

KIC 005521373

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})
005521373-01	OBS	No	350.138899	255.685243	359.4	44.146	31.7	10.3	2.94	8703	5.73	29.76
005521373-02	OBS	No	382.789179	211.811725	144.9	16.352	26.5	6.2	2.94	8703	3.79	26.43
005521373-03	OBS	No	382.190609	199.973655	149.4	13.586	10.7	7.5	2.94	8703	4.00	26.48
005521373-04	OBS	No	357.126557	249.115804	392.5	14.439	14.7	14.7	2.94	8703	6.52	28.99
005521373-05	OBS	No	345.798327	247.185577	193.4	46.844	10.2	5.9	2.94	8703	4.24	30.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005521373-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005521373-02	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH
005521373-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

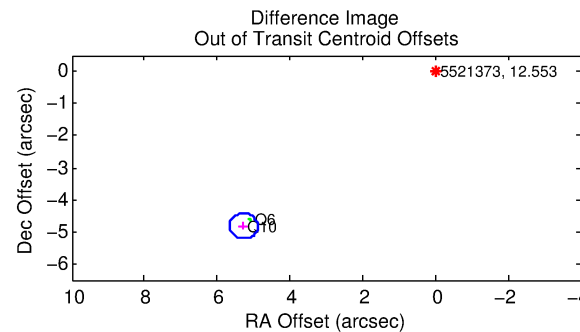
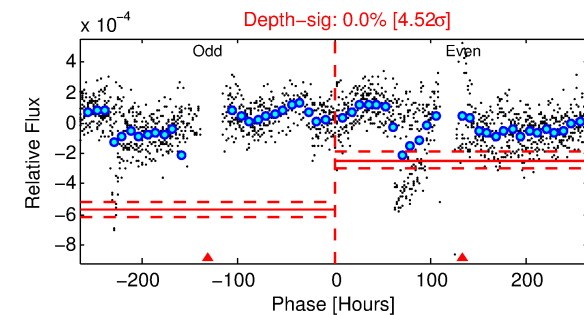
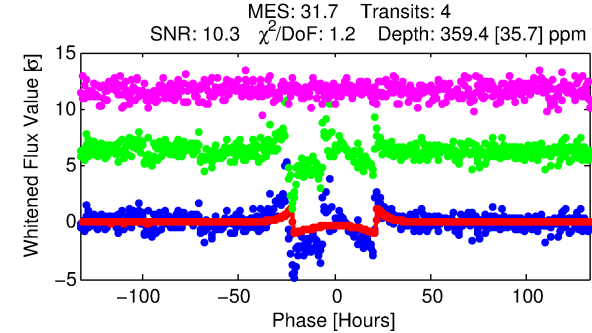
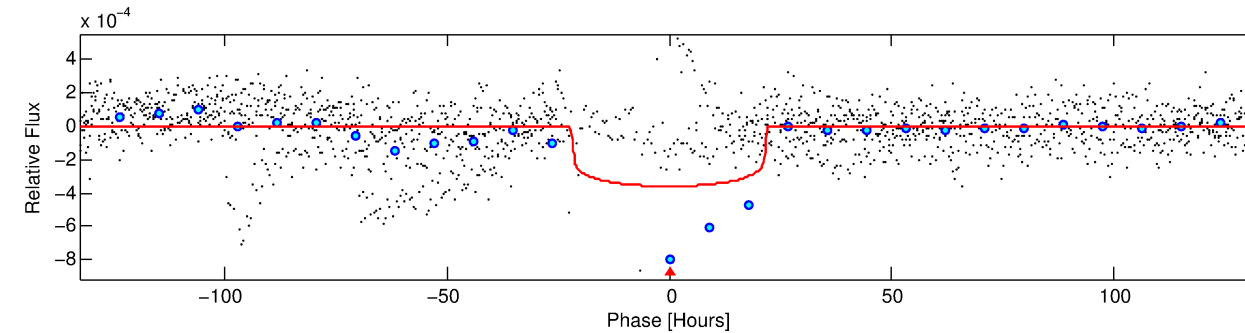
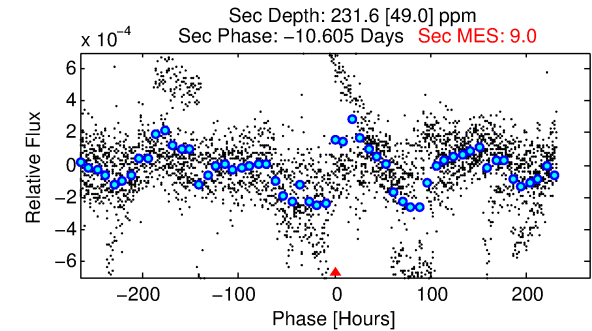
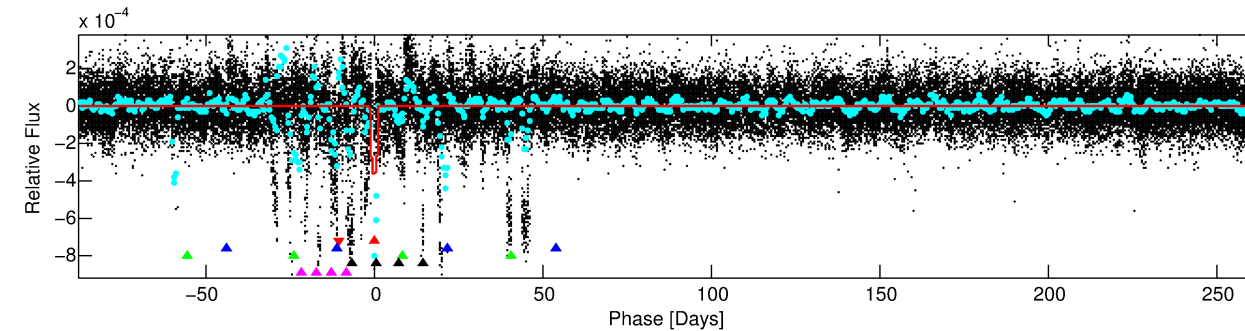
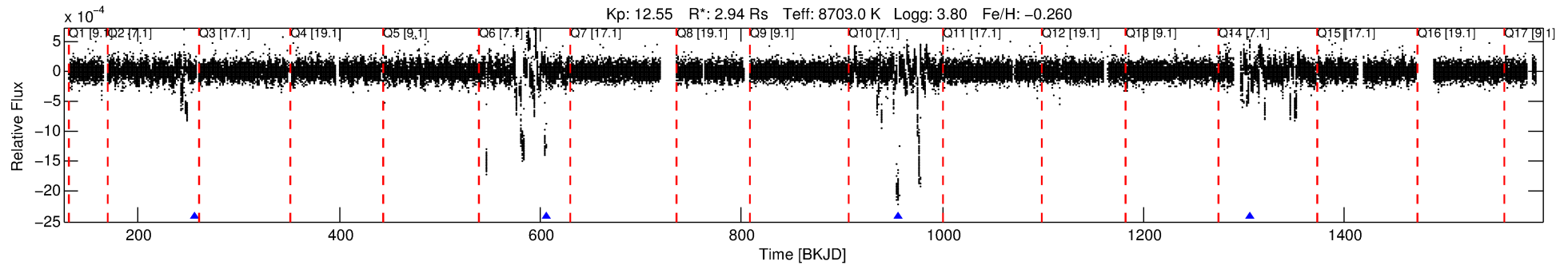
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005521373-01

No Significant Match Found

DV One-Page Summary

KIC: 5521373 Candidate: 1 of 5 Period: 350.139 d



DV Fit Results:

Period = 350.13890 [0.00573] d
Epoch = 255.6852 [0.0092] BKJD
Rp/R* = 0.0178 [0.0015]
a/R* = 57.69 [22.12]
b = 0.36 [0.93]
Seff = 29.76 [20.66]
Teq = 596 [103] K
Rp = 5.73 [2.48] Re
a = 1.2226 [0.5090] AU
Ag = 5801.38 [4200.66] [1.38σ]
Teff = 8037 [643] K [11.42σ]

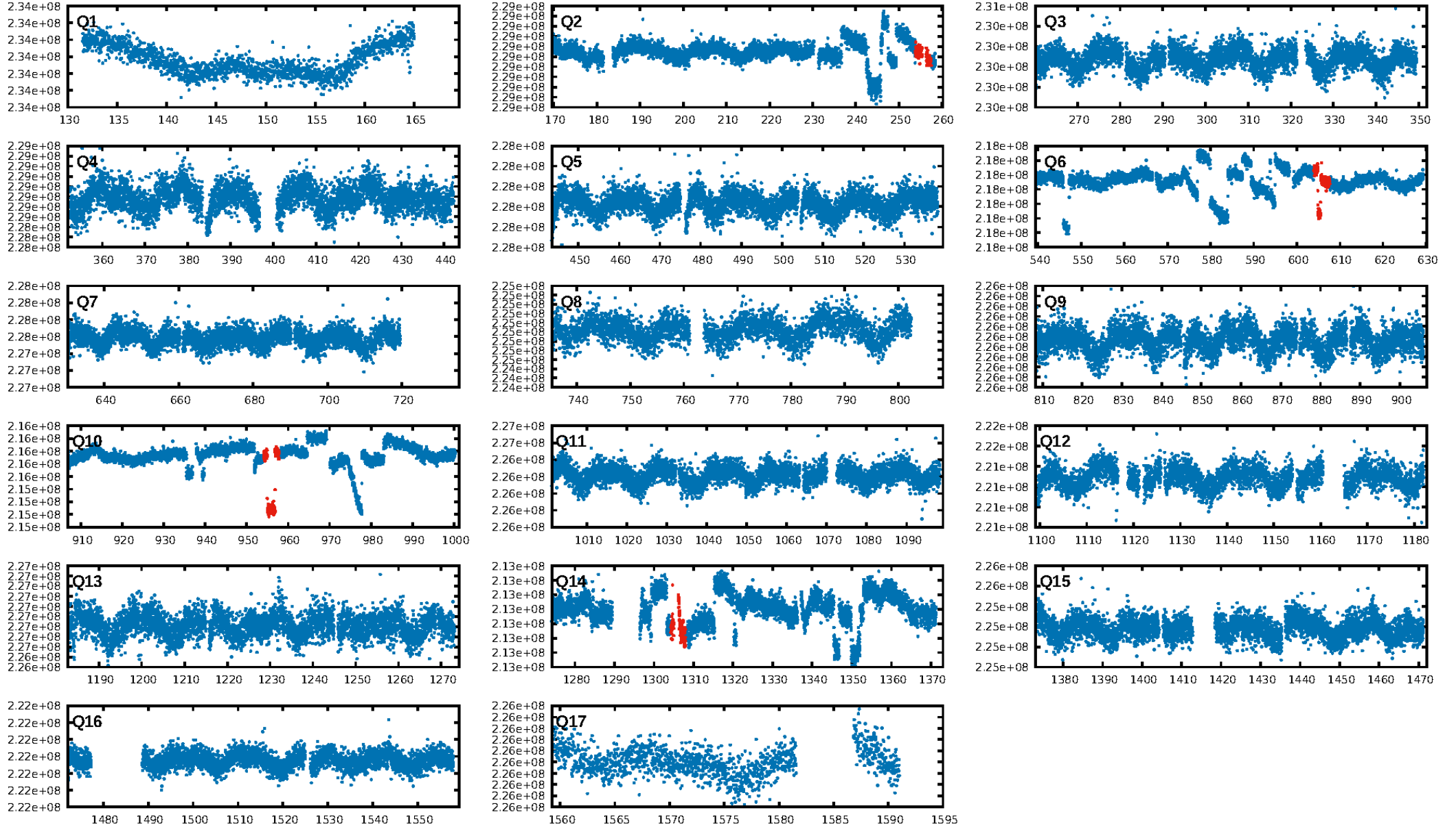
DV Diagnostic Results:

ShortPeriod-sig: 89.4% [1.62σ]
LongPeriod-sig: 100.0% [3.61σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.28e-24
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.02529
Centroid-sig: 53.2%
Centroid-so: 0.833 arcsec [0.80σ]
OotOffset-rm: 7.146 arcsec [54.57σ]
KicOffset-rm: 6.950 arcsec [83.55σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.50 [1/2]

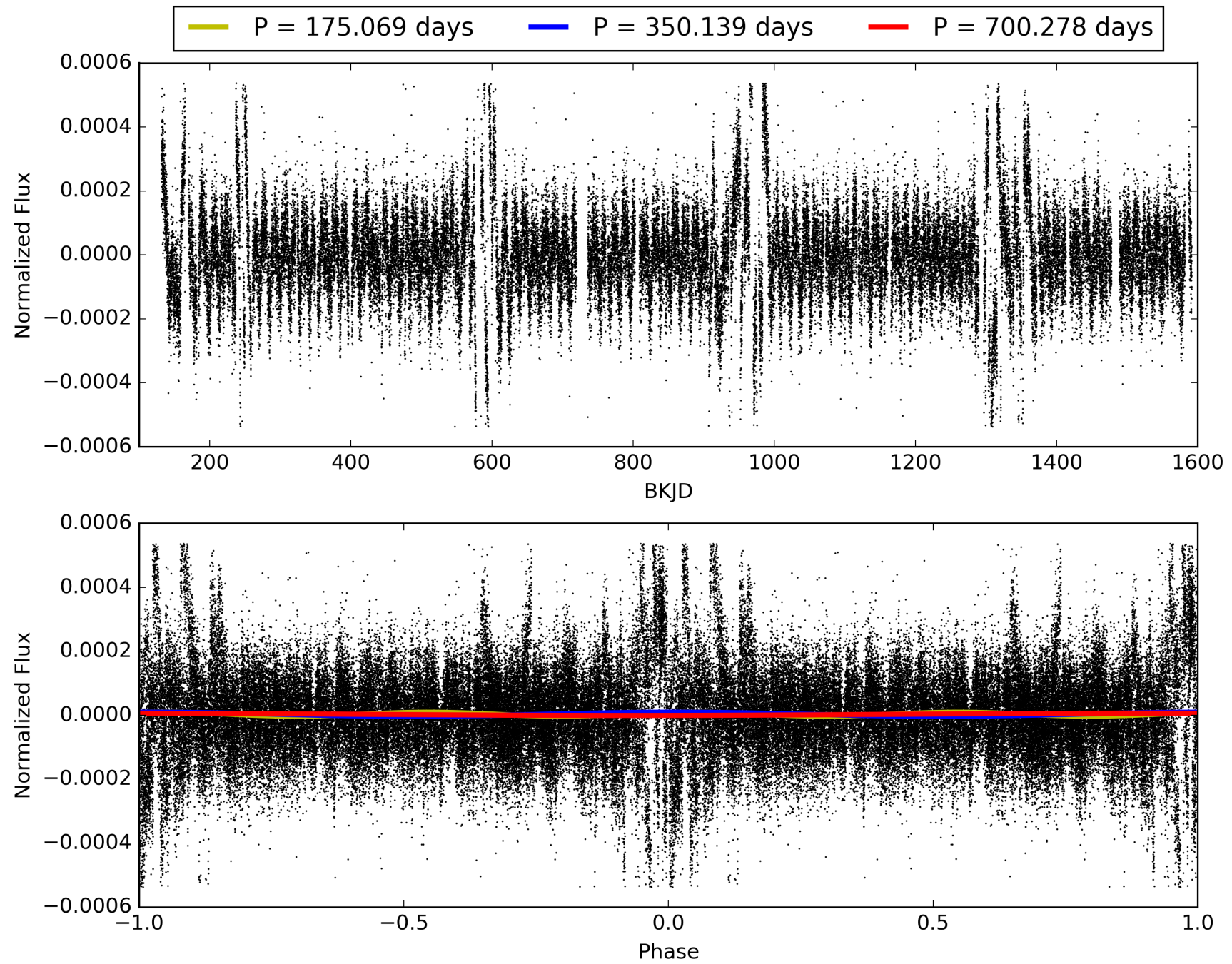
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005521373-01, PDC Light Curves

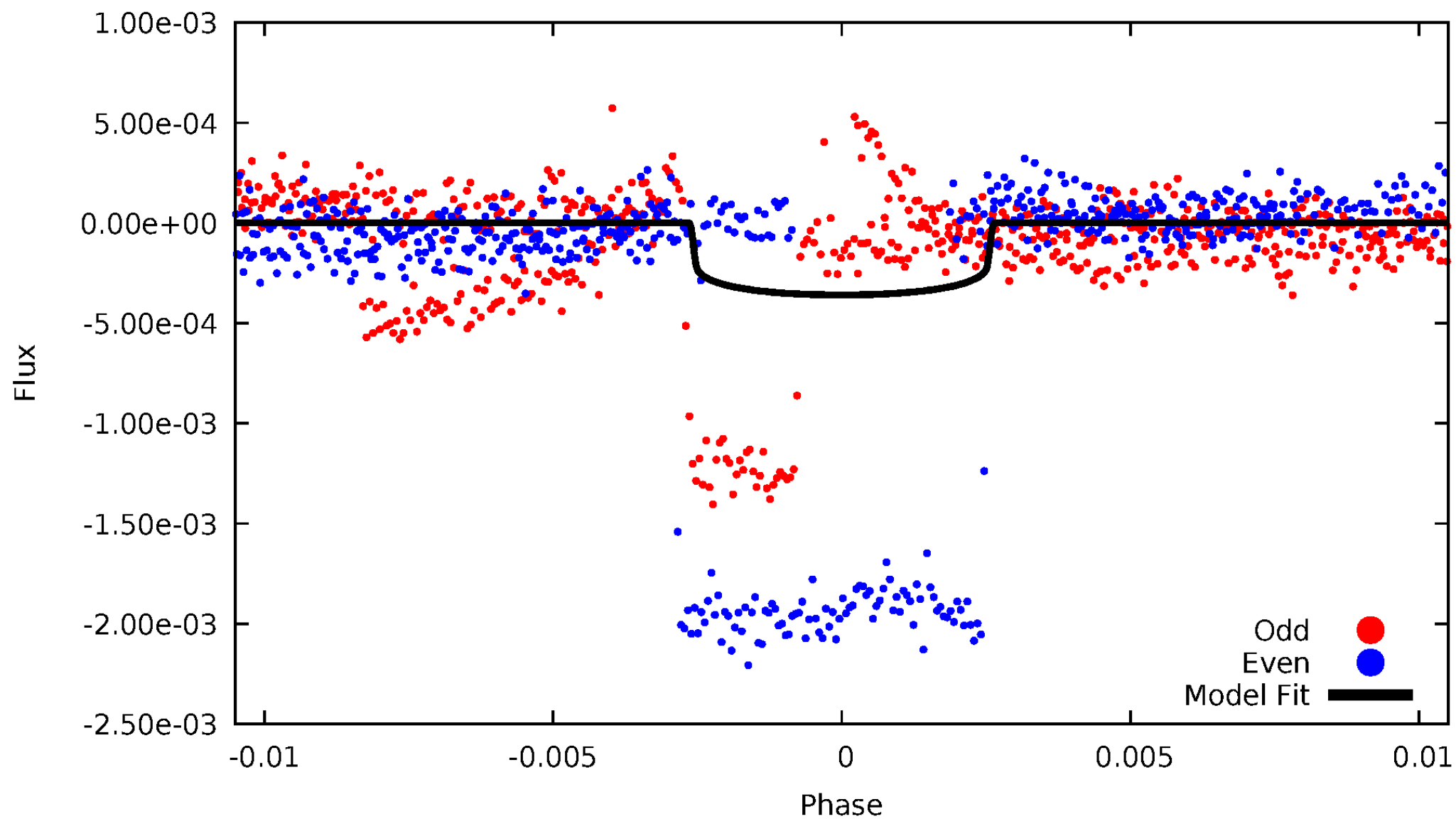


TCE 005521373-01



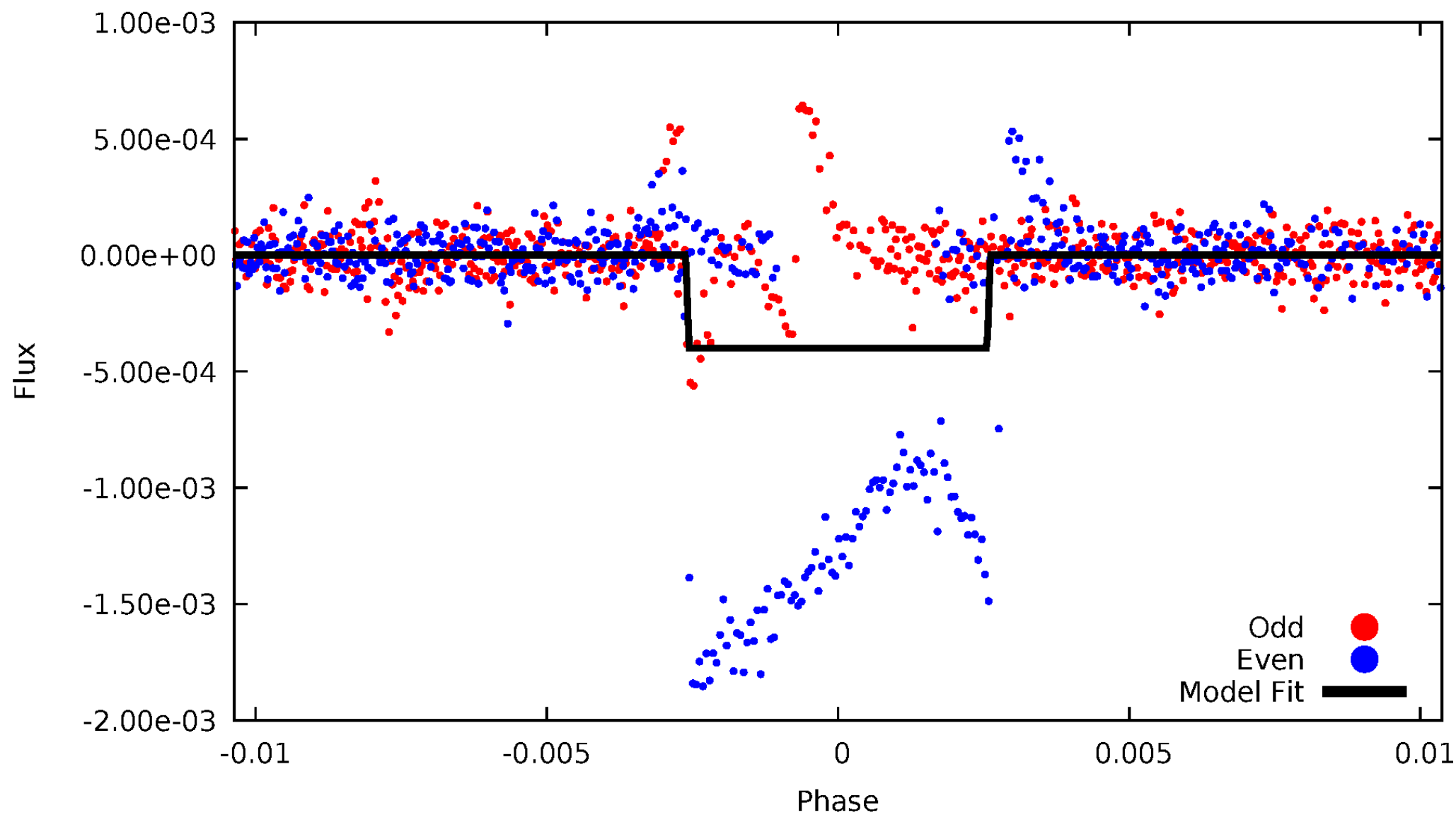
DV Odd/Even

TCE 005521373-01



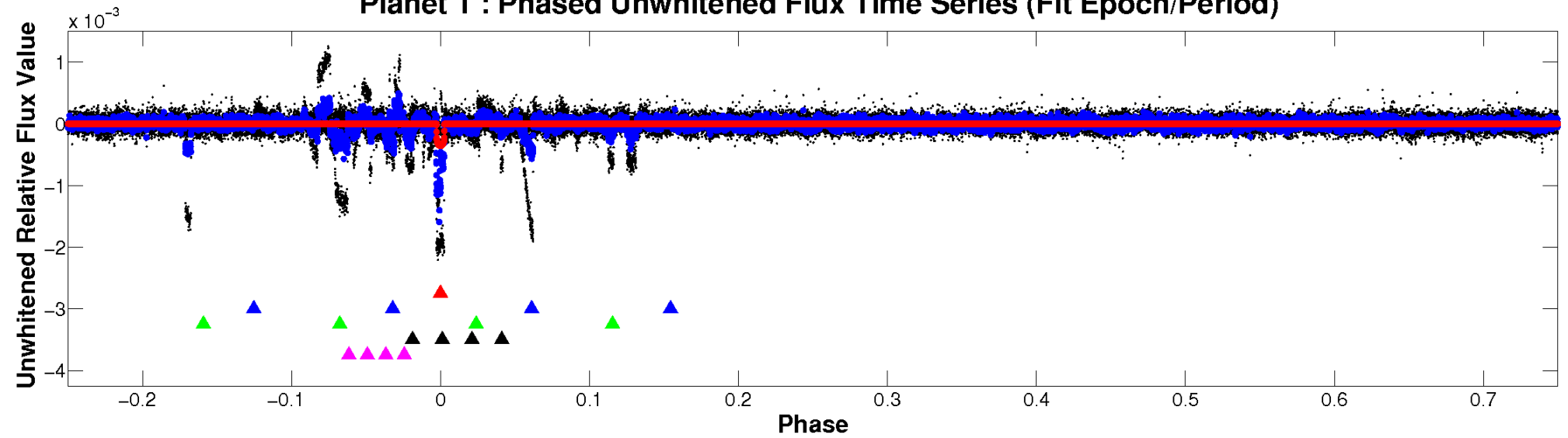
ALT Odd/Even

TCE 005521373-01

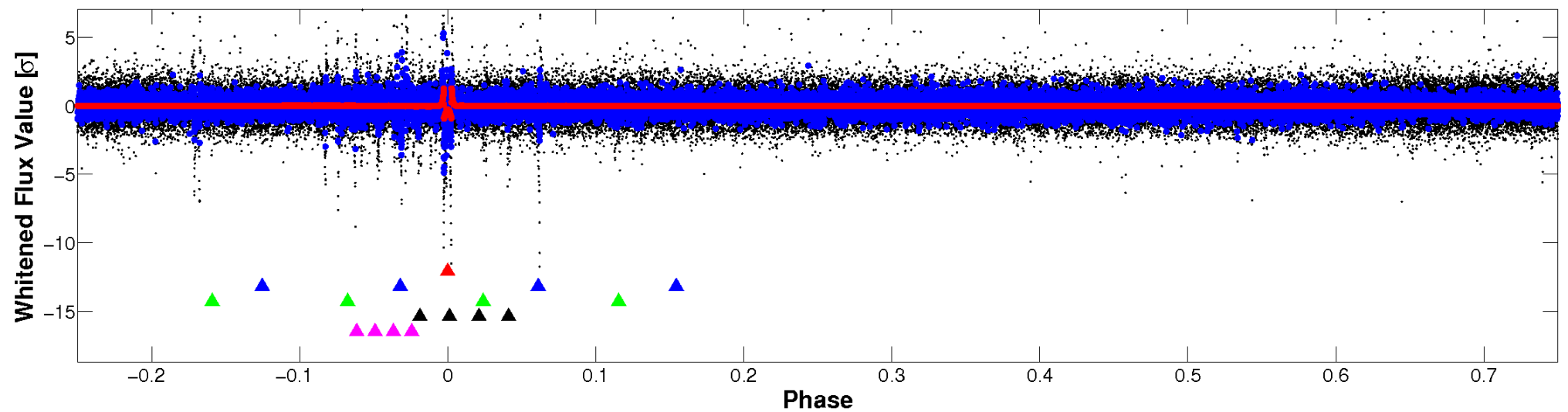


Non-Whitened Vs. Whitened Light Curve

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

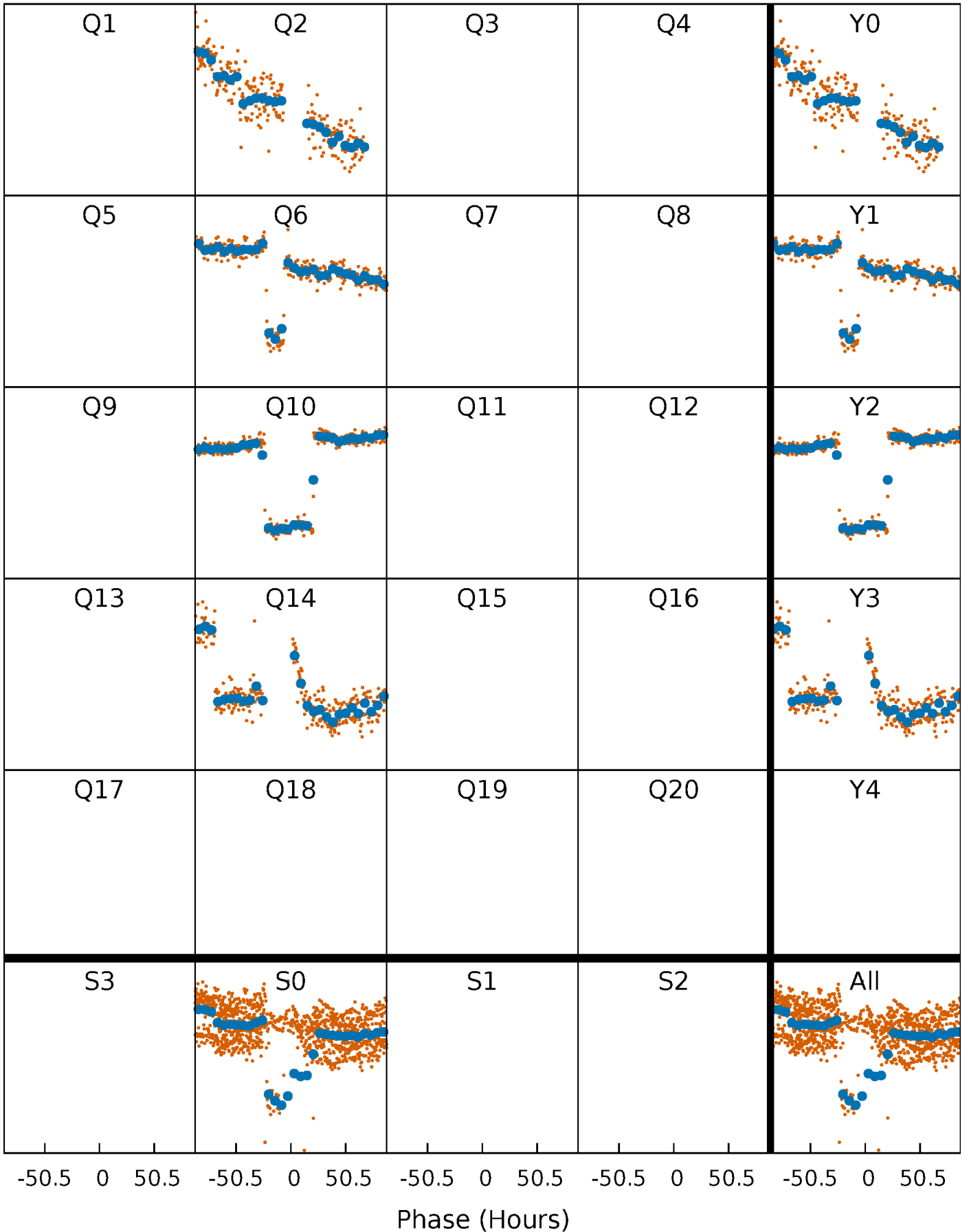


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



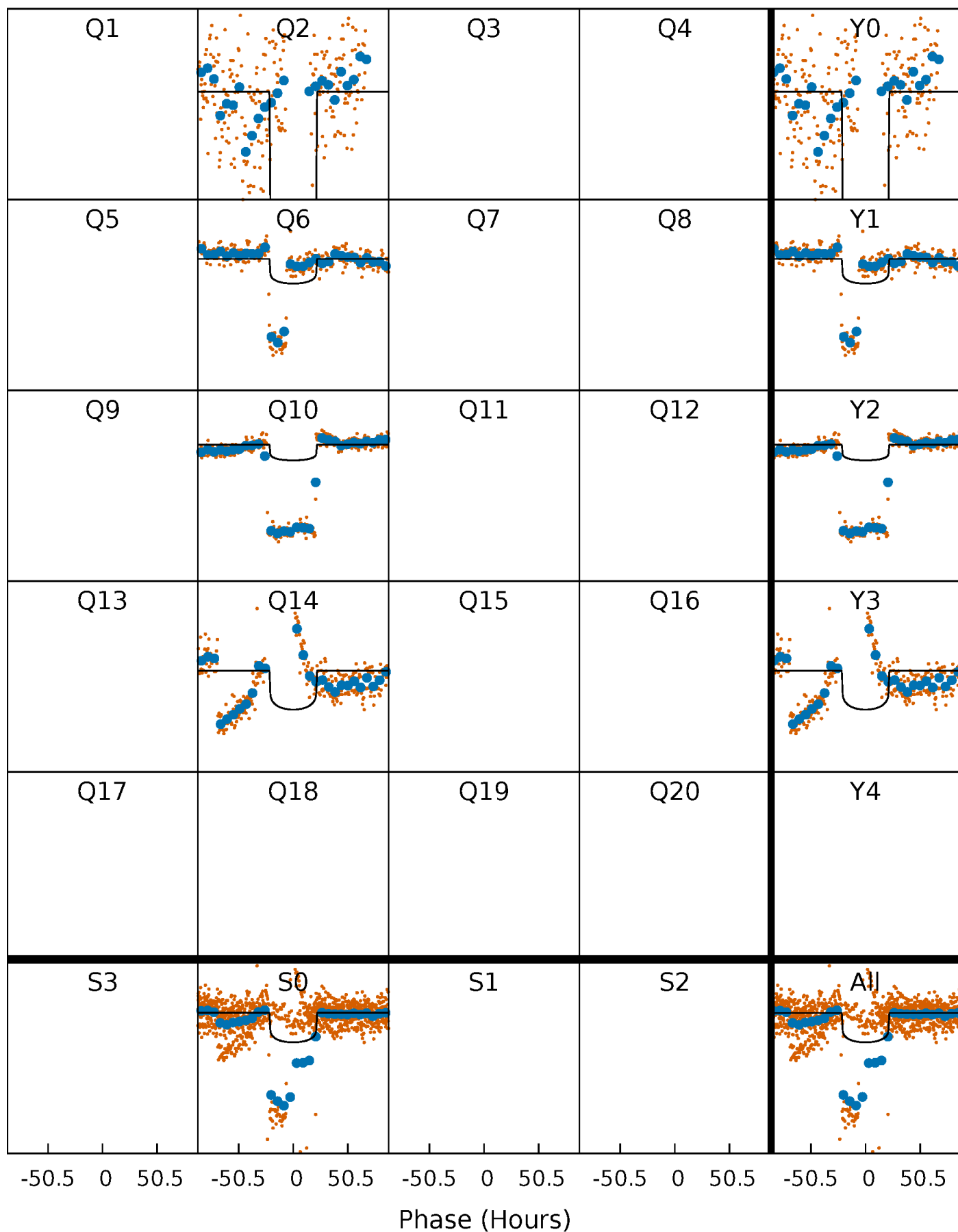
PDC Quarter-Phased Transit Curves

TCE 005521373-01 P=350.138899 Days $T_0=255.685243$ (BKJD)



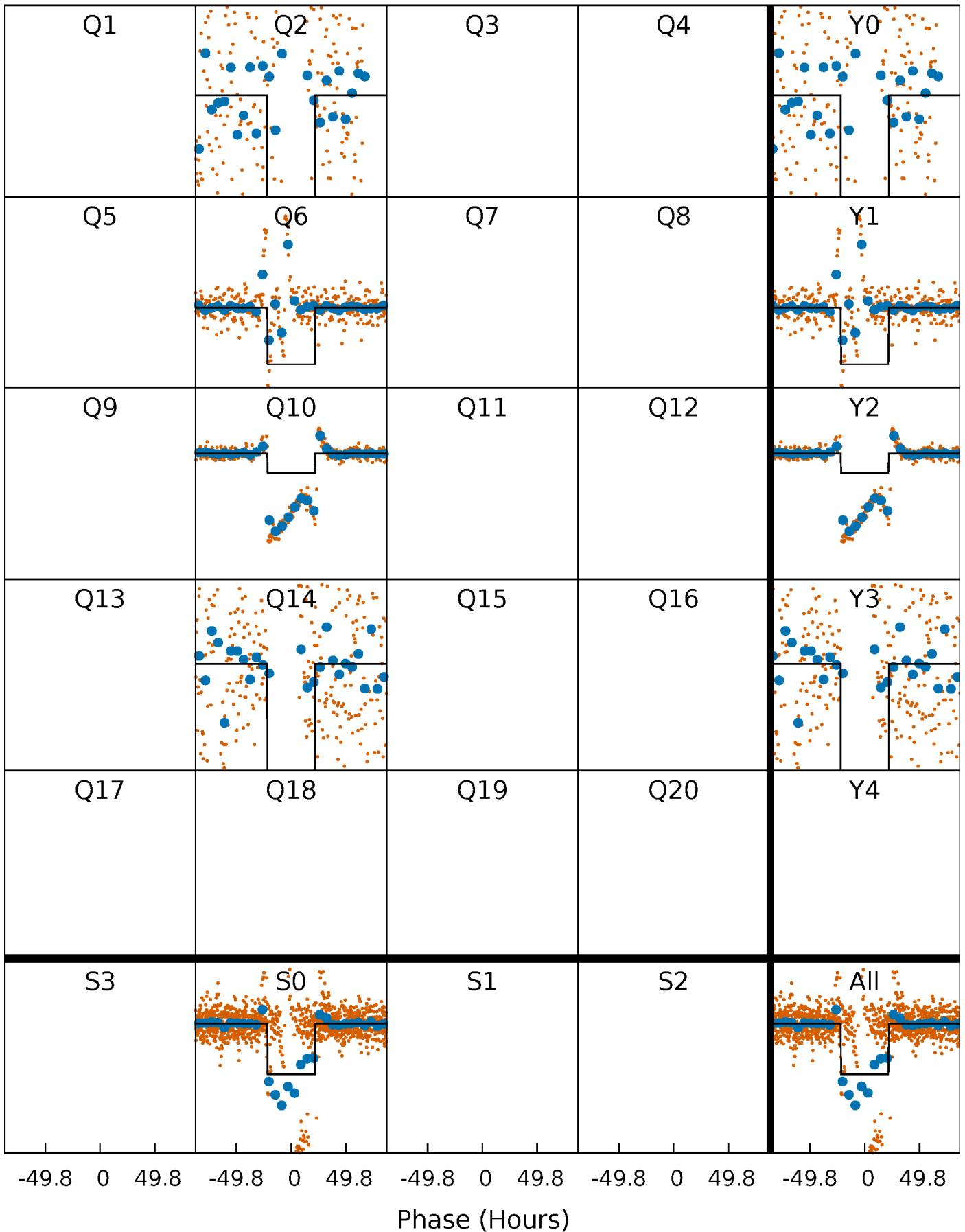
DV Quarter-Phased Transit Curves

TCE 005521373-01 P=350.138899 Days $T_0=255.685243$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

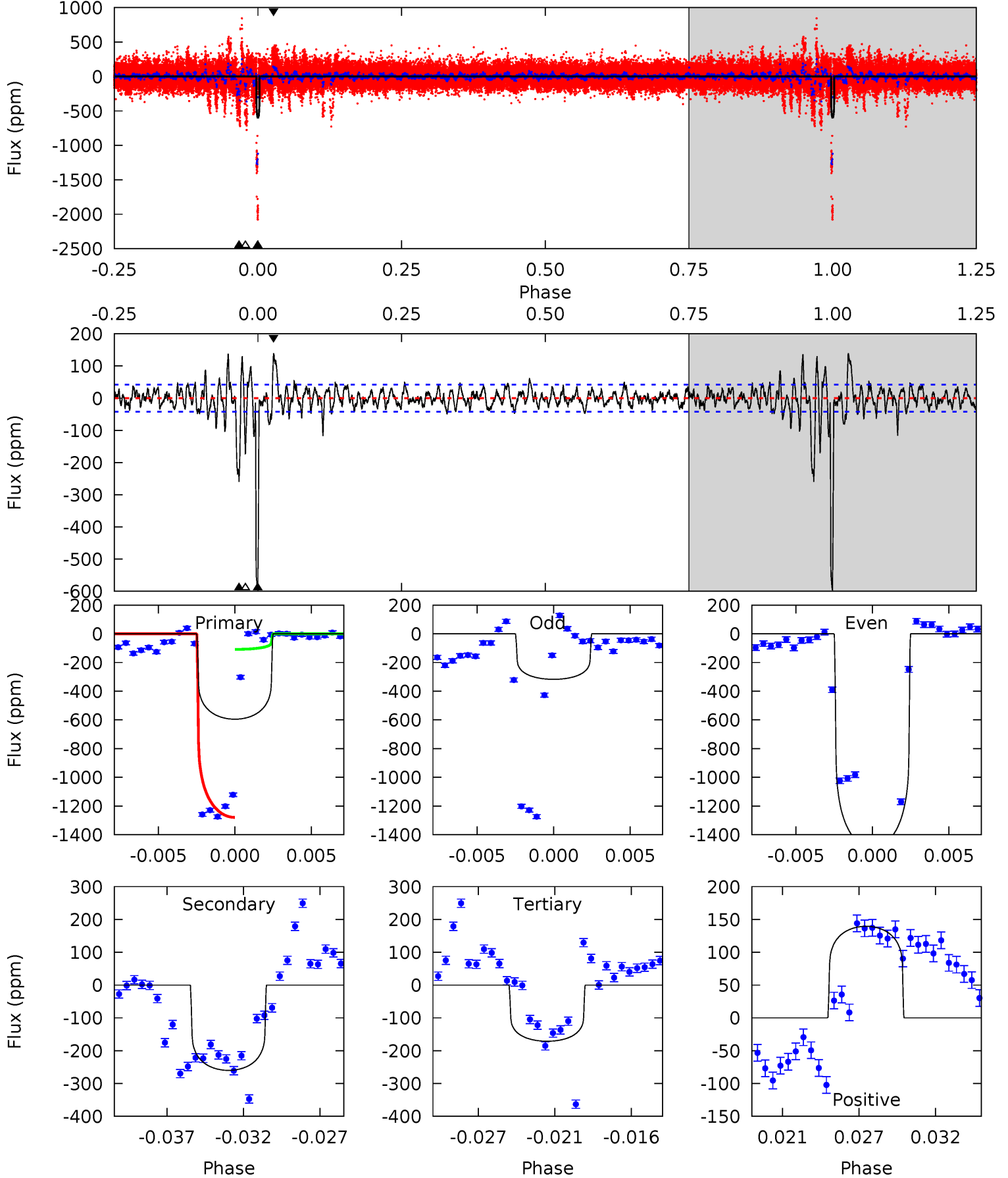
TCE 005521373-01 P=350.054127 Days $T_0=255.753481$ (BKJD)



DV Model-Shift Uniqueness Test

005521373-01, P = 350.138899 Days, E = 255.685243 Days

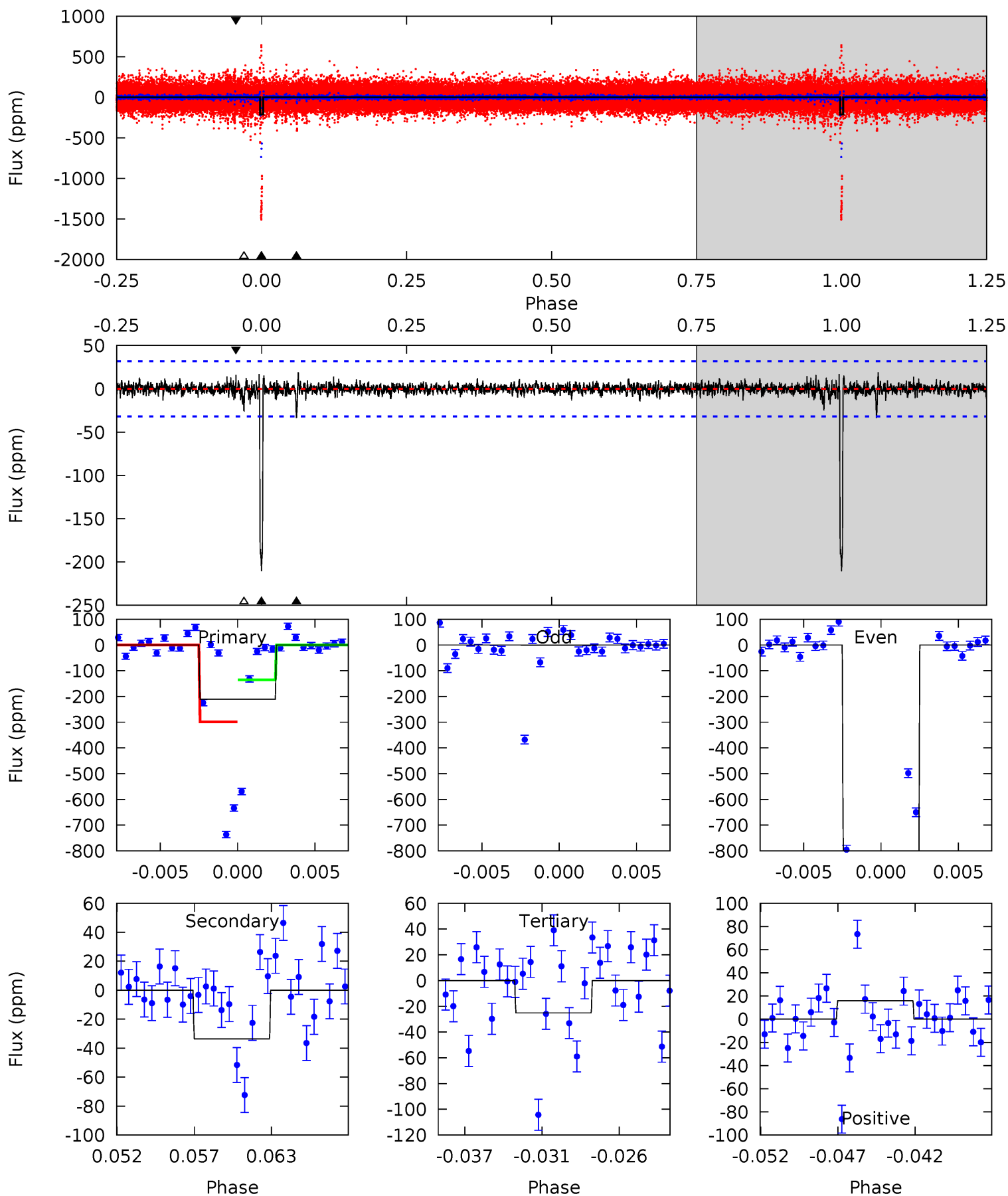
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.7	31.8	20.9	17.1	5.15	2.79	3.42	51.8	55.7	10.9	14.7	68.9	2.42	0.19	67.3



Alt Model-Shift Uniqueness Test

005521373-01, P = 350.054127 Days, E = 255.753481 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.9	5.41	4.05	2.55	5.15	2.79	0.60	29.9	31.4	1.36	2.86	82.0	72.0	0.08	12.9



Stellar Parameters For KIC 005521373

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8703^{+240}_{-377}	$3.799^{+0.397}_{-0.132}$	$-0.260^{+0.450}_{-0.350}$	$2.942^{+0.835}_{-1.252}$	$1.987^{+0.425}_{-0.425}$	$0.110^{+0.358}_{-0.045}$
	+3%/-4%	+10%/-3%	+173%/-135%	+28%/-43%	+21%/-21%	+326%/-41%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005521373-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-260 ± 8	$5.42^{+1.15}_{-1.20}$	805^{+63}_{-85}	8105^{+549}_{-483}	7414^{+4138}_{-2131}
Alt.	-34 ± 6	$6.13^{+1.18}_{-1.36}$	802^{+68}_{-85}	4609^{+237}_{-246}	752^{+467}_{-236}

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 $A_{obs} \gg 1.0$

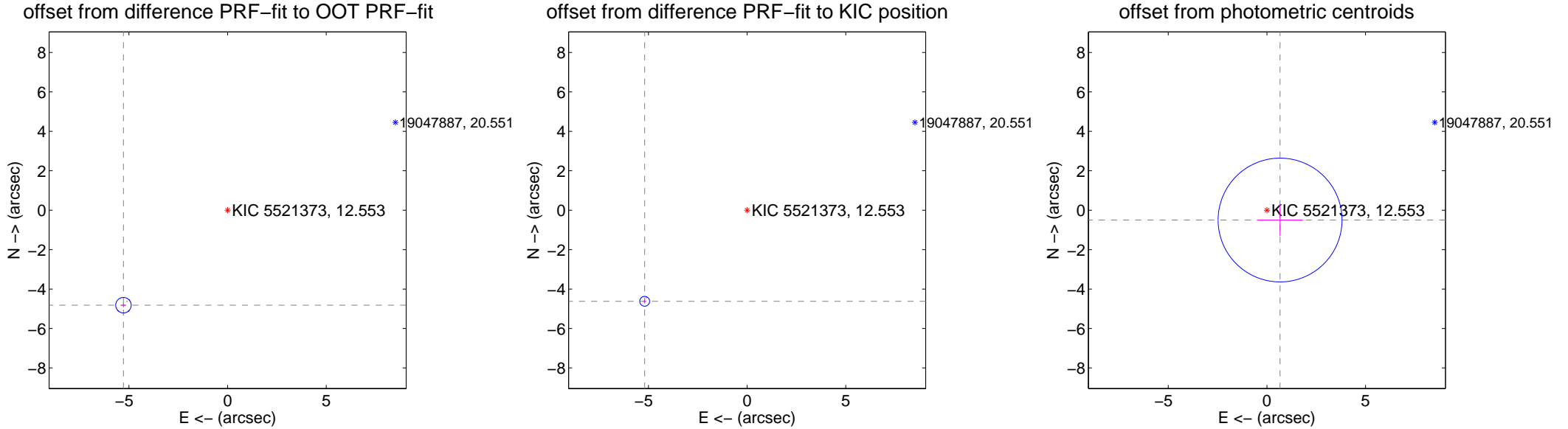
DV Centroid Data

Supplemental centroid analysis for 005521373-01. Kepler magnitude: 12.55. Transit SNR 10.29

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.146 ± 0.131	54.57	5.277 ± 0.102	-4.819 ± 0.106
PRF-fit source offset from KIC position	6.950 ± 0.083	83.55	5.192 ± 0.071	-4.621 ± 0.083
photometric centroid source offset	0.83 ± 1.05	0.80	-0.67 ± 1.16	-0.50 ± 0.80

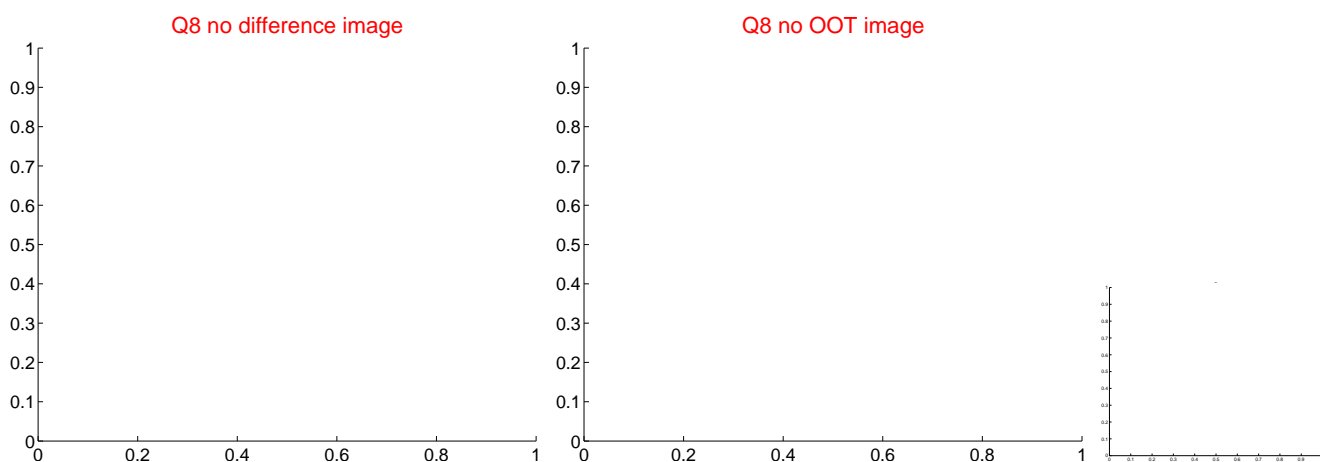
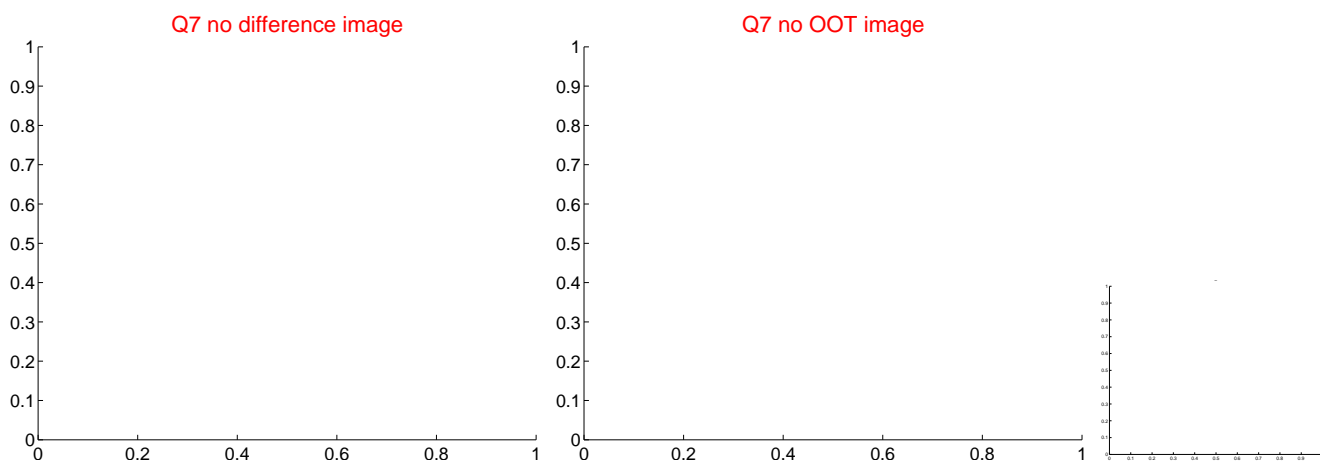
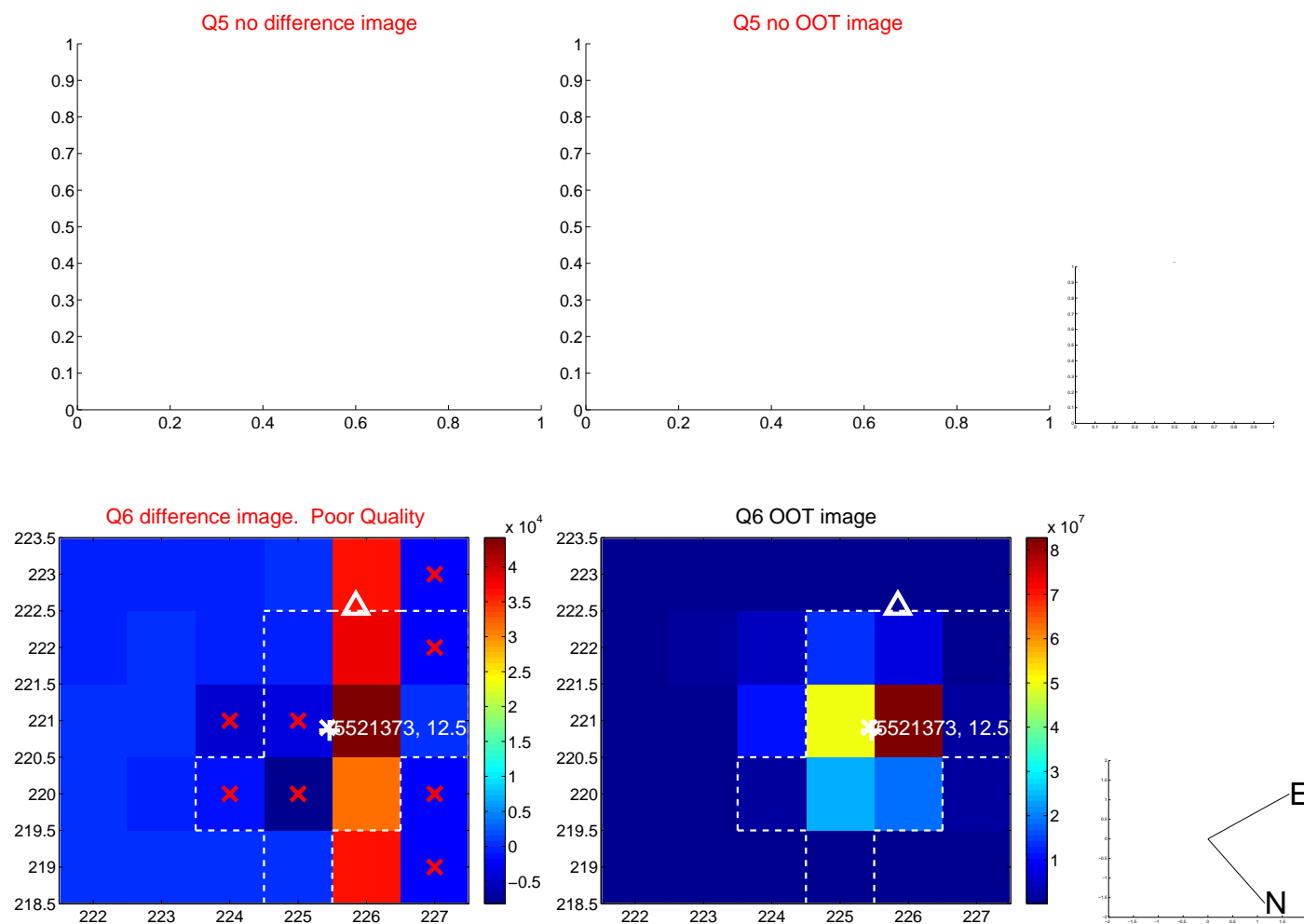


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

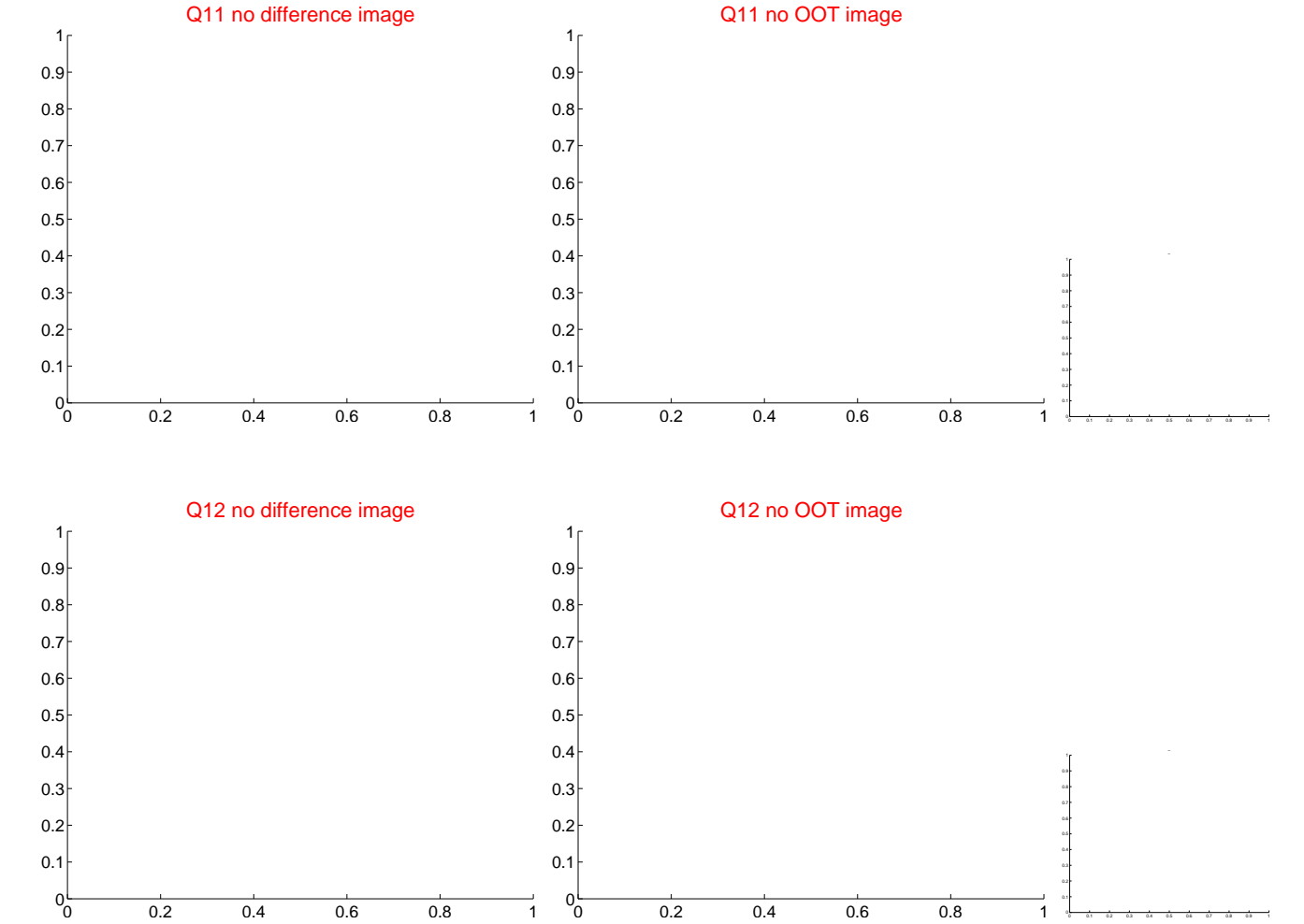
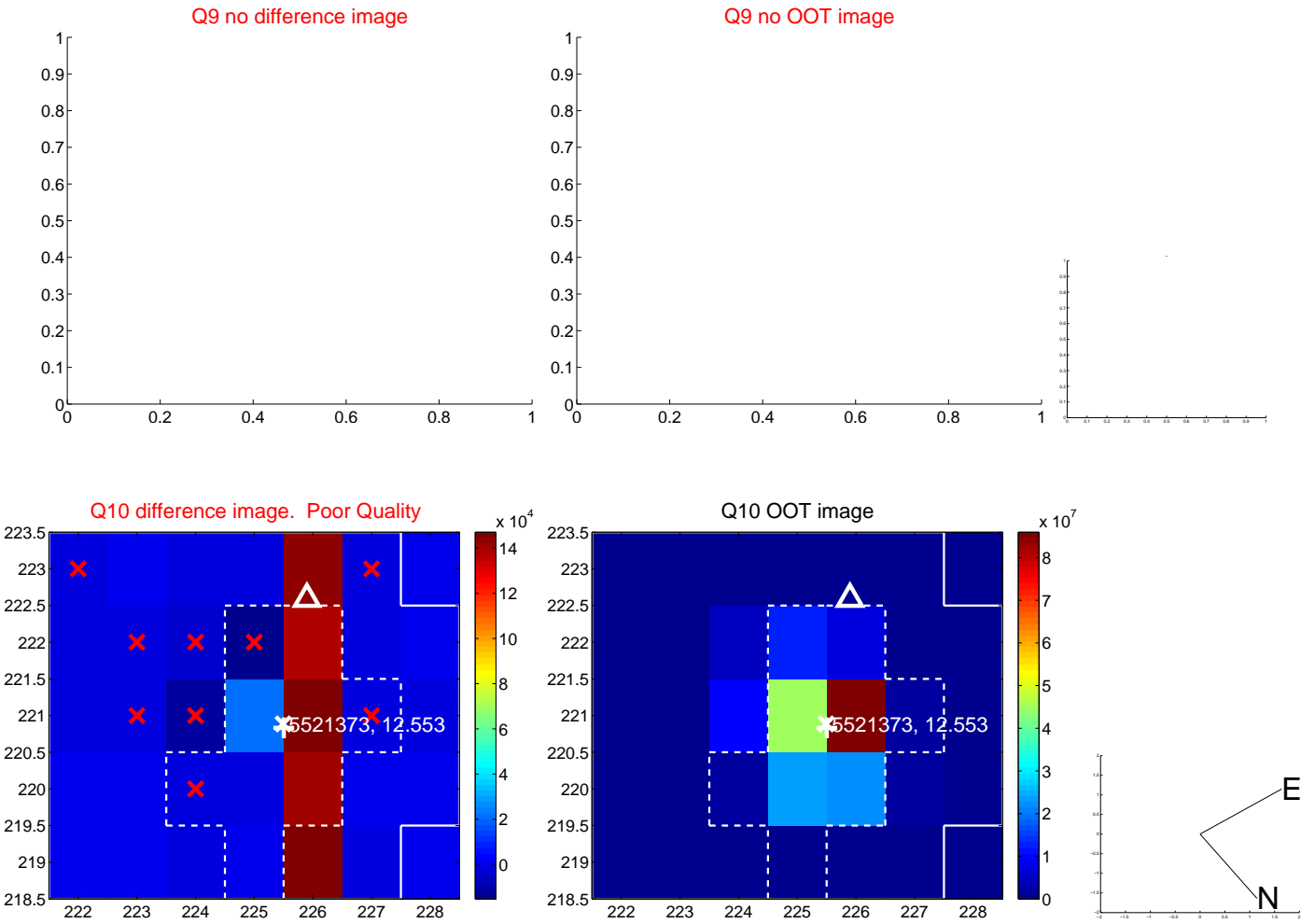
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



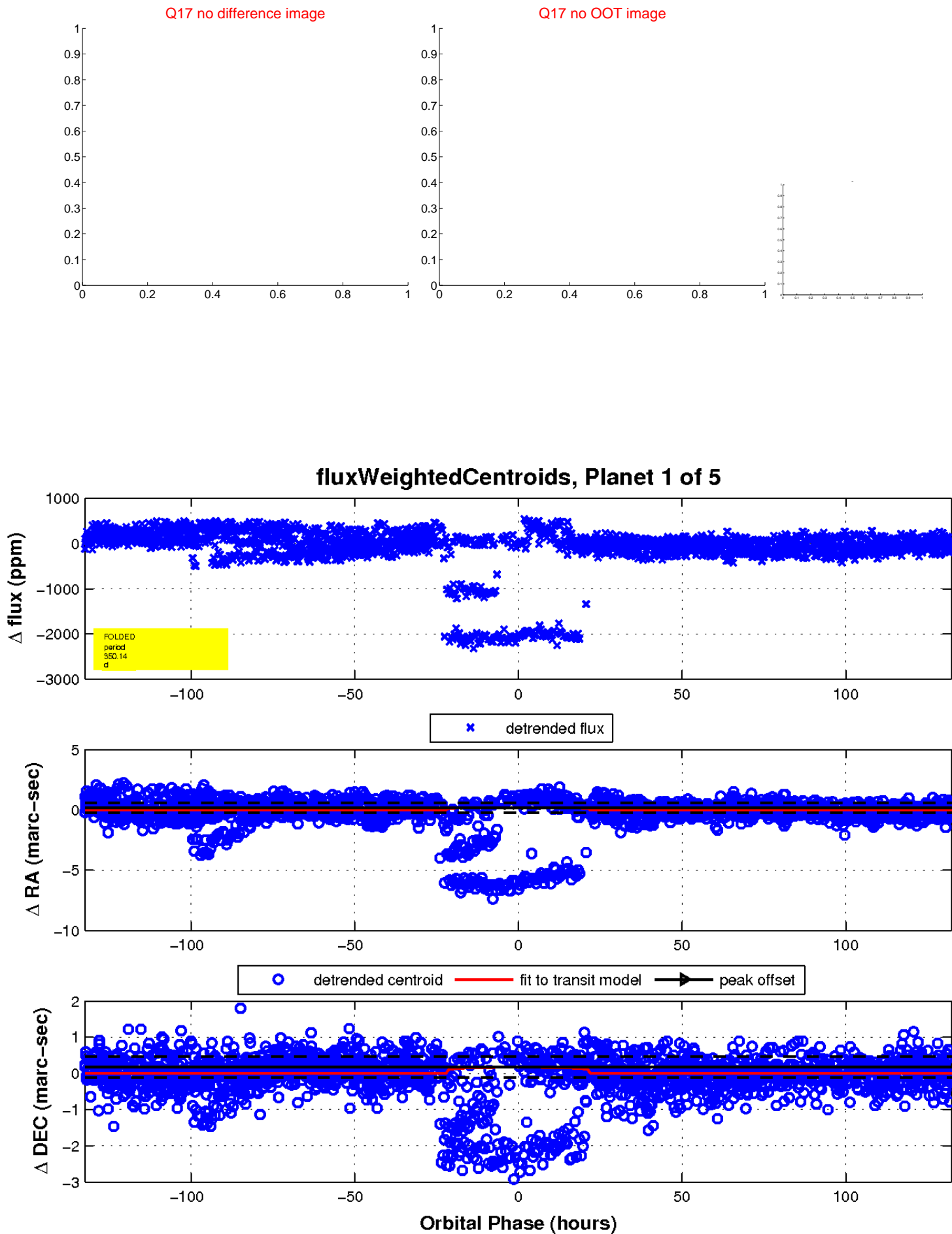
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

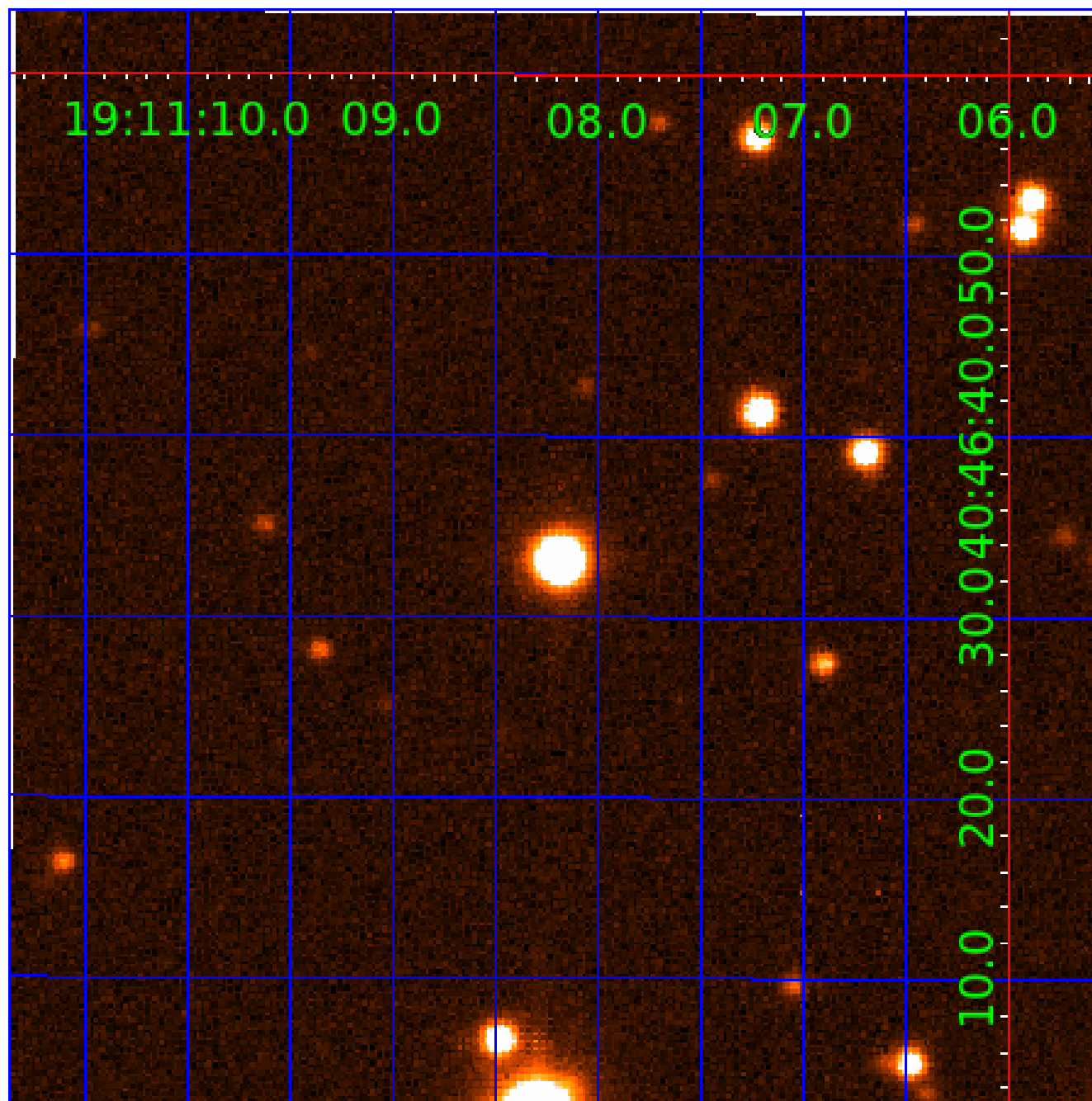


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005521373

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})
005521373-01	OBS	No	350.138899	255.685243	359.4	44.146	31.7	10.3	2.94	8703	5.73	29.76
005521373-02	OBS	No	382.789179	211.811725	144.9	16.352	26.5	6.2	2.94	8703	3.79	26.43
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005521373-04	OBS	No	357.126557	249.115804	392.5	14.439	14.7	14.7	2.94	8703	6.52	28.99
005521373-05	OBS	No	345.798327	247.185577	193.4	46.844	10.2	5.9	2.94	8703	4.24	30.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005521373-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005521373-02	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH
005521373-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

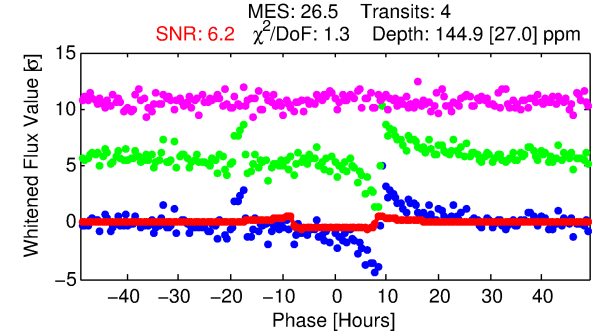
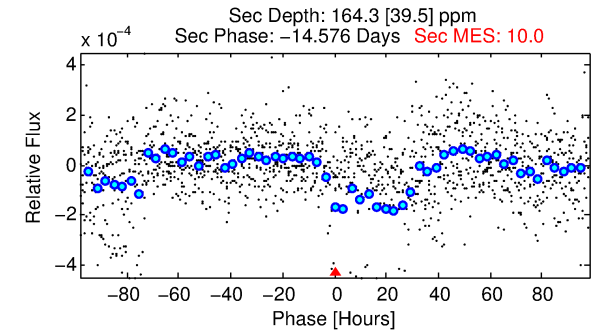
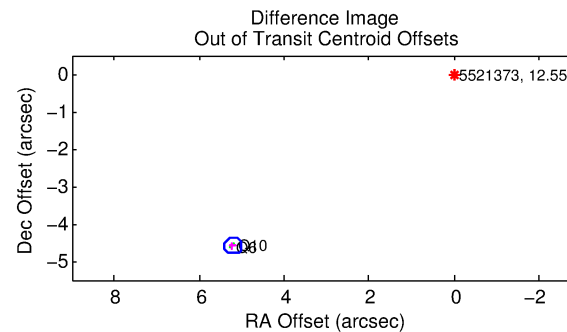
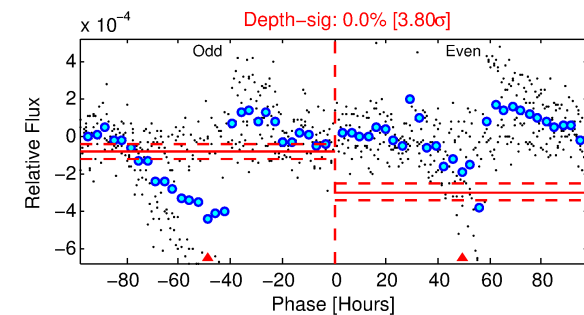
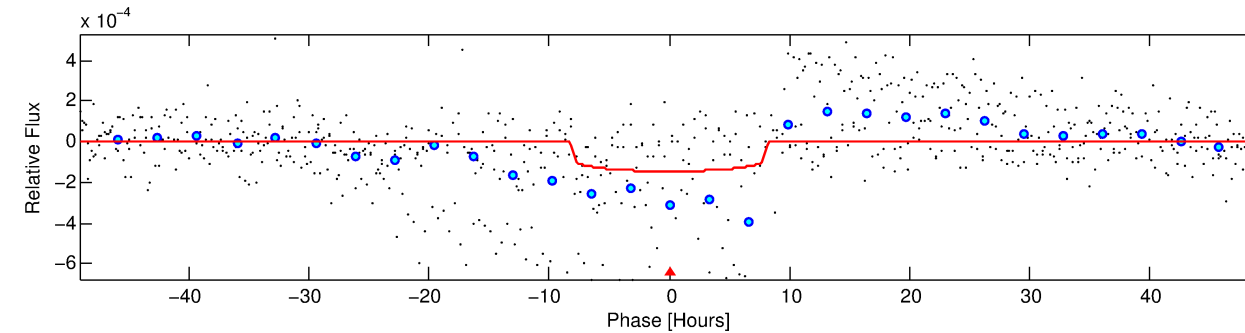
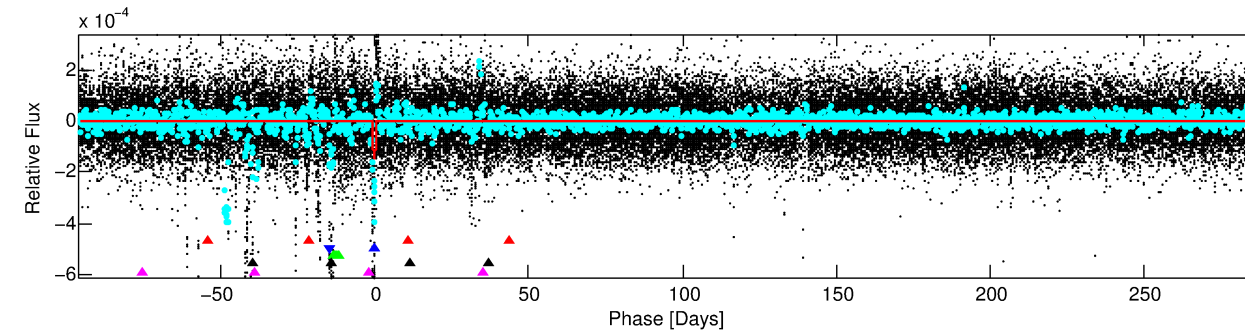
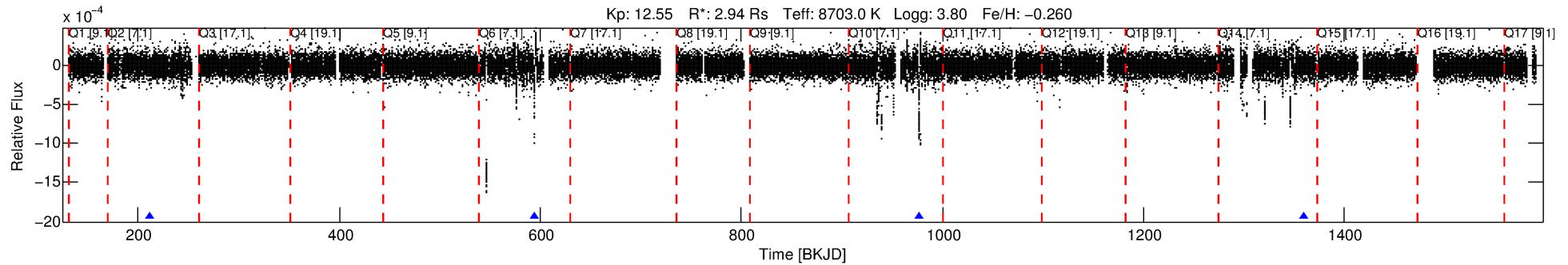
Ephemeris Match Information For 005521373-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005521373-02	5521373	005088084-05	5088084	1:1	2409.4	-606	-1	14.93	12.56	18.61	Col-Anomaly	1	0.16	0.89

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5521373 Candidate: 2 of 5 Period: 382.789 d



DV Fit Results:

Period = 382.78918 [0.00819] d
Epoch = 211.8117 [0.0156] BKJD
Rp/R* = 0.0118 [0.0028]
a/R* = 131.95 [173.76]
b = 0.69 [0.99]
Seff = 26.43 [18.35]
Teq = 578 [100] K
Rp = 3.79 [1.84] Re
a = 1.2975 [0.5402] AU
Ag = 10576.70 [9047.64] [1.17 σ]
Teff = 9065 [1262] K [6.71 σ]

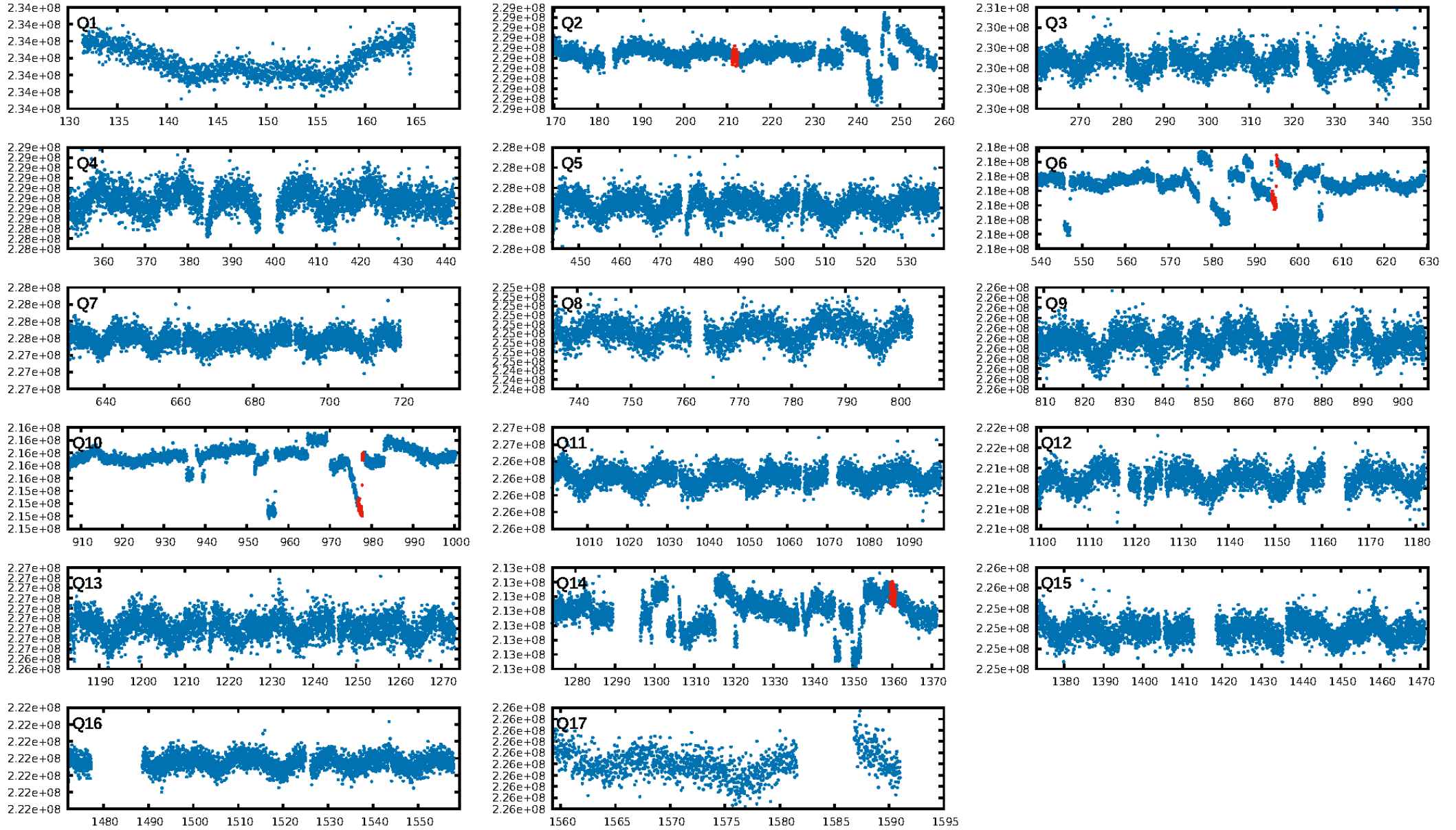
DV Diagnostic Results:

ShortPeriod-sig: 50.1% [0.68 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 53.4%
Bootstrap-pfa: 1.24e-17
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.7074
Centroid-sig: 0.0%
Centroid-so: 5.602 arcsec [2.76 σ]
OotOffset-rm: 6.938 arcsec [96.03 σ]
KicOffset-rm: 6.775 arcsec [80.94 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.75 [3/4]

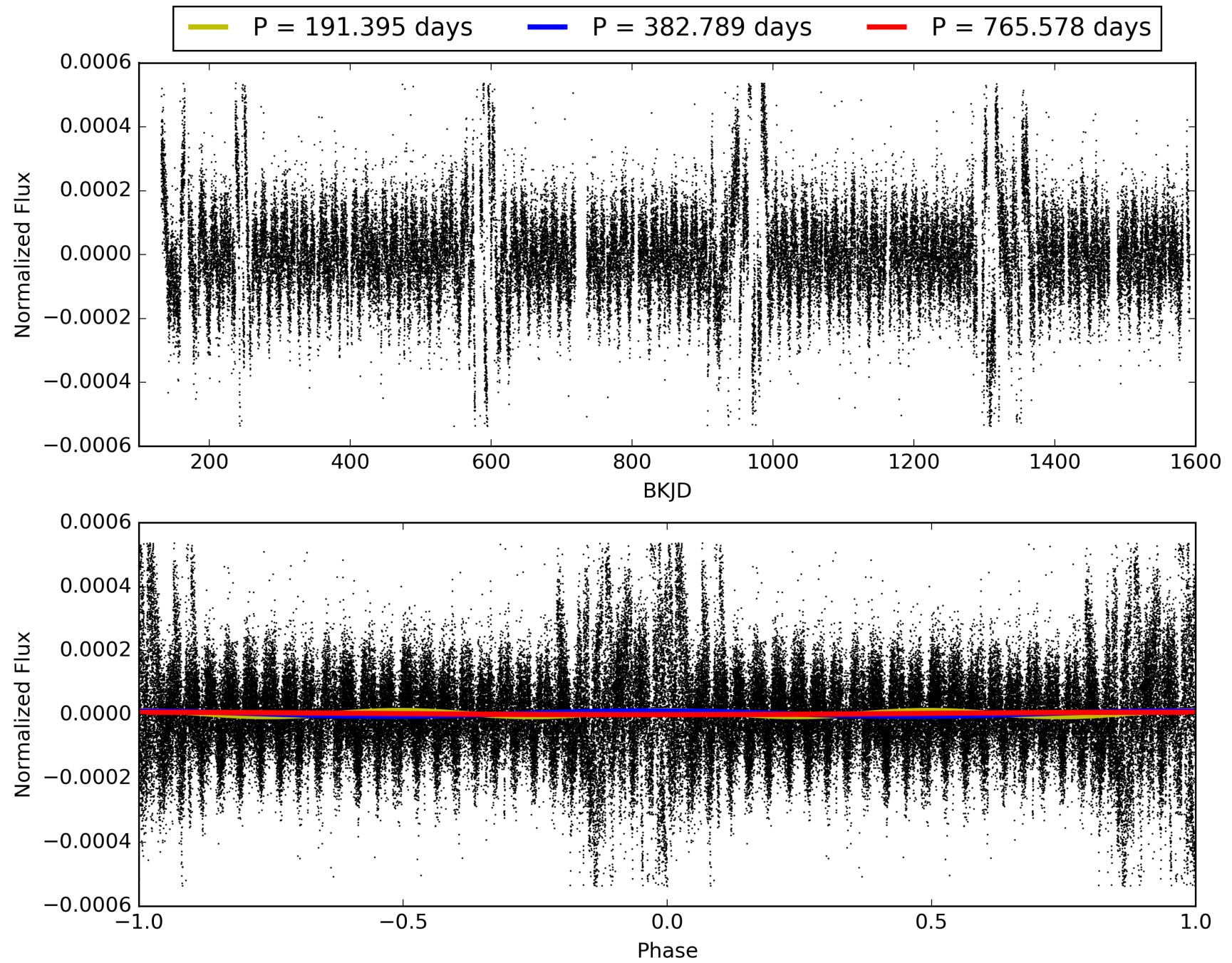
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:32:55 Z

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

TCE 005521373-02, PDC Light Curves

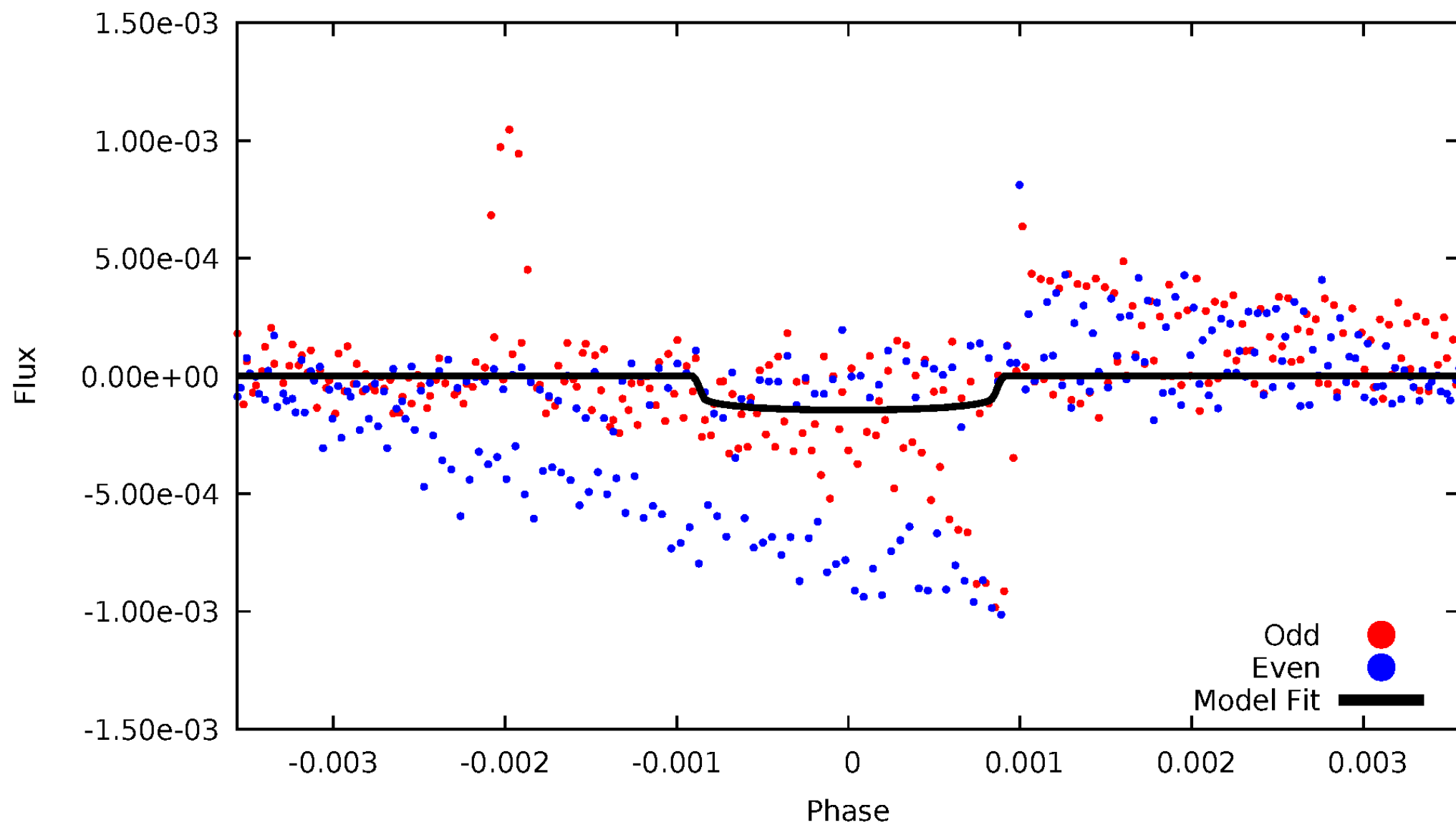


TCE 005521373-02



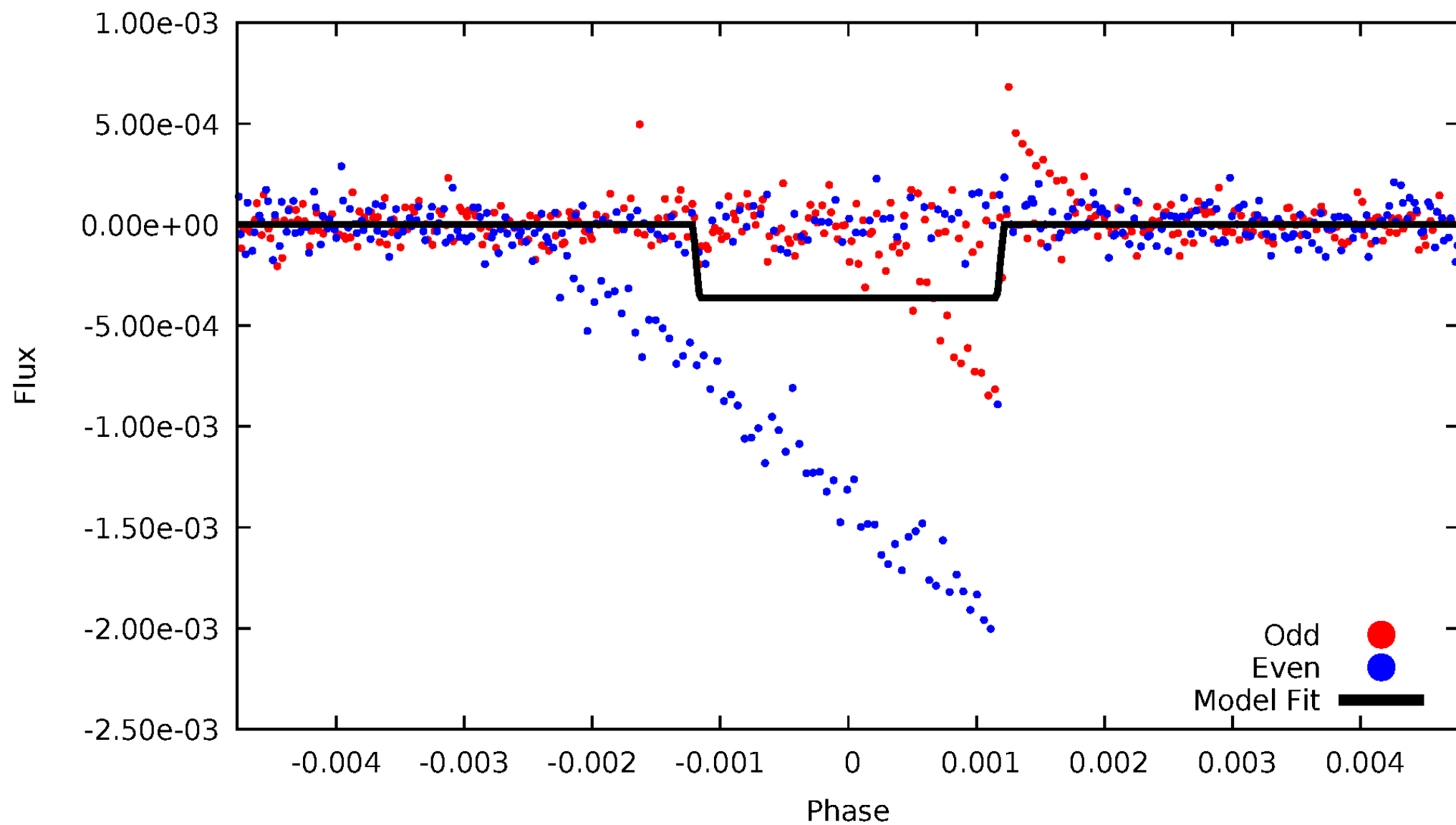
DV Odd/Even

TCE 005521373-02



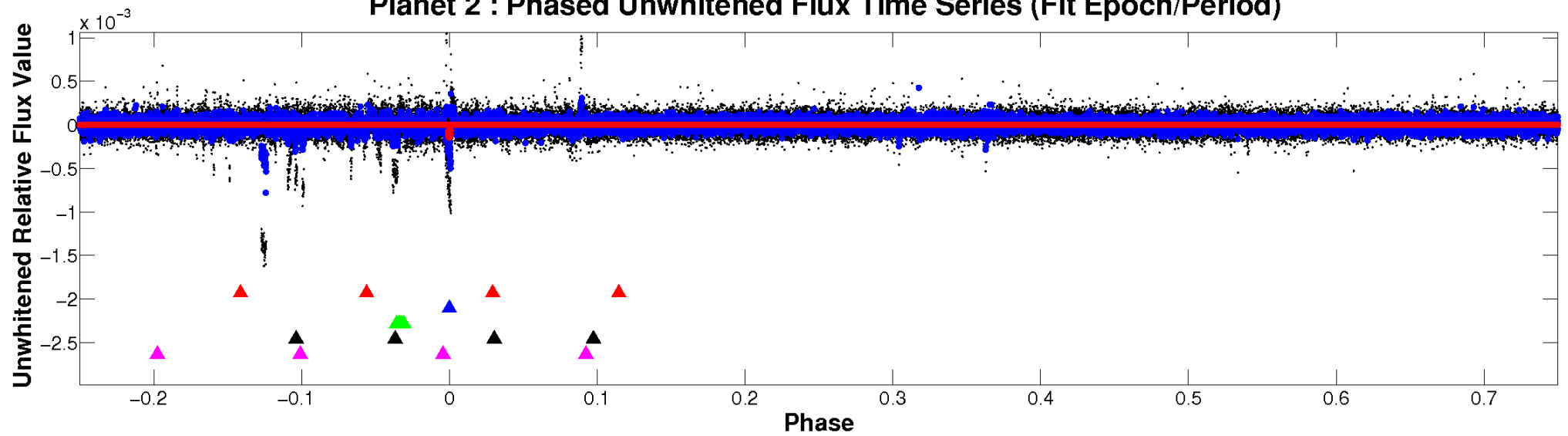
ALT Odd/Even

TCE 005521373-02

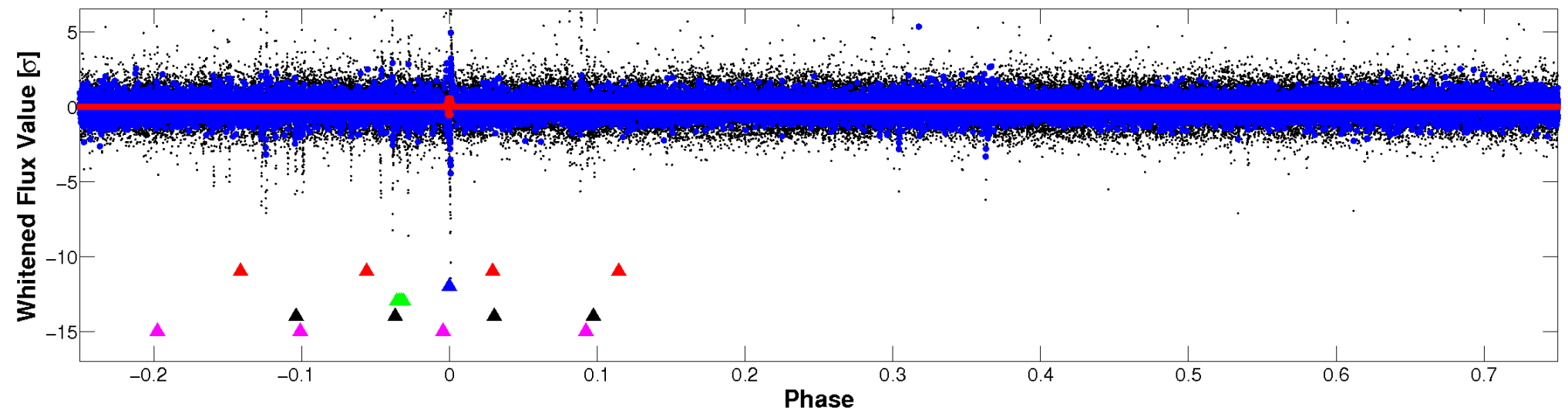


Non-Whitened Vs. Whitened Light Curve

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

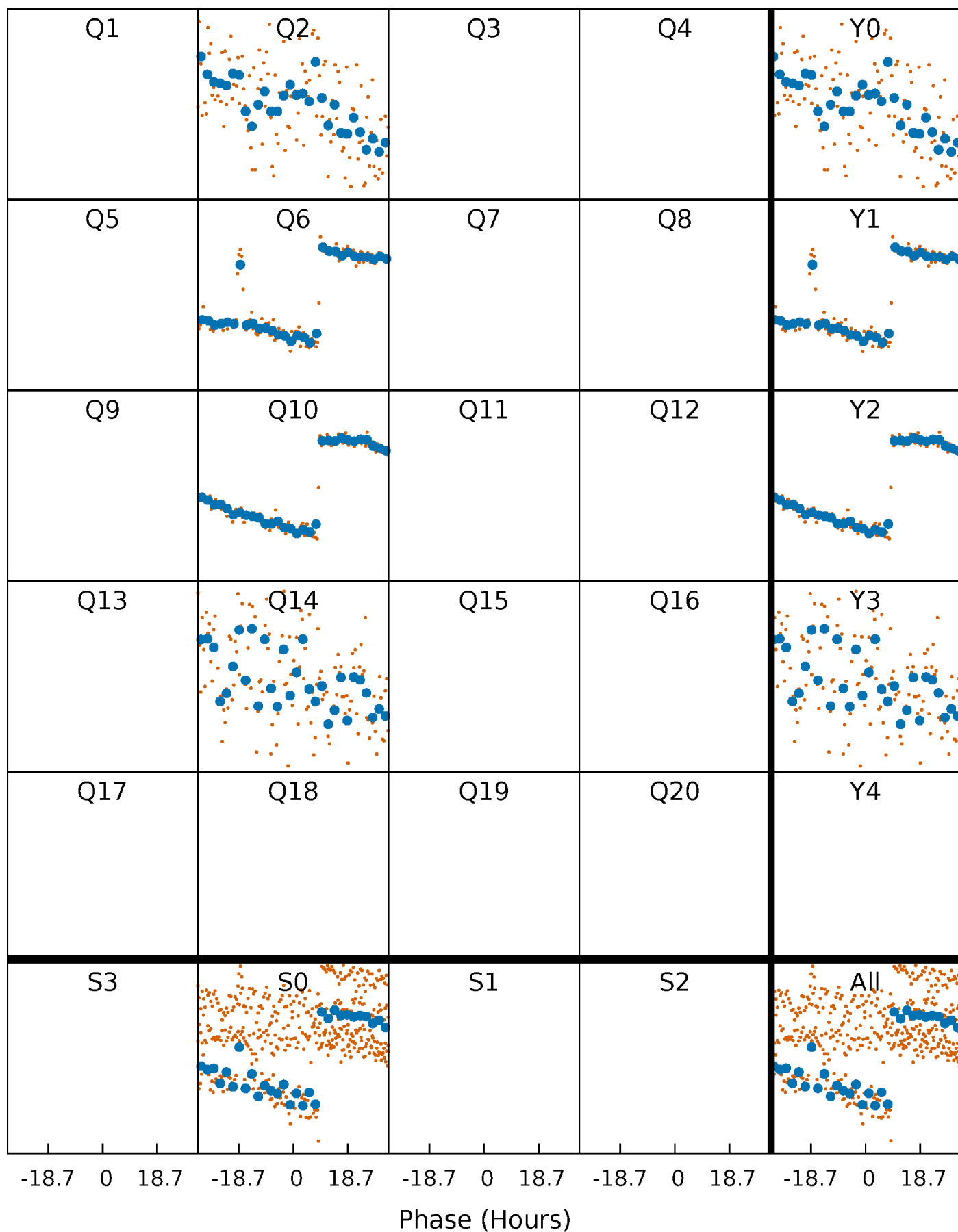


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



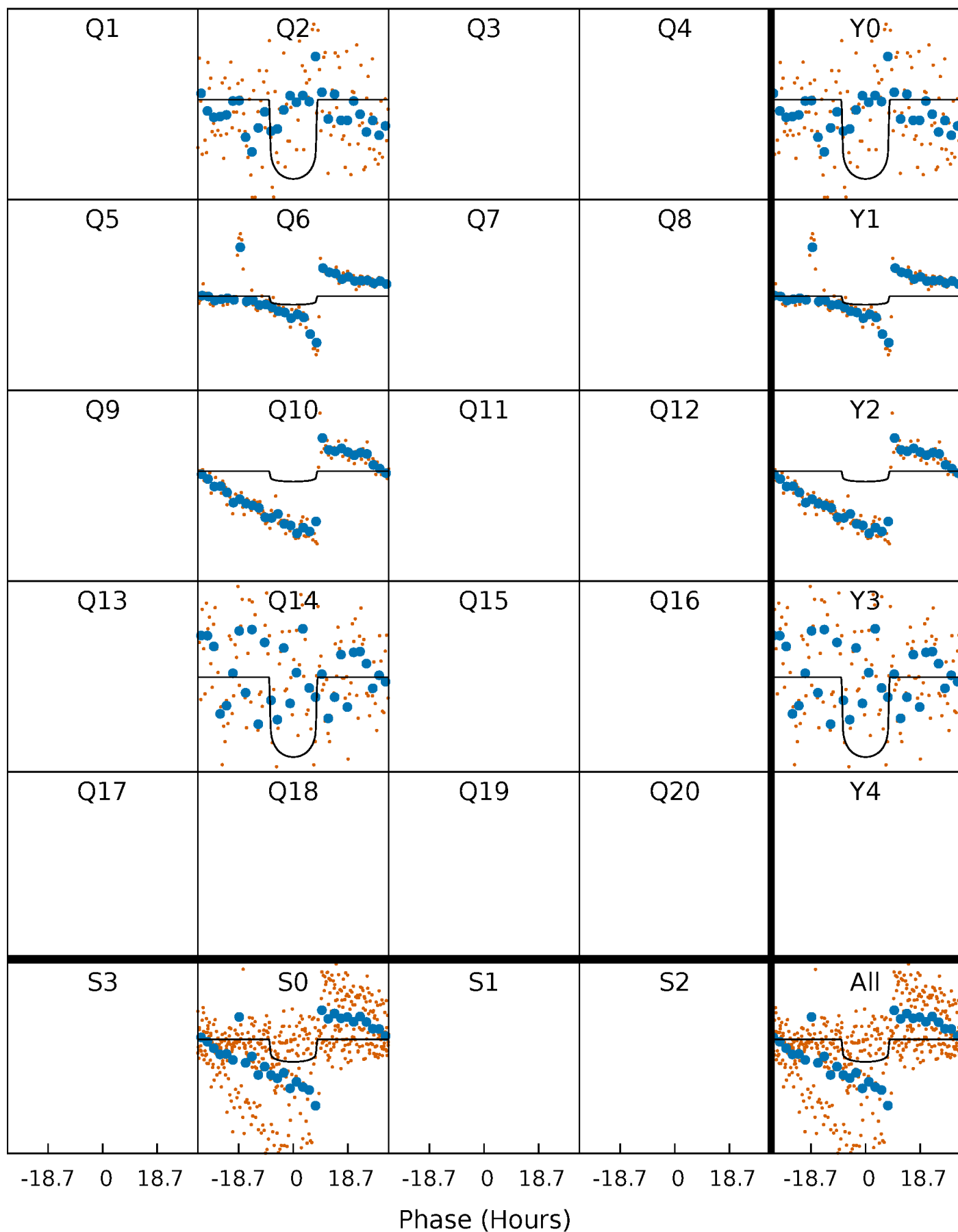
PDC Quarter-Phased Transit Curves

TCE 005521373-02 P=382.789179 Days $T_0=211.811725$ (BKJD)



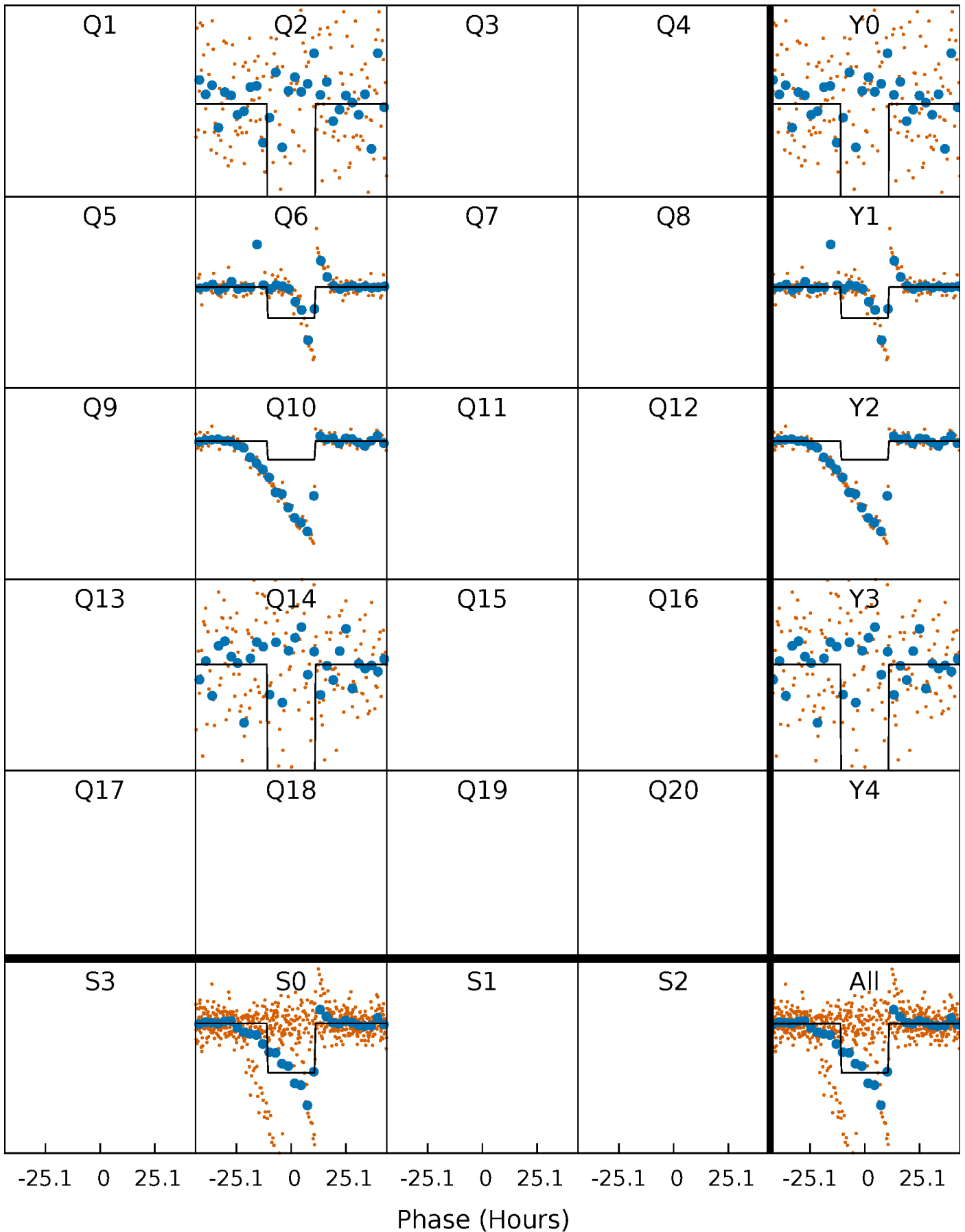
DV Quarter-Phased Transit Curves

TCE 005521373-02 P=382.789179 Days $T_0=211.811725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

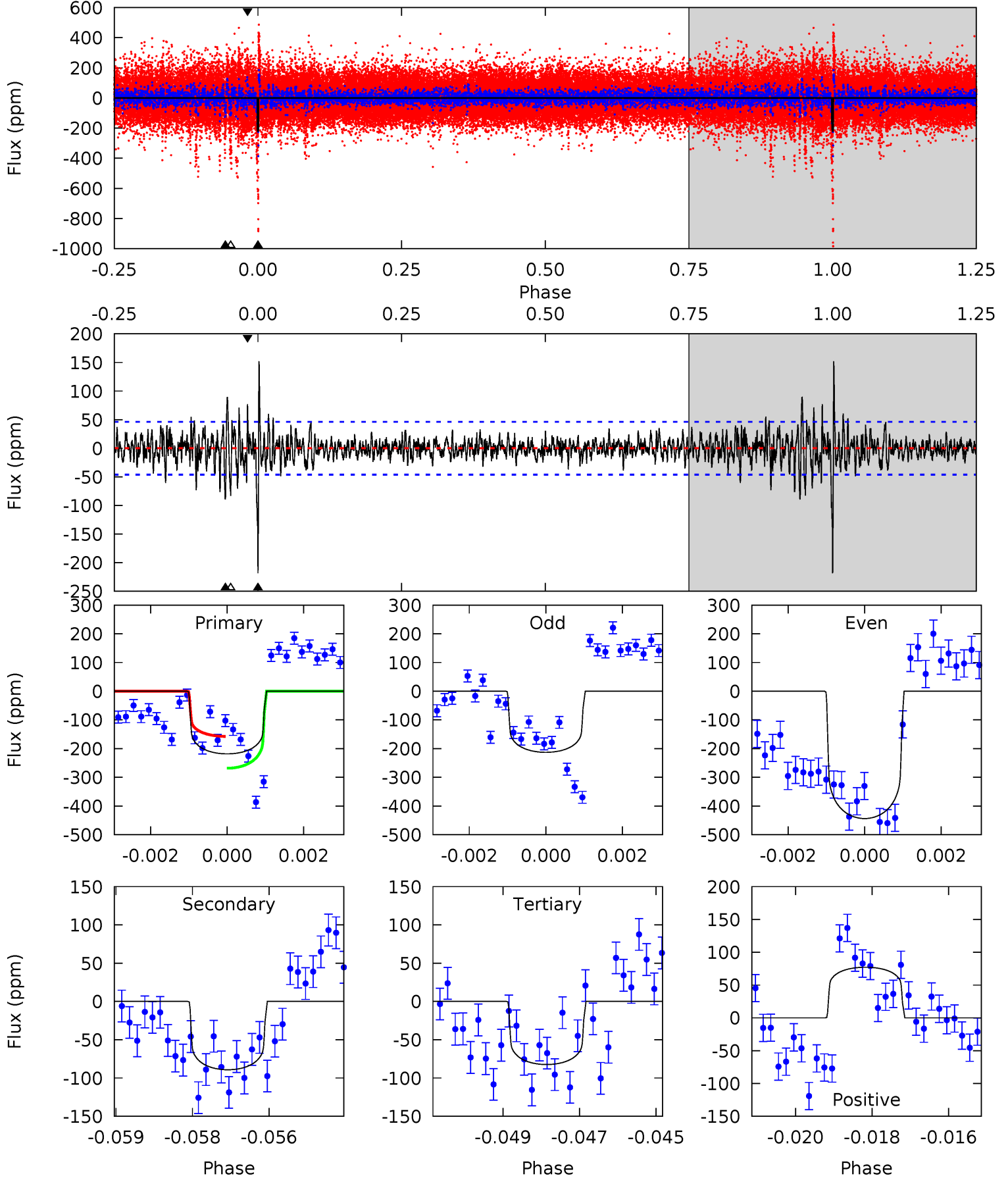
TCE 005521373-02 P=382.795502 Days $T_0=211.714183$ (BKJD)



DV Model-Shift Uniqueness Test

005521373-02, $P = 382.789179$ Days, $E = 211.811725$ Days

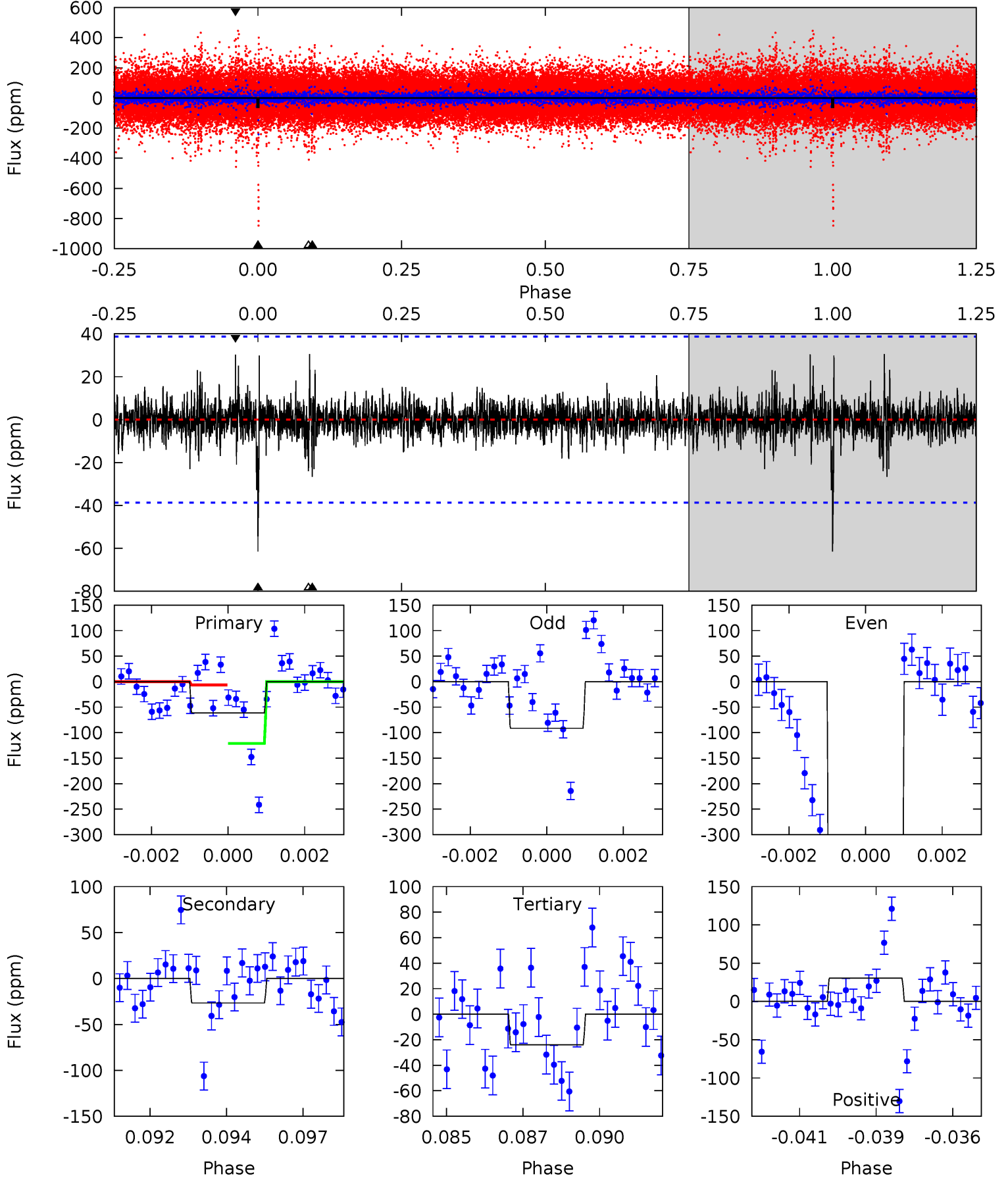
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.3	10.3	9.56	8.95	5.35	3.12	2.04	15.8	16.4	0.79	1.40	13.7	1.50	0.41	0



Alt Model-Shift Uniqueness Test

005521373-02, P = 382.795502 Days, E = 211.714183 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.41	3.64	3.28	4.15	5.29	3.03	0.72	5.13	4.26	0.36	-0.51	46.2	3.87	0.33	0



Stellar Parameters For KIC 005521373

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8703^{+240}_{-377}	$3.799^{+0.397}_{-0.132}$	$-0.260^{+0.450}_{-0.350}$	$2.942^{+0.835}_{-1.252}$	$1.987^{+0.425}_{-0.425}$	$0.110^{+0.358}_{-0.045}$
	+3%/-4%	+10%/-3%	+173%/-135%	+28%/-43%	+21%/-21%	+326%/-41%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005521373-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-89 ± 9	$3.57^{+1.18}_{-1.14}$	778^{+73}_{-87}	7493^{+1329}_{-810}	6668^{+6824}_{-2800}
Alt.	-27 ± 7	$5.75^{+1.49}_{-1.35}$	784^{+66}_{-84}	4481^{+409}_{-358}	731^{+549}_{-300}

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

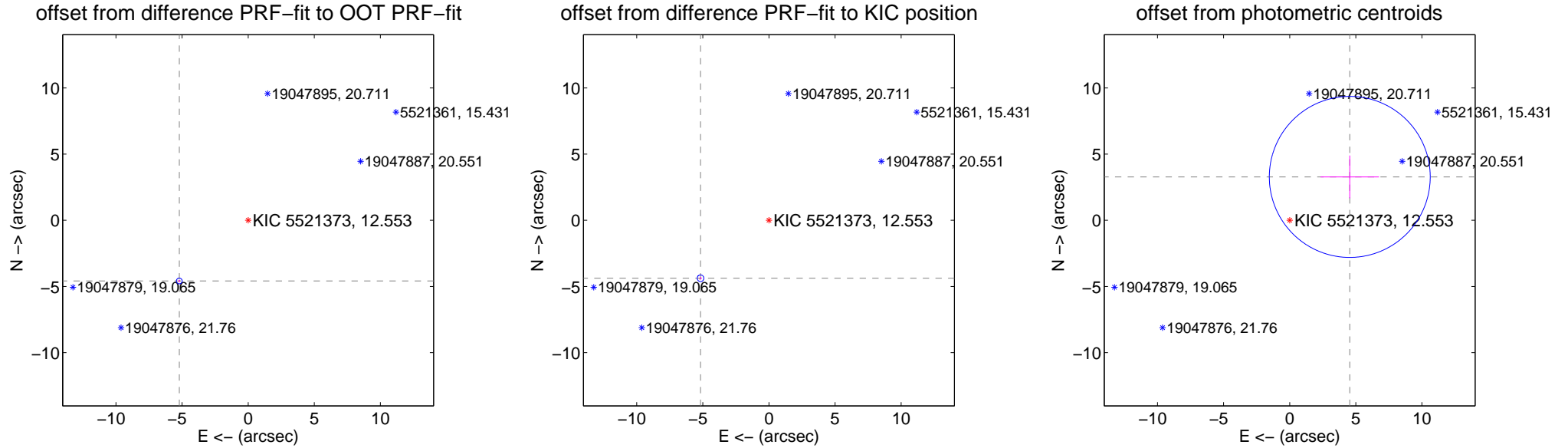
DV Centroid Data

Supplemental centroid analysis for 005521373-02. Kepler magnitude: 12.55. Transit SNR 6.21

There are 0 quarters with good PRF difference image offsets

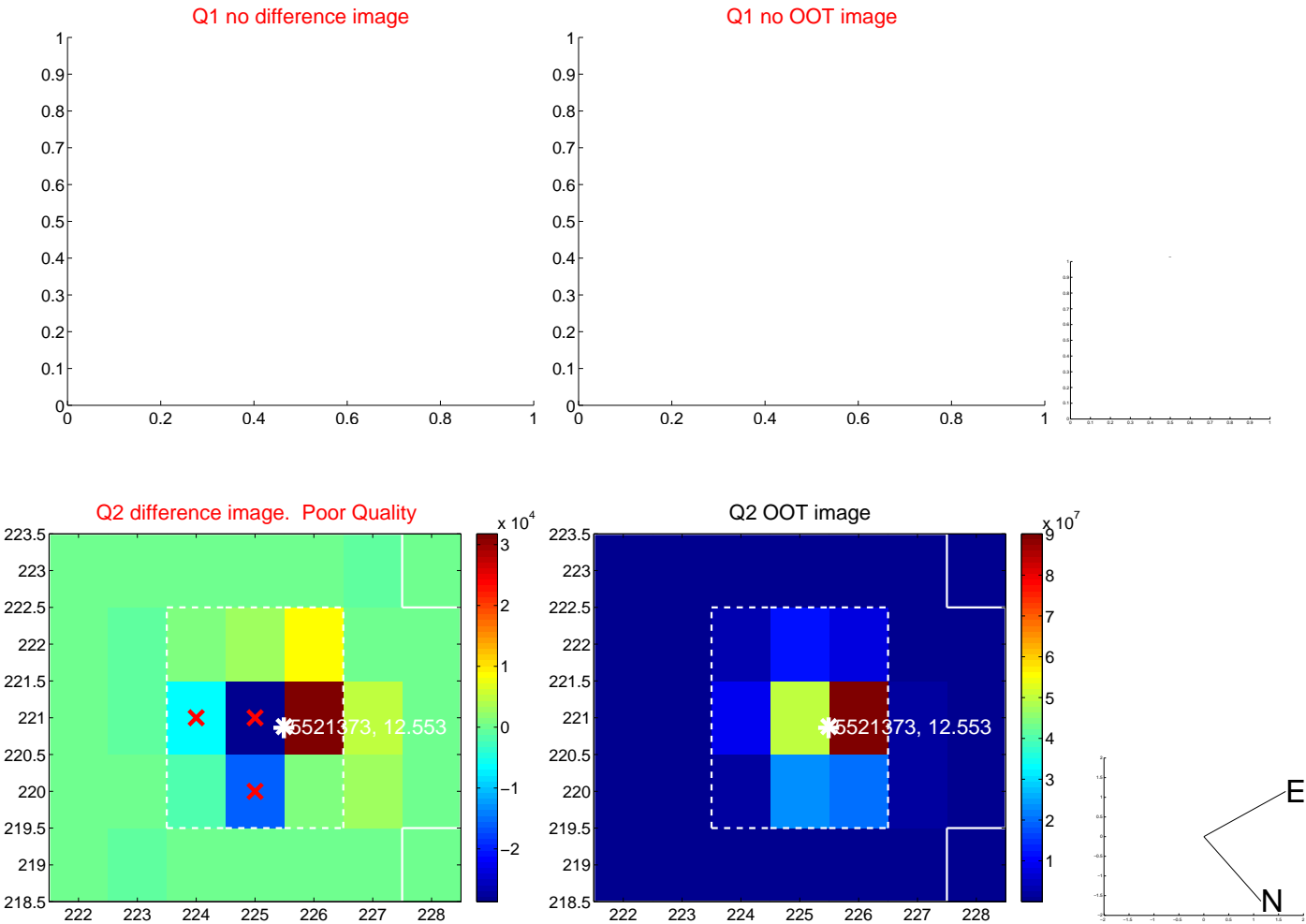
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.938 ± 0.072	96.03	5.209 ± 0.068	-4.582 ± 0.071
PRF-fit source offset from KIC position	6.775 ± 0.084	80.94	5.171 ± 0.074	-4.378 ± 0.079
photometric centroid source offset	5.60 ± 2.03	2.76	-4.54 ± 2.21	3.28 ± 1.61

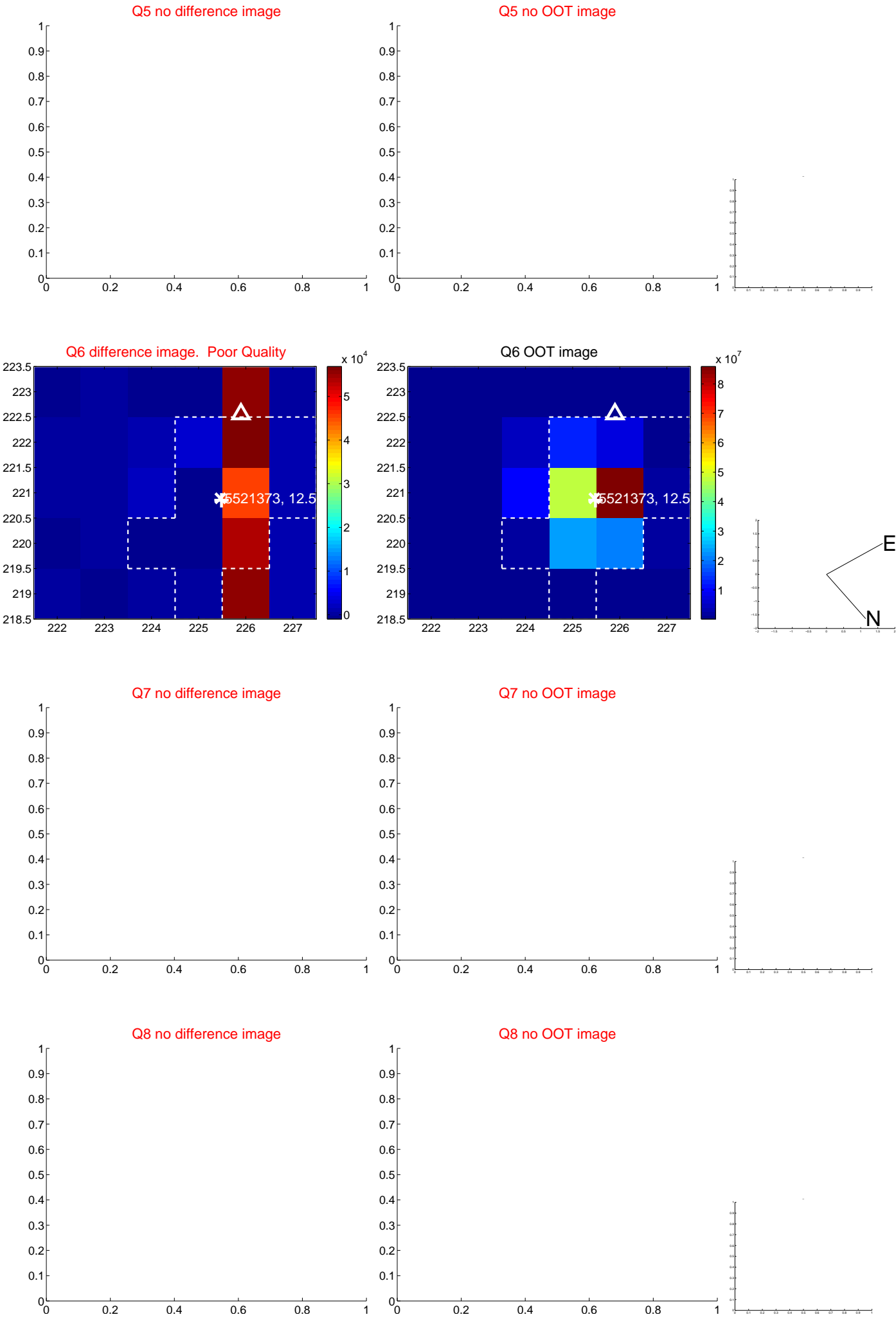


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

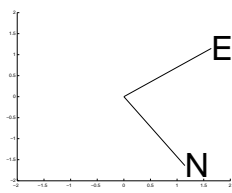
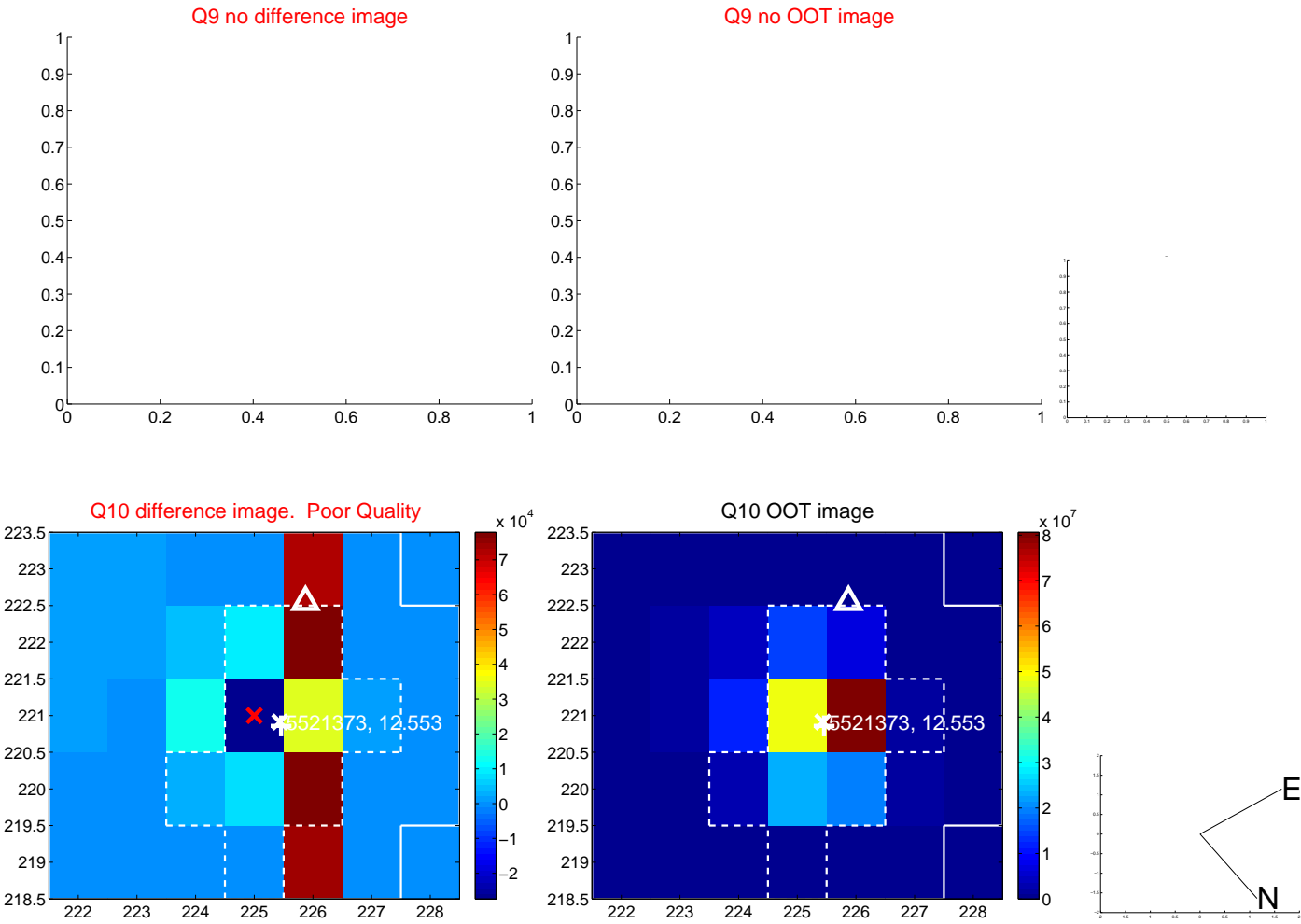
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



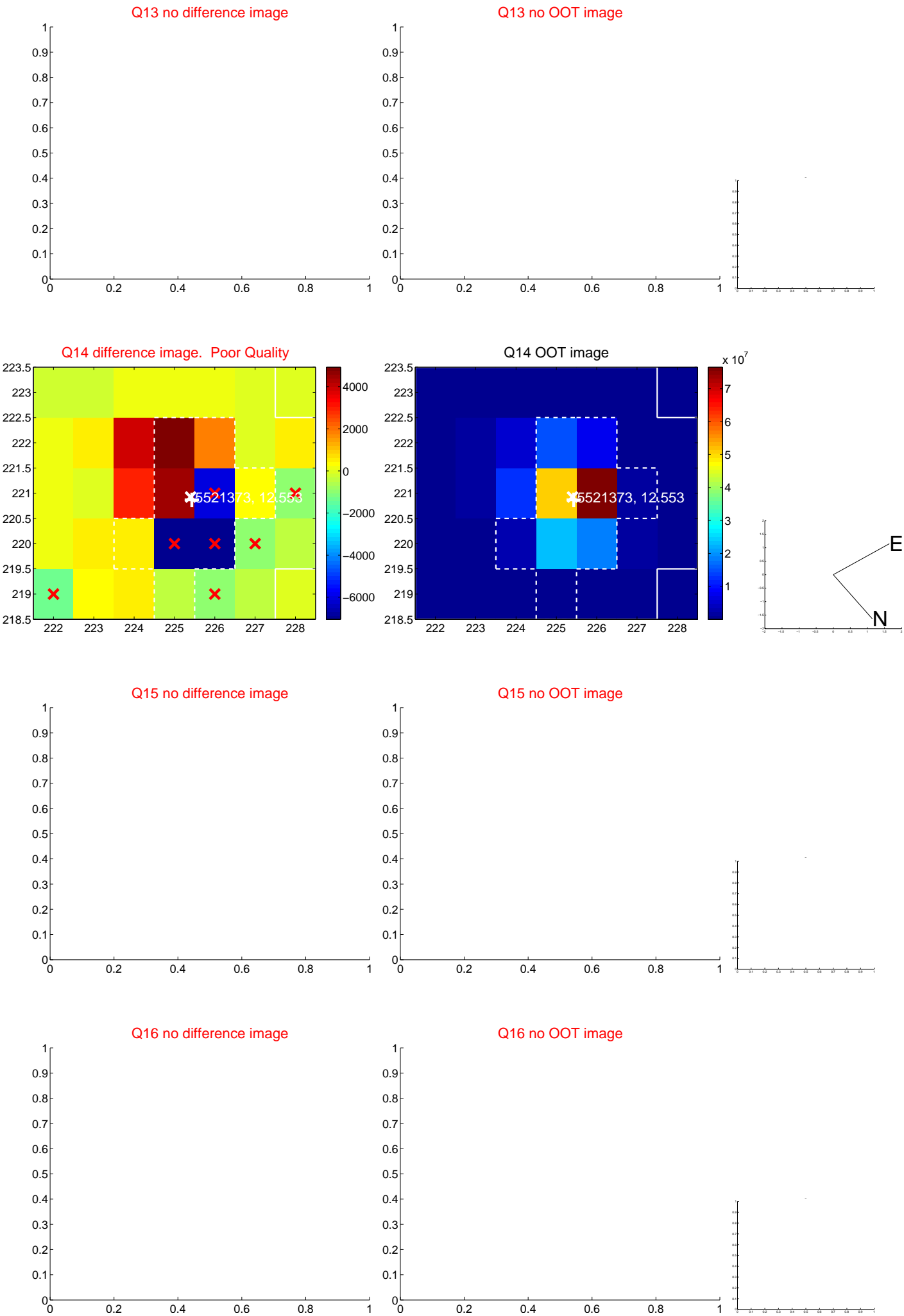
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



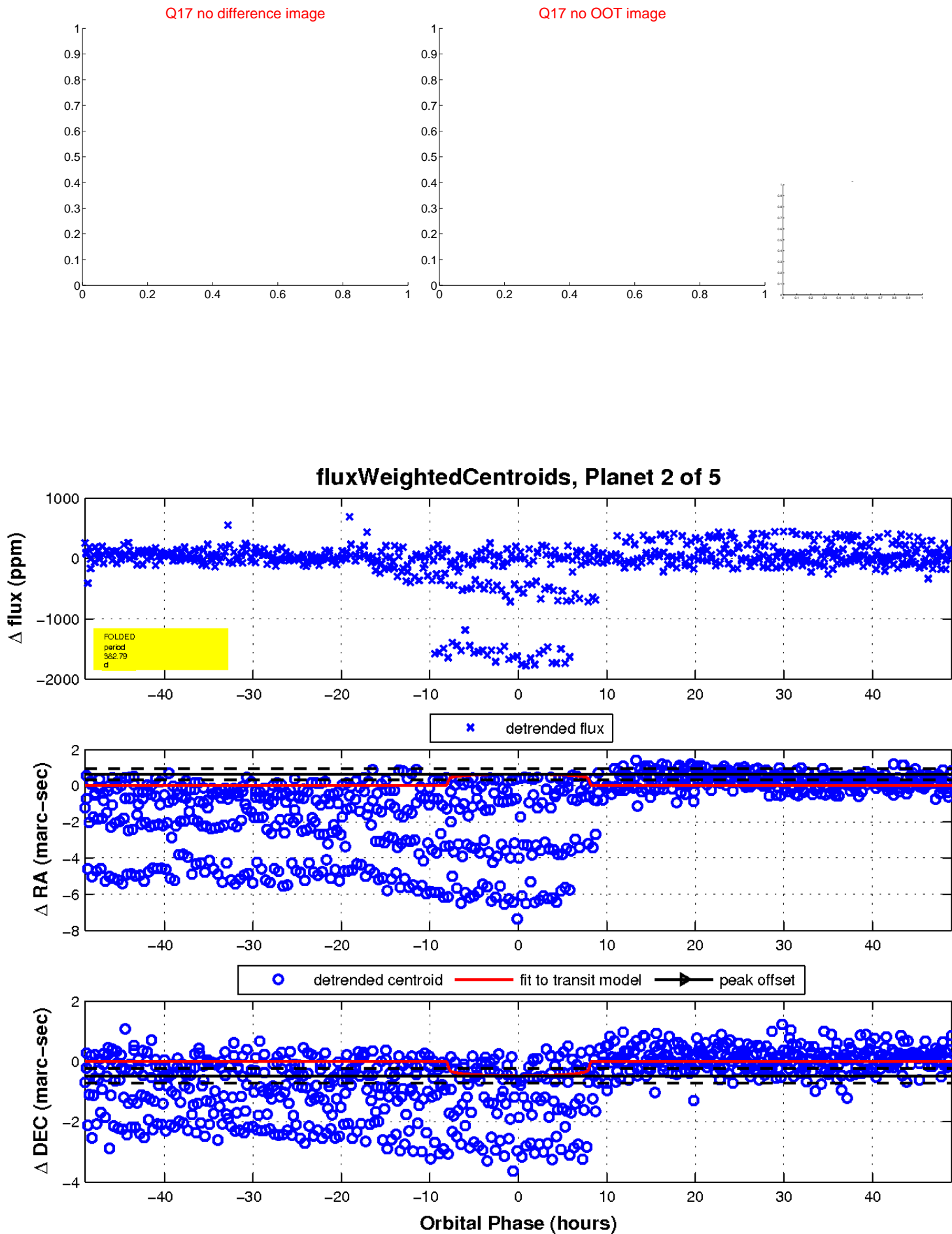
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



Declination

KIC 005521373

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})
005521373-01	OBS	No	350.138899	255.685243	359.4	44.146	31.7	10.3	2.94	8703	5.73	29.76
005521373-02	OBS	No	382.789179	211.811725	144.9	16.352	26.5	6.2	2.94	8703	3.79	26.43
005521373-03	OBS	No	382.190609	199.973655	149.4	13.586	10.7	7.5	2.94	8703	4.00	26.48
005521373-04	OBS	No	357.126557	249.115804	392.5	14.439	14.7	14.7	2.94	8703	6.52	28.99
005521373-05	OBS	No	345.798327	247.185577	193.4	46.844	10.2	5.9	2.94	8703	4.24	30.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005521373-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005521373-02	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH
005521373-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

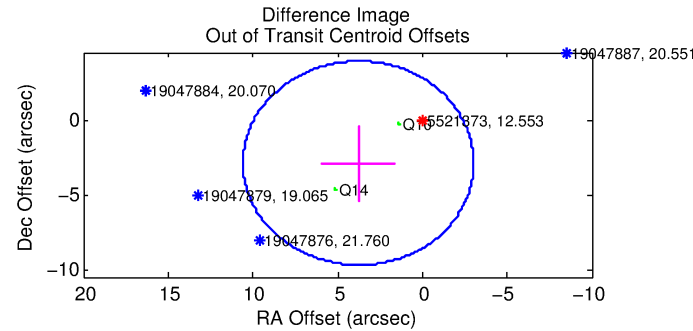
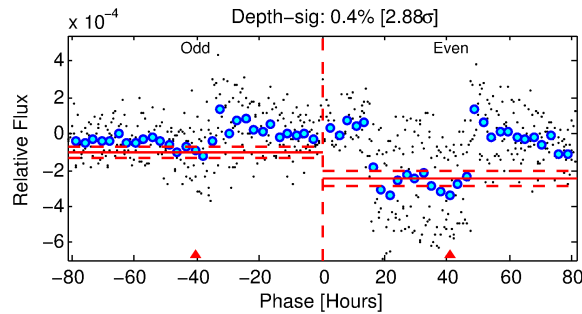
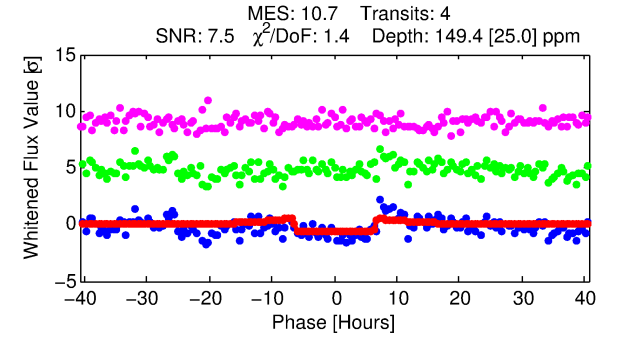
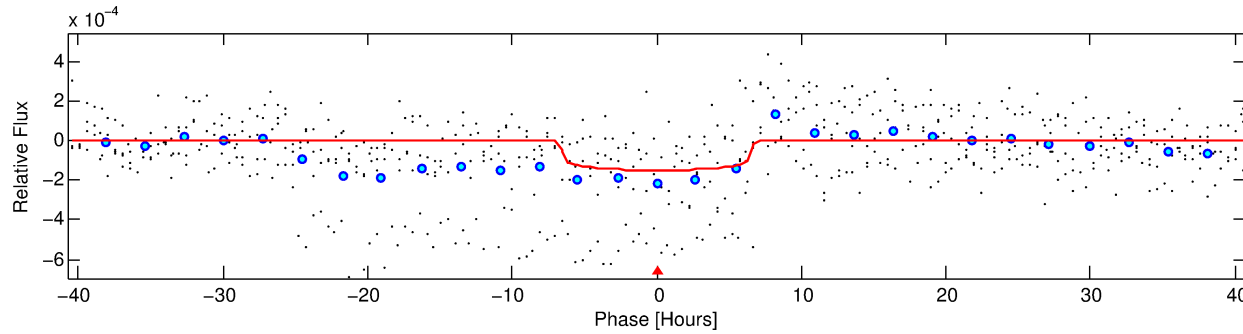
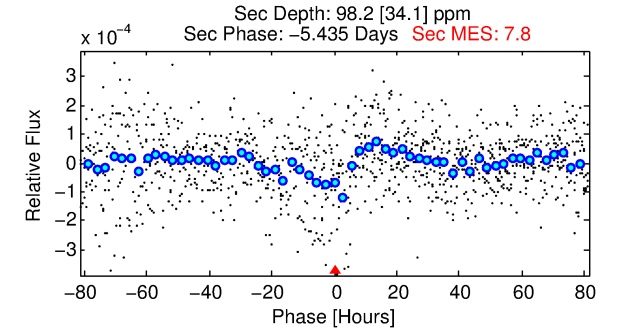
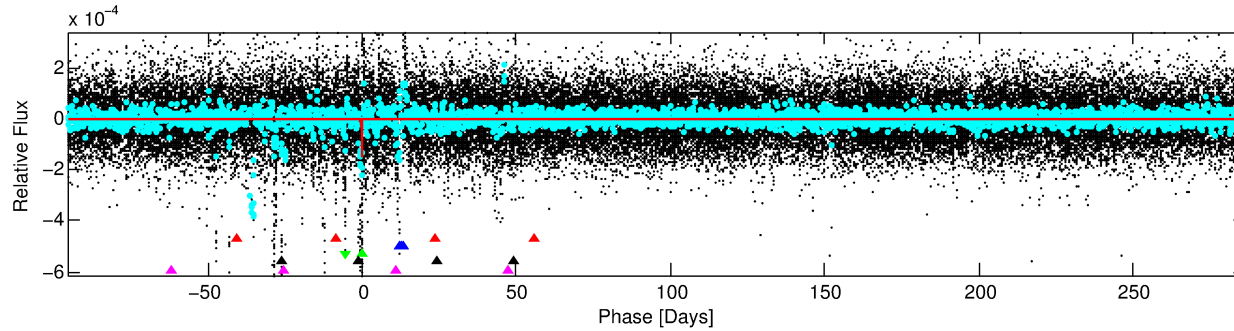
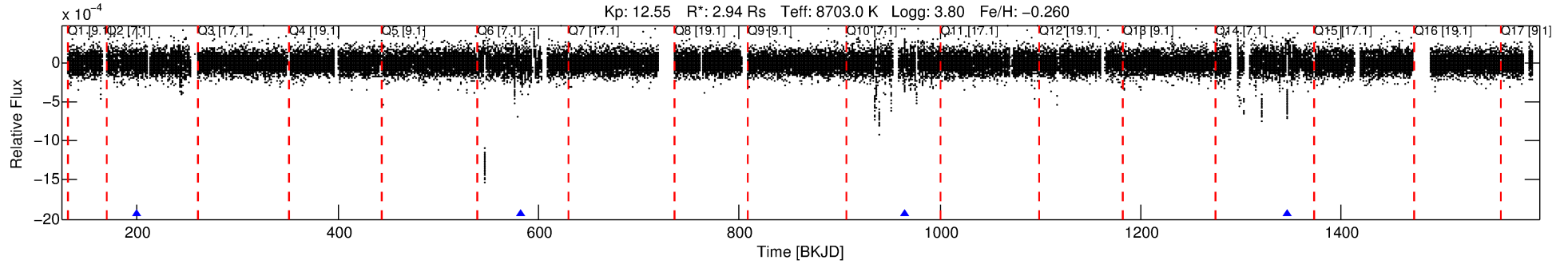
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005521373-03

No Significant Match Found

DV One-Page Summary

KIC: 5521373 Candidate: 3 of 5 Period: 382.191 d



DV Fit Results:

Period = 382.19061 [0.00855] d
Epoch = 199.9737 [0.0158] BKJD
Rp/R* = 0.0124 [0.0031]
a/R* = 127.18 [191.81]
b = 0.82 [0.61]
Seff = 26.48 [18.38]
Teq = 578 [100] K
Rp = 4.00 [1.98] Re
a = 1.2961 [0.5396] AU
Ag = 5686.20 [5167.55] [1.10σ]
Teffp = 7766 [1234] K [5.80σ]

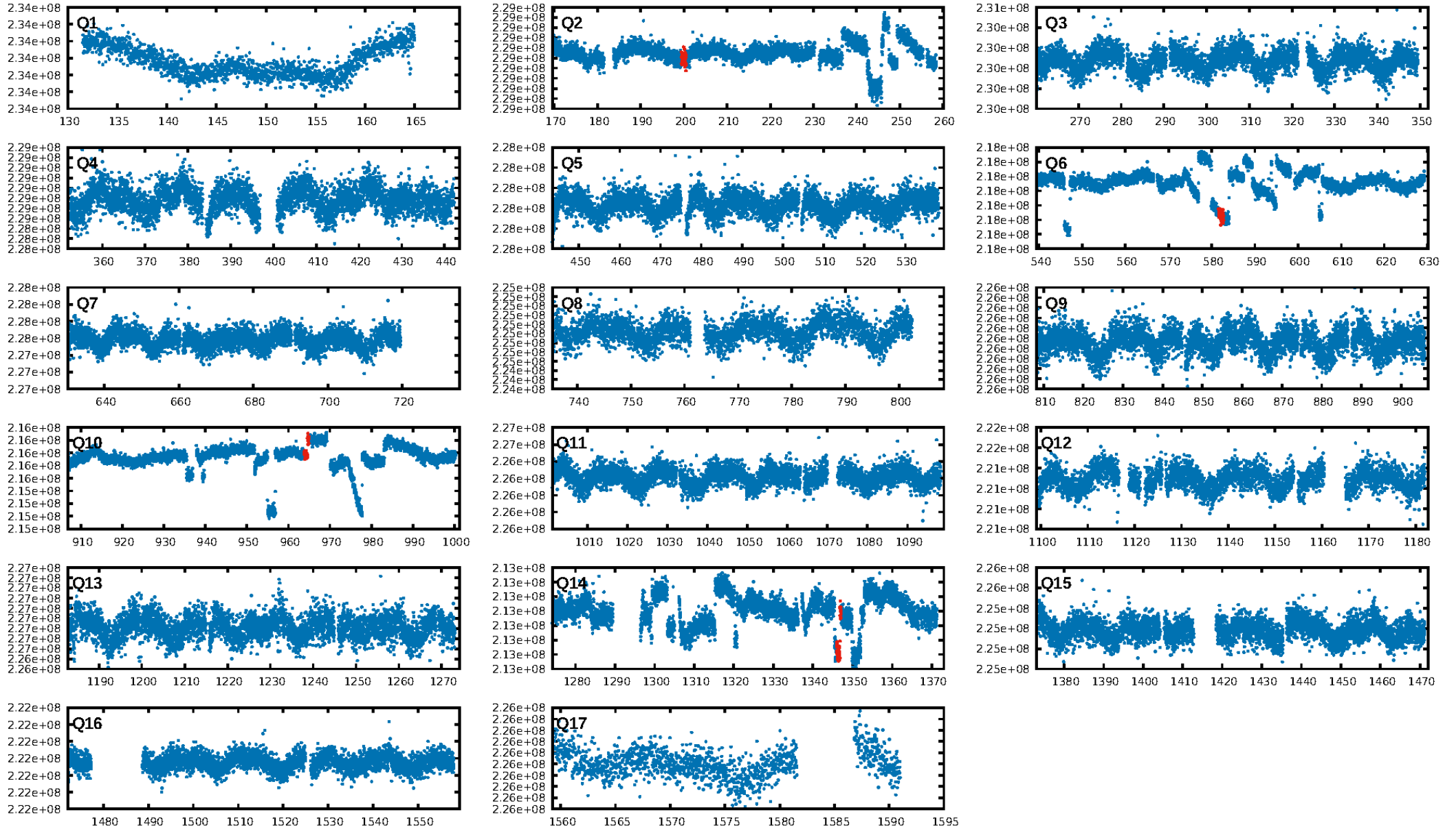
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [30.34σ]
LongPeriod-sig: 50.1% [0.68σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 45.5%
Bootstrap-pfa: 2.45e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.6818
Centroid-sig: 0.0%
Centroid-so: 4.893 arcsec [2.63σ]
OotOffset-rm: 4.760 arcsec [2.10σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 4.578 arcsec [2.03σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.67 [2/3]

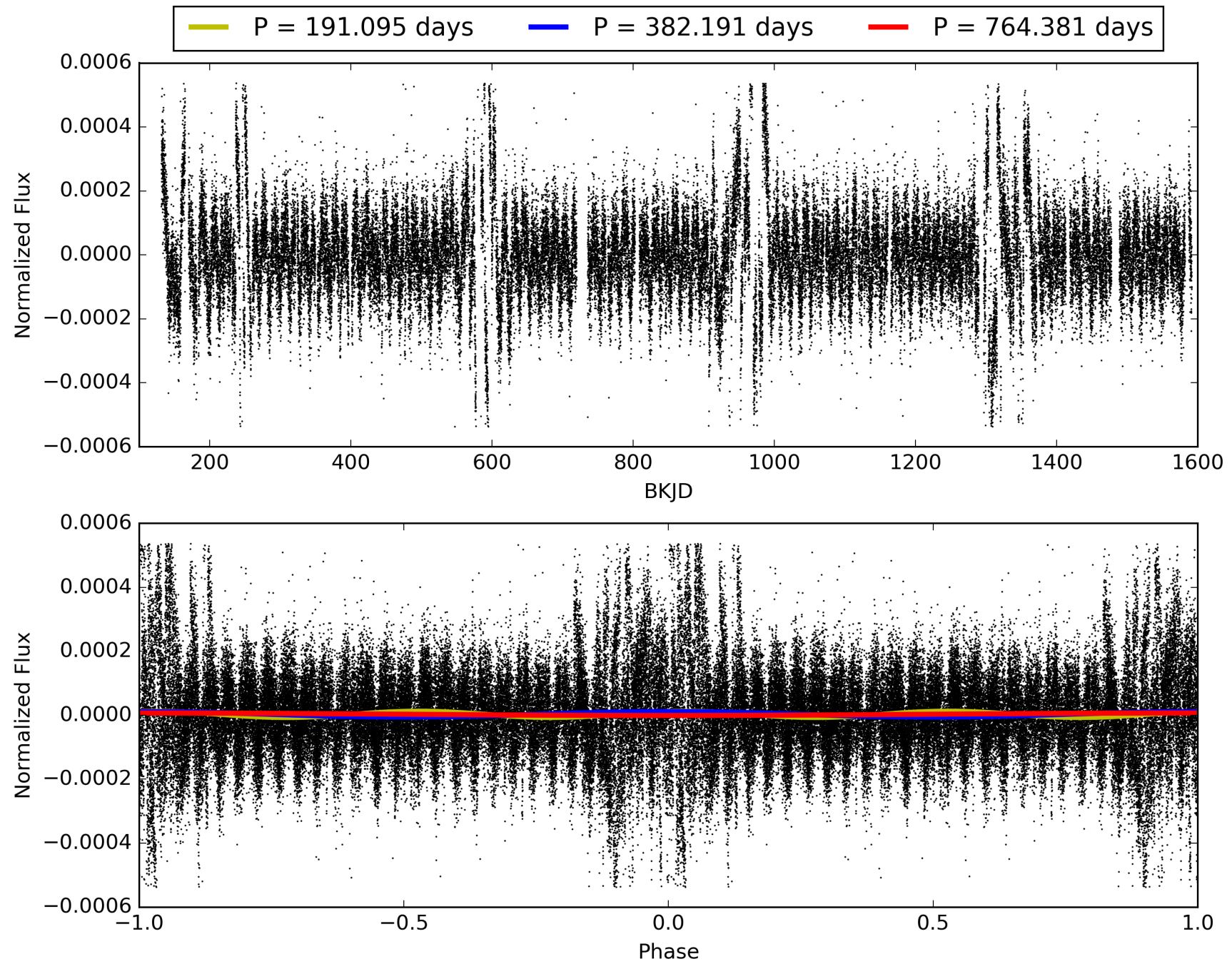
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:33:03 Z

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

TCE 005521373-03, PDC Light Curves

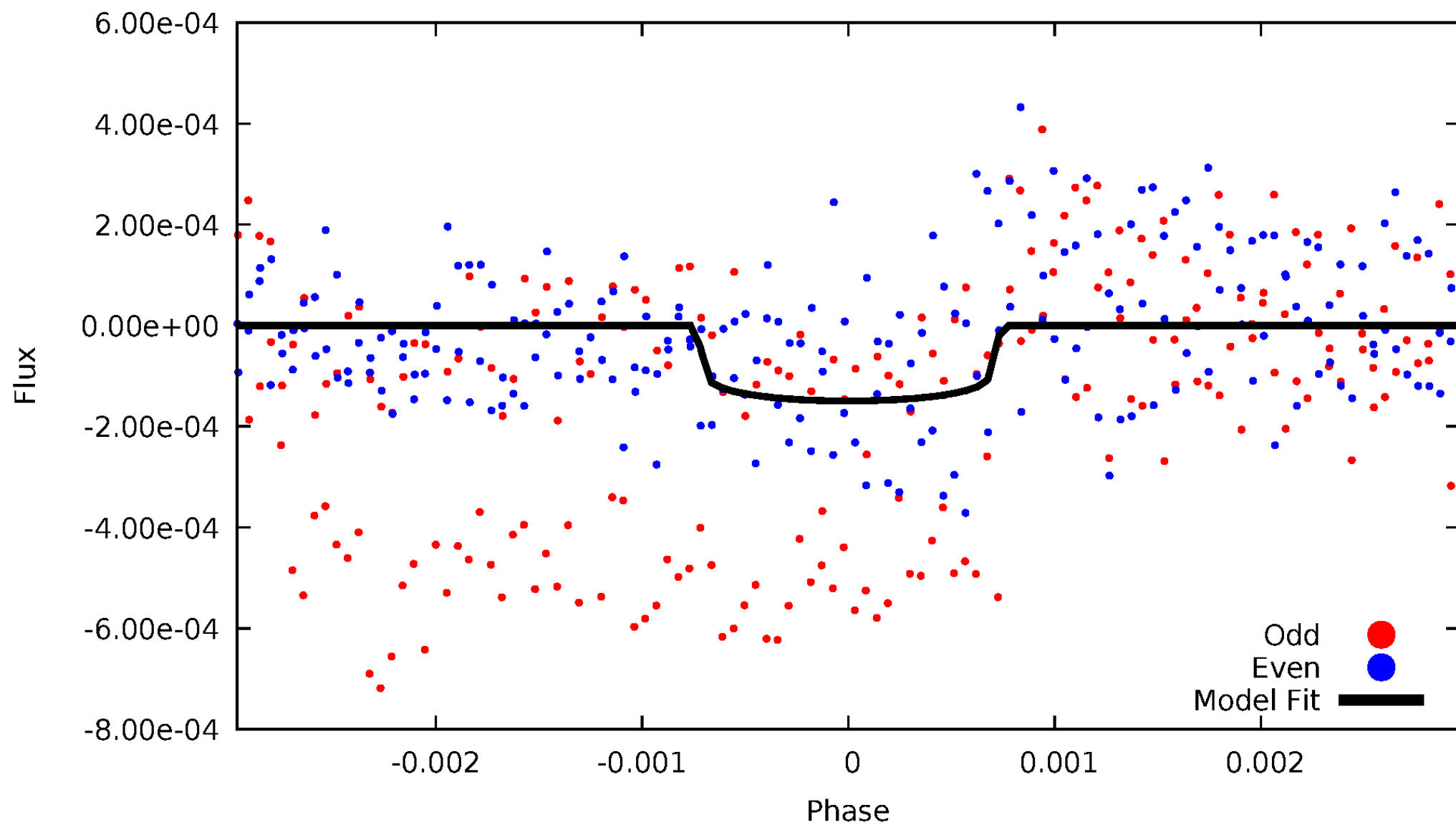


TCE 005521373-03



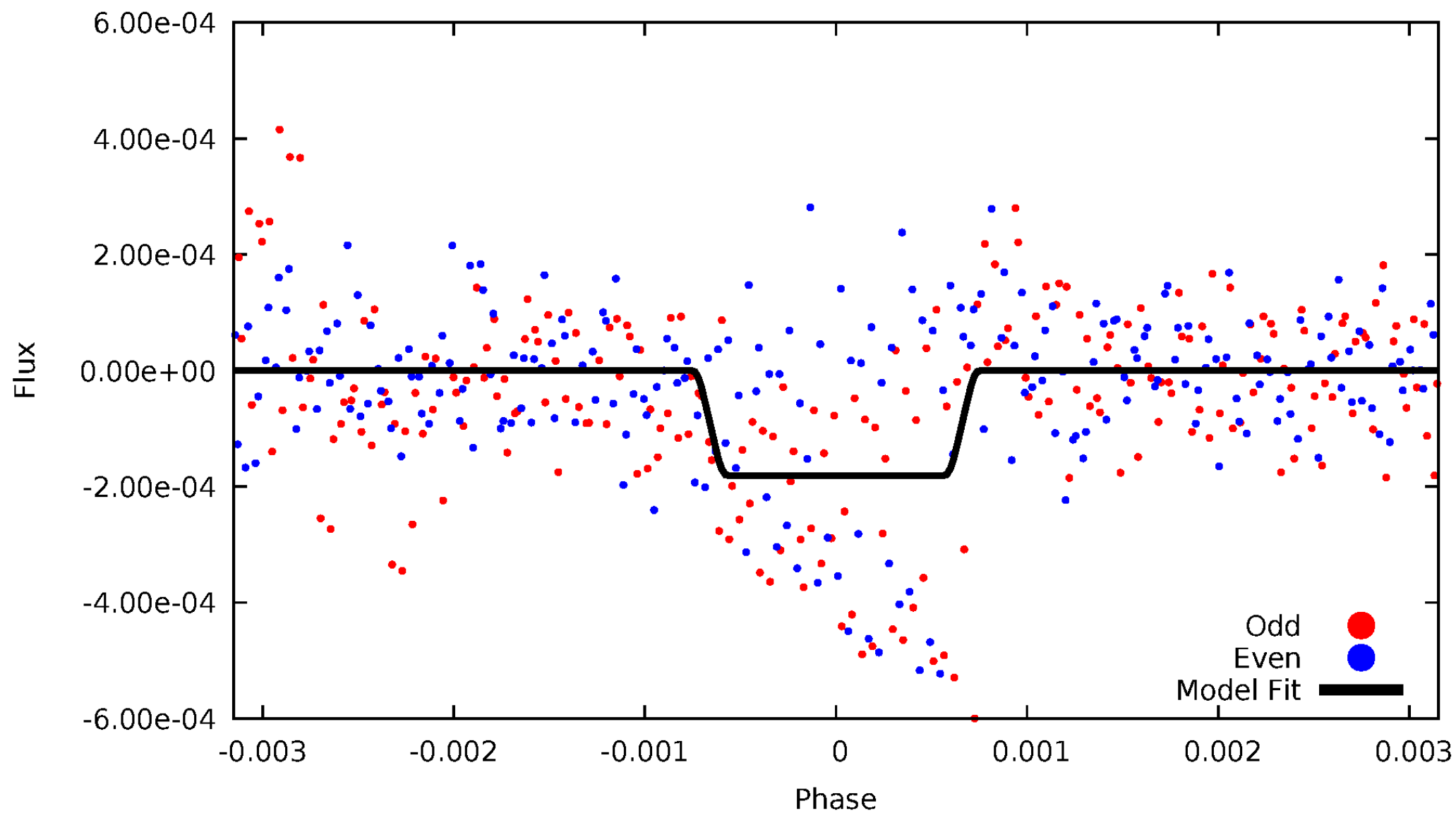
DV Odd/Even

TCE 005521373-03

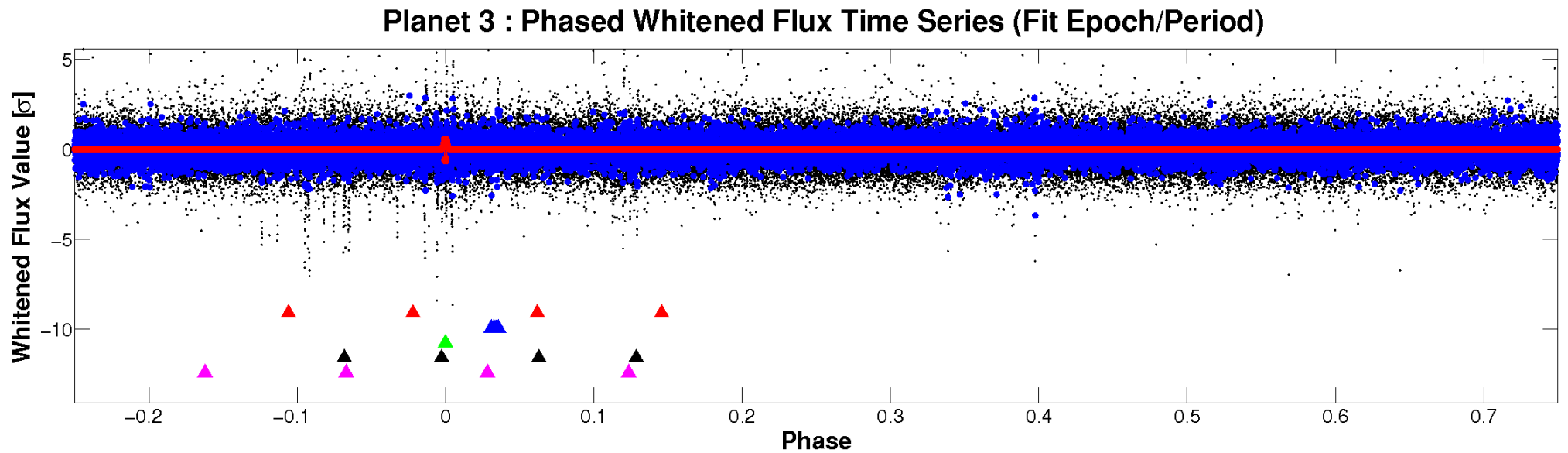
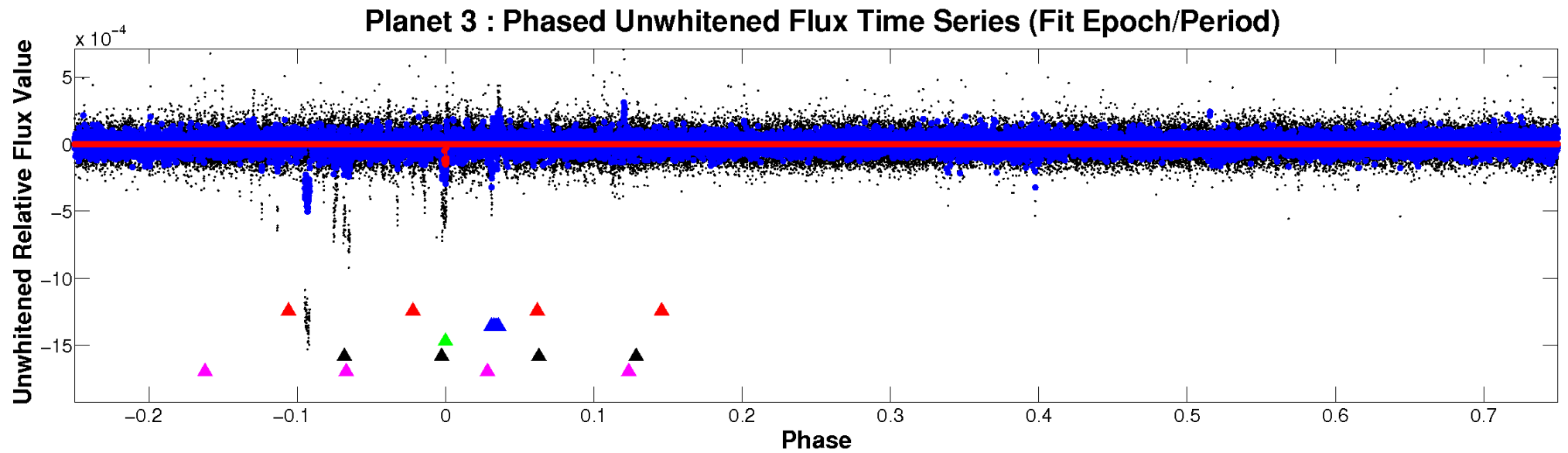


ALT Odd/Even

TCE 005521373-03

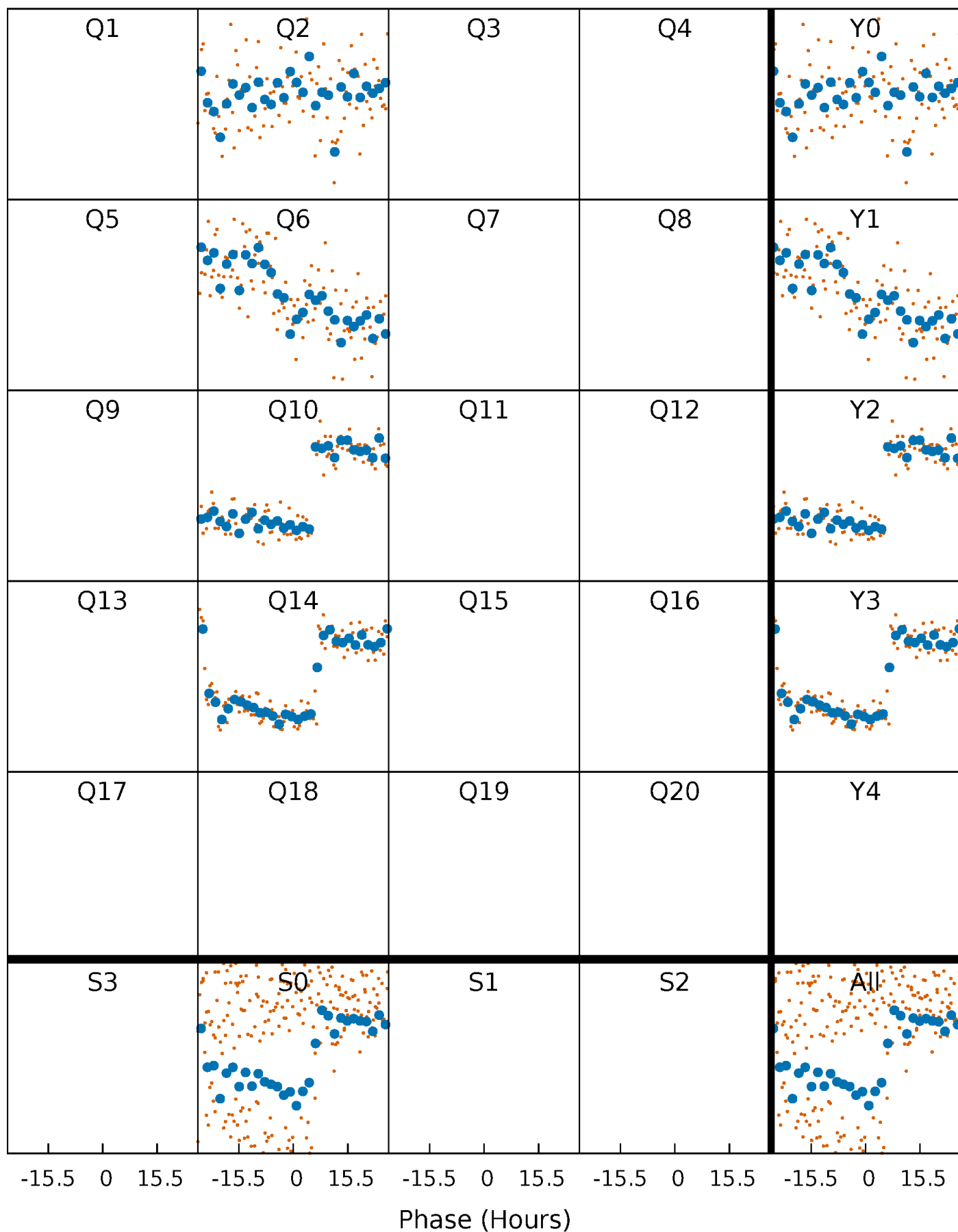


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 005521373-03 P=382.190609 Days $T_0=199.973655$ (BKJD)



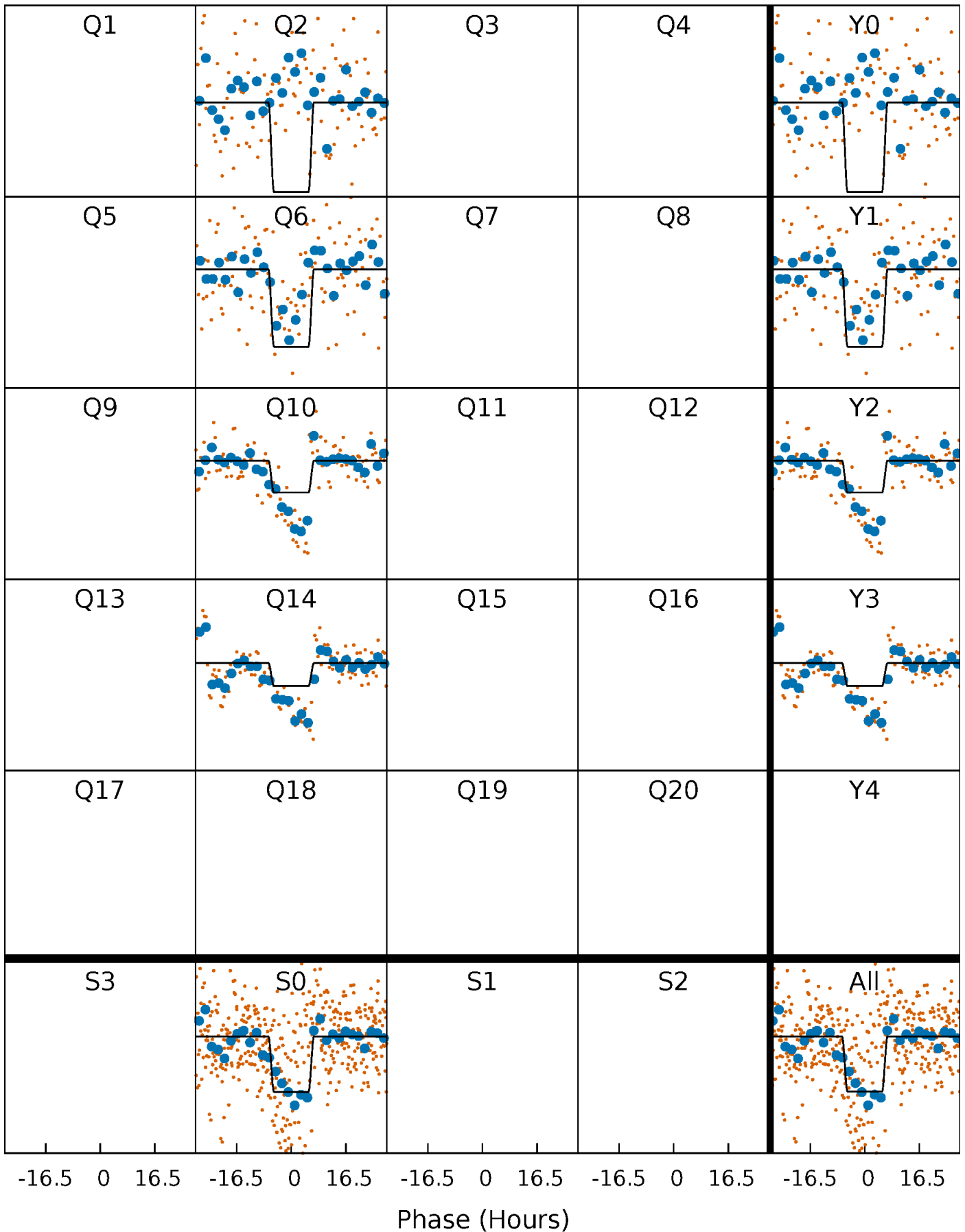
DV Quarter-Phased Transit Curves

TCE 005521373-03 P=382.190609 Days $T_0=199.973655$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

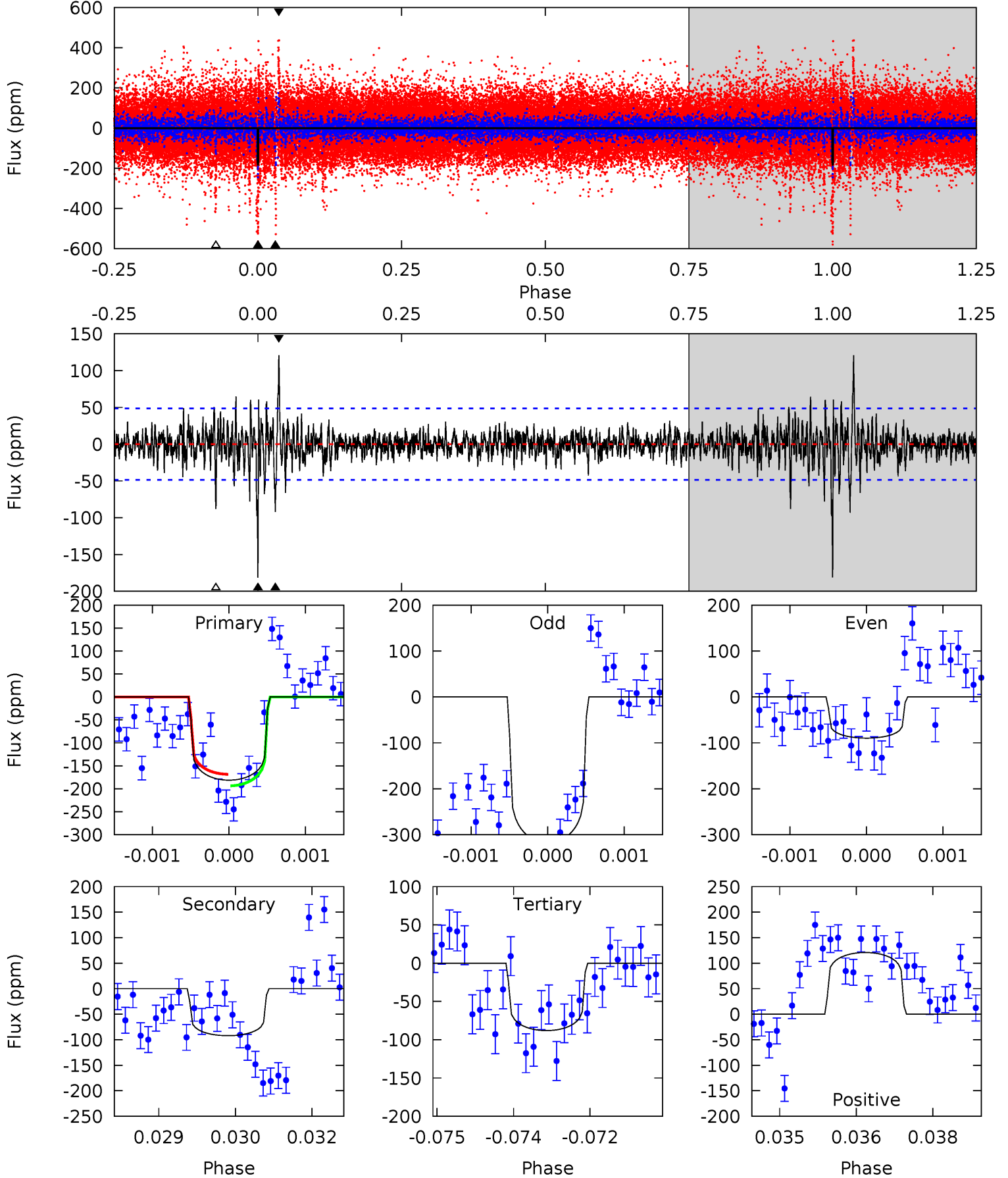
TCE 005521373-03 P=382.182495 Days $T_0=199.998469$ (BKJD)



DV Model-Shift Uniqueness Test

005521373-03, P = 382.190609 Days, E = 199.973655 Days

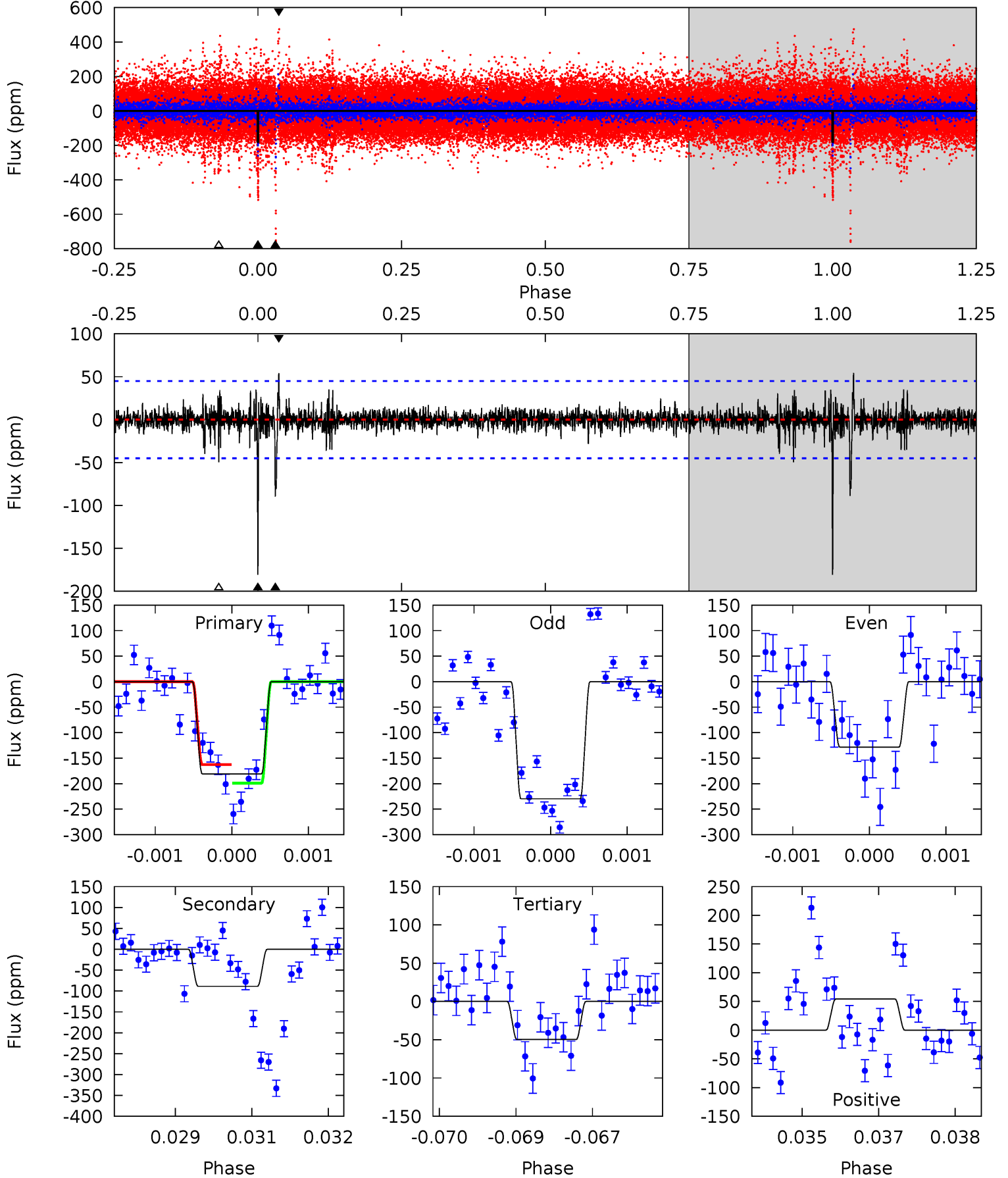
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	10.2	9.76	13.4	5.39	3.19	1.70	10.3	6.68	0.45	-3.20	12.7	1.42	0.40	1.39



Alt Model-Shift Uniqueness Test

005521373-03, P = 382.182495 Days, E = 199.998469 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	10.6	5.94	6.48	5.38	3.18	0.91	15.7	15.1	4.66	4.12	6.07	0.91	0.23	2.18



Stellar Parameters For KIC 005521373

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8703^{+240}_{-377}	$3.799^{+0.397}_{-0.132}$	$-0.260^{+0.450}_{-0.350}$	$2.942^{+0.835}_{-1.252}$	$1.987^{+0.425}_{-0.425}$	$0.110^{+0.358}_{-0.045}$
	+3%/-4%	+10%/-3%	+173%/-135%	+28%/-43%	+21%/-21%	+326%/-41%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005521373-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-92 ± 9	$3.74^{+1.32}_{-1.13}$	778^{+73}_{-90}	7303^{+1476}_{-903}	6183^{+6445}_{-2768}
Alt.	-89 ± 8	$4.05^{+1.30}_{-1.19}$	782^{+65}_{-87}	6938^{+1315}_{-730}	5068^{+5208}_{-2048}

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

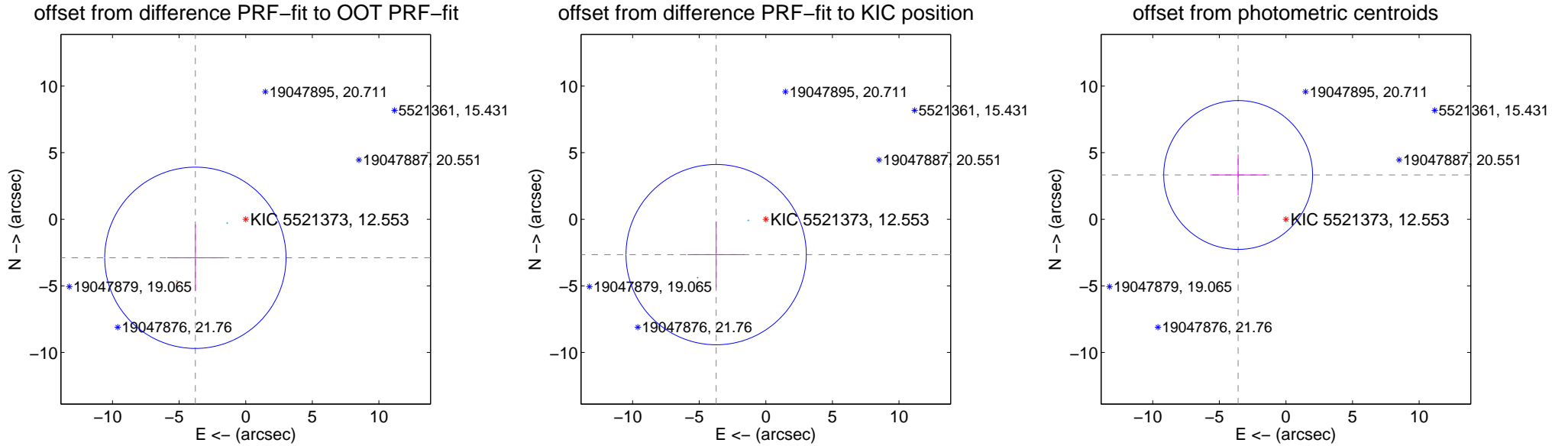
DV Centroid Data

Supplemental centroid analysis for 005521373-03. Kepler magnitude: 12.55. Transit SNR 7.45

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.760 ± 2.269	2.10	3.779 ± 2.126	-2.894 ± 2.494
PRF-fit source offset from KIC position	4.578 ± 2.257	2.03	3.729 ± 2.145	-2.657 ± 2.462
photometric centroid source offset	4.89 ± 1.86	2.63	3.59 ± 2.10	3.33 ± 1.55

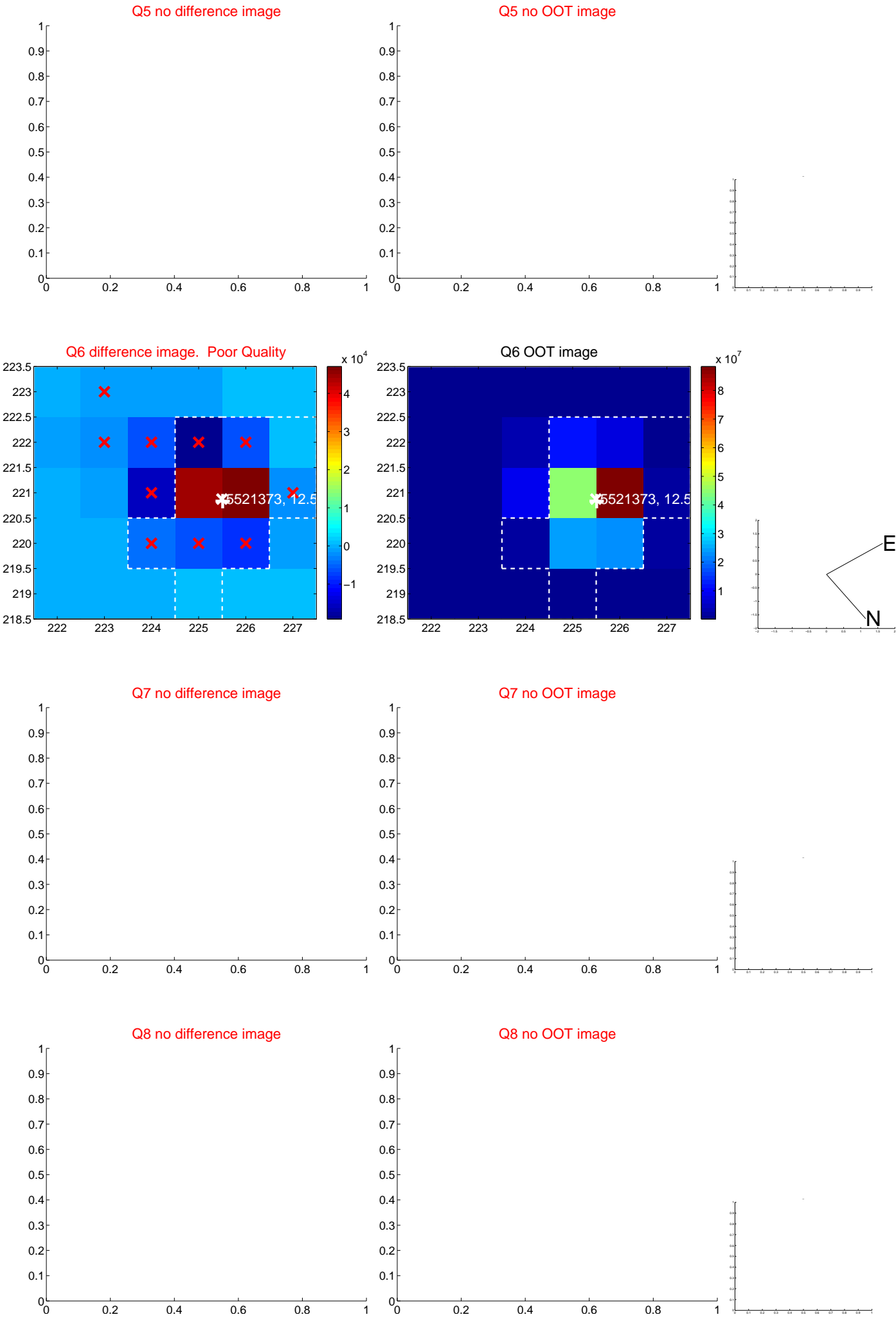


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

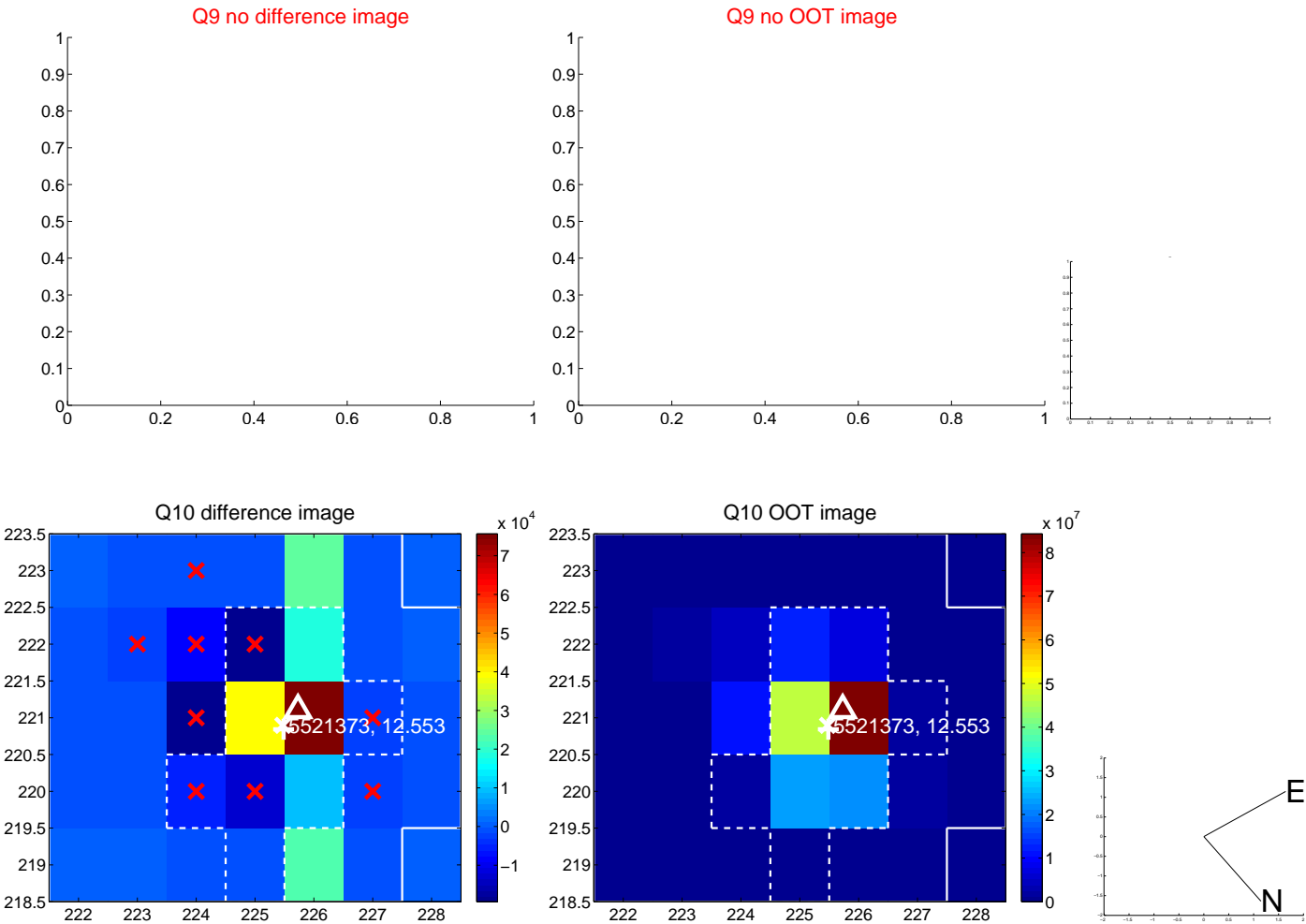
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



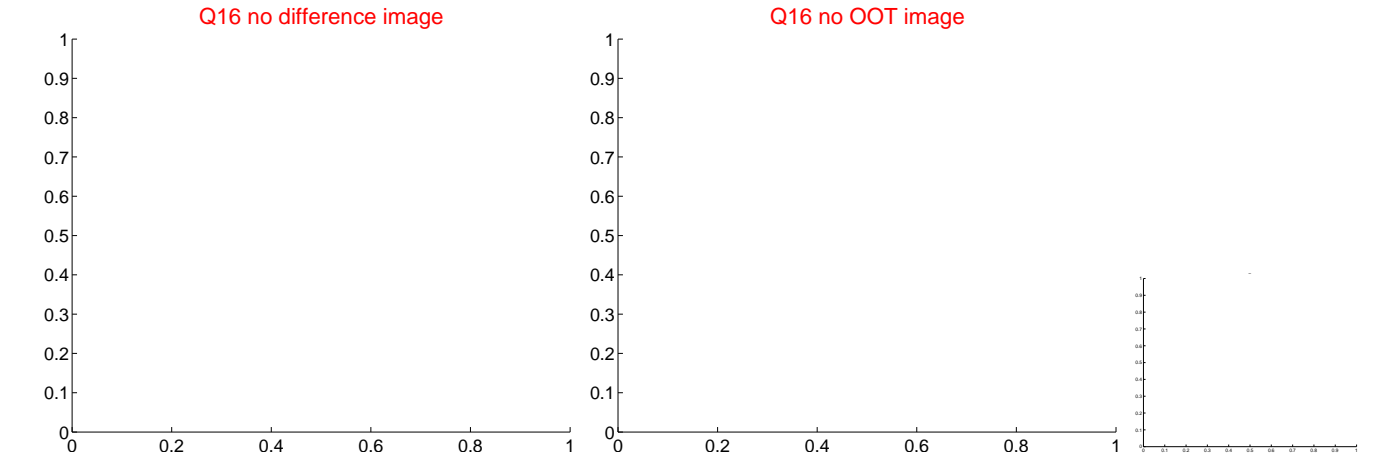
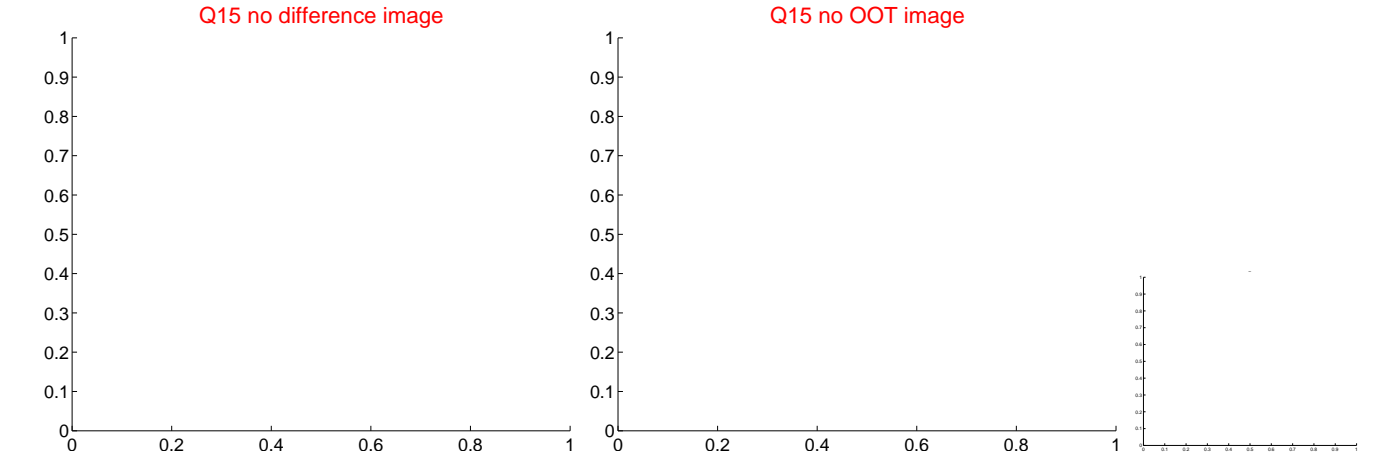
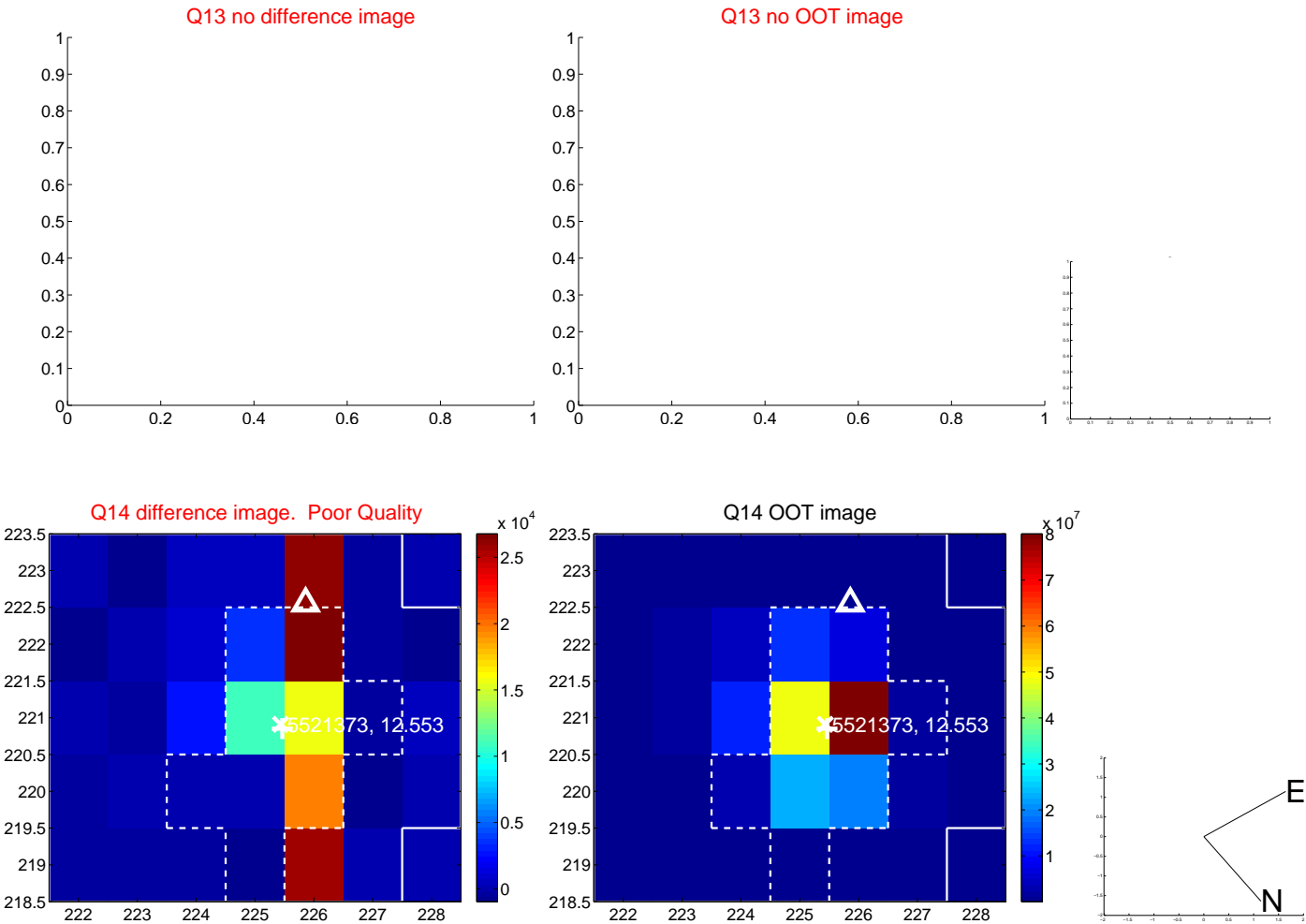
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



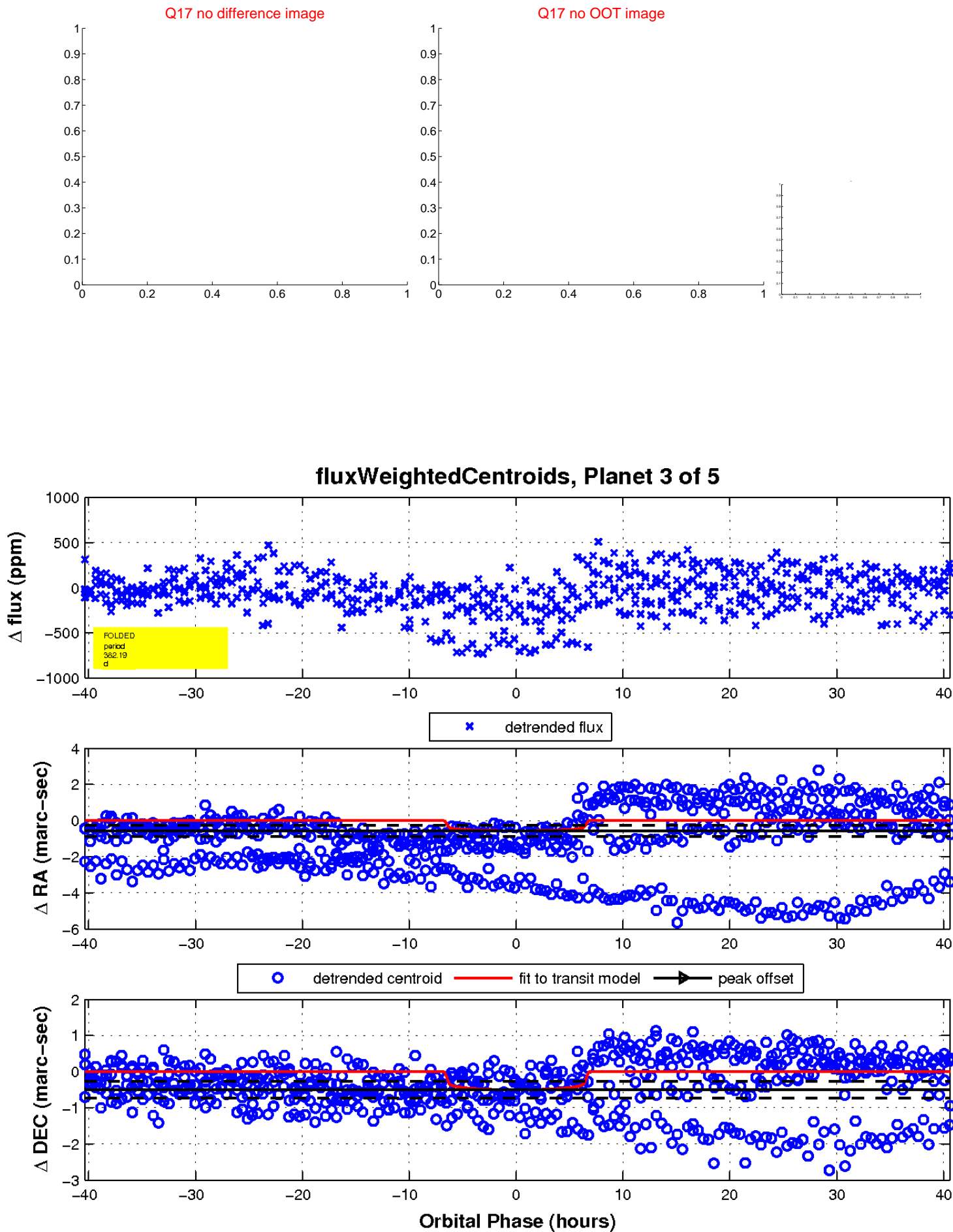
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

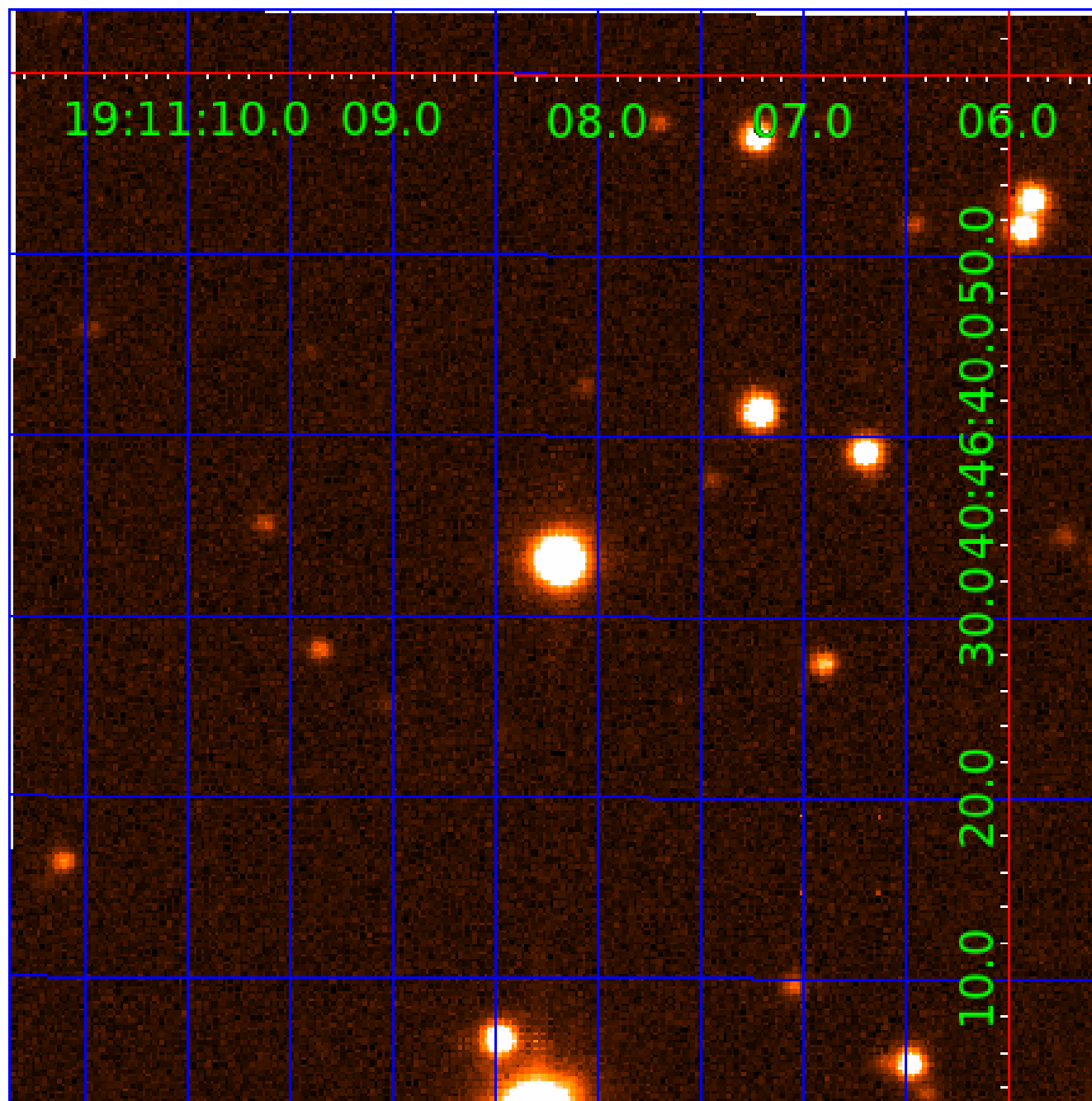


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005521373

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})
005521373-01	OBS	No	350.138899	255.685243	359.4	44.146	31.7	10.3	2.94	8703	5.73	29.76
005521373-02	OBS	No	382.789179	211.811725	144.9	16.352	26.5	6.2	2.94	8703	3.79	26.43
005521373-03	OBS	No	382.190609	199.973655	149.4	13.586	10.7	7.5	2.94	8703	4.00	26.48
005521373-04	OBS	No	357.126557	249.115804	392.5	14.439	14.7	14.7	2.94	8703	6.52	28.99
005521373-05	OBS	No	345.798327	247.185577	193.4	46.844	10.2	5.9	2.94	8703	4.24	30.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005521373-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005521373-02	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH
005521373-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

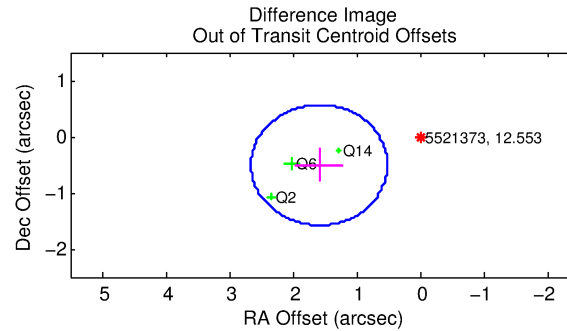
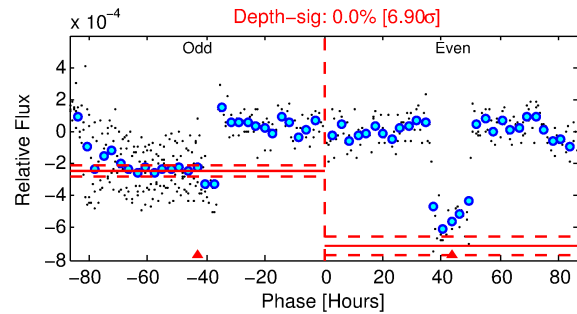
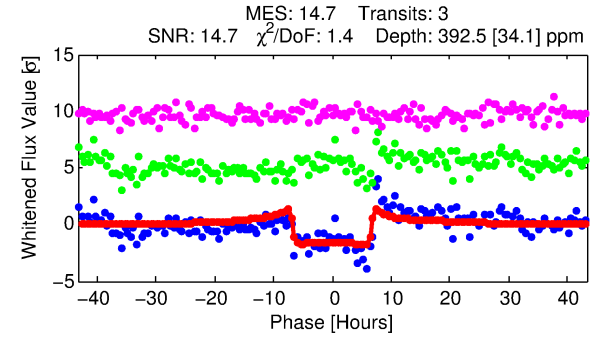
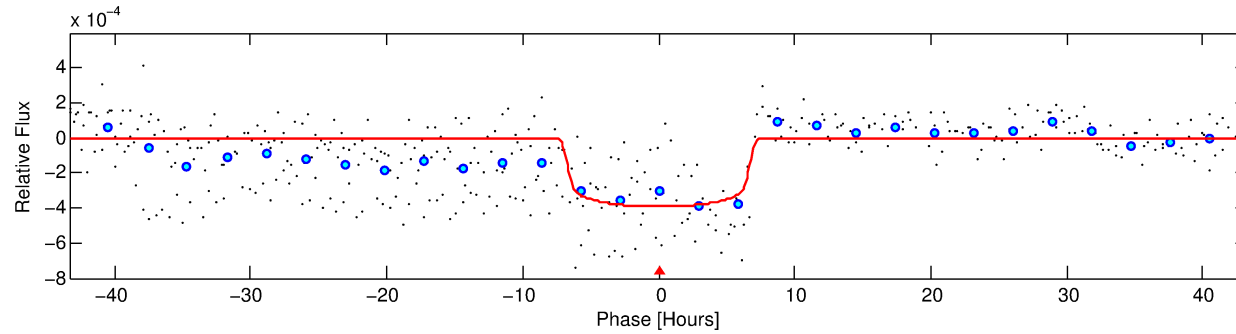
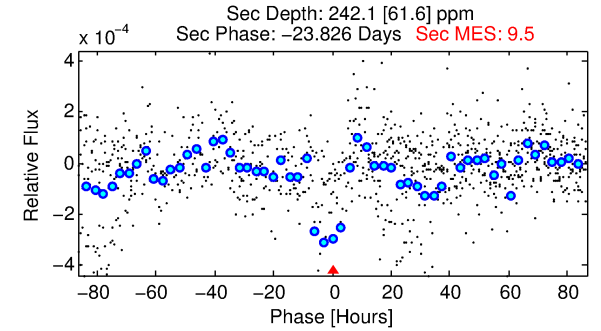
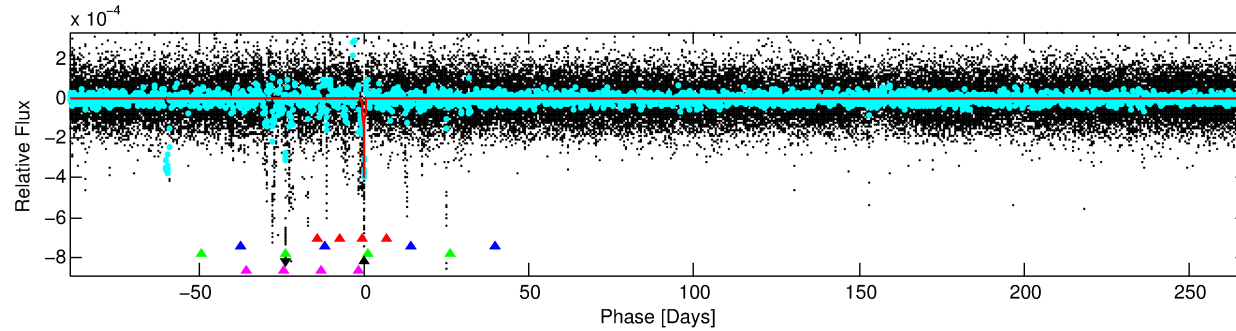
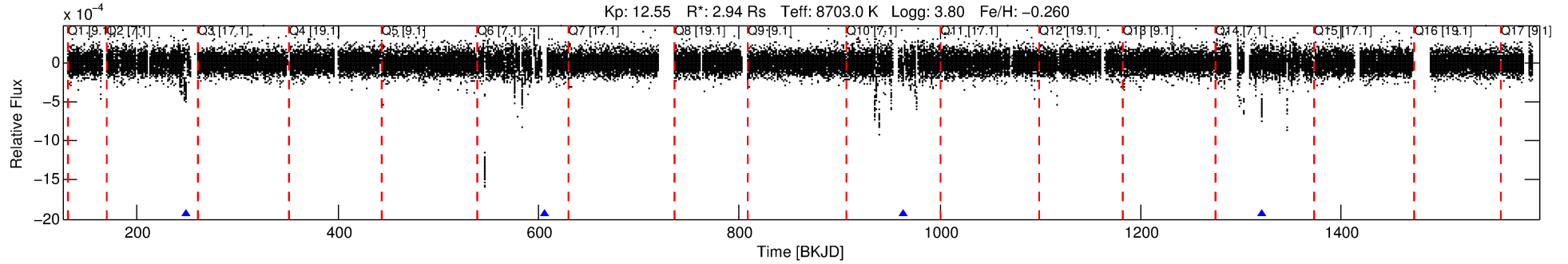
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005521373-04

No Significant Match Found

DV One-Page Summary

KIC: 5521373 Candidate: 4 of 5 Period: 357.127 d



DV Fit Results:

Period = 357.12656 [0.00409] d
Epoch = 249.1158 [0.0085] BKJD
Rp/R* = 0.0203 [0.0014]
a/R* = 109.69 [34.66]
b = 0.84 [0.11]
Seff = 28.99 [20.12]
Teq = 592 [103] K
Rp = 6.52 [2.81] Re
a = 1.2388 [0.5158] AU
Ag = 4802.93 [3514.28] [1.37σ]
Teffp = 7616 [641] K [10.81σ]

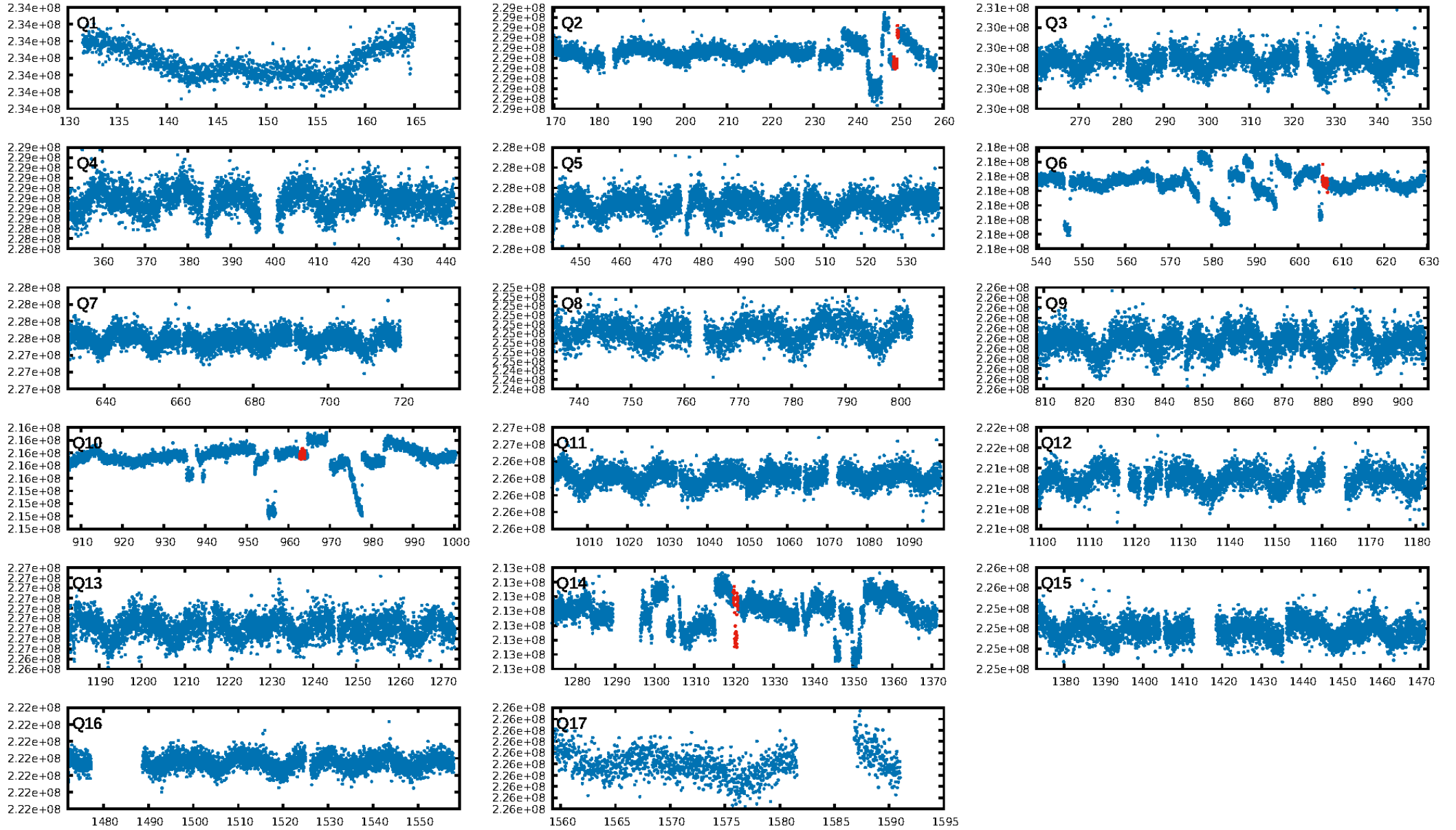
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.61σ]
LongPeriod-sig: 100.0% [30.34σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 80.5%
Bootstrap-pfa: 1.59e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.2592
Centroid-sig: 34.7%
Centroid-so: 0.740 arcsec [0.92σ]
OotOffset-rm: 1.665 arcsec [4.66σ]
KicOffset-rm: 1.547 arcsec [4.06σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.25 [1/4]

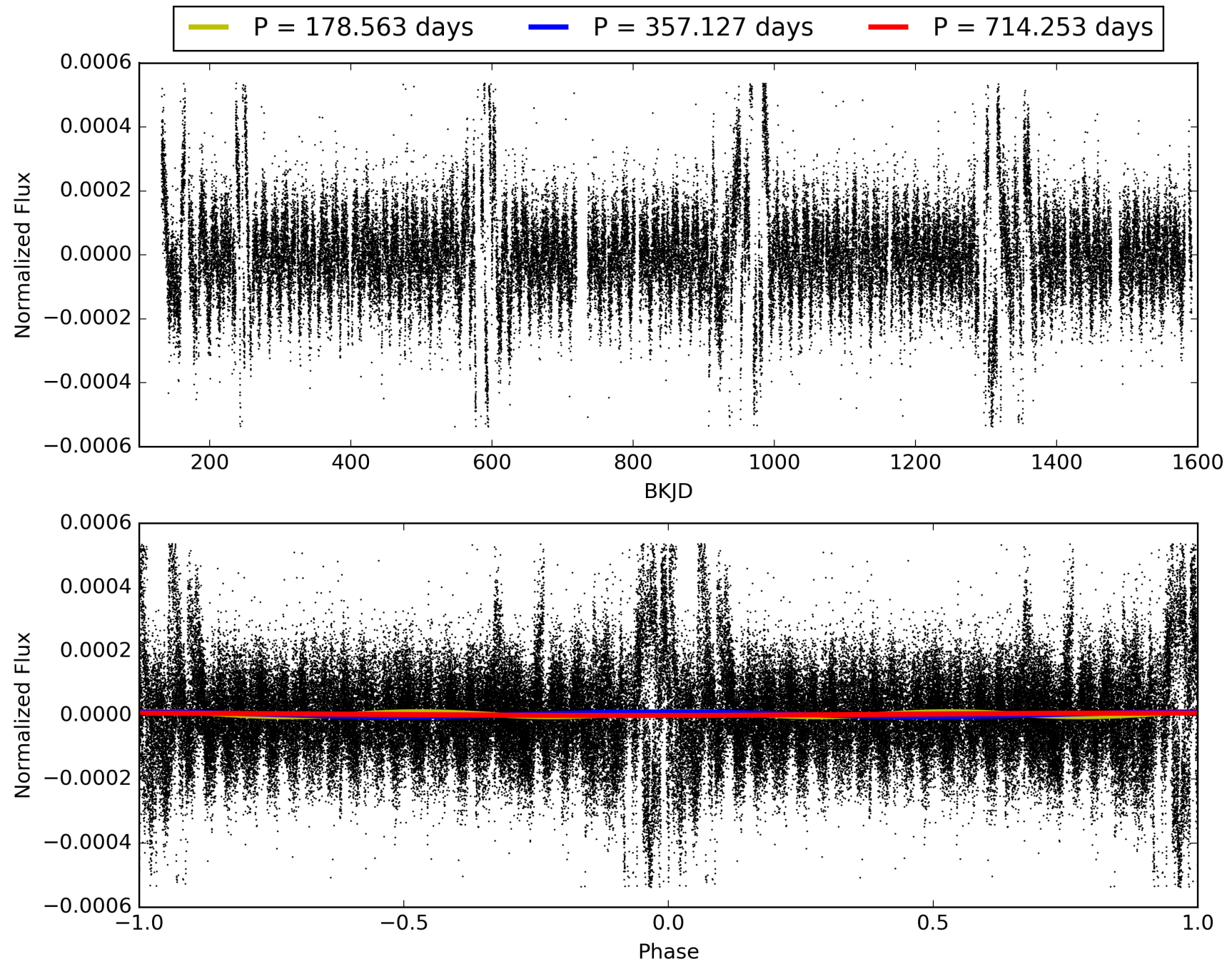
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:33:12 Z

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

TCE 005521373-04, PDC Light Curves

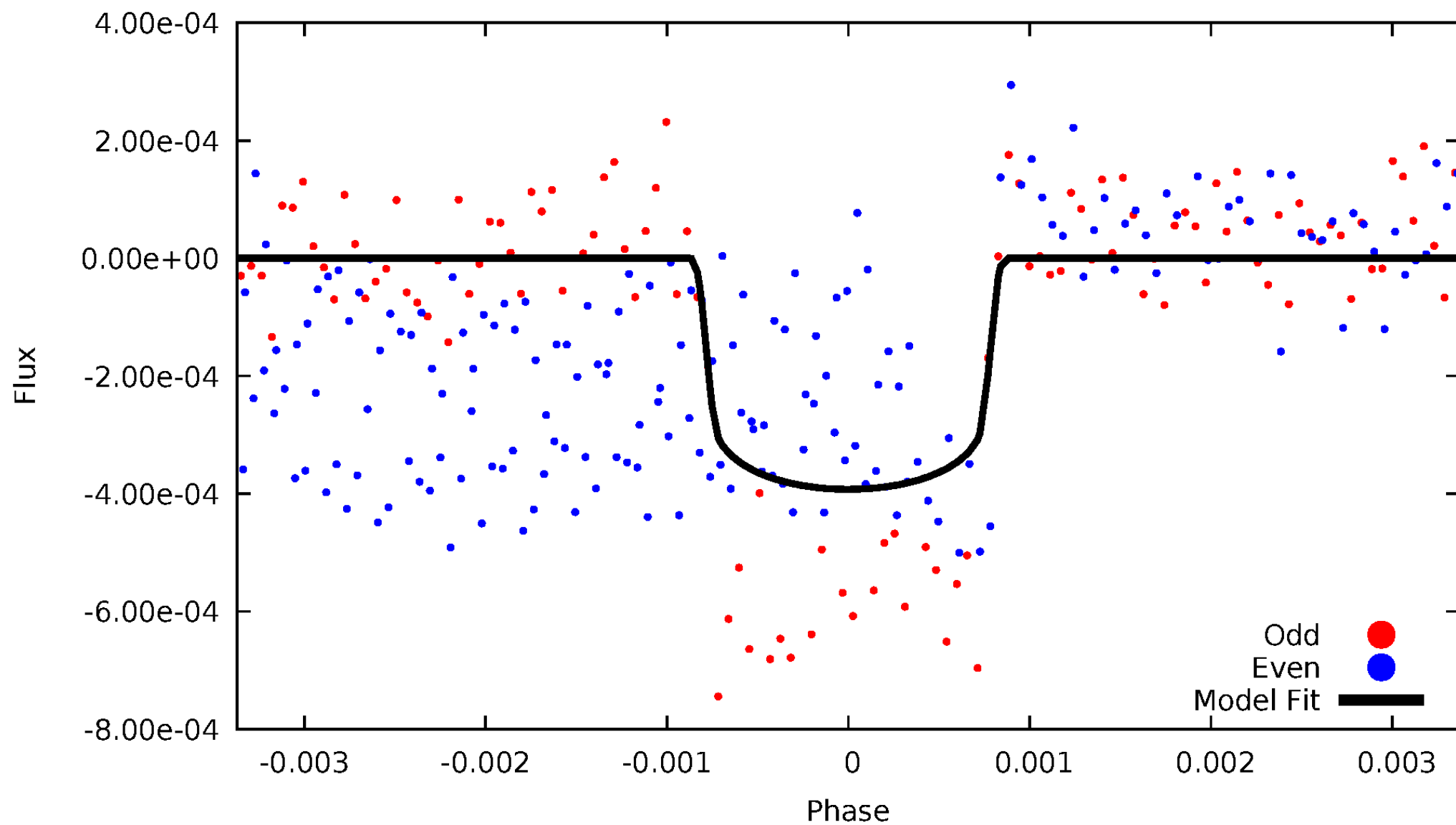


TCE 005521373-04



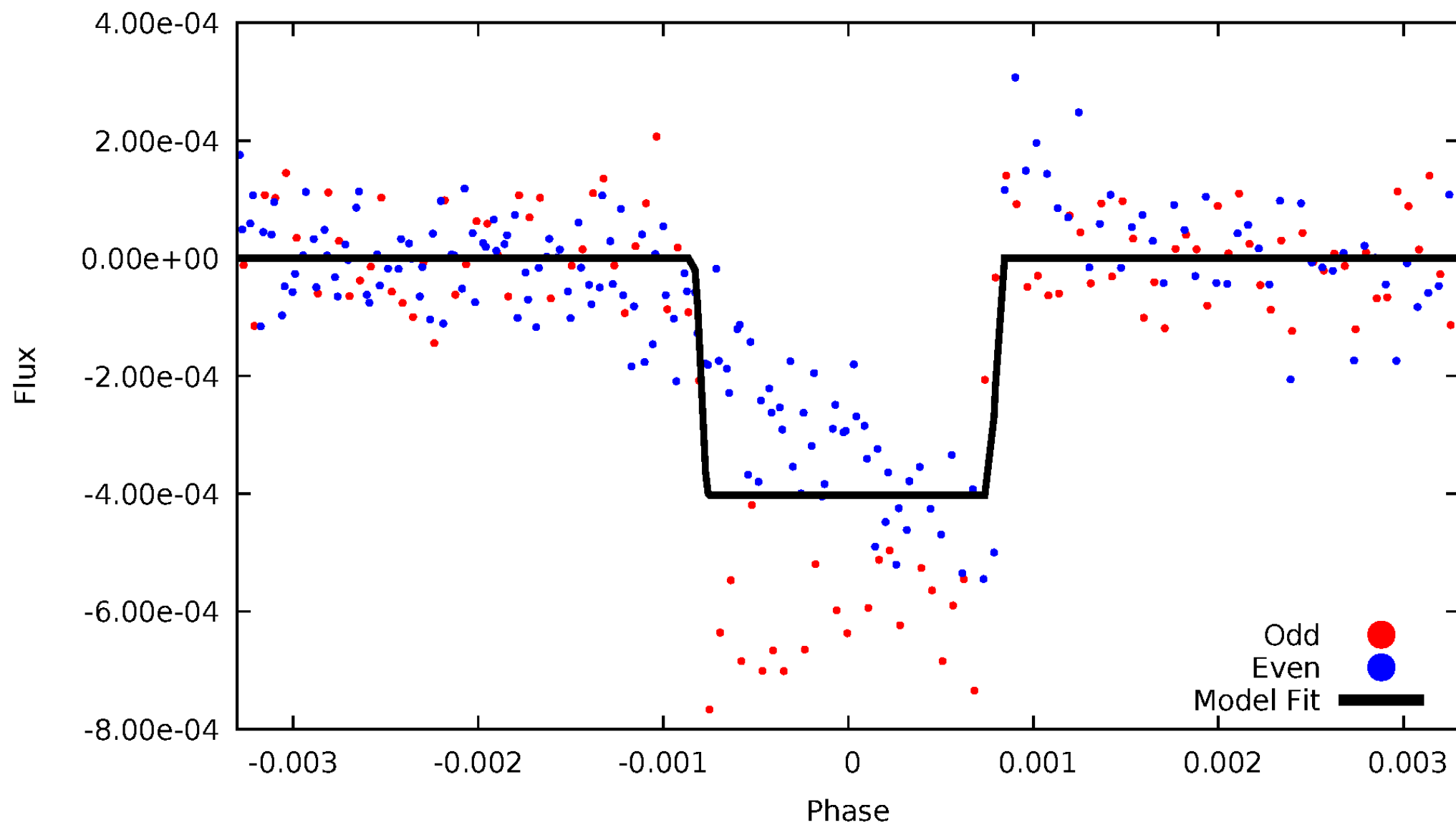
DV Odd/Even

TCE 005521373-04



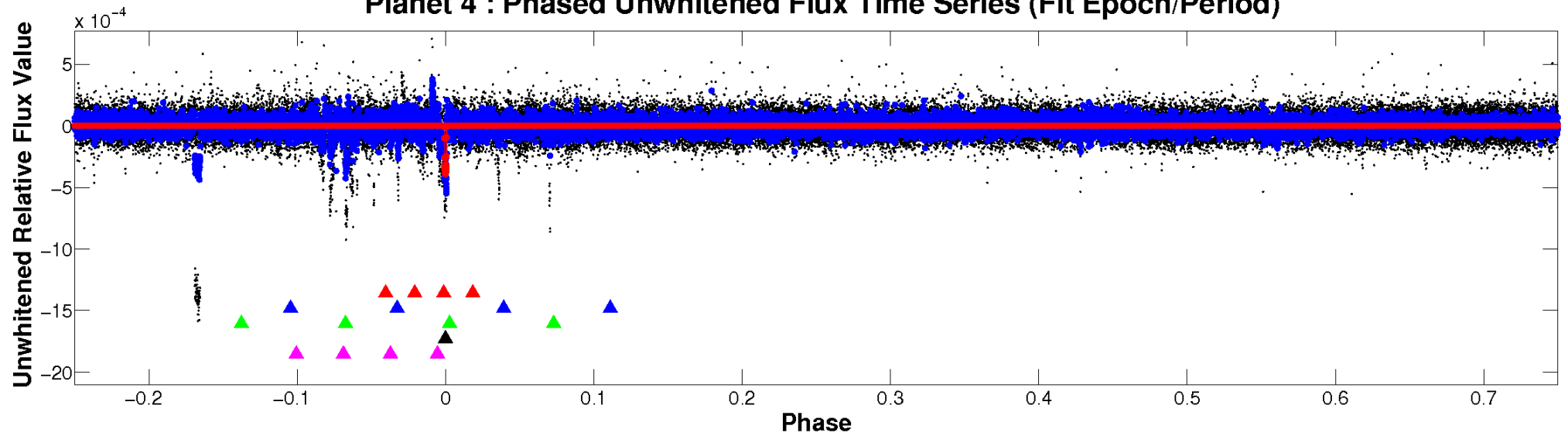
ALT Odd/Even

TCE 005521373-04

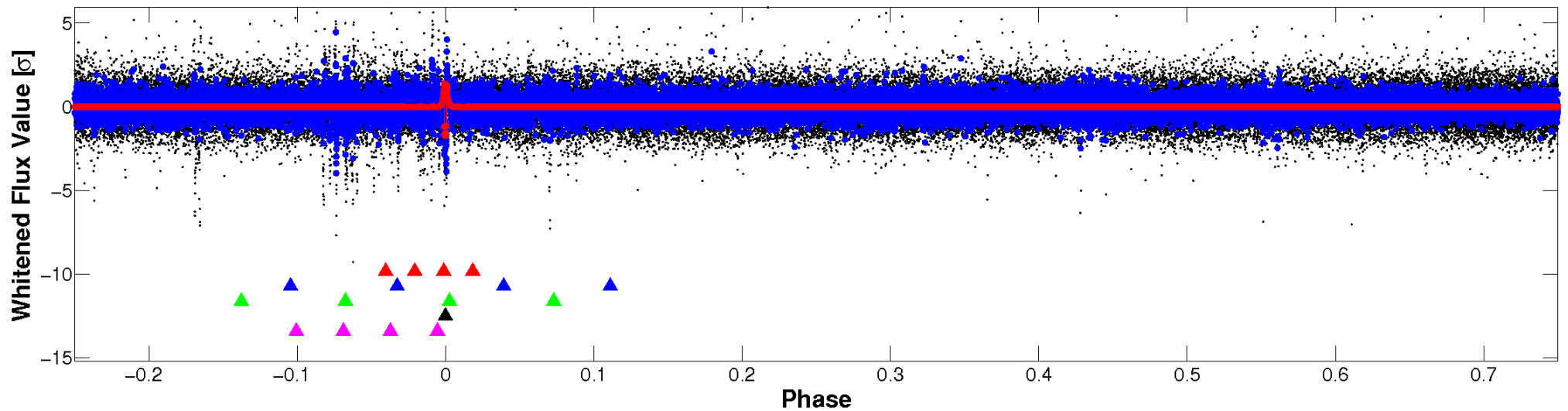


Non-Whitened Vs. Whitened Light Curve

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

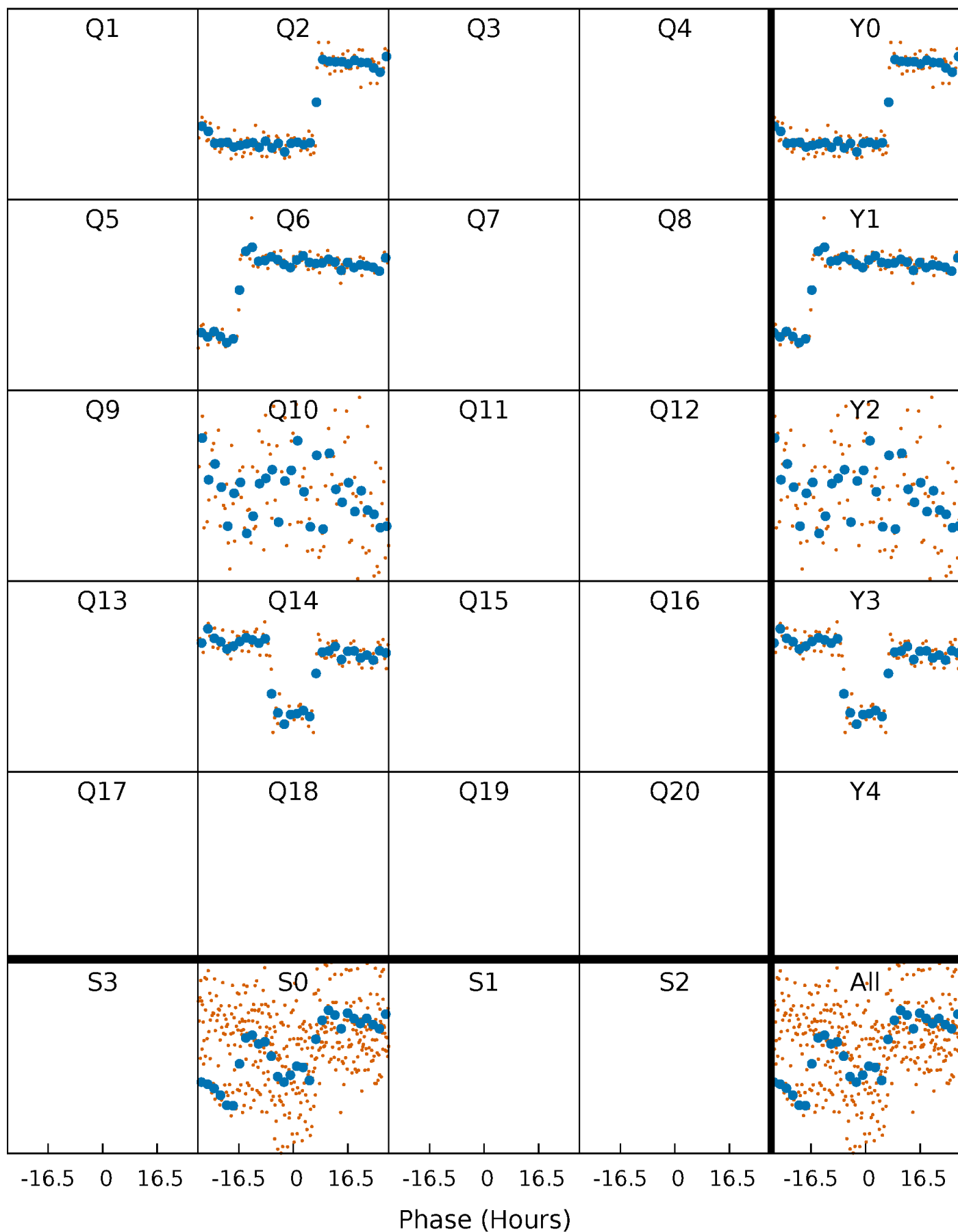


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



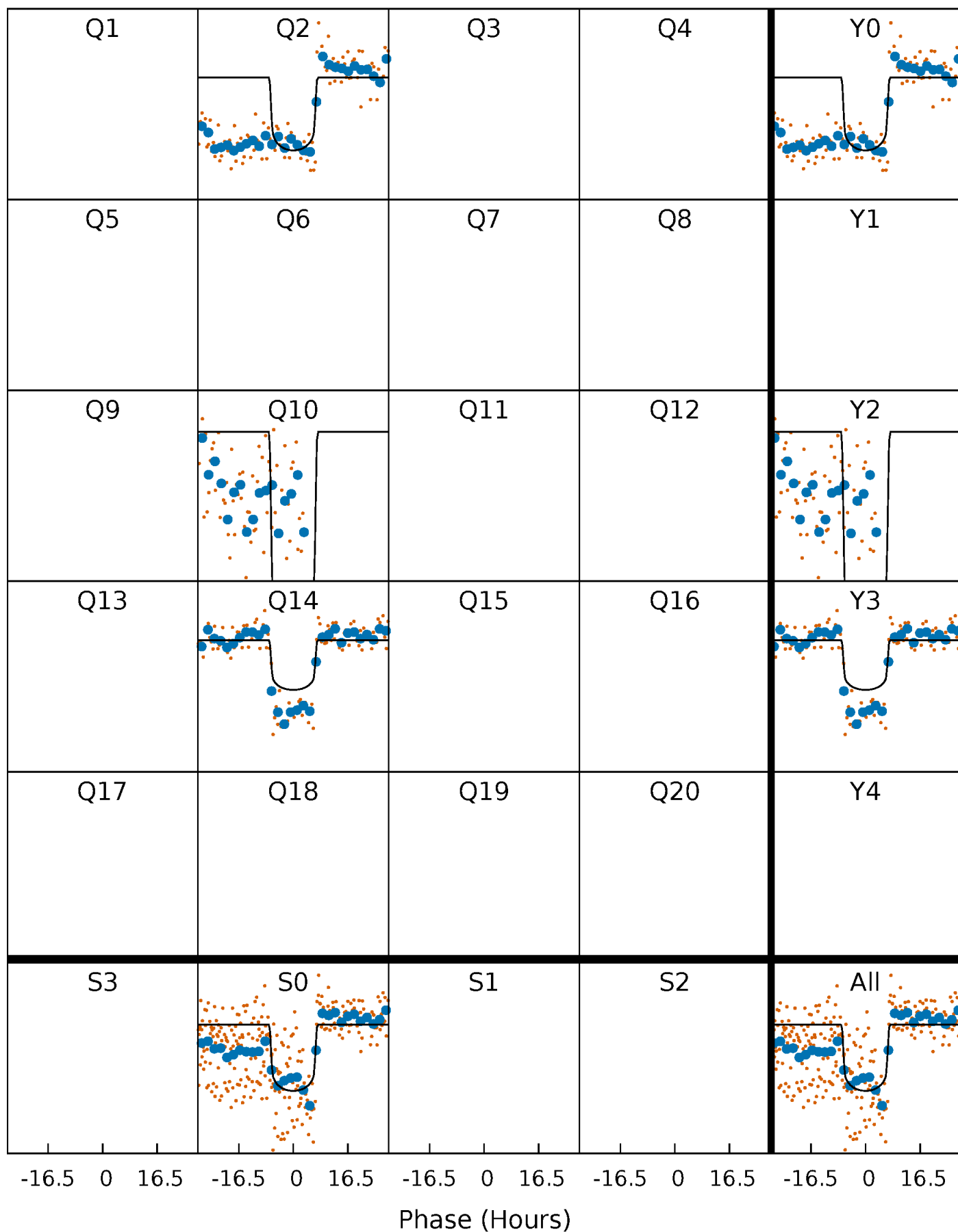
PDC Quarter-Phased Transit Curves

TCE 005521373-04 $P=357.126557$ Days $T_0=249.115804$ (BKJD)



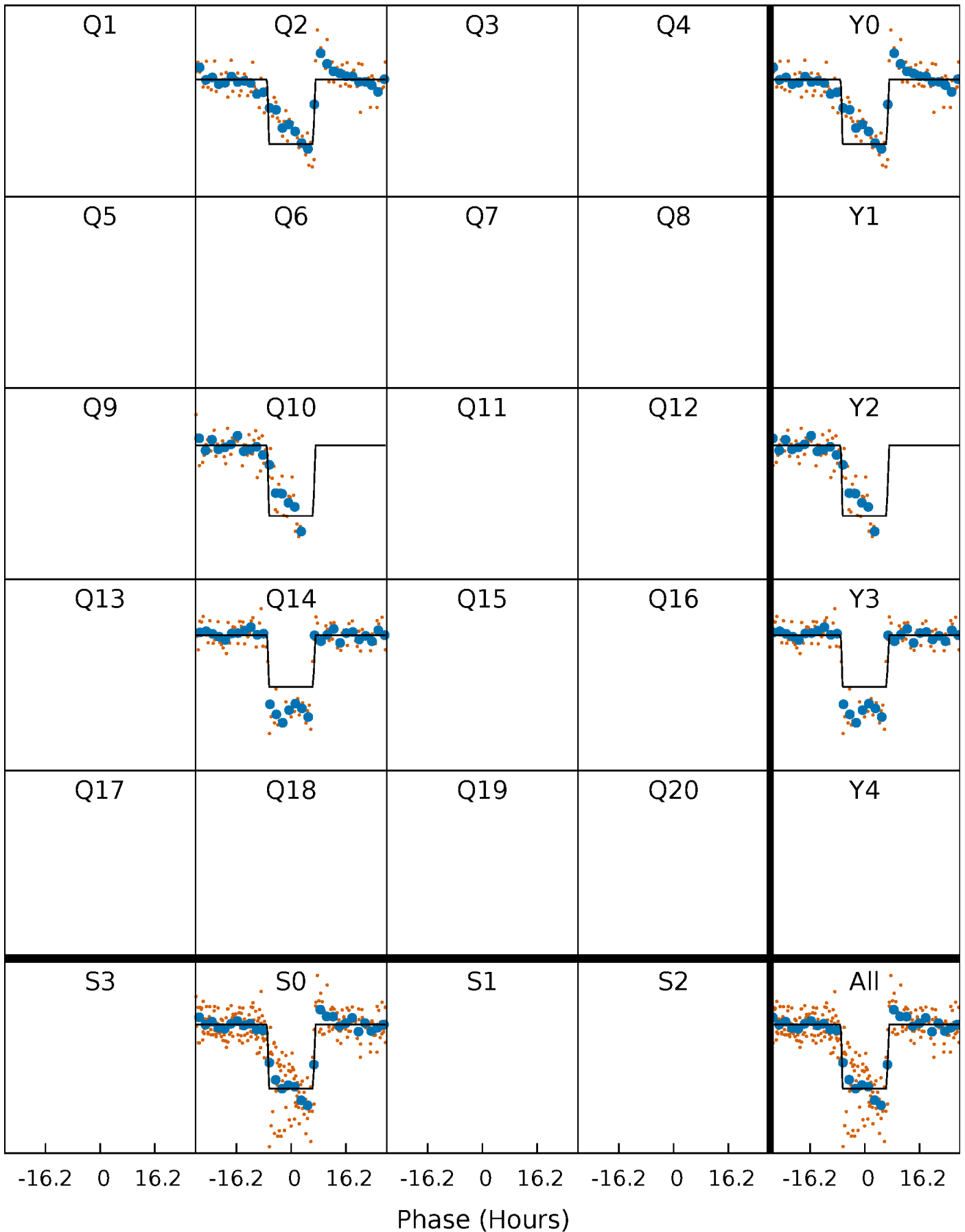
DV Quarter-Phased Transit Curves

TCE 005521373-04 P=357.126557 Days $T_0=249.115804$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

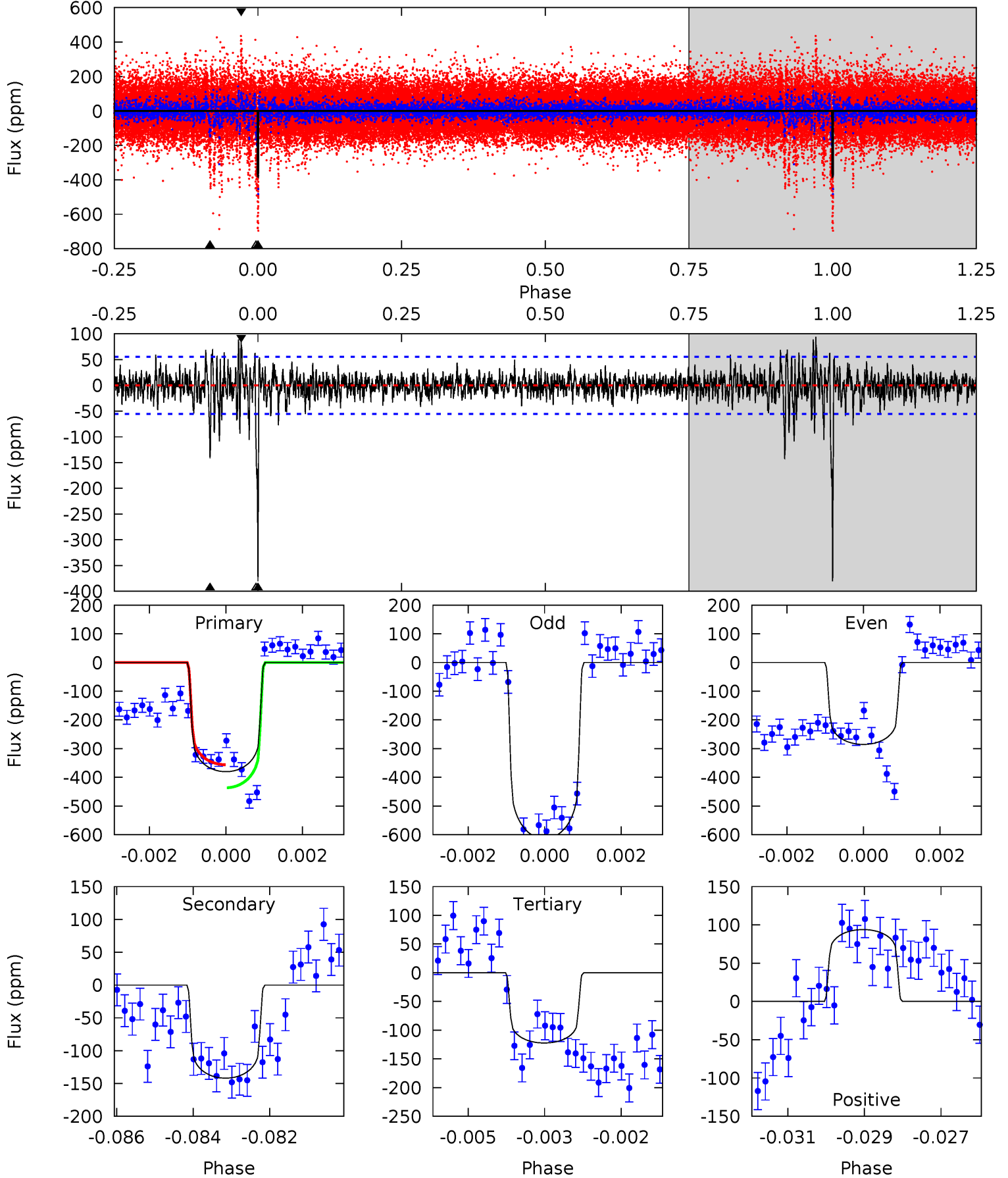
TCE 005521373-04 $P=357.130950$ Days $T_0=249.114105$ (BKJD)



DV Model-Shift Uniqueness Test

005521373-04, P = 357.126557 Days, E = 249.115804 Days

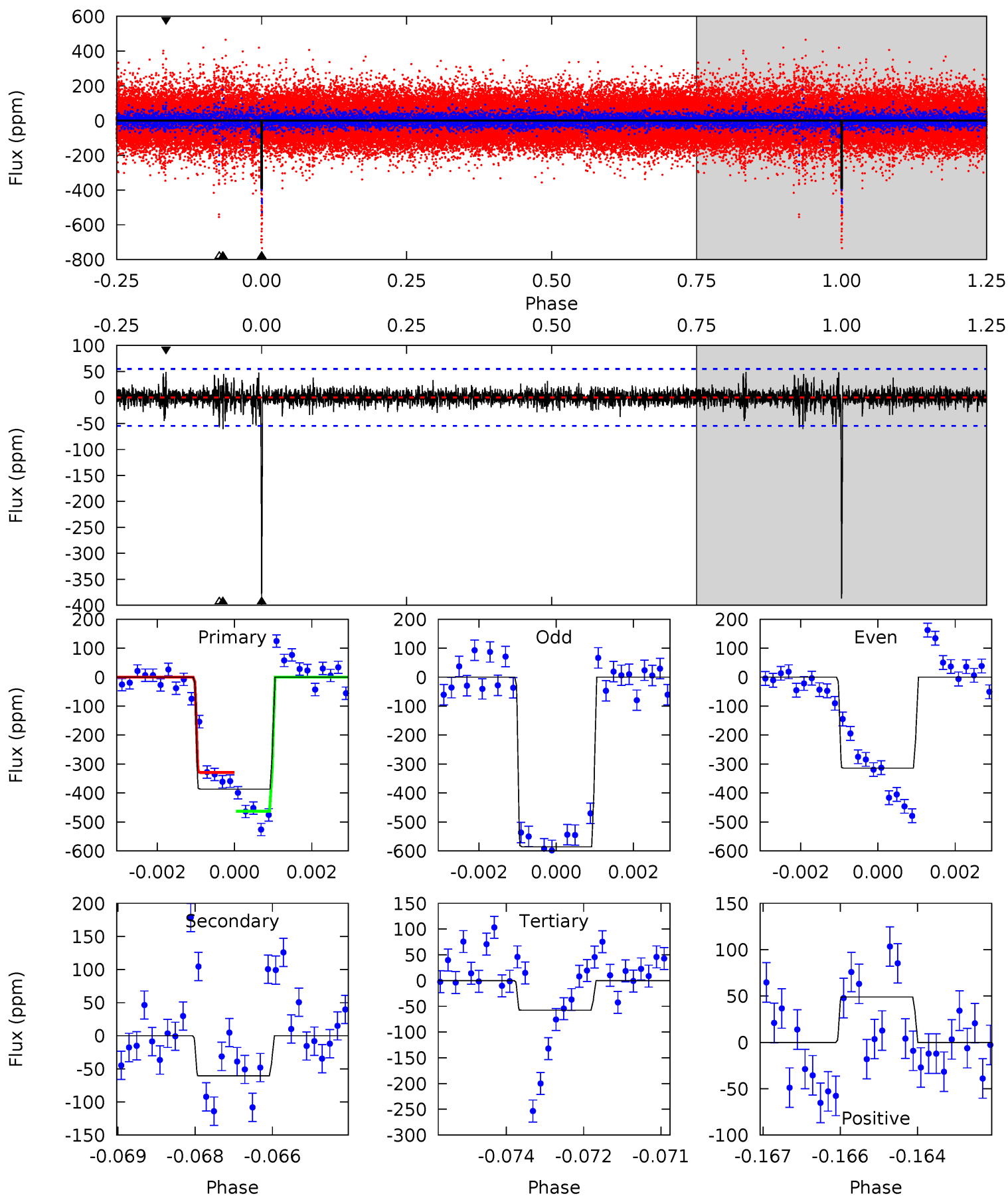
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.7	13.7	11.8	9.07	5.35	3.14	1.81	24.9	27.7	1.88	4.63	14.0	0.96	0.20	3.81



Alt Model-Shift Uniqueness Test

005521373-04, P = 357.130950 Days, E = 249.114105 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.9	5.95	5.65	4.80	5.37	3.15	0.92	32.3	33.1	0.30	1.14	12.7	1.25	0.11	6.48



Stellar Parameters For KIC 005521373

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8703^{+240}_{-377}	$3.799^{+0.397}_{-0.132}$	$-0.260^{+0.450}_{-0.350}$	$2.942^{+0.835}_{-1.252}$	$1.987^{+0.425}_{-0.425}$	$0.110^{+0.358}_{-0.045}$
	+3%/-4%	+10%/-3%	+173%/-135%	+28%/-43%	+21%/-21%	+326%/-41%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005521373-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-142 ± 10	$6.20^{+1.24}_{-1.40}$	799^{+68}_{-88}	6342^{+299}_{-299}	3152^{+1857}_{-929}
Alt.	-61 ± 10	$6.15^{+1.29}_{-1.35}$	799^{+66}_{-84}	5213^{+280}_{-297}	1361^{+861}_{-440}

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

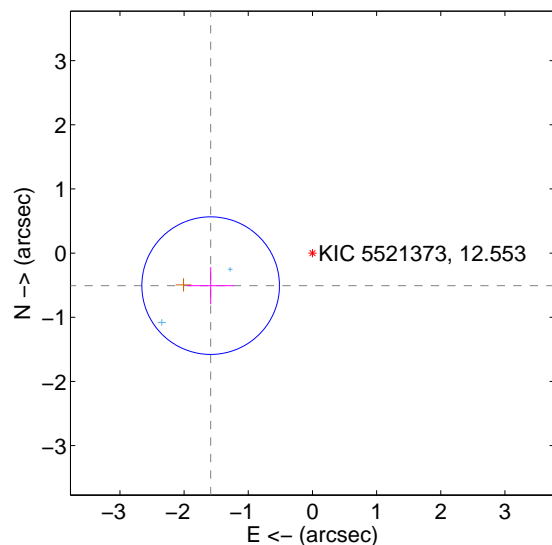
Supplemental centroid analysis for 005521373-04. Kepler magnitude: 12.55. Transit SNR 14.75

There are 2 quarters with good PRF difference image offsets

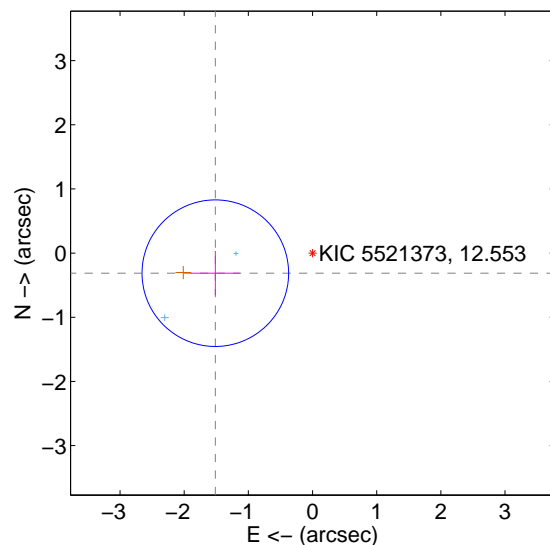
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.665 ± 0.357	4.66	1.586 ± 0.364	-0.507 ± 0.289
PRF-fit source offset from KIC position	1.547 ± 0.381	4.06	1.515 ± 0.382	-0.313 ± 0.347
photometric centroid source offset	0.74 ± 0.80	0.92	0.71 ± 0.82	-0.20 ± 0.60

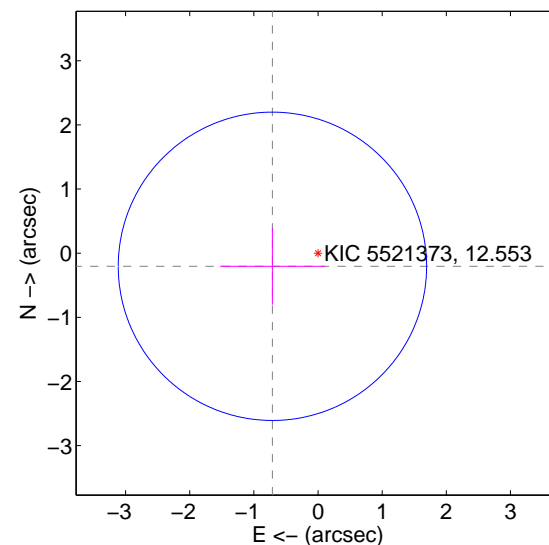
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

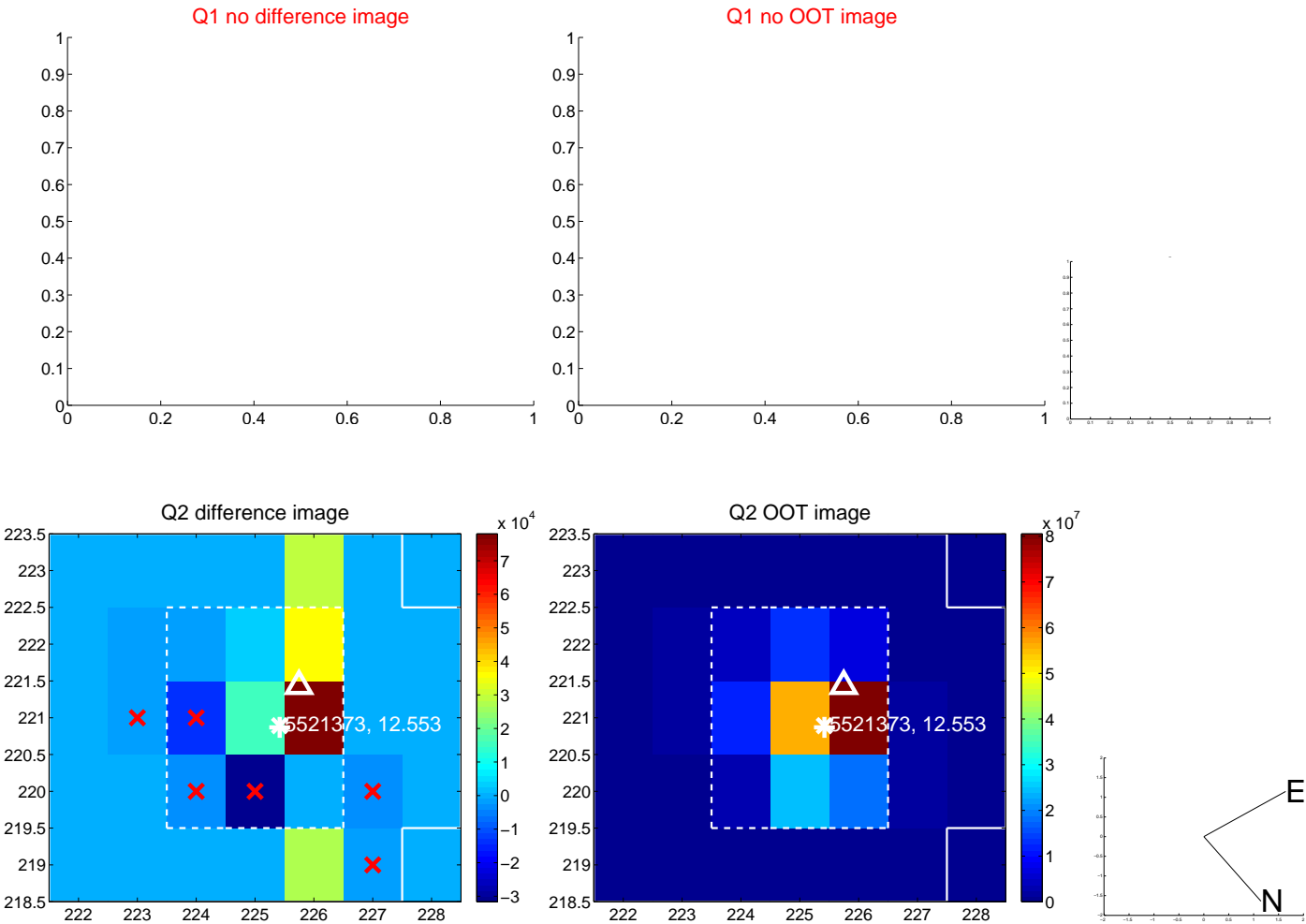


offset from photometric centroids

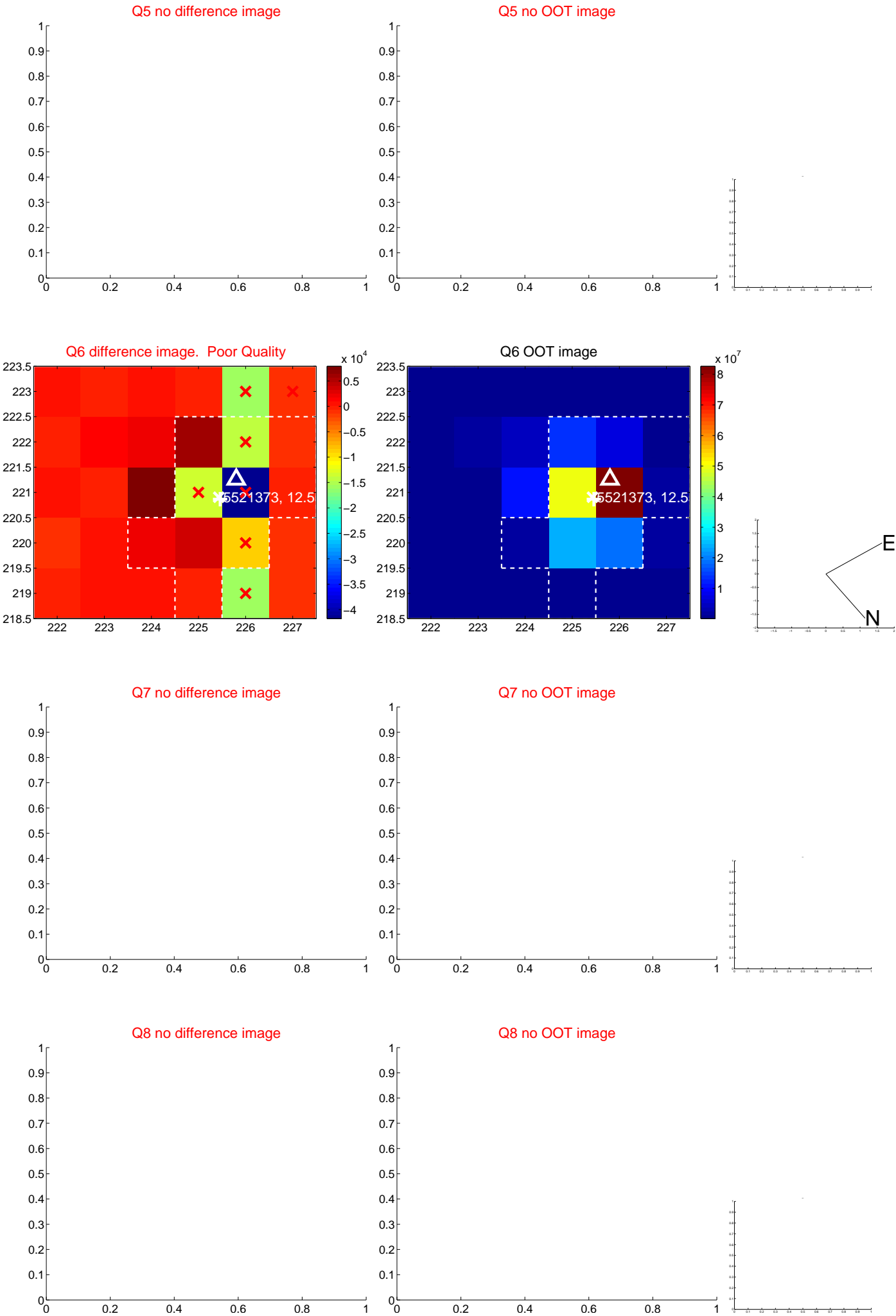


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

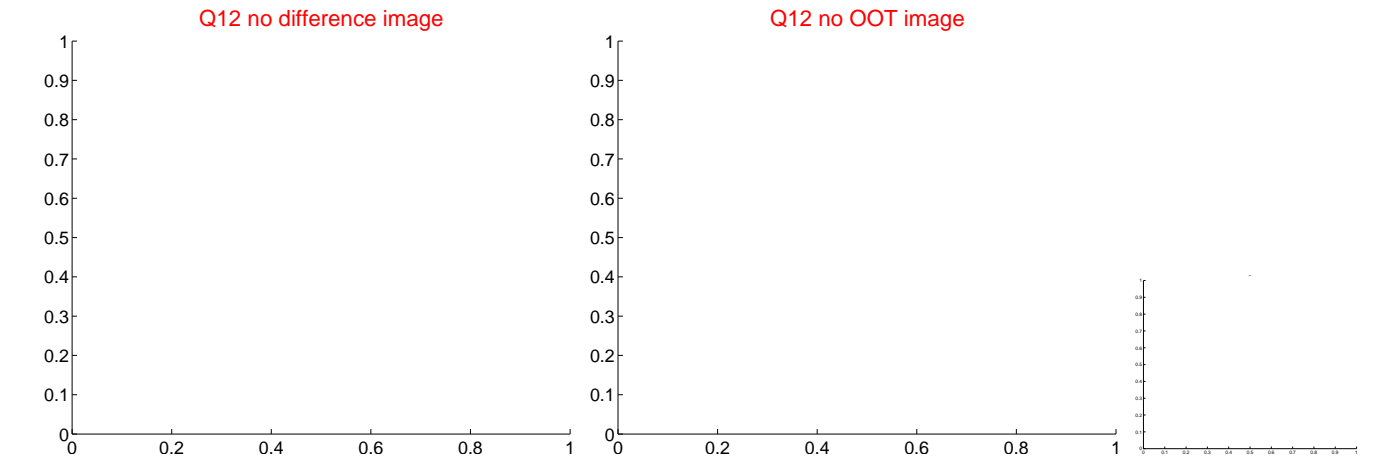
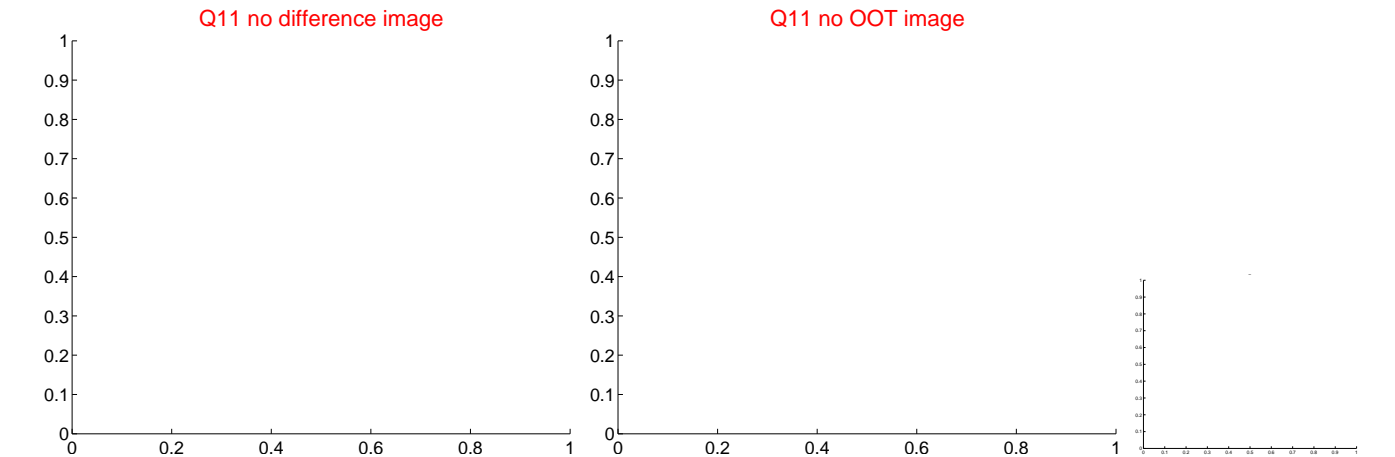
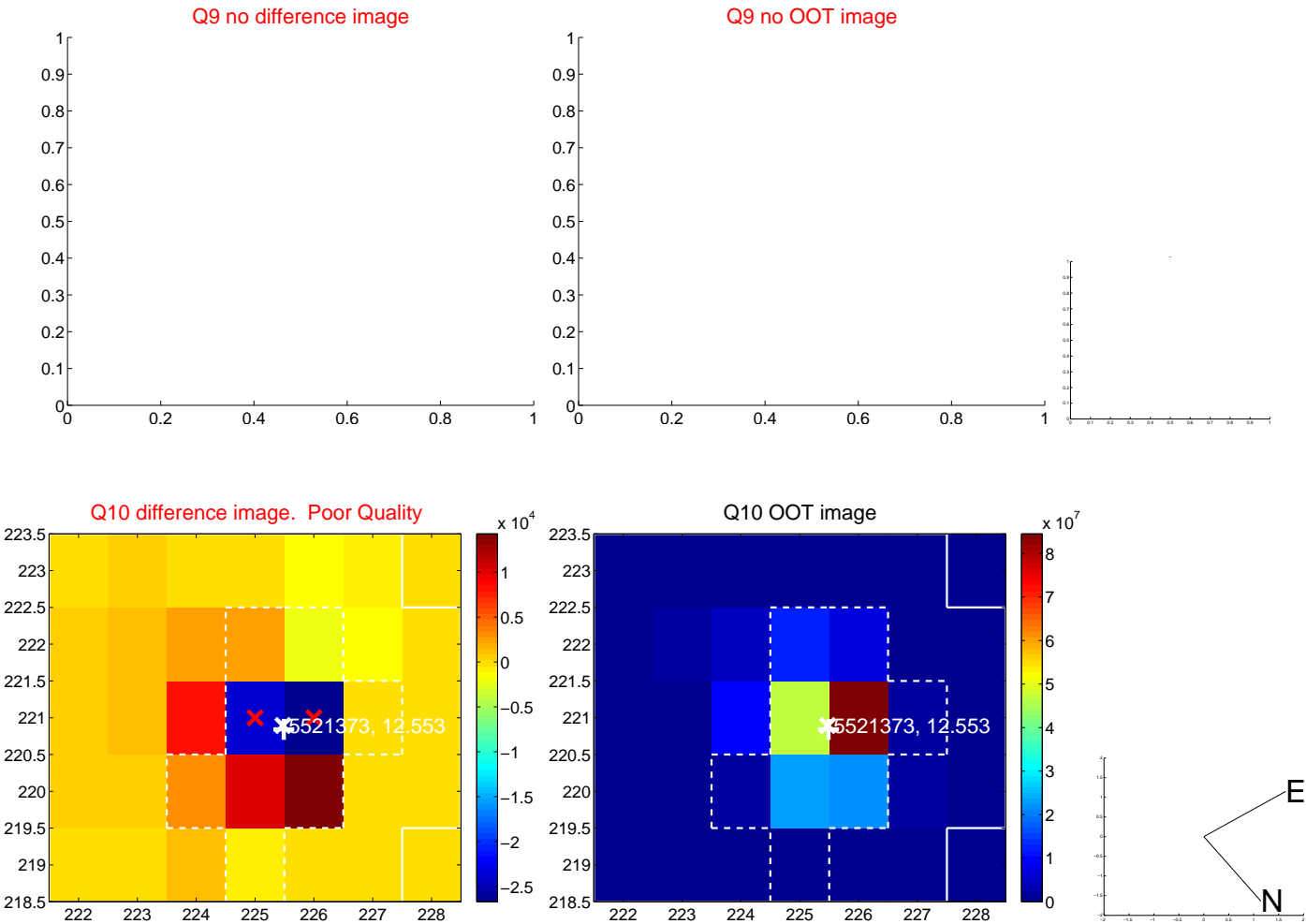
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



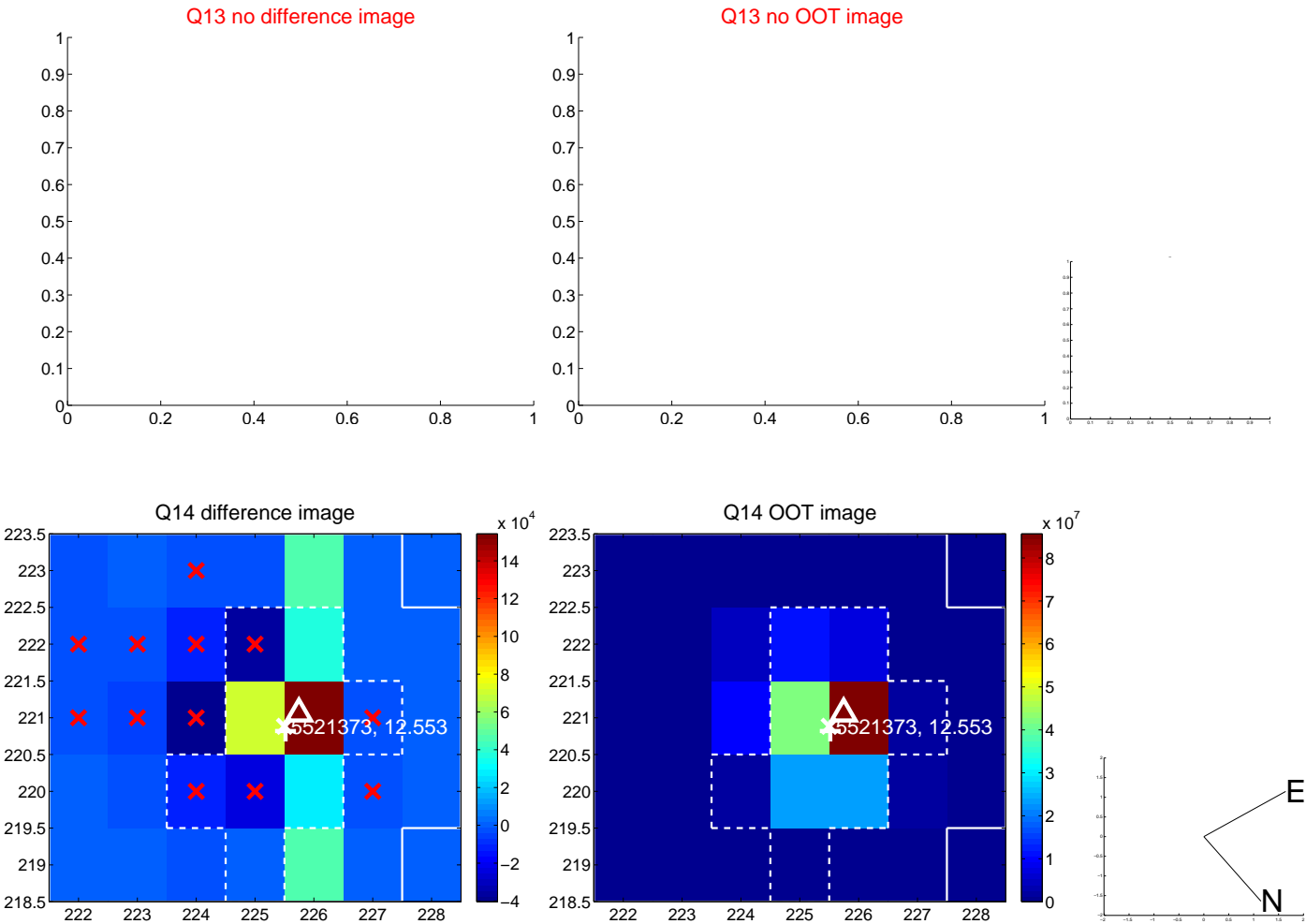
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



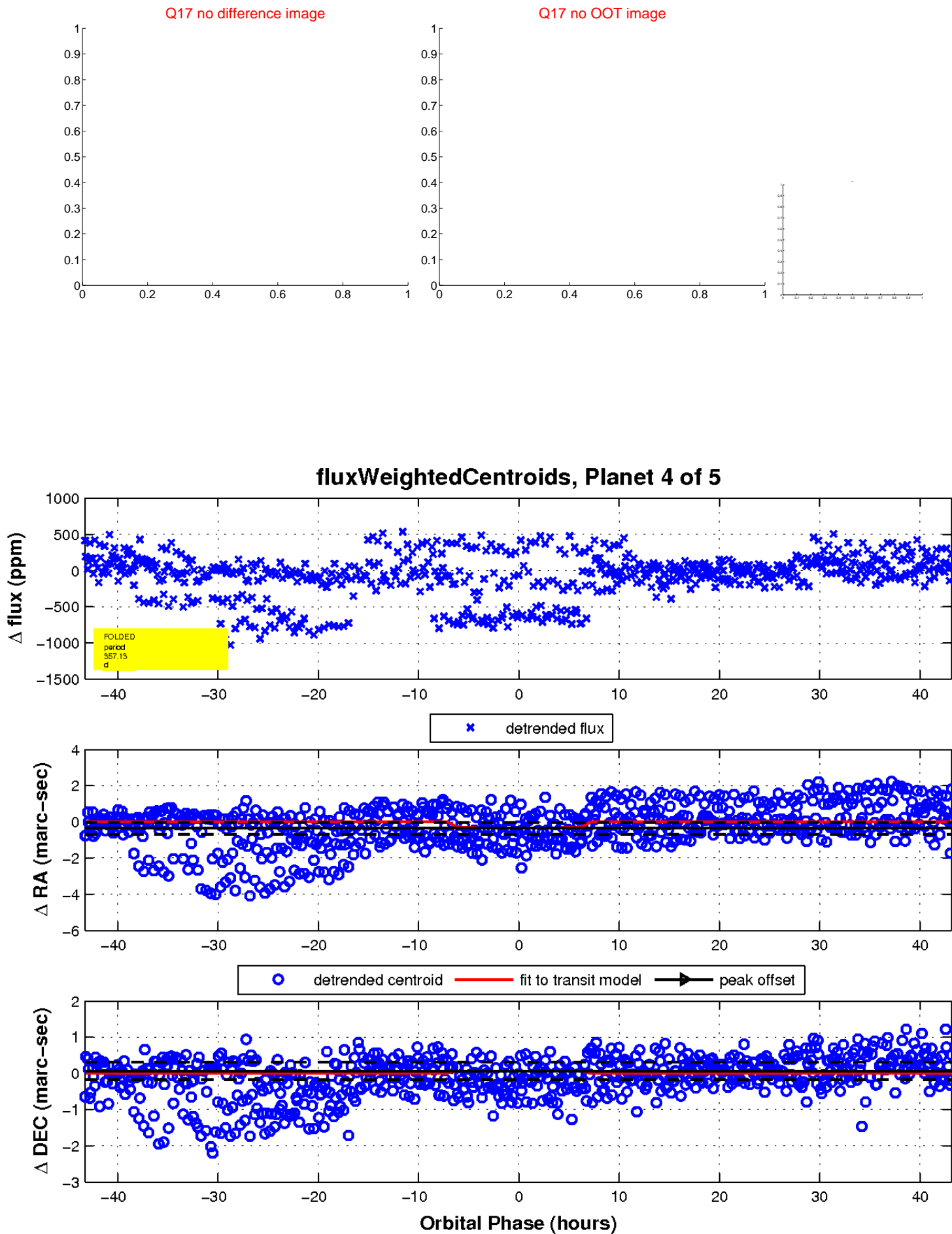
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

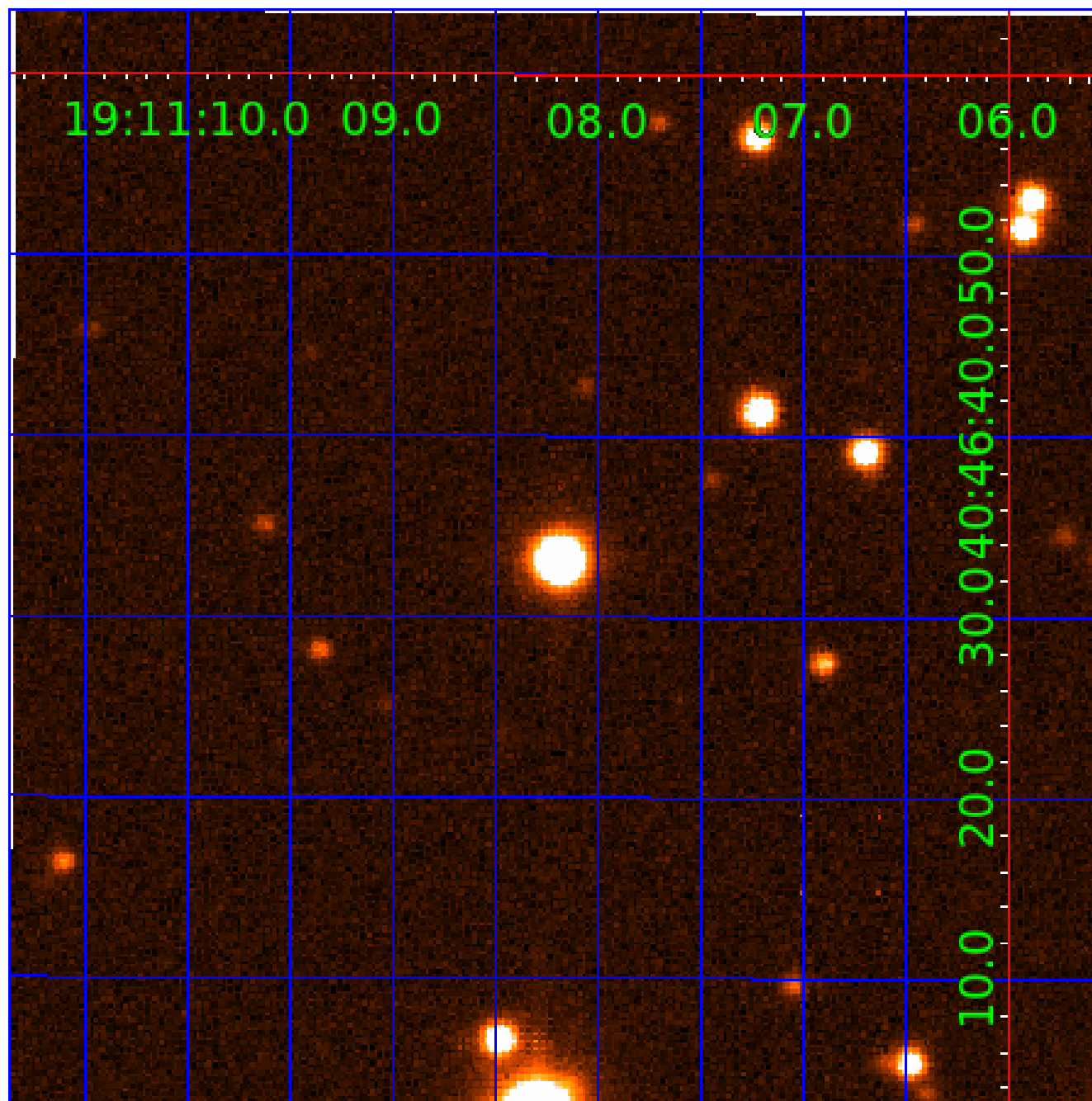


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005521373

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})
005521373-01	OBS	No	350.138899	255.685243	359.4	44.146	31.7	10.3	2.94	8703	5.73	29.76
005521373-02	OBS	No	382.789179	211.811725	144.9	16.352	26.5	6.2	2.94	8703	3.79	26.43
005521373-03	OBS	No	382.190609	199.973655	149.4	13.586	10.7	7.5	2.94	8703	4.00	26.48
005521373-04	OBS	No	357.126557	249.115804	392.5	14.439	14.7	14.7	2.94	8703	6.52	28.99
005521373-05	OBS	No	345.798327	247.185577	193.4	46.844	10.2	5.9	2.94	8703	4.24	30.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005521373-01	OBS	FP	0.00	1	0	1	0	LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
005521373-02	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH
005521373-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005521373-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

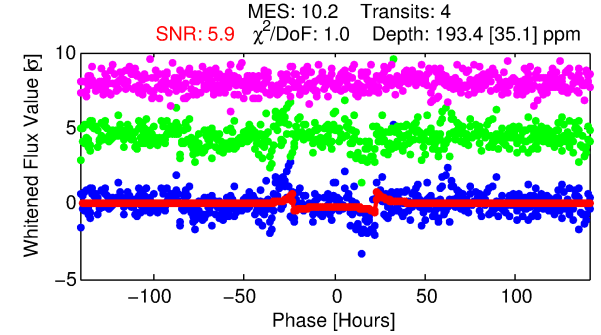
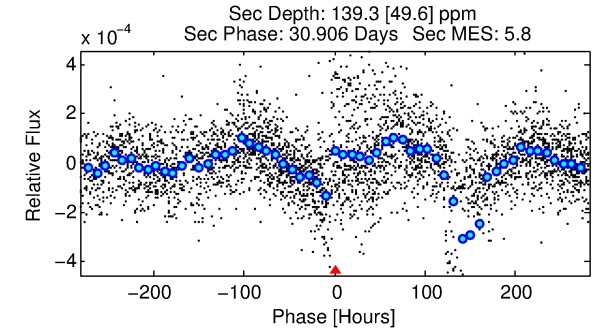
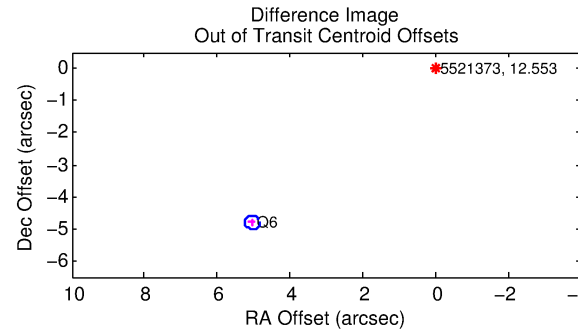
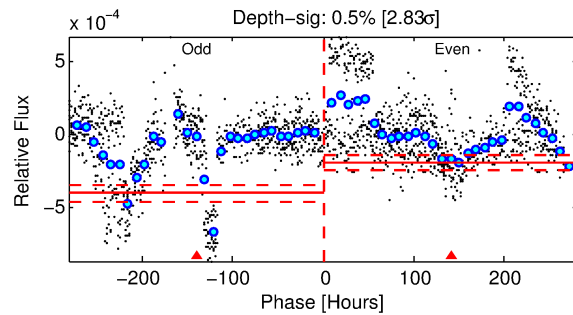
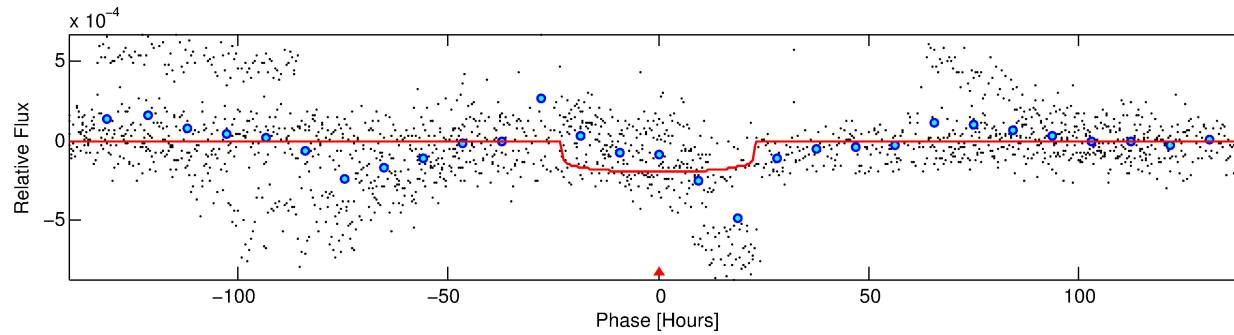
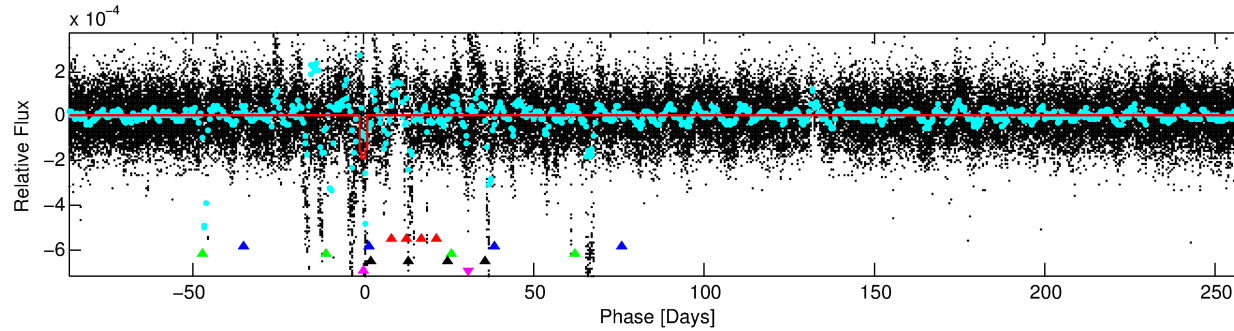
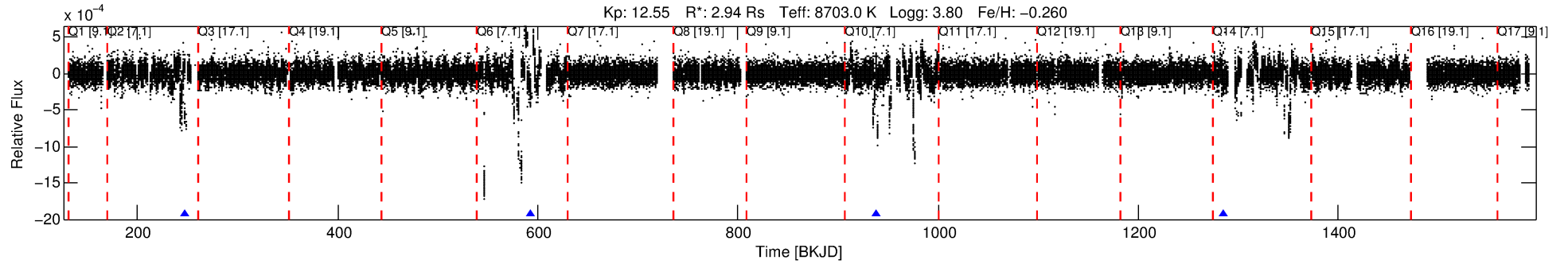
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005521373-05

No Significant Match Found

DV One-Page Summary

KIC: 5521373 Candidate: 5 of 5 Period: 345.798 d



DV Fit Results:

Period = 345.79833 [0.00804] d
Epoch = 247.1856 [0.0163] BKJD
Rp/R* = 0.0132 [0.0022]
a/R* = 51.04 [39.07]
b = 0.46 [1.33]
Seff = 30.26 [21.01]
Teq = 598 [104] K
Rp = 4.24 [1.93] Re
a = 1.2125 [0.5048] AU
Ag = 6281.60 [5214.88] [1.20σ]
Teffp = 8232 [1064] K [7.14σ]

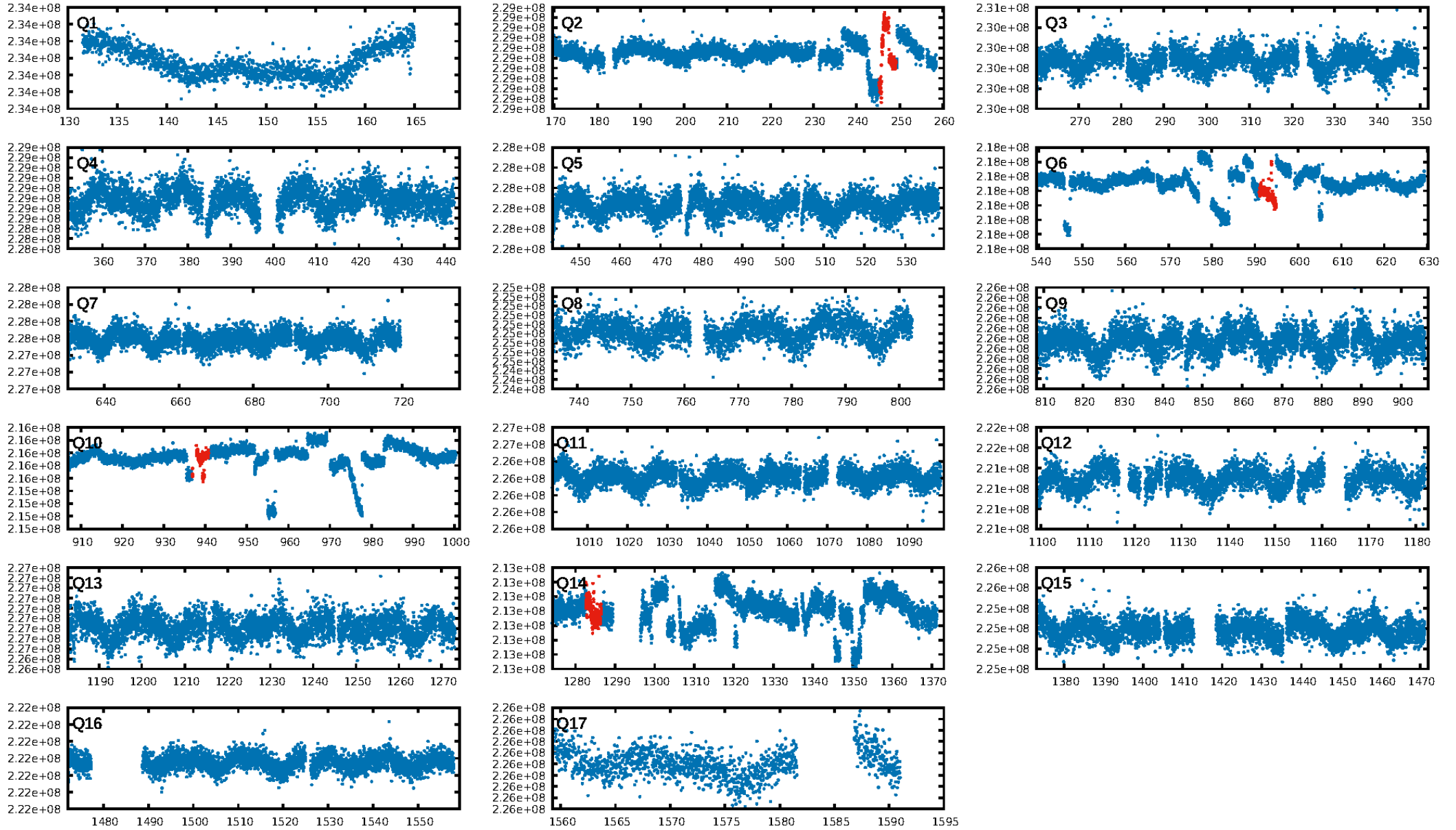
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 89.4% [1.62σ]
ModelChiSquare2-sig: 73.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.61e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.261
Centroid-sig: 7.5%
Centroid-so: 1.912 arcsec [1.19σ]
OotOffset-rm: 6.965 arcsec [97.76σ]
KicOffset-rm: 6.831 arcsec [95.88σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/1]

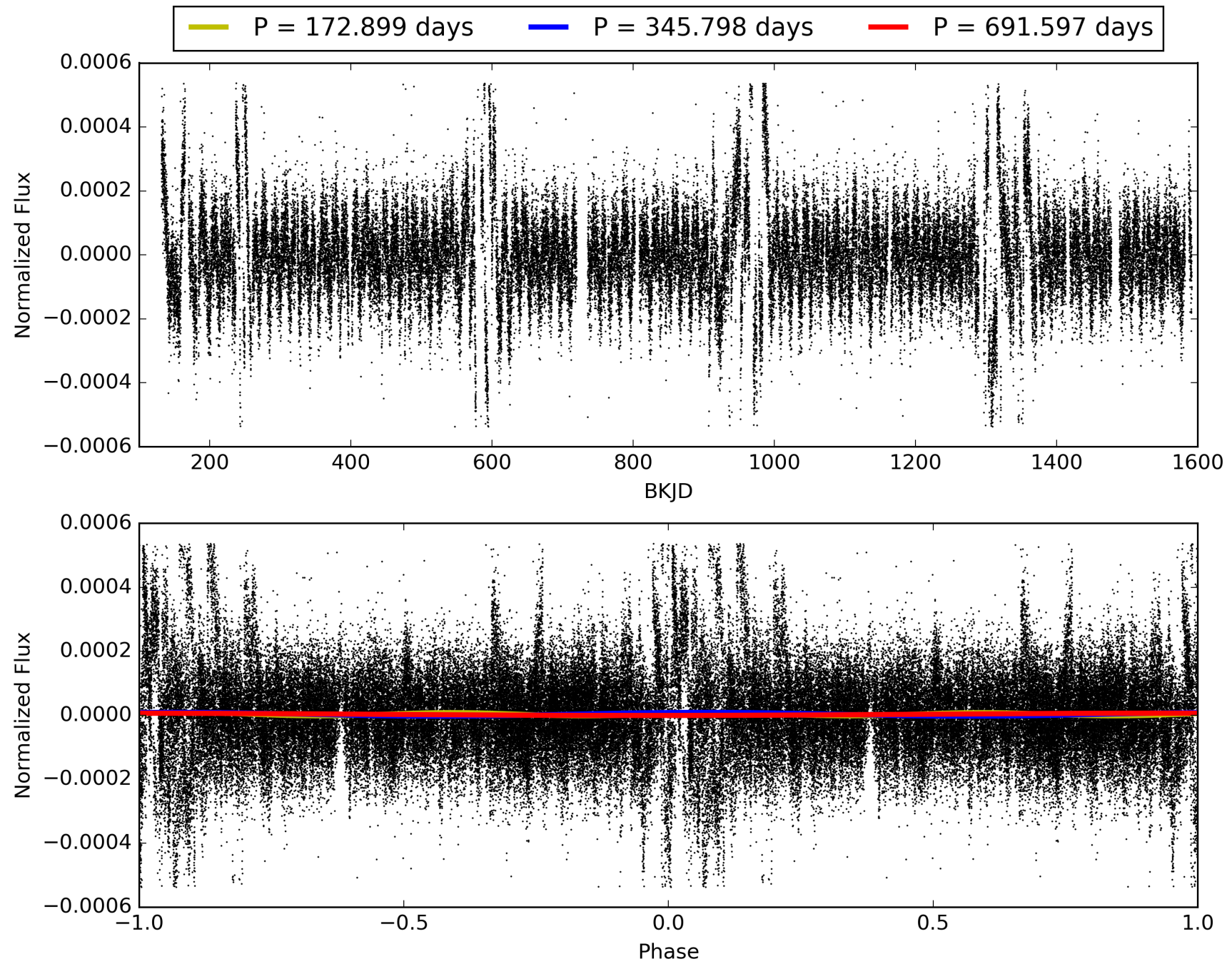
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:33:19 Z

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

TCE 005521373-05, PDC Light Curves

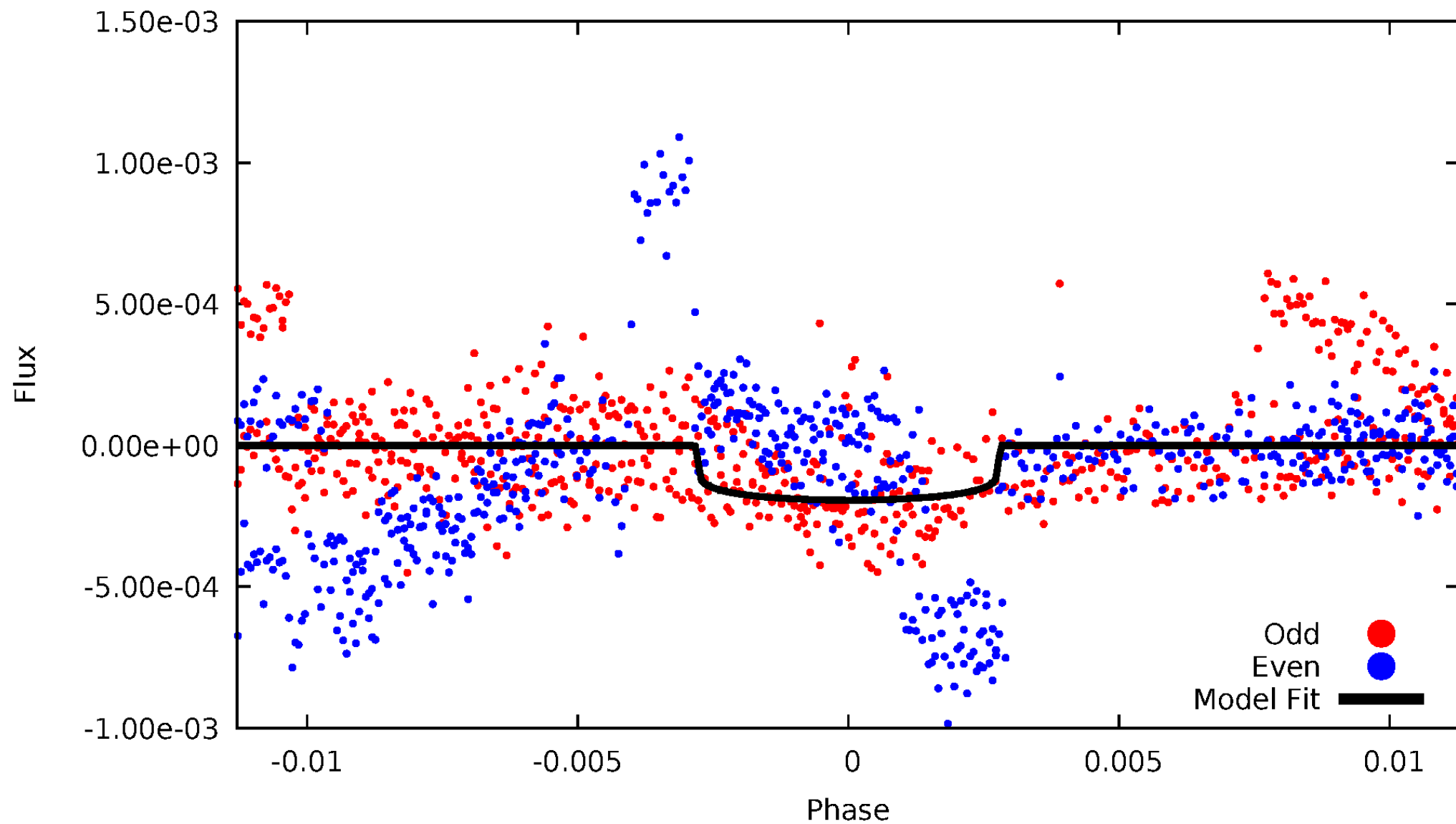


TCE 005521373-05



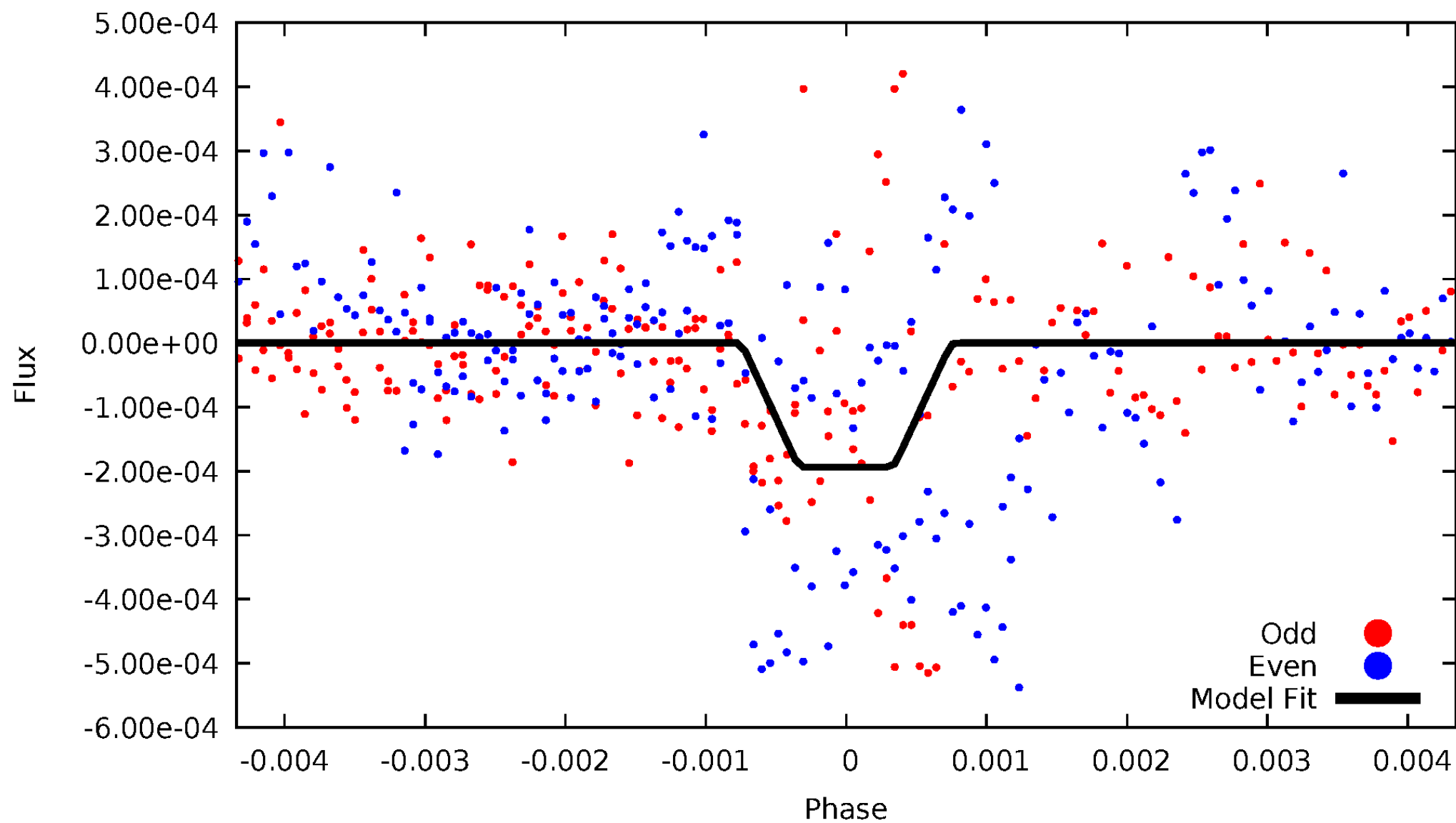
DV Odd/Even

TCE 005521373-05



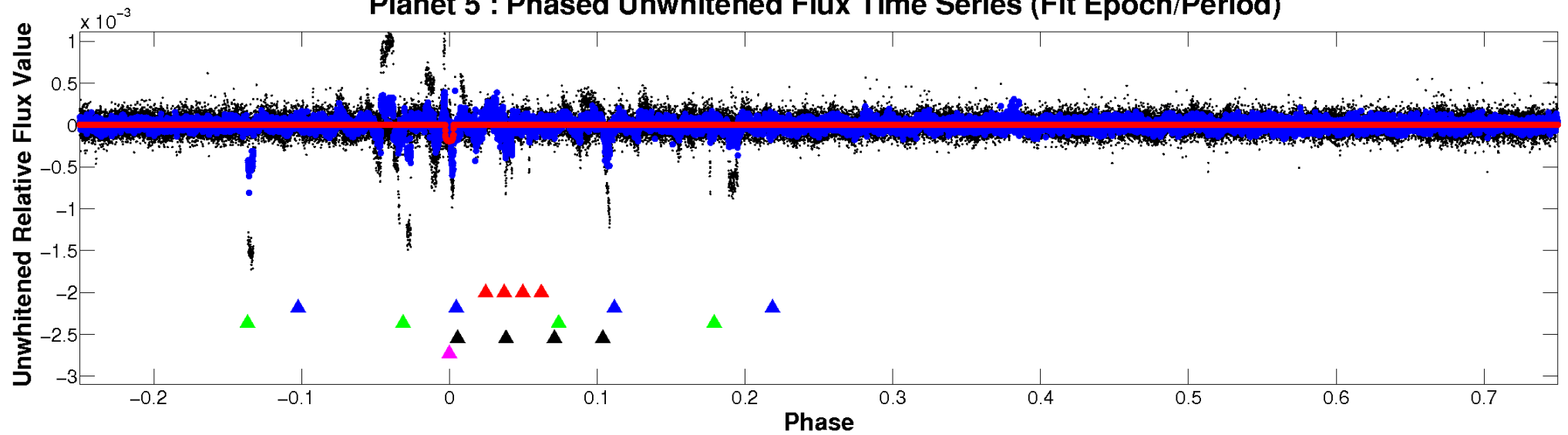
ALT Odd/Even

TCE 005521373-05

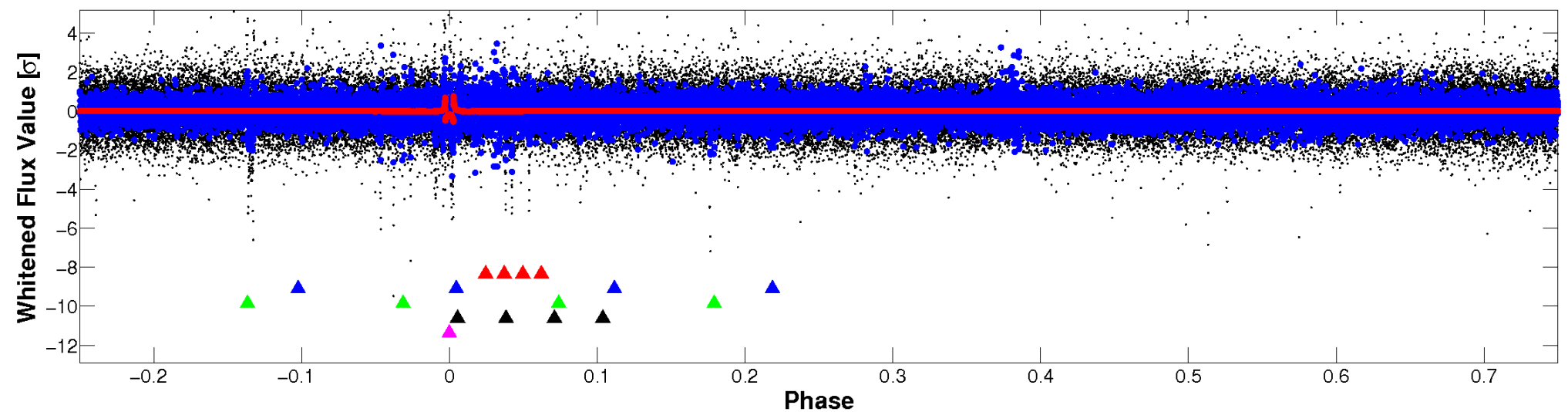


Non-Whitened Vs. Whitened Light Curve

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



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



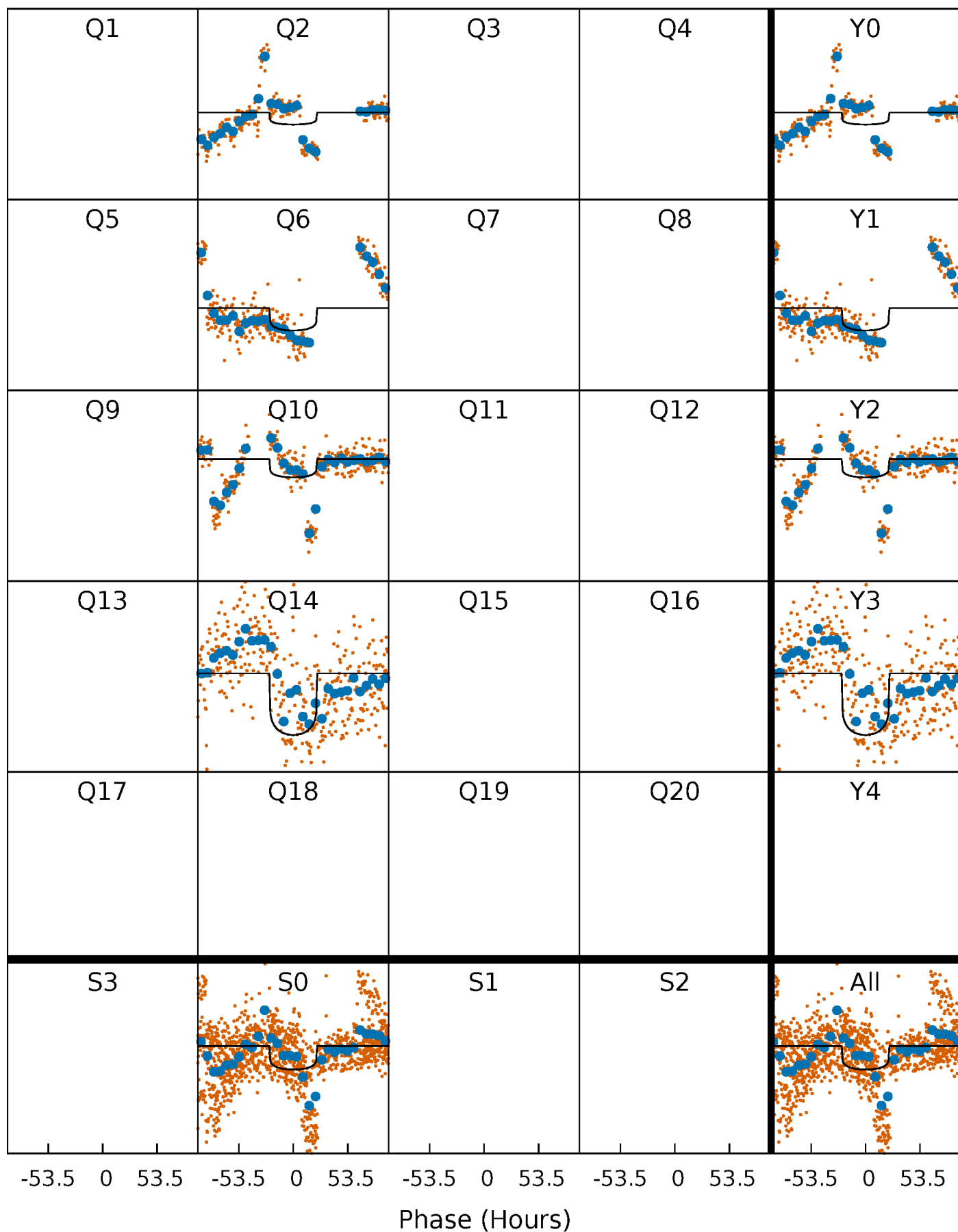
PDC Quarter-Phased Transit Curves

TCE 005521373-05 $P=345.798327$ Days $T_0=247.185577$ (BKJD)



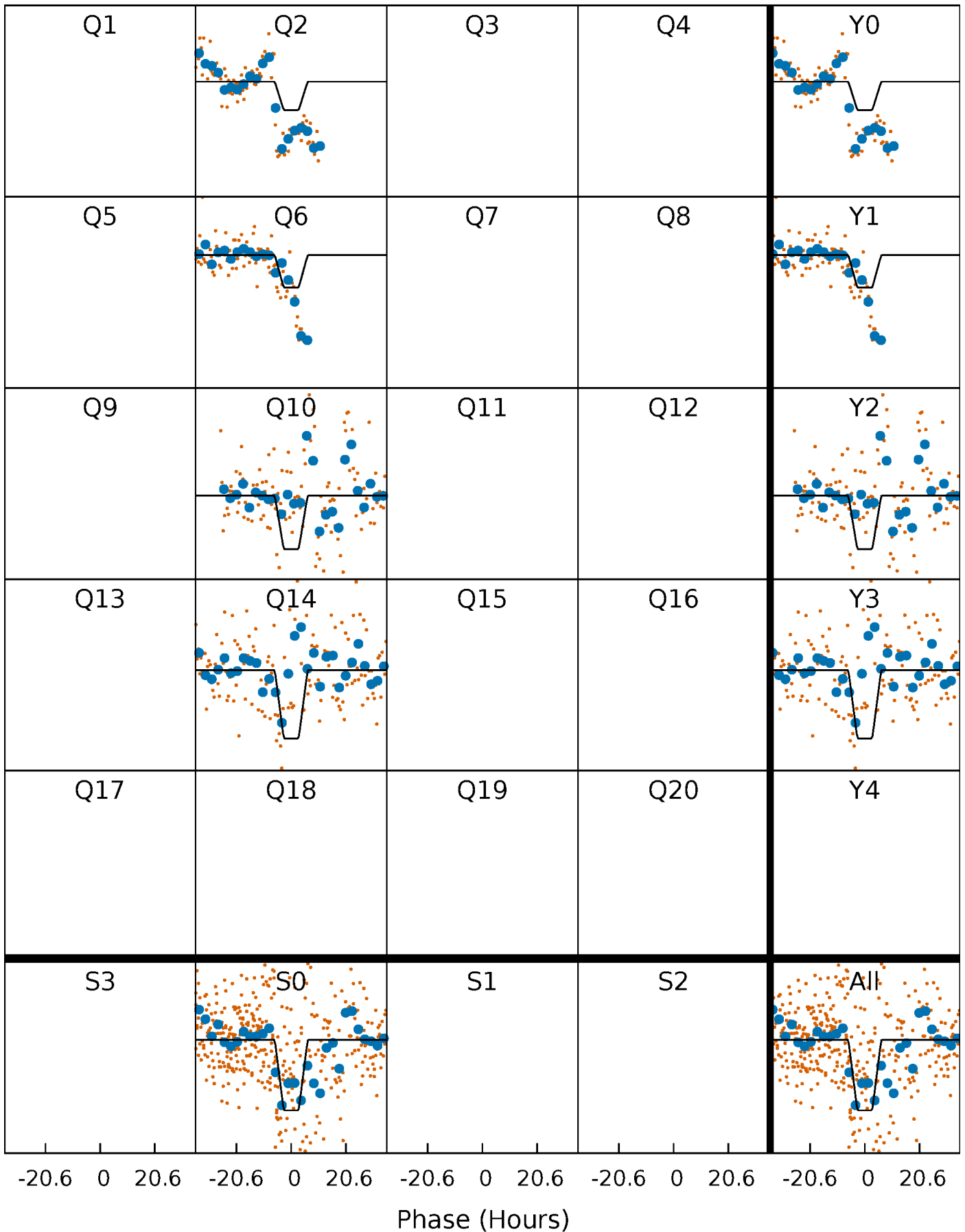
DV Quarter-Phased Transit Curves

TCE 005521373-05 $P=345.798327$ Days $T_0=247.185577$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

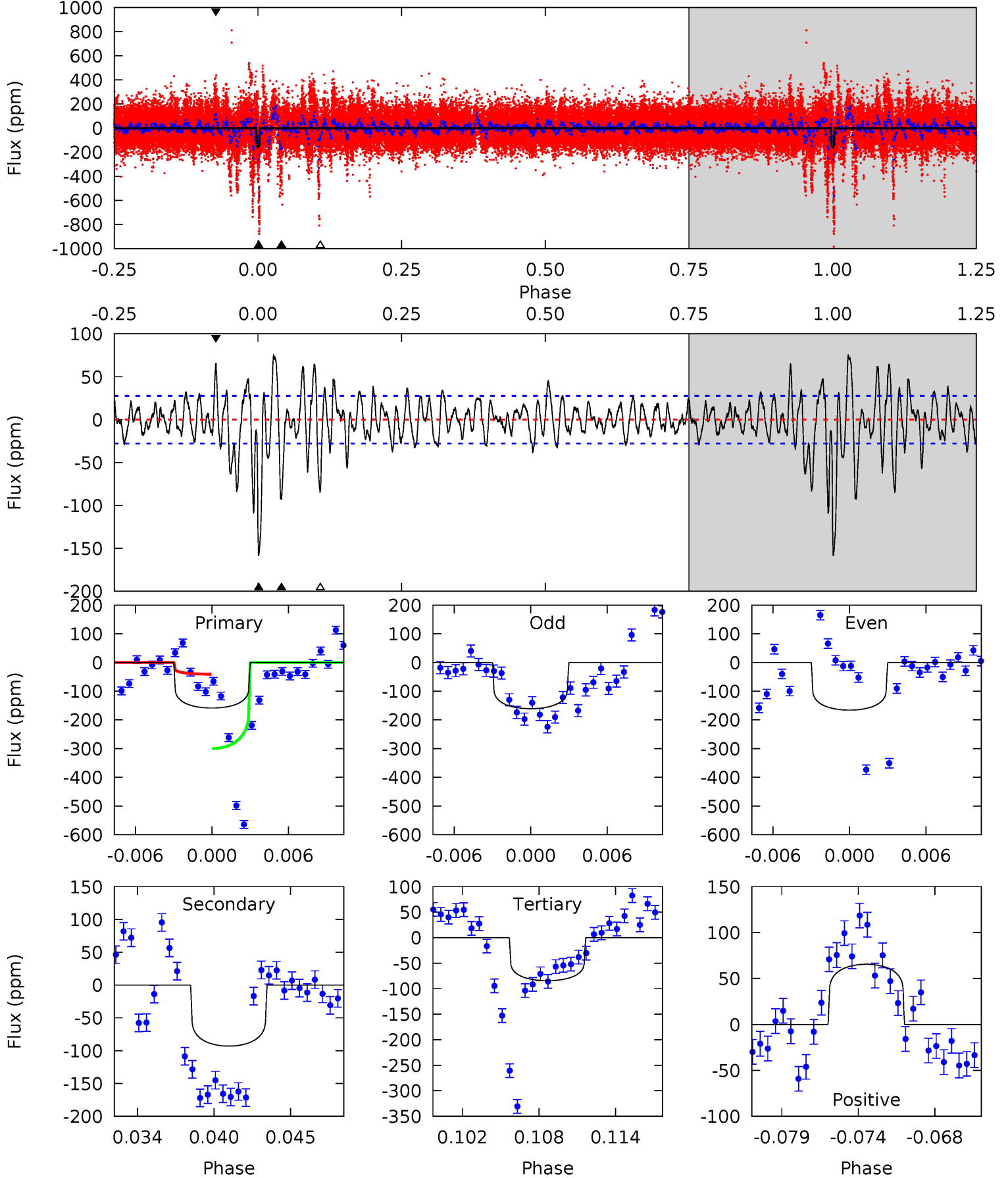
TCE 005521373-05 $P=345.573182$ Days $T_0=247.764217$ (BKJD)



DV Model-Shift Uniqueness Test

005521373-05, P = 345.798327 Days, E = 247.185577 Days

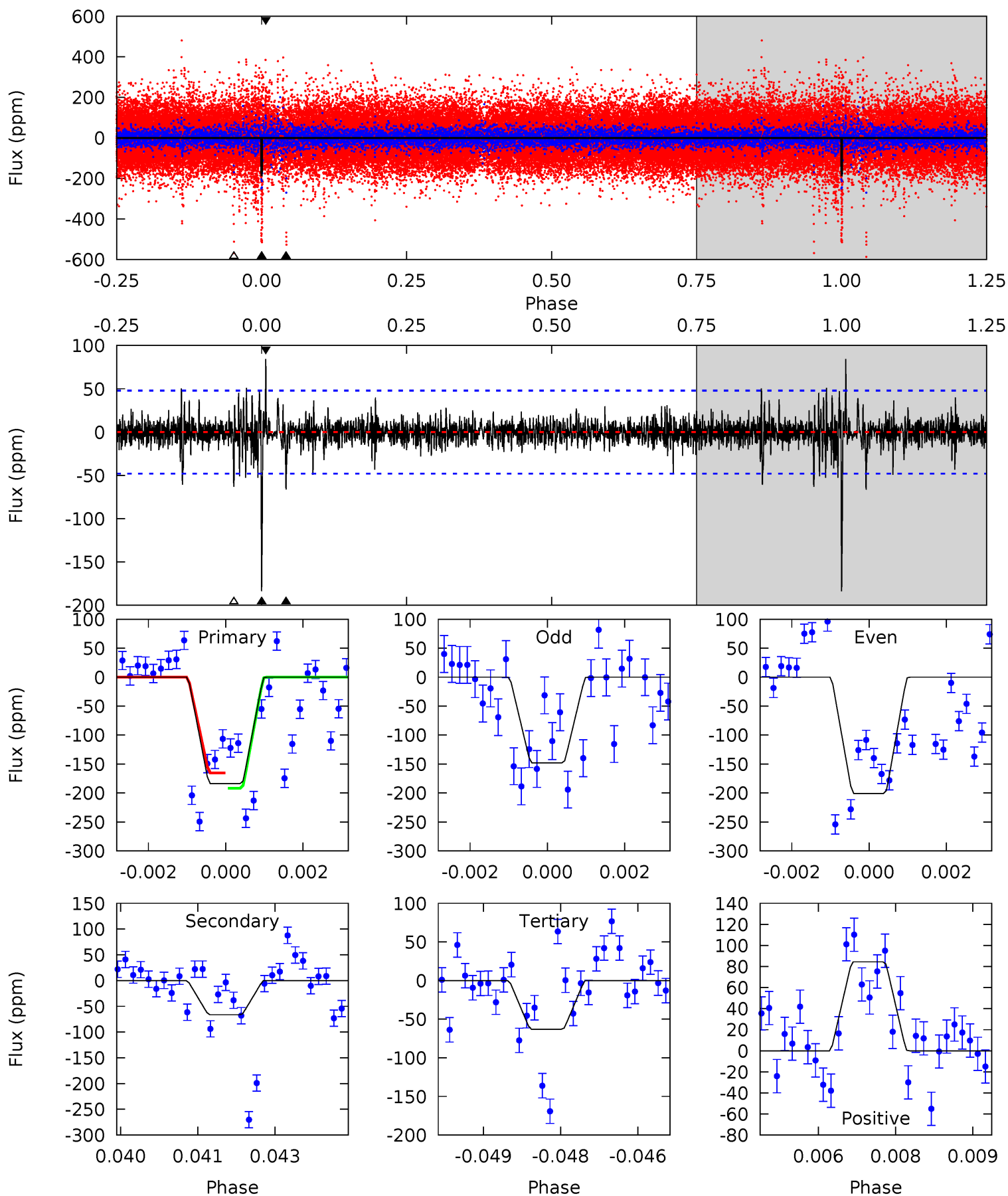
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.3	17.2	15.6	12.1	5.13	2.77	3.91	13.7	17.2	1.61	5.08	0.36	0.99	0.32	23.8



Alt Model-Shift Uniqueness Test

005521373-05, P = 345.573182 Days, E = 247.764217 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	7.42	7.05	9.45	5.37	3.17	1.22	13.5	11.1	0.37	-2.02	2.93	1.24	0.31	1.48



Stellar Parameters For KIC 005521373

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8703^{+240}_{-377}	$3.799^{+0.397}_{-0.132}$	$-0.260^{+0.450}_{-0.350}$	$2.942^{+0.835}_{-1.252}$	$1.987^{+0.425}_{-0.425}$	$0.110^{+0.358}_{-0.045}$
	+3%/-4%	+10%/-3%	+173%/-135%	+28%/-43%	+21%/-21%	+326%/-41%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005521373-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-93 ± 5	$3.96^{+1.06}_{-0.98}$	809^{+69}_{-81}	7169^{+926}_{-644}	4855^{+3545}_{-1708}
Alt.	-66 ± 9	$4.26^{+1.10}_{-1.03}$	812^{+69}_{-89}	6321^{+603}_{-511}	3006^{+2183}_{-1098}

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 $A_{obs} \gg 1.0$

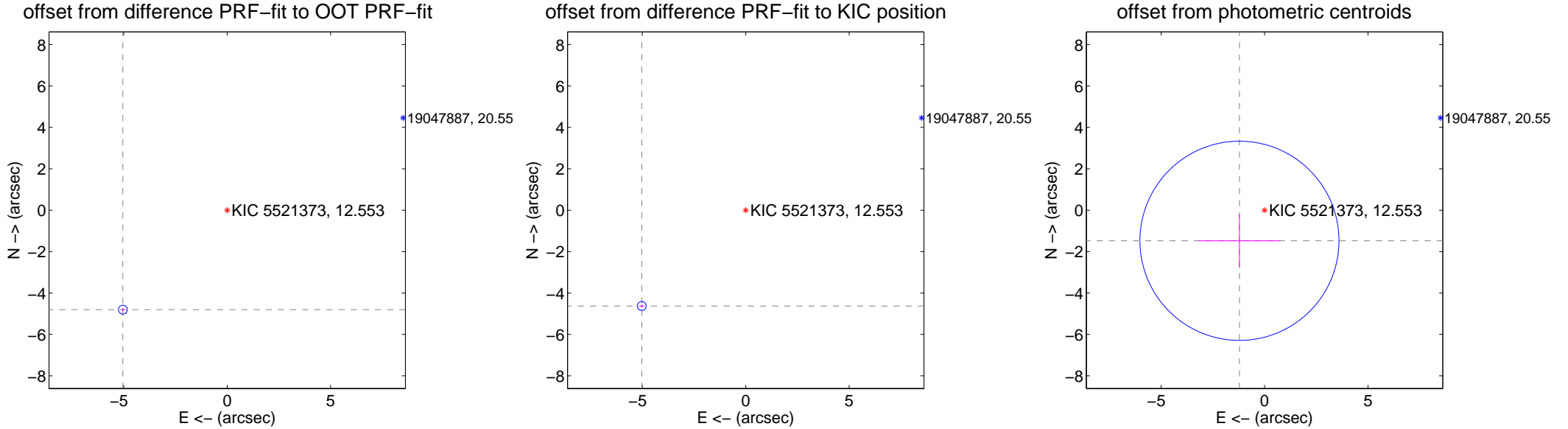
DV Centroid Data

Supplemental centroid analysis for 005521373-05. Kepler magnitude: 12.55. Transit SNR 5.91

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.965 ± 0.071	97.76	5.043 ± 0.071	-4.803 ± 0.071
PRF-fit source offset from KIC position	6.831 ± 0.071	95.88	5.025 ± 0.071	-4.628 ± 0.071
photometric centroid source offset	1.91 ± 1.60	1.19	1.21 ± 1.97	-1.48 ± 1.30

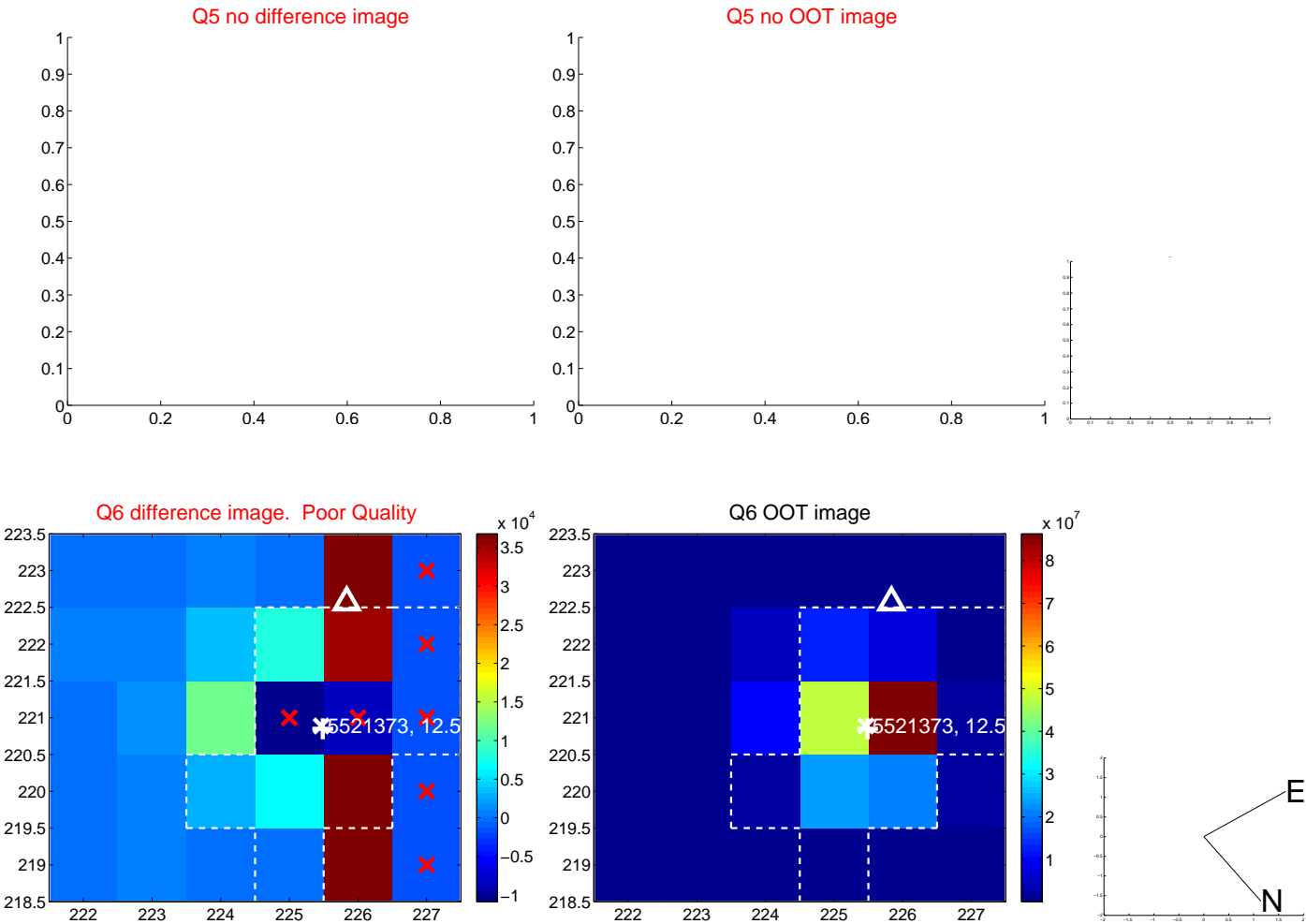


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



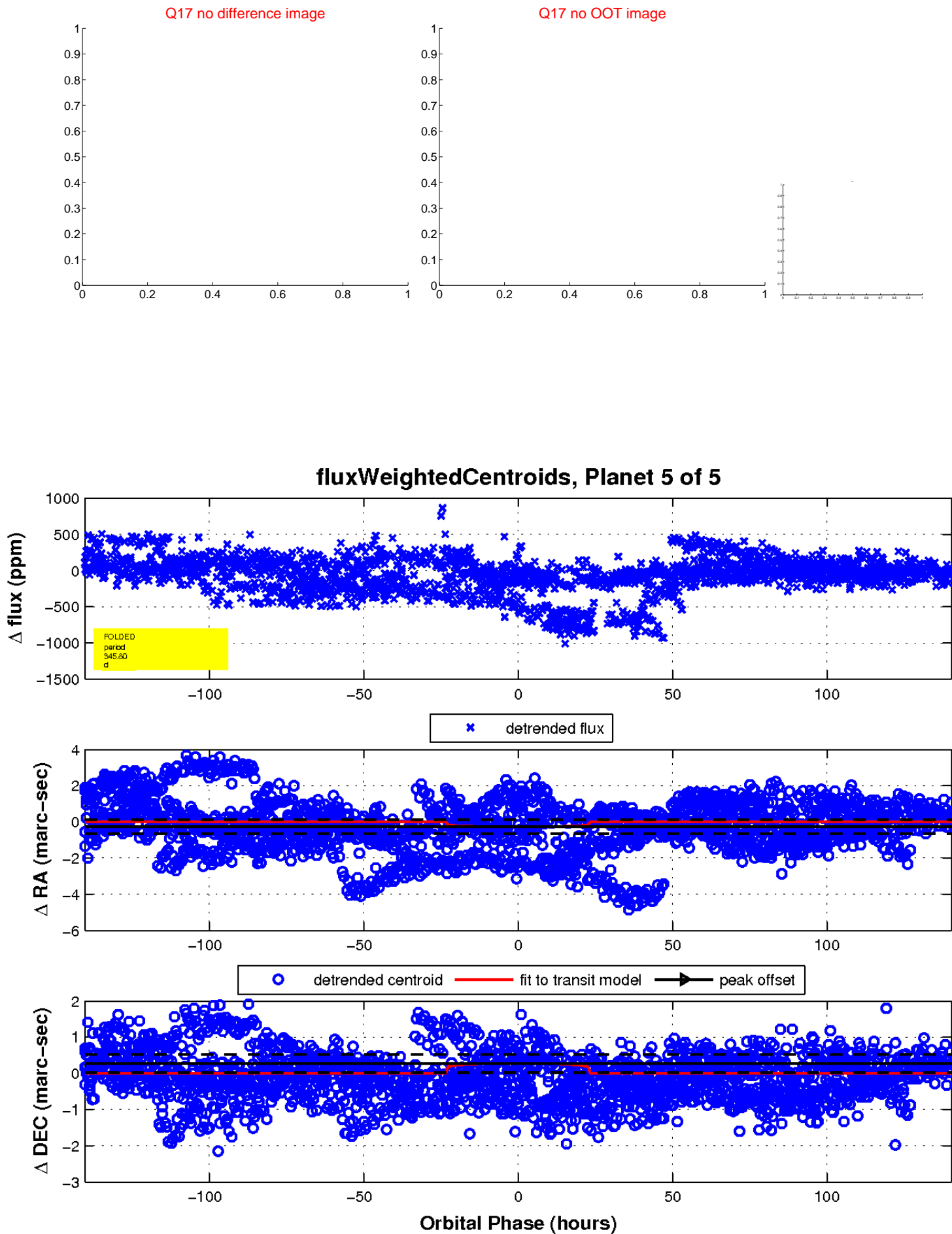
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

