120/121]
GhostDiagnostic-chr: -0.2256
Centroid-sig: 0.0%
Centroid-so: 10.031 arcsec [16.04σ]
OotOffset-rm: 4.778 arcsec [10.93σ]
KicOffset-rm: 4.349 arcsec [8.45σ]
OotOffset-st: 1/0/2/5 [8]
KicOffset-st: 1/0/2/5 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

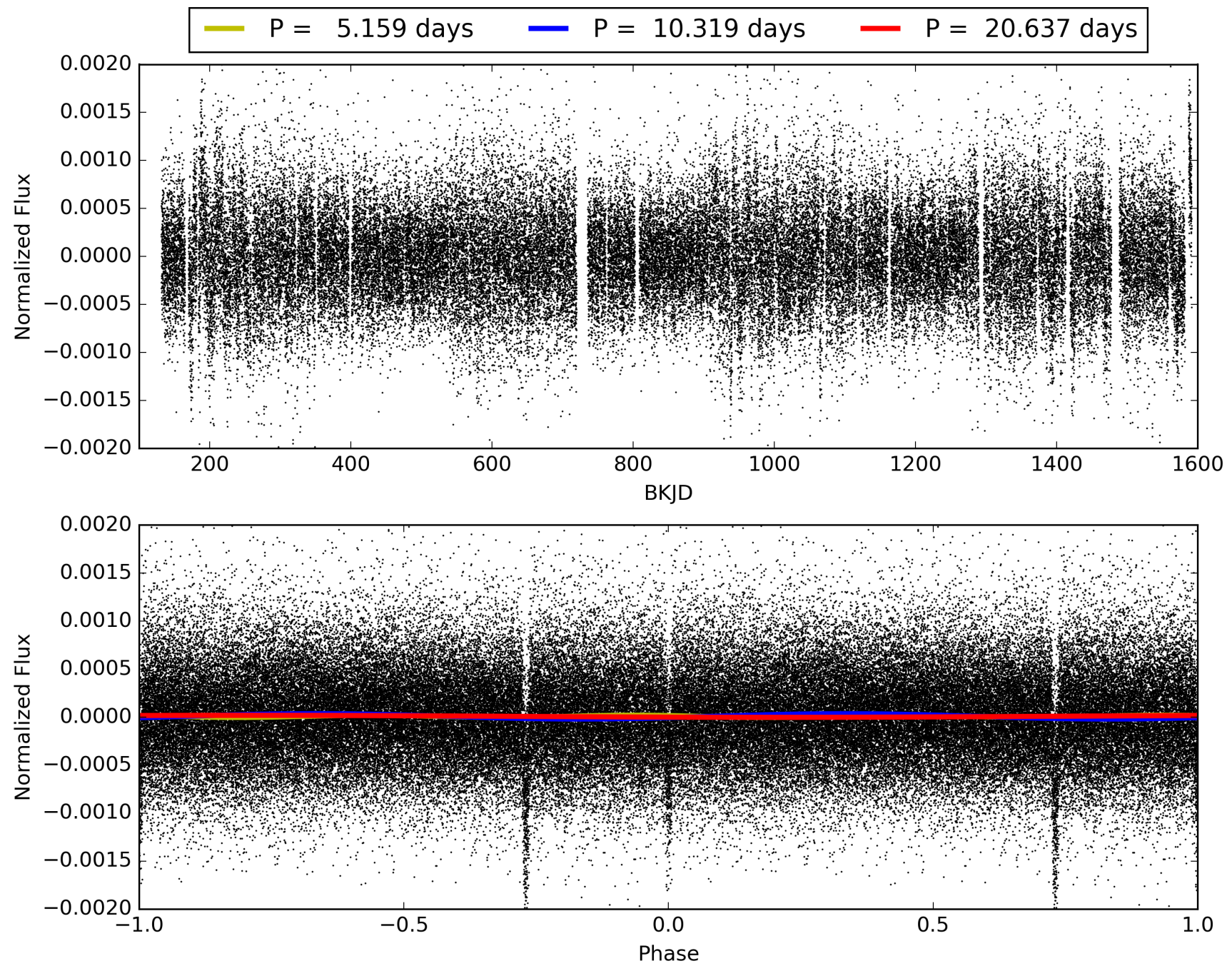
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:20:45 Z

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

TCE 002445129-02, PDC Light Curves

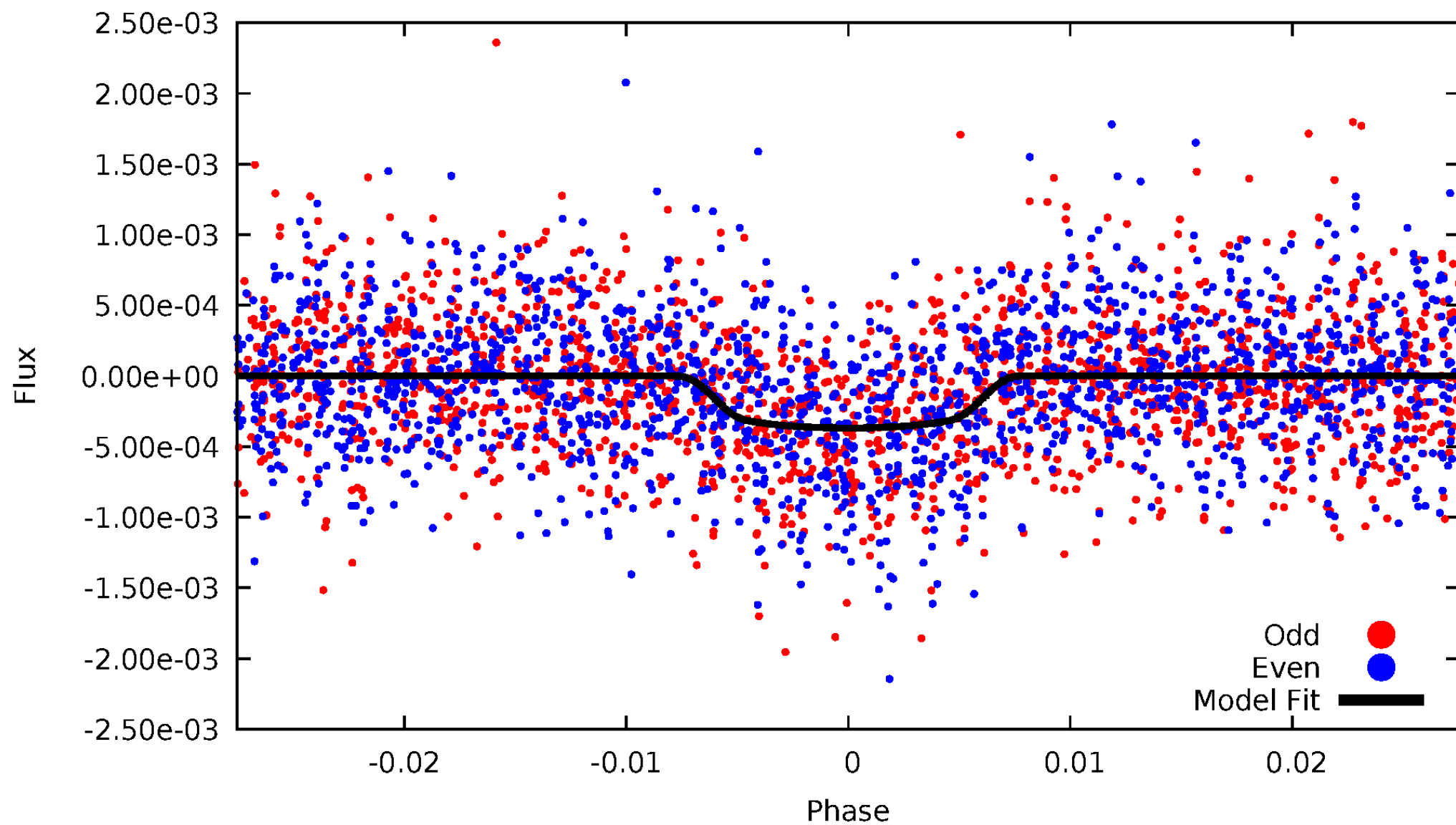


TCE 002445129-02



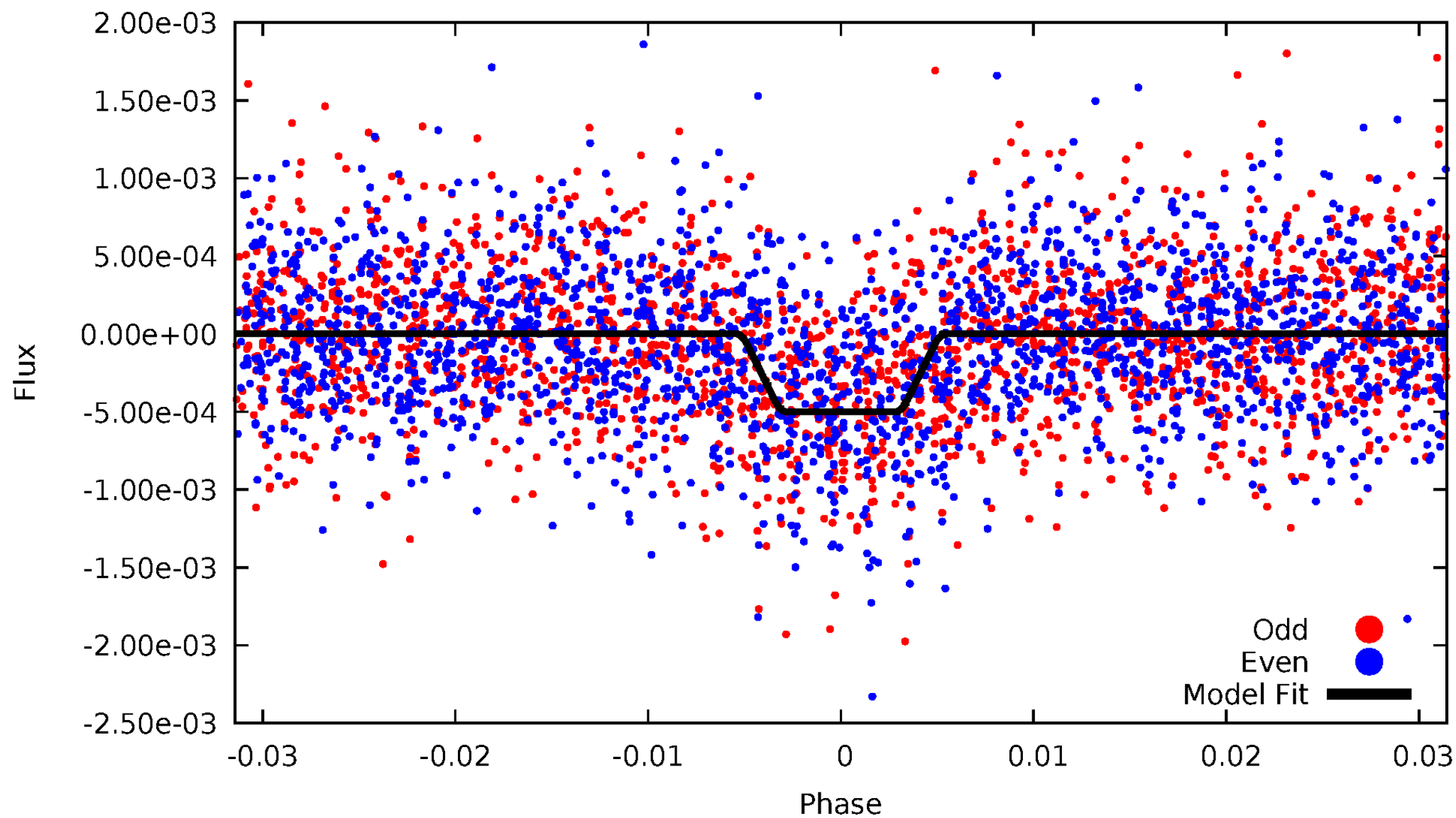
DV Odd/Even

TCE 002445129-02



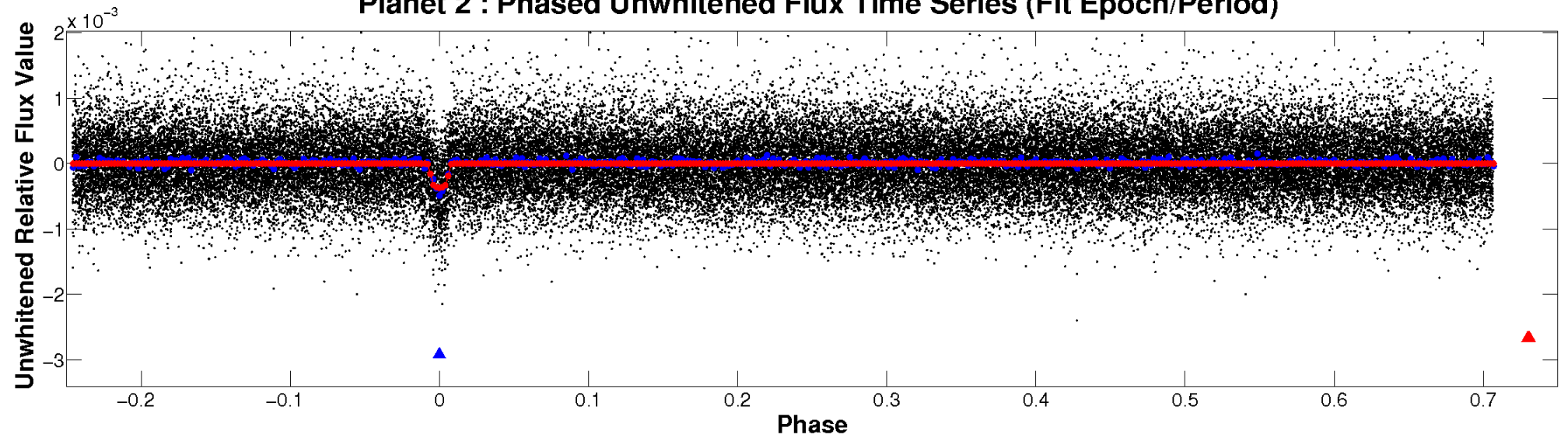
ALT Odd/Even

TCE 002445129-02

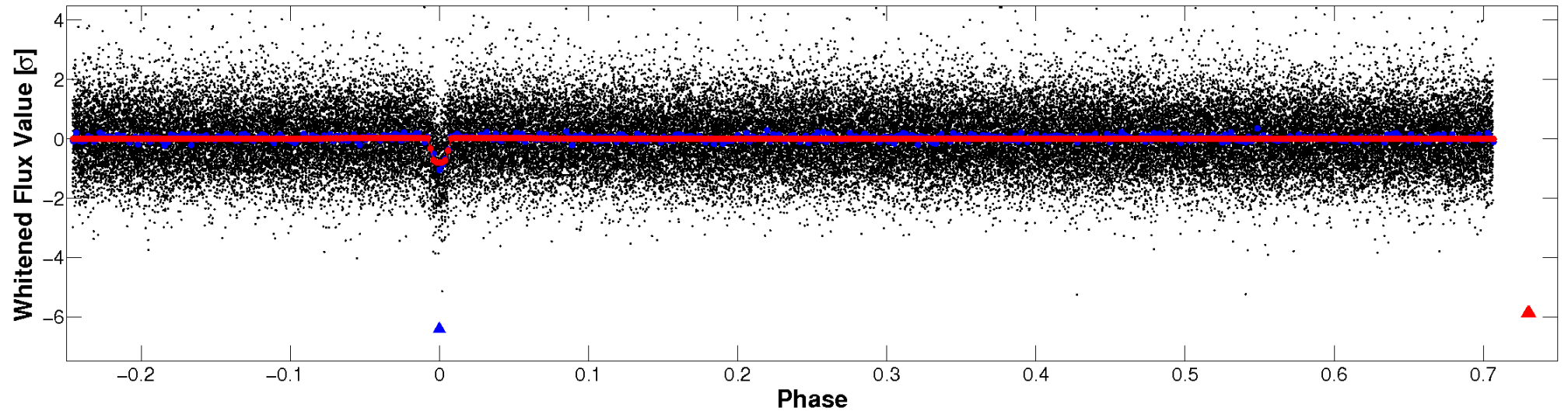


Non-Whitened Vs. Whitened Light Curve

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

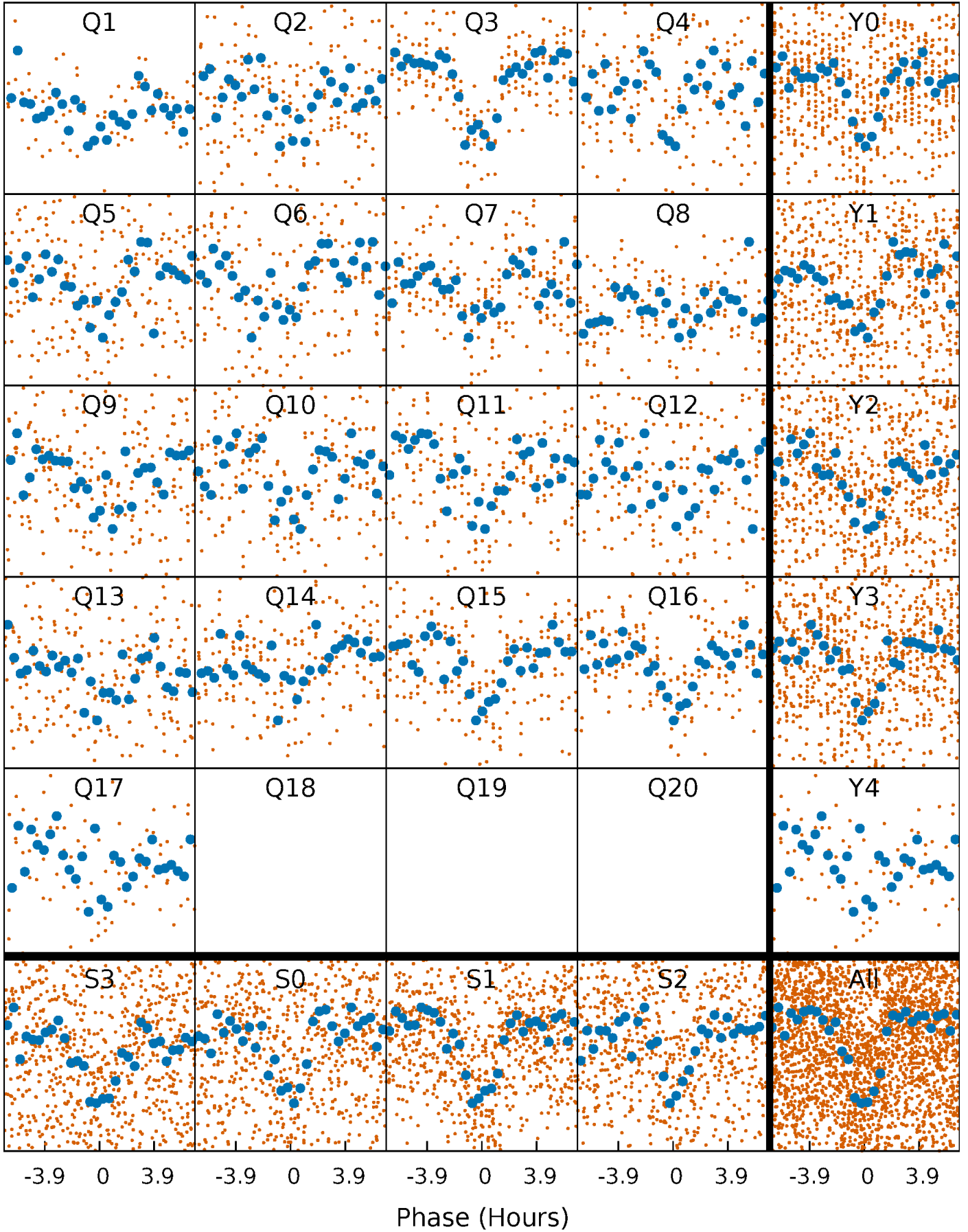


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



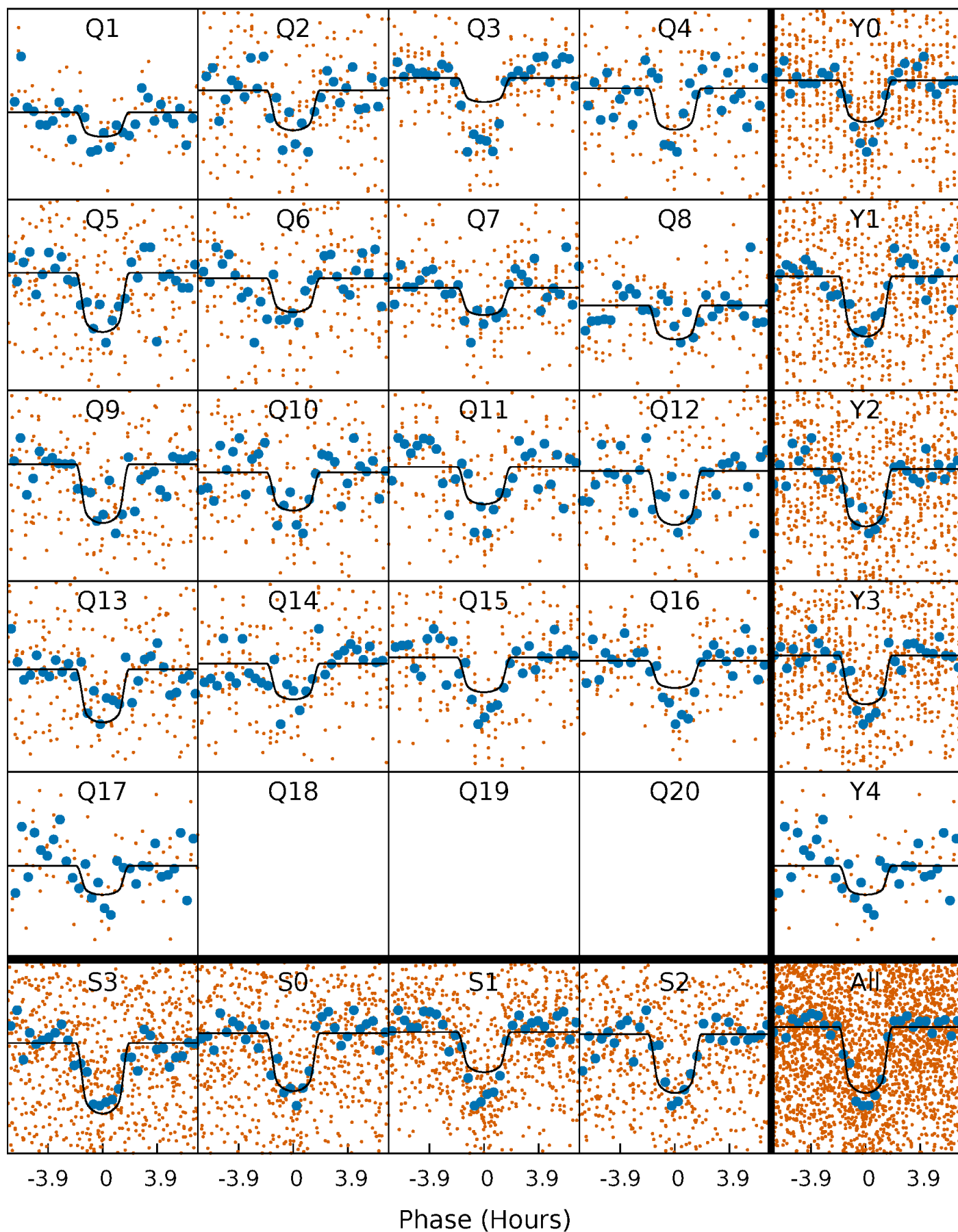
PDC Quarter-Phased Transit Curves

TCE 002445129-02 P= 10.318638 Days $T_0=134.828761$ (BKJD)



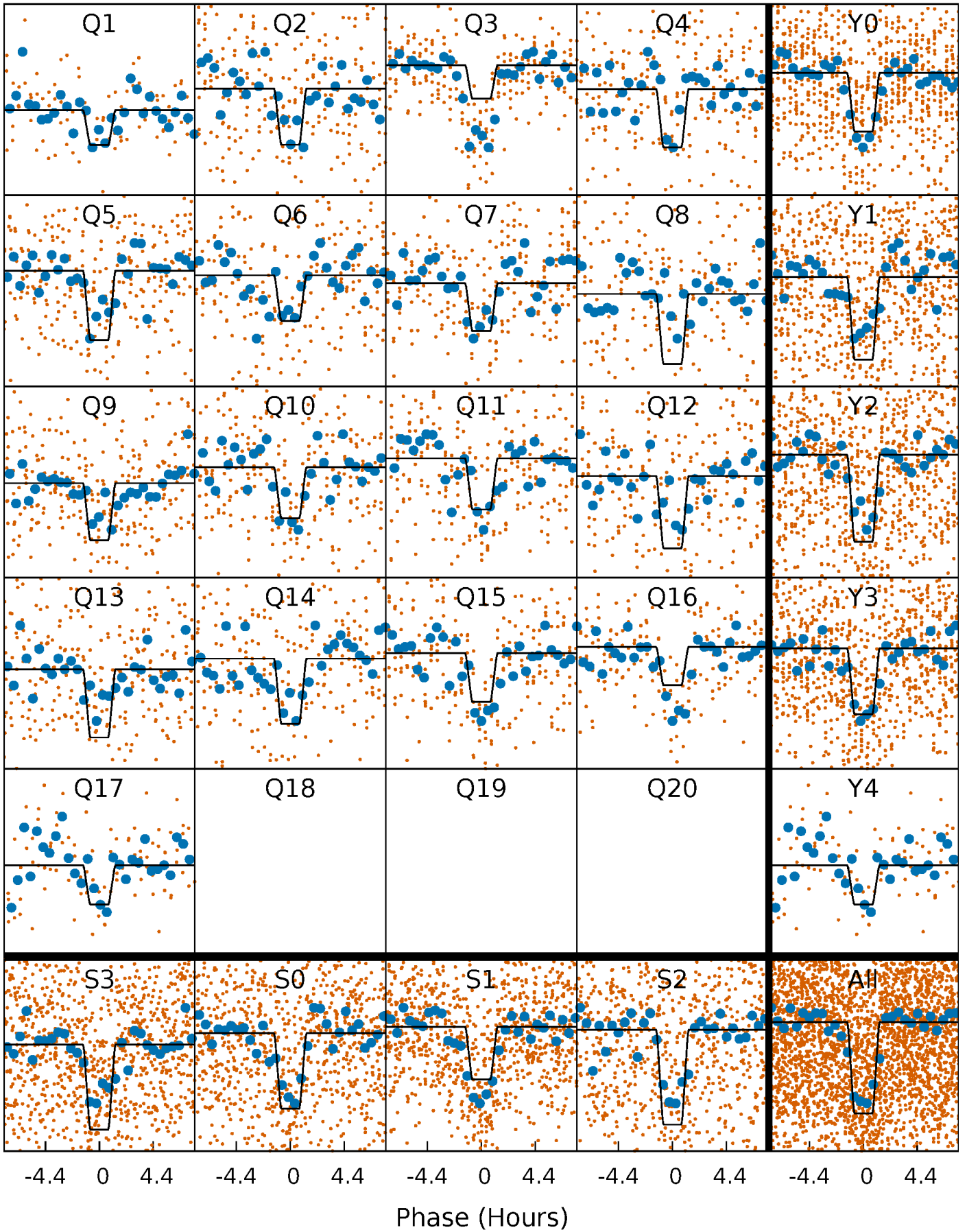
DV Quarter-Phased Transit Curves

TCE 002445129-02 P= 10.318638 Days $T_0=134.828761$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

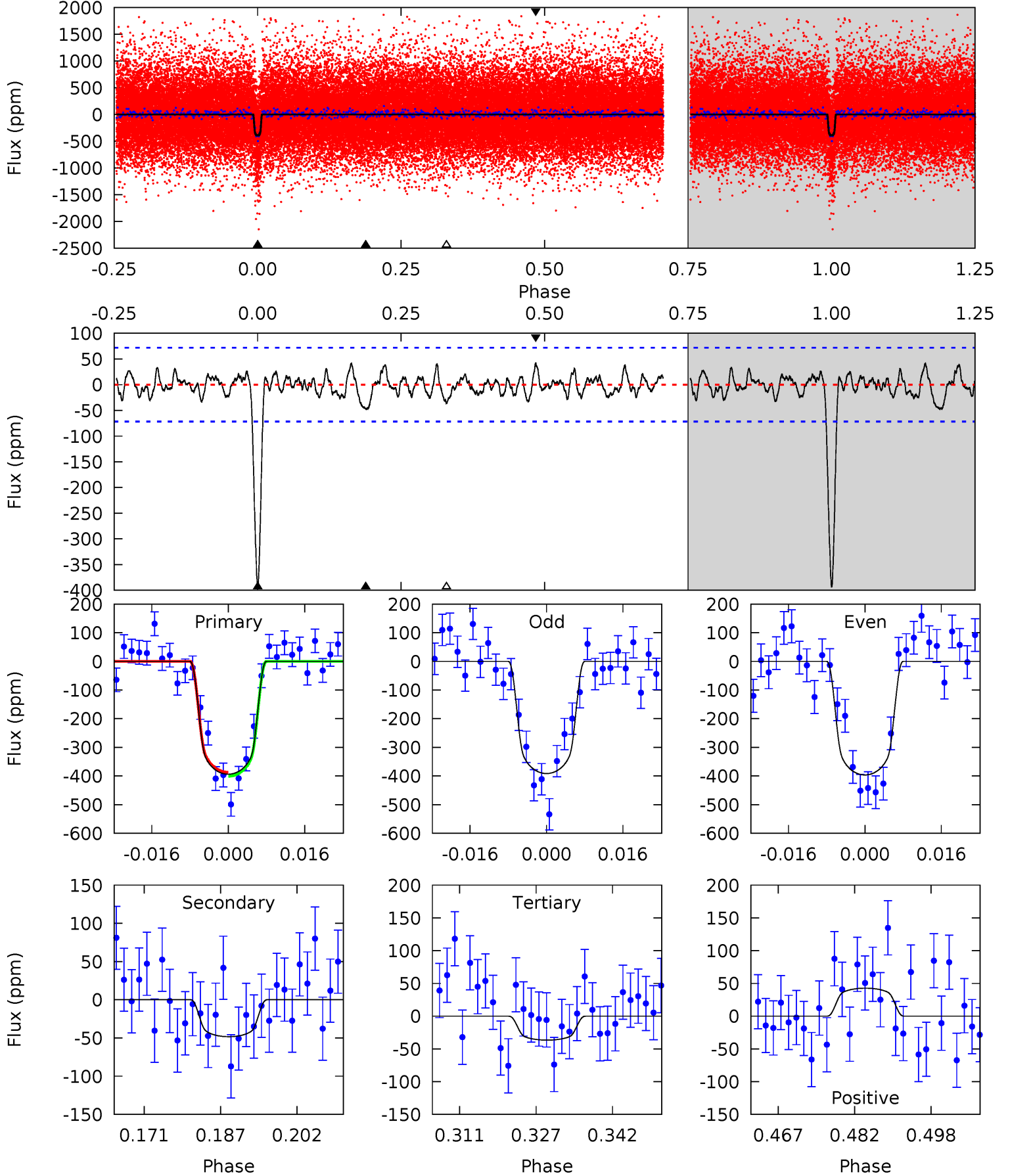
TCE 002445129-02 P= 10.318616 Days $T_0=134.831408$ (BKJD)



DV Model-Shift Uniqueness Test

002445129-02, P = 10.318638 Days, E = 124.510123 Days

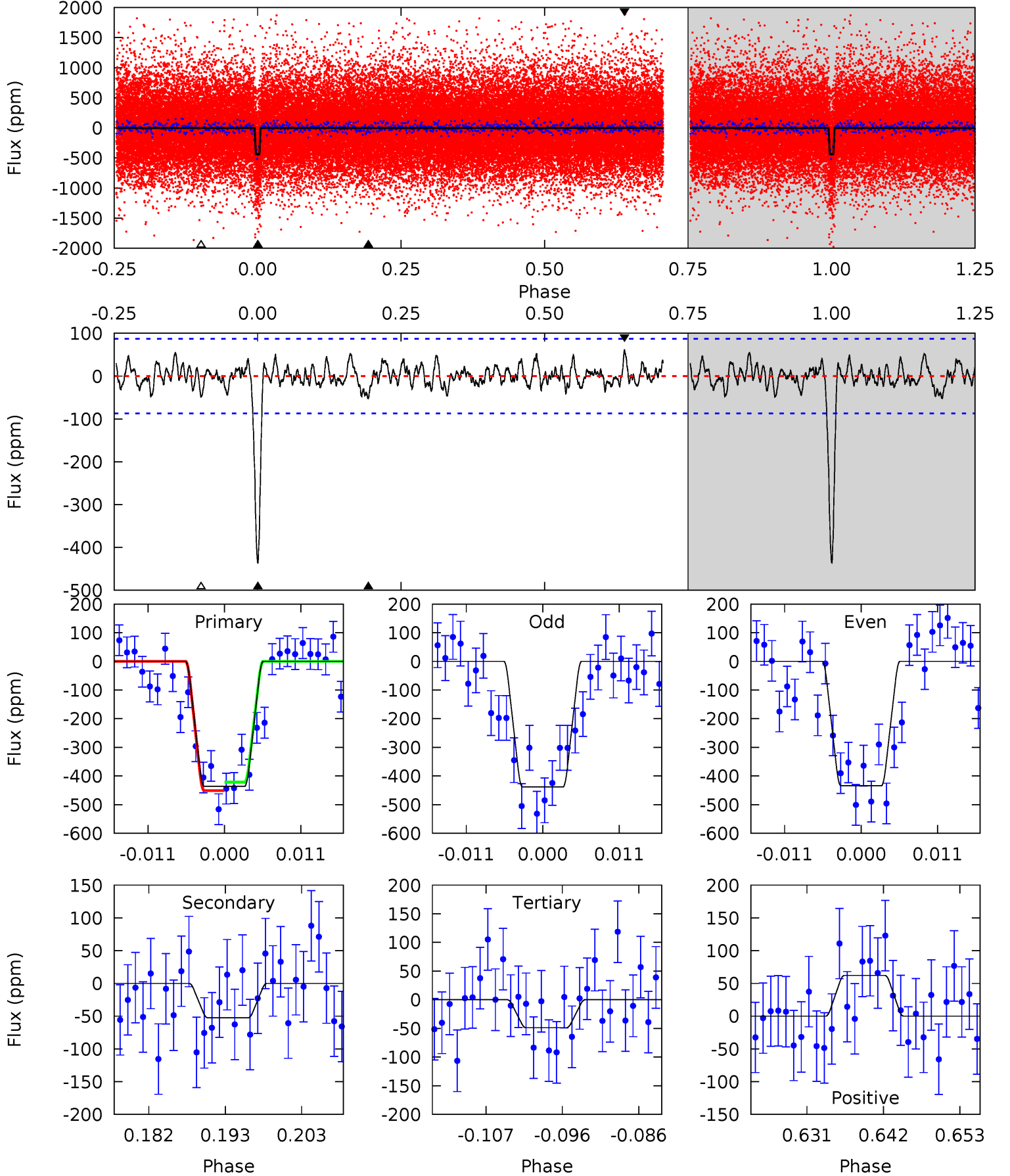
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.2	3.33	2.52	2.94	4.94	2.42	1.06	24.6	24.2	0.81	0.39	0.17	1.12	0.10	0.47



Alt Model-Shift Uniqueness Test

002445129-02, P = 10.318616 Days, E = 124.512792 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	3.02	2.81	3.58	5.01	2.55	1.13	22.3	21.5	0.21	-0.56	0.13	1.14	0.12	0.85



Stellar Parameters For KIC 002445129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5927^{+176}_{-193}	$4.409^{+0.084}_{-0.196}$	$0.070^{+0.250}_{-0.300}$	$1.060^{+0.319}_{-0.137}$	$1.050^{+0.140}_{-0.127}$	$1.243^{+0.473}_{-0.663}$
	+3%/-3%	+2%/-4%	+357%/-429%	+30%/-13%	+13%/-12%	+38%/-53%
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 002445129-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-48 ± 15	$2.47^{+0.60}_{-0.53}$	1243^{+85}_{-69}	3805^{+355}_{-330}	38^{+26}_{-17}
Alt.	-52 ± 17	$2.67^{+0.71}_{-0.53}$	1245^{+87}_{-68}	3750^{+334}_{-335}	34^{+25}_{-15}

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 $A_{obs} \gg 1.0$

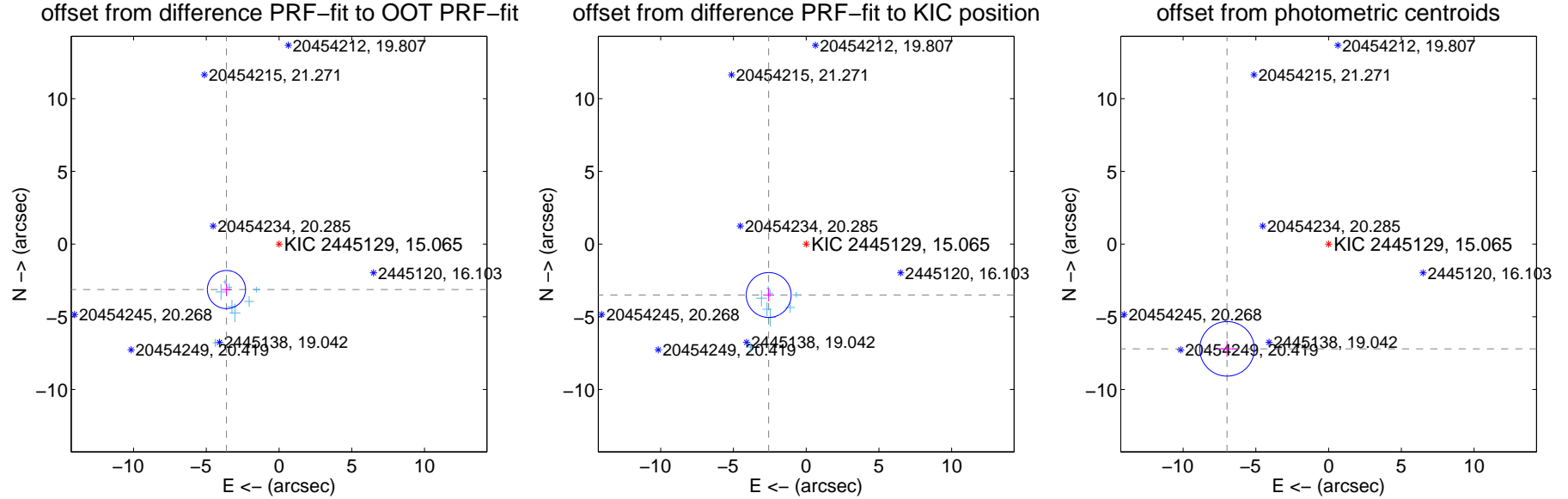
DV Centroid Data

Supplemental centroid analysis for 002445129-02. Kepler magnitude: 15.06. Transit SNR 19.45

There are 8 quarters with good PRF difference image offsets

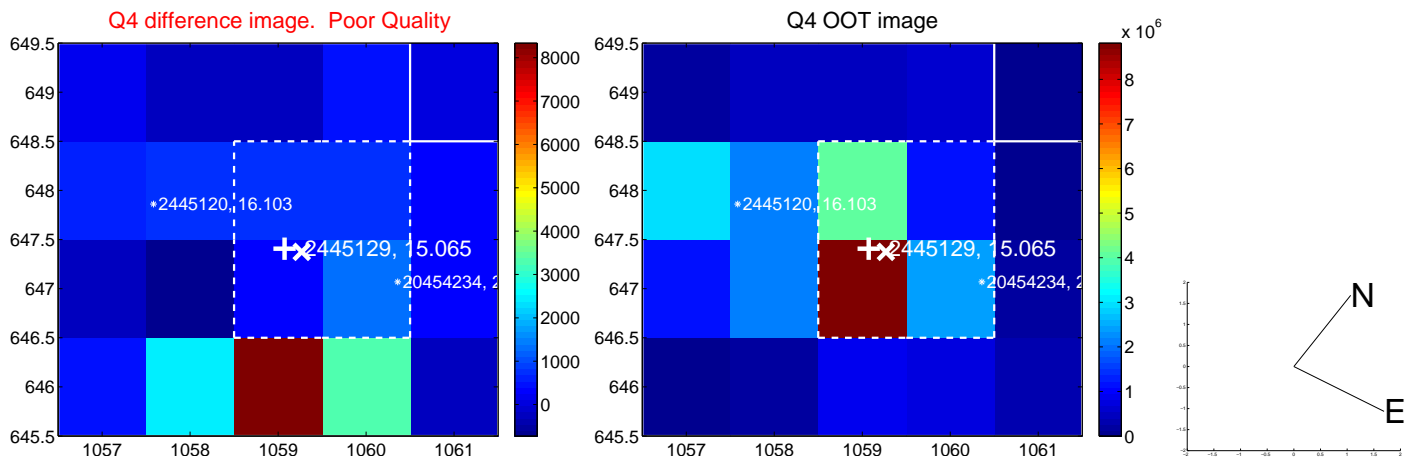
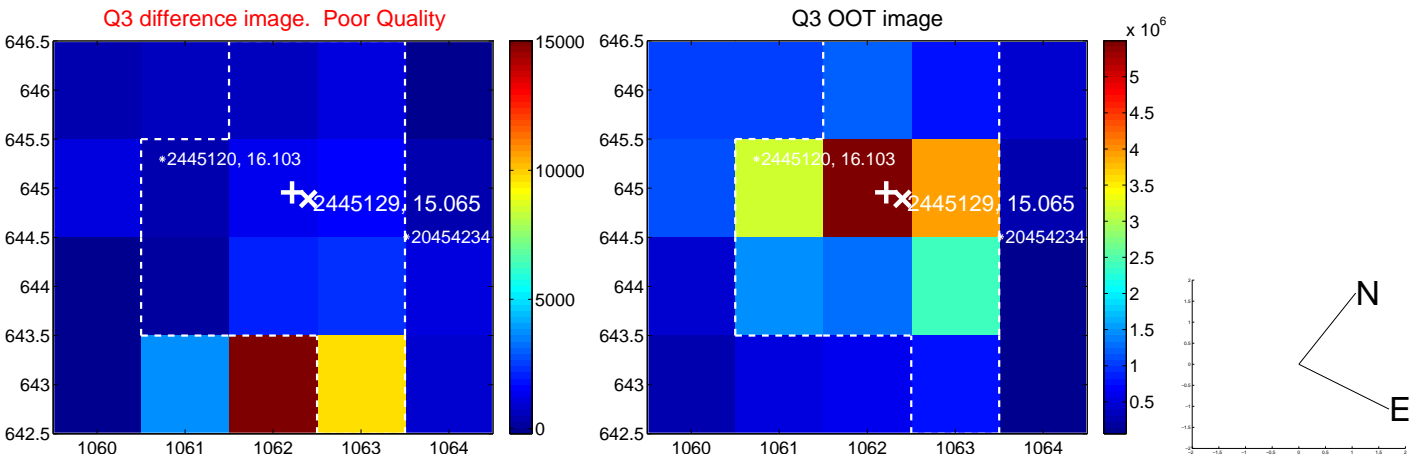
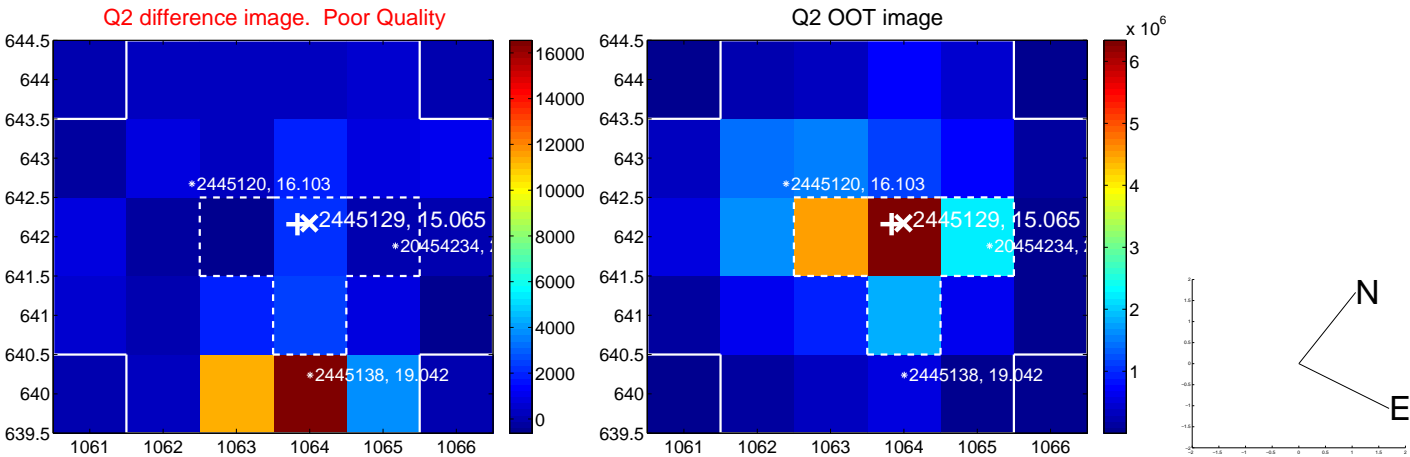
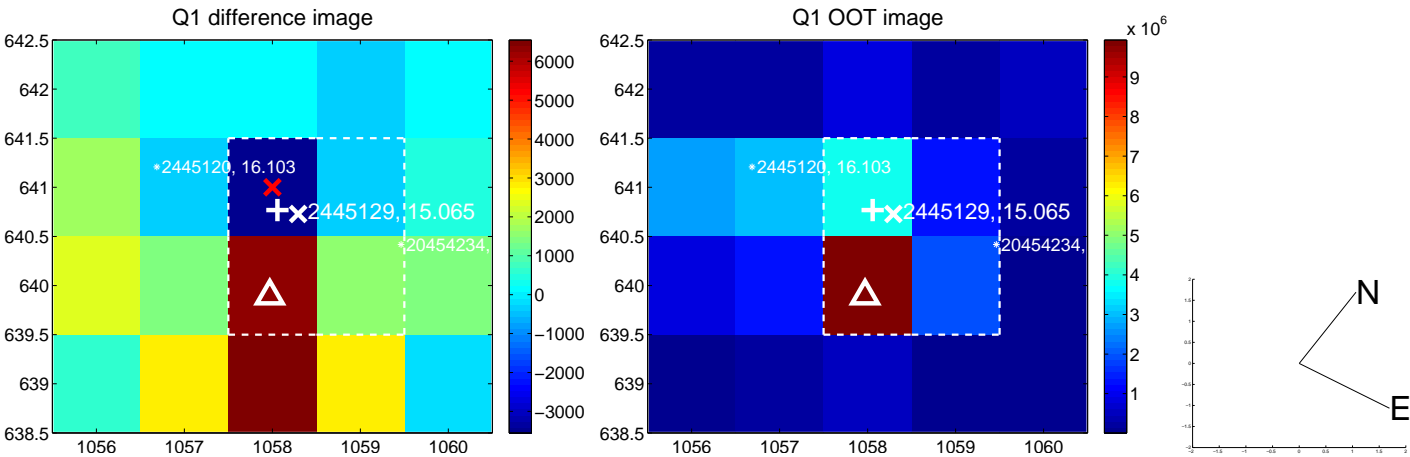
The direct PRF centroid is offset from the target star catalog position by about 1.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.778 ± 0.437	10.93	3.614 ± 0.335	-3.126 ± 0.450
PRF-fit source offset from KIC position	4.349 ± 0.514	8.45	2.577 ± 0.378	-3.503 ± 0.444
photometric centroid source offset	10.03 ± 0.63	16.04	6.98 ± 0.69	-7.20 ± 0.56

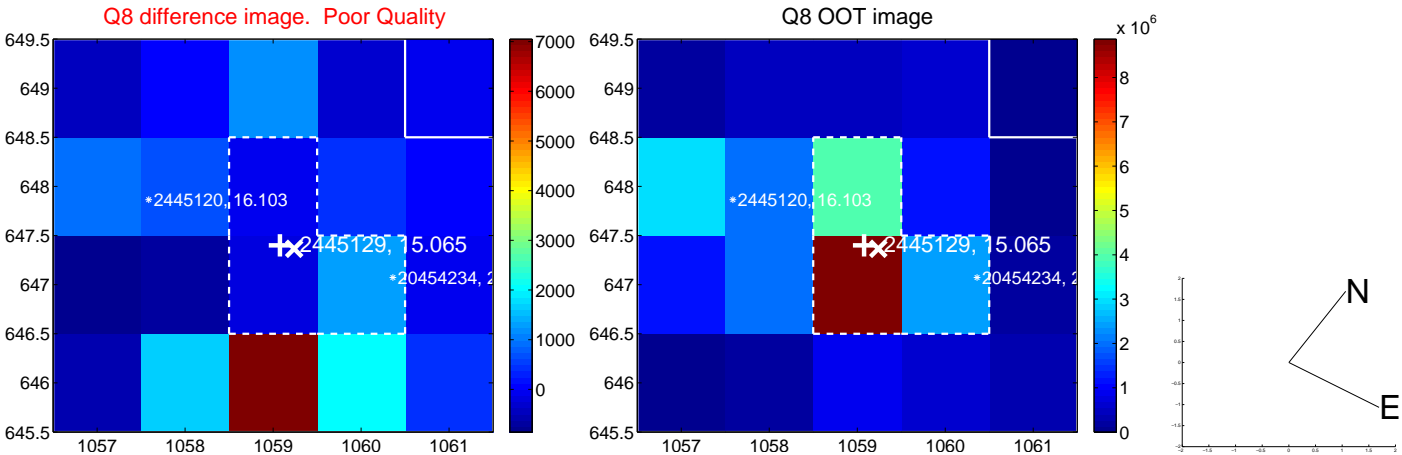
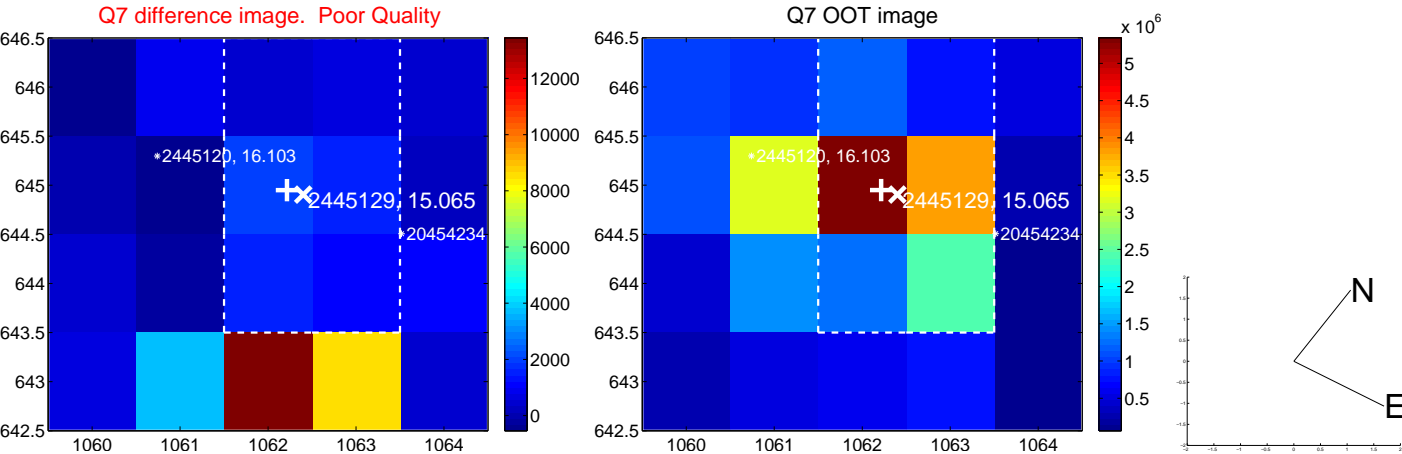
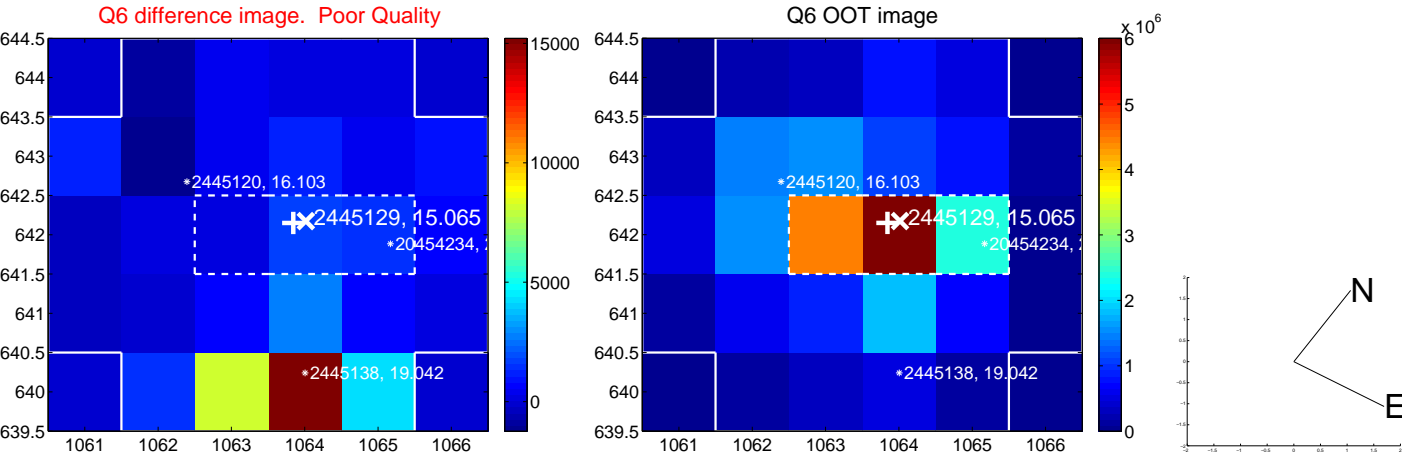
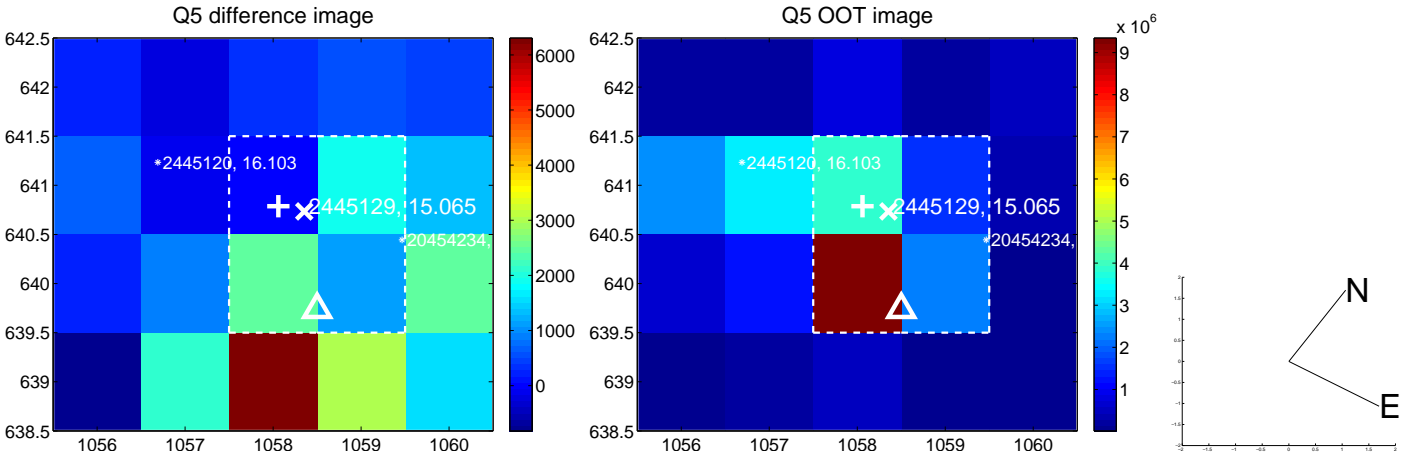


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

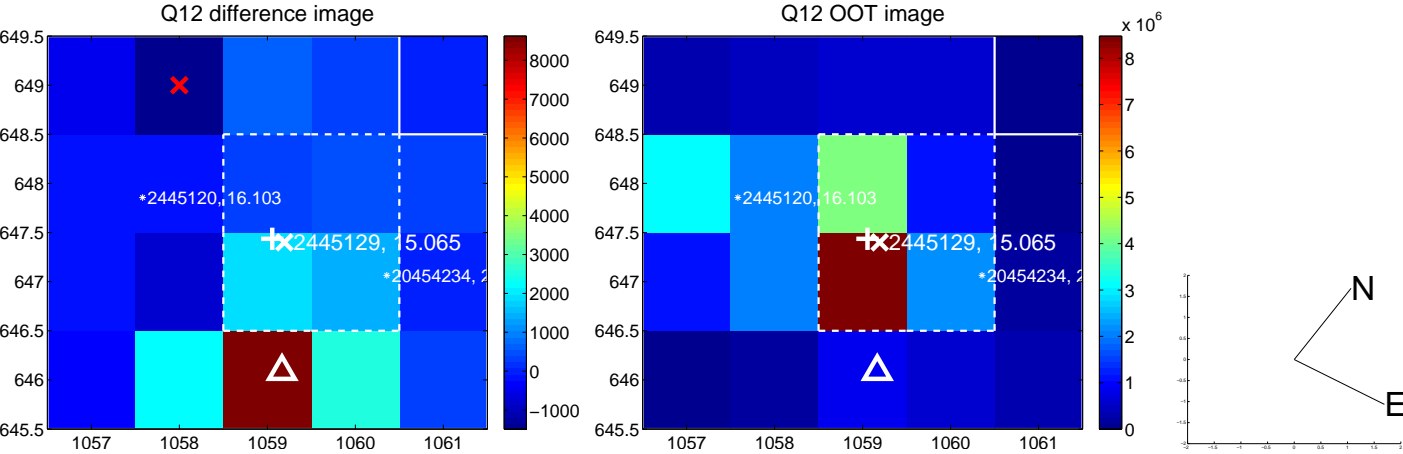
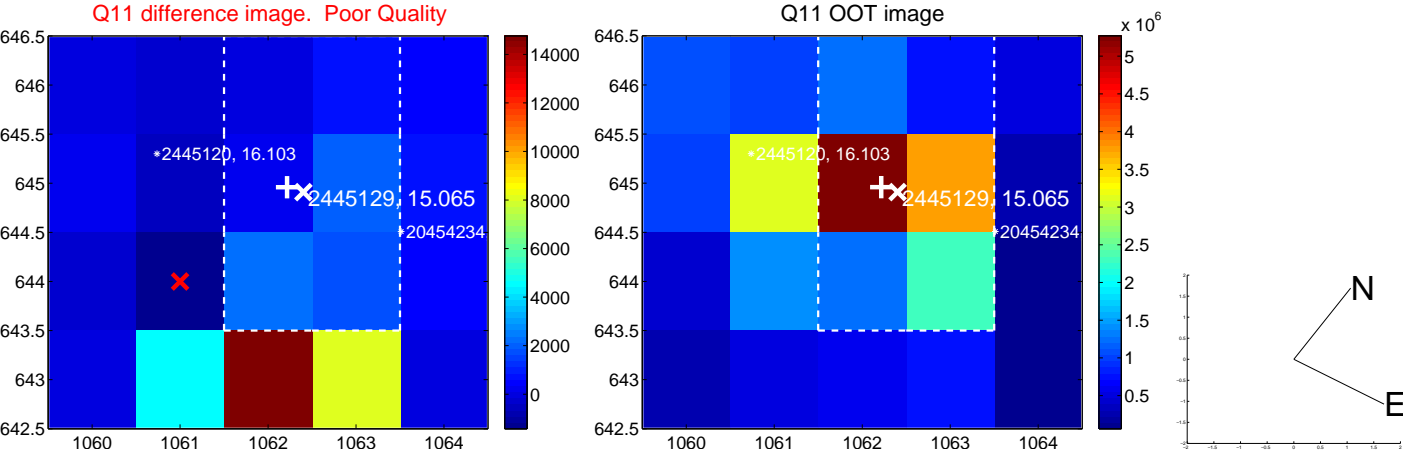
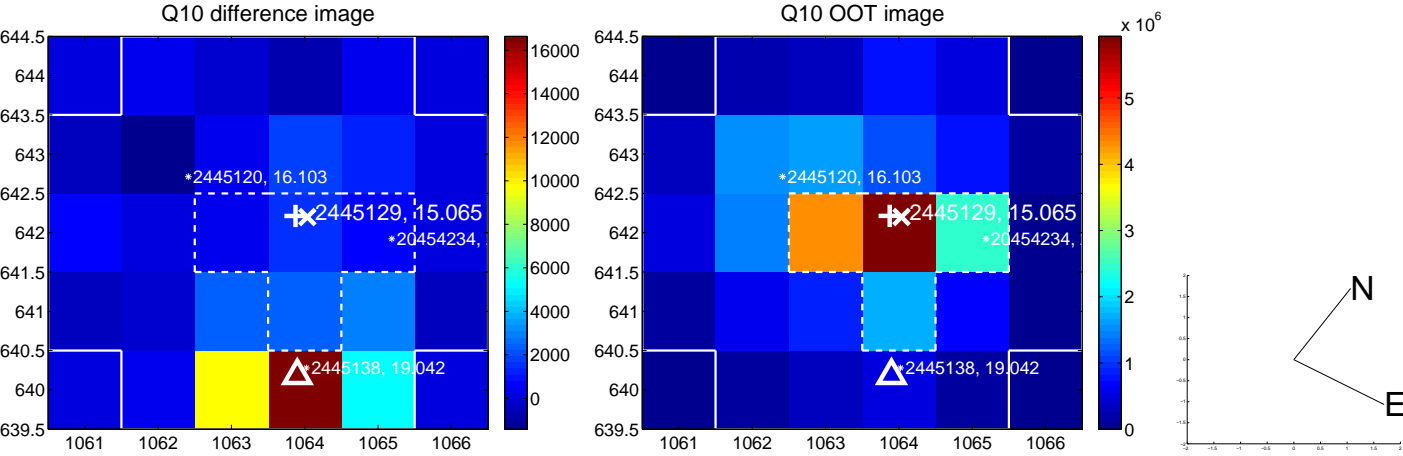
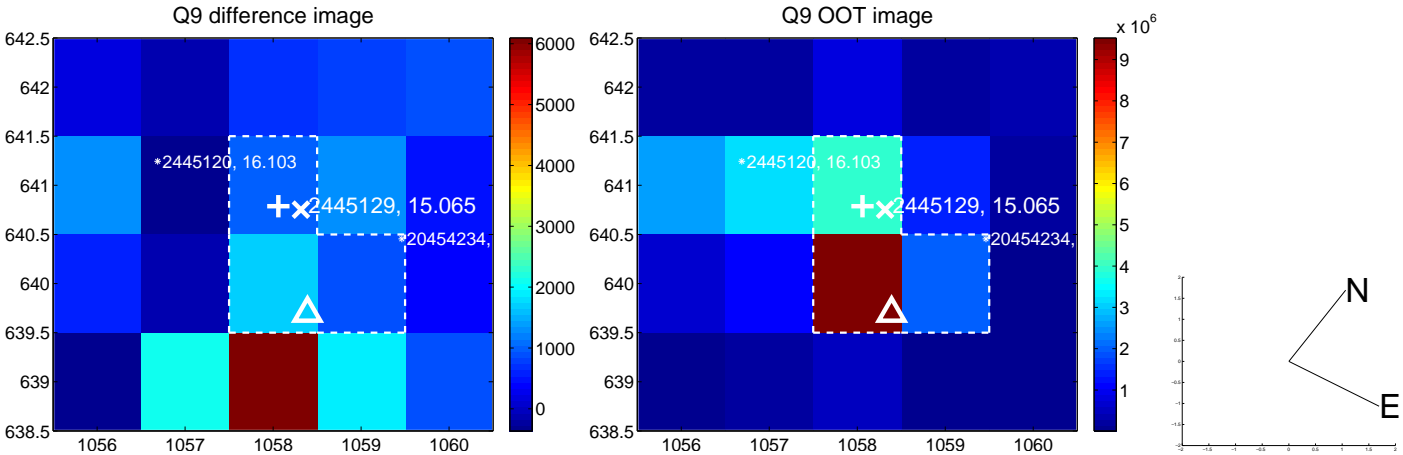
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



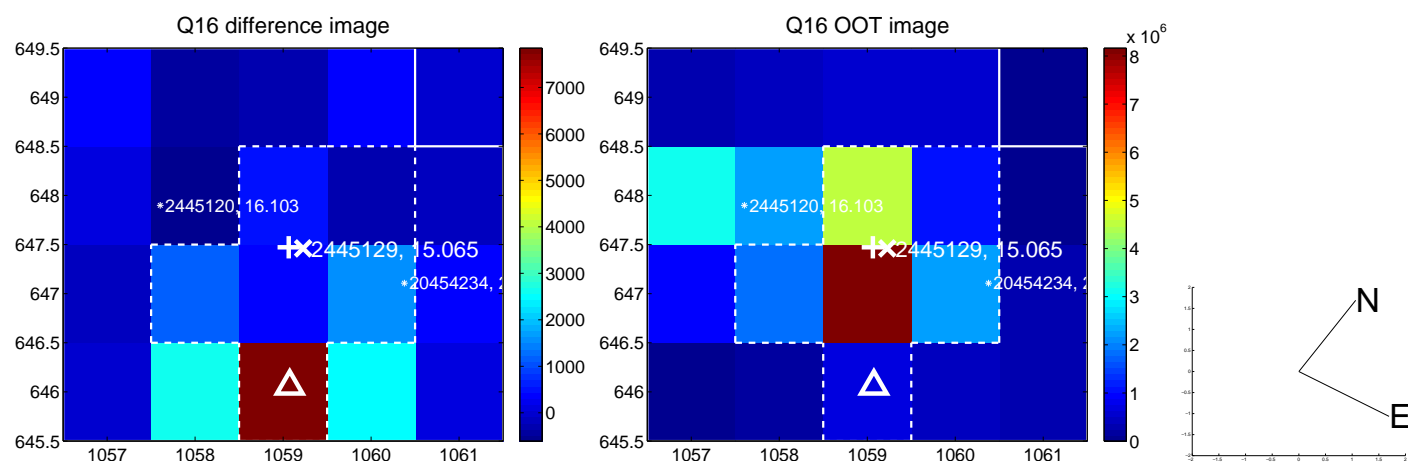
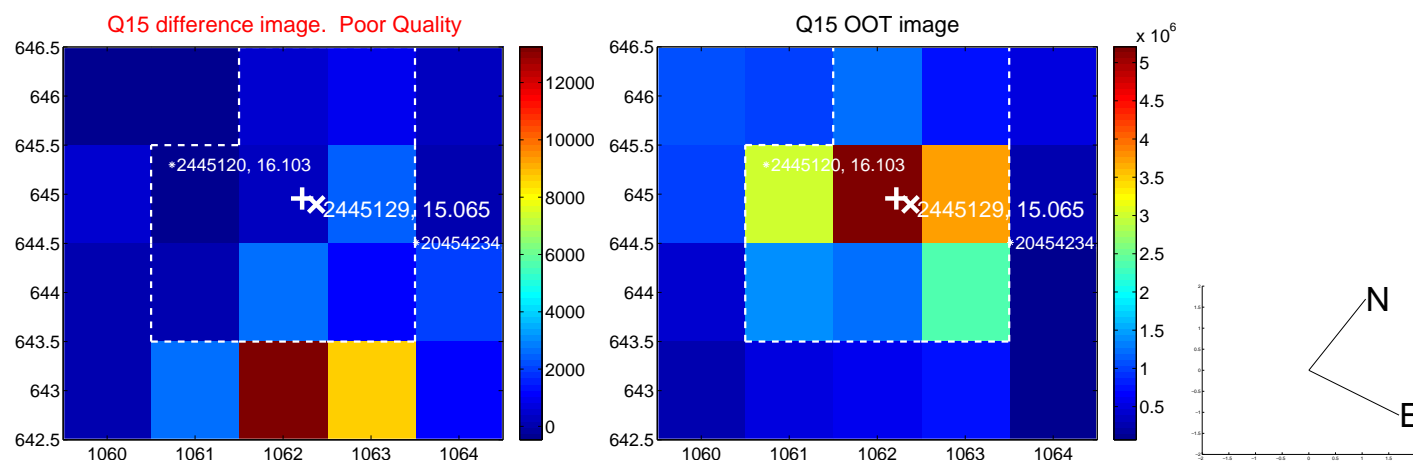
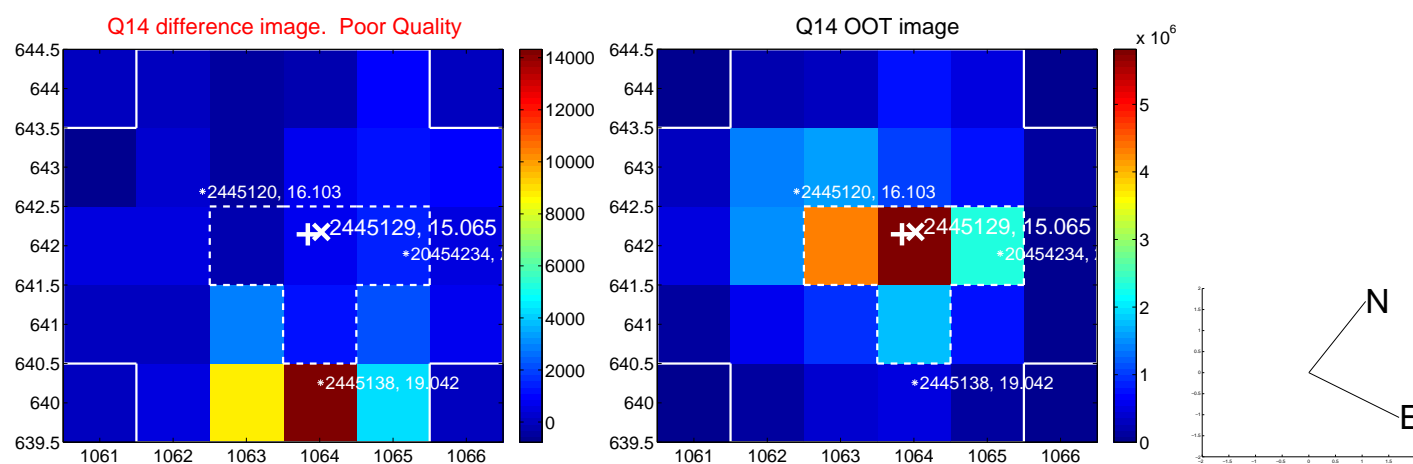
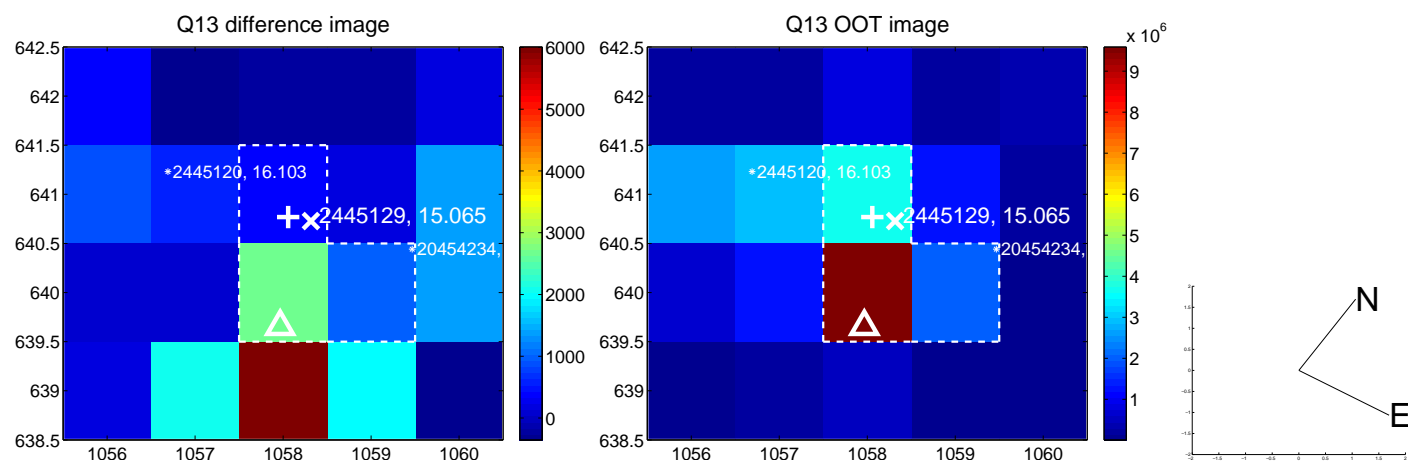
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



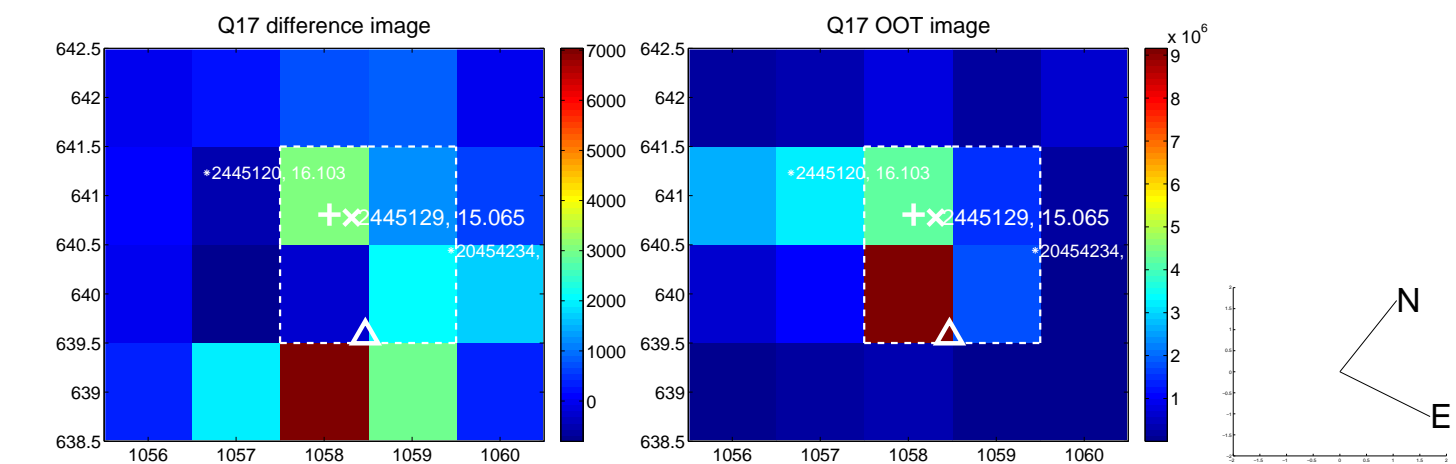
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



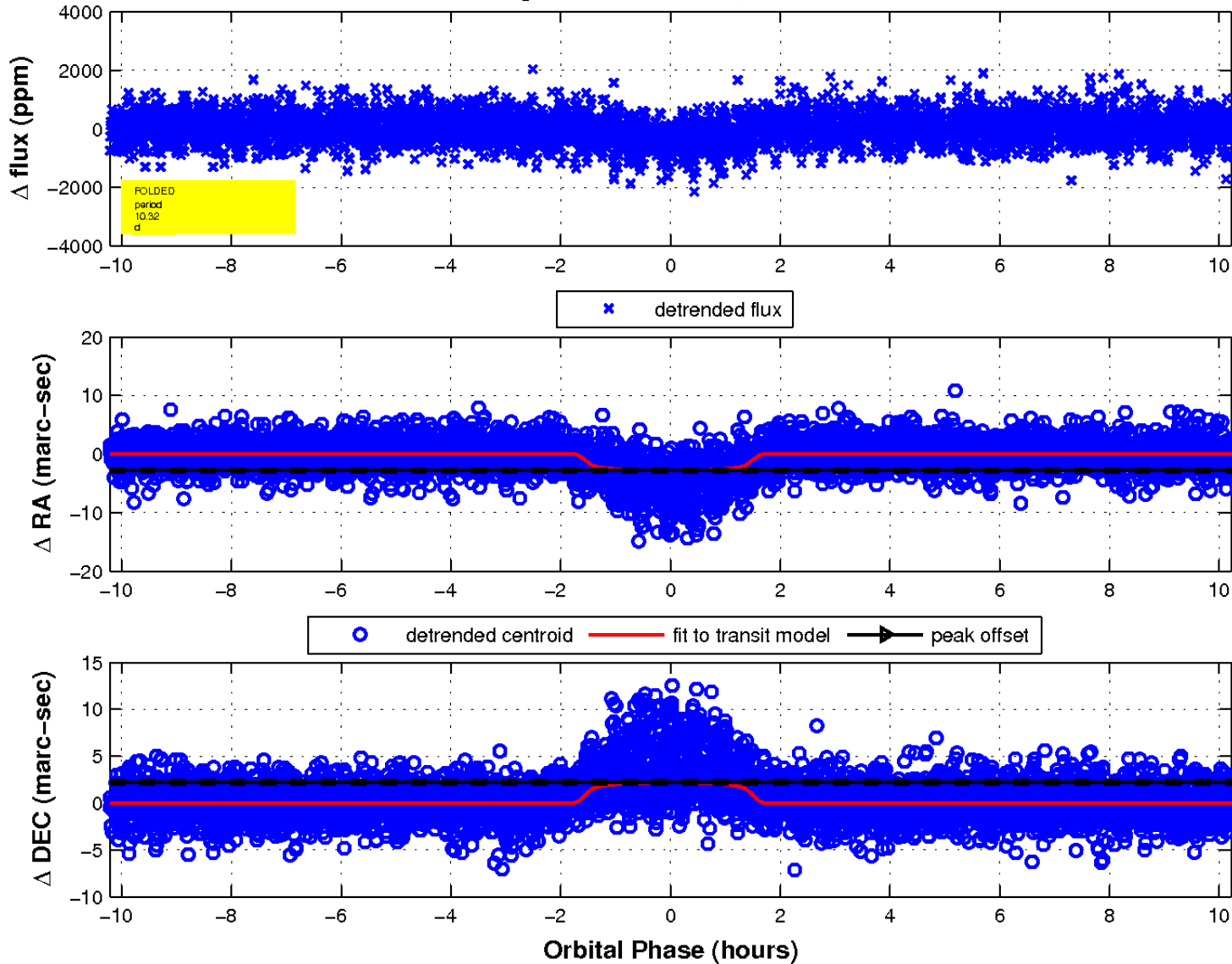
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

