

KIC 005386264

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})
005386264-01	OBS	No	12.424998	134.008624	120.2	23.828	13.4	15.0	0.62	4756	0.66	20.98
005386264-02	OBS	4135.01	12.428928	141.304588	137.2	24.342	13.6	18.2	0.62	4756	0.86	20.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005386264-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
005386264-02	OBS	FP	0.00	1	0	1	0	LPP_DV—SAME_NTL_PERIOD—CENT_KIC_POS—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.

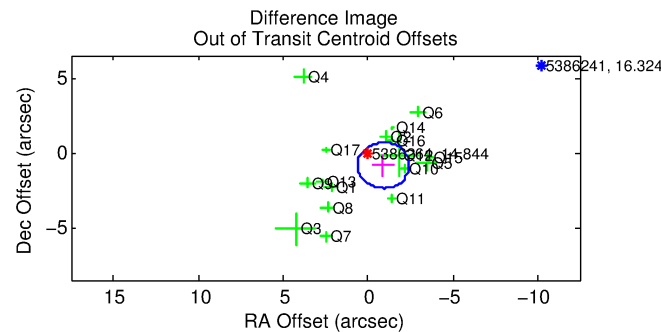
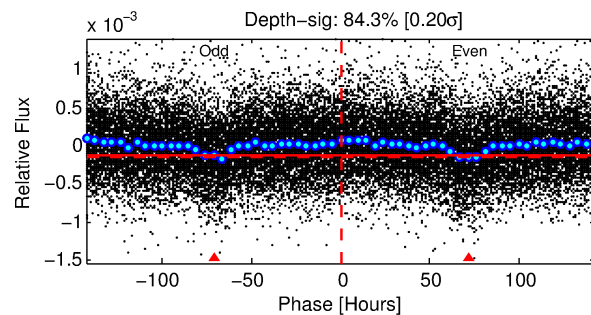
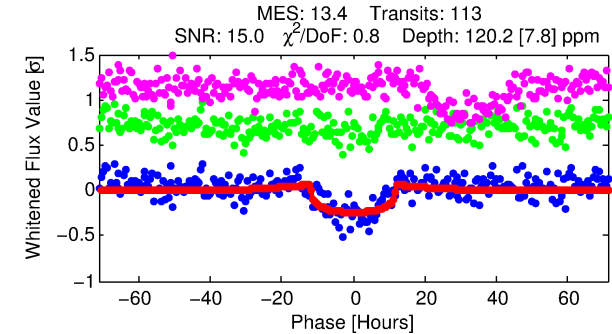
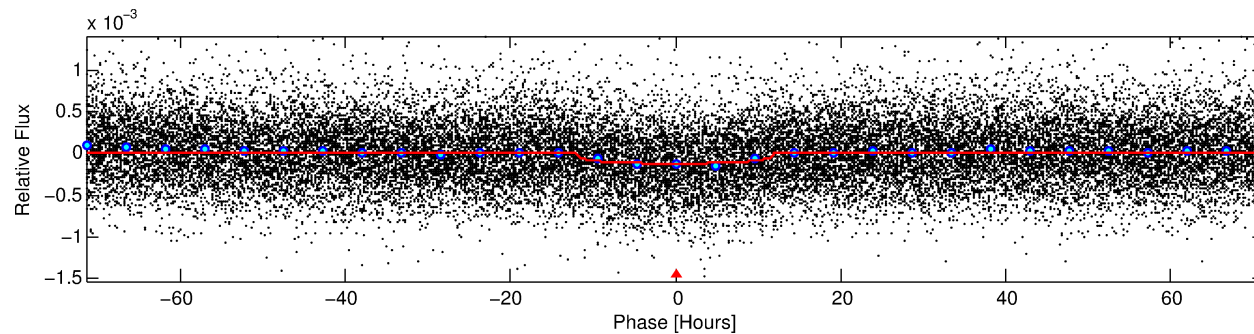
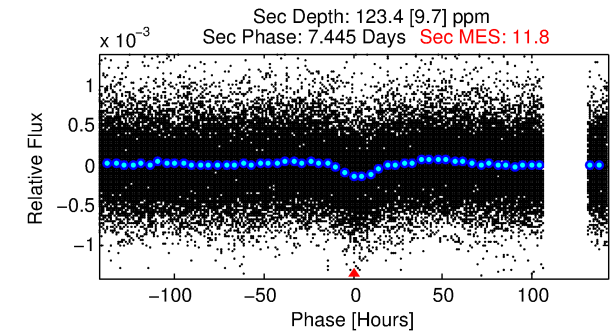
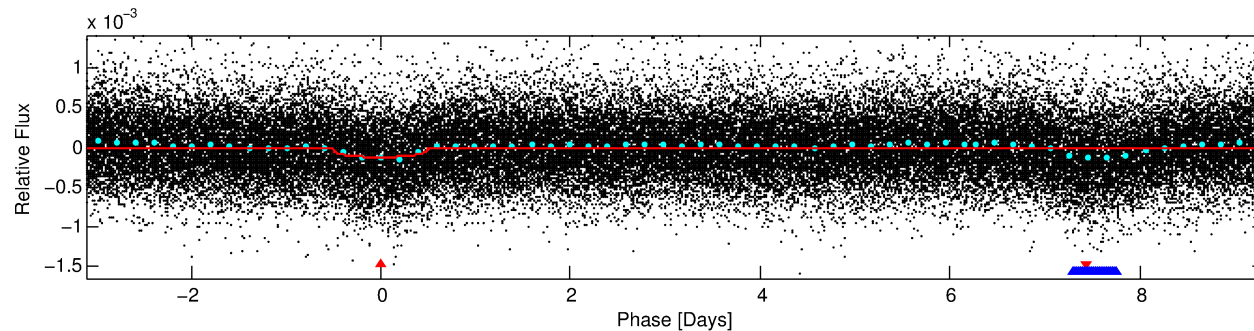
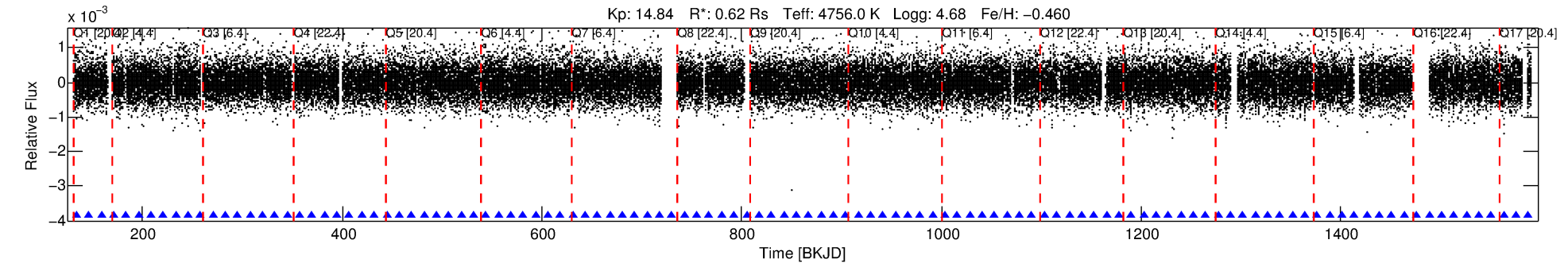
Ephemeris Match Information For 005386264-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005386264-01	5386264	V380-Cyg-sec	5385723	1:1	323.2	-47	67	5.77	14.84	1075.30	Direct-PRF	0	1.39	1.88

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5386264 Candidate: 1 of 2 Period: 12.425 d
KOI: K04135 Corr: No Ephemeris Match



DV Fit Results:

Period = 12.42500 [0.00028] d
Epoch = 134.0086 [0.0178] BKJD
Rp/R* = 0.0097 [0.0064]
a/R* = 4.05 [8.45]
b = 0.07 [30.61]
Seff = 20.98 [3.40]
Teq = 546 [22] K
Rp = 0.66 [0.44] Re
a = 0.0917 [0.0077] AU
Ag = 1325.38 [1756.52] [0.75σ]
Teffp = 5091 [1688] K [2.69σ]

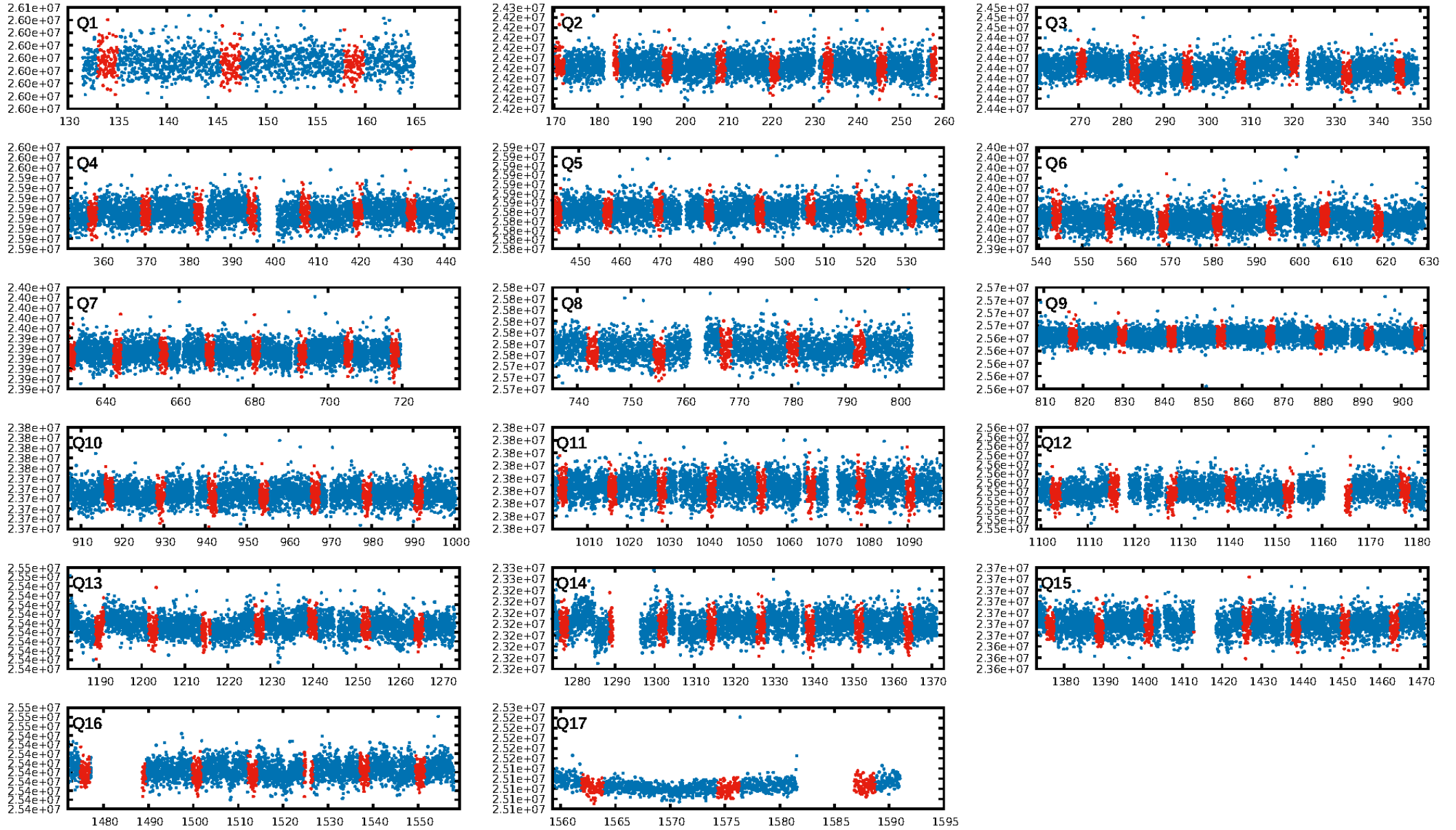
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: 62.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.21e-39
RollingBand-fgt: 1.00 [107/107]
GhostDiagnostic-chr: -0.2131
Centroid-sig: 15.2%
Centroid-so: 0.758 arcsec [0.91σ]
OotOffset-rm: 1.253 arcsec [2.47σ]
KicOffset-rm: 1.558 arcsec [3.32σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 1.00 [17/17]

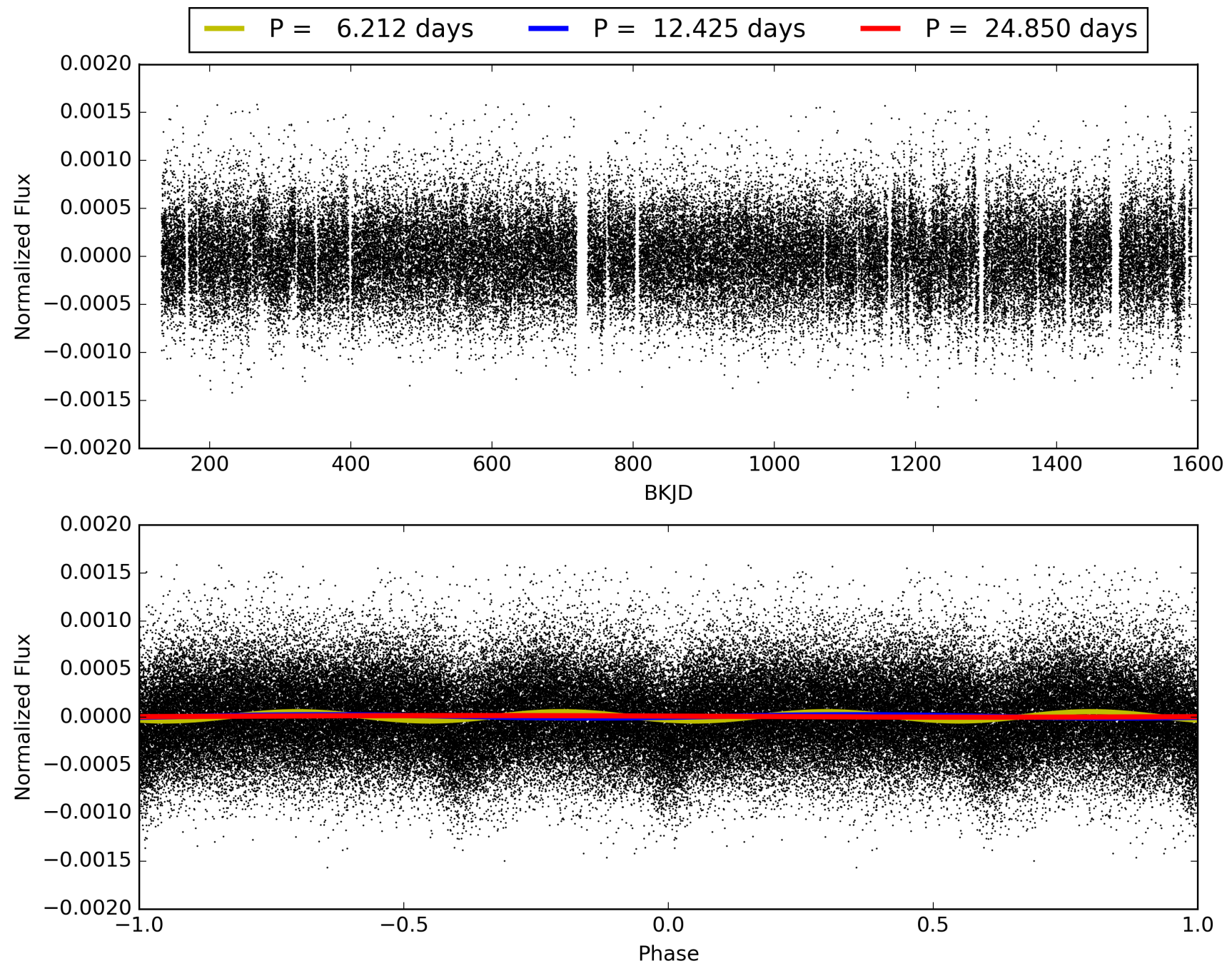
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:06:06 Z

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

TCE 005386264-01, PDC Light Curves

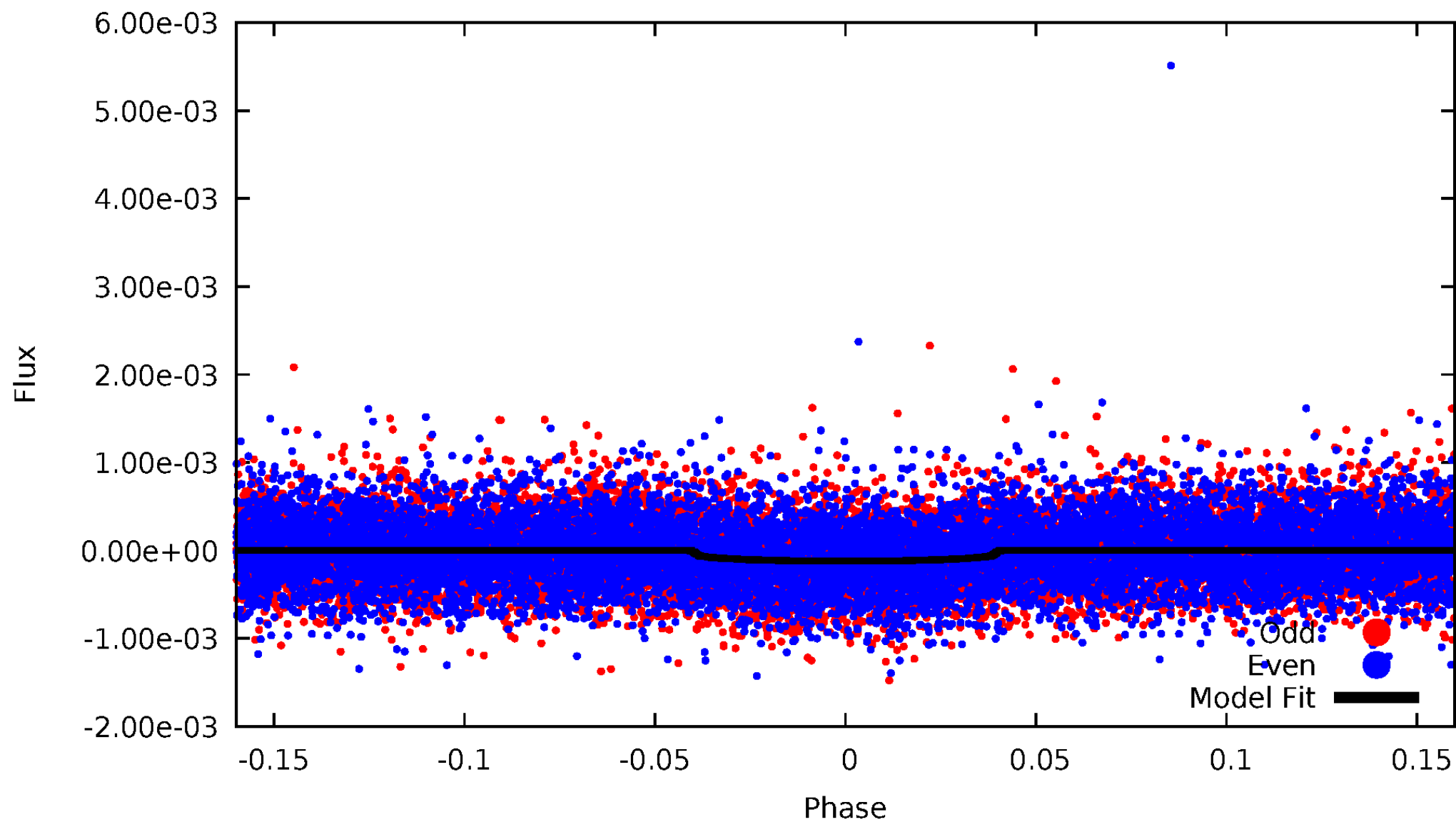


TCE 005386264-01



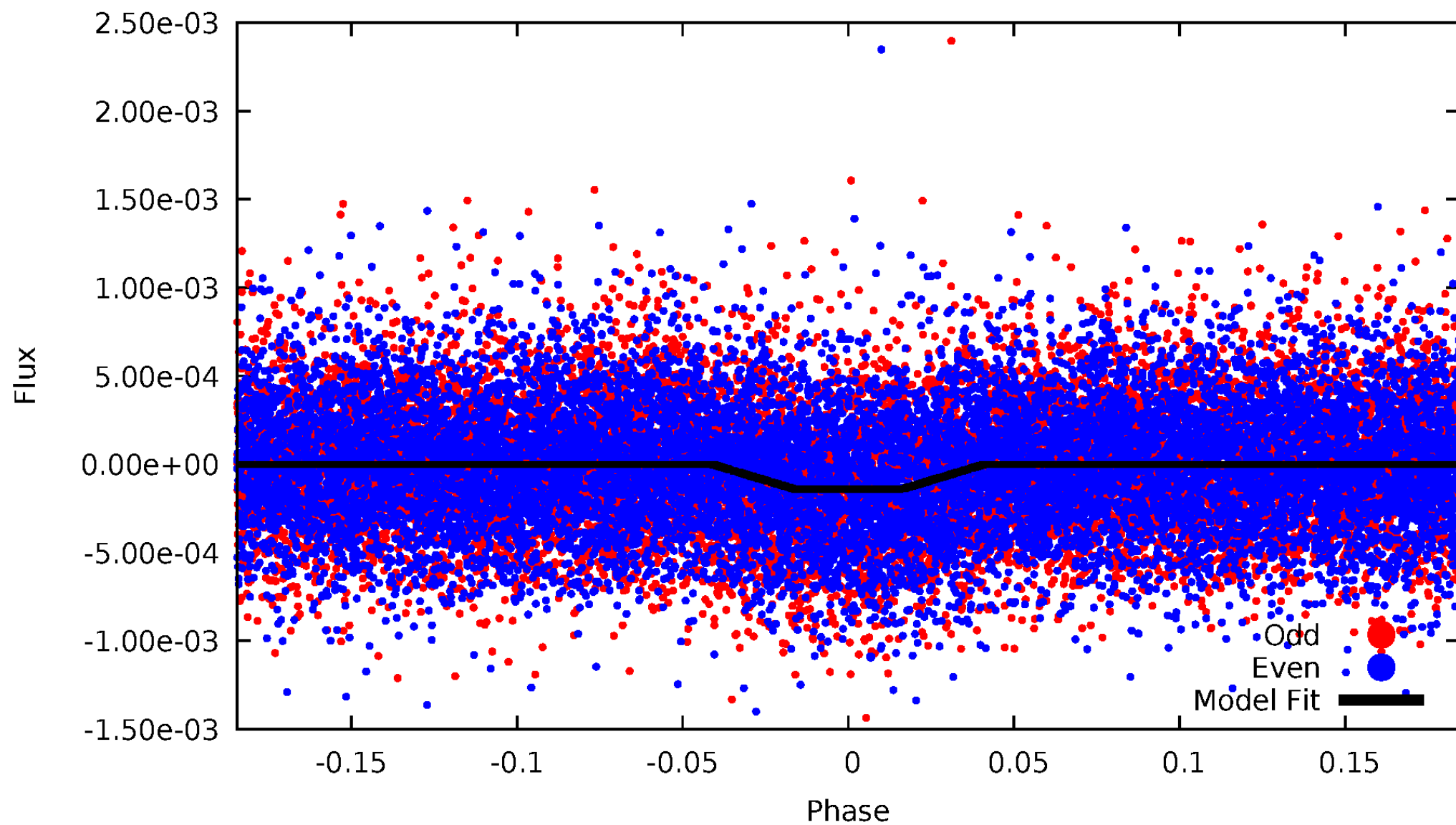
DV Odd/Even

TCE 005386264-01



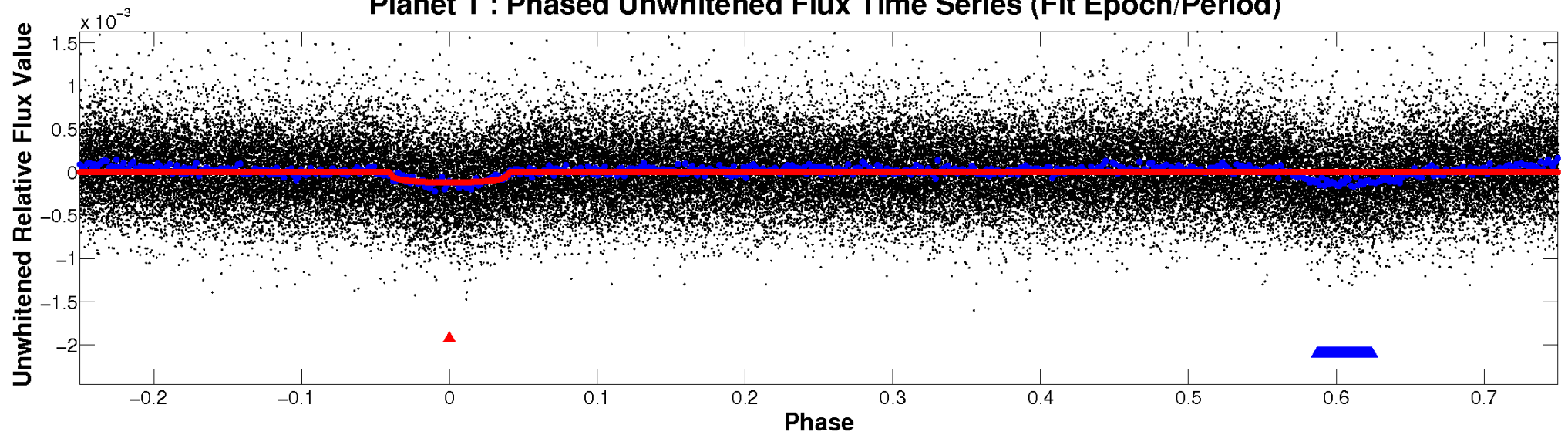
ALT Odd/Even

TCE 005386264-01

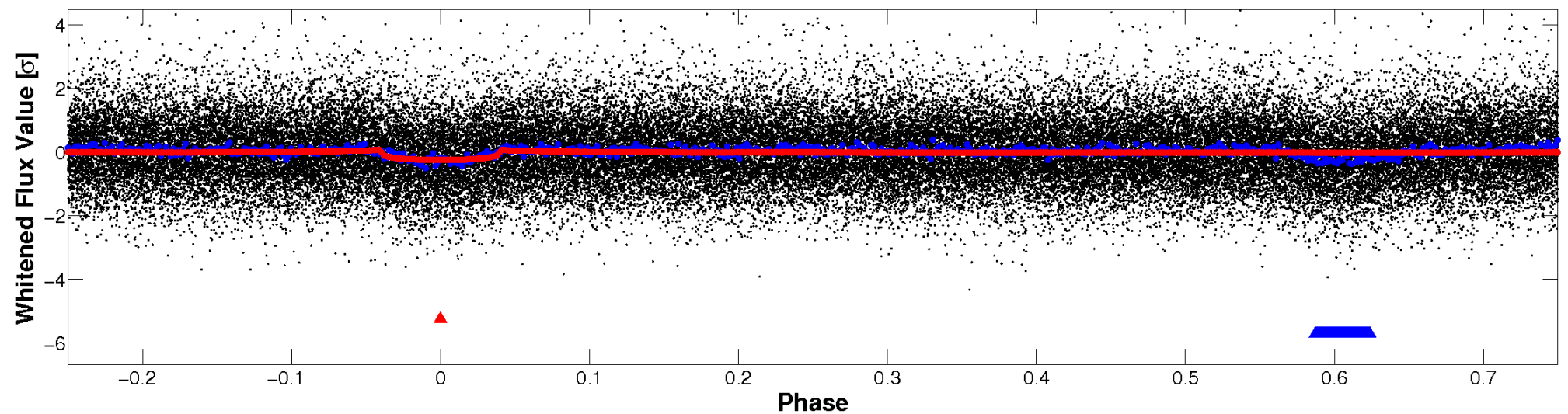


Non-Whitened Vs. Whitened Light Curve

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

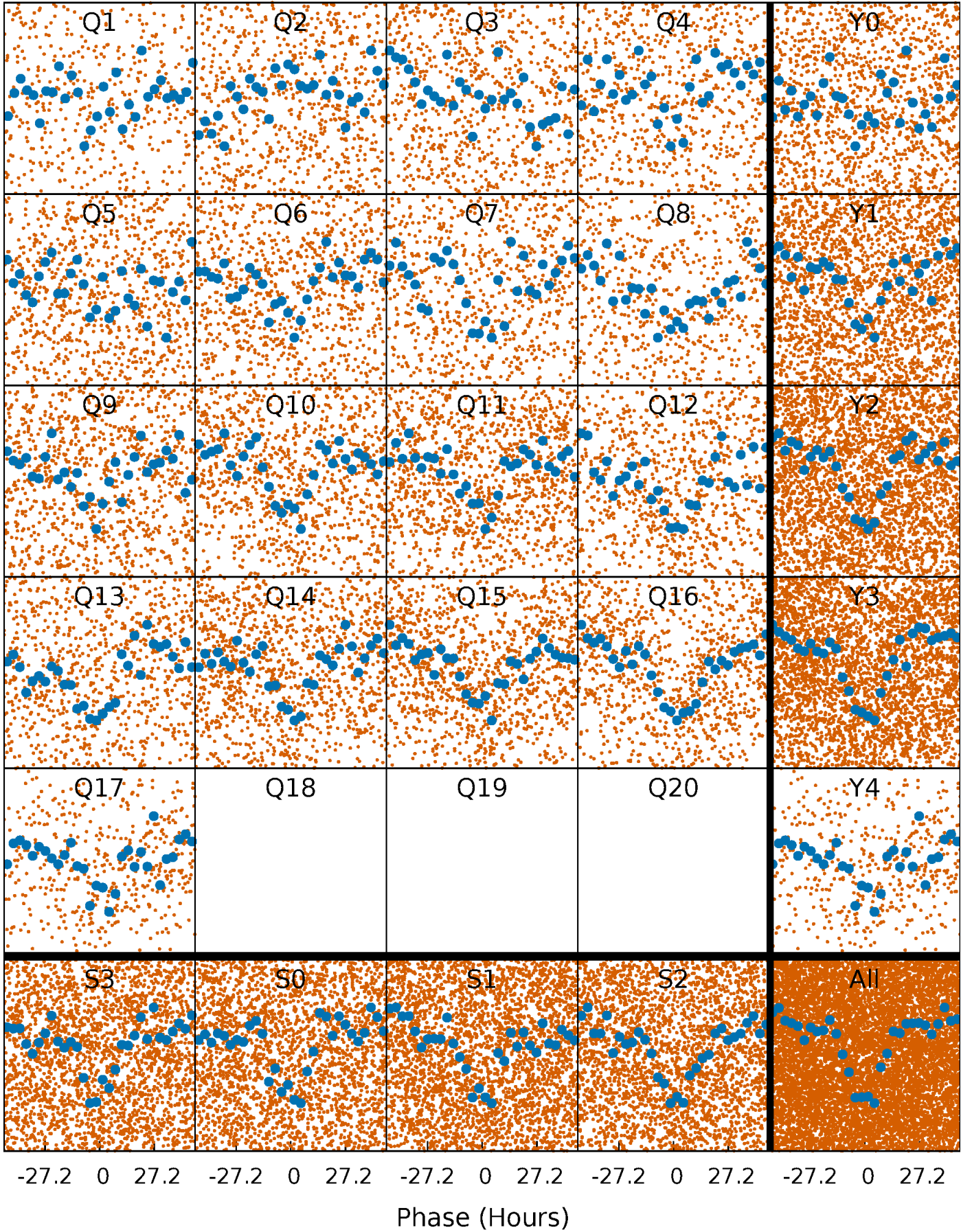


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



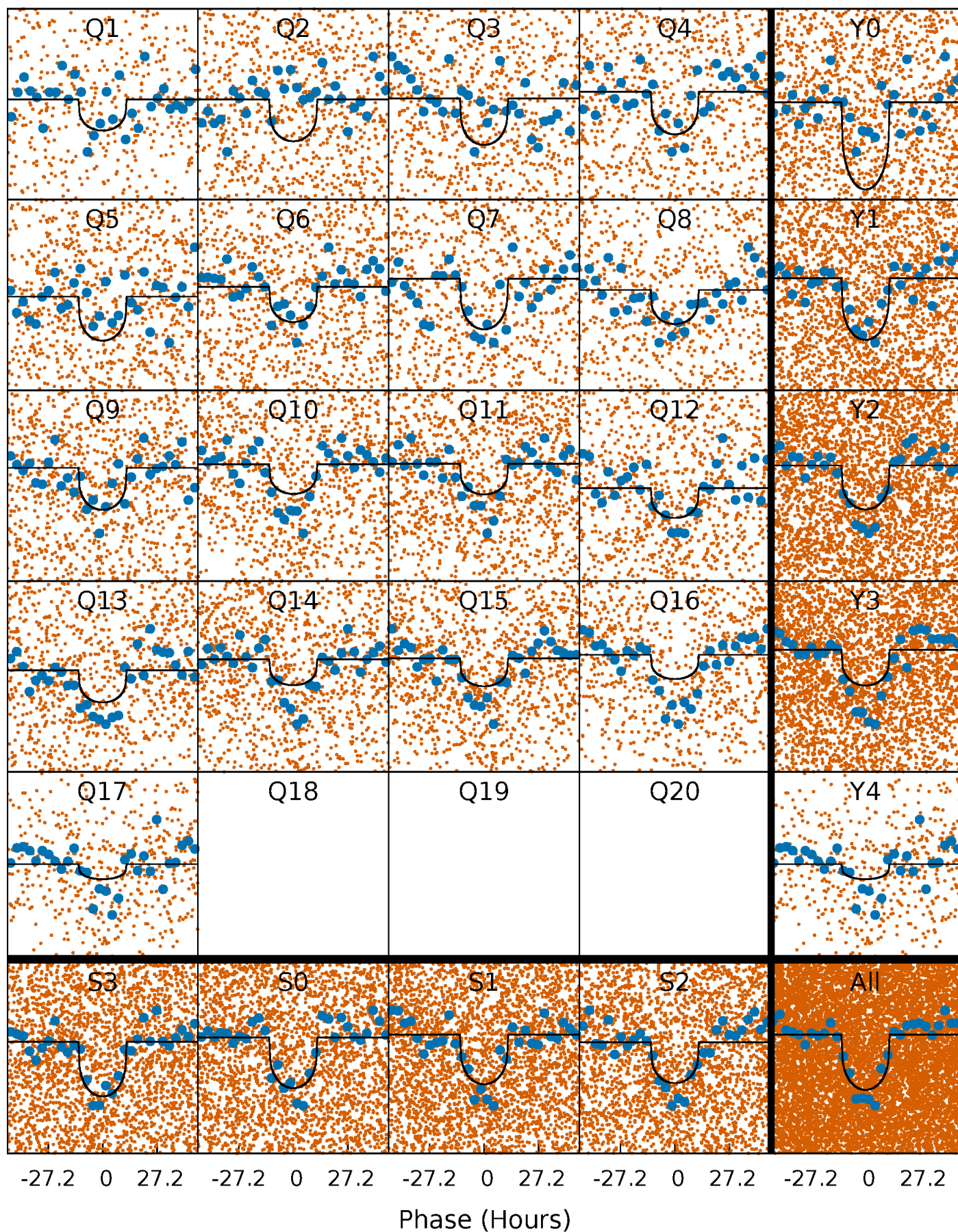
PDC Quarter-Phased Transit Curves

TCE 005386264-01 P= 12.424998 Days $T_0=134.008624$ (BKJD)



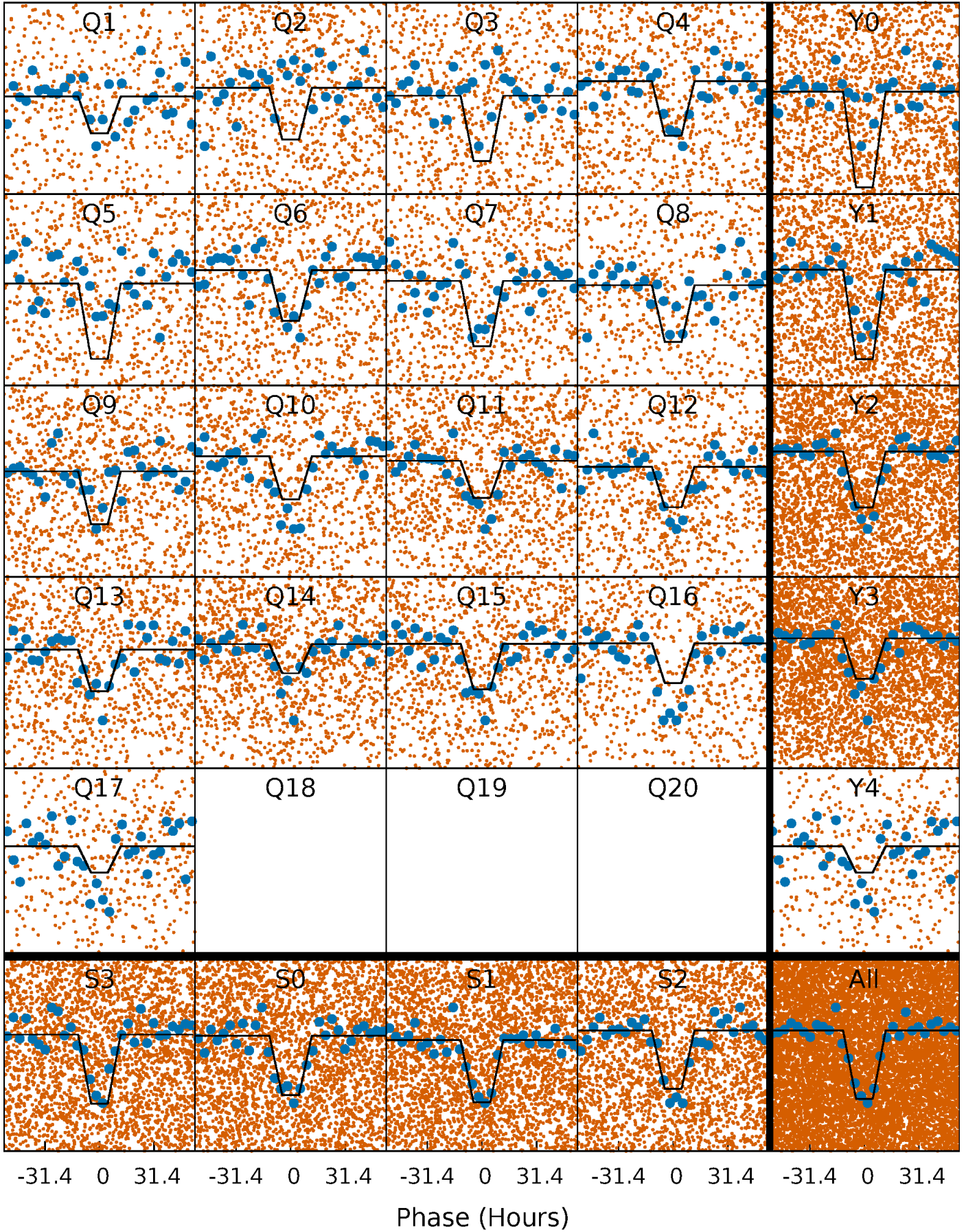
DV Quarter-Phased Transit Curves

TCE 005386264-01 P= 12.424998 Days $T_0=134.008624$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

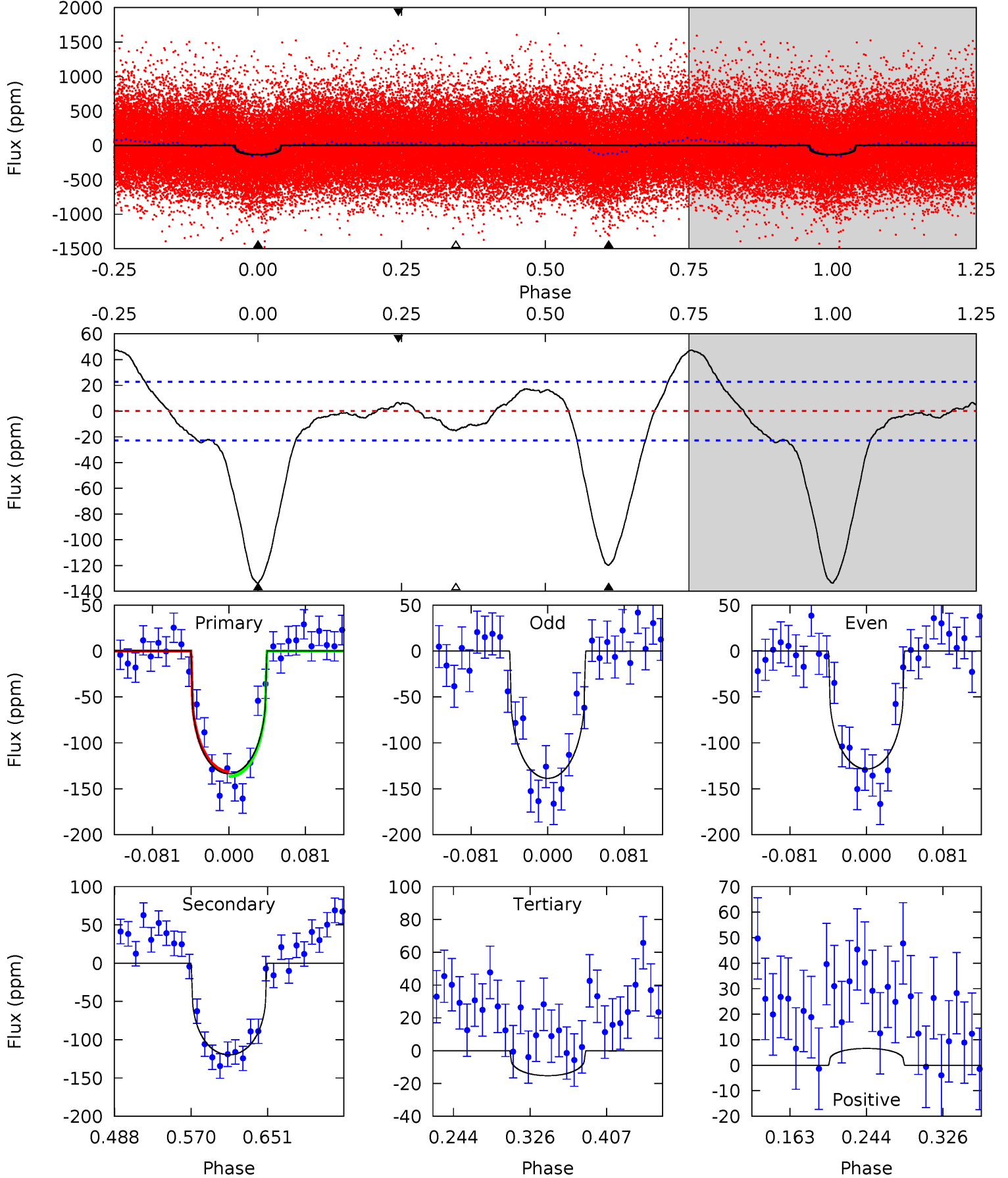
TCE 005386264-01 P= 12.426732 Days $T_0=133.885077$ (BKJD)



DV Model-Shift Uniqueness Test

005386264-01, P = 12.424998 Days, E = 121.583626 Days

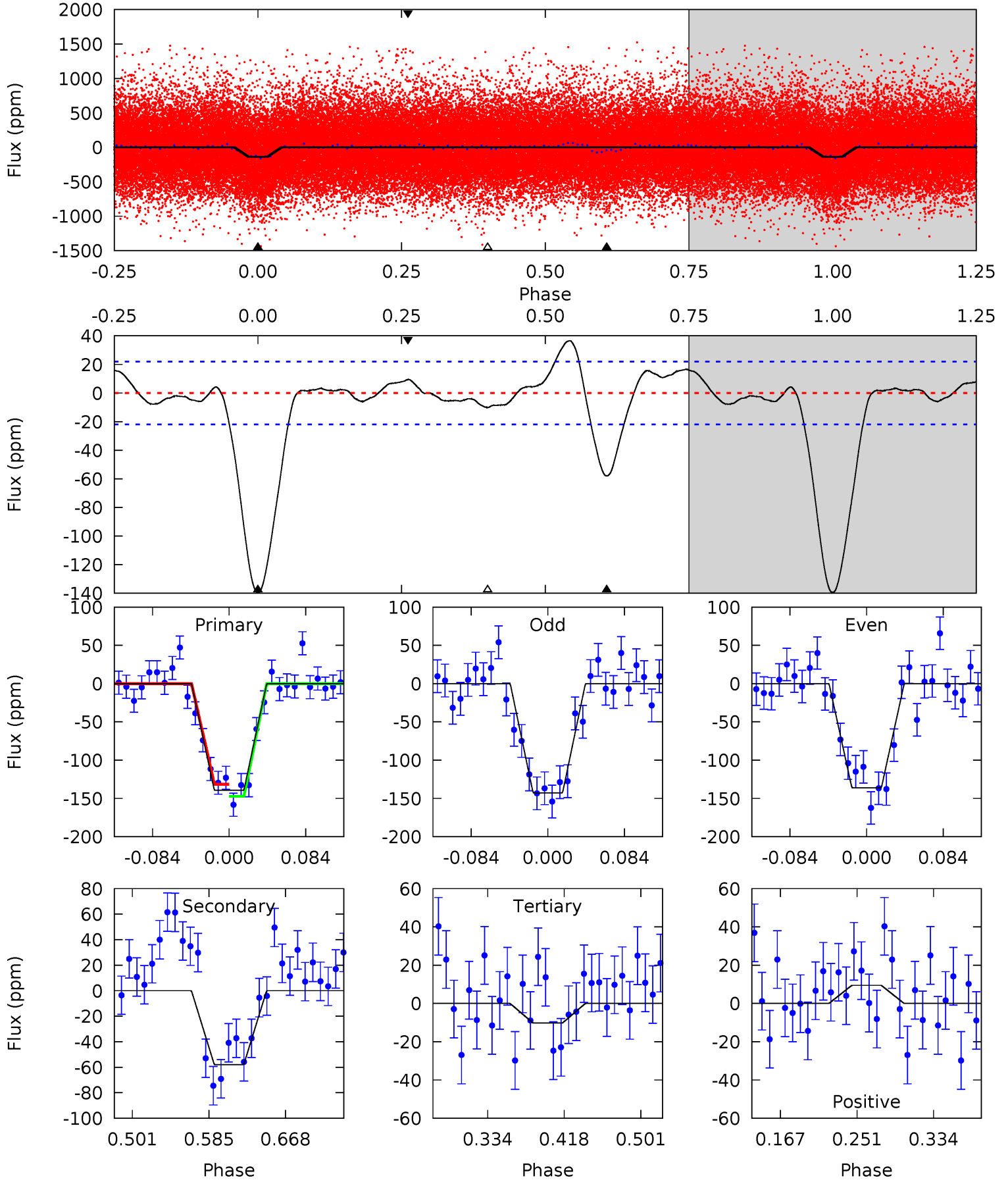
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.0	24.2	3.09	1.34	4.61	1.74	3.44	24.0	25.7	21.2	22.9	1.03	1.00	0.26	0.52



Alt Model-Shift Uniqueness Test

005386264-01, P = 12.426732 Days, E = 121.458345 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.2	12.1	2.14	1.98	4.60	1.73	1.58	27.1	27.2	10.0	10.2	0.69	0.98	0.21	1.68



Stellar Parameters For KIC 005386264

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4756^{+141}_{-141}	$4.676^{+0.032}_{-0.054}$	$-0.460^{+0.300}_{-0.300}$	$0.620^{+0.068}_{-0.040}$	$0.667^{+0.064}_{-0.058}$	$3.948^{+0.544}_{-0.842}$
	+3%/-3%	+1%/-1%	+65%/-65%	+11%/-6%	+10%/-9%	+14%/-21%
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 005386264-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-120 ± 5	$0.67^{+0.43}_{-0.39}$	766^{+30}_{-27}	4952^{+2542}_{-853}	1214^{+5401}_{-756}
Alt.	-58 ± 5	$0.82^{+0.42}_{-0.43}$	765^{+28}_{-25}	4015^{+1349}_{-542}	400^{+1370}_{-229}

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

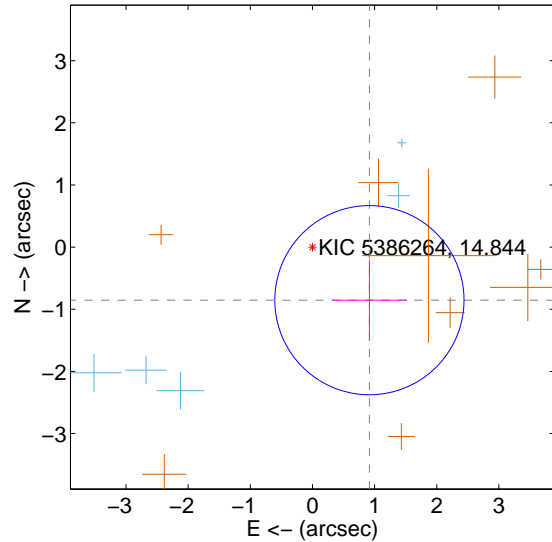
Supplemental centroid analysis for 005386264-01. Kepler magnitude: 14.84. Transit SNR 14.97

There are 5 quarters with good PRF difference image offsets

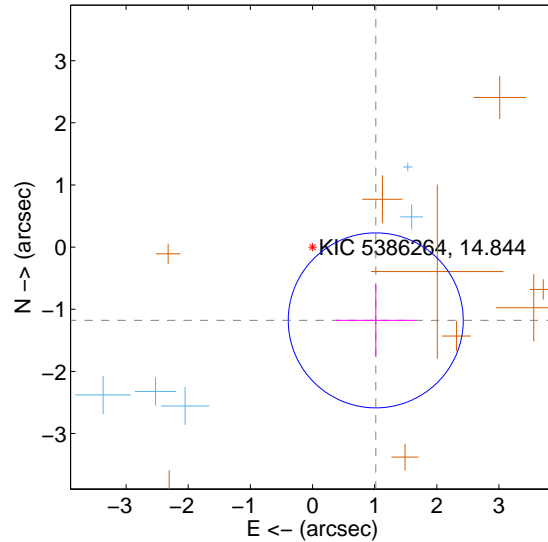
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.253 ± 0.507	2.47	-0.917 ± 0.604	-0.854 ± 0.650
PRF-fit source offset from KIC position	1.558 ± 0.469	3.32	-1.017 ± 0.641	-1.179 ± 0.575
photometric centroid source offset	0.76 ± 0.83	0.91	0.49 ± 0.87	-0.58 ± 0.80

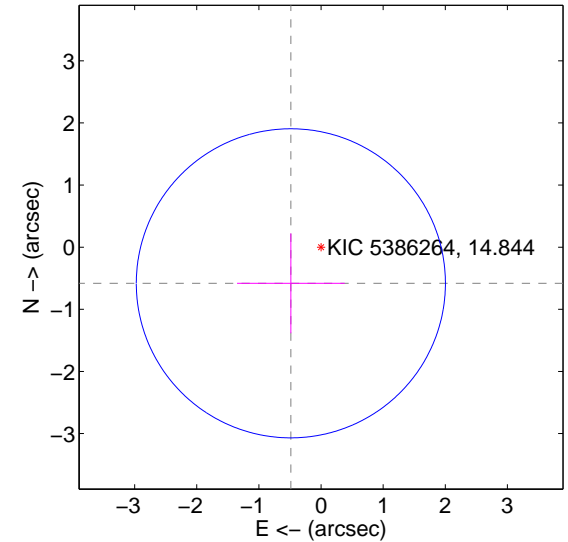
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

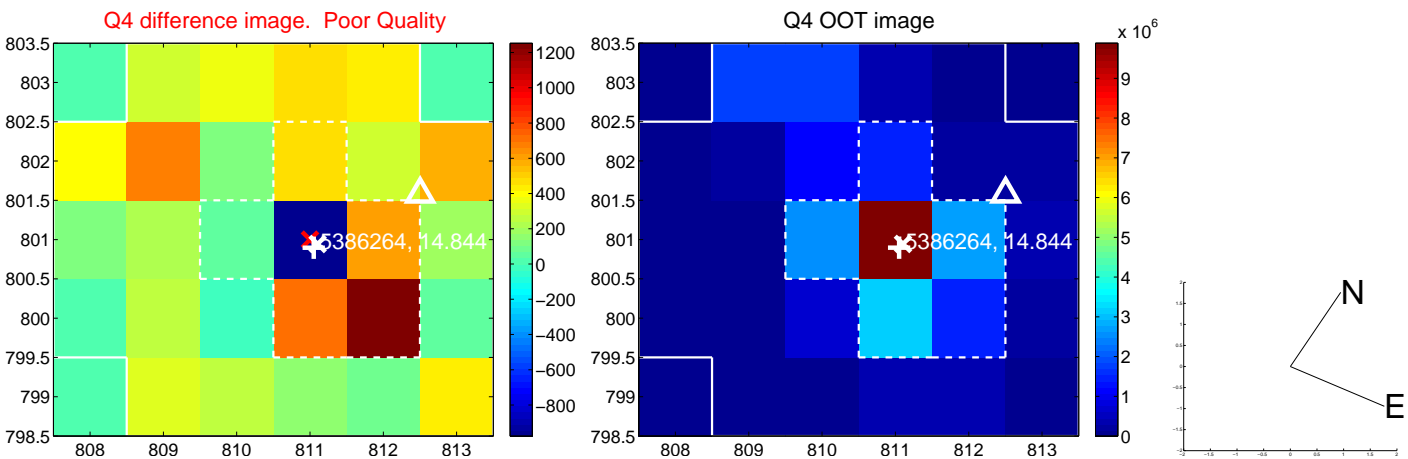
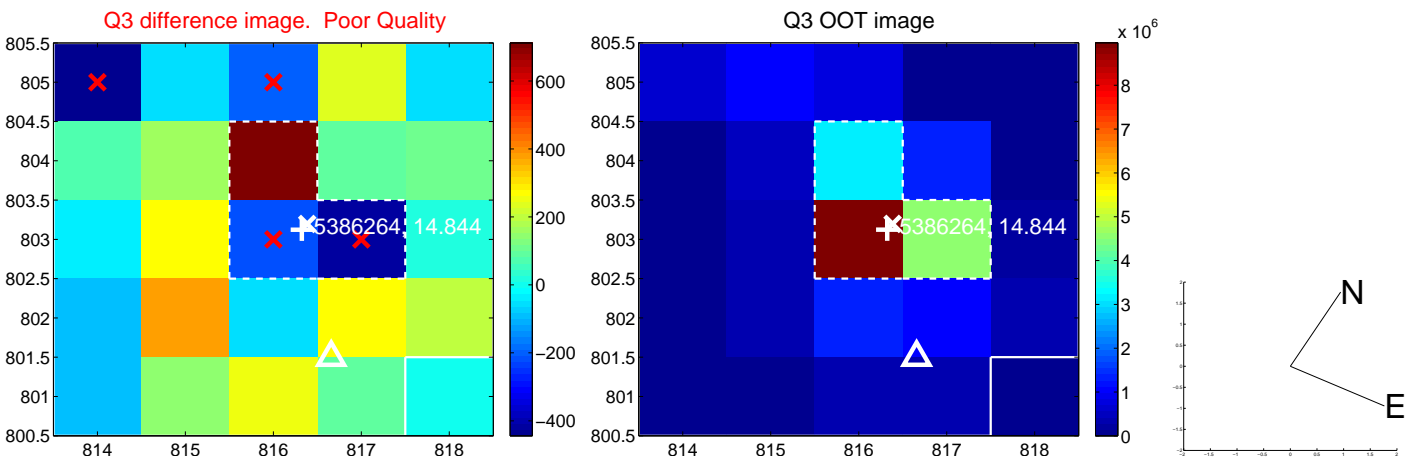
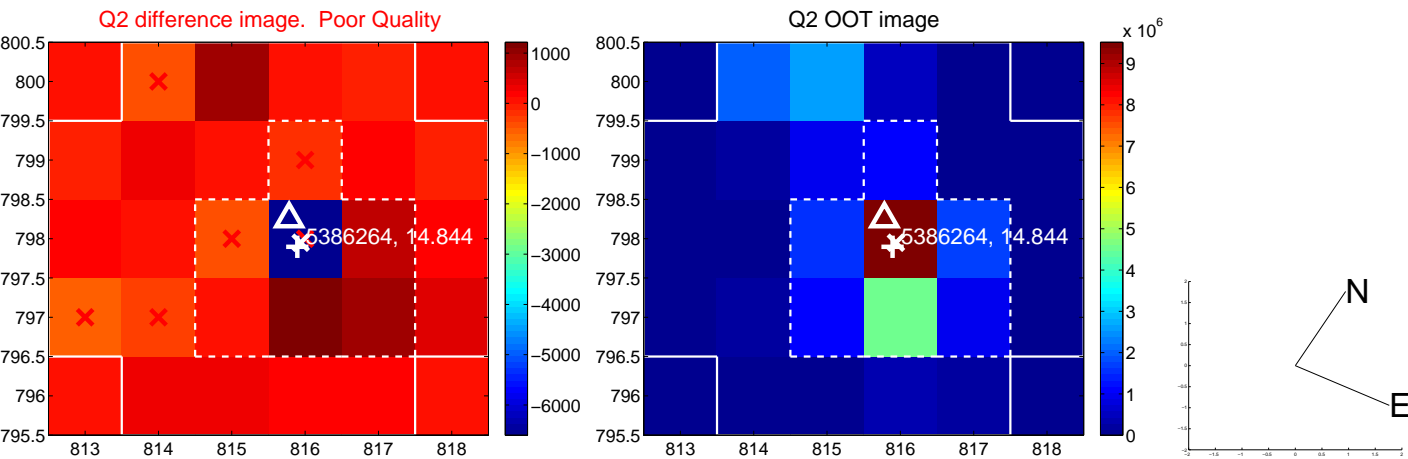
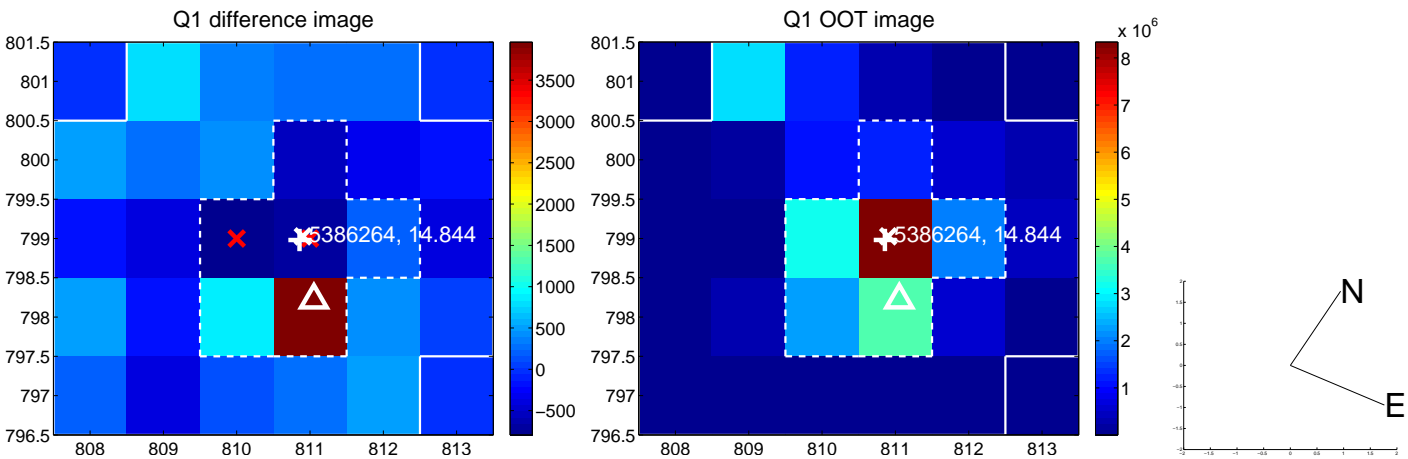


offset from photometric centroids

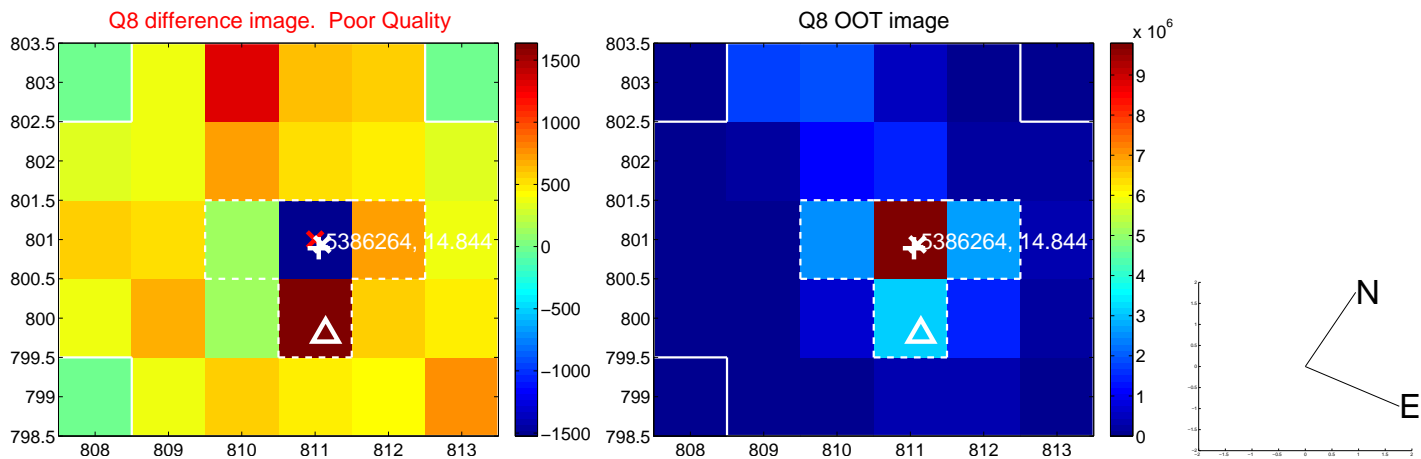
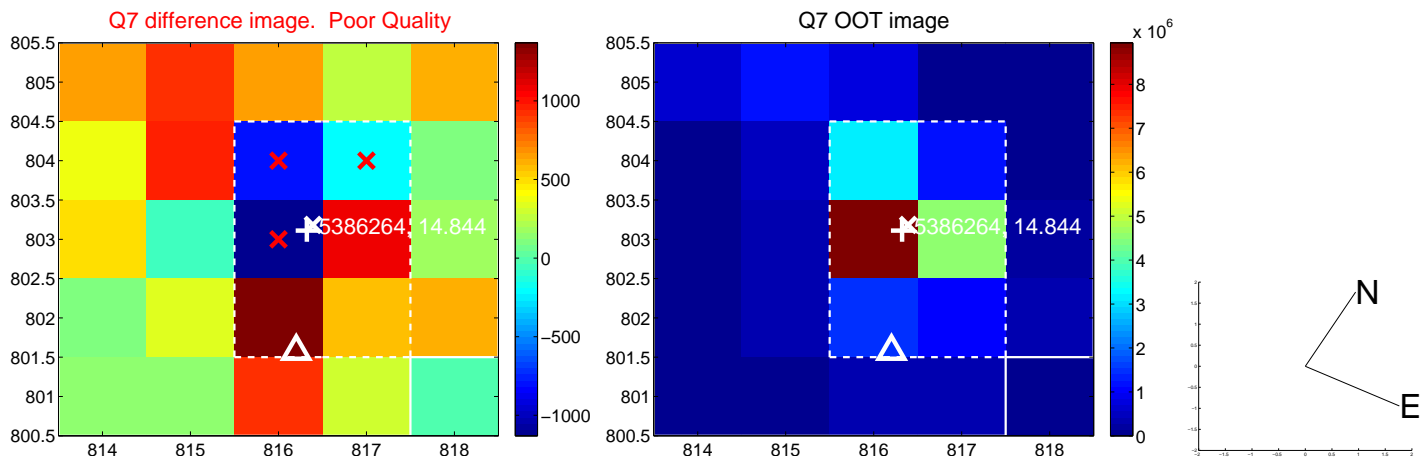
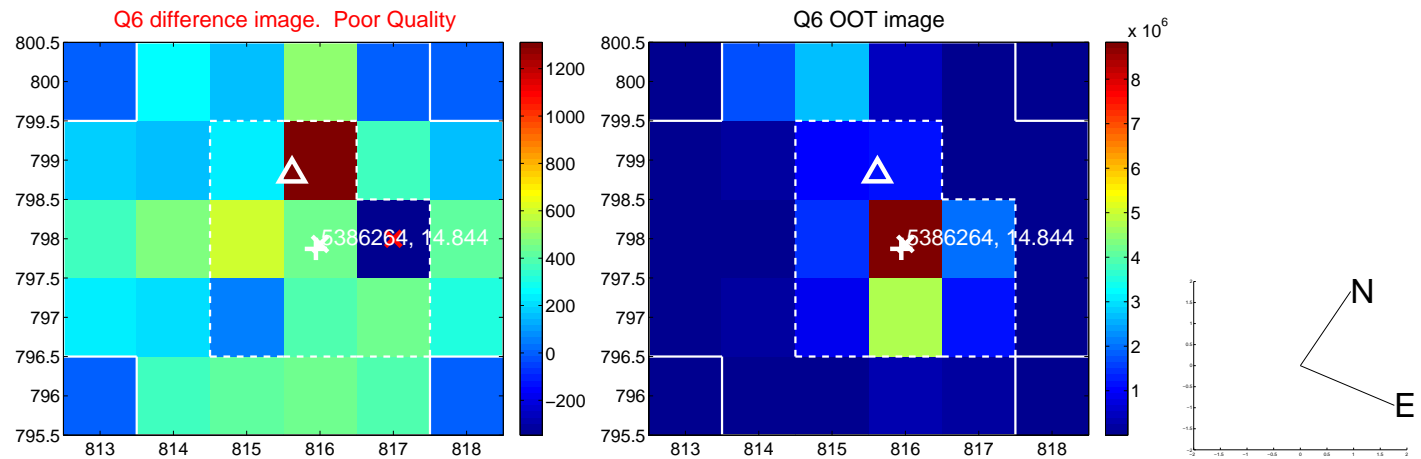
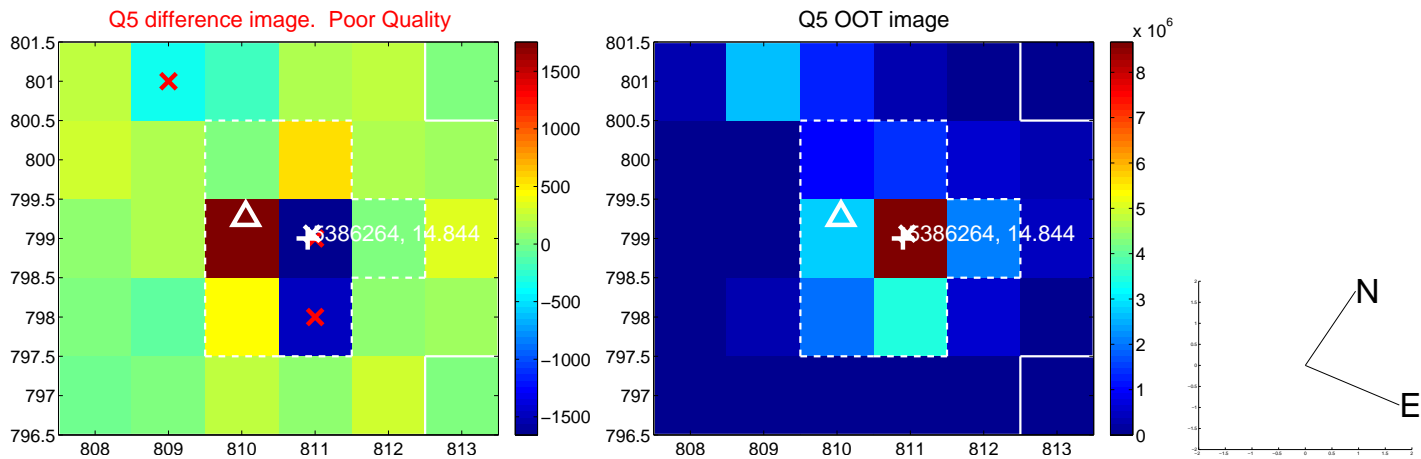


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

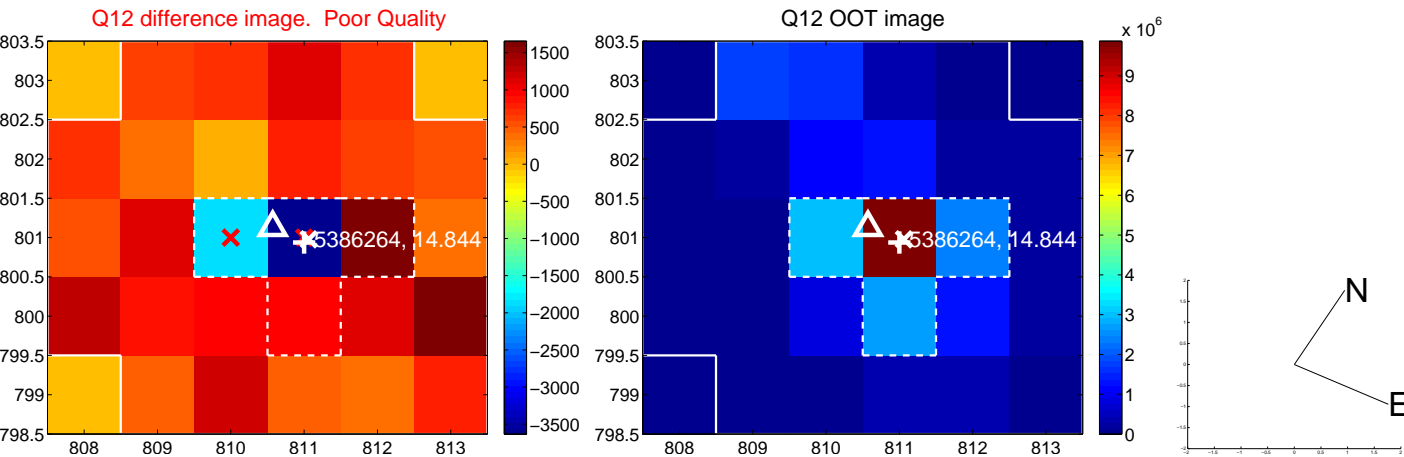
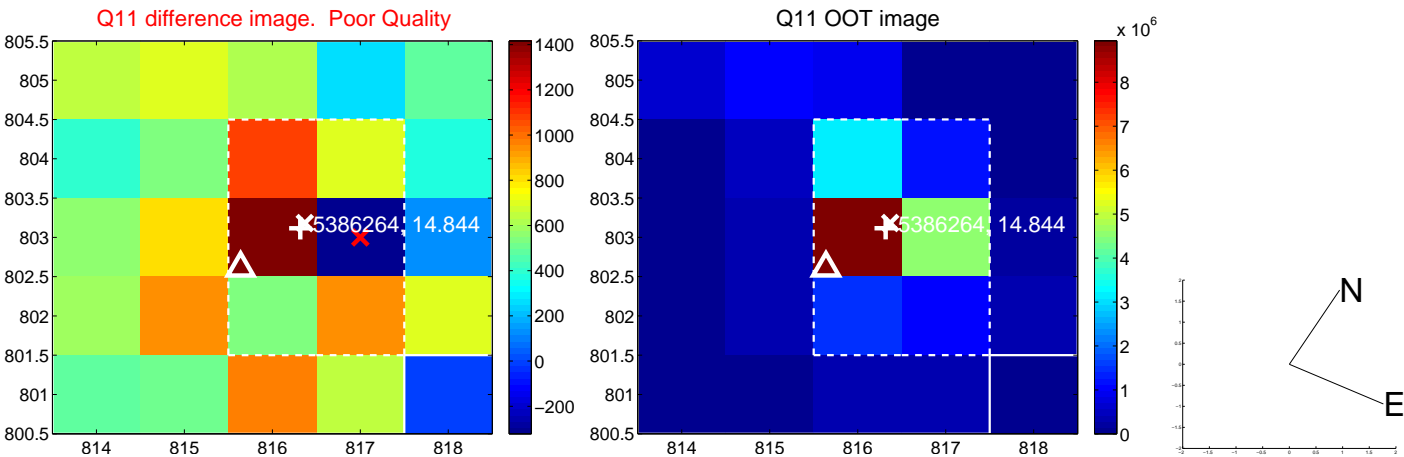
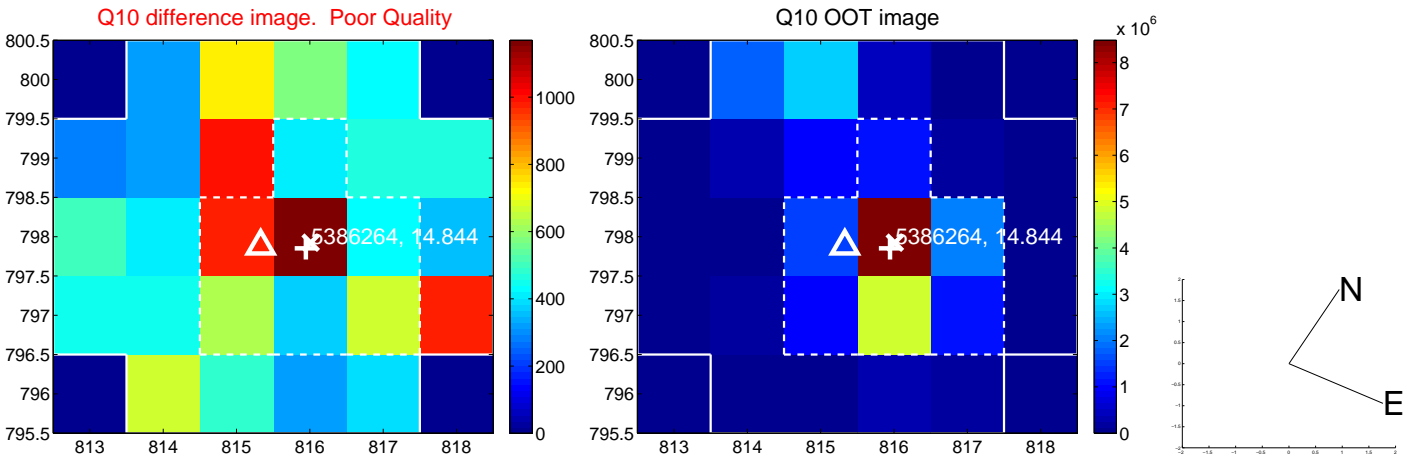
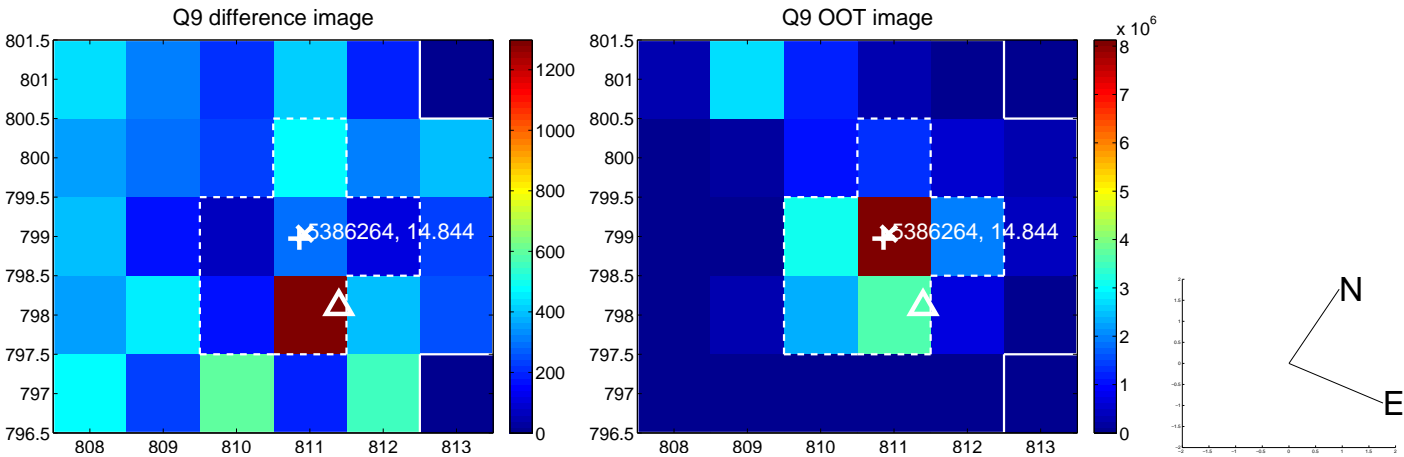
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



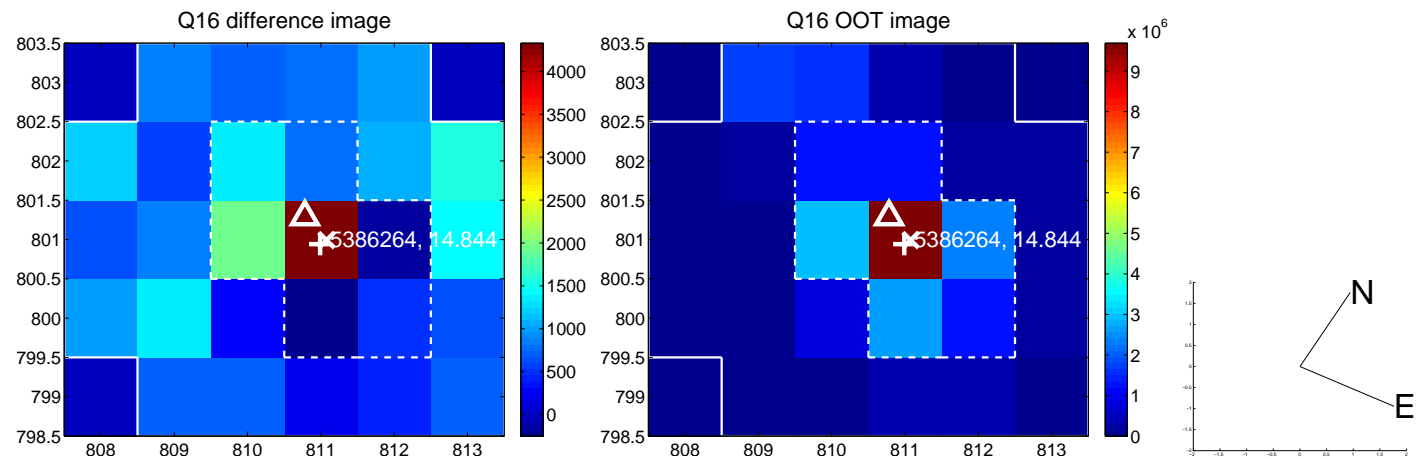
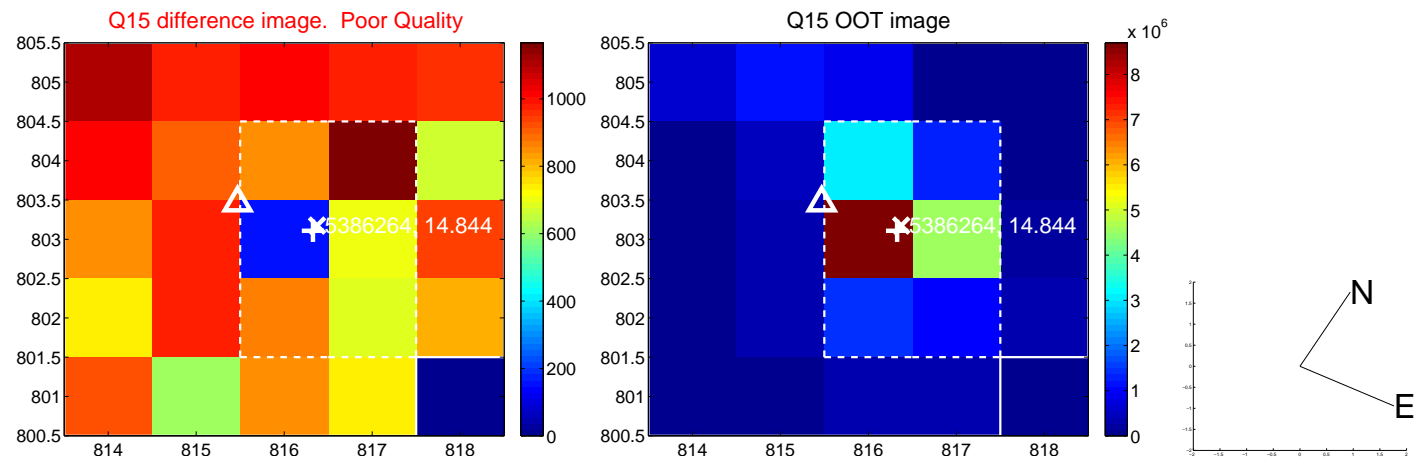
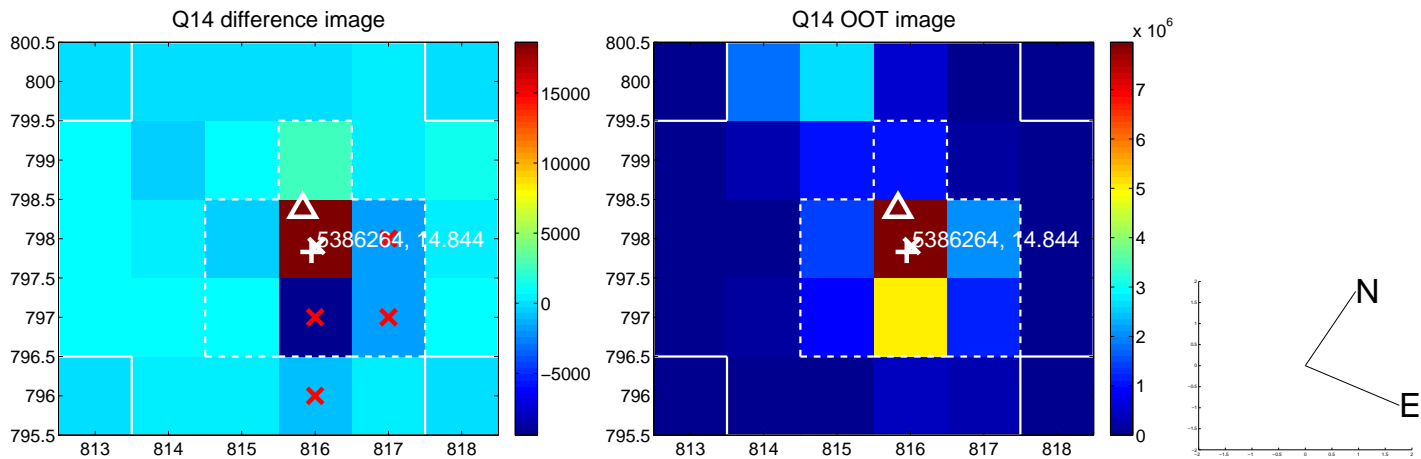
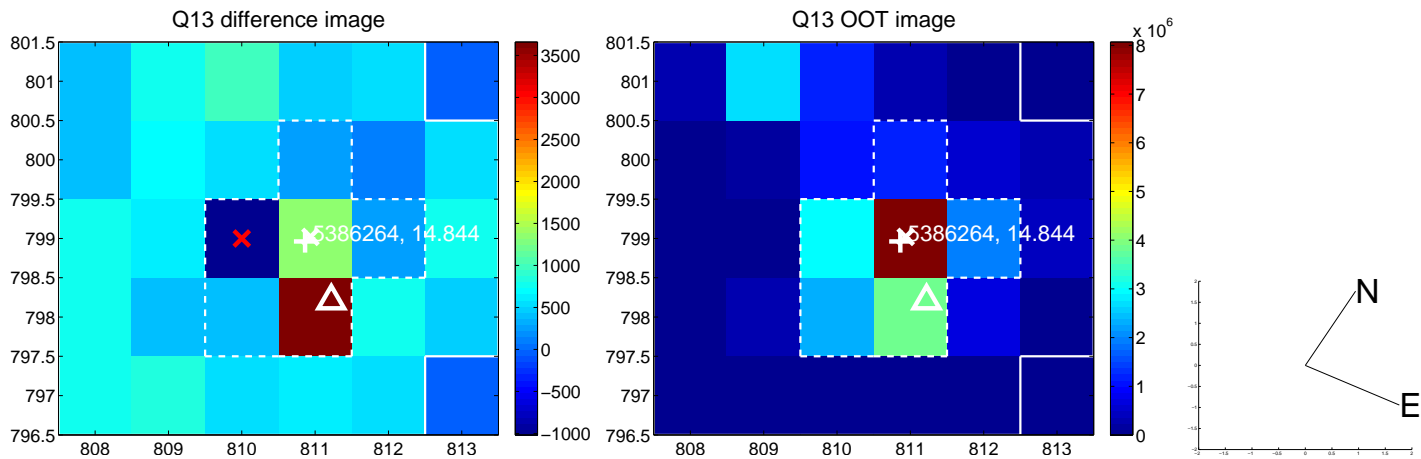
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



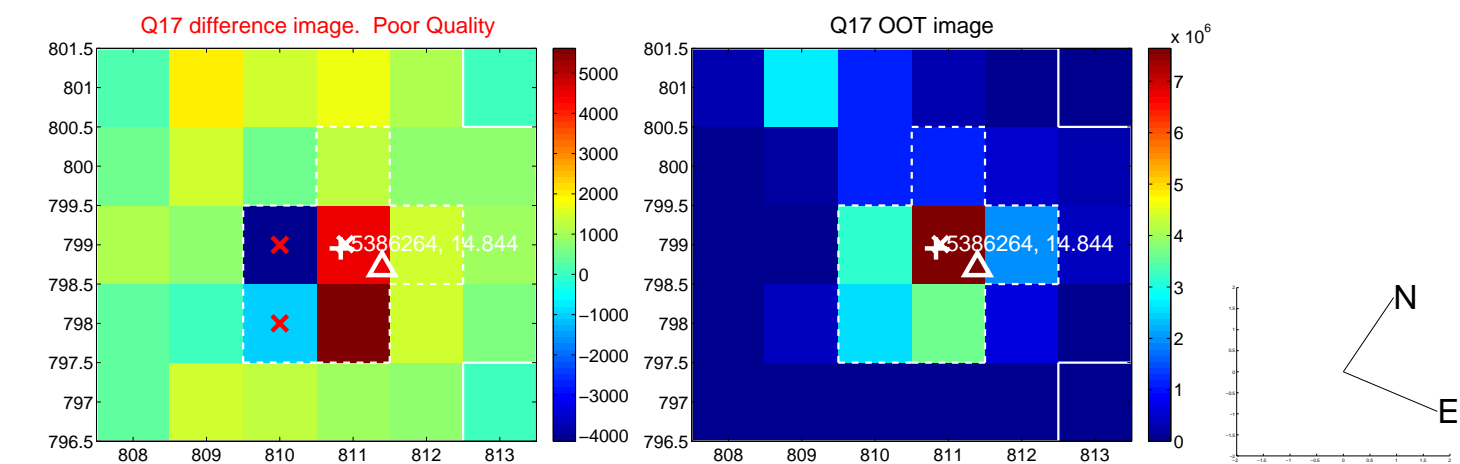
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



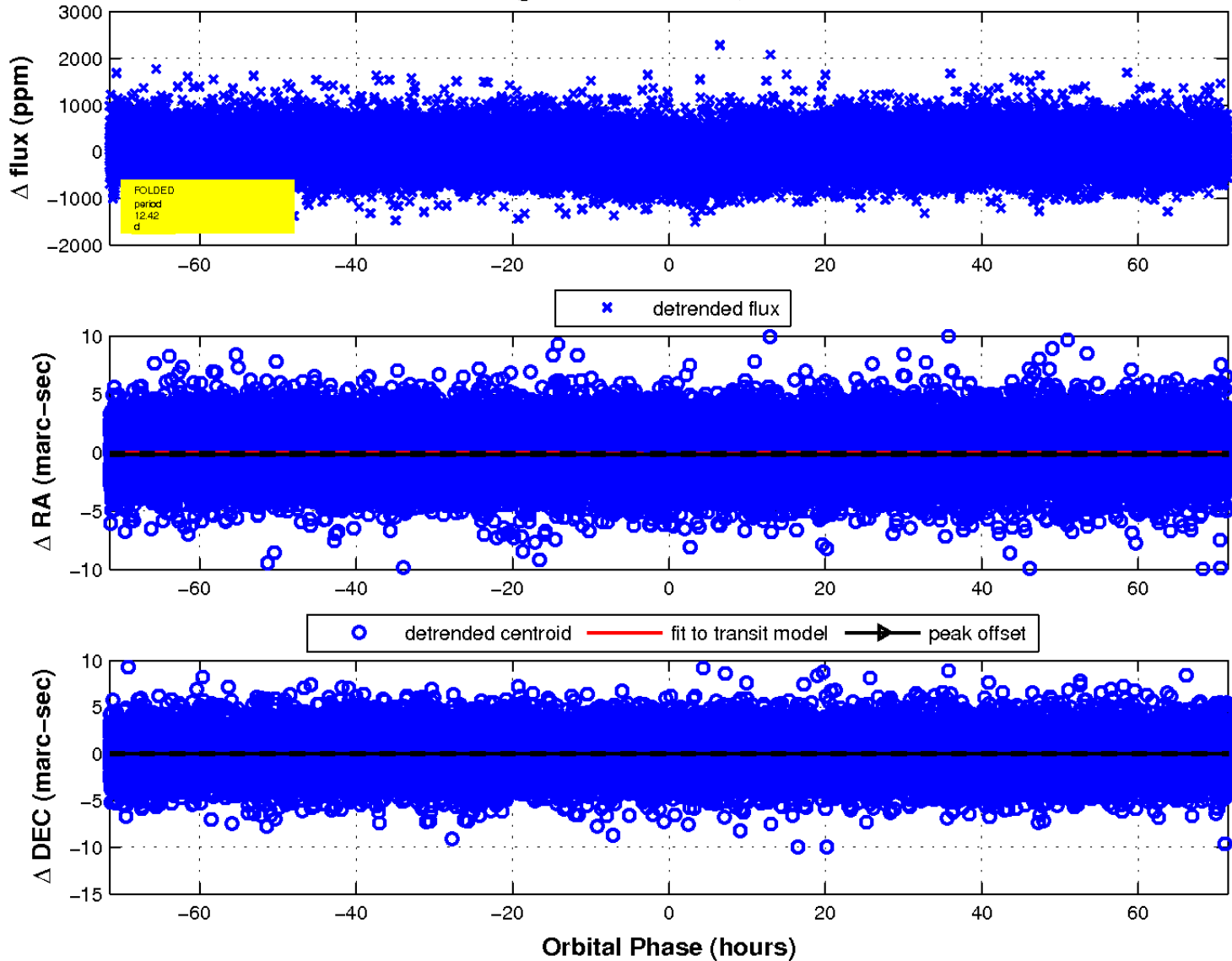
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

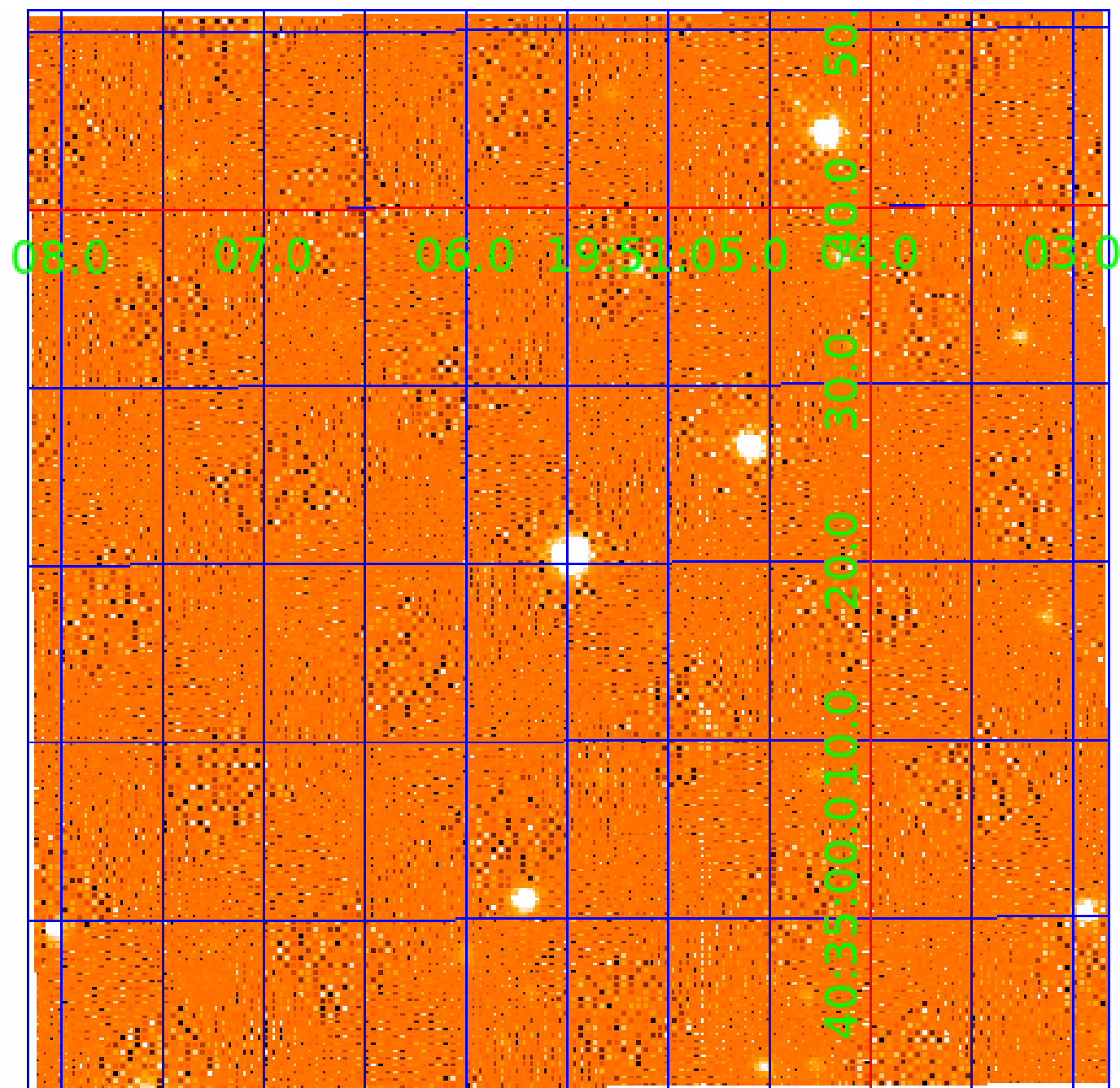


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005386264

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})
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005386264-02	OBS	4135.01	12.428928	141.304588	137.2	24.342	13.6	18.2	0.62	4756	0.86	20.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005386264-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH
005386264-02	OBS	FP	0.00	1	0	1	0	LPP_DV—SAME_NTL_PERIOD—CENT_KIC_POS—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.

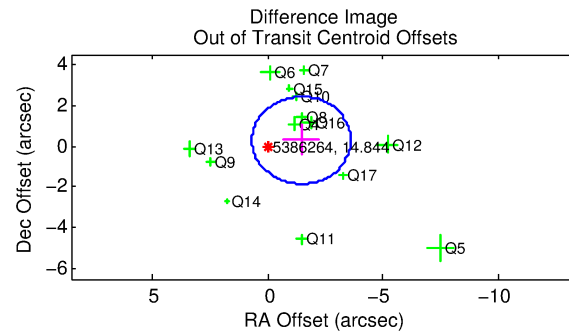
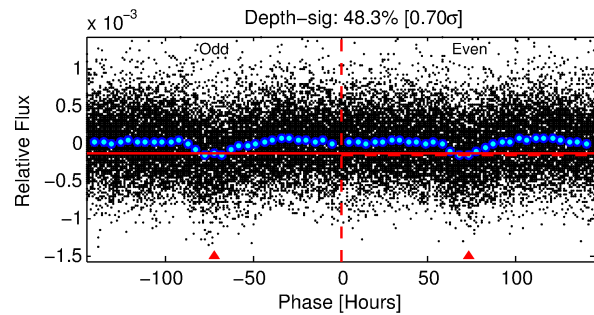
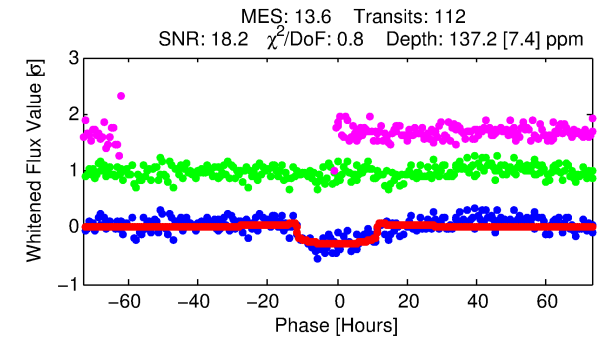
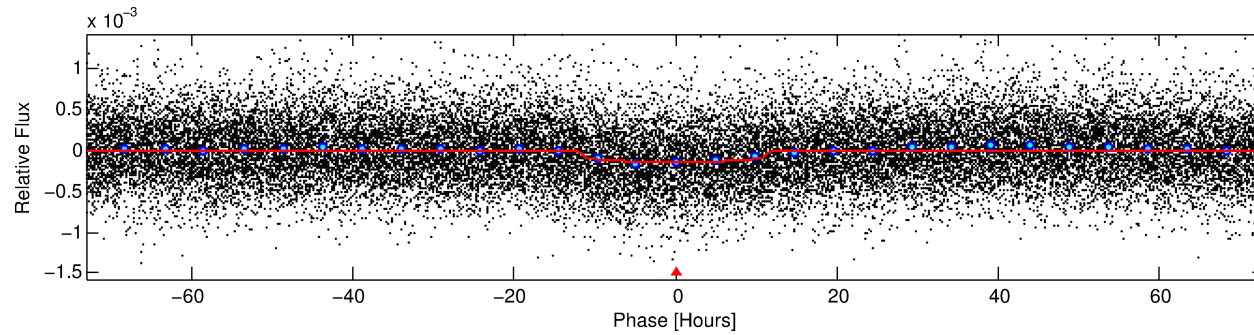
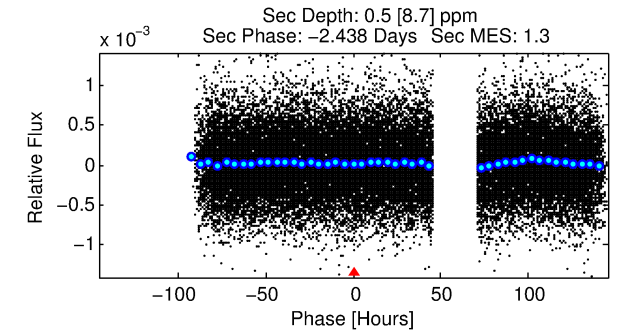
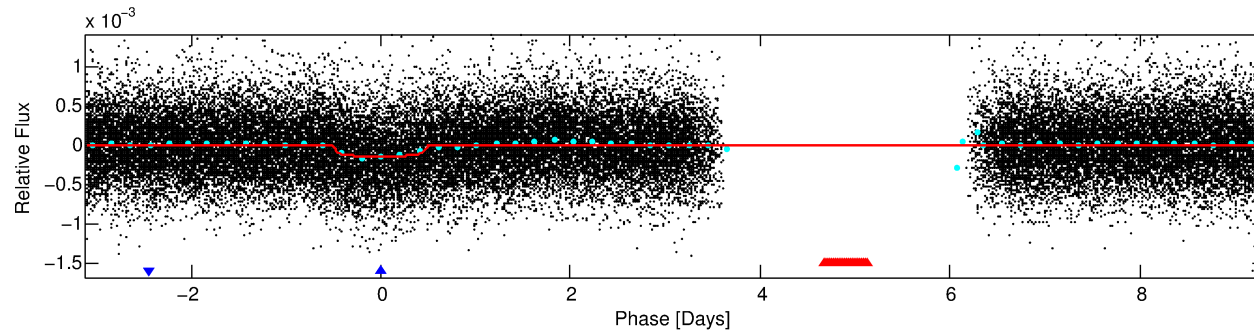
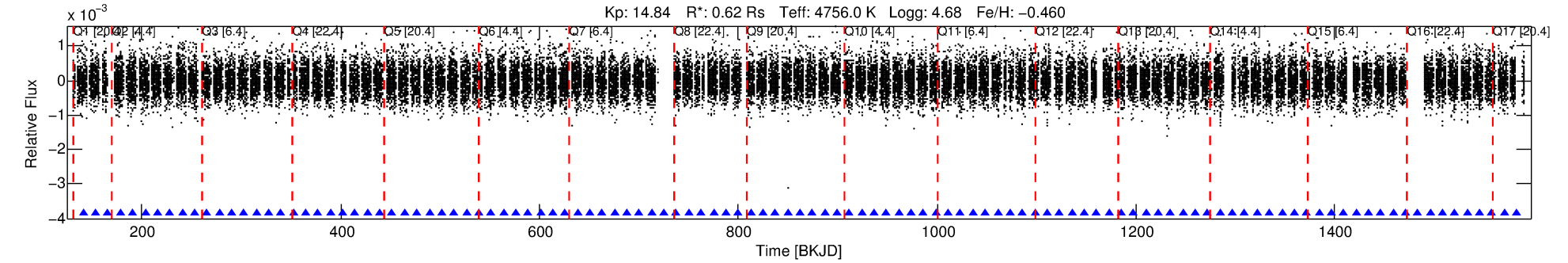
Ephemeris Match Information For 005386264-02

No Significant Match Found

DV One-Page Summary

KIC: 5386264 Candidate: 2 of 2 Period: 12.429 d

KOI: K04135 Corr: No Ephemeris Match



DV Fit Results:

Period = 12.42893 [0.00029] d
Epoch = 141.3046 [0.0189] BKJD
Rp/R* = 0.0127 [0.0013]
a/R* = 2.20 [0.68]
b = 0.87 [0.11]
Seff = 20.97 [3.40]
Teff = 546 [22] K
Rp = 0.86 [0.13] Re
a = 0.0917 [0.0077] AU
Ag = 3.05 [54.25] [0.04σ]
Teffp = 1115 [4952] K [0.12σ]

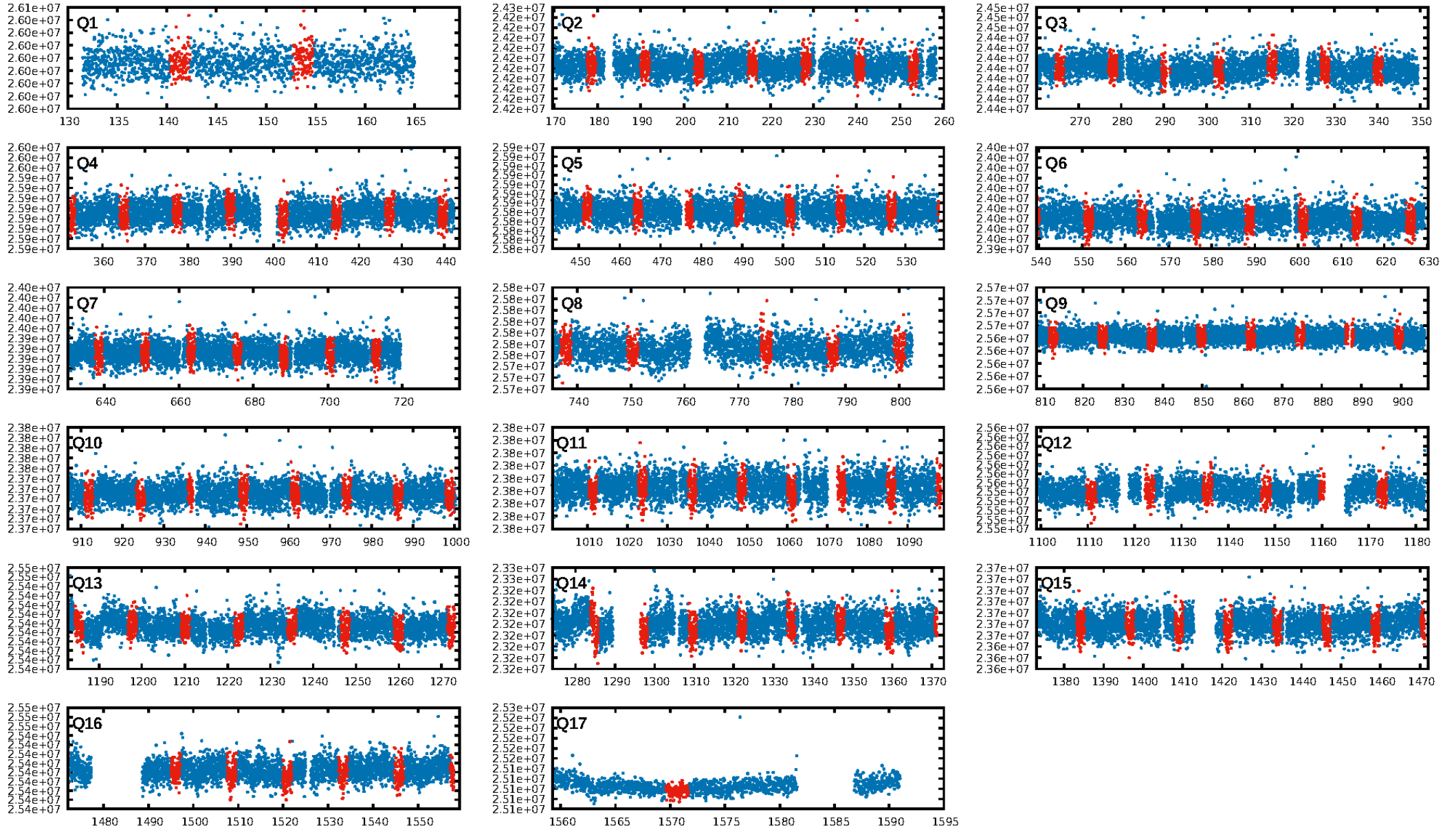
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.36e-40
RollingBand-fgt: 1.00 [109/109]
GhostDiagnostic-chr: 0.09372
Centroid-sig: 82.8%
Centroid-so: 0.418 arcsec [0.54σ]
OotOffset-rm: 1.487 arcsec [2.09σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-rm: 1.534 arcsec [2.09σ]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 1.00 [17/17]

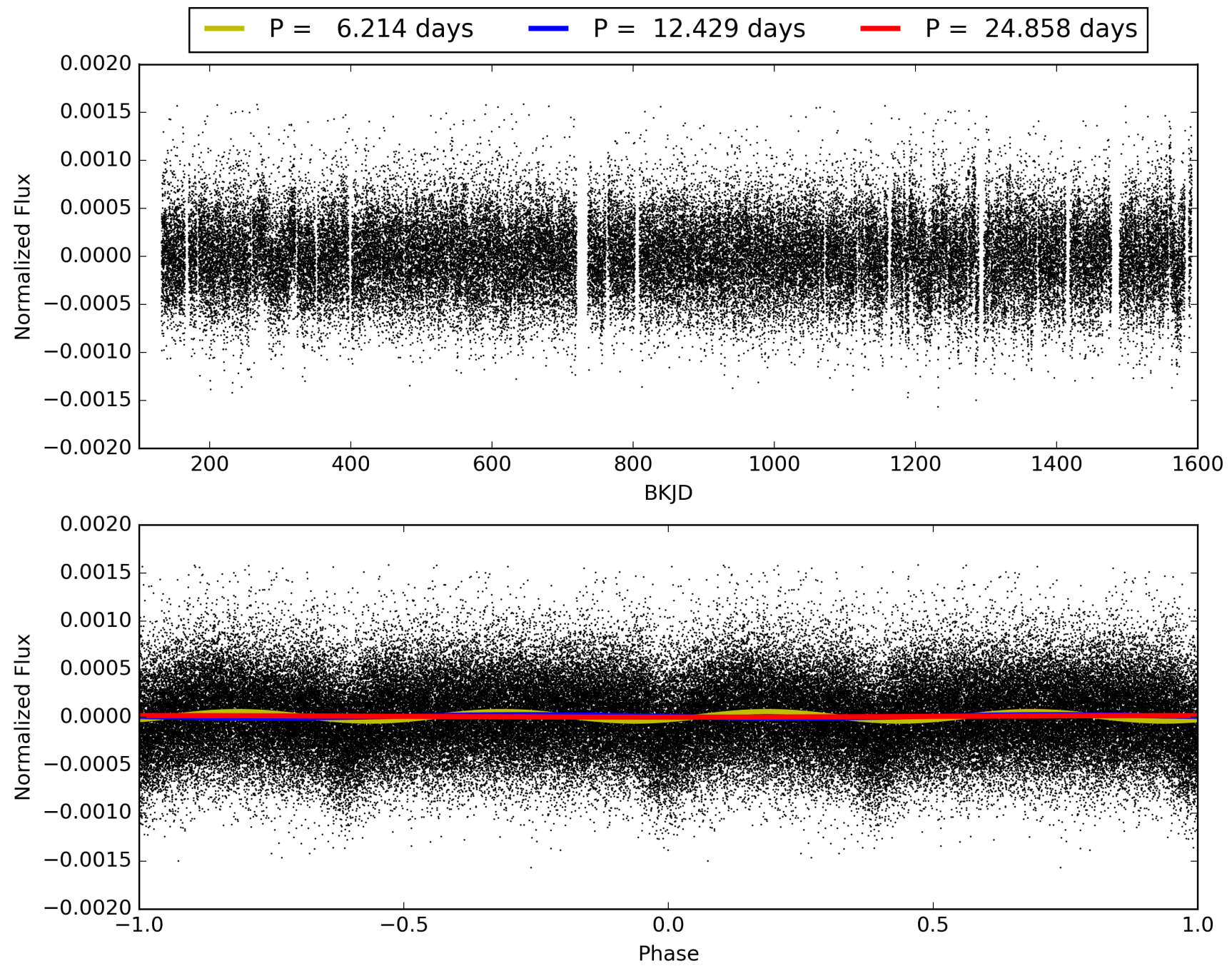
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:06:16 Z

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

TCE 005386264-02, PDC Light Curves

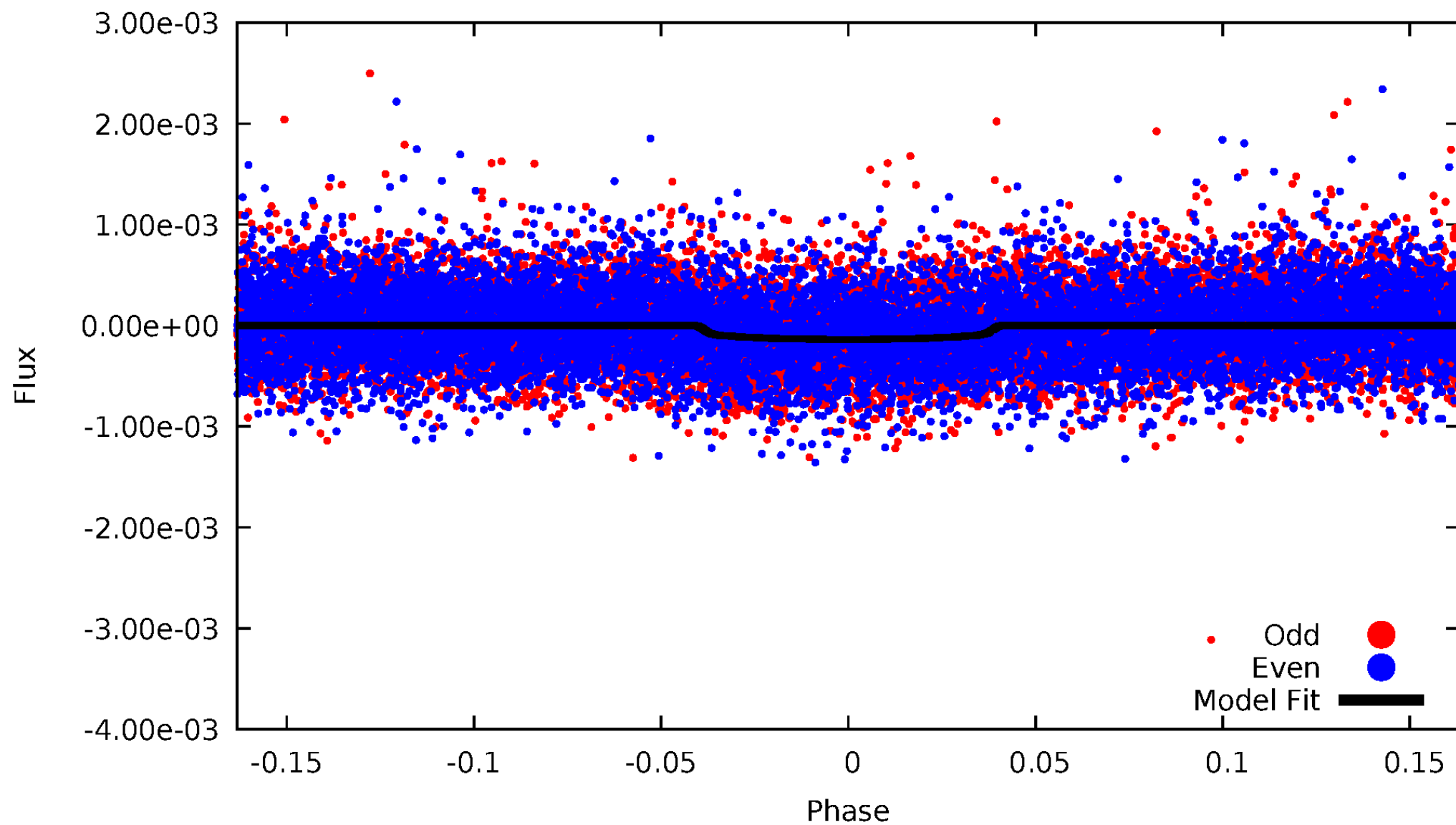


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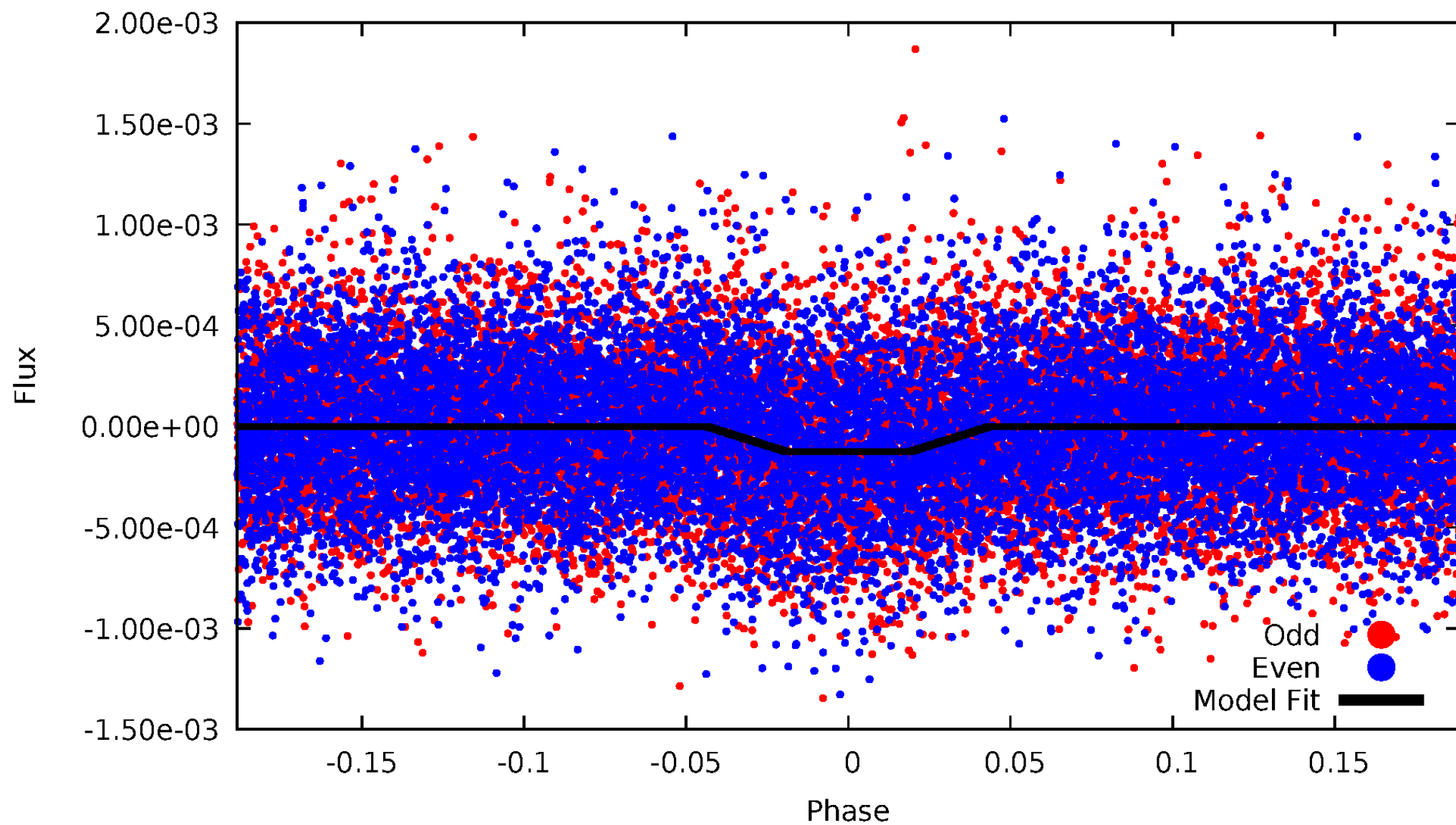
DV Odd/Even

TCE 005386264-02



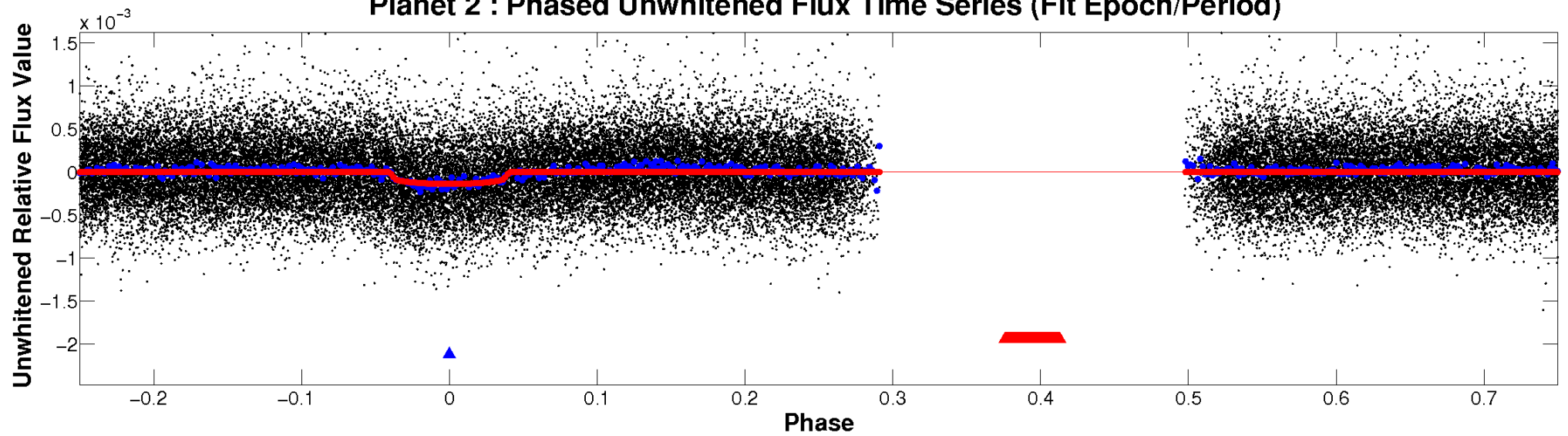
ALT Odd/Even

TCE 005386264-02

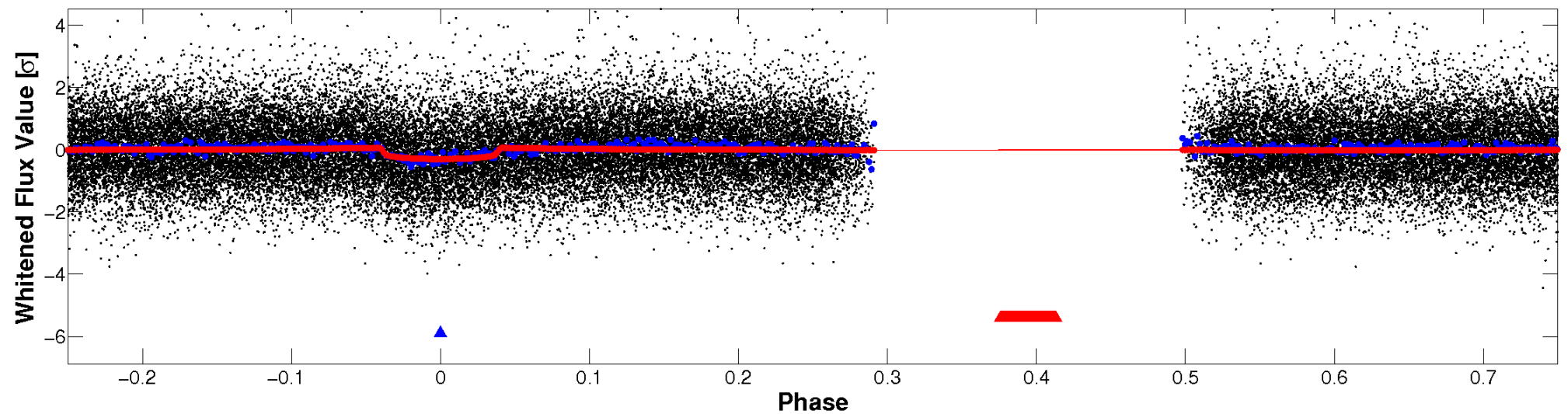


Non-Whitened Vs. Whitened Light Curve

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

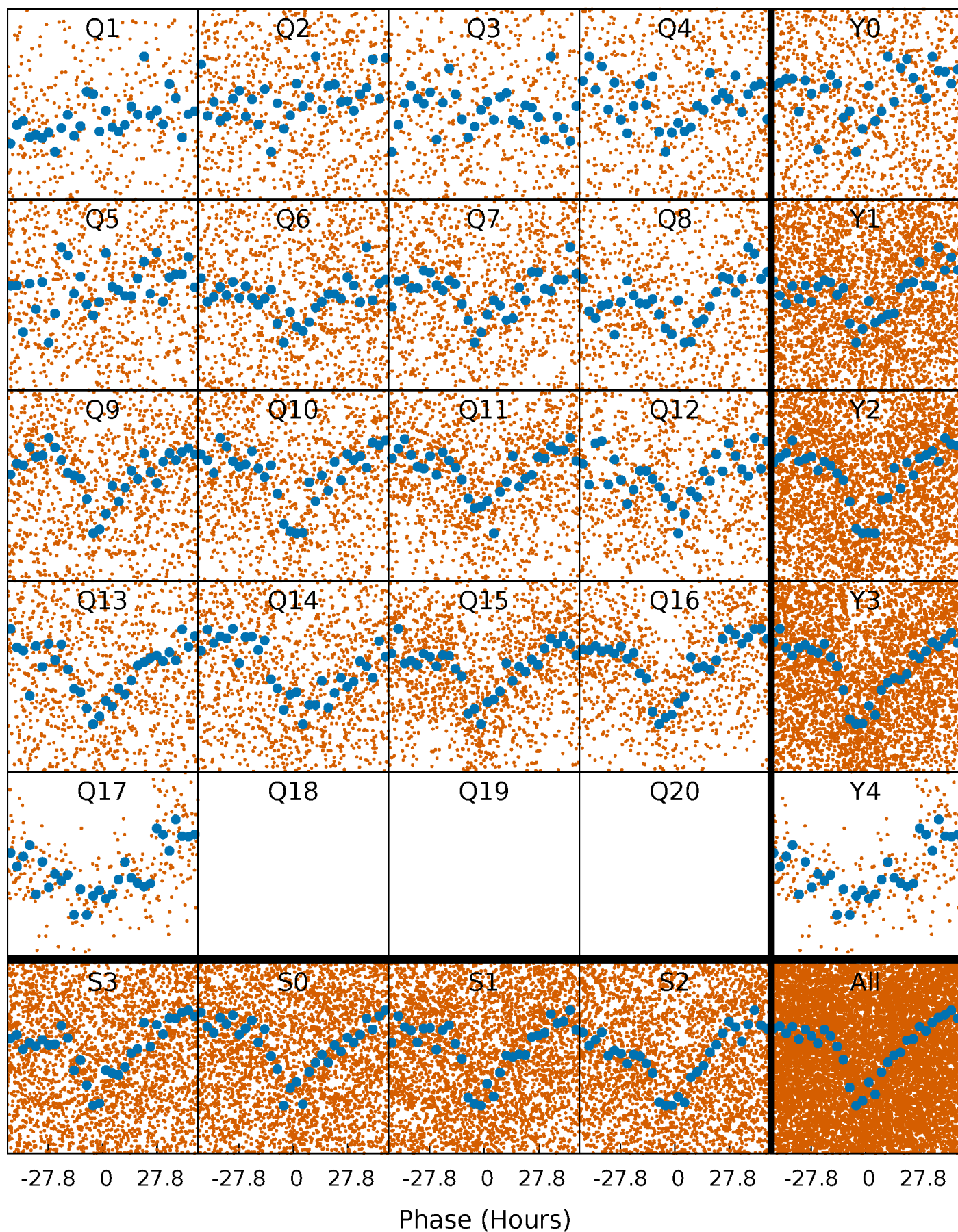


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



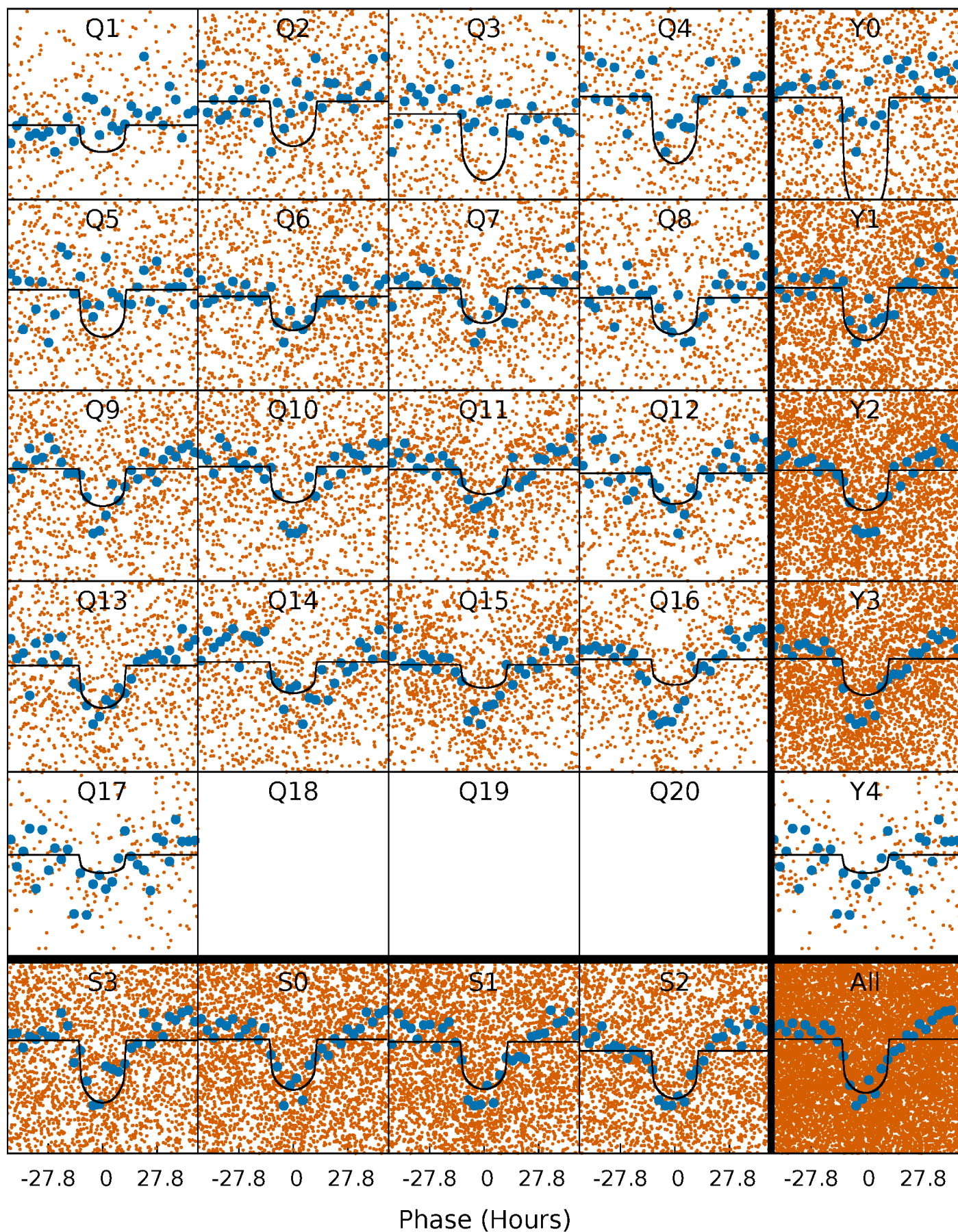
PDC Quarter-Phased Transit Curves

TCE 005386264-02 P= 12.428928 Days $T_0=141.304588$ (BKJD)



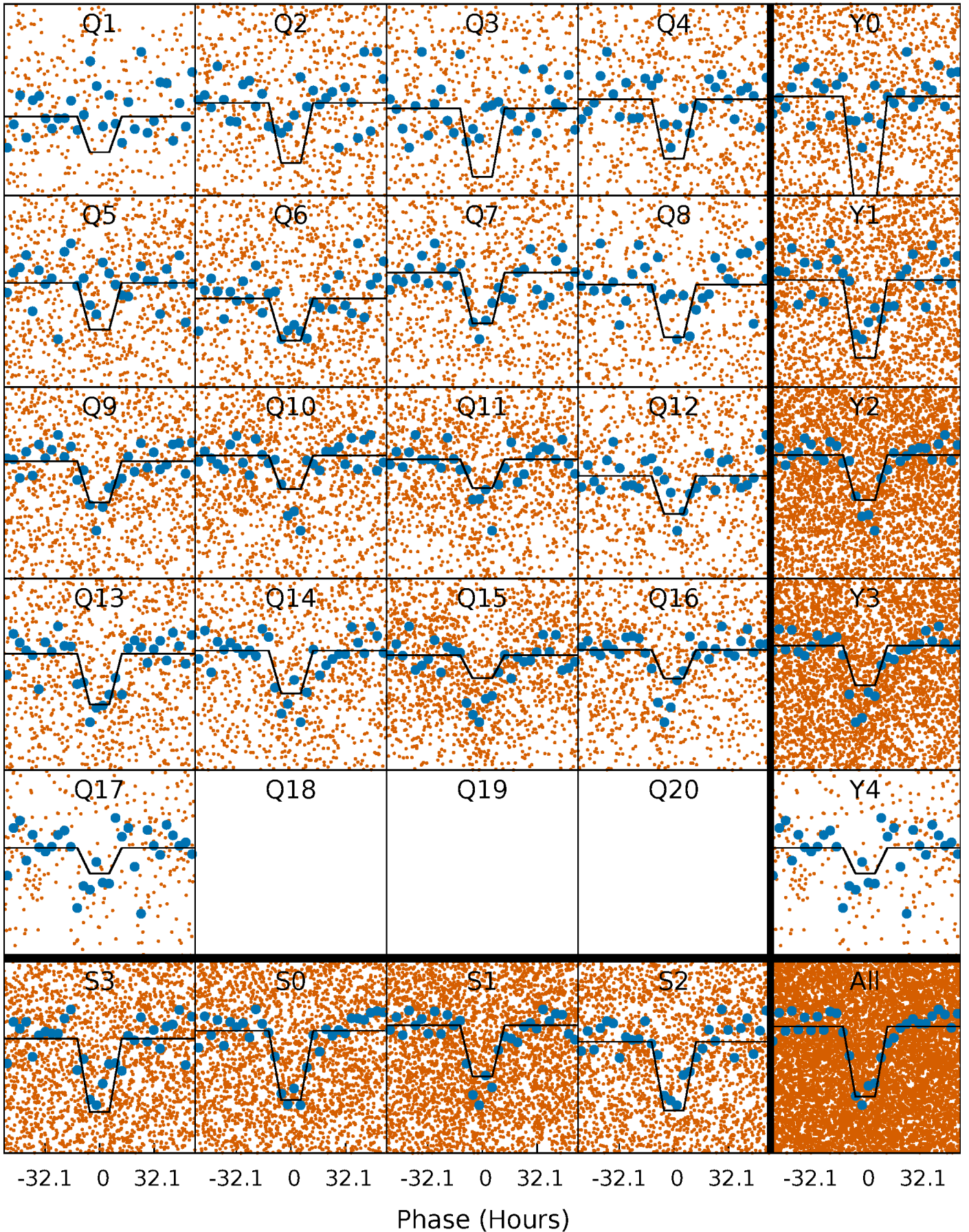
DV Quarter-Phased Transit Curves

TCE 005386264-02 P= 12.428928 Days $T_0=141.304588$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

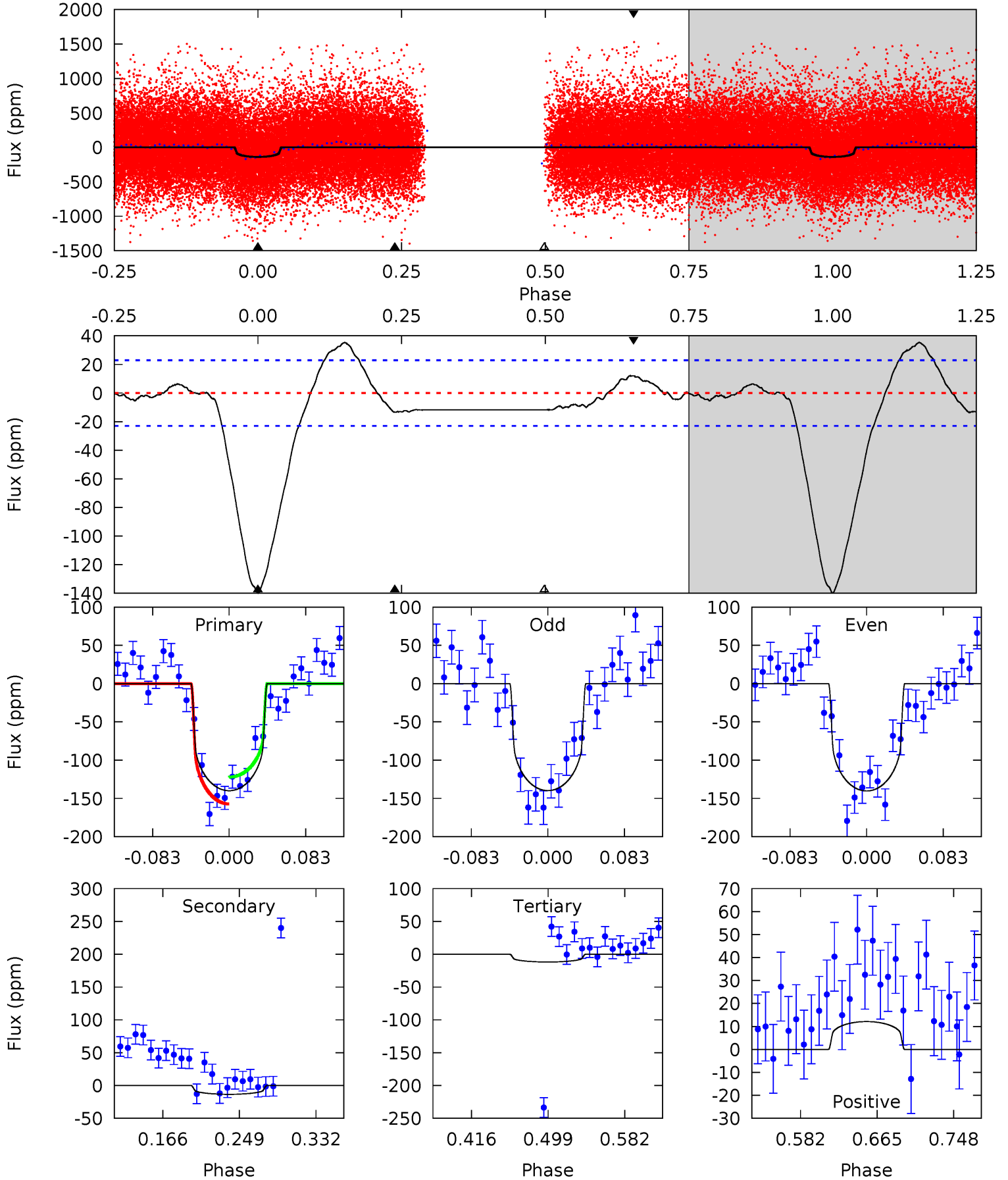
TCE 005386264-02 P= 12.429910 Days $T_0=141.173029$ (BKJD)



DV Model-Shift Uniqueness Test

005386264-02, P = 12.428928 Days, E = 128.875660 Days

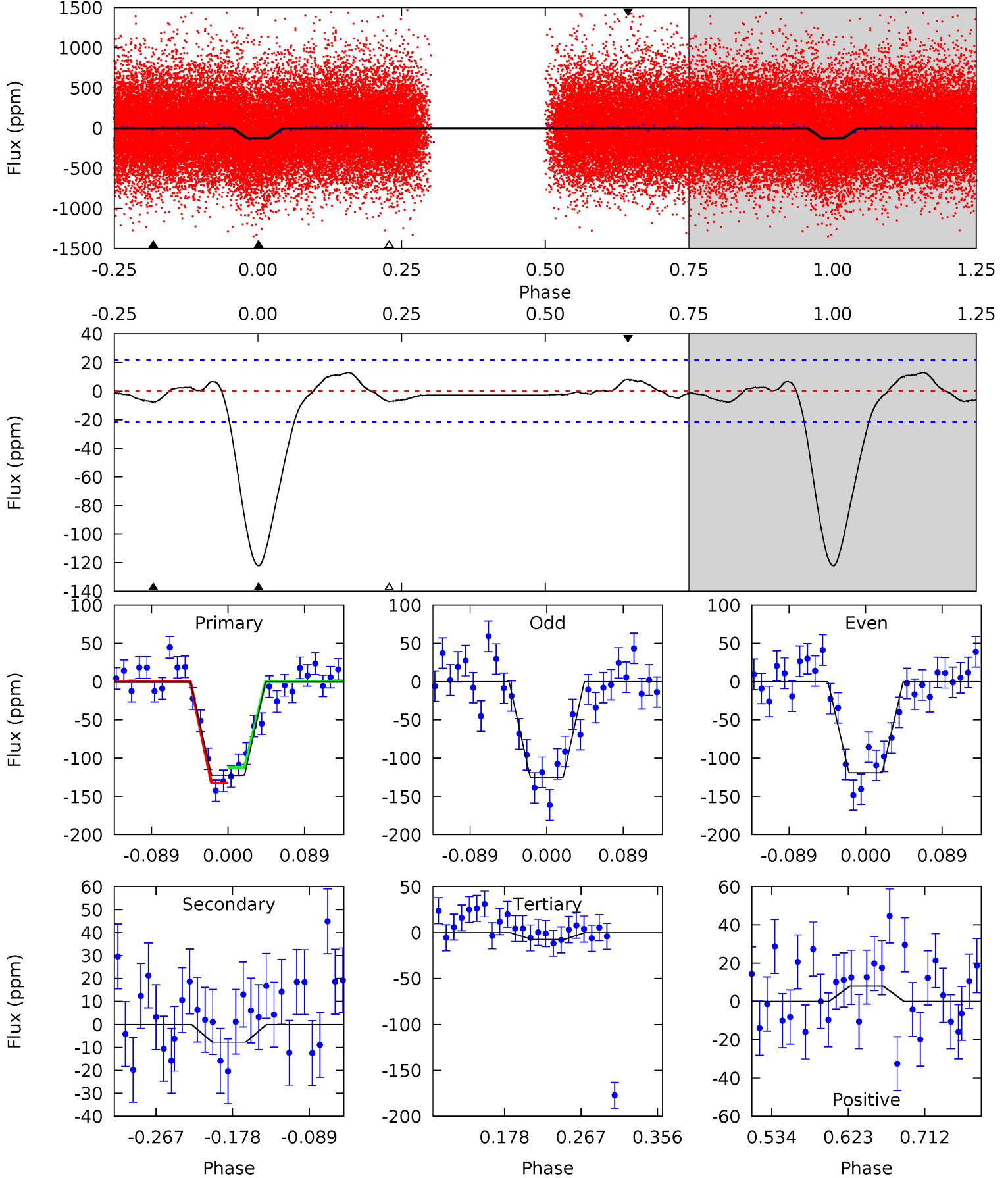
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	2.70	2.37	2.43	4.60	1.73	2.13	25.7	25.7	0.33	0.27	0.04	1.00	0.20	3.53



Alt Model-Shift Uniqueness Test

005386264-02, P = 12.429910 Days, E = 128.743119 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	1.65	1.56	1.70	4.59	1.70	1.17	24.3	24.2	0.10	-0.05	0.61	1.22	0.10	2.17



Stellar Parameters For KIC 005386264

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4756^{+141}_{-141}	$4.676^{+0.032}_{-0.054}$	$-0.460^{+0.300}_{-0.300}$	$0.620^{+0.068}_{-0.040}$	$0.667^{+0.064}_{-0.058}$	$3.948^{+0.544}_{-0.842}$
	+3%/-3%	+1%/-1%	+65%/-65%	+11%/-6%	+10%/-9%	+14%/-21%
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 005386264-02 / KOI 4135.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 5	$0.87^{+0.10}_{-0.09}$	767^{+27}_{-27}	3112^{+196}_{-240}	82^{+39}_{-33}
Alt.	-8 ± 5	$0.76^{+0.09}_{-0.10}$	764^{+26}_{-26}	2977^{+258}_{-375}	63^{+41}_{-40}

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 $A_{obs} \gg 1.0$

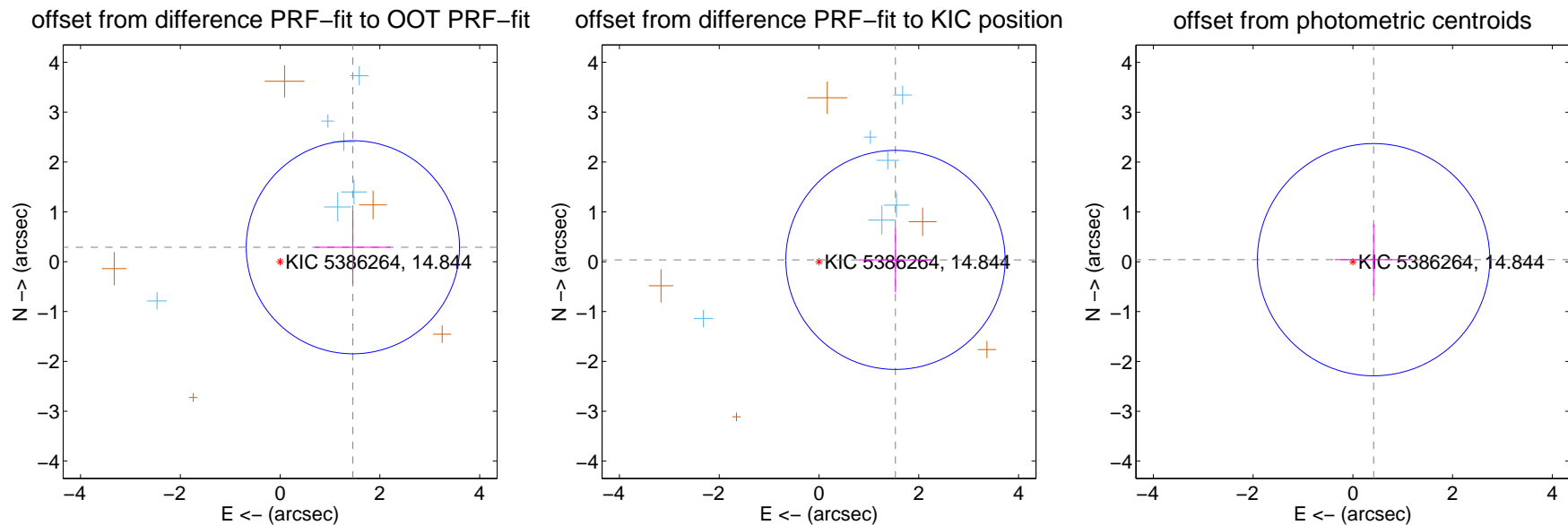
DV Centroid Data

Supplemental centroid analysis for 005386264-02. Kepler magnitude: 14.84. Transit SNR 18.19

There are 6 quarters with good PRF difference image offsets

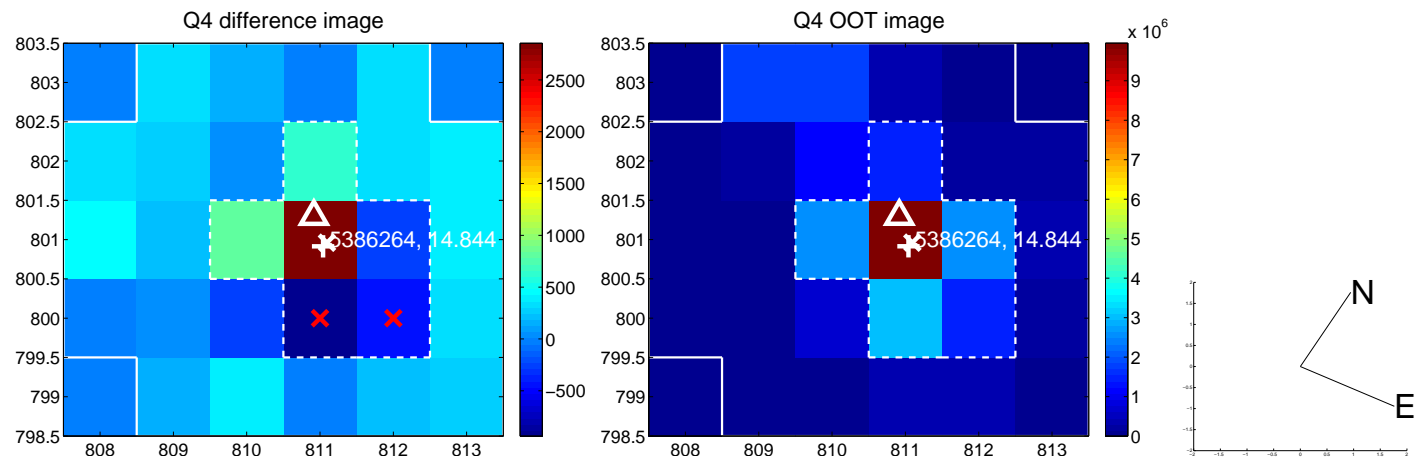
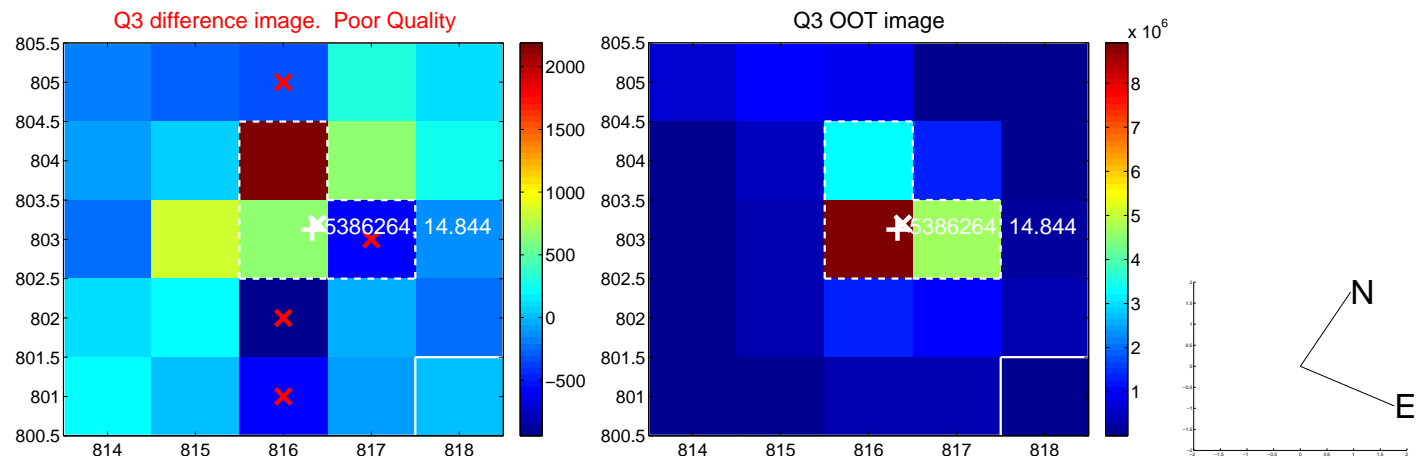
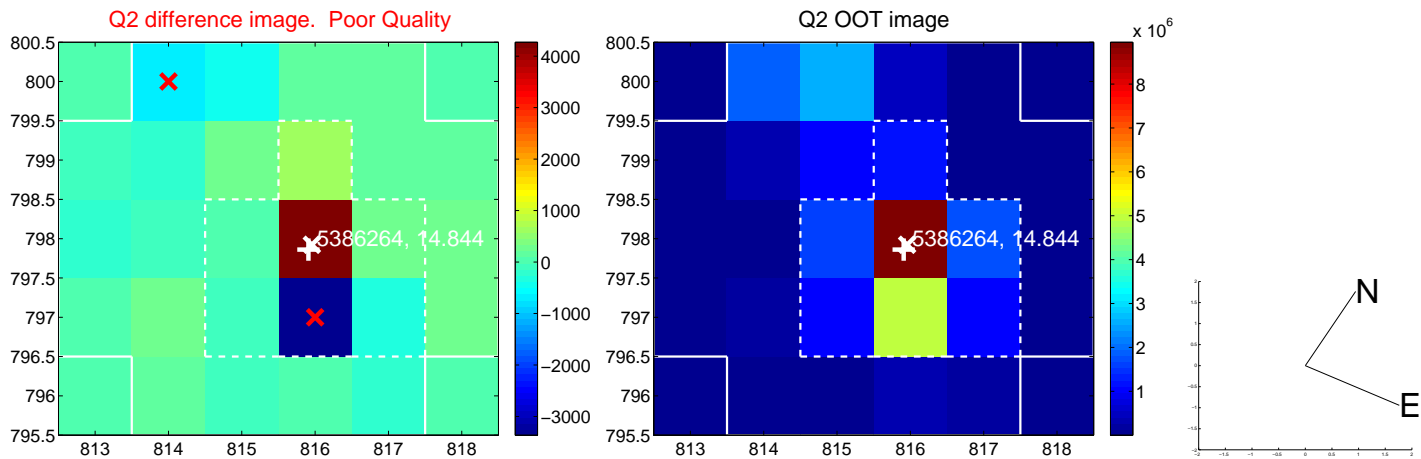
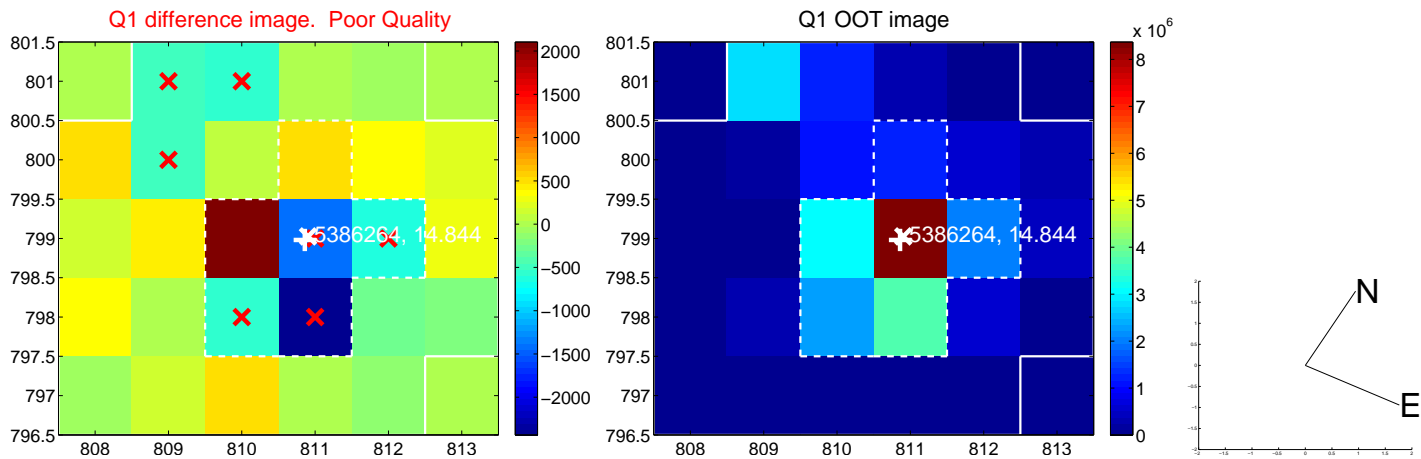
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.487 ± 0.712	2.09	-1.459 ± 0.760	0.290 ± 0.733
PRF-fit source offset from KIC position	1.534 ± 0.732	2.09	-1.533 ± 0.736	0.036 ± 0.651
photometric centroid source offset	0.42 ± 0.78	0.54	-0.42 ± 0.78	0.04 ± 0.71

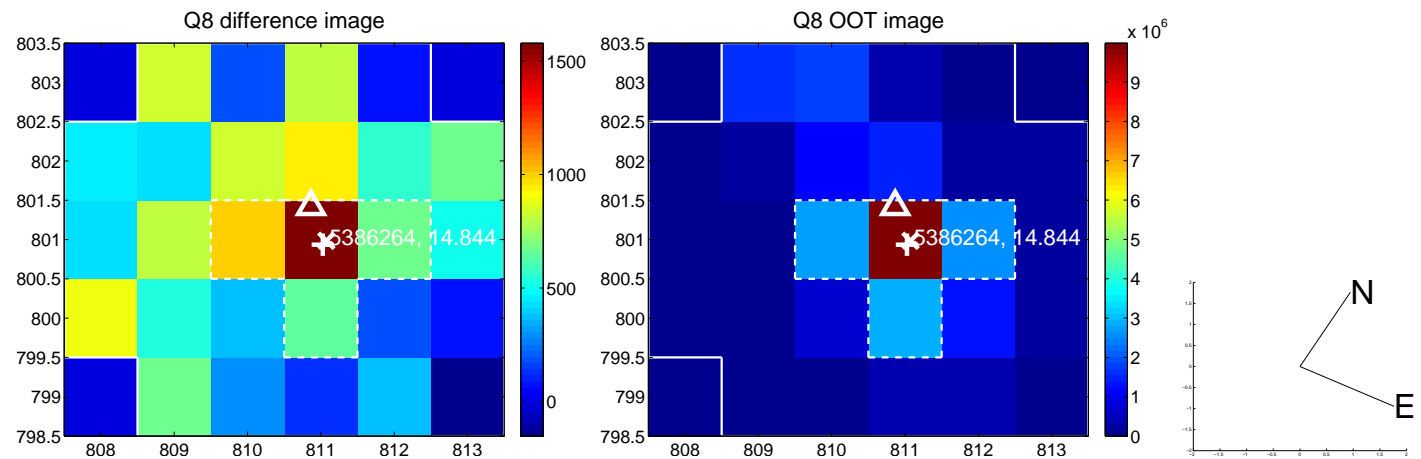
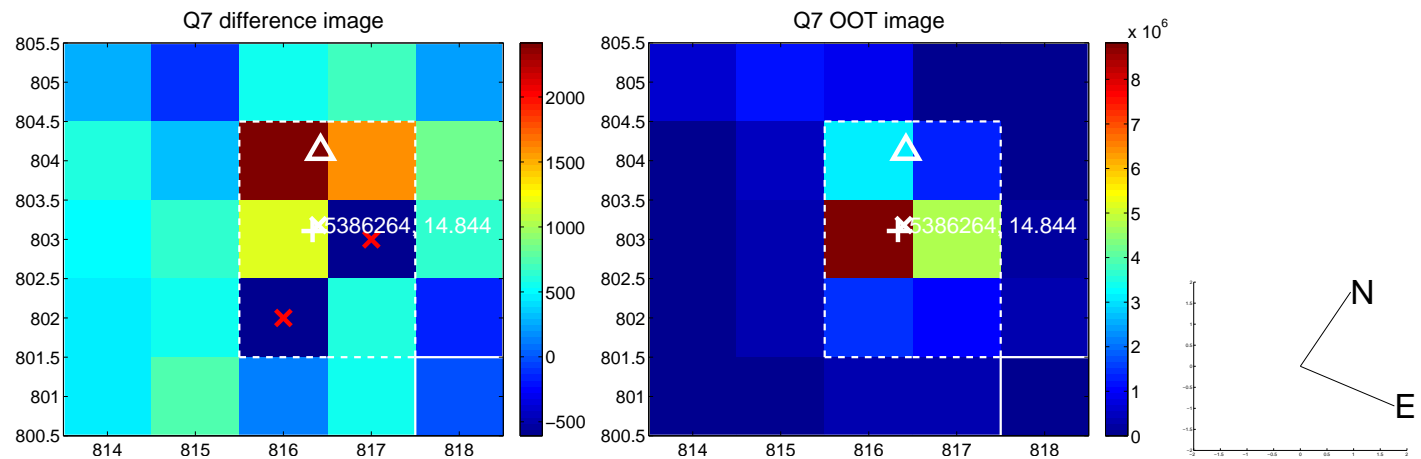
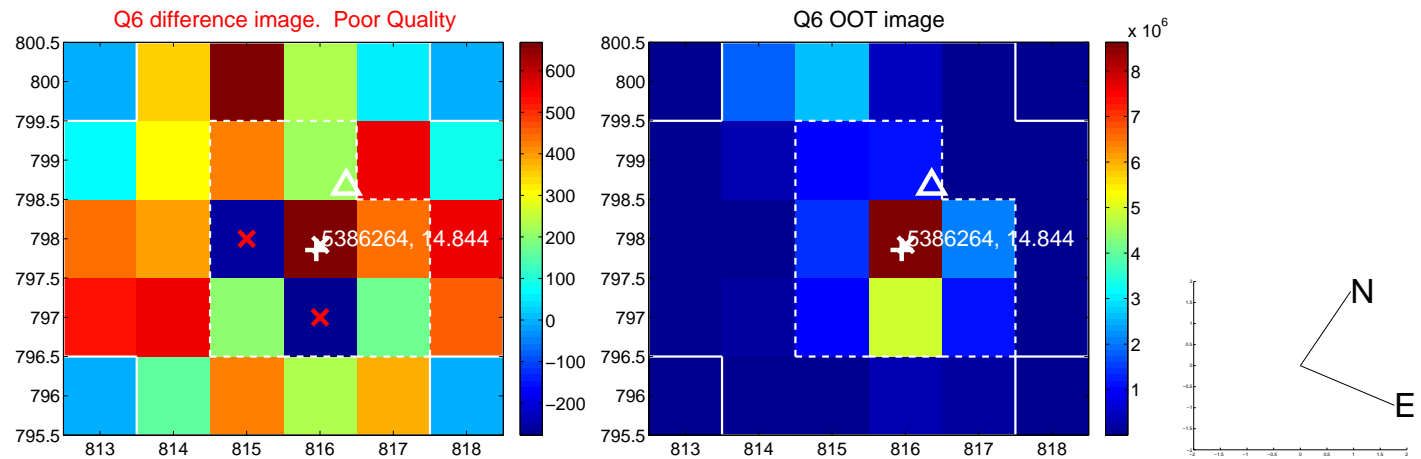
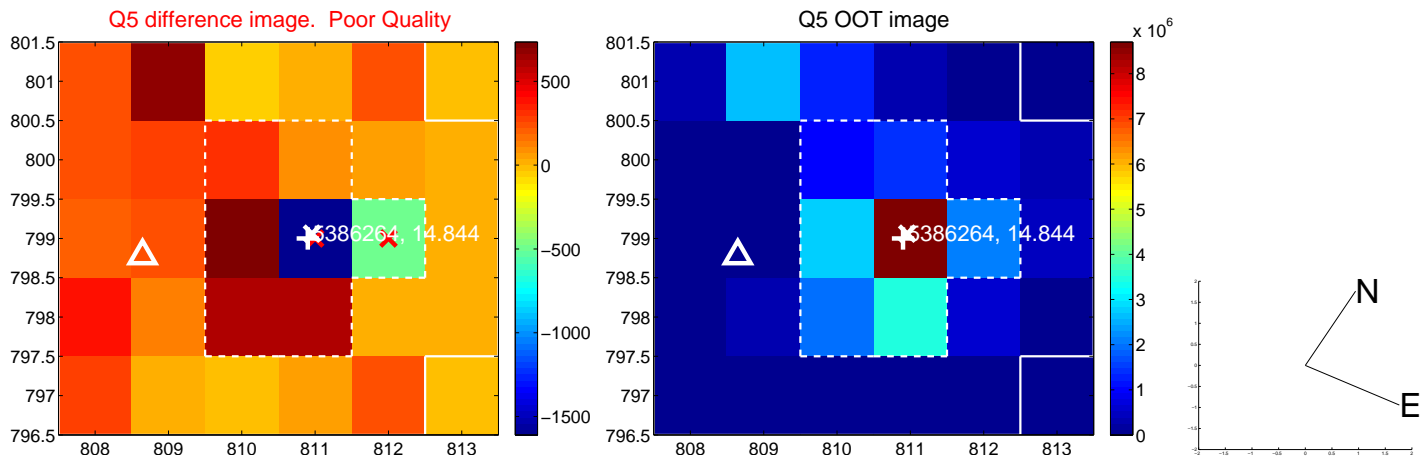


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

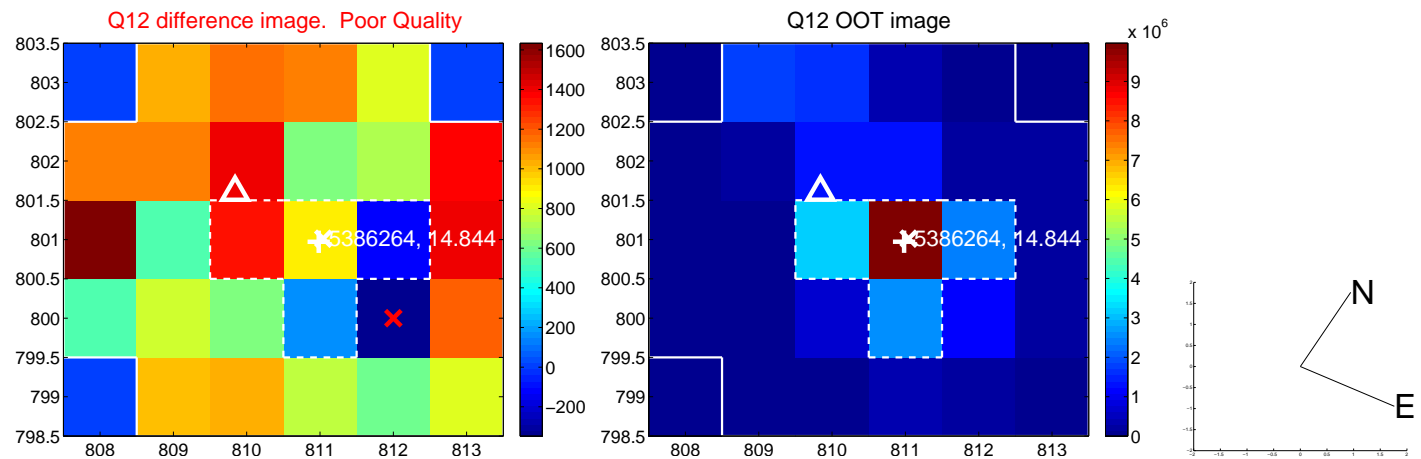
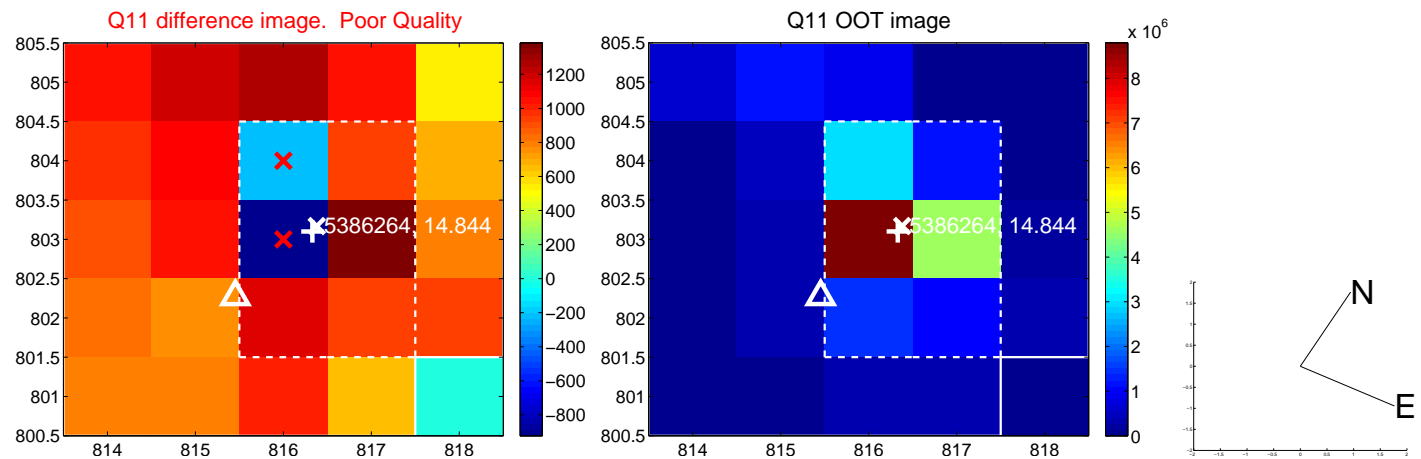
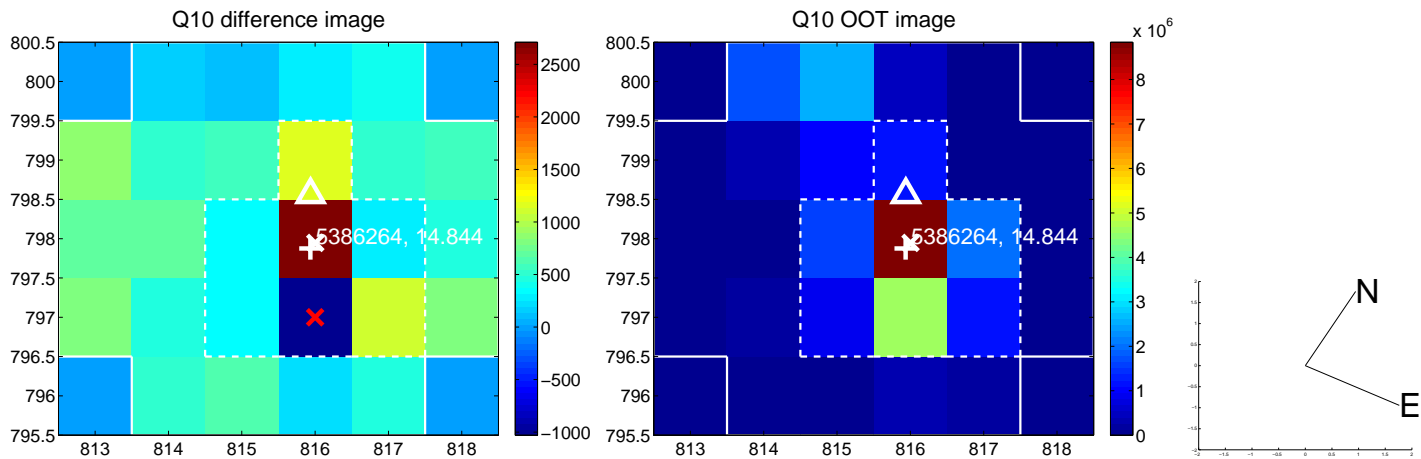
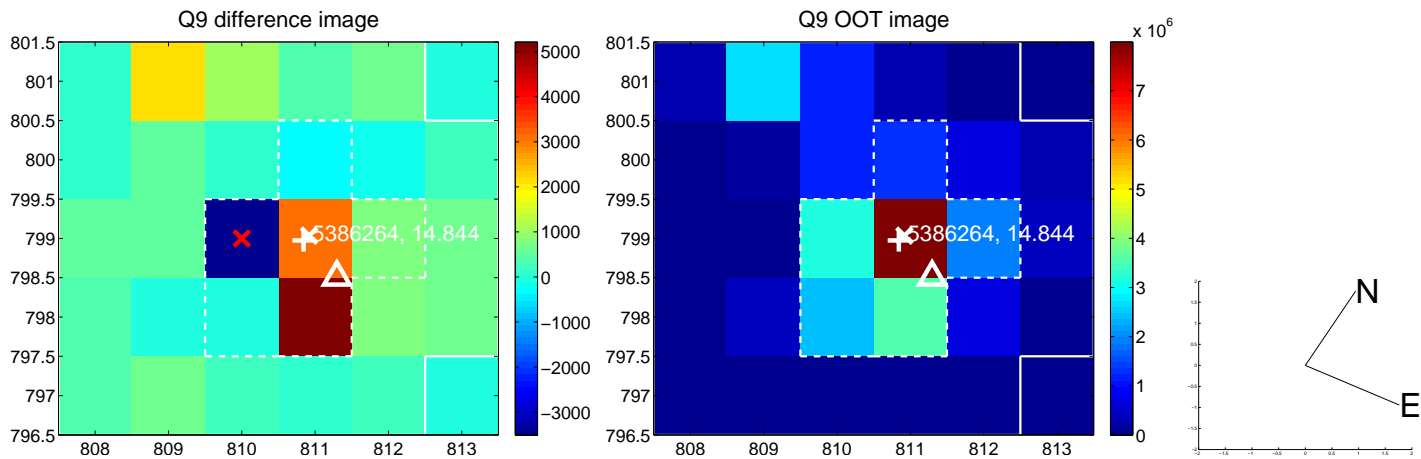
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



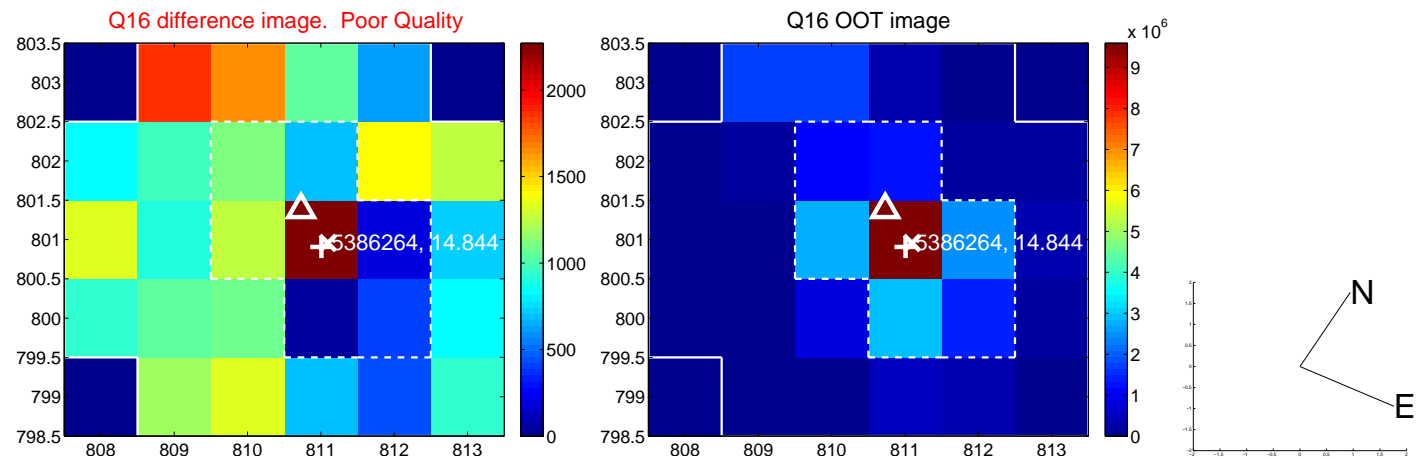
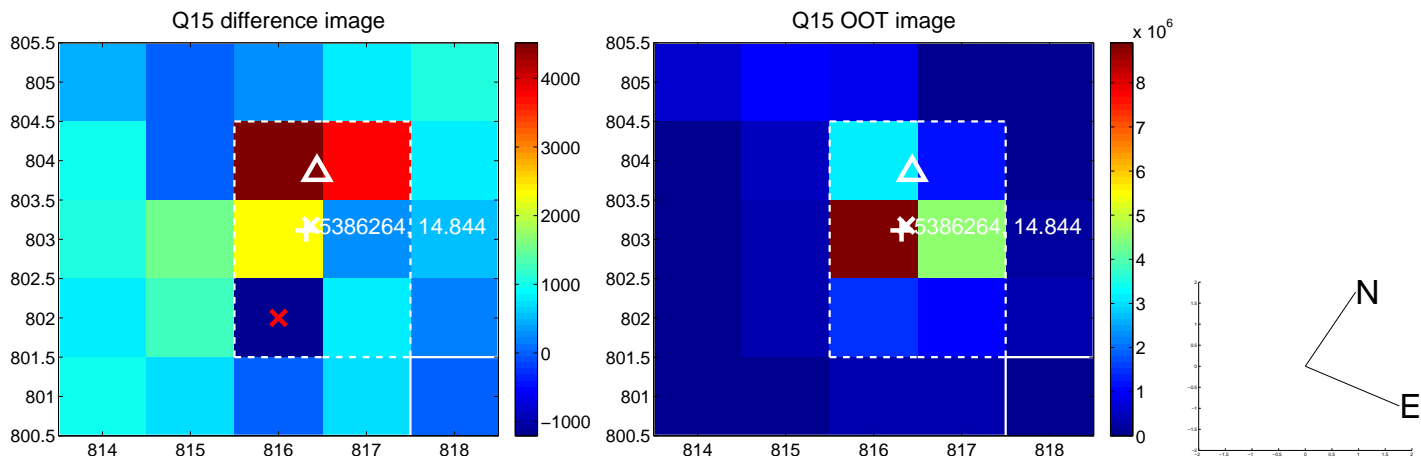
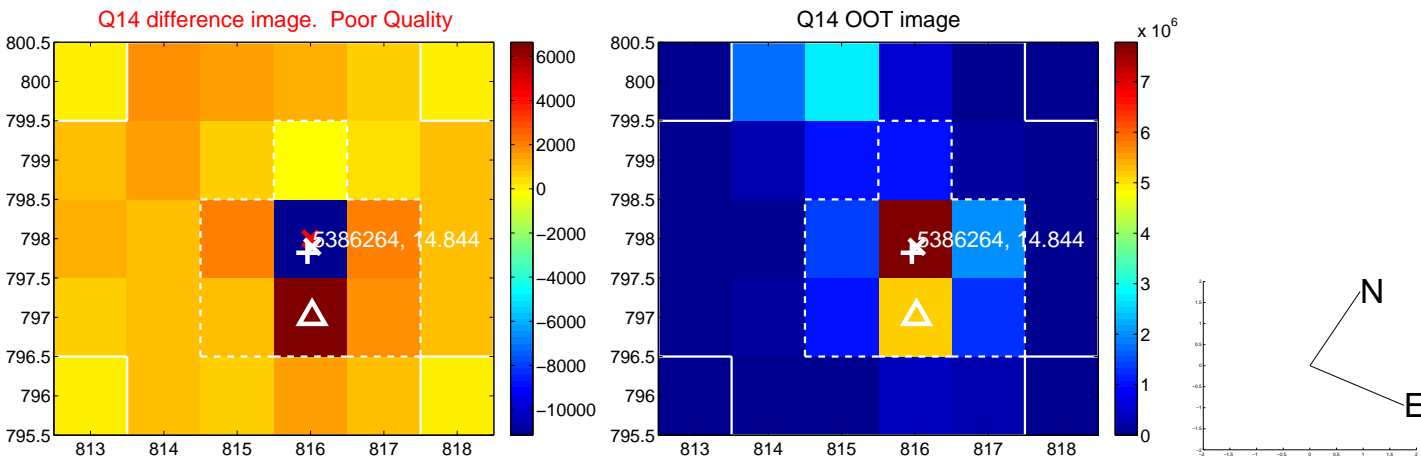
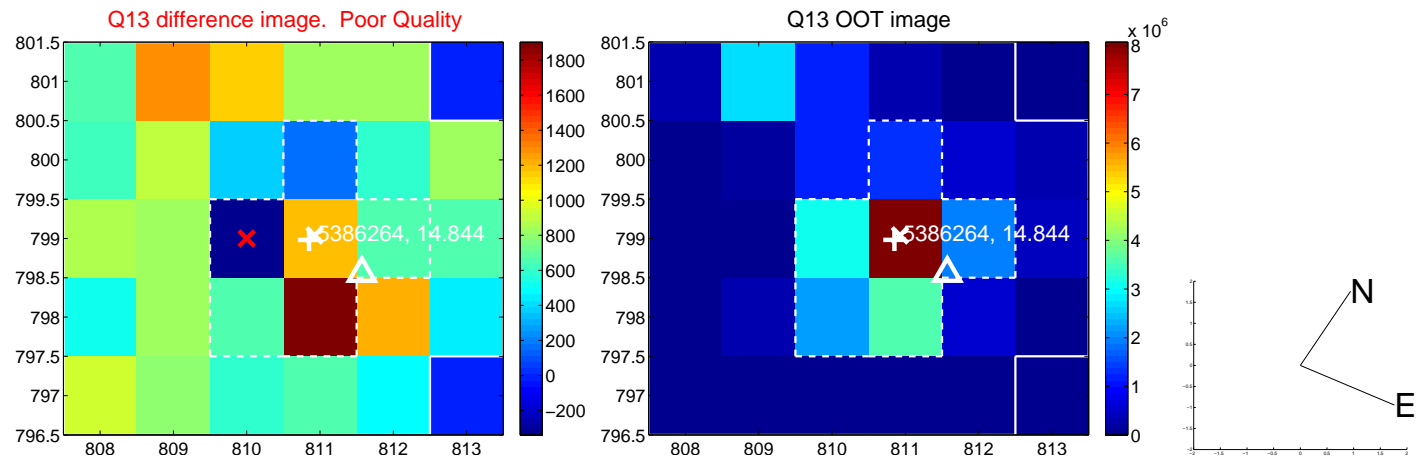
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



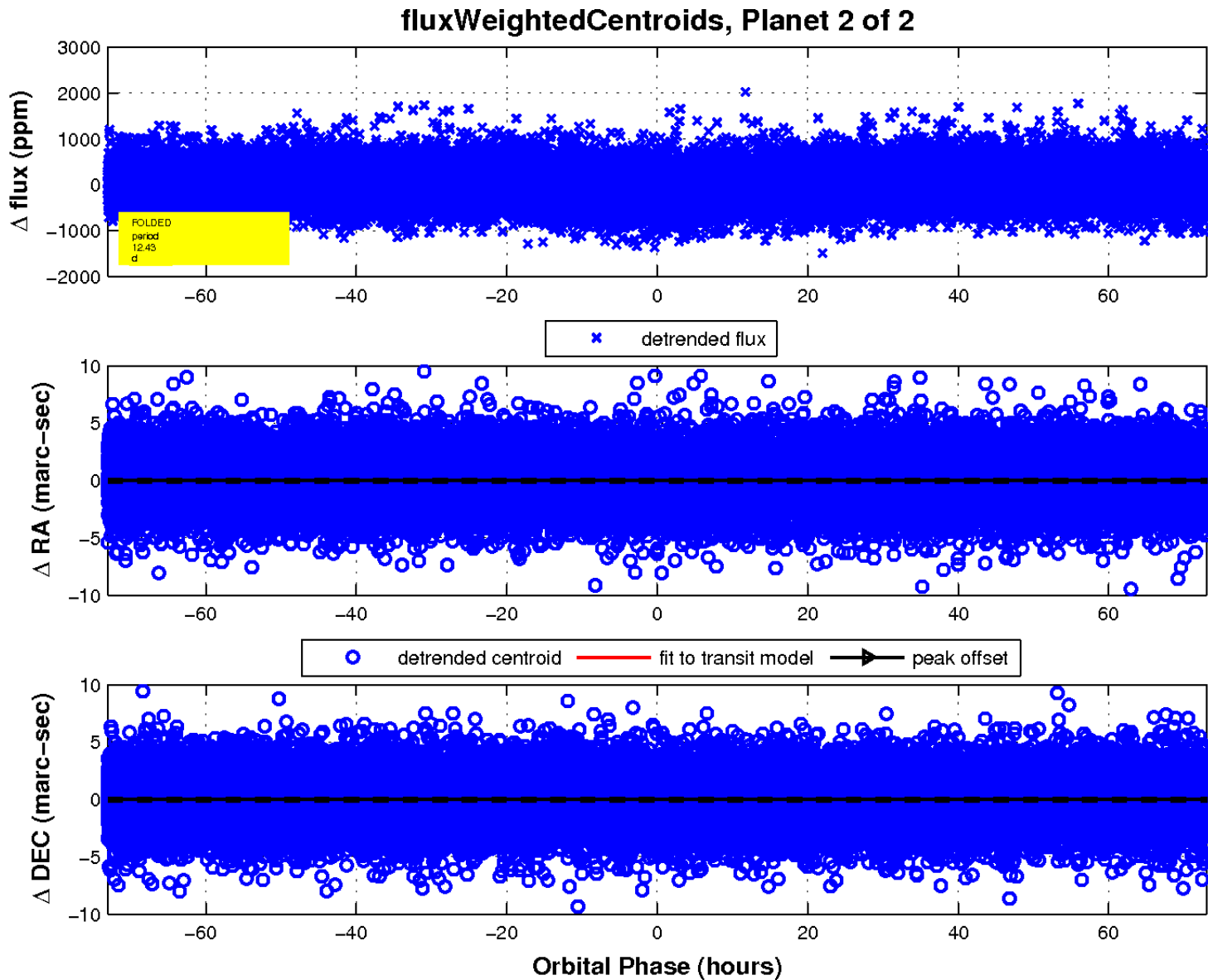
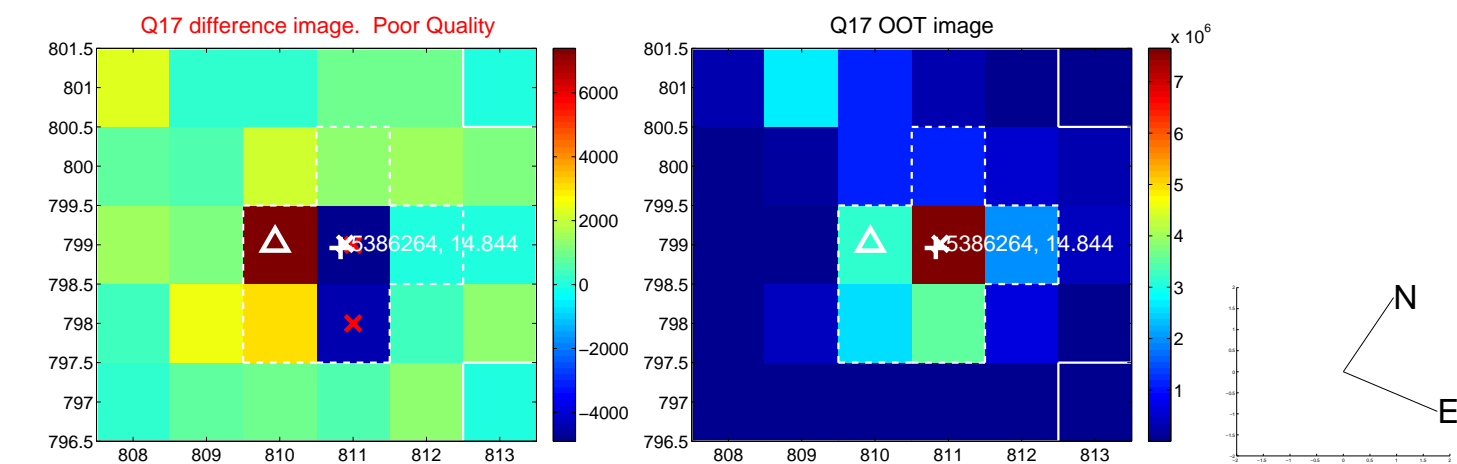
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

