

KIC 008717374

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})
008717374-01	OBS	No	1.020338	132.566782	16.0	5.801	8.2	5.0	3.17	6167	1.27	26875.76
008717374-02	OBS	No	107.338411	139.291163	349.6	13.447	9.9	8.5	3.17	6167	11.59	54.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008717374-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008717374-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

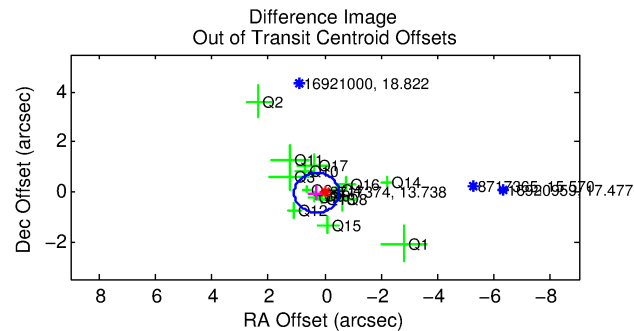
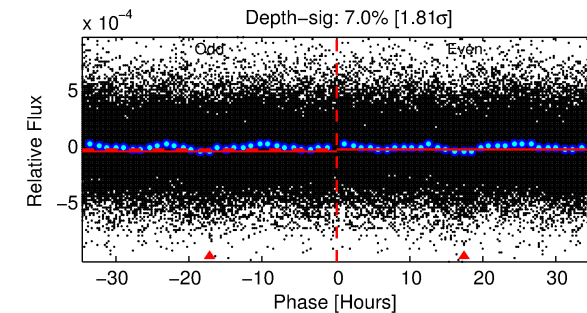
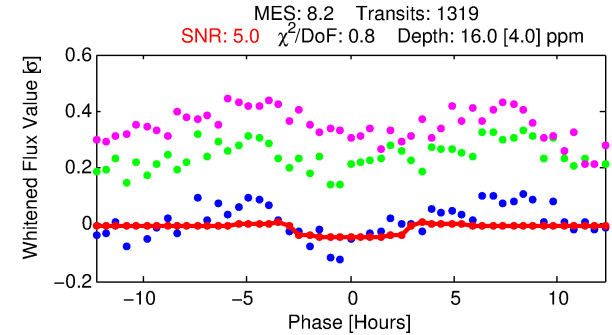
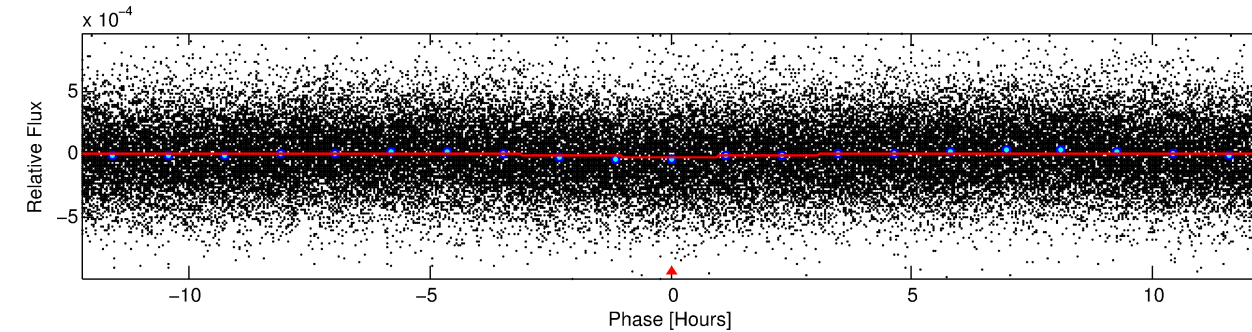
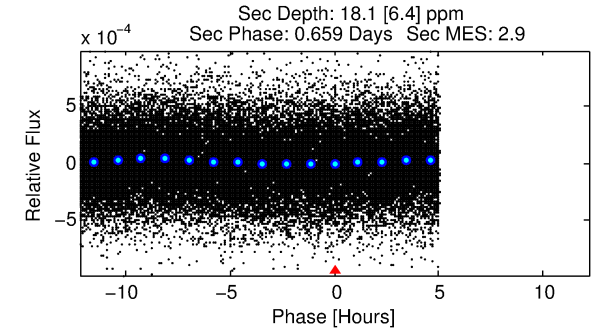
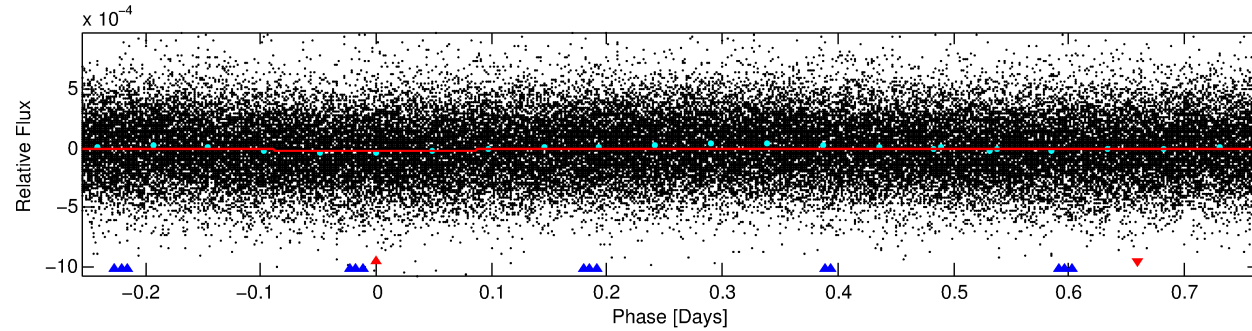
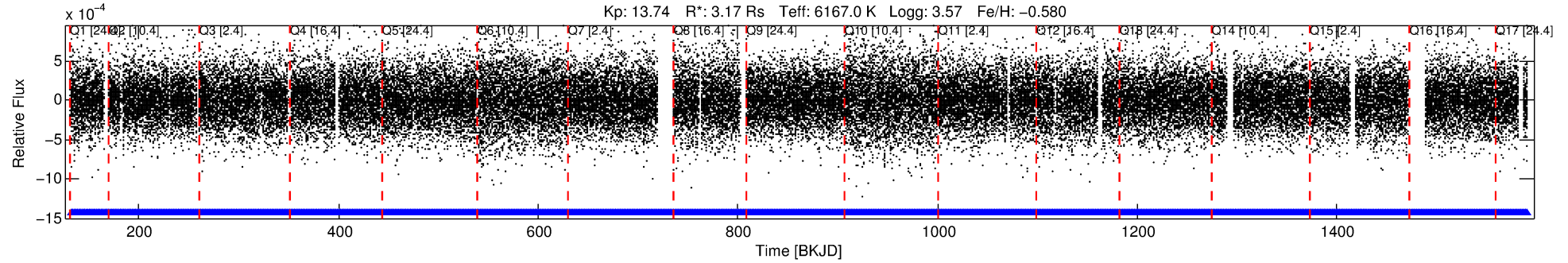
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008717374-01

No Significant Match Found

DV One-Page Summary

KIC: 8717374 Candidate: 1 of 2 Period: 1.020 d



DV Fit Results:

Period = 1.02034 [0.00003] d
Epoch = 132.5668 [0.0094] BKJD
Rp/R* = 0.0037 [0.0056]
a/R* = 1.48 [6.25]
b = 0.00 [5669.66]
Seff = 26875.76 [33742.62]
Teff = 3265 [1025] K
Rp = 1.27 [2.10] Re
a = 0.0220 [0.0159] AU
Ag = 2.98 [9.88] [0.20σ]
Teffp = 6633 [5096] K [0.65σ]

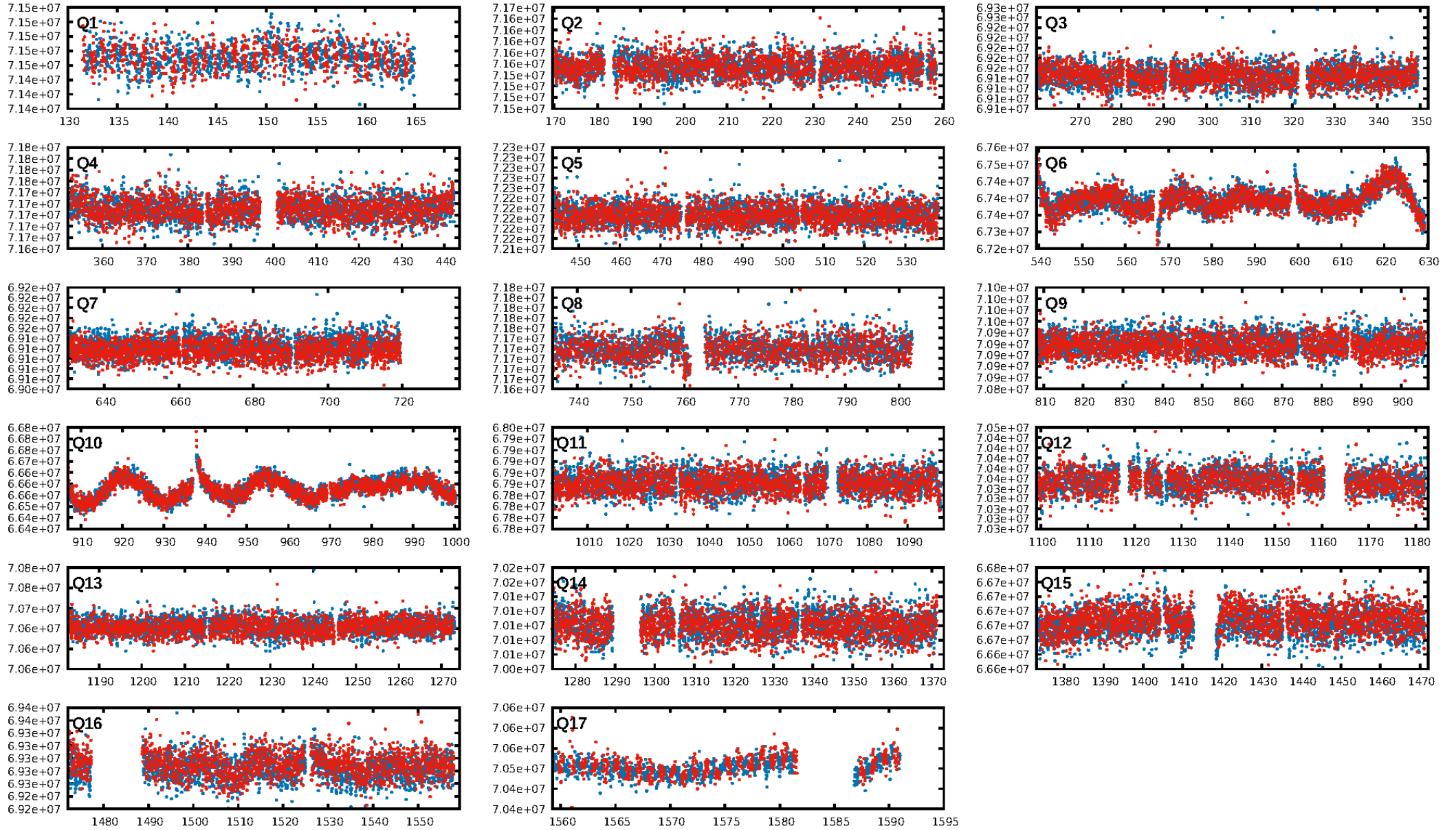
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [174.23σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.48e-09
RollingBand-fgt: 1.00 [1260/1260]
GhostDiagnostic-chr: 3.058
Centroid-sig: 0.4%
Centroid-so: 3.877 arcsec [2.53σ]
OotOffset-rm: 0.298 arcsec [1.12σ]
KicOffset-rm: 0.364 arcsec [1.36σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 1.00 [17/17]

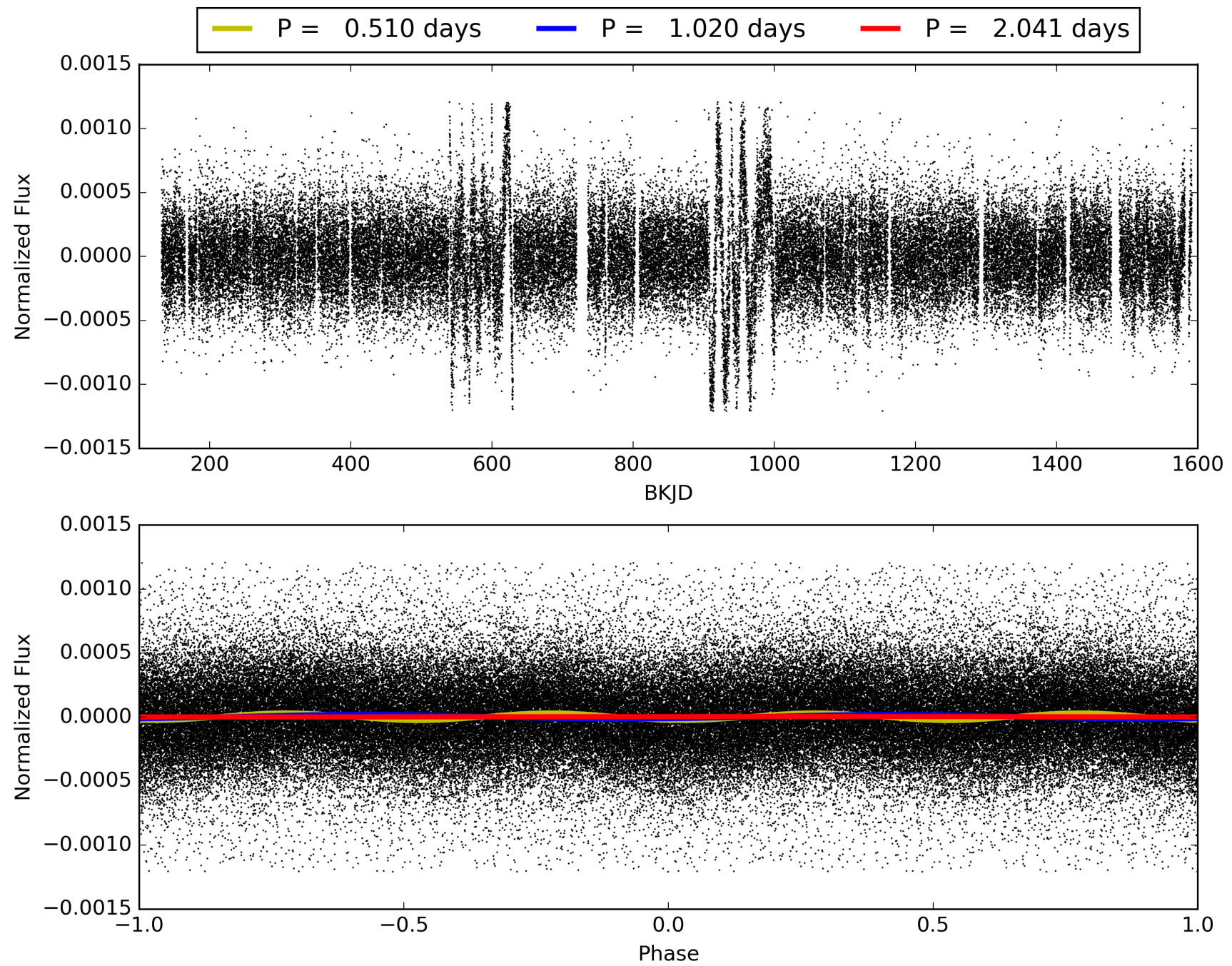
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008717374-01, PDC Light Curves

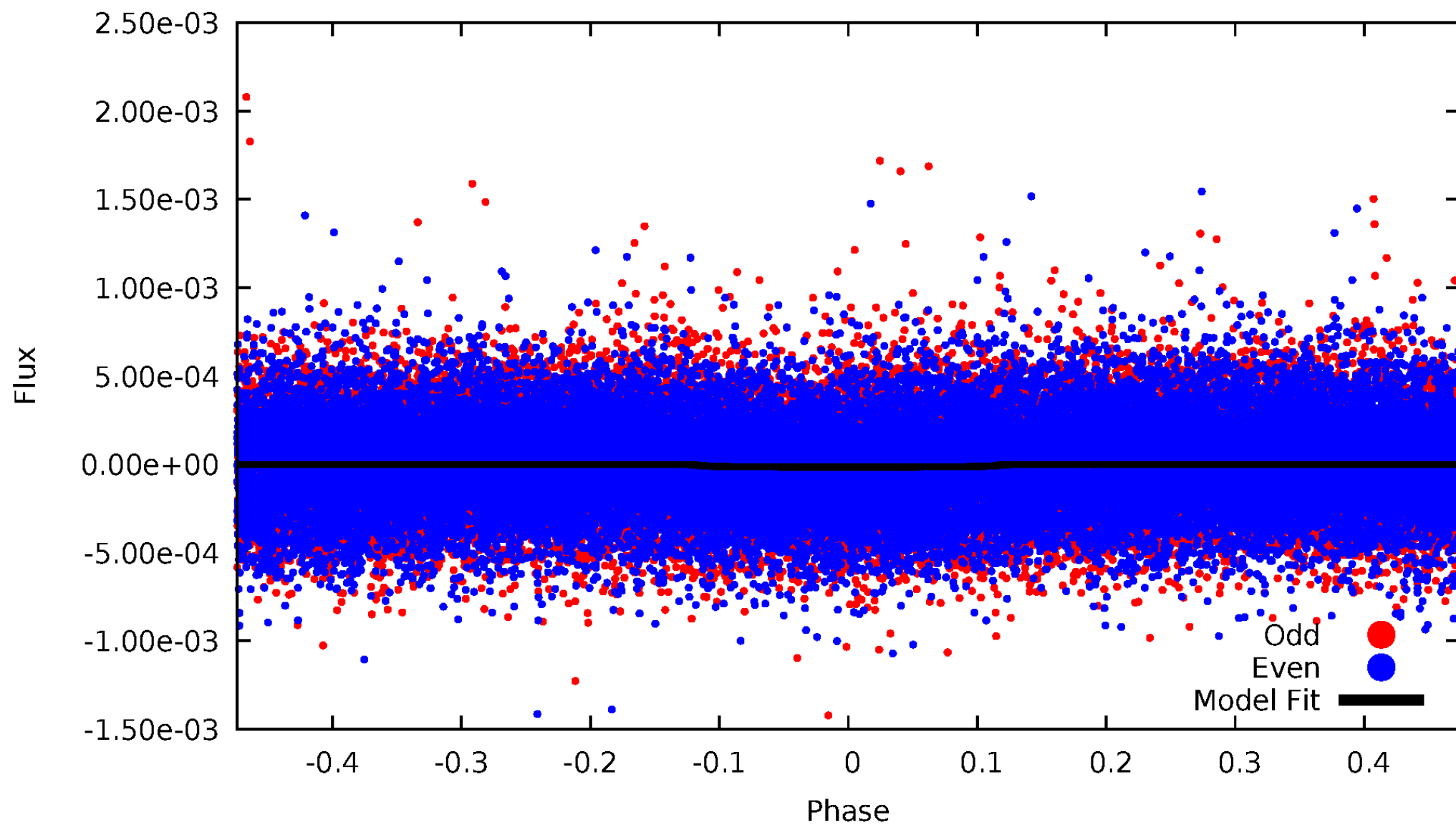


TCE 008717374-01



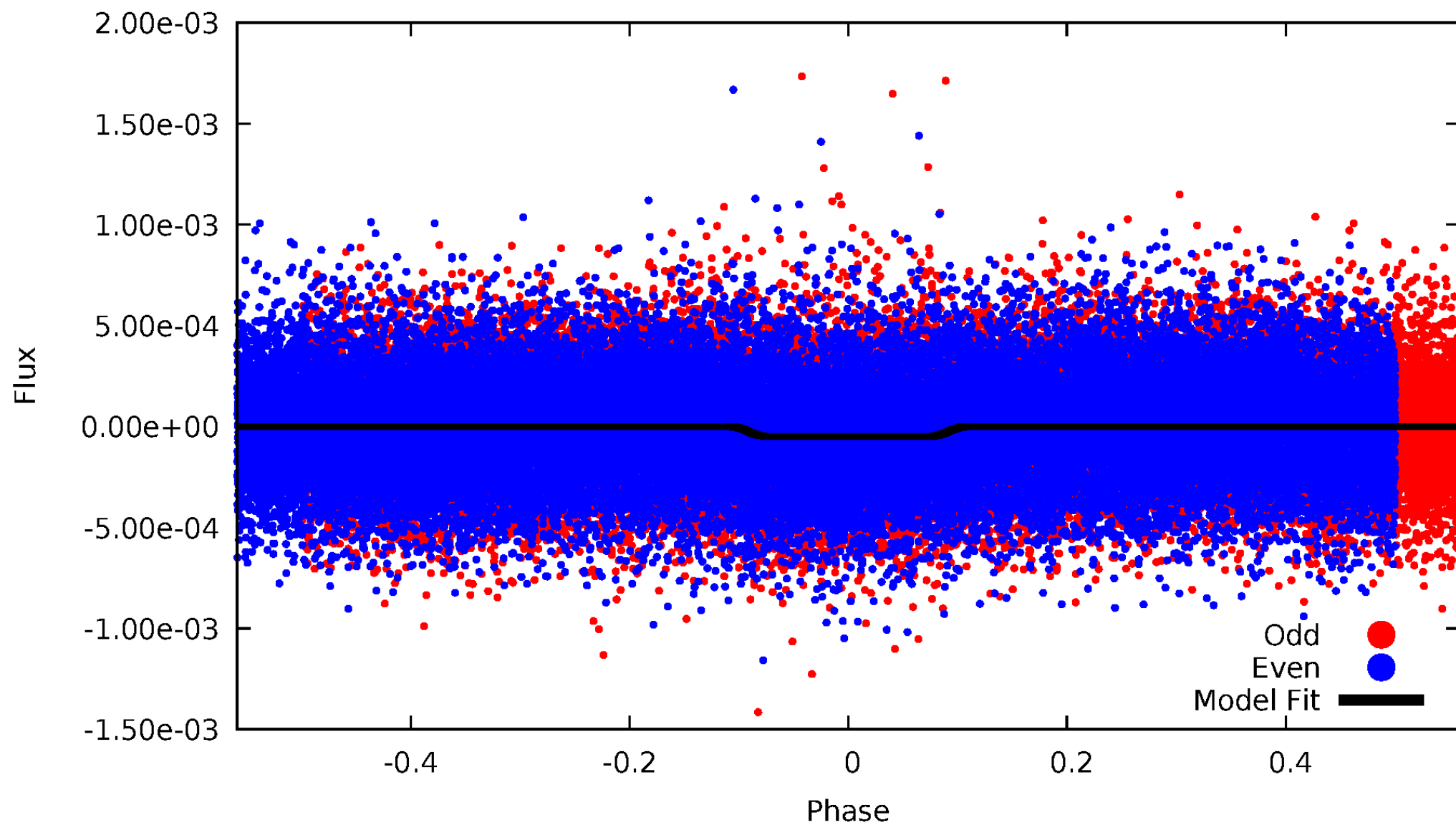
DV Odd/Even

TCE 008717374-01



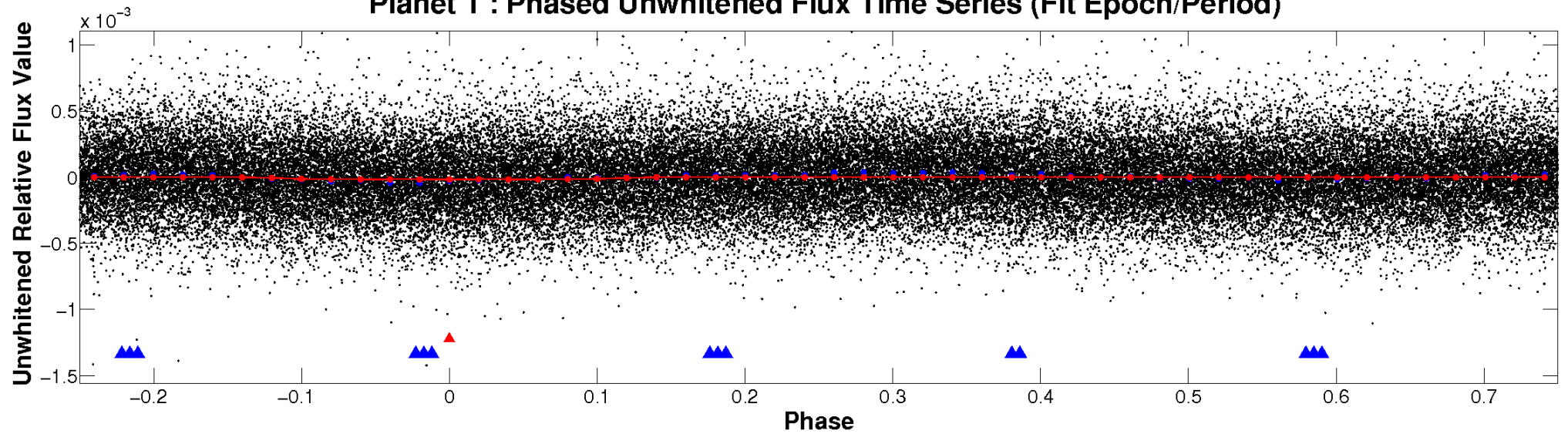
ALT Odd/Even

TCE 008717374-01

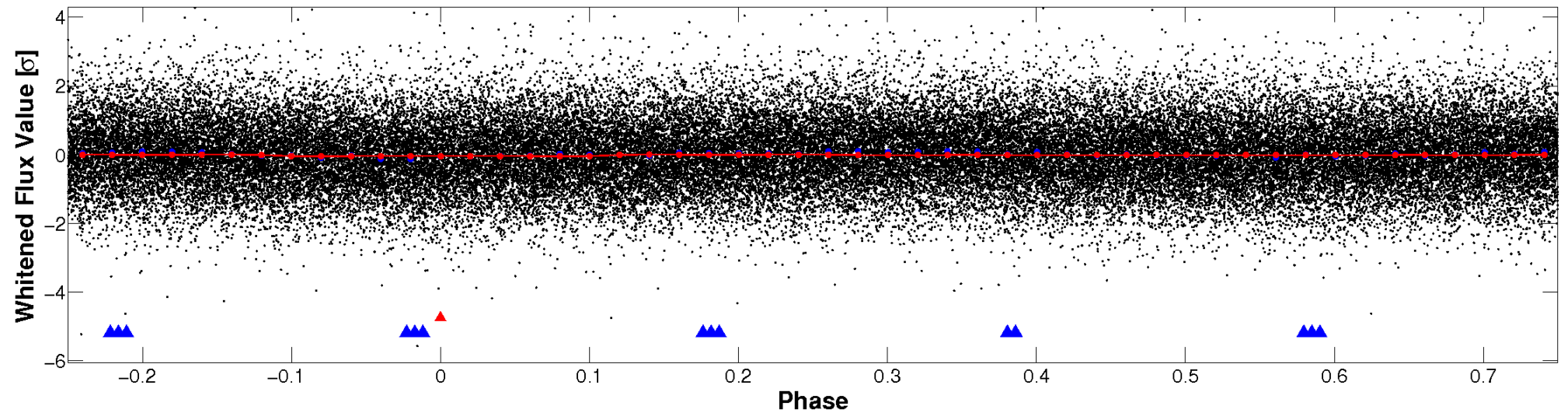


Non-Whitened Vs. Whitened Light Curve

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

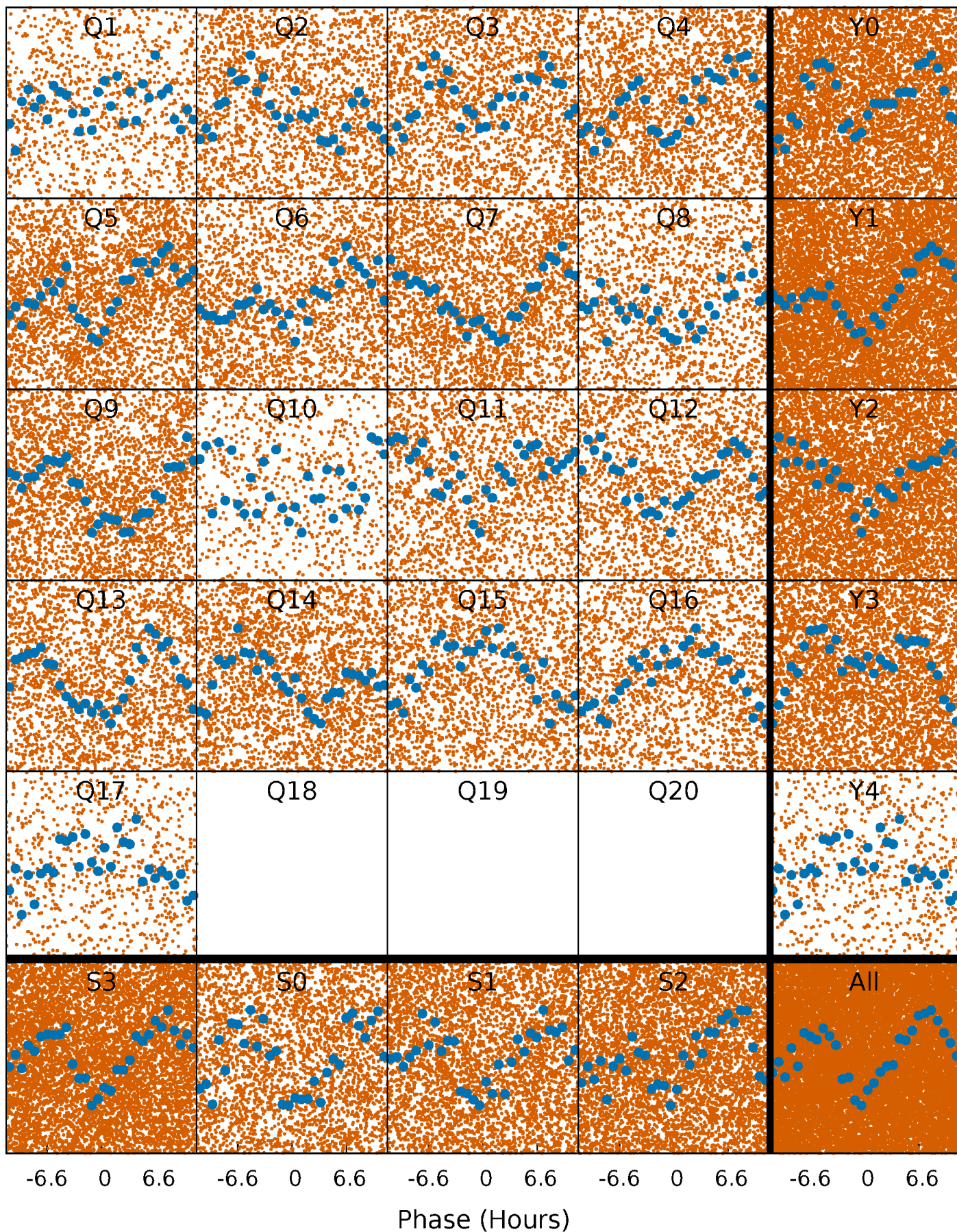


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



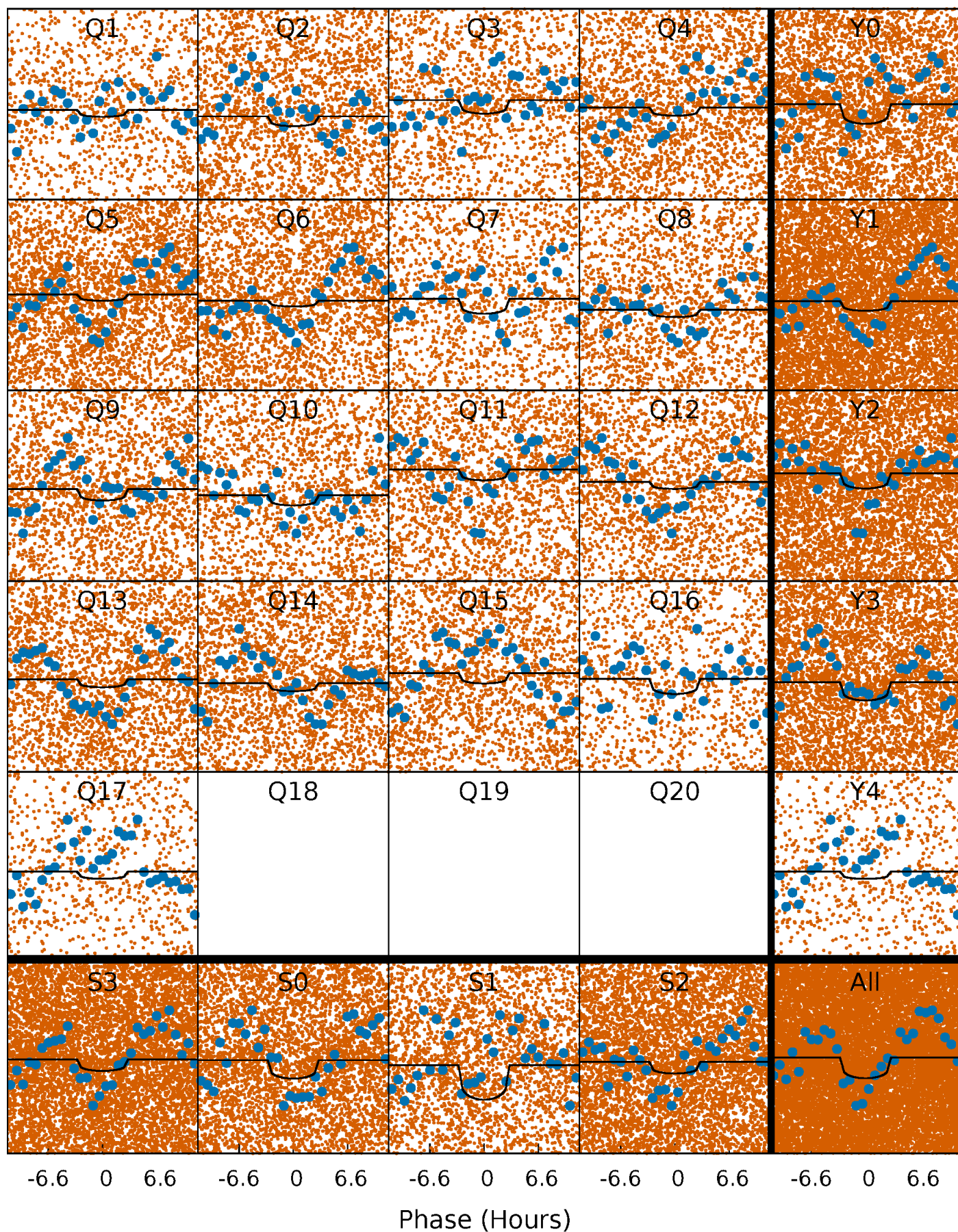
PDC Quarter-Phased Transit Curves

TCE 008717374-01 P= 1.020338 Days $T_0=132.566782$ (BKJD)



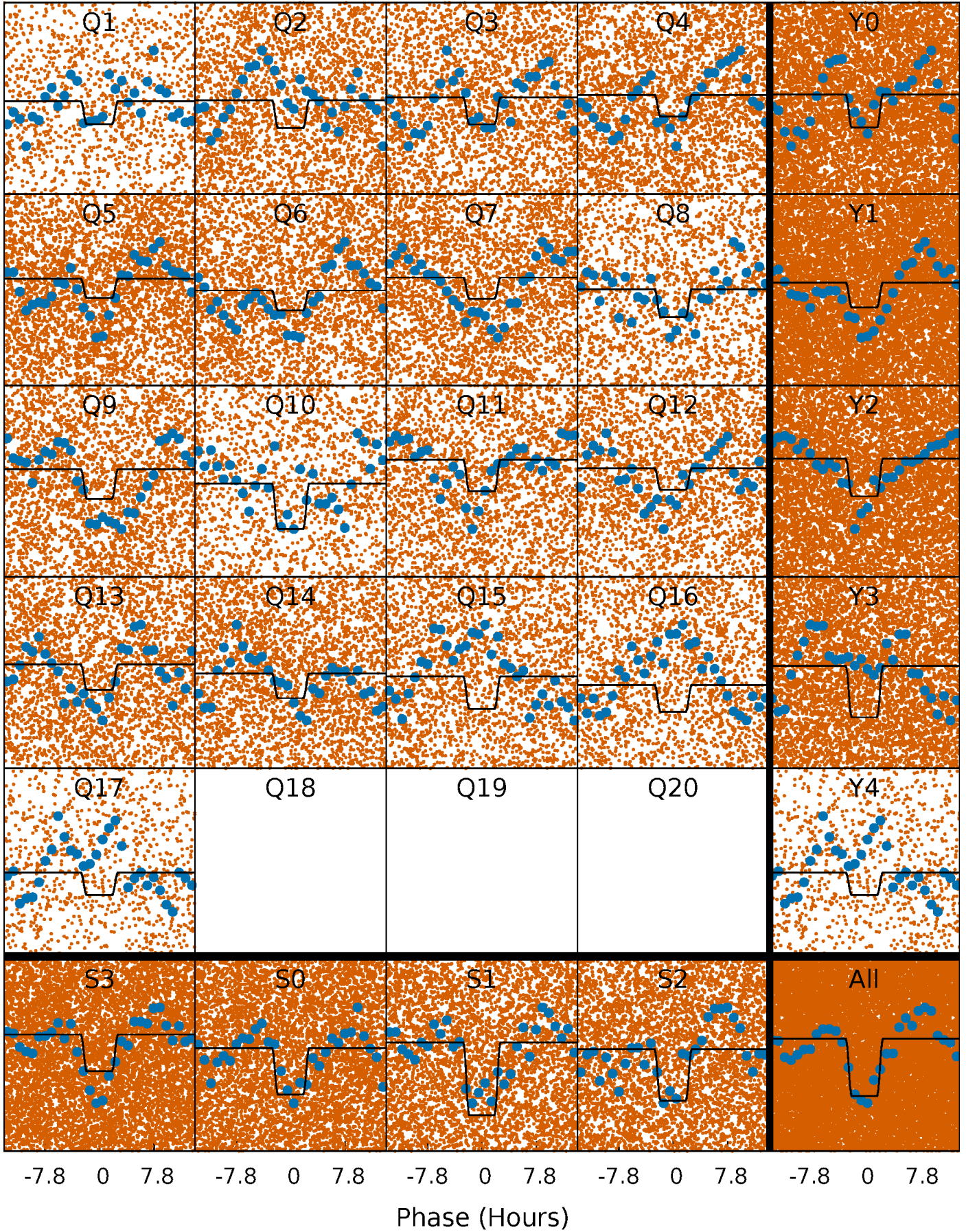
DV Quarter-Phased Transit Curves

TCE 008717374-01 P= 1.020338 Days $T_0=132.566782$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

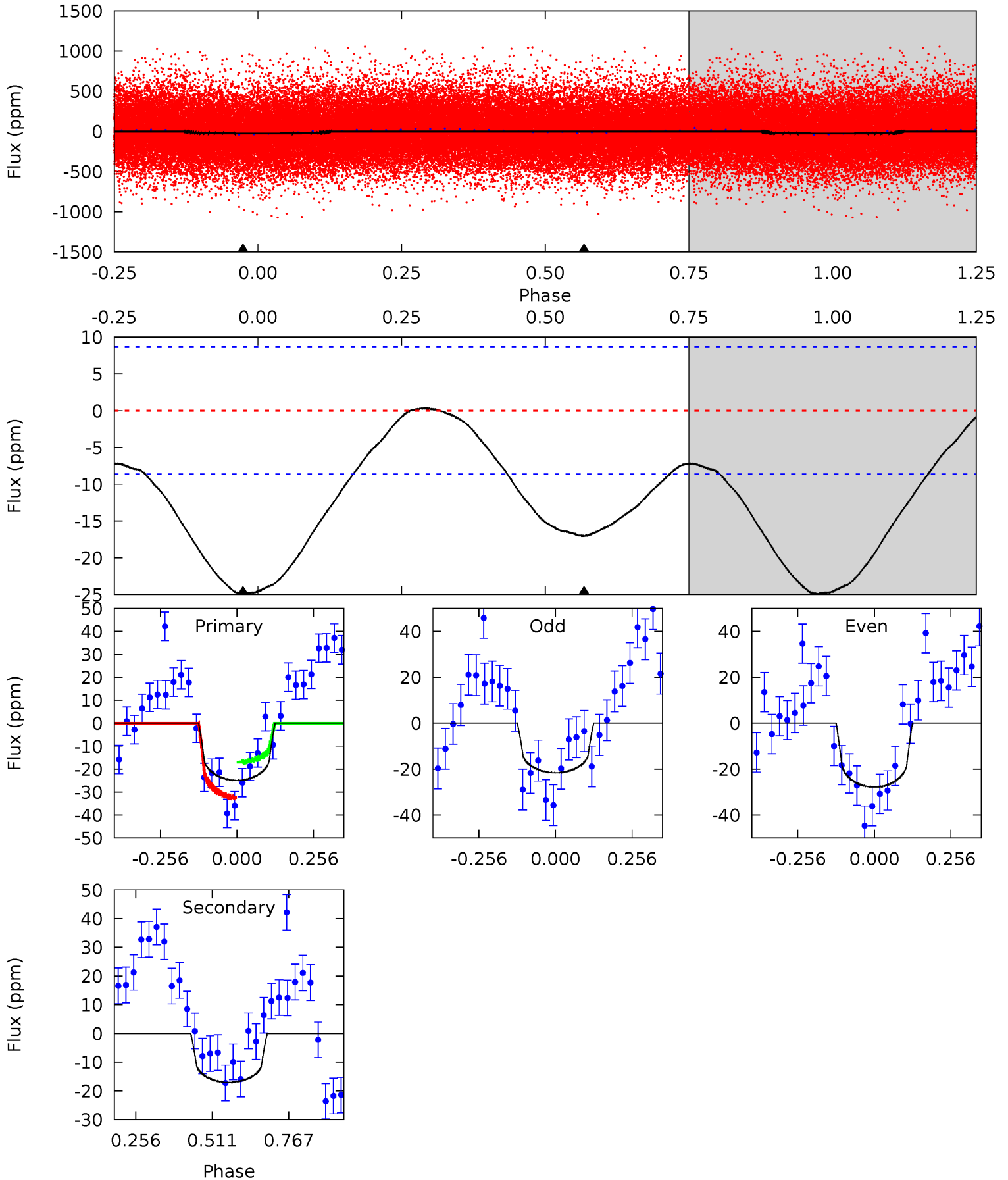
TCE 008717374-01 P= 1.020427 Days $T_0=132.509912$ (BKJD)



DV Model-Shift Uniqueness Test

008717374-01, P = 1.020338 Days, E = 130.526106 Days

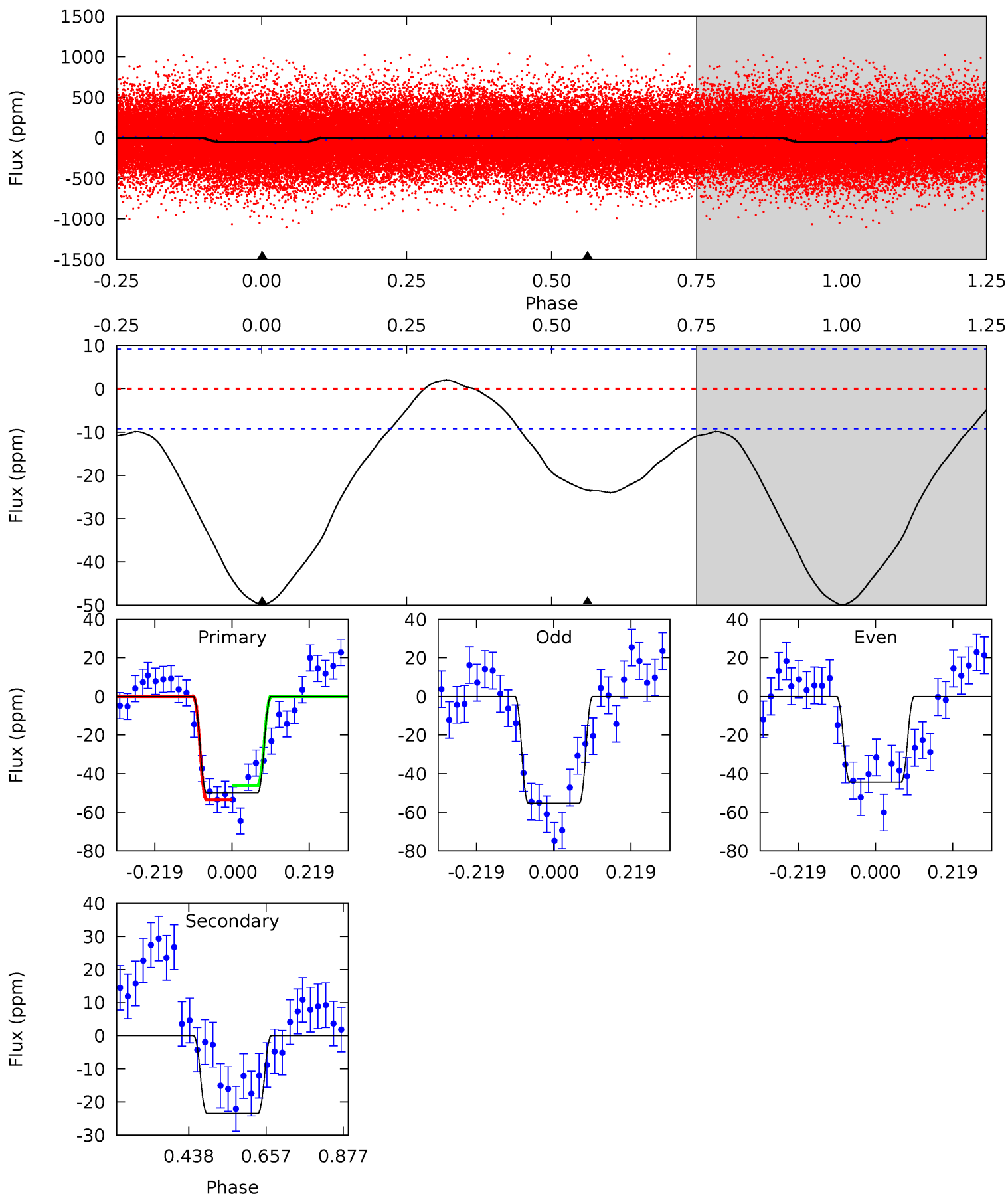
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	8.59	0	0	4.36	1.14	0.57	12.6	12.6	8.59	8.59	1.59	0.91	0.01	3.93



Alt Model-Shift Uniqueness Test

008717374-01, P = 1.020427 Days, E = 131.489485 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.9	11.2	0	0	4.40	1.23	1.79	23.9	23.9	11.2	11.2	2.59	0.87	0.04	1.73



Stellar Parameters For KIC 008717374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6167^{+222}_{-222}	$3.572^{+0.765}_{-0.135}$	$-0.580^{+0.350}_{-0.250}$	$3.175^{+0.715}_{-2.001}$	$1.374^{+0.195}_{-0.488}$	$0.060^{+0.890}_{-0.026}$
	+4%/-4%	+21%/-4%	+60%/-43%	+23%/-63%	+14%/-36%	+1471%/-42%
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 008717374-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-17 ± 2	$1.56^{+1.80}_{-1.10}$	4377^{+417}_{-841}	5015^{+5129}_{-1743}	$1.878^{+17.771}_{-1.483}$
Alt.	-23 ± 2	$2.20^{+2.12}_{-1.36}$	4406^{+392}_{-713}	4573^{+3235}_{-1601}	$1.201^{+7.425}_{-0.854}$

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

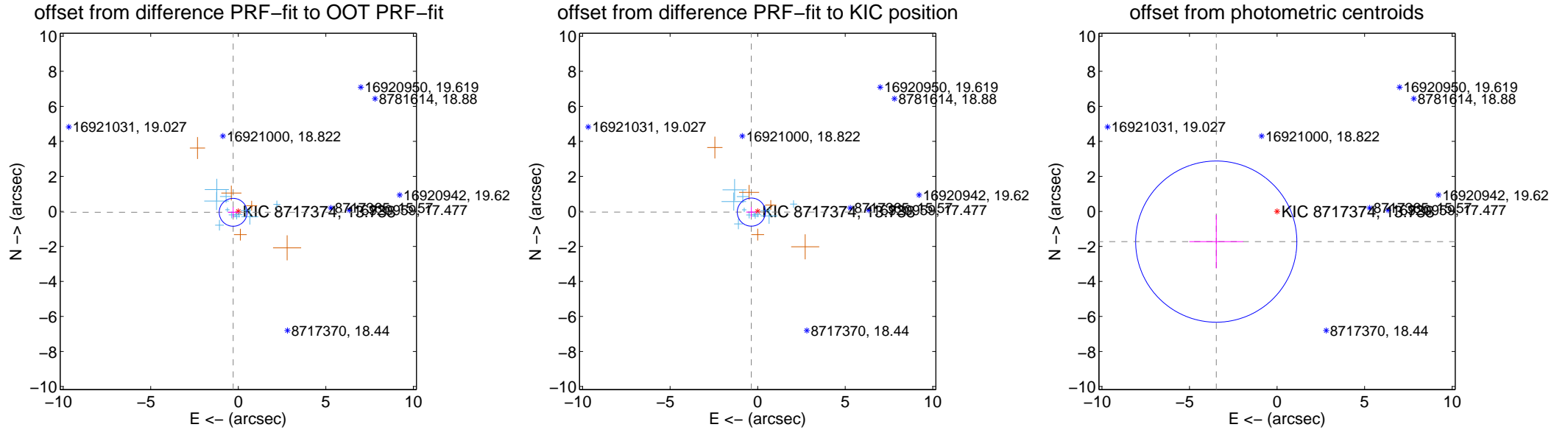
DV Centroid Data

Supplemental centroid analysis for 008717374-01. Kepler magnitude: 13.74. Transit SNR 5.00

There are 12 quarters with good PRF difference image offsets

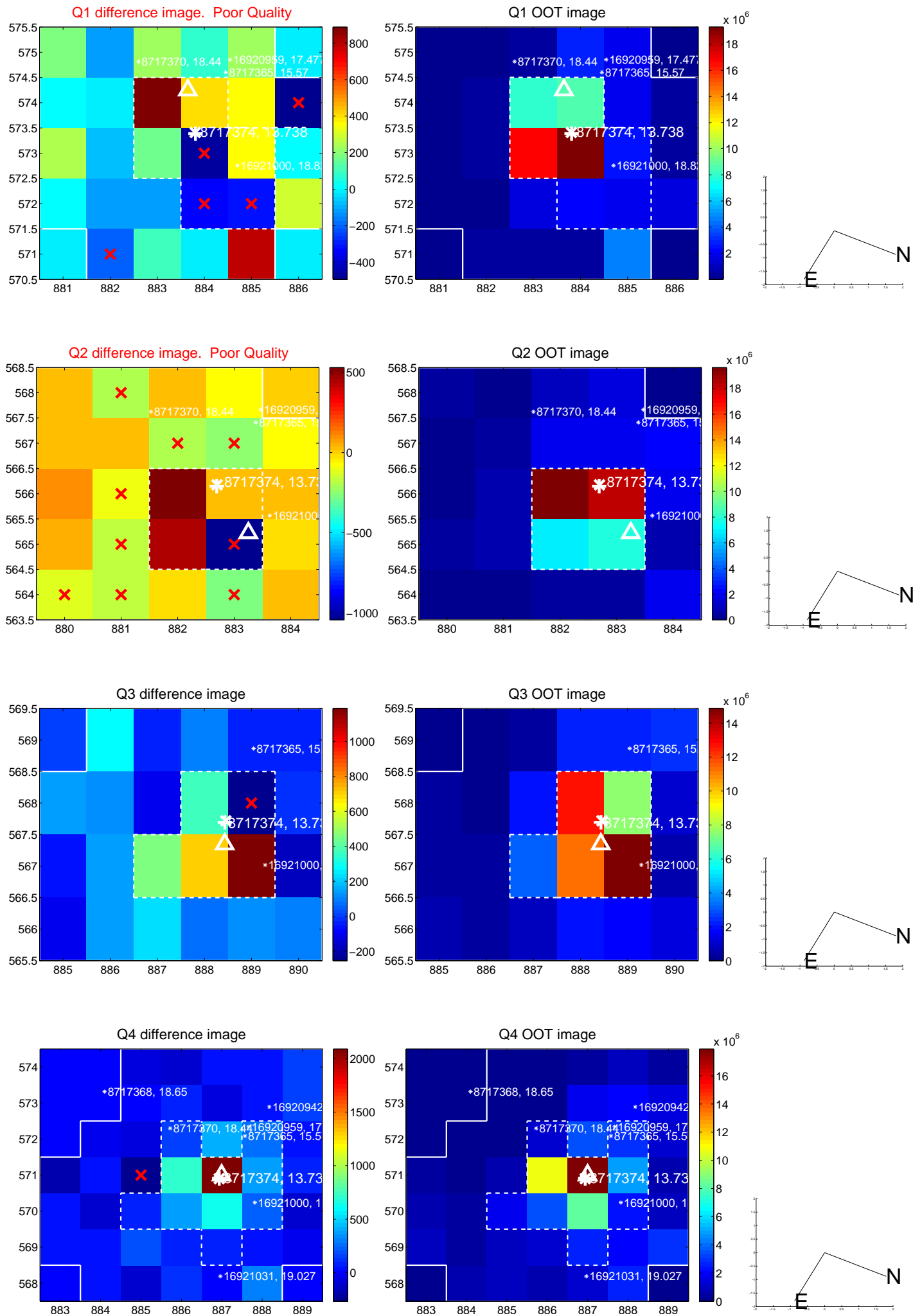
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.298 ± 0.266	1.12	0.293 ± 0.300	-0.052 ± 0.296
PRF-fit source offset from KIC position	0.364 ± 0.267	1.36	0.362 ± 0.289	-0.041 ± 0.288
photometric centroid source offset	3.88 ± 1.53	2.53	3.47 ± 1.54	-1.73 ± 1.52

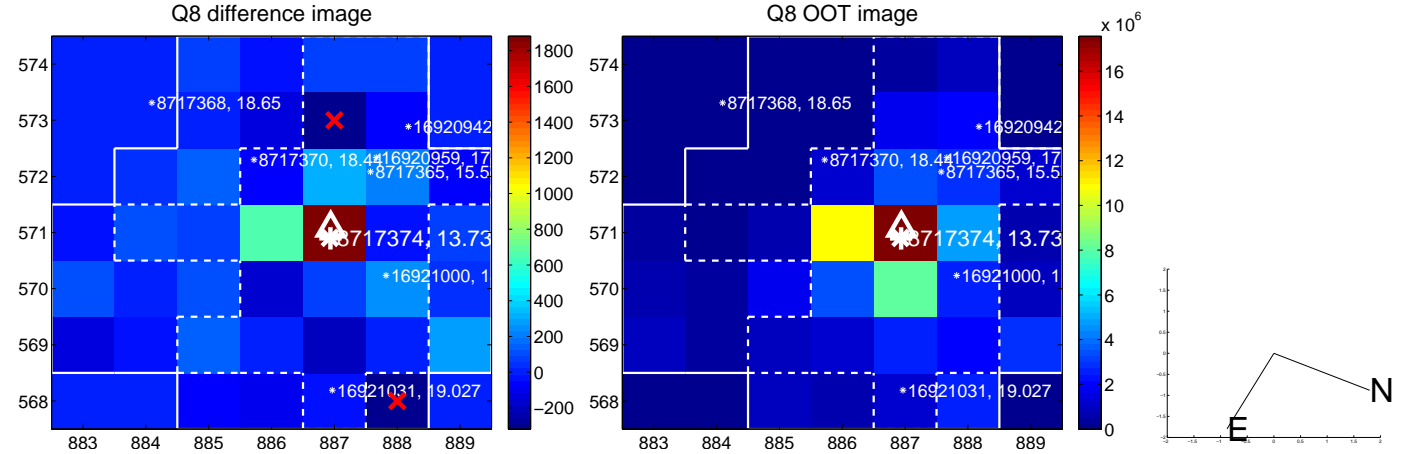
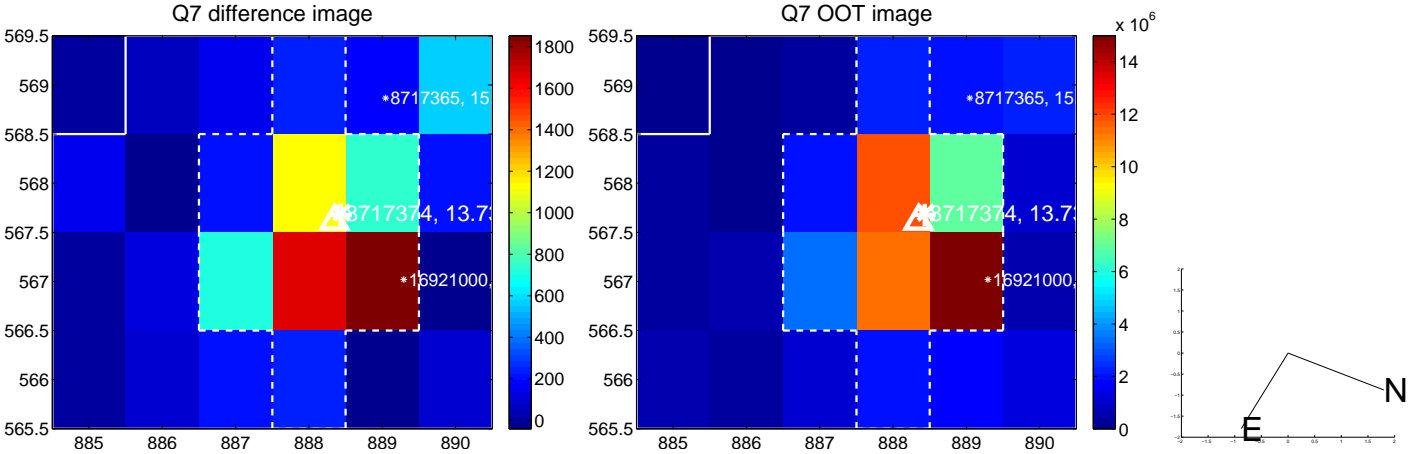
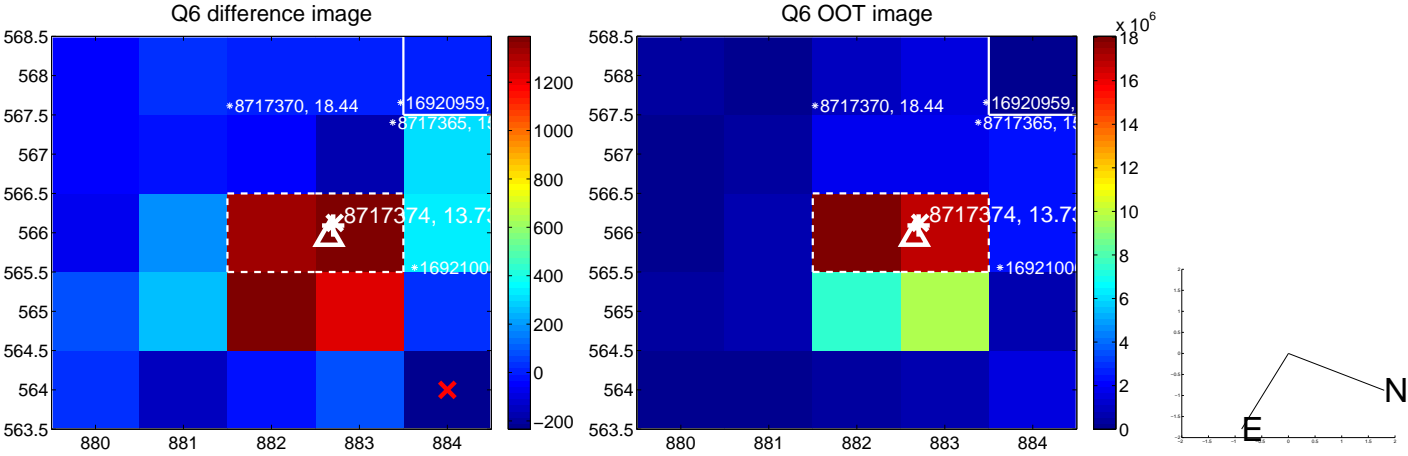
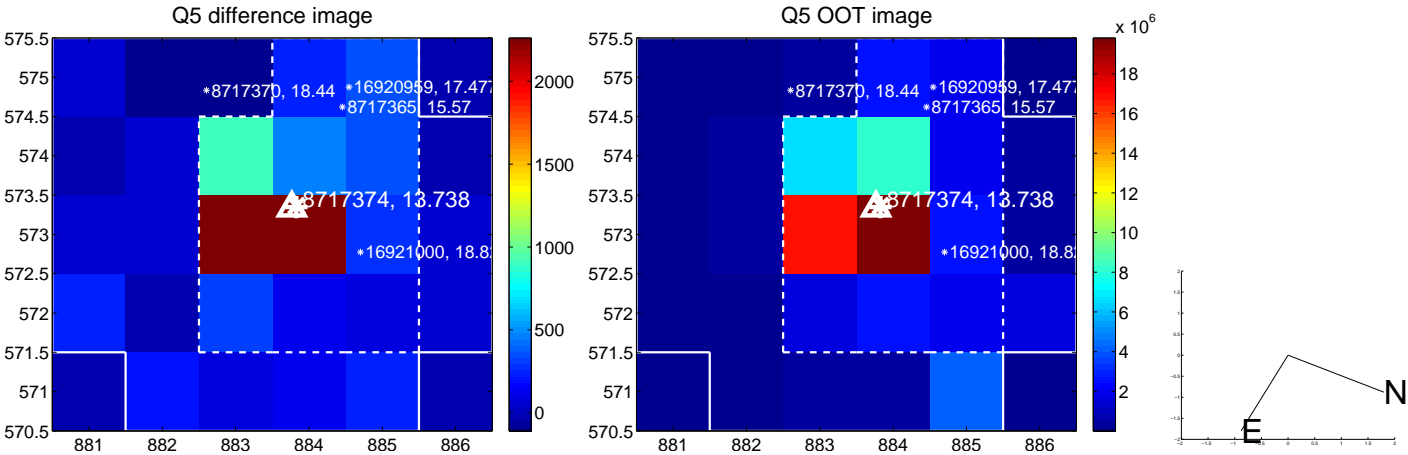


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

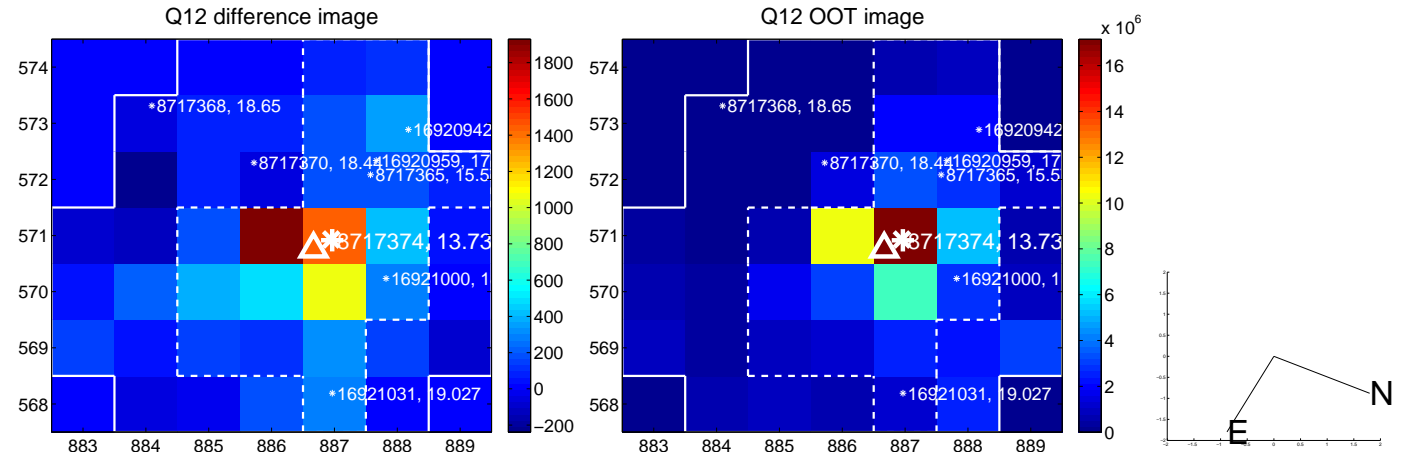
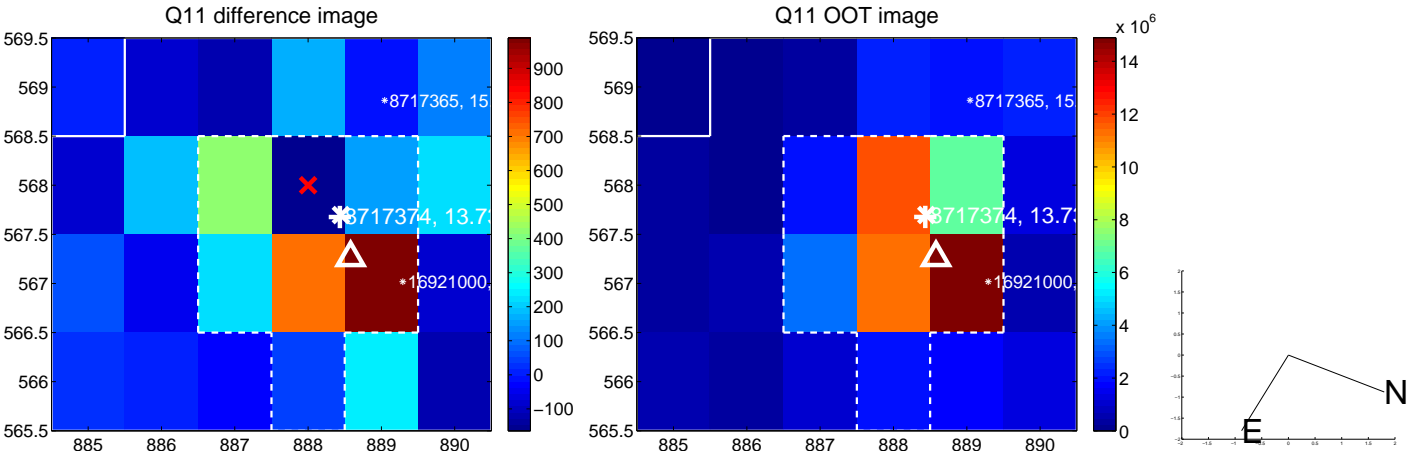
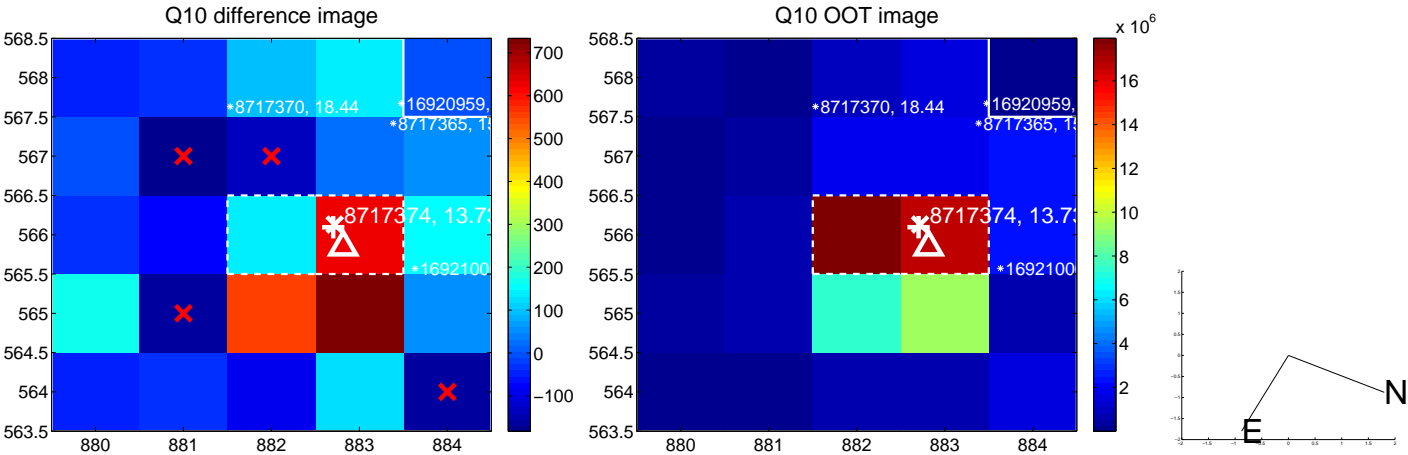
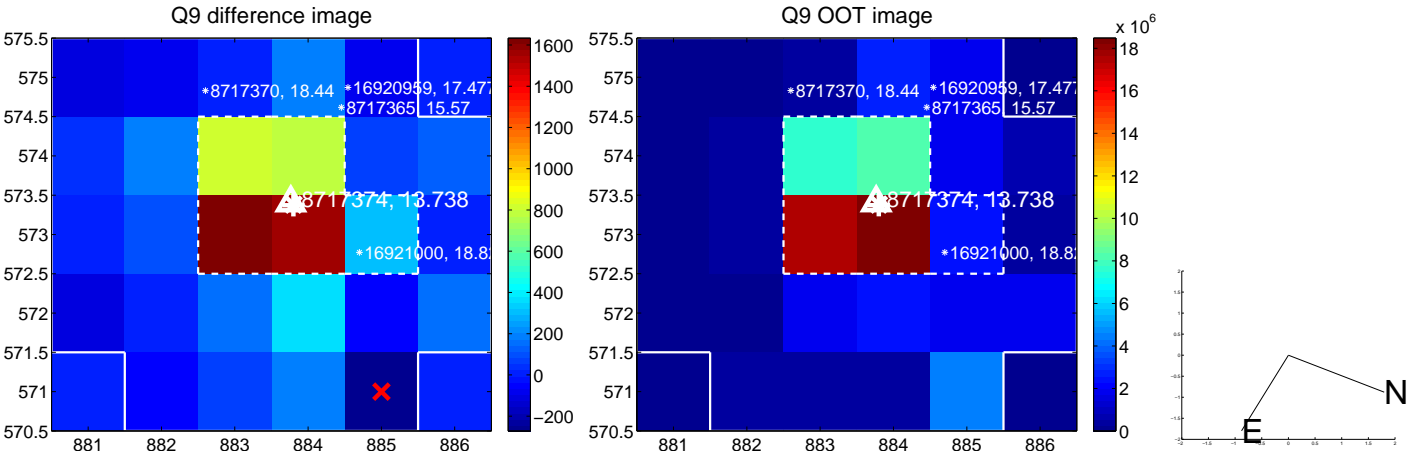
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



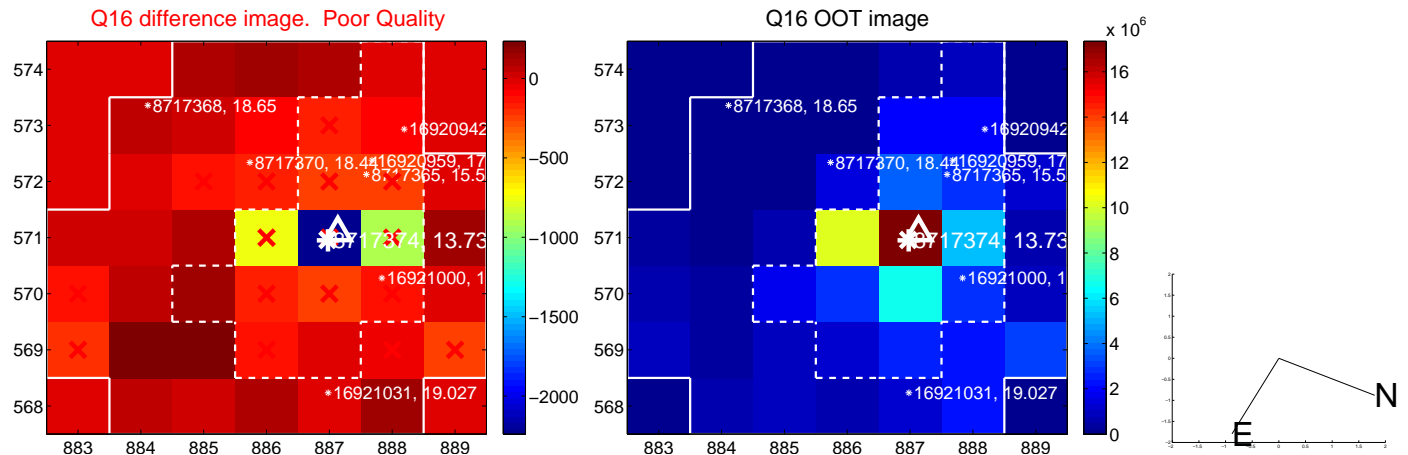
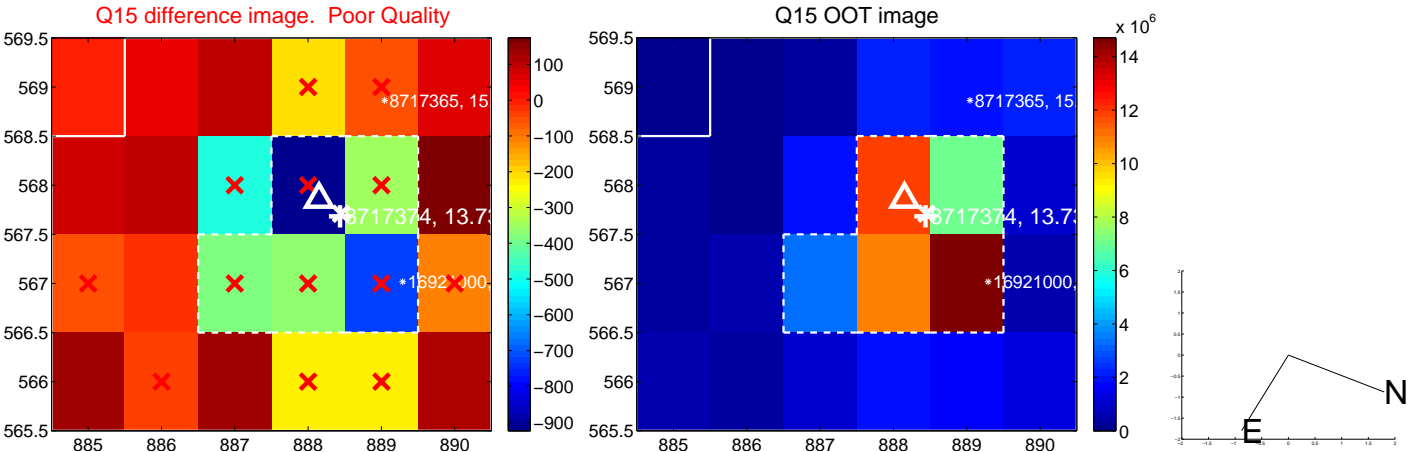
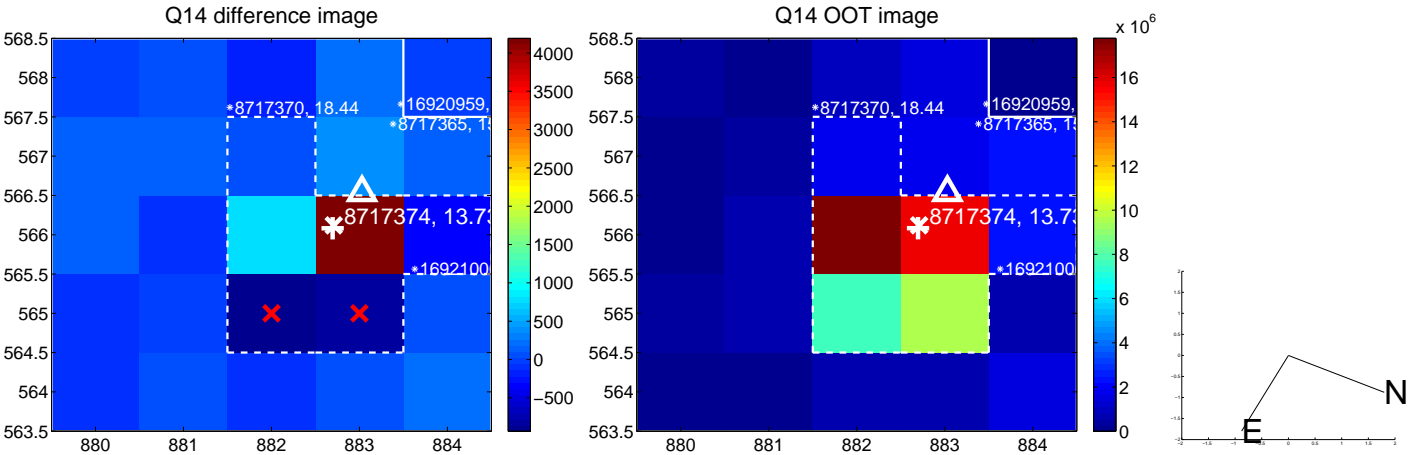
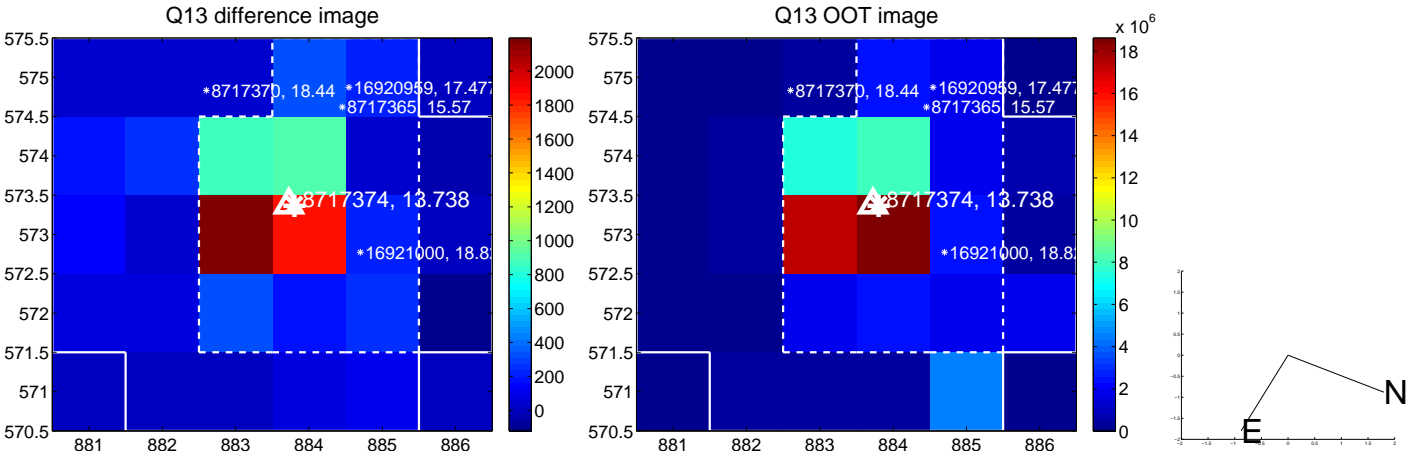
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



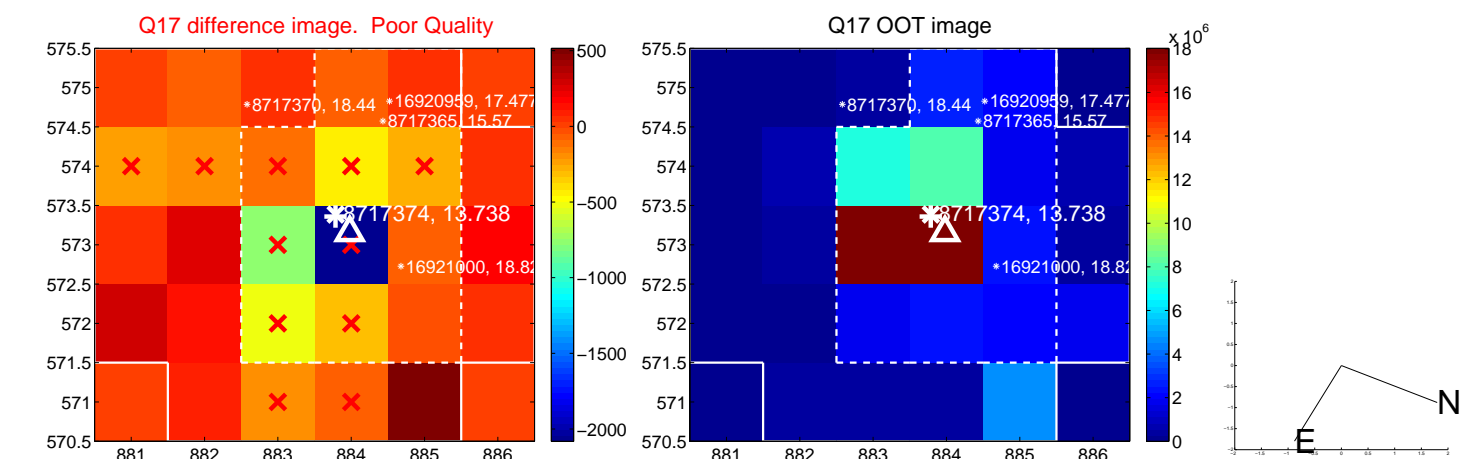
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



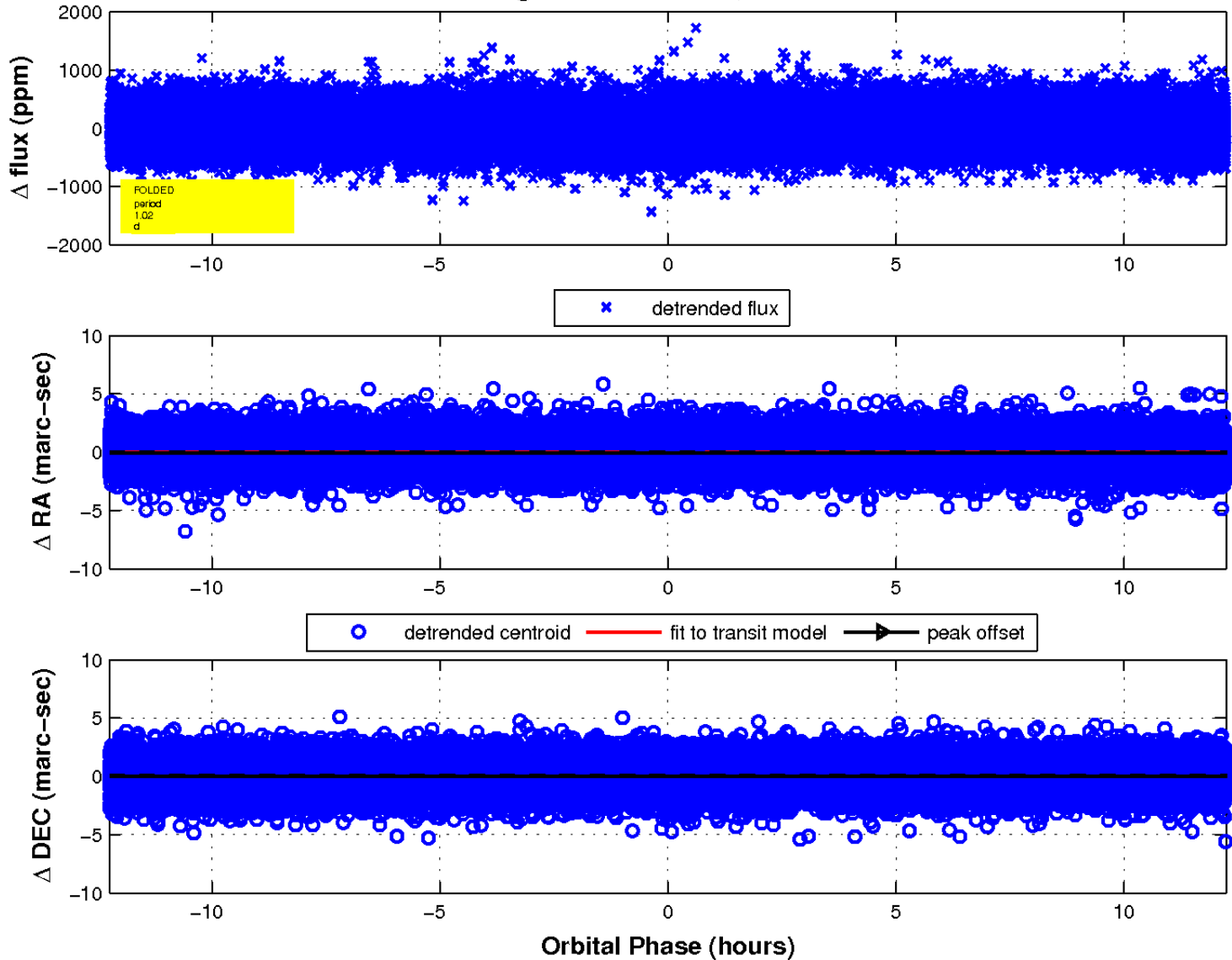
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

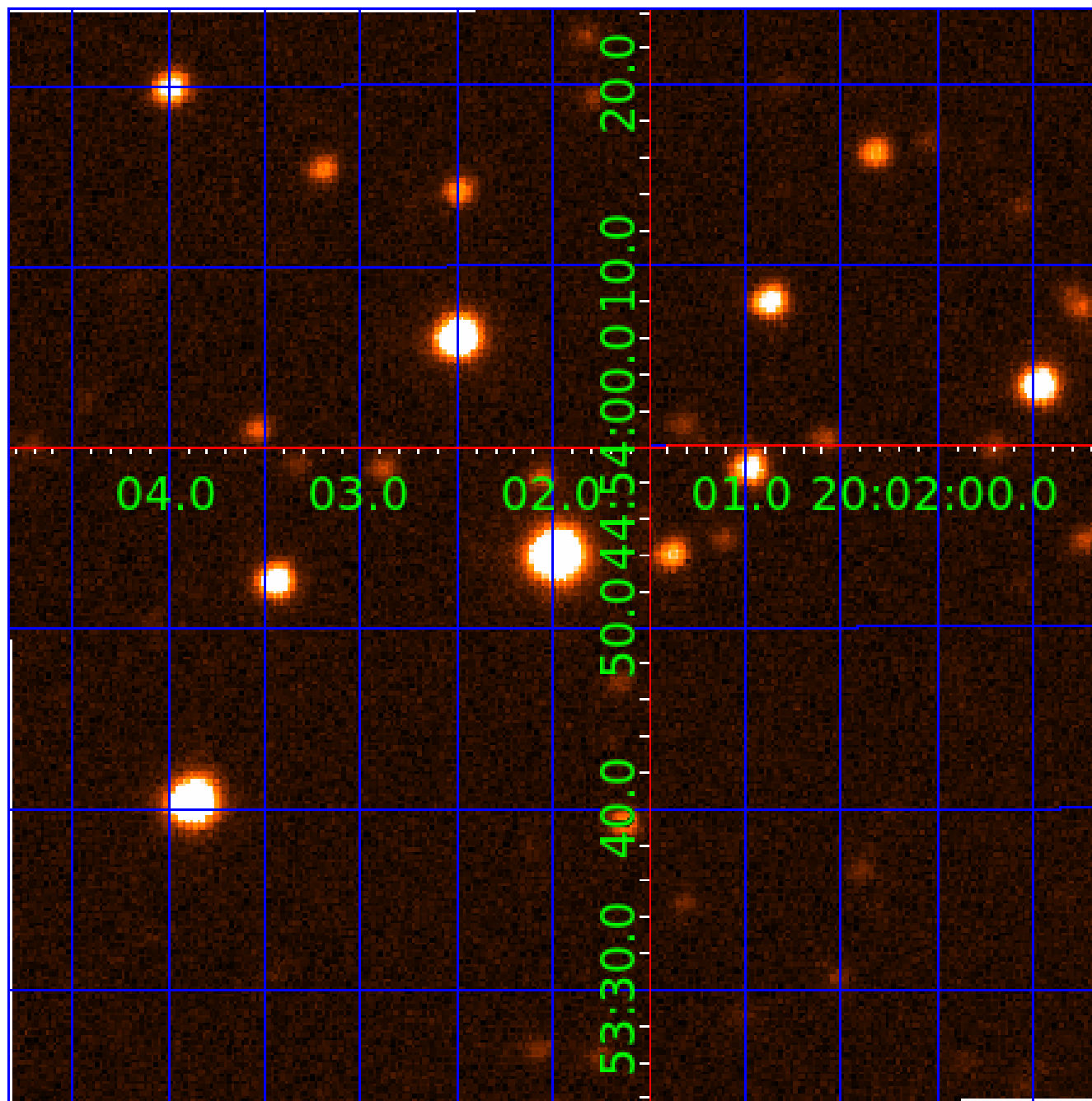


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008717374

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})
008717374-01	OBS	No	1.020338	132.566782	16.0	5.801	8.2	5.0	3.17	6167	1.27	26875.76
008717374-02	OBS	No	107.338411	139.291163	349.6	13.447	9.9	8.5	3.17	6167	11.59	54.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008717374-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008717374-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

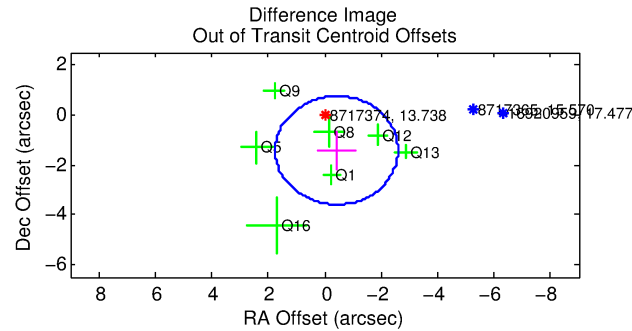
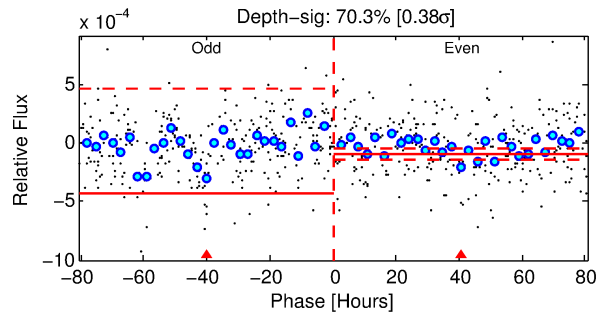
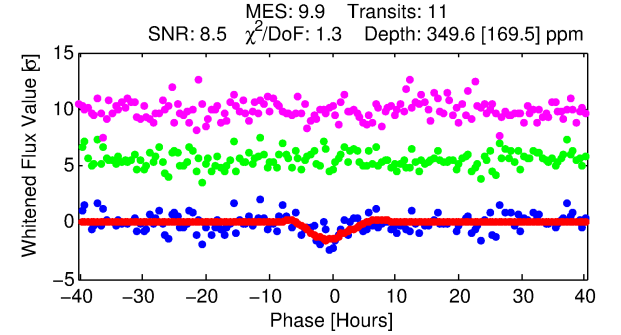
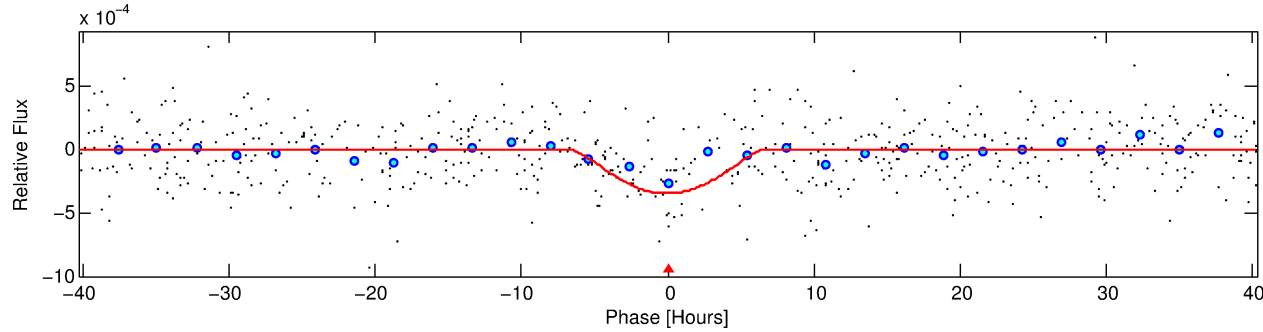
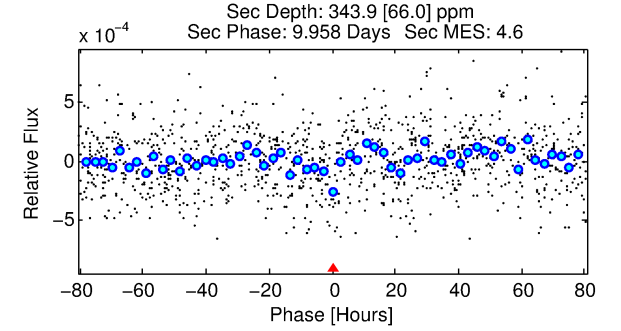
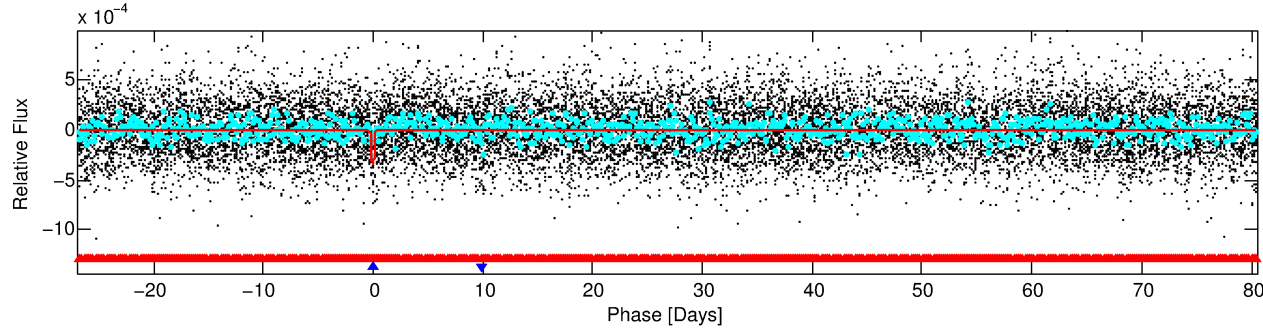
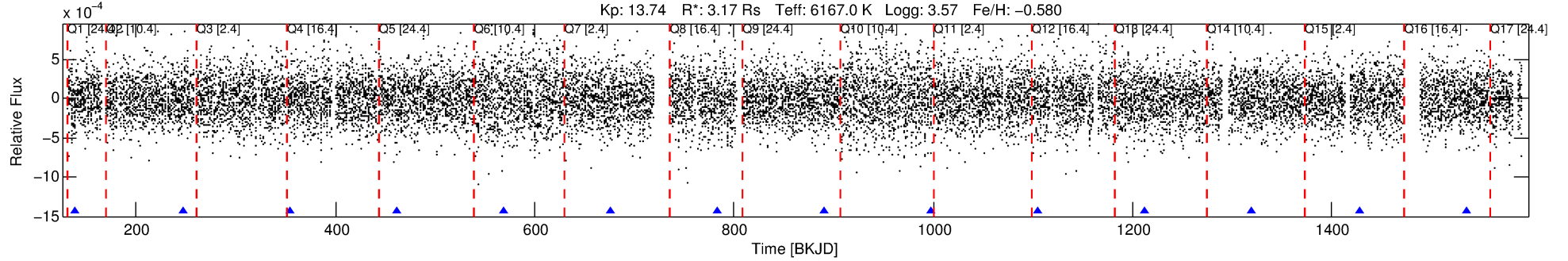
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008717374-02

No Significant Match Found

DV One-Page Summary

KIC: 8717374 Candidate: 2 of 2 Period: 107.338 d



DV Fit Results:

Period = 107.33841 [0.00478] d
Epoch = 139.2912 [0.0375] BKJD
Rp/R* = 0.0335 [0.1435]
a/R* = 15.95 [18.03]
b = 1.00 [0.20]
Seff = 54.12 [67.95]
Teq = 692 [217] K
Rp = 11.59 [50.26] Re
a = 0.4913 [0.3547] AU
Ag = 339.96 [2948.23] [0.11 σ]
Teffp = 4592 [9853] K [0.40 σ]

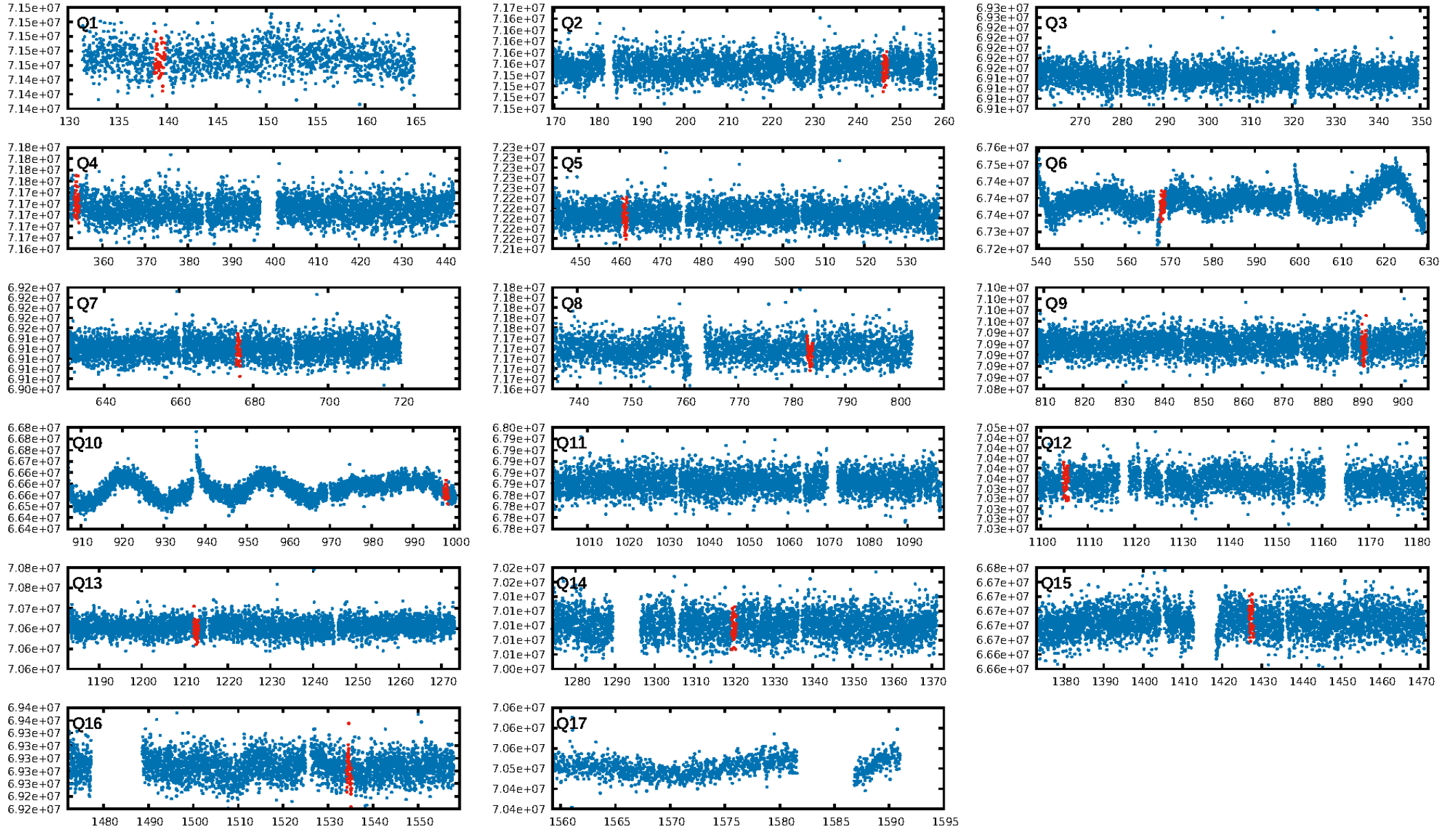
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [174.23 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.04e-13
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -0.7329
Centroid-sig: 32.1%
Centroid-so: 0.695 arcsec [1.03 σ]
OotOffset-rm: 1.488 arcsec [2.06 σ]
KicOffset-rm: 1.401 arcsec [2.15 σ]
OotOffset-st: 0/0/3/4 [7]
KicOffset-st: 0/0/3/4 [7]
DiffImageQuality-fgm: 0.71 [5/7]
DiffImageOverlap-fno: 0.00 [0/11]

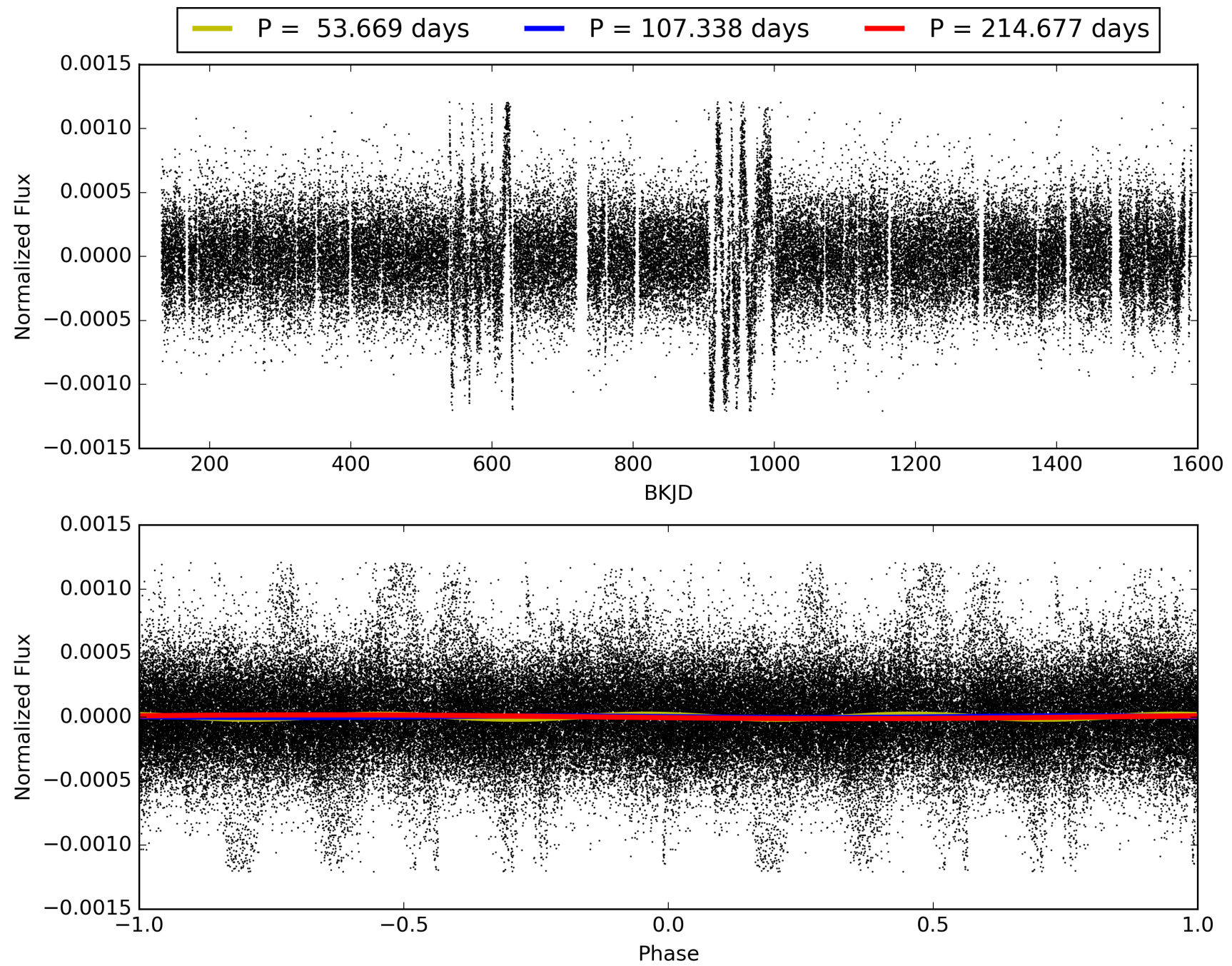
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:33:22 Z

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

TCE 008717374-02, PDC Light Curves

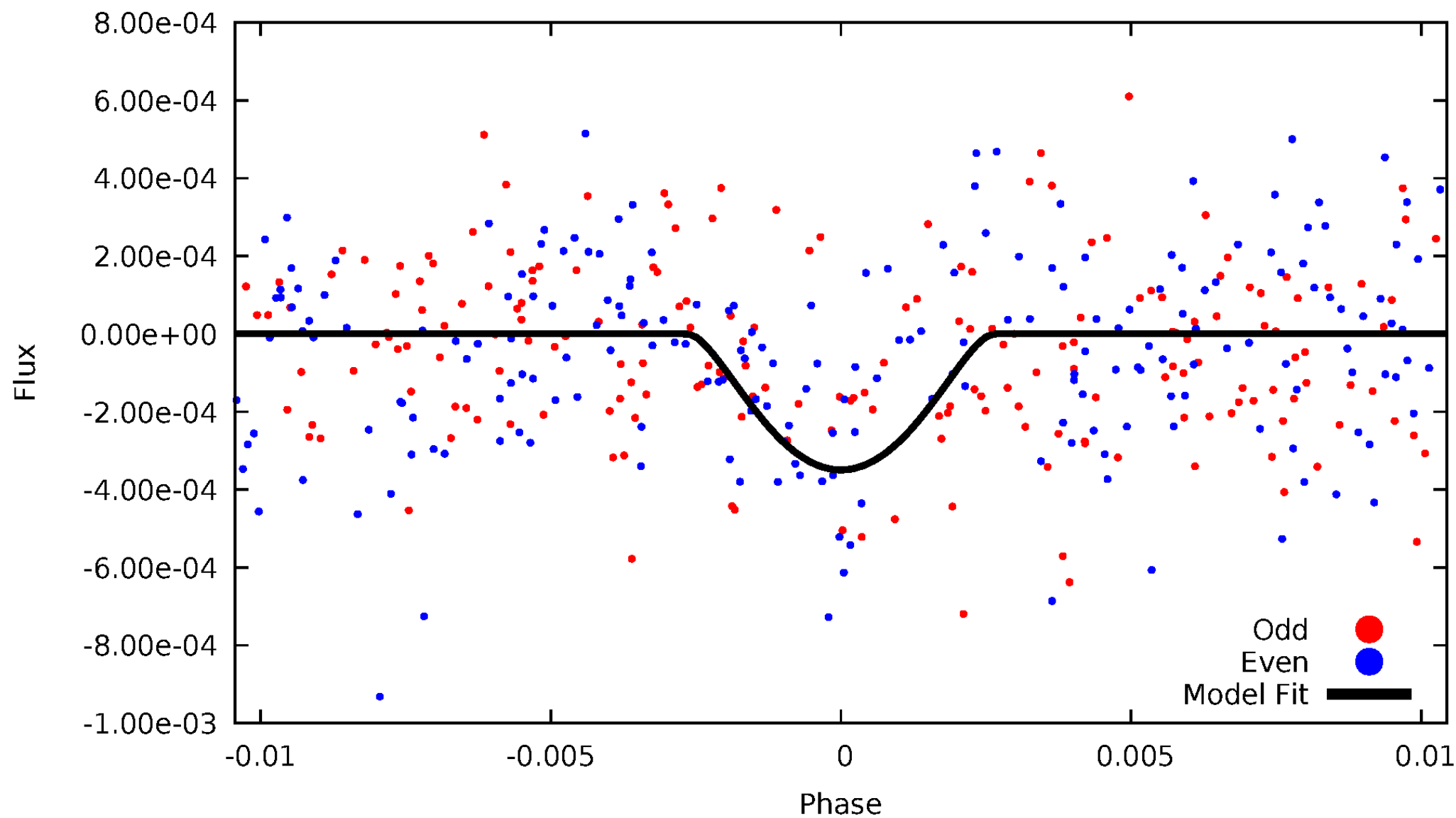


TCE 008717374-02



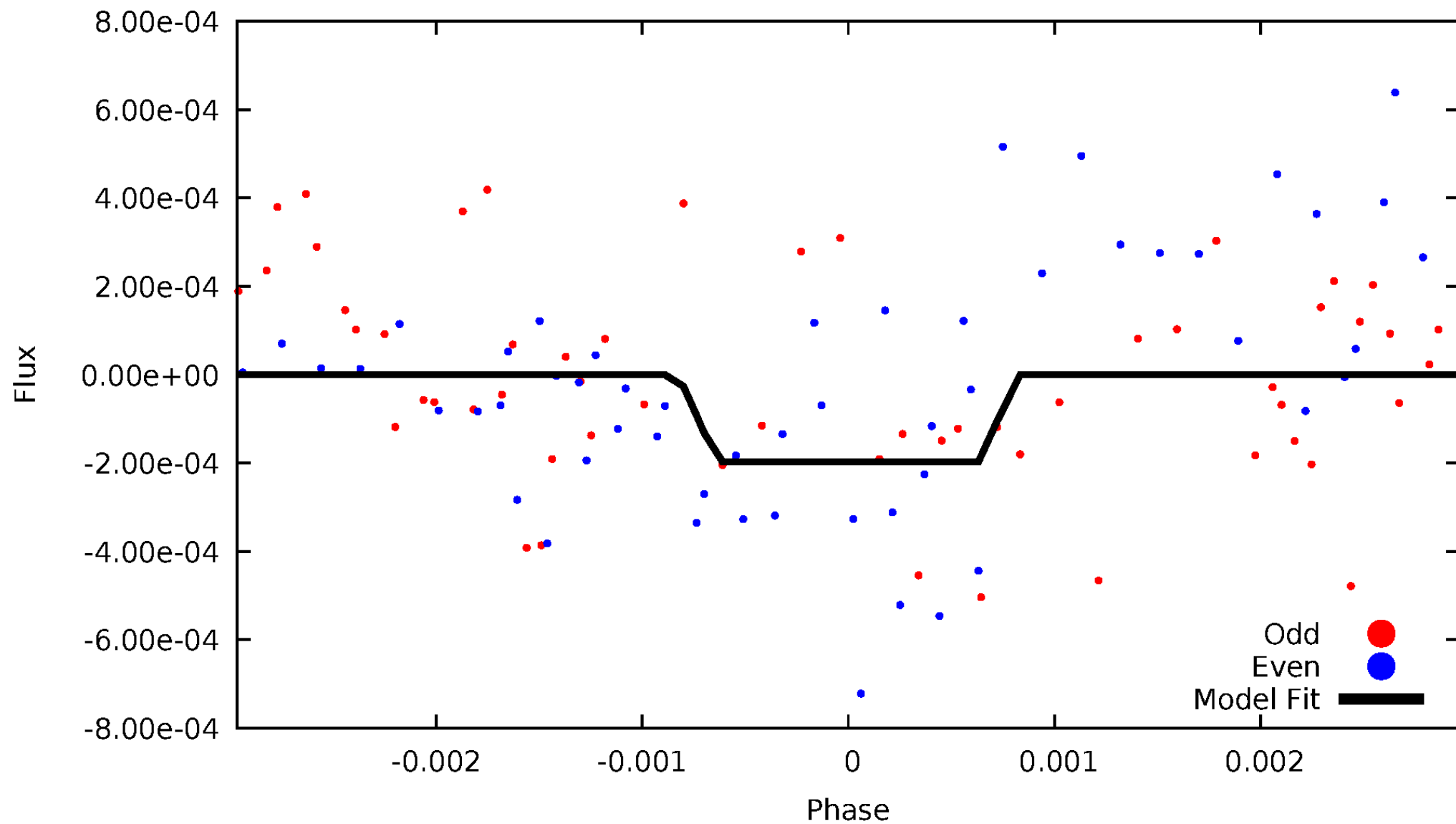
DV Odd/Even

TCE 008717374-02



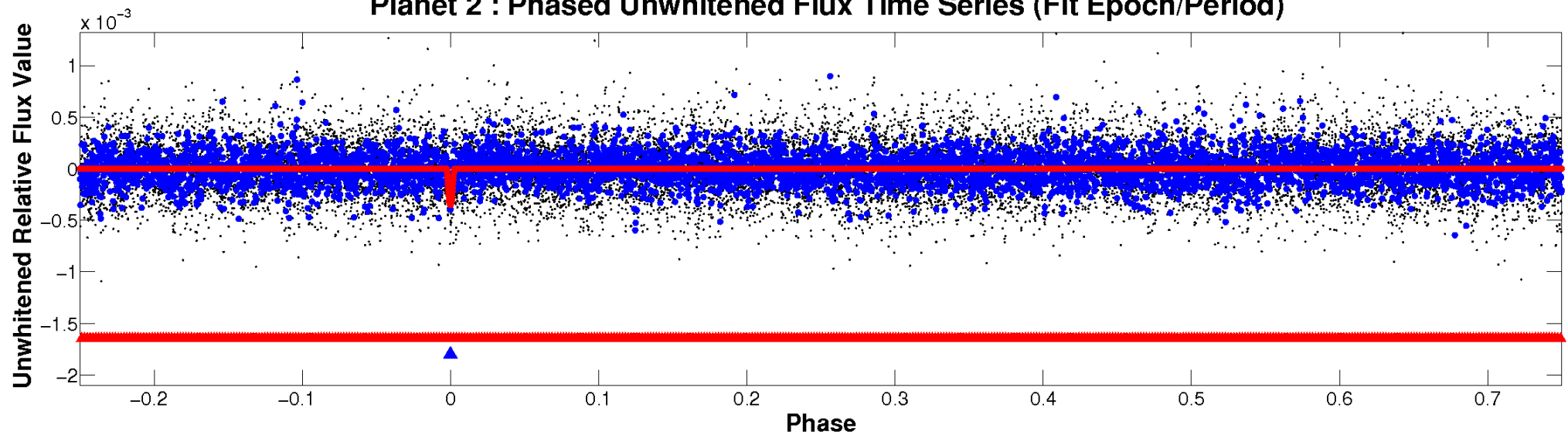
ALT Odd/Even

TCE 008717374-02

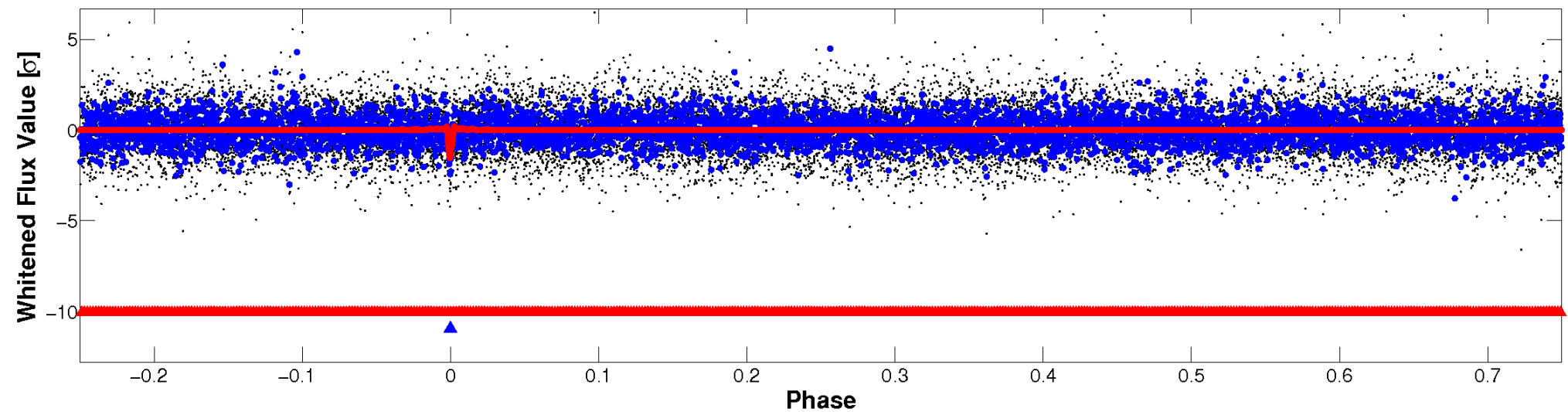


Non-Whitened Vs. Whitened Light Curve

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

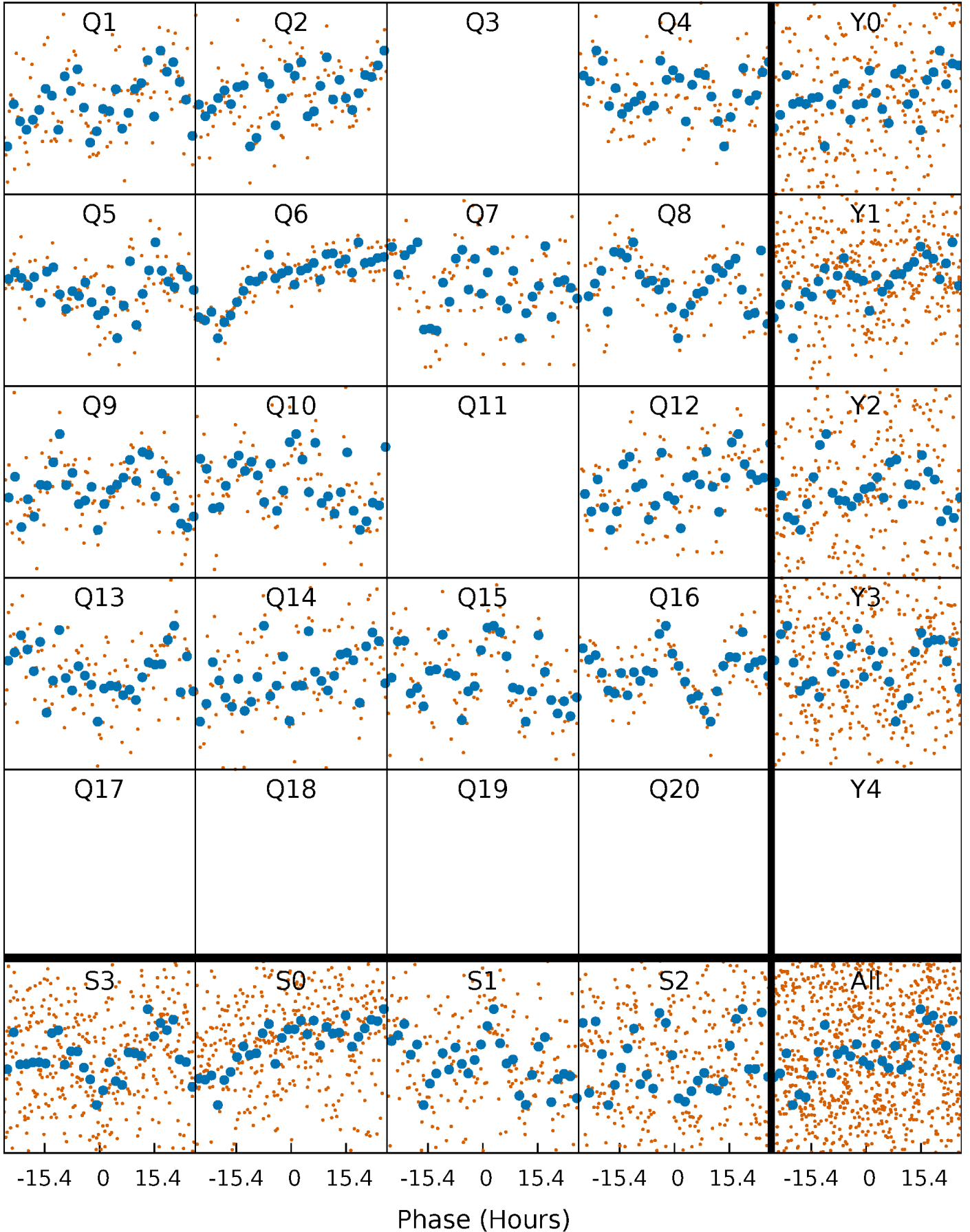


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



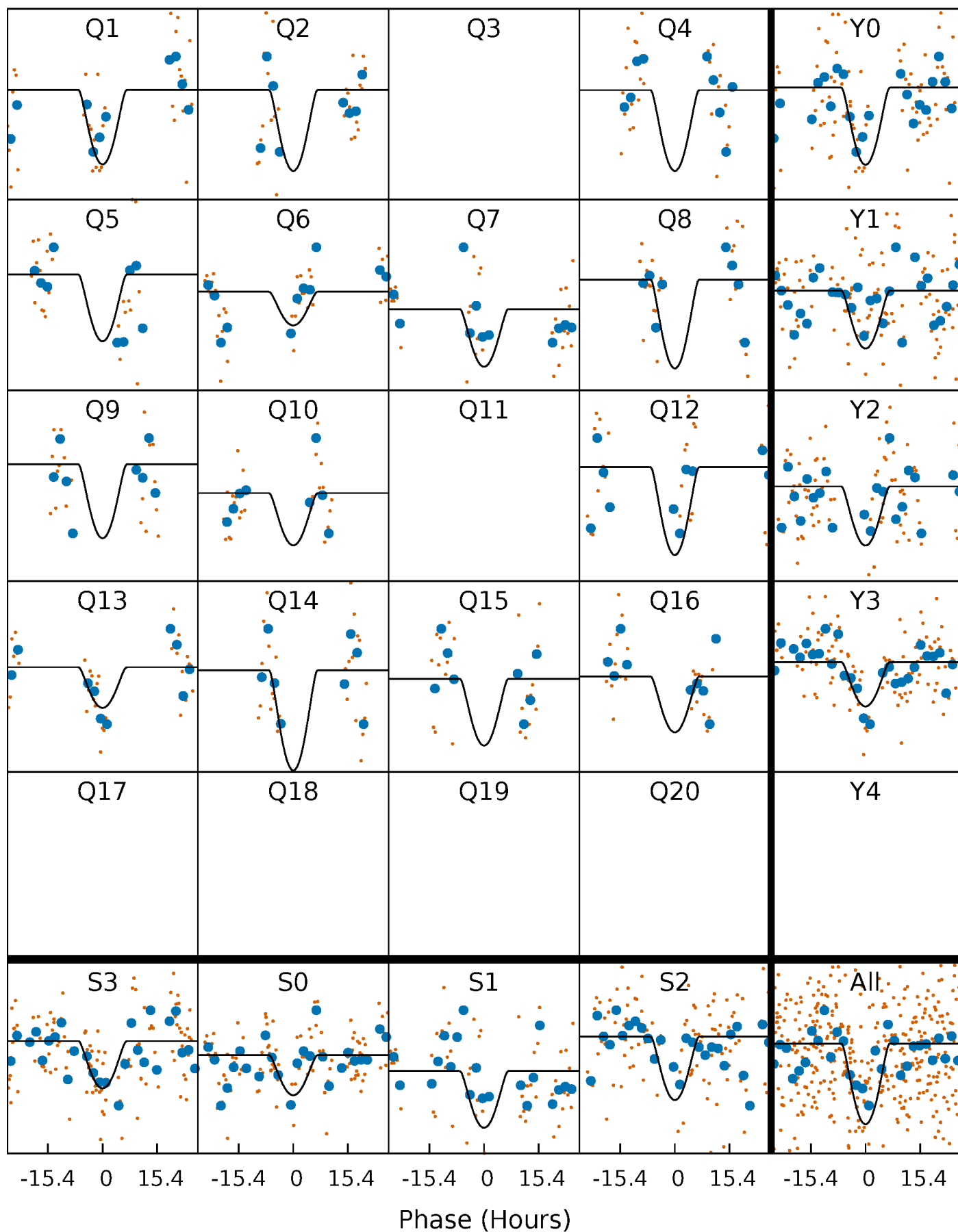
PDC Quarter-Phased Transit Curves

TCE 008717374-02 P=107.338411 Days $T_0=139.291163$ (BKJD)



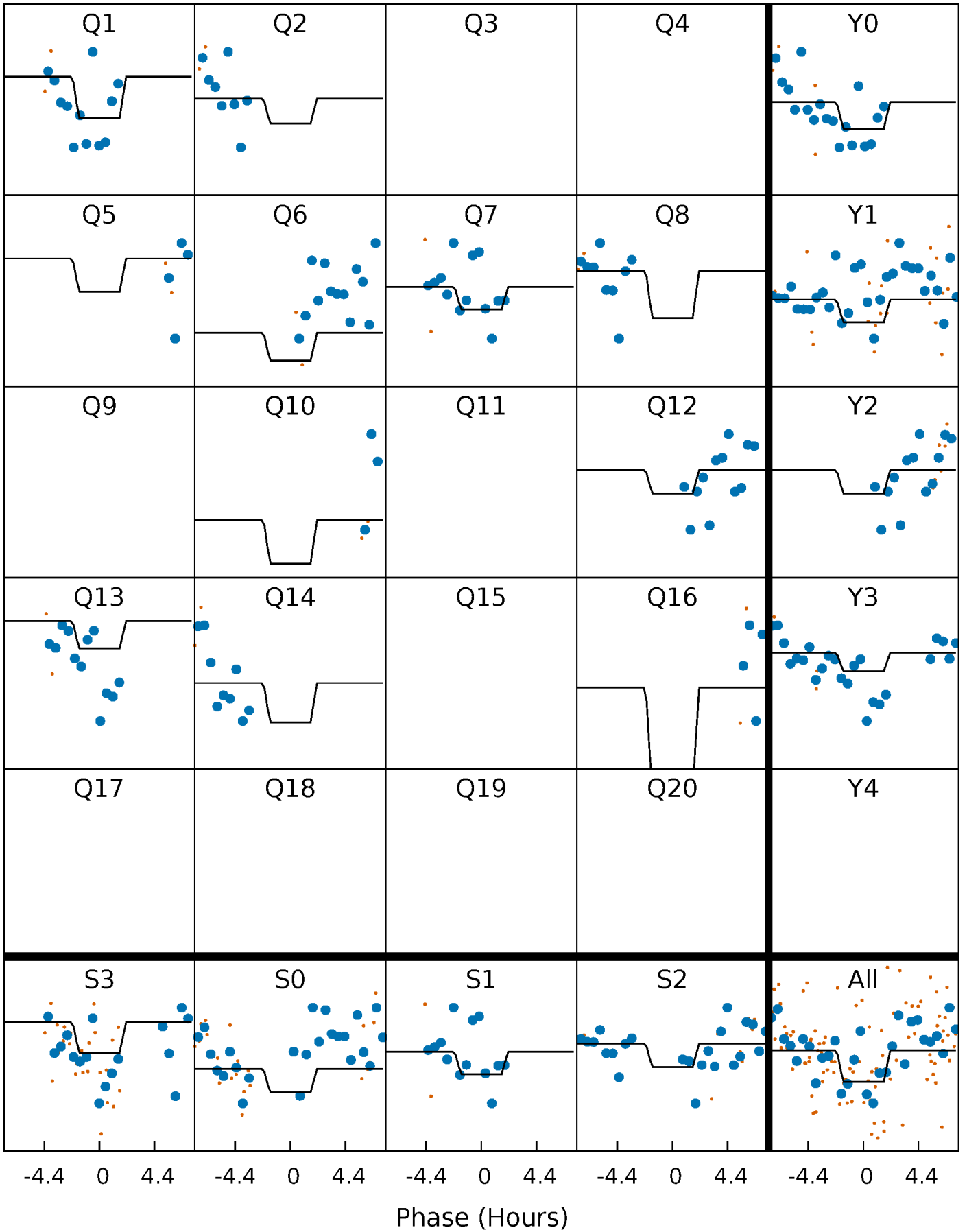
DV Quarter-Phased Transit Curves

TCE 008717374-02 P=107.338411 Days $T_0=139.291163$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

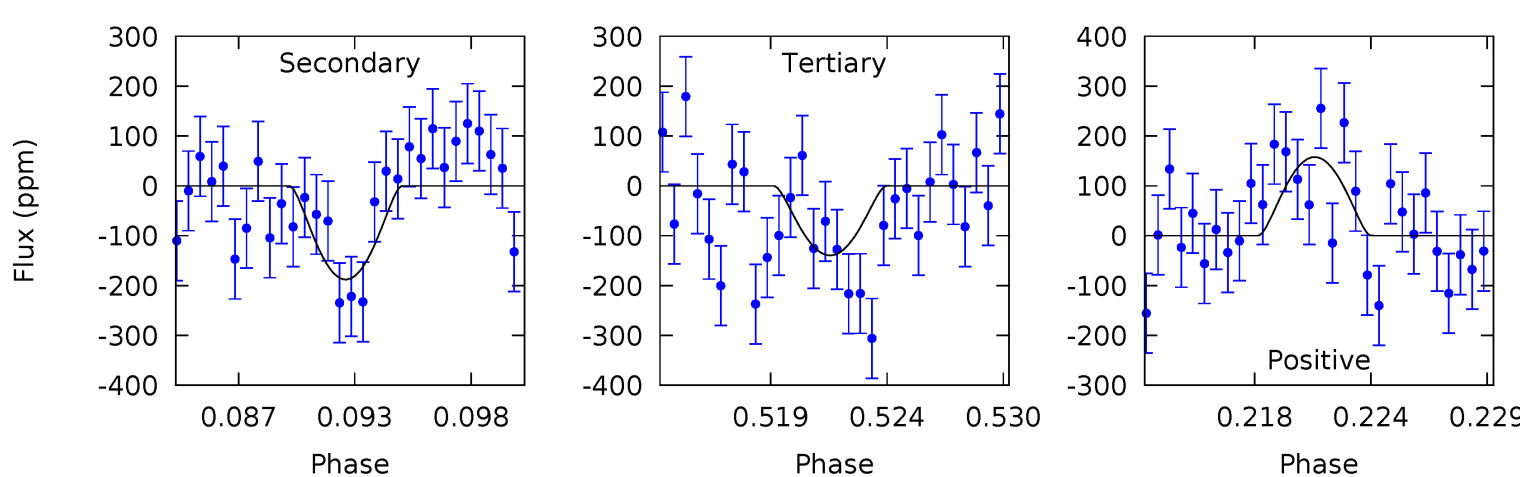
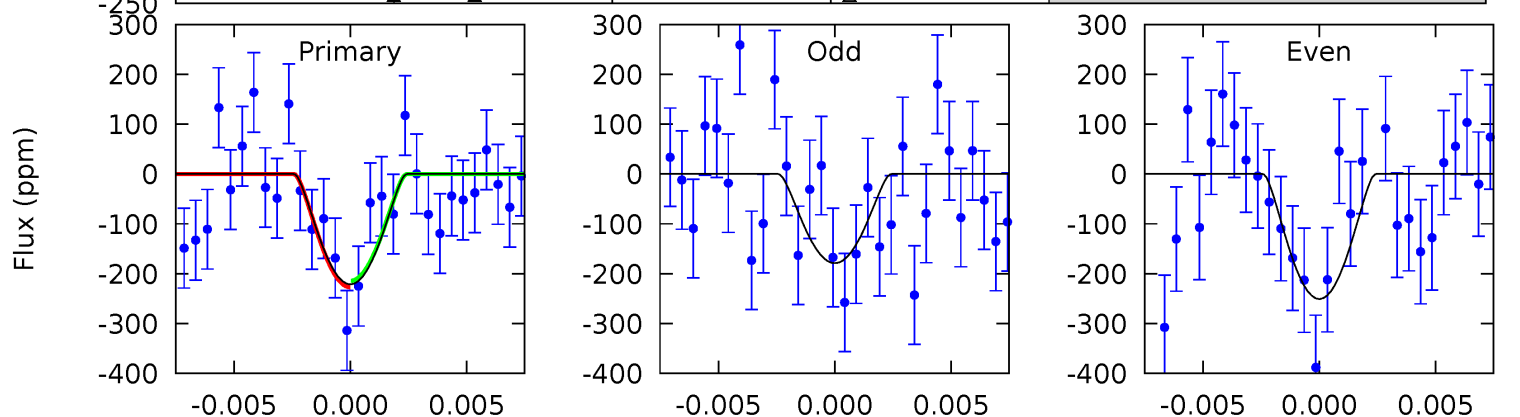
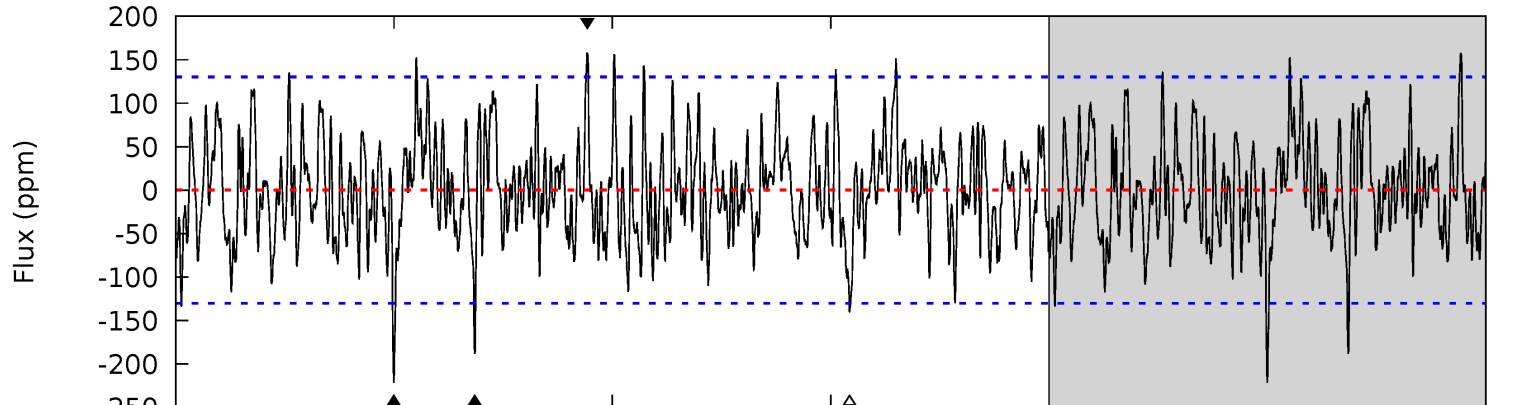
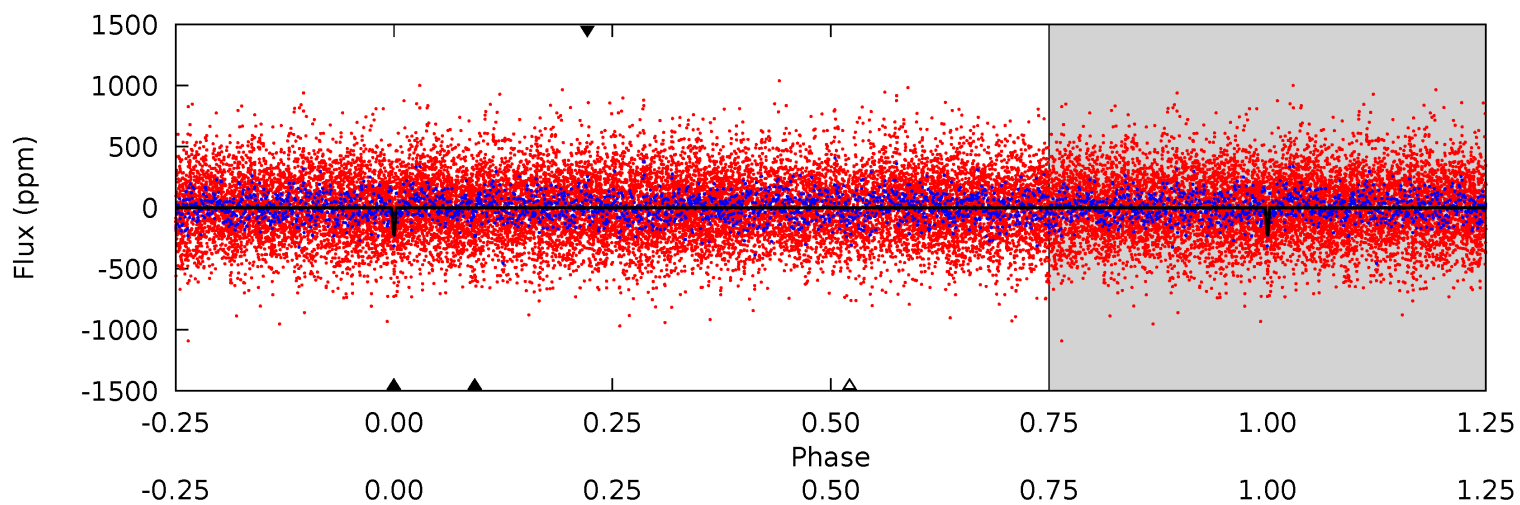
TCE 008717374-02 P=107.339170 Days $T_0=139.253715$ (BKJD)



DV Model-Shift Uniqueness Test

008717374-02, P = 107.338411 Days, E = 31.952752 Days

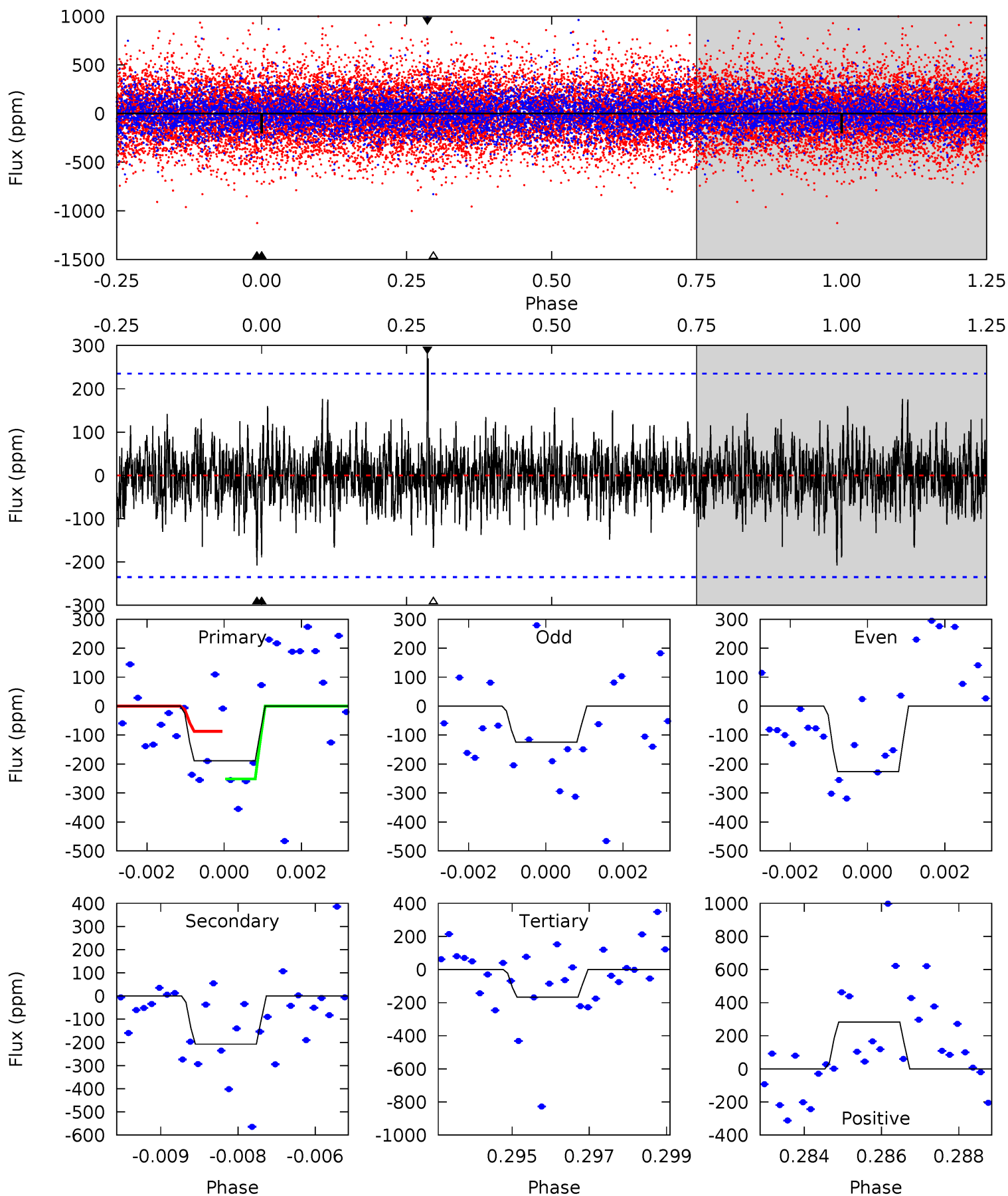
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.73	7.42	5.51	6.22	5.14	2.78	2.06	3.22	2.51	1.91	1.20	1.42	1.33	0.42	0.25



Alt Model-Shift Uniqueness Test

008717374-02, P = 107.339170 Days, E = 31.914545 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.31	4.75	3.81	6.47	5.37	3.16	1.12	0.50	-2.15	0.94	-1.72	1.13	0.91	0.58	1.81



Stellar Parameters For KIC 008717374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6167^{+222}_{-222}	$3.572^{+0.765}_{-0.135}$	$-0.580^{+0.350}_{-0.250}$	$3.175^{+0.715}_{-2.001}$	$1.374^{+0.195}_{-0.488}$	$0.060^{+0.890}_{-0.026}$
	+4%/-4%	+21%/-4%	+60%/-43%	+23%/-63%	+14%/-36%	+1471%/-42%
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 008717374-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-188 ± 25	$31.13^{+38.53}_{-22.06}$	930^{+89}_{-170}	2889^{+1339}_{-493}	25^{+285}_{-20}
Alt.	-208 ± 44	$29.07^{+35.19}_{-20.56}$	933^{+82}_{-168}	2998^{+1454}_{-545}	32^{+344}_{-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 $A_{\text{obs}} \gg 1.0$

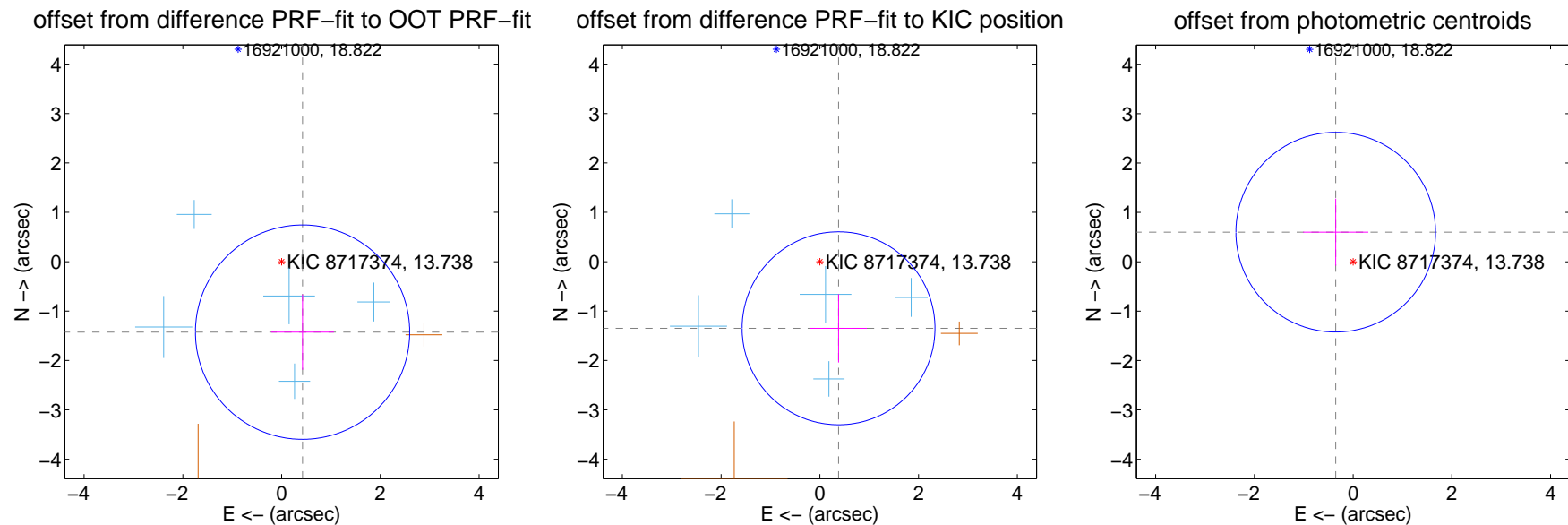
DV Centroid Data

Supplemental centroid analysis for 008717374-02. Kepler magnitude: 13.74. Transit SNR 8.46

There are 5 quarters with good PRF difference image offsets

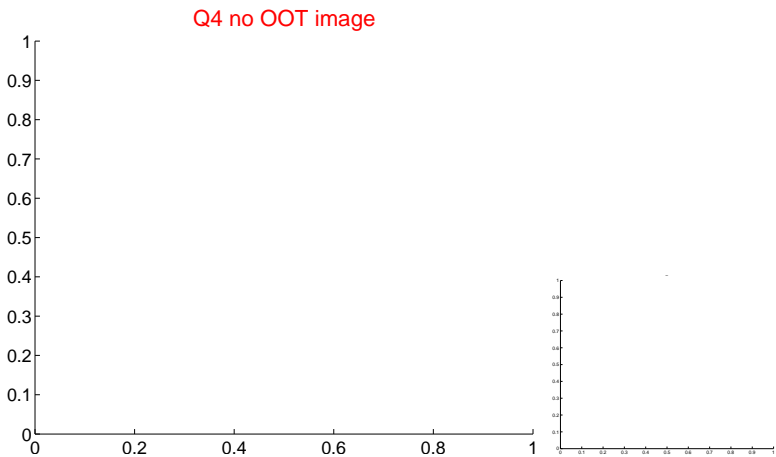
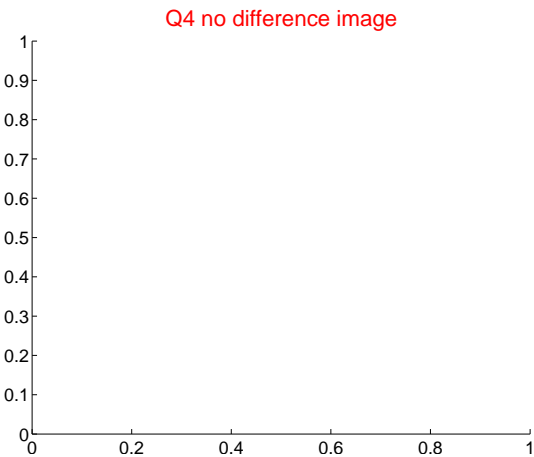
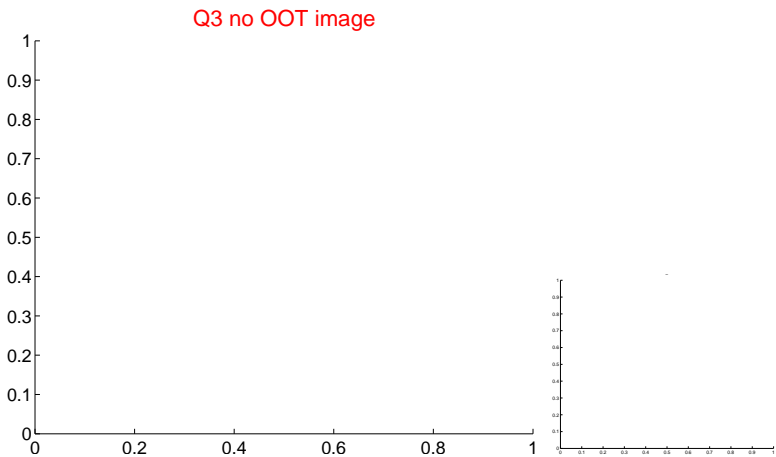
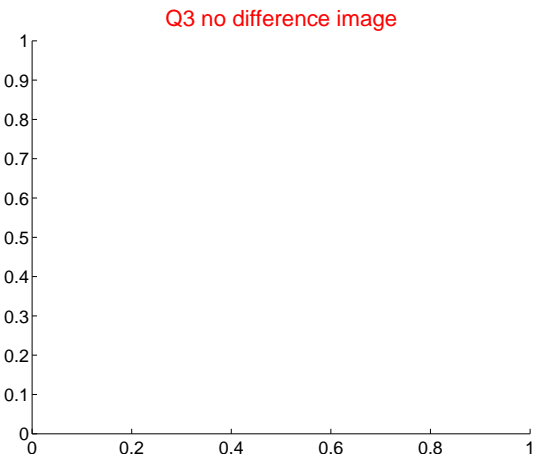
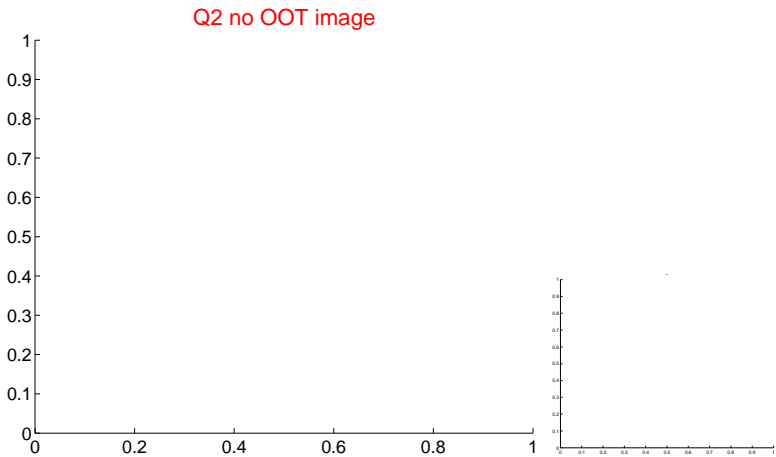
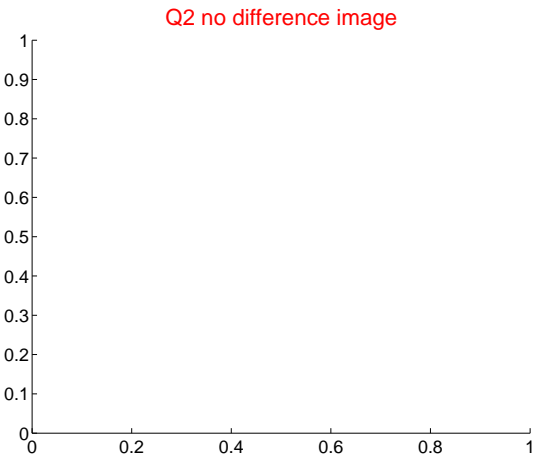
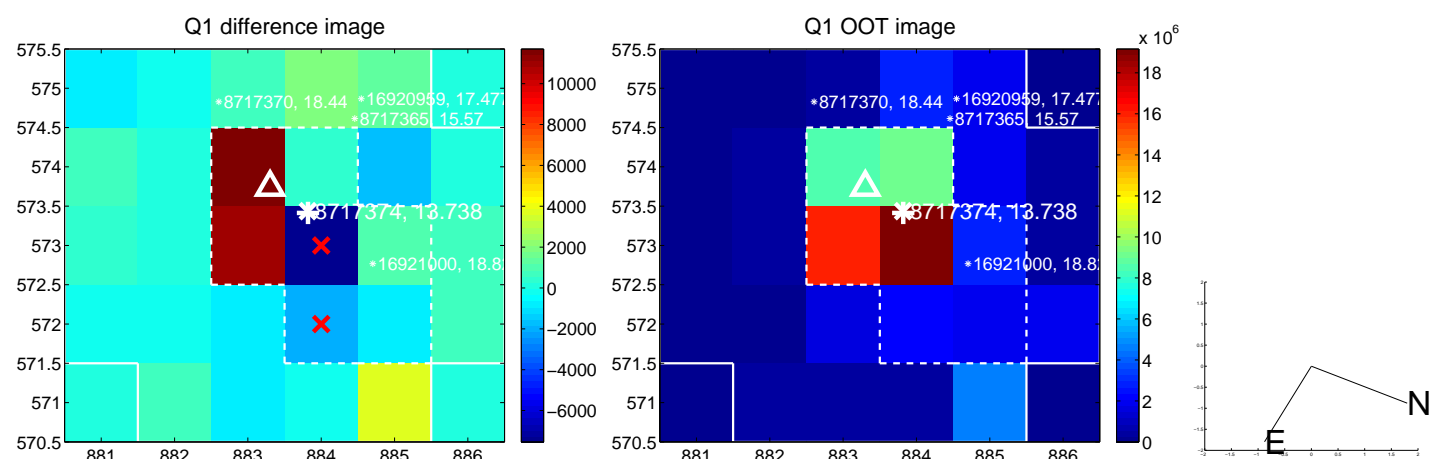
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.488 ± 0.723	2.06	-0.425 ± 0.636	-1.426 ± 0.762
PRF-fit source offset from KIC position	1.401 ± 0.651	2.15	-0.379 ± 0.573	-1.349 ± 0.693
photometric centroid source offset	0.70 ± 0.67	1.03	0.35 ± 0.66	0.60 ± 0.68

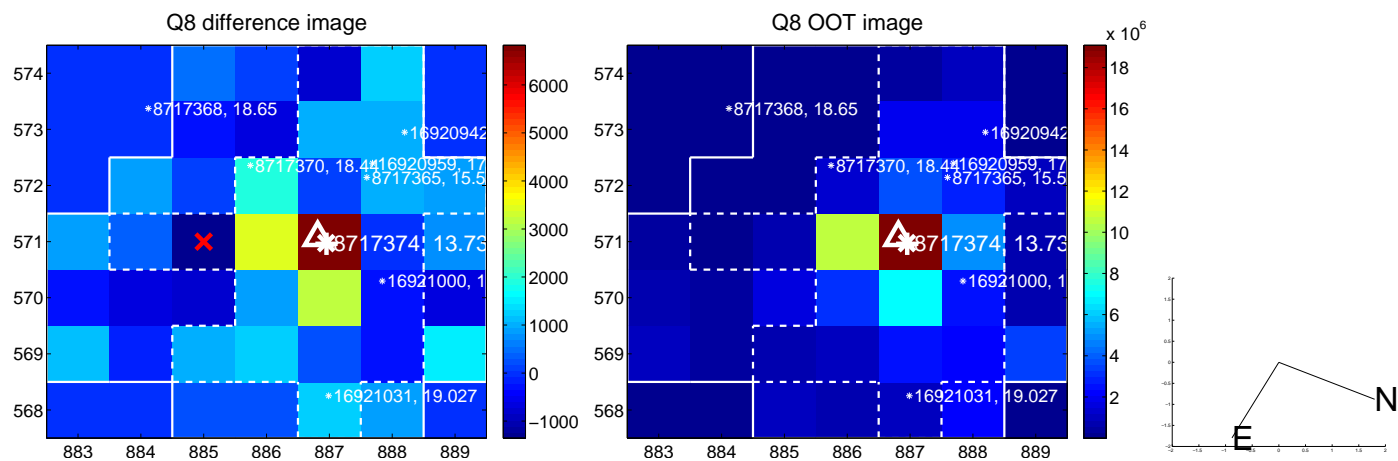
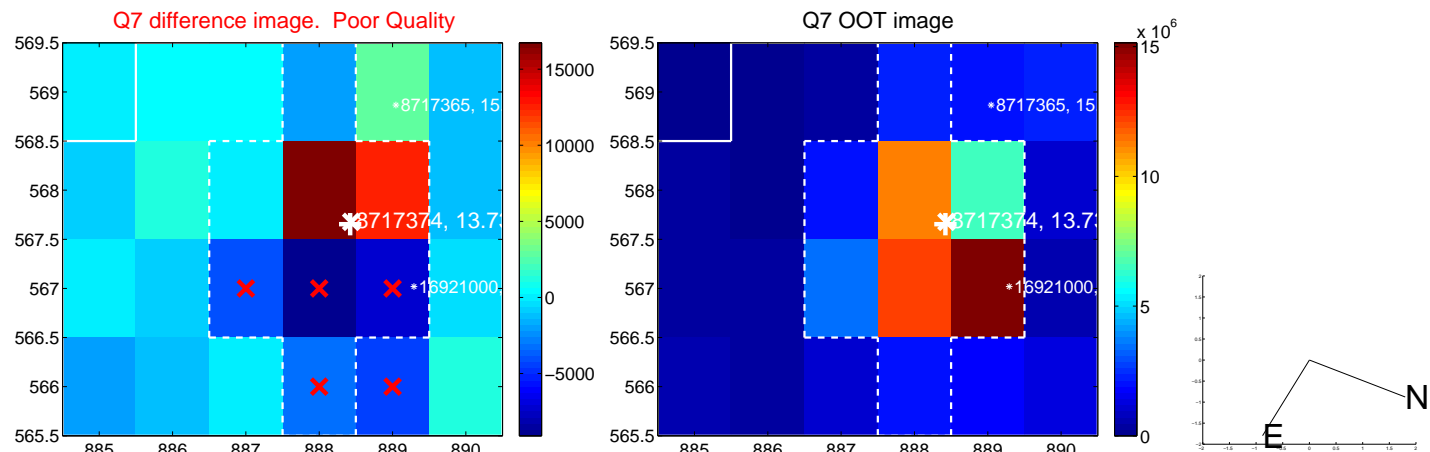
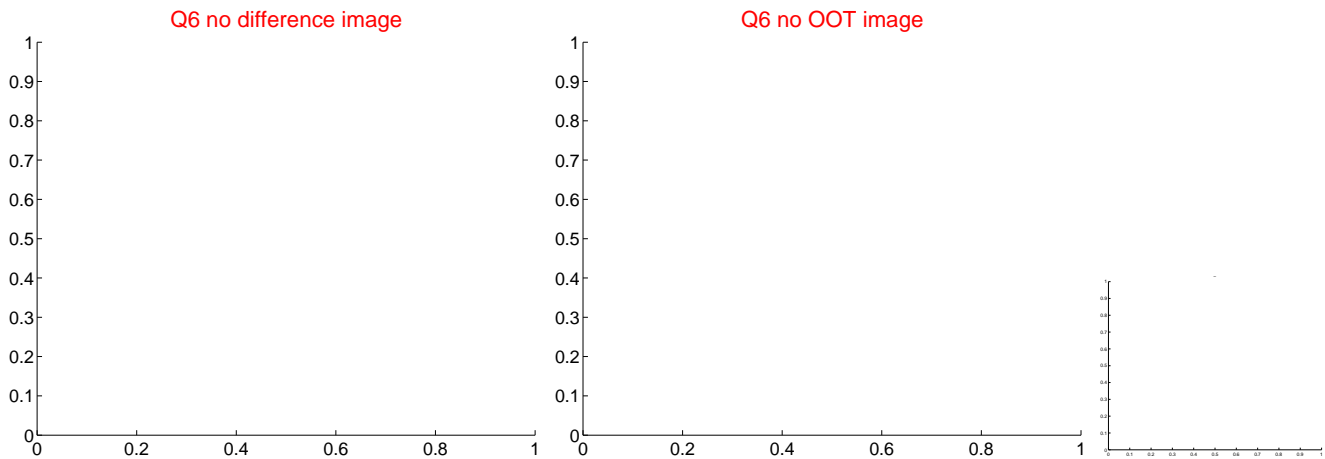
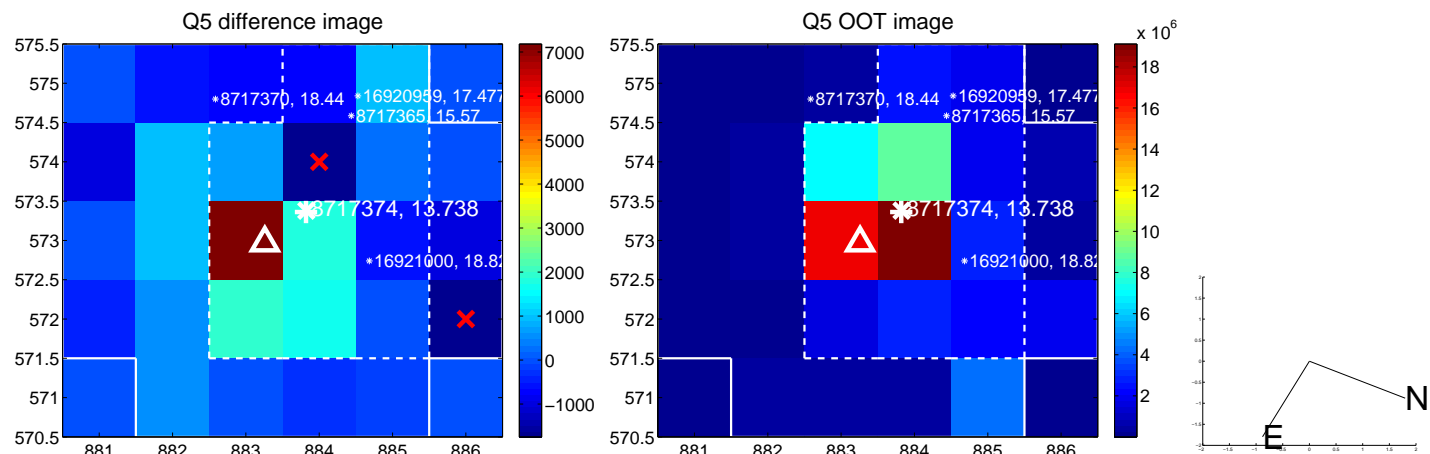


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

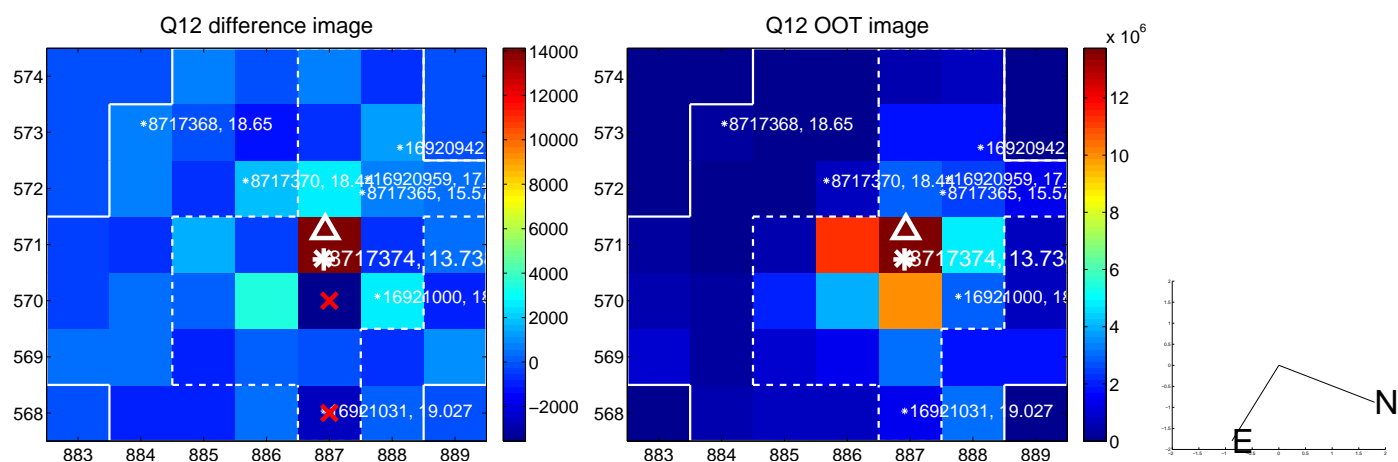
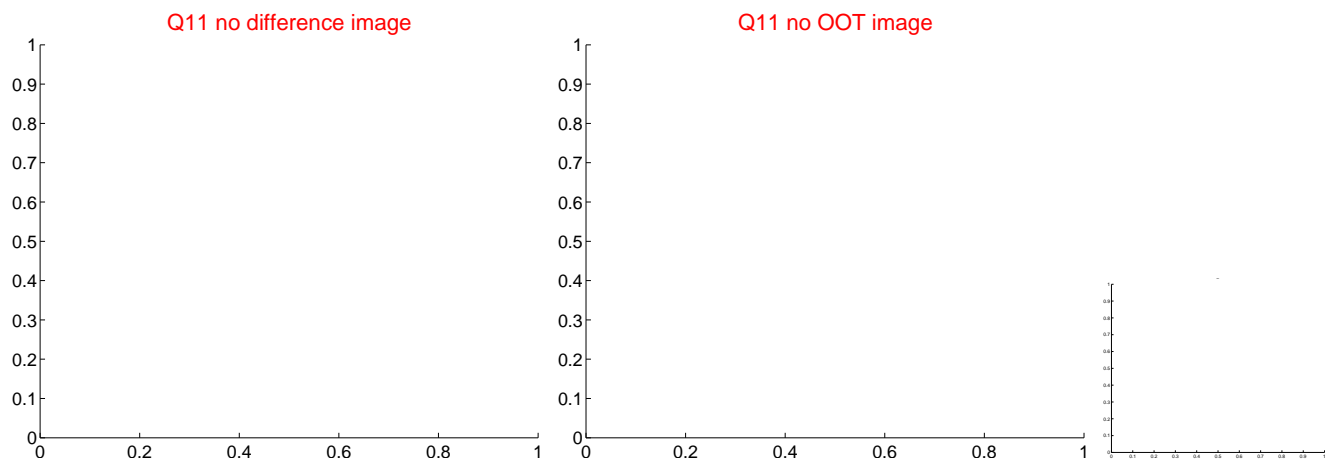
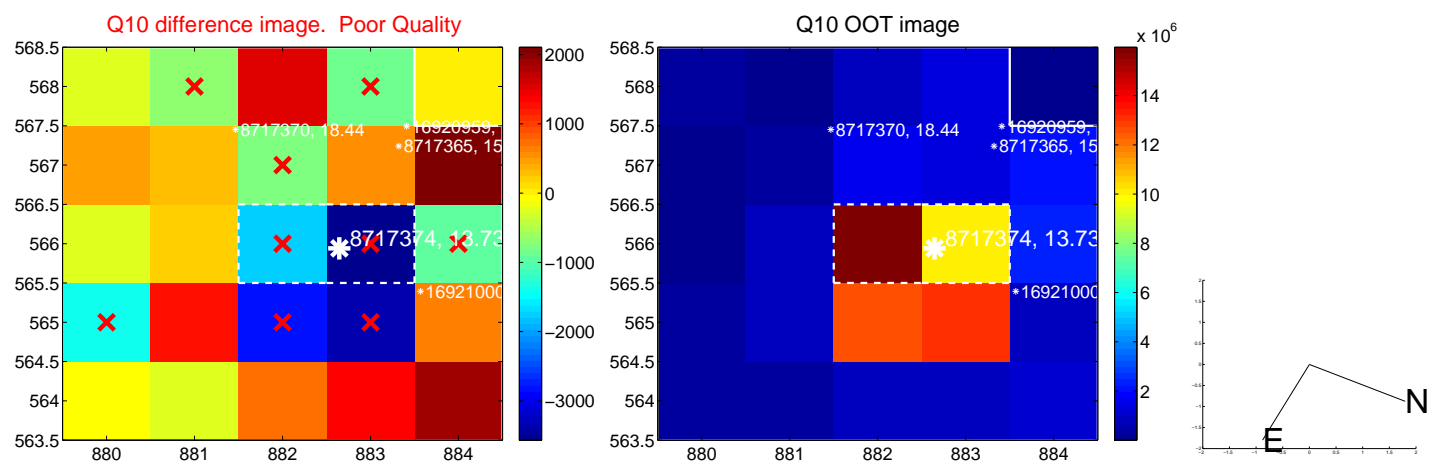
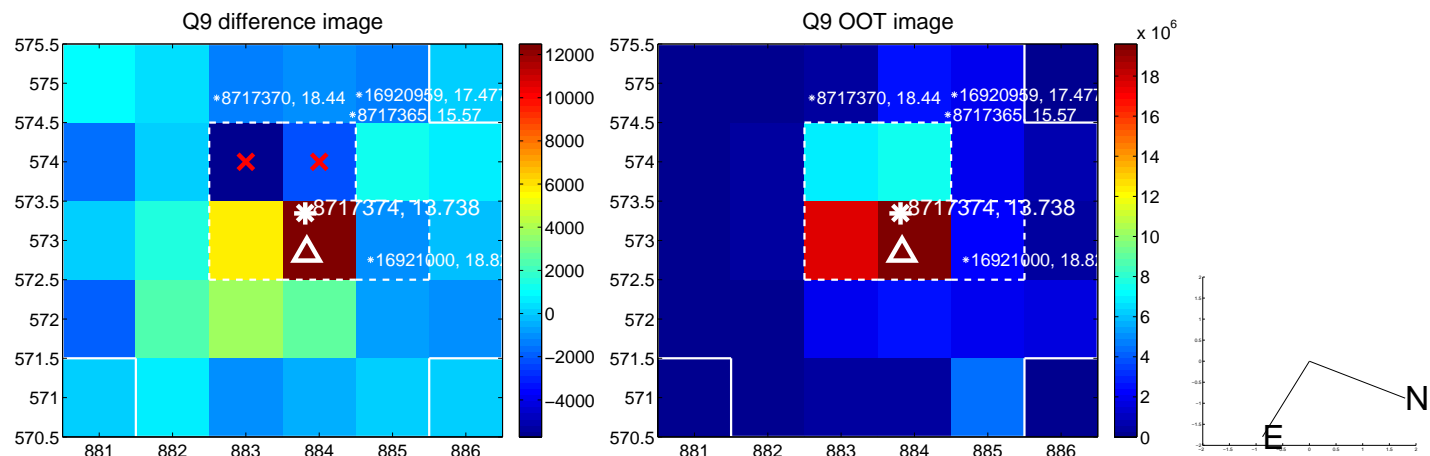
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



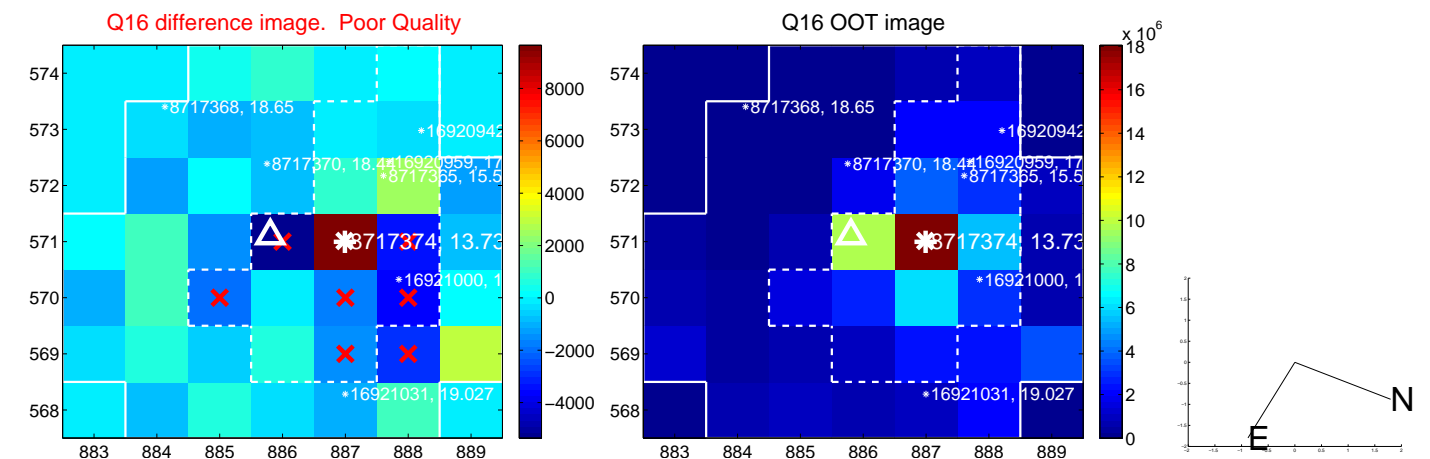
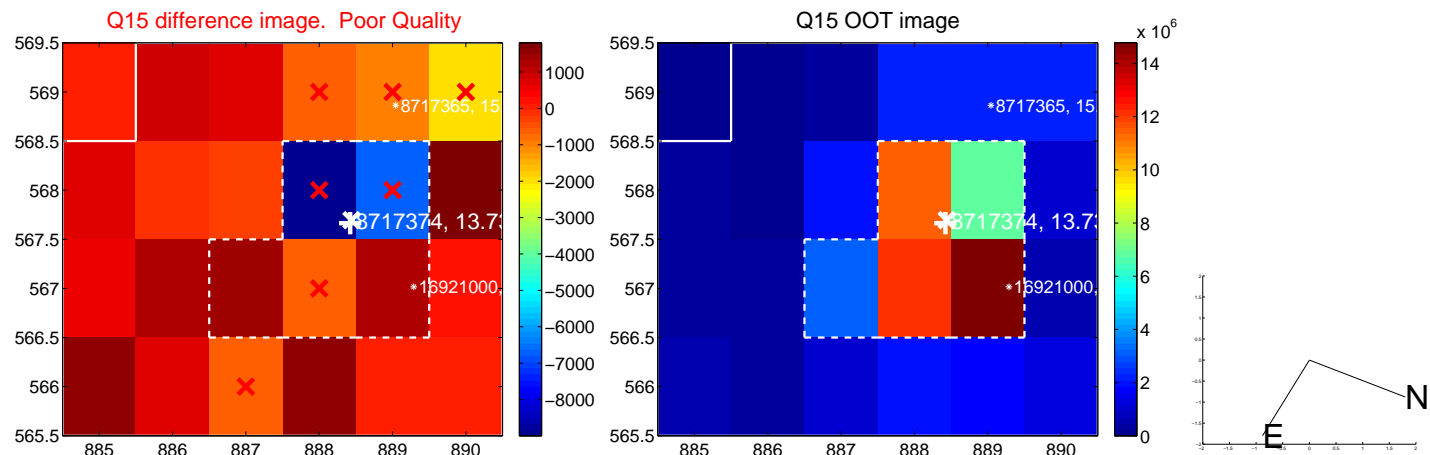
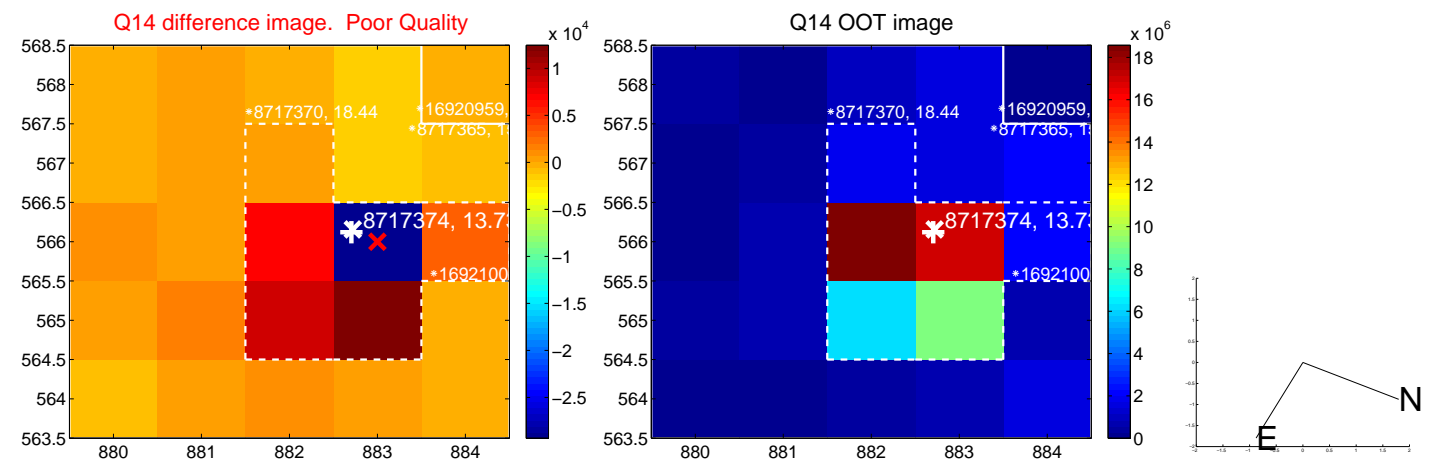
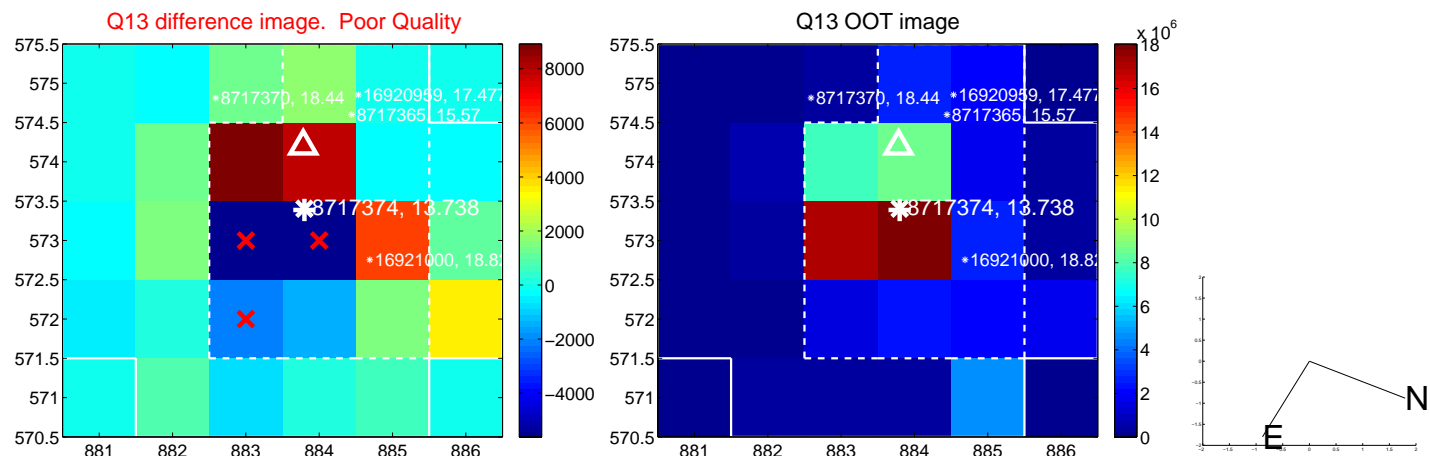
white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



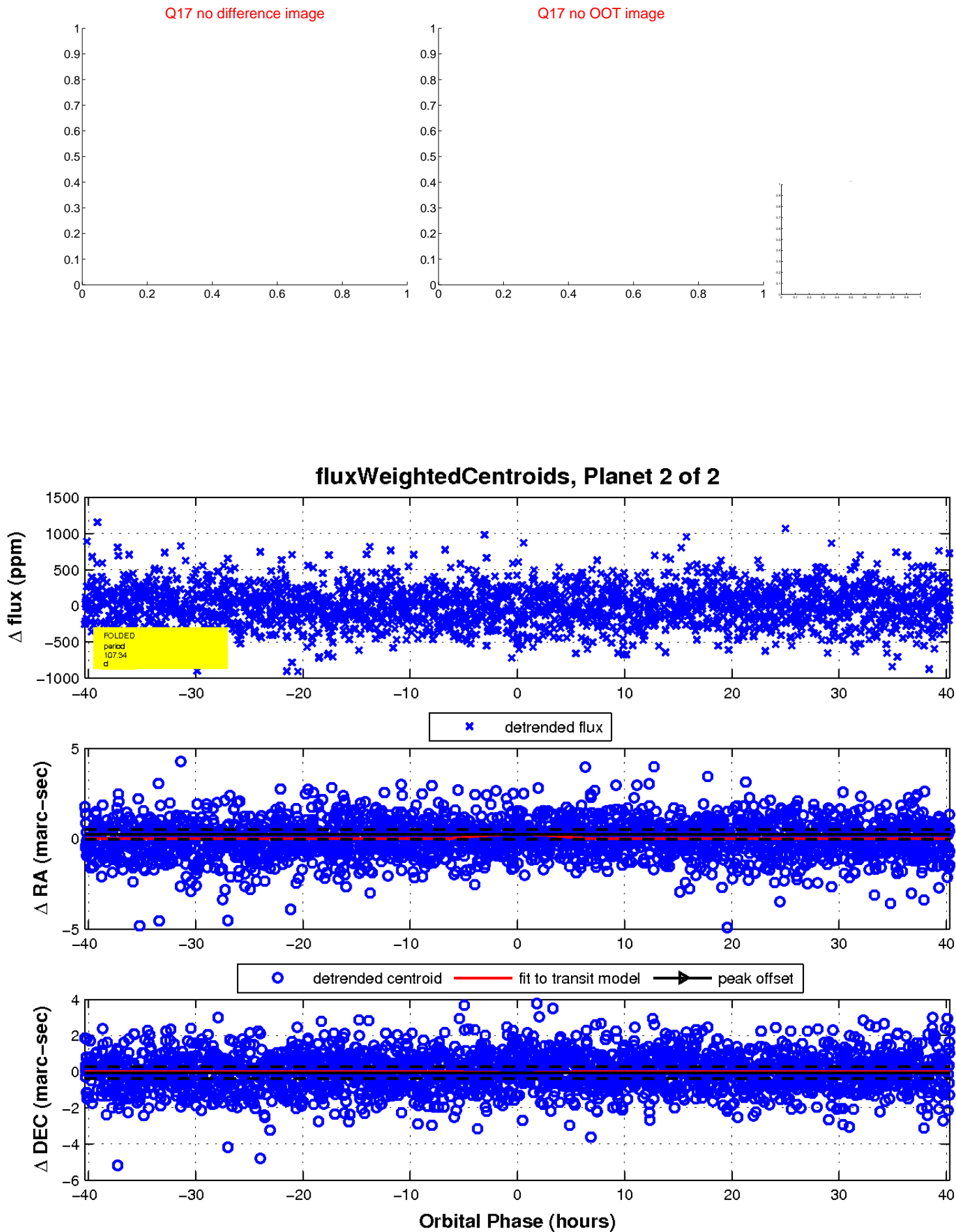
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

