

KIC 008250687

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})
008250687-01	OBS	No	2.192353	133.084981	42.3	8.278	13.6	12.0	1.46	6567	1.02	3002.30
008250687-02	OBS	No	572.311982	136.541411	303.5	16.704	9.2	6.3	1.46	6567	2.66	1.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008250687-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
008250687-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

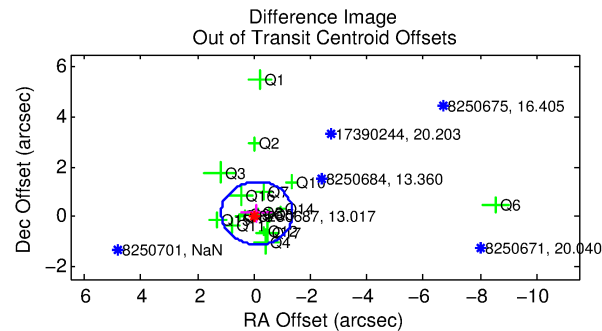
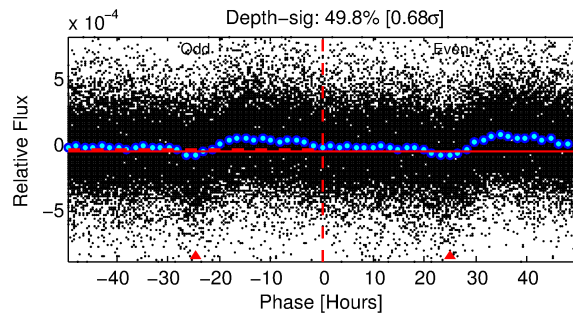
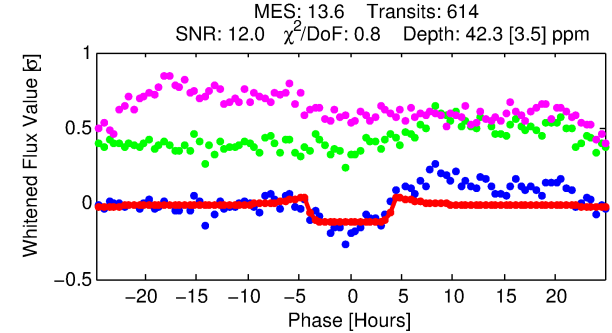
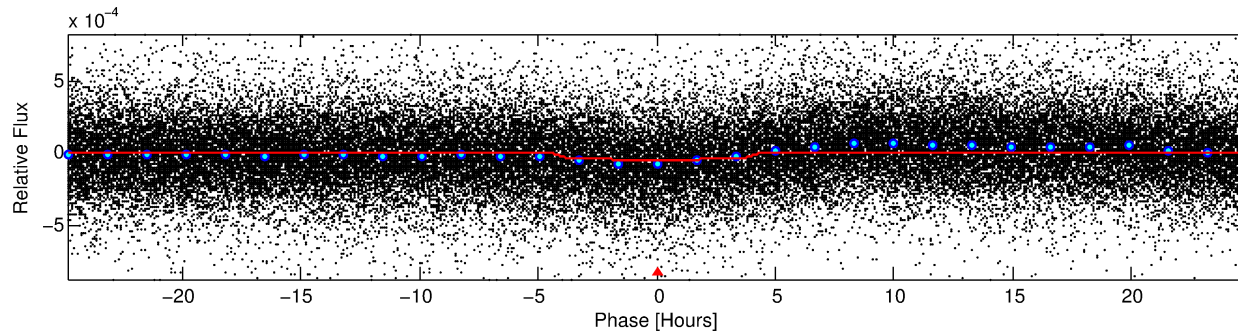
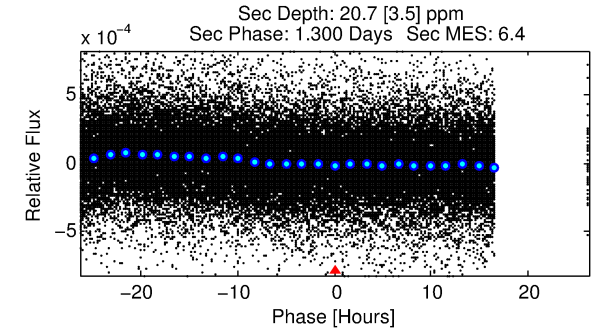
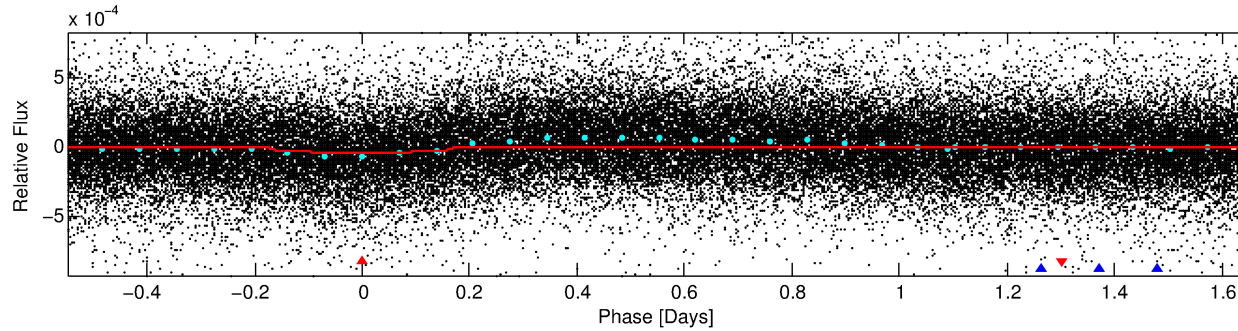
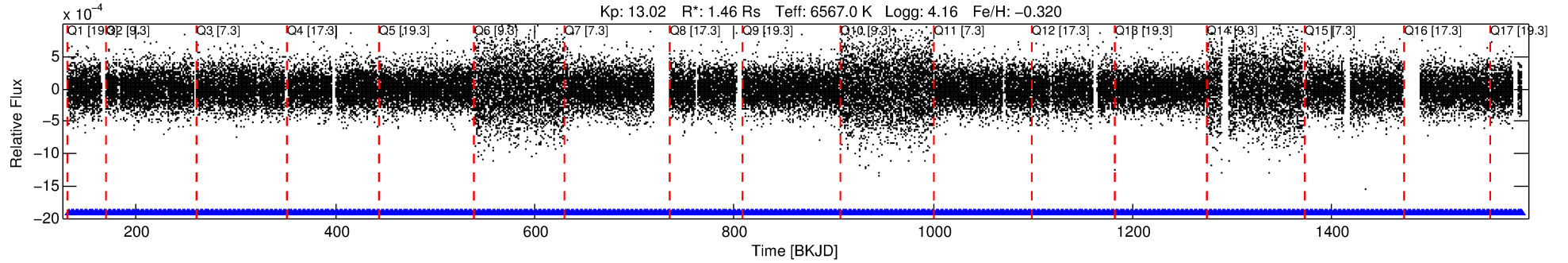
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008250687-01

No Significant Match Found

DV One-Page Summary

KIC: 8250687 Candidate: 1 of 2 Period: 2.192 d



DV Fit Results:

Period = 2.19235 [0.00002] d
Epoch = 133.0850 [0.0047] BKJD
Rp/R* = 0.0064 [0.0018]
a/R* = 1.63 [1.55]
b = 0.73 [0.97]
Seff = 3002.30 [1198.41]
Teff = 1888 [188] K
Rp = 1.02 [0.41] Re
a = 0.0343 [0.0086] AU
Ag = 12.80 [8.73] [1.35σ]
Teffp = 5520 [809] K [4.37σ]

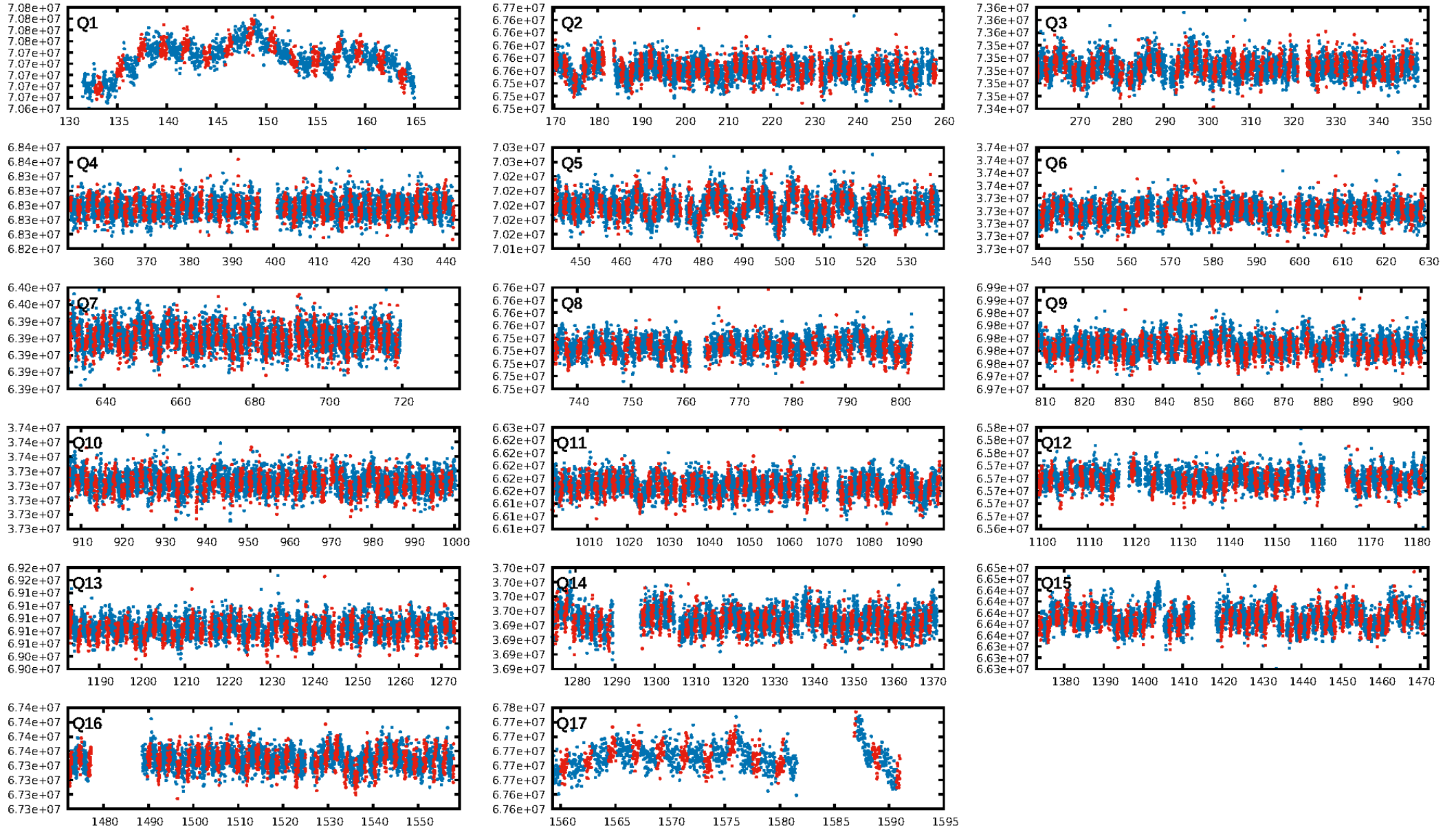
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [733.95σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.19e-28
RollingBand-fgt: 1.00 [587/587]
GhostDiagnostic-chr: 1.325
Centroid-sig: 5.9%
Centroid-so: 1.508 arcsec [2.52σ]
OotOffset-rm: 0.169 arcsec [0.40σ]
KicOffset-rm: 0.873 arcsec [2.41σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

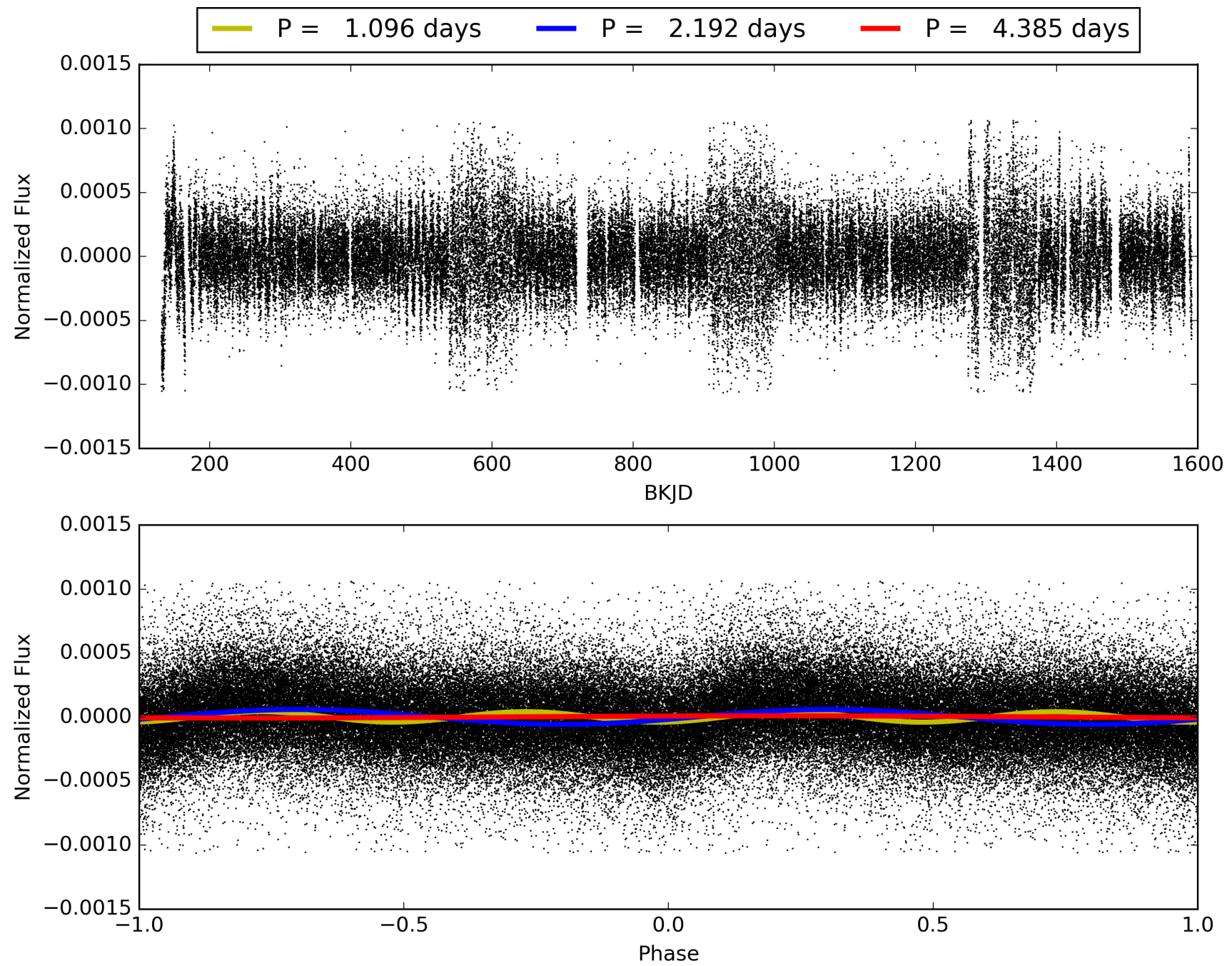
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:29:21 Z

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

TCE 008250687-01, PDC Light Curves

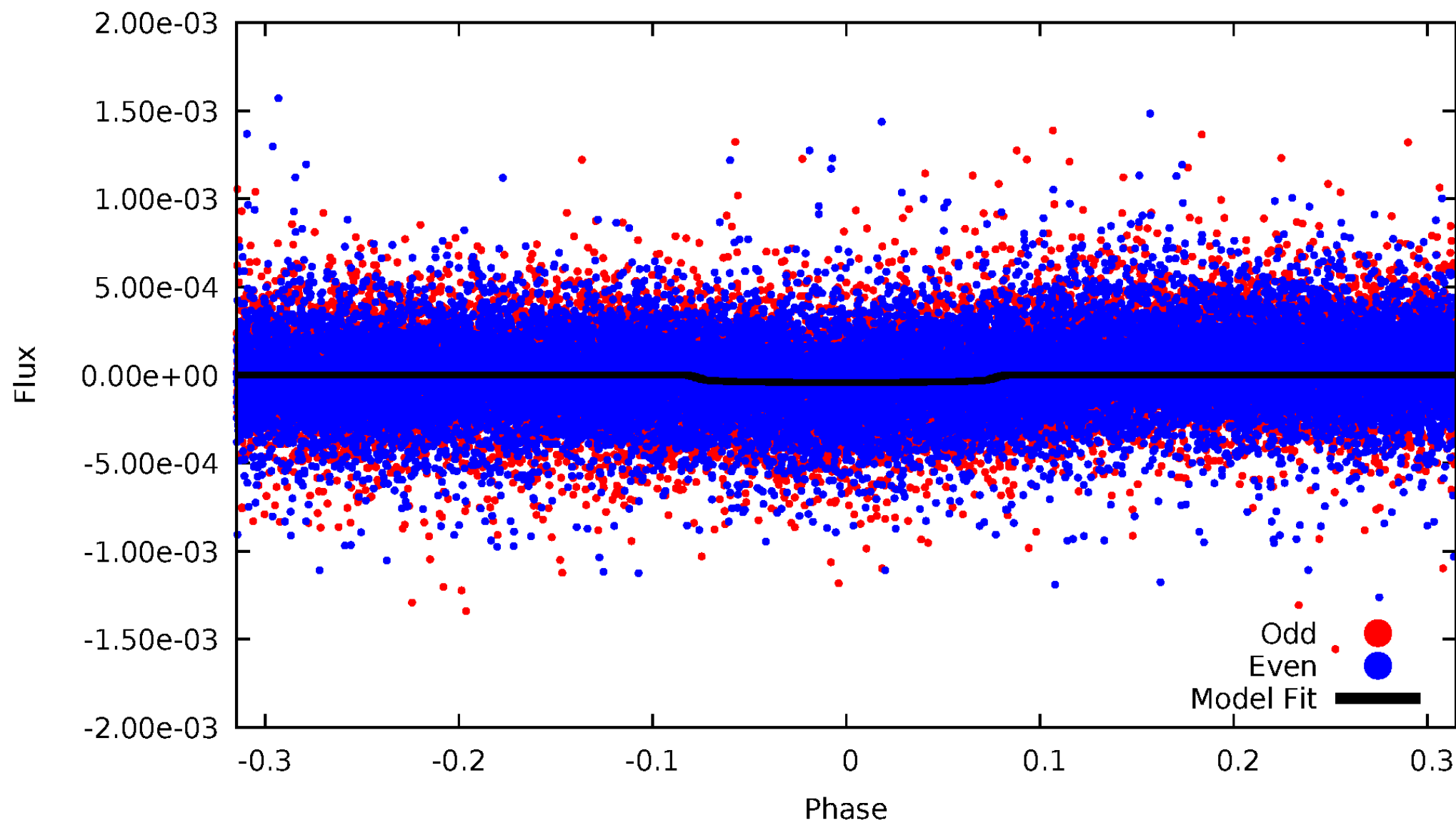


TCE 008250687-01



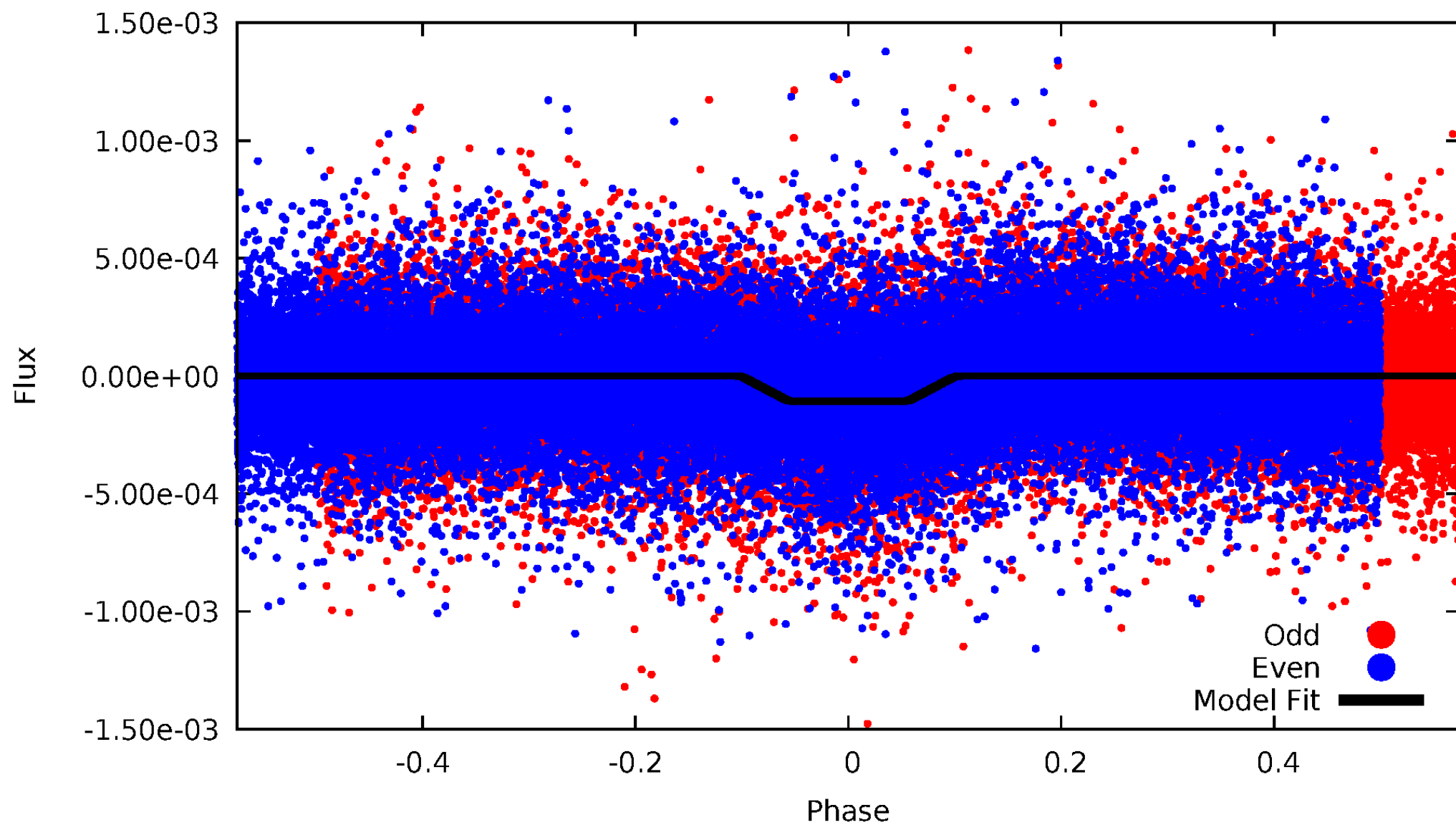
DV Odd/Even

TCE 008250687-01



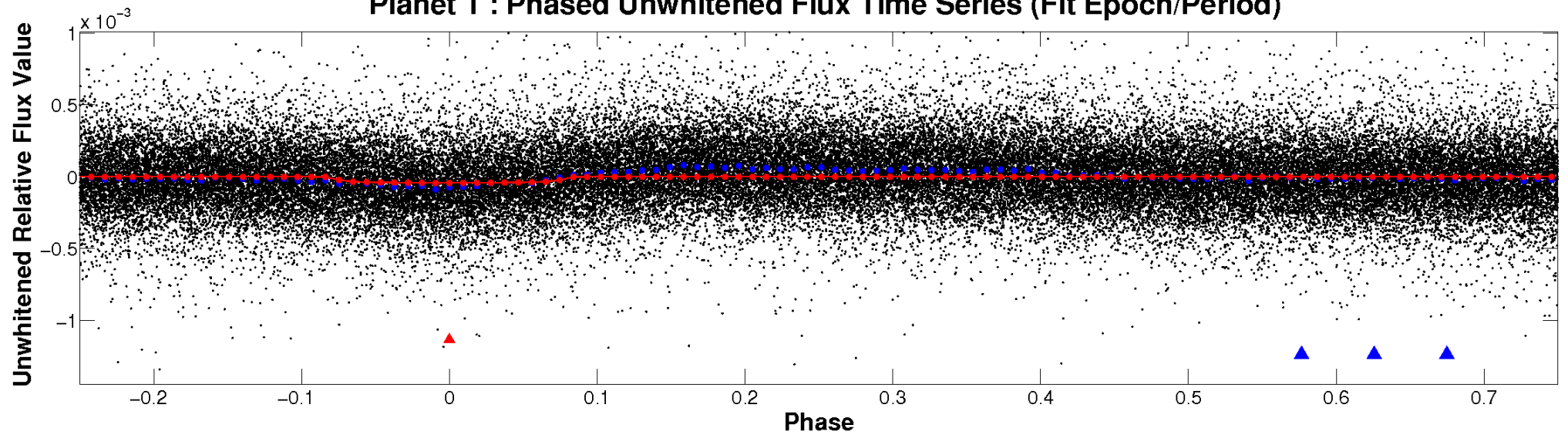
ALT Odd/Even

TCE 008250687-01

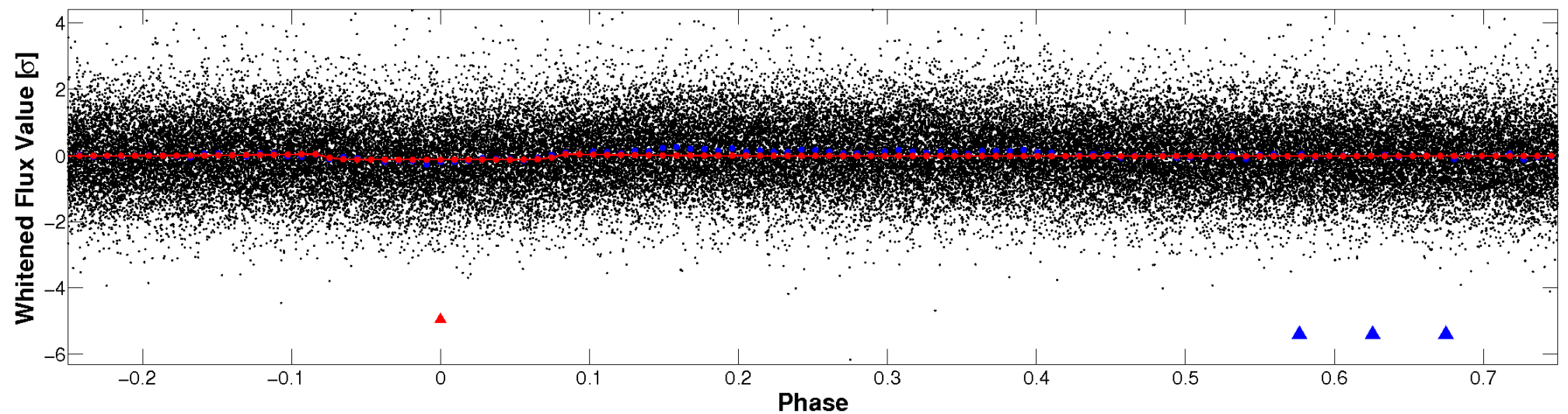


Non-Whitened Vs. Whitened Light Curve

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

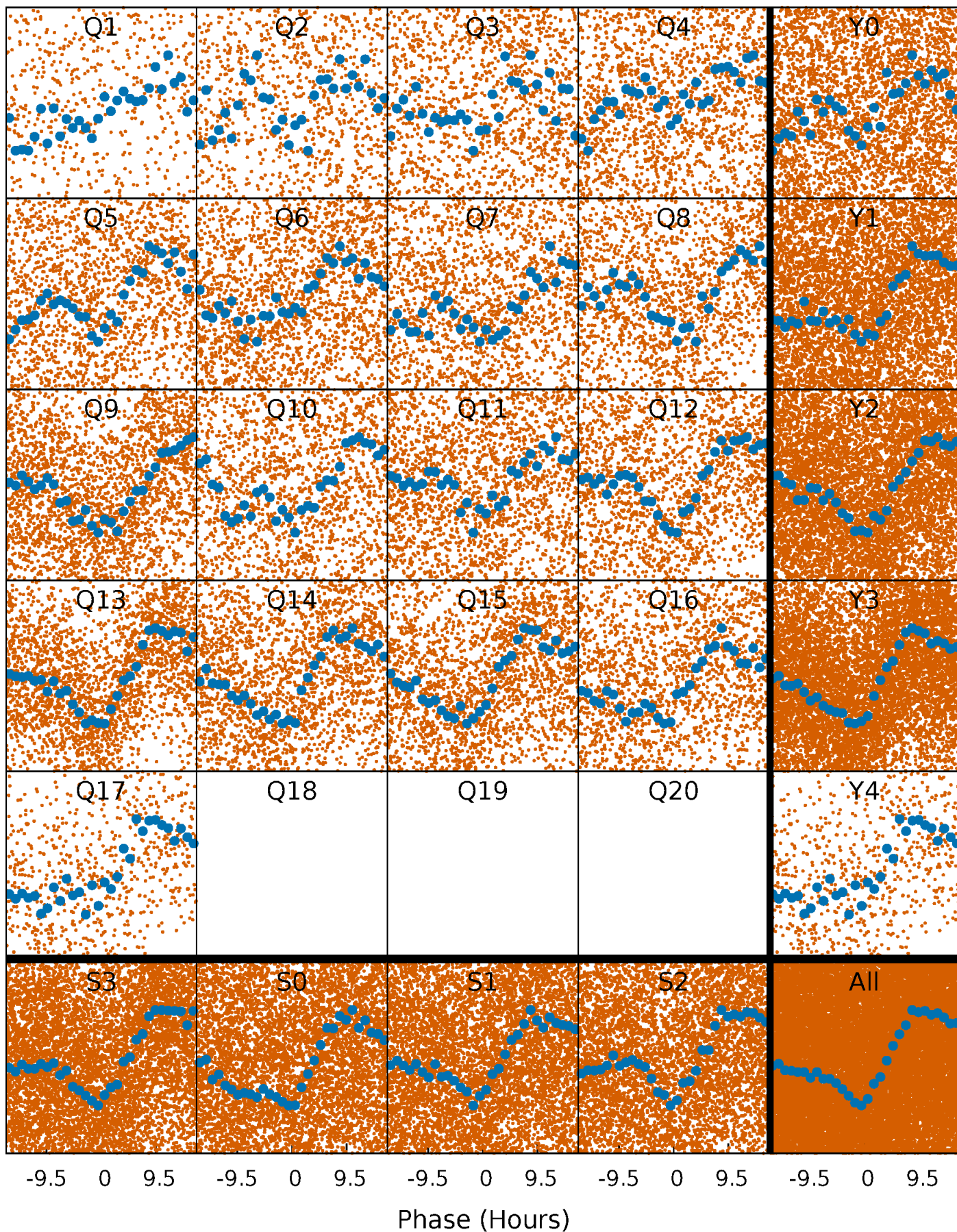


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



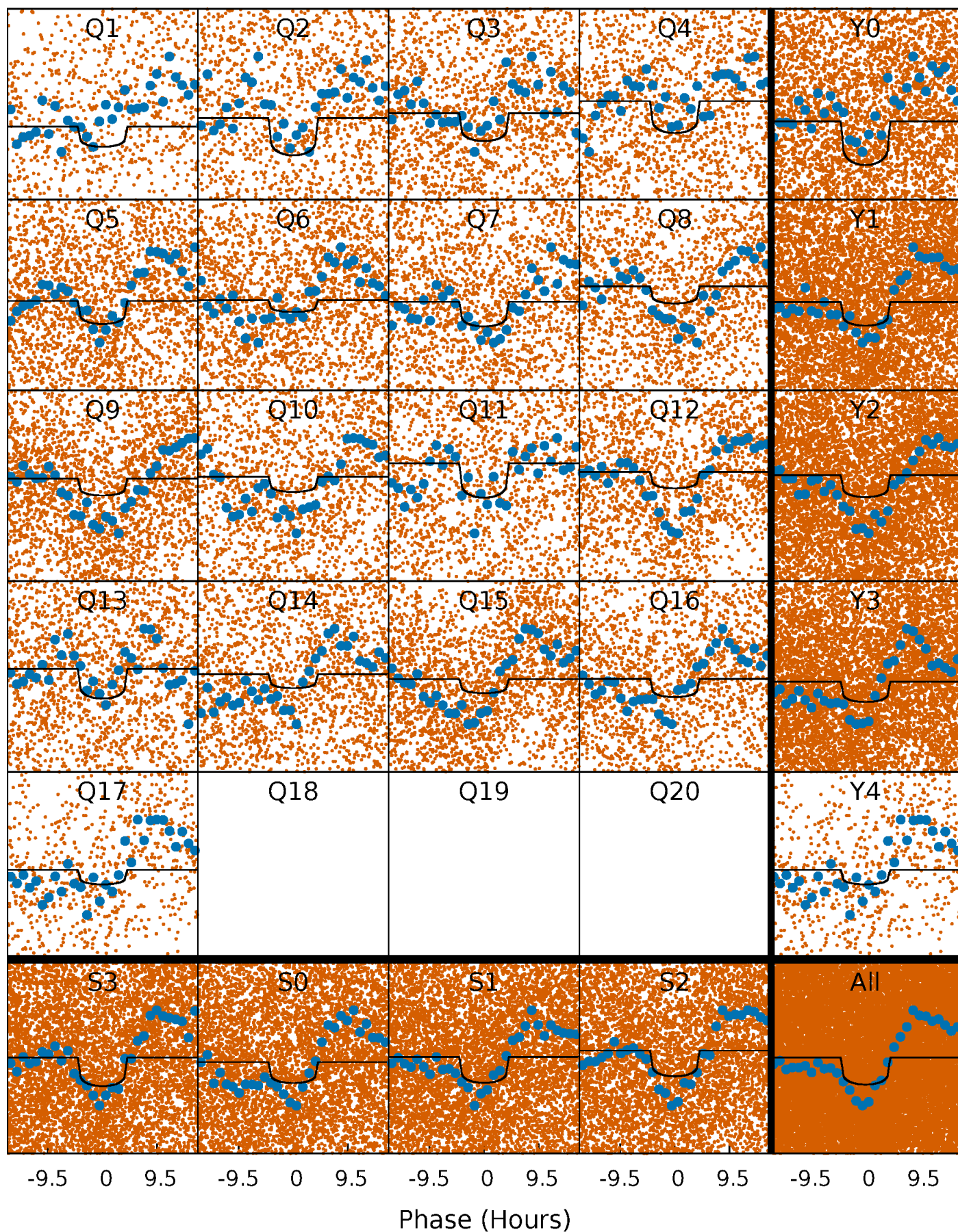
PDC Quarter-Phased Transit Curves

TCE 008250687-01 P= 2.192353 Days $T_0=133.084981$ (BKJD)



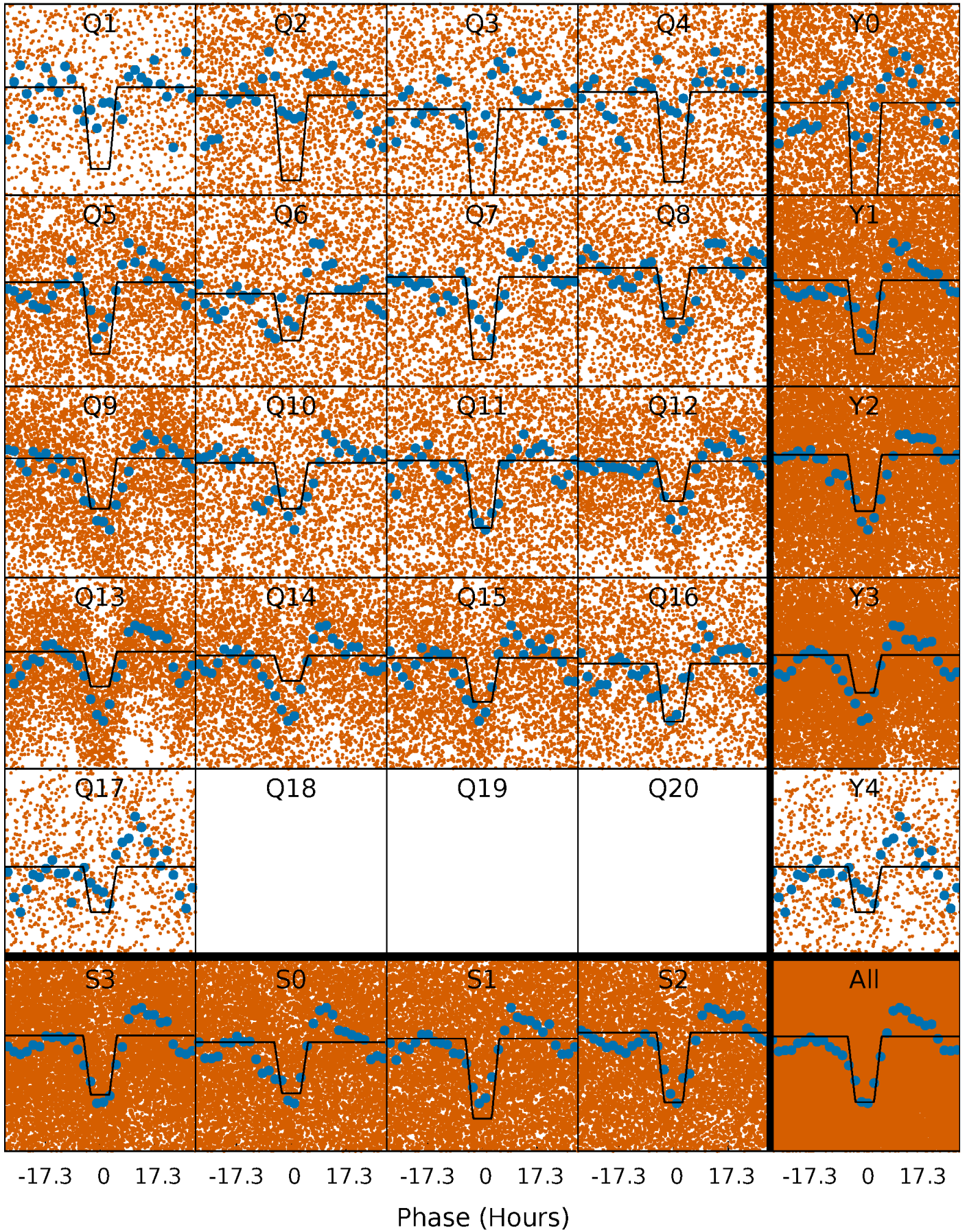
DV Quarter-Phased Transit Curves

TCE 008250687-01 P= 2.192353 Days $T_0=133.084981$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

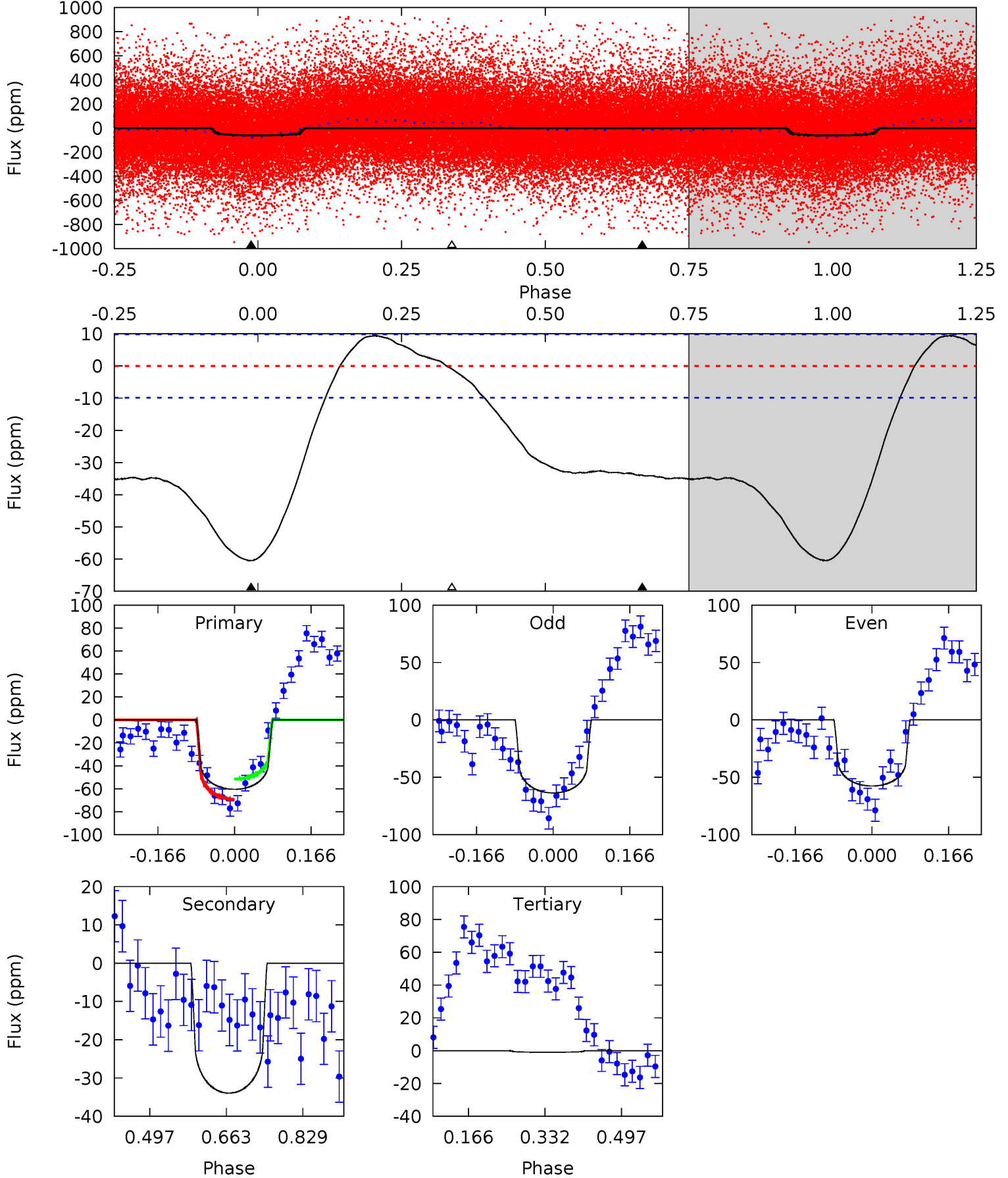
TCE 008250687-01 P= 2.192242 Days $T_0=133.095616$ (BKJD)



DV Model-Shift Uniqueness Test

008250687-01, P = 2.192353 Days, E = 130.892628 Days

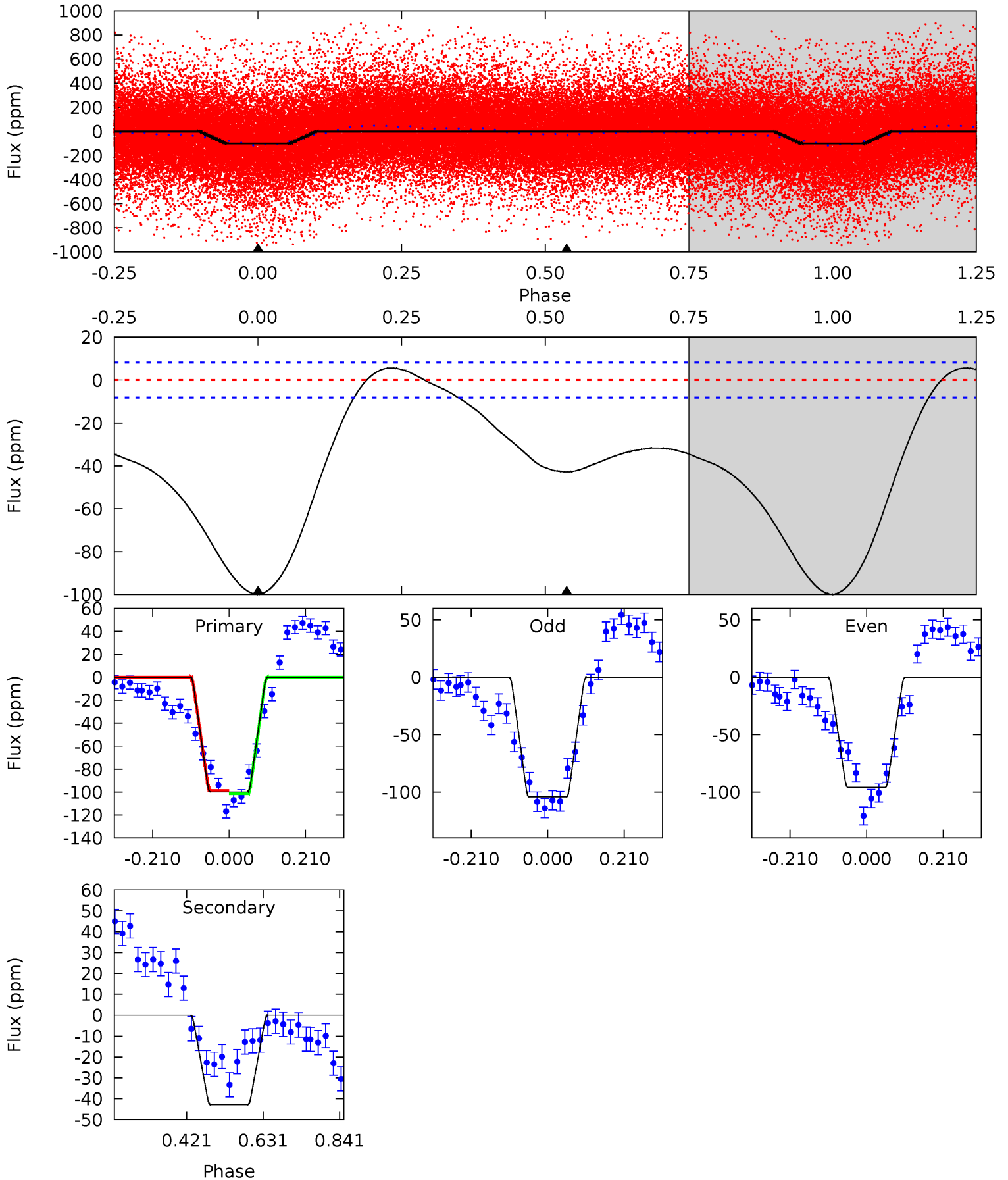
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	15.4	0.41	0	4.46	1.39	5.75	27.0	27.4	15.0	15.4	1.37	0.95	0.13	4.01



Alt Model-Shift Uniqueness Test

008250687-01, P = 2.192242 Days, E = 130.903374 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.6	23.0	0	0	4.41	1.25	9.27	53.6	53.6	23.0	23.0	2.27	1.05	0.05	0.76



Stellar Parameters For KIC 008250687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6567^{+181}_{-227}	$4.161^{+0.209}_{-0.171}$	$-0.320^{+0.250}_{-0.300}$	$1.457^{+0.422}_{-0.346}$	$1.122^{+0.192}_{-0.139}$	$0.511^{+0.603}_{-0.242}$
	+3%/-3%	+5%/-4%	+78%/-94%	+29%/-24%	+17%/-12%	+118%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008250687-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-34 ± 2	$1.02^{+0.34}_{-0.29}$	2634^{+192}_{-211}	6198^{+1080}_{-723}	22^{+20}_{-10}
Alt.	-43 ± 2	$1.63^{+0.40}_{-0.33}$	2626^{+209}_{-190}	5236^{+514}_{-396}	11^{+6}_{-4}

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

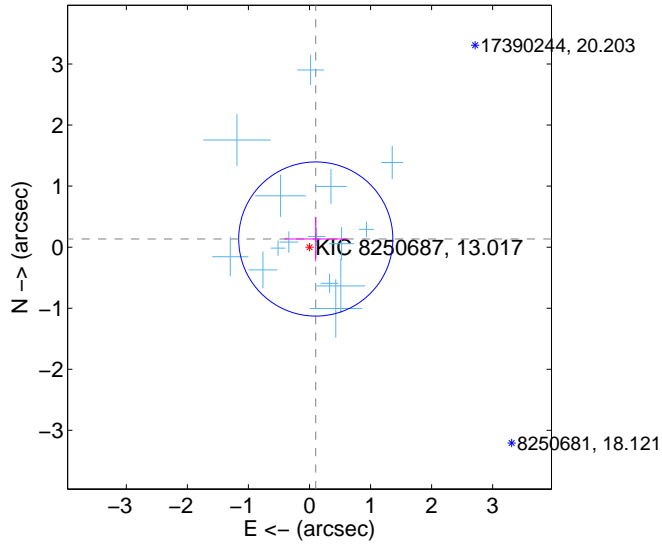
Supplemental centroid analysis for 008250687-01. Kepler magnitude: 13.02. Transit SNR 12.02

There are 15 quarters with good PRF difference image offsets

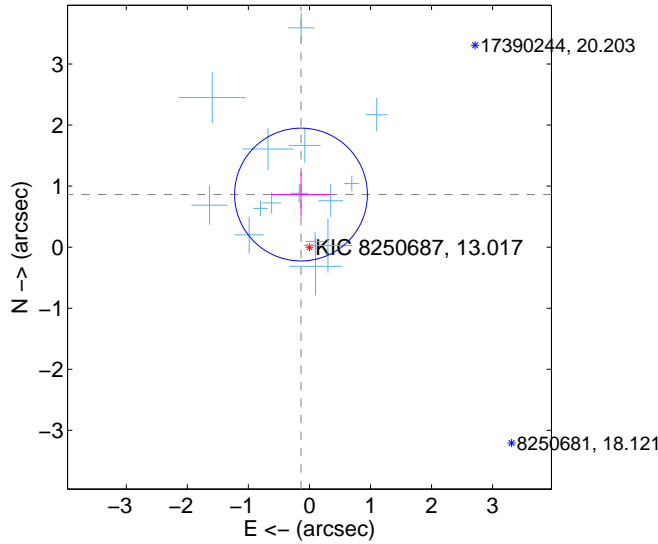
The direct PRF centroid is offset from the target star catalog position by about 0.70 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.169 ± 0.421	0.40	-0.103 ± 0.517	0.134 ± 0.363
PRF-fit source offset from KIC position	0.873 ± 0.363	2.41	0.139 ± 0.485	0.862 ± 0.360
photometric centroid source offset	1.51 ± 0.60	2.52	0.28 ± 0.69	1.48 ± 0.59

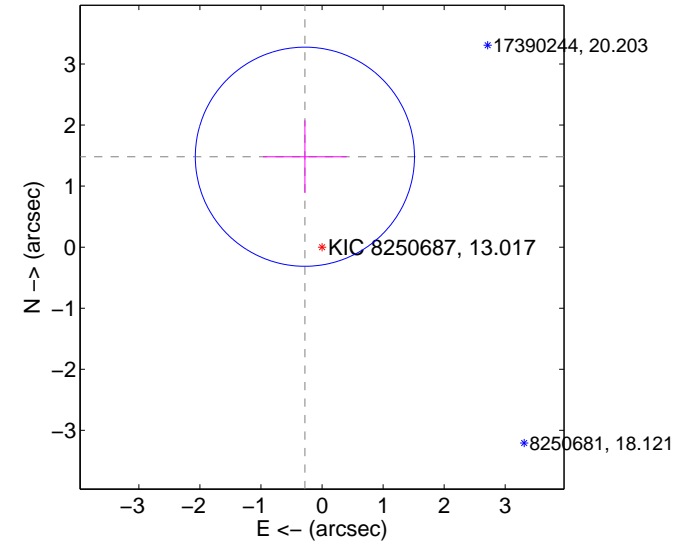
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

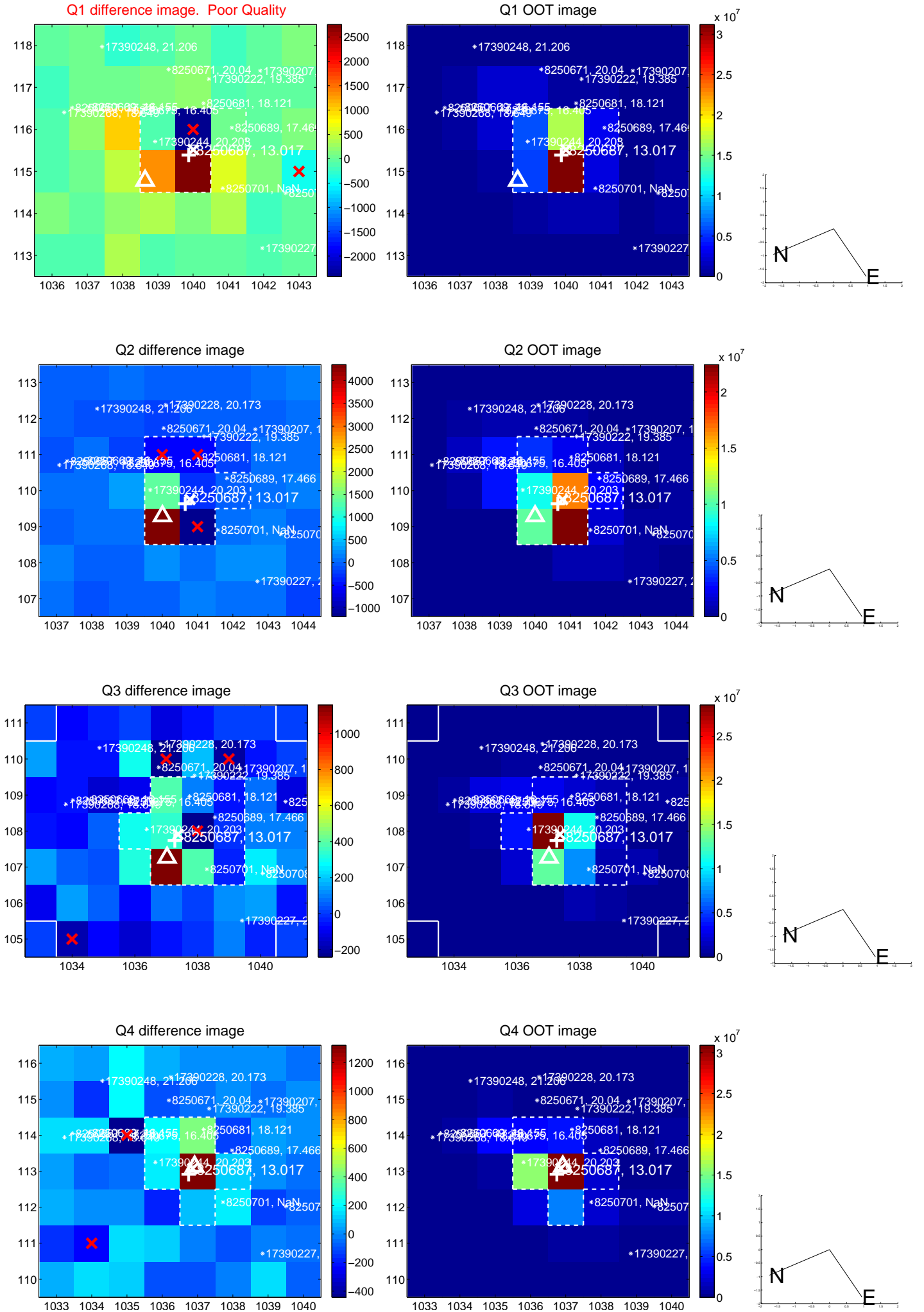


offset from photometric centroids

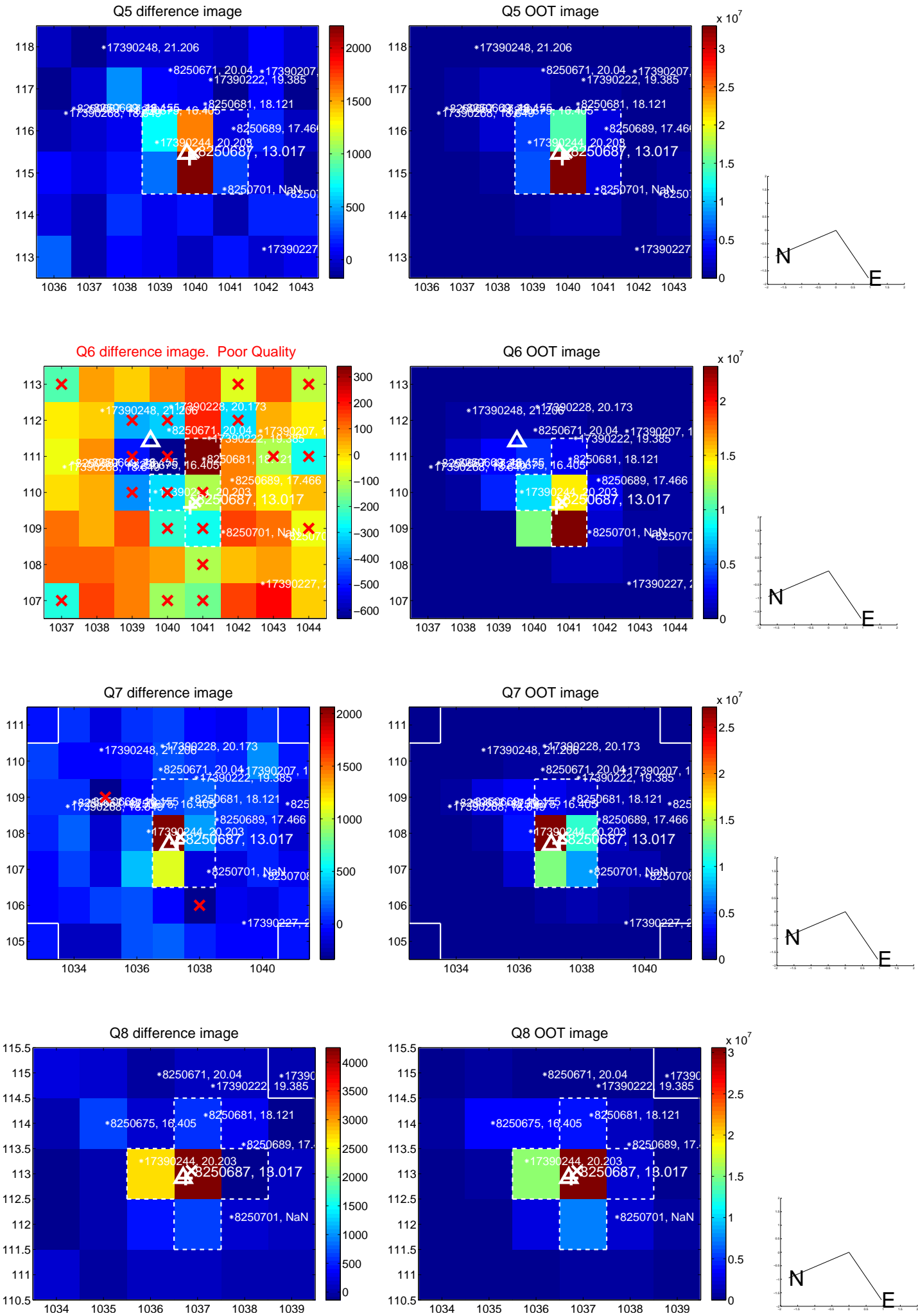


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

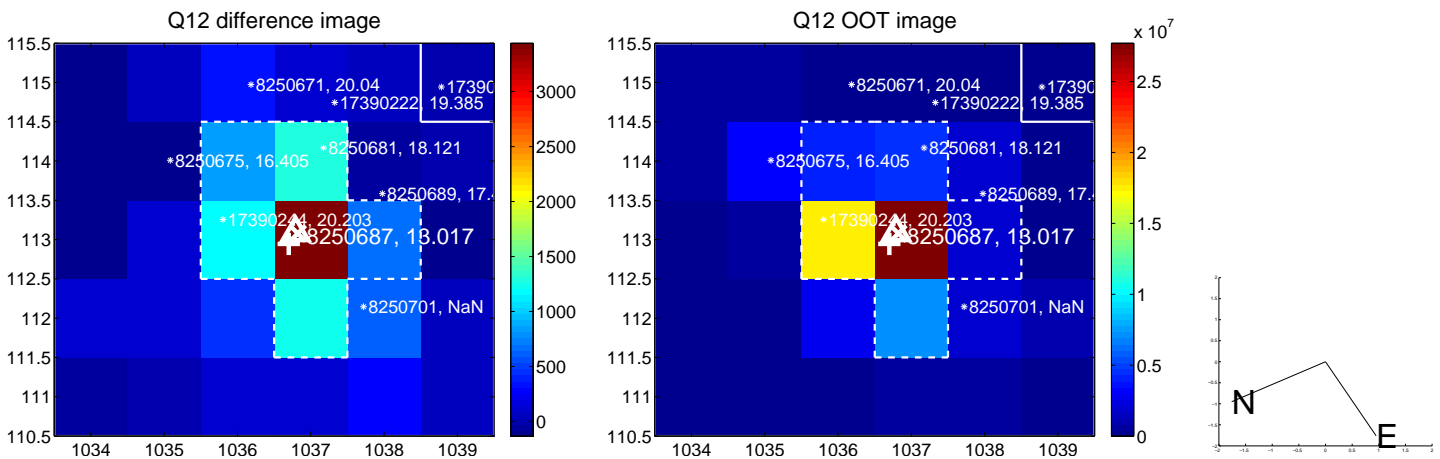
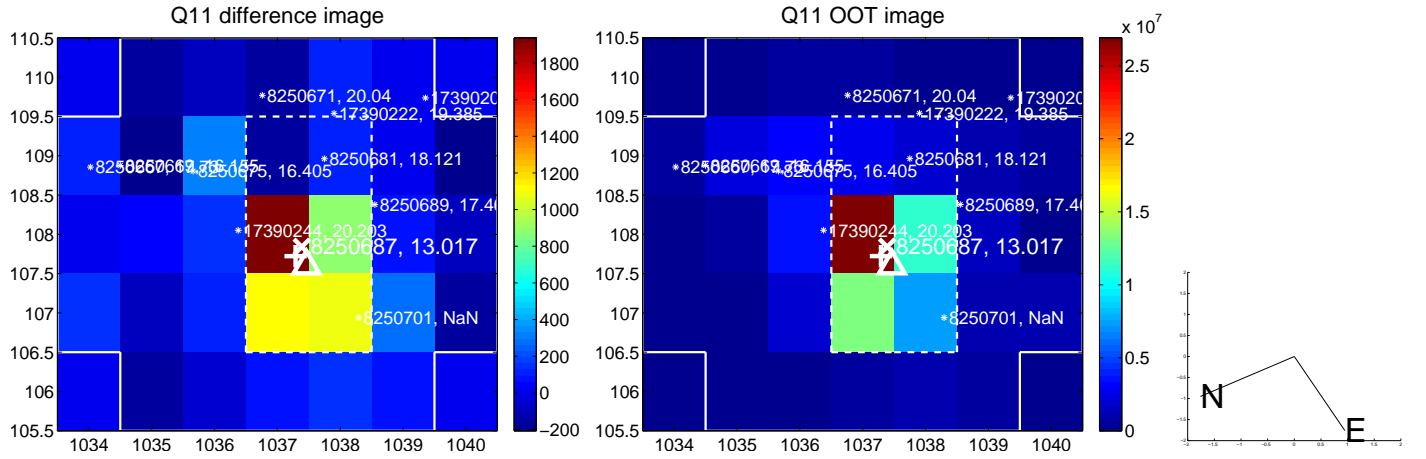
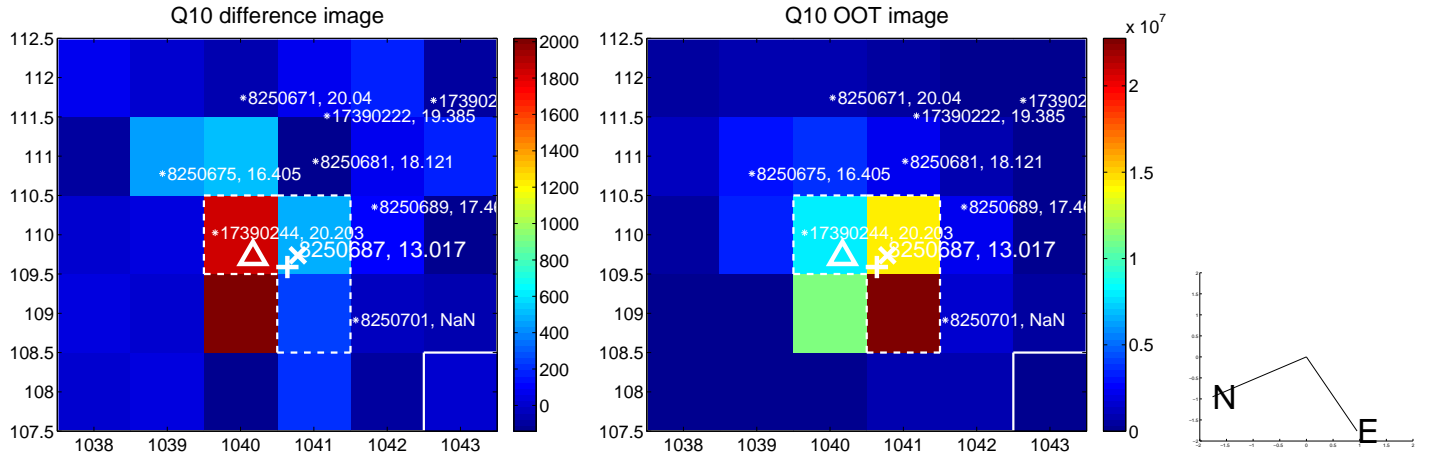
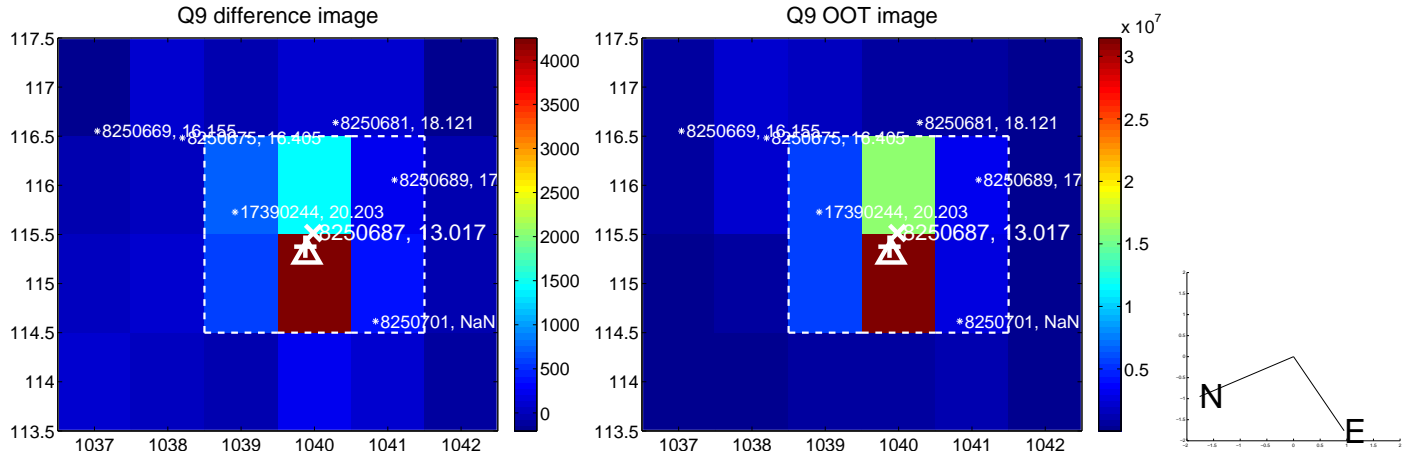
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



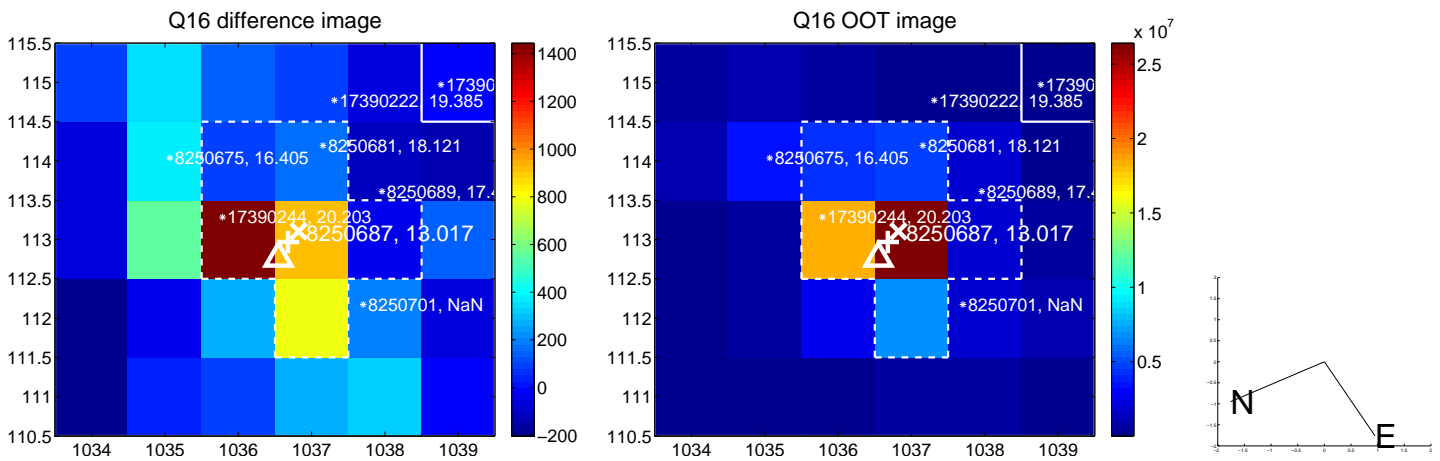
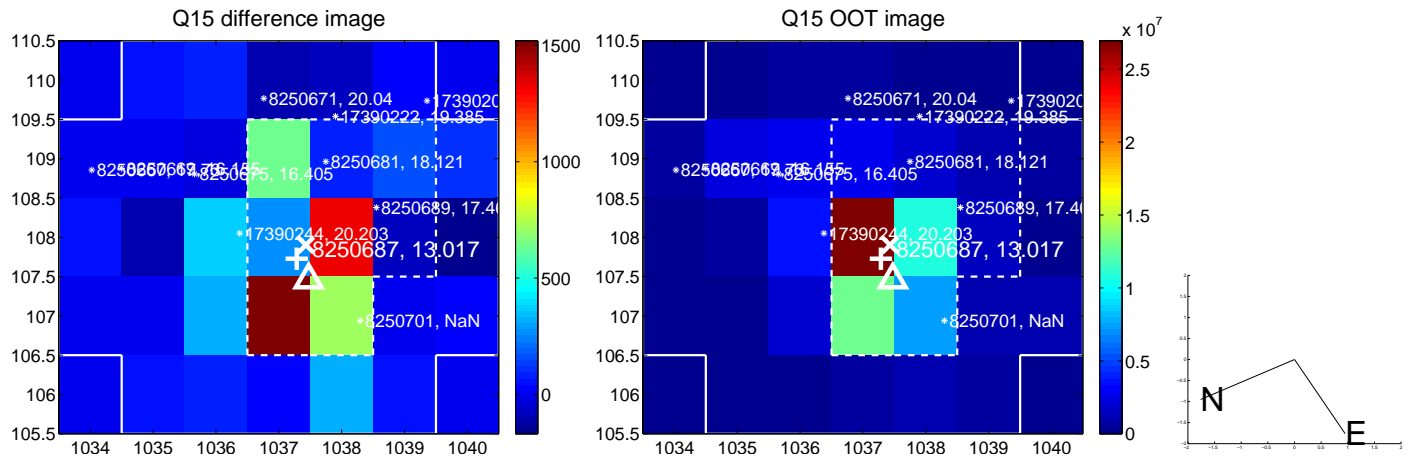
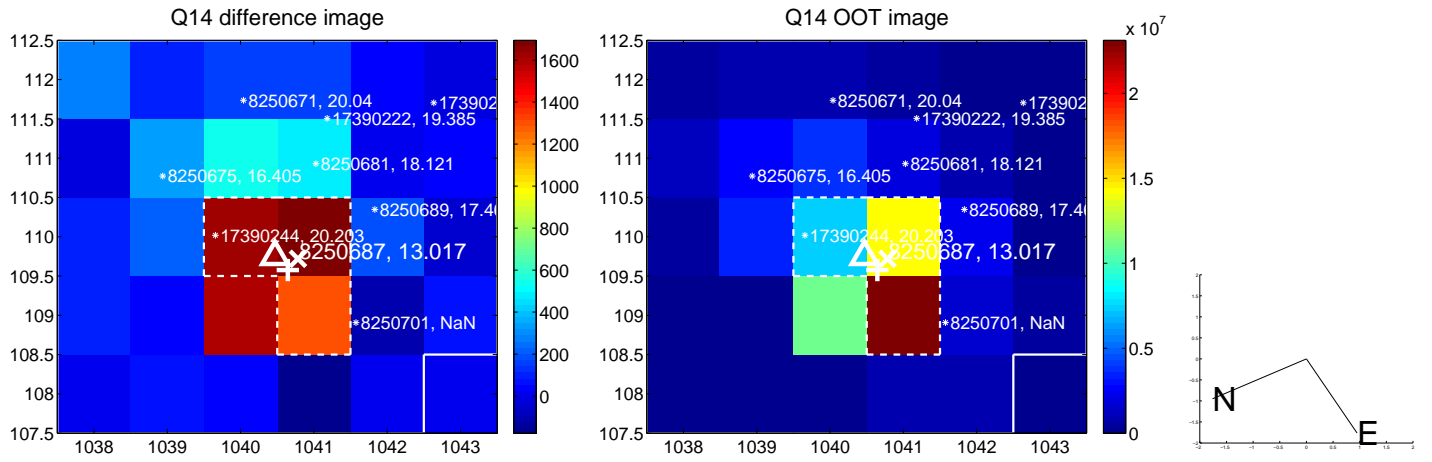
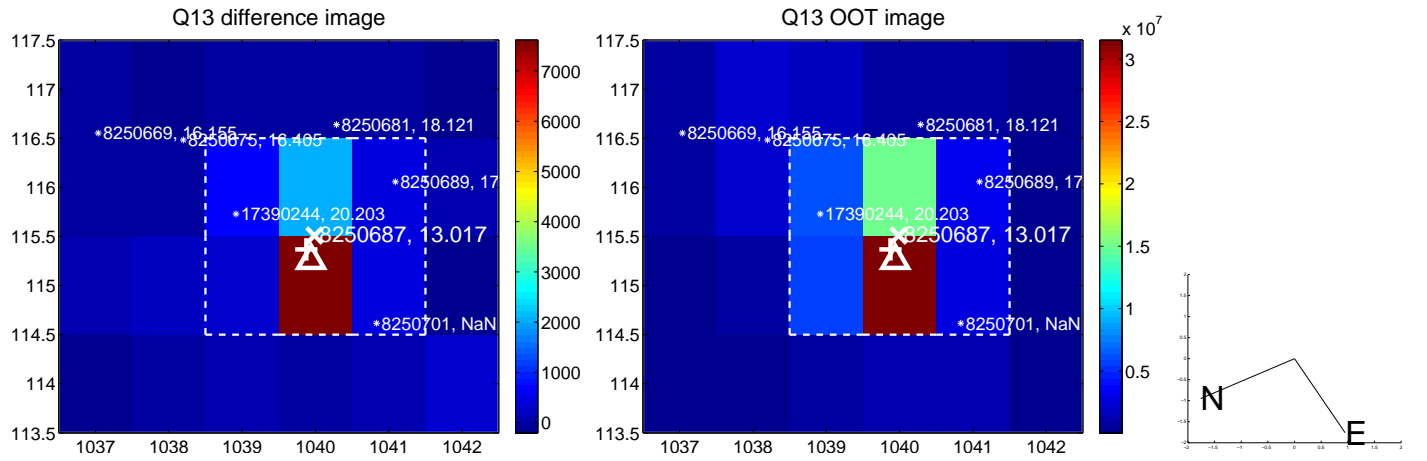
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



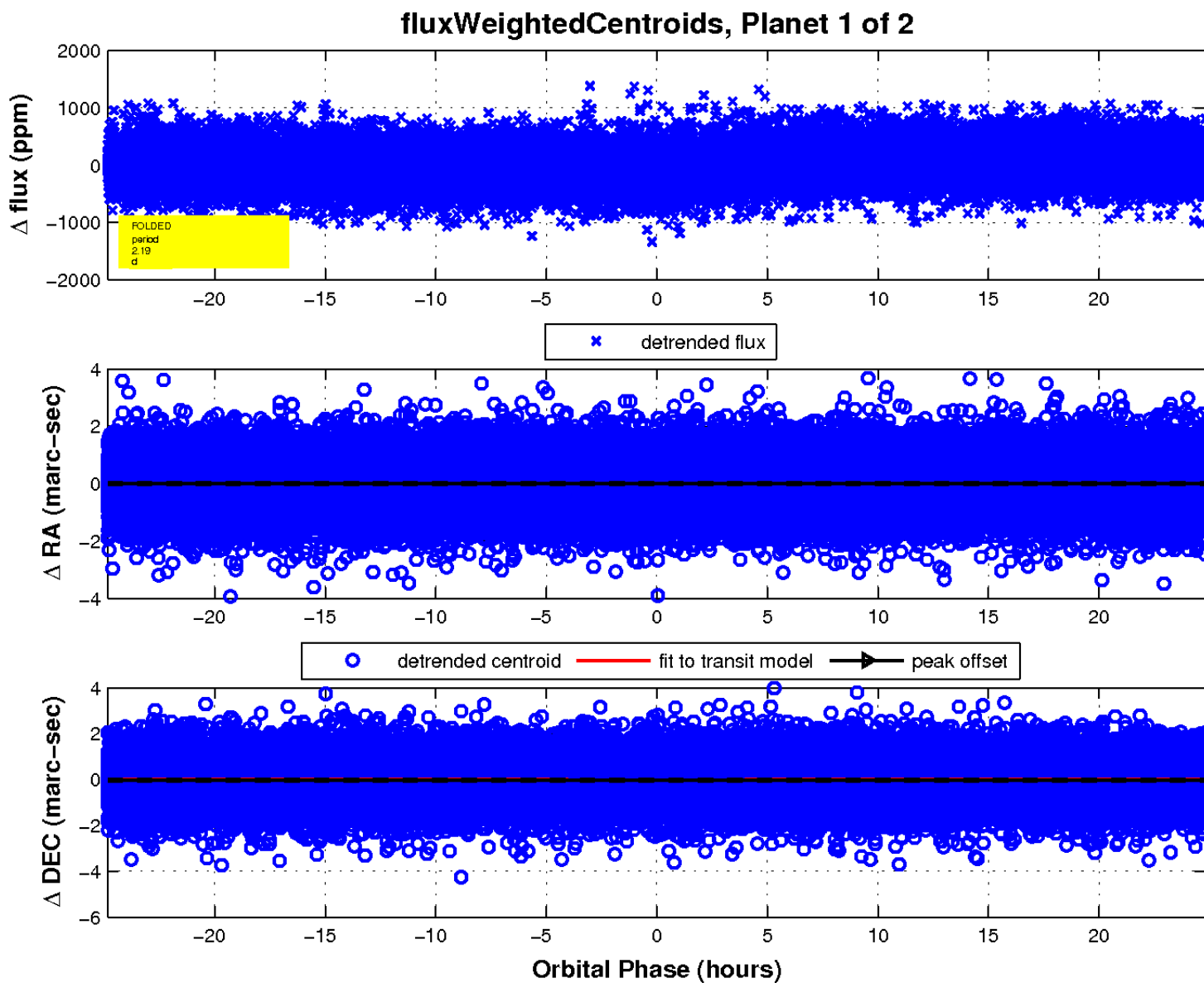
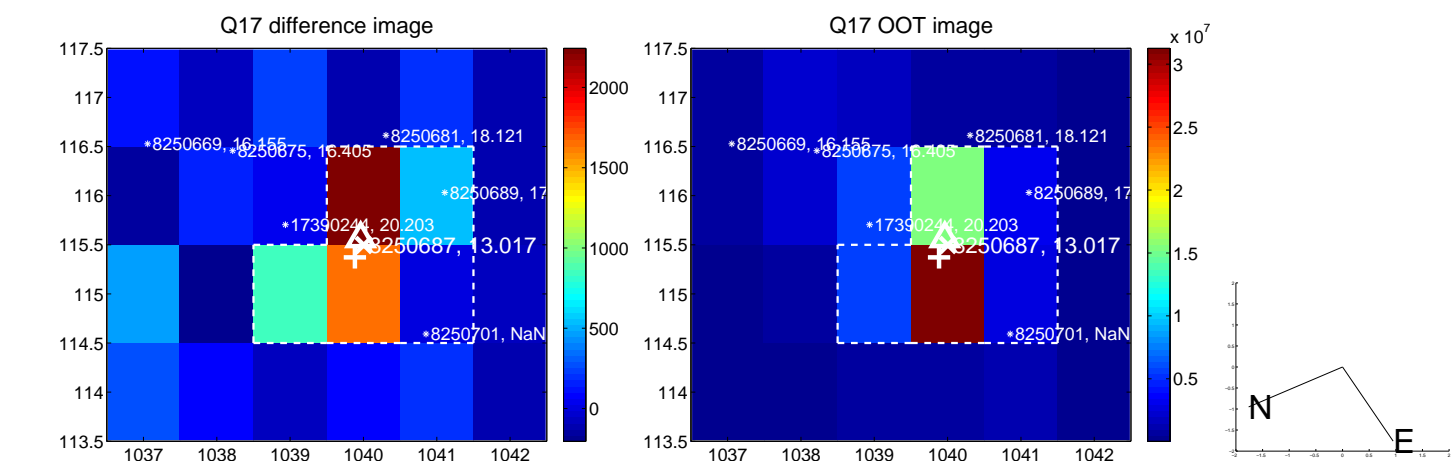
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

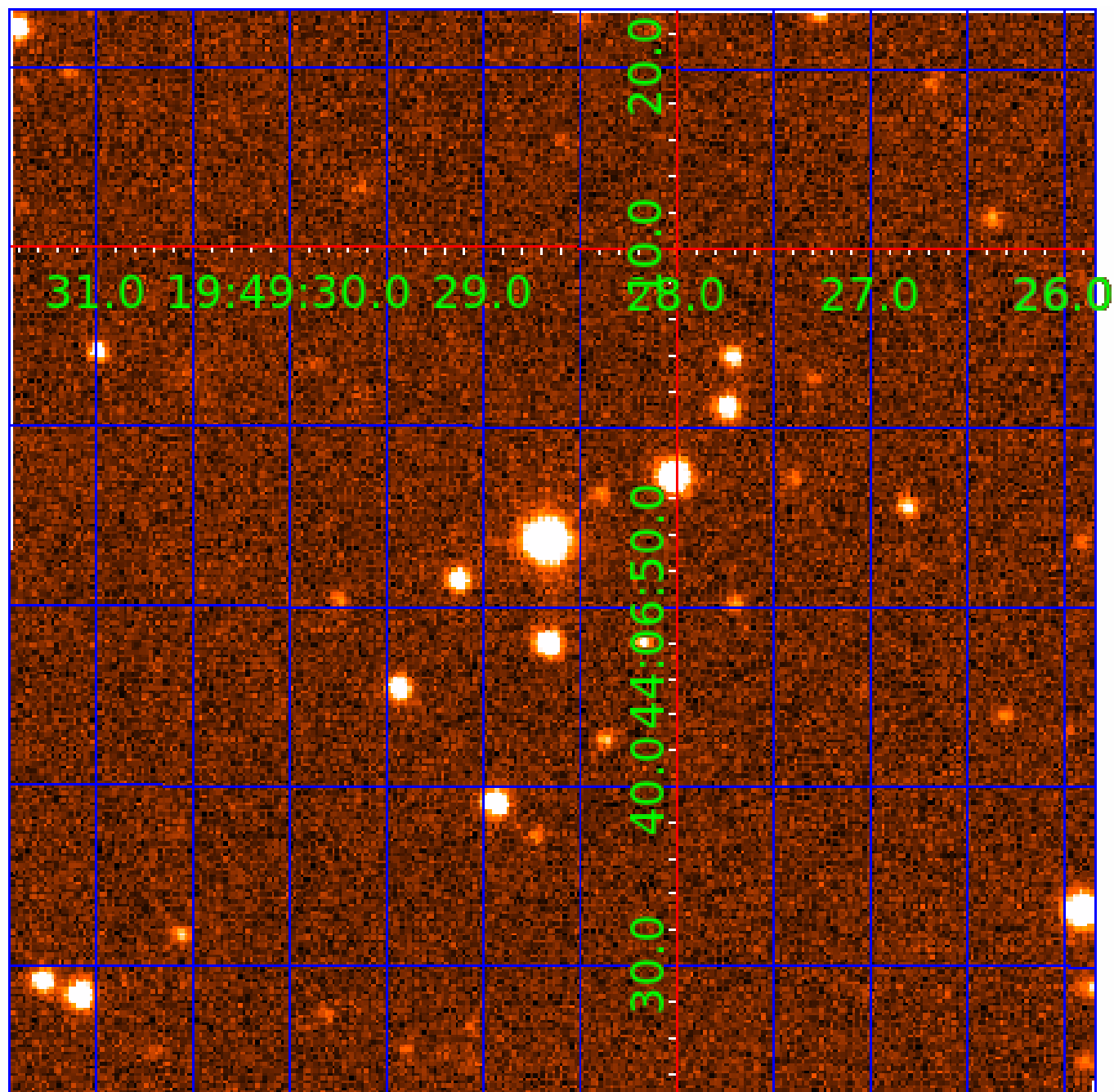


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008250687

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})
008250687-01	OBS	No	2.192353	133.084981	42.3	8.278	13.6	12.0	1.46	6567	1.02	3002.30
008250687-02	OBS	No	572.311982	136.541411	303.5	16.704	9.2	6.3	1.46	6567	2.66	1.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008250687-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
008250687-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

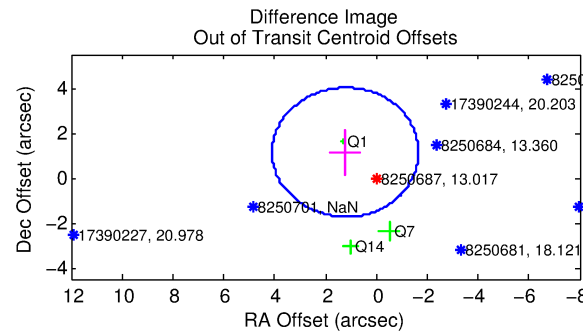
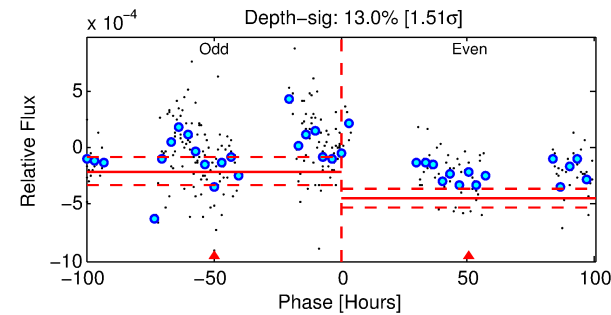
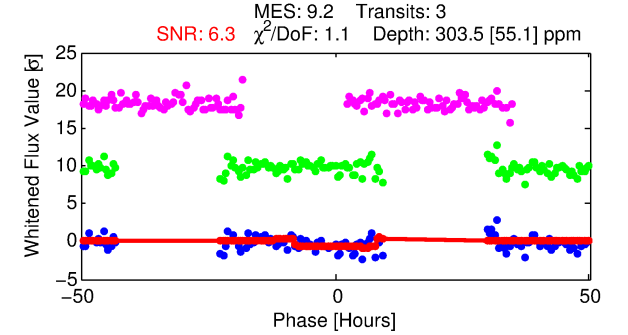
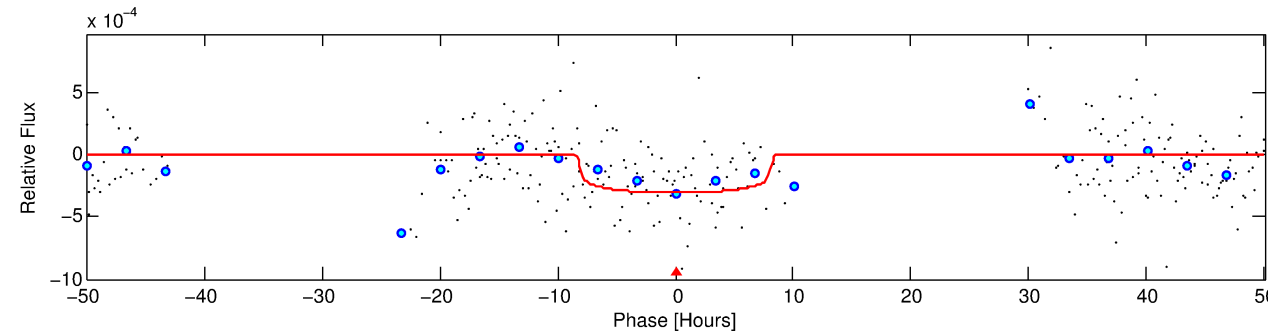
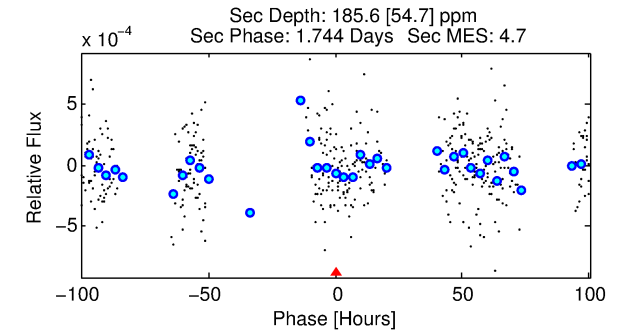
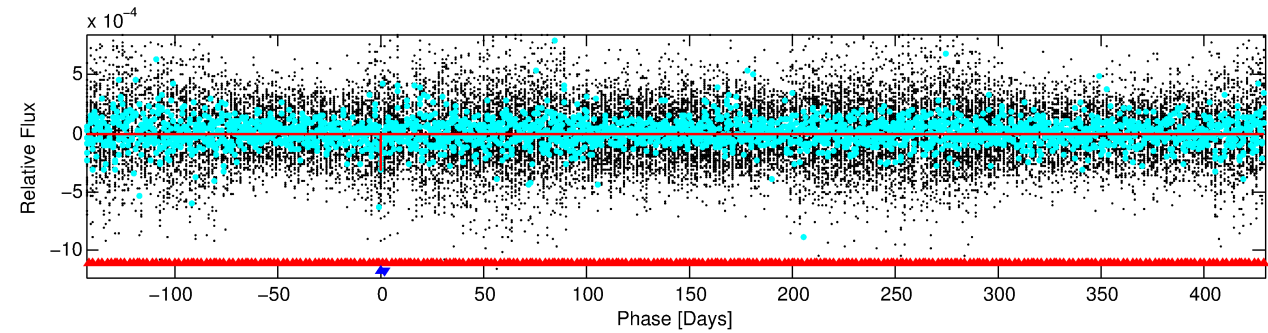
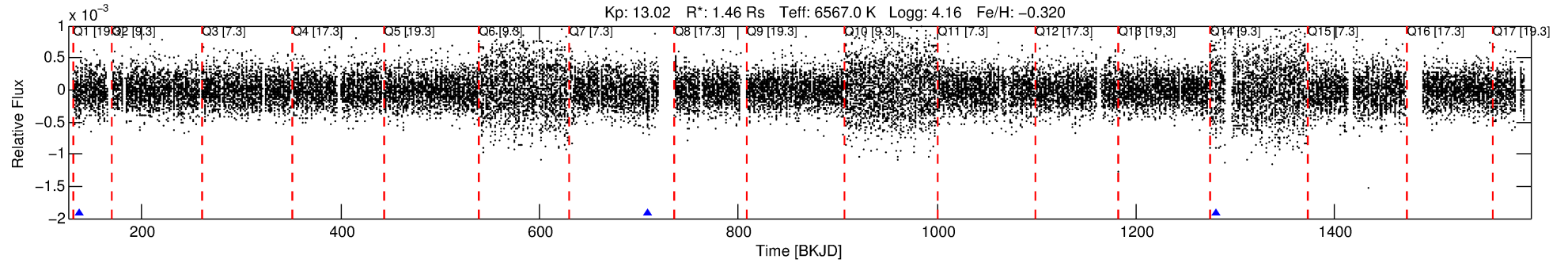
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008250687-02

No Significant Match Found

DV One-Page Summary

KIC: 8250687 Candidate: 2 of 2 Period: 572.312 d



DV Fit Results:

Period = 572.31198 [0.02638] d
Epoch = 136.5414 [0.0197] BKJD
Rp/R* = 0.0167 [0.0088]
a/R* = 215.23 [610.26]
b = 0.60 [3.06]
Seff = 1.80 [0.72]
Teff = 295 [29] K
Rp = 2.66 [1.60] Re
a = 1.4020 [0.3520] AU
Ag = 28344.37 [32718.54] [0.87 σ]
Teffp = 5925 [1630] K [3.45 σ]

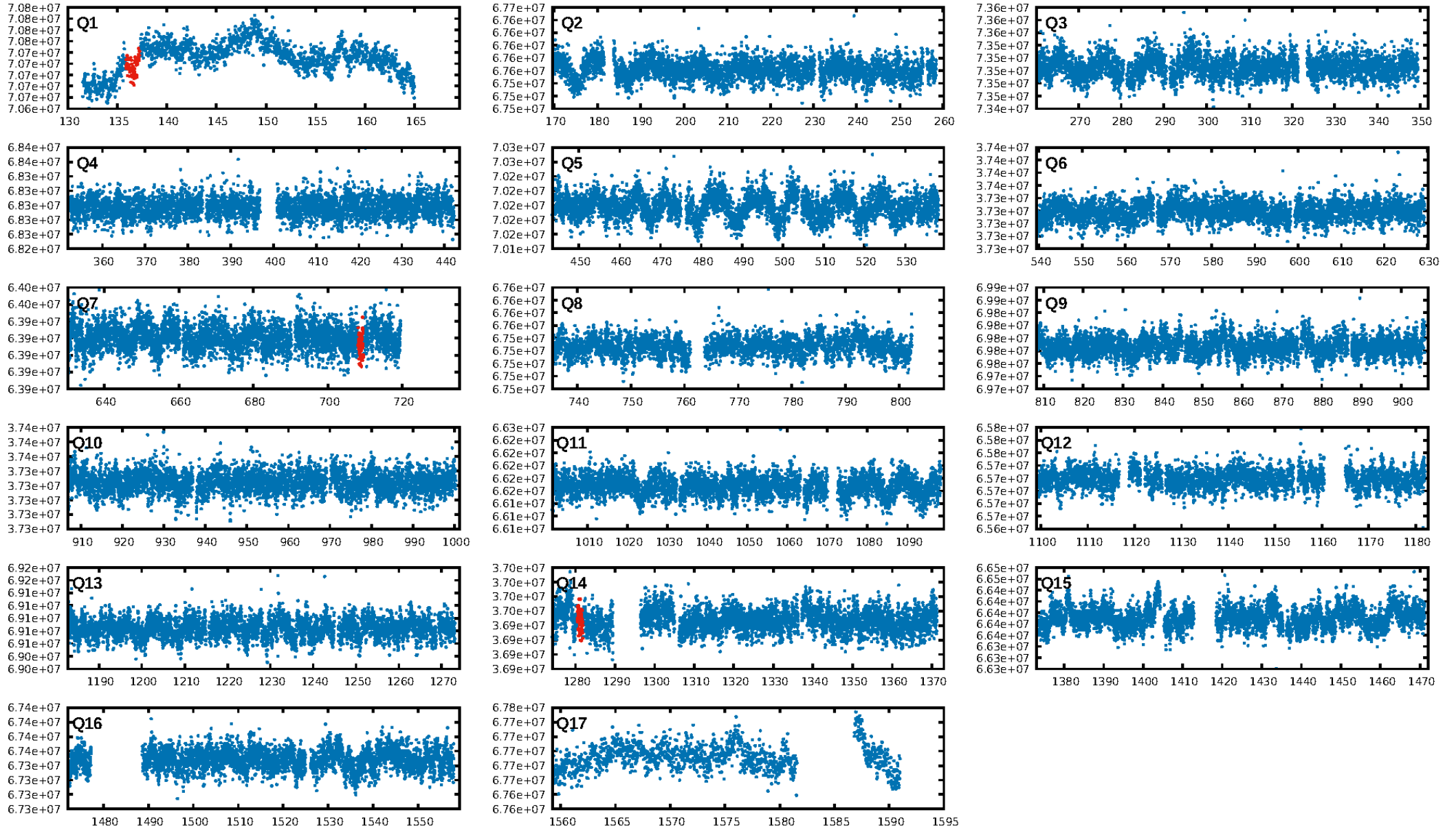
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [733.95 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.9%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 6.73e-15
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 3.365
Centroid-sig: 0.1%
Centroid-so: 1.328 arcsec [1.48 σ]
OotOffset-rm: 1.669 arcsec [1.74 σ]
KicOffset-rm: 2.359 arcsec [2.07 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

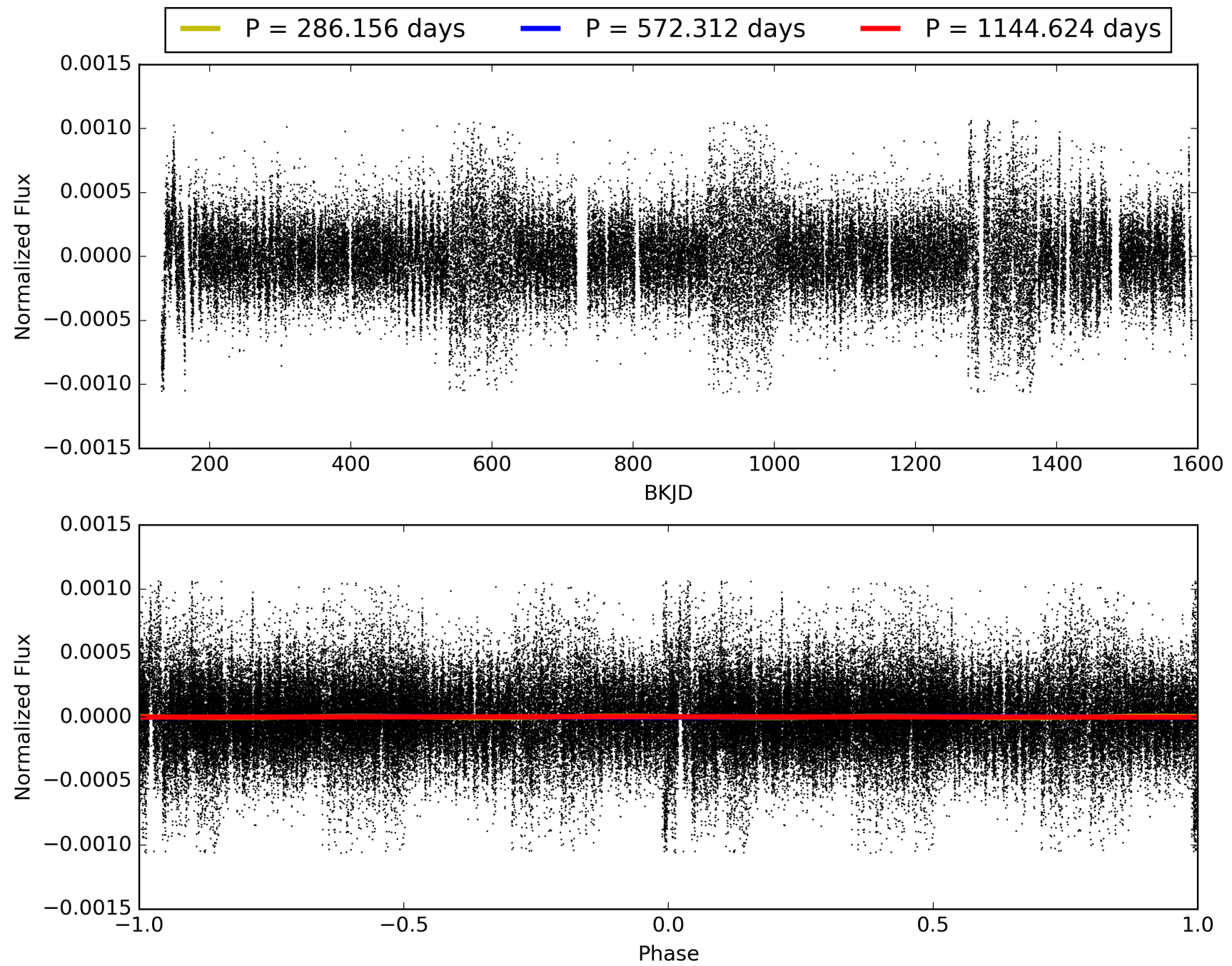
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:29:33 Z

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

TCE 008250687-02, PDC Light Curves

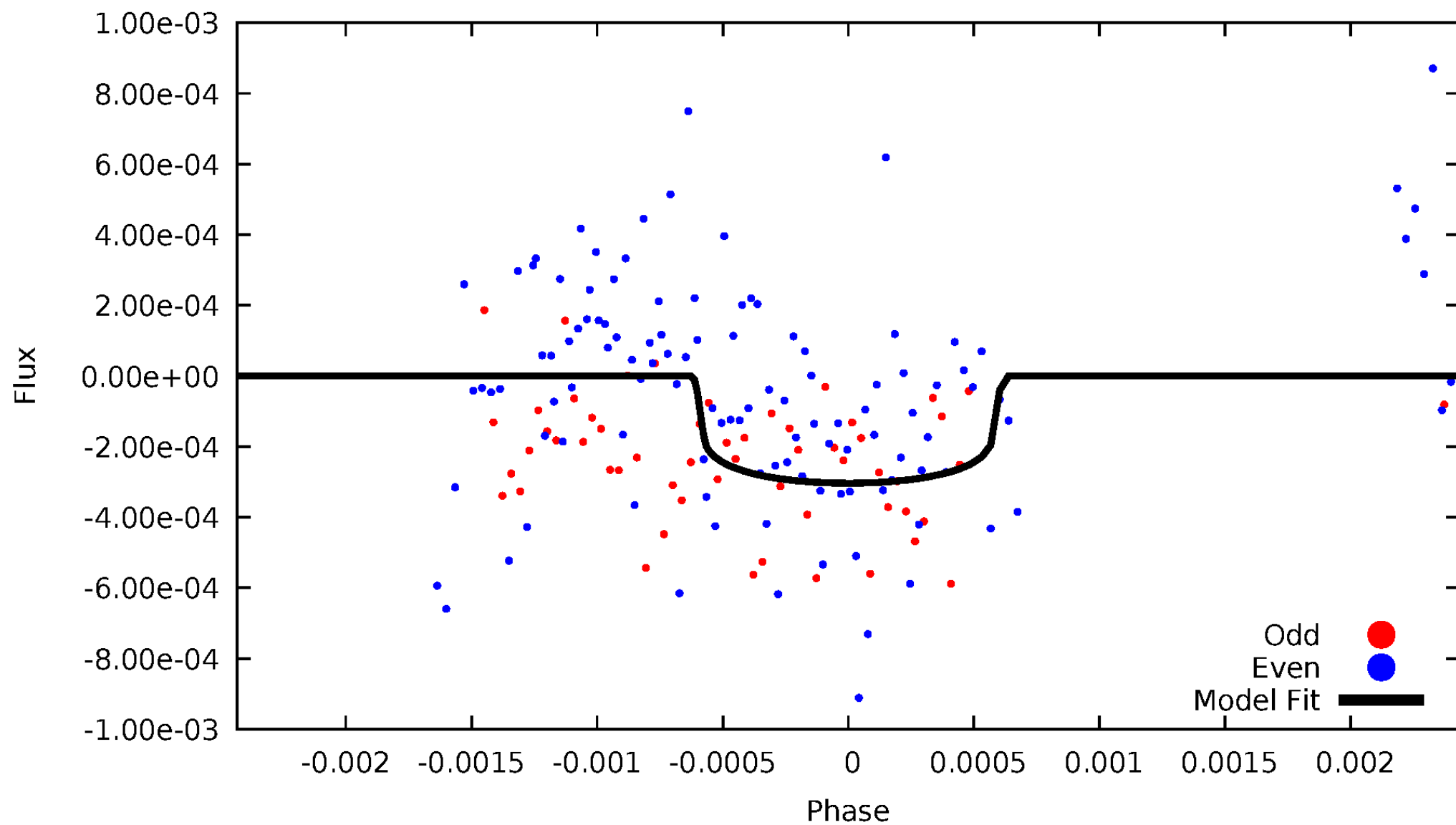


TCE 008250687-02



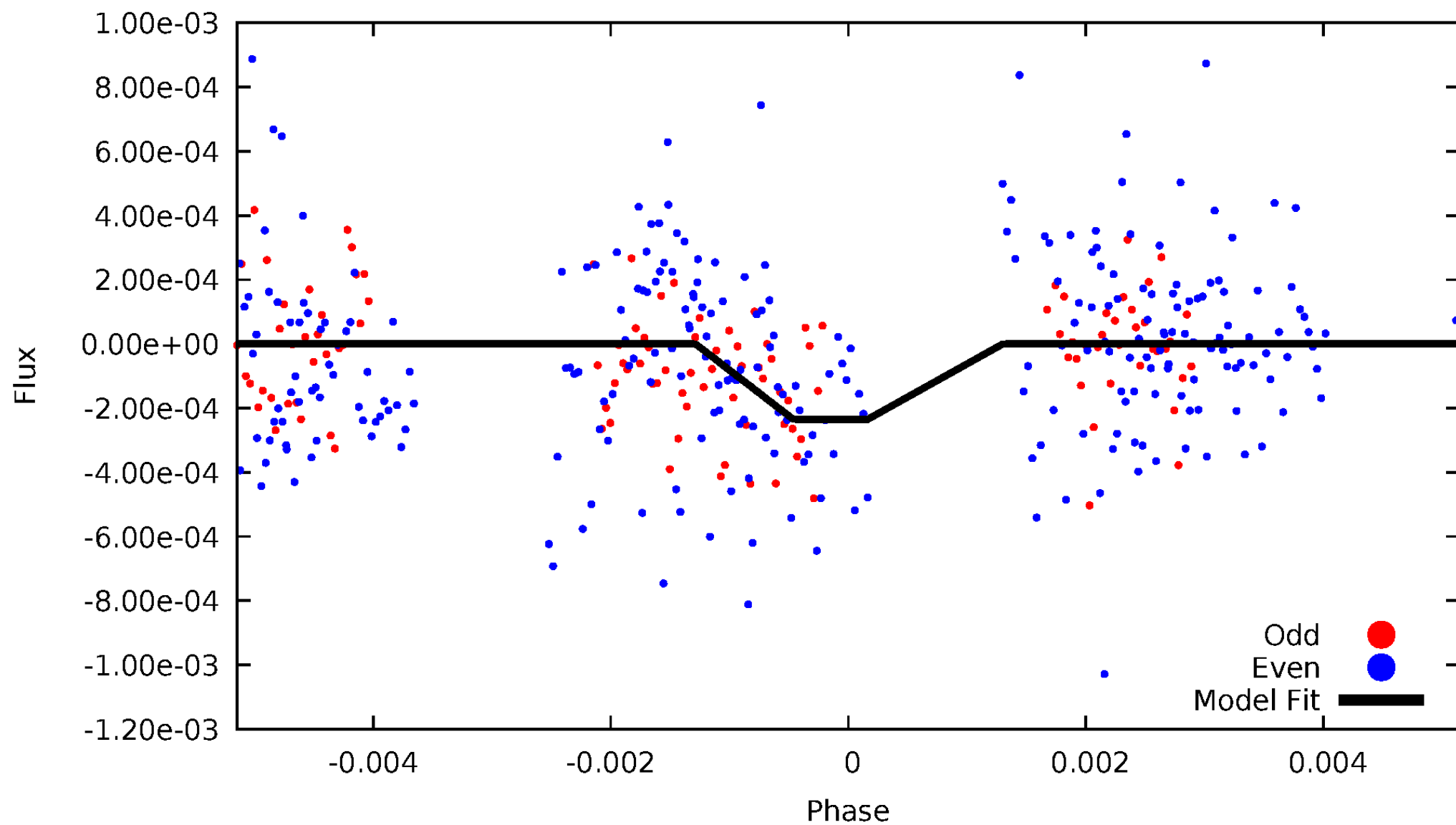
DV Odd/Even

TCE 008250687-02



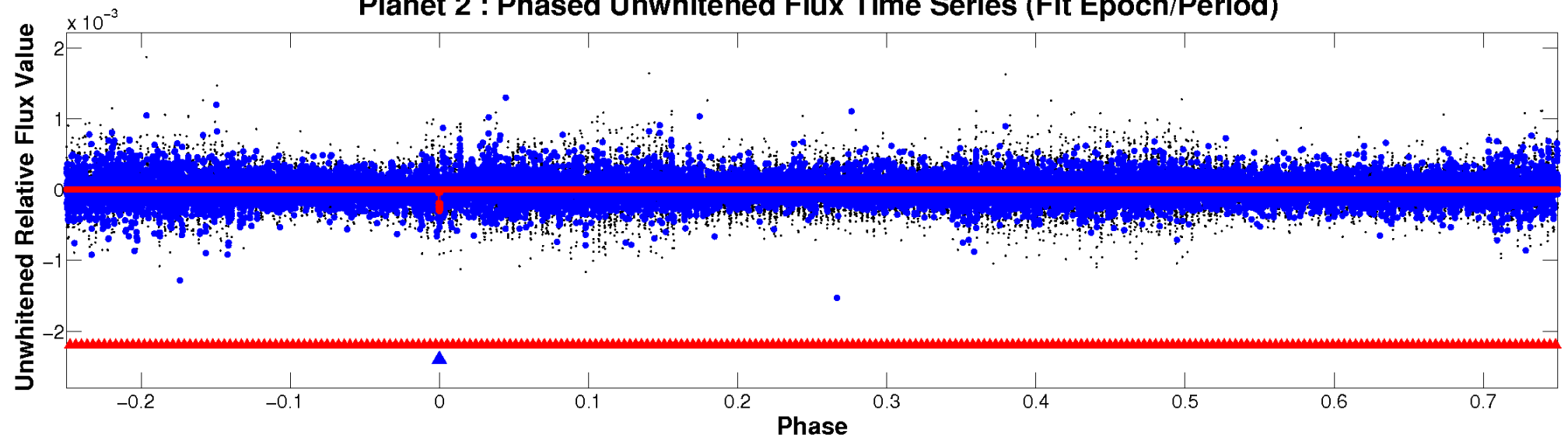
ALT Odd/Even

TCE 008250687-02

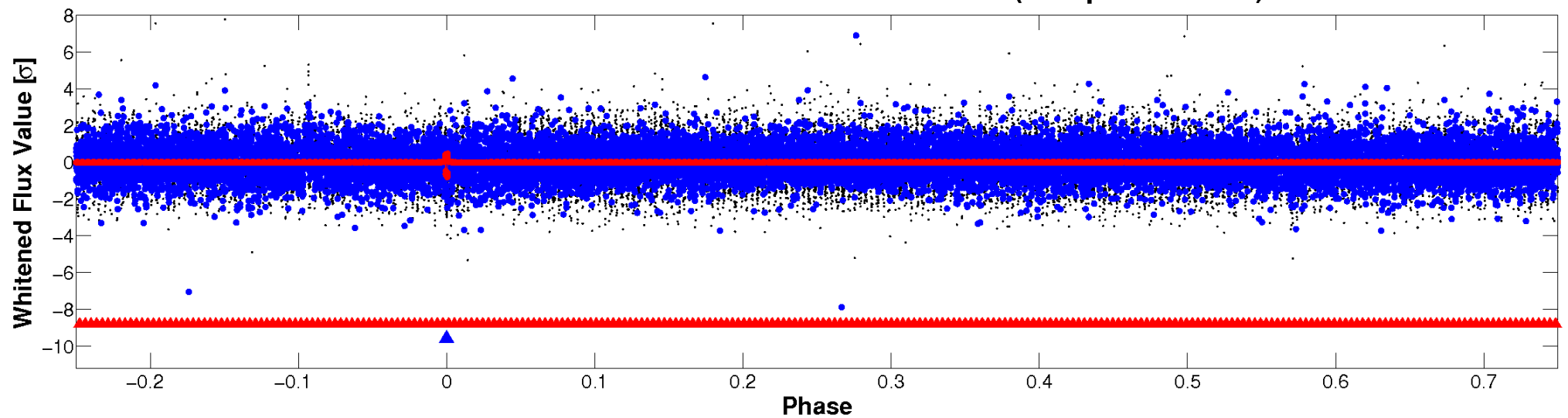


Non-Whitened Vs. Whitened Light Curve

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

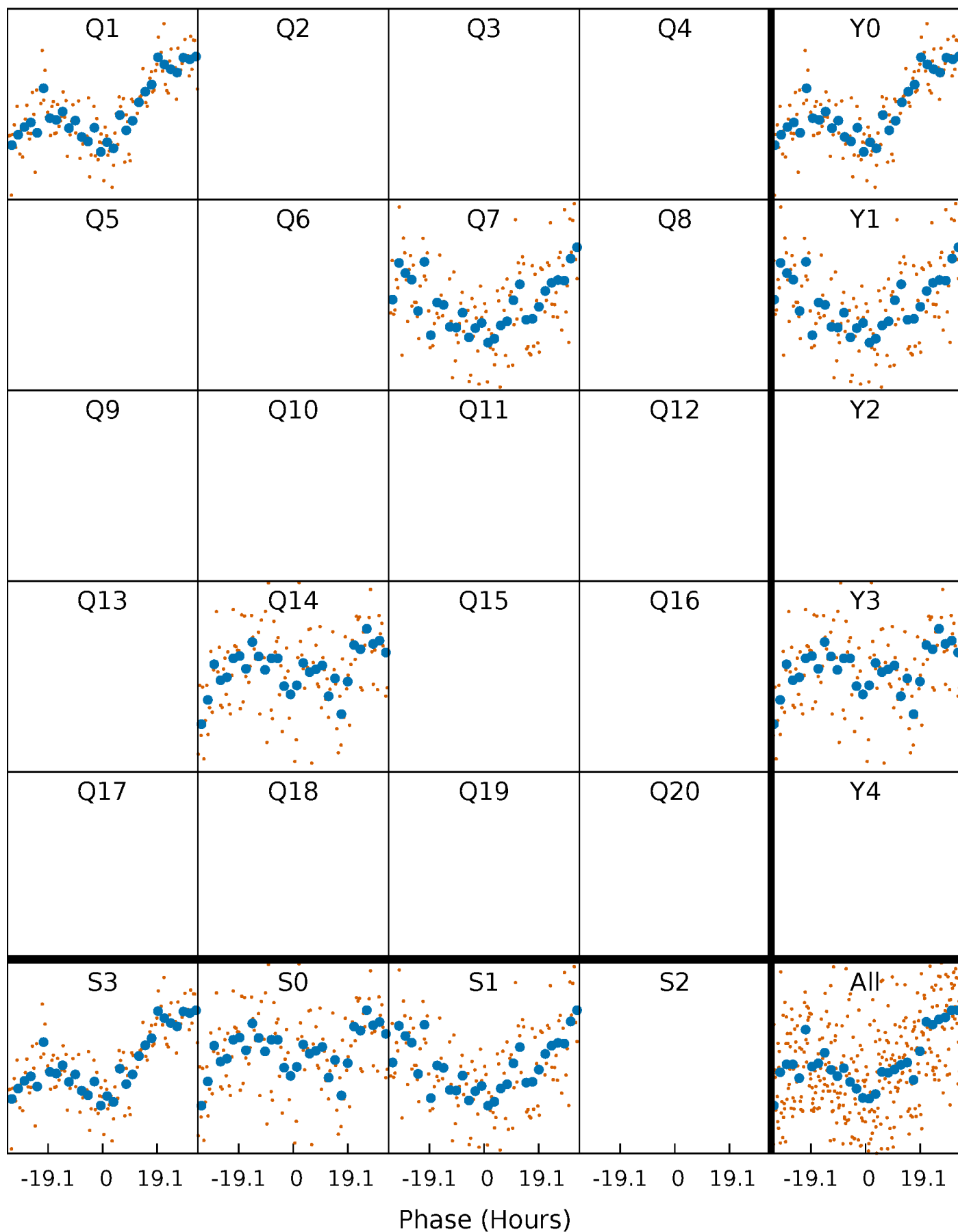


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



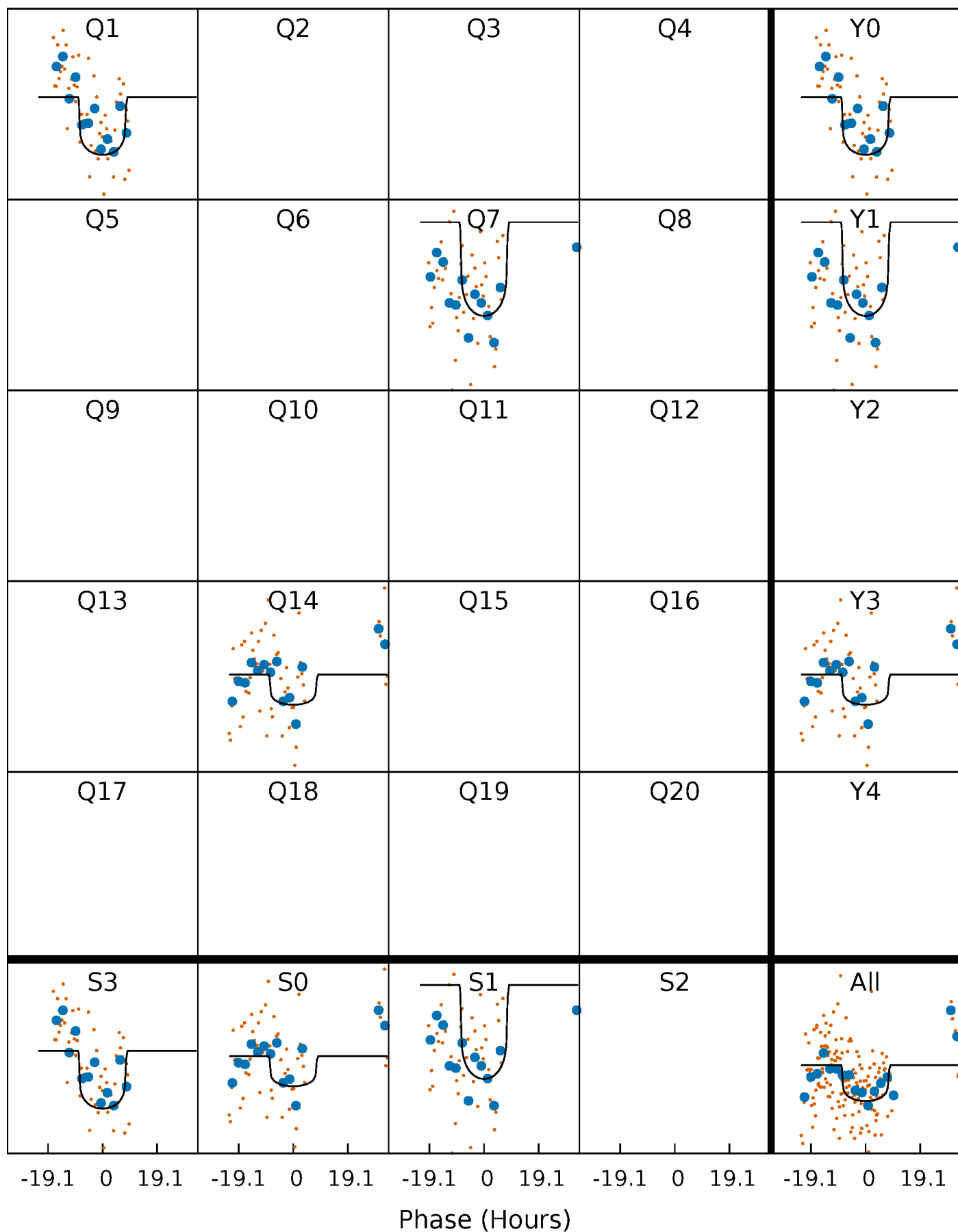
PDC Quarter-Phased Transit Curves

TCE 008250687-02 $P=572.311982$ Days $T_0=136.541411$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008250687-02 P=572.311982 Days $T_0=136.541411$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

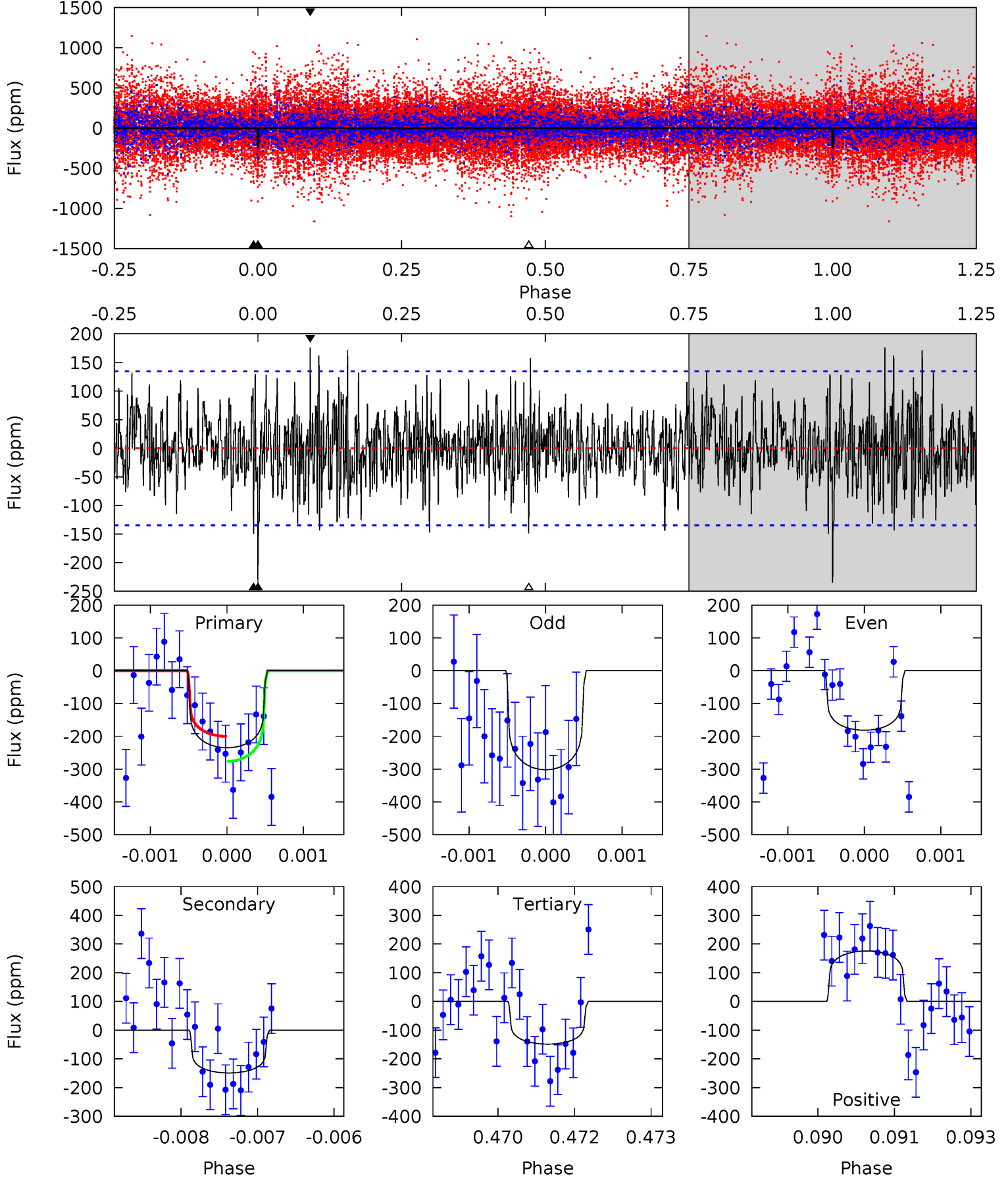
TCE 008250687-02 P=572.418939 Days $T_0=136.834011$ (BKJD)



DV Model-Shift Uniqueness Test

008250687-02, P = 572.311982 Days, E = 136.541411 Days

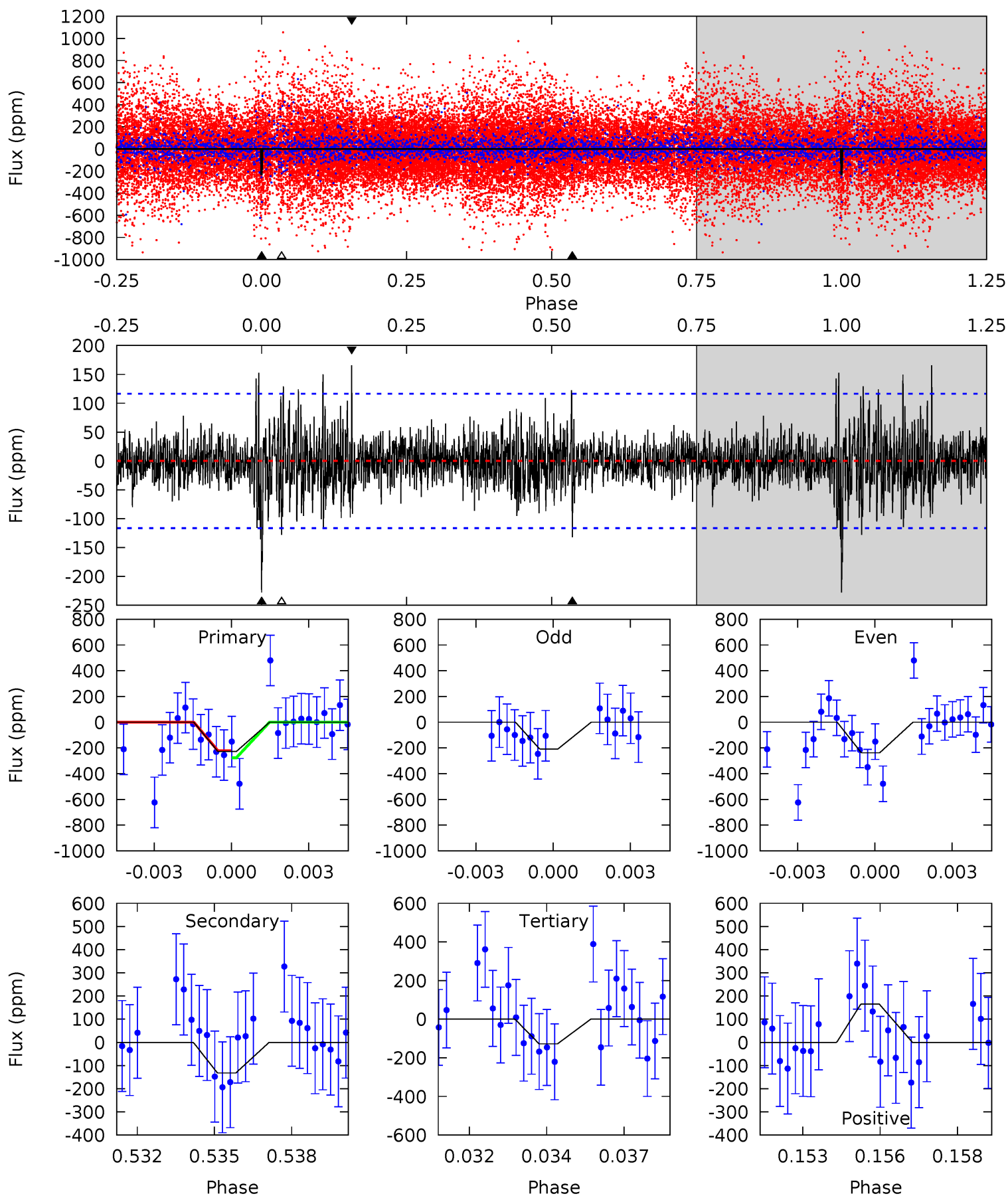
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.45	6.00	5.97	7.07	5.42	3.24	1.87	3.47	2.38	0.02	-1.08	2.27	1.15	0.43	1.53



Alt Model-Shift Uniqueness Test

008250687-02, P = 572.418939 Days, E = 136.834011 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	5.98	5.78	7.49	5.28	3.01	1.40	4.54	2.83	0.20	-1.50	0.62	0.95	0.42	0.60



Stellar Parameters For KIC 008250687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6567^{+181}_{-227}	$4.161^{+0.209}_{-0.171}$	$-0.320^{+0.250}_{-0.300}$	$1.457^{+0.422}_{-0.346}$	$1.122^{+0.192}_{-0.139}$	$0.511^{+0.603}_{-0.242}$
	+3%/-3%	+5%/-4%	+78%/-94%	+29%/-24%	+17%/-12%	+118%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008250687-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-149 ± 25	$2.70^{+1.52}_{-1.29}$	410^{+31}_{-29}	5532^{+2218}_{-910}	21926^{+61820}_{-12782}
Alt.	-132 ± 22	$2.59^{+1.39}_{-1.39}$	410^{+35}_{-28}	5536^{+2644}_{-941}	21369^{+75237}_{-12415}

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

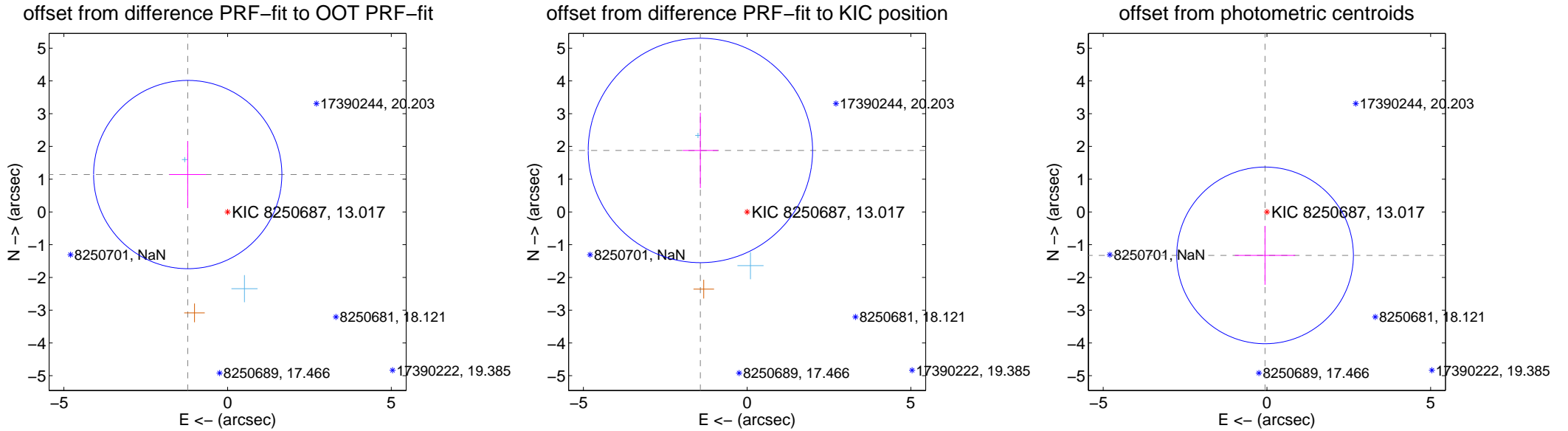
DV Centroid Data

Supplemental centroid analysis for 008250687-02. Kepler magnitude: 13.02. Transit SNR 6.32

There are 2 quarters with good PRF difference image offsets

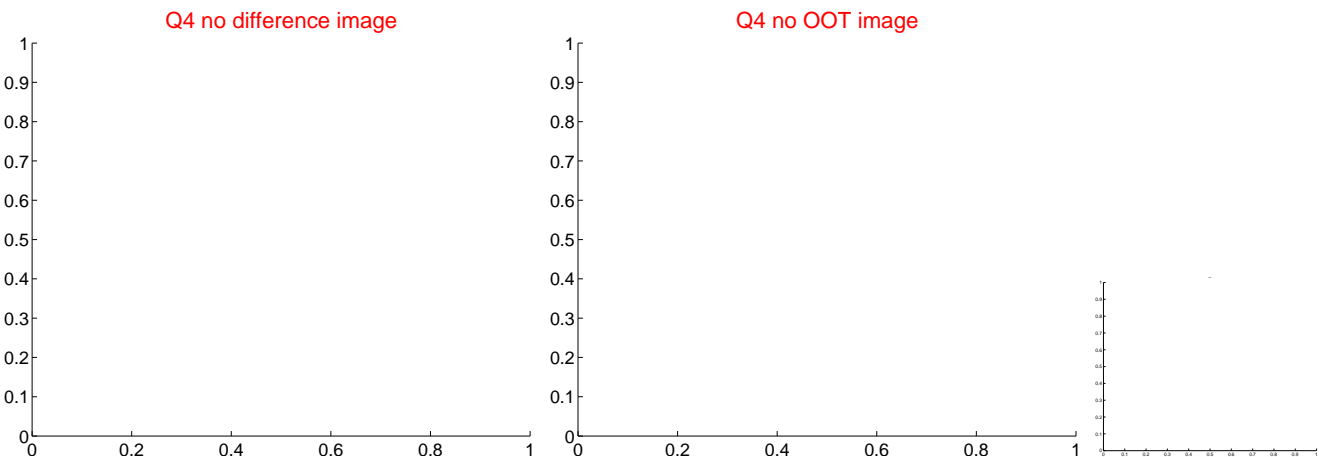
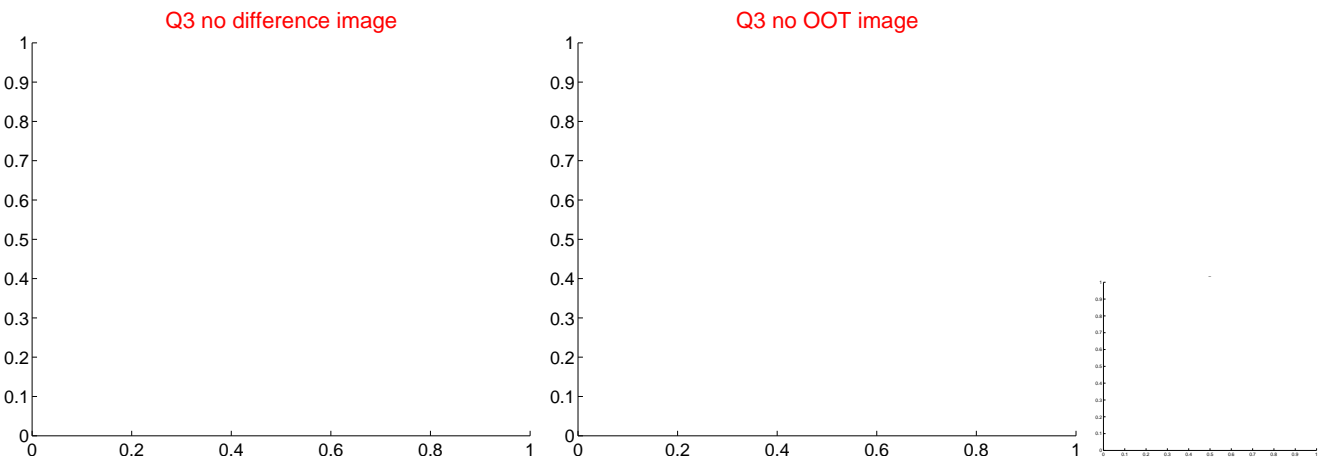
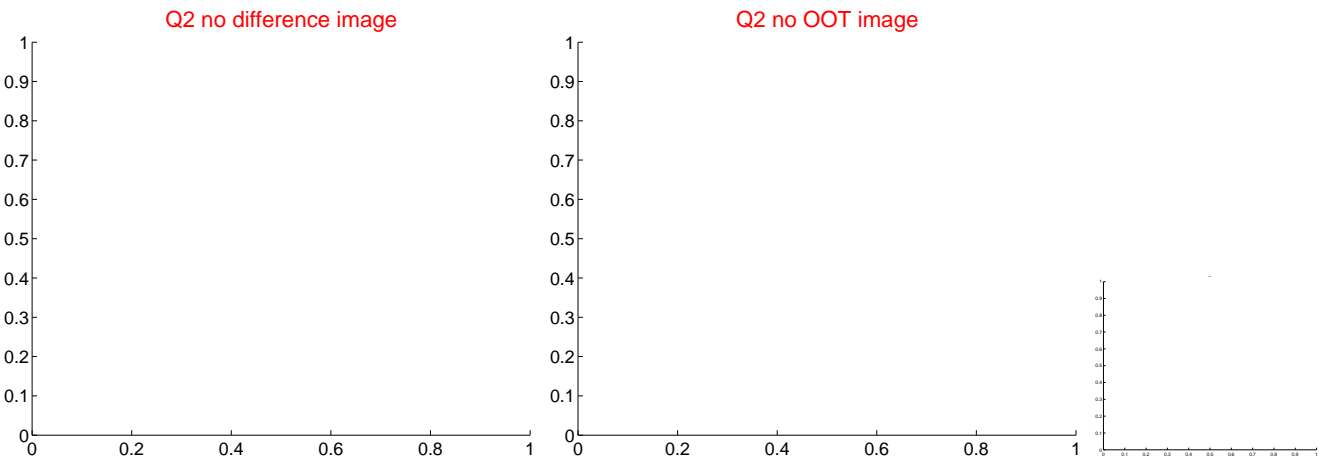
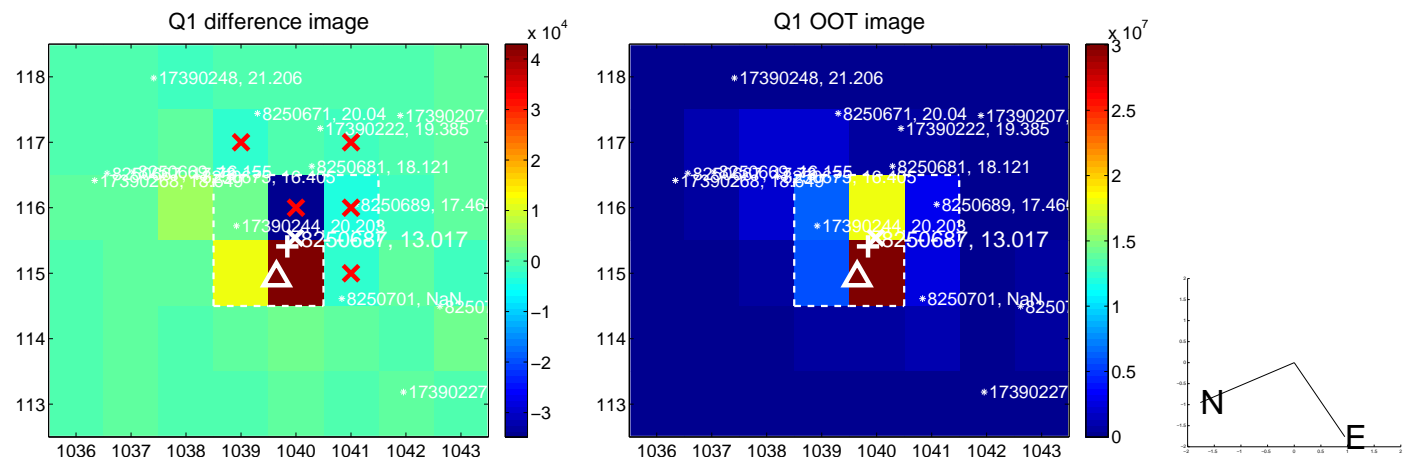
The direct PRF centroid is offset from the target star catalog position by about 0.79 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.669 ± 0.958	1.74	1.218 ± 0.563	1.142 ± 1.021
PRF-fit source offset from KIC position	2.359 ± 1.142	2.07	1.427 ± 0.540	1.878 ± 1.150
photometric centroid source offset	1.33 ± 0.90	1.48	0.06 ± 0.92	-1.33 ± 0.90



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.

Q5 no difference image



Q5 no OOT image



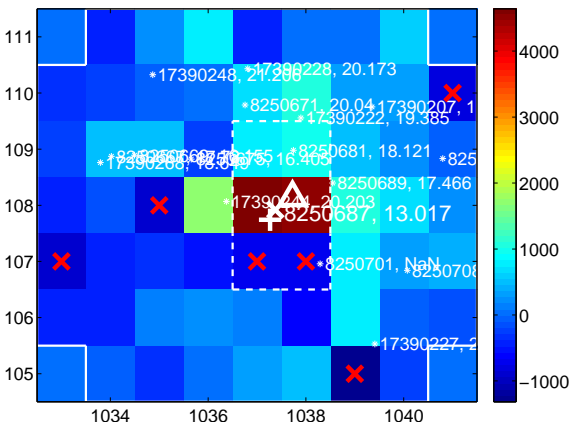
Q6 no difference image



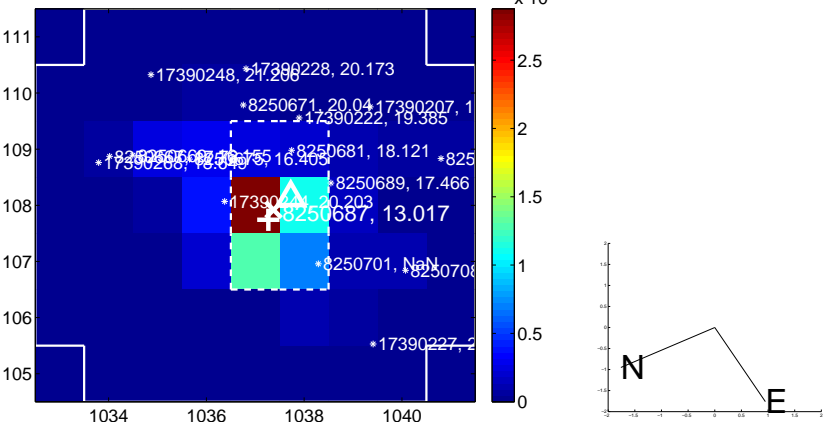
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



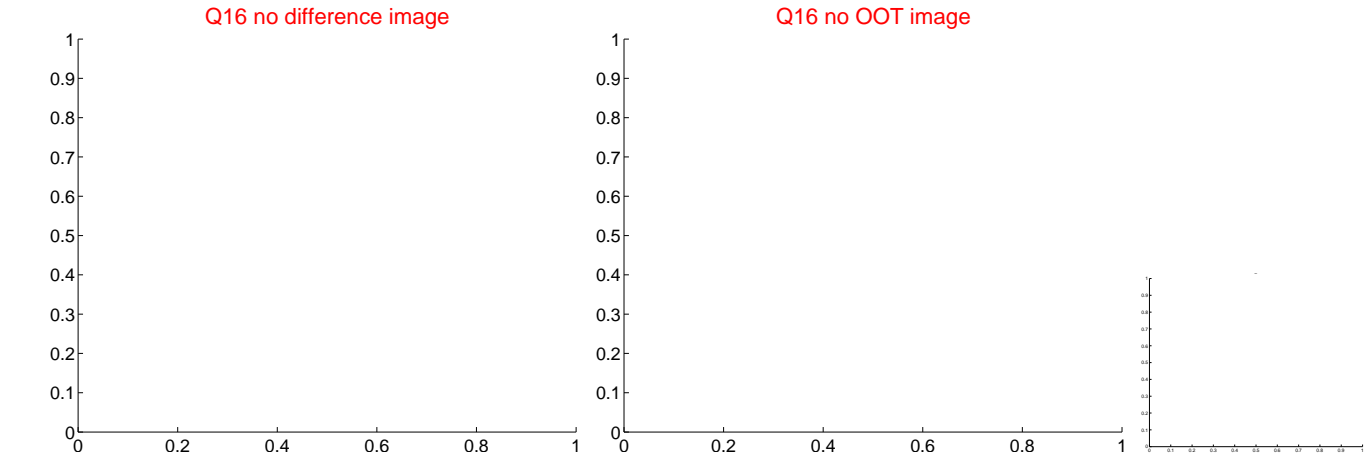
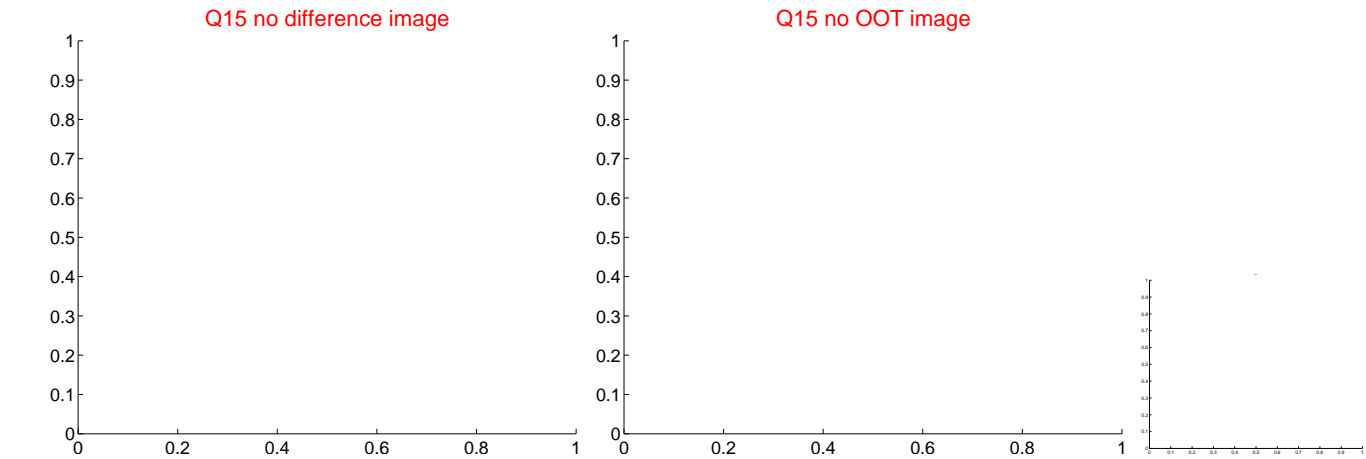
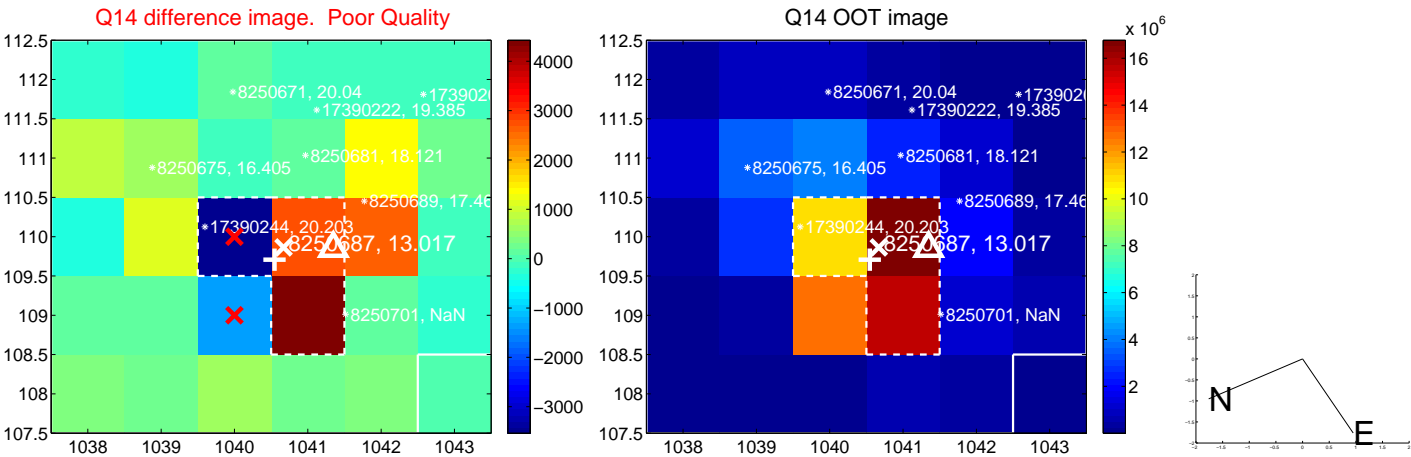
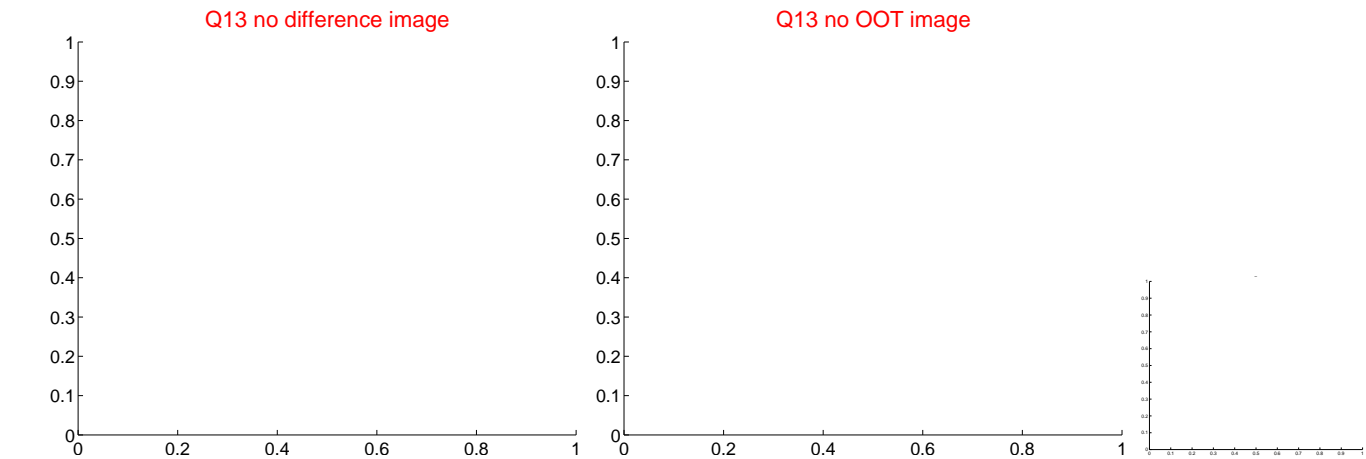
Q8 no OOT image



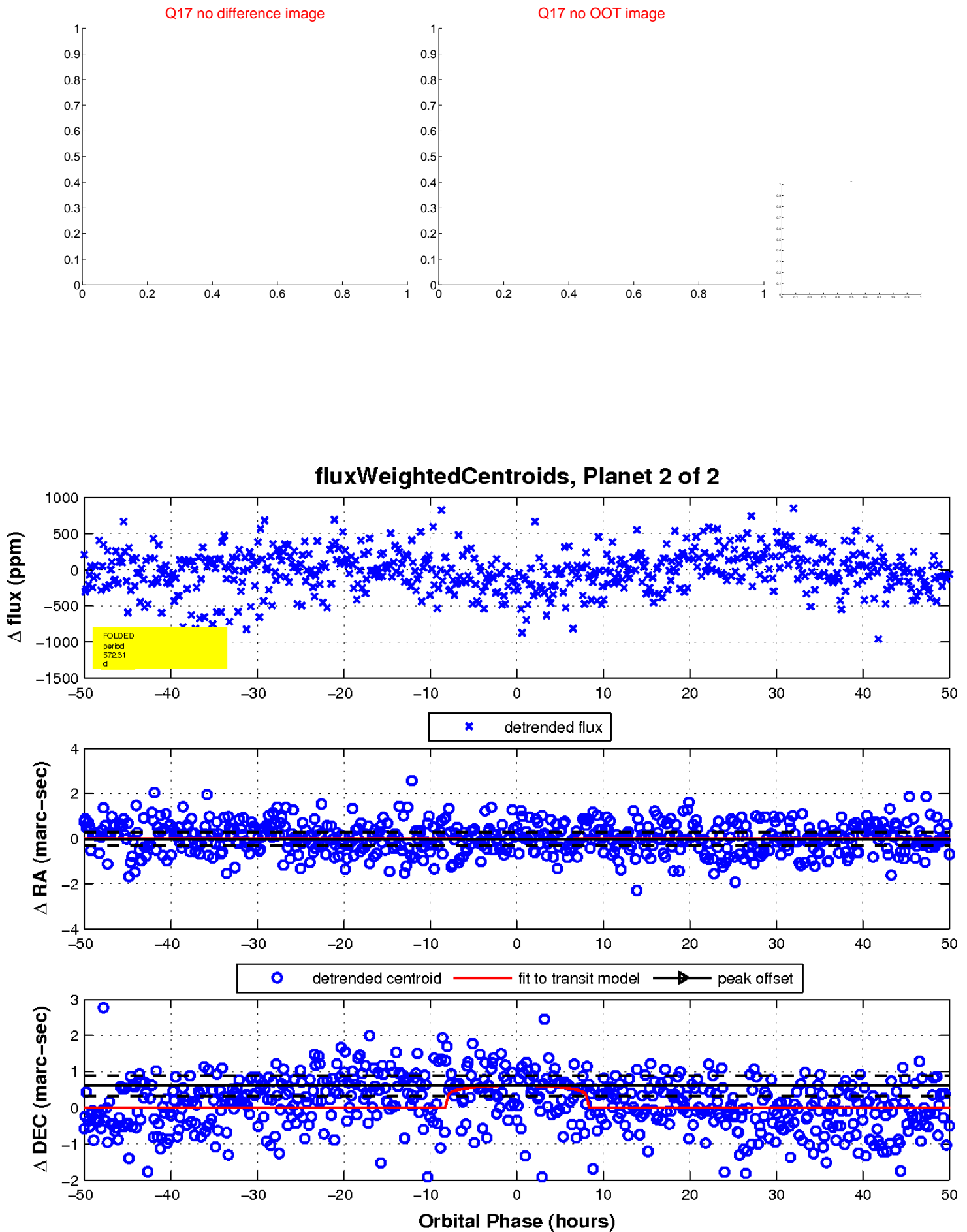
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

