

KIC 008517433

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})
008517433-01	OBS	7050.01	1.305938	132.169456	16.8	8.976	9.1	9.6	1.05	5812	0.44	1994.35
008517433-02	OBS	No	295.250370	267.261812	734.3	16.123	10.1	11.5	1.05	5812	3.25	1.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008517433-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008517433-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—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.

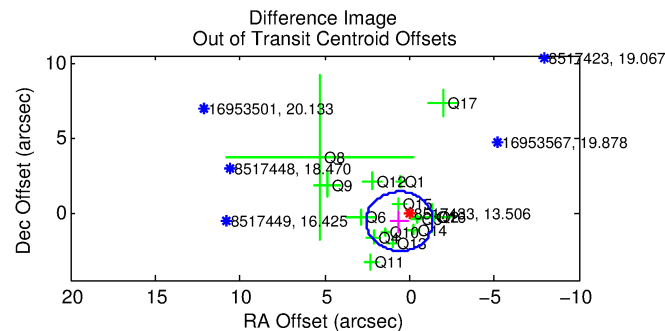
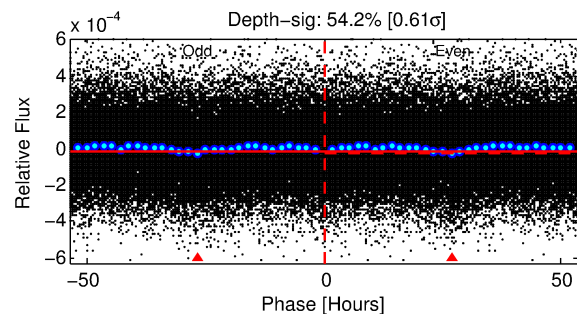
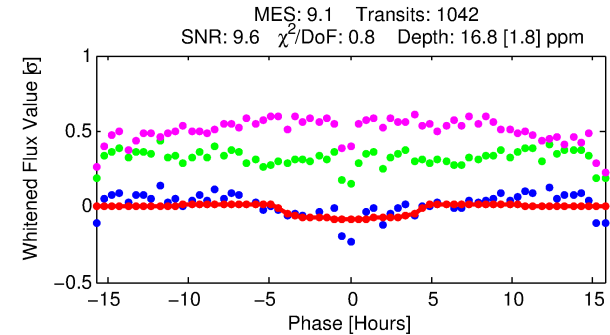
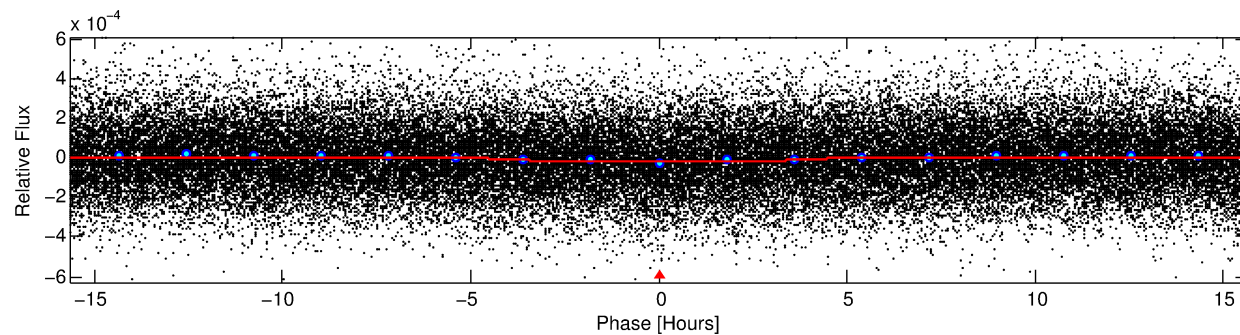
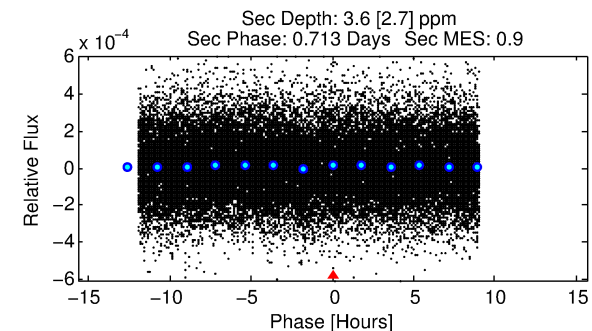
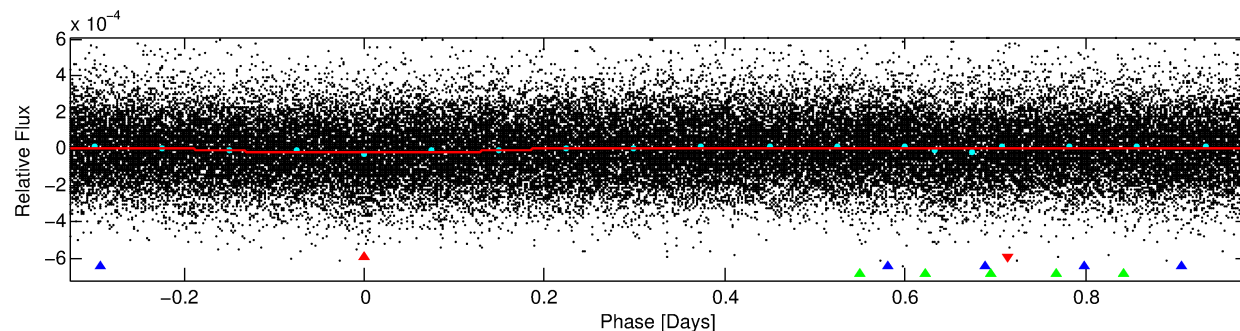
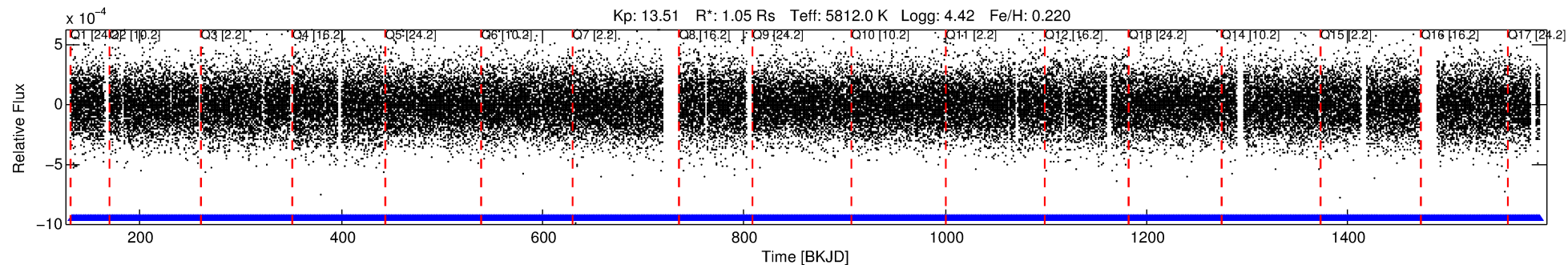
Ephemeris Match Information For 008517433-01

No Significant Match Found

DV One-Page Summary

KIC: 8517433 Candidate: 1 of 3 Period: 1.306 d

KOI: K07050 Corr: No Ephemeris Match



DV Fit Results:

Period = 1.30594 [0.00002] d
Epoch = 132.1695 [0.0082] BKJD
Rp/R* = 0.0038 [0.0038]
a/R* = 1.23 [1.77]
b = 0.45 [7.68]
Seff = 1994.35 [437.35]
Teq = 1704 [93] K
Rp = 0.44 [0.44] Re
a = 0.0239 [0.0033] AU
Ag = 5.83 [12.44] [0.39σ]
Teffp = 4094 [2173] K [1.10σ]

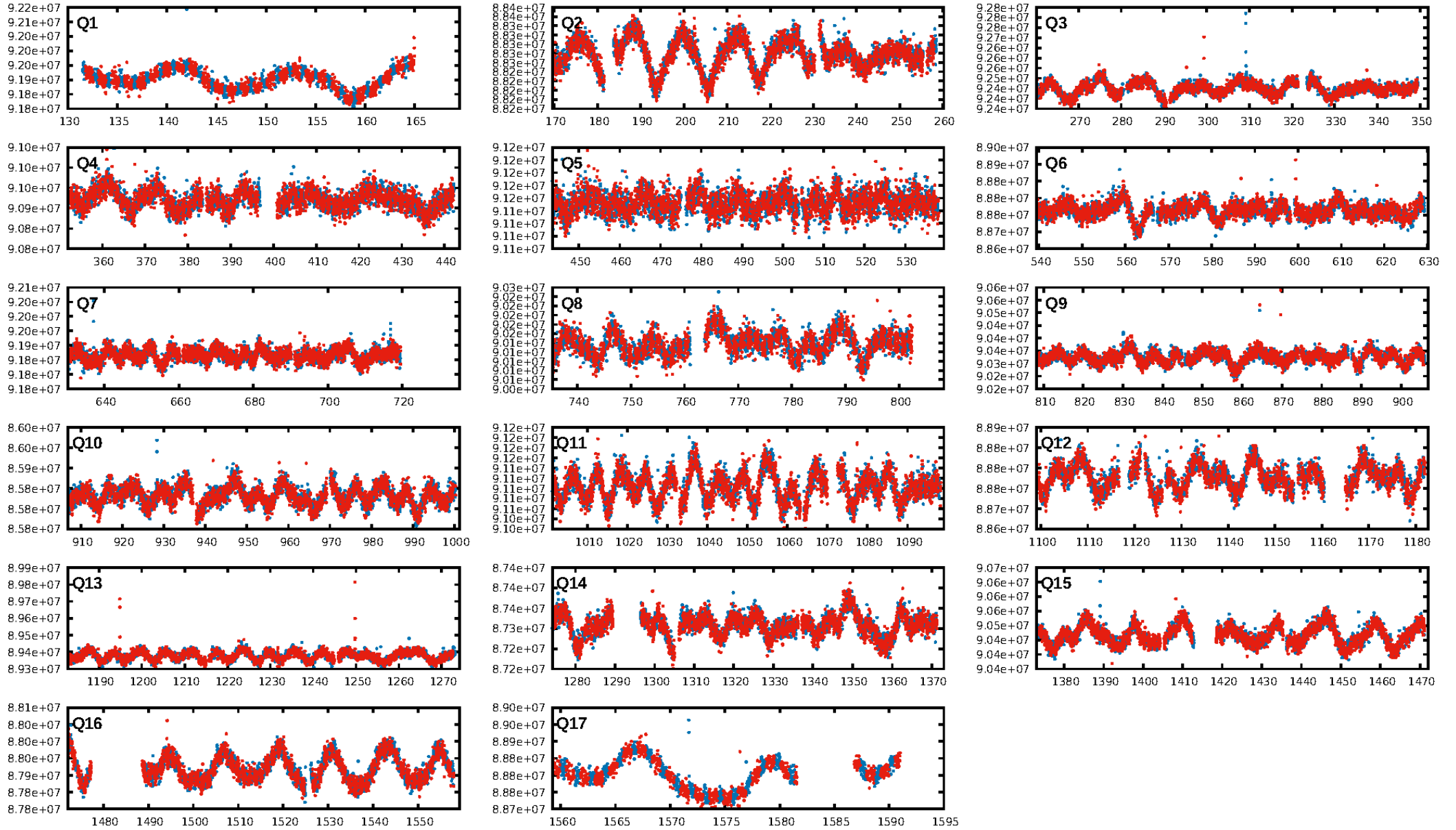
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [382.30σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.31e-16
RollingBand-fgt: 1.00 [994/994]
GhostDiagnostic-chr: 0.8676
Centroid-sig: 52.1%
Centroid-so: 0.989 arcsec [0.65σ]
OotOffset-rm: 0.833 arcsec [1.27σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-rm: 0.790 arcsec [1.21σ]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

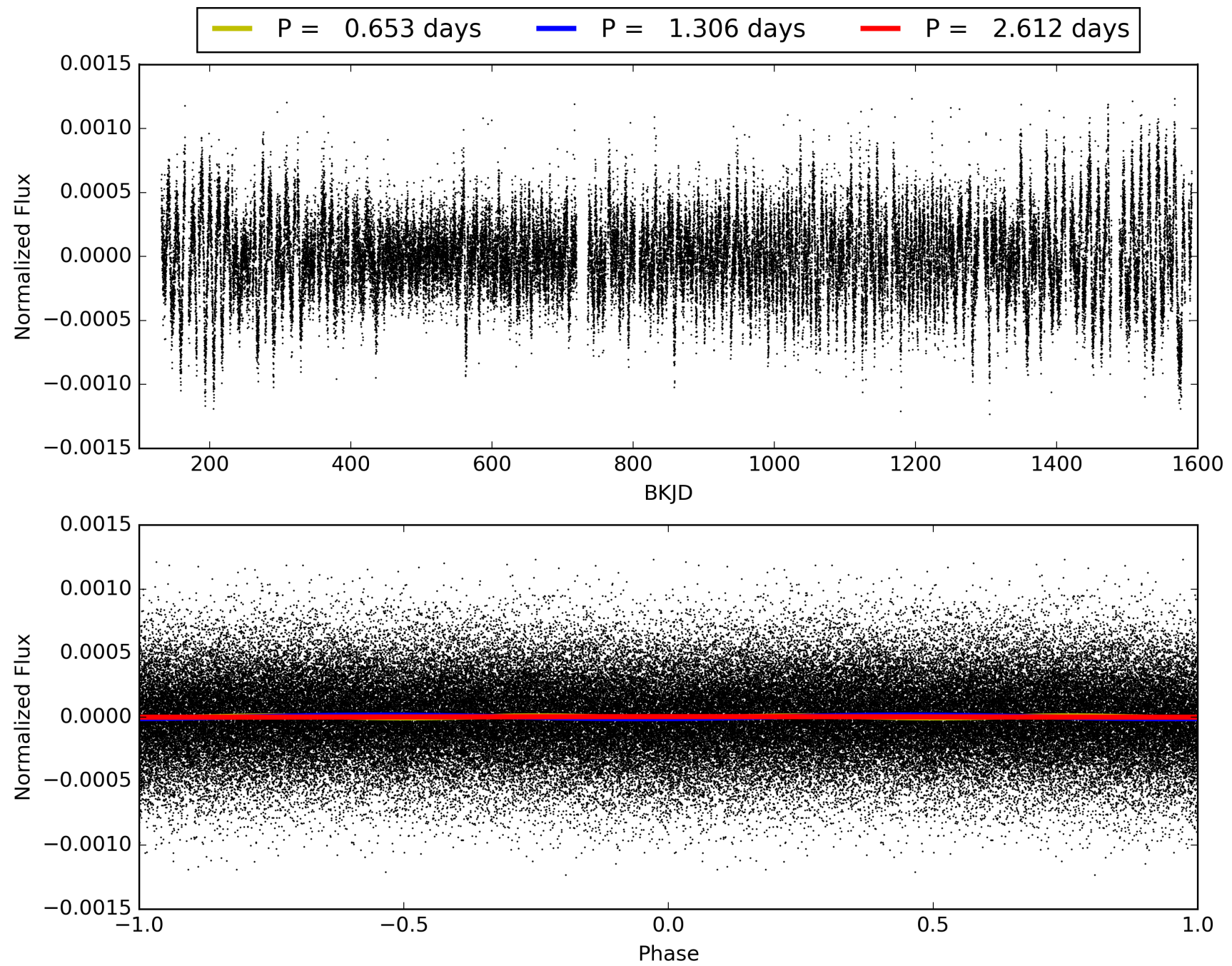
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008517433-01, PDC Light Curves

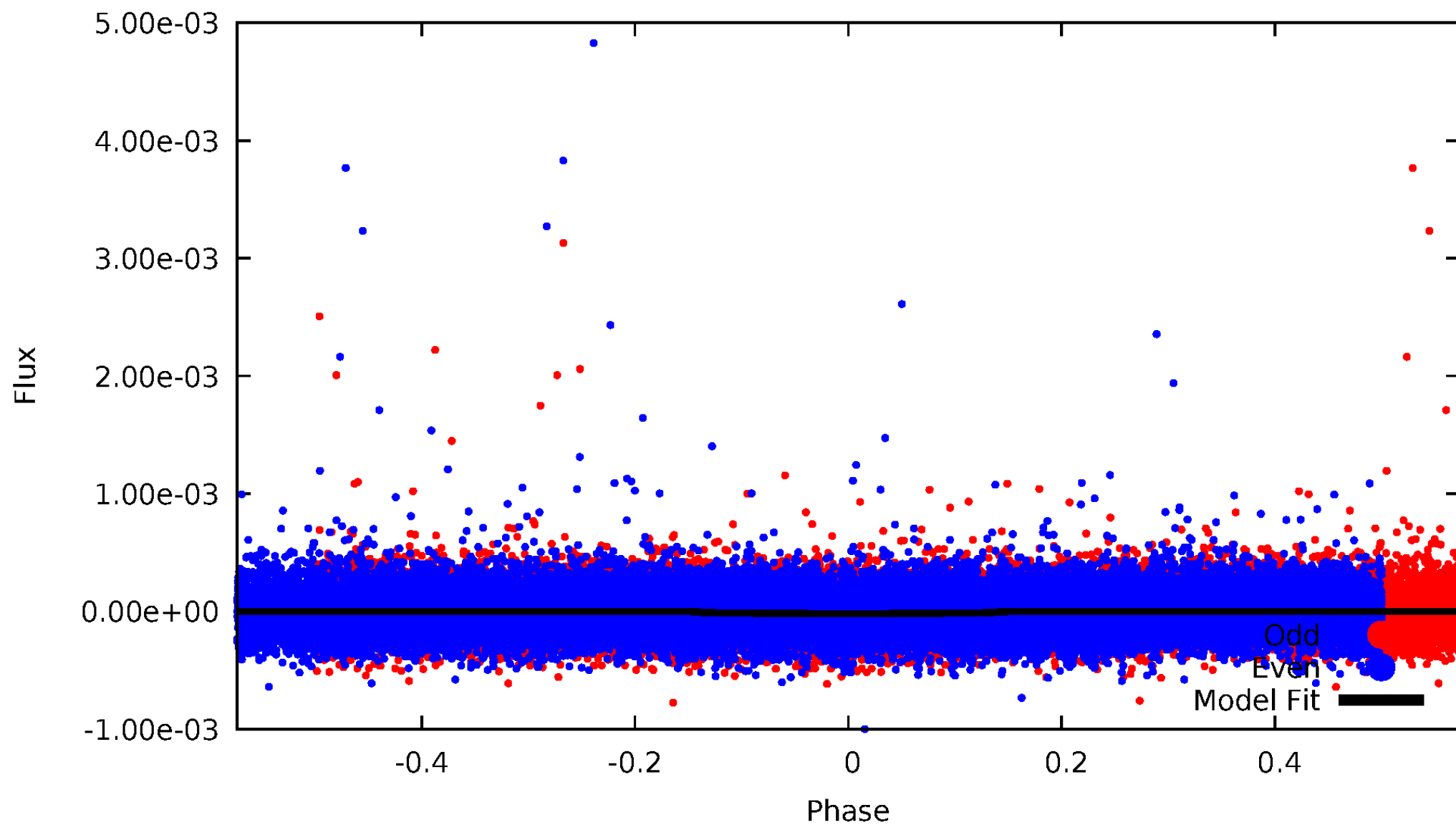


TCE 008517433-01



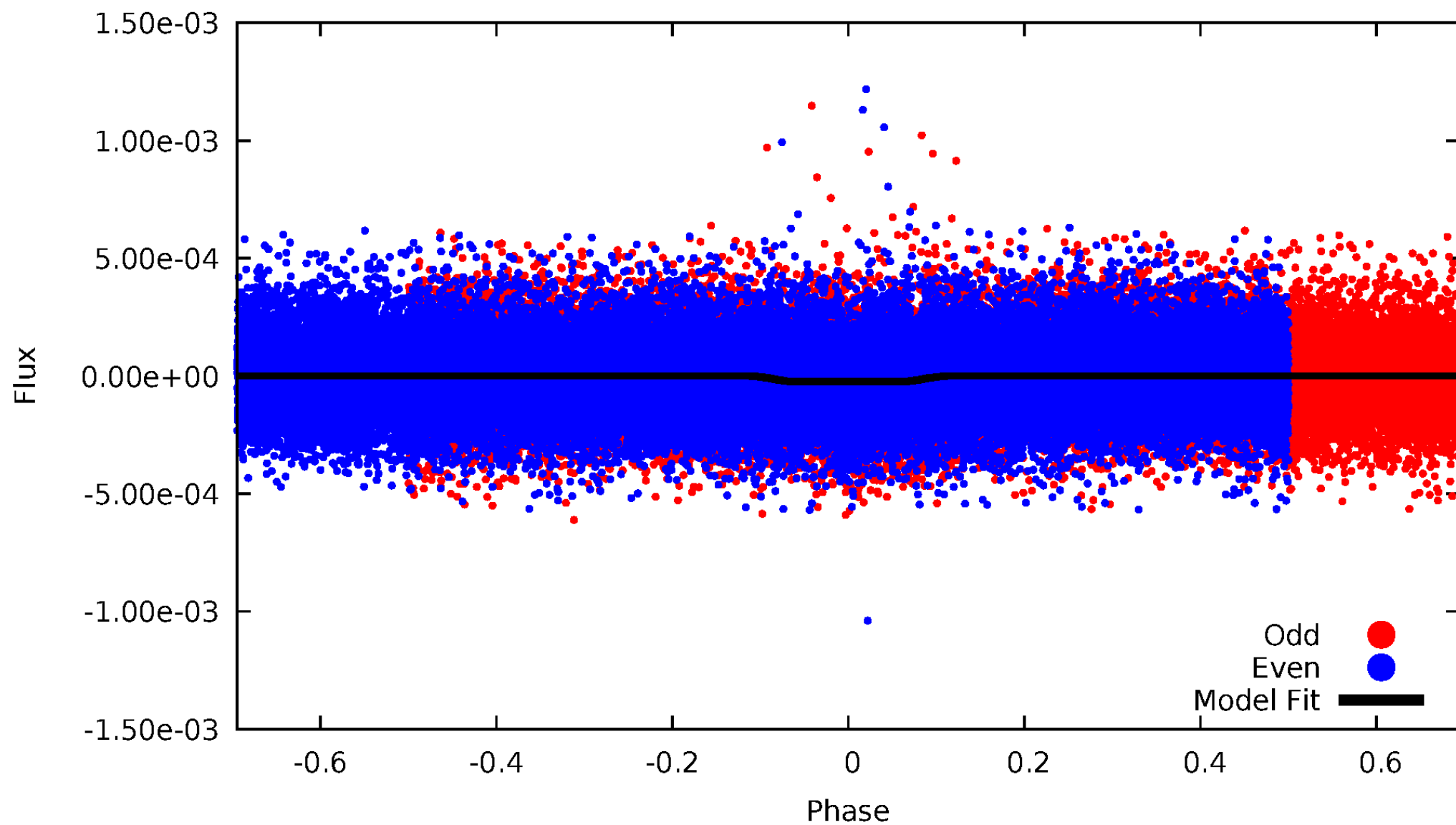
DV Odd/Even

TCE 008517433-01



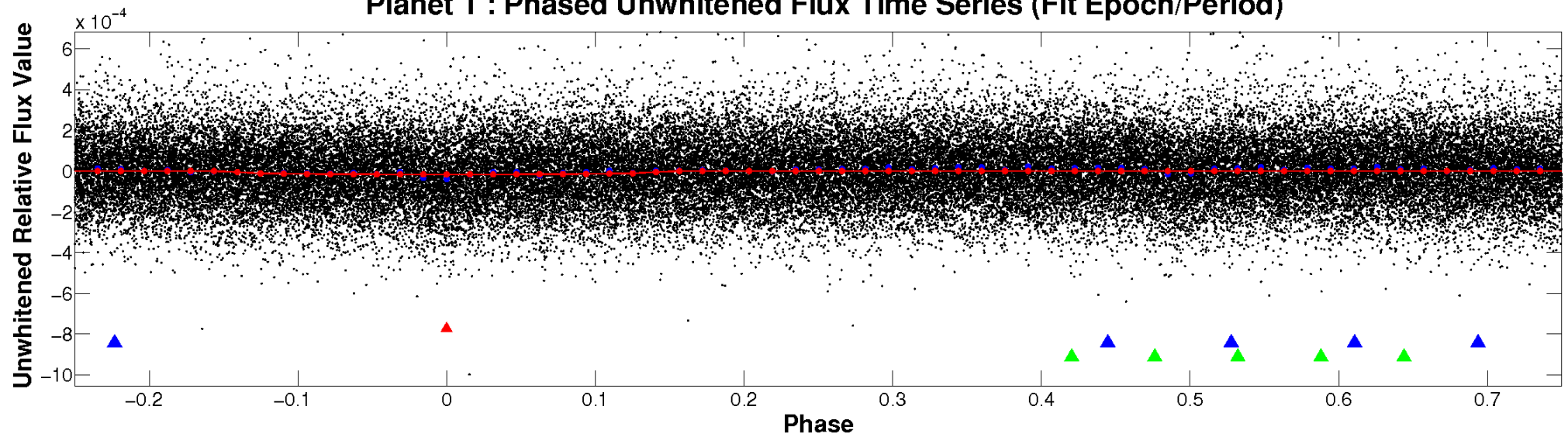
ALT Odd/Even

TCE 008517433-01

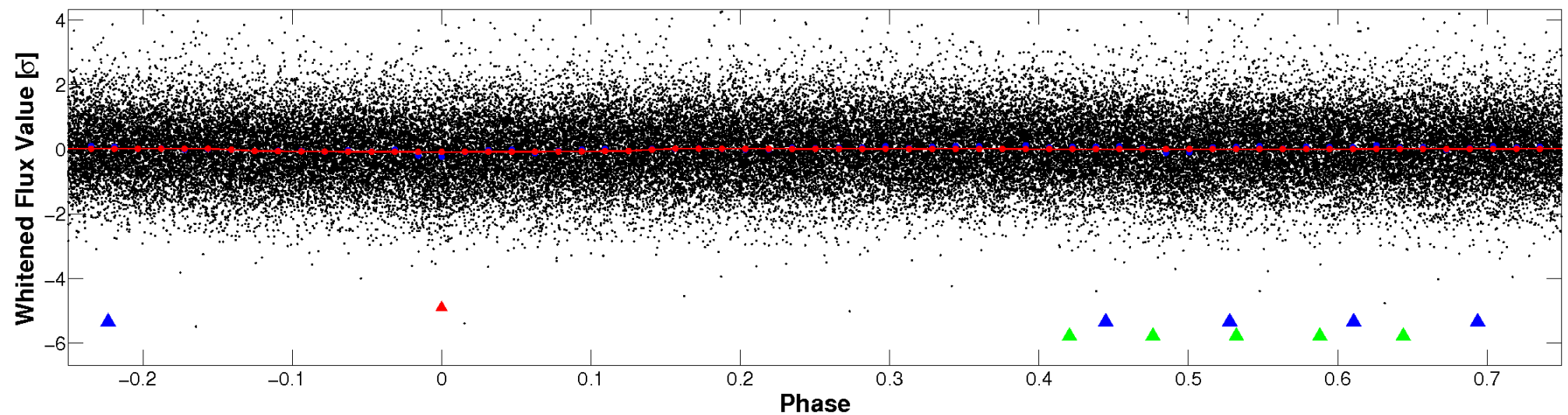


Non-Whitened Vs. Whitened Light Curve

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

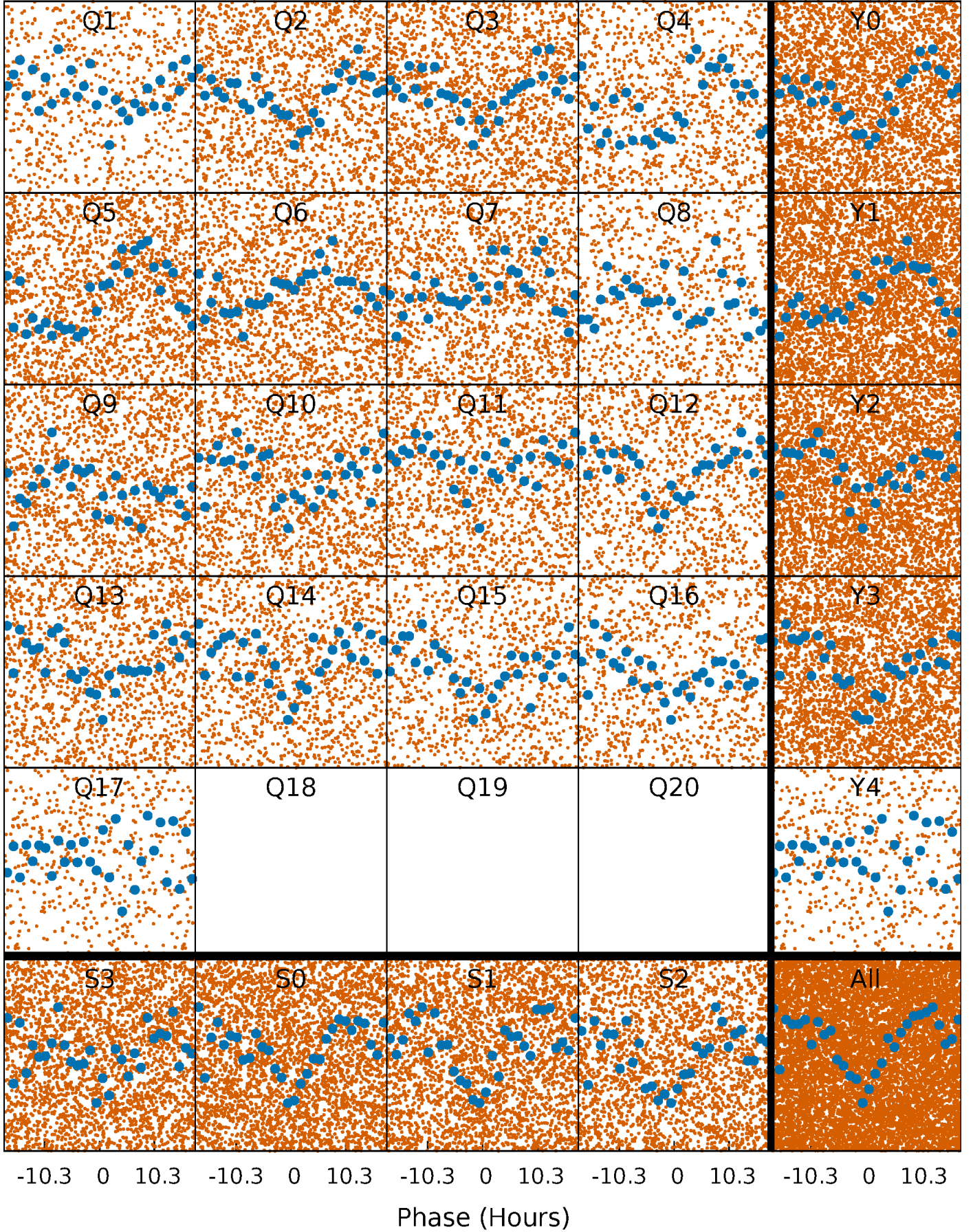


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



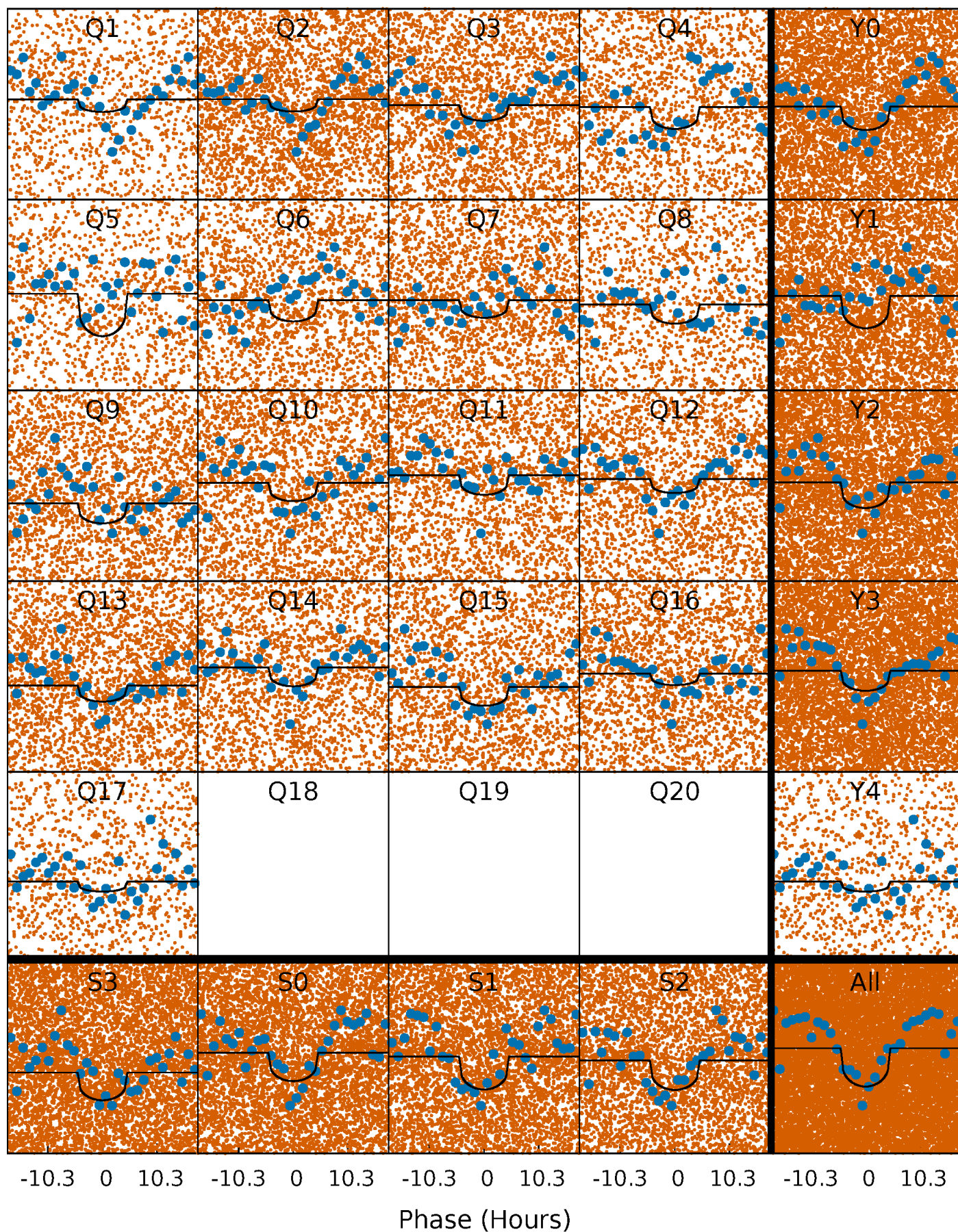
PDC Quarter-Phased Transit Curves

TCE 008517433-01 P= 1.305938 Days $T_0=132.169456$ (BKJD)



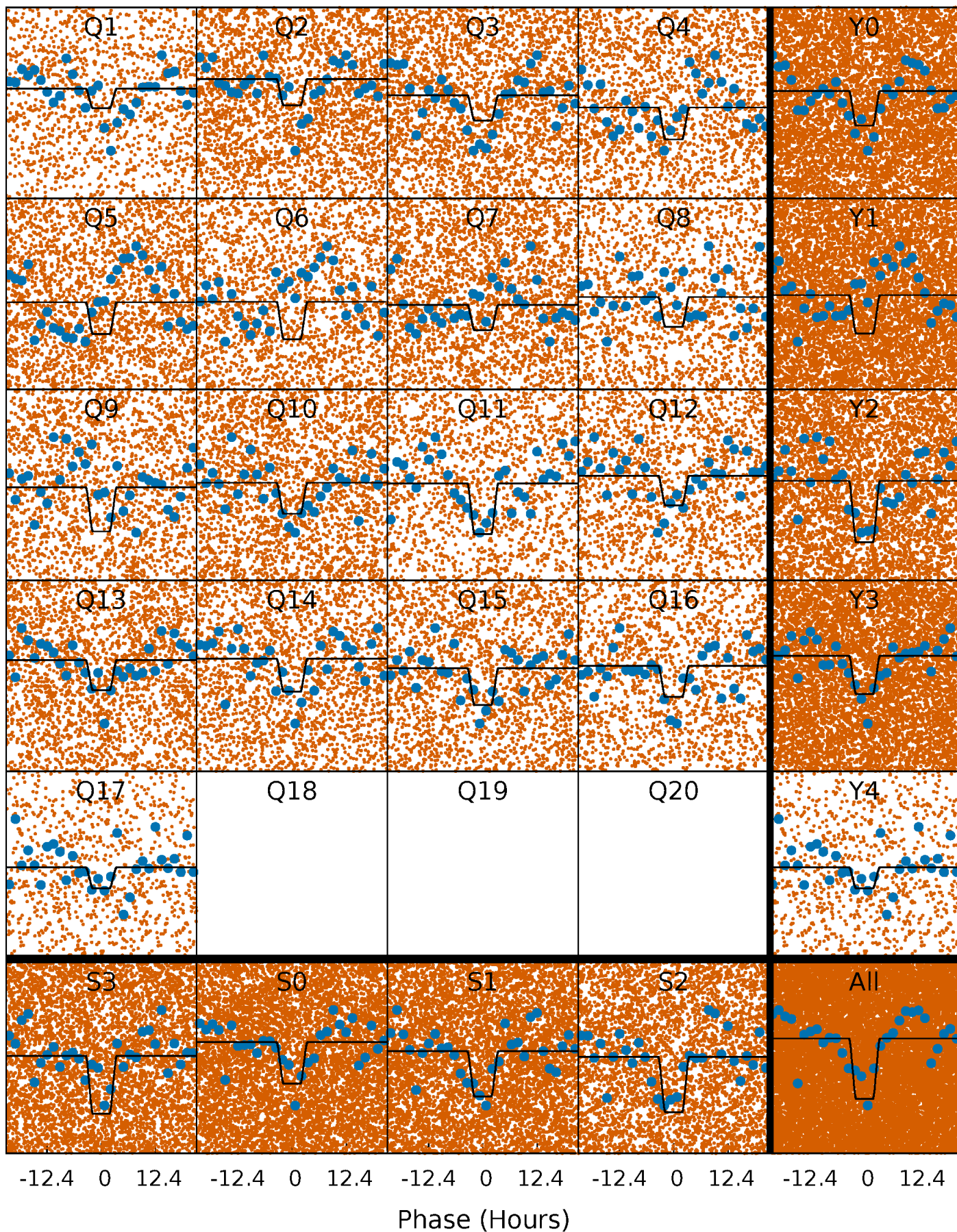
DV Quarter-Phased Transit Curves

TCE 008517433-01 P= 1.305938 Days $T_0=132.169456$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

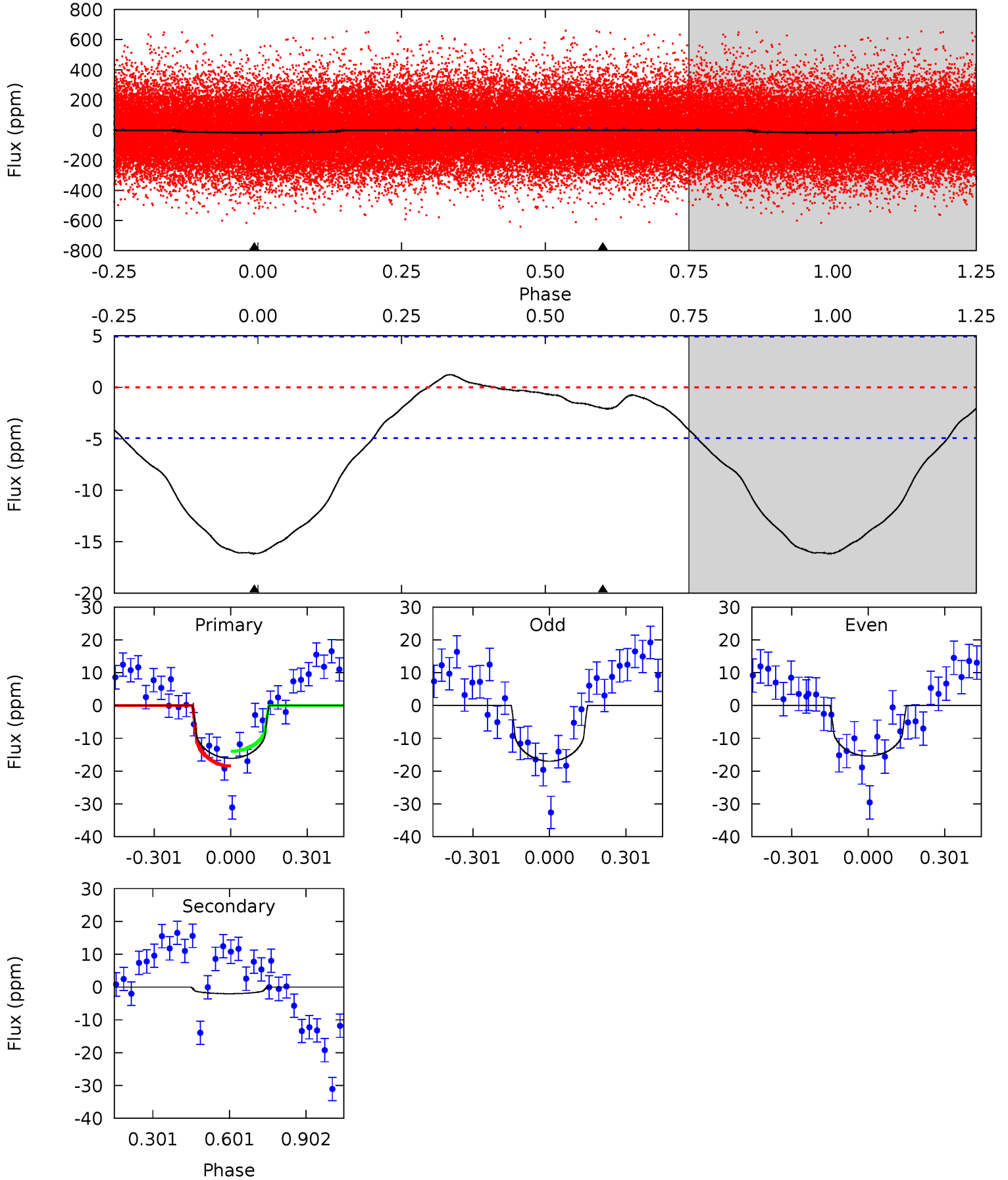
TCE 008517433-01 P= 1.305916 Days $T_0=132.169178$ (BKJD)



DV Model-Shift Uniqueness Test

008517433-01, P = 1.305938 Days, E = 130.863518 Days

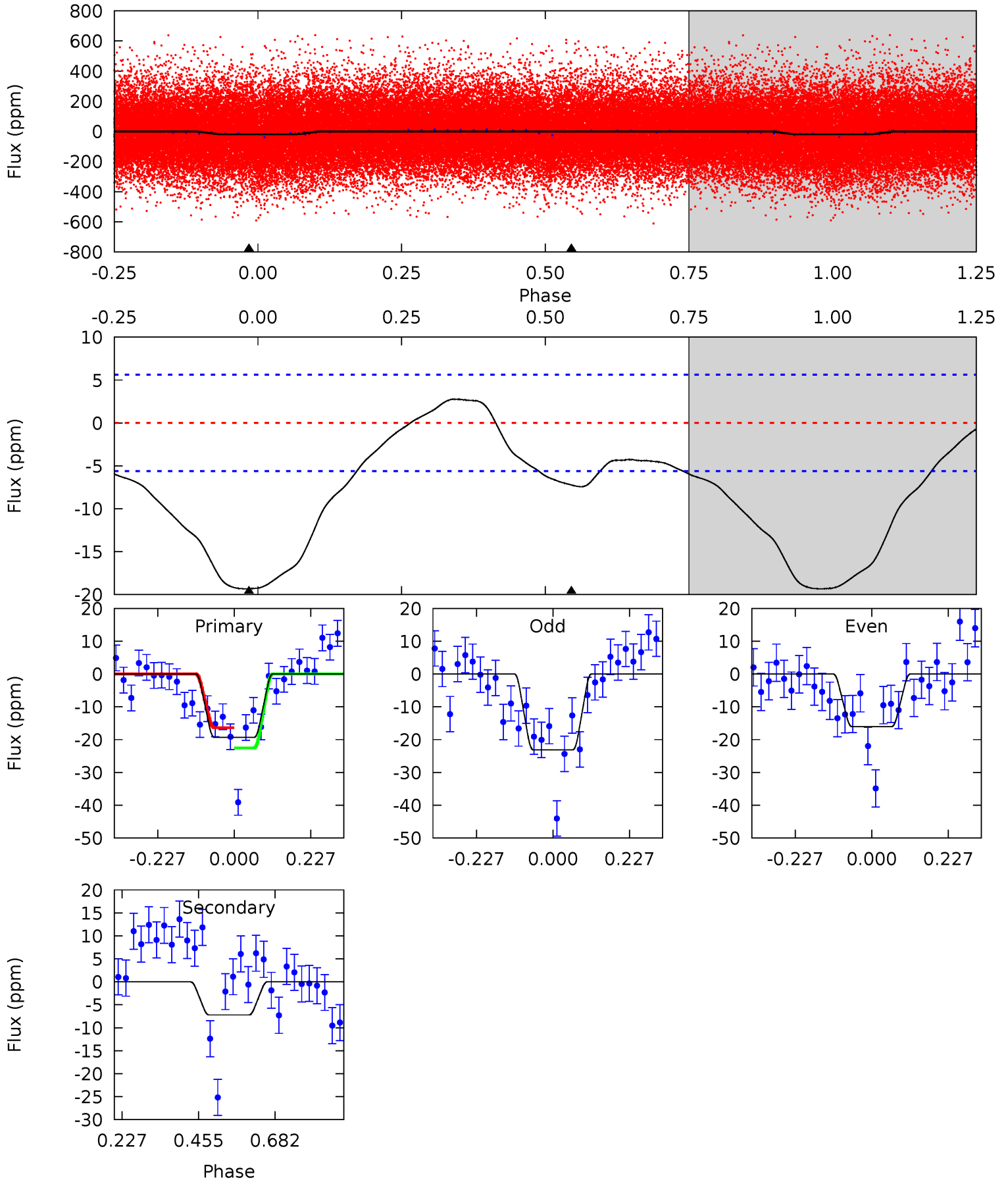
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	1.78	0	0	4.33	1.04	0.94	14.2	14.2	1.78	1.78	0.69	0.93	0.07	1.95



Alt Model-Shift Uniqueness Test

008517433-01, P = 1.305916 Days, E = 130.863262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	5.64	0	0	4.39	1.21	1.06	15.1	15.1	5.64	5.64	2.75	0.92	0.13	2.43



Stellar Parameters For KIC 008517433

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5812^{+70}_{-87}	$4.419^{+0.059}_{-0.119}$	$0.220^{+0.150}_{-0.150}$	$1.055^{+0.167}_{-0.071}$	$1.065^{+0.064}_{-0.064}$	$1.276^{+0.297}_{-0.436}$
	+1%/-1%	+1%/-3%	+68%/-68%	+16%/-7%	+6%/-6%	+23%/-34%
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 008517433-01 / KOI 7050.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 1	$0.55^{+0.39}_{-0.36}$	2389^{+96}_{-67}	3526^{+1785}_{-990}	$2.058^{+14.041}_{-1.596}$
Alt.	-7 ± 1	$0.62^{+0.39}_{-0.36}$	2385^{+99}_{-63}	4282^{+2076}_{-721}	$5.669^{+28.848}_{-3.494}$

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

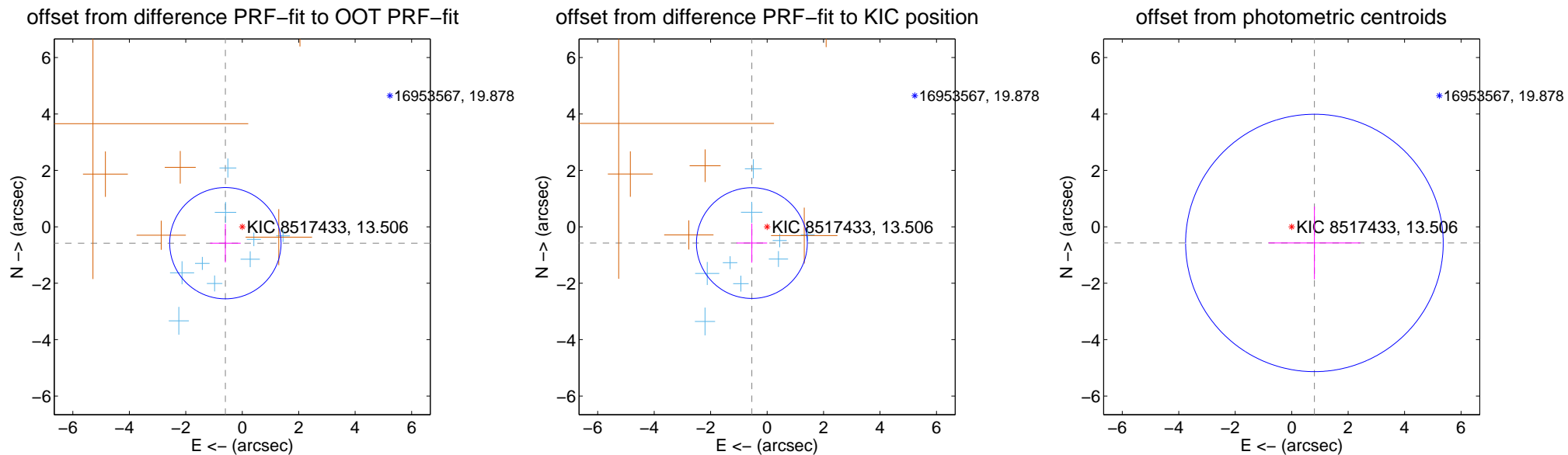
DV Centroid Data

Supplemental centroid analysis for 008517433-01. Kepler magnitude: 13.51. Transit SNR 9.56

There are 9 quarters with good PRF difference image offsets

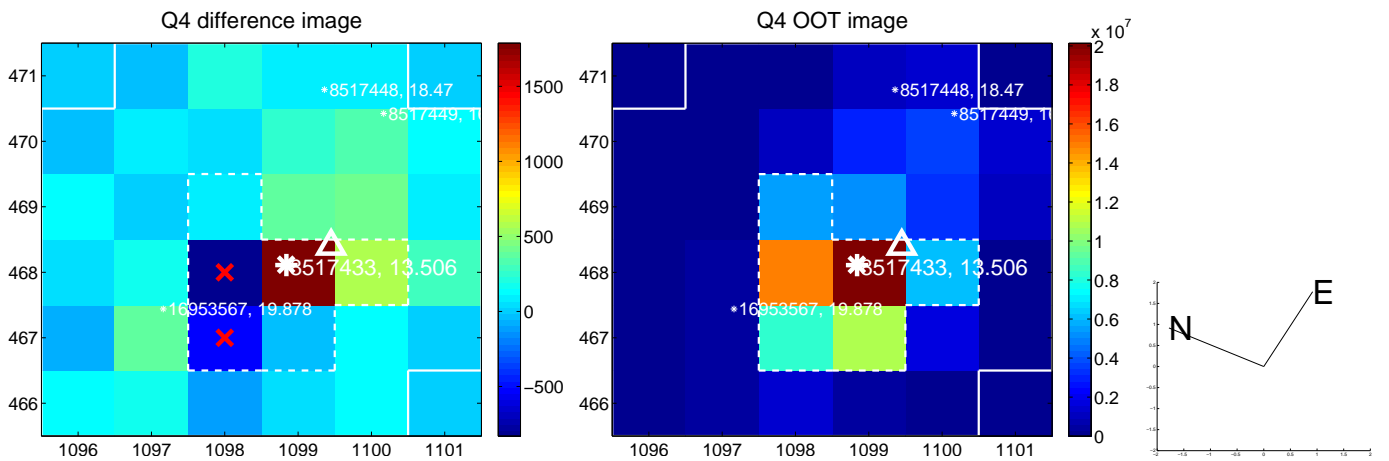
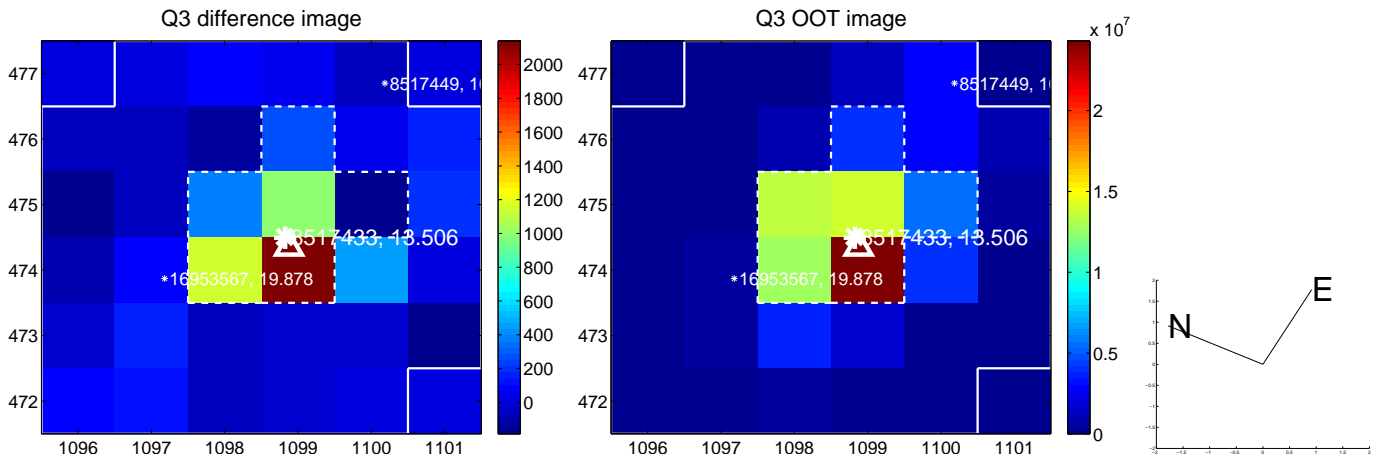
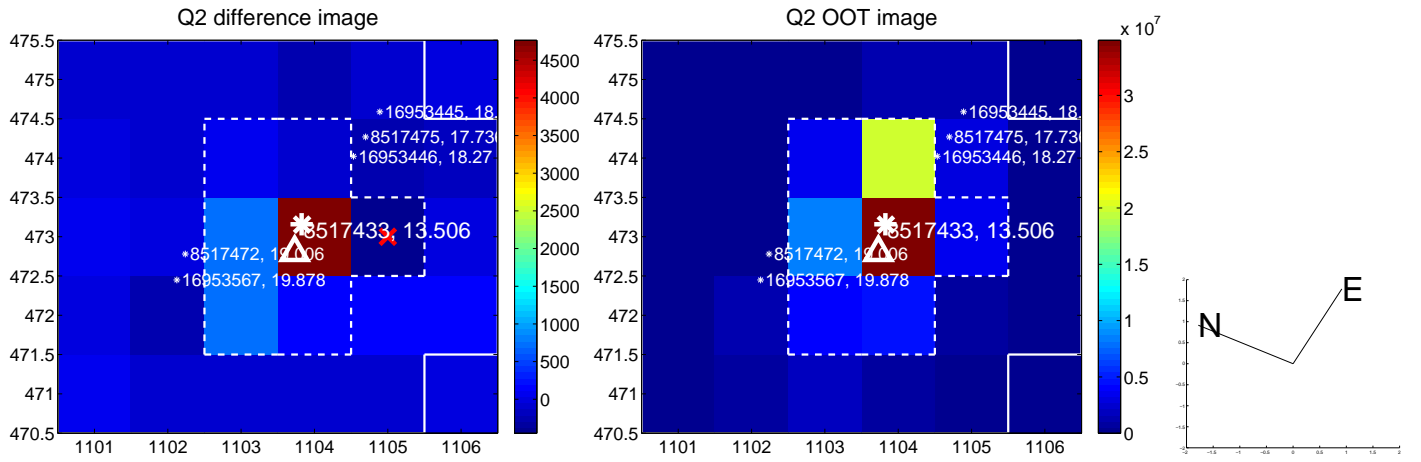
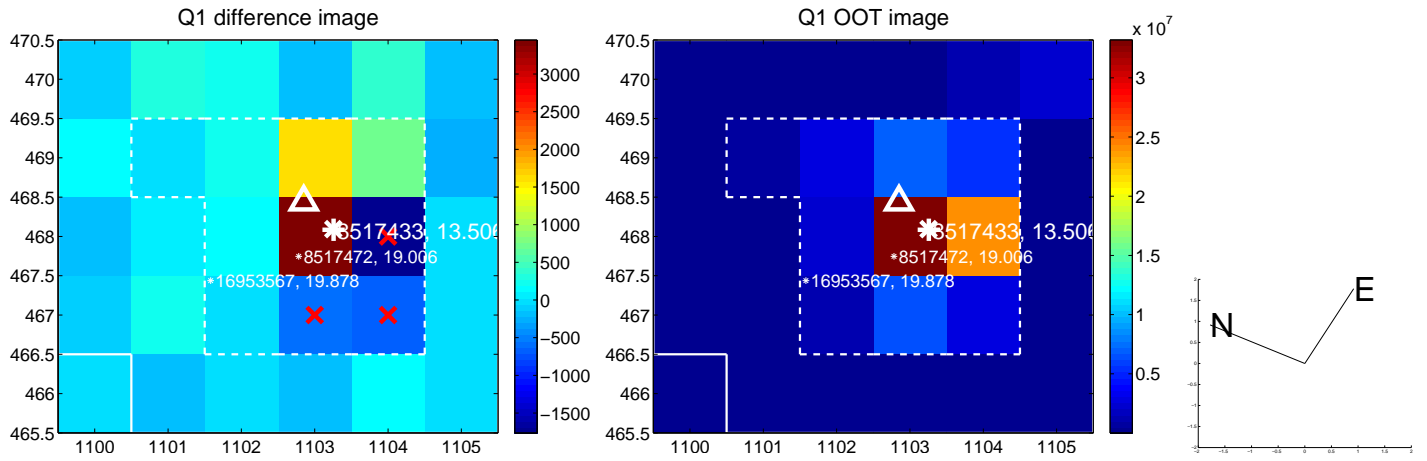
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.833 ± 0.658	1.27	0.598 ± 0.541	-0.581 ± 0.682
PRF-fit source offset from KIC position	0.790 ± 0.654	1.21	0.540 ± 0.542	-0.577 ± 0.695
photometric centroid source offset	0.99 ± 1.52	0.65	-0.81 ± 1.62	-0.57 ± 1.29

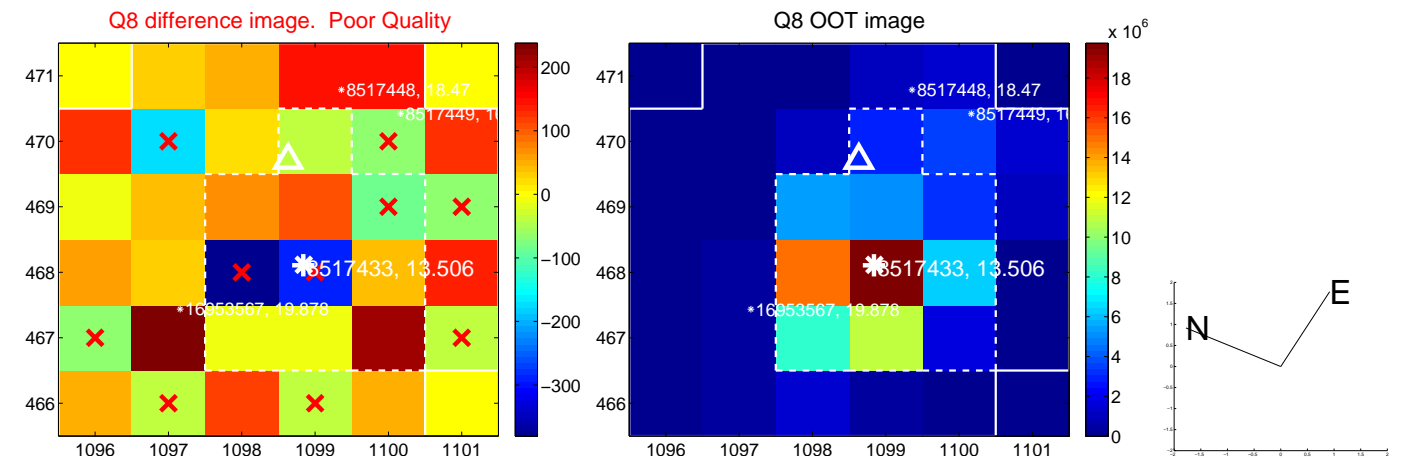
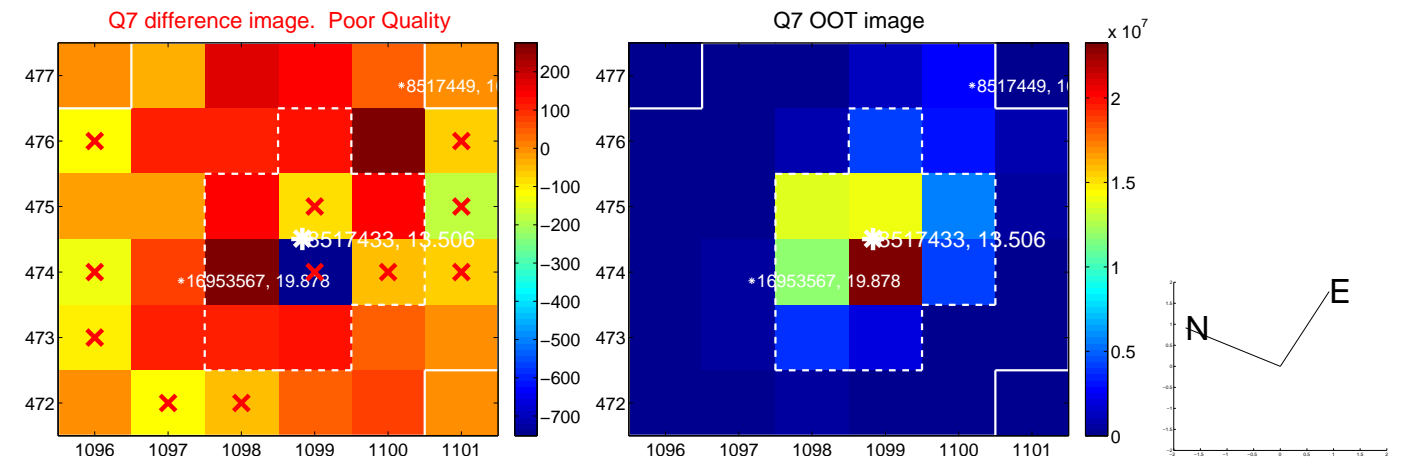
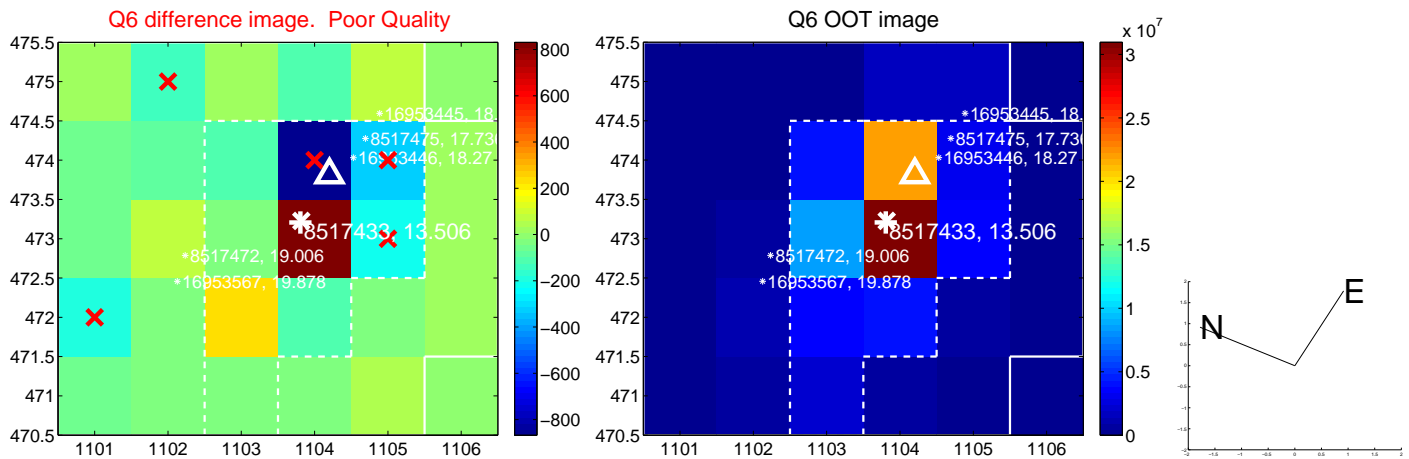
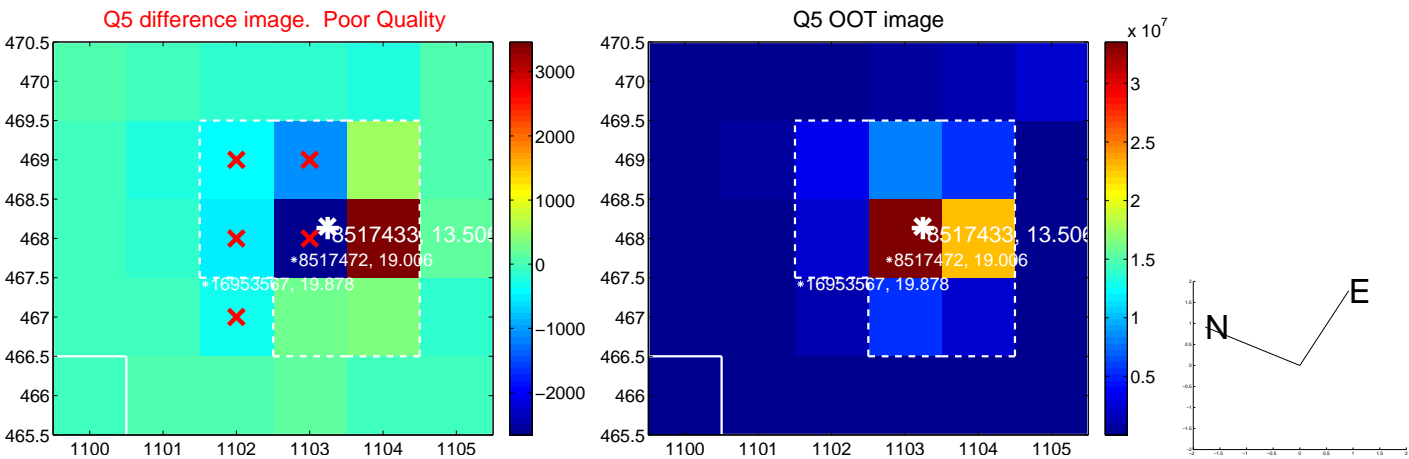


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

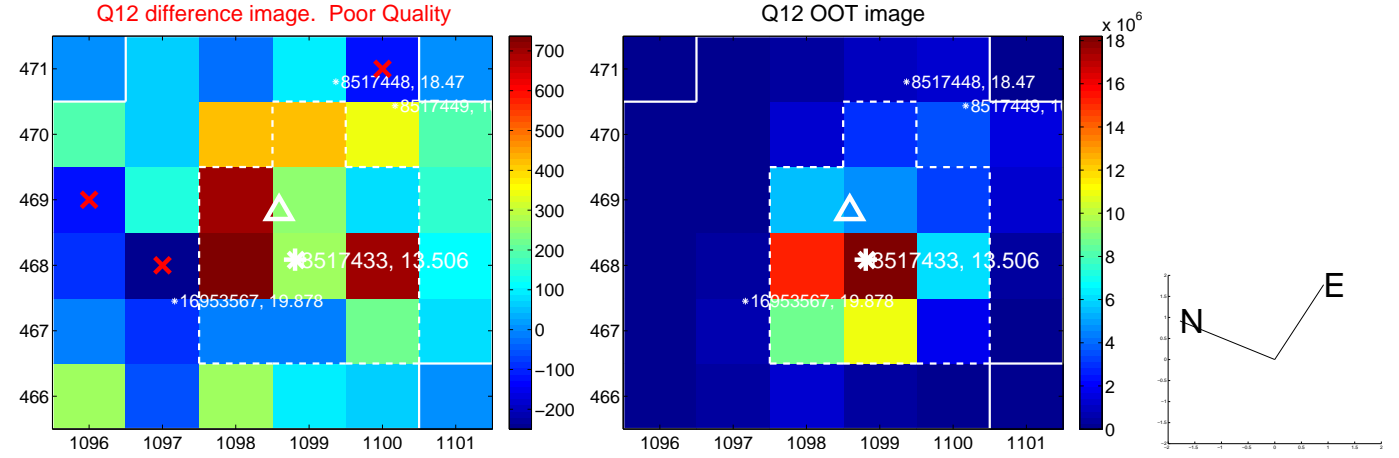
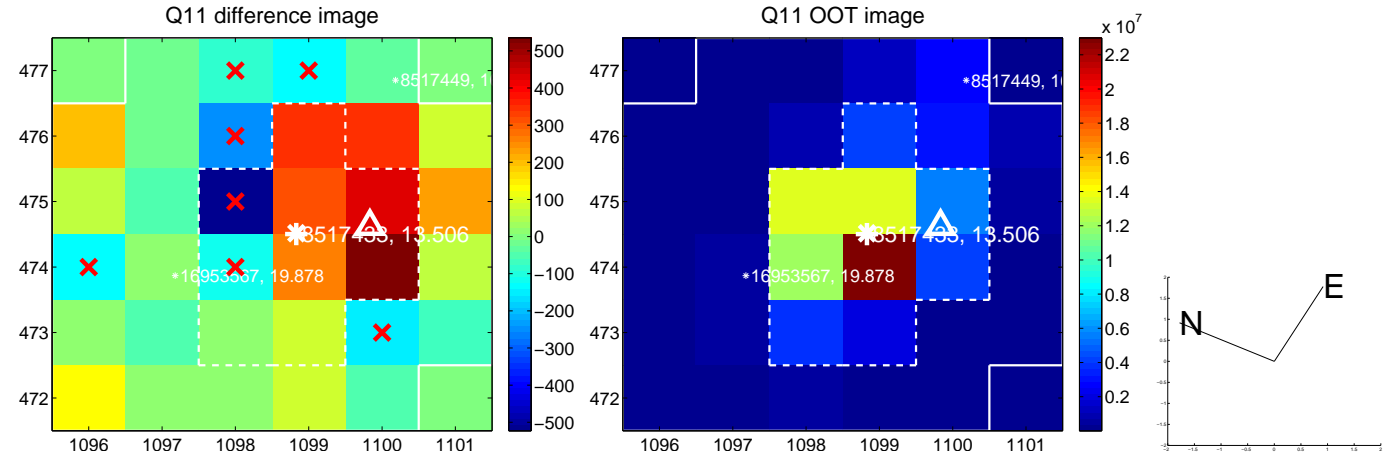
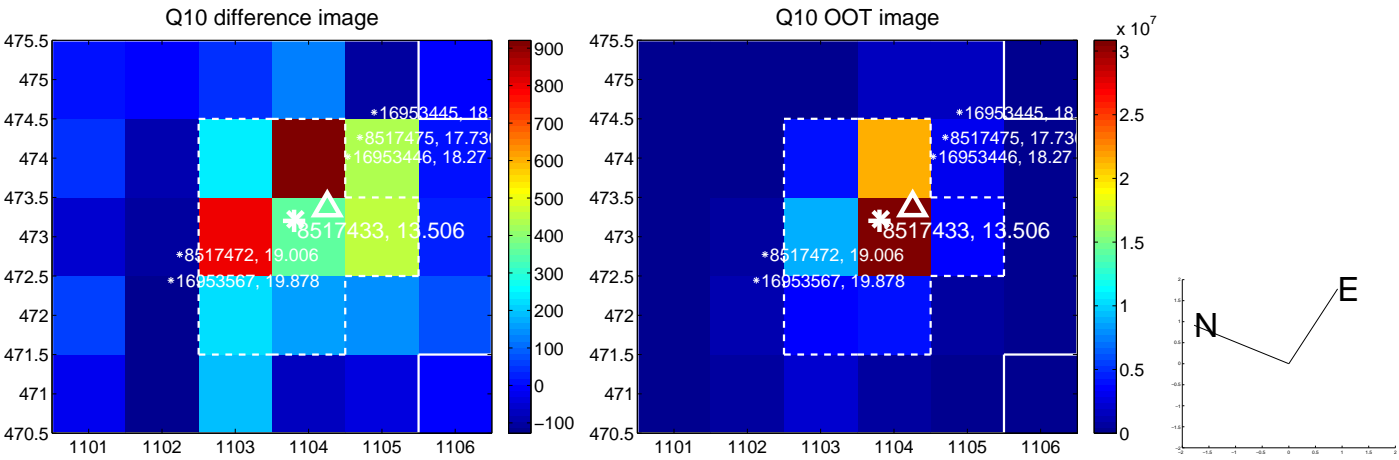
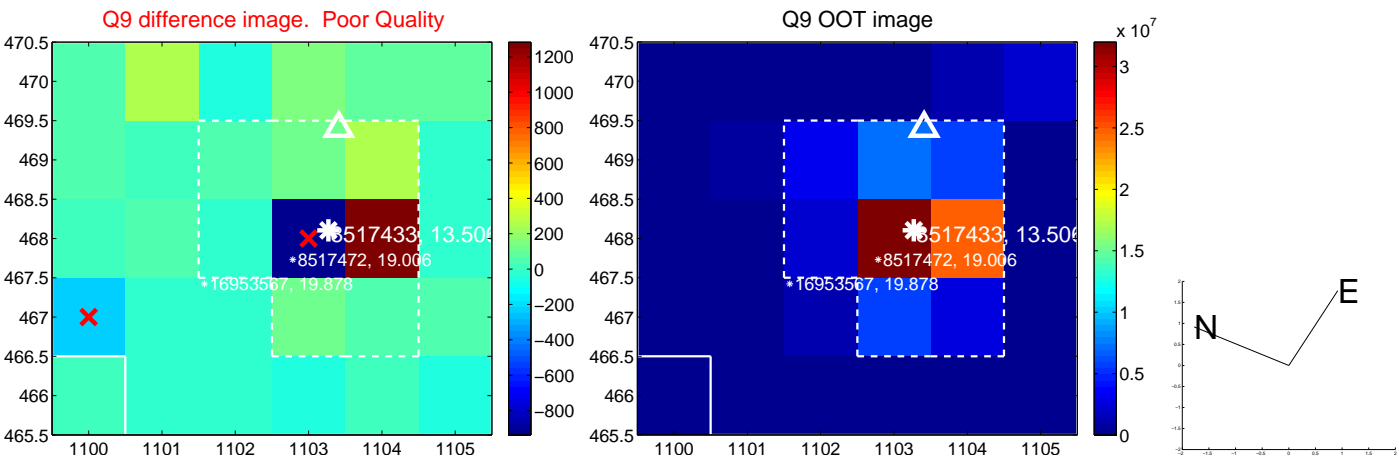
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



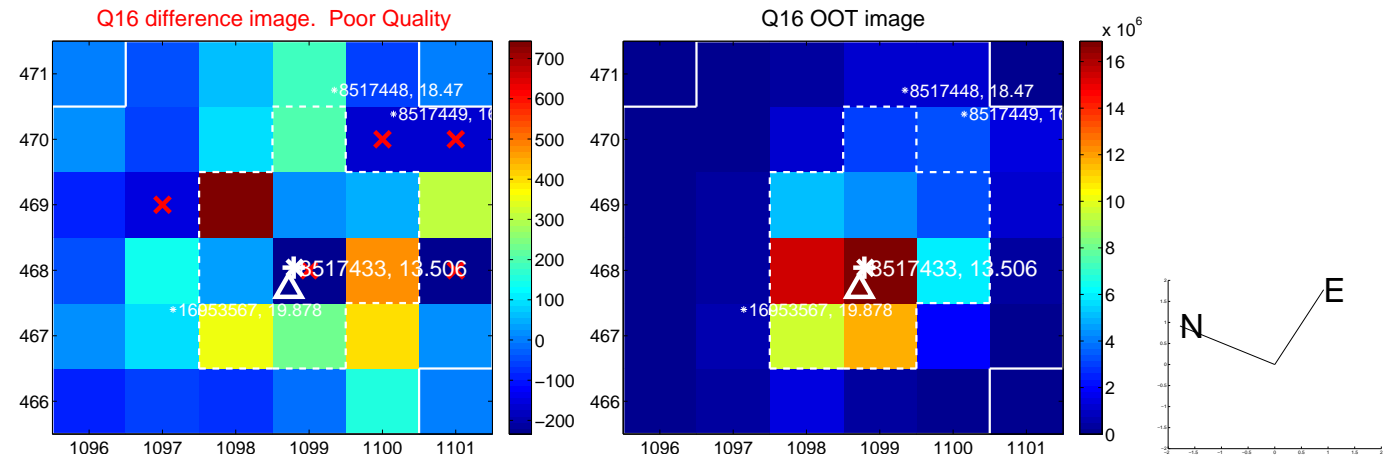
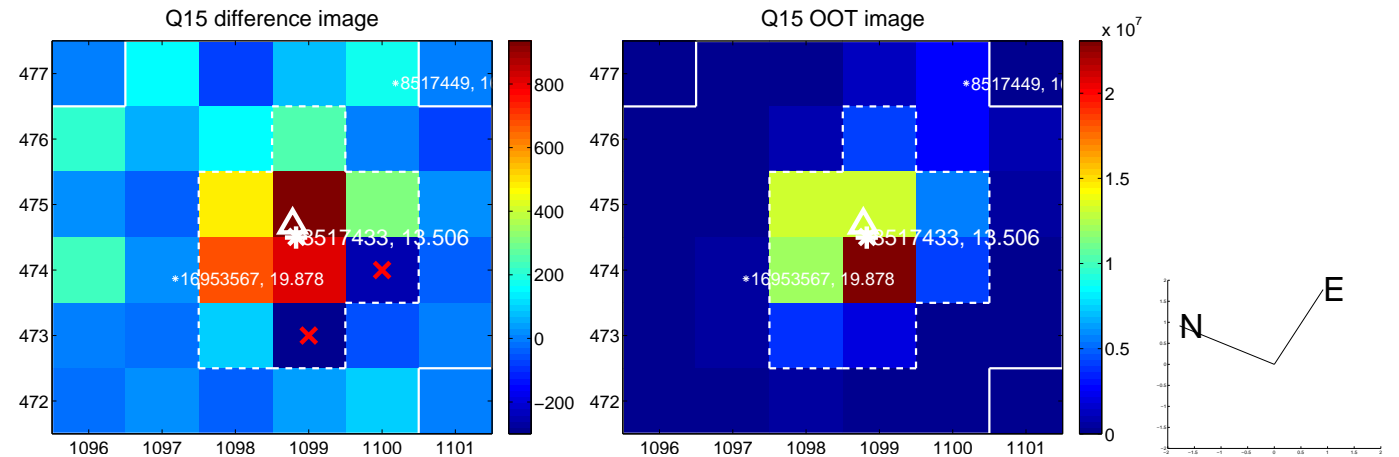
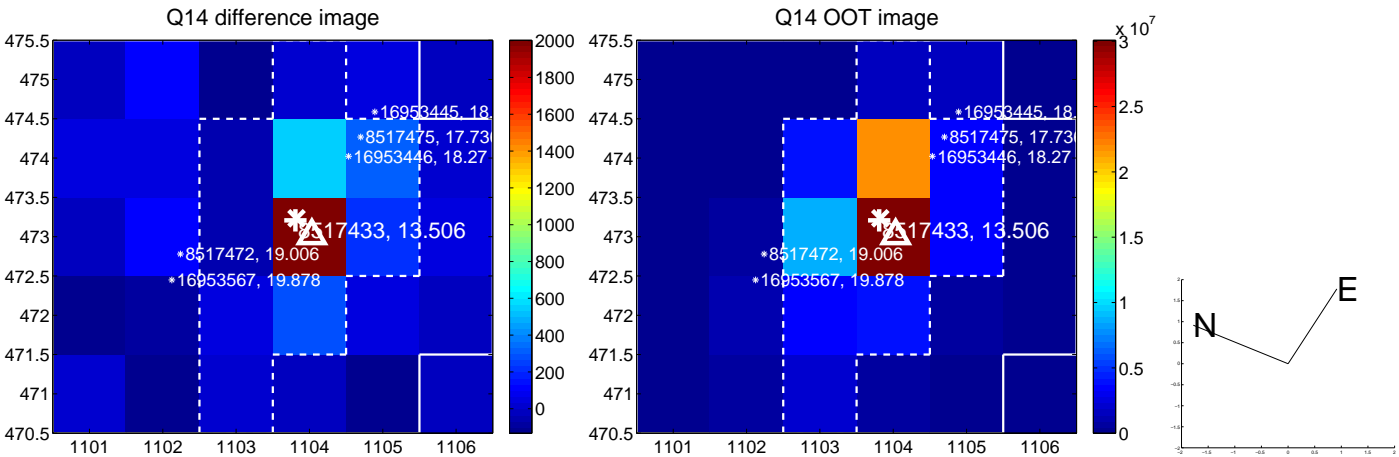
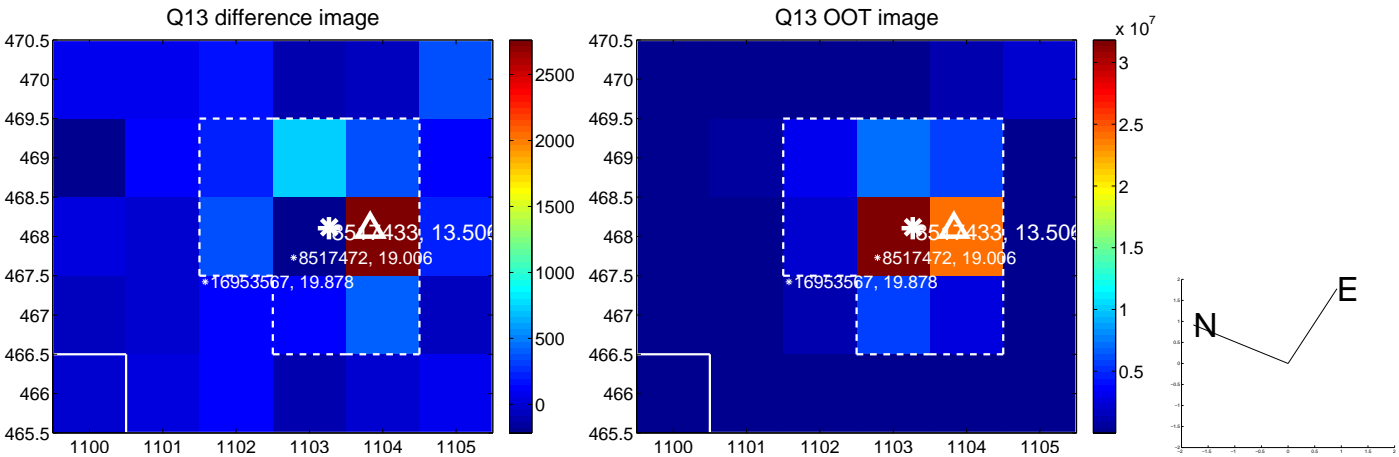
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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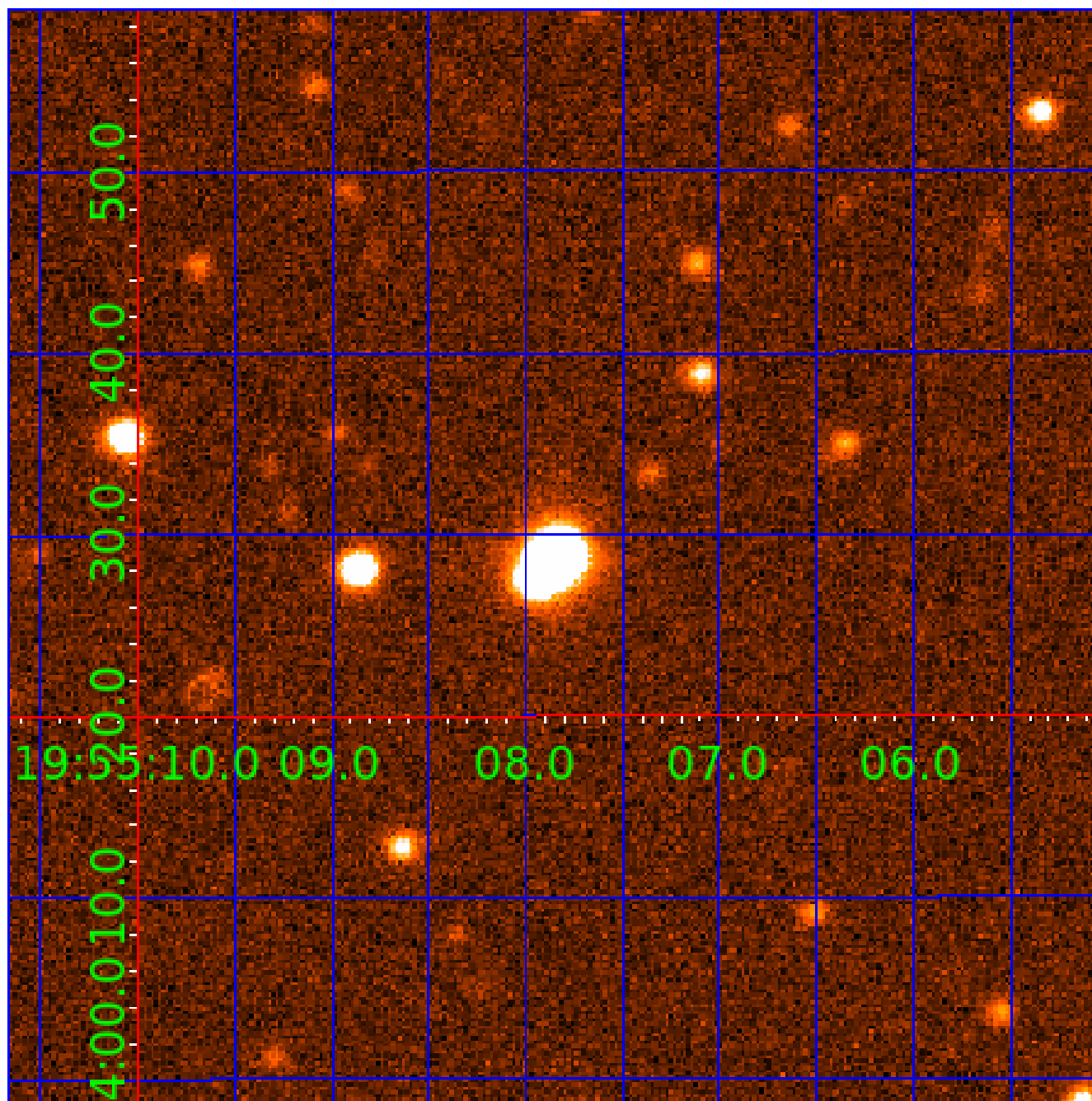


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008517433

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})
008517433-01	OBS	7050.01	1.305938	132.169456	16.8	8.976	9.1	9.6	1.05	5812	0.44	1994.35
008517433-02	OBS	No	295.250370	267.261812	734.3	16.123	10.1	11.5	1.05	5812	3.25	1.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008517433-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008517433-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—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 008517433-02

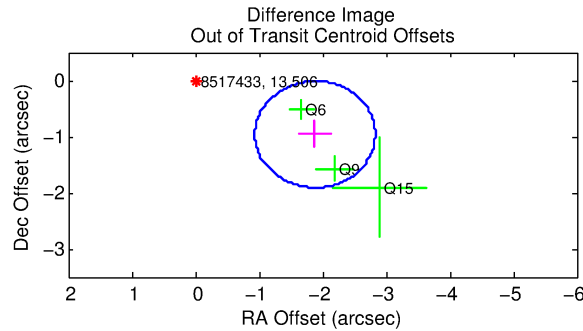
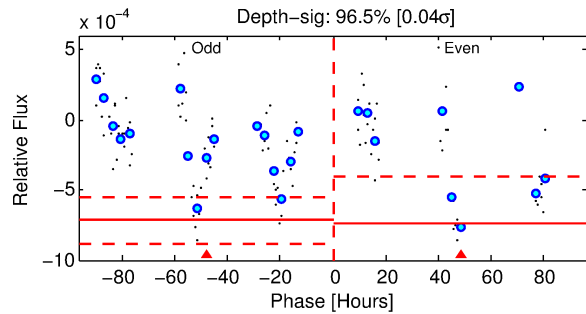
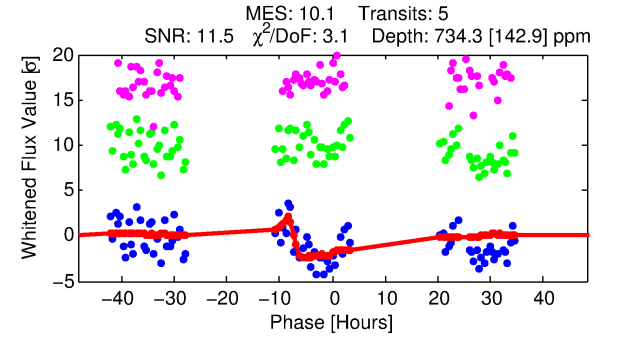
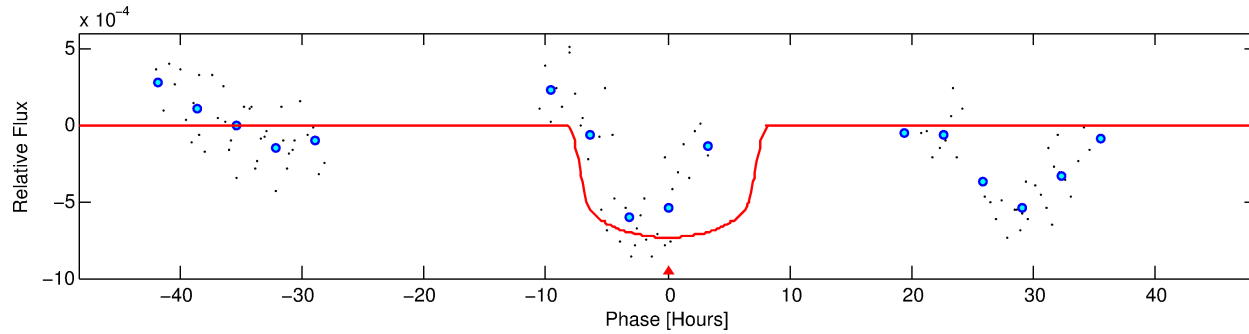
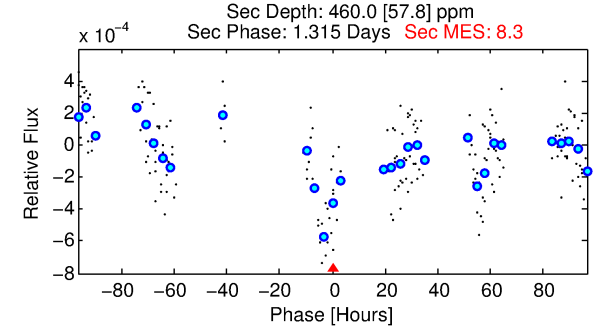
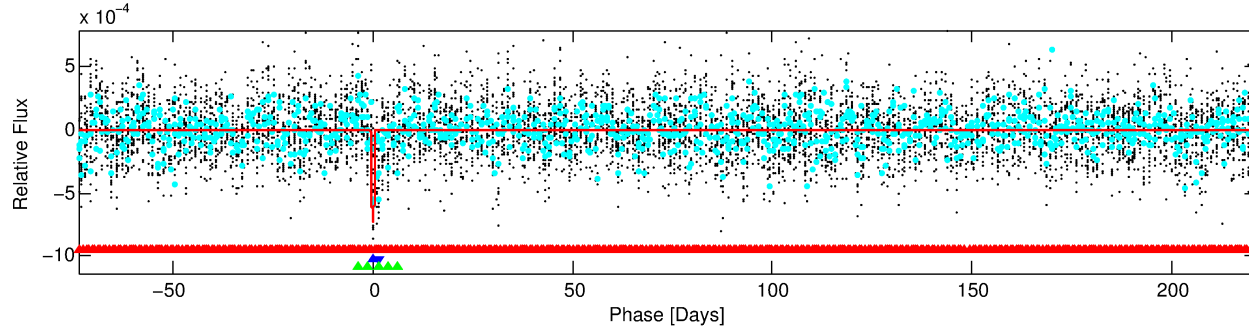
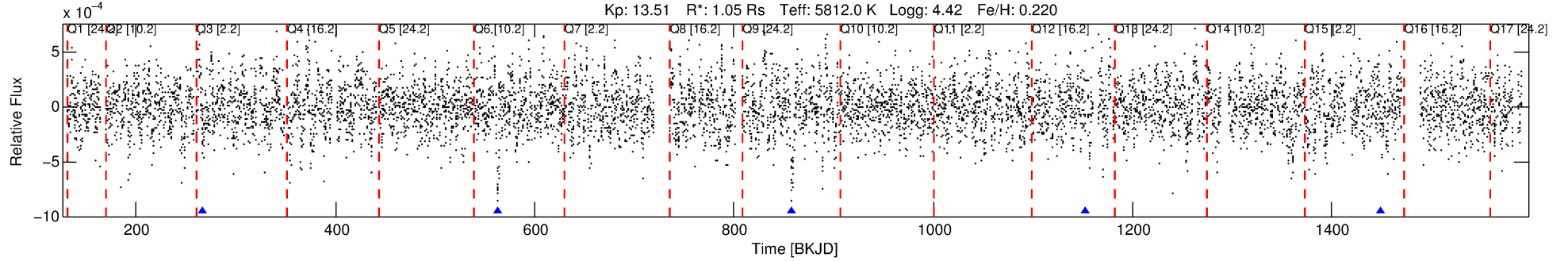
No Significant Match Found

DV One-Page Summary

KIC: 8517433 Candidate: 2 of 3 Period: 295.250 d

KOI: K07050 Corr: No Ephemeris Match

Kp: 13.51 R*: 1.05 Rs Teff: 5812.0 K Logg: 4.42 Fe/H: 0.220



DV Fit Results:

Period = 295.25037 [0.02181] d
Epoch = 267.2618 [0.1349] BKJD
Rp/R* = 0.0282 [0.0046]
a/R* = 82.73 [41.32]
b = 0.84 [0.24]
Seff = 1.45 [0.32]
Teq = 280 [15] K
Rp = 3.25 [0.74] Re
a = 0.8865 [0.1237] AU
Ag = 18829.93 [7646.21] [2.46σ]
Teffp = 5066 [446] K [10.73σ]

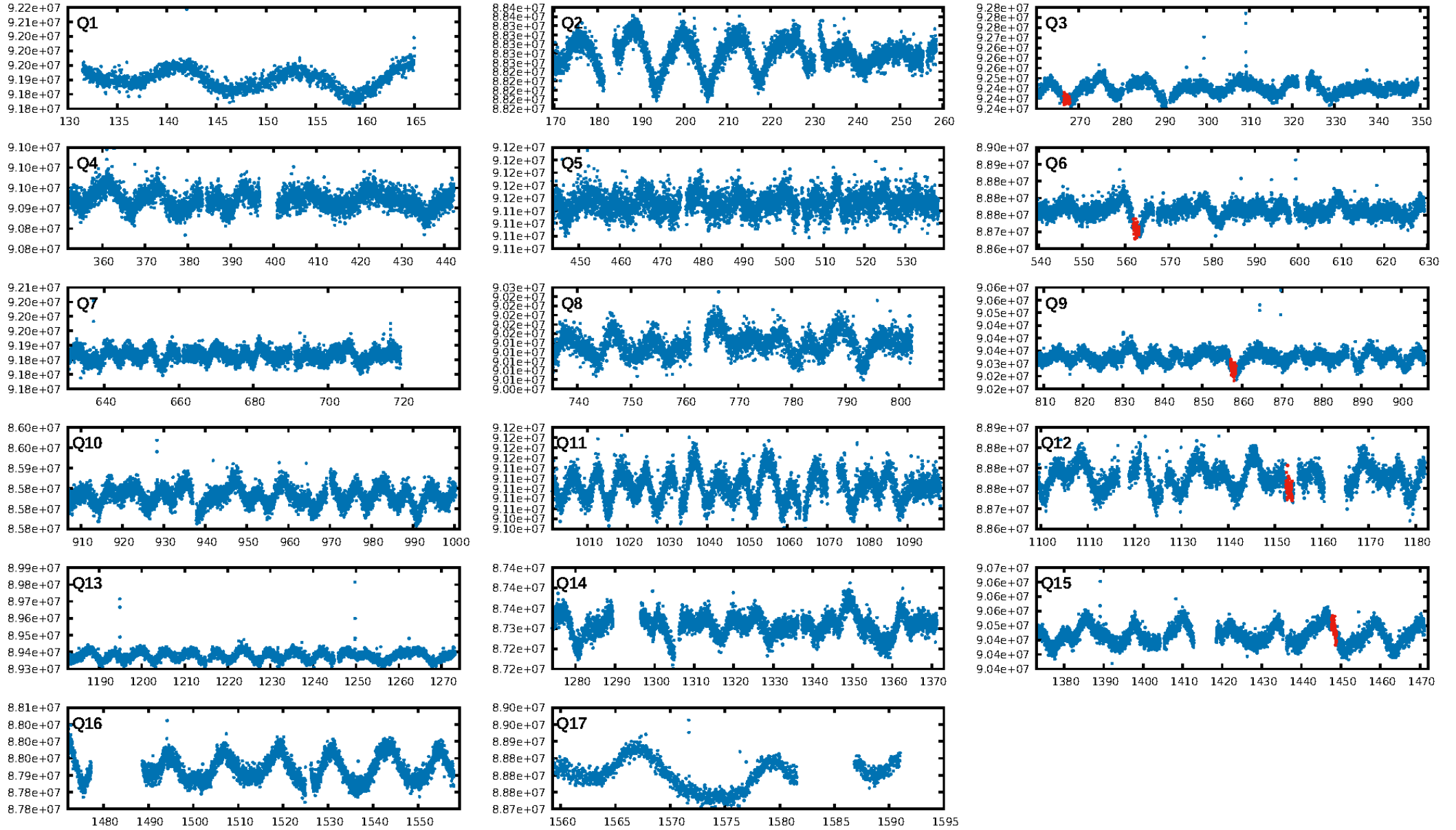
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [382.30σ]
LongPeriod-sig: 99.9% [3.34σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.70e-18
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -3.324
Centroid-sig: 41.0%
Centroid-so: 0.323 arcsec [0.76σ]
OotOffset-rm: 2.112 arcsec [6.69σ]
KicOffset-rm: 2.144 arcsec [5.88σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

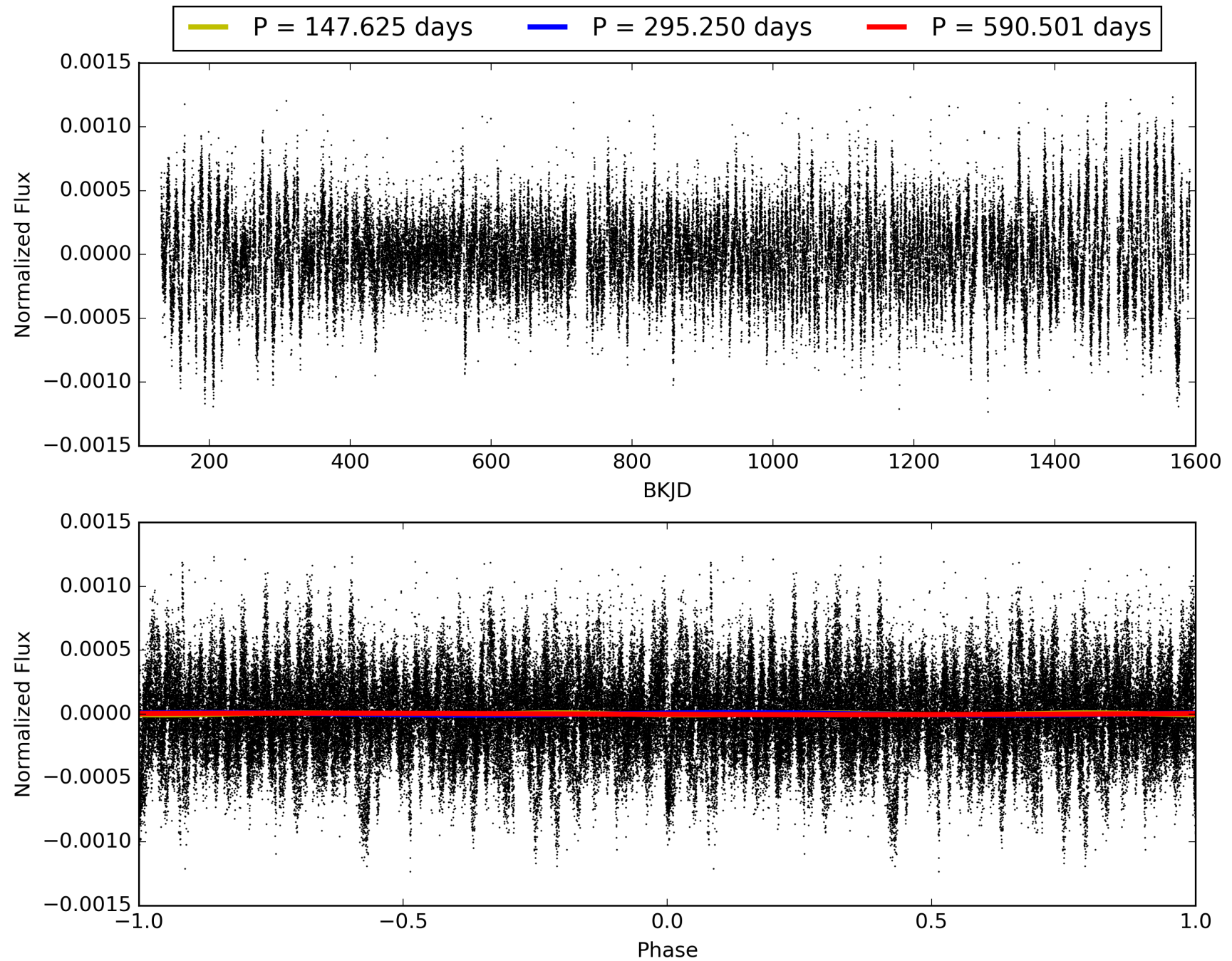
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:25:30 Z

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

TCE 008517433-02, PDC Light Curves

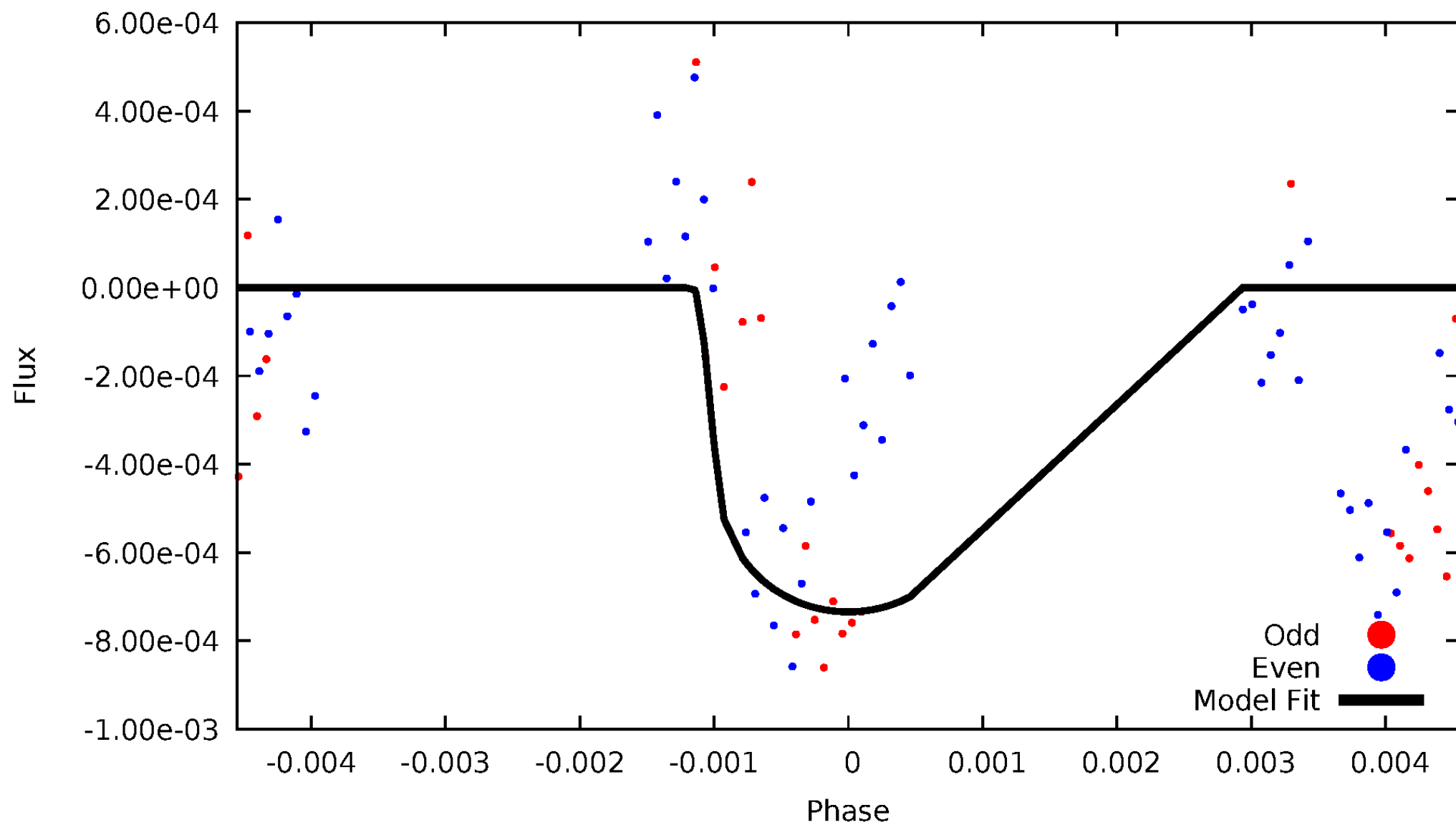


TCE 008517433-02



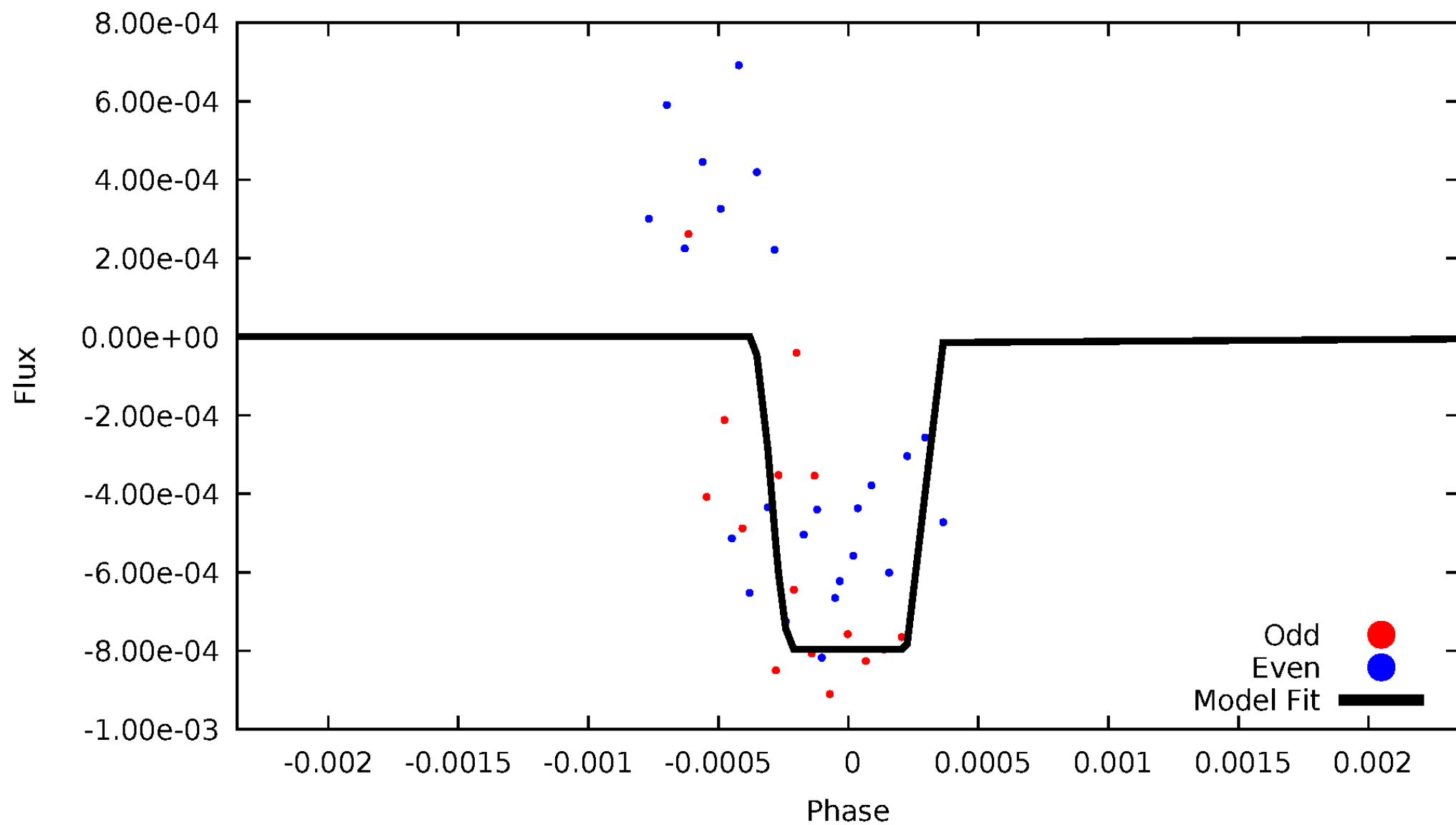
DV Odd/Even

TCE 008517433-02



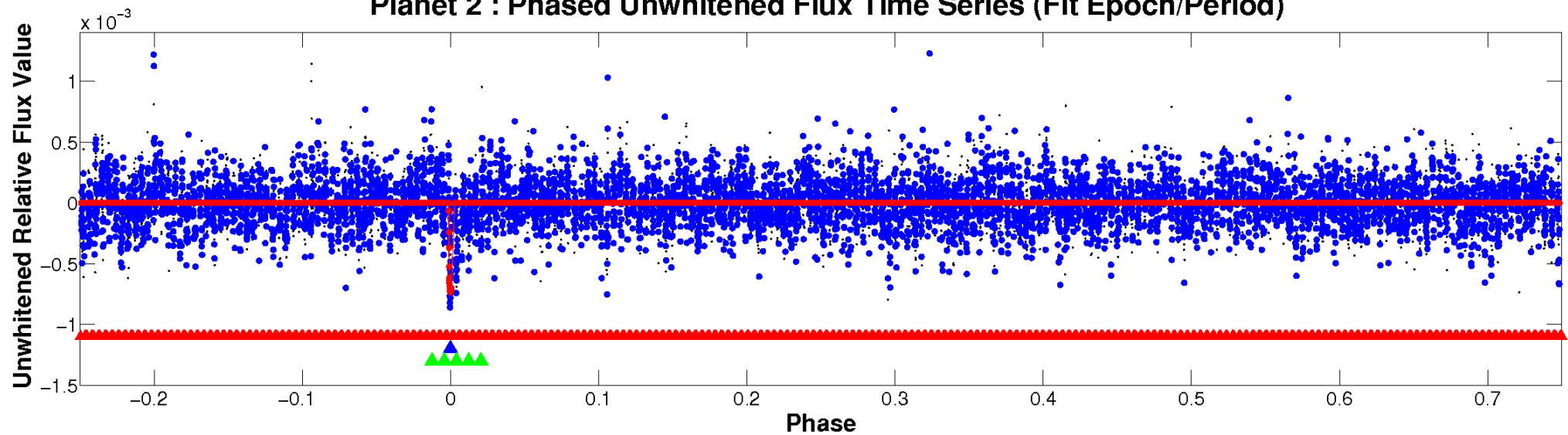
ALT Odd/Even

TCE 008517433-02

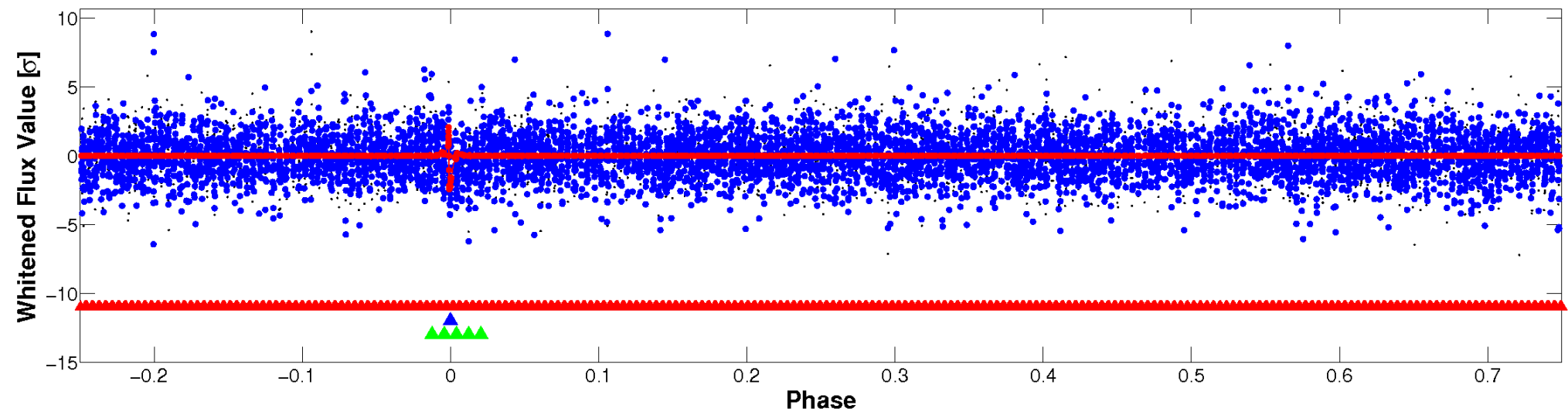


Non-Whitened Vs. Whitened Light Curve

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

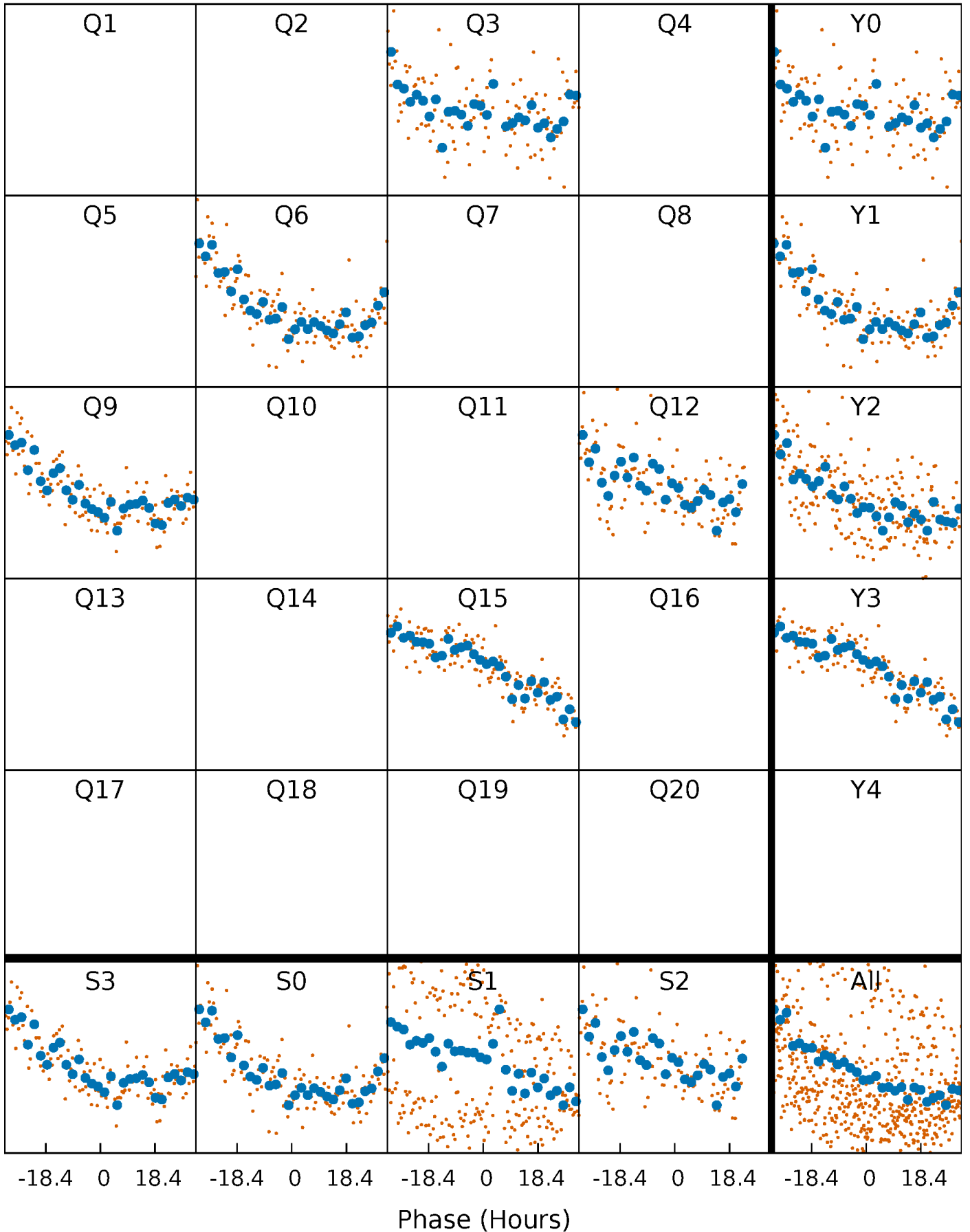


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



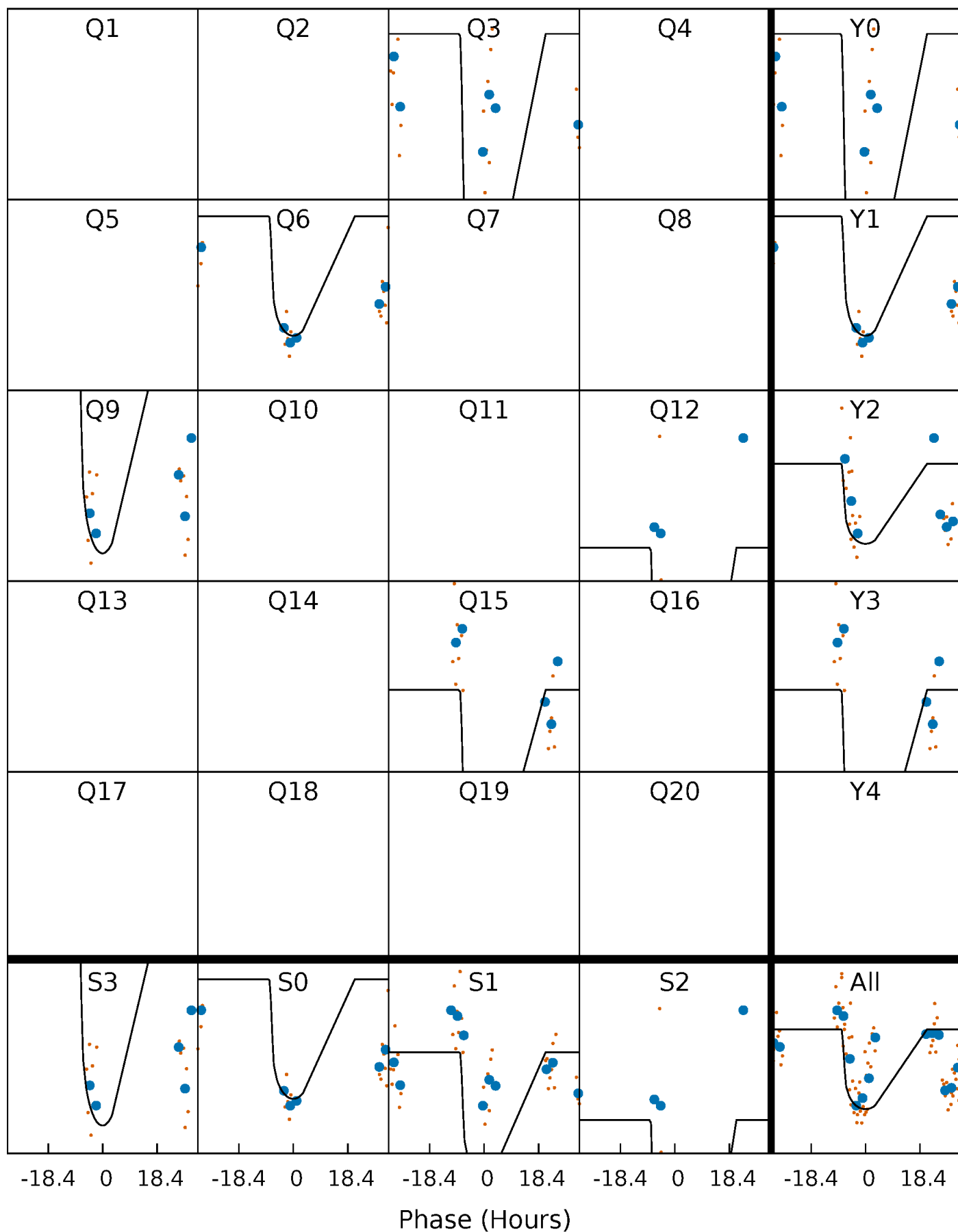
PDC Quarter-Phased Transit Curves

TCE 008517433-02 $P=295.250370$ Days $T_0=267.261812$ (BKJD)



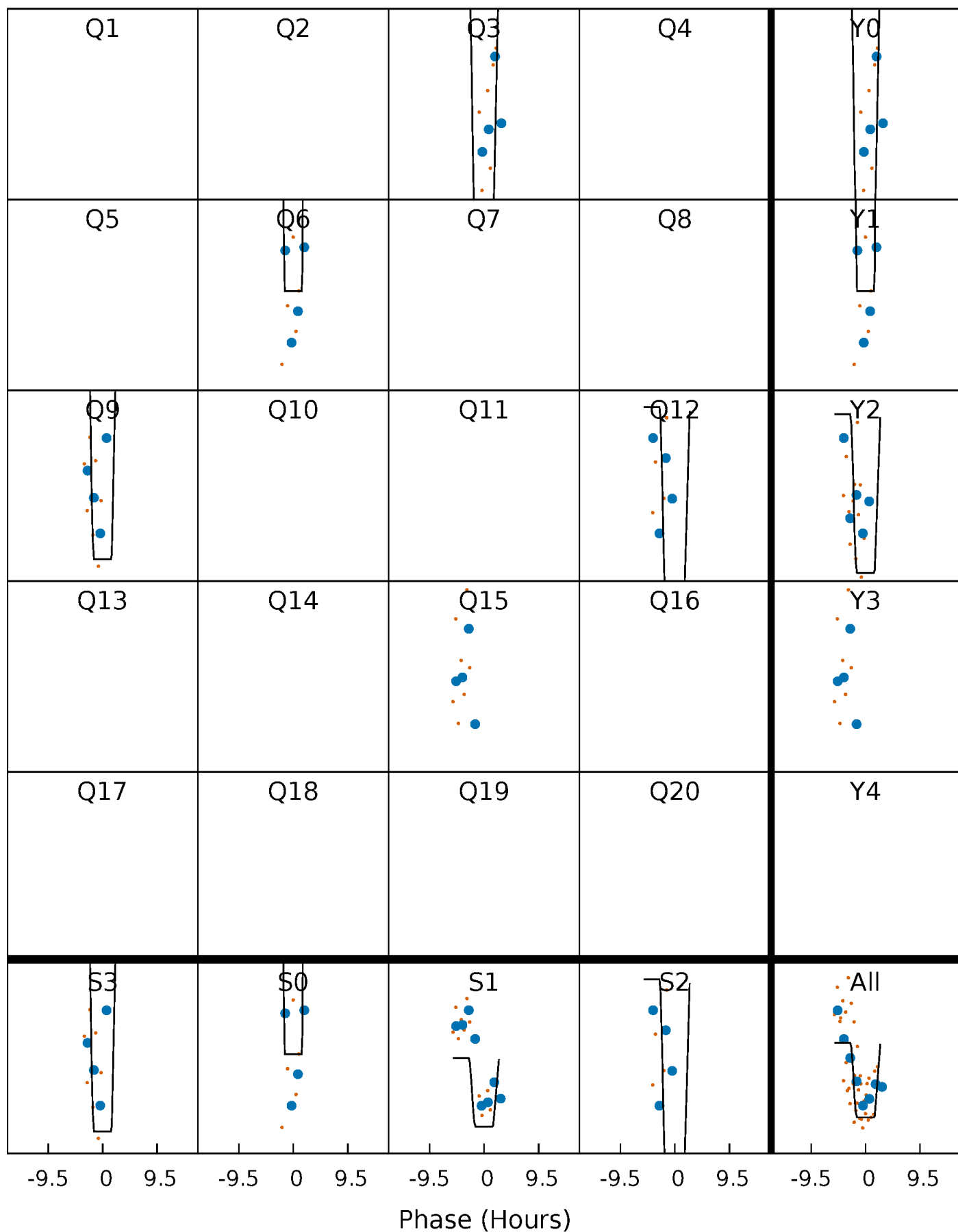
DV Quarter-Phased Transit Curves

TCE 008517433-02 $P=295.250370$ Days $T_0=267.261812$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

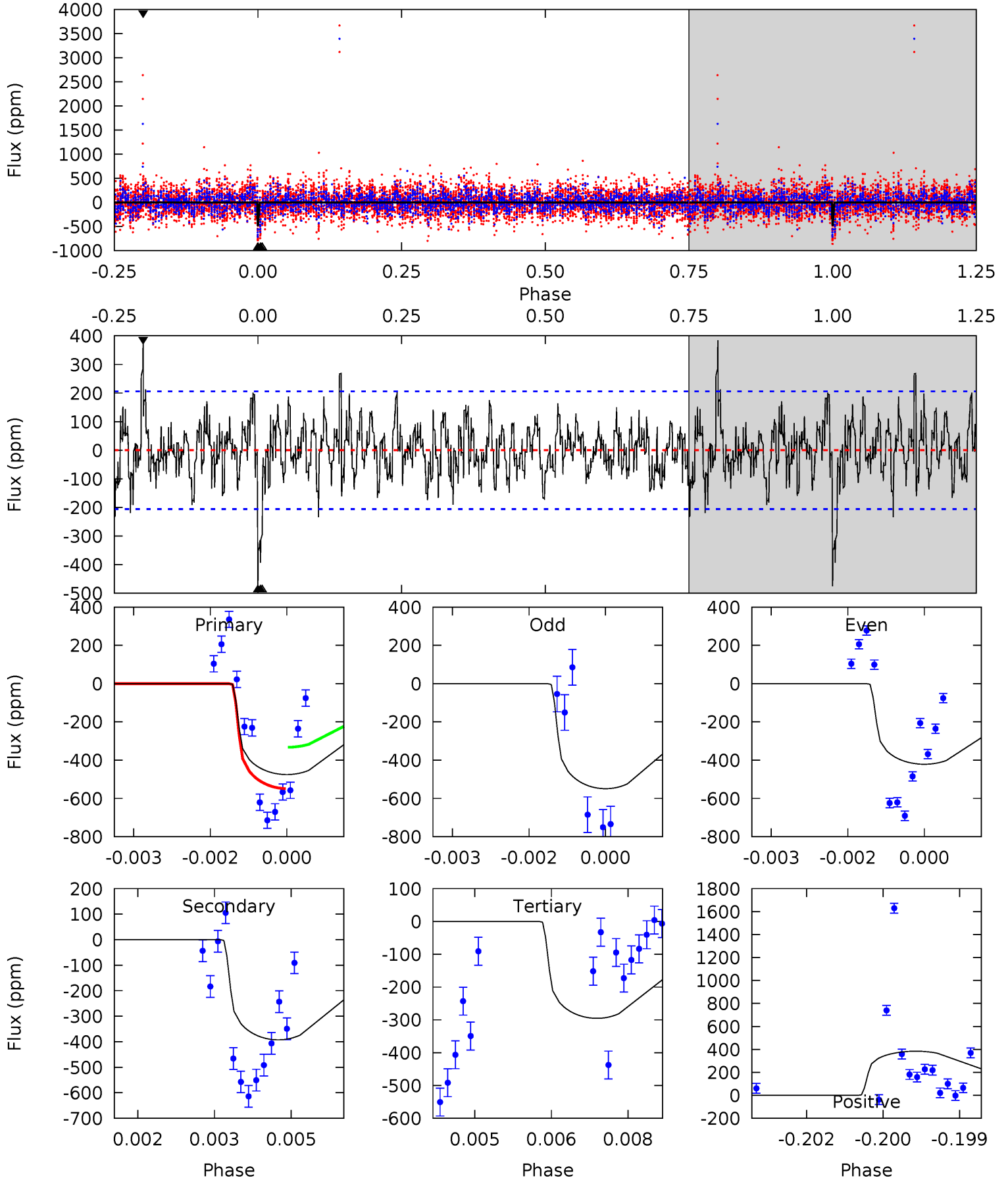
TCE 008517433-02 P=295.190019 Days $T_0=267.289606$ (BKJD)



DV Model-Shift Uniqueness Test

008517433-02, P = 295.250370 Days, E = 267.261812 Days

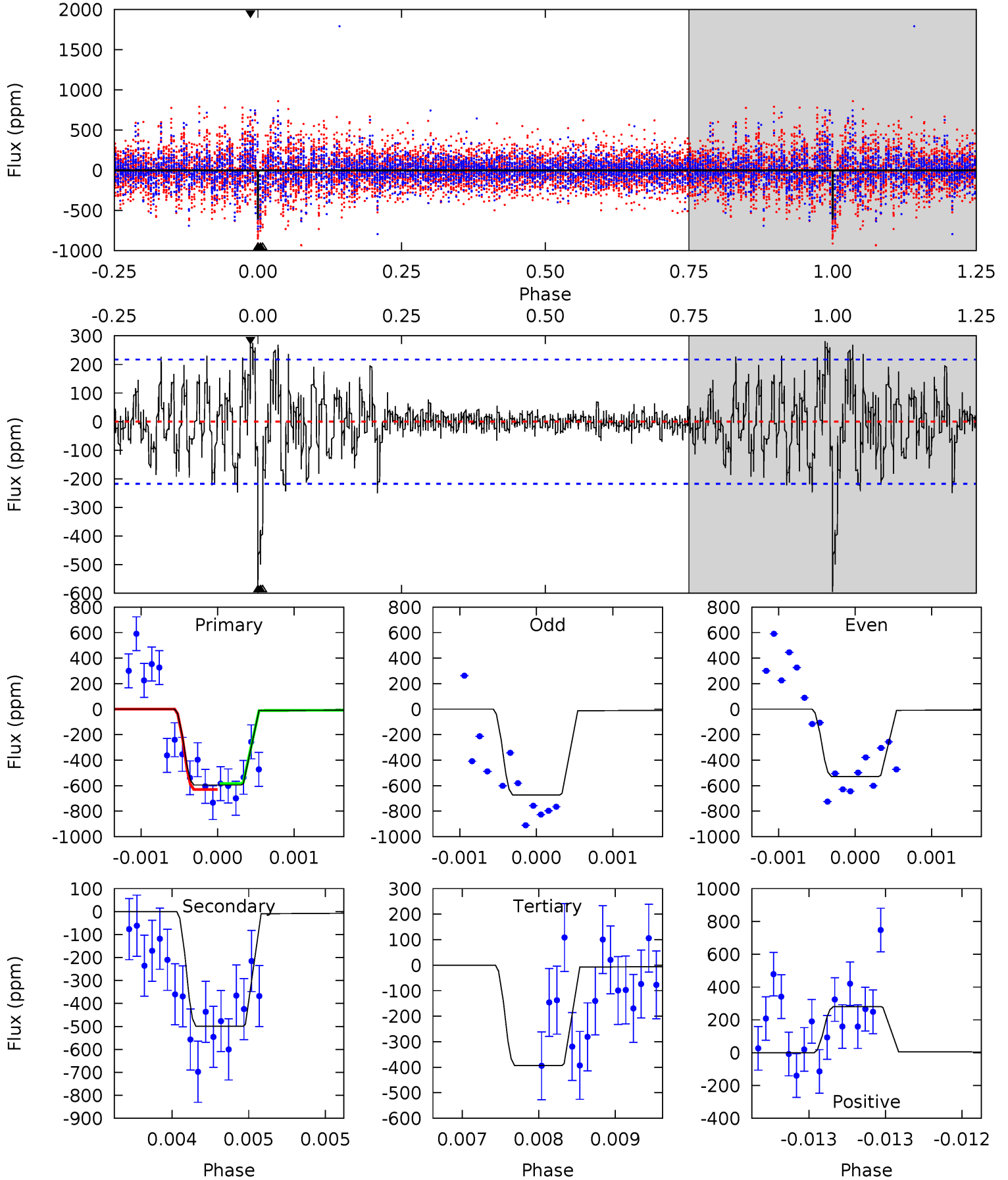
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	10.2	7.70	10.0	5.37	3.16	2.03	4.70	2.38	2.54	0.22	1.69	1.45	0.45	2.42



Alt Model-Shift Uniqueness Test

008517433-02, P = 295.190019 Days, E = 267.289606 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	12.7	10.00	7.14	5.52	3.40	1.86	5.12	7.98	2.70	5.56	1.84	0.72	0.32	0.56



Stellar Parameters For KIC 008517433

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5812^{+70}_{-87}	$4.419^{+0.059}_{-0.119}$	$0.220^{+0.150}_{-0.150}$	$1.055^{+0.167}_{-0.071}$	$1.065^{+0.064}_{-0.064}$	$1.276^{+0.297}_{-0.436}$
	+1%/-1%	+1%/-3%	+68%/-68%	+16%/-7%	+6%/-6%	+23%/-34%
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 008517433-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-392 ± 38	$3.31^{+0.58}_{-0.58}$	392^{+16}_{-10}	4949^{+396}_{-324}	15596^{+6867}_{-4709}
Alt.	-500 ± 39	$3.31^{+0.66}_{-0.53}$	392^{+16}_{-11}	5212^{+430}_{-355}	19570^{+8236}_{-5878}

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

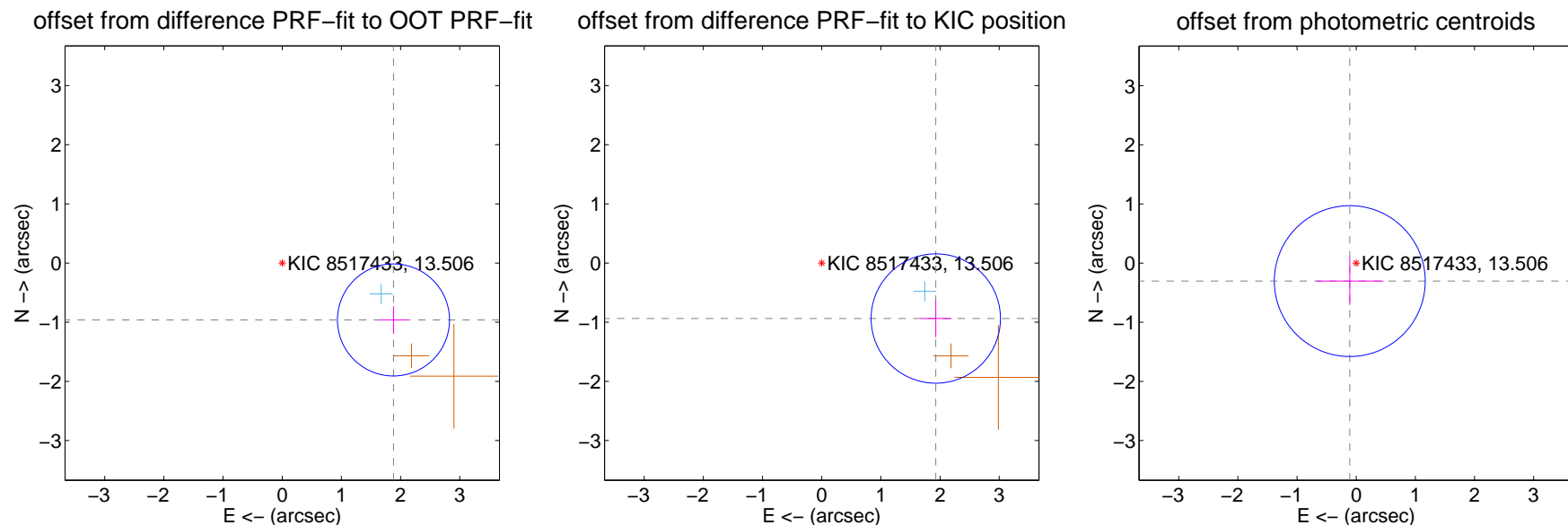
DV Centroid Data

Supplemental centroid analysis for 008517433-02. Kepler magnitude: 13.51. Transit SNR 11.51

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.112 ± 0.316	6.69	-1.880 ± 0.243	-0.962 ± 0.234
PRF-fit source offset from KIC position	2.144 ± 0.364	5.88	-1.928 ± 0.266	-0.938 ± 0.316
photometric centroid source offset	0.32 ± 0.43	0.76	0.11 ± 0.57	-0.30 ± 0.40

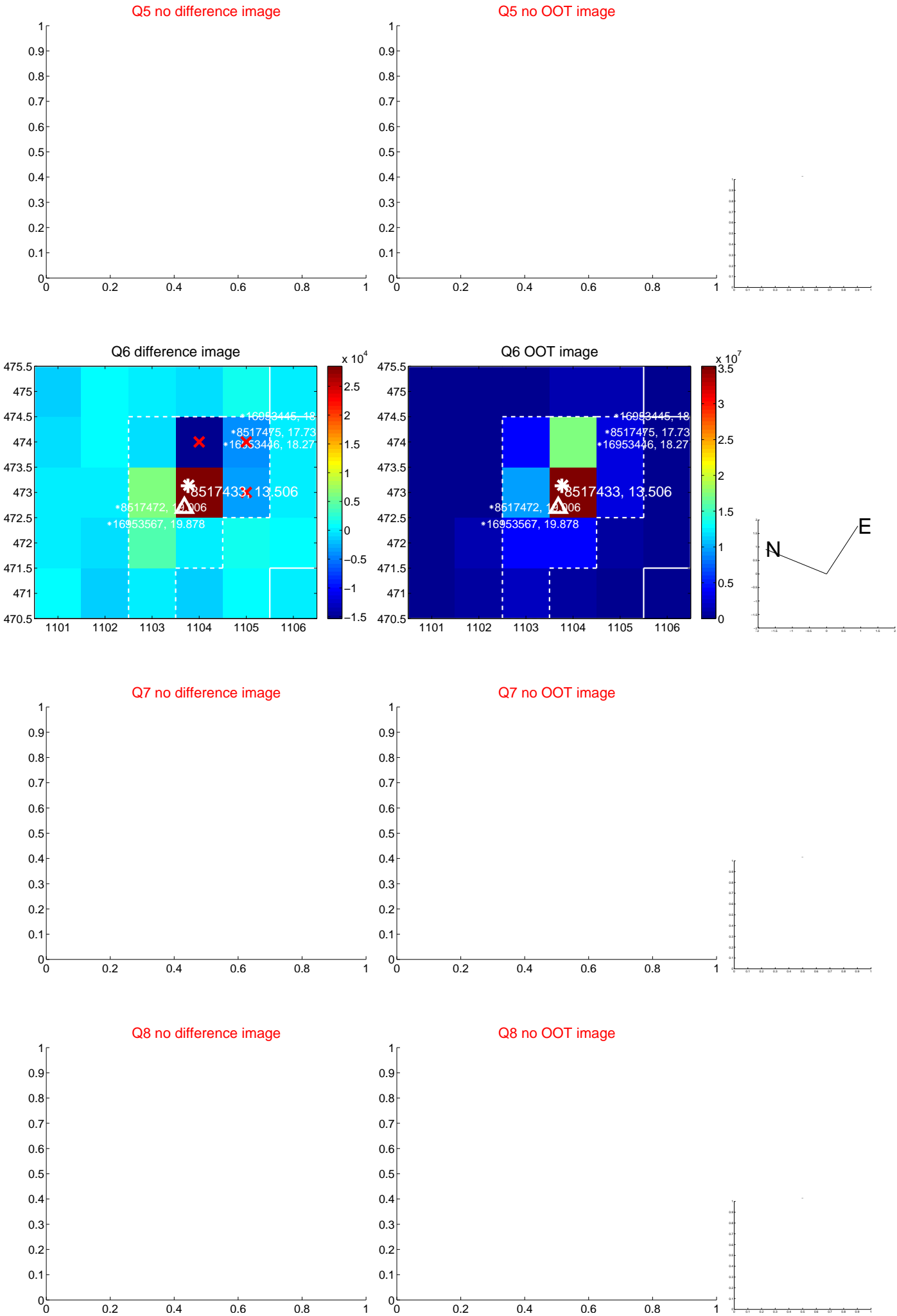


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

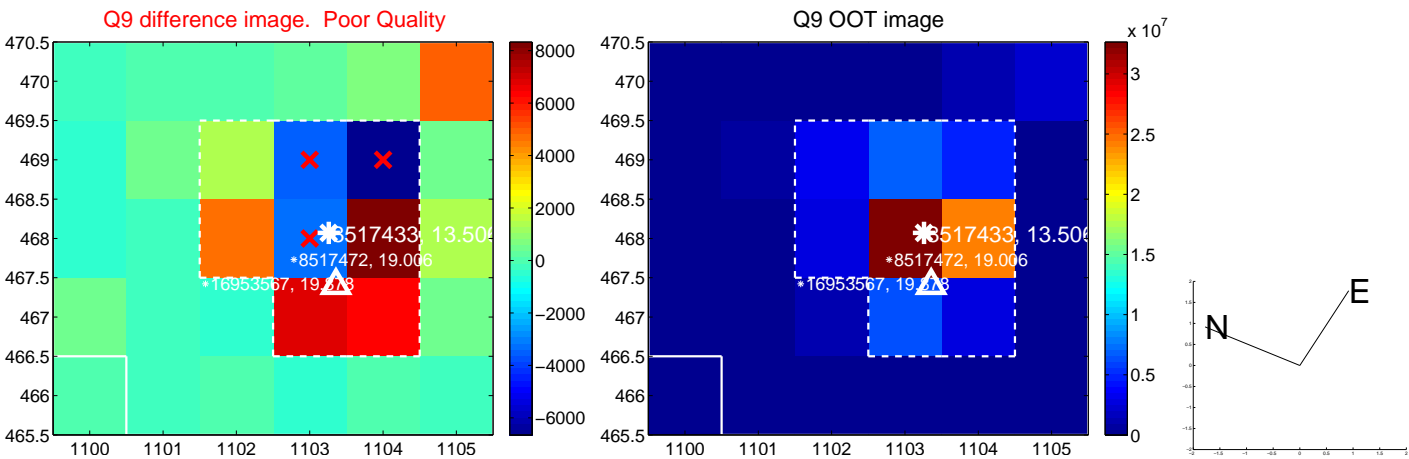
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



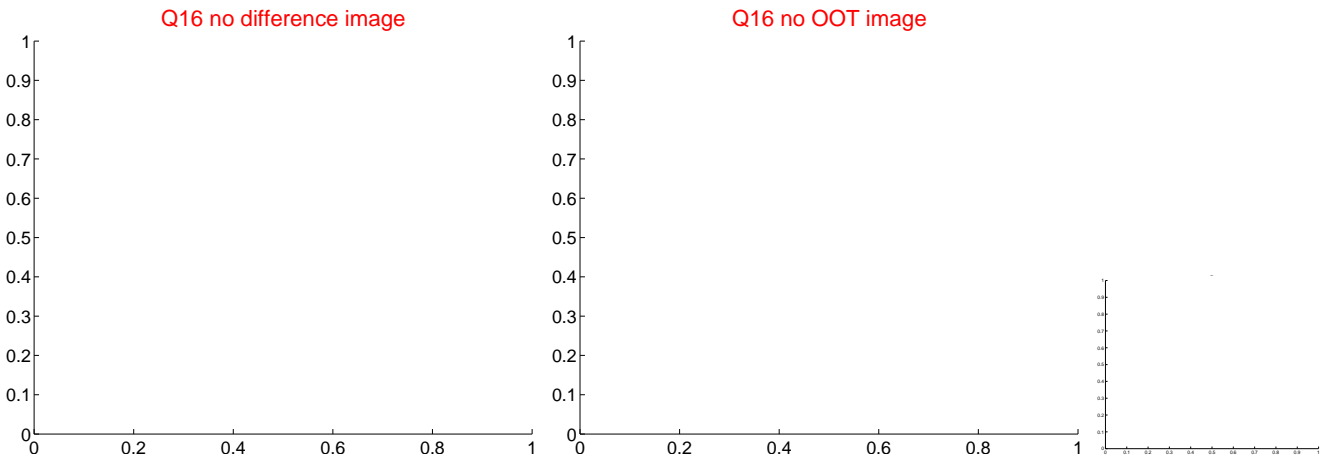
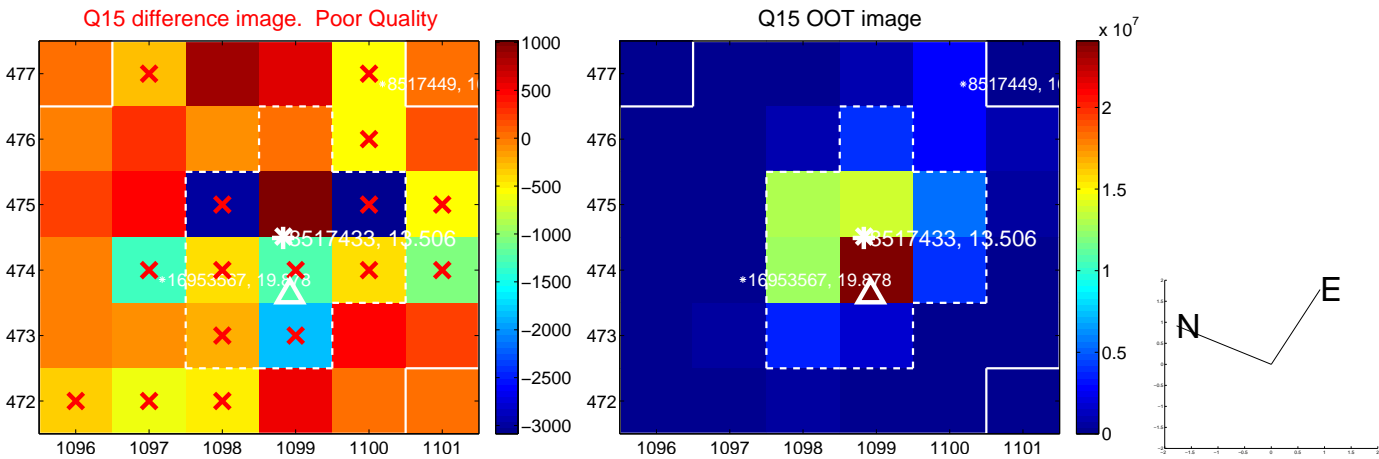
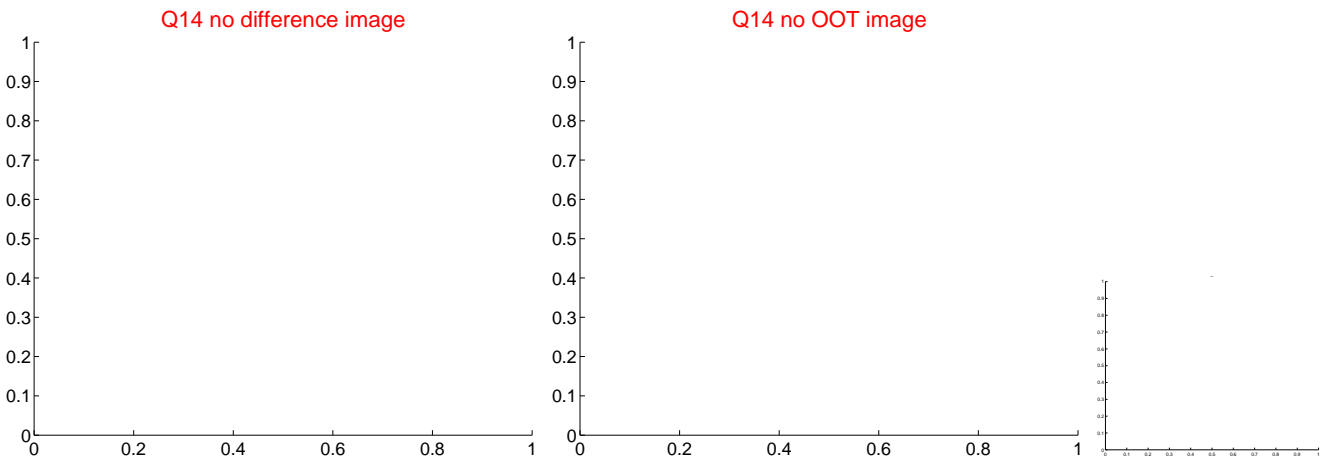
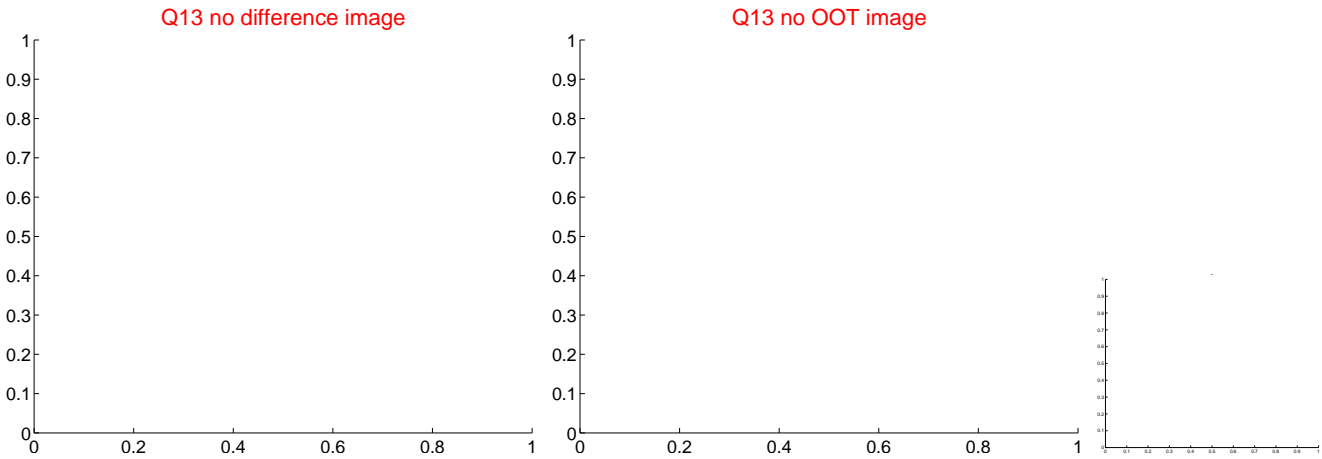
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



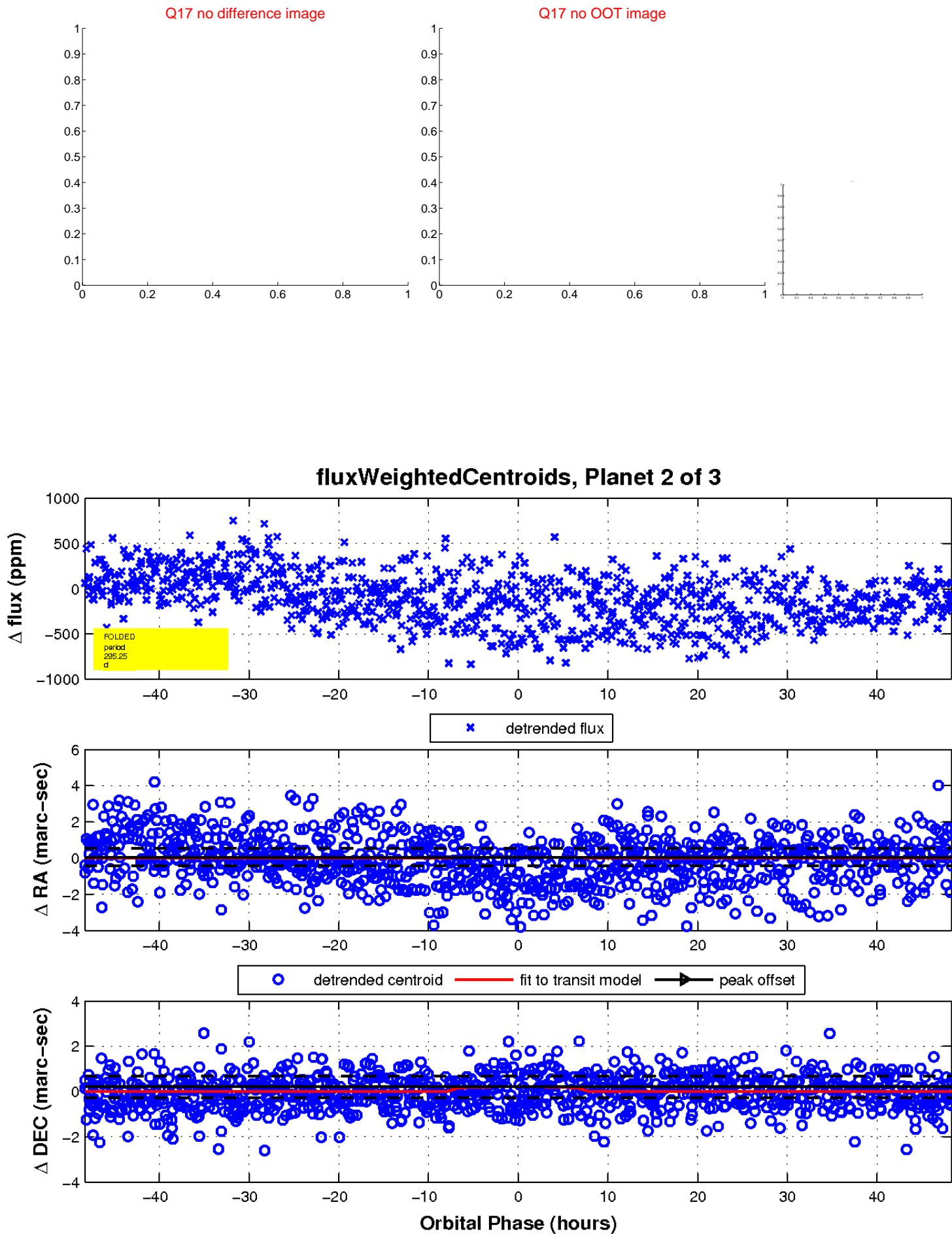
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

