

KIC 011918550

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})
011918550-01	OBS	No	557.912049	458.415745	207.4	5.964	13.5	5.7	0.50	3844	0.82	0.04
011918550-02	OBS	No	422.704558	243.621606	436.9	19.983	11.2	10.4	0.50	3844	2.12	0.06
011918550-03	OBS	No	492.457026	247.468451	310.1	13.189	9.3	7.5	0.50	3844	0.94	0.05
011918550-04	OBS	No	260.455488	238.914600	219.5	14.810	8.3	8.0	0.50	3844	0.76	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011918550-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
011918550-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
011918550-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011918550-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

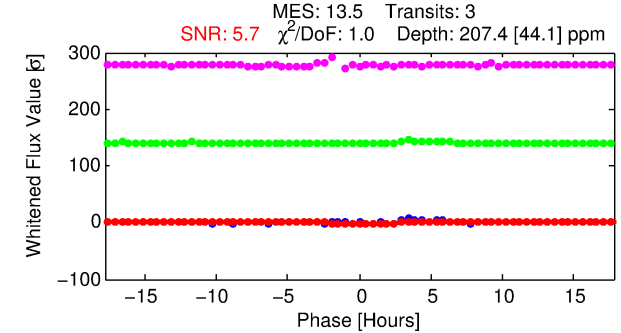
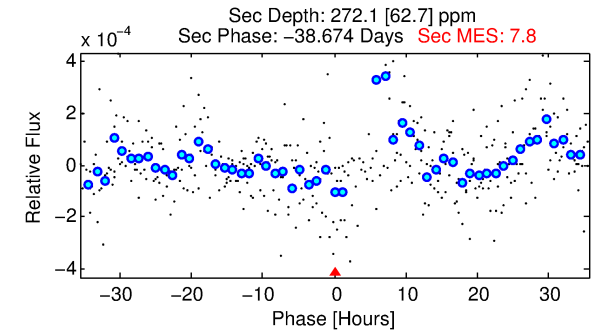
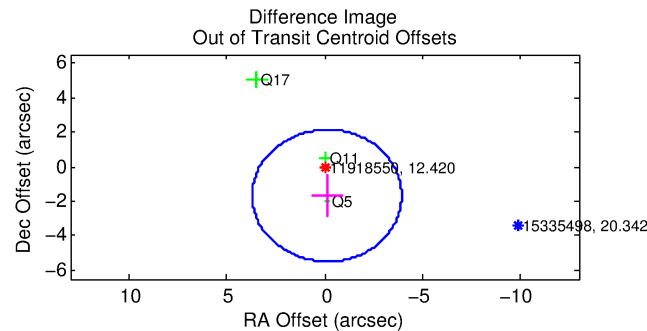
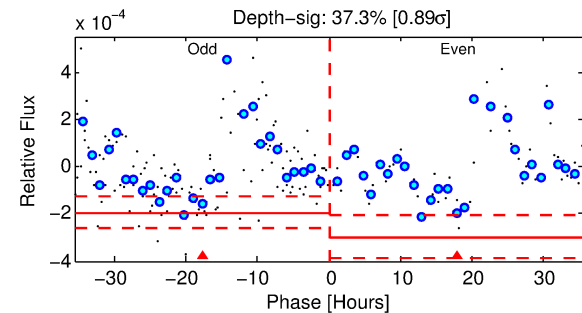
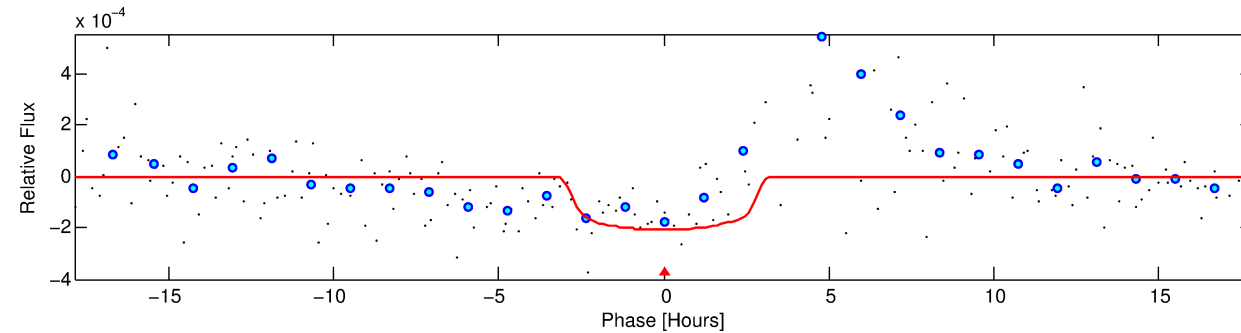
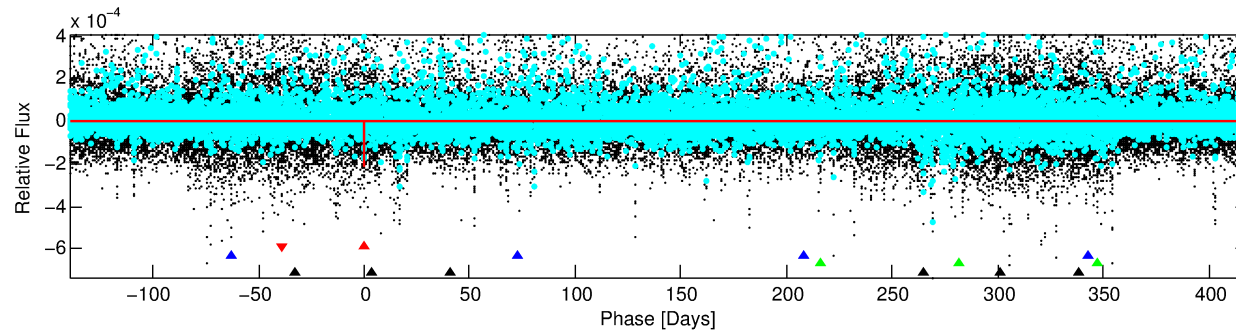
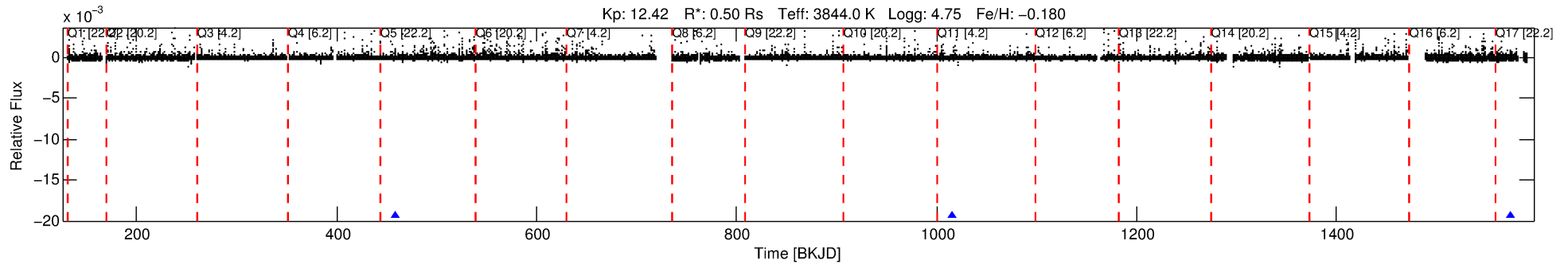
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011918550-01

No Significant Match Found

DV One-Page Summary

KIC: 11918550 Candidate: 1 of 4 Period: 557.912 d



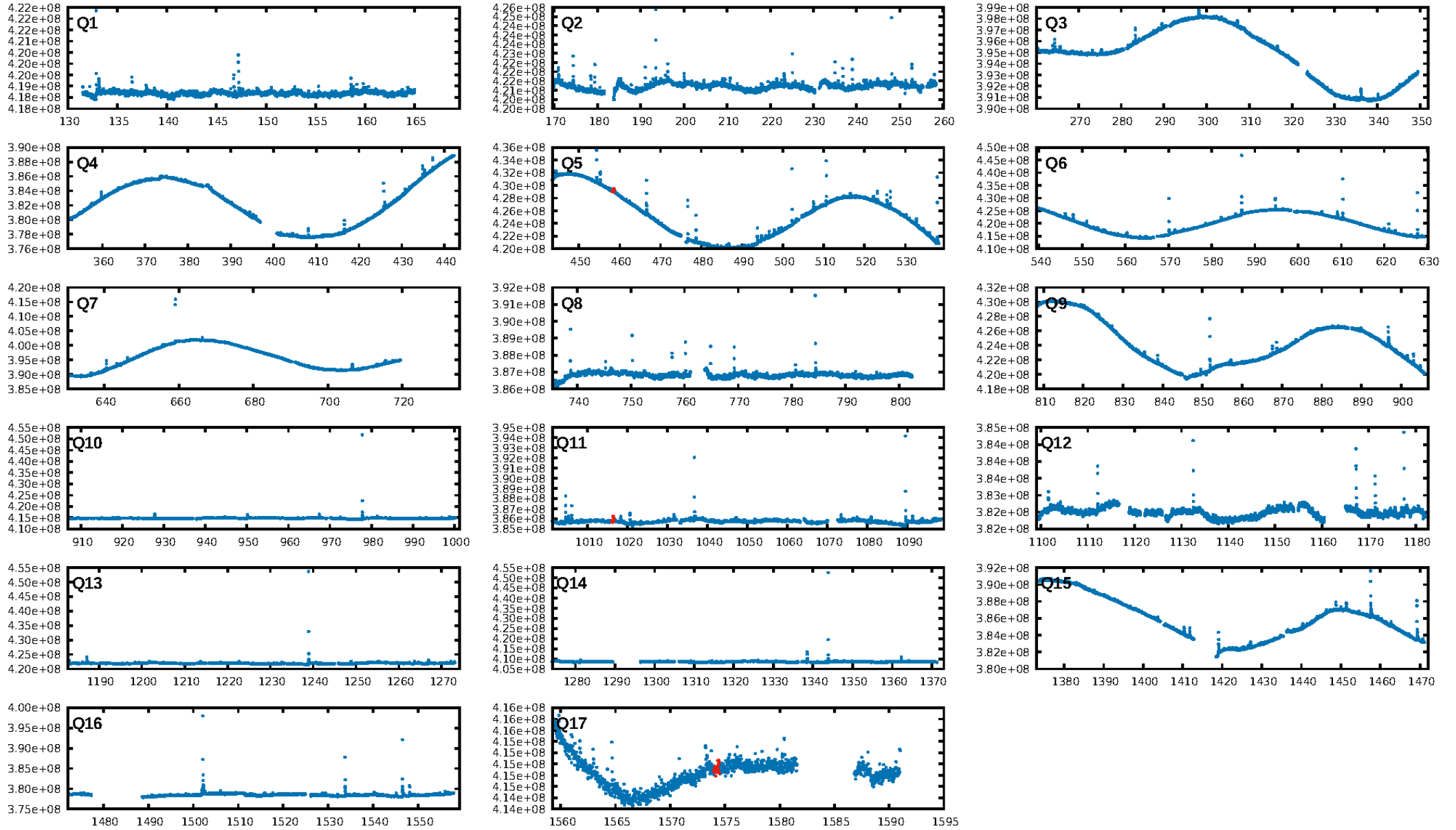
DV Fit Results:

Period = 557.91205 [0.01146] d
Epoch = 458.4157 [0.0115] BKJD
Rp/R* = 0.0149 [0.0108]
a/R* = 410.98 [1341.07]
b = 0.84 [1.18]
Seff = 0.04 [0.01]
Teq = 116 [8] K
Rp = 0.82 [0.61] Re
a = 1.0688 [0.1582] AU
Ag = 256612.86 [379956.40] [0.68 σ]
Teffp = 4044 [1494] K [2.63 σ]

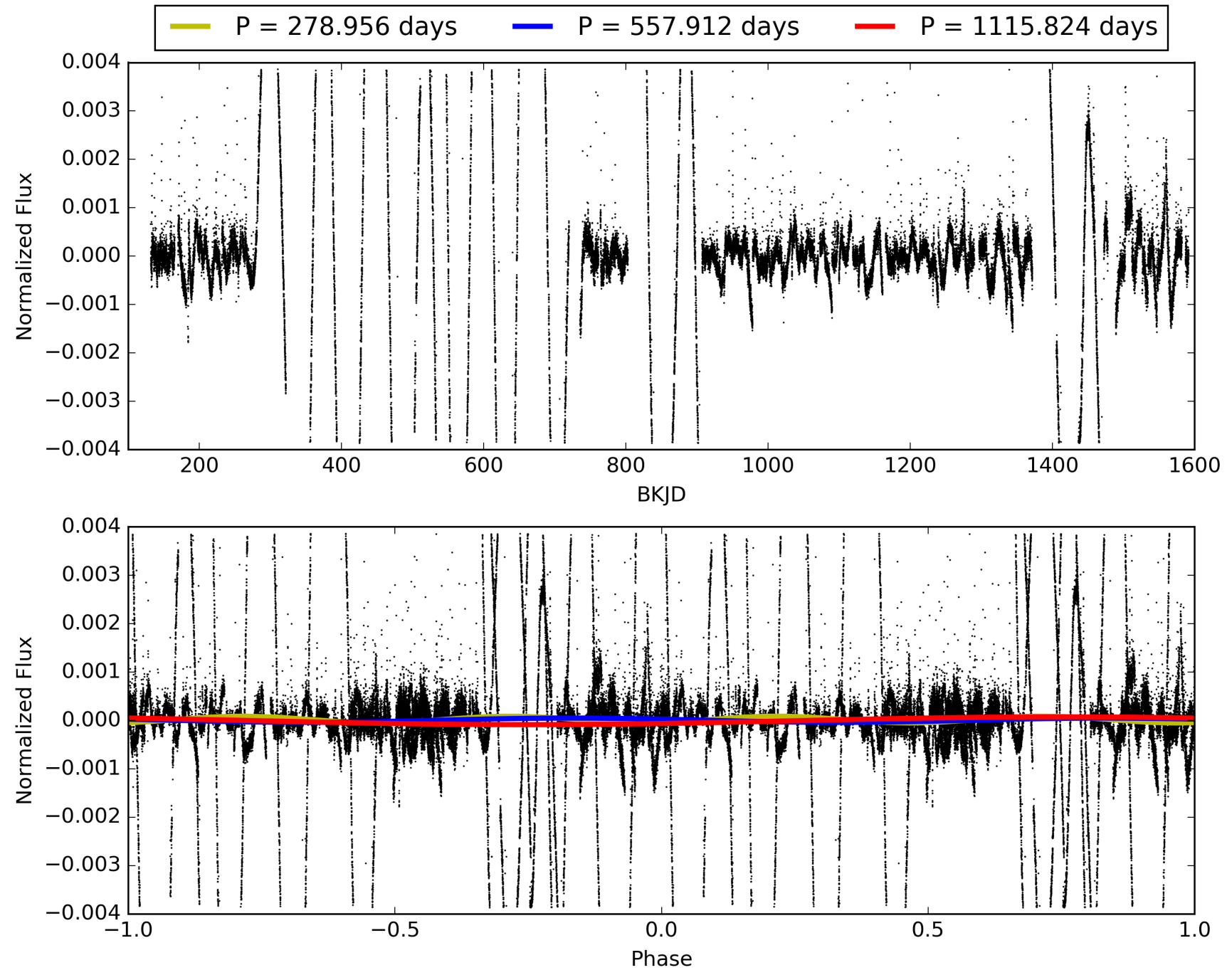
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [108.53 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.6%
ModelChiSquareGof-sig: 94.9%
Bootstrap-pfa: 2.49e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.1003
Centroid-sig: 7.8%
Centroid-so: 1.324 arcsec [1.25 σ]
OotOffset-rm: 1.685 arcsec [1.33 σ]
KicOffset-rm: 0.296 arcsec [0.34 σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 011918550-01, PDC Light Curves

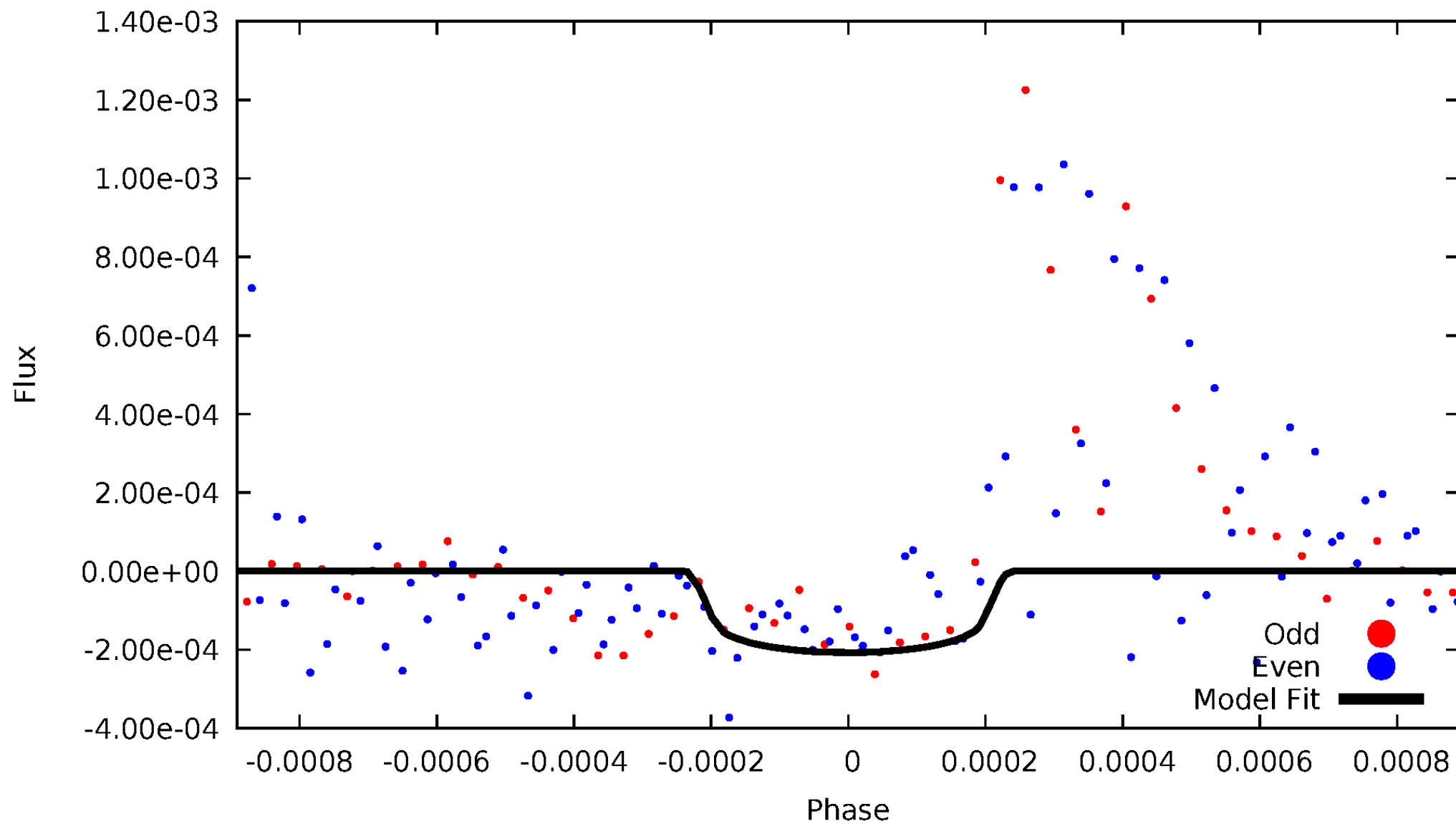


TCE 011918550-01



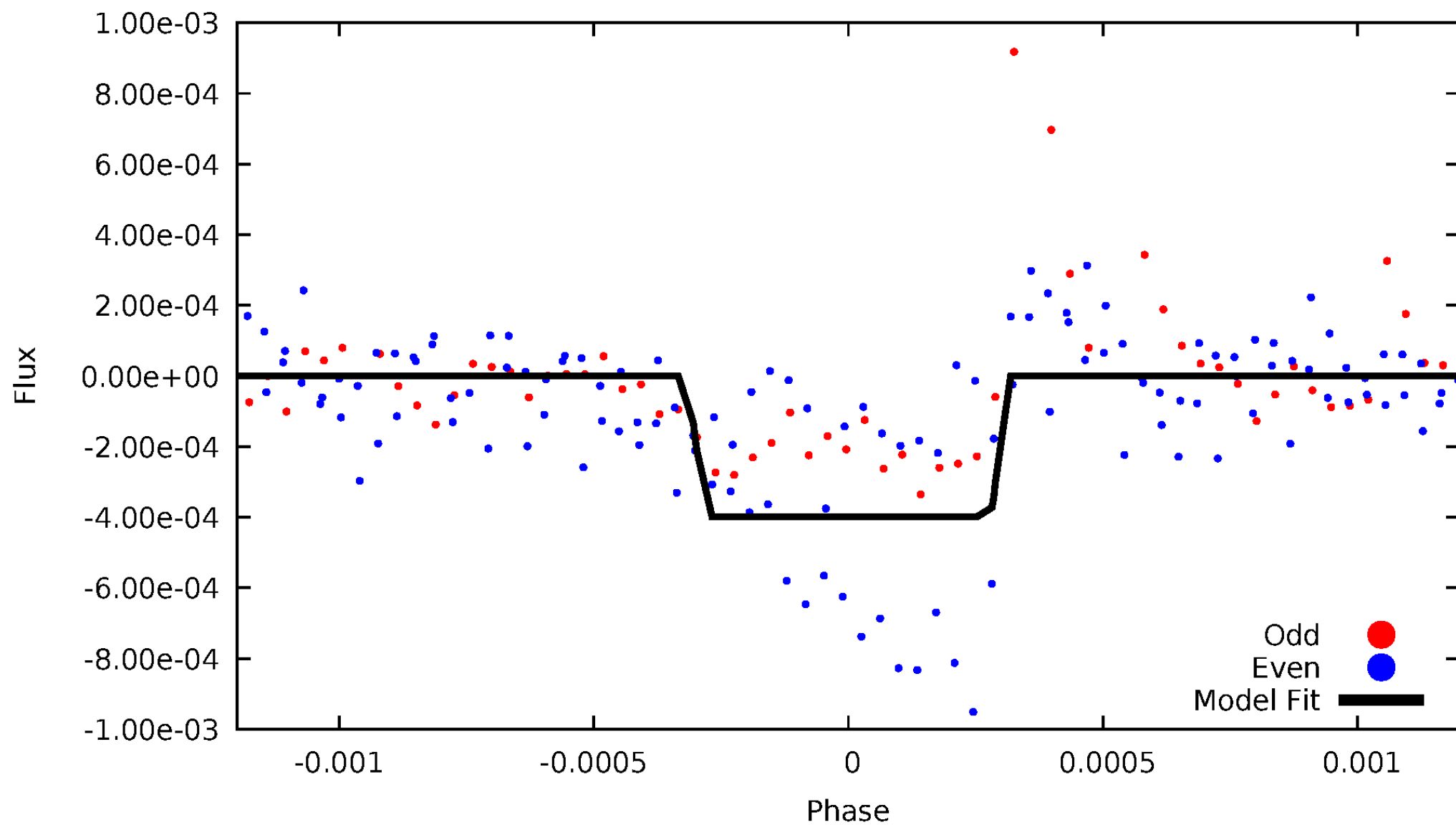
DV Odd/Even

TCE 011918550-01



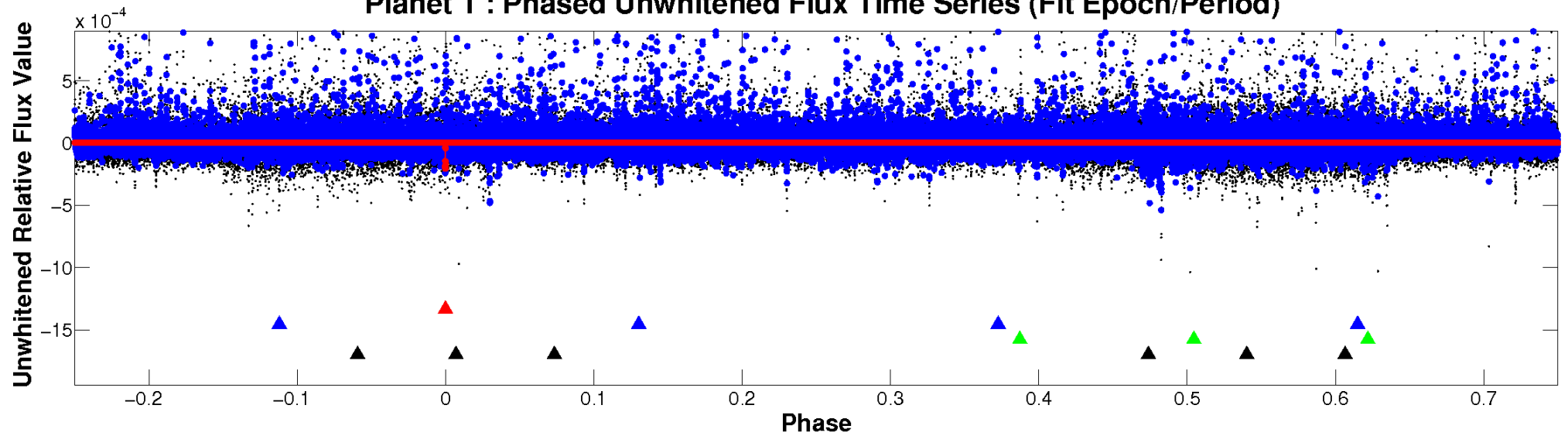
ALT Odd/Even

TCE 011918550-01

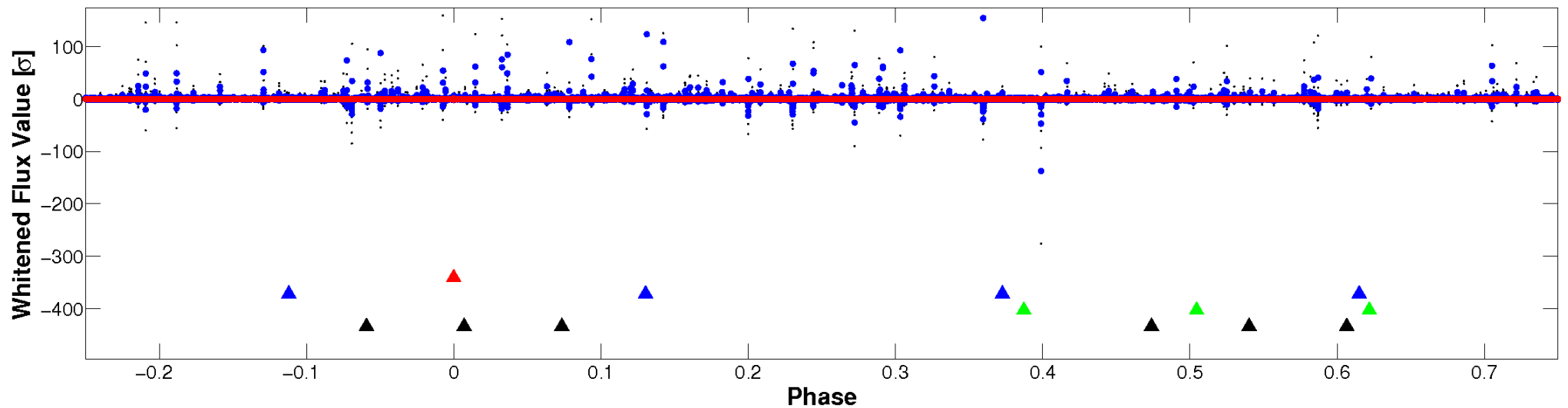


Non-Whitened Vs. Whitened Light Curve

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

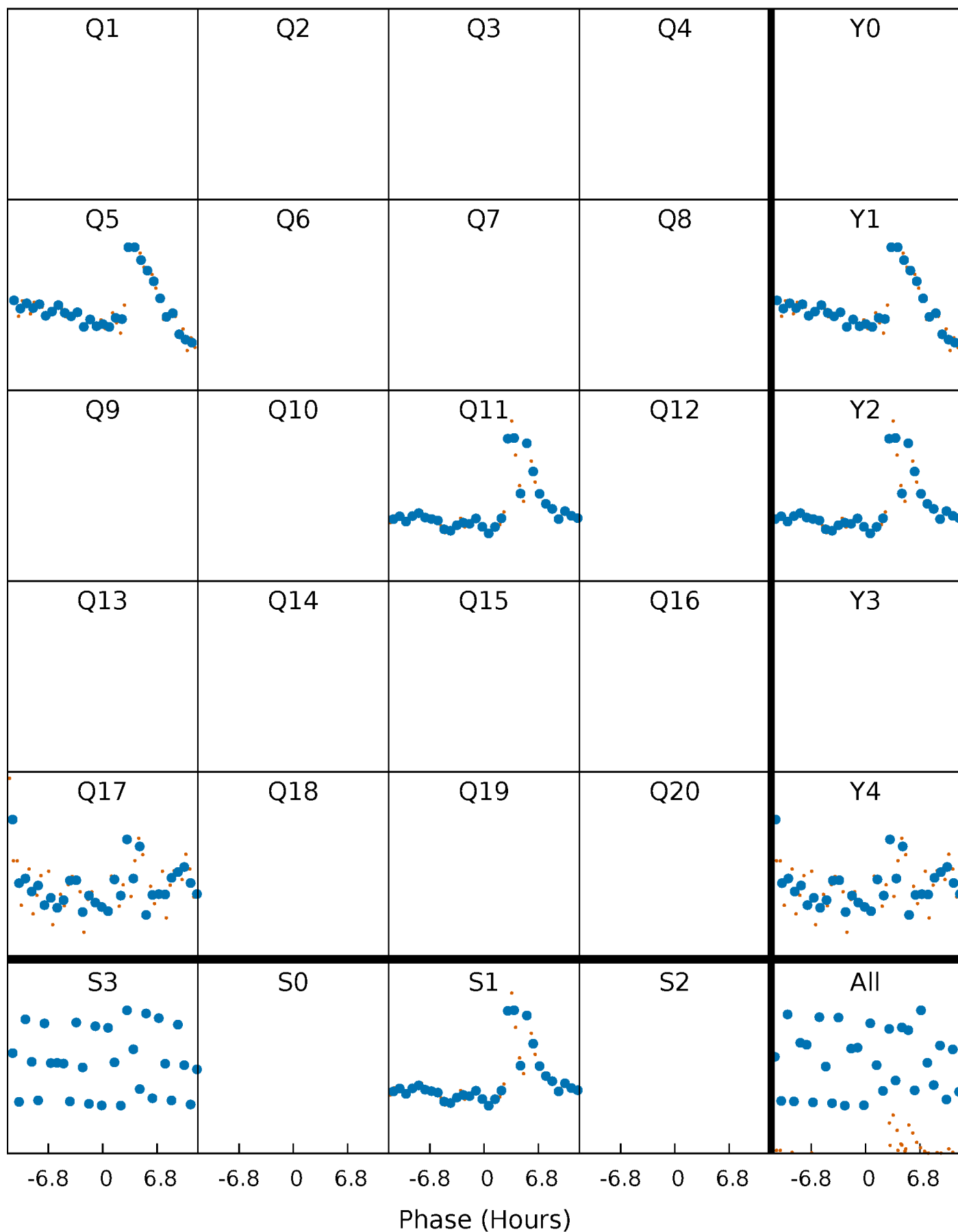


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



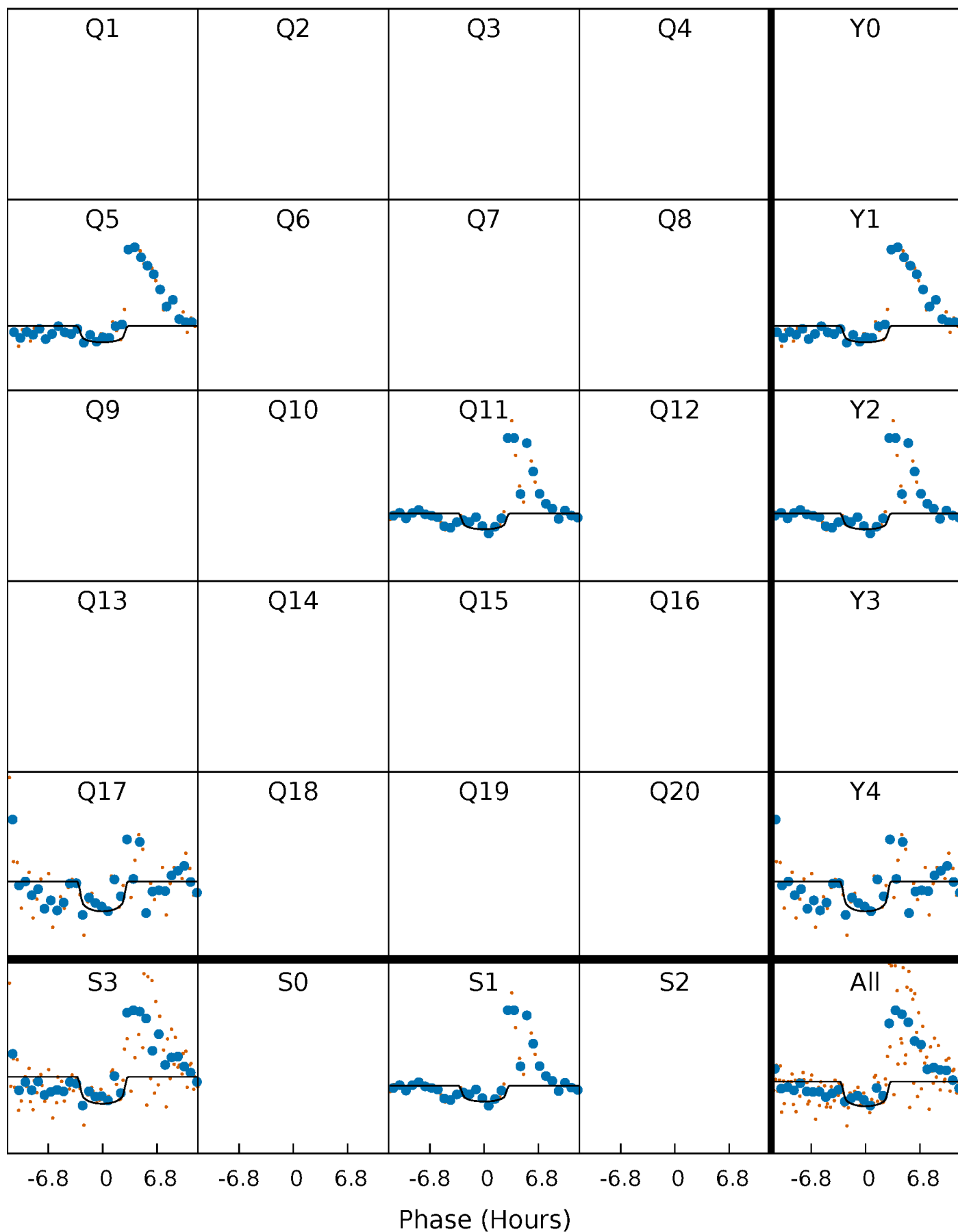
PDC Quarter-Phased Transit Curves

TCE 011918550-01 P=557.912049 Days $T_0=458.415745$ (BKJD)



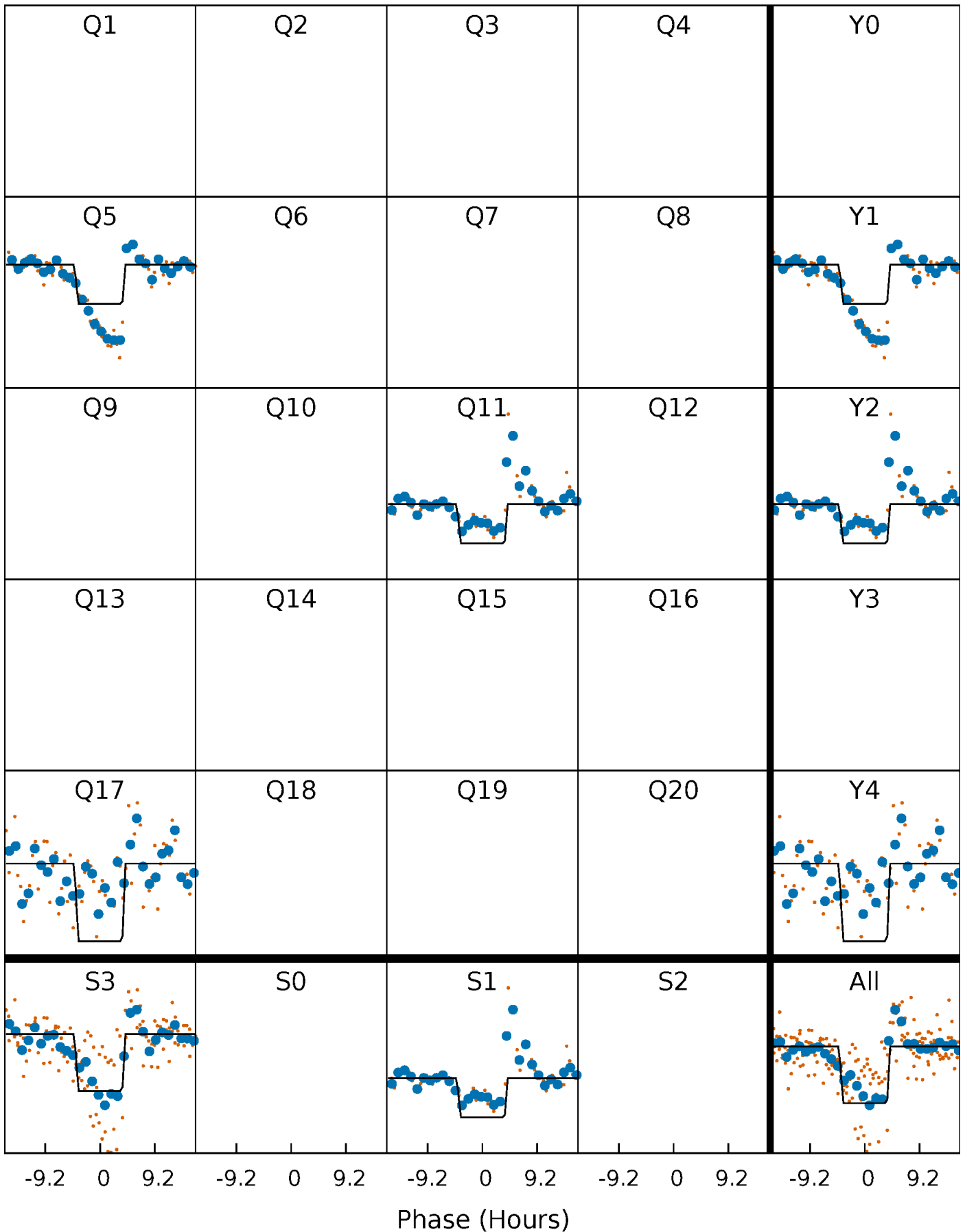
DV Quarter-Phased Transit Curves

TCE 011918550-01 P=557.912049 Days $T_0=458.415745$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

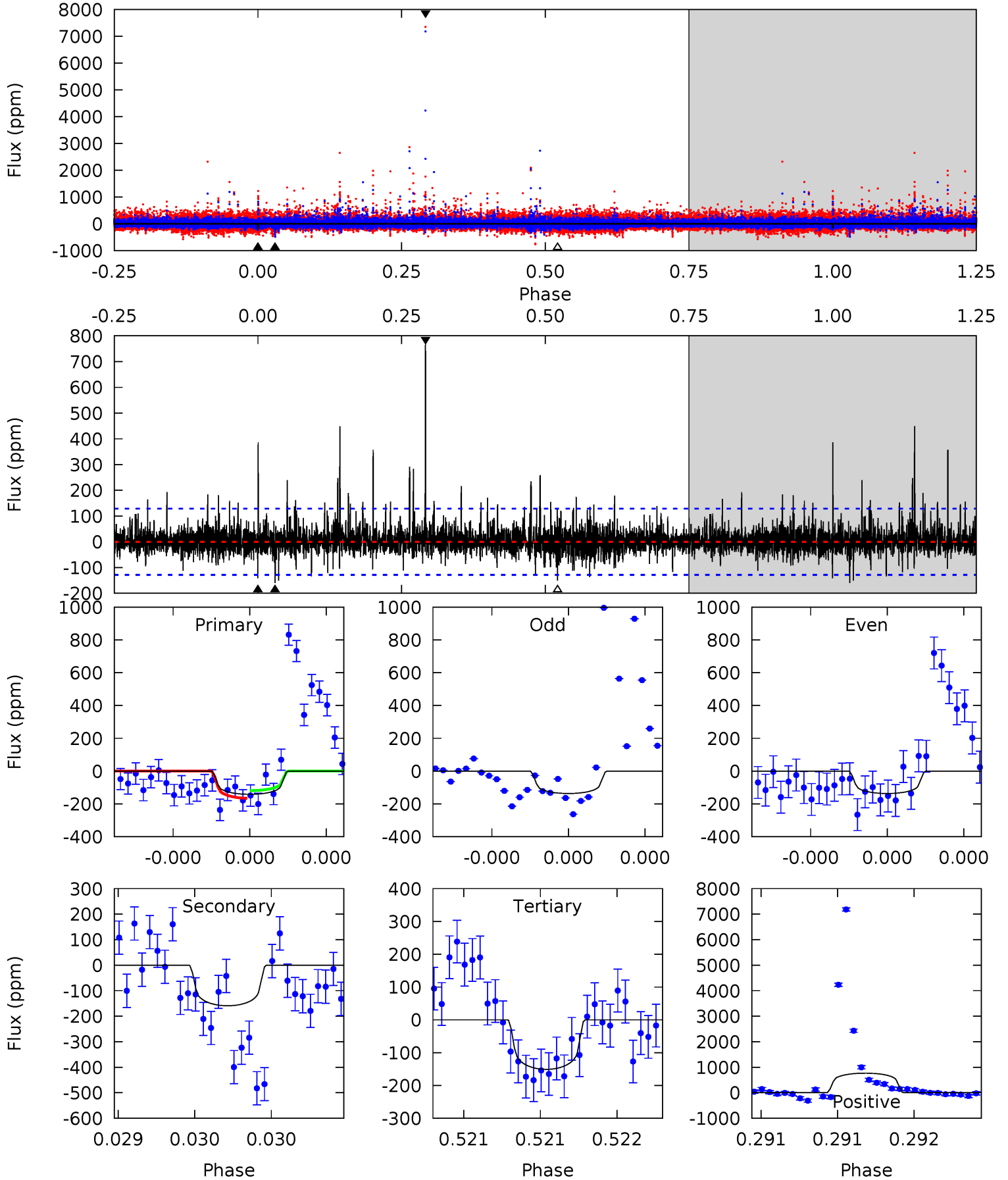
TCE 011918550-01 P=557.897489 Days $T_0=458.372481$ (BKJD)



DV Model-Shift Uniqueness Test

011918550-01, P = 557.912049 Days, E = 458.415745 Days

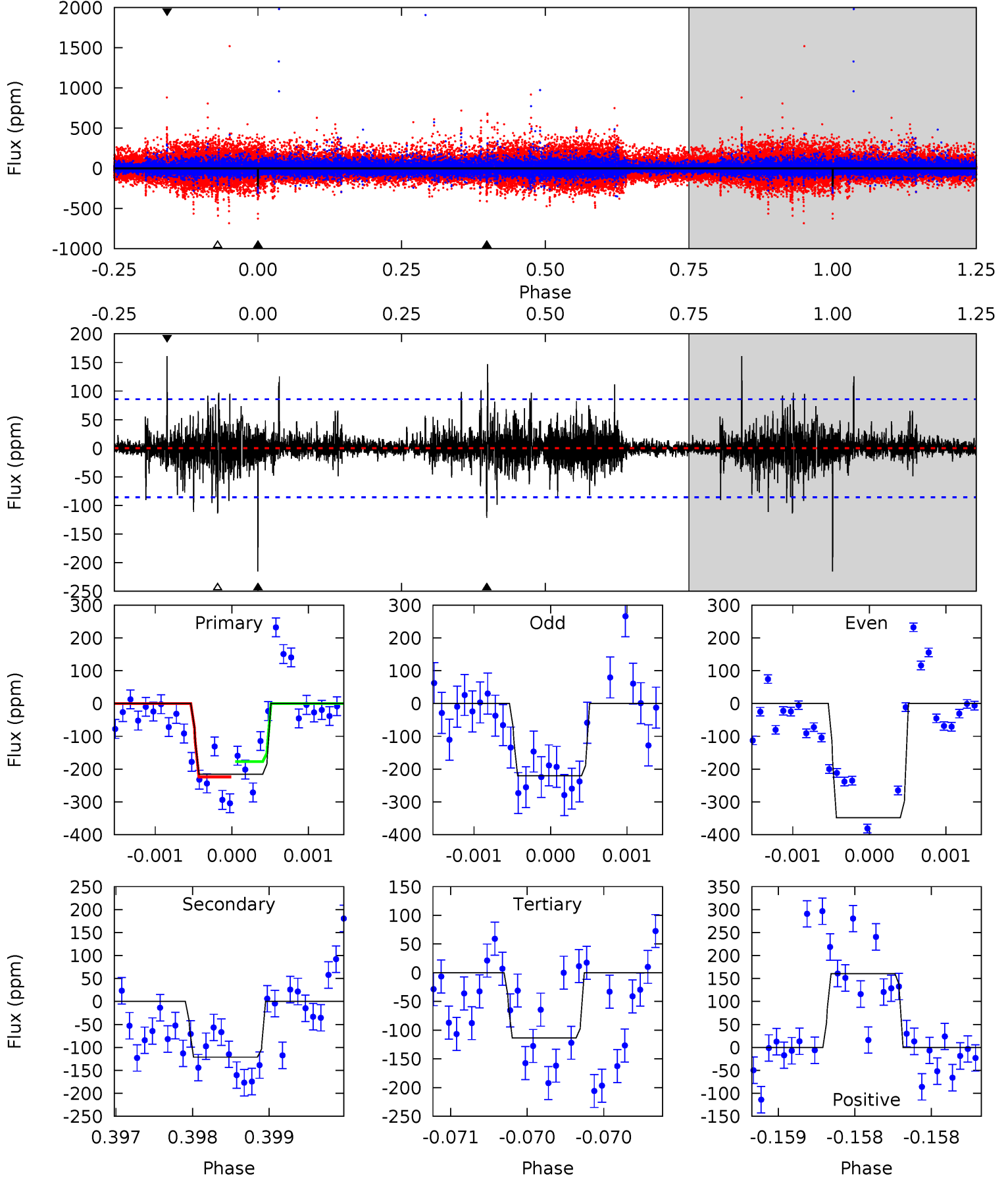
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.15	6.91	6.55	33.4	5.58	3.49	1.88	-0.40	-27.2	0.36	-26.5	0.00	1.00	0.83	1.02



Alt Model-Shift Uniqueness Test

011918550-01, P = 557.897489 Days, E = 458.372481 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	7.84	7.33	10.4	5.53	3.42	1.24	6.59	3.54	0.51	-2.54	3.63	1.47	0.43	1.49



Stellar Parameters For KIC 011918550

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3844^{+121}_{-162}	$4.755^{+0.098}_{-0.053}$	$-0.180^{+0.300}_{-0.350}$	$0.502^{+0.064}_{-0.096}$	$0.524^{+0.058}_{-0.094}$	$5.816^{+3.192}_{-1.224}$
	+3%/-4%	+2%/-1%	+167%/-194%	+13%/-19%	+11%/-18%	+55%/-21%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011918550-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-159 ± 23	$0.83^{+0.61}_{-0.48}$	161^{+7}_{-9}	3579^{+1293}_{-556}	$146897^{+663612}_{-98643}$
Alt.	-121 ± 15	$1.09^{+0.58}_{-0.53}$	160^{+8}_{-8}	3144^{+766}_{-361}	$63106^{+180794}_{-36669}$

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

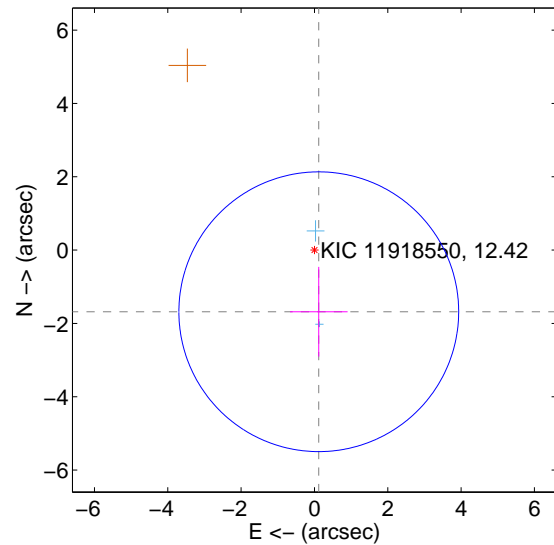
Supplemental centroid analysis for 011918550-01. Kepler magnitude: 12.42. Transit SNR 5.74

There are 2 quarters with good PRF difference image offsets

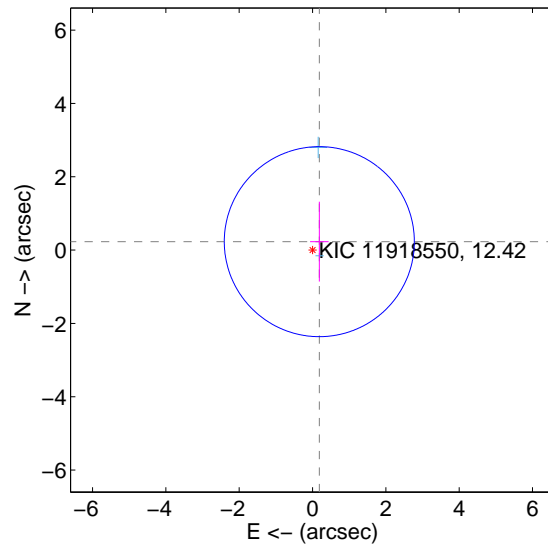
The OOT PRF centroid is offset from the target star catalog position by about 2.59 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.685 ± 1.272	1.33	-0.118 ± 0.786	-1.681 ± 1.223
PRF-fit source offset from KIC position	0.296 ± 0.864	0.34	-0.185 ± 0.253	0.230 ± 1.089
photometric centroid source offset	1.32 ± 1.06	1.25	-0.75 ± 0.78	1.09 ± 1.17

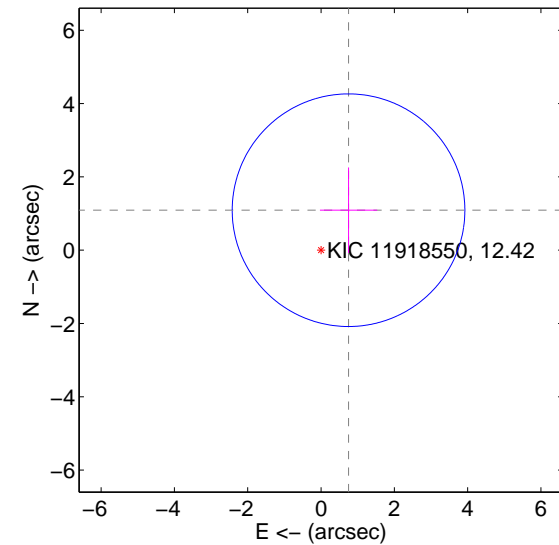
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

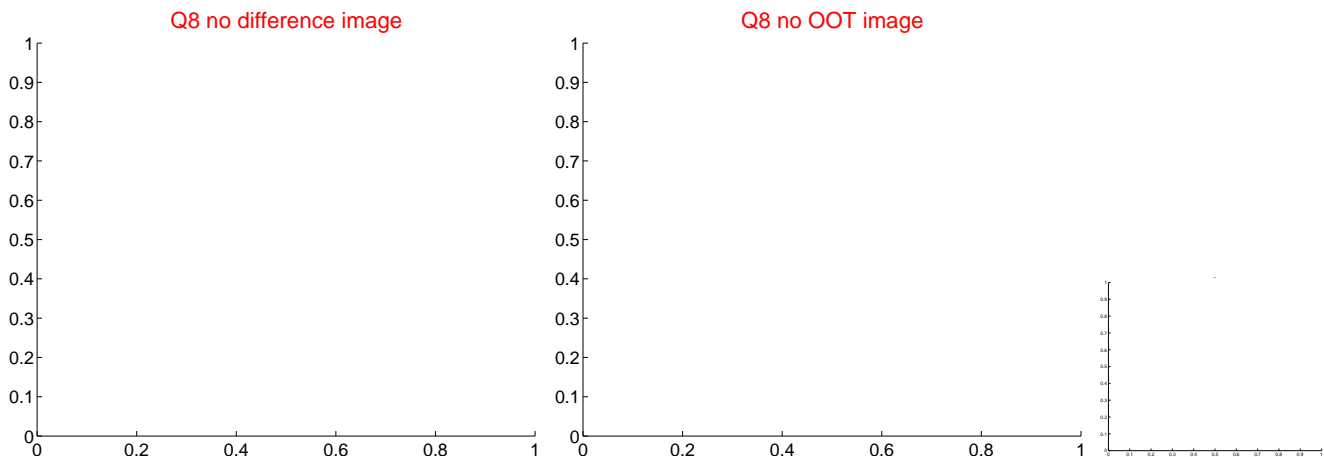
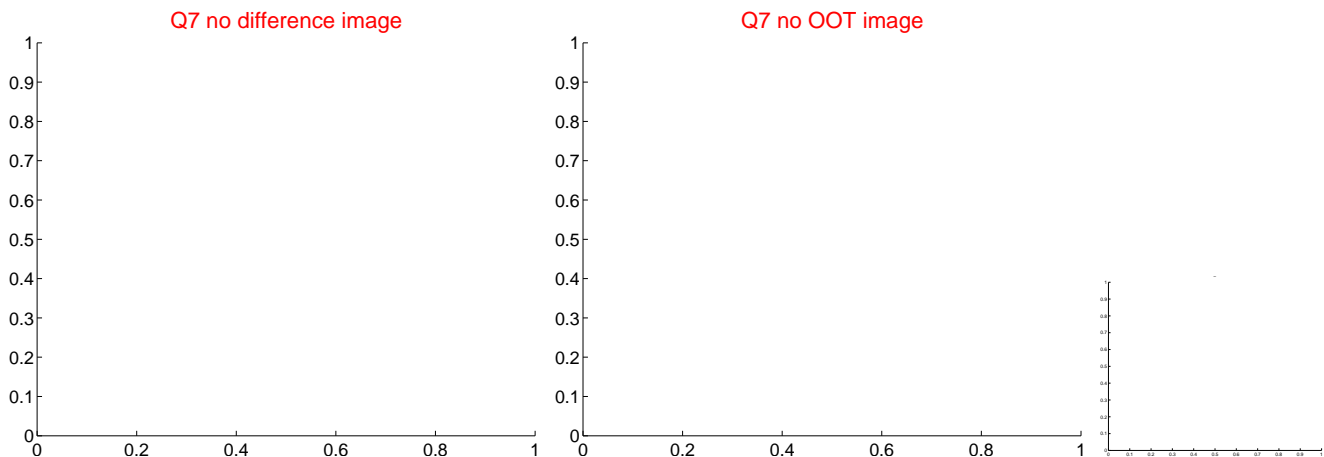
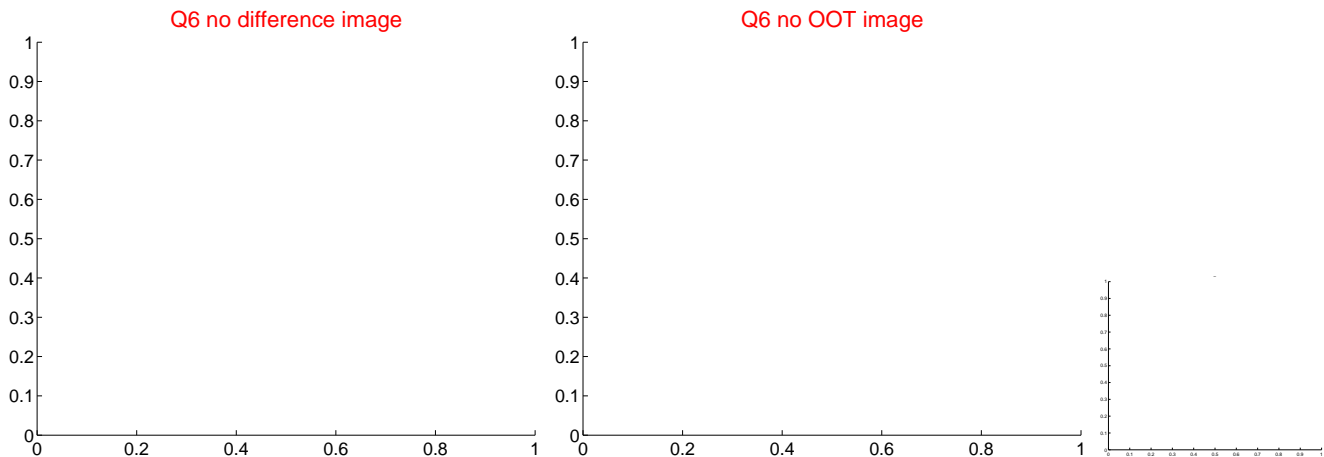
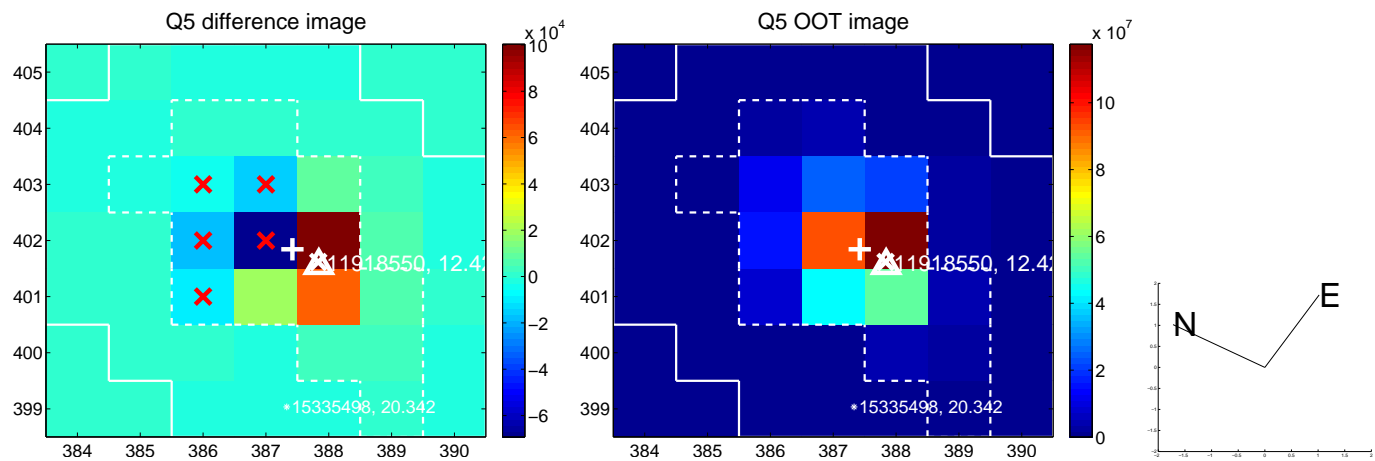


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

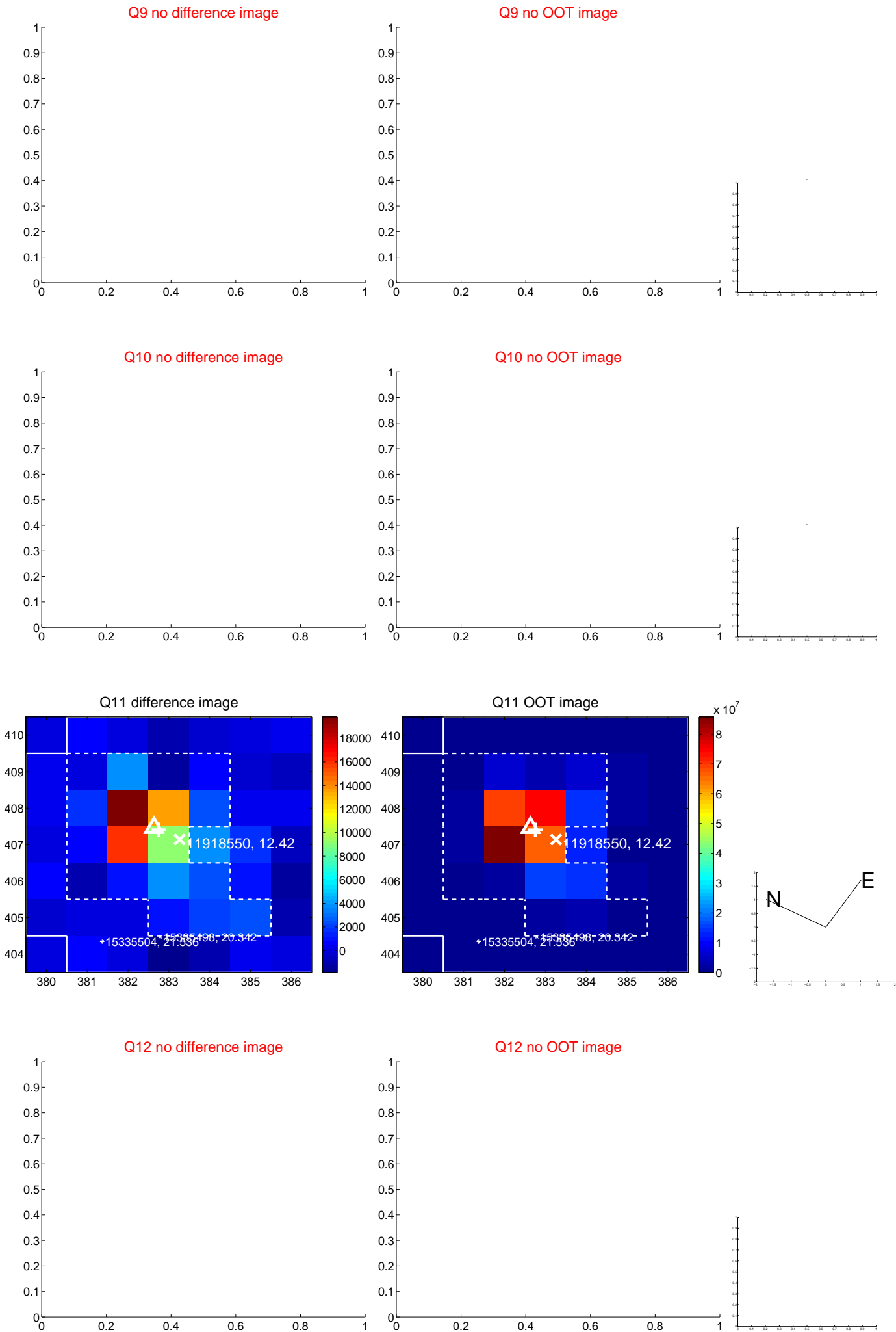
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



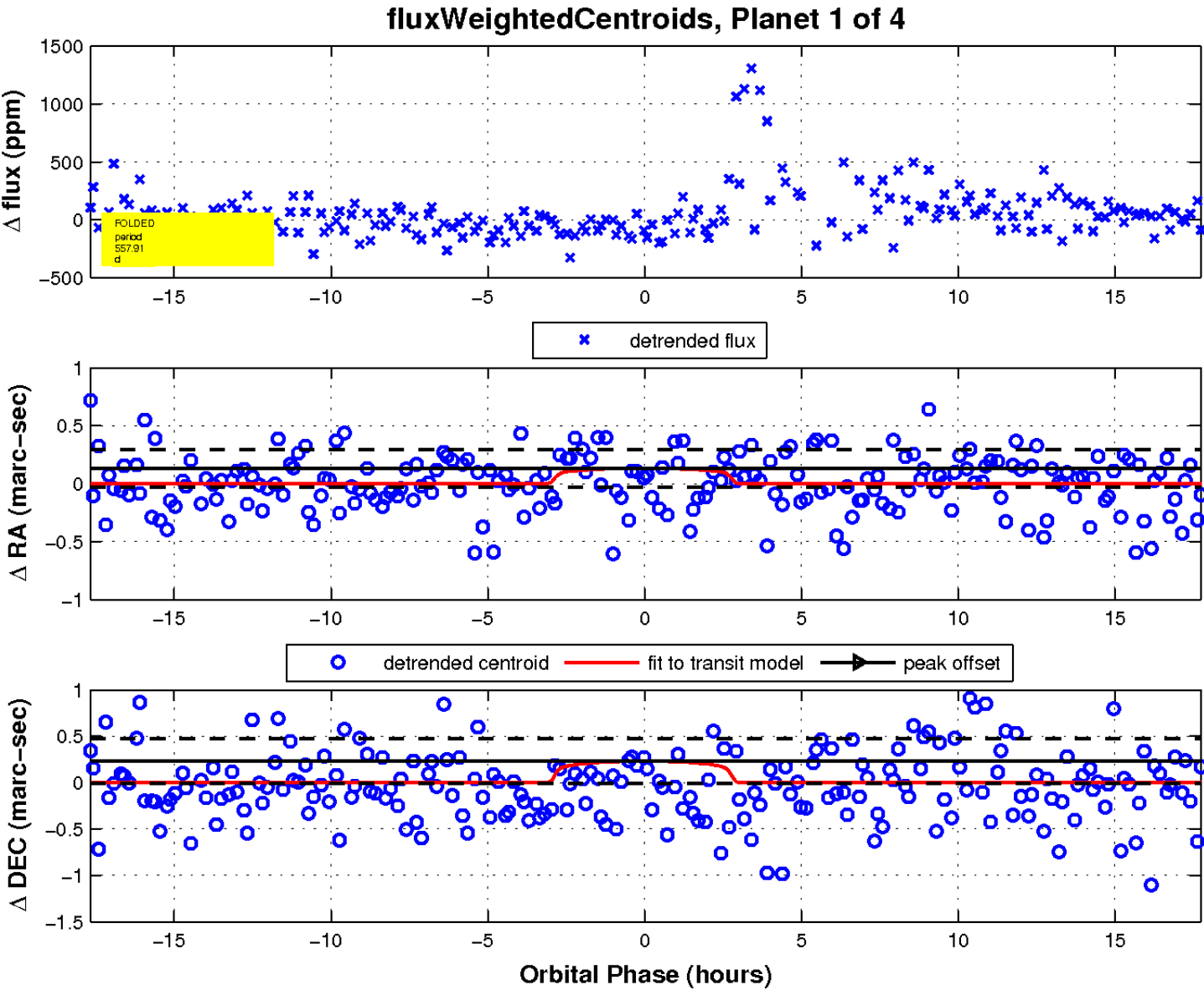
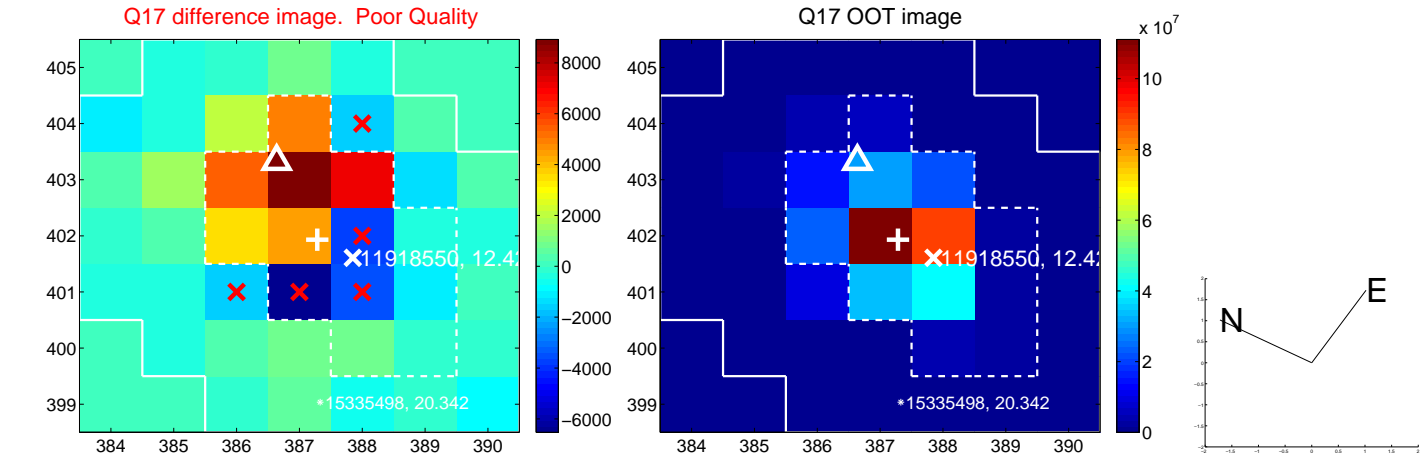
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



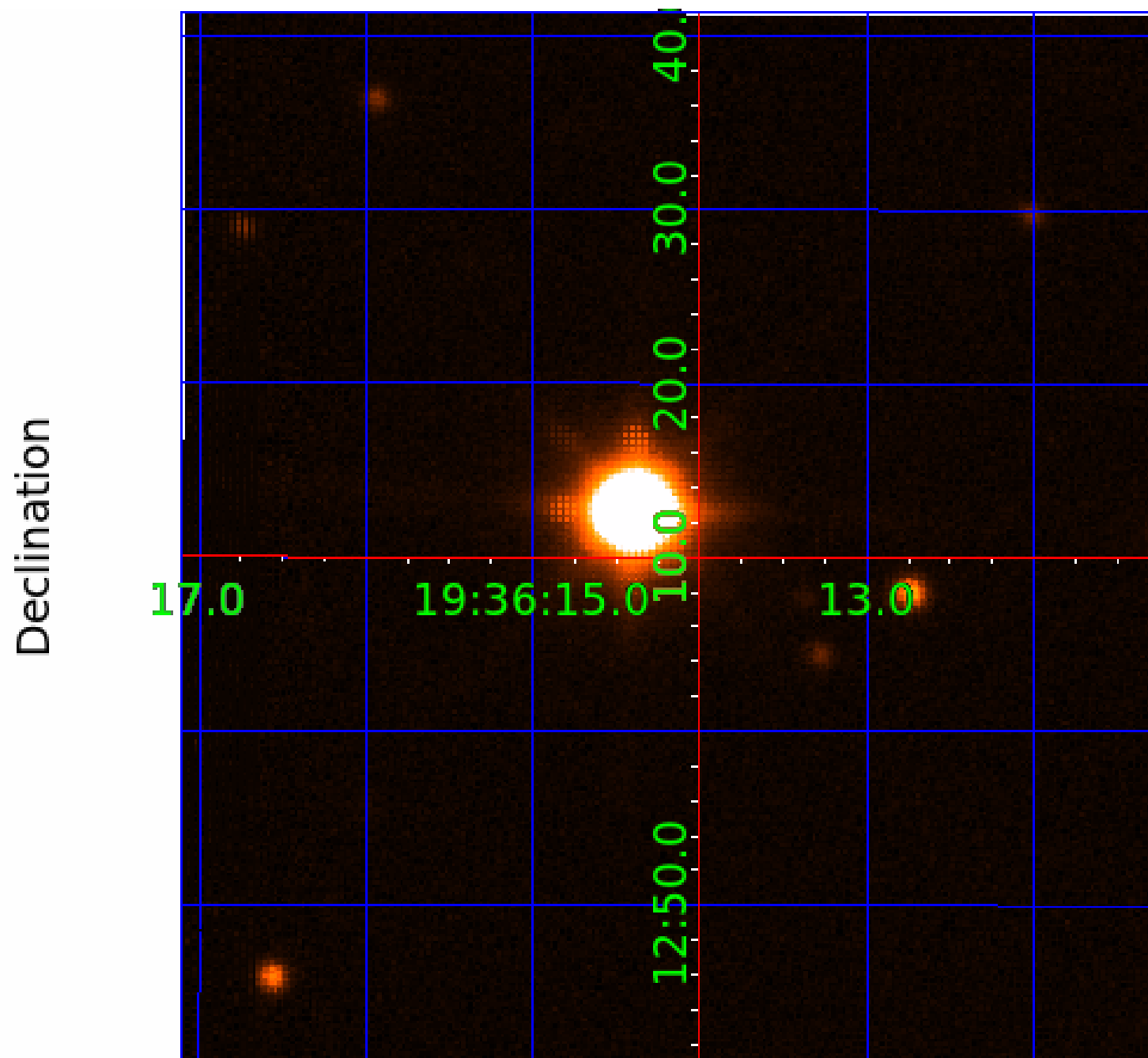
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011918550

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})
011918550-01	OBS	No	557.912049	458.415745	207.4	5.964	13.5	5.7	0.50	3844	0.82	0.04
011918550-02	OBS	No	422.704558	243.621606	436.9	19.983	11.2	10.4	0.50	3844	2.12	0.06
011918550-03	OBS	No	492.457026	247.468451	310.1	13.189	9.3	7.5	0.50	3844	0.94	0.05
011918550-04	OBS	No	260.455488	238.914600	219.5	14.810	8.3	8.0	0.50	3844	0.76	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011918550-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
011918550-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
011918550-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011918550-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

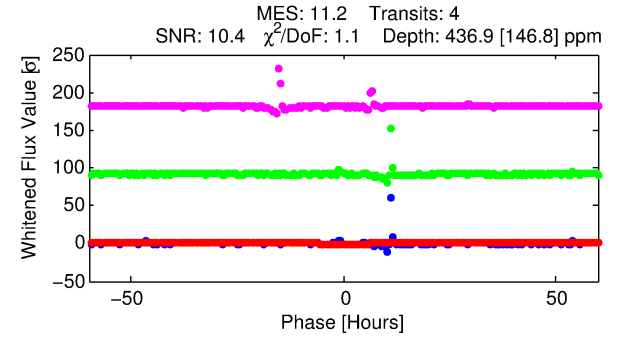
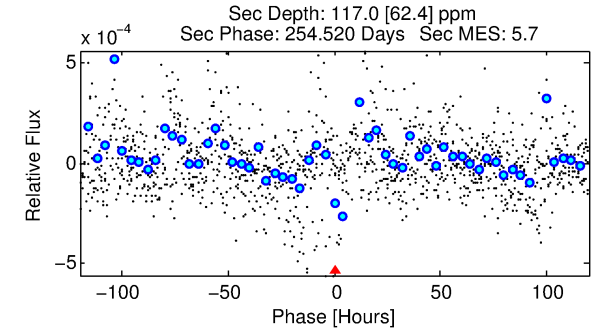
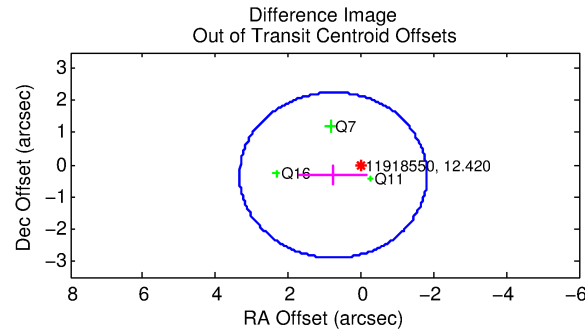
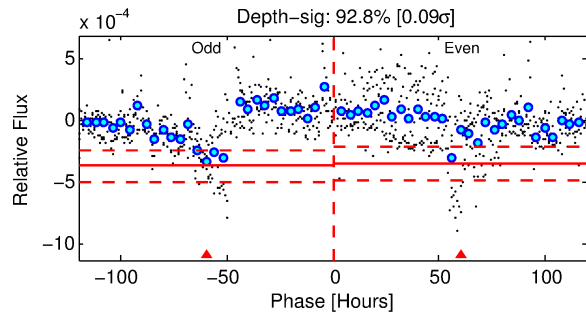
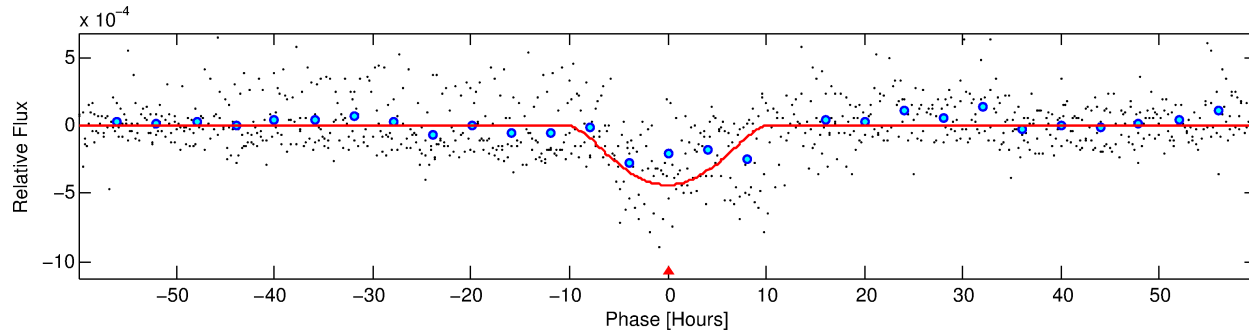
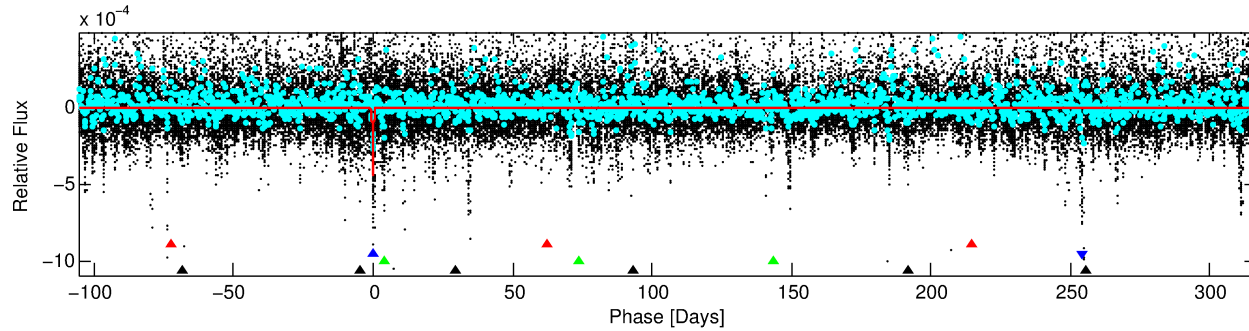
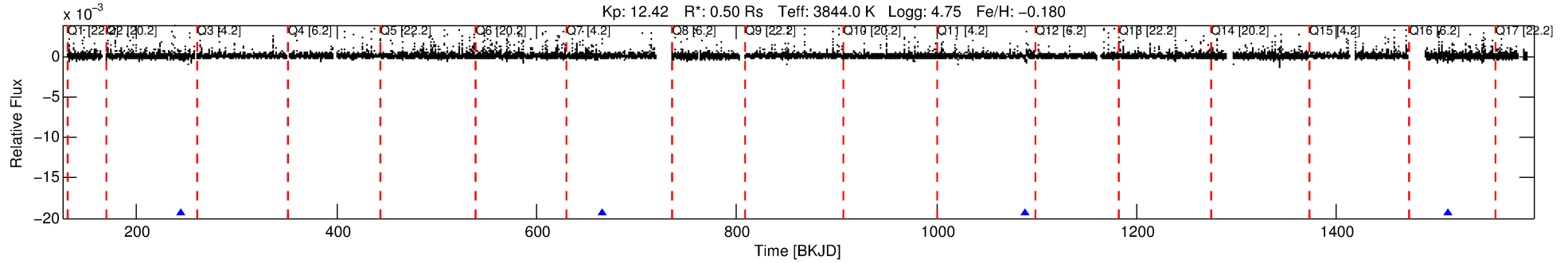
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011918550-02

No Significant Match Found

DV One-Page Summary

KIC: 11918550 Candidate: 2 of 4 Period: 422.705 d



DV Fit Results:

Period = 422.70456 [0.02917] d
Epoch = 243.6216 [0.0540] BKJD
Rp/R* = 0.0387 [0.1166]
a/R* = 45.67 [33.60]
b = 1.00 [0.17]
Seff = 0.06 [0.02]
Teq = 127 [8] K
Rp = 2.12 [6.40] Re
a = 0.8882 [0.1315] AU
Ag = 11294.36 [68328.89] [0.17 σ]
Teffp = 2032 [3073] K [0.62 σ]

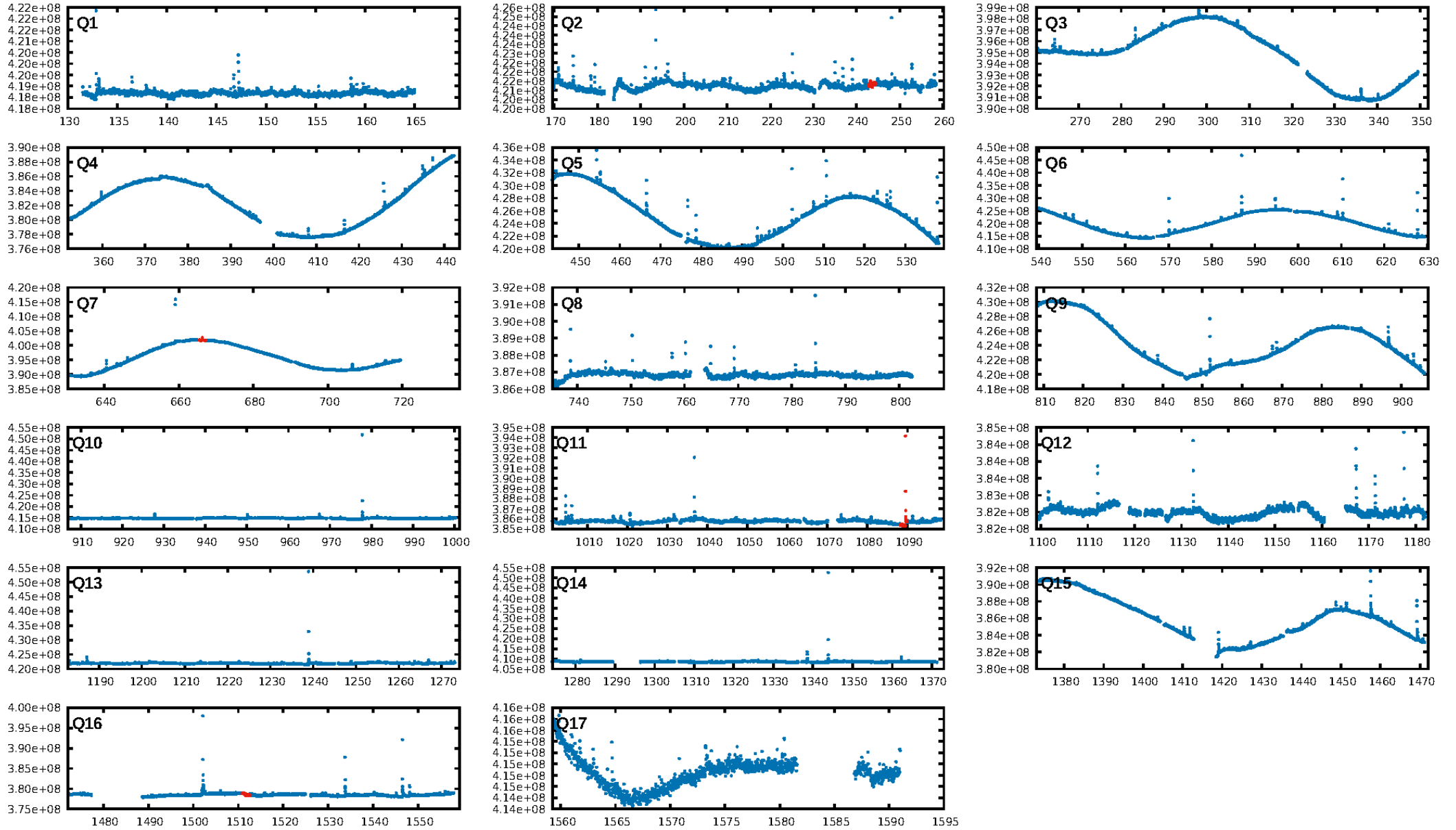
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [156.56 σ]
LongPeriod-sig: 100.0% [69.92 σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 97.9%
Bootstrap-pfa: 5.51e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -14.68
Centroid-sig: 14.5%
Centroid-so: 1.672 arcsec [3.10 σ]
OotOffset-rm: 0.832 arcsec [0.97 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-rm: 2.186 arcsec [4.44 σ]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

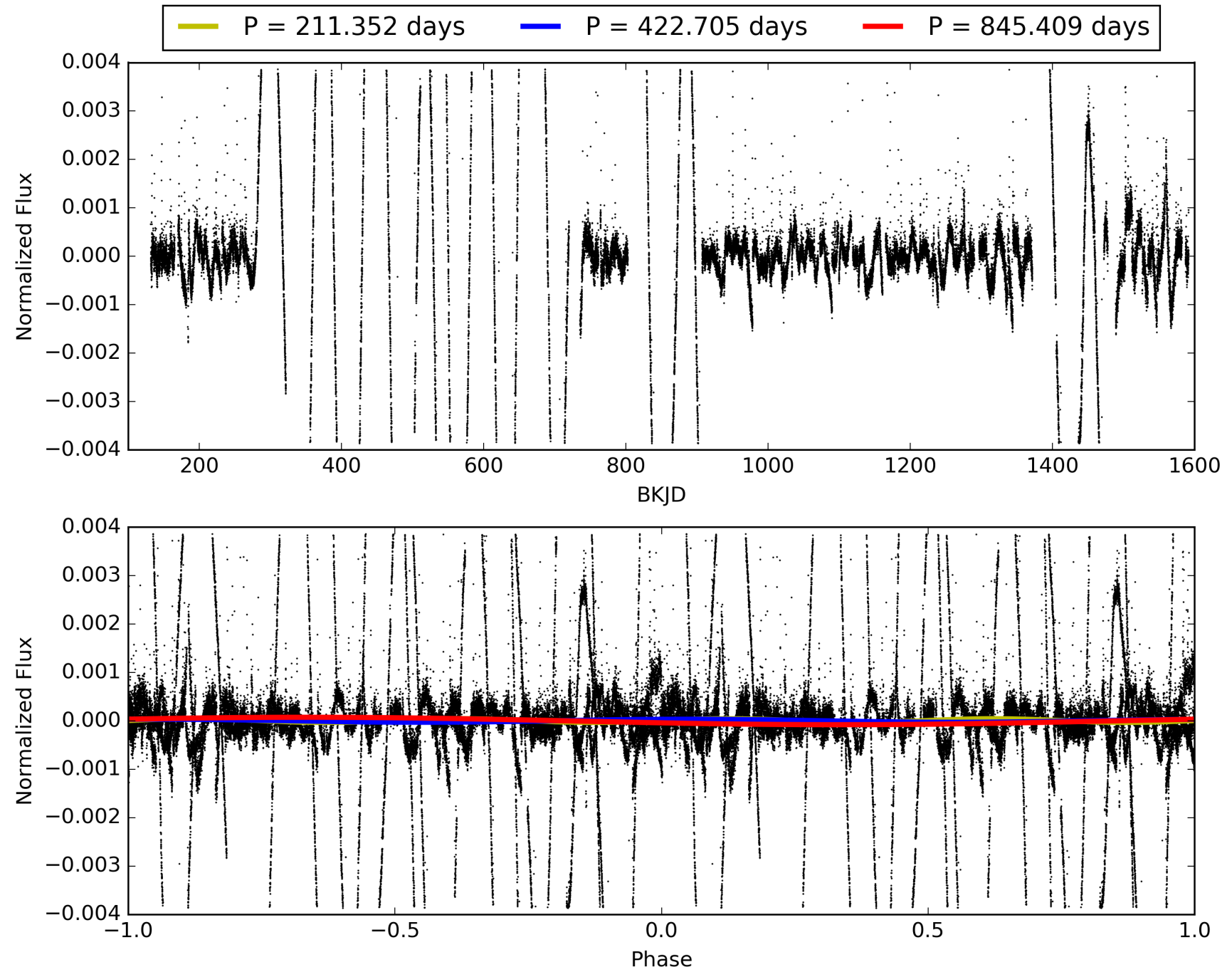
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:48:16 Z

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

TCE 011918550-02, PDC Light Curves

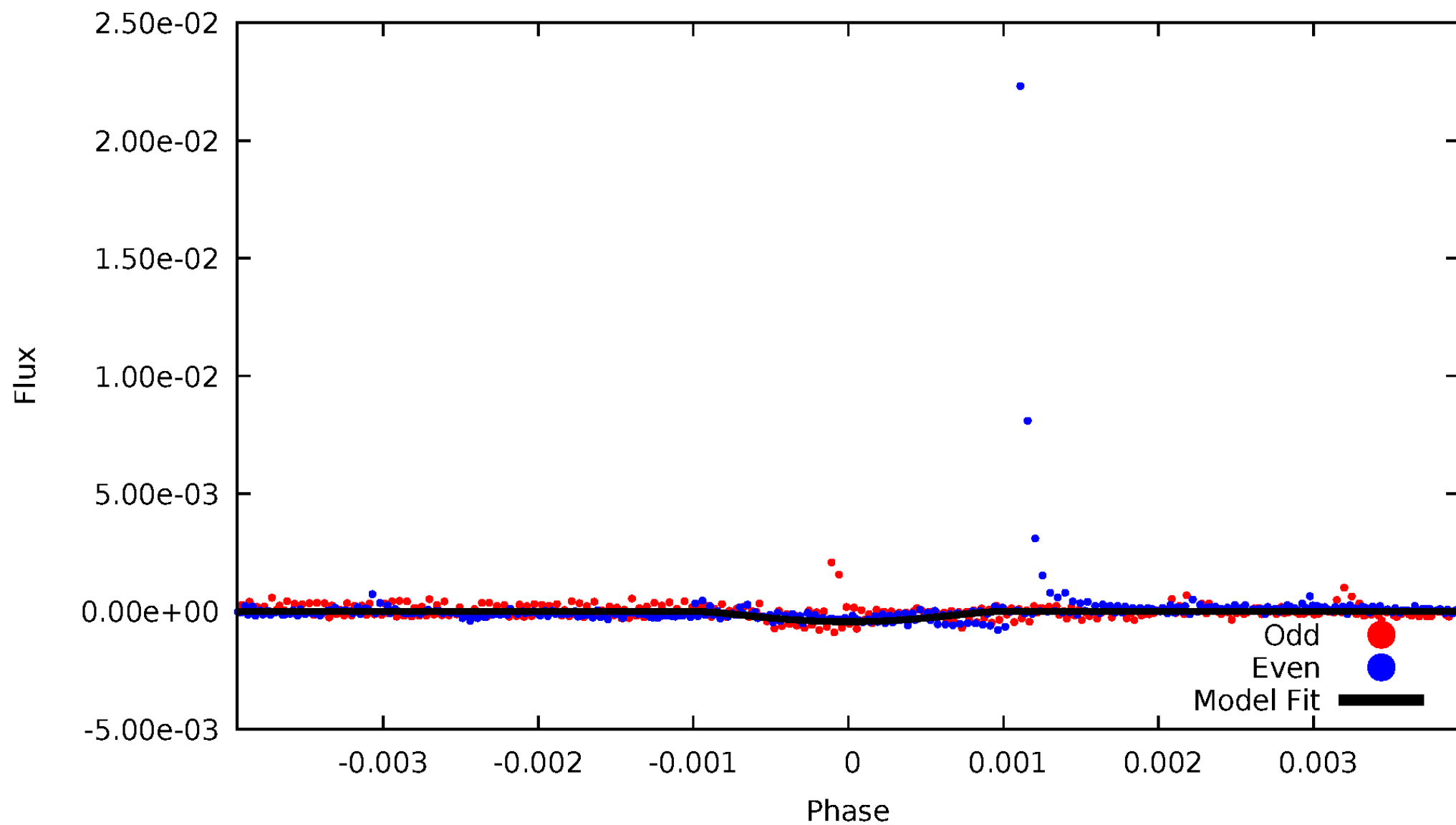


TCE 011918550-02



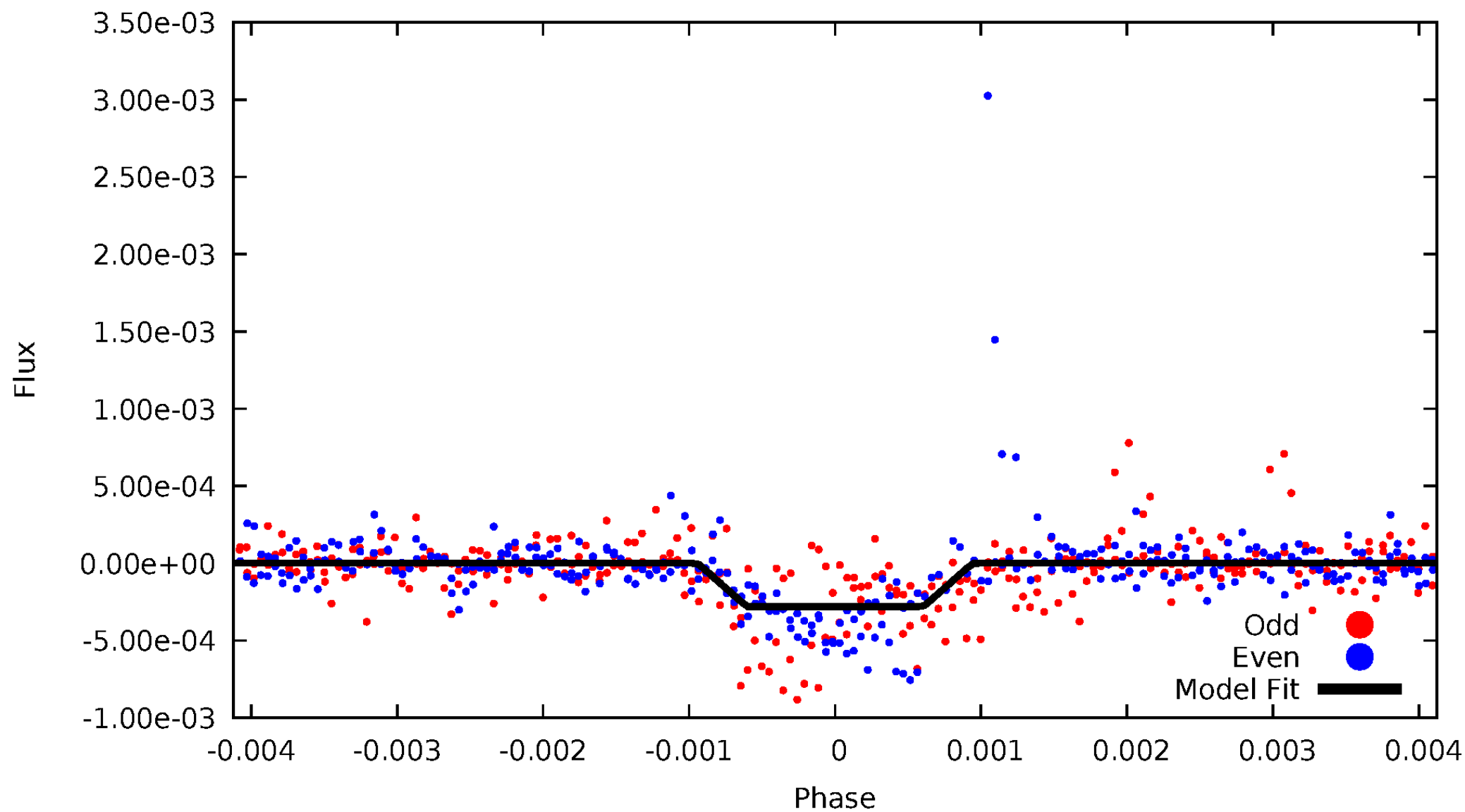
DV Odd/Even

TCE 011918550-02



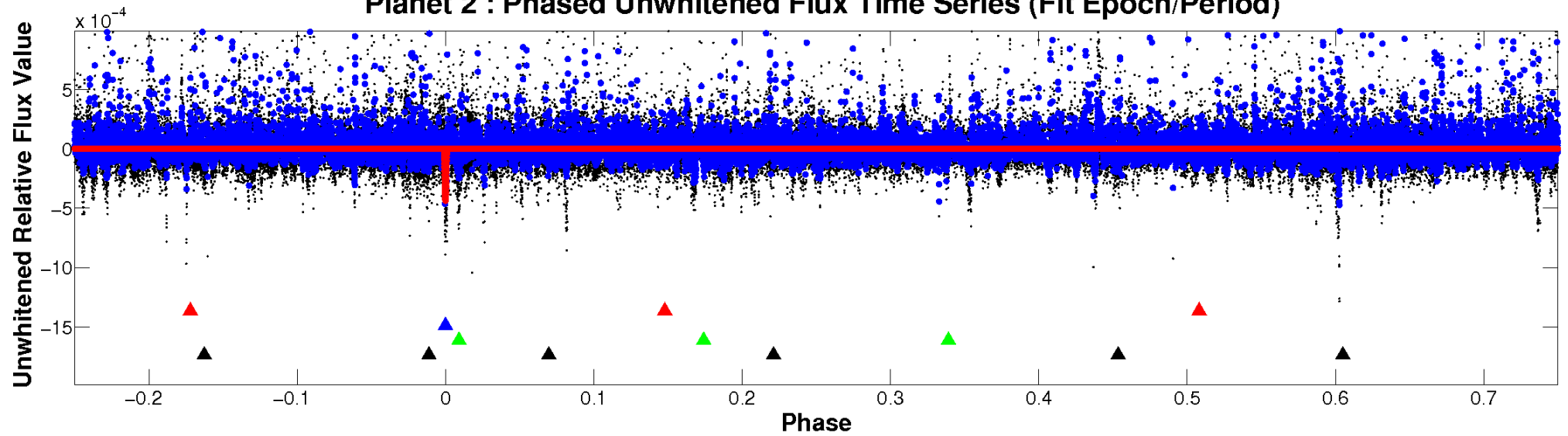
ALT Odd/Even

TCE 011918550-02

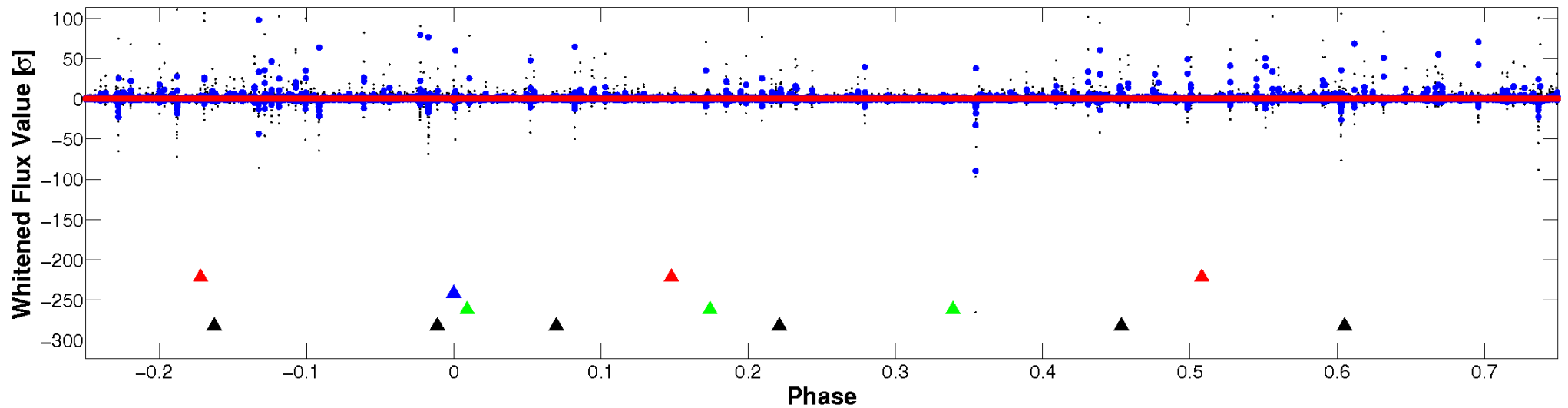


Non-Whitened Vs. Whitened Light Curve

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

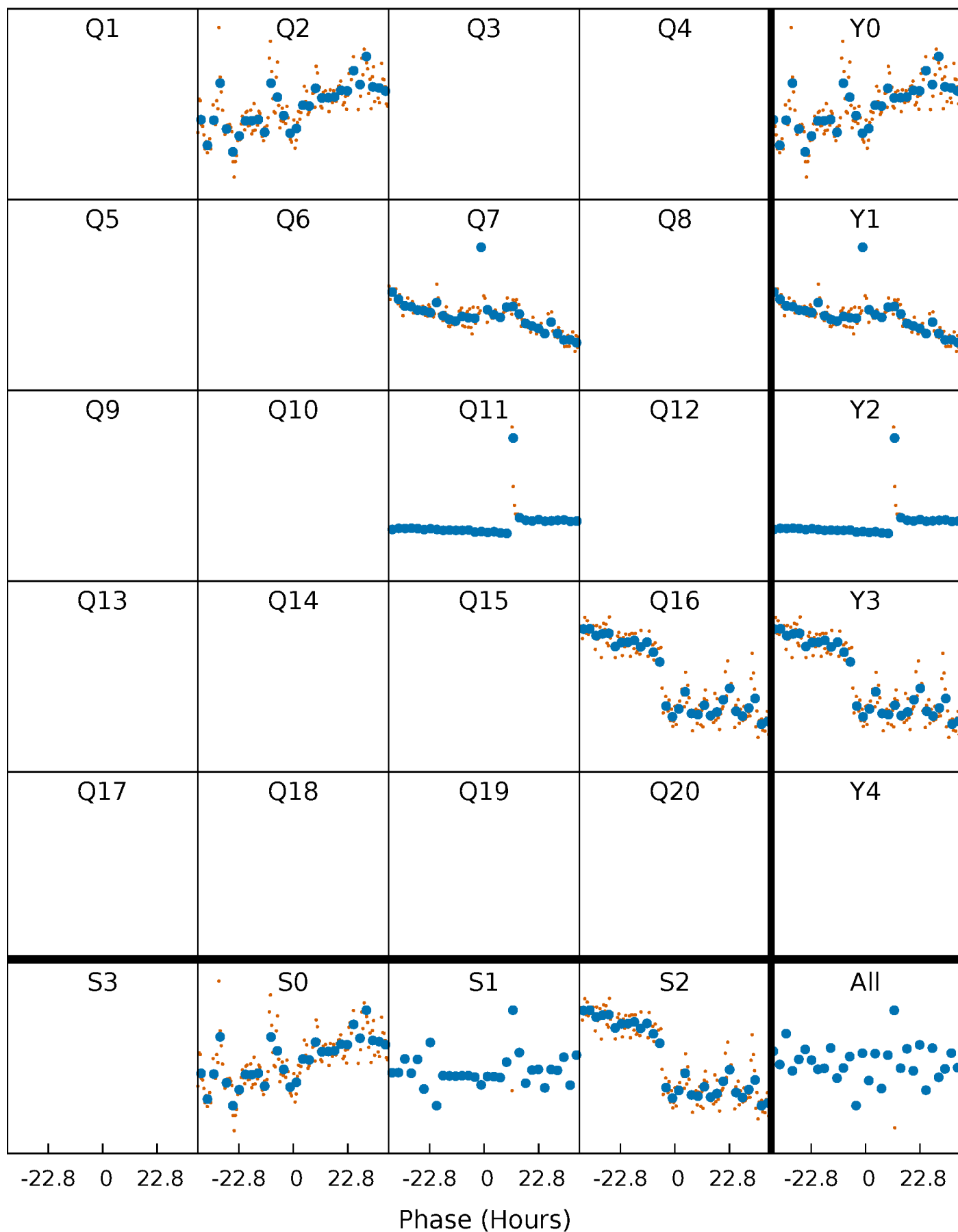


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



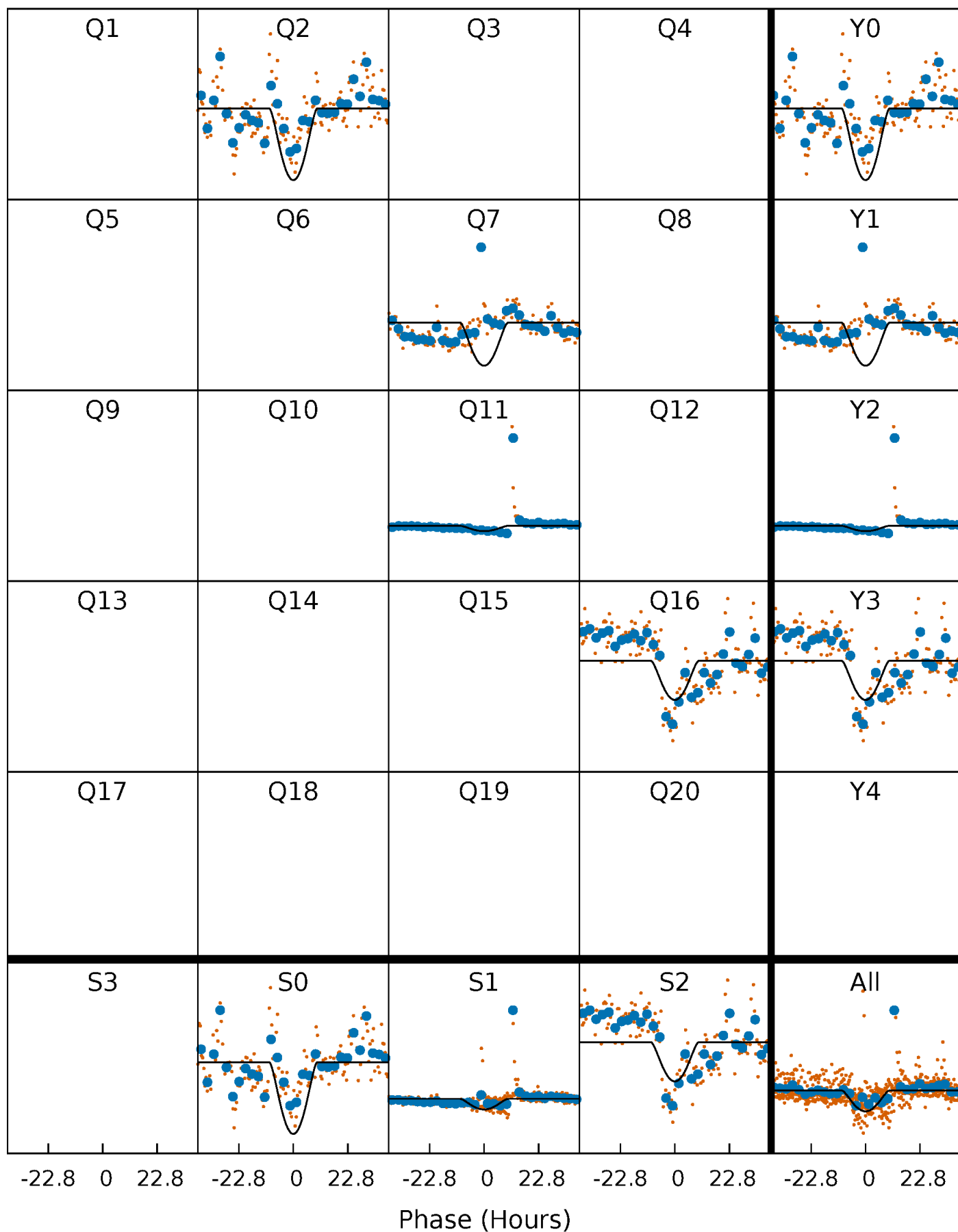
PDC Quarter-Phased Transit Curves

TCE 011918550-02 $P=422.704558$ Days $T_0=243.621606$ (BKJD)



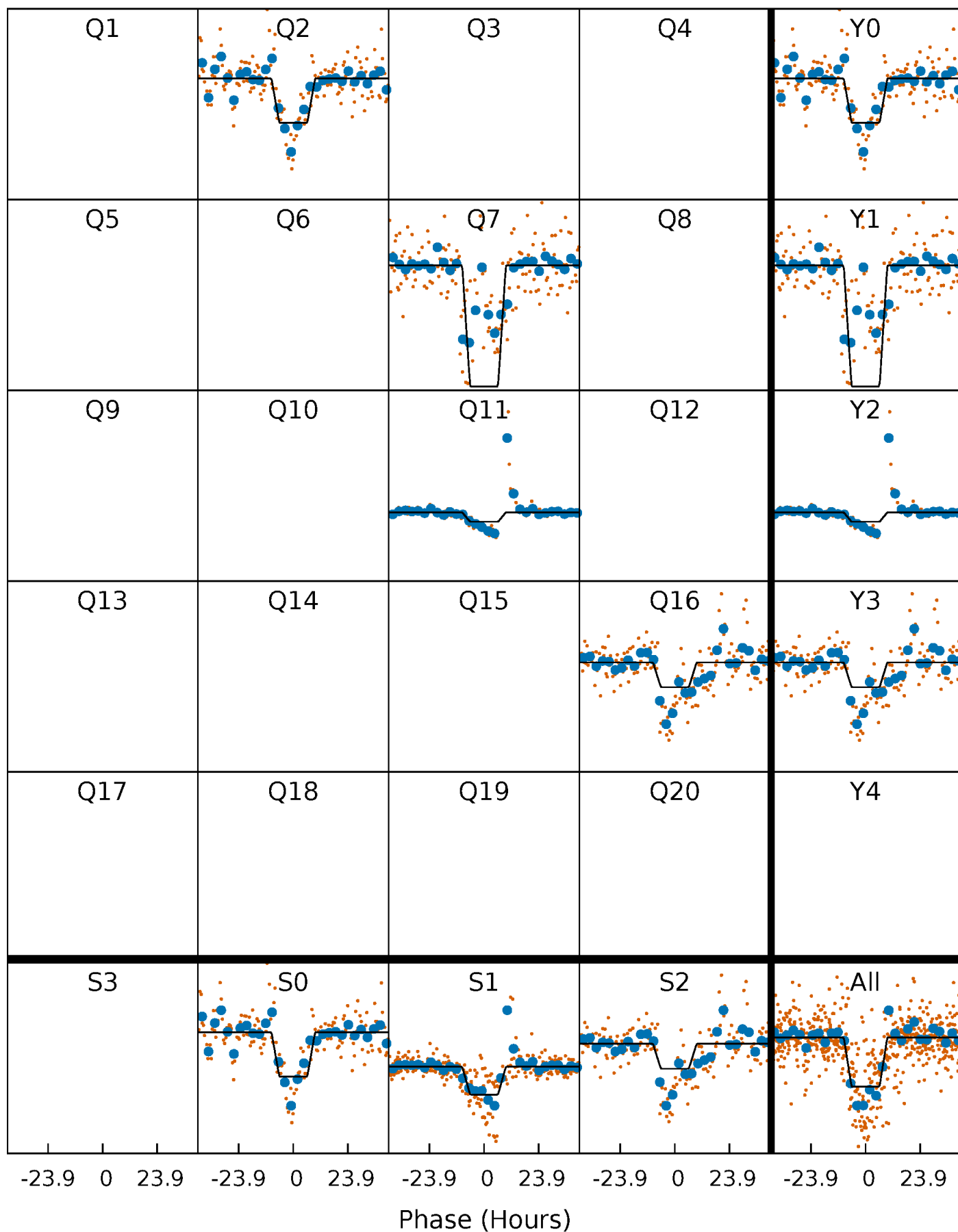
DV Quarter-Phased Transit Curves

TCE 011918550-02 $P=422.704558$ Days $T_0=243.621606$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

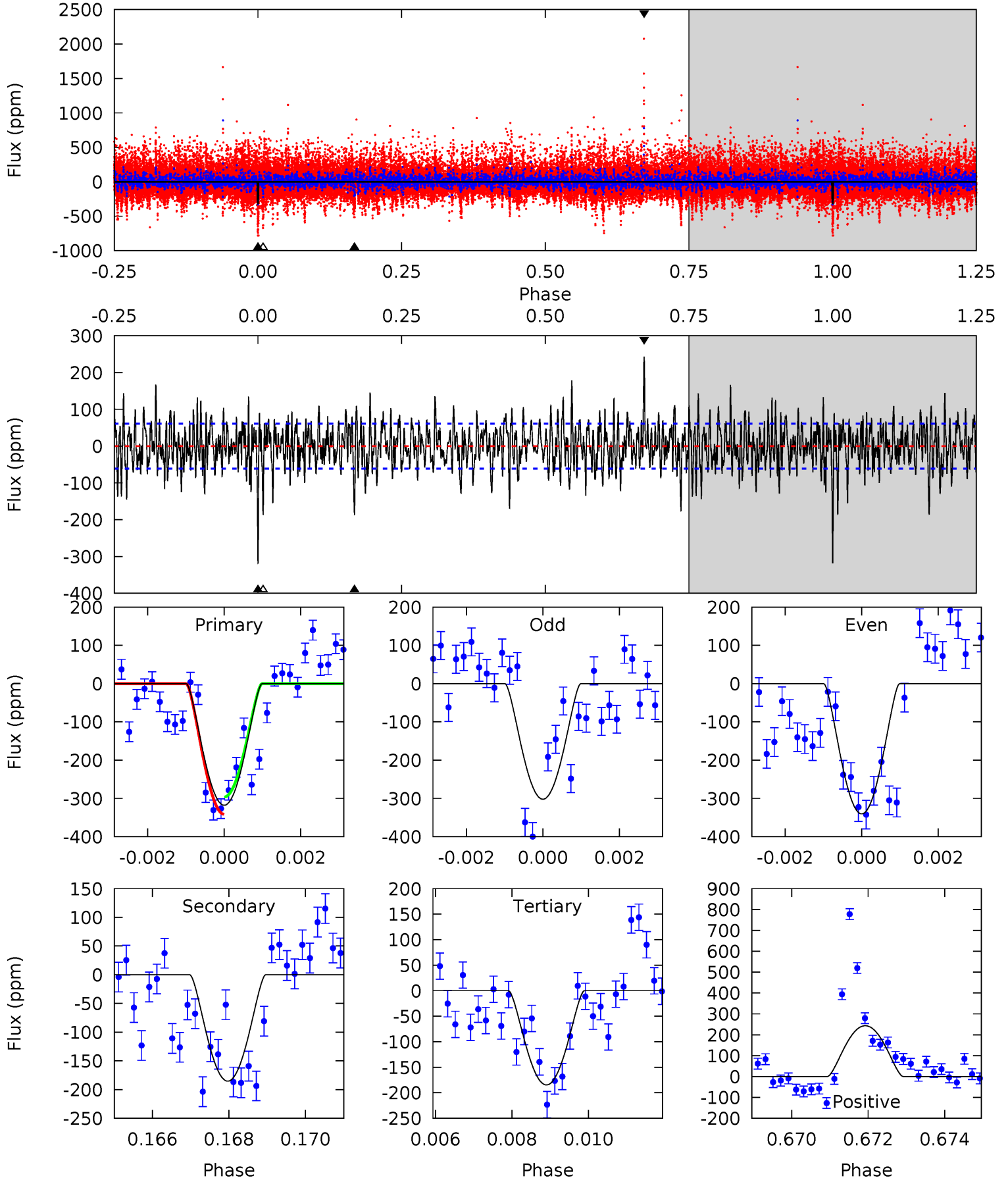
TCE 011918550-02 P=422.709056 Days $T_0=243.679726$ (BKJD)



DV Model-Shift Uniqueness Test

011918550-02, P = 422.704558 Days, E = 243.621606 Days

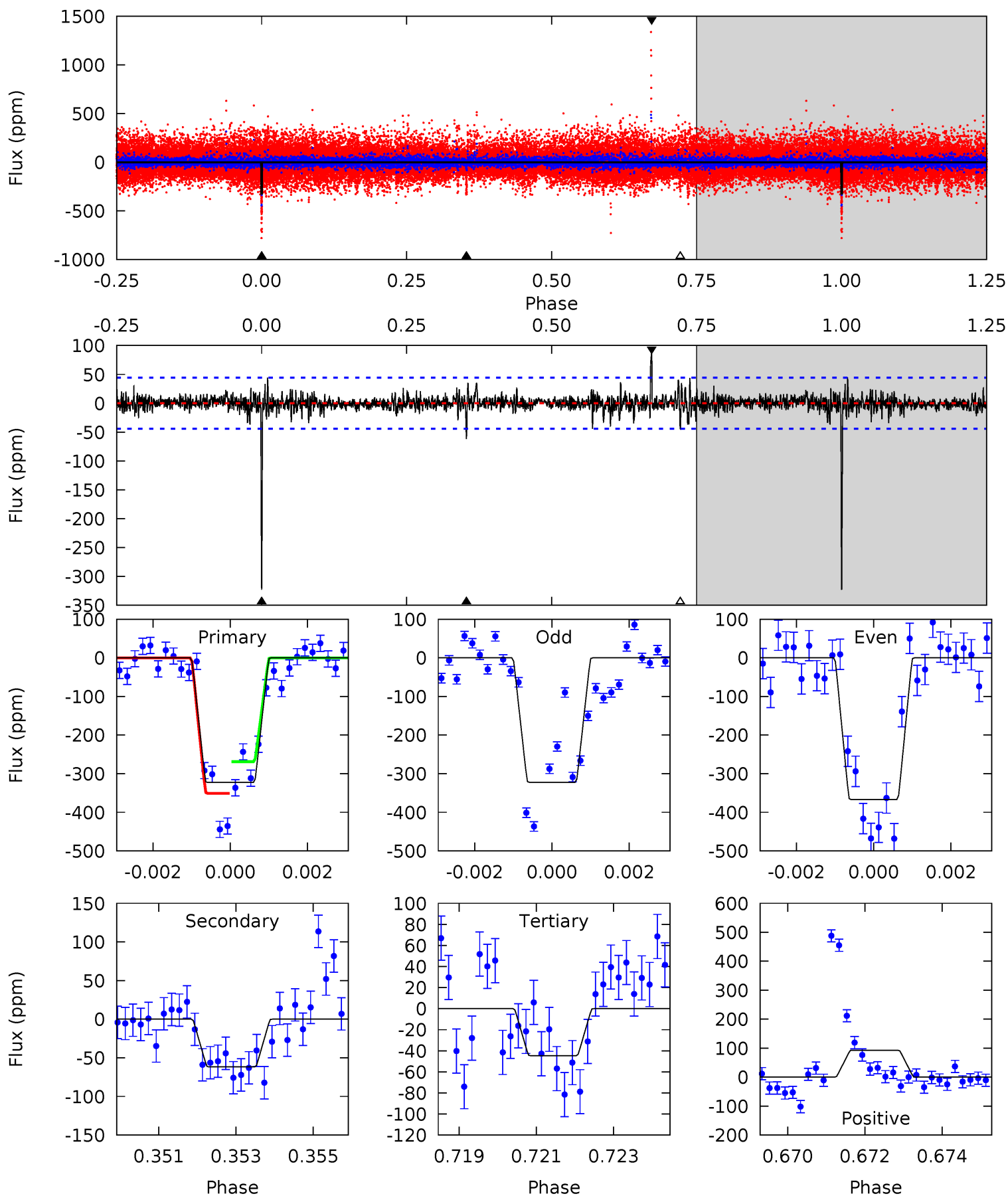
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.6	16.1	16.0	21.1	5.33	3.09	4.42	11.6	6.47	0.06	-5.03	1.09	0.76	0.43	1.97



Alt Model-Shift Uniqueness Test

011918550-02, $P = 422.709056$ Days, $E = 243.679726$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.0	7.44	5.38	11.2	5.34	3.11	1.18	33.6	27.8	2.06	-3.76	2.52	0.91	0.22	4.91



Stellar Parameters For KIC 011918550

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3844^{+121}_{-162}	$4.755^{+0.098}_{-0.053}$	$-0.180^{+0.300}_{-0.350}$	$0.502^{+0.064}_{-0.096}$	$0.524^{+0.058}_{-0.094}$	$5.816^{+3.192}_{-1.224}$
	+3%/-4%	+2%/-1%	+167%/-194%	+13%/-19%	+11%/-18%	+55%/-21%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011918550-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-185 ± 12	$4.88^{+4.89}_{-3.21}$	176^{+8}_{-9}	2261^{+725}_{-309}	3422^{+24209}_{-2579}
Alt.	-62 ± 8	$4.47^{+4.88}_{-3.20}$	176^{+8}_{-9}	2053^{+697}_{-280}	1323^{+14337}_{-1024}

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

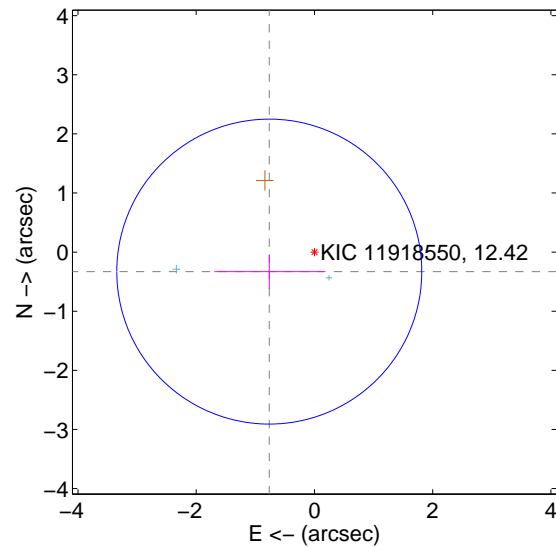
Supplemental centroid analysis for 011918550-02. Kepler magnitude: 12.42. Transit SNR 10.44

There are 2 quarters with good PRF difference image offsets

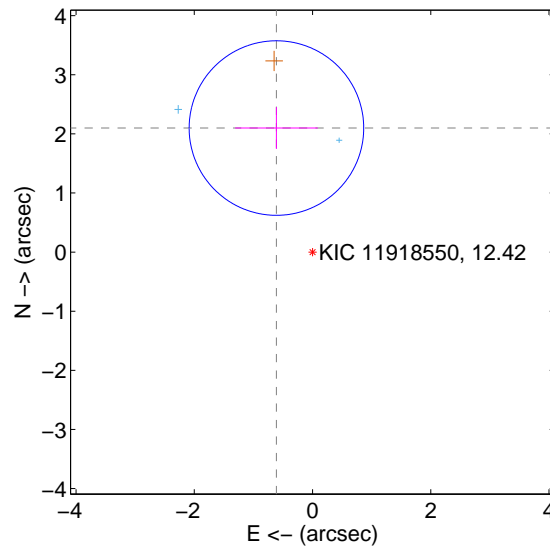
The OOT PRF centroid is offset from the target star catalog position by about 2.71 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.832 ± 0.860	0.97	0.764 ± 0.928	-0.330 ± 0.293
PRF-fit source offset from KIC position	2.186 ± 0.492	4.44	0.611 ± 0.698	2.099 ± 0.354
photometric centroid source offset	1.67 ± 0.54	3.10	-0.03 ± 0.42	1.67 ± 0.54

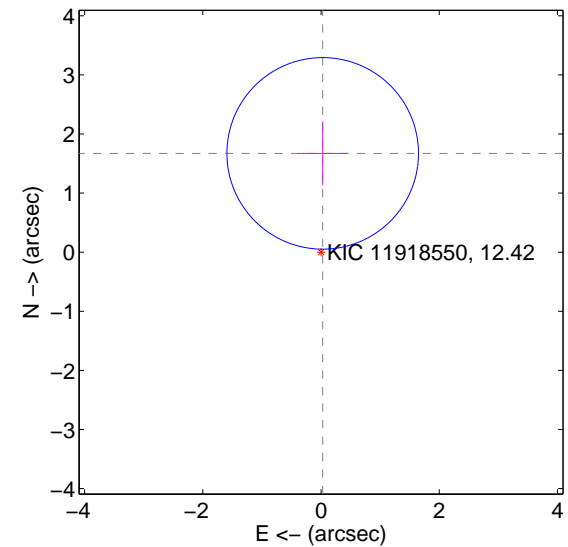
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

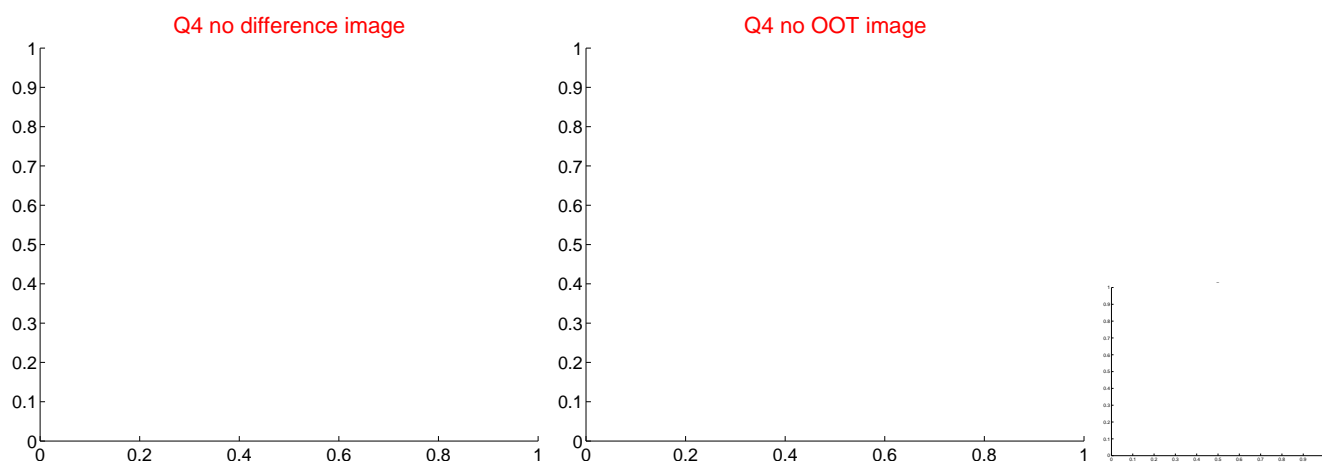
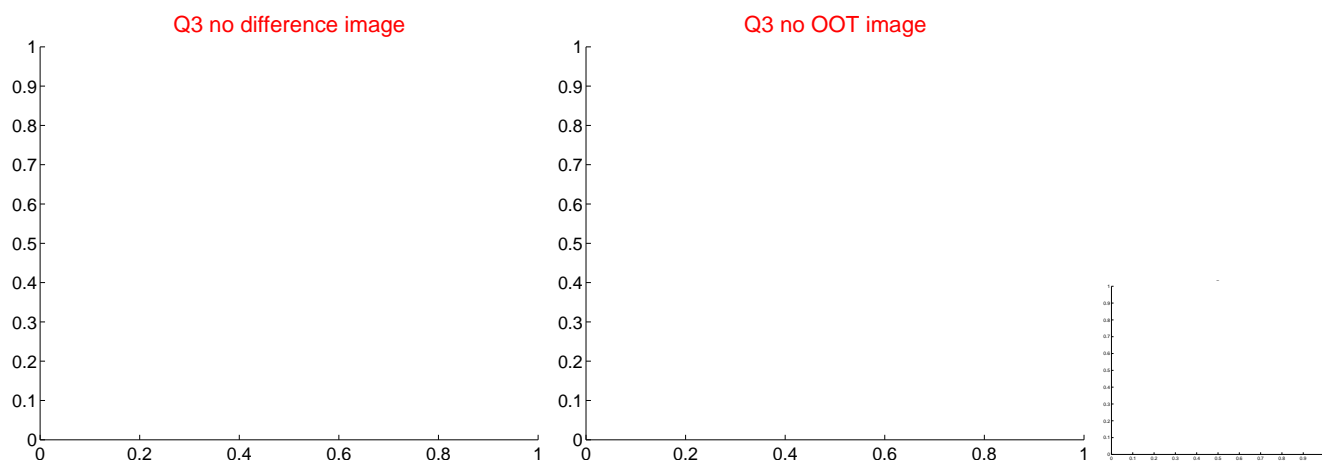
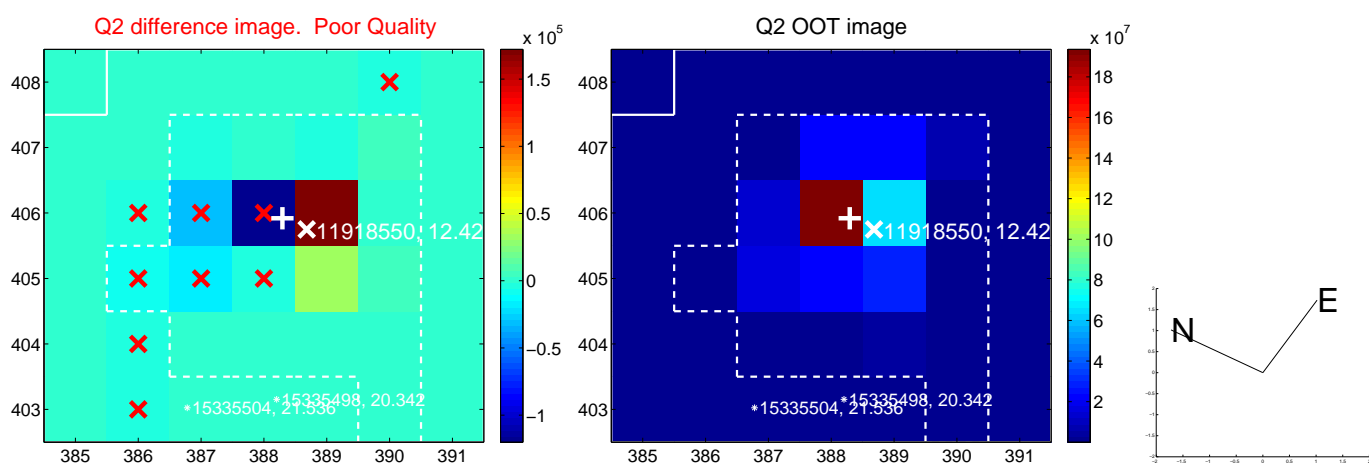
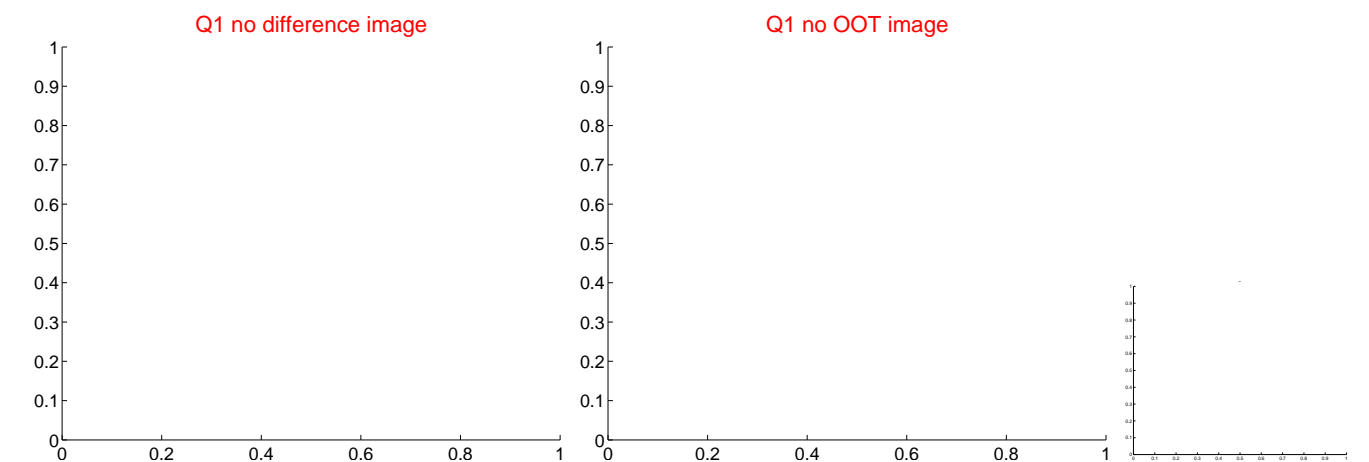


offset from photometric centroids

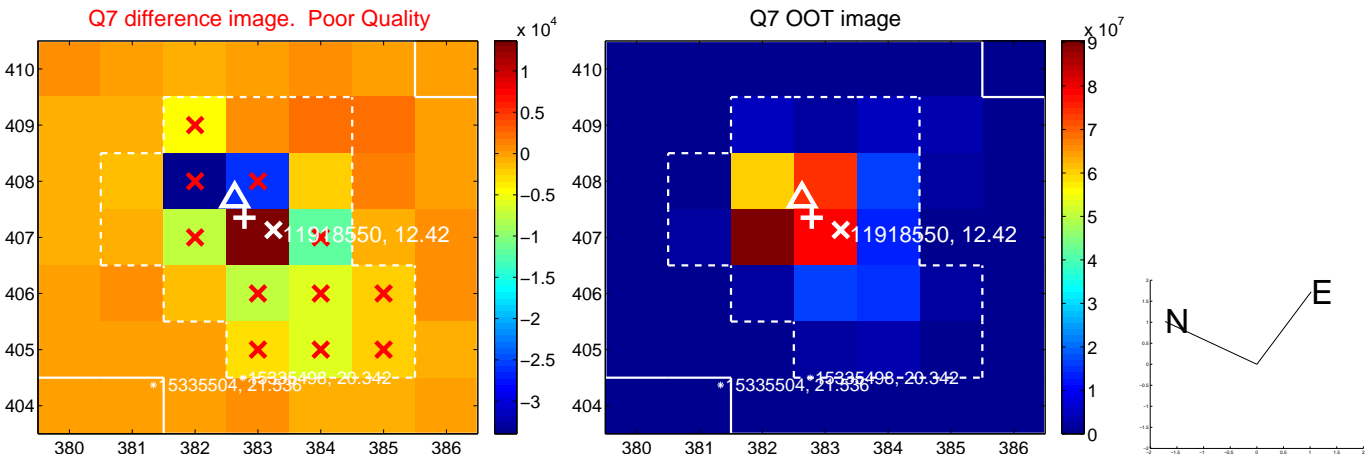


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

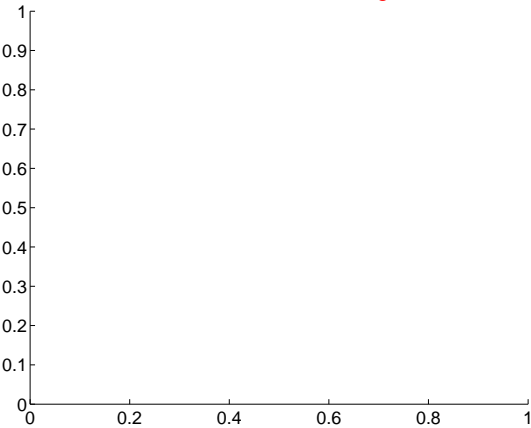
Q9 no difference image



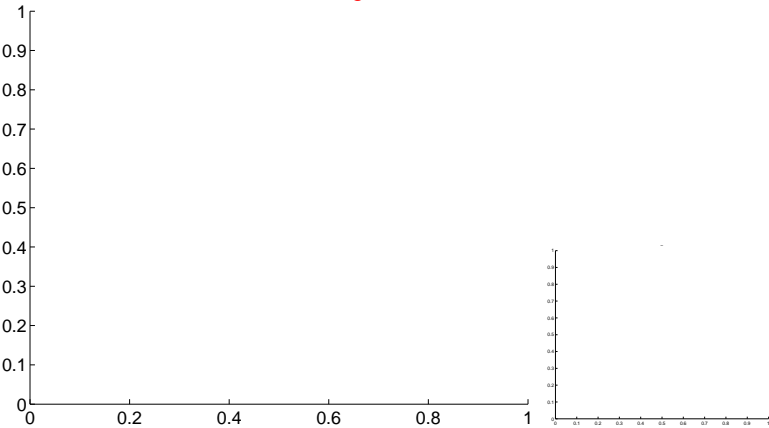
Q9 no OOT image



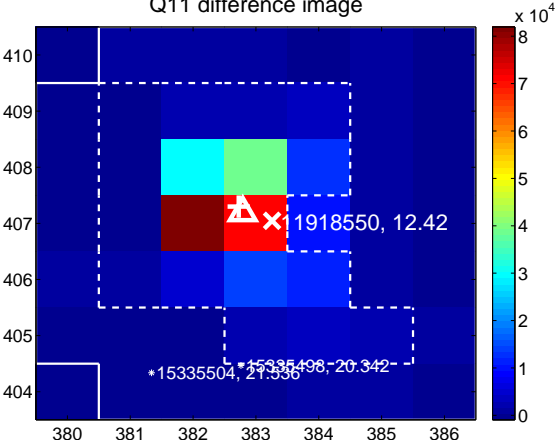
Q10 no difference image



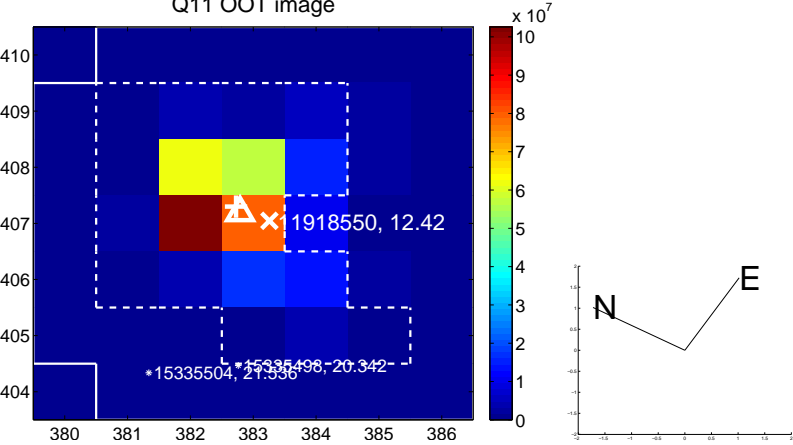
Q10 no OOT image



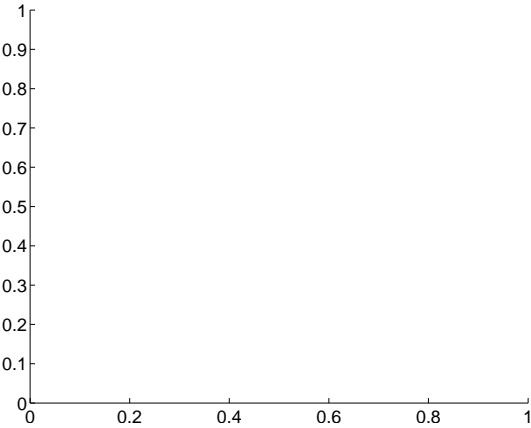
Q11 difference image



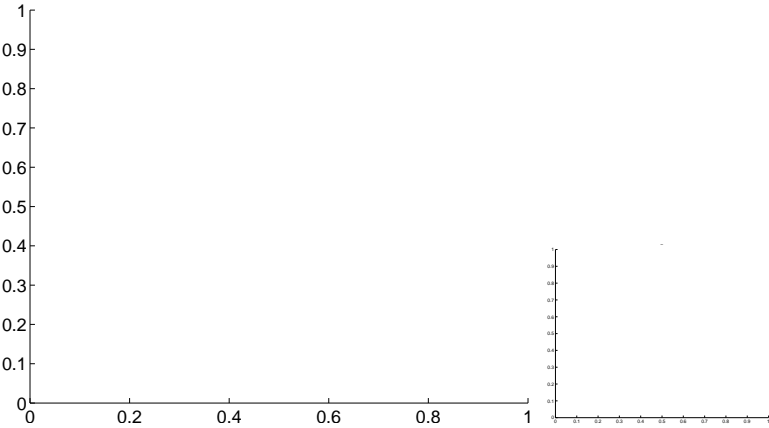
Q11 OOT image



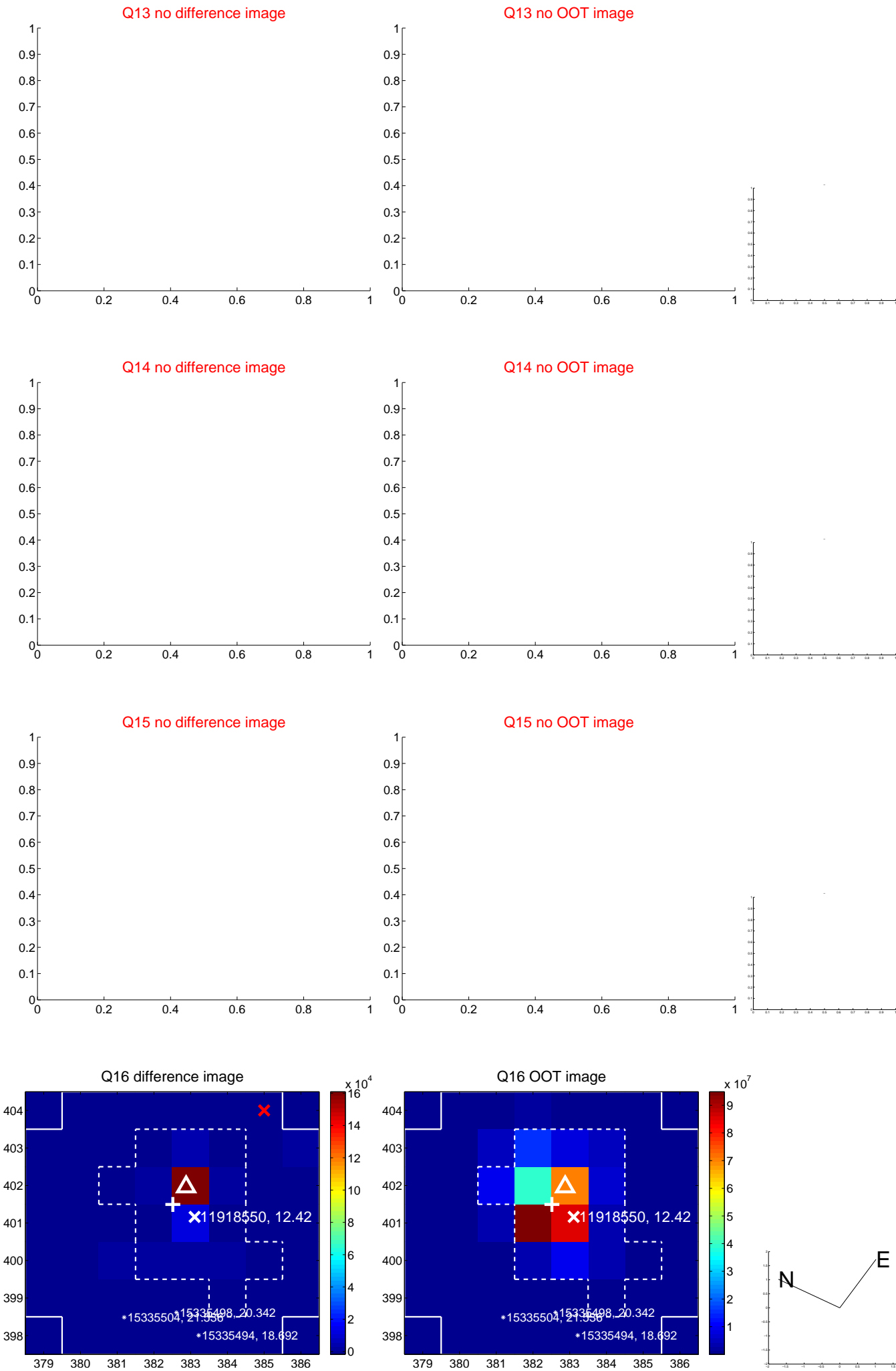
Q12 no difference image



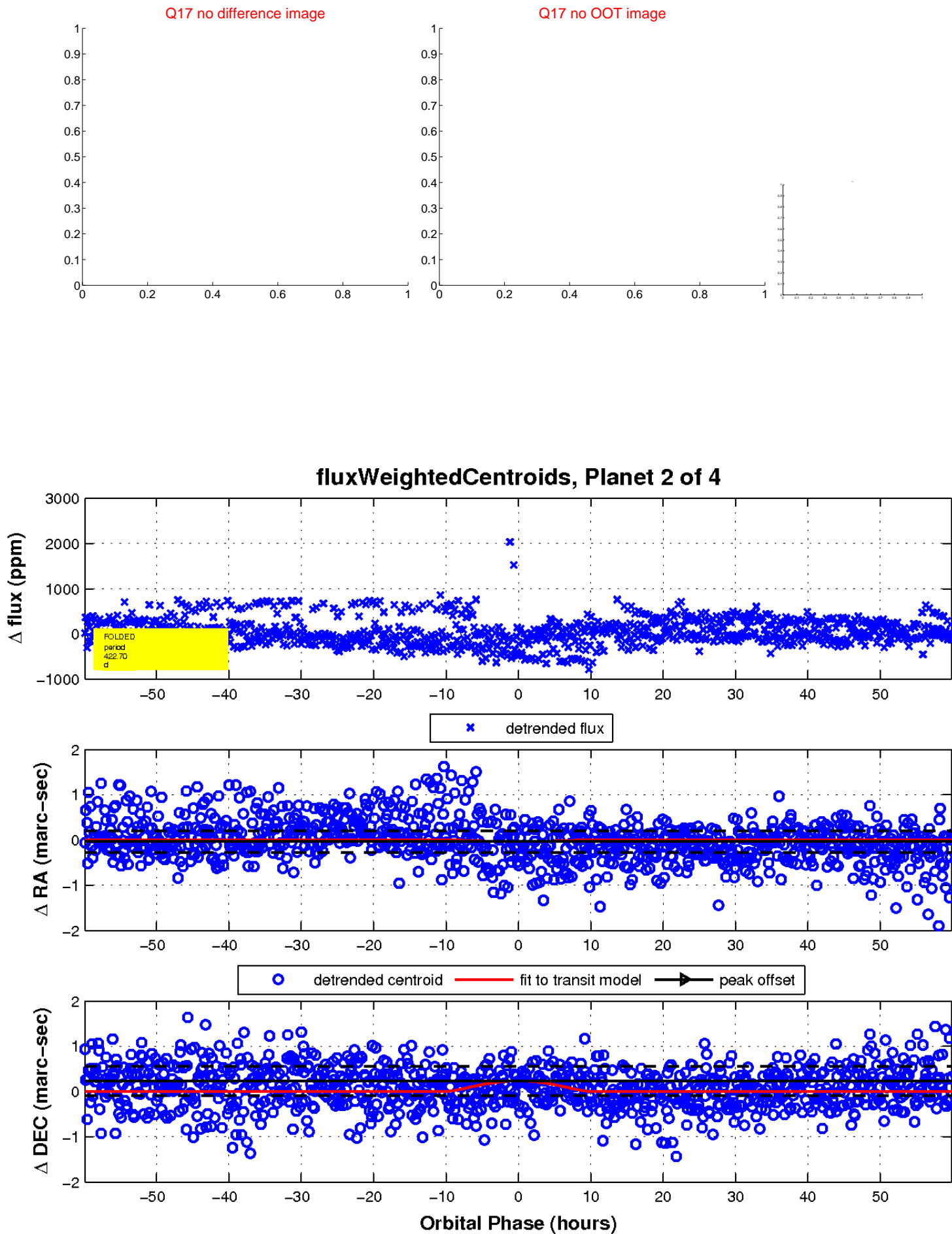
Q12 no OOT image



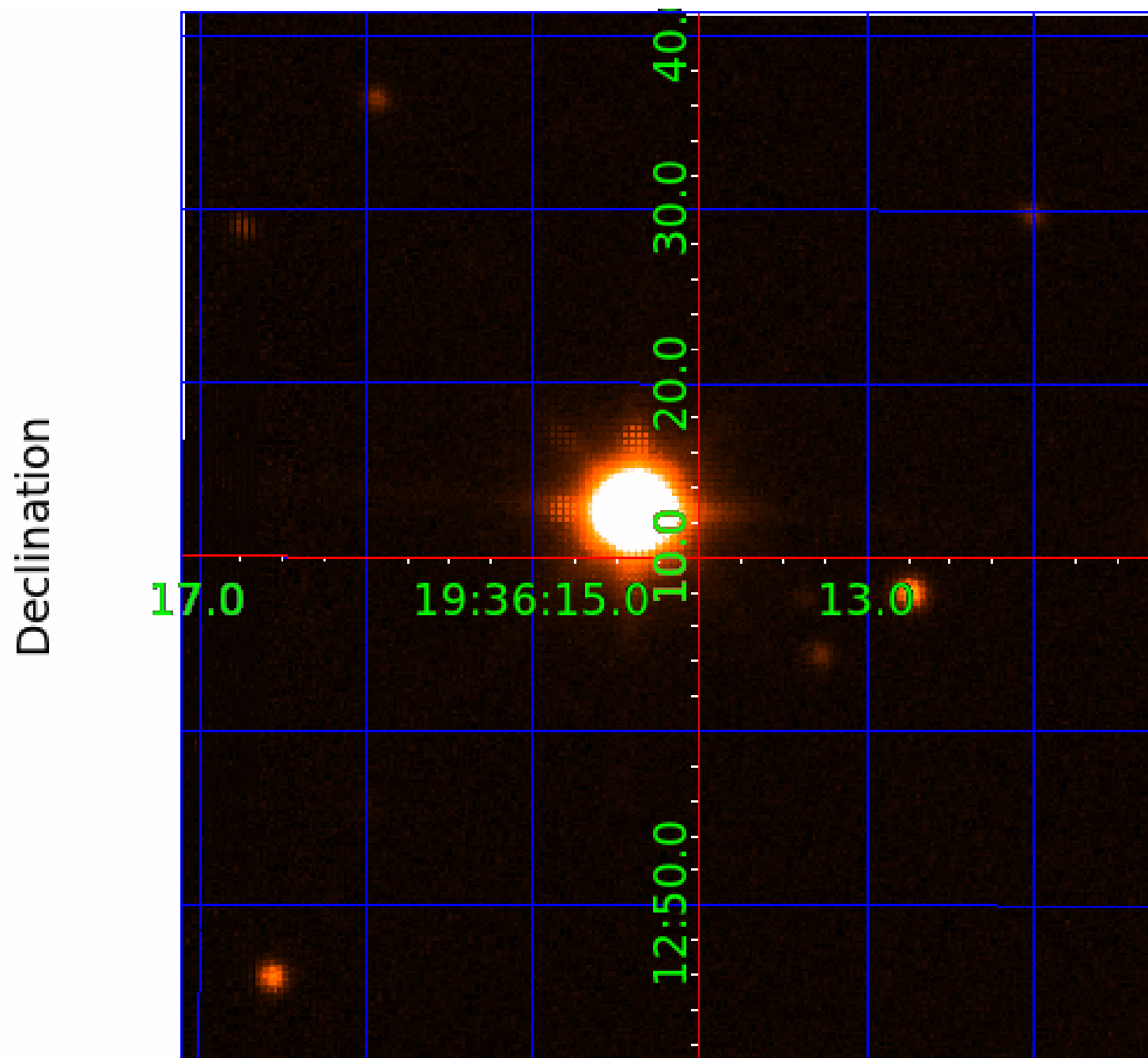
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011918550

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})
011918550-01	OBS	No	557.912049	458.415745	207.4	5.964	13.5	5.7	0.50	3844	0.82	0.04
011918550-02	OBS	No	422.704558	243.621606	436.9	19.983	11.2	10.4	0.50	3844	2.12	0.06
011918550-03	OBS	No	492.457026	247.468451	310.1	13.189	9.3	7.5	0.50	3844	0.94	0.05
011918550-04	OBS	No	260.455488	238.914600	219.5	14.810	8.3	8.0	0.50	3844	0.76	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011918550-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
011918550-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
011918550-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011918550-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

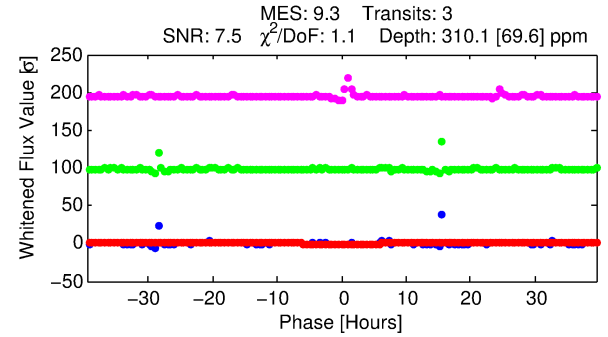
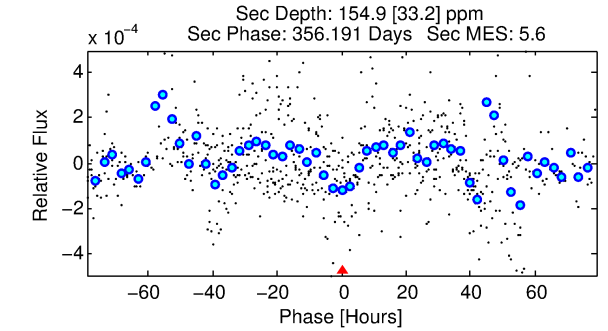
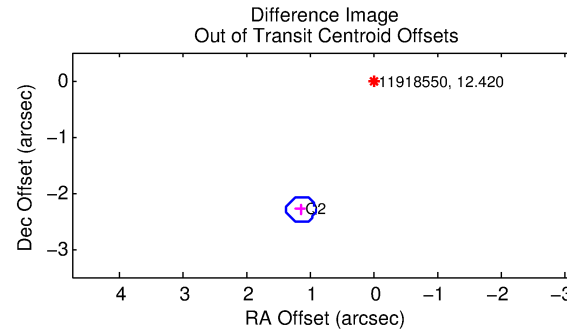
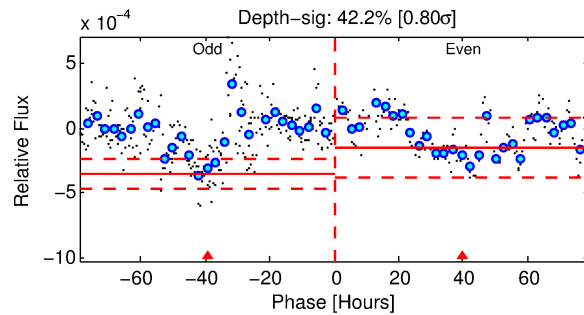
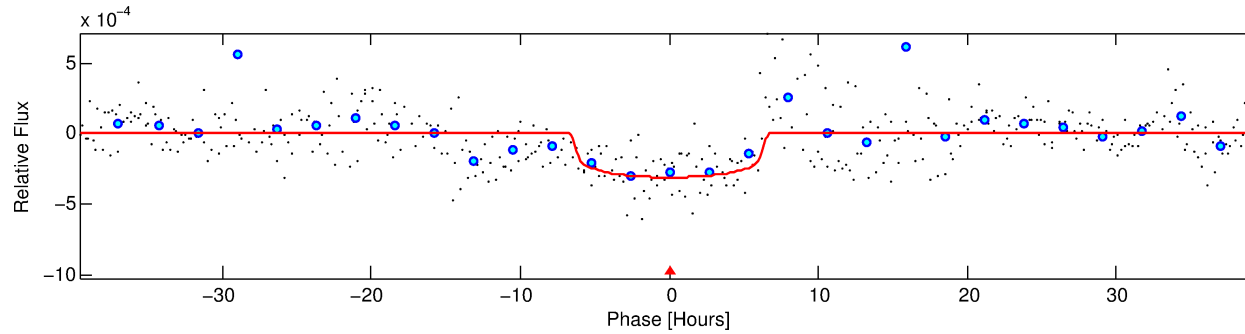
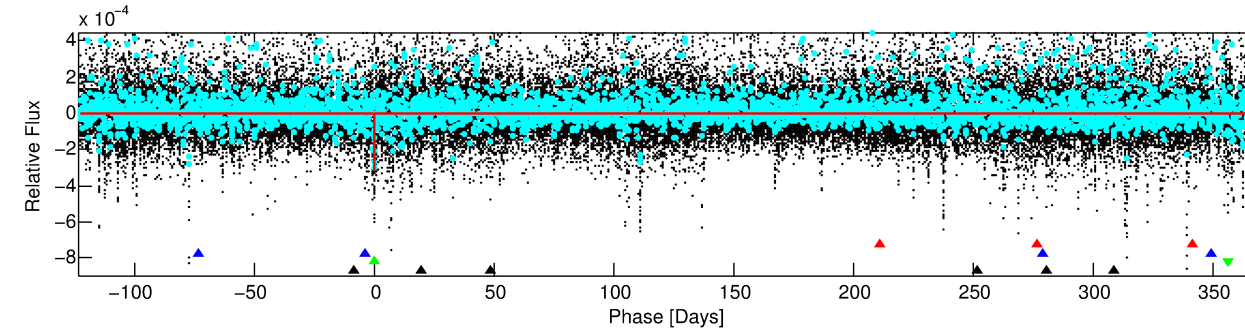
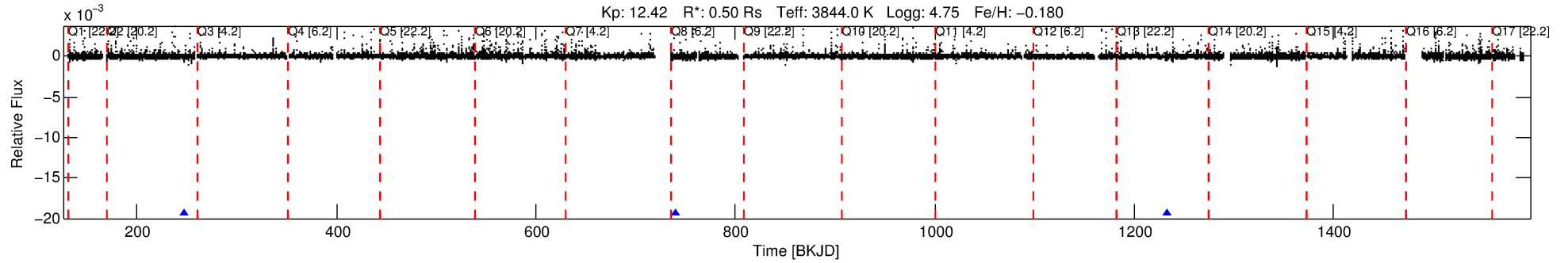
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011918550-03

No Significant Match Found

DV One-Page Summary

KIC: 11918550 Candidate: 3 of 4 Period: 492.457 d



DV Fit Results:

Period = 492.45703 [0.01280] d
Epoch = 247.4685 [0.0174] BKJD
Rp/R* = 0.0173 [0.0055]
a/R* = 208.28 [267.36]
b = 0.71 [0.90]
Seff = 0.05 [0.01]
Teq = 121 [8] K
Rp = 0.94 [0.35] Re
a = 0.9834 [0.1456] AU
Ag = 92308.98 [64847.23] [1.42 σ]
Teffp = 3265 [567] K [5.54 σ]

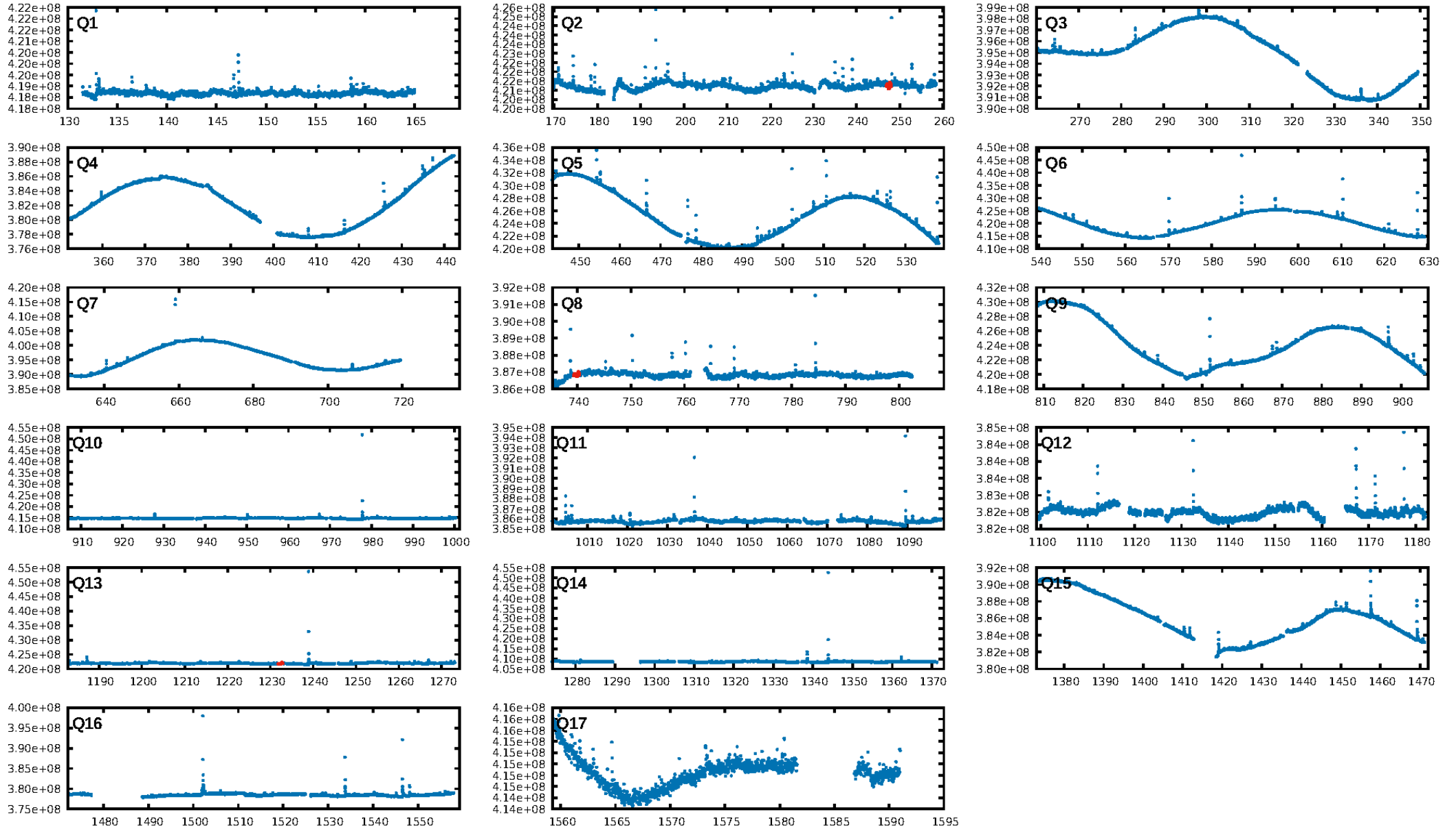
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [69.92 σ]
LongPeriod-sig: 100.0% [108.53 σ]
ModelChiSquare2-sig: 19.5%
ModelChiSquareGof-sig: 98.4%
Bootstrap-pfa: 6.84e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8087
Centroid-sig: 2.6%
Centroid-so: 3.254 arcsec [4.21 σ]
OotOffset-rm: 2.570 arcsec [33.87 σ]
KicOffset-rm: 1.121 arcsec [14.82 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

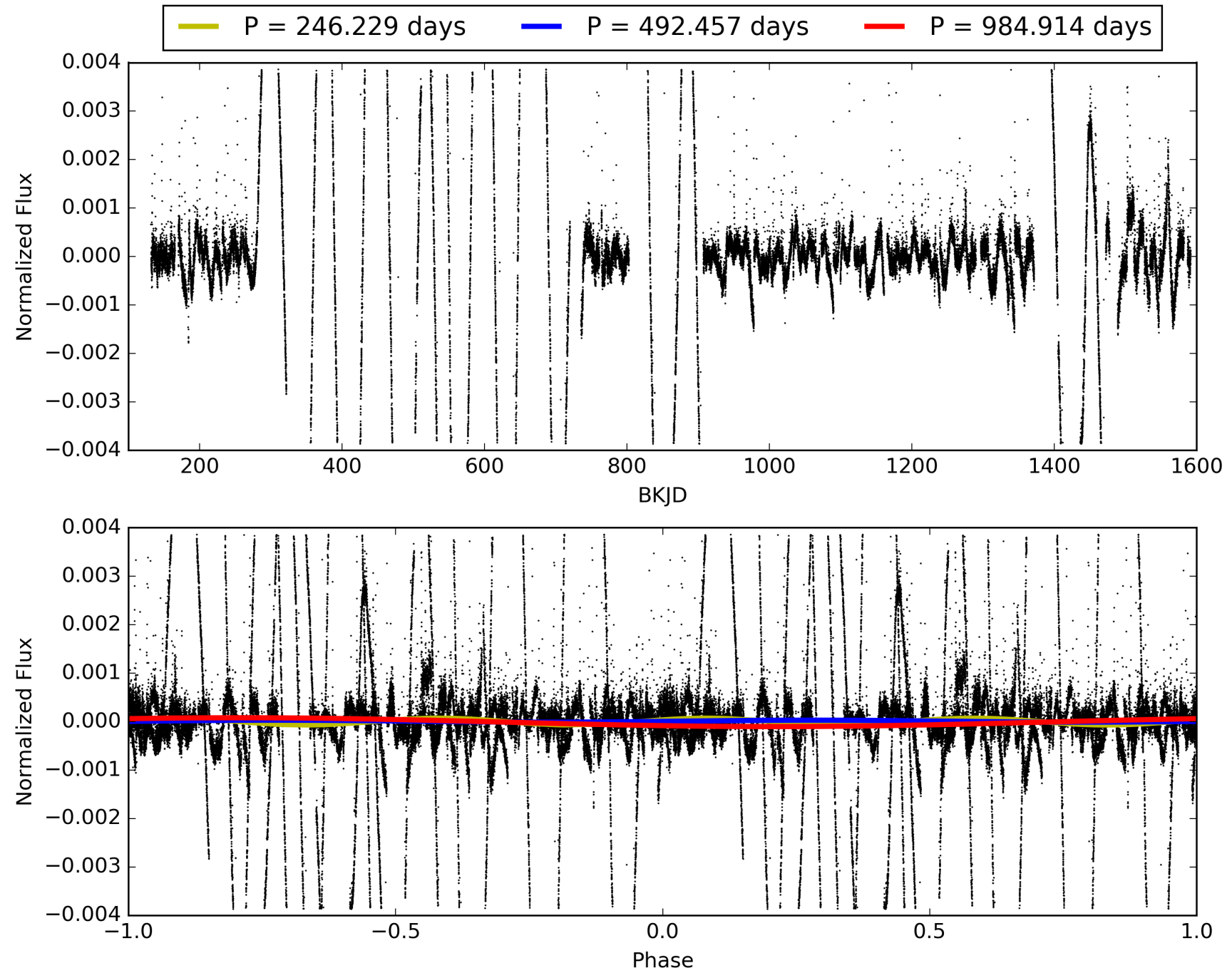
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:48:25 Z

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

TCE 011918550-03, PDC Light Curves

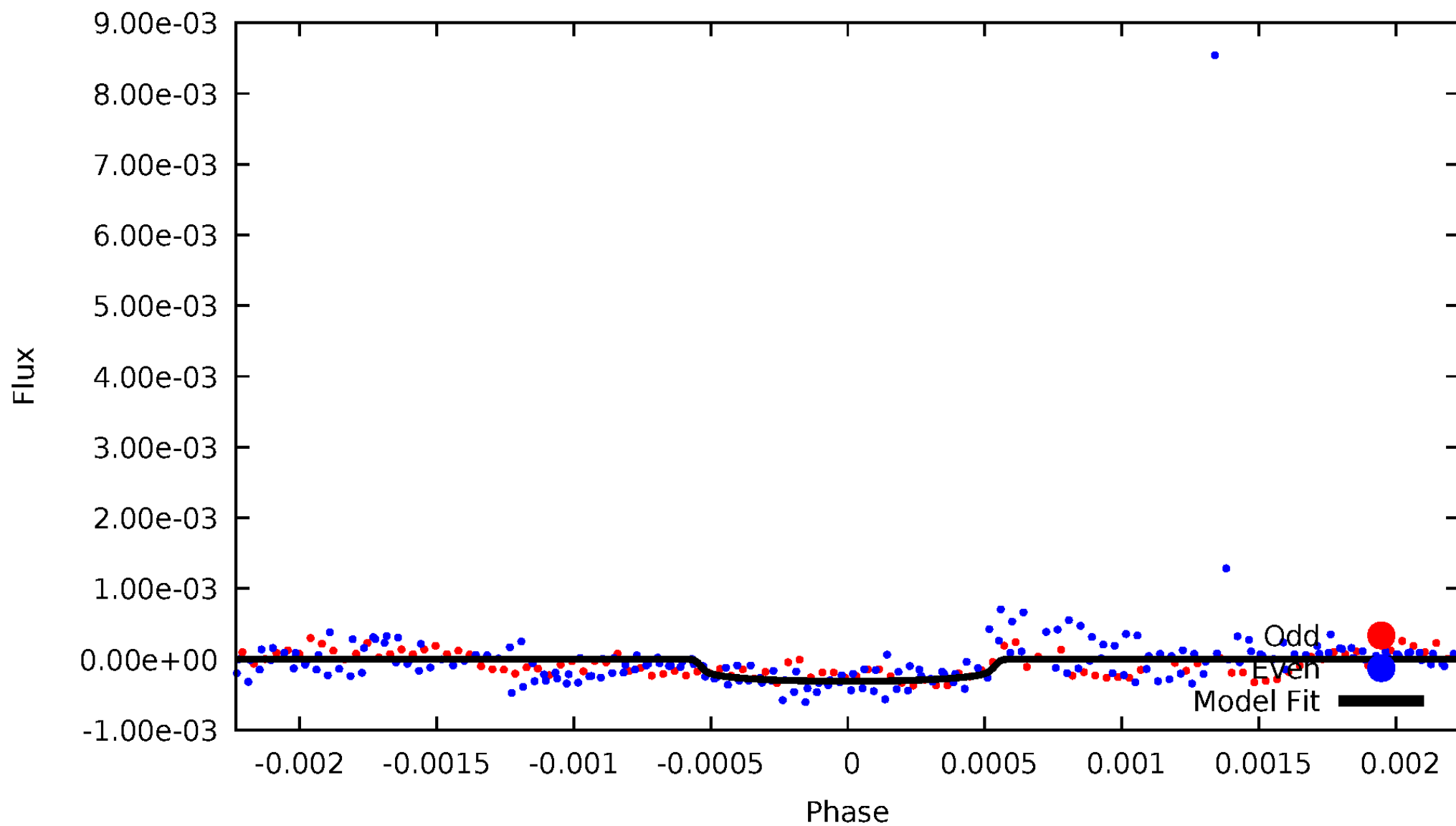


TCE 011918550-03



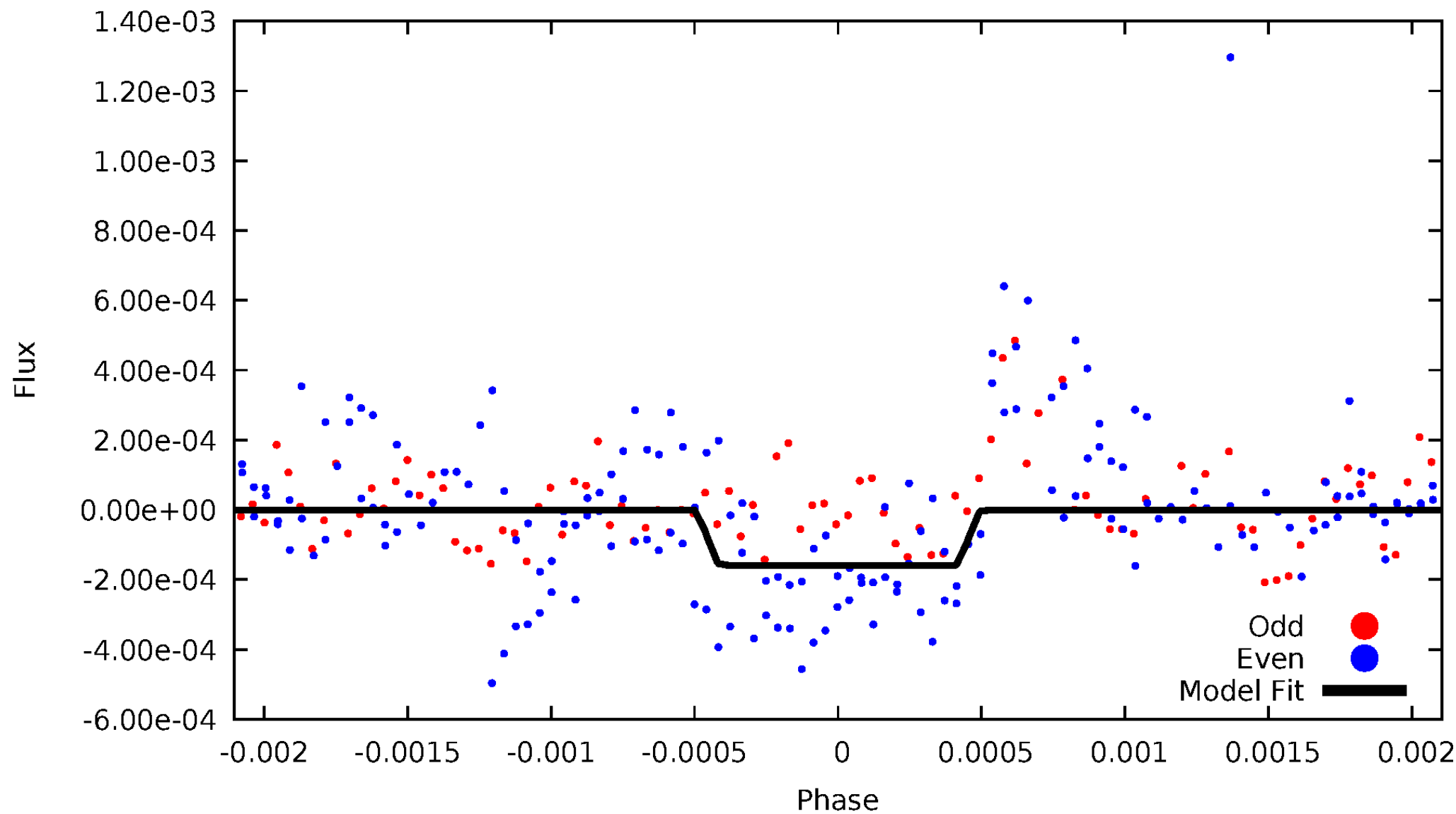
DV Odd/Even

TCE 011918550-03



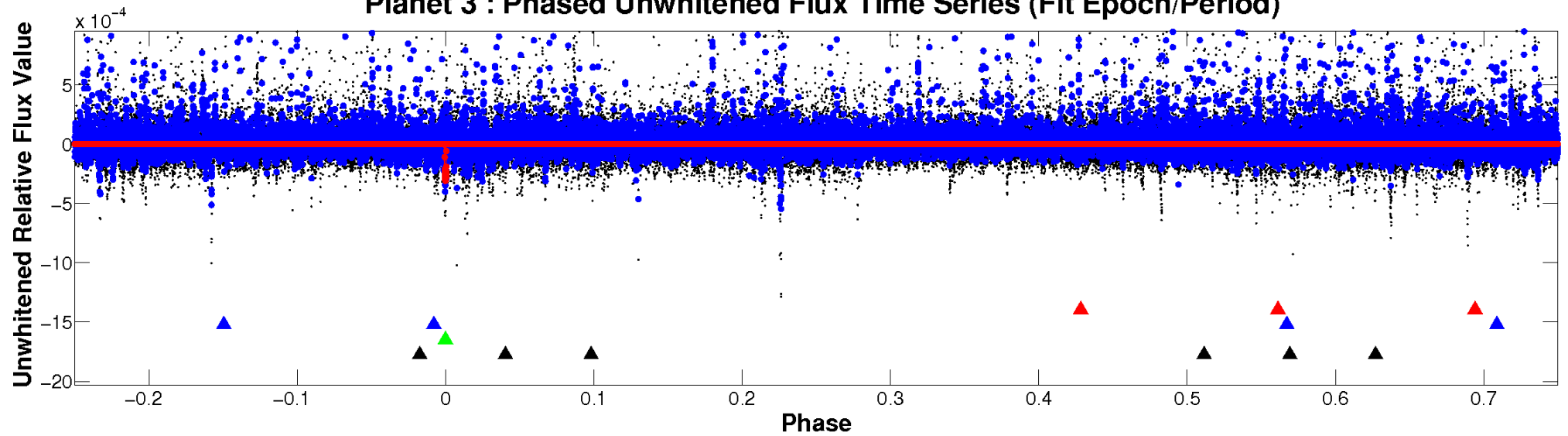
ALT Odd/Even

TCE 011918550-03

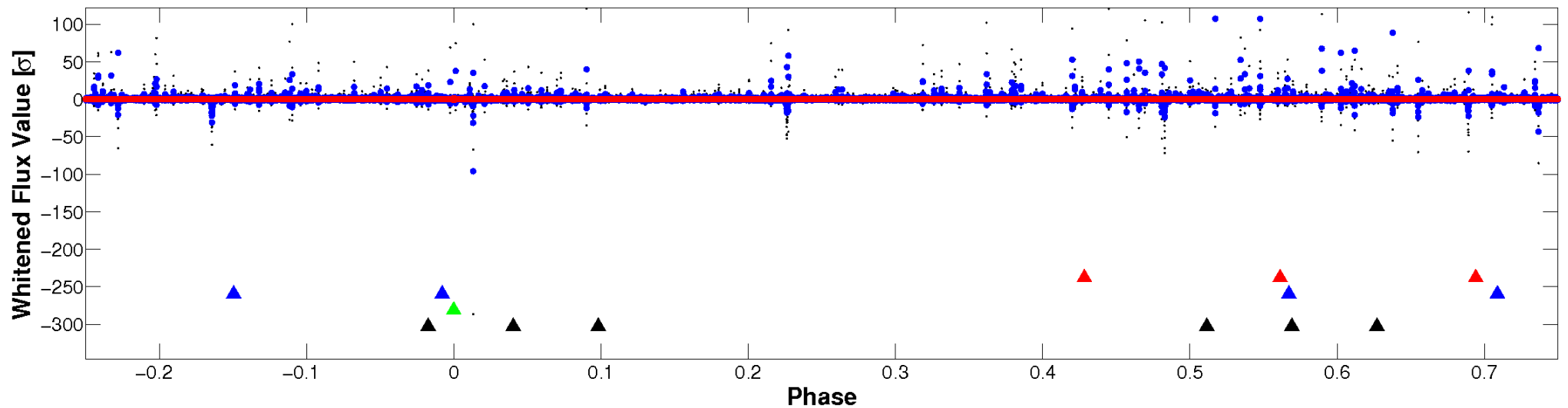


Non-Whitened Vs. Whitened Light Curve

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 011918550-03 P=492.457026 Days $T_0=247.468451$ (BKJD)



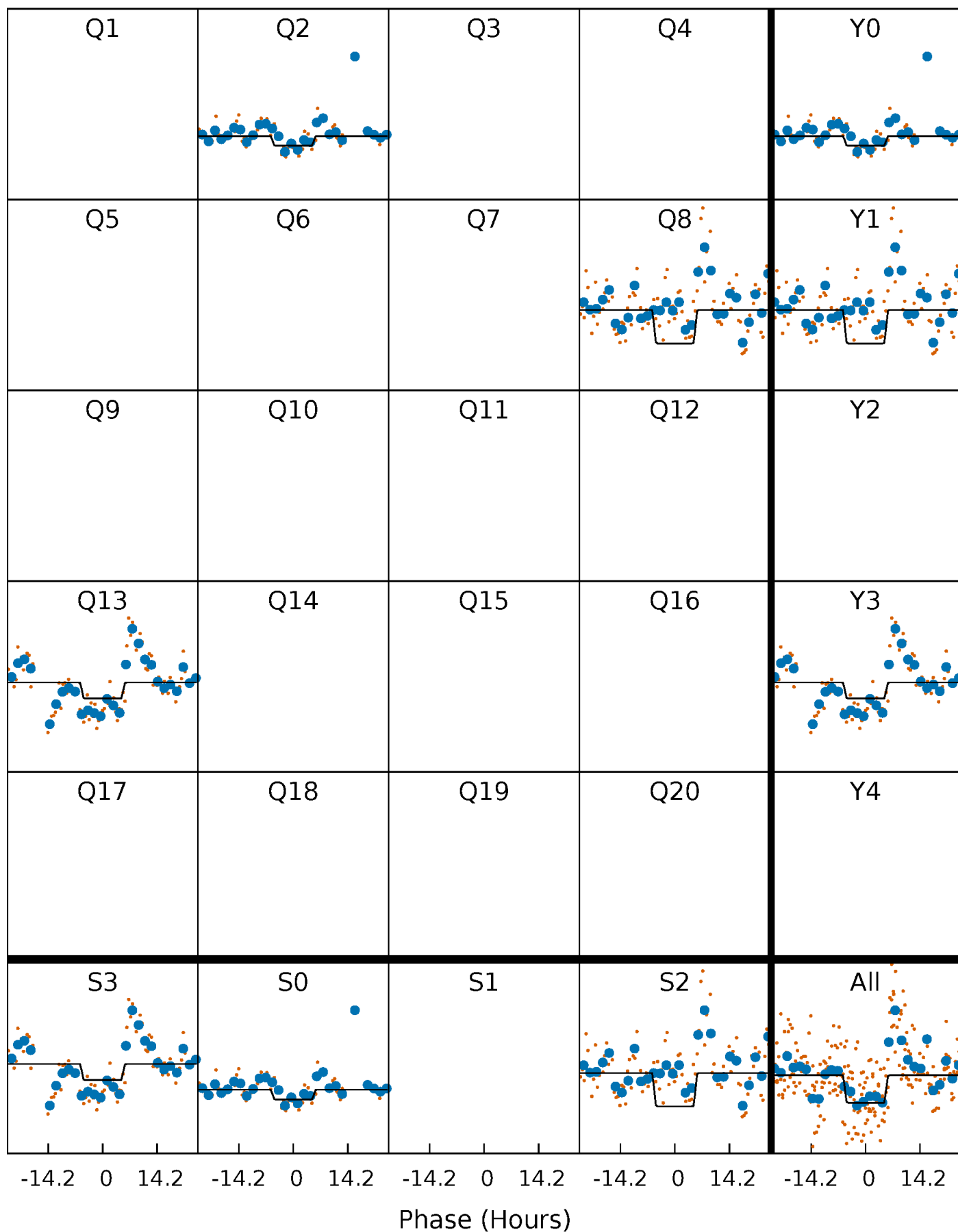
DV Quarter-Phased Transit Curves

TCE 011918550-03 $P=492.457026$ Days $T_0=247.468451$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

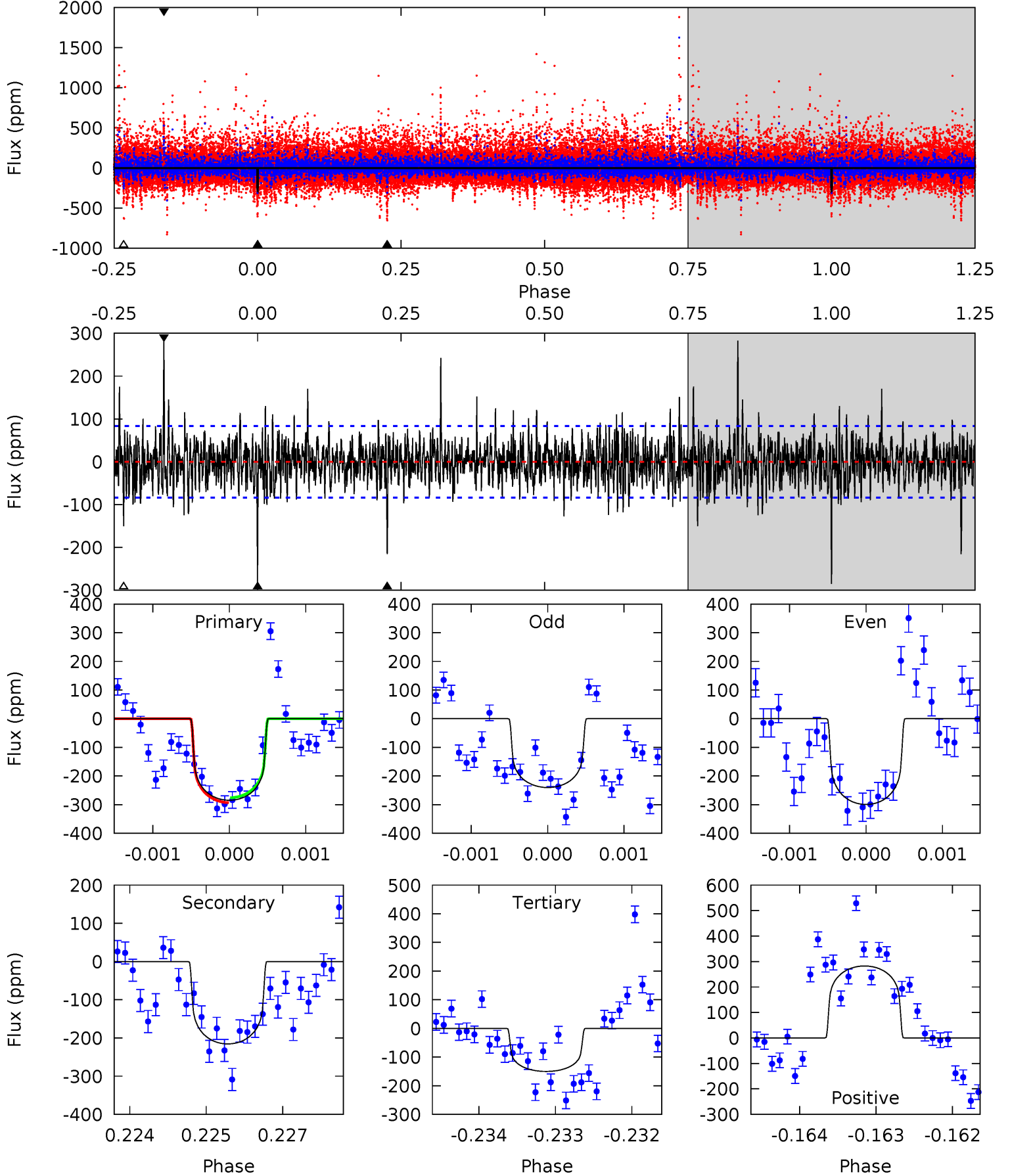
TCE 011918550-03 P=492.448796 Days $T_0=247.475073$ (BKJD)



DV Model-Shift Uniqueness Test

011918550-03, P = 492.457026 Days, E = 247.468451 Days

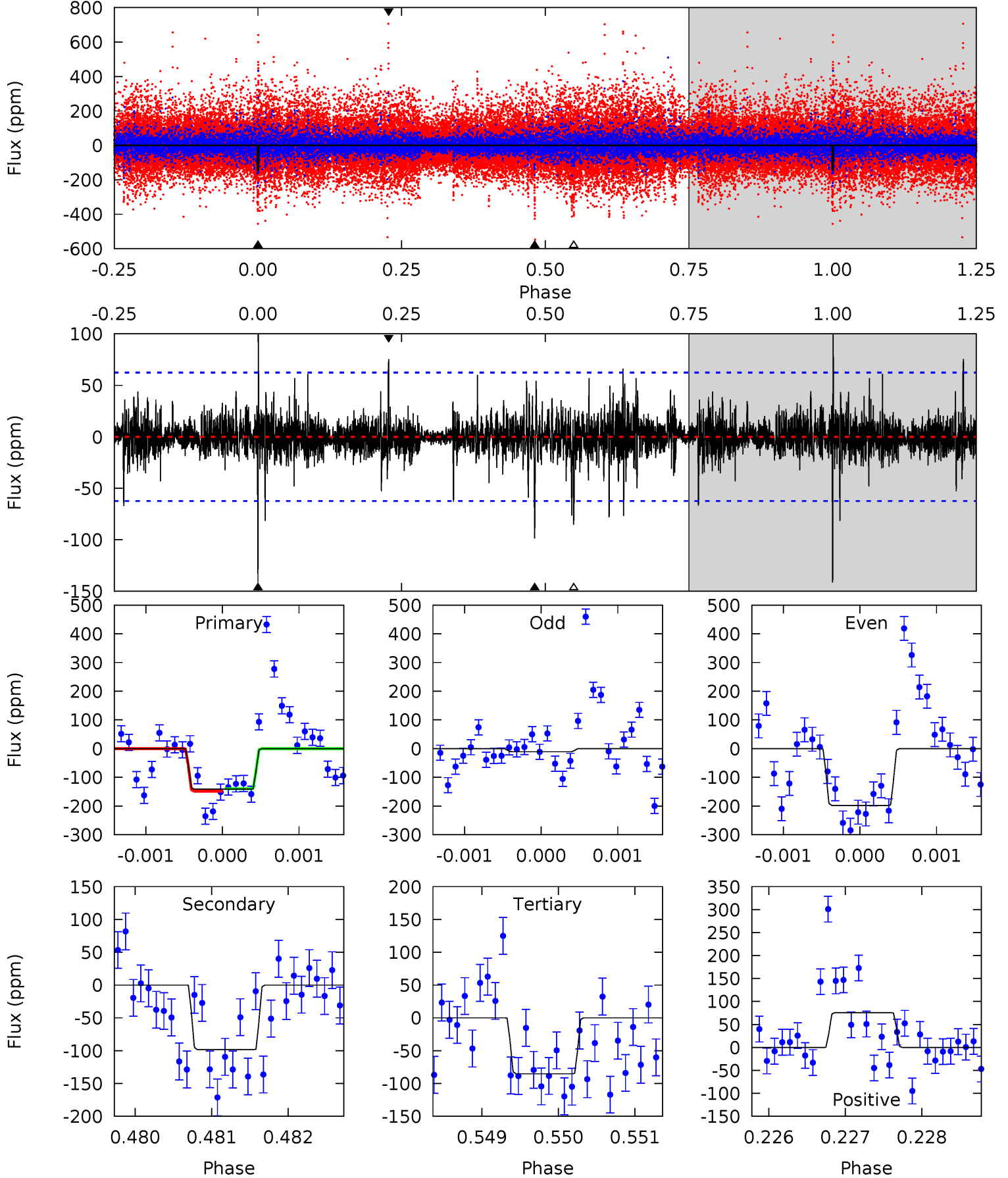
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	14.0	9.75	18.3	5.43	3.26	2.58	8.74	0.13	4.25	-4.35	0.79	1.17	0.50	0.55



Alt Model-Shift Uniqueness Test

011918550-03, P = 492.448796 Days, E = 247.475073 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	8.60	7.44	6.59	5.45	3.28	1.19	4.91	5.75	1.16	2.01	6.90	1.12	0.41	0.39



Stellar Parameters For KIC 011918550

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3844^{+121}_{-162}	$4.755^{+0.098}_{-0.053}$	$-0.180^{+0.300}_{-0.350}$	$0.502^{+0.064}_{-0.096}$	$0.524^{+0.058}_{-0.094}$	$5.816^{+3.192}_{-1.224}$
	+3%/-4%	+2%/-1%	+167%/-194%	+13%/-19%	+11%/-18%	+55%/-21%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011918550-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-216 ± 15	$0.92^{+0.32}_{-0.30}$	167^{+8}_{-8}	3643^{+494}_{-337}	$133476^{+154038}_{-58140}$
Alt.	-98 ± 11	$0.67^{+0.32}_{-0.28}$	167^{+7}_{-9}	3529^{+710}_{-371}	$114886^{+227200}_{-59833}$

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

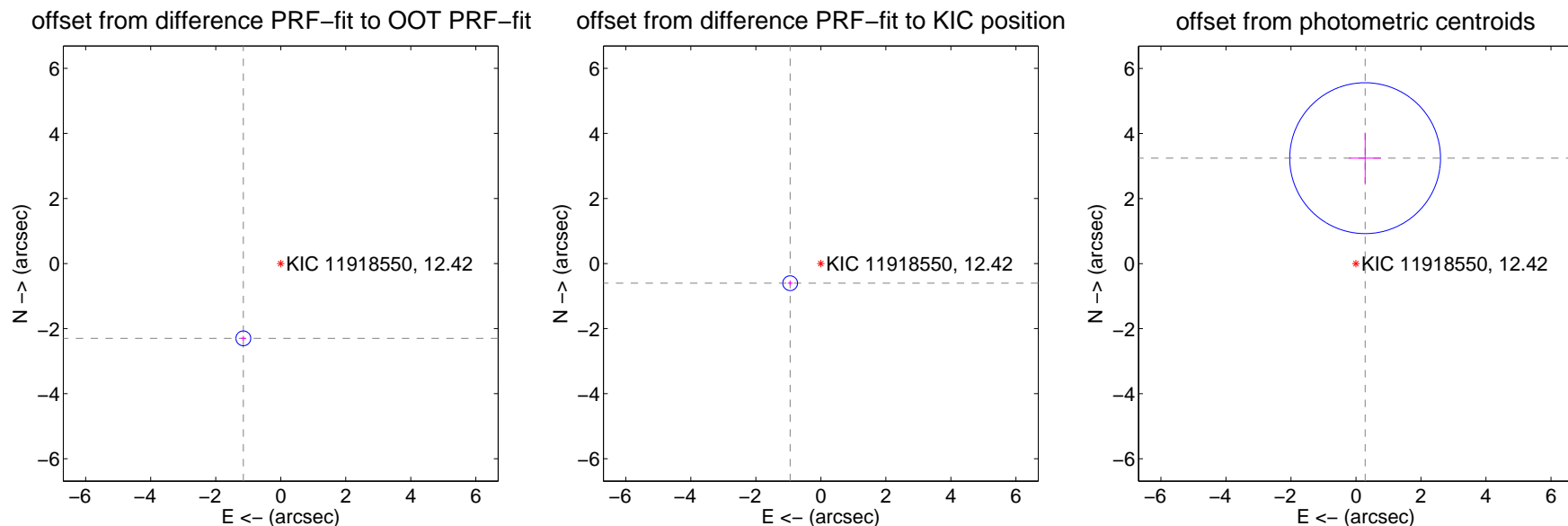
DV Centroid Data

Supplemental centroid analysis for 011918550-03. Kepler magnitude: 12.42. Transit SNR 7.47

There are 1 quarters with good PRF difference image offsets

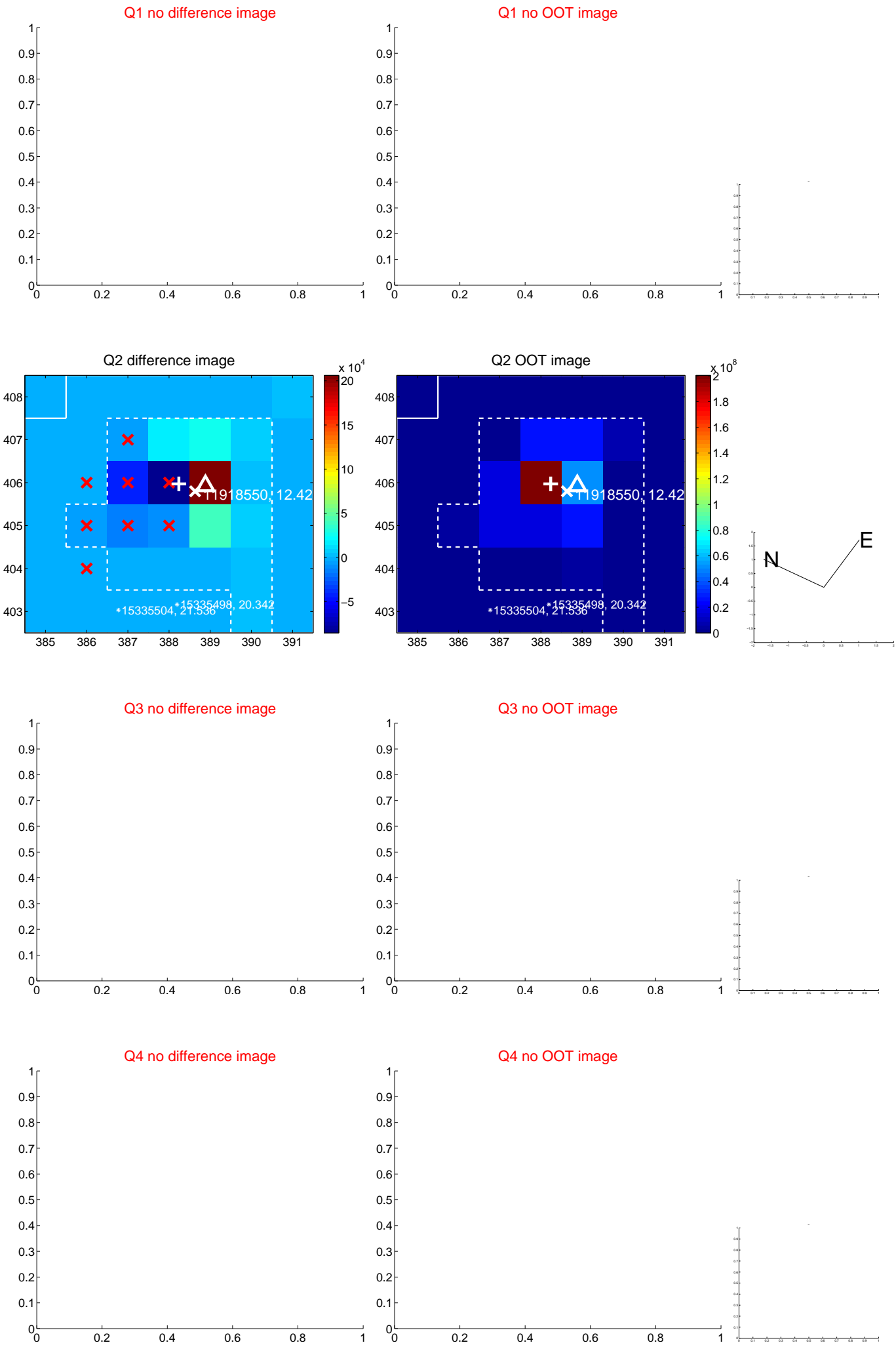
The direct PRF centroid is offset from the target star catalog position by about 1.71 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.570 ± 0.076	33.87	1.150 ± 0.075	-2.299 ± 0.076
PRF-fit source offset from KIC position	1.121 ± 0.076	14.82	0.944 ± 0.075	-0.604 ± 0.076
photometric centroid source offset	3.25 ± 0.77	4.21	-0.28 ± 0.49	3.24 ± 0.77

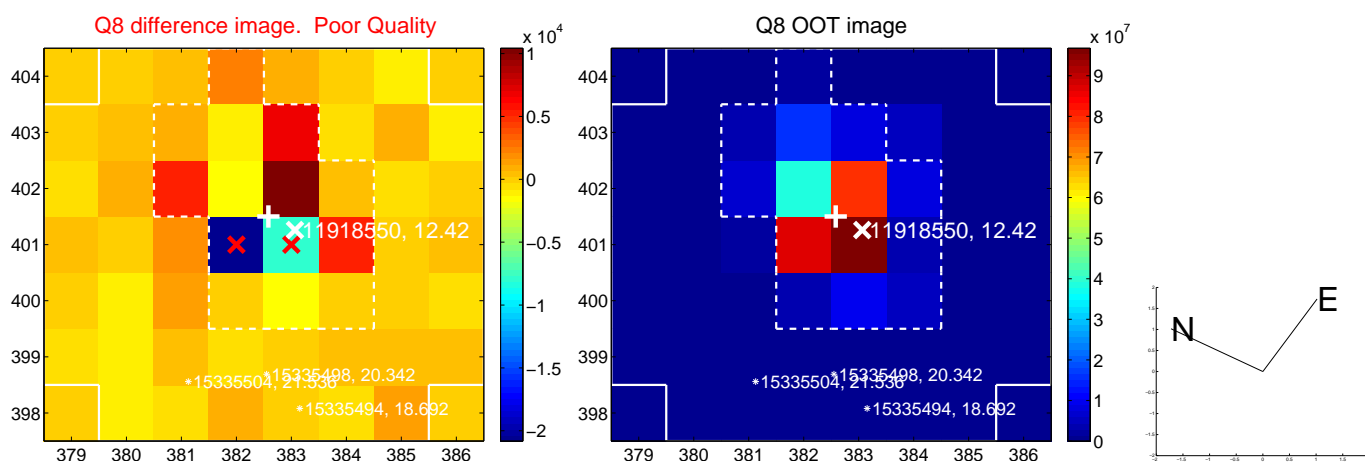


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



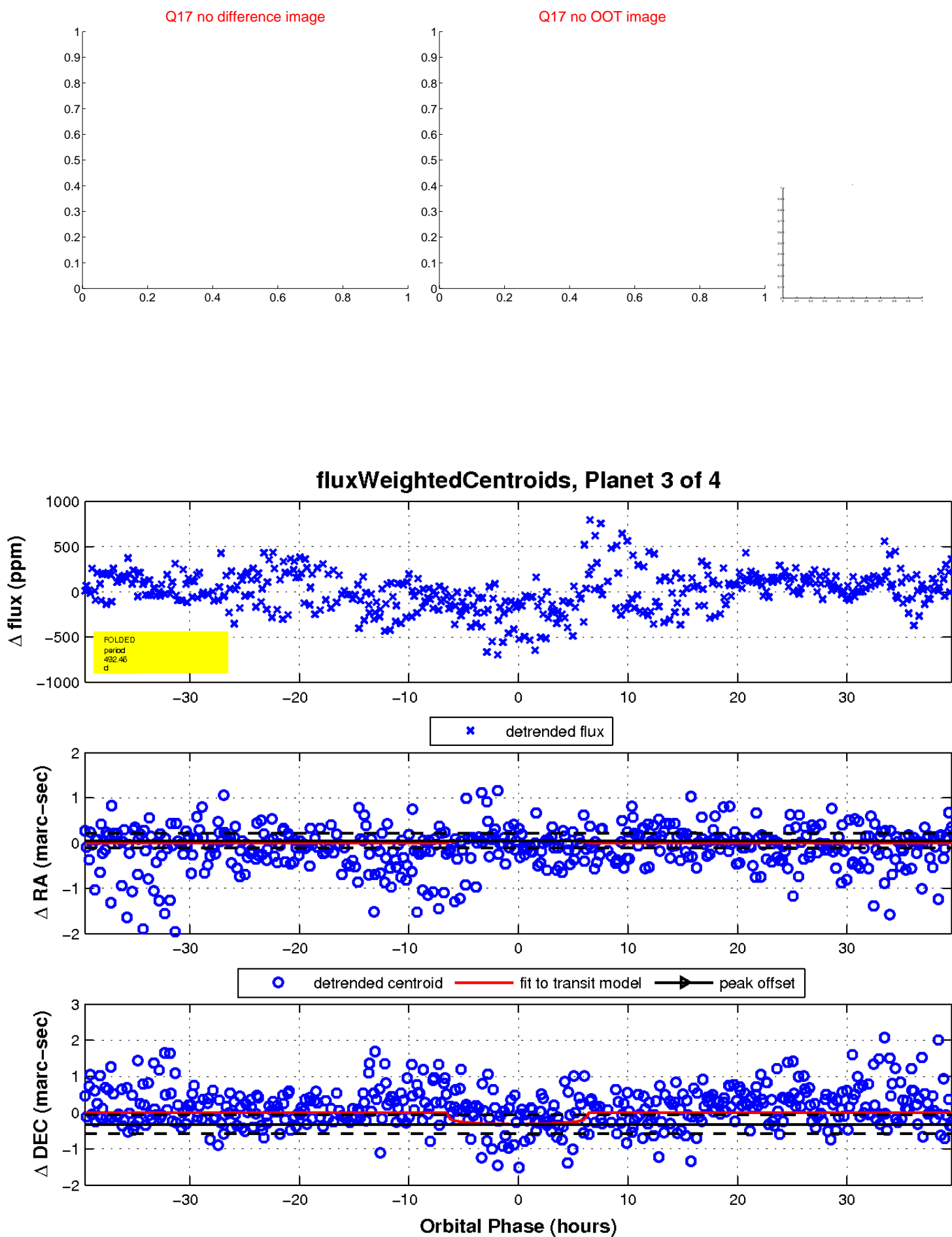
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



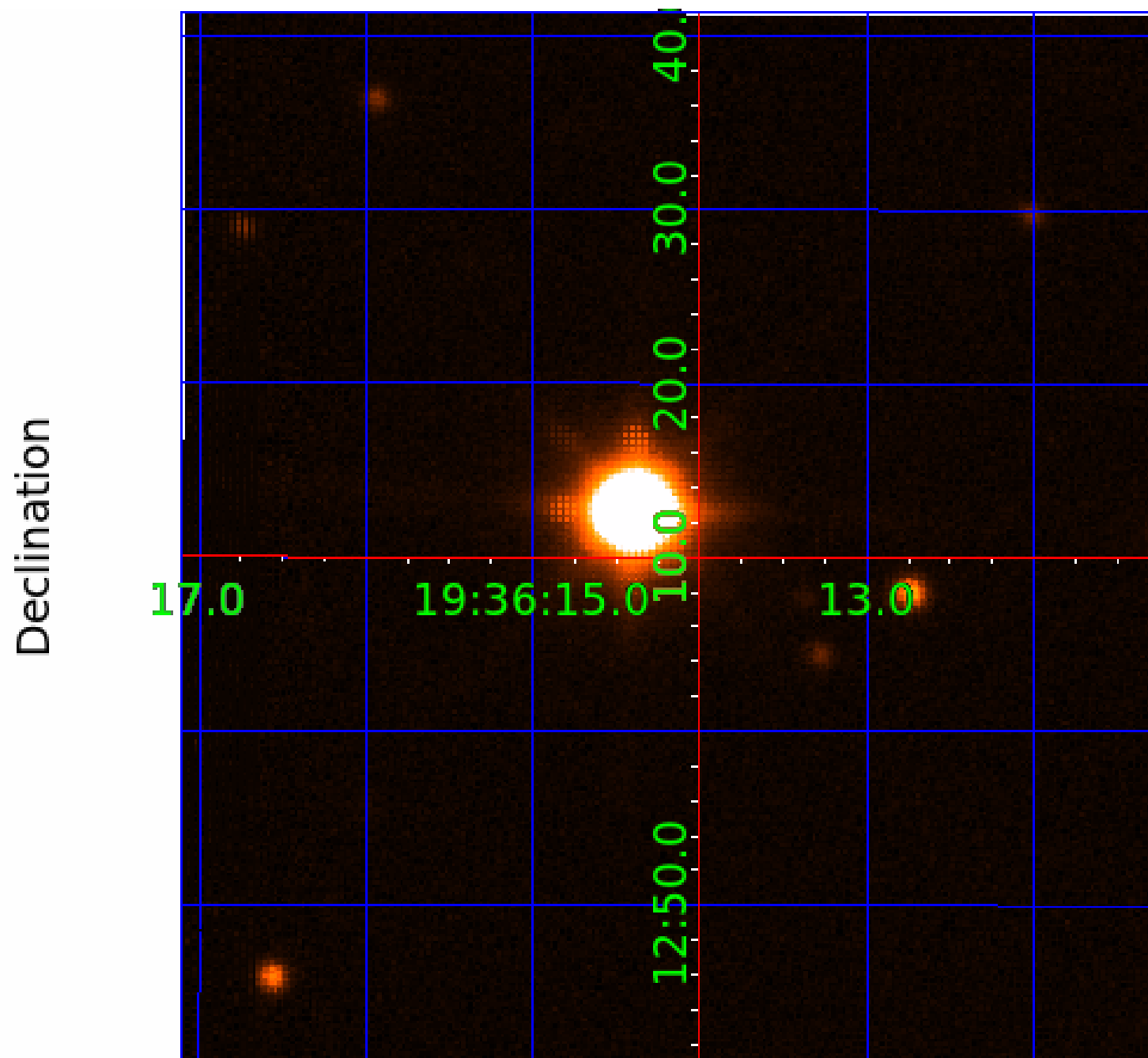
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011918550

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})
011918550-01	OBS	No	557.912049	458.415745	207.4	5.964	13.5	5.7	0.50	3844	0.82	0.04
011918550-02	OBS	No	422.704558	243.621606	436.9	19.983	11.2	10.4	0.50	3844	2.12	0.06
011918550-03	OBS	No	492.457026	247.468451	310.1	13.189	9.3	7.5	0.50	3844	0.94	0.05
011918550-04	OBS	No	260.455488	238.914600	219.5	14.810	8.3	8.0	0.50	3844	0.76	0.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011918550-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS—HALO_GHOST
011918550-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS
011918550-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011918550-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

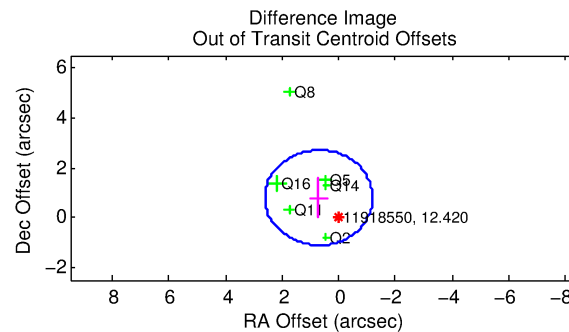
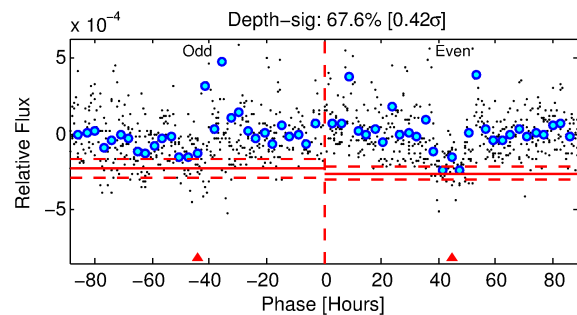
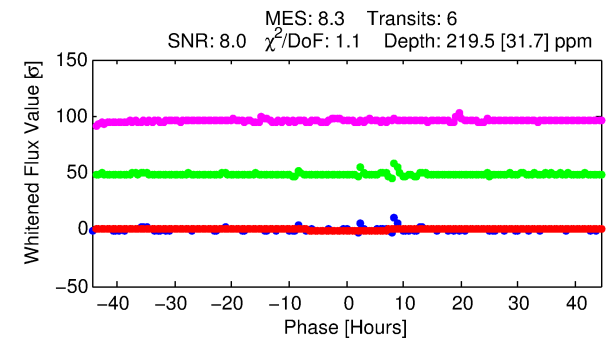
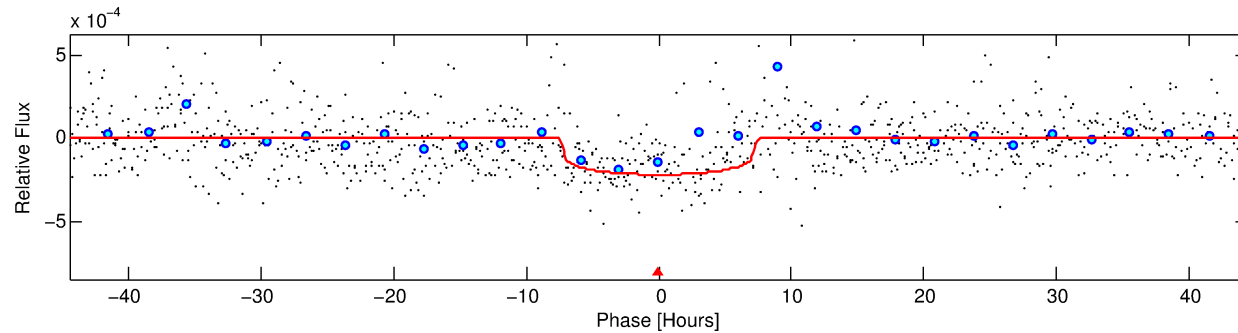
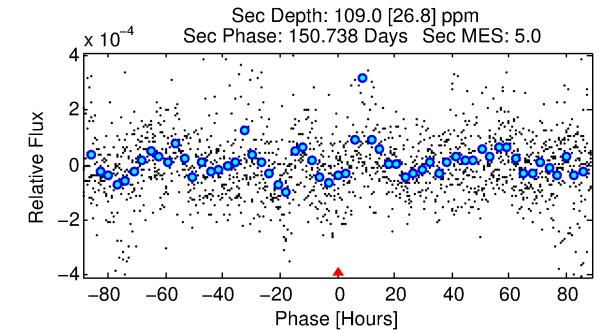
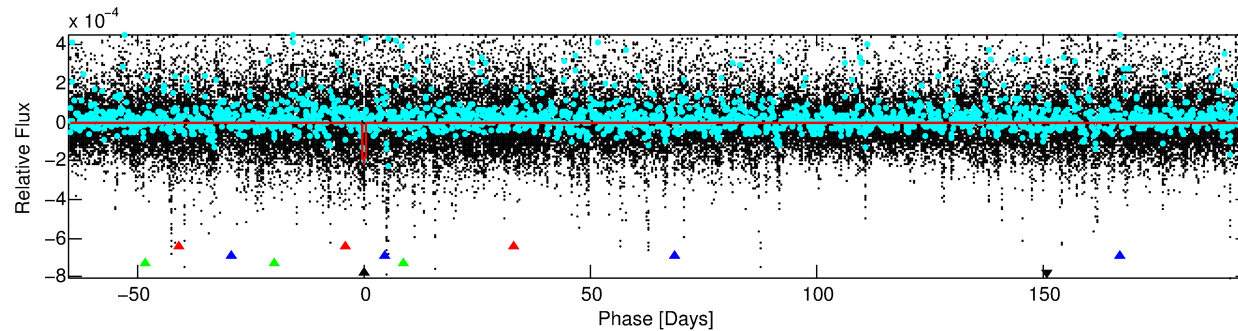
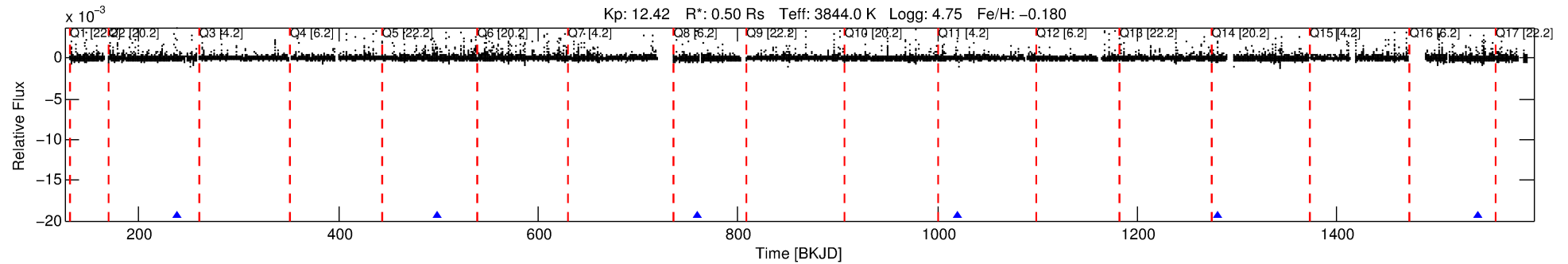
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011918550-04

No Significant Match Found

DV One-Page Summary

KIC: 11918550 Candidate: 4 of 4 Period: 260.455 d



DV Fit Results:

Period = 260.45549 [0.00419] d
Epoch = 238.9146 [0.0117] BKJD
Rp/R* = 0.0140 [0.0075]
a/R* = 115.54 [275.50]
b = 0.54 [3.17]
Seff = 0.12 [0.03]
Teq = 150 [10] K
Rp = 0.76 [0.44] Re
a = 0.6432 [0.0952] AU
Ag = 42438.51 [47673.47] [0.89 sigma]
Teffp = 3325 [930] K [3.41 sigma]

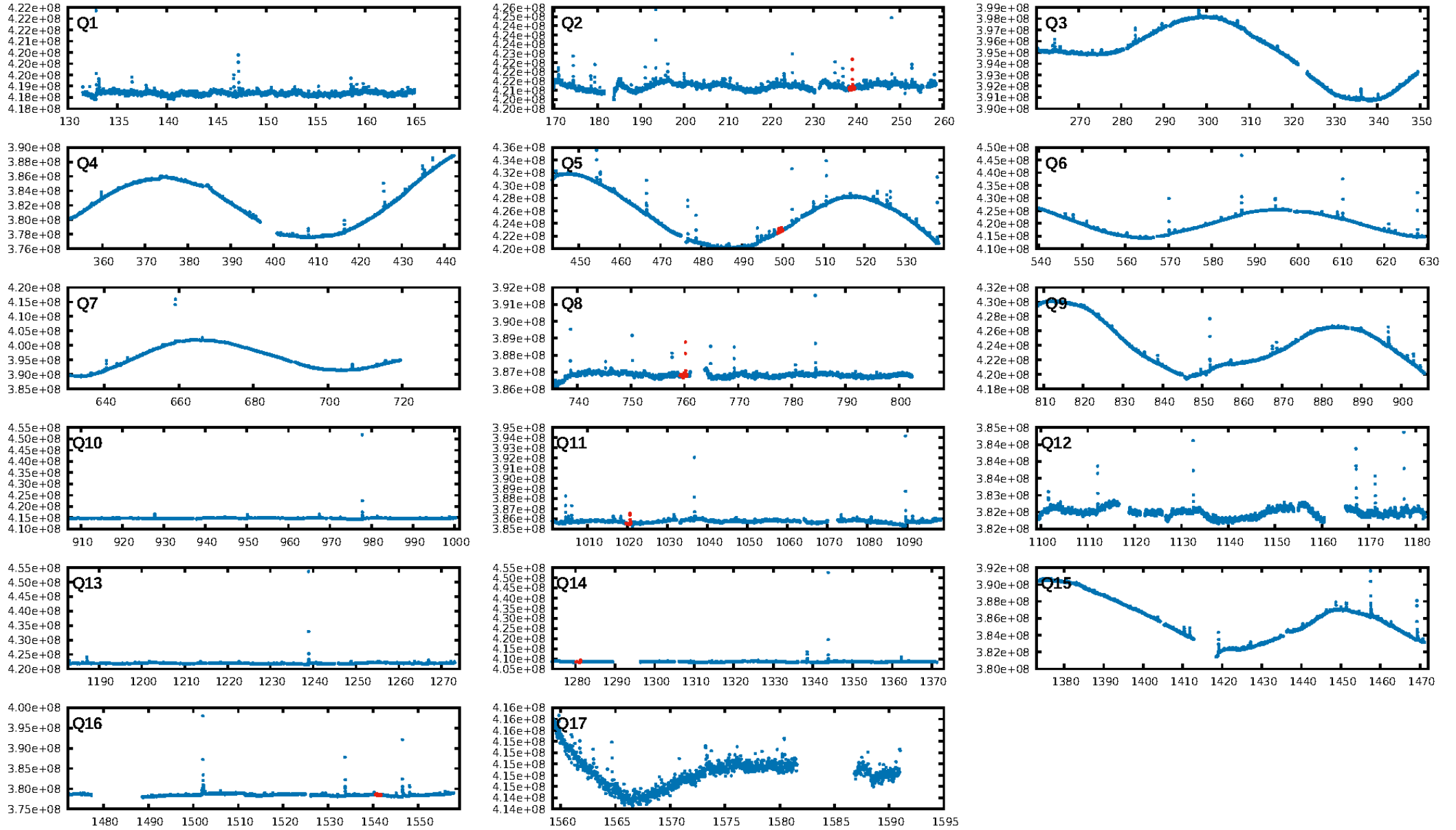
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [156.56 sigma]
ModelChiSquare2-sig: 91.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.59e-07
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.7096
Centroid-sig: 28.5%
Centroid-so: 1.832 arcsec [2.60 sigma]
OotOffset-rm: 1.067 arcsec [1.68 sigma]
KicOffset-rm: 3.390 arcsec [3.70 sigma]
OotOffset-st: 2/1/2/1 [6]
KicOffset-st: 2/1/2/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [6/6]

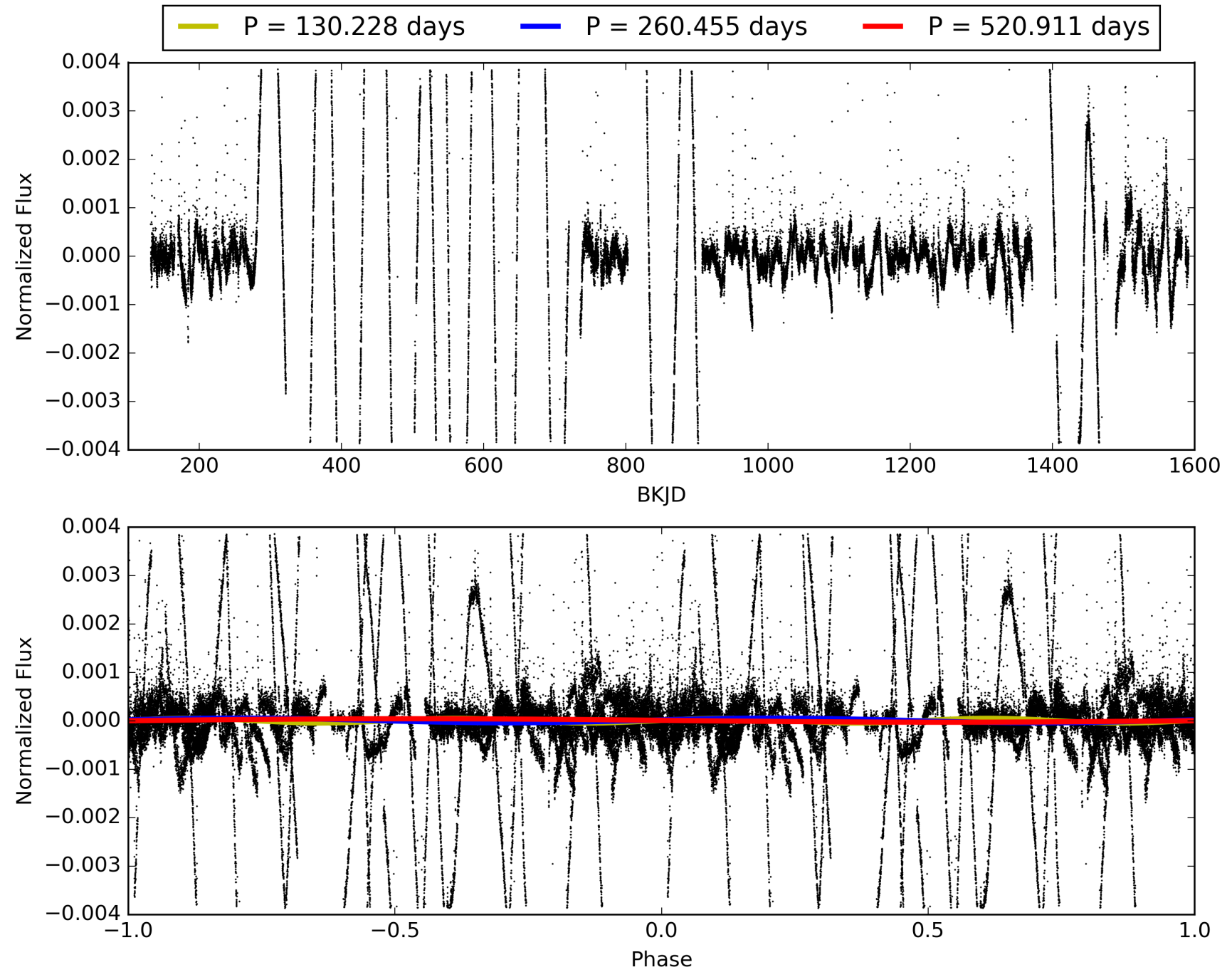
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:48:32 Z

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

TCE 011918550-04, PDC Light Curves

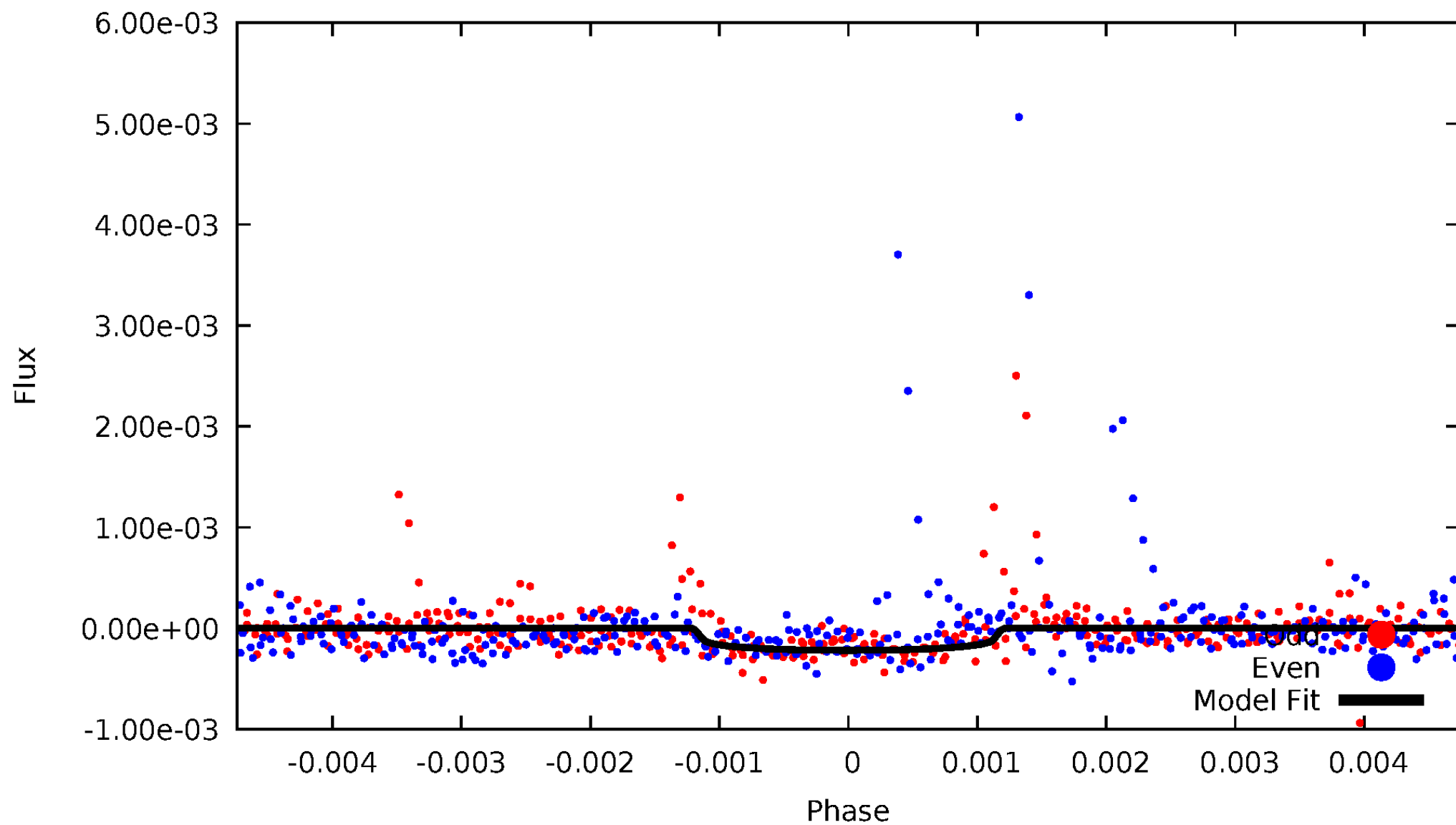


TCE 011918550-04



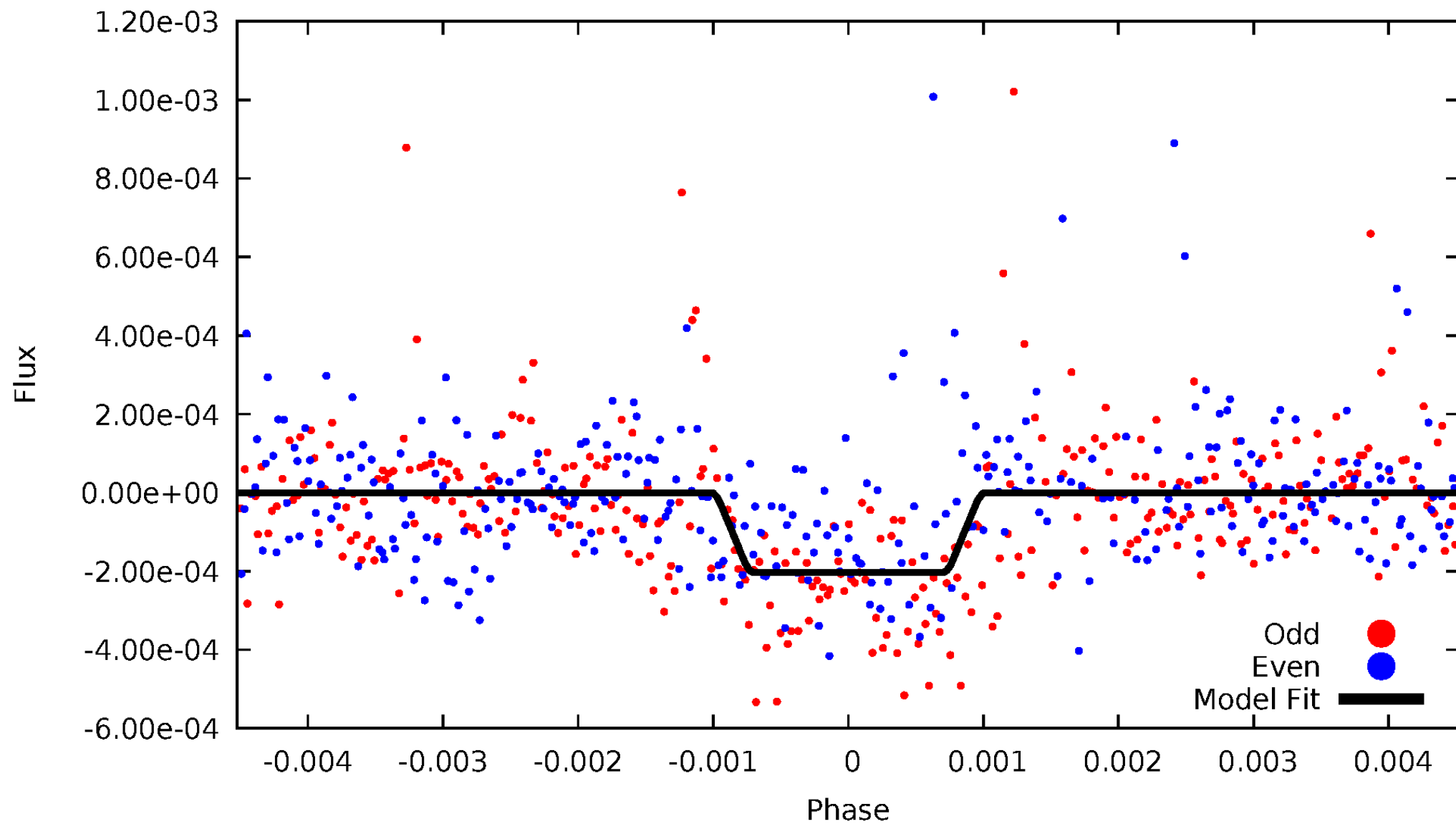
DV Odd/Even

TCE 011918550-04



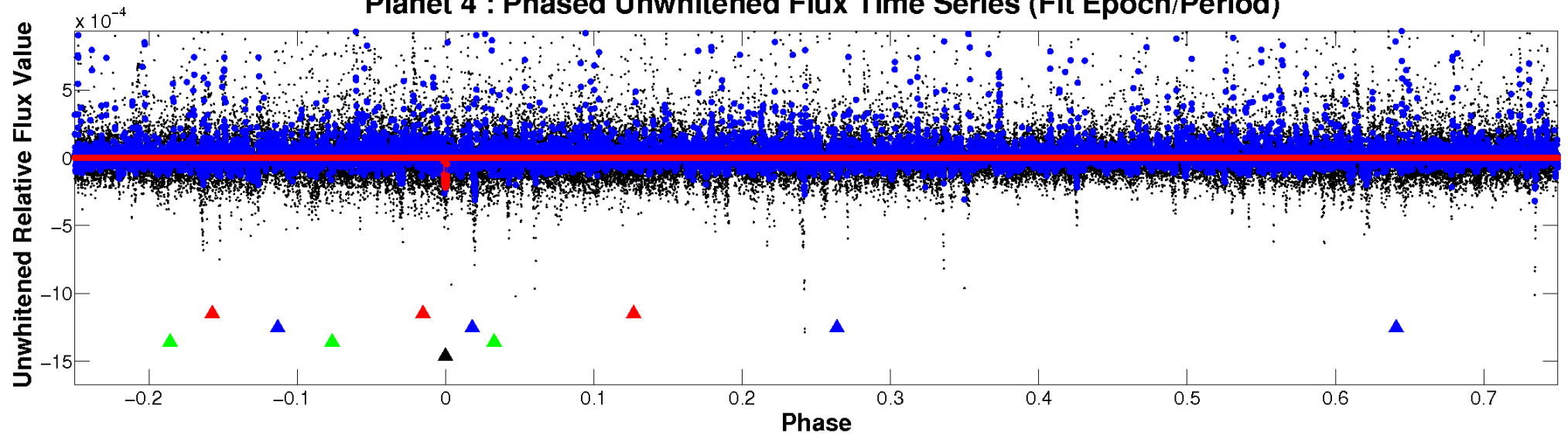
ALT Odd/Even

TCE 011918550-04

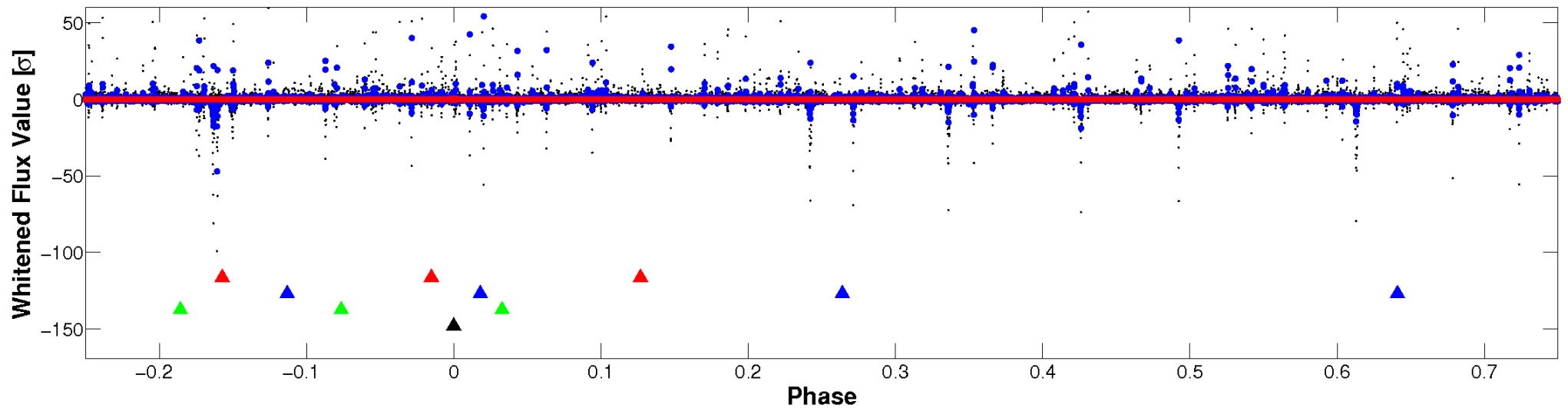


Non-Whitened Vs. Whitened Light Curve

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

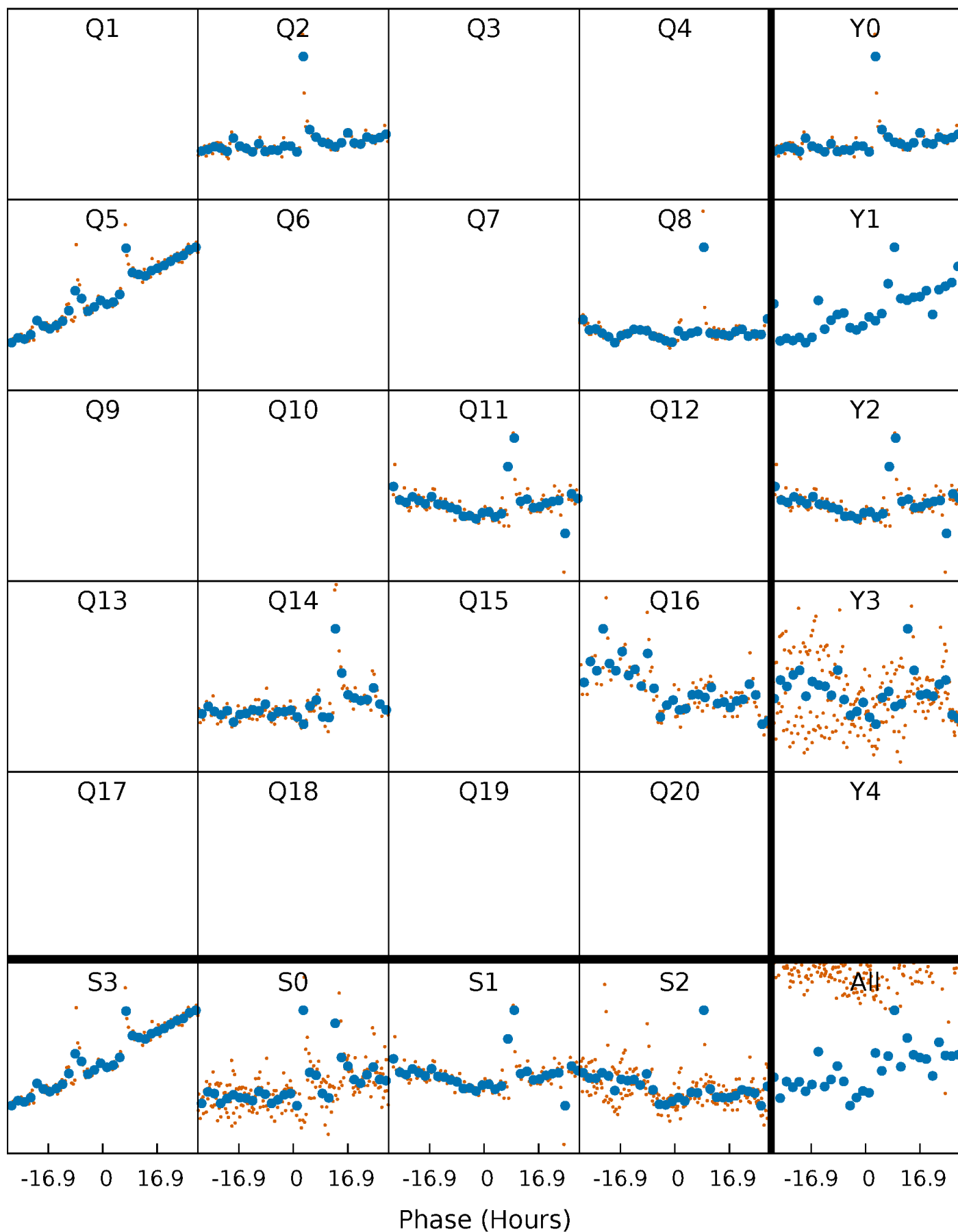


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



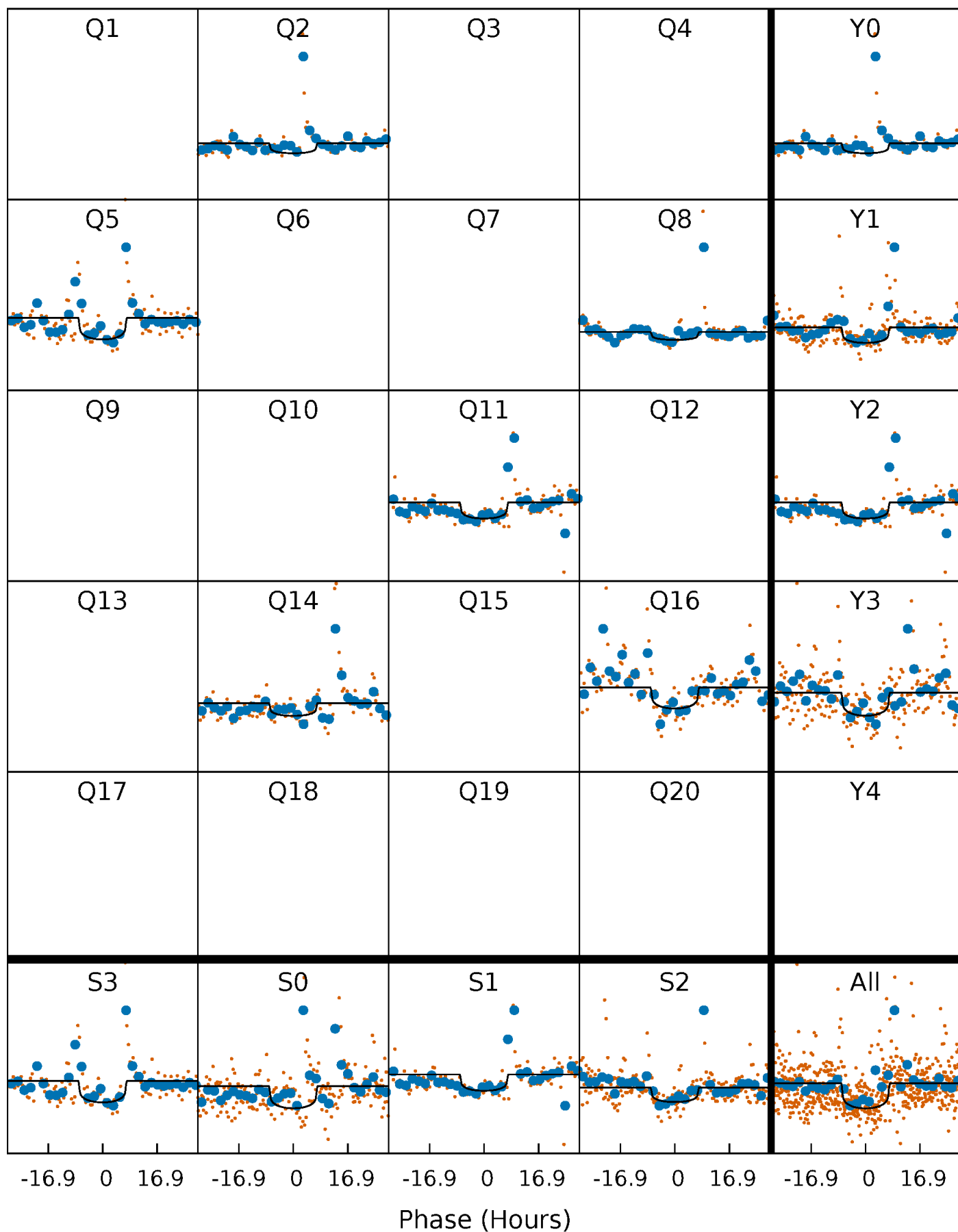
PDC Quarter-Phased Transit Curves

TCE 011918550-04 P=260.455488 Days $T_0=238.914600$ (BKJD)



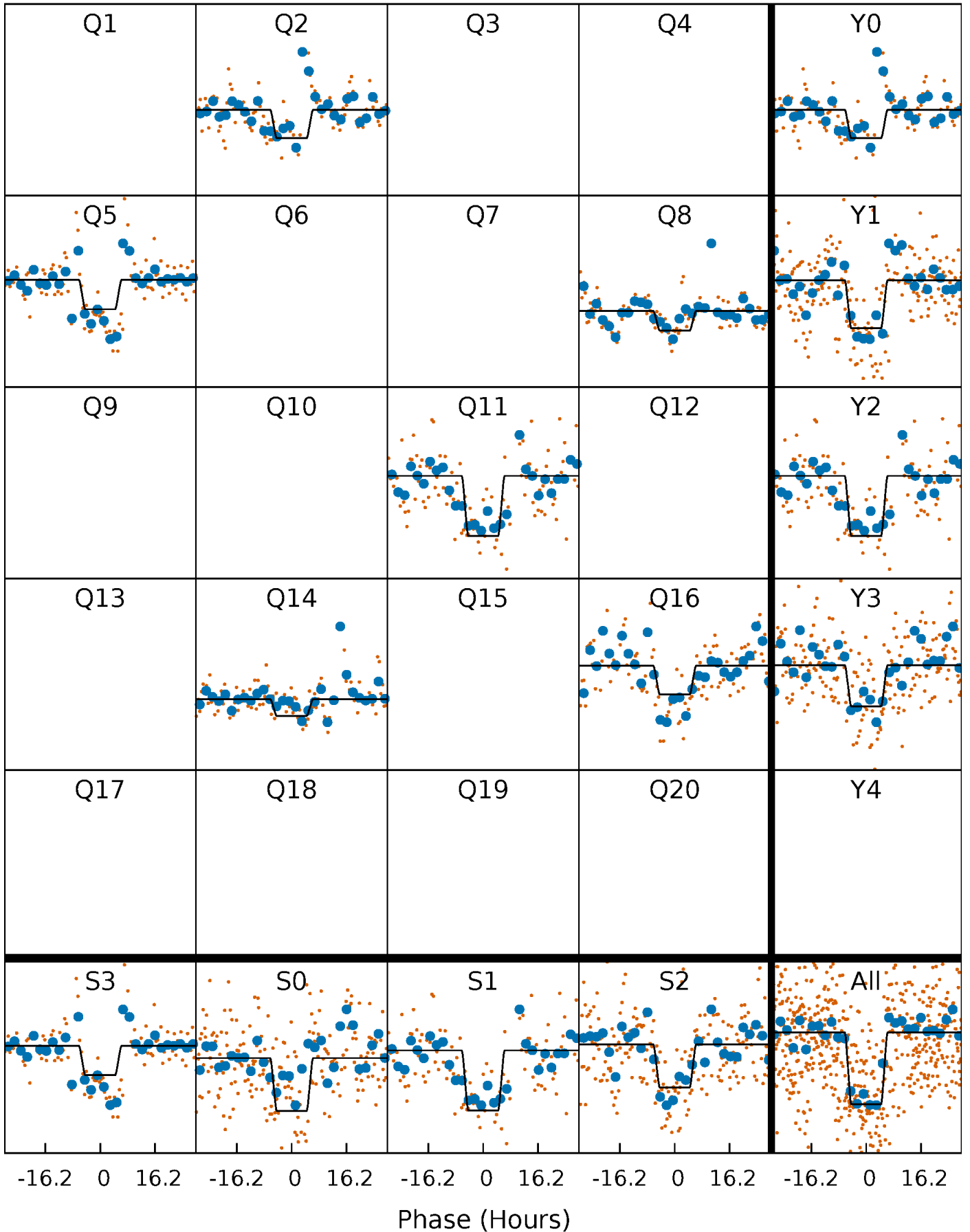
DV Quarter-Phased Transit Curves

TCE 011918550-04 P=260.455488 Days $T_0=238.914600$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

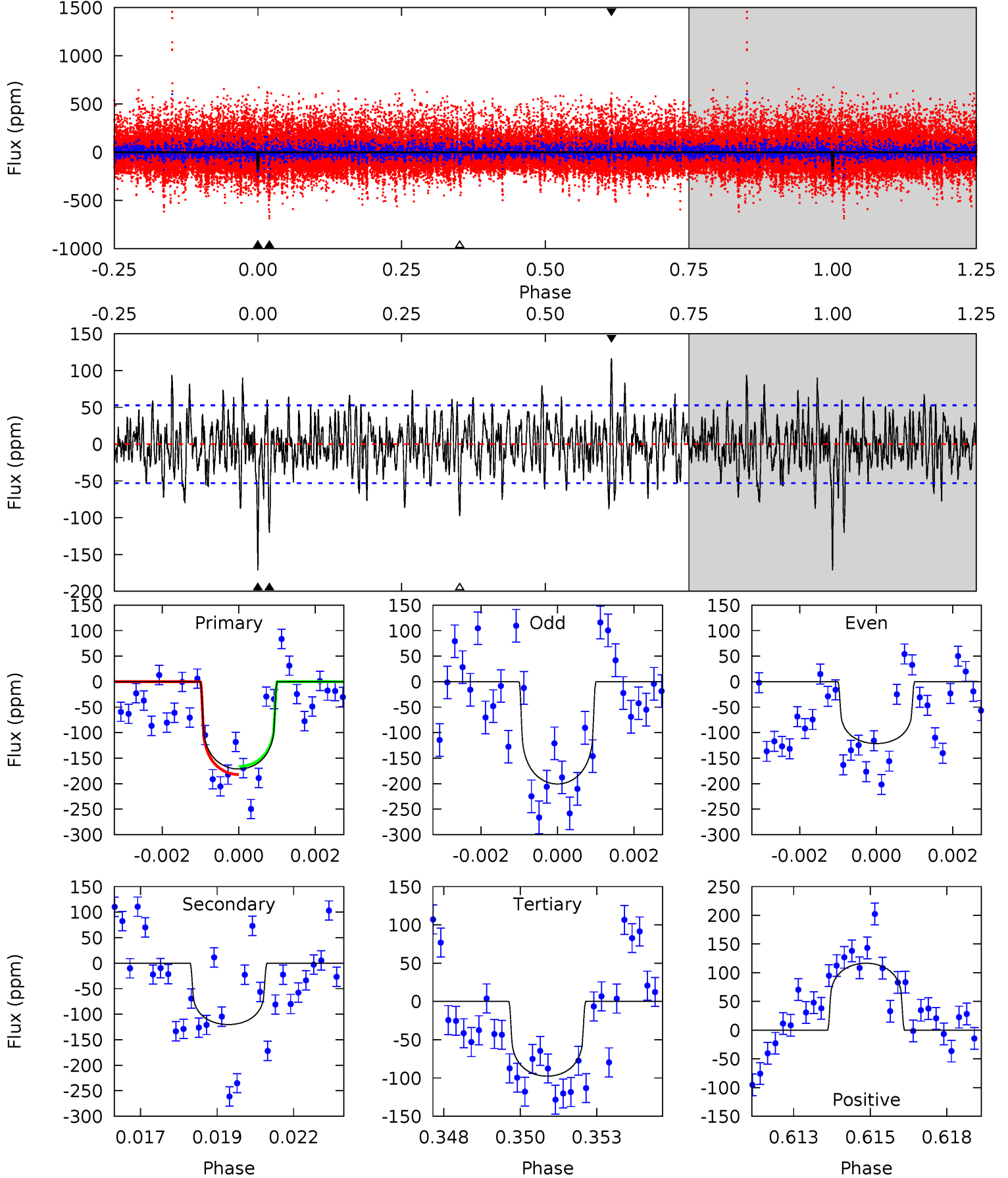
TCE 011918550-04 P=260.452967 Days $T_0=238.891857$ (BKJD)



DV Model-Shift Uniqueness Test

011918550-04, $P = 260.455488$ Days, $E = 238.914600$ Days

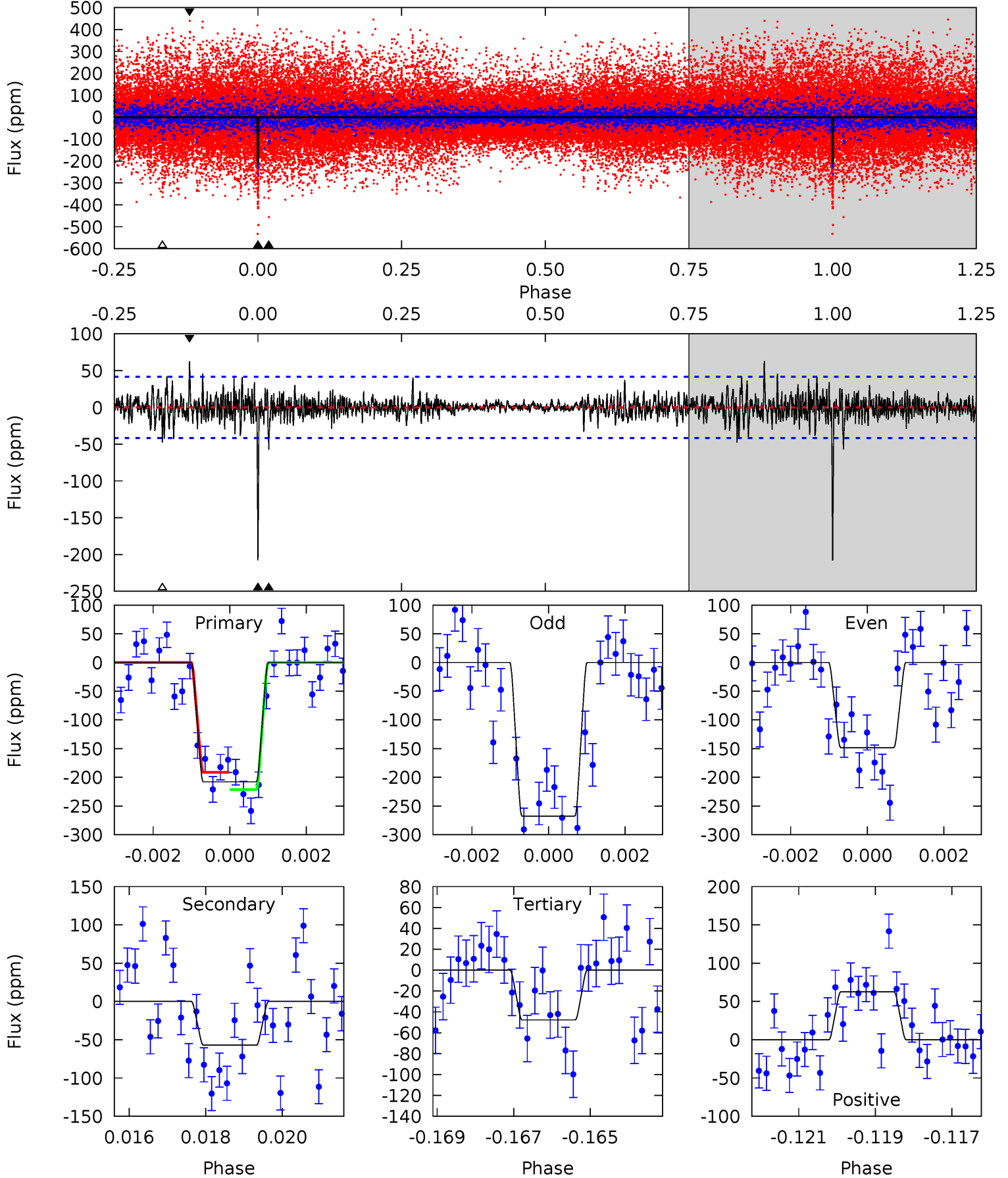
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	12.0	9.75	11.6	5.29	3.03	2.83	7.36	5.46	2.26	0.37	3.63	0.61	0.41	0.80



Alt Model-Shift Uniqueness Test

011918550-04, $P = 260.452967$ Days, $E = 238.891857$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	7.29	6.09	8.01	5.33	3.09	1.31	20.4	18.5	1.20	-0.72	7.49	1.24	0.23	1.93



Stellar Parameters For KIC 011918550

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3844^{+121}_{-162}	$4.755^{+0.098}_{-0.053}$	$-0.180^{+0.300}_{-0.350}$	$0.502^{+0.064}_{-0.096}$	$0.524^{+0.058}_{-0.094}$	$5.816^{+3.192}_{-1.224}$
	+3%/-4%	+2%/-1%	+167%/-194%	+13%/-19%	+11%/-18%	+55%/-21%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011918550-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-120 ± 10	$0.75^{+0.41}_{-0.37}$	207^{+10}_{-10}	3559^{+923}_{-473}	$49681^{+150810}_{-29151}$
Alt.	-57 ± 8	$0.76^{+0.44}_{-0.37}$	206^{+9}_{-11}	3125^{+664}_{-374}	22594^{+57534}_{-13817}

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 $A_{obs} \gg 1.0$

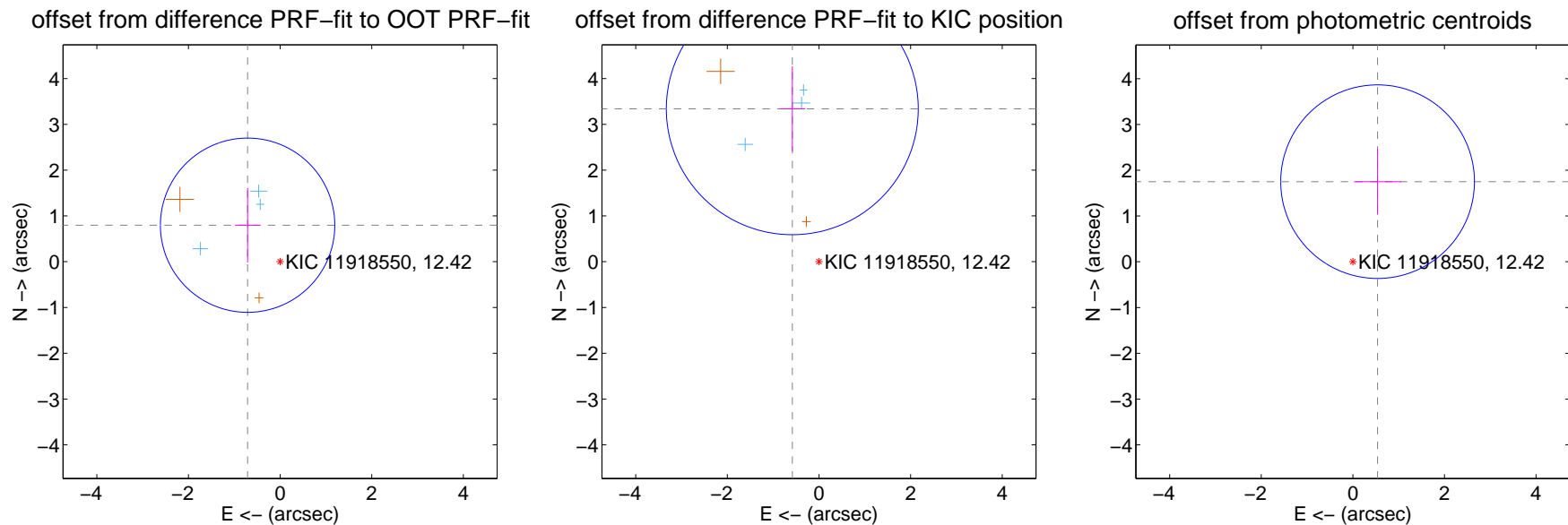
DV Centroid Data

Supplemental centroid analysis for 011918550-04. Kepler magnitude: 12.42. Transit SNR 8.01

There are 3 quarters with good PRF difference image offsets

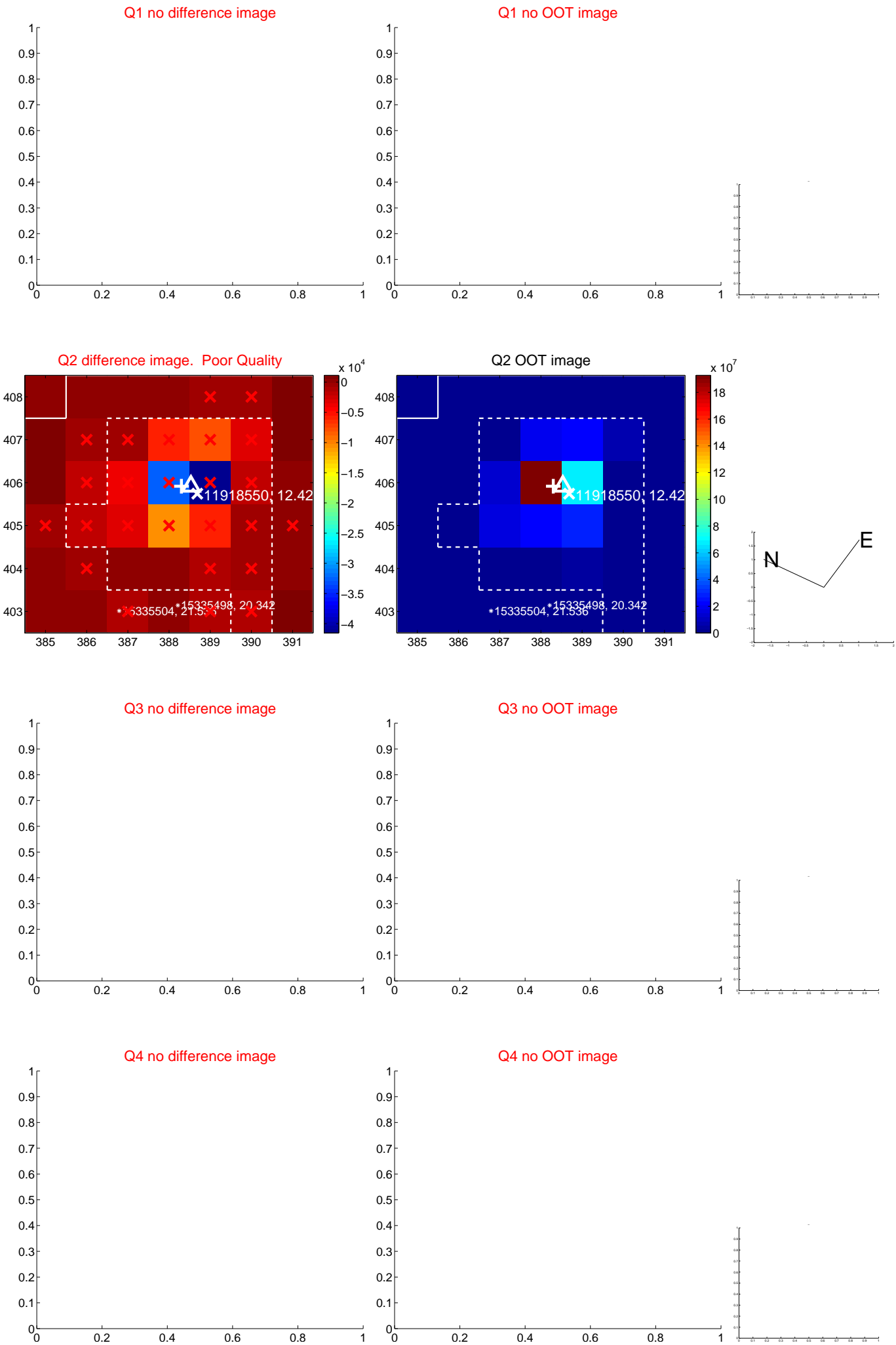
The OOT PRF centroid is offset from the target star catalog position by about 2.80 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.067 ± 0.635	1.68	0.710 ± 0.276	0.797 ± 0.813
PRF-fit source offset from KIC position	3.390 ± 0.917	3.70	0.583 ± 0.282	3.339 ± 0.929
photometric centroid source offset	1.83 ± 0.71	2.60	-0.54 ± 0.52	1.75 ± 0.72

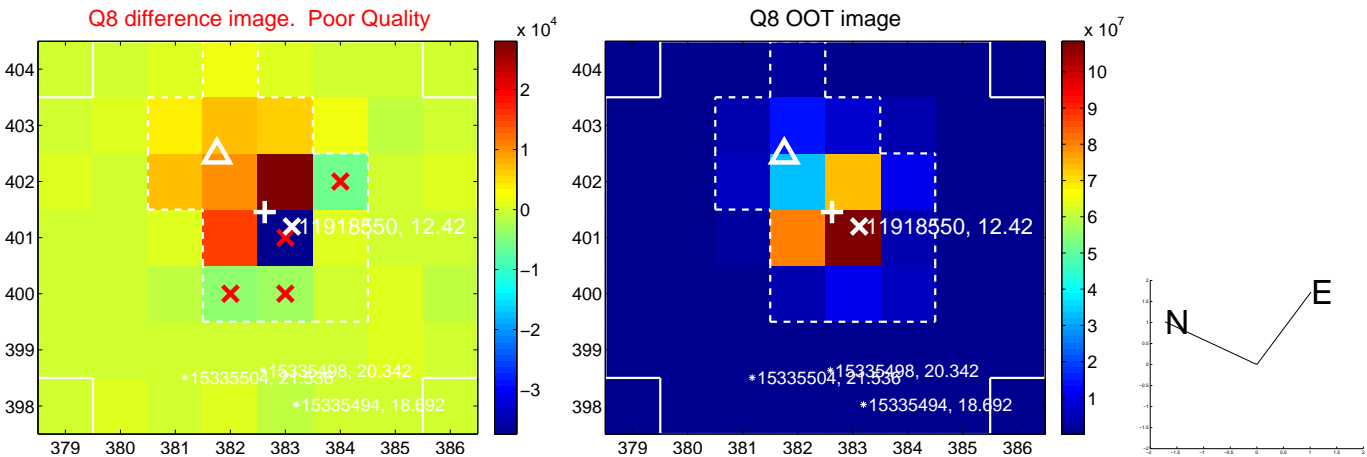
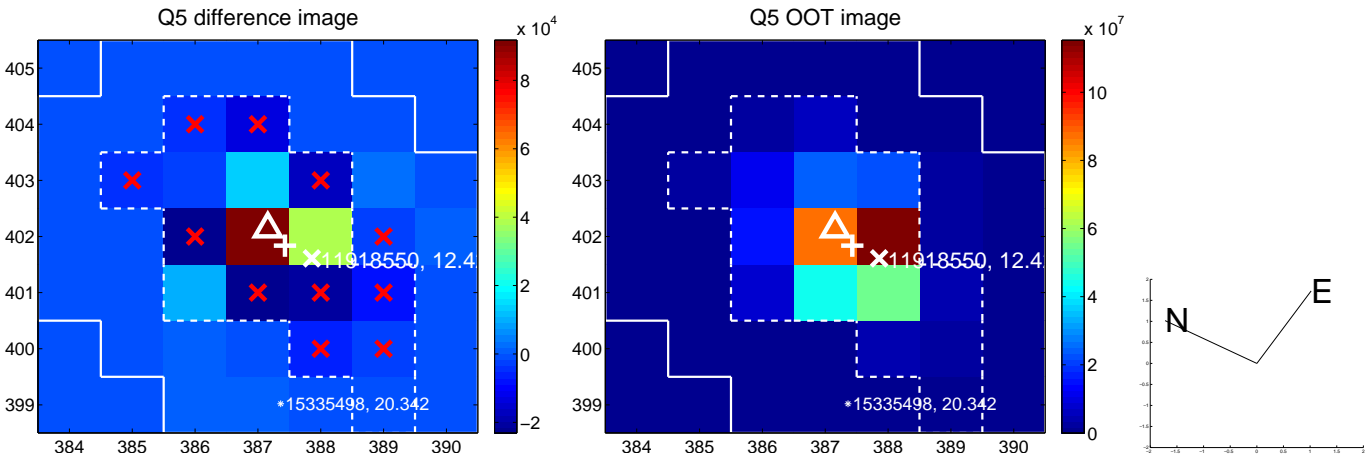


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

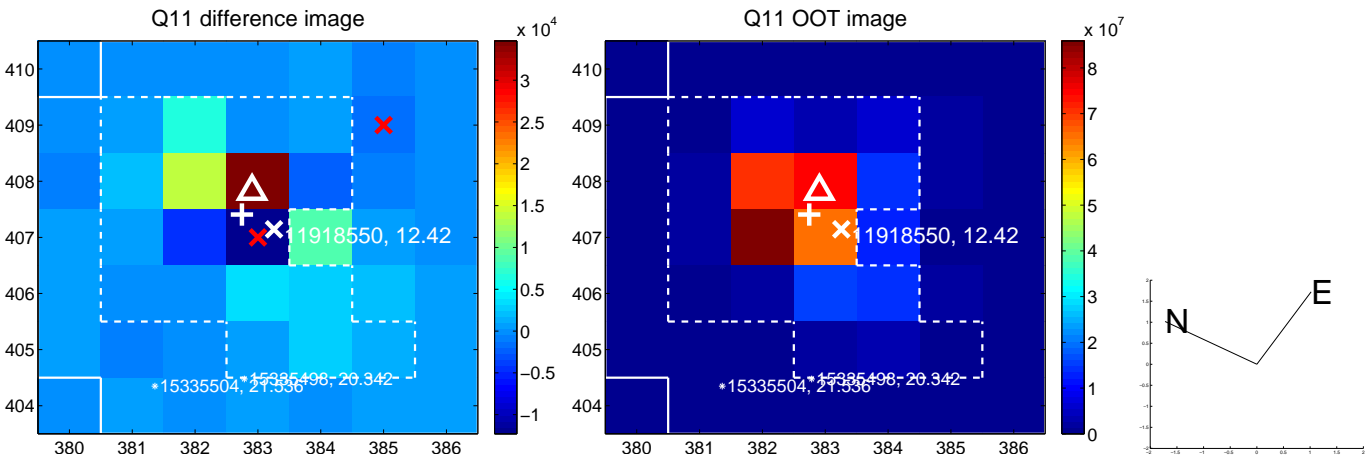
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



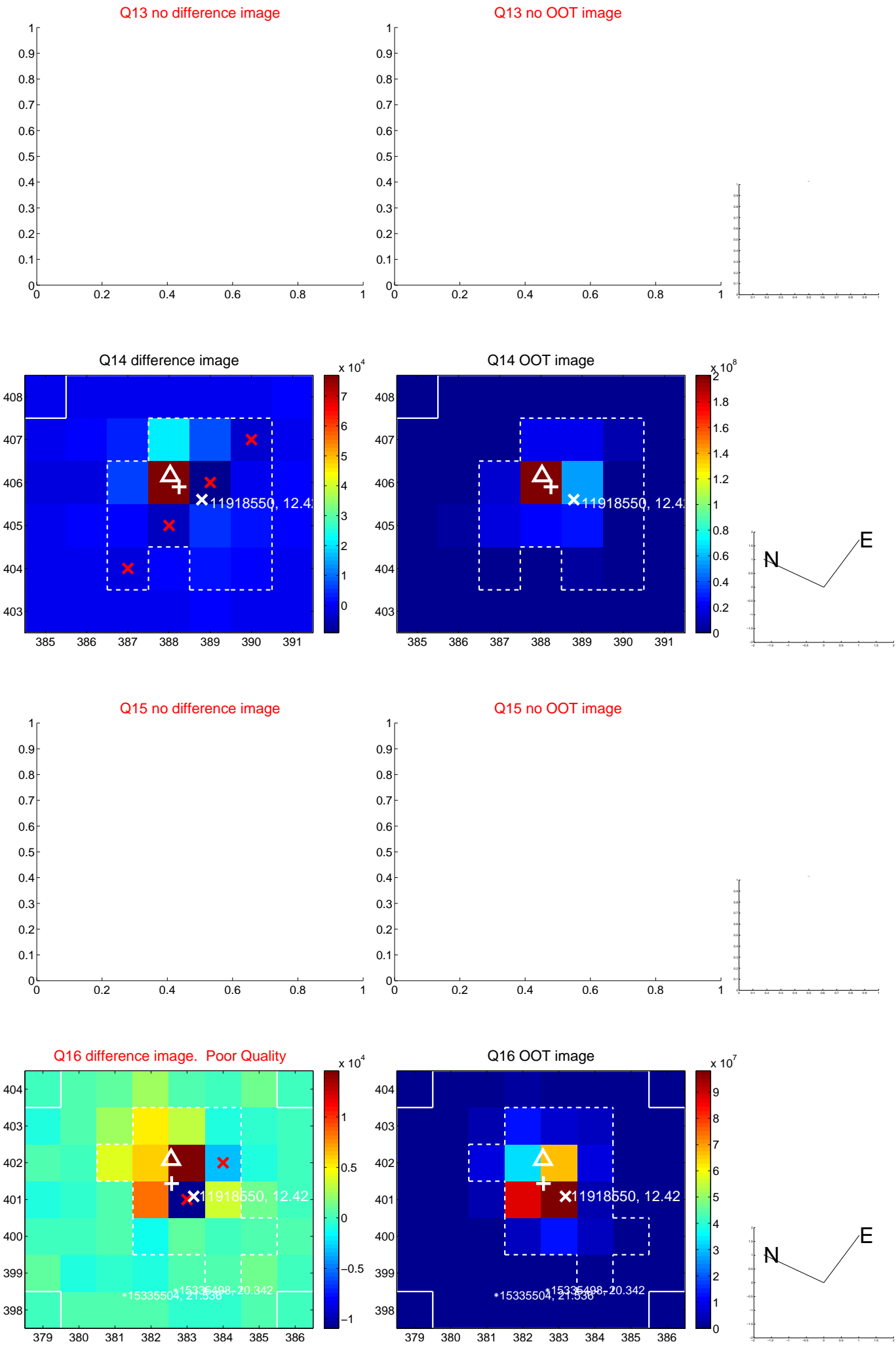
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



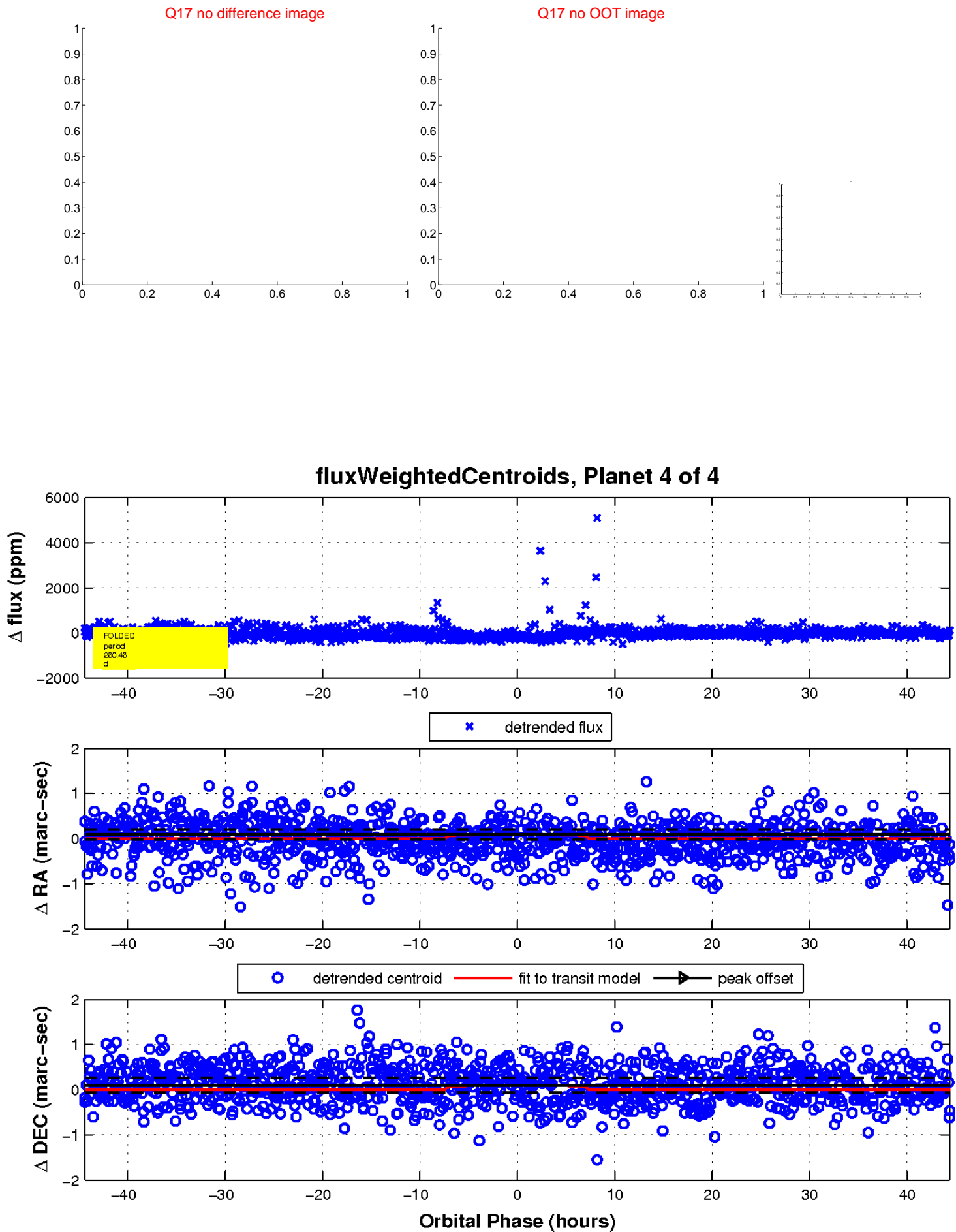
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

