

KIC 003935499

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})
003935499-01	OBS	No	633.070678	192.526999	2986.6	6.188	15.0	9.0	0.54	3836	5.69	0.04
003935499-03	OBS	No	605.452153	245.237552	2840.0	8.747	9.4	7.8	0.54	3836	3.69	0.04
003935499-04	OBS	No	373.692333	259.008450	2246.8	6.381	11.5	6.1	0.54	3836	4.78	0.08
003935499-05	OBS	No	439.034846	464.589865	1921.2	2.987	11.3	6.5	0.54	3836	2.47	0.07
003935499-06	OBS	No	314.635957	422.045567	982.5	9.000	11.3	-1.0	0.54	3836	1.67	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003935499-01	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—CENT_FEW_DIFFS
003935499-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003935499-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_NOFITS

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

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

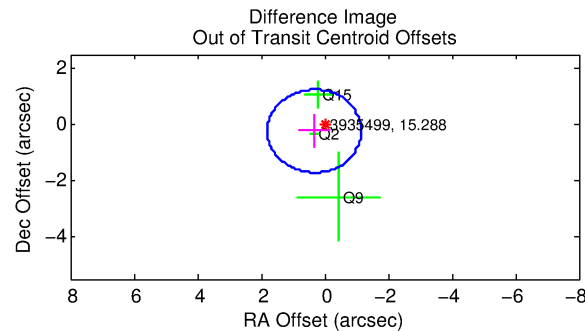
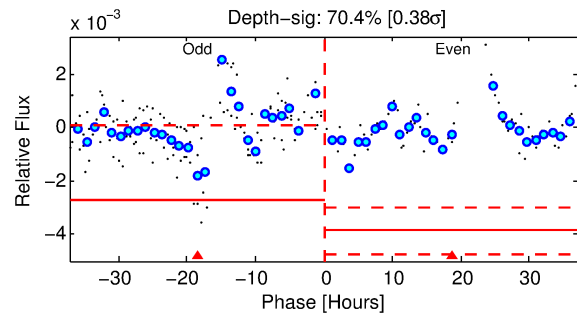
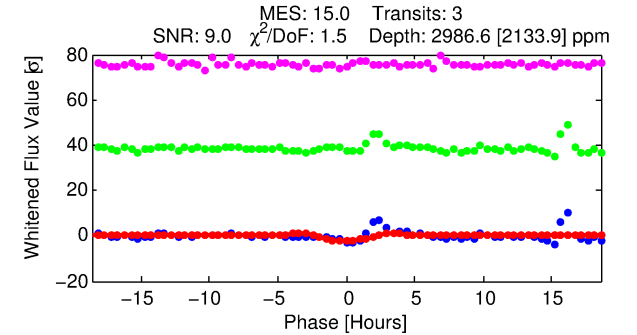
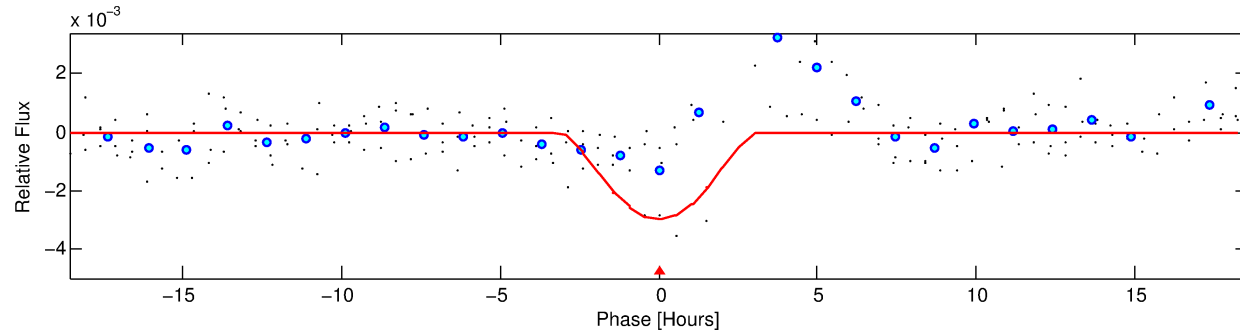
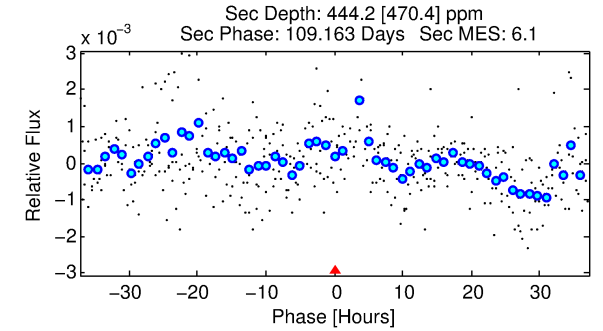
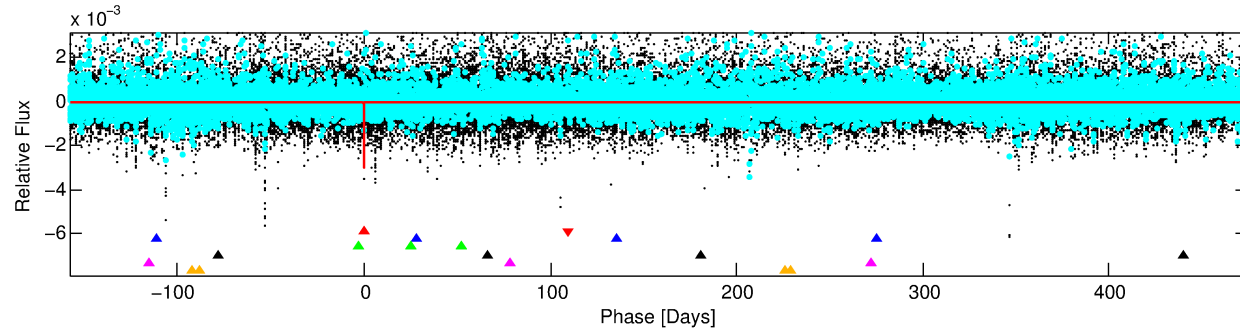
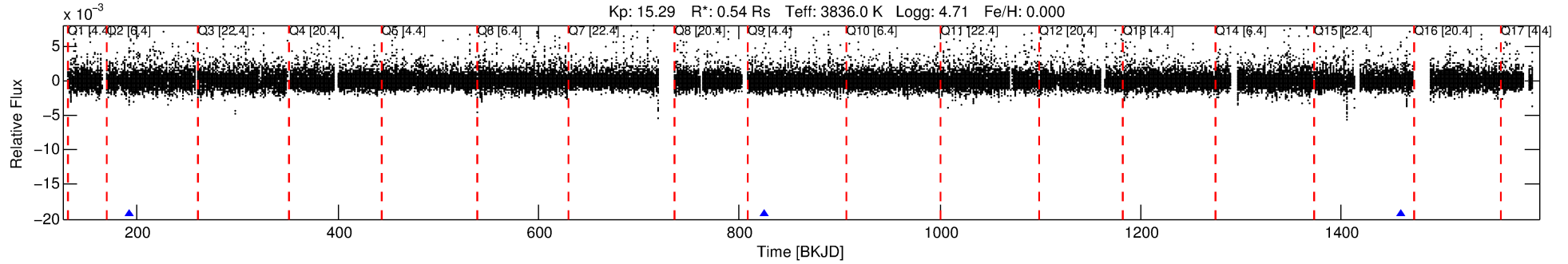
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003935499-01

No Significant Match Found

DV One-Page Summary

KIC: 3935499 Candidate: 1 of 6 Period: 633.071 d



DV Fit Results:

Period = 633.07068 [0.00998] d
Epoch = 192.5270 [0.0146] BKJD
Rp/R* = 0.0962 [0.3750]
a/R* = 351.02 [266.38]
b = 1.00 [0.48]
Seff = 0.04 [0.00]
Teq = 115 [3] K
Rp = 5.69 [22.18] Re
a = 1.1785 [0.0567] AU
Ag = 10484.81 [82487.24] [0.13 σ]
Teffp = 1796 [3532] K [0.48 σ]

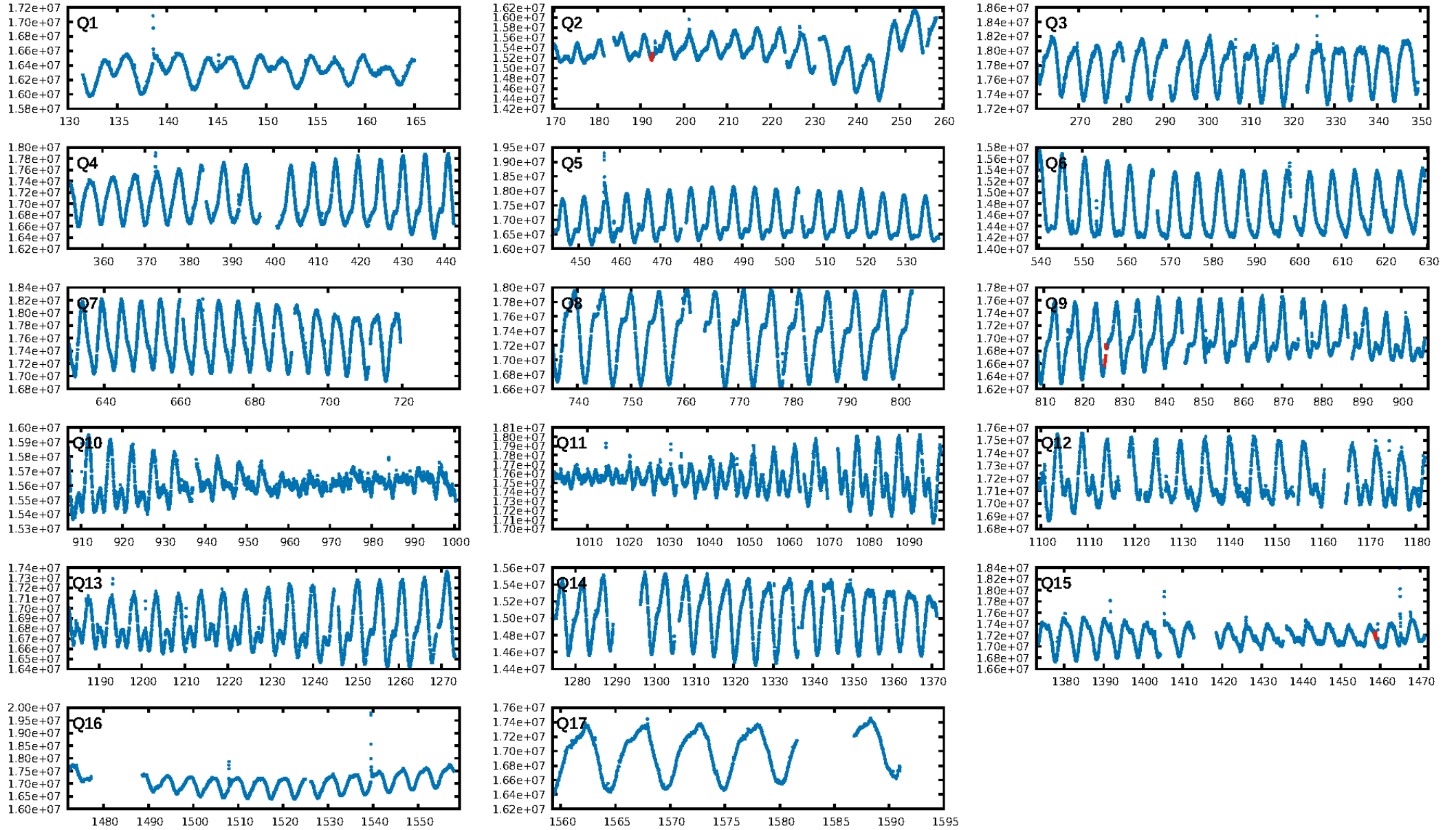
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [61.86 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.0%
ModelChiSquareGof-sig: 65.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.707
Centroid-sig: 1.1%
Centroid-so: 1.231 arcsec [1.94 σ]
OotOffset-rm: 0.401 arcsec [0.81 σ]
KicOffset-rm: 0.224 arcsec [0.46 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

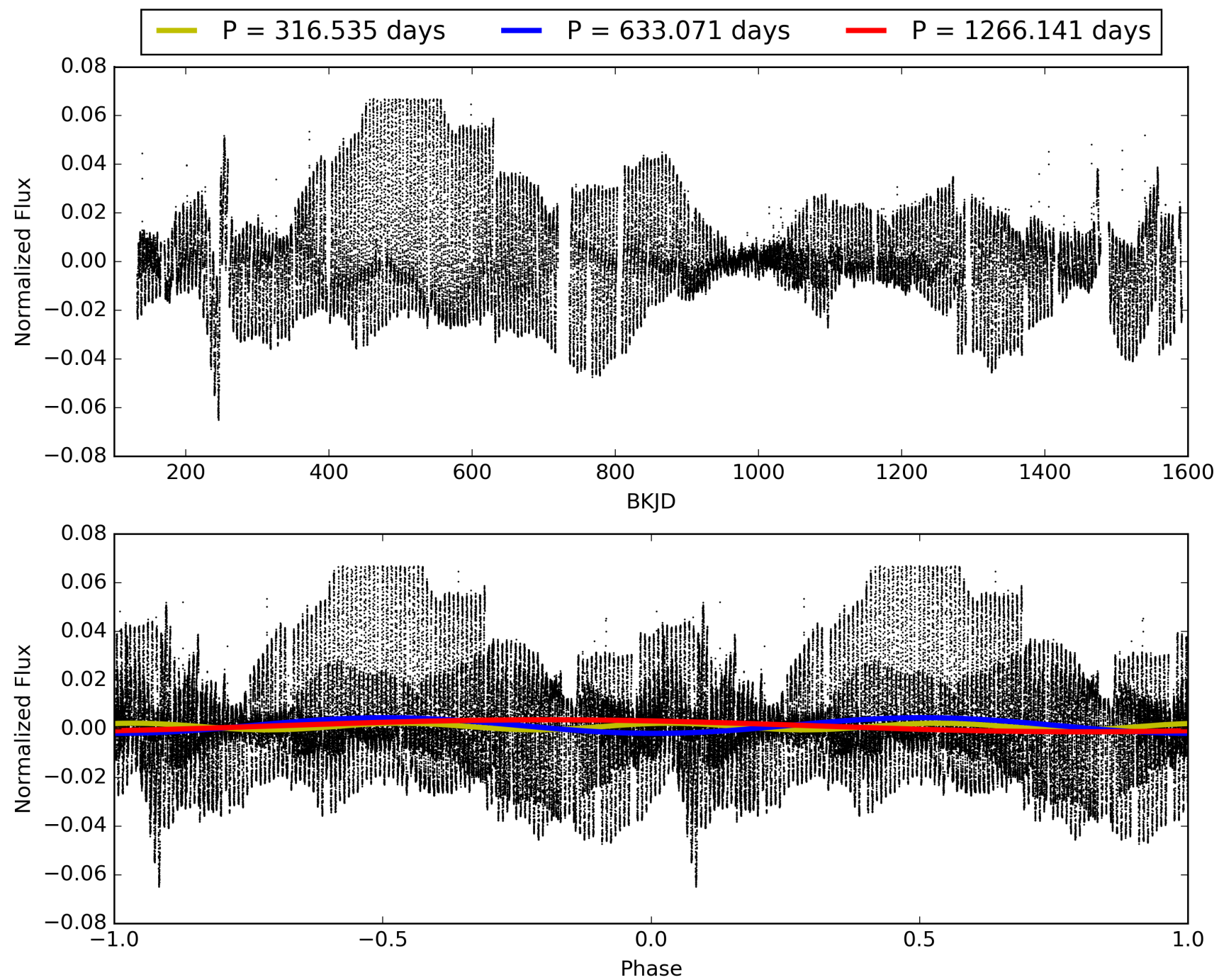
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:40:13 Z

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

TCE 003935499-01, PDC Light Curves

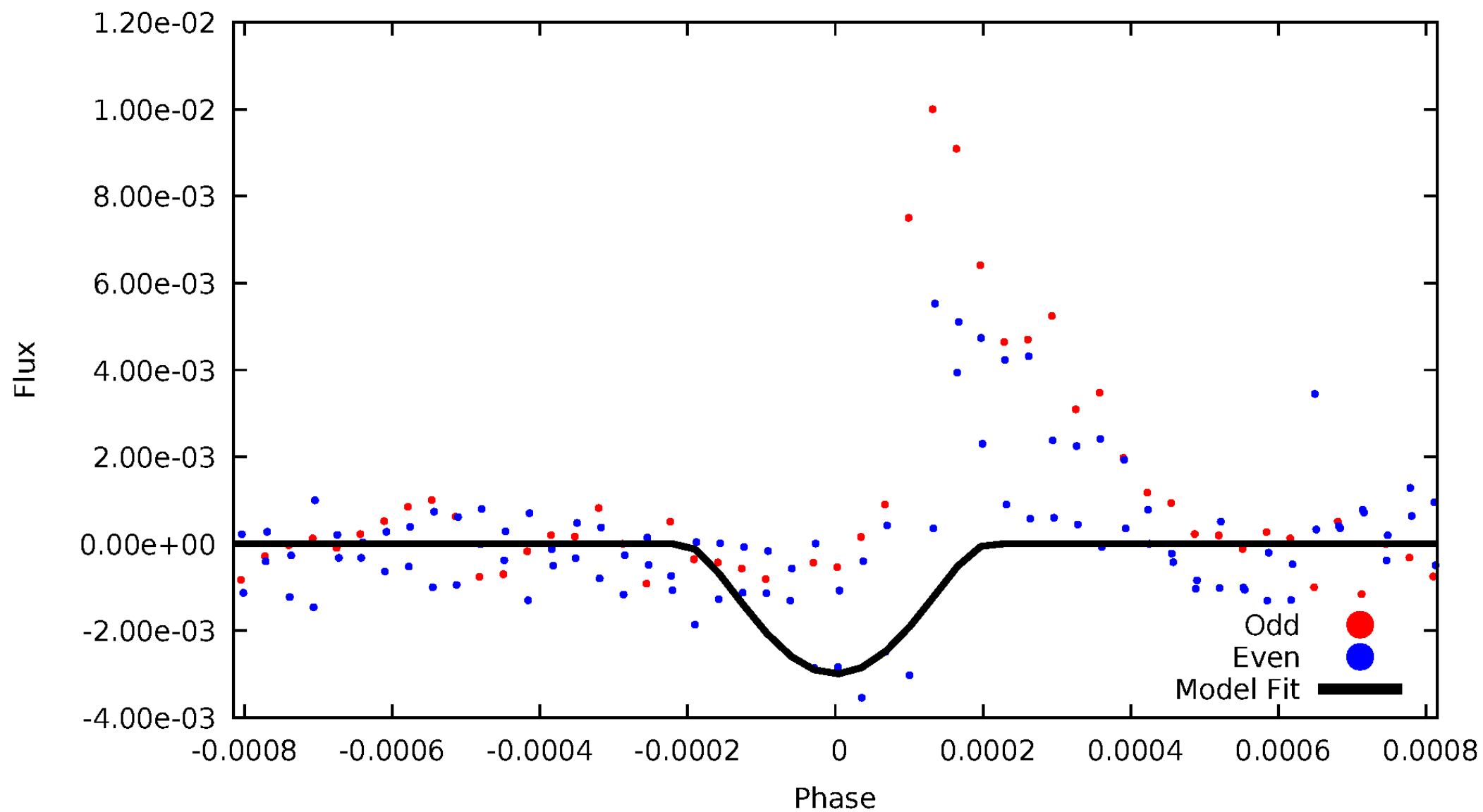


TCE 003935499-01



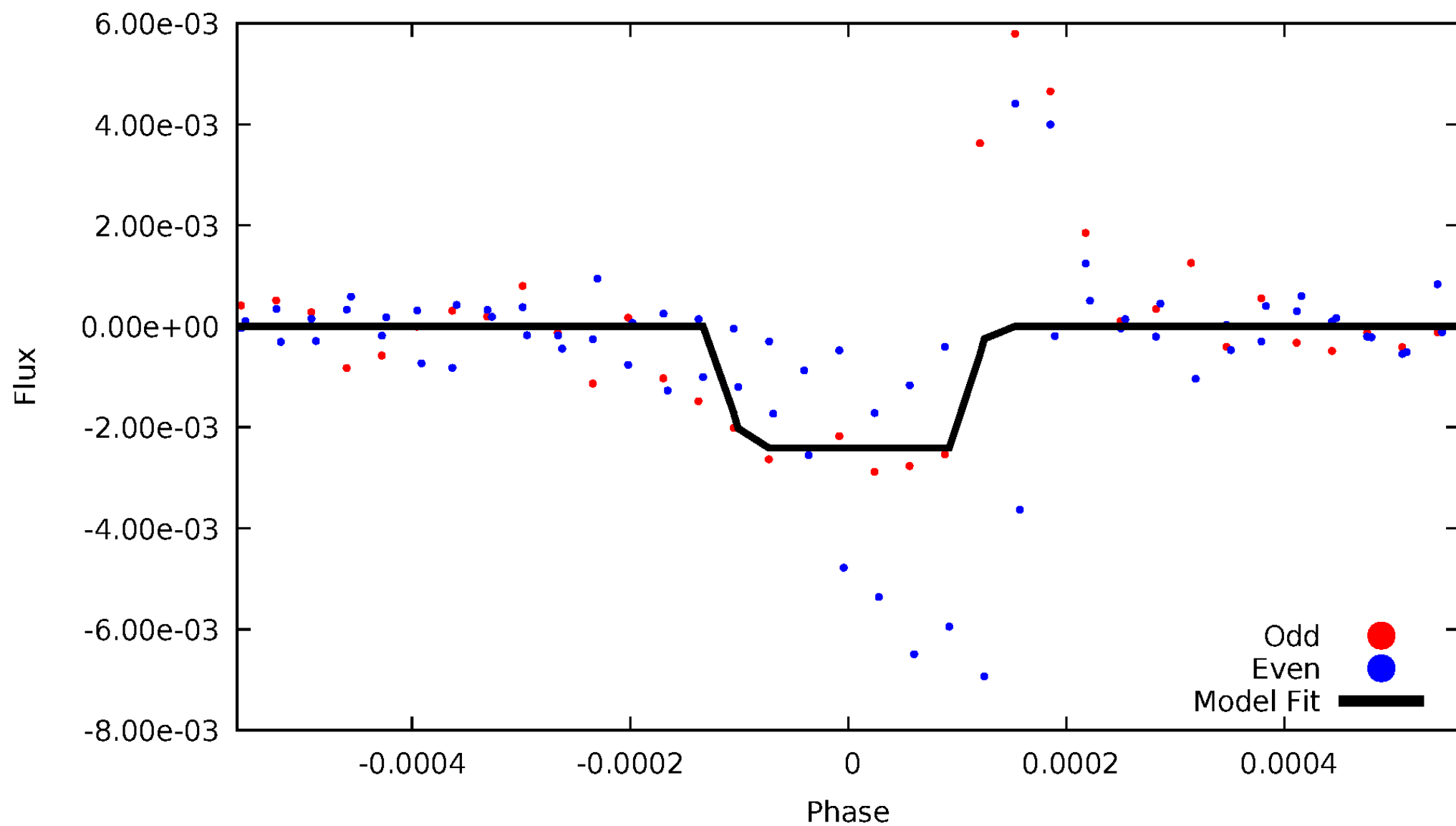
DV Odd/Even

TCE 003935499-01



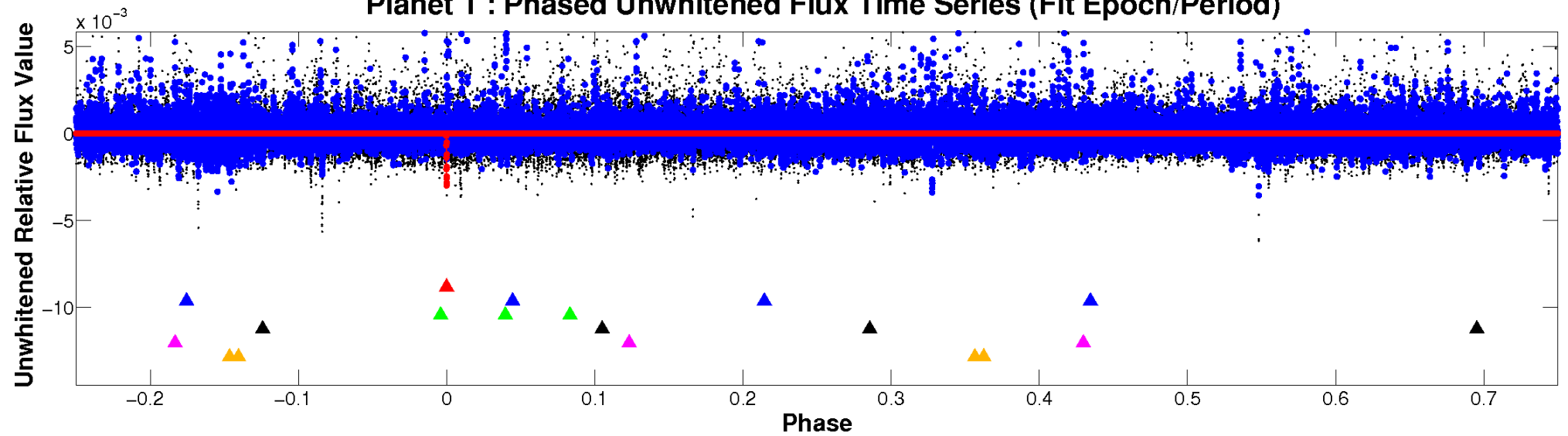
ALT Odd/Even

TCE 003935499-01

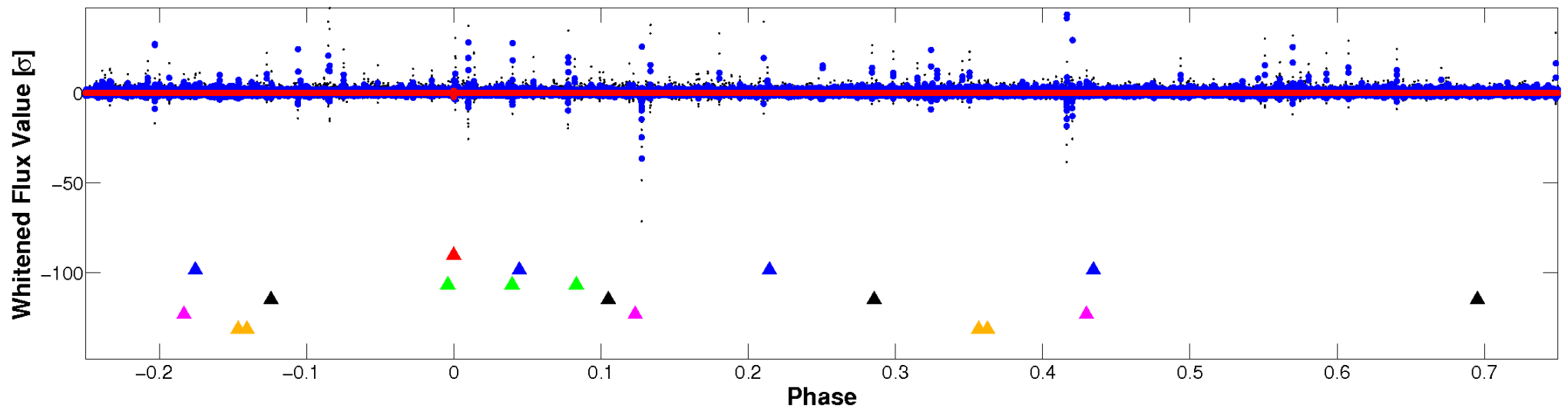


Non-Whitened Vs. Whitened Light Curve

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

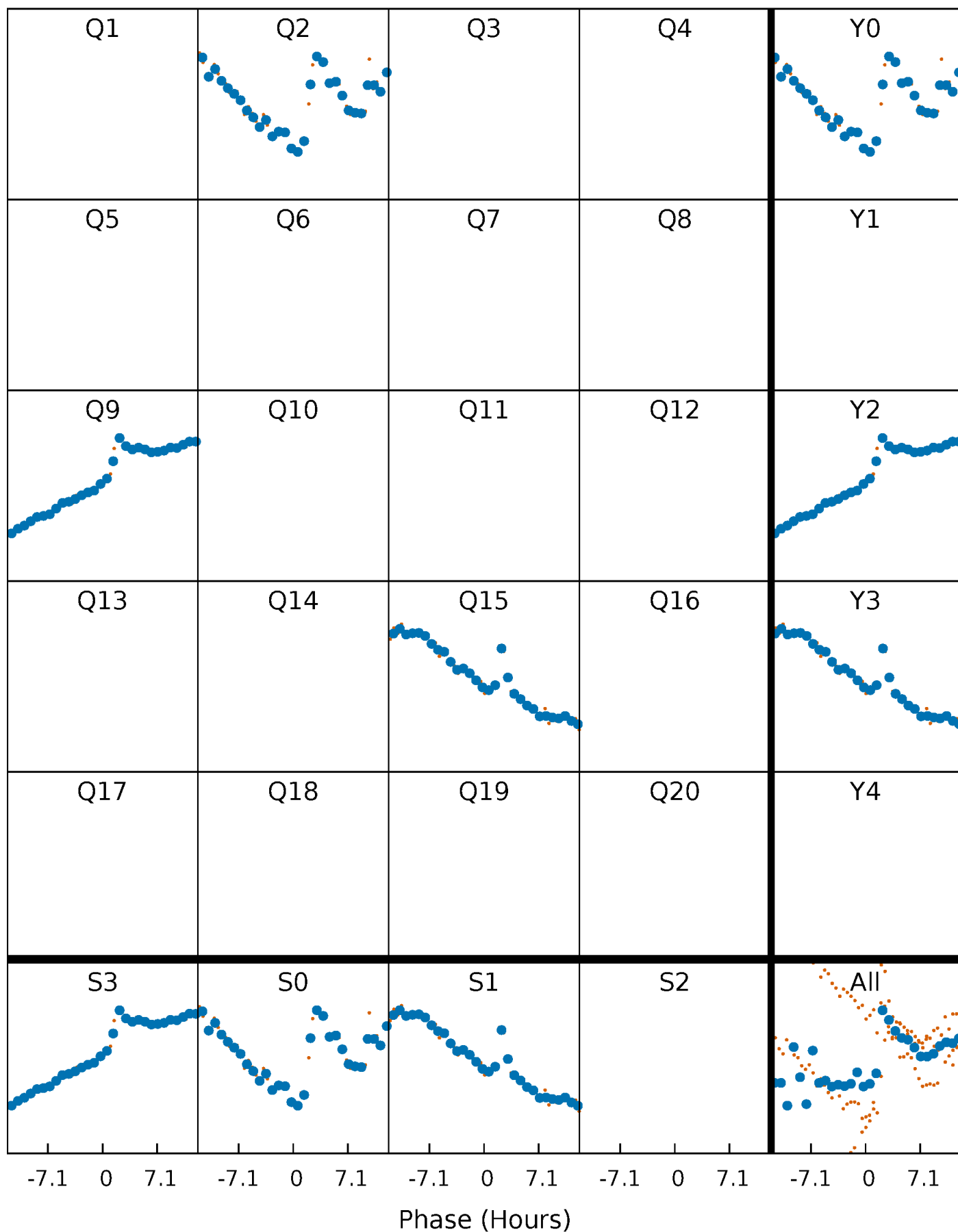


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



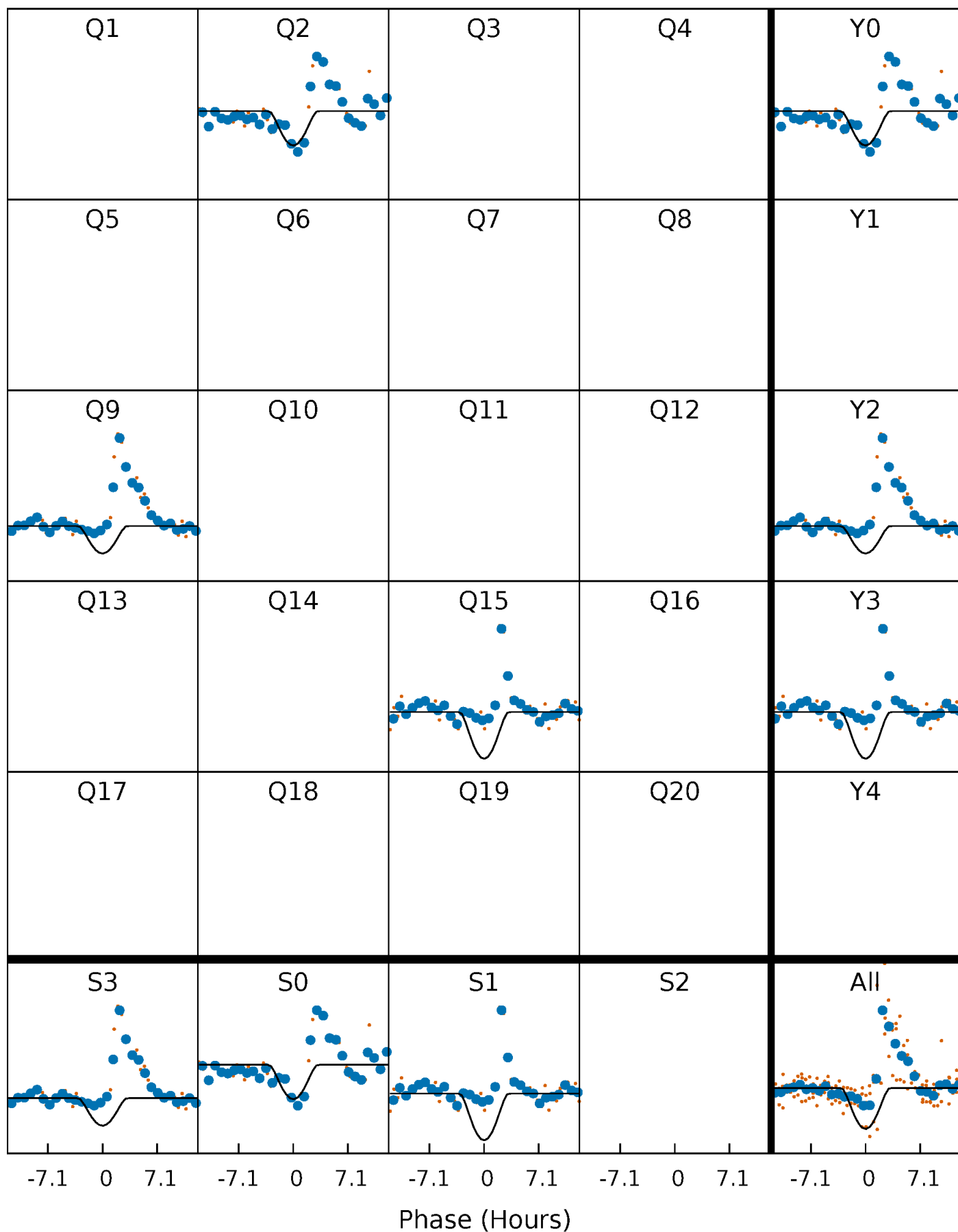
PDC Quarter-Phased Transit Curves

TCE 003935499-01 P=633.070678 Days $T_0=192.526999$ (BKJD)



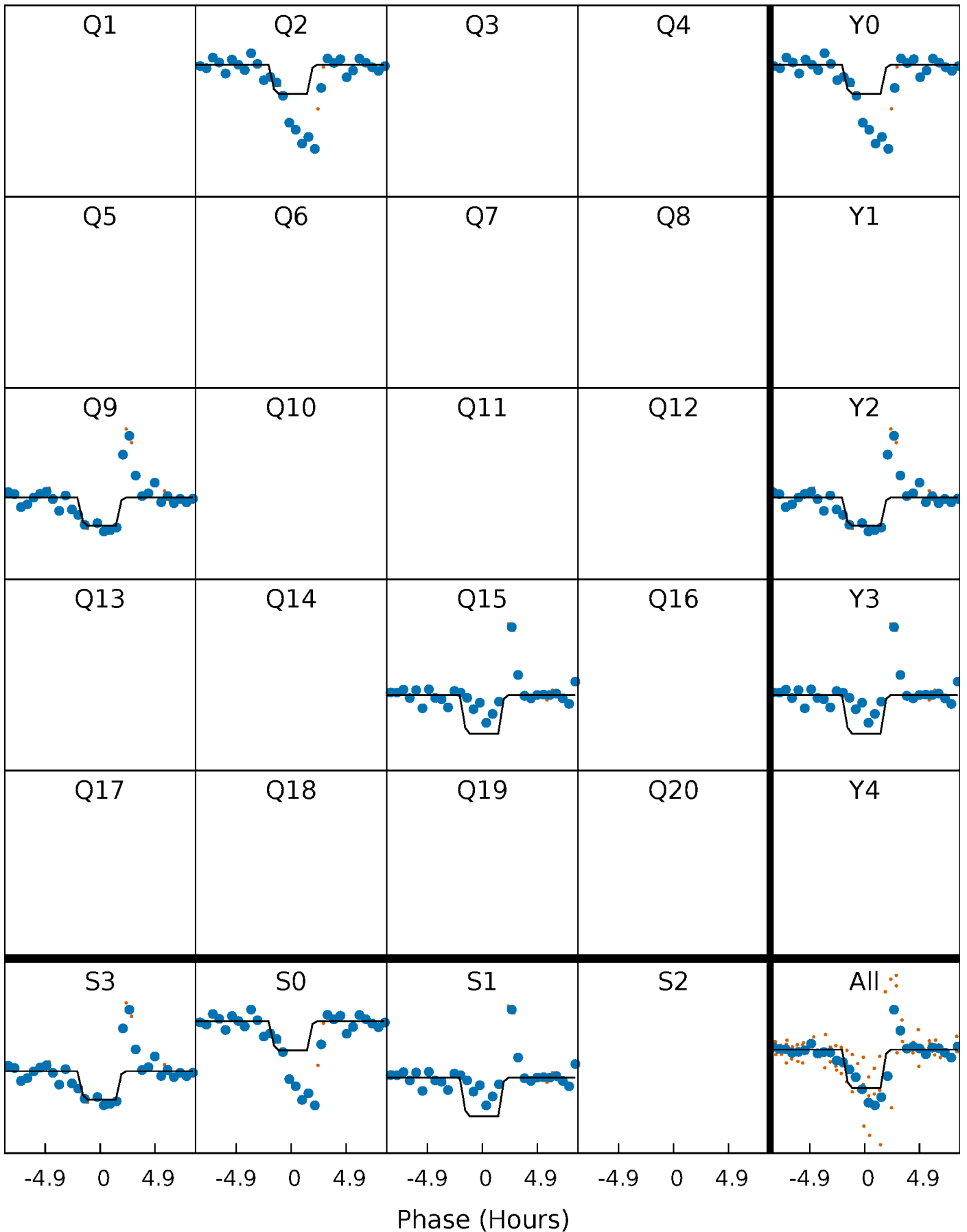
DV Quarter-Phased Transit Curves

TCE 003935499-01 P=633.070678 Days $T_0=192.526999$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

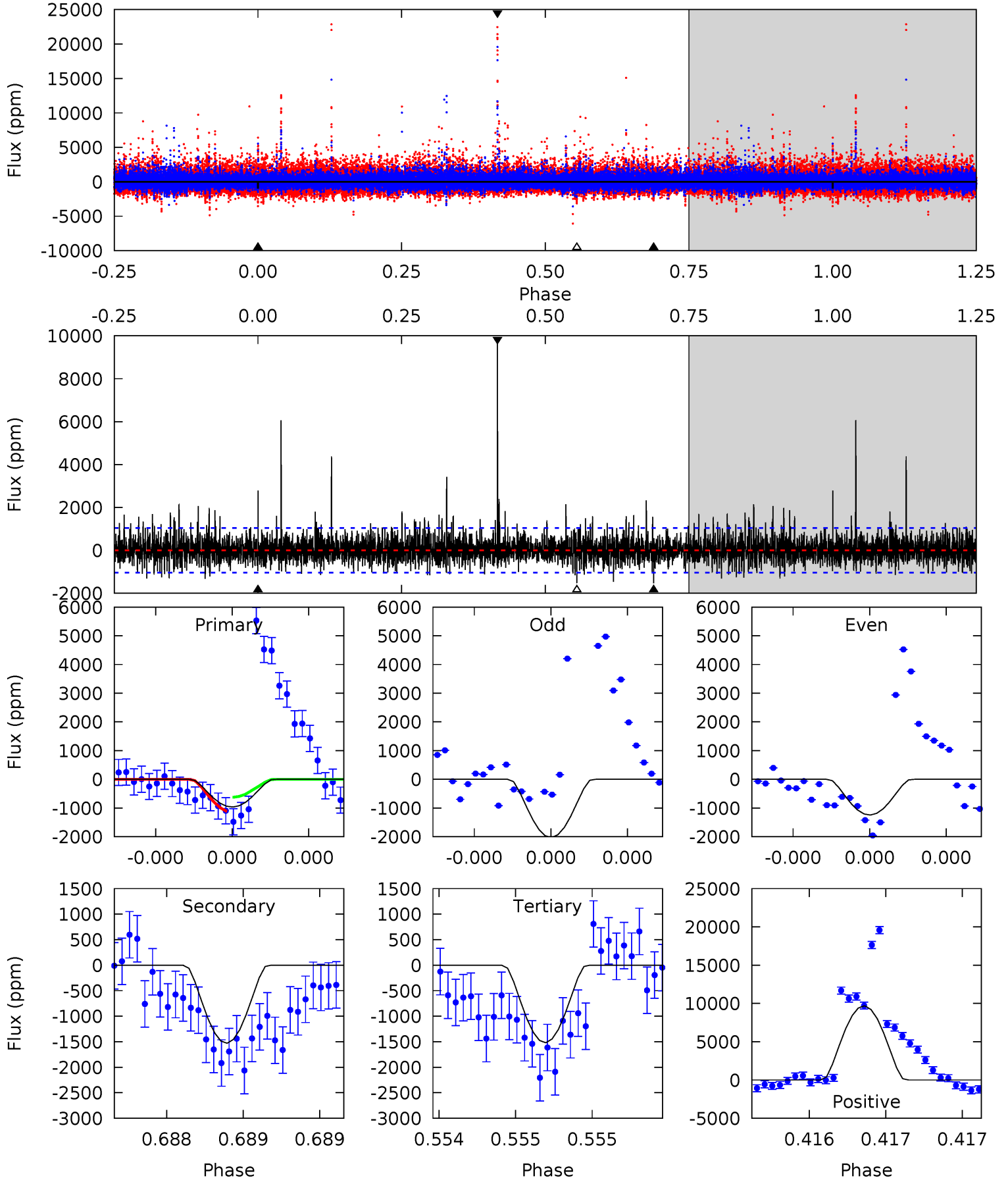
TCE 003935499-01 P=633.072556 Days $T_0=192.511575$ (BKJD)



DV Model-Shift Uniqueness Test

003935499-01, P = 633.070678 Days, E = 192.526999 Days

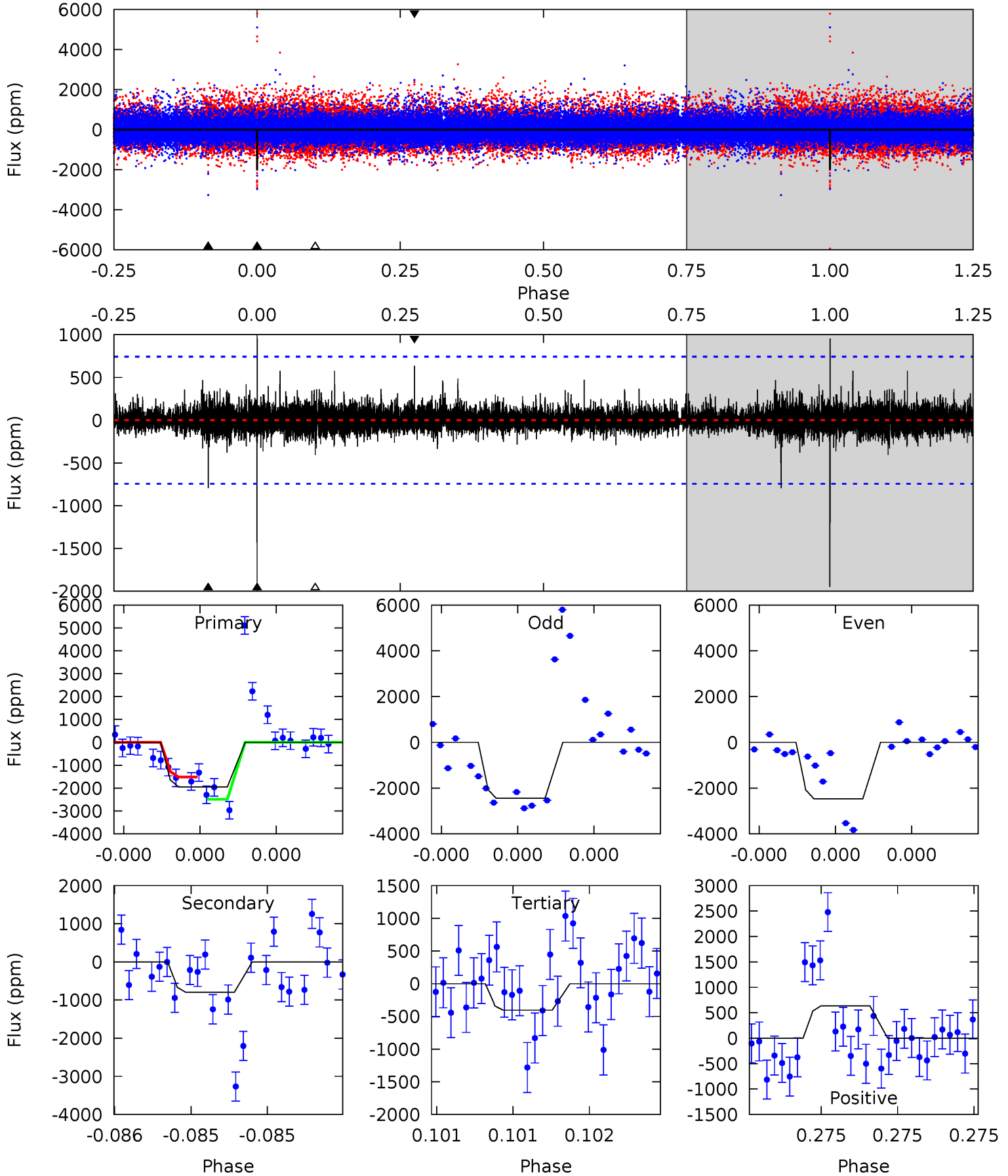
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.23	8.26	8.20	52.3	5.62	3.55	2.55	-2.98	-47.1	0.05	-44.1	1.77	-0.47	0.86	1.31



Alt Model-Shift Uniqueness Test

003935499-01, P = 633.072556 Days, E = 192.511575 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	6.07	3.11	4.87	5.69	3.65	0.63	11.8	10.1	2.97	1.21	0.08	1.02	0.33	0



Stellar Parameters For KIC 003935499

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3836^{+69}_{-77}	$4.706^{+0.036}_{-0.018}$	$0.000^{+0.100}_{-0.100}$	$0.542^{+0.024}_{-0.032}$	$0.545^{+0.031}_{-0.028}$	$4.824^{+0.777}_{-0.372}$
	+2%/-2%	+1%/-0%	+inf%/-inf%	+4%/-6%	+6%/-5%	+16%/-8%
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 003935499-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1528 ± 185	$18.26^{+17.87}_{-13.01}$	160^{+3}_{-4}	2173^{+807}_{-284}	3542^{+38353}_{-2627}
Alt.	-793 ± 131	$16.90^{+17.35}_{-12.27}$	160^{+3}_{-4}	2075^{+732}_{-277}	2148^{+25409}_{-1634}

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 $A_{obs} \gg 1.0$

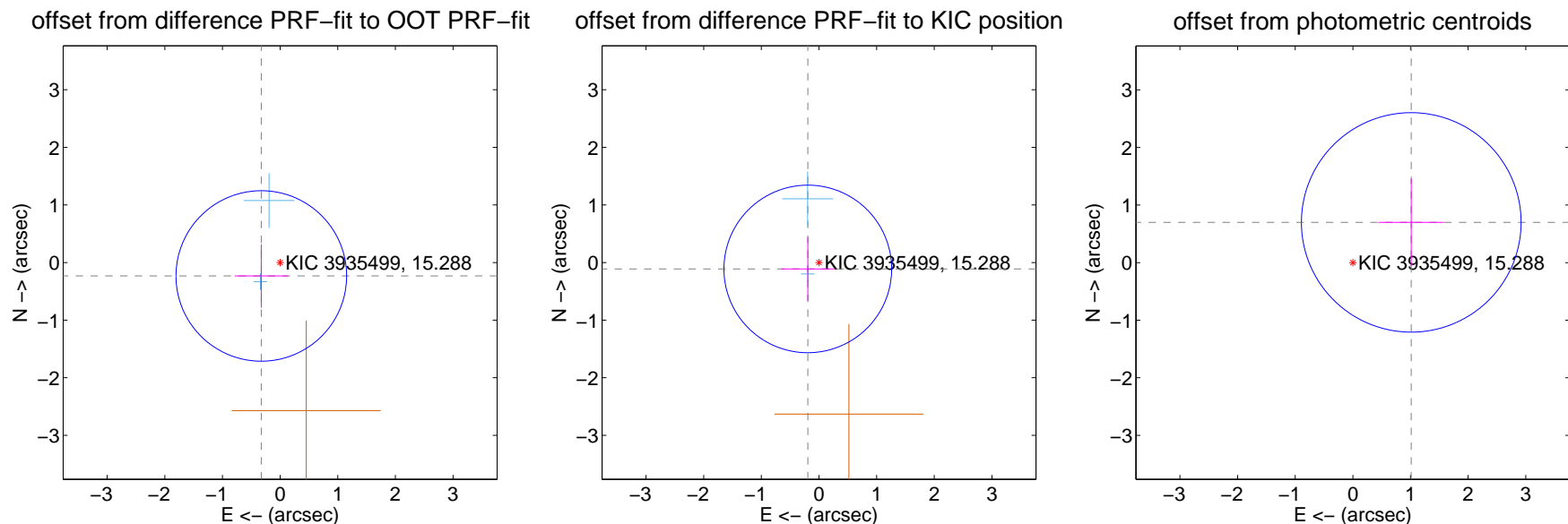
DV Centroid Data

Supplemental centroid analysis for 003935499-01. Kepler magnitude: 15.29. Transit SNR 8.95

There are 2 quarters with good PRF difference image offsets

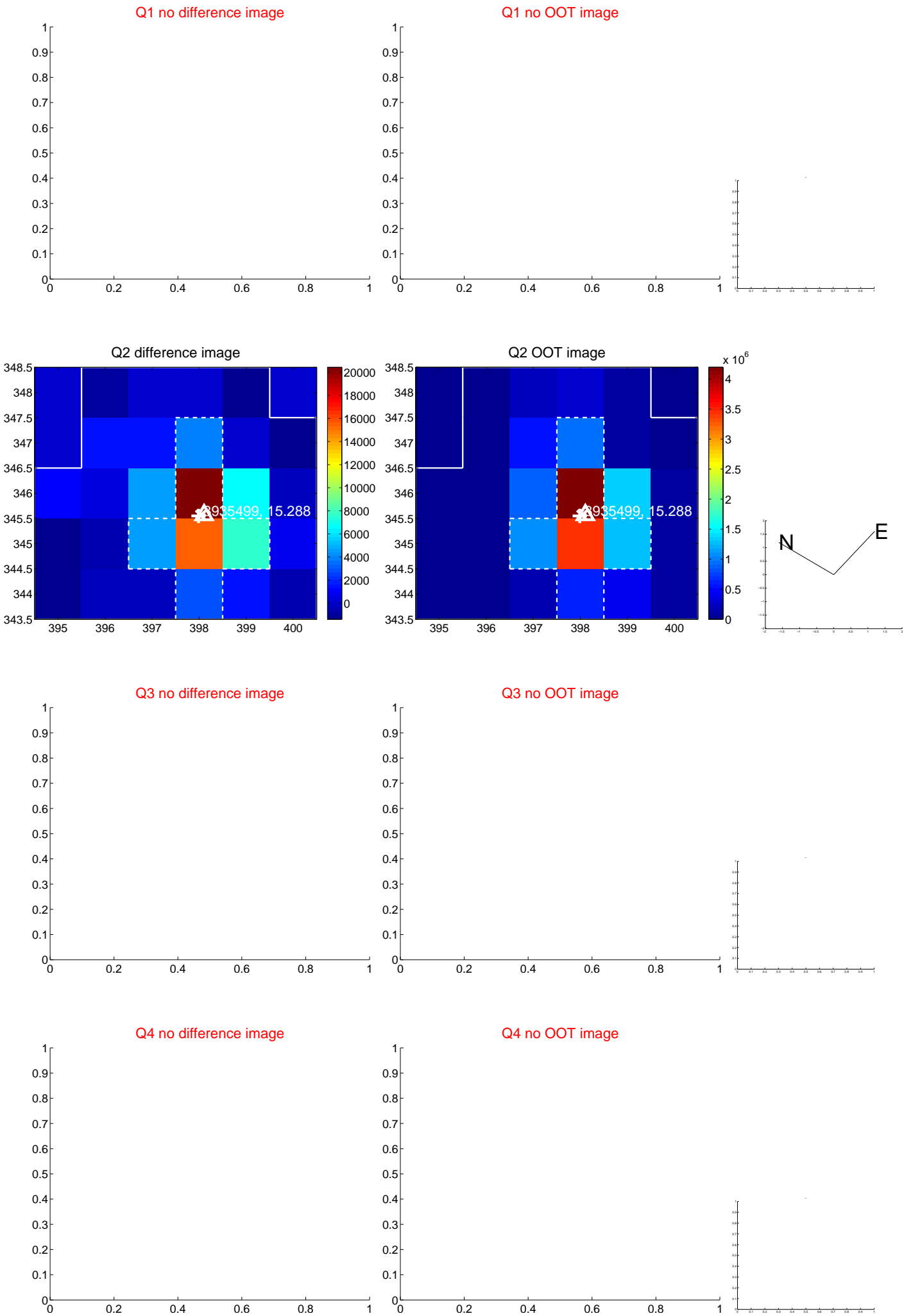
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.401 ± 0.493	0.81	0.326 ± 0.461	-0.233 ± 0.551
PRF-fit source offset from KIC position	0.224 ± 0.485	0.46	0.194 ± 0.461	-0.111 ± 0.551
photometric centroid source offset	1.23 ± 0.64	1.94	-1.01 ± 0.57	0.70 ± 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.

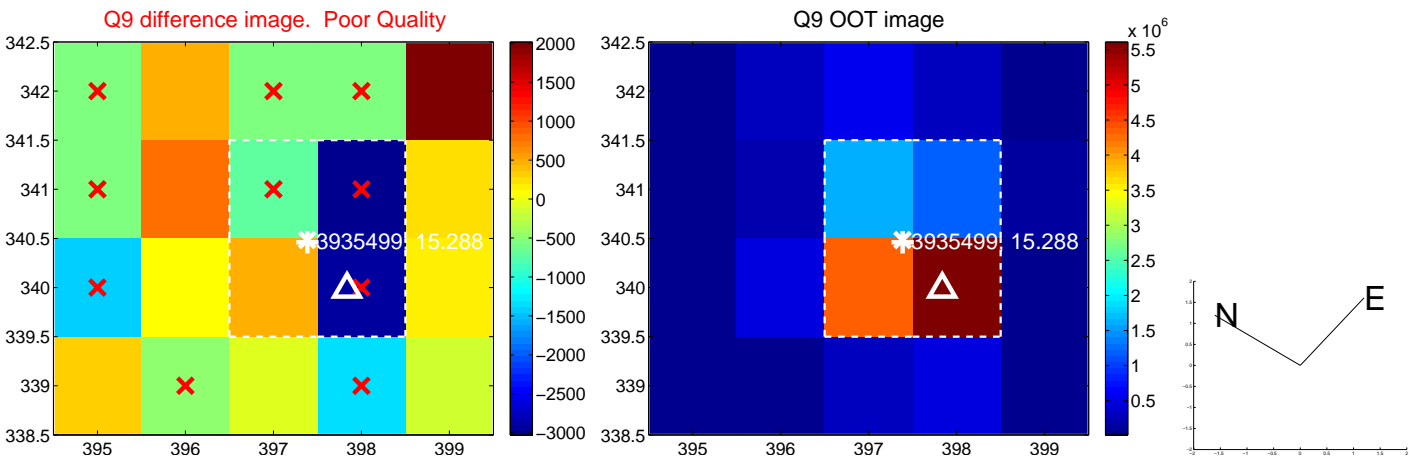
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



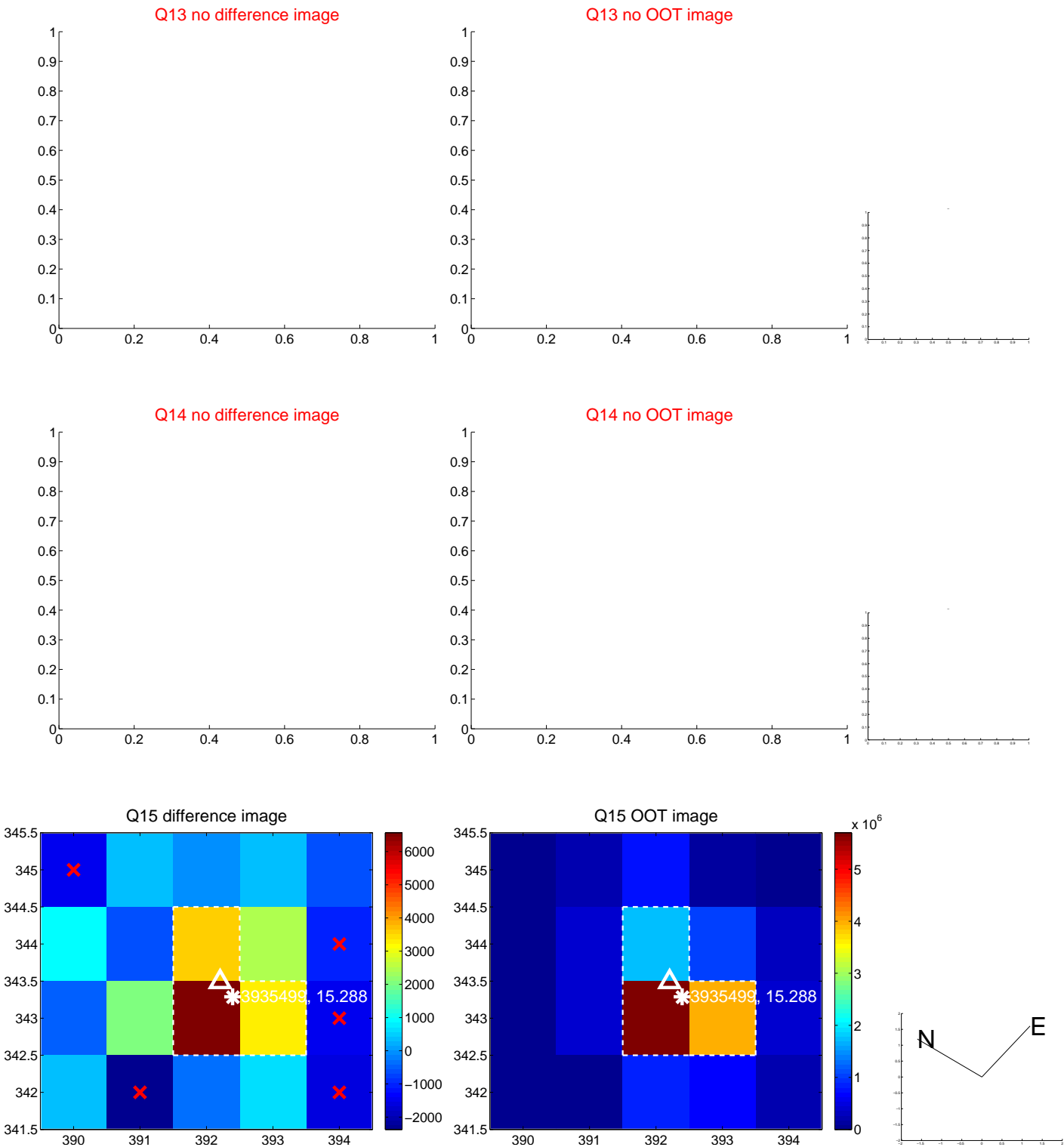
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



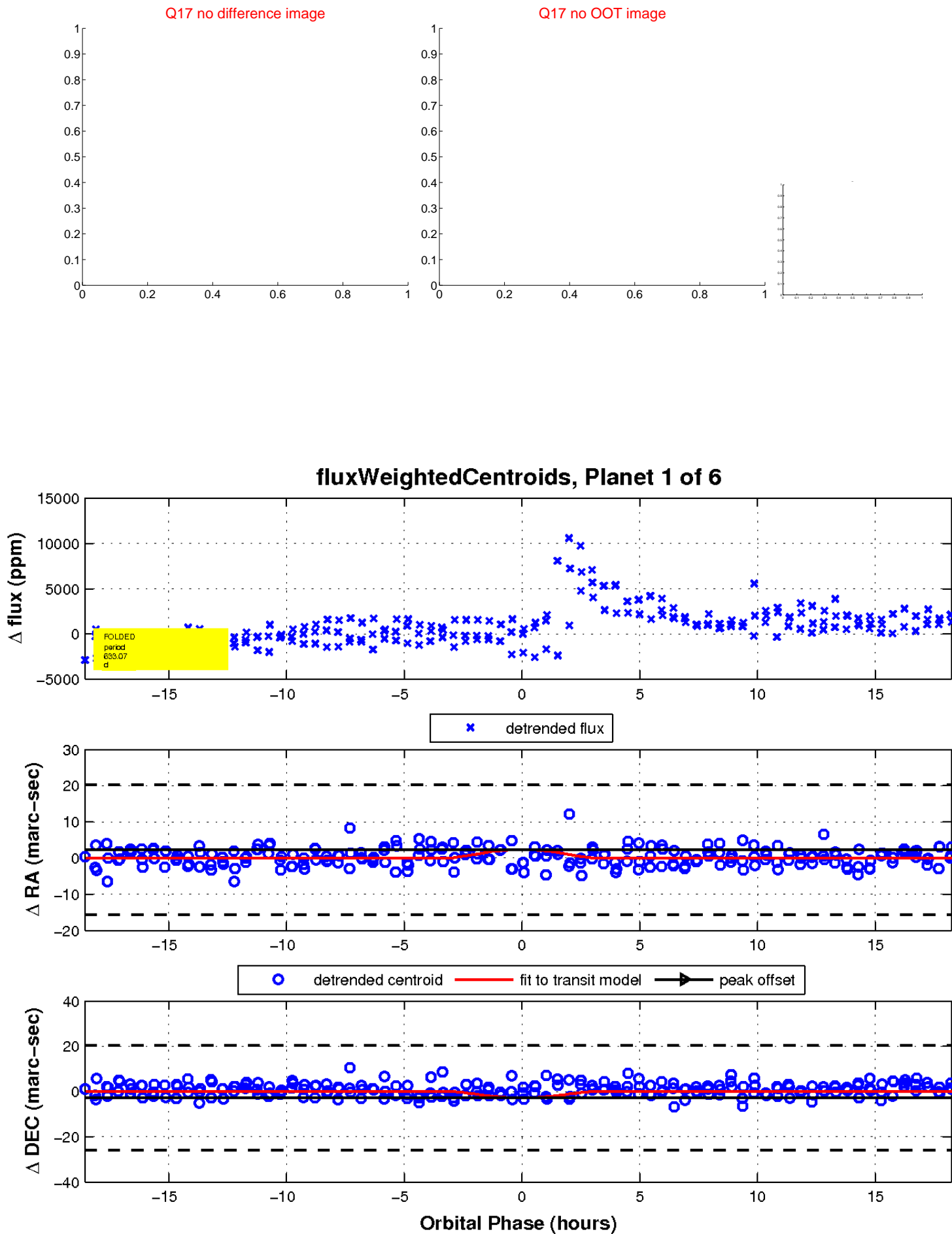
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

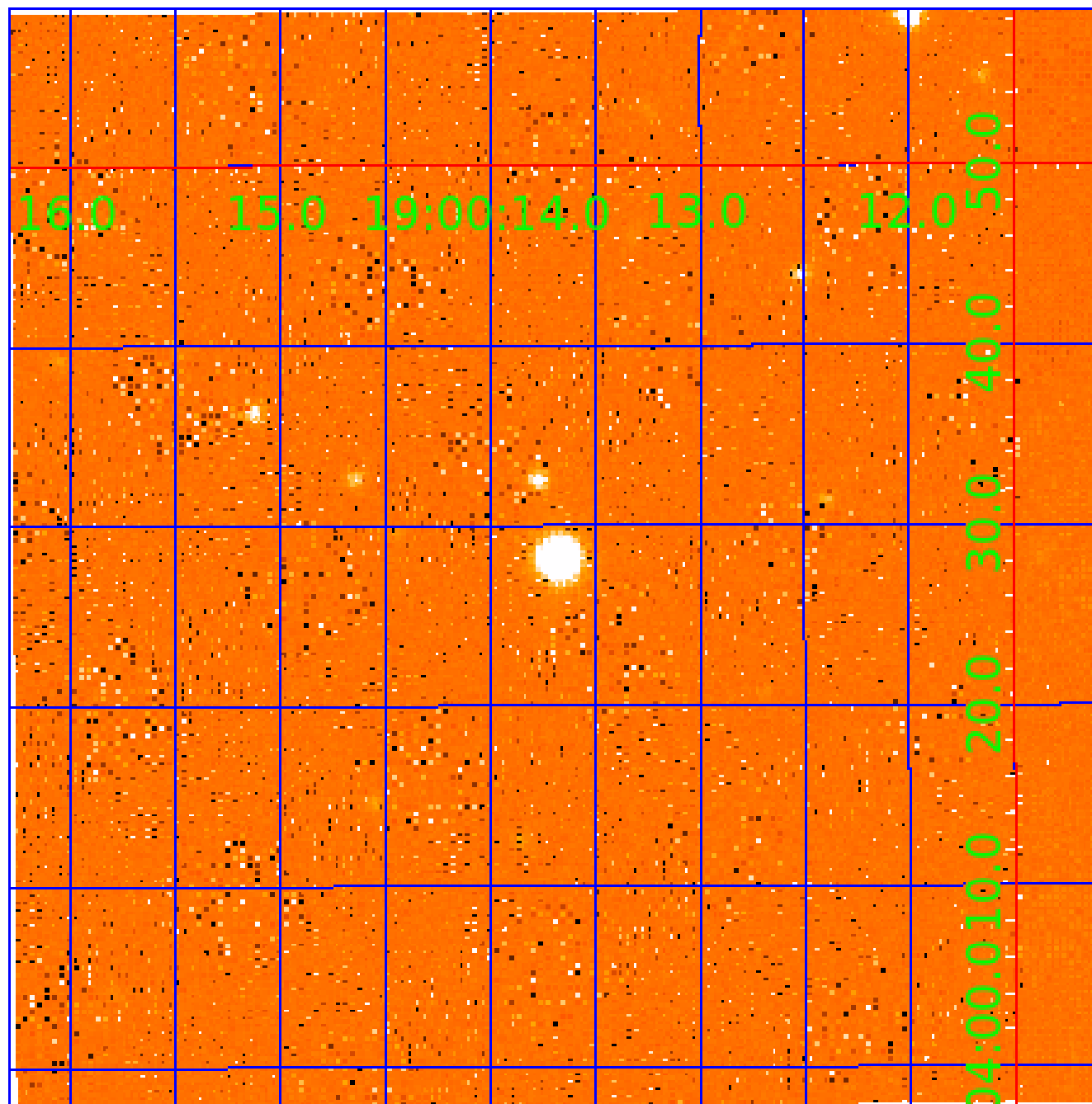


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003935499

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})
003935499-01	OBS	No	633.070678	192.526999	2986.6	6.188	15.0	9.0	0.54	3836	5.69	0.04
003935499-03	OBS	No	605.452153	245.237552	2840.0	8.747	9.4	7.8	0.54	3836	3.69	0.04
003935499-04	OBS	No	373.692333	259.008450	2246.8	6.381	11.5	6.1	0.54	3836	4.78	0.08
003935499-05	OBS	No	439.034846	464.589865	1921.2	2.987	11.3	6.5	0.54	3836	2.47	0.07
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003935499-01	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—CENT_FEW_DIFFS
003935499-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003935499-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_NOFITS

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

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

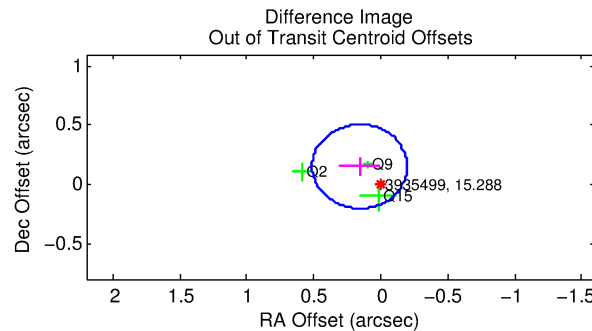
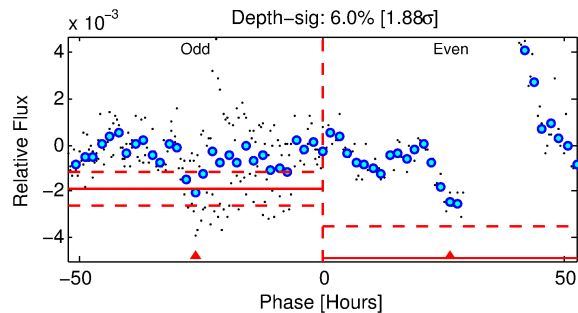
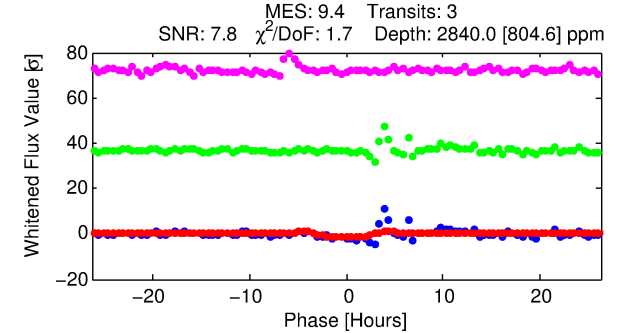
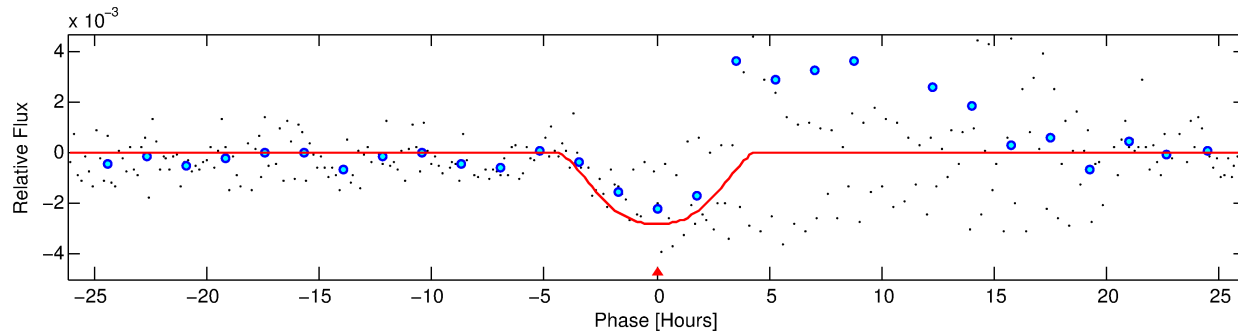
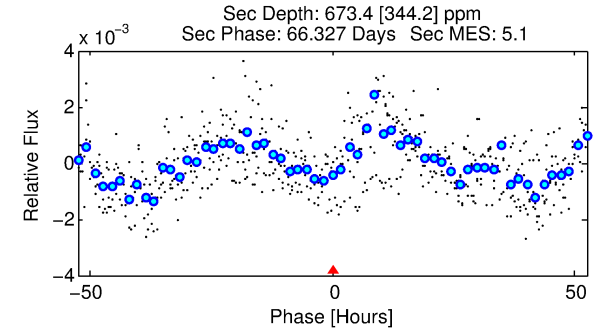
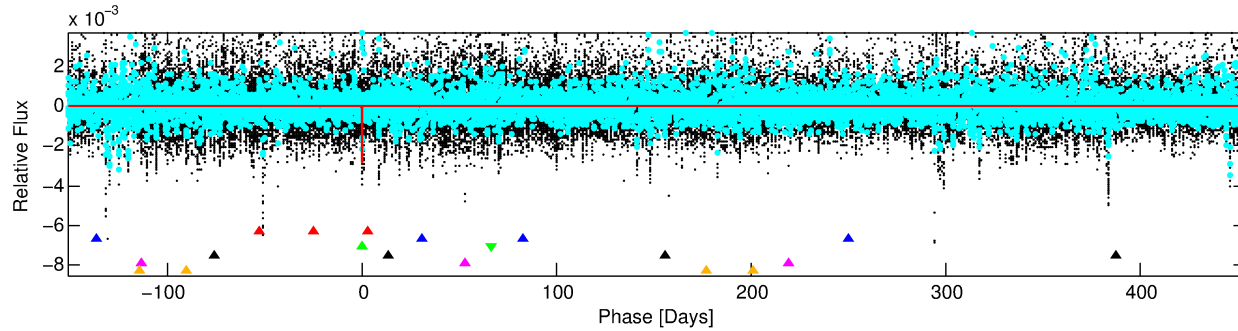
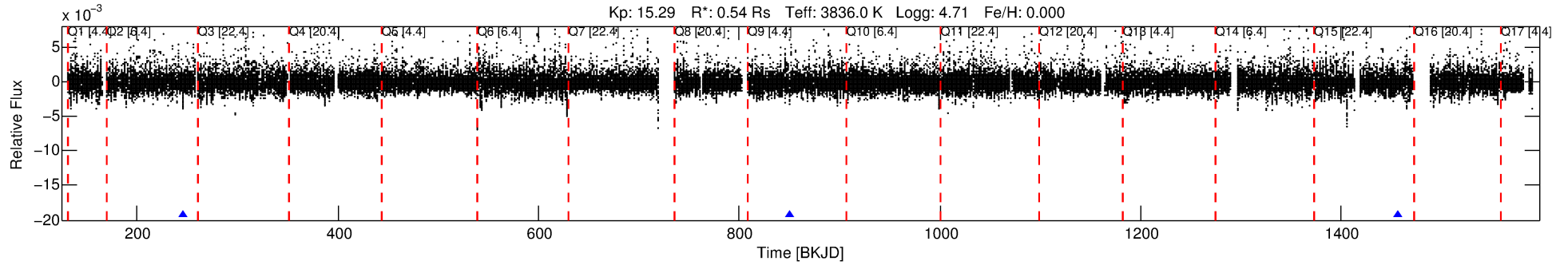
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003935499-03

No Significant Match Found

DV One-Page Summary

KIC: 3935499 Candidate: 3 of 6 Period: 605.452 d



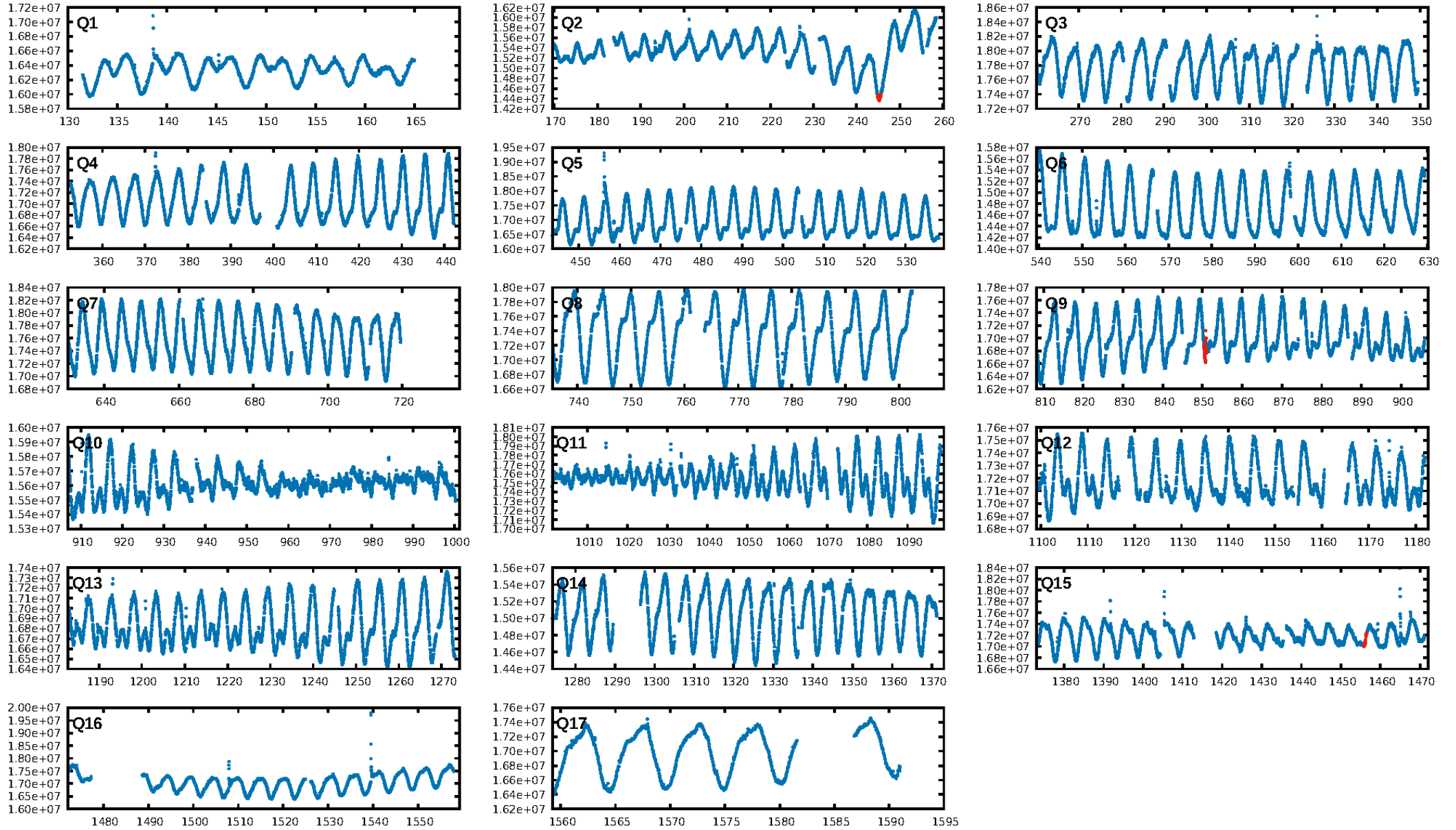
DV Fit Results:

Period = 605.45215 [0.01706] d
Epoch = 245.2376 [0.0246] BKJD
Rp/R* = 0.0623 [0.0133]
a/R* = 264.11 [54.92]
b = 0.94 [0.04]
Seff = 0.04 [0.00]
Teq = 116 [3] K
Rp = 3.69 [0.82] Re
a = 1.1440 [0.0550] AU
Ag = 35676.12 [23910.21] [1.49 σ]
Teffp = 2475 [416] K [5.68 σ]

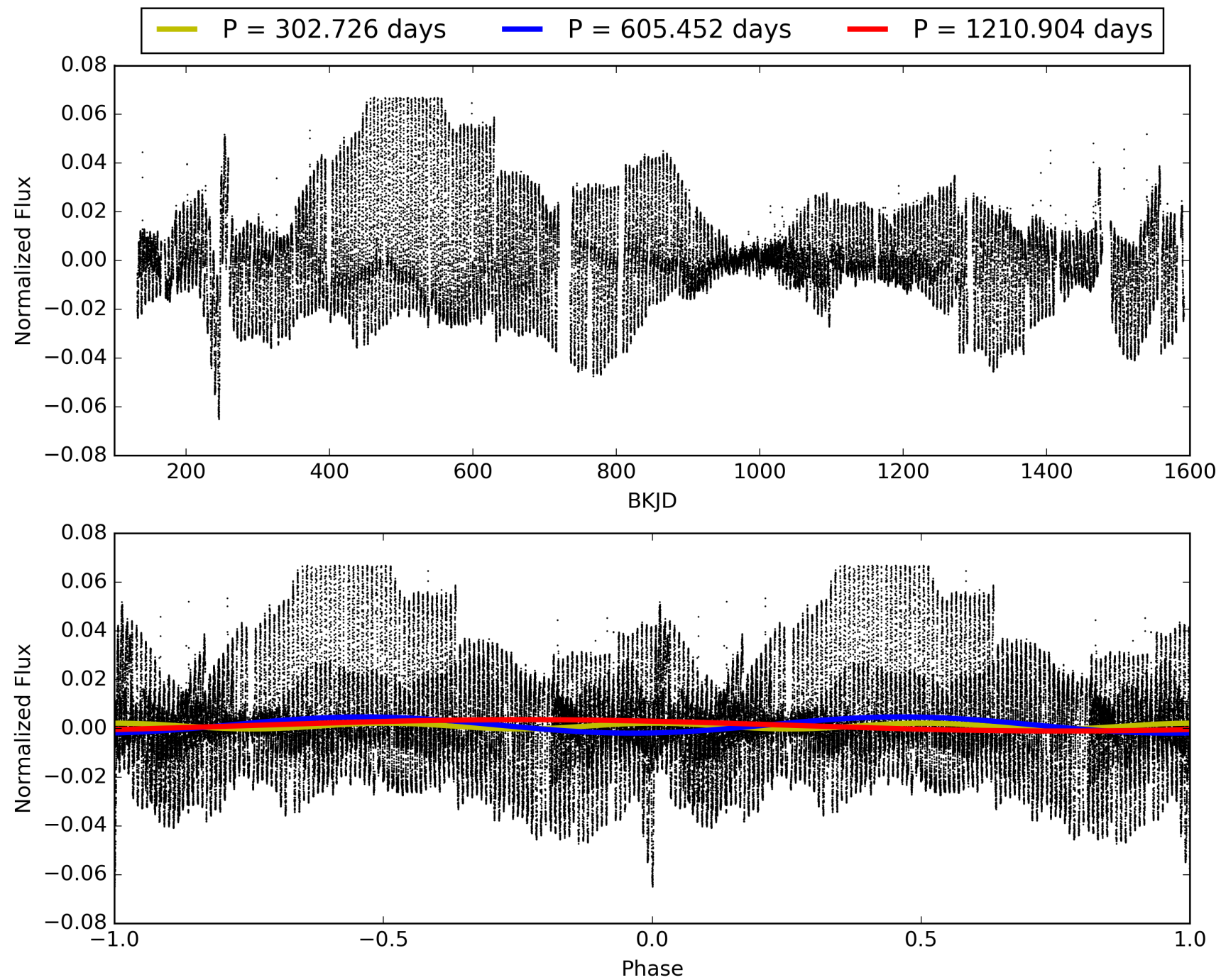
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [432.11 σ]
LongPeriod-sig: 100.0% [61.86 σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 66.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.1167
Centroid-sig: 89.3%
Centroid-so: 0.223 arcsec [0.34 σ]
OotOffset-rm: 0.219 arcsec [1.85 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.137 arcsec [1.05 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 003935499-03, PDC Light Curves

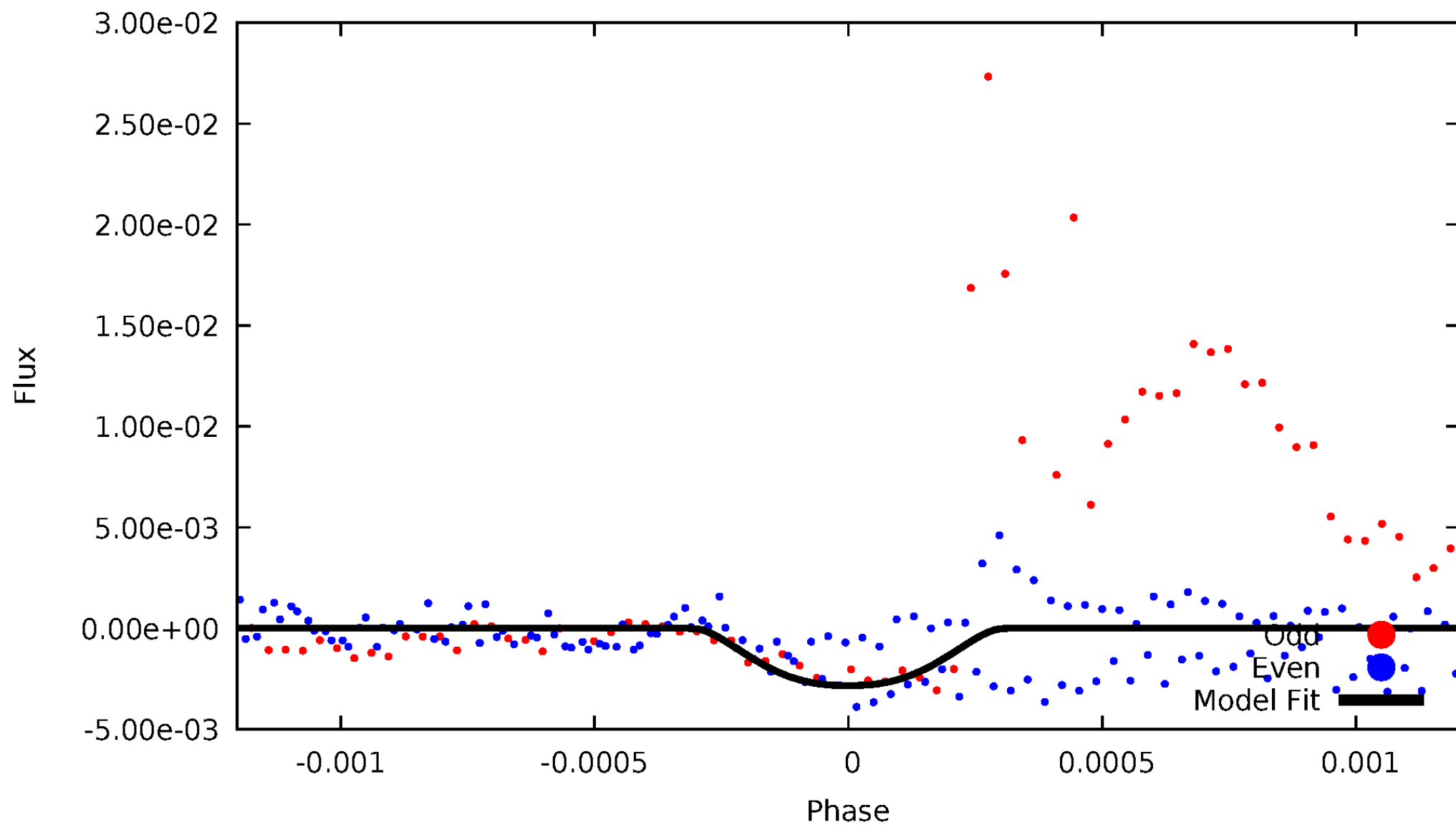


TCE 003935499-03



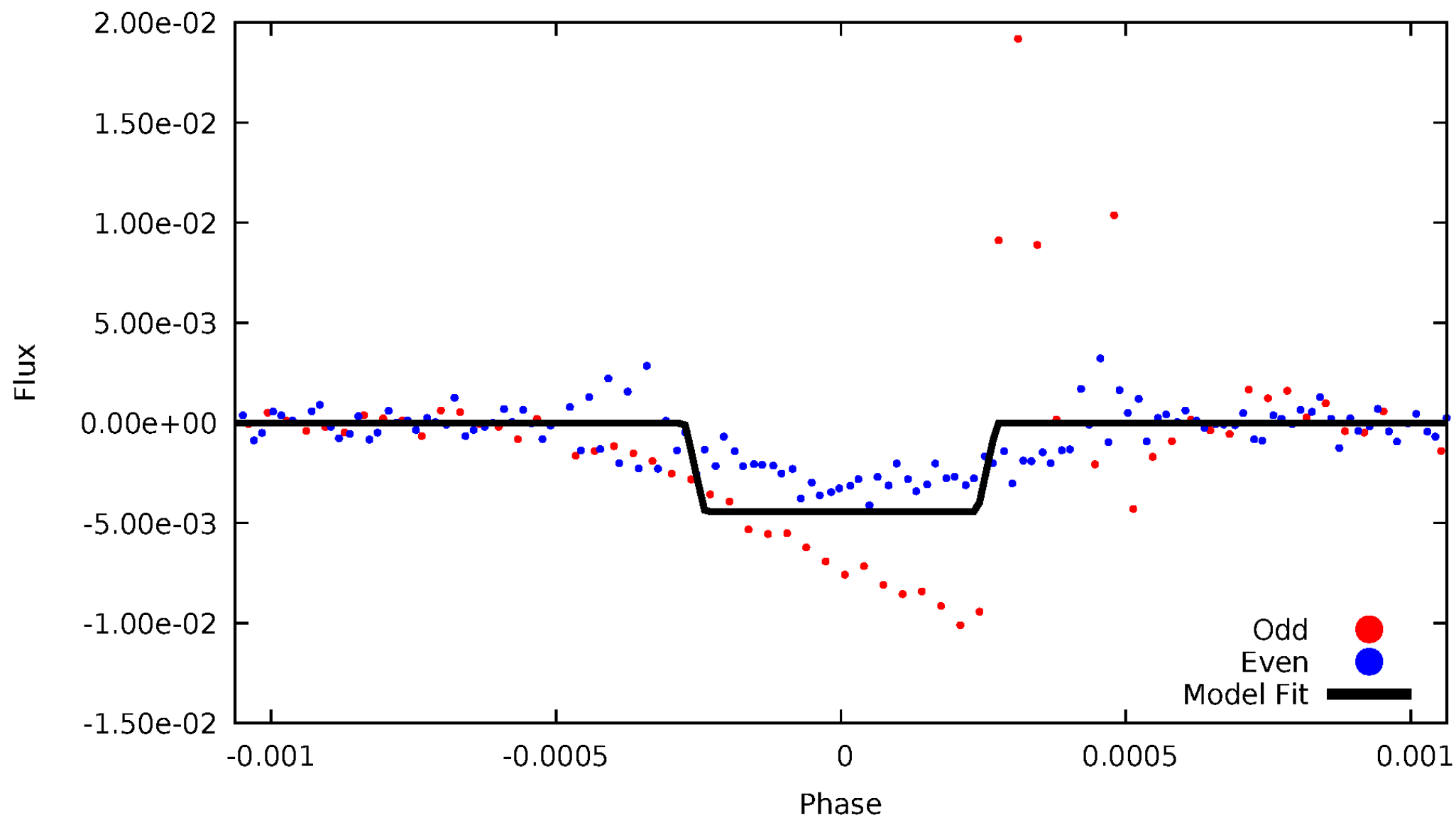
DV Odd/Even

TCE 003935499-03



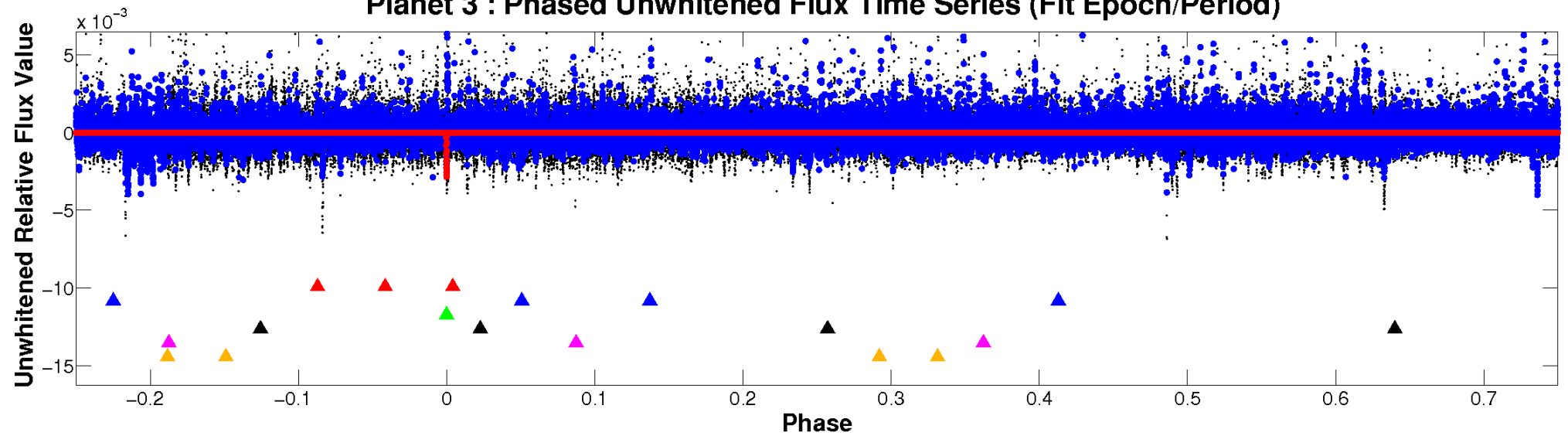
ALT Odd/Even

TCE 003935499-03

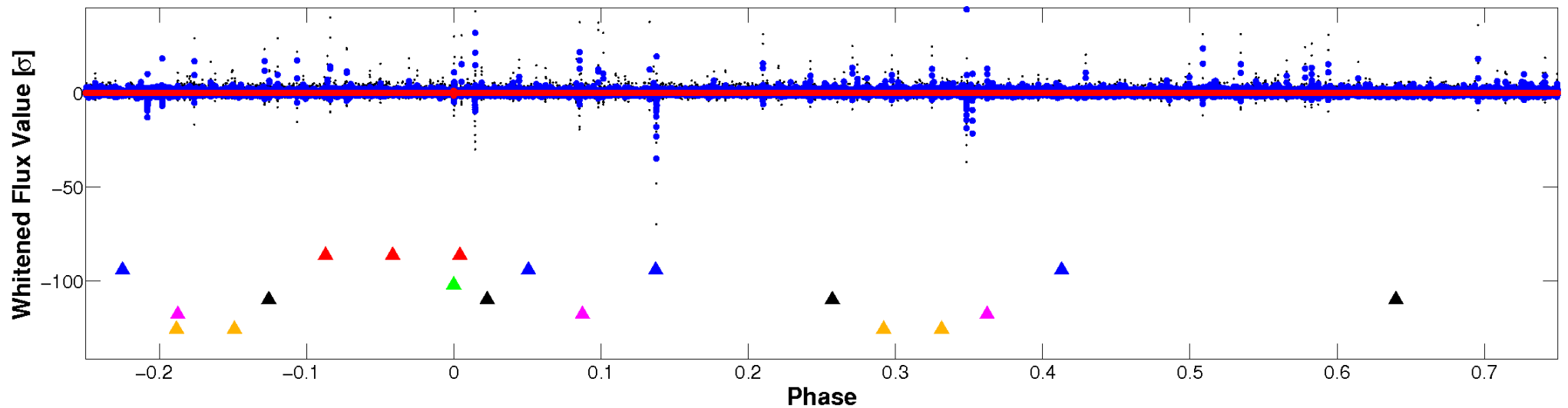


Non-Whitened Vs. Whitened Light Curve

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

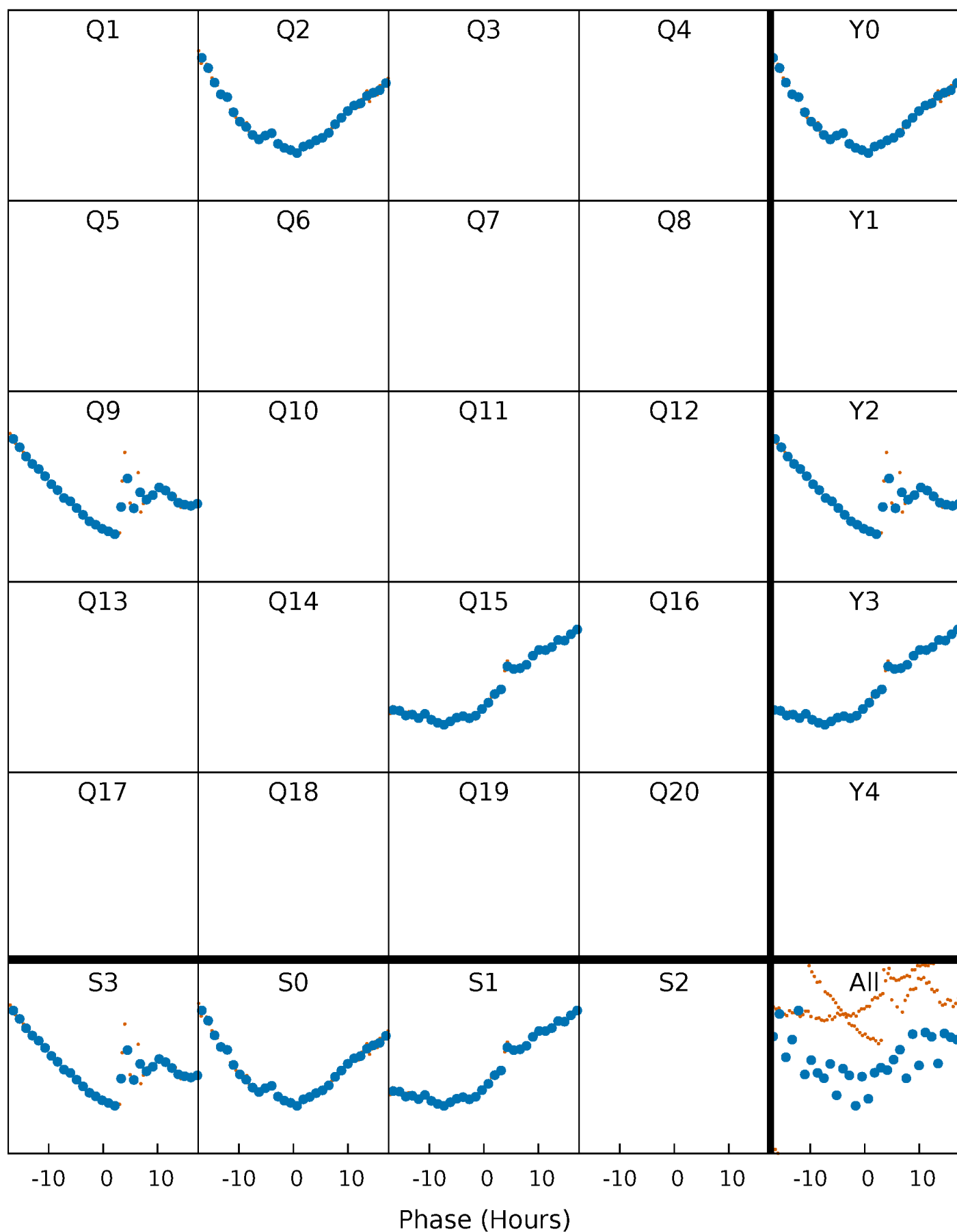


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



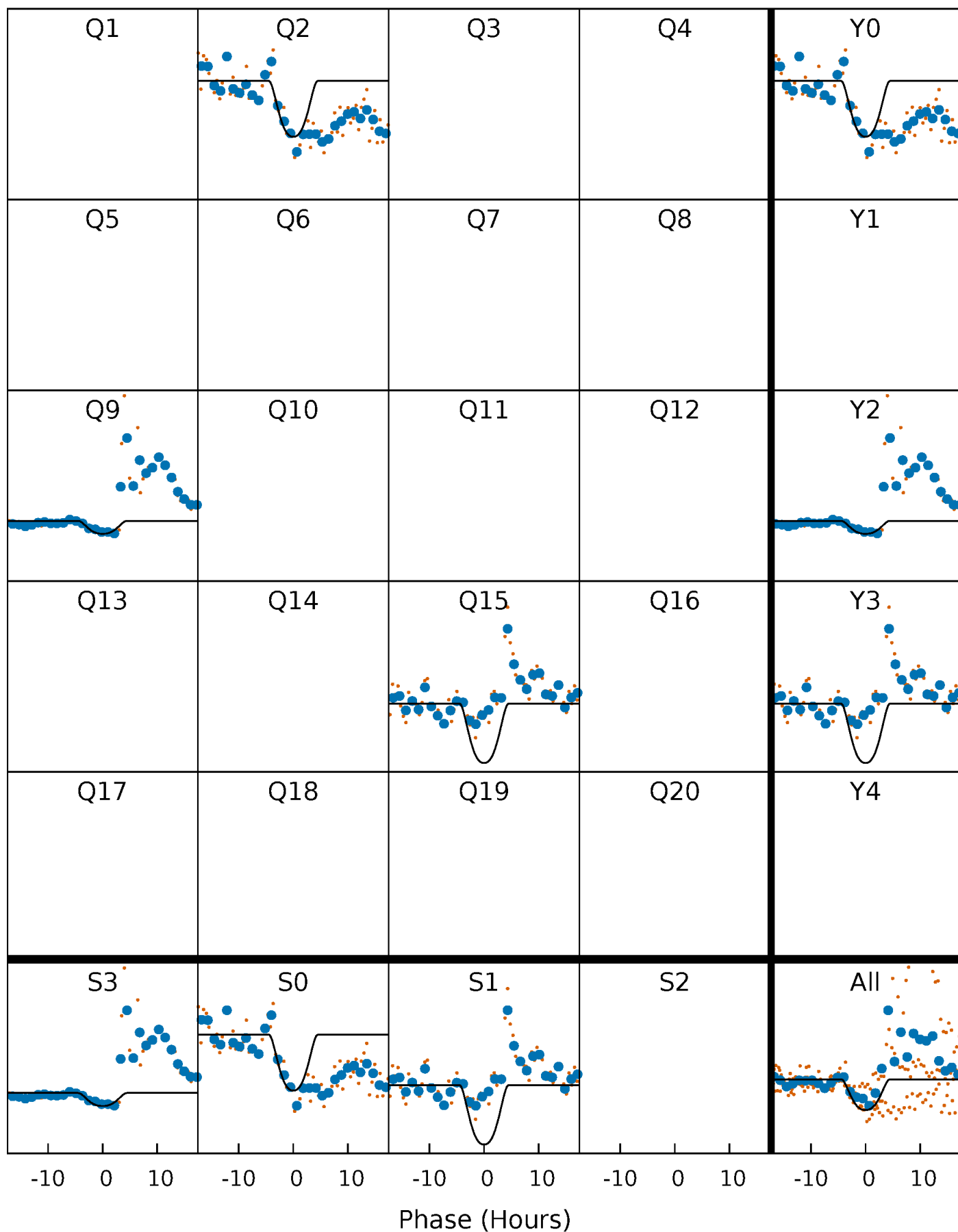
PDC Quarter-Phased Transit Curves

TCE 003935499-03 $P=605.452153$ Days $T_0=245.237552$ (BKJD)



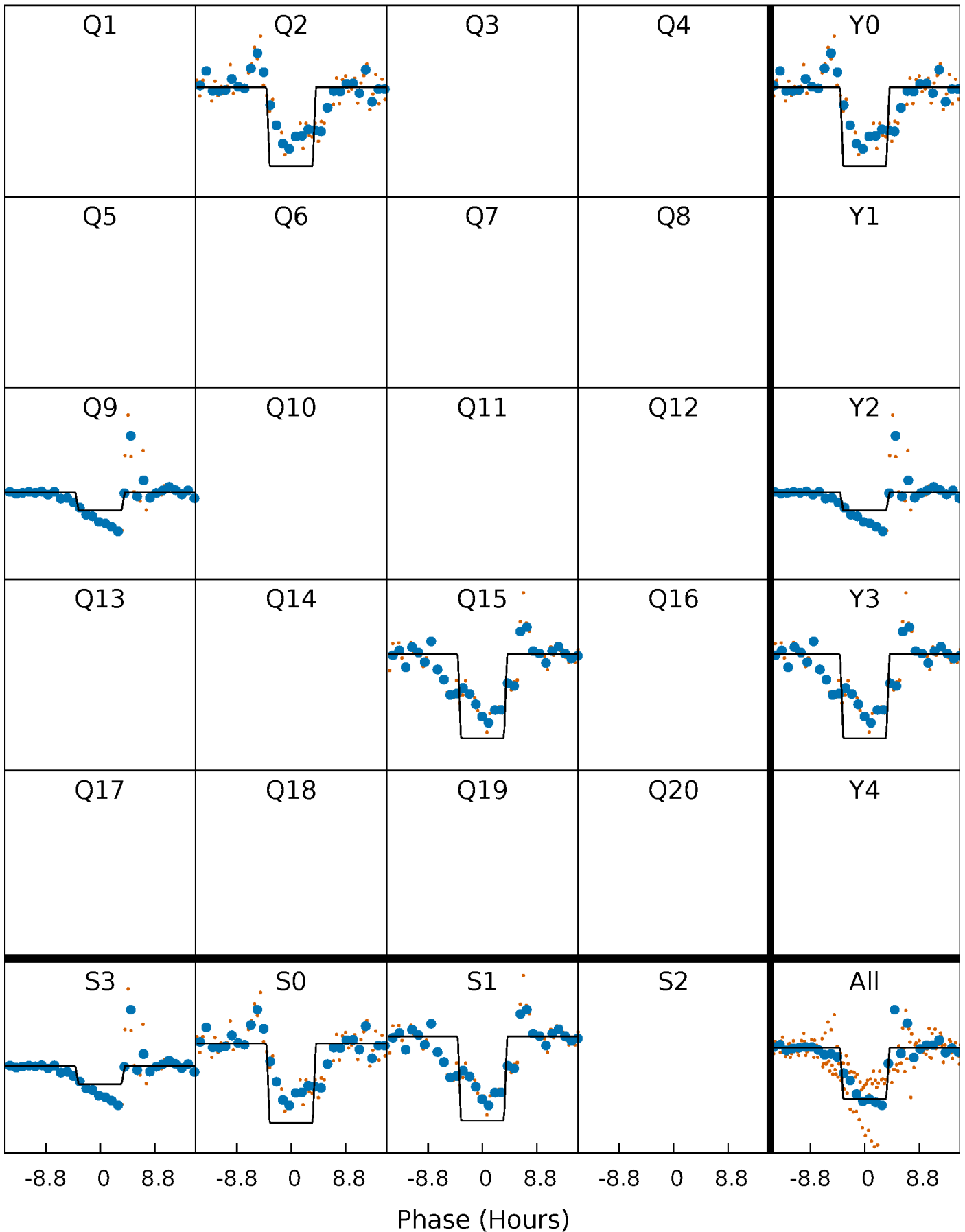
DV Quarter-Phased Transit Curves

TCE 003935499-03 $P=605.452153$ Days $T_0=245.237552$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

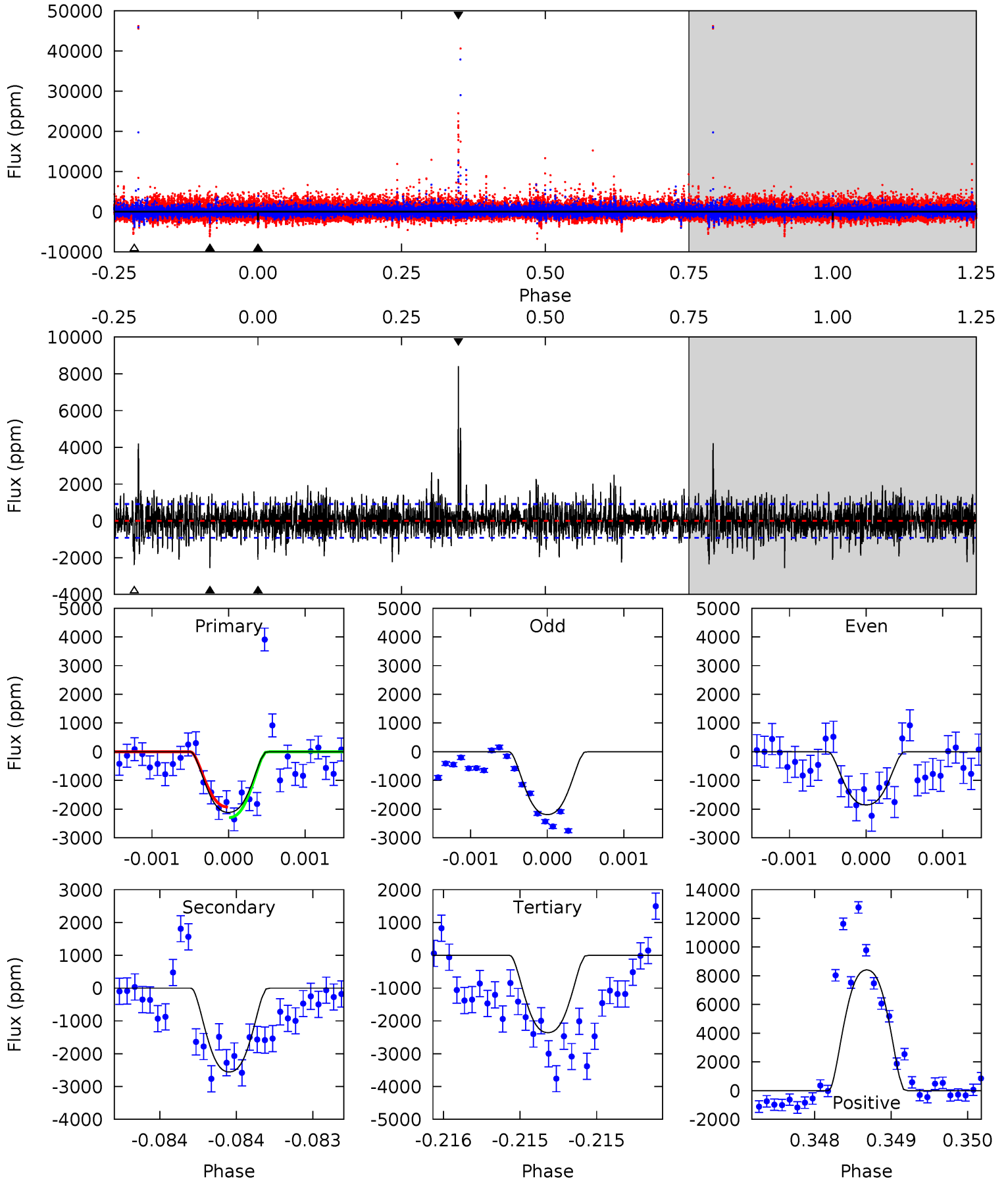
TCE 003935499-03 $P=605.378271$ Days $T_0=245.290014$ (BKJD)



DV Model-Shift Uniqueness Test

003935499-03, P = 605.452153 Days, E = 245.237552 Days

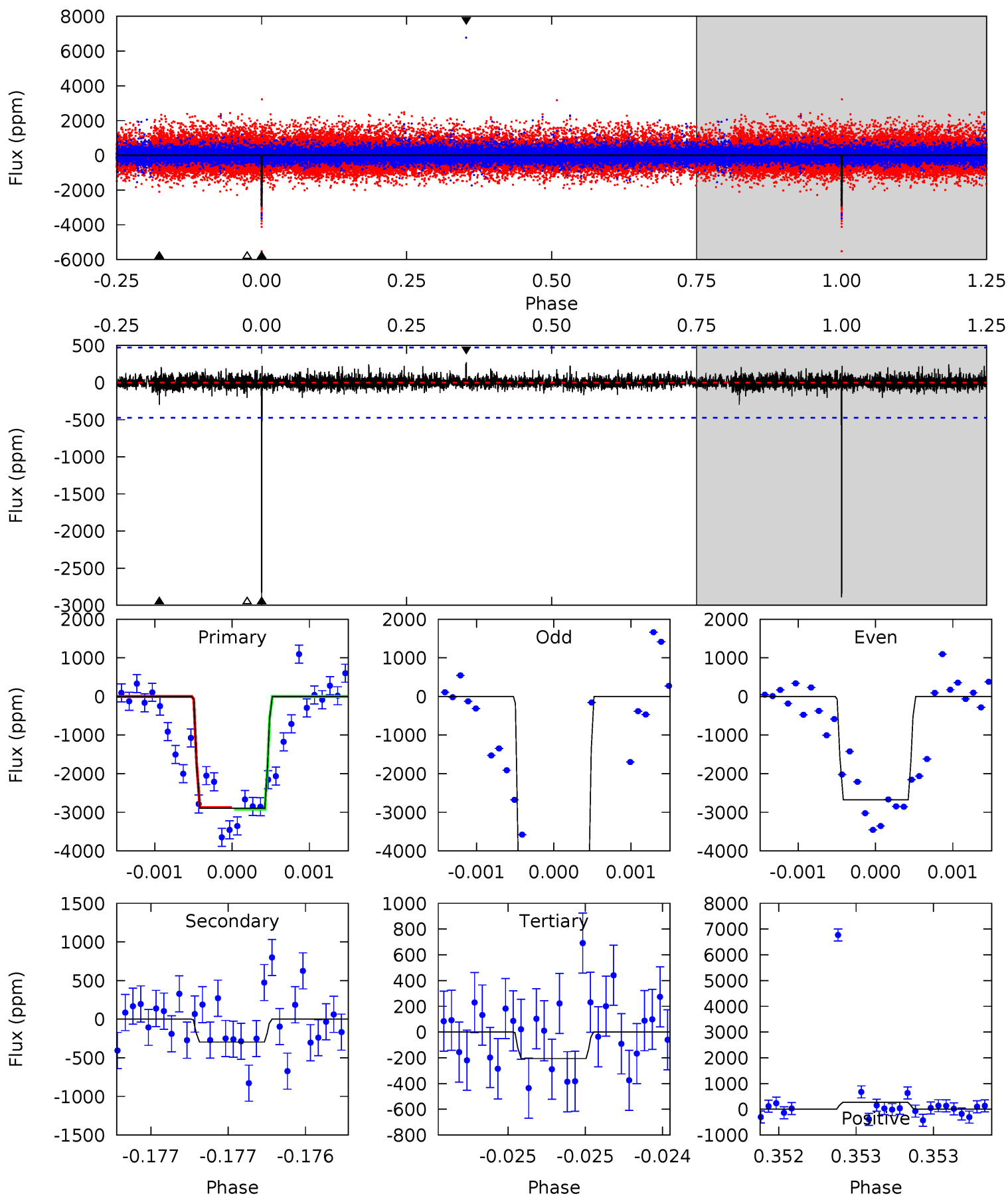
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	15.5	14.3	50.8	5.54	3.42	3.78	-1.47	-38.0	1.20	-35.4	0.79	0.96	0.77	1.11



Alt Model-Shift Uniqueness Test

003935499-03, P = 605.378271 Days, E = 245.290014 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.0	3.47	2.42	3.19	5.56	3.46	0.54	31.6	30.8	1.05	0.28	28.1	1.48	0.09	0.25



Stellar Parameters For KIC 003935499

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3836^{+69}_{-77}	$4.706^{+0.036}_{-0.018}$	$0.000^{+0.100}_{-0.100}$	$0.542^{+0.024}_{-0.032}$	$0.545^{+0.031}_{-0.028}$	$4.824^{+0.777}_{-0.372}$
	+2%/-2%	+1%/-0%	+inf%/-inf%	+4%/-6%	+6%/-5%	+16%/-8%
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 003935499-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2556 ± 165	$3.68^{+0.83}_{-0.82}$	162^{+4}_{-4}	3577^{+312}_{-235}	136993^{+86882}_{-45816}
Alt.	-296 ± 85	$3.93^{+0.79}_{-0.75}$	162^{+4}_{-4}	2581^{+167}_{-154}	13639^{+8709}_{-4969}

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

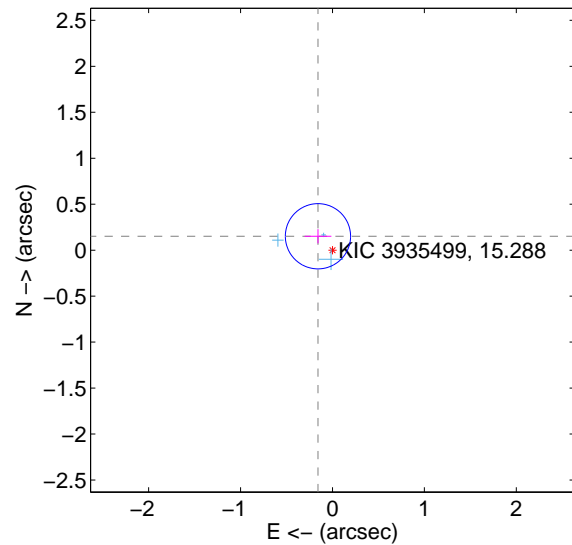
Supplemental centroid analysis for 003935499-03. Kepler magnitude: 15.29. Transit SNR 7.76

There are 3 quarters with good PRF difference image offsets

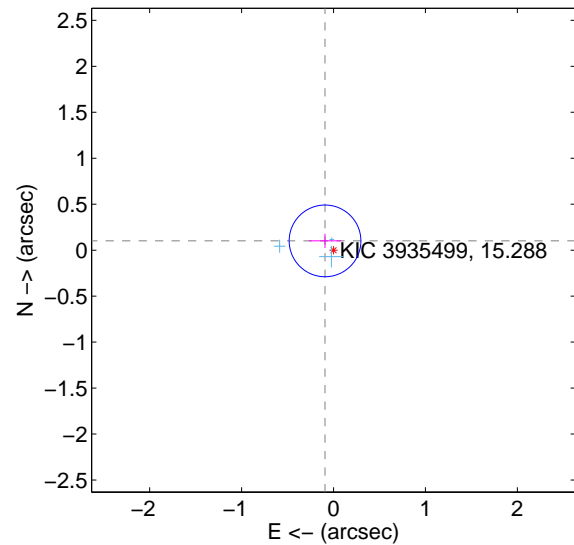
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.219 ± 0.118	1.85	0.158 ± 0.146	0.151 ± 0.078
PRF-fit source offset from KIC position	0.137 ± 0.130	1.05	0.092 ± 0.176	0.101 ± 0.078
photometric centroid source offset	0.22 ± 0.66	0.34	-0.08 ± 0.48	-0.21 ± 0.68

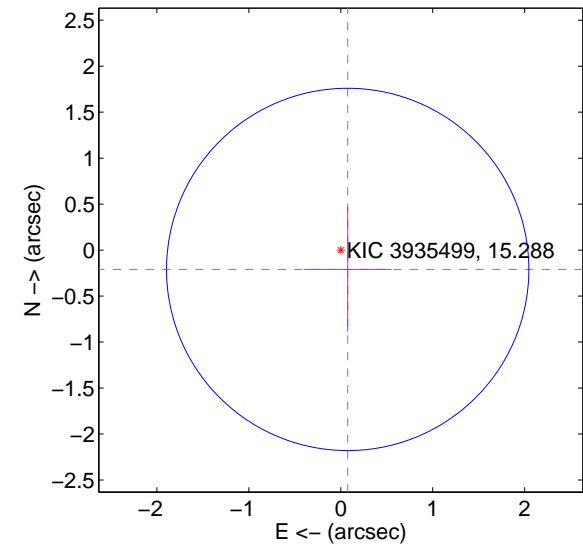
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

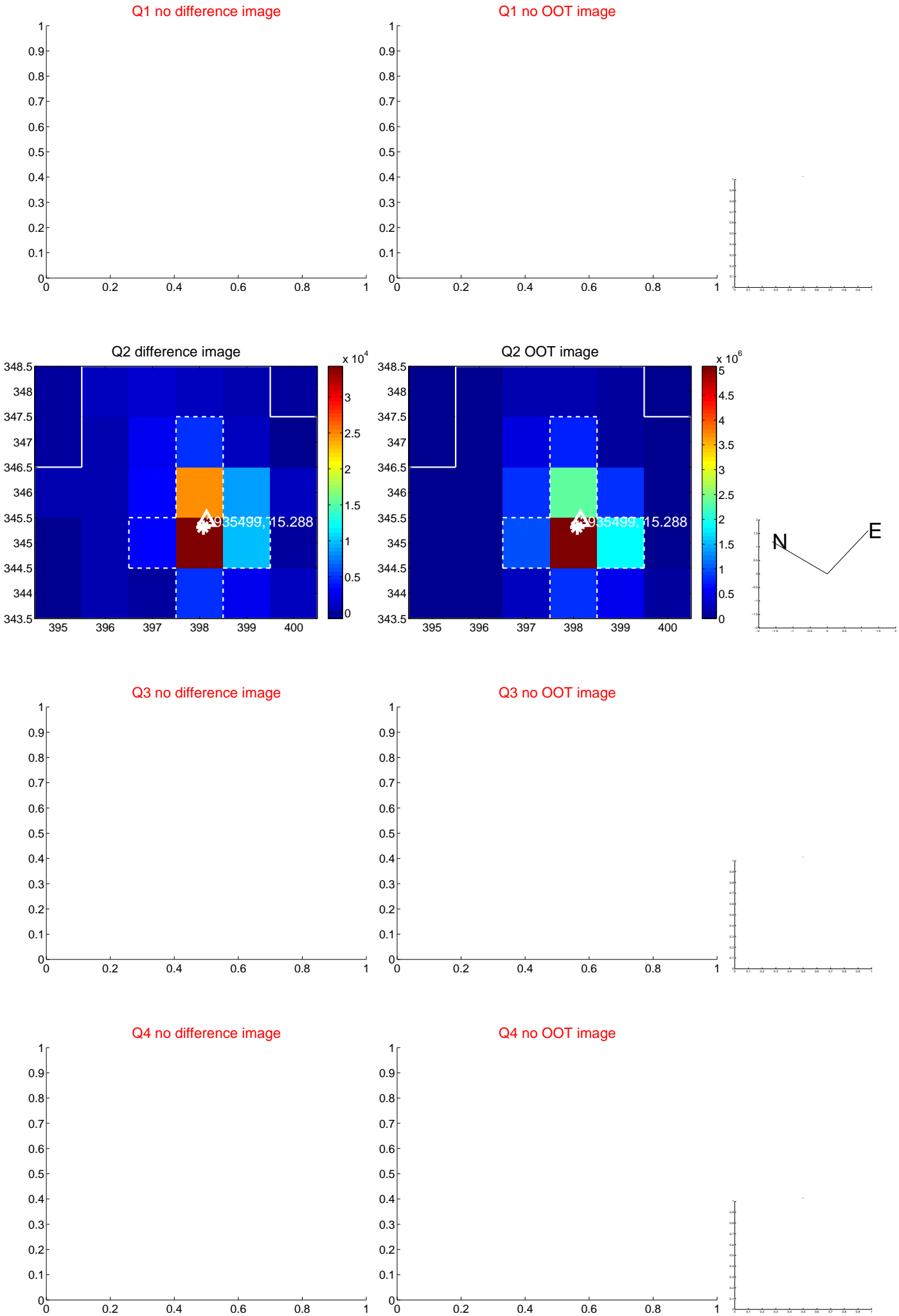


offset from photometric centroids



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.

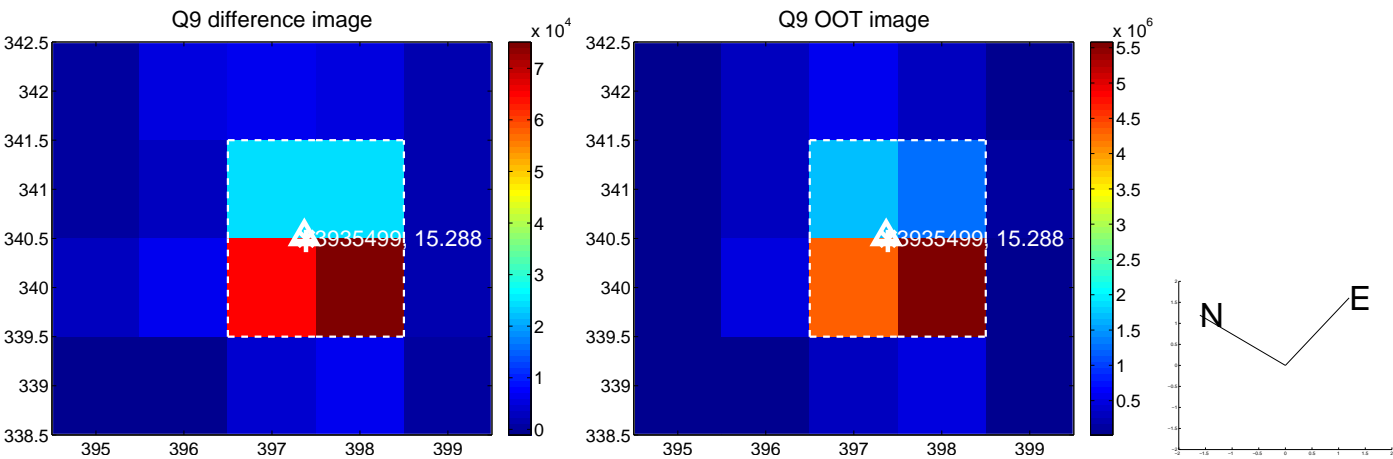
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



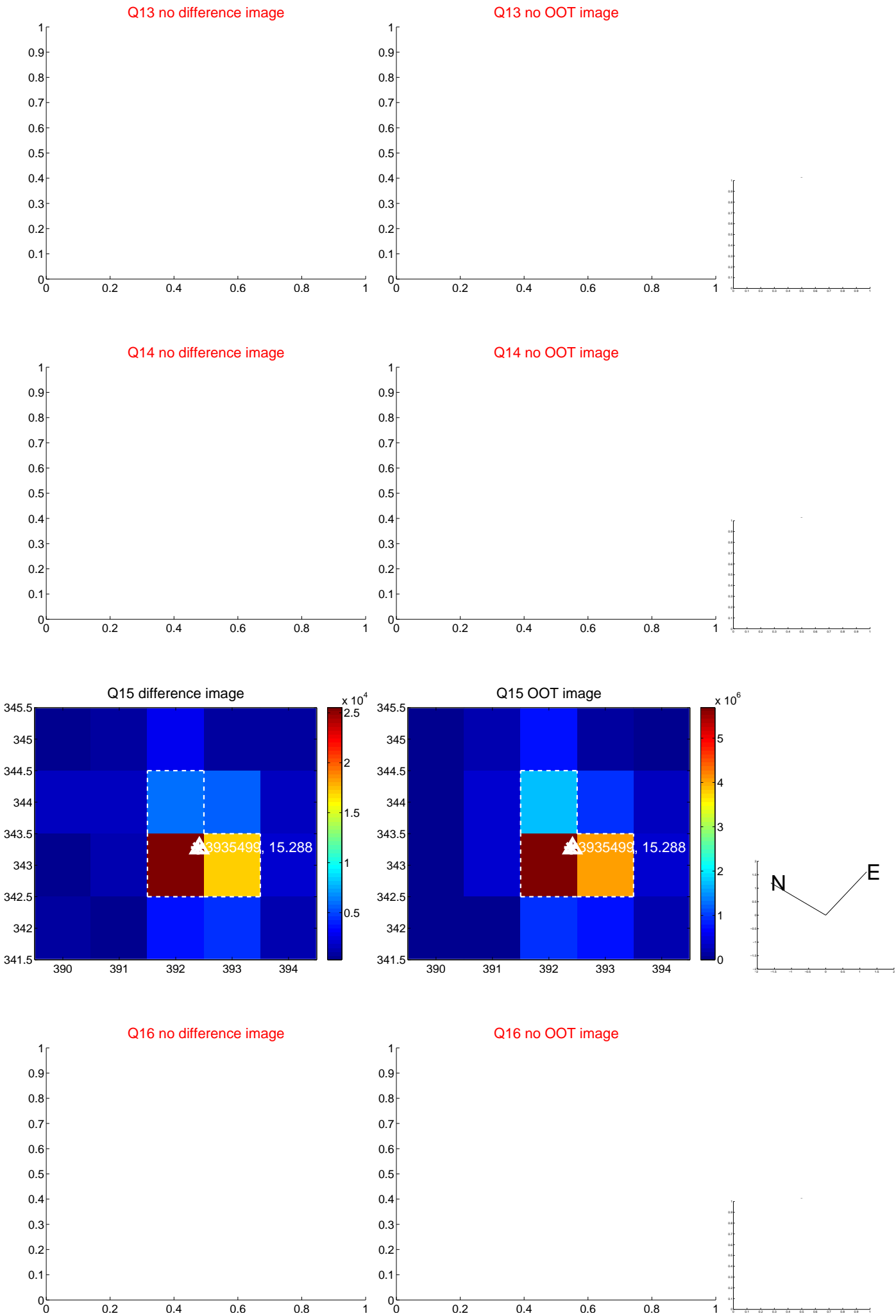
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



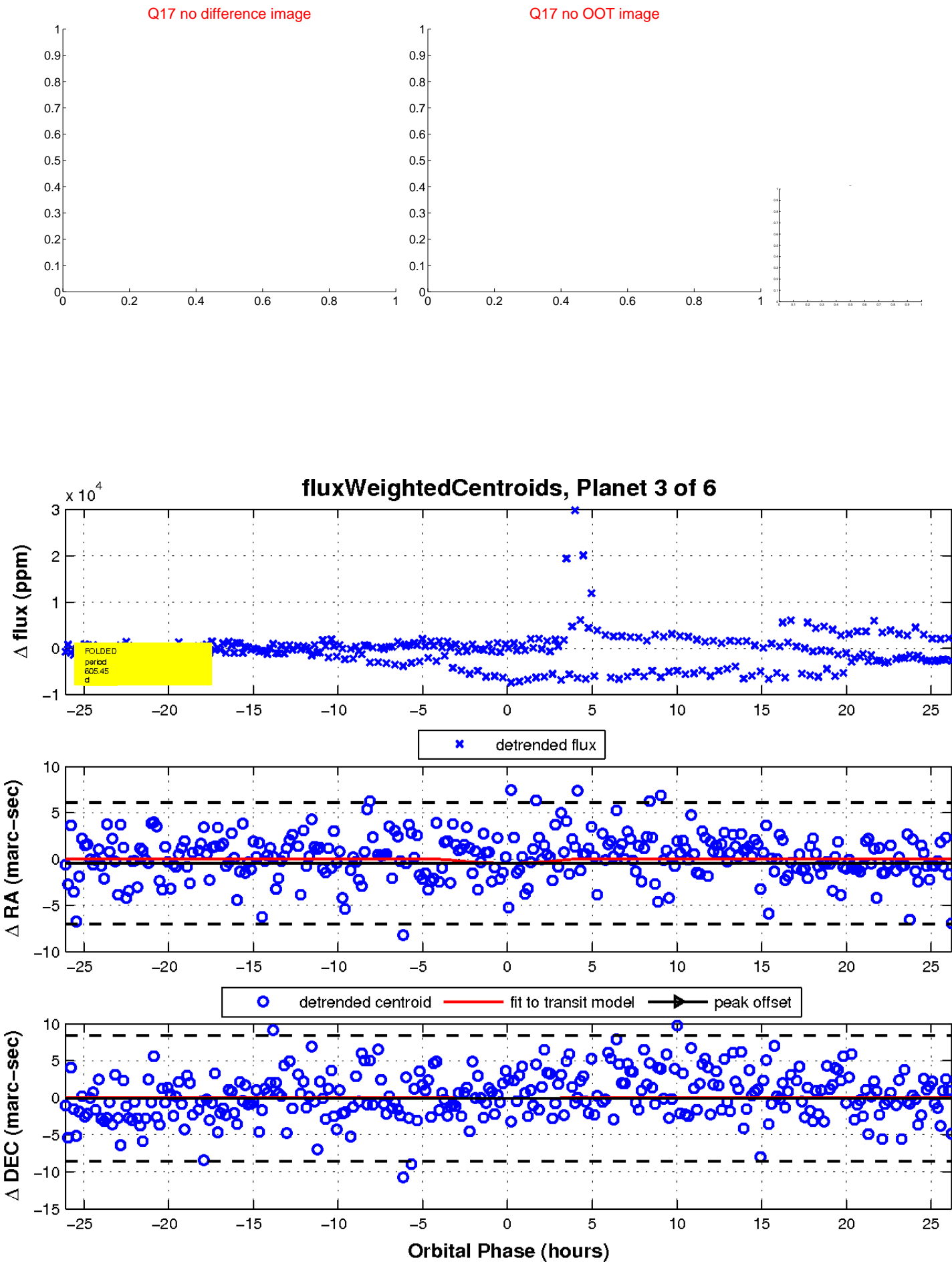
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

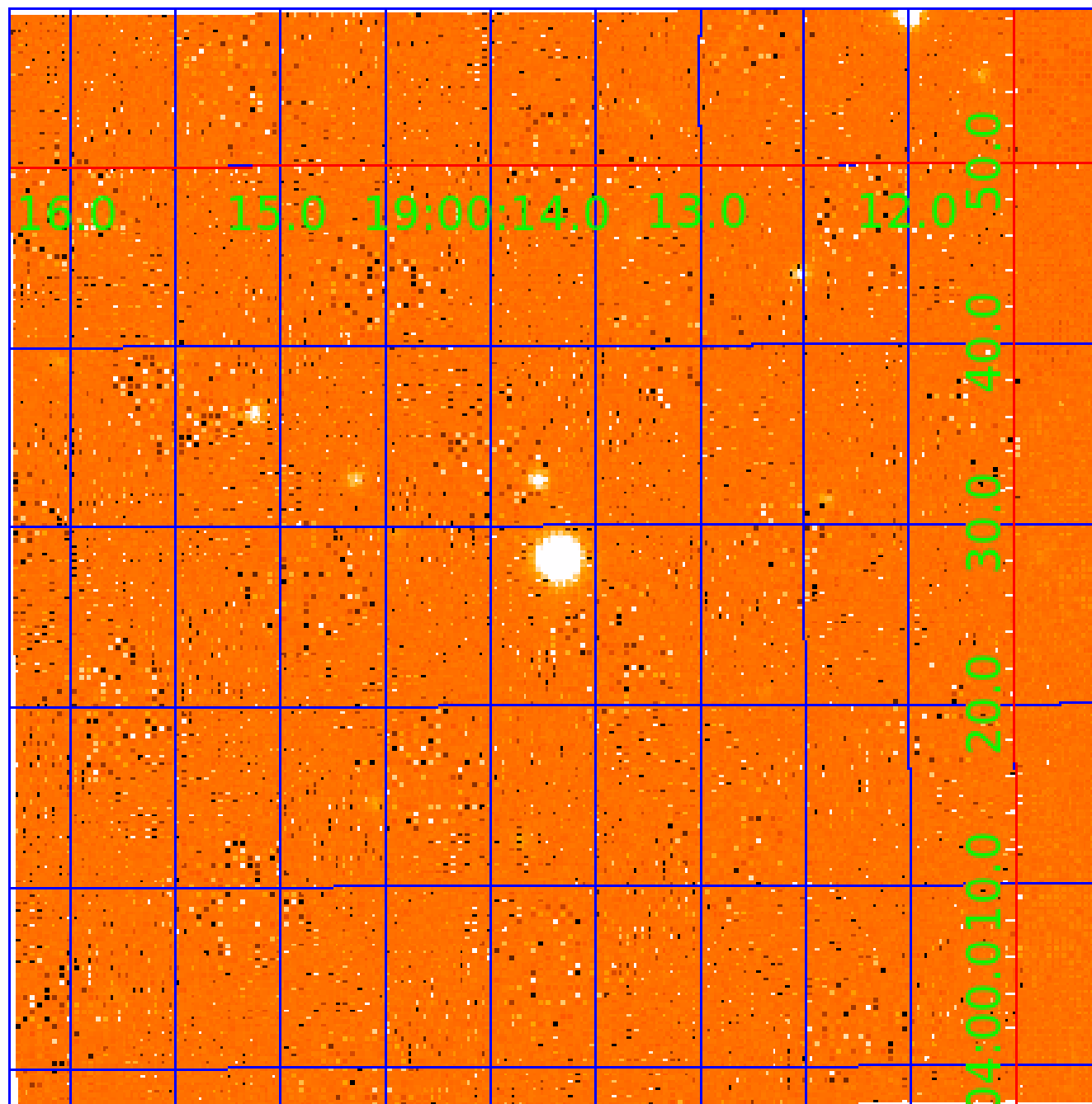


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003935499

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})
003935499-01	OBS	No	633.070678	192.526999	2986.6	6.188	15.0	9.0	0.54	3836	5.69	0.04
003935499-03	OBS	No	605.452153	245.237552	2840.0	8.747	9.4	7.8	0.54	3836	3.69	0.04
003935499-04	OBS	No	373.692333	259.008450	2246.8	6.381	11.5	6.1	0.54	3836	4.78	0.08
003935499-05	OBS	No	439.034846	464.589865	1921.2	2.987	11.3	6.5	0.54	3836	2.47	0.07
003935499-06	OBS	No	314.635957	422.045567	982.5	9.000	11.3	-1.0	0.54	3836	1.67	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003935499-01	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—CENT_FEW_DIFFS
003935499-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003935499-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_NOFITS

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

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

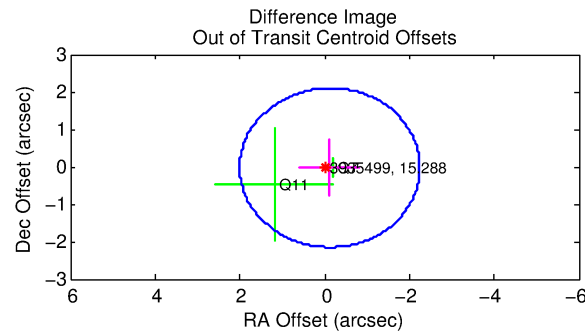
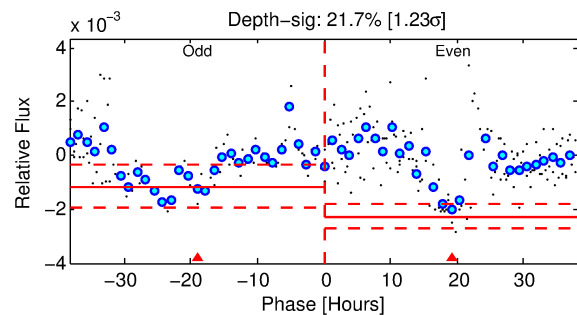
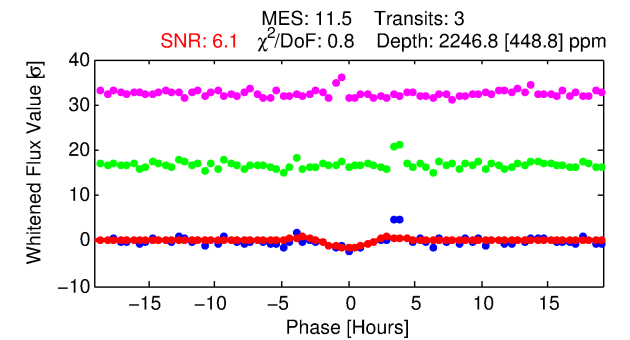
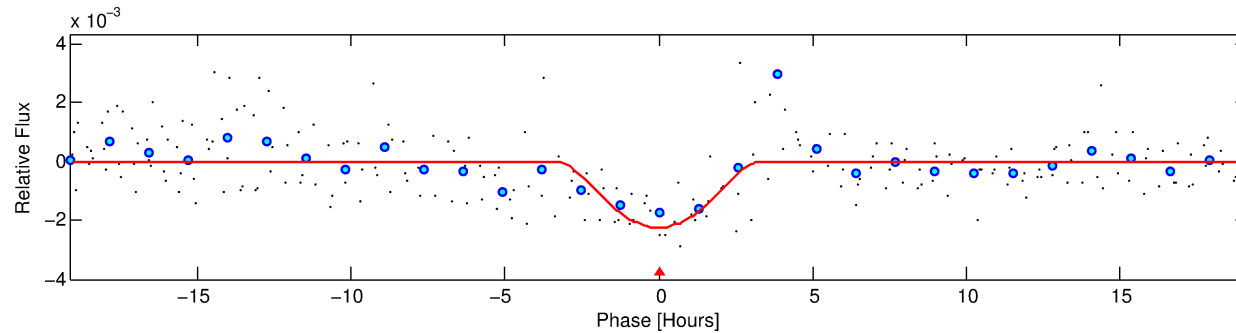
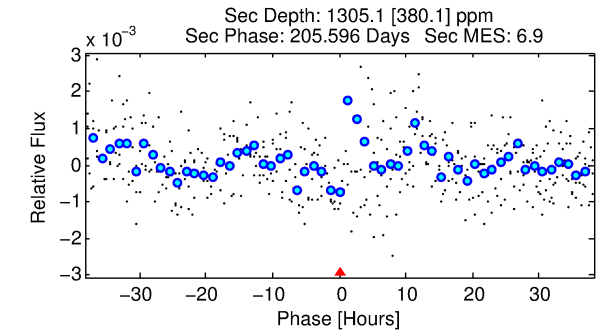
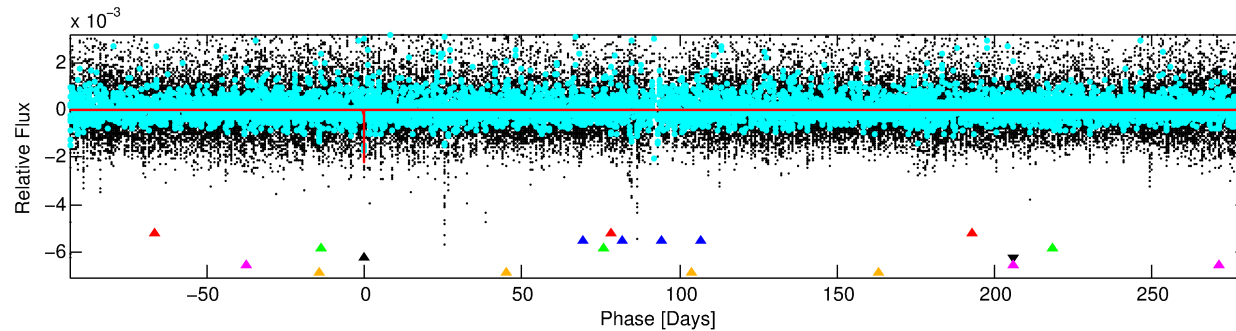
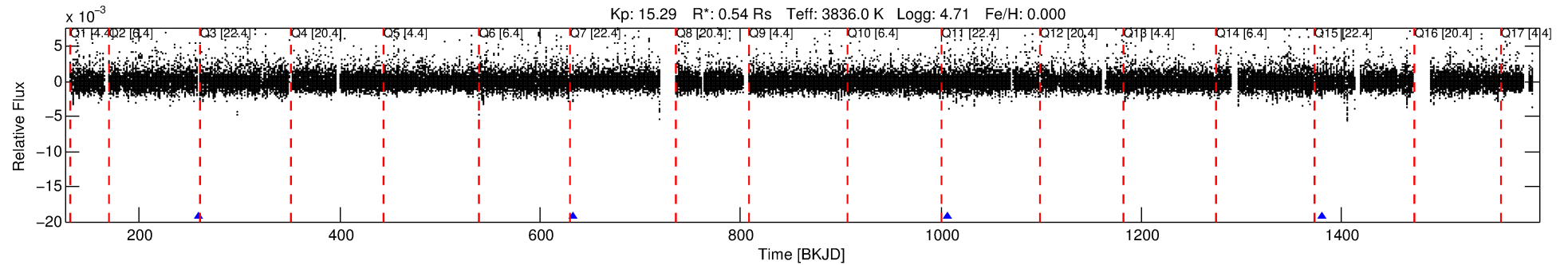
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003935499-04

No Significant Match Found

DV One-Page Summary

KIC: 3935499 Candidate: 4 of 6 Period: 373.692 d



DV Fit Results:

Period = 373.69233 [0.01052] d
Epoch = 259.0084 [0.0224] BKJD
Rp/R* = 0.0808 [0.2669]
a/R* = 189.10 [136.94]
b = 0.99 [0.40]
Seff = 0.08 [0.01]
Teq = 137 [4] K
Rp = 4.78 [15.79] Re
a = 0.8293 [0.0399] AU
Ag = 21595.68 [142722.16] [0.15 σ]
Teffp = 2564 [4237] K [0.57 σ]

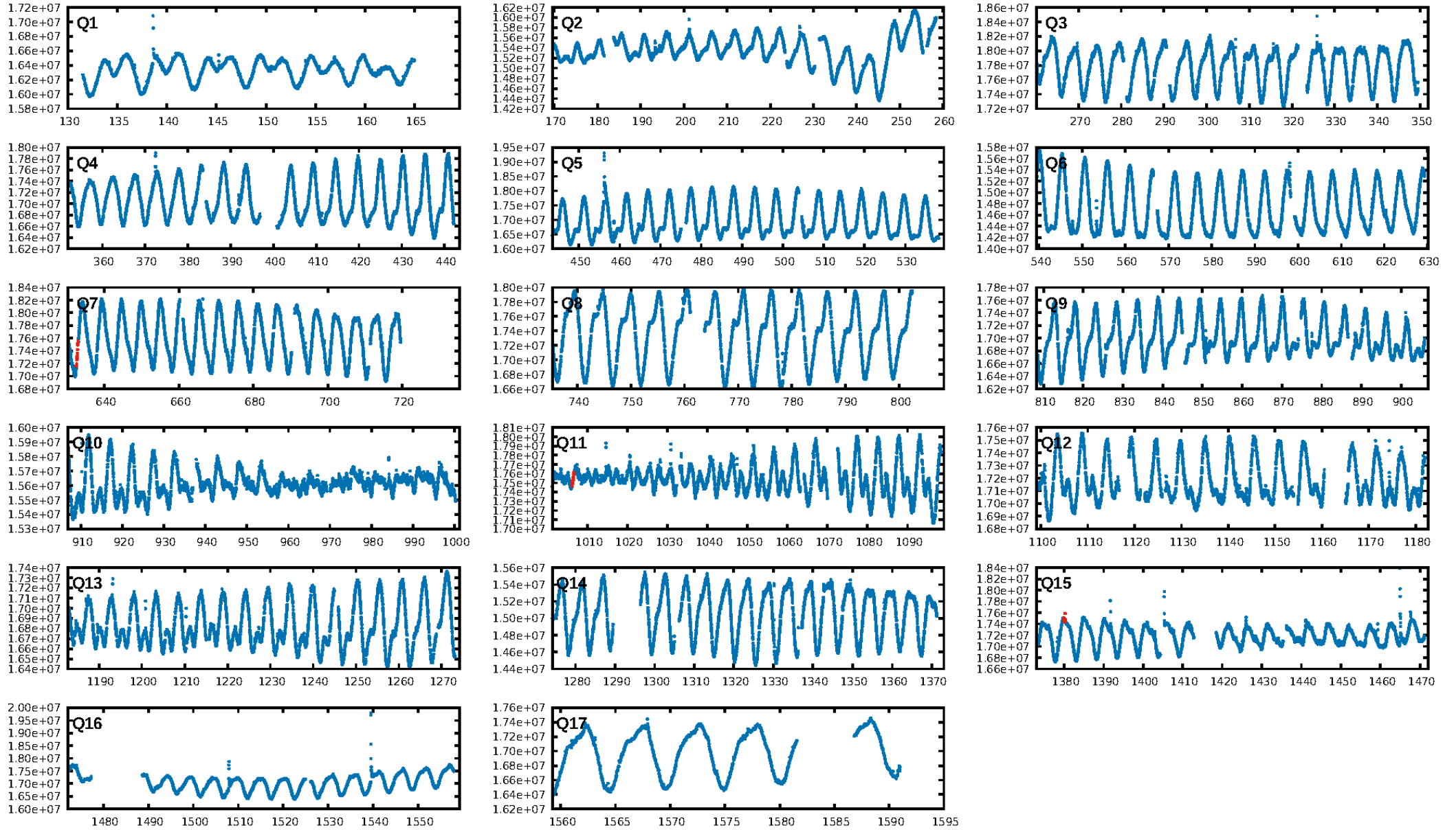
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [128.47 σ]
LongPeriod-sig: 100.0% [36.20 σ]
ModelChiSquare2-sig: 5.8%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.2262
Centroid-sig: 96.7%
Centroid-so: 0.222 arcsec [0.29 σ]
OotOffset-rm: 0.124 arcsec [0.17 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-rm: 0.038 arcsec [0.05 σ]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

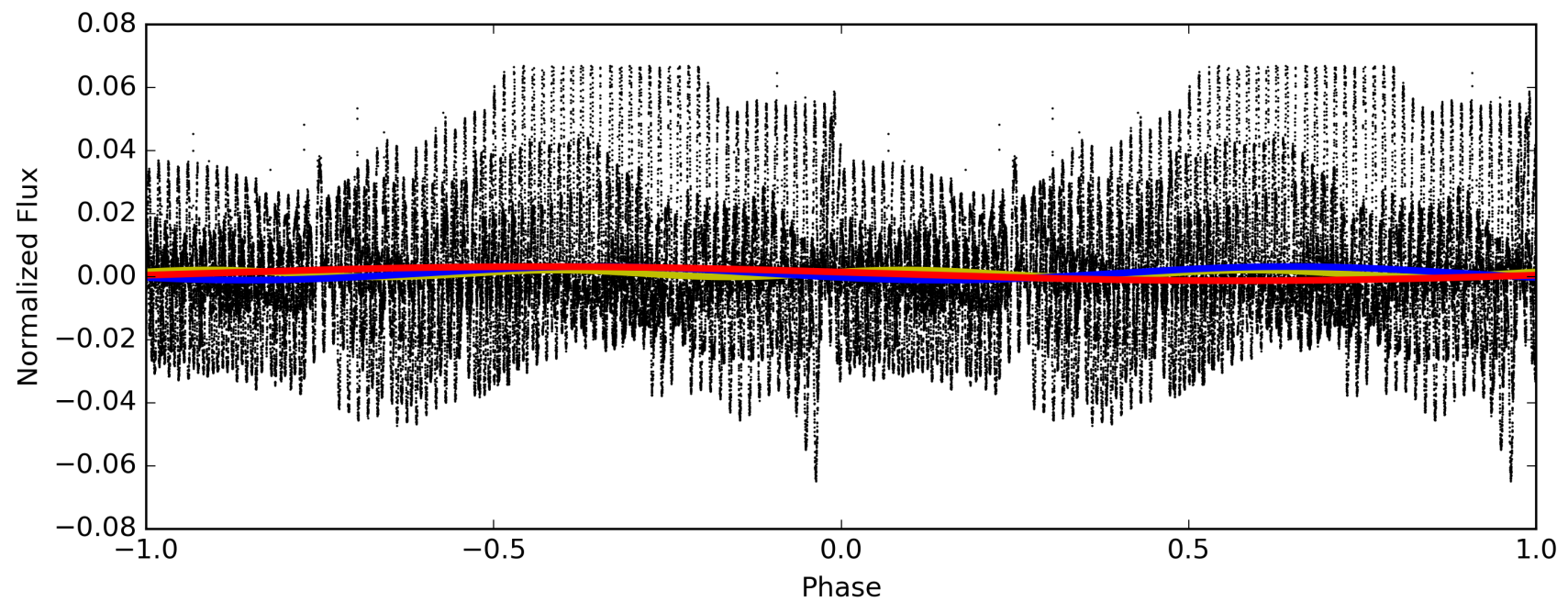
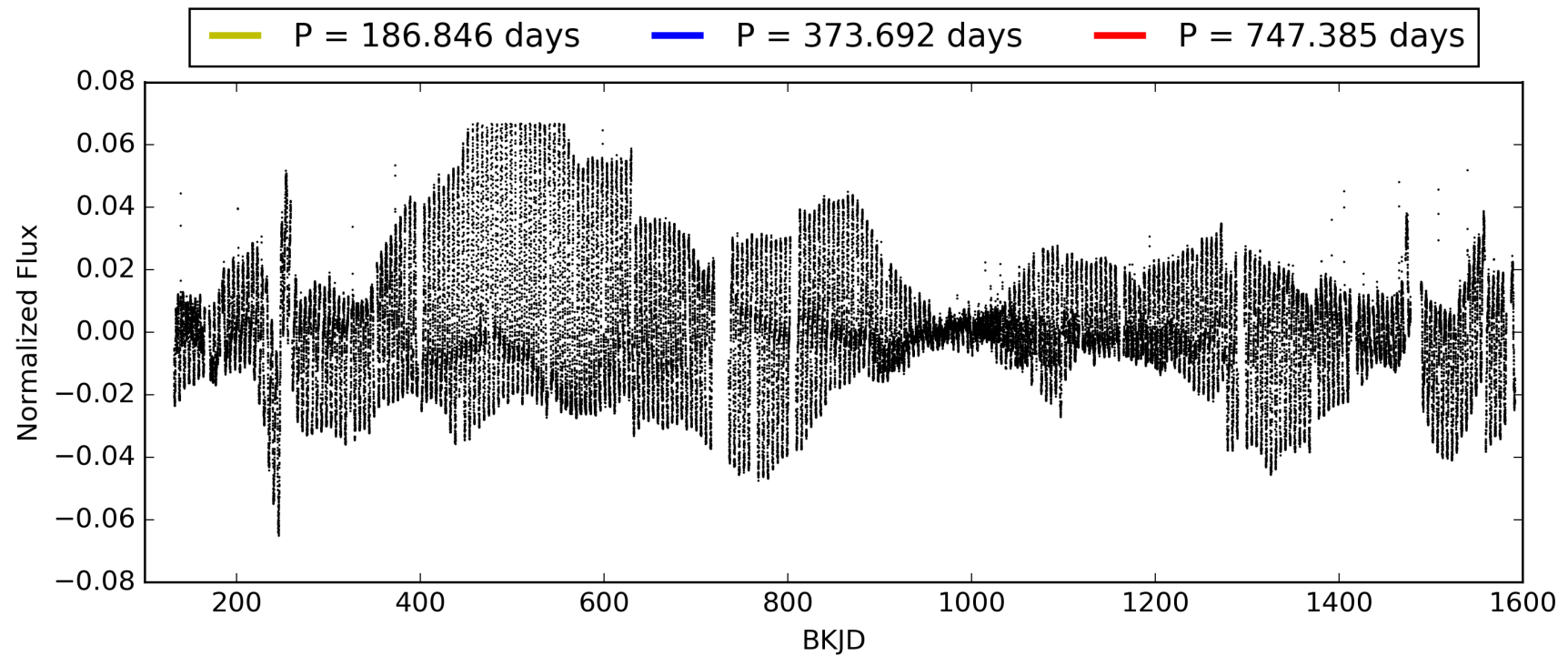
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:40:51 Z

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

TCE 003935499-04, PDC Light Curves

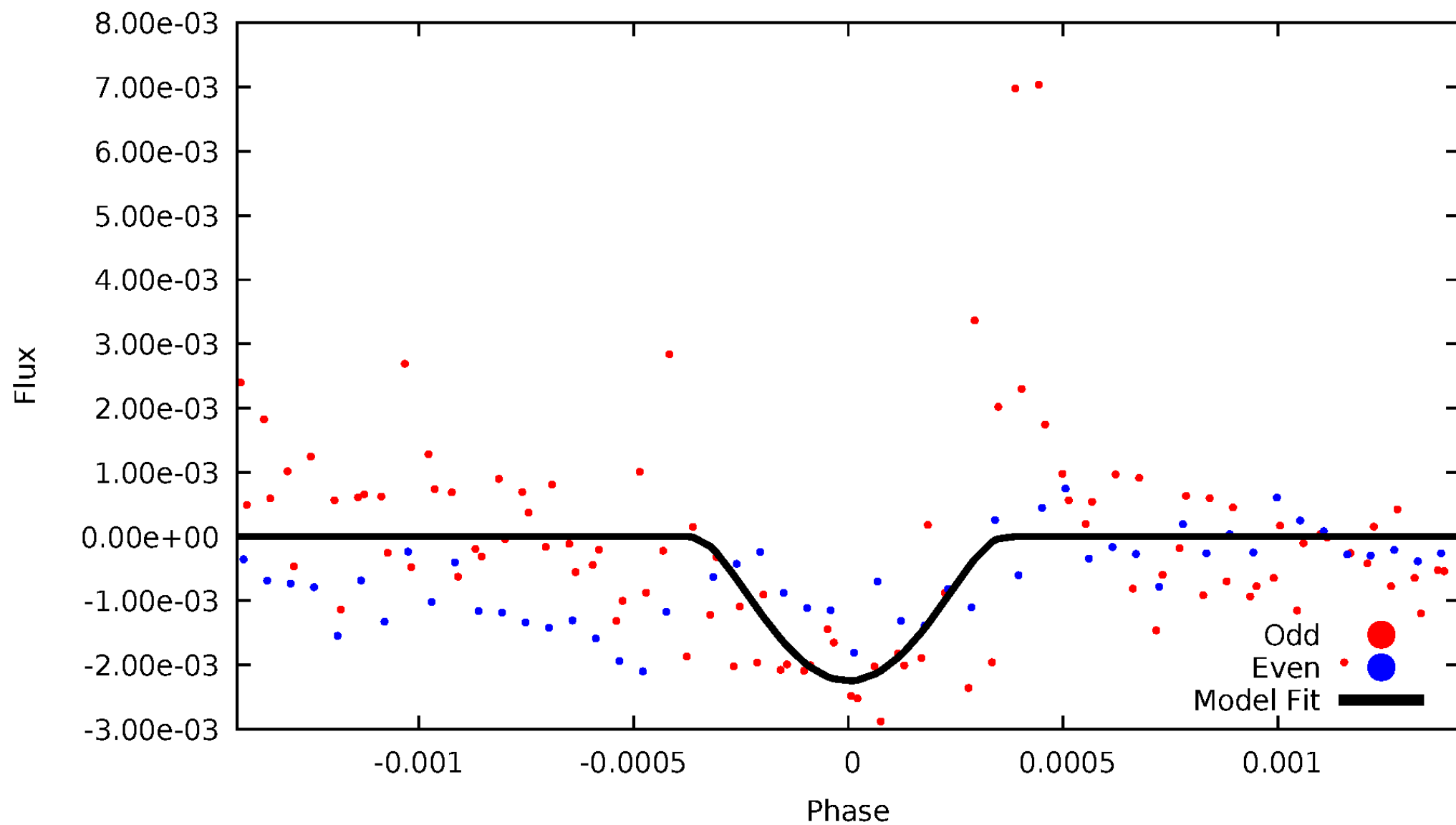


TCE 003935499-04



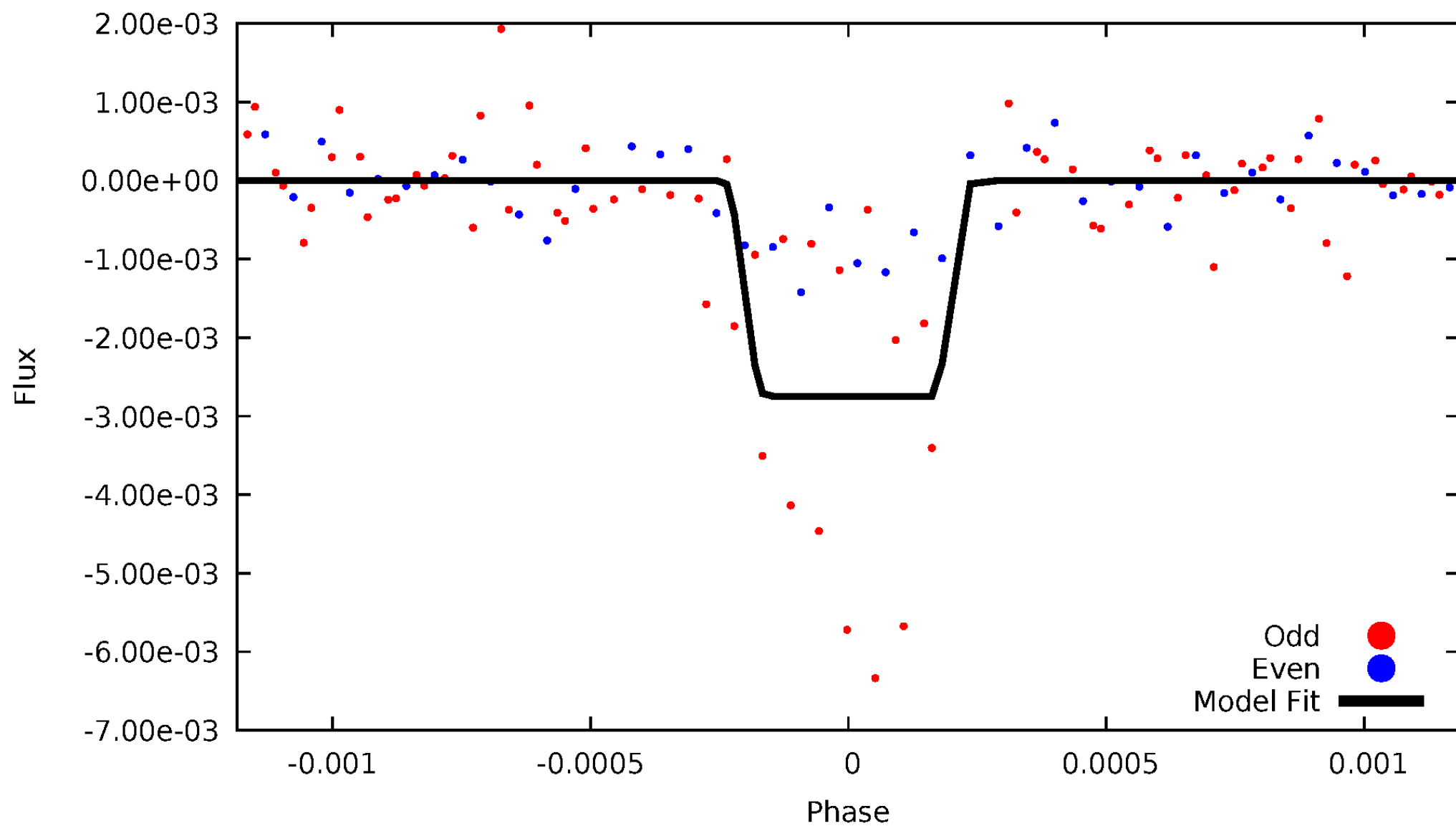
DV Odd/Even

TCE 003935499-04



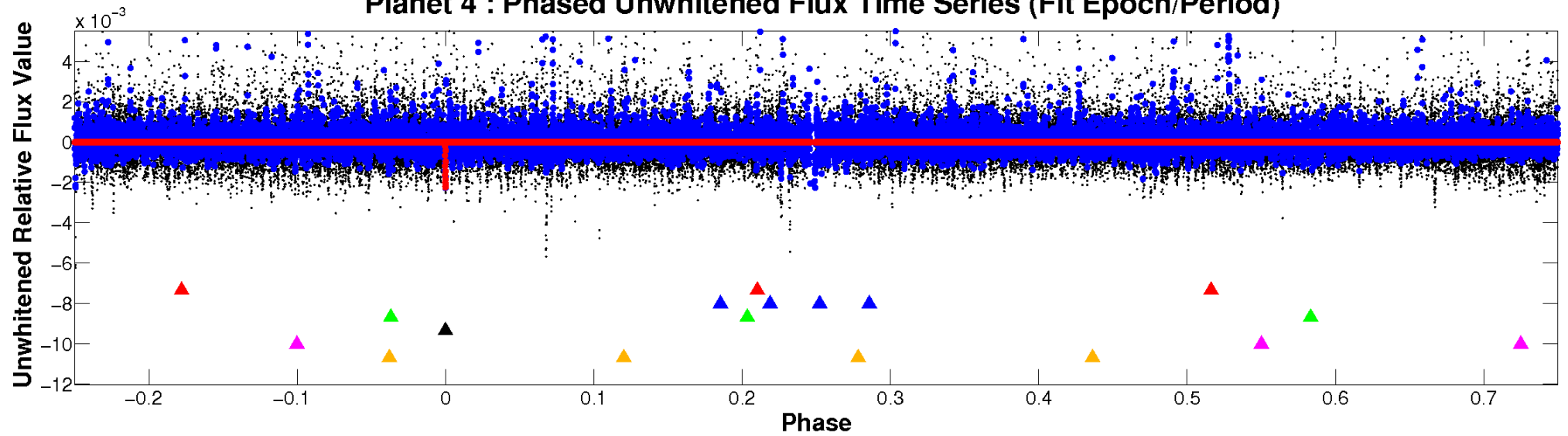
ALT Odd/Even

TCE 003935499-04

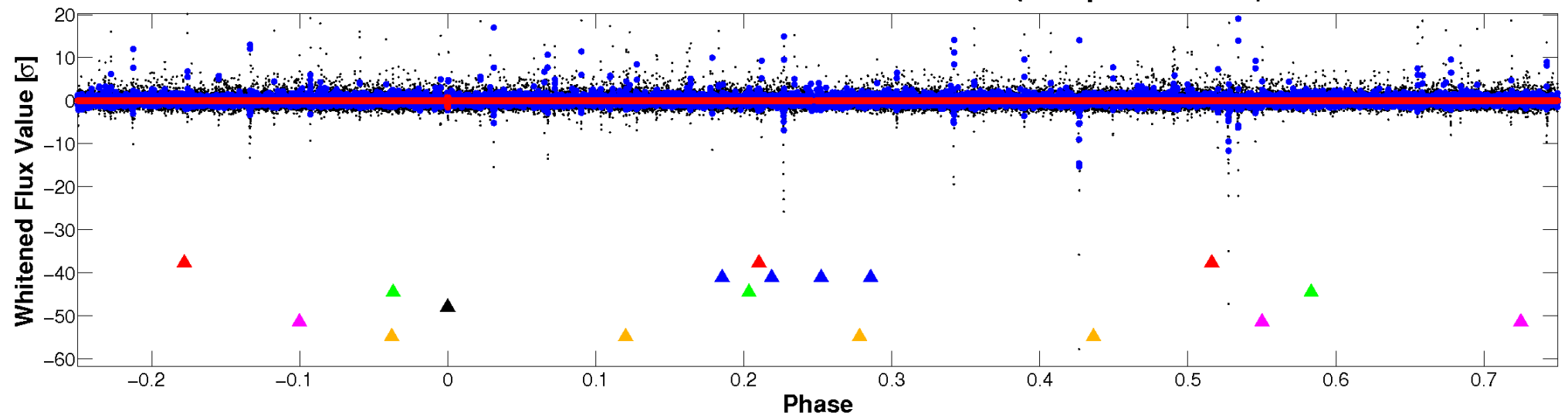


Non-Whitened Vs. Whitened Light Curve

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

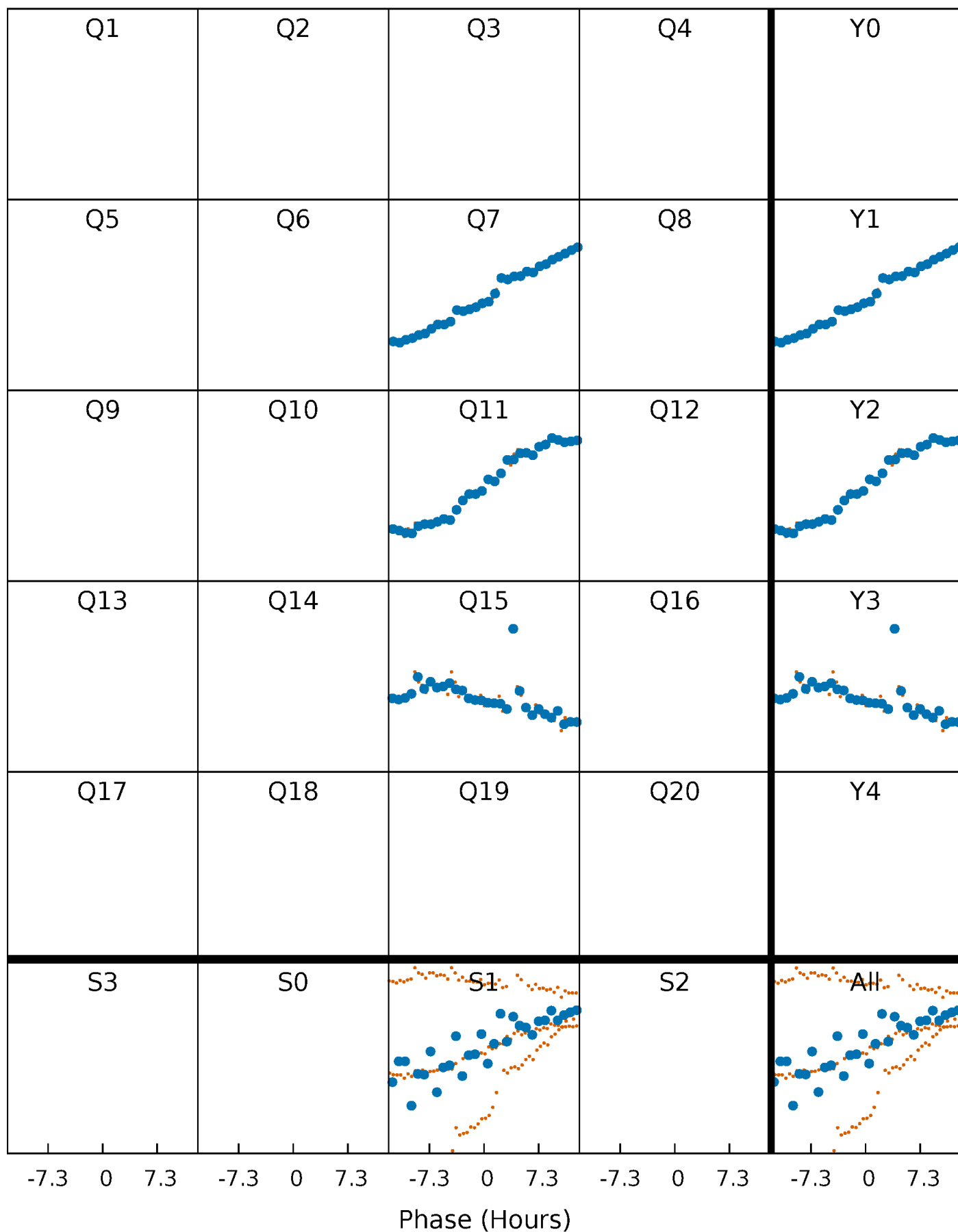


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



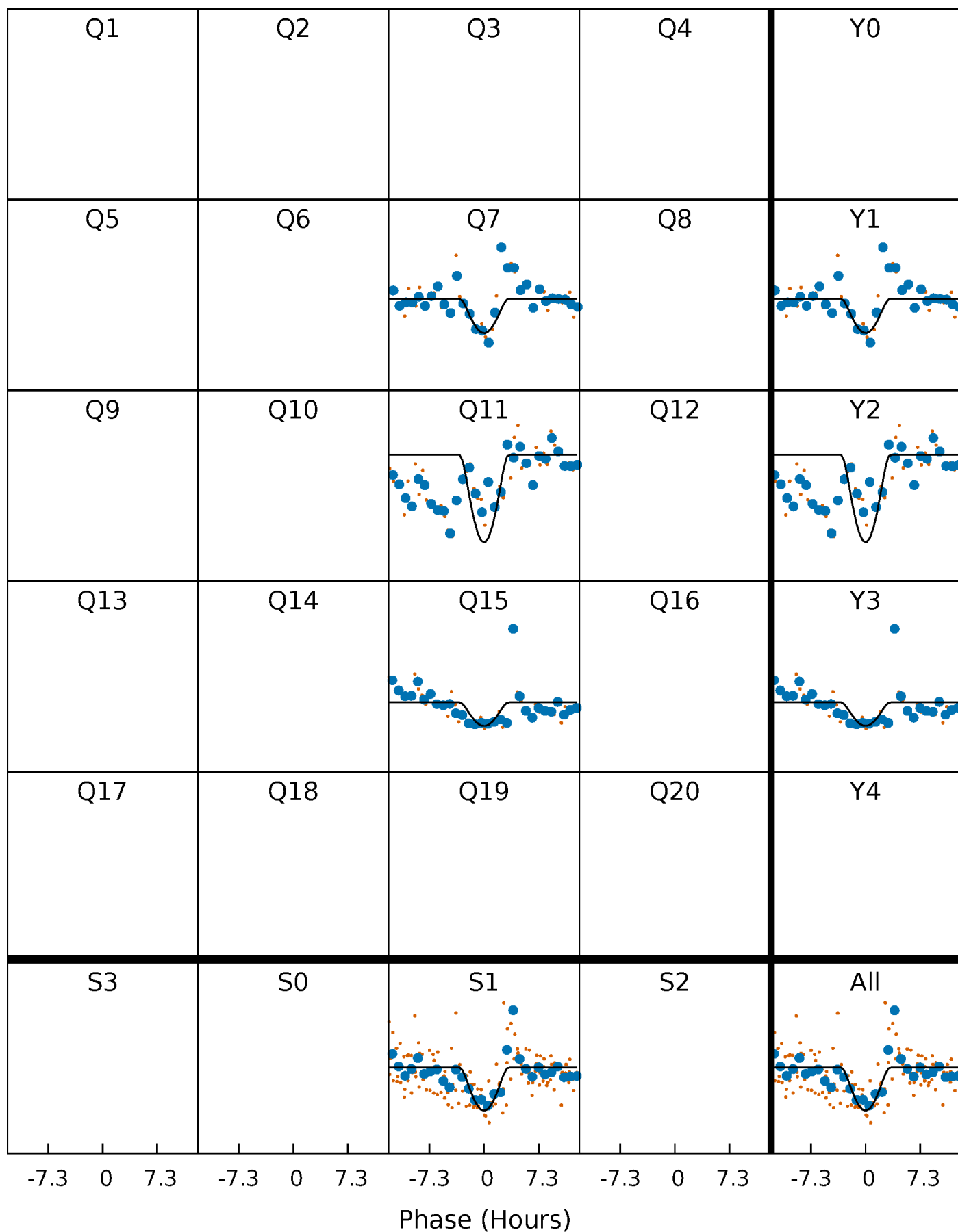
PDC Quarter-Phased Transit Curves

TCE 003935499-04 $P=373.692333$ Days $T_0=259.008450$ (BKJD)



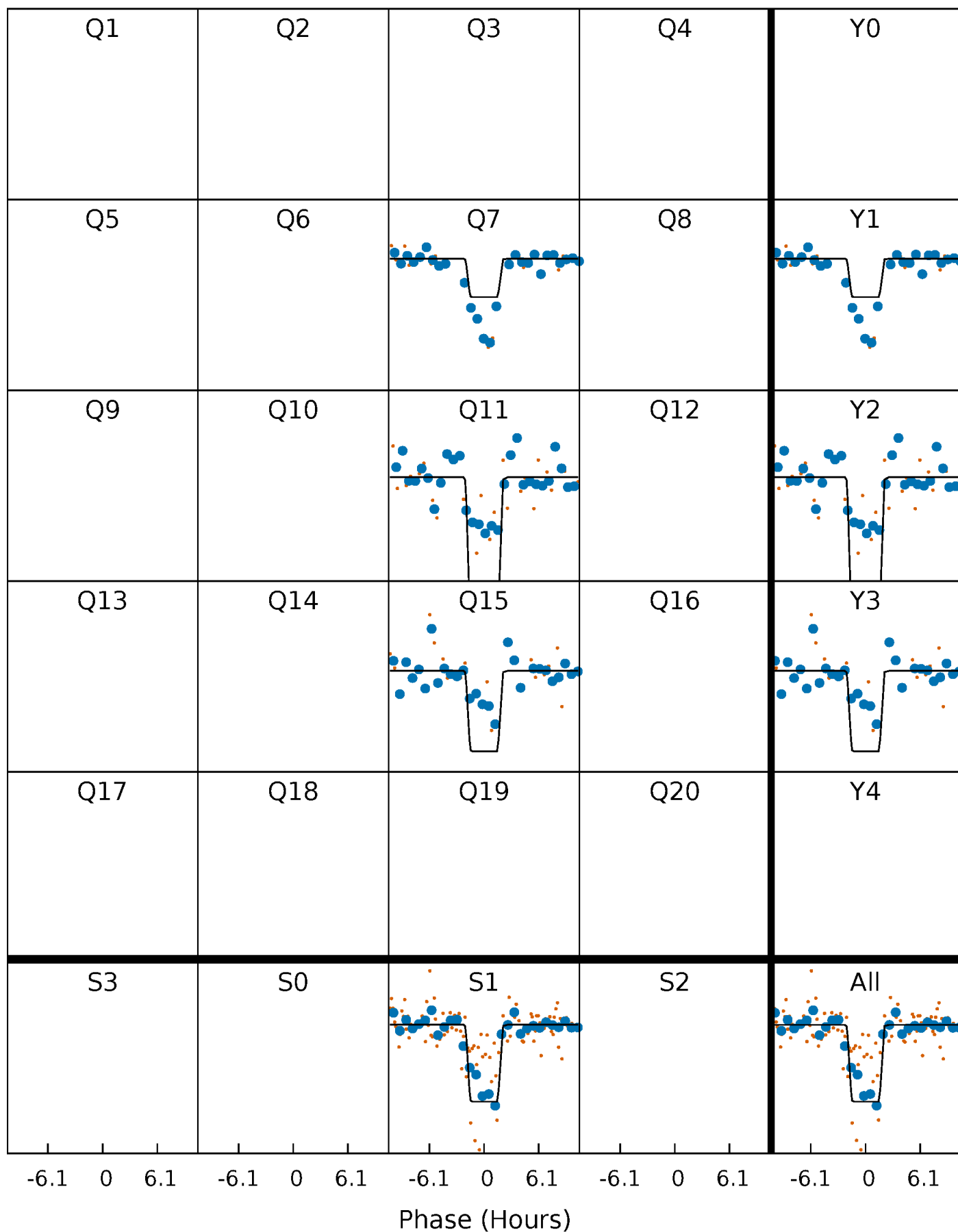
DV Quarter-Phased Transit Curves

TCE 003935499-04 $P=373.692333$ Days $T_0=259.008450$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

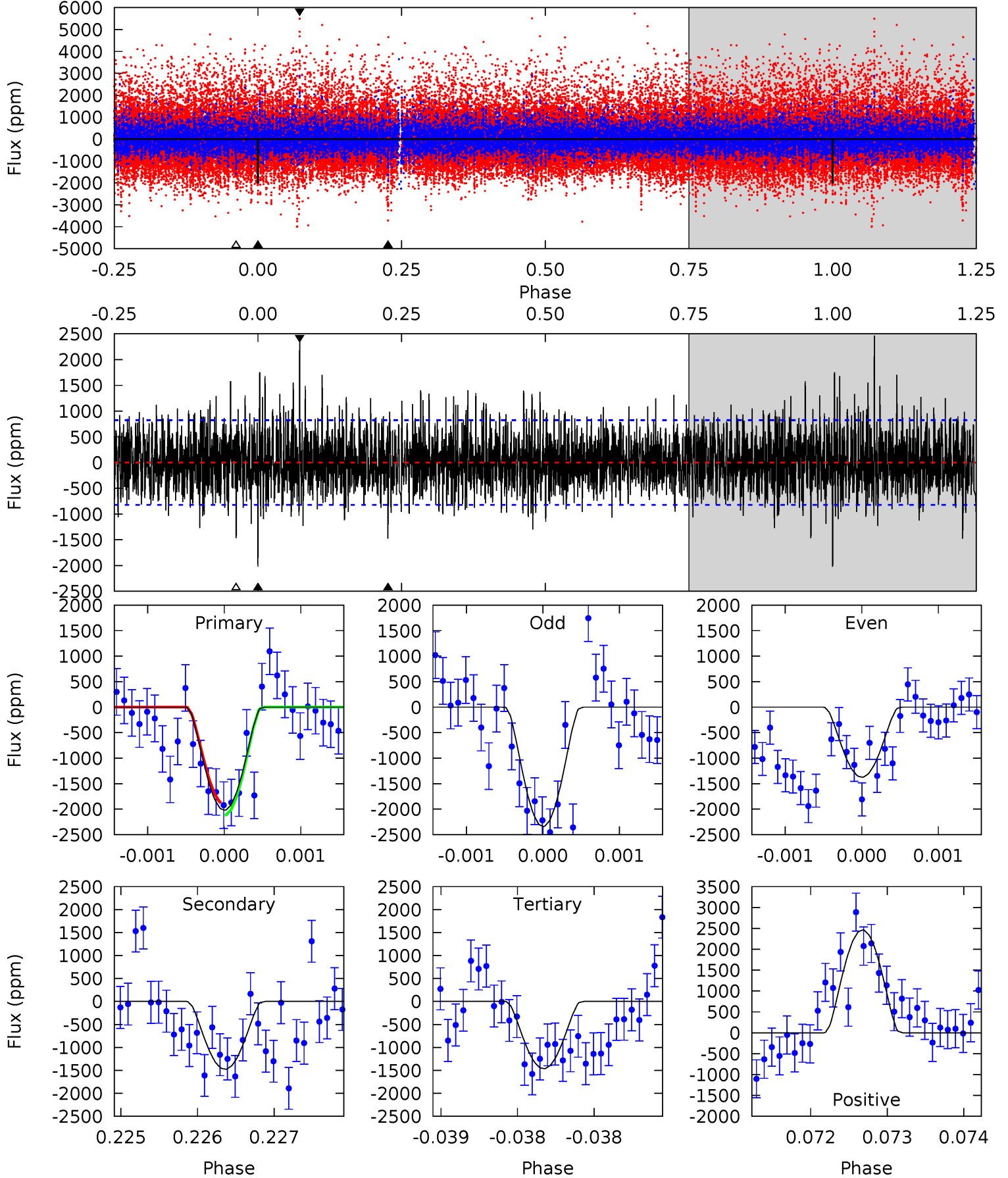
TCE 003935499-04 $P=373.723001$ Days $T_0=258.986452$ (BKJD)



DV Model-Shift Uniqueness Test

003935499-04, P = 373.692333 Days, E = 259.008450 Days

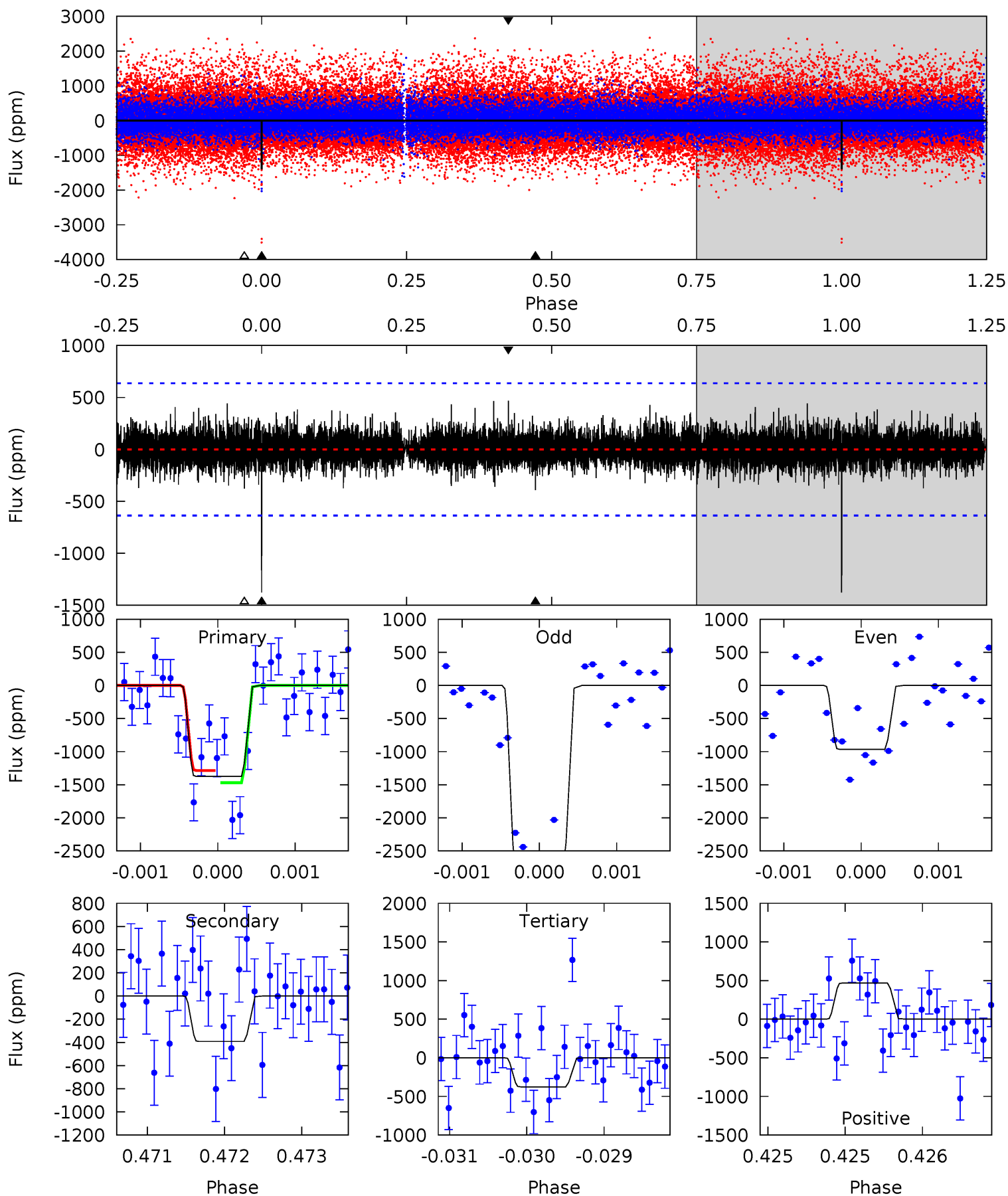
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	9.89	9.80	16.5	5.50	3.37	2.84	3.72	-2.96	0.09	-6.60	2.71	0.94	0.55	0.81



Alt Model-Shift Uniqueness Test

003935499-04, P = 373.723001 Days, E = 258.986452 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	3.43	3.28	4.09	5.56	3.47	0.82	8.75	7.94	0.15	-0.66	8.75	2.01	0.25	0



Stellar Parameters For KIC 003935499

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3836^{+69}_{-77}	$4.706^{+0.036}_{-0.018}$	$0.000^{+0.100}_{-0.100}$	$0.542^{+0.024}_{-0.032}$	$0.545^{+0.031}_{-0.028}$	$4.824^{+0.777}_{-0.372}$
	+2%/-2%	+1%/-0%	+inf%/-inf%	+4%/-6%	+6%/-5%	+16%/-8%
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 003935499-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1476 ± 149	$13.37^{+12.83}_{-9.71}$	190^{+4}_{-4}	2345^{+950}_{-329}	3264^{+37533}_{-2425}
Alt.	-392 ± 114	$11.94^{+11.38}_{-8.38}$	191^{+4}_{-5}	2077^{+675}_{-288}	1049^{+10913}_{-803}

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 $A_{obs} \gg 1.0$

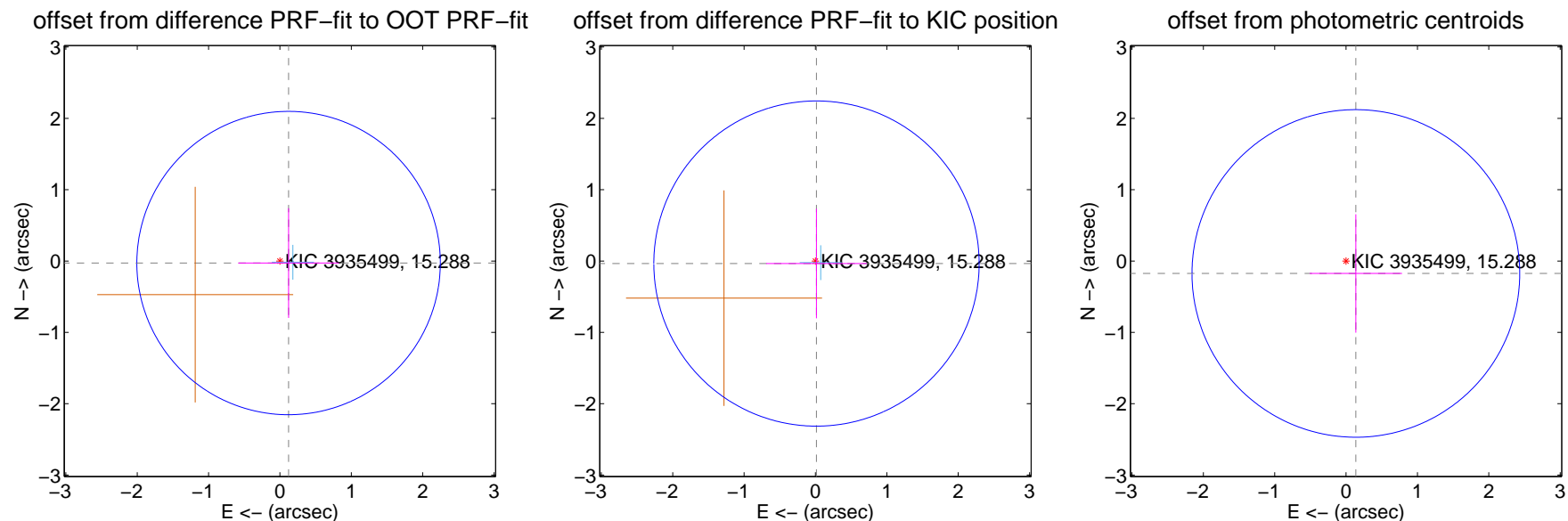
DV Centroid Data

Supplemental centroid analysis for 003935499-04. Kepler magnitude: 15.29. Transit SNR 6.10

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.124 ± 0.709	0.17	-0.121 ± 0.705	-0.028 ± 0.768
PRF-fit source offset from KIC position	0.038 ± 0.760	0.05	-0.014 ± 0.705	-0.035 ± 0.768
photometric centroid source offset	0.22 ± 0.77	0.29	-0.14 ± 0.65	-0.17 ± 0.83

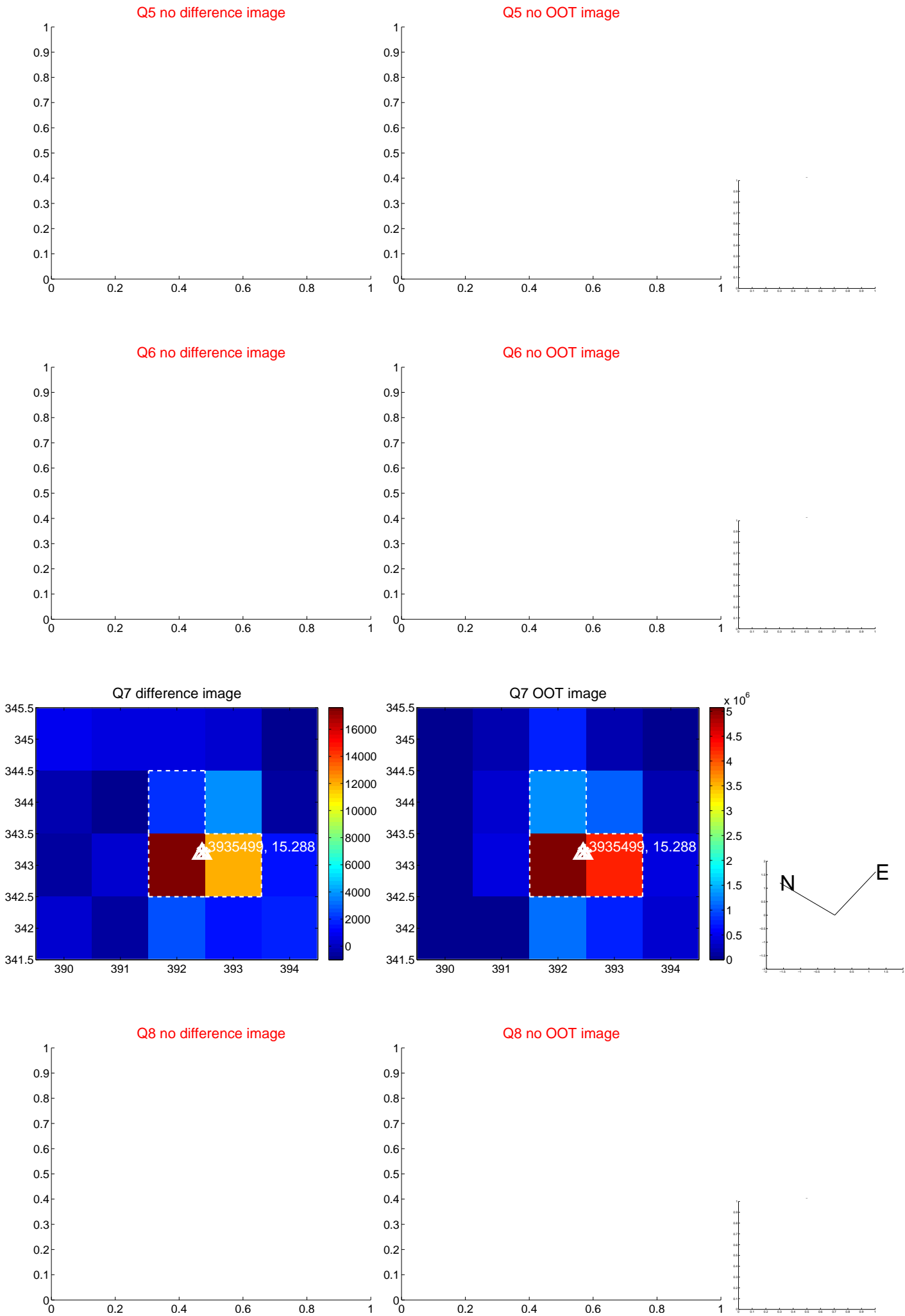


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

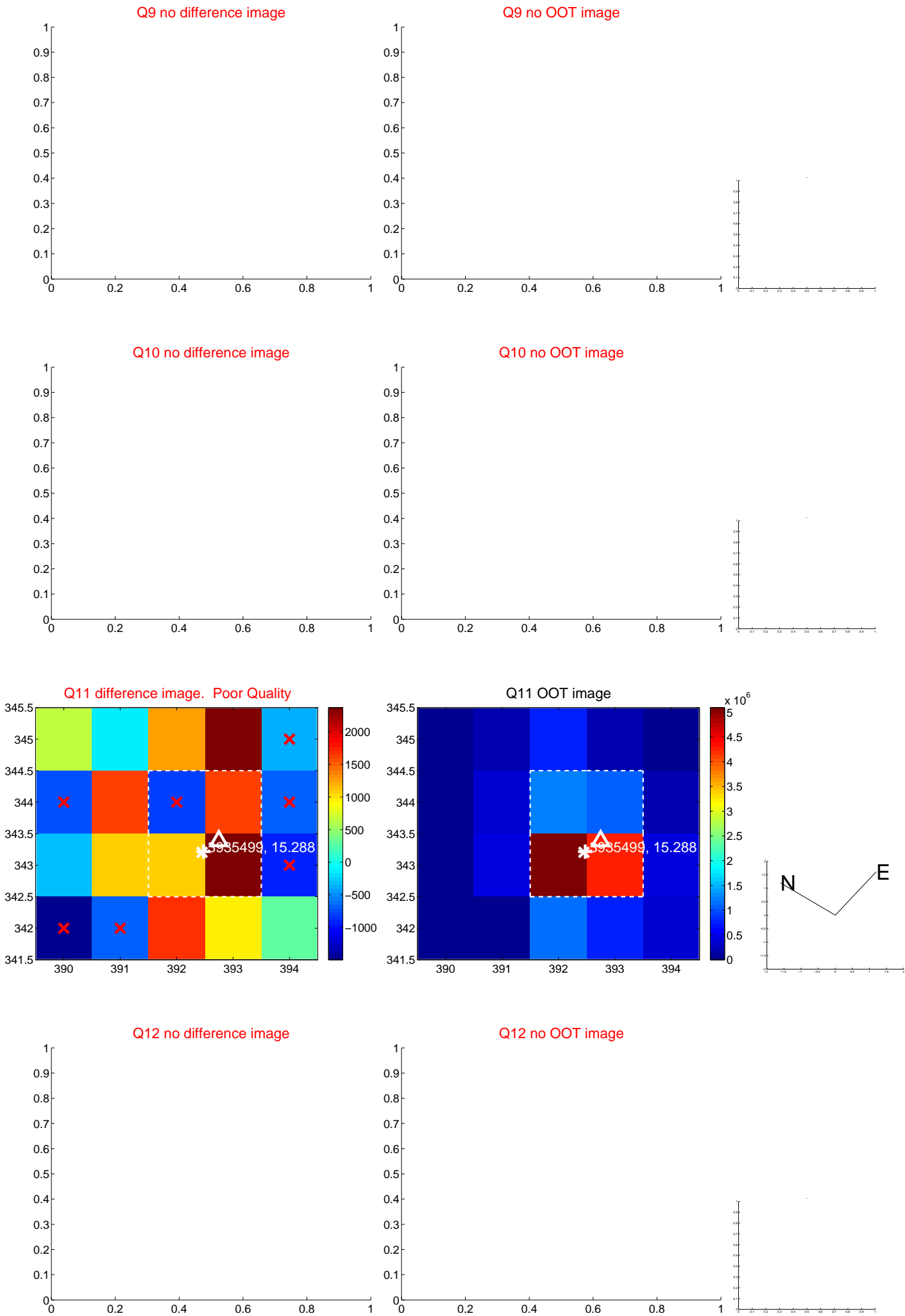
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



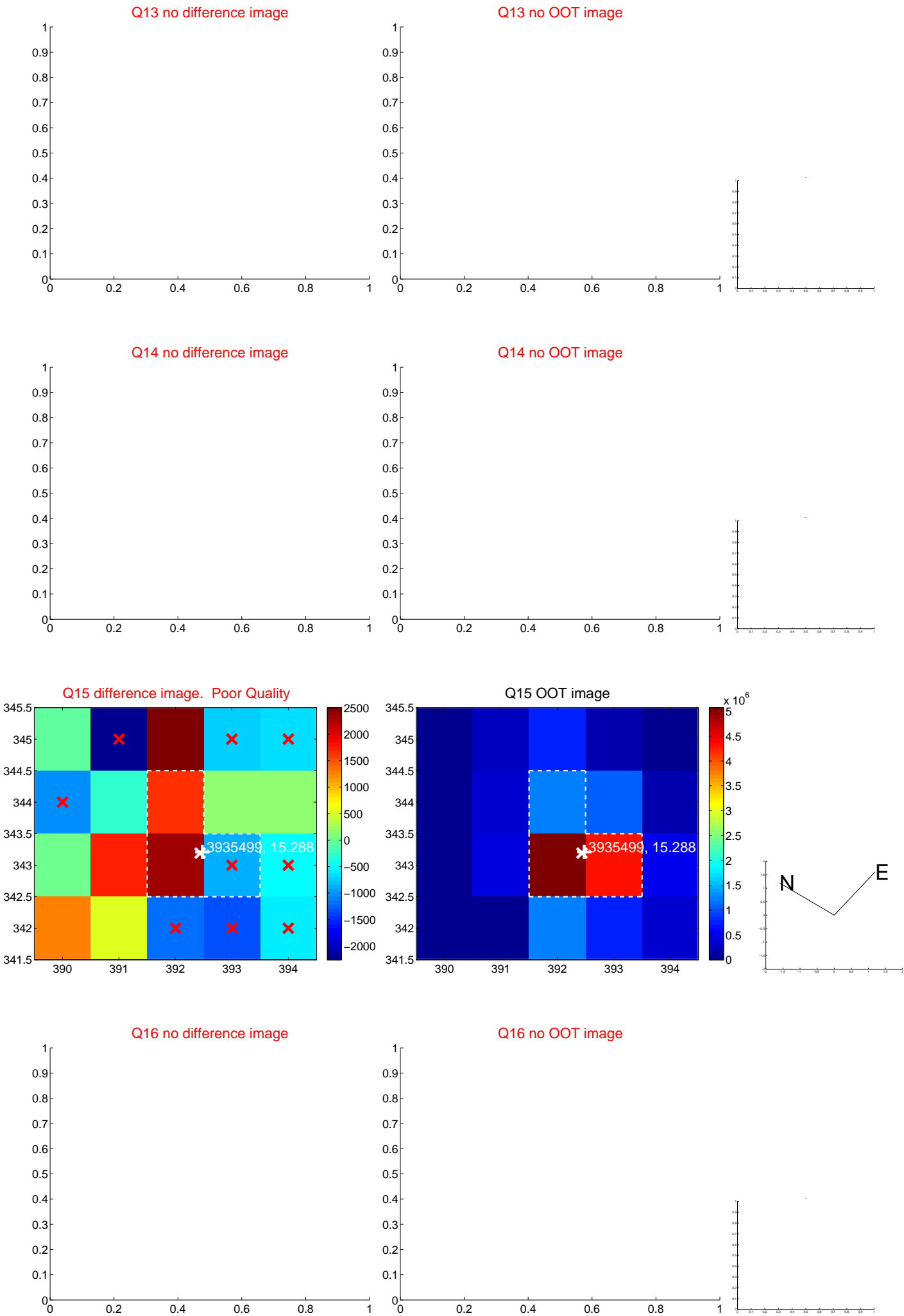
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



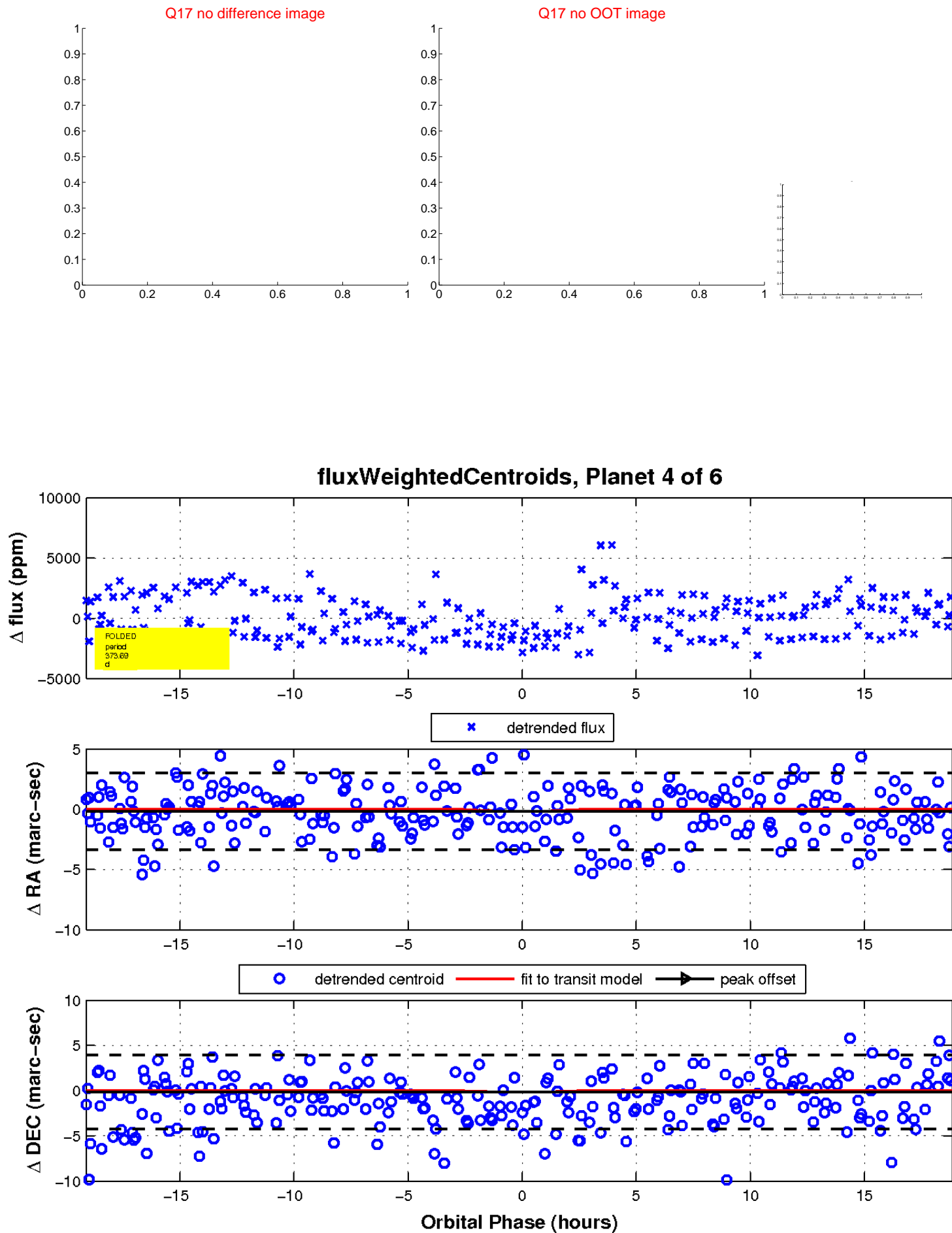
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

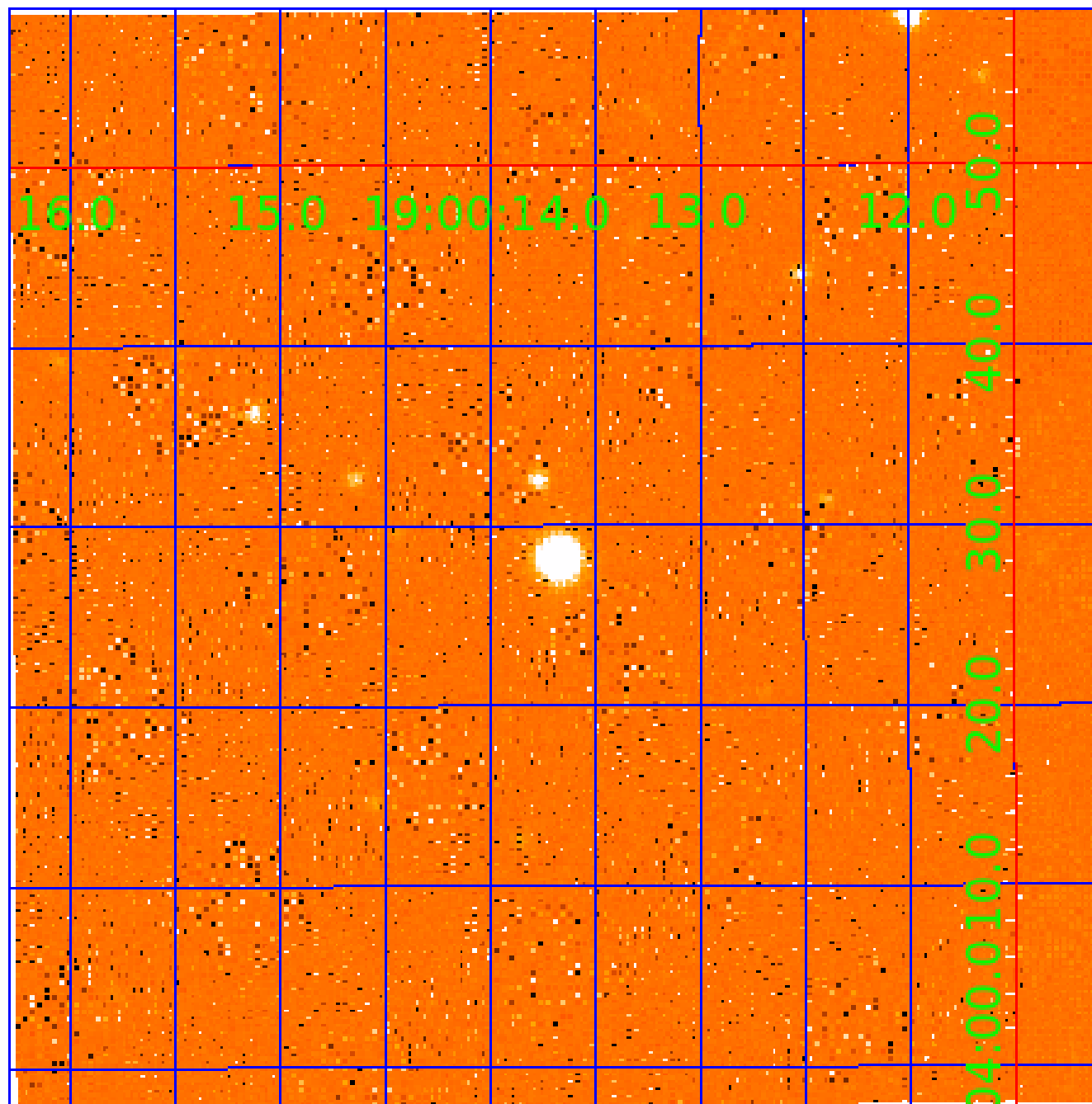


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003935499

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})
003935499-01	OBS	No	633.070678	192.526999	2986.6	6.188	15.0	9.0	0.54	3836	5.69	0.04
003935499-03	OBS	No	605.452153	245.237552	2840.0	8.747	9.4	7.8	0.54	3836	3.69	0.04
003935499-04	OBS	No	373.692333	259.008450	2246.8	6.381	11.5	6.1	0.54	3836	4.78	0.08
003935499-05	OBS	No	439.034846	464.589865	1921.2	2.987	11.3	6.5	0.54	3836	2.47	0.07
003935499-06	OBS	No	314.635957	422.045567	982.5	9.000	11.3	-1.0	0.54	3836	1.67	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003935499-01	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—CENT_FEW_DIFFS
003935499-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003935499-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_NOFITS

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

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

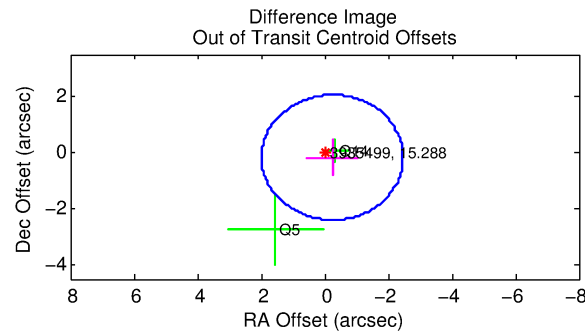
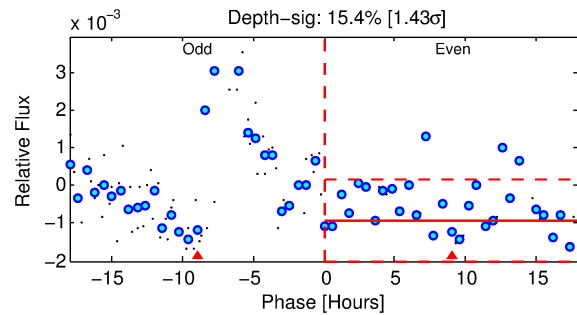
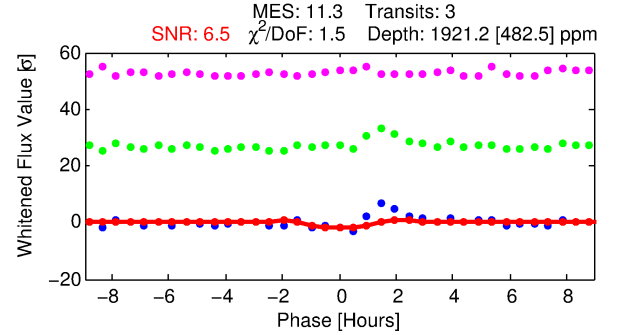
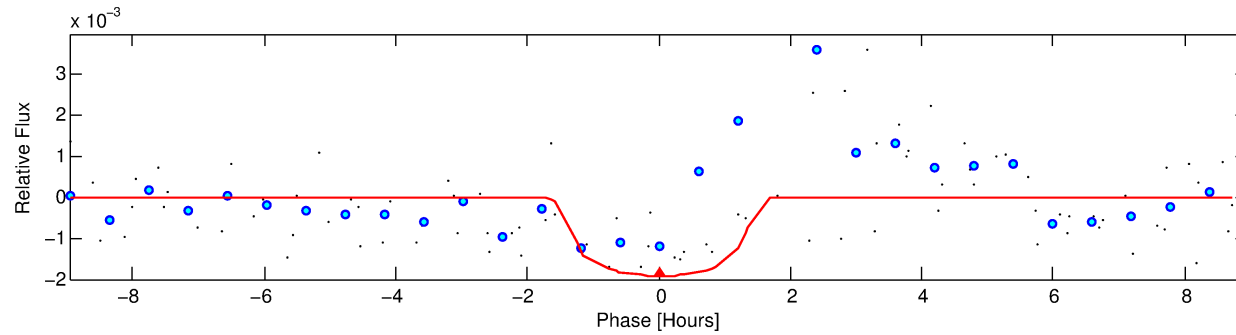
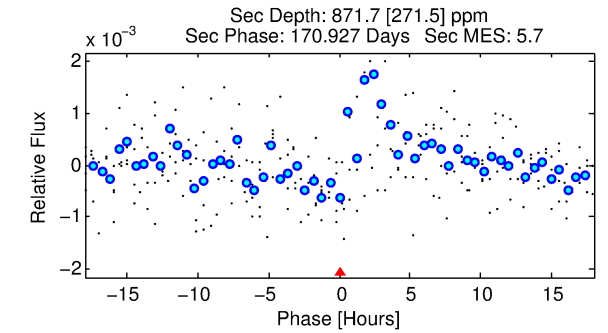
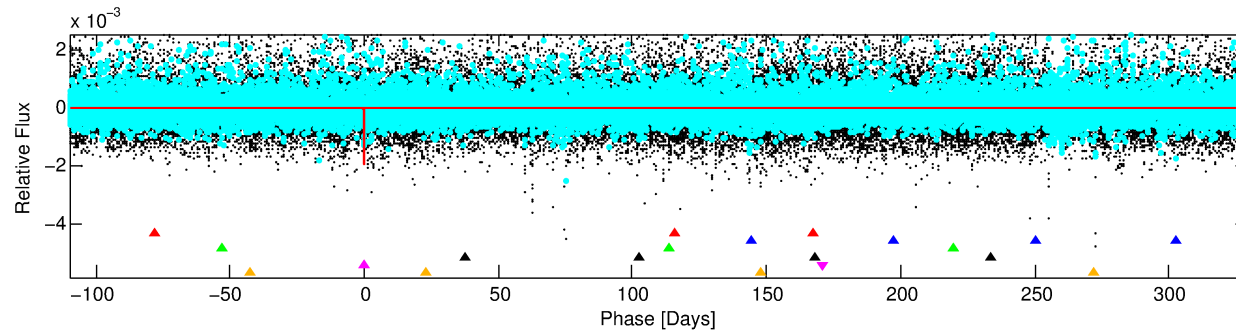
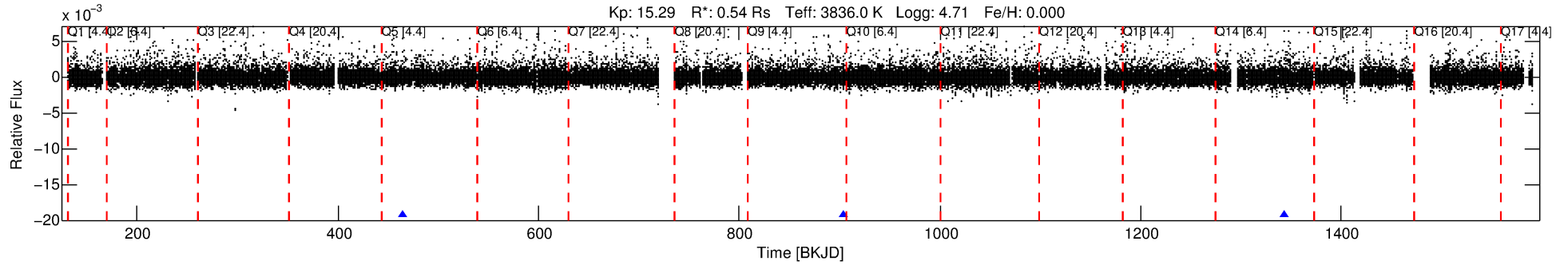
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003935499-05

No Significant Match Found

DV One-Page Summary

KIC: 3935499 Candidate: 5 of 6 Period: 439.035 d



DV Fit Results:

Period = 439.03485 [0.00823] d
Epoch = 464.5899 [0.0092] BKJD
Rp/R* = 0.0418 [0.0679]
a/R* = 952.27 [6064.50]
b = 0.61 [6.74]
Seff = 0.07 [0.01]
Teq = 130 [3] K
Rp = 2.47 [4.02] Re
a = 0.9233 [0.0444] AU
Ag = 66974.37 [218905.88] [0.31 σ]
Teffp = 3225 [2635] K [1.17 σ]

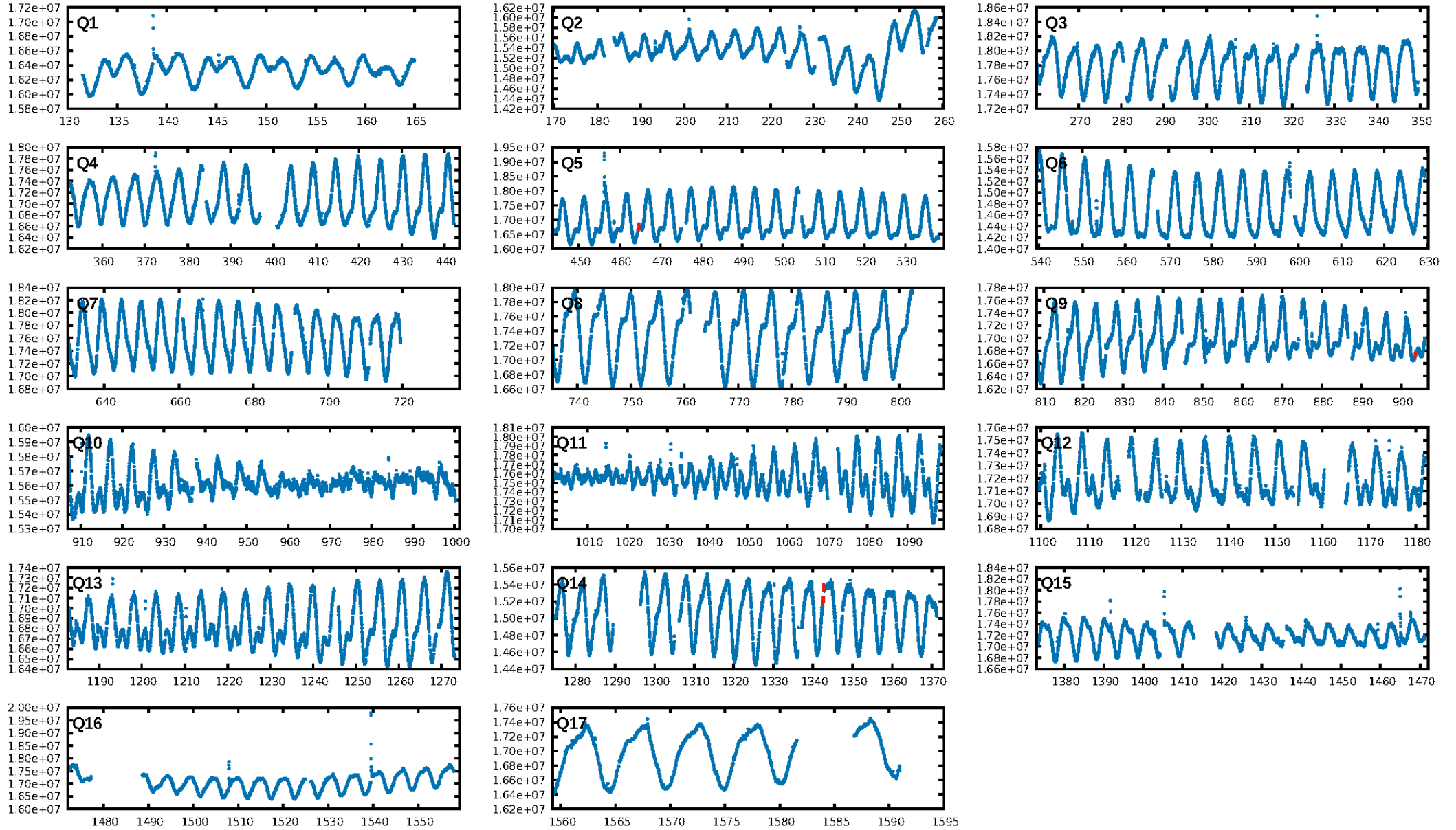
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [208.89 σ]
LongPeriod-sig: 100.0% [432.11 σ]
ModelChiSquare2-sig: 13.0%
ModelChiSquareGof-sig: 93.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8704
Centroid-sig: 25.0%
Centroid-so: 0.969 arcsec [0.88 σ]
OotOffset-rm: 0.297 arcsec [0.40 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 0.426 arcsec [0.39 σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

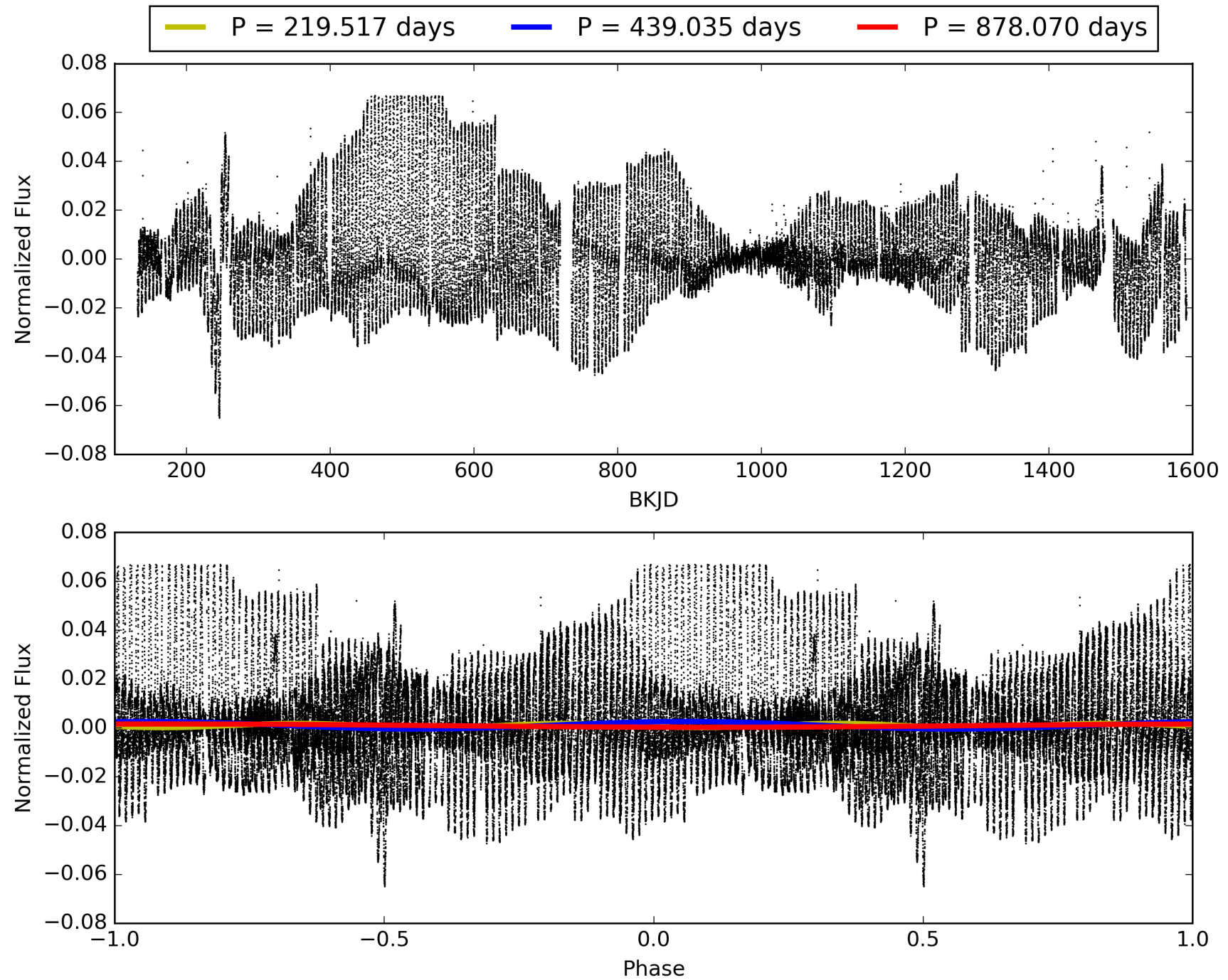
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:41:11 Z

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

TCE 003935499-05, PDC Light Curves

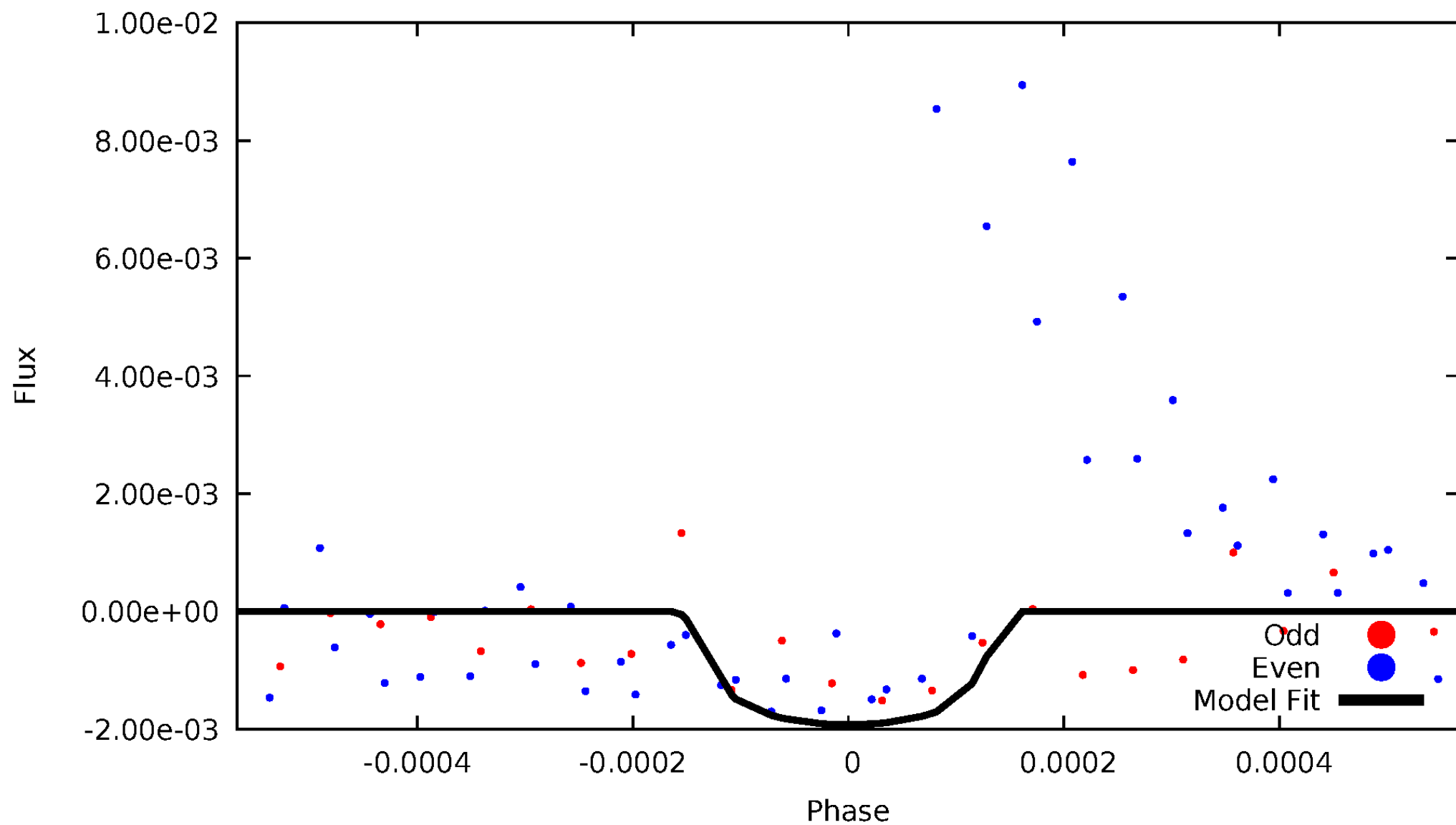


TCE 003935499-05



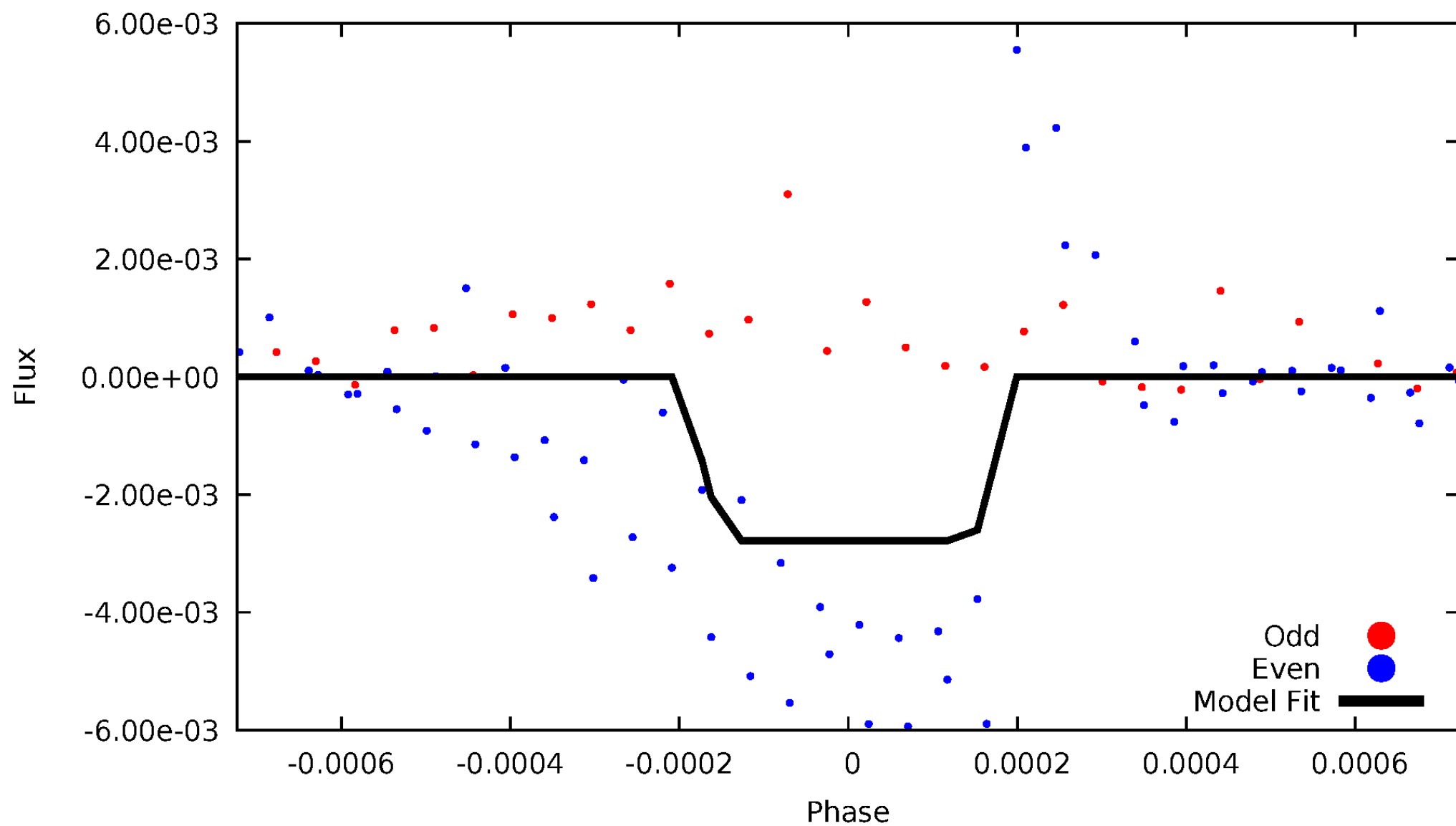
DV Odd/Even

TCE 003935499-05



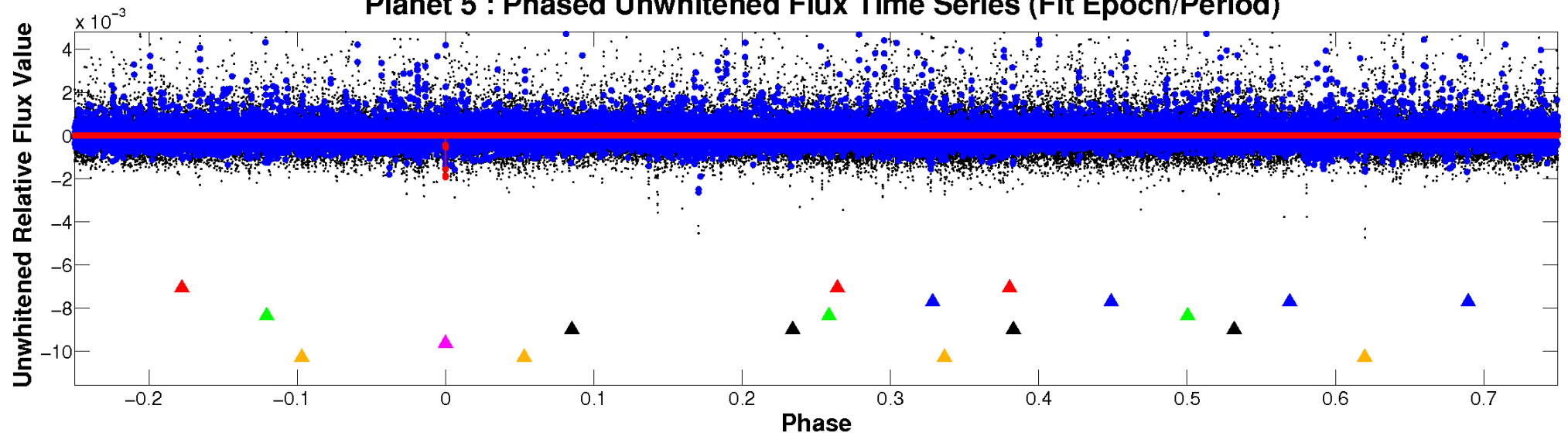
ALT Odd/Even

TCE 003935499-05

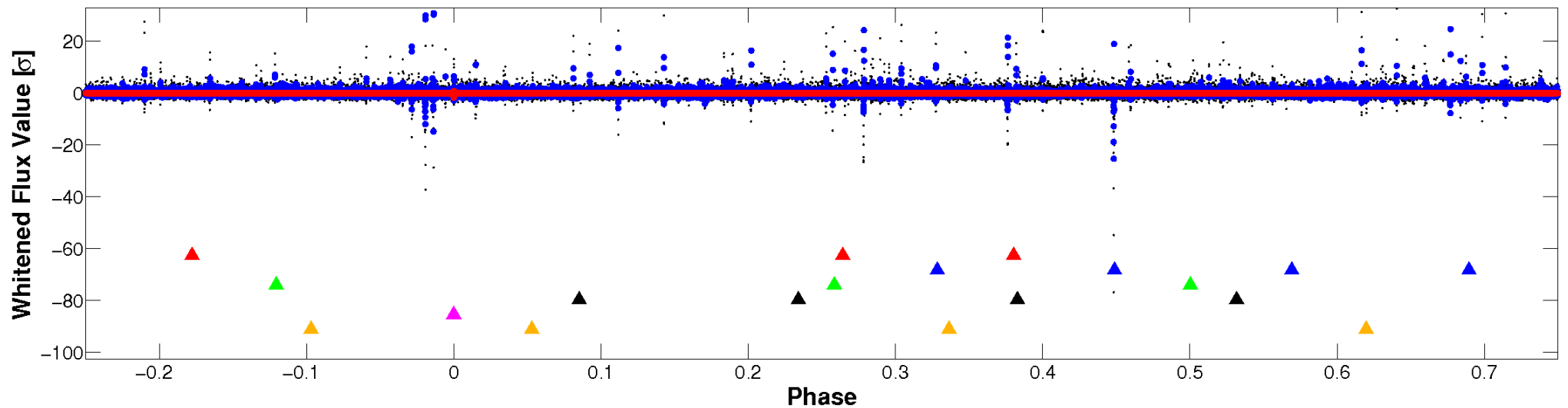


Non-Whitened Vs. Whitened Light Curve

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

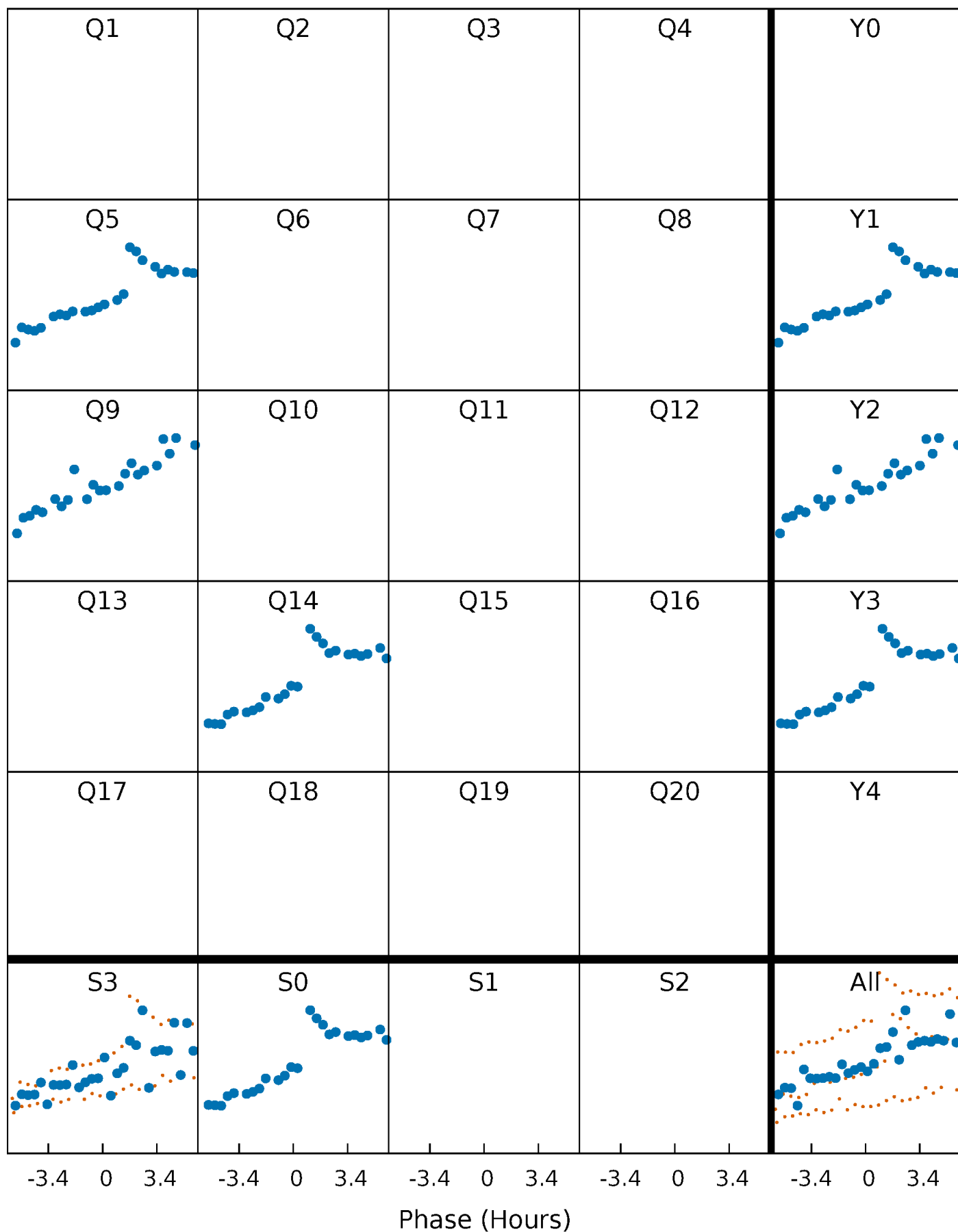


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



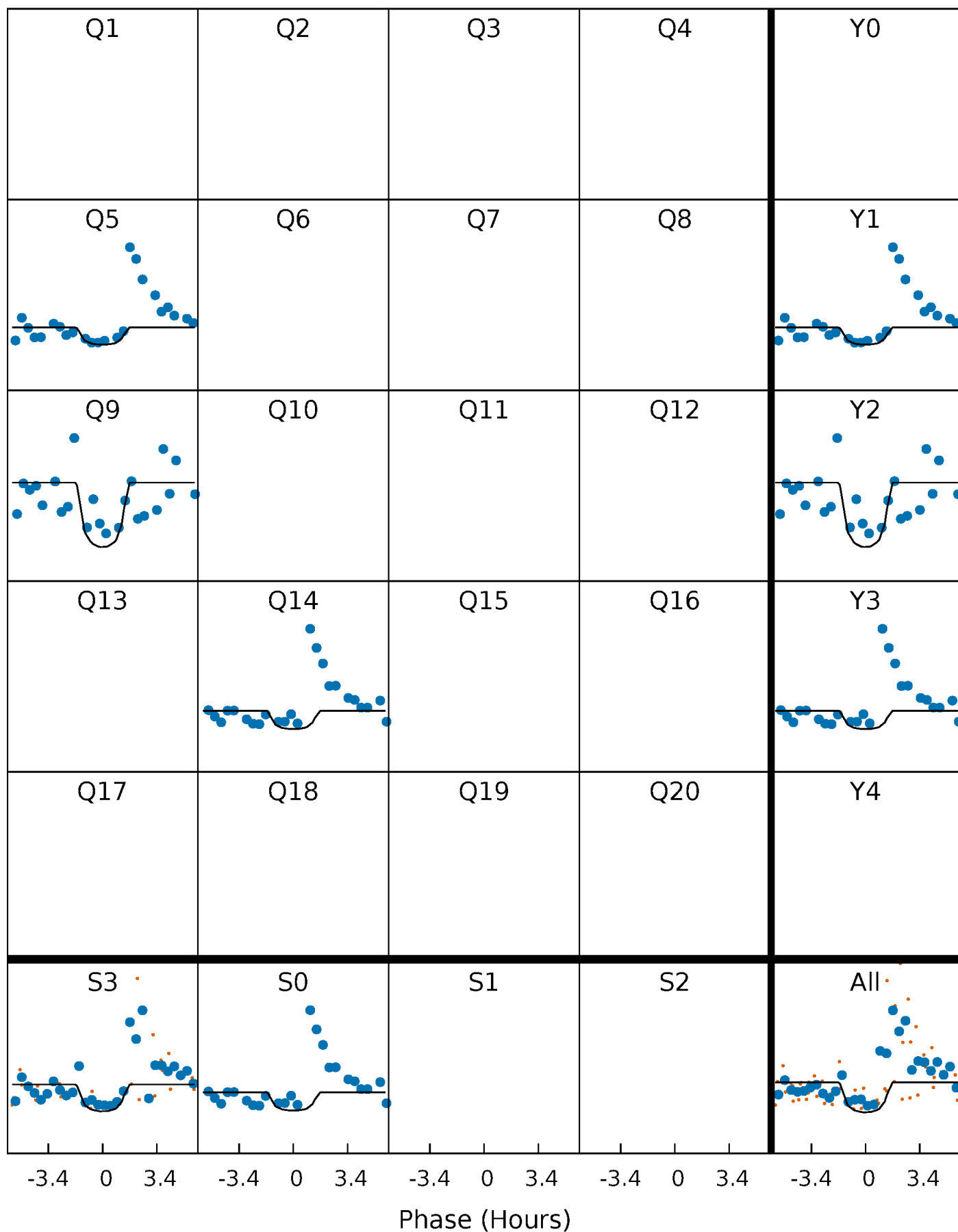
PDC Quarter-Phased Transit Curves

TCE 003935499-05 $P=439.034846$ Days $T_0=464.589865$ (BKJD)



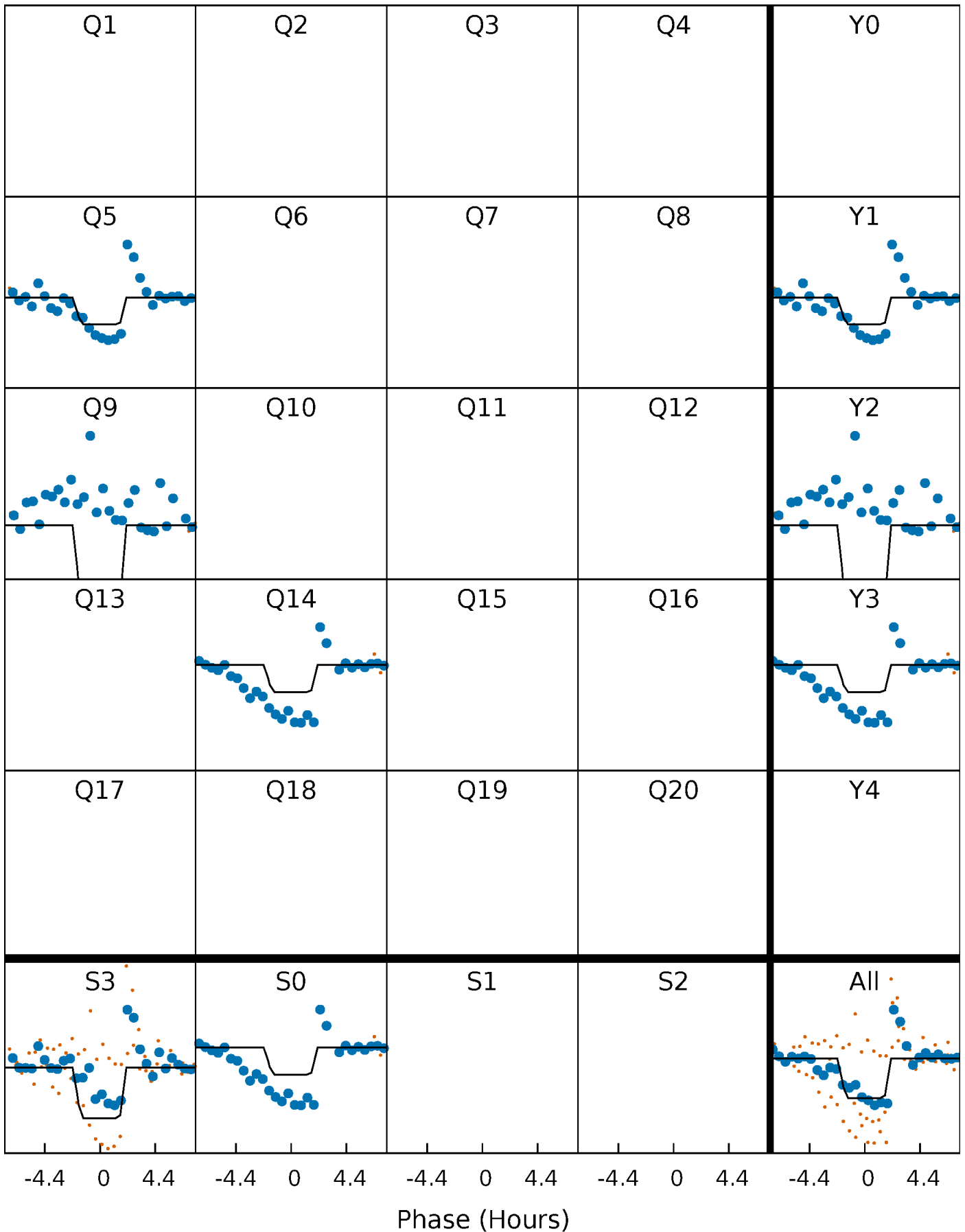
DV Quarter-Phased Transit Curves

TCE 003935499-05 $P=439.034846$ Days $T_0=464.589865$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

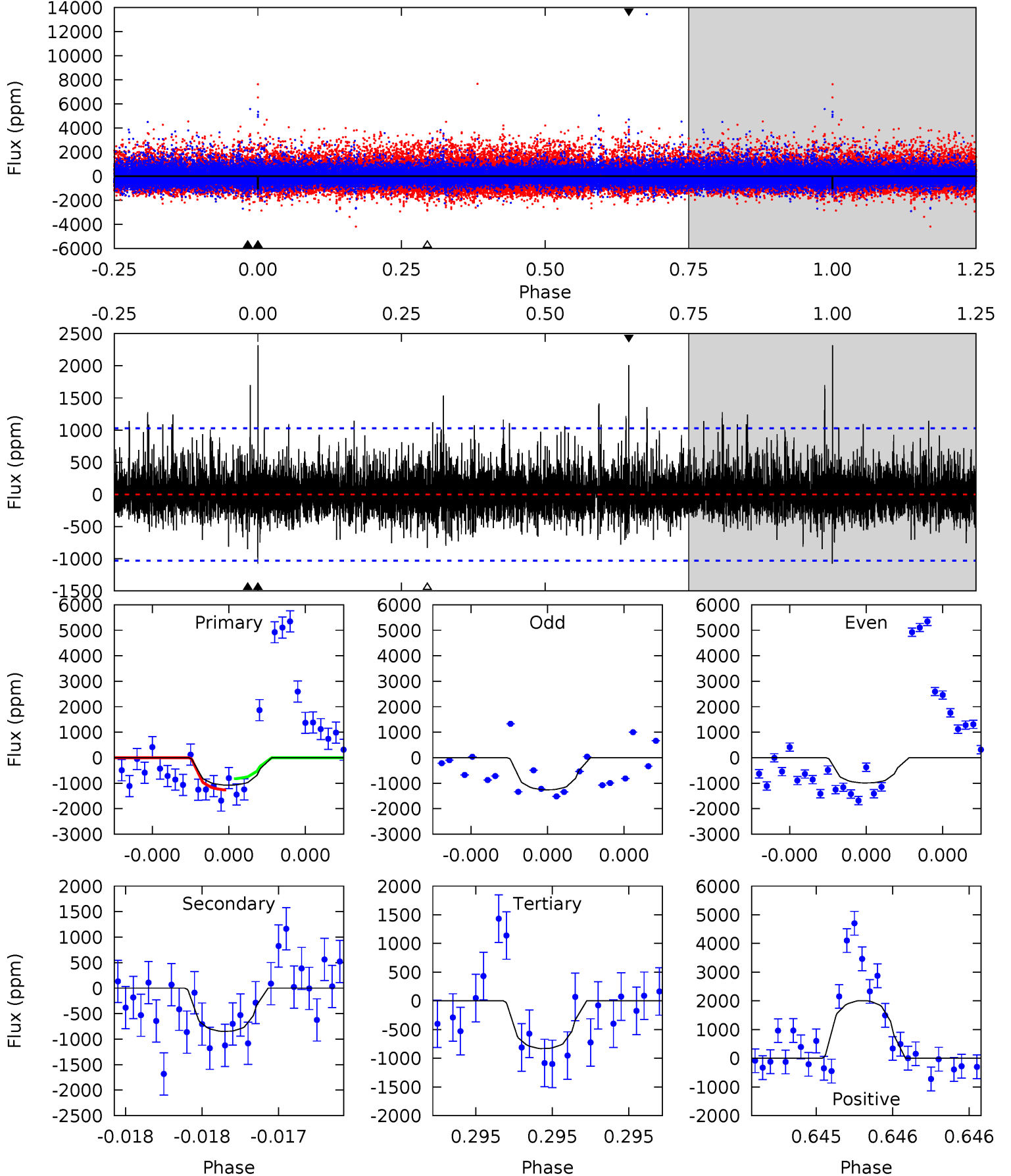
TCE 003935499-05 $P=439.015037$ Days $T_0=464.573153$ (BKJD)



DV Model-Shift Uniqueness Test

003935499-05, $P = 439.034846$ Days, $E = 25.555019$ Days

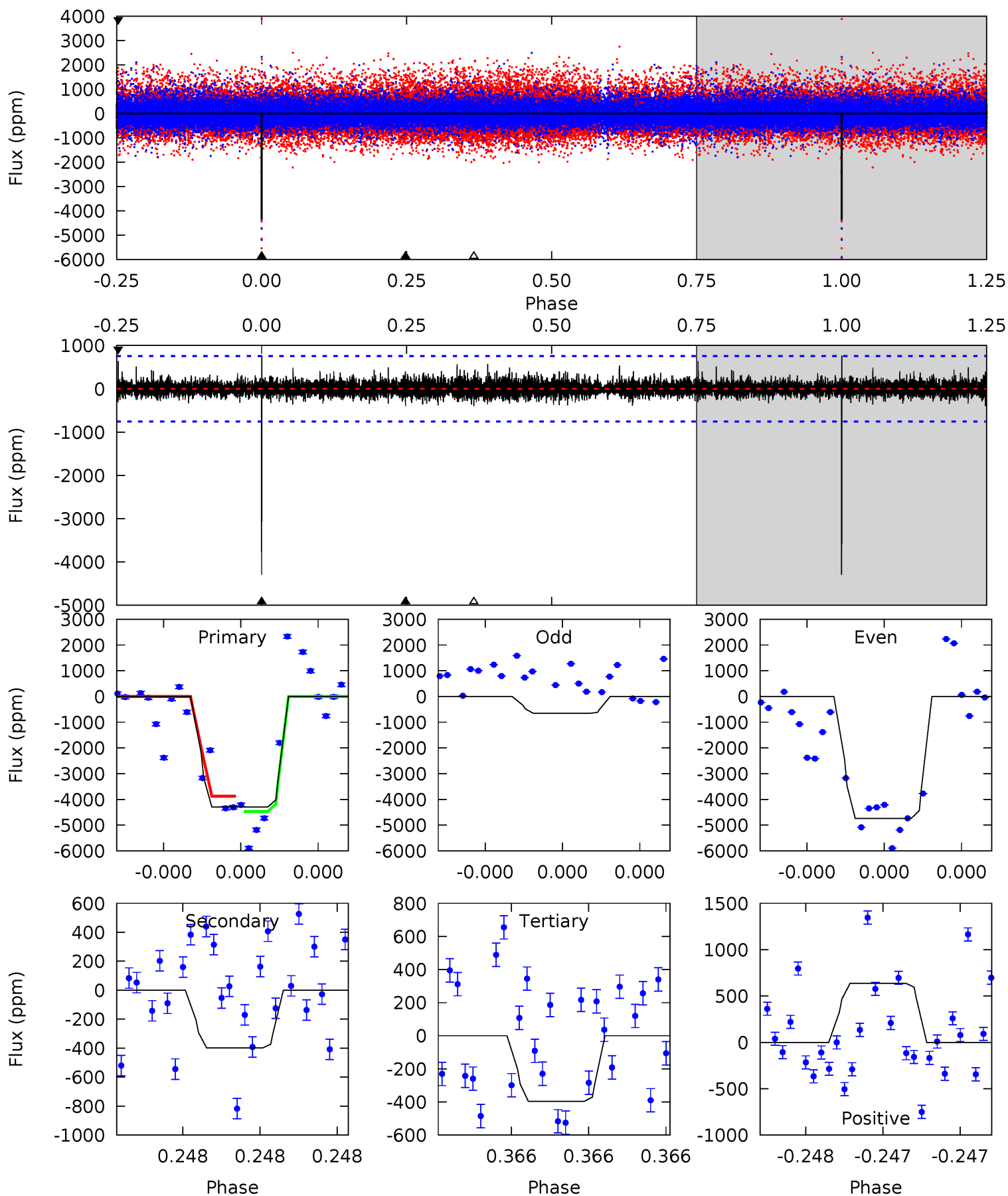
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.91	4.66	4.57	11.0	5.65	3.61	1.38	1.35	-5.13	0.10	-6.37	0.56	0.35	0.68	1.21



Alt Model-Shift Uniqueness Test

003935499-05, P = 439.015037 Days, E = 25.558116 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.1	2.98	2.96	4.76	5.64	3.59	0.76	29.2	27.4	0.02	-1.78	16.8	0.75	0.15	2.13



Stellar Parameters For KIC 003935499

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3836^{+69}_{-77}	$4.706^{+0.036}_{-0.018}$	$0.000^{+0.100}_{-0.100}$	$0.542^{+0.024}_{-0.032}$	$0.545^{+0.031}_{-0.028}$	$4.824^{+0.777}_{-0.372}$
	+2%/-2%	+1%/-0%	+inf%/-inf%	+4%/-6%	+6%/-5%	+16%/-8%
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 003935499-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-849 ± 182	$3.81^{+3.56}_{-2.40}$	180^{+4}_{-4}	2976^{+1168}_{-472}	$26553^{+183809}_{-19768}$
Alt.	-399 ± 134	$4.09^{+3.73}_{-2.70}$	180^{+4}_{-4}	2650^{+974}_{-406}	11136^{+86719}_{-8405}

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 $A_{obs} \gg 1.0$

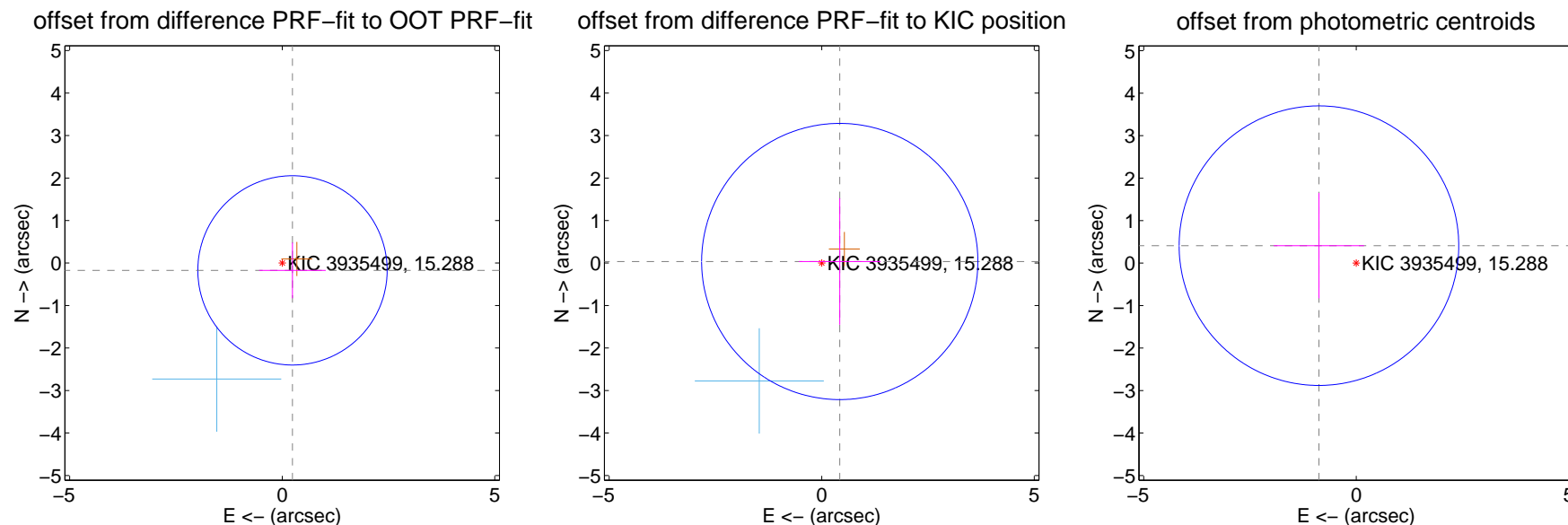
DV Centroid Data

Supplemental centroid analysis for 003935499-05. Kepler magnitude: 15.29. Transit SNR 6.46

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.297 ± 0.742	0.40	-0.242 ± 0.783	-0.173 ± 0.655
PRF-fit source offset from KIC position	0.426 ± 1.083	0.39	-0.424 ± 0.961	0.036 ± 1.488
photometric centroid source offset	0.97 ± 1.10	0.88	0.88 ± 1.06	0.41 ± 1.24

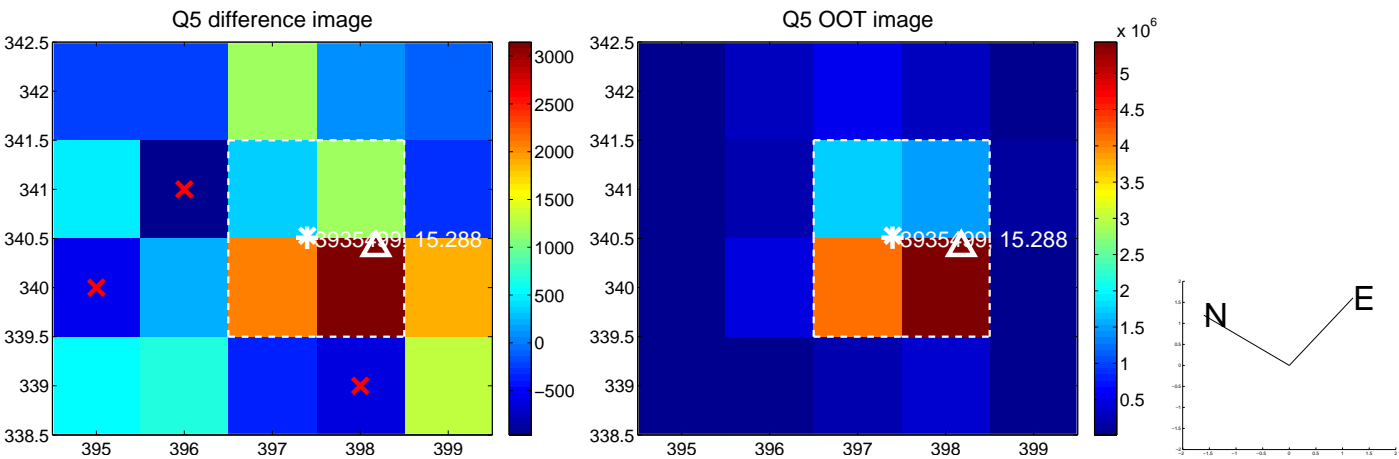


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

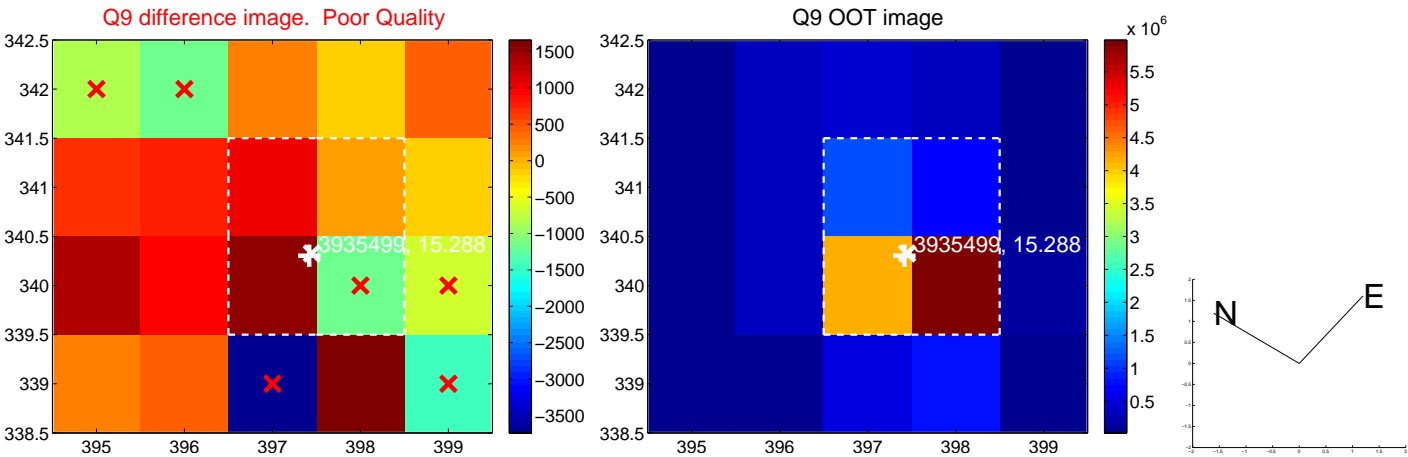
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



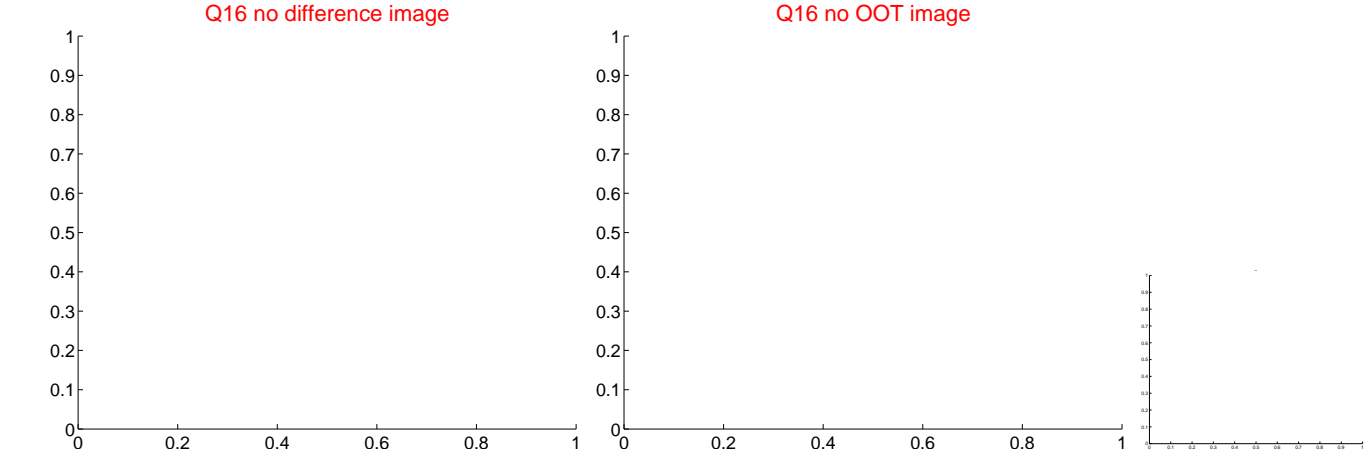
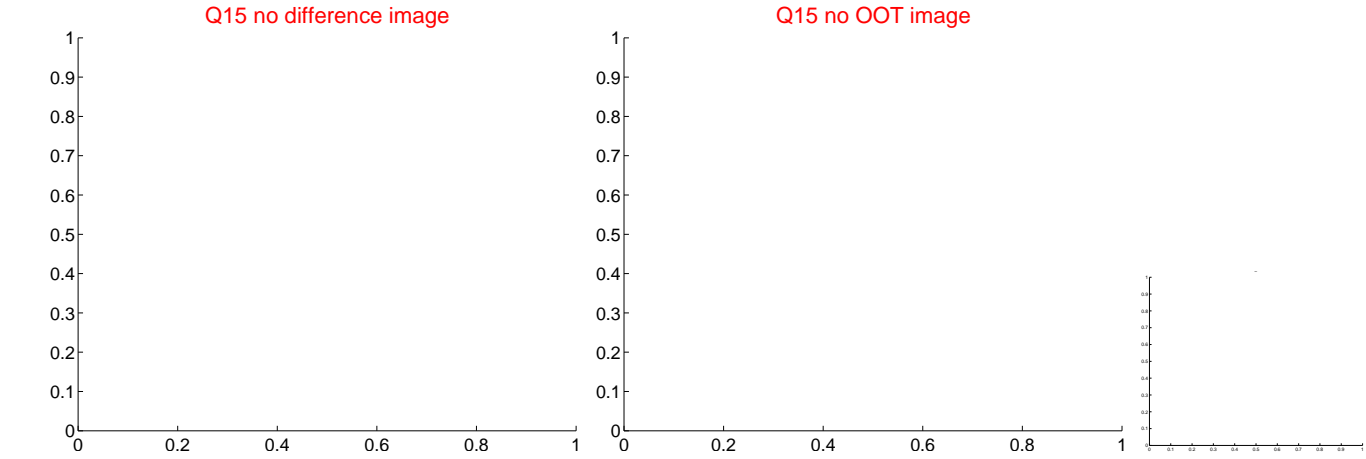
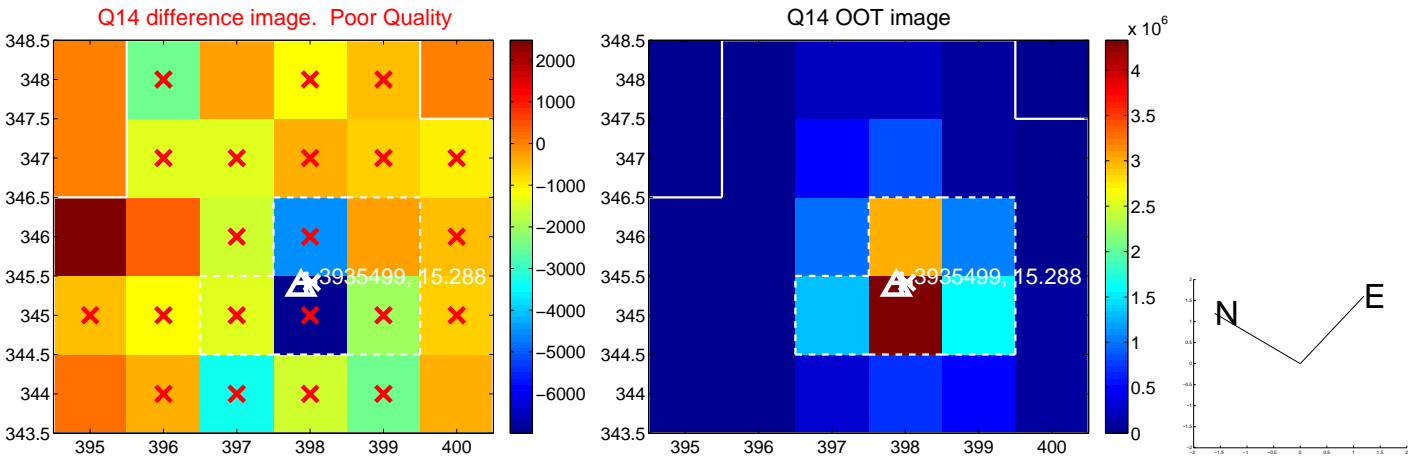
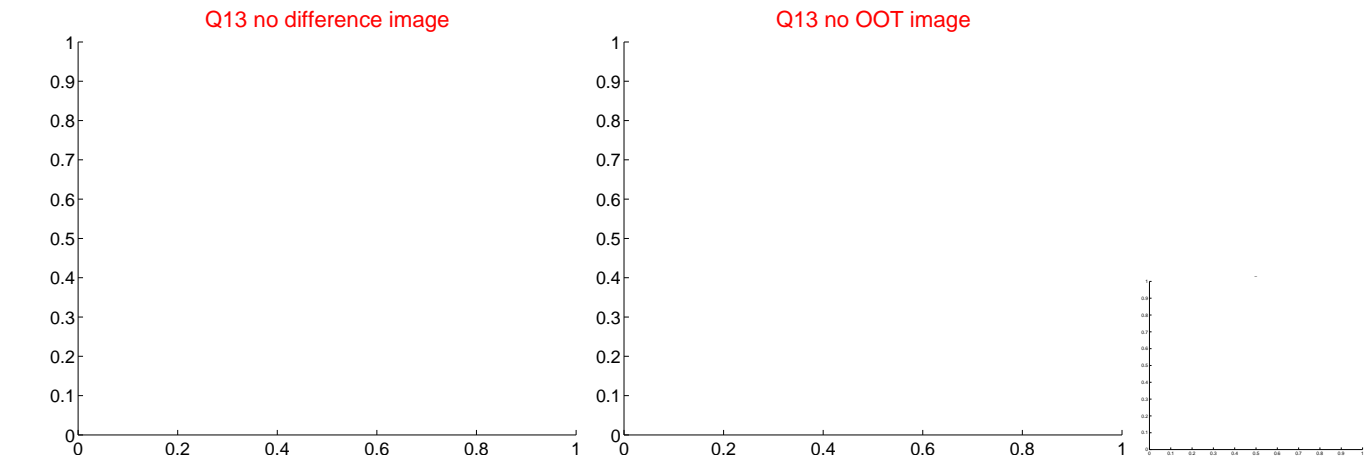
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



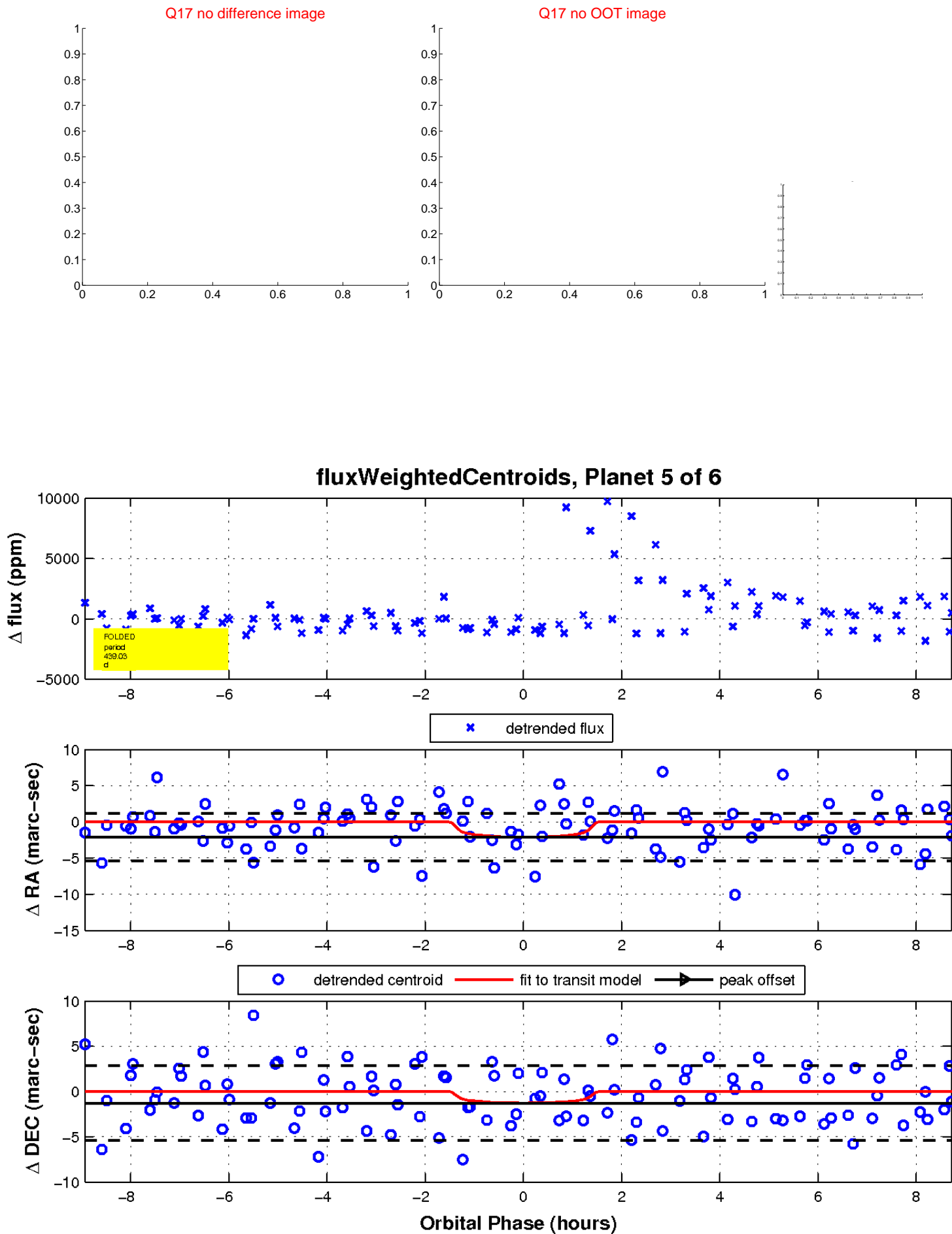
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

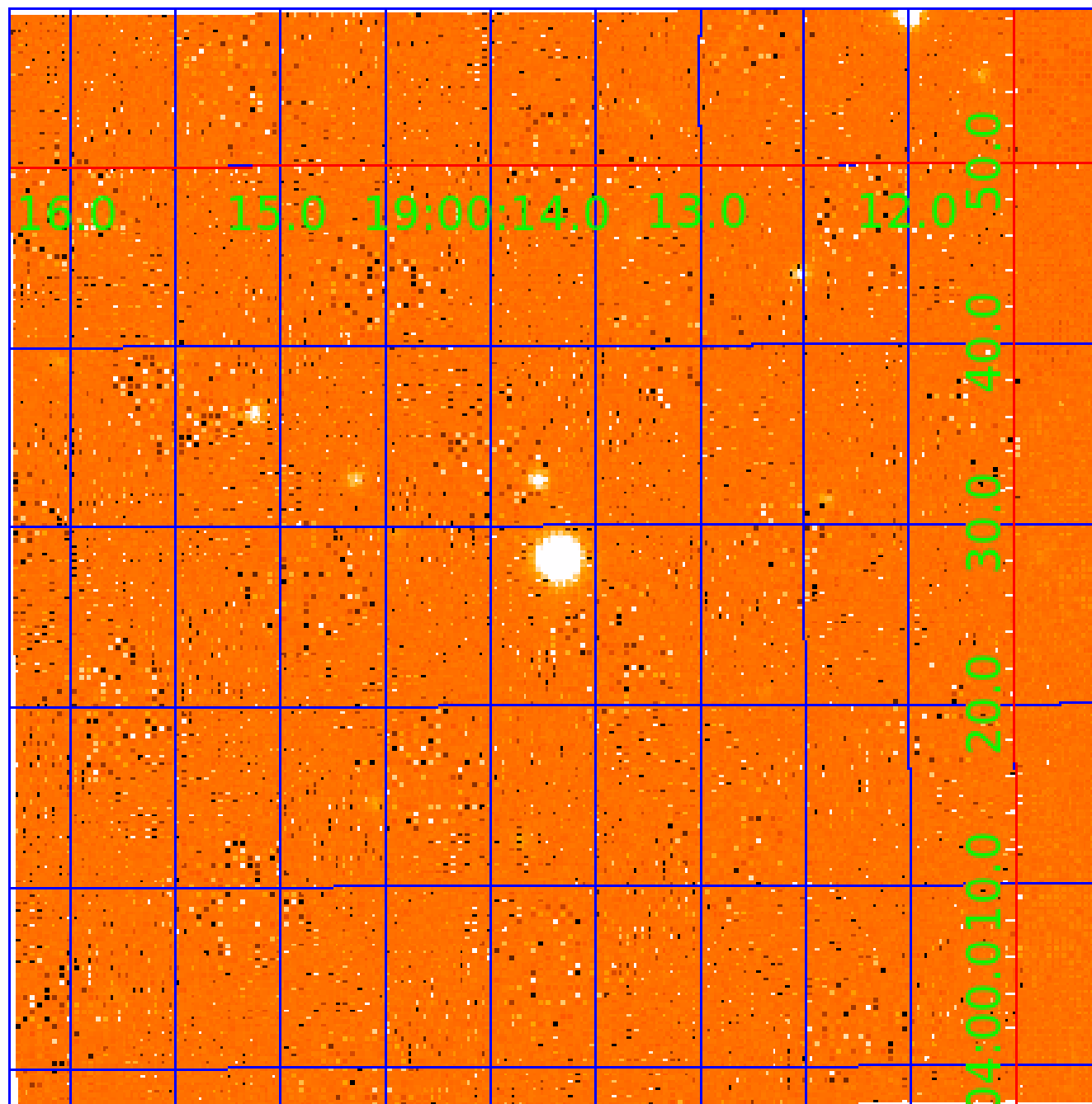


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003935499

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})
003935499-01	OBS	No	633.070678	192.526999	2986.6	6.188	15.0	9.0	0.54	3836	5.69	0.04
003935499-03	OBS	No	605.452153	245.237552	2840.0	8.747	9.4	7.8	0.54	3836	3.69	0.04
003935499-04	OBS	No	373.692333	259.008450	2246.8	6.381	11.5	6.1	0.54	3836	4.78	0.08
003935499-05	OBS	No	439.034846	464.589865	1921.2	2.987	11.3	6.5	0.54	3836	2.47	0.07
003935499-06	OBS	No	314.635957	422.045567	982.5	9.000	11.3	-1.0	0.54	3836	1.67	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003935499-01	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—CENT_FEW_DIFFS
003935499-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003935499-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003935499-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—CENT_NOFITS

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

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

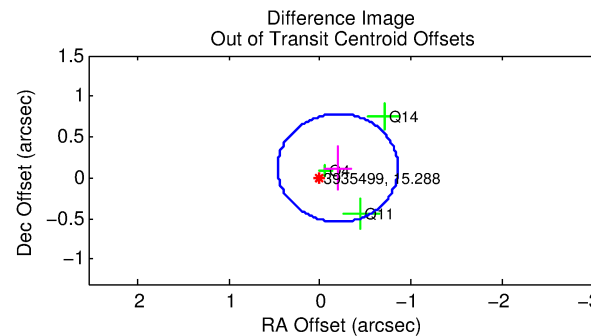
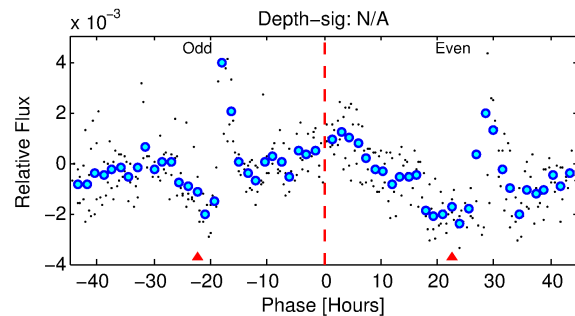
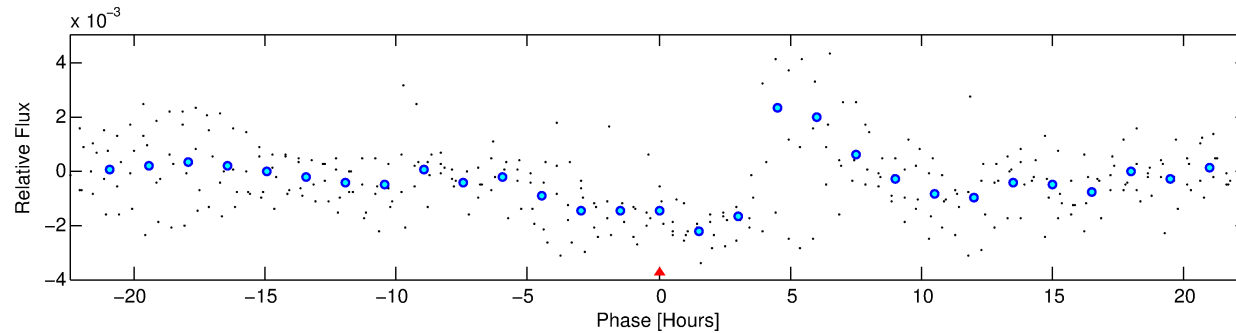
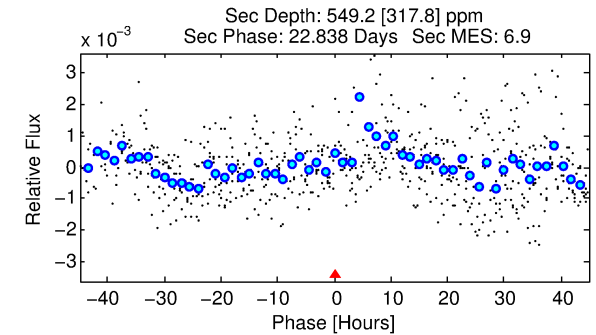
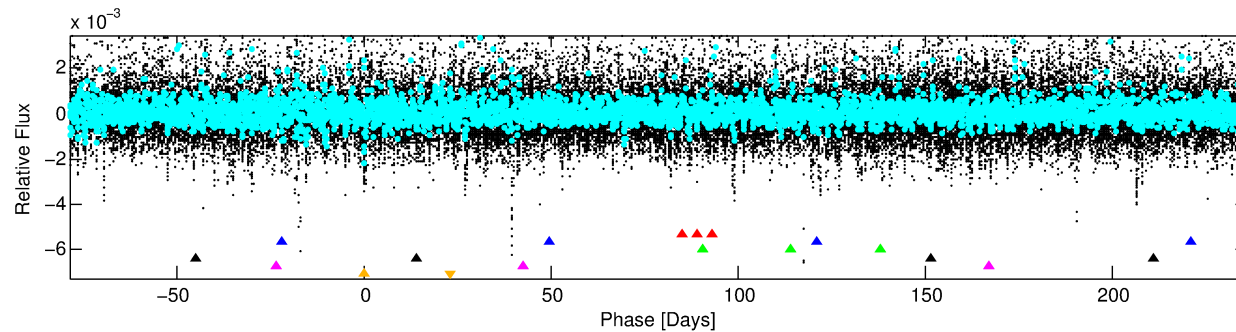
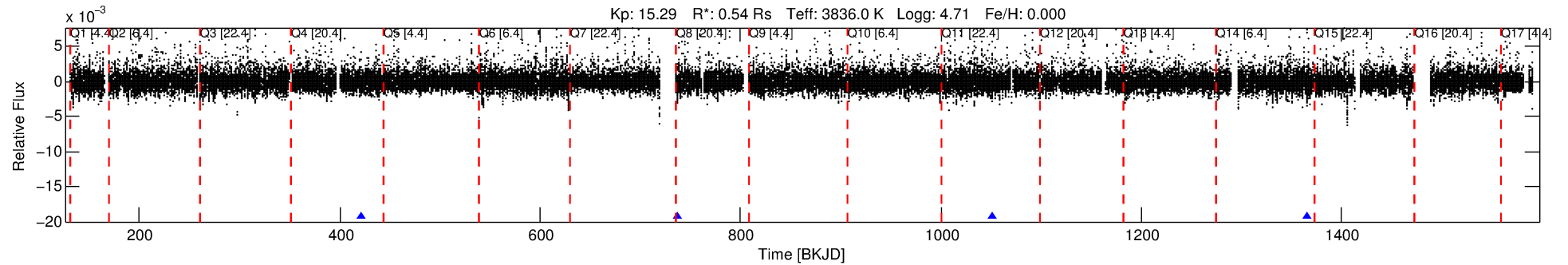
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003935499-06

No Significant Match Found

DV One-Page Summary

KIC: 3935499 Candidate: 6 of 6 Period: 314.636 d



TPS TCE Results:

Period = 314.63596 d
Epoch = 422.0456 BKJD

DV fit results are unavailable

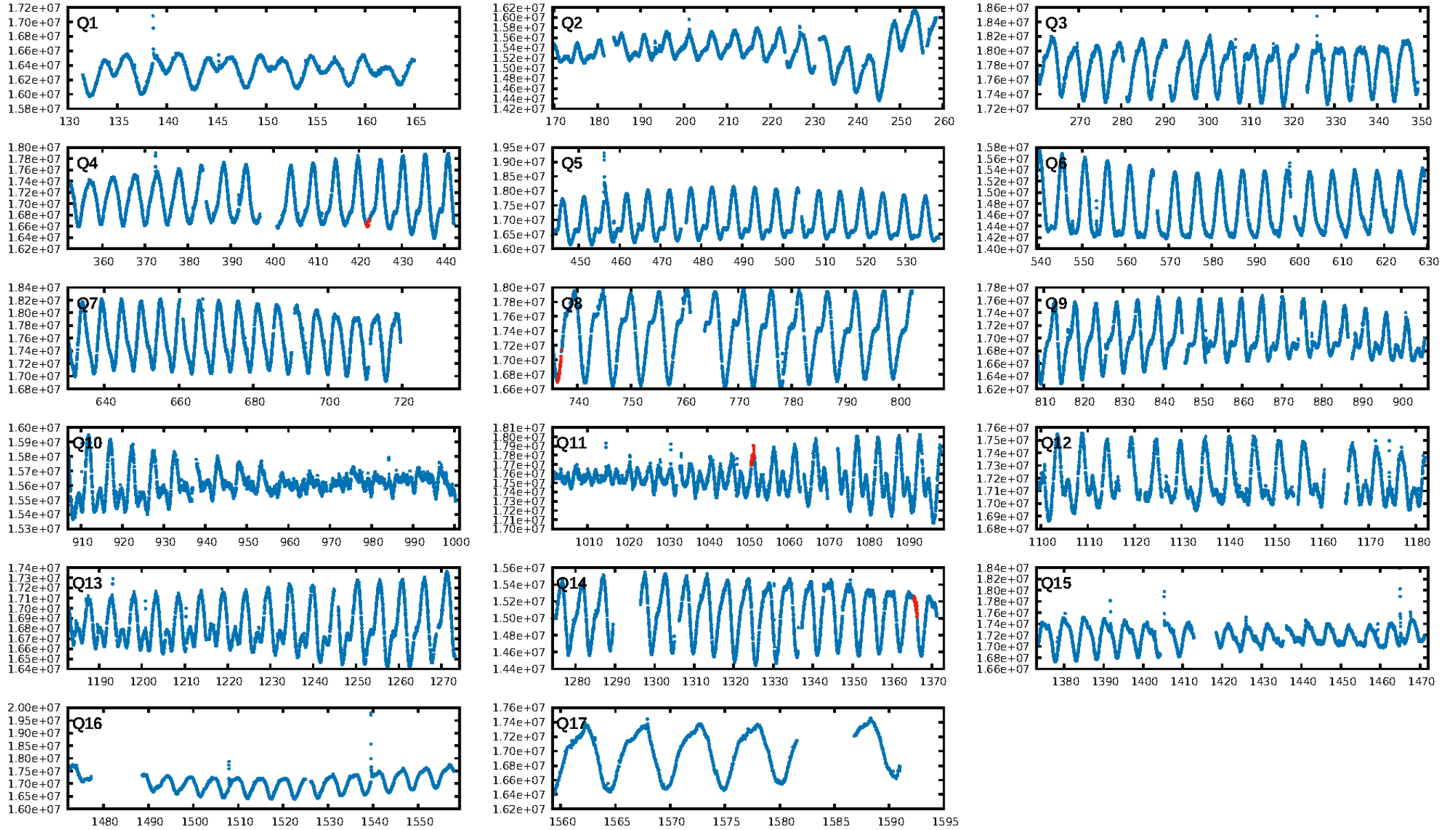
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [128.47σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.279
Centroid-sig: 6.9%
Centroid-so: 0.852 arcsec [1.36σ]
OotOffset-rm: 0.232 arcsec [1.05σ]
KicOffset-rm: 0.283 arcsec [0.76σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

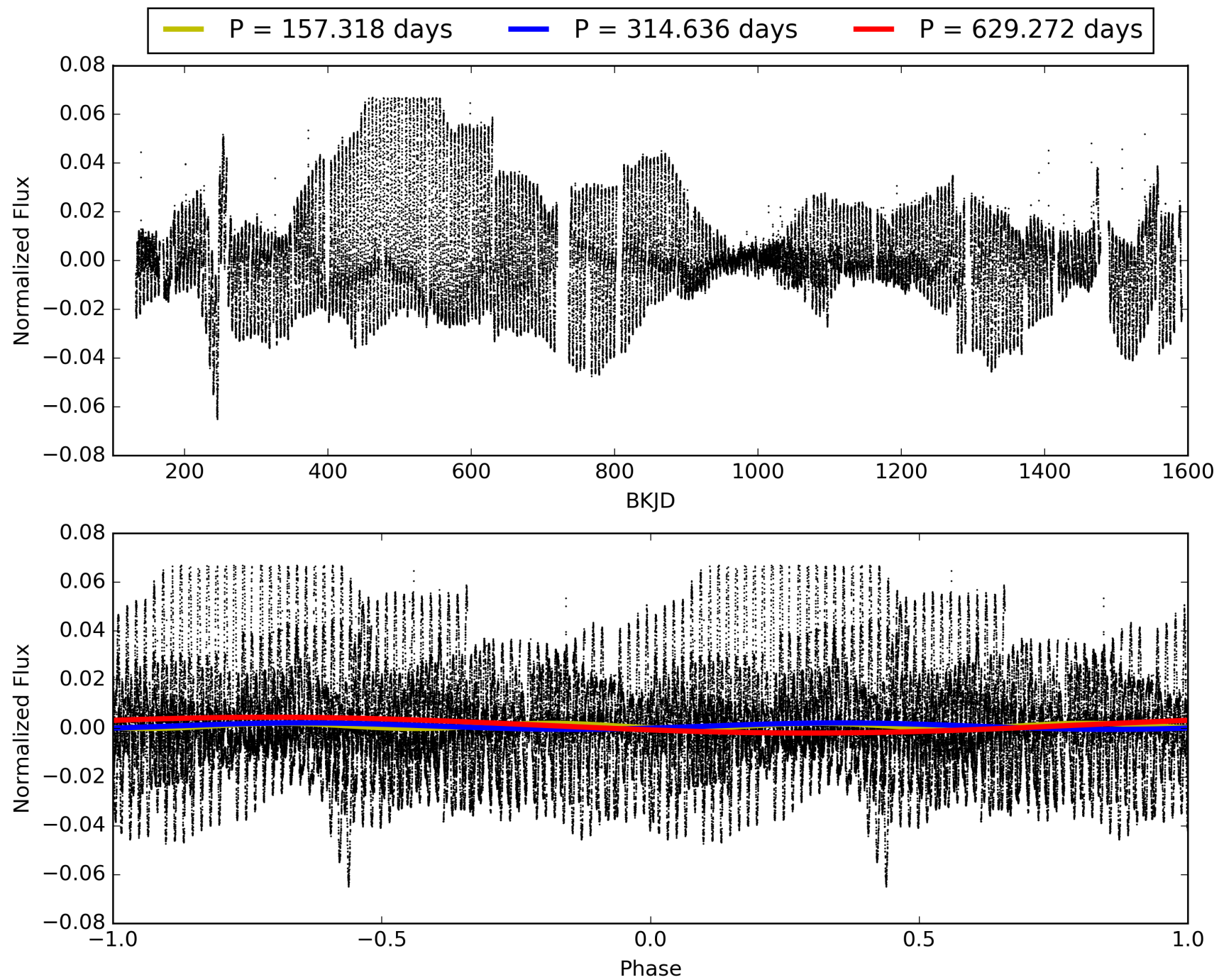
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:41:21 Z

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

TCE 003935499-06, PDC Light Curves

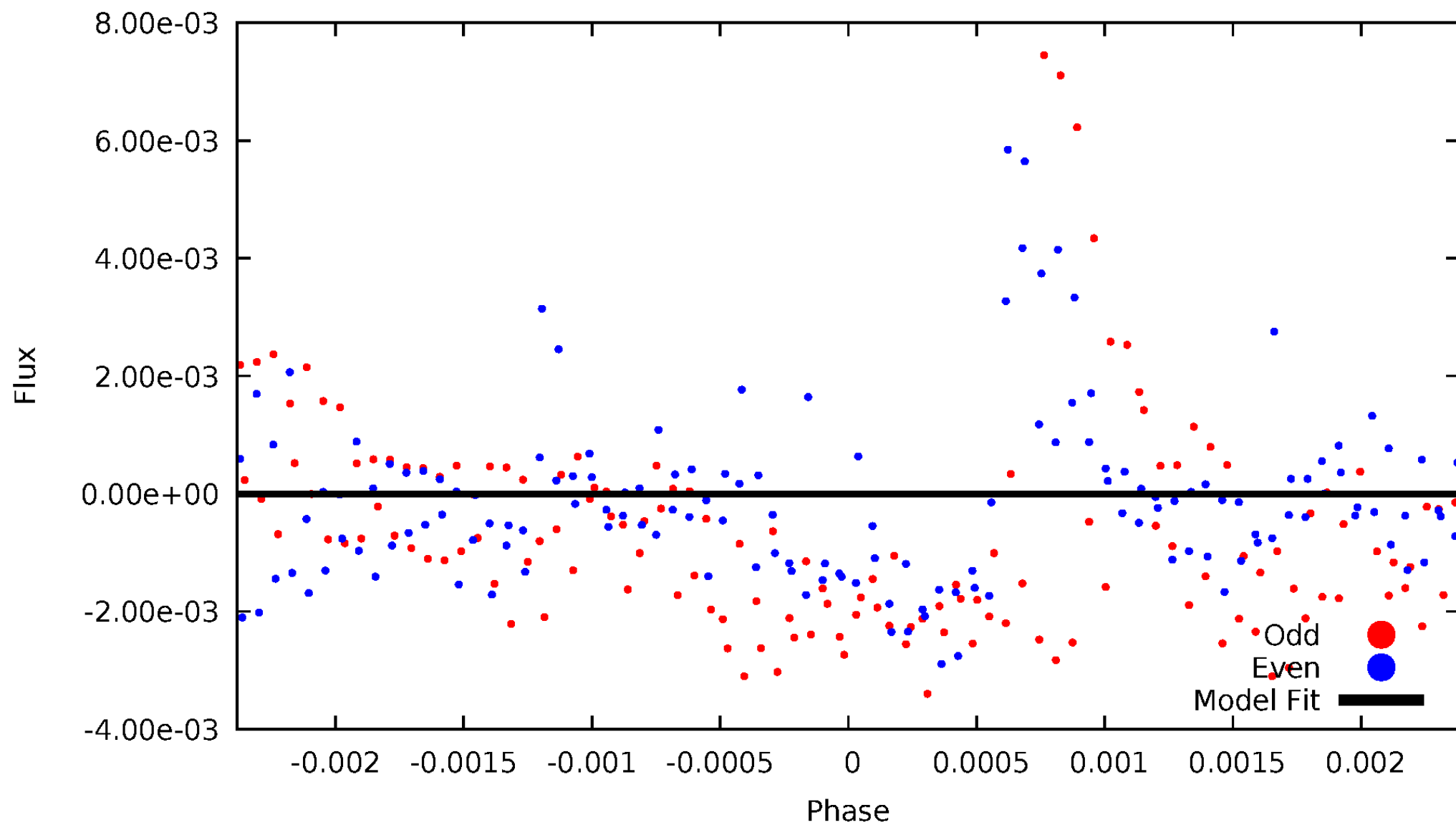


TCE 003935499-06



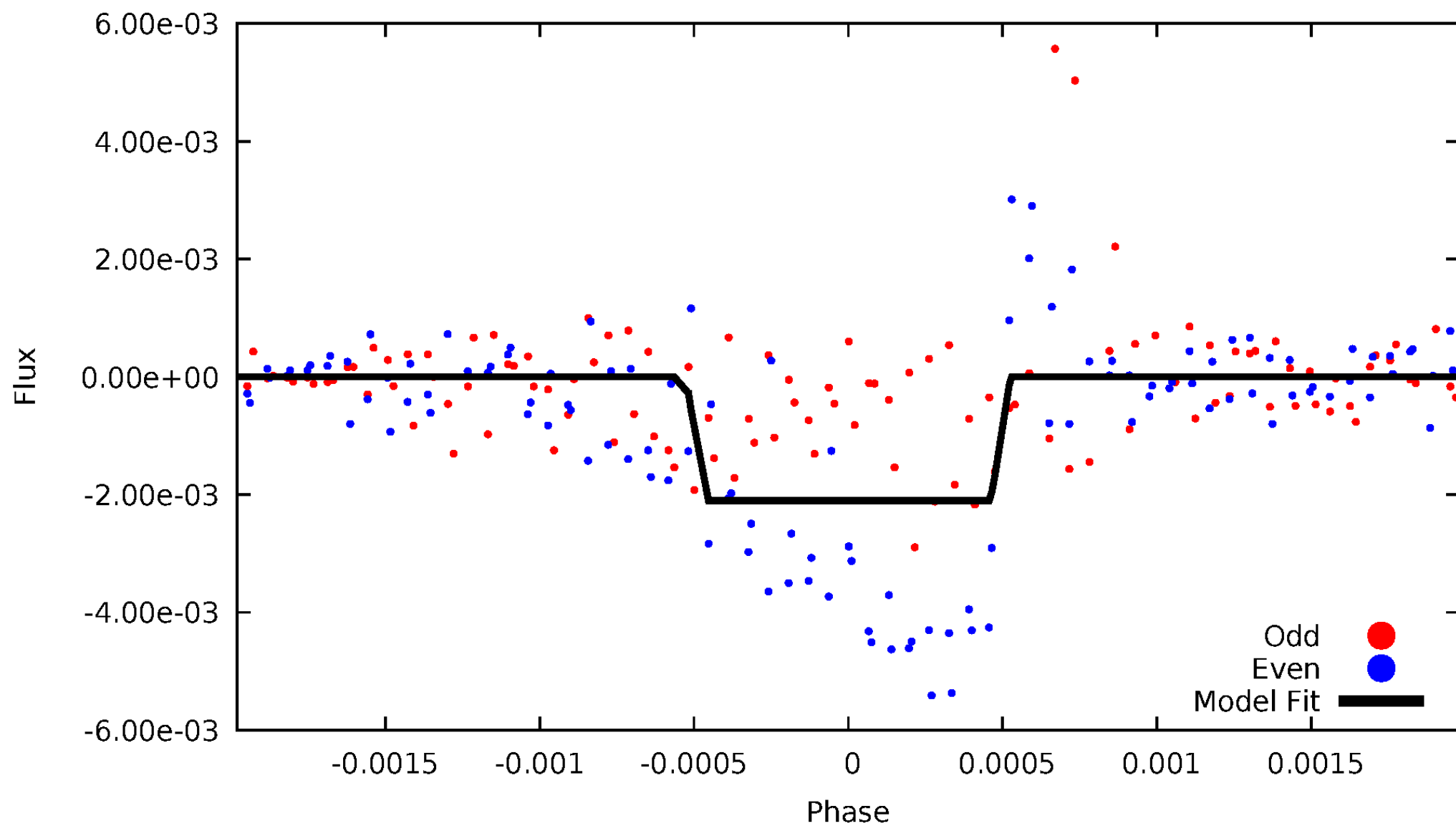
DV Odd/Even

TCE 003935499-06



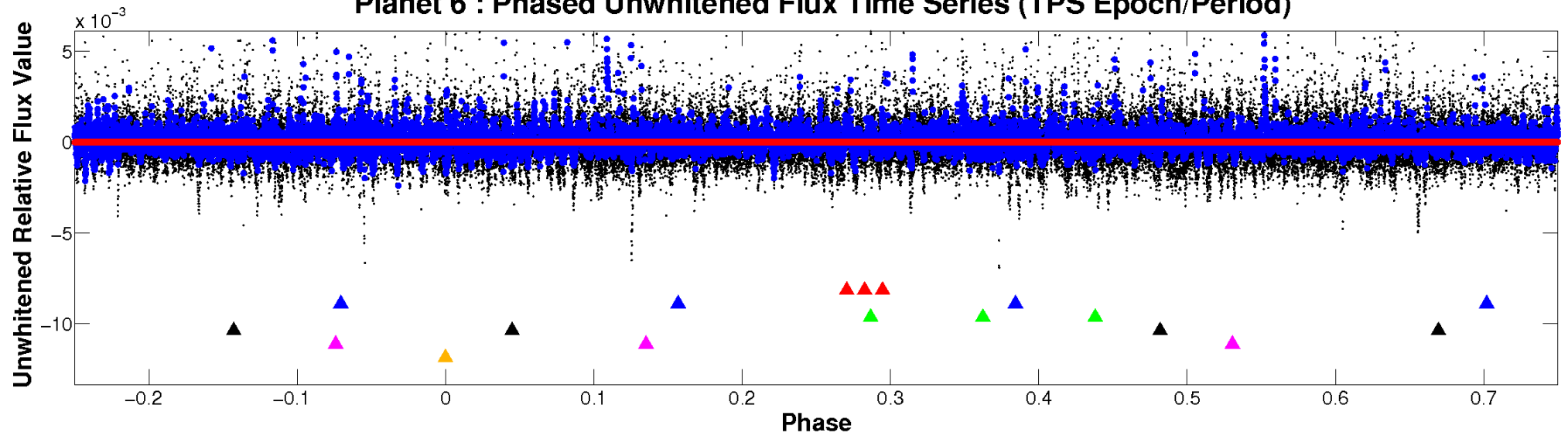
ALT Odd/Even

TCE 003935499-06

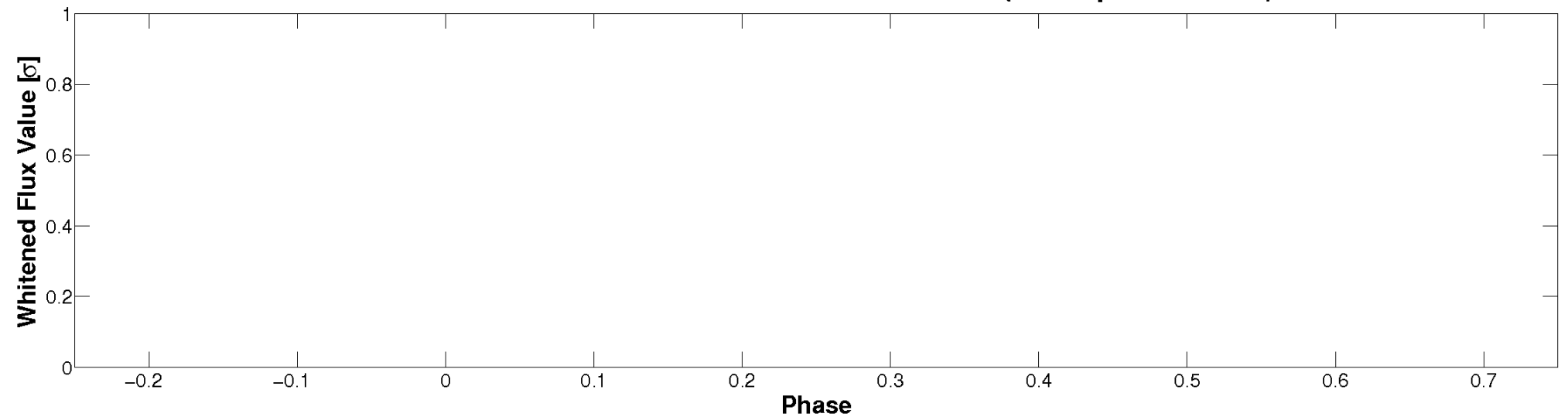


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

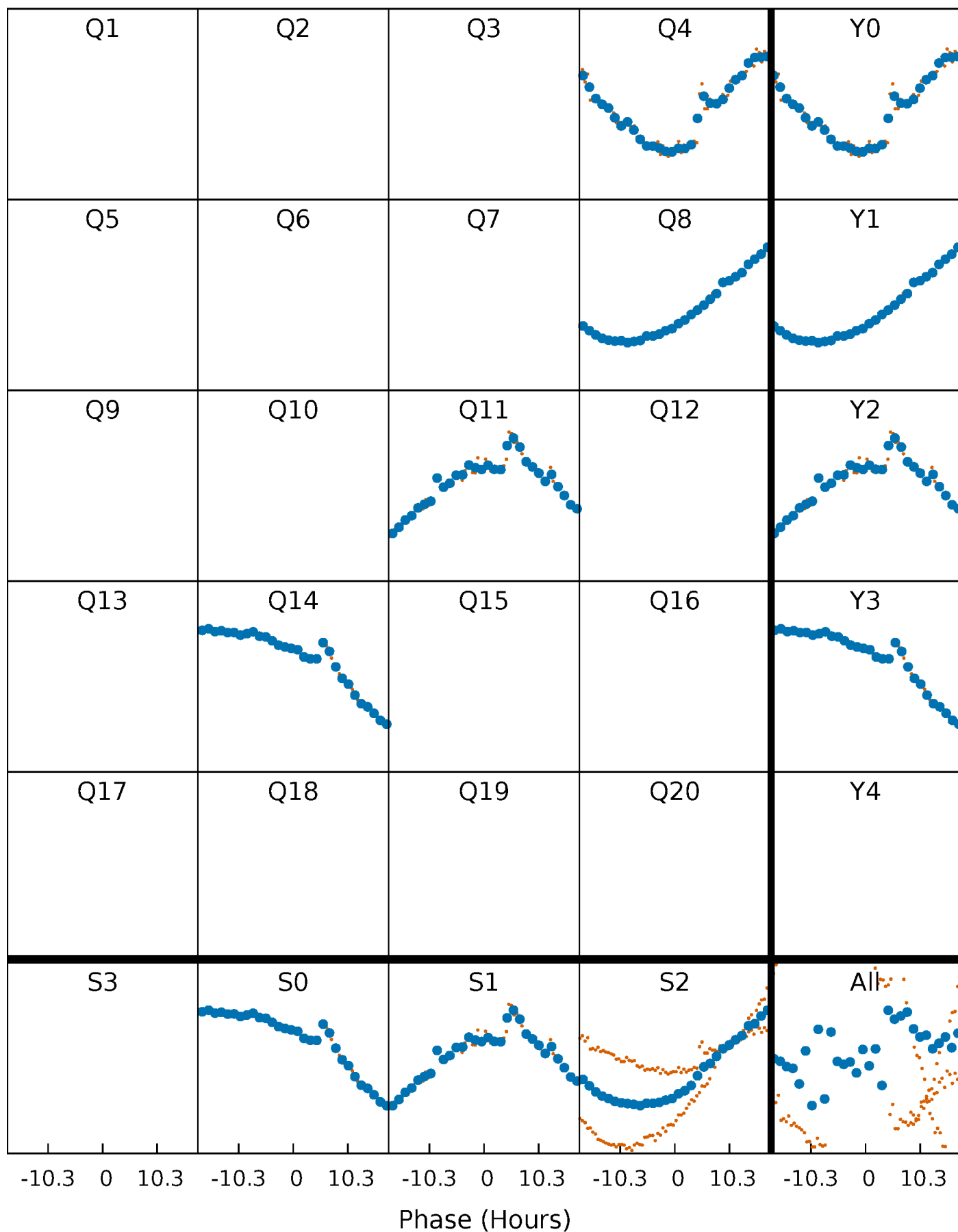


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



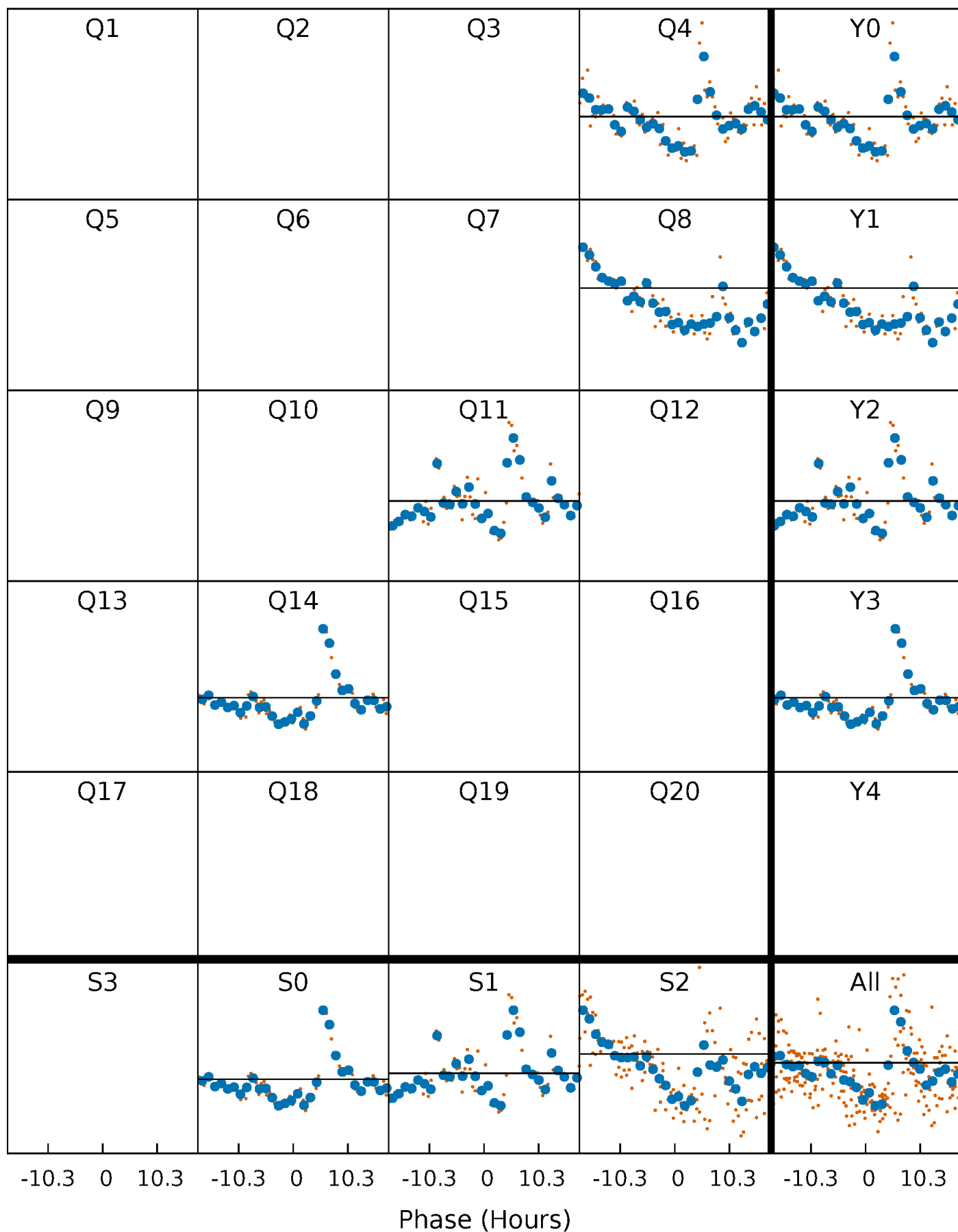
PDC Quarter-Phased Transit Curves

TCE 003935499-06 $P=314.635957$ Days $T_0=422.045567$ (BKJD)



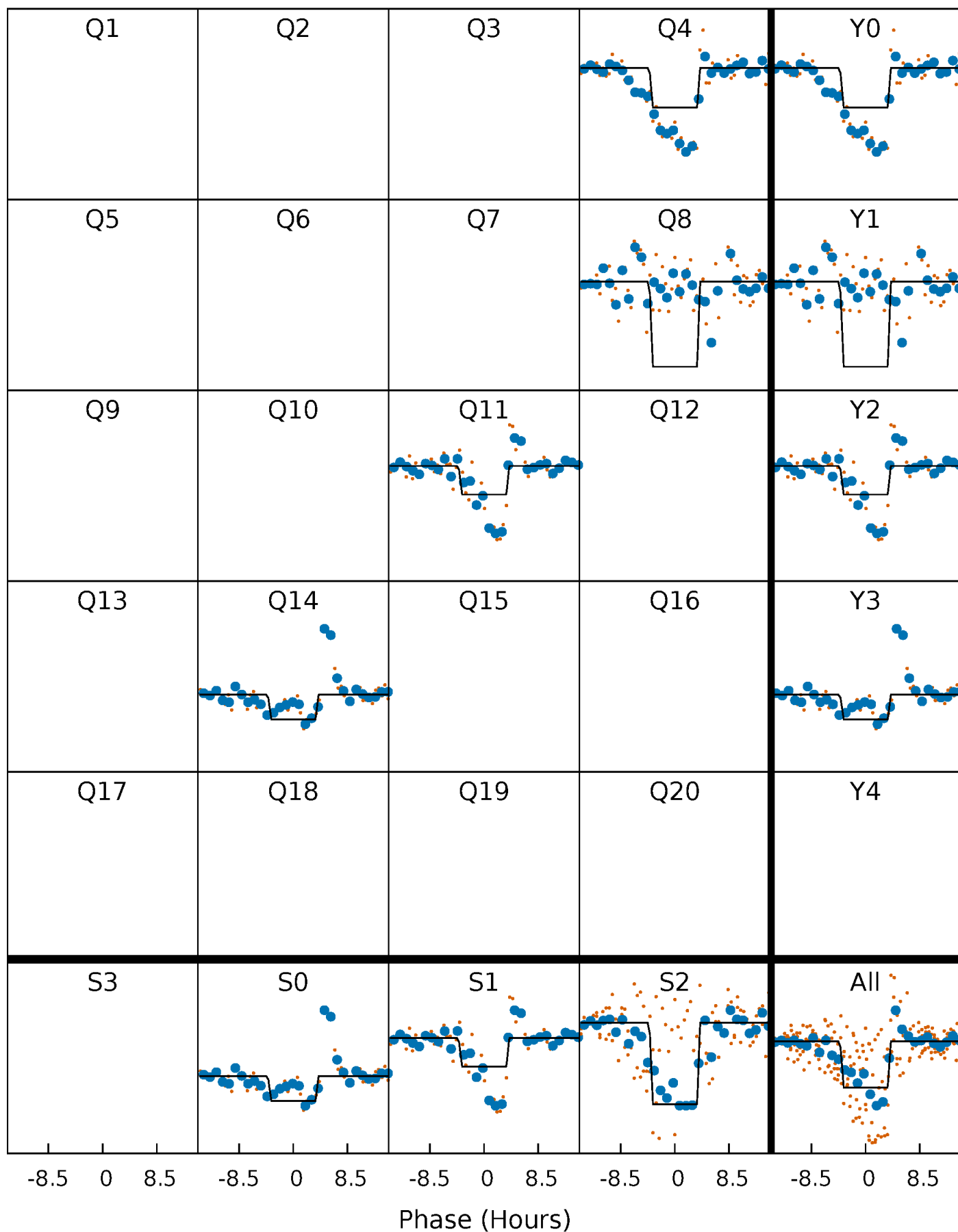
DV Quarter-Phased Transit Curves

TCE 003935499-06 $P=314.635957$ Days $T_0=422.045567$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

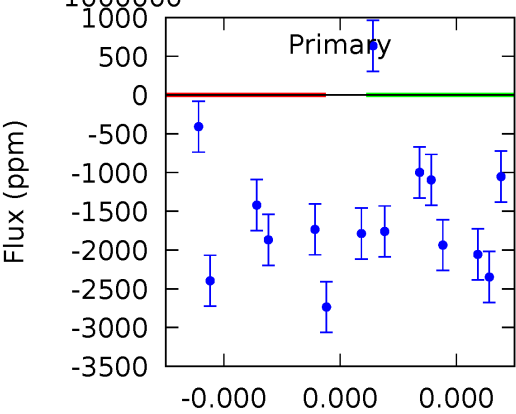
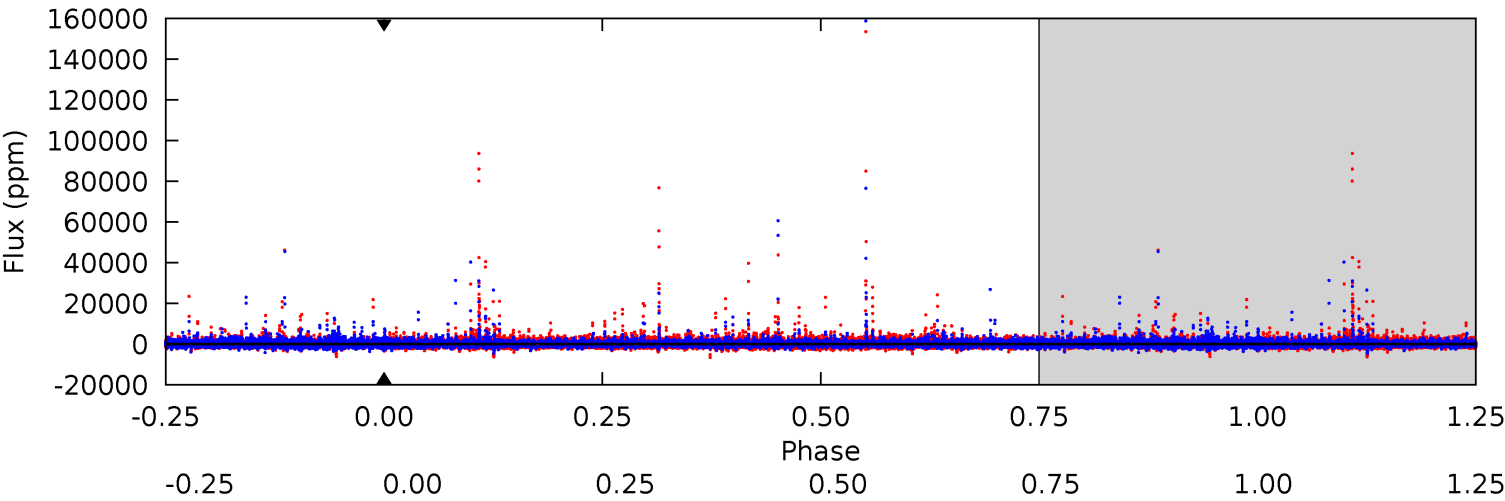
TCE 003935499-06 P=314.635957 Days $T_0=422.074933$ (BKJD)



DV Model-Shift Uniqueness Test

003935499-06, P = 314.635957 Days, E = 107.409610 Days

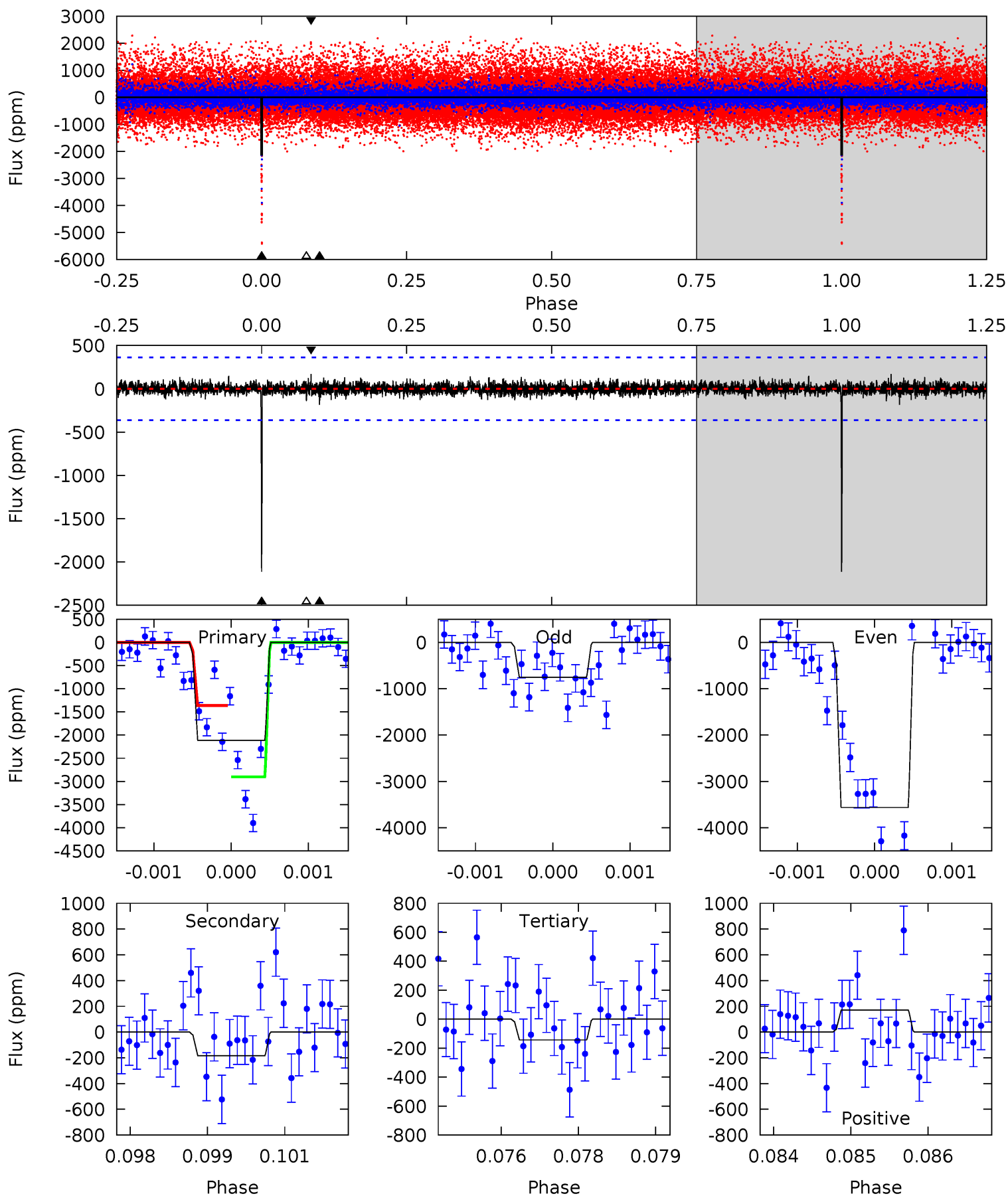
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003935499-06, P = 314.635957 Days, E = 107.438976 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.6	2.74	2.15	2.55	5.44	3.28	0.53	29.5	29.1	0.60	0.19	22.1	0.92	0.07	11.5



Stellar Parameters For KIC 003935499

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3836^{+69}_{-77}	$4.706^{+0.036}_{-0.018}$	$0.000^{+0.100}_{-0.100}$	$0.542^{+0.024}_{-0.032}$	$0.545^{+0.031}_{-0.028}$	$4.824^{+0.777}_{-0.372}$
	+2%/-2%	+1%/-0%	+inf%/-inf%	+4%/-6%	+6%/-5%	+16%/-8%
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 003935499-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$4.83^{+4.67}_{-3.36}$	202^{+4}_{-4}	2491^{+5403}_{-10650}	$4147^{+2273653}_{-2373015}$
Alt.	-183 ± 67	$5.41^{+4.69}_{-3.63}$	201^{+4}_{-4}	2250^{+740}_{-300}	1790^{+15401}_{-1334}

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

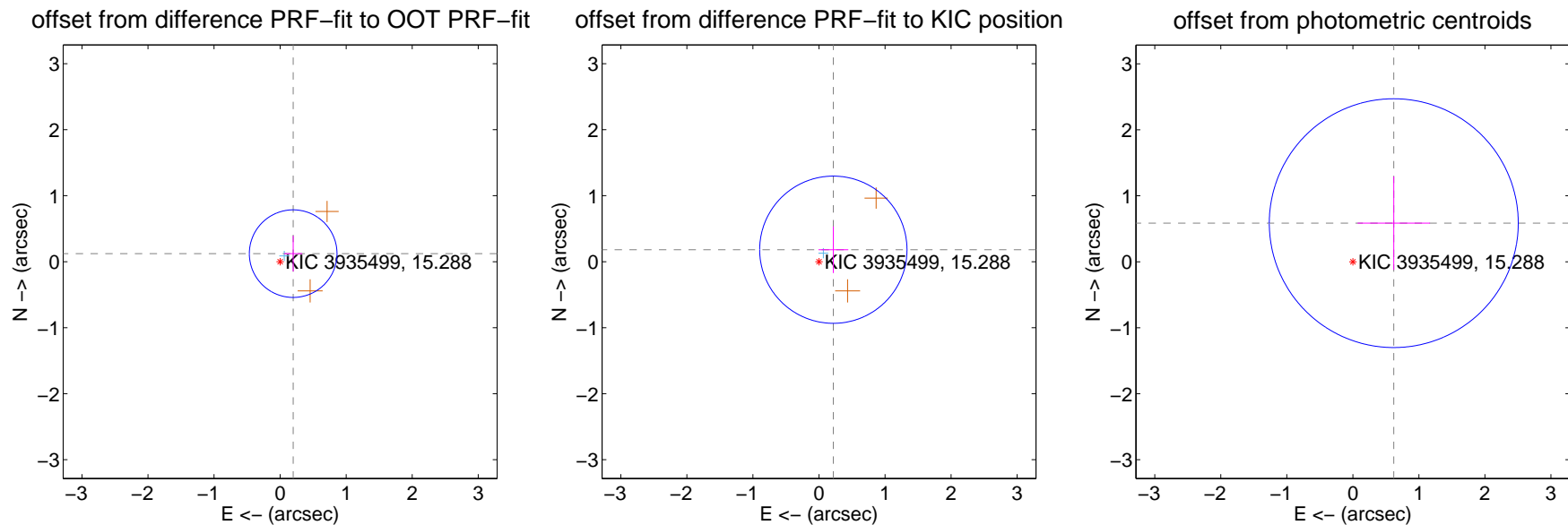
DV Centroid Data

Supplemental centroid analysis for 003935499-06. Kepler magnitude: 15.29. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

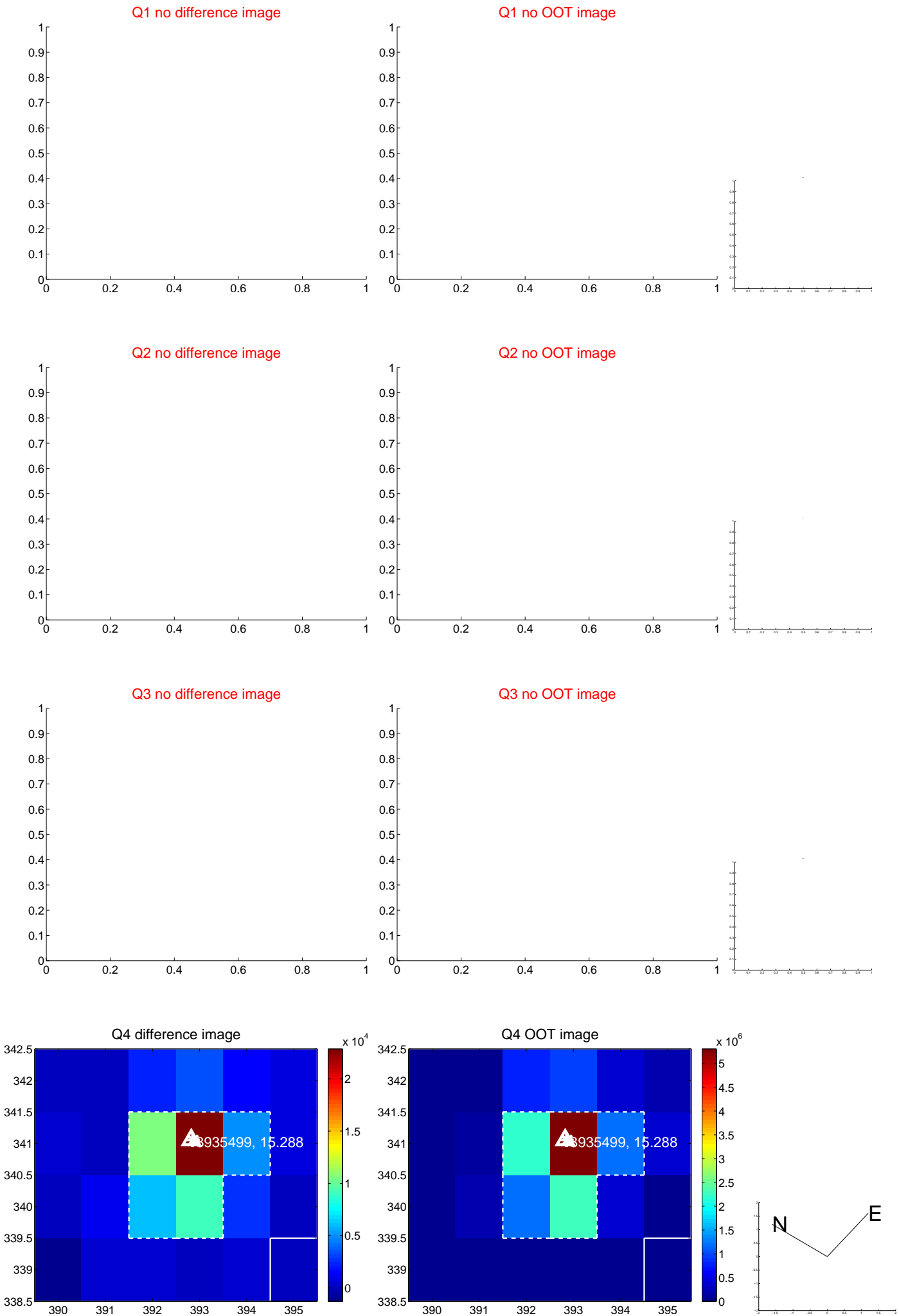
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.232 ± 0.221	1.05	-0.198 ± 0.137	0.122 ± 0.270
PRF-fit source offset from KIC position	0.283 ± 0.372	0.76	-0.217 ± 0.226	0.182 ± 0.353
photometric centroid source offset	0.85 ± 0.63	1.36	-0.62 ± 0.55	0.59 ± 0.71



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.

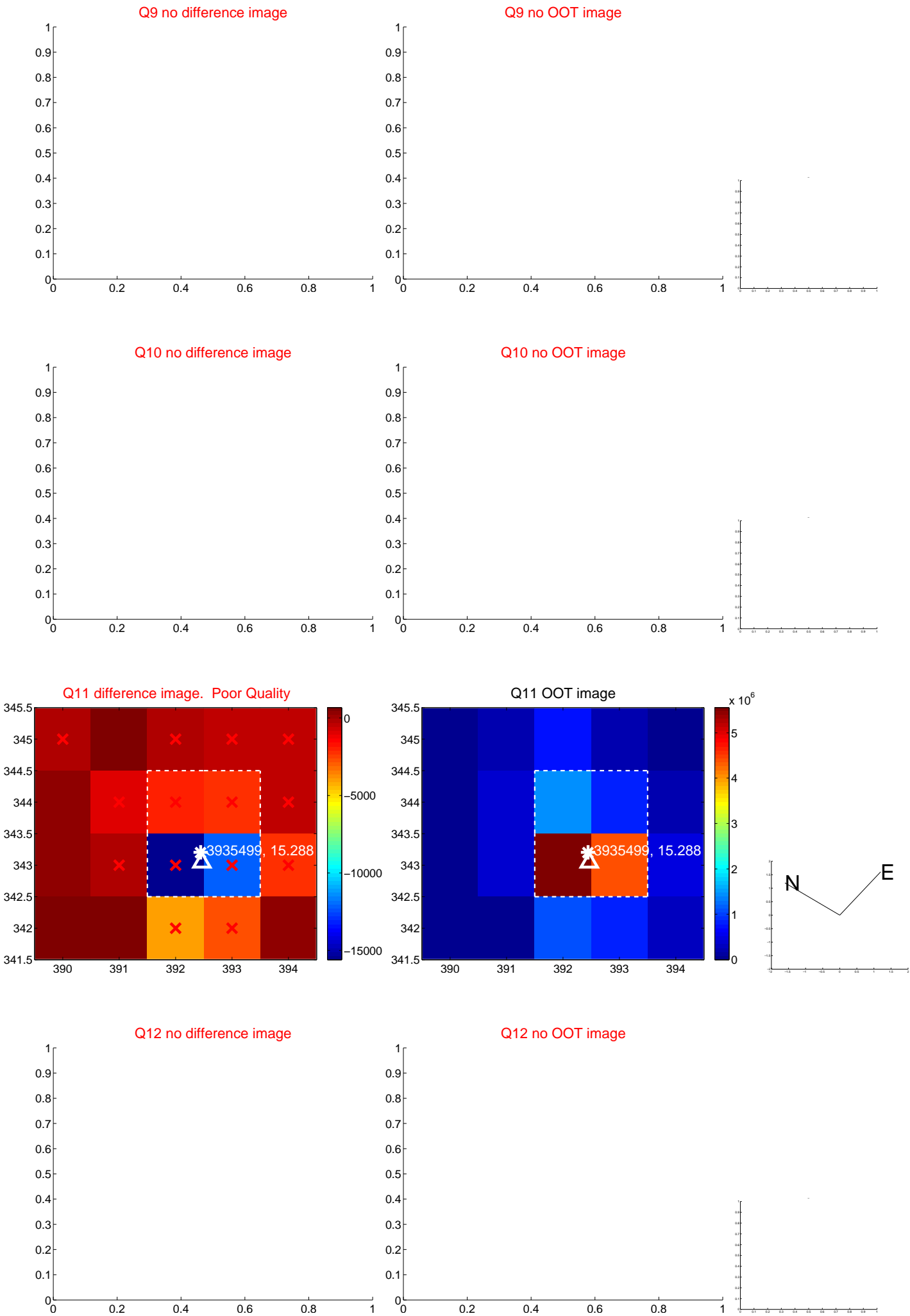
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



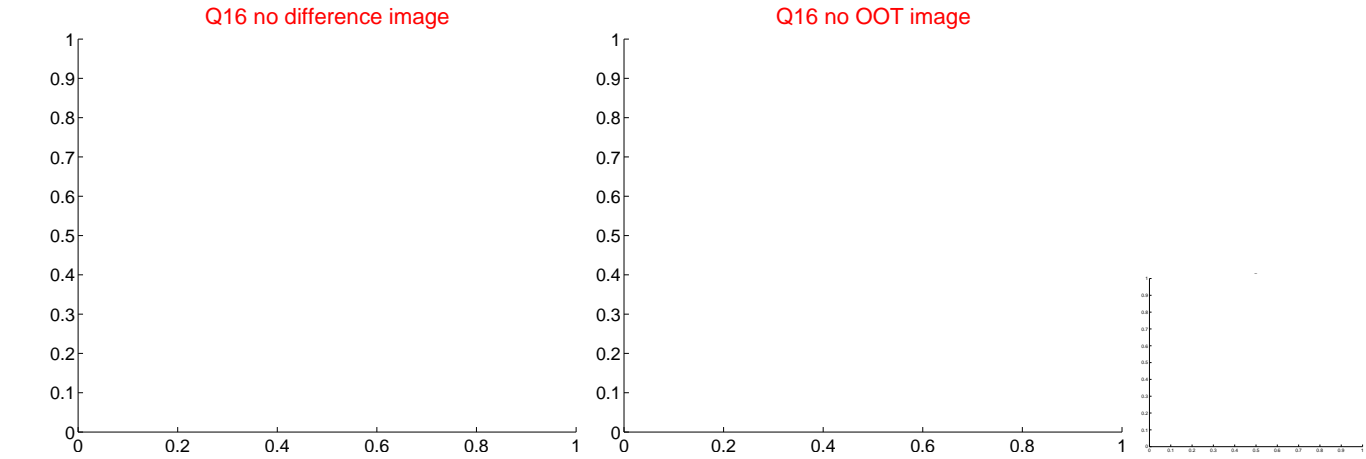
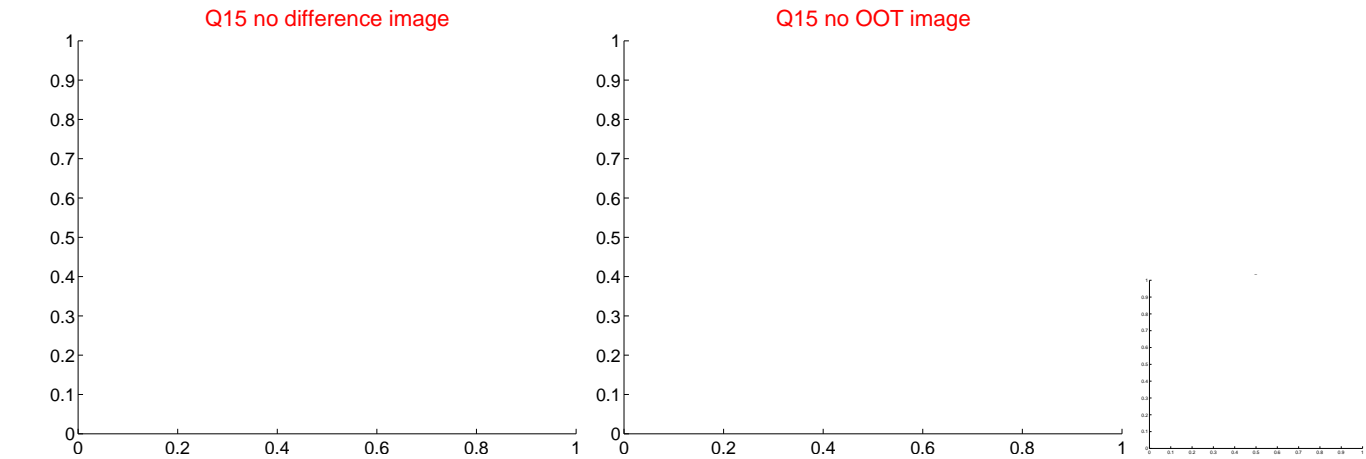
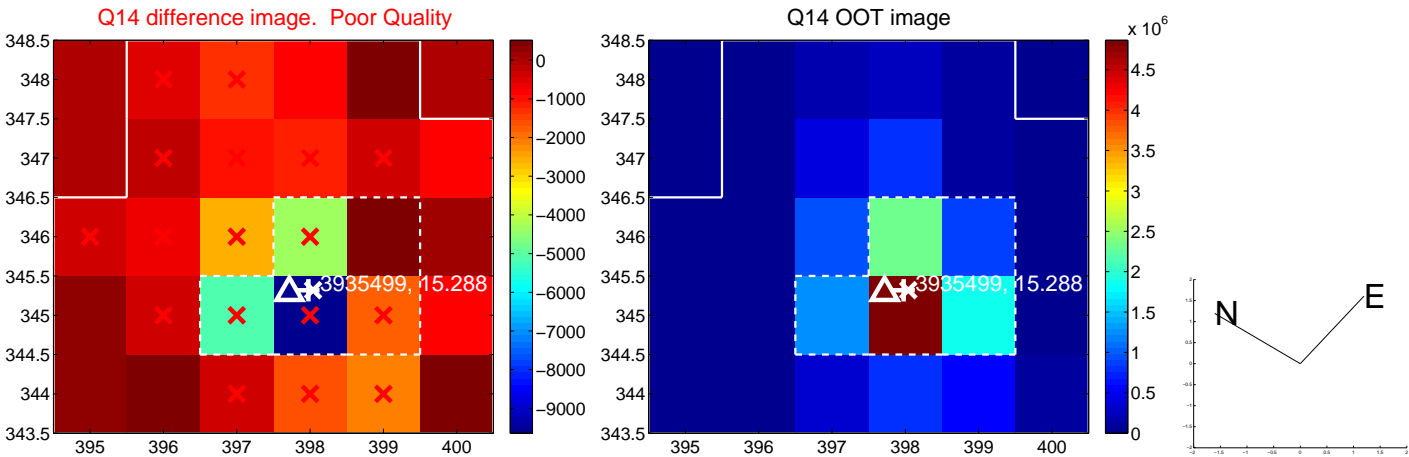
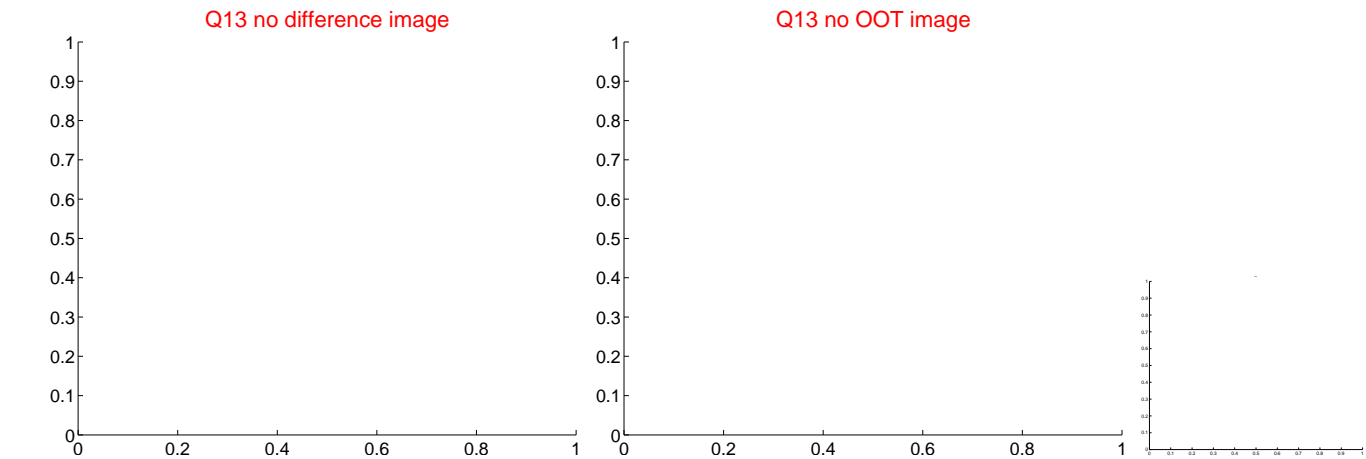
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



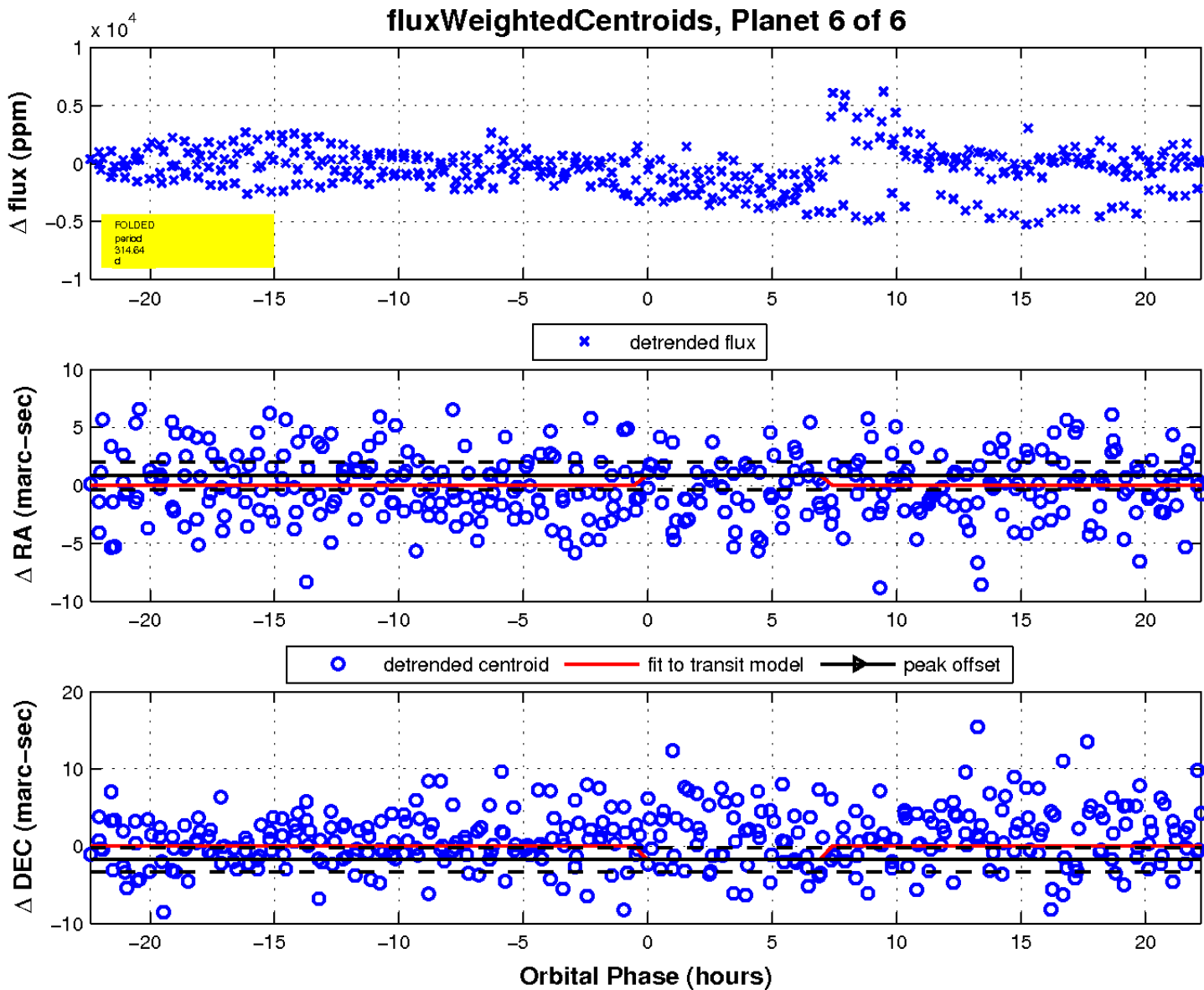
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Q17 no difference image

Q17 no OOT image



UKIRT Image

Declination

