

KIC 007017392

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})
007017392-02	OBS	No	383.928551	237.448171	439.8	2.799	13.8	5.4	1.91	4904	4.10	1.84
007017392-03	OBS	No	254.720262	210.678205	426.1	3.476	12.1	7.1	1.91	4904	5.05	3.19
007017392-04	OBS	No	494.281530	159.016943	550.2	3.144	11.9	6.9	1.91	4904	5.08	1.32
007017392-05	OBS	No	340.209074	237.956219	444.8	3.500	11.5	-1.0	1.91	4904	3.89	2.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007017392-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007017392-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007017392-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007017392-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

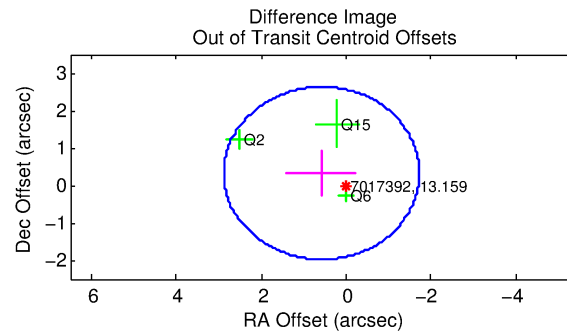
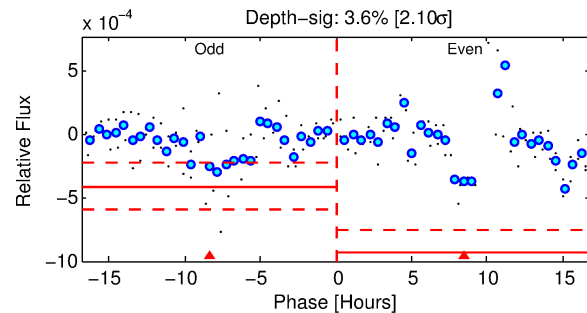
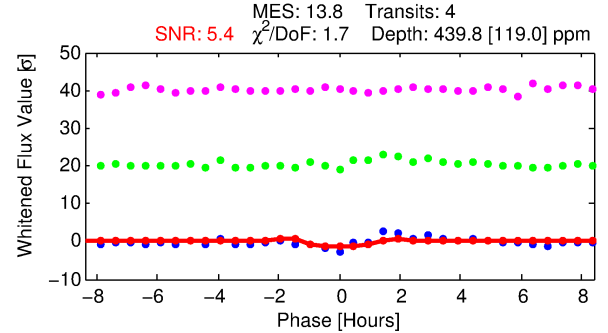
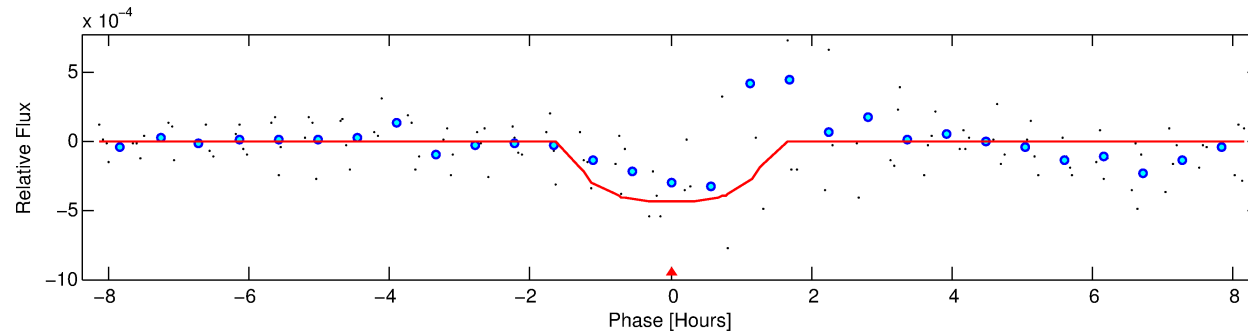
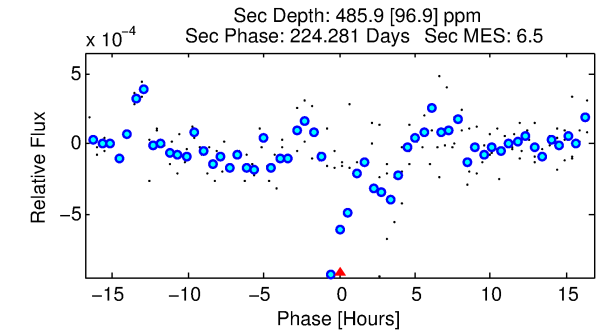
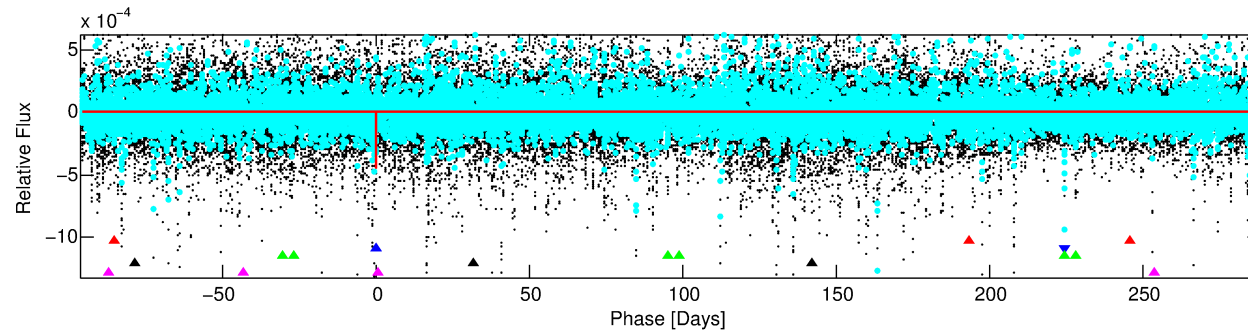
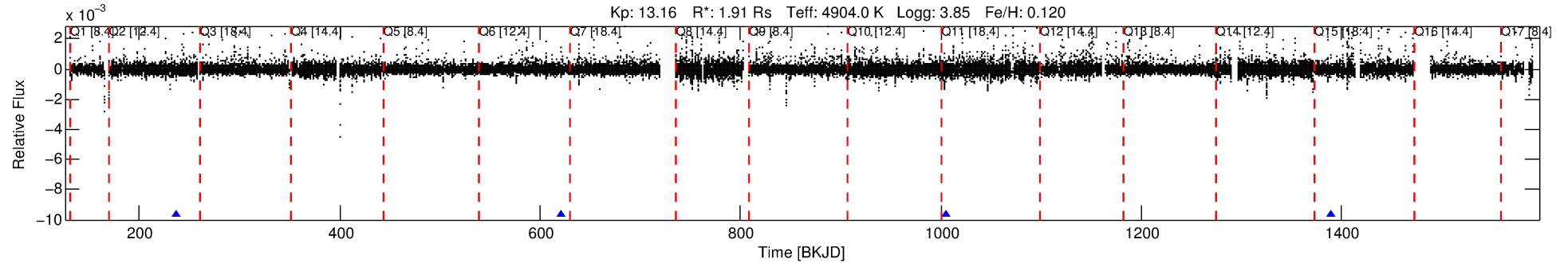
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007017392-02

No Significant Match Found

DV One-Page Summary

KIC: 7017392 Candidate: 2 of 5 Period: 383.929 d



DV Fit Results:

Period = 383.92855 [0.00447] d
Epoch = 237.4482 [0.0070] BKJD
Rp/R* = 0.0197 [0.0847]
a/R* = 889.04 [12402.64]
b = 0.57 [17.26]
Seff = 1.84 [2.26]
Teq = 297 [91] K
Rp = 4.10 [17.83] Re
a = 1.0117 [0.7221] AU
Ag = 16257.31 [141203.55] [0.12 σ]
Teffp = 5188 [11155] K [0.44 σ]

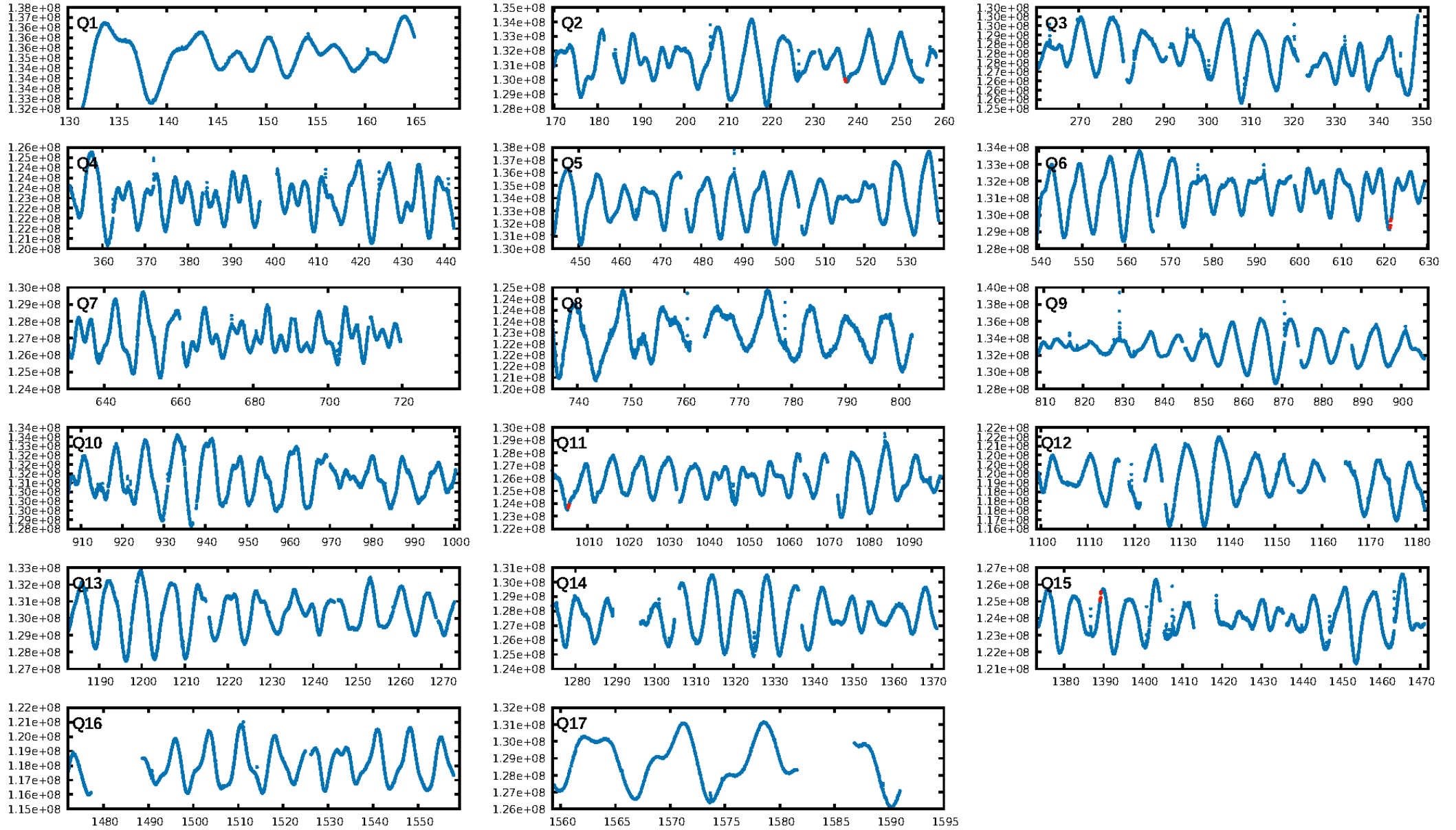
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [234.12 σ]
LongPeriod-sig: 100.0% [223.07 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 17.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.9085
Centroid-sig: 56.5%
Centroid-so: 0.491 arcsec [0.52 σ]
OotOffset-rm: 0.659 arcsec [0.86 σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-rm: 0.762 arcsec [1.02 σ]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

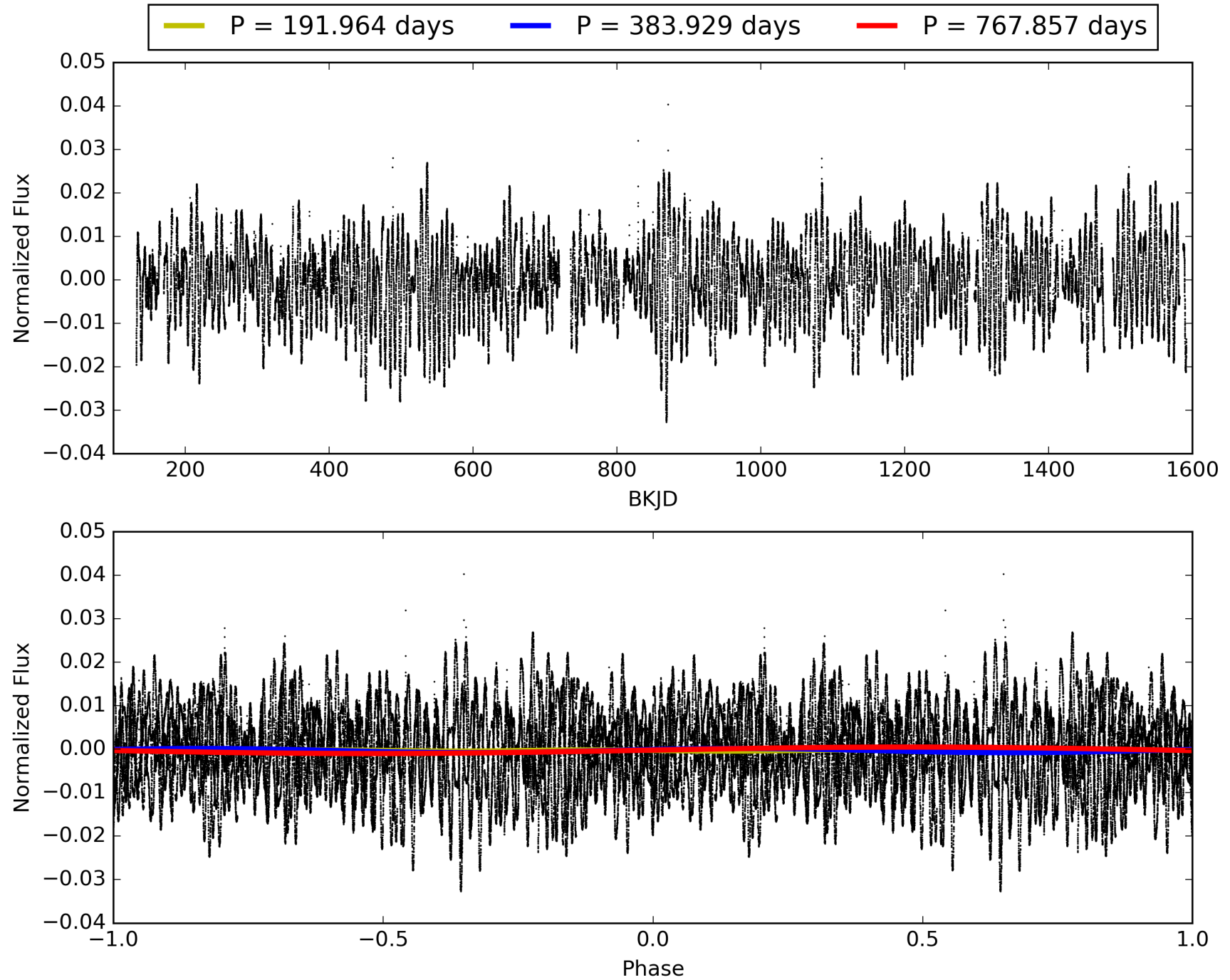
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:38:40 Z

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

TCE 007017392-02, PDC Light Curves

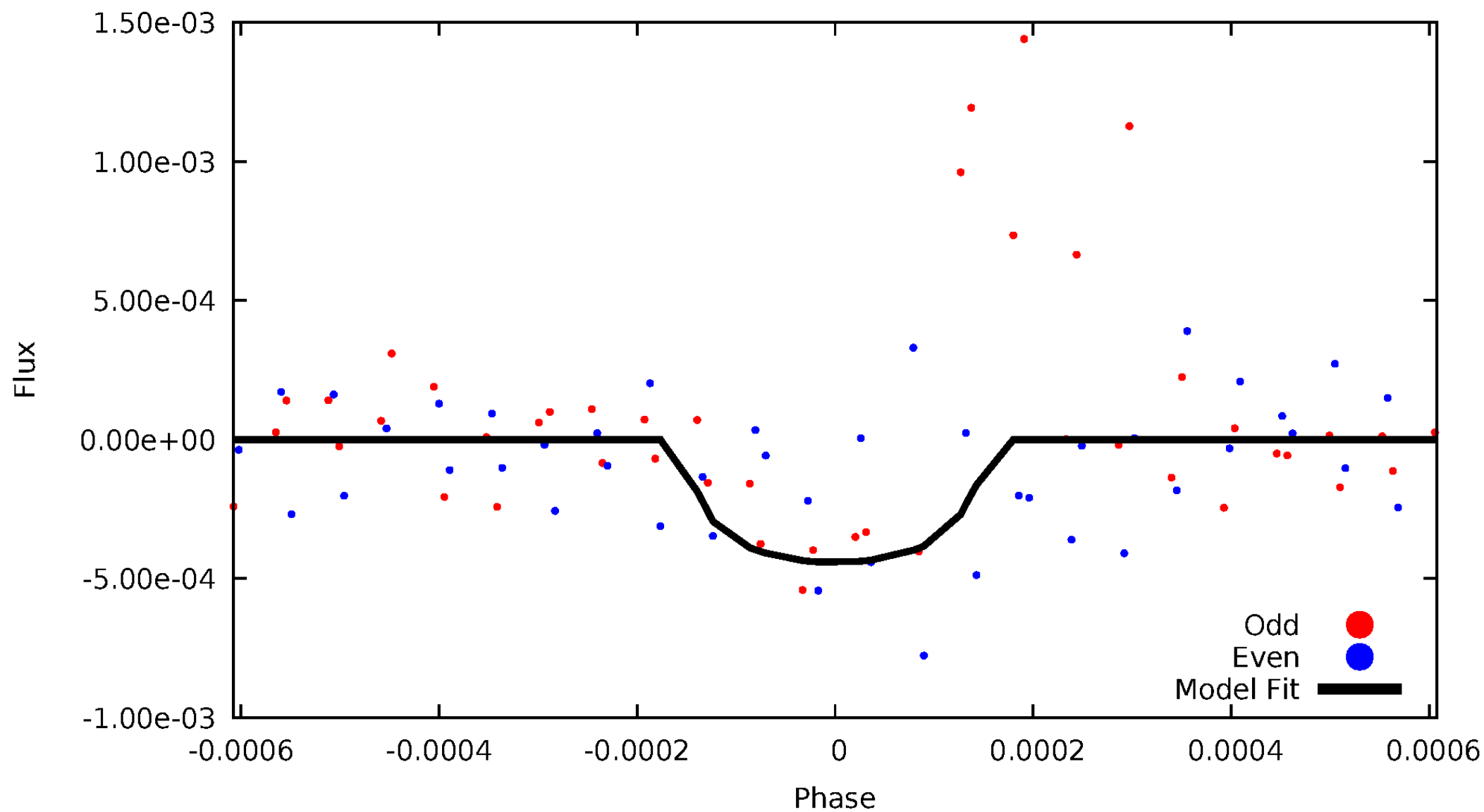


TCE 007017392-02



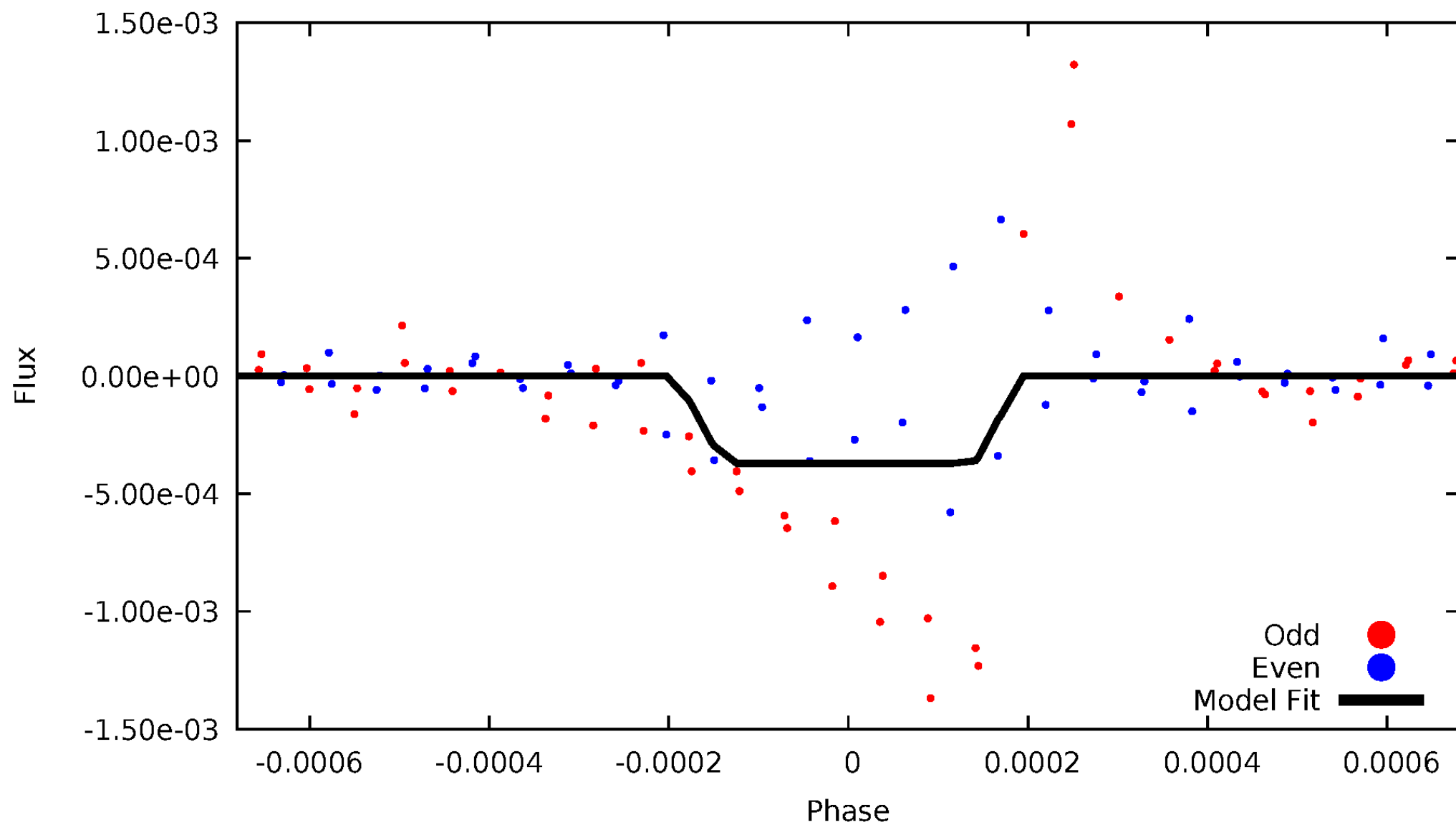
DV Odd/Even

TCE 007017392-02



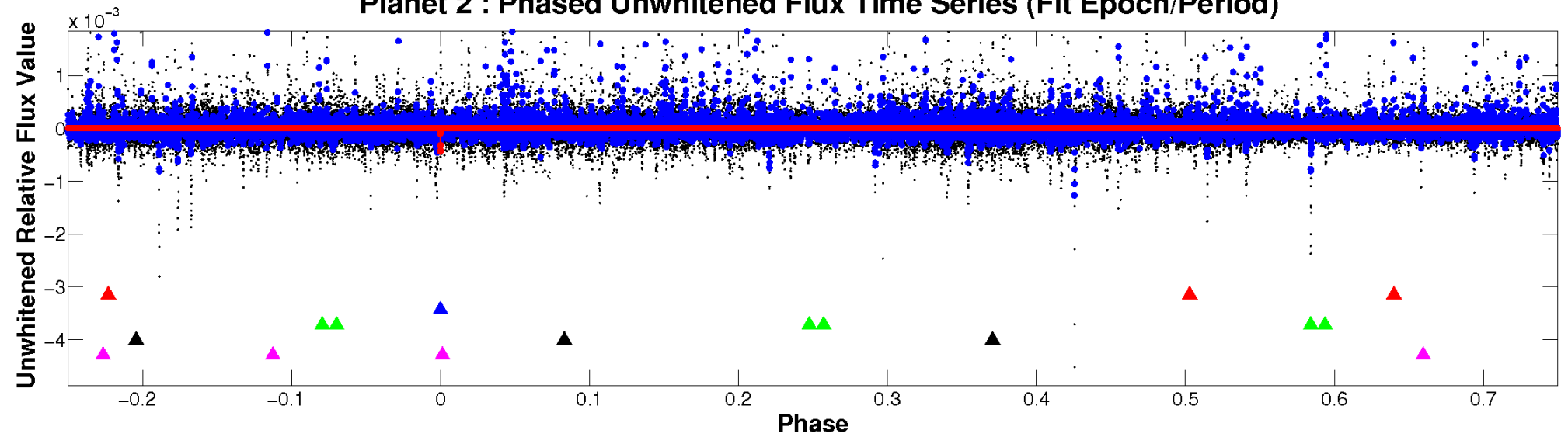
ALT Odd/Even

TCE 007017392-02

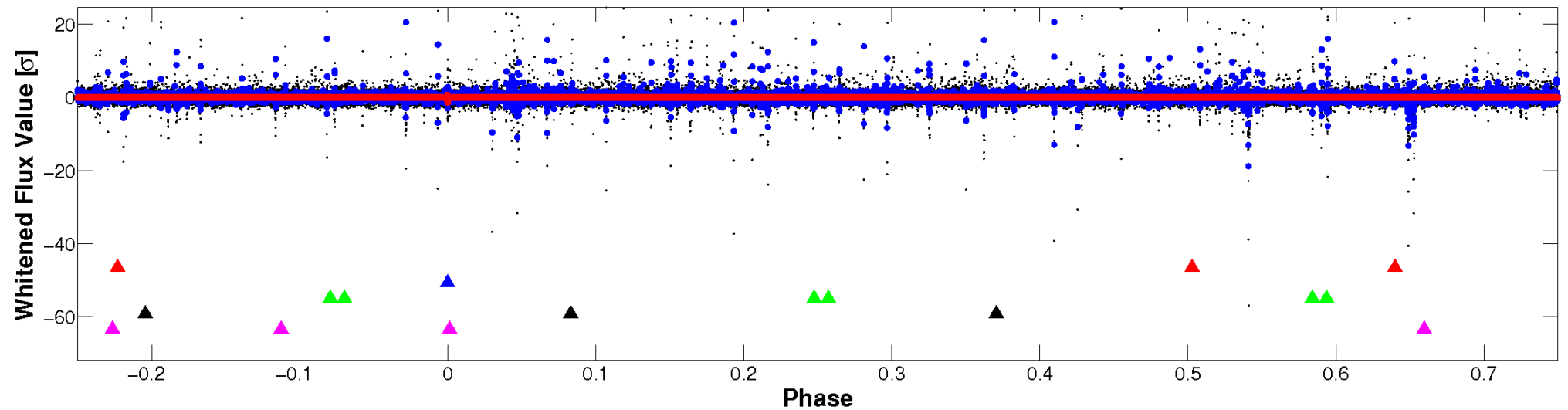


Non-Whitened Vs. Whitened Light Curve

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

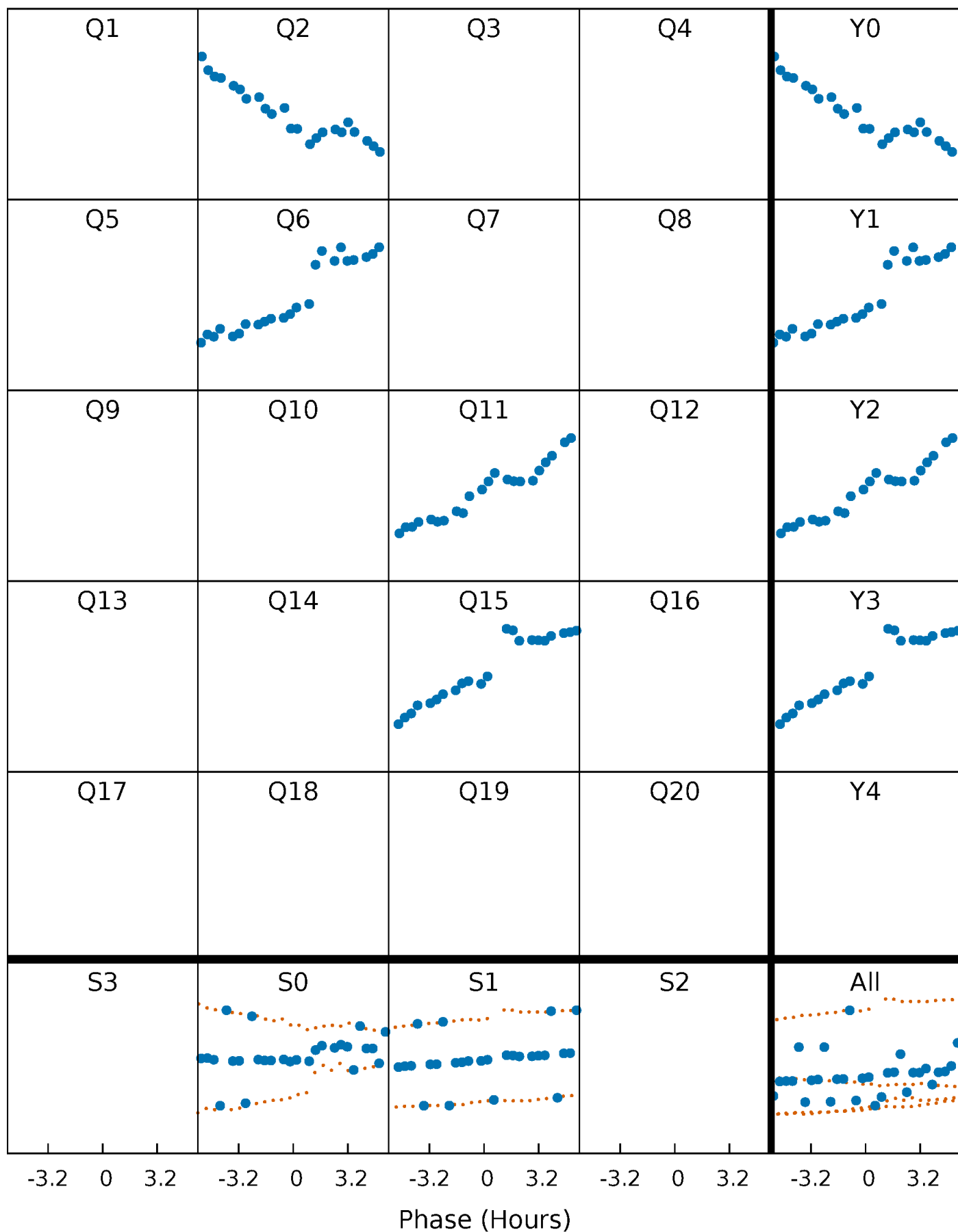


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



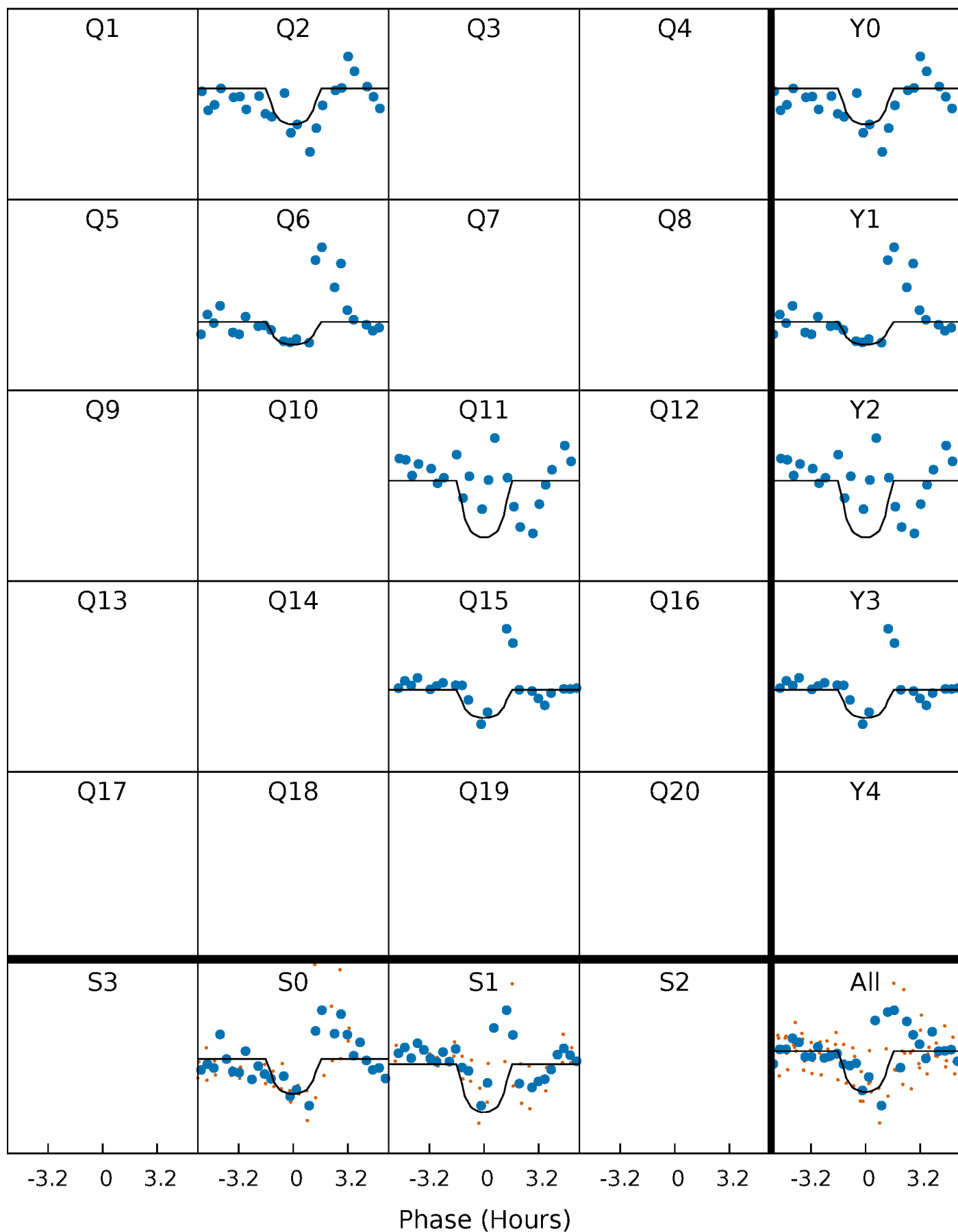
PDC Quarter-Phased Transit Curves

TCE 007017392-02 P=383.928551 Days $T_0=237.448171$ (BKJD)



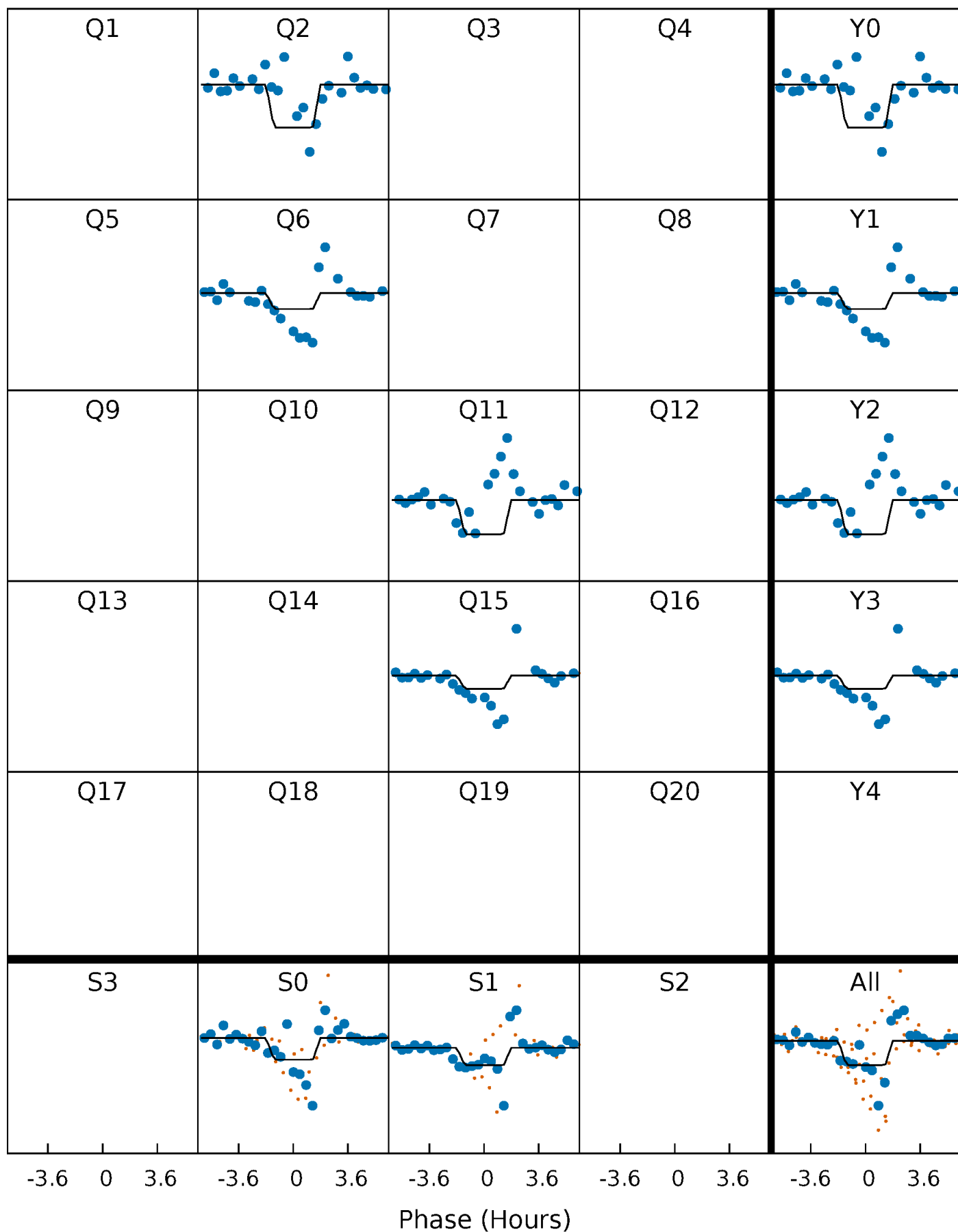
DV Quarter-Phased Transit Curves

TCE 007017392-02 P=383.928551 Days $T_0=237.448171$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

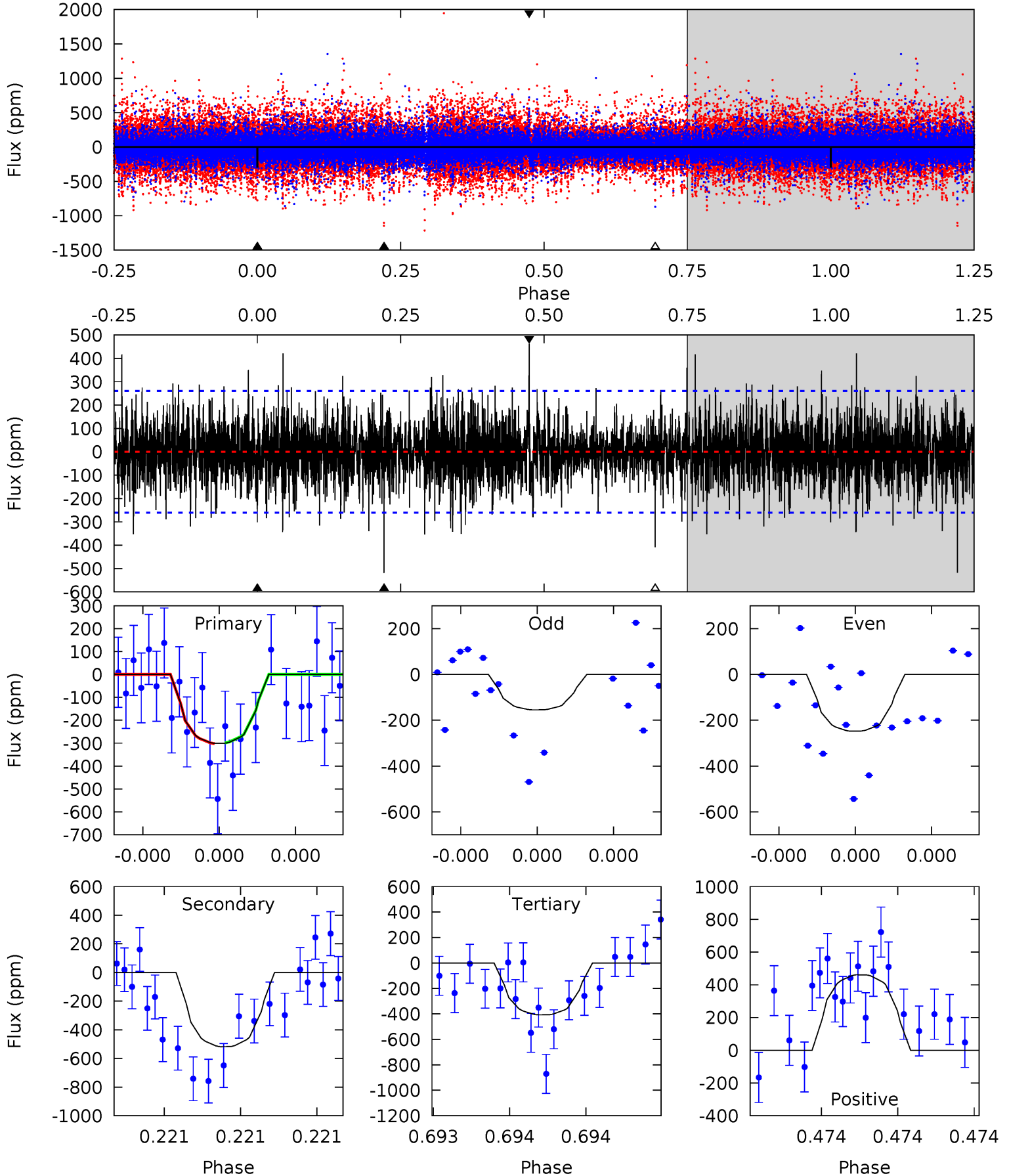
TCE 007017392-02 P=383.915691 Days $T_0=237.439003$ (BKJD)



DV Model-Shift Uniqueness Test

007017392-02, $P = 383.928551$ Days, $E = 237.448171$ Days

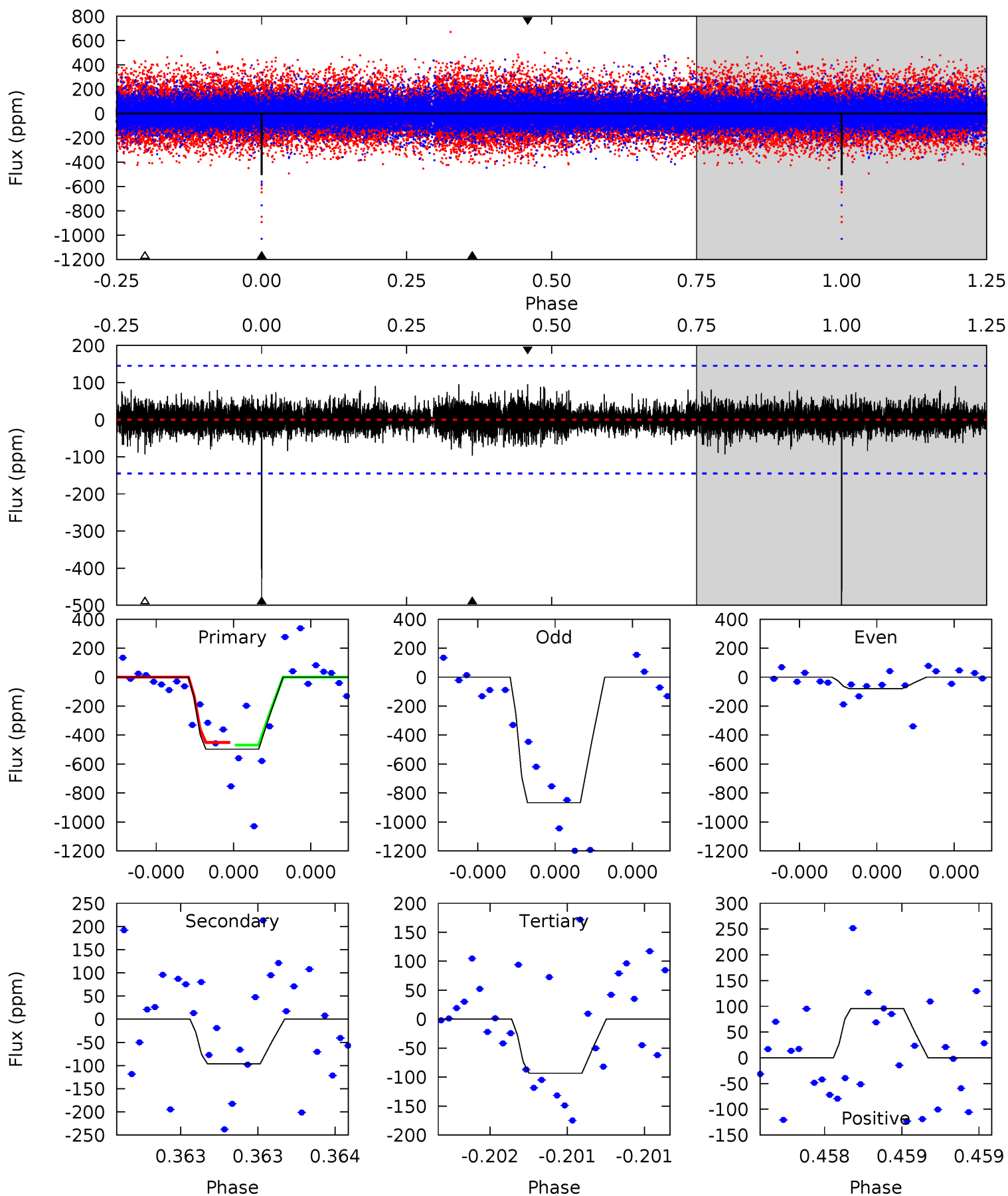
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.55	11.3	8.87	10.0	5.68	3.64	1.79	-2.32	-3.49	2.39	1.23	0.73	1.18	0.47	0.03



Alt Model-Shift Uniqueness Test

007017392-02, P = 383.915691 Days, E = 237.439003 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	3.73	3.62	3.71	5.64	3.58	0.79	15.7	15.6	0.11	0.03	16.2	0.89	0.16	0.35



Stellar Parameters For KIC 007017392

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4904^{+146}_{-132}	$3.848^{+0.742}_{-0.318}$	$0.120^{+0.250}_{-0.250}$	$1.909^{+1.008}_{-1.232}$	$0.935^{+0.217}_{-0.178}$	$0.189^{+2.731}_{-0.138}$
	+3%/-3%	+19%/-8%	+208%/-208%	+53%/-65%	+23%/-19%	+1443%/-73%
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 007017392-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-518 ± 46	$12.45^{+15.71}_{-8.33}$	415^{+54}_{-76}	3383^{+1647}_{-643}	1938^{+15688}_{-1579}
Alt.	-96 ± 26	$12.73^{+13.98}_{-9.17}$	410^{+64}_{-76}	2661^{+1061}_{-409}	339^{+4062}_{-266}

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 $A_{obs} \gg 1.0$

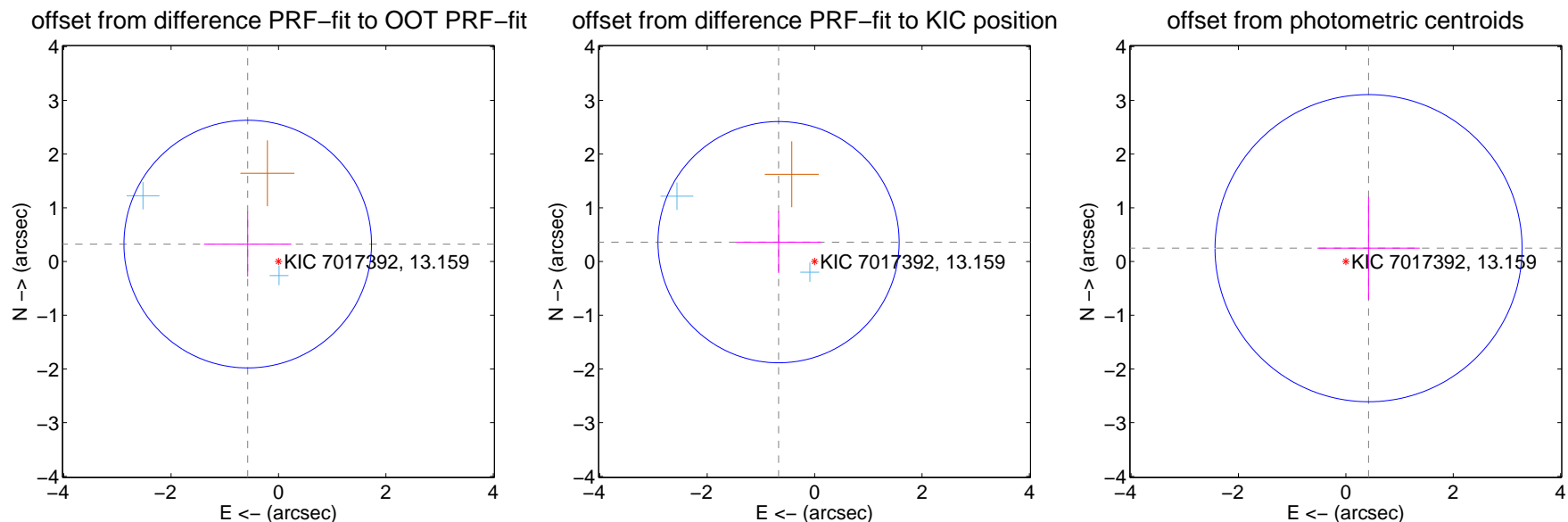
DV Centroid Data

Supplemental centroid analysis for 007017392-02. Kepler magnitude: 13.16. Transit SNR 5.36

There are 2 quarters with good PRF difference image offsets

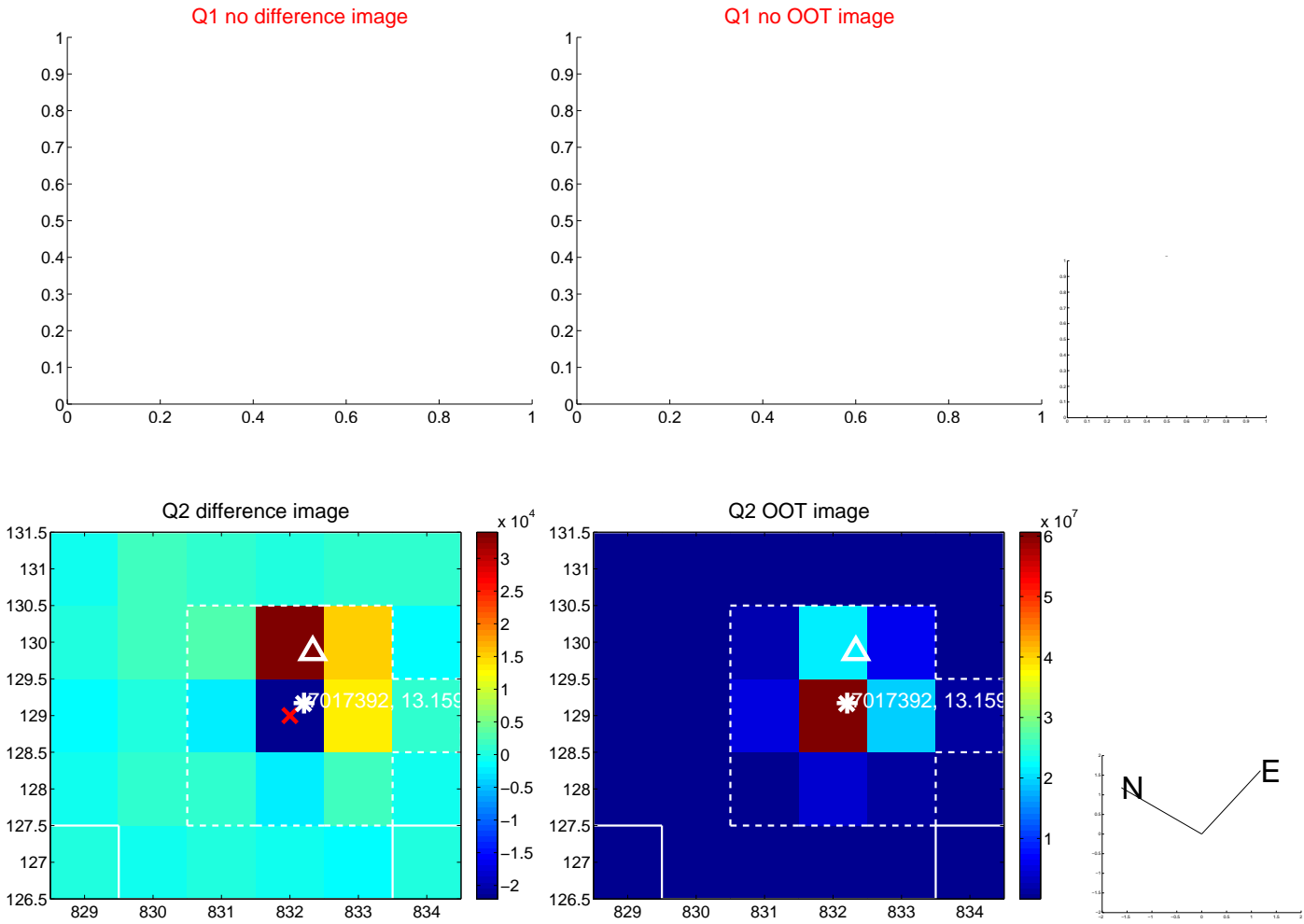
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.659 ± 0.769	0.86	0.573 ± 0.815	0.325 ± 0.603
PRF-fit source offset from KIC position	0.762 ± 0.749	1.02	0.671 ± 0.792	0.361 ± 0.576
photometric centroid source offset	0.49 ± 0.95	0.52	-0.42 ± 0.95	0.25 ± 0.95

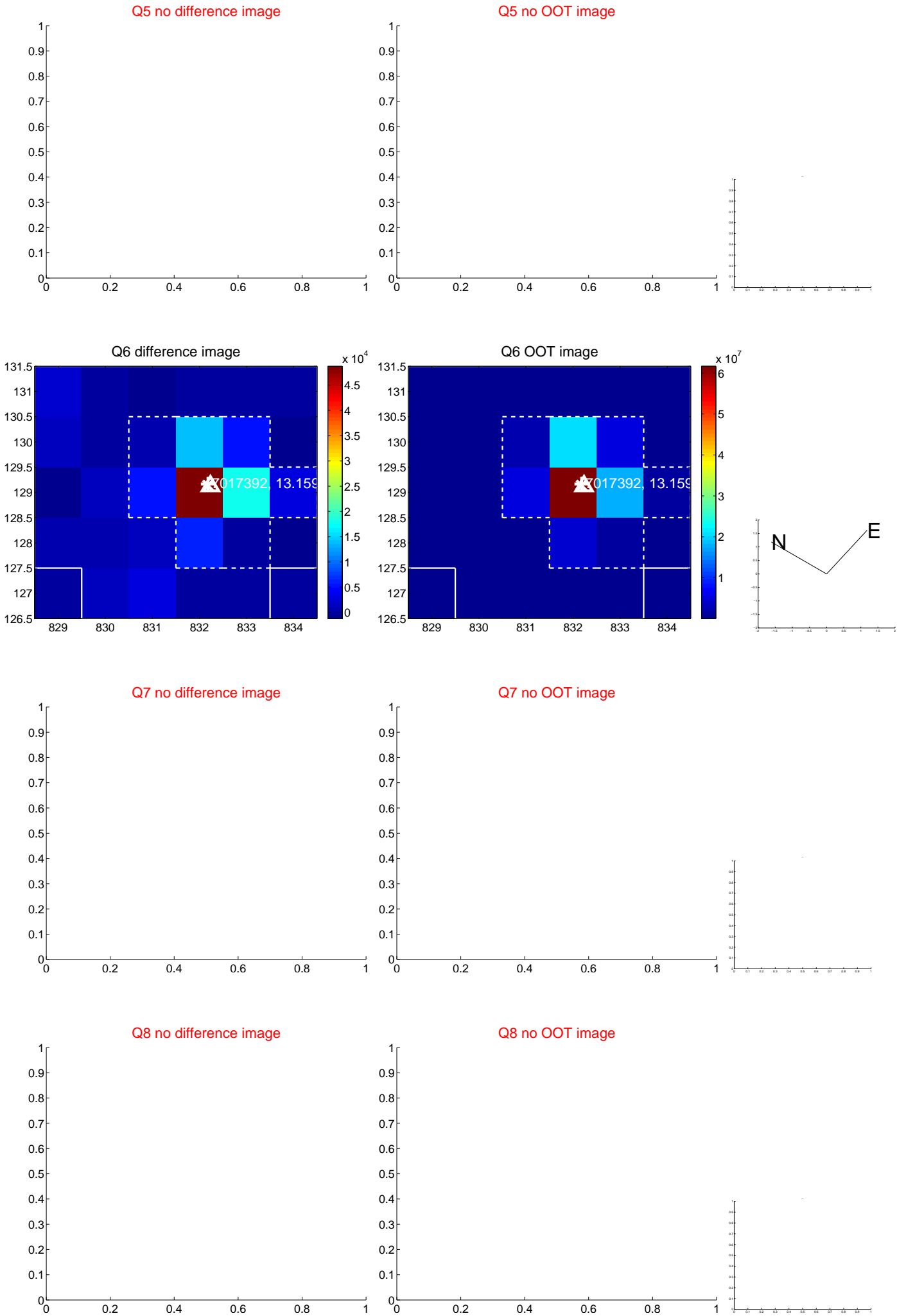


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

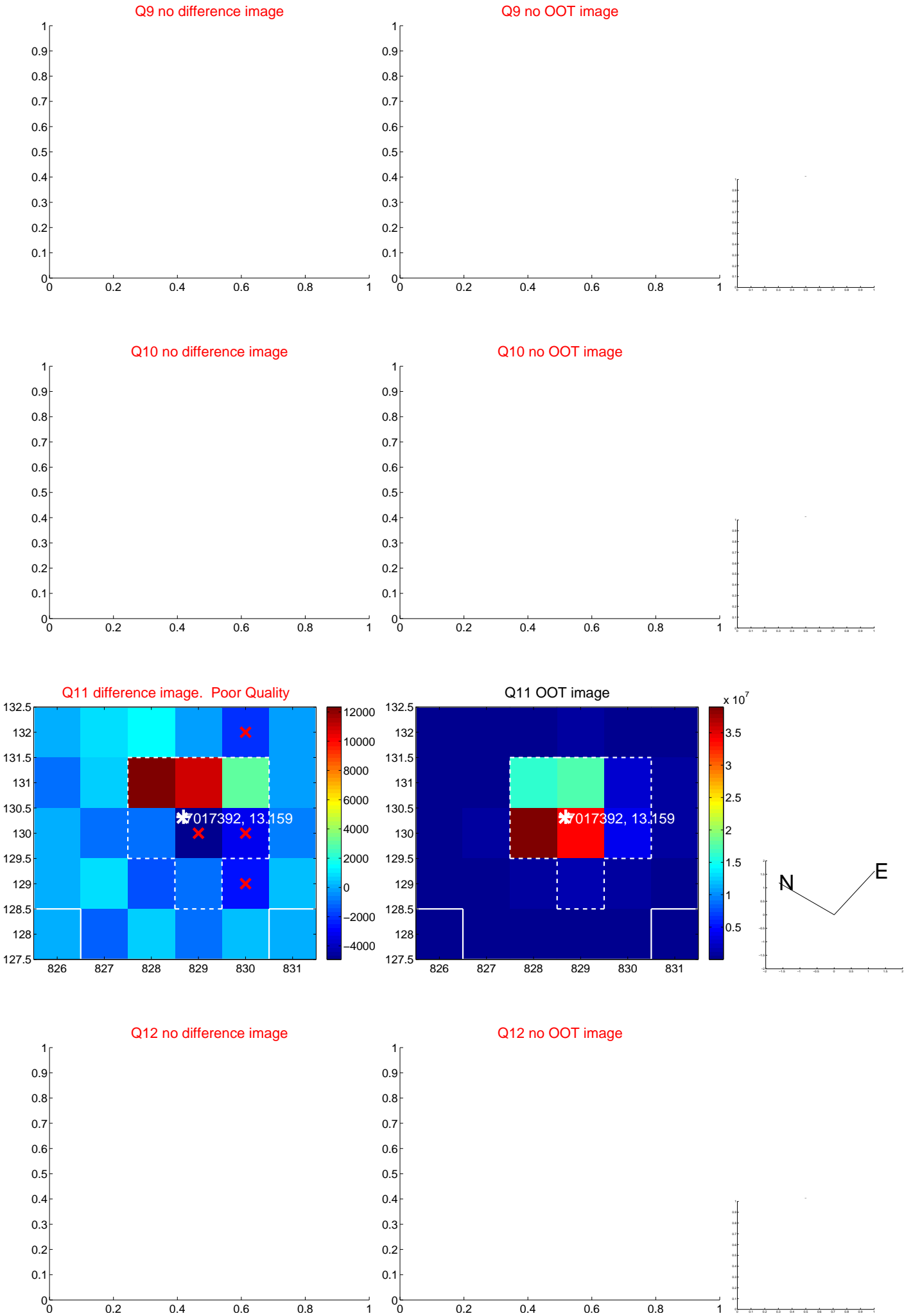
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



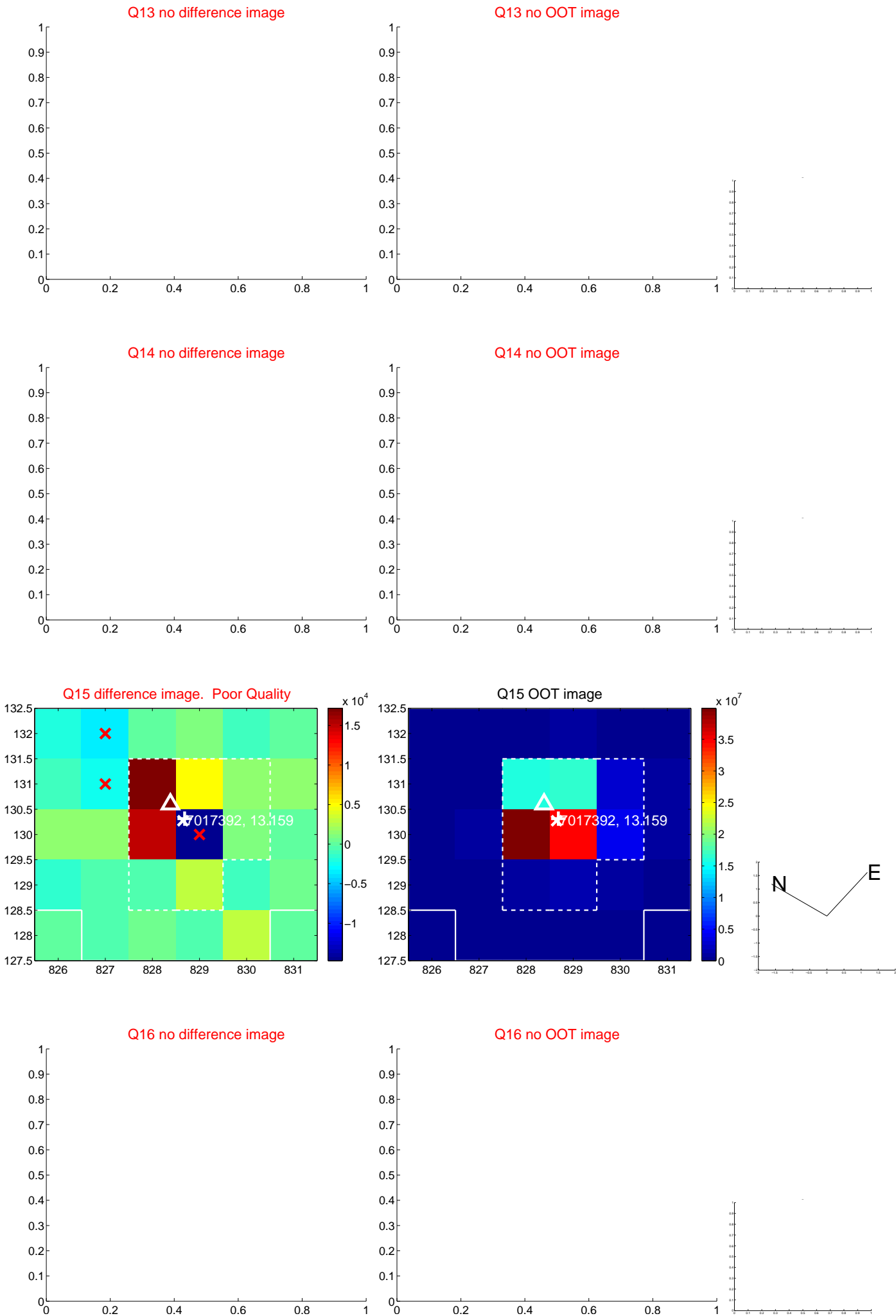
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



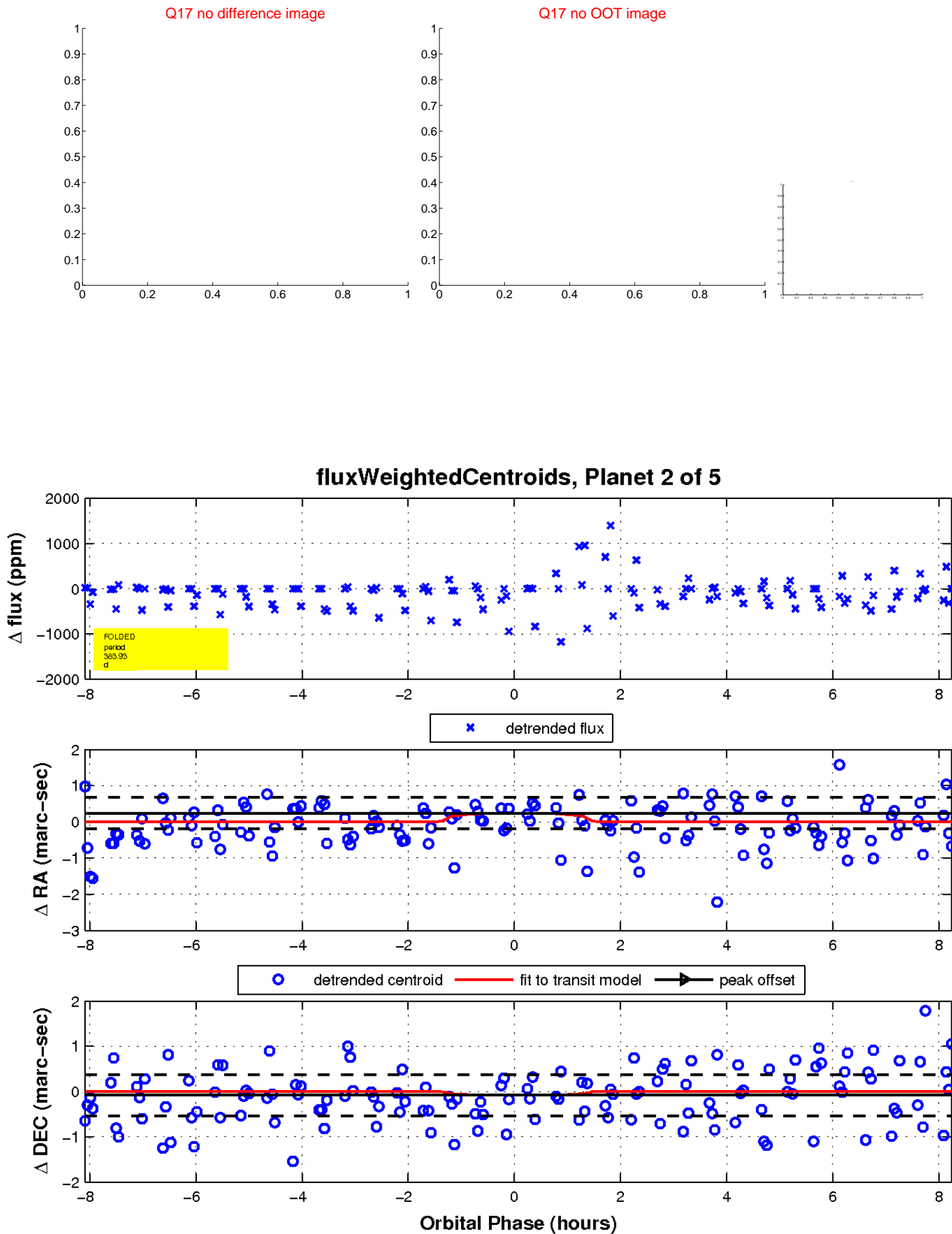
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

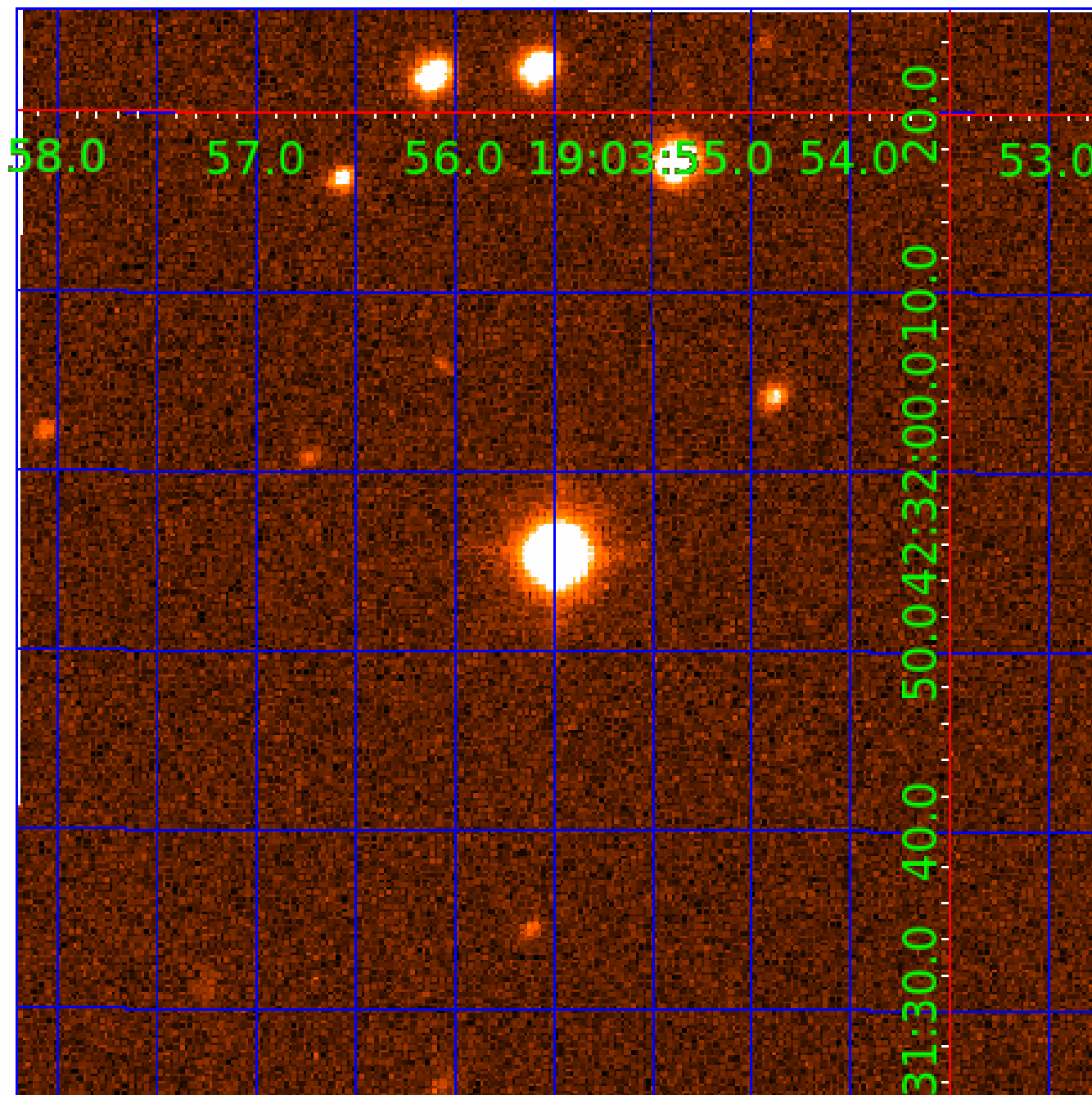


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007017392

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})
007017392-02	OBS	No	383.928551	237.448171	439.8	2.799	13.8	5.4	1.91	4904	4.10	1.84
007017392-03	OBS	No	254.720262	210.678205	426.1	3.476	12.1	7.1	1.91	4904	5.05	3.19
007017392-04	OBS	No	494.281530	159.016943	550.2	3.144	11.9	6.9	1.91	4904	5.08	1.32
007017392-05	OBS	No	340.209074	237.956219	444.8	3.500	11.5	-1.0	1.91	4904	3.89	2.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007017392-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007017392-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007017392-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007017392-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

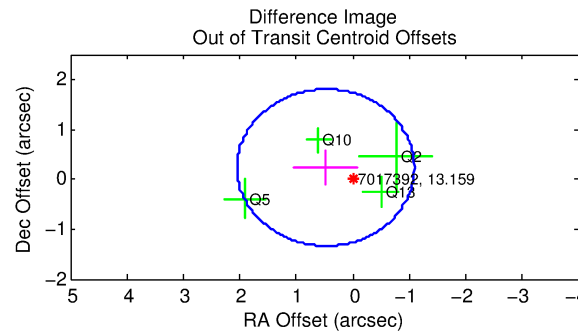
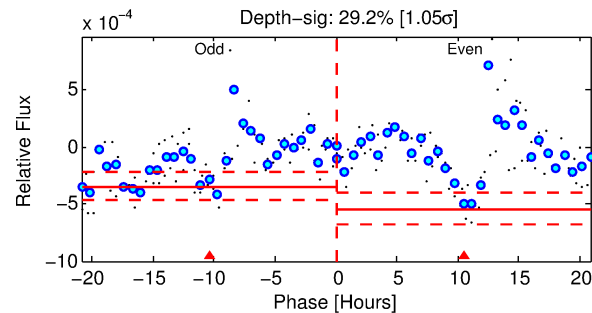
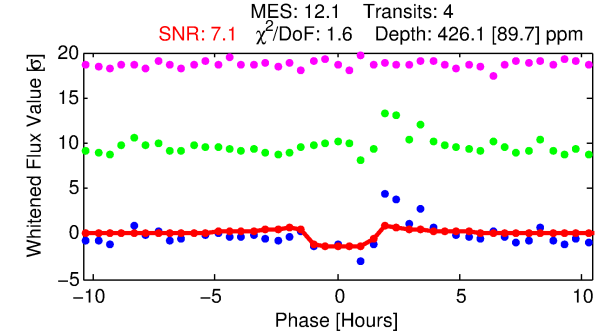
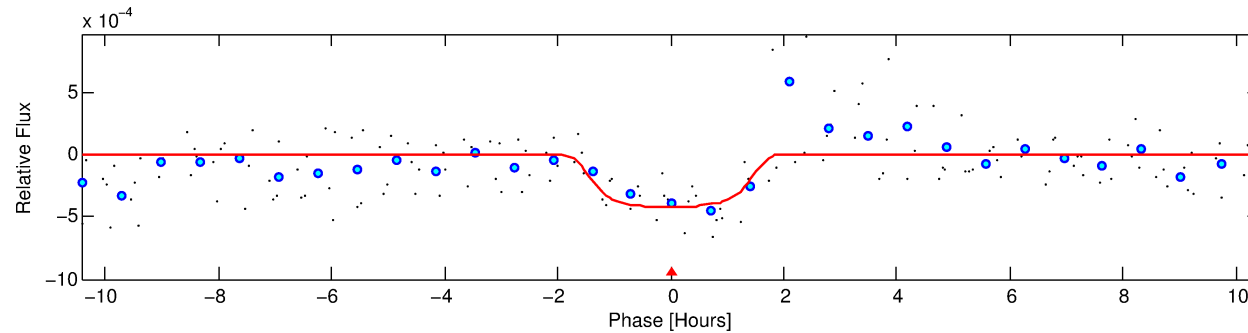
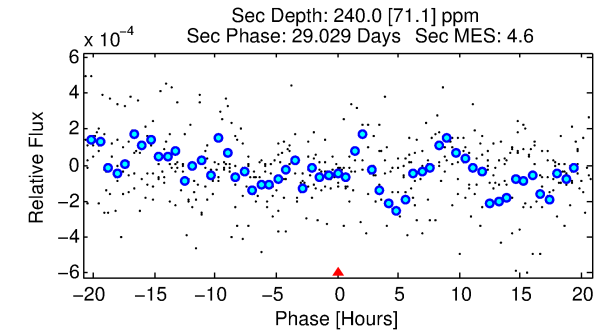
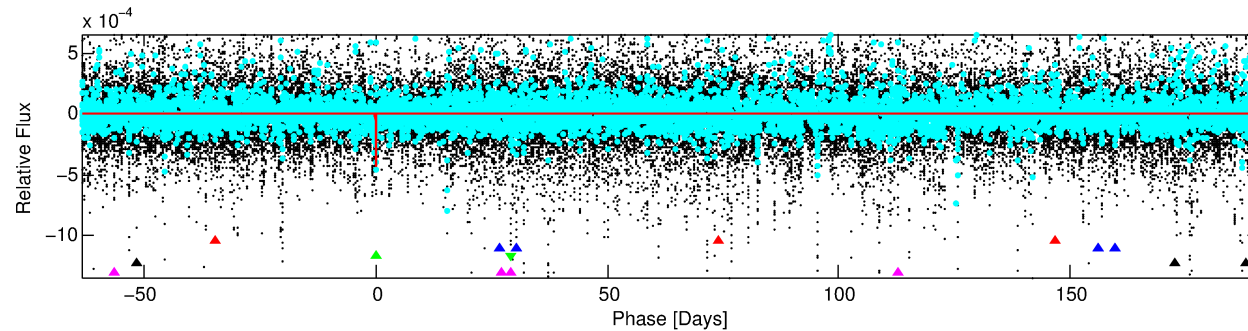
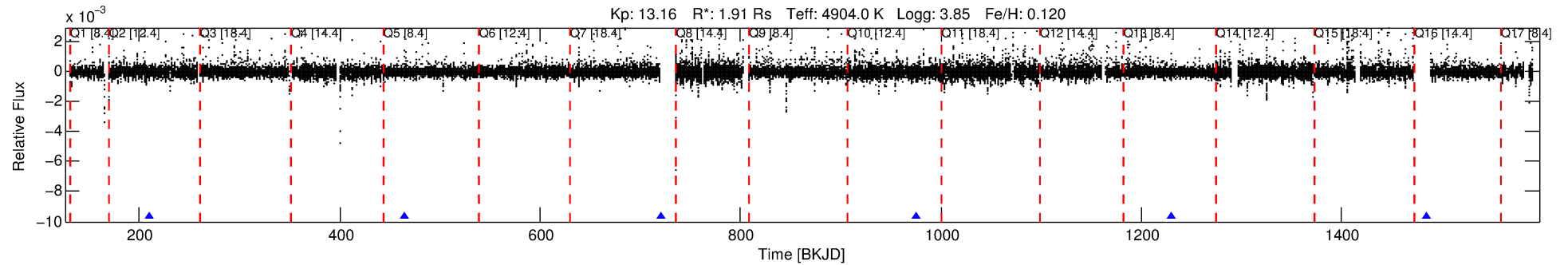
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007017392-03

No Significant Match Found

DV One-Page Summary

KIC: 7017392 Candidate: 3 of 5 Period: 254.720 d



DV Fit Results:

Period = 254.72026 [0.00334] d
Epoch = 210.6782 [0.0087] BKJD
Rp/R* = 0.0243 [0.0058]
a/R* = 236.82 [183.29]
b = 0.93 [0.11]
Seff = 3.19 [3.90]
Teq = 341 [104] K
Rp = 5.05 [3.48] Re
a = 0.7696 [0.5493] AU
Ag = 3063.62 [4109.98] [0.75 σ]
Teffp = 3919 [564] K [6.24 σ]

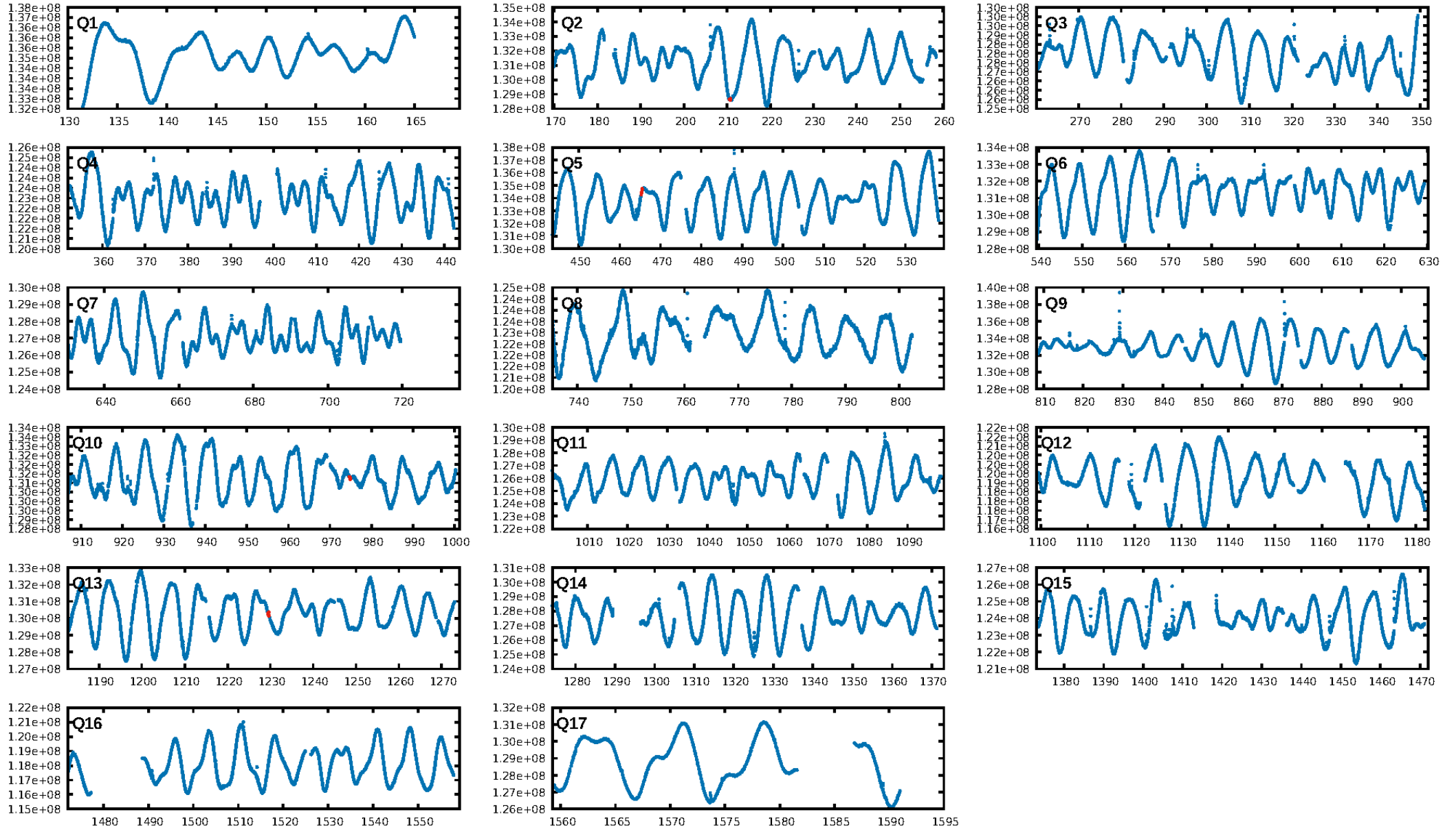
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [415.94 σ]
ModelChiSquare2-sig: 7.0%
ModelChiSquareGof-sig: 80.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.106
Centroid-sig: 68.1%
Centroid-so: 0.553 arcsec [0.58 σ]
OotOffset-rm: 0.534 arcsec [1.02 σ]
OotOffset-st: 2/0/0/2 [4]
KicOffset-rm: 0.672 arcsec [1.27 σ]
KicOffset-st: 2/0/0/2 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

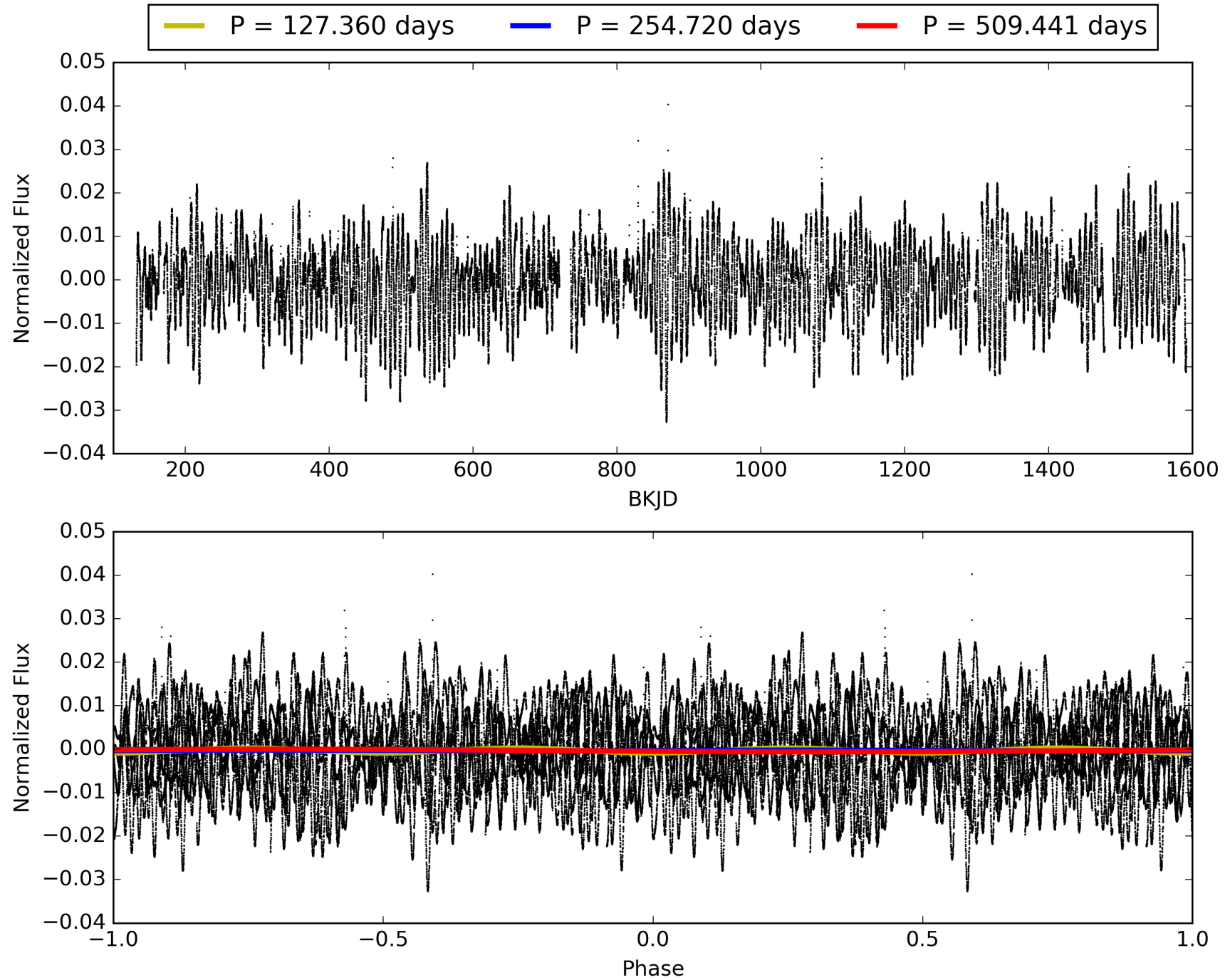
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:38:53 Z

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

TCE 007017392-03, PDC Light Curves

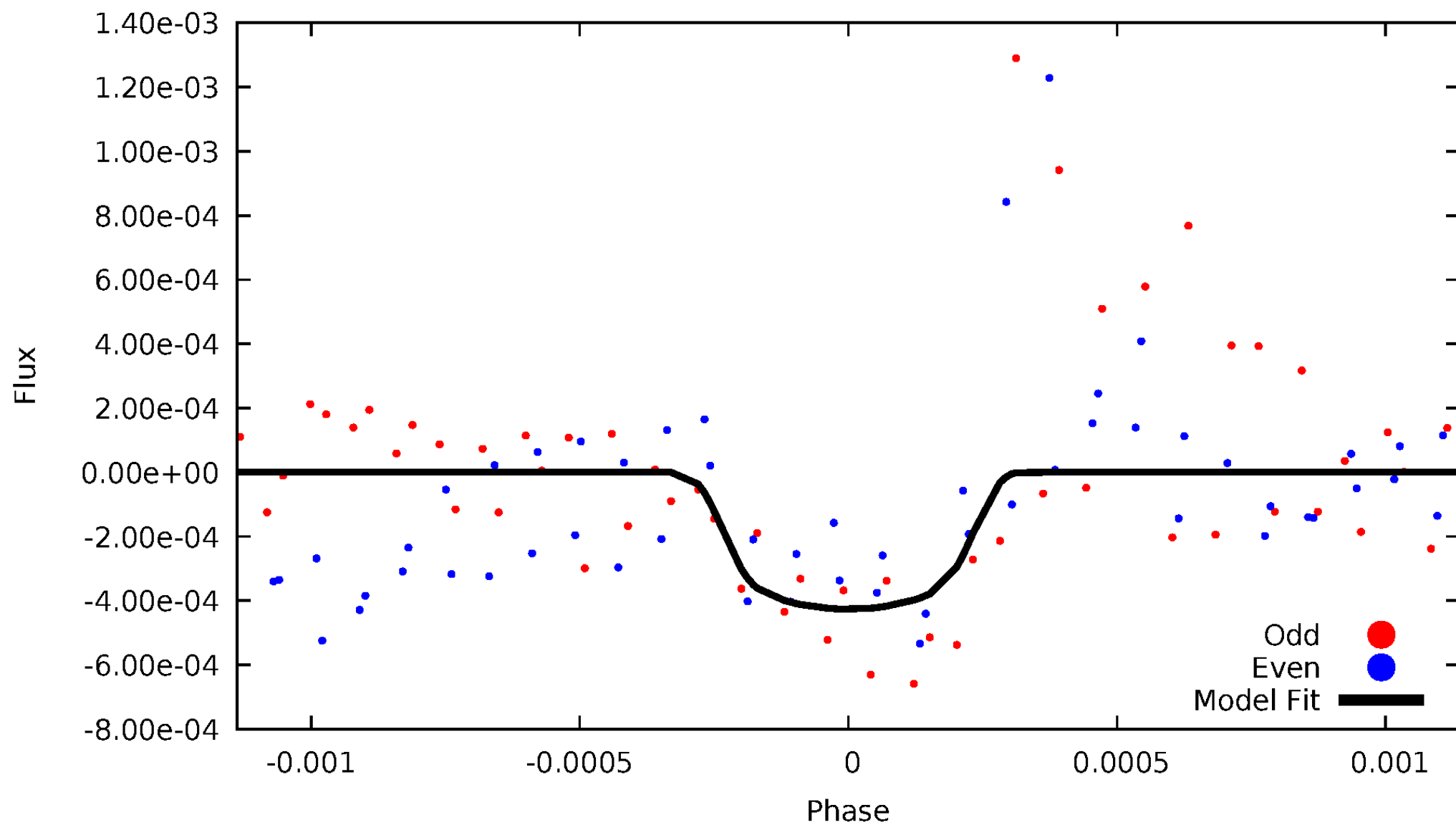


TCE 007017392-03



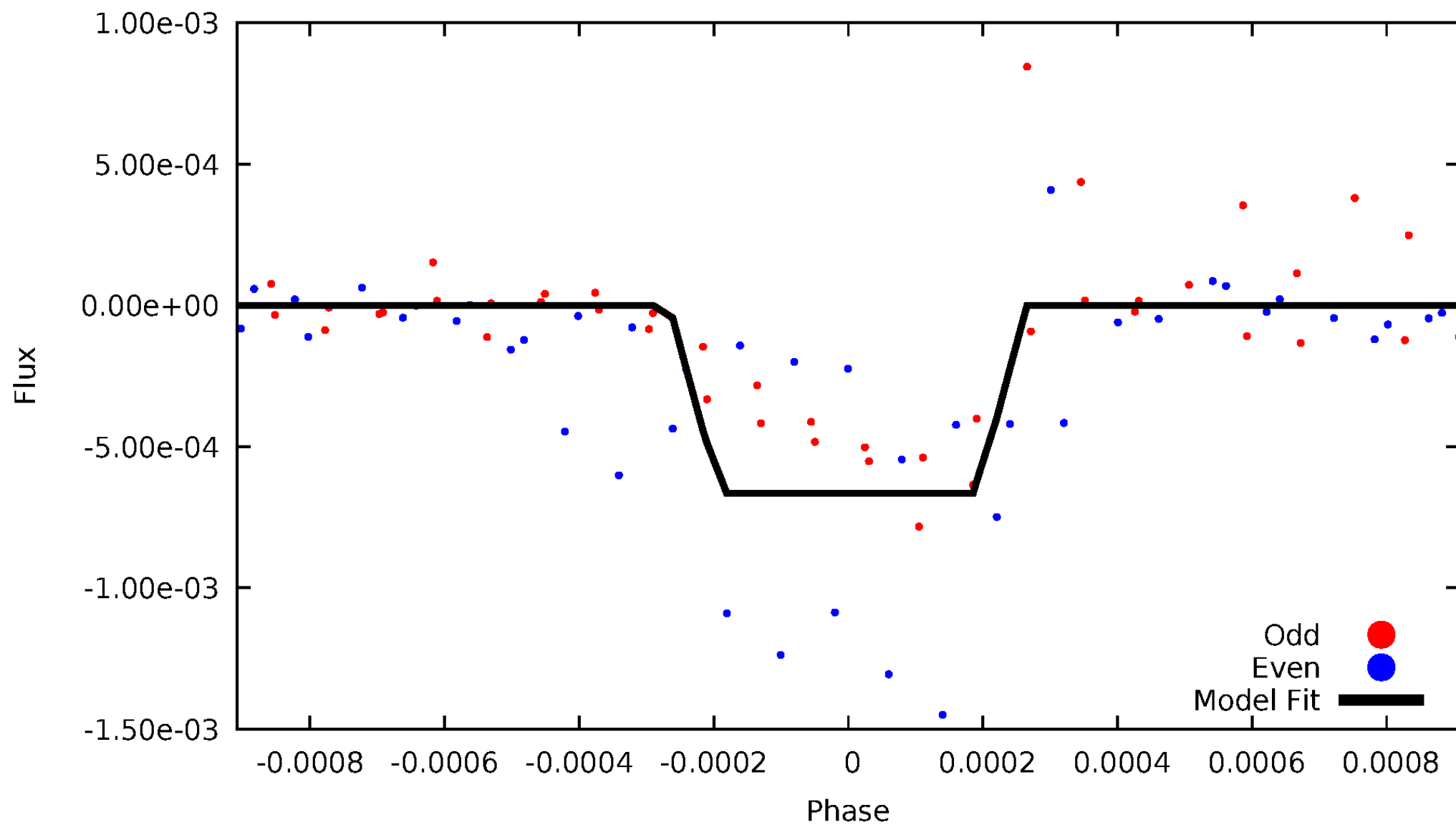
DV Odd/Even

TCE 007017392-03



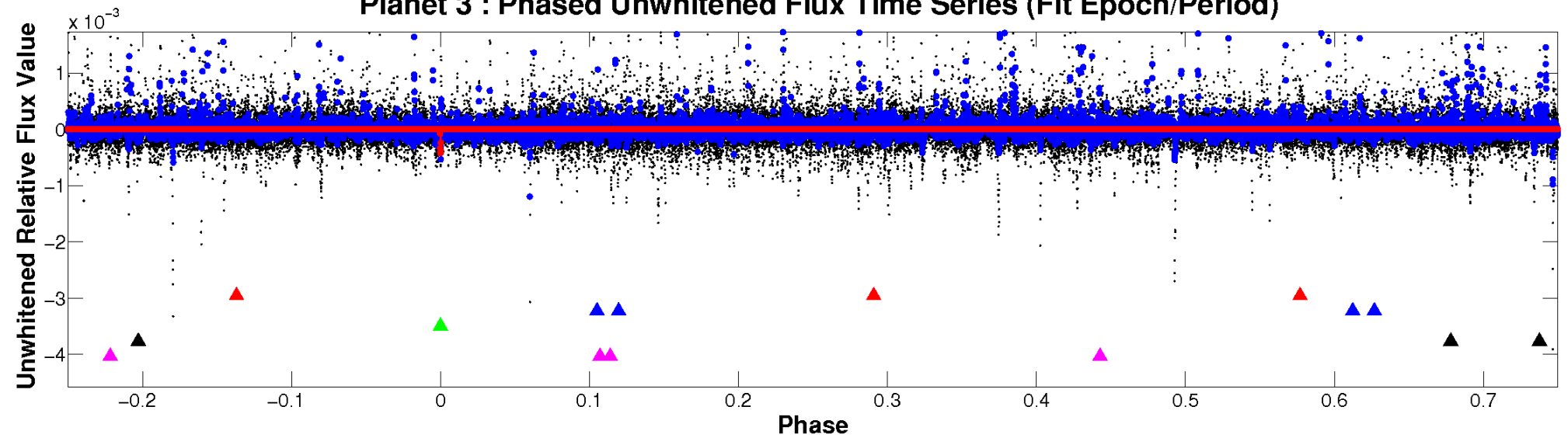
ALT Odd/Even

TCE 007017392-03

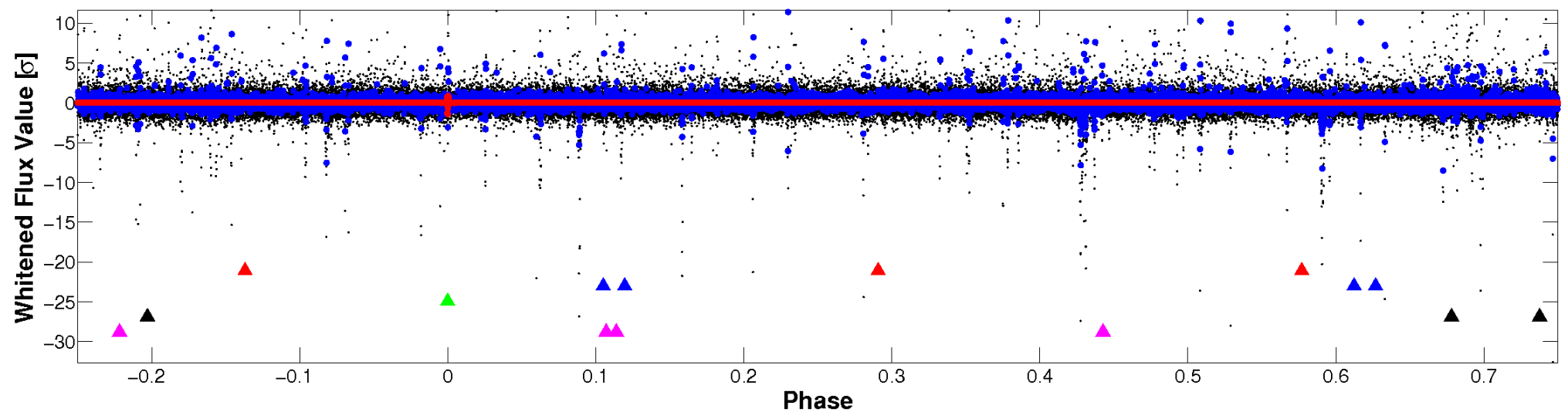


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

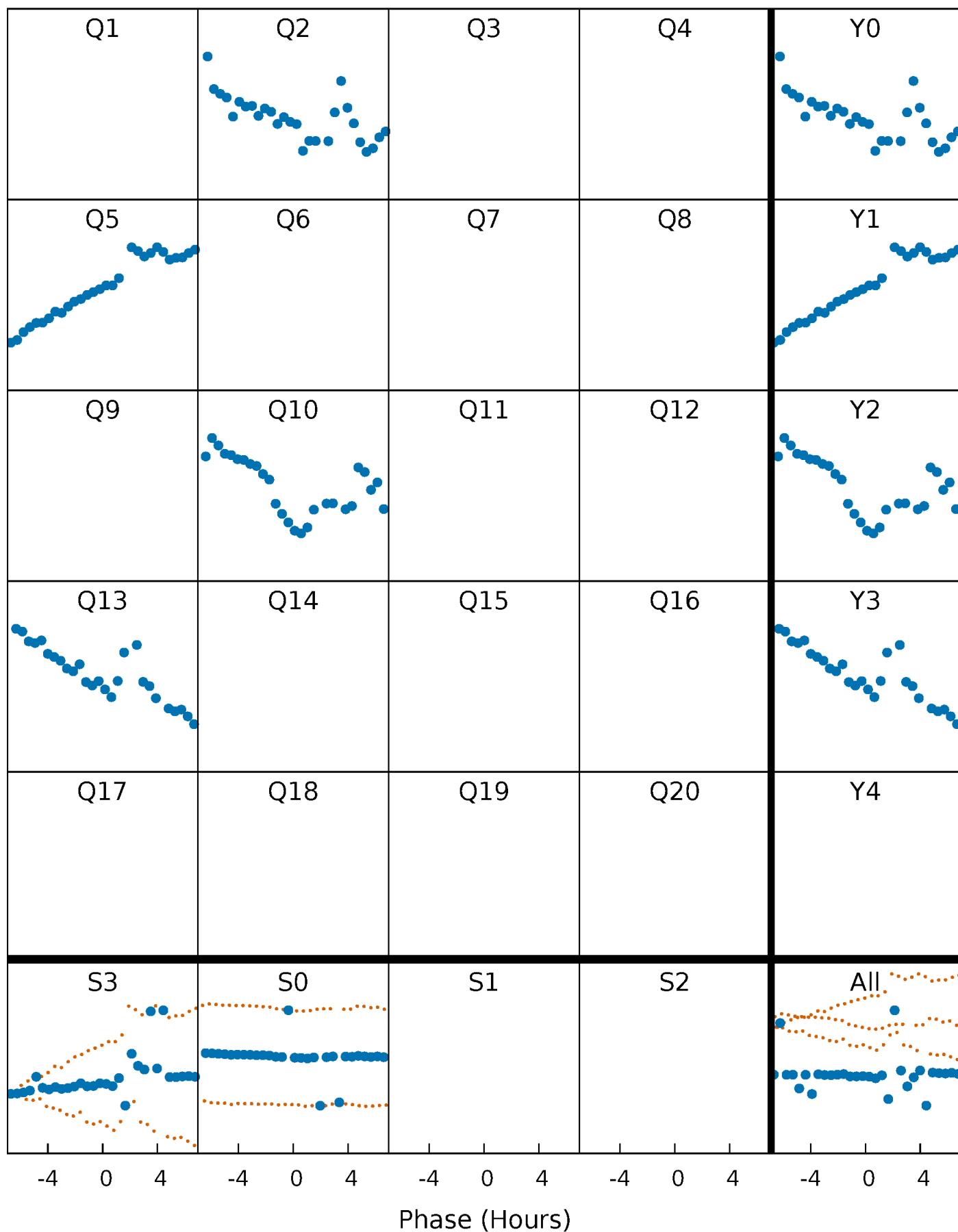


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



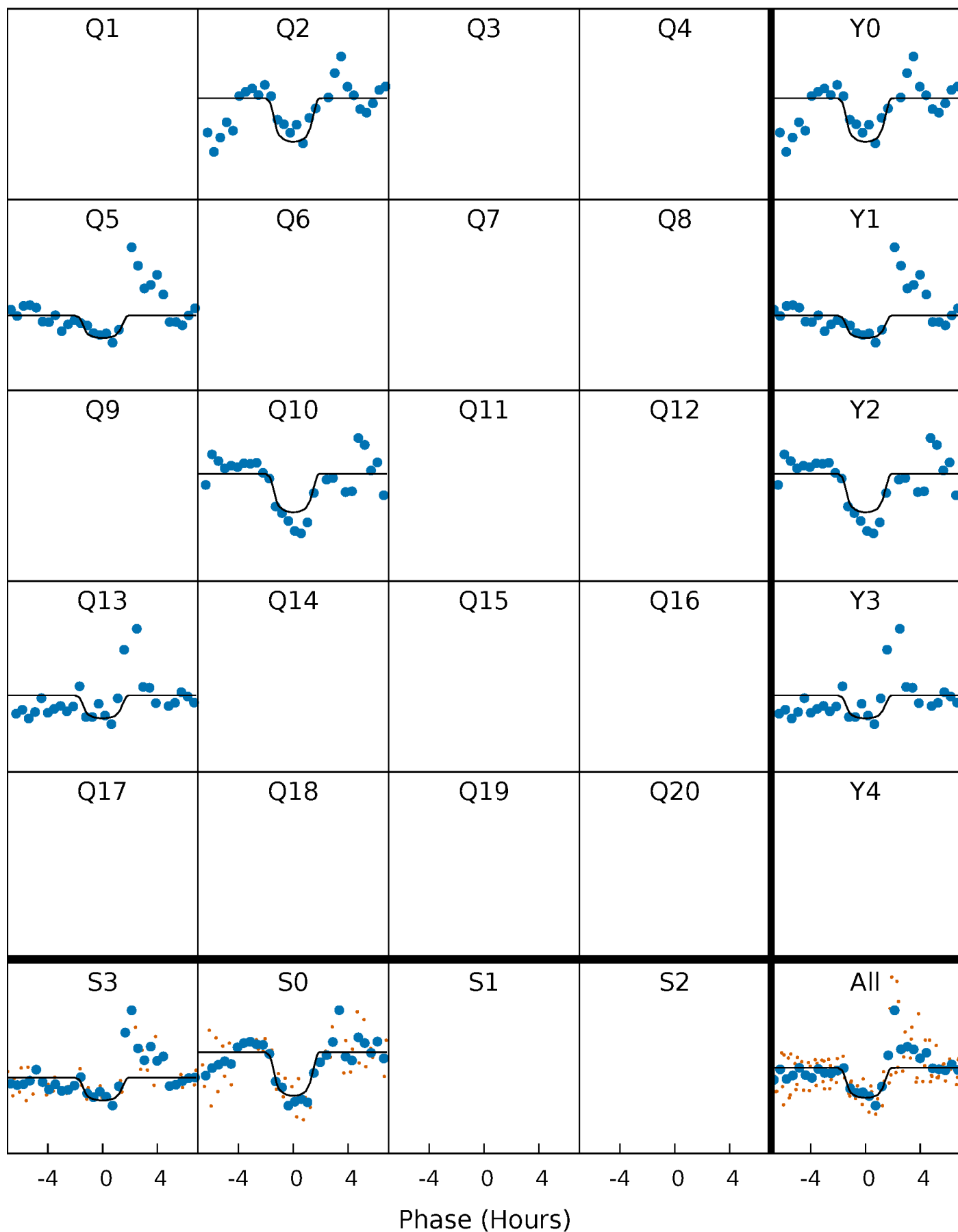
PDC Quarter-Phased Transit Curves

TCE 007017392-03 $P=254.720262$ Days $T_0=210.678205$ (BKJD)



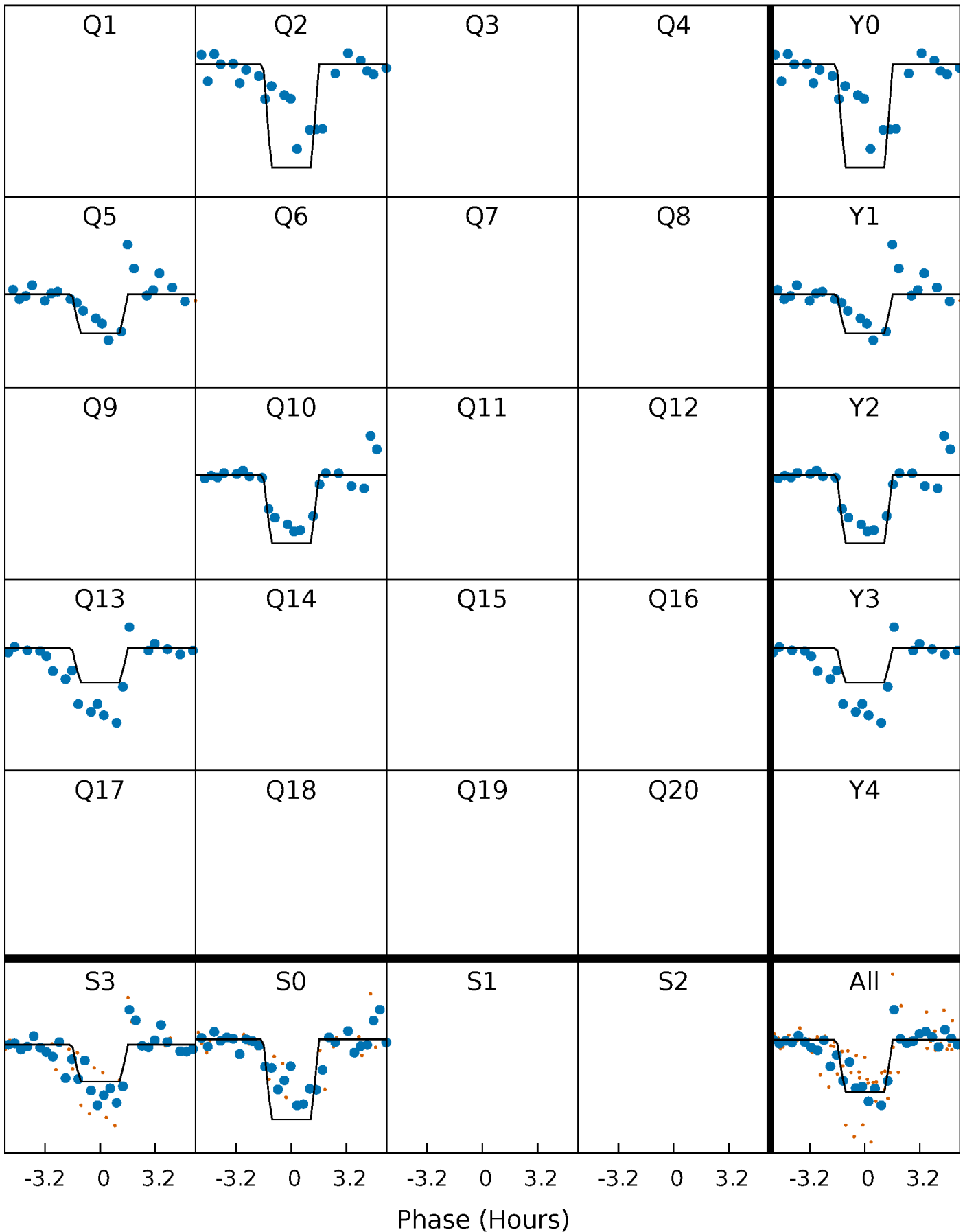
DV Quarter-Phased Transit Curves

TCE 007017392-03 P=254.720262 Days $T_0=210.678205$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

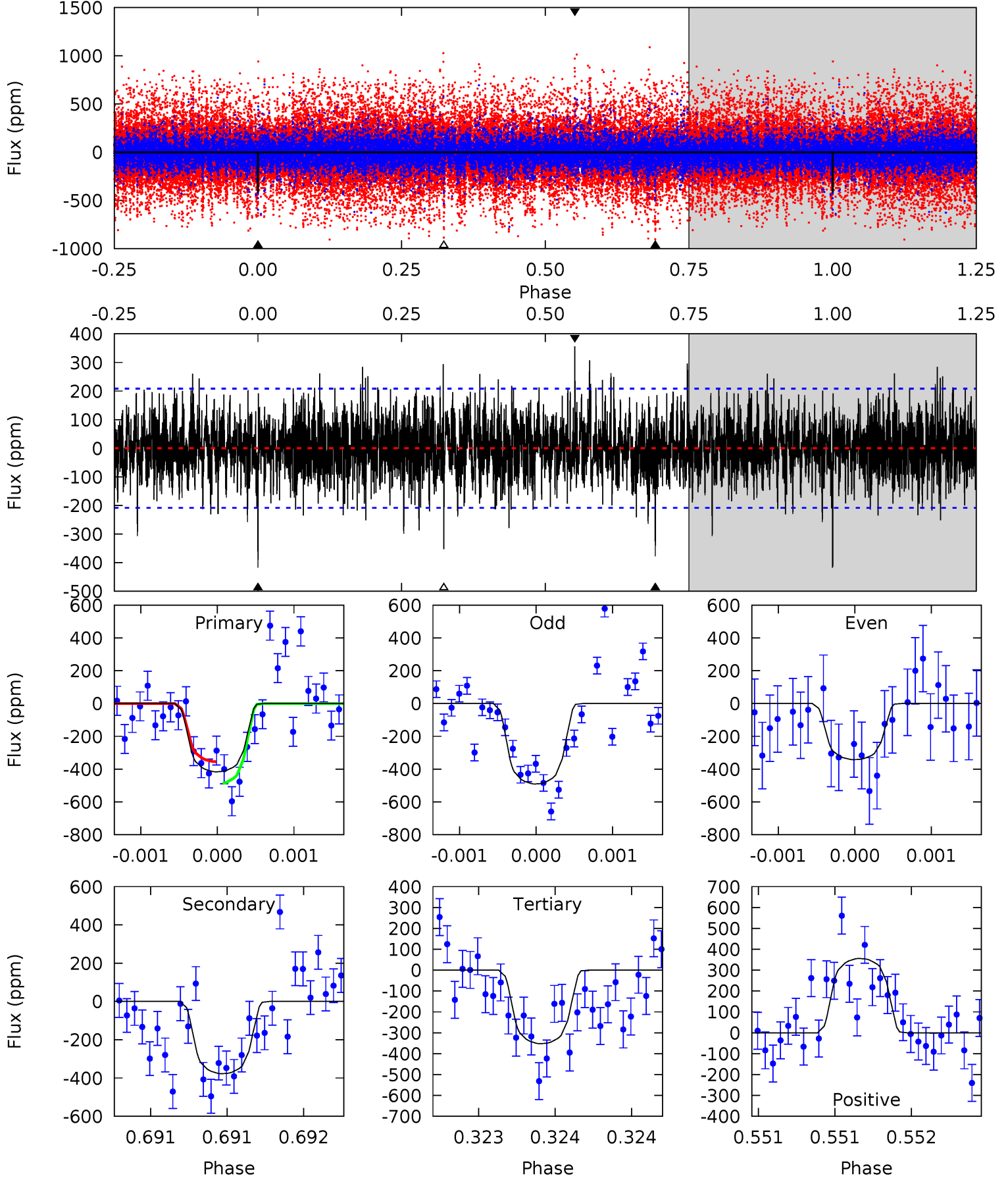
TCE 007017392-03 P=254.715721 Days $T_0=210.694615$ (BKJD)



DV Model-Shift Uniqueness Test

007017392-03, P = 254.720262 Days, E = 210.678205 Days

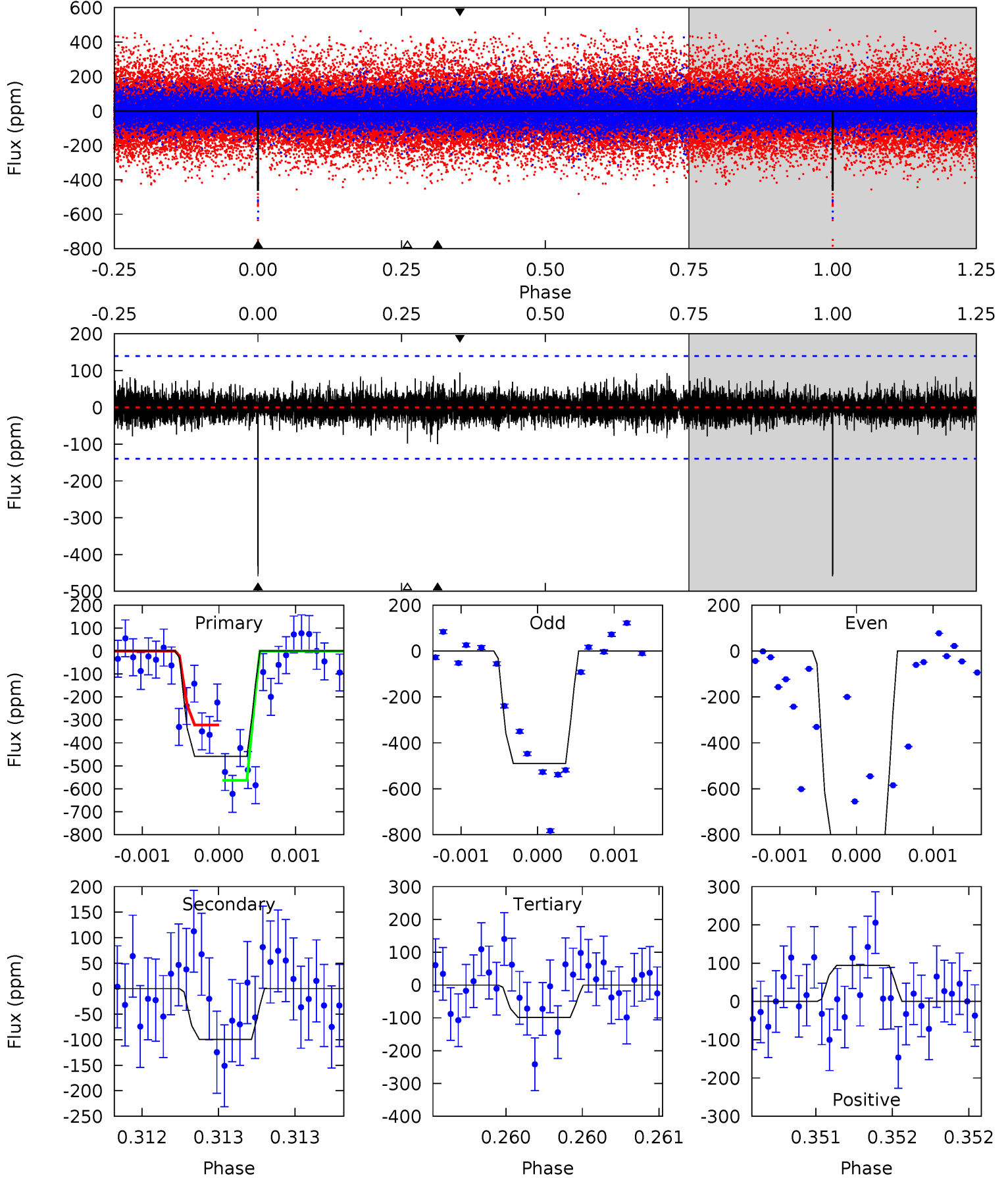
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	10.0	9.37	9.47	5.54	3.44	2.05	1.72	1.62	0.68	0.58	1.84	1.12	0.46	1.78



Alt Model-Shift Uniqueness Test

007017392-03, P = 254.715721 Days, E = 210.694615 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	3.95	3.92	3.78	5.57	3.48	0.84	14.4	14.5	0.03	0.18	7.33	1.30	0.17	4.71



Stellar Parameters For KIC 007017392

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4904^{+146}_{-132}	$3.848^{+0.742}_{-0.318}$	$0.120^{+0.250}_{-0.250}$	$1.909^{+1.008}_{-1.232}$	$0.935^{+0.217}_{-0.178}$	$0.189^{+2.731}_{-0.138}$
	+3%/-3%	+19%/-8%	+208%/-208%	+53%/-65%	+23%/-19%	+1443%/-73%
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 007017392-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-378 ± 38	$4.78^{+2.20}_{-1.97}$	471^{+73}_{-89}	4497^{+537}_{-367}	5444^{+9311}_{-2884}
Alt.	-99 ± 25	$5.10^{+2.15}_{-1.84}$	471^{+70}_{-81}	3494^{+354}_{-265}	1260^{+2044}_{-700}

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

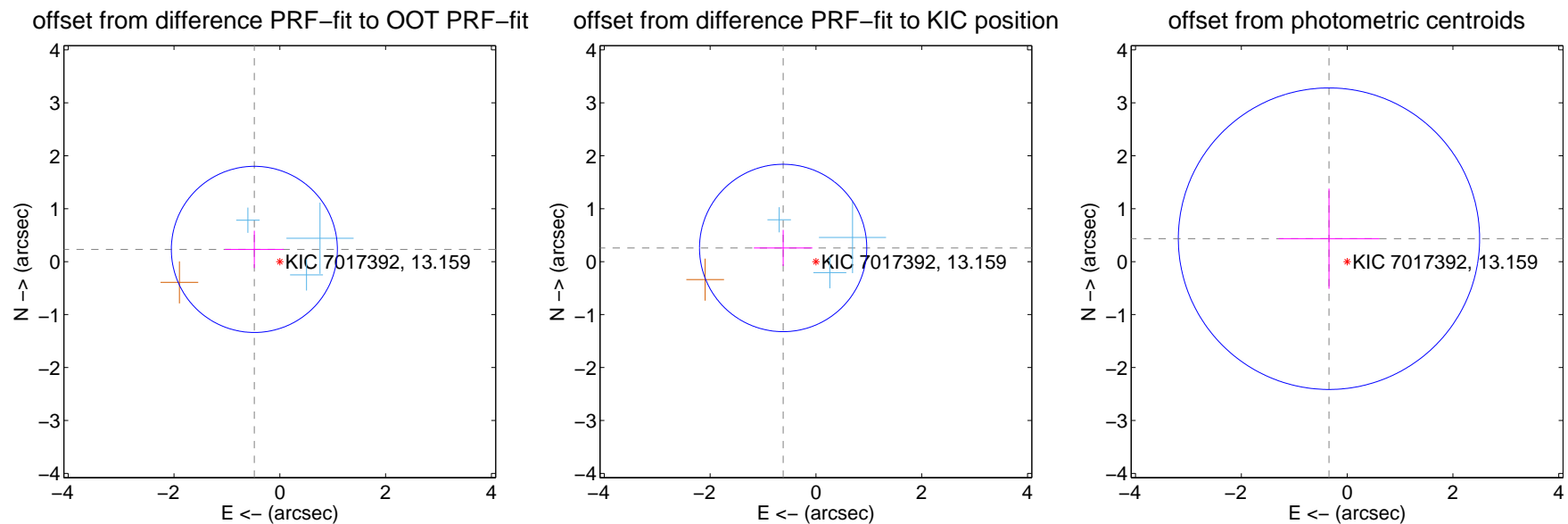
DV Centroid Data

Supplemental centroid analysis for 007017392-03. Kepler magnitude: 13.16. Transit SNR 7.09

There are 3 quarters with good PRF difference image offsets

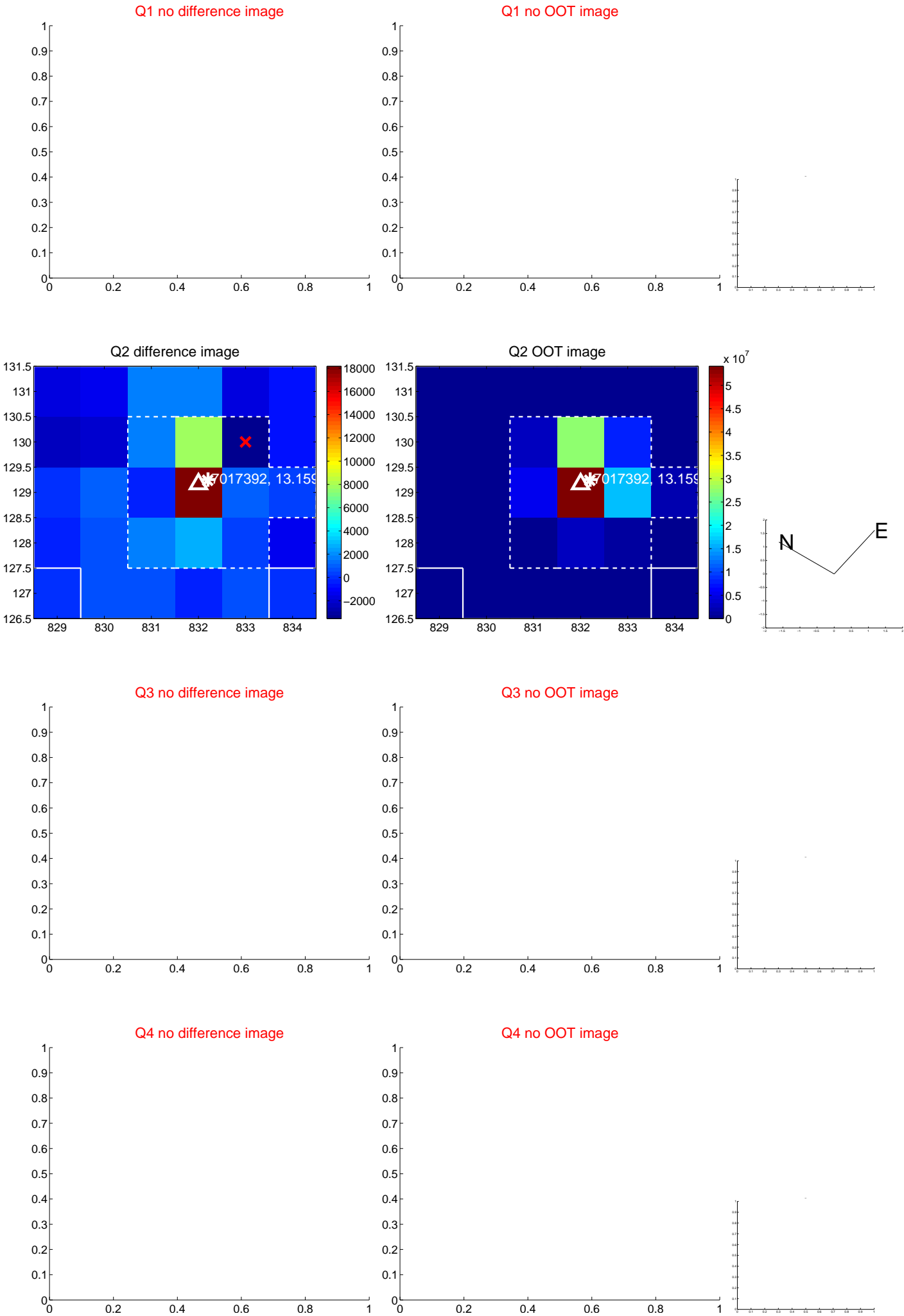
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.534 ± 0.523	1.02	0.481 ± 0.555	0.231 ± 0.352
PRF-fit source offset from KIC position	0.672 ± 0.527	1.27	0.620 ± 0.553	0.258 ± 0.341
photometric centroid source offset	0.55 ± 0.95	0.58	0.34 ± 0.95	0.43 ± 0.95

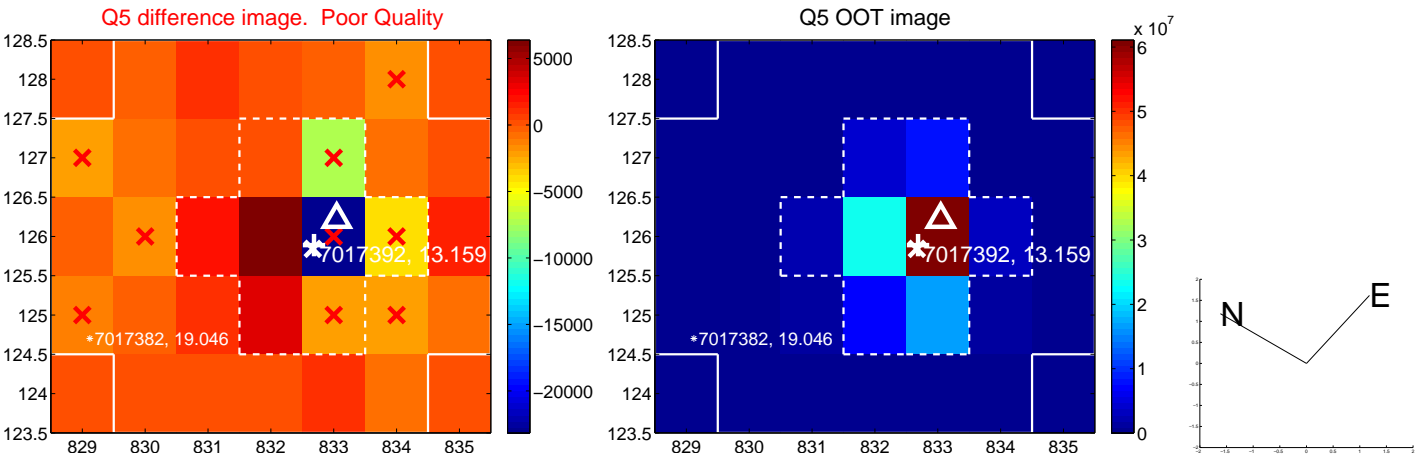


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

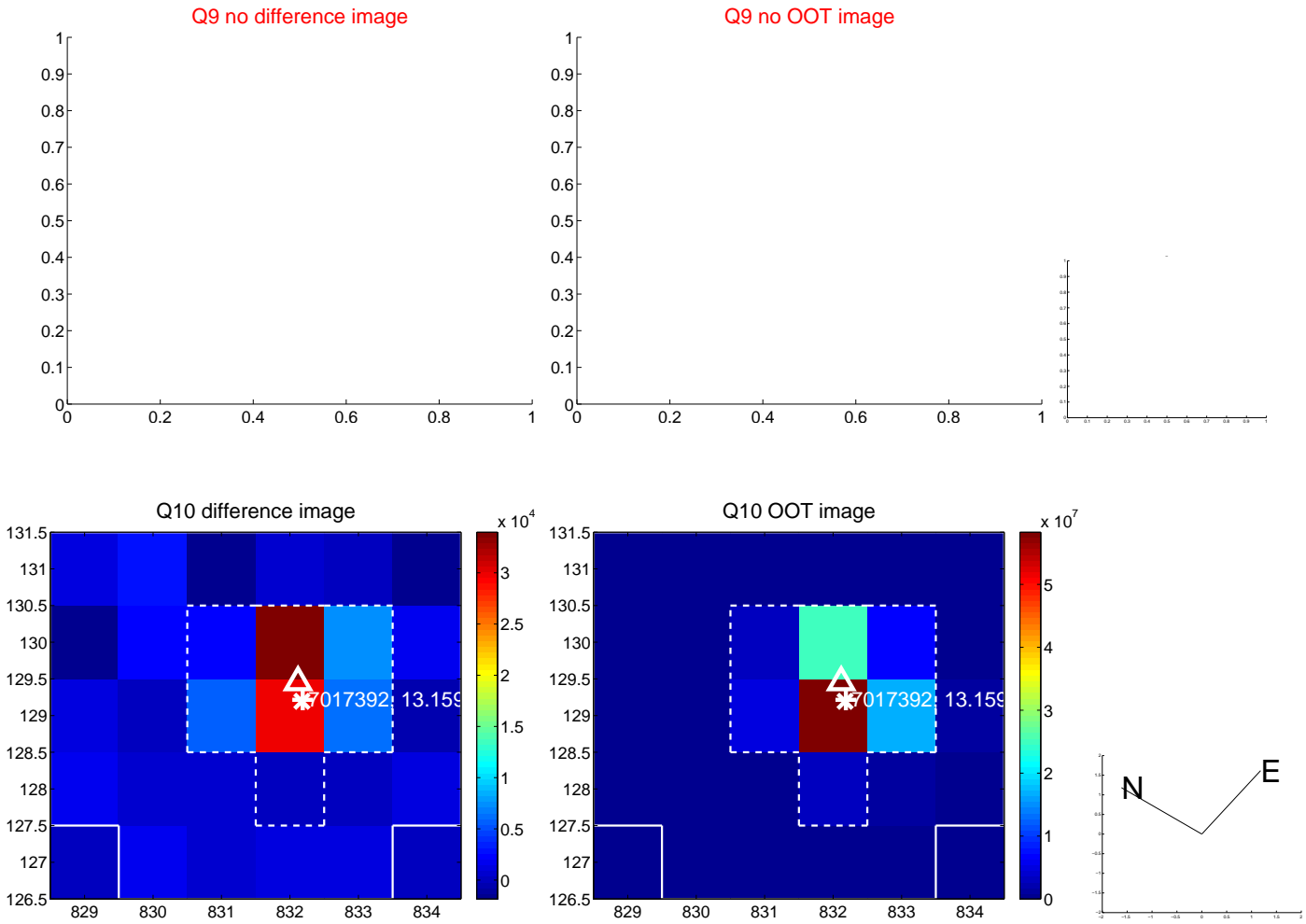
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



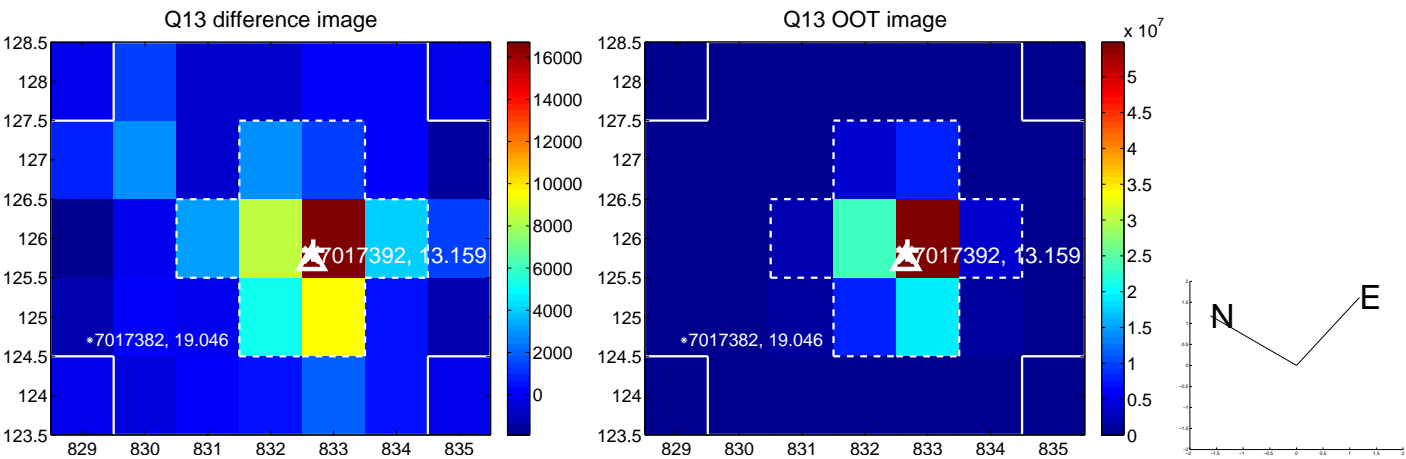
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



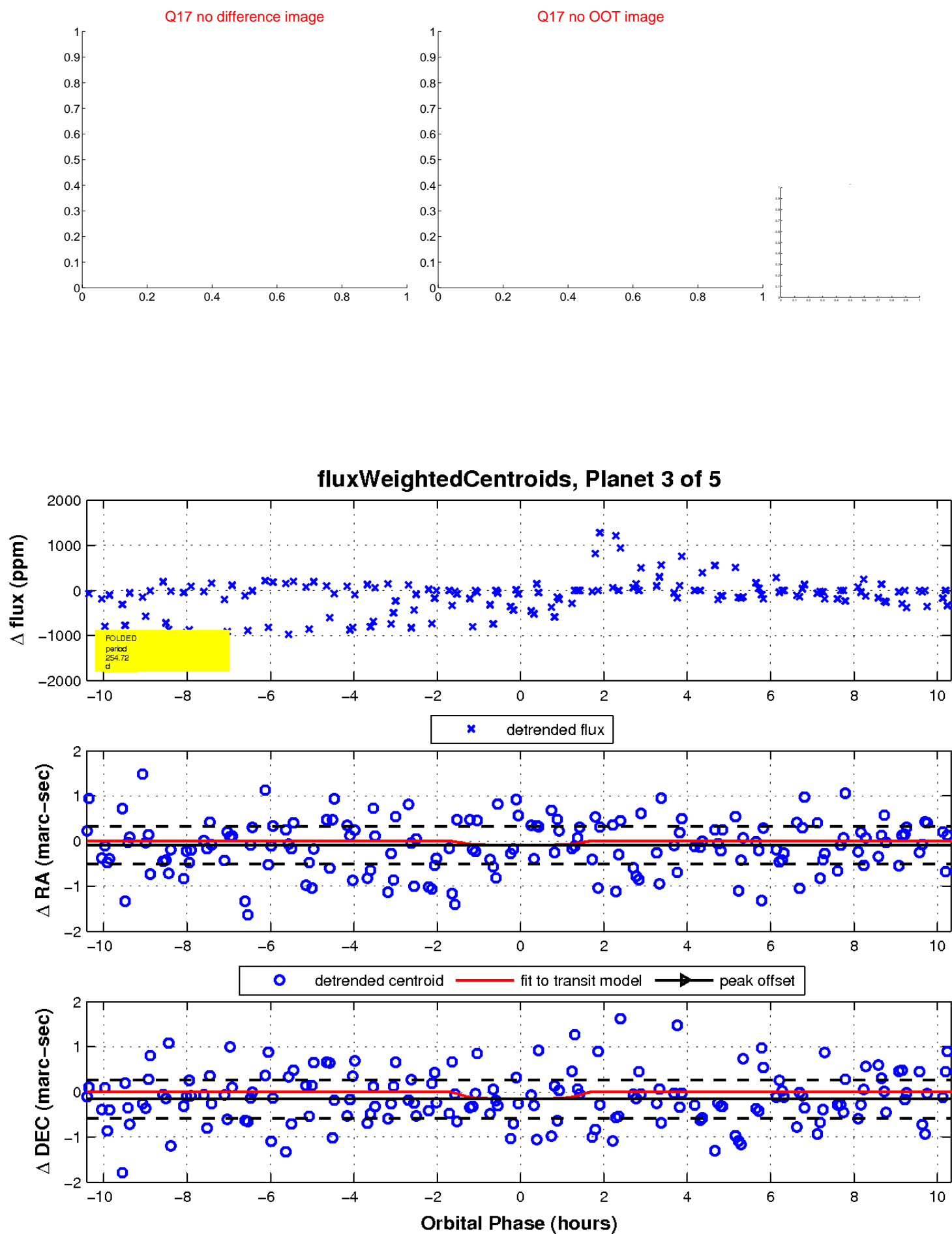
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

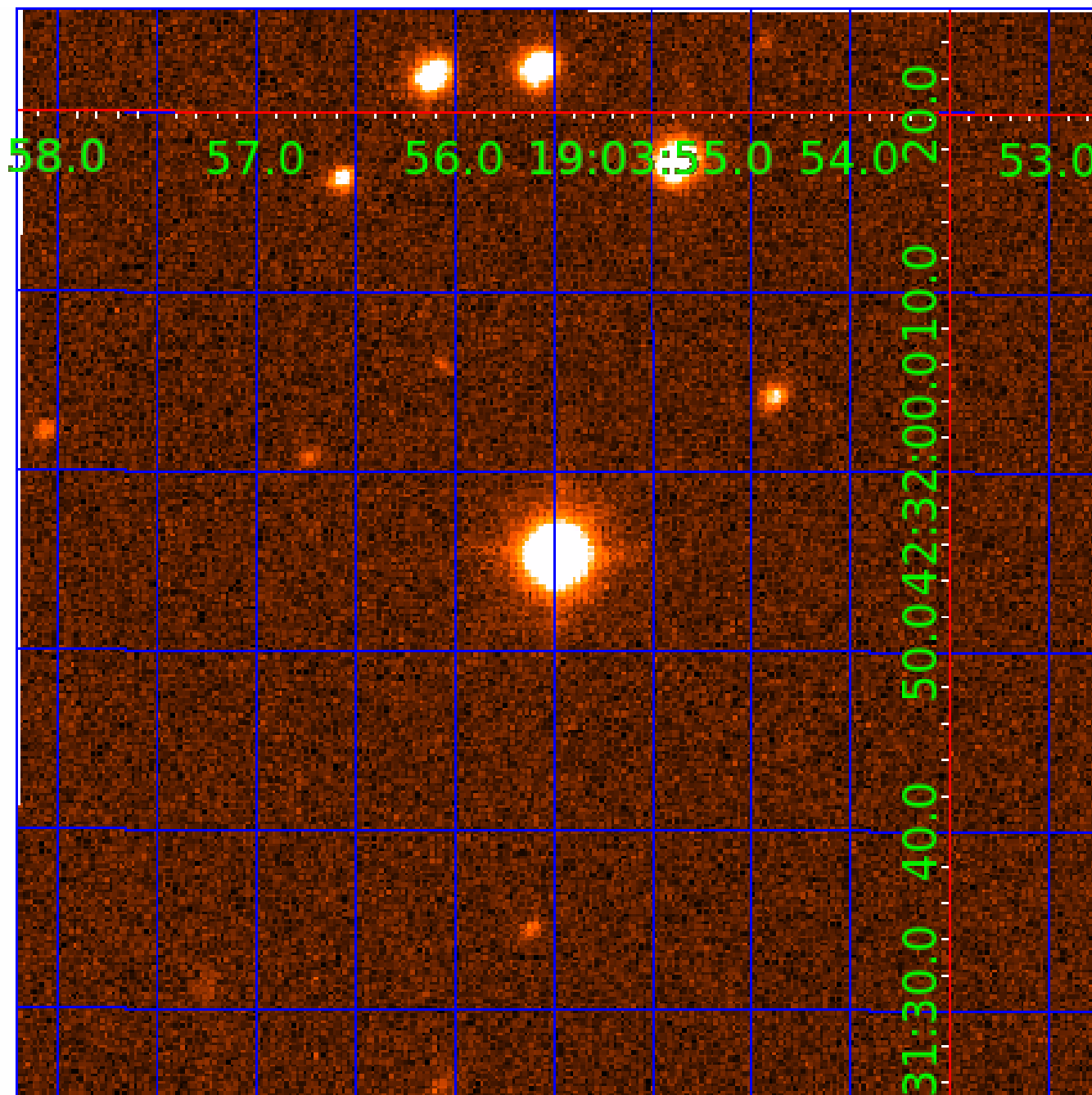


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007017392

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})
007017392-02	OBS	No	383.928551	237.448171	439.8	2.799	13.8	5.4	1.91	4904	4.10	1.84
007017392-03	OBS	No	254.720262	210.678205	426.1	3.476	12.1	7.1	1.91	4904	5.05	3.19
007017392-04	OBS	No	494.281530	159.016943	550.2	3.144	11.9	6.9	1.91	4904	5.08	1.32
007017392-05	OBS	No	340.209074	237.956219	444.8	3.500	11.5	-1.0	1.91	4904	3.89	2.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007017392-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007017392-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007017392-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007017392-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

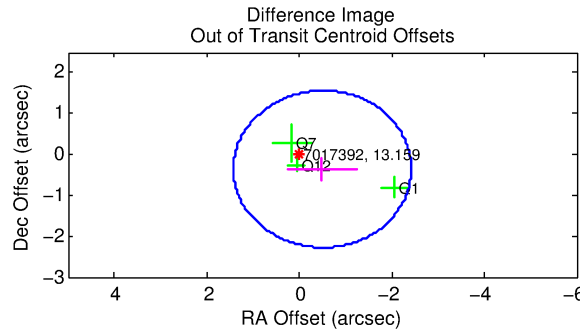
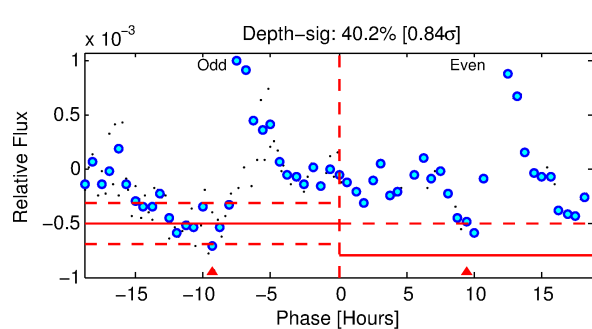
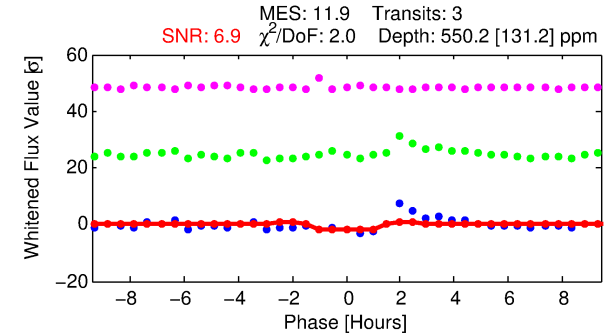
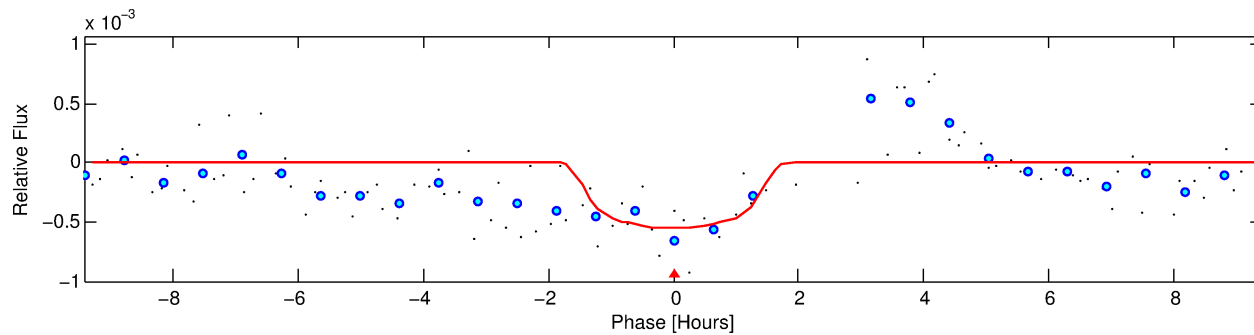
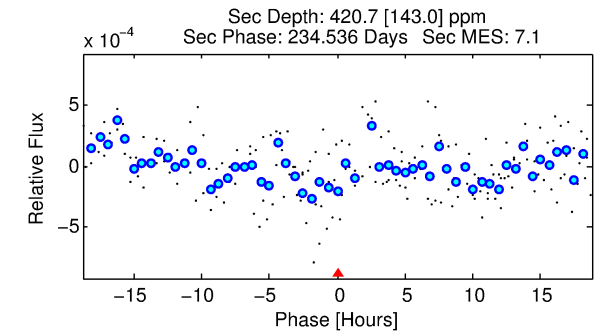
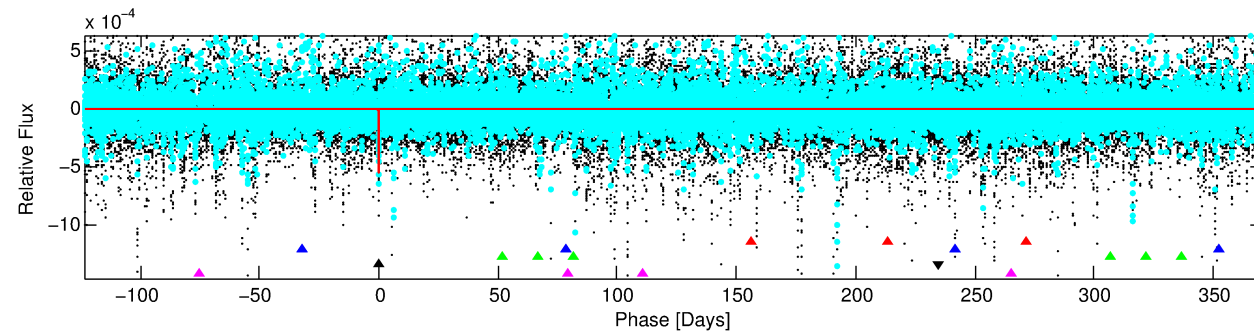
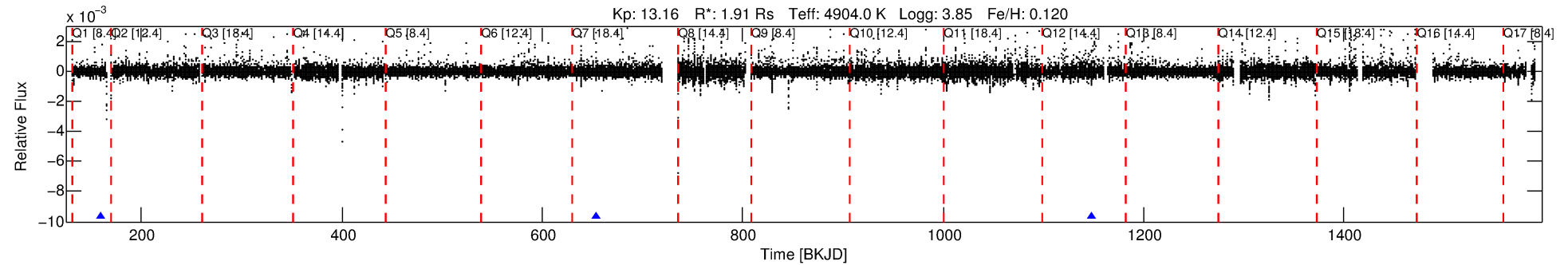
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007017392-04

No Significant Match Found

DV One-Page Summary

KIC: 7017392 Candidate: 4 of 5 Period: 494.282 d



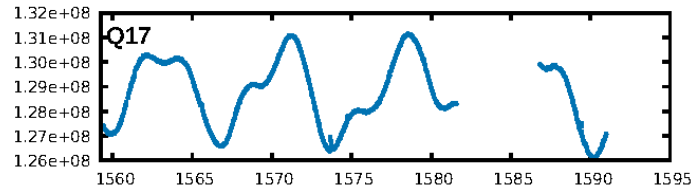
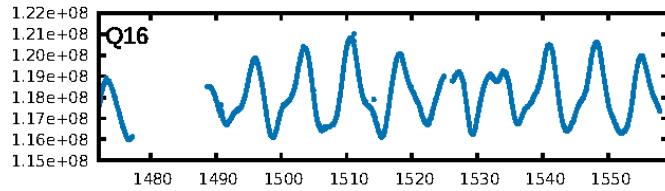
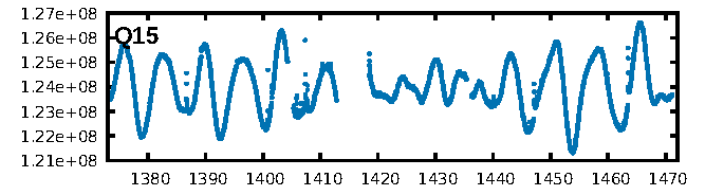
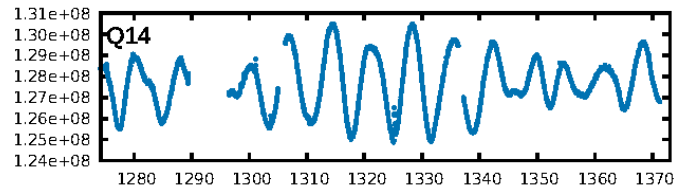
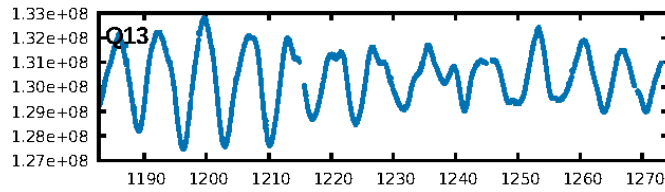
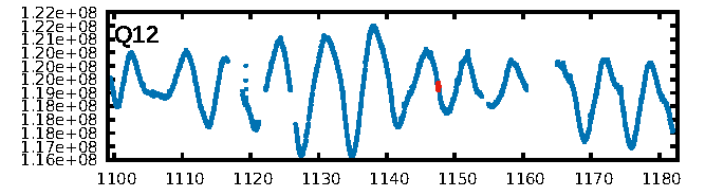
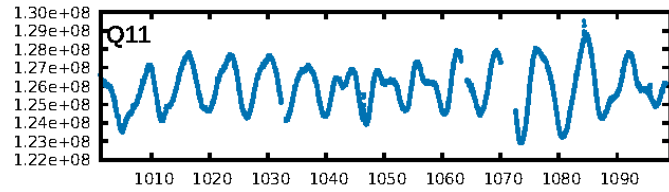
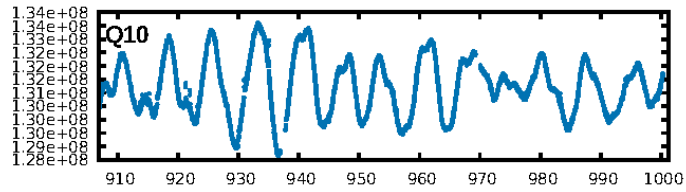
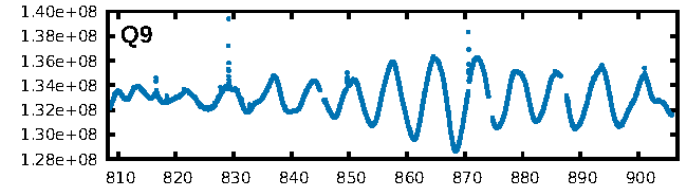
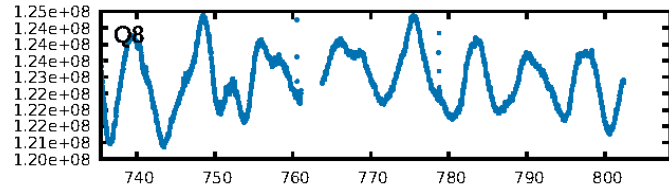
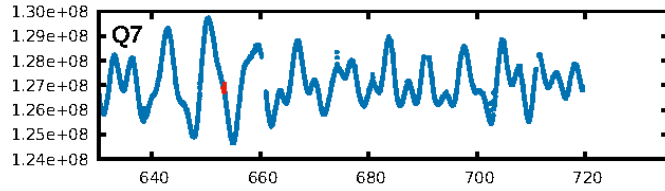
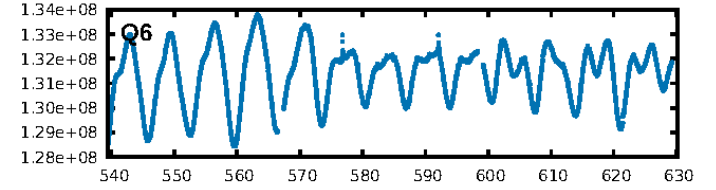
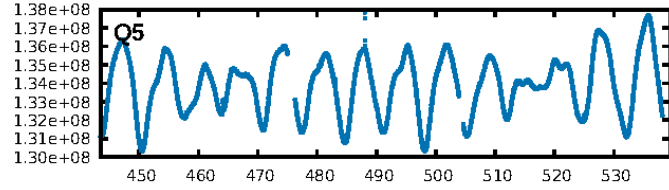
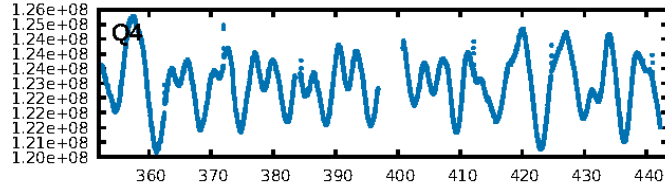
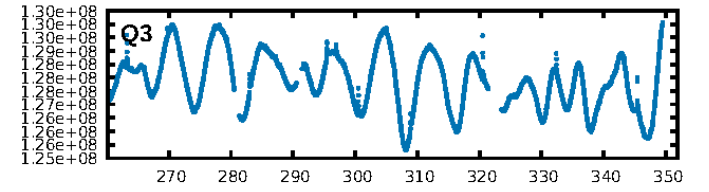
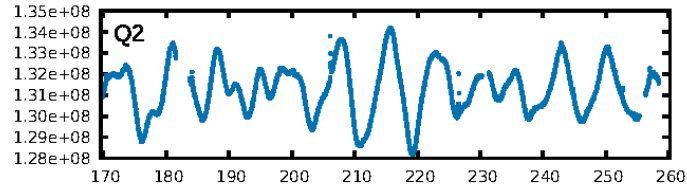
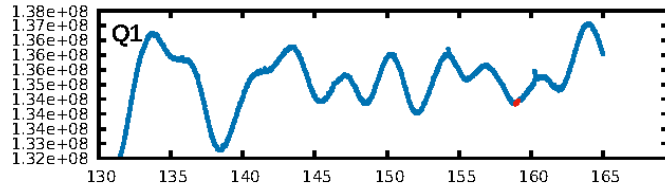
DV Fit Results:

Period = 494.28153 [0.00800] d
Epoch = 159.0169 [0.0081] BKJD
Rp/R* = 0.0244 [0.0344]
a/R* = 744.43 [3698.42]
b = 0.82 [2.09]
Seff = 1.32 [1.61]
Teff = 273 [84] K
Rp = 5.08 [7.88] Re
a = 1.1973 [0.8546] AU
Ag = 12863.88 [39783.34] [0.32σ]
Teffp = 4498 [3200] K [1.32σ]

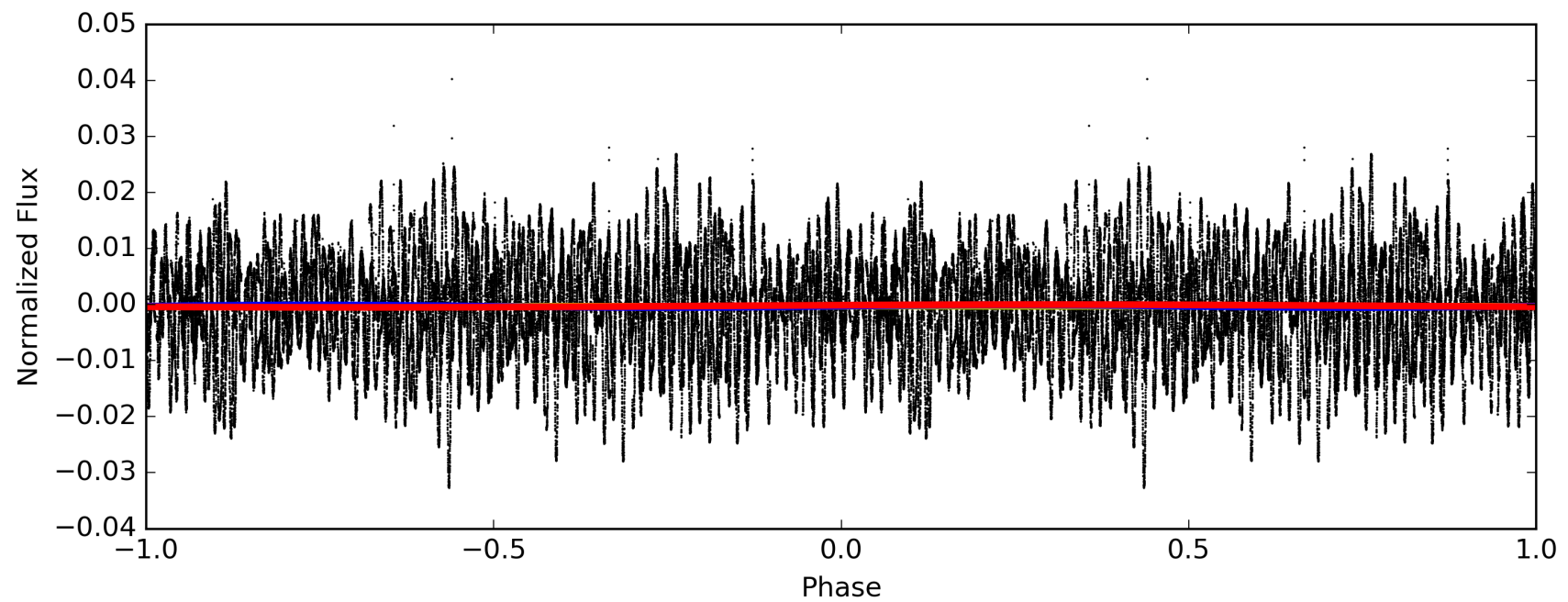
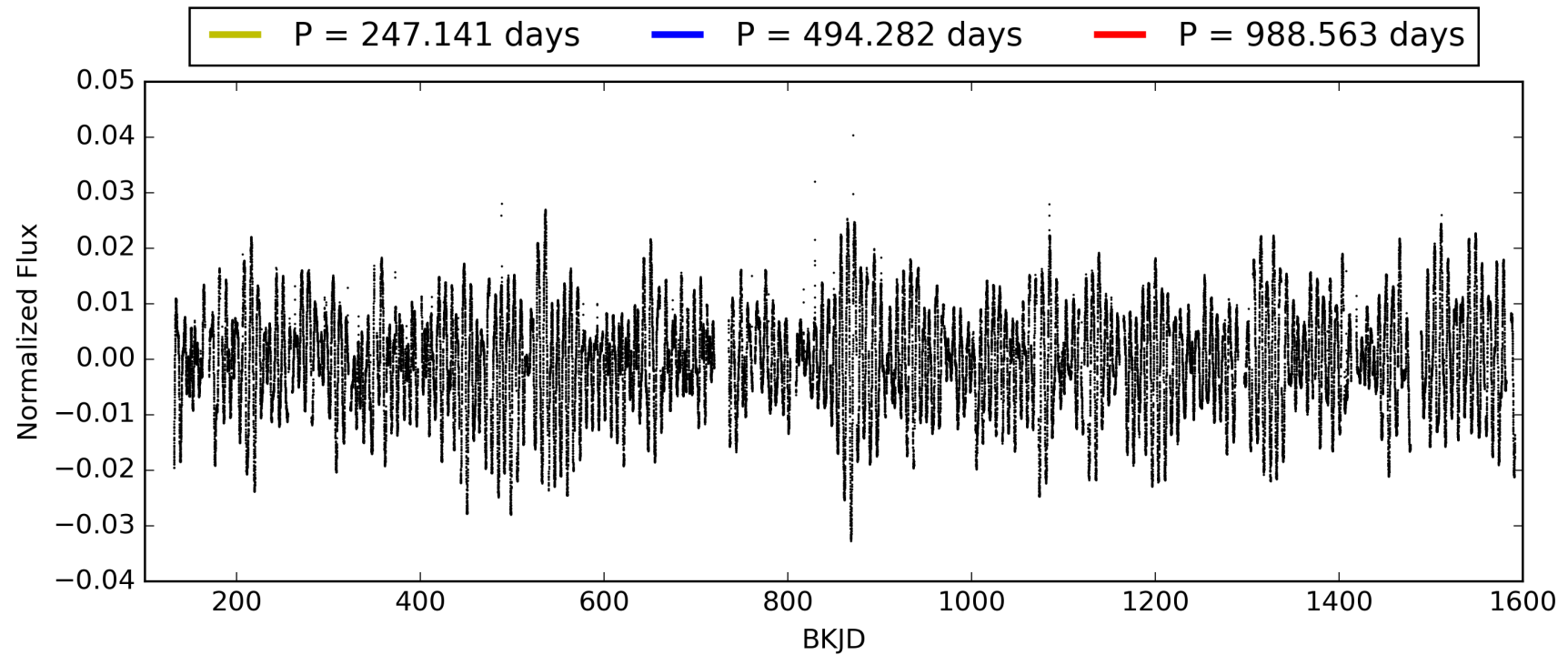
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [237.25σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 15.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 5.975
Centroid-sig: 12.5%
Centroid-so: 0.959 arcsec [1.27σ]
OotOffset-rm: 0.613 arcsec [0.96σ]
KicOffset-rm: 0.504 arcsec [0.85σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 007017392-04, PDC Light Curves

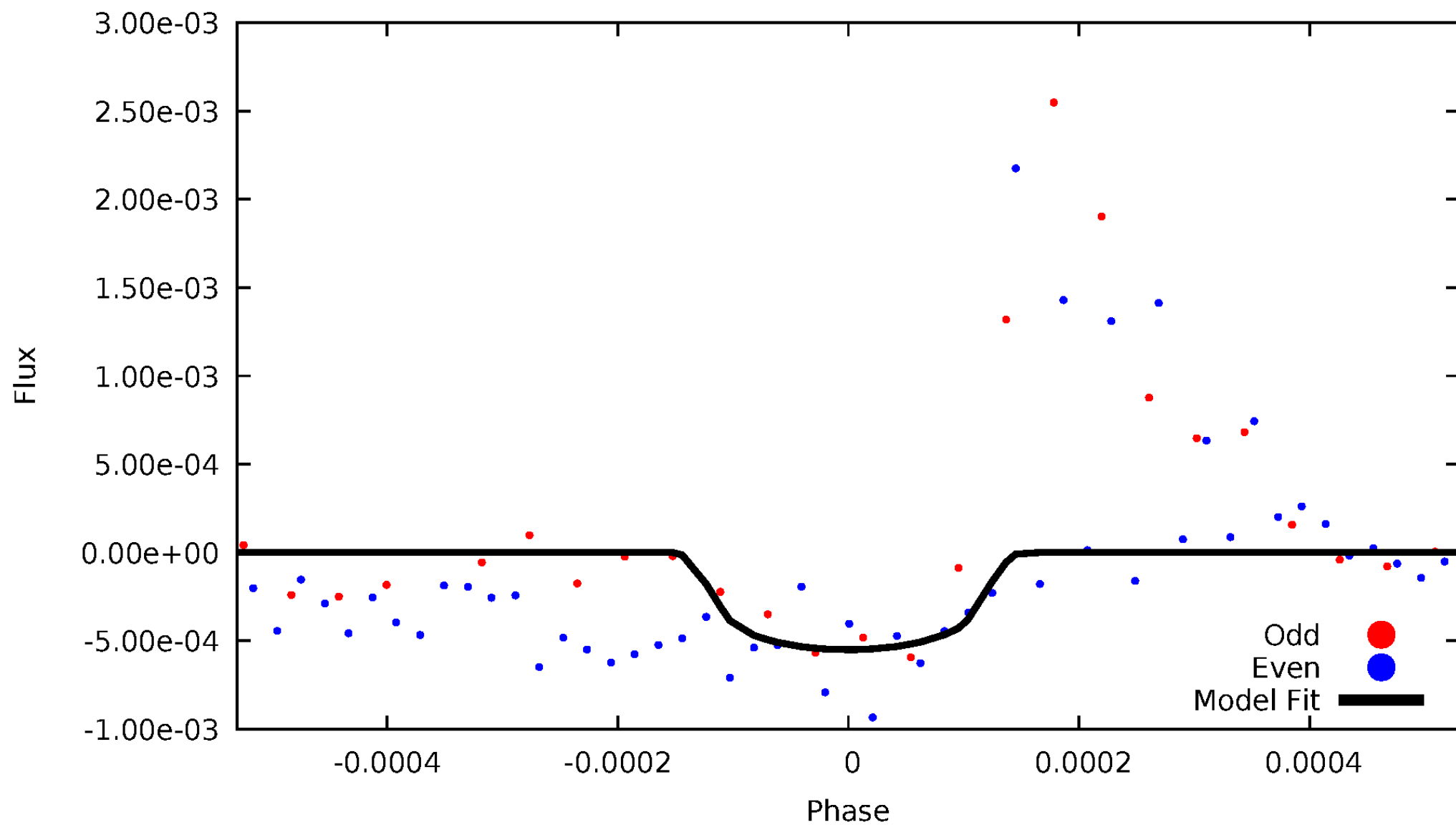


TCE 007017392-04



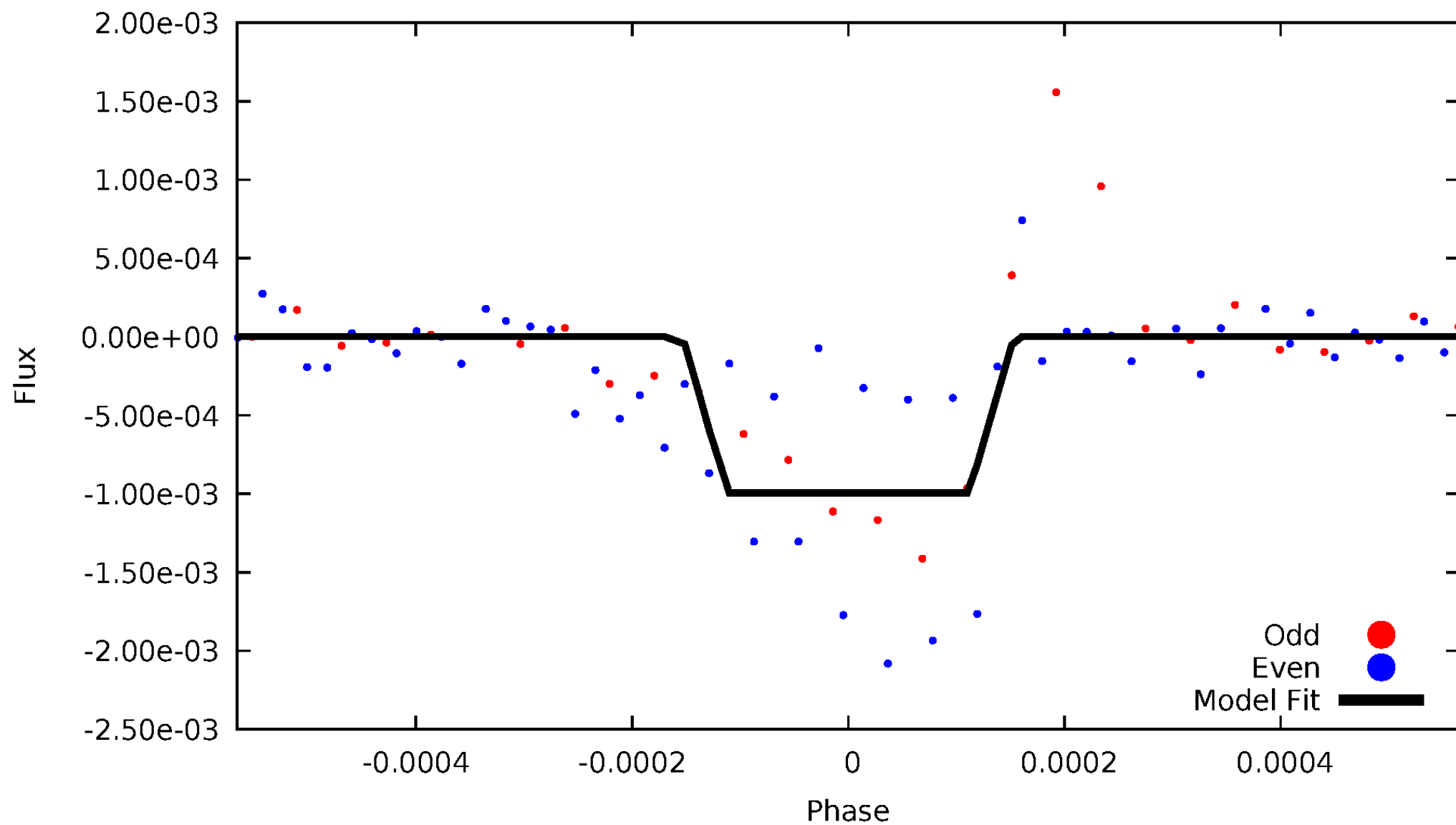
DV Odd/Even

TCE 007017392-04



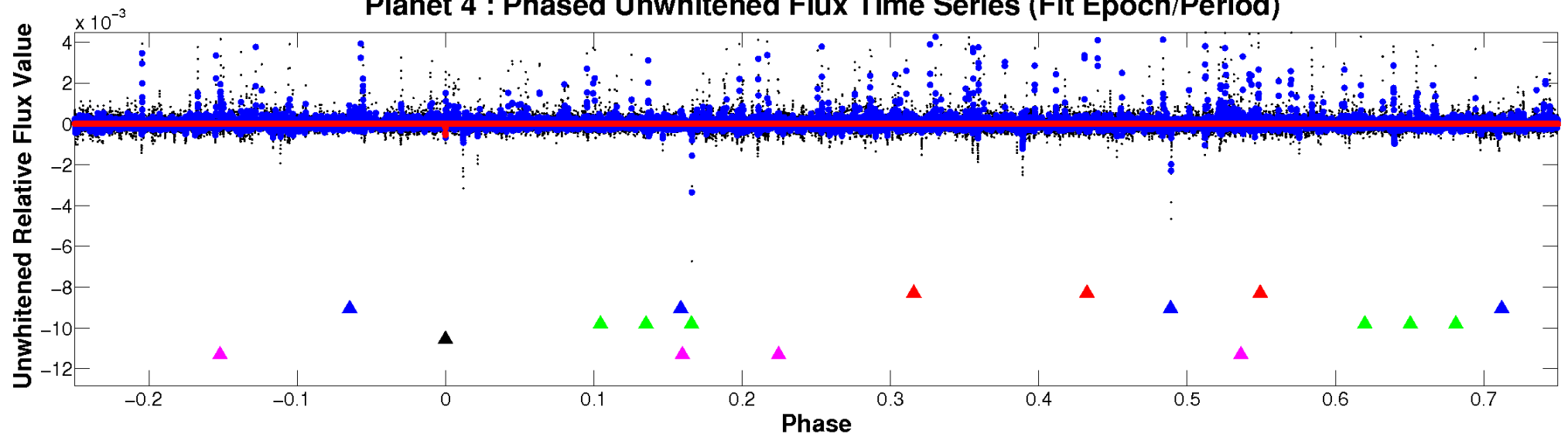
ALT Odd/Even

TCE 007017392-04

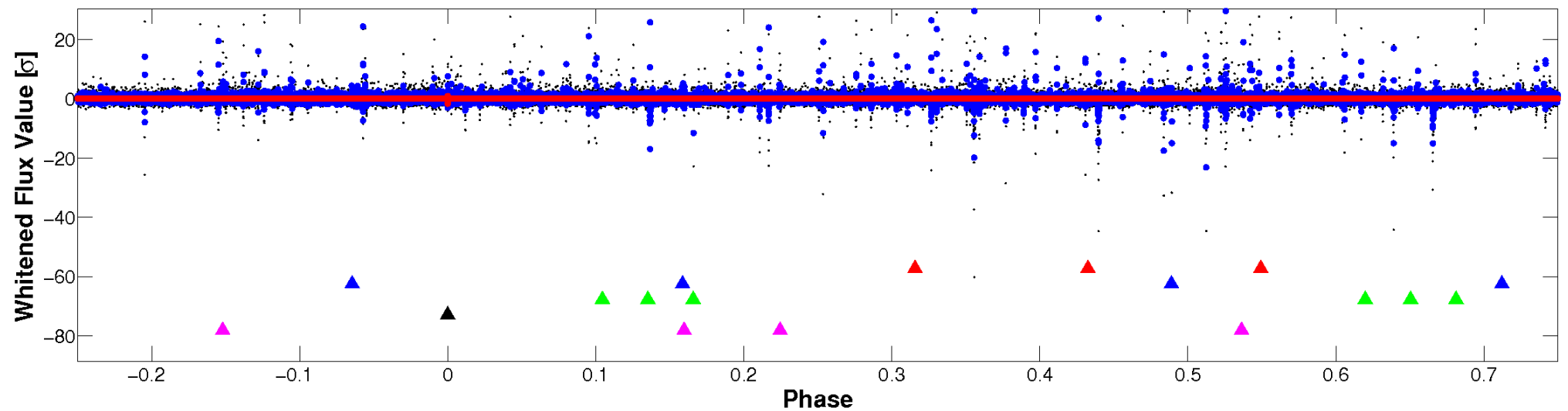


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

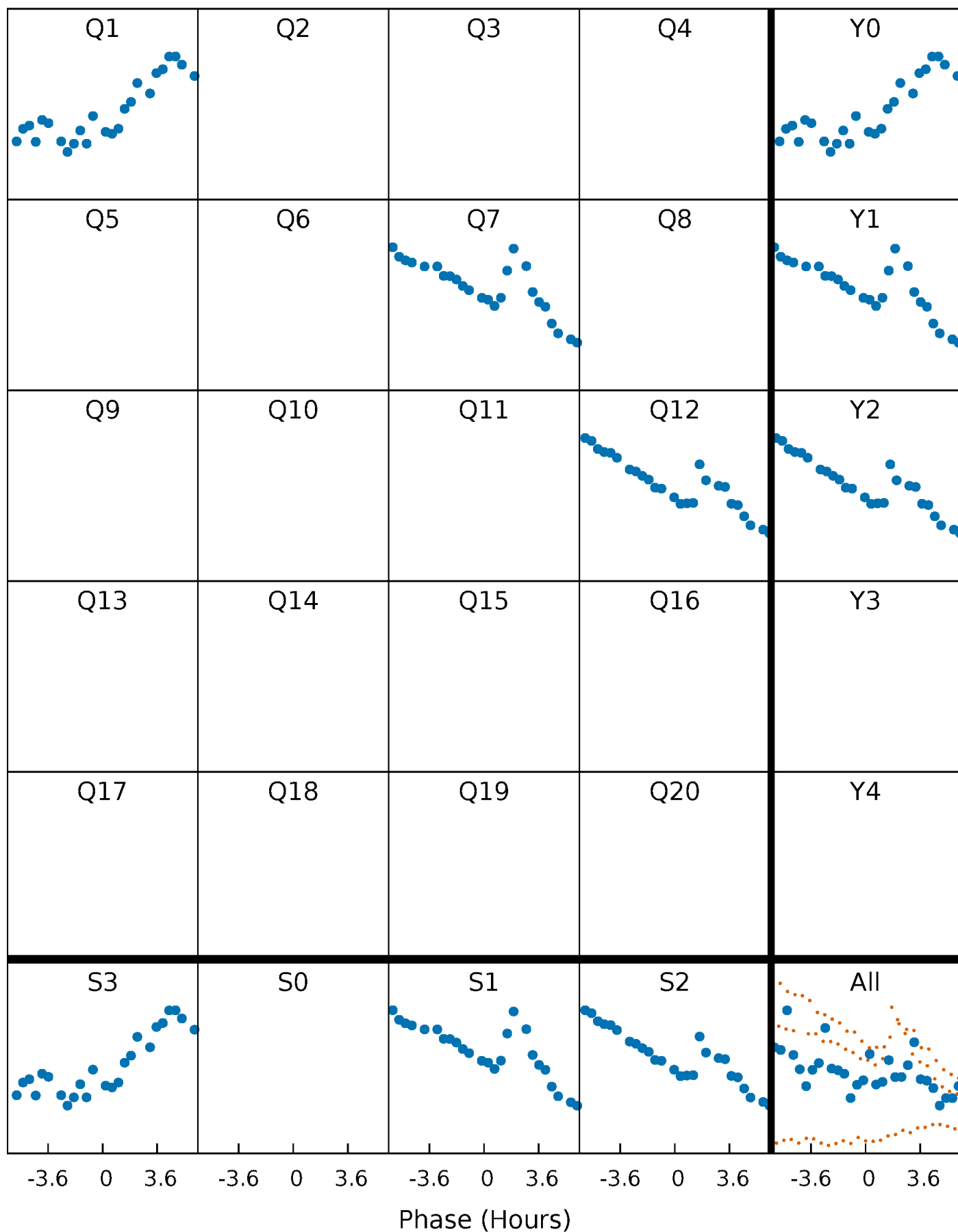


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



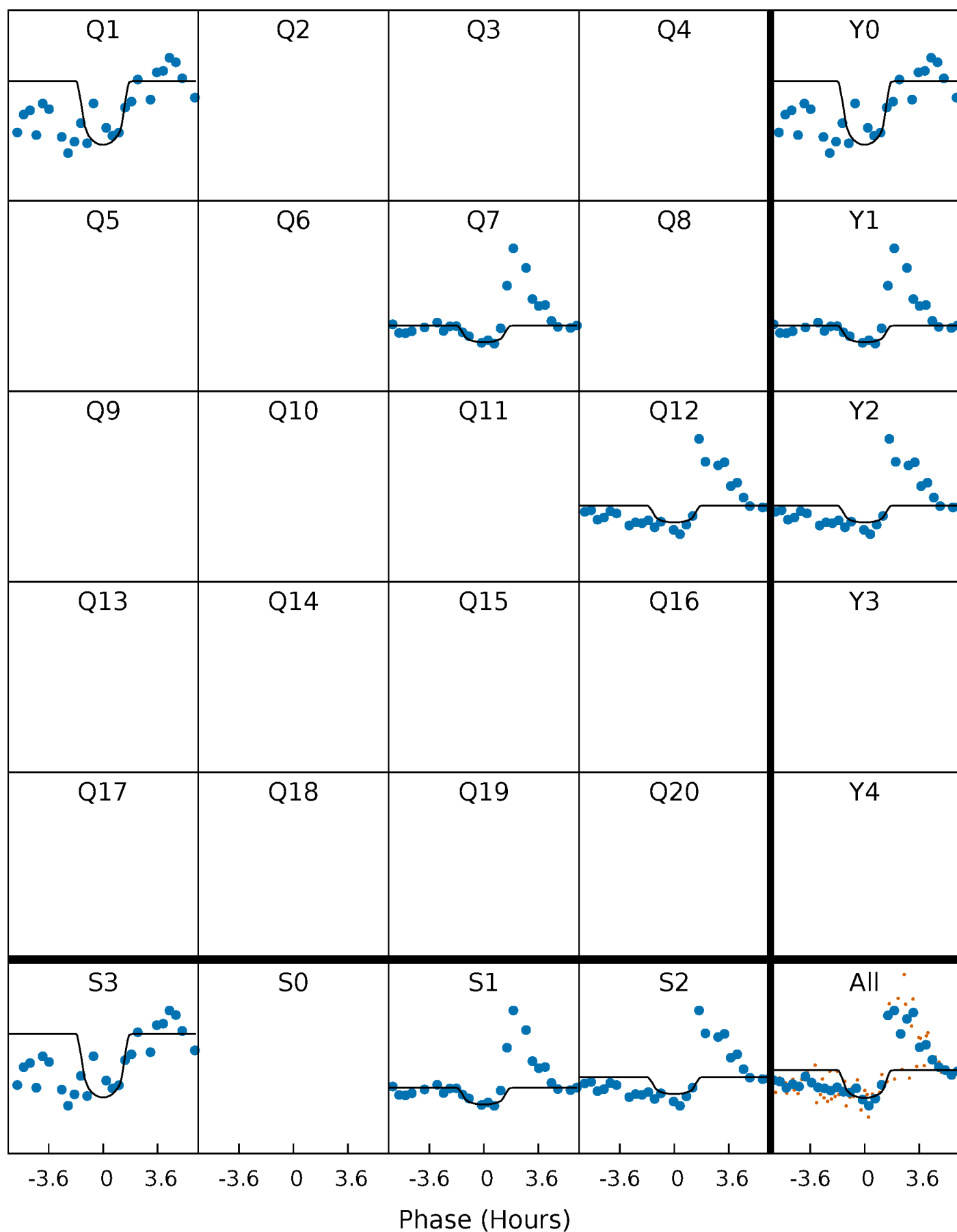
PDC Quarter-Phased Transit Curves

TCE 007017392-04 $P=494.281530$ Days $T_0=159.016943$ (BKJD)



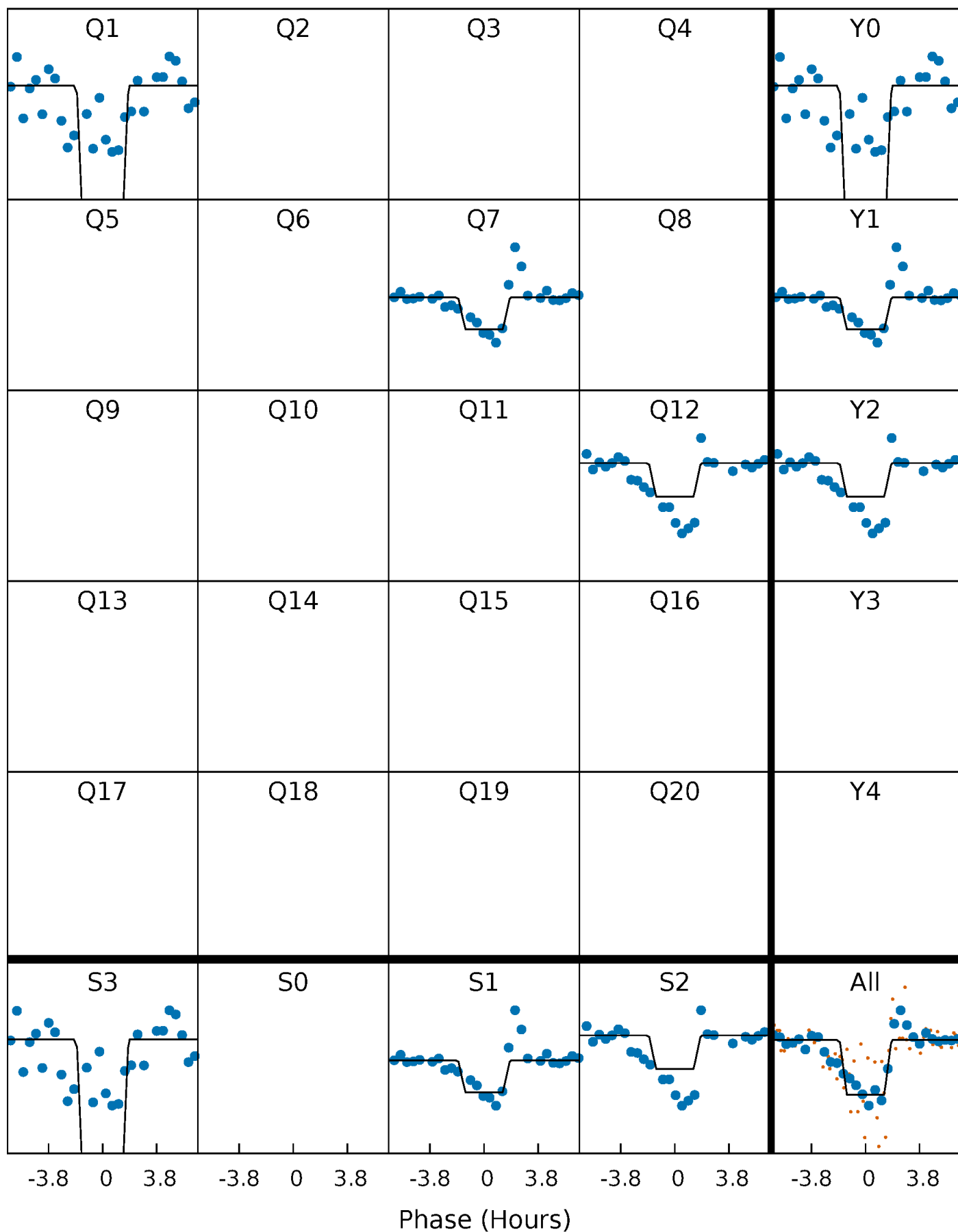
DV Quarter-Phased Transit Curves

TCE 007017392-04 P=494.281530 Days $T_0=159.016943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

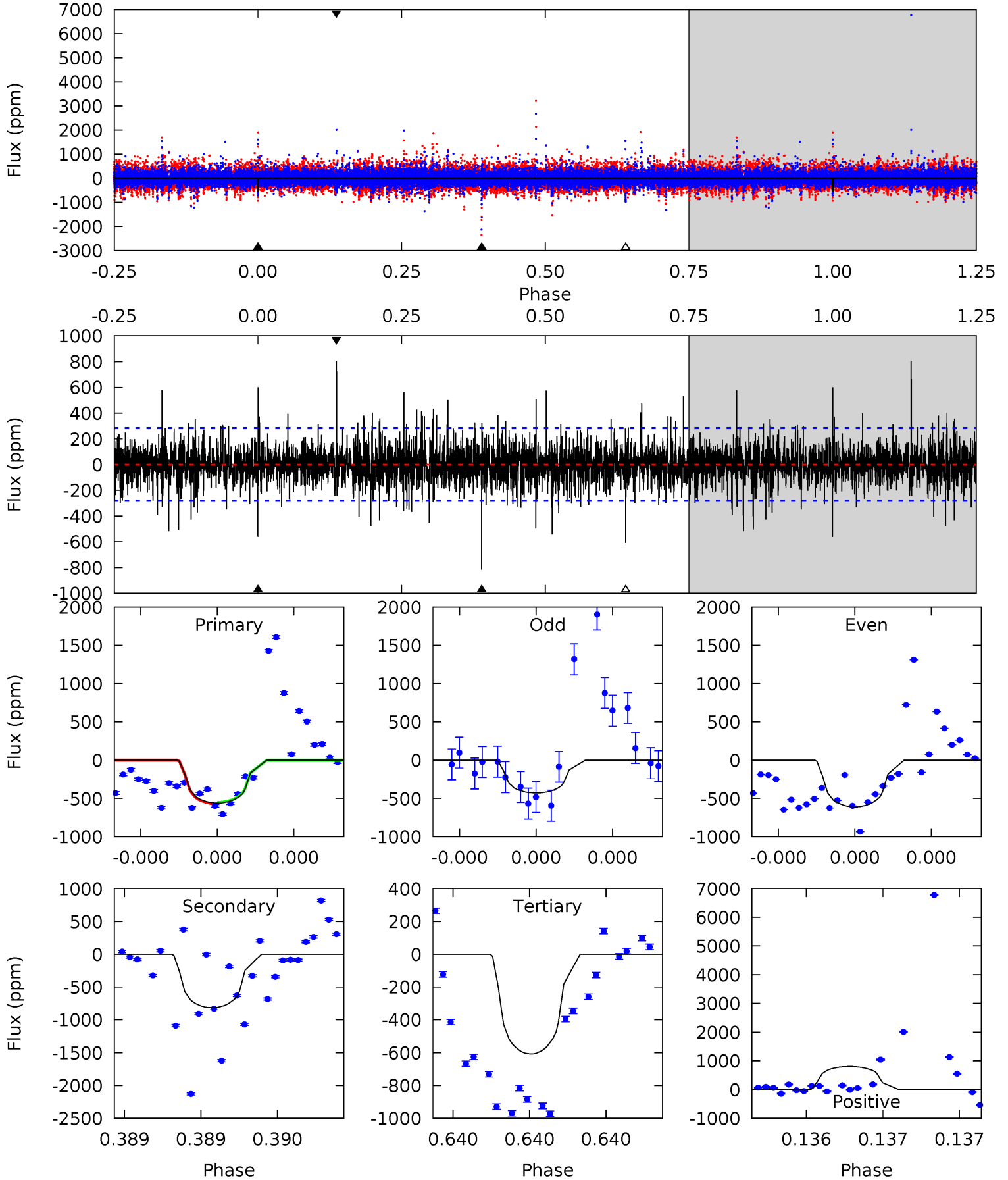
TCE 007017392-04 P=494.281005 Days $T_0=159.010391$ (BKJD)



DV Model-Shift Uniqueness Test

007017392-04, P = 494.281530 Days, E = 159.016943 Days

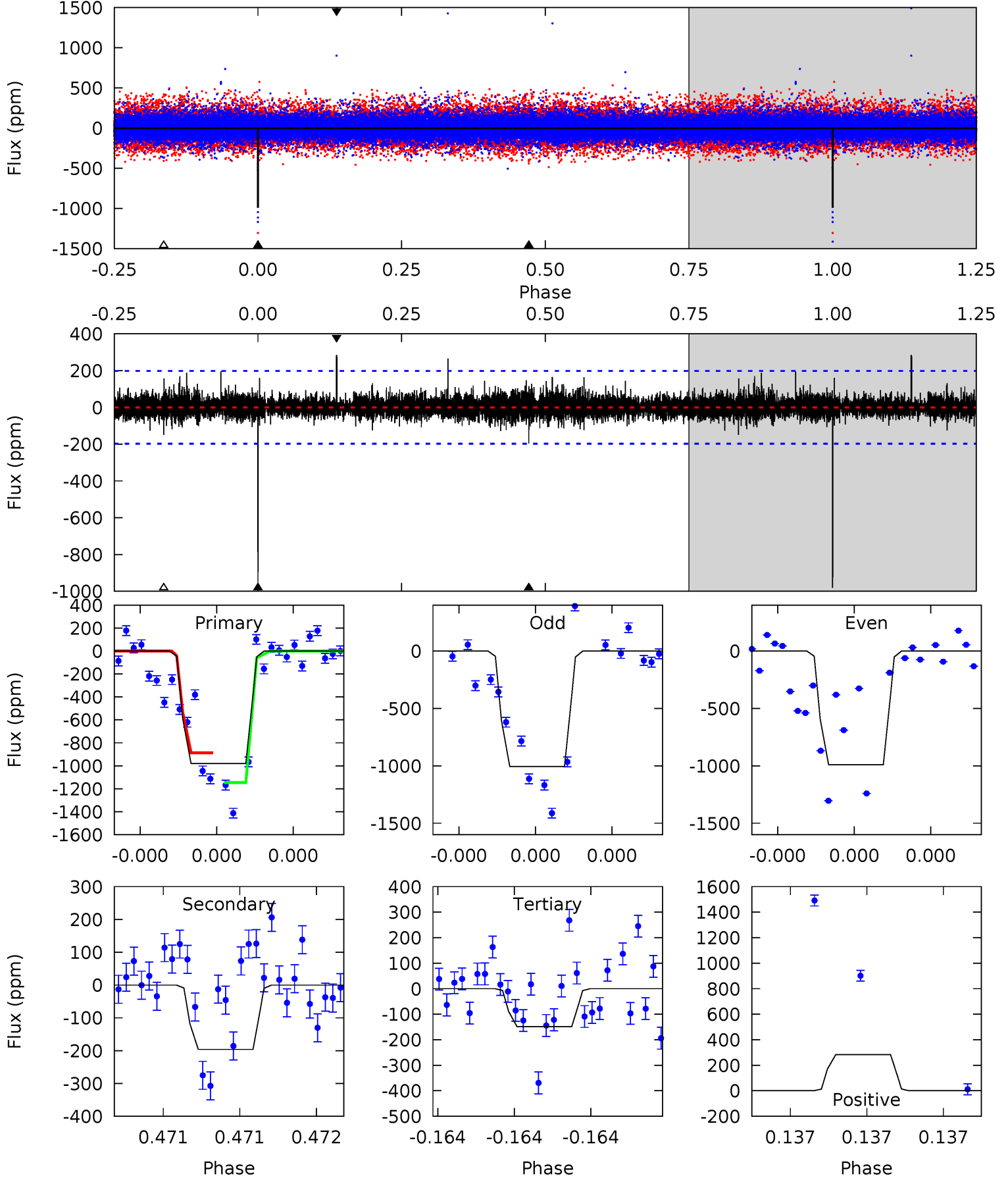
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	16.4	12.2	16.1	5.67	3.62	1.98	-0.96	-4.89	4.16	0.23	1.10	1.19	0.50	0.17



Alt Model-Shift Uniqueness Test

007017392-04, P = 494.281005 Days, E = 159.010391 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	5.61	4.25	8.12	5.67	3.62	0.88	23.8	19.9	1.36	-2.51	0.26	1.00	0.22	0



Stellar Parameters For KIC 007017392

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4904^{+146}_{-132}	$3.848^{+0.742}_{-0.318}$	$0.120^{+0.250}_{-0.250}$	$1.909^{+1.008}_{-1.232}$	$0.935^{+0.217}_{-0.178}$	$0.189^{+2.731}_{-0.138}$
	+3%/-3%	+19%/-8%	+208%/-208%	+53%/-65%	+23%/-19%	+1443%/-73%
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 007017392-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-816 ± 50	$6.79^{+6.83}_{-4.45}$	378^{+55}_{-63}	4541^{+3040}_{-946}	$14342^{+108775}_{-10818}$
Alt.	-196 ± 35	$7.79^{+7.79}_{-5.13}$	379^{+54}_{-69}	3338^{+1492}_{-511}	2534^{+19000}_{-1883}

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 $A_{obs} \gg 1.0$

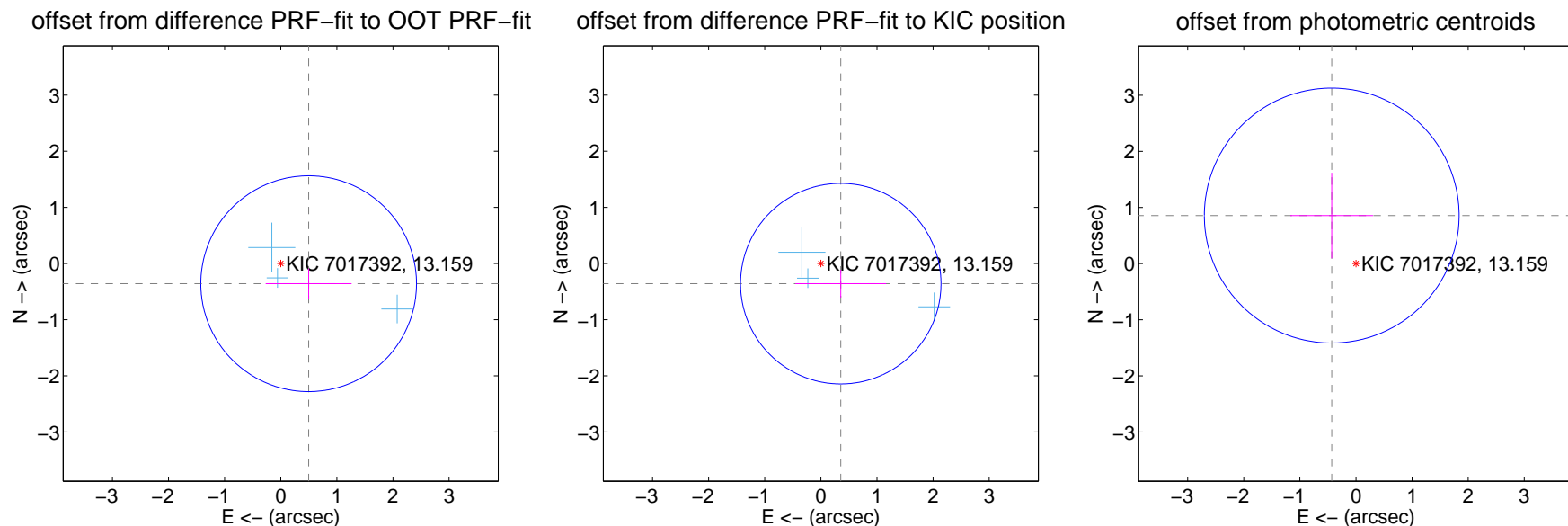
DV Centroid Data

Supplemental centroid analysis for 007017392-04. Kepler magnitude: 13.16. Transit SNR 6.92

There are 3 quarters with good PRF difference image offsets

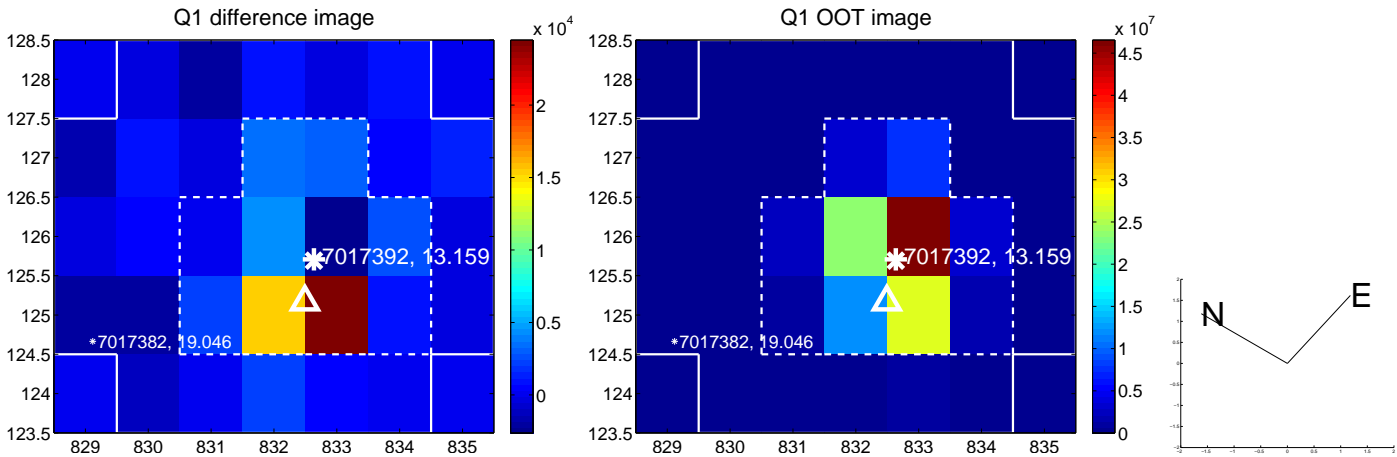
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.613 ± 0.641	0.96	-0.498 ± 0.766	-0.359 ± 0.269
PRF-fit source offset from KIC position	0.504 ± 0.596	0.85	-0.355 ± 0.809	-0.358 ± 0.247
photometric centroid source offset	0.96 ± 0.76	1.27	0.43 ± 0.74	0.86 ± 0.76



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; 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.

Q5 no difference image



Q5 no OOT image



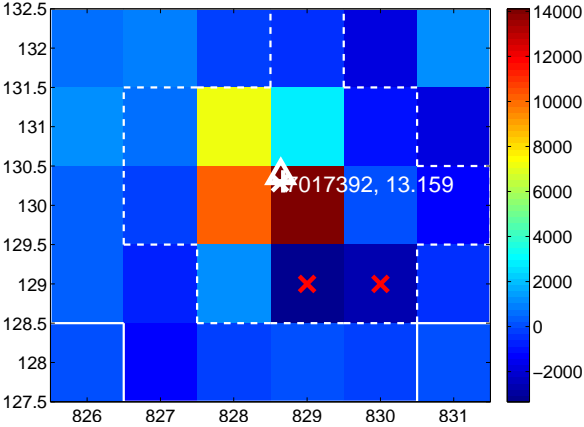
Q6 no difference image



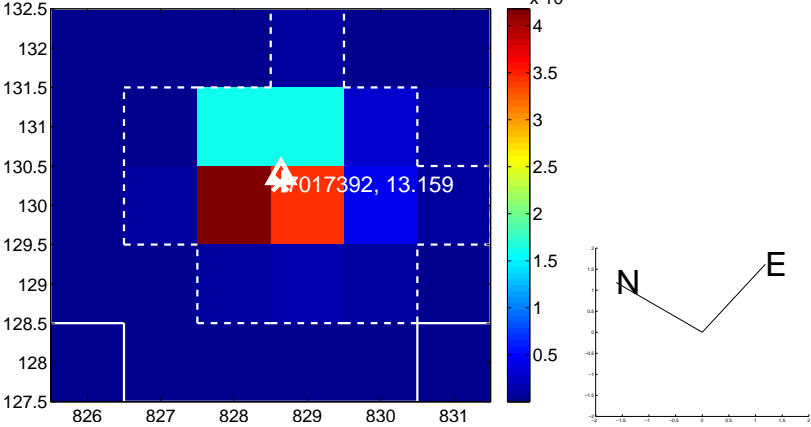
Q6 no OOT image



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.

Q9 no difference image



Q9 no OOT image



Q10 no difference image



Q10 no OOT image



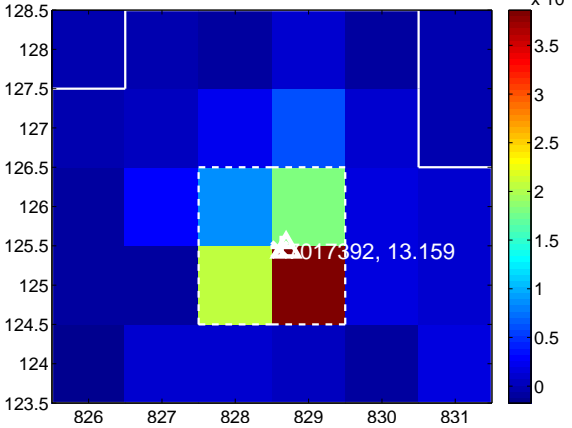
Q11 no difference image



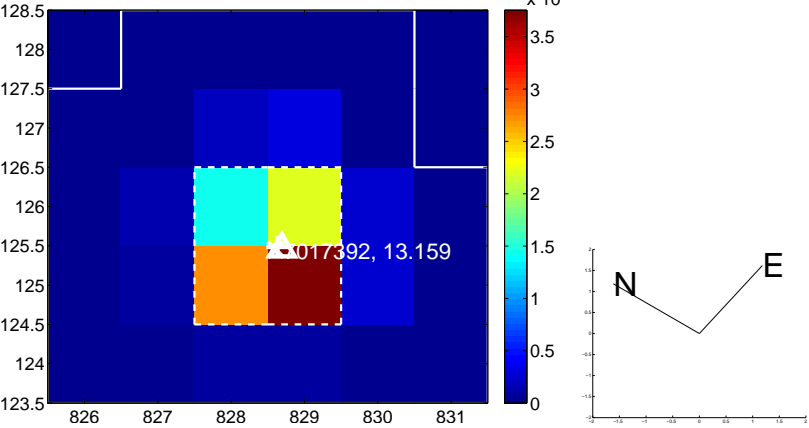
Q11 no OOT image



Q12 difference image



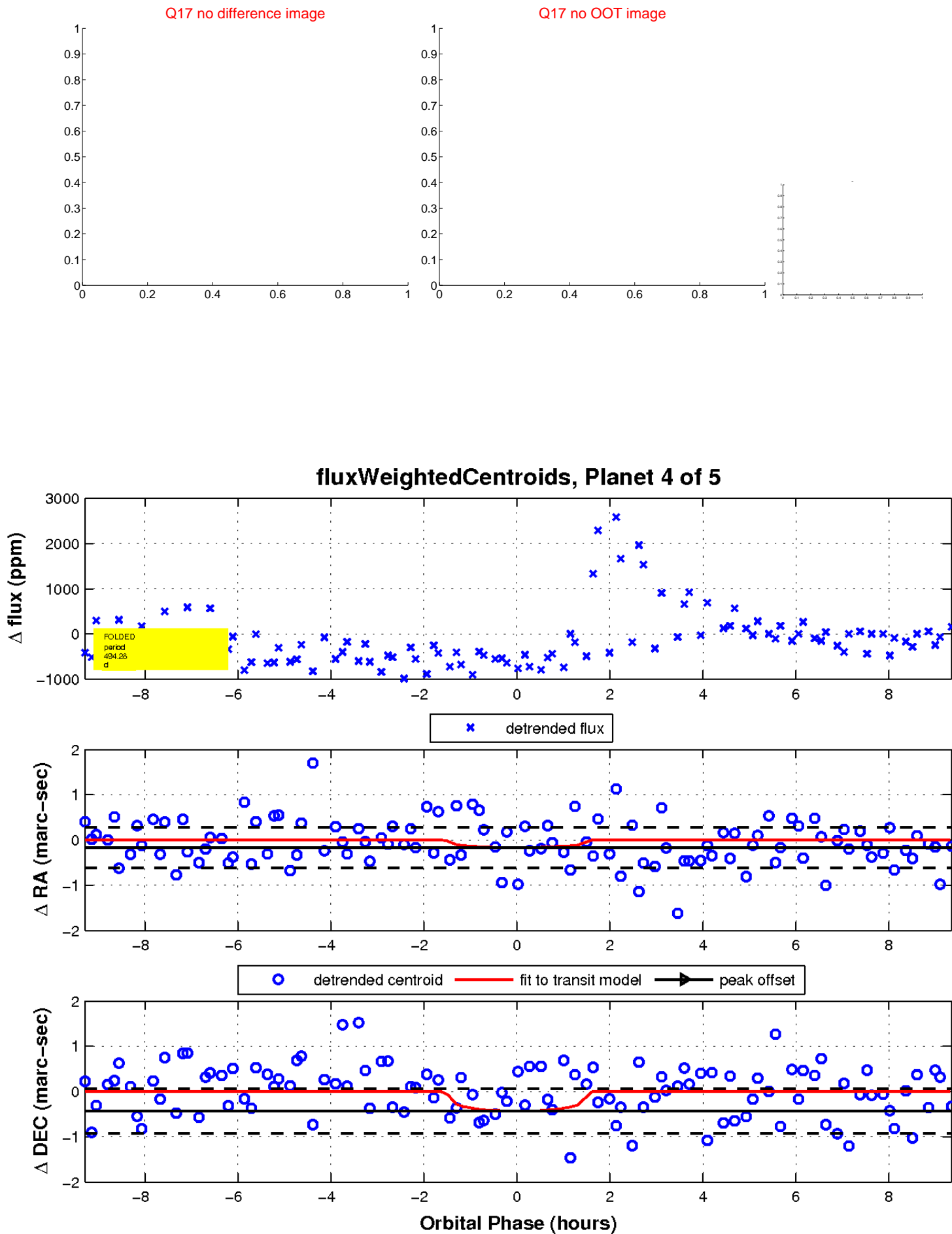
Q12 OOT image



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

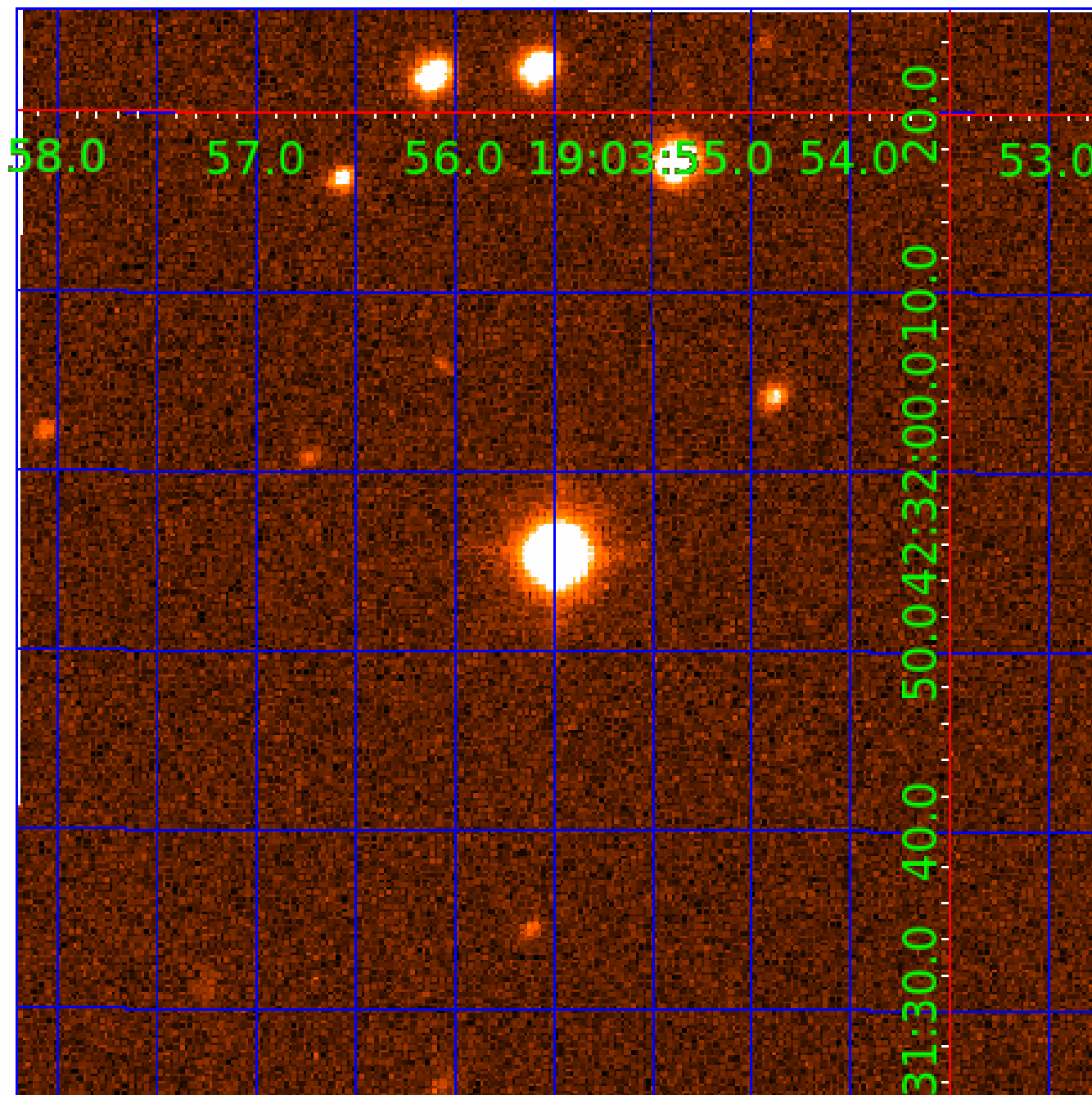


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007017392

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})
007017392-02	OBS	No	383.928551	237.448171	439.8	2.799	13.8	5.4	1.91	4904	4.10	1.84
007017392-03	OBS	No	254.720262	210.678205	426.1	3.476	12.1	7.1	1.91	4904	5.05	3.19
007017392-04	OBS	No	494.281530	159.016943	550.2	3.144	11.9	6.9	1.91	4904	5.08	1.32
007017392-05	OBS	No	340.209074	237.956219	444.8	3.500	11.5	-1.0	1.91	4904	3.89	2.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007017392-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007017392-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007017392-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007017392-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

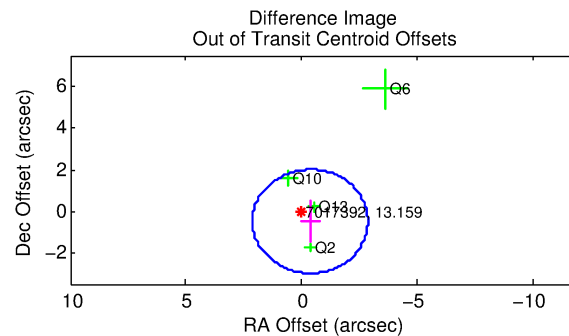
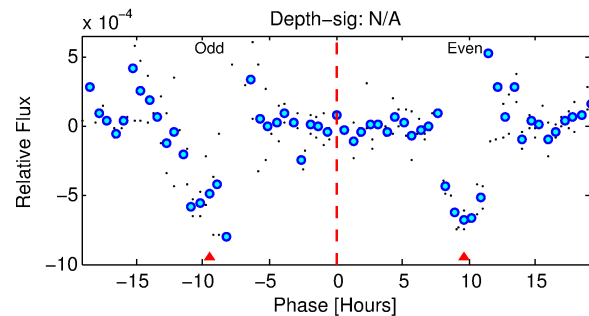
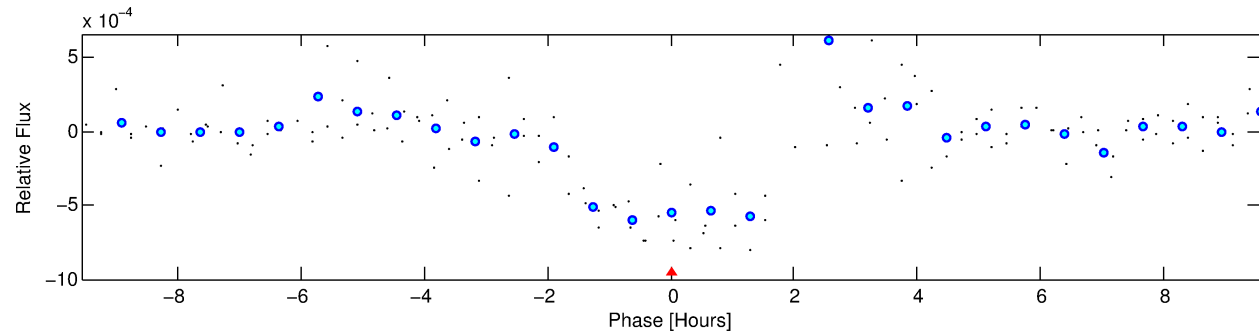
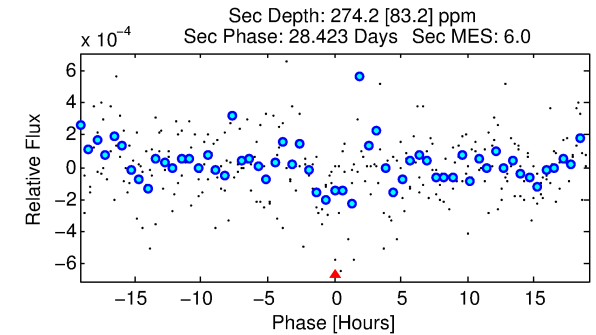
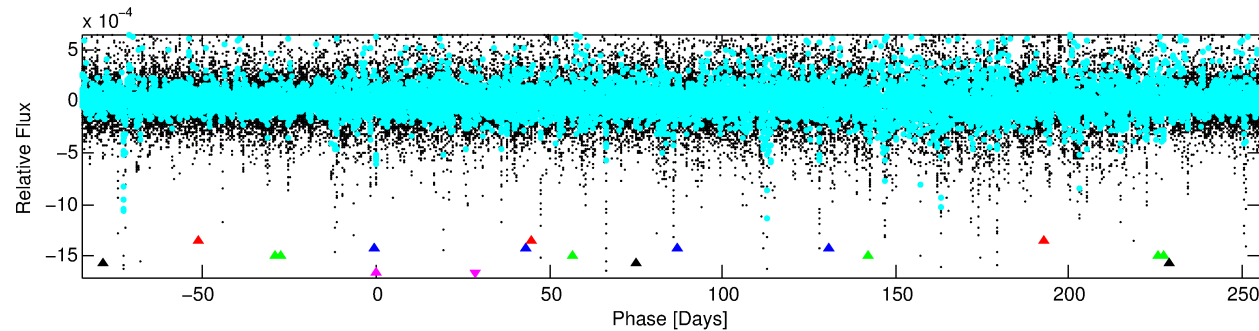
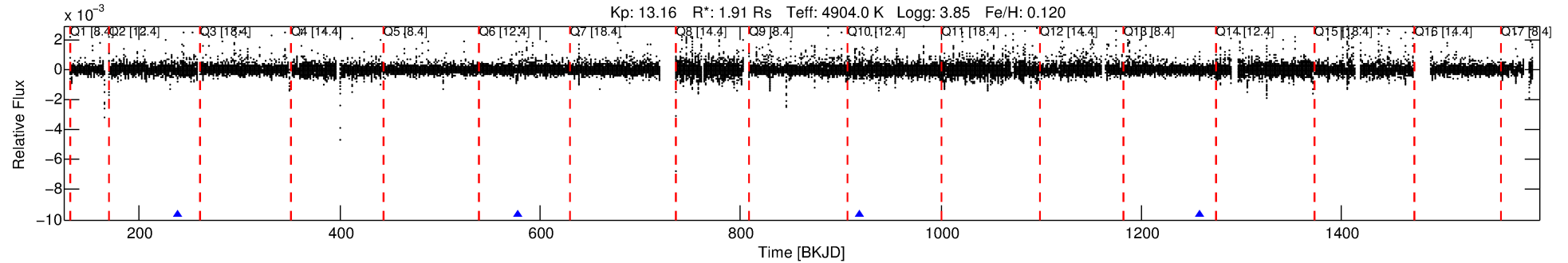
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007017392-05

No Significant Match Found

DV One-Page Summary

KIC: 7017392 Candidate: 5 of 5 Period: 340.209 d



TPS TCE Results:

Period = 340.20907 d
Epoch = 237.9562 BKJD

DV fit results are unavailable

DV Diagnostic Results:

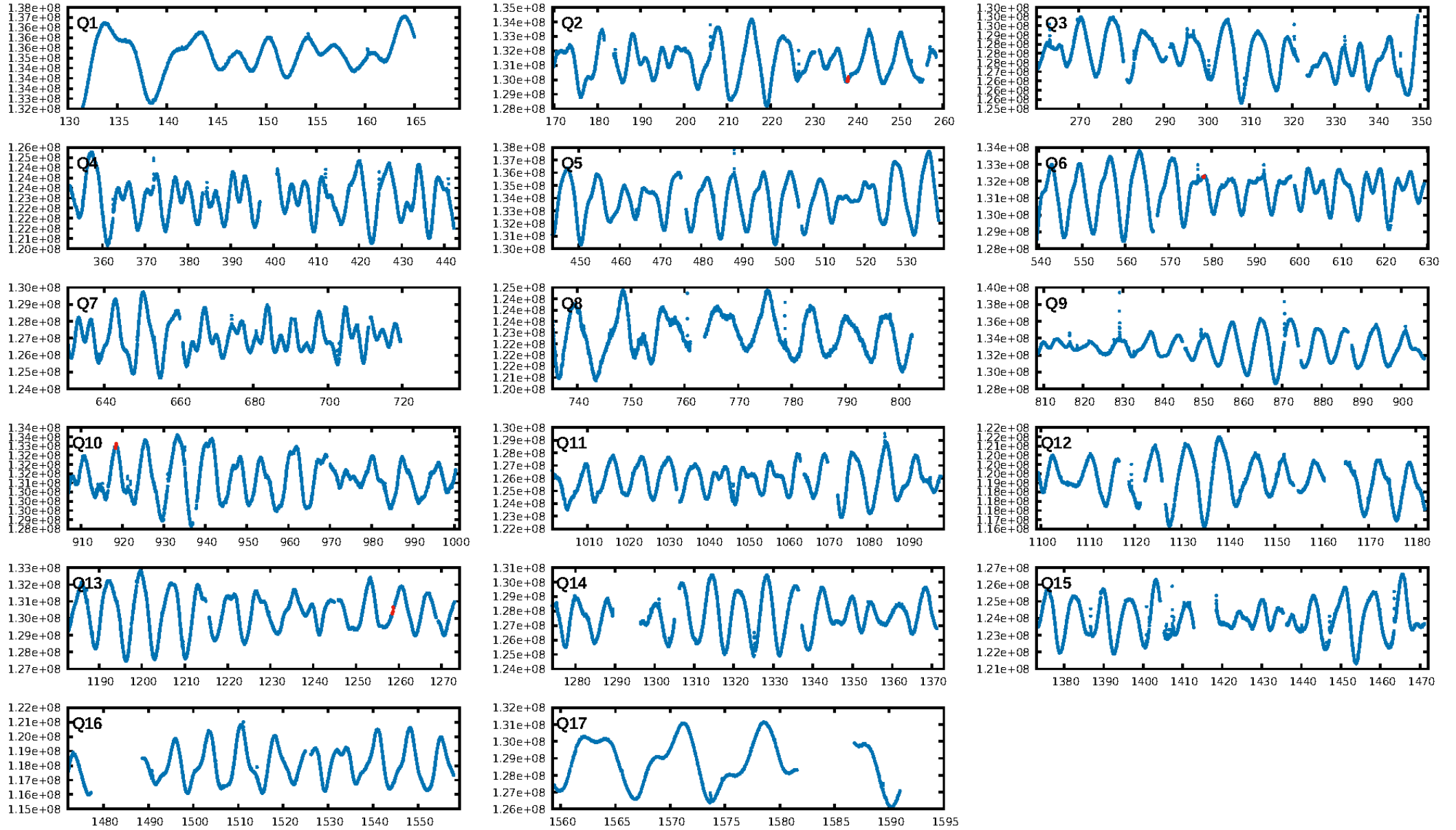
ShortPeriod-sig: 100.0% [415.94 σ]
LongPeriod-sig: 100.0% [234.12 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.7509

Centroid-sig: 32.0%
Centroid-so: 0.457 arcsec [0.91 σ]
OotOffset-rm: 0.613 arcsec [0.74 σ]
KicOffset-rm: 0.527 arcsec [0.39 σ]
OotOffset-st: 3/0/0/1 [4]
KicOffset-st: 3/0/0/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

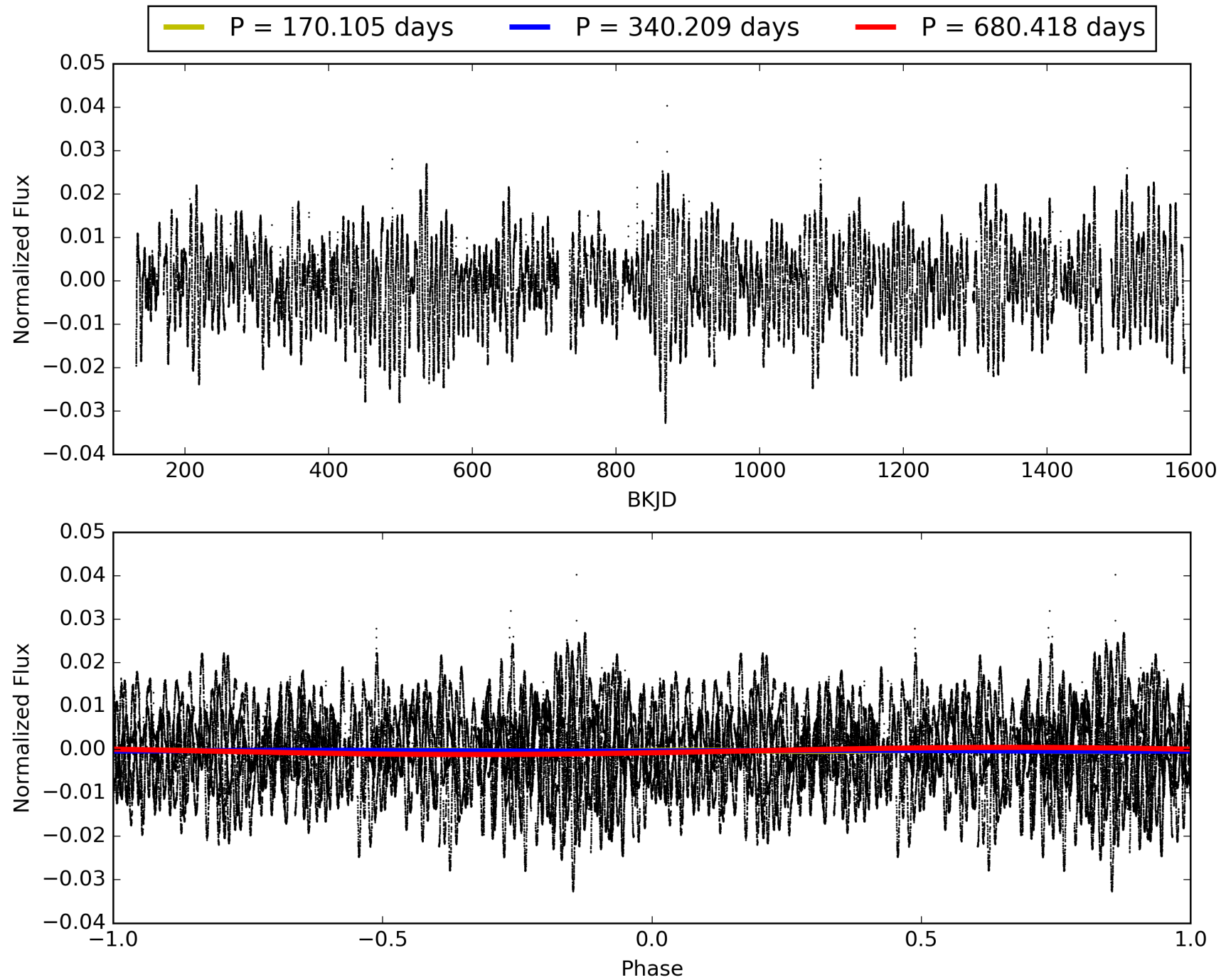
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:39:31 Z

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

TCE 007017392-05, PDC Light Curves

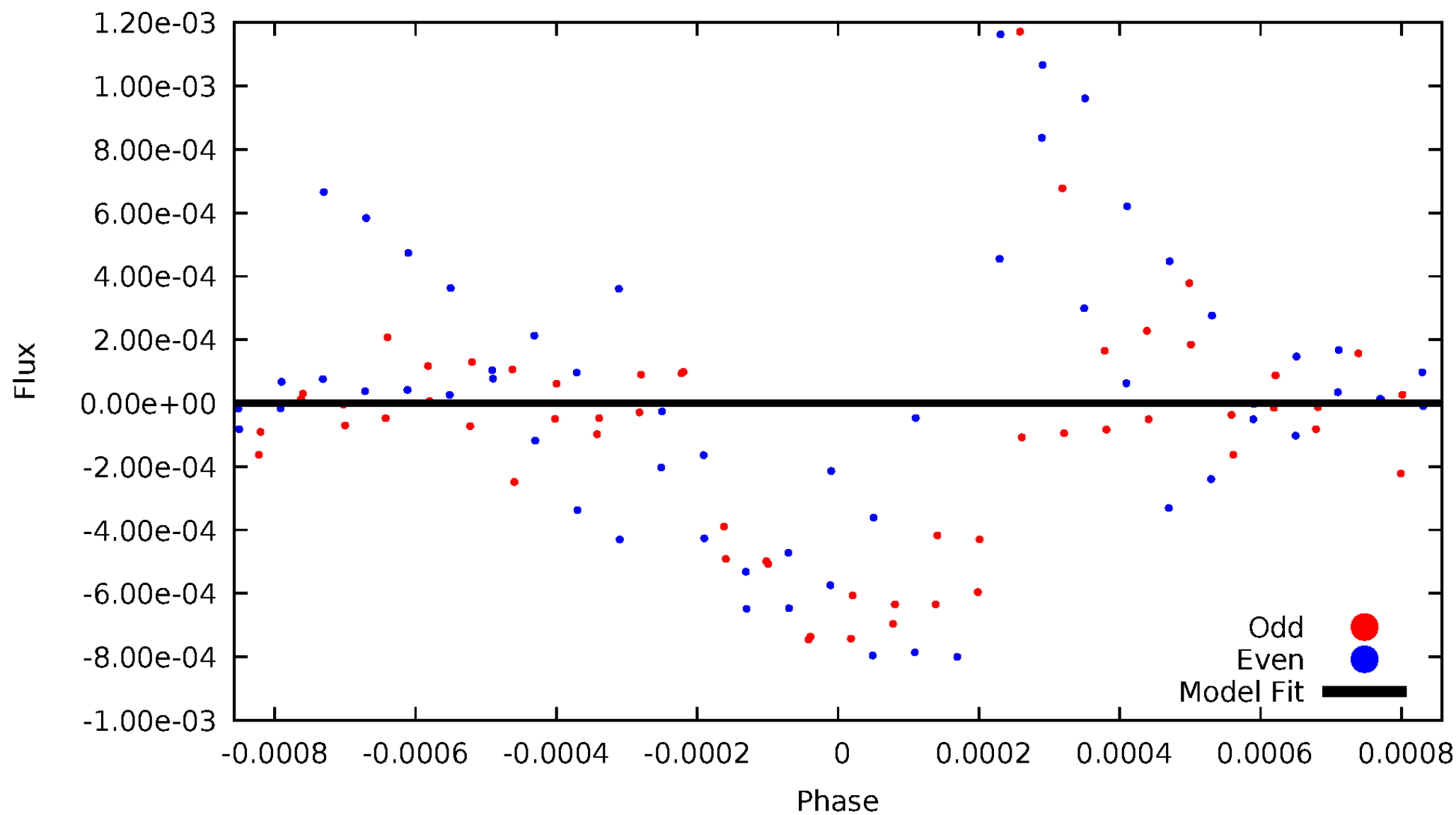


TCE 007017392-05



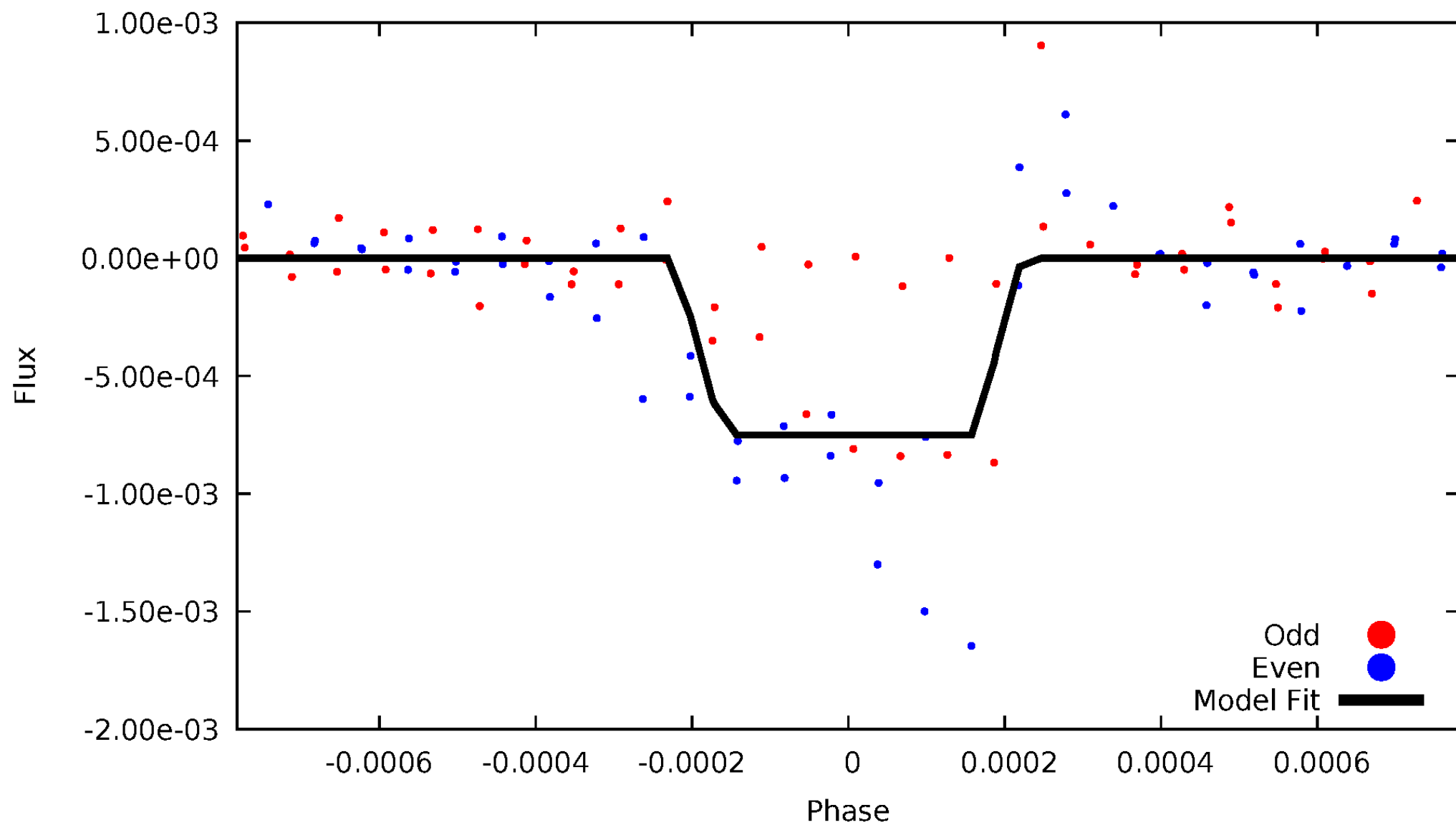
DV Odd/Even

TCE 007017392-05



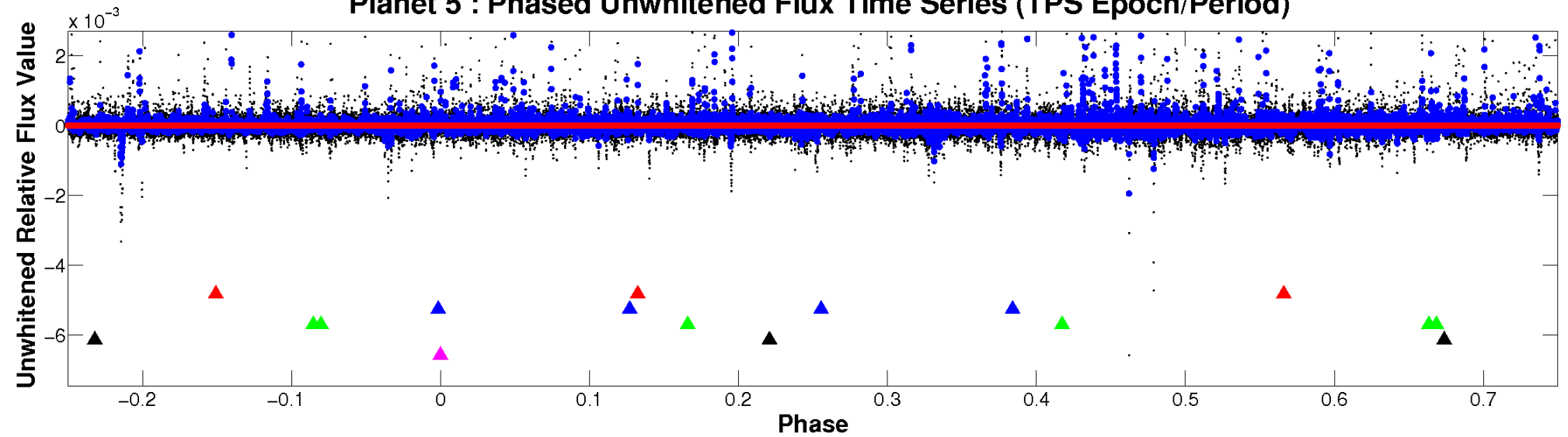
ALT Odd/Even

TCE 007017392-05



Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

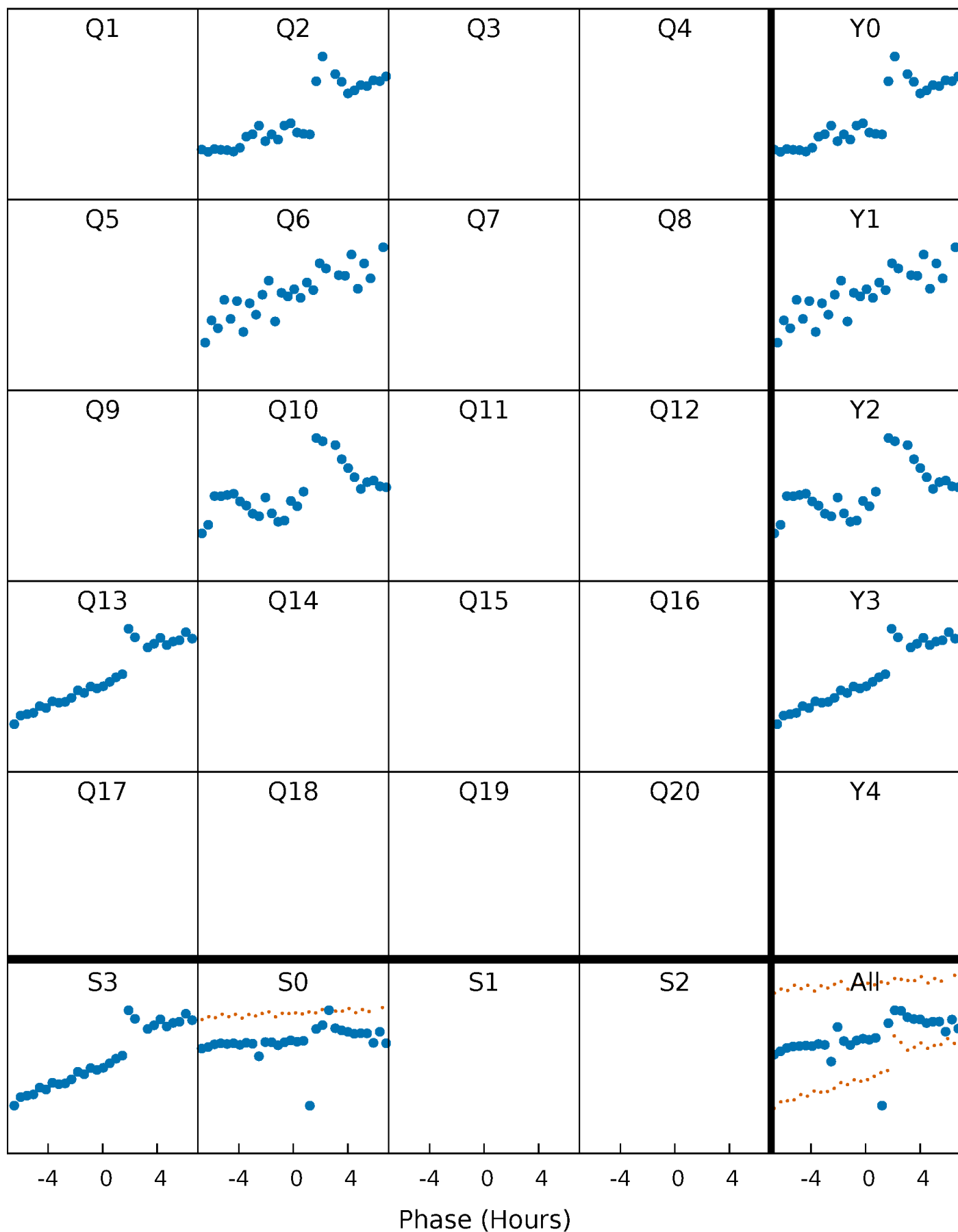


Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)



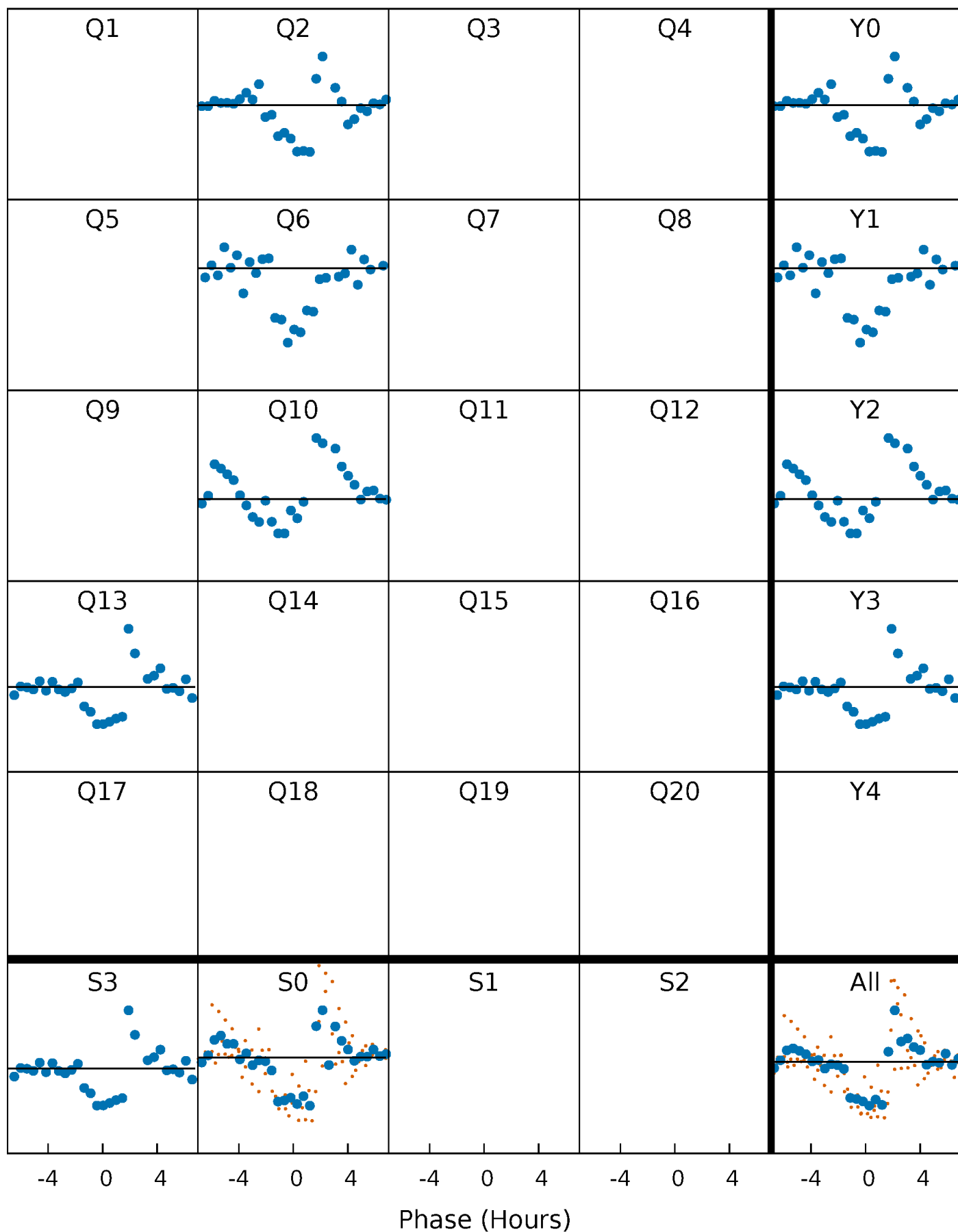
PDC Quarter-Phased Transit Curves

TCE 007017392-05 $P=340.209074$ Days $T_0=237.956219$ (BKJD)



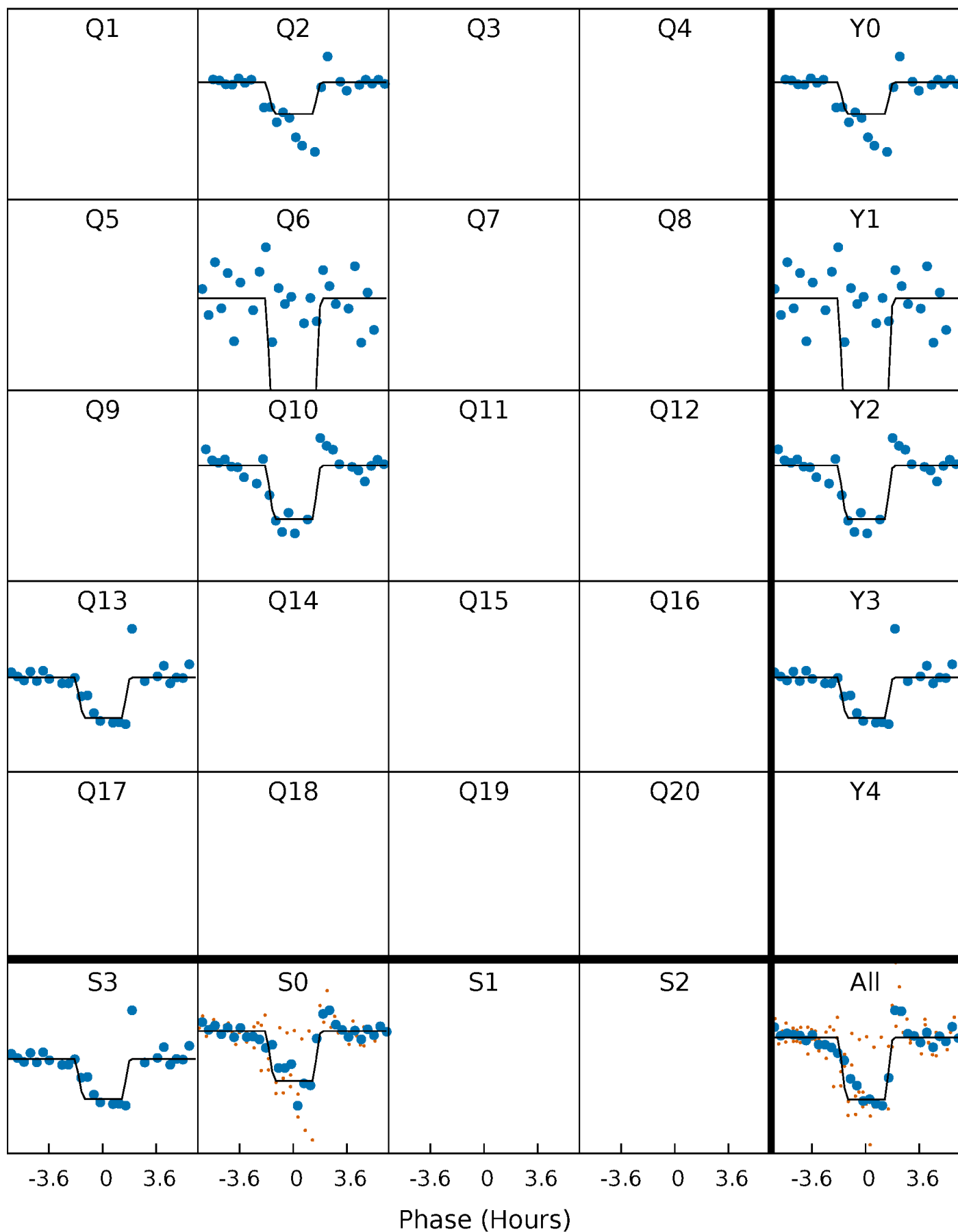
DV Quarter-Phased Transit Curves

TCE 007017392-05 $P=340.209074$ Days $T_0=237.956219$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

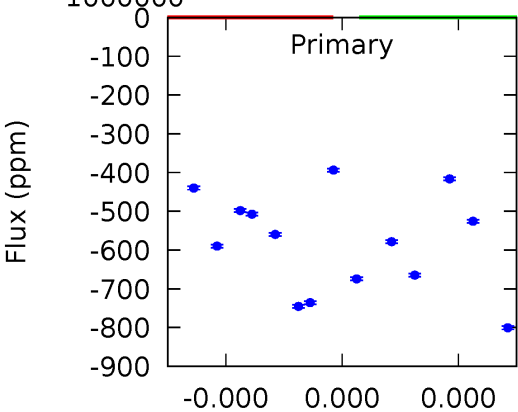
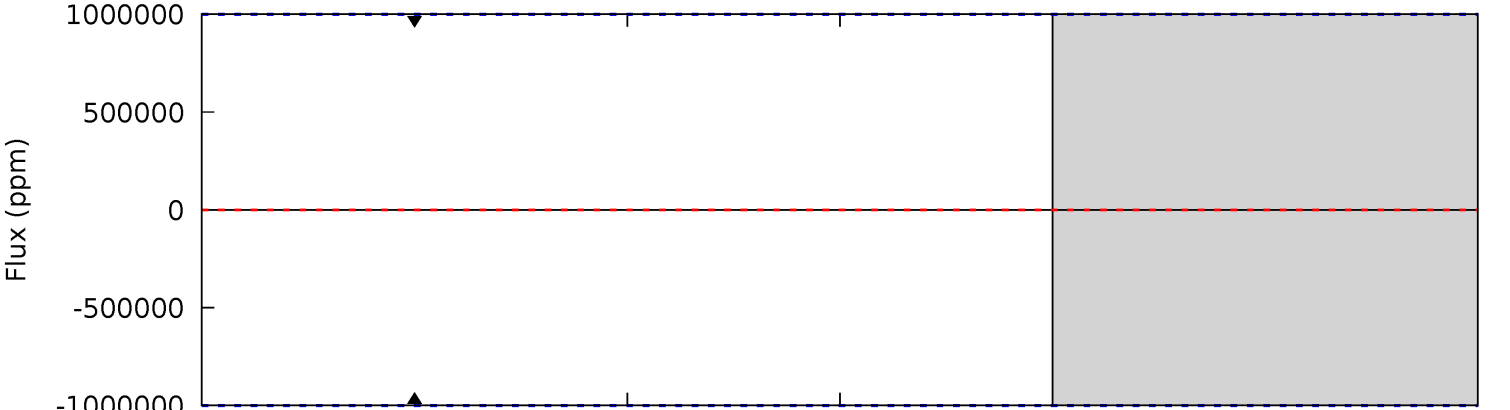
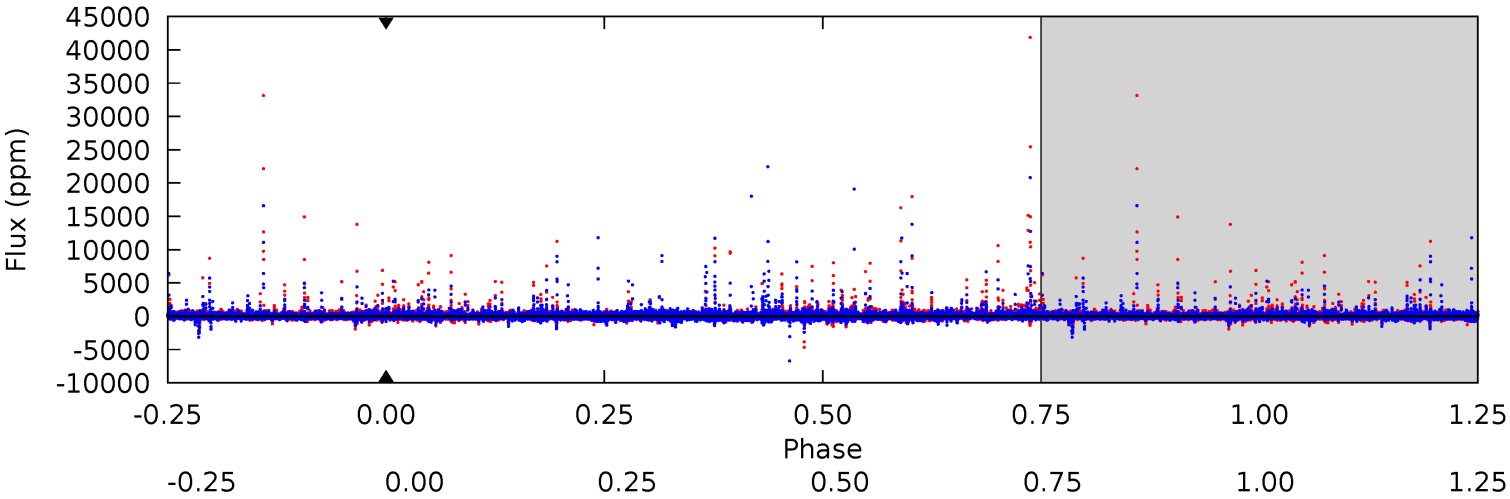
TCE 007017392-05 $P=340.209074$ Days $T_0=237.960213$ (BKJD)



DV Model-Shift Uniqueness Test

007017392-05, P = 340.209074 Days, E = 237.956219 Days

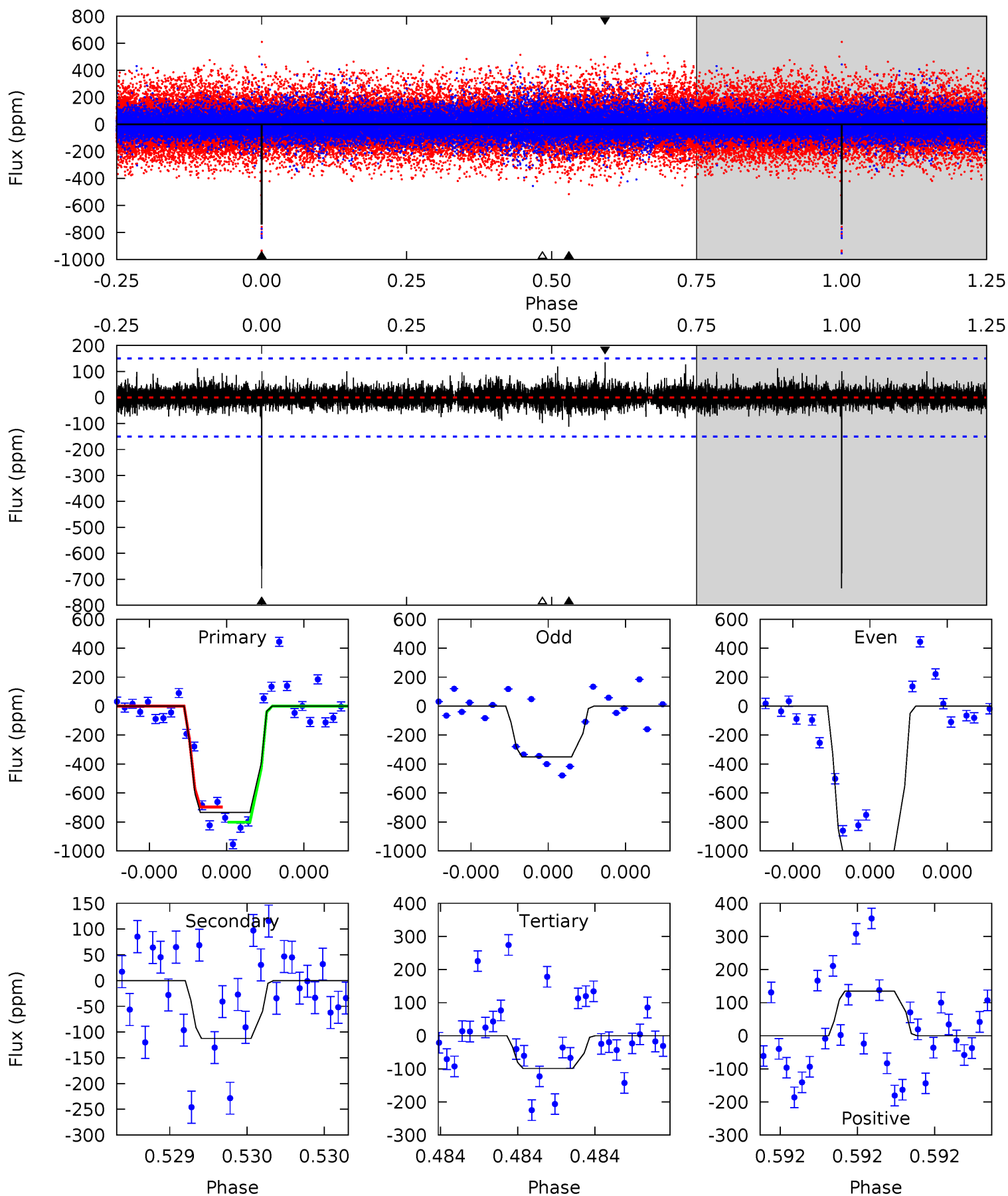
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007017392-05, P = 340.209074 Days, E = 237.960213 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	4.19	3.69	5.02	5.60	3.53	0.83	23.7	22.4	0.50	-0.83	15.0	0.90	0.15	1.94



Stellar Parameters For KIC 007017392

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4904^{+146}_{-132}	$3.848^{+0.742}_{-0.318}$	$0.120^{+0.250}_{-0.250}$	$1.909^{+1.008}_{-1.232}$	$0.935^{+0.217}_{-0.178}$	$0.189^{+2.731}_{-0.138}$
	+3%/-3%	+19%/-8%	+208%/-208%	+53%/-65%	+23%/-19%	+1443%/-73%
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 007017392-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$14.93^{+17.73}_{-10.86}$	427^{+59}_{-72}	-3986^{+18036}_{-9859}	$-3263.114^{+415439.014}_{-476611.679}$
Alt.	-112 ± 27	$14.10^{+18.03}_{-10.23}$	429^{+61}_{-74}	2593^{+1155}_{-392}	276^{+3287}_{-225}

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 $A_{obs} \gg 1.0$

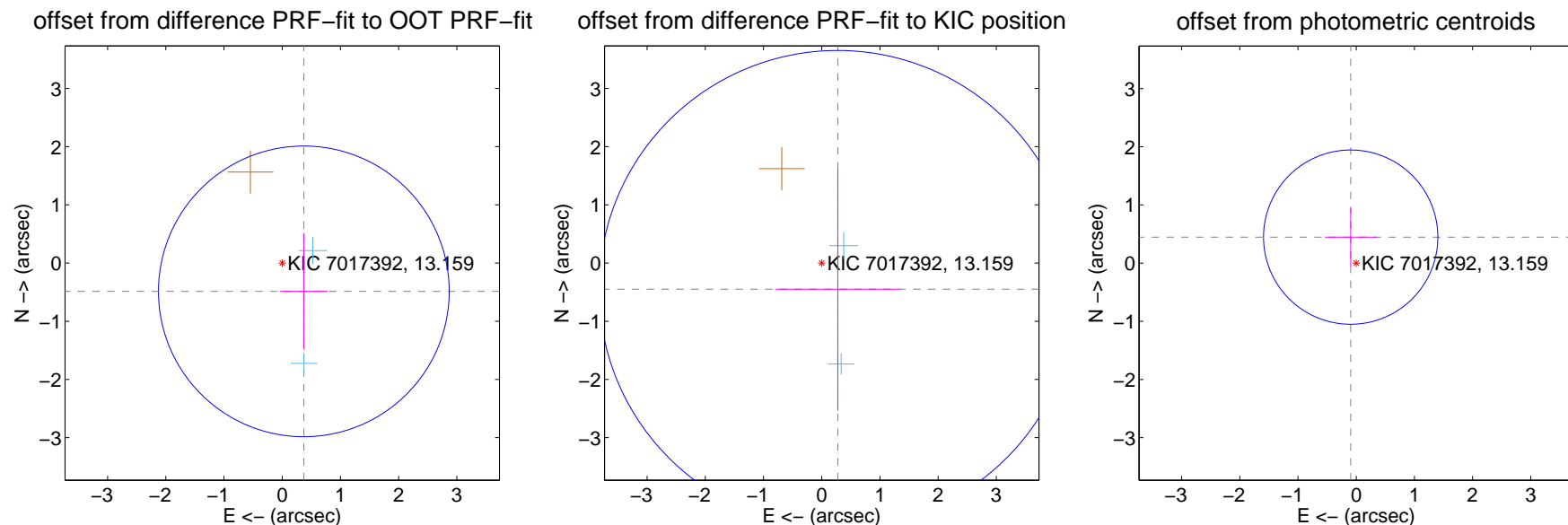
DV Centroid Data

Supplemental centroid analysis for 007017392-05. Kepler magnitude: 13.16. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

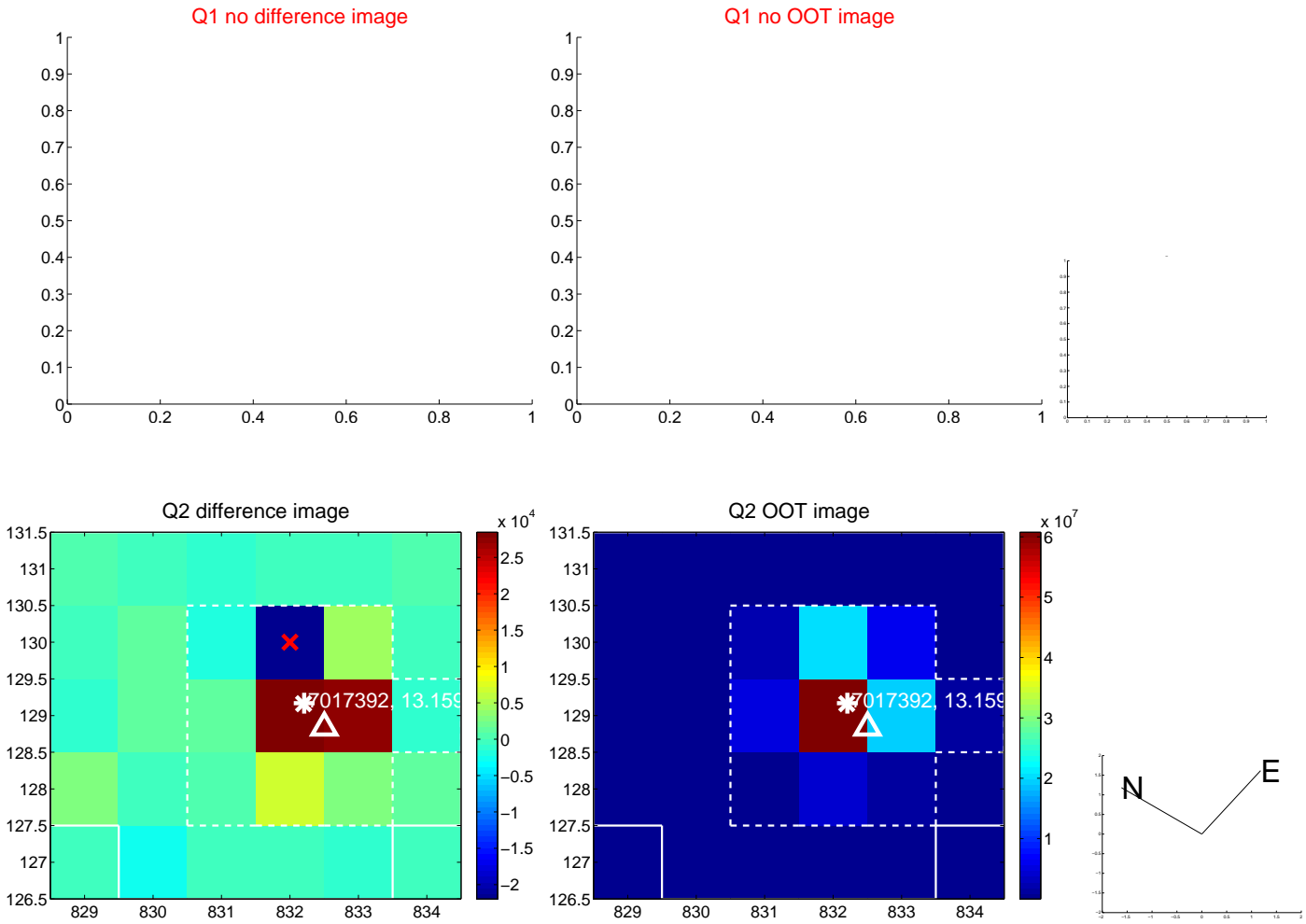
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.613 ± 0.833	0.74	-0.372 ± 0.410	-0.487 ± 1.000
PRF-fit source offset from KIC position	0.527 ± 1.368	0.39	-0.276 ± 1.069	-0.449 ± 2.086
photometric centroid source offset	0.46 ± 0.50	0.91	0.09 ± 0.44	0.45 ± 0.50

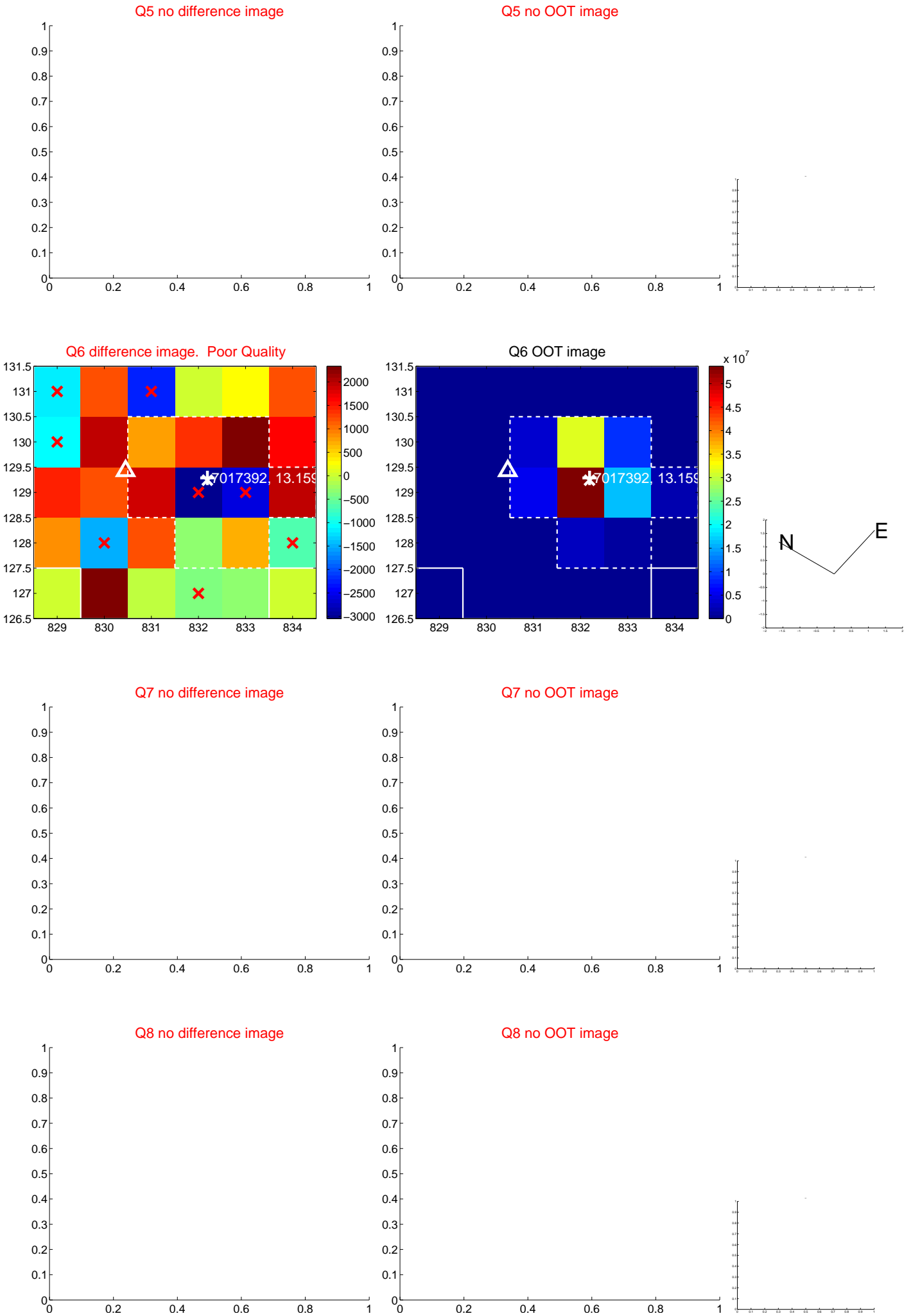


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

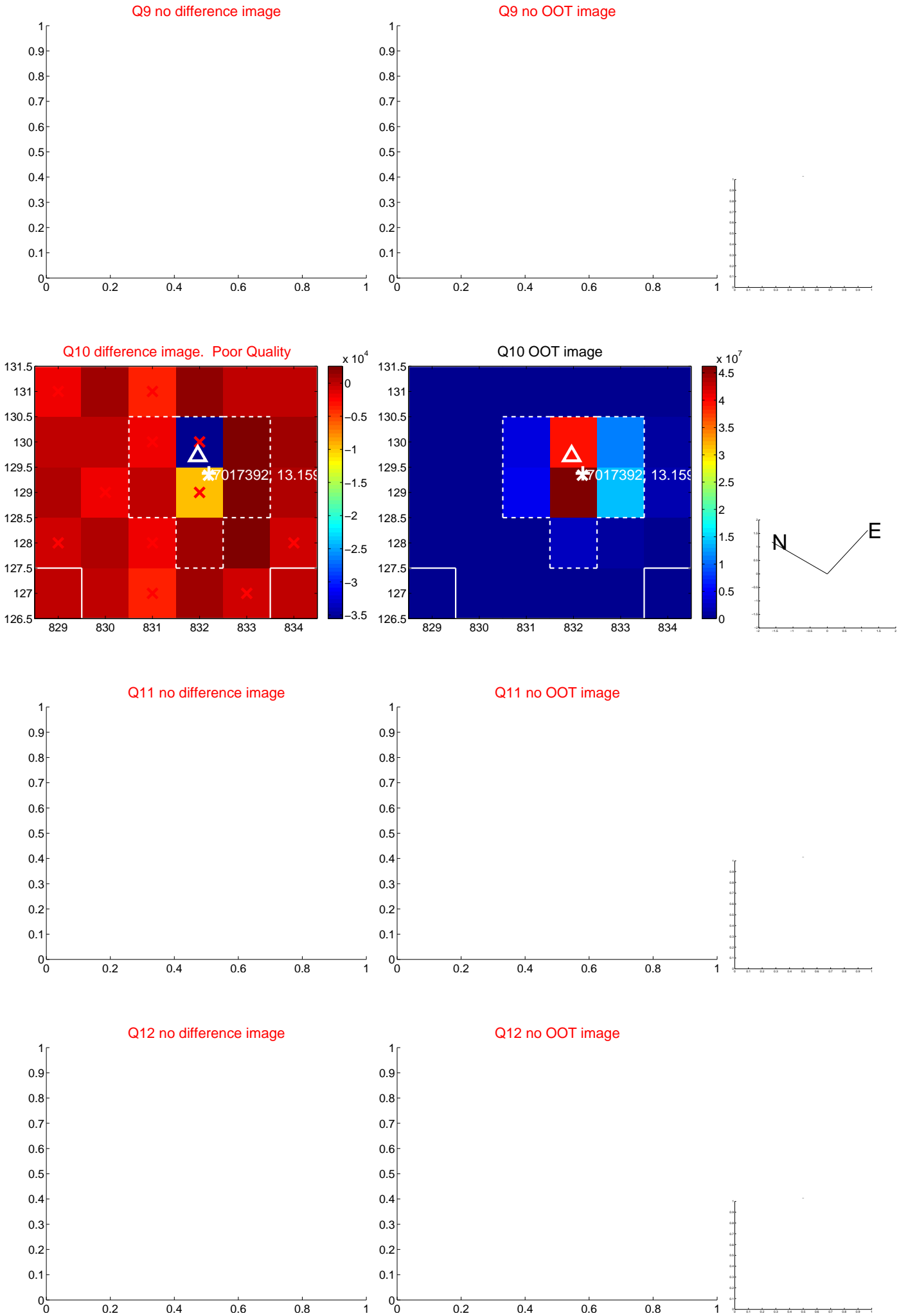
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



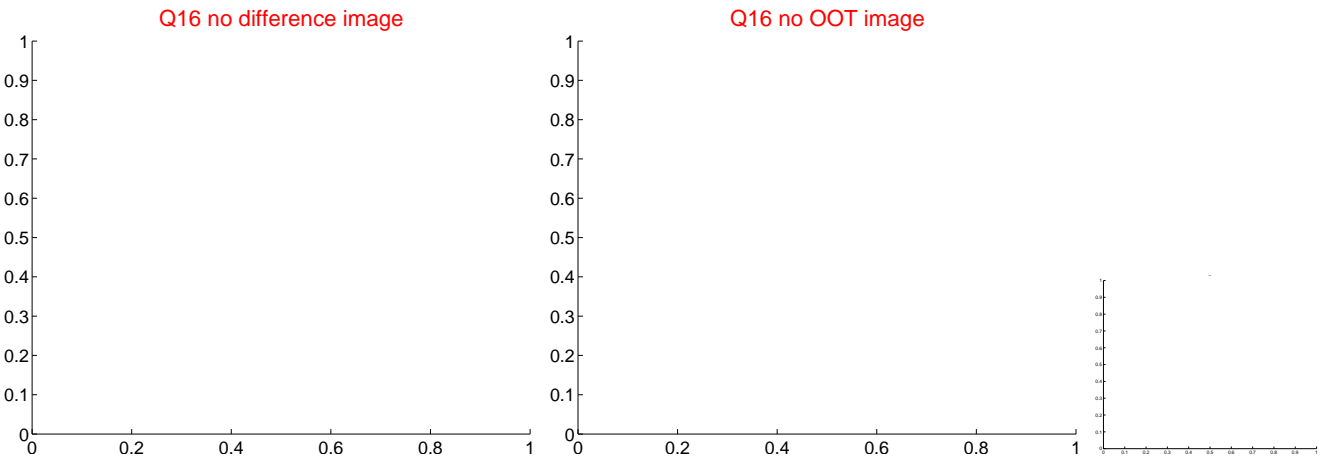
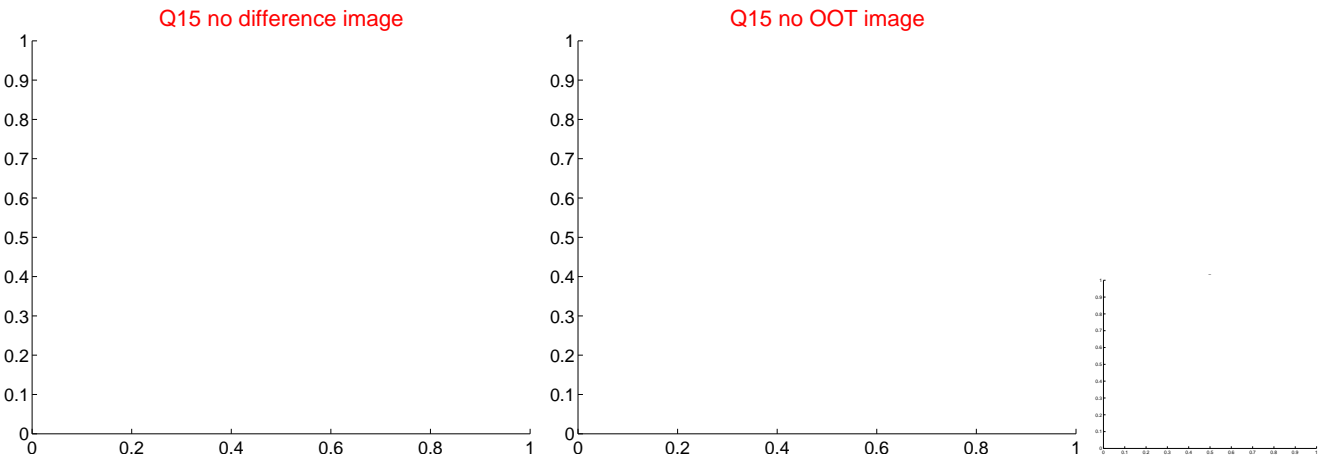
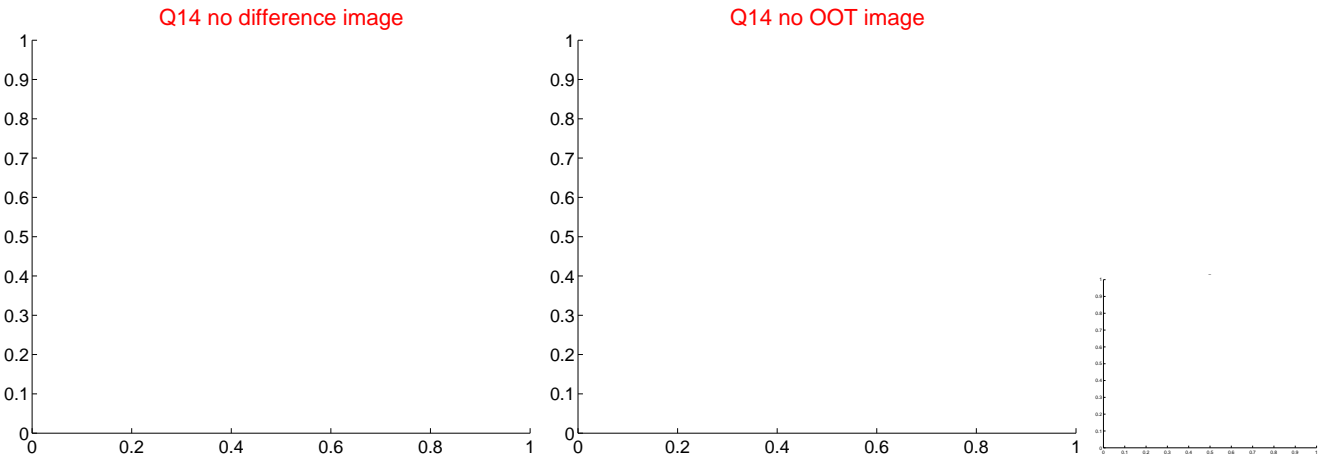
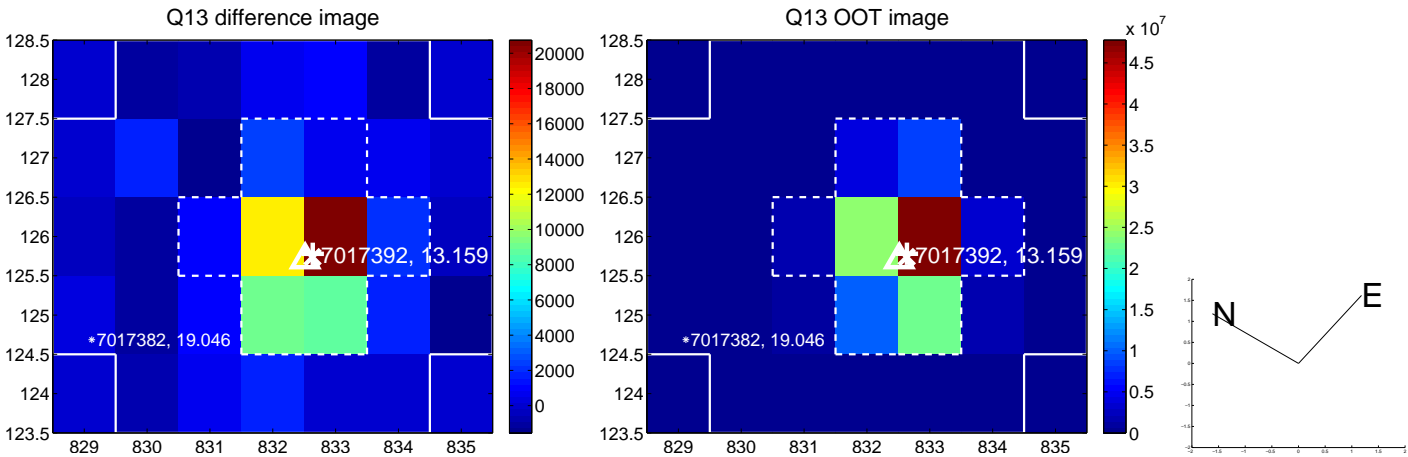
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



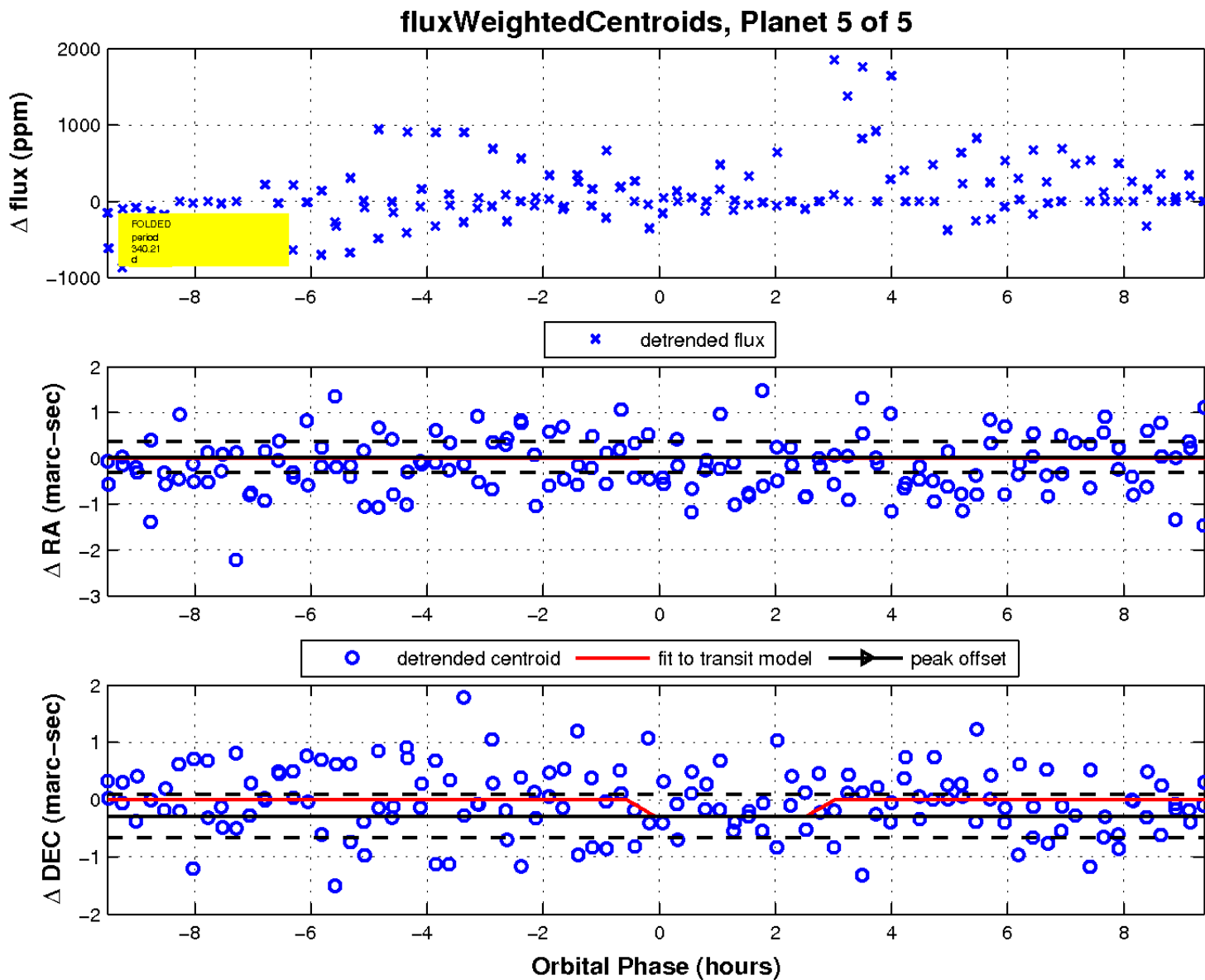
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

