

KIC 007553237

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})
007553237-01	OBS	No	0.712003	131.577316	53.3	2.544	11.6	11.8	1.76	7219	1.49	23164.90
007553237-02	OBS	No	262.390526	344.891901	1263.6	4.740	11.2	9.1	1.76	7219	11.59	8.77
007553237-03	OBS	No	315.609858	273.014940	960.1	6.666	8.7	7.7	1.76	7219	6.57	6.85
007553237-04	OBS	No	15.158732	135.168030	222.0	8.715	8.0	7.4	1.76	7219	3.29	392.57
007553237-05	OBS	No	360.800712	491.336818	1408.6	5.265	8.4	8.3	1.76	7219	11.96	5.73
007553237-06	OBS	No	198.386233	139.607665	1072.5	4.705	7.6	8.2	1.76	7219	10.70	12.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007553237-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007553237-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007553237-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
007553237-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

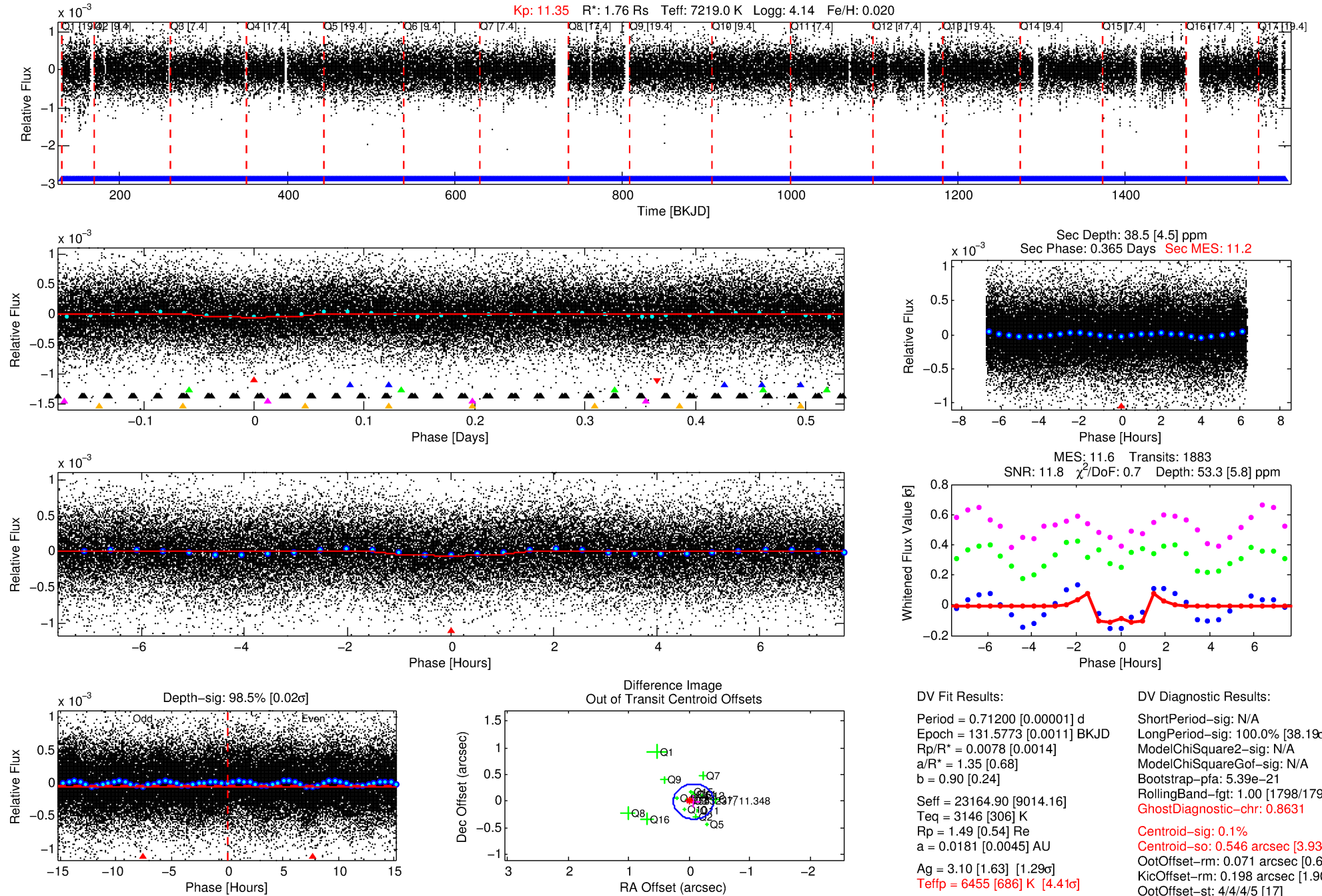
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007553237-01

No Significant Match Found

DV One-Page Summary

KIC: 7553237 Candidate: 1 of 6 Period: 0.712 d



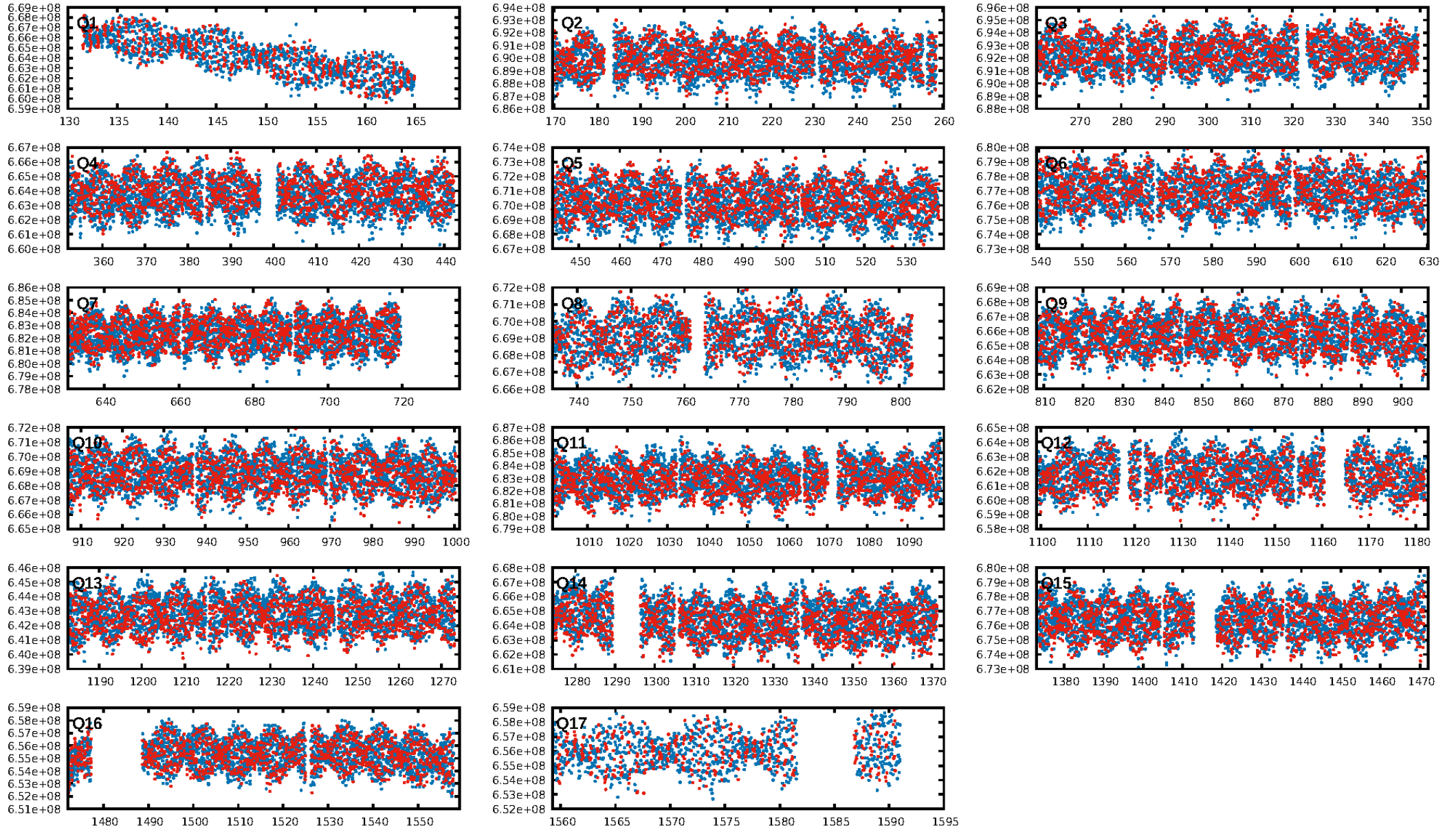
DV Fit Results:

Period = 0.71200 [0.00001] d
 Epoch = 131.5773 [0.0011] BKJD
 $R_p/R^* = 0.0078$ [0.0014]
 $a/R^* = 1.35$ [0.68]
 $b = 0.90$ [0.24]
 $\text{Seff} = 23164.90$ [9014.16]
 $T_{\text{eq}} = 3146$ [306] K
 $R_p = 1.49$ [0.54] R_e
 $a = 0.0181$ [0.0045] AU
 $A_g = 3.10$ [1.63] [1.29 σ]
 $T_{\text{eff}} = 6455$ [686] K [4.41 σ]

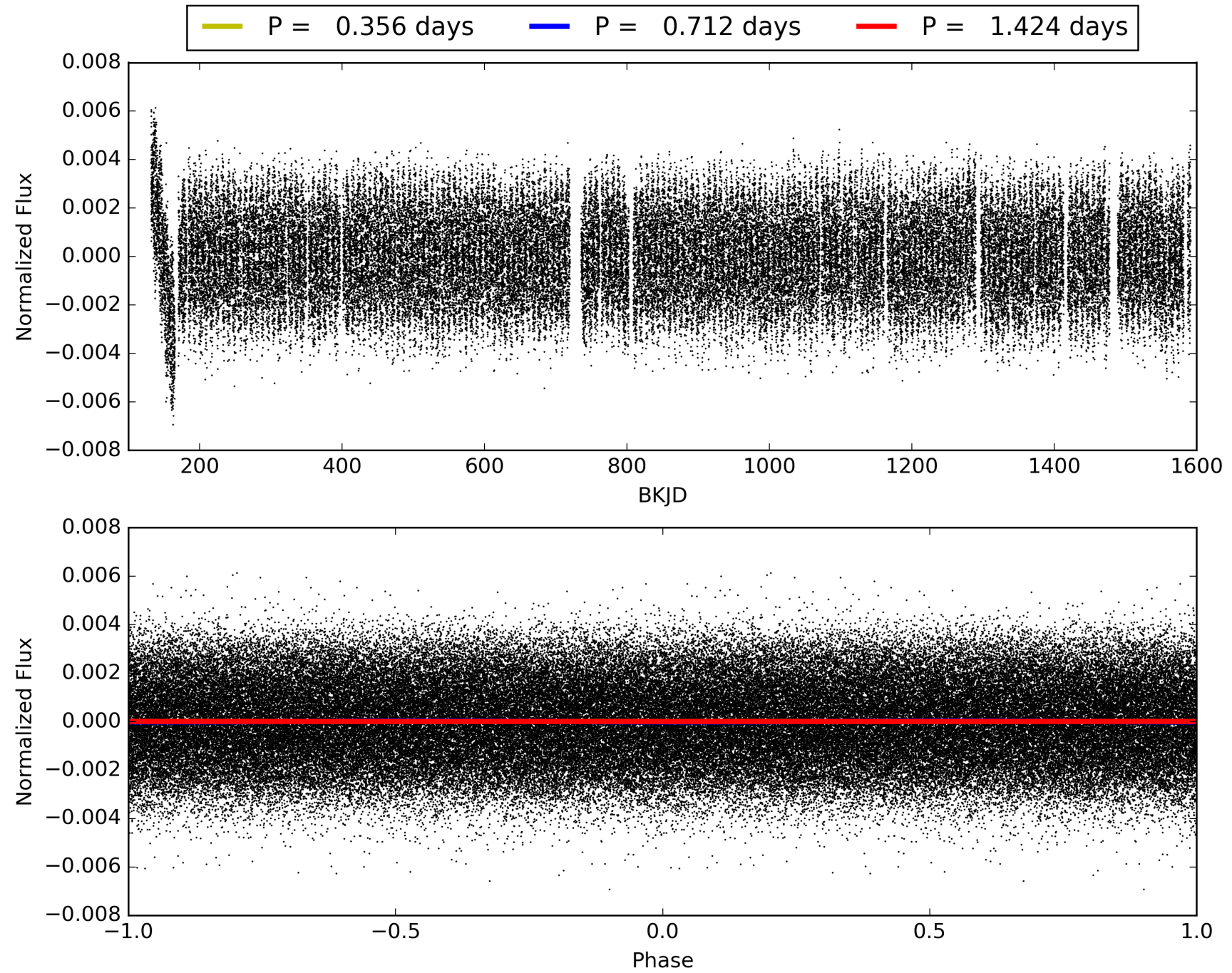
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: 100.0% [38.19 σ]
 ModelChiSquare2-sig: N/A
 ModelChiSquareGof-sig: N/A
 Bootstrap-pfa: 5.39e-21
 RollingBand-fgt: 1.00 [1798/1798]
 GhostDiagnostic-chr: 0.8631
 Centroid-sig: 0.1%
 Centroid-so: 0.546 arcsec [3.93 σ]
 OotOffset-rm: 0.071 arcsec [0.65 σ]
 KicOffset-rm: 0.198 arcsec [1.90 σ]
 OotOffset-st: 4/4/4/5 [17]
 KicOffset-st: 4/4/4/5 [17]
 DiffImageQuality-fgm: 0.59 [10/17]
 DiffImageOverlap-fno: 1.00 [17/17]

TCE 007553237-01, PDC Light Curves

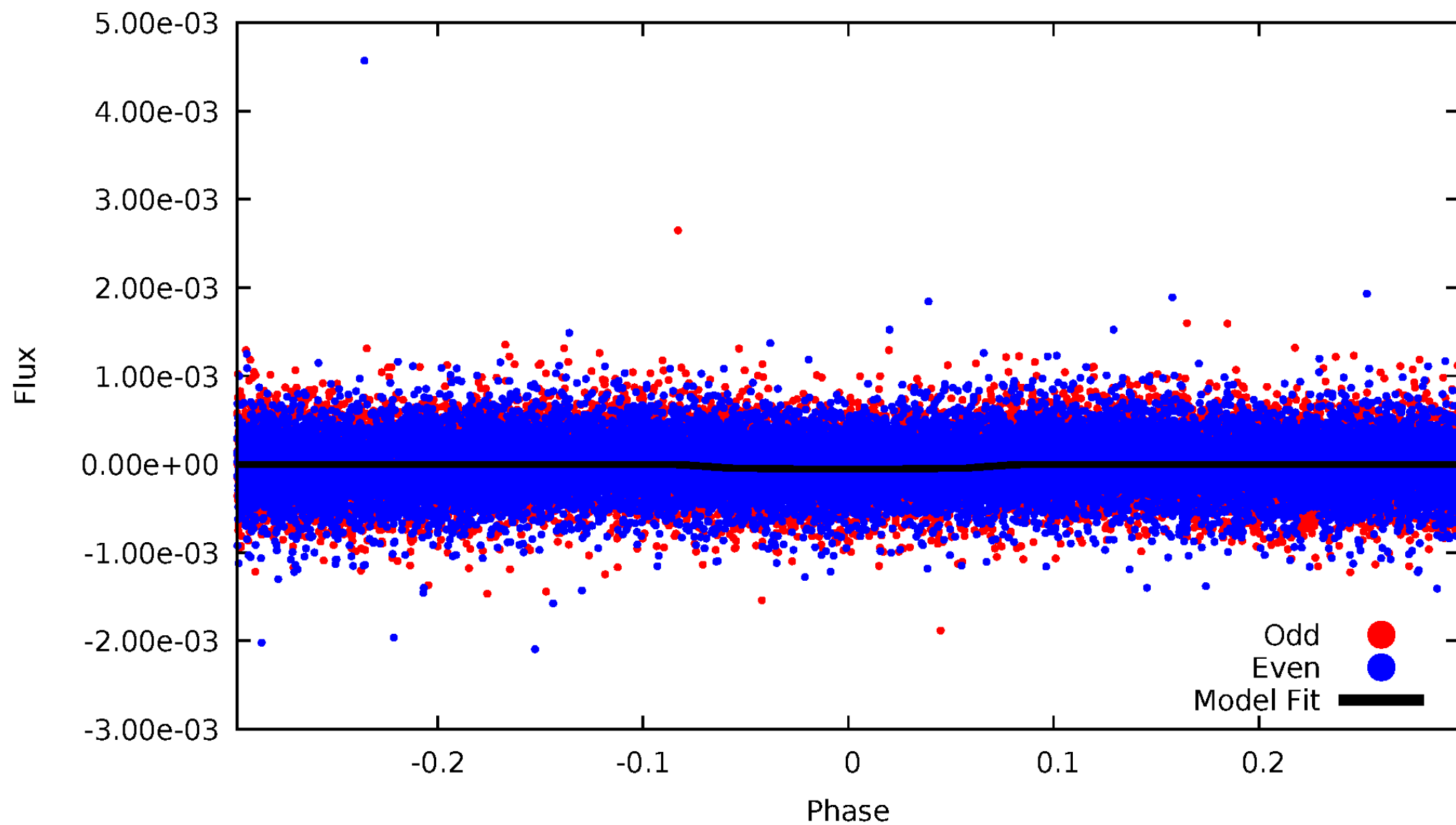


TCE 007553237-01



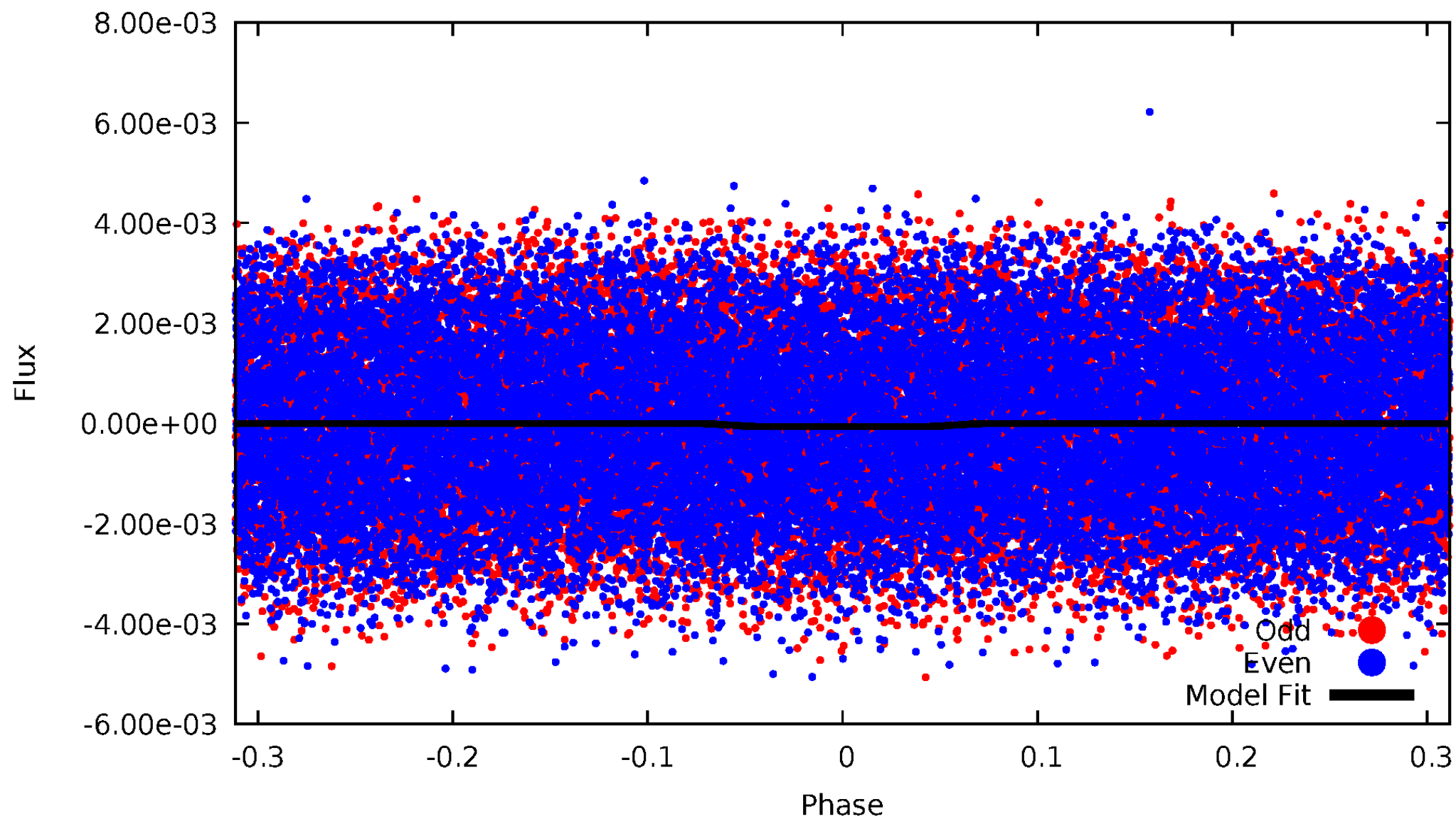
DV Odd/Even

TCE 007553237-01

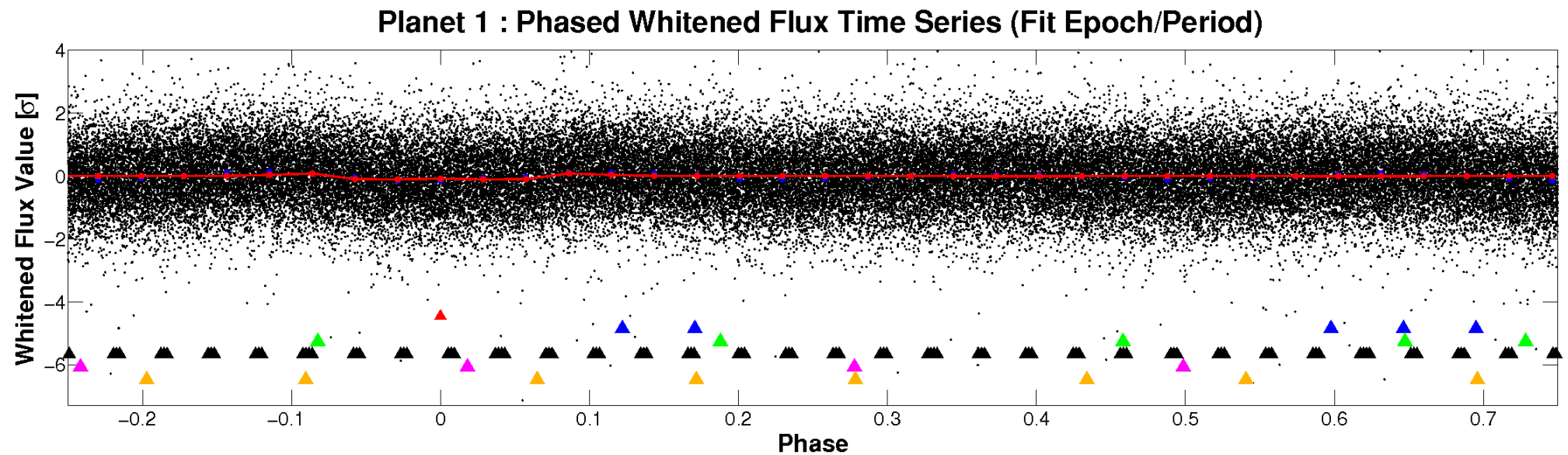
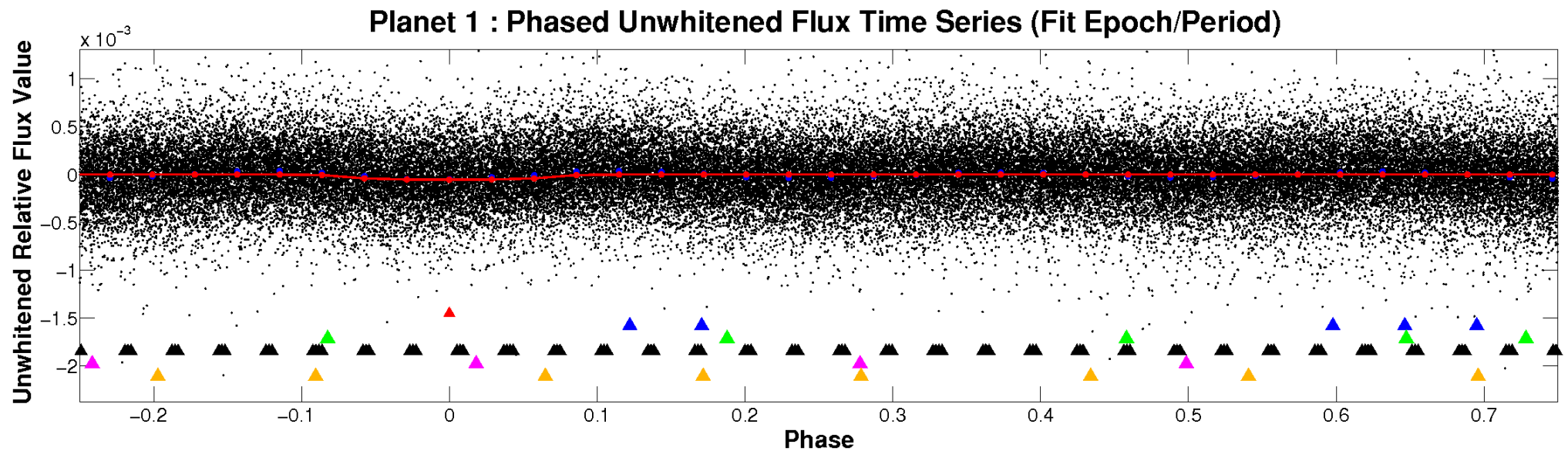


ALT Odd/Even

TCE 007553237-01

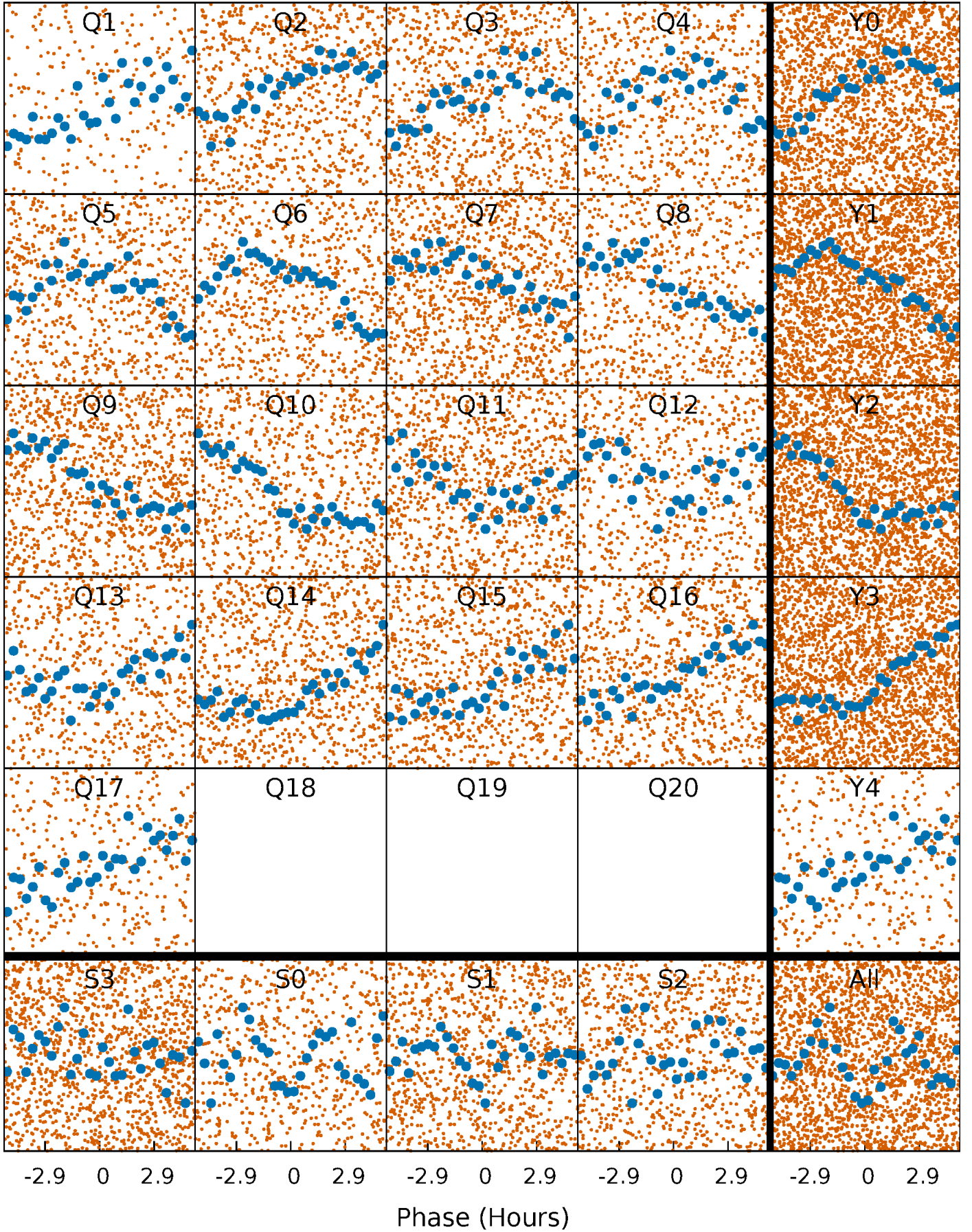


Non-Whitened Vs. Whitened Light Curve



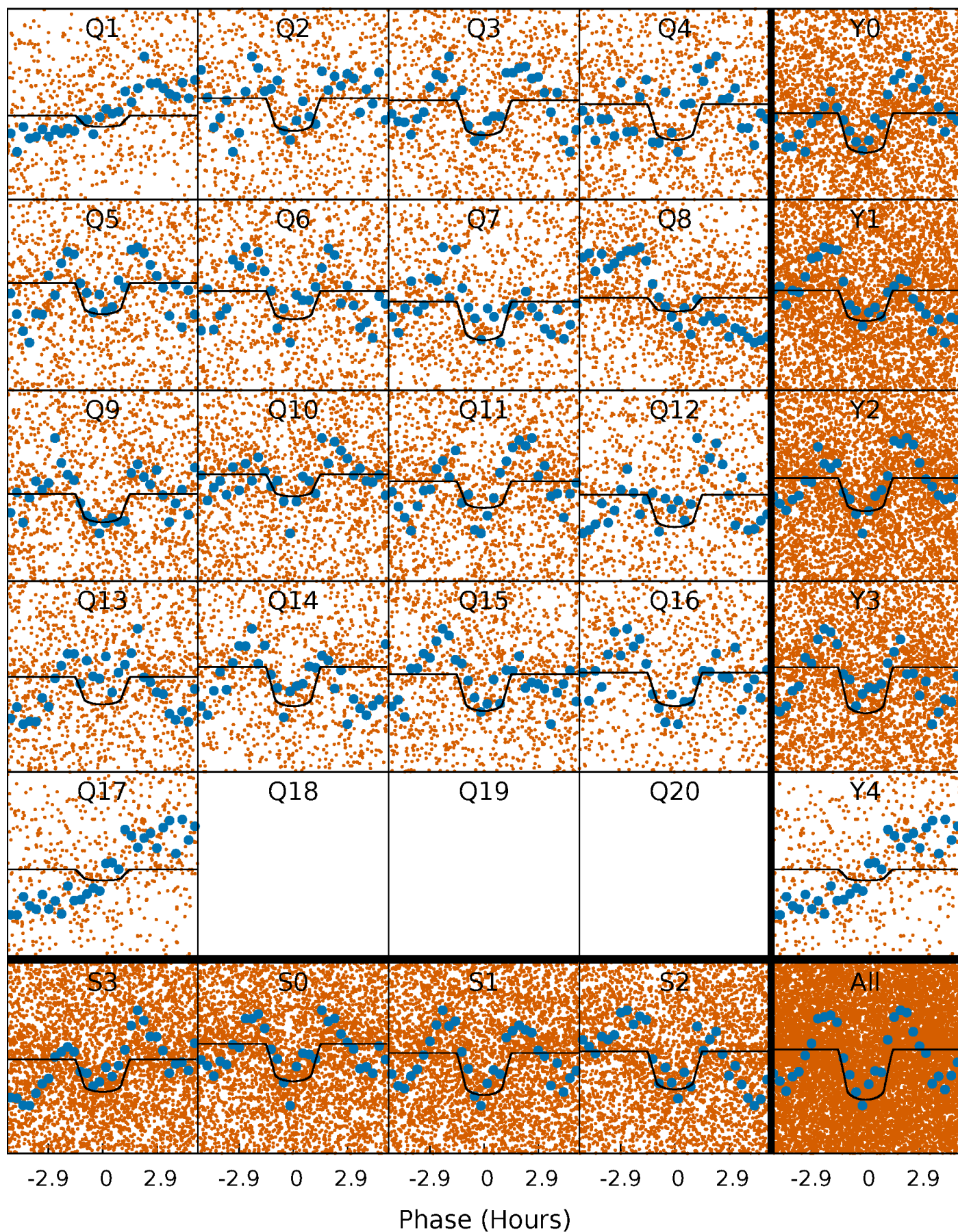
PDC Quarter-Phased Transit Curves

TCE 007553237-01 P= 0.712003 Days $T_0=131.577316$ (BKJD)



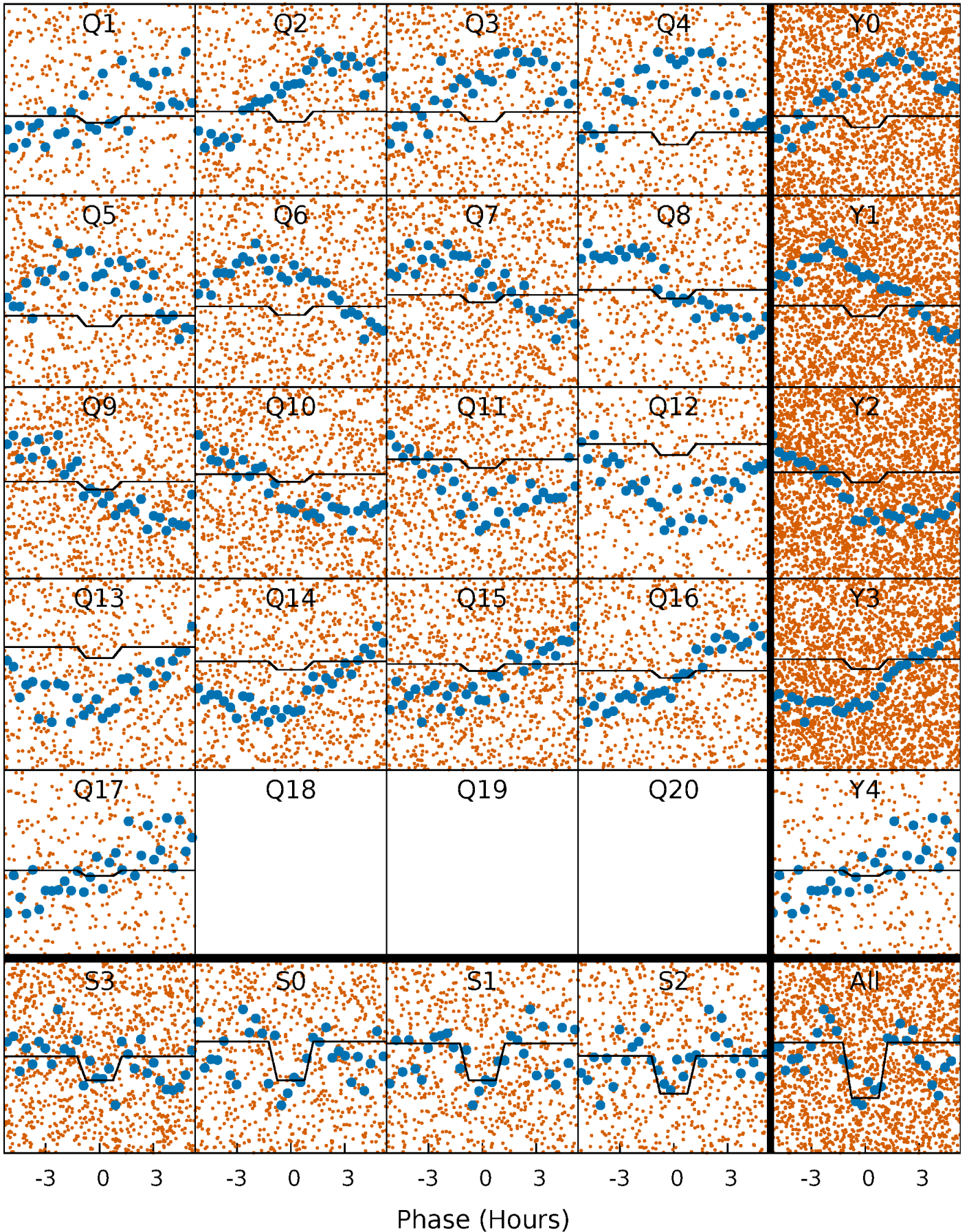
DV Quarter-Phased Transit Curves

TCE 007553237-01 P= 0.712003 Days $T_0=131.577316$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

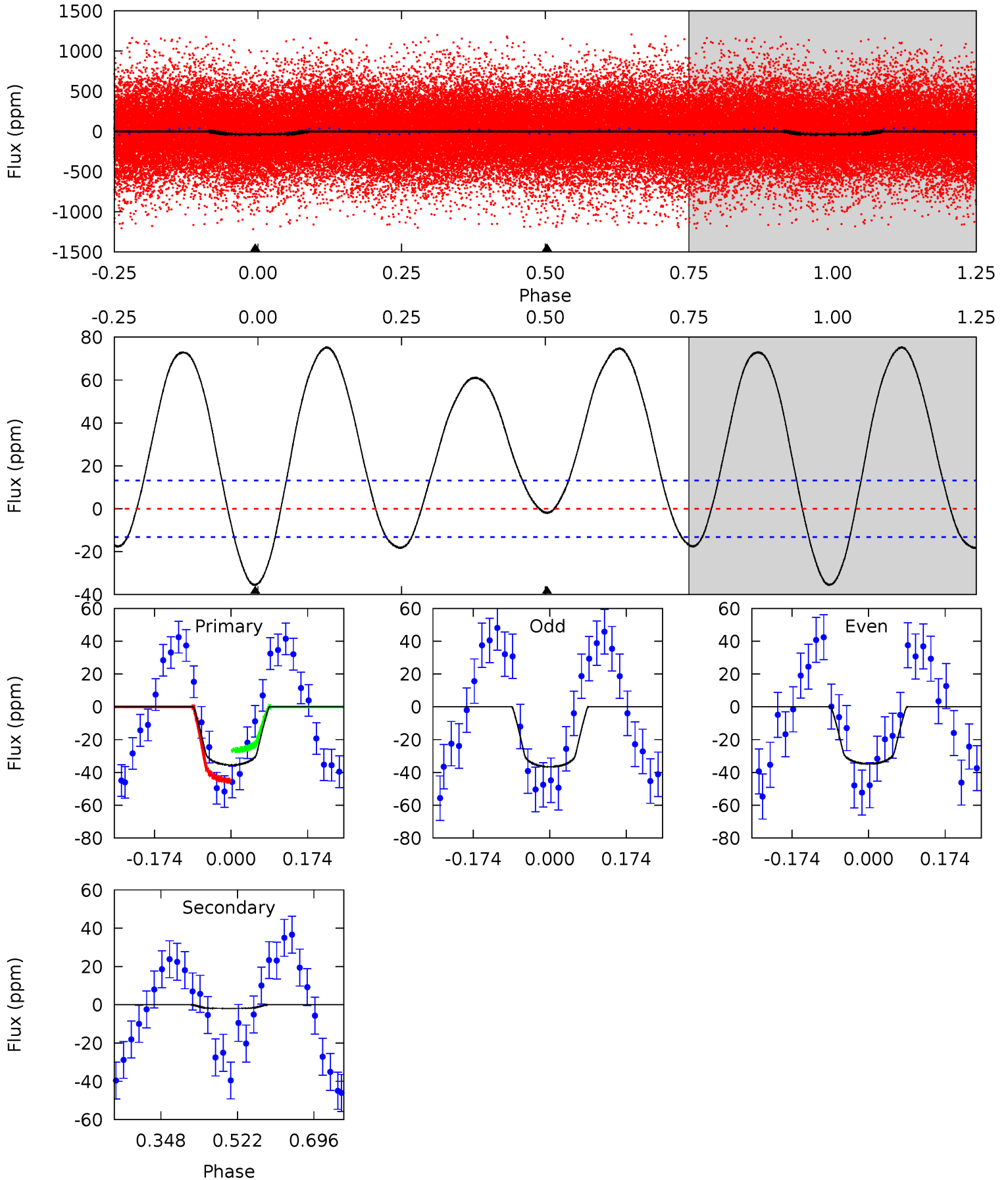
TCE 007553237-01 P= 0.712002 Days $T_0=131.577581$ (BKJD)



DV Model-Shift Uniqueness Test

007553237-01, P = 0.712003 Days, E = 130.865313 Days

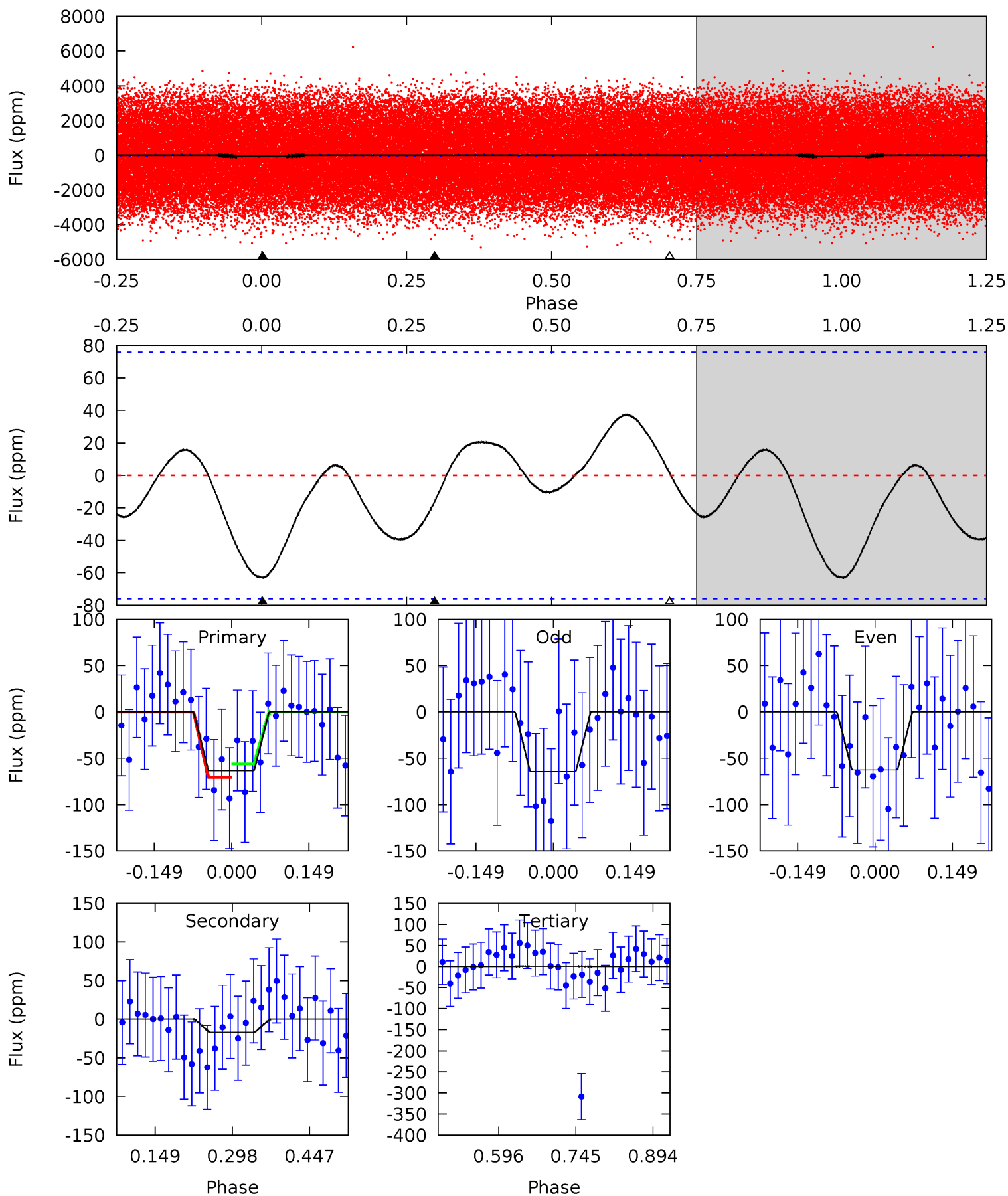
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	0.65	0	0	4.45	1.36	6.23	12.0	12.0	0.65	0.65	0.31	0.99	0.68	3.20



Alt Model-Shift Uniqueness Test

007553237-01, P = 0.712002 Days, E = 130.865579 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.75	0.99	-0.06	0	4.48	1.44	1.09	3.81	3.75	1.04	0.99	0.05	1.76	0.37	0.43



Stellar Parameters For KIC 007553237

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7219^{+201}_{-302}	$4.136^{+0.124}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.762^{+0.541}_{-0.316}$	$1.548^{+0.212}_{-0.236}$	$0.398^{+0.253}_{-0.209}$
	+3%/-4%	+3%/-4%	+1000%/-1750%	+31%/-18%	+14%/-15%	+64%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007553237-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 3	$1.52^{+0.34}_{-0.31}$	4430^{+304}_{-266}	-3575^{+6928}_{-561}	$0.135^{+0.286}_{-0.194}$
Alt.	-17 ± 17	$1.59^{+0.38}_{-0.33}$	4398^{+336}_{-278}	4738^{+1232}_{-8900}	$1.112^{+1.512}_{-1.232}$

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 $A_{obs} \gg 1.0$

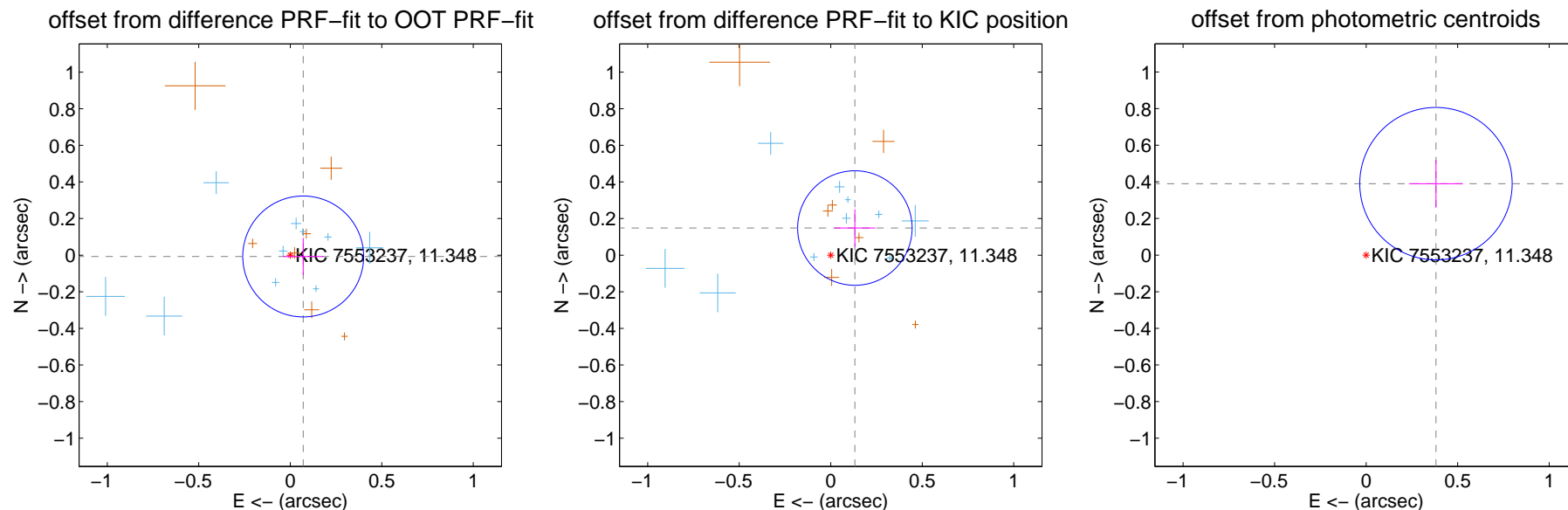
DV Centroid Data

Supplemental centroid analysis for 007553237-01. **Kepler magnitude: 11.35.** Transit SNR 11.78

There are 10 quarters with good PRF difference image offsets

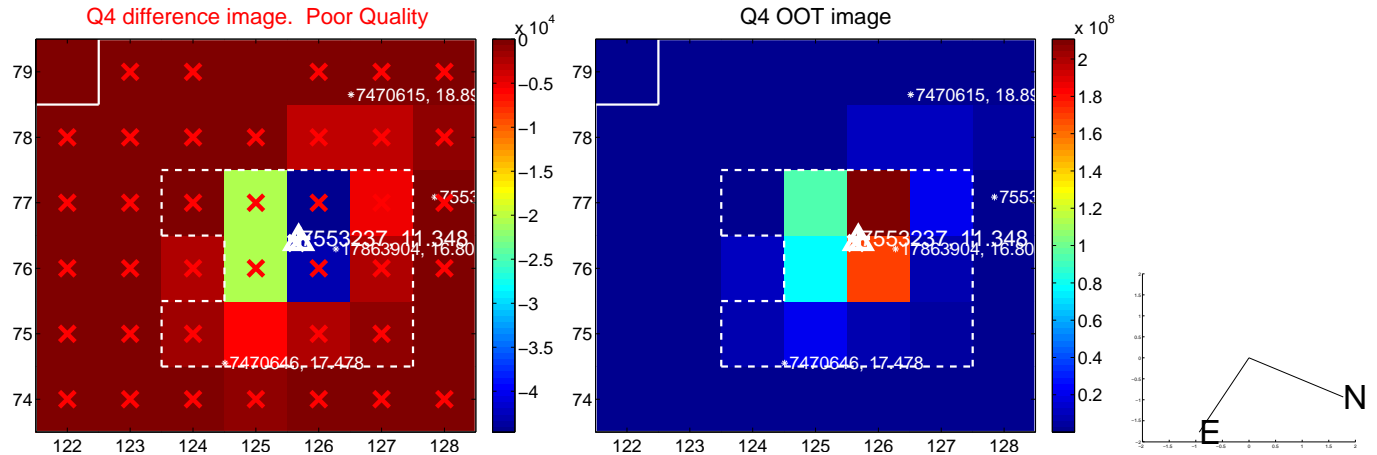
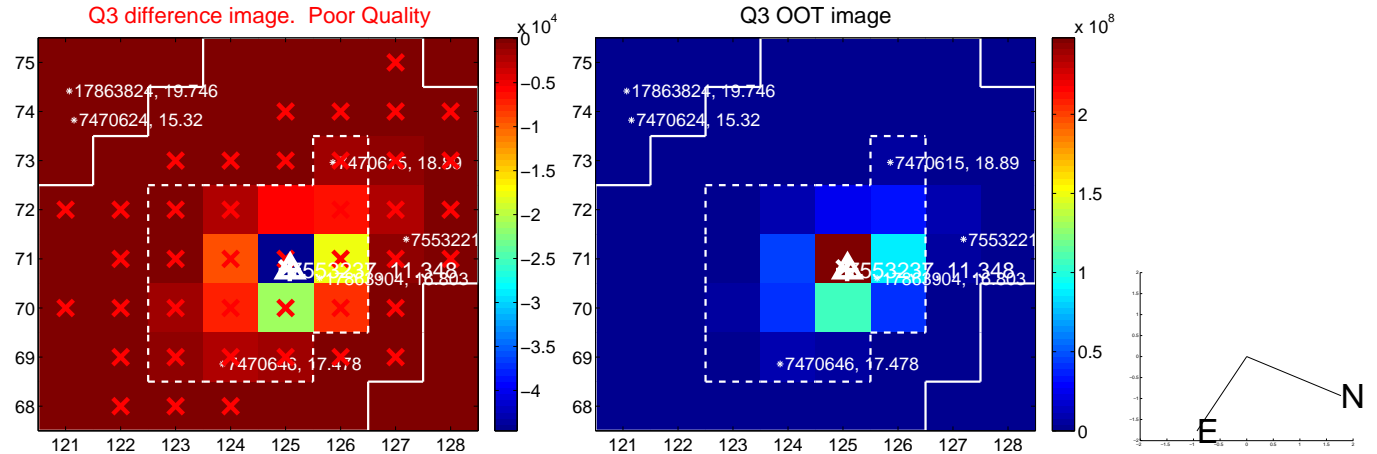
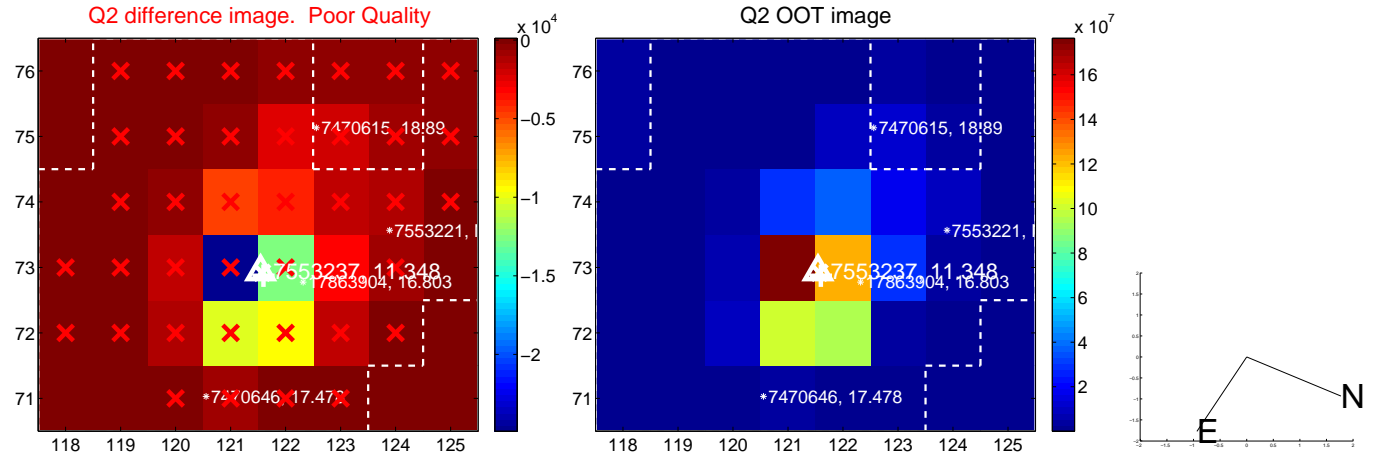
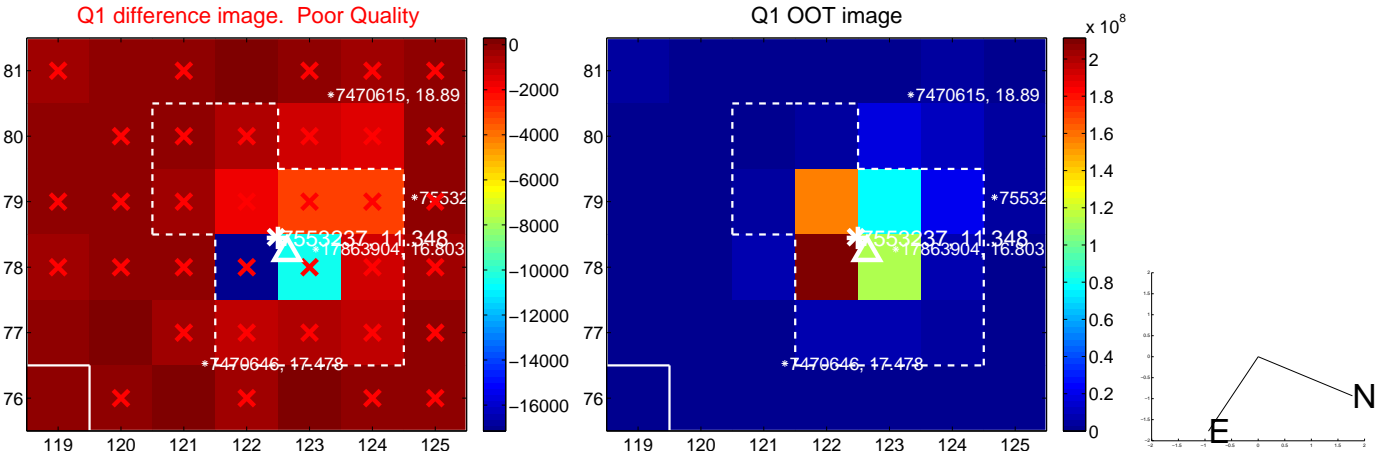
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.071 ± 0.110	0.65	-0.071 ± 0.110	-0.007 ± 0.101
PRF-fit source offset from KIC position	0.198 ± 0.104	1.90	-0.132 ± 0.112	0.148 ± 0.103
photometric centroid source offset	0.55 ± 0.14	3.93	-0.38 ± 0.15	0.39 ± 0.13

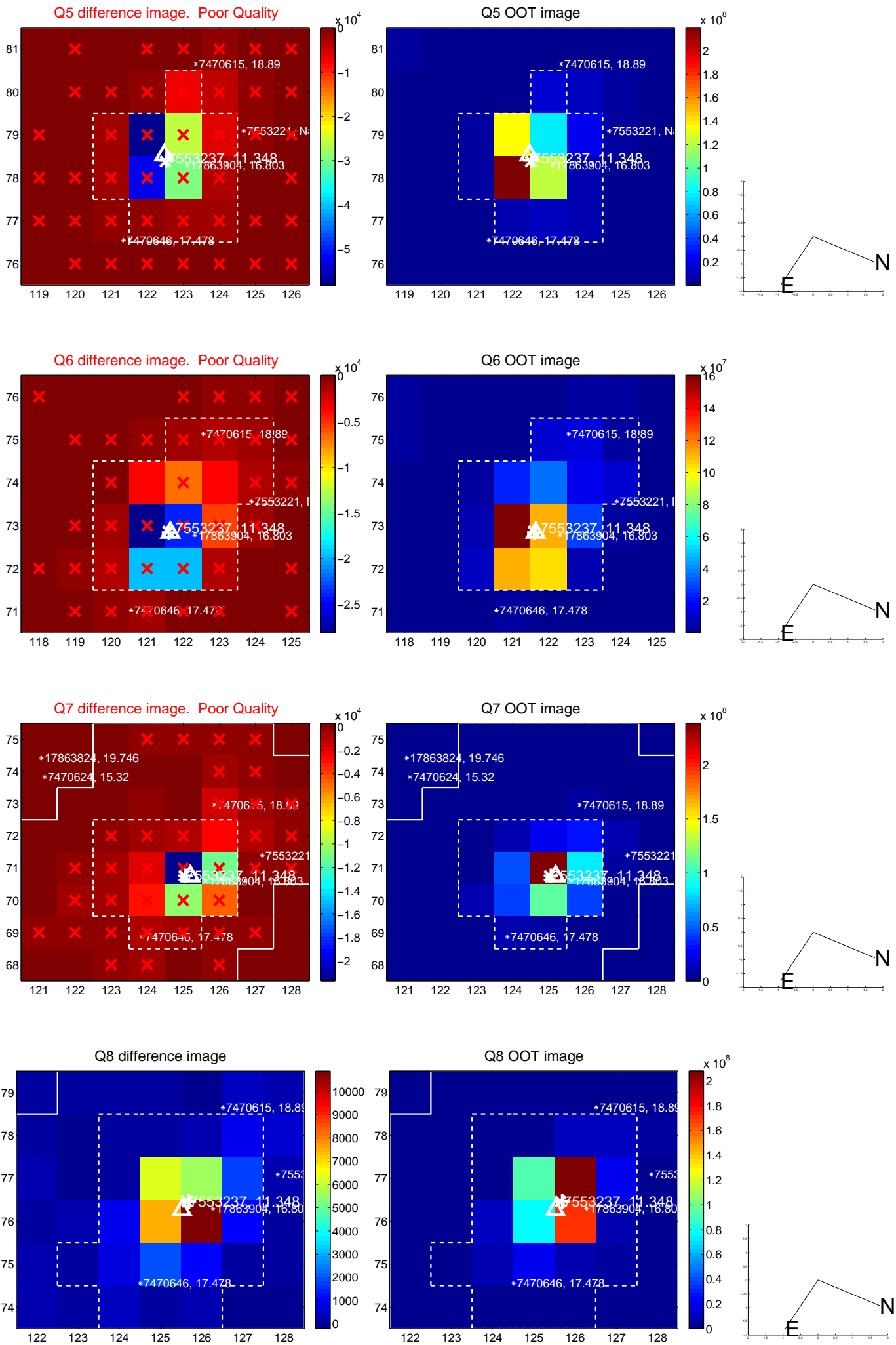


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

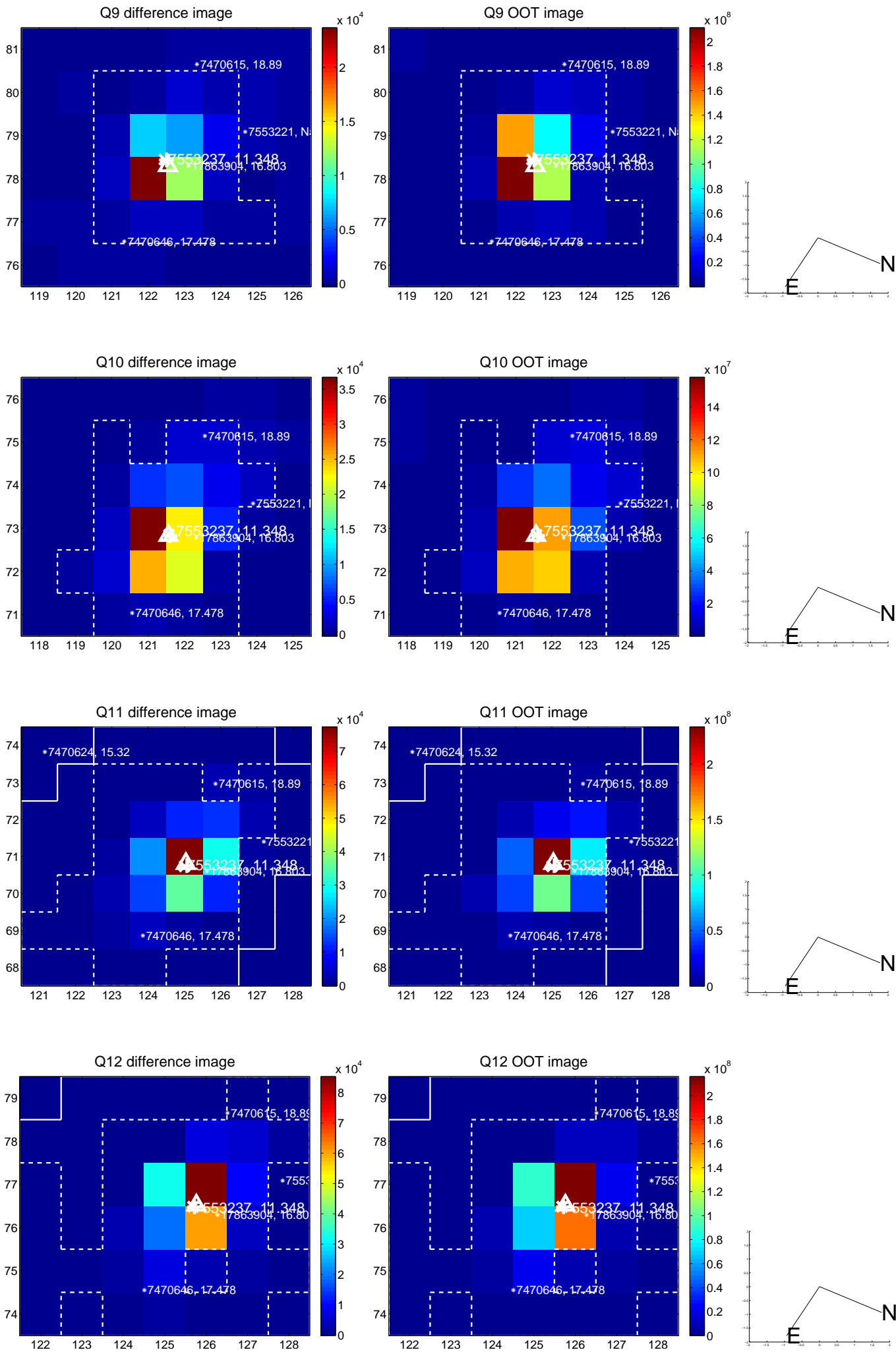
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



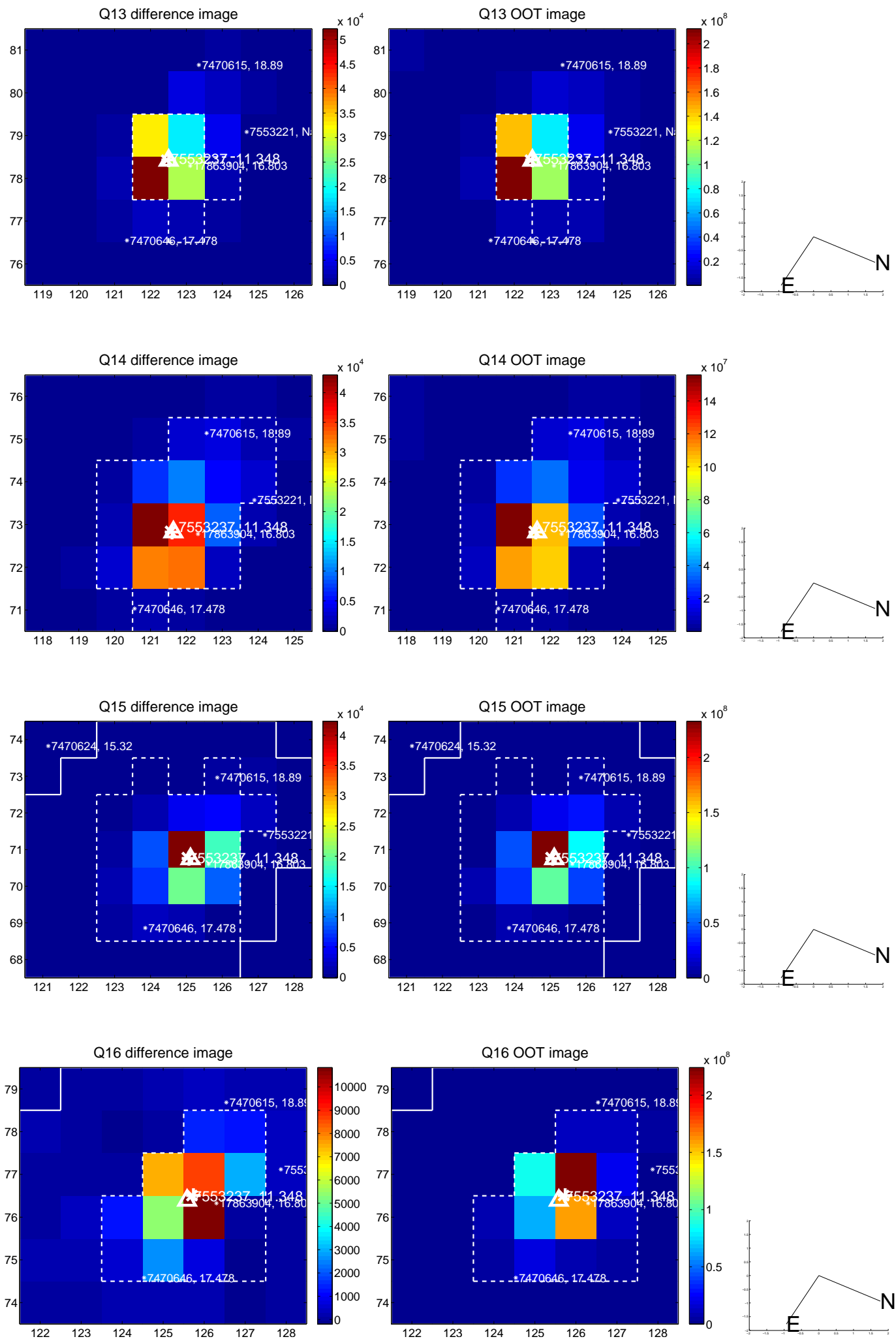
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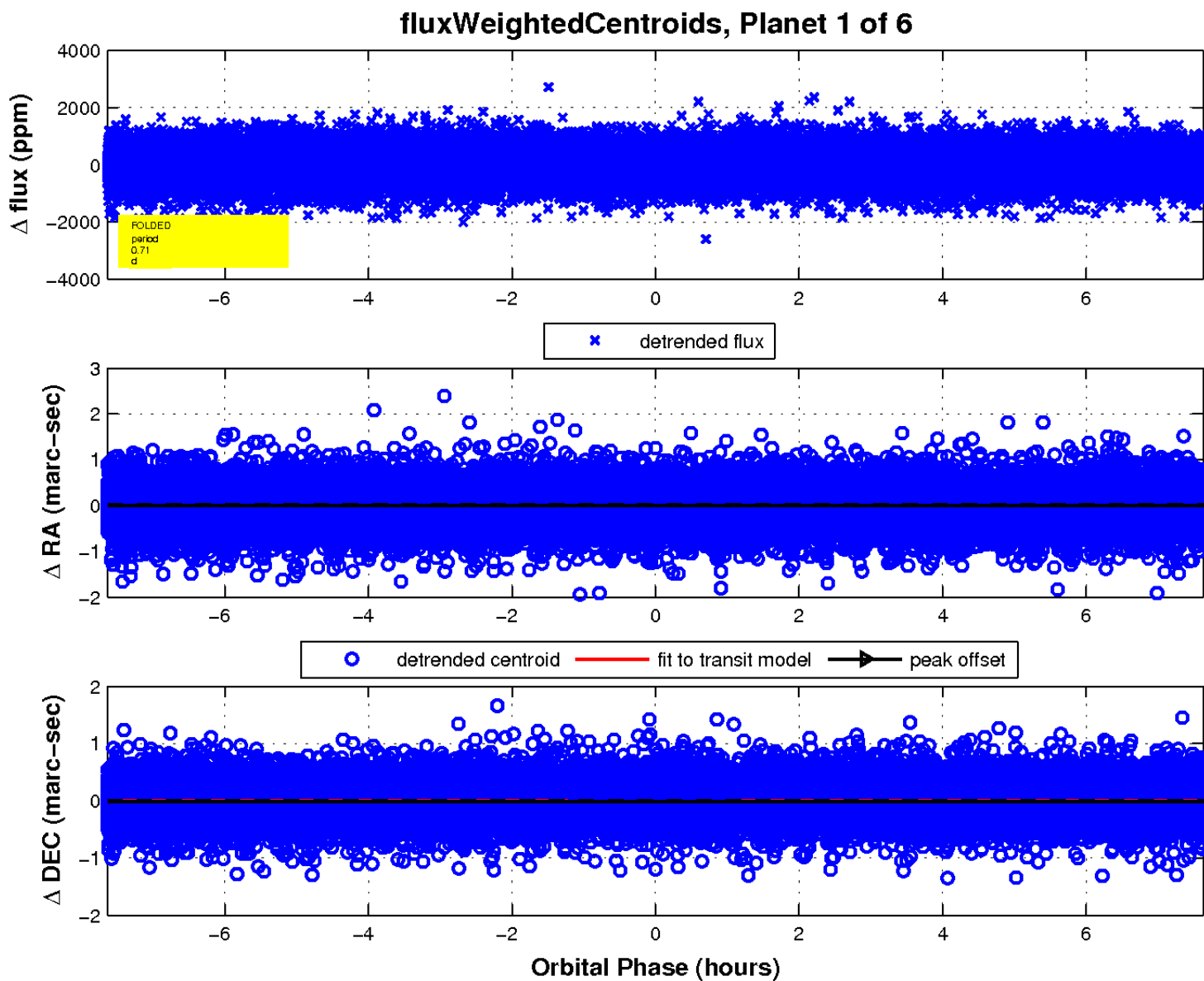
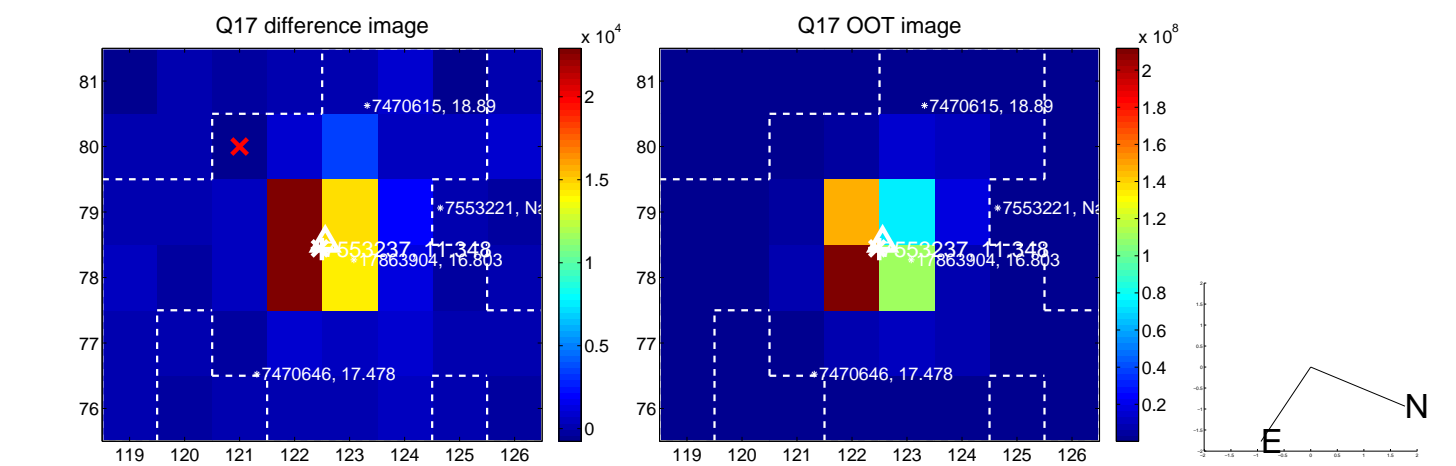
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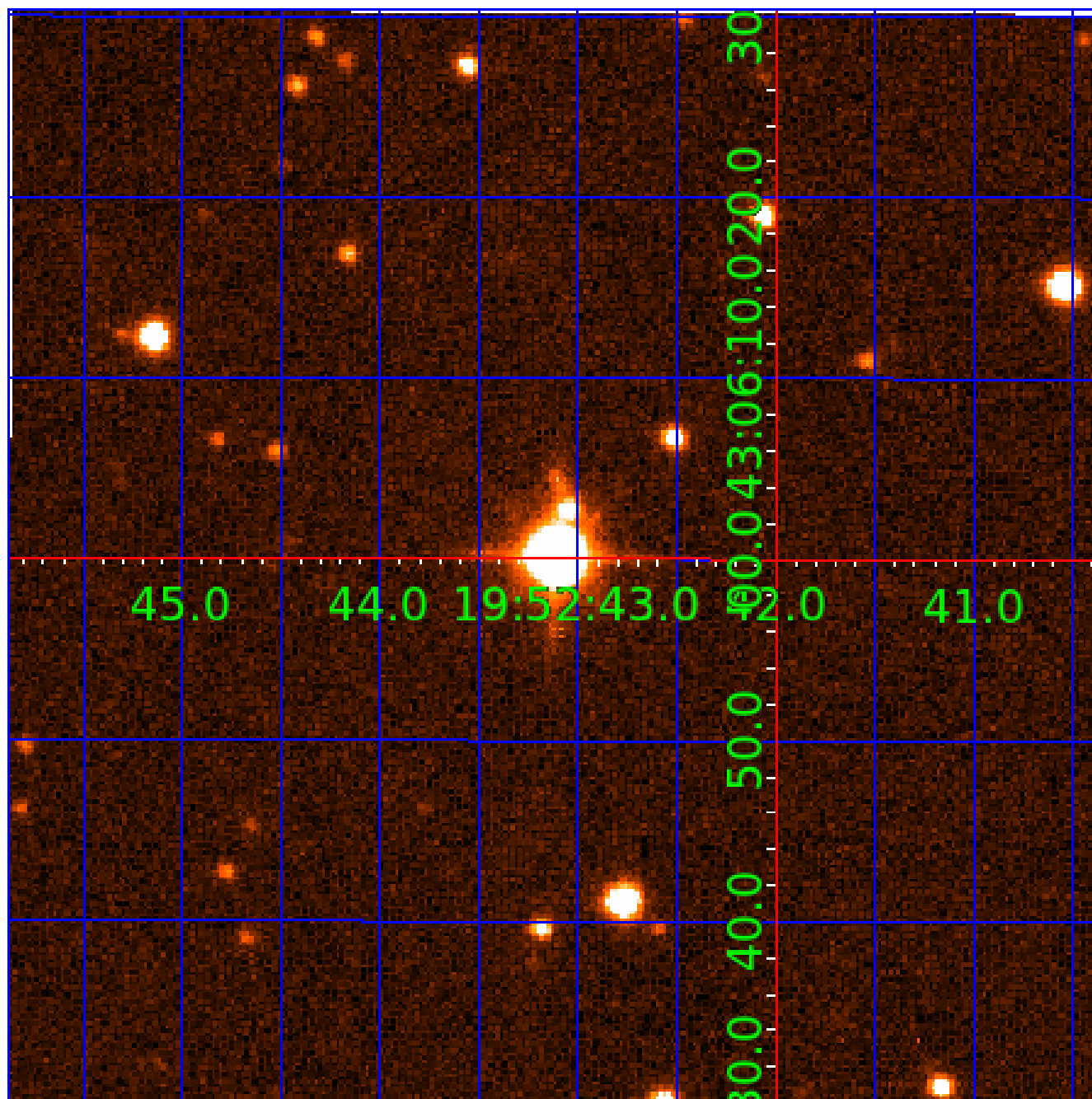


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007553237

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})
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007553237-06	OBS	No	198.386233	139.607665	1072.5	4.705	7.6	8.2	1.76	7219	10.70	12.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007553237-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007553237-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007553237-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
007553237-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

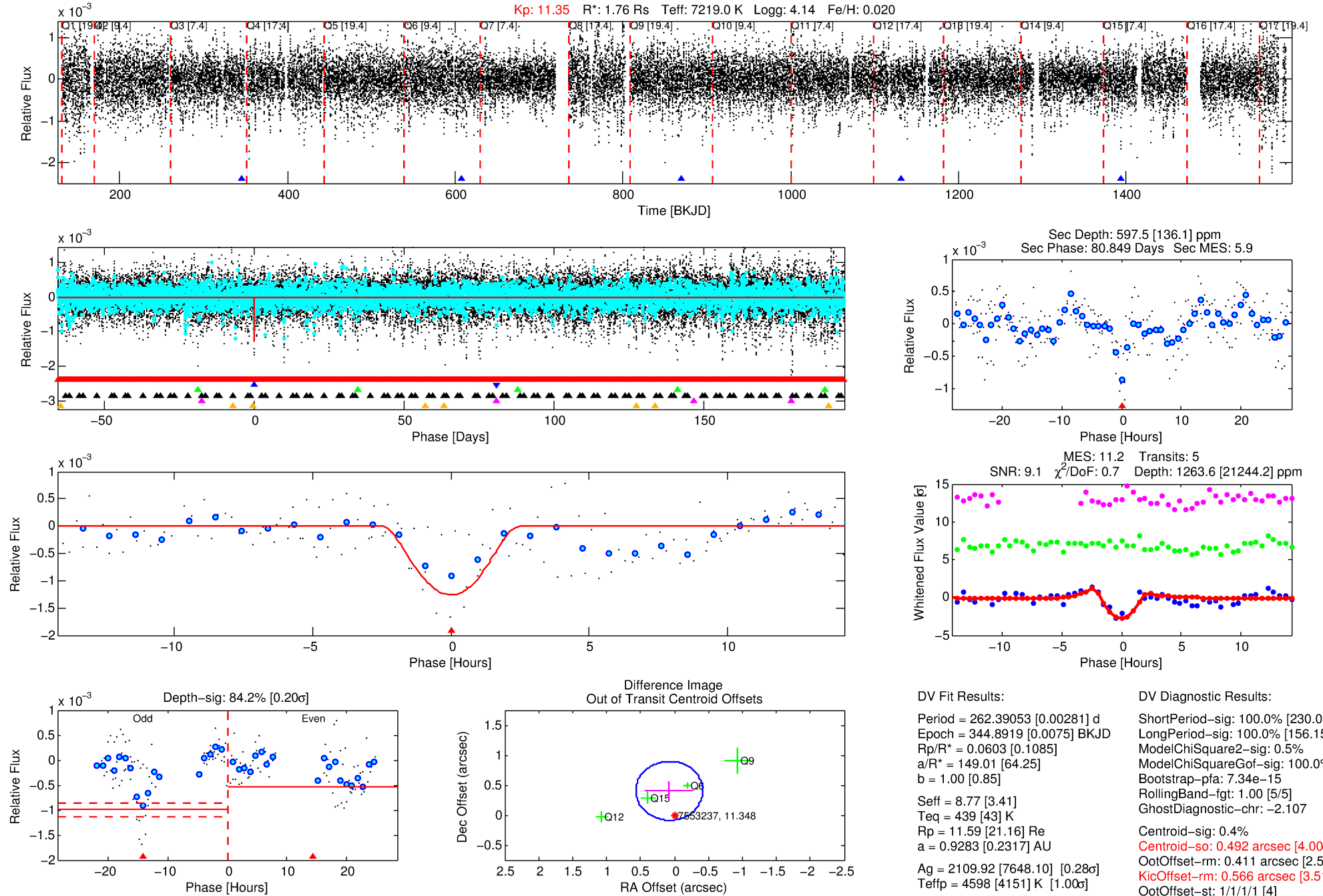
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007553237-02

No Significant Match Found

DV One-Page Summary

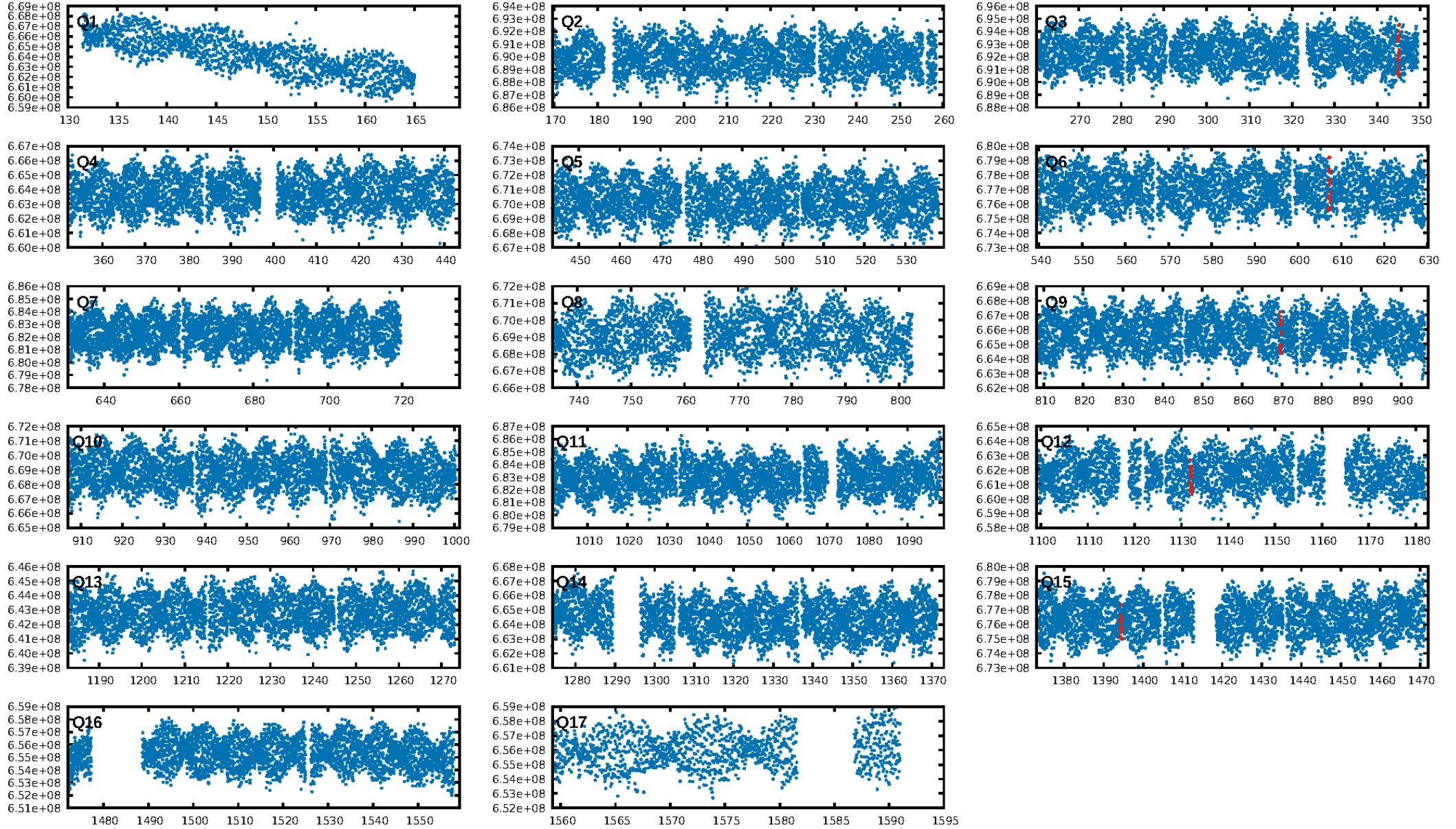
KIC: 7553237 Candidate: 2 of 6 Period: 262.391 d



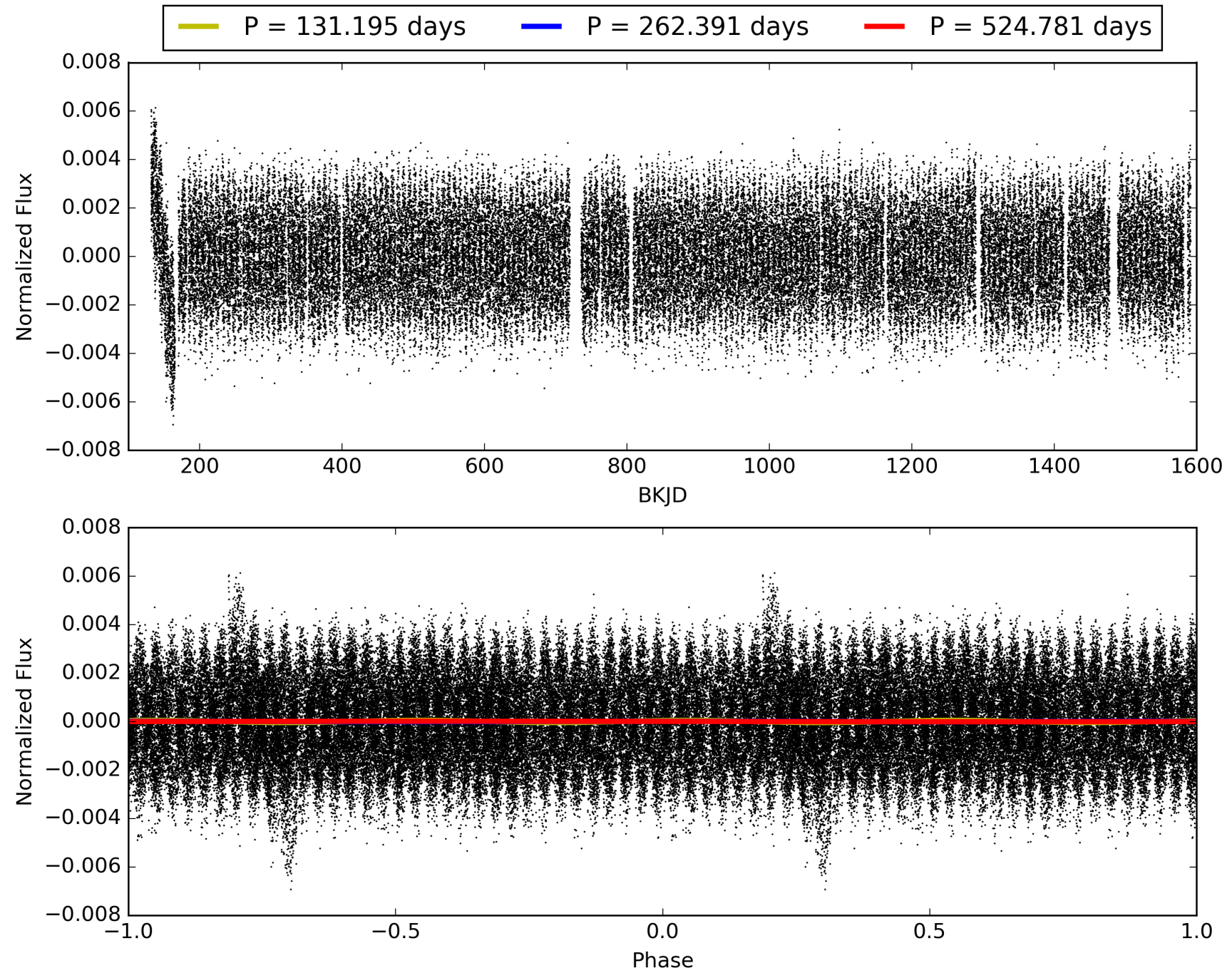
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:34:50 Z

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

TCE 007553237-02, PDC Light Curves

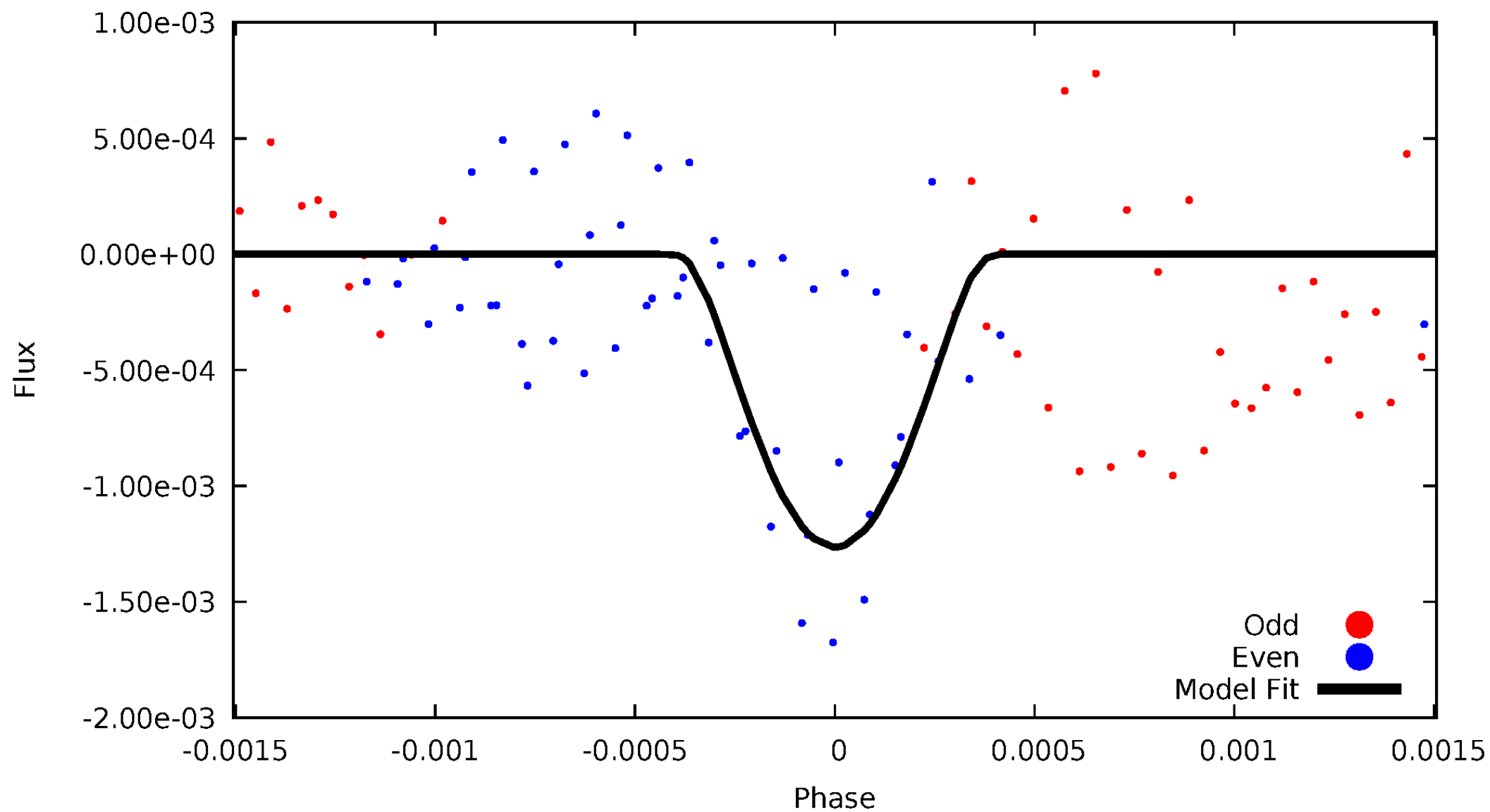


TCE 007553237-02



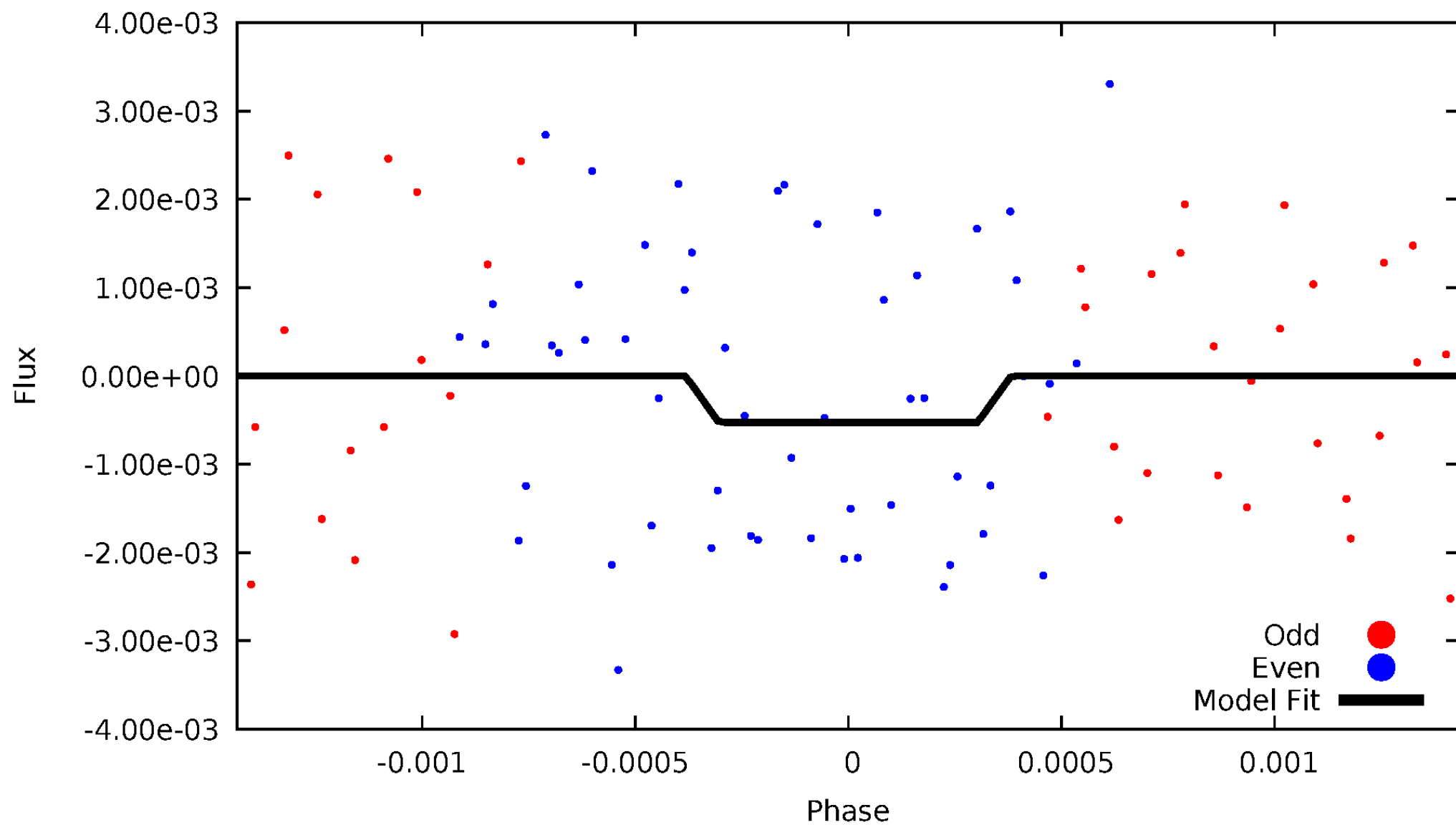
DV Odd/Even

TCE 007553237-02



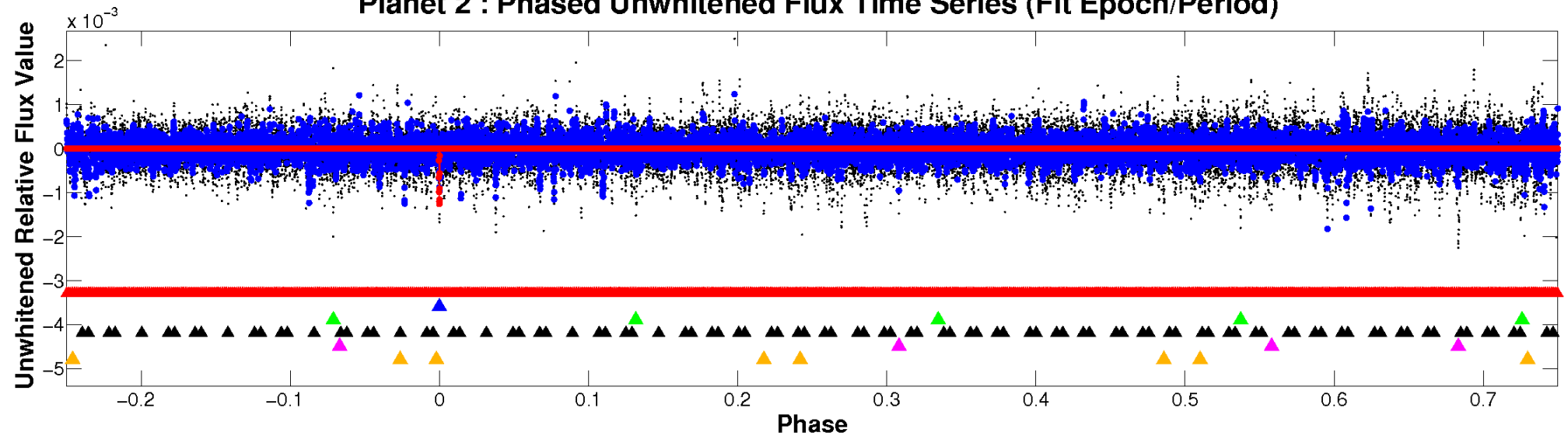
ALT Odd/Even

TCE 007553237-02

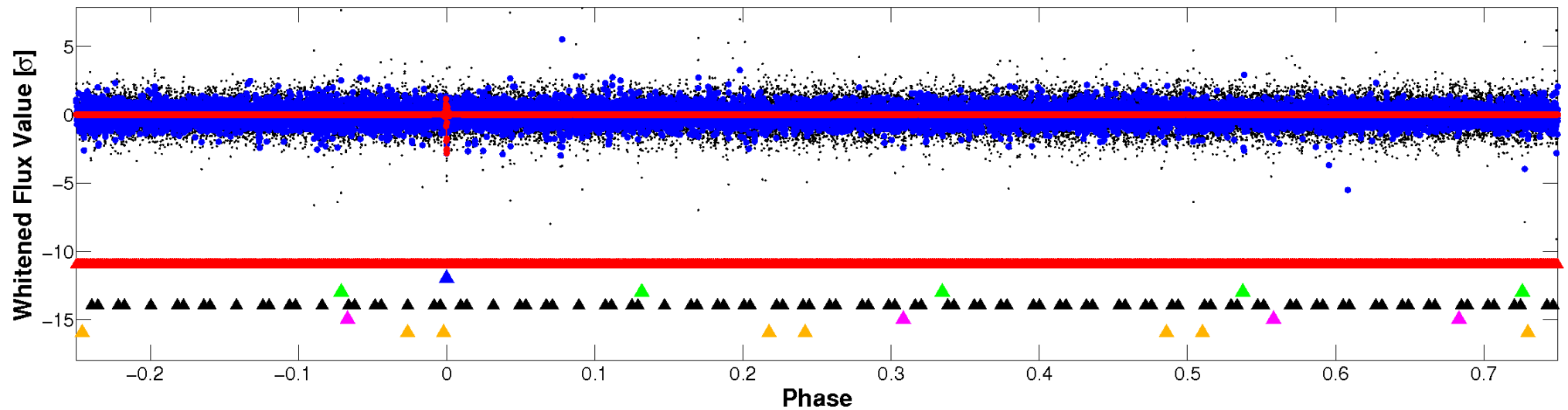


Non-Whitened Vs. Whitened Light Curve

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

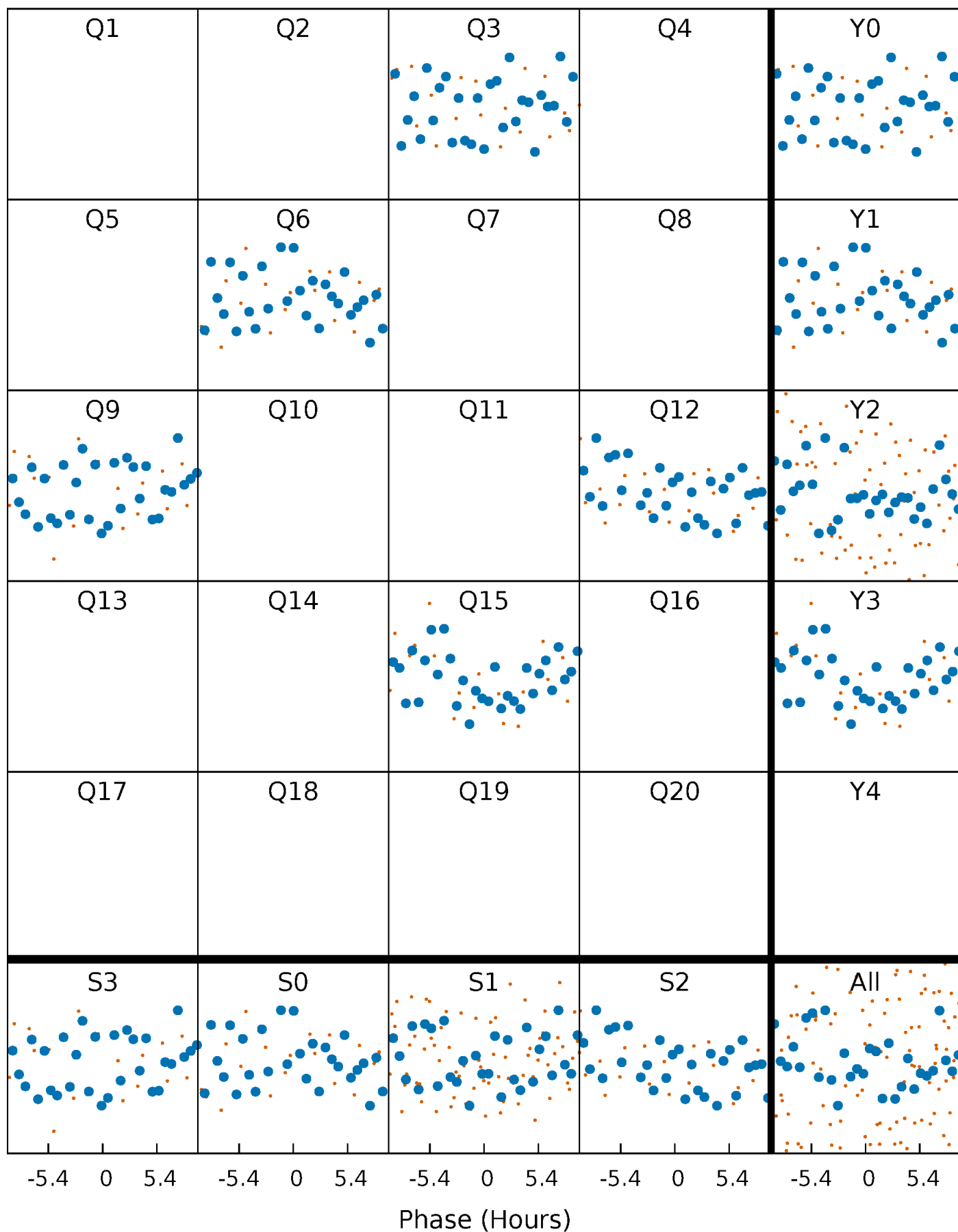


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



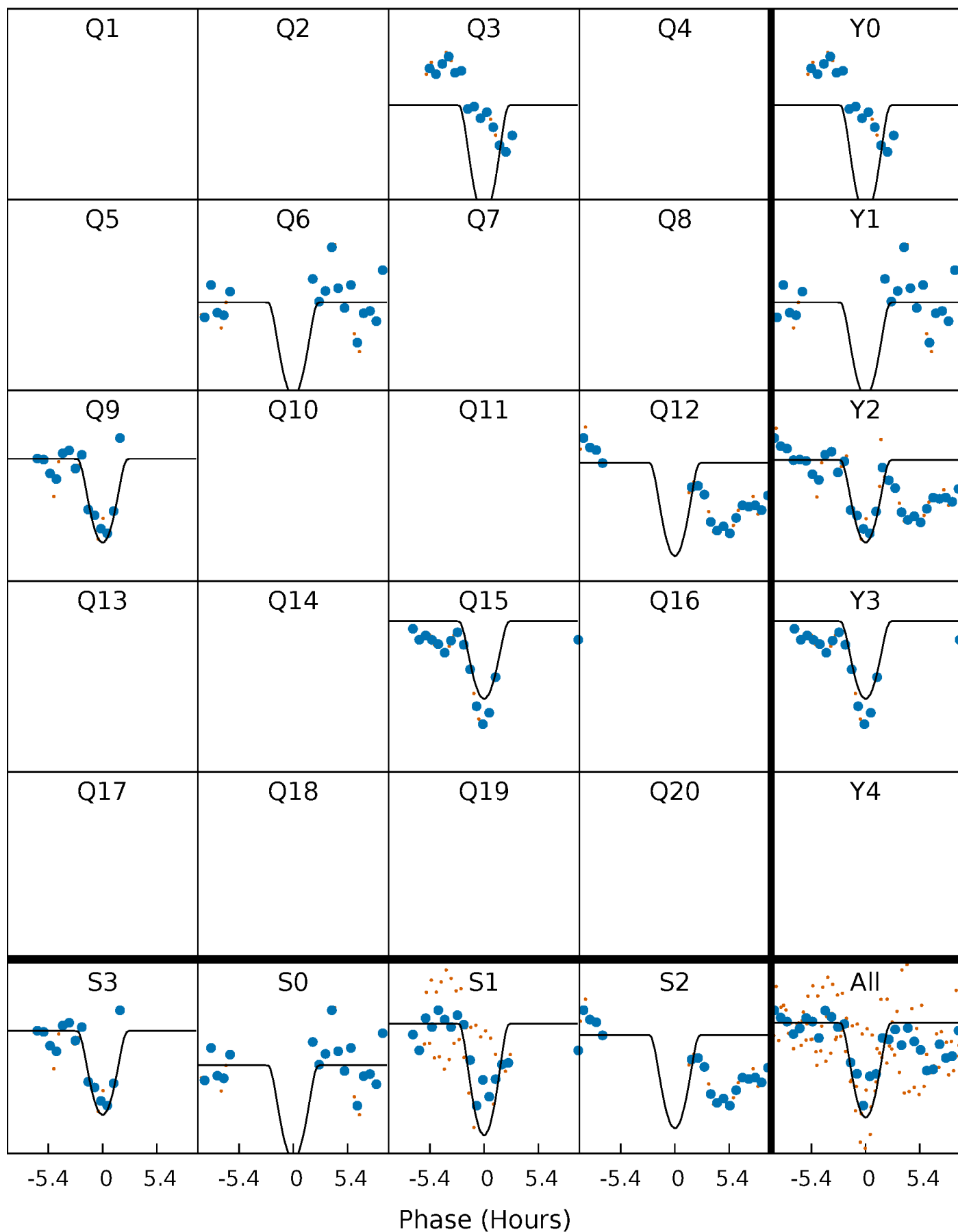
PDC Quarter-Phased Transit Curves

TCE 007553237-02 P=262.390526 Days $T_0=344.891901$ (BKJD)



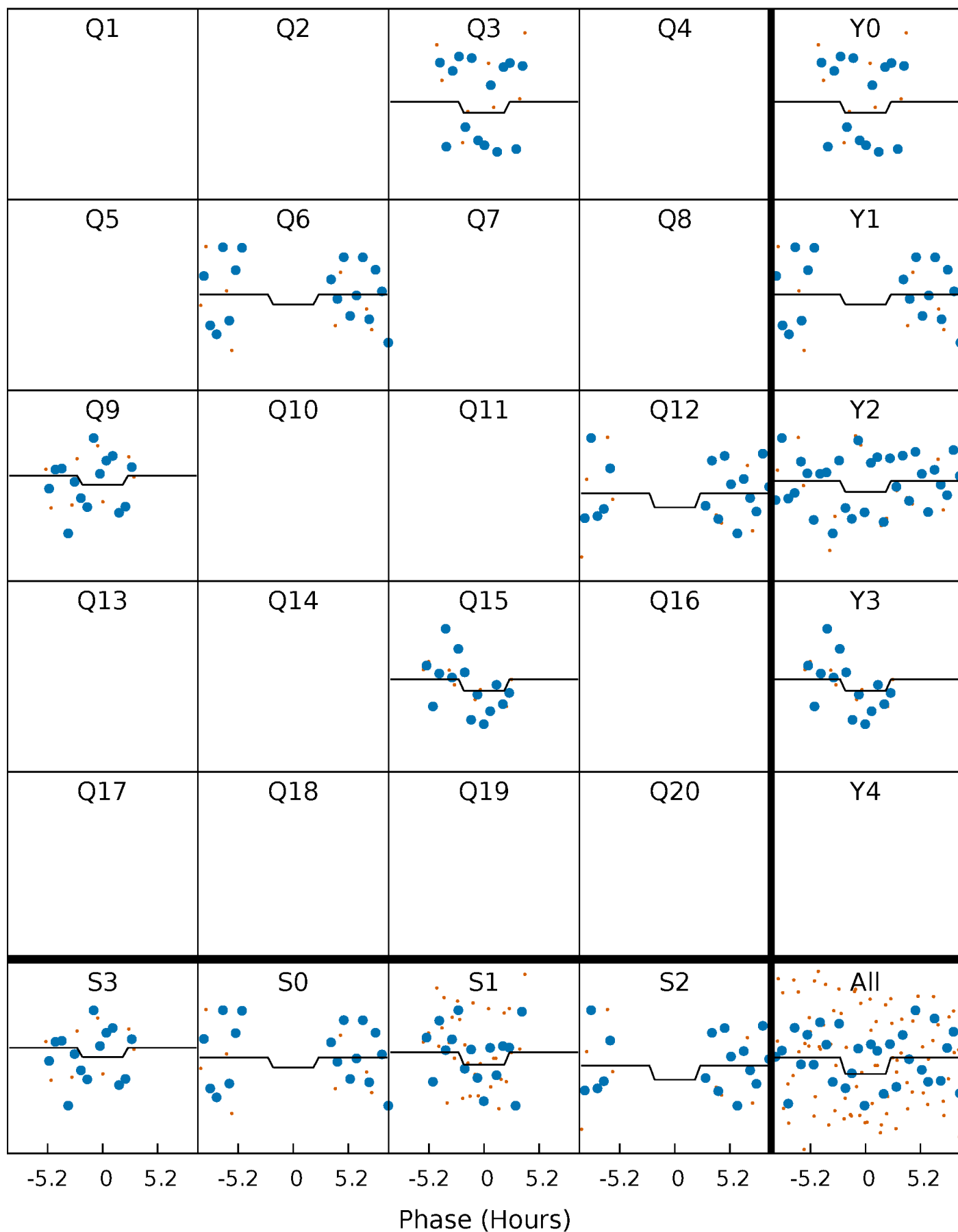
DV Quarter-Phased Transit Curves

TCE 007553237-02 $P=262.390526$ Days $T_0=344.891901$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

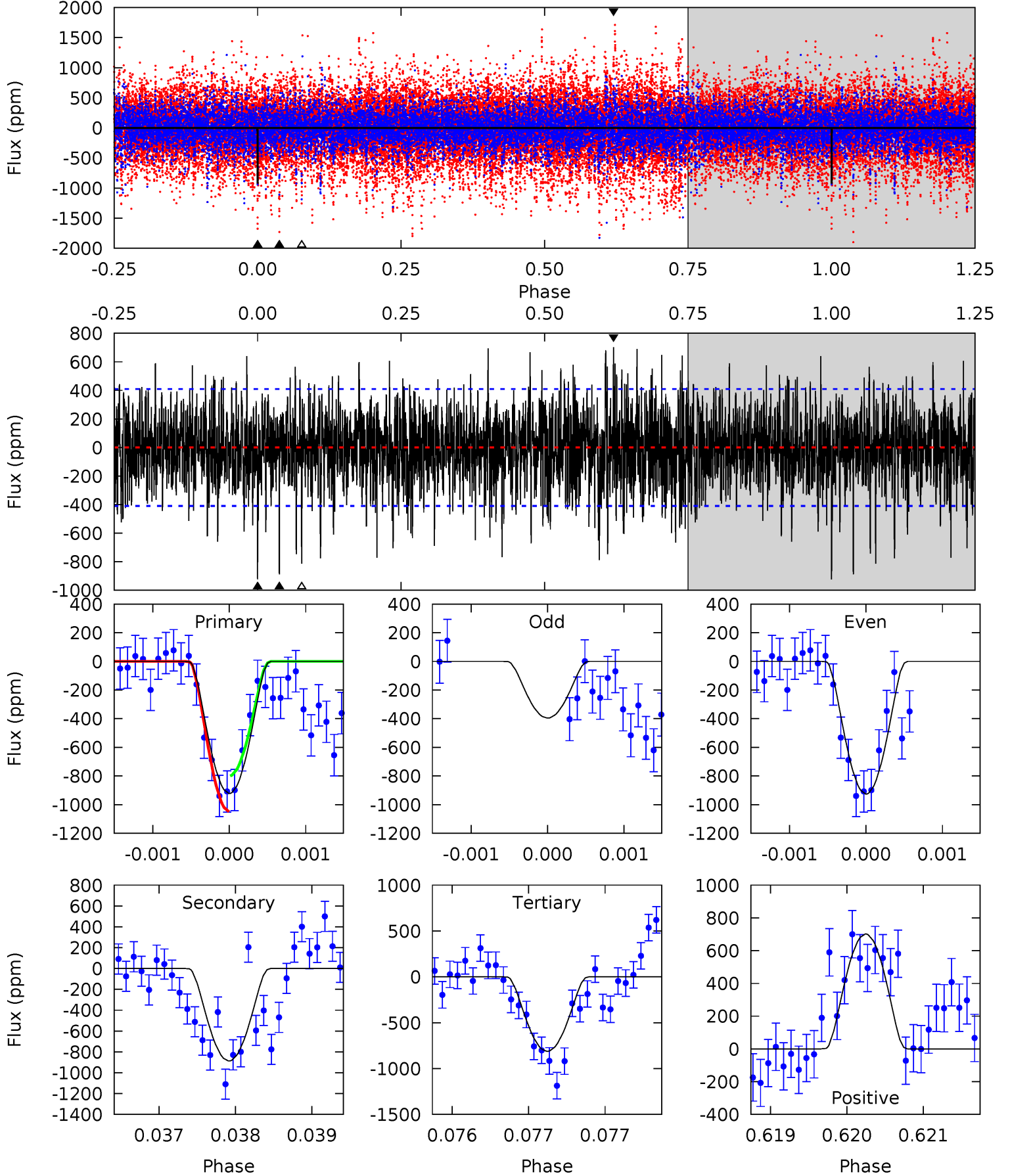
TCE 007553237-02 P=262.386496 Days $T_0=344.839773$ (BKJD)



DV Model-Shift Uniqueness Test

007553237-02, $P = 262.390526$ Days, $E = 82.501375$ Days

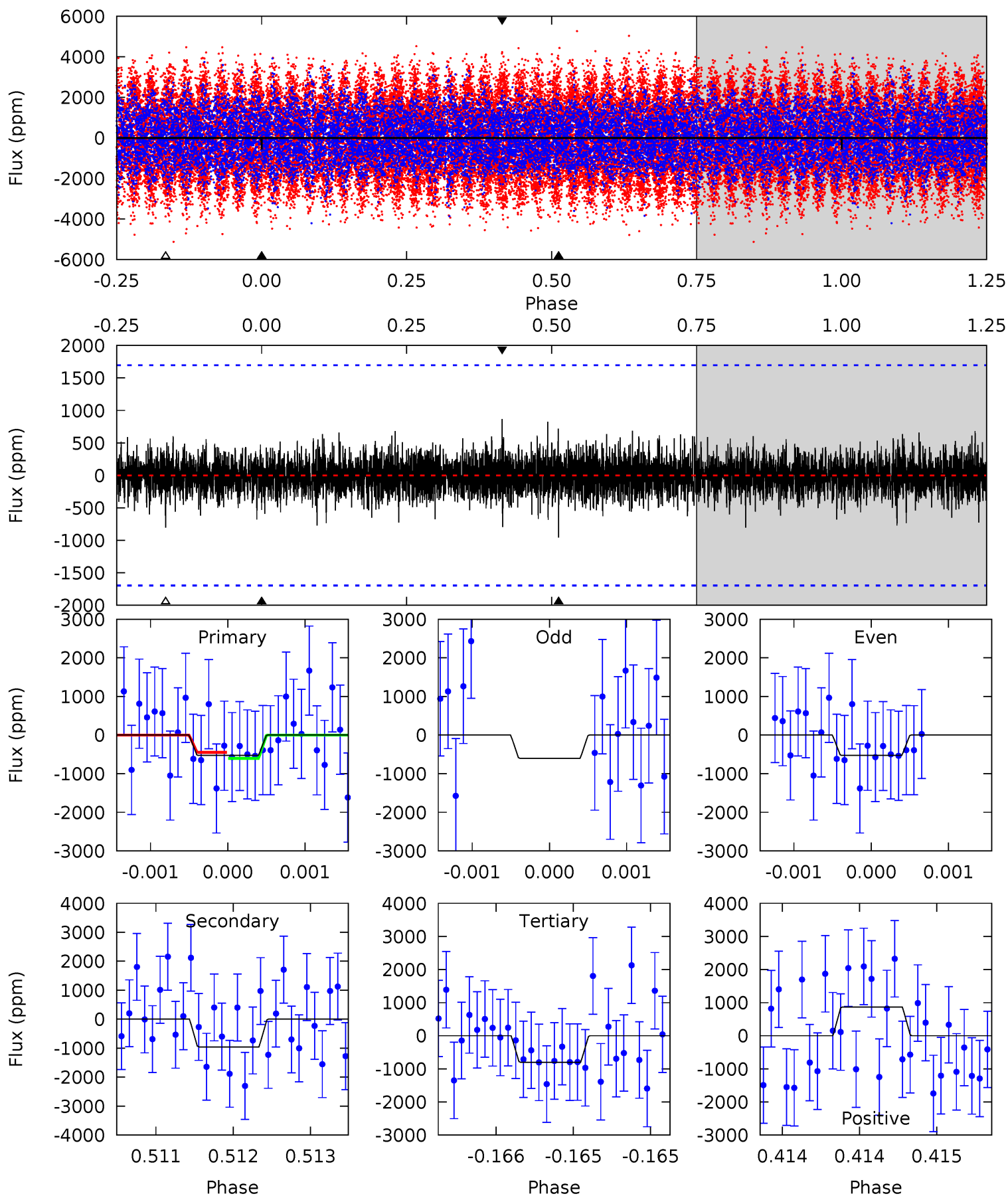
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	11.9	10.9	9.42	5.50	3.37	2.87	1.48	2.97	1.01	2.50	2.20	0.97	0.43	1.68



Alt Model-Shift Uniqueness Test

007553237-02, P = 262.386496 Days, E = 82.453277 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.71	3.10	2.60	2.81	5.50	3.37	0.64	-0.89	-1.10	0.50	0.29	0.15	1.60	0.48	0.25



Stellar Parameters For KIC 007553237

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7219^{+201}_{-302}	$4.136^{+0.124}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.762^{+0.541}_{-0.316}$	$1.548^{+0.212}_{-0.236}$	$0.398^{+0.253}_{-0.209}$
	+3%/-4%	+3%/-4%	+1000%/-1750%	+31%/-18%	+14%/-15%	+64%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007553237-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-888 ± 74	$20.20^{+19.10}_{-13.11}$	617^{+44}_{-40}	4108^{+2473}_{-761}	1018^{+7244}_{-749}
Alt.	-957 ± 308	$16.08^{+17.42}_{-10.38}$	613^{+47}_{-36}	4491^{+2727}_{-1026}	1632^{+11426}_{-1242}

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 $A_{obs} \gg 1.0$

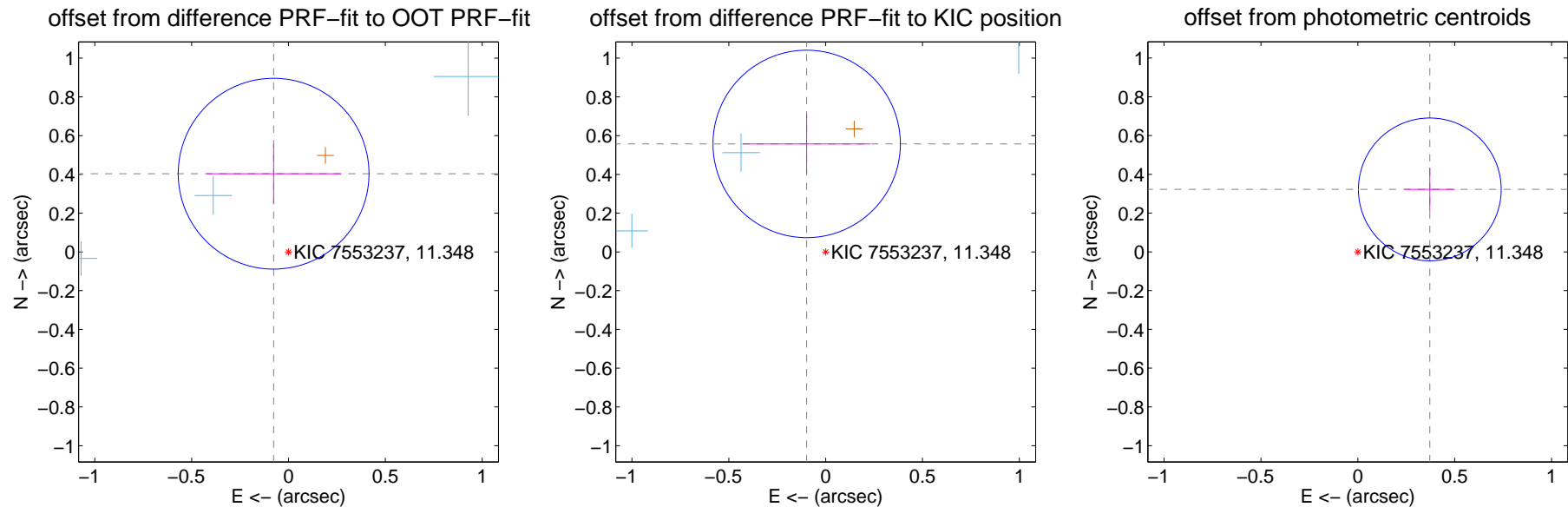
DV Centroid Data

Supplemental centroid analysis for 007553237-02. **Kepler magnitude: 11.35.** Transit SNR 9.09

There are 3 quarters with good PRF difference image offsets

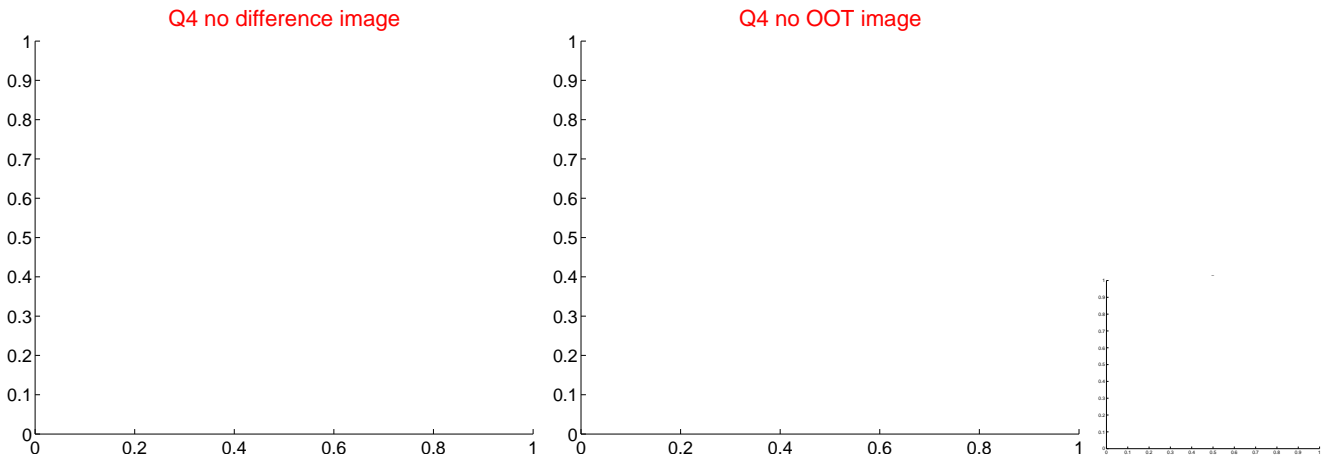
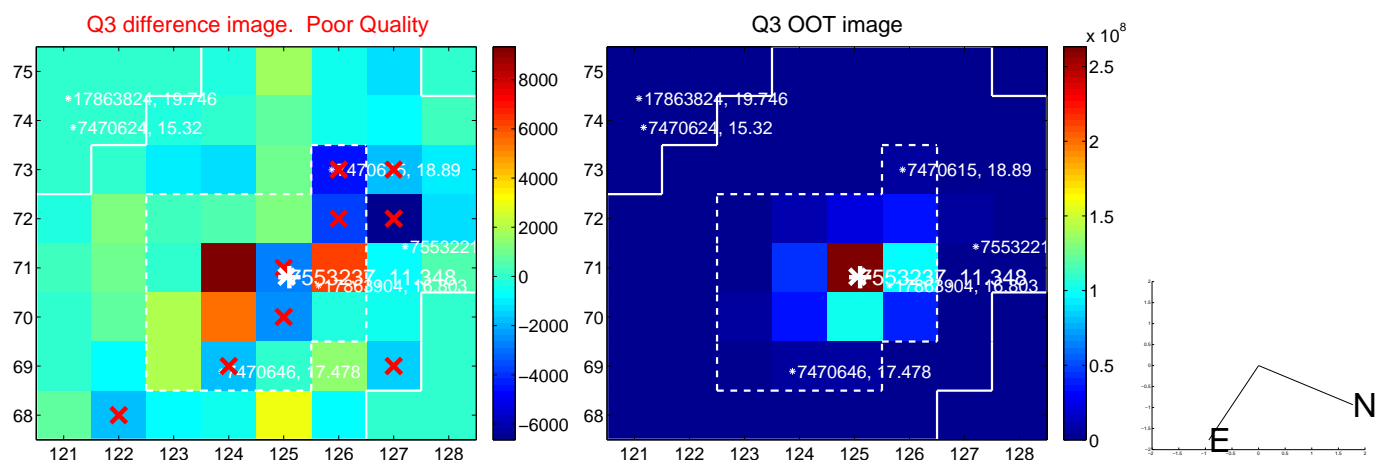
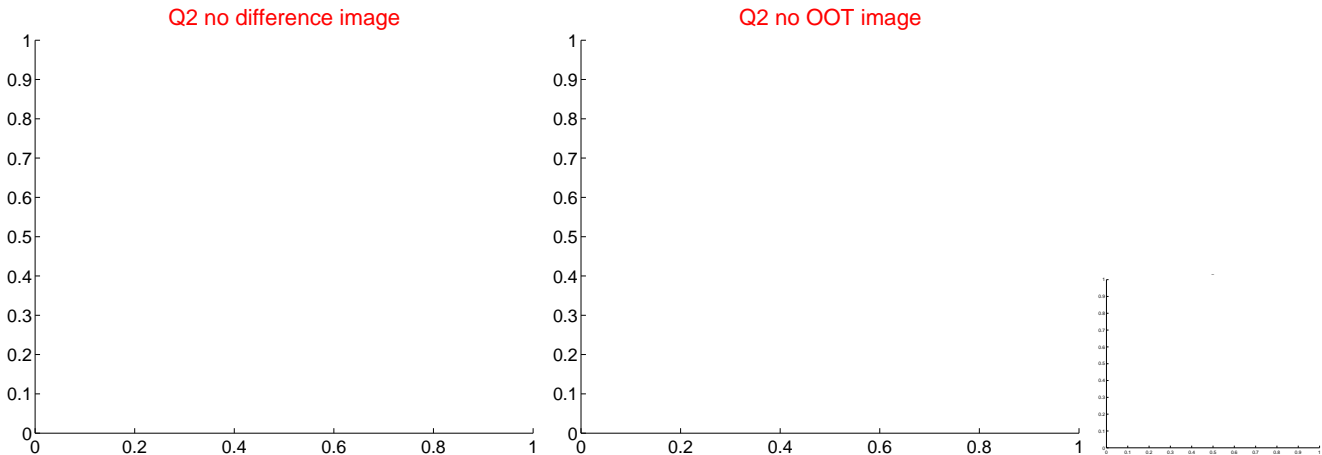
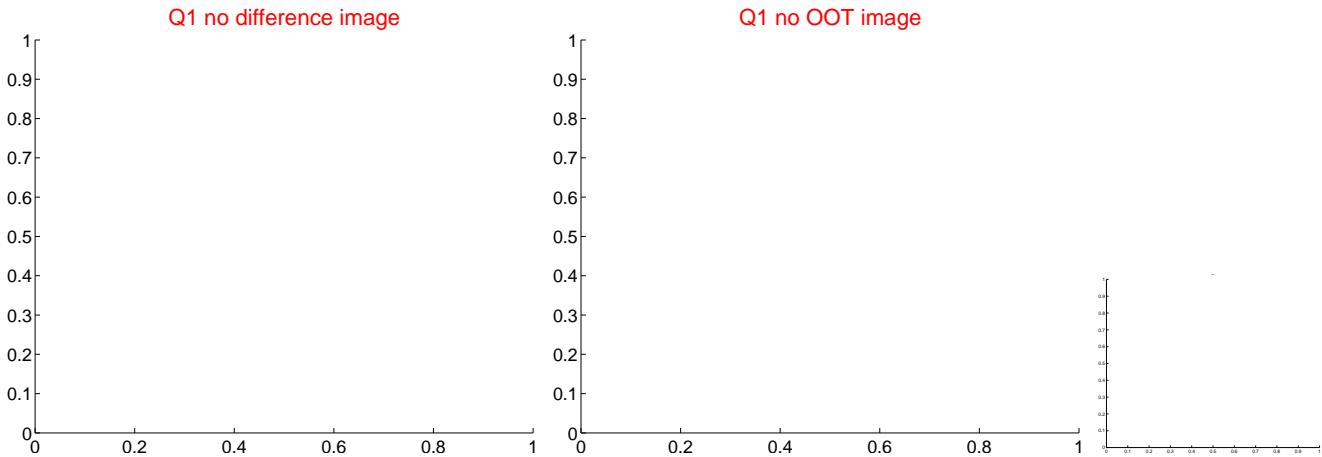
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.411 ± 0.164	2.50	0.077 ± 0.348	0.404 ± 0.153
PRF-fit source offset from KIC position	0.566 ± 0.161	3.51	0.098 ± 0.330	0.557 ± 0.153
photometric centroid source offset	0.49 ± 0.12	4.00	-0.37 ± 0.13	0.32 ± 0.11

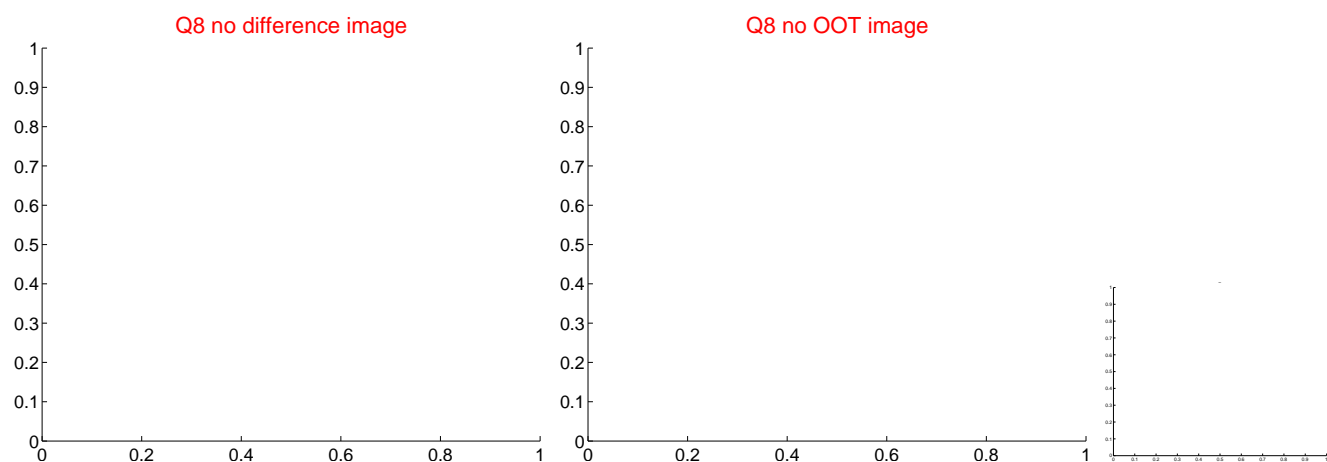
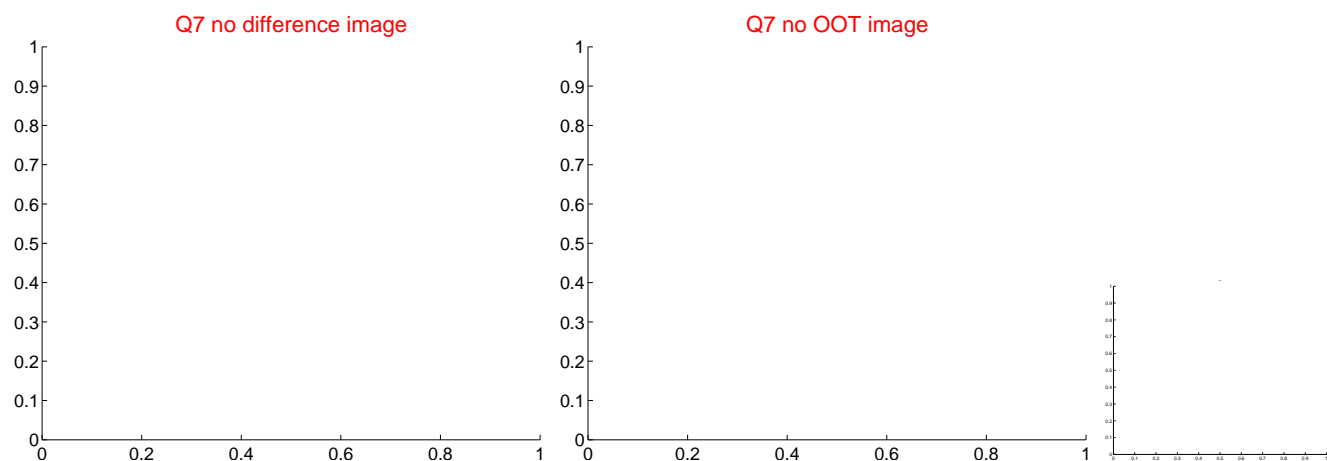
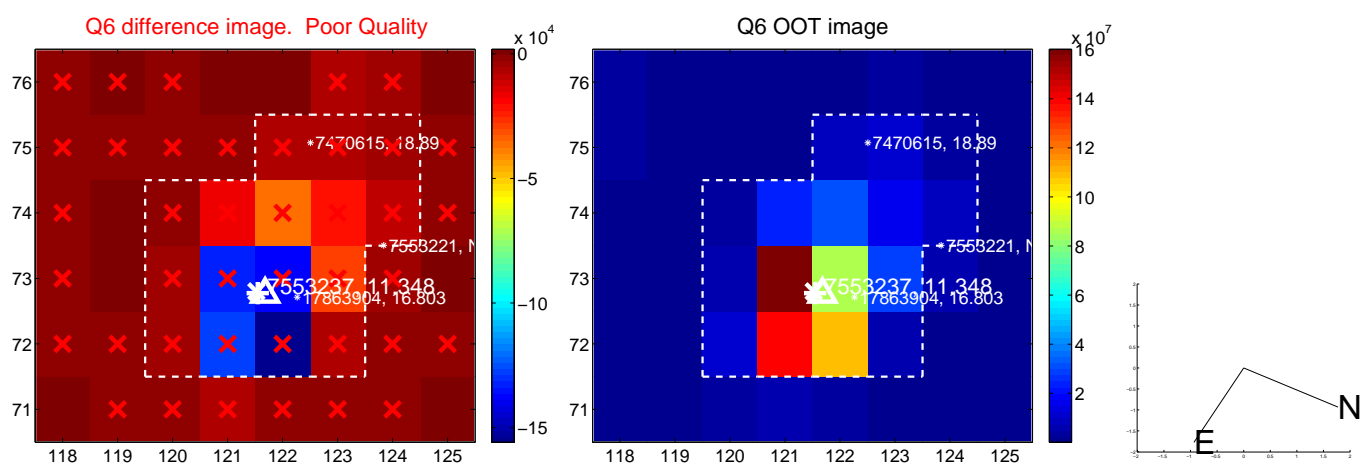
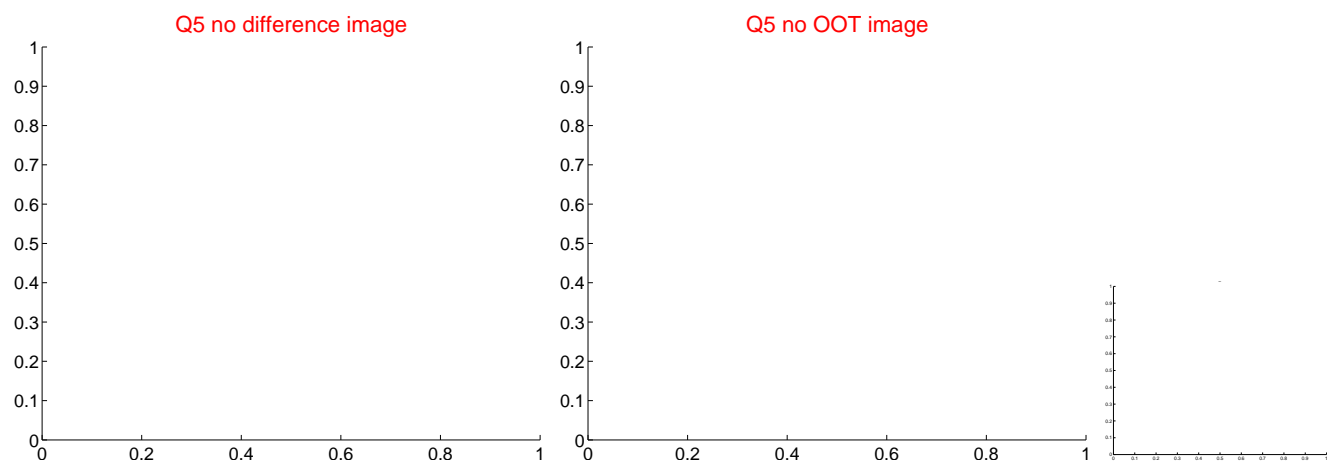


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

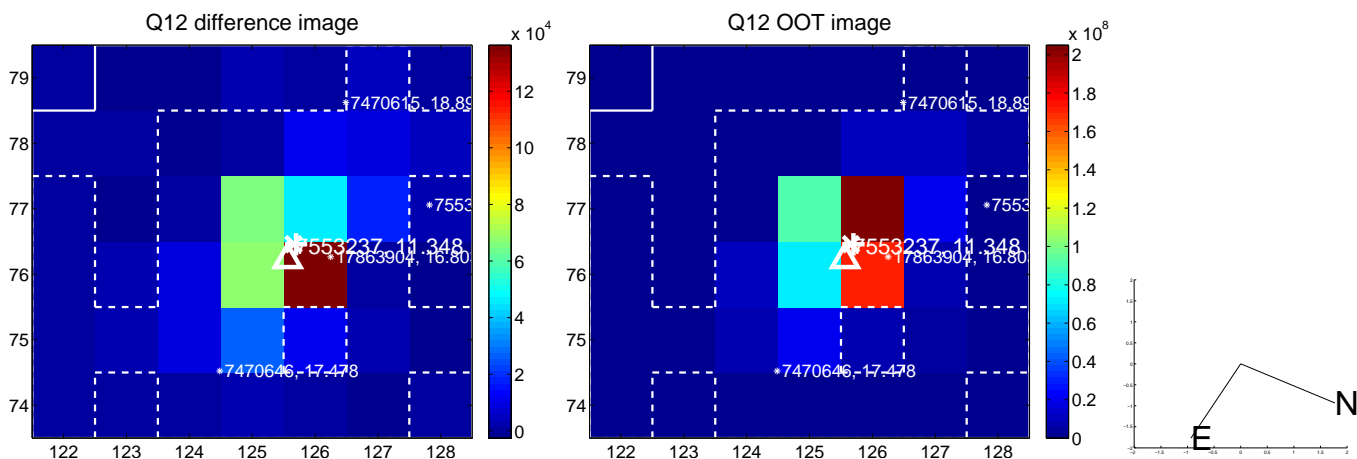
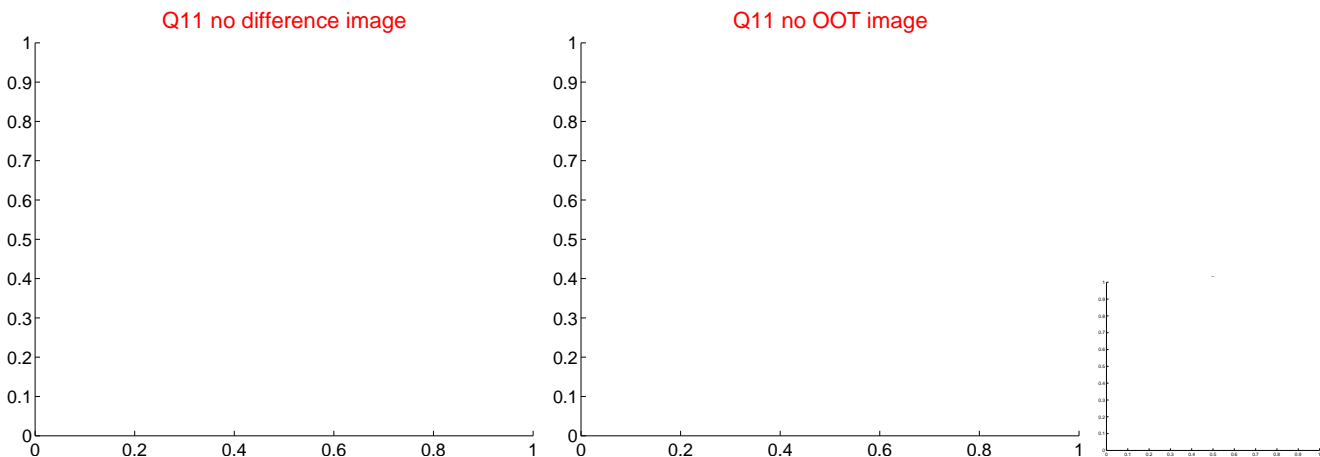
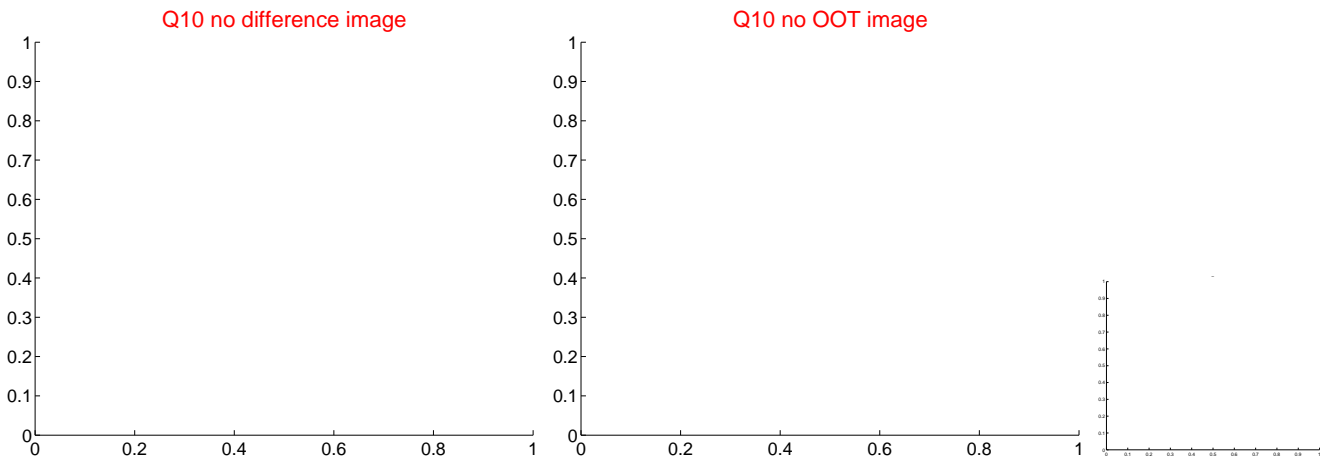
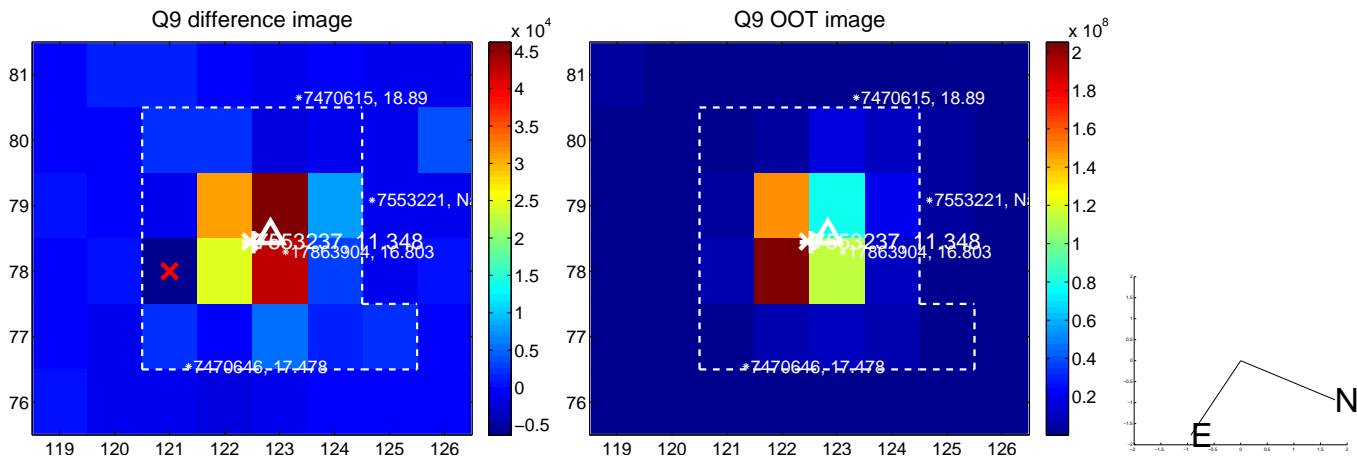
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



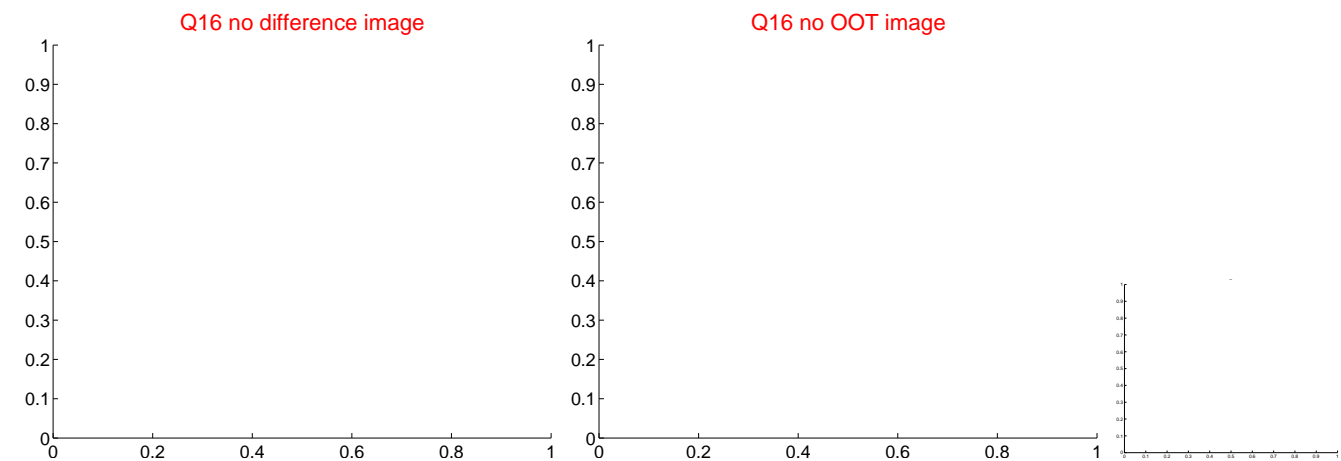
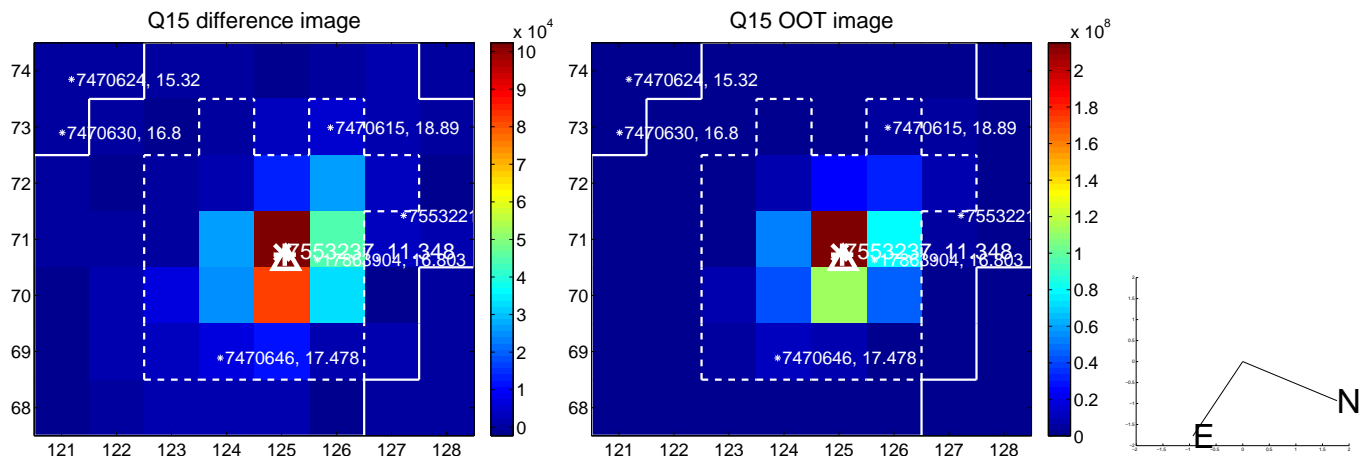
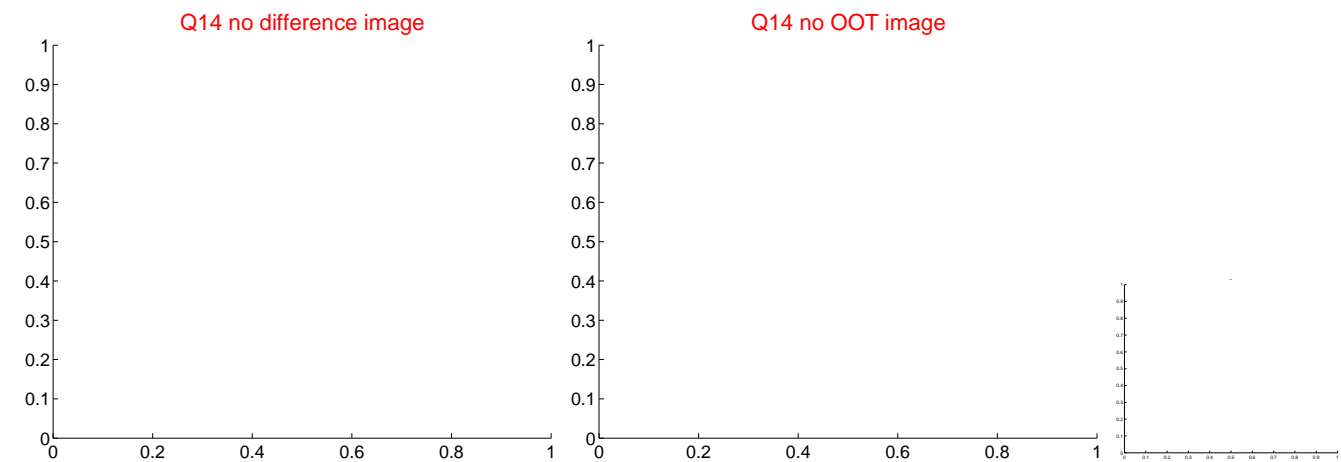
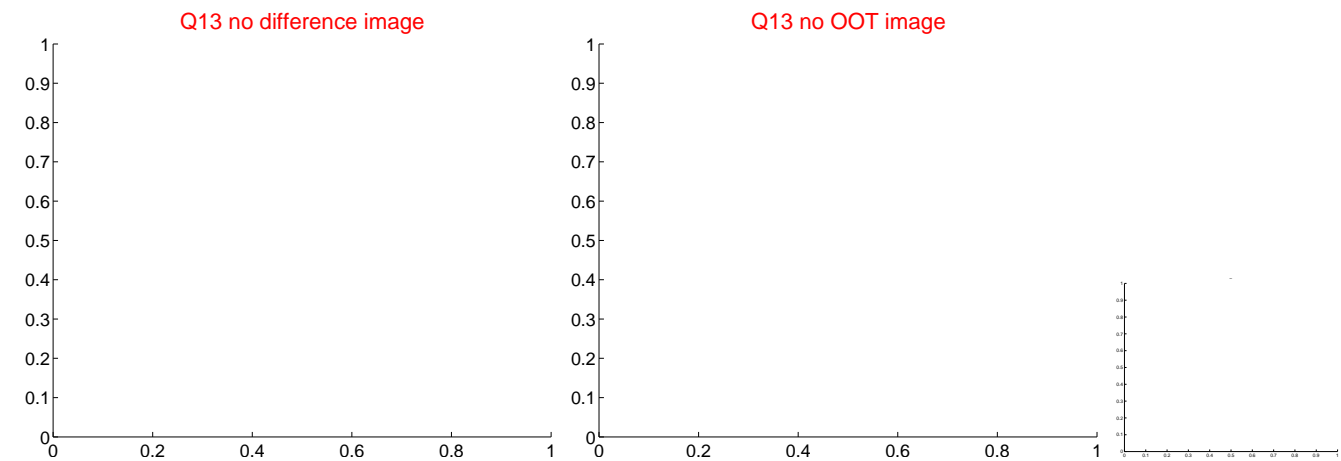
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



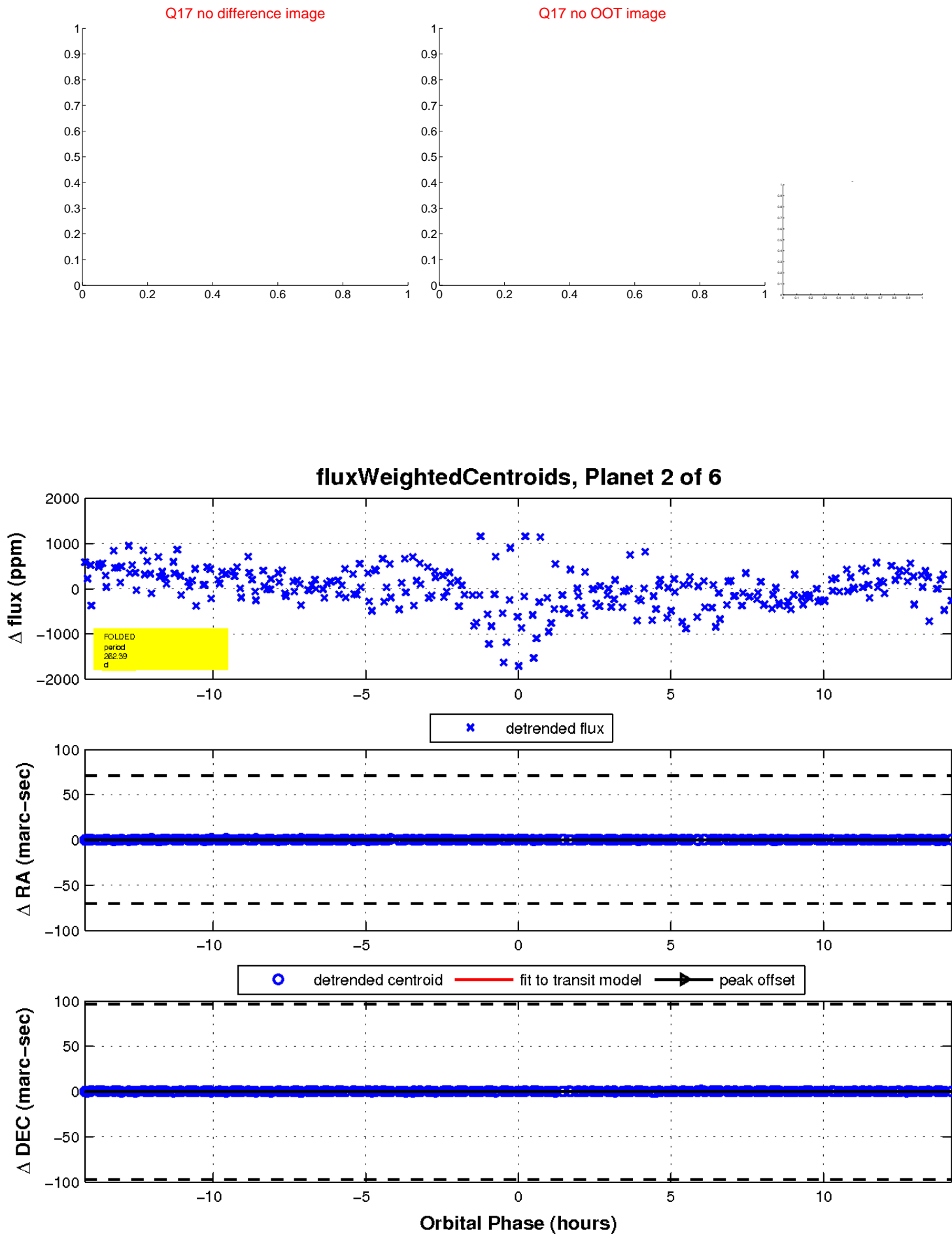
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

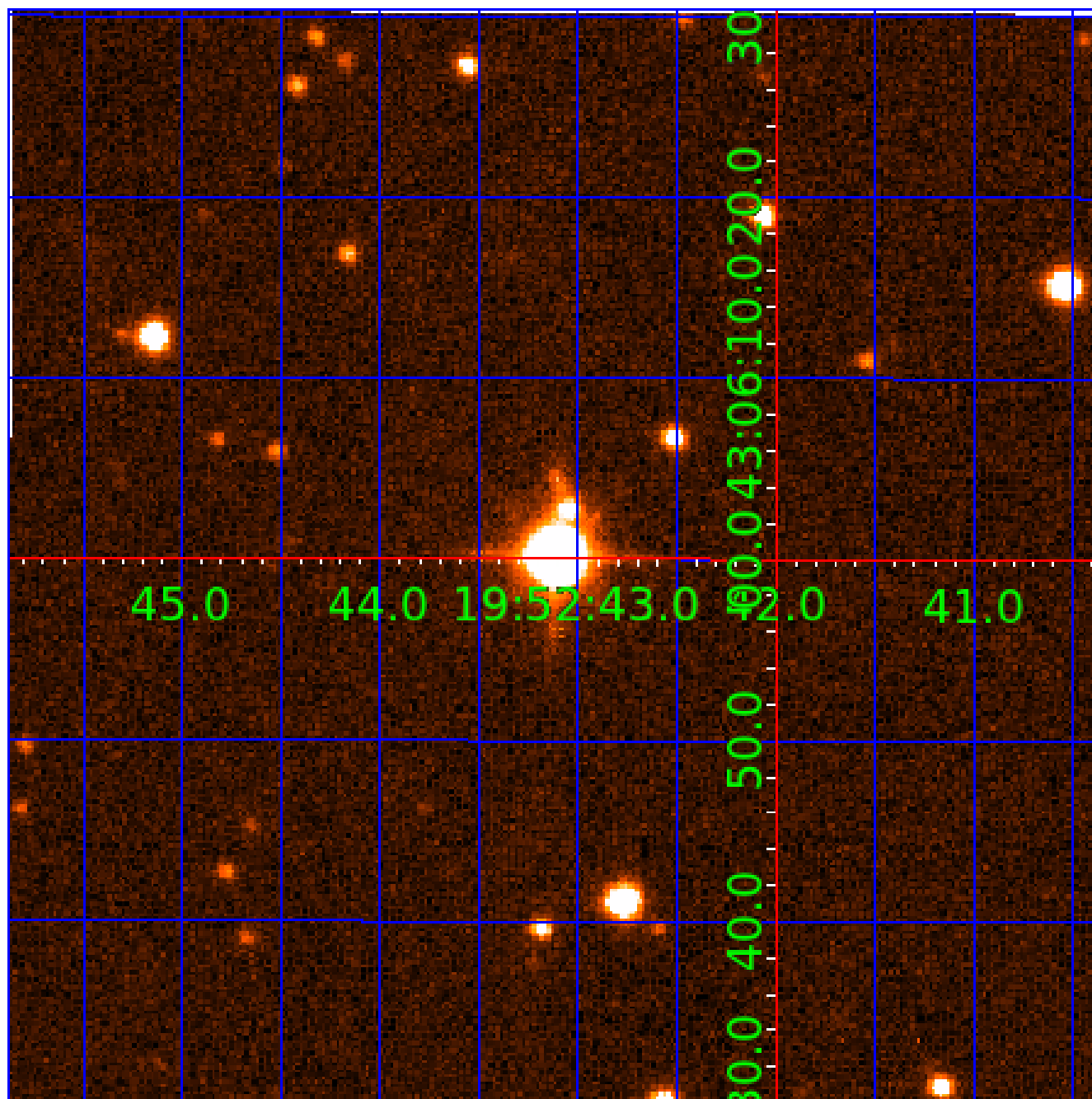


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007553237

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})
007553237-01	OBS	No	0.712003	131.577316	53.3	2.544	11.6	11.8	1.76	7219	1.49	23164.90
007553237-02	OBS	No	262.390526	344.891901	1263.6	4.740	11.2	9.1	1.76	7219	11.59	8.77
007553237-03	OBS	No	315.609858	273.014940	960.1	6.666	8.7	7.7	1.76	7219	6.57	6.85
007553237-04	OBS	No	15.158732	135.168030	222.0	8.715	8.0	7.4	1.76	7219	3.29	392.57
007553237-05	OBS	No	360.800712	491.336818	1408.6	5.265	8.4	8.3	1.76	7219	11.96	5.73
007553237-06	OBS	No	198.386233	139.607665	1072.5	4.705	7.6	8.2	1.76	7219	10.70	12.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007553237-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007553237-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007553237-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
007553237-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

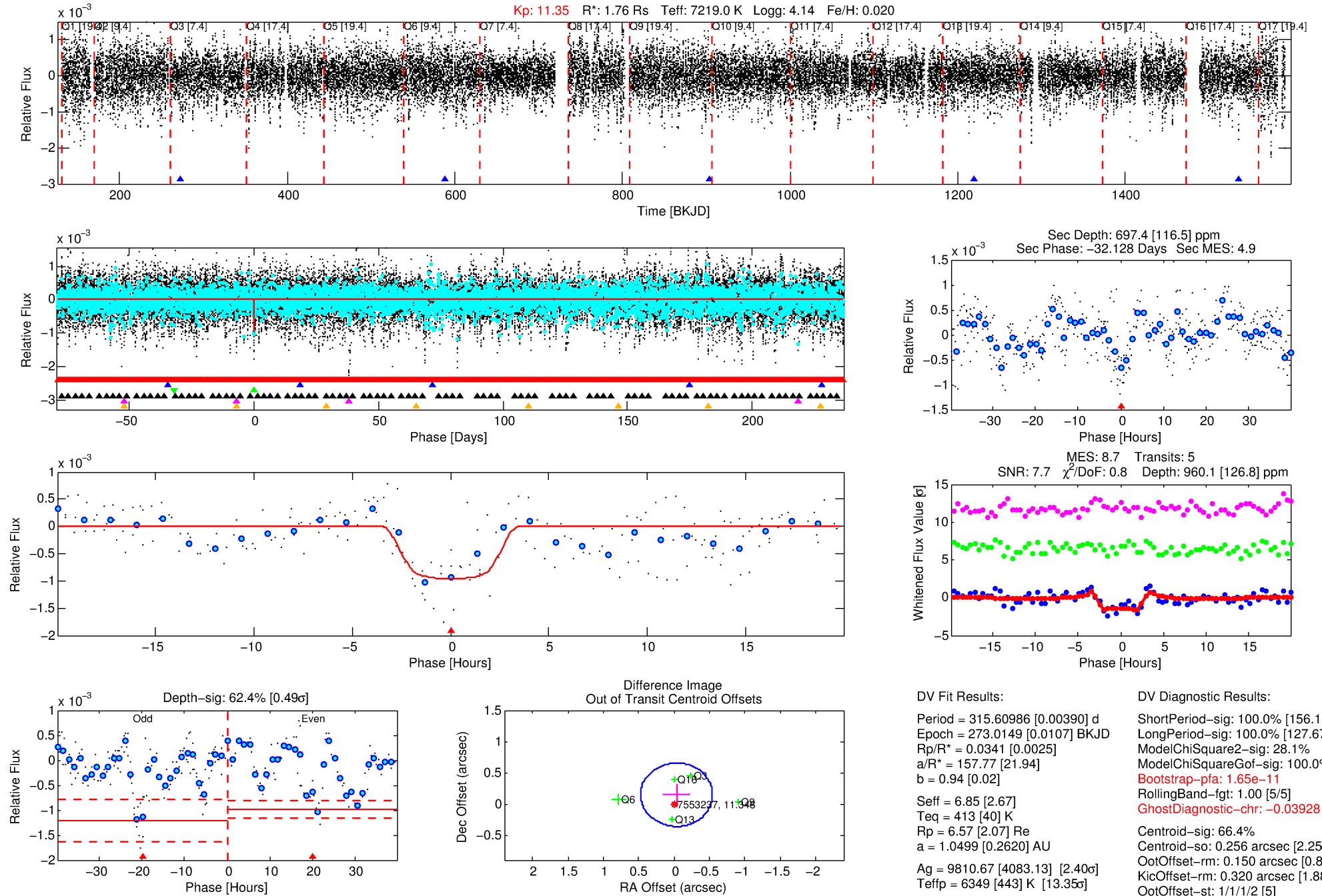
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007553237-03

No Significant Match Found

DV One-Page Summary

KIC: 7553237 Candidate: 3 of 6 Period: 315.610 d



DV Fit Results:

Period = 315.60986 [0.00390] d
Epoch = 273.0149 [0.0107] BKJD
Rp/R* = 0.0341 [0.0025]
a/R* = 157.77 [21.94]
b = 0.94 [0.02]
Seff = 6.85 [2.67]
Teq = 413 [40] K
Rp = 6.57 [2.07] Re
a = 1.0499 [0.2620] AU
Ag = 9810.67 [4083.13] [2.40] σ
Teffp = 6349 [443] K [13.35] σ

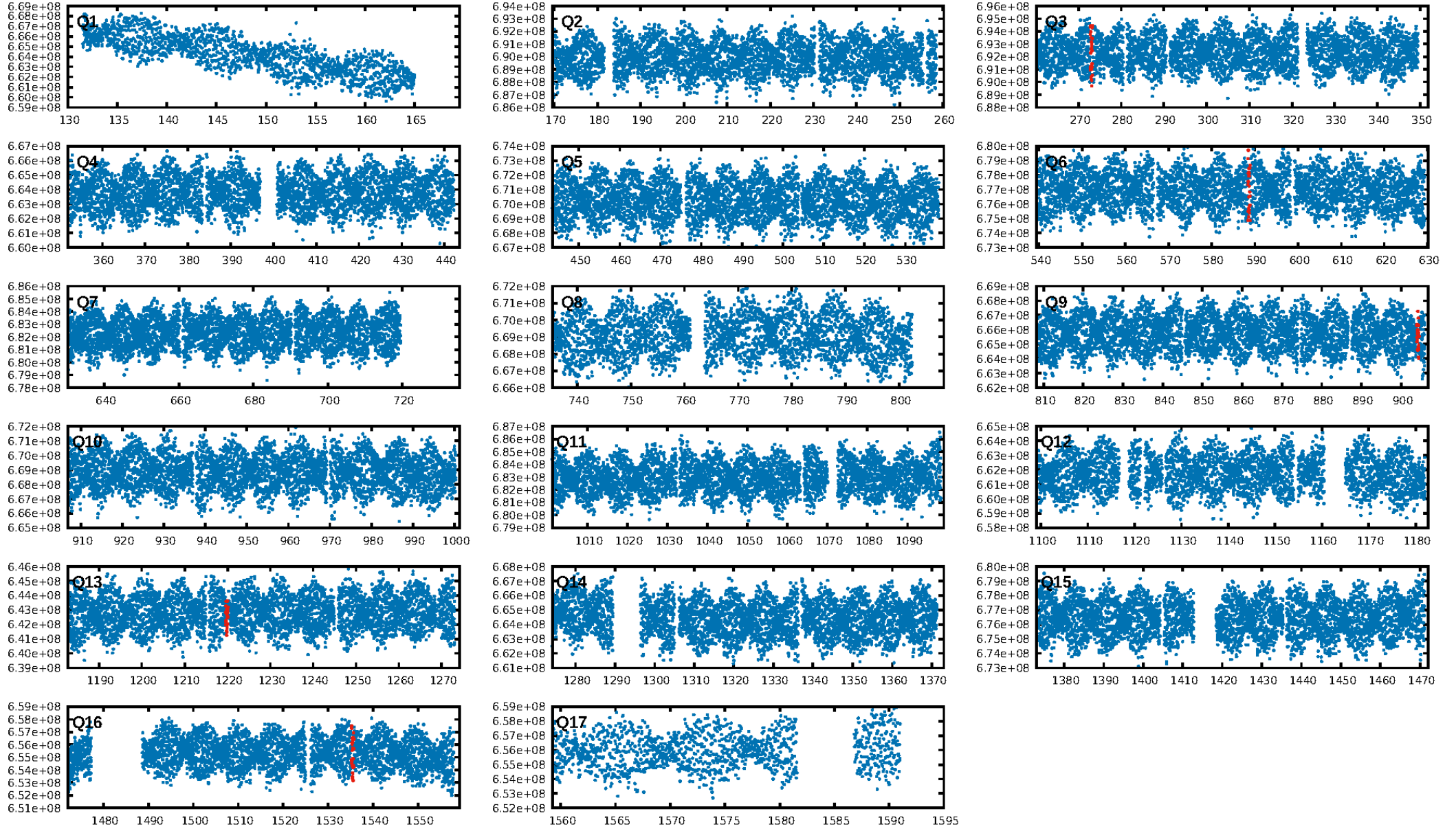
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [156.15 σ]
LongPeriod-sig: 100.0% [127.67 σ]
ModelChiSquare2-sig: 28.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.65e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.03928
Centroid-sig: 66.4%
Centroid-so: 0.256 arcsec [2.25 σ]
OotOffset-rm: 0.150 arcsec [0.88 σ]
KicOffset-rm: 0.320 arcsec [1.88 σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.00 [0/5]

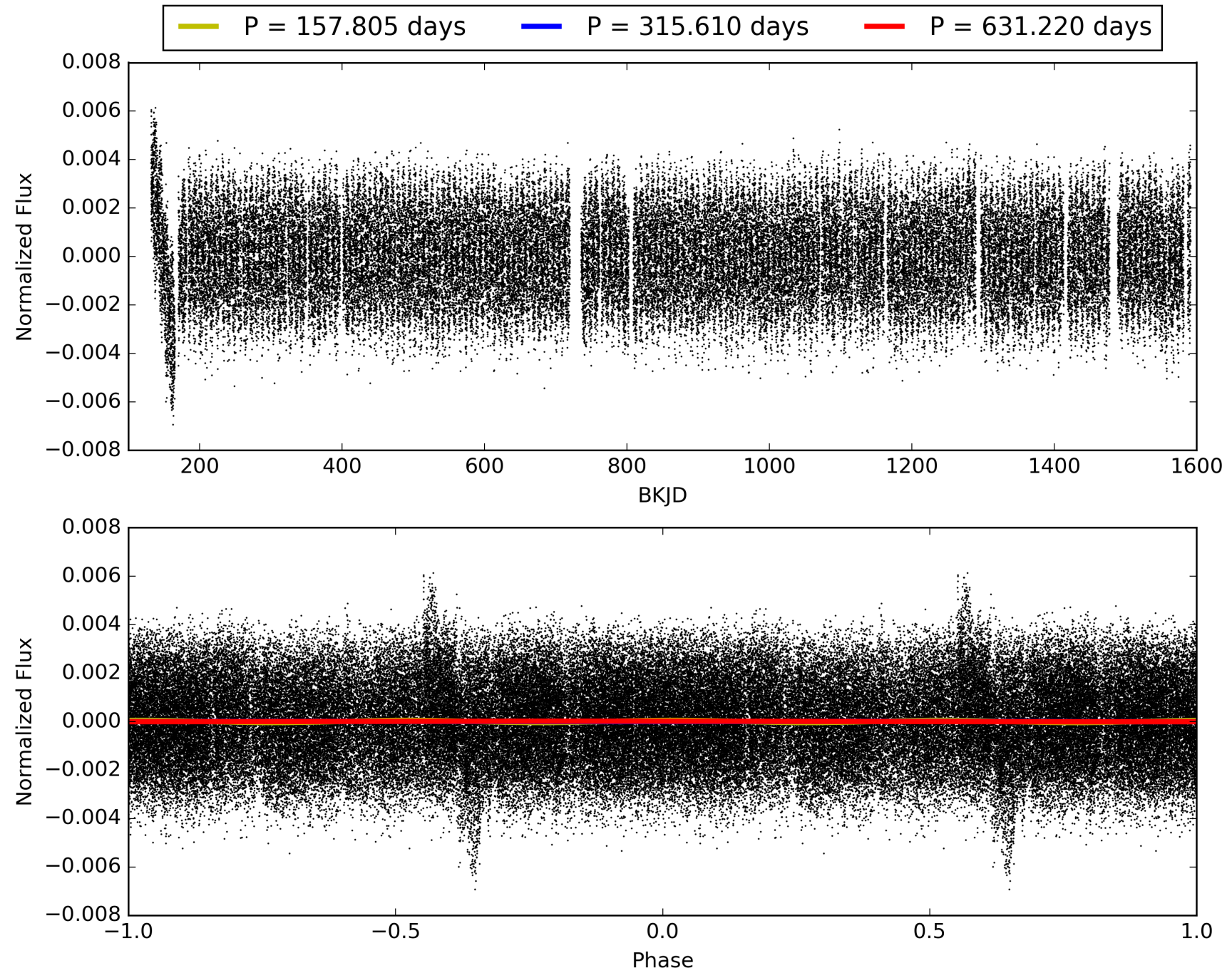
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:34:58 Z

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

TCE 007553237-03, PDC Light Curves

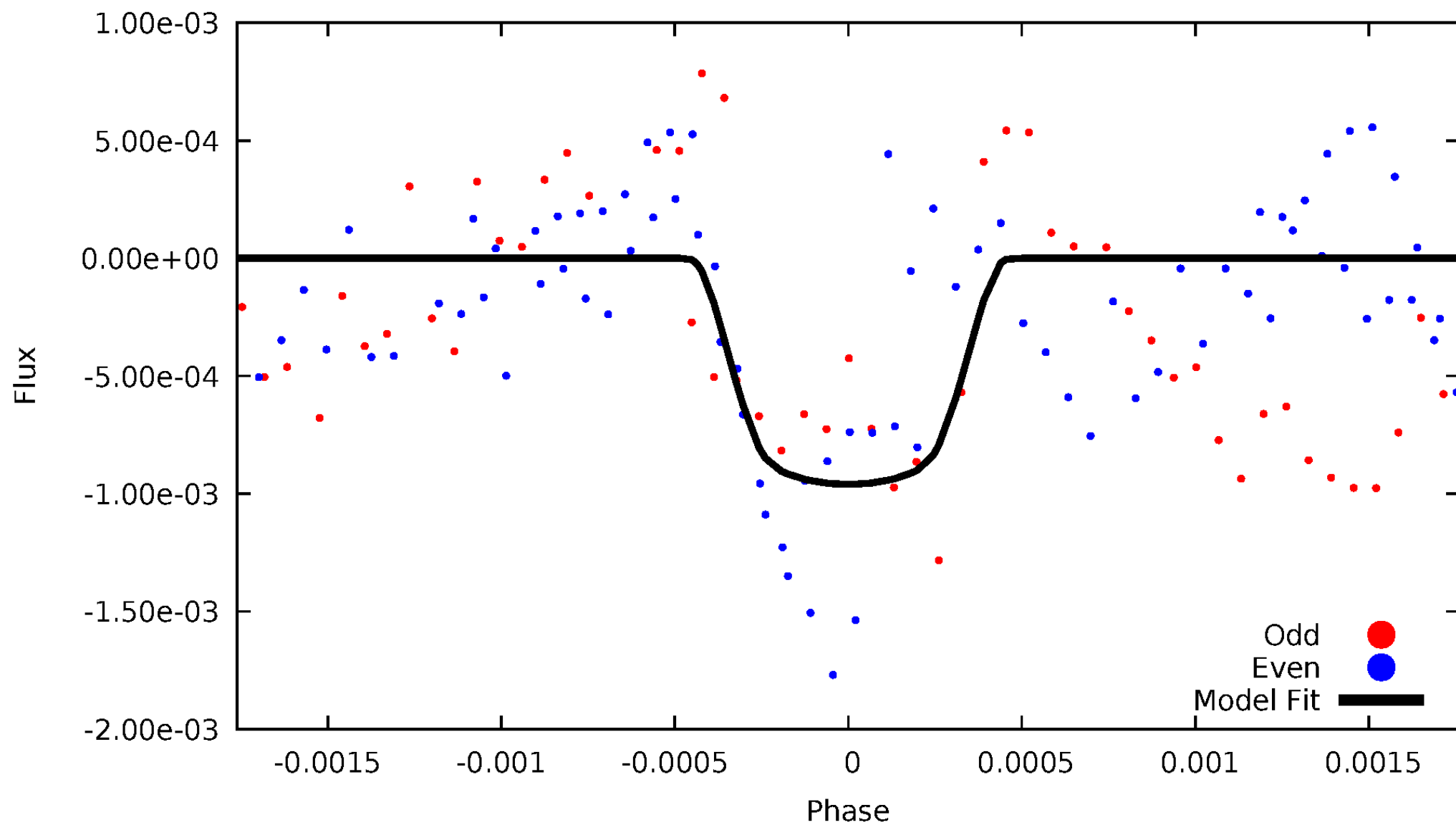


TCE 007553237-03



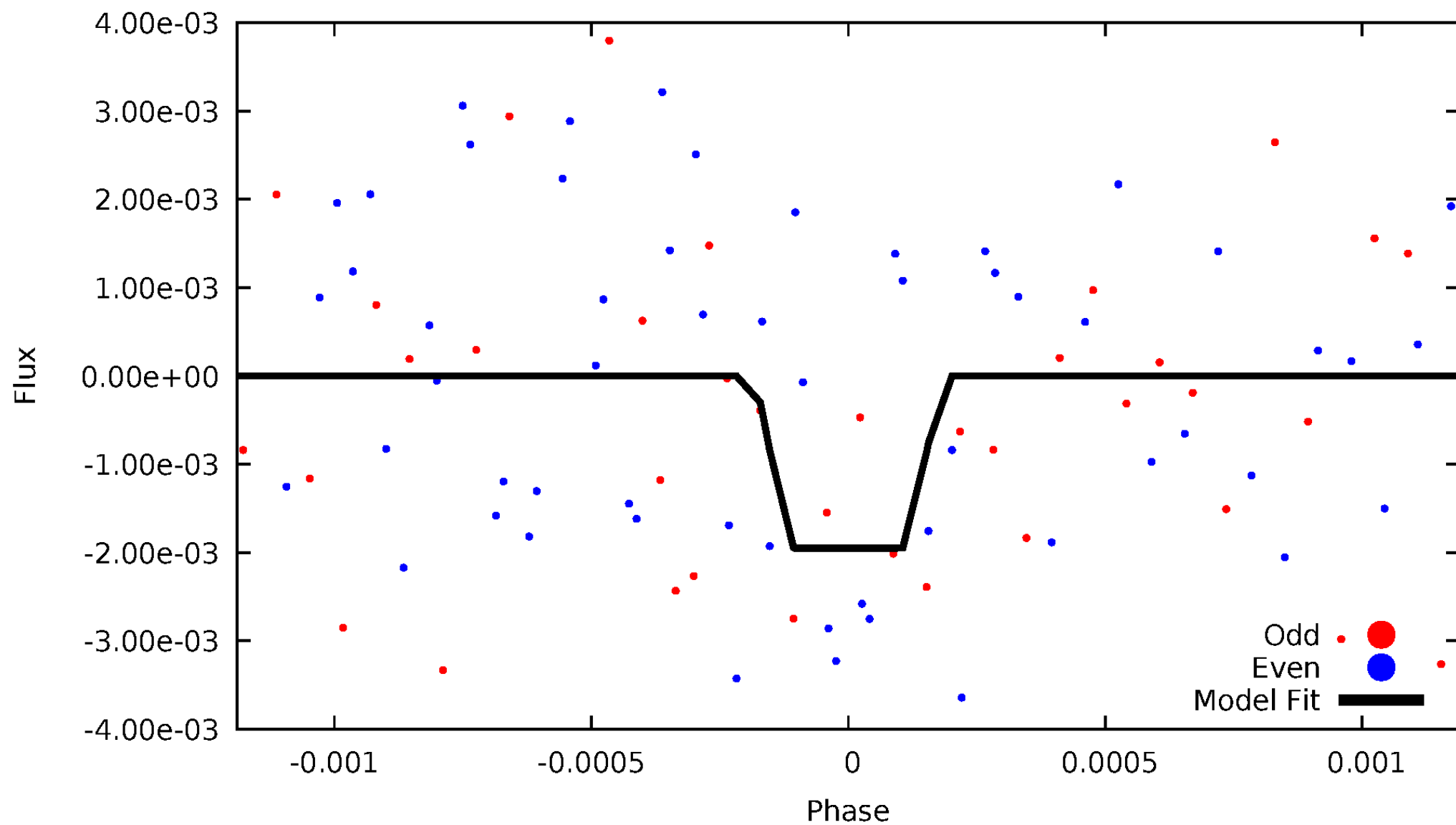
DV Odd/Even

TCE 007553237-03



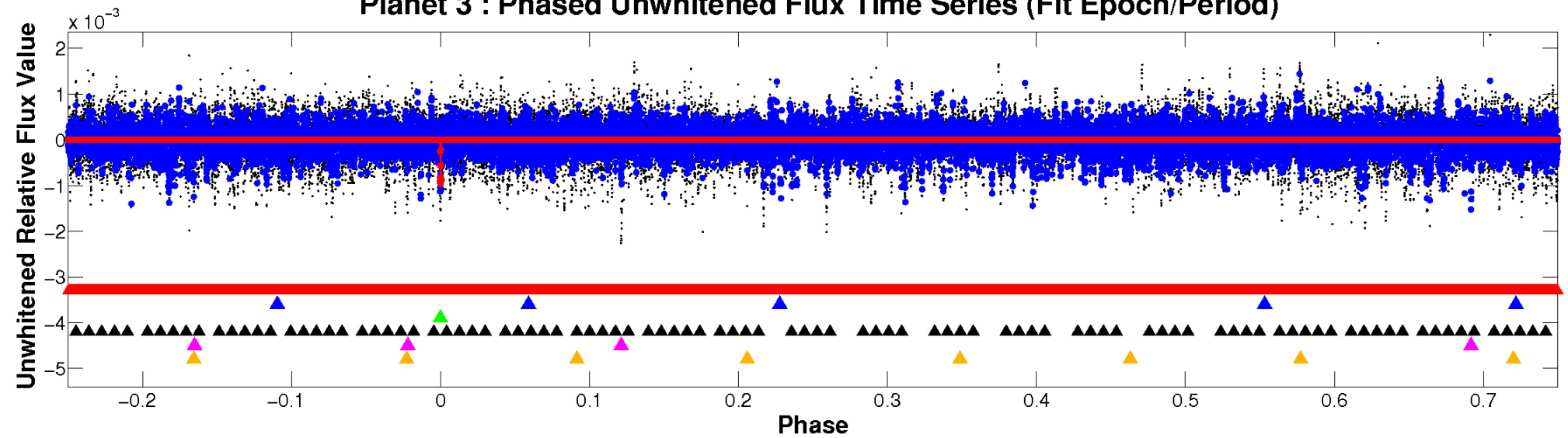
ALT Odd/Even

TCE 007553237-03

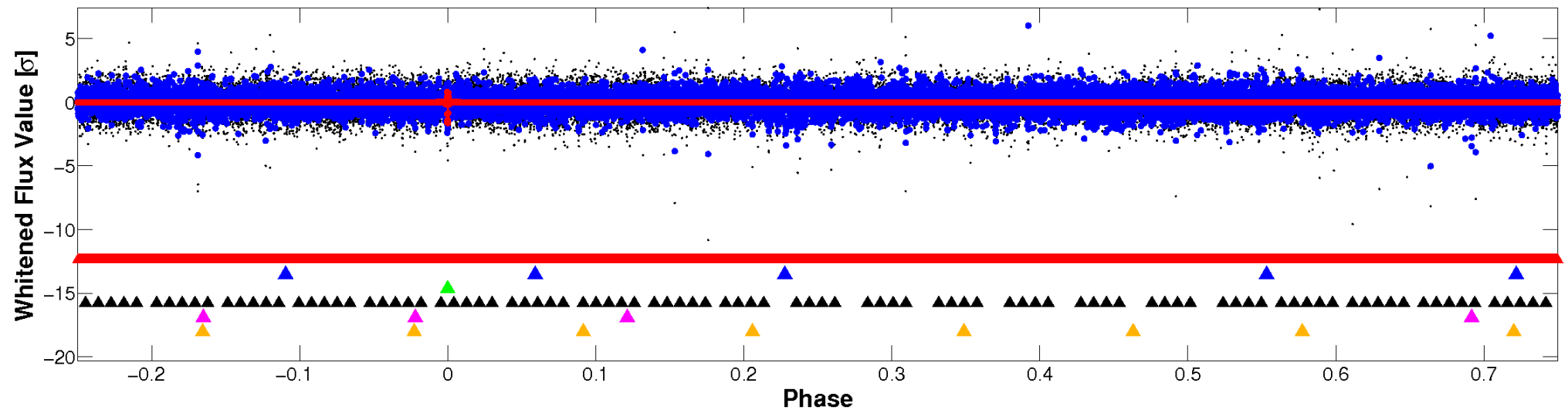


Non-Whitened Vs. Whitened Light Curve

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

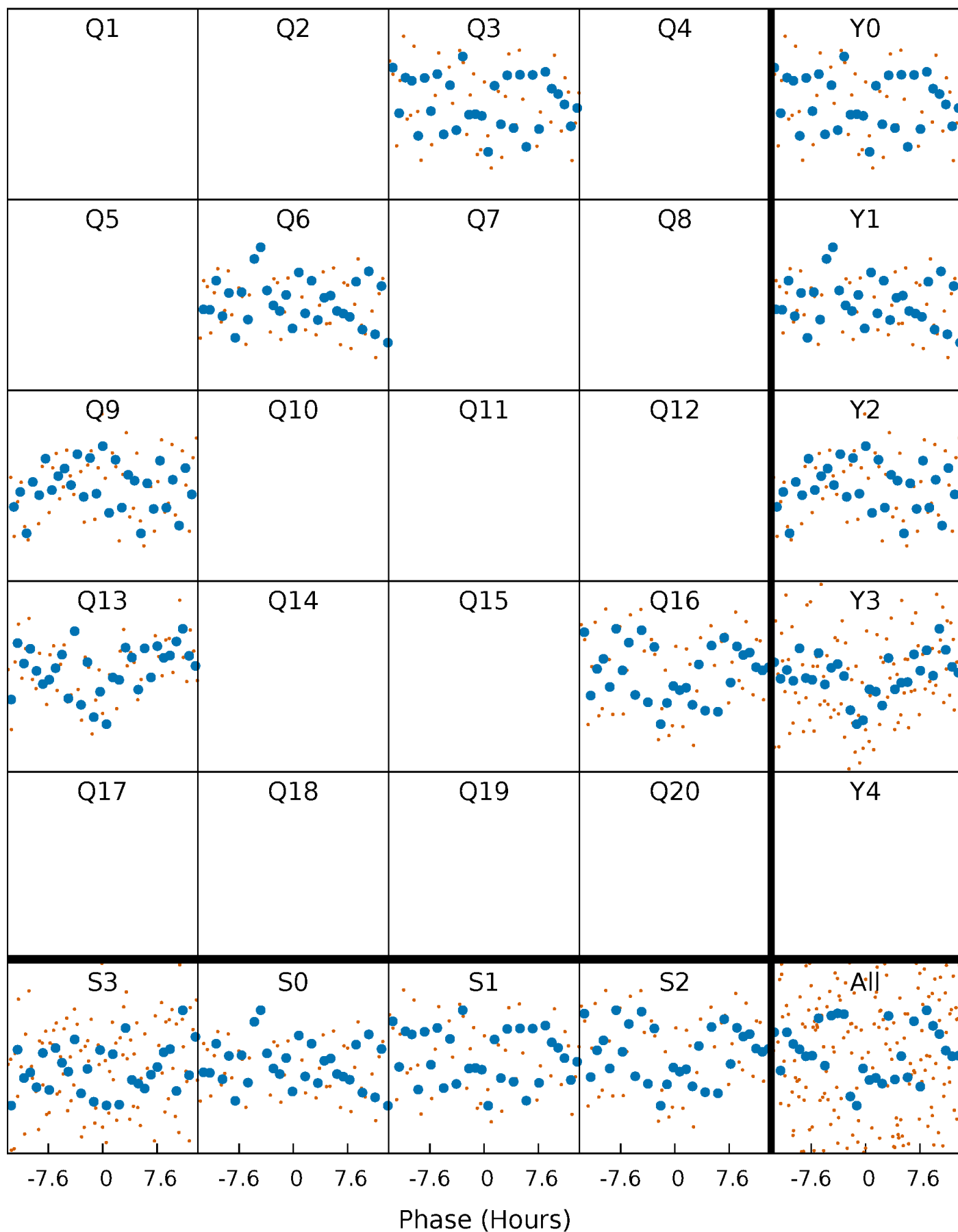


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



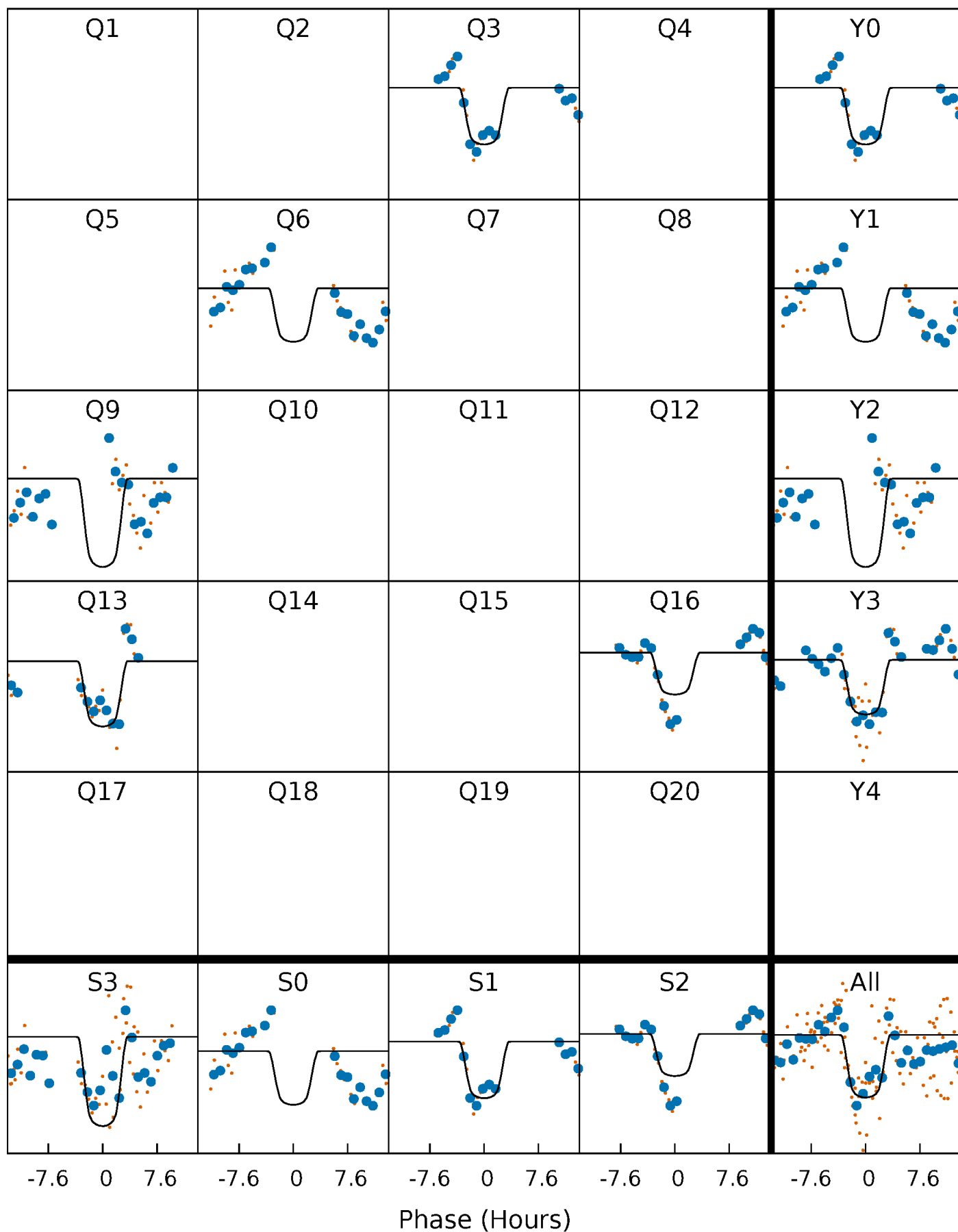
PDC Quarter-Phased Transit Curves

TCE 007553237-03 $P=315.609858$ Days $T_0=273.014940$ (BKJD)



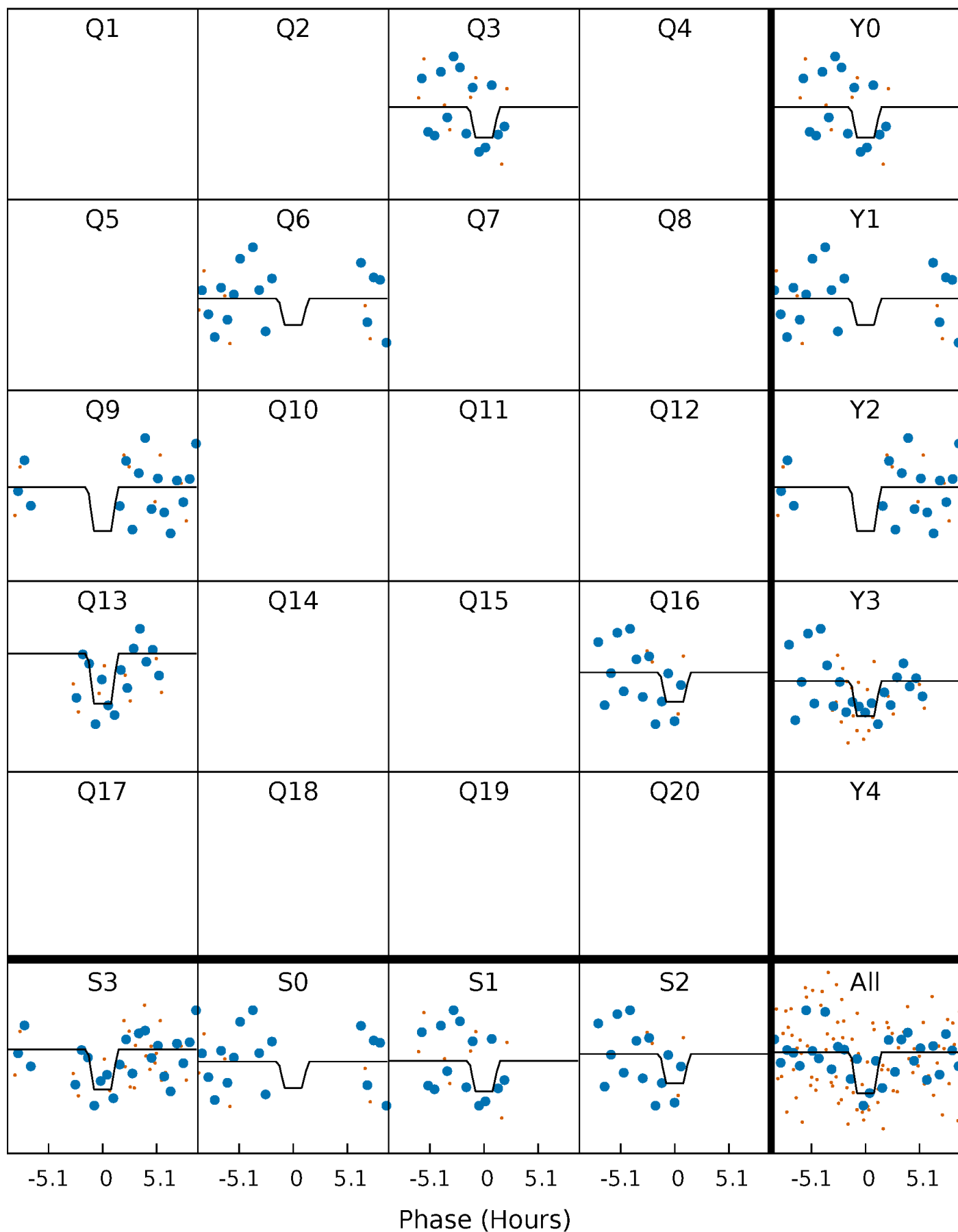
DV Quarter-Phased Transit Curves

TCE 007553237-03 P=315.609858 Days $T_0=273.014940$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

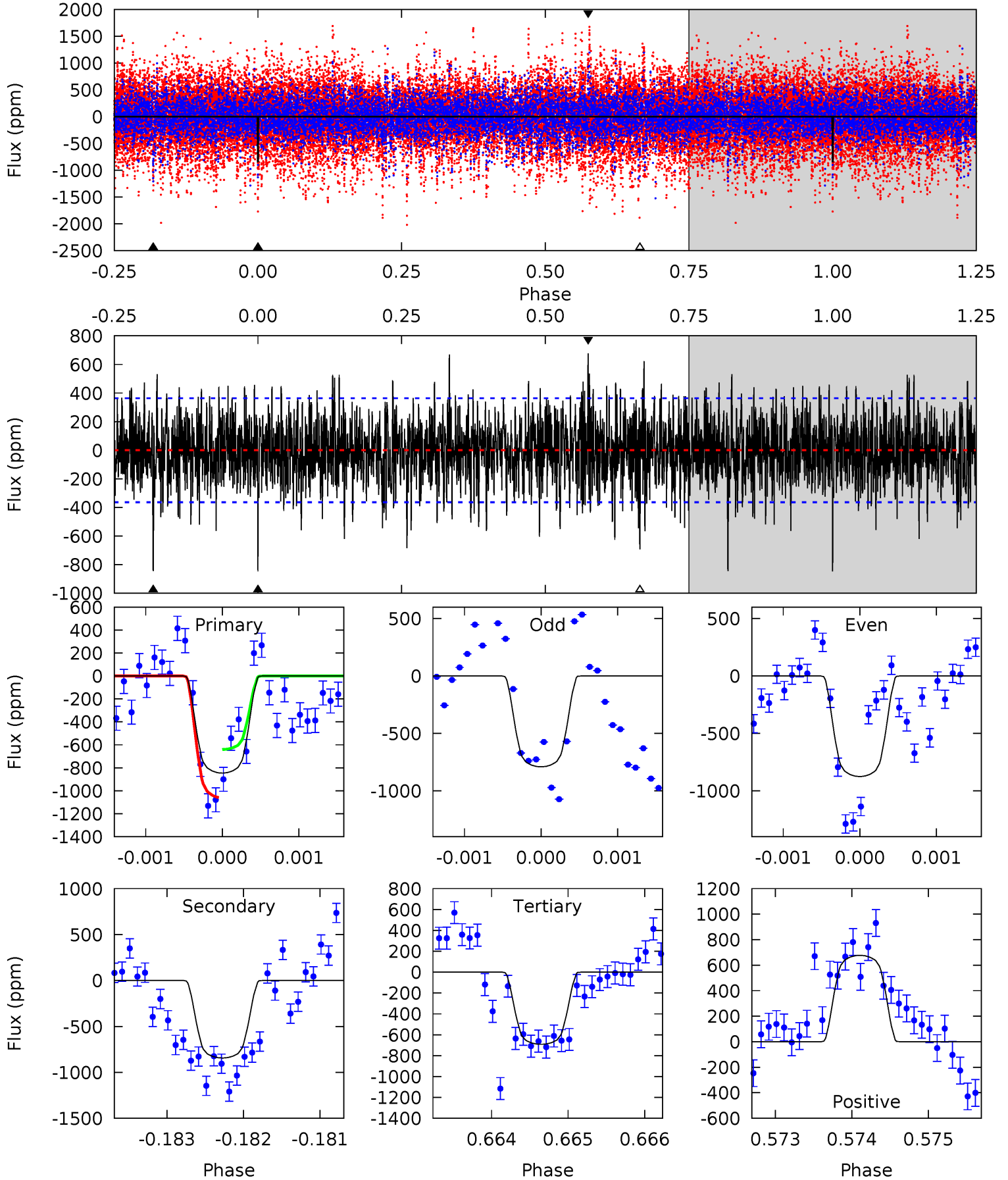
TCE 007553237-03 P=315.609957 Days $T_0=272.987538$ (BKJD)



DV Model-Shift Uniqueness Test

007553237-03, P = 315.609858 Days, E = 273.014940 Days

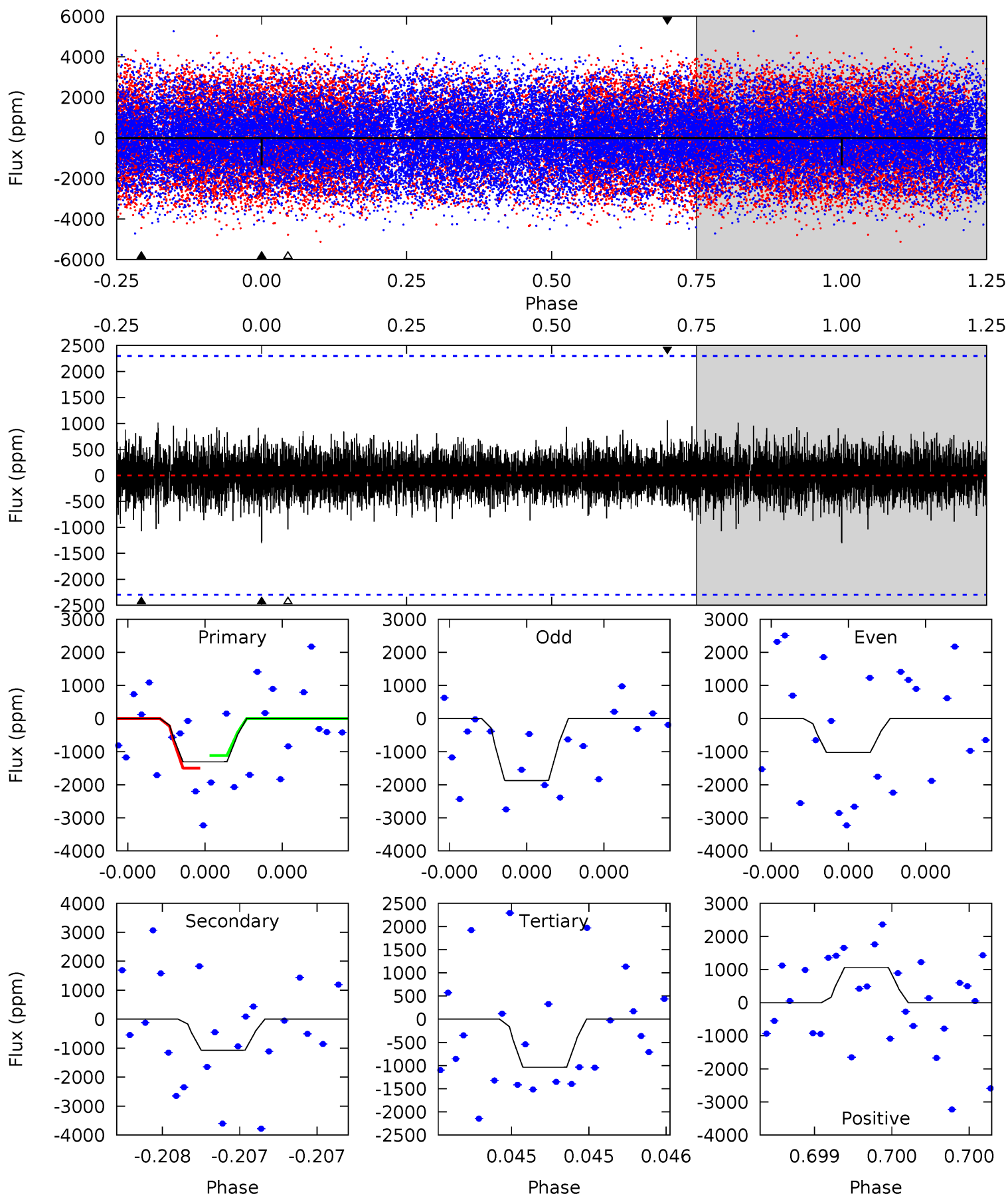
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	12.7	10.4	10.2	5.46	3.30	2.81	2.32	2.54	2.28	2.50	0.64	0.20	0.44	3.15



Alt Model-Shift Uniqueness Test

007553237-03, P = 315.609957 Days, E = 272.987538 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.20	2.63	2.54	2.60	5.62	3.56	0.66	0.66	0.60	0.09	0.03	0.96	0.94	0.45	0.47



Stellar Parameters For KIC 007553237

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7219^{+201}_{-302}	$4.136^{+0.124}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.762^{+0.541}_{-0.316}$	$1.548^{+0.212}_{-0.236}$	$0.398^{+0.253}_{-0.209}$
	+3%/-4%	+3%/-4%	+1000%/-1750%	+31%/-18%	+14%/-15%	+64%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007553237-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-844 ± 67	$6.65^{+1.18}_{-0.89}$	579^{+44}_{-37}	6598^{+347}_{-364}	11371^{+3676}_{-2939}
Alt.	-1072 ± 408	$8.58^{+1.55}_{-1.05}$	579^{+46}_{-38}	6083^{+635}_{-742}	8394^{+4659}_{-3728}

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 $A_{obs} \gg 1.0$

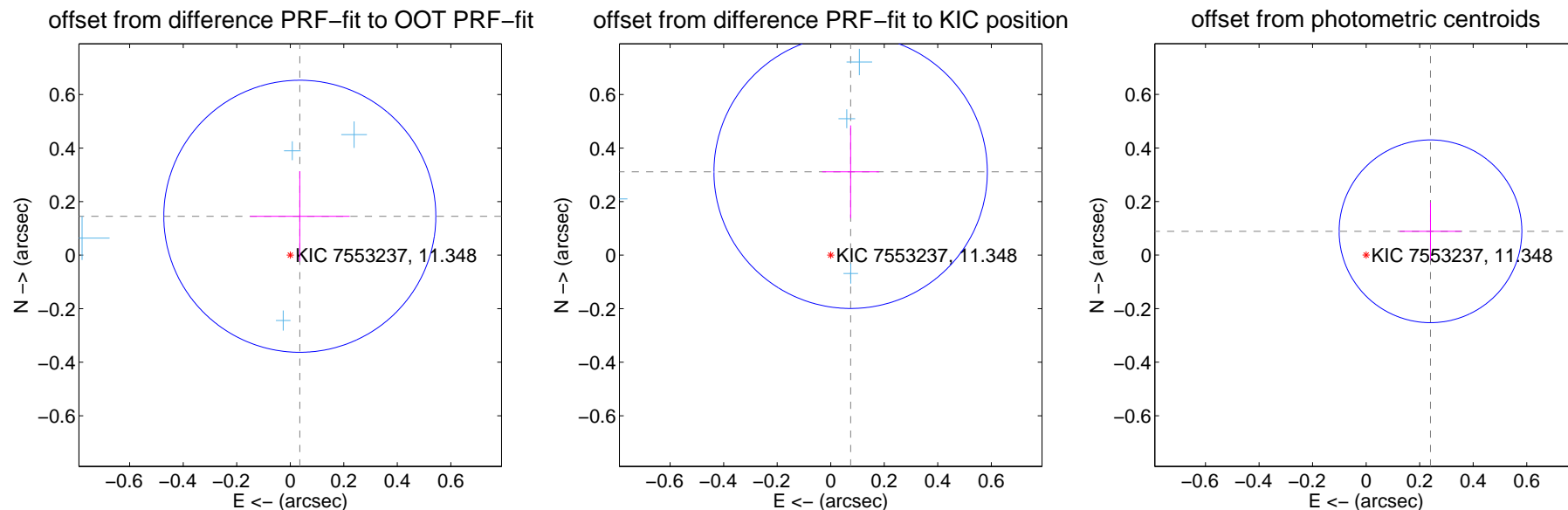
DV Centroid Data

Supplemental centroid analysis for 007553237-03. **Kepler magnitude: 11.35**. Transit SNR 7.70

There are 4 quarters with good PRF difference image offsets

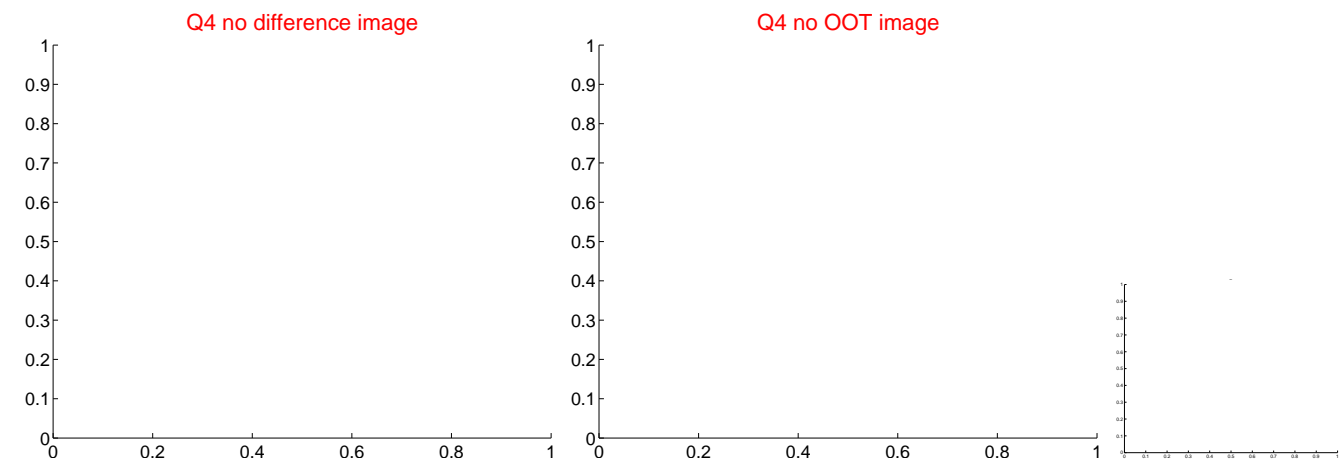
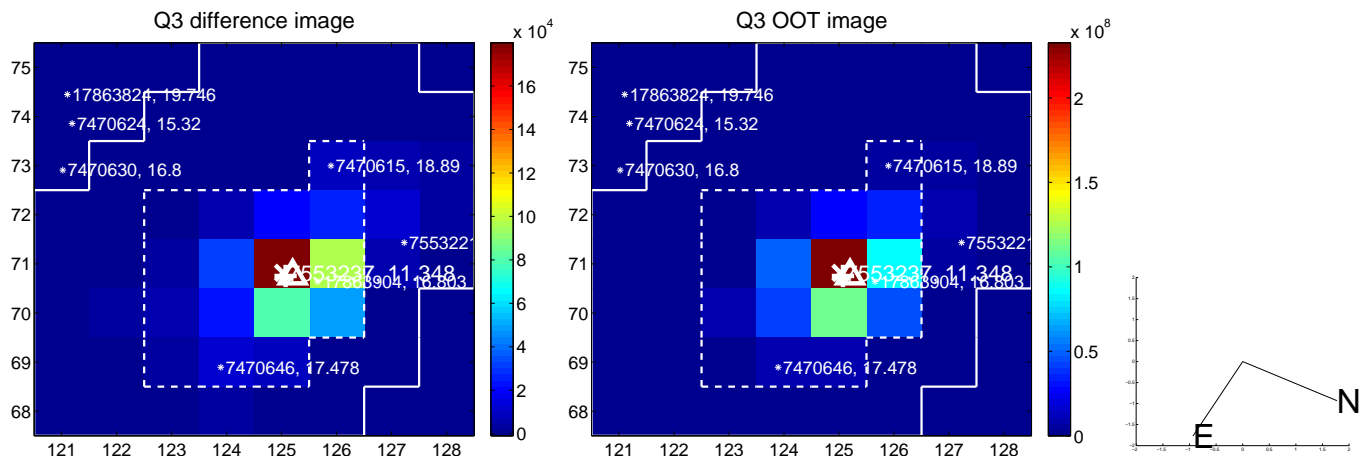
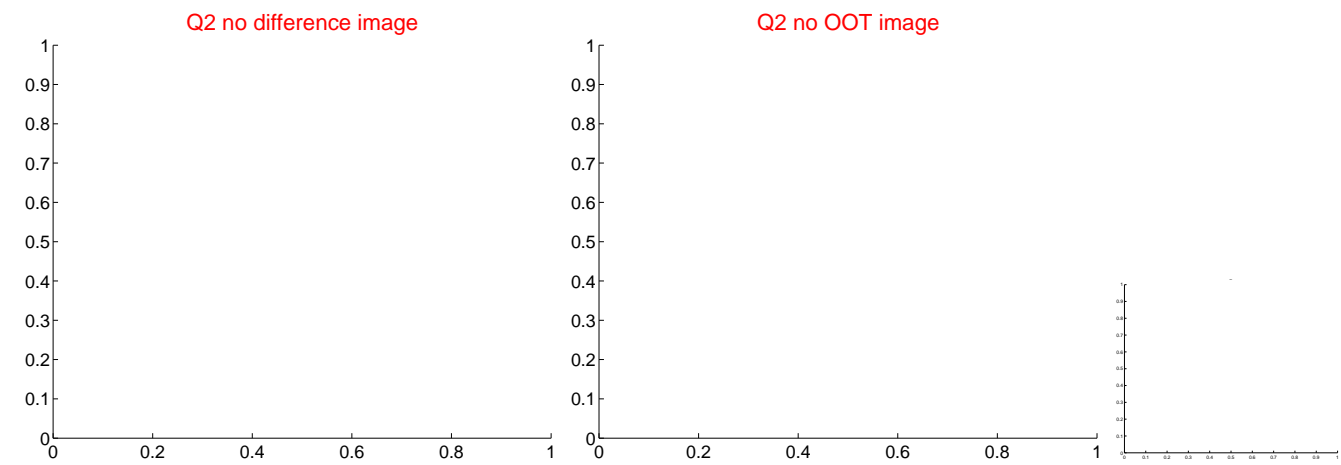
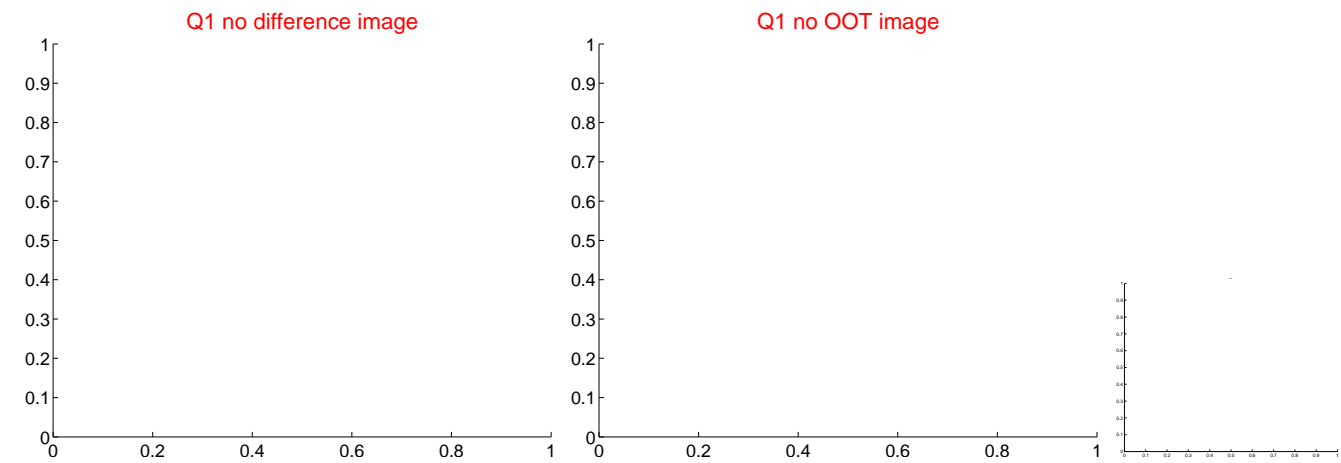
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.150 ± 0.169	0.88	-0.036 ± 0.186	0.145 ± 0.168
PRF-fit source offset from KIC position	0.320 ± 0.170	1.88	-0.074 ± 0.106	0.312 ± 0.173
photometric centroid source offset	0.26 ± 0.11	2.25	-0.24 ± 0.11	0.09 ± 0.11

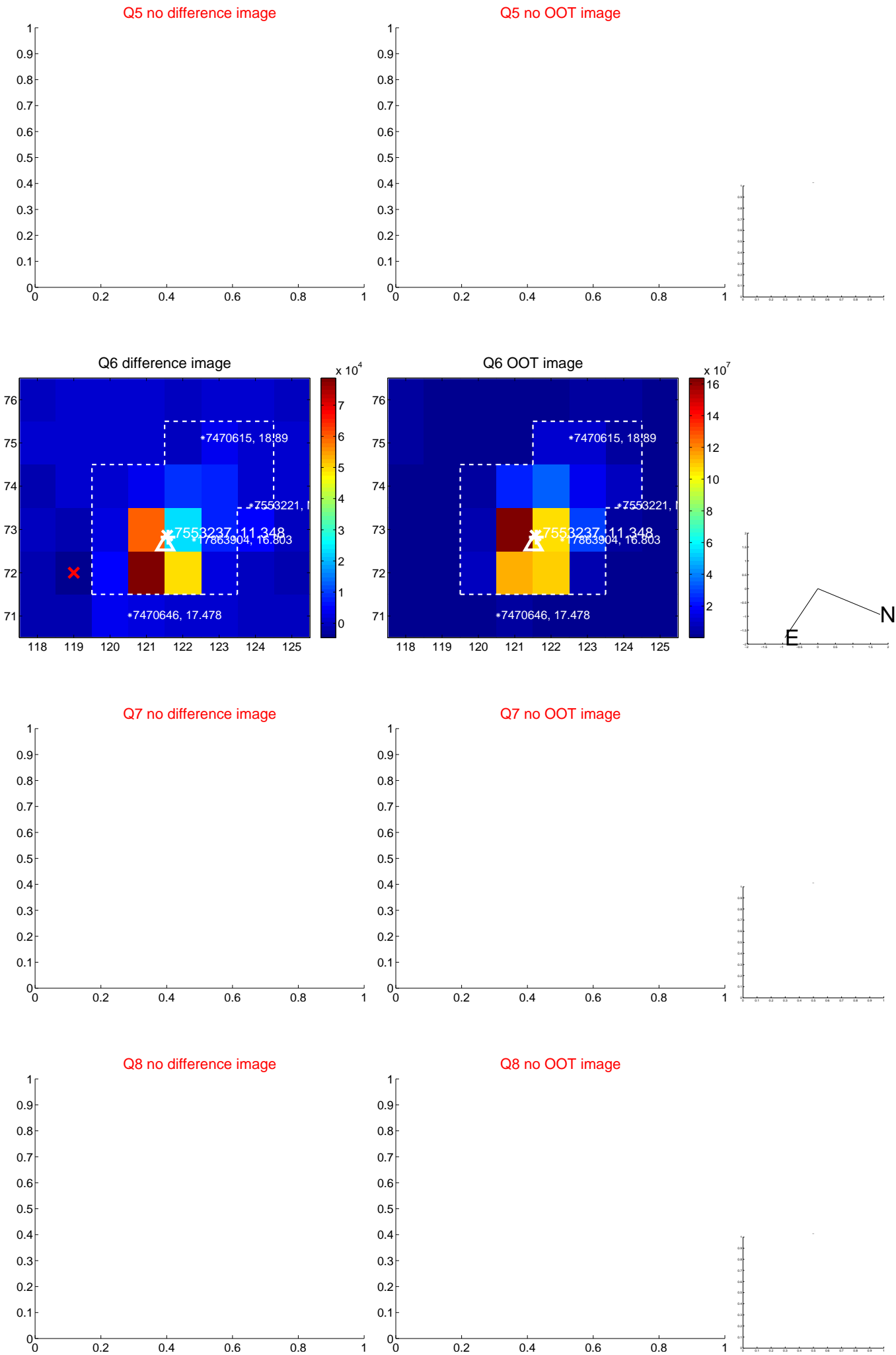


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

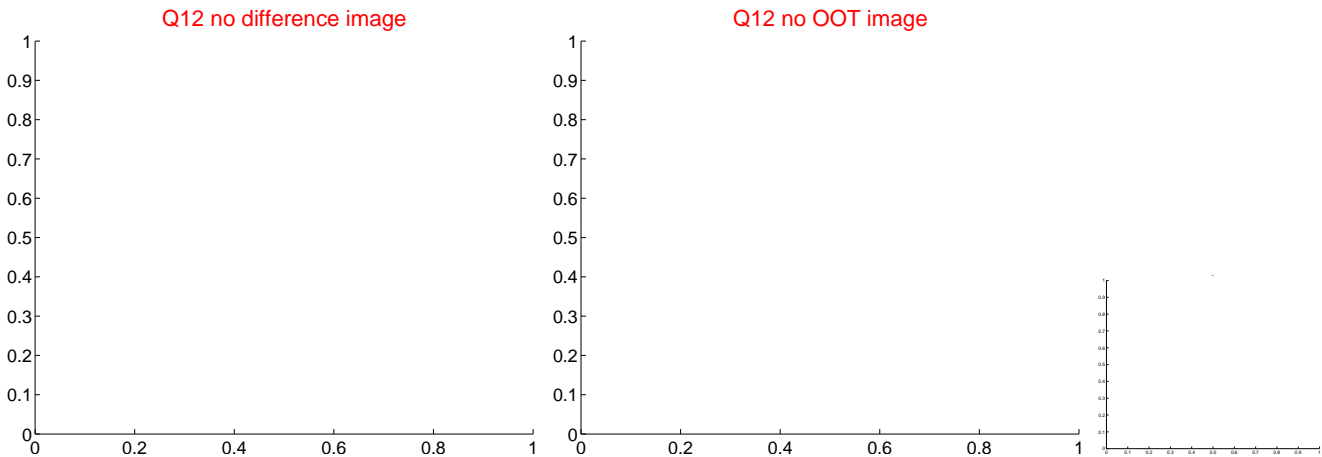
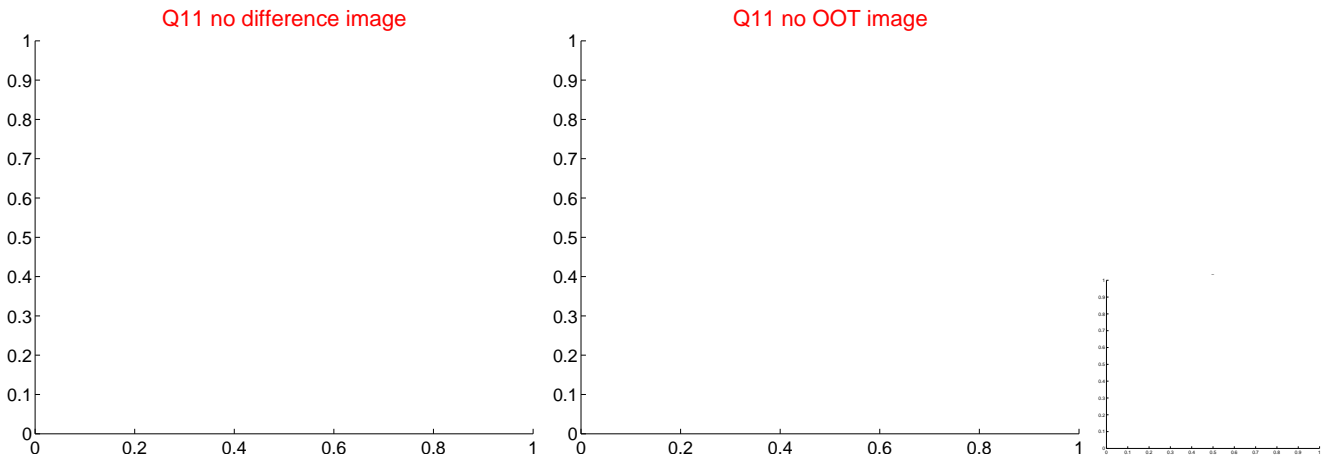
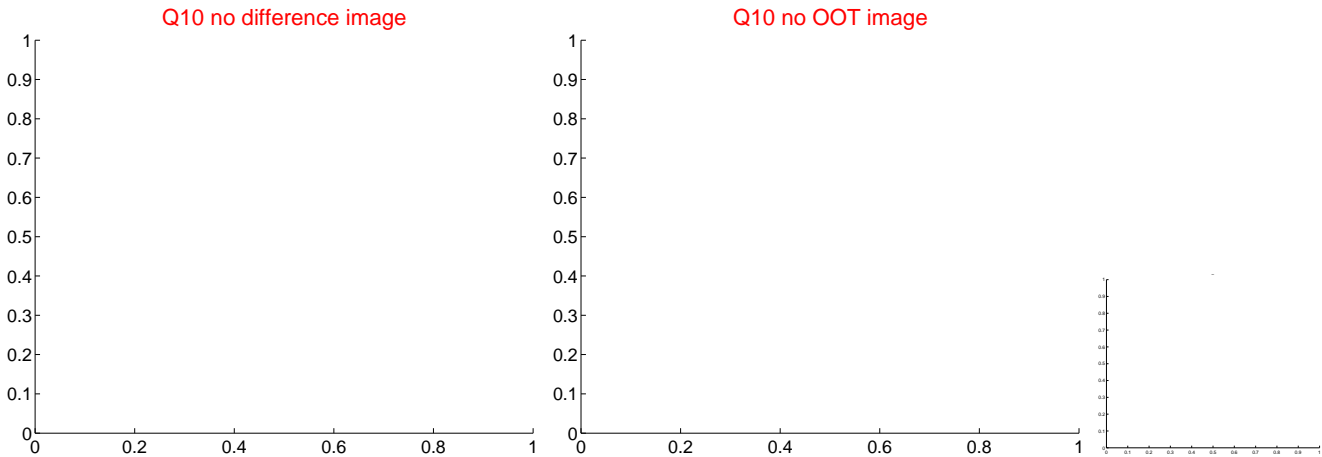
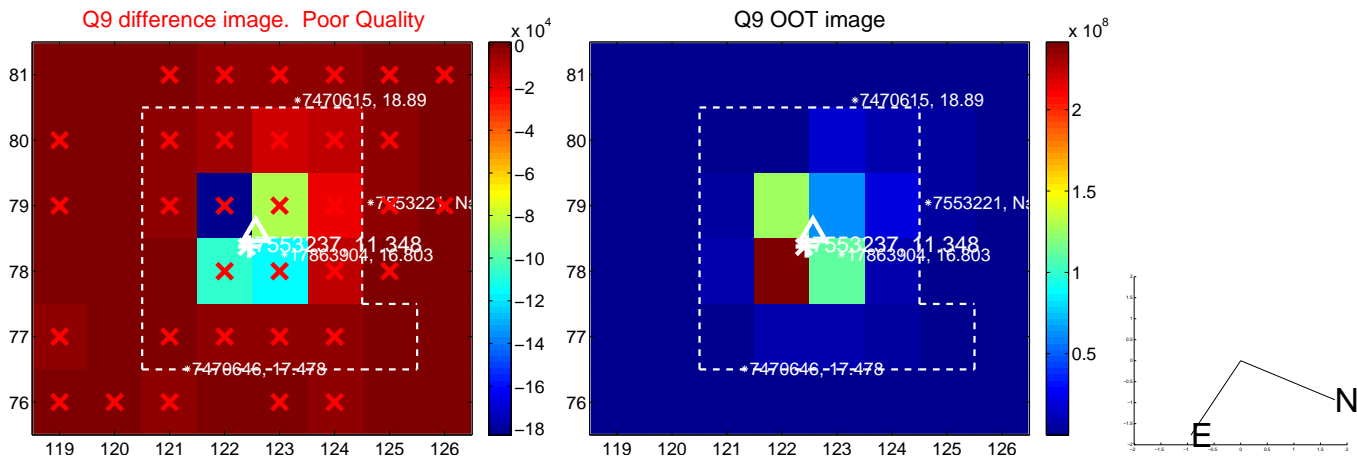
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



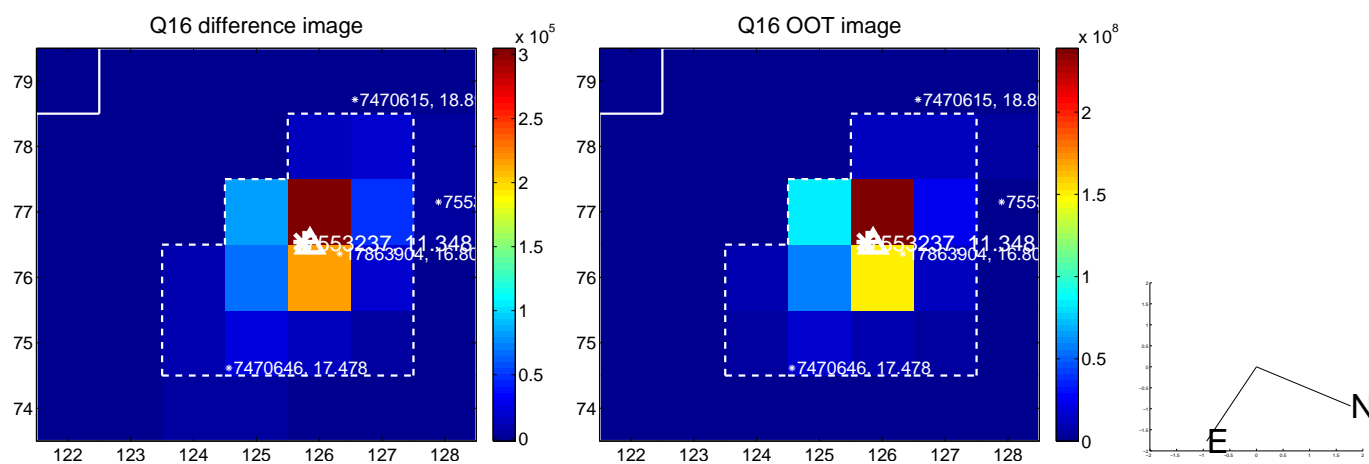
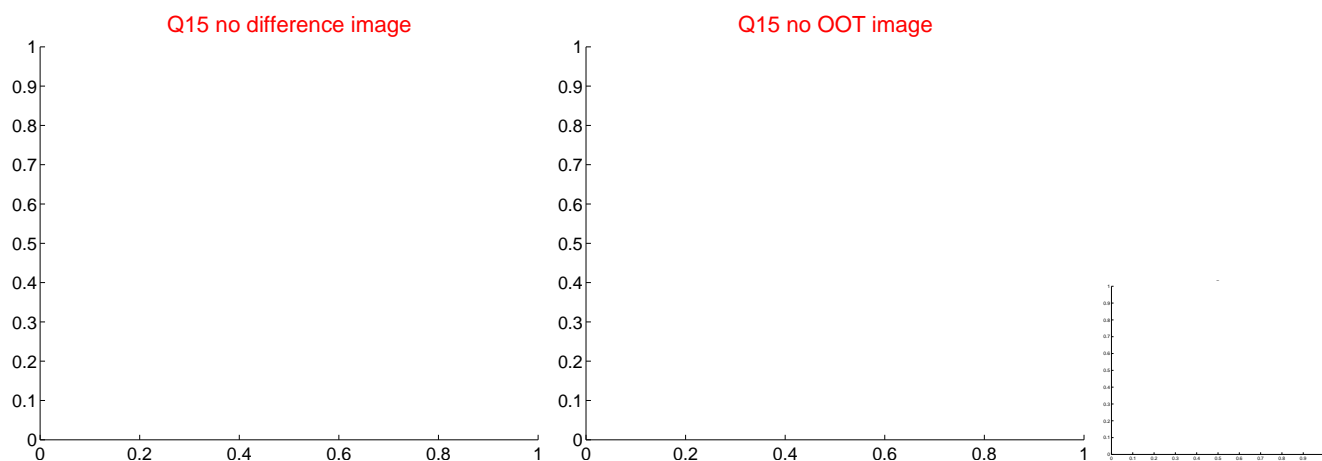
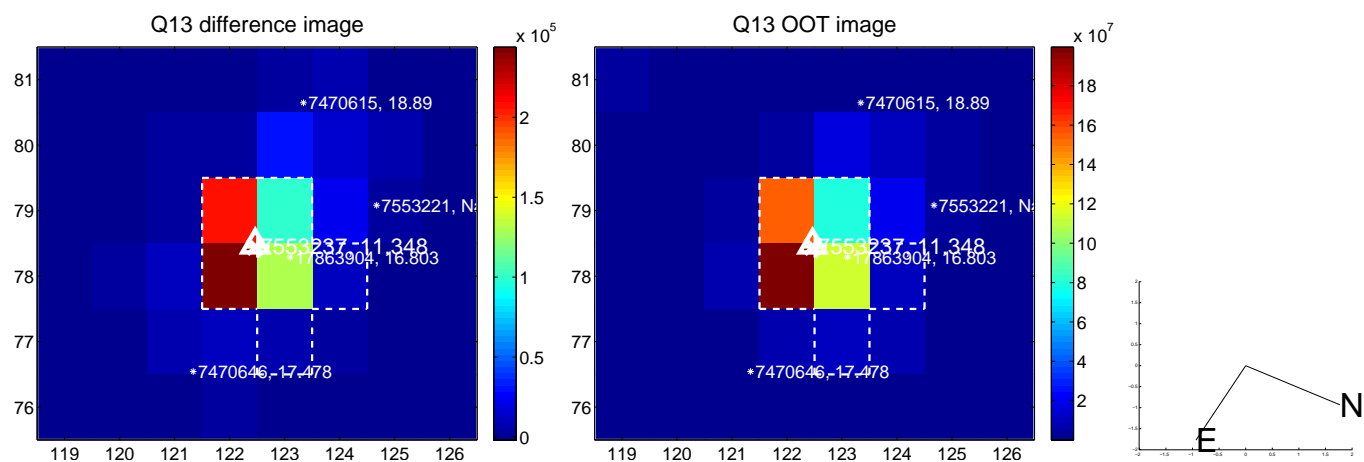
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



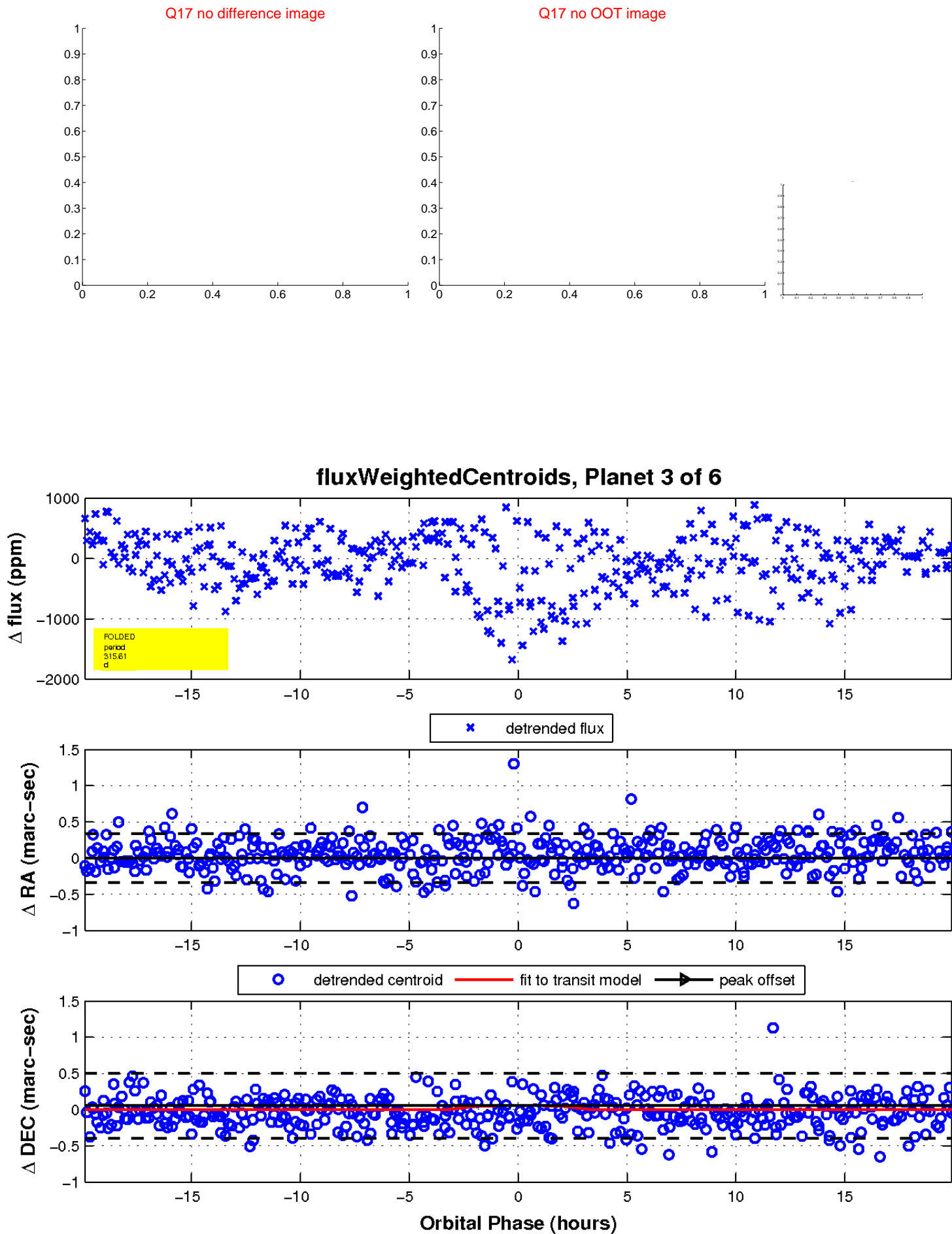
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

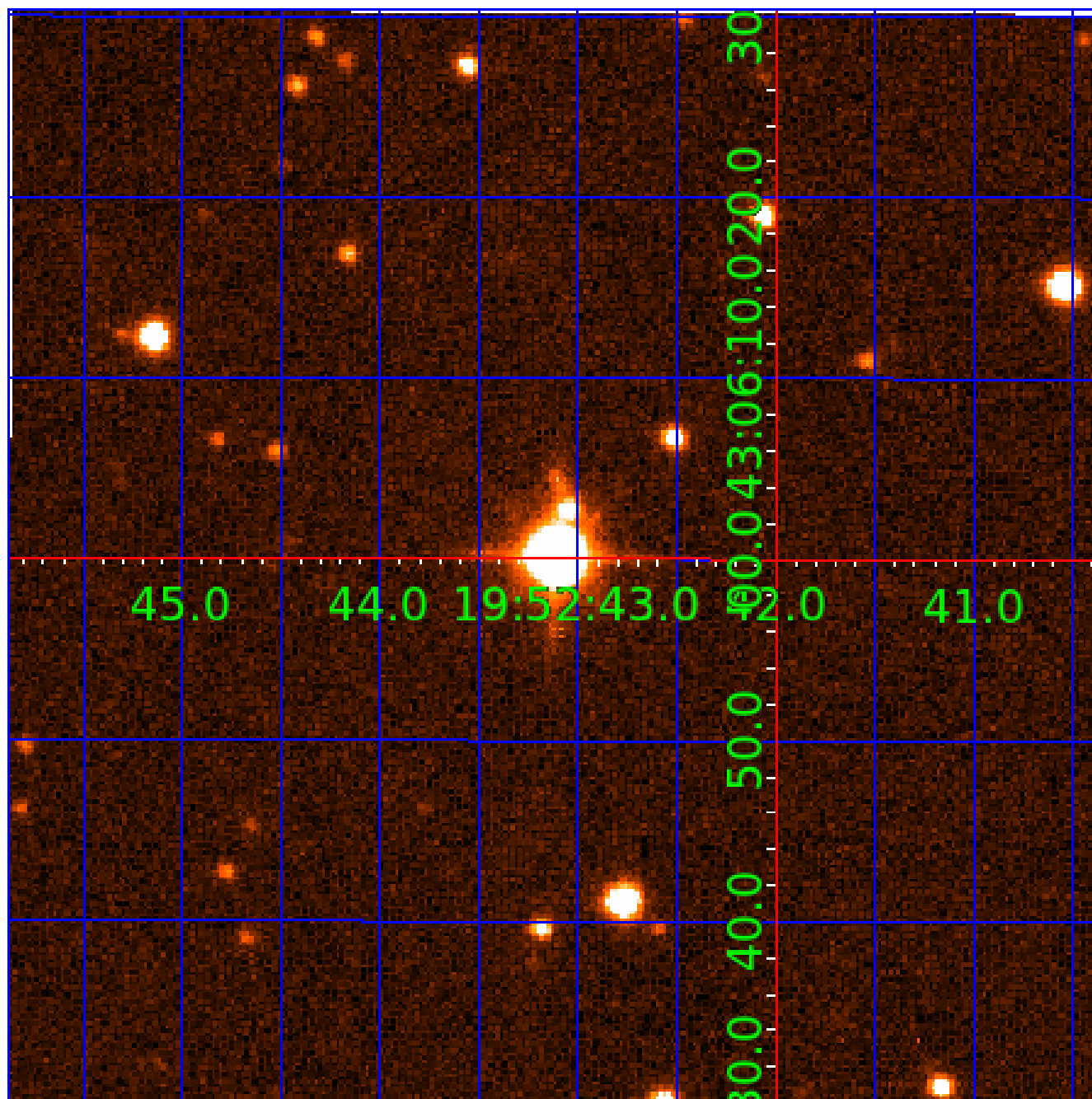


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007553237

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})
007553237-01	OBS	No	0.712003	131.577316	53.3	2.544	11.6	11.8	1.76	7219	1.49	23164.90
007553237-02	OBS	No	262.390526	344.891901	1263.6	4.740	11.2	9.1	1.76	7219	11.59	8.77
007553237-03	OBS	No	315.609858	273.014940	960.1	6.666	8.7	7.7	1.76	7219	6.57	6.85
007553237-04	OBS	No	15.158732	135.168030	222.0	8.715	8.0	7.4	1.76	7219	3.29	392.57
007553237-05	OBS	No	360.800712	491.336818	1408.6	5.265	8.4	8.3	1.76	7219	11.96	5.73
007553237-06	OBS	No	198.386233	139.607665	1072.5	4.705	7.6	8.2	1.76	7219	10.70	12.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007553237-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007553237-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007553237-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
007553237-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

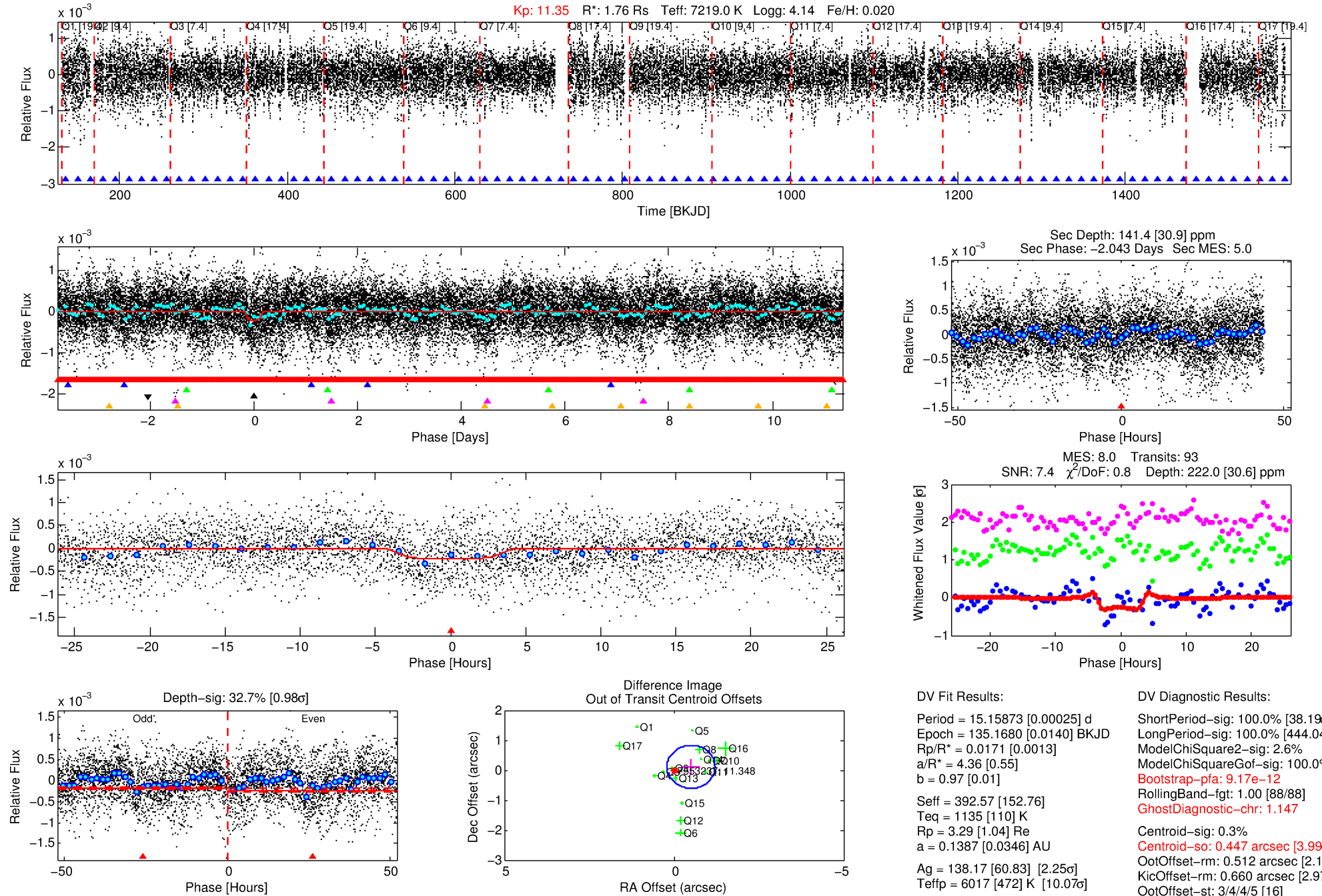
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007553237-04

No Significant Match Found

DV One-Page Summary

KIC: 7553237 Candidate: 4 of 6 Period: 15.159 d



DV Fit Results:

Period = 15.15873 [0.00025] d
Epoch = 135.1680 [0.0140] BKJD
Rp/R* = 0.0171 [0.0013]
a/R* = 4.36 [0.55]
b = 0.97 [0.01]
Seff = 392.57 [152.76]
Teff = 1135 [110] K
Rp = 3.29 [1.04] Re
a = 0.1387 [0.0346] AU
Ag = 138.17 [60.83] [2.25 σ]
Teffp = 6017 [472] K [10.07 σ]

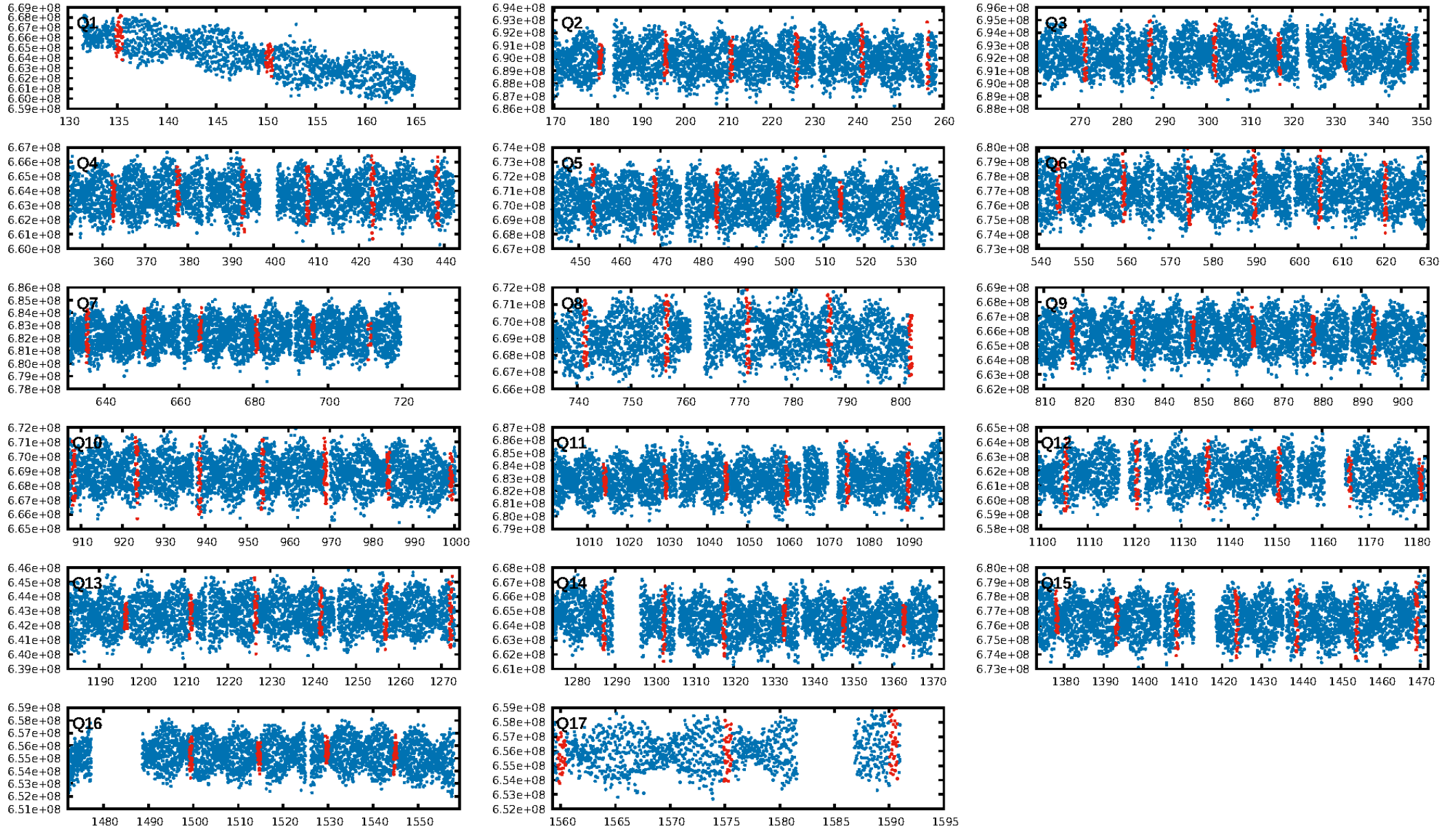
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [38.19 σ]
LongPeriod-sig: 100.0% [444.04 σ]
ModelChiSquare2-sig: 2.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.17e-12
RollingBand-fgt: 1.00 [88/88]
GhostDiagnostic-chr: 1.147
Centroid-sig: 0.3%
Centroid-so: 0.447 arcsec [3.99 σ]
OotOffset-rm: 0.512 arcsec [2.15 σ]
KicOffset-rm: 0.660 arcsec [2.97 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

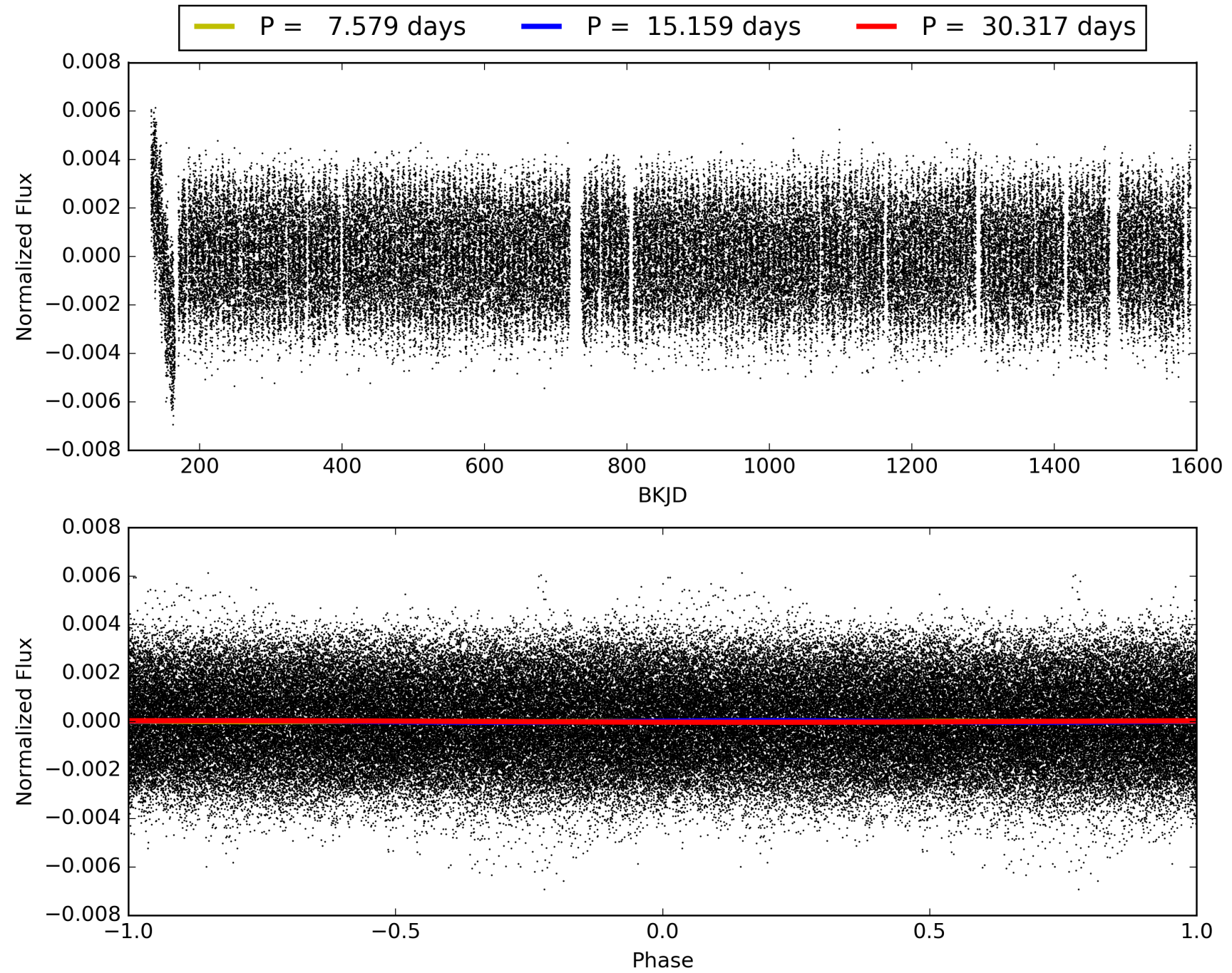
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:35:03 Z

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

TCE 007553237-04, PDC Light Curves

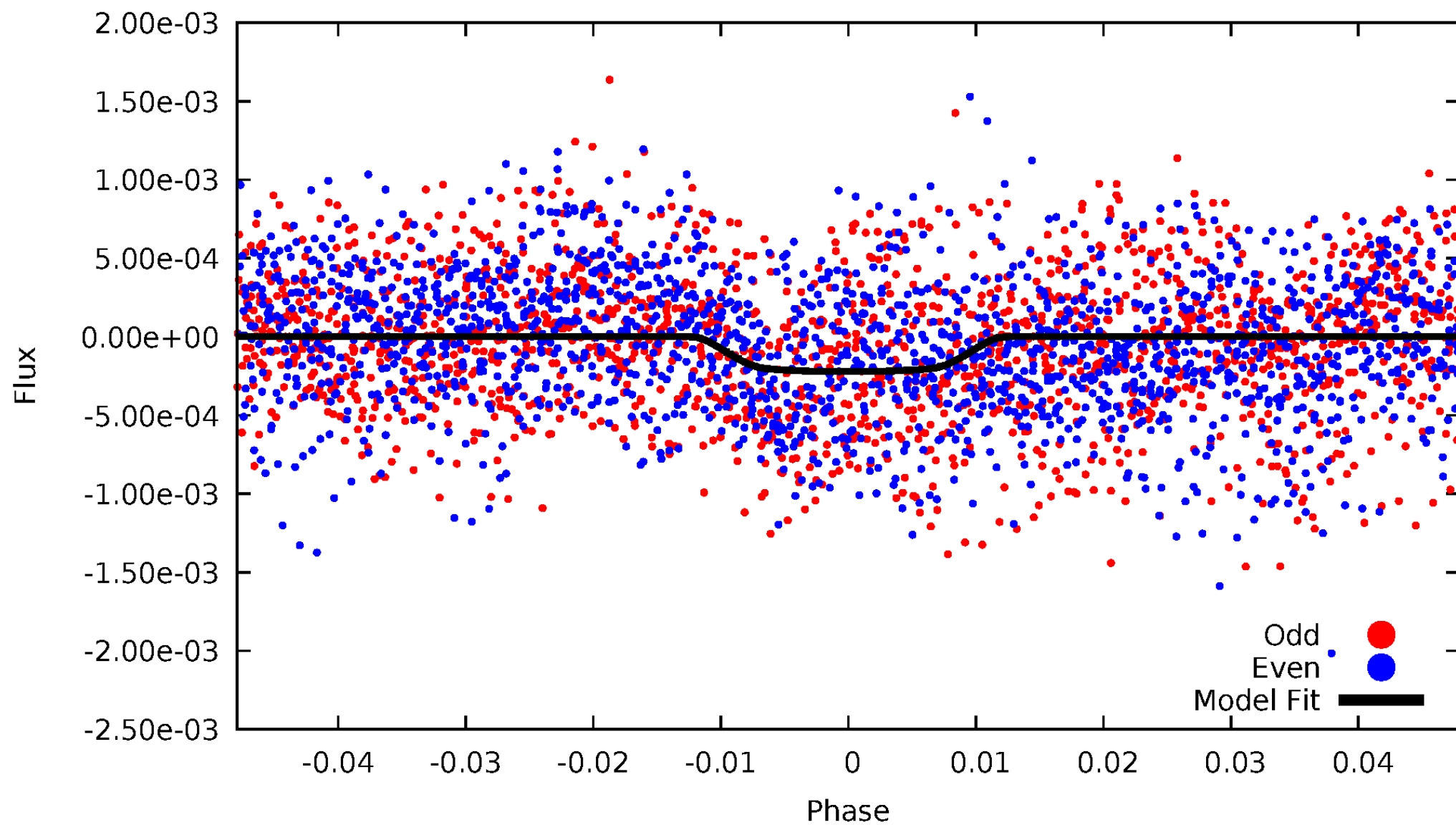


TCE 007553237-04



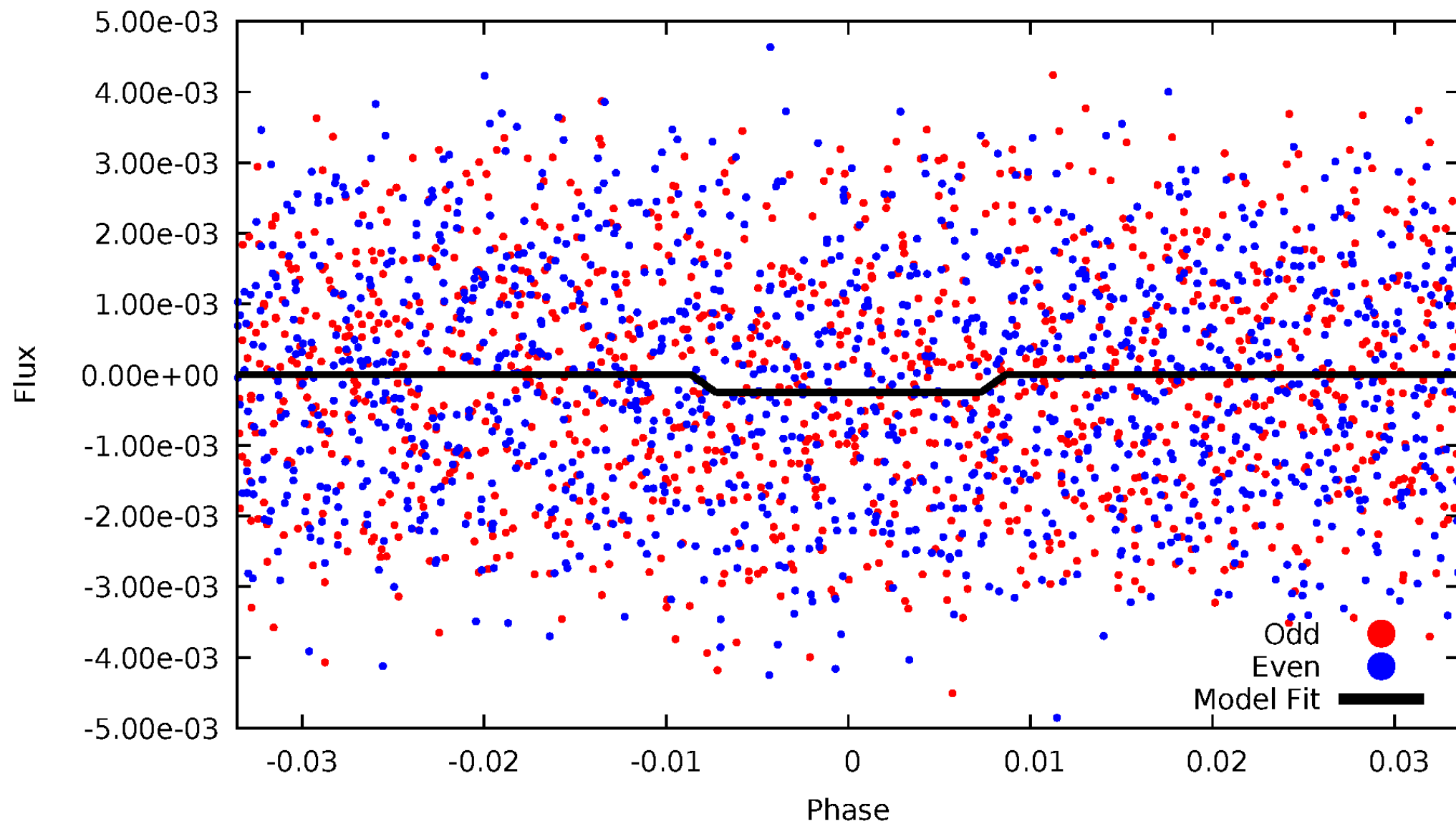
DV Odd/Even

TCE 007553237-04



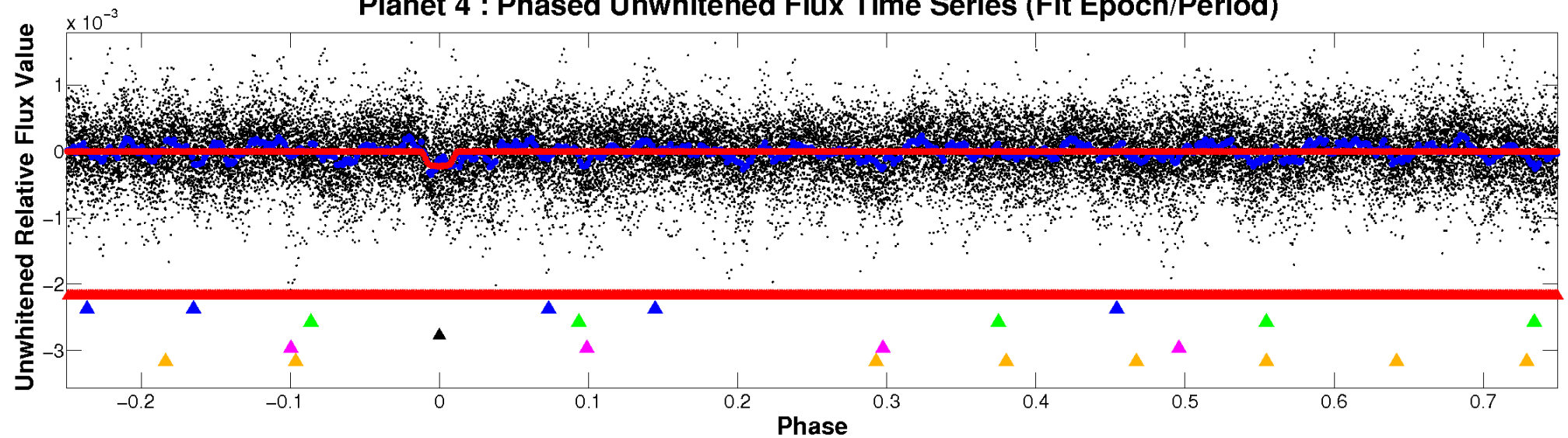
ALT Odd/Even

TCE 007553237-04

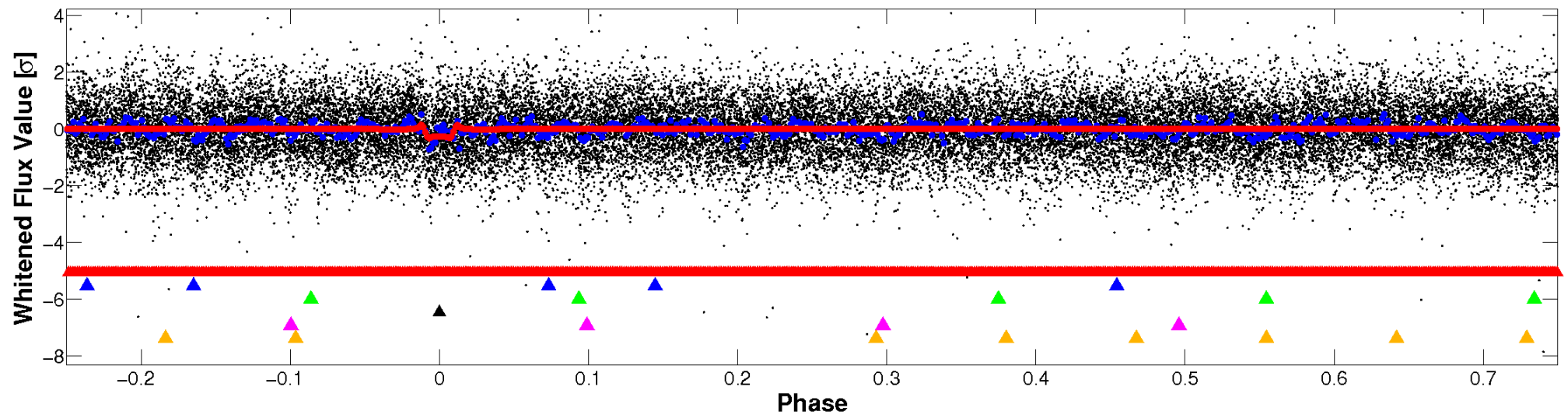


Non-Whitened Vs. Whitened Light Curve

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

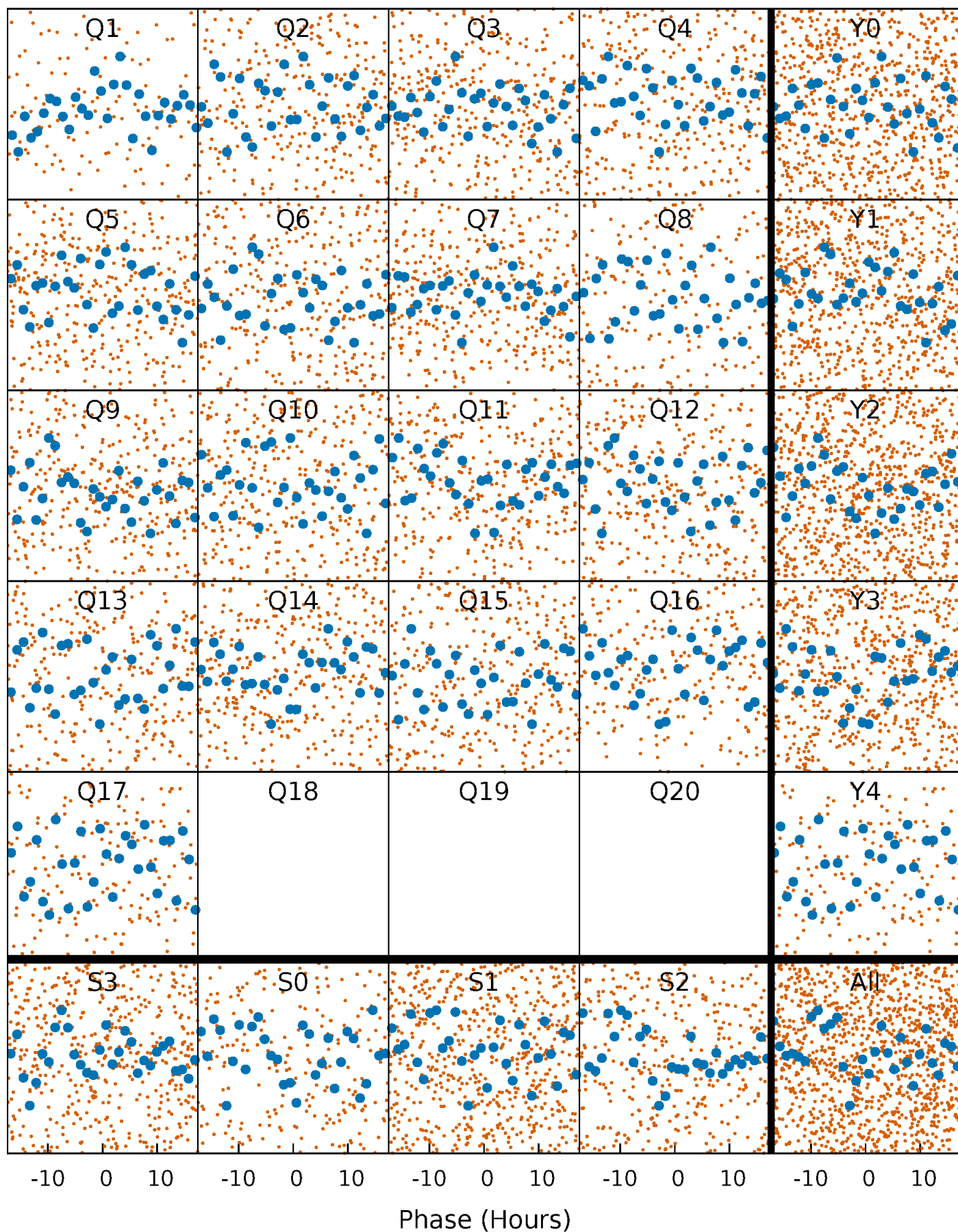


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



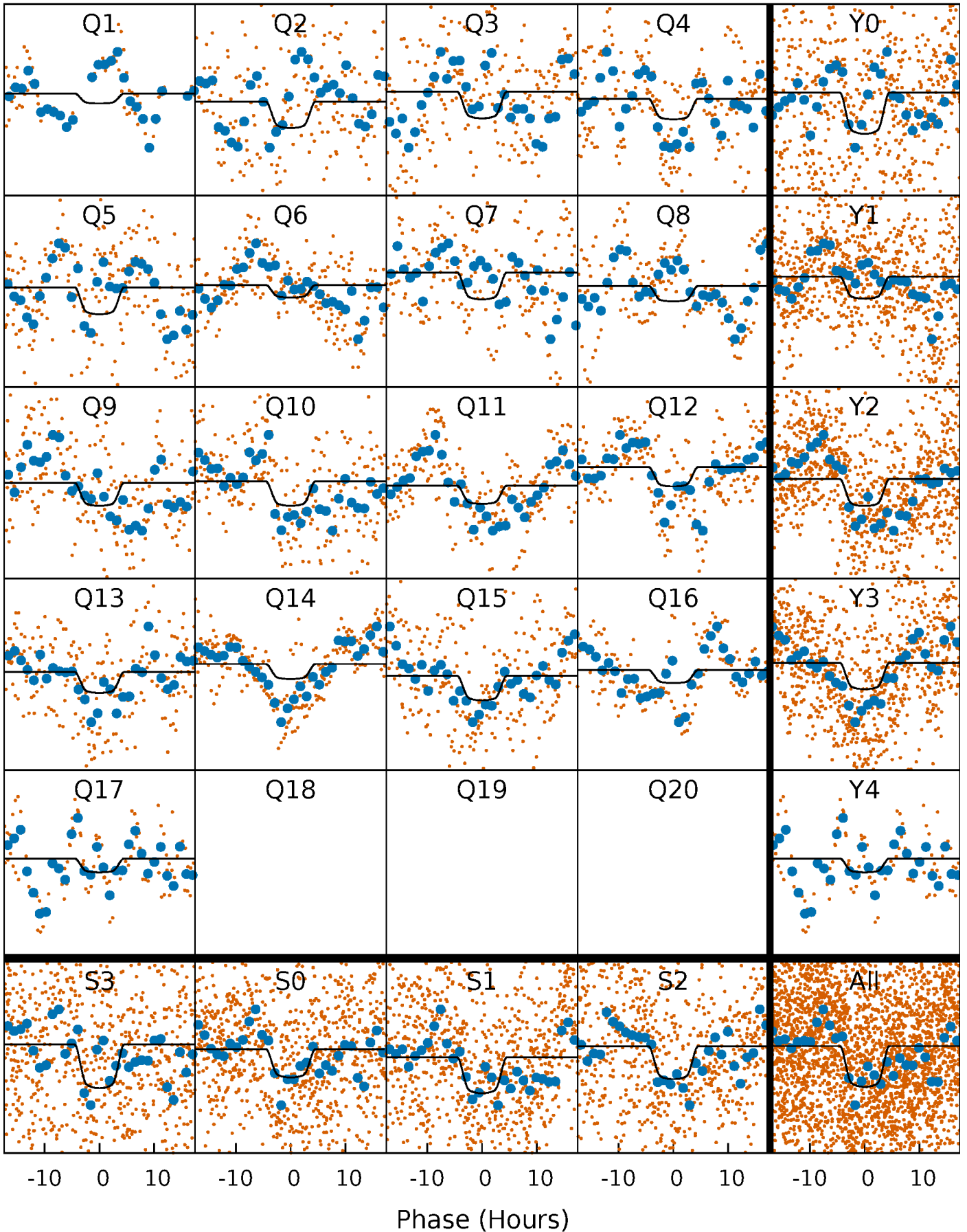
PDC Quarter-Phased Transit Curves

TCE 007553237-04 P= 15.158732 Days $T_0=135.168030$ (BKJD)



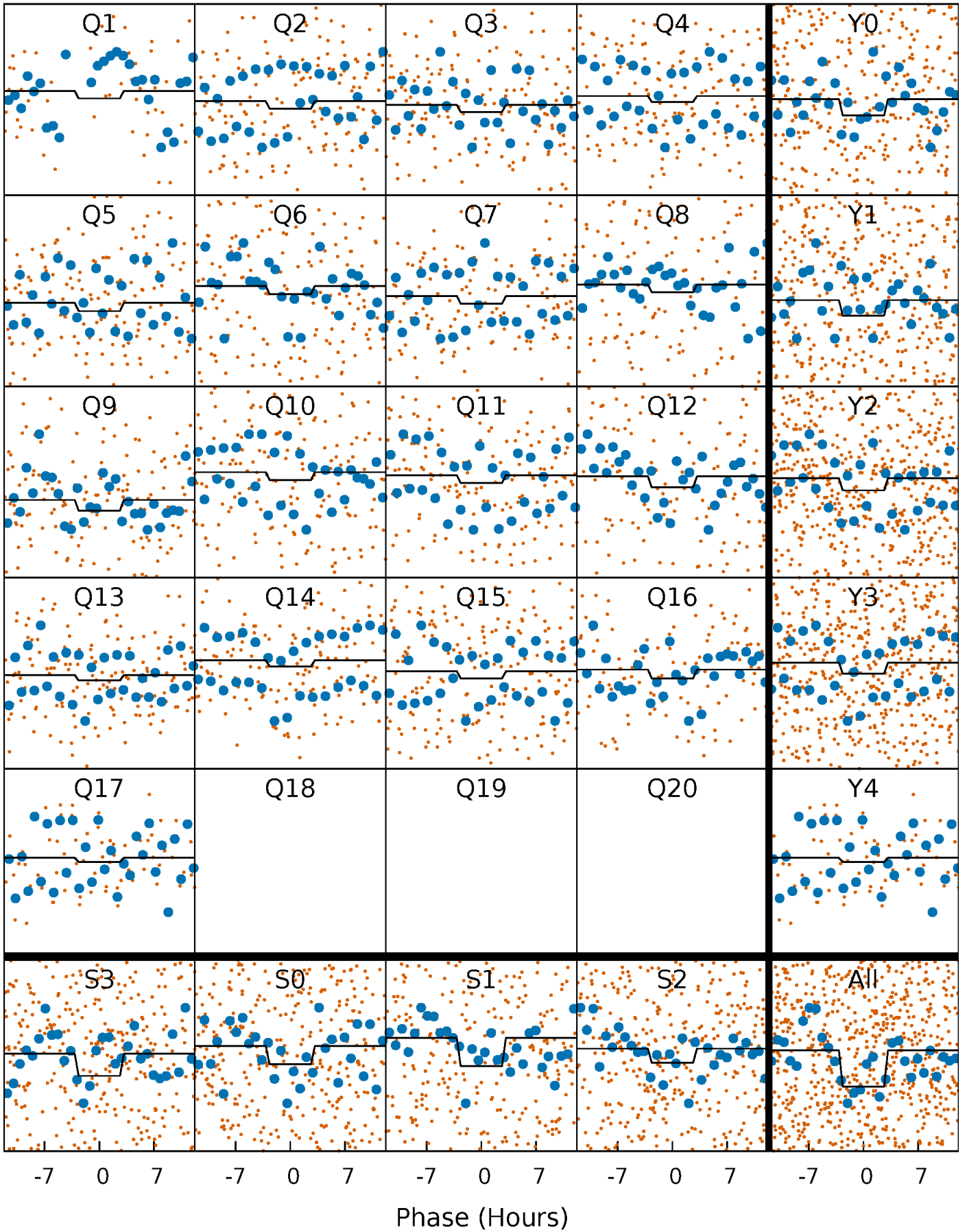
DV Quarter-Phased Transit Curves

TCE 007553237-04 P= 15.158732 Days $T_0=135.168030$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

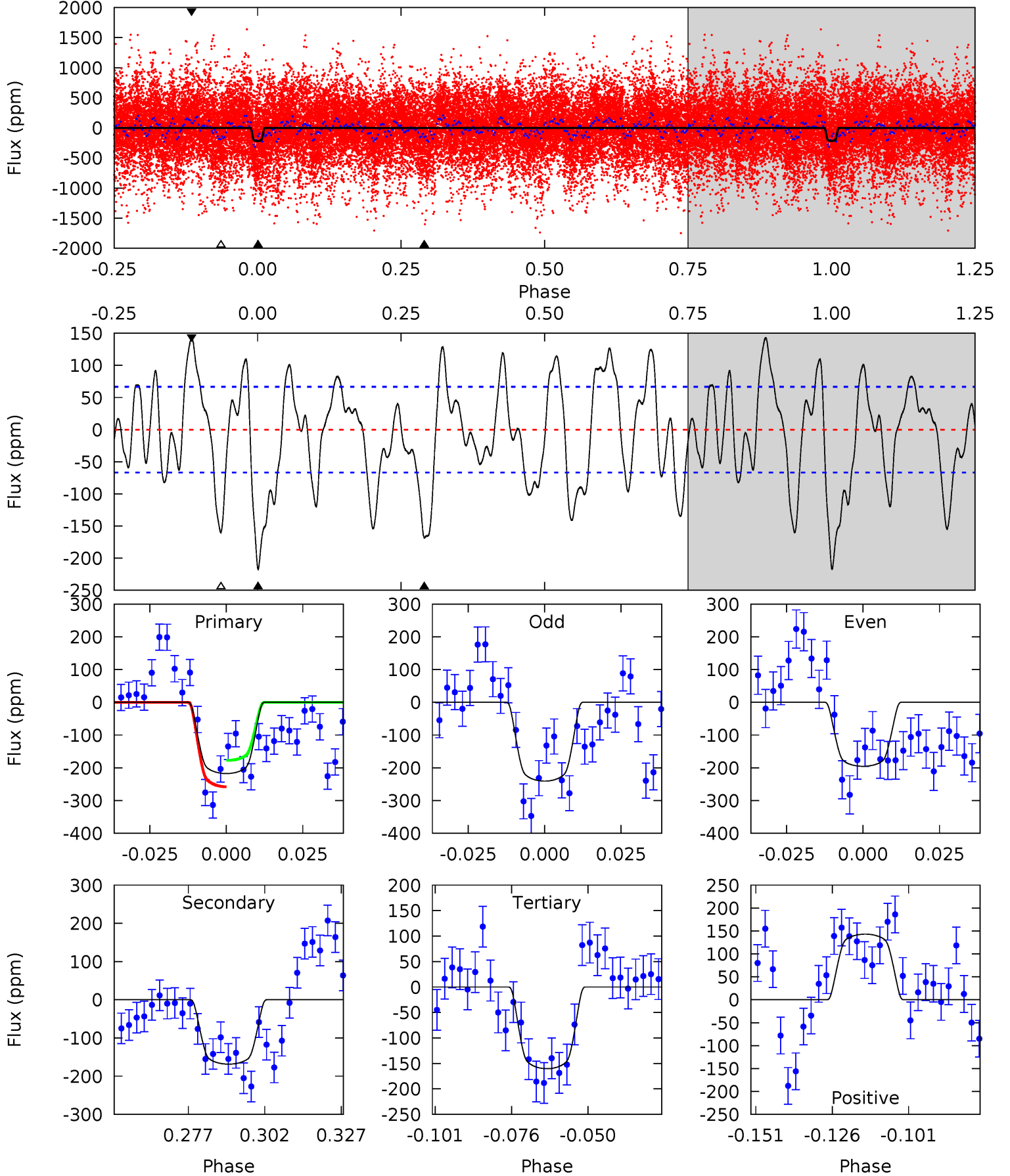
TCE 007553237-04 P= 15.158621 Days $T_0=135.159465$ (BKJD)



DV Model-Shift Uniqueness Test

007553237-04, P = 15.158732 Days, E = 120.009298 Days

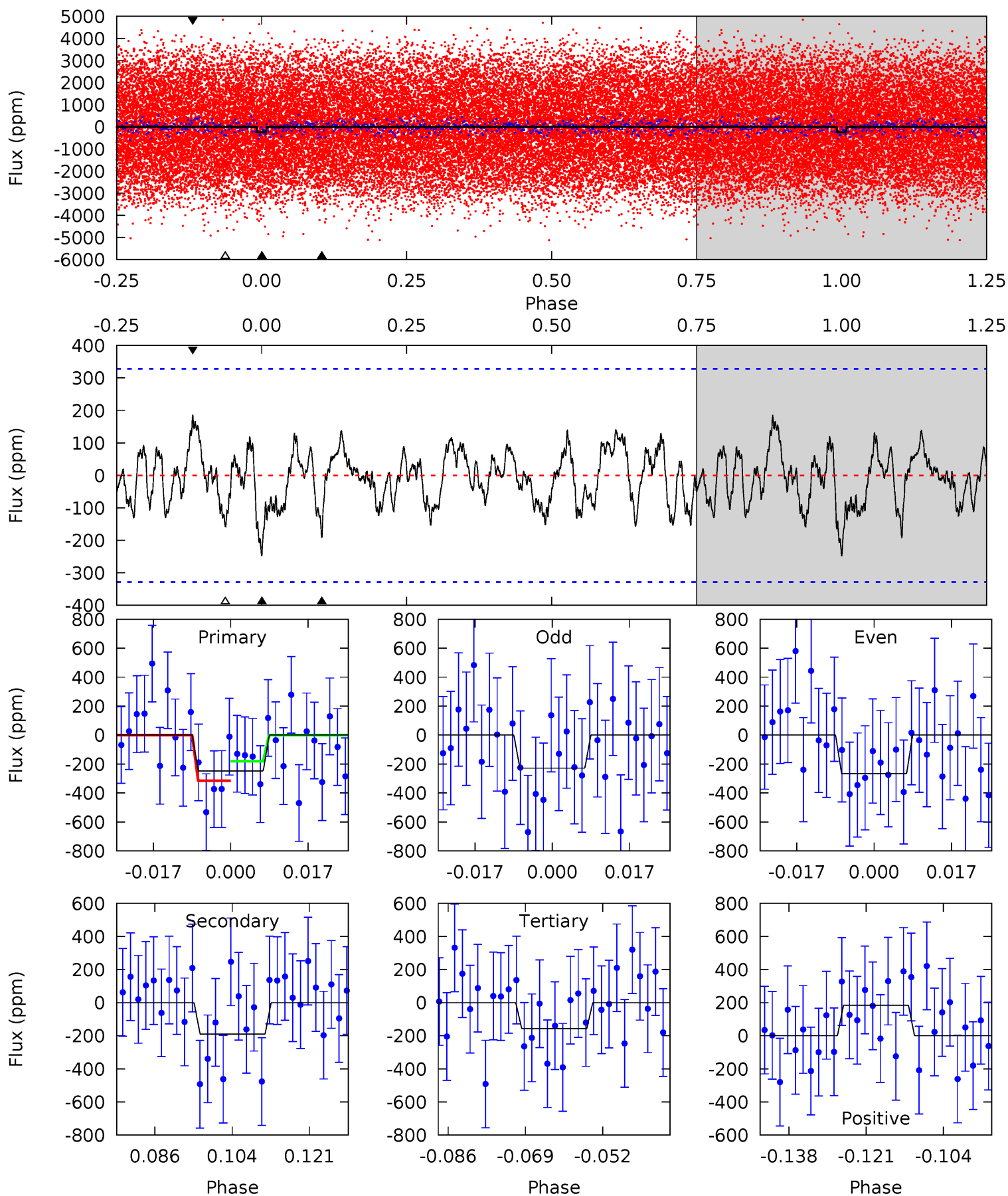
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	12.2	11.6	10.4	4.85	2.24	5.08	4.17	5.42	0.60	1.85	1.65	-1.78	0.40	2.93



Alt Model-Shift Uniqueness Test

007553237-04, P = 15.158621 Days, E = 120.000844 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.71	2.86	2.37	2.76	4.92	2.38	1.10	1.35	0.95	0.49	0.09	0.29	0.60	0.43	1.02



Stellar Parameters For KIC 007553237

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7219^{+201}_{-302}	$4.136^{+0.124}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.762^{+0.541}_{-0.316}$	$1.548^{+0.212}_{-0.236}$	$0.398^{+0.253}_{-0.209}$
	+3%/-4%	+3%/-4%	+1000%/-1750%	+31%/-18%	+14%/-15%	+64%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007553237-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-168 ± 14	$3.28^{+0.59}_{-0.40}$	1589^{+119}_{-103}	6220^{+334}_{-356}	160^{+51}_{-38}
Alt.	-191 ± 67	$3.08^{+0.52}_{-0.41}$	1586^{+122}_{-100}	6634^{+849}_{-791}	213^{+108}_{-97}

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 $A_{obs} \gg 1.0$

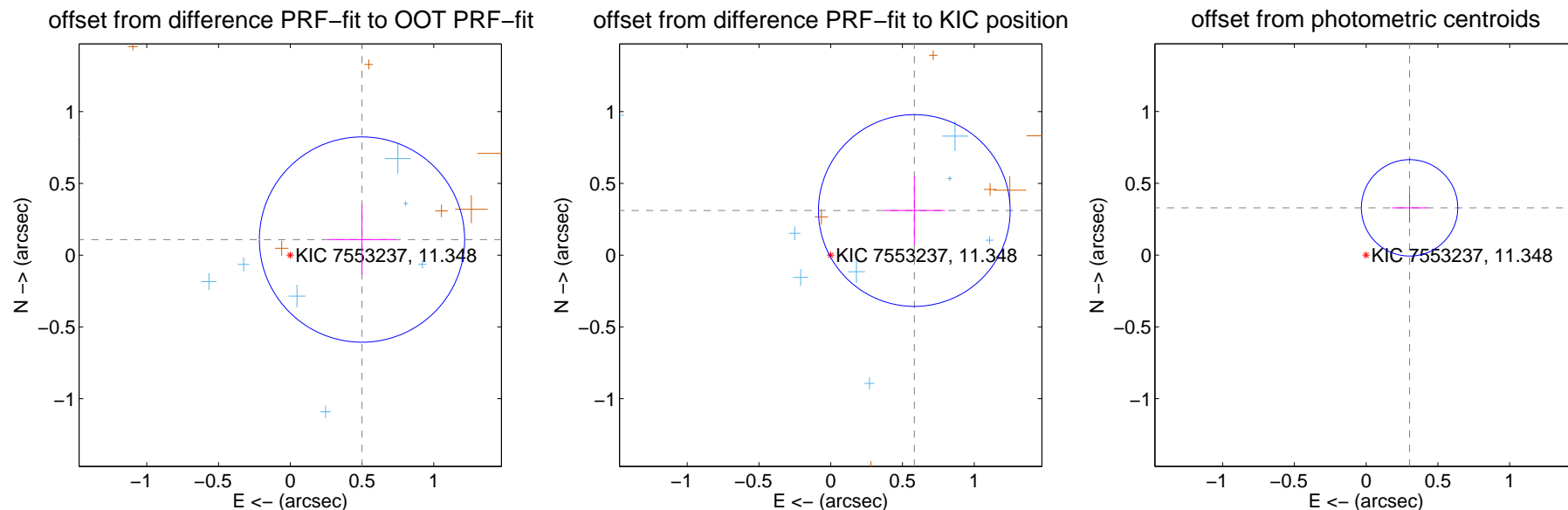
DV Centroid Data

Supplemental centroid analysis for 007553237-04. **Kepler magnitude: 11.35**. Transit SNR 7.37

There are 8 quarters with good PRF difference image offsets

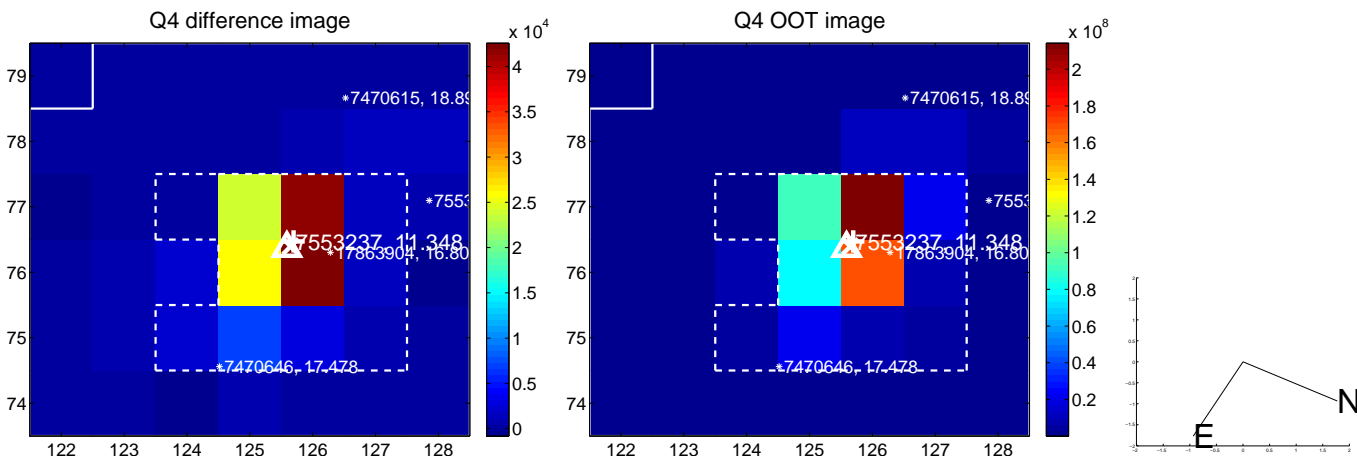
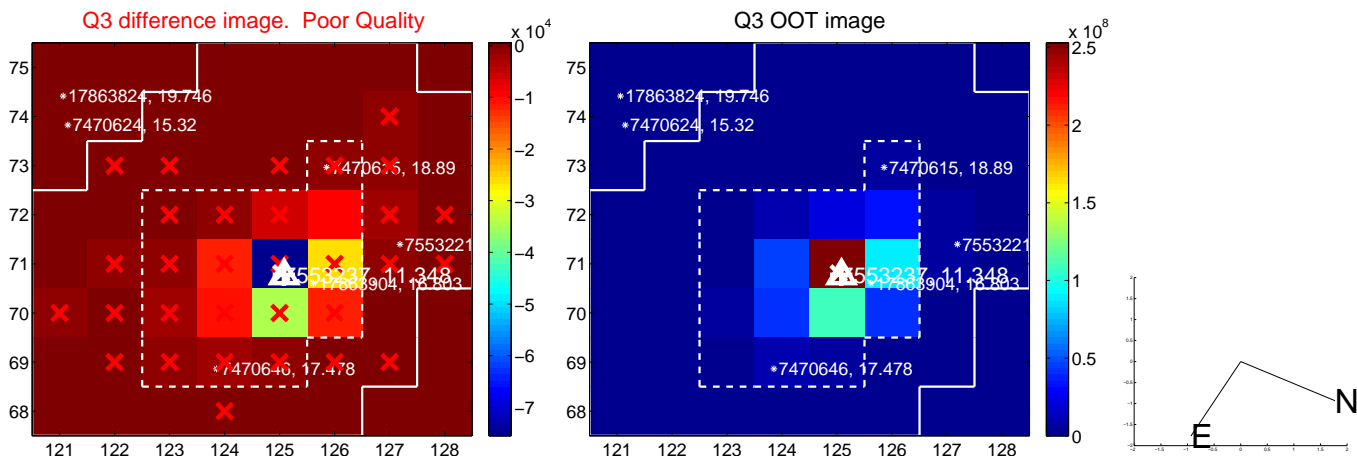
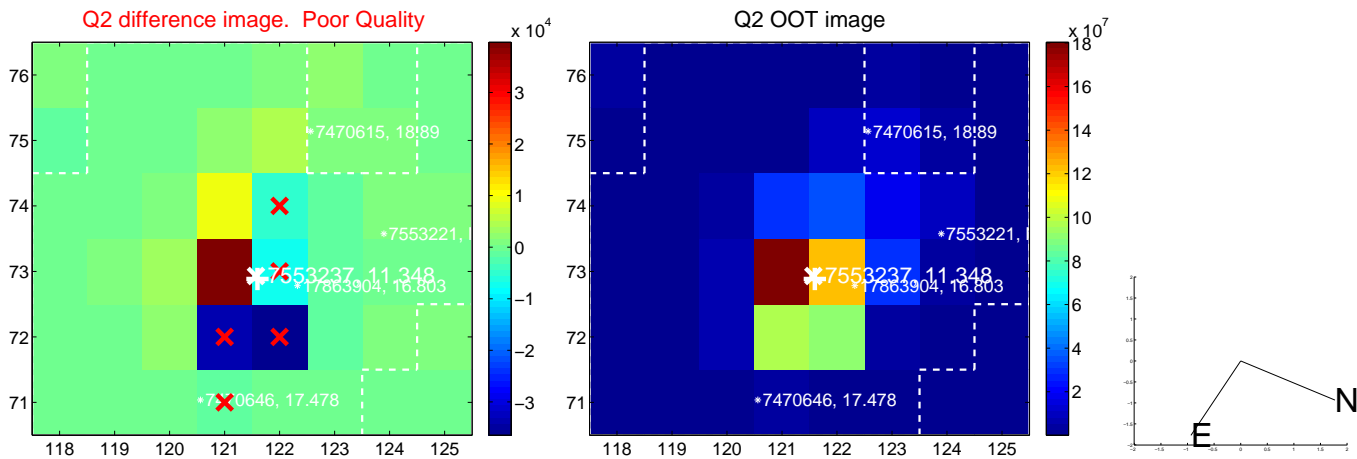
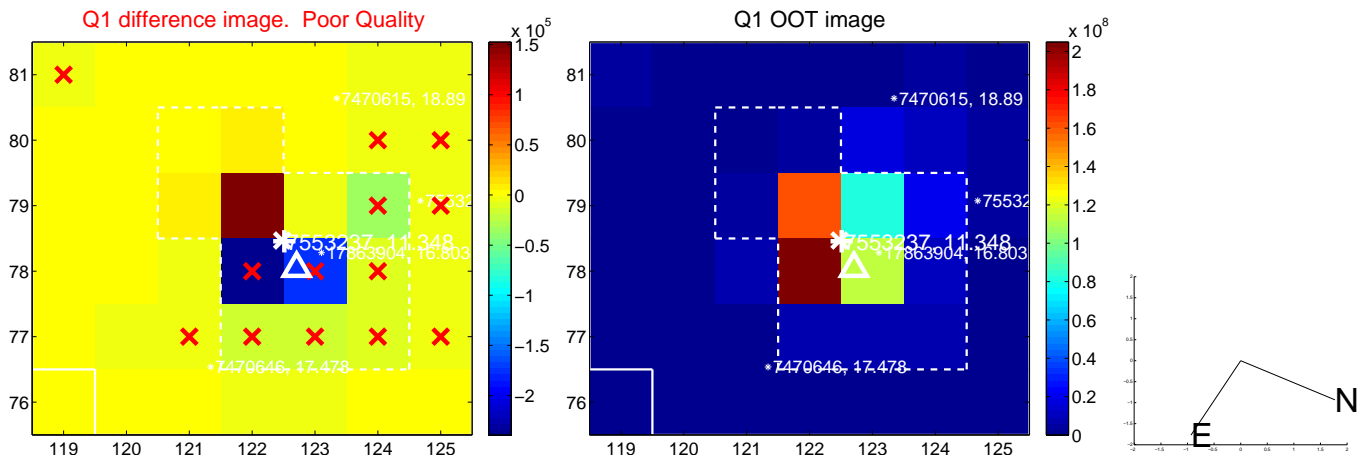
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.512 ± 0.238	2.15	-0.500 ± 0.236	0.109 ± 0.244
PRF-fit source offset from KIC position	0.660 ± 0.223	2.97	-0.582 ± 0.214	0.311 ± 0.239
photometric centroid source offset	0.45 ± 0.11	3.99	-0.30 ± 0.12	0.33 ± 0.10

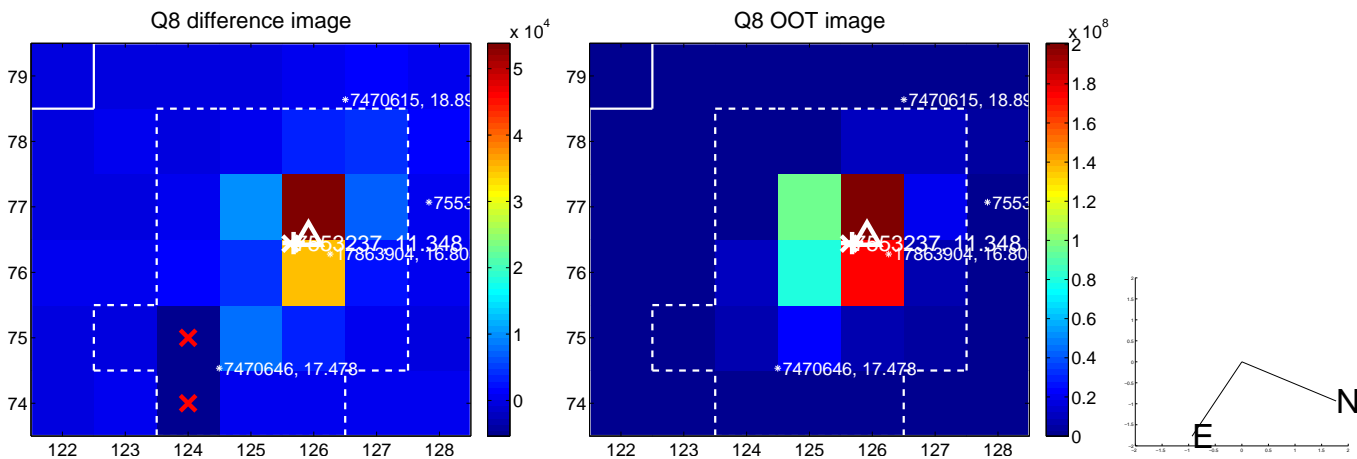
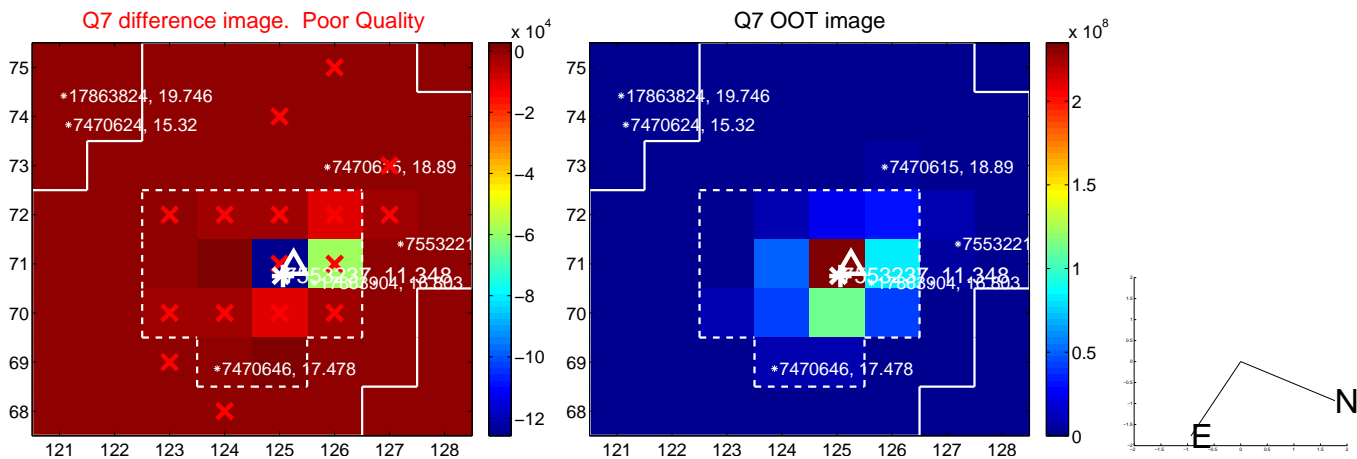
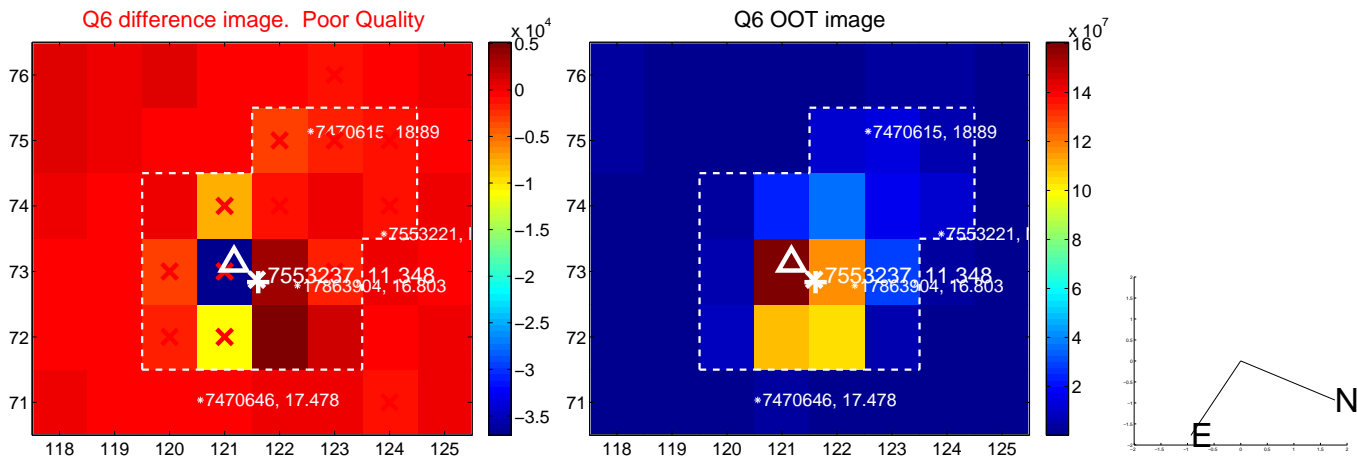
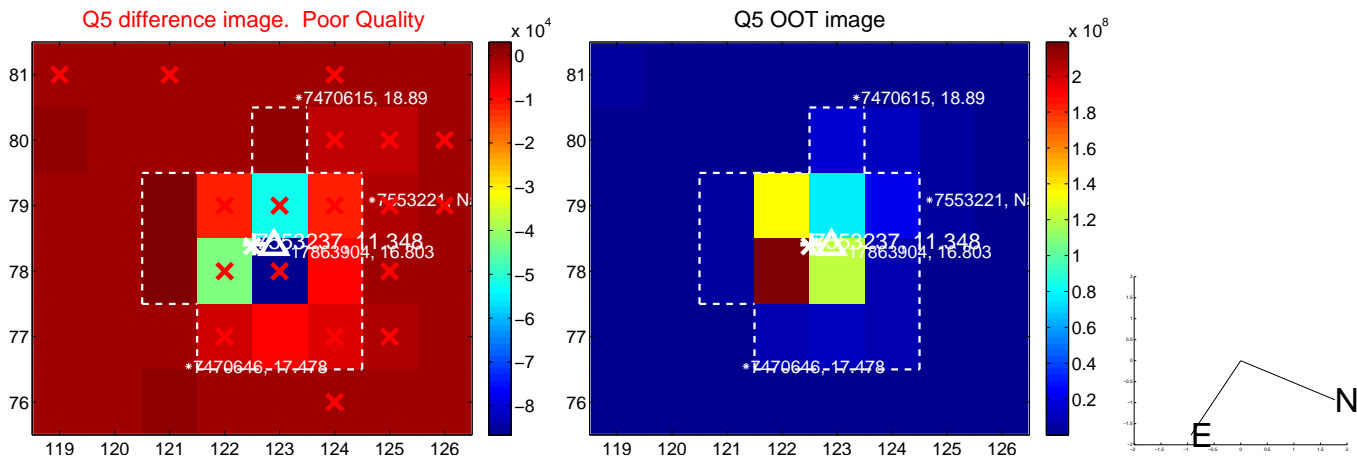


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

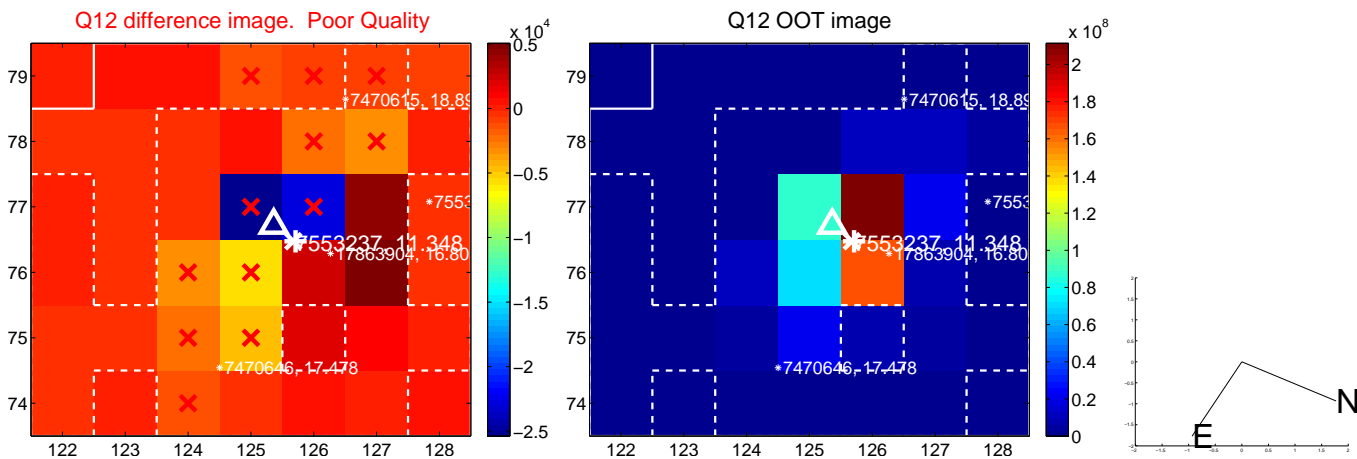
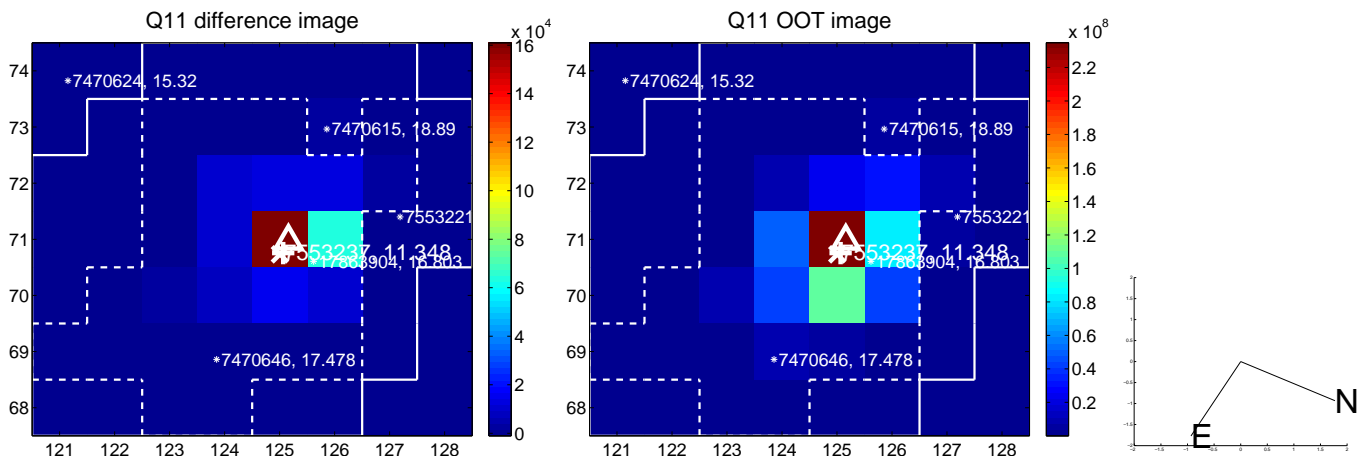
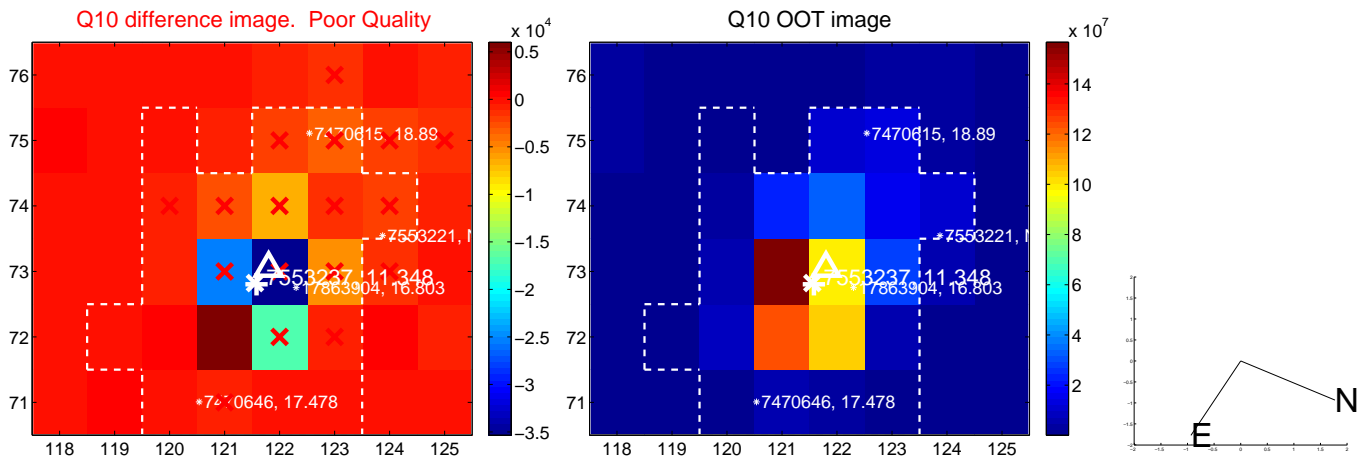
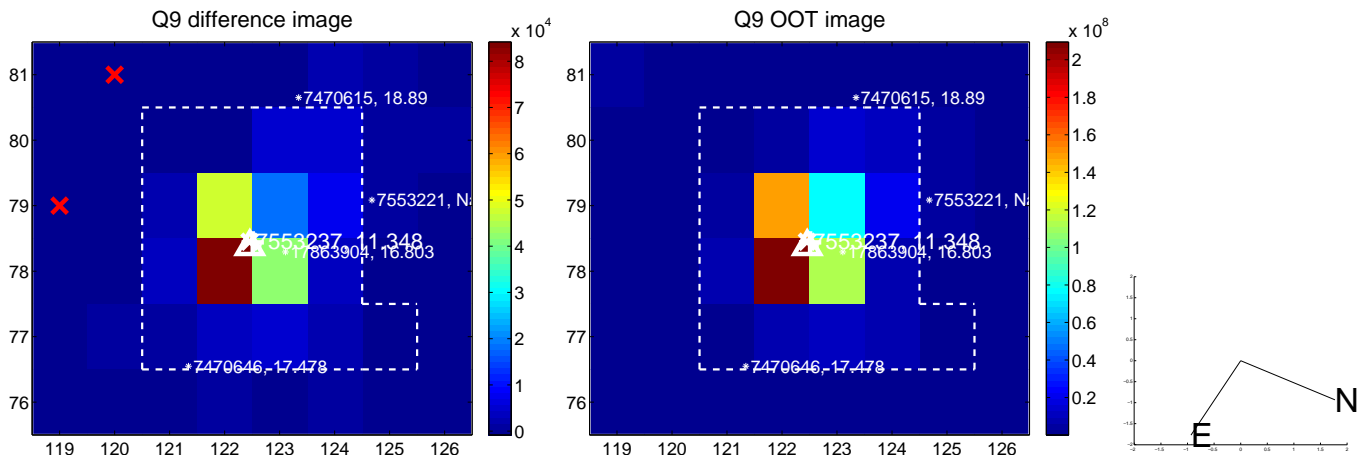
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



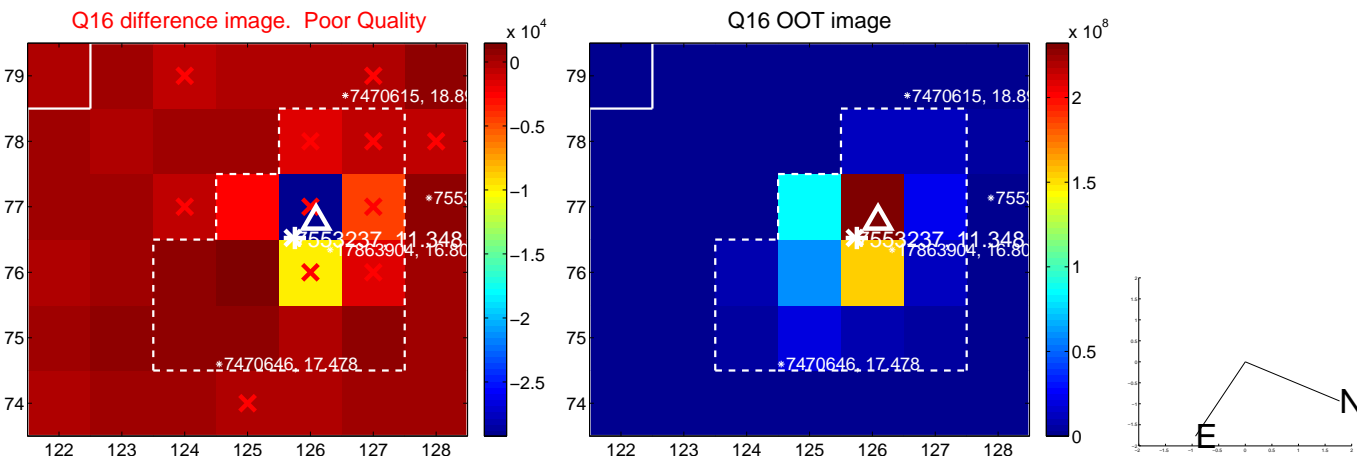
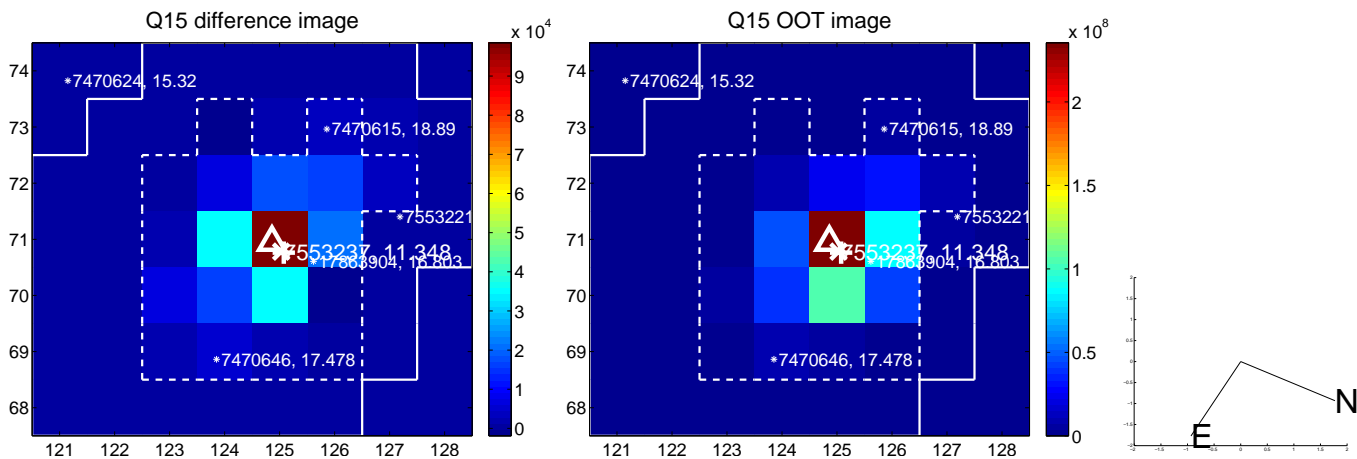
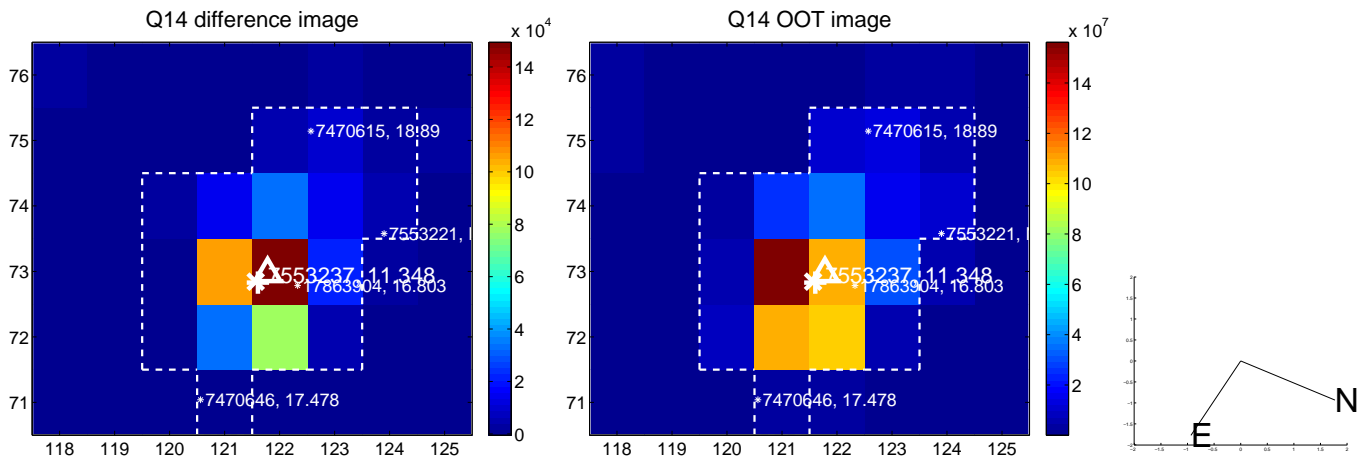
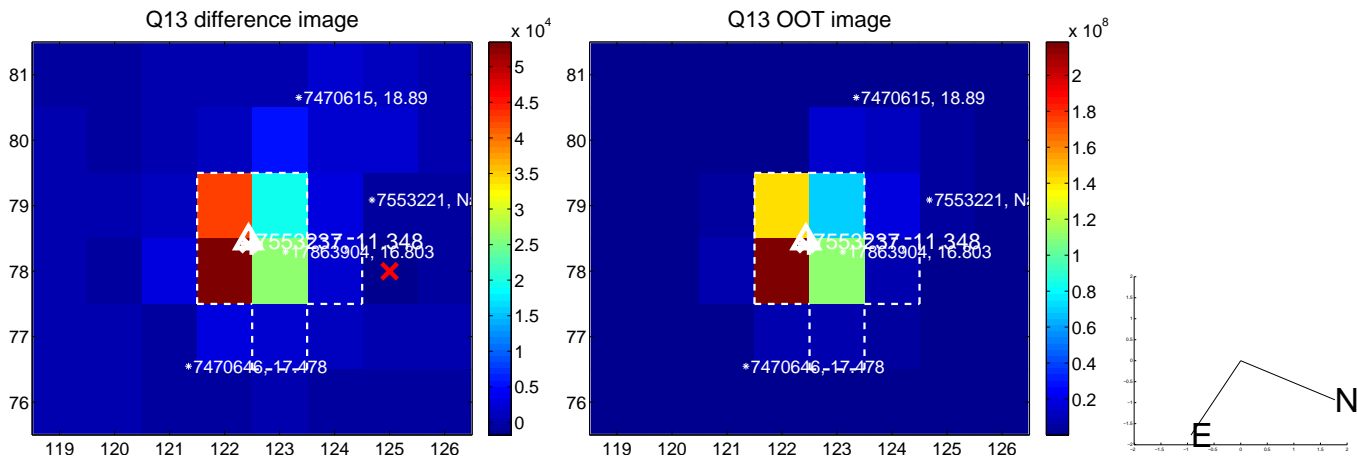
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



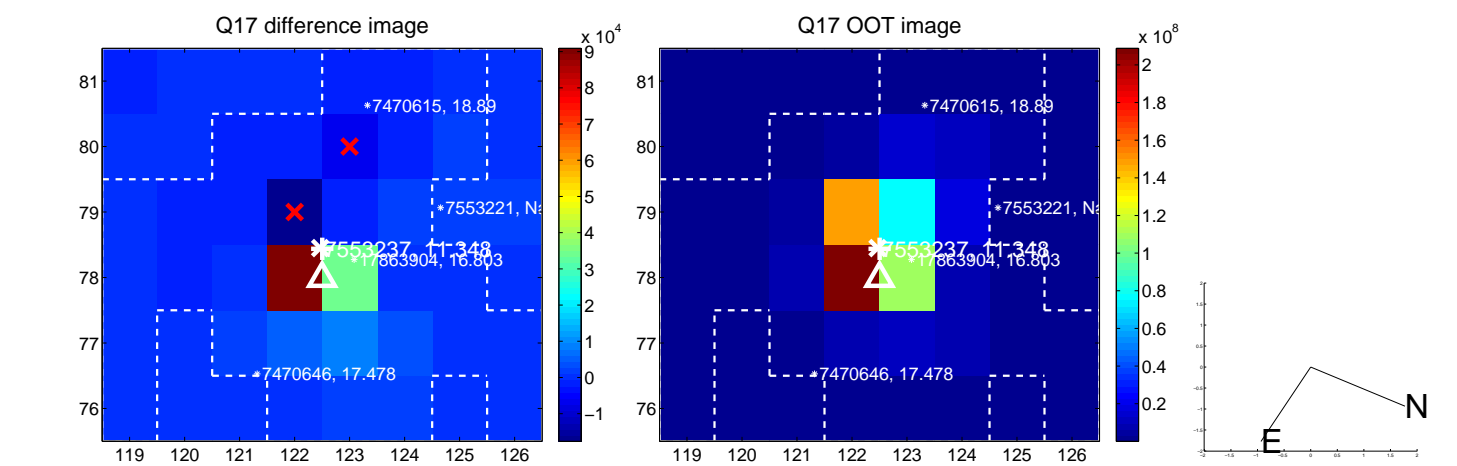
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



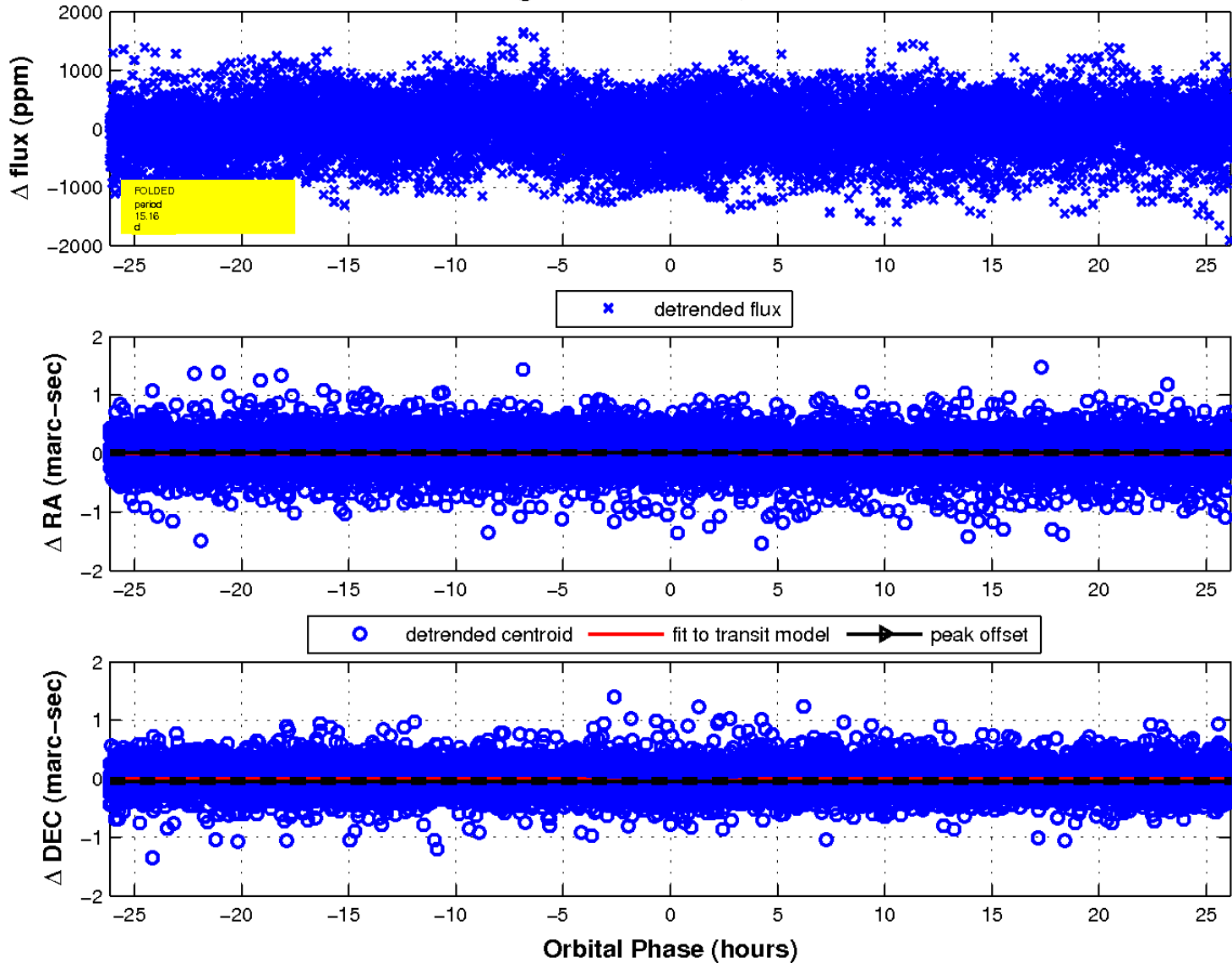
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

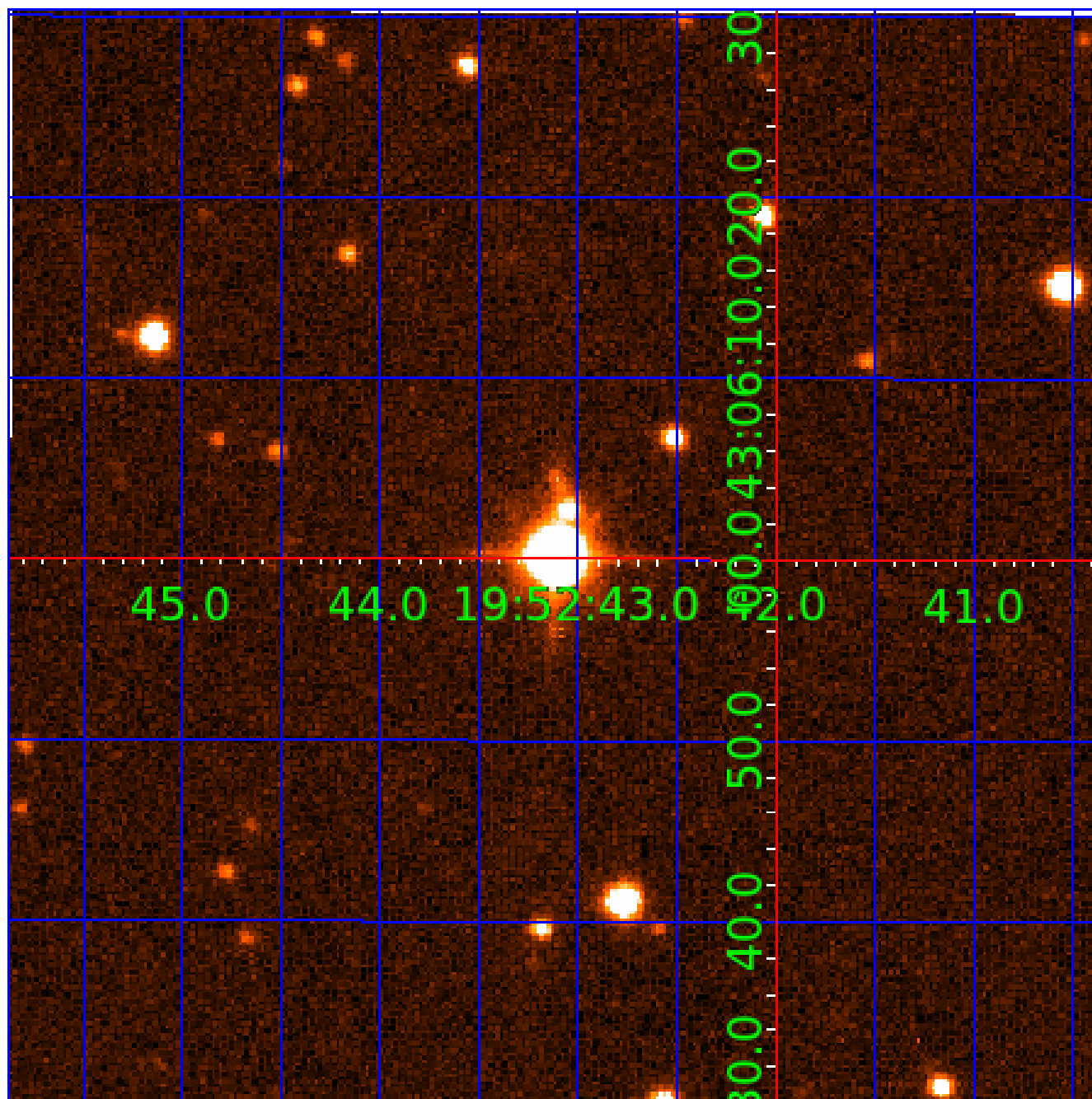


fluxWeightedCentroids, Planet 4 of 6



UKIRT Image

Declination



KIC 007553237

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})
007553237-01	OBS	No	0.712003	131.577316	53.3	2.544	11.6	11.8	1.76	7219	1.49	23164.90
007553237-02	OBS	No	262.390526	344.891901	1263.6	4.740	11.2	9.1	1.76	7219	11.59	8.77
007553237-03	OBS	No	315.609858	273.014940	960.1	6.666	8.7	7.7	1.76	7219	6.57	6.85
007553237-04	OBS	No	15.158732	135.168030	222.0	8.715	8.0	7.4	1.76	7219	3.29	392.57
007553237-05	OBS	No	360.800712	491.336818	1408.6	5.265	8.4	8.3	1.76	7219	11.96	5.73
007553237-06	OBS	No	198.386233	139.607665	1072.5	4.705	7.6	8.2	1.76	7219	10.70	12.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007553237-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007553237-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007553237-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
007553237-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

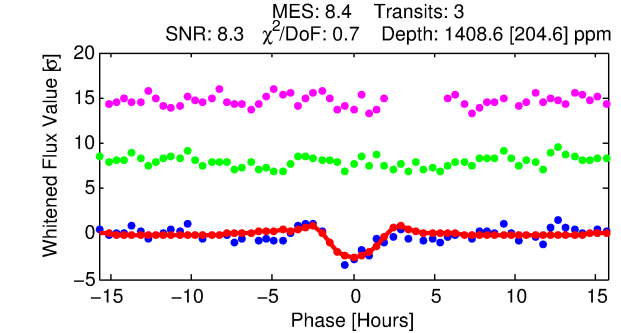
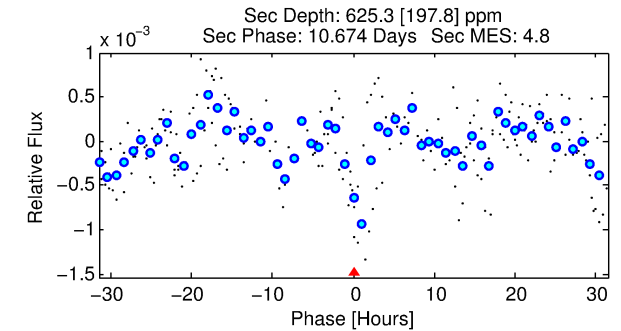
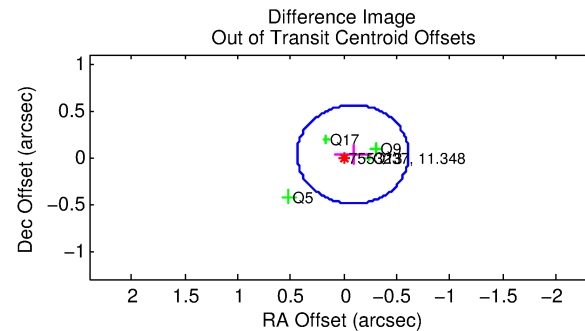
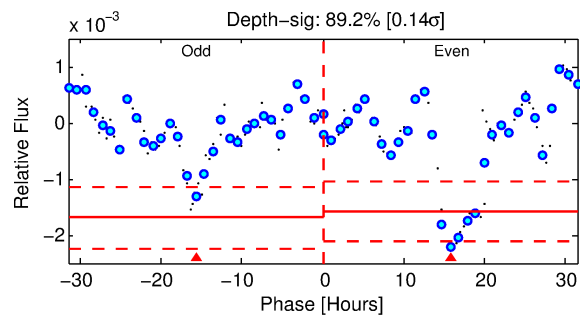
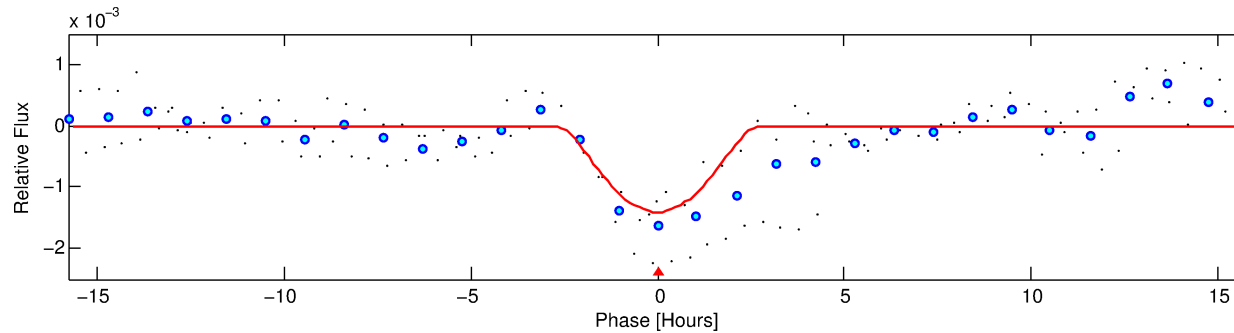
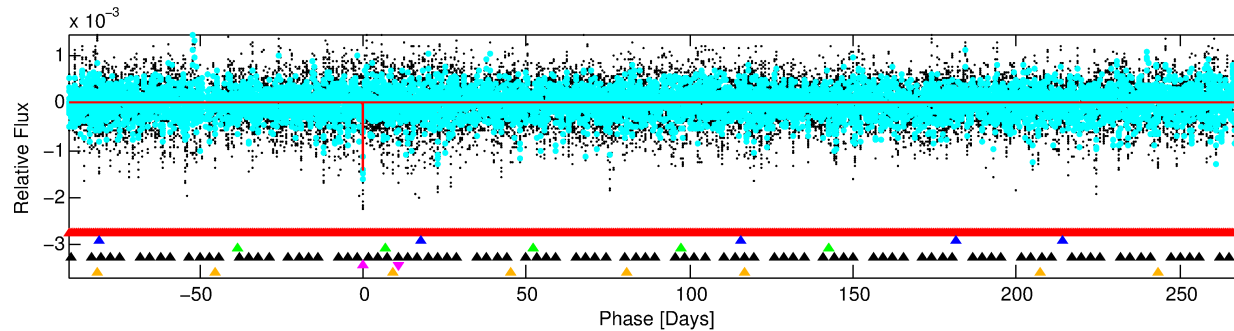
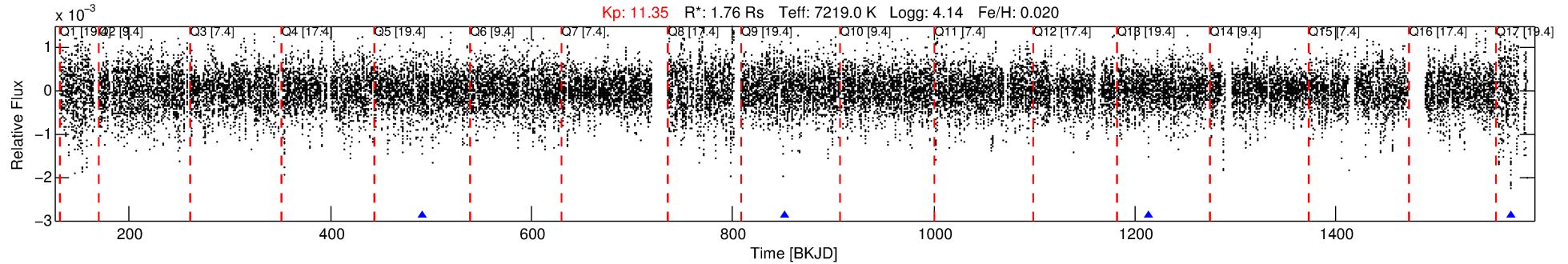
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007553237-05

No Significant Match Found

DV One-Page Summary

KIC: 7553237 Candidate: 5 of 6 Period: 360.801 d



DV Fit Results:

Period = 360.80071 [0.00492] d
Epoch = 491.3368 [0.0112] BKJD
Rp/R* = 0.0622 [0.1320]
a/R* = 190.05 [98.74]
b = 1.00 [0.20]
Seff = 5.73 [2.23]
Teq = 395 [38] K
Rp = 11.97 [25.64] Re
a = 1.1478 [0.2865] AU
Ag = 3165.93 [13512.12] [0.23 σ]
Teffp = 4576 [4870] K [0.86 σ]

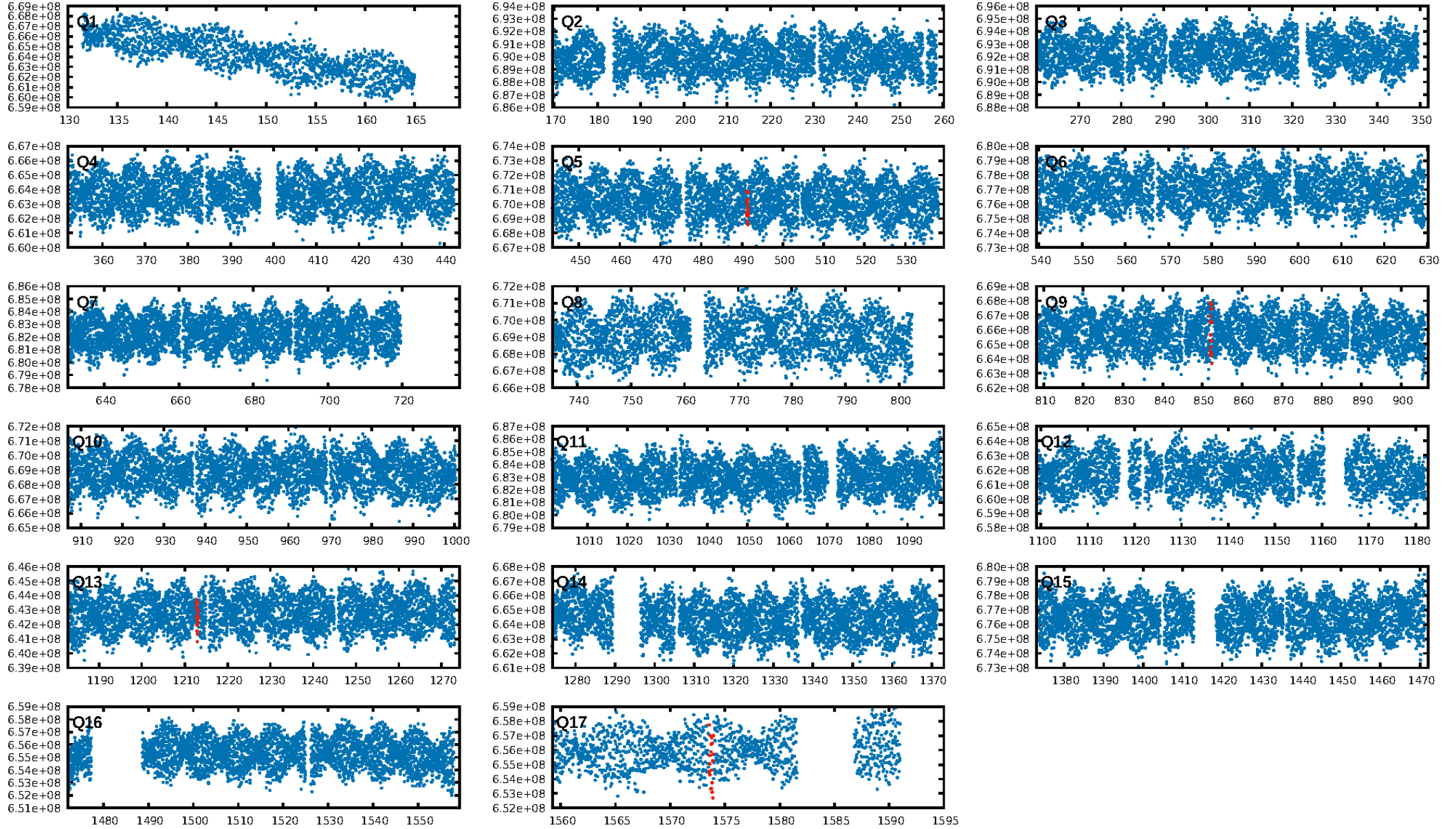
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [127.67 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.61e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.676
Centroid-sig: 66.3%
Centroid-so: 0.294 arcsec [2.59 σ]
OotOffset-rm: 0.093 arcsec [0.53 σ]
OotOffset-st: 0/0/0/4 [4]
KicOffset-rm: 0.261 arcsec [1.25 σ]
KicOffset-st: 0/0/0/4 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

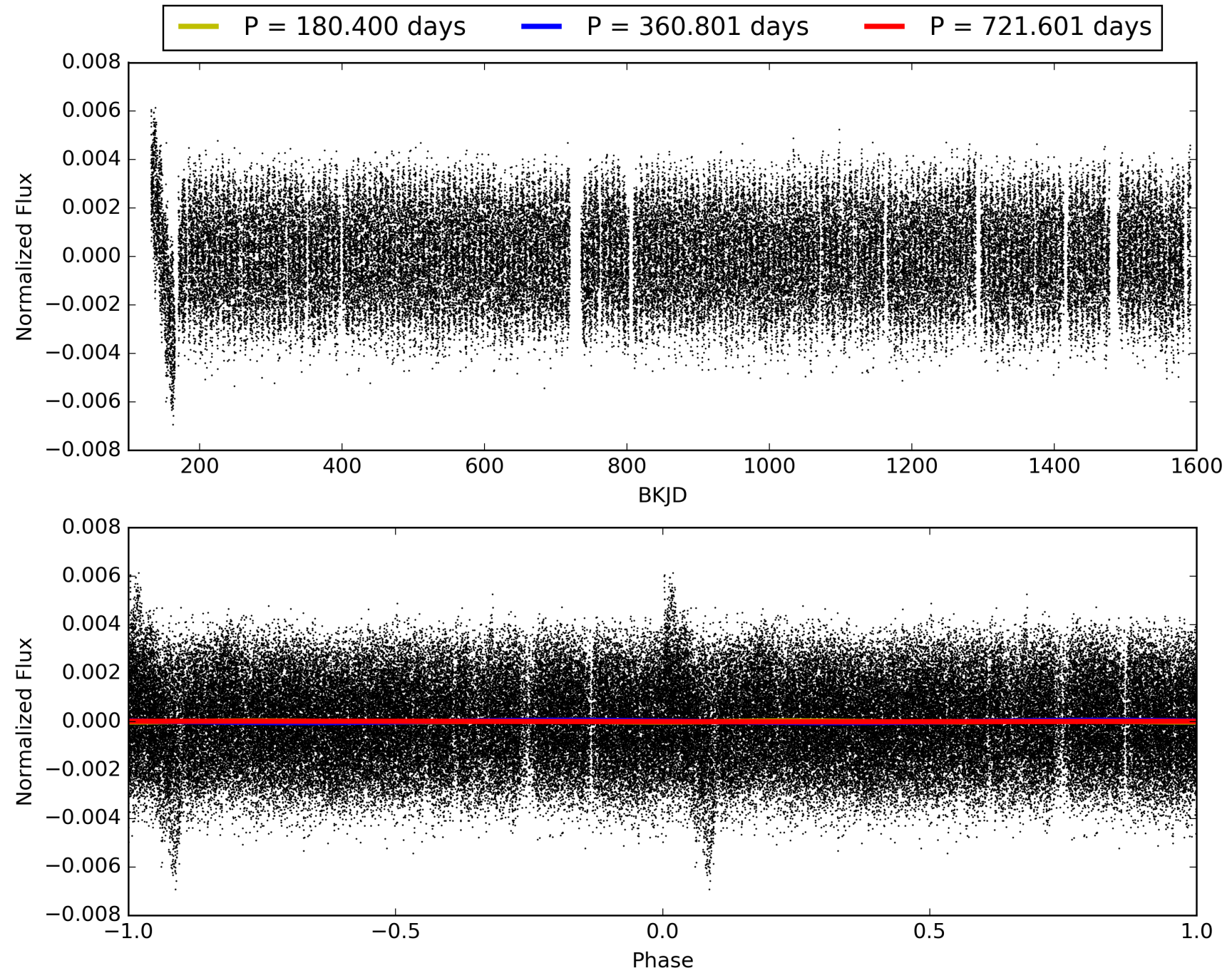
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:35:12 Z

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

TCE 007553237-05, PDC Light Curves

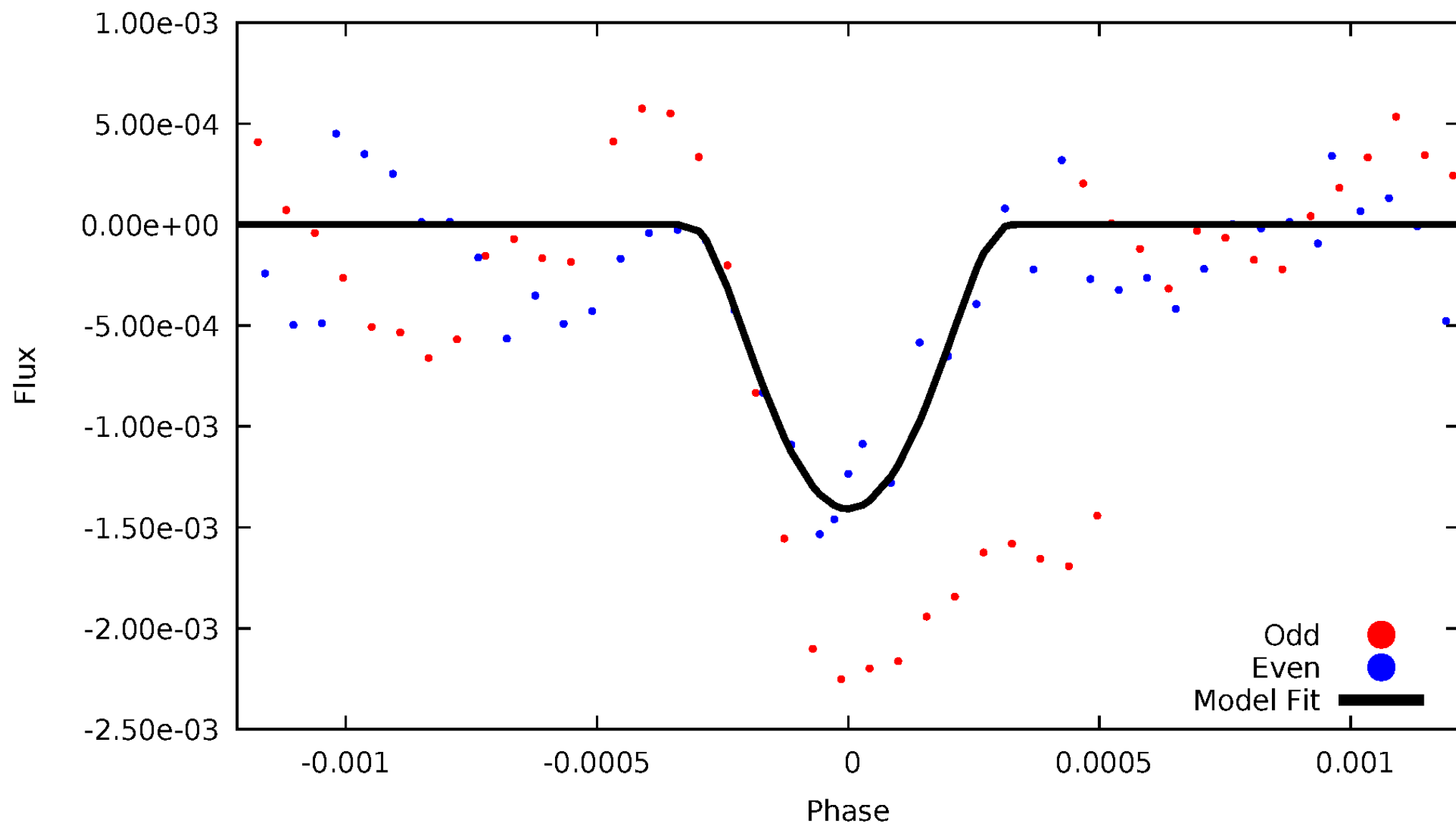


TCE 007553237-05



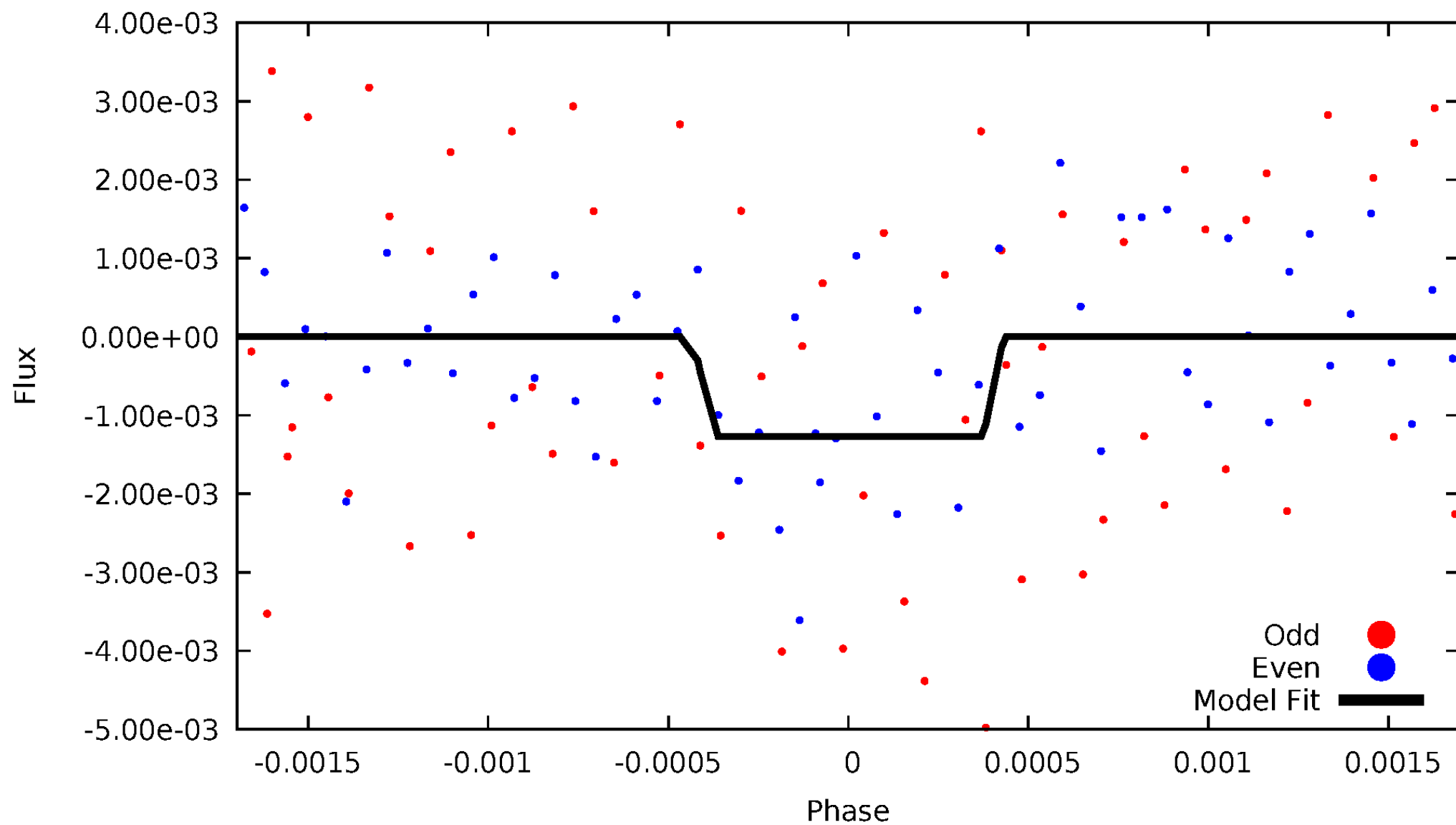
DV Odd/Even

TCE 007553237-05



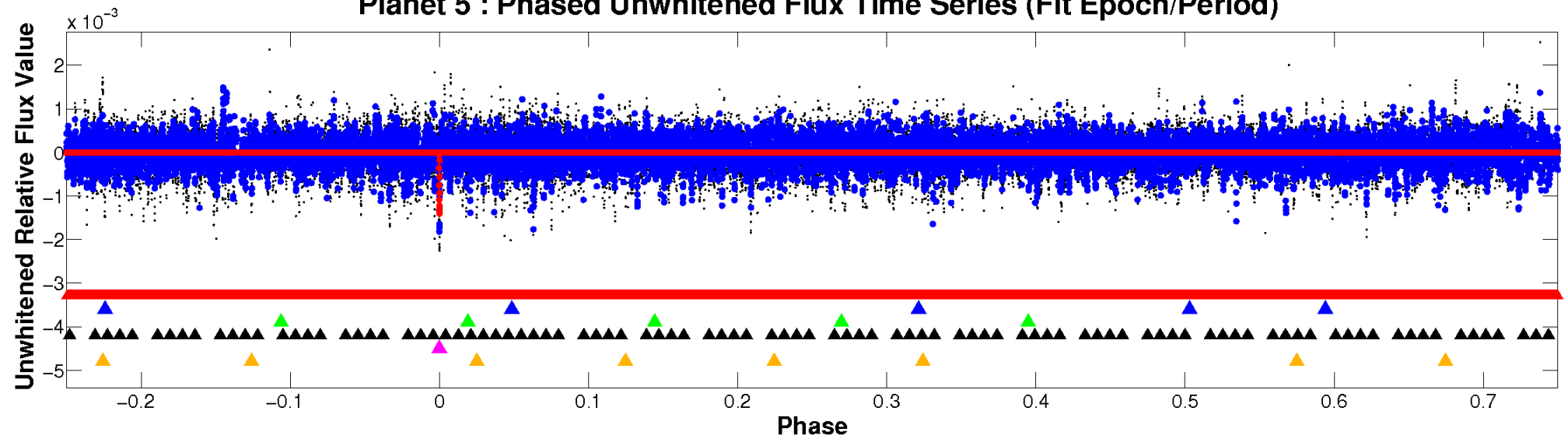
ALT Odd/Even

TCE 007553237-05

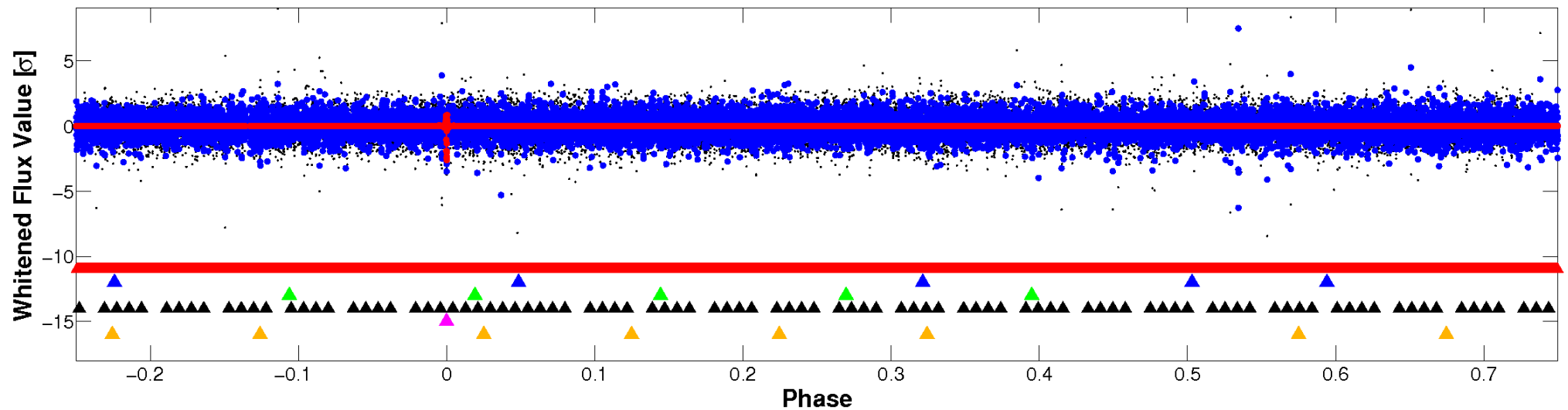


Non-Whitened Vs. Whitened Light Curve

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

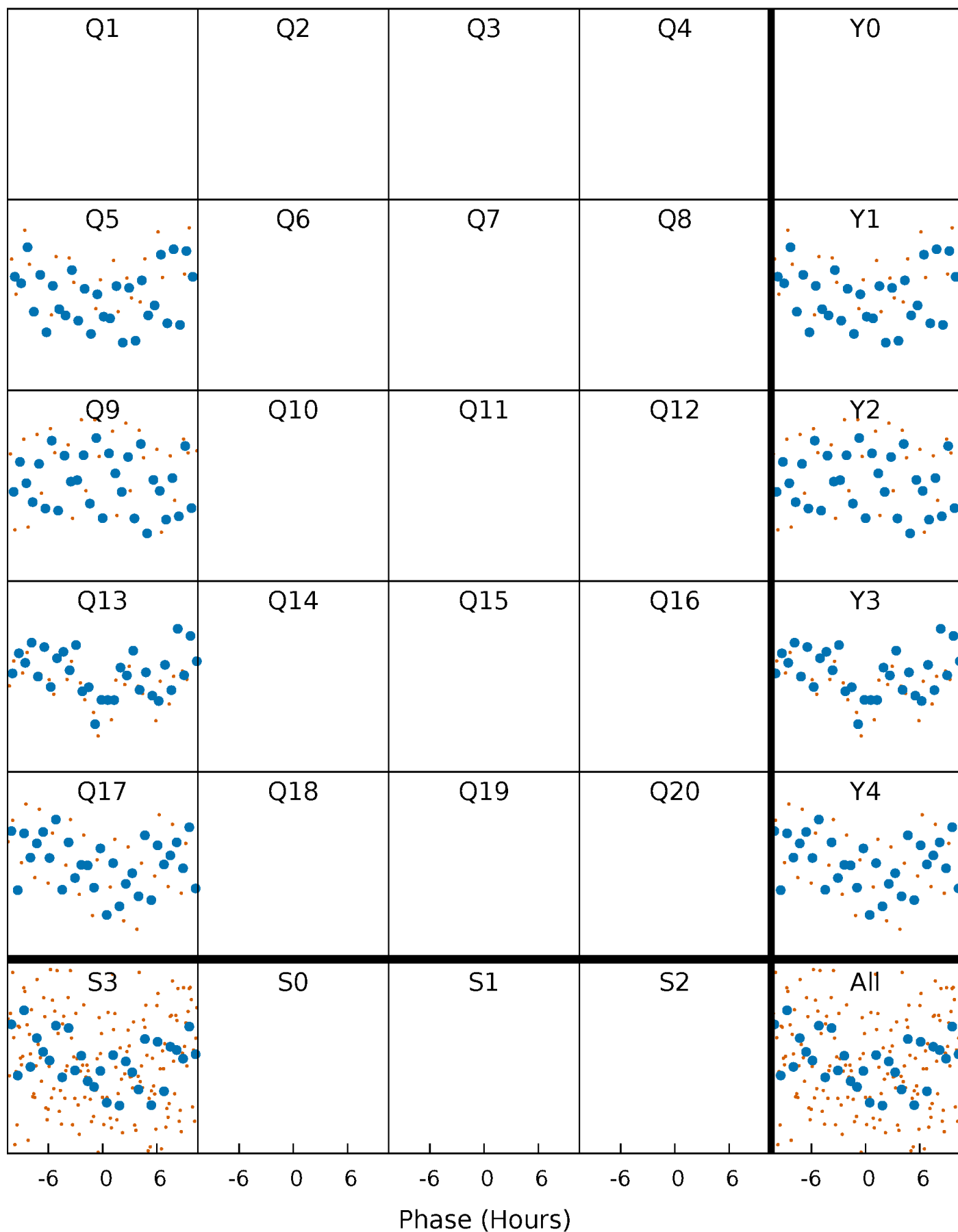


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



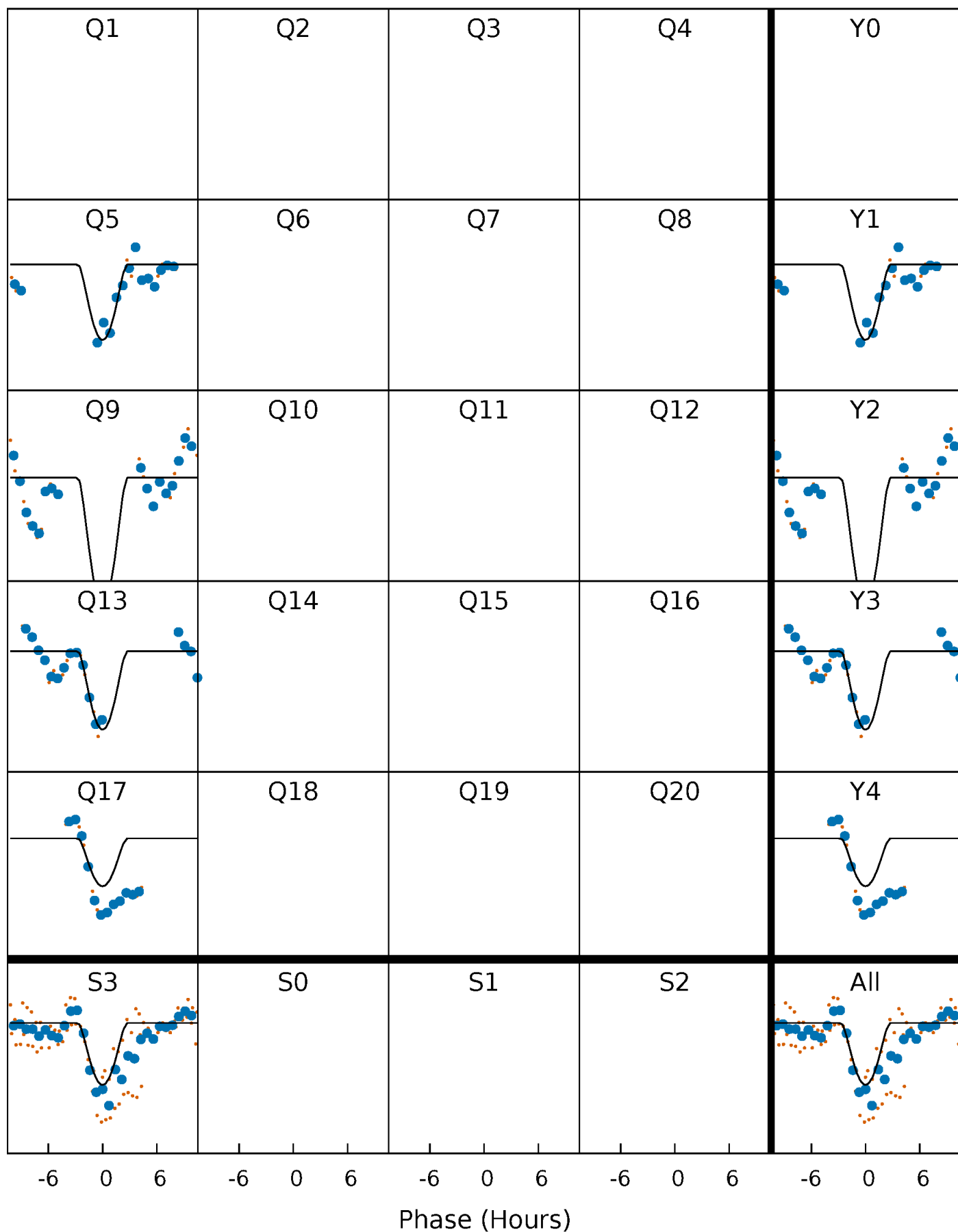
PDC Quarter-Phased Transit Curves

TCE 007553237-05 $P=360.800712$ Days $T_0=491.336818$ (BKJD)



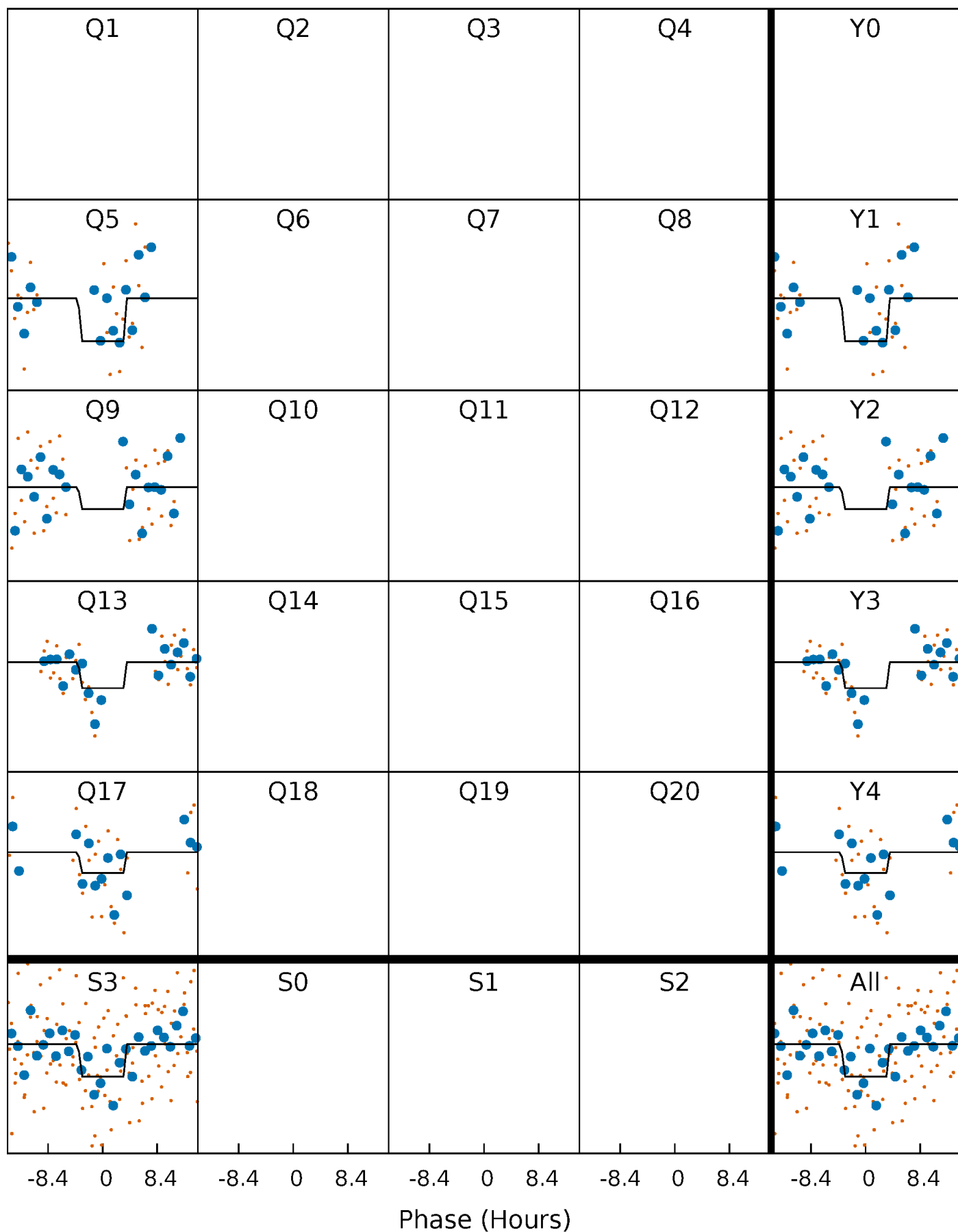
DV Quarter-Phased Transit Curves

TCE 007553237-05 $P=360.800712$ Days $T_0=491.336818$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

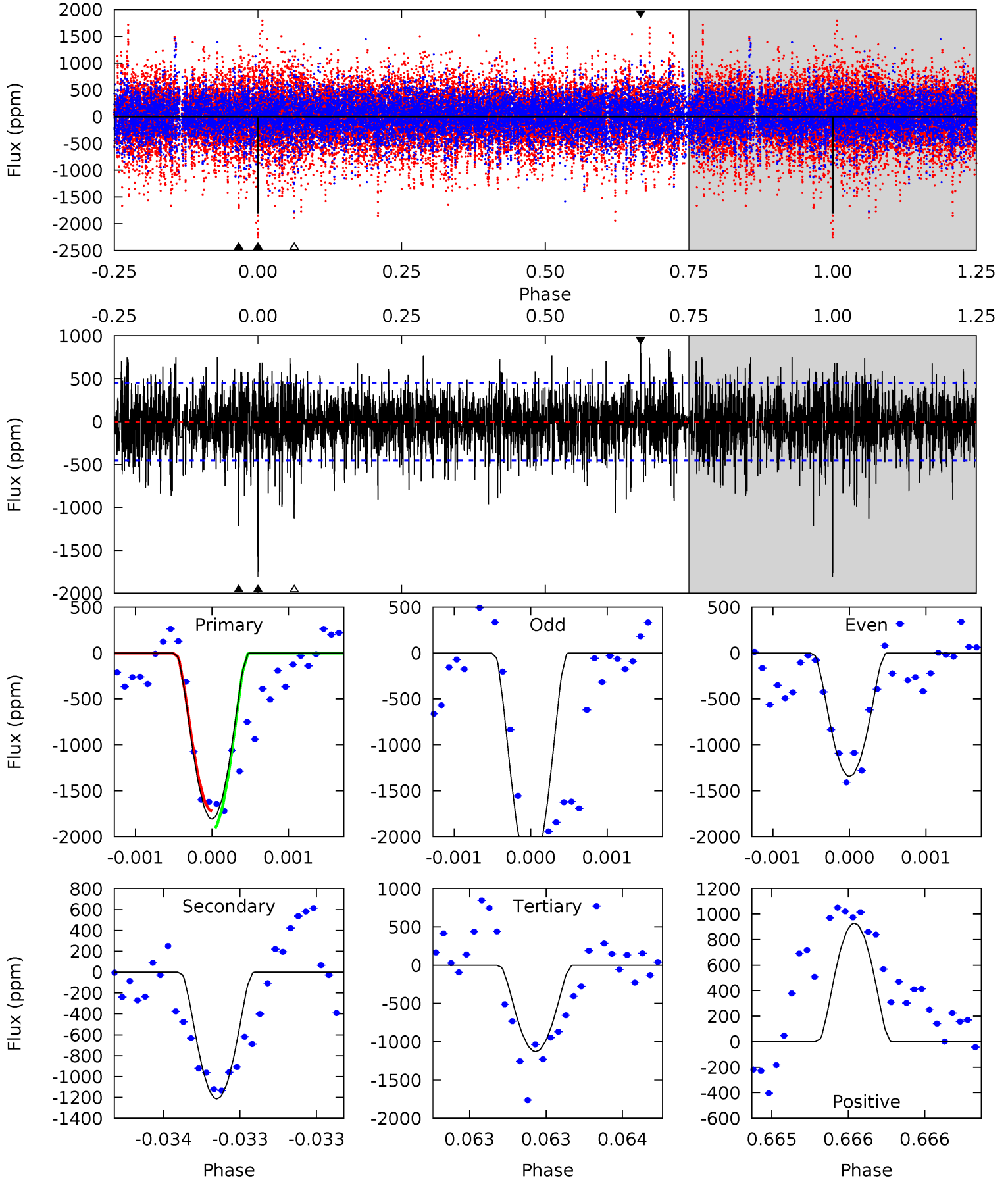
TCE 007553237-05 $P=360.793186$ Days $T_0=491.380000$ (BKJD)



DV Model-Shift Uniqueness Test

007553237-05, P = 360.800712 Days, E = 130.536106 Days

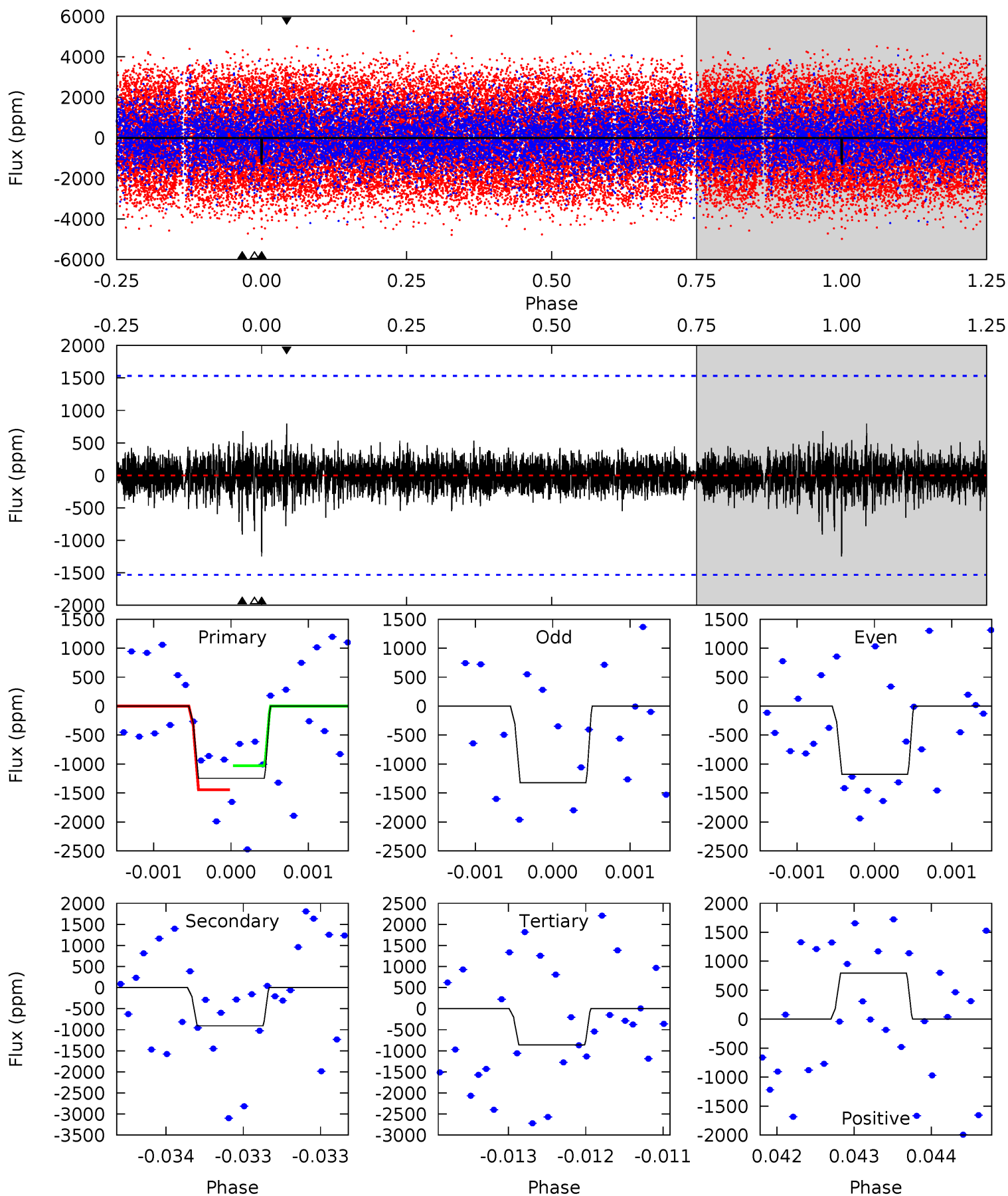
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	14.8	13.8	11.3	5.52	3.40	3.09	8.29	10.7	1.05	3.48	6.42	1.21	0.34	1.13



Alt Model-Shift Uniqueness Test

007553237-05, P = 360.793186 Days, E = 130.586814 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.46	3.25	3.08	2.84	5.48	3.33	0.61	1.38	1.62	0.17	0.41	0.26	0.34	0.39	0.75



Stellar Parameters For KIC 007553237

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7219^{+201}_{-302}	$4.136^{+0.124}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.762^{+0.541}_{-0.316}$	$1.548^{+0.212}_{-0.236}$	$0.398^{+0.253}_{-0.209}$
	+3%/-4%	+3%/-4%	+1000%/-1750%	+31%/-18%	+14%/-15%	+64%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007553237-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1214 ± 82	$22.84^{+21.76}_{-15.67}$	553^{+43}_{-33}	4192^{+2718}_{-866}	1719^{+15105}_{-1288}
Alt.	-909 ± 280	$20.53^{+20.95}_{-14.72}$	553^{+43}_{-37}	4085^{+2903}_{-864}	1495^{+16622}_{-1135}

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 $A_{obs} \gg 1.0$

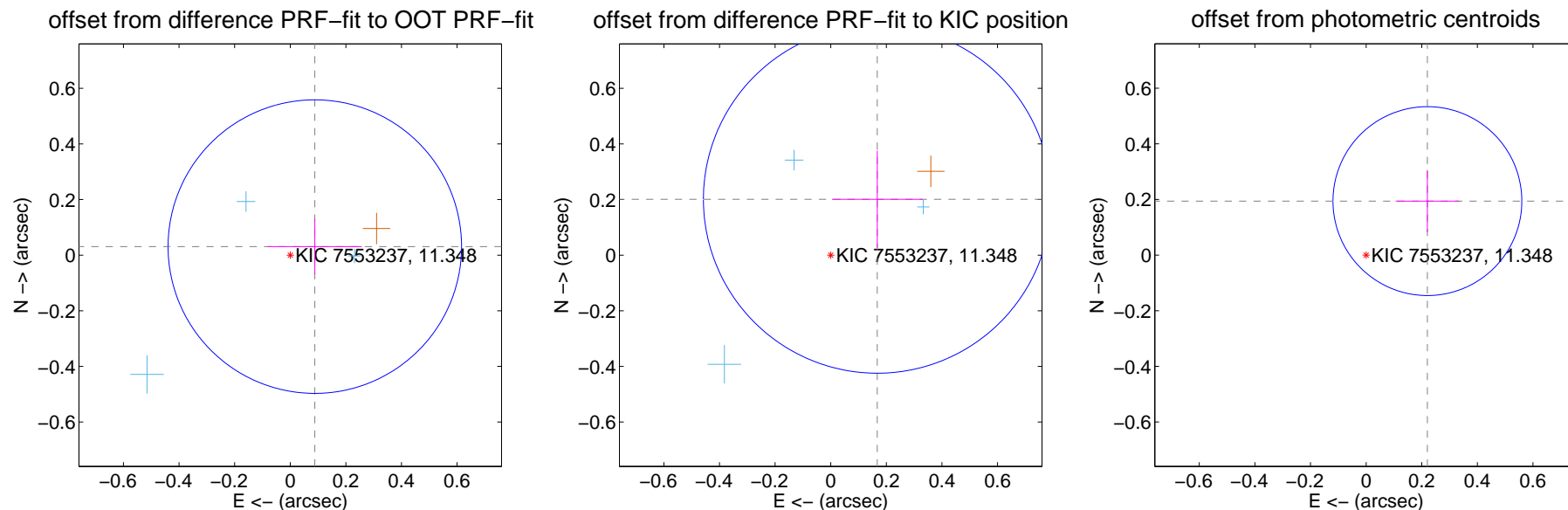
DV Centroid Data

Supplemental centroid analysis for 007553237-05. **Kepler magnitude: 11.35.** Transit SNR 8.30

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.093 ± 0.176	0.53	-0.088 ± 0.169	0.031 ± 0.099
PRF-fit source offset from KIC position	0.261 ± 0.208	1.25	-0.167 ± 0.163	0.201 ± 0.175
photometric centroid source offset	0.29 ± 0.11	2.59	-0.22 ± 0.11	0.19 ± 0.11

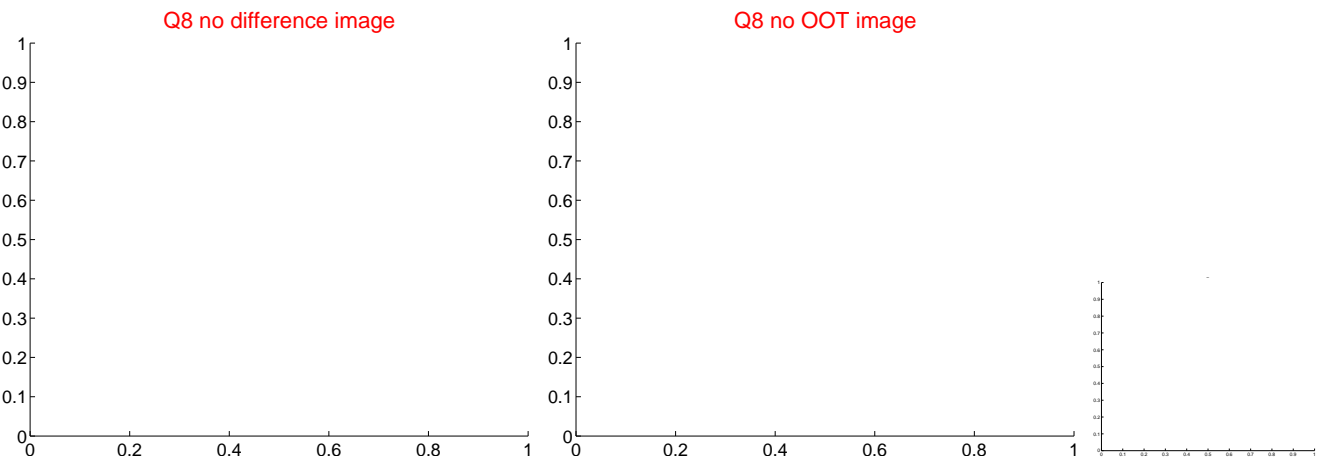
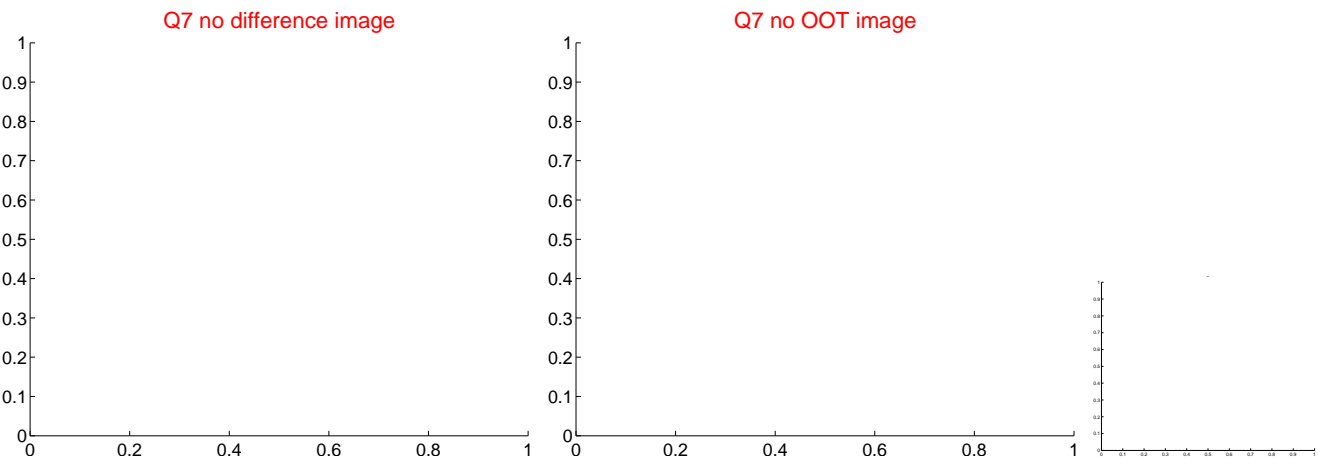
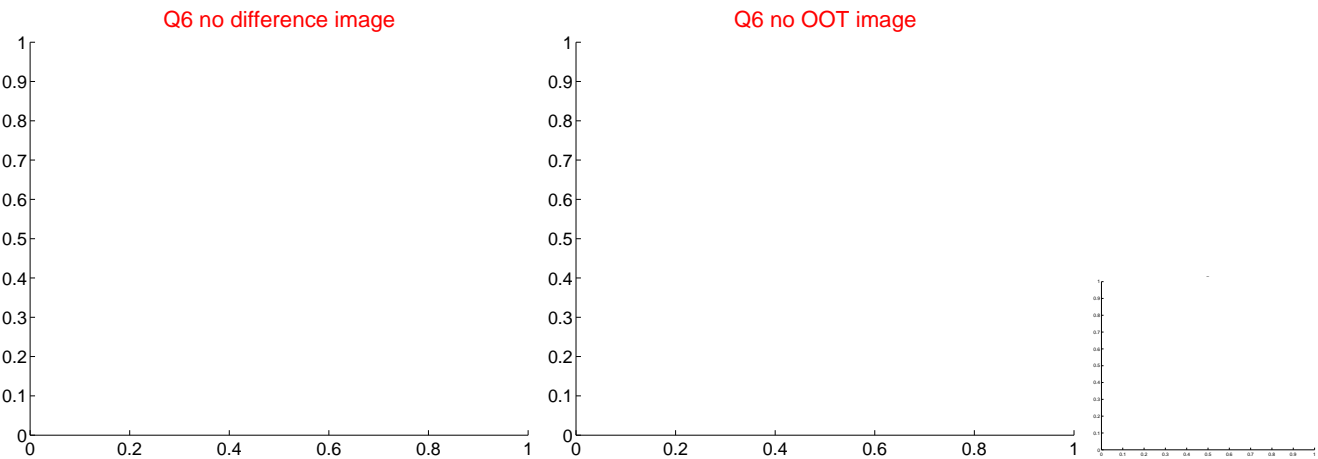
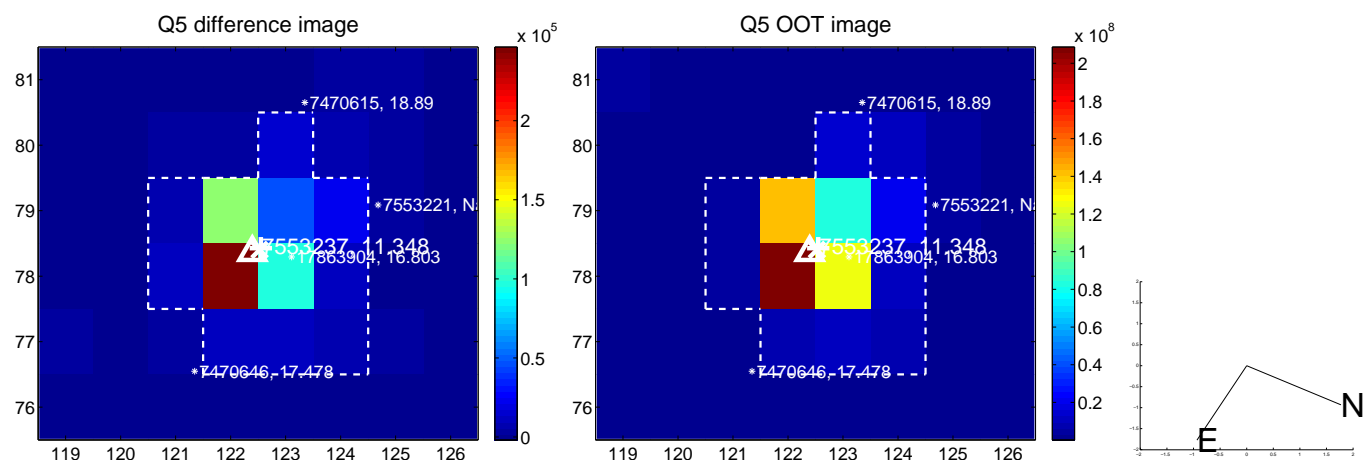


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

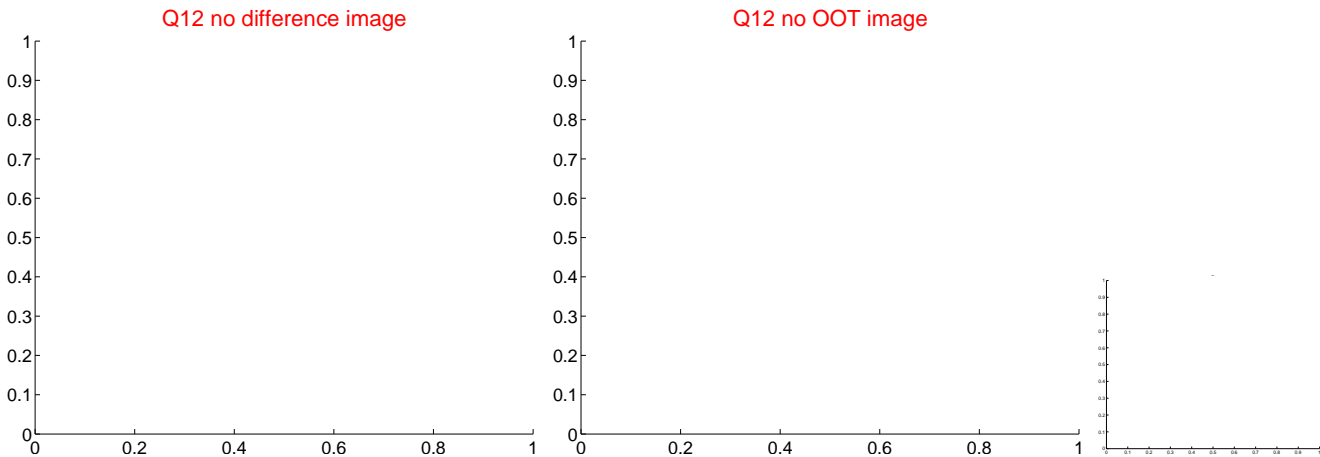
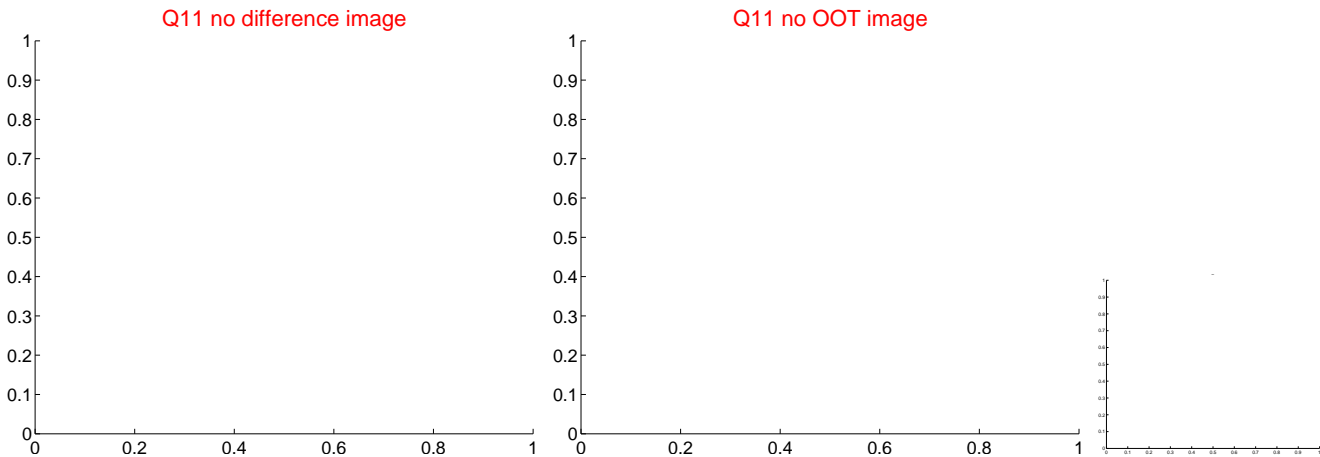
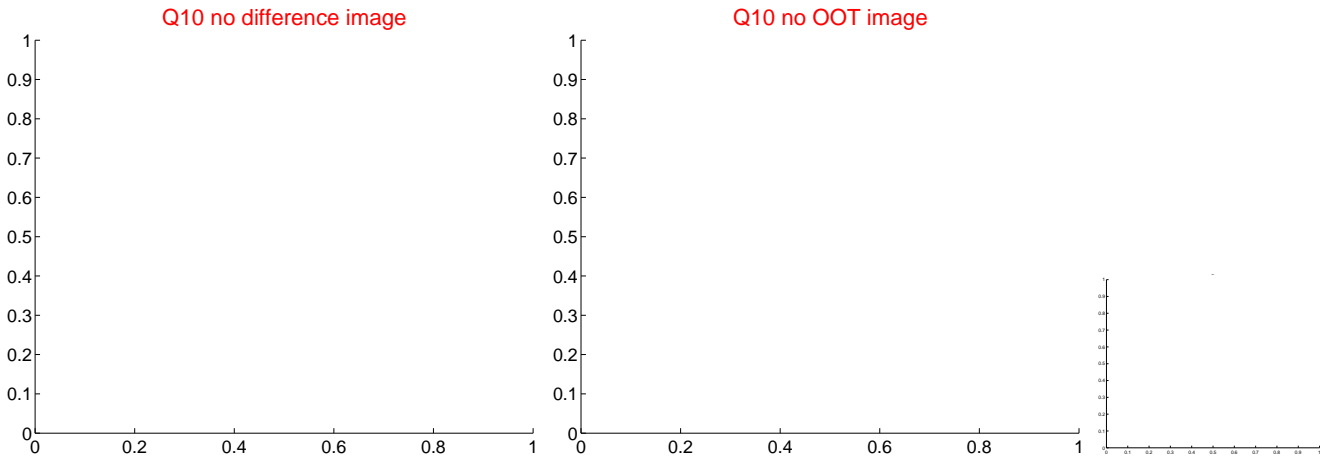
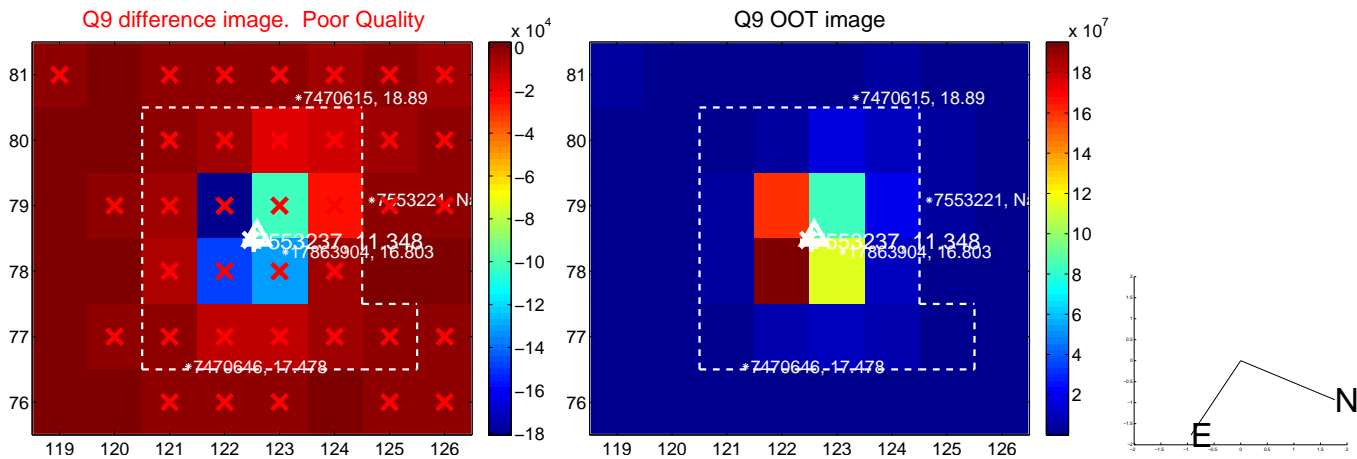
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



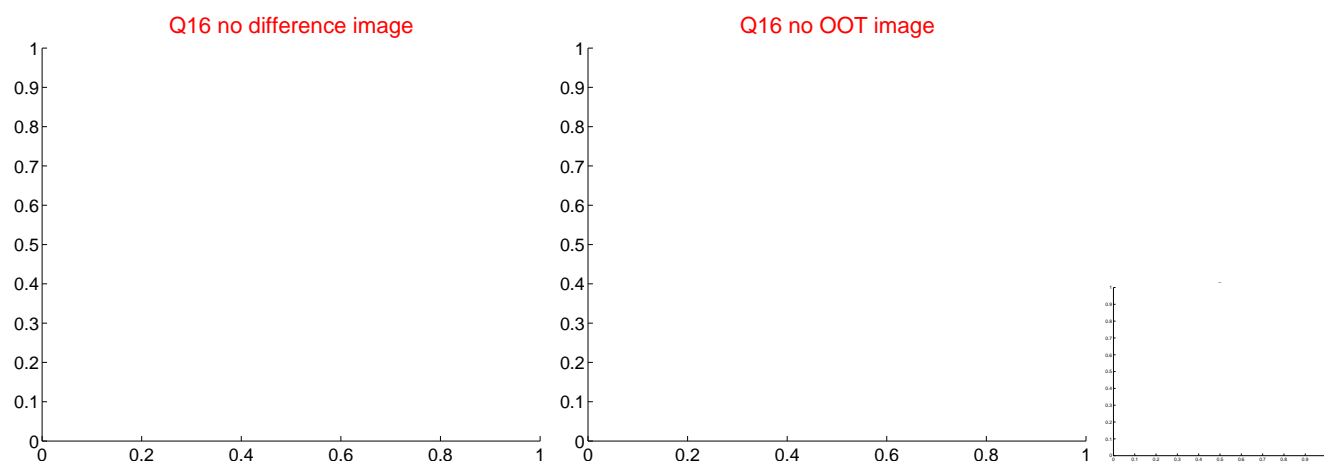
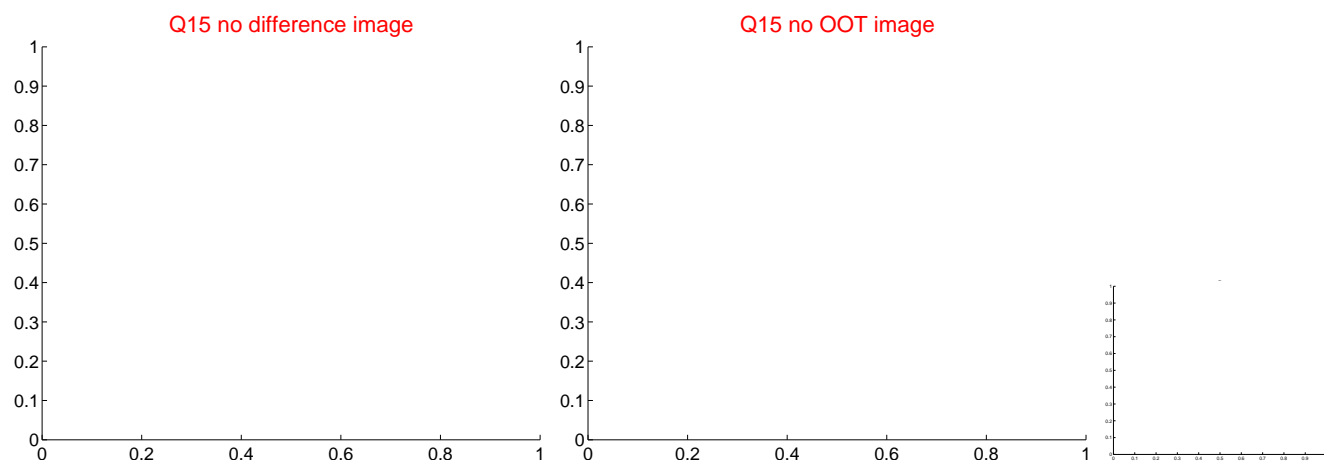
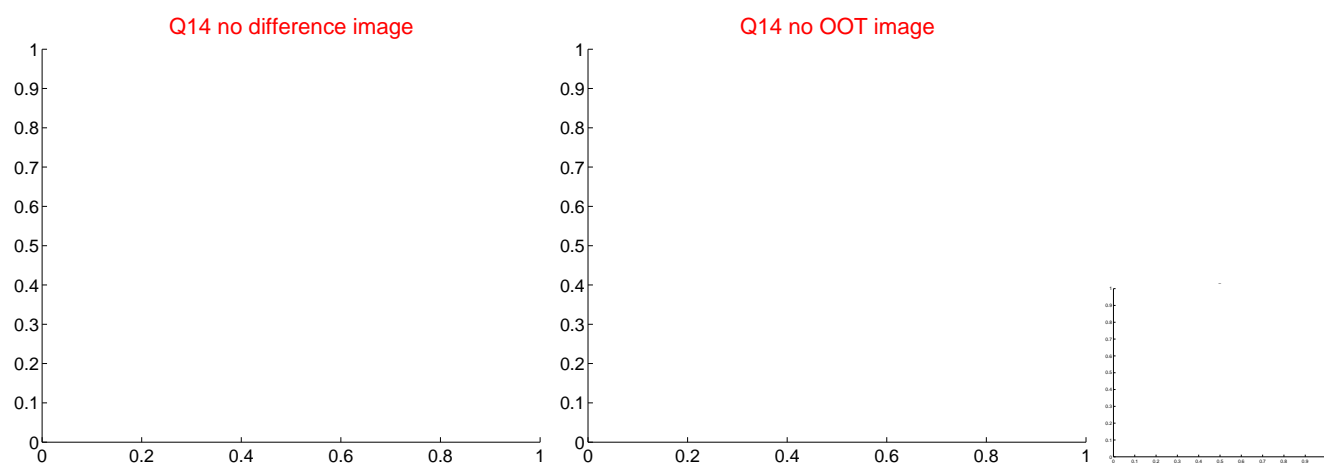
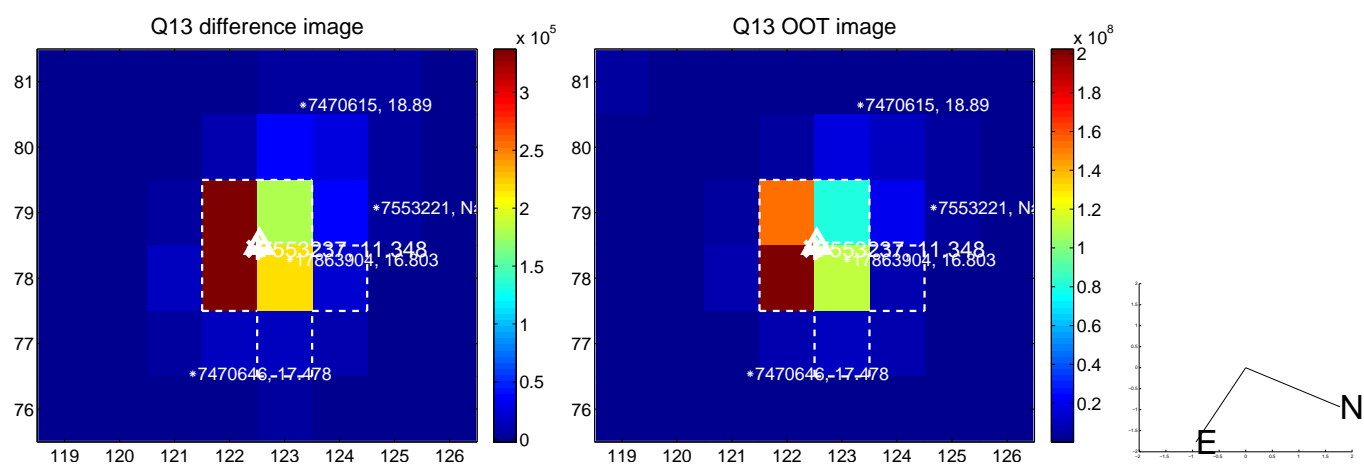
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

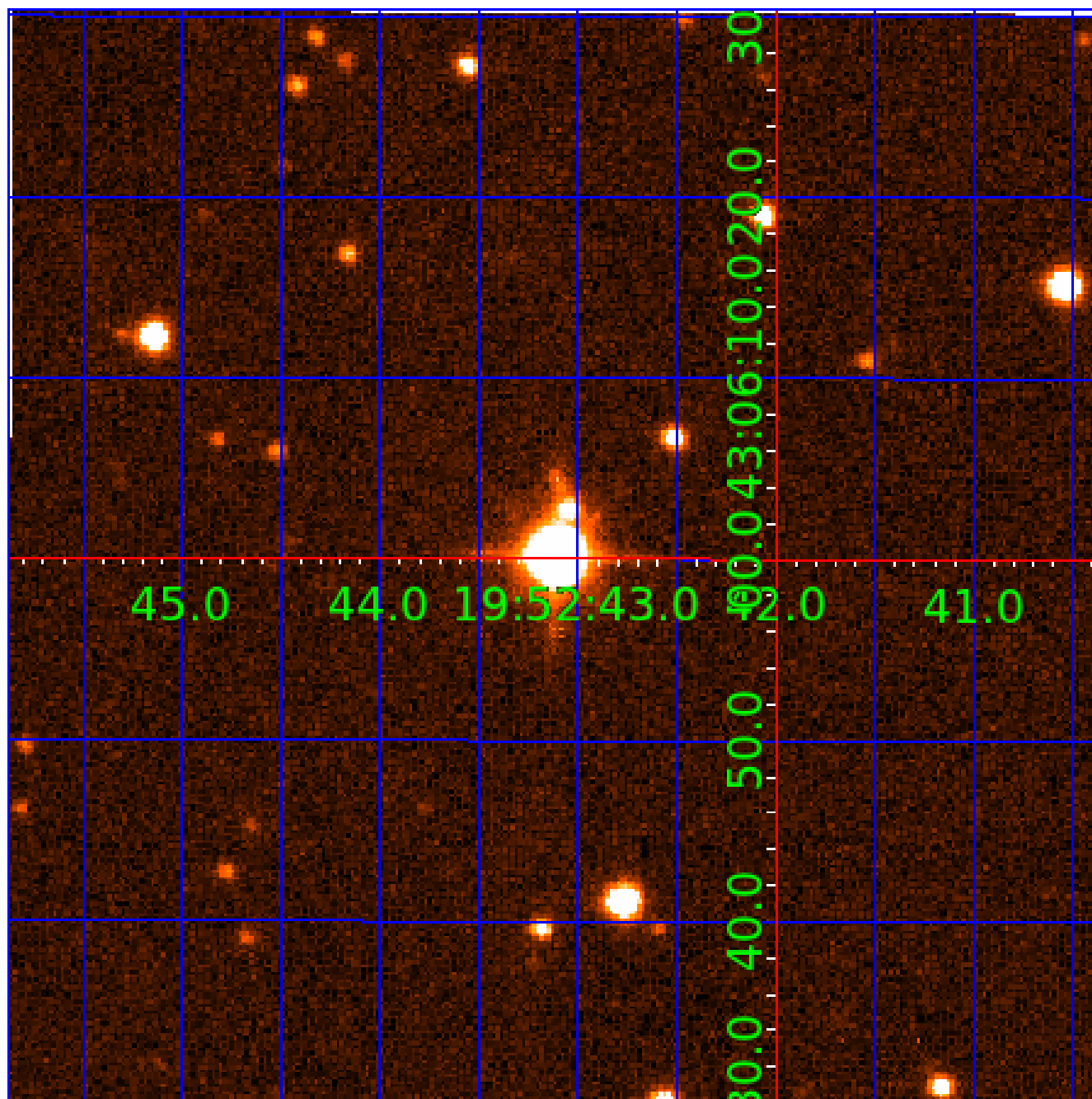


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



UKIRT Image

Declination



KIC 007553237

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})
007553237-01	OBS	No	0.712003	131.577316	53.3	2.544	11.6	11.8	1.76	7219	1.49	23164.90
007553237-02	OBS	No	262.390526	344.891901	1263.6	4.740	11.2	9.1	1.76	7219	11.59	8.77
007553237-03	OBS	No	315.609858	273.014940	960.1	6.666	8.7	7.7	1.76	7219	6.57	6.85
007553237-04	OBS	No	15.158732	135.168030	222.0	8.715	8.0	7.4	1.76	7219	3.29	392.57
007553237-05	OBS	No	360.800712	491.336818	1408.6	5.265	8.4	8.3	1.76	7219	11.96	5.73
007553237-06	OBS	No	198.386233	139.607665	1072.5	4.705	7.6	8.2	1.76	7219	10.70	12.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007553237-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007553237-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
007553237-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
007553237-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
007553237-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

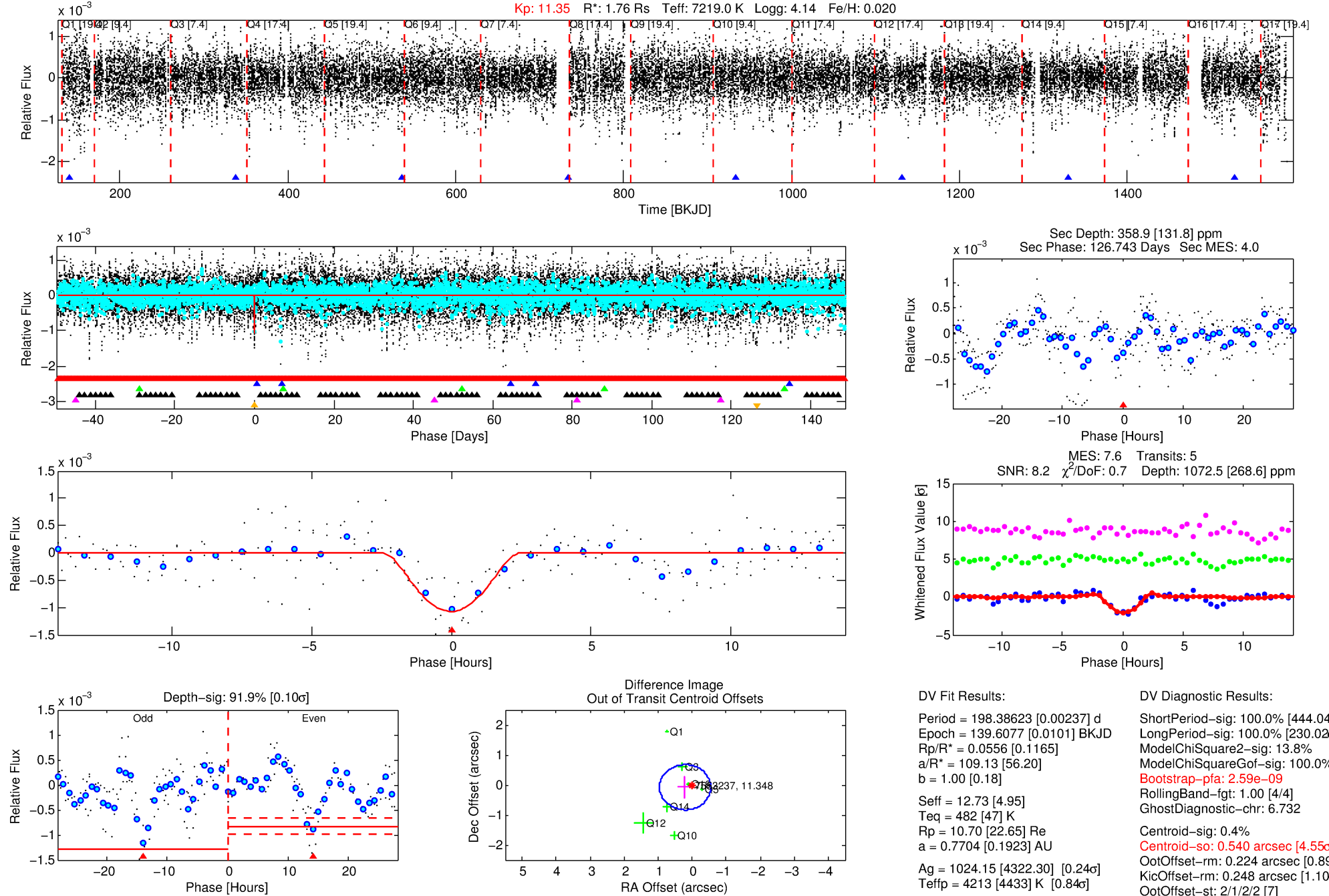
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007553237-06

No Significant Match Found

DV One-Page Summary

KIC: 7553237 Candidate: 6 of 6 Period: 198.386 d



DV Fit Results:

Period = 198.38623 [0.00237] d
 Epoch = 139.6077 [0.0101] BKJD
 Rp/R* = 0.0556 [0.1165]
 a/R* = 109.13 [56.20]
 b = 1.00 [0.18]
 Seff = 12.73 [4.95]
 Teq = 482 [47] K
 Rp = 10.70 [22.65] Re
 a = 0.7704 [0.1923] AU
 Ag = 1024.15 [4322.30] [0.24σ]
 Tefp = 4213 [4433] K [0.84σ]

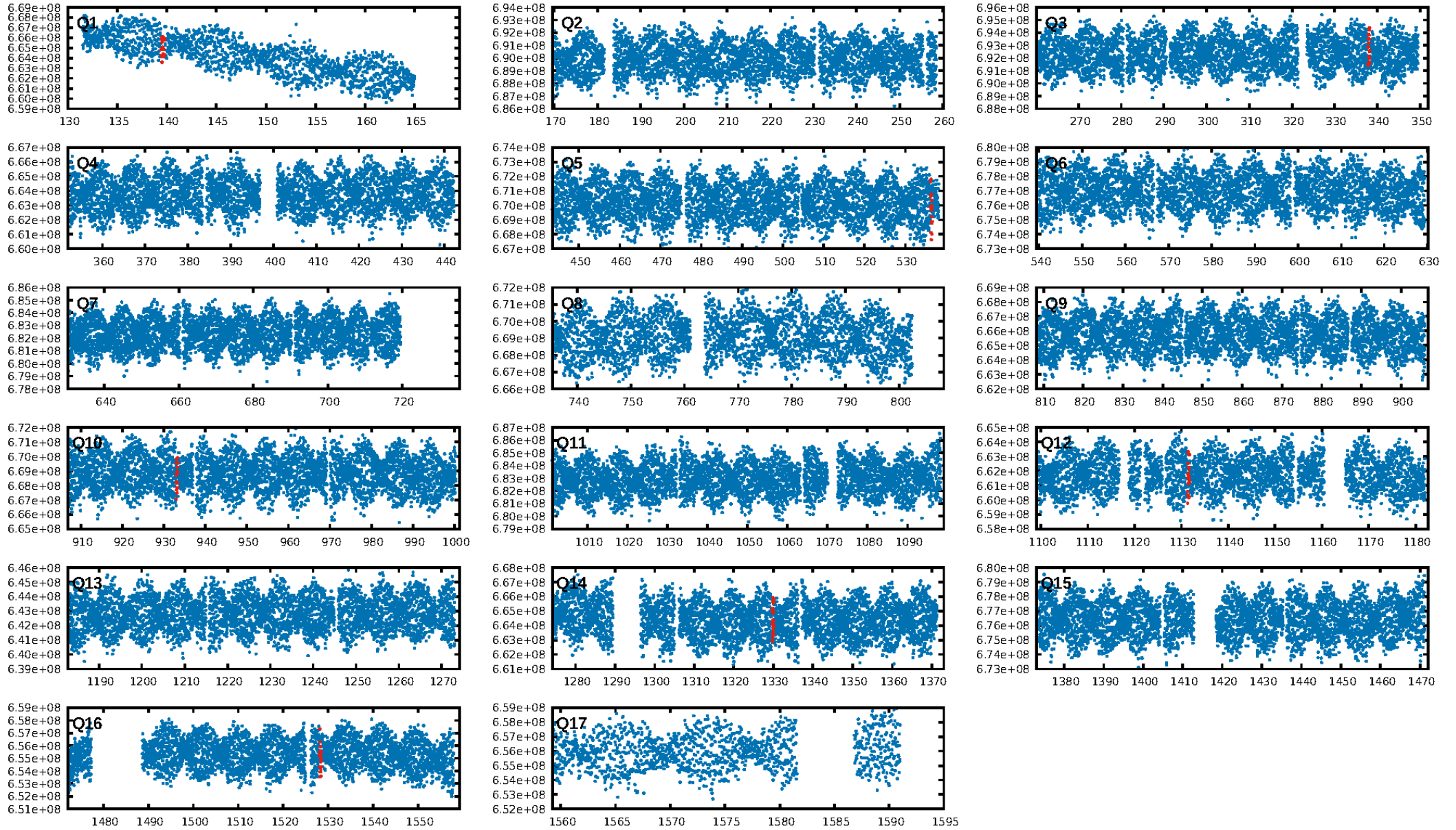
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [444.04σ]
 LongPeriod-sig: 100.0% [230.02σ]
 ModelChiSquare2-sig: 13.8%
 ModelChiSquareGof-sig: 100.0%
 Bootstrap-pfa: 2.59e-09
 RollingBand-fgt: 1.00 [4/4]
 GhostDiagnostic-chr: 6.732
 Centroid-sig: 0.4%
 Centroid-so: 0.540 arcsec [4.55σ]
 OotOffset-rm: 0.224 arcsec [0.89σ]
 KicOffset-rm: 0.248 arcsec [1.10σ]
 OotOffset-st: 2/1/2/2 [7]
 KicOffset-st: 2/1/2/2 [7]
 DiffImageQuality-fgm: 0.57 [4/7]
 DiffImageOverlap-fno: 0.00 [0/7]

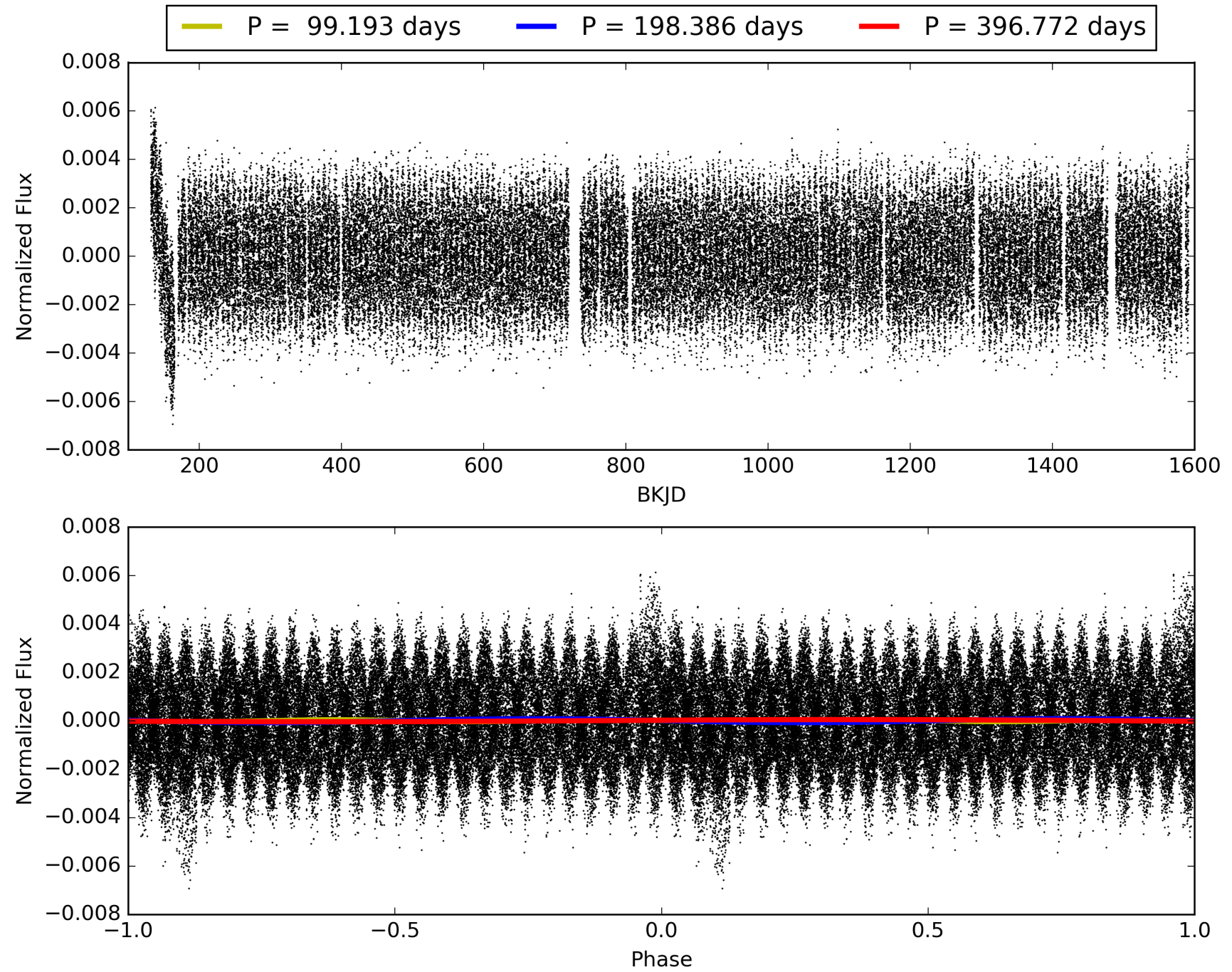
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:35:19 Z

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

TCE 007553237-06, PDC Light Curves

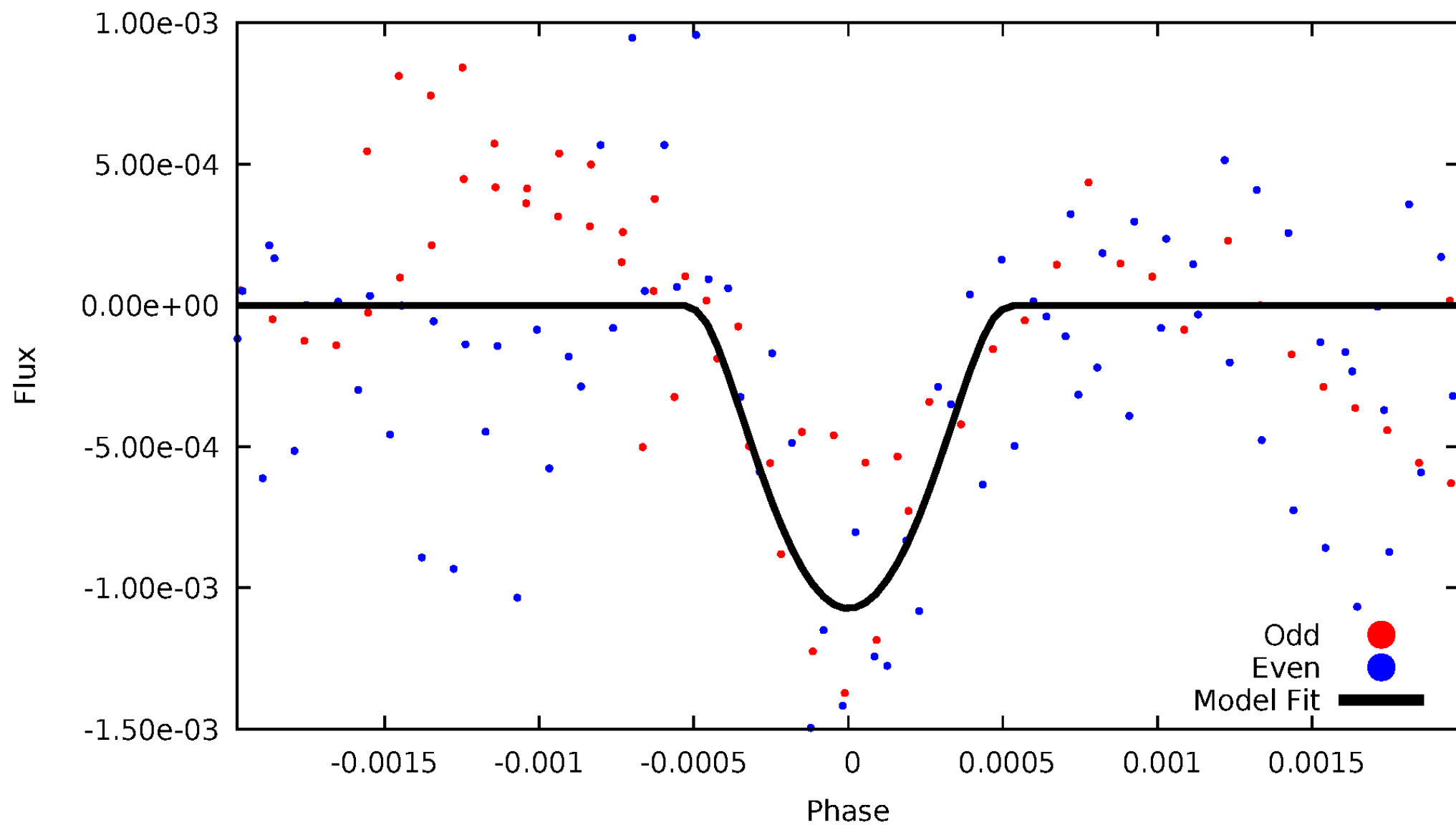


TCE 007553237-06



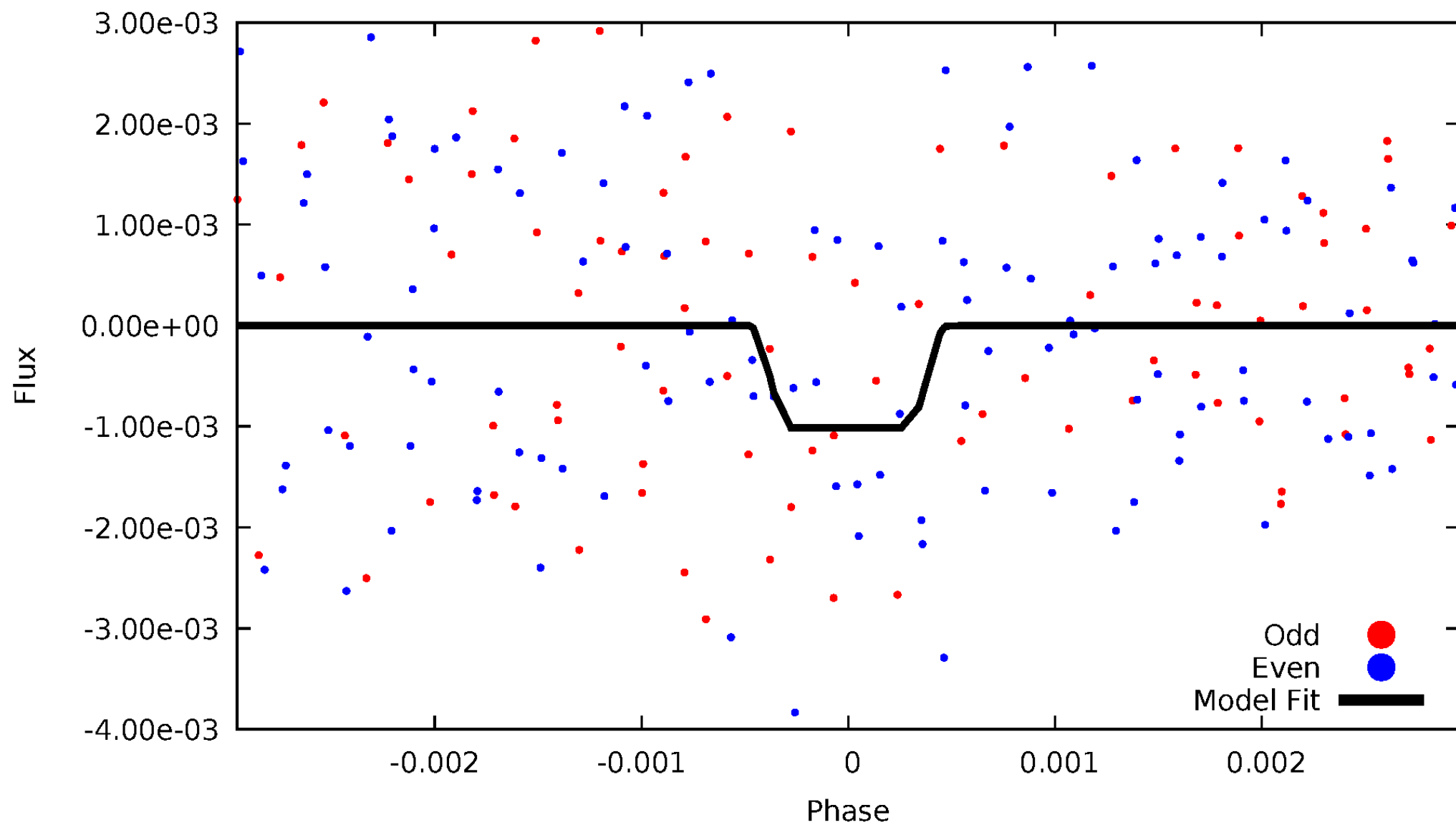
DV Odd/Even

TCE 007553237-06



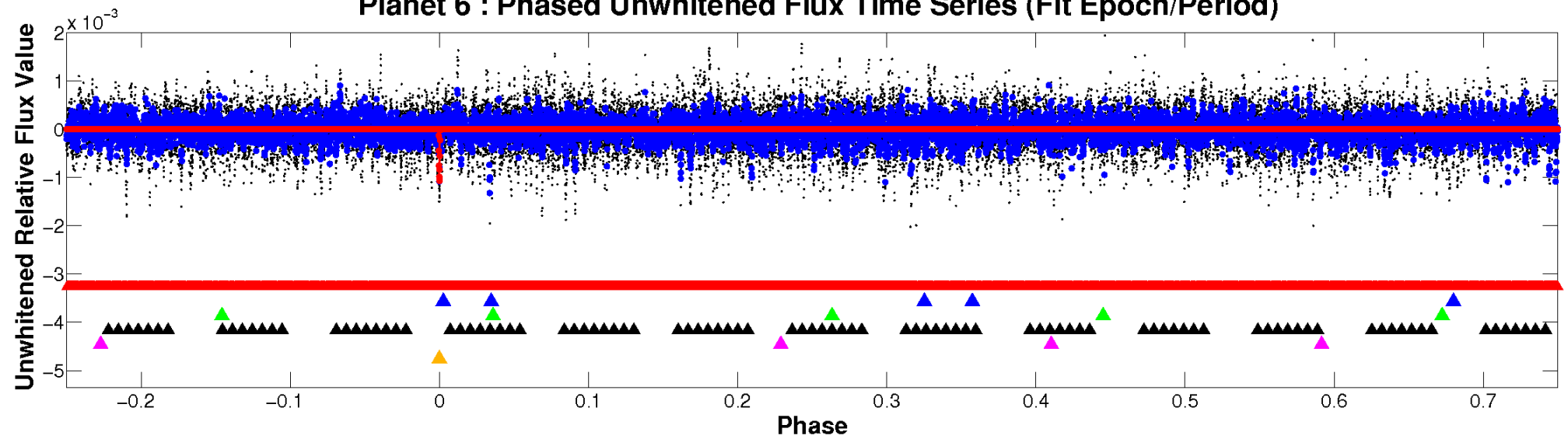
ALT Odd/Even

TCE 007553237-06

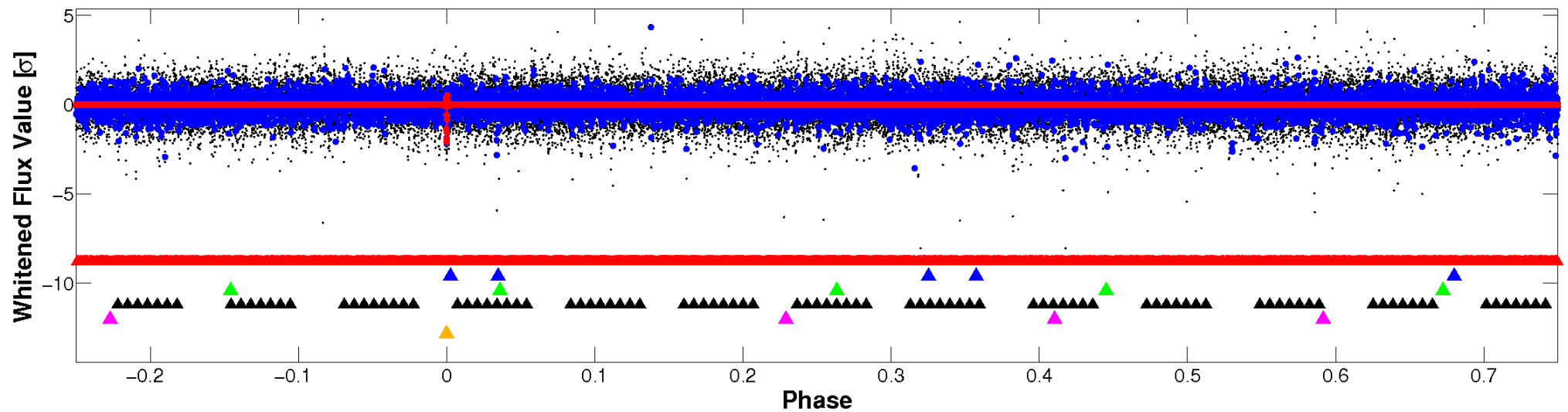


Non-Whitened Vs. Whitened Light Curve

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

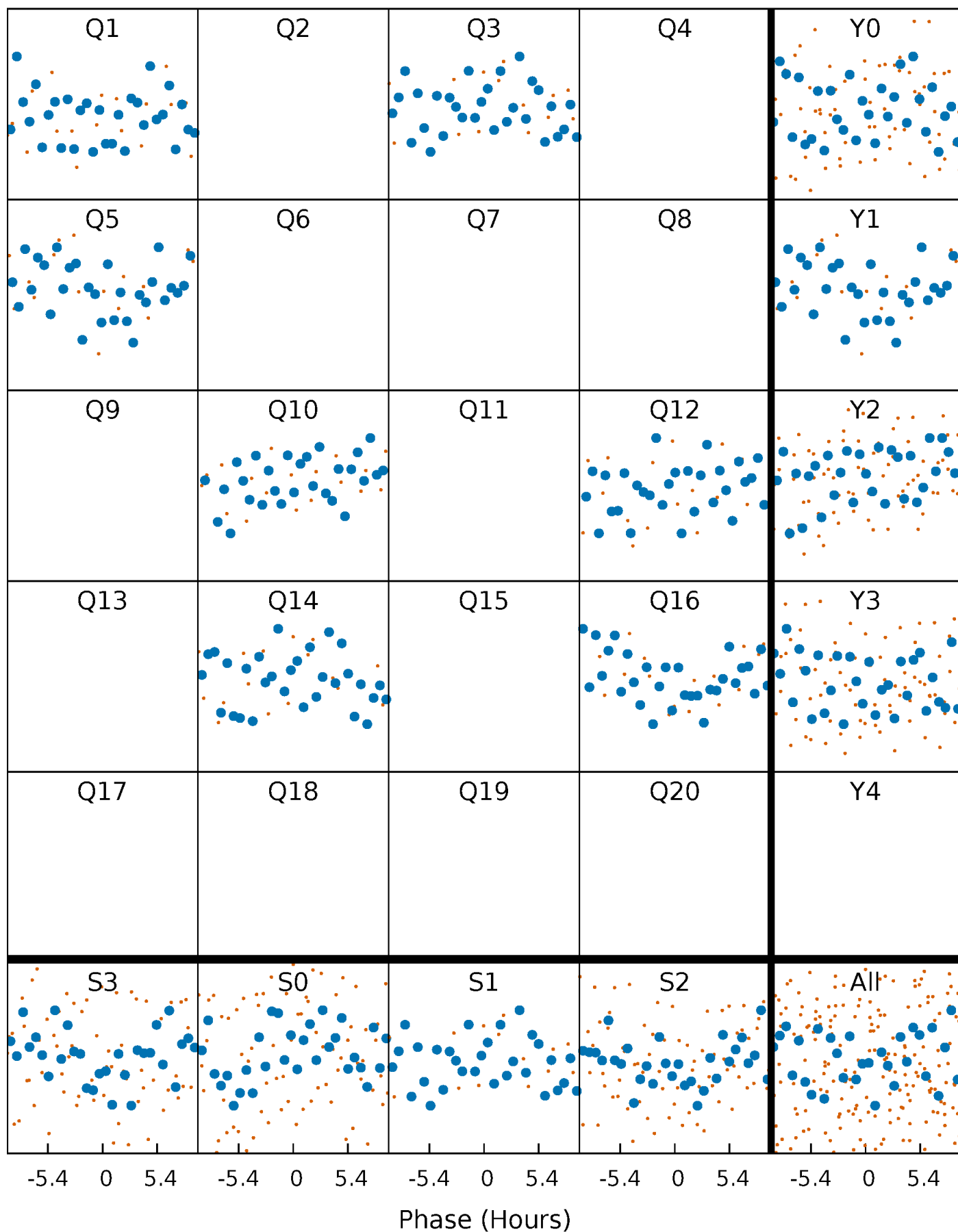


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



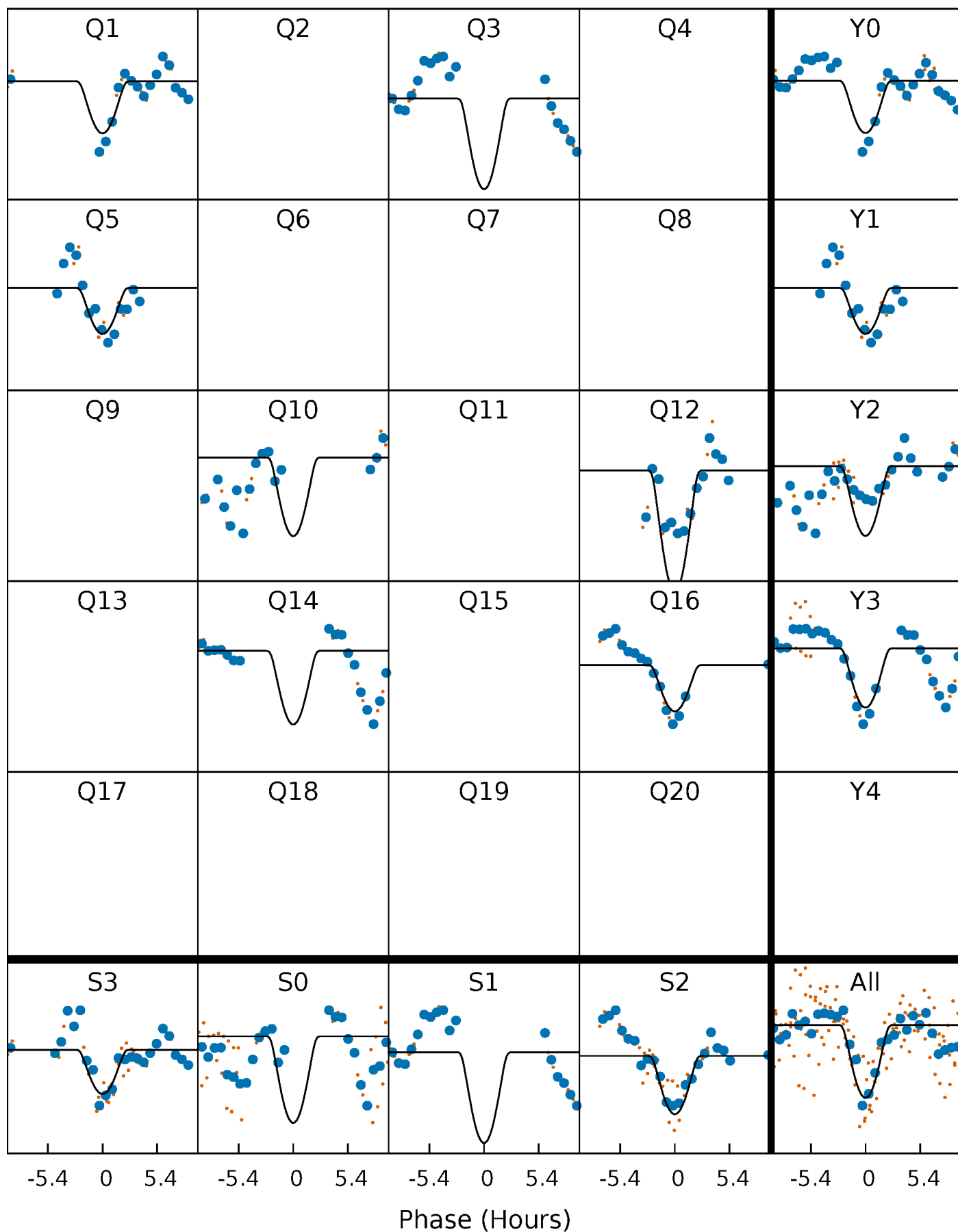
PDC Quarter-Phased Transit Curves

TCE 007553237-06 P=198.386233 Days $T_0=139.607665$ (BKJD)



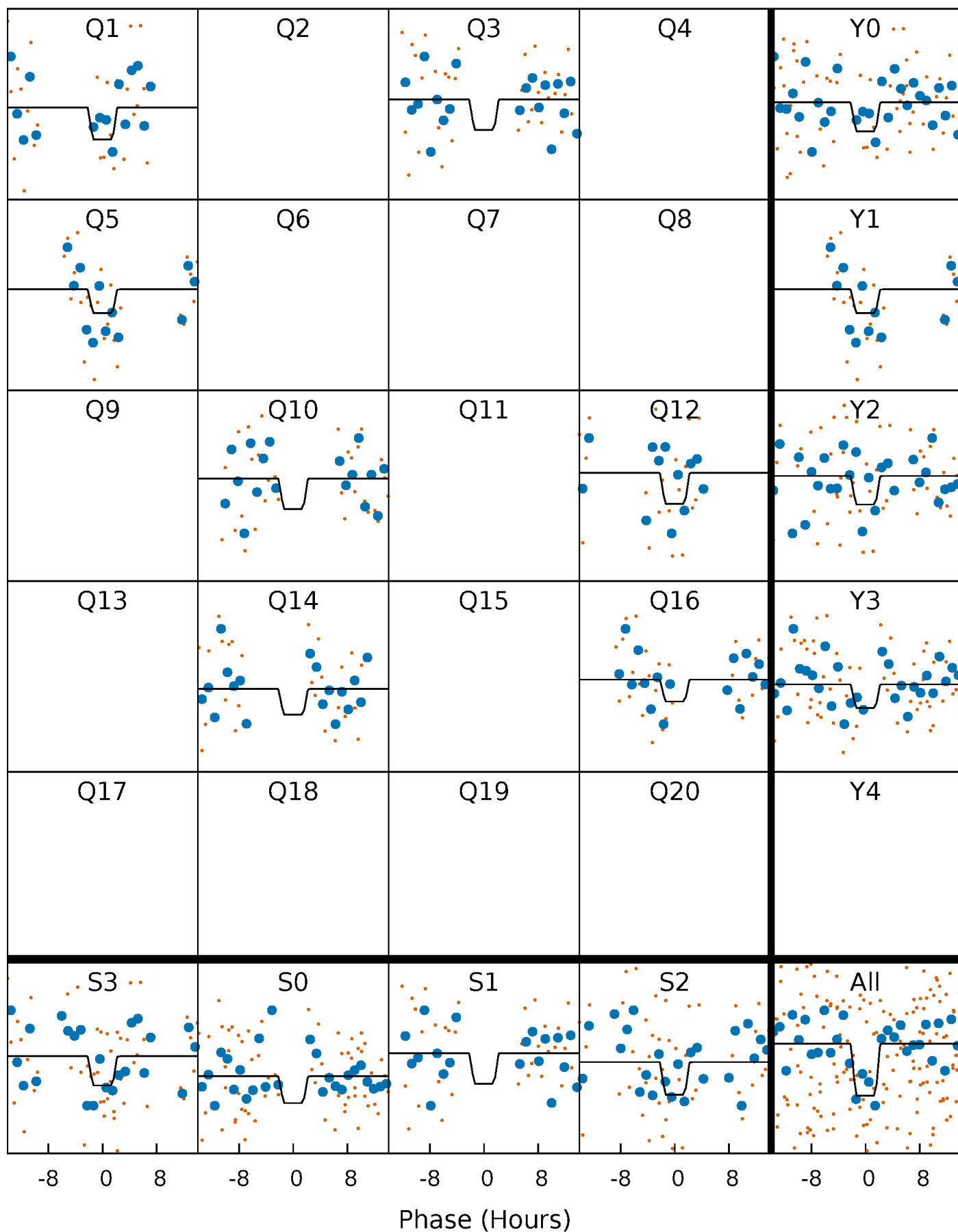
DV Quarter-Phased Transit Curves

TCE 007553237-06 P=198.386233 Days $T_0=139.607665$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

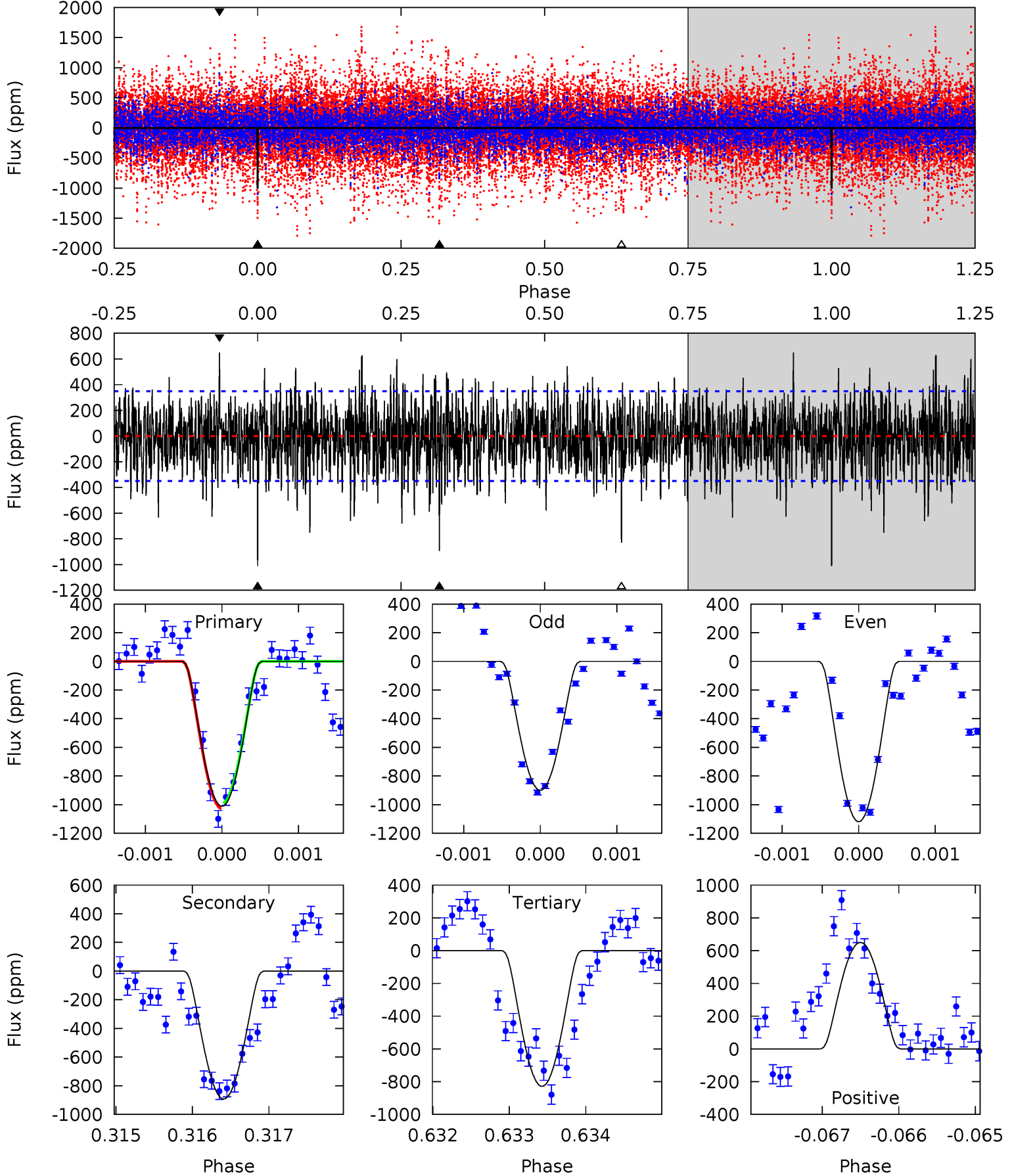
TCE 007553237-06 P=198.389665 Days $T_0=139.636183$ (BKJD)



DV Model-Shift Uniqueness Test

007553237-06, P = 198.386233 Days, E = 139.607665 Days

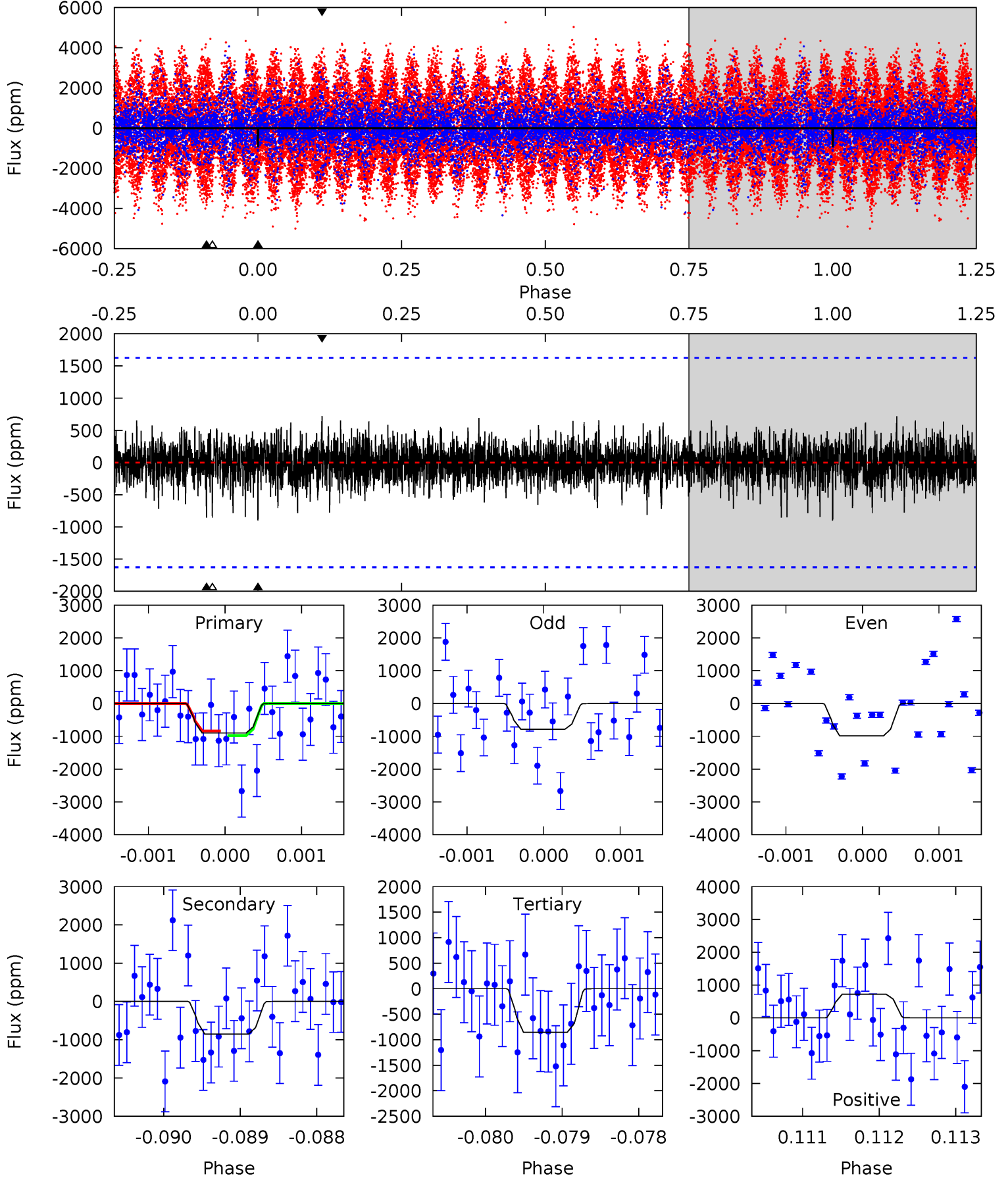
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	13.9	12.9	10.2	5.45	3.28	2.99	2.86	5.64	1.00	3.78	1.72	0.85	0.39	0.31



Alt Model-Shift Uniqueness Test

007553237-06, $P = 198.389665$ Days, $E = 139.636183$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.02	2.86	2.86	2.42	5.46	3.31	0.68	0.16	0.60	0.00	0.44	0.34	1.07	0.44	0.24



Stellar Parameters For KIC 007553237

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7219^{+201}_{-302}	$4.136^{+0.124}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.762^{+0.541}_{-0.316}$	$1.548^{+0.212}_{-0.236}$	$0.398^{+0.253}_{-0.209}$
	+3%/-4%	+3%/-4%	+1000%/-1750%	+31%/-18%	+14%/-15%	+64%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007553237-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-892 ± 64	$19.82^{+18.86}_{-13.42}$	677^{+49}_{-40}	4133^{+2693}_{-817}	708^{+6633}_{-512}
Alt.	-853 ± 298	$19.38^{+18.40}_{-13.80}$	678^{+49}_{-41}	4134^{+3139}_{-859}	712^{+8073}_{-541}

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 $A_{obs} \gg 1.0$

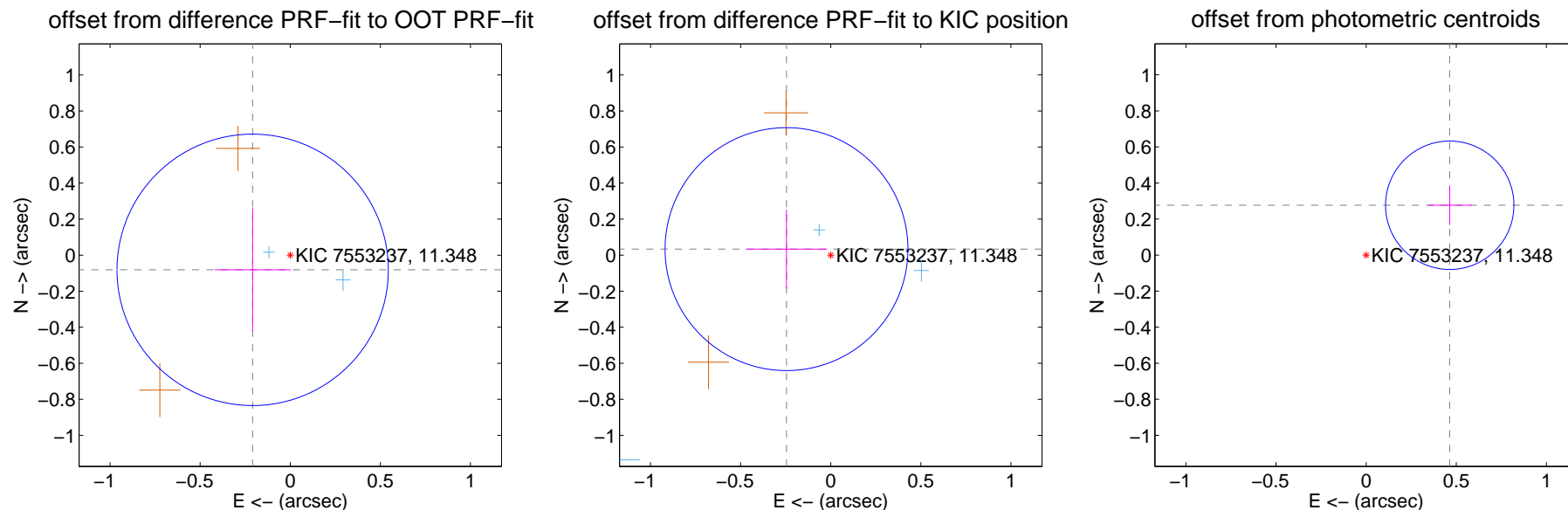
DV Centroid Data

Supplemental centroid analysis for 007553237-06. **Kepler magnitude: 11.35.** Transit SNR 8.21

There are 4 quarters with good PRF difference image offsets

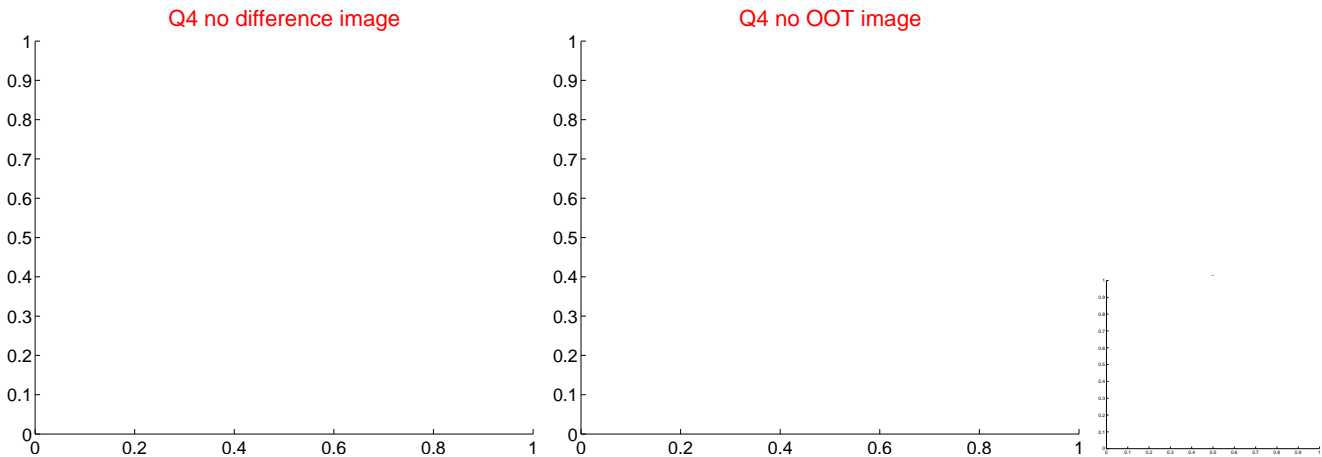
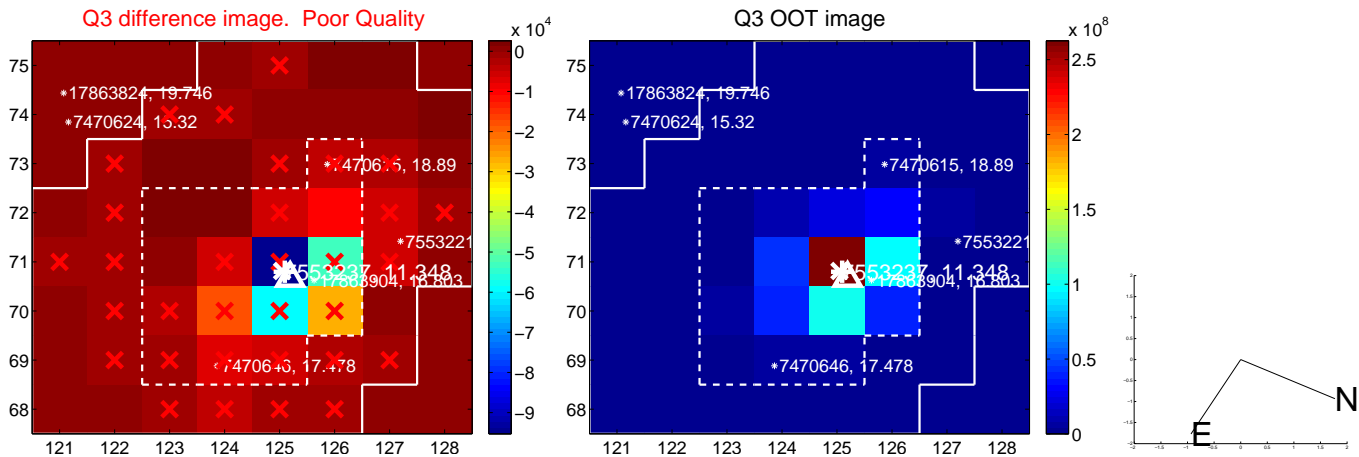
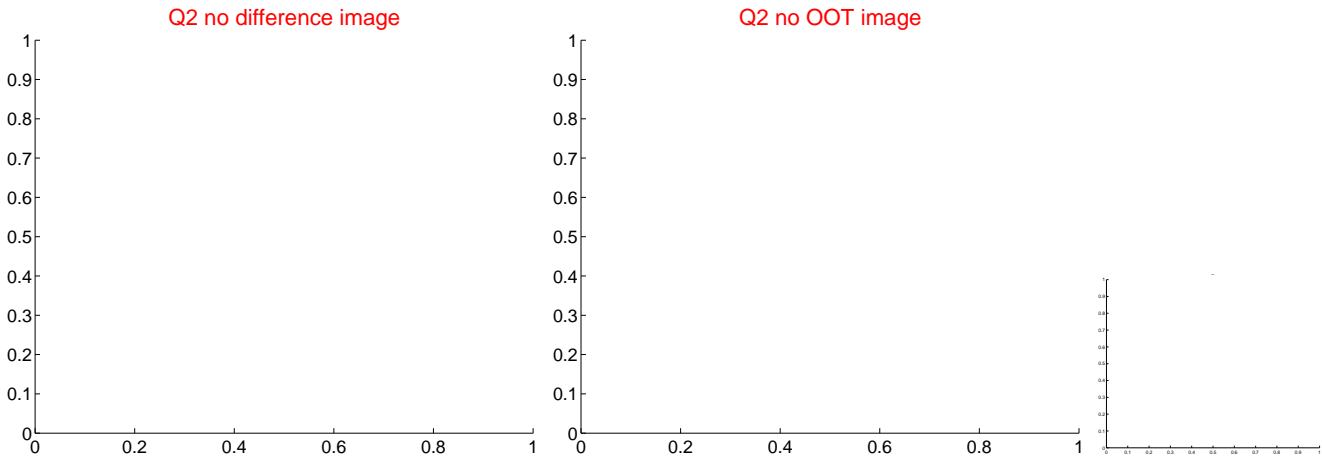
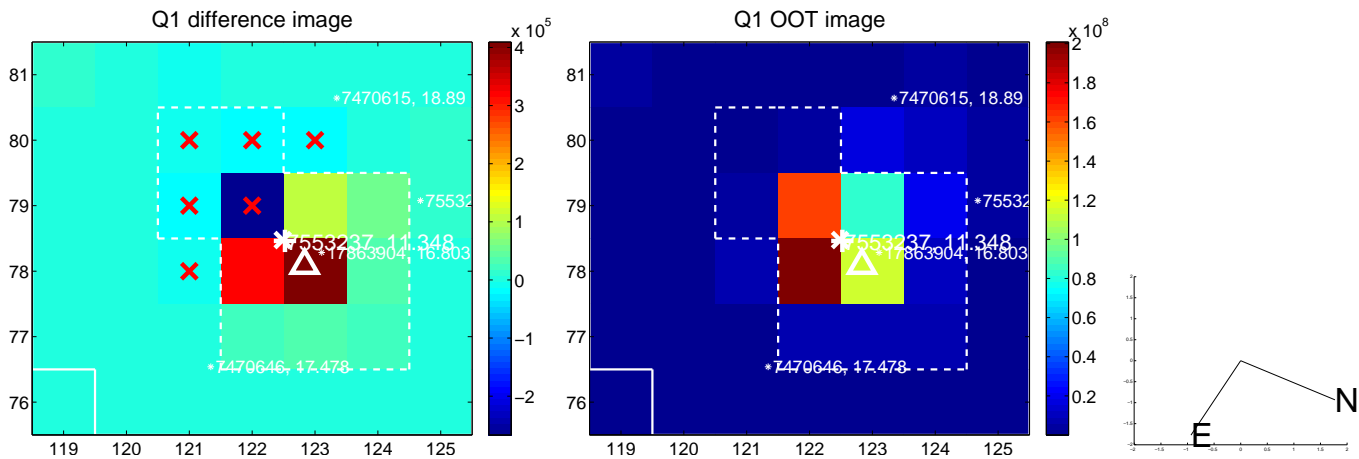
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.224 ± 0.251	0.89	0.209 ± 0.211	-0.082 ± 0.343
PRF-fit source offset from KIC position	0.248 ± 0.225	1.10	0.245 ± 0.225	0.033 ± 0.219
photometric centroid source offset	0.54 ± 0.12	4.55	-0.46 ± 0.12	0.28 ± 0.11

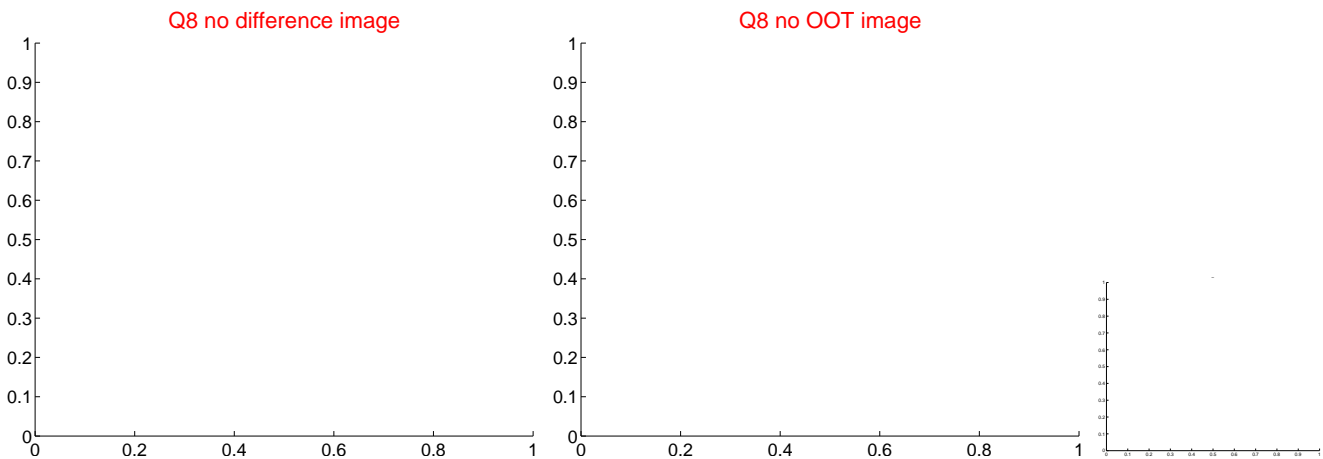
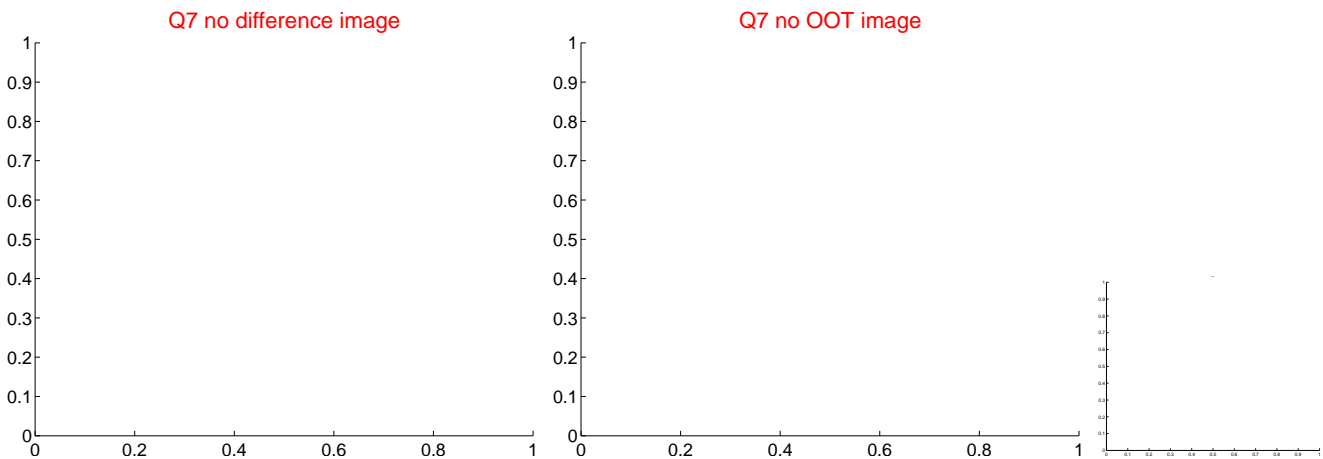
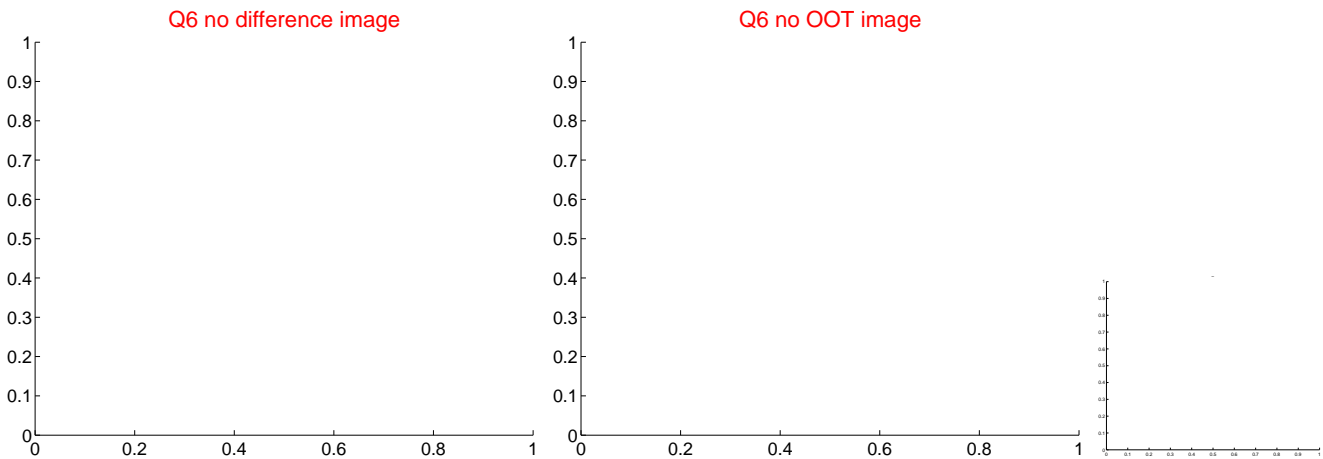
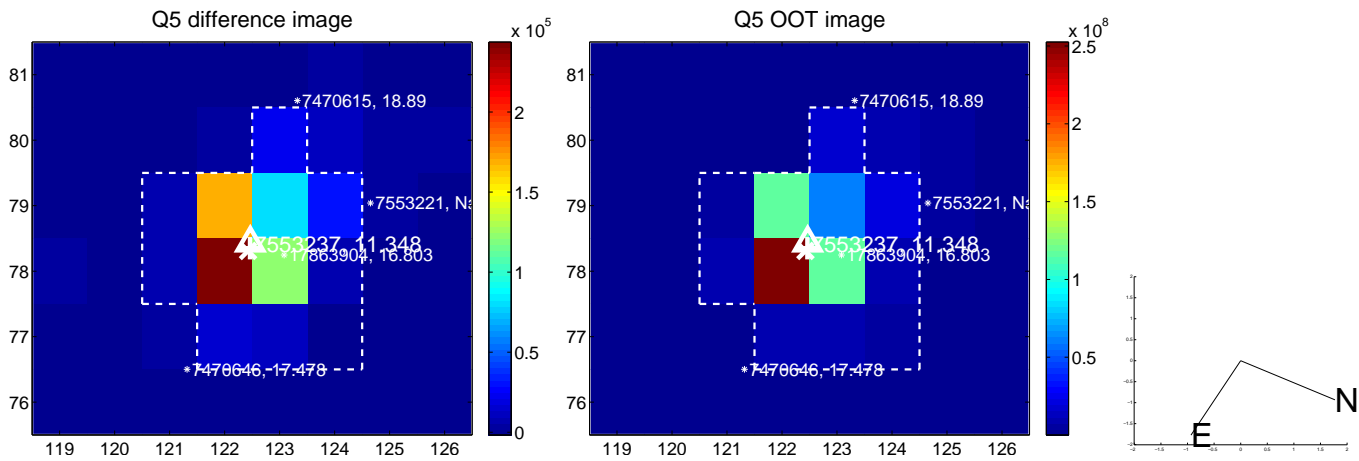


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

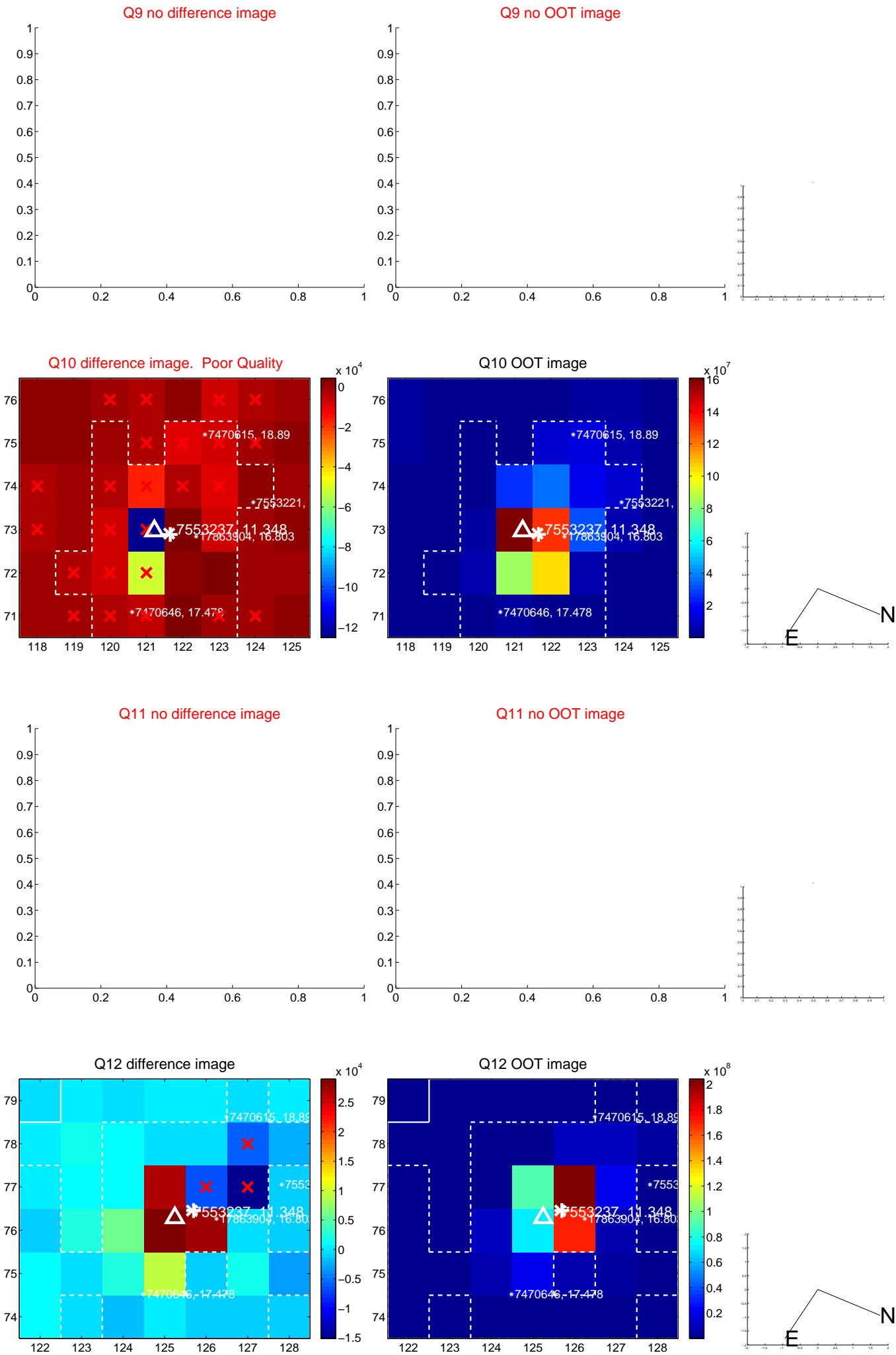
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



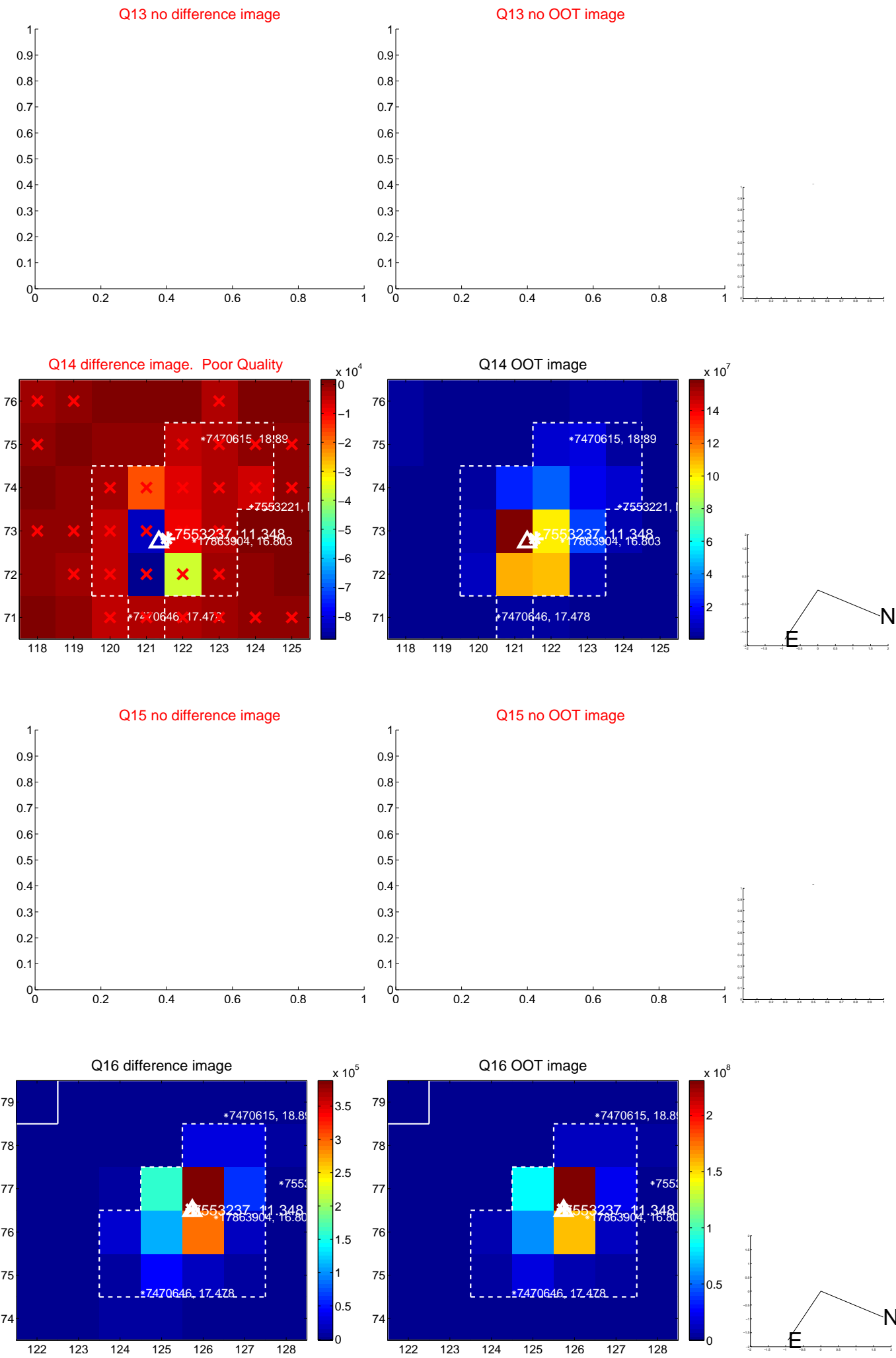
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



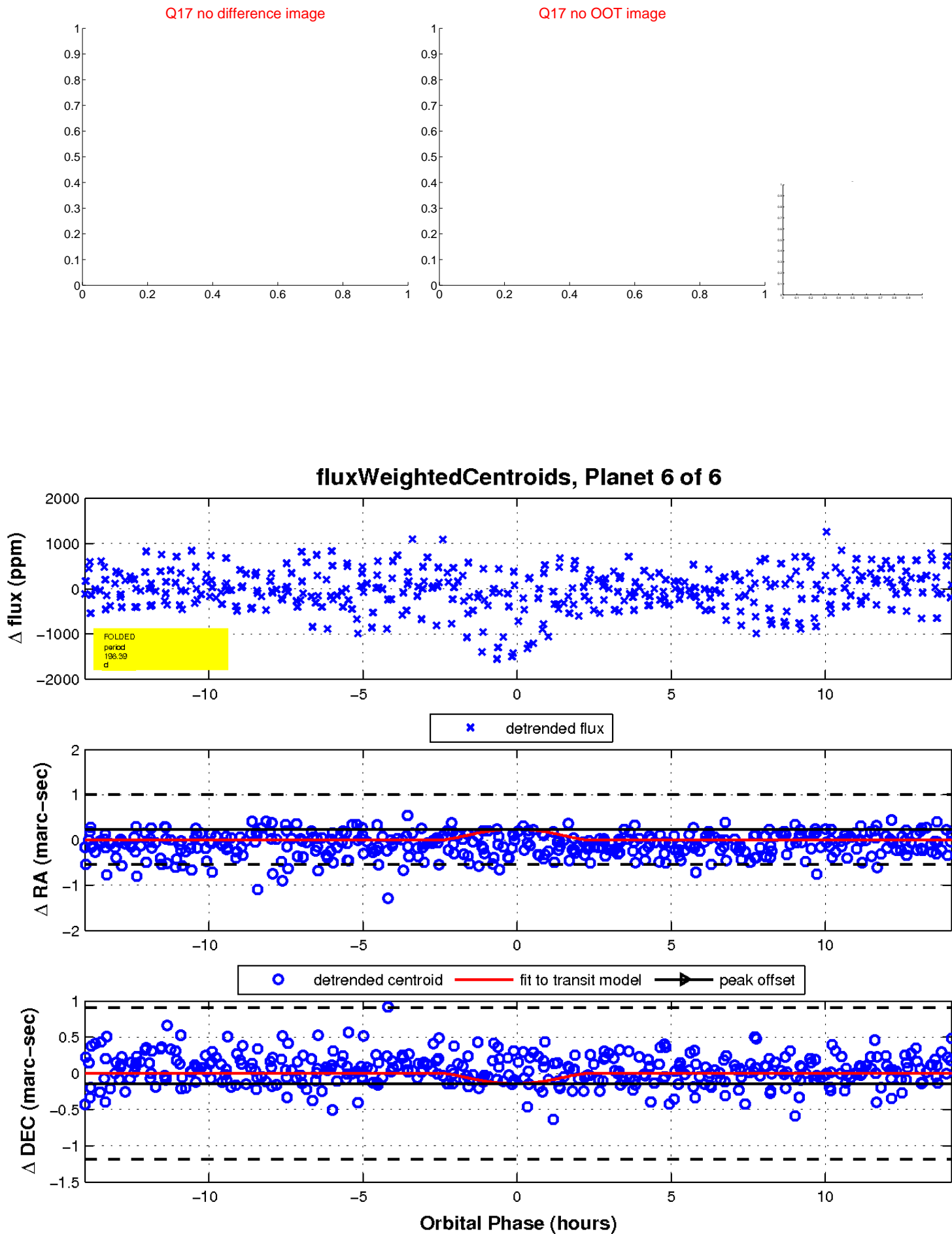
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

