

KIC 006530792

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})
006530792-01	OBS	No	304.199384	256.509216	3060.5	5.781	11.2	7.5	0.37	3469	2.18	0.04
006530792-02	OBS	No	449.052254	195.640765	3493.0	10.043	10.0	8.1	0.37	3469	2.18	0.03
006530792-03	OBS	No	350.994330	164.386842	2129.6	5.463	9.9	6.4	0.37	3469	1.73	0.04
006530792-04	OBS	No	441.391242	176.114211	2676.9	2.311	9.8	5.7	0.37	3469	2.07	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006530792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
006530792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_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.

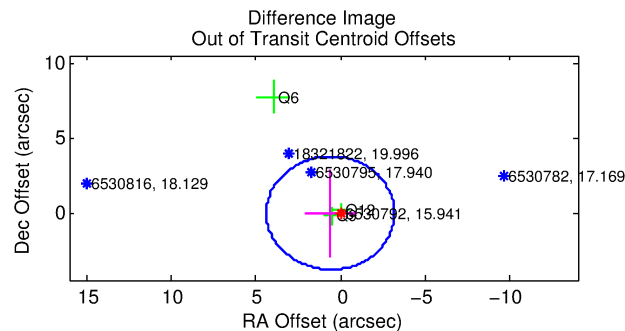
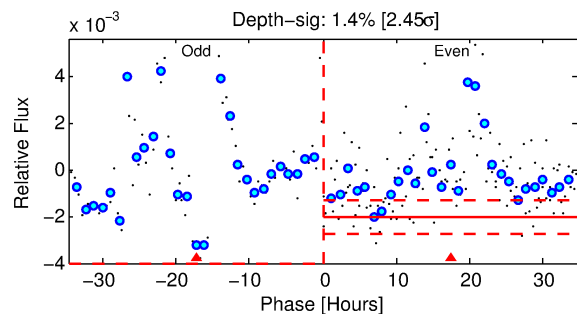
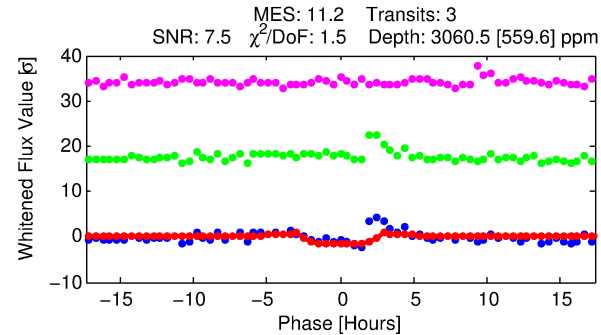
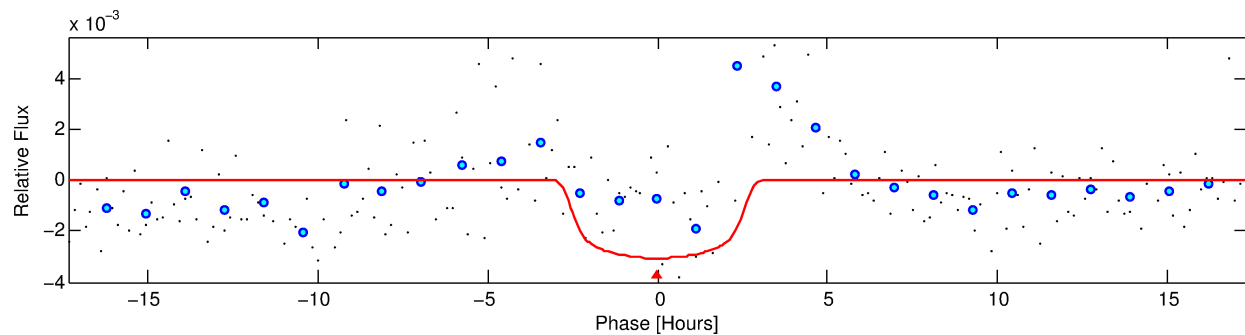
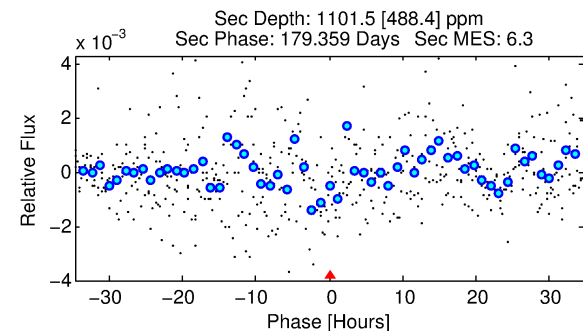
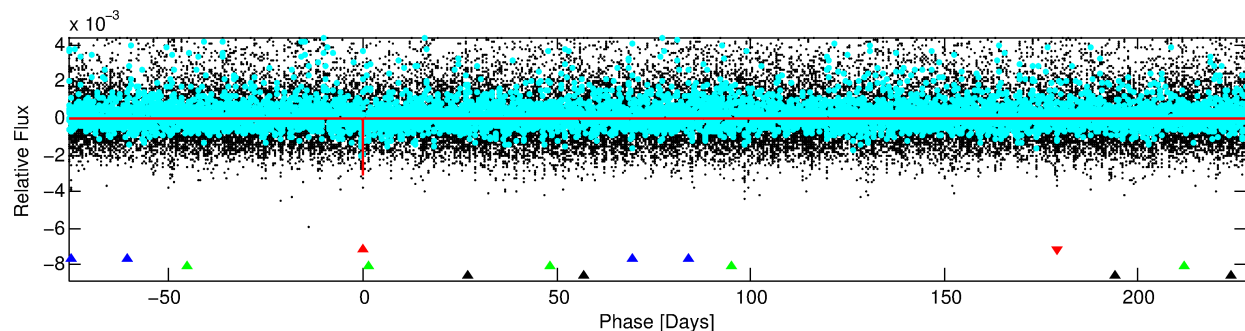
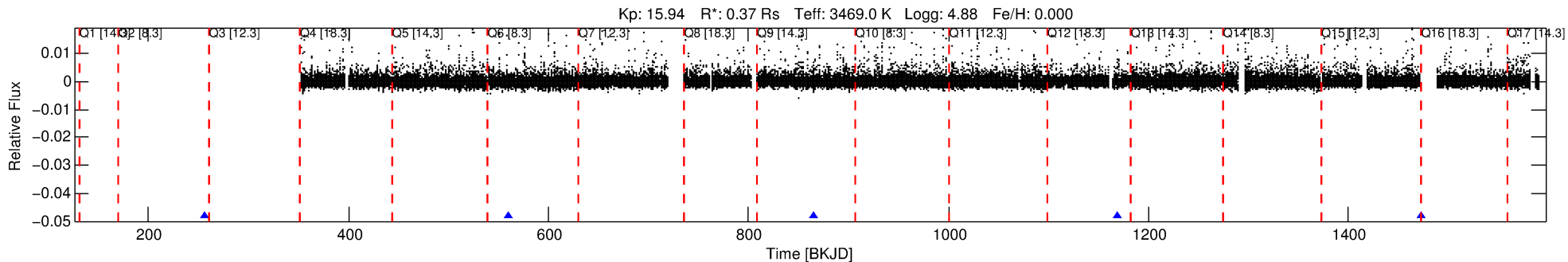
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006530792-01

No Significant Match Found

DV One-Page Summary

KIC: 6530792 Candidate: 1 of 4 Period: 304.199 d



DV Fit Results:

Period = 304.19938 [0.00839] d
Epoch = 256.5092 [0.0188] BKJD
Rp/R* = 0.0545 [0.0147]
a/R* = 307.66 [303.21]
b = 0.73 [0.65]
Seff = 0.04 [0.00]
Teq = 116 [3] K
Rp = 2.18 [0.62] Re
a = 0.6370 [0.0441] AU
Ag = 51928.48 [36492.37] [1.42σ]
Teffp = 2708 [474] K [5.47σ]

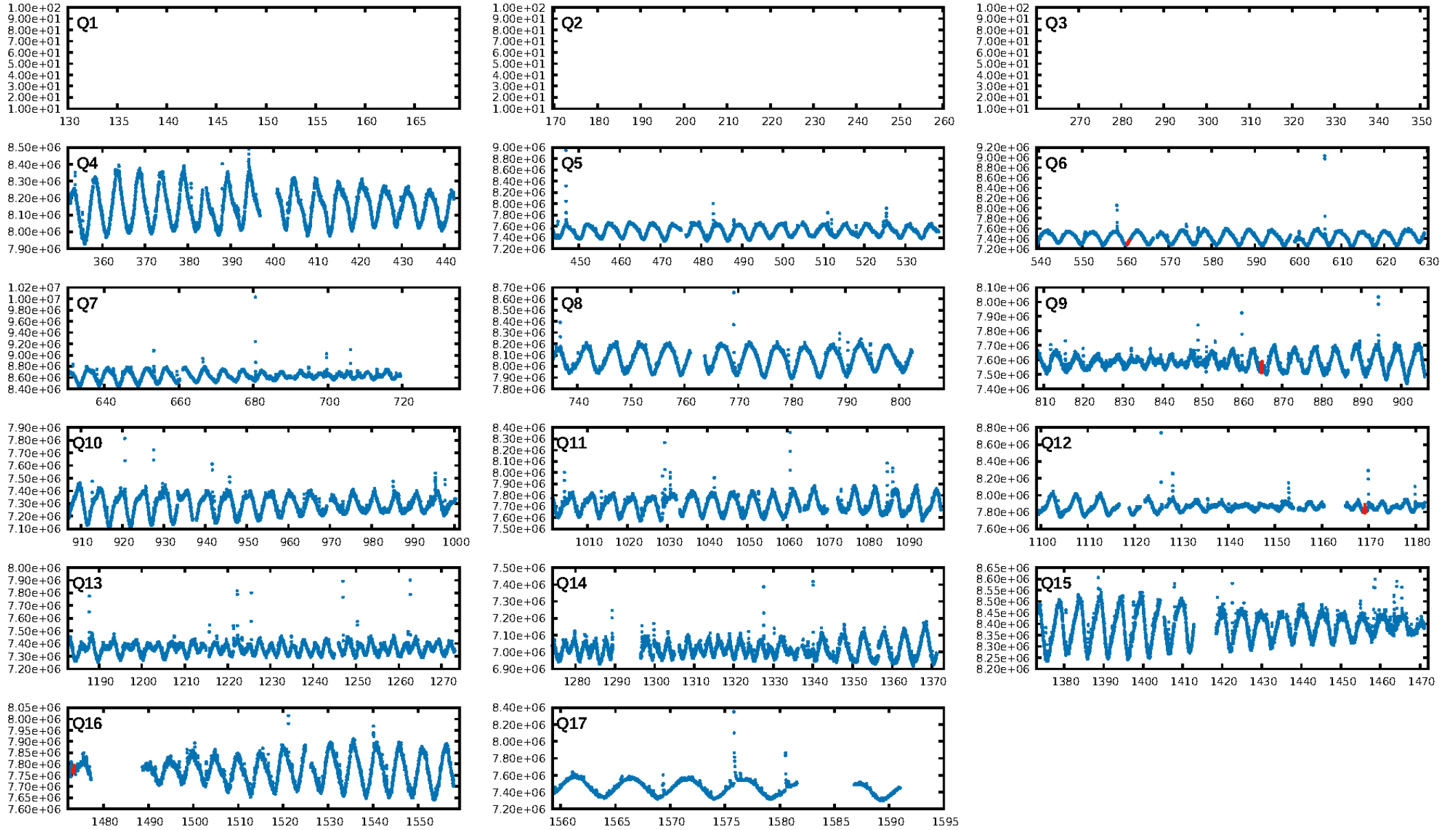
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [141.20σ]
ModelChiSquare2-sig: 7.1%
ModelChiSquareGof-sig: 37.0%
Bootstrap-pfa: 1.37e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3525
Centroid-sig: 47.6%
Centroid-so: 0.362 arcsec [0.48σ]
OotOffset-rm: 0.600 arcsec [0.48σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.961 arcsec [0.50σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

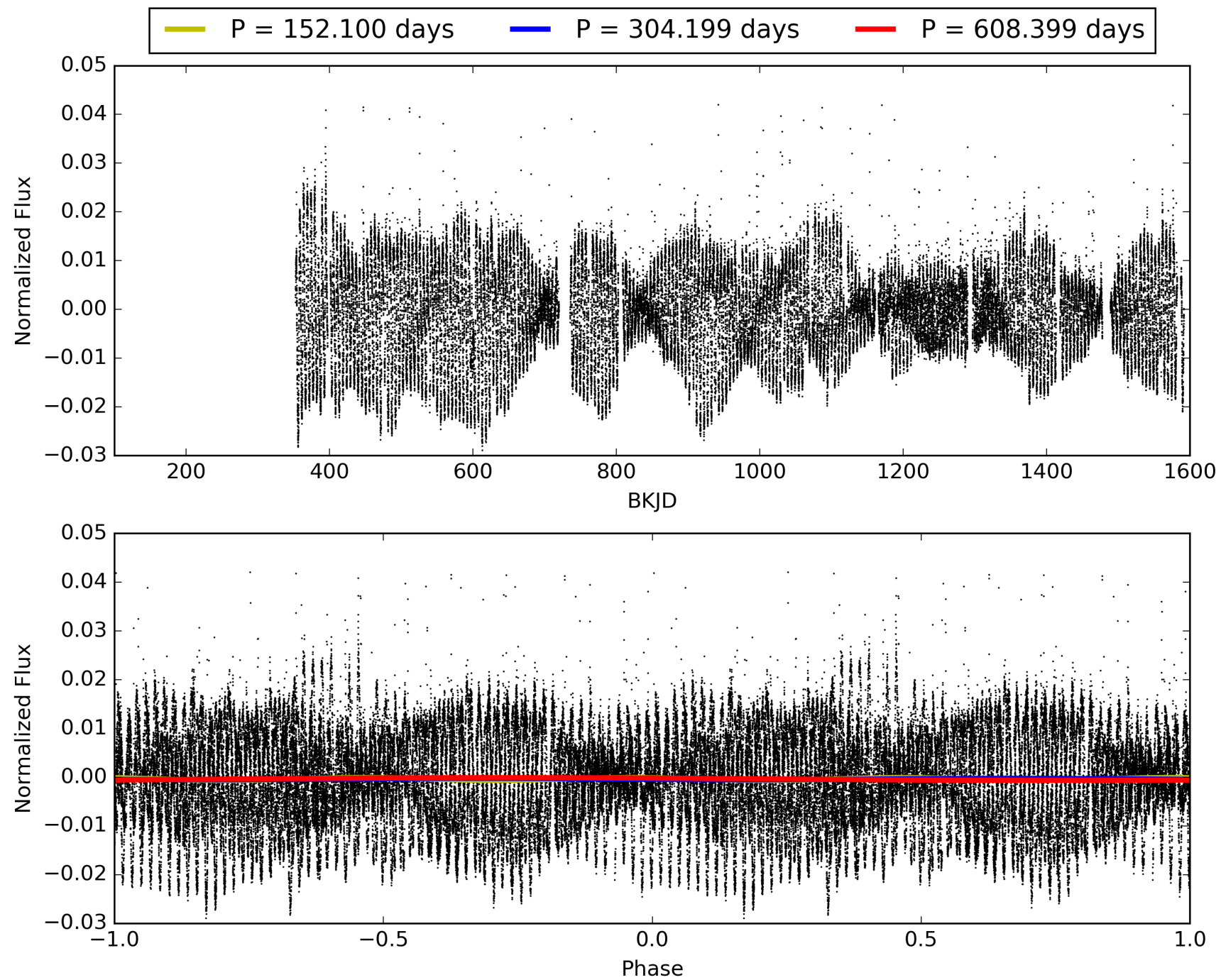
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:20:08 Z

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

TCE 006530792-01, PDC Light Curves

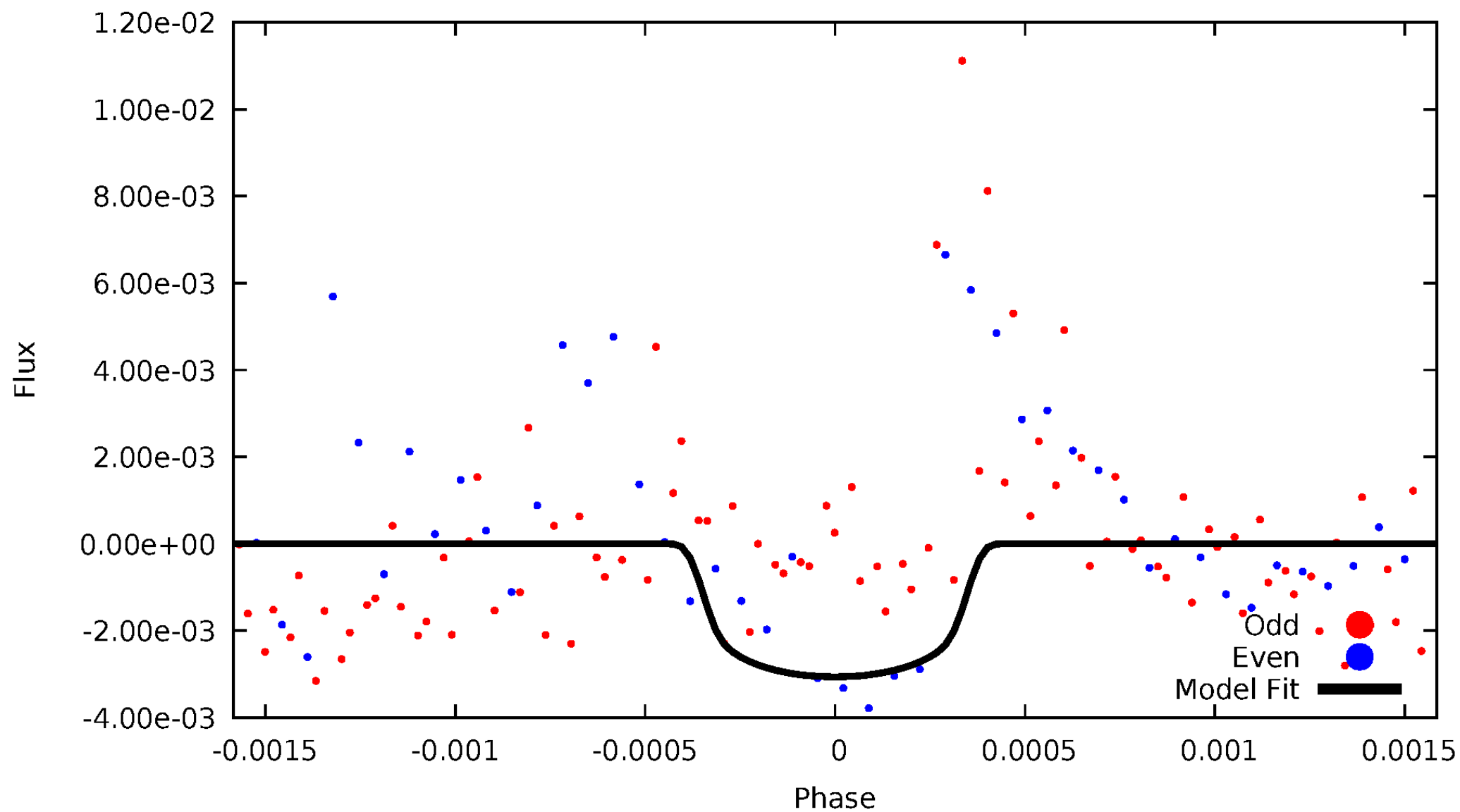


TCE 006530792-01



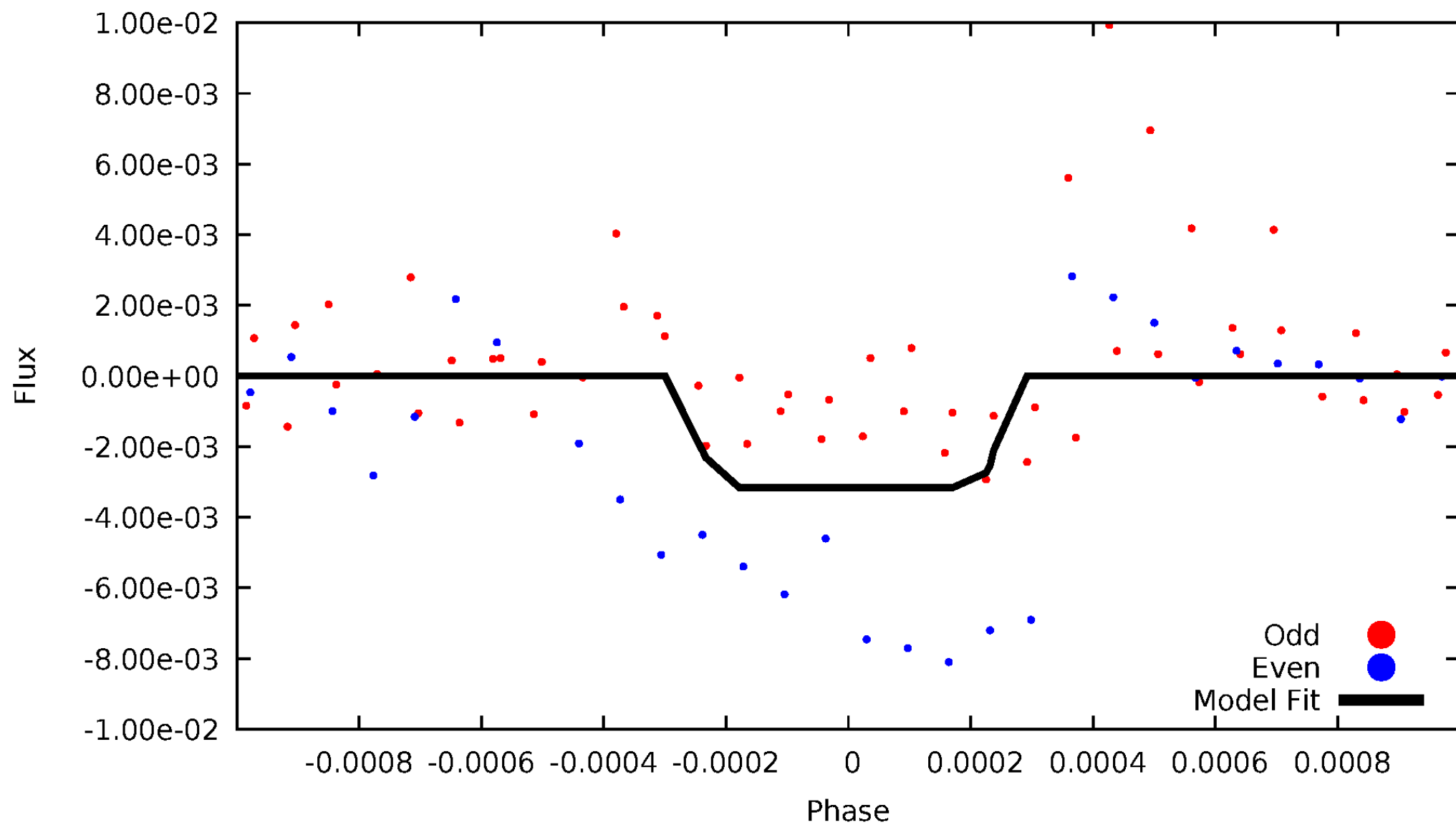
DV Odd/Even

TCE 006530792-01

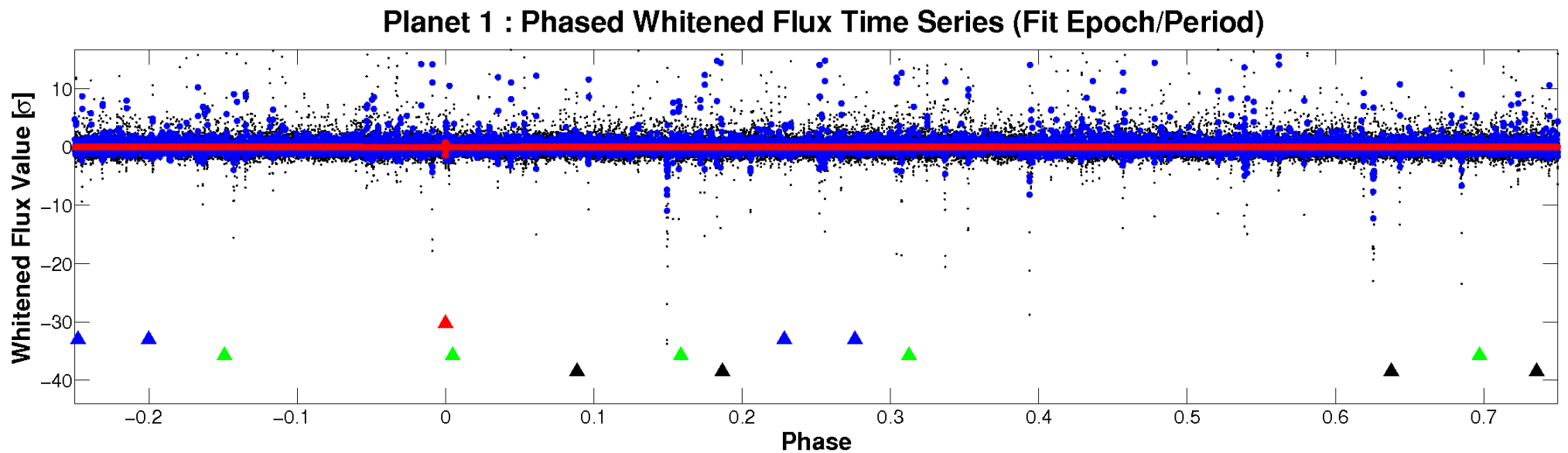
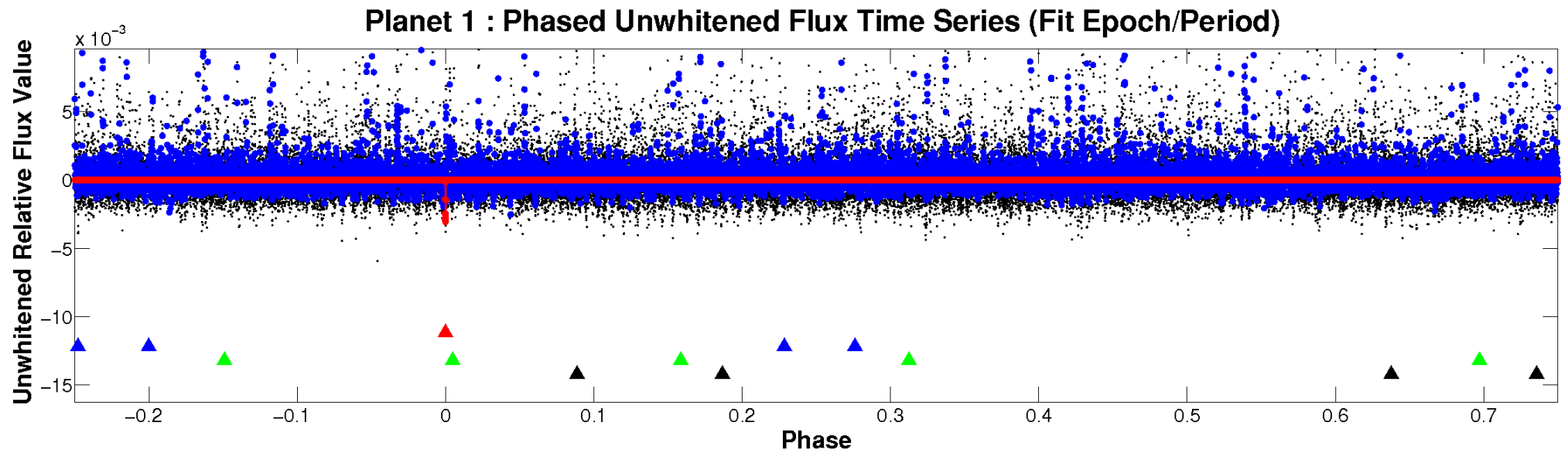


ALT Odd/Even

TCE 006530792-01

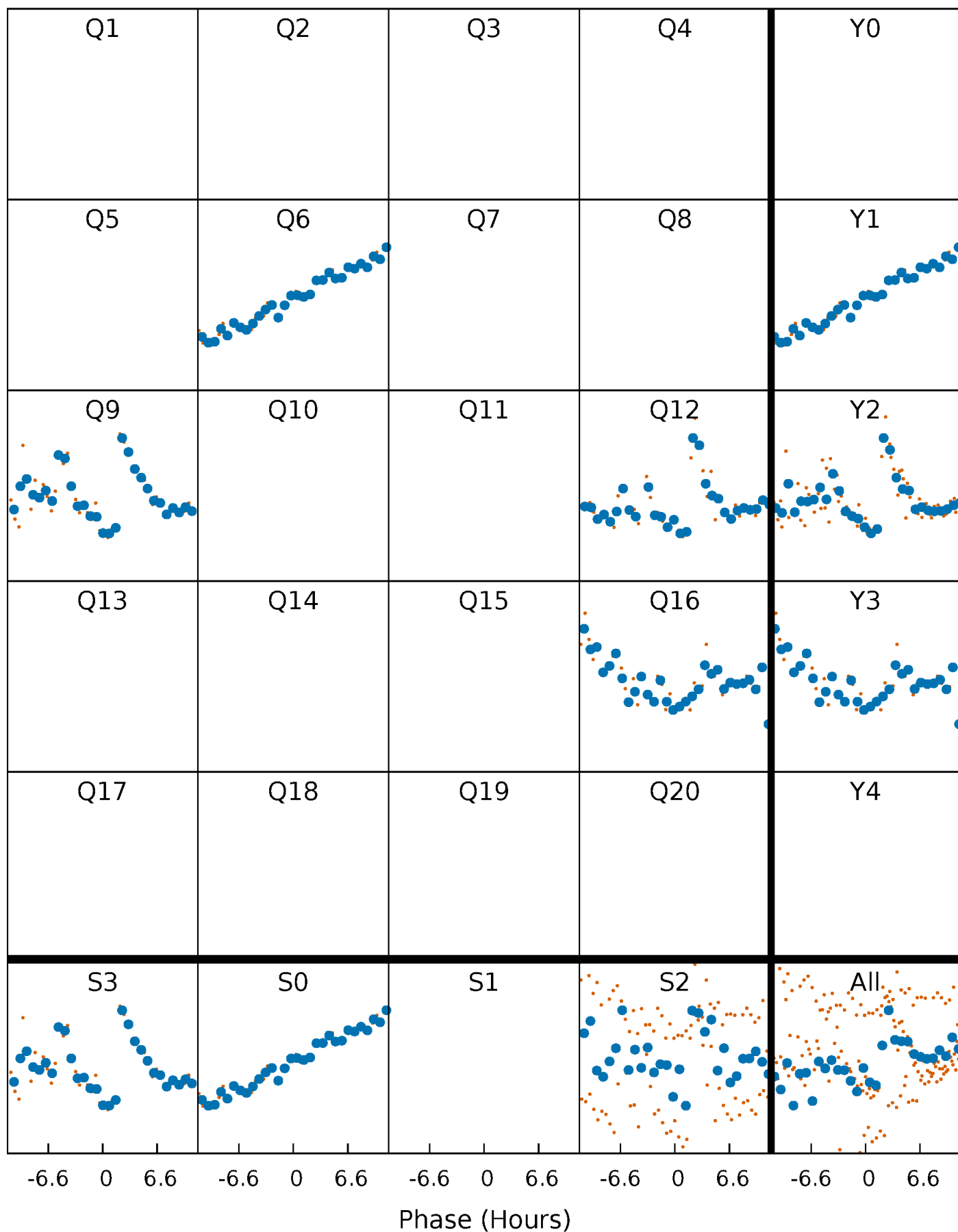


Non-Whitened Vs. Whitened Light Curve



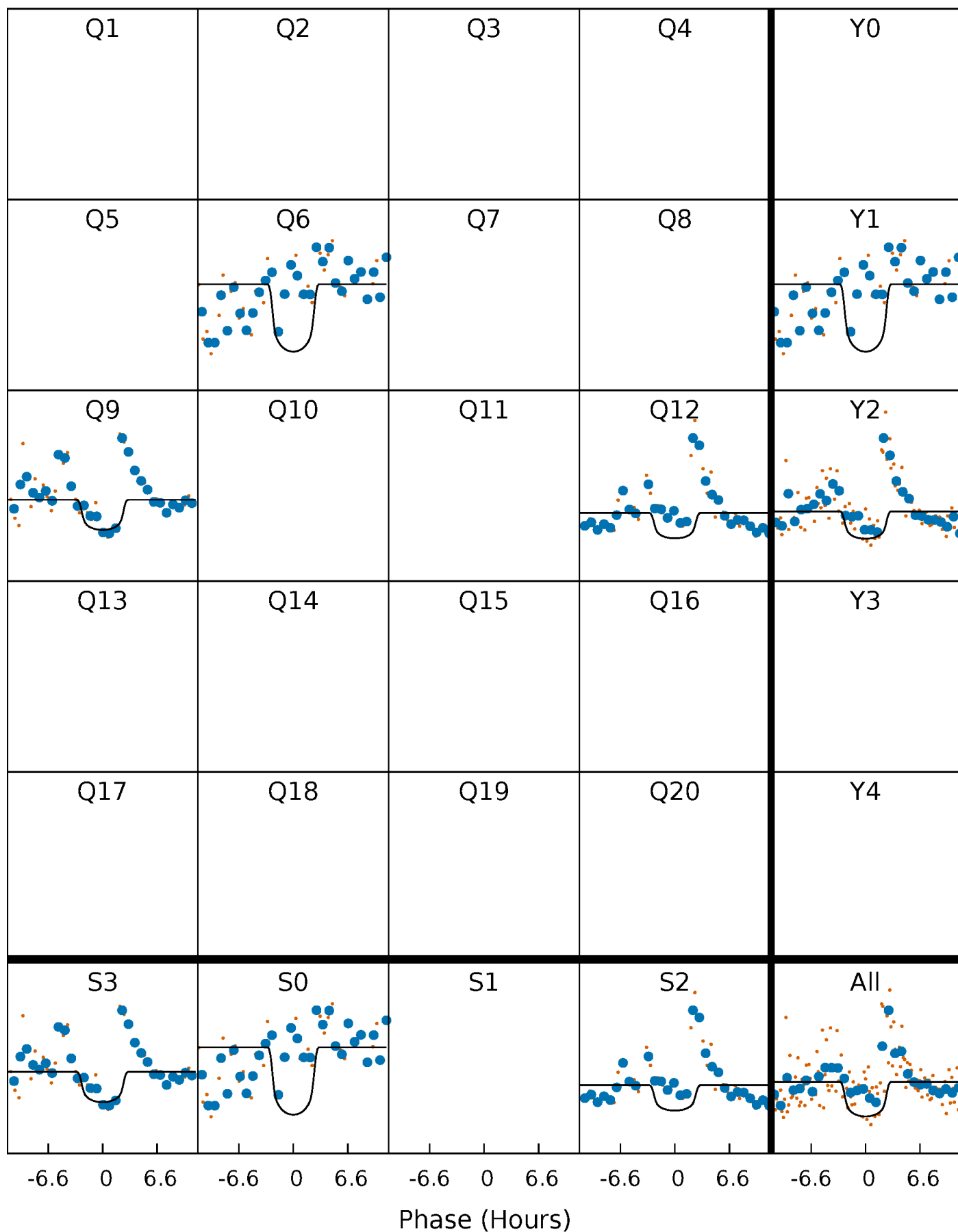
PDC Quarter-Phased Transit Curves

TCE 006530792-01 P=304.199384 Days $T_0=256.509216$ (BKJD)



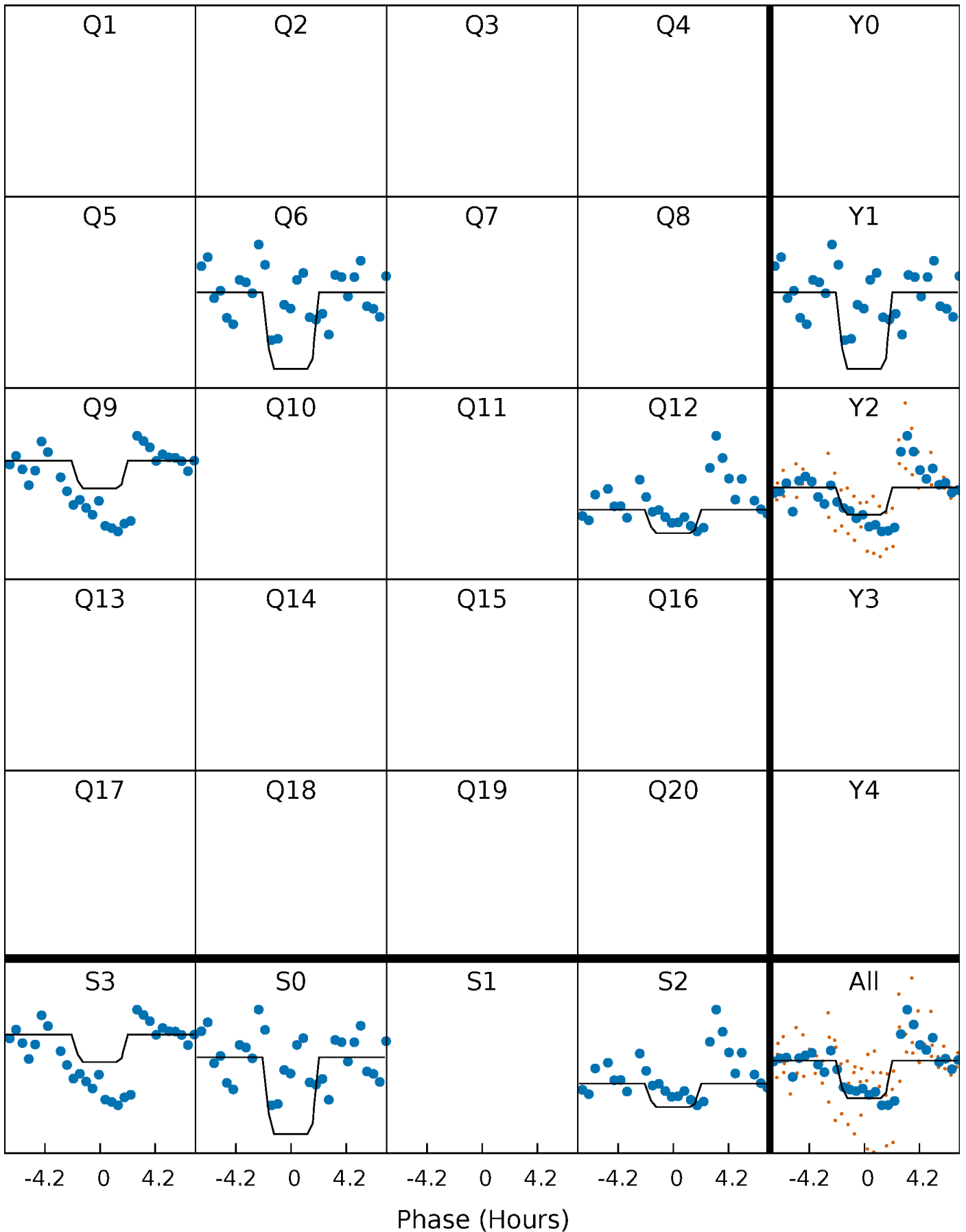
DV Quarter-Phased Transit Curves

TCE 006530792-01 P=304.199384 Days $T_0=256.509216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

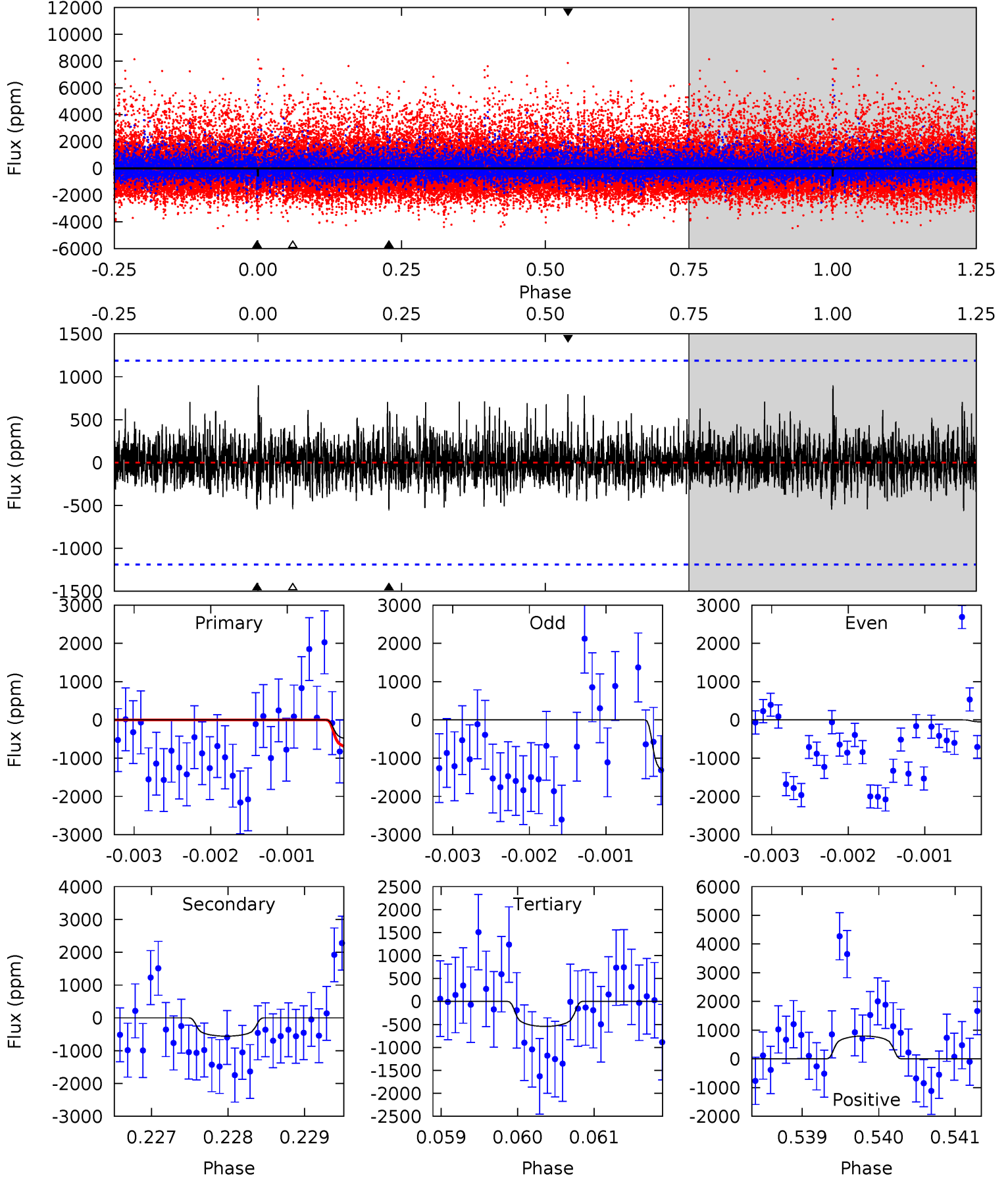
TCE 006530792-01 P=304.194408 Days $T_0=256.496190$ (BKJD)



DV Model-Shift Uniqueness Test

006530792-01, P = 304.199384 Days, E = 256.509216 Days

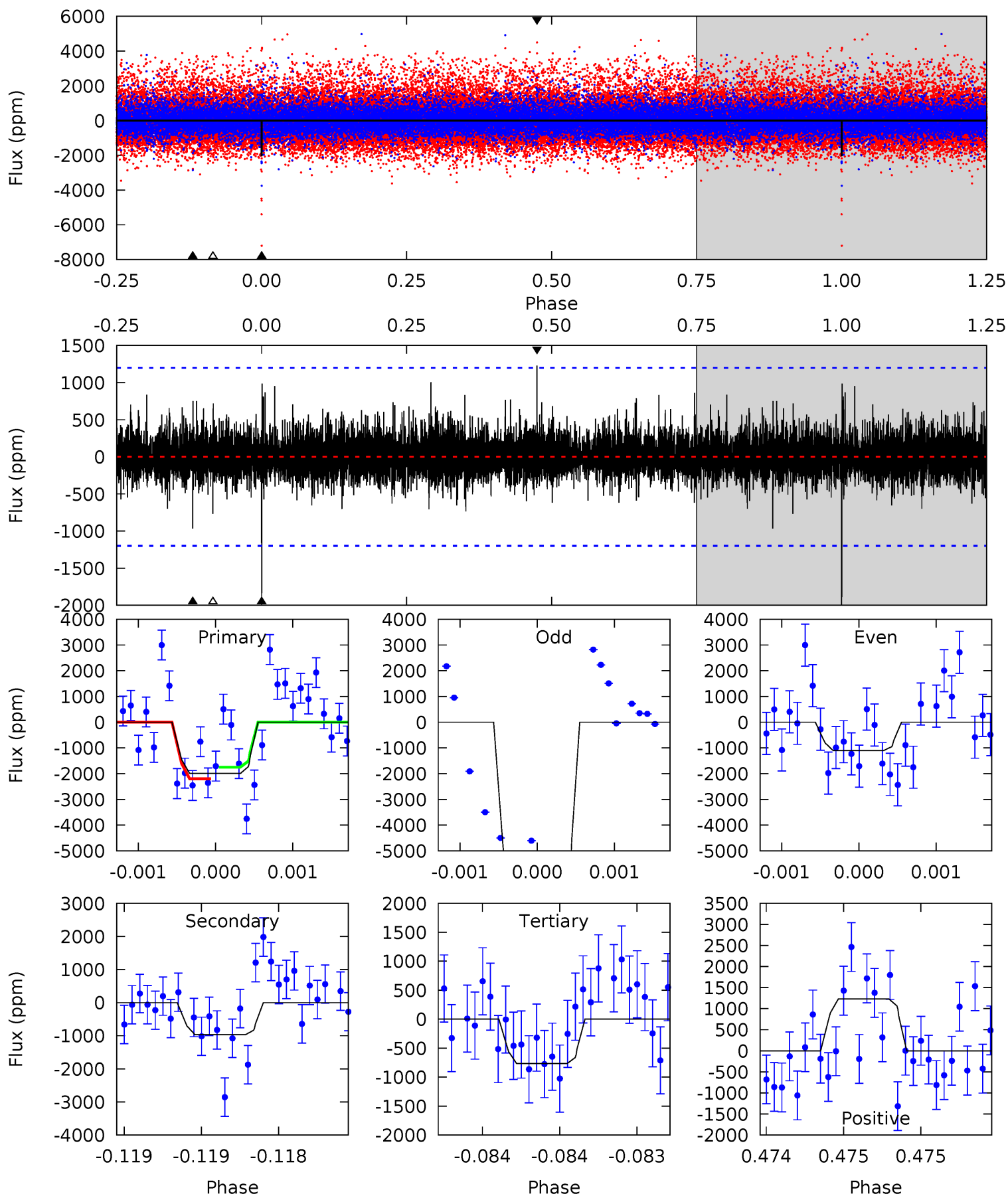
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.53	2.57	2.51	3.67	5.48	3.33	0.81	0.02	-1.15	0.06	-1.10	2.78	0.77	0.62	1.20



Alt Model-Shift Uniqueness Test

006530792-01, P = 304.194408 Days, E = 256.496190 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.25	4.48	3.55	5.70	5.56	3.46	0.91	5.70	3.55	0.93	-1.22	13.6	2.04	0.38	1.06



Stellar Parameters For KIC 006530792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3469^{+45}_{-45}	$4.882^{+0.035}_{-0.032}$	$0.000^{+0.100}_{-0.100}$	$0.366^{+0.032}_{-0.035}$	$0.373^{+0.037}_{-0.041}$	$10.710^{+2.087}_{-1.453}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+9%/-10%	+10%/-11%	+19%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006530792-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-557 ± 217	$2.18^{+0.56}_{-0.61}$	162^{+3}_{-3}	2721^{+266}_{-197}	25359^{+25858}_{-11371}
Alt.	-965 ± 216	$2.20^{+0.62}_{-0.54}$	162^{+3}_{-3}	2917^{+281}_{-197}	43653^{+39866}_{-18058}

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 $A_{obs} \gg 1.0$

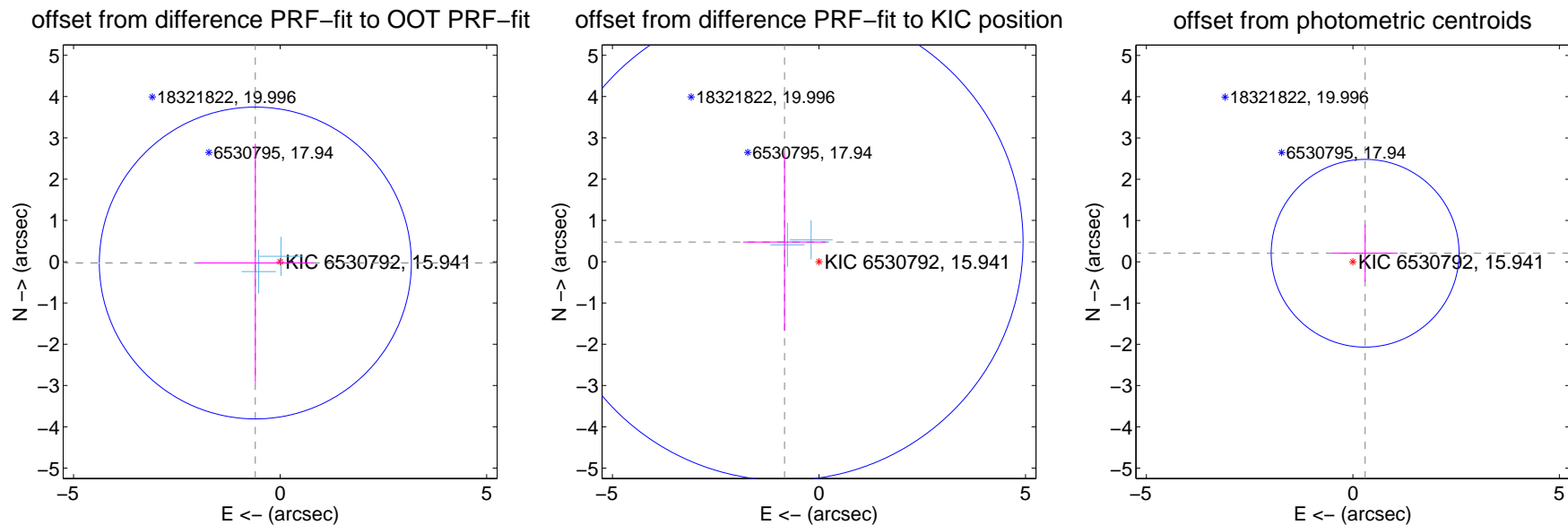
DV Centroid Data

Supplemental centroid analysis for 006530792-01. Kepler magnitude: 15.94. Transit SNR 7.52

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.600 ± 1.259	0.48	0.600 ± 1.413	-0.032 ± 2.889
PRF-fit source offset from KIC position	0.961 ± 1.925	0.50	0.835 ± 1.000	0.475 ± 2.150
photometric centroid source offset	0.36 ± 0.76	0.48	-0.30 ± 0.79	0.21 ± 0.69

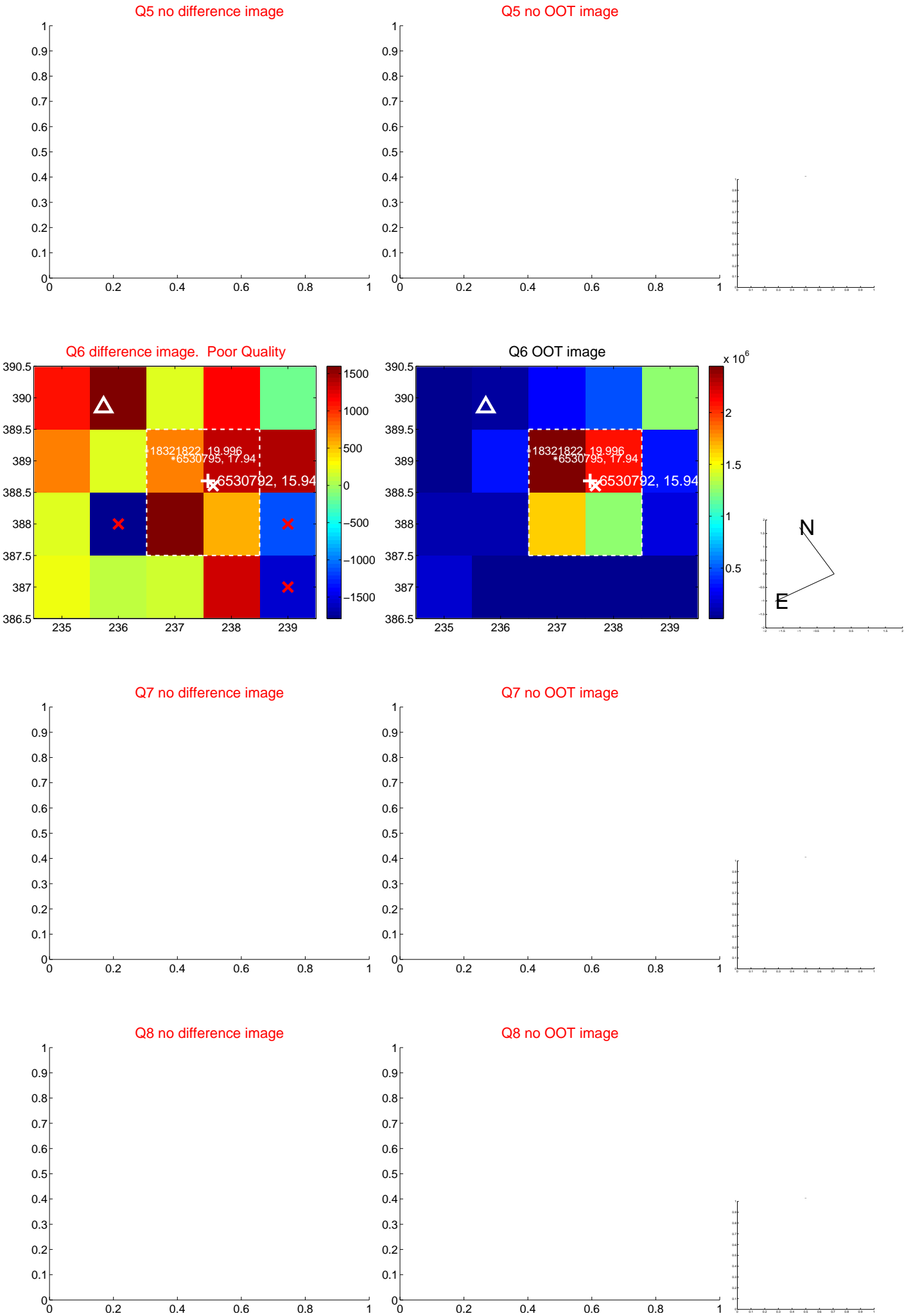


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

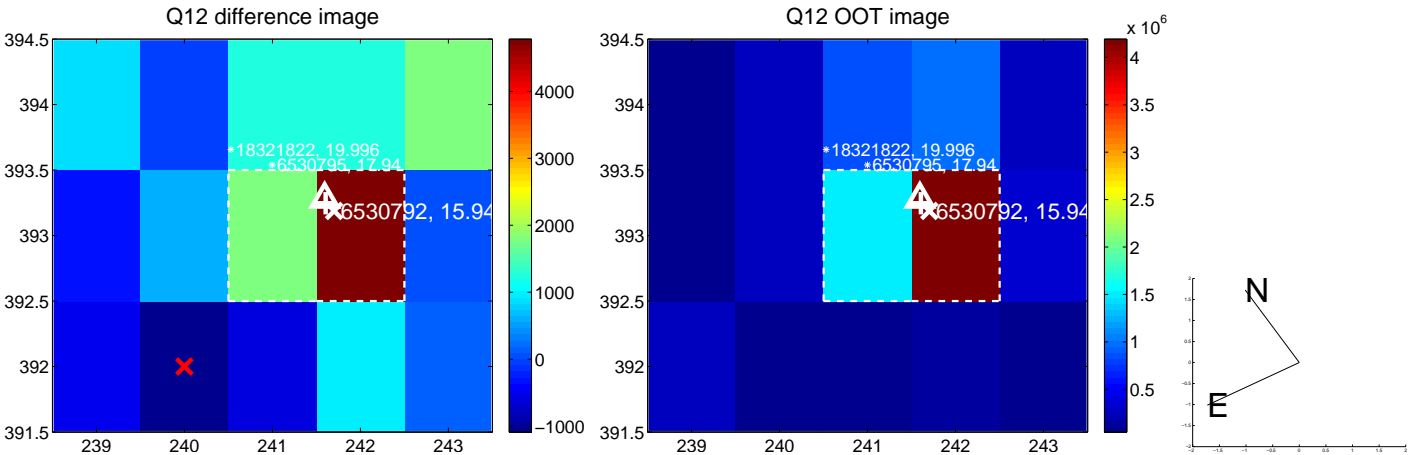
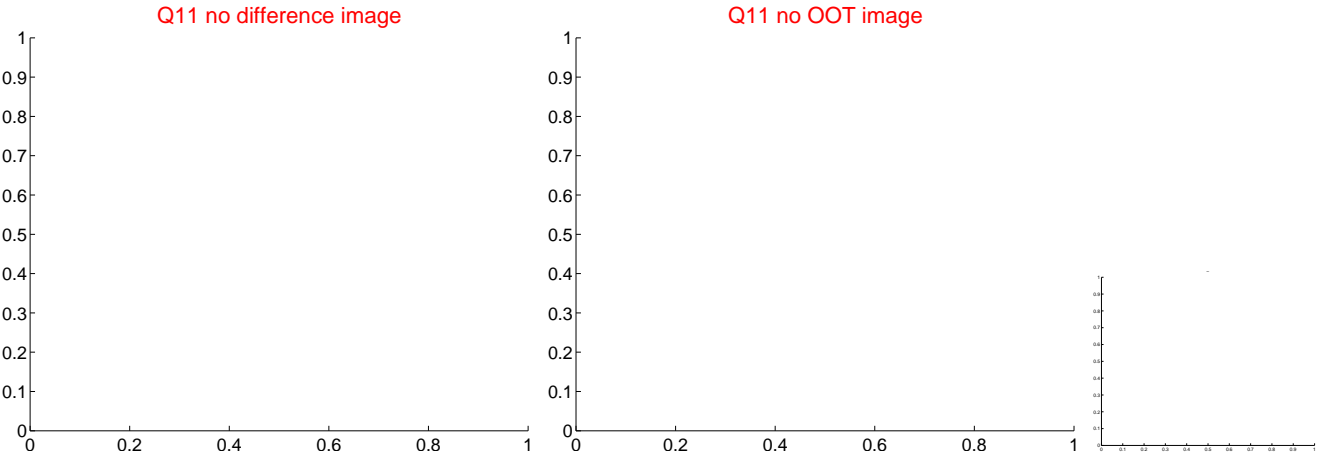
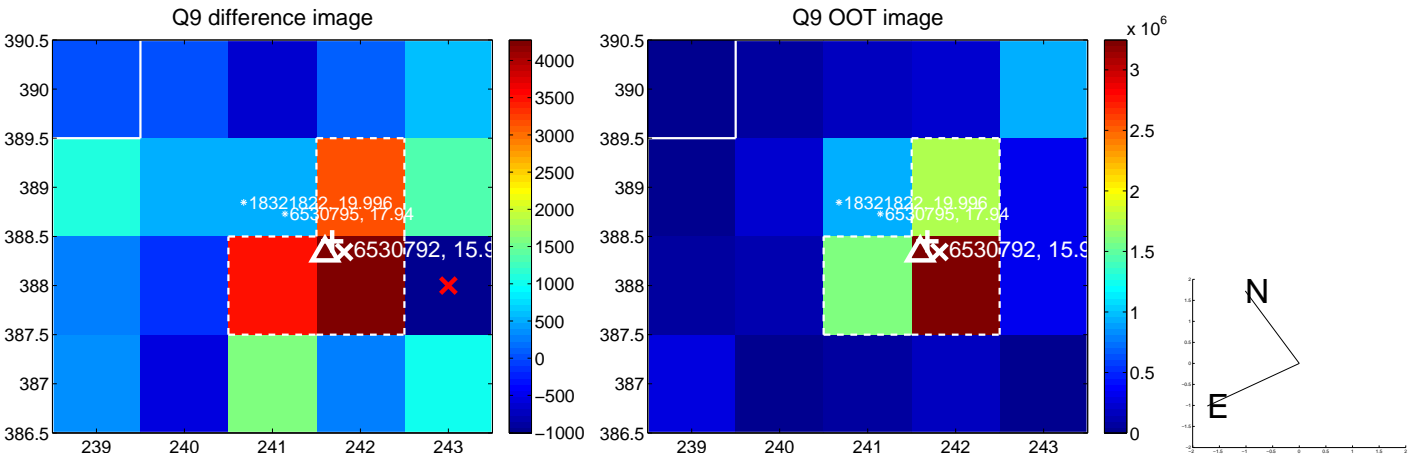
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



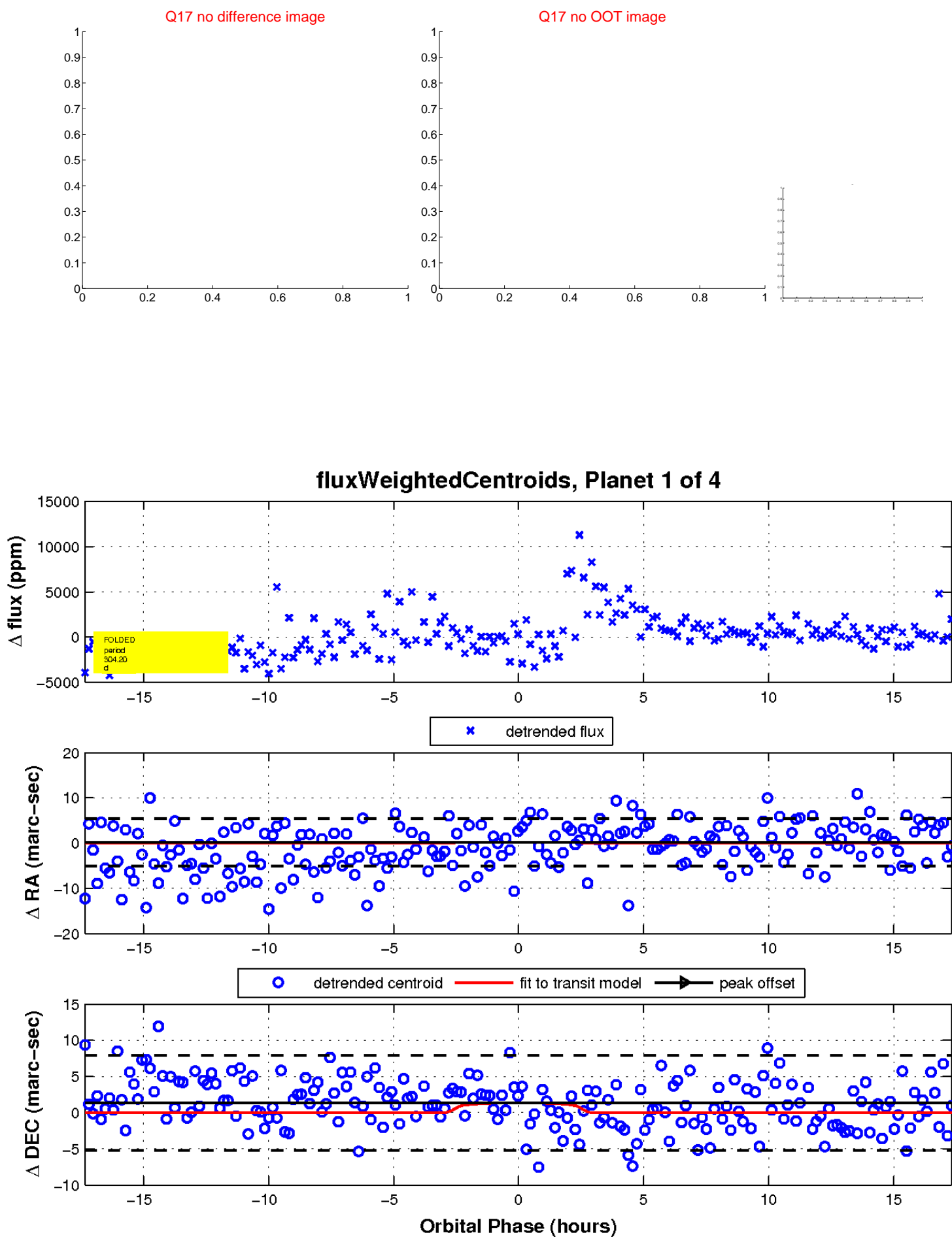
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

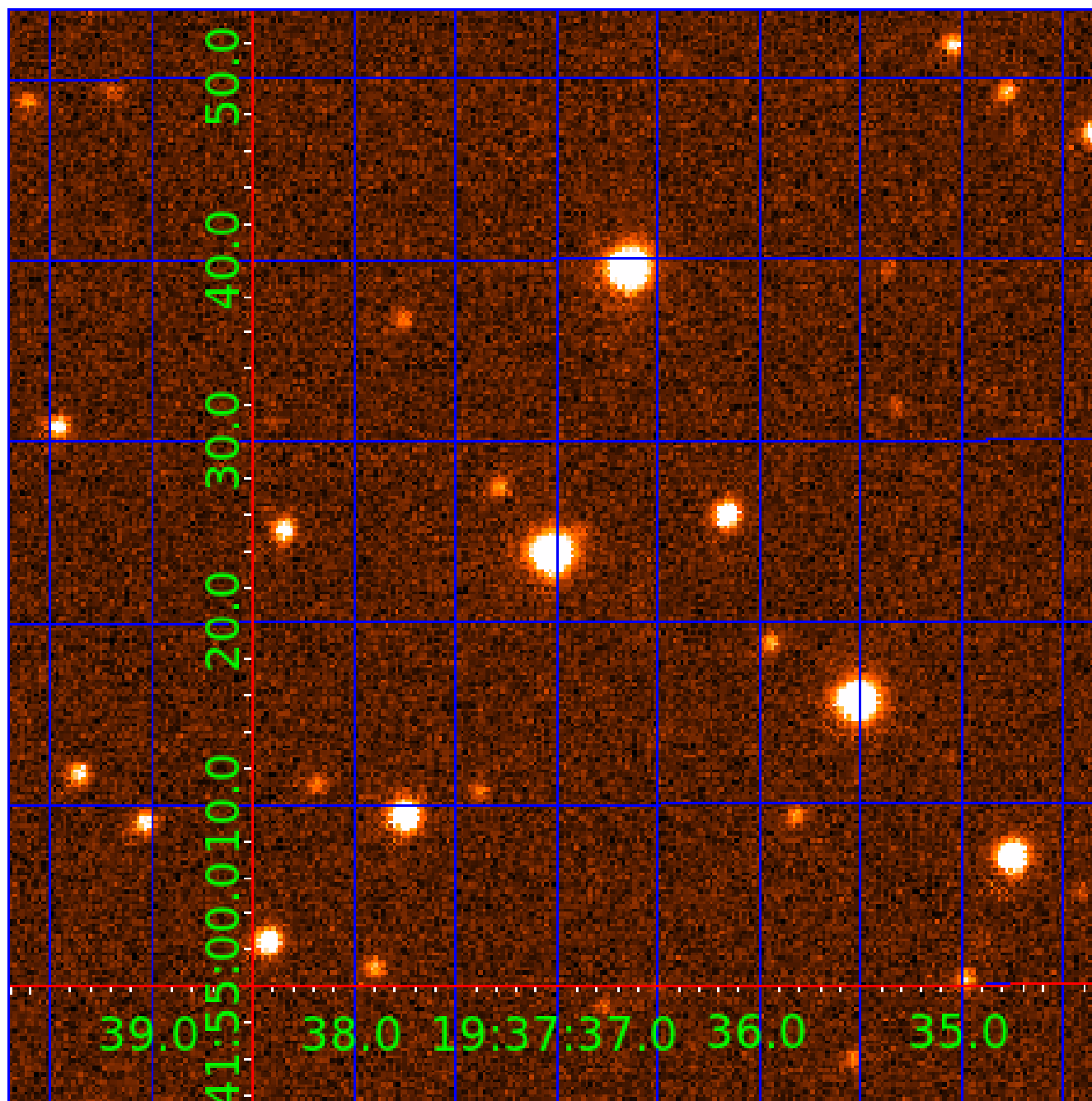


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006530792

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})
006530792-01	OBS	No	304.199384	256.509216	3060.5	5.781	11.2	7.5	0.37	3469	2.18	0.04
006530792-02	OBS	No	449.052254	195.640765	3493.0	10.043	10.0	8.1	0.37	3469	2.18	0.03
006530792-03	OBS	No	350.994330	164.386842	2129.6	5.463	9.9	6.4	0.37	3469	1.73	0.04
006530792-04	OBS	No	441.391242	176.114211	2676.9	2.311	9.8	5.7	0.37	3469	2.07	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006530792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
006530792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_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.

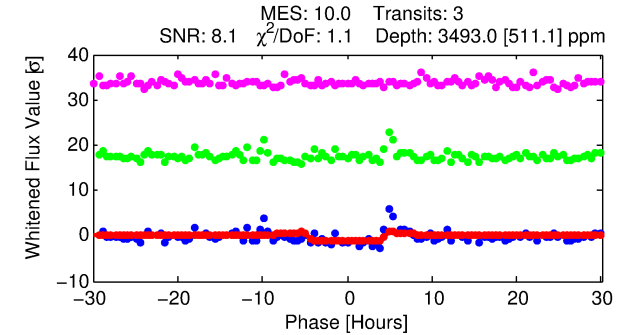
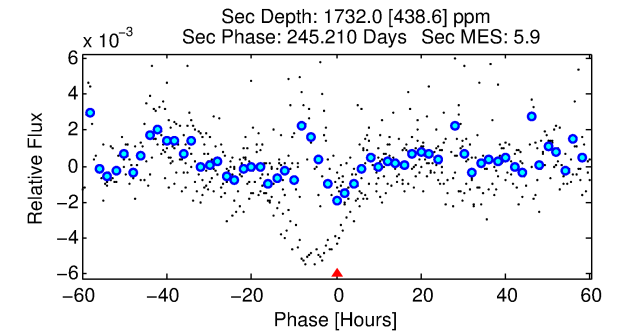
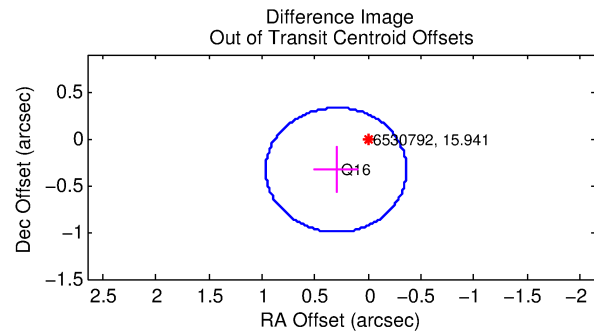
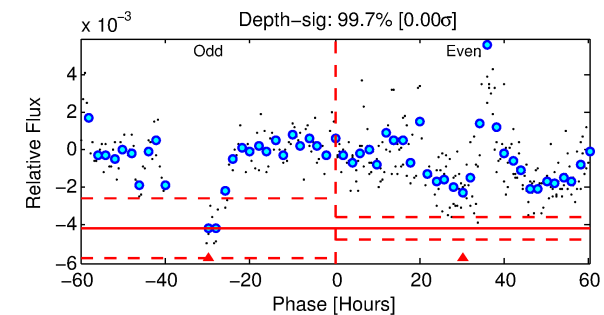
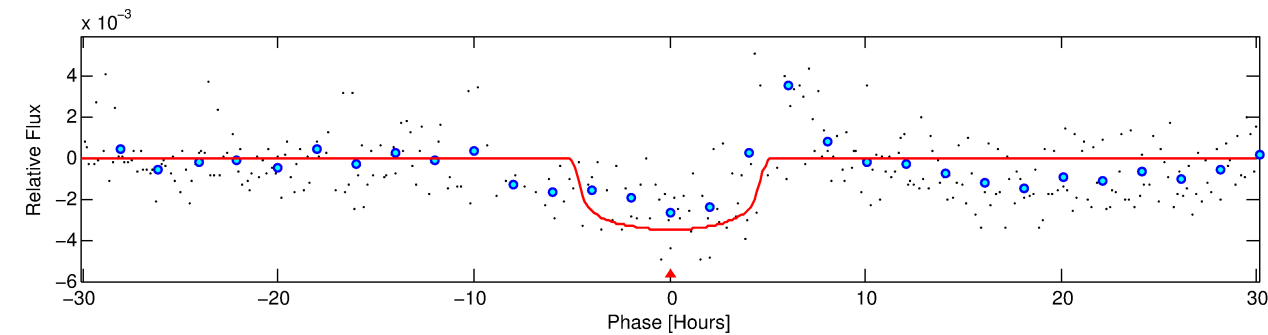
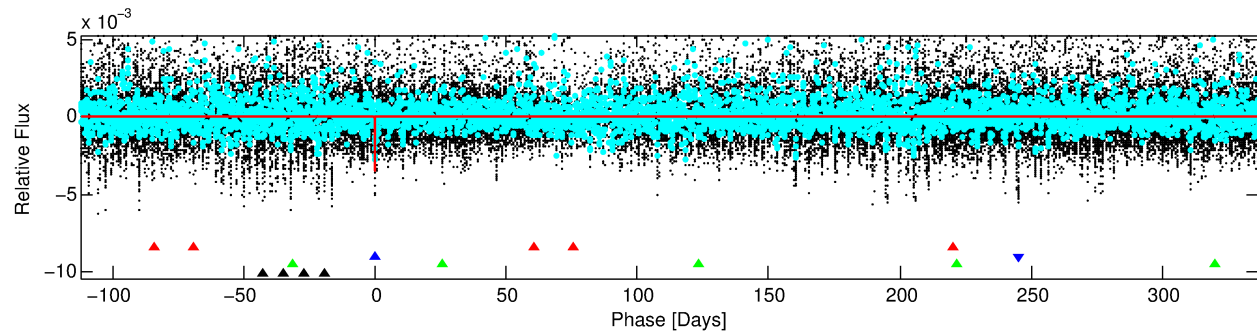
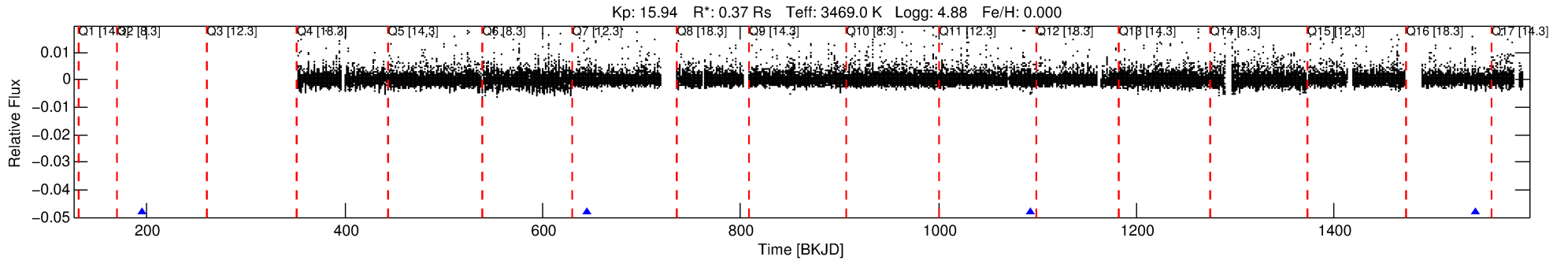
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006530792-02

No Significant Match Found

DV One-Page Summary

KIC: 6530792 Candidate: 2 of 4 Period: 449.052 d



DV Fit Results:

Period = 449.05225 [0.00808] d
Epoch = 195.6408 [0.0169] BKJD
Rp/R* = 0.0546 [0.0122]
a/R* = 329.15 [279.09]
b = 0.43 [1.61]
Seff = 0.03 [0.00]
Teq = 102 [3] K
Rp = 2.18 [0.53] Re
a = 0.8258 [0.0571] AU
Ag = 136671.48 [71117.84] [1.92σ]
Teffp = 3029 [391] K [7.49σ]

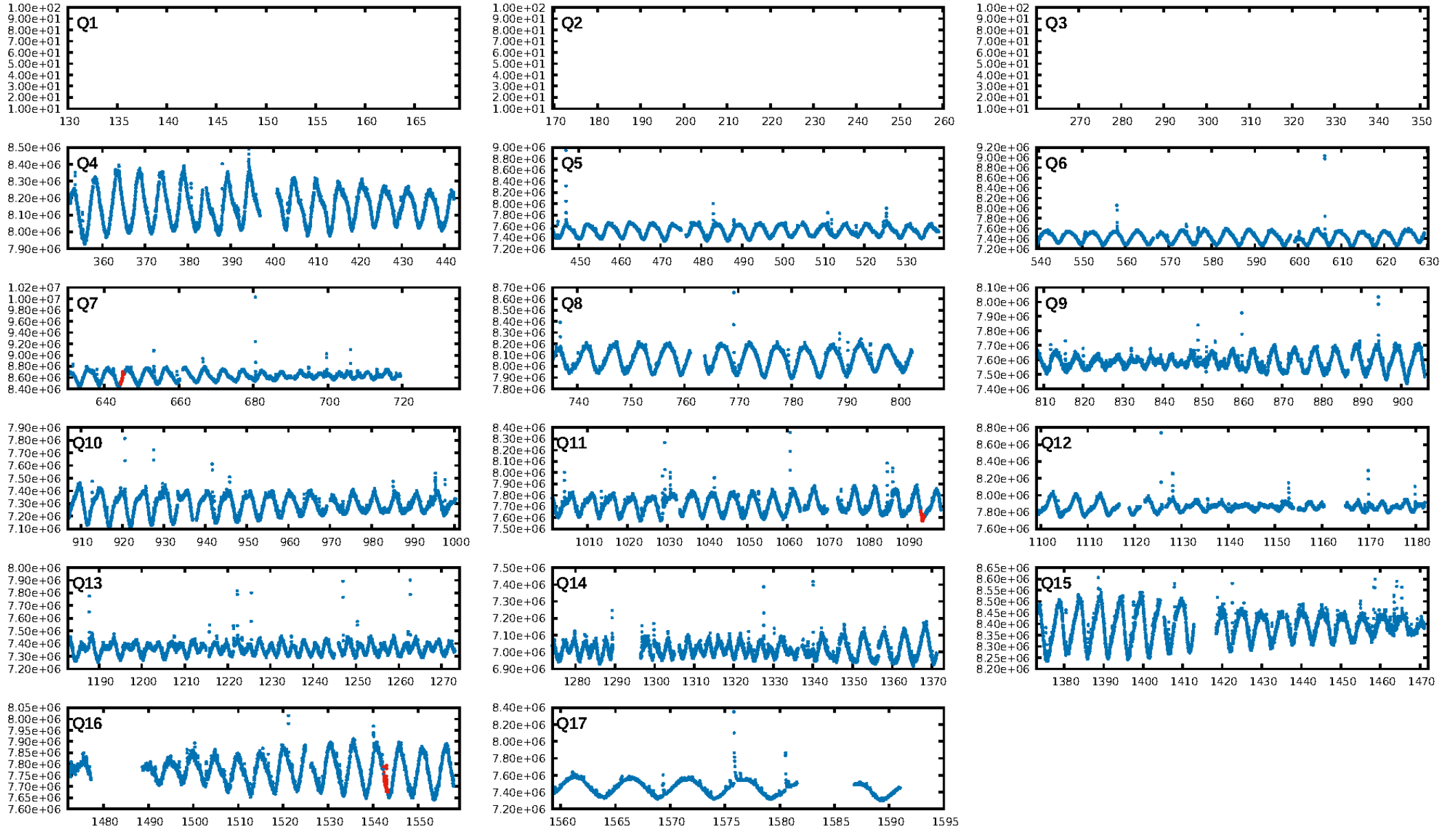
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.84σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 66.2%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 7.92e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 41.89
Centroid-sig: 11.8%
Centroid-so: 0.368 arcsec [0.94σ]
OotOffset-rm: 0.451 arcsec [2.04σ]
KicOffset-rm: 0.518 arcsec [2.58σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

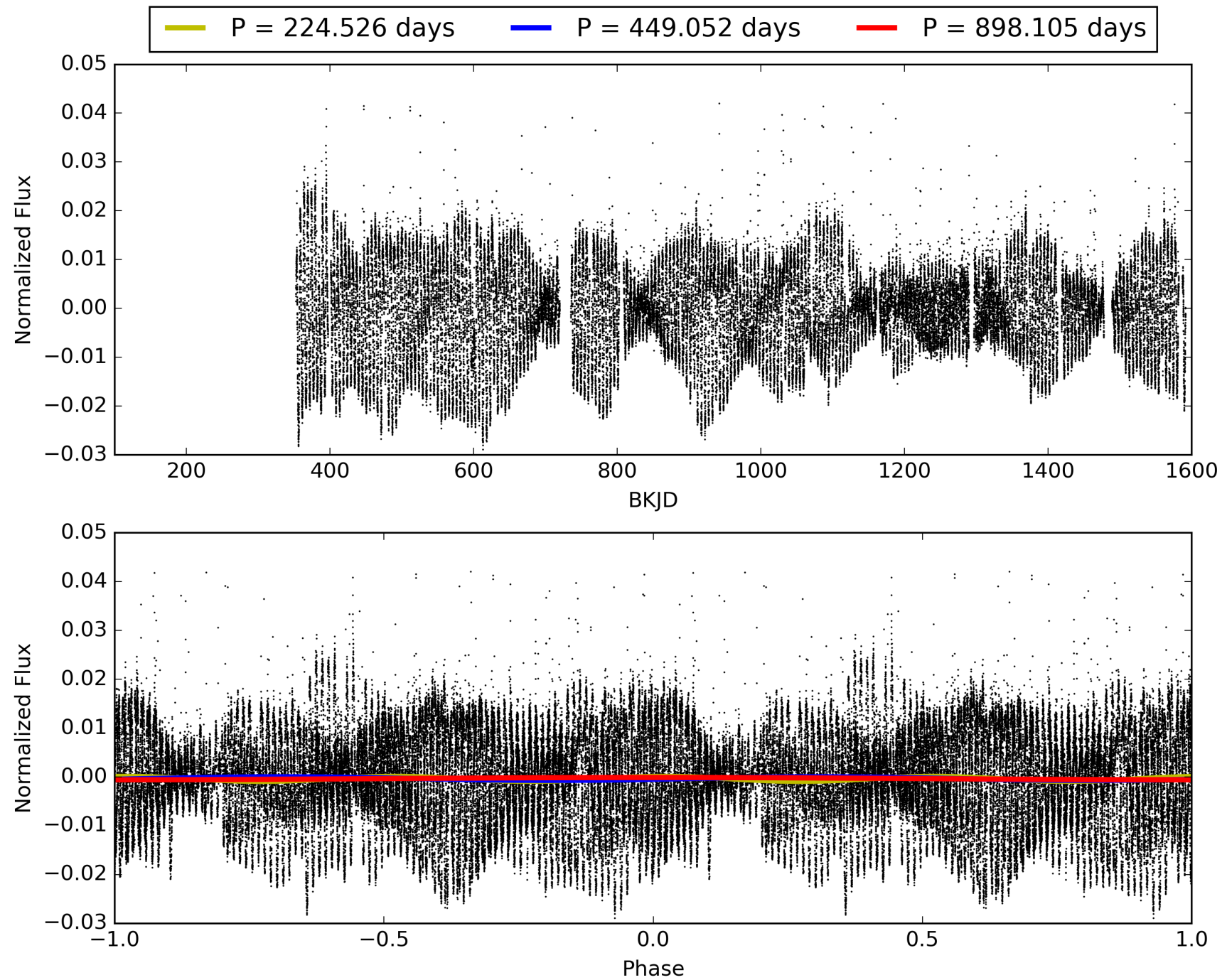
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:20:18 Z

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

TCE 006530792-02, PDC Light Curves

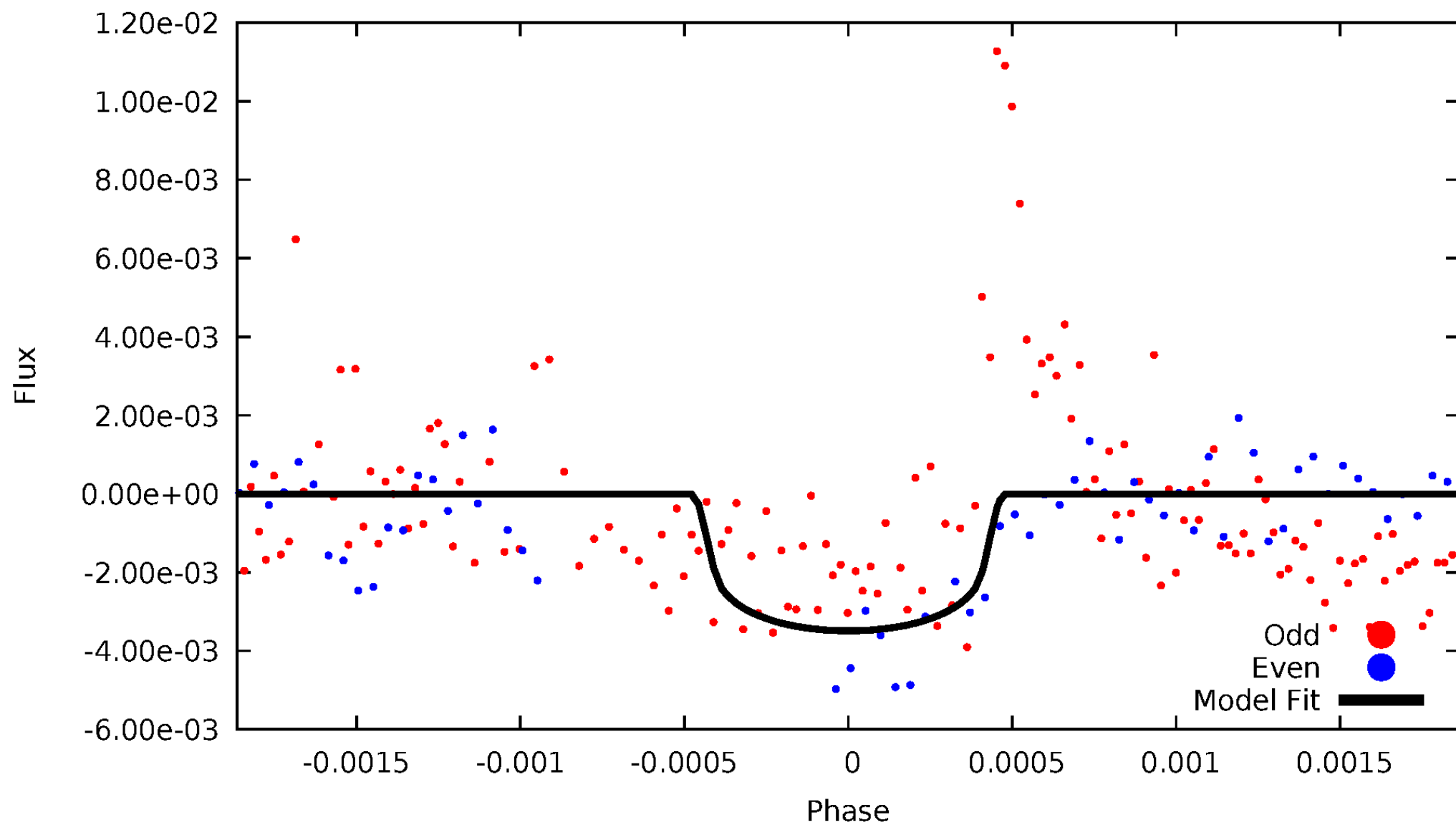


TCE 006530792-02



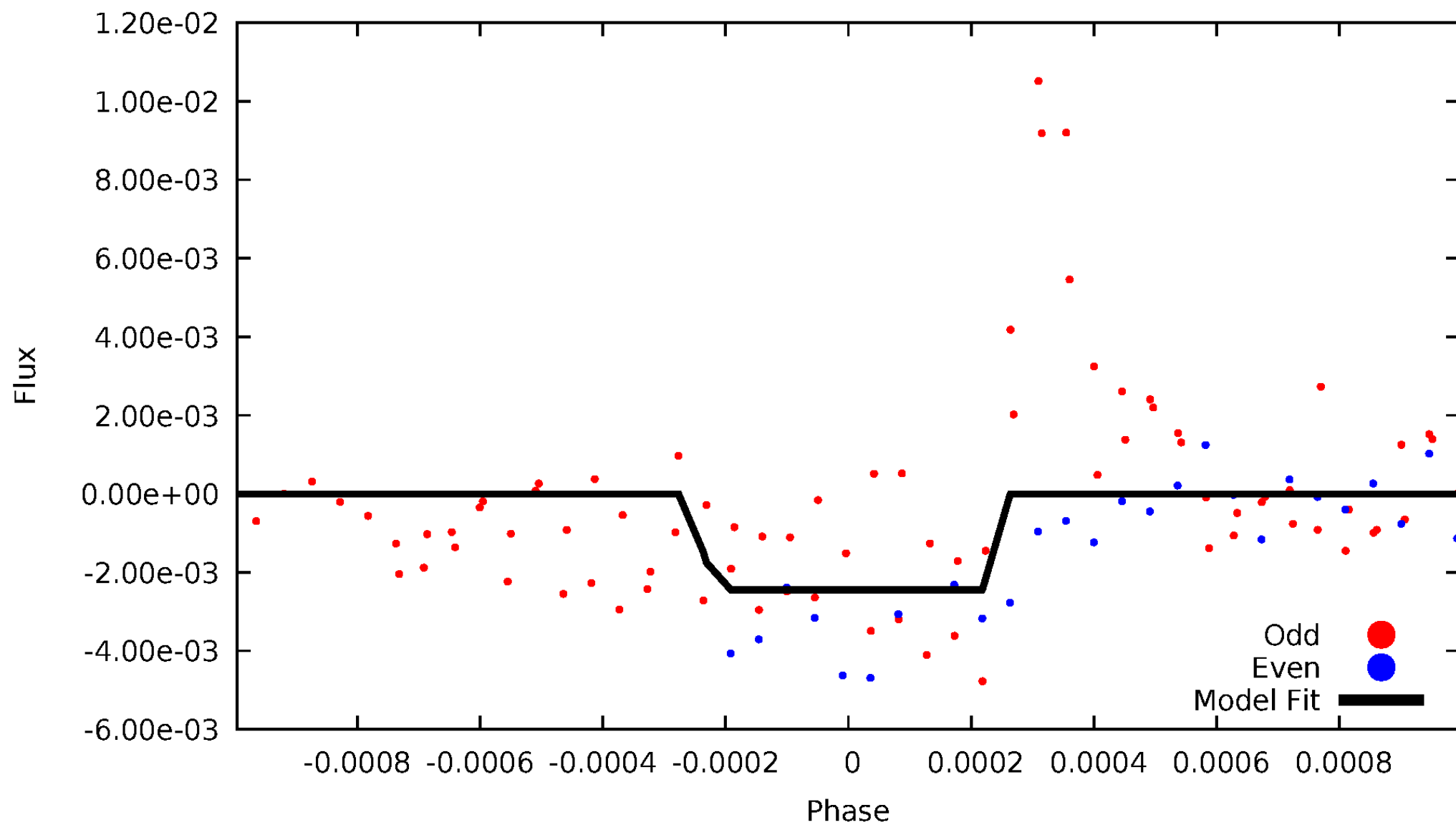
DV Odd/Even

TCE 006530792-02



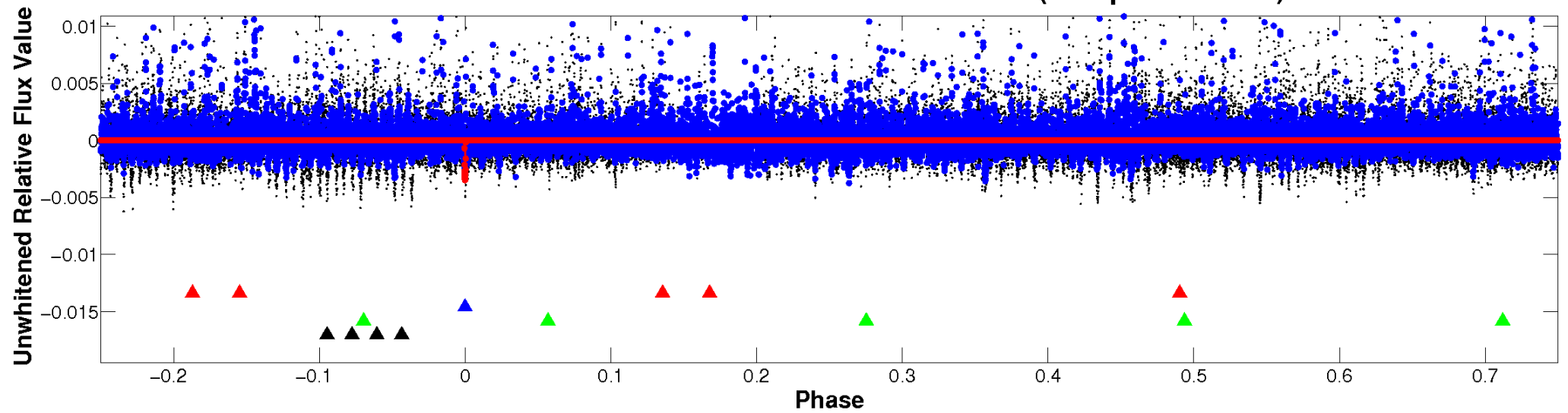
ALT Odd/Even

TCE 006530792-02

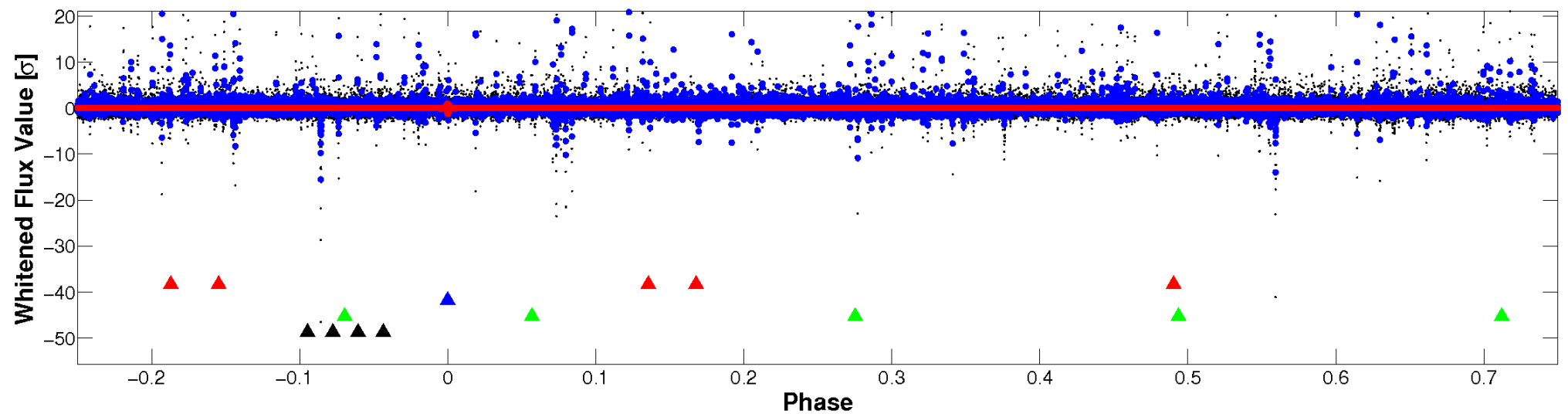


Non-Whitened Vs. Whitened Light Curve

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

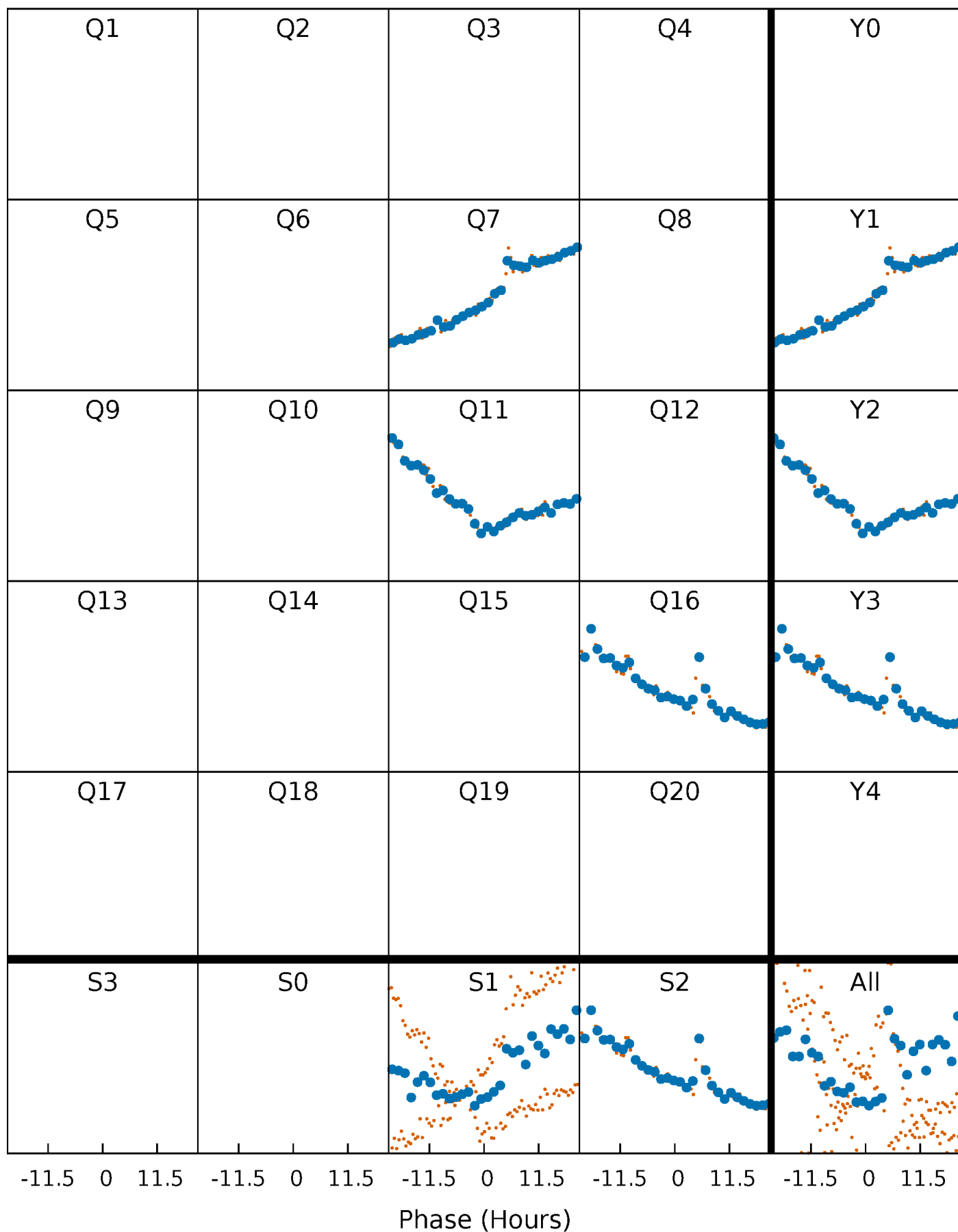


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



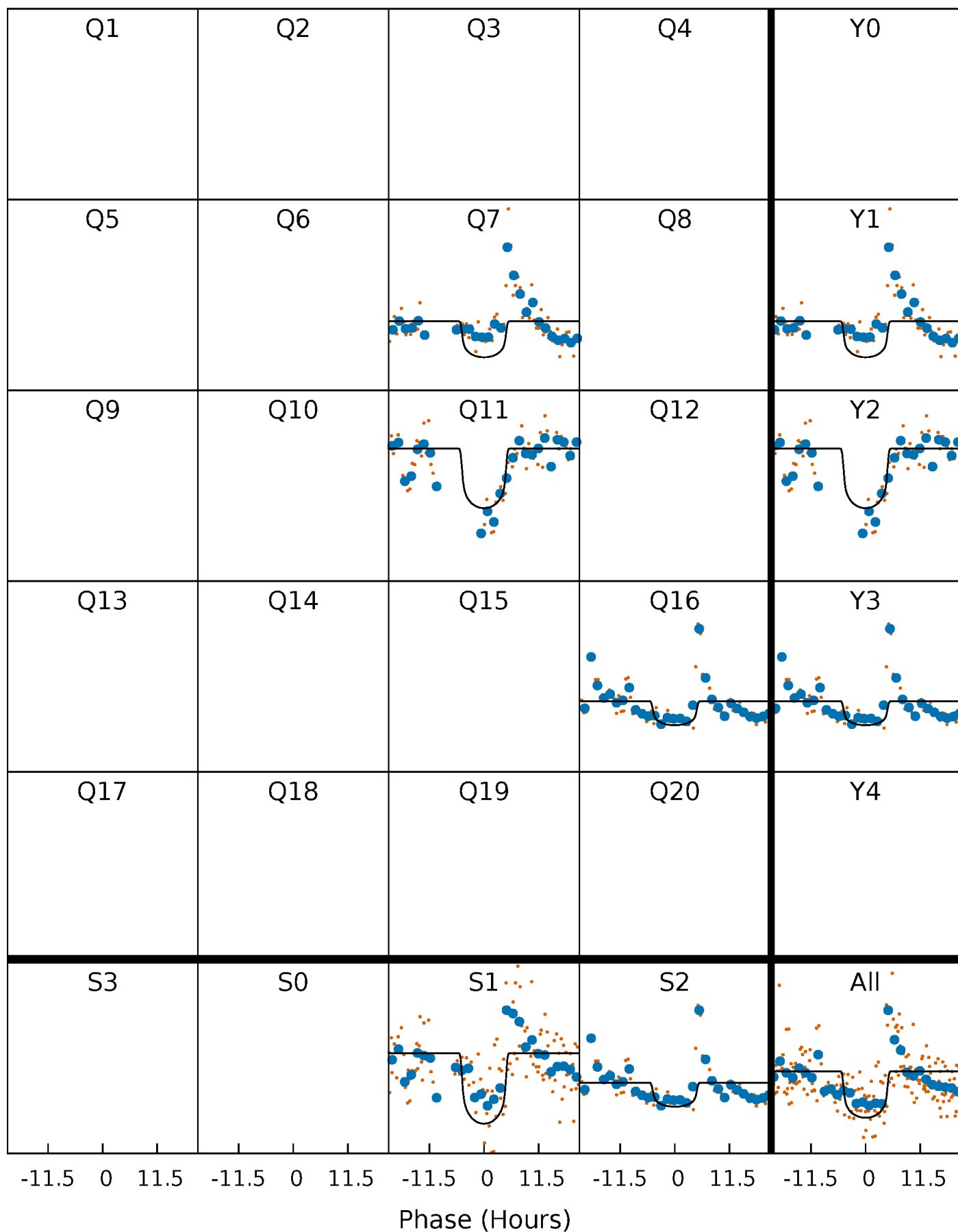
PDC Quarter-Phased Transit Curves

TCE 006530792-02 $P=449.052254$ Days $T_0=195.640765$ (BKJD)



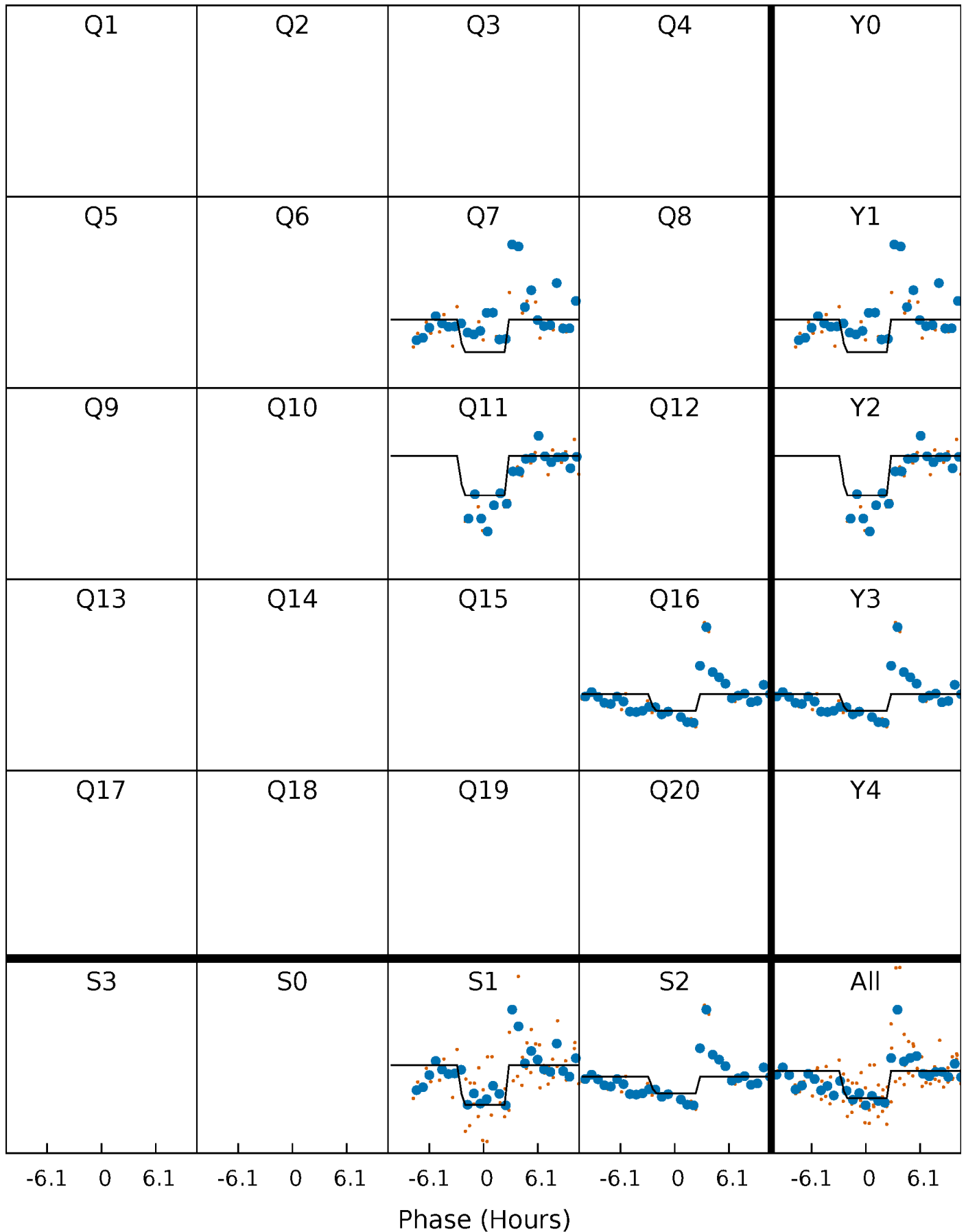
DV Quarter-Phased Transit Curves

TCE 006530792-02 $P=449.052254$ Days $T_0=195.640765$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

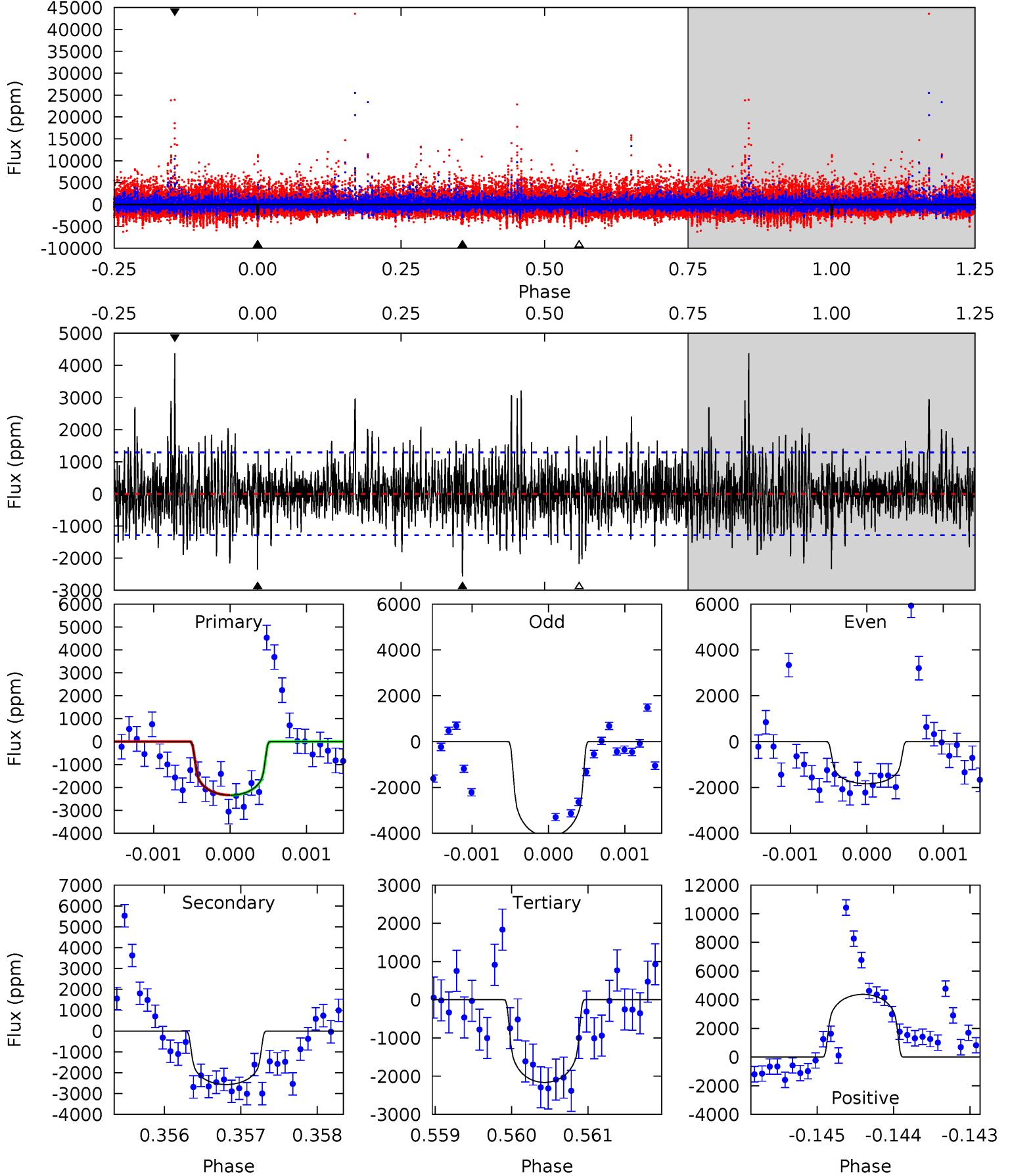
TCE 006530792-02 $P=449.047914$ Days $T_0=195.718274$ (BKJD)



DV Model-Shift Uniqueness Test

006530792-02, P = 449.052254 Days, E = 195.640765 Days

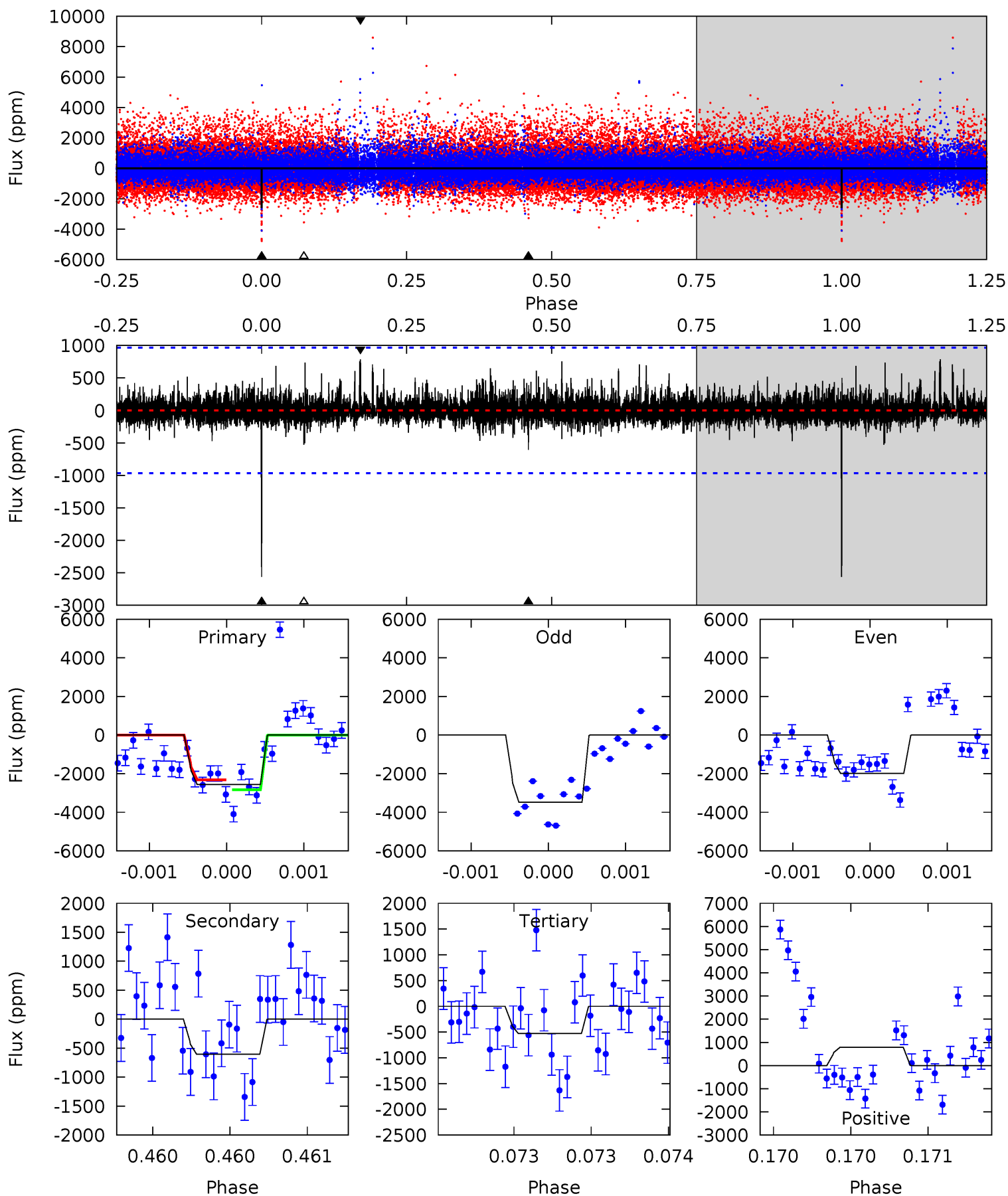
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.93	10.9	9.19	18.6	5.46	3.31	2.81	0.74	-8.65	1.71	-7.68	2.90	0.98	0.63	0.02



Alt Model-Shift Uniqueness Test

006530792-02, P = 449.047914 Days, E = 195.718274 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	3.49	3.04	4.54	5.57	3.48	0.76	11.7	10.2	0.45	-1.05	3.95	0.76	0.24	1.48



Stellar Parameters For KIC 006530792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3469^{+45}_{-45}	$4.882^{+0.035}_{-0.032}$	$0.000^{+0.100}_{-0.100}$	$0.366^{+0.032}_{-0.035}$	$0.373^{+0.037}_{-0.041}$	$10.710^{+2.087}_{-1.453}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+9%/-10%	+10%/-11%	+19%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006530792-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2566 ± 236	$2.17^{+0.58}_{-0.49}$	142^{+3}_{-3}	3391^{+312}_{-231}	$202955^{+143755}_{-75059}$
Alt.	-605 ± 173	$1.98^{+0.51}_{-0.48}$	142^{+3}_{-3}	2816^{+269}_{-200}	56555^{+49972}_{-24861}

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 $A_{obs} \gg 1.0$

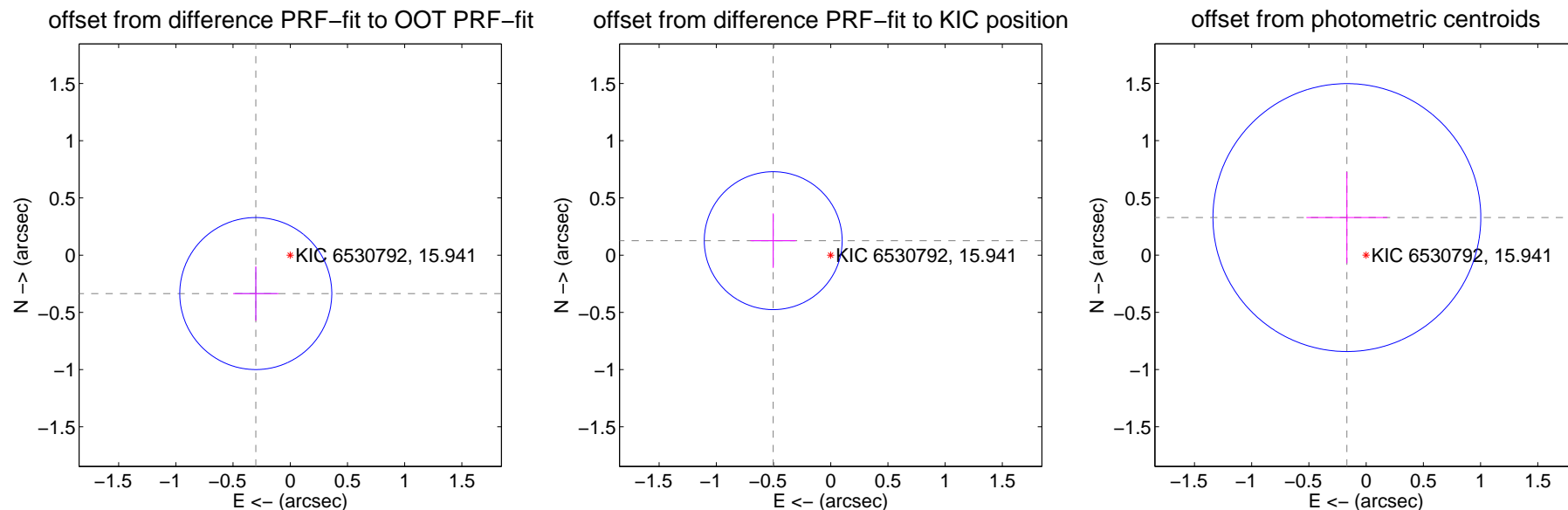
DV Centroid Data

Supplemental centroid analysis for 006530792-02. Kepler magnitude: 15.94. Transit SNR 8.07

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.451 ± 0.221	2.04	0.301 ± 0.198	-0.336 ± 0.238
PRF-fit source offset from KIC position	0.518 ± 0.201	2.58	0.503 ± 0.198	0.127 ± 0.238
photometric centroid source offset	0.37 ± 0.39	0.94	0.17 ± 0.35	0.33 ± 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.



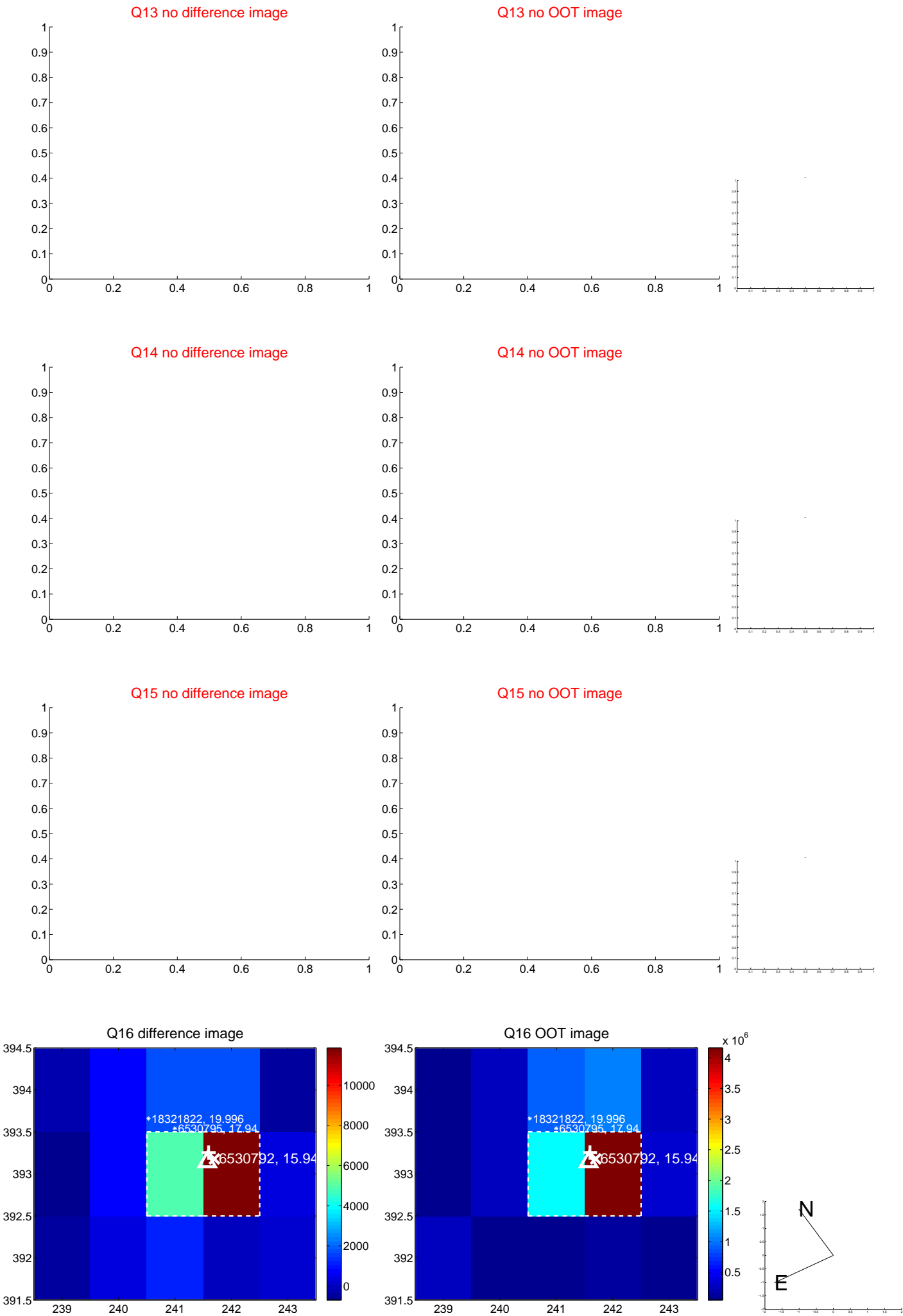
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



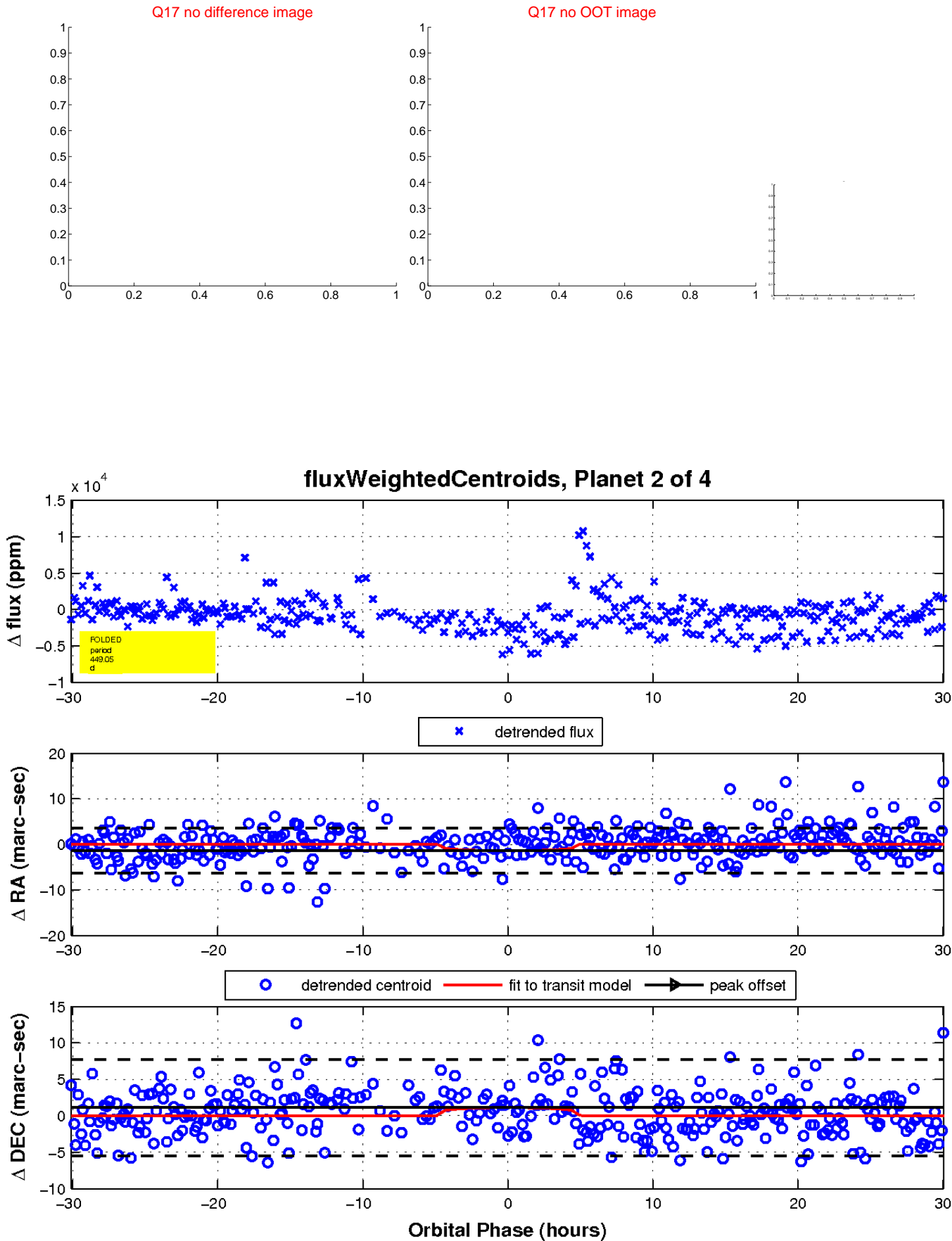
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

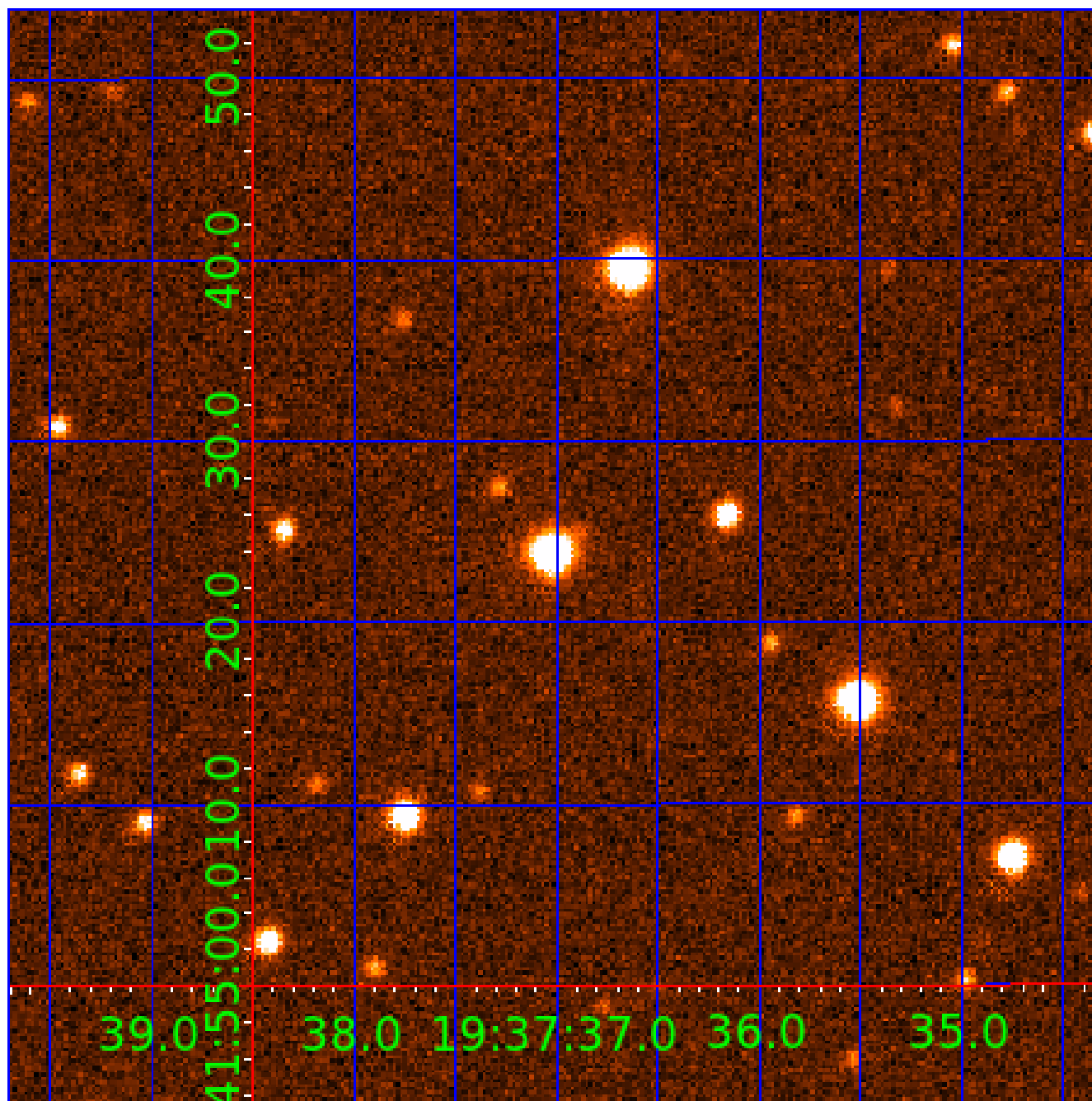


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006530792

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})
006530792-01	OBS	No	304.199384	256.509216	3060.5	5.781	11.2	7.5	0.37	3469	2.18	0.04
006530792-02	OBS	No	449.052254	195.640765	3493.0	10.043	10.0	8.1	0.37	3469	2.18	0.03
006530792-03	OBS	No	350.994330	164.386842	2129.6	5.463	9.9	6.4	0.37	3469	1.73	0.04
006530792-04	OBS	No	441.391242	176.114211	2676.9	2.311	9.8	5.7	0.37	3469	2.07	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006530792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
006530792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_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.

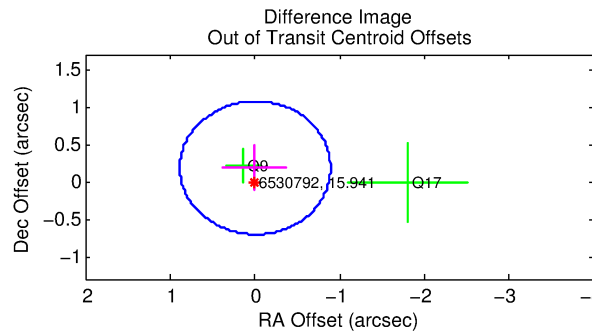
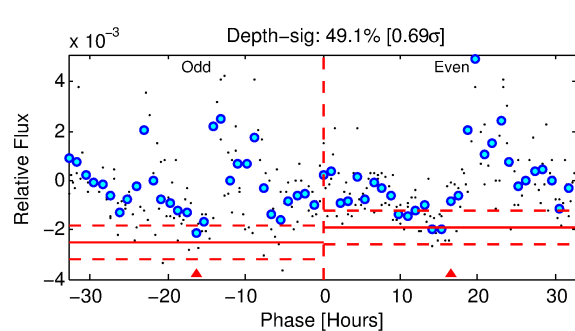
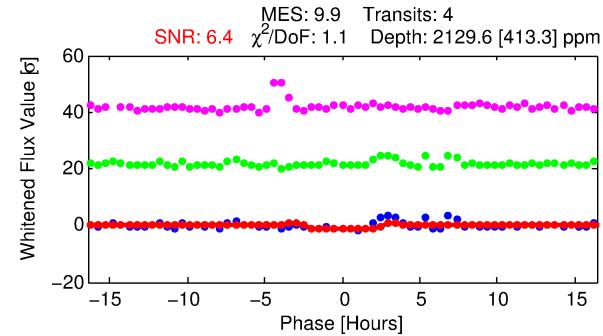
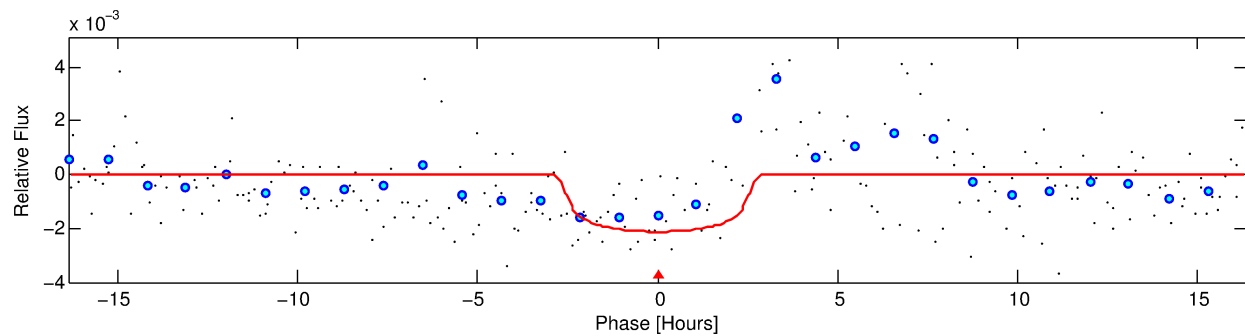
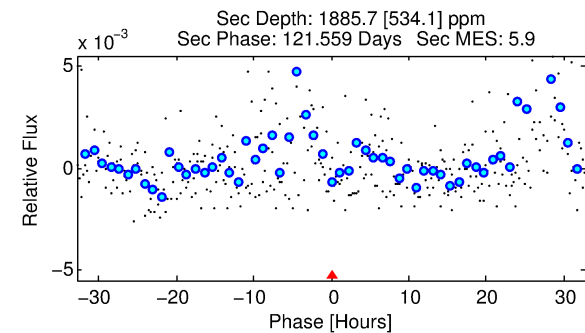
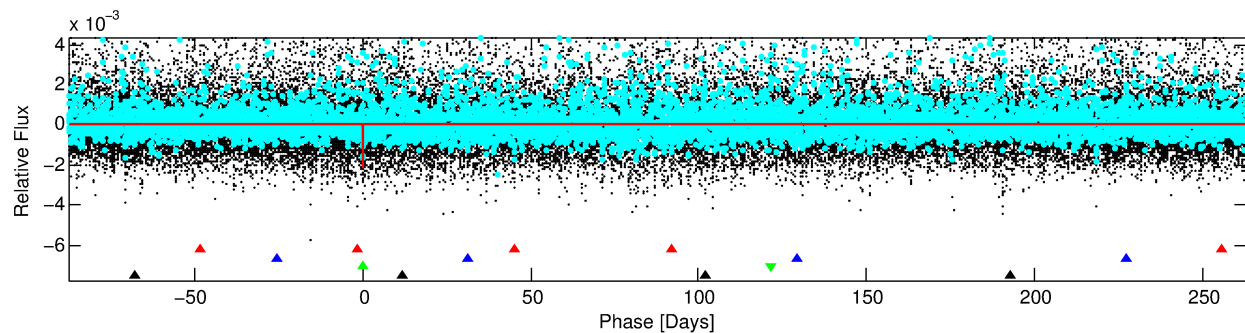
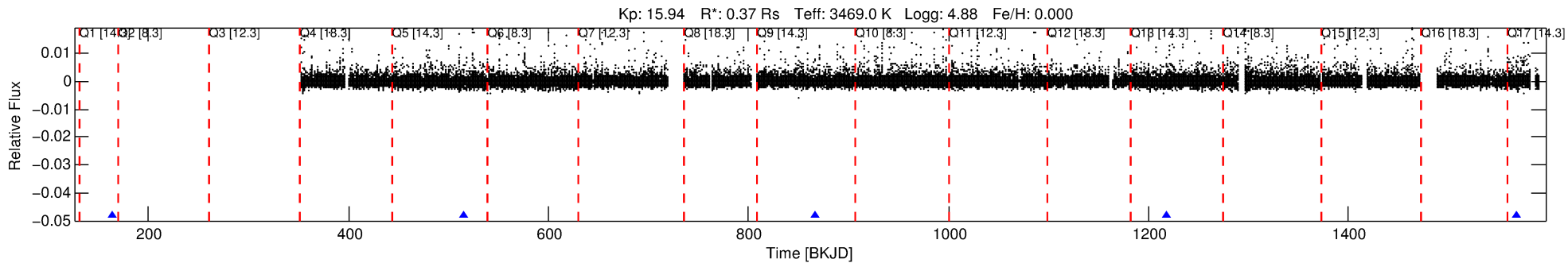
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006530792-03

No Significant Match Found

DV One-Page Summary

KIC: 6530792 Candidate: 3 of 4 Period: 350.994 d



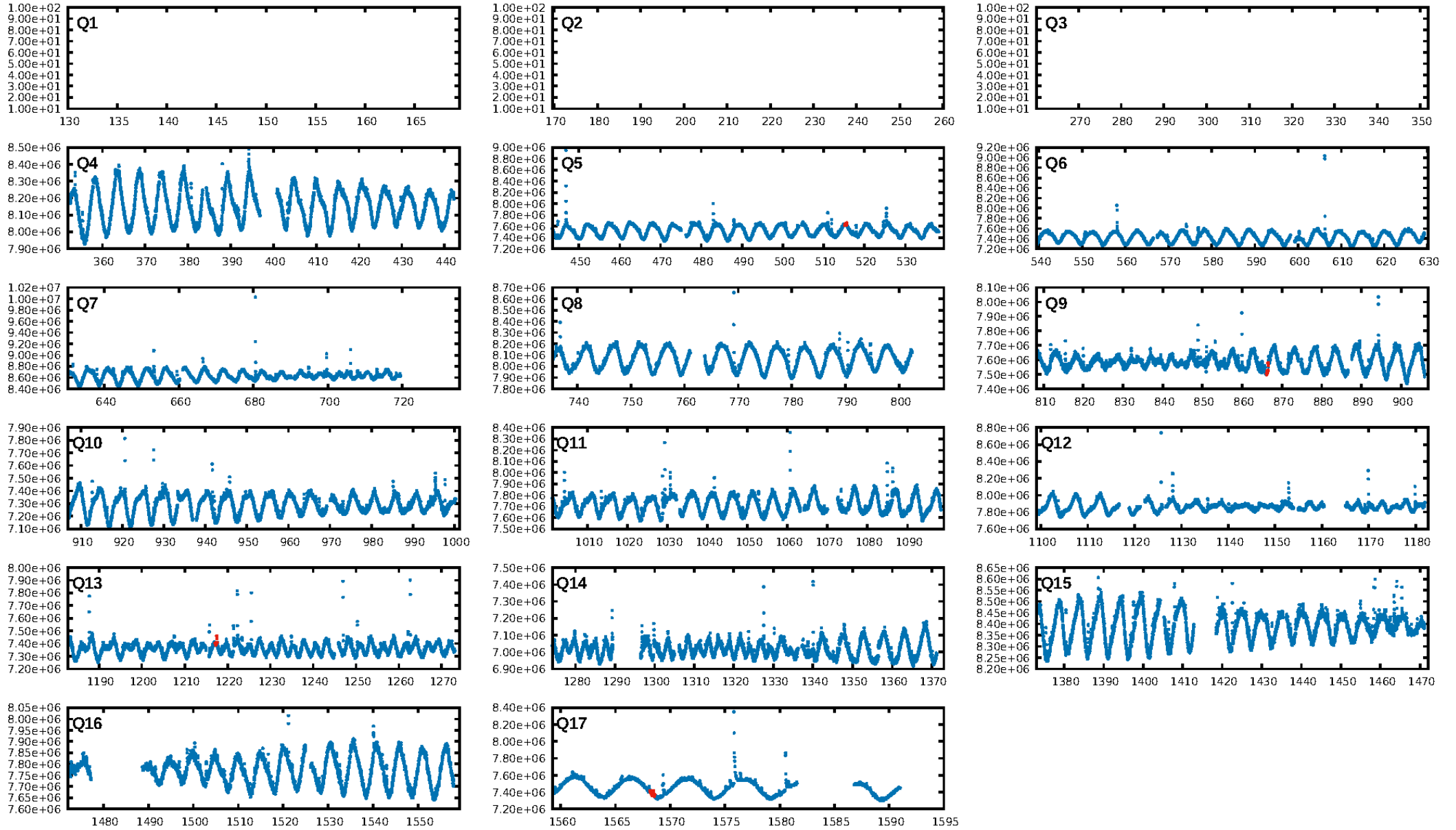
DV Fit Results:

Period = 350.99433 [0.00574] d
Epoch = 164.3868 [0.0169] BKJD
Rp/R* = 0.0432 [0.0359]
a/R* = 443.71 [1522.79]
b = 0.52 [4.80]
Seff = 0.04 [0.00]
Teq = 111 [3] K
Rp = 1.73 [1.44] Re
a = 0.7007 [0.0485] AU
Ag = 171077.93 [288969.17] [0.59σ]
Teffp = 3478 [1468] K [2.29σ]

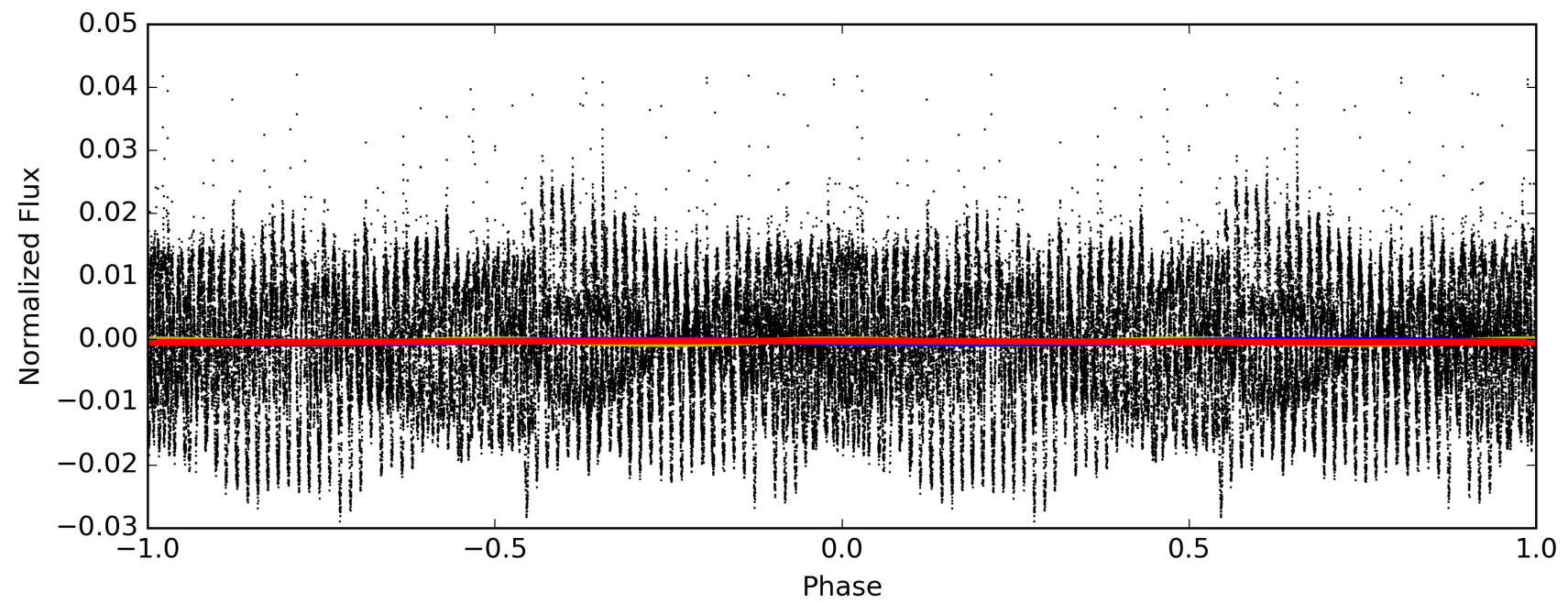
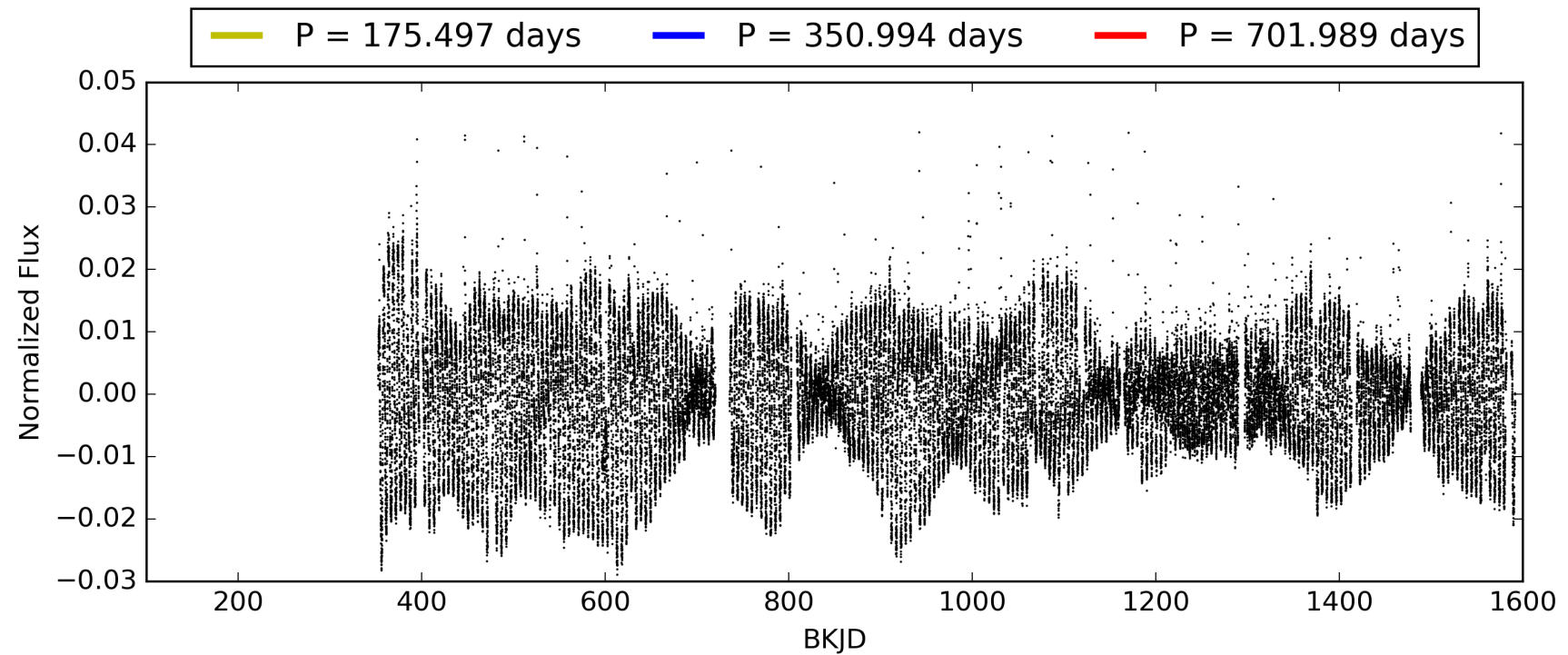
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [141.20σ]
LongPeriod-sig: 100.0% [365.75σ]
ModelChiSquare2-sig: 62.1%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 9.57e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.572
Centroid-sig: 66.8%
Centroid-so: 1.019 arcsec [1.11σ]
OotOffset-rm: 0.184 arcsec [0.62σ]
KicOffset-rm: 0.872 arcsec [2.87σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 006530792-03, PDC Light Curves

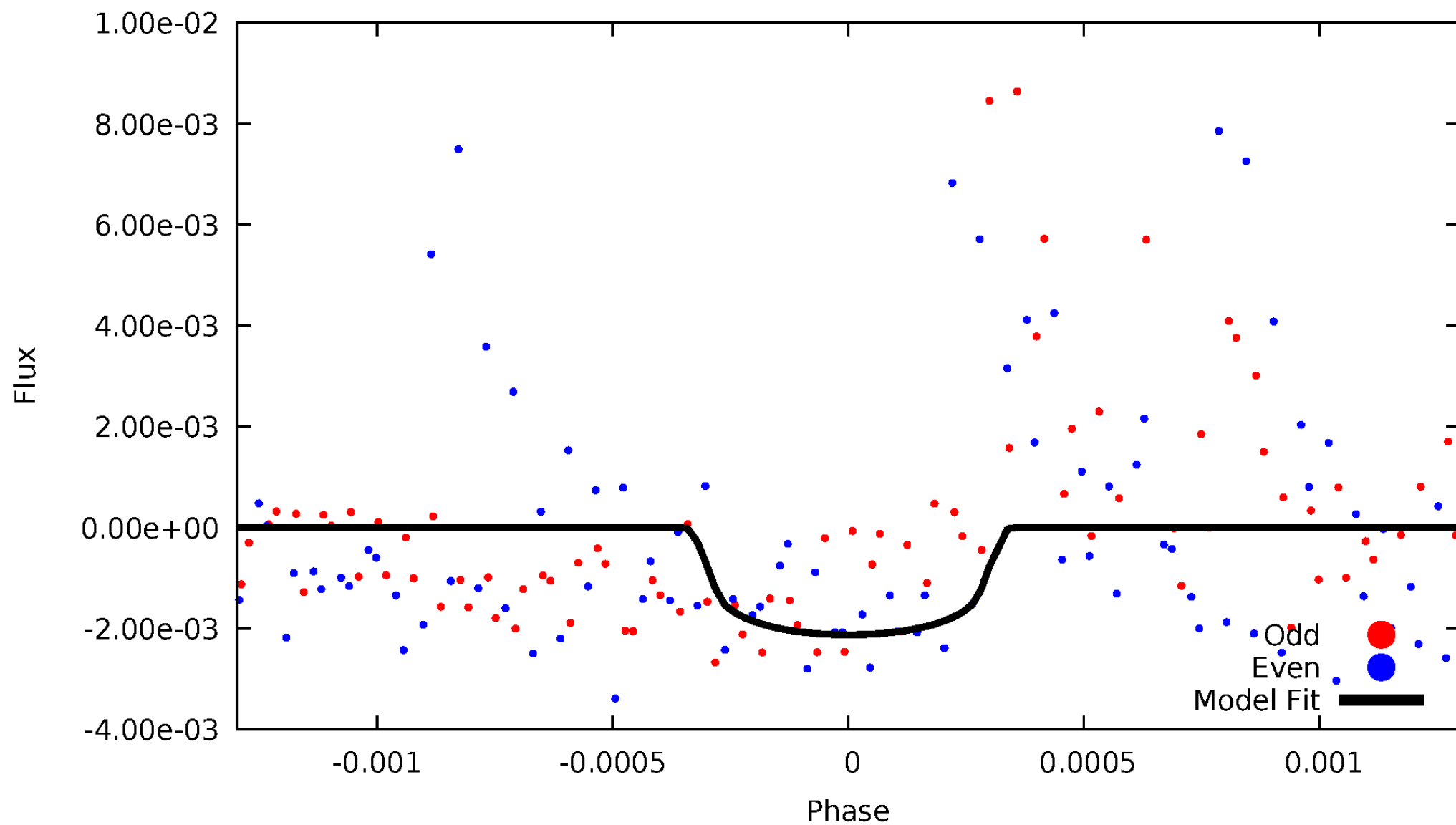


TCE 006530792-03



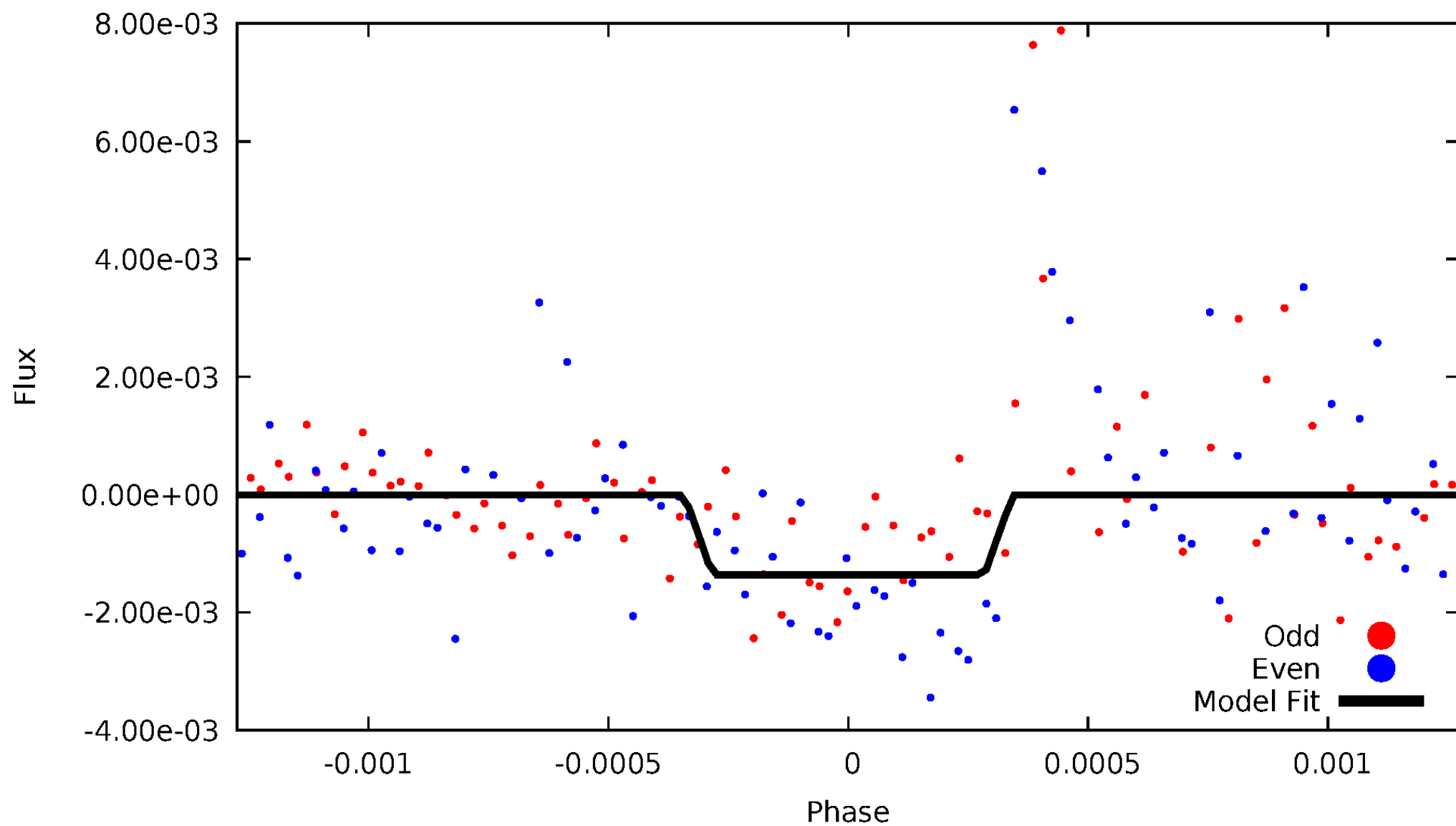
DV Odd/Even

TCE 006530792-03

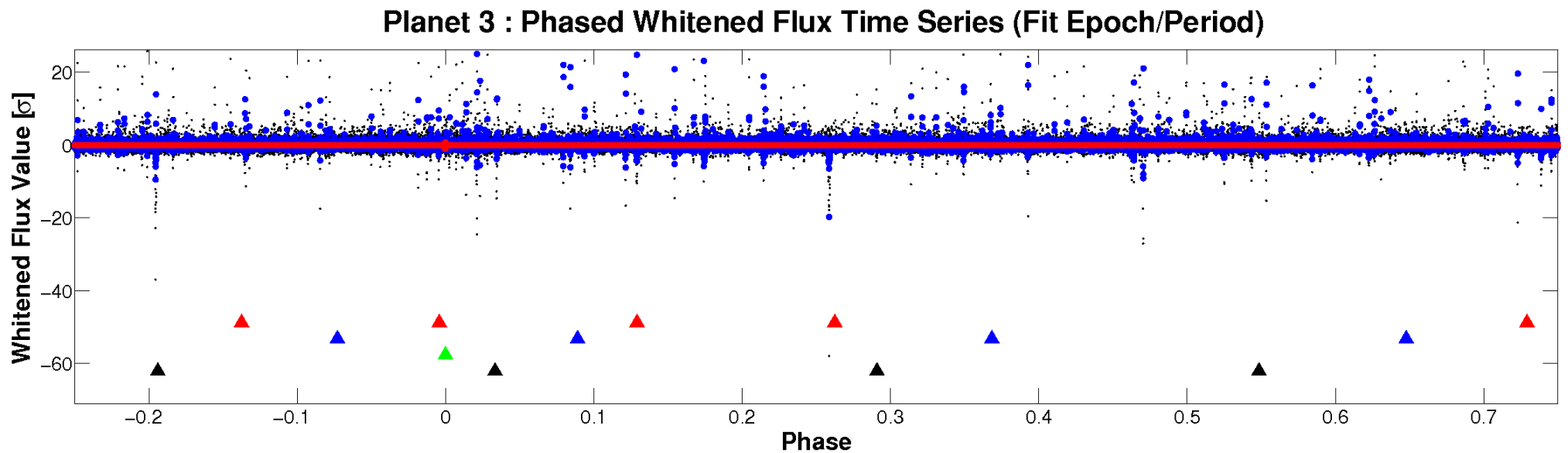
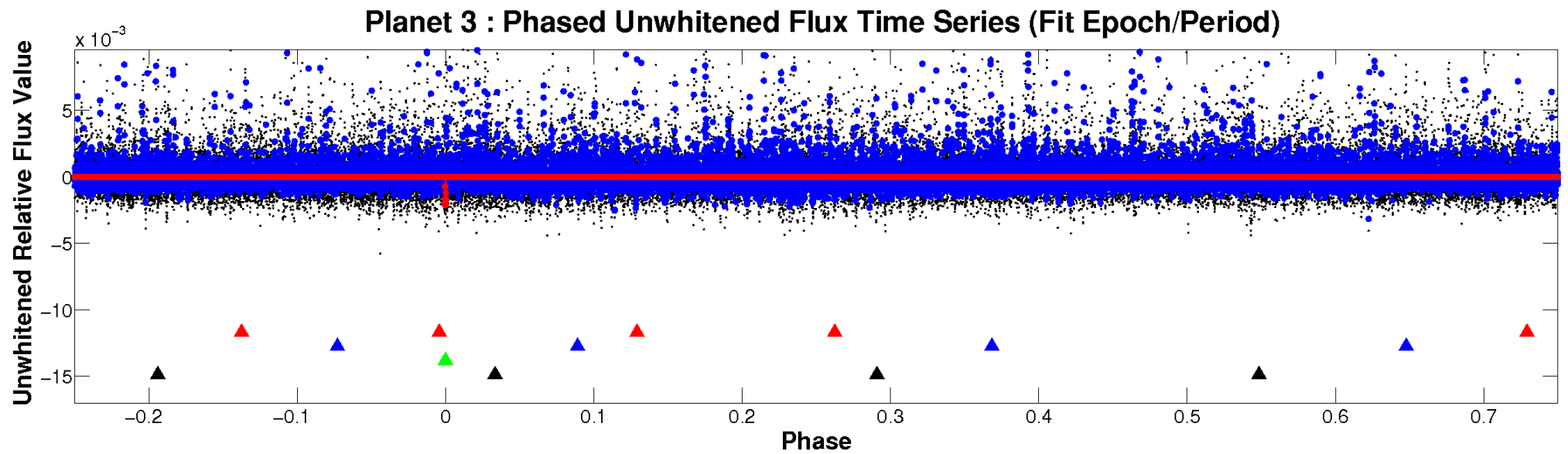


ALT Odd/Even

TCE 006530792-03

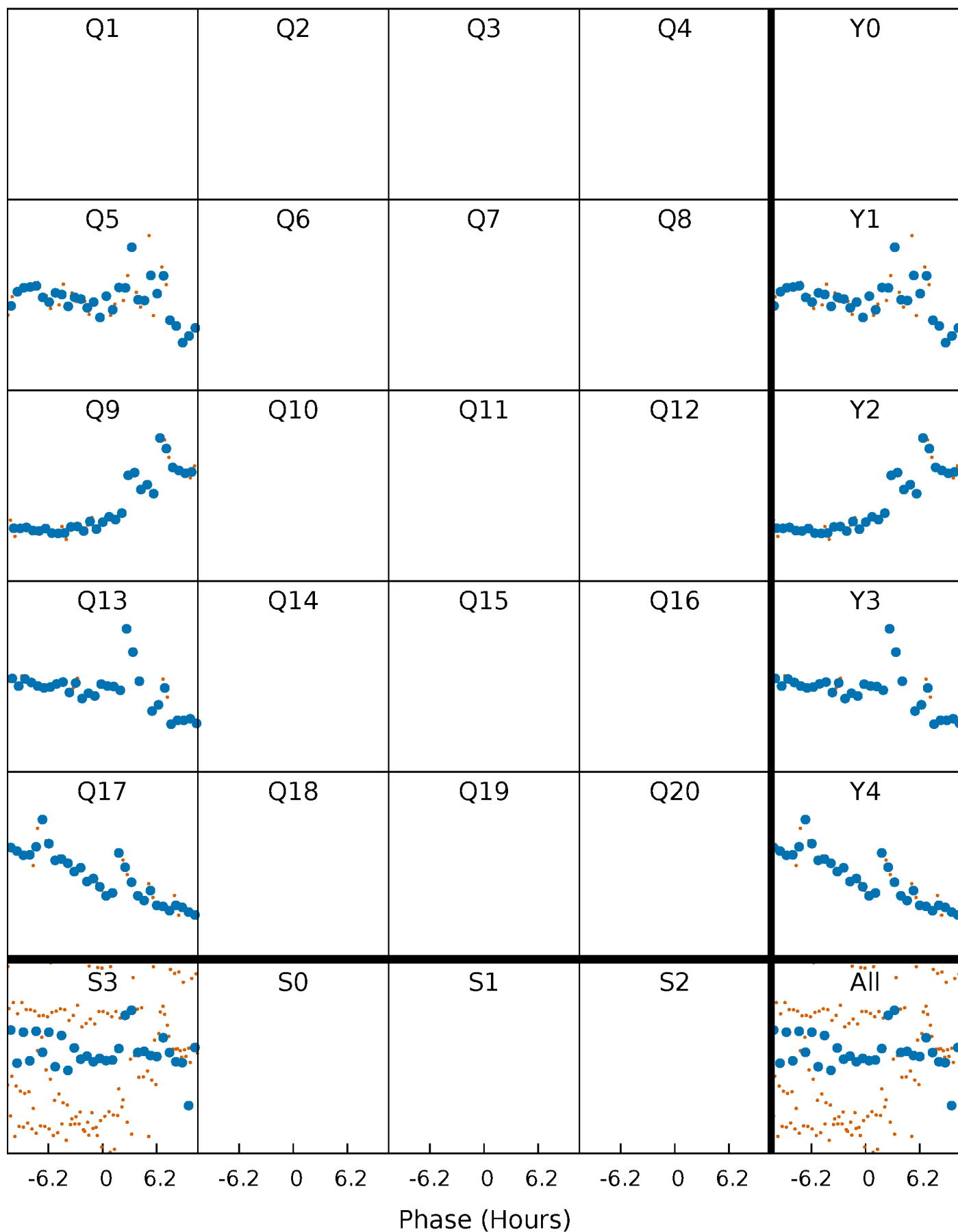


Non-Whitened Vs. Whitened Light Curve



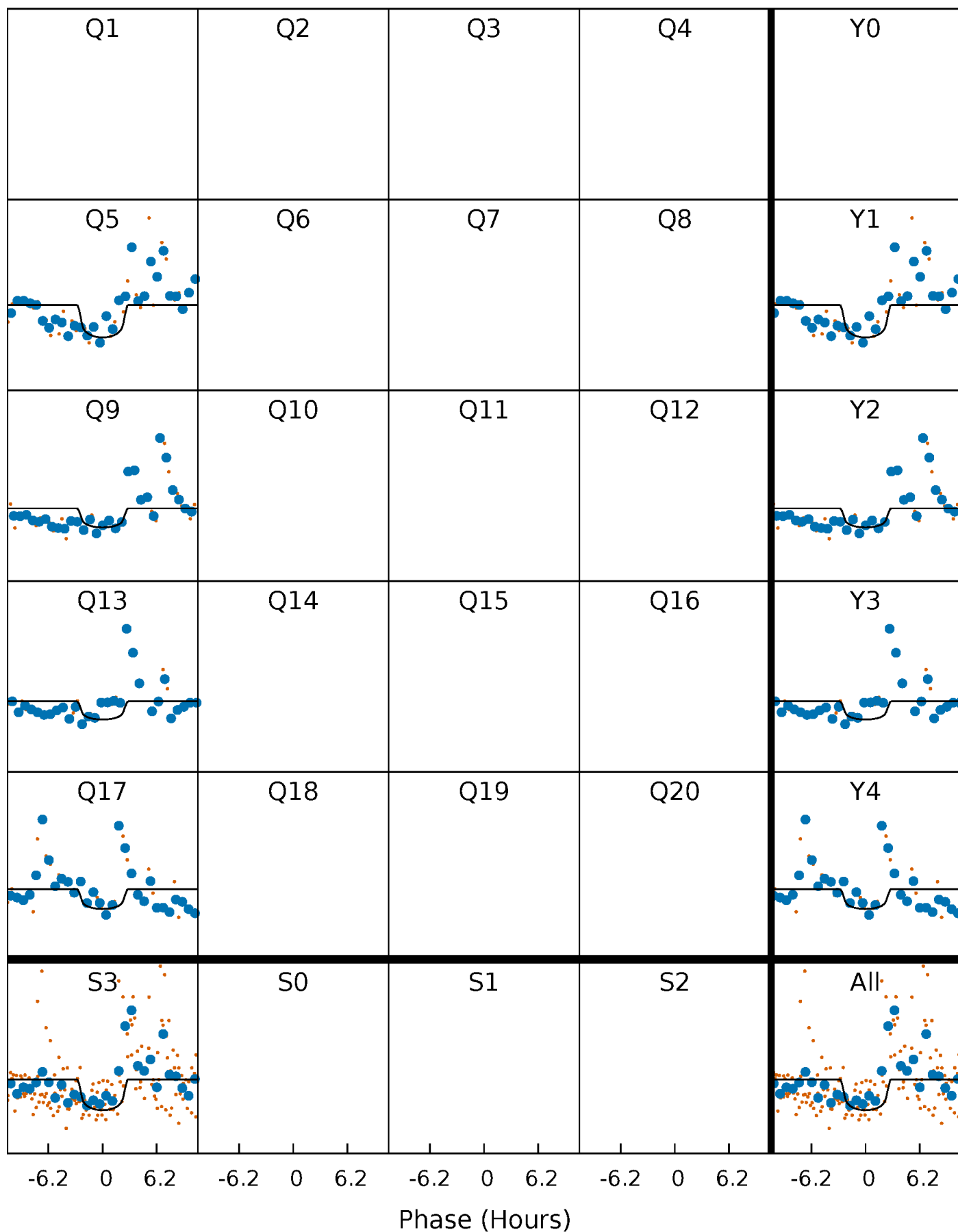
PDC Quarter-Phased Transit Curves

TCE 006530792-03 $P=350.994330$ Days $T_0=164.386842$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006530792-03 $P=350.994330$ Days $T_0=164.386842$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

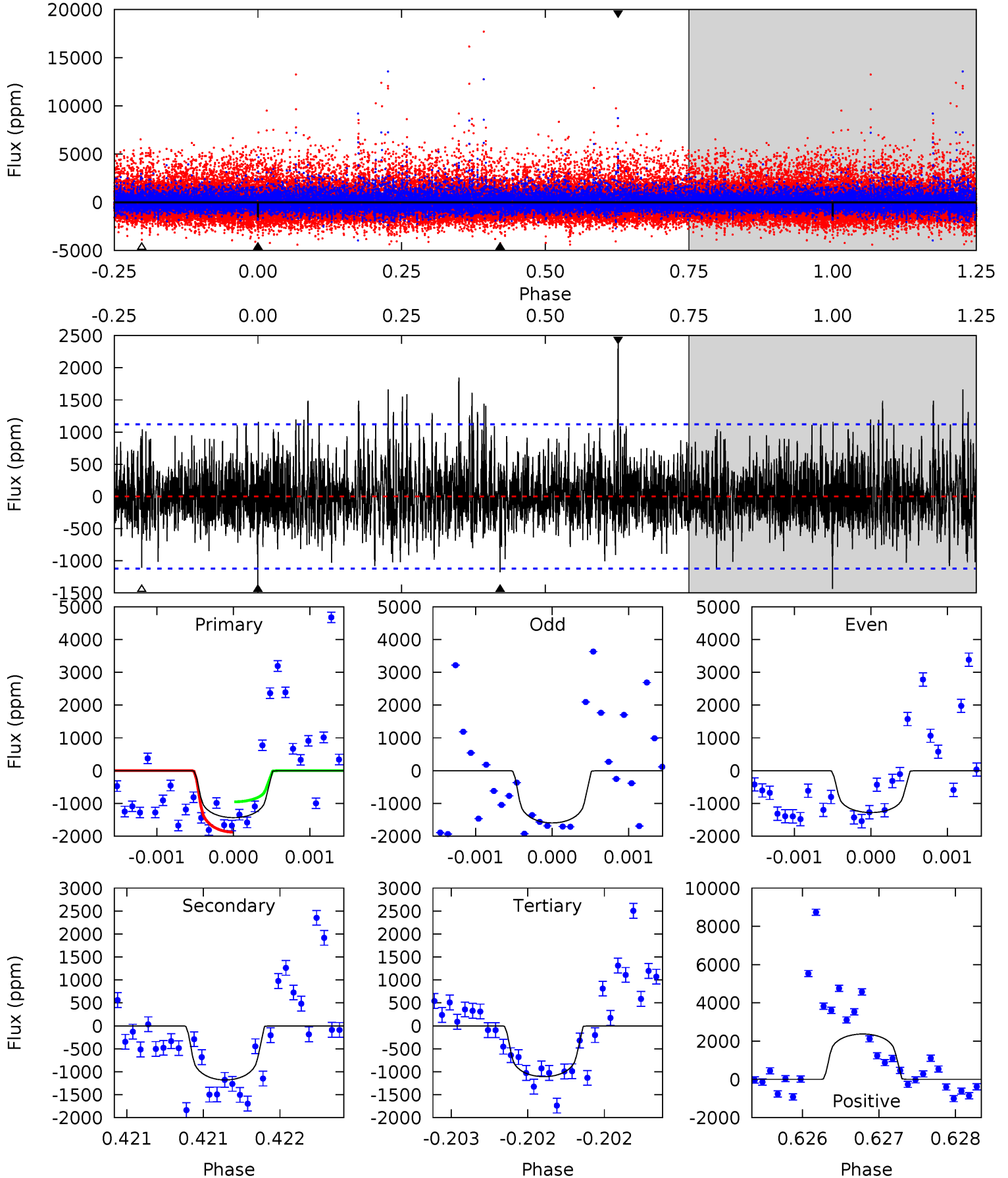
TCE 006530792-03 $P=350.980449$ Days $T_0=164.398523$ (BKJD)



DV Model-Shift Uniqueness Test

006530792-03, P = 350.994330 Days, E = 164.386842 Days

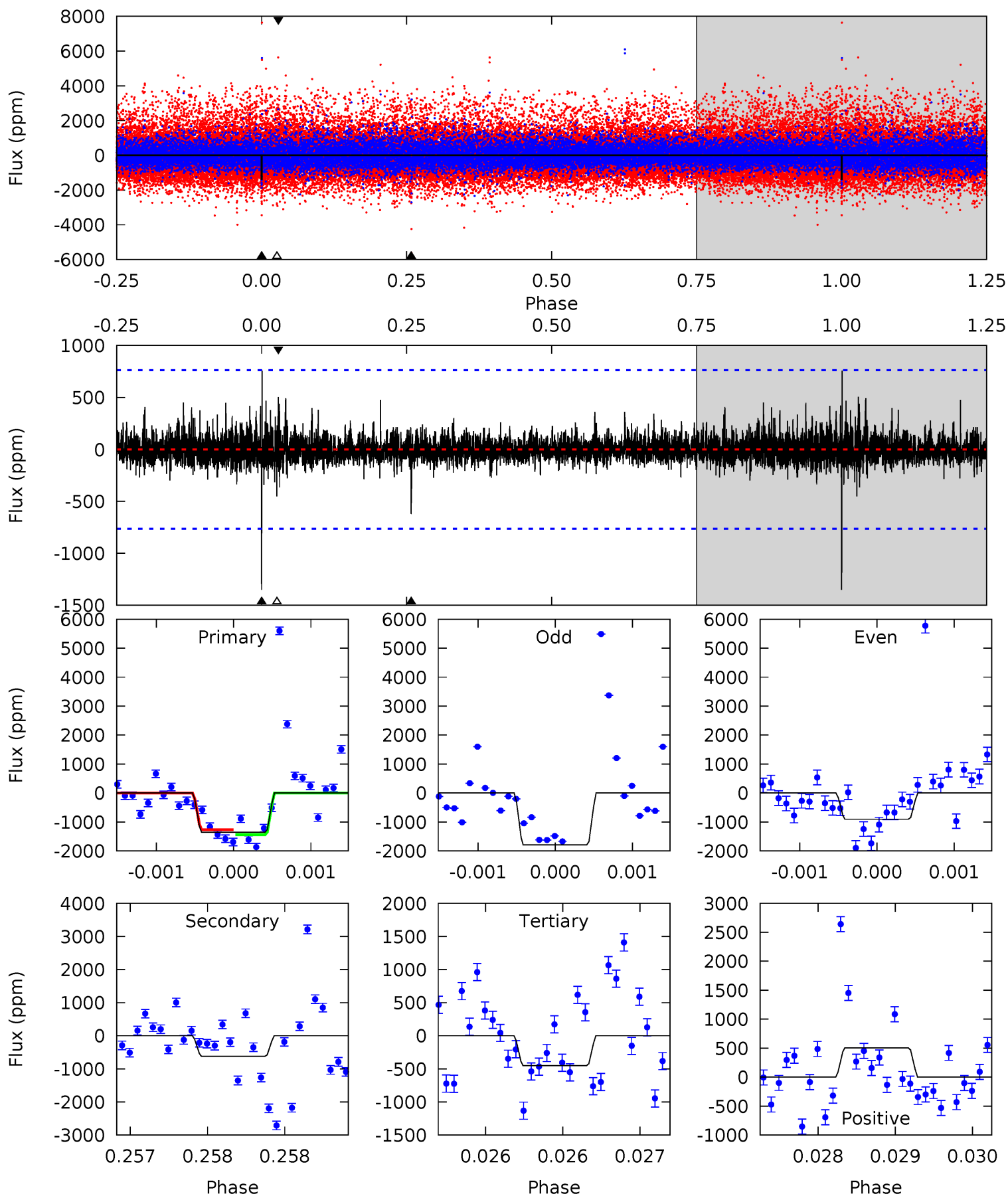
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.06	5.80	5.45	11.7	5.52	3.41	1.81	1.61	-4.62	0.35	-5.87	0.62	1.04	0.62	2.28



Alt Model-Shift Uniqueness Test

006530792-03, P = 350.980449 Days, E = 164.398523 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.78	4.49	3.28	3.65	5.53	3.41	0.66	6.51	6.14	1.22	0.85	3.16	0.96	0.36	0.61



Stellar Parameters For KIC 006530792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3469^{+45}_{-45}	$4.882^{+0.035}_{-0.032}$	$0.000^{+0.100}_{-0.100}$	$0.366^{+0.032}_{-0.035}$	$0.373^{+0.037}_{-0.041}$	$10.710^{+2.087}_{-1.453}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+9%/-10%	+10%/-11%	+19%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006530792-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1179 ± 203	$1.92^{+1.46}_{-1.15}$	155^{+3}_{-3}	3123^{+1023}_{-445}	$85708^{+406441}_{-57792}$
Alt.	-620 ± 138	$1.79^{+1.31}_{-1.12}$	155^{+3}_{-3}	2900^{+1003}_{-392}	$51466^{+281144}_{-35069}$

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 $A_{obs} \gg 1.0$

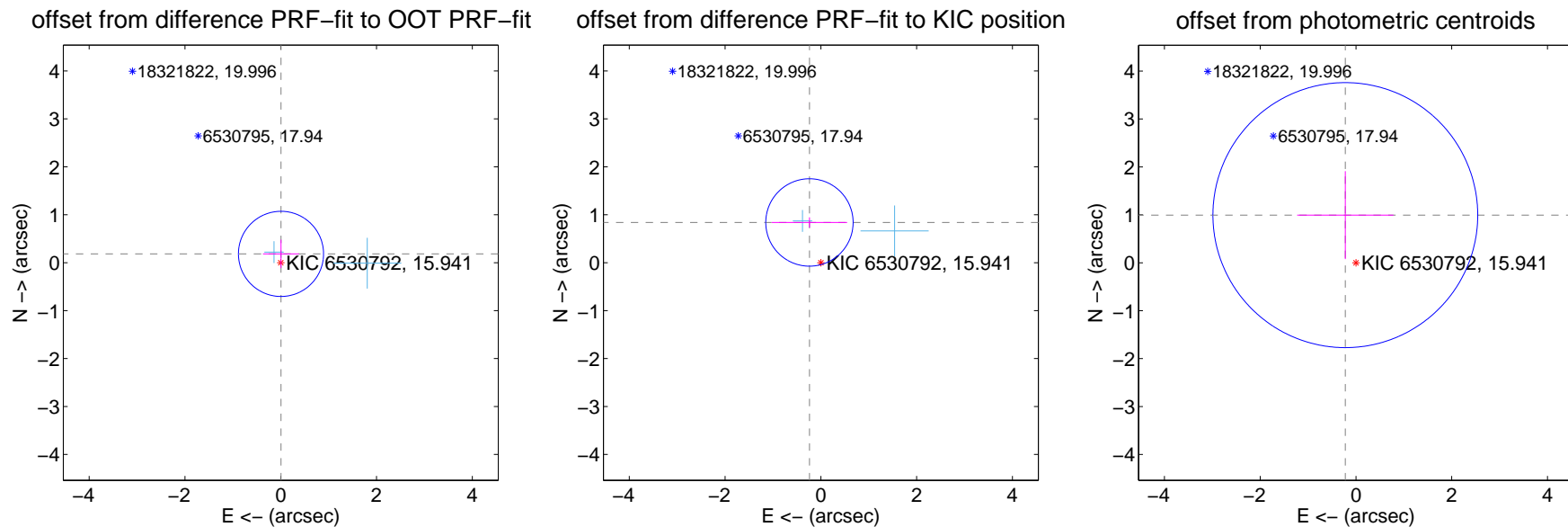
DV Centroid Data

Supplemental centroid analysis for 006530792-03. Kepler magnitude: 15.94. Transit SNR 6.43

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.296	0.62	-0.005 ± 0.376	0.184 ± 0.296
PRF-fit source offset from KIC position	0.872 ± 0.304	2.87	0.238 ± 0.788	0.839 ± 0.108
photometric centroid source offset	1.02 ± 0.92	1.11	0.22 ± 1.01	0.99 ± 0.92

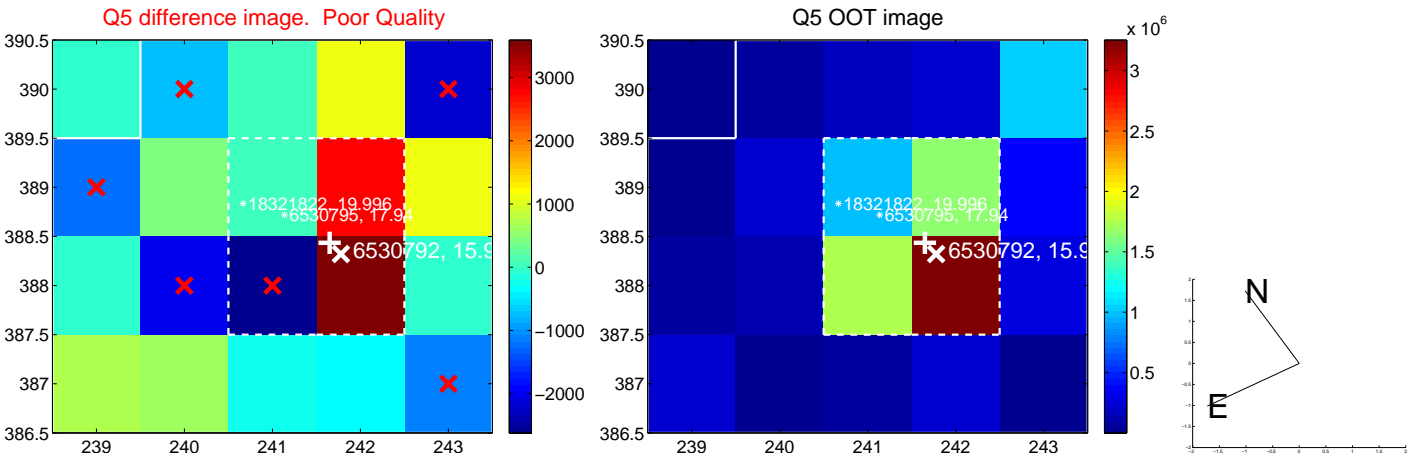


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

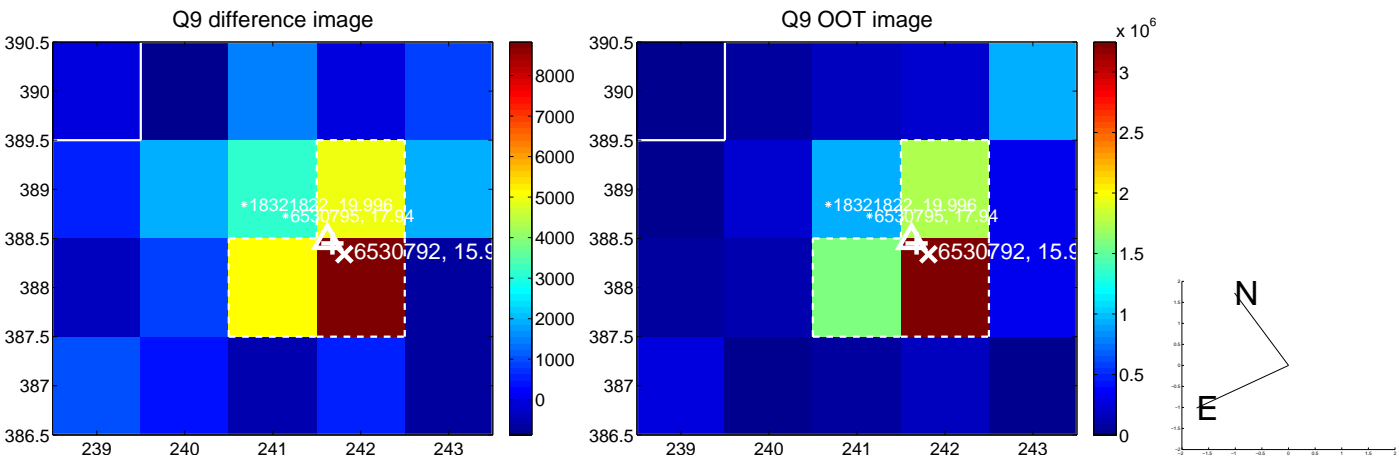
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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

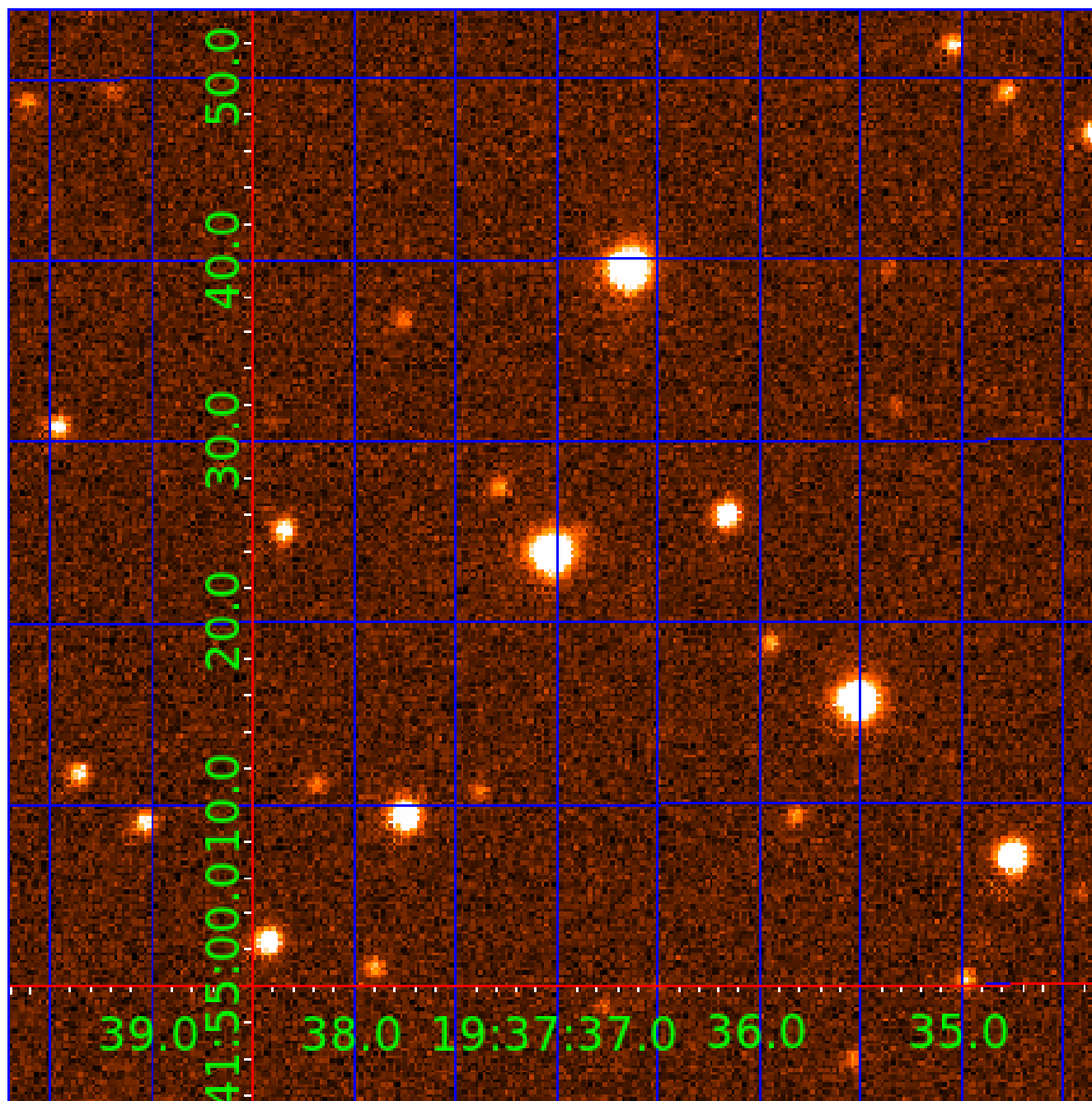


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006530792

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})
006530792-01	OBS	No	304.199384	256.509216	3060.5	5.781	11.2	7.5	0.37	3469	2.18	0.04
006530792-02	OBS	No	449.052254	195.640765	3493.0	10.043	10.0	8.1	0.37	3469	2.18	0.03
006530792-03	OBS	No	350.994330	164.386842	2129.6	5.463	9.9	6.4	0.37	3469	1.73	0.04
006530792-04	OBS	No	441.391242	176.114211	2676.9	2.311	9.8	5.7	0.37	3469	2.07	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006530792-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006530792-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_FEW_DIFFS
006530792-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_POS_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.

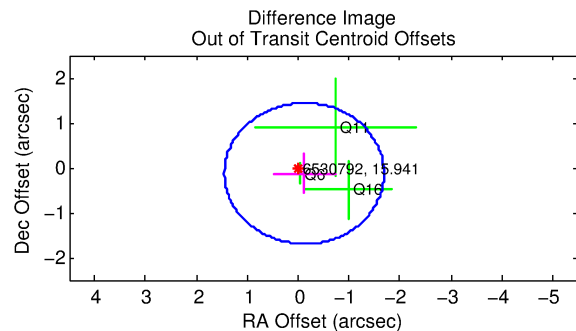
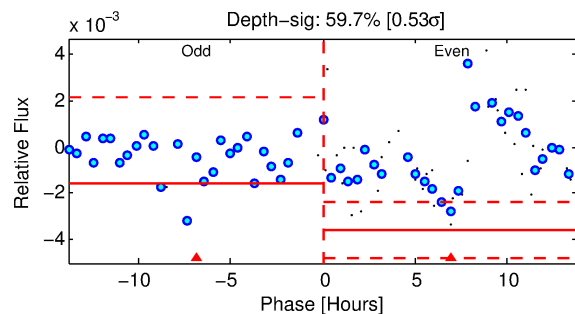
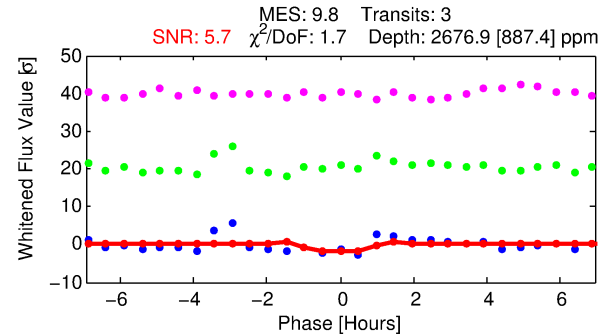
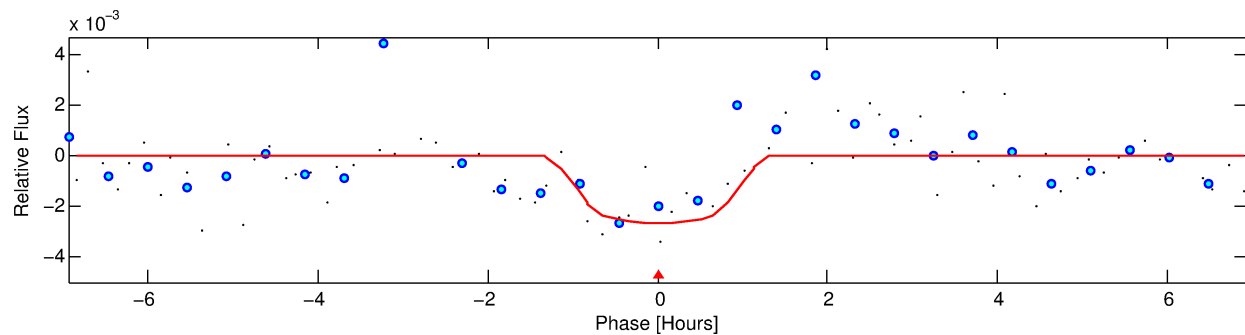
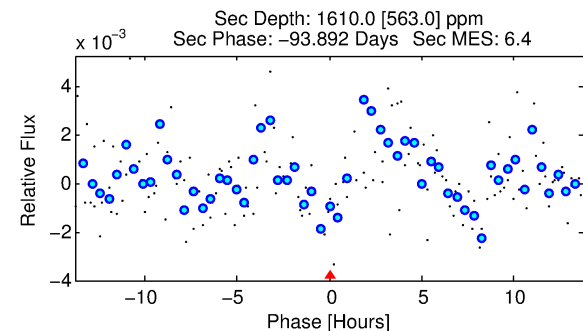
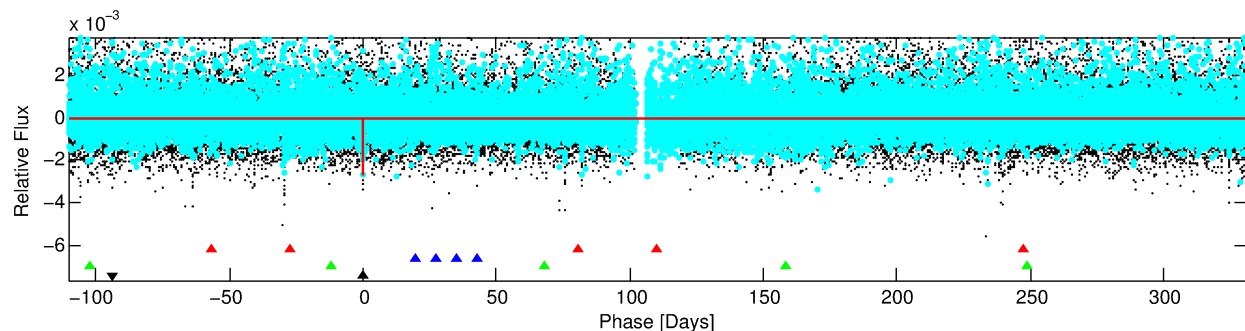
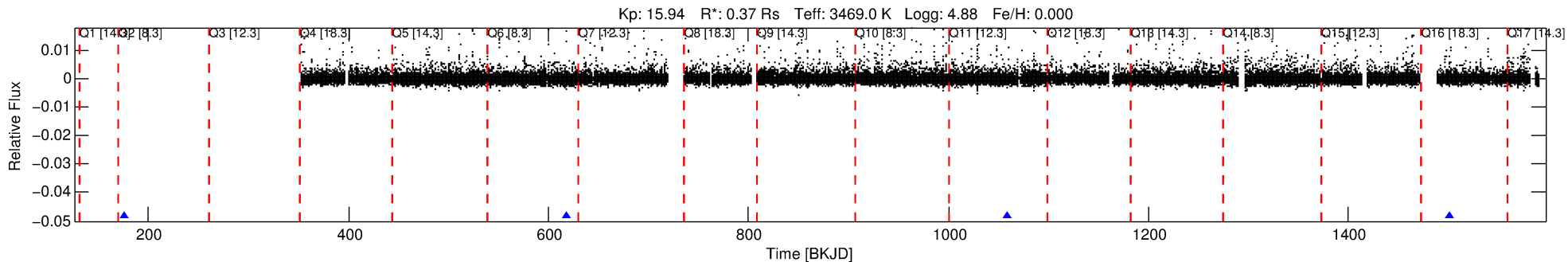
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006530792-04

No Significant Match Found

DV One-Page Summary

KIC: 6530792 Candidate: 4 of 4 Period: 441.391 d



DV Fit Results:

Period = 441.39124 [0.00798] d
Epoch = 176.1142 [0.0181] BKJD
Rp/R* = 0.0519 [0.0517]
a/R* = 1052.25 [4185.37]
b = 0.77 [2.14]
Seff = 0.03 [0.00]
Teq = 102 [3] K
Rp = 2.07 [2.07] Re
a = 0.8164 [0.0565] AU
Ag = 137530.82 [278489.29] [0.49σ]
Teffp = 3051 [1544] K [1.91σ]

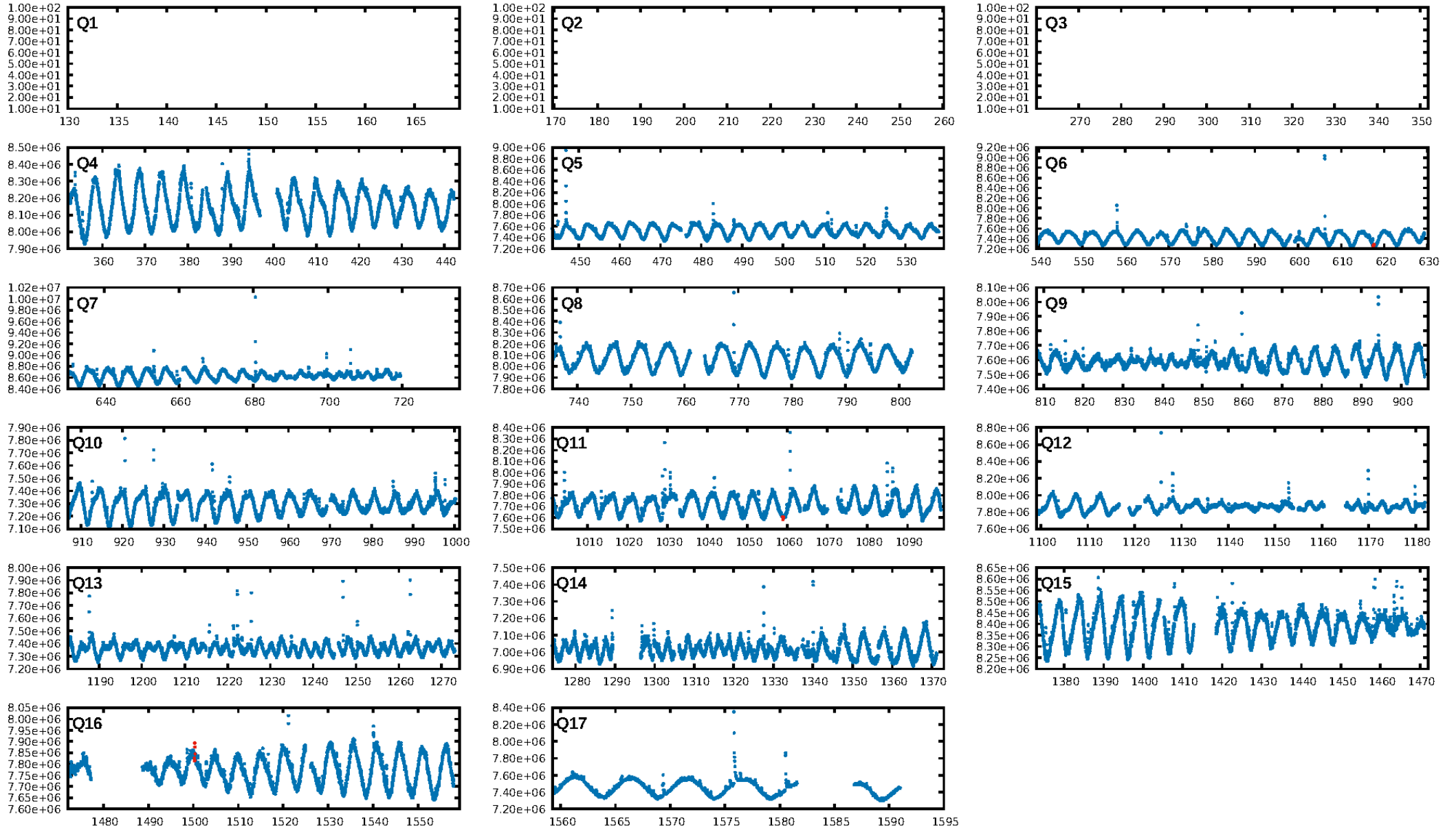
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [365.75σ]
LongPeriod-sig: 100.0% [17.84σ]
ModelChiSquare2-sig: 28.3%
ModelChiSquareGof-sig: 63.0%
Bootstrap-pfa: 4.14e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.698
Centroid-sig: 80.6%
Centroid-so: 0.477 arcsec [0.41σ]
OotOffset-rm: 0.175 arcsec [0.33σ]
KicOffset-rm: 0.358 arcsec [0.82σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

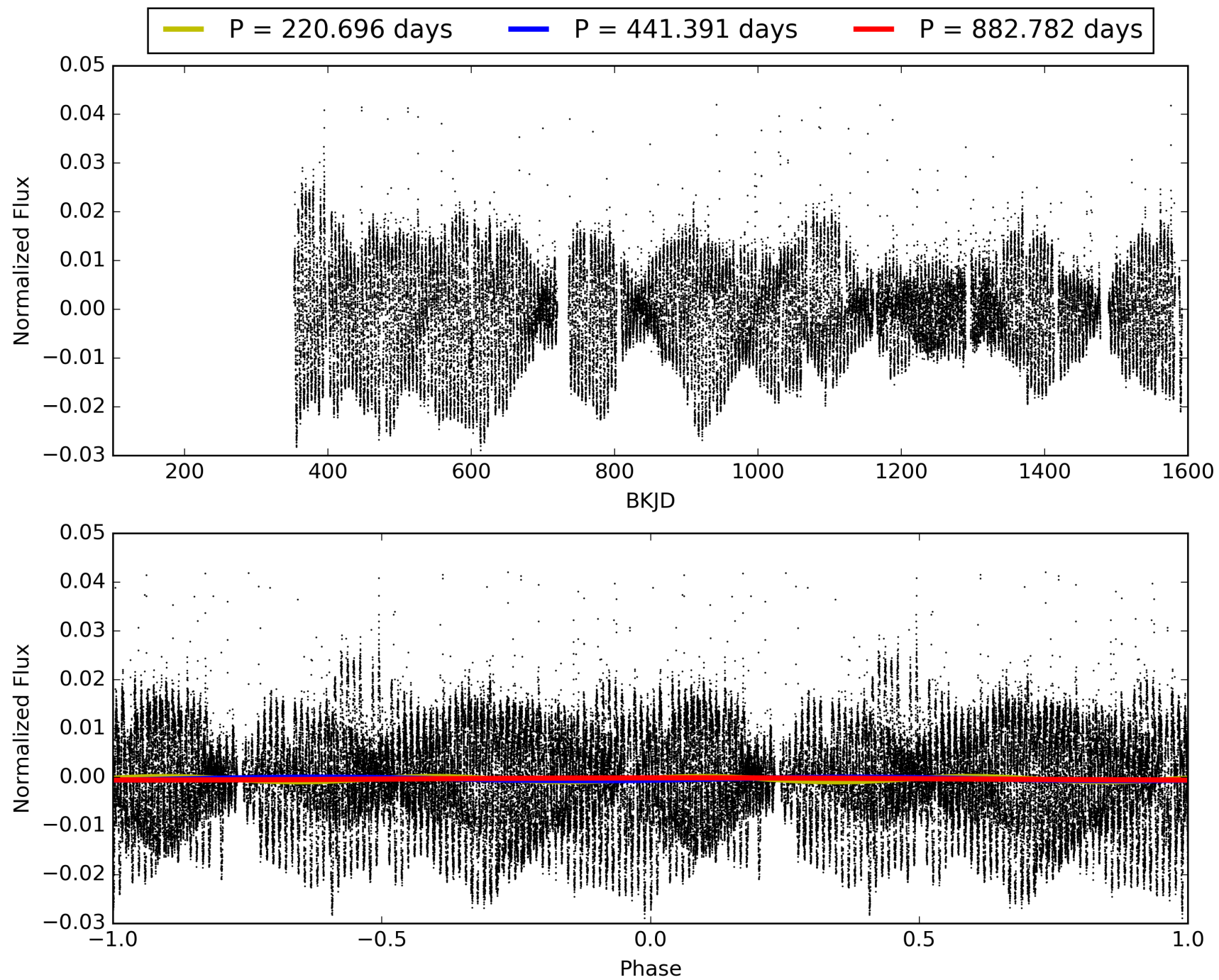
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:20:51 Z

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

TCE 006530792-04, PDC Light Curves

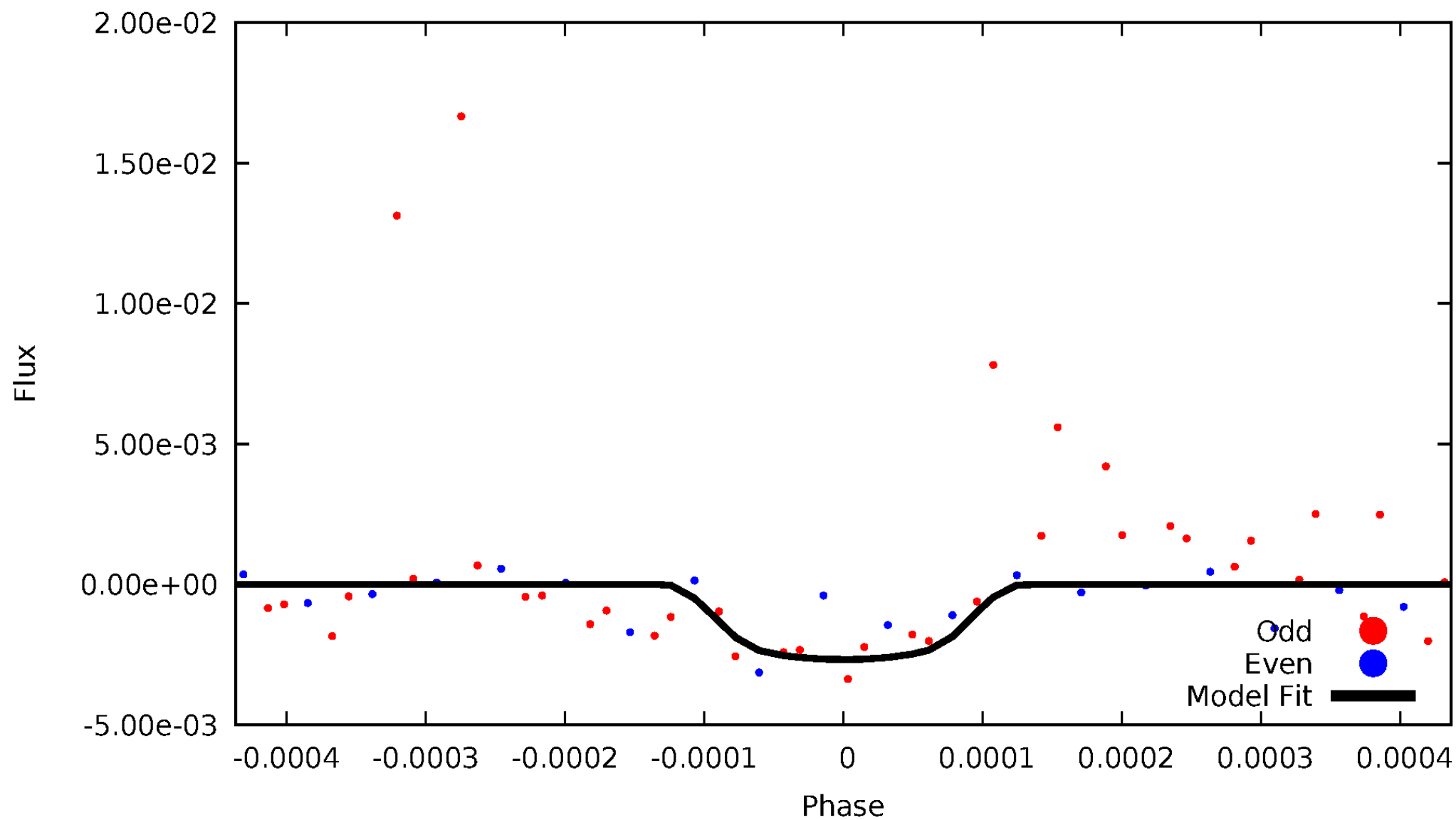


TCE 006530792-04



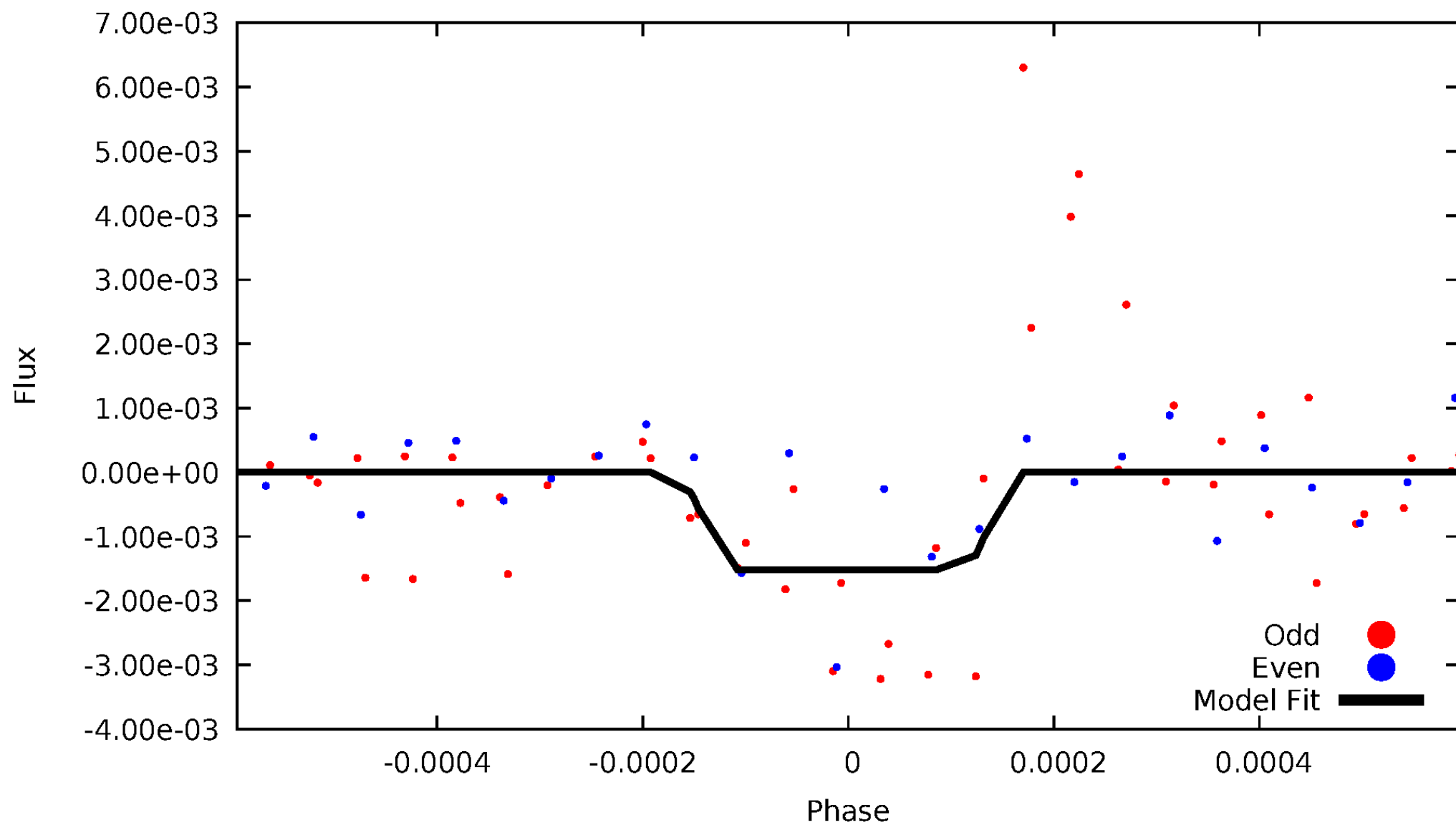
DV Odd/Even

TCE 006530792-04



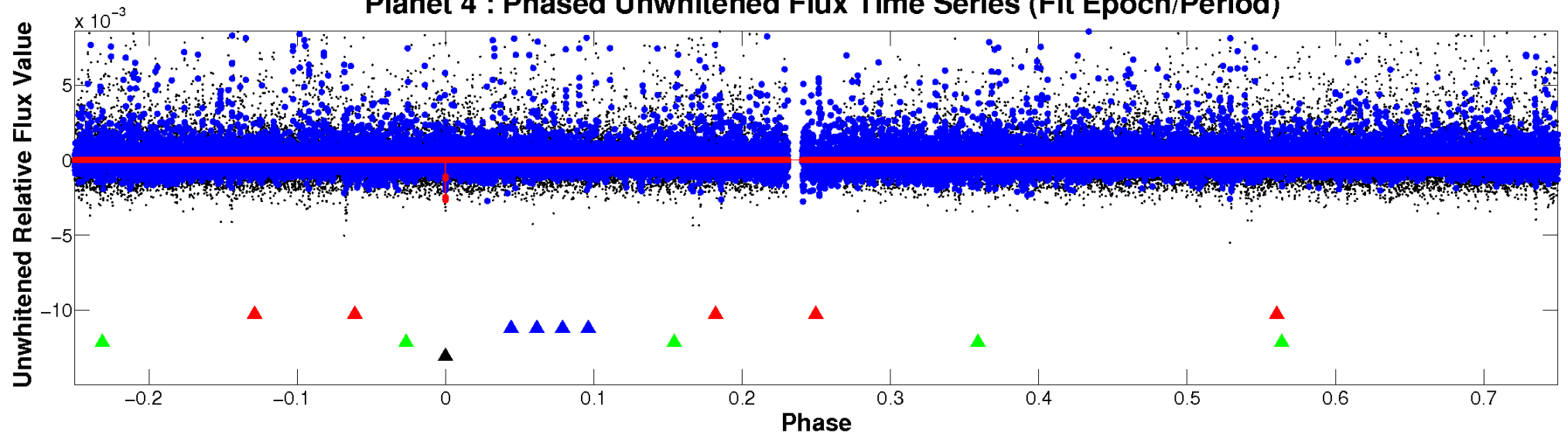
ALT Odd/Even

TCE 006530792-04

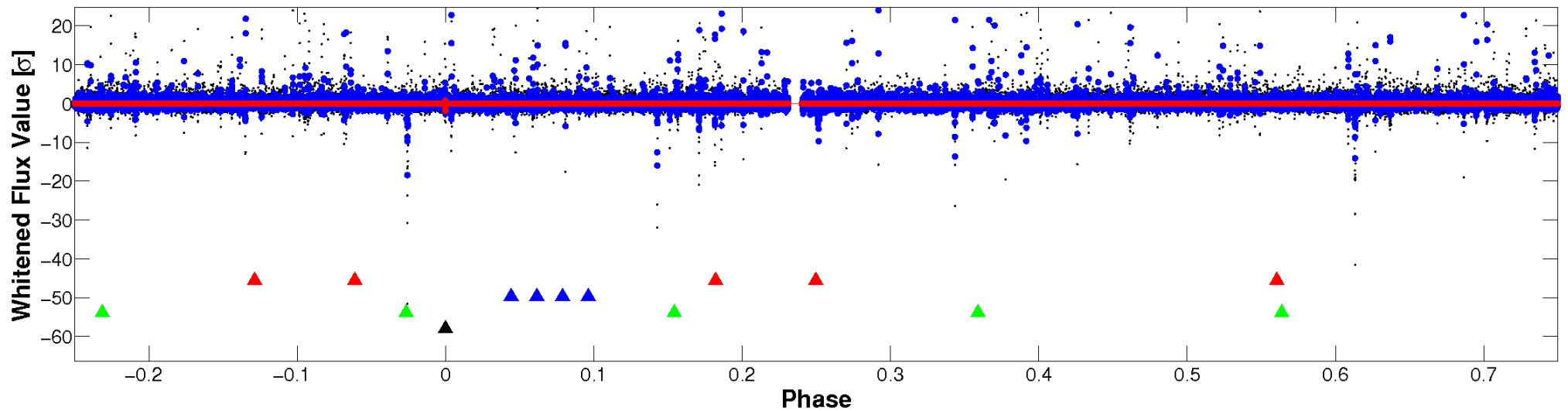


Non-Whitened Vs. Whitened Light Curve

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

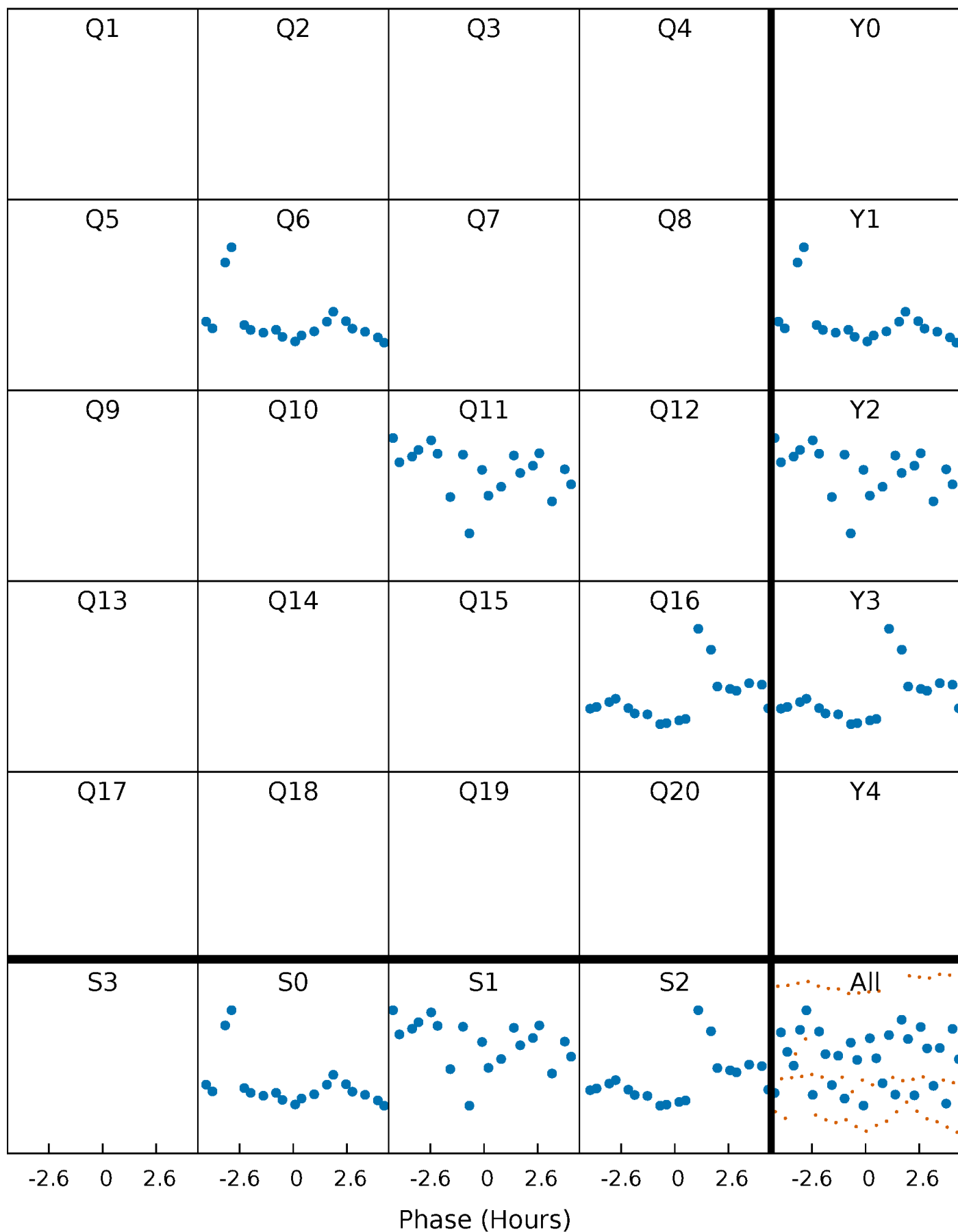


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



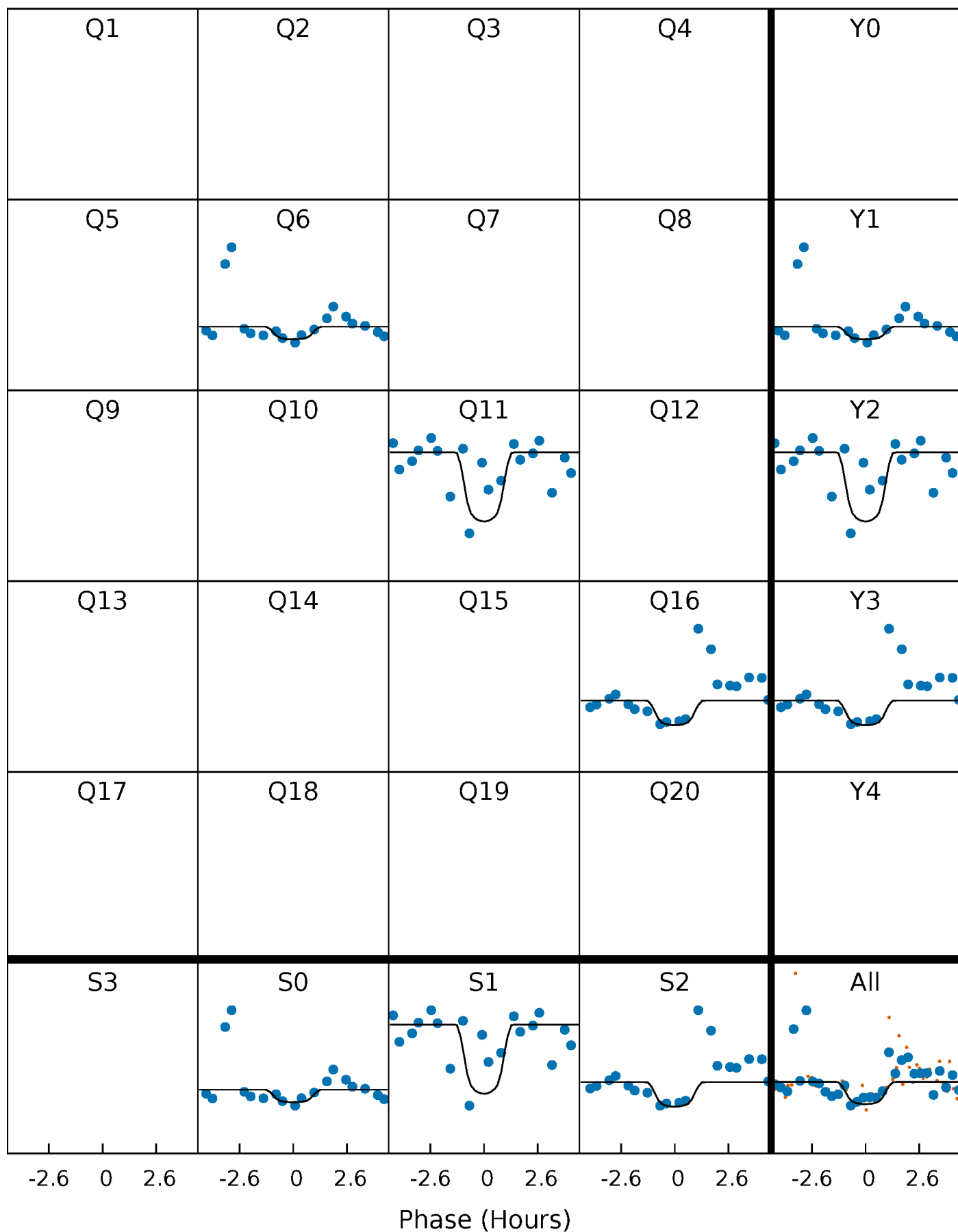
PDC Quarter-Phased Transit Curves

TCE 006530792-04 P=441.391242 Days $T_0=176.114212$ (BKJD)



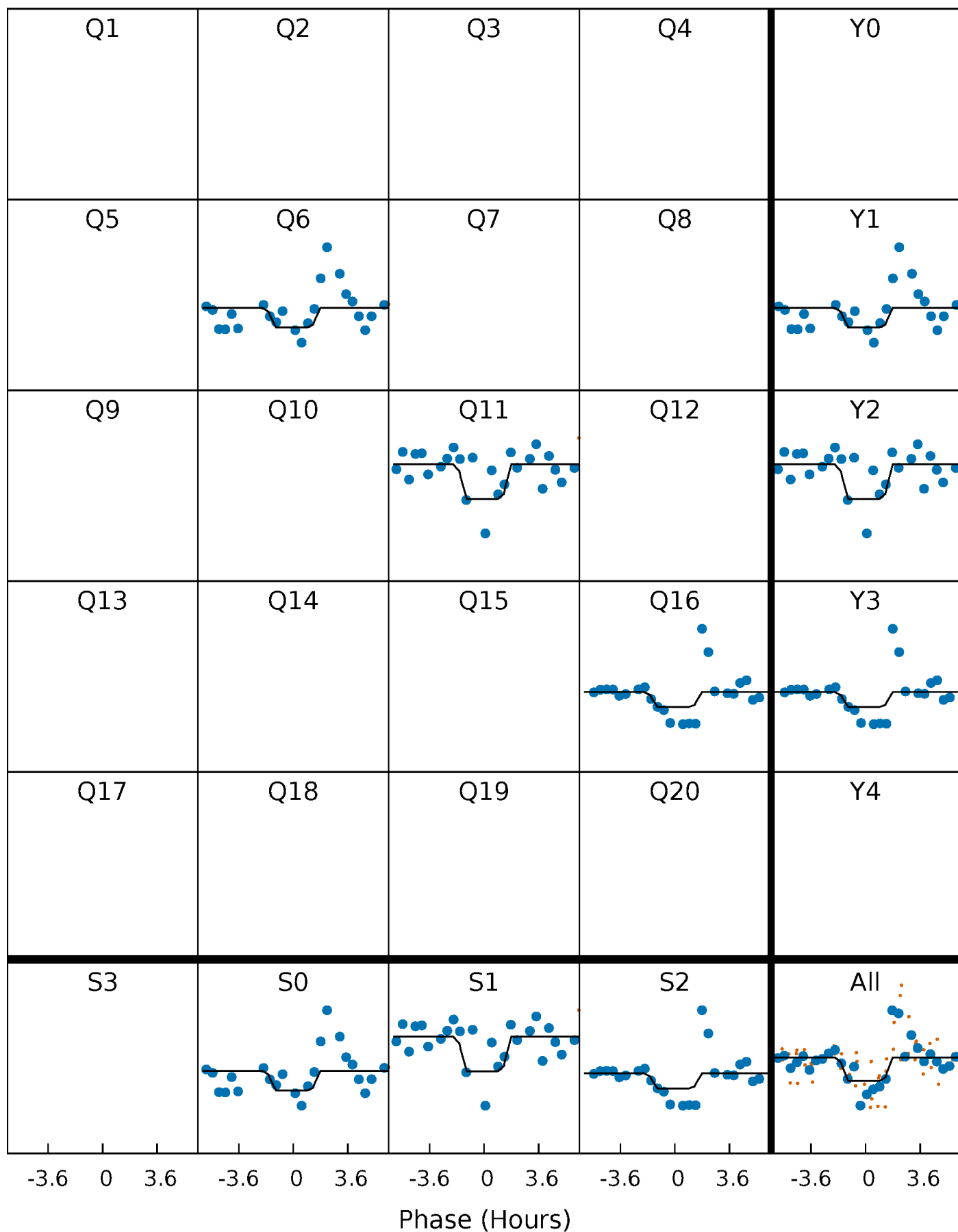
DV Quarter-Phased Transit Curves

TCE 006530792-04 P=441.391242 Days $T_0=176.114212$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

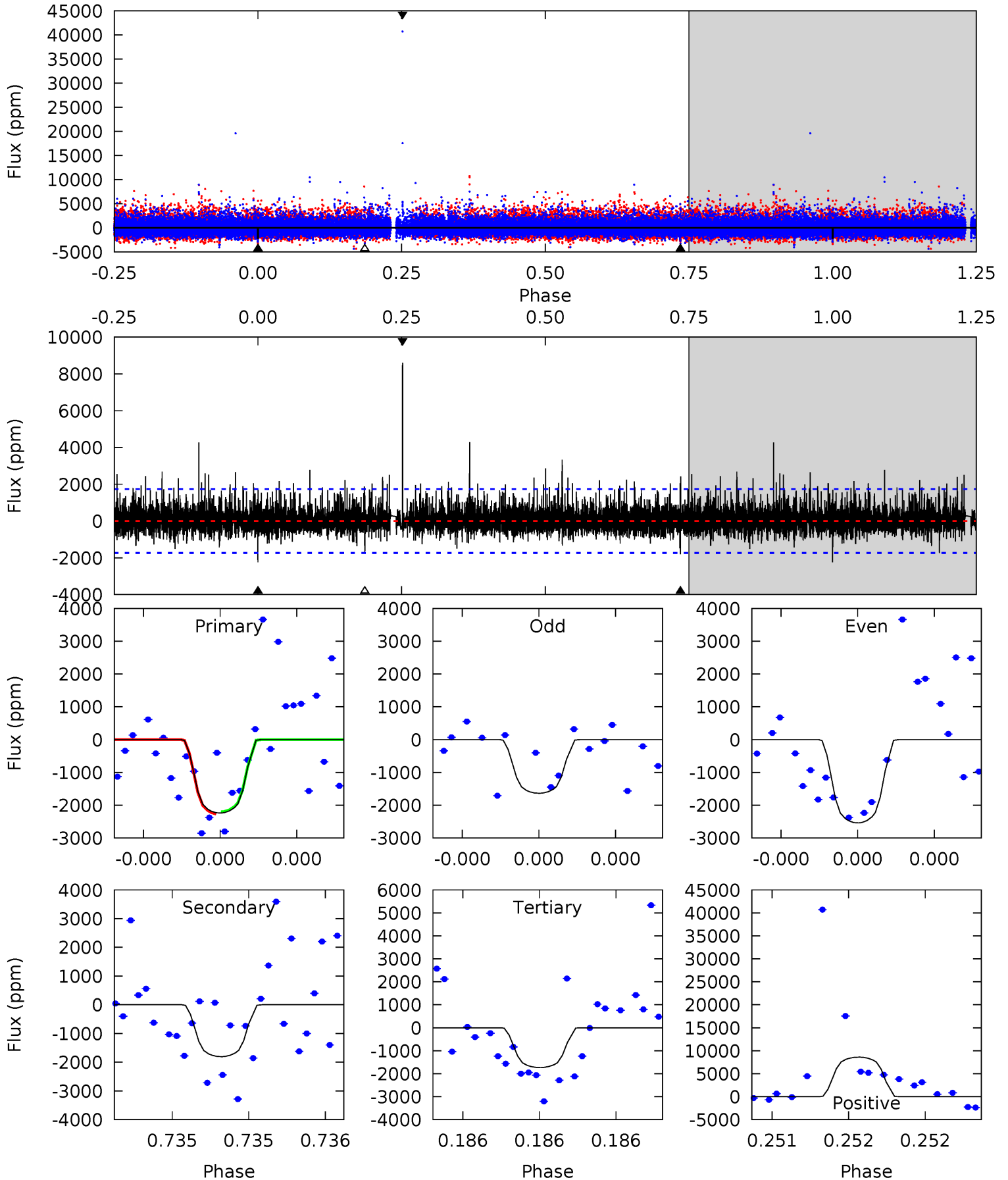
TCE 006530792-04 P=441.385330 Days $T_0=176.104338$ (BKJD)



DV Model-Shift Uniqueness Test

006530792-04, P = 441.391242 Days, E = 176.114212 Days

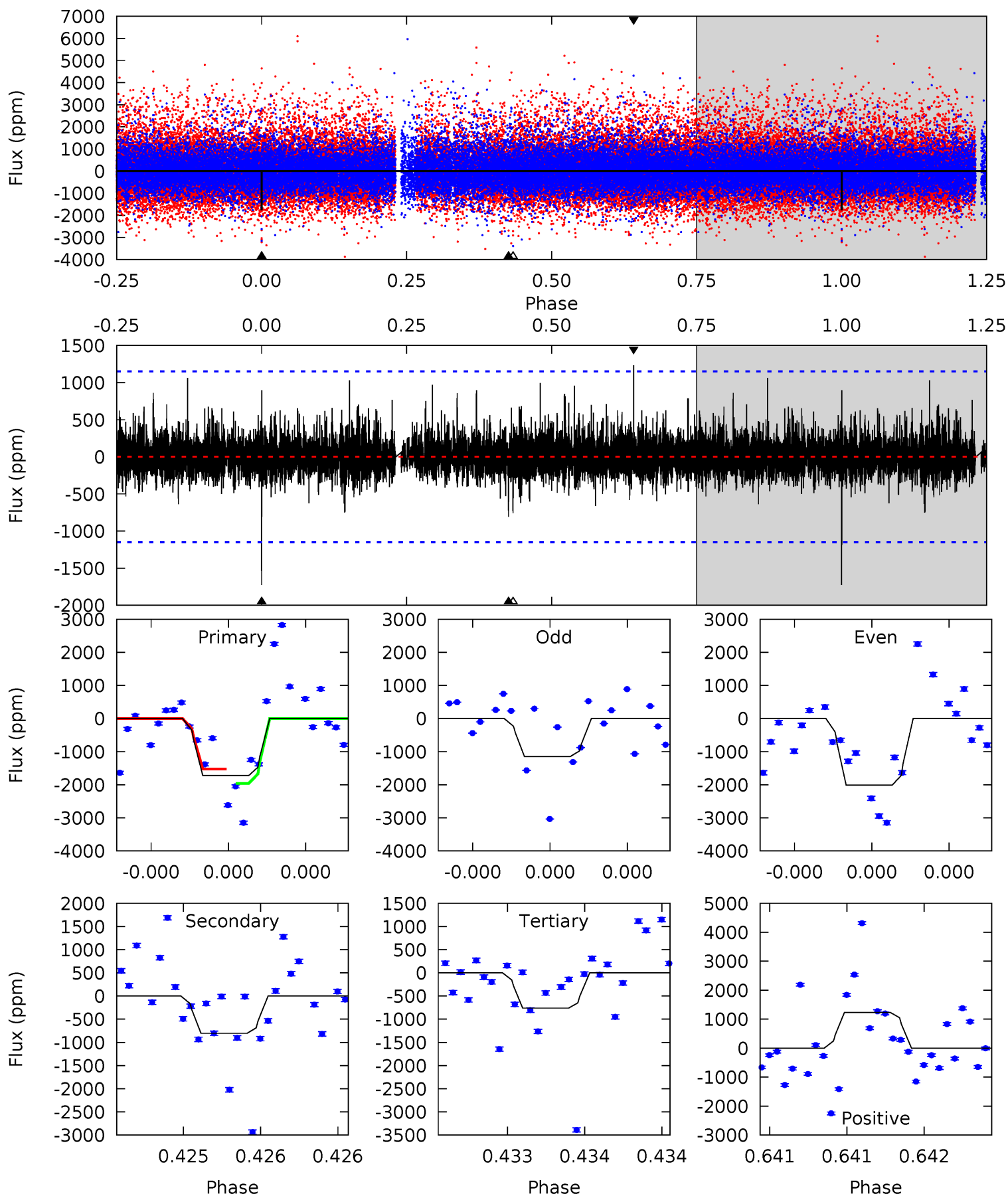
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.35	5.93	5.69	28.2	5.68	3.65	1.67	1.65	-20.9	0.24	-22.3	0.98	1.00	0.79	0.11



Alt Model-Shift Uniqueness Test

006530792-04, P = 441.385330 Days, E = 176.104338 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.47	3.96	3.74	6.05	5.65	3.60	0.89	4.73	2.42	0.22	-2.09	1.94	1.33	0.42	1.07



Stellar Parameters For KIC 006530792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3469^{+45}_{-45}	$4.882^{+0.035}_{-0.032}$	$0.000^{+0.100}_{-0.100}$	$0.366^{+0.032}_{-0.035}$	$0.373^{+0.037}_{-0.041}$	$10.710^{+2.087}_{-1.453}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+9%/-10%	+10%/-11%	+19%/-14%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 006530792-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1808 ± 305	$2.50^{+1.73}_{-1.58}$	143^{+3}_{-3}	3094^{+1208}_{-429}	$105093^{+673156}_{-68871}$
Alt.	-805 ± 204	$2.05^{+1.91}_{-1.29}$	143^{+3}_{-3}	2883^{+1055}_{-446}	$65082^{+410008}_{-46955}$

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

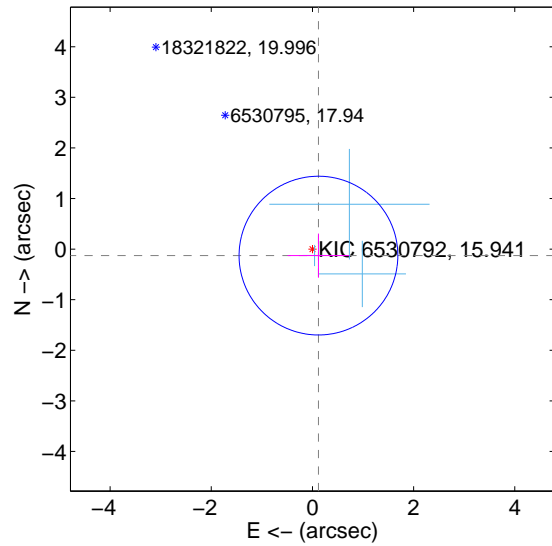
Supplemental centroid analysis for 006530792-04. Kepler magnitude: 15.94. Transit SNR 5.65

There are 3 quarters with good PRF difference image offsets

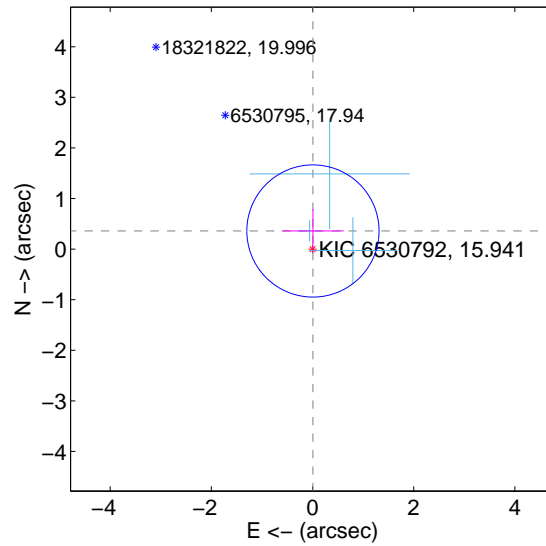
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.175 ± 0.523	0.33	-0.119 ± 0.610	-0.129 ± 0.435
PRF-fit source offset from KIC position	0.358 ± 0.436	0.82	-0.008 ± 0.610	0.358 ± 0.435
photometric centroid source offset	0.48 ± 1.17	0.41	-0.34 ± 1.28	0.34 ± 1.05

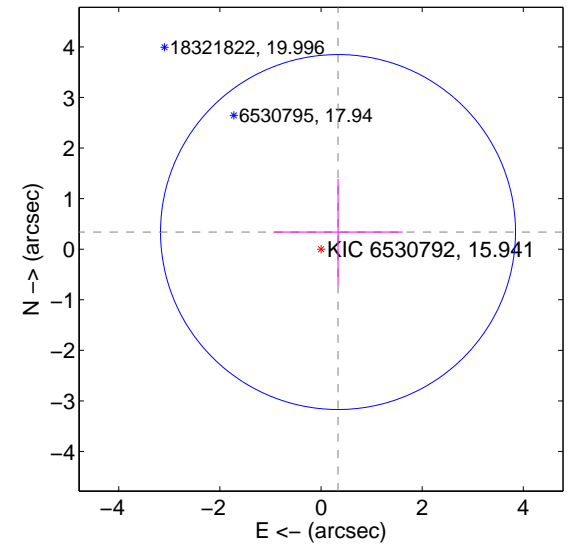
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

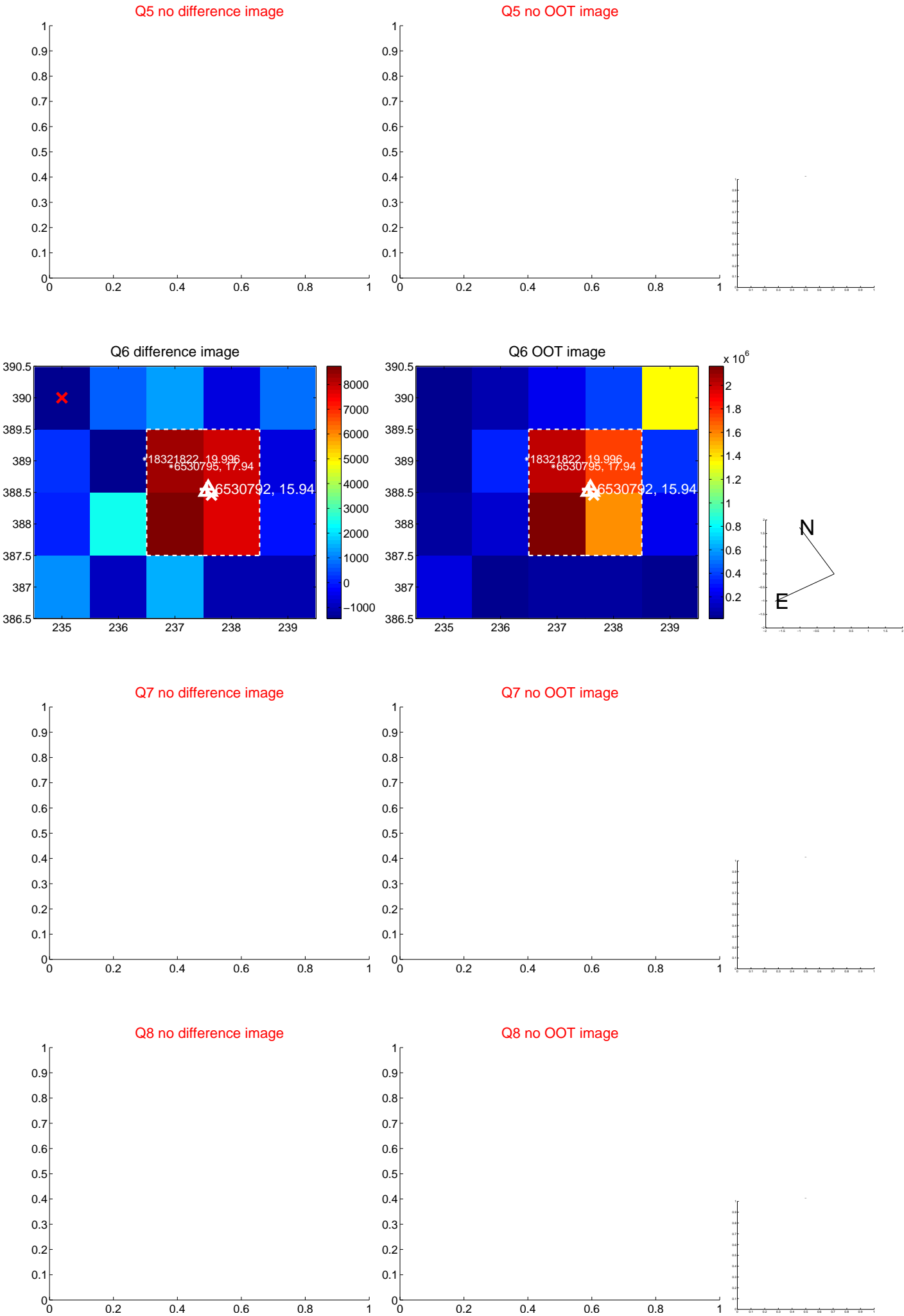


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

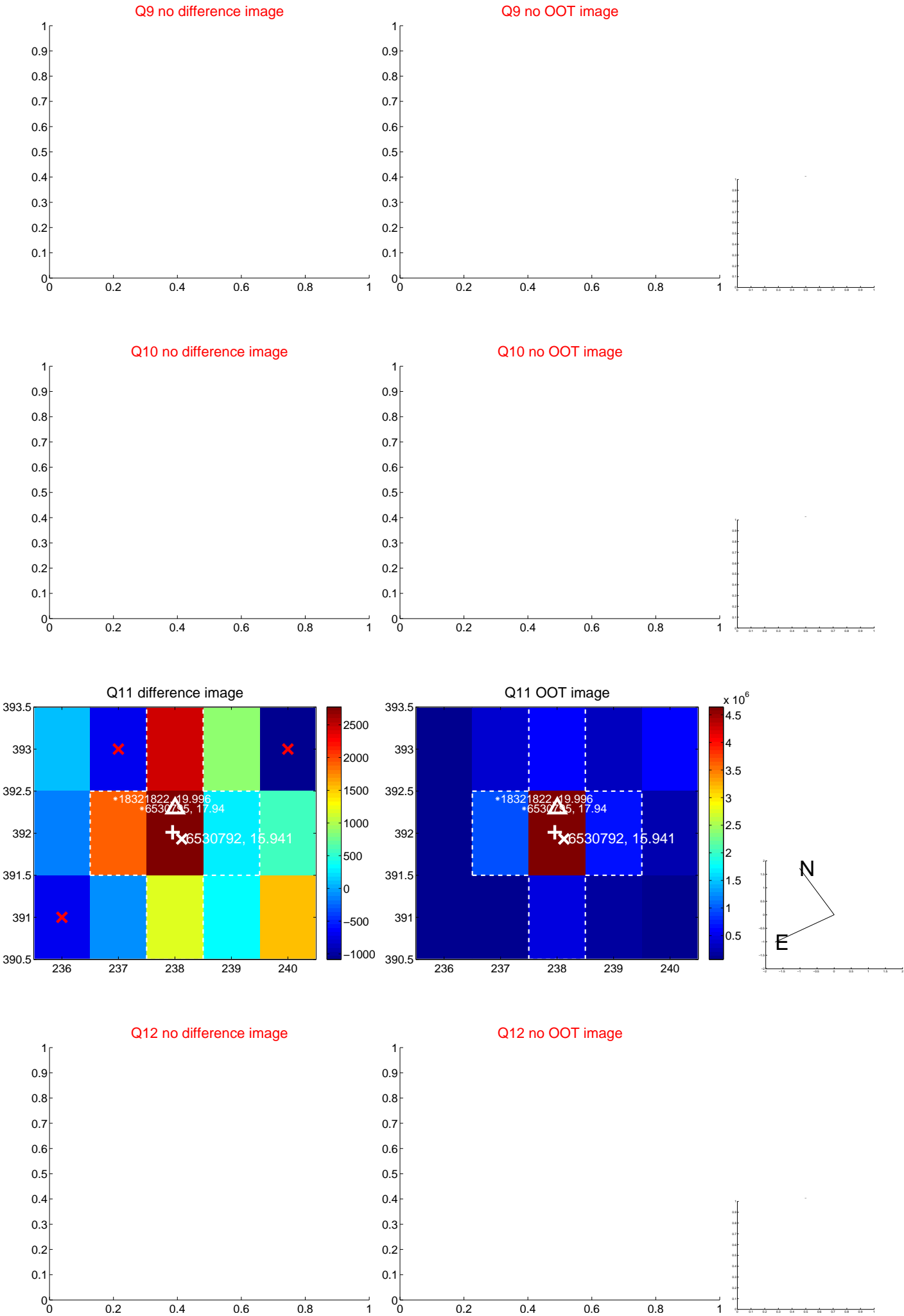
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



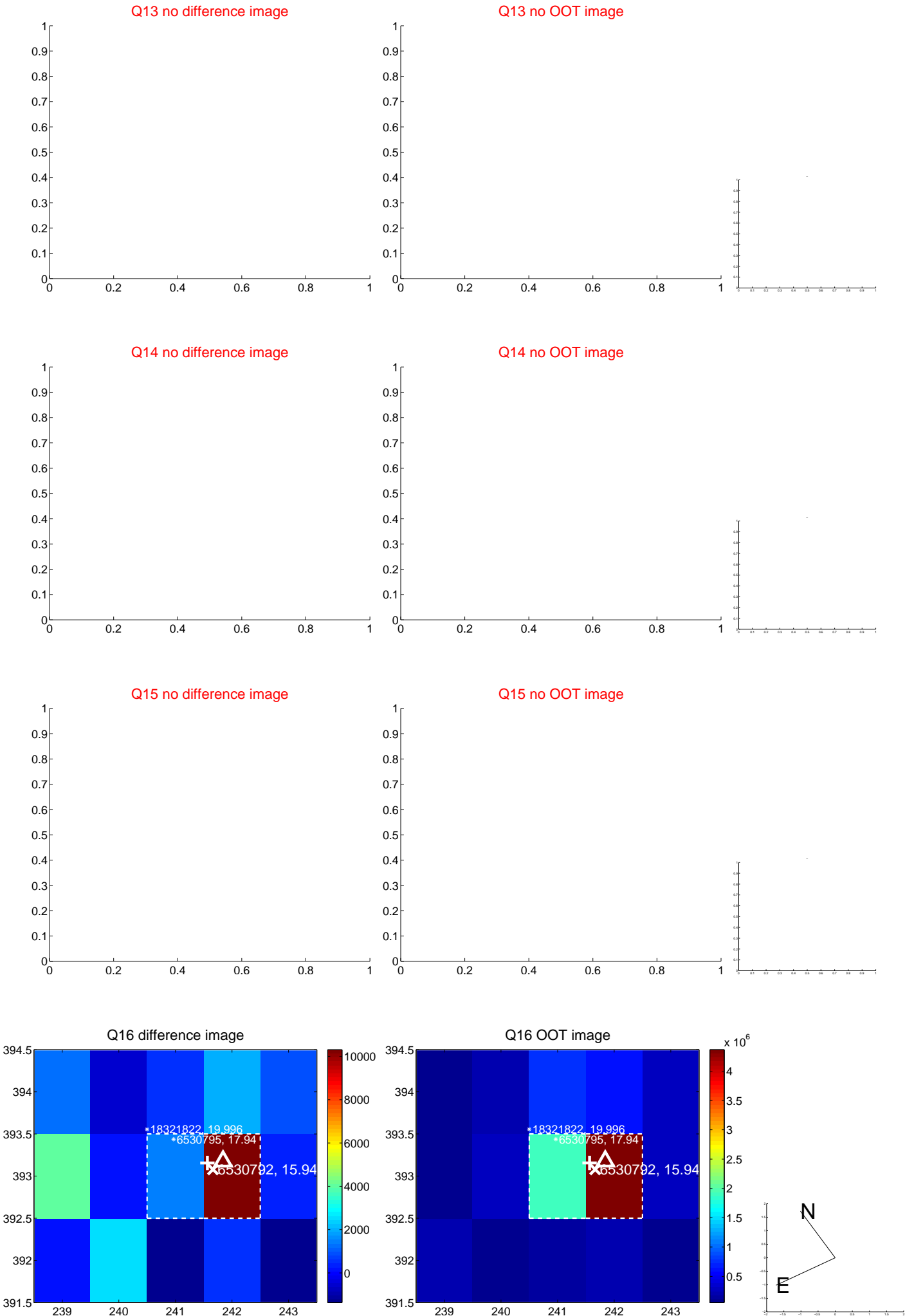
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



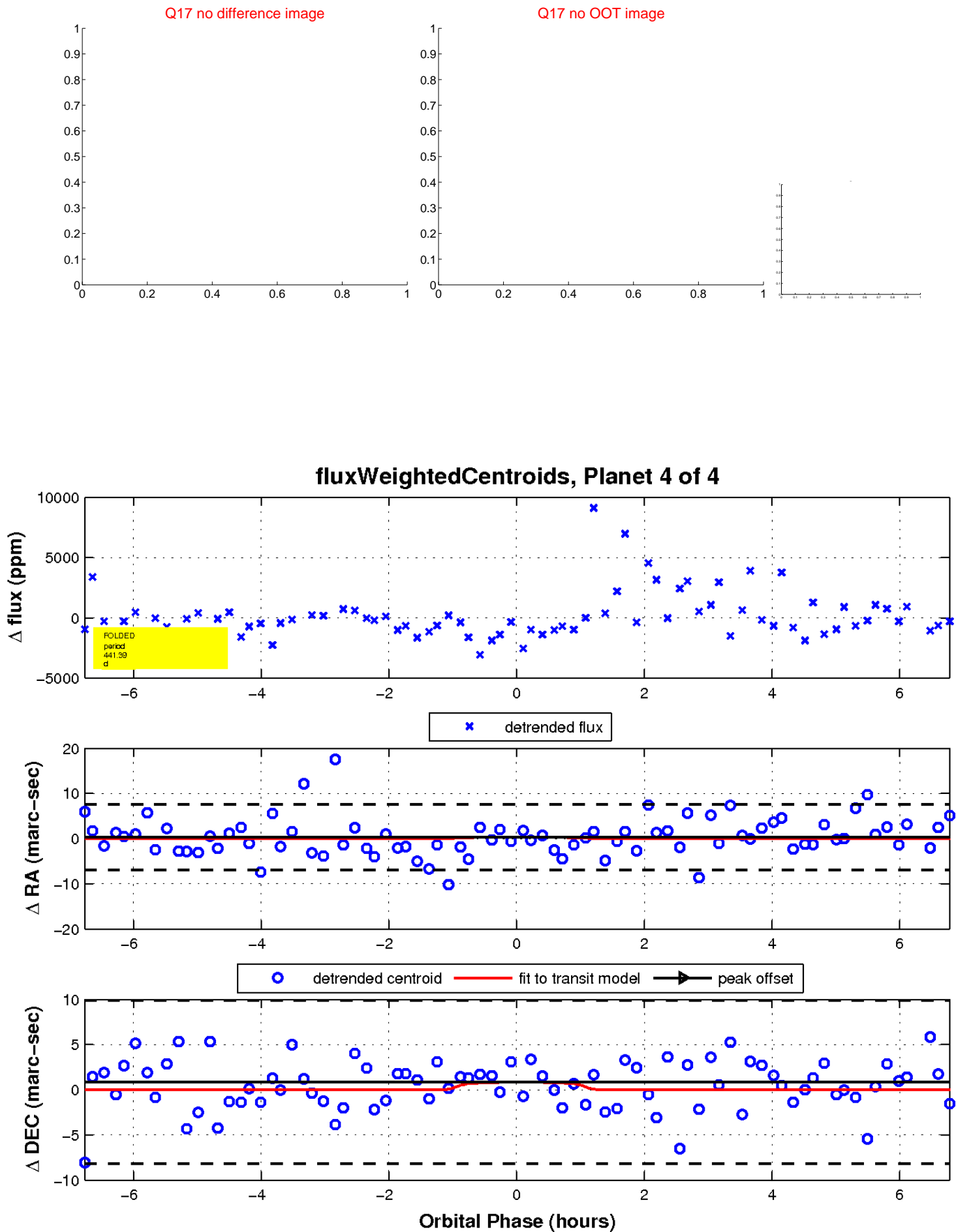
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

