

KIC 004922182

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})
004922182-01	OBS	No	501.042113	527.413188	1040.3	10.224	54.0	14.8	16.87	4761	67.99	42.32
004922182-02	OBS	No	278.587809	253.737095	982.8	14.740	26.3	18.3	16.87	4761	67.11	92.56
004922182-03	OBS	No	489.758377	536.068237	168.2	15.000	26.0	-1.0	16.87	4761	21.00	43.62
004922182-04	OBS	No	211.855645	316.913038	887.0	17.120	22.5	17.4	16.87	4761	61.89	133.34
004922182-05	OBS	No	198.798630	325.651251	741.1	16.583	12.5	9.3	16.87	4761	56.56	145.15
004922182-06	OBS	No	239.211198	292.902937	904.6	64.275	11.1	14.6	16.87	4761	52.20	113.41
004922182-07	OBS	No	286.277729	234.735894	594.6	5.145	11.1	7.2	16.87	4761	54.88	89.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004922182-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

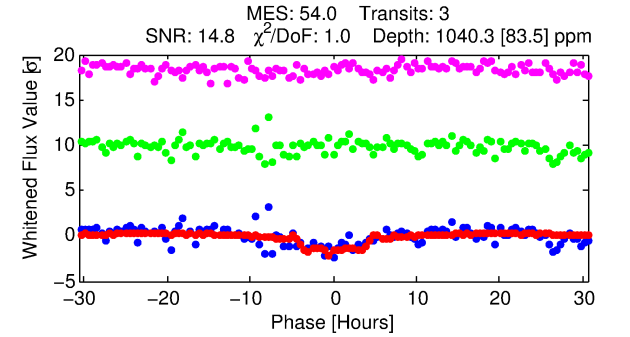
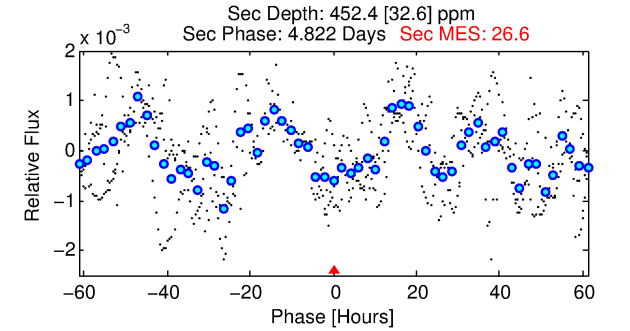
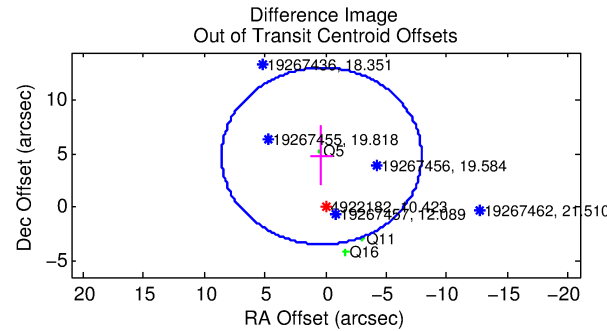
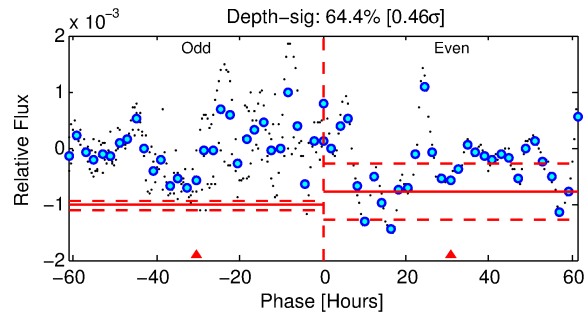
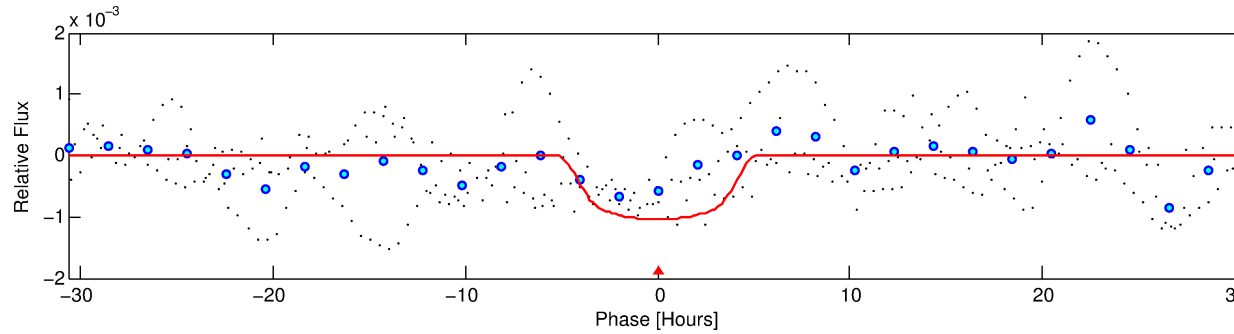
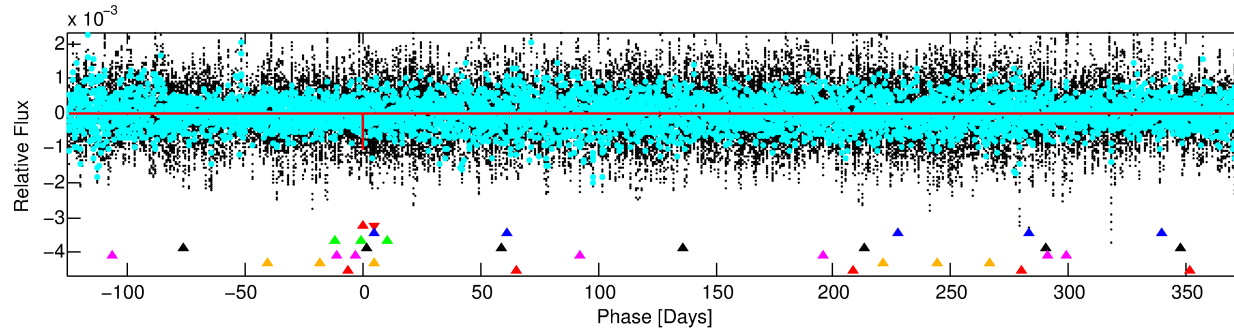
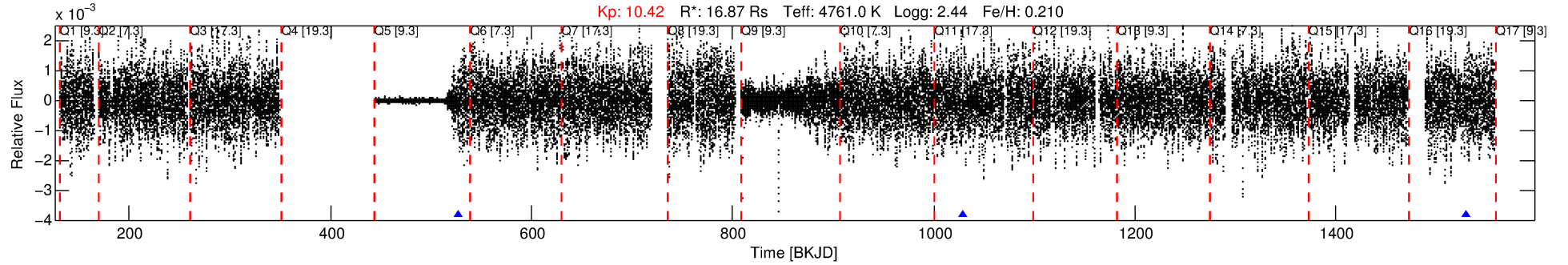
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004922182-01

No Significant Match Found

DV One-Page Summary

KIC: 4922182 Candidate: 1 of 7 Period: 501.042 d



DV Fit Results:

Period = 501.04211 [0.00826] d
Epoch = 527.4132 [0.0109] BKJD
Rp/R* = 0.0369 [0.0019]
a/R* = 184.26 [17.40]
b = 0.91 [0.02]
Seff = 42.32 [11.48]
Teq = 650 [44] K
Rp = 67.99 [23.55] Re
a = 1.7591 [0.4047] AU
Ag = 166.62 [44.26] [3.74 σ]
Teffp = 3613 [167] K [17.19 σ]

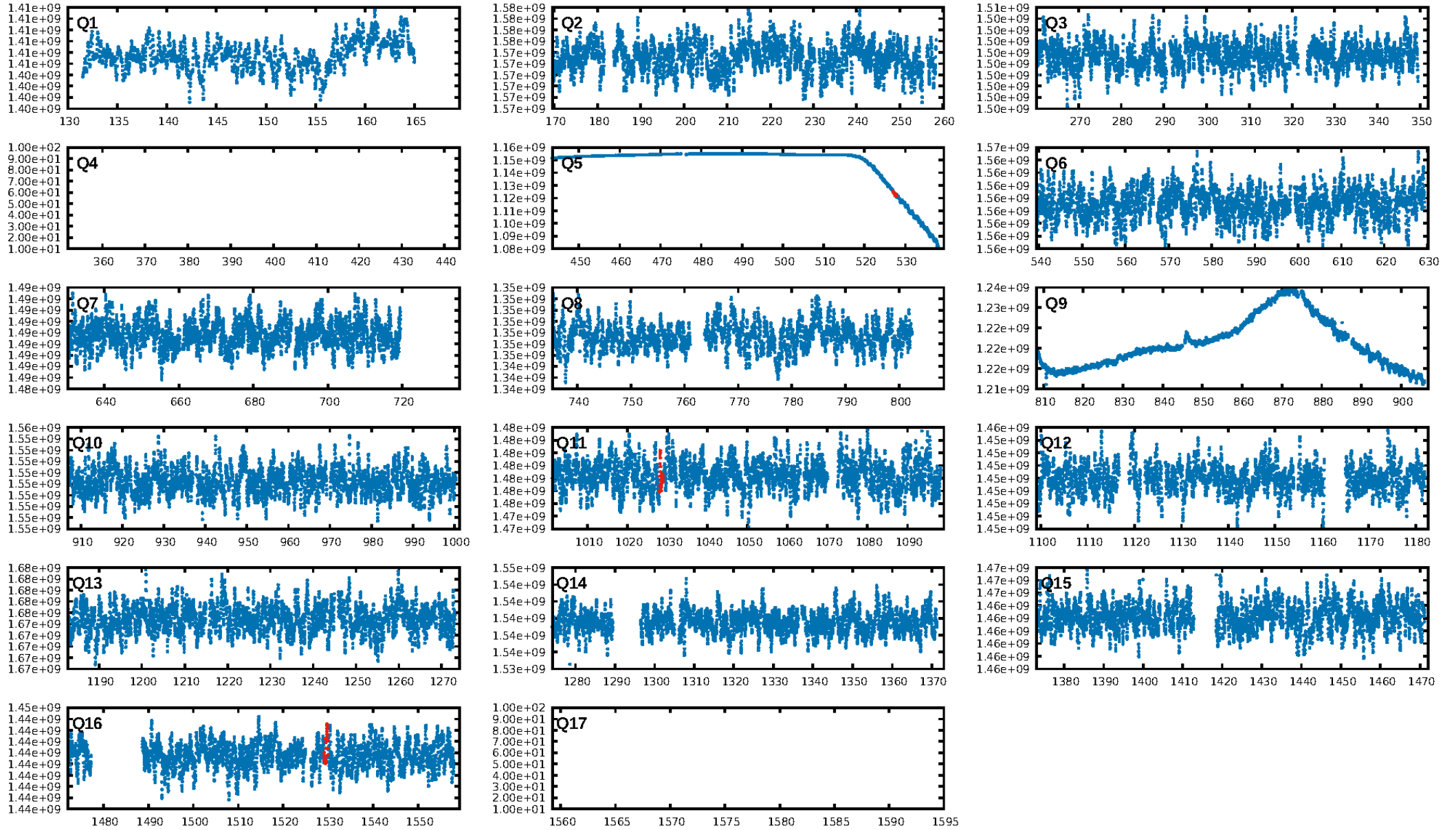
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.92 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 37.0%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.85e-117
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.4613
Centroid-sig: N/A
Centroid-so: 0.479 arcsec [1.29 σ]
OotOffset-rm: 4.803 arcsec [1.74 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 5.471 arcsec [3.03 σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.67 [2/3]

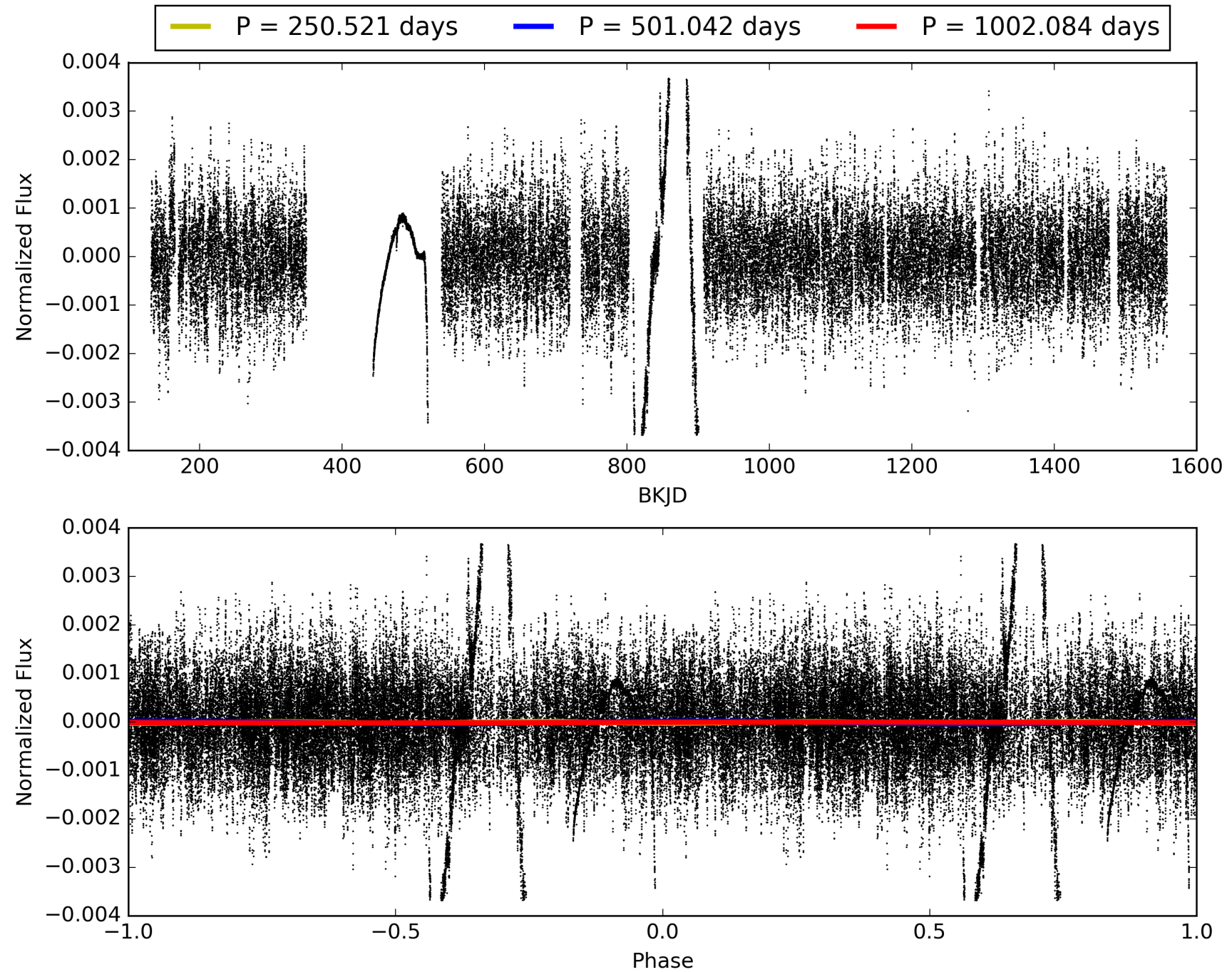
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004922182-01, PDC Light Curves

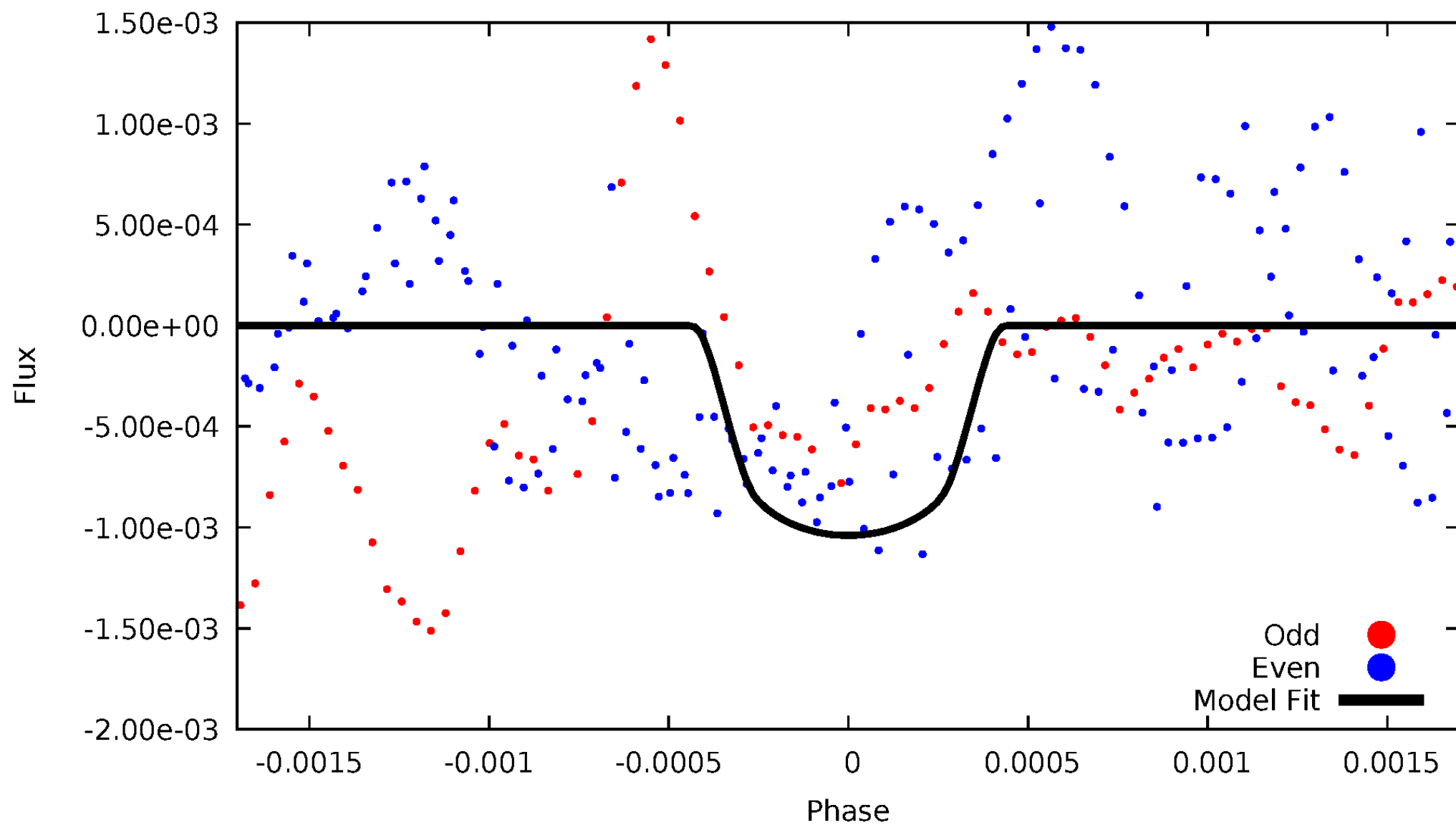


TCE 004922182-01



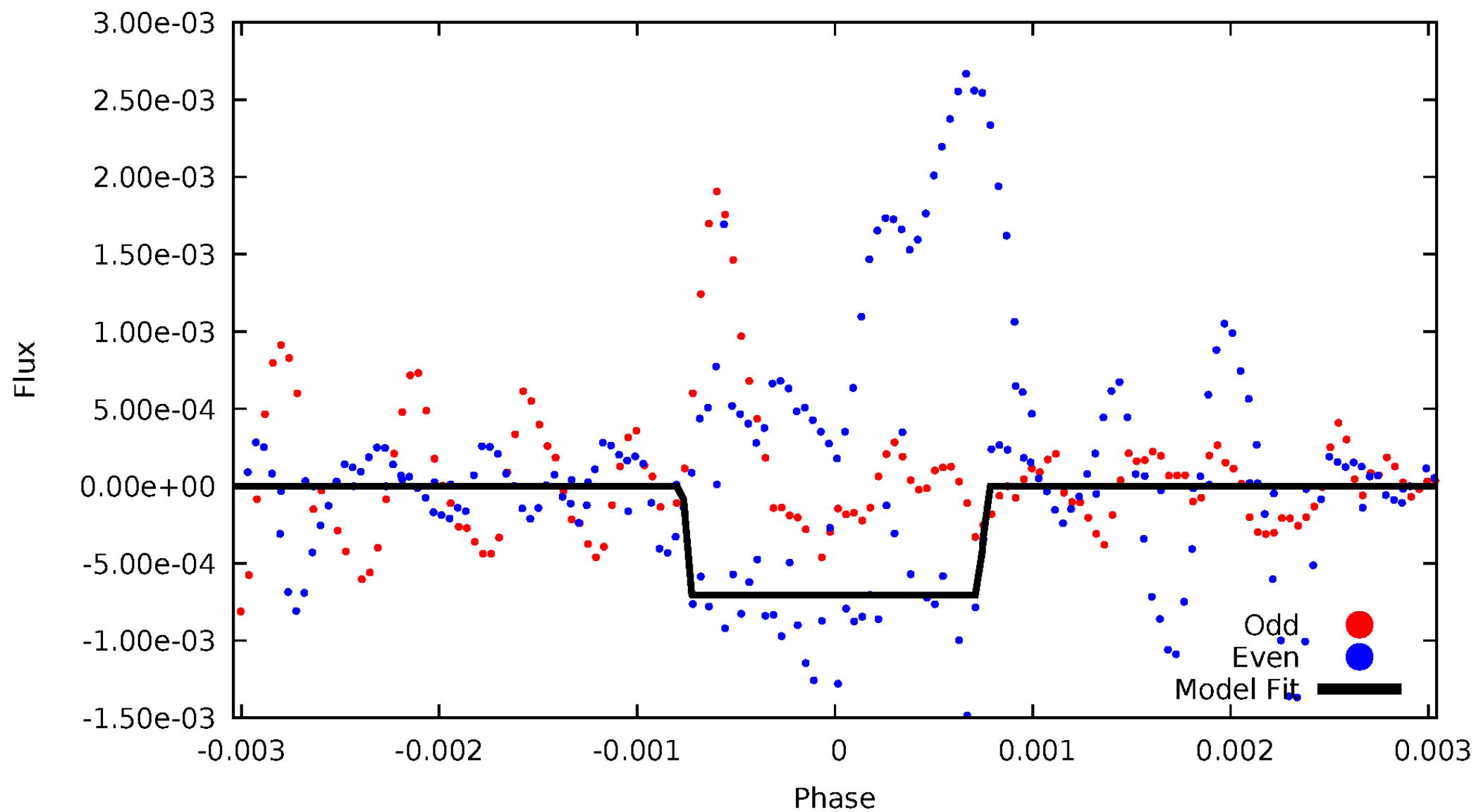
DV Odd/Even

TCE 004922182-01



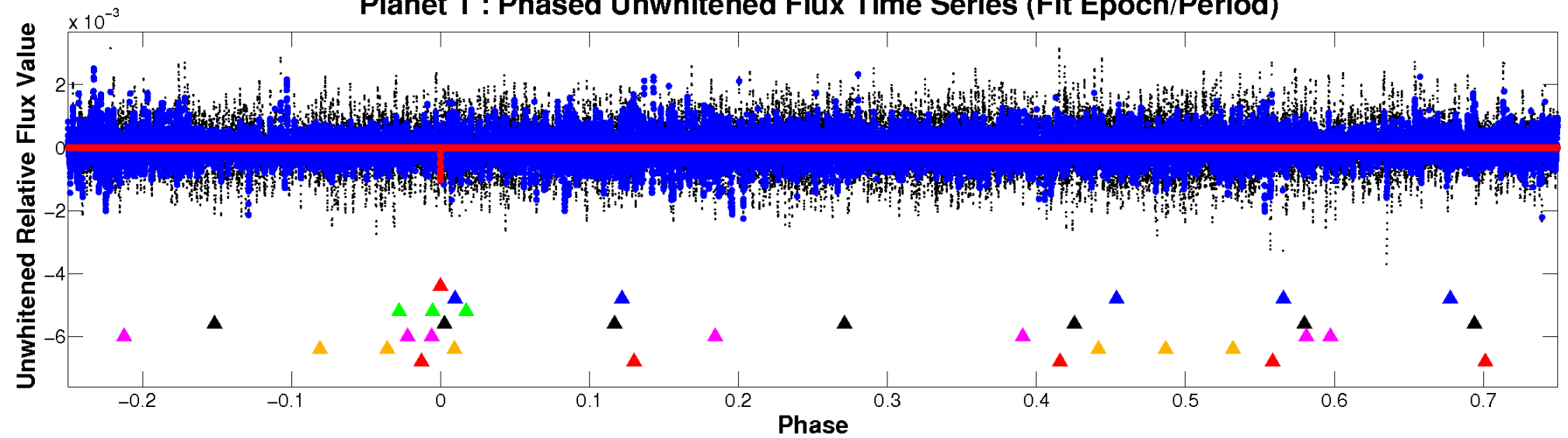
ALT Odd/Even

TCE 004922182-01

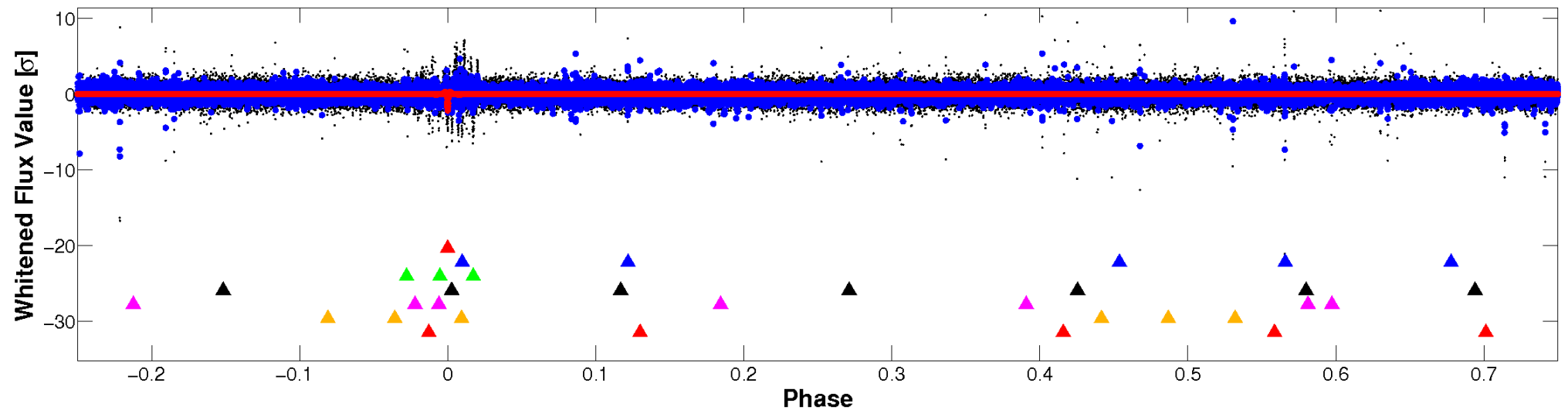


Non-Whitened Vs. Whitened Light Curve

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

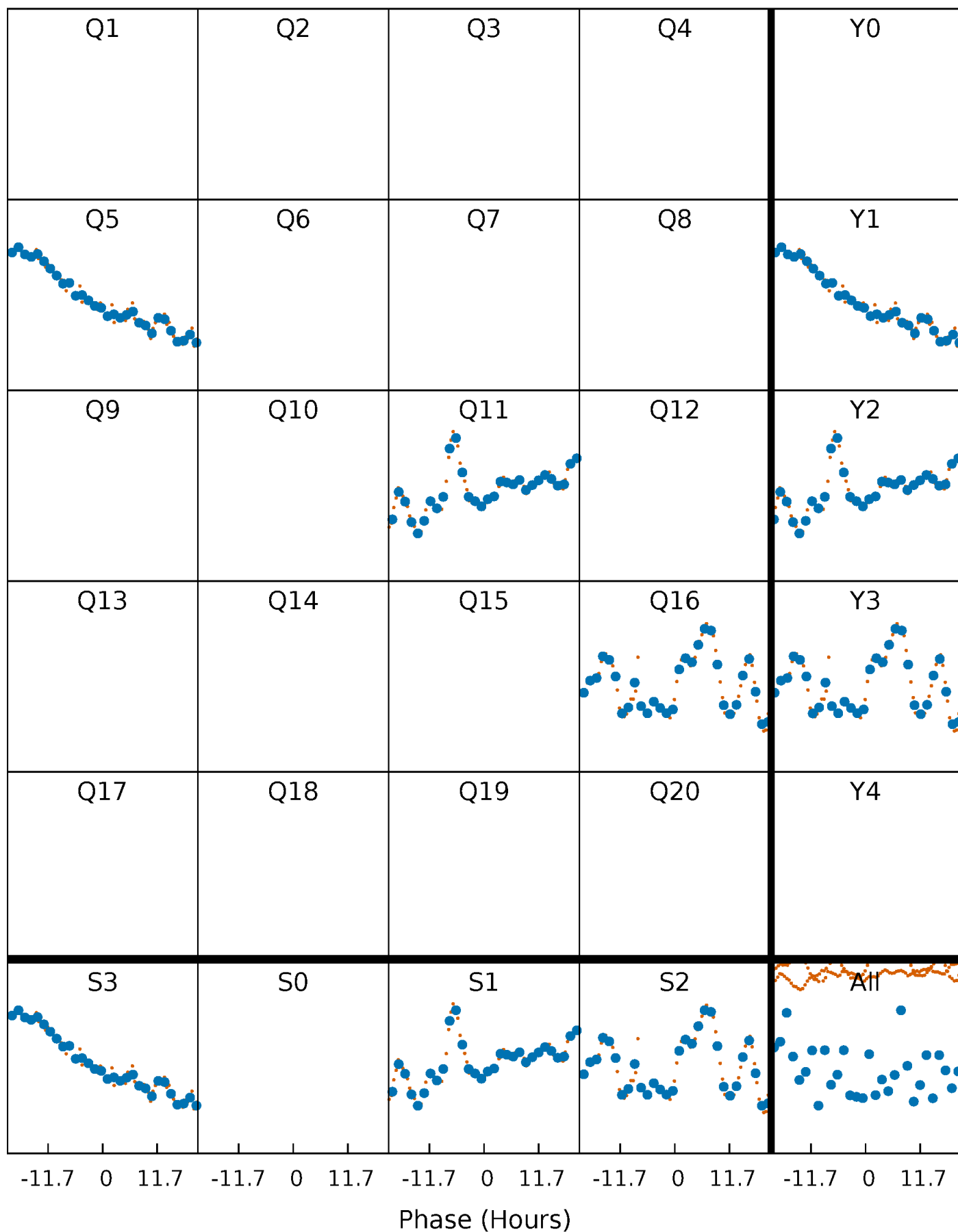


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



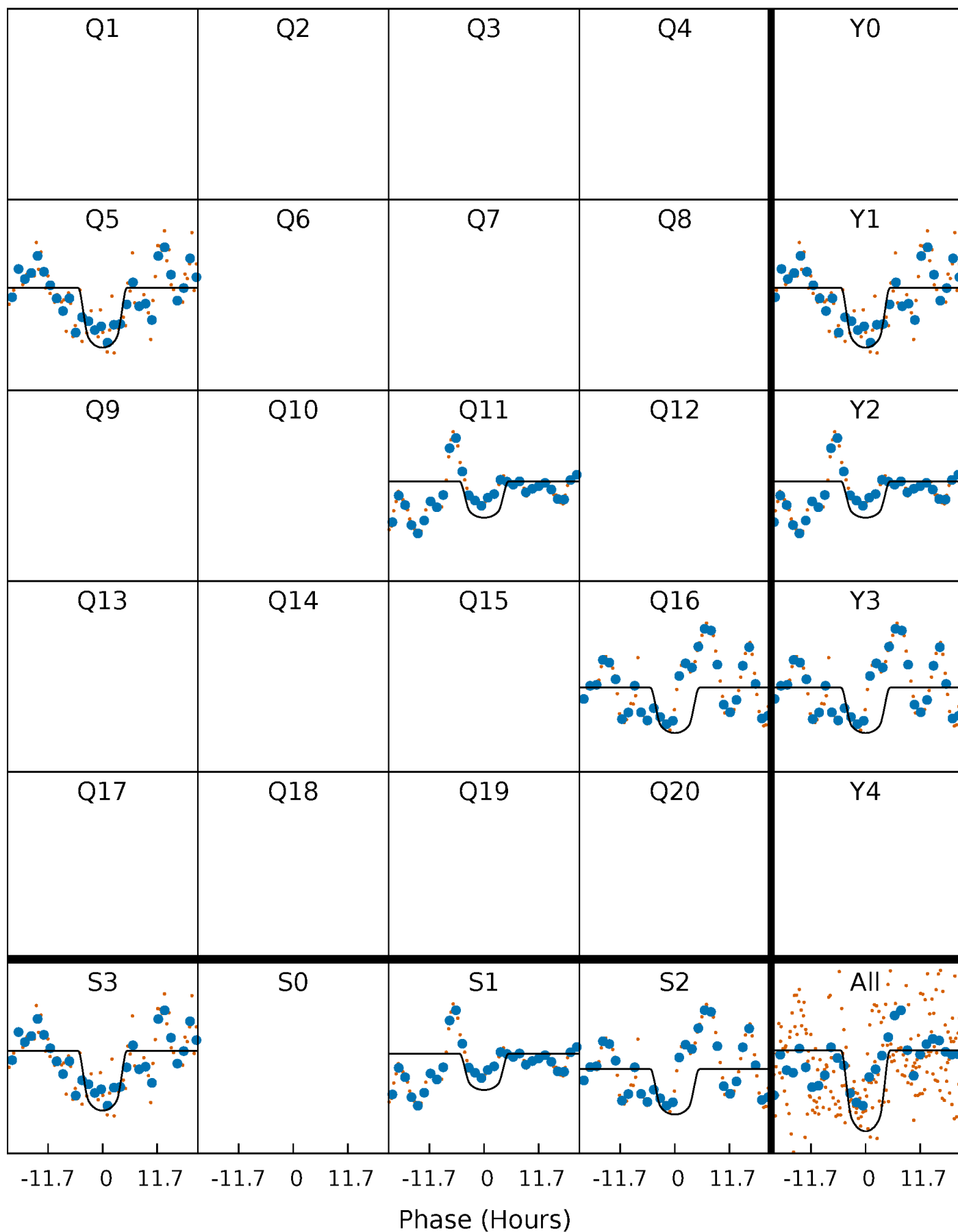
PDC Quarter-Phased Transit Curves

TCE 004922182-01 P=501.042114 Days $T_0=527.413188$ (BKJD)



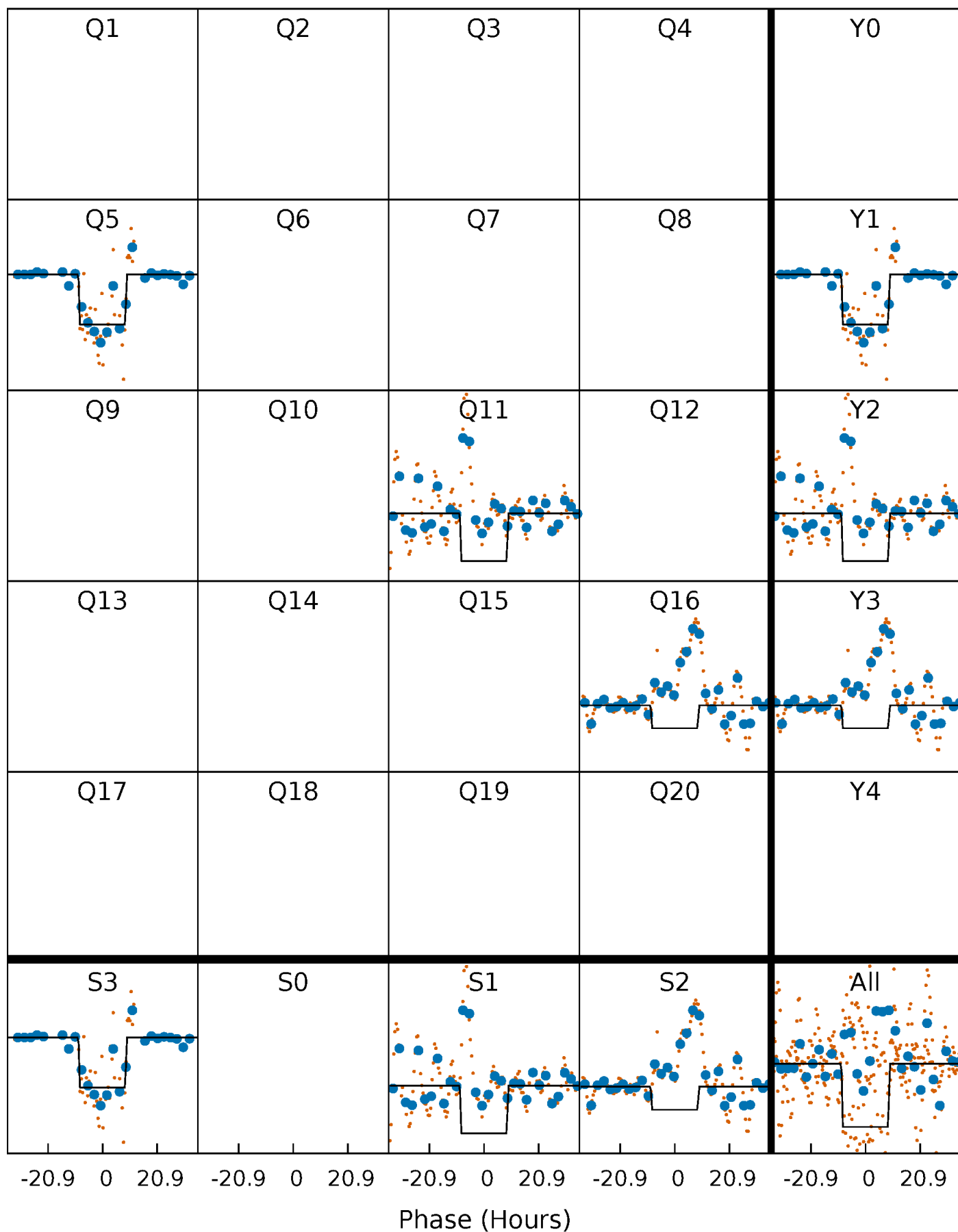
DV Quarter-Phased Transit Curves

TCE 004922182-01 P=501.042114 Days $T_0=527.413188$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

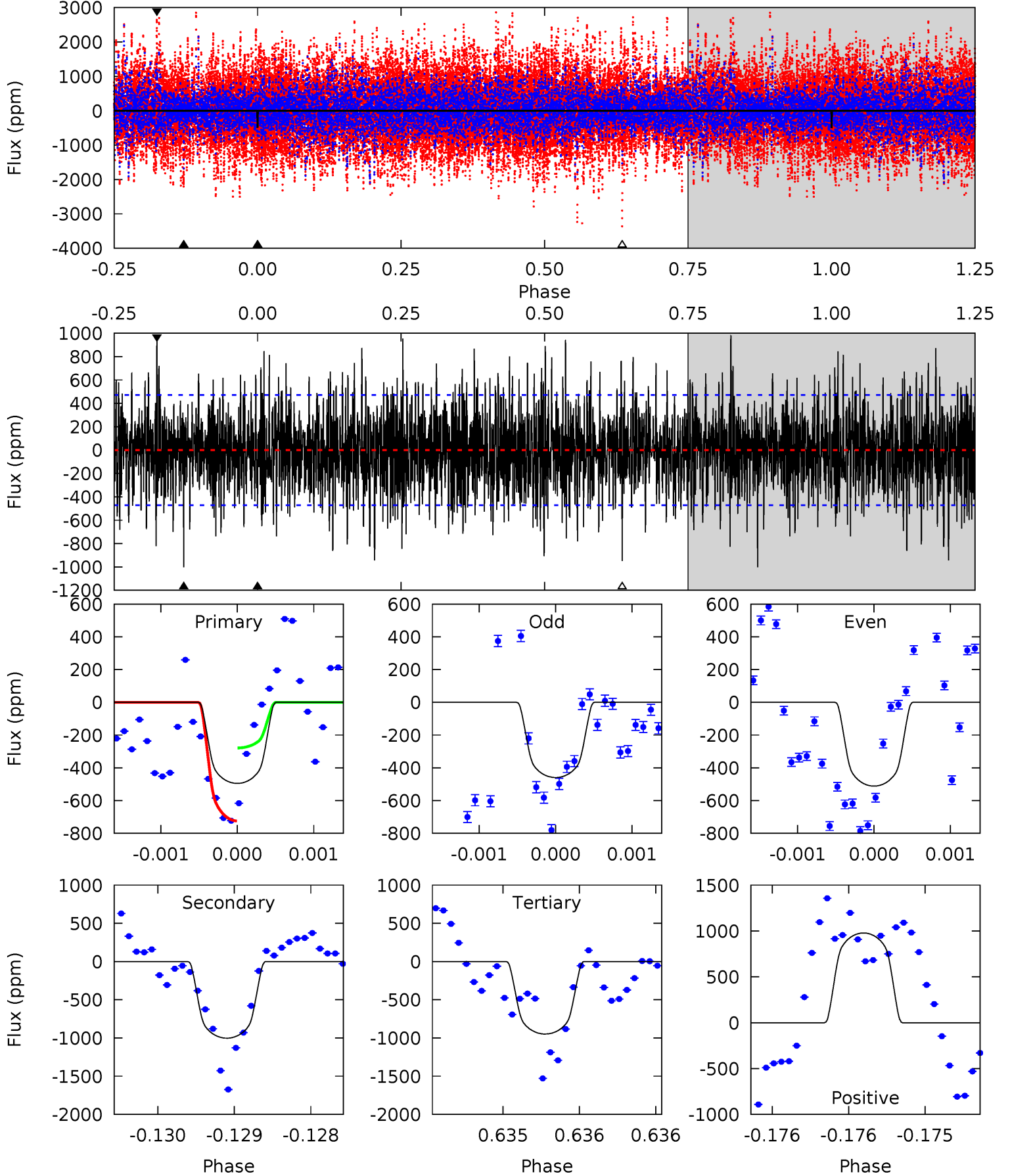
TCE 004922182-01 P=500.969590 Days $T_0=527.508824$ (BKJD)



DV Model-Shift Uniqueness Test

004922182-01, P = 501.042114 Days, E = 26.371074 Days

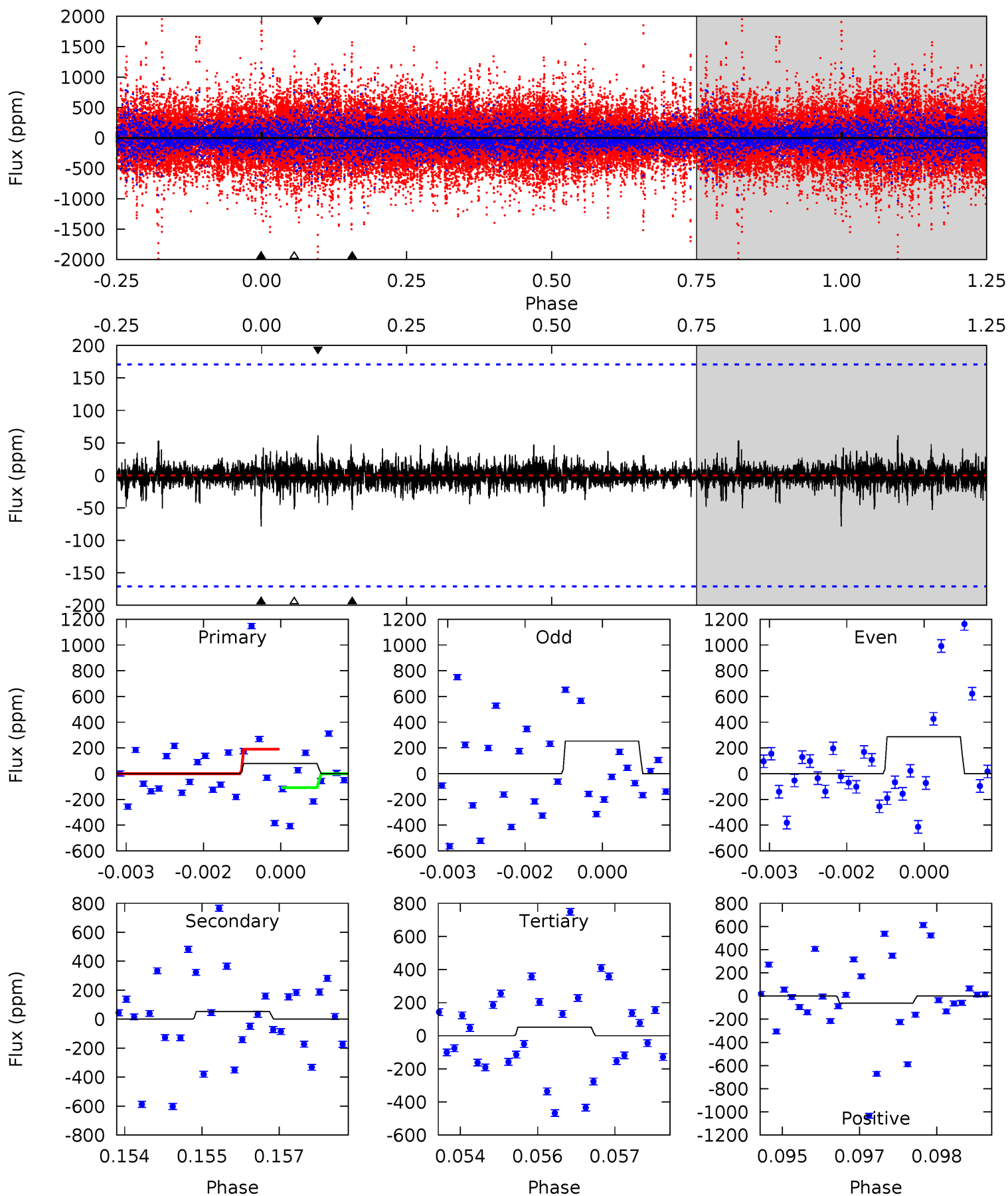
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.75	11.6	11.0	11.3	5.48	3.33	3.25	-5.26	-5.60	0.63	0.28	0.28	1.08	0.49	2.61



Alt Model-Shift Uniqueness Test

004922182-01, P = 500.969590 Days, E = 26.539234 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.48	1.67	1.64	1.94	5.38	3.17	0.34	0.84	0.53	0.04	-0.27	0.55	0.86	0.44	1.22



Stellar Parameters For KIC 004922182

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4761^{+57}_{-162}	$2.445^{+0.035}_{-0.028}$	$0.210^{+0.150}_{-0.400}$	$16.866^{+1.445}_{-5.780}$	$2.890^{+0.511}_{-1.533}$	$0.001^{+0.000}_{-0.000}$
	+1%/-3%	+1%/-1%	+71%/-190%	+9%/-34%	+18%/-53%	+54%/-11%
Source	PHO1	AST9	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 004922182-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1003 ± 86	$70.17^{+4.90}_{-6.14}$	905^{+23}_{-34}	4450^{+144}_{-157}	368^{+64}_{-49}
Alt.	-53 ± 32	$50.36^{+4.61}_{-5.65}$	906^{+23}_{-34}	3036^{+254}_{-341}	37^{+26}_{-21}

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 $A_{obs} \gg 1.0$

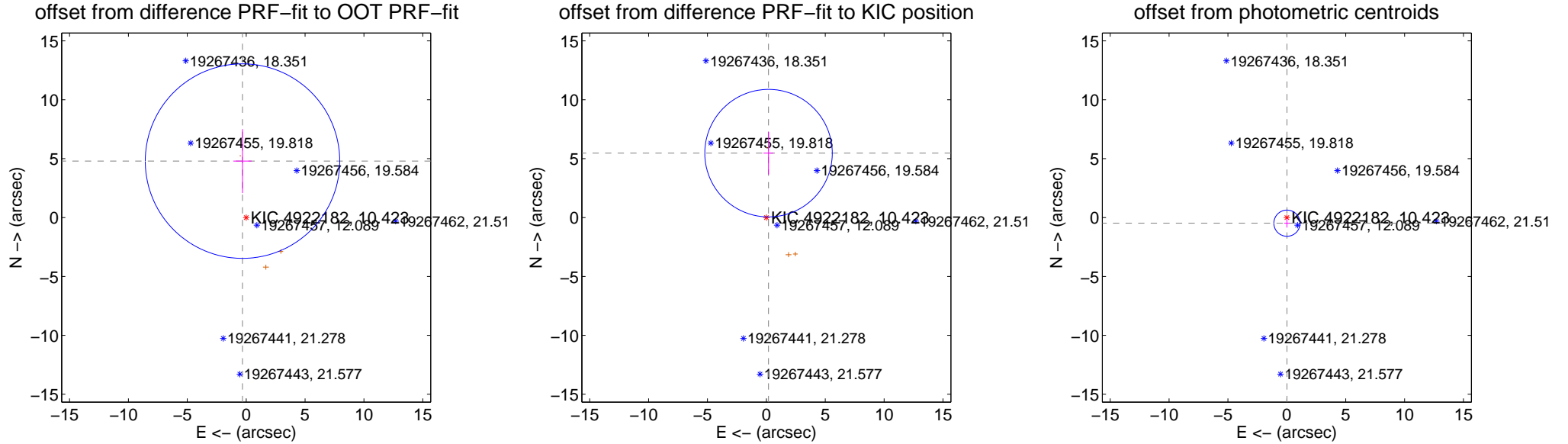
DV Centroid Data

Supplemental centroid analysis for 004922182-01. **Kepler magnitude: 10.42.** Transit SNR 14.75

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.803 ± 2.752	1.74	0.313 ± 0.778	4.792 ± 2.713
PRF-fit source offset from KIC position	5.471 ± 1.805	3.03	-0.184 ± 0.422	5.468 ± 1.819
photometric centroid source offset	0.48 ± 0.37	1.29	-0.01 ± 0.24	-0.48 ± 0.37

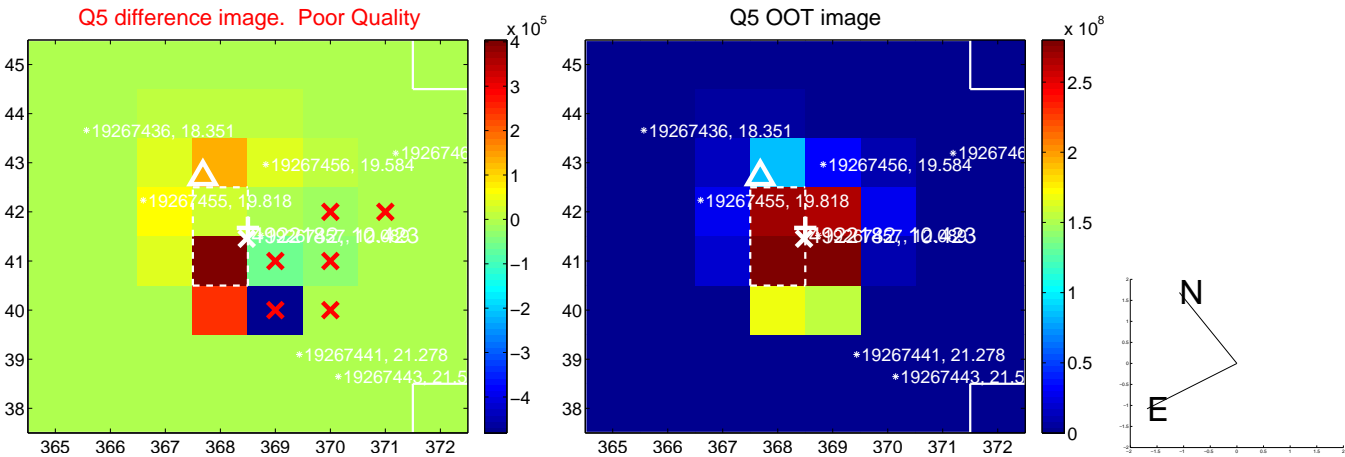


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

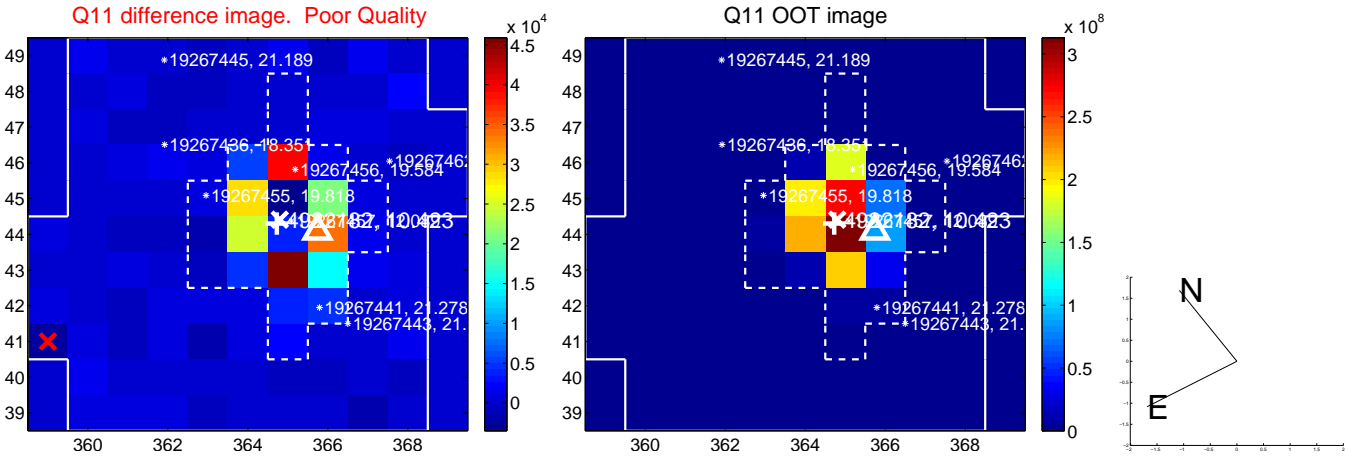
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



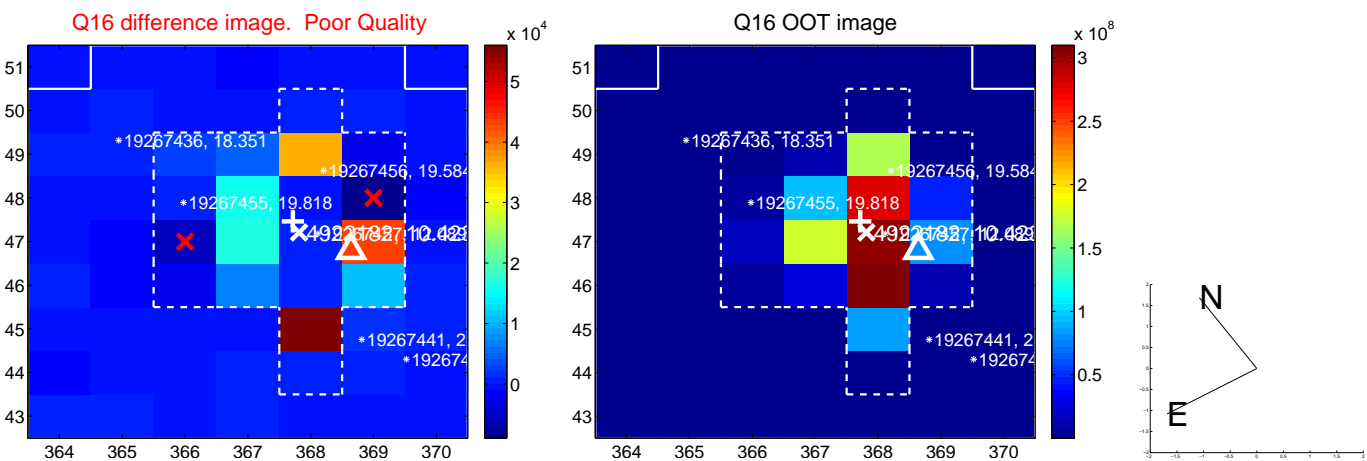
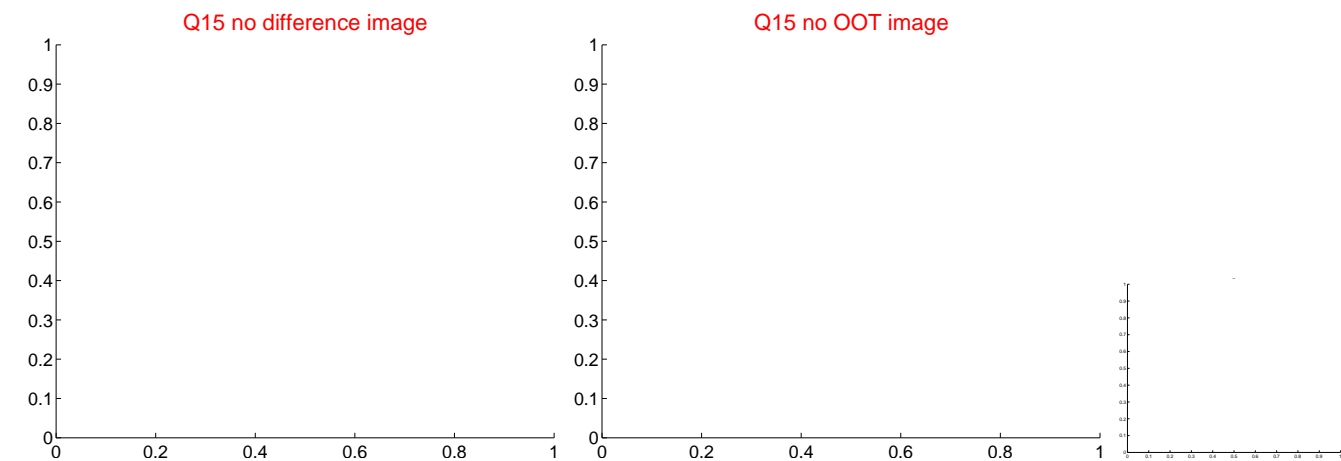
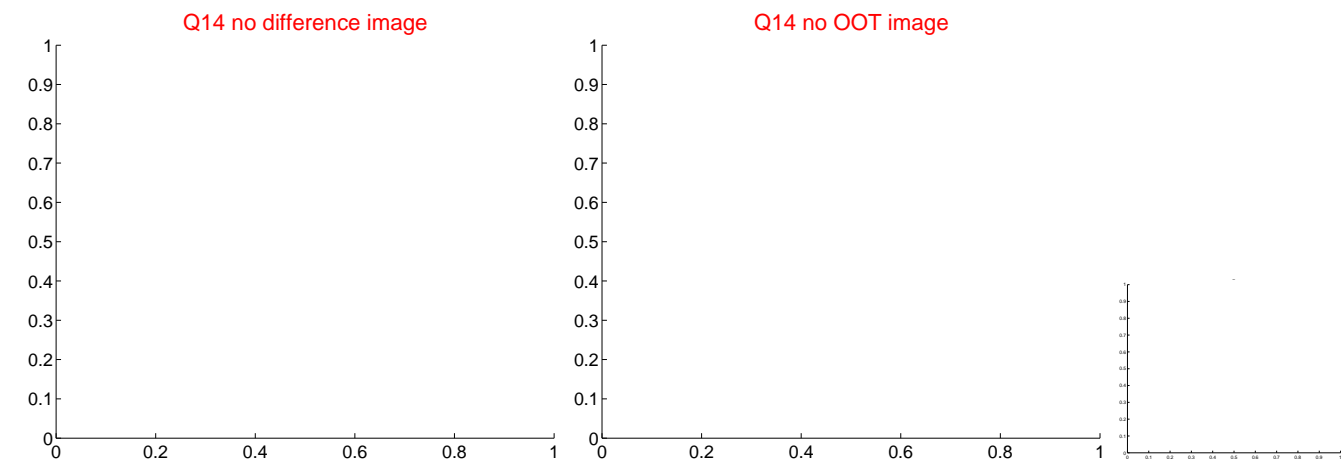
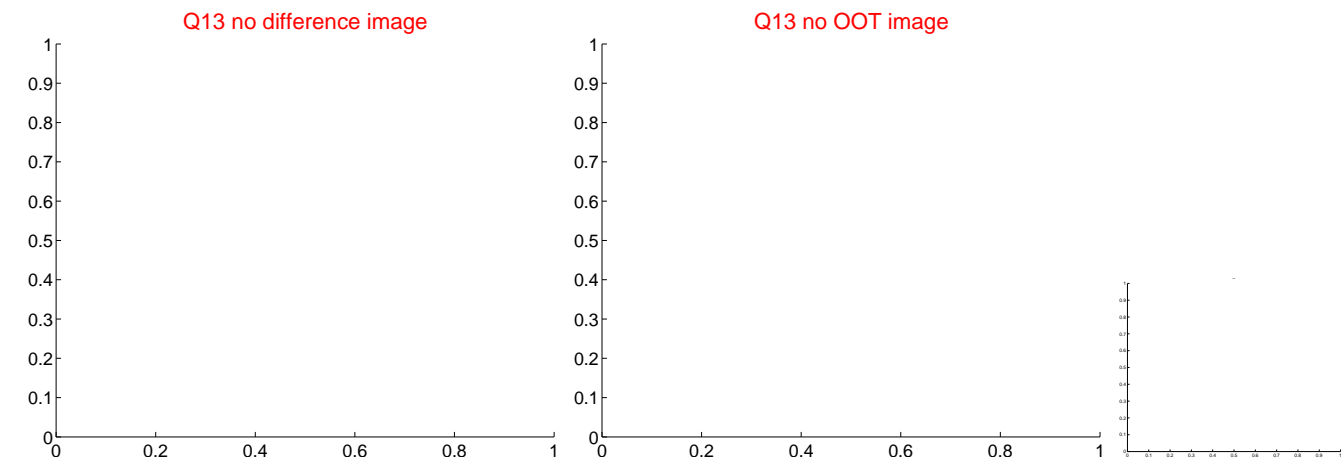
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



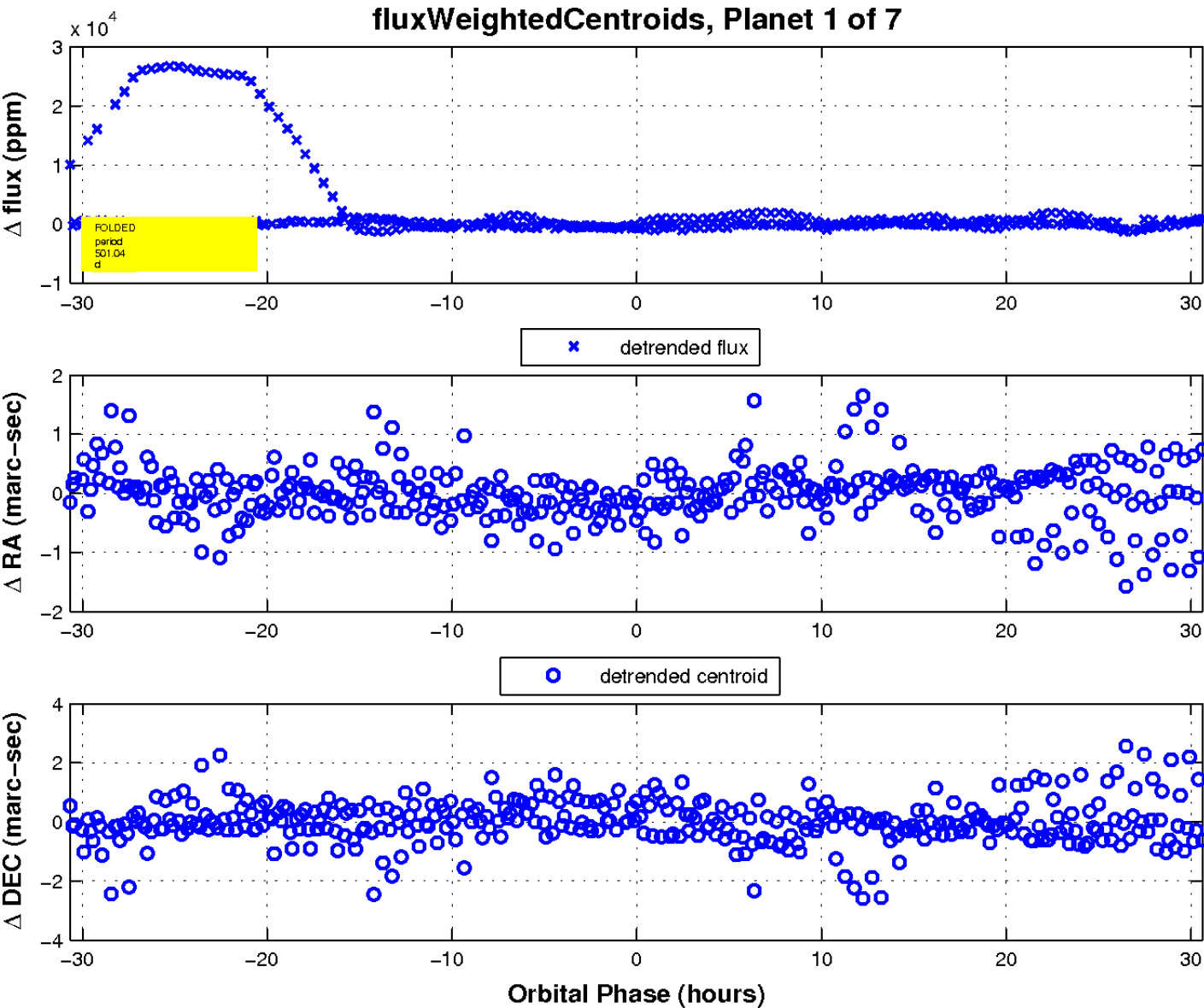
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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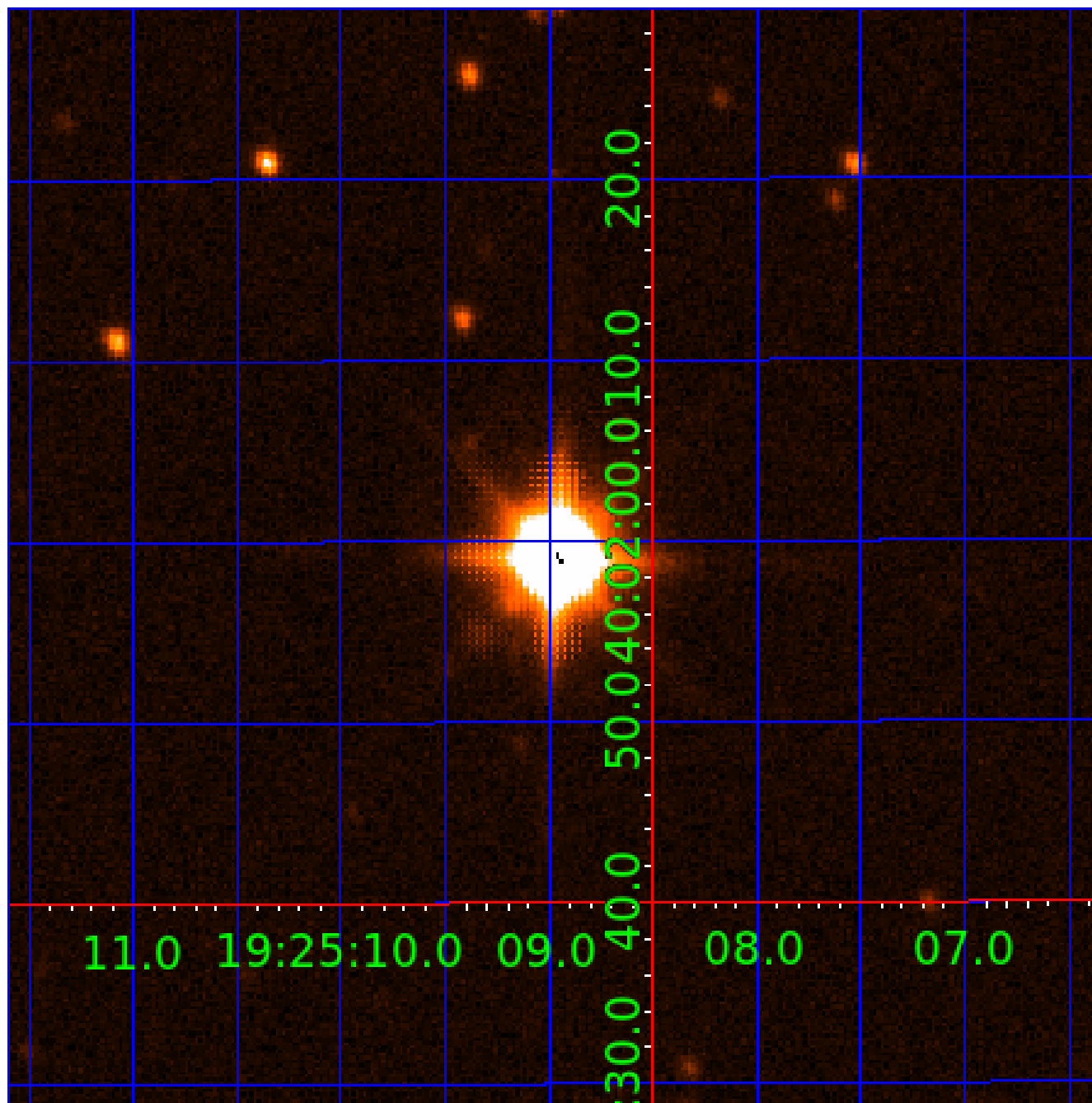


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004922182

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})
004922182-01	OBS	No	501.042113	527.413188	1040.3	10.224	54.0	14.8	16.87	4761	67.99	42.32
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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004922182-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

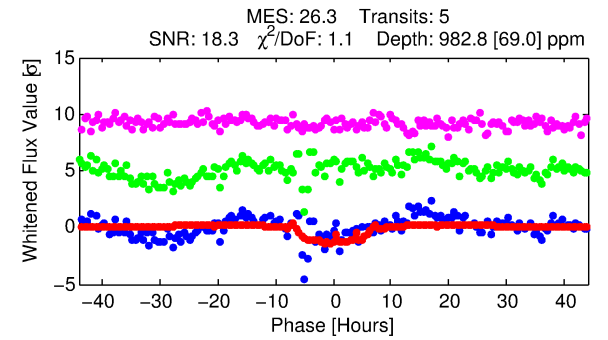
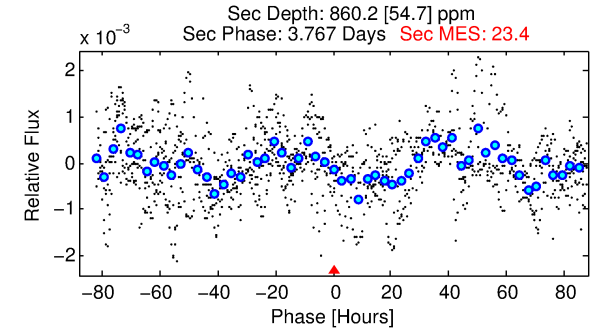
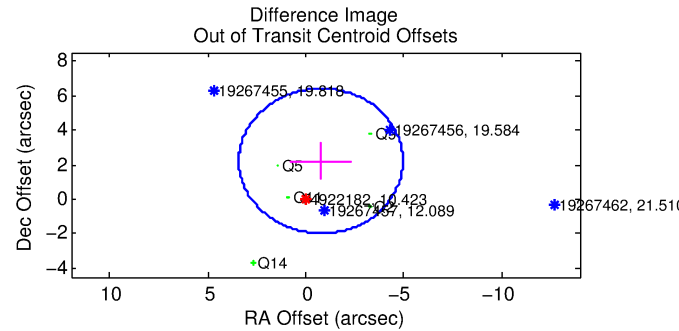
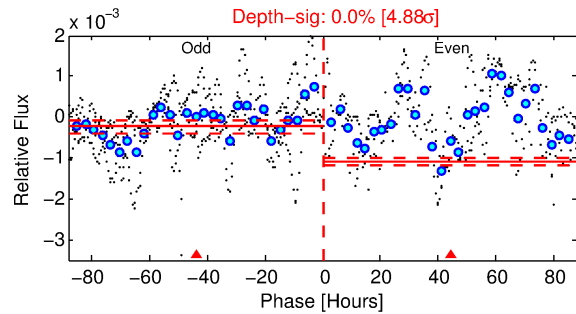
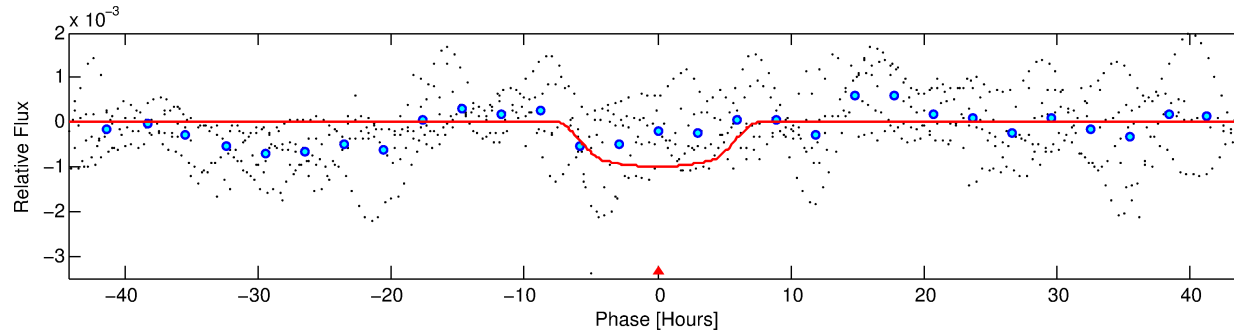
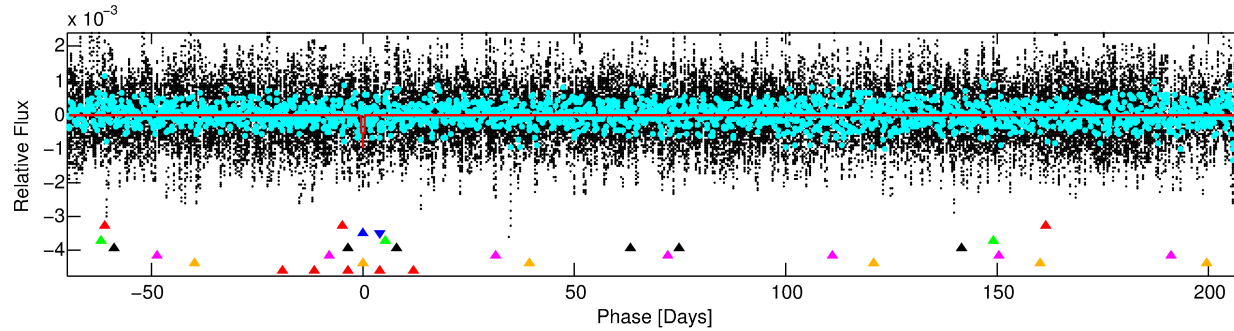
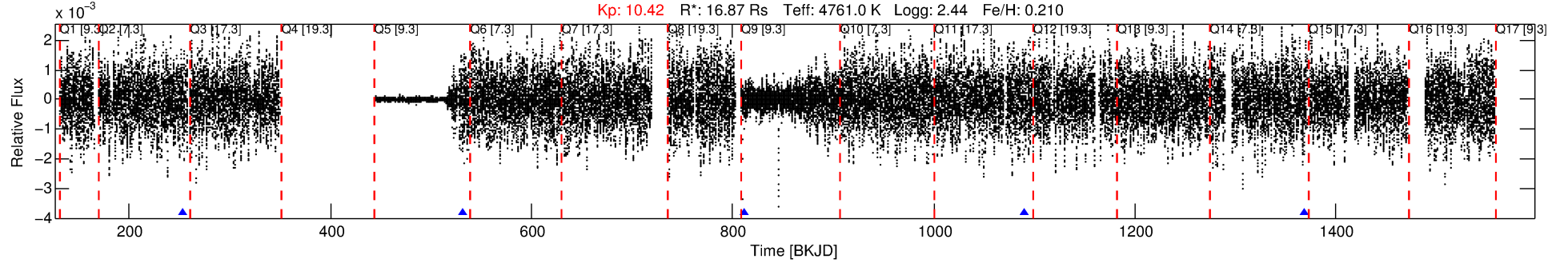
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004922182-02

No Significant Match Found

DV One-Page Summary

KIC: 4922182 Candidate: 2 of 7 Period: 278.588 d



DV Fit Results:

Period = 278.58781 [0.00804] d
Epoch = 253.7371 [0.0175] BKJD
Rp/R* = 0.0365 [0.0017]
a/R* = 68.09 [6.44]
b = 0.92 [0.02]
Seff = 92.56 [25.11]
Teq = 791 [54] K
Rp = 67.10 [23.22] Re
a = 1.1895 [0.2736] AU
Ag = 148.69 [38.82] [3.80 σ]
Teffp = 4270 [190] K [17.64 σ]

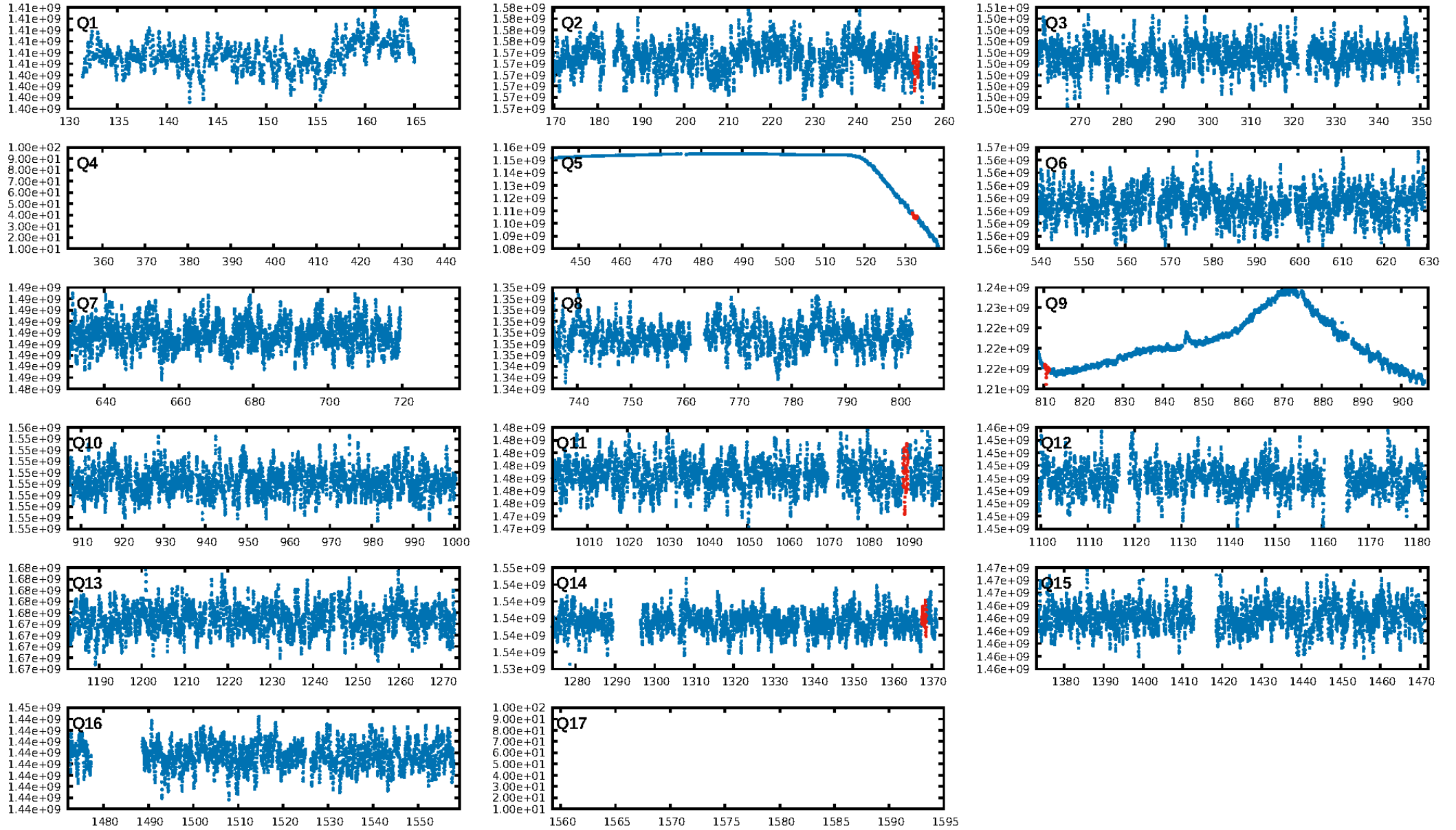
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.33 σ]
LongPeriod-sig: 100.0% [11.82 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 4.69e-42
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 10.25
Centroid-sig: N/A
Centroid-so: 0.499 arcsec [1.18 σ]
OotOffset-rm: 2.338 arcsec [1.67 σ]
OotOffset-st: 2/1/0/2 [5]
KicOffset-rm: 2.953 arcsec [2.05 σ]
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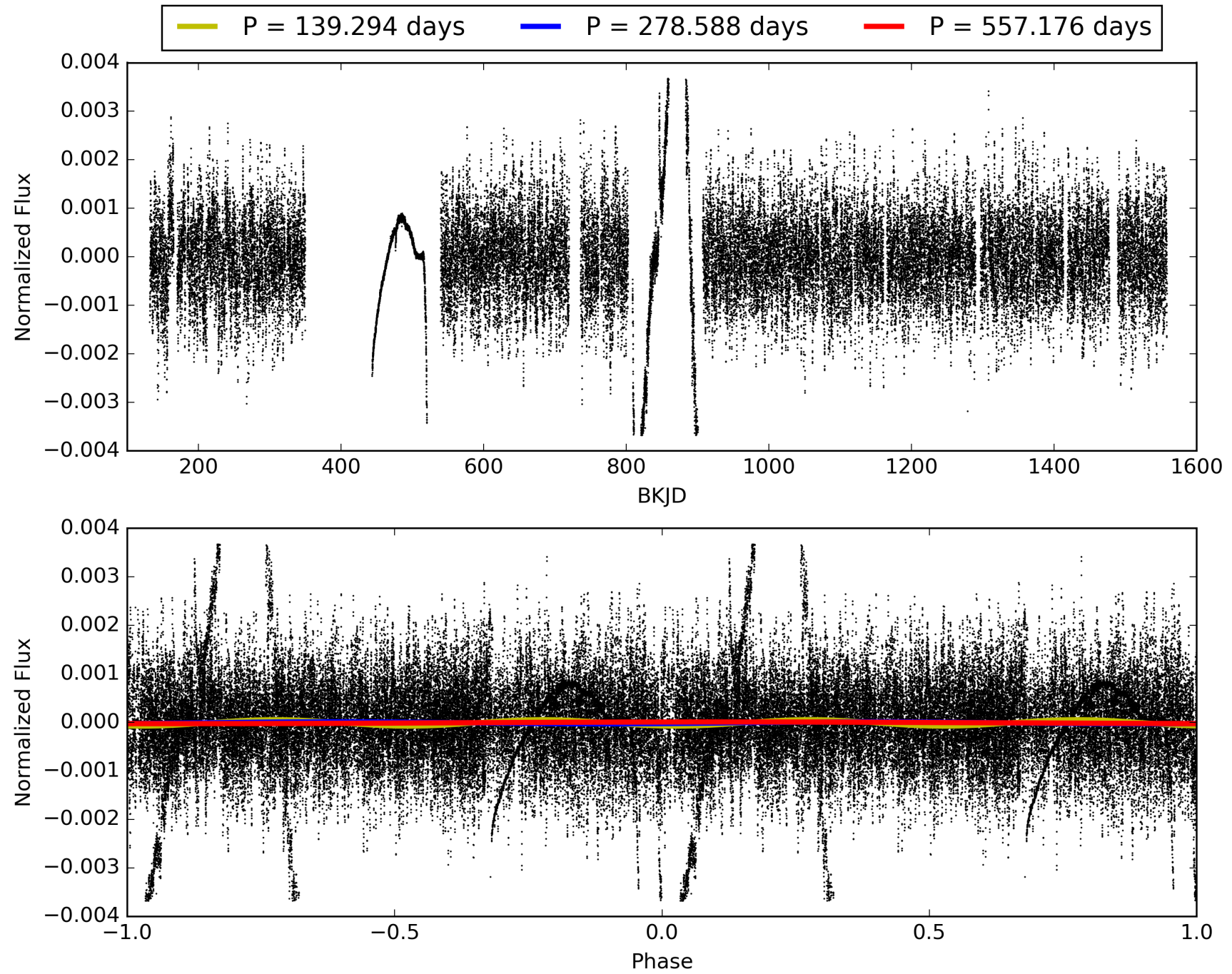
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004922182-02, PDC Light Curves

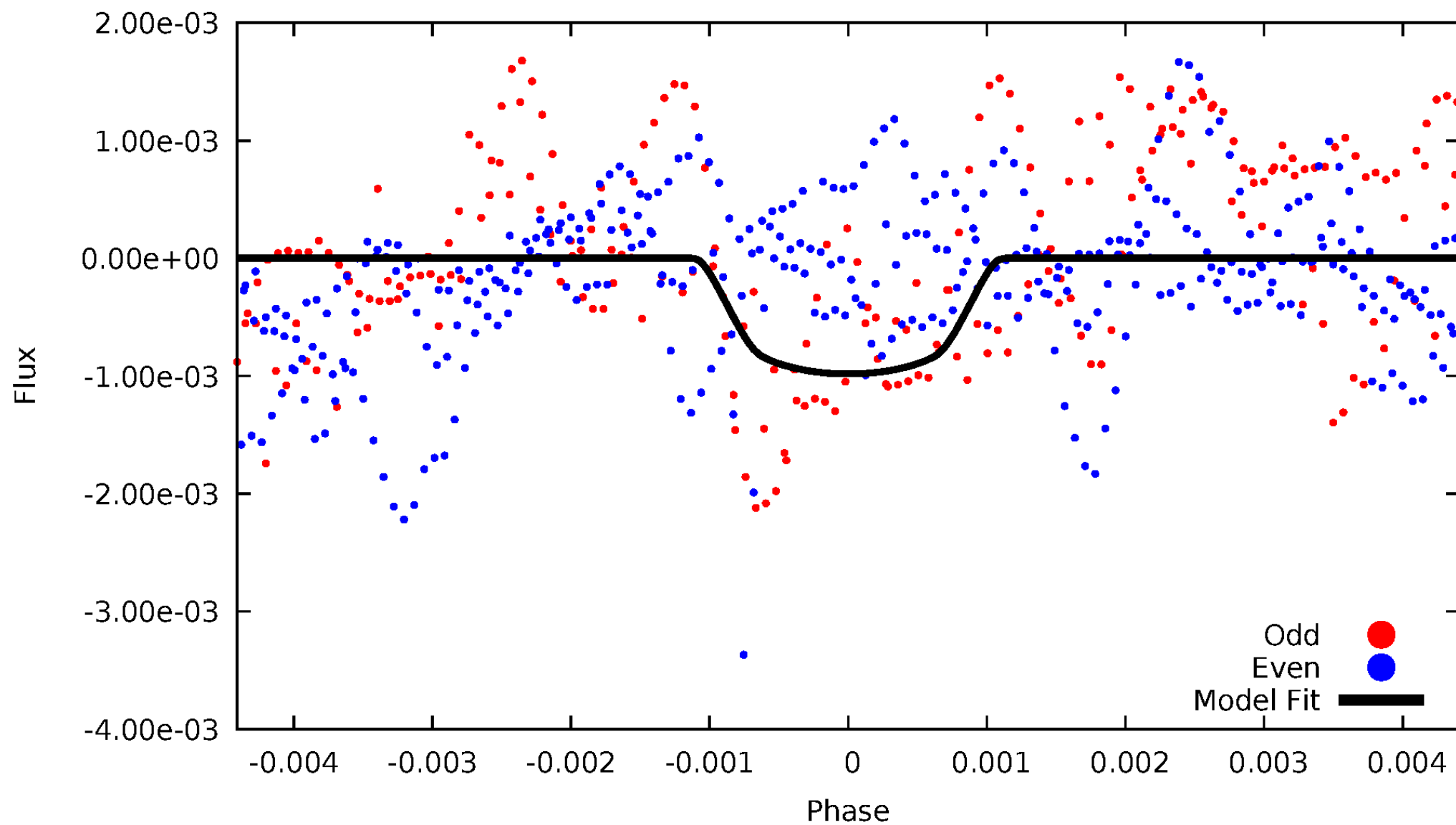


TCE 004922182-02



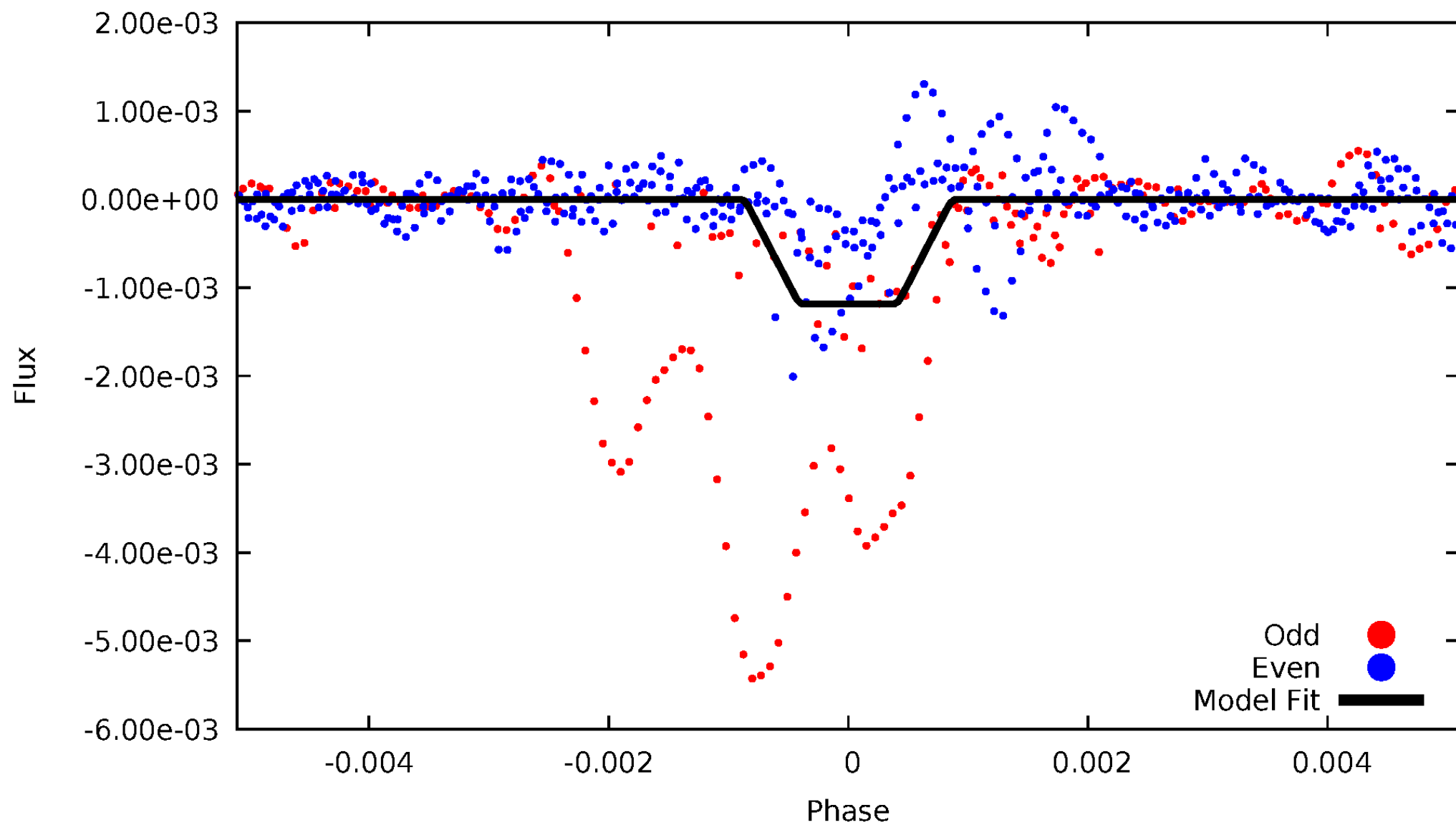
DV Odd/Even

TCE 004922182-02



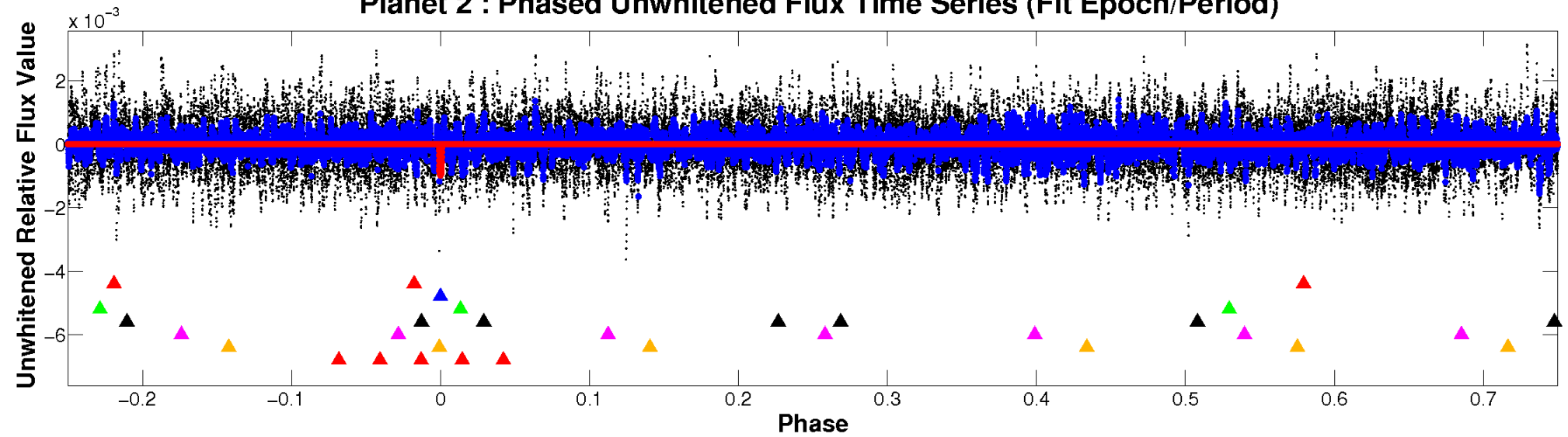
ALT Odd/Even

TCE 004922182-02

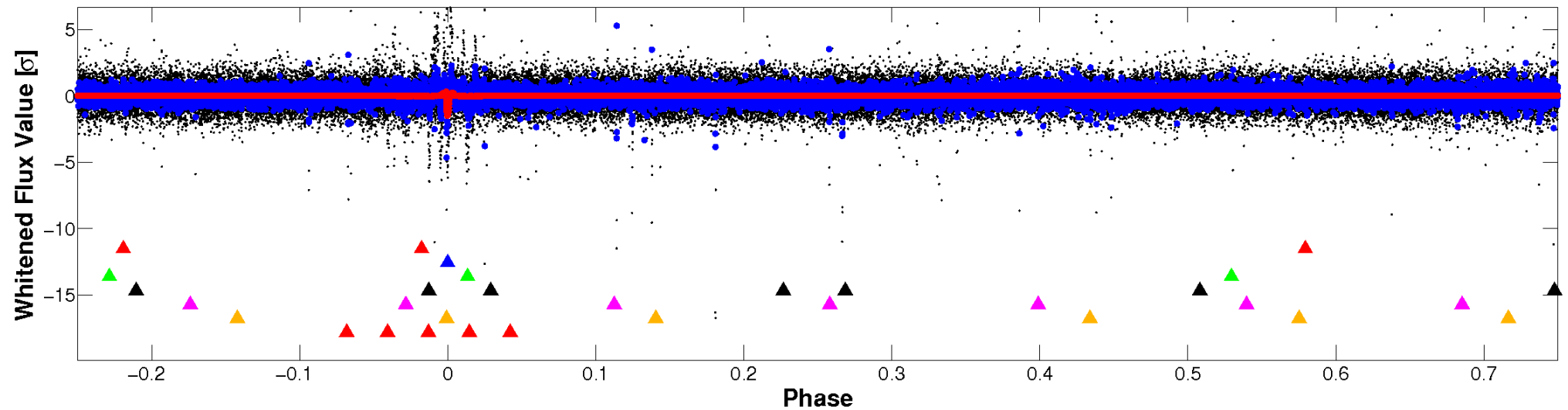


Non-Whitened Vs. Whitened Light Curve

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

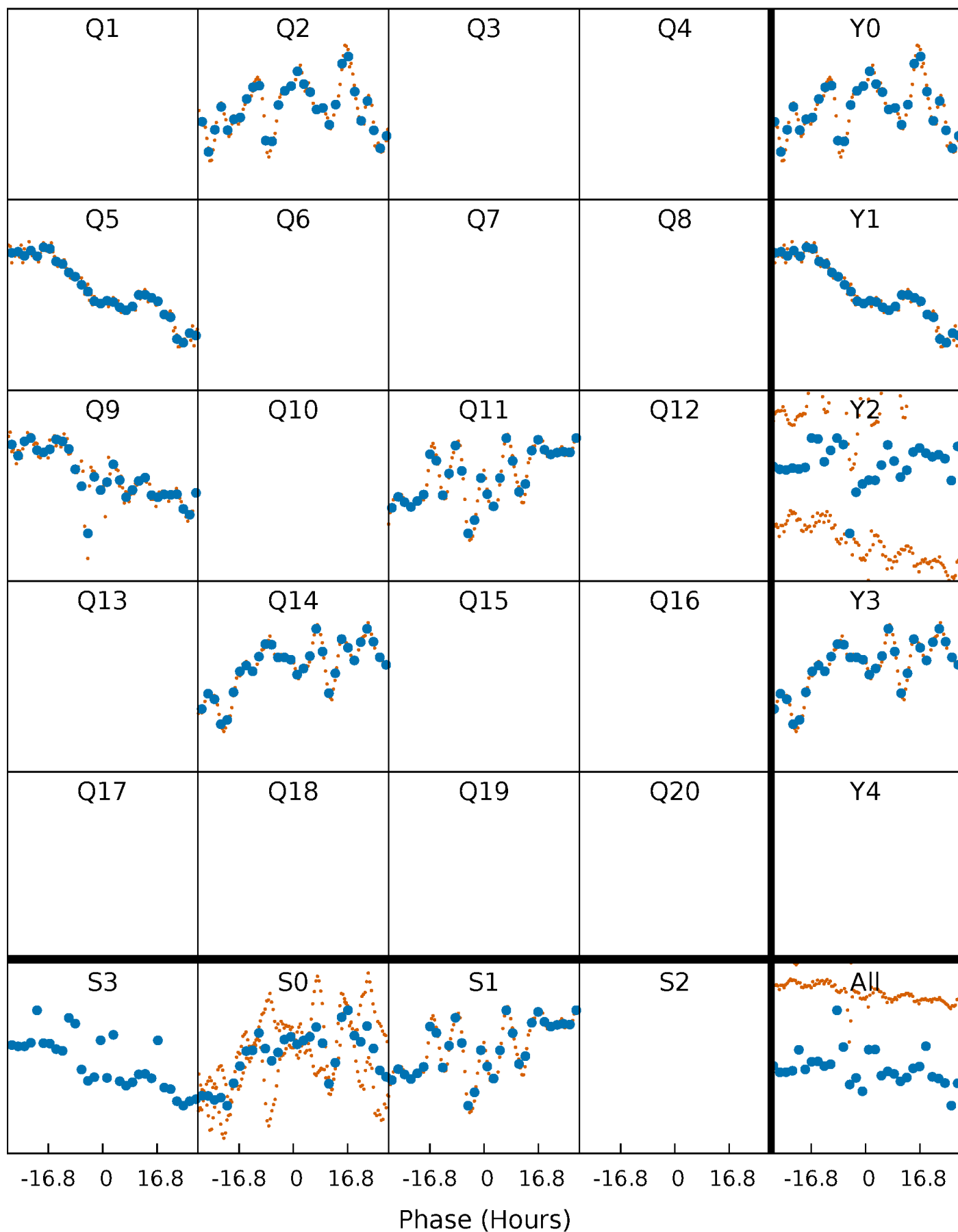


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



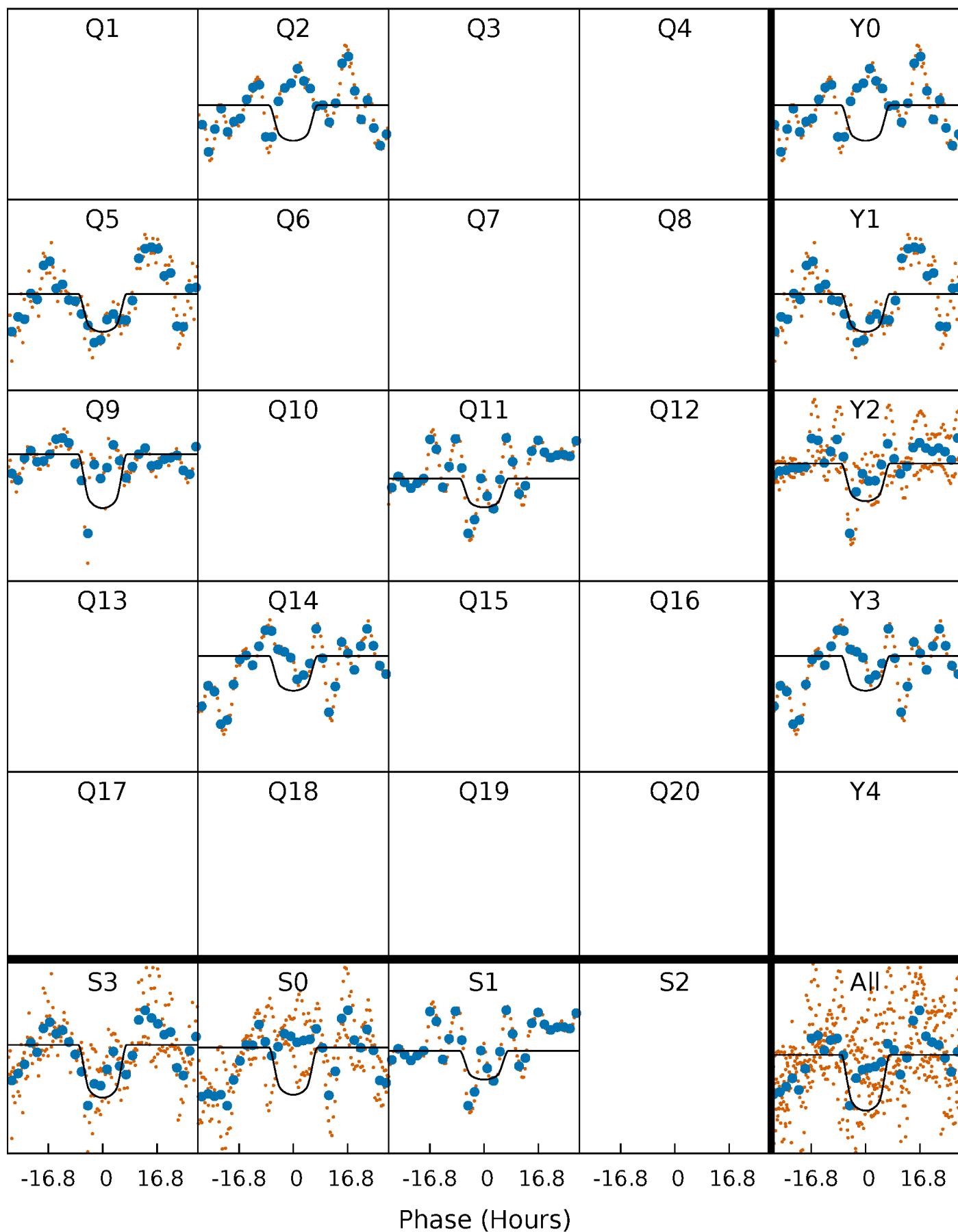
PDC Quarter-Phased Transit Curves

TCE 004922182-02 P=278.587809 Days $T_0=253.737095$ (BKJD)



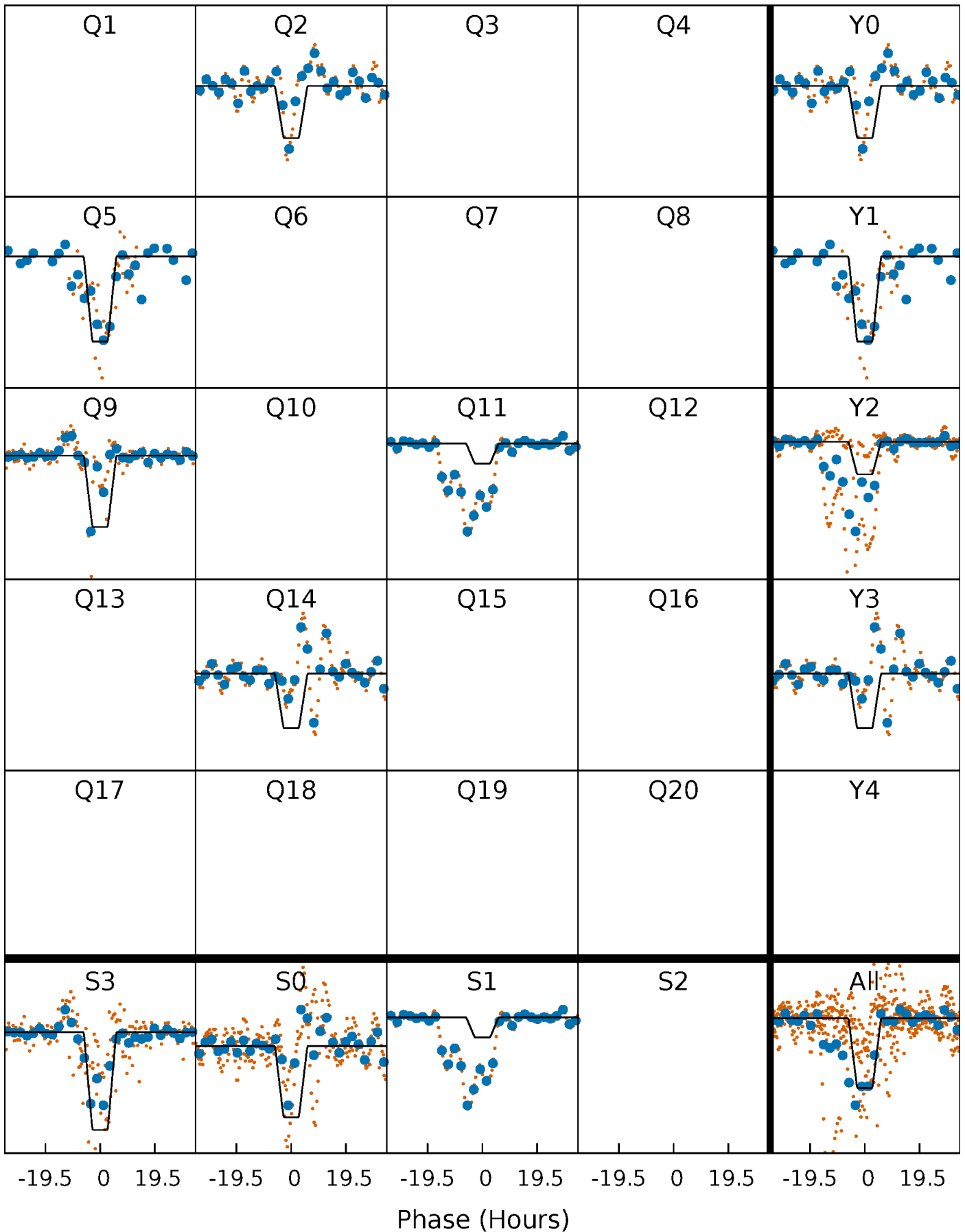
DV Quarter-Phased Transit Curves

TCE 004922182-02 P=278.587809 Days $T_0=253.737095$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

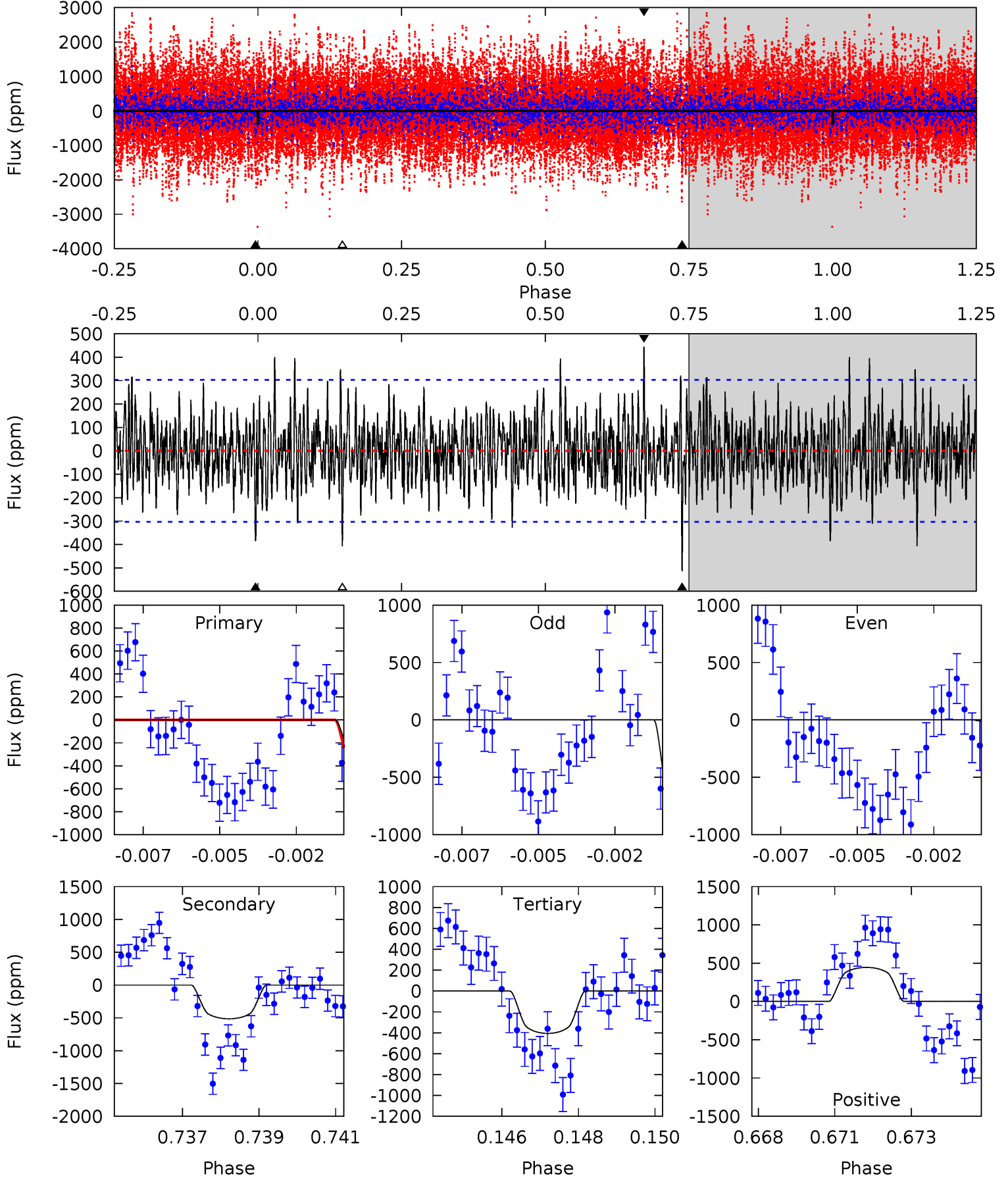
TCE 004922182-02 $P=278.686514$ Days $T_0=253.478362$ (BKJD)



DV Model-Shift Uniqueness Test

004922182-02, P = 278.587809 Days, E = 253.737095 Days

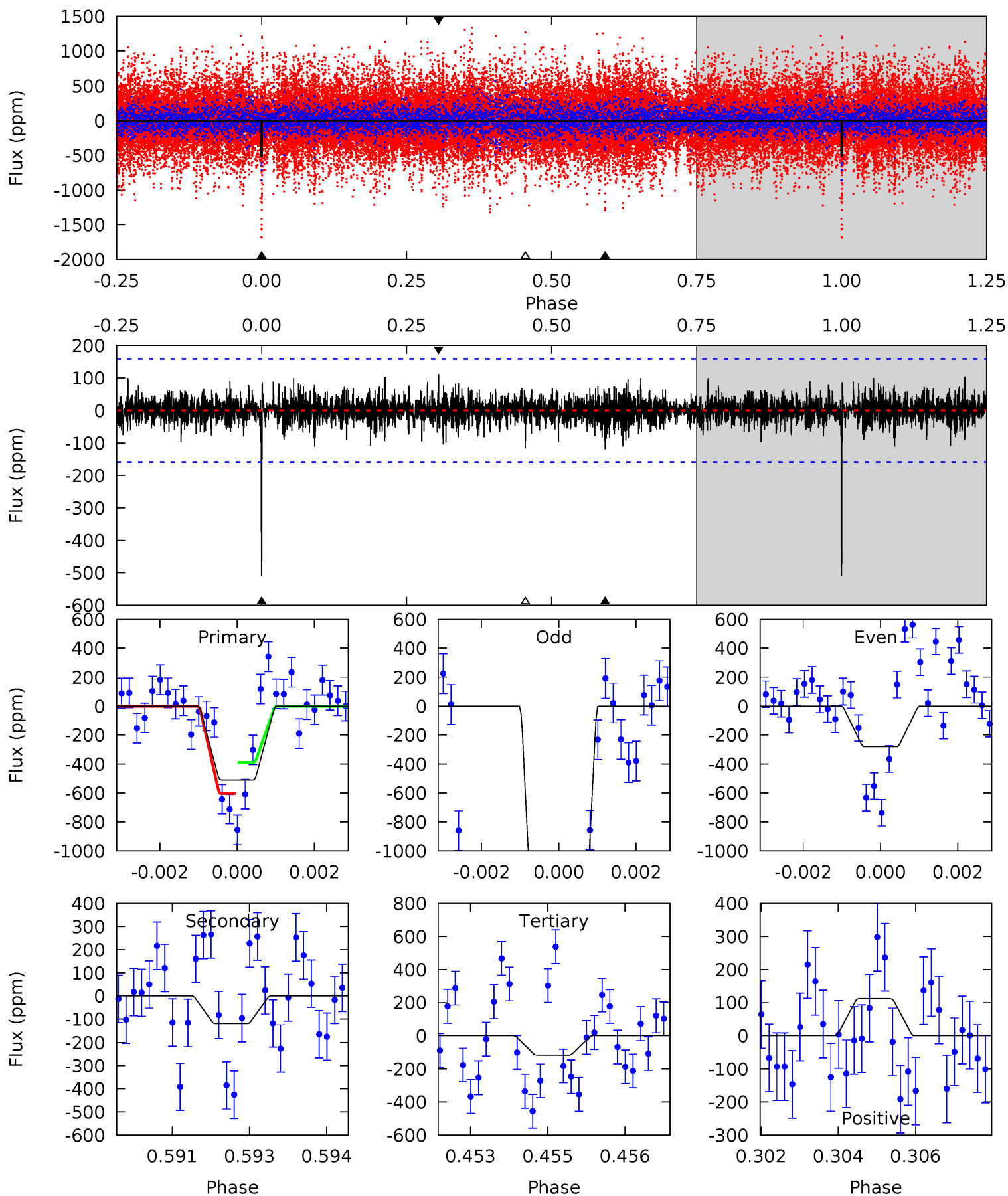
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.74	8.99	7.10	7.77	5.30	3.05	2.02	-0.36	-1.03	1.89	1.22	8.18	0.93	0.46	2.98



Alt Model-Shift Uniqueness Test

004922182-02, P = 278.686514 Days, E = 253.478362 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	4.01	3.94	3.77	5.35	3.13	0.95	13.3	13.4	0.07	0.24	41.1	1.95	0.18	3.60



Stellar Parameters For KIC 004922182

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4761^{+57}_{-162}	$2.445^{+0.035}_{-0.028}$	$0.210^{+0.150}_{-0.400}$	$16.866^{+1.445}_{-5.780}$	$2.890^{+0.511}_{-1.533}$	$0.001^{+0.000}_{-0.000}$
	+1%/-3%	+1%/-1%	+71%/-190%	+9%/-34%	+18%/-53%	+54%/-11%
Source	PHO1	AST9	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 004922182-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-514 ± 57	$68.90^{+4.82}_{-6.56}$	1101^{+27}_{-41}	3947^{+131}_{-123}	89^{+16}_{-14}
Alt.	-119 ± 30	$65.47^{+4.58}_{-5.77}$	1102^{+28}_{-40}	3175^{+141}_{-154}	23^{+7}_{-6}

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 $A_{obs} \gg 1.0$

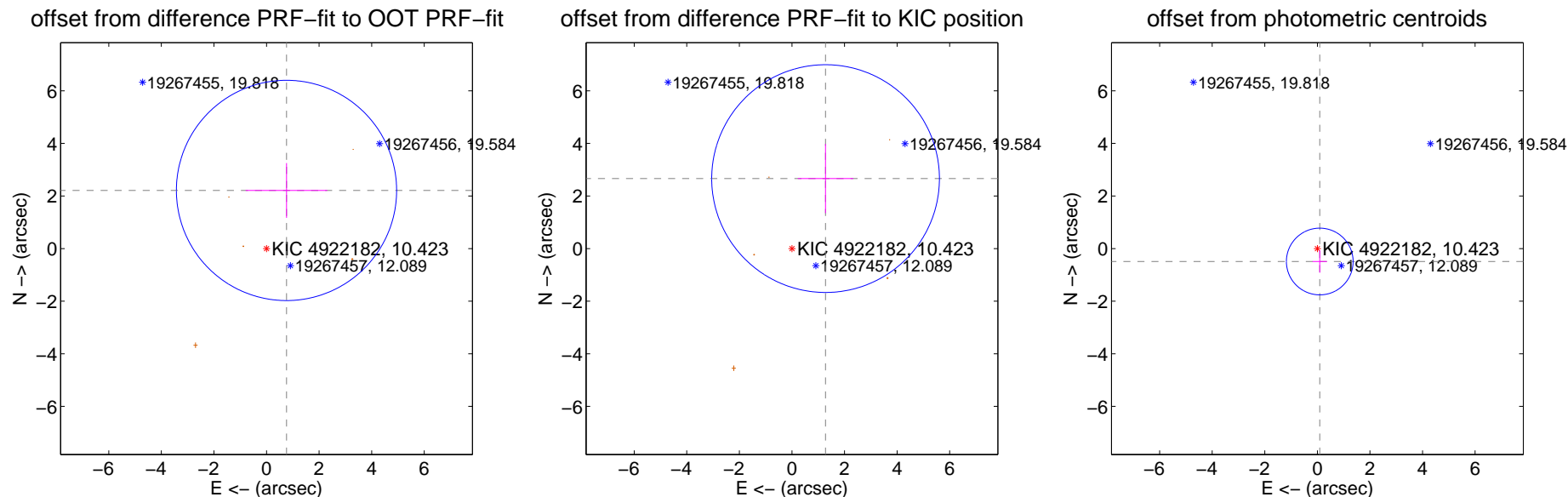
DV Centroid Data

Supplemental centroid analysis for 004922182-02. **Kepler magnitude: 10.42.** Transit SNR 18.27

There are 0 quarters with good PRF difference image offsets

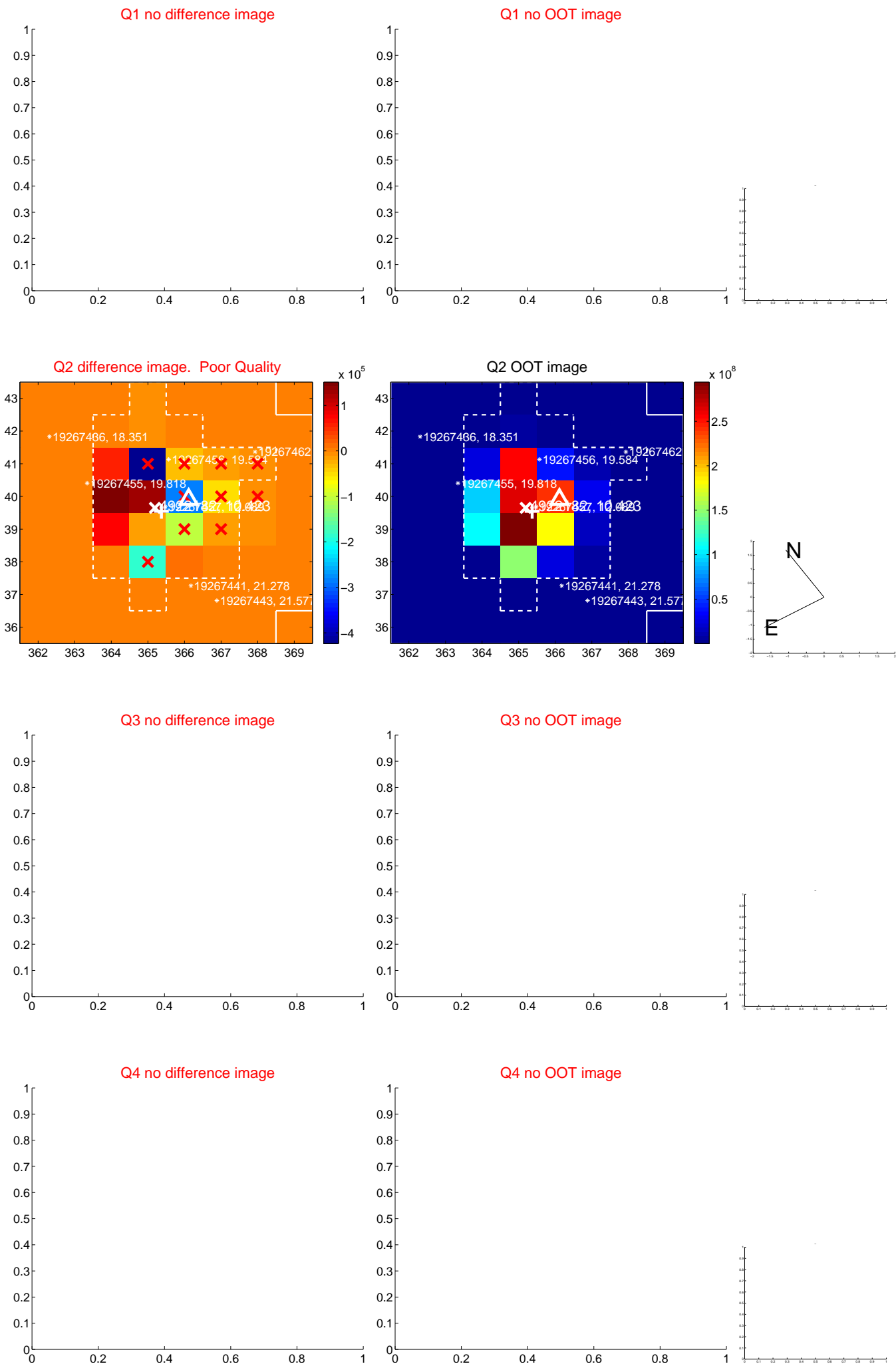
The direct PRF centroid is offset from the target star catalog position by about 1.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.338 ± 1.396	1.67	-0.760 ± 1.553	2.211 ± 1.042
PRF-fit source offset from KIC position	2.953 ± 1.444	2.05	-1.279 ± 1.054	2.662 ± 1.316
photometric centroid source offset	0.50 ± 0.42	1.18	-0.09 ± 0.27	-0.49 ± 0.43

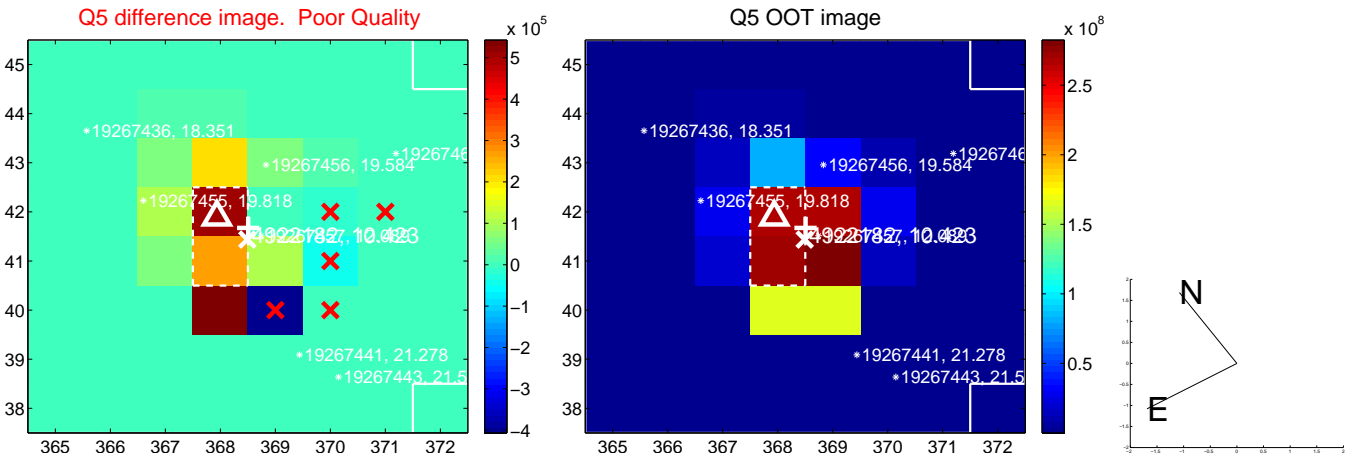


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

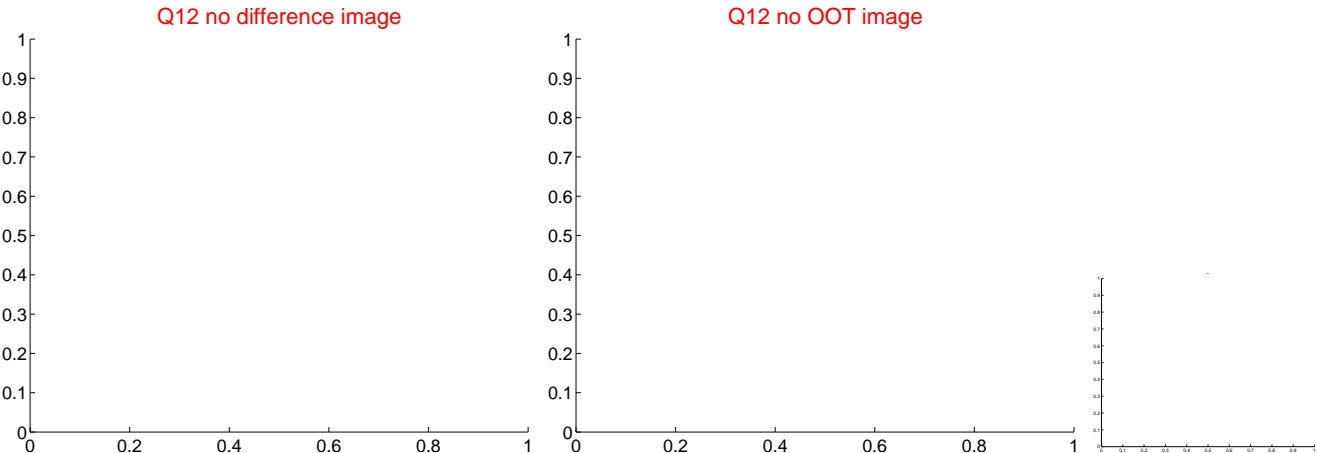
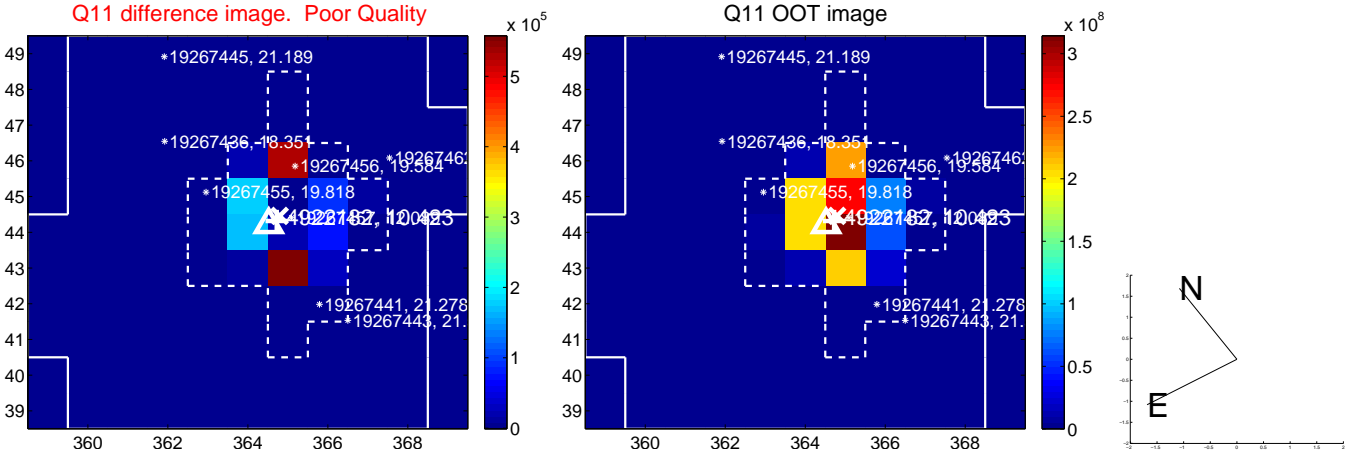
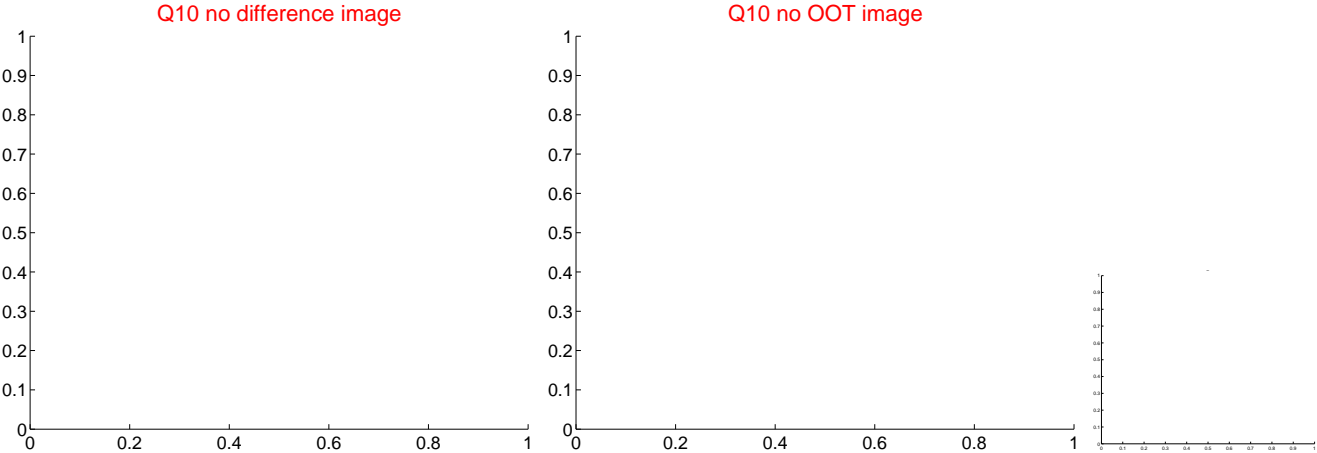
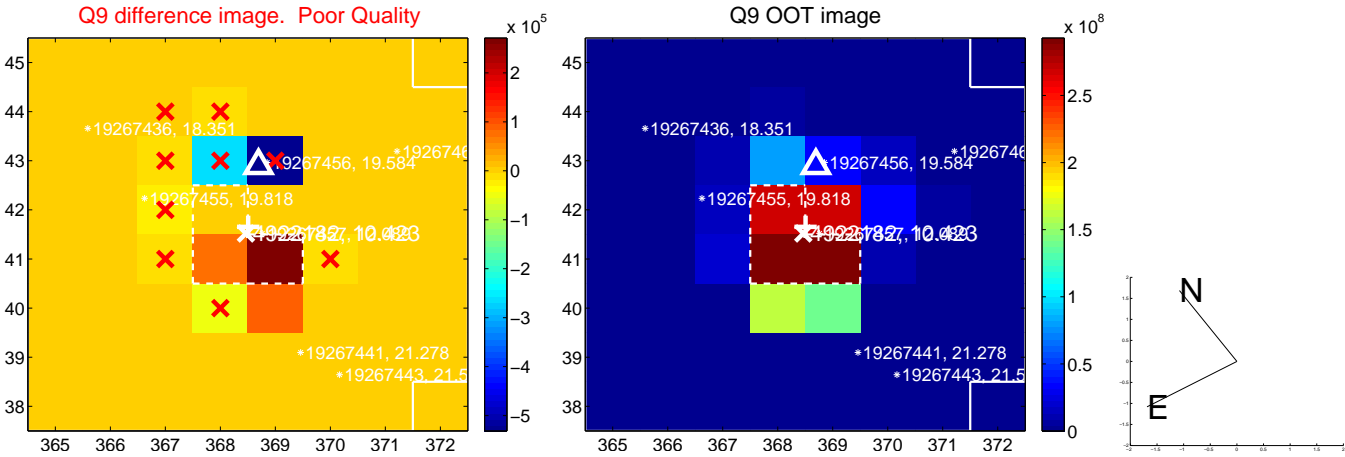
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



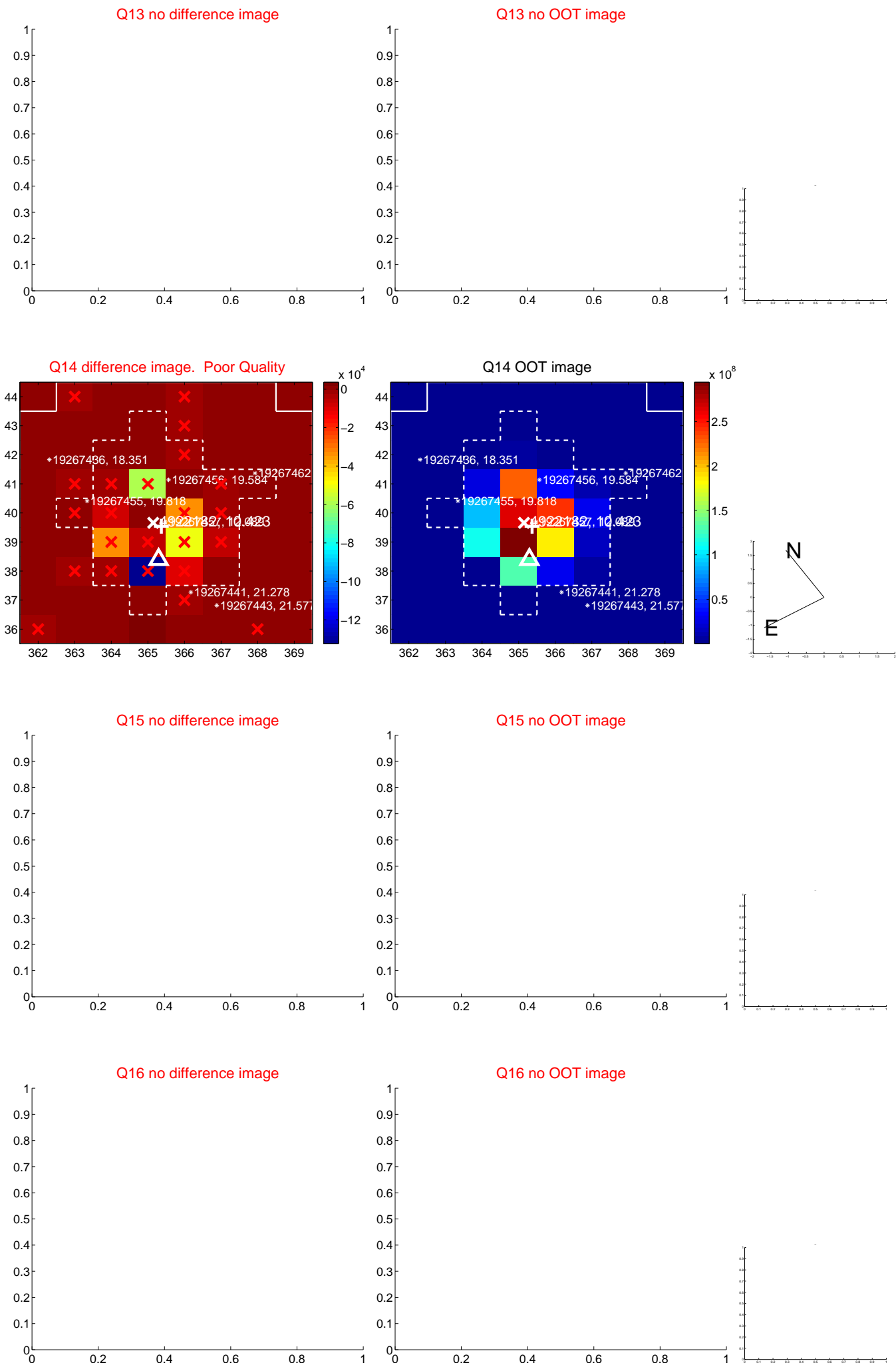
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



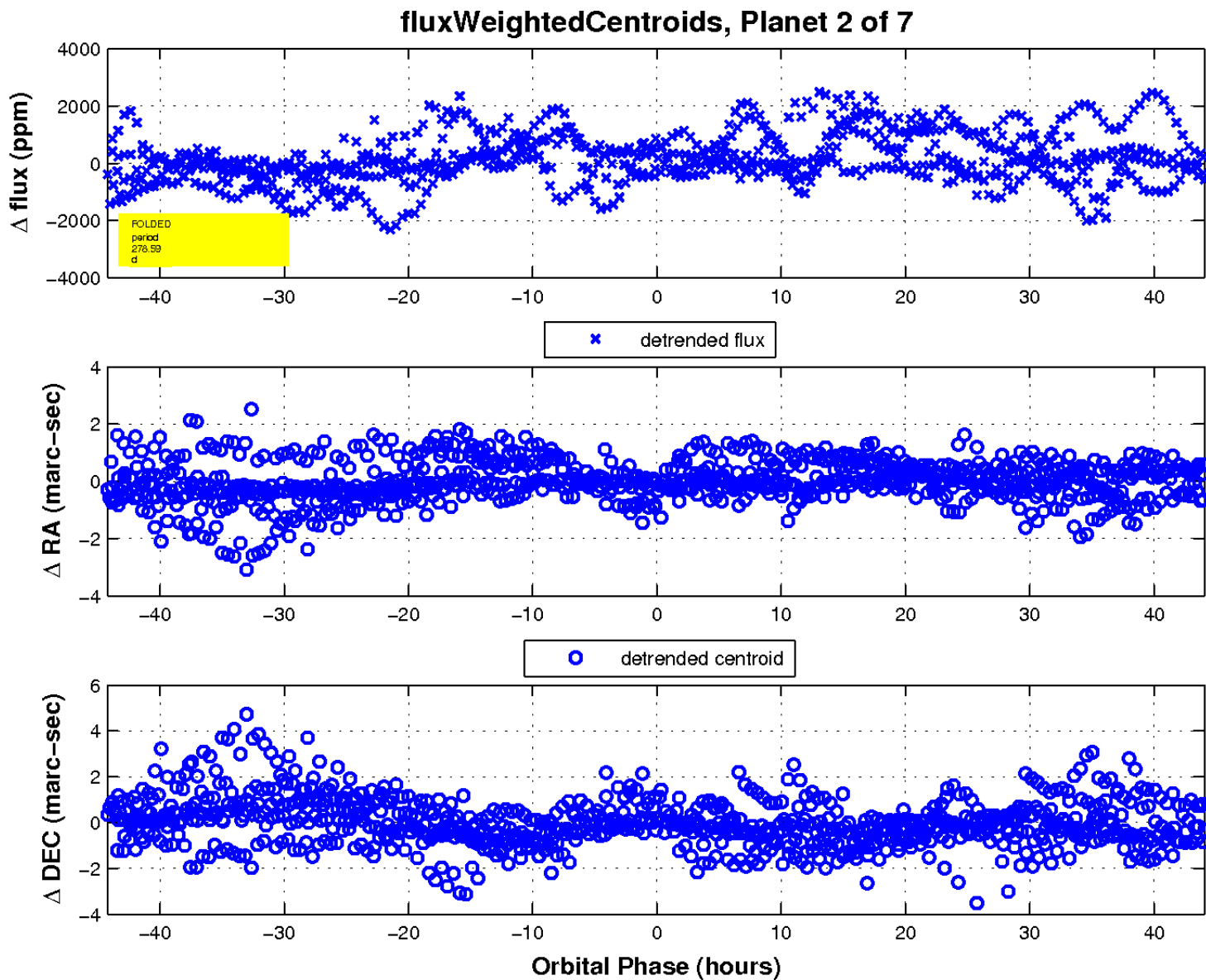
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

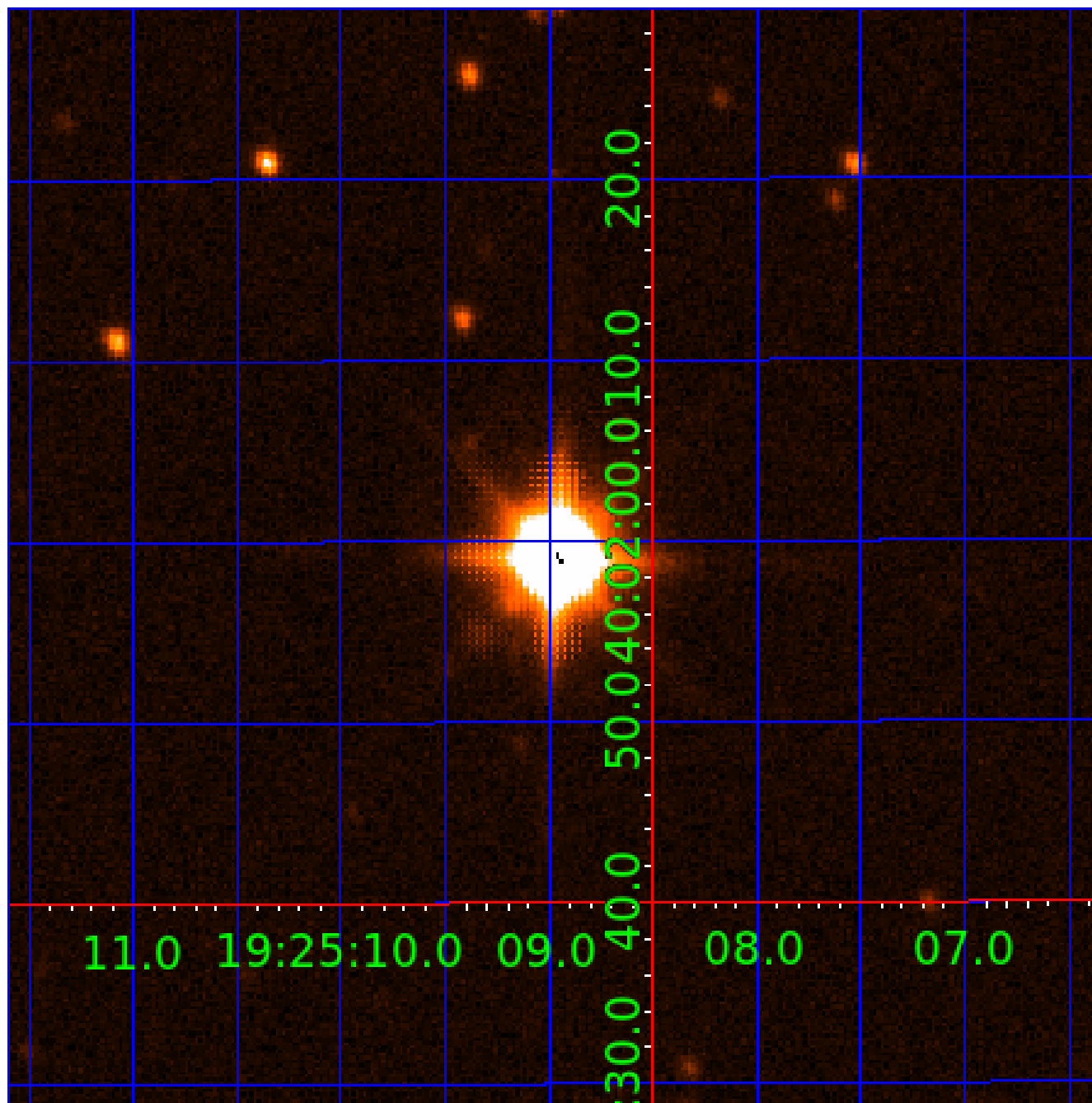


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004922182

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})
004922182-01	OBS	No	501.042113	527.413188	1040.3	10.224	54.0	14.8	16.87	4761	67.99	42.32
004922182-02	OBS	No	278.587809	253.737095	982.8	14.740	26.3	18.3	16.87	4761	67.11	92.56
004922182-03	OBS	No	489.758377	536.068237	168.2	15.000	26.0	-1.0	16.87	4761	21.00	43.62
004922182-04	OBS	No	211.855645	316.913038	887.0	17.120	22.5	17.4	16.87	4761	61.89	133.34
004922182-05	OBS	No	198.798630	325.651251	741.1	16.583	12.5	9.3	16.87	4761	56.56	145.15
004922182-06	OBS	No	239.211198	292.902937	904.6	64.275	11.1	14.6	16.87	4761	52.20	113.41
004922182-07	OBS	No	286.277729	234.735894	594.6	5.145	11.1	7.2	16.87	4761	54.88	89.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004922182-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

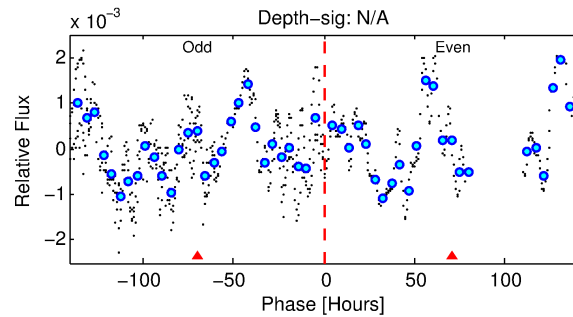
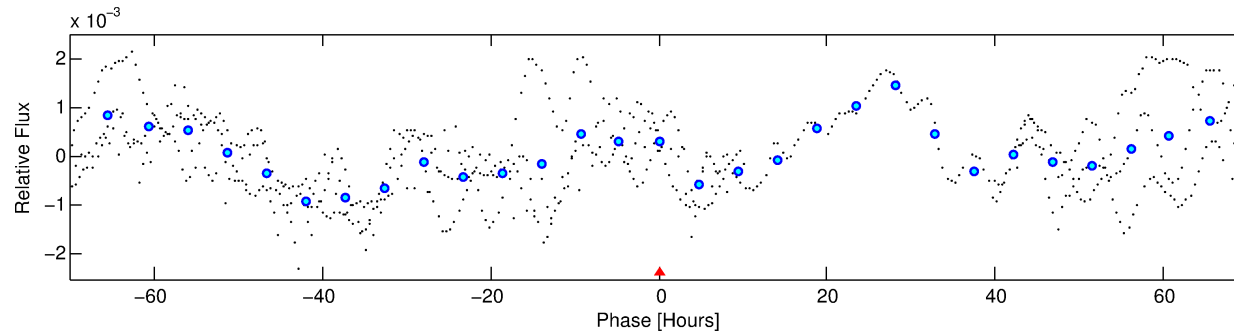
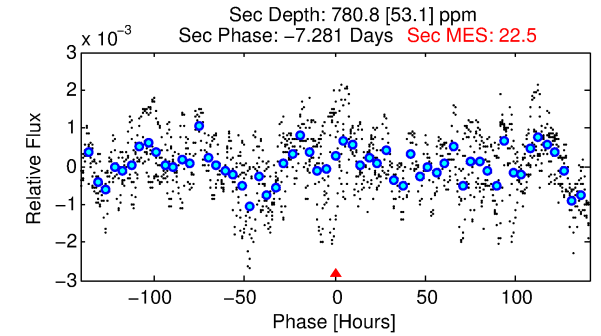
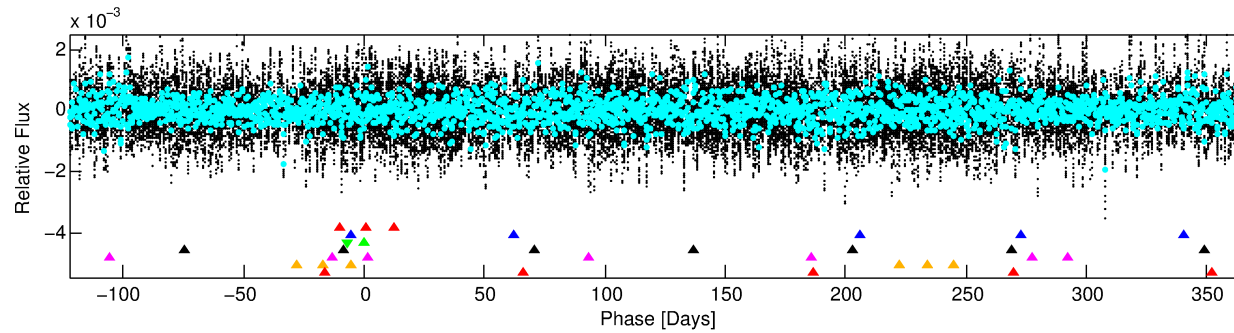
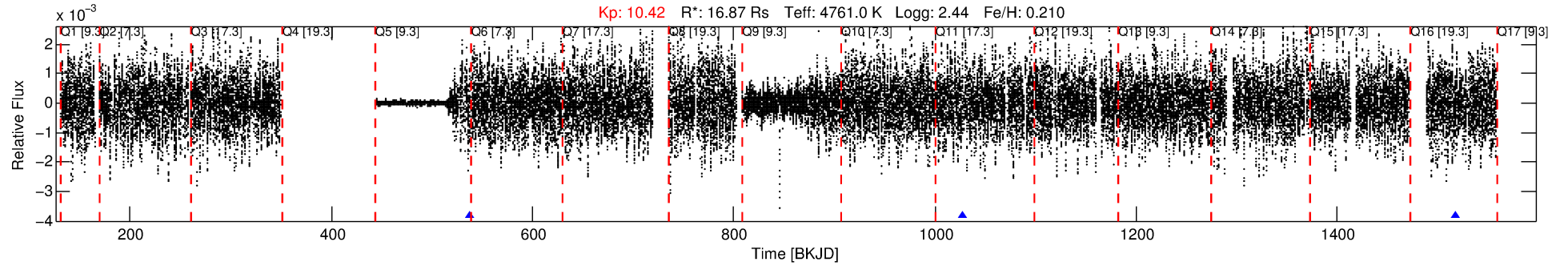
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004922182-03

No Significant Match Found

DV One-Page Summary

KIC: 4922182 Candidate: 3 of 7 Period: 489.758 d



TPS TCE Results:

Period = 489.75838 d
Epoch = 536.0682 BKJD

DV fit results are unavailable

DV Diagnostic Results:

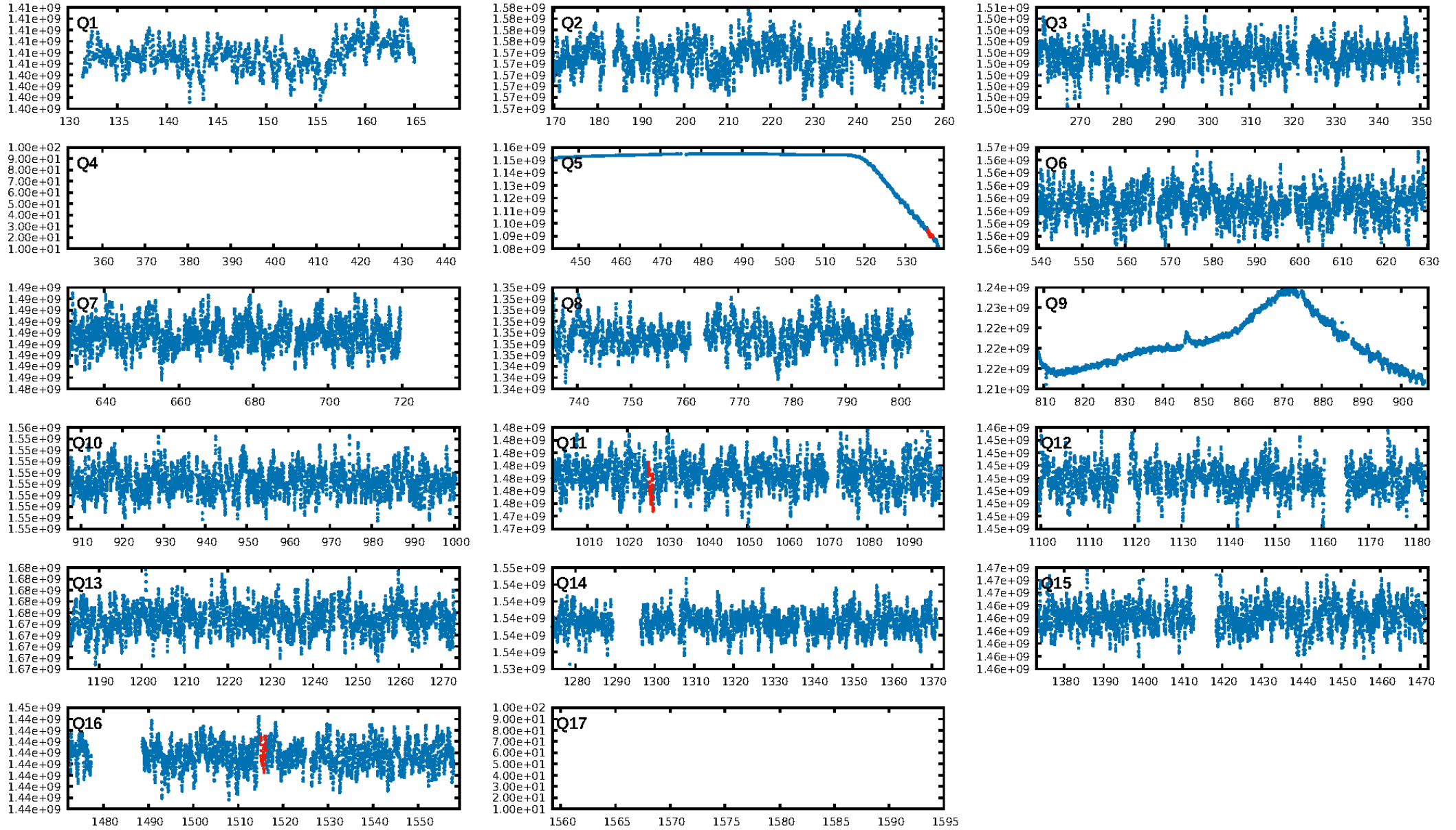
ShortPeriod-sig: 100.0% [307.96 σ]
LongPeriod-sig: 100.0% [14.92 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.02e-33
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.47

Centroid-sig: N/A
Centroid-so: 0.195 arcsec [12.03 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

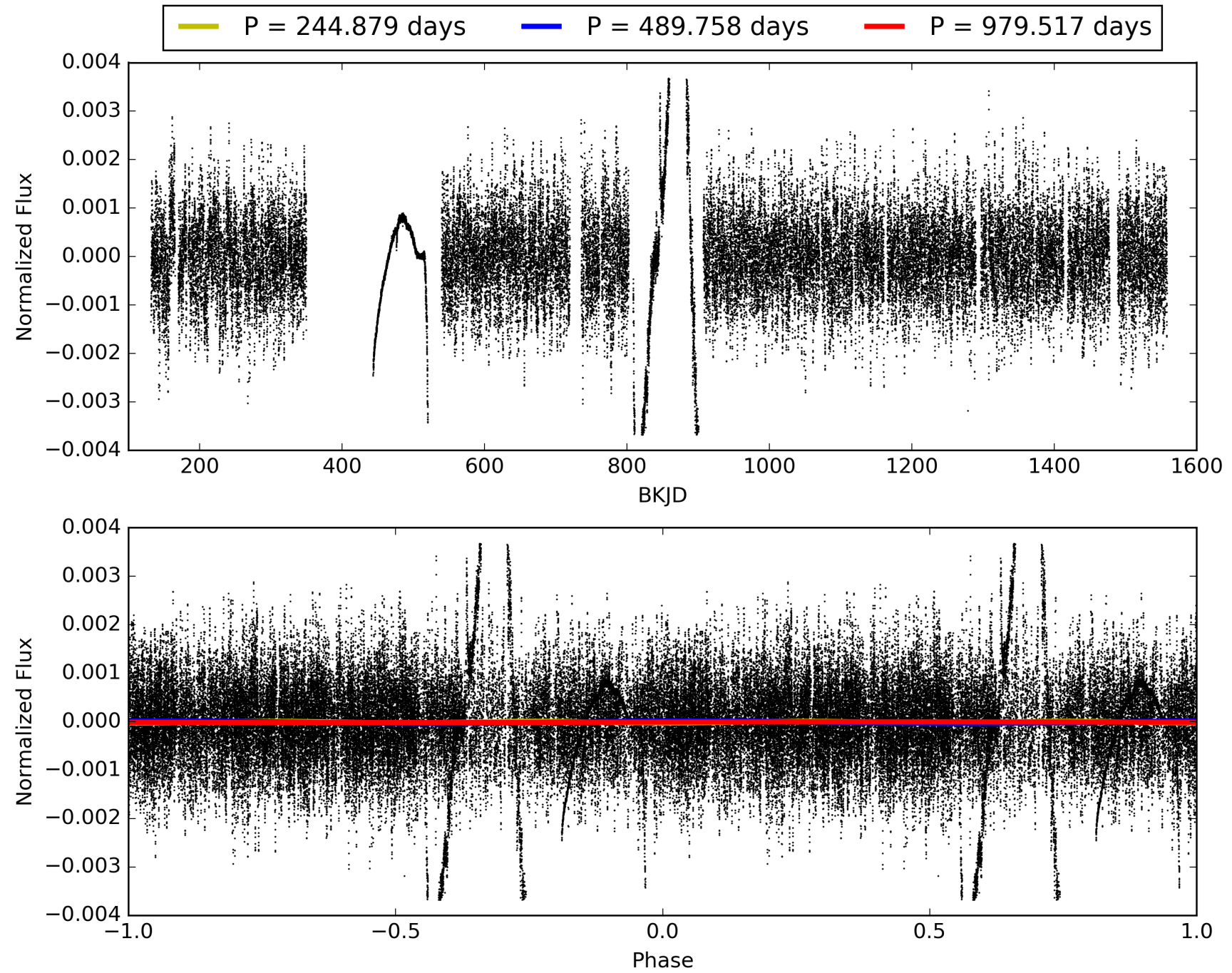
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:20:44 Z

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

TCE 004922182-03, PDC Light Curves

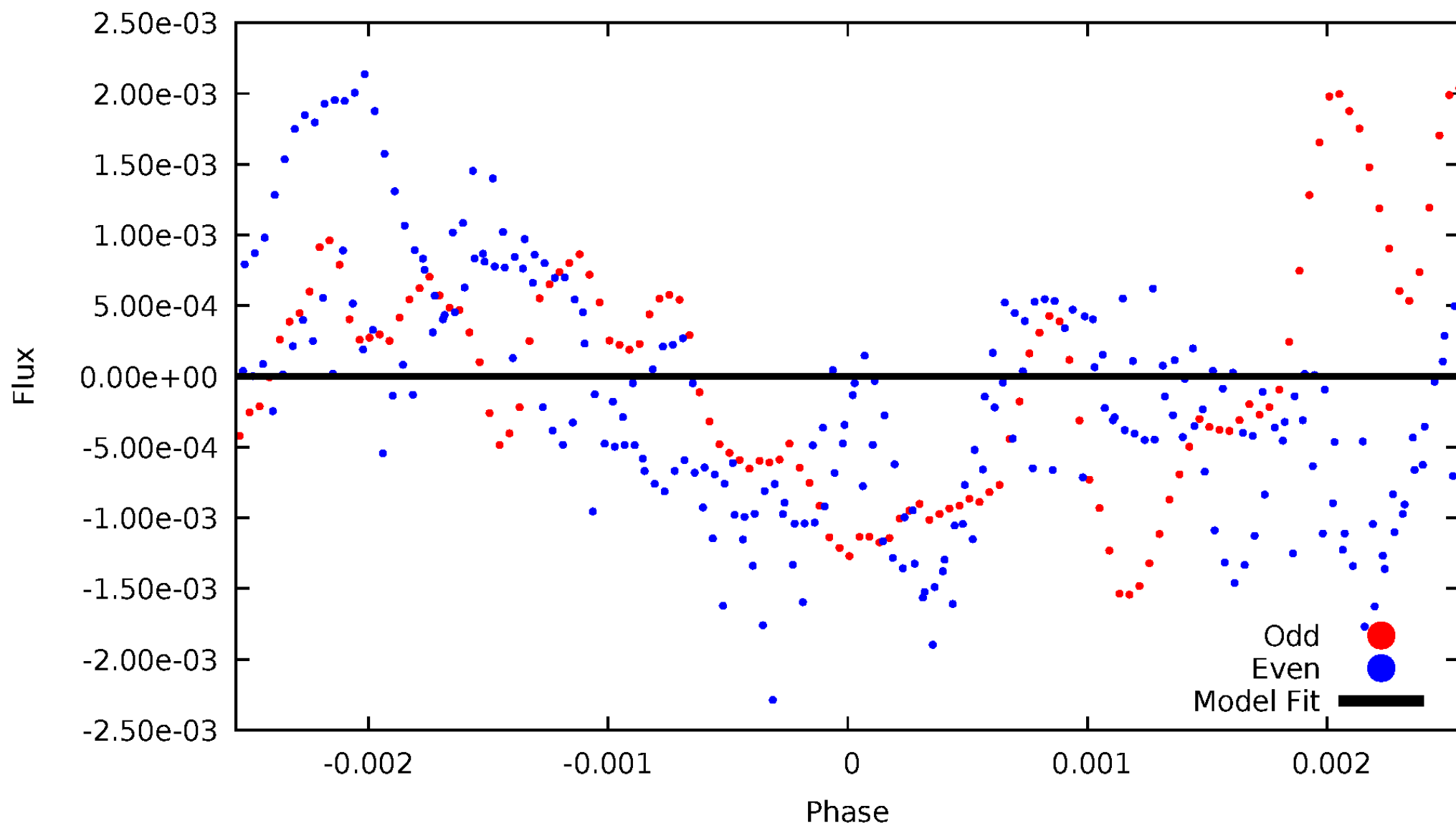


TCE 004922182-03



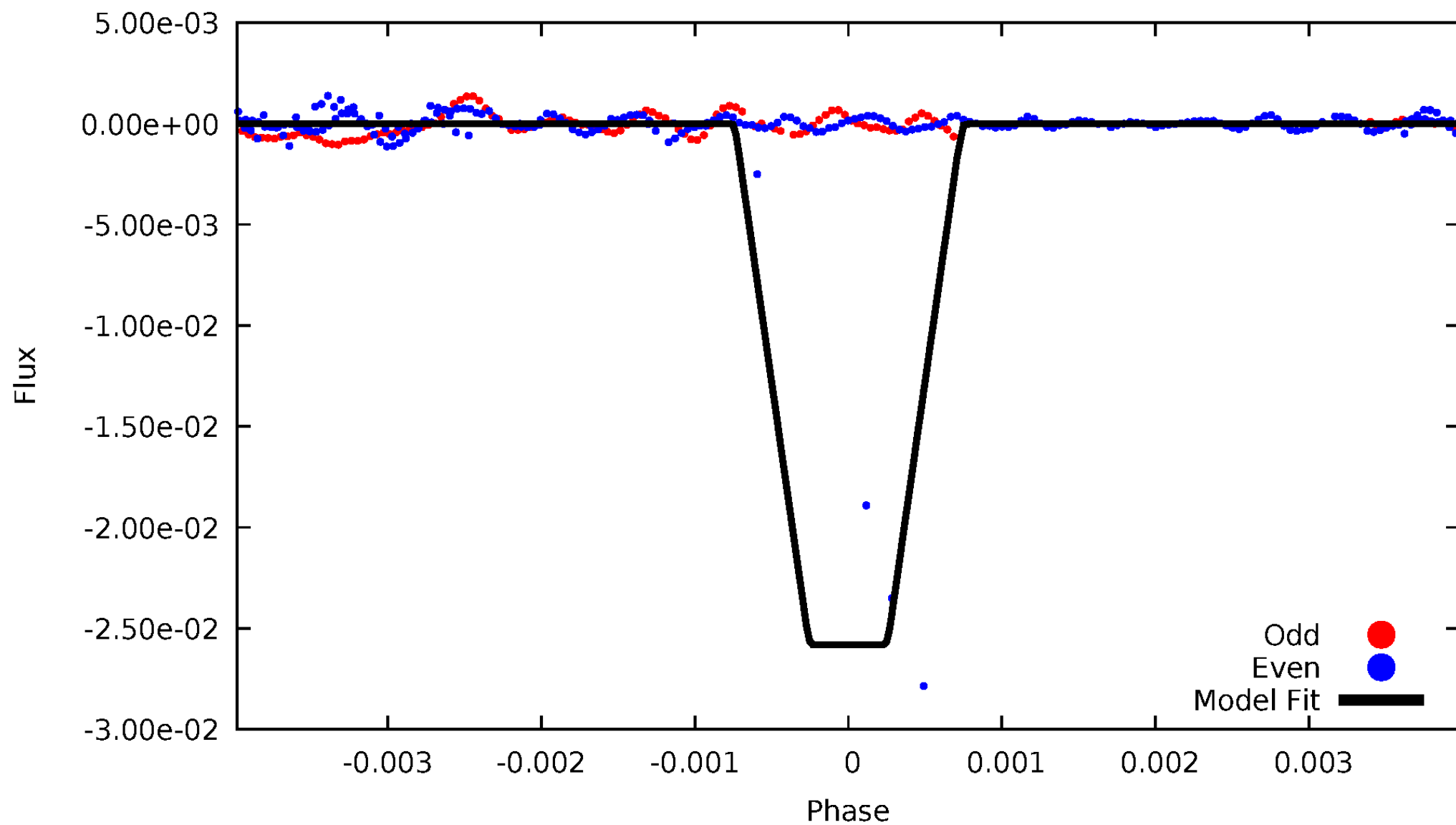
DV Odd/Even

TCE 004922182-03



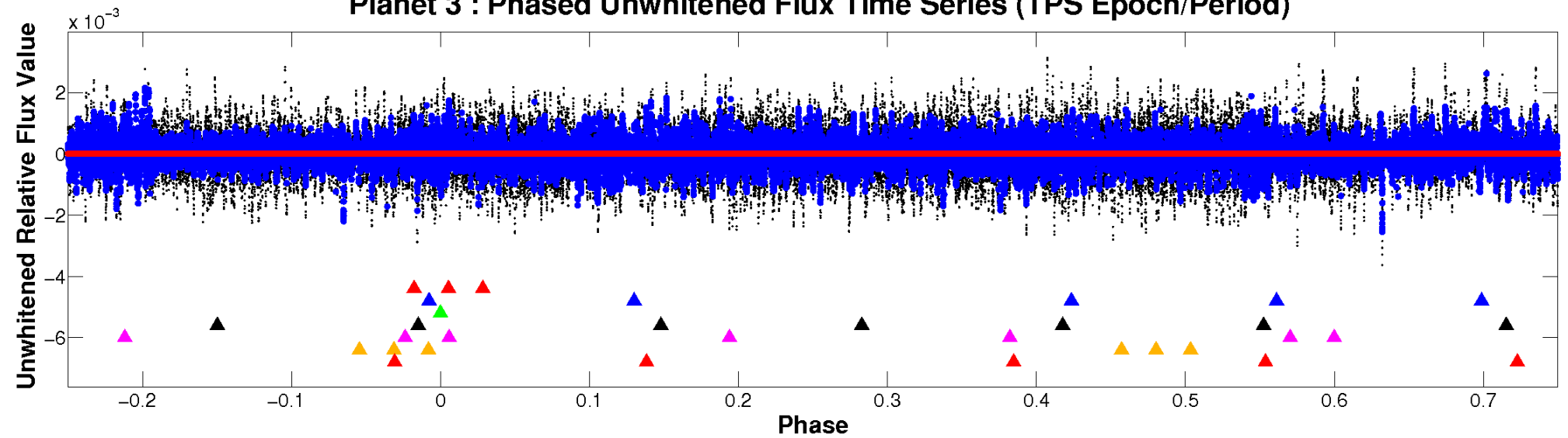
ALT Odd/Even

TCE 004922182-03

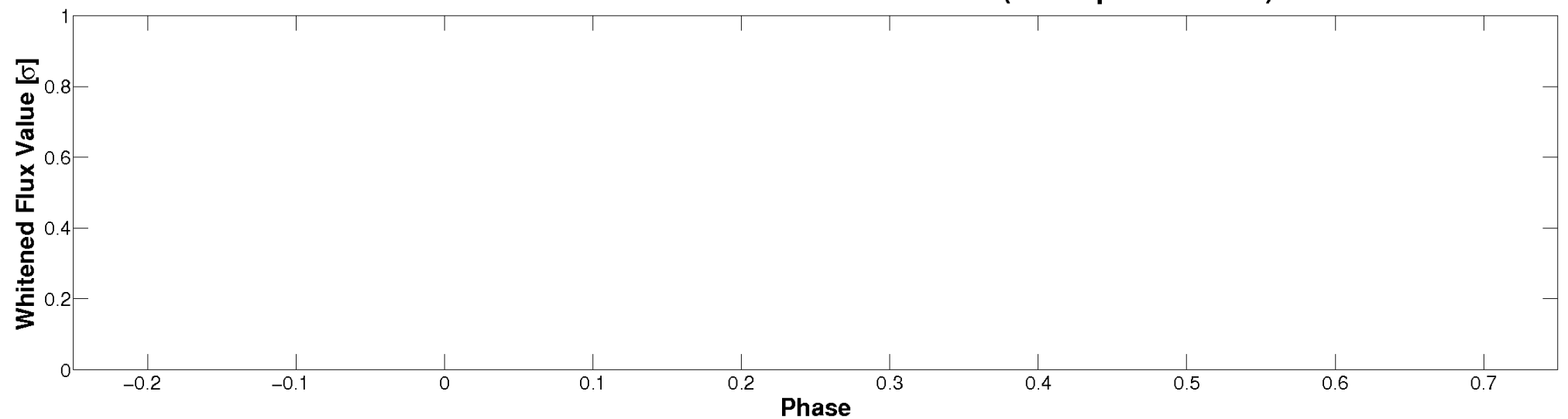


Non-Whitened Vs. Whitened Light Curve

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

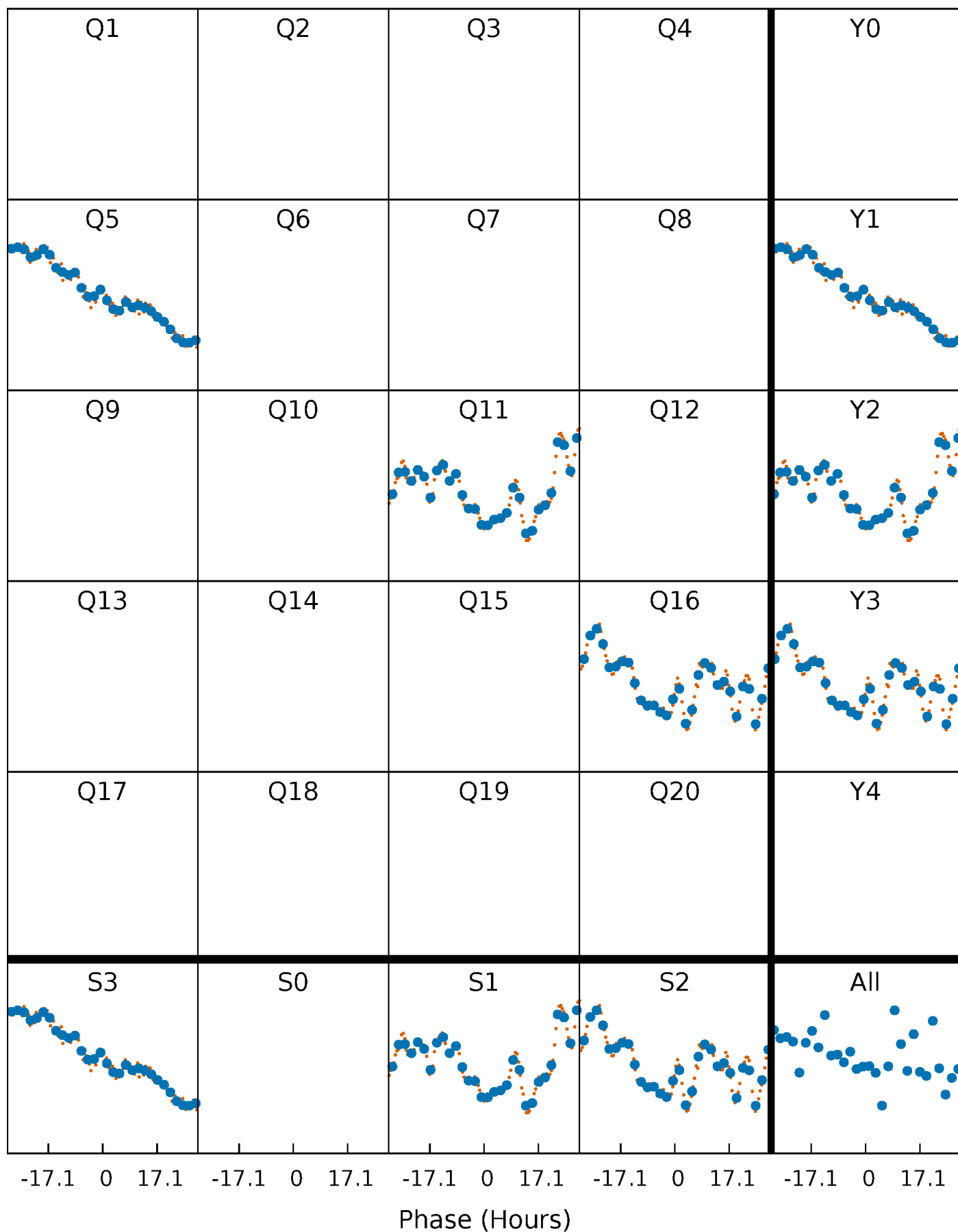


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



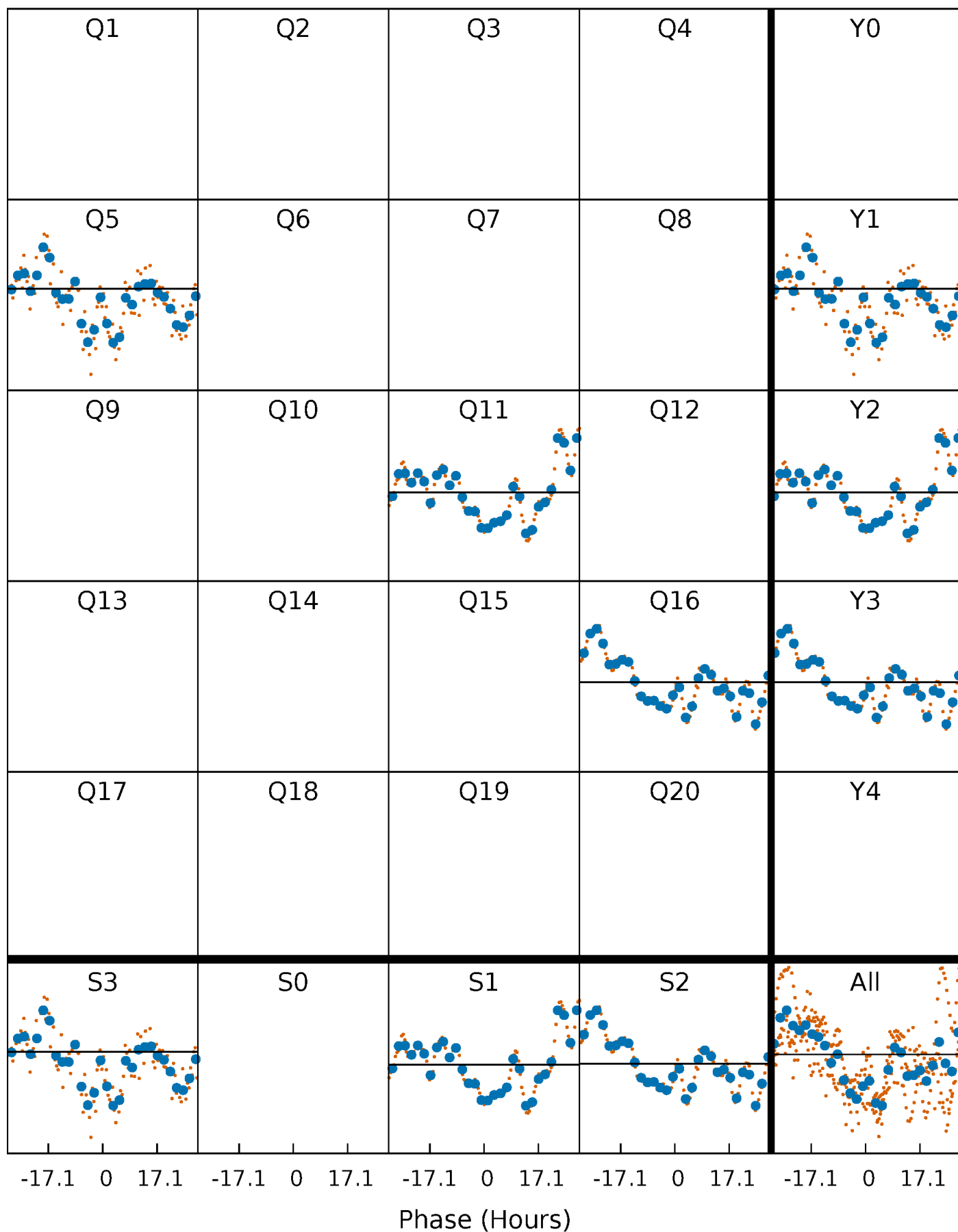
PDC Quarter-Phased Transit Curves

TCE 004922182-03 $P=489.758377$ Days $T_0=536.068237$ (BKJD)



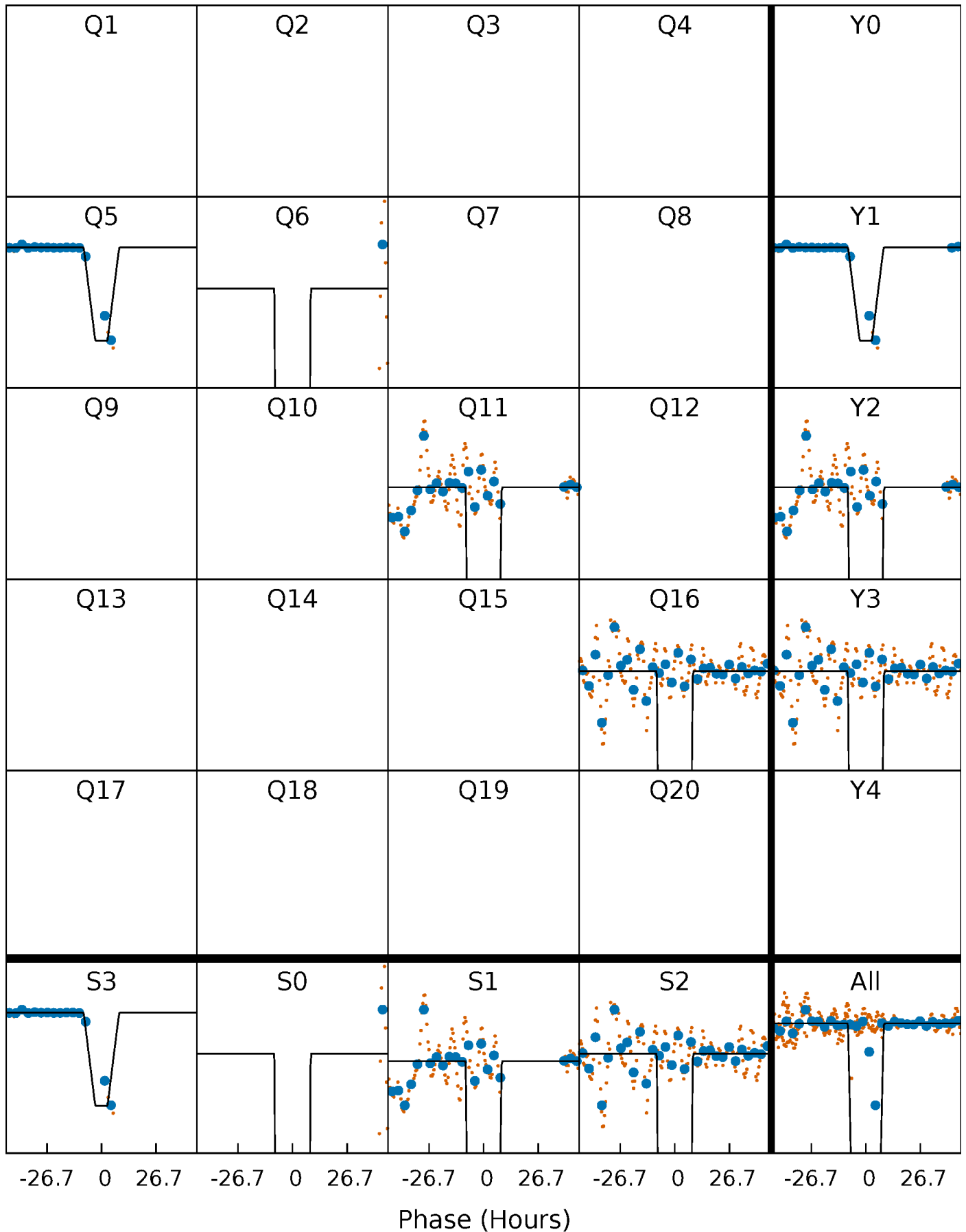
DV Quarter-Phased Transit Curves

TCE 004922182-03 $P=489.758377$ Days $T_0=536.068237$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

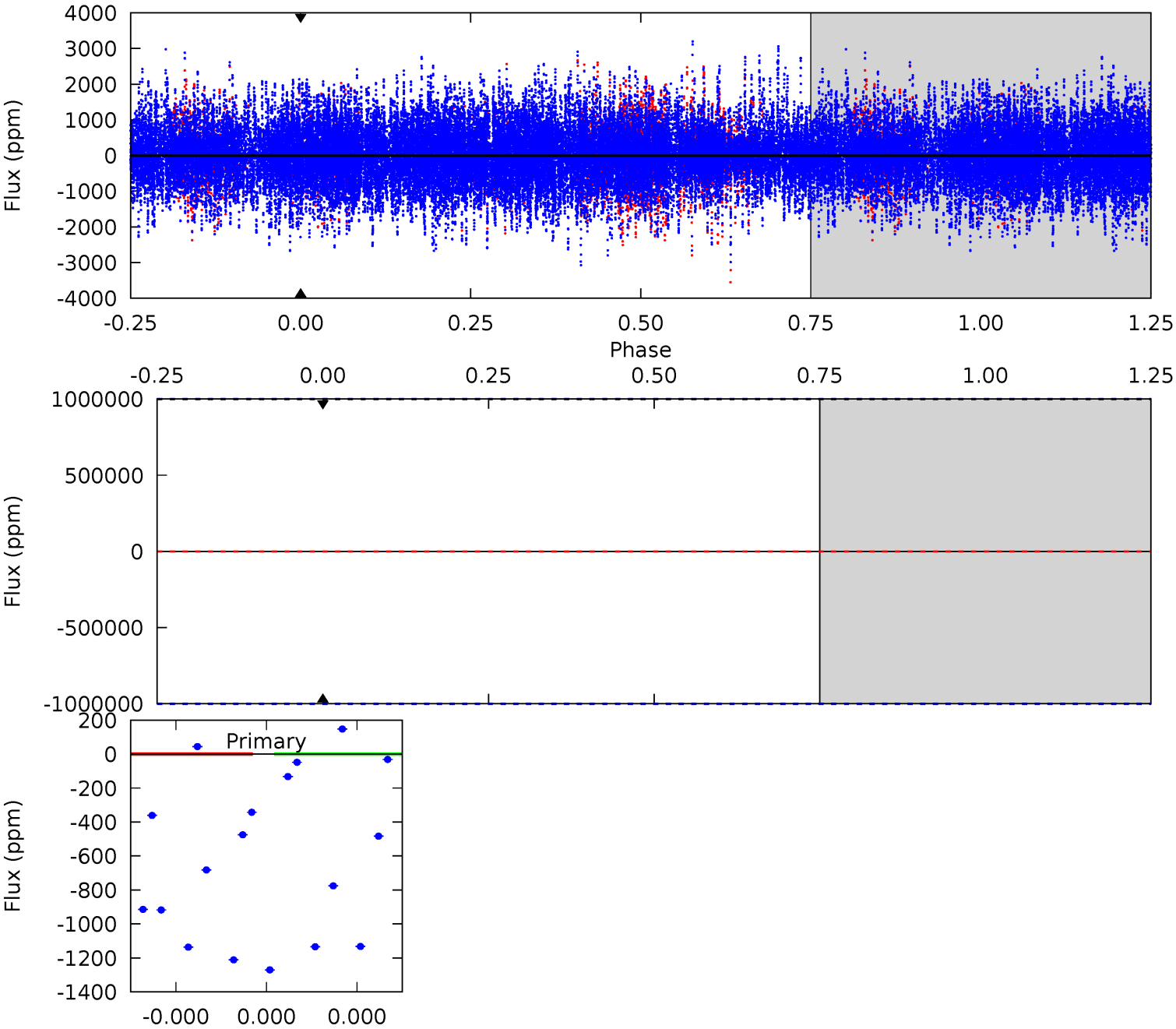
TCE 004922182-03 P=489.758377 Days $T_0=537.697264$ (BKJD)



DV Model-Shift Uniqueness Test

004922182-03, P = 489.758377 Days, E = 46.309860 Days

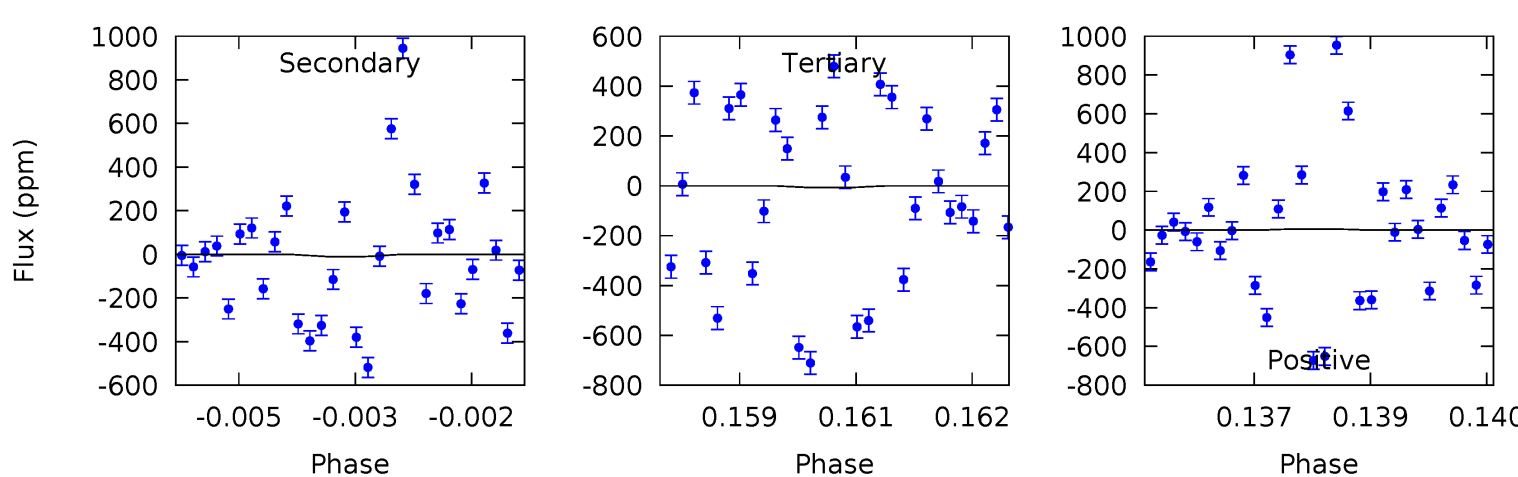
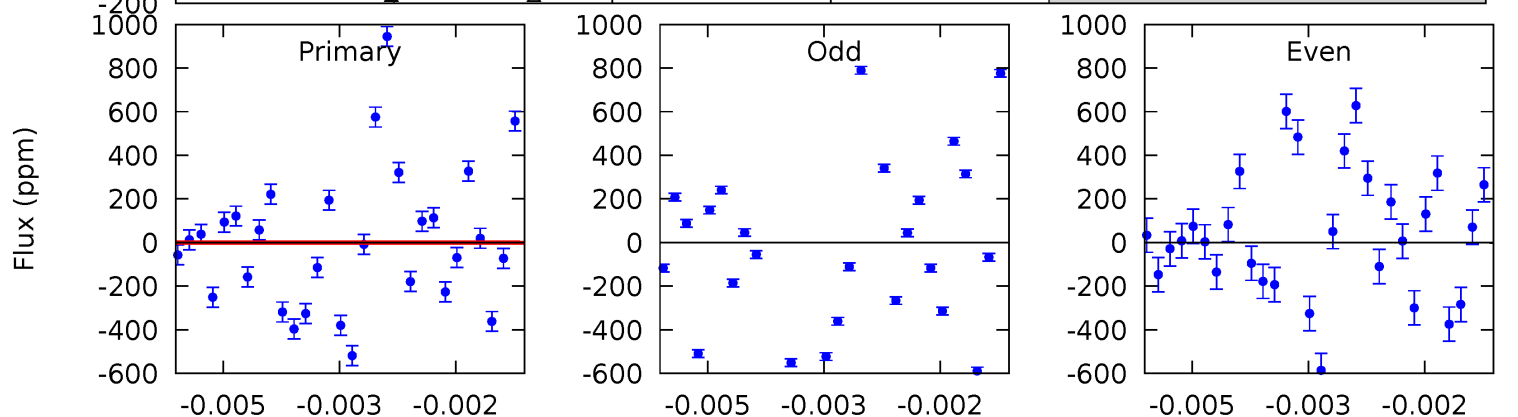
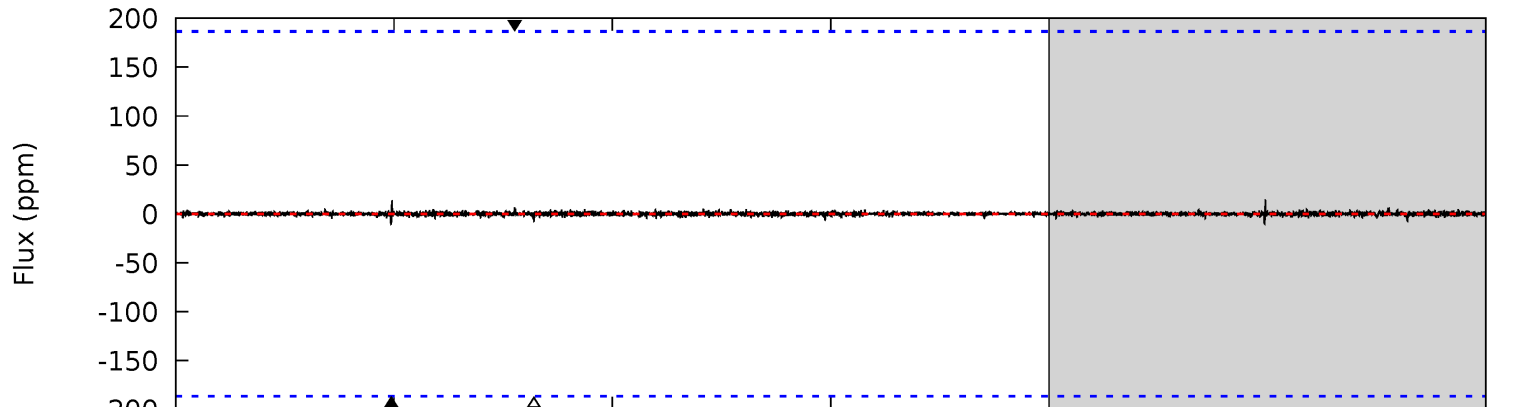
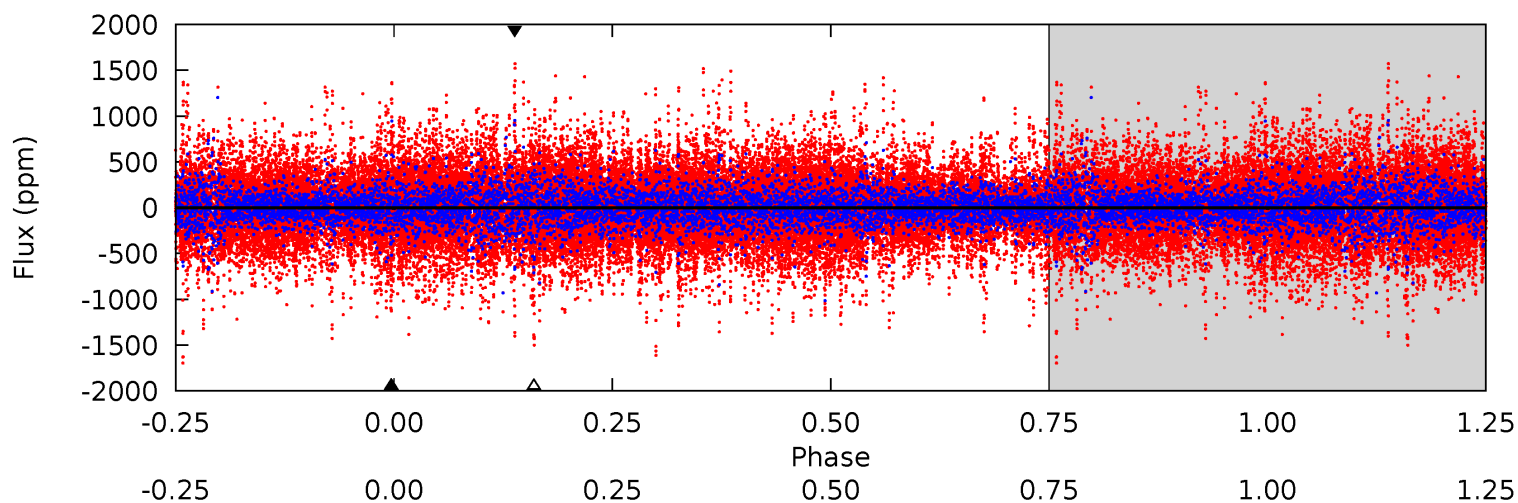
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004922182-03, P = 489.758377 Days, E = 47.938887 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.19	0.29	0.21	0.18	5.37	3.17	0.03	-0.02	0.01	0.08	0.11	0.16	684.4	0.57	0.03



Stellar Parameters For KIC 004922182

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4761^{+57}_{-162}	$2.445^{+0.035}_{-0.028}$	$0.210^{+0.150}_{-0.400}$	$16.866^{+1.445}_{-5.780}$	$2.890^{+0.511}_{-1.533}$	$0.001^{+0.000}_{-0.000}$
	+1%/-3%	+1%/-1%	+71%/-190%	+9%/-34%	+18%/-53%	+54%/-11%
Source	PHO1	AST9	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 004922182-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$138.50^{+133.56}_{-95.72}$	914^{+22}_{-33}	3621^{+10222}_{-16141}	108^{+17283}_{-14238}
Alt.	-10 ± 35	$327.87^{+188.85}_{-176.29}$	914^{+22}_{-32}	-1669^{+3612}_{-244}	$0.135^{+1.090}_{-0.542}$

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 $A_{obs} \gg 1.0$

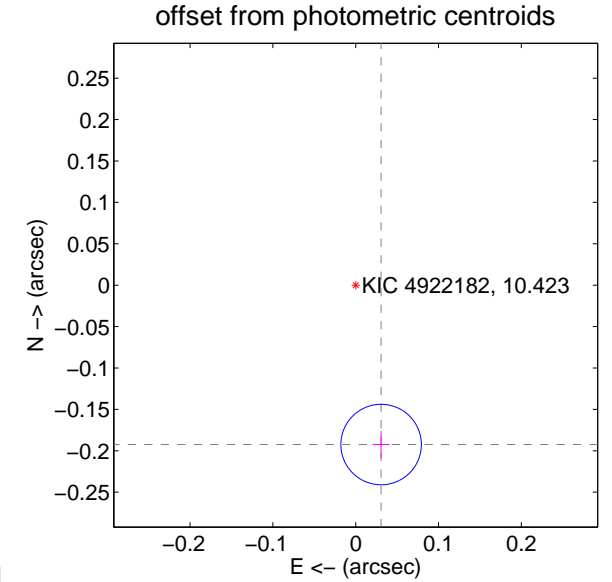
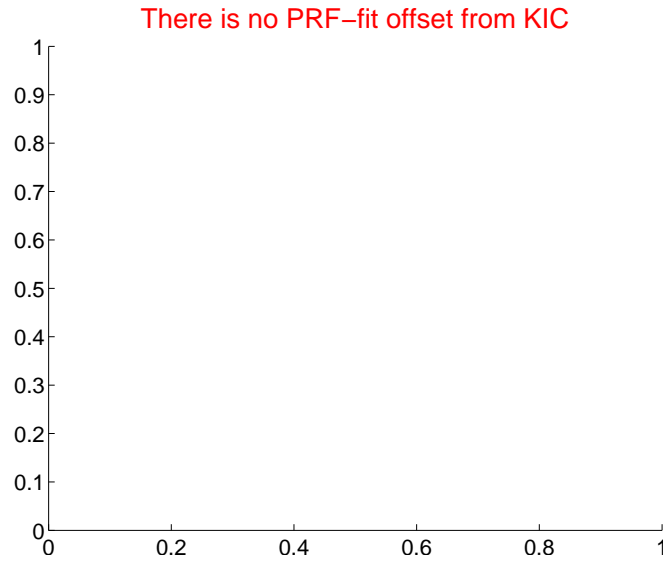
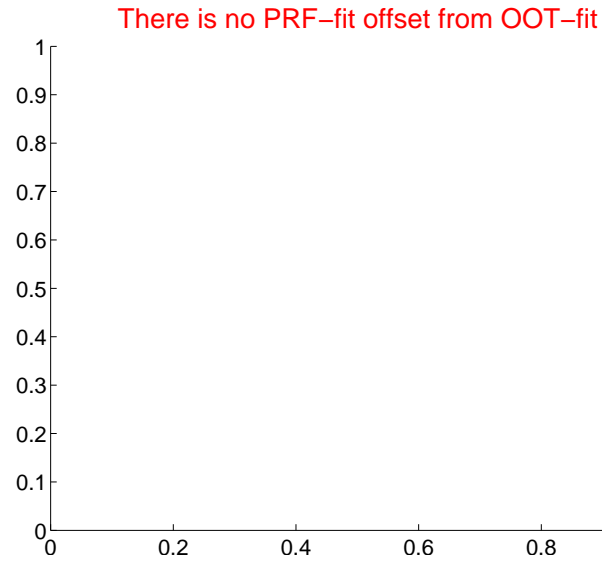
DV Centroid Data

Supplemental centroid analysis for 004922182-03. **Kepler magnitude: 10.42.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.19 \pm 0.02	12.03	-0.03 \pm 0.01	-0.19 \pm 0.02



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

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



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



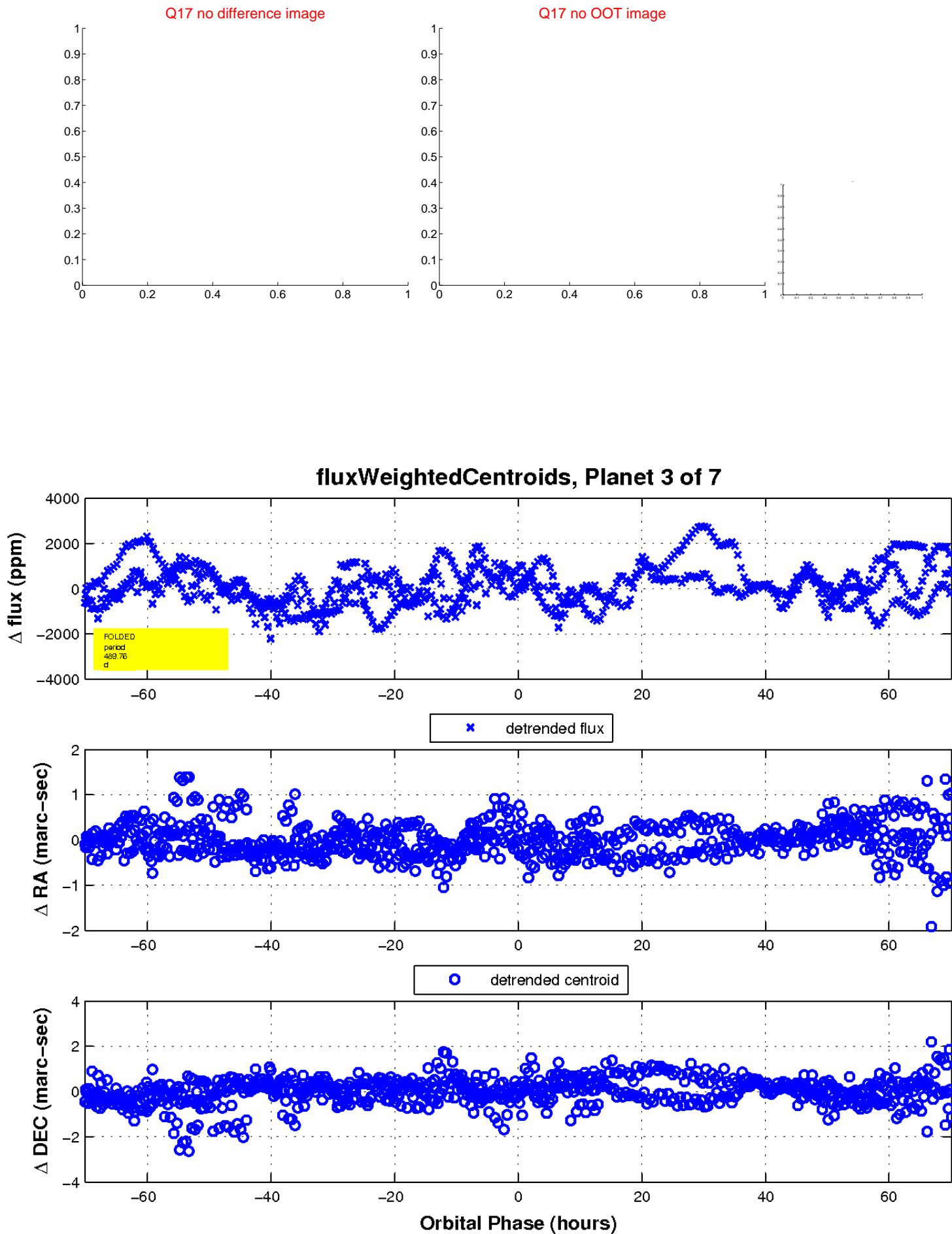
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

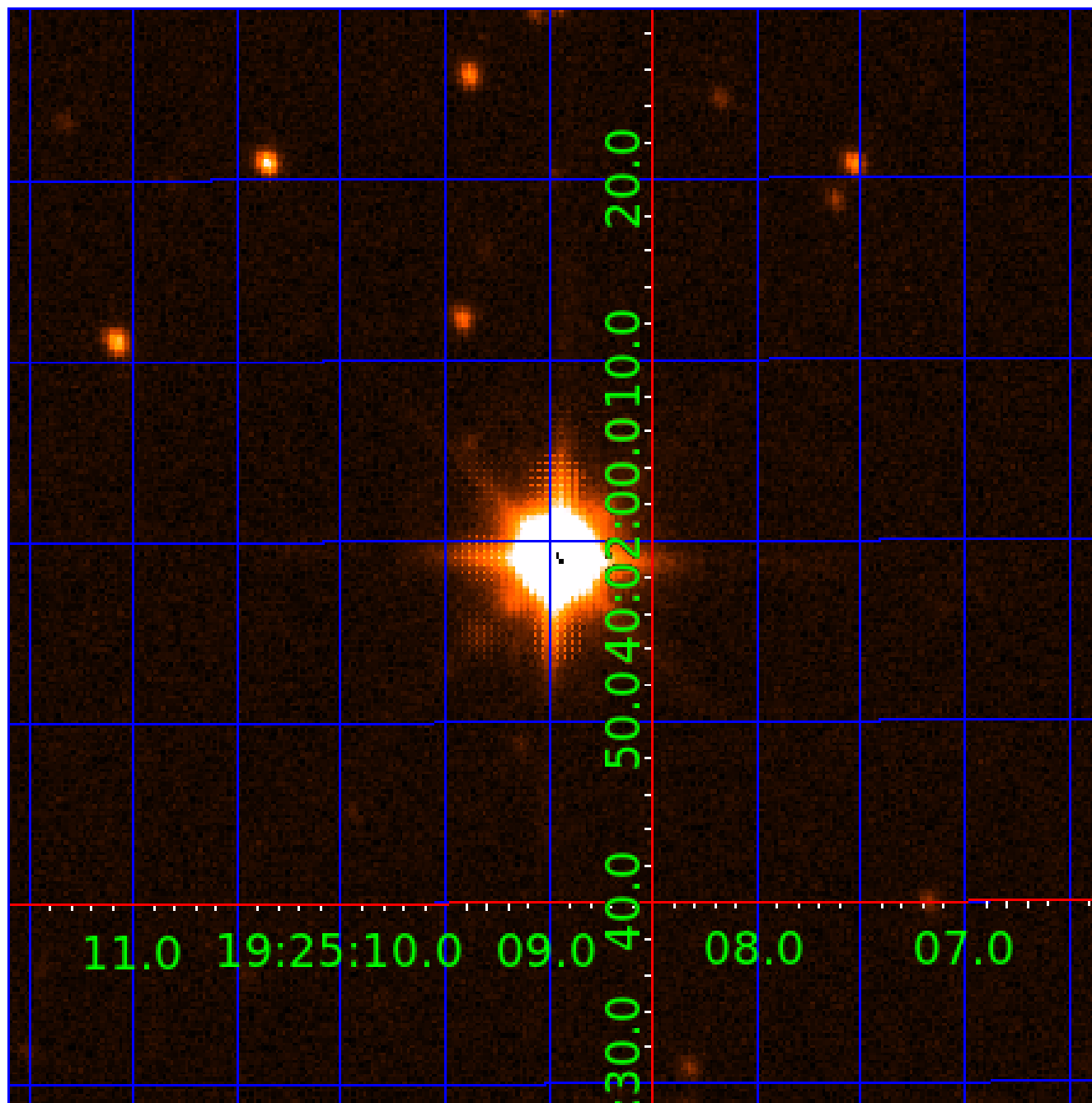


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004922182

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})
004922182-01	OBS	No	501.042113	527.413188	1040.3	10.224	54.0	14.8	16.87	4761	67.99	42.32
004922182-02	OBS	No	278.587809	253.737095	982.8	14.740	26.3	18.3	16.87	4761	67.11	92.56
004922182-03	OBS	No	489.758377	536.068237	168.2	15.000	26.0	-1.0	16.87	4761	21.00	43.62
004922182-04	OBS	No	211.855645	316.913038	887.0	17.120	22.5	17.4	16.87	4761	61.89	133.34
004922182-05	OBS	No	198.798630	325.651251	741.1	16.583	12.5	9.3	16.87	4761	56.56	145.15
004922182-06	OBS	No	239.211198	292.902937	904.6	64.275	11.1	14.6	16.87	4761	52.20	113.41
004922182-07	OBS	No	286.277729	234.735894	594.6	5.145	11.1	7.2	16.87	4761	54.88	89.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004922182-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

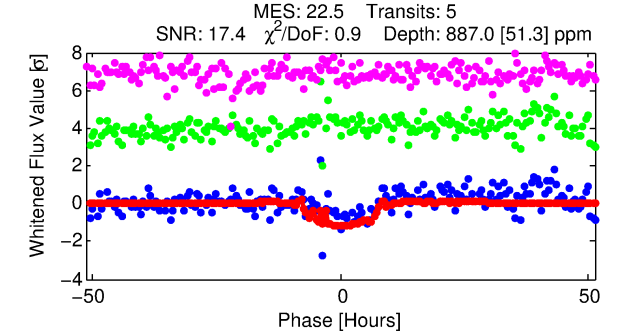
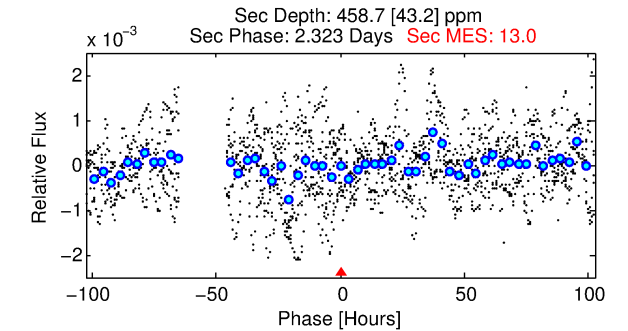
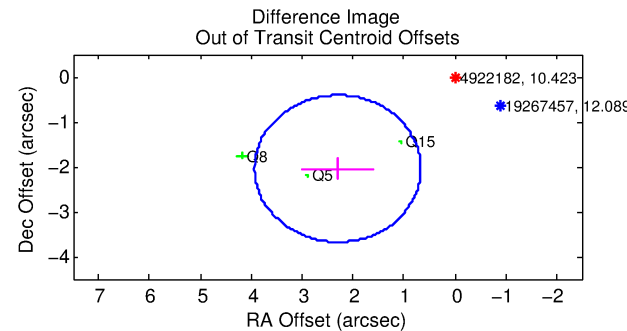
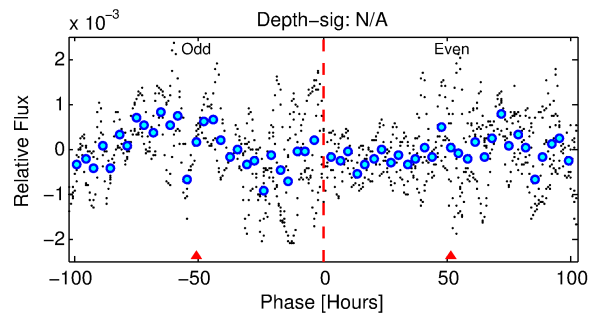
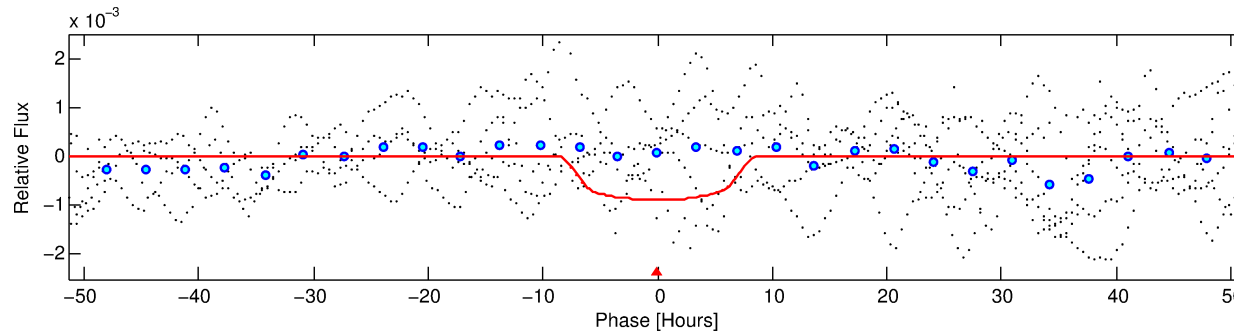
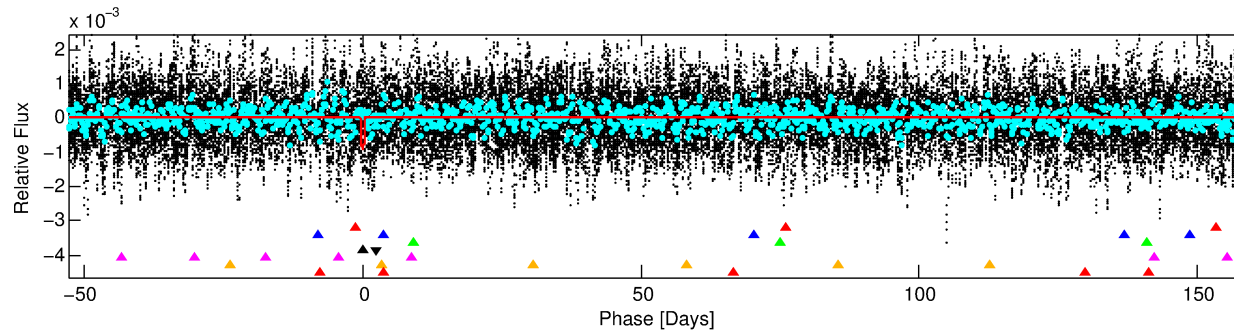
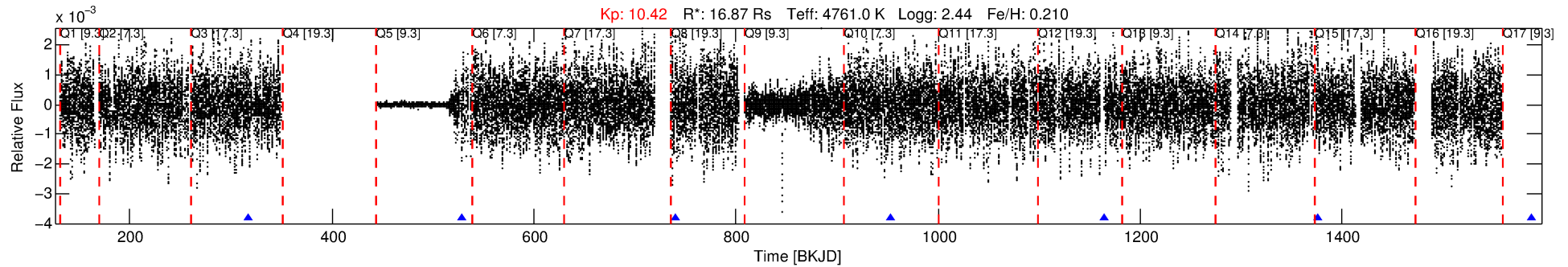
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004922182-04

No Significant Match Found

DV One-Page Summary

KIC: 4922182 Candidate: 4 of 7 Period: 211.856 d



DV Fit Results:

Period = 211.85564 [0.00535] d
Epoch = 316.9130 [0.0133] BKJD
Rp/R* = 0.0336 [0.0013]
a/R* = 47.65 [4.54]
b = 0.90 [0.02]
Seff = 133.34 [36.18]
Teq = 867 [59] K
Rp = 61.89 [21.35] Re
a = 0.9910 [0.2280] AU
Ag = 64.70 [17.14] [3.72σ]
Teffp = 3800 [174] K [15.96σ]

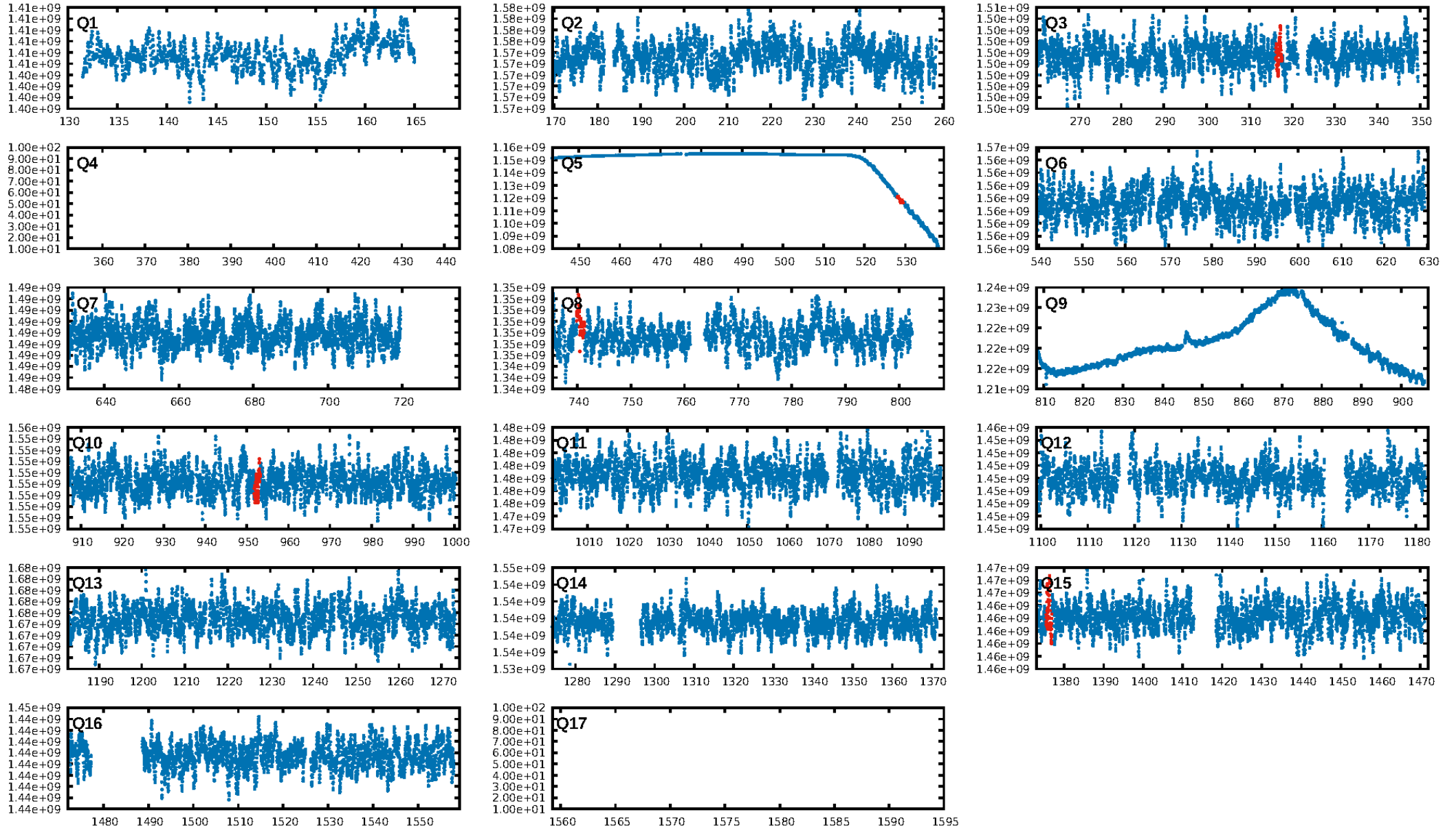
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.15σ]
LongPeriod-sig: 100.0% [9.87σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.94e-38
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 14.68
Centroid-sig: N/A
Centroid-so: 0.150 arcsec [0.77σ]
OotOffset-rm: 3.078 arcsec [5.65σ]
KicOffset-rm: 2.598 arcsec [9.27σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.80 [4/5]

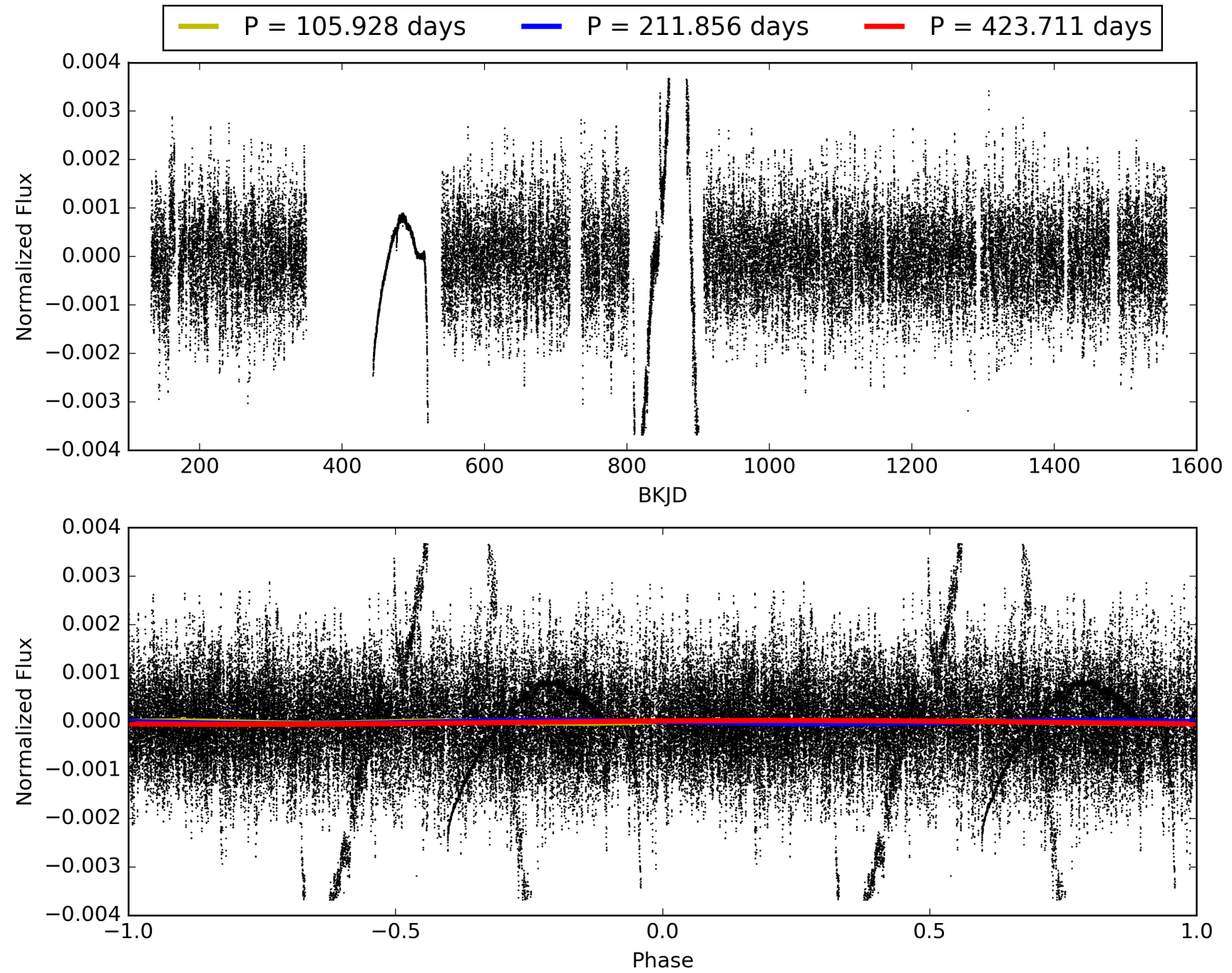
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:20:51 Z

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

TCE 004922182-04, PDC Light Curves

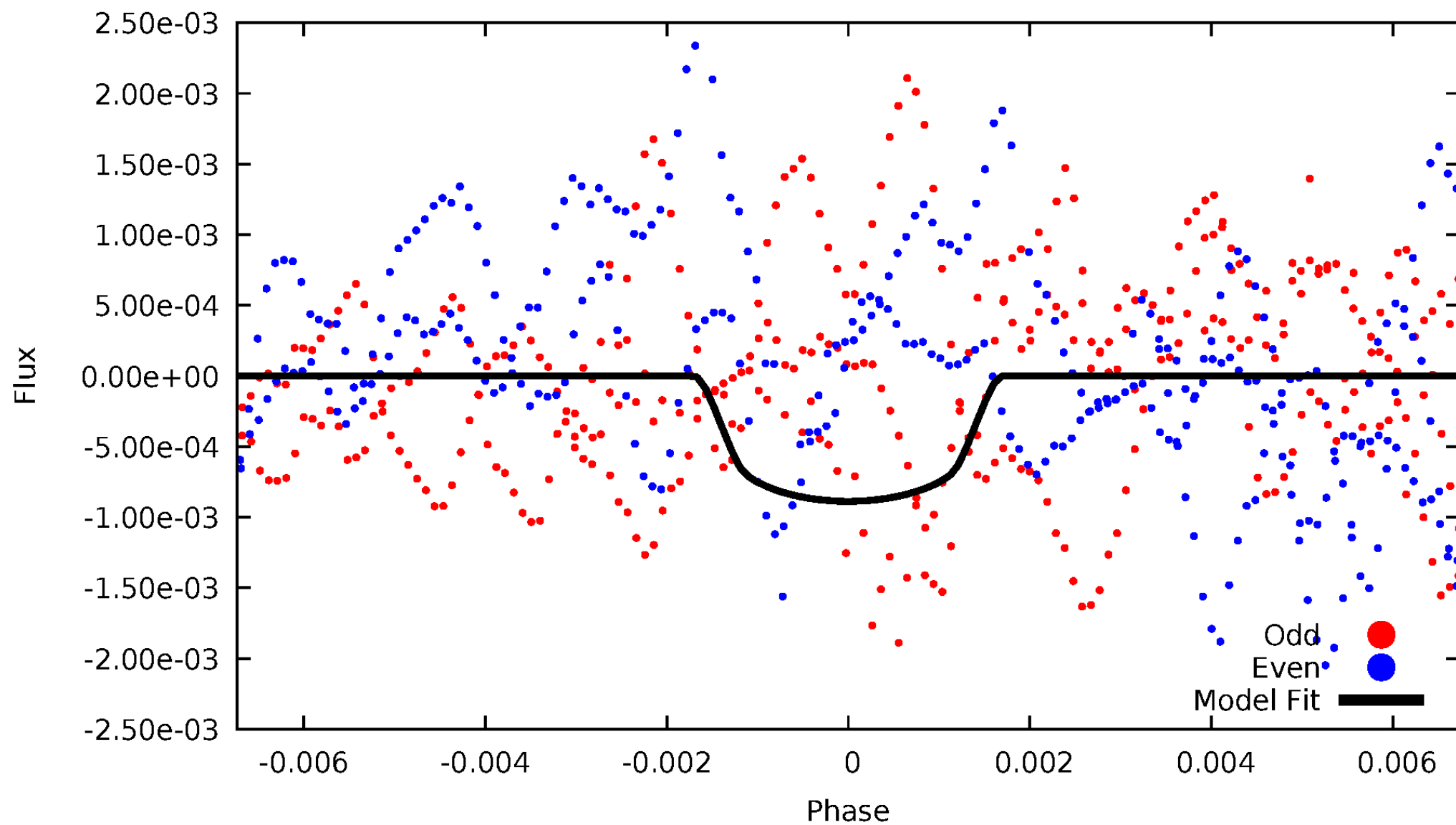


TCE 004922182-04



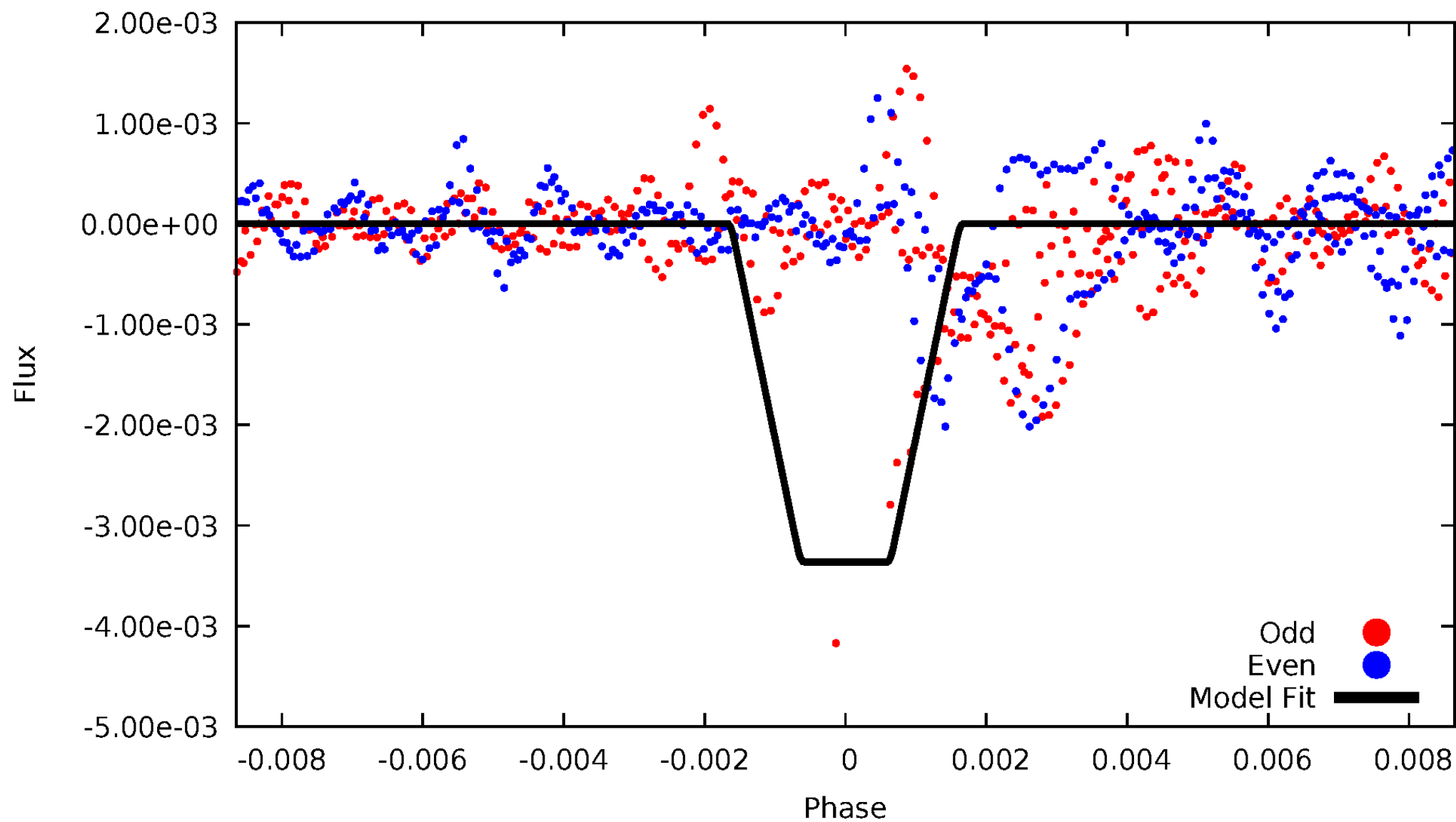
DV Odd/Even

TCE 004922182-04



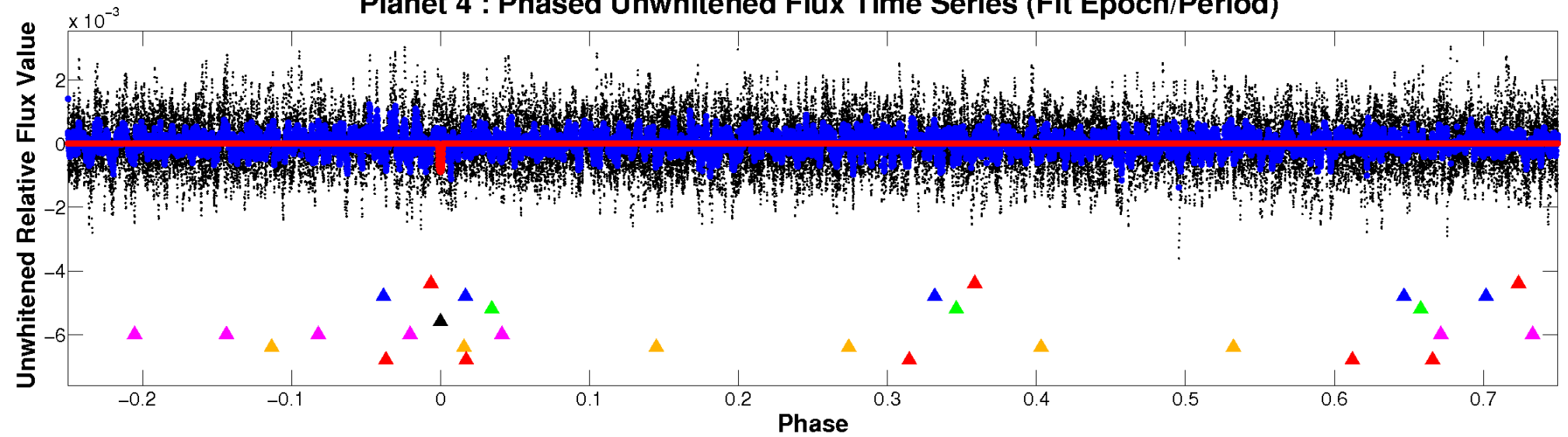
ALT Odd/Even

TCE 004922182-04

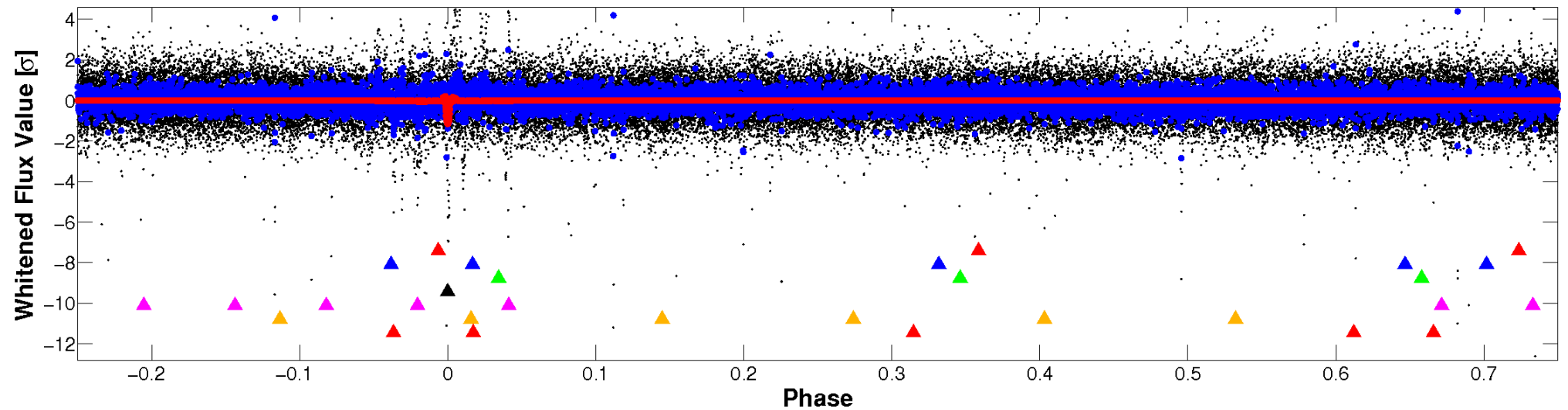


Non-Whitened Vs. Whitened Light Curve

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

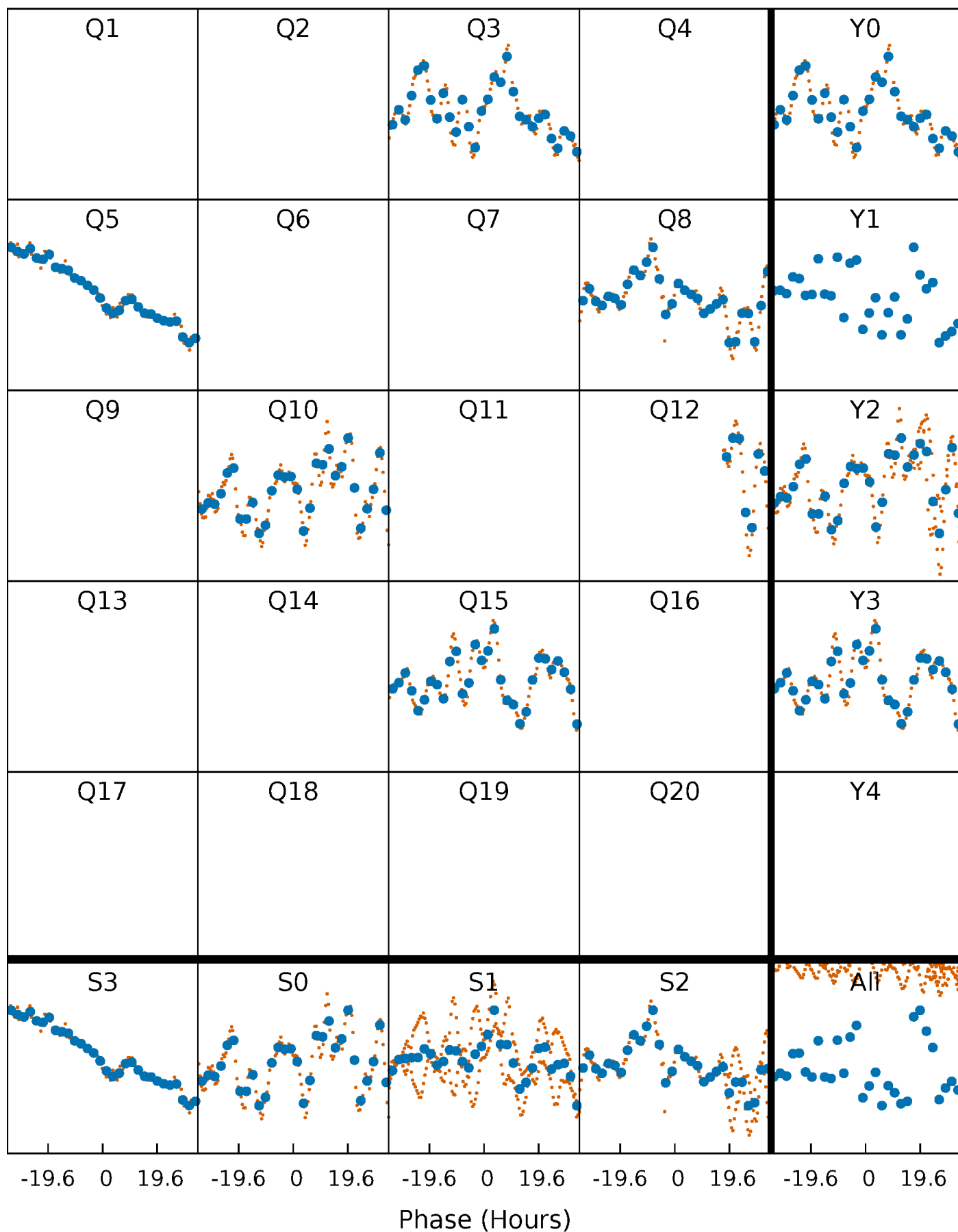


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



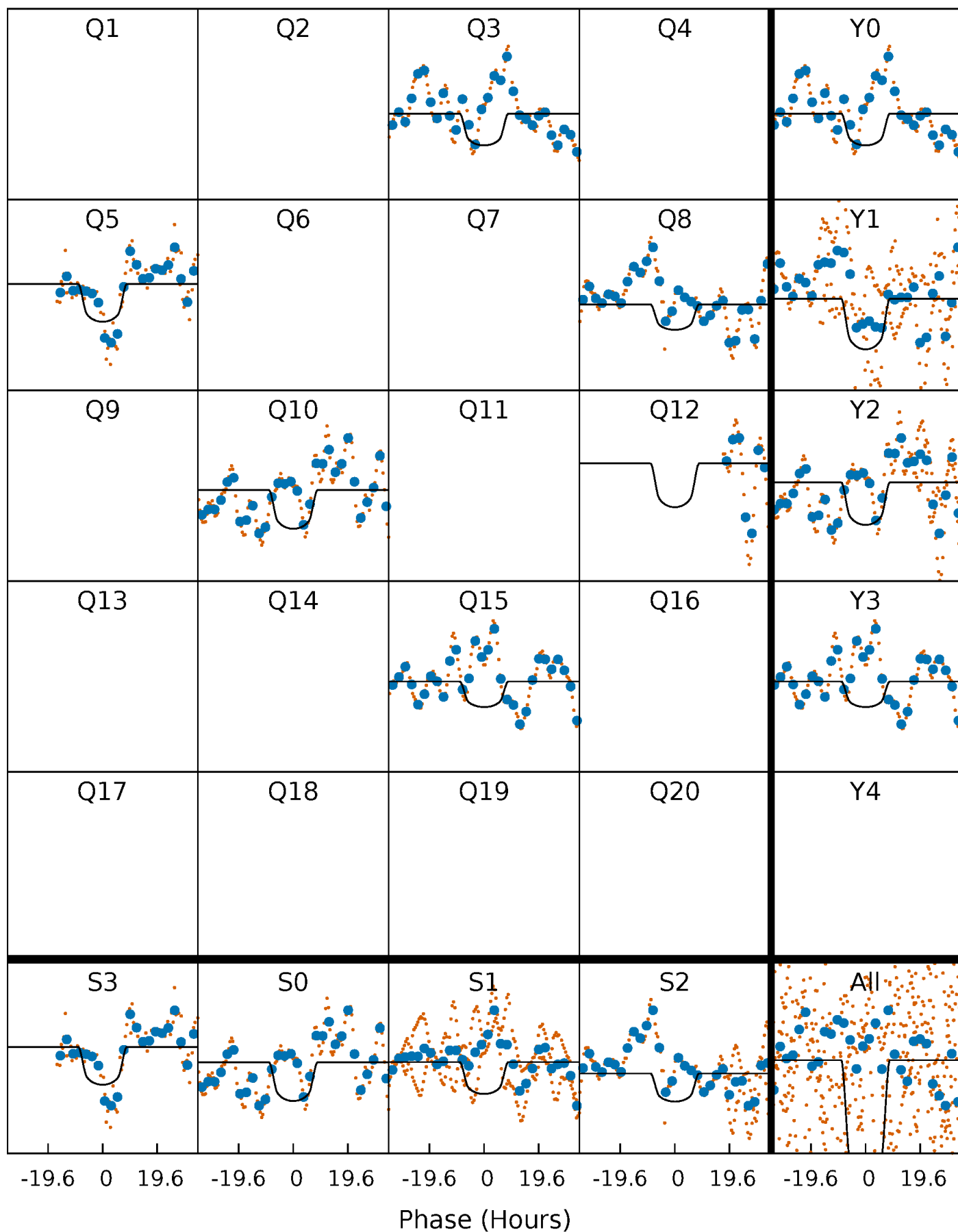
PDC Quarter-Phased Transit Curves

TCE 004922182-04 $P=211.855645$ Days $T_0=316.913038$ (BKJD)



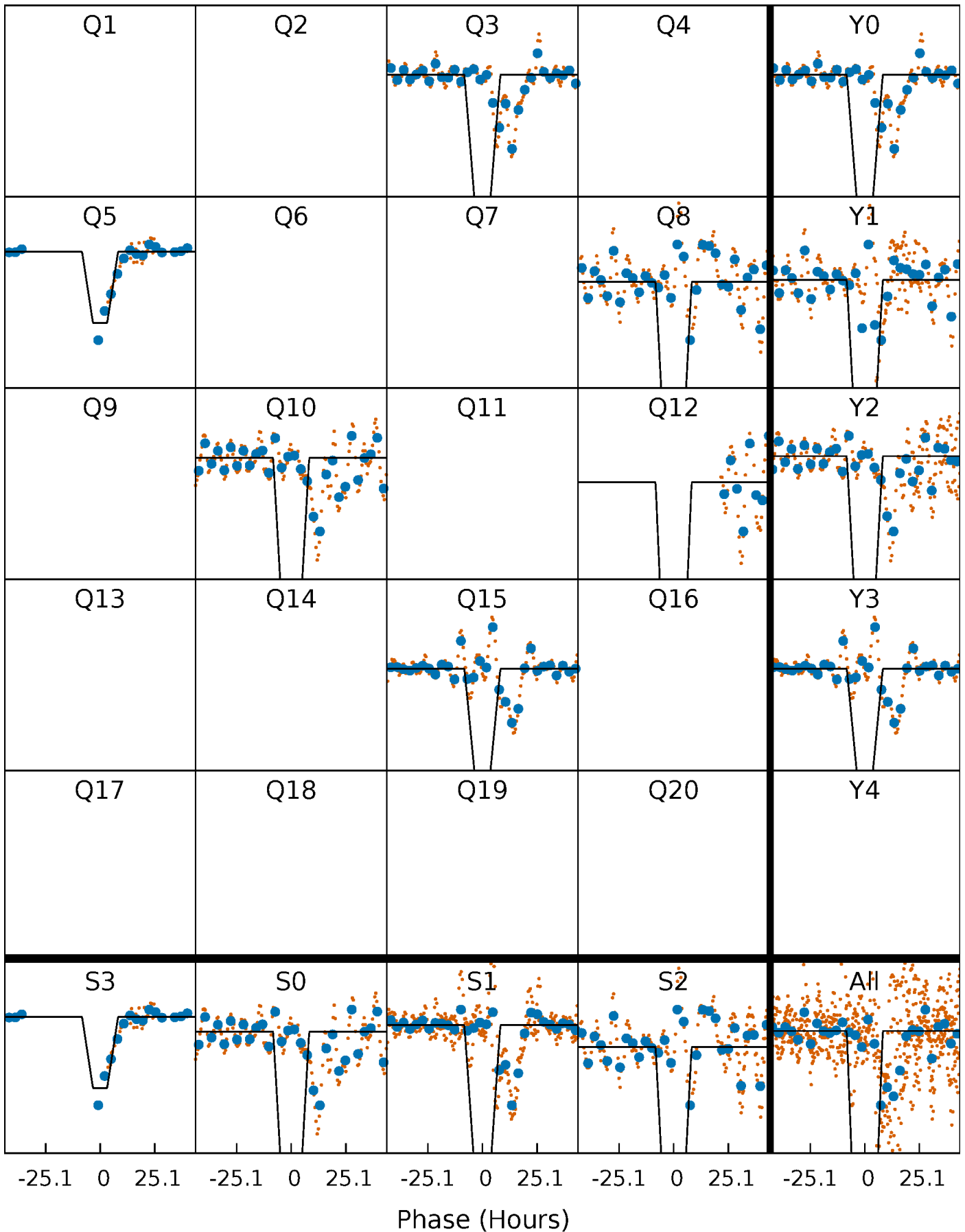
DV Quarter-Phased Transit Curves

TCE 004922182-04 $P=211.855645$ Days $T_0=316.913038$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

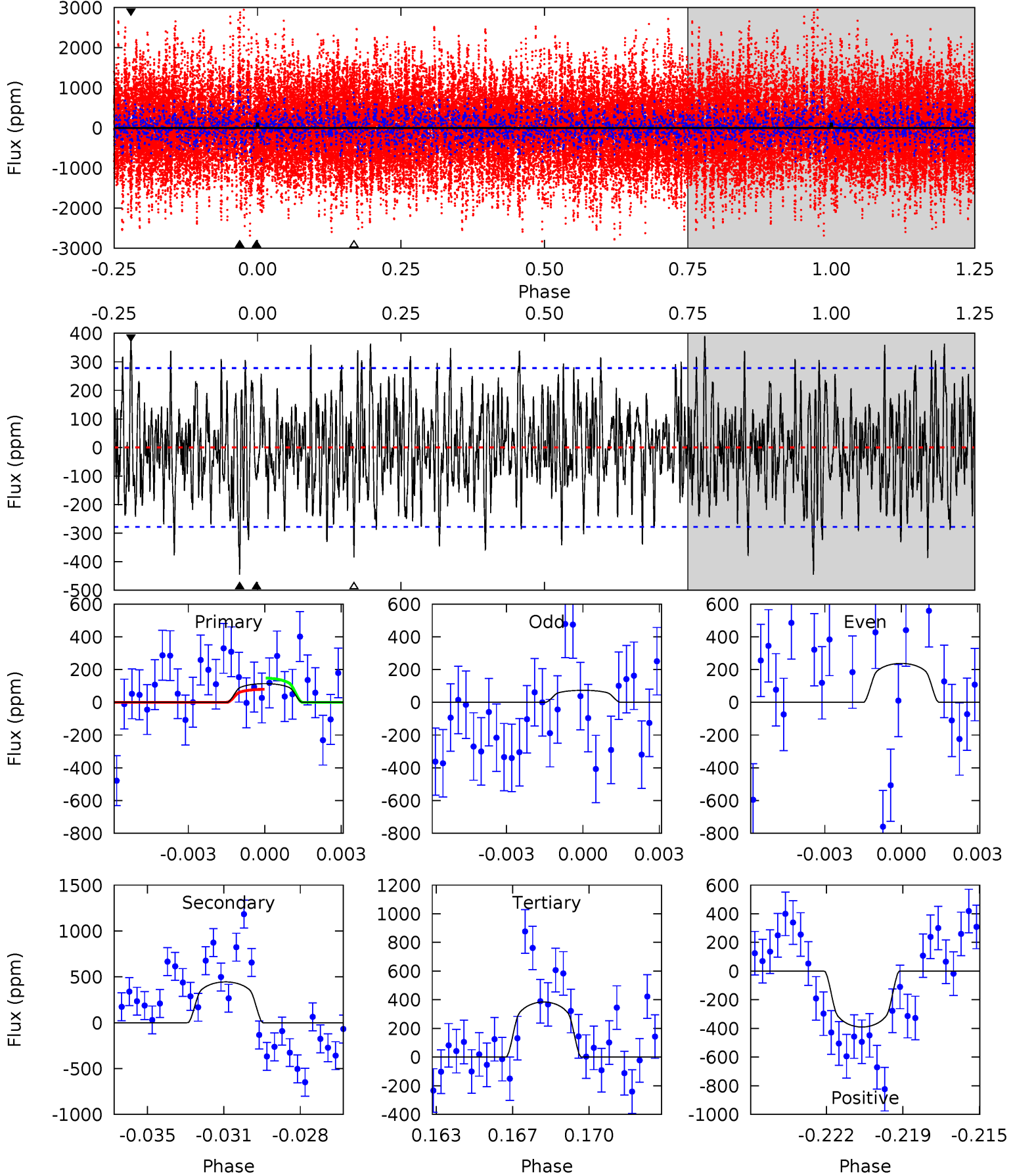
TCE 004922182-04 $P=211.991374$ Days $T_0=316.187432$ (BKJD)



DV Model-Shift Uniqueness Test

004922182-04, P = 211.855645 Days, E = 105.057393 Days

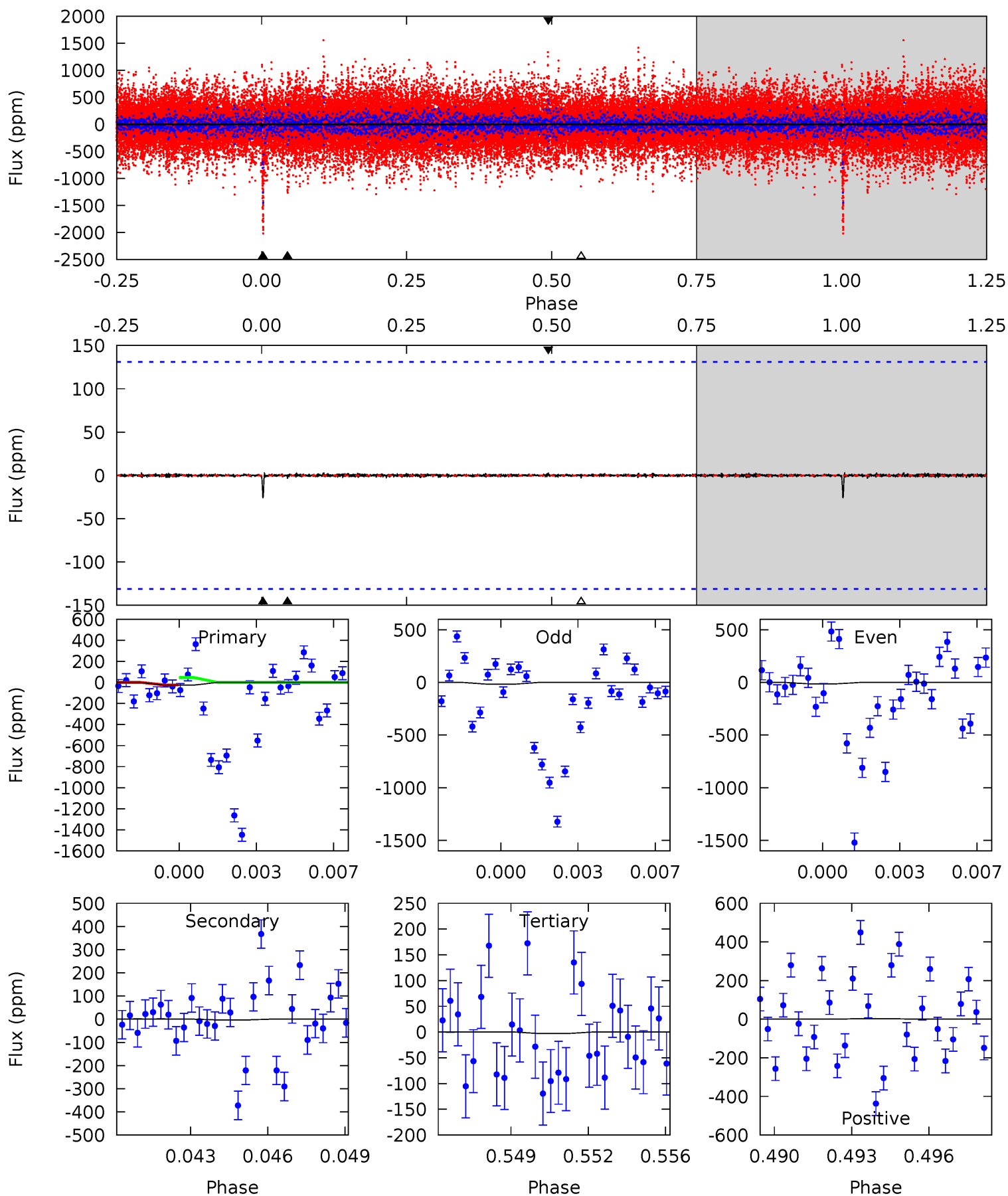
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.14	8.36	7.23	7.34	5.23	2.92	2.45	-5.08	-5.19	1.13	1.02	1.49	0.40	0.47	0.64



Alt Model-Shift Uniqueness Test

004922182-04, P = 211.991374 Days, E = 104.196058 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.03	0.13	0.11	0.11	5.24	2.94	0.03	0.91	0.92	0.01	0.02	0.06	8.13	0.10	0.46



Stellar Parameters For KIC 004922182

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4761^{+57}_{-162}	$2.445^{+0.035}_{-0.028}$	$0.210^{+0.150}_{-0.400}$	$16.866^{+1.445}_{-5.780}$	$2.890^{+0.511}_{-1.533}$	$0.001^{+0.000}_{-0.000}$
	+1%/-3%	+1%/-1%	+71%/-190%	+9%/-34%	+18%/-53%	+54%/-11%
Source	PHO1	AST9	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 004922182-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-445 ± 53	$64.38^{+4.08}_{-5.15}$	1209^{+28}_{-46}	3956^{+114}_{-141}	61^{+11}_{-8}
Alt.	-3 ± 25	$110.51^{+6.02}_{-9.83}$	1206^{+30}_{-48}	-1900^{+4126}_{-411}	$0.089^{+1.202}_{-1.160}$

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

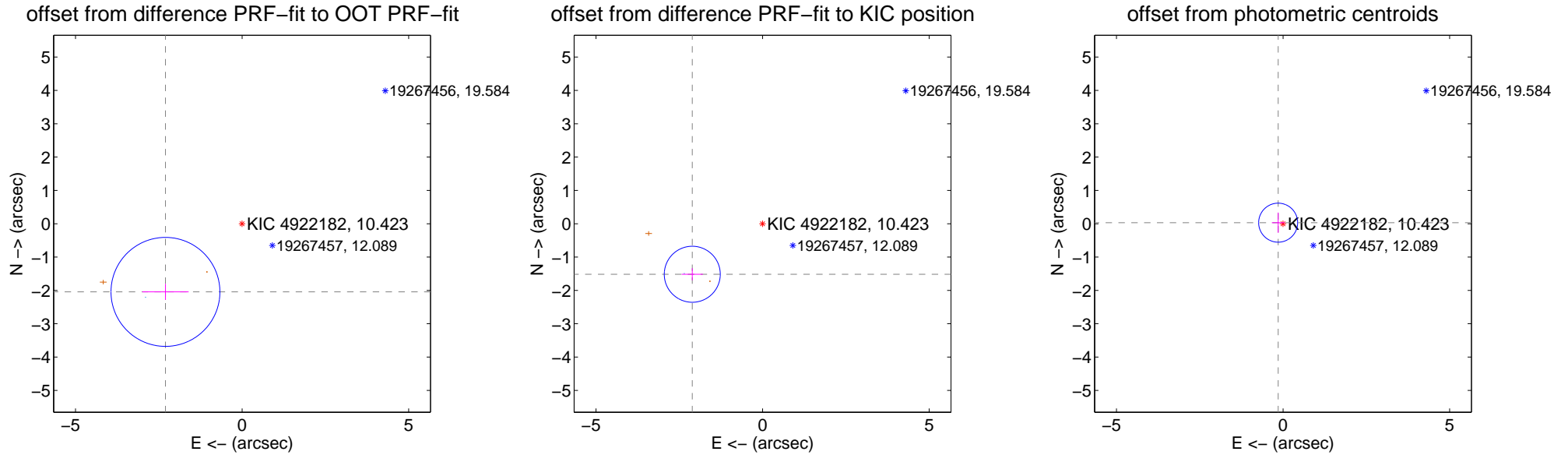
DV Centroid Data

Supplemental centroid analysis for 004922182-04. **Kepler magnitude: 10.42.** Transit SNR 17.37

There are 1 quarters with good PRF difference image offsets

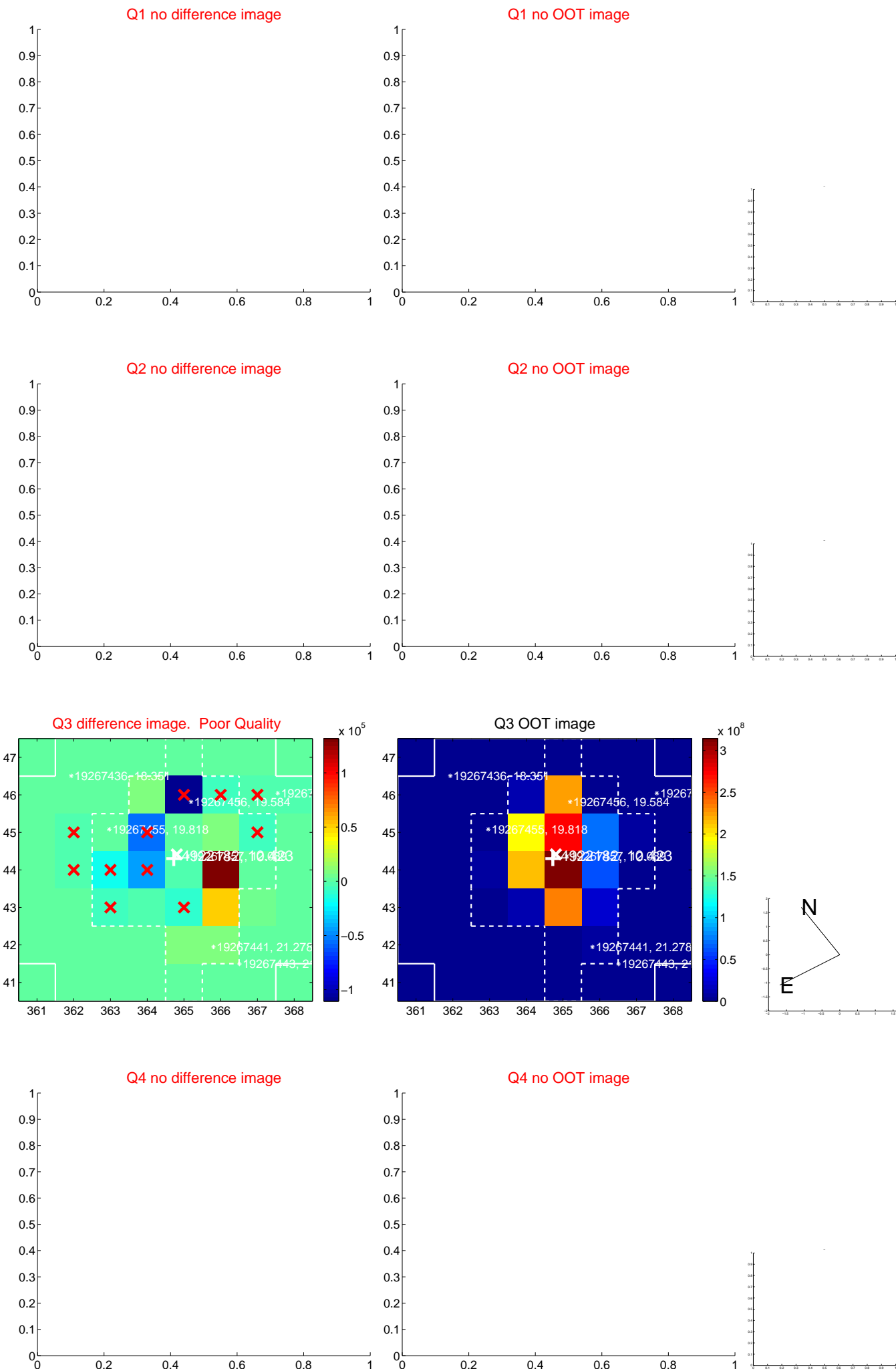
The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.078 ± 0.545	5.65	2.301 ± 0.697	-2.045 ± 0.242
PRF-fit source offset from KIC position	2.598 ± 0.280	9.27	2.110 ± 0.320	-1.516 ± 0.180
photometric centroid source offset	0.15 ± 0.20	0.77	0.15 ± 0.19	0.03 ± 0.30

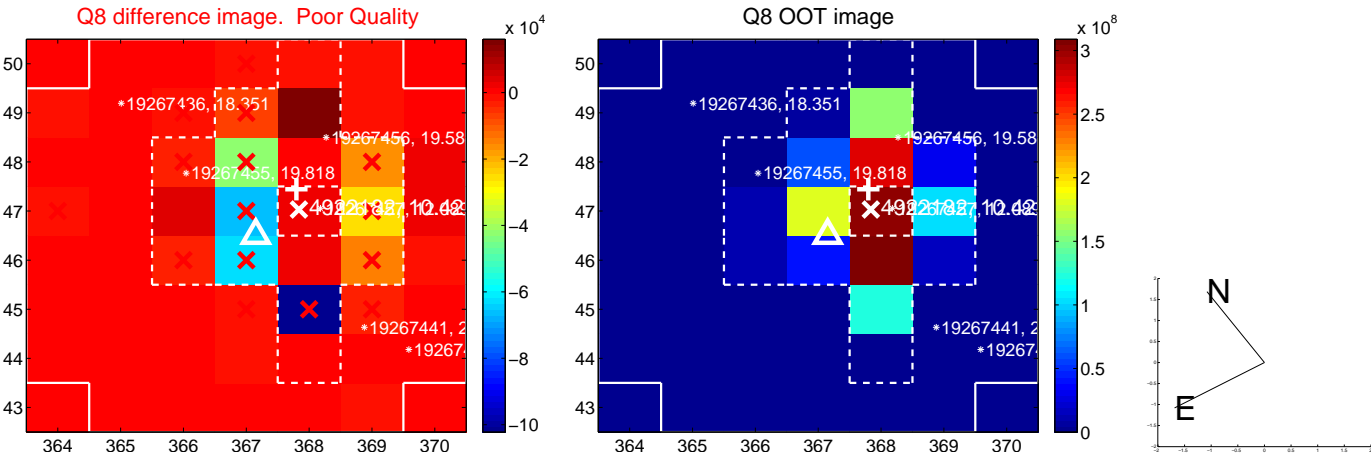
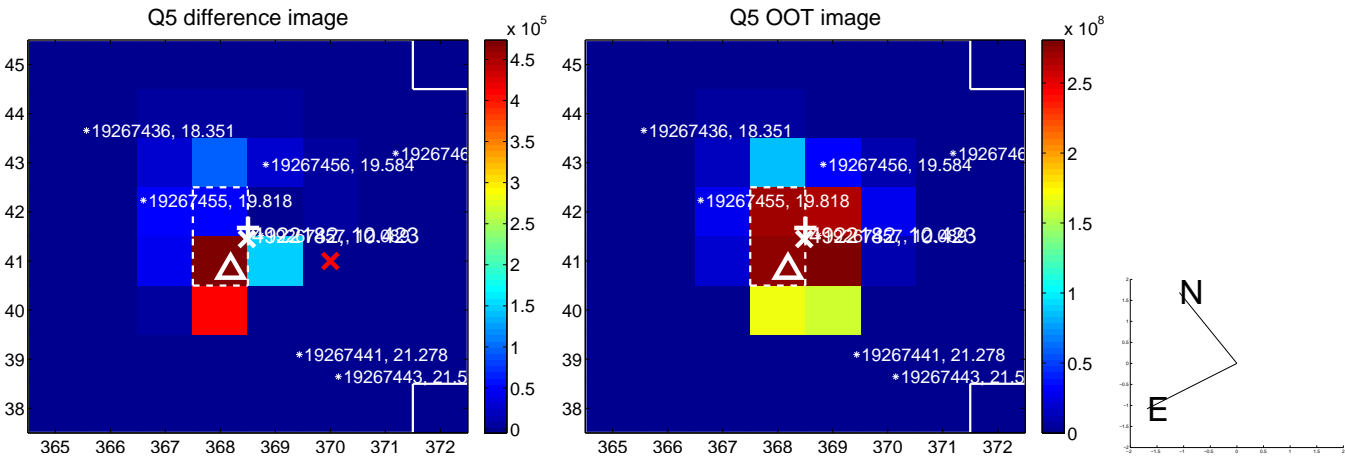


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

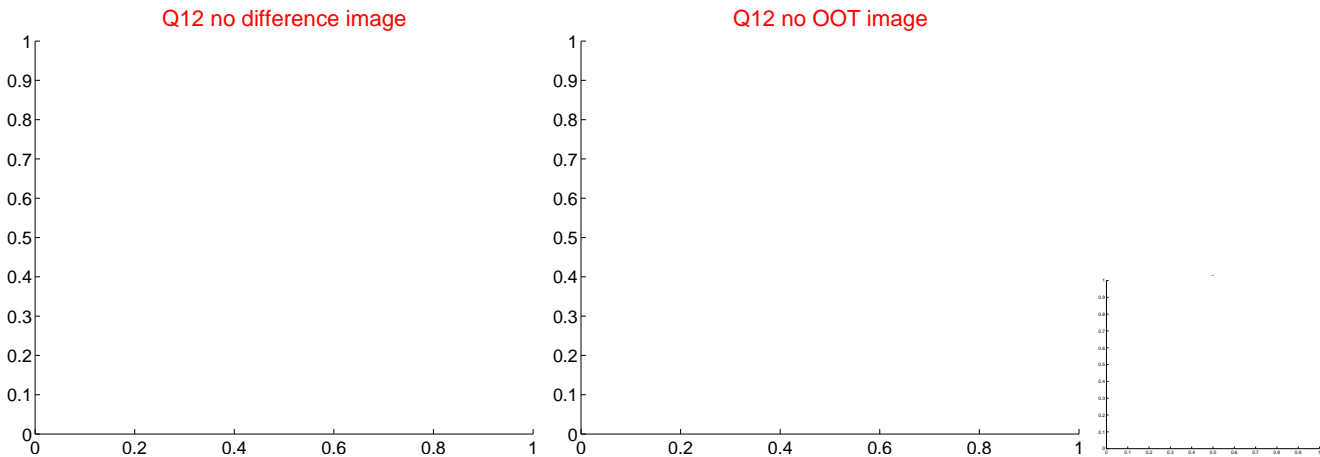
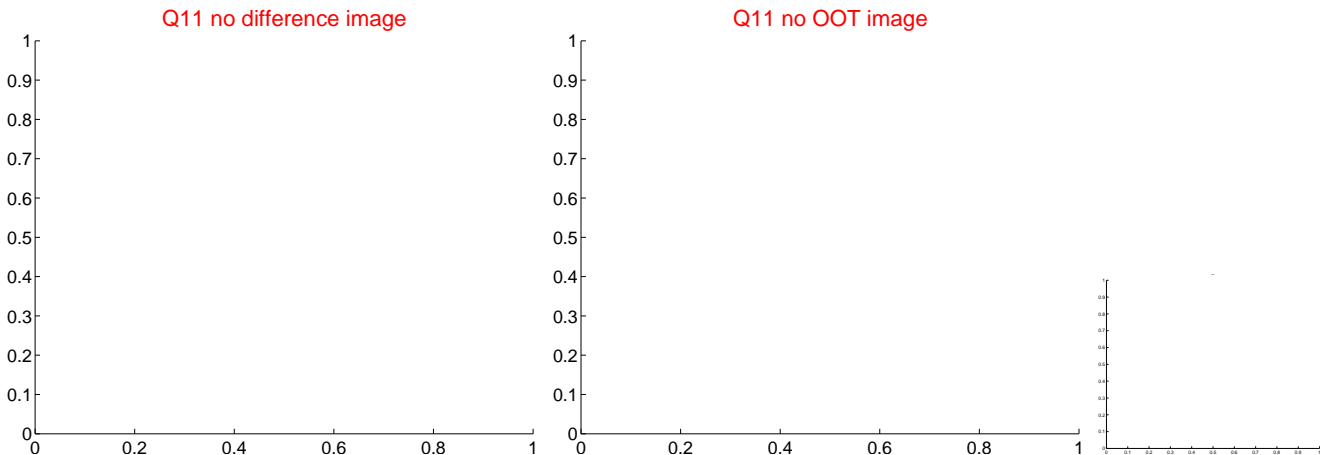
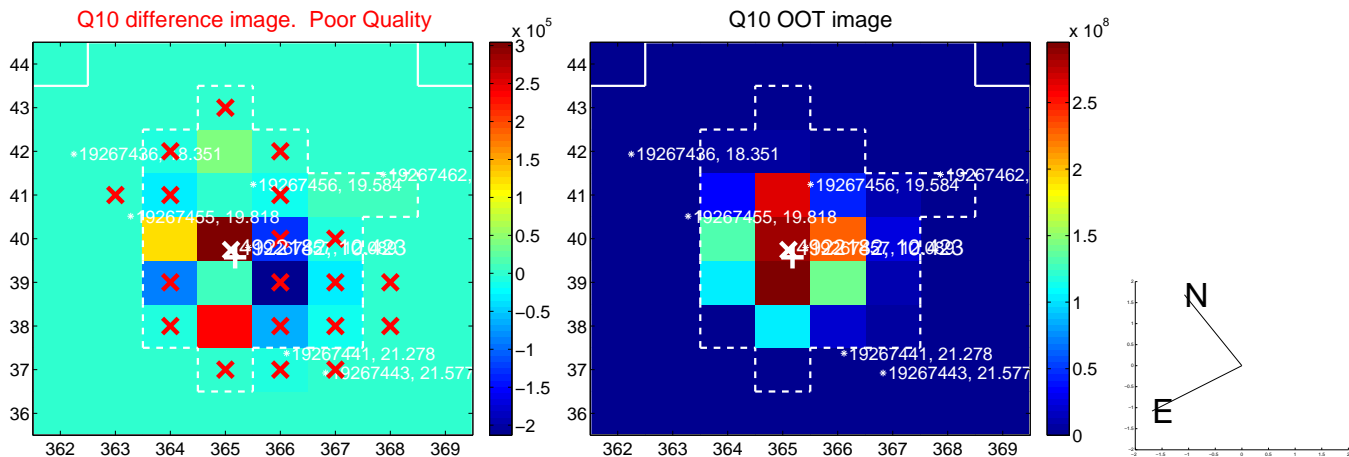
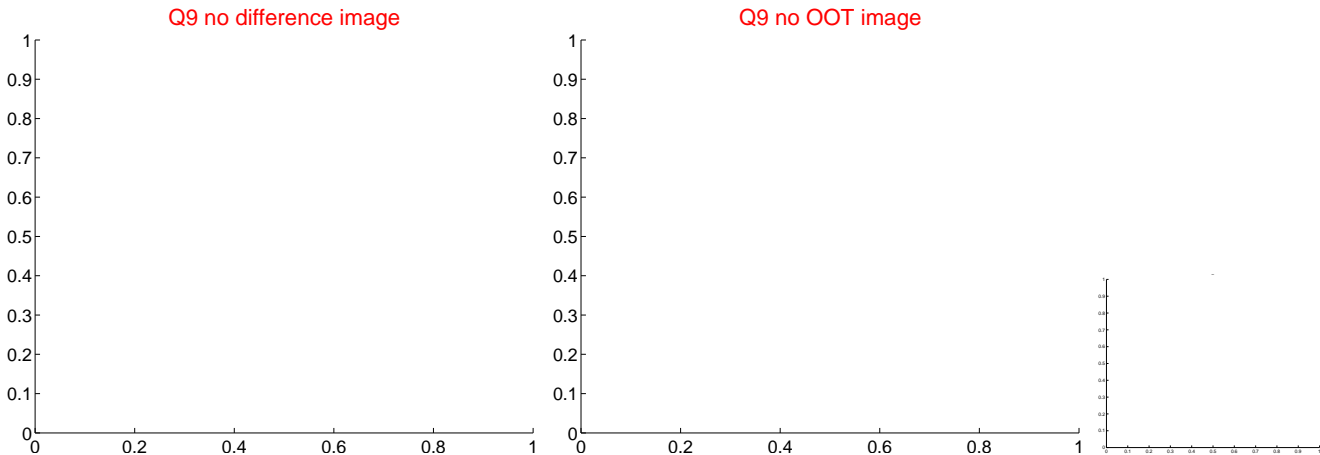
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



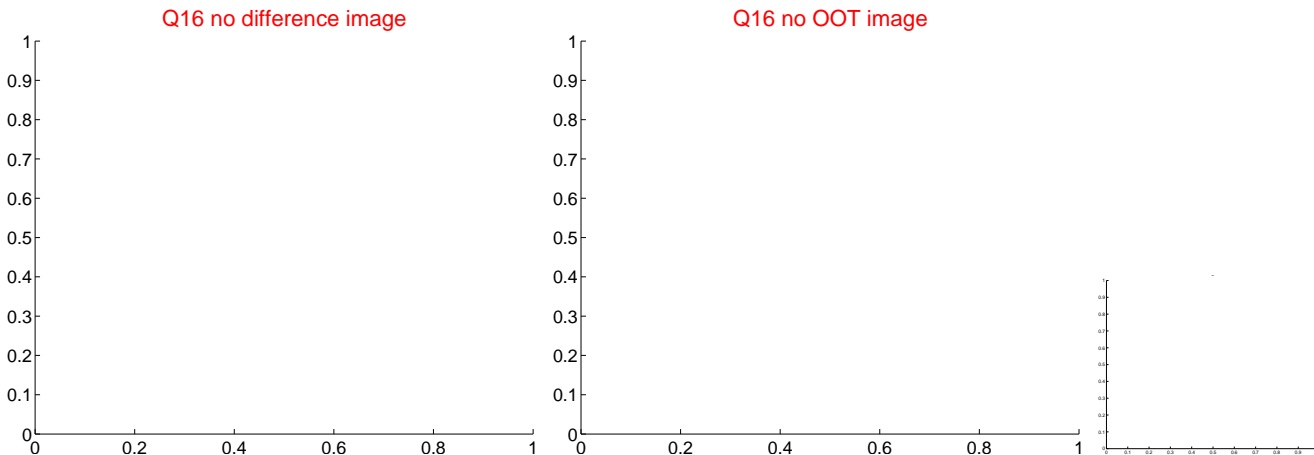
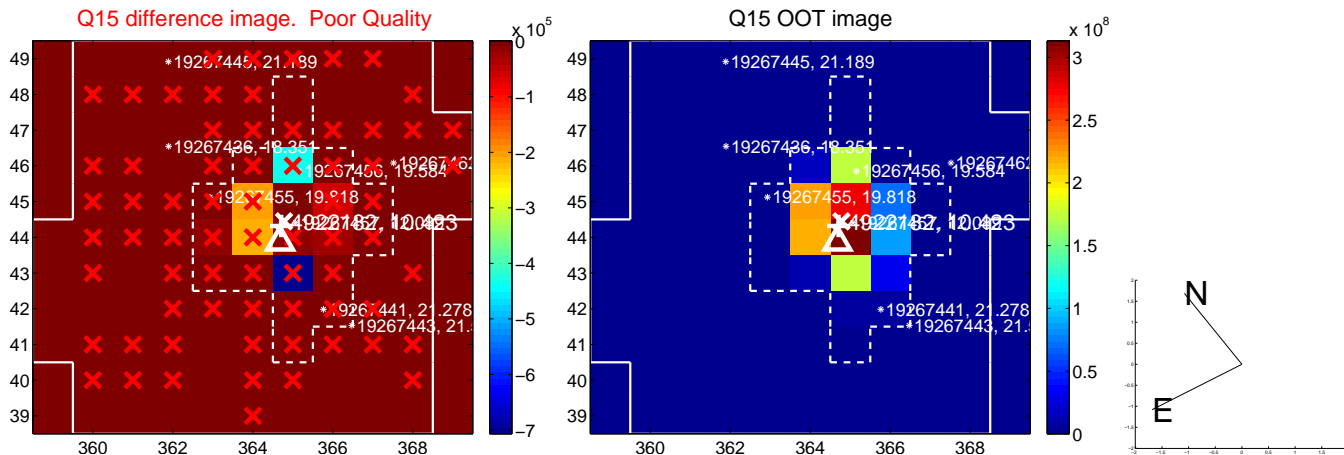
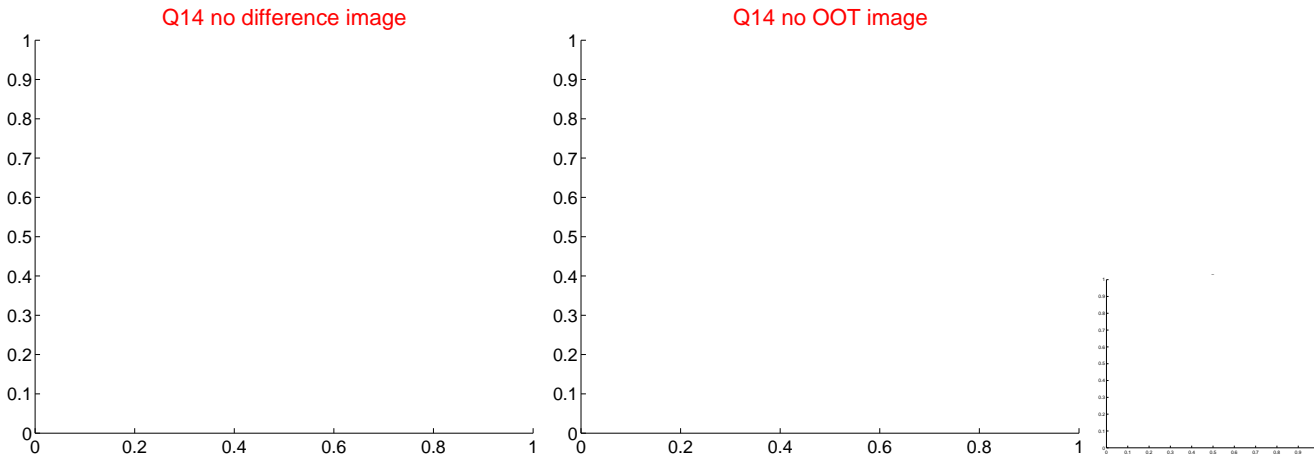
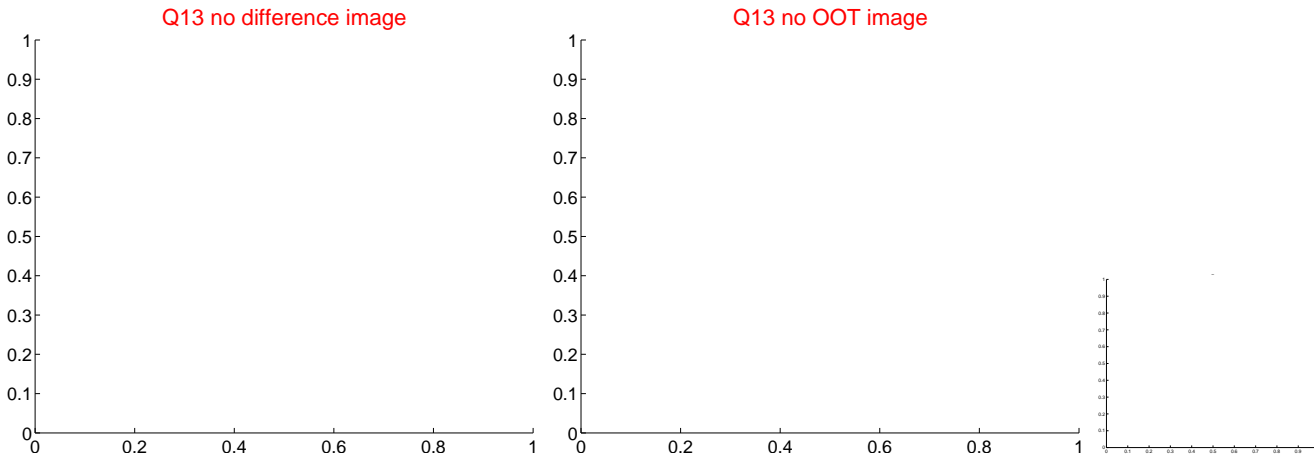
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



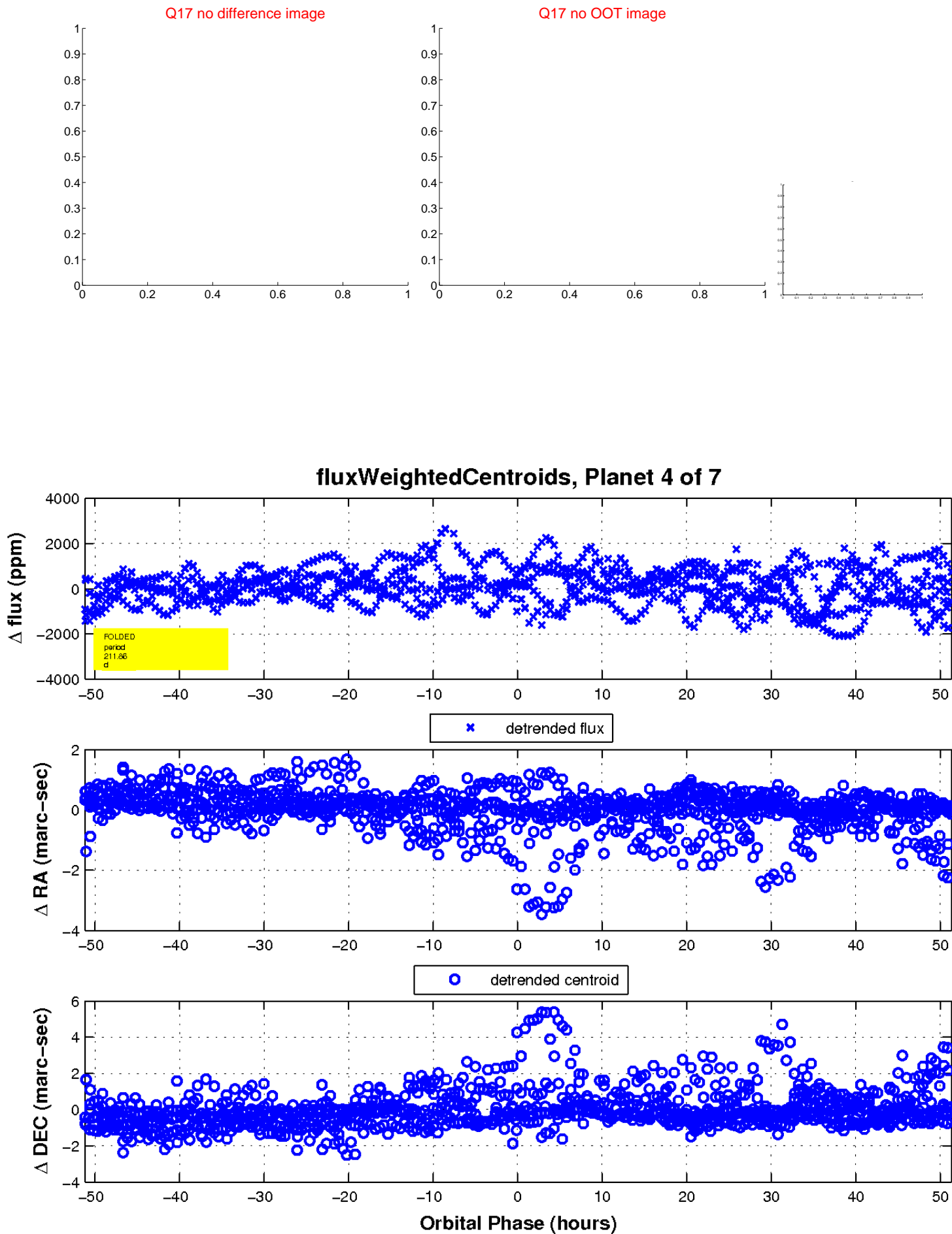
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

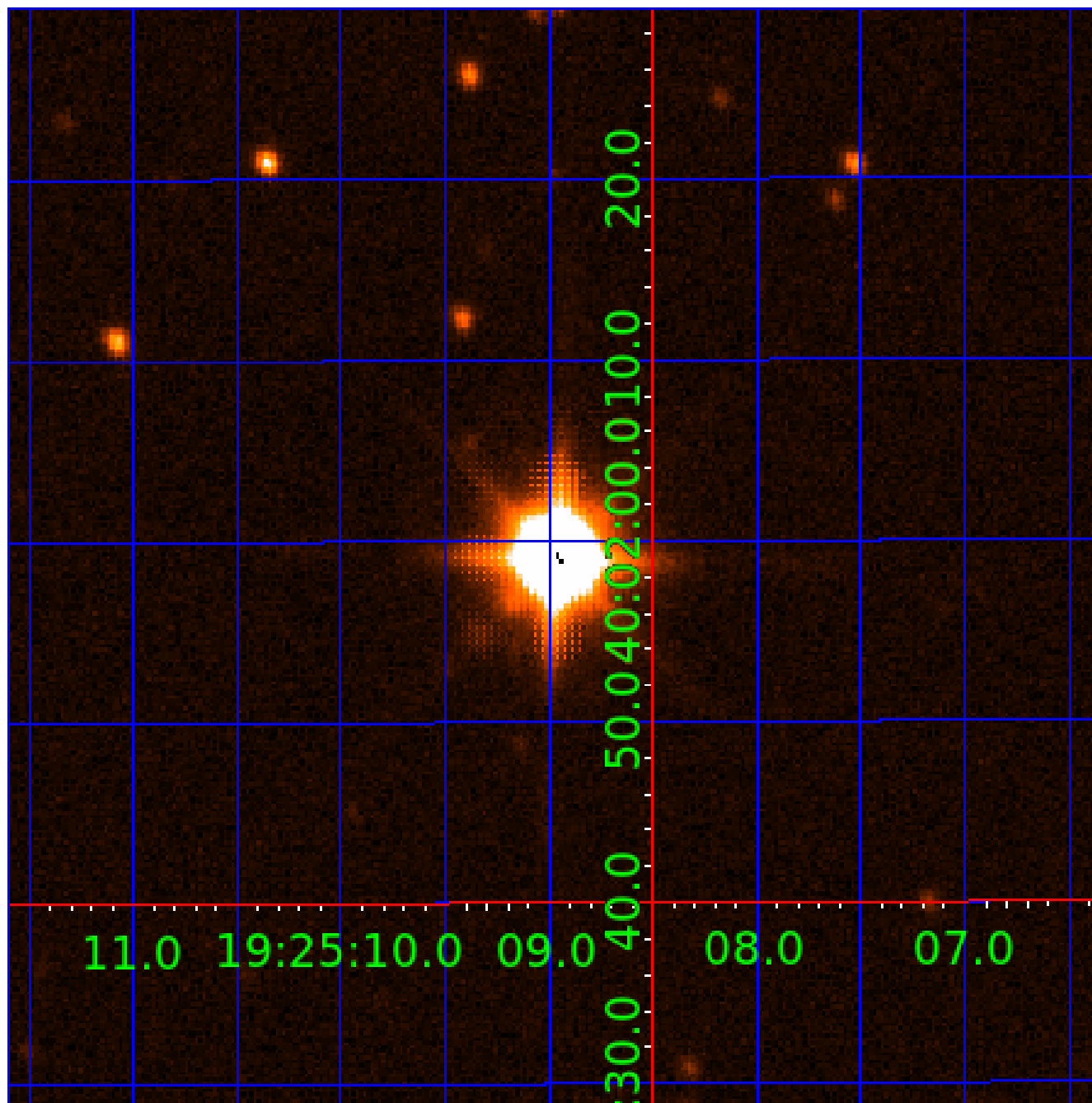


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004922182

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})
004922182-01	OBS	No	501.042113	527.413188	1040.3	10.224	54.0	14.8	16.87	4761	67.99	42.32
004922182-02	OBS	No	278.587809	253.737095	982.8	14.740	26.3	18.3	16.87	4761	67.11	92.56
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004922182-06	OBS	No	239.211198	292.902937	904.6	64.275	11.1	14.6	16.87	4761	52.20	113.41
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004922182-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

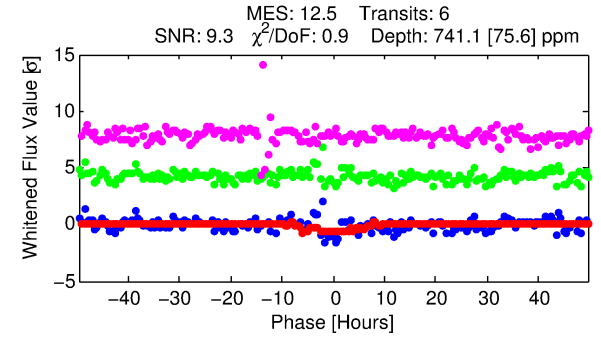
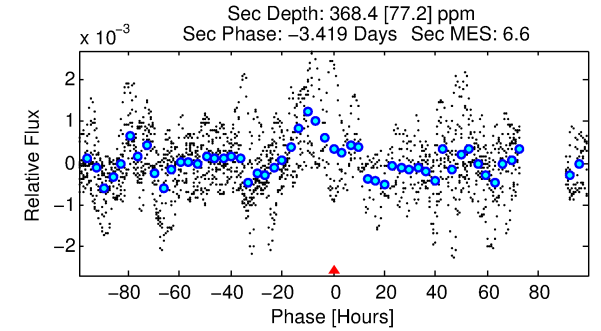
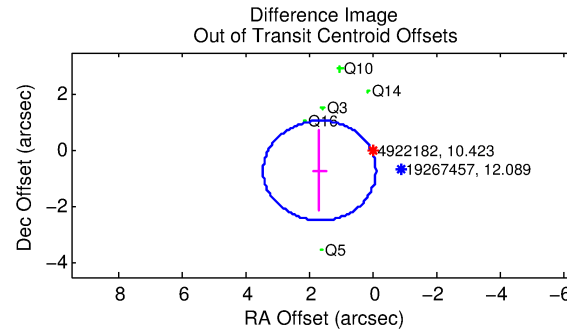
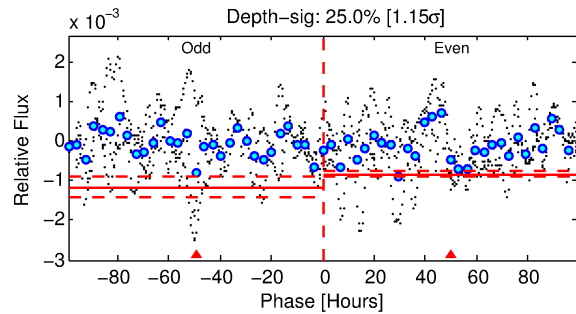
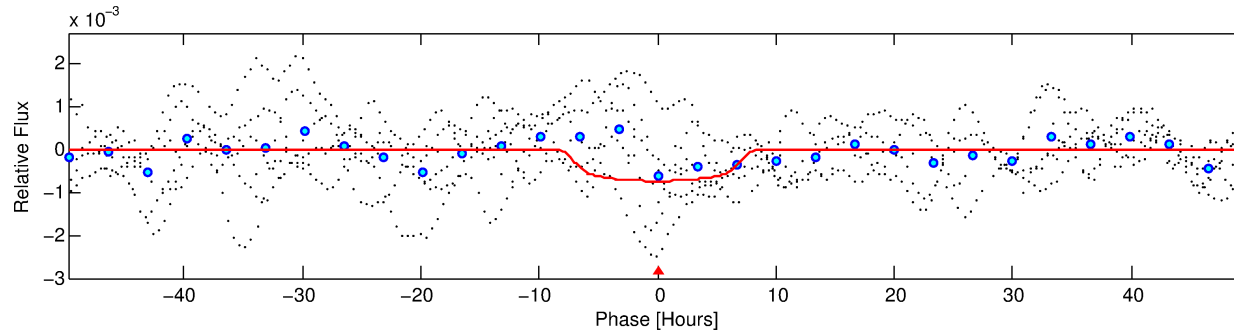
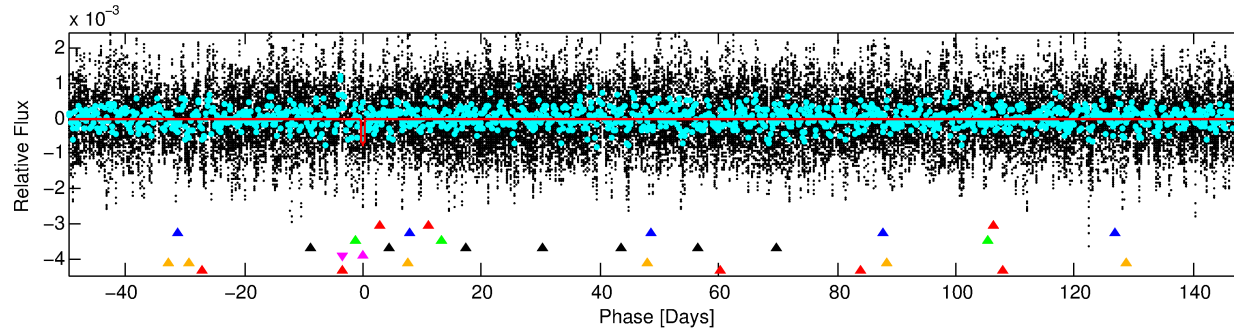
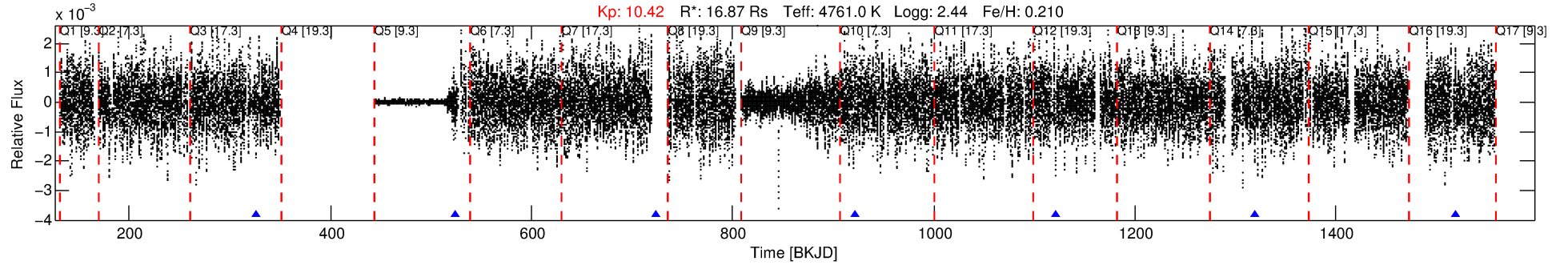
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004922182-05

No Significant Match Found

DV One-Page Summary

KIC: 4922182 Candidate: 5 of 7 Period: 198.799 d



DV Fit Results:

Period = 198.79863 [0.00445] d
Epoch = 325.6513 [0.0174] BKJD
Rp/R* = 0.0307 [0.0017]
a/R* = 45.61 [4.61]
b = 0.90 [0.02]
Seff = 145.15 [39.38]
Teq = 885 [60] K
Rp = 56.56 [19.65] Re
a = 0.9498 [0.2185] AU
Ag = 57.16 [19.11] [2.94 σ]
Teffp = 3763 [258] K [10.86 σ]

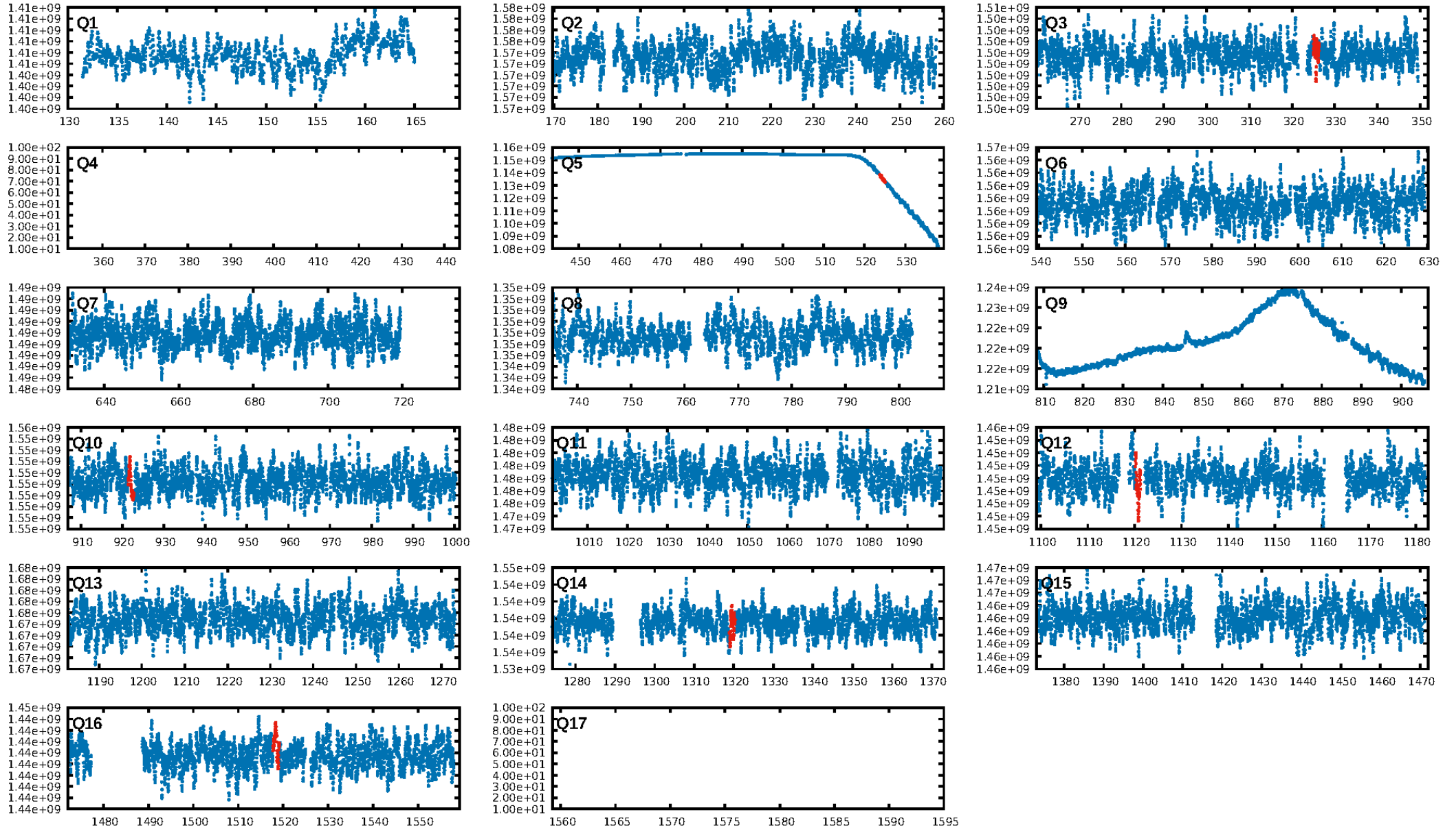
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [13.15 σ]
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.63e-16
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -7.289
Centroid-sig: N/A
Centroid-so: 0.818 arcsec [2.22 σ]
OotOffset-rm: 1.829 arcsec [3.09 σ]
KicOffset-rm: 2.107 arcsec [2.33 σ]
OotOffset-st: 2/1/1/1 [5]
KicOffset-st: 2/1/1/1 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.80 [4/5]

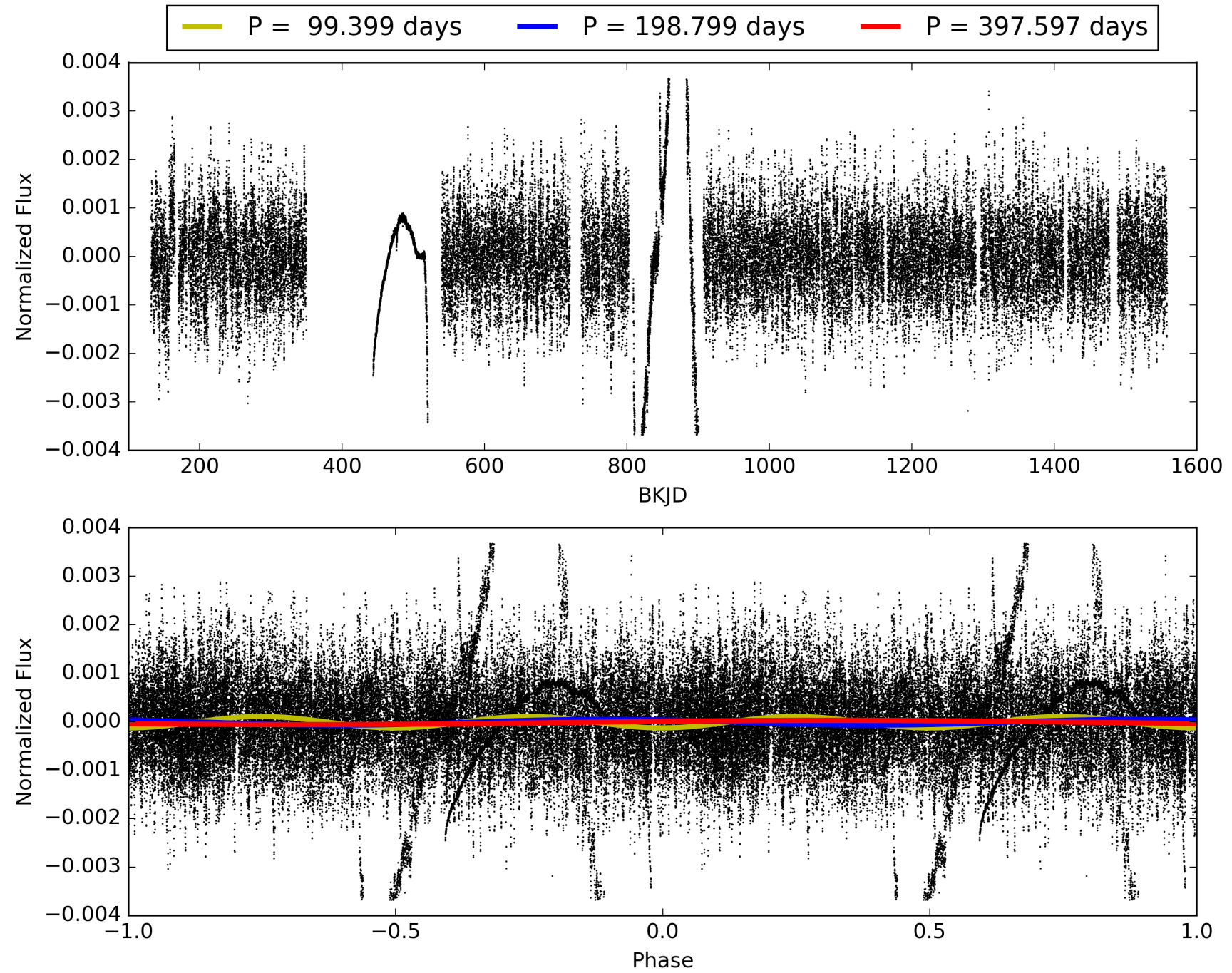
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:20:58 Z

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

TCE 004922182-05, PDC Light Curves

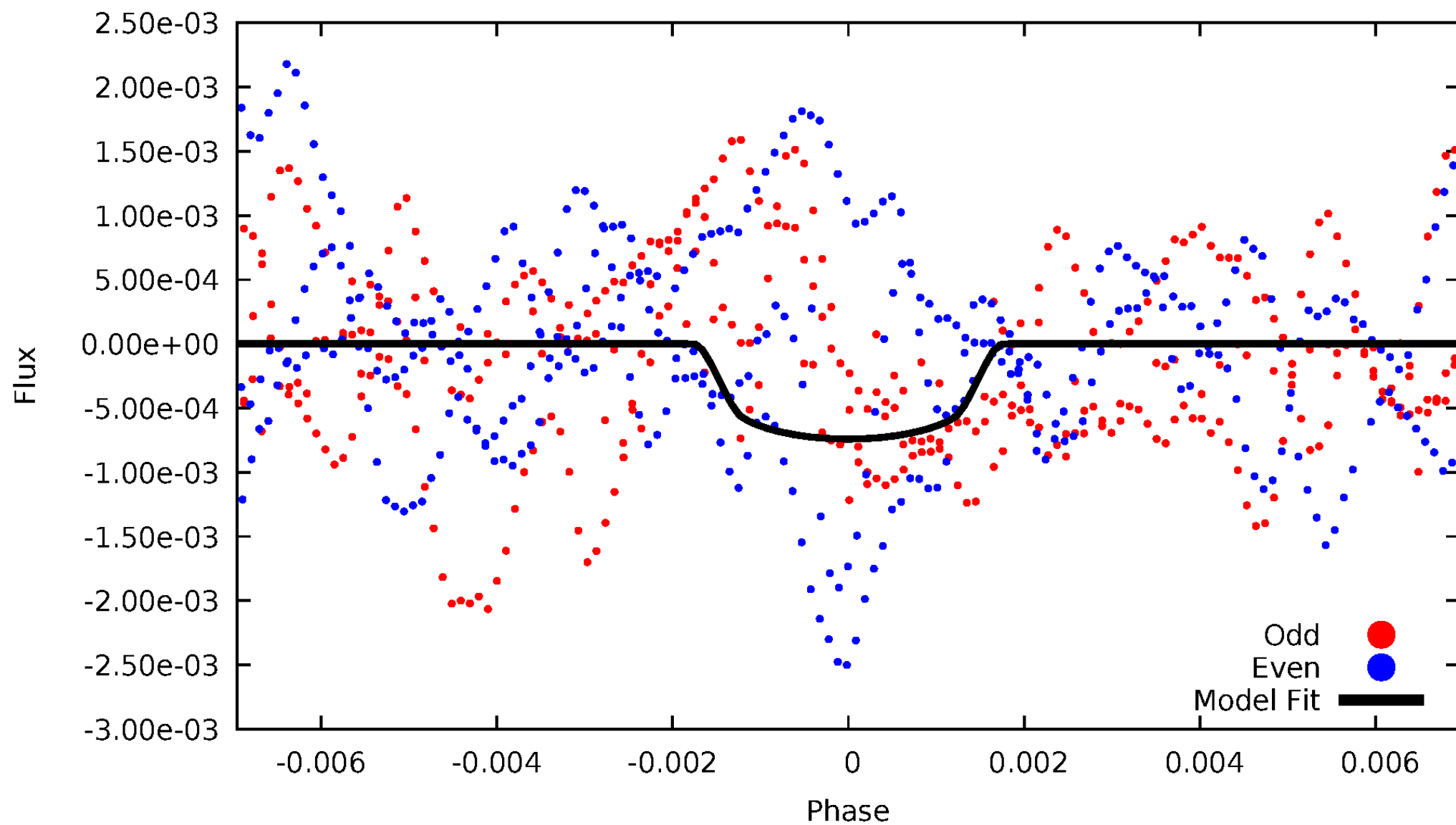


TCE 004922182-05



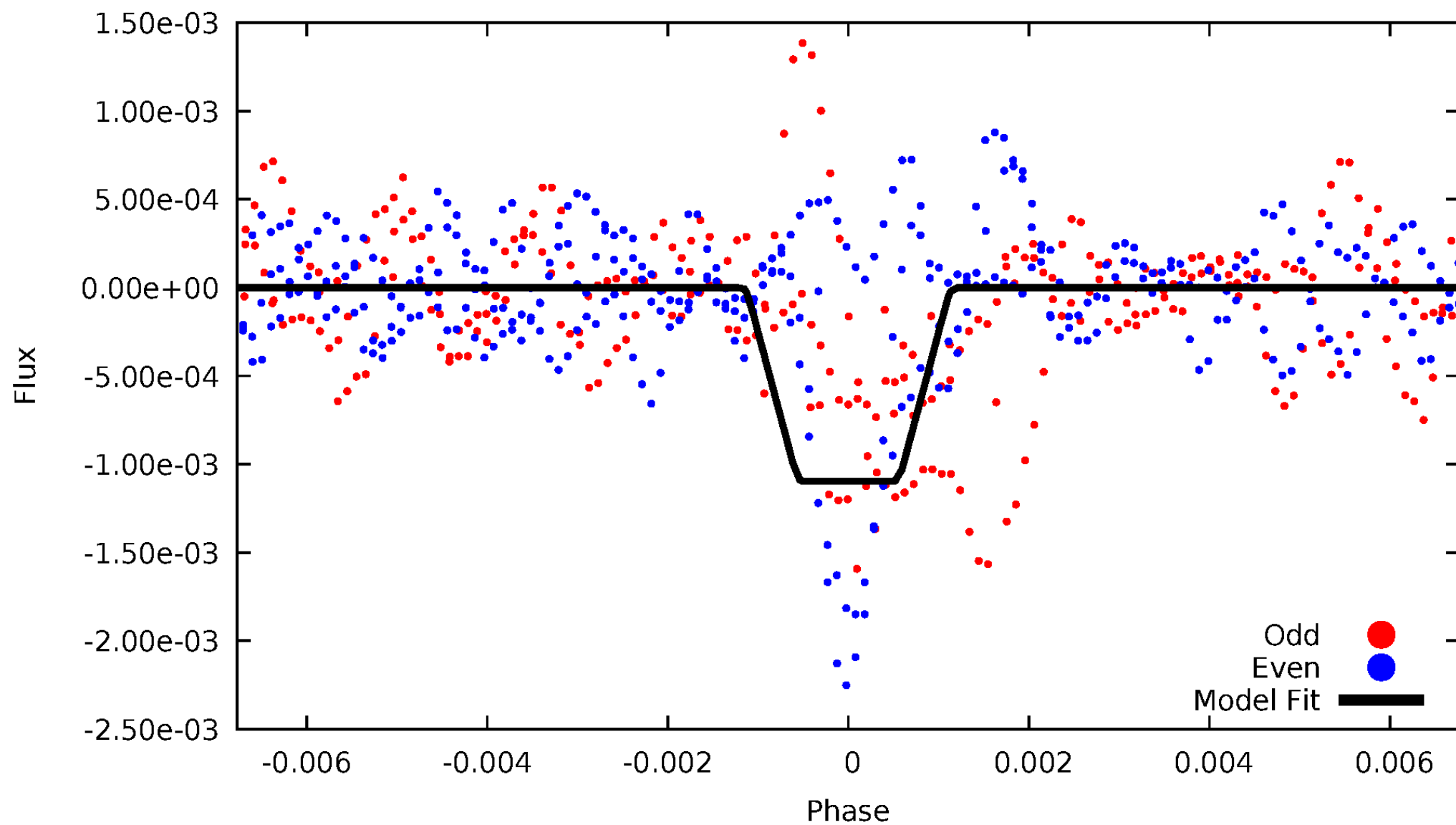
DV Odd/Even

TCE 004922182-05



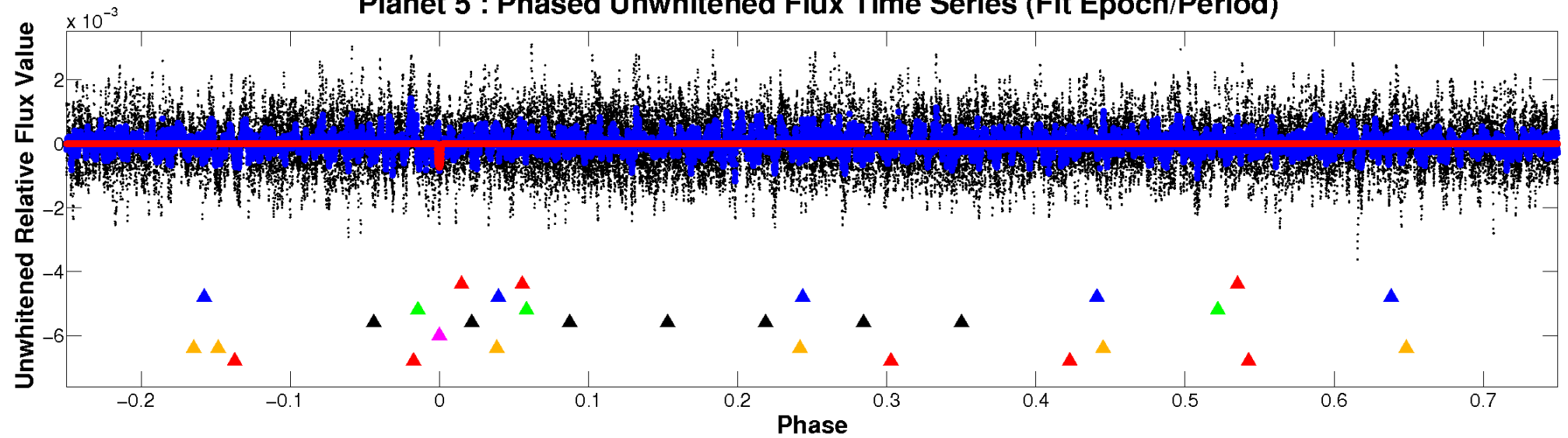
ALT Odd/Even

TCE 004922182-05

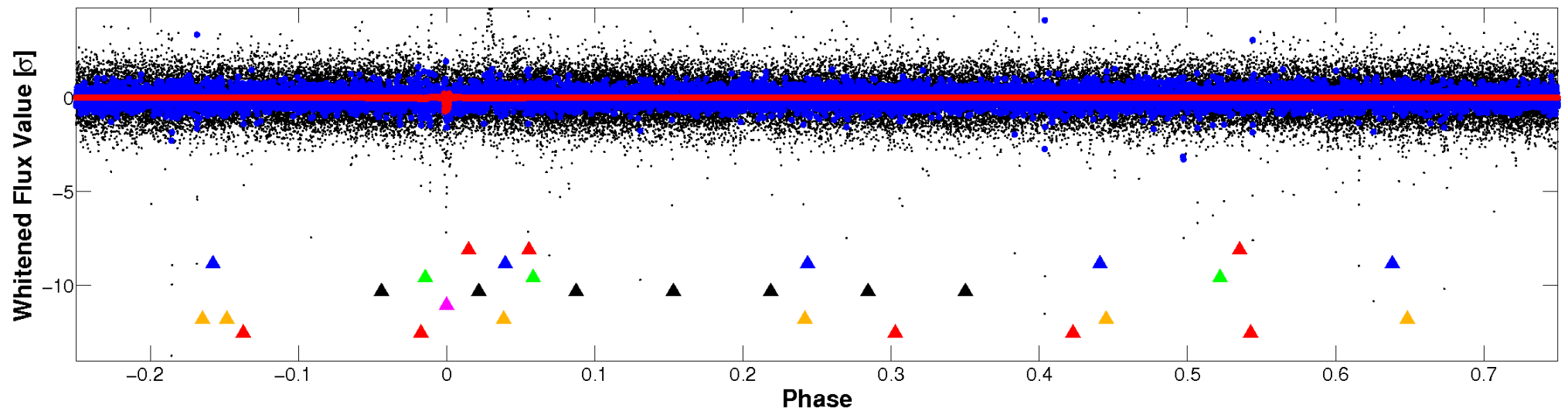


Non-Whitened Vs. Whitened Light Curve

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

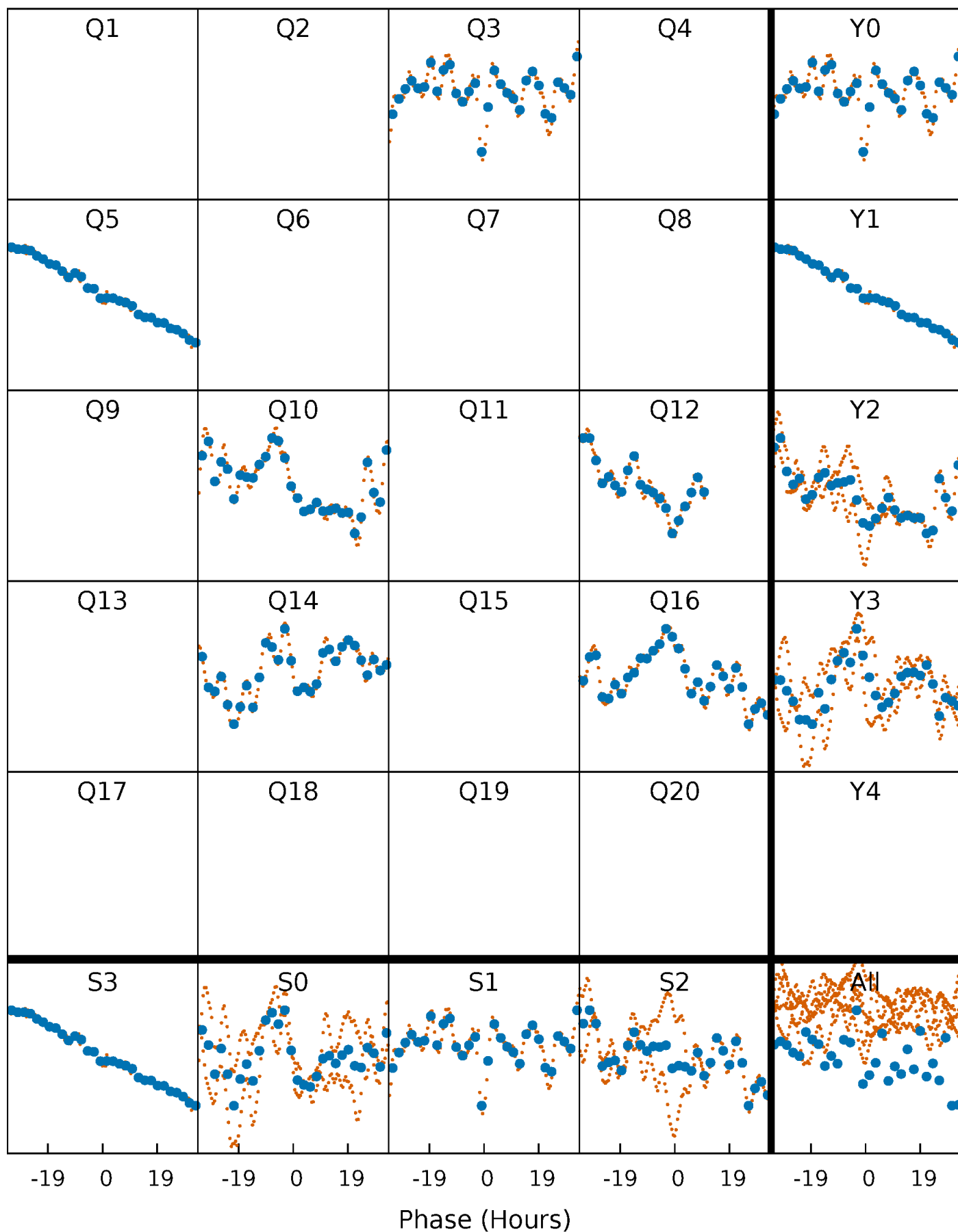


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



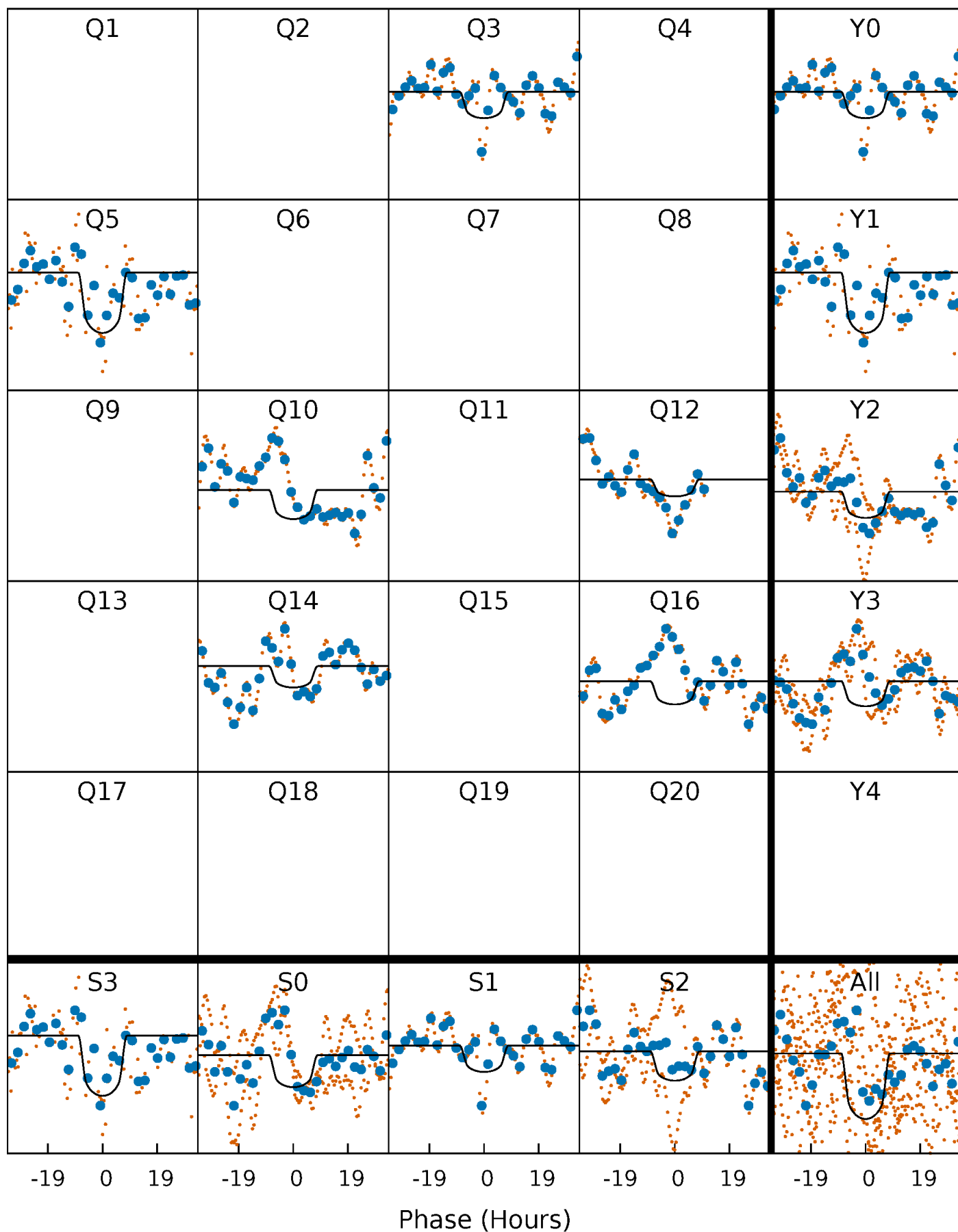
PDC Quarter-Phased Transit Curves

TCE 004922182-05 $P=198.798630$ Days $T_0=325.651251$ (BKJD)



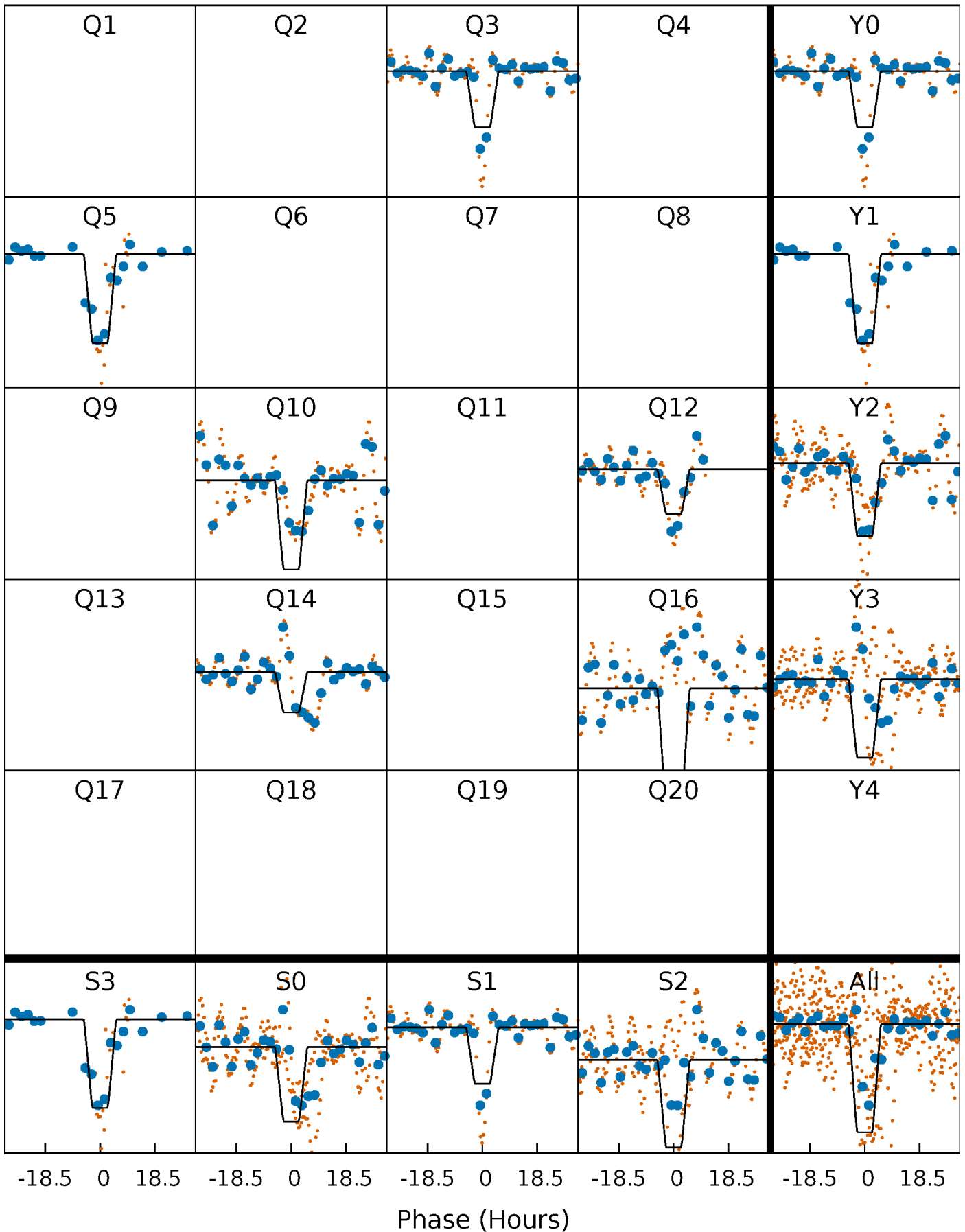
DV Quarter-Phased Transit Curves

TCE 004922182-05 $P=198.798630$ Days $T_0=325.651251$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

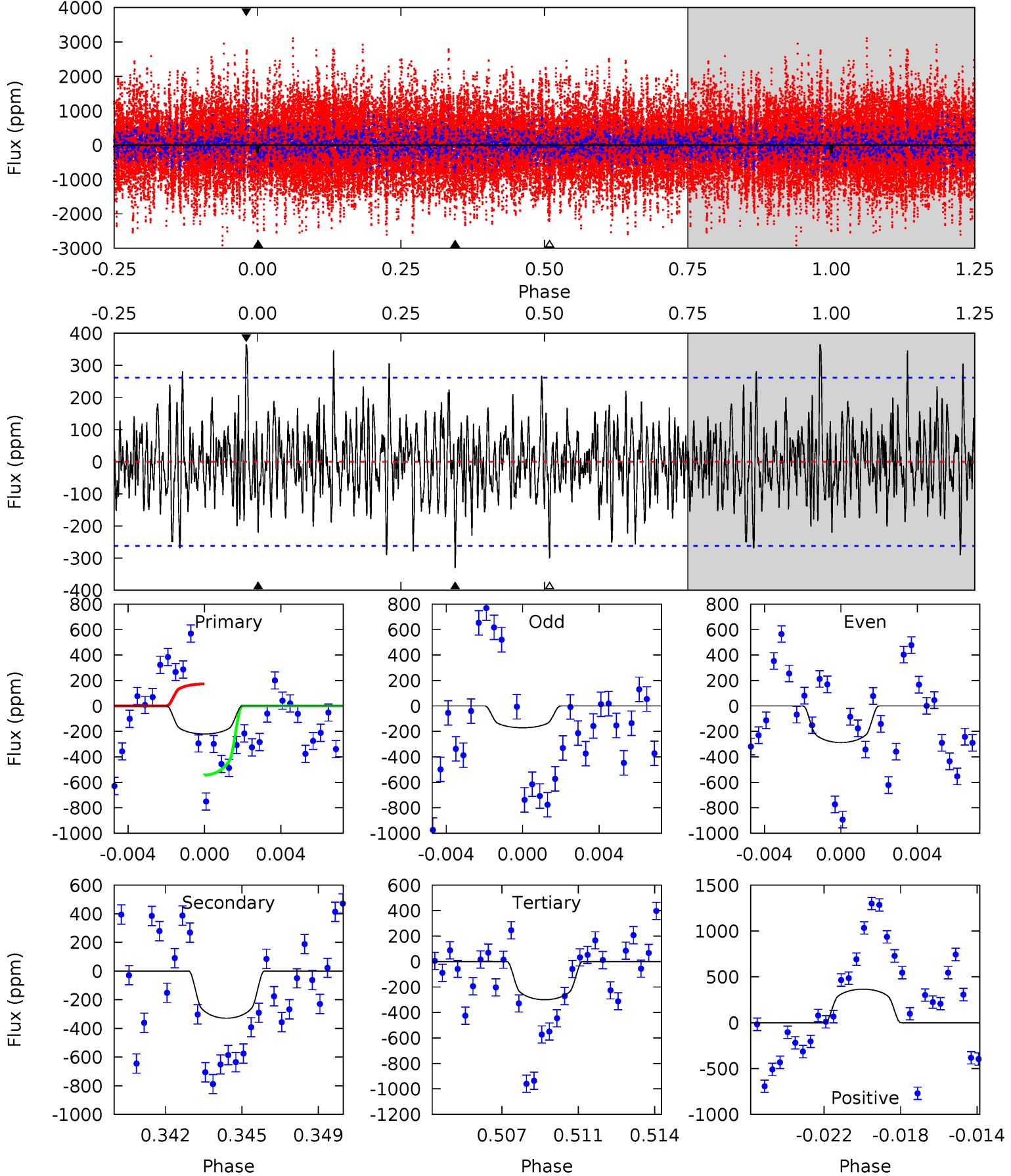
TCE 004922182-05 $P=198.798105$ Days $T_0=325.634578$ (BKJD)



DV Model-Shift Uniqueness Test

004922182-05, P = 198.798630 Days, E = 126.852621 Days

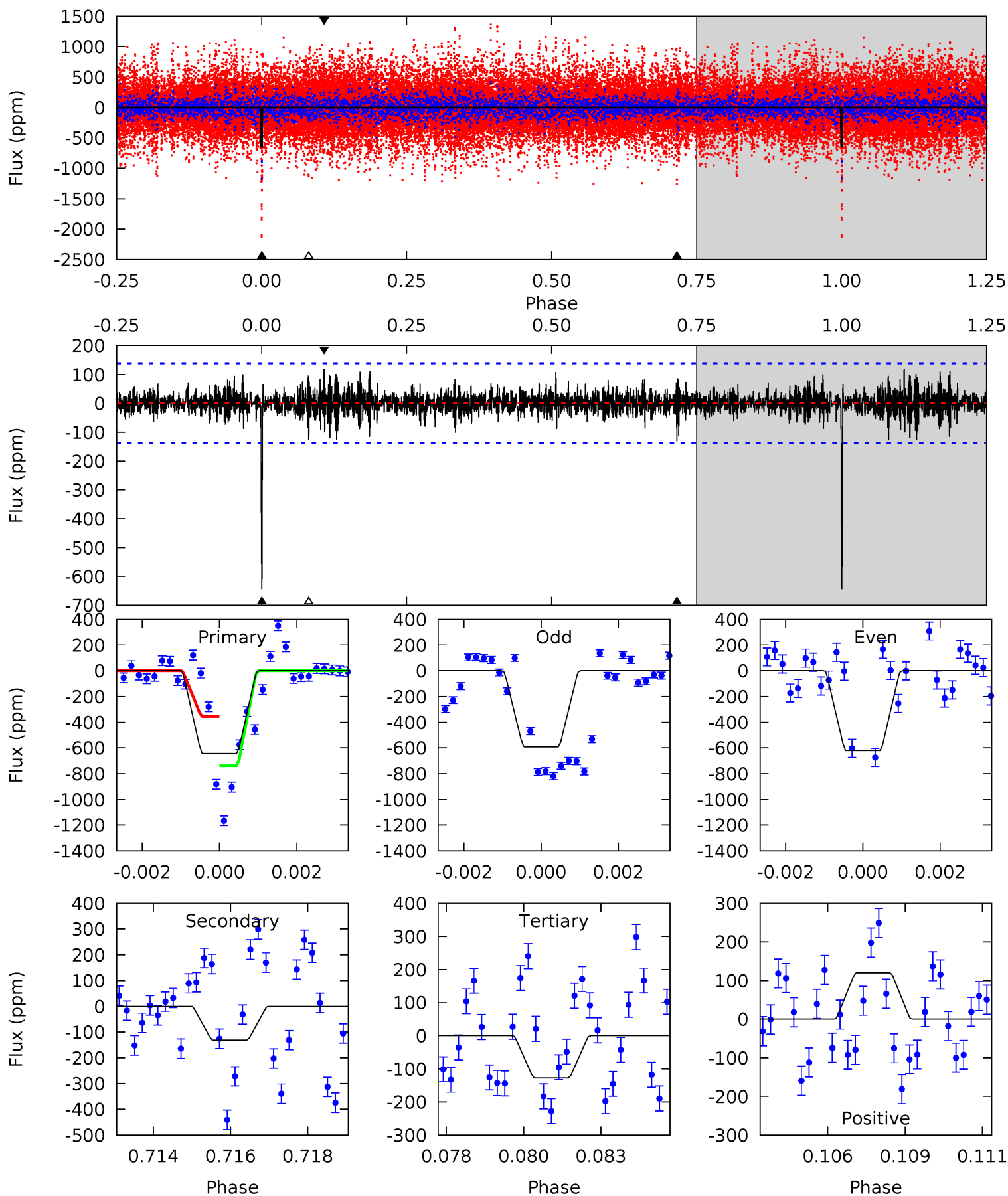
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.39	6.56	5.98	7.29	5.22	2.91	1.85	-1.59	-2.90	0.58	-0.73	1.16	0.91	0.53	3.70



Alt Model-Shift Uniqueness Test

004922182-05, P = 198.798105 Days, E = 126.836473 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.7	5.03	4.88	4.60	5.30	3.04	1.08	19.8	20.1	0.15	0.43	0.57	0.76	0.16	7.35



Stellar Parameters For KIC 004922182

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4761^{+57}_{-162}	$2.445^{+0.035}_{-0.028}$	$0.210^{+0.150}_{-0.400}$	$16.866^{+1.445}_{-5.780}$	$2.890^{+0.511}_{-1.533}$	$0.001^{+0.000}_{-0.000}$
	+1%/-3%	+1%/-1%	+71%/-190%	+9%/-34%	+18%/-53%	+54%/-11%
Source	PHO1	AST9	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 004922182-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-329 ± 50	$58.47^{+4.57}_{-6.43}$	1233^{+29}_{-42}	3870^{+159}_{-157}	50^{+13}_{-10}
Alt.	-131 ± 26	$62.77^{+4.85}_{-5.75}$	1229^{+32}_{-46}	3249^{+127}_{-122}	17^{+4}_{-4}

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

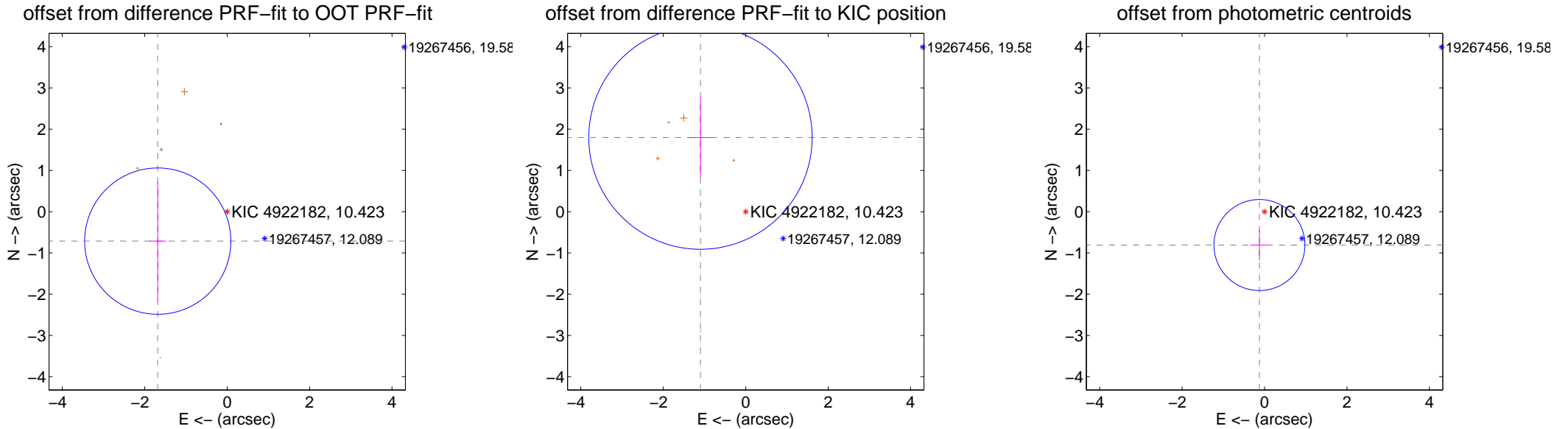
DV Centroid Data

Supplemental centroid analysis for 004922182-05. **Kepler magnitude: 10.42.** Transit SNR 9.32

There are 1 quarters with good PRF difference image offsets

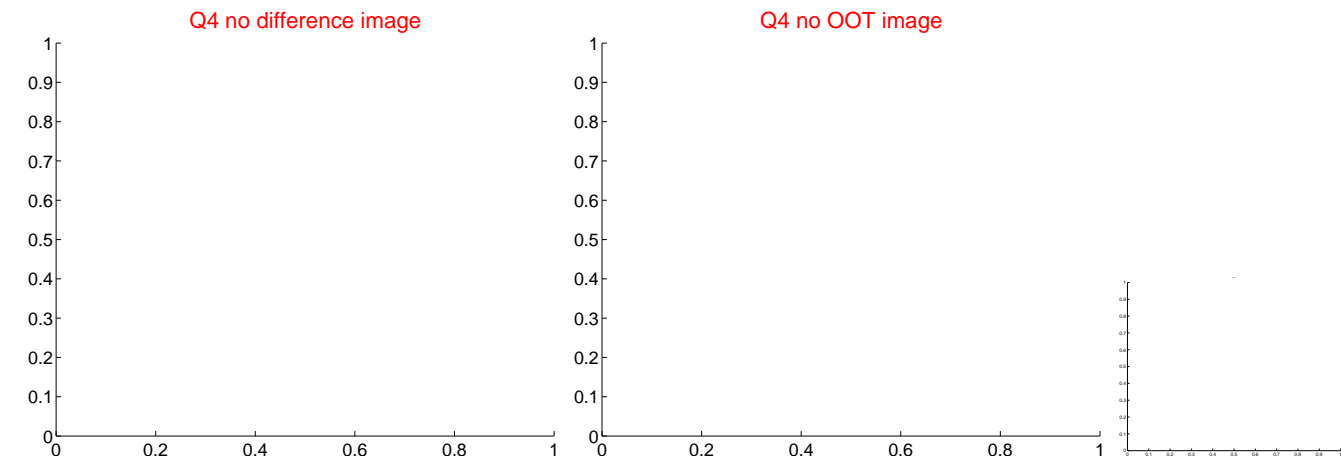
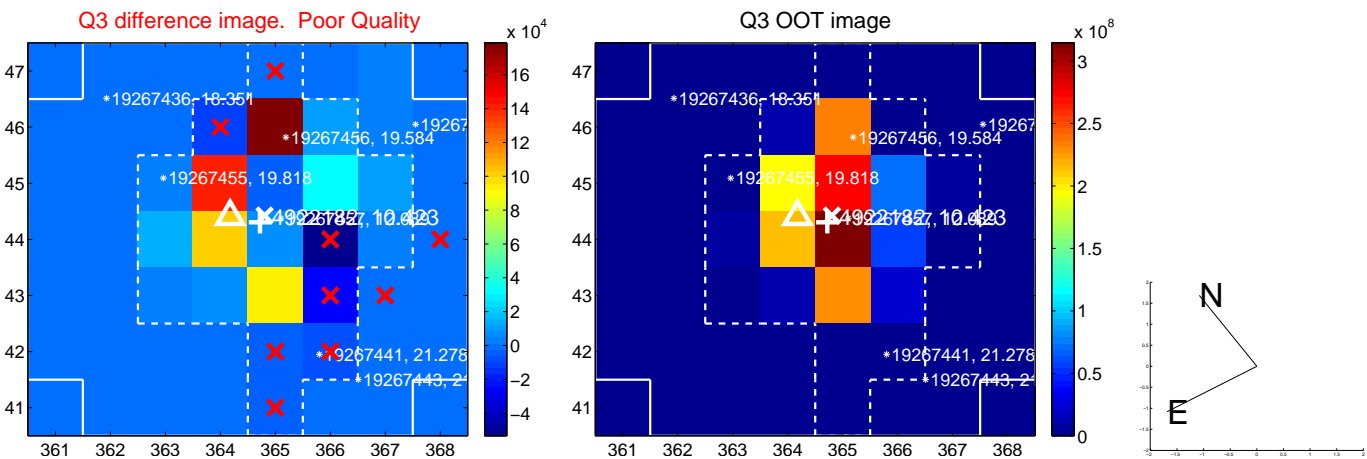
The direct PRF centroid is offset from the target star catalog position by about 1.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.829 ± 0.591	3.09	1.684 ± 0.205	-0.714 ± 1.436
PRF-fit source offset from KIC position	2.107 ± 0.903	2.33	1.098 ± 0.304	1.798 ± 0.978
photometric centroid source offset	0.82 ± 0.37	2.22	0.12 ± 0.23	-0.81 ± 0.37

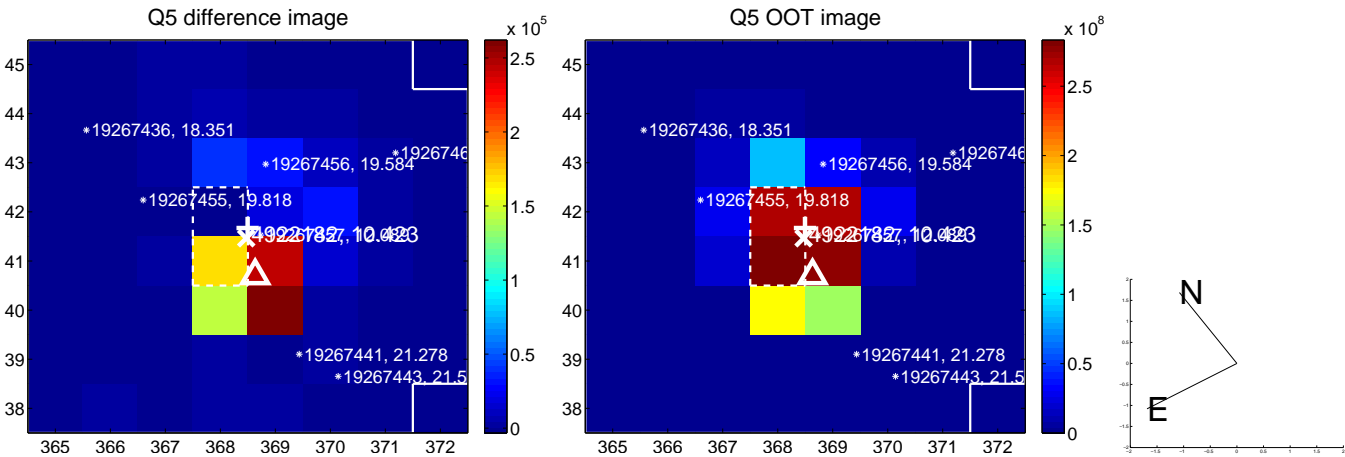


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

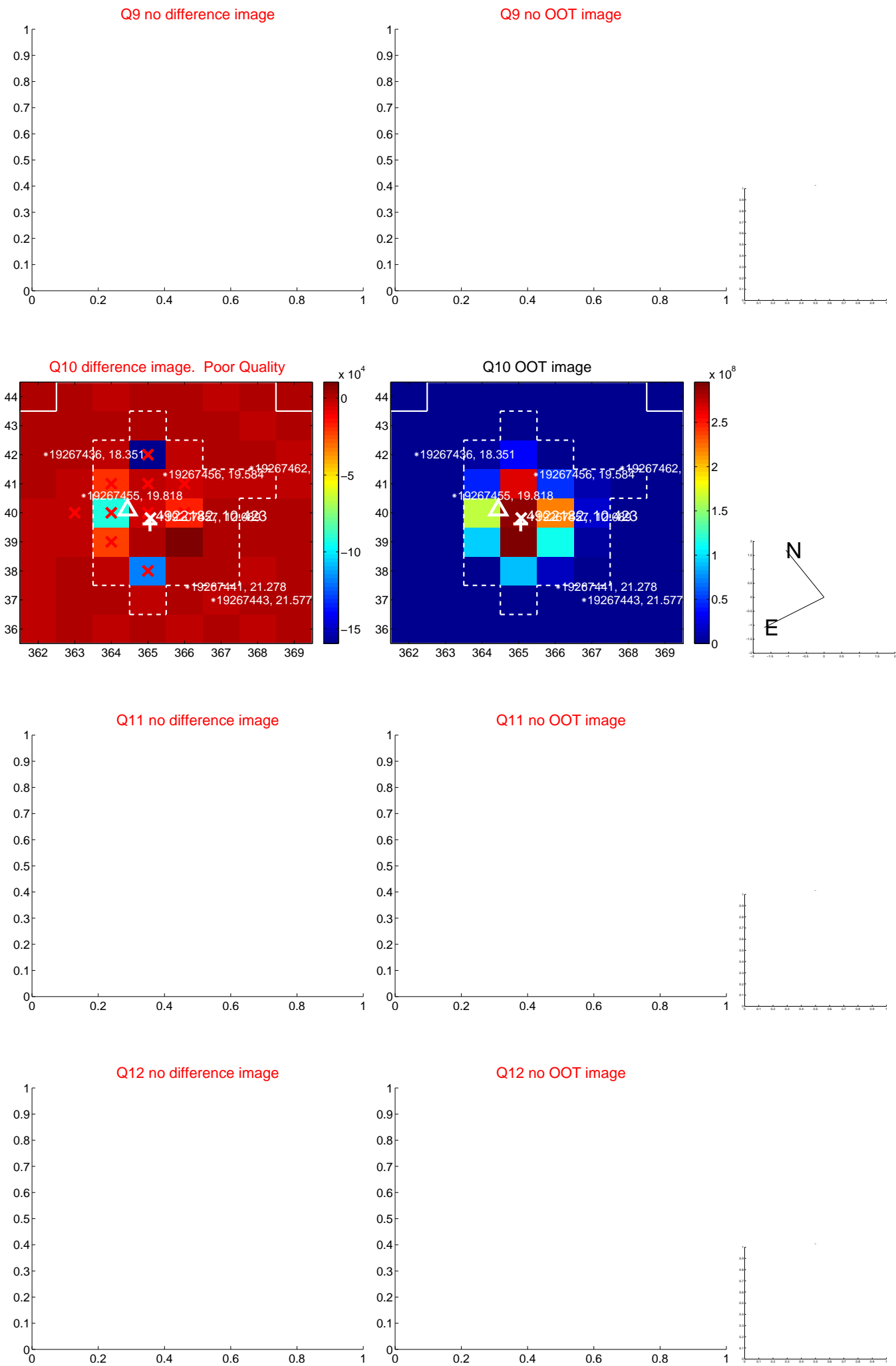
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



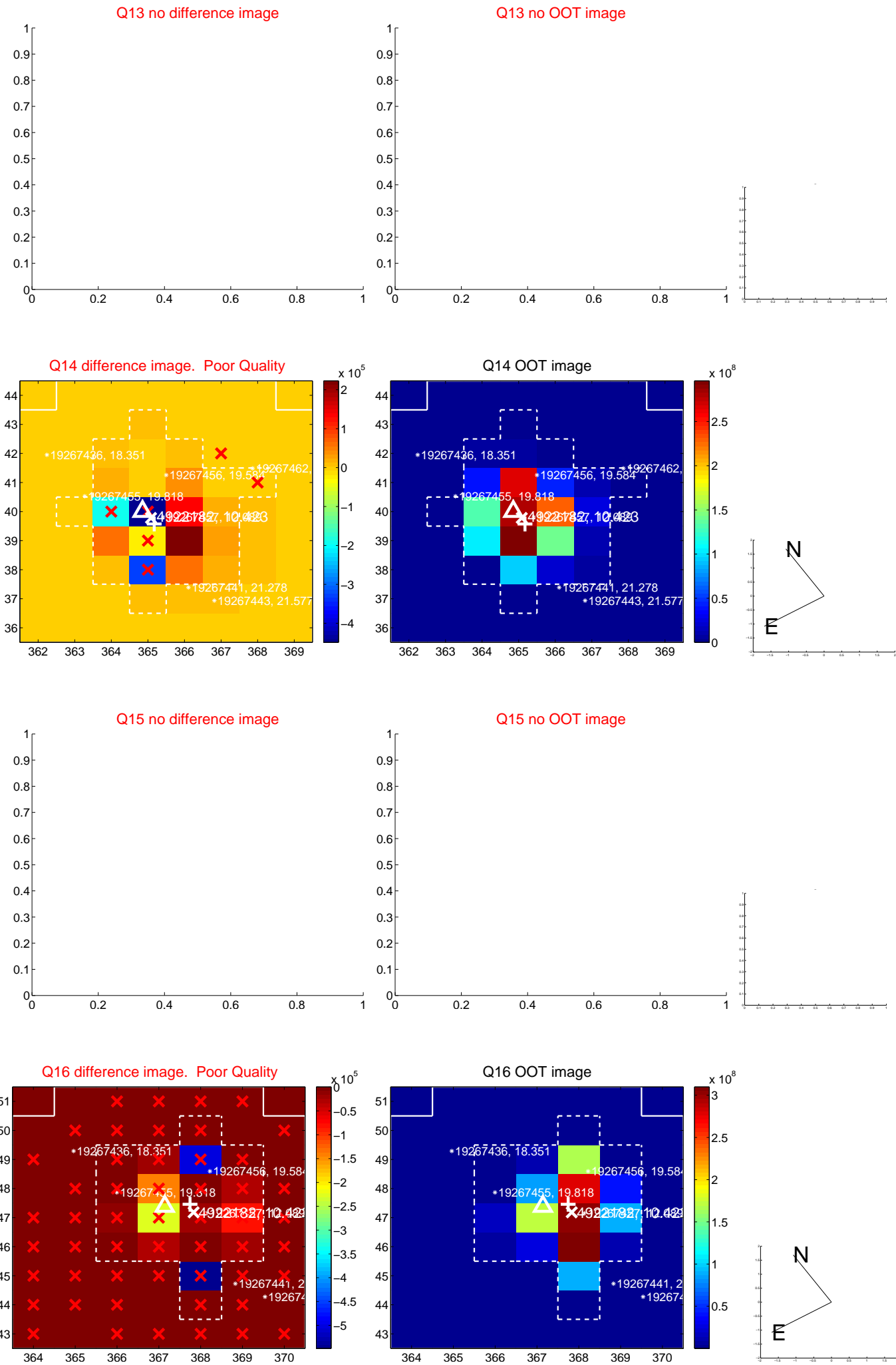
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



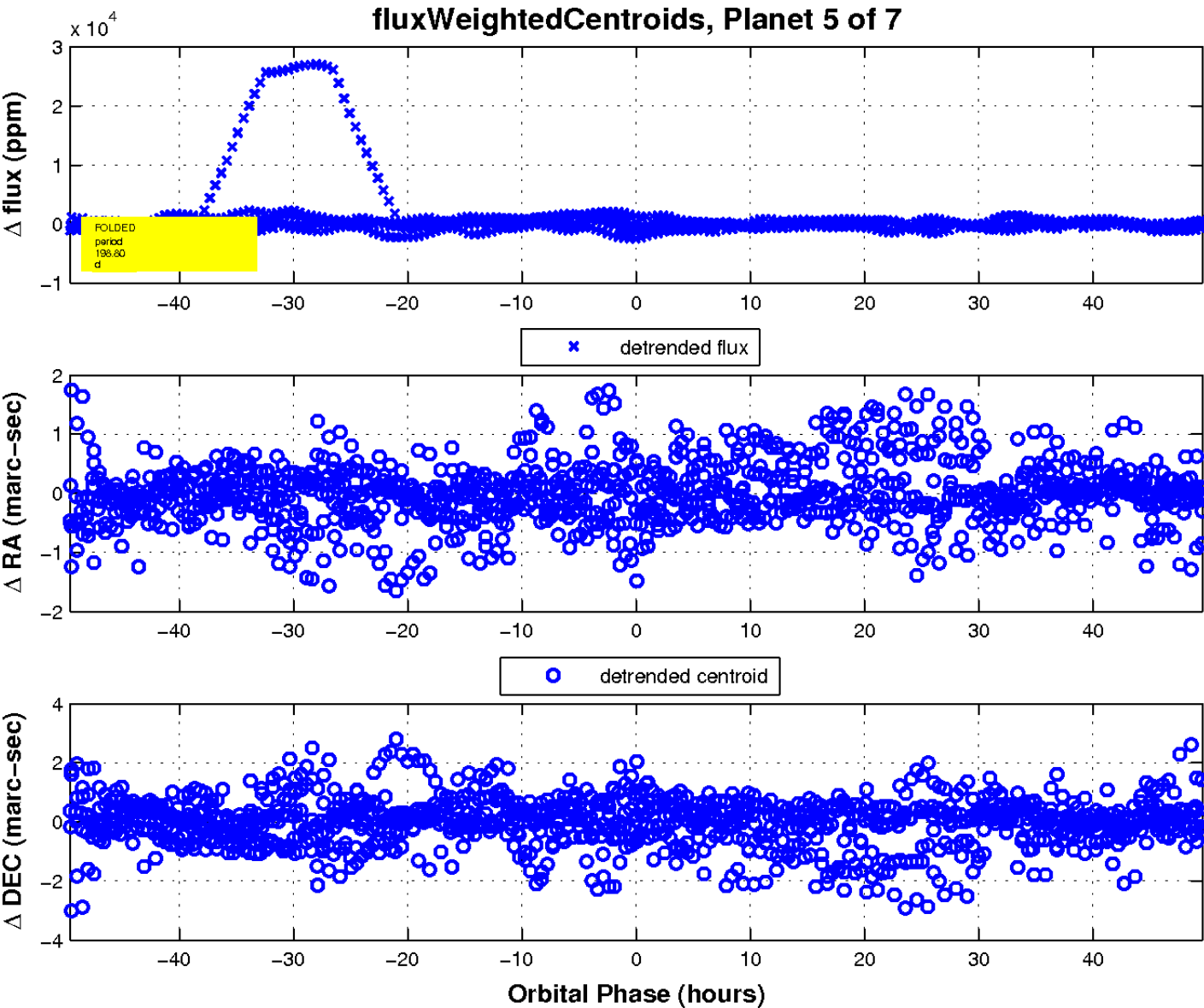
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

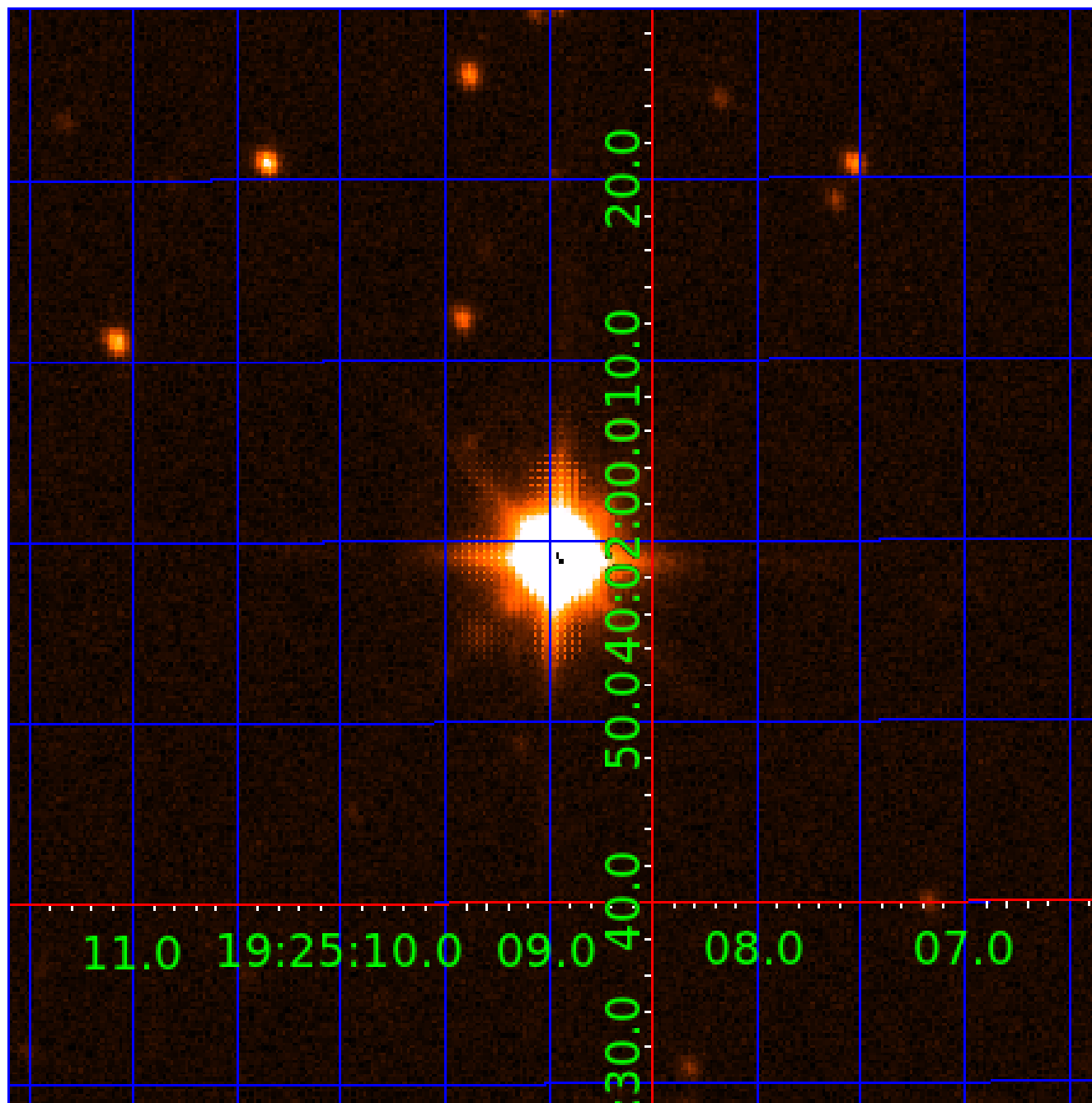


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004922182

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})
004922182-01	OBS	No	501.042113	527.413188	1040.3	10.224	54.0	14.8	16.87	4761	67.99	42.32
004922182-02	OBS	No	278.587809	253.737095	982.8	14.740	26.3	18.3	16.87	4761	67.11	92.56
004922182-03	OBS	No	489.758377	536.068237	168.2	15.000	26.0	-1.0	16.87	4761	21.00	43.62
004922182-04	OBS	No	211.855645	316.913038	887.0	17.120	22.5	17.4	16.87	4761	61.89	133.34
004922182-05	OBS	No	198.798630	325.651251	741.1	16.583	12.5	9.3	16.87	4761	56.56	145.15
004922182-06	OBS	No	239.211198	292.902937	904.6	64.275	11.1	14.6	16.87	4761	52.20	113.41
004922182-07	OBS	No	286.277729	234.735894	594.6	5.145	11.1	7.2	16.87	4761	54.88	89.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004922182-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

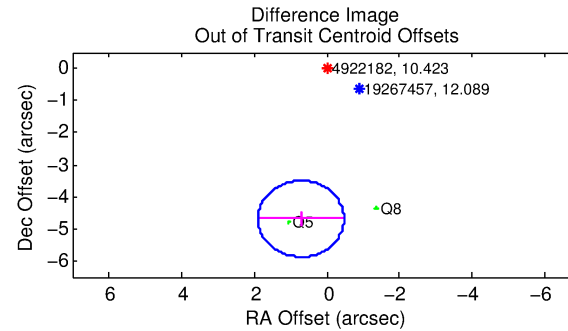
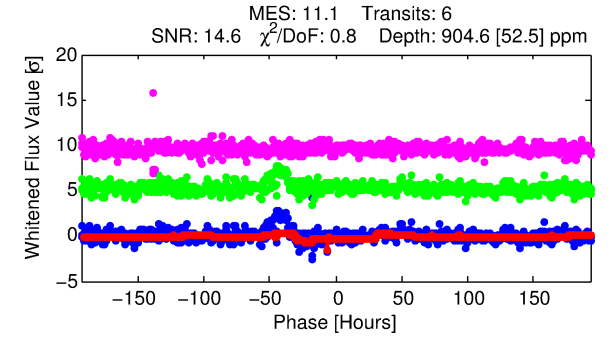
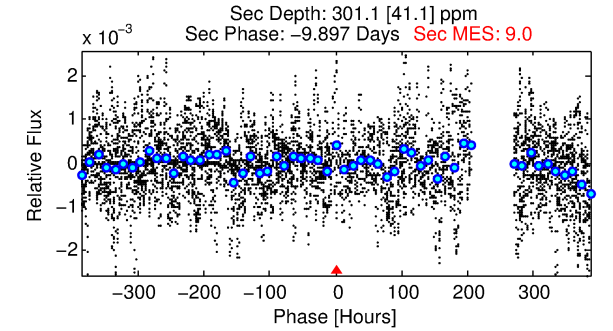
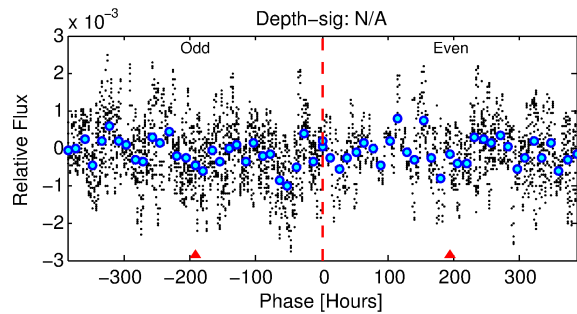
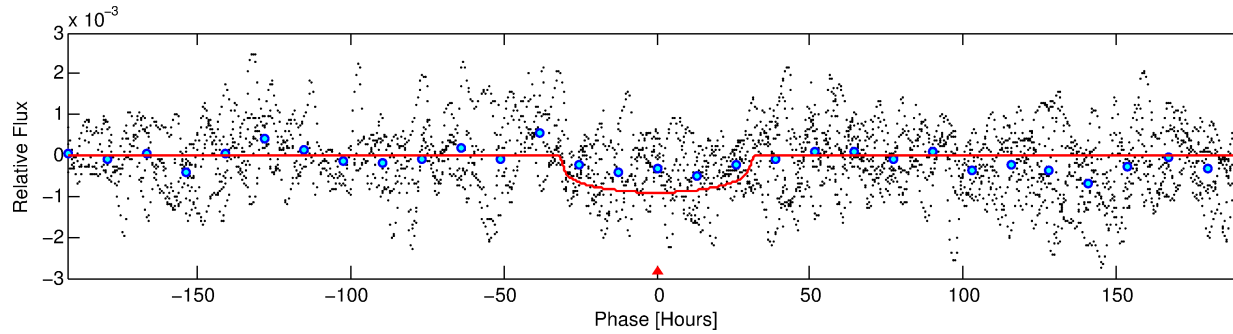
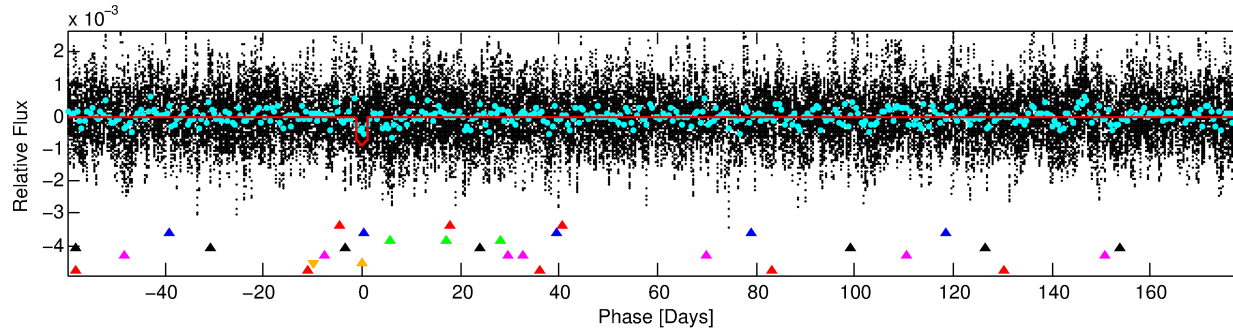
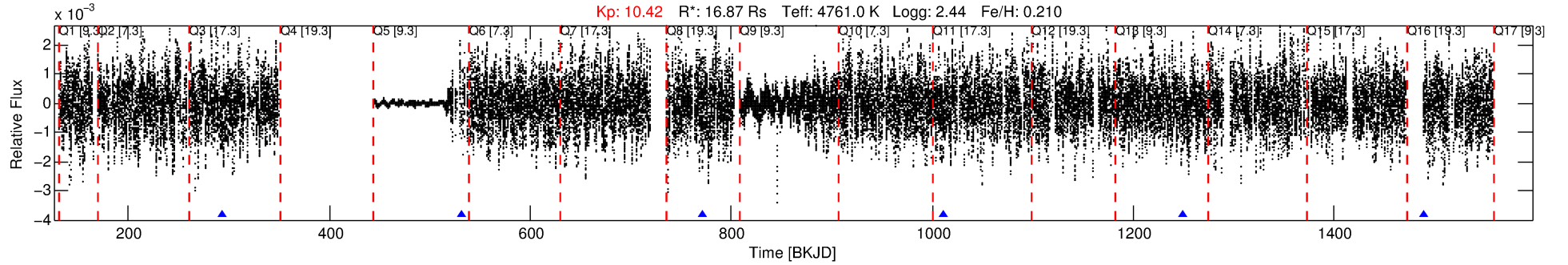
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004922182-06

No Significant Match Found

DV One-Page Summary

KIC: 4922182 Candidate: 6 of 7 Period: 239.211 d



DV Fit Results:

Period = 239.21120 [0.00749] d
Epoch = 292.9029 [0.0189] BKJD
Rp/R* = 0.0284 [0.0012]
a/R* = 23.74 [2.58]
b = 0.60 [0.12]
Seff = 113.41 [30.77]
Teq = 832 [56] K
Rp = 52.20 [18.02] Re
a = 1.0745 [0.2472] AU
Ag = 70.20 [19.96] [3.47σ]
Teff = 3724 [196] K [14.18σ]

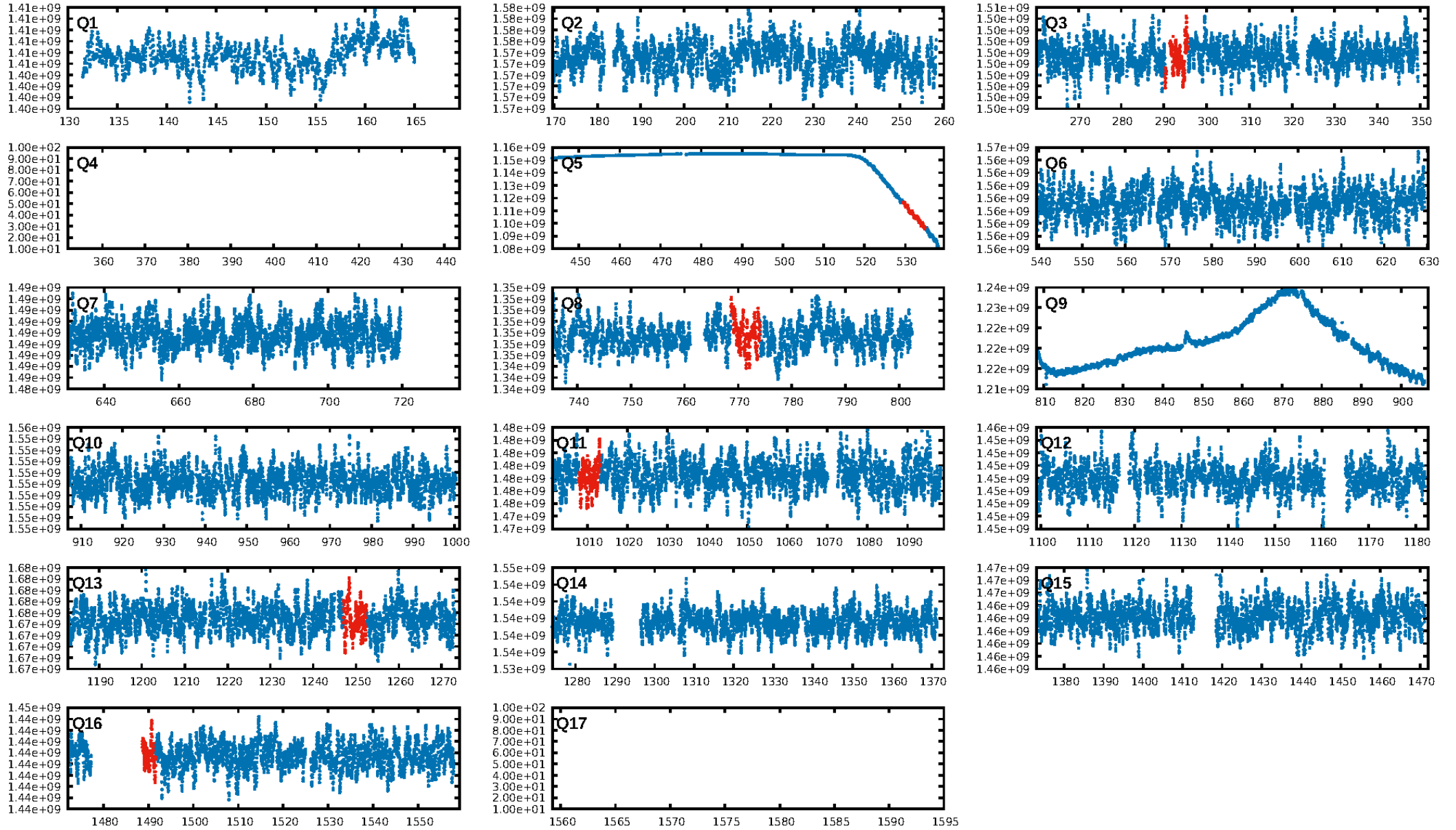
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.87σ]
LongPeriod-sig: 100.0% [14.33σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 8.39e-13
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -10.6
Centroid-sig: N/A
Centroid-so: 0.338 arcsec [2.04σ]
OotOffset-rm: 4.745 arcsec [12.00σ]
KicOffset-rm: 3.829 arcsec [8.07σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.50 [1/2]

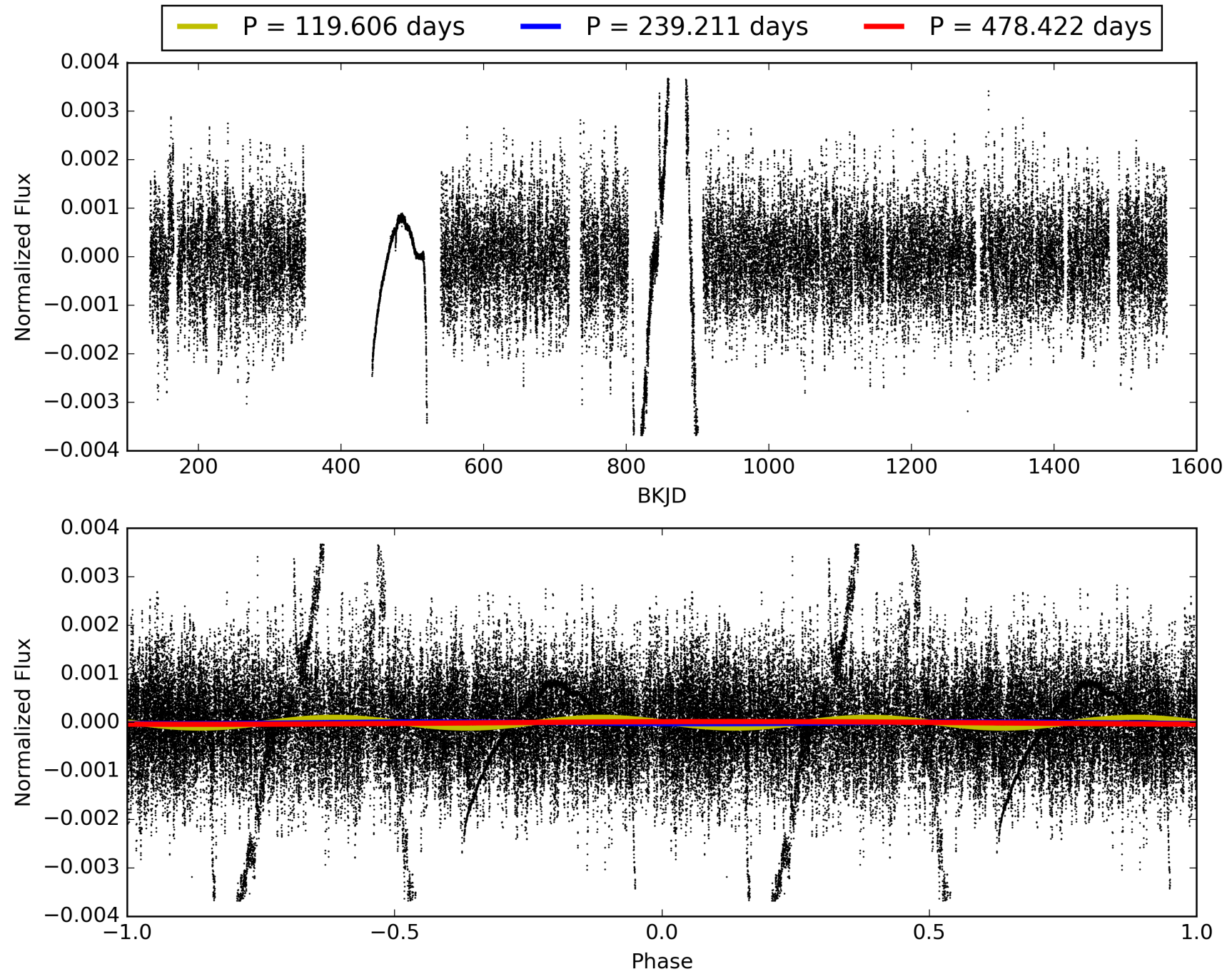
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:21:06 Z

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

TCE 004922182-06, PDC Light Curves

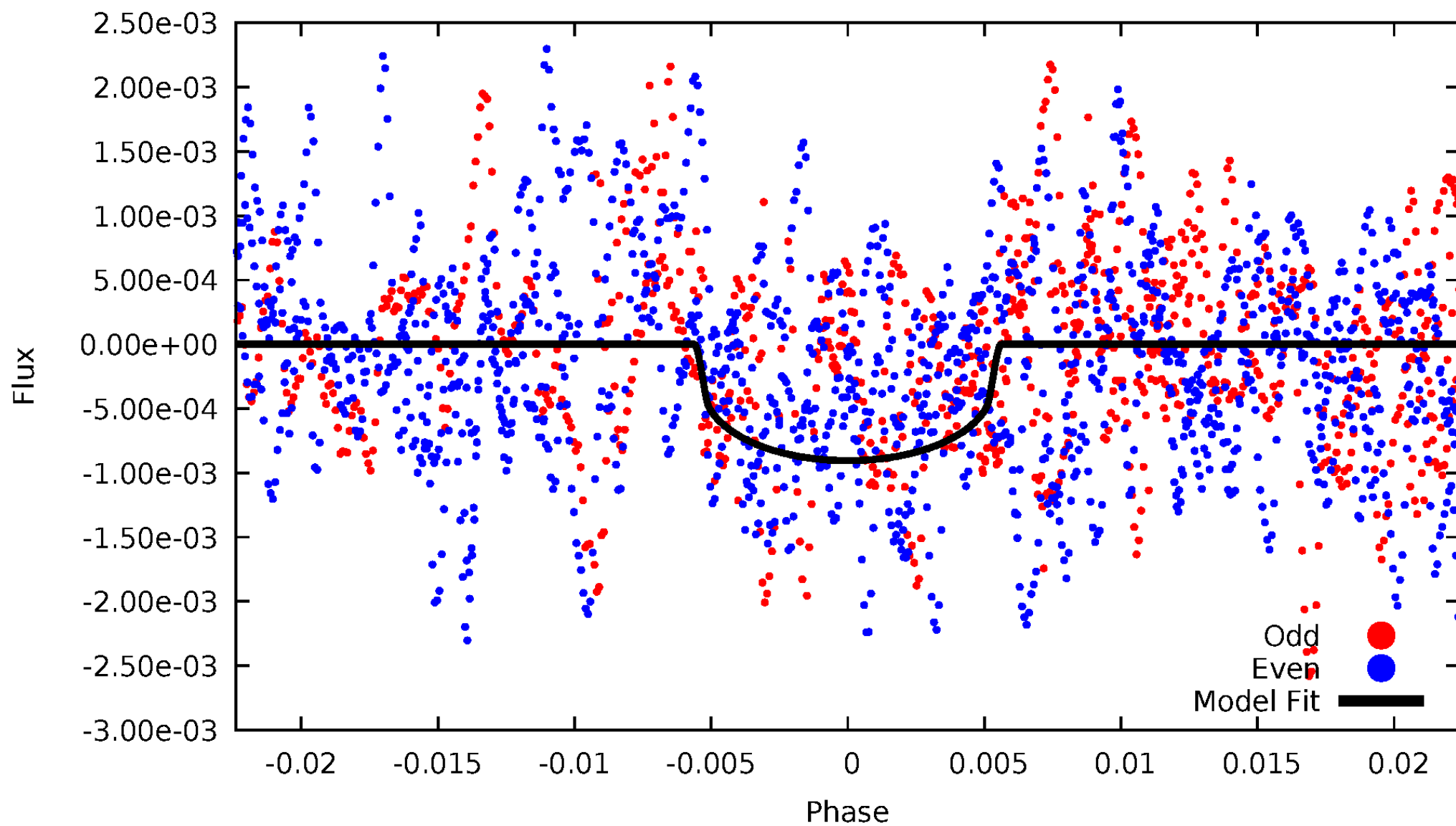


TCE 004922182-06



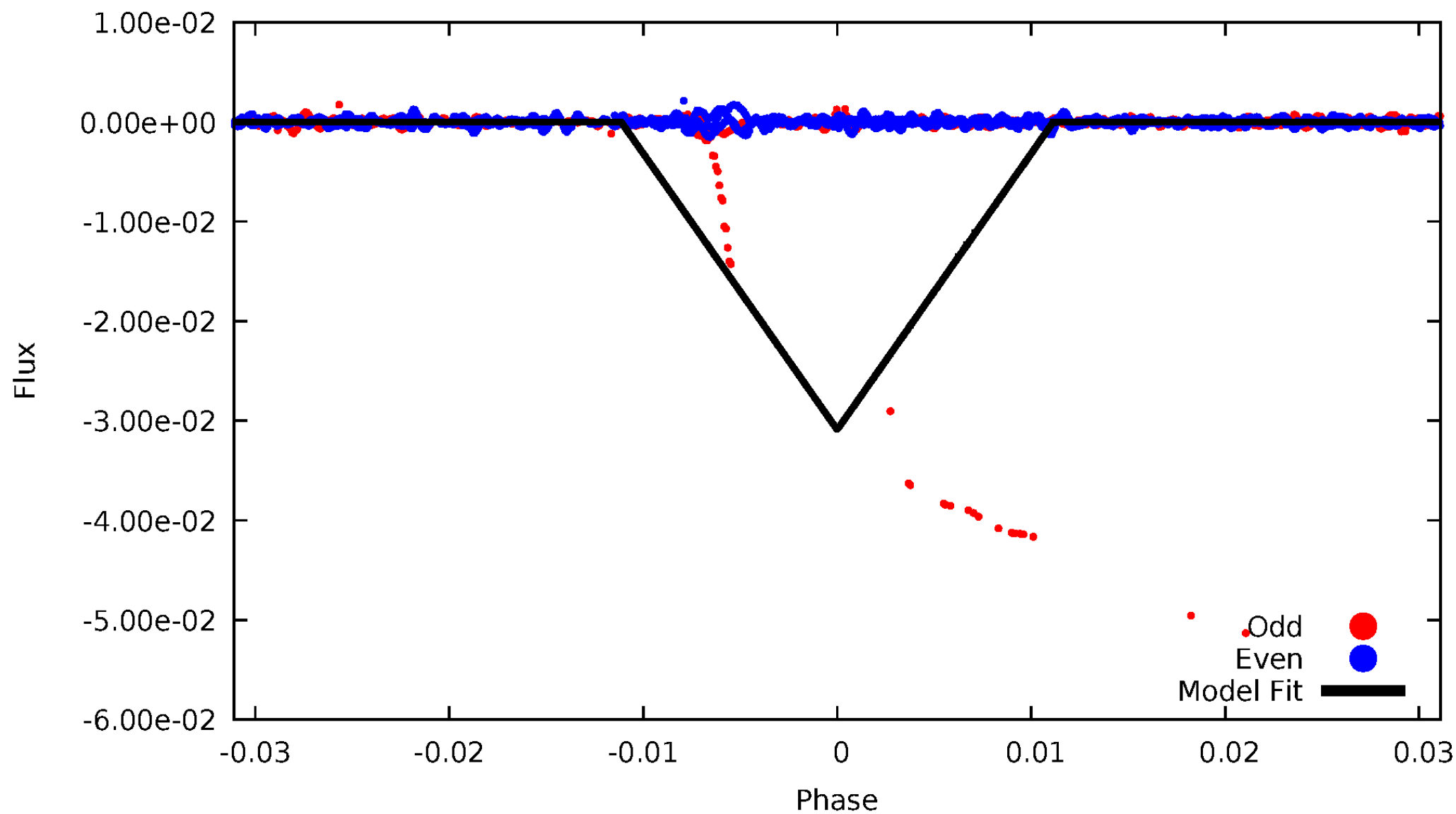
DV Odd/Even

TCE 004922182-06



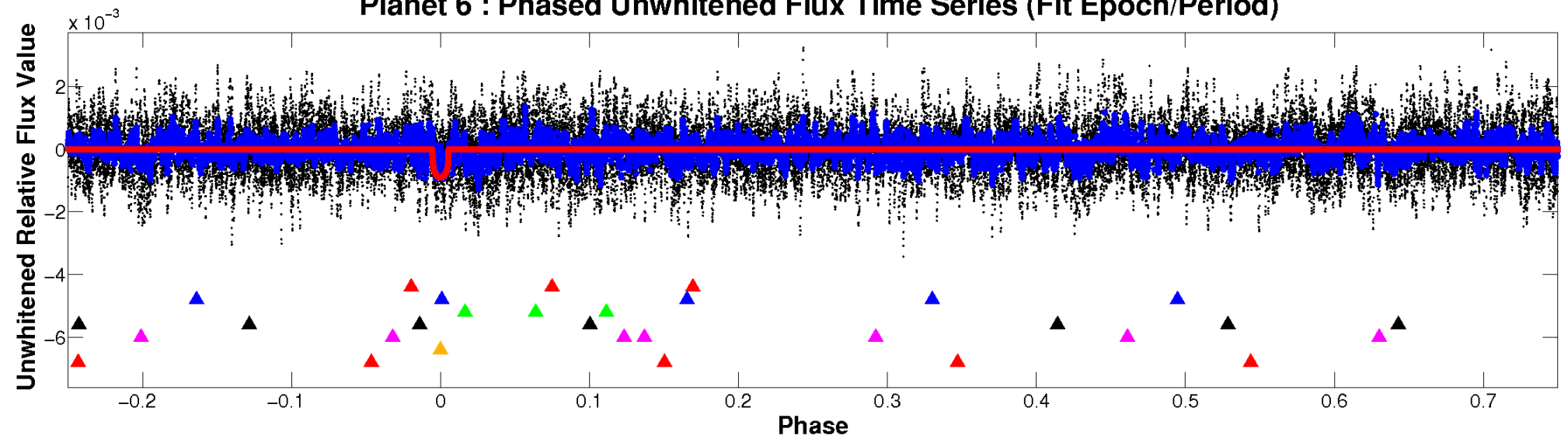
ALT Odd/Even

TCE 004922182-06

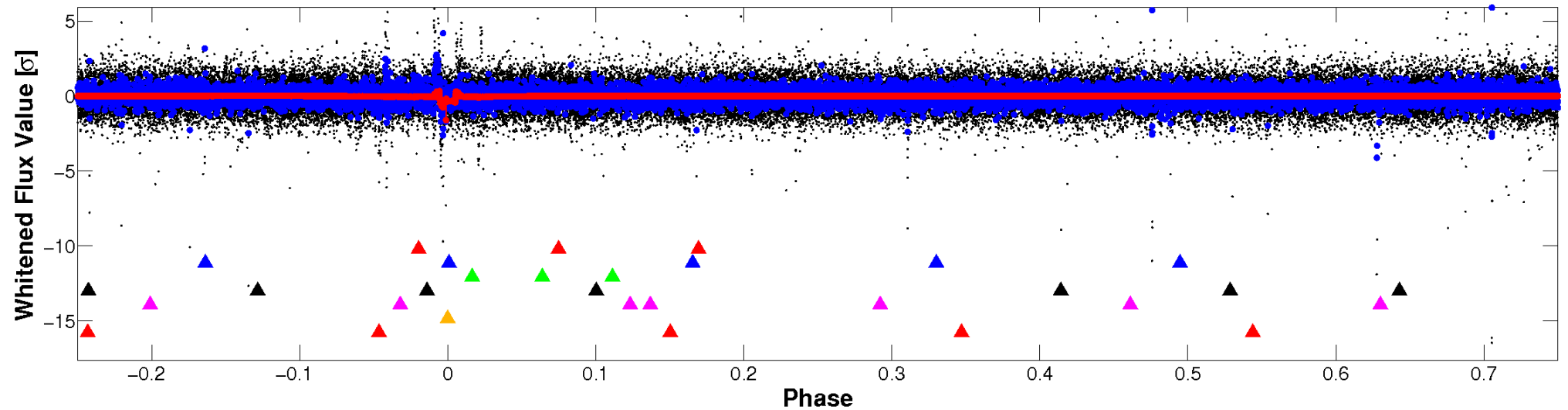


Non-Whitened Vs. Whitened Light Curve

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

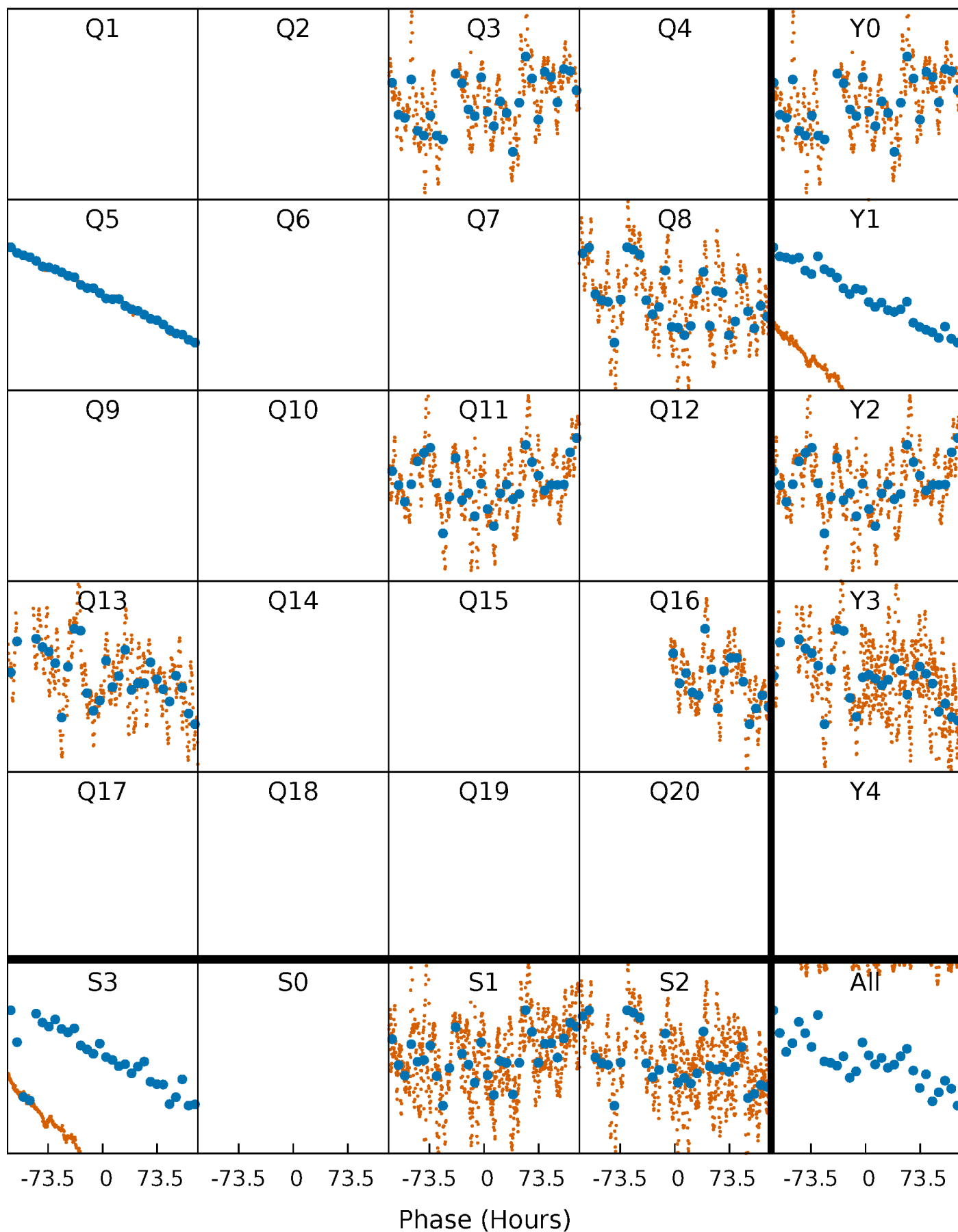


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



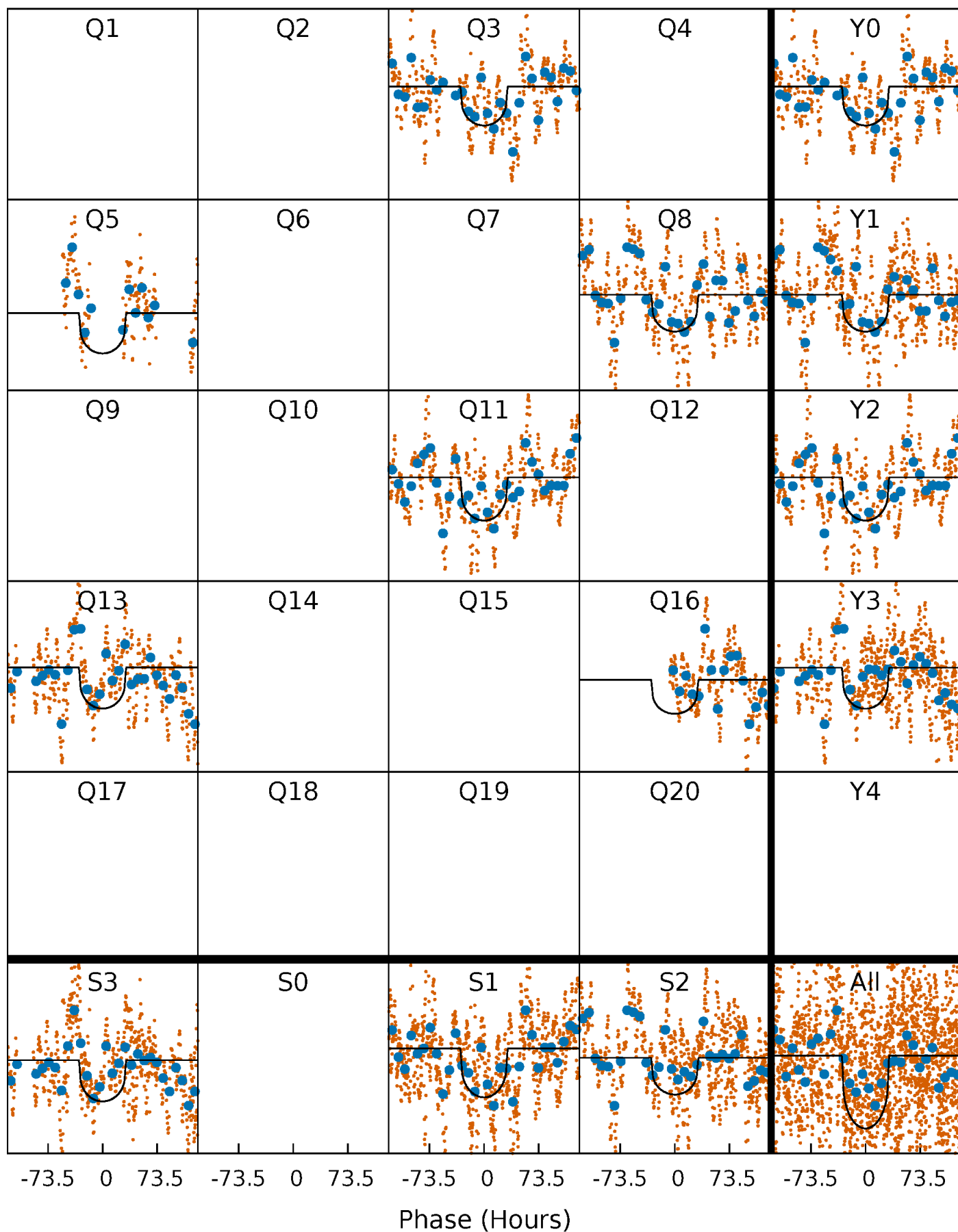
PDC Quarter-Phased Transit Curves

TCE 004922182-06 $P=239.211198$ Days $T_0=292.902937$ (BKJD)



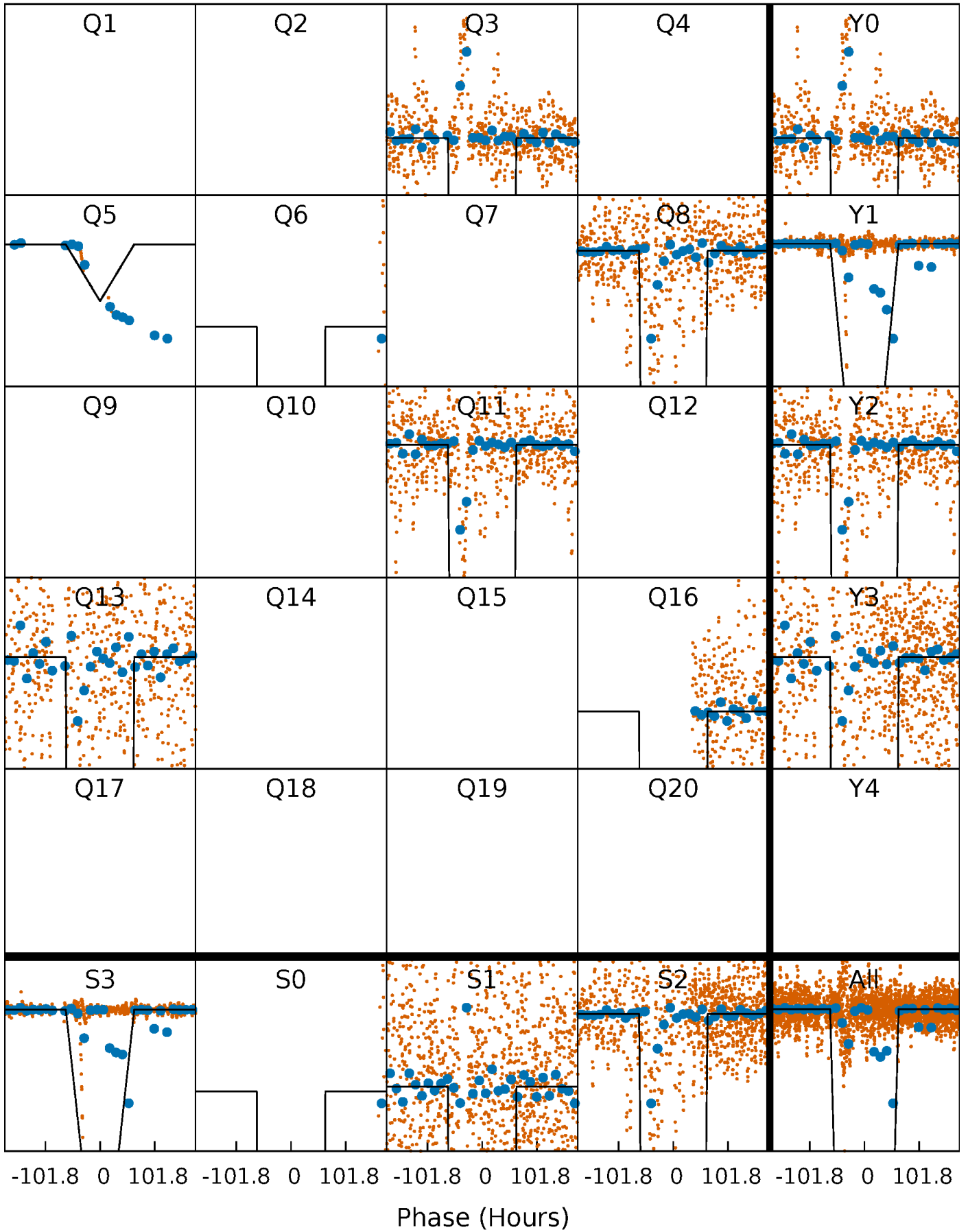
DV Quarter-Phased Transit Curves

TCE 004922182-06 P=239.211198 Days $T_0=292.902937$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

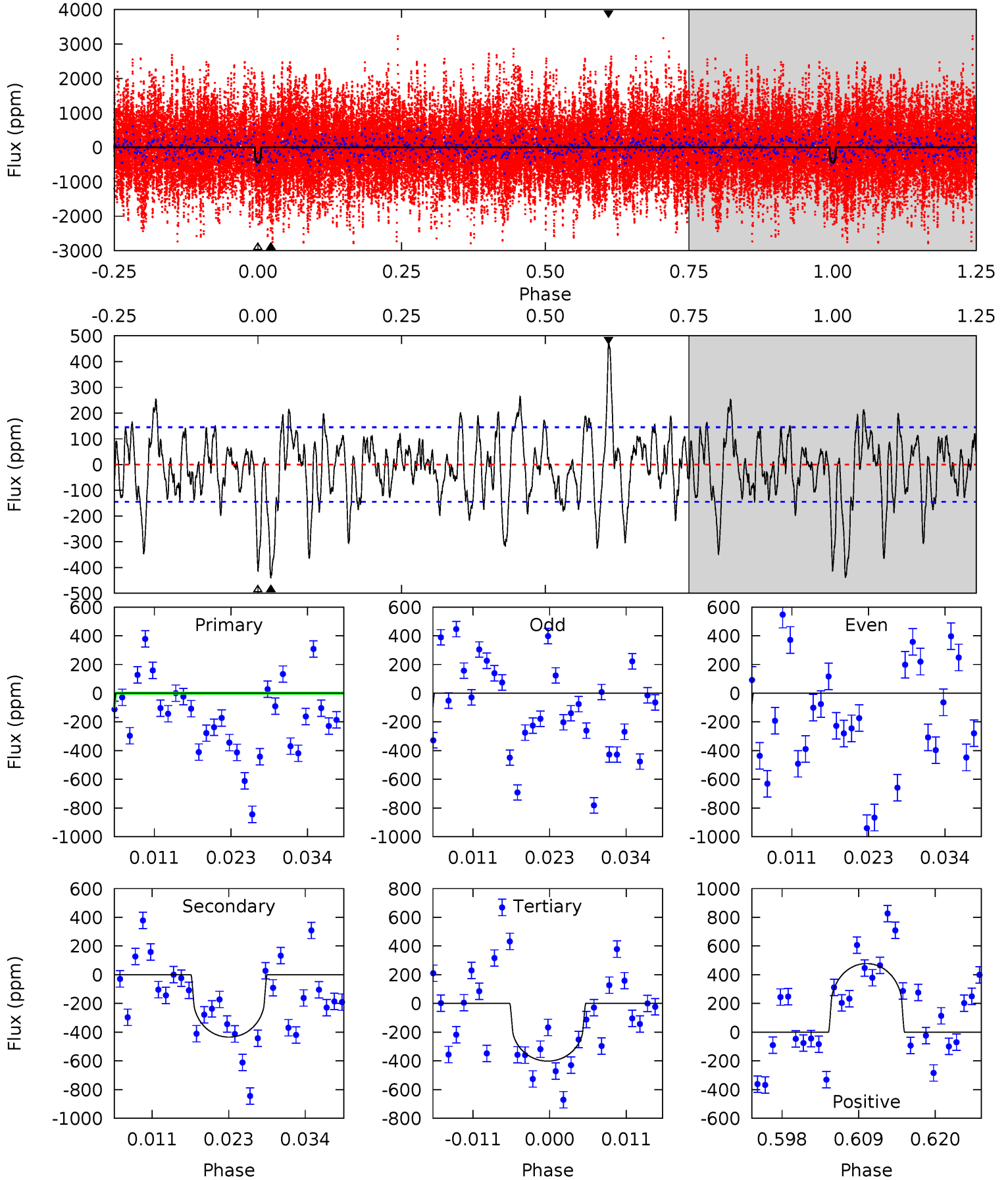
TCE 004922182-06 P=238.636736 Days $T_0=294.048913$ (BKJD)



DV Model-Shift Uniqueness Test

004922182-06, P = 239.211198 Days, E = 53.691739 Days

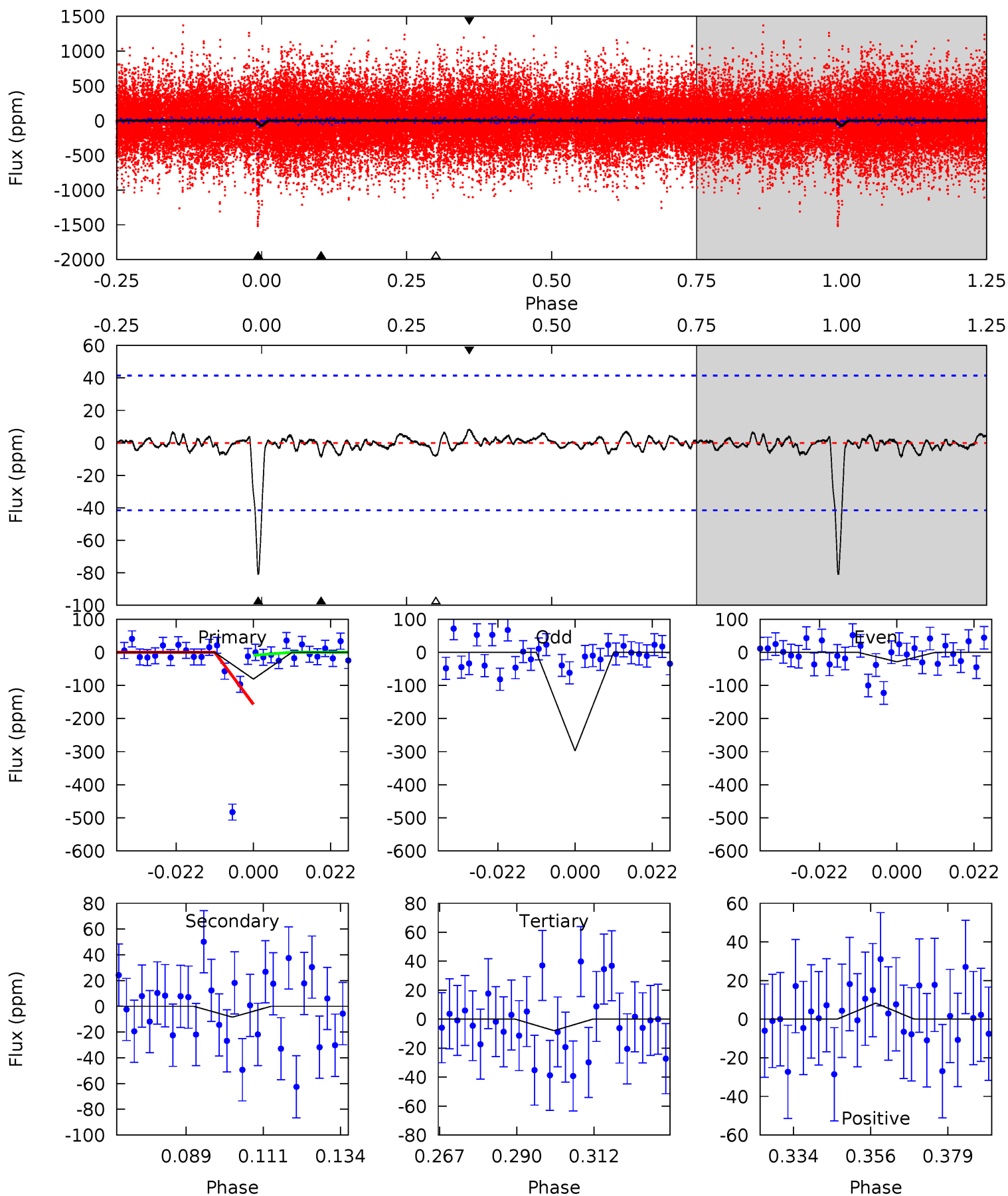
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	15.0	13.9	16.5	5.00	2.53	4.19	1.29	-1.34	1.14	-1.50	0.05	0.92	0.52	1.71



Alt Model-Shift Uniqueness Test

004922182-06, P = 238.636736 Days, E = 55.412177 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	0.99	0.93	0.98	4.87	2.29	0.35	8.54	8.50	0.06	0.01	14.5	54.2	0.09	0



Stellar Parameters For KIC 004922182

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4761^{+57}_{-162}	$2.445^{+0.035}_{-0.028}$	$0.210^{+0.150}_{-0.400}$	$16.866^{+1.445}_{-5.780}$	$2.890^{+0.511}_{-1.533}$	$0.001^{+0.000}_{-0.000}$
	+1%/-3%	+1%/-1%	+71%/-190%	+9%/-34%	+18%/-53%	+54%/-11%
Source	PHO1	AST9	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 004922182-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-435 ± 29	$53.95^{+3.45}_{-4.52}$	1160^{+28}_{-43}	4195^{+116}_{-132}	100^{+14}_{-12}
Alt.	-8 ± 9	$380.45^{+17.46}_{-28.52}$	1157^{+29}_{-40}	-1908^{+45}_{-38}	$0.040^{+0.041}_{-0.041}$

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 $A_{obs} \gg 1.0$

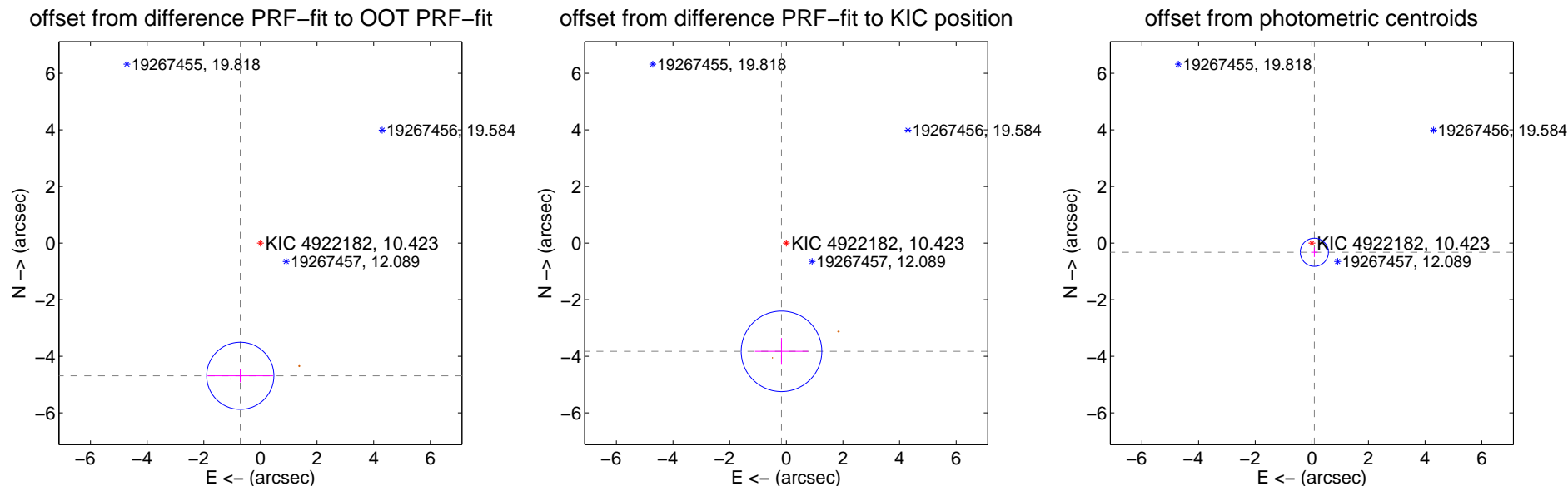
DV Centroid Data

Supplemental centroid analysis for 004922182-06. **Kepler magnitude: 10.42.** Transit SNR 14.59

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.745 \pm 0.395	12.00	0.711 \pm 1.158	-4.691 \pm 0.229
PRF-fit source offset from KIC position	3.829 \pm 0.474	8.07	0.169 \pm 0.939	-3.825 \pm 0.473
photometric centroid source offset	0.34 \pm 0.17	2.04	-0.09 \pm 0.11	-0.33 \pm 0.17

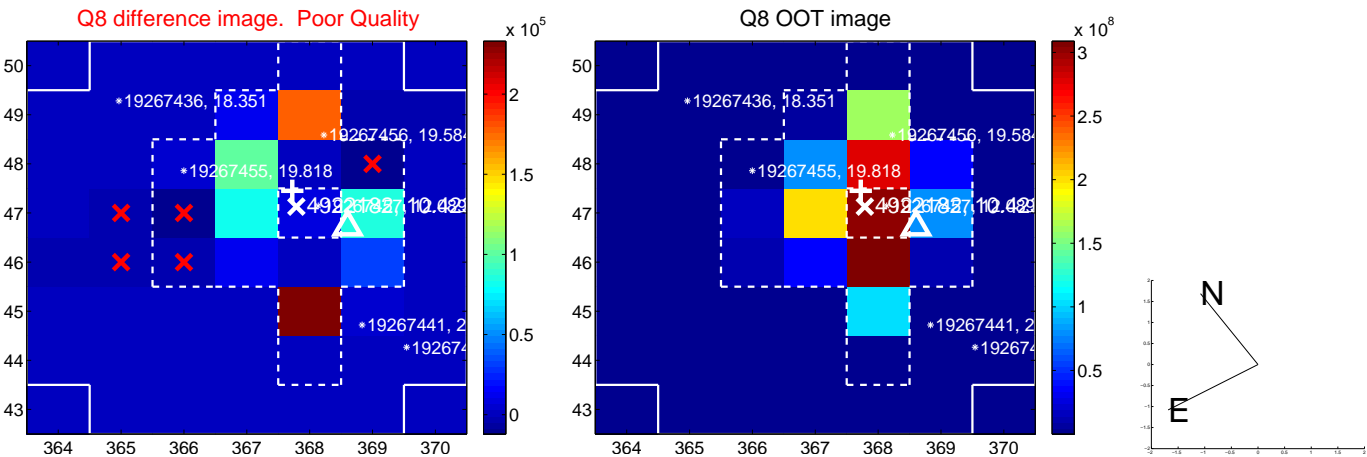
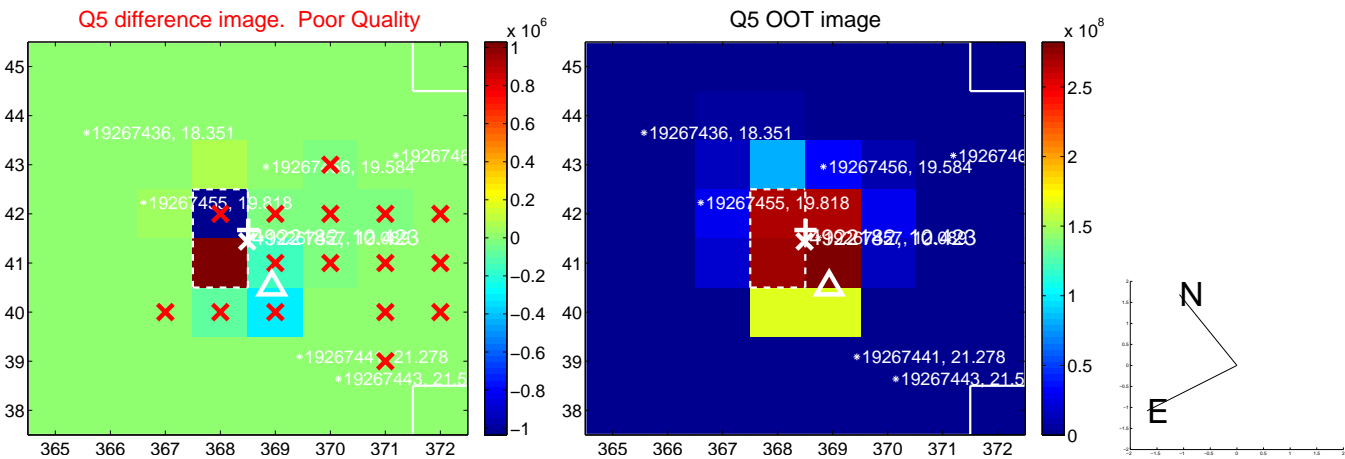


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



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



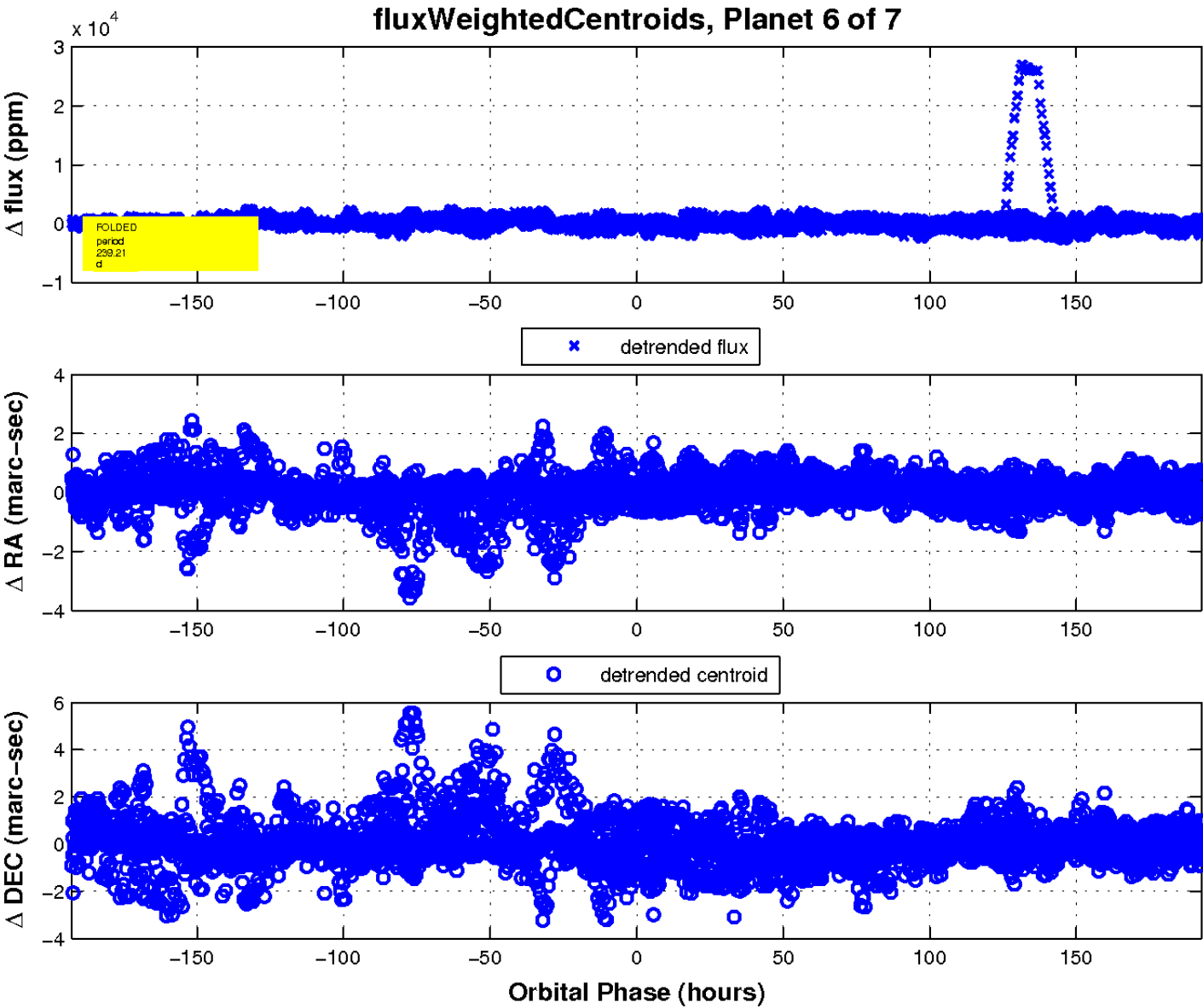
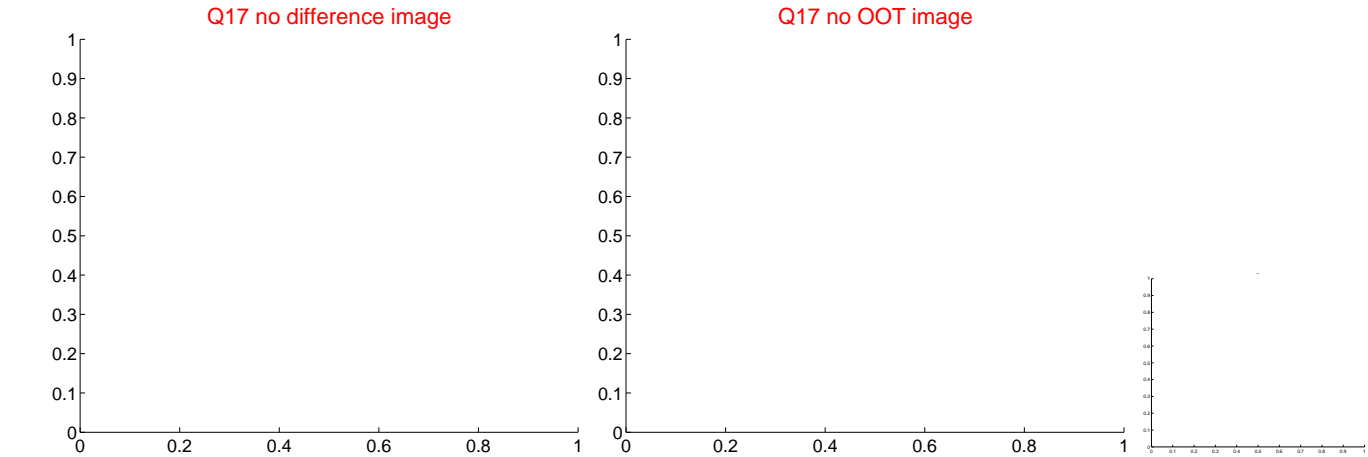
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

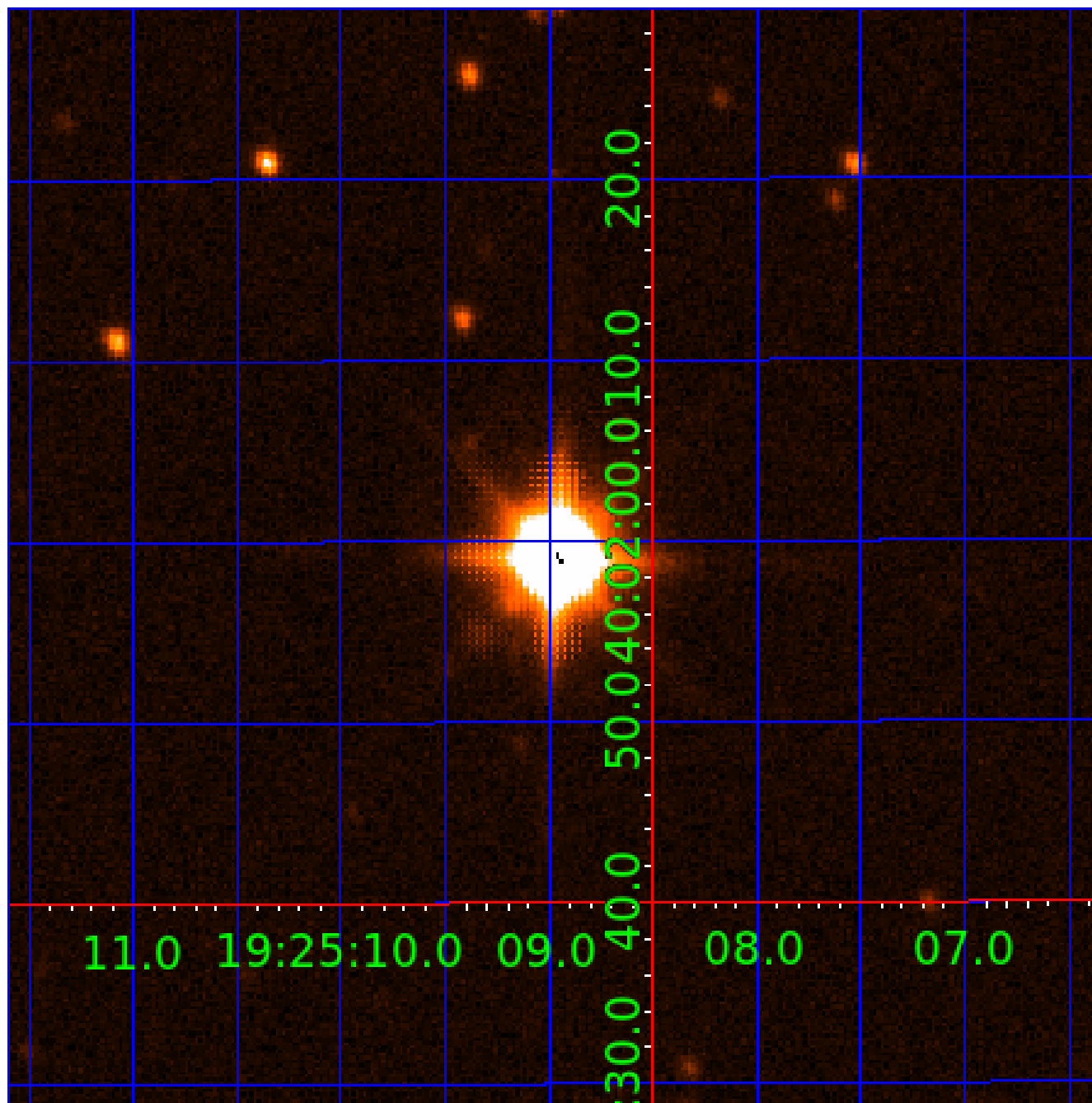


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004922182

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})
004922182-01	OBS	No	501.042113	527.413188	1040.3	10.224	54.0	14.8	16.87	4761	67.99	42.32
004922182-02	OBS	No	278.587809	253.737095	982.8	14.740	26.3	18.3	16.87	4761	67.11	92.56
004922182-03	OBS	No	489.758377	536.068237	168.2	15.000	26.0	-1.0	16.87	4761	21.00	43.62
004922182-04	OBS	No	211.855645	316.913038	887.0	17.120	22.5	17.4	16.87	4761	61.89	133.34
004922182-05	OBS	No	198.798630	325.651251	741.1	16.583	12.5	9.3	16.87	4761	56.56	145.15
004922182-06	OBS	No	239.211198	292.902937	904.6	64.275	11.1	14.6	16.87	4761	52.20	113.41
004922182-07	OBS	No	286.277729	234.735894	594.6	5.145	11.1	7.2	16.87	4761	54.88	89.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004922182-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
004922182-05	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_SATURATED
004922182-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

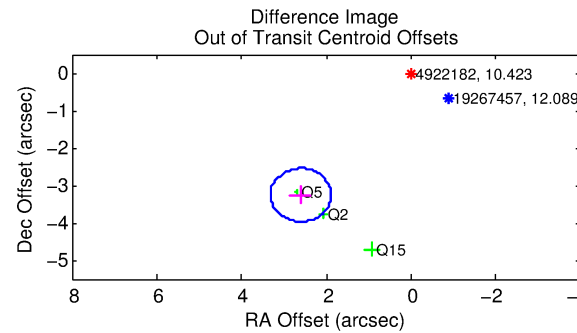
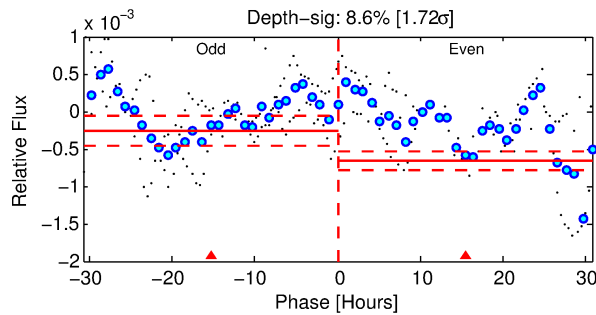
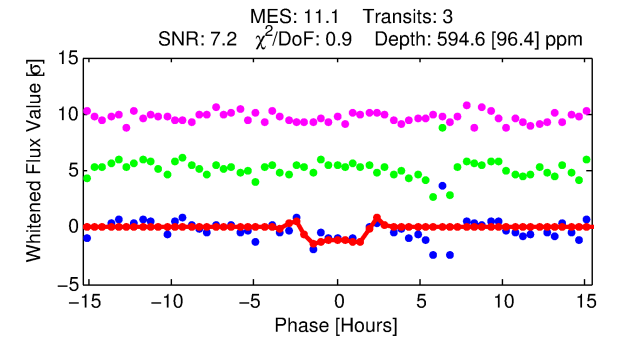
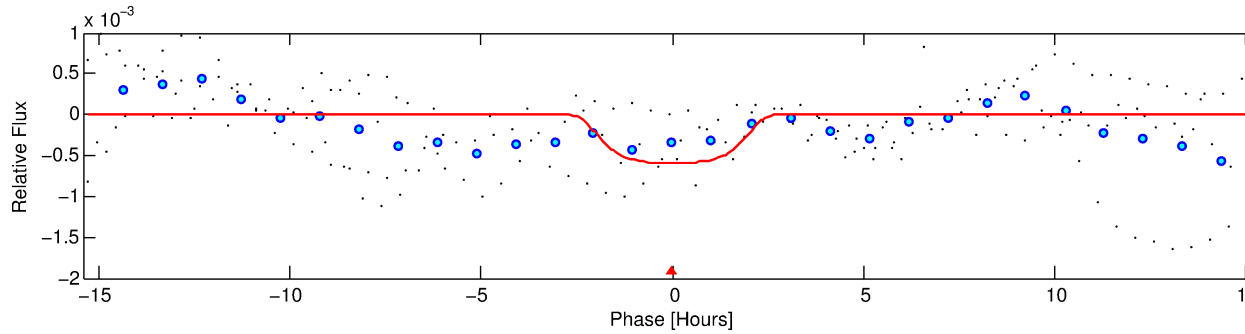
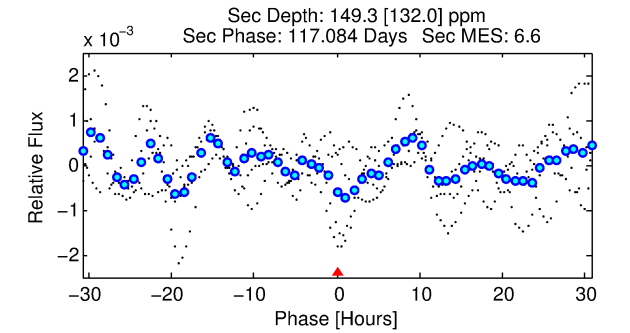
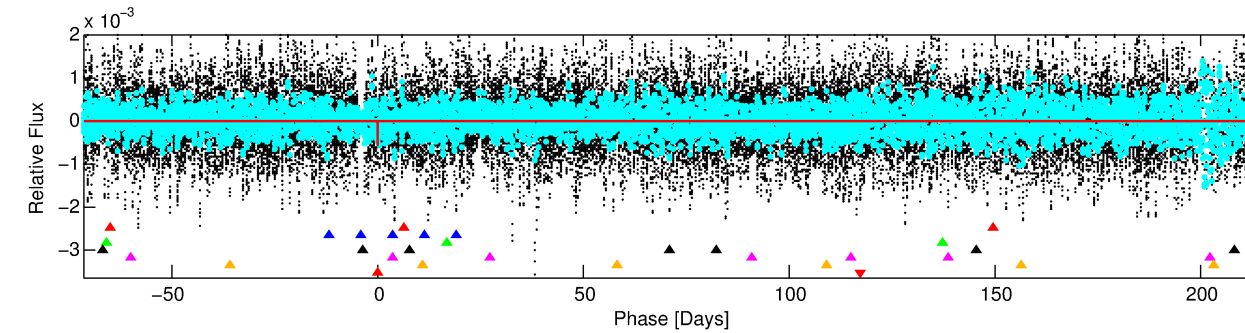
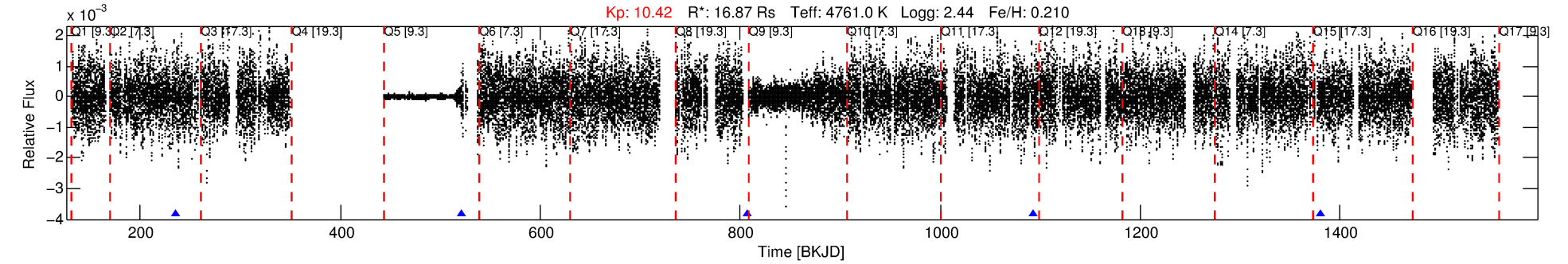
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004922182-07

No Significant Match Found

DV One-Page Summary

KIC: 4922182 Candidate: 7 of 7 Period: 286.278 d



DV Fit Results:

Period = 286.27773 [0.00302] d
Epoch = 234.7359 [0.0068] BKJD
Rp/R* = 0.0298 [0.0027]
a/R* = 169.41 [21.24]
b = 0.95 [0.01]
Seff = 89.26 [24.22]
Teq = 784 [53] K
Rp = 54.88 [19.48] Re
a = 1.2112 [0.2786] AU
Ag = 40.02 [37.32] [1.05σ]
Teffp = 3048 [696] K [3.25σ]

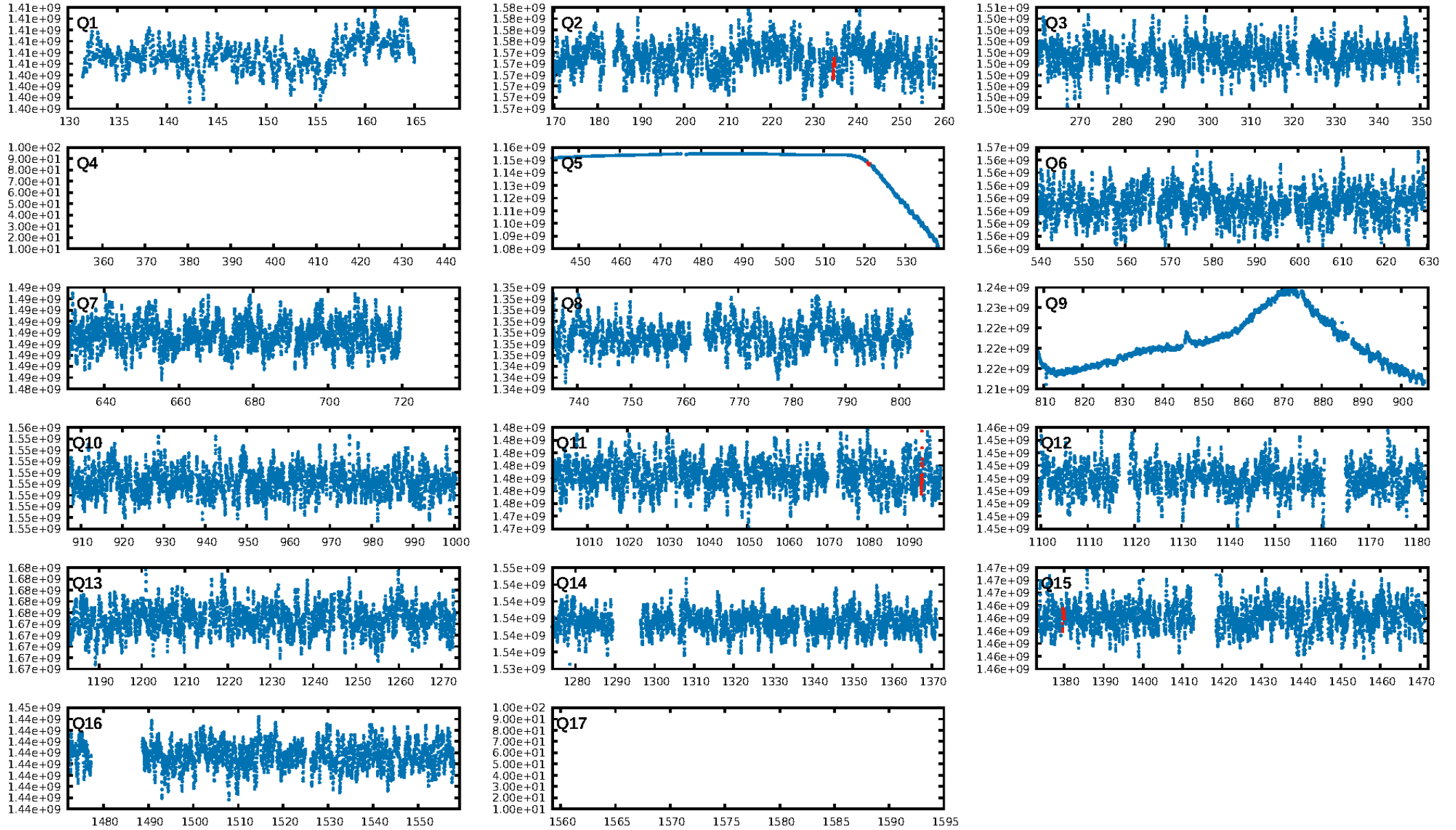
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.82σ]
LongPeriod-sig: 100.0% [307.96σ]
ModelChiSquare2-sig: 56.8%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 5.61e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 14.36
Centroid-sig: N/A
Centroid-so: 0.529 arcsec [0.75σ]
OotOffset-rm: 4.167 arcsec [17.55σ]
KicOffset-rm: 3.494 arcsec [8.53σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

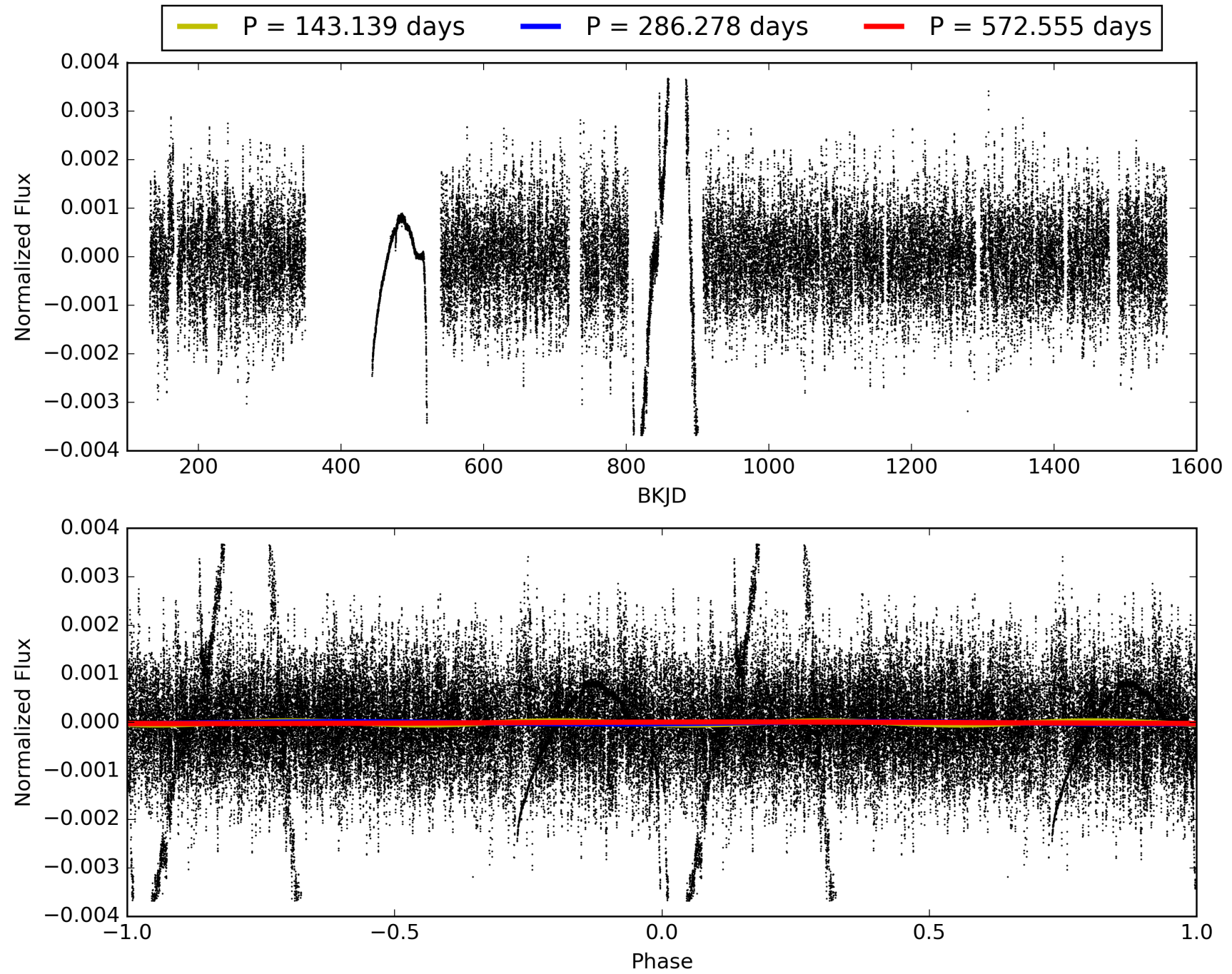
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:21:16 Z

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

TCE 004922182-07, PDC Light Curves

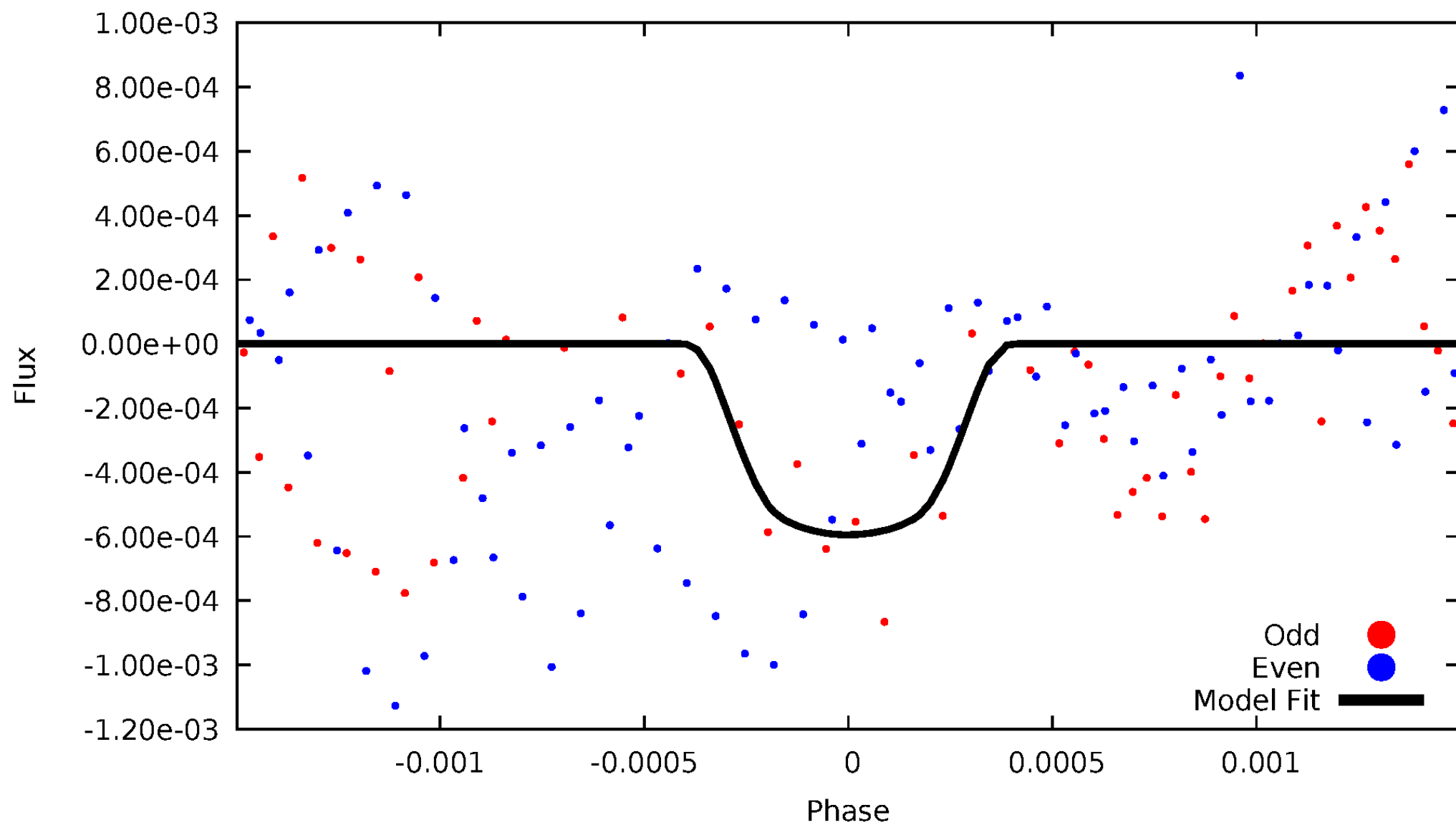


TCE 004922182-07



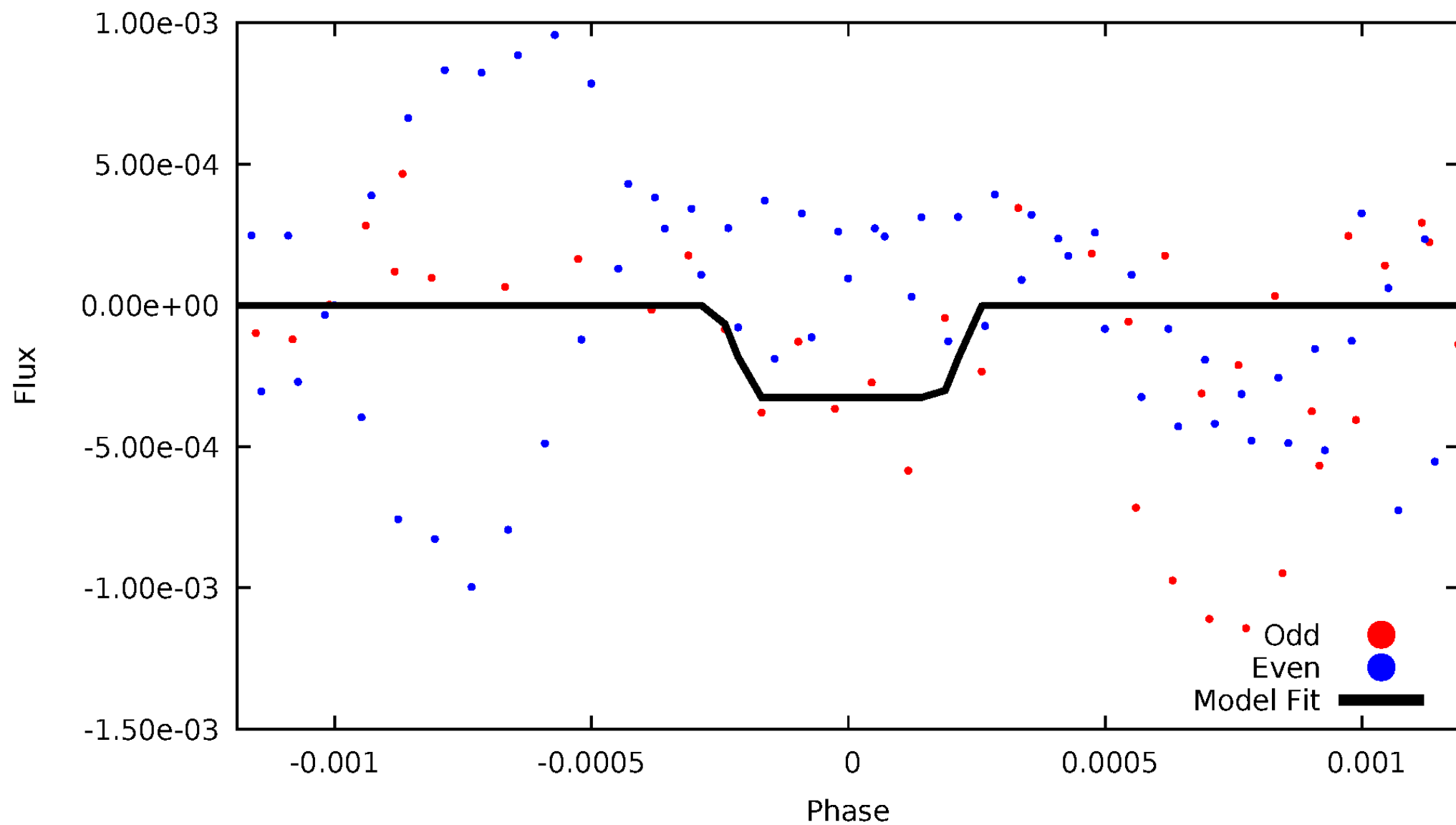
DV Odd/Even

TCE 004922182-07



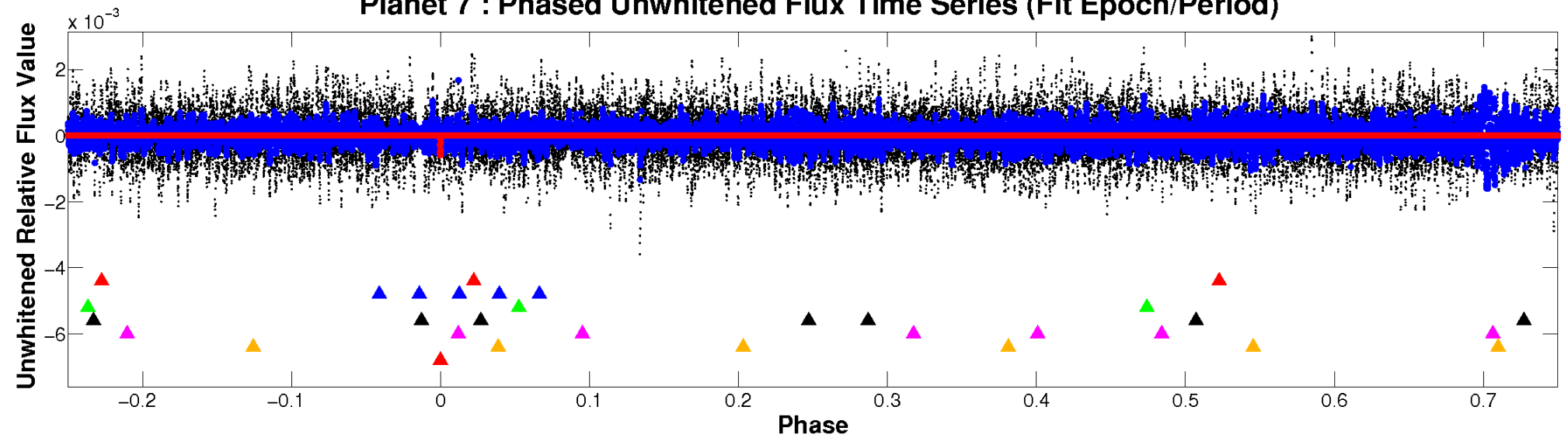
ALT Odd/Even

TCE 004922182-07

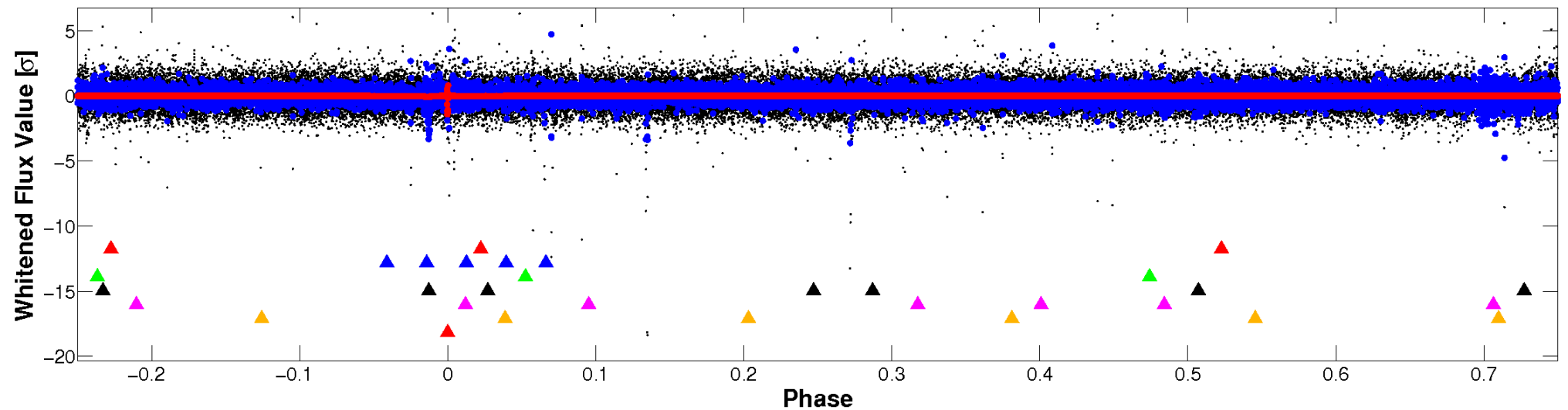


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

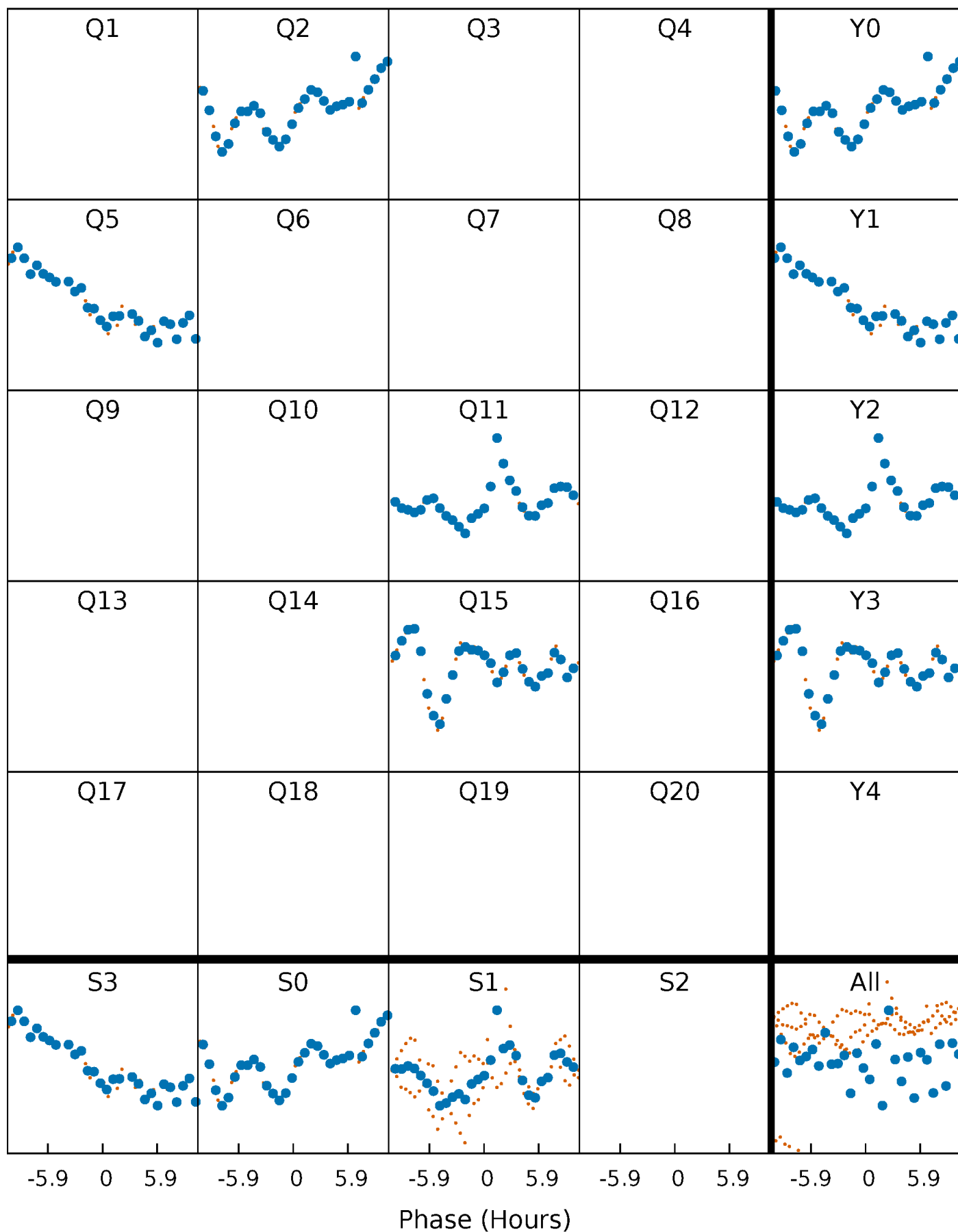


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



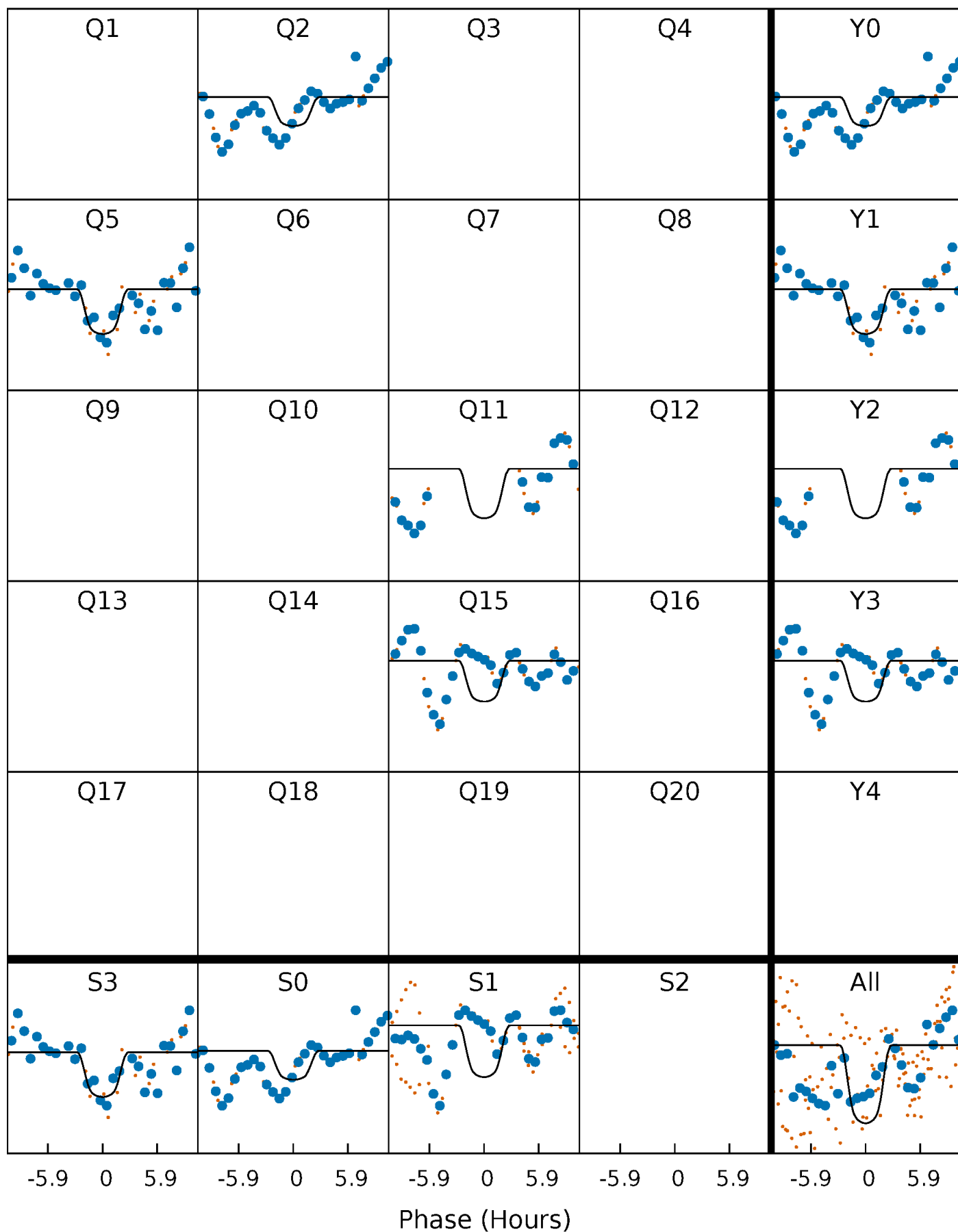
PDC Quarter-Phased Transit Curves

TCE 004922182-07 $P=286.277729$ Days $T_0=234.735894$ (BKJD)



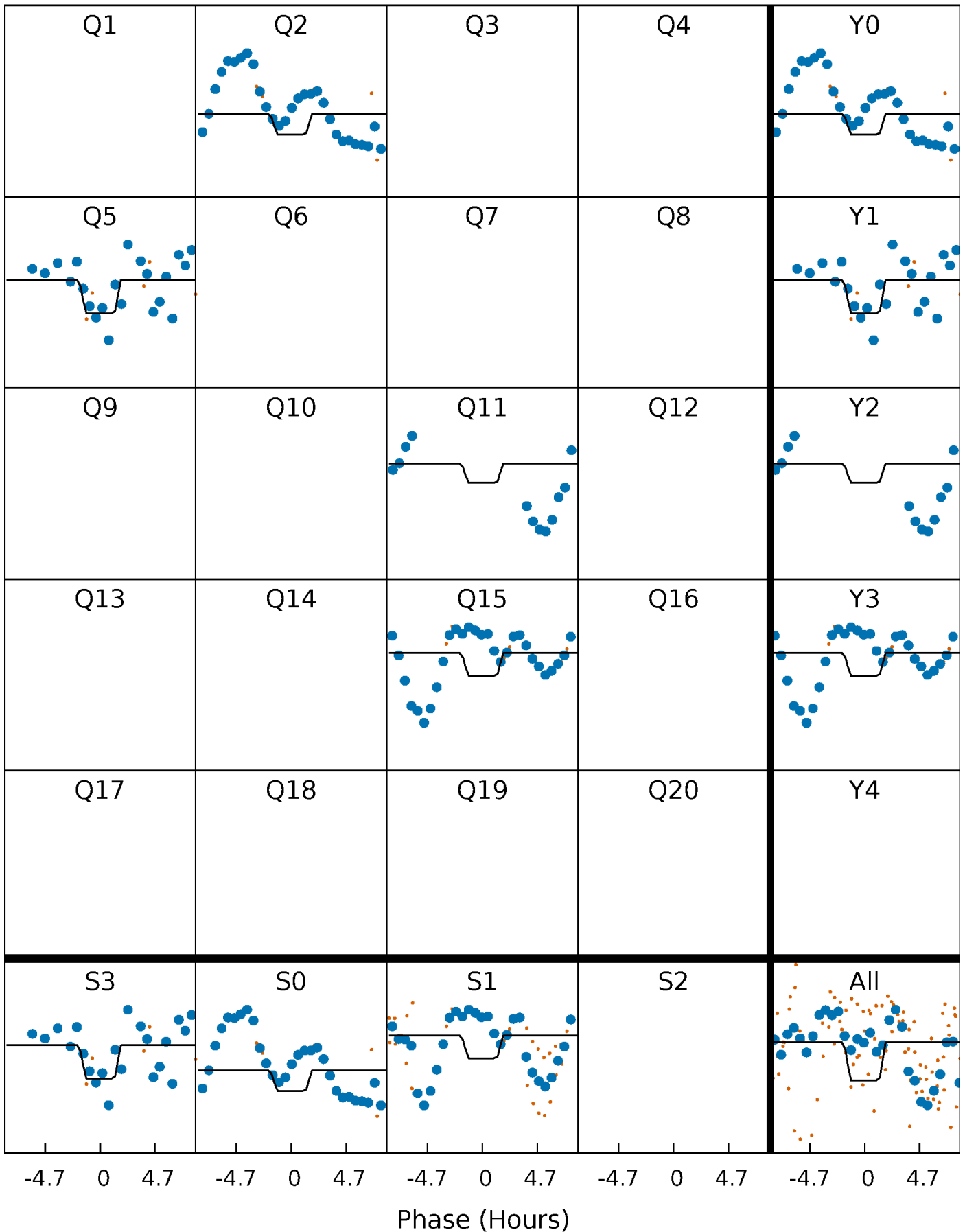
DV Quarter-Phased Transit Curves

TCE 004922182-07 $P=286.277729$ Days $T_0=234.735894$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

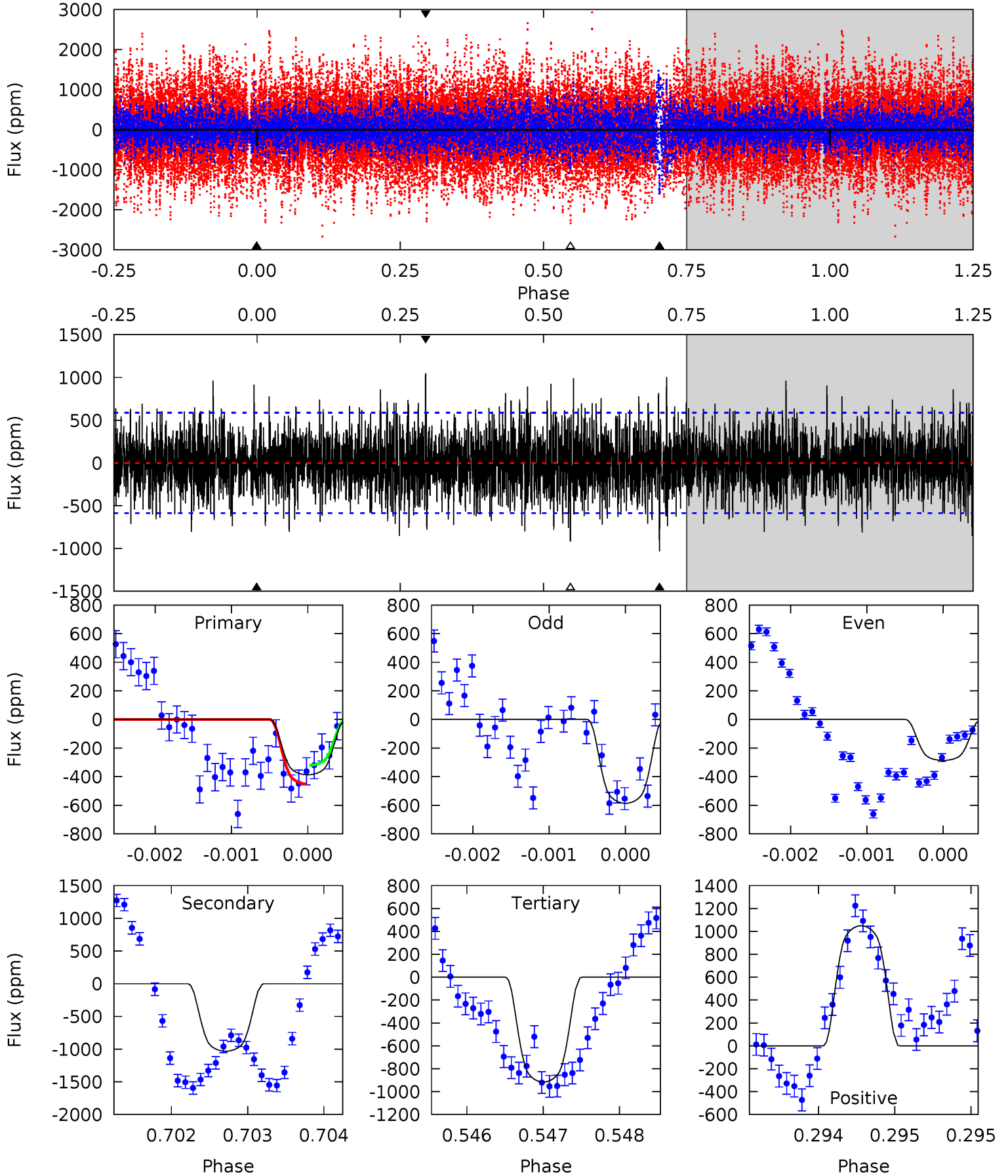
TCE 004922182-07 P=286.280987 Days $T_0=234.724663$ (BKJD)



DV Model-Shift Uniqueness Test

004922182-07, P = 286.277729 Days, E = 234.735894 Days

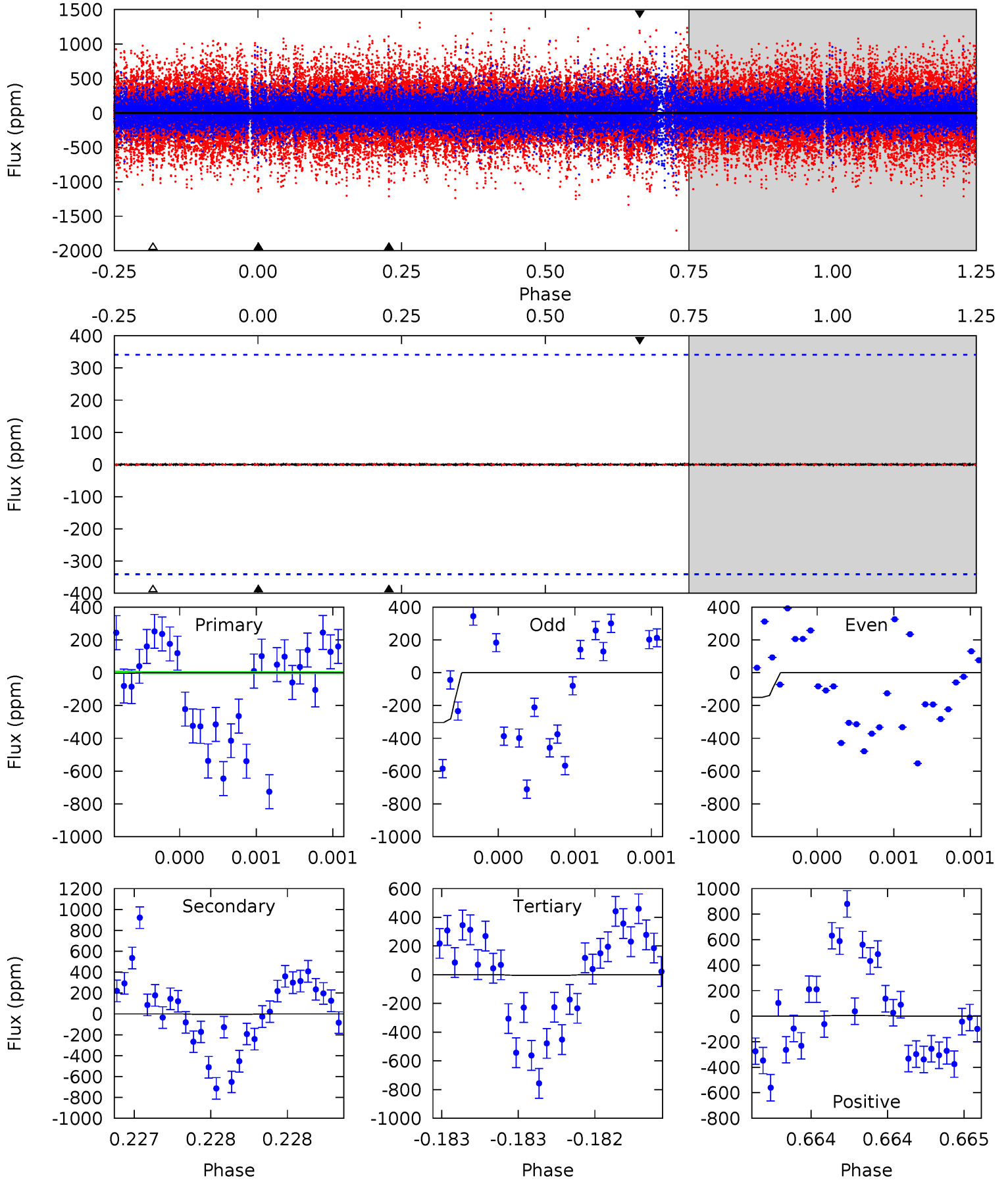
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.61	9.66	8.57	9.81	5.49	3.35	2.52	-4.95	-6.20	1.09	-0.16	1.30	0.72	0.50	0.61



Alt Model-Shift Uniqueness Test

004922182-07, P = 286.280987 Days, E = 234.724663 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.07	0.07	0.07	0.07	5.57	3.48	0.02	0.00	-0.00	0.00	-0.00	1.04	-0.02	0.50	0.06



Stellar Parameters For KIC 004922182

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4761^{+57}_{-162}	$2.445^{+0.035}_{-0.028}$	$0.210^{+0.150}_{-0.400}$	$16.866^{+1.445}_{-5.780}$	$2.890^{+0.511}_{-1.533}$	$0.001^{+0.000}_{-0.000}$
	+1%/-3%	+1%/-1%	+71%/-190%	+9%/-34%	+18%/-53%	+54%/-11%
Source	PHO1	AST9	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 004922182-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1032±107	$56.26^{+6.77}_{-6.68}$	1094^{+25}_{-43}	4875^{+241}_{-242}	275^{+73}_{-57}
Alt.	-4±61	$34.15^{+5.56}_{-6.25}$	1093^{+26}_{-38}	2679^{+910}_{-6097}	$7.132^{+47.137}_{-45.846}$

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 $A_{obs} \gg 1.0$

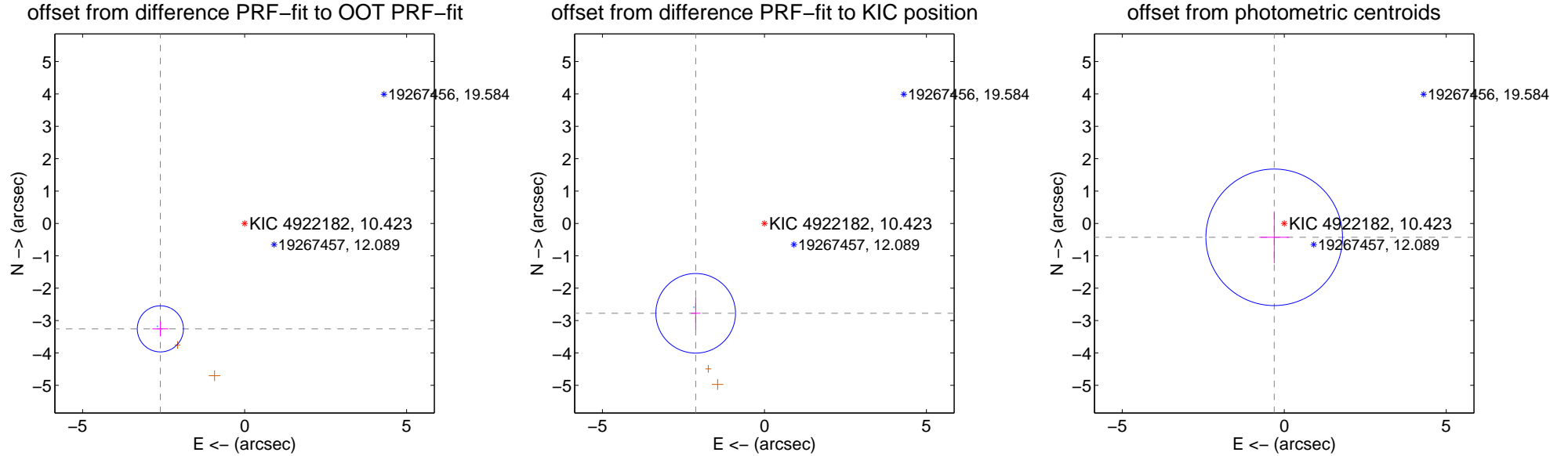
DV Centroid Data

Supplemental centroid analysis for 004922182-07. **Kepler magnitude: 10.42.** Transit SNR 7.19

There are 1 quarters with good PRF difference image offsets

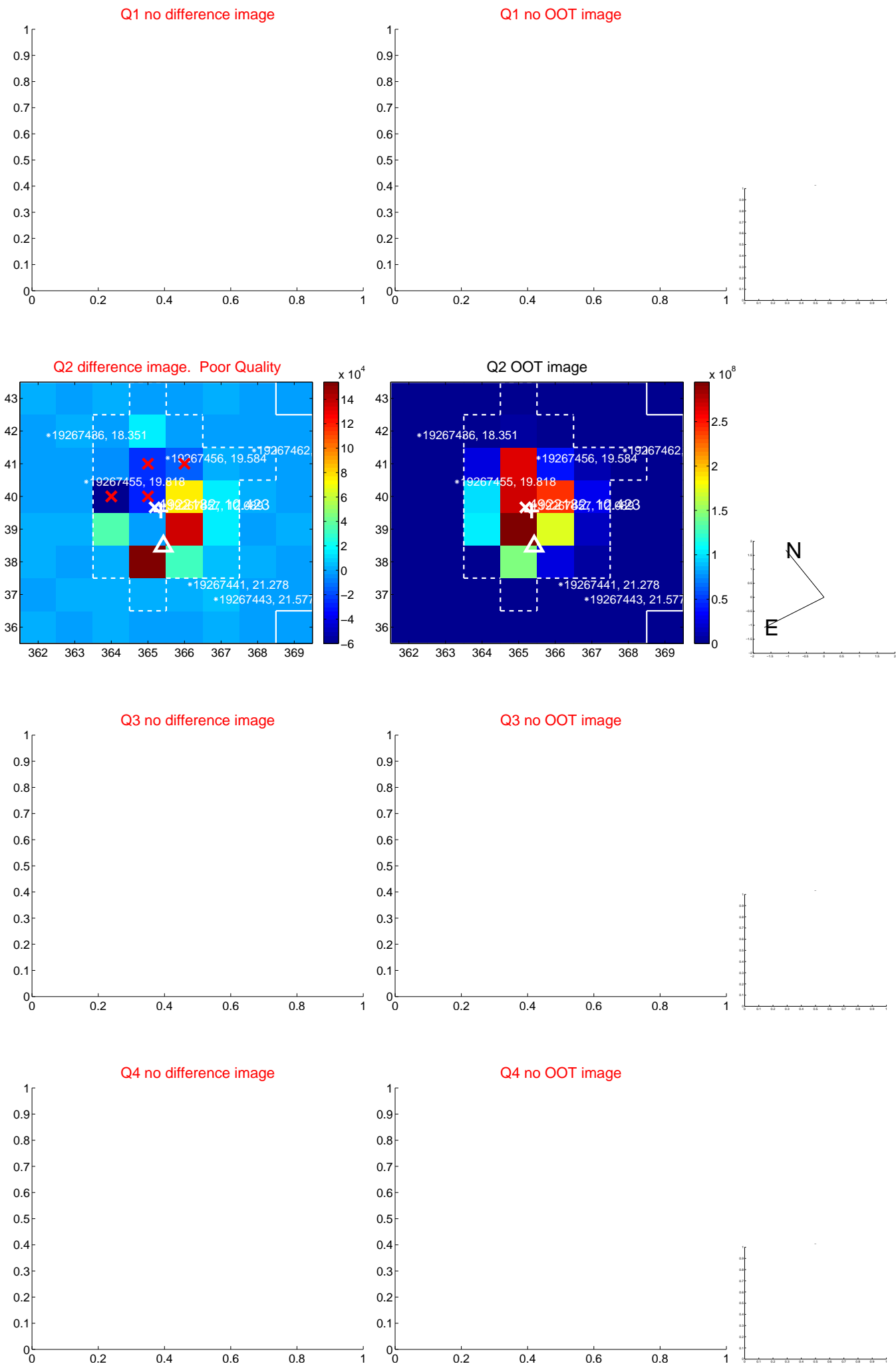
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.167 ± 0.237	17.55	2.600 ± 0.247	-3.256 ± 0.231
PRF-fit source offset from KIC position	3.494 ± 0.410	8.53	2.122 ± 0.148	-2.775 ± 0.503
photometric centroid source offset	0.53 ± 0.70	0.75	0.31 ± 0.46	-0.43 ± 0.80

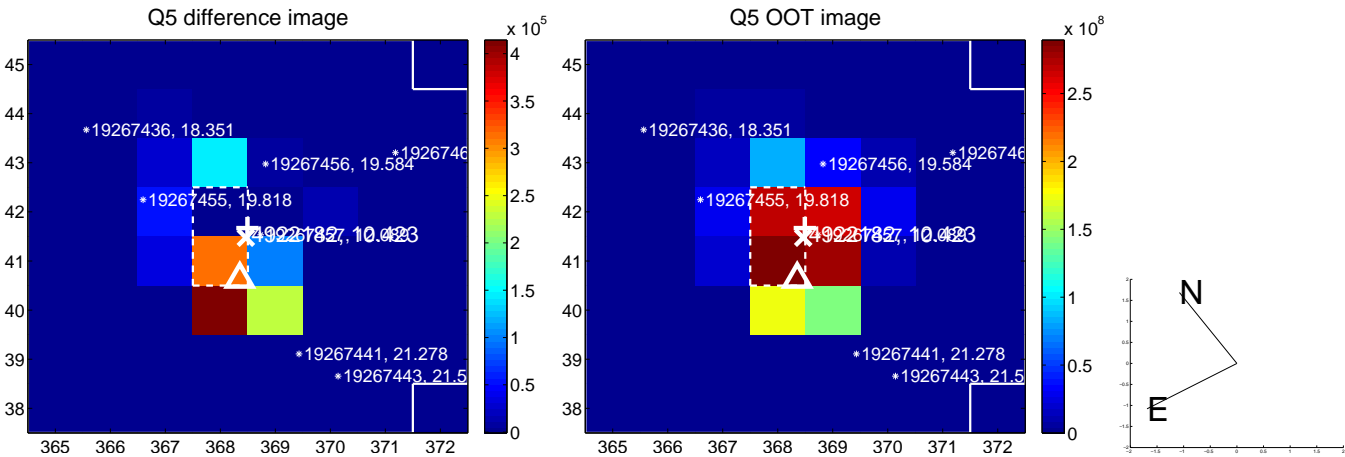


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



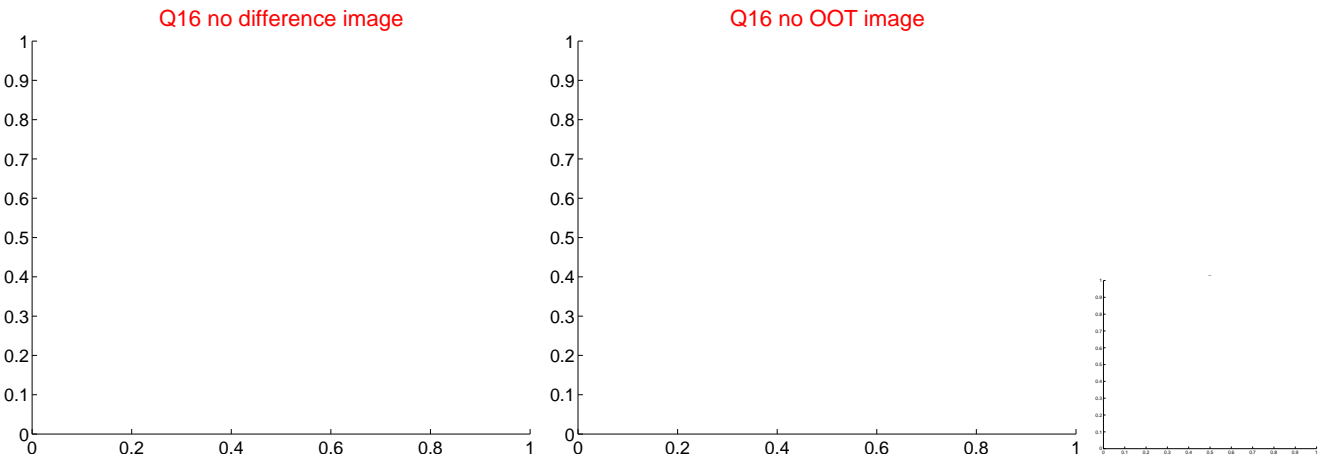
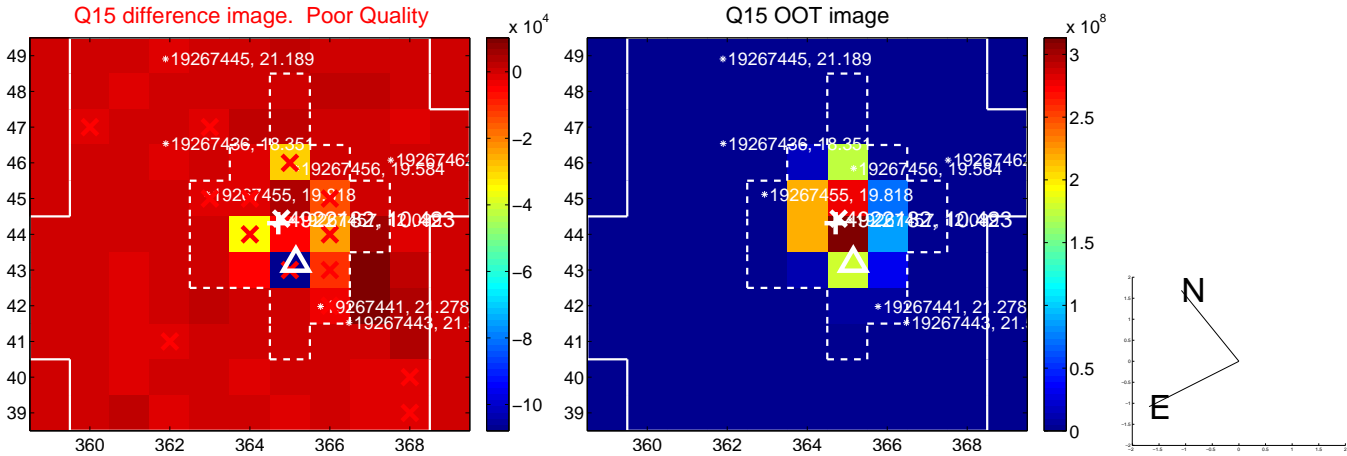
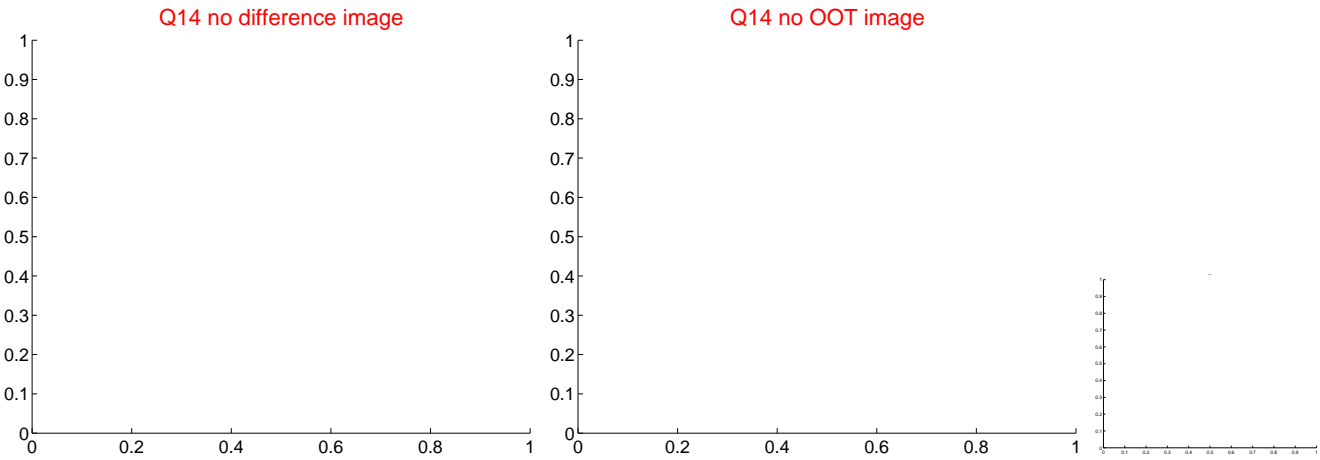
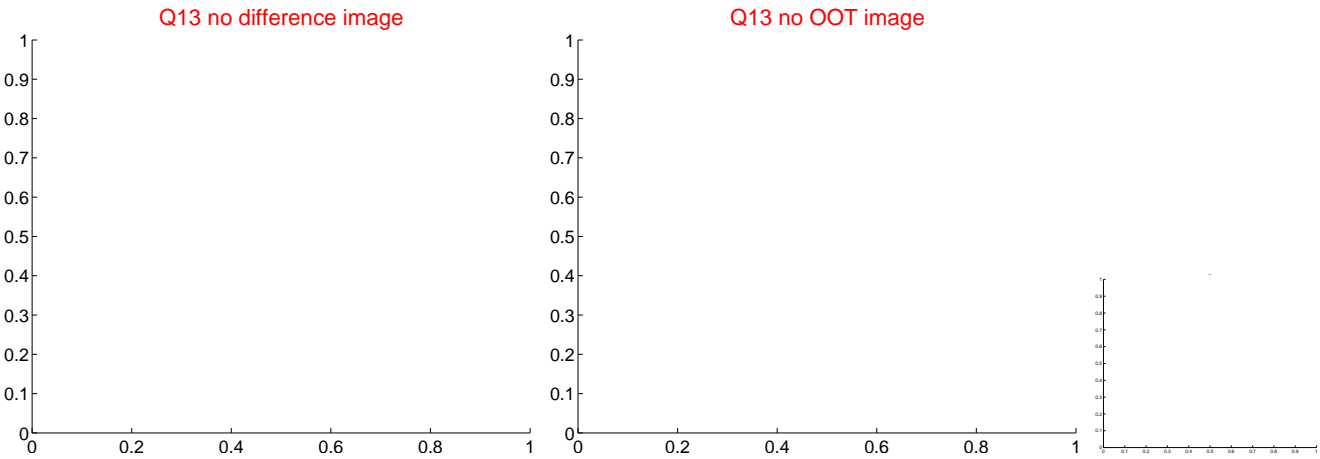
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



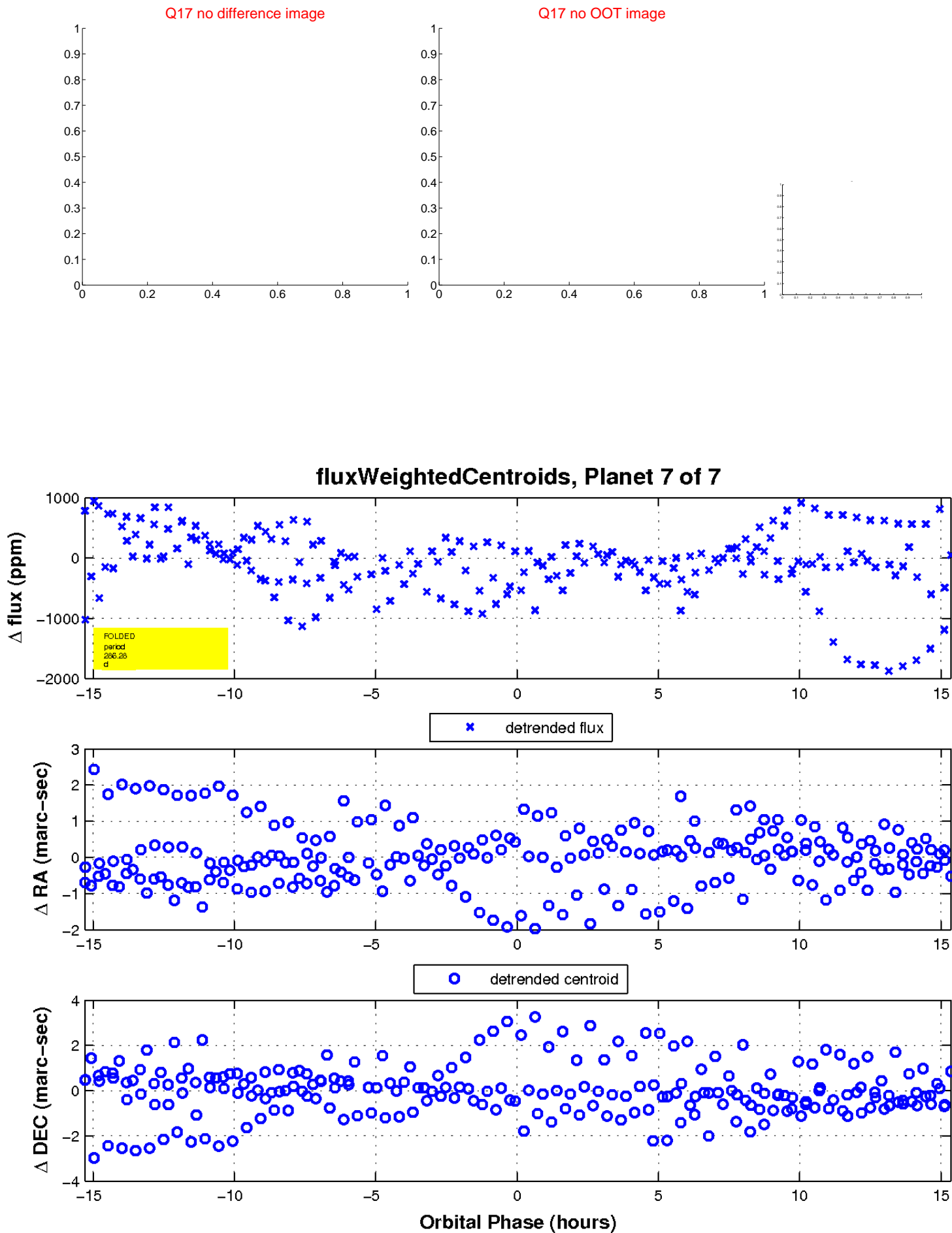
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

