

KIC 002283124

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})
002283124-01	OBS	No	1.222142	131.510994	147.4	3.500	9.0	-1.0	5.13	7037	6.29	66710.04
002283124-02	OBS	No	429.239818	221.757731	466.1	15.947	7.4	9.9	5.13	7037	14.12	26.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002283124-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
002283124-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

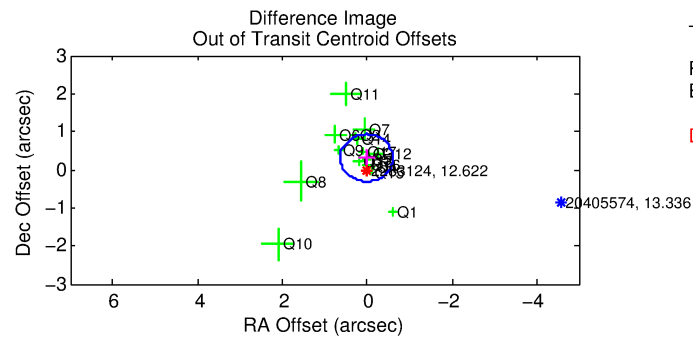
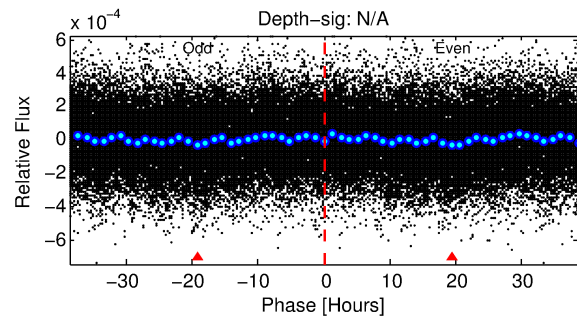
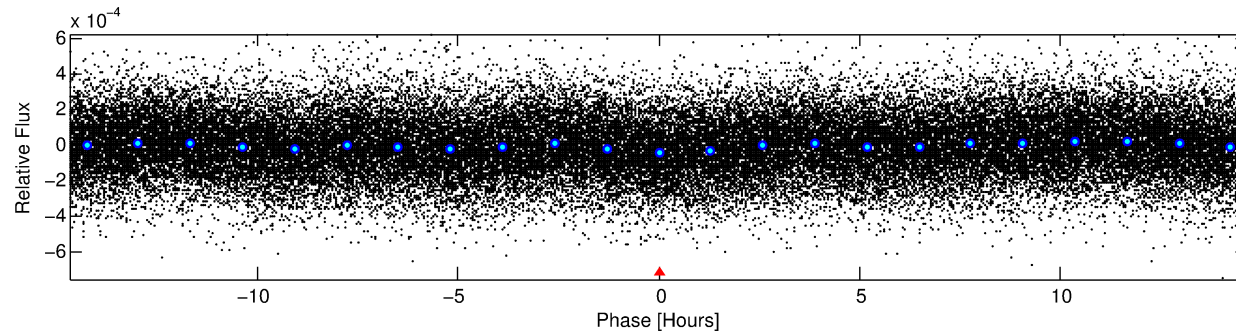
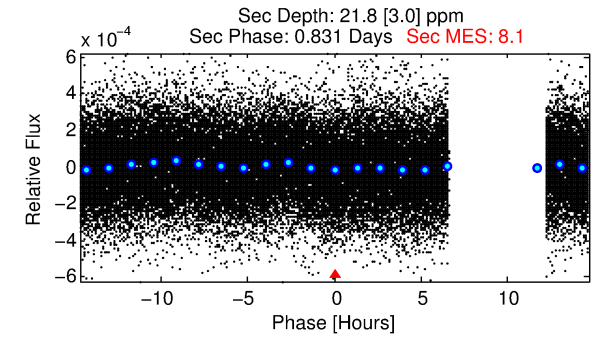
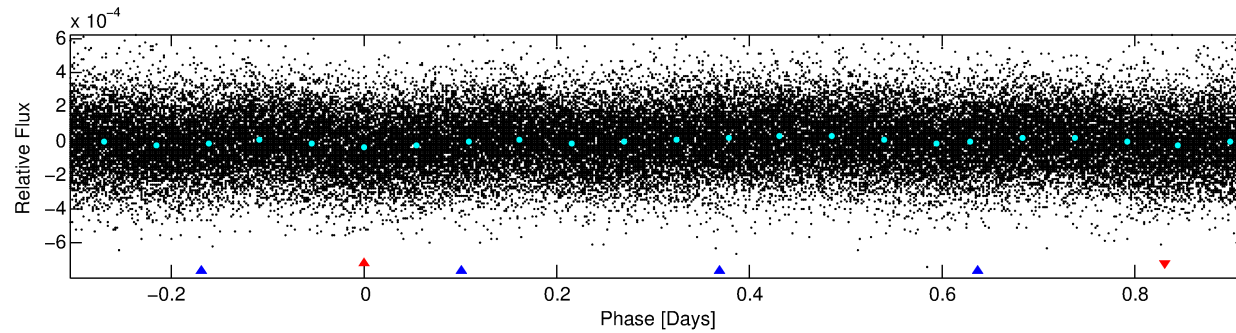
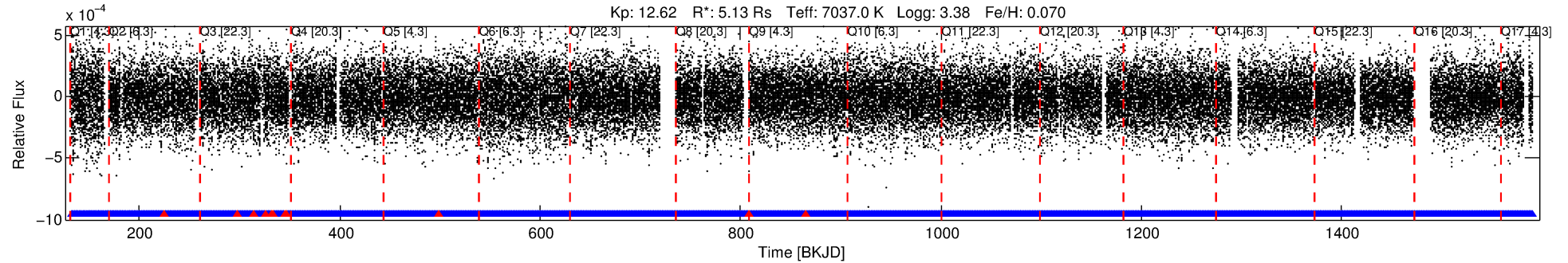
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002283124-01

No Significant Match Found

DV One-Page Summary

KIC: 2283124 Candidate: 1 of 2 Period: 1.222 d



TPS TCE Results:

Period = 1.22214 d
Epoch = 131.5110 BKJD

DV fit results are unavailable

DV Diagnostic Results:

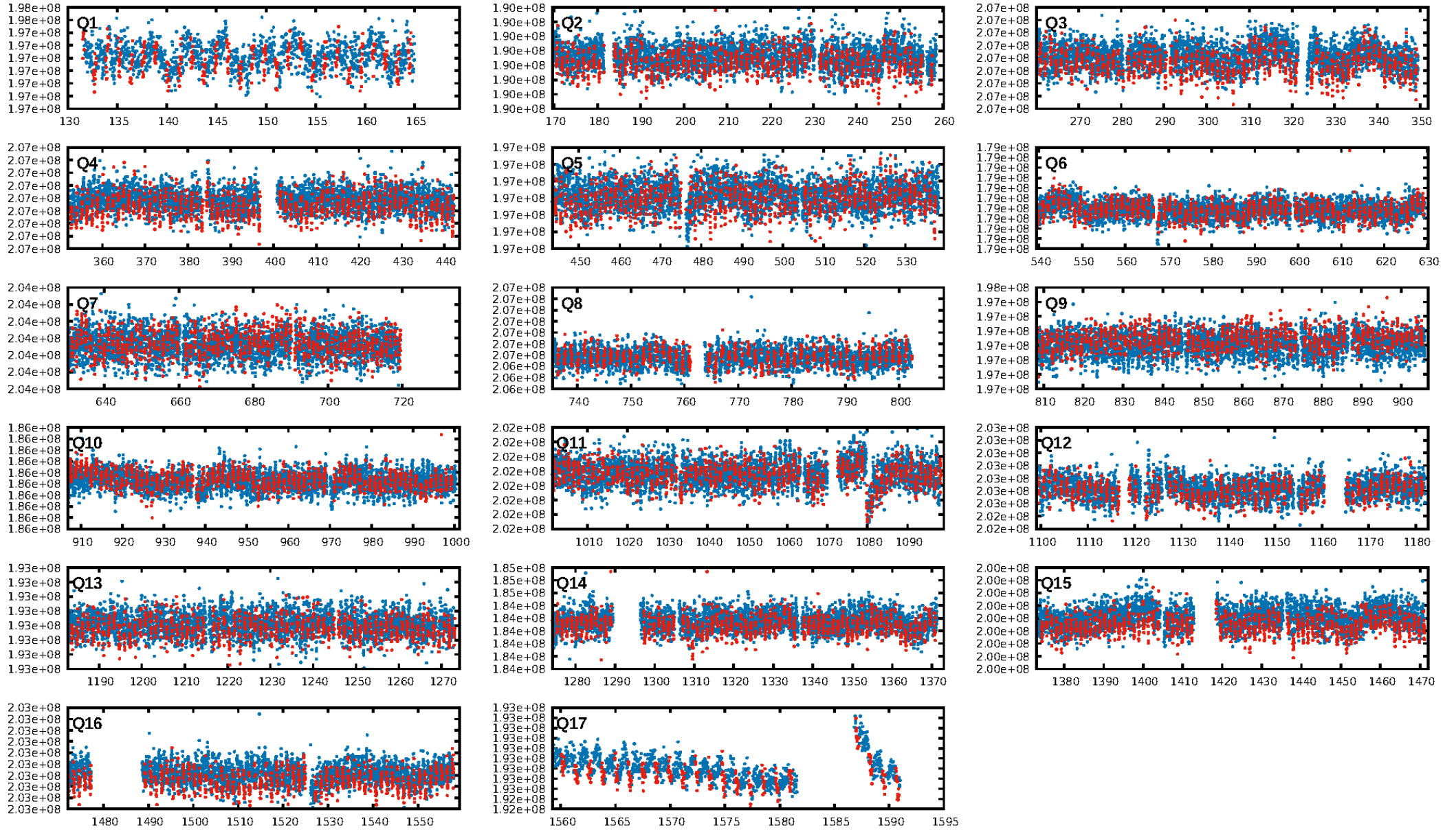
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [629.19σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.34e-17
RollingBand-fgt: 0.99 [1044/1055]
GhostDiagnostic-chr: 0.7731

Centroid-sig: 5.4%
Centroid-so: 0.238 arcsec [1.74σ]
OotOffset-rm: 0.316 arcsec [1.53σ]
KicOffset-rm: 0.307 arcsec [1.34σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

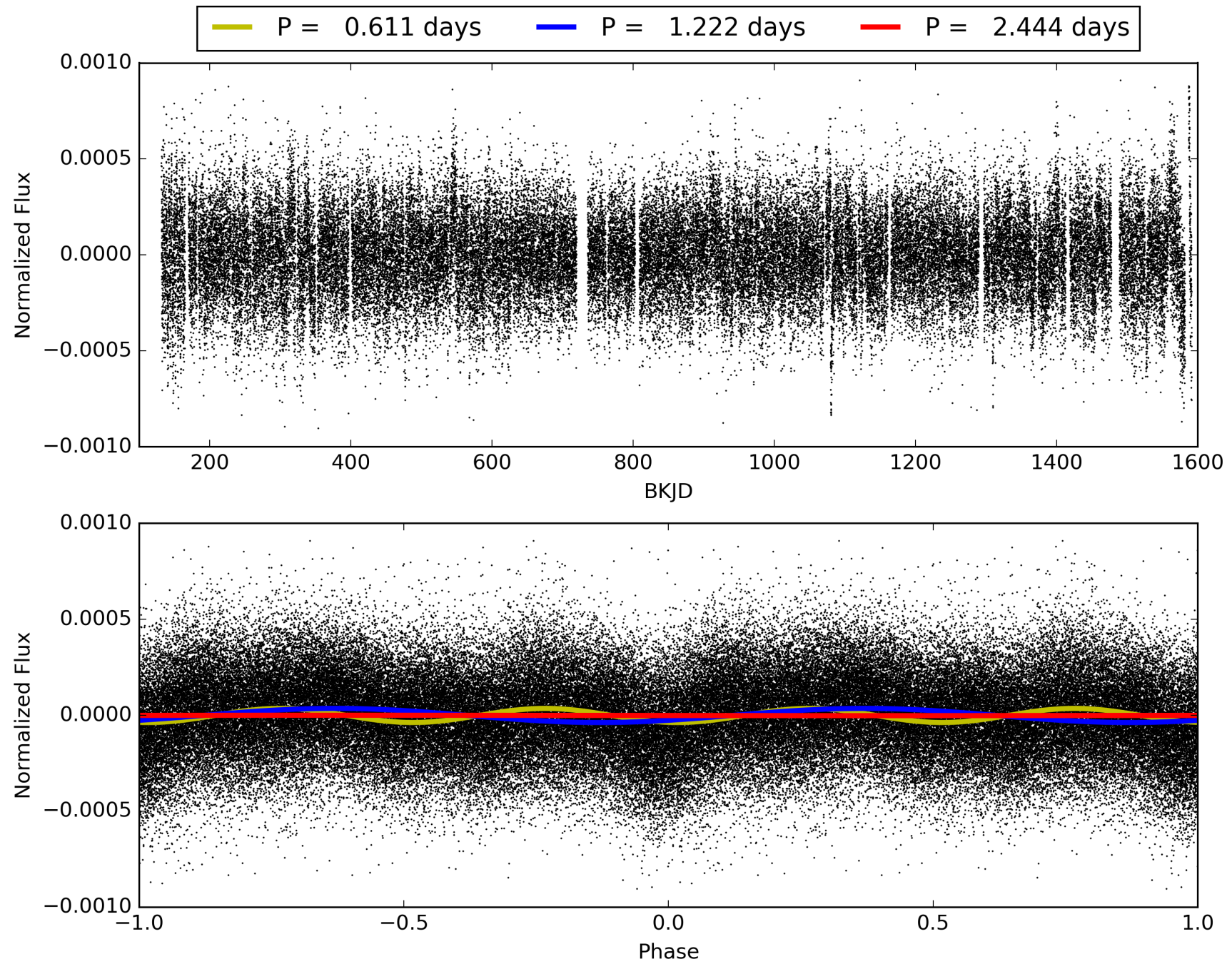
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:44:02 Z

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

TCE 002283124-01, PDC Light Curves

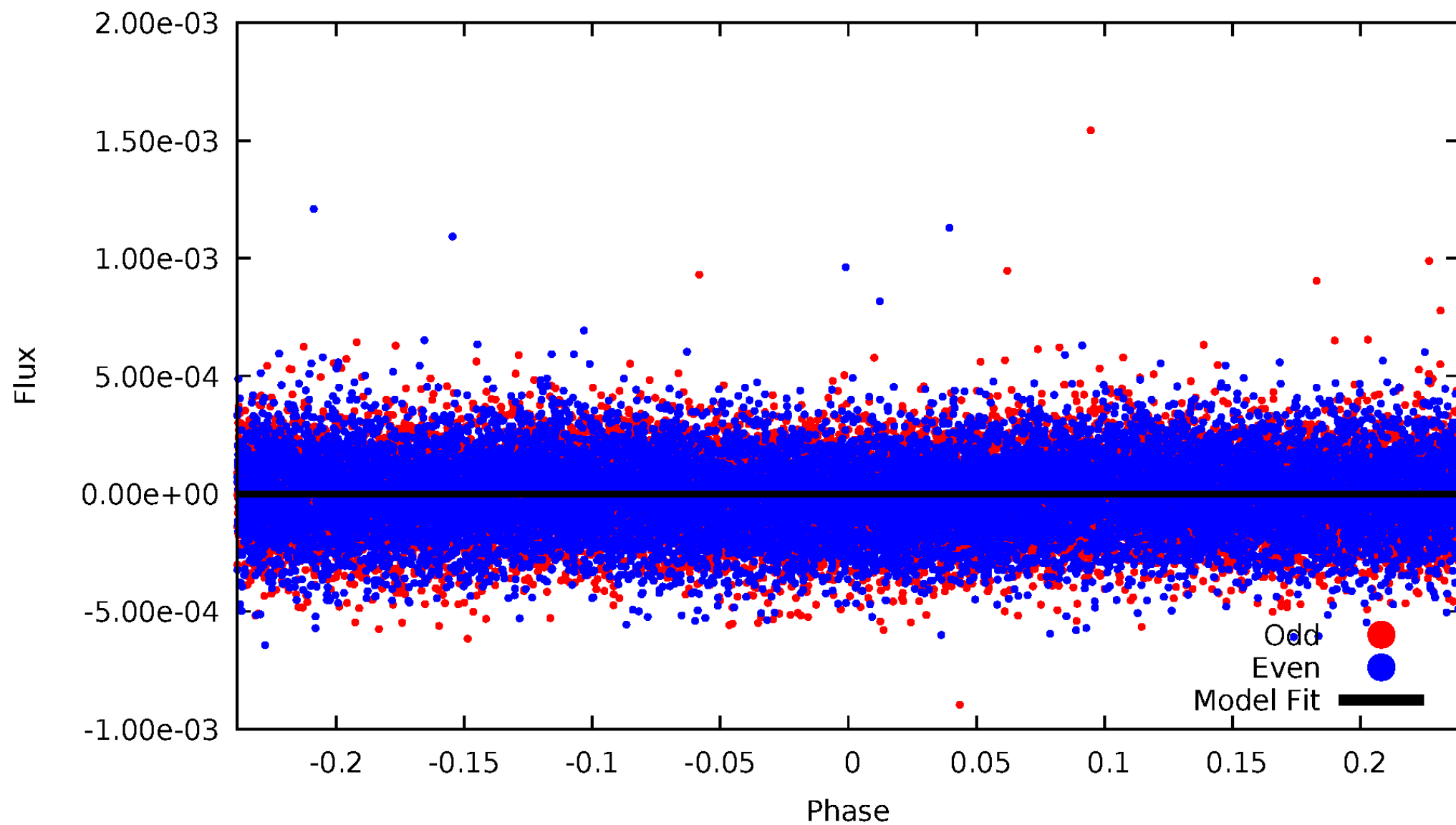


TCE 002283124-01



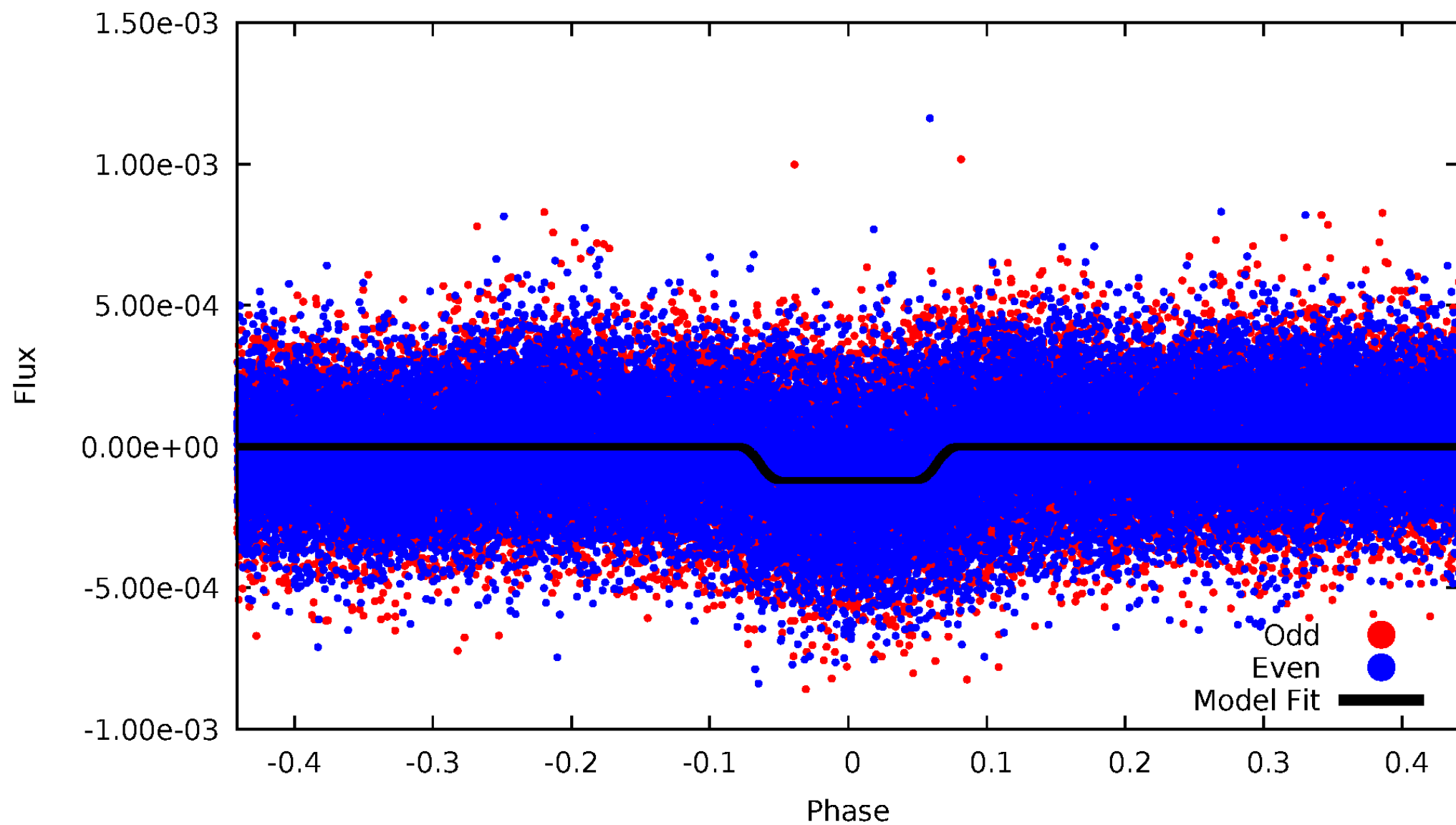
DV Odd/Even

TCE 002283124-01



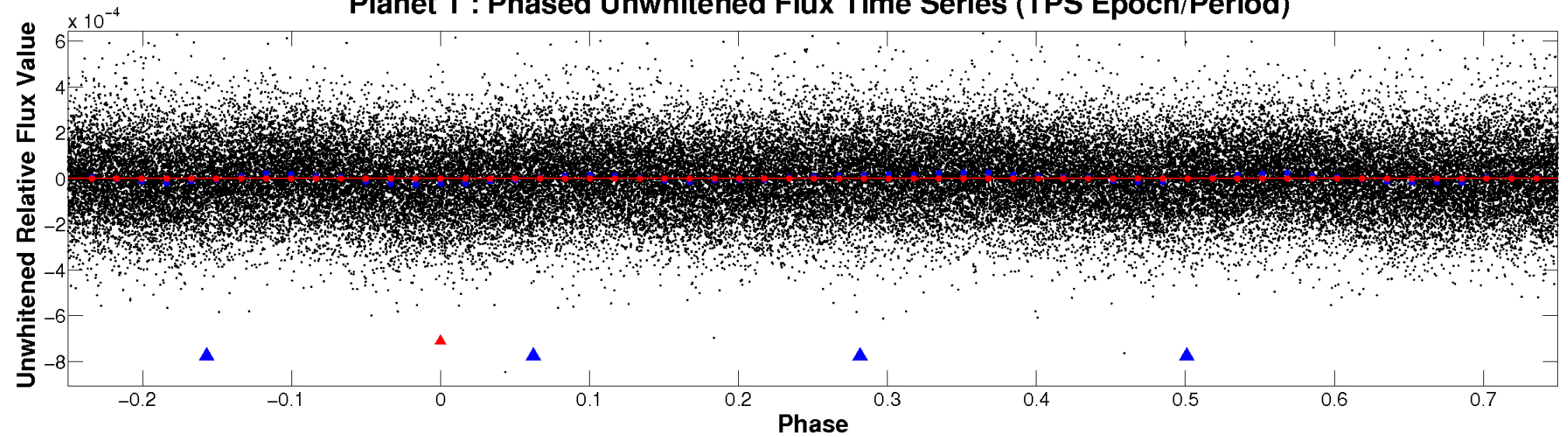
ALT Odd/Even

TCE 002283124-01

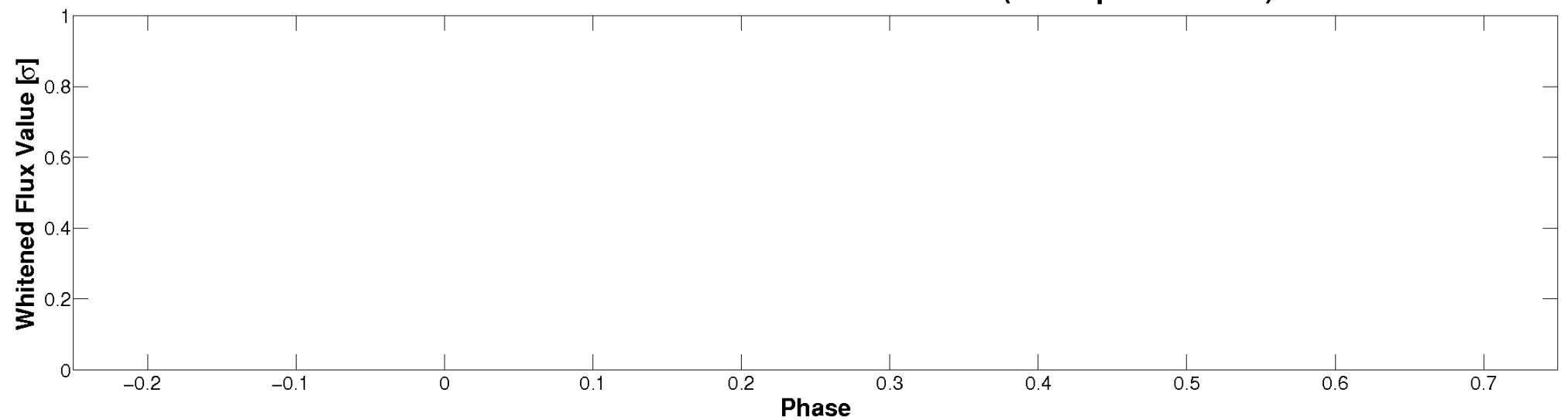


Non-Whitened Vs. Whitened Light Curve

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

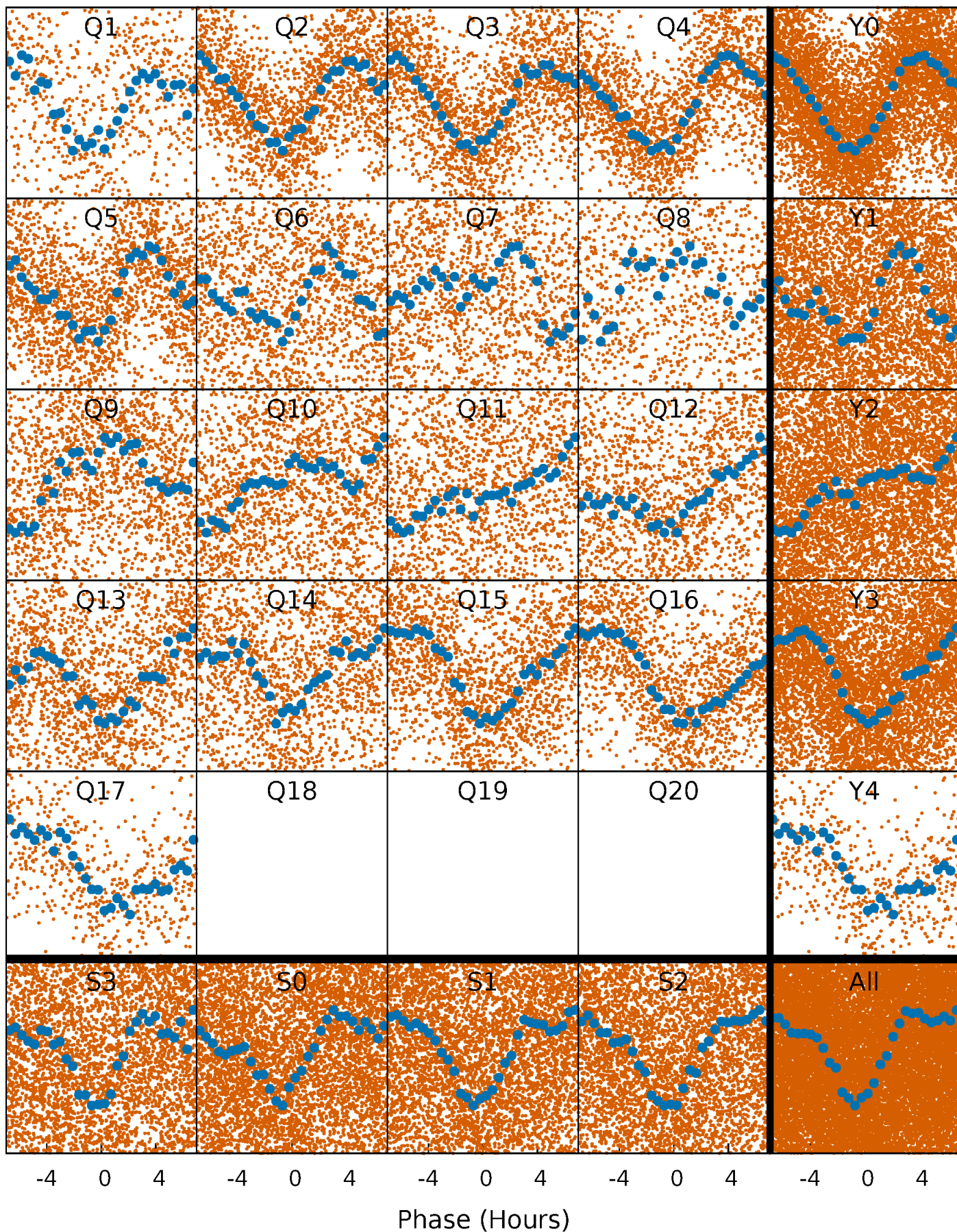


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



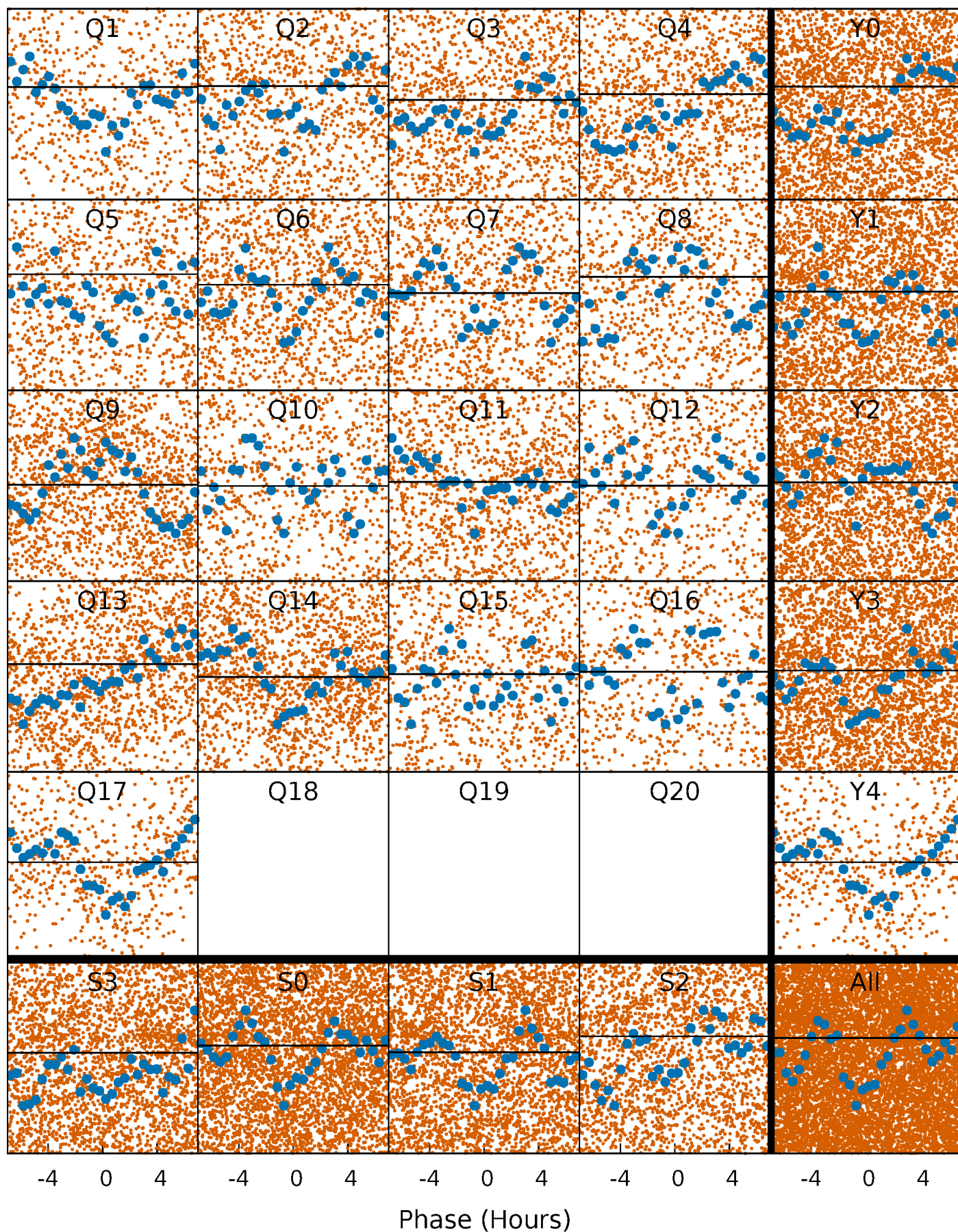
PDC Quarter-Phased Transit Curves

TCE 002283124-01 P= 1.222142 Days $T_0=131.510994$ (BKJD)



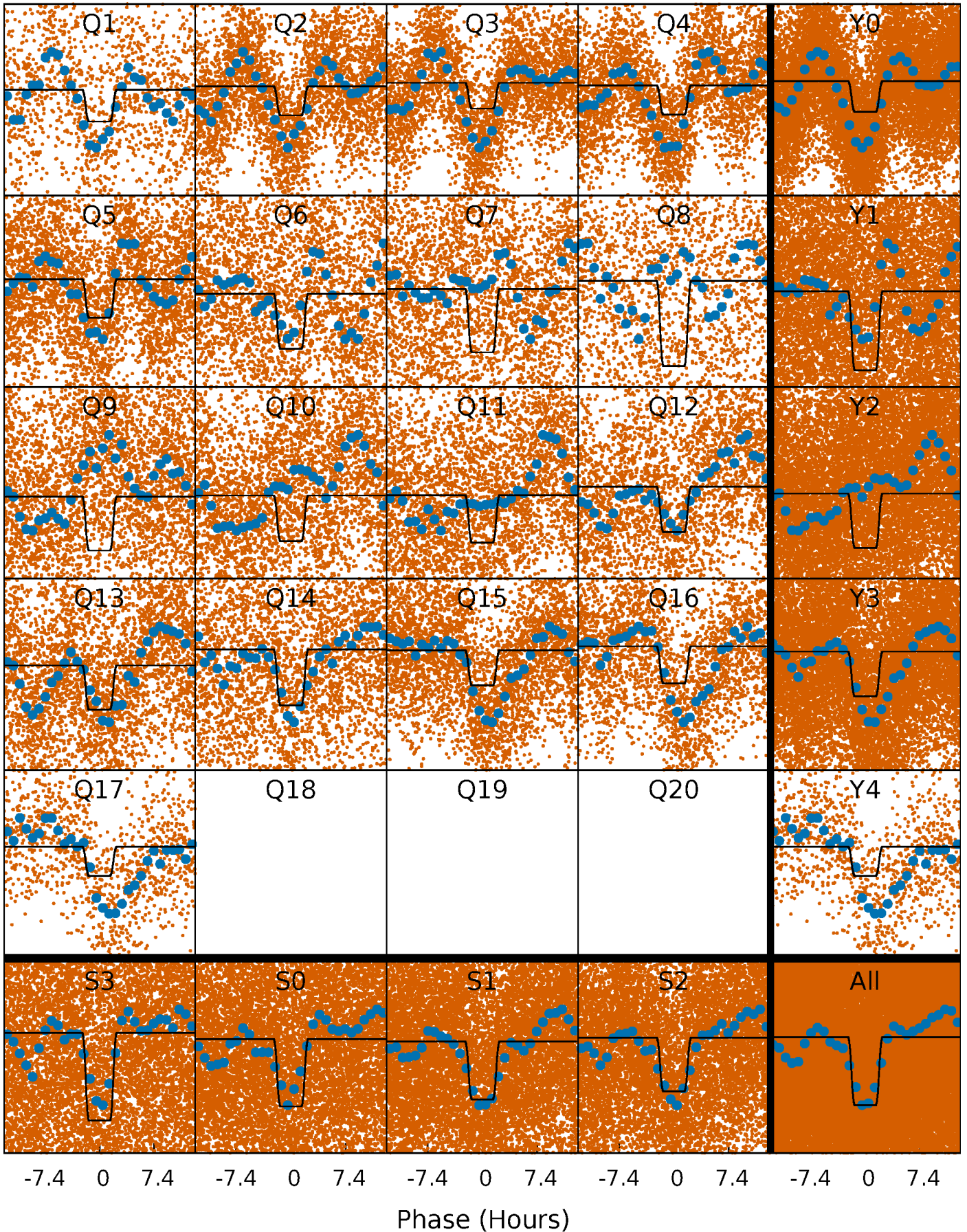
DV Quarter-Phased Transit Curves

TCE 002283124-01 P= 1.222142 Days $T_0=131.510994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

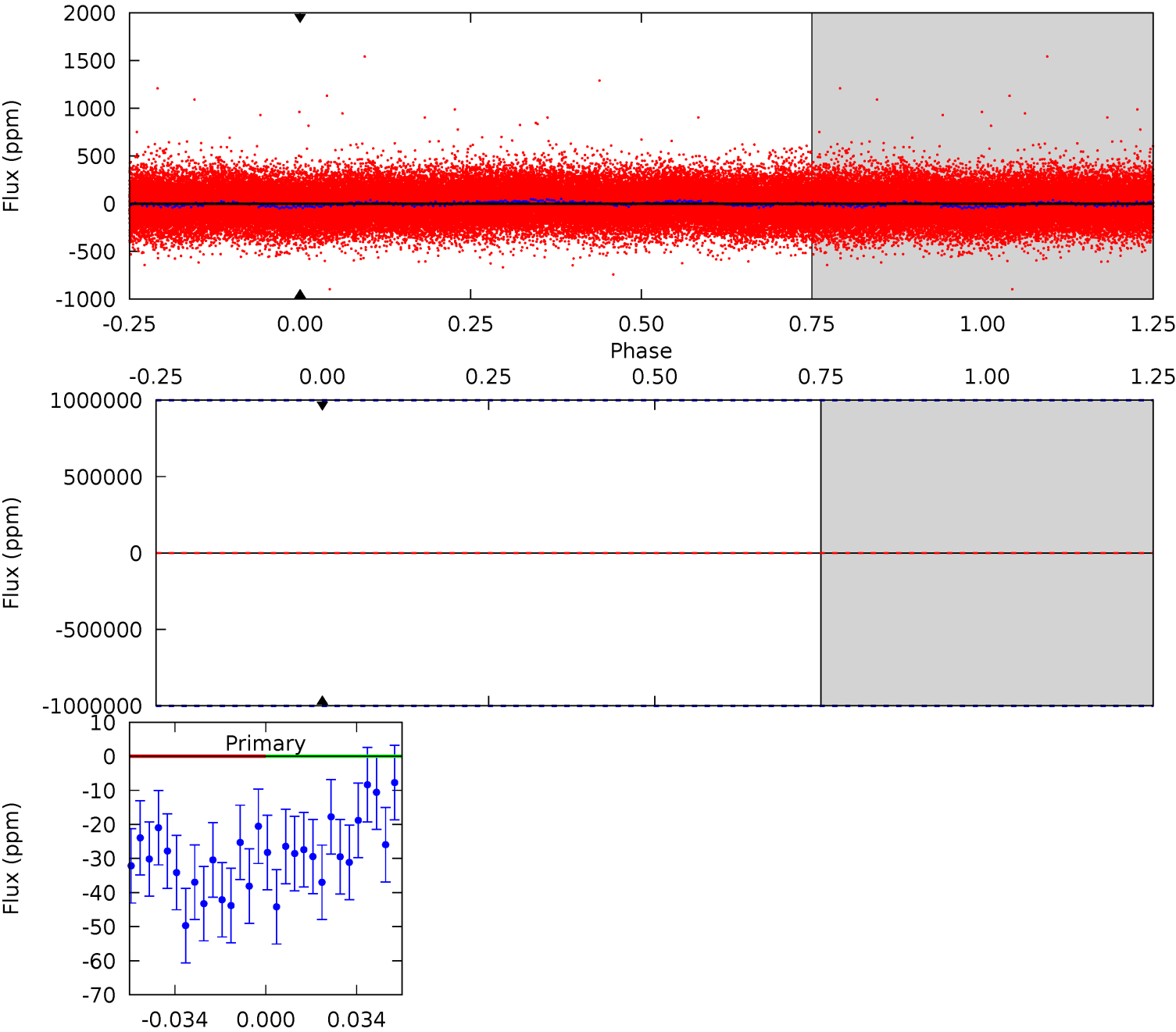
TCE 002283124-01 P= 1.222142 Days $T_0=132.709434$ (BKJD)



DV Model-Shift Uniqueness Test

002283124-01, P = 1.222142 Days, E = 131.510994 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002283124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7037^{+171}_{-245}	$3.375^{+0.400}_{-0.100}$	$0.070^{+0.250}_{-0.250}$	$5.127^{+1.233}_{-2.113}$	$2.275^{+0.124}_{-0.465}$	$0.024^{+0.079}_{-0.009}$
	+2%/-3%	+12%/-3%	+357%/-357%	+24%/-41%	+5%/-20%	+333%/-39%
Source	PHO1	FLK73	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 002283124-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$35.43^{+39.94}_{-24.54}$	5541^{+408}_{-645}	6452^{+42265}_{-36206}	$1.741^{+97.556}_{-50.899}$
Alt.	-47 ± 2	$35.86^{+38.47}_{-24.93}$	5502^{+431}_{-600}	-4464^{+876}_{-366}	$0.017^{+0.163}_{-0.013}$

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 $A_{obs} \gg 1.0$

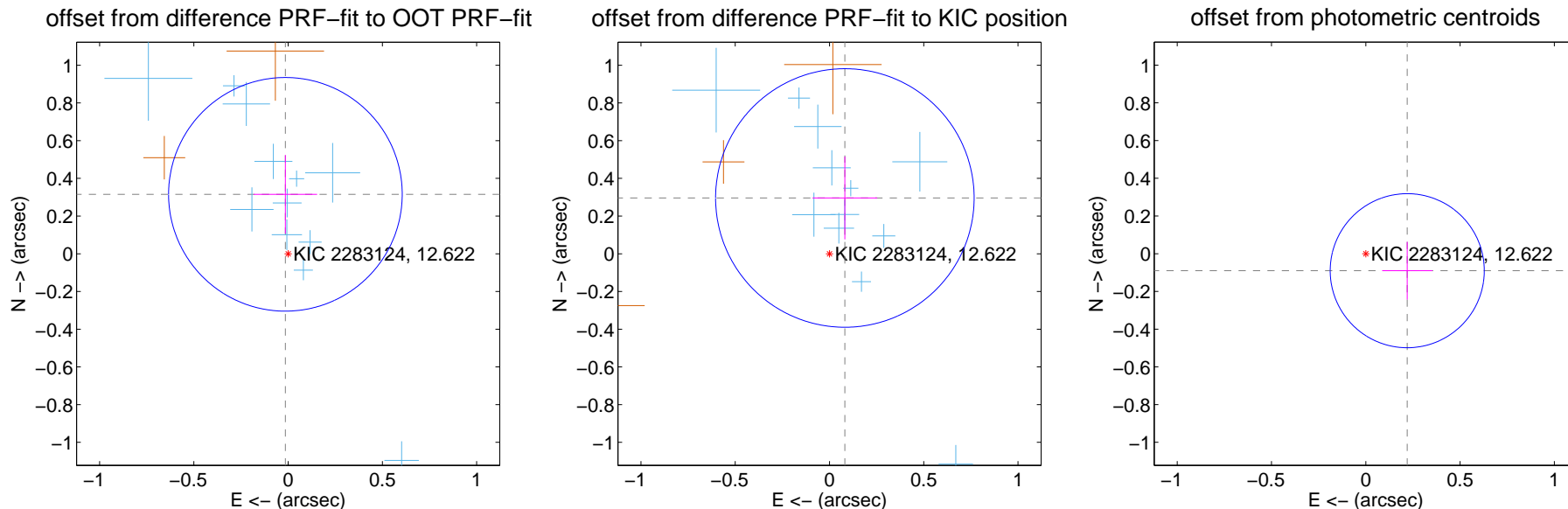
DV Centroid Data

Supplemental centroid analysis for 002283124-01. Kepler magnitude: 12.62. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

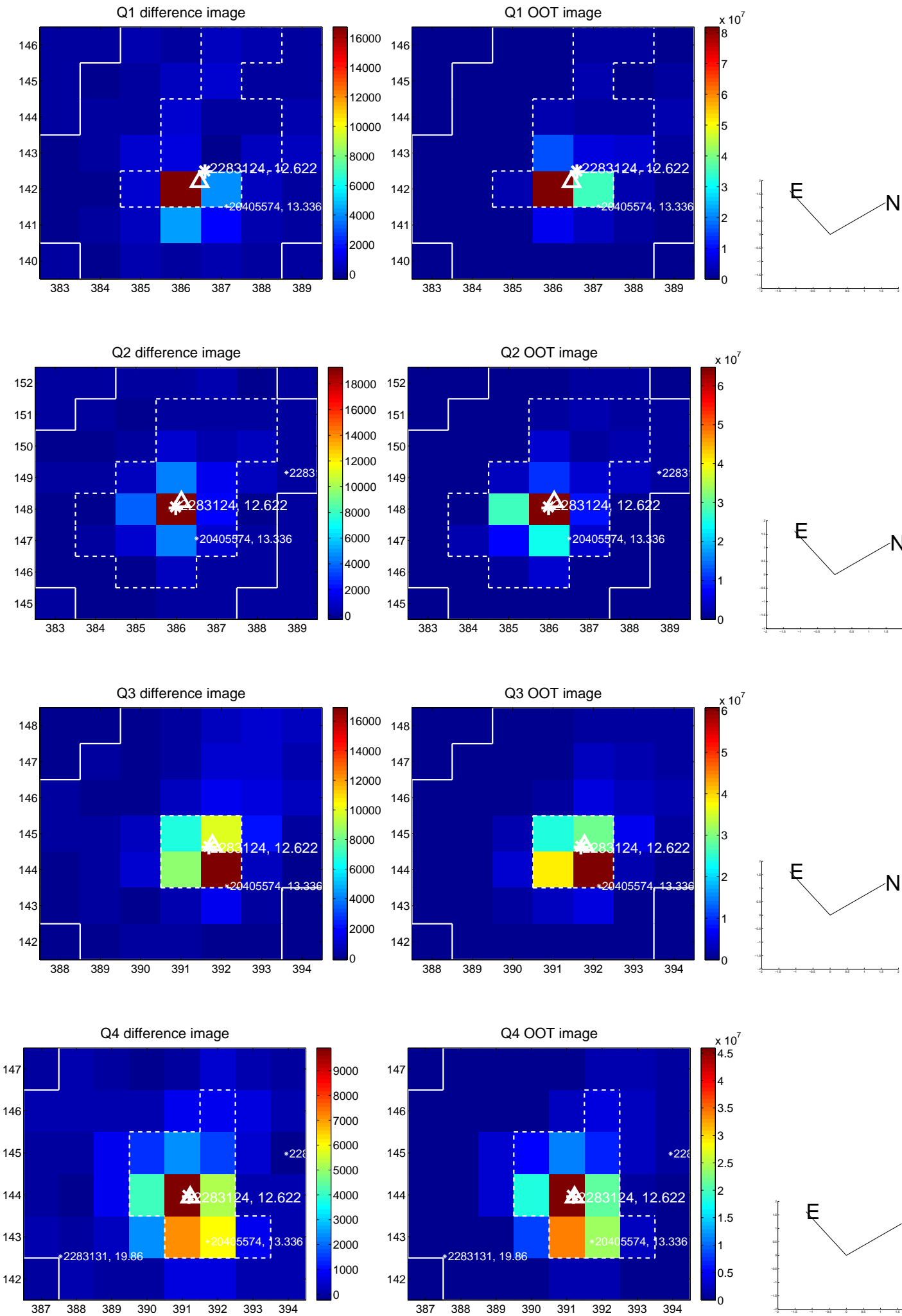
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.316 ± 0.207	1.53	0.014 ± 0.168	0.315 ± 0.208
PRF-fit source offset from KIC position	0.307 ± 0.229	1.34	-0.082 ± 0.171	0.296 ± 0.220
photometric centroid source offset	0.24 ± 0.14	1.74	-0.22 ± 0.13	-0.09 ± 0.15

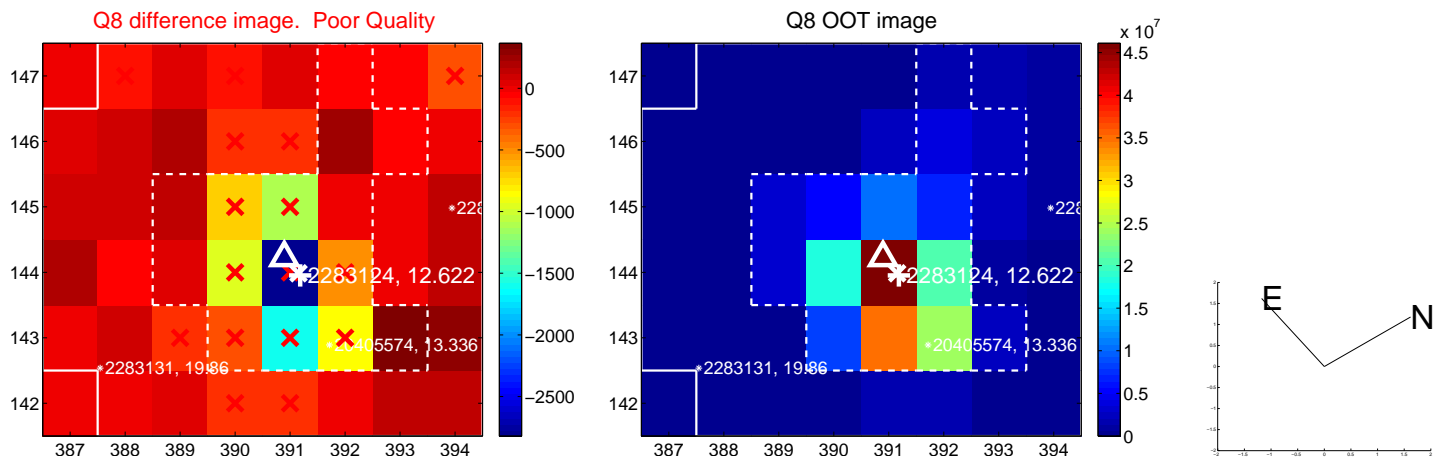
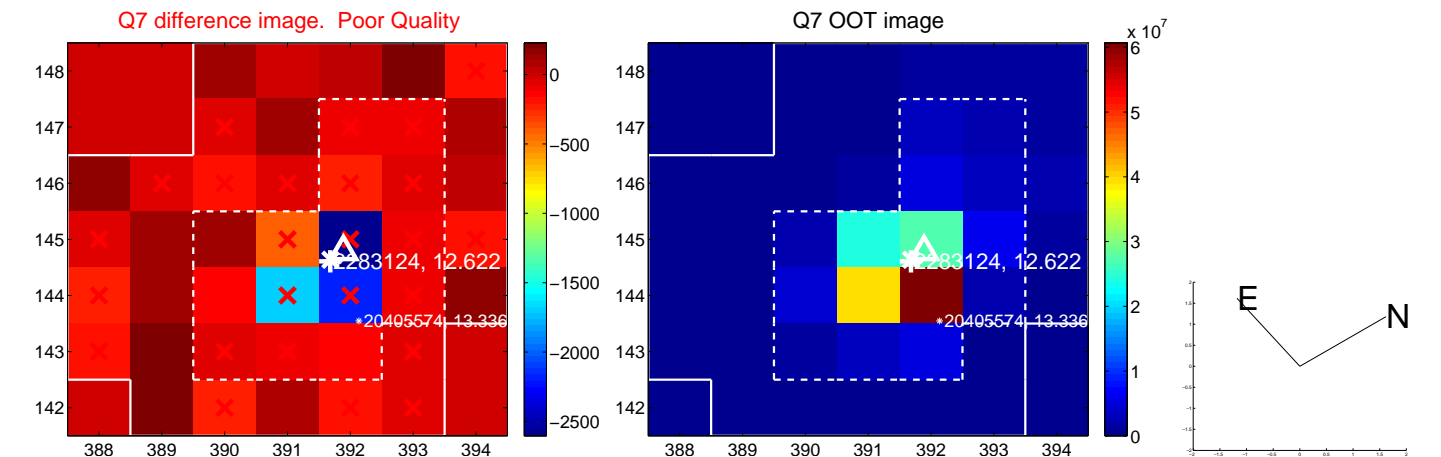
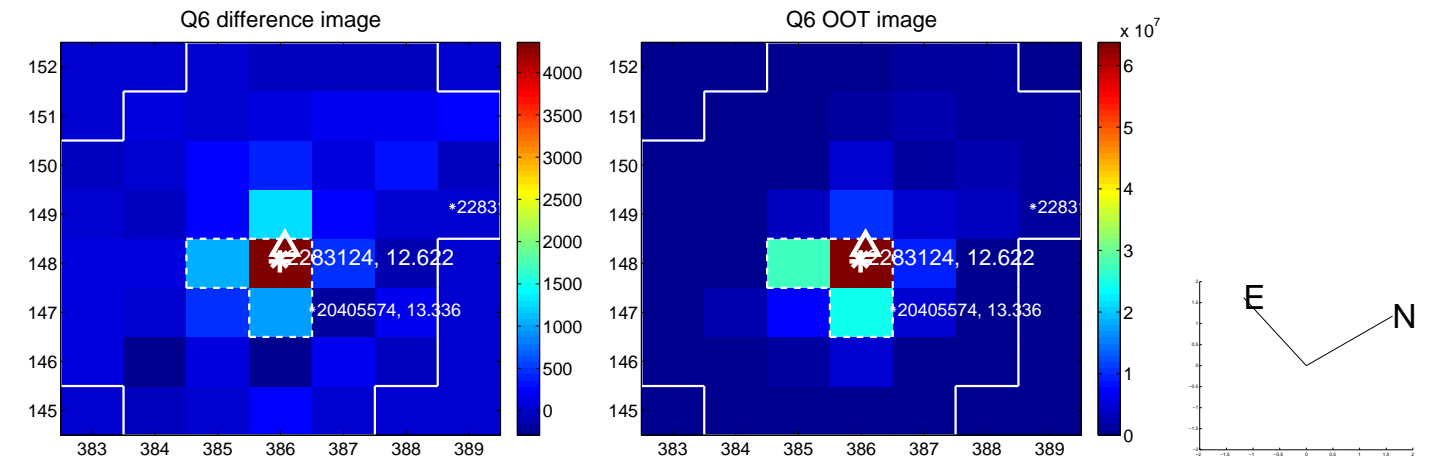
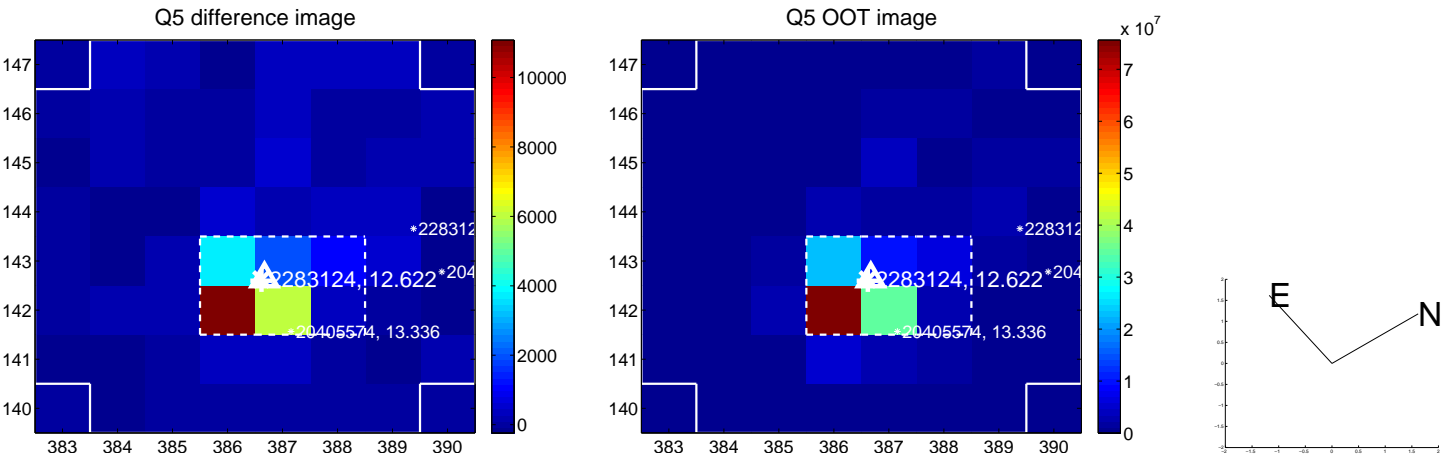


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

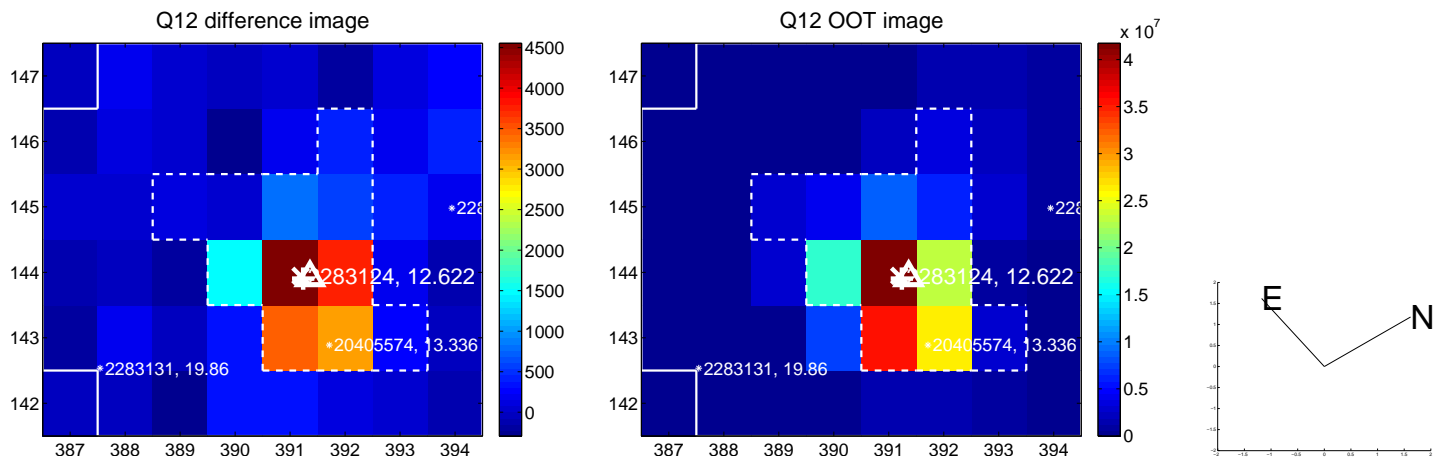
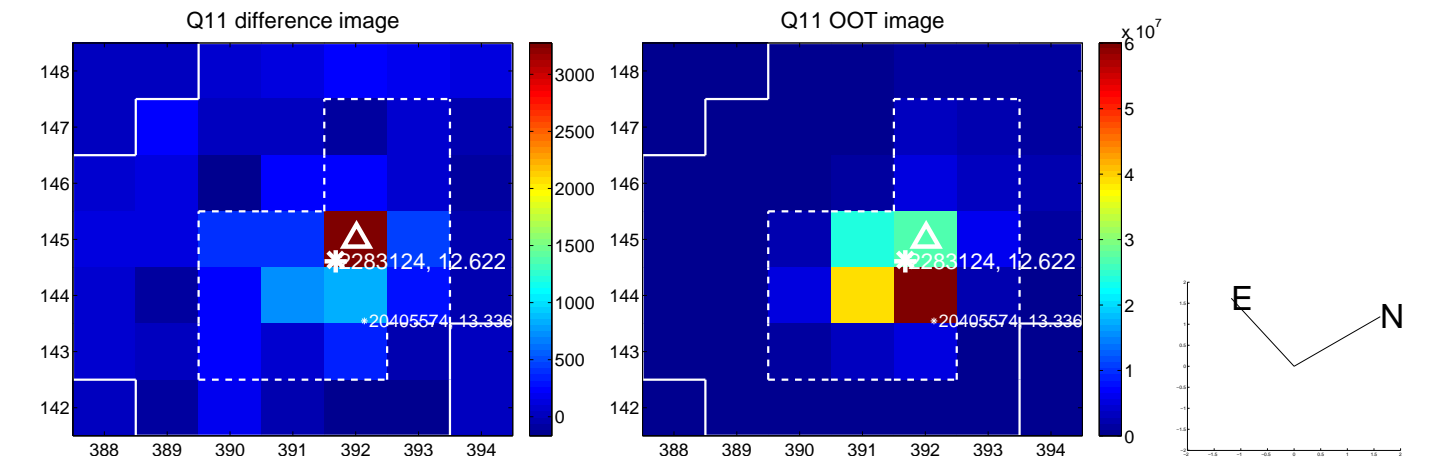
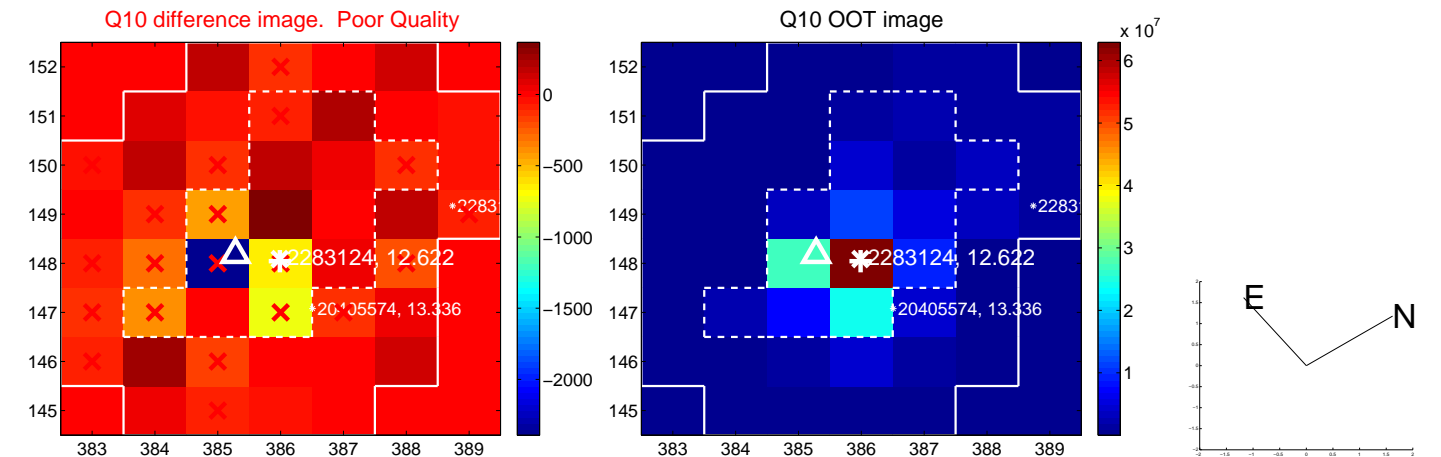
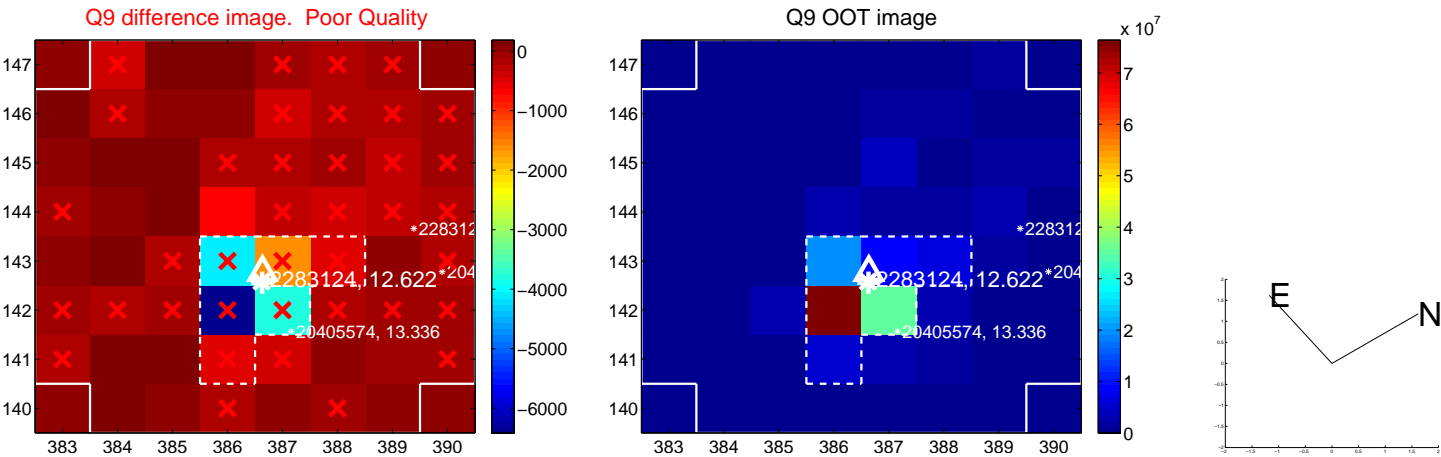
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



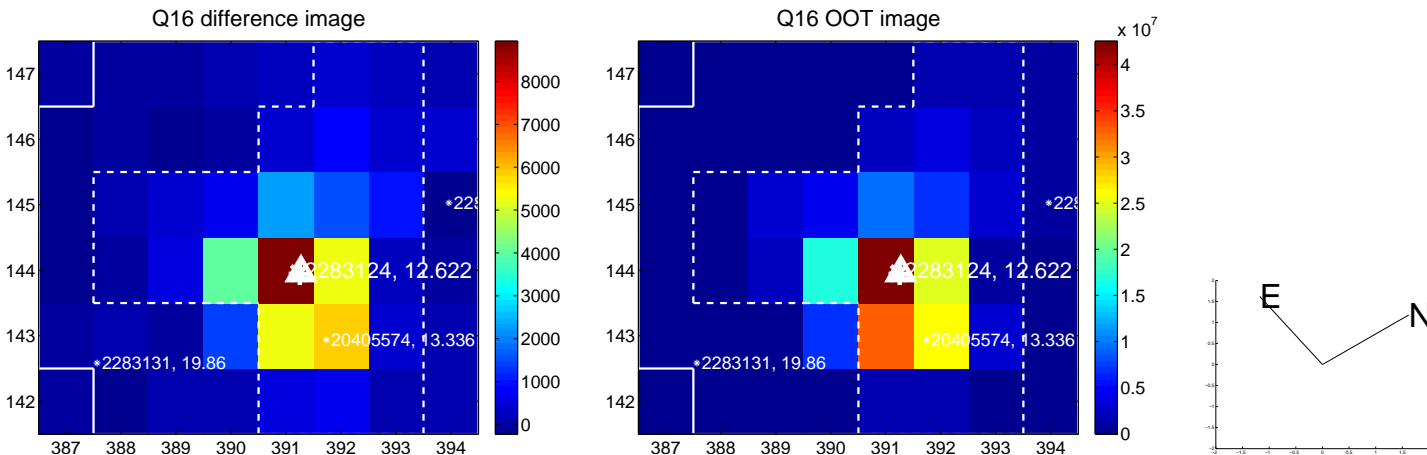
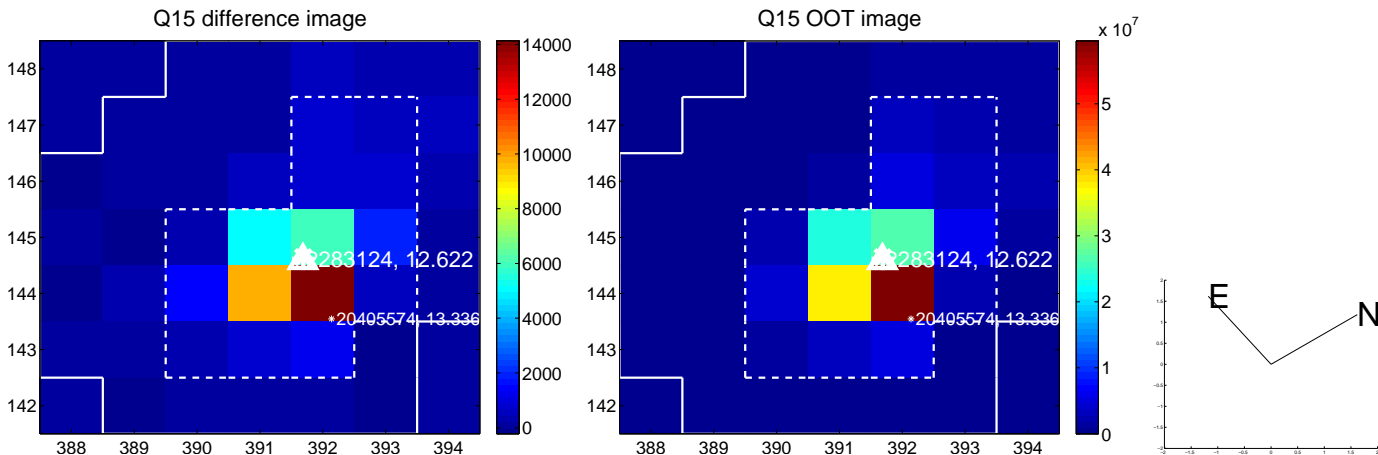
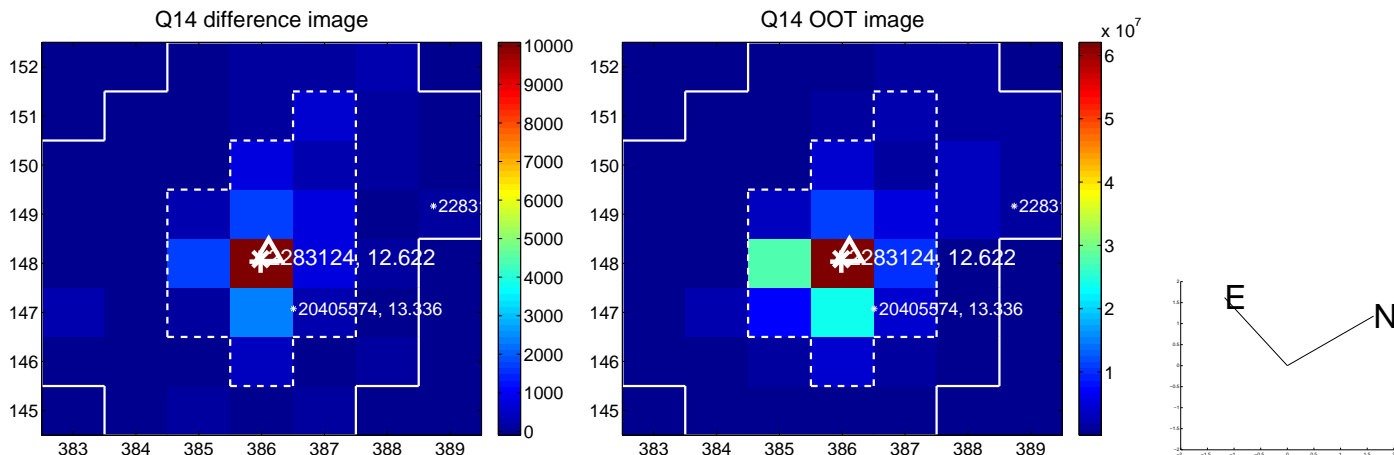
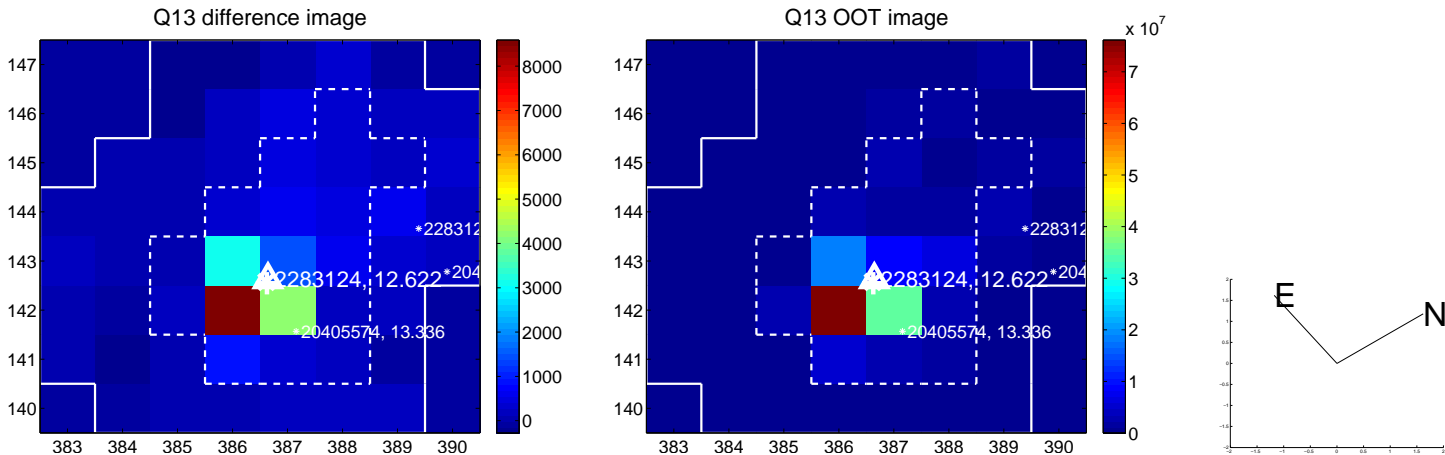
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



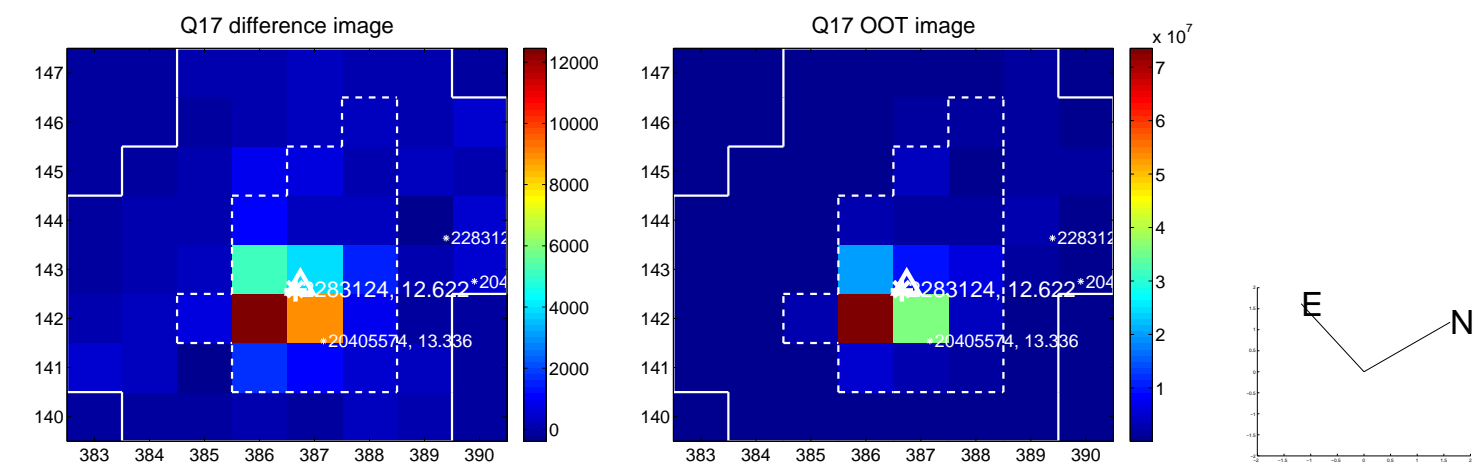
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



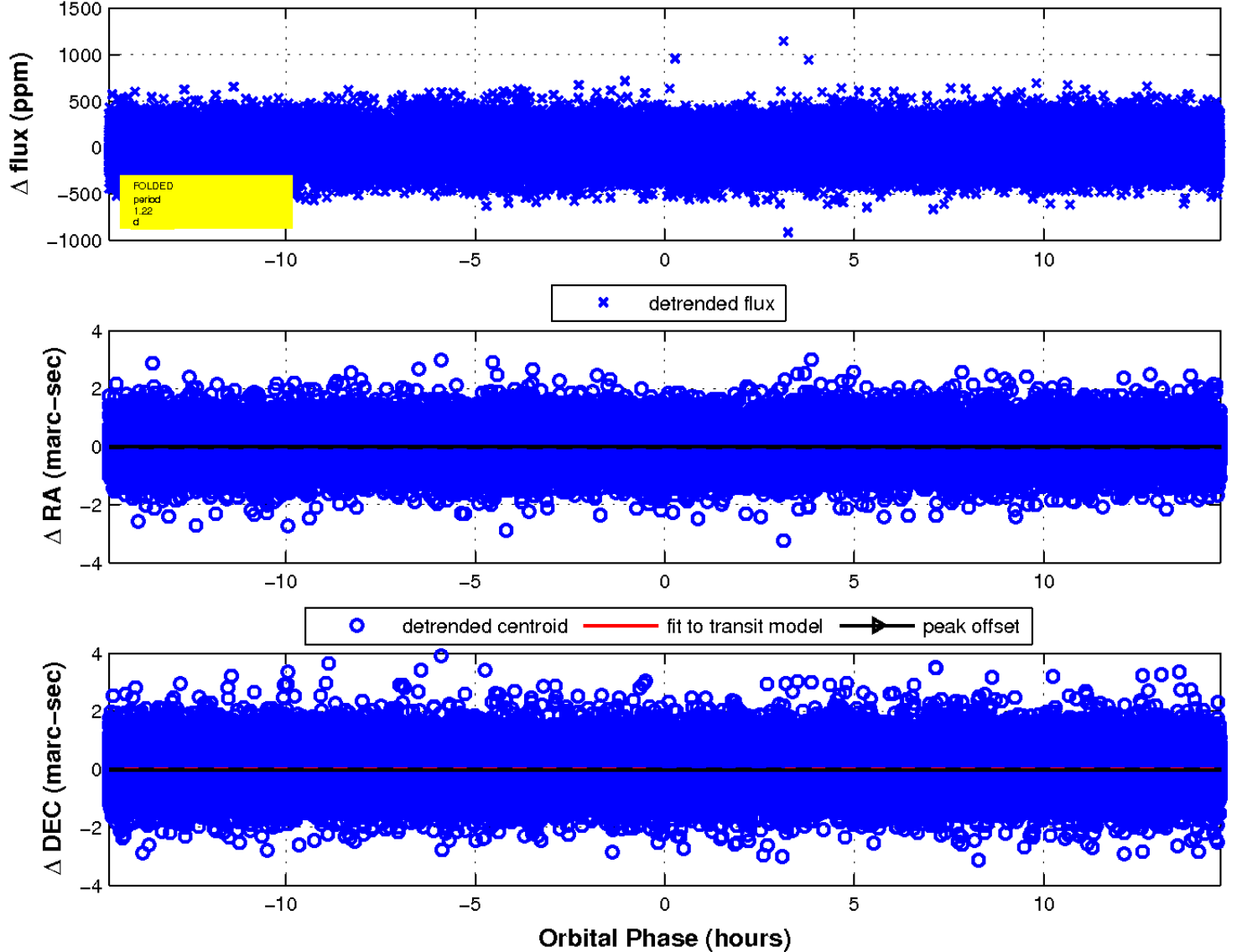
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

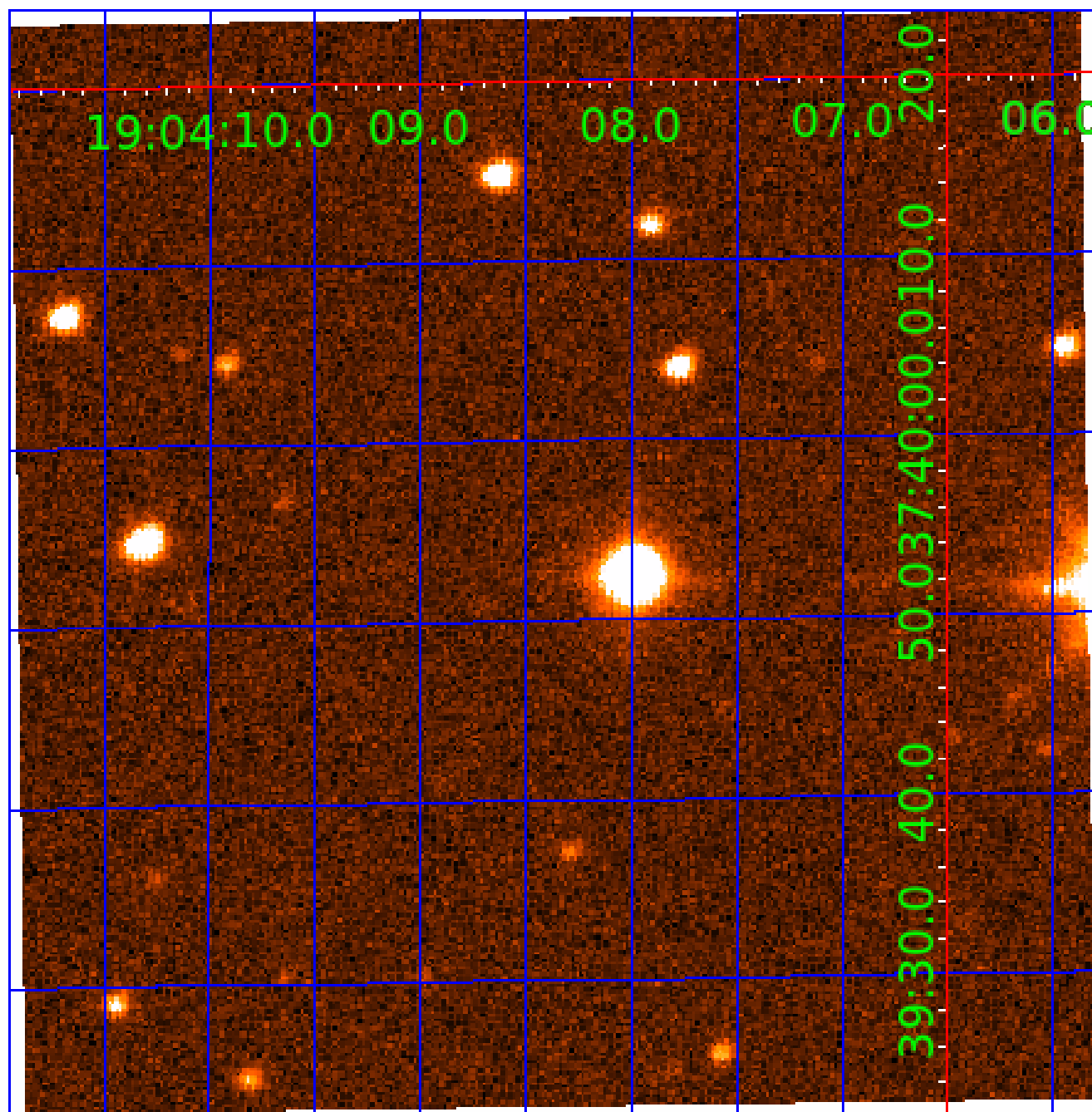


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 002283124

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})
002283124-01	OBS	No	1.222142	131.510994	147.4	3.500	9.0	-1.0	5.13	7037	6.29	66710.04
002283124-02	OBS	No	429.239818	221.757731	466.1	15.947	7.4	9.9	5.13	7037	14.12	26.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002283124-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
002283124-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

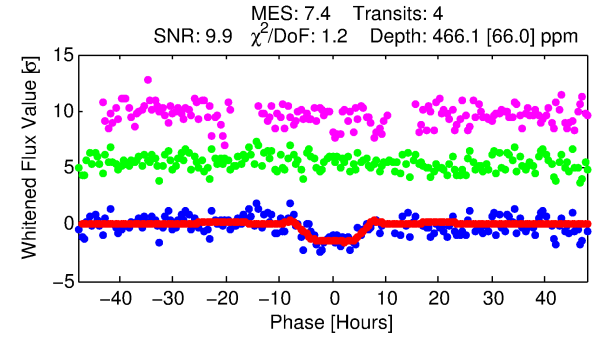
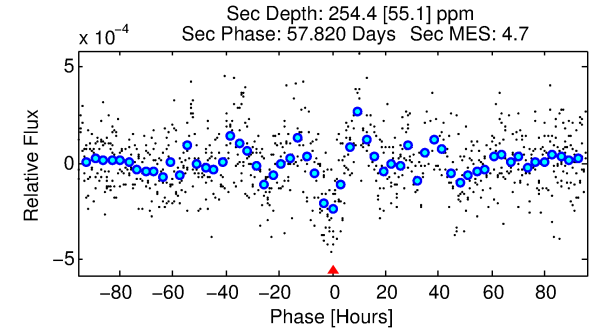
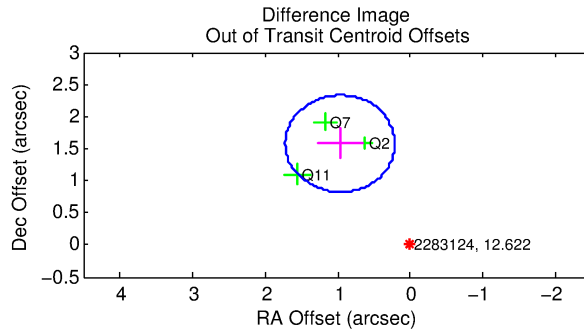
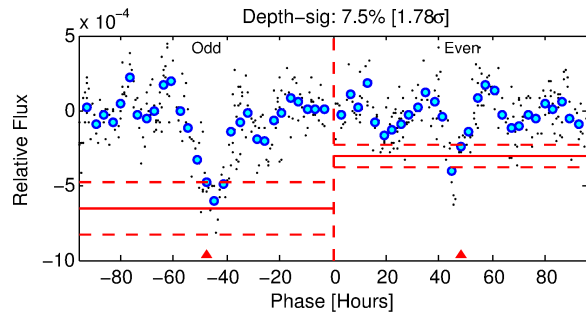
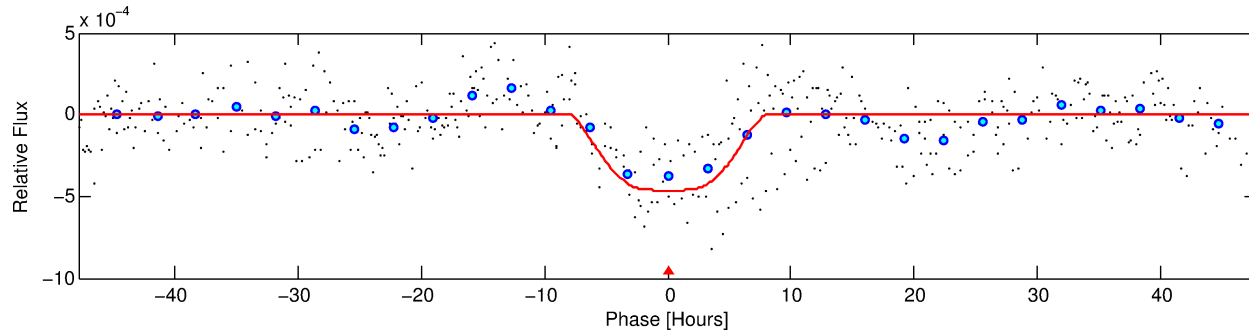
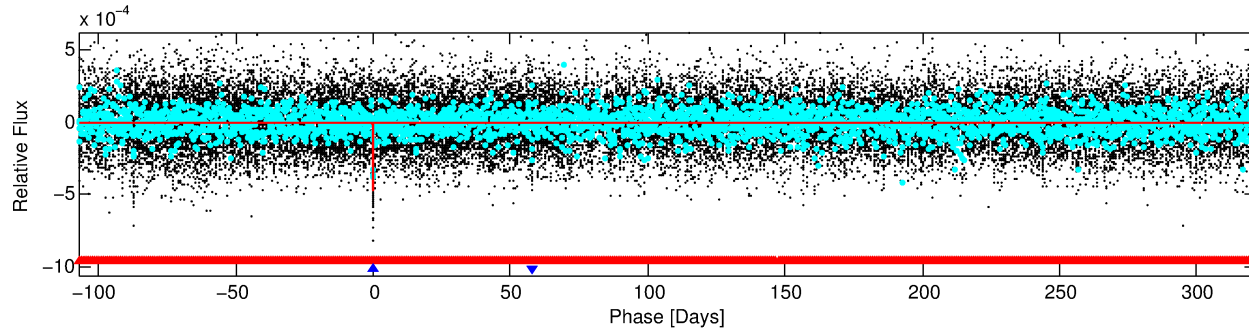
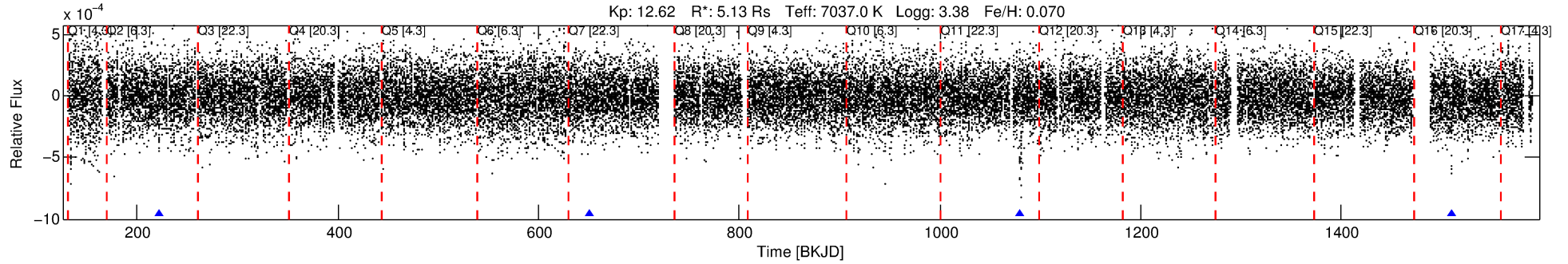
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002283124-02

No Significant Match Found

DV One-Page Summary

KIC: 2283124 Candidate: 2 of 2 Period: 429.240 d



DV Fit Results:

Period = 429.23982 [0.01572] d
Epoch = 221.7577 [0.0334] BKJD
Rp/R* = 0.0252 [0.0022]
a/R* = 68.61 [9.98]
b = 0.97 [0.01]
Seff = 26.92 [18.49]
Teq = 581 [100] K
Rp = 14.12 [5.95] Re
a = 1.4647 [0.6034] AU
Ag = 1505.21 [1094.83] [1.37σ]
Teffp = 5594 [433] K [11.28σ]

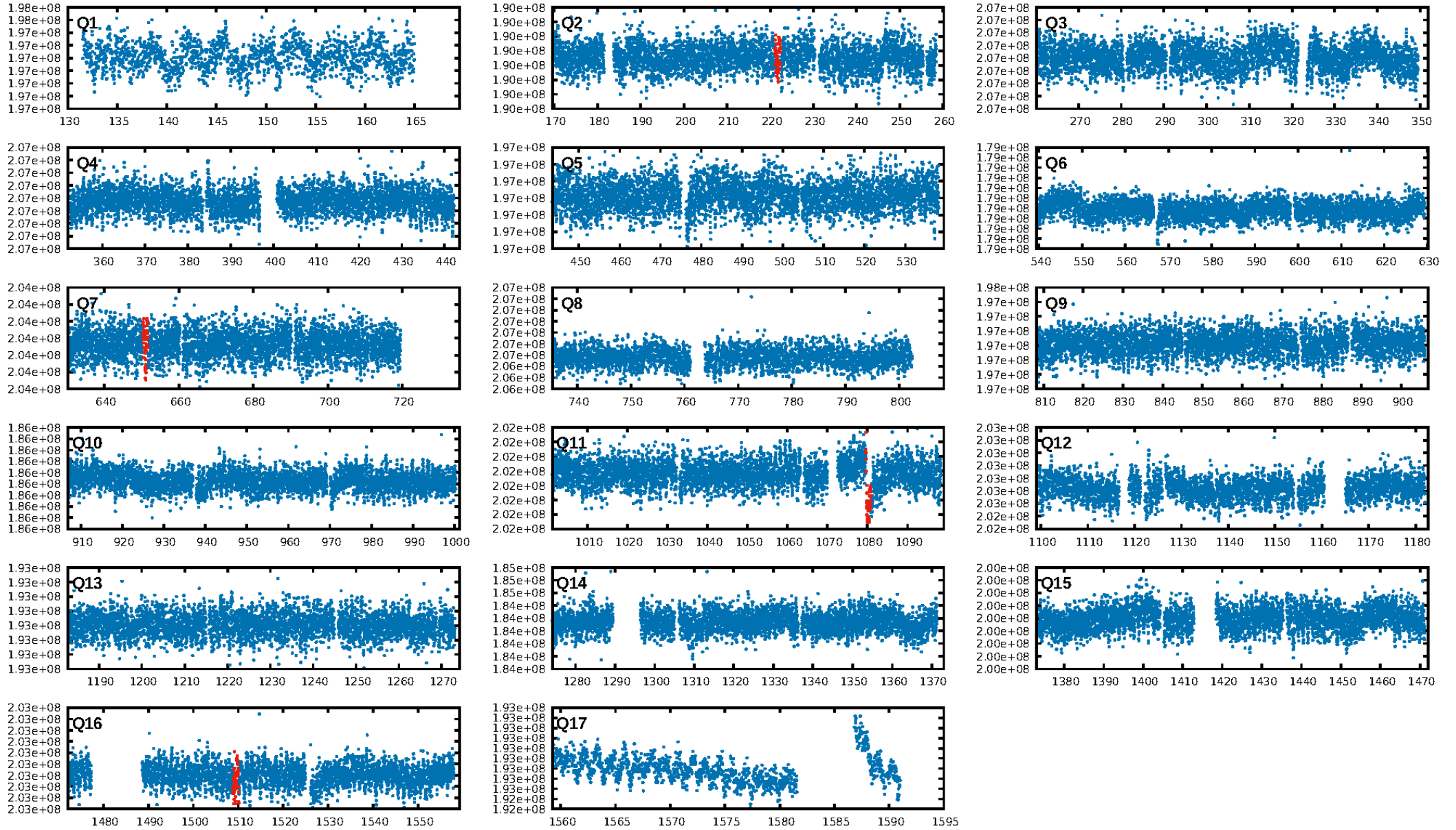
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [629.19σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.05e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.188
Centroid-sig: 42.2%
Centroid-so: 0.838 arcsec [1.53σ]
OotOffset-rm: 1.851 arcsec [7.36σ]
KicOffset-rm: 1.758 arcsec [7.01σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

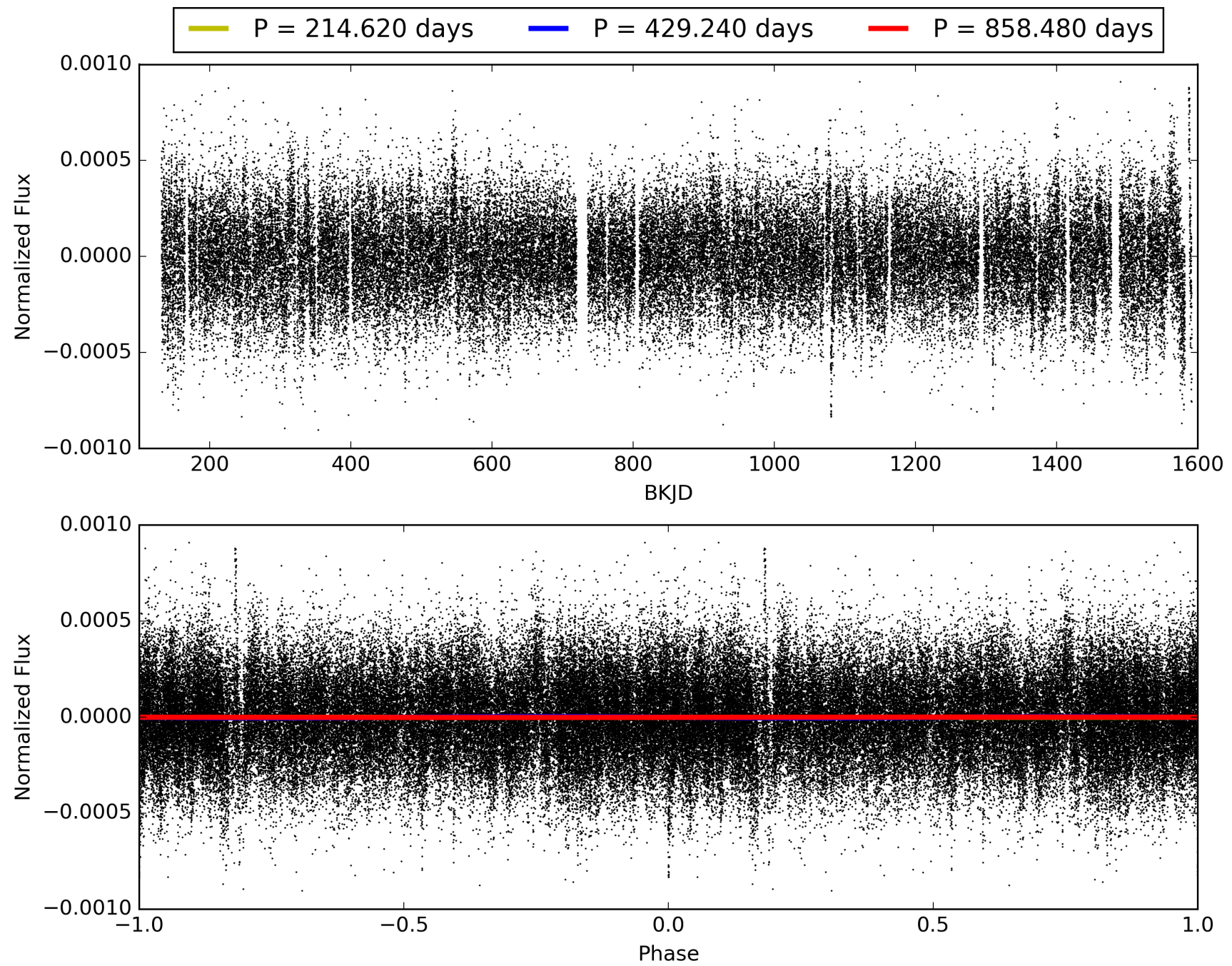
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:44:15 Z

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

TCE 002283124-02, PDC Light Curves

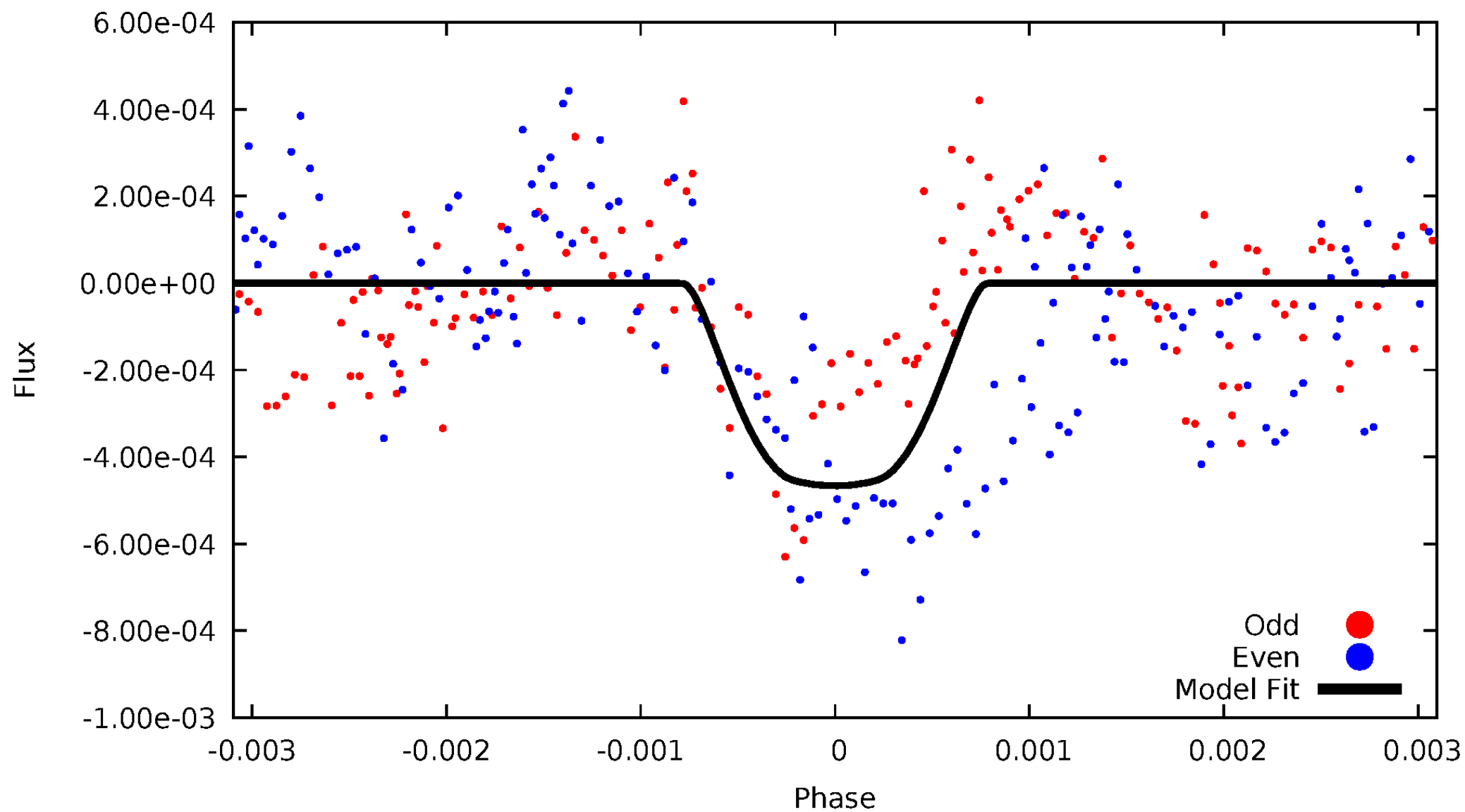


TCE 002283124-02



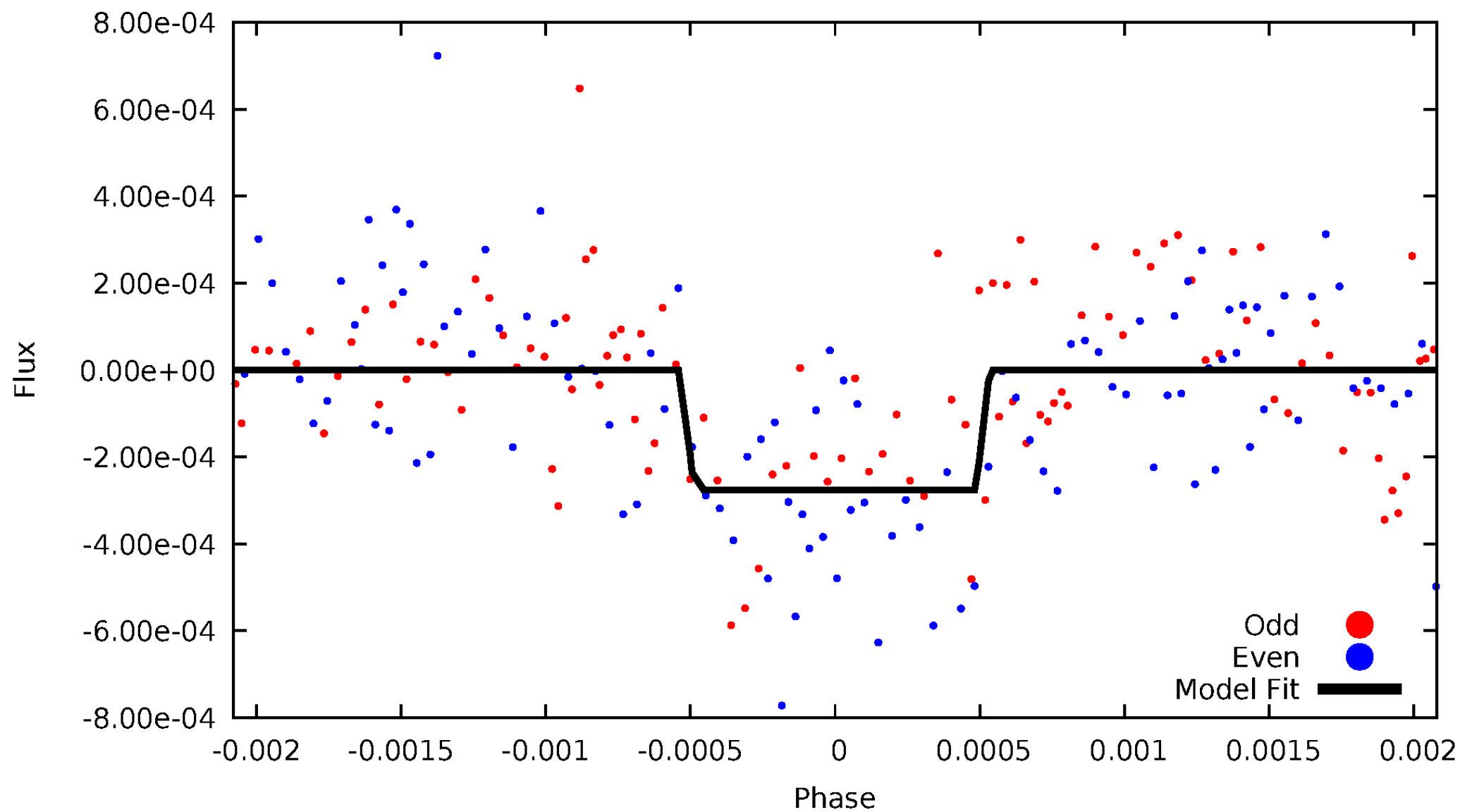
DV Odd/Even

TCE 002283124-02



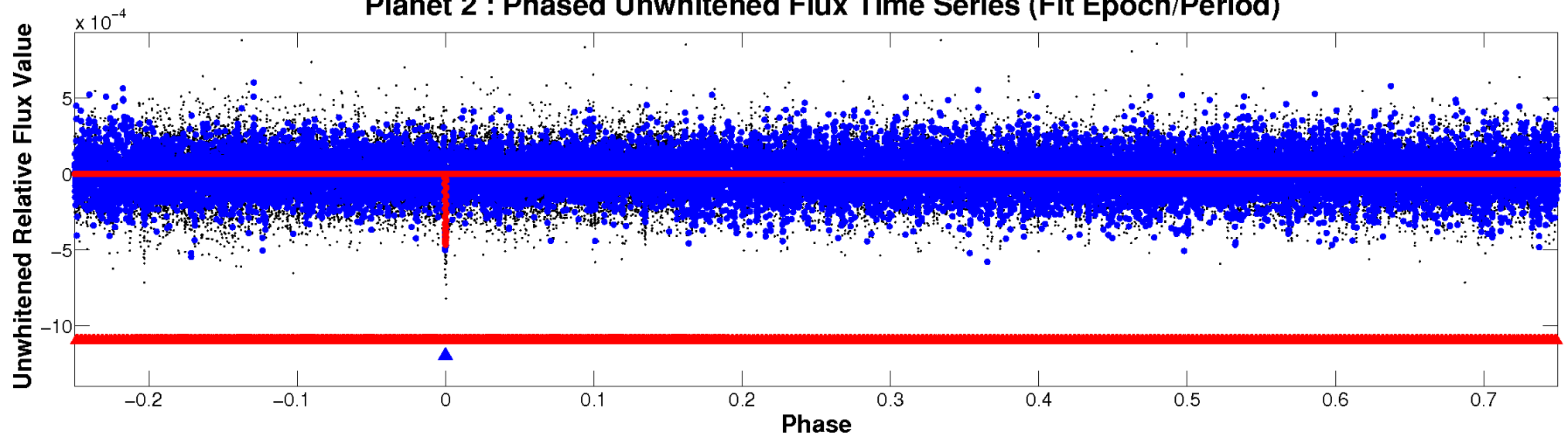
ALT Odd/Even

TCE 002283124-02

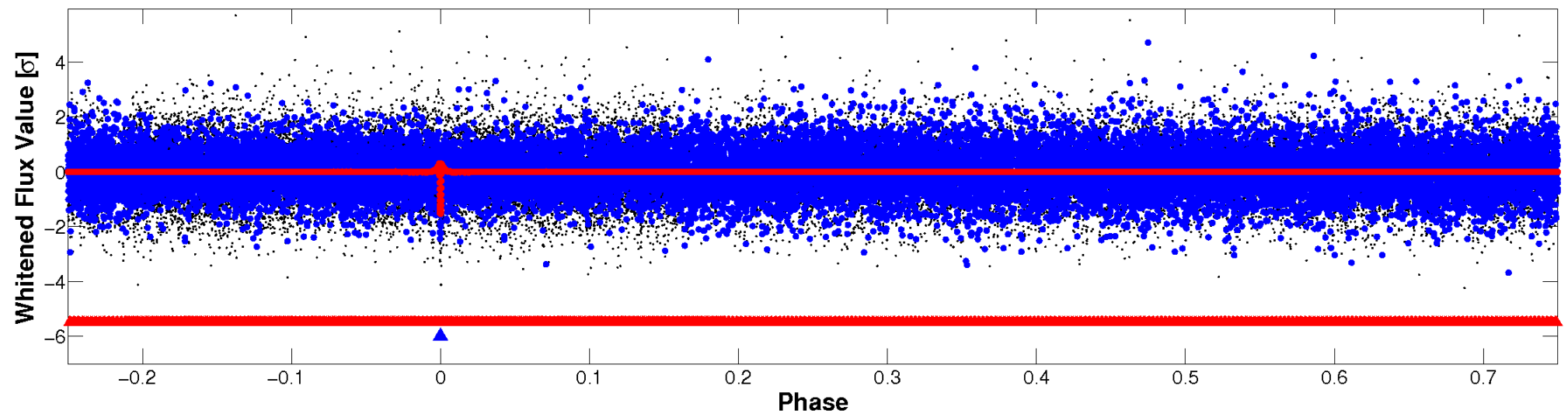


Non-Whitened Vs. Whitened Light Curve

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

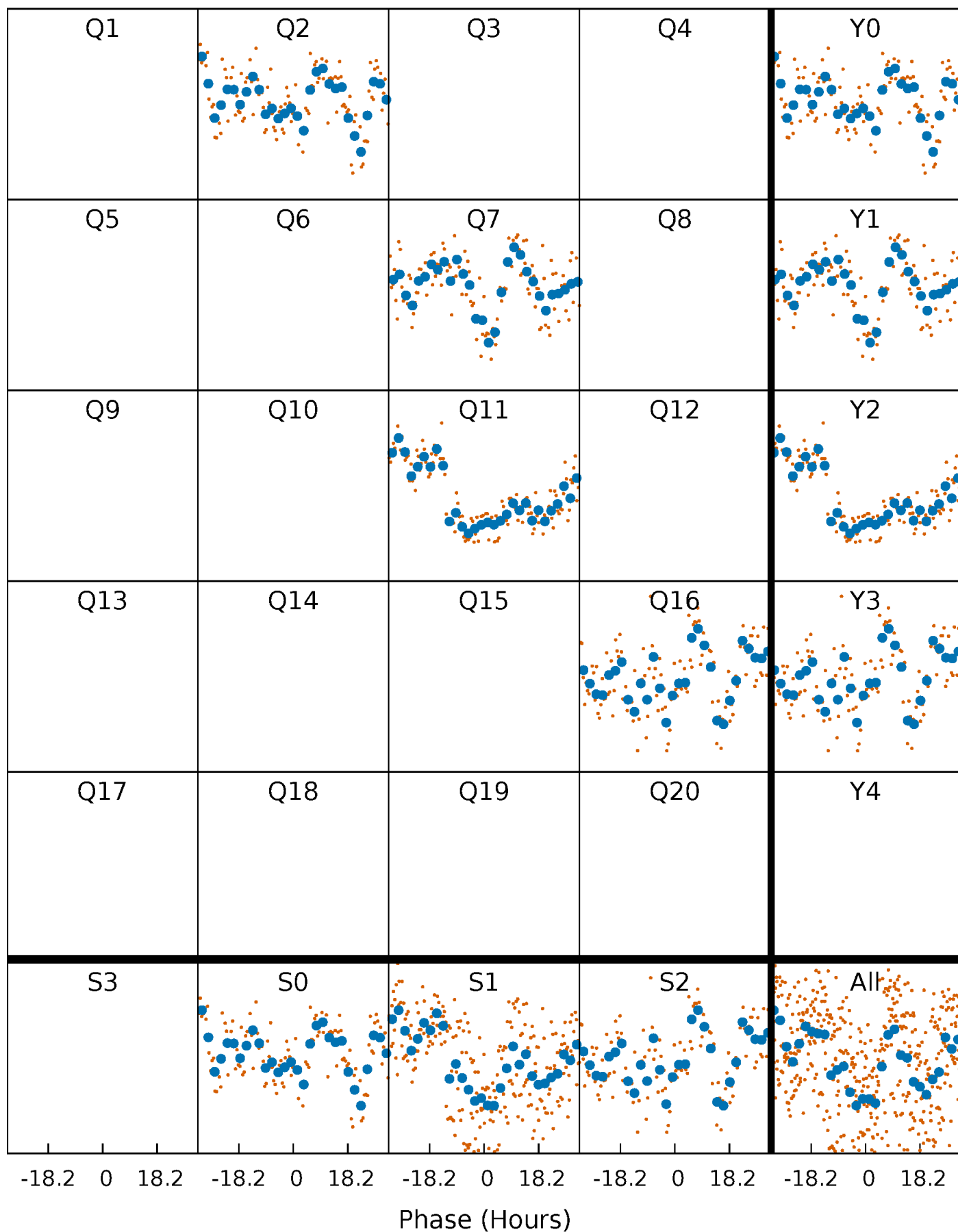


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



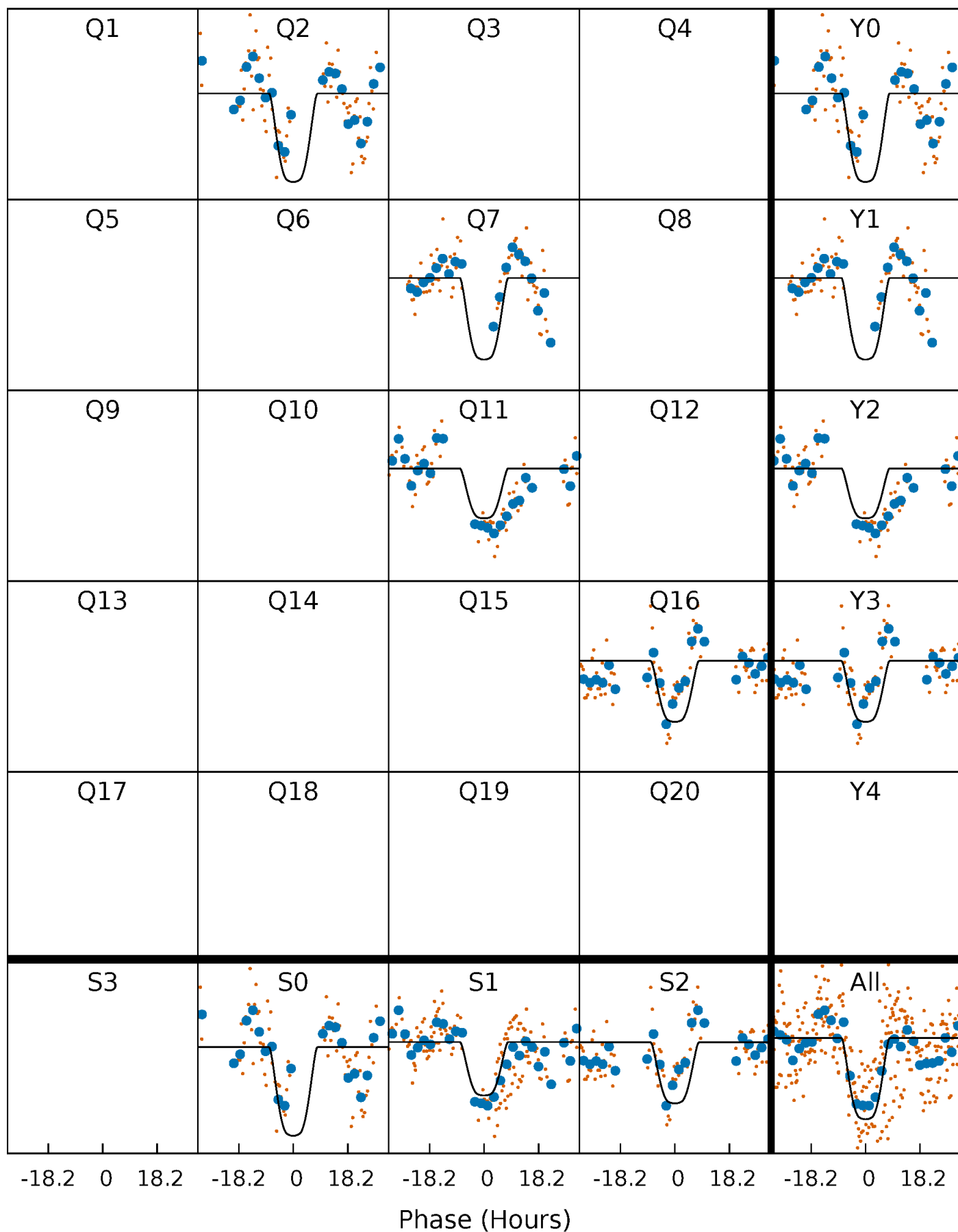
PDC Quarter-Phased Transit Curves

TCE 002283124-02 P=429.239818 Days $T_0=221.757731$ (BKJD)



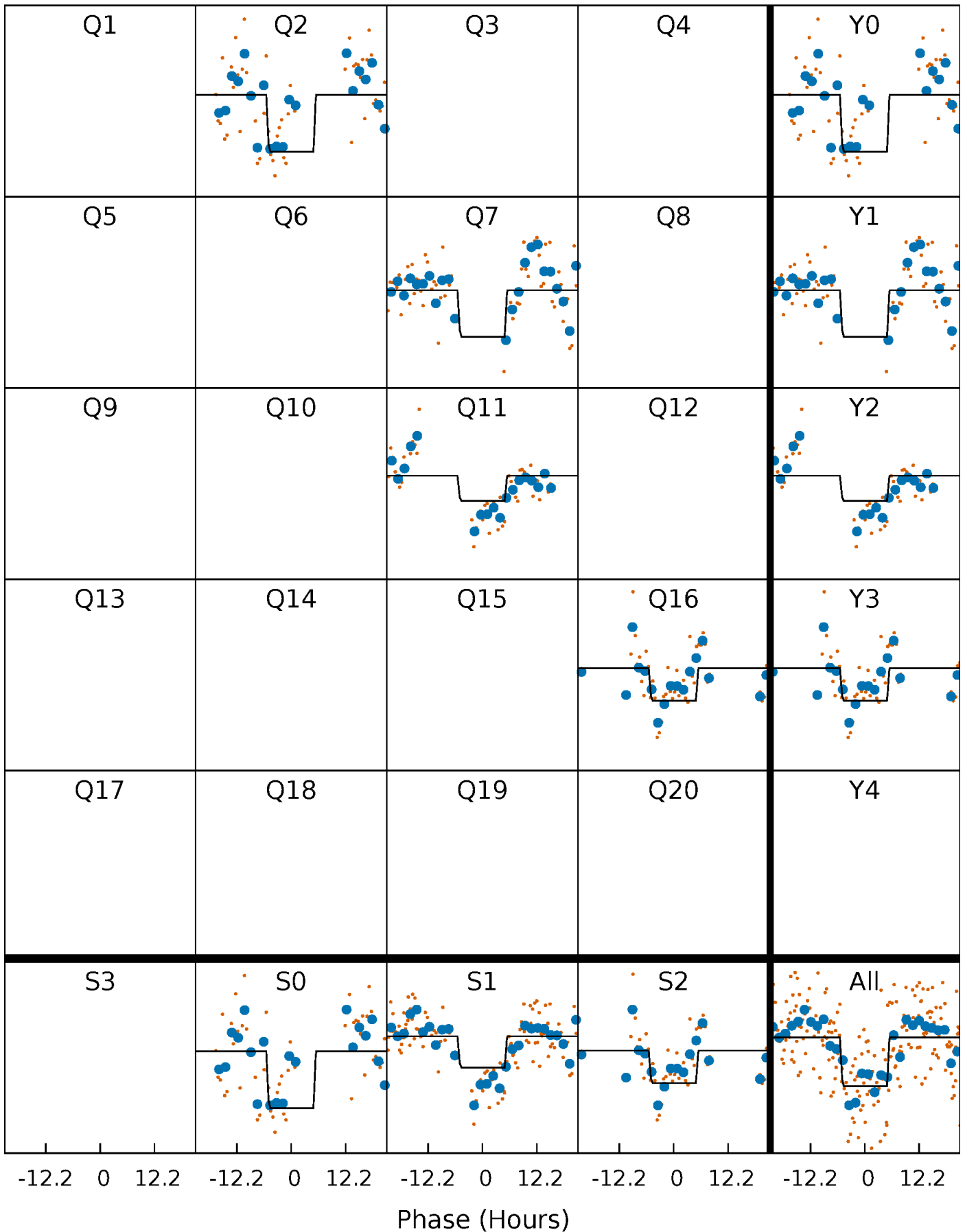
DV Quarter-Phased Transit Curves

TCE 002283124-02 $P=429.239818$ Days $T_0=221.757731$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

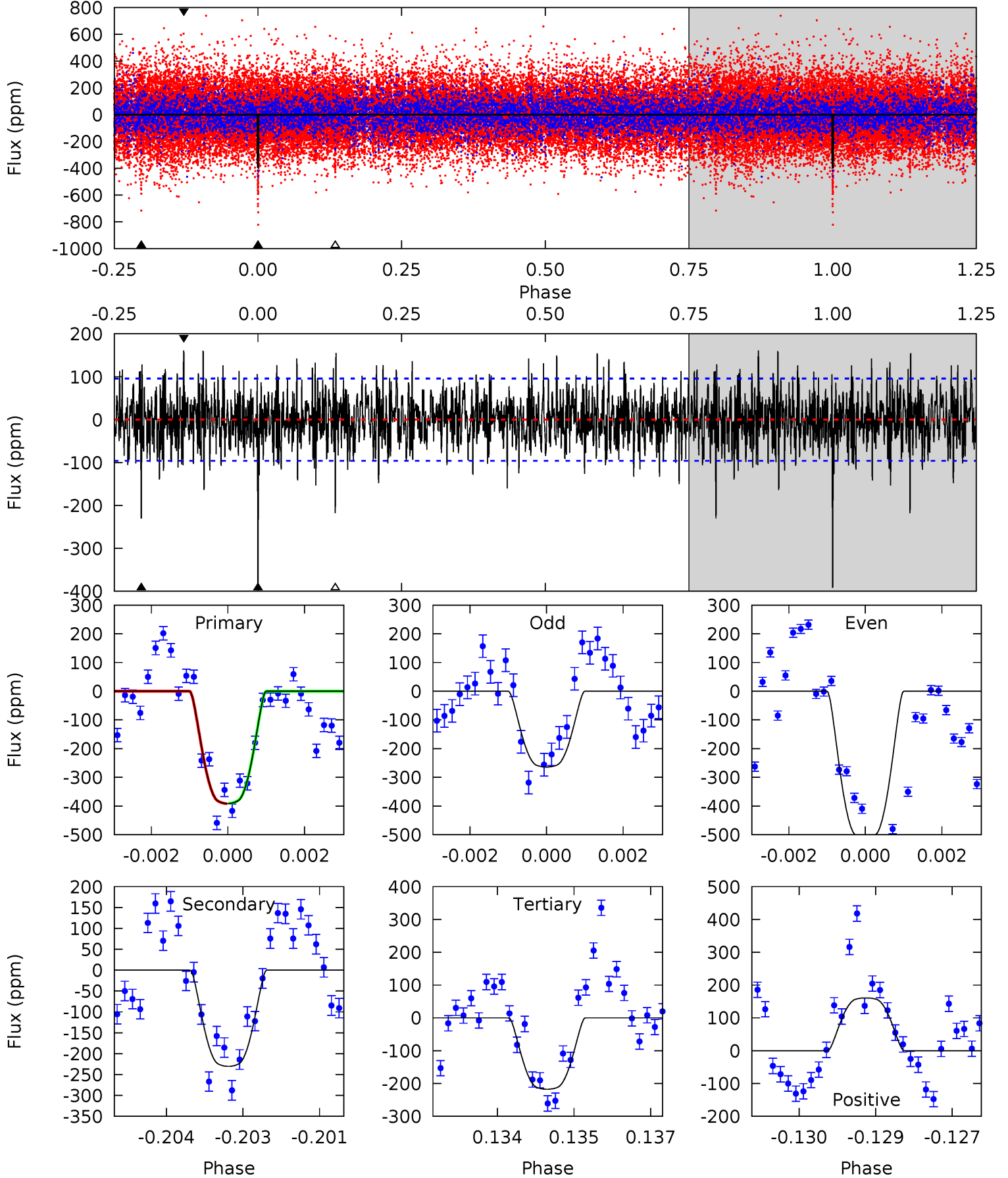
TCE 002283124-02 P=429.281851 Days $T_0=221.675340$ (BKJD)



DV Model-Shift Uniqueness Test

002283124-02, P = 429.239818 Days, E = 221.757731 Days

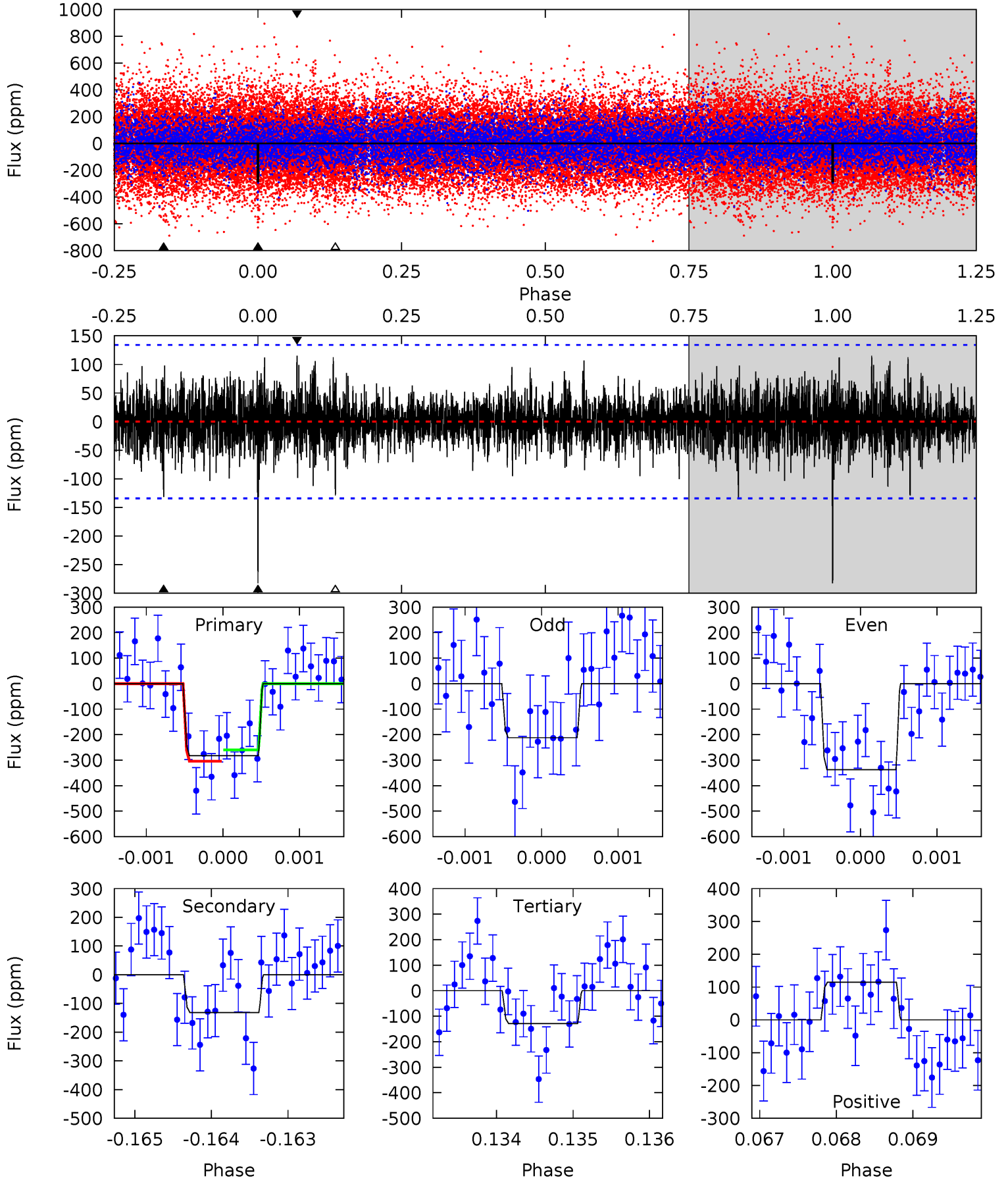
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	12.9	12.2	9.00	5.37	3.16	2.67	9.73	12.9	0.72	3.89	6.92	1.27	0.29	0.03



Alt Model-Shift Uniqueness Test

002283124-02, $P = 429.281851$ Days, $E = 221.675340$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	5.35	5.24	4.67	5.44	3.28	1.25	6.24	6.81	0.12	0.68	2.54	1.05	0.29	0.89



Stellar Parameters For KIC 002283124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7037^{+171}_{-245}	$3.375^{+0.400}_{-0.100}$	$0.070^{+0.250}_{-0.250}$	$5.127^{+1.233}_{-2.113}$	$2.275^{+0.124}_{-0.465}$	$0.024^{+0.079}_{-0.009}$
	+2%/-3%	+12%/-3%	+357%/-357%	+24%/-41%	+5%/-20%	+333%/-39%
Source	PHO1	FLK73	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 002283124-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-230 ± 18	$13.13^{+2.24}_{-2.92}$	785^{+54}_{-86}	5439^{+285}_{-278}	1587^{+872}_{-466}
Alt.	-132 ± 25	$8.42^{+1.91}_{-2.03}$	781^{+60}_{-89}	5765^{+556}_{-415}	2128^{+1488}_{-771}

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

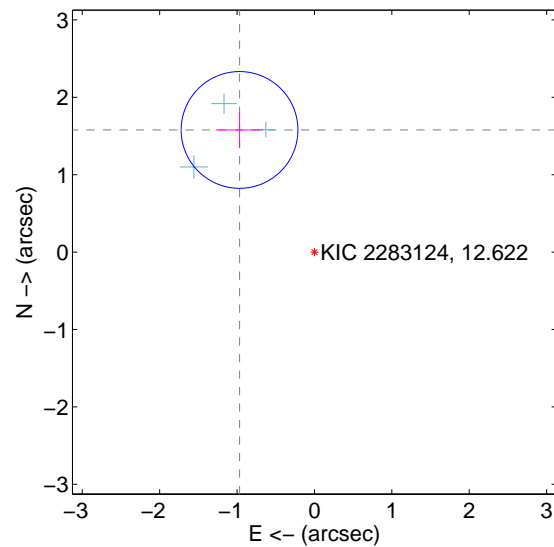
Supplemental centroid analysis for 002283124-02. Kepler magnitude: 12.62. Transit SNR 9.86

There are 3 quarters with good PRF difference image offsets

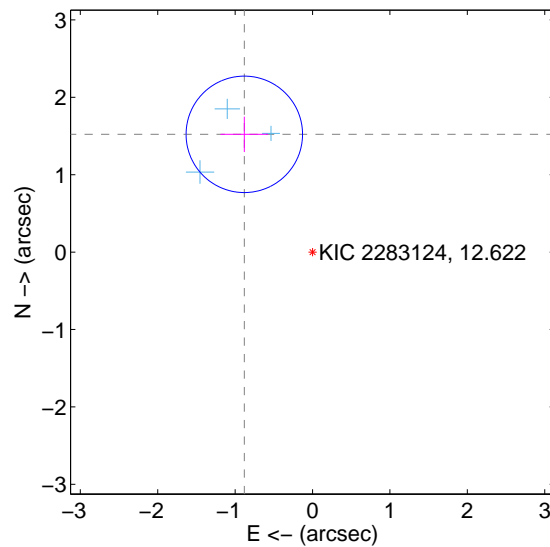
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.851 ± 0.251	7.36	0.967 ± 0.305	1.578 ± 0.228
PRF-fit source offset from KIC position	1.758 ± 0.251	7.01	0.881 ± 0.307	1.521 ± 0.229
photometric centroid source offset	0.84 ± 0.55	1.53	-0.67 ± 0.53	-0.50 ± 0.59

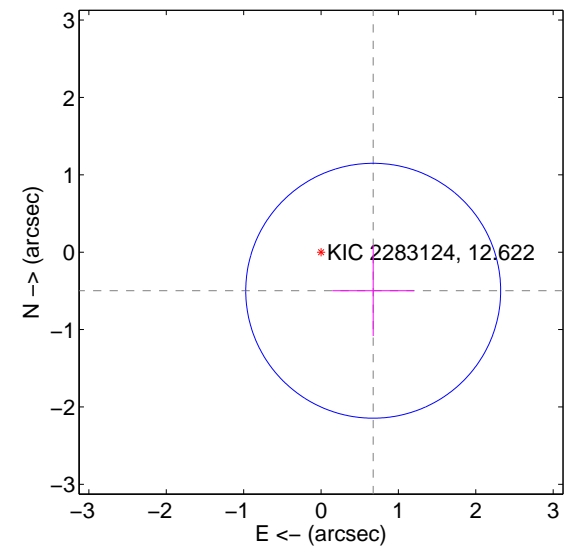
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

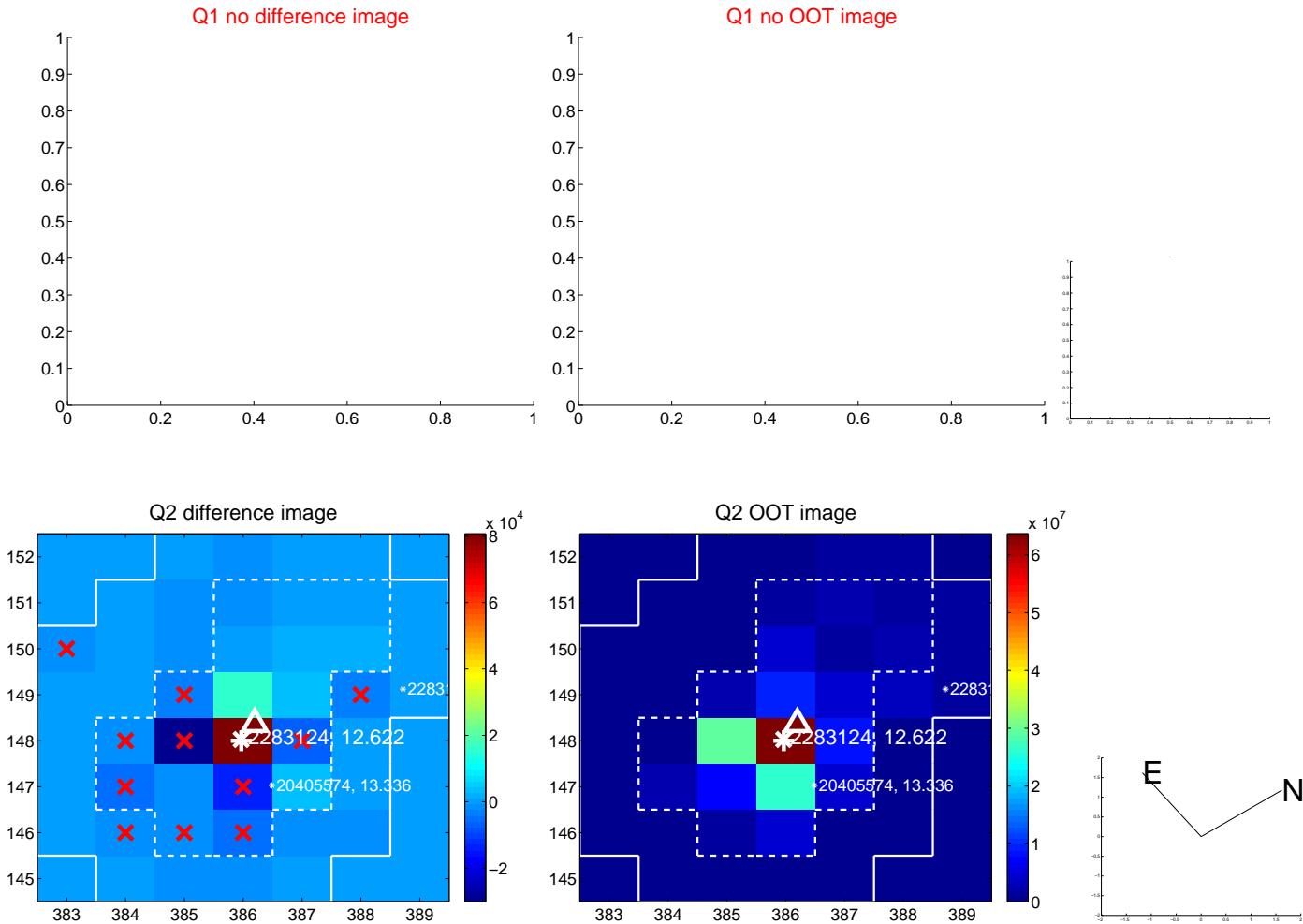


offset from photometric centroids

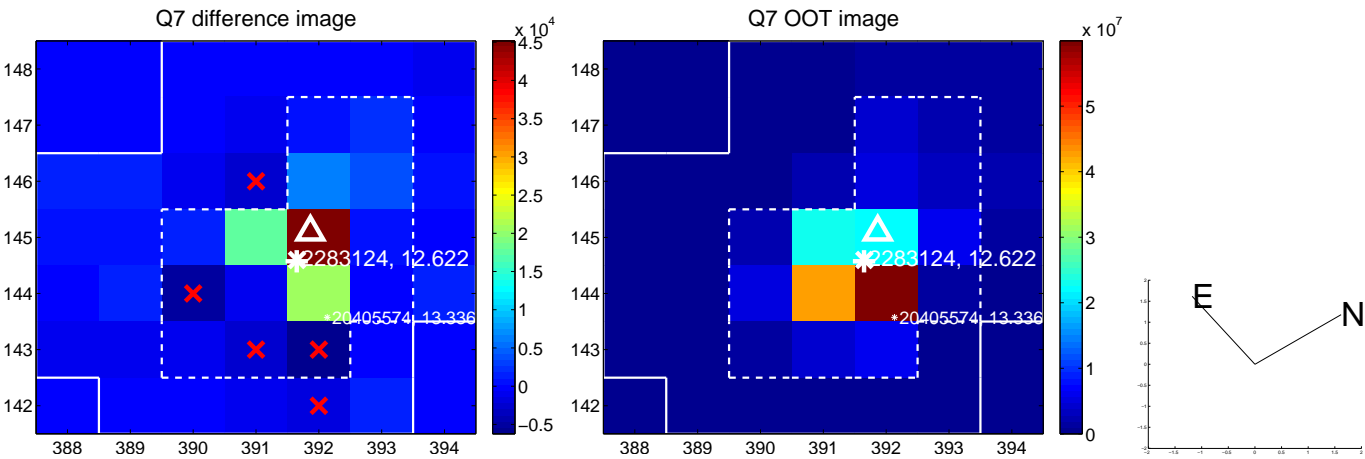


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

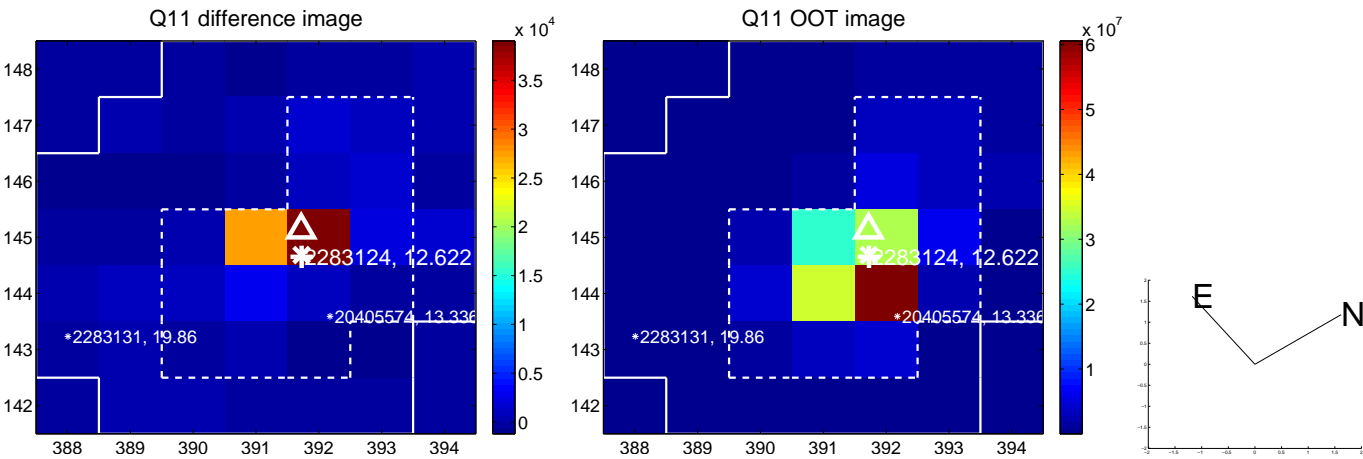
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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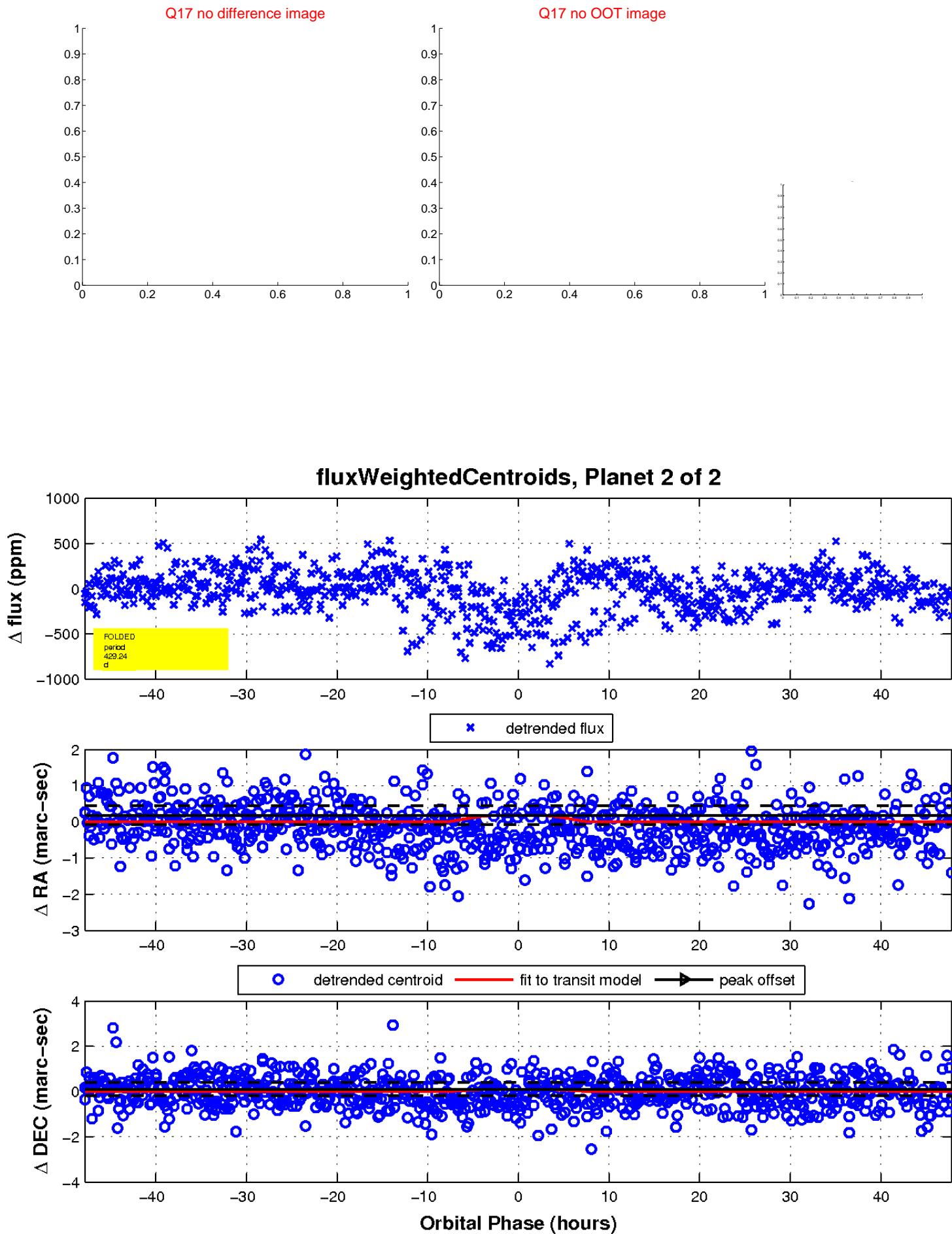
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

