

KIC 008804283

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})
008804283-01	OBS	1276.01	22.790192	138.684801	606.2	5.239	40.1	42.8	1.05	5478	2.91	38.37
008804283-02	OBS	1276.02	13.260820	139.099405	190.9	4.365	14.7	15.8	1.05	5478	1.85	78.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008804283-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
008804283-02	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

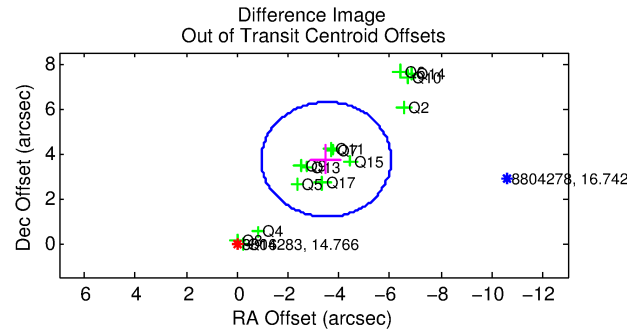
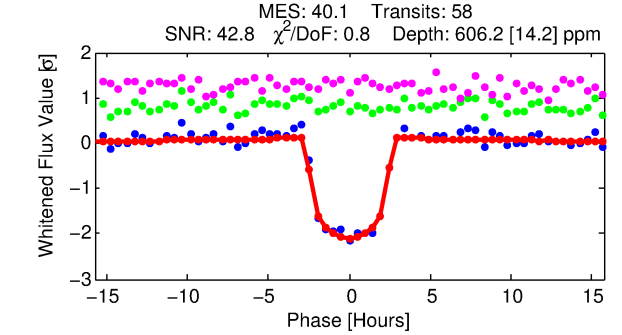
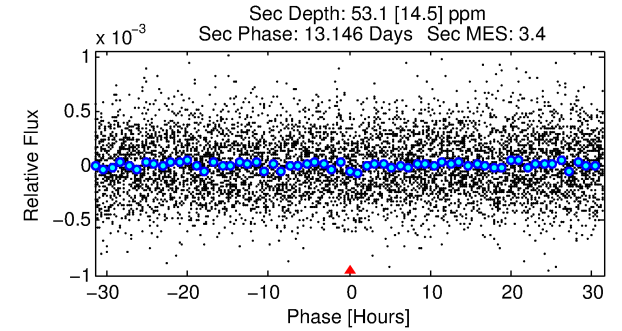
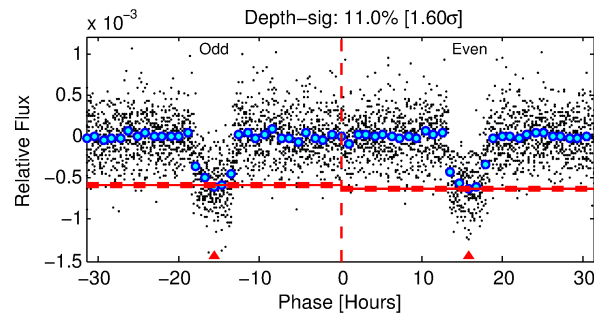
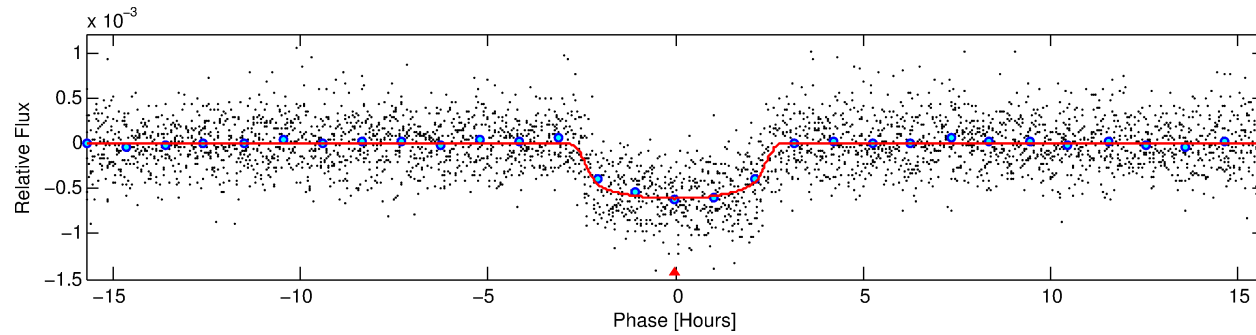
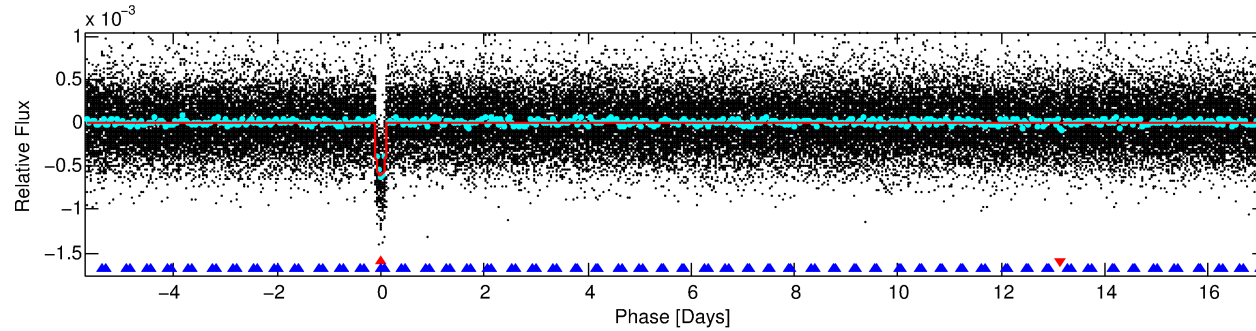
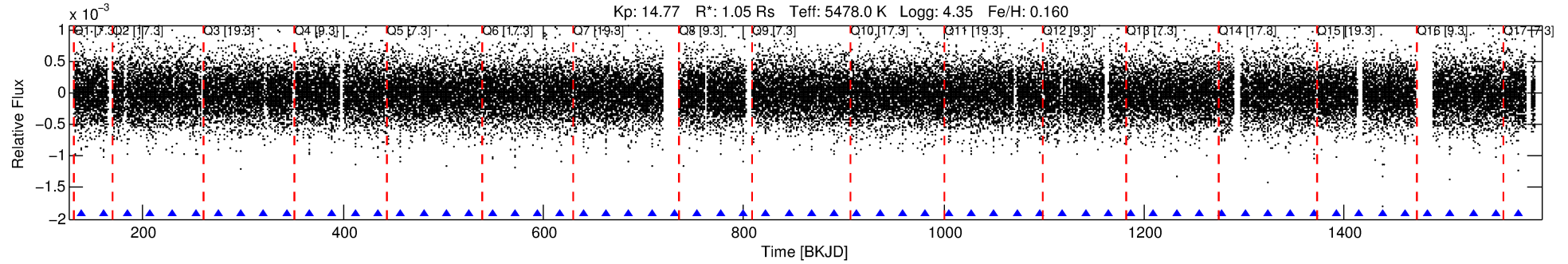
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008804283-01

No Significant Match Found

DV One-Page Summary

KIC: 8804283 Candidate: 1 of 2 Period: 22.790 d
KOI: K01276.01 Corr: 0.979



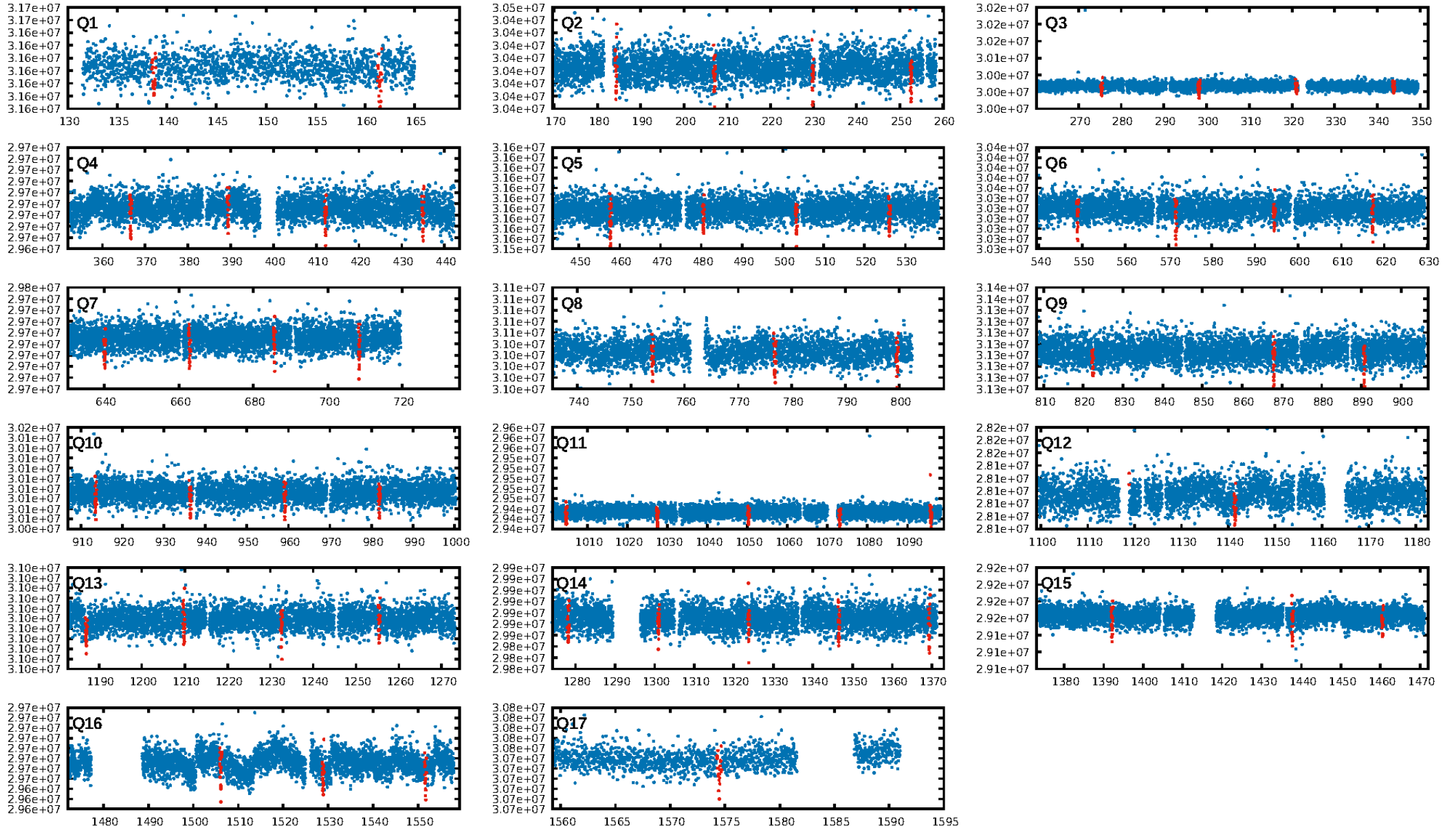
DV Fit Results:

Period = 22.79019 [0.00007] d
Epoch = 138.6848 [0.0025] BKJD
Rp/R* = 0.0253 [0.0030]
a/R* = 20.84 [9.96]
b = 0.81 [0.21]
Seff = 38.37 [8.86]
Teff = 635 [37] K
Rp = 2.91 [0.53] Re
a = 0.1527 [0.0210] AU
Ag = 80.54 [34.20] [2.33 σ]
Teffp = 2940 [269] K [8.48 σ]

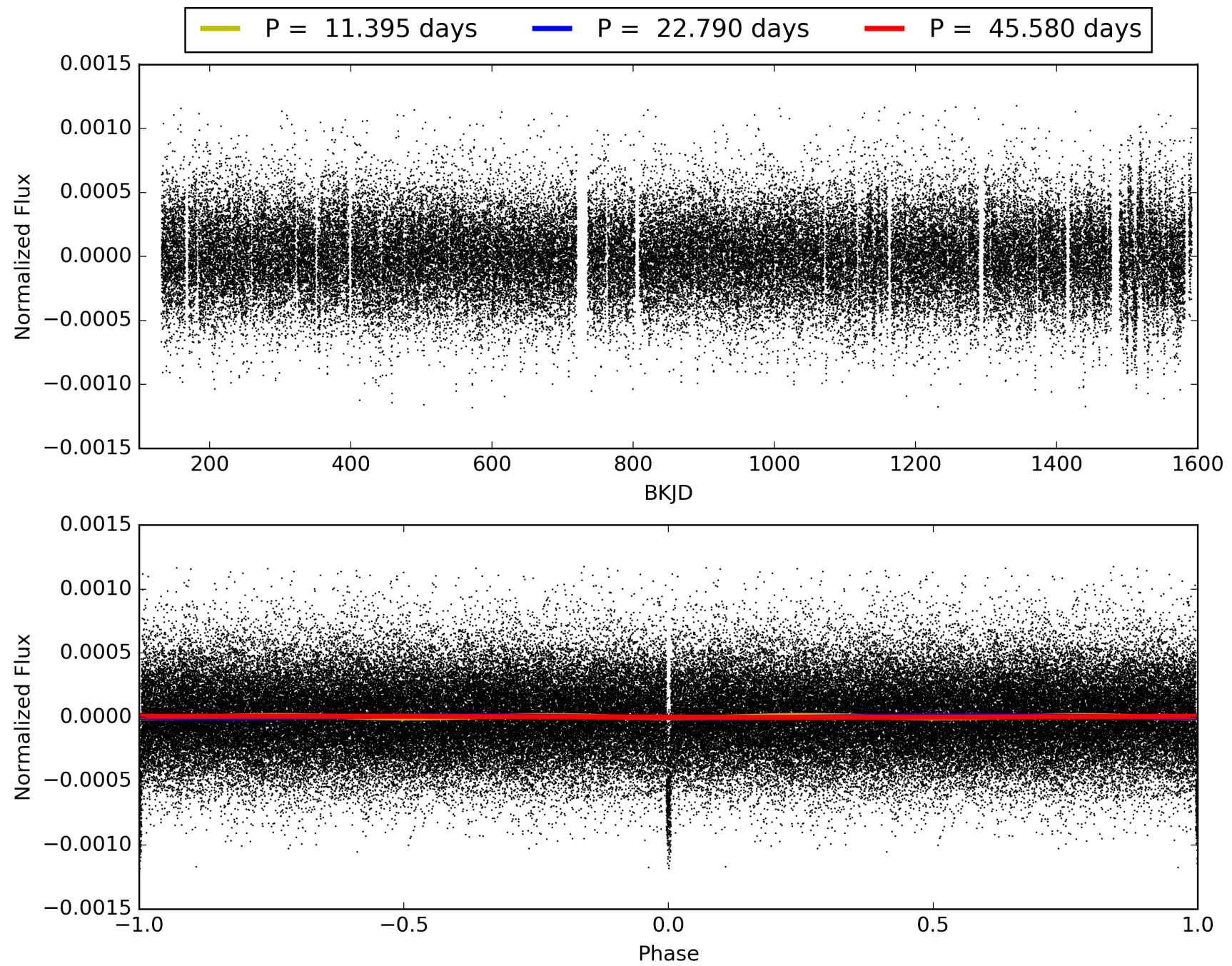
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.54 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [55/55]
GhostDiagnostic-chr: 13.13
Centroid-sig: 0.0%
Centroid-so: 1.141 arcsec [5.16 σ]
OotOffset-rm: 5.116 arcsec [6.01 σ]
KicOffset-rm: 0.148 arcsec [1.10 σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008804283-01, PDC Light Curves

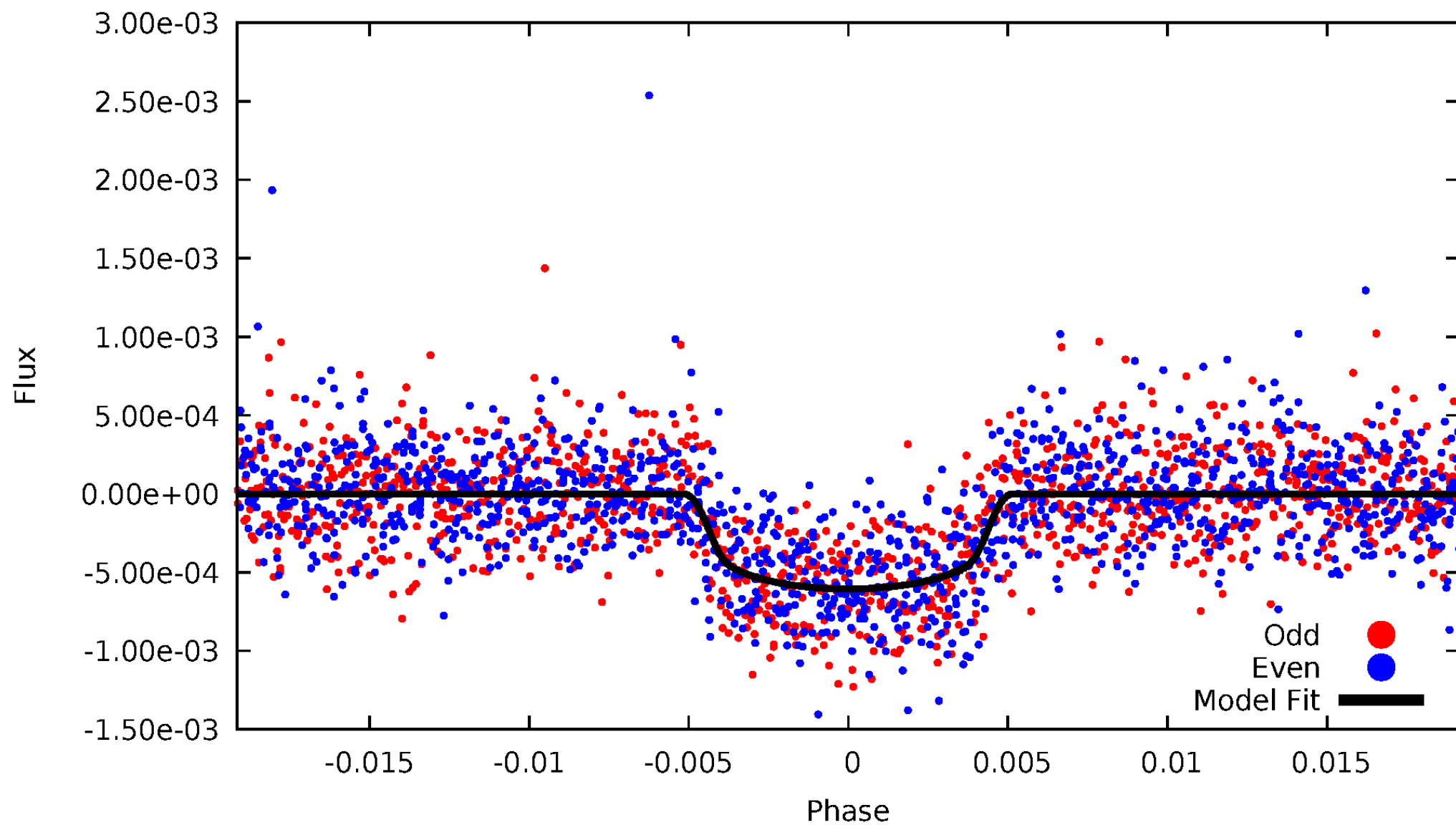


TCE 008804283-01



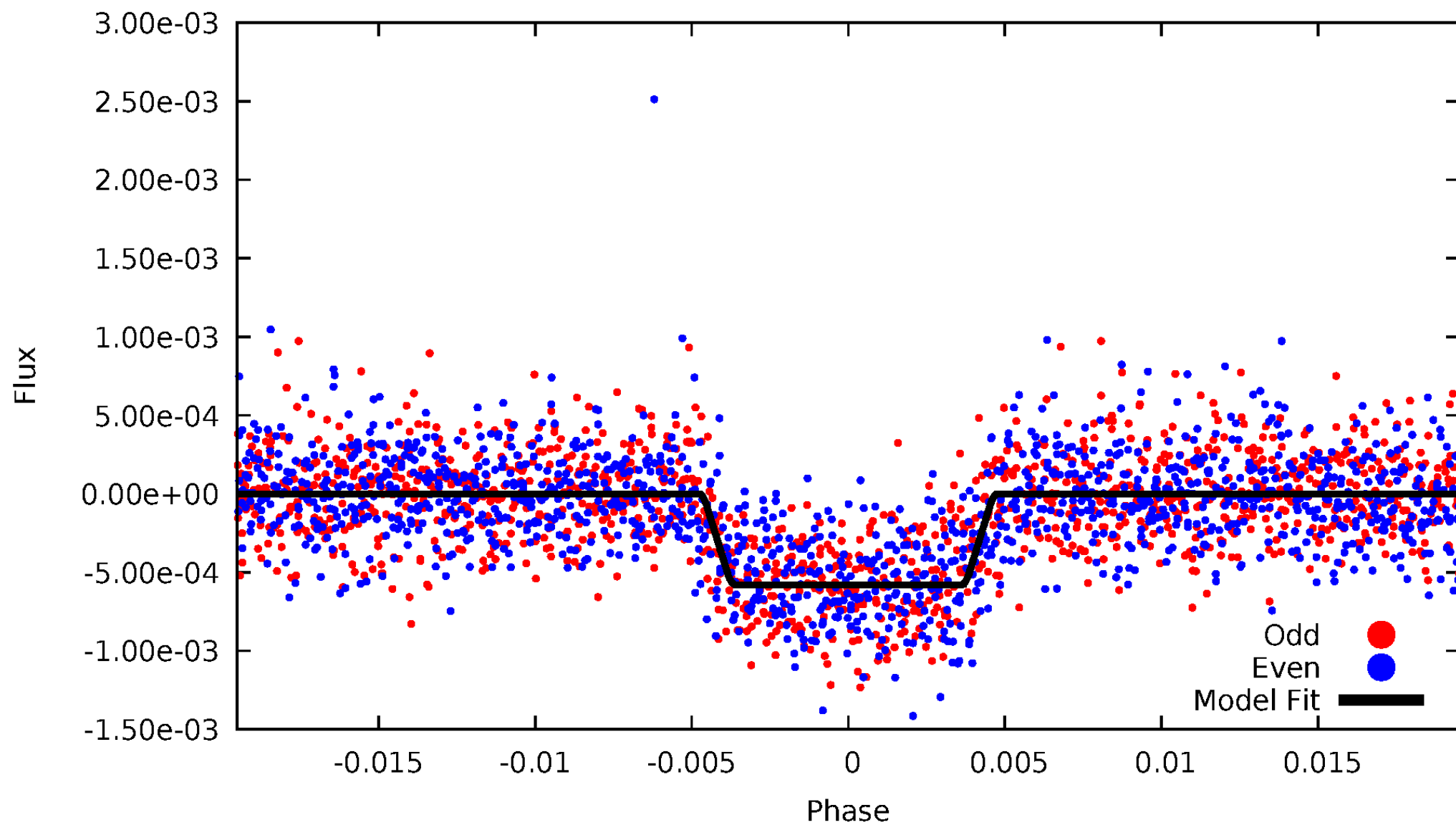
DV Odd/Even

TCE 008804283-01

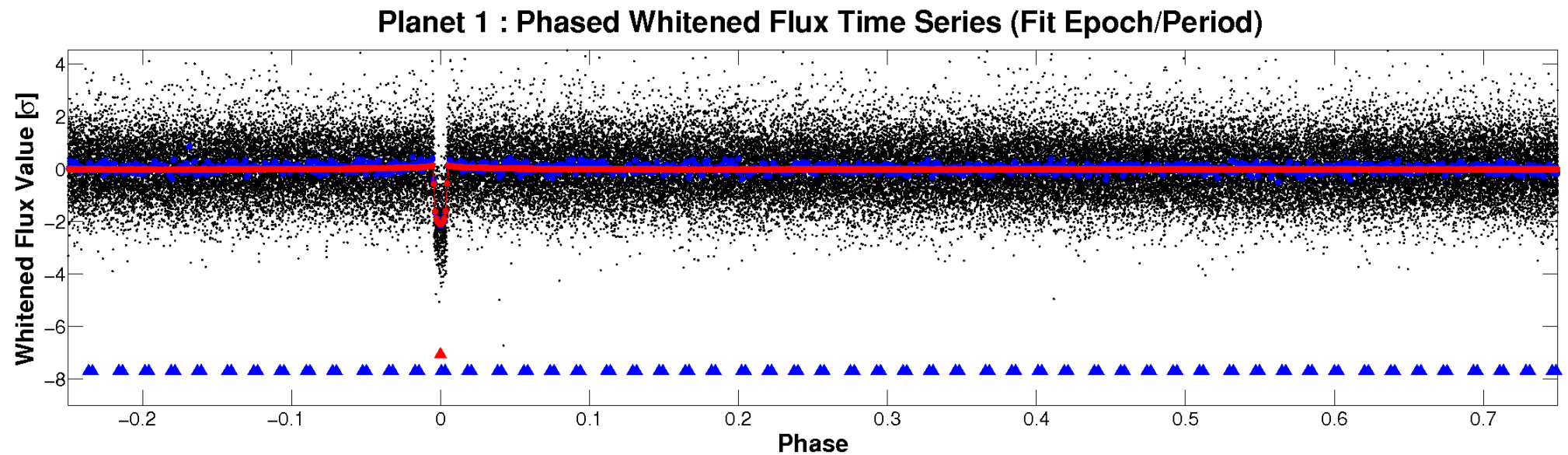
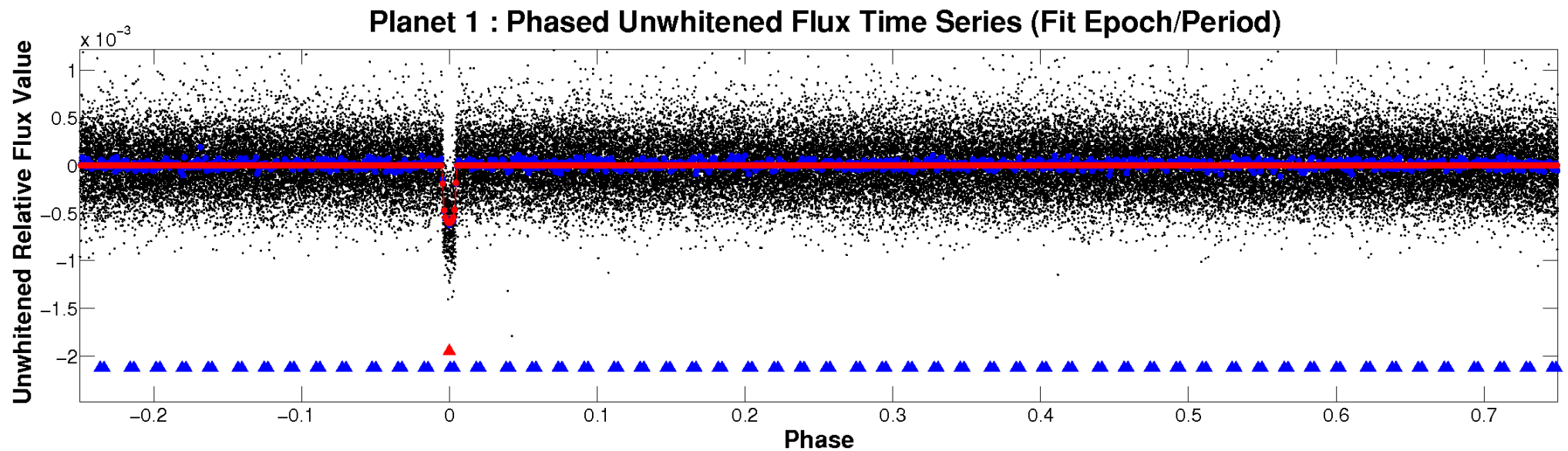


ALT Odd/Even

TCE 008804283-01

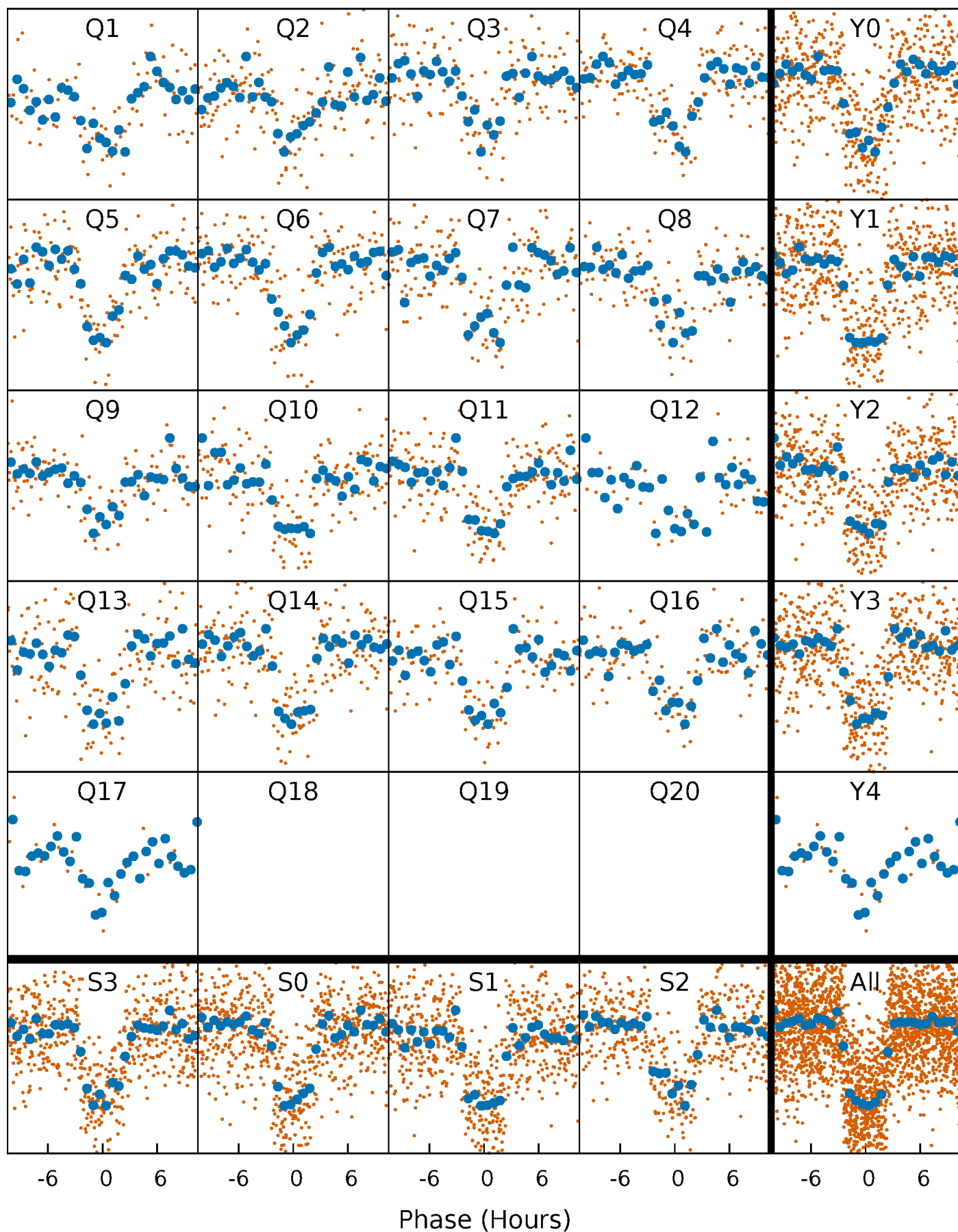


Non-Whitened Vs. Whitened Light Curve



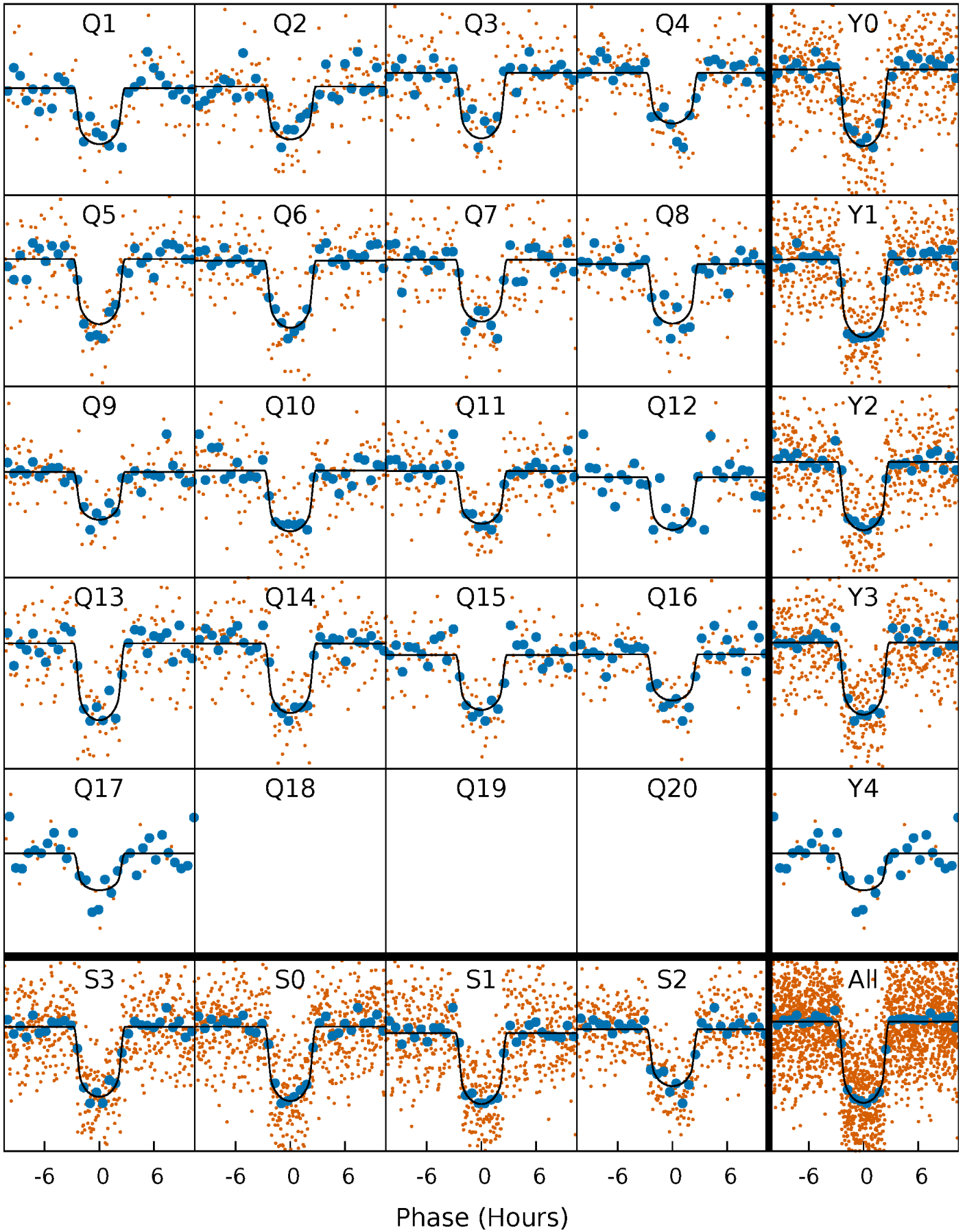
PDC Quarter-Phased Transit Curves

TCE 008804283-01 P= 22.790192 Days $T_0=138.684801$ (BKJD)



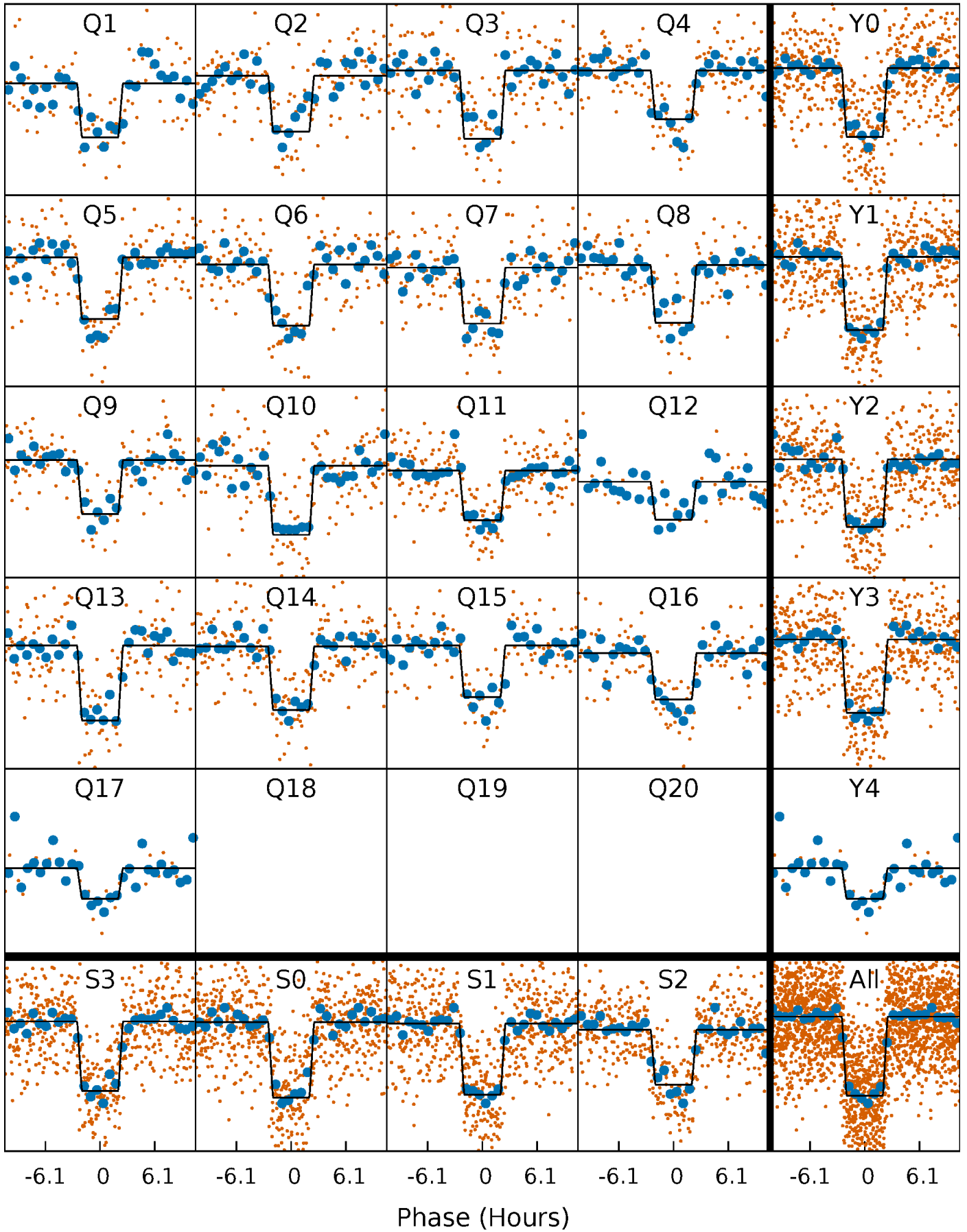
DV Quarter-Phased Transit Curves

TCE 008804283-01 P= 22.790192 Days $T_0=138.684801$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

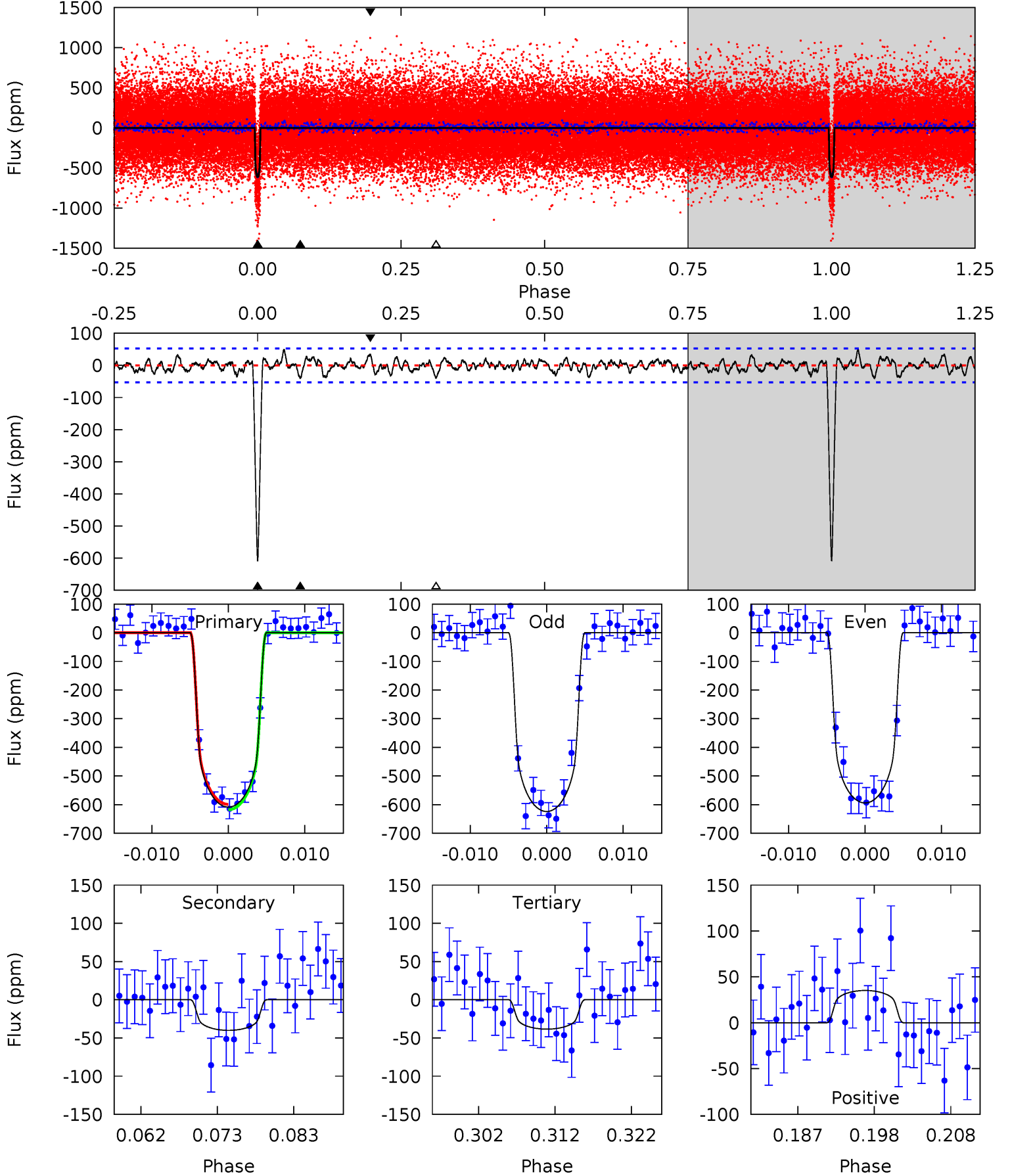
TCE 008804283-01 P= 22.789998 Days $T_0=138.691906$ (BKJD)



DV Model-Shift Uniqueness Test

008804283-01, $P = 22.790192$ Days, $E = 115.894609$ Days

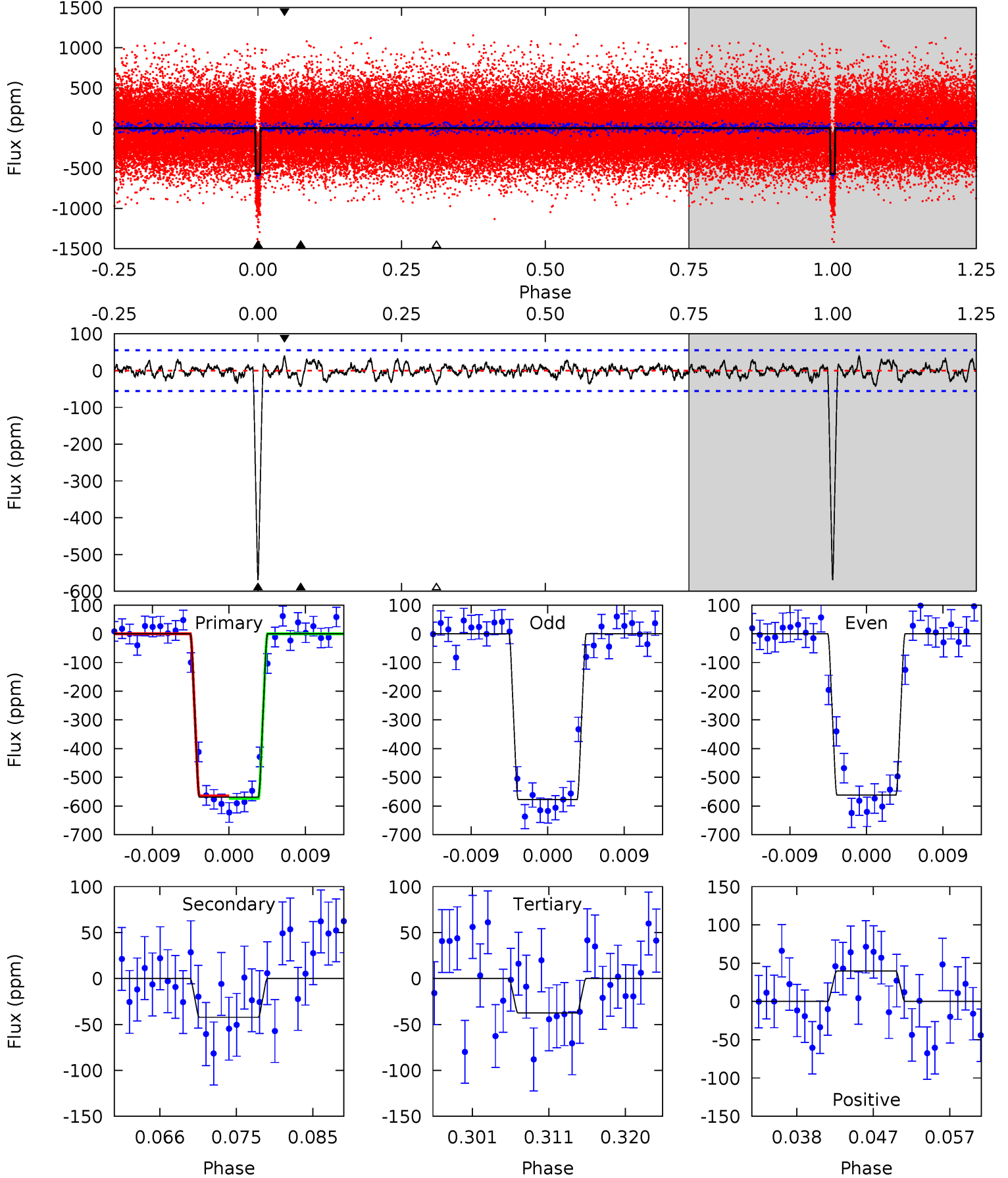
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.0	3.81	3.66	3.34	5.02	2.56	1.26	54.3	54.6	0.15	0.47	1.42	0.99	0.08	0.88



Alt Model-Shift Uniqueness Test

008804283-01, $P = 22.789998$ Days, $E = 115.901908$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.9	3.85	3.43	3.62	5.04	2.60	1.11	48.5	48.3	0.42	0.23	0.71	1.03	0.07	0.42



Stellar Parameters For KIC 008804283

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5478^{+82}_{-74}	$4.354^{+0.132}_{-0.096}$	$0.160^{+0.150}_{-0.150}$	$1.053^{+0.147}_{-0.147}$	$0.914^{+0.061}_{-0.042}$	$1.102^{+0.592}_{-0.326}$
	+1%/-1%	+3%/-2%	+94%/-94%	+14%/-14%	+7%/-5%	+54%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008804283-01 / KOI 1276.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 11	$2.86^{+0.46}_{-0.39}$	884^{+34}_{-35}	3295^{+181}_{-184}	63^{+26}_{-21}
Alt.	-42 ± 11	$2.77^{+0.41}_{-0.44}$	884^{+35}_{-40}	3353^{+209}_{-191}	71^{+37}_{-25}

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

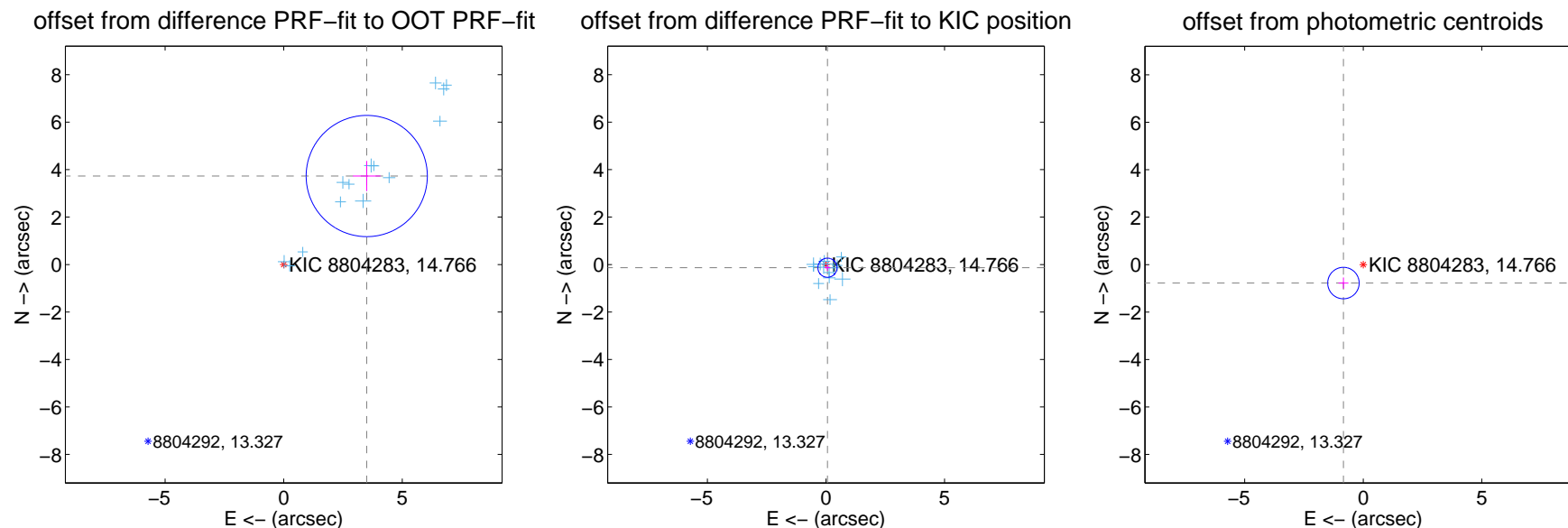
DV Centroid Data

Supplemental centroid analysis for 008804283-01. Kepler magnitude: 14.77. Transit SNR 42.78

There are 14 quarters with good PRF difference image offsets

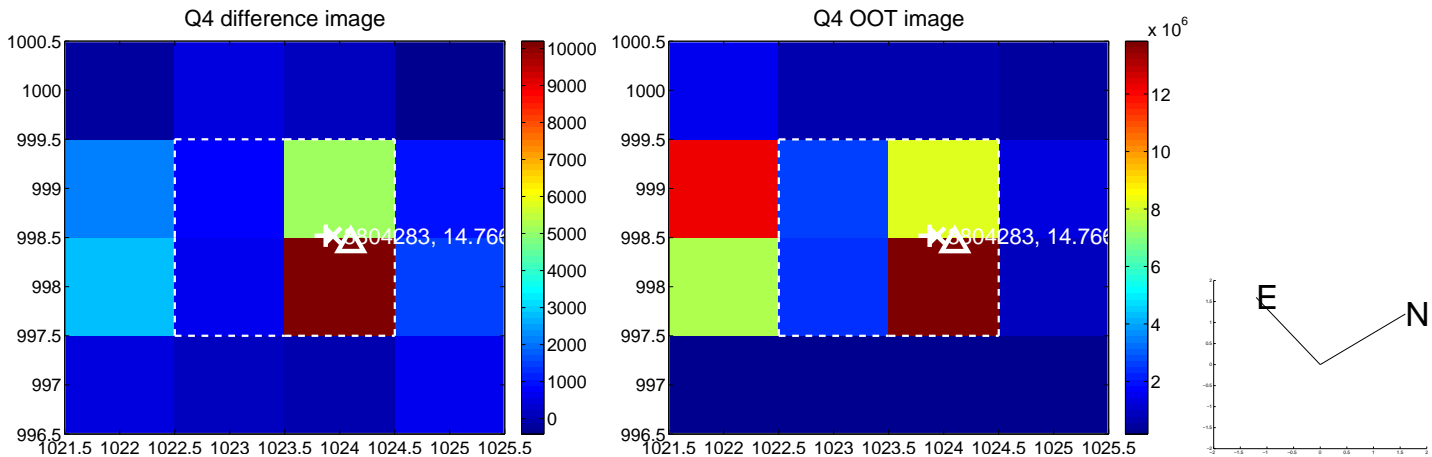
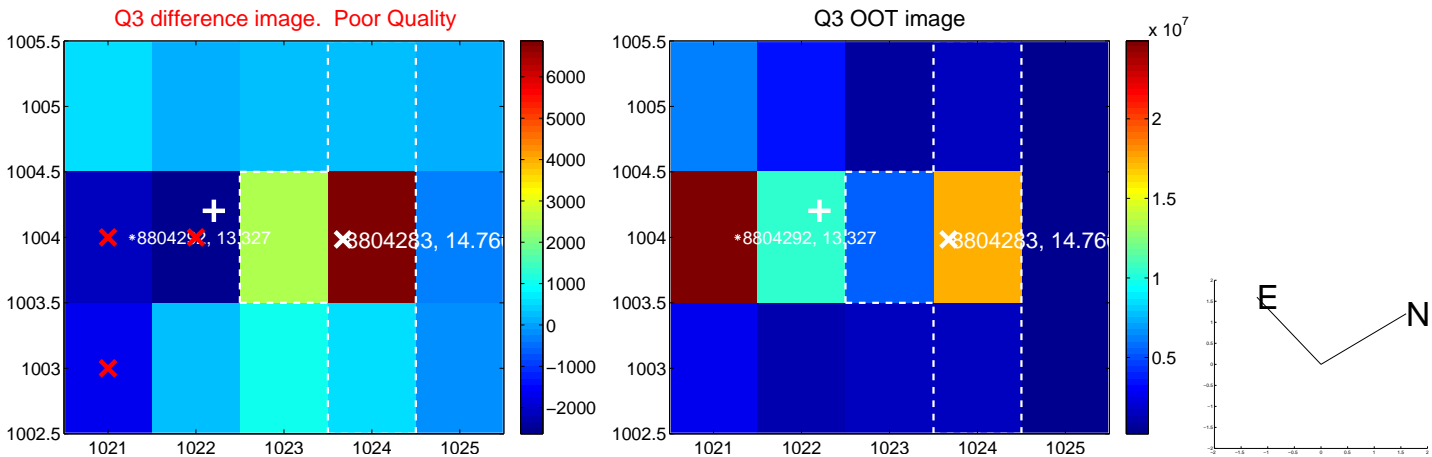
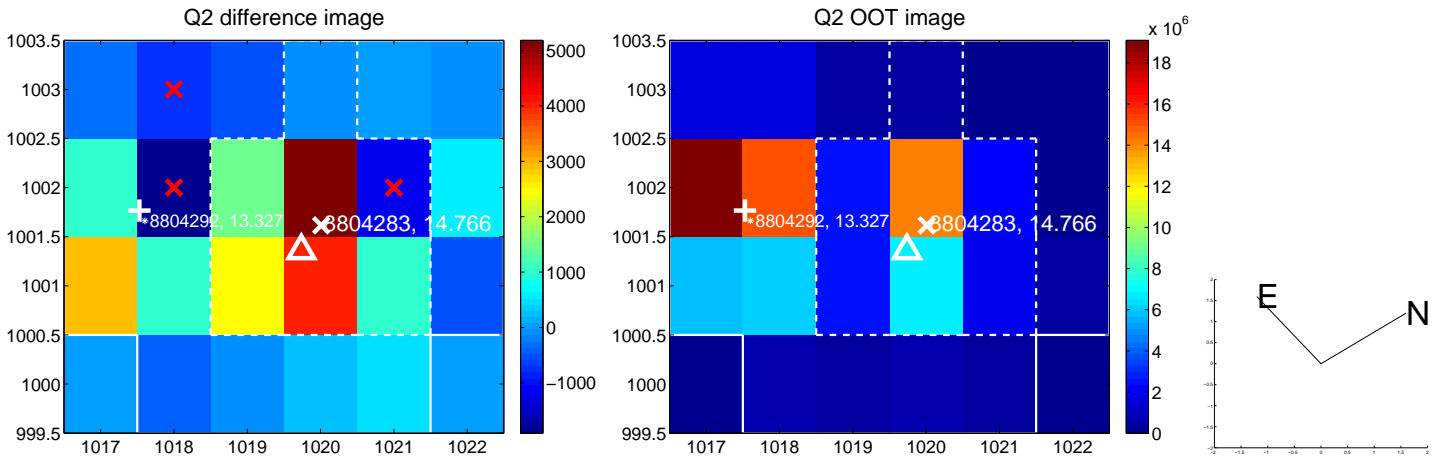
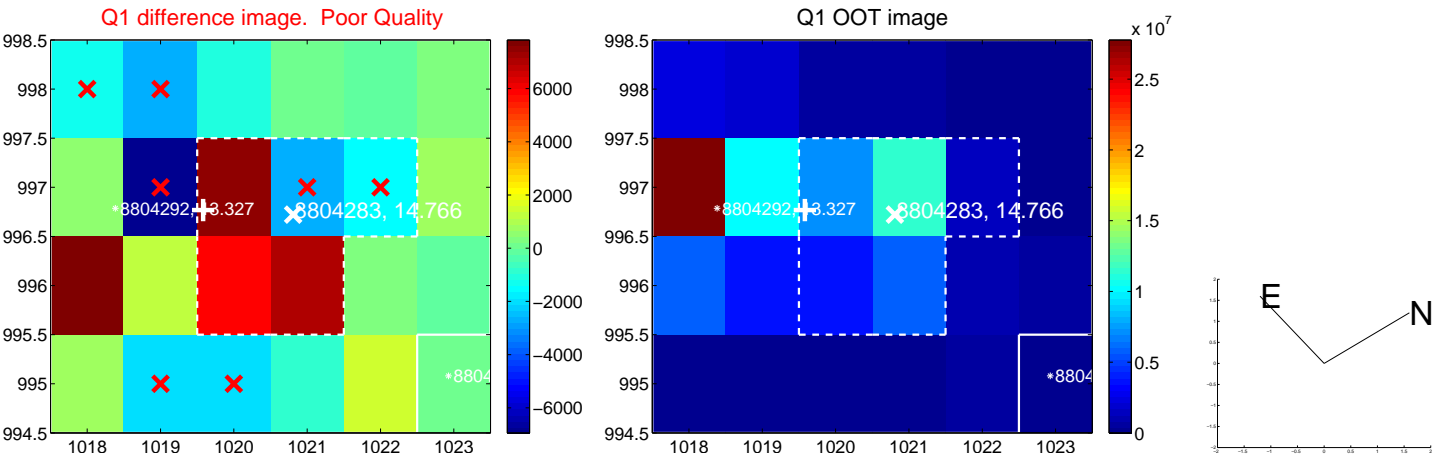
The OOT PRF centroid is offset from the target star catalog position by about 4.23 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.116 ± 0.851	6.01	-3.502 ± 0.579	3.730 ± 0.637
PRF-fit source offset from KIC position	0.148 ± 0.135	1.10	-0.063 ± 0.127	-0.134 ± 0.128
photometric centroid source offset	1.14 ± 0.22	5.16	0.83 ± 0.21	-0.78 ± 0.23

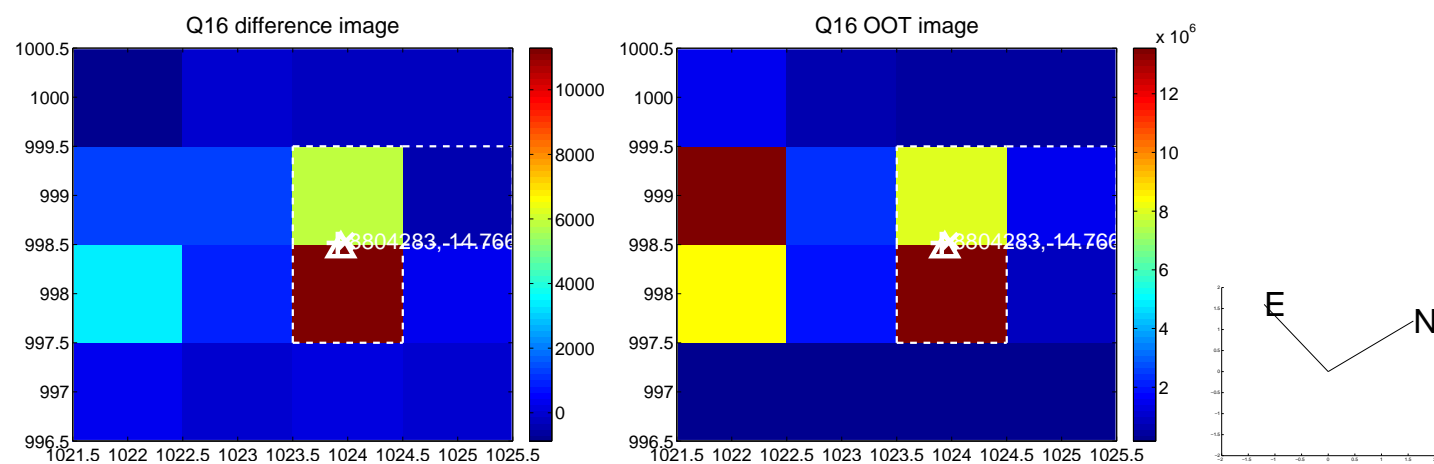
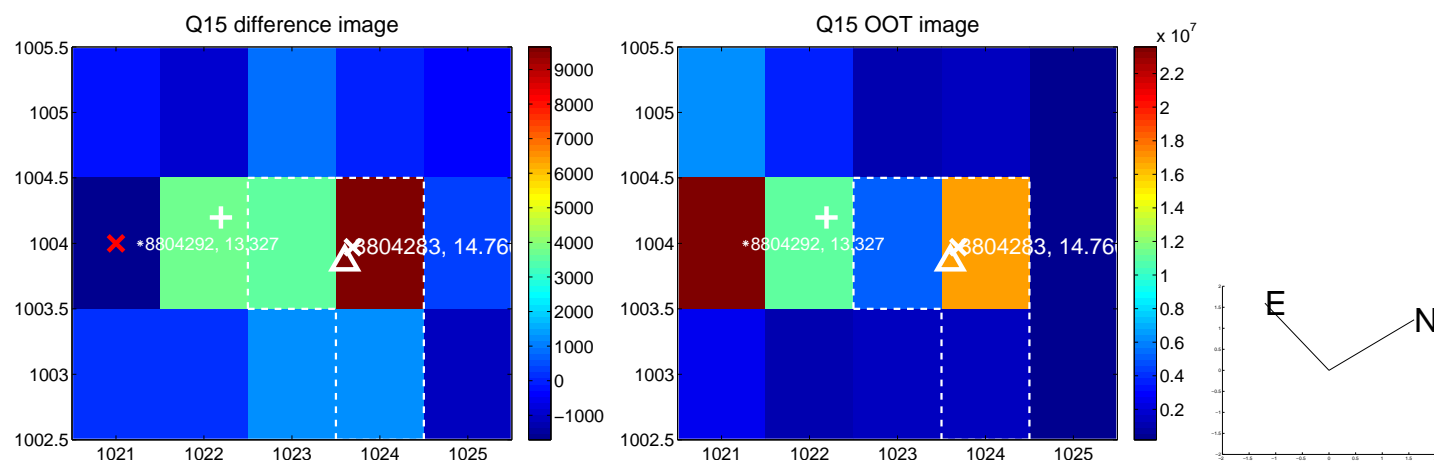
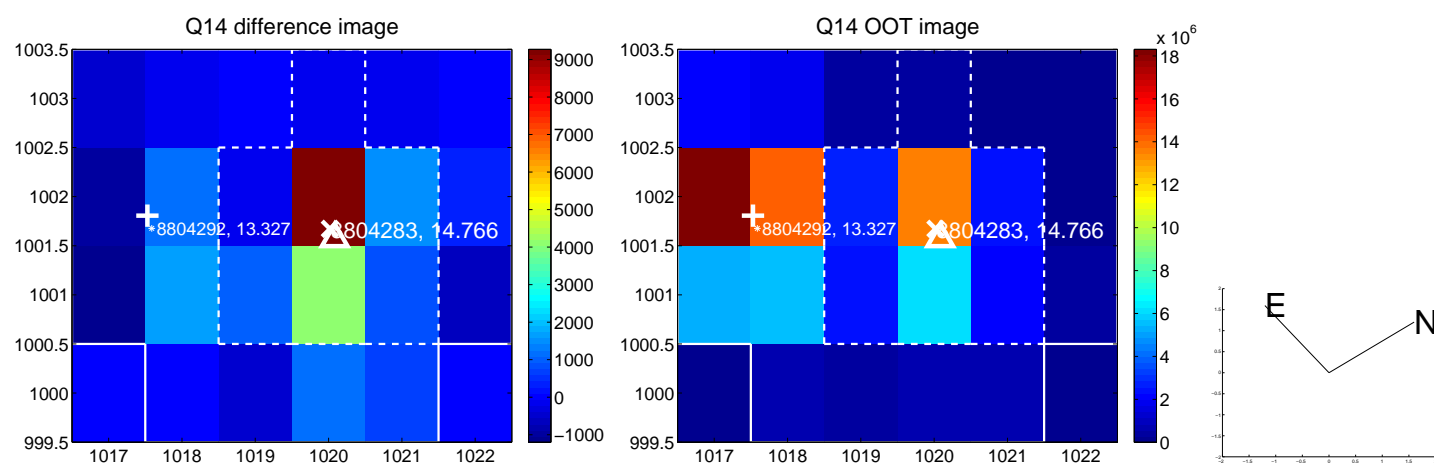
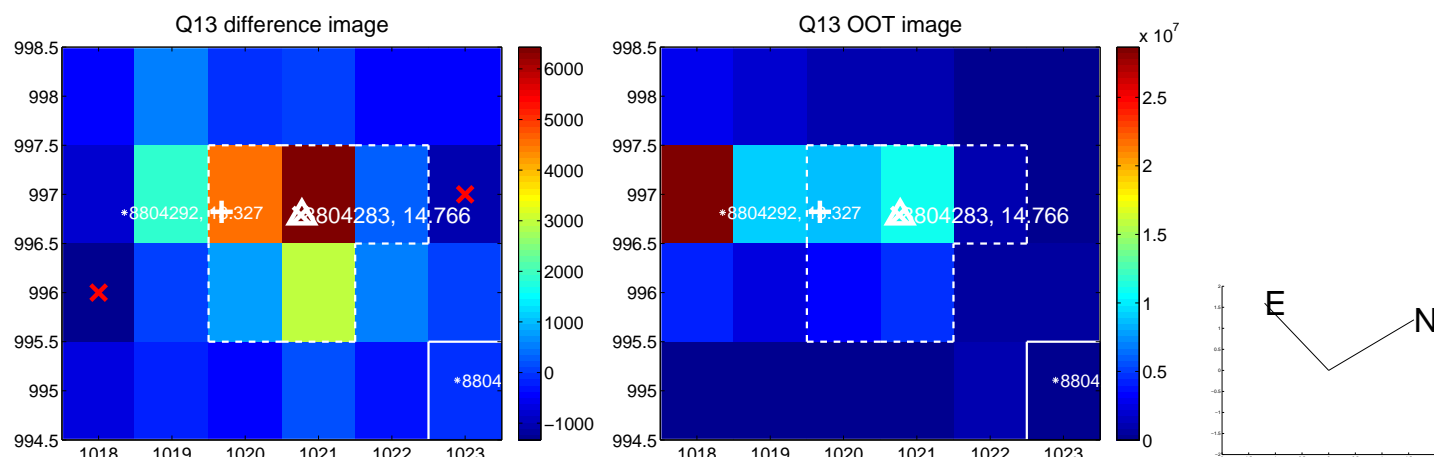


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

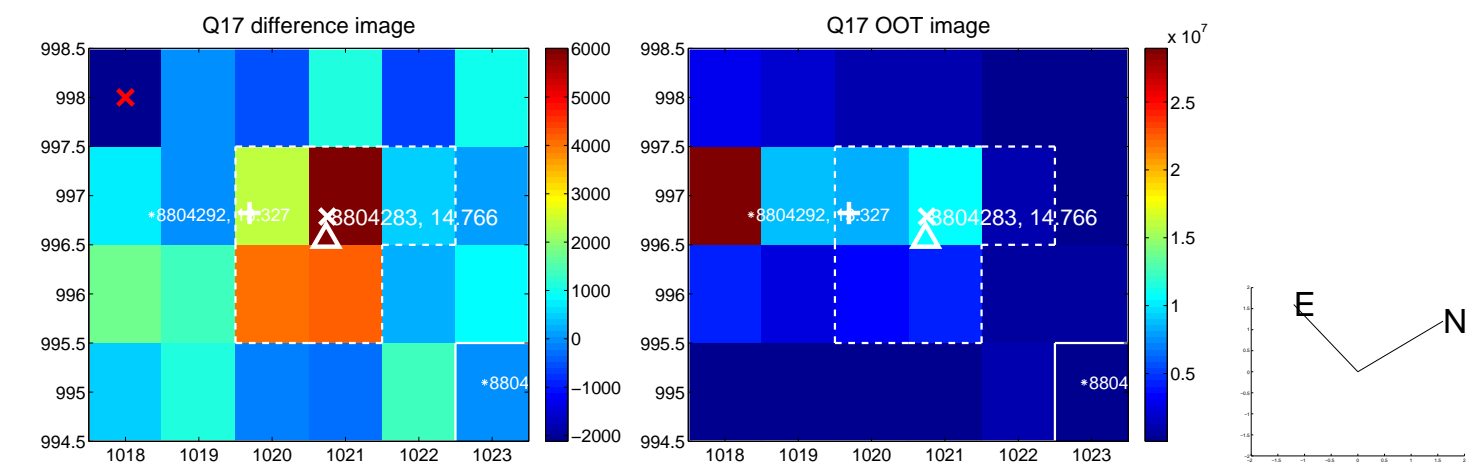
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



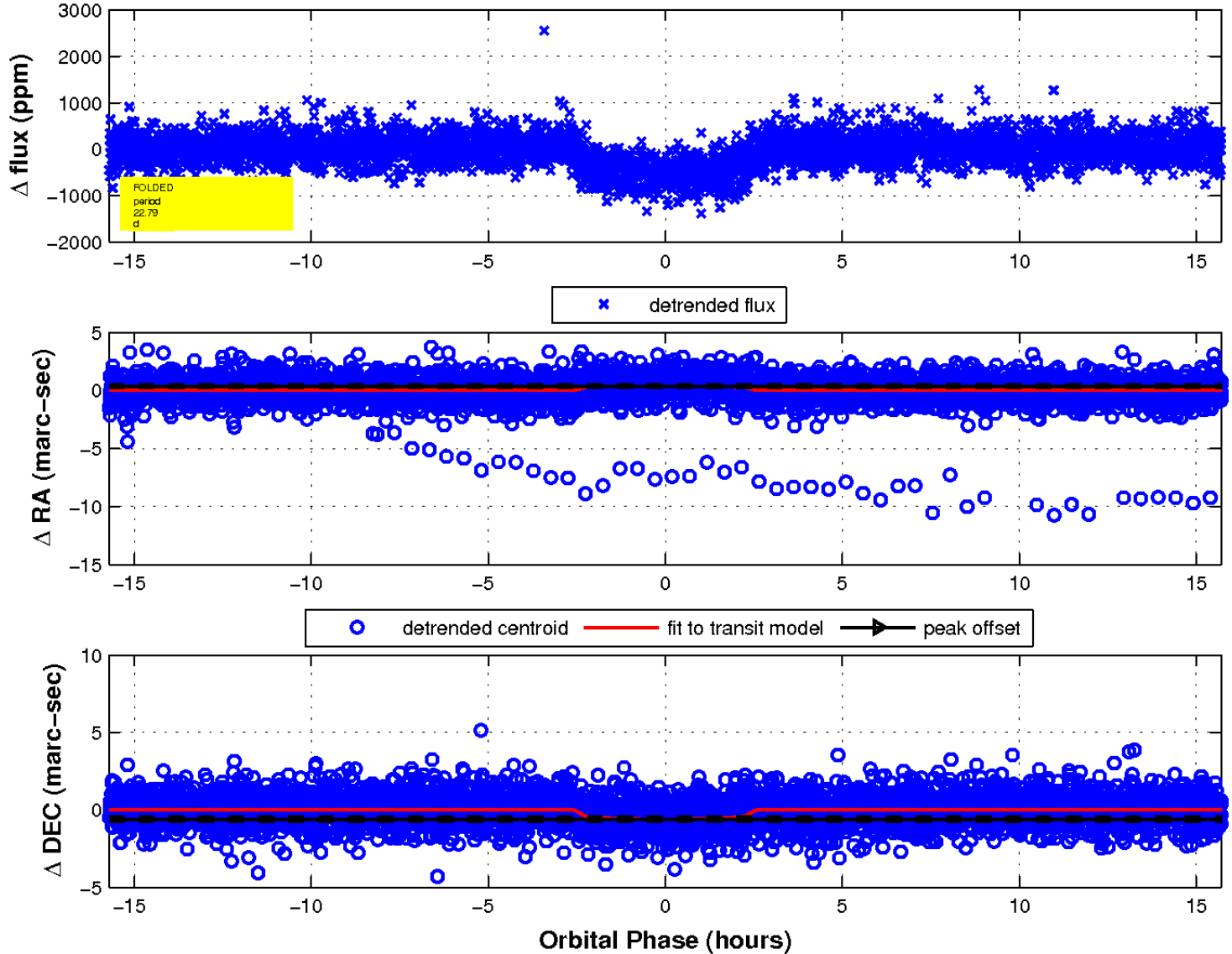
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

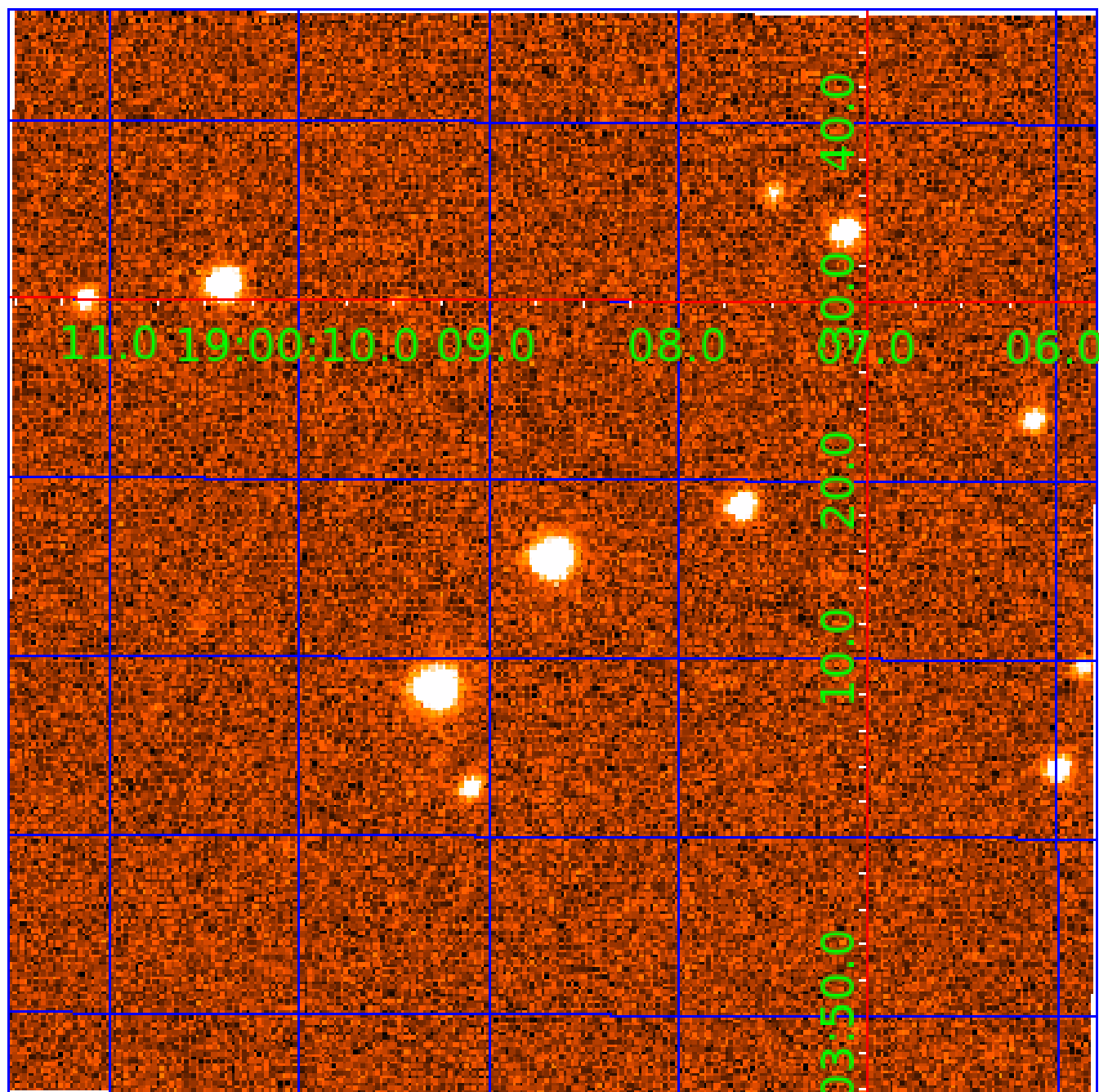


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008804283

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})
008804283-01	OBS	1276.01	22.790192	138.684801	606.2	5.239	40.1	42.8	1.05	5478	2.91	38.37
008804283-02	OBS	1276.02	13.260820	139.099405	190.9	4.365	14.7	15.8	1.05	5478	1.85	78.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008804283-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
008804283-02	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

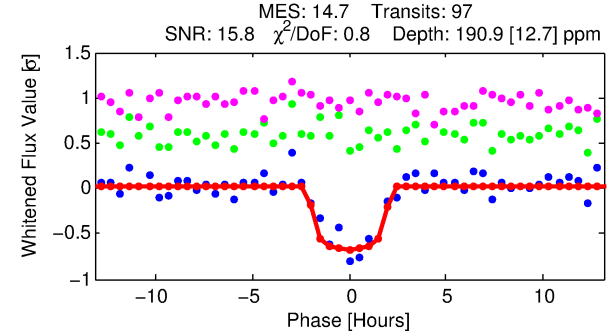
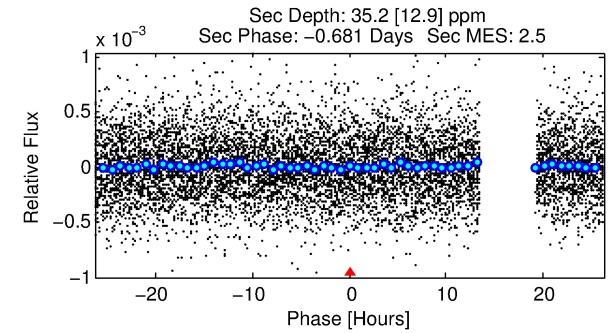
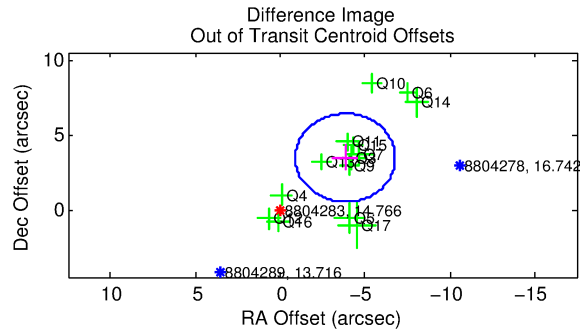
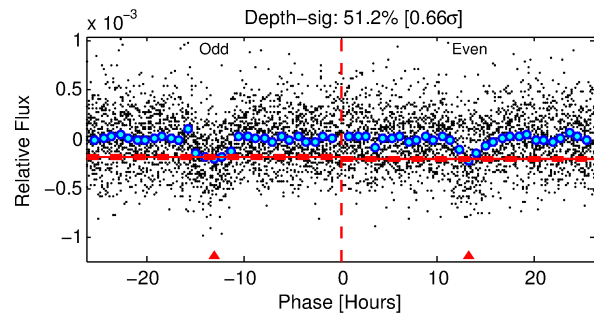
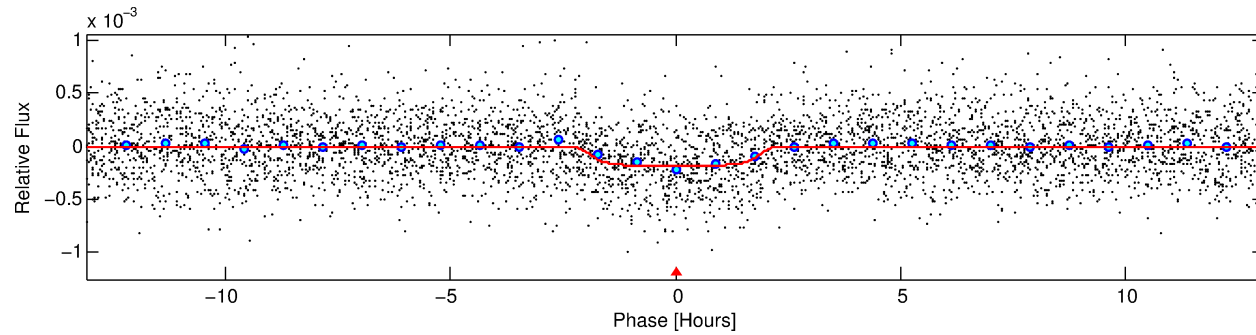
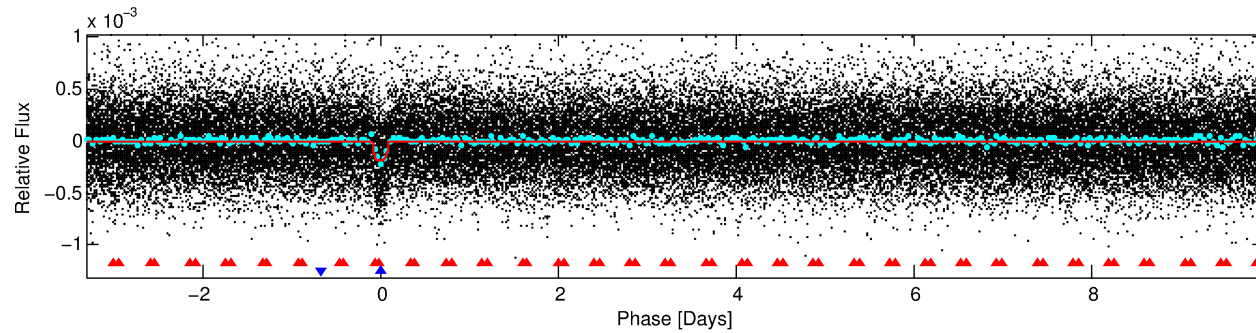
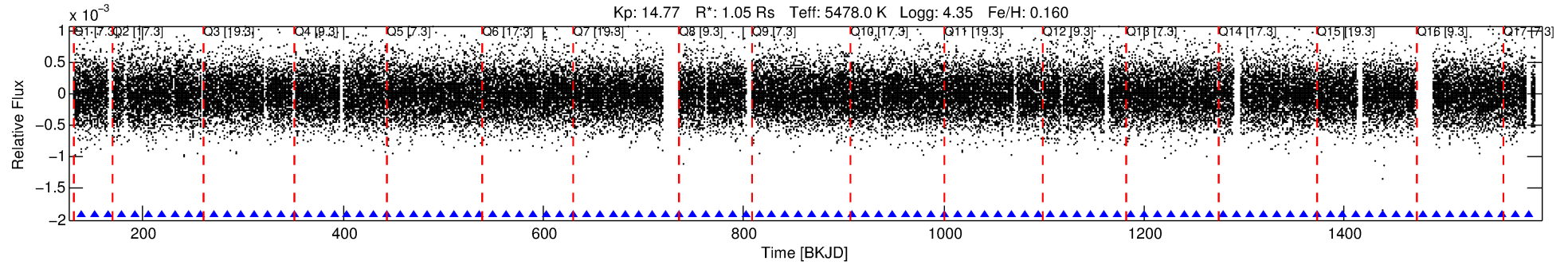
Ephemeris Match Information For 008804283-02

No Significant Match Found

DV One-Page Summary

KIC: 8804283 Candidate: 2 of 2 Period: 13.261 d

KOI: K01276.02 Corr: 0.977



DV Fit Results:

Period = 13.26082 [0.00010] d
Epoch = 139.0994 [0.0060] BKJD
Rp/R* = 0.0161 [0.0020]
a/R* = 8.97 [4.97]
b = 0.94 [0.07]
Seff = 78.99 [18.24]
Teff = 760 [44] K
Rp = 1.85 [0.35] Re
a = 0.1064 [0.0146] AU
Ag = 64.35 [32.17] [1.97 σ]
Teffp = 3329 [376] K [6.79 σ]

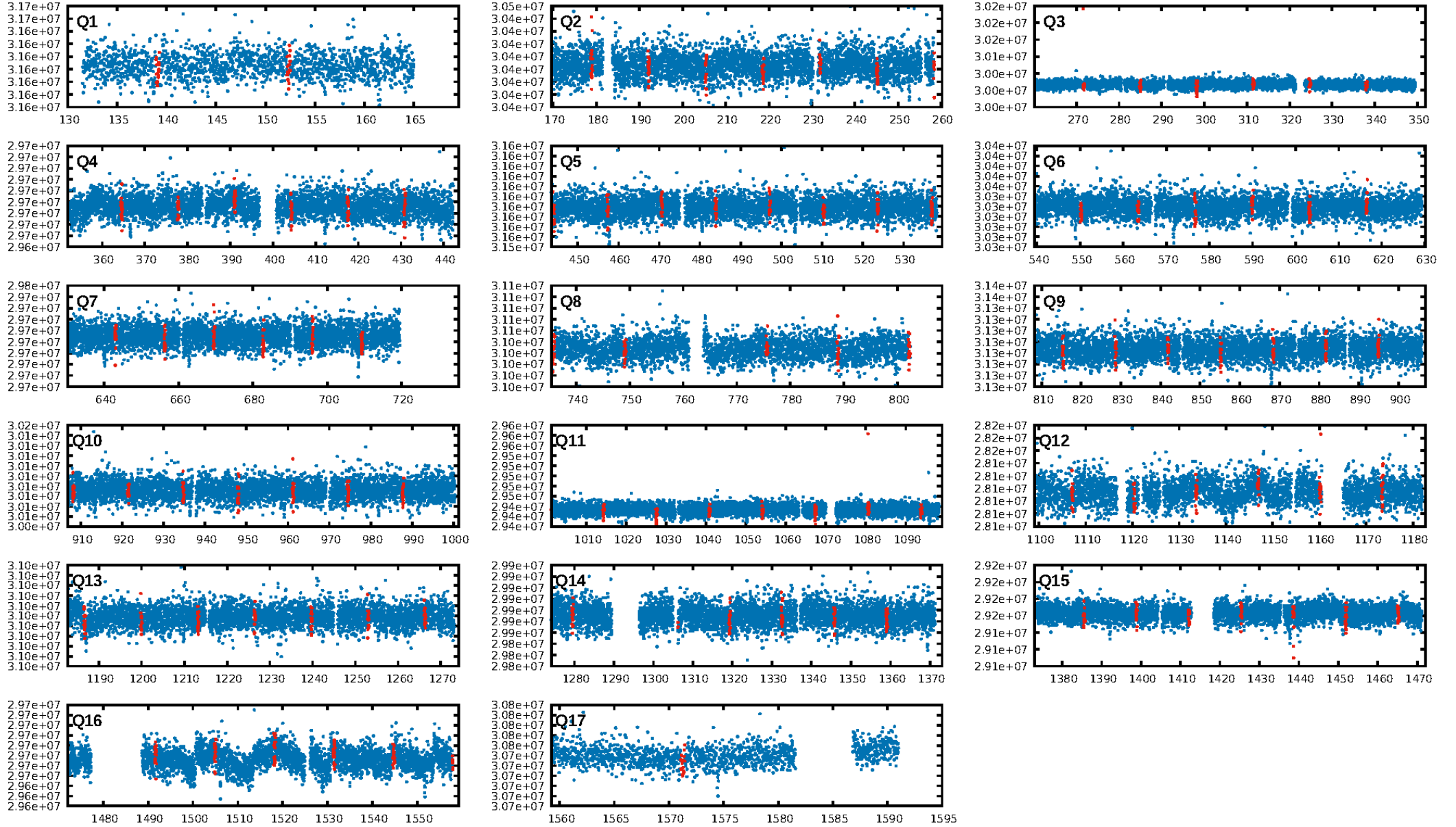
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [33.54 σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.91e-47
RollingBand-fgt: 1.00 [94/94]
GhostDiagnostic-chr: 3.401
Centroid-sig: 2.8%
Centroid-so: 1.336 arcsec [2.21 σ]
OotOffset-rm: 5.168 arcsec [5.26 σ]
KicOffset-rm: 0.362 arcsec [0.85 σ]
OotOffset-st: 3/4/3/4 [14]
KicOffset-st: 3/4/3/4 [14]
DiffImageQuality-fgm: 0.71 [10/14]
DiffImageOverlap-fno: 1.00 [17/17]

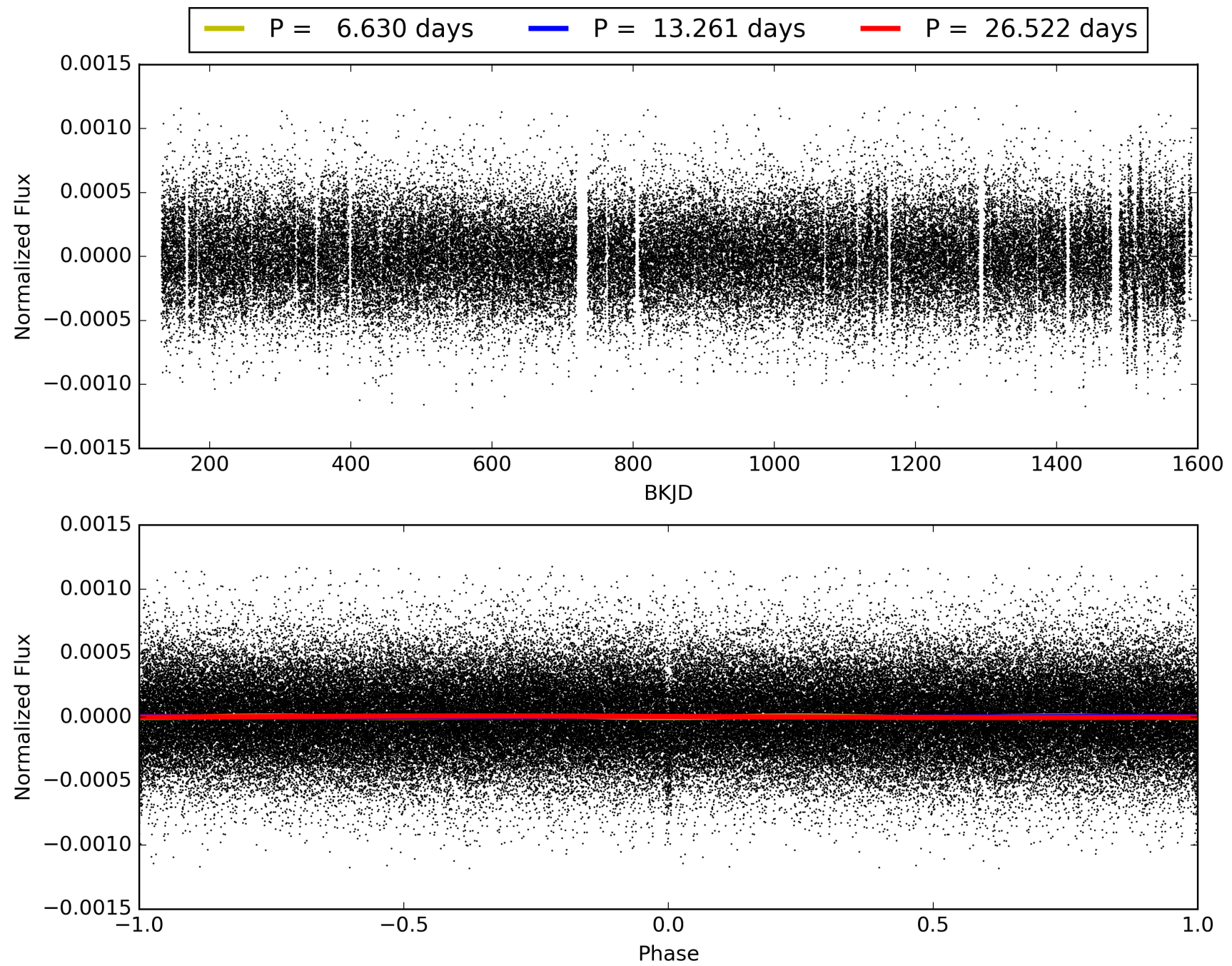
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:13:34 Z

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

TCE 008804283-02, PDC Light Curves

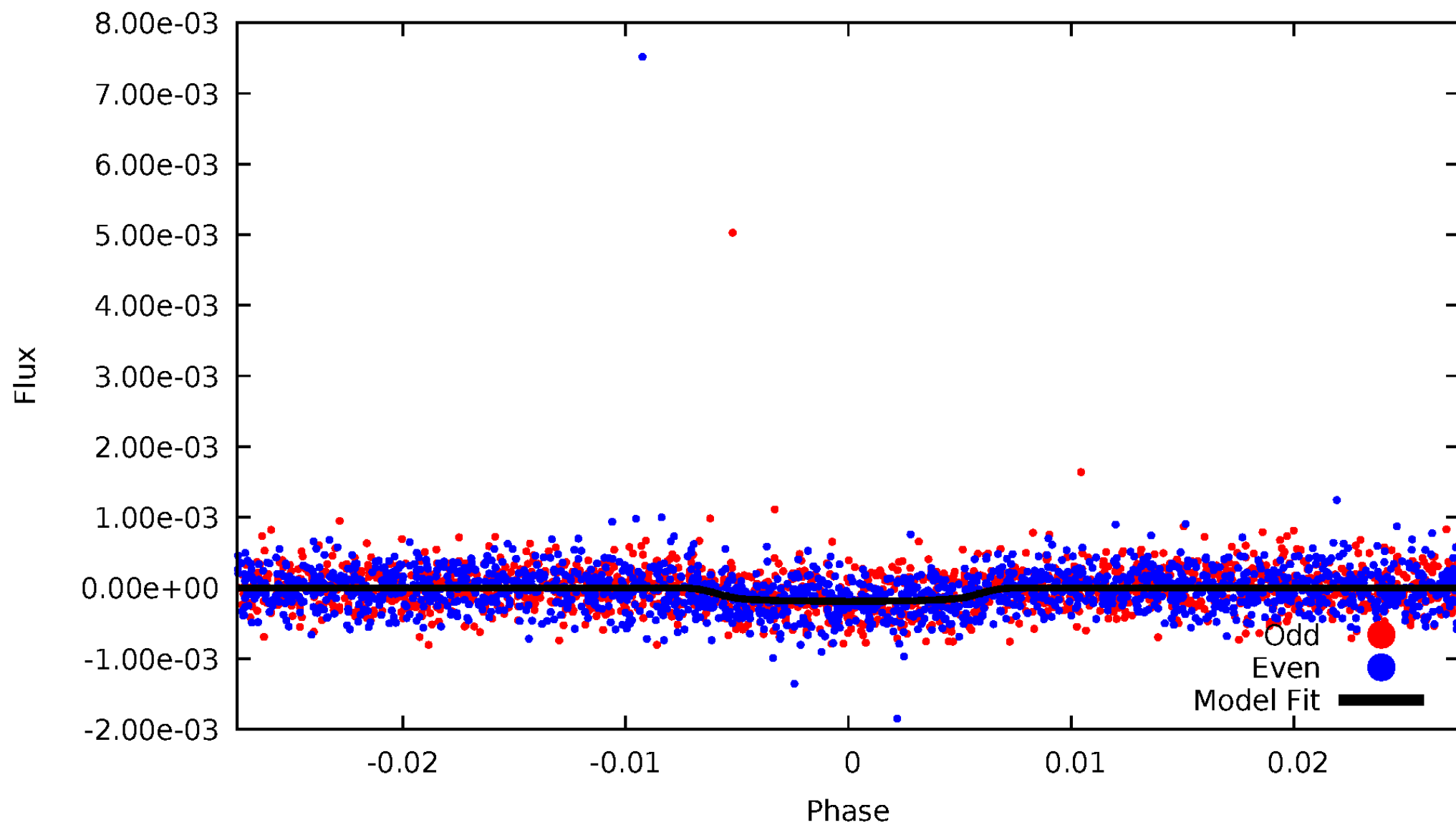


TCE 008804283-02



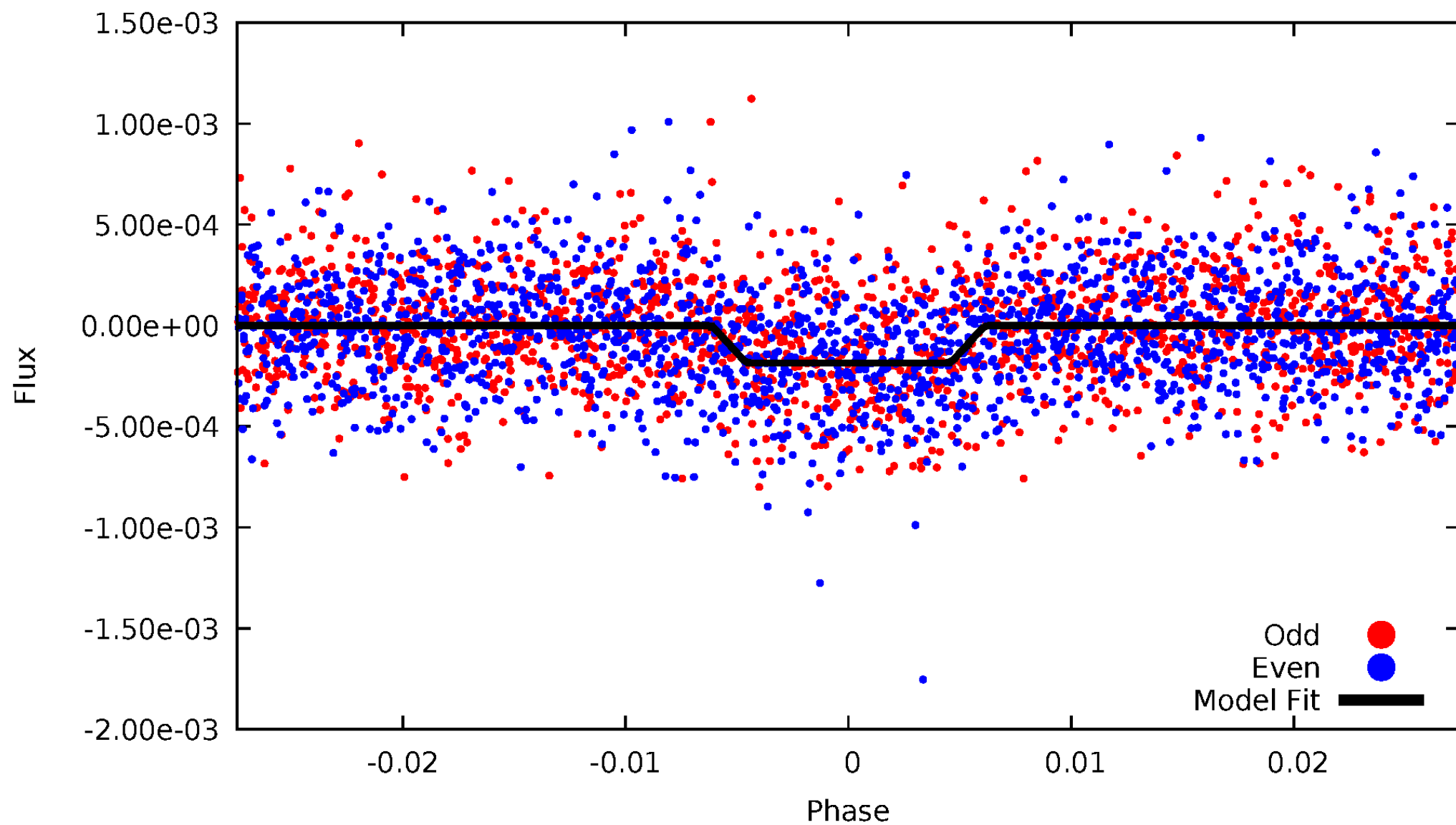
DV Odd/Even

TCE 008804283-02



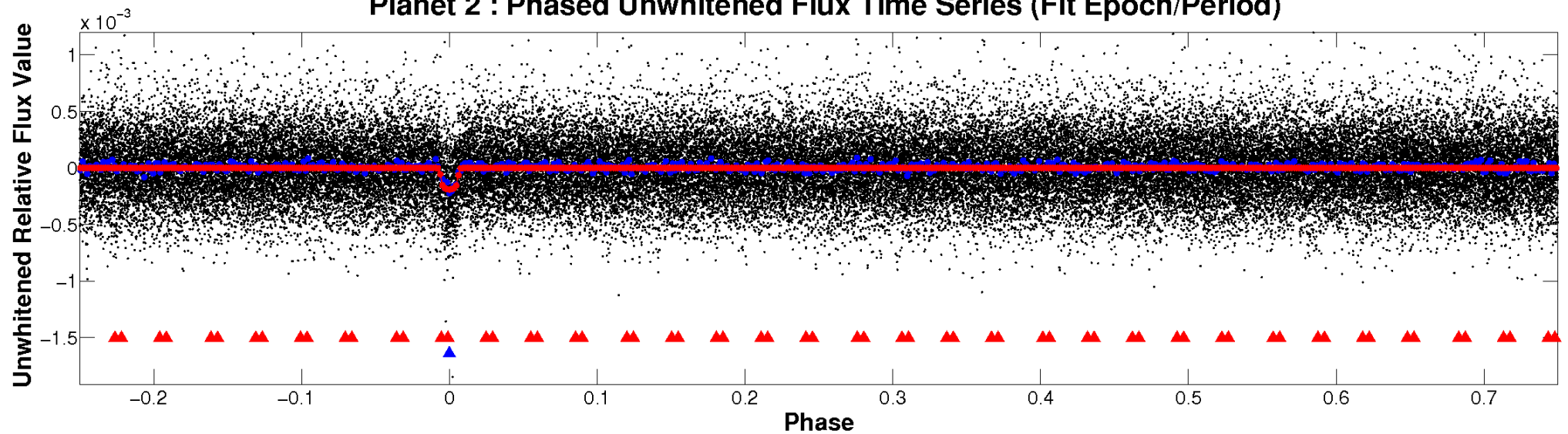
ALT Odd/Even

TCE 008804283-02

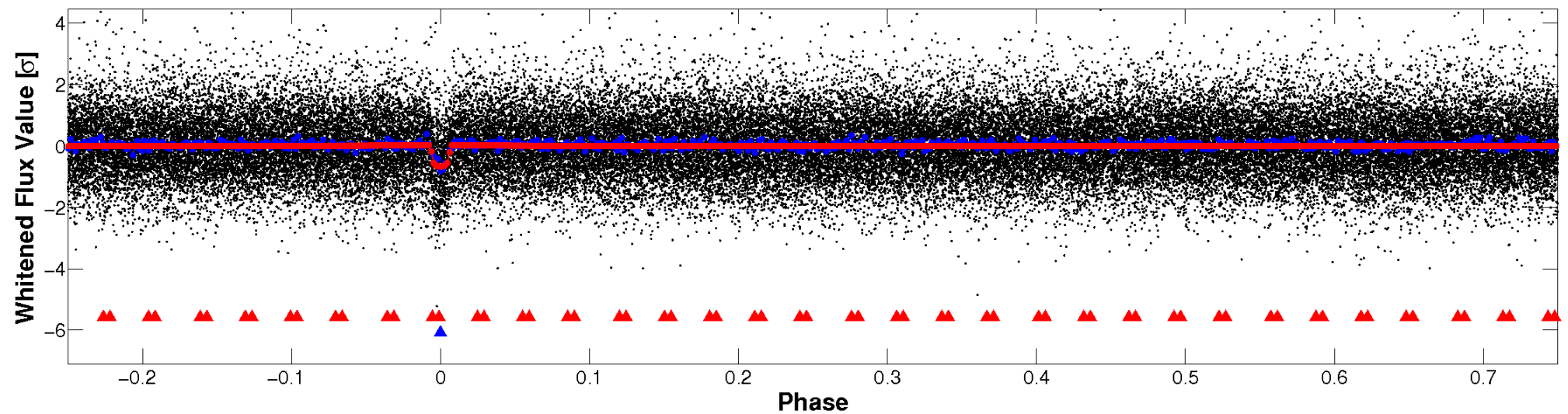


Non-Whitened Vs. Whitened Light Curve

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

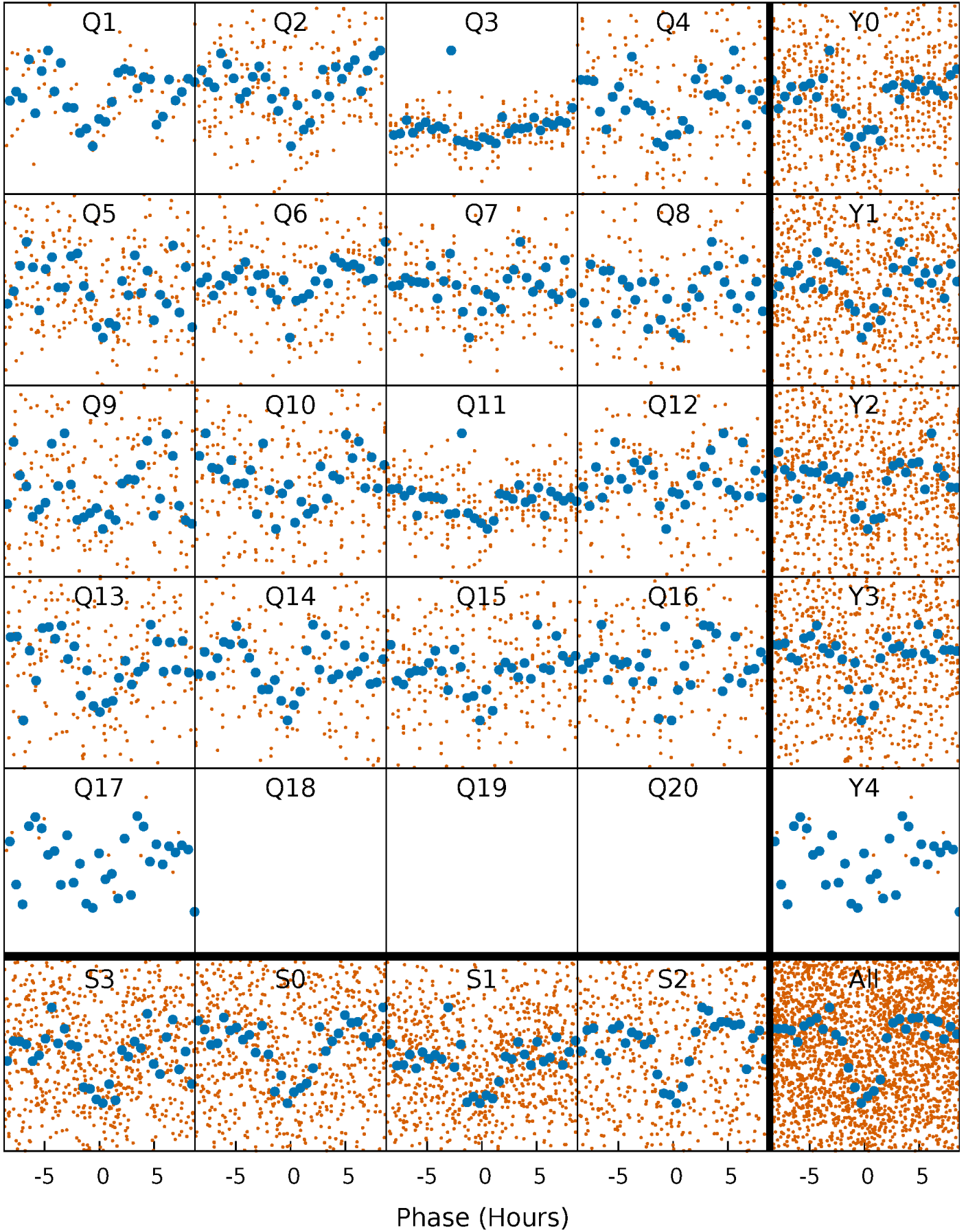


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



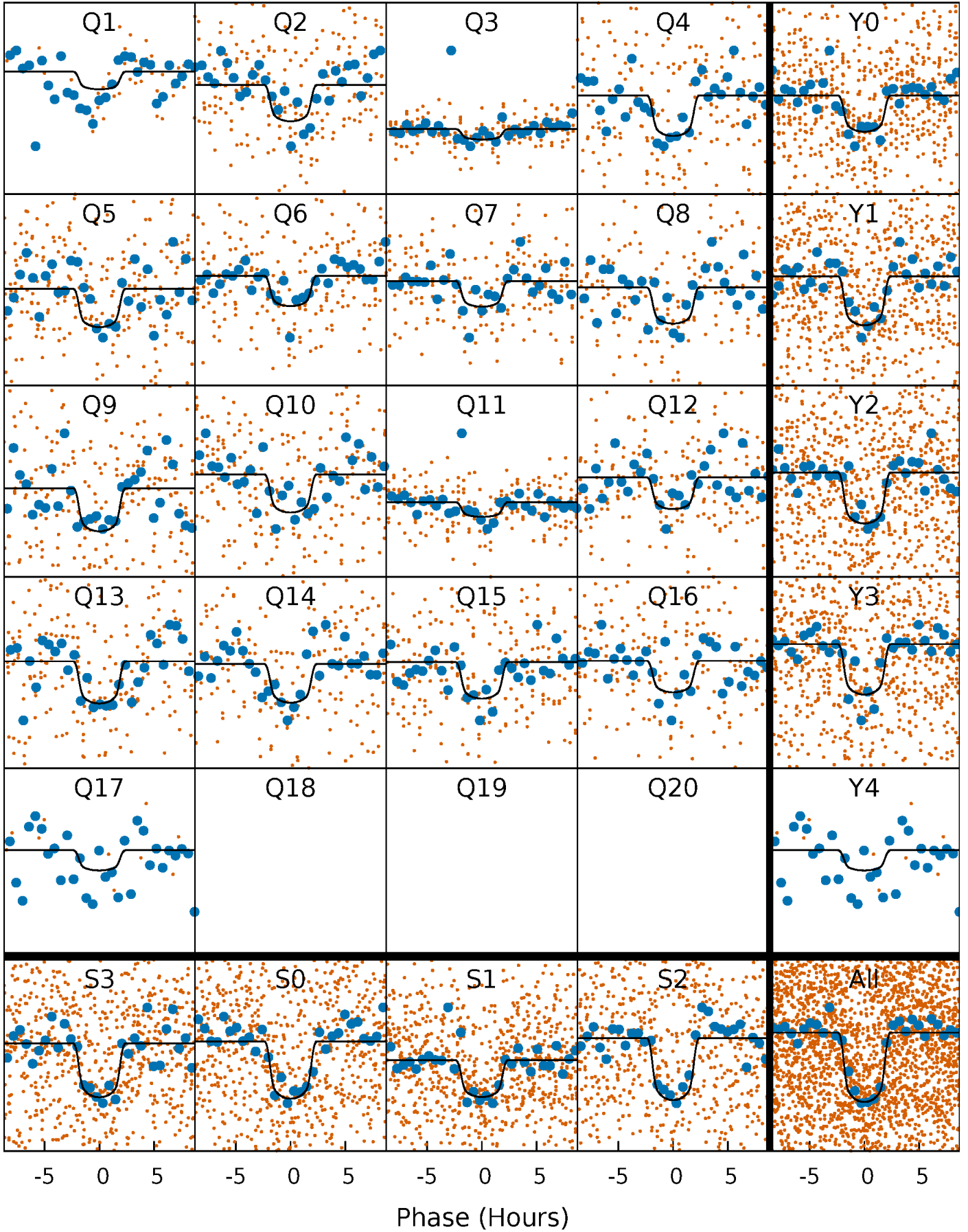
PDC Quarter-Phased Transit Curves

TCE 008804283-02 P= 13.260820 Days $T_0=139.099405$ (BKJD)



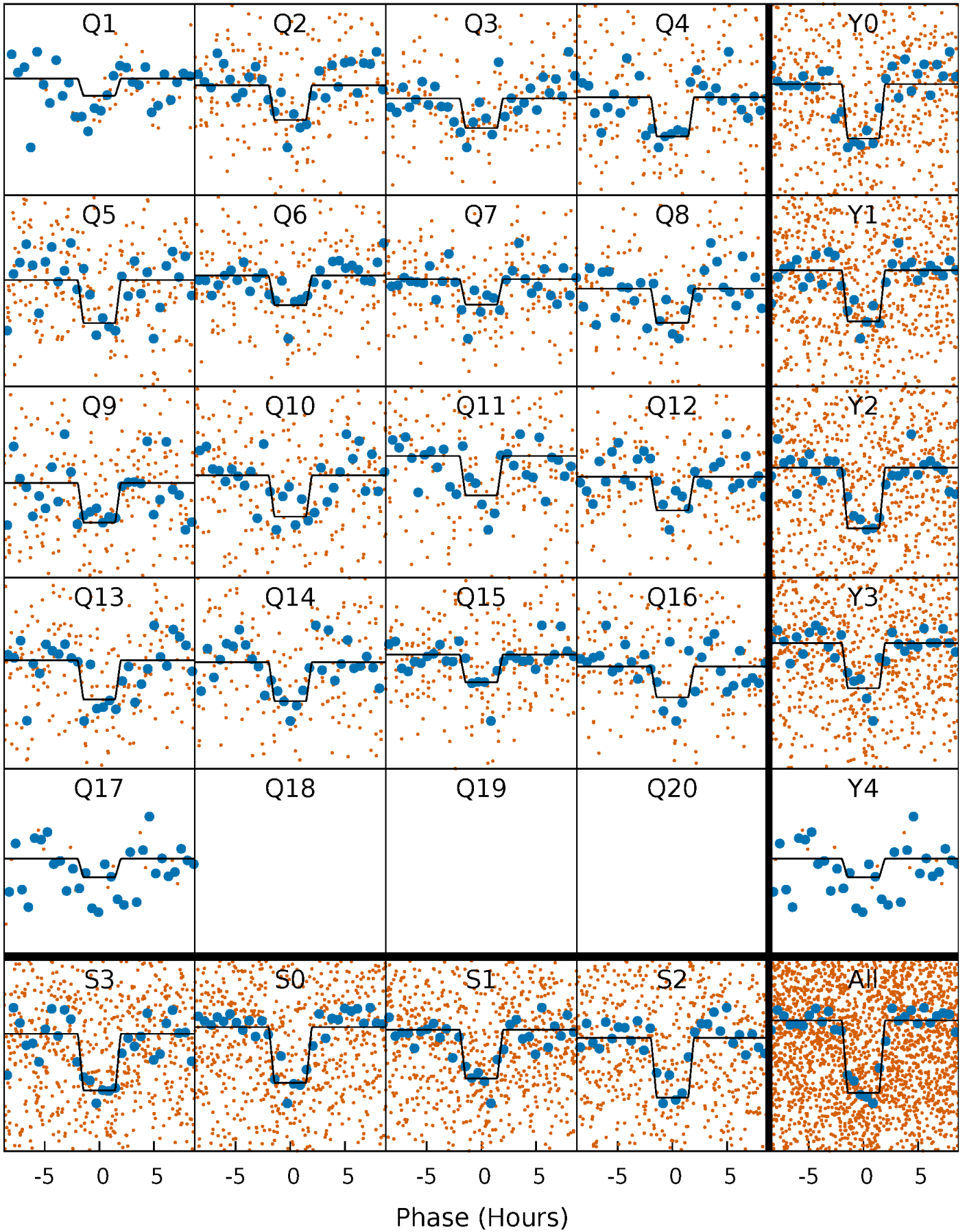
DV Quarter-Phased Transit Curves

TCE 008804283-02 P= 13.260820 Days $T_0=139.099405$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

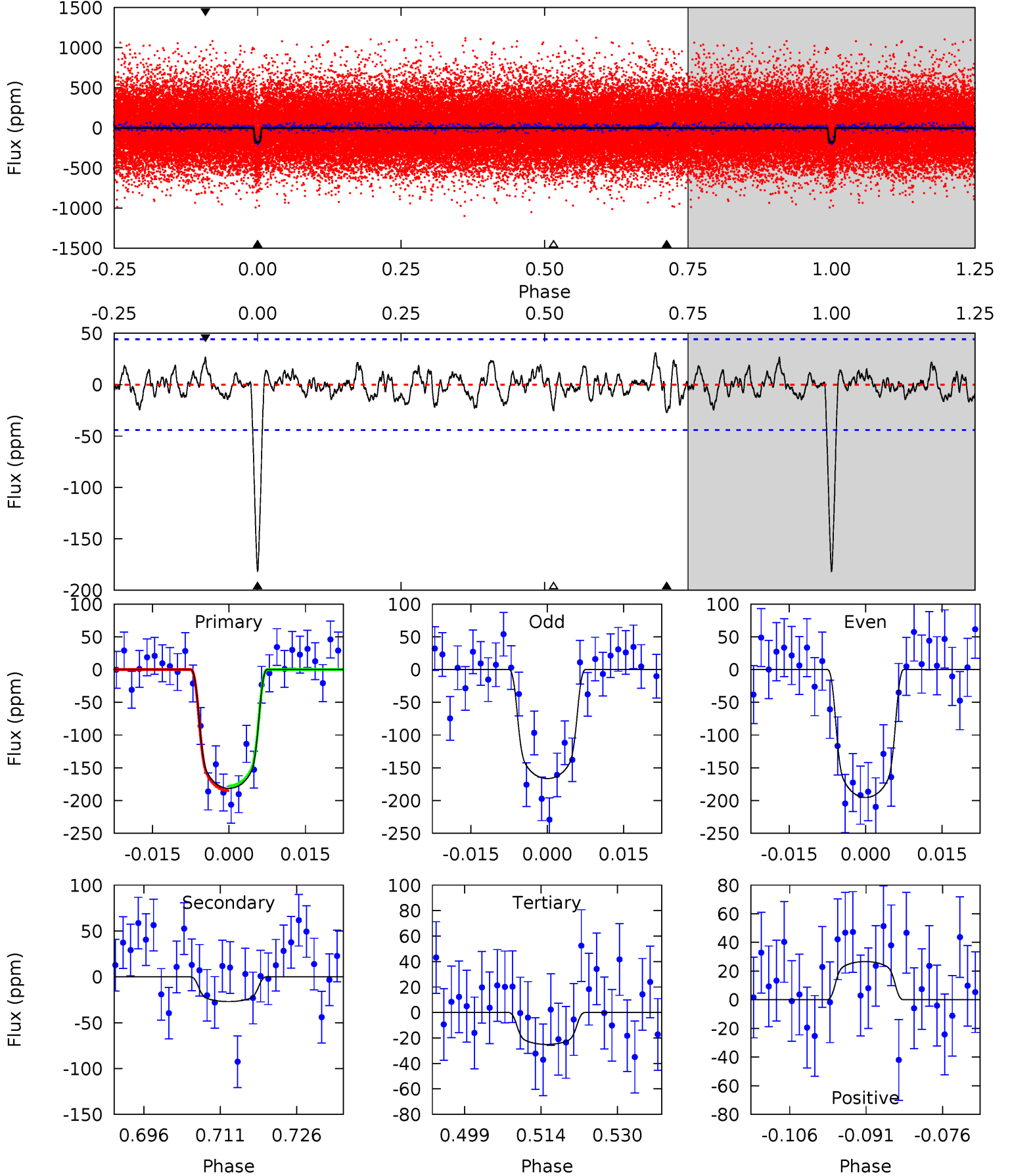
TCE 008804283-02 P= 13.260512 Days $T_0=139.114263$ (BKJD)



DV Model-Shift Uniqueness Test

008804283-02, $P = 13.260820$ Days, $E = 125.838585$ Days

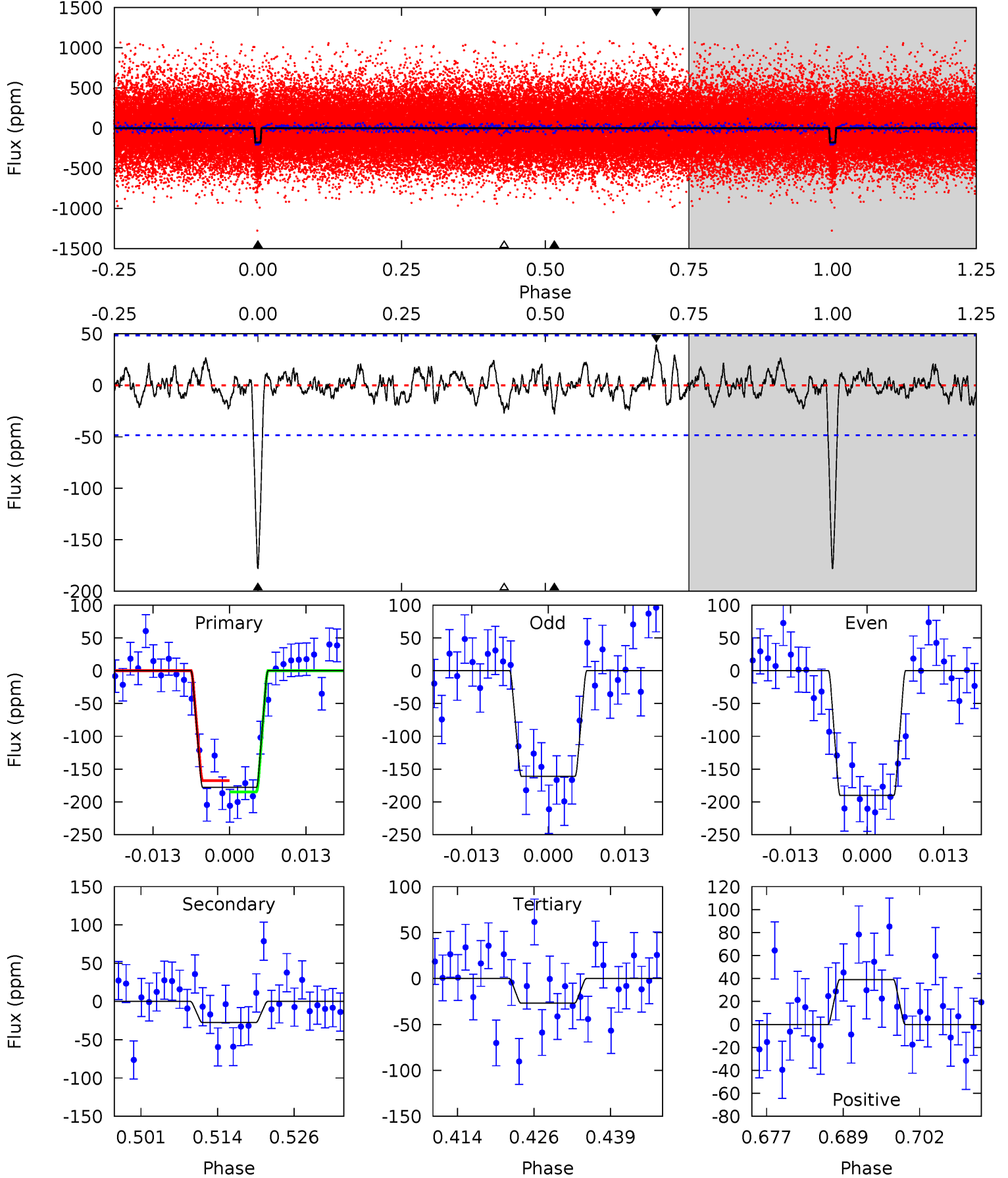
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	3.02	2.81	2.99	4.95	2.43	1.08	17.5	17.3	0.21	0.03	1.62	0.96	0.15	0.40



Alt Model-Shift Uniqueness Test

008804283-02, P = 13.260512 Days, E = 125.853751 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	2.82	2.75	4.01	4.98	2.50	1.07	15.5	14.3	0.07	-1.19	1.49	0.99	0.18	0.88



Stellar Parameters For KIC 008804283

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5478^{+82}_{-74}	$4.354^{+0.132}_{-0.096}$	$0.160^{+0.150}_{-0.150}$	$1.053^{+0.147}_{-0.147}$	$0.914^{+0.061}_{-0.042}$	$1.102^{+0.592}_{-0.326}$
	+1%/-1%	+3%/-2%	+94%/-94%	+14%/-14%	+7%/-5%	+54%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008804283-02 / KOI 1276.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-27 ± 9	$1.82^{+0.29}_{-0.28}$	1058^{+43}_{-47}	3565^{+232}_{-242}	51^{+27}_{-19}
Alt.	-27 ± 10	$1.56^{+0.27}_{-0.26}$	1059^{+43}_{-43}	3770^{+317}_{-318}	69^{+46}_{-29}

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

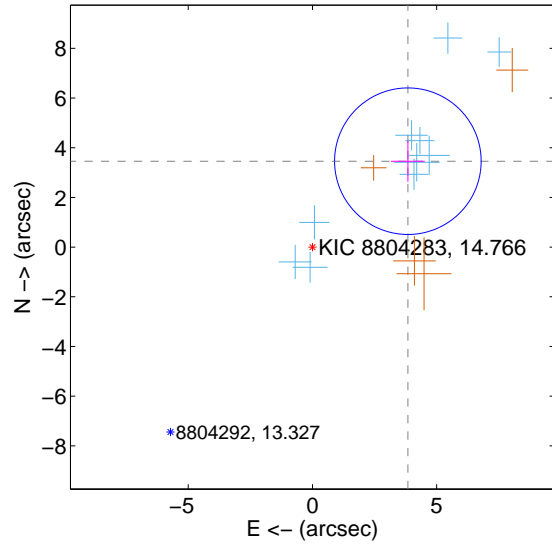
Supplemental centroid analysis for 008804283-02. Kepler magnitude: 14.77. Transit SNR 15.78

There are 10 quarters with good PRF difference image offsets

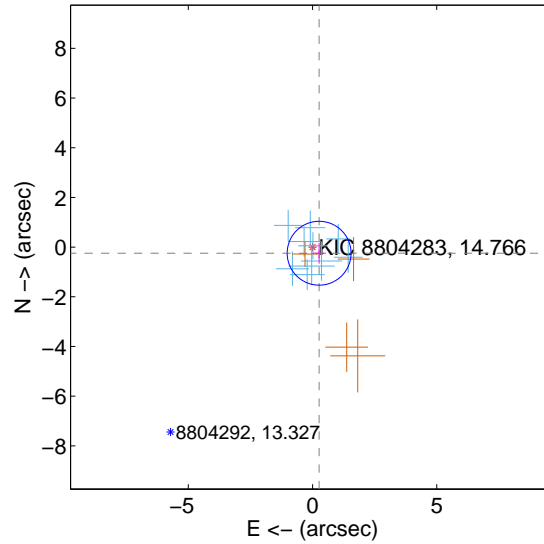
The OOT PRF centroid is offset from the target star catalog position by about 4.25 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.168 ± 0.983	5.26	-3.841 ± 0.681	3.457 ± 0.828
PRF-fit source offset from KIC position	0.362 ± 0.428	0.85	-0.265 ± 0.271	-0.247 ± 0.418
photometric centroid source offset	1.34 ± 0.60	2.21	0.83 ± 0.56	-1.05 ± 0.63

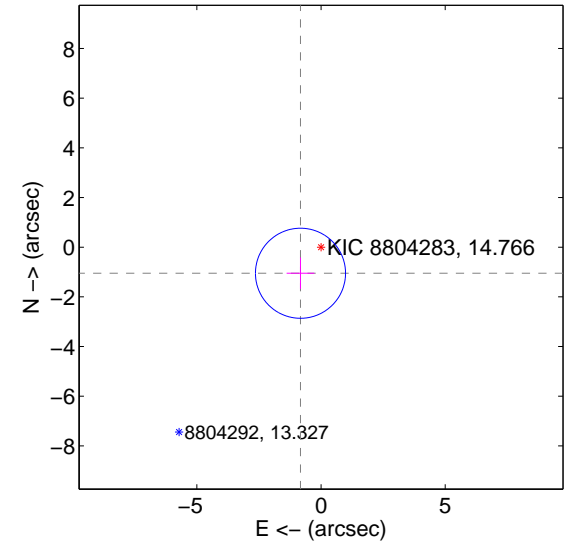
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

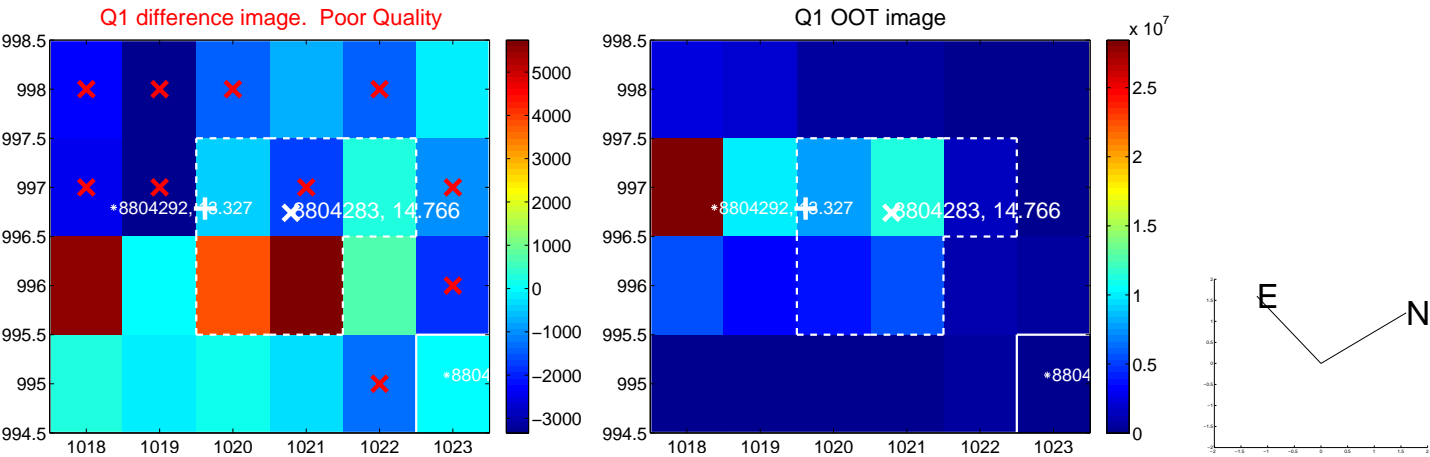


offset from photometric centroids

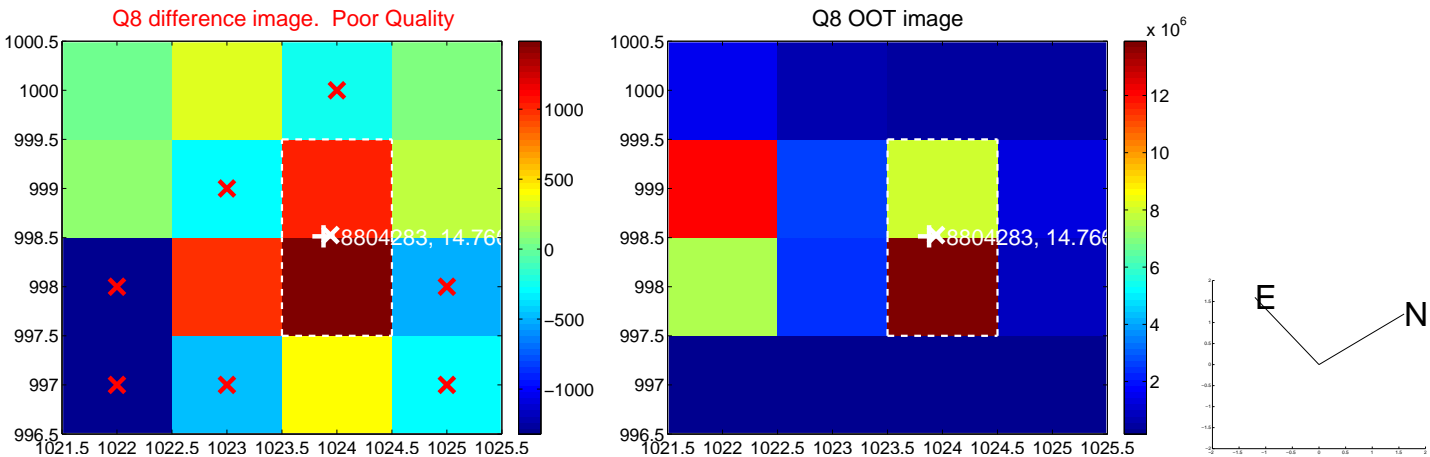
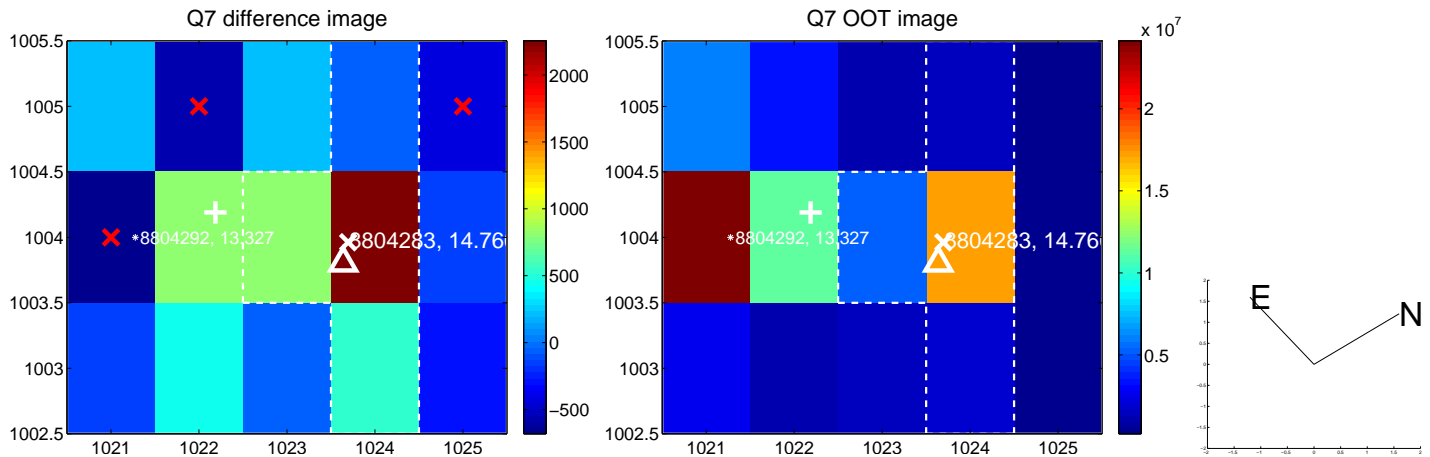
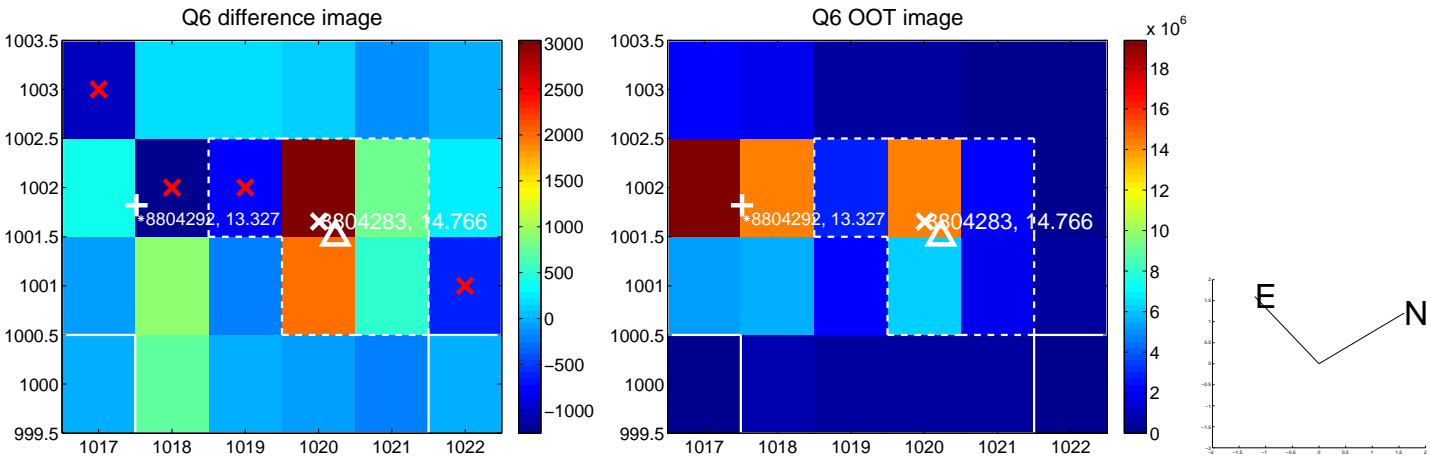
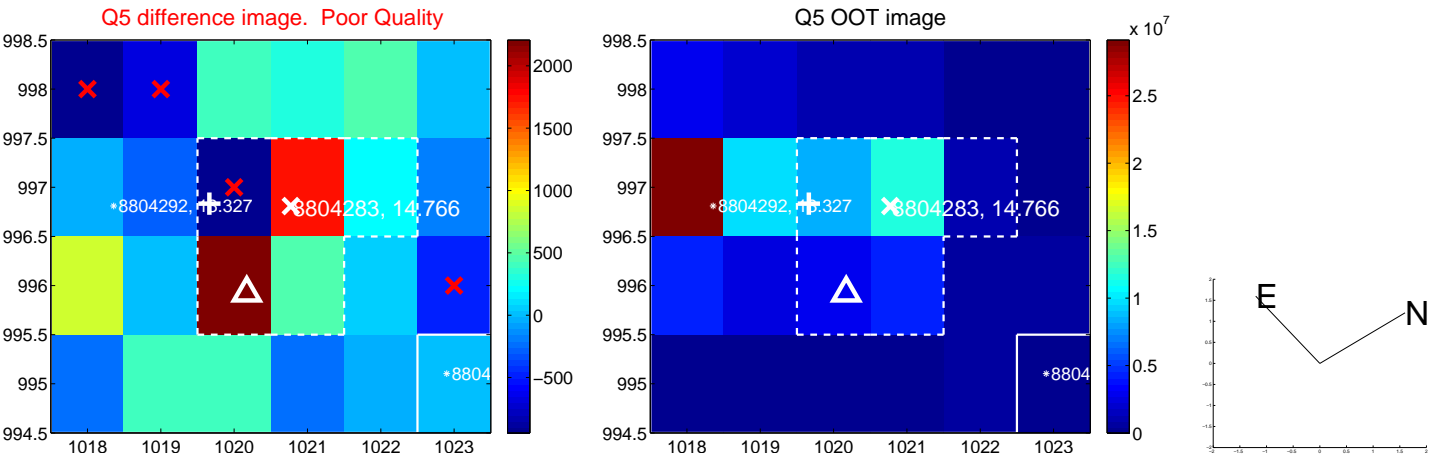


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

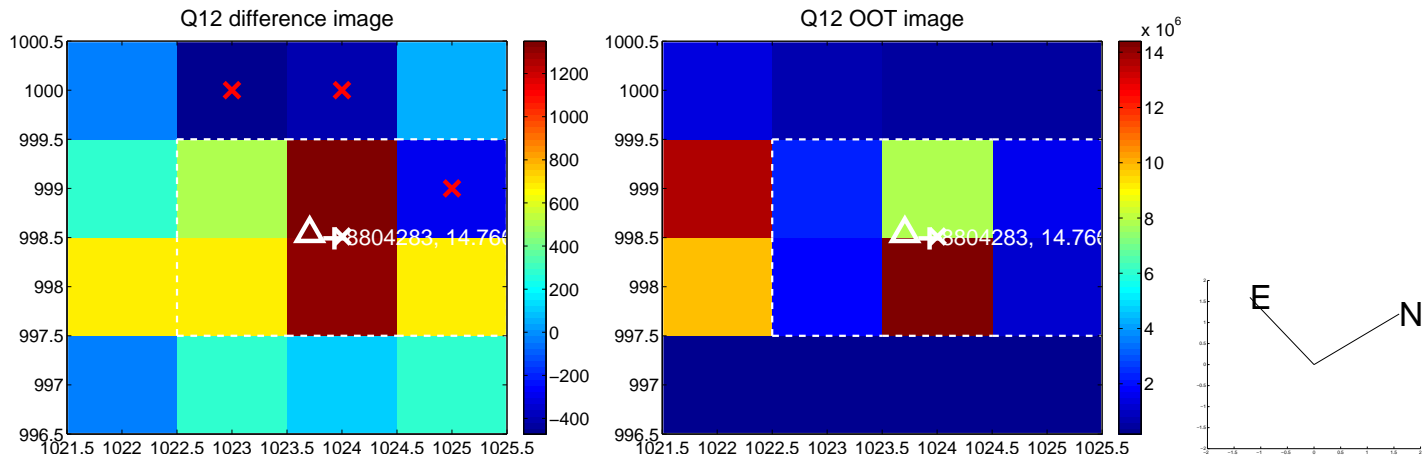
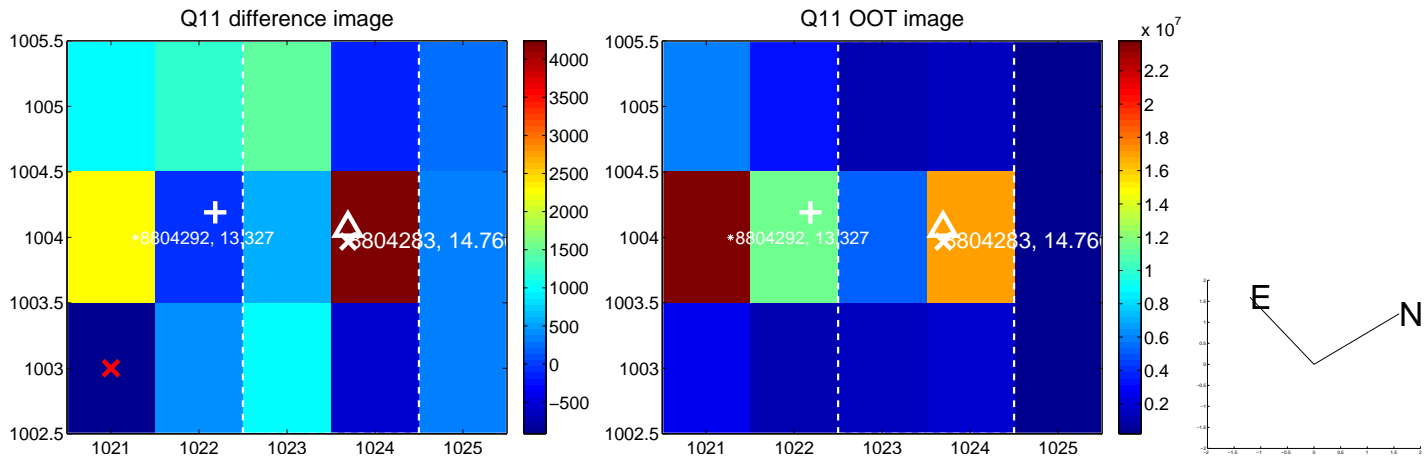
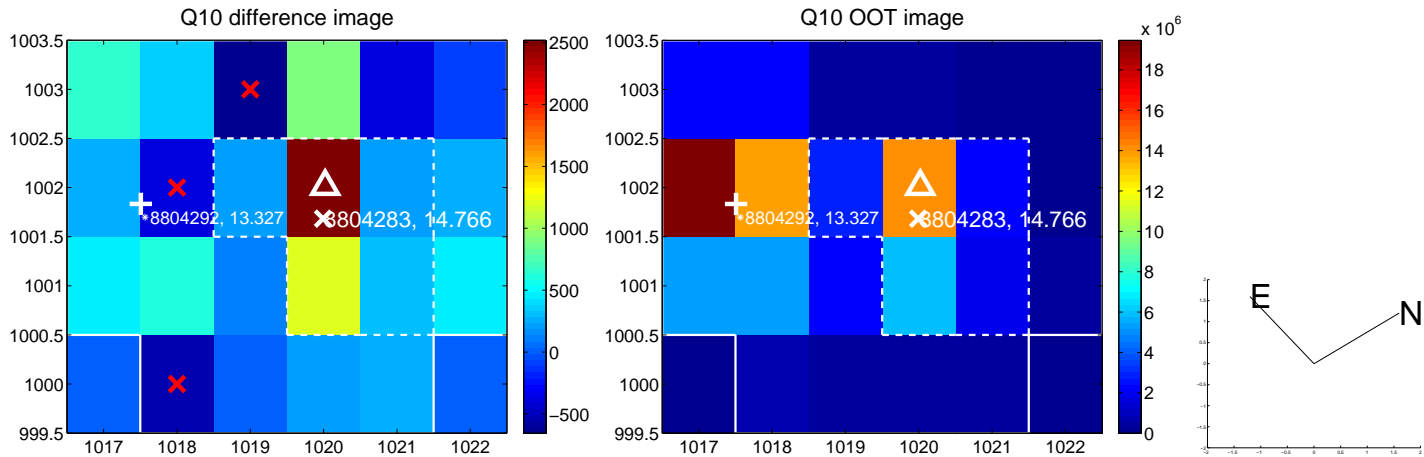
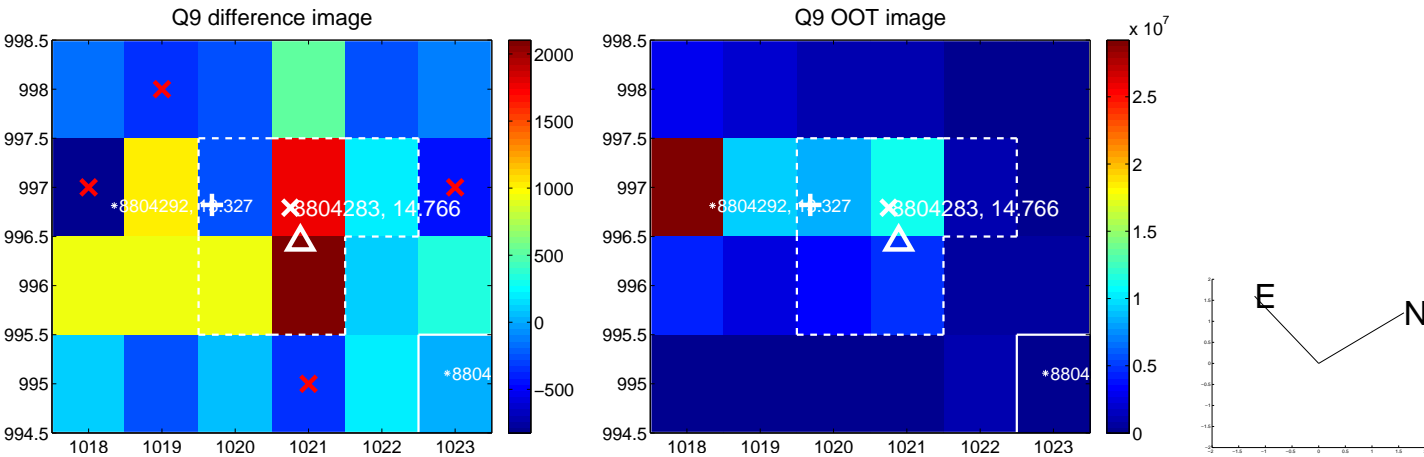
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



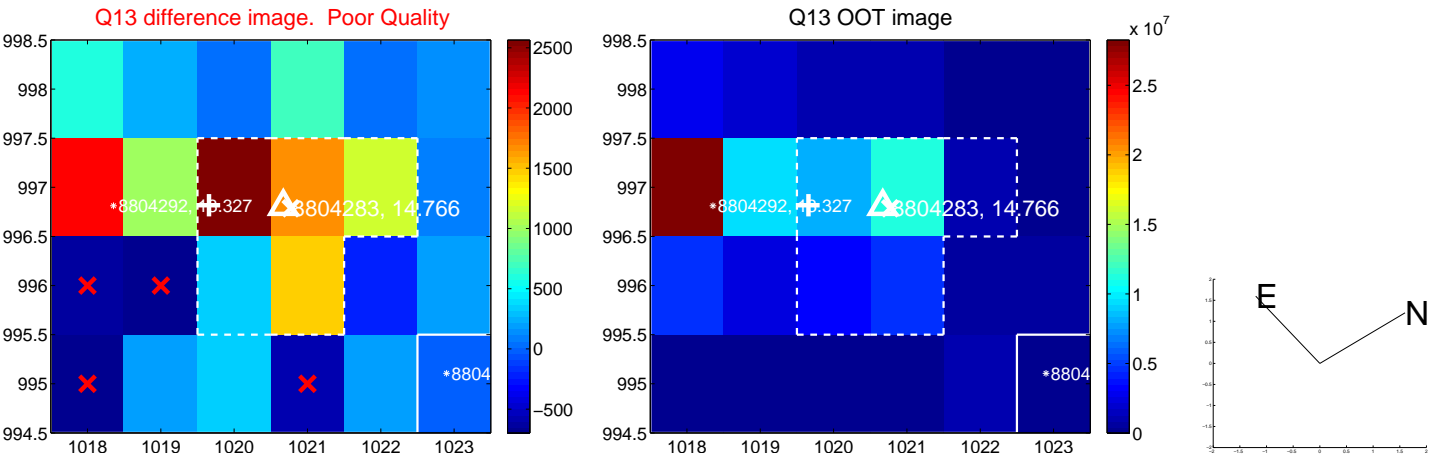
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



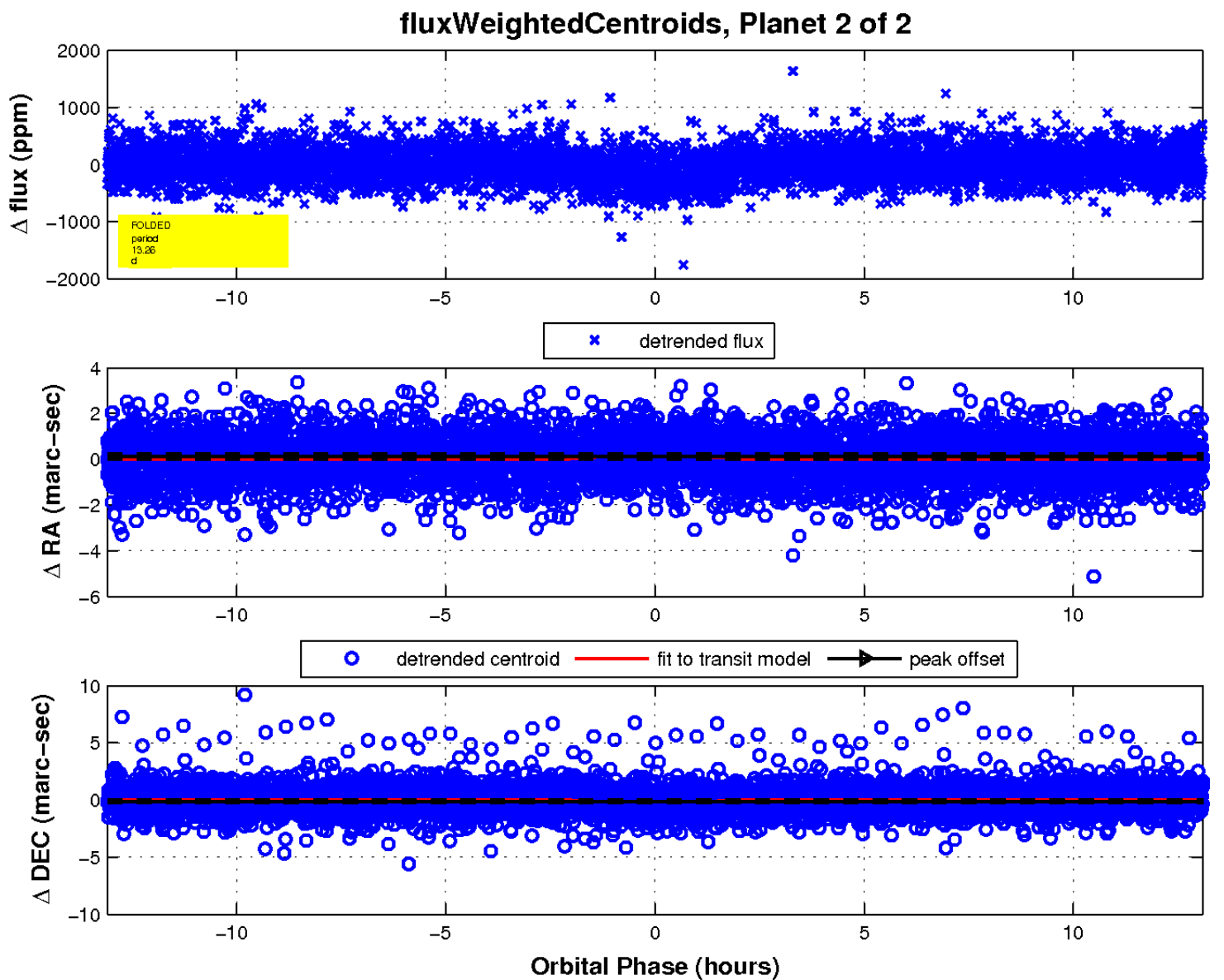
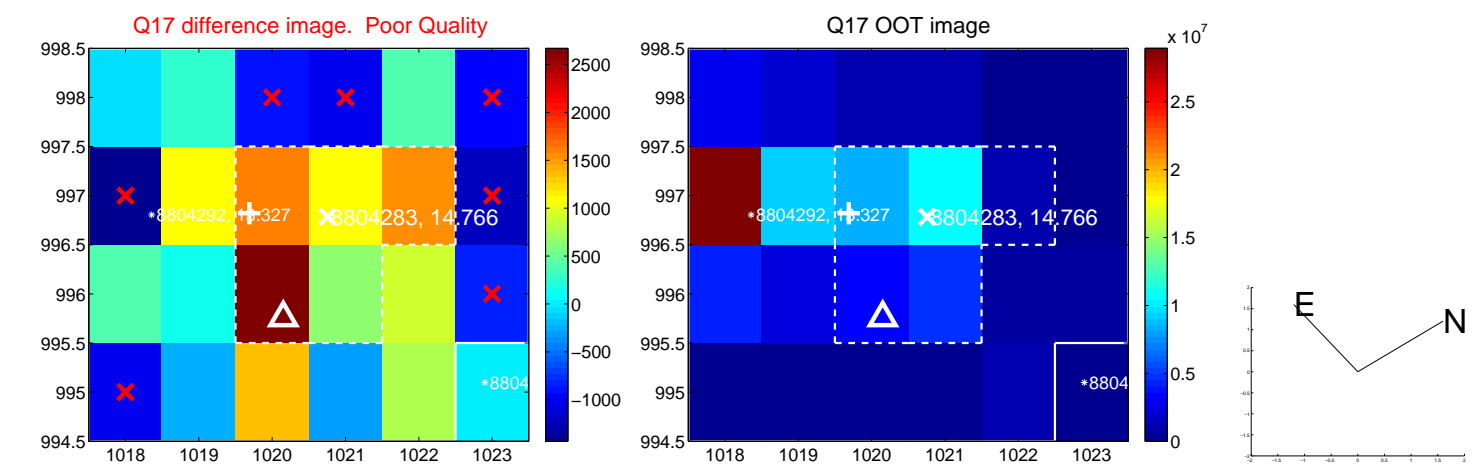
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

