

KIC 005817210

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})
005817210-01	OBS	No	3.282245	132.595698	21.0	17.015	10.9	7.8	2.92	6061	1.33	4261.54
005817210-02	OBS	No	142.468035	246.659542	223.7	11.320	9.5	10.2	2.92	6061	5.61	27.94
005817210-03	OBS	No	214.556799	176.143016	298.0	3.549	8.9	8.0	2.92	6061	5.81	16.18
005817210-04	OBS	No	168.723409	144.341929	220.1	5.082	8.7	8.4	2.92	6061	4.90	22.30
005817210-05	OBS	No	178.058270	247.822659	225.3	3.950	8.5	8.5	2.92	6061	5.03	20.75
005817210-06	OBS	No	192.426020	275.572658	95.8	17.716	7.9	4.3	2.92	6061	3.04	18.71
005817210-07	OBS	No	538.249487	209.036189	303.9	25.151	7.6	7.4	2.92	6061	5.76	4.75
005817210-08	OBS	No	653.461104	137.012295	139.9	13.770	7.7	5.5	2.92	6061	3.84	3.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817210-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005817210-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005817210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005817210-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

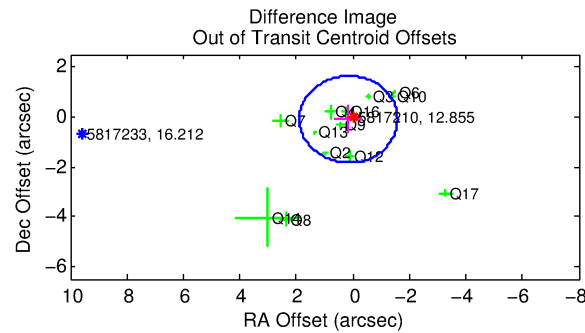
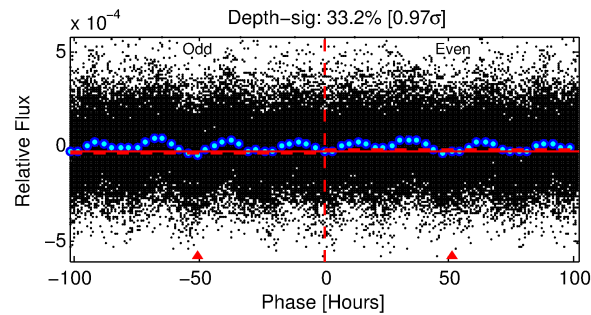
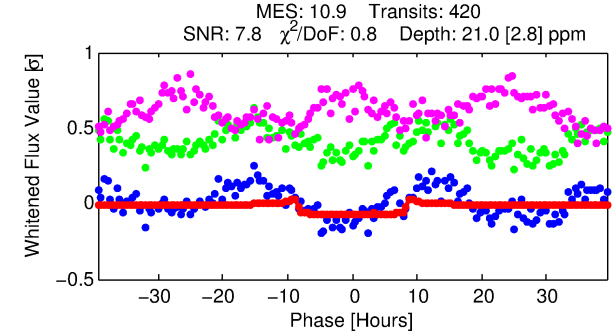
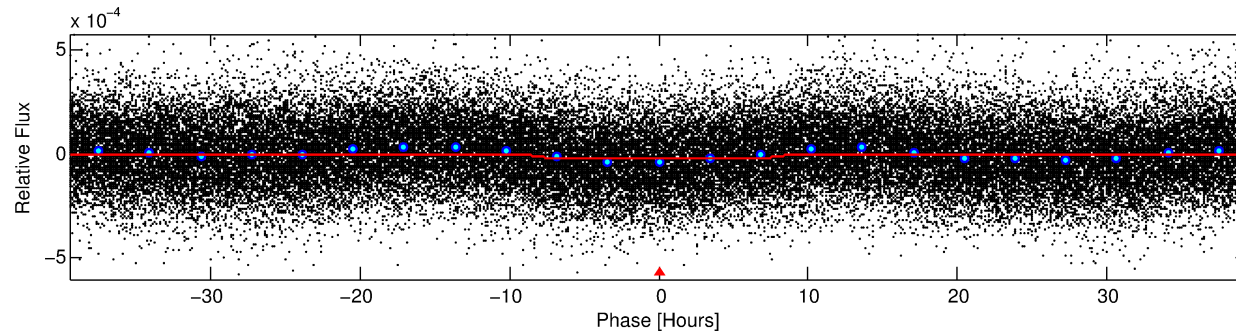
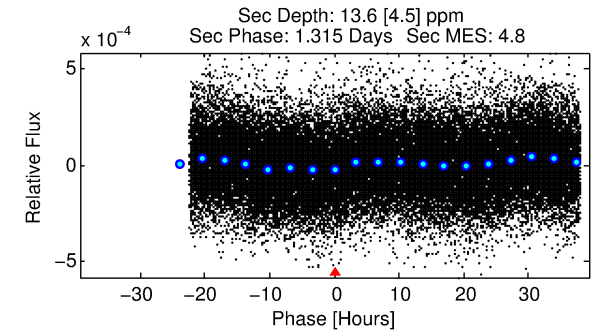
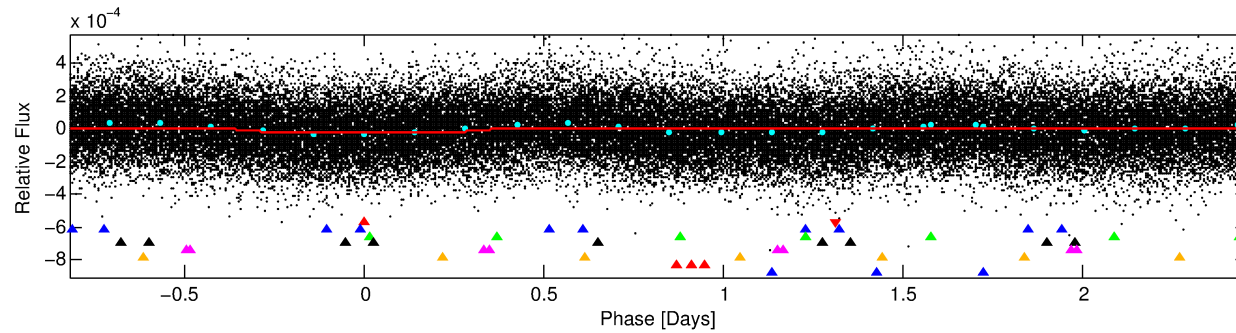
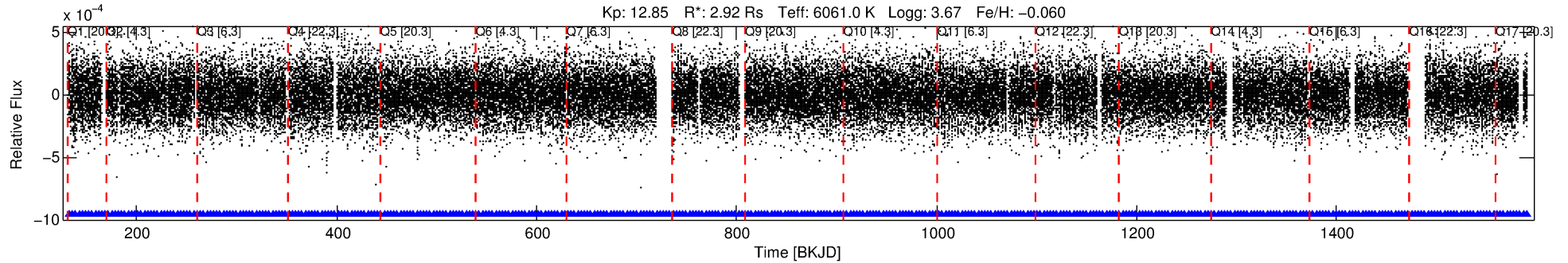
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-01

No Significant Match Found

DV One-Page Summary

KIC: 5817210 Candidate: 1 of 8 Period: 3.282 d



DV Fit Results:

Period = 3.28225 [0.00006] d
Epoch = 132.5957 [0.0103] BKJD
Rp/R* = 0.0042 [0.0037]
a/R* = 1.60 [4.20]
b = 0.00 [1193.97]
Seff = 4261.54 [2547.44]
Teff = 2060 [308] K
Rp = 1.33 [1.30] Re
a = 0.0492 [0.0184] AU
Ag = 10.16 [19.19] [0.48σ]
Teffp = 5686 [2560] K [1.41σ]

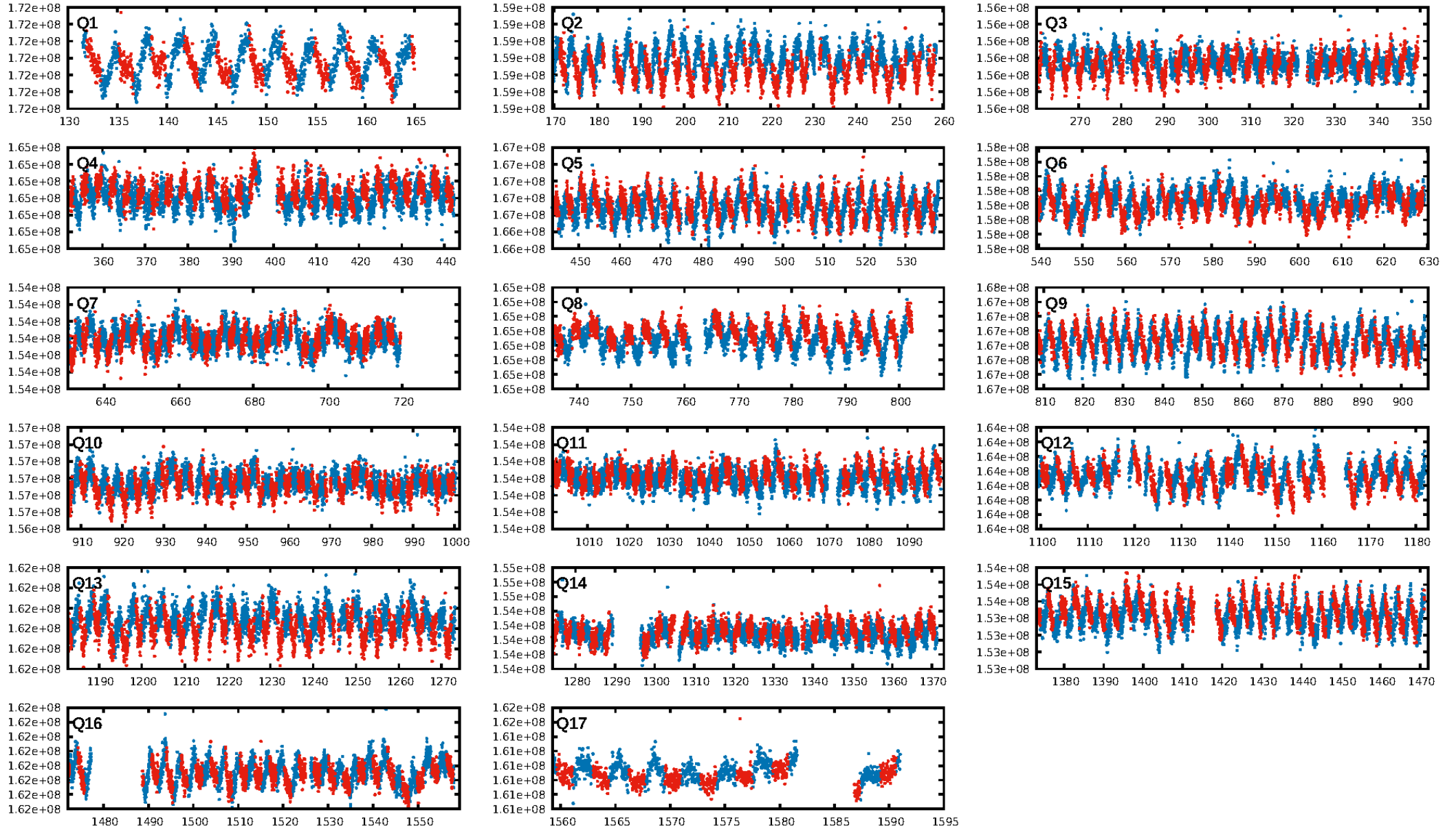
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [163.46σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 2.07e-16
RollingBand-fgt: 1.00 [401/401]
GhostDiagnostic-chr: 1.268
Centroid-sig: 0.2%
Centroid-so: 5.063 arcsec [2.23σ]
OotOffset-rm: 0.190 arcsec [0.33σ]
KicOffset-rm: 0.328 arcsec [0.61σ]
OotOffset-st: 4/2/4/3 [13]
KicOffset-st: 4/2/4/3 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 1.00 [17/17]

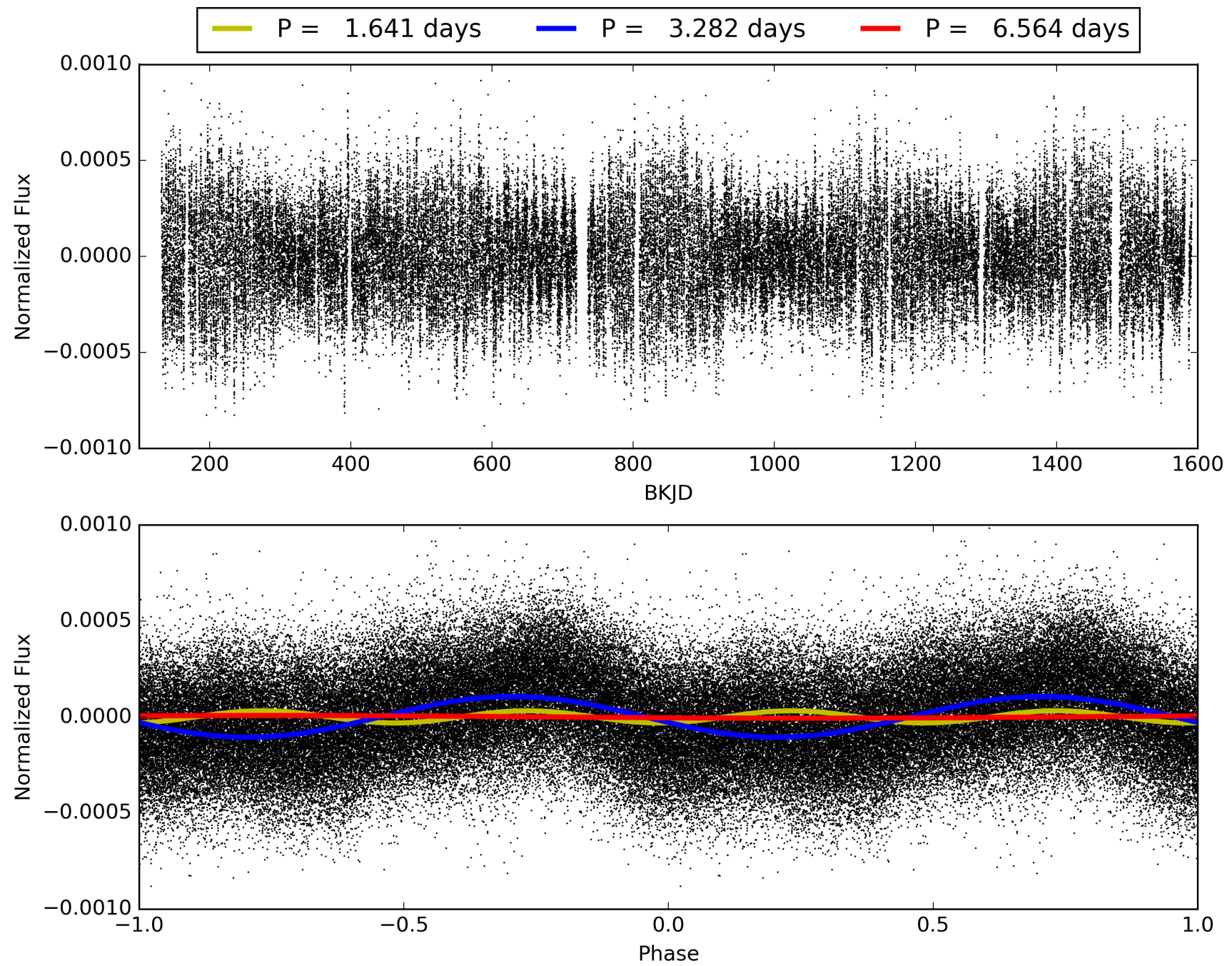
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:00 Z

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

TCE 005817210-01, PDC Light Curves

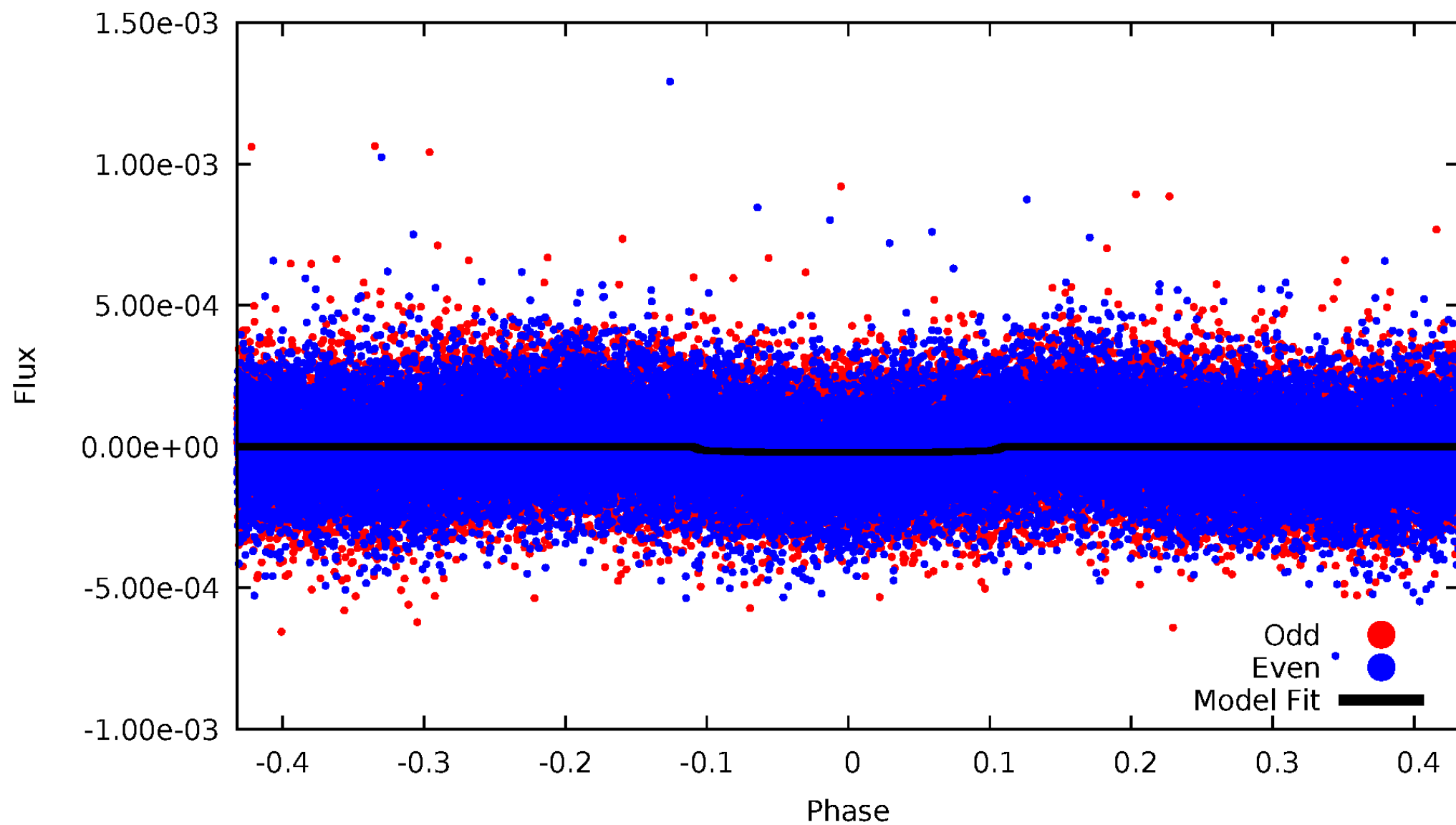


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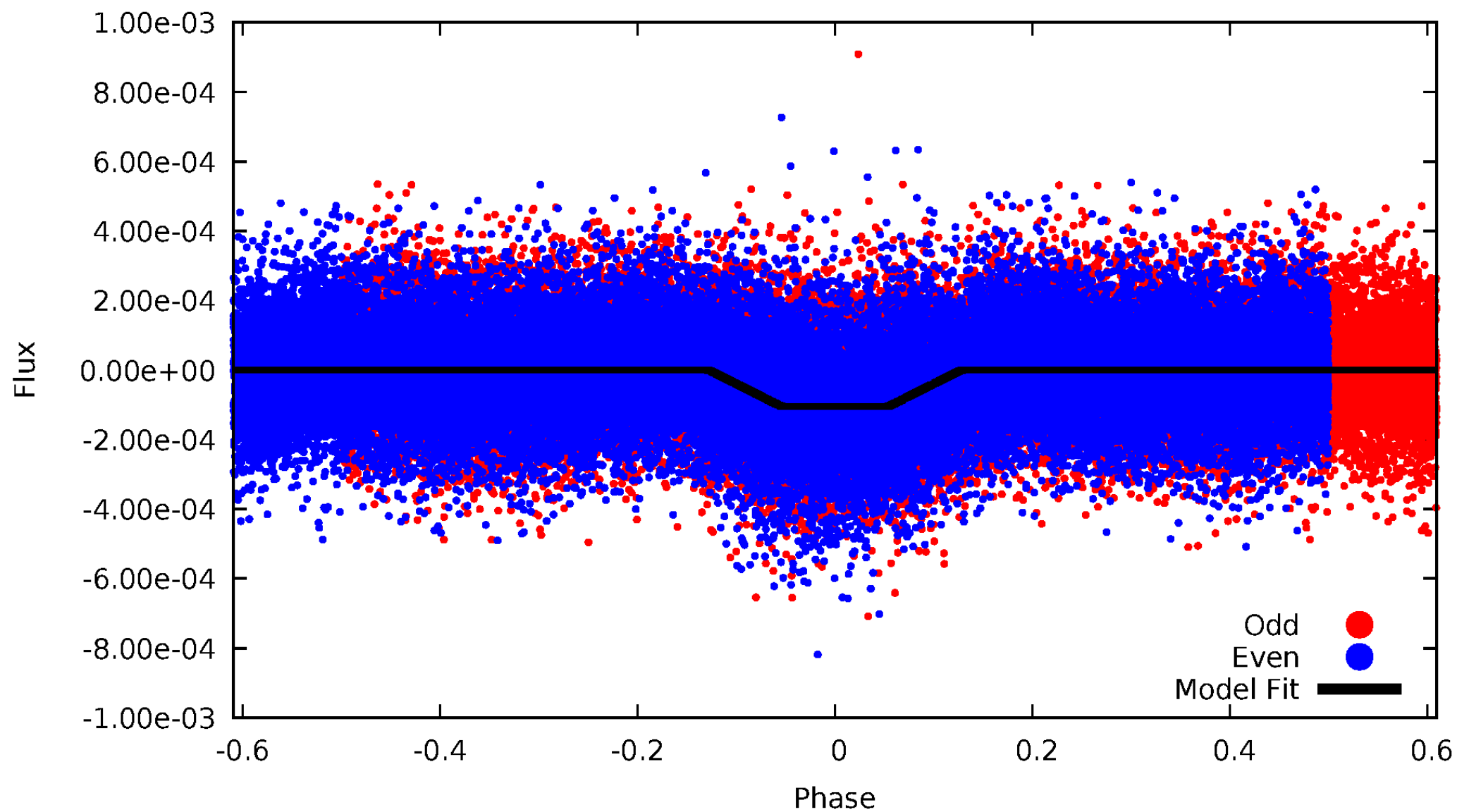
DV Odd/Even

TCE 005817210-01

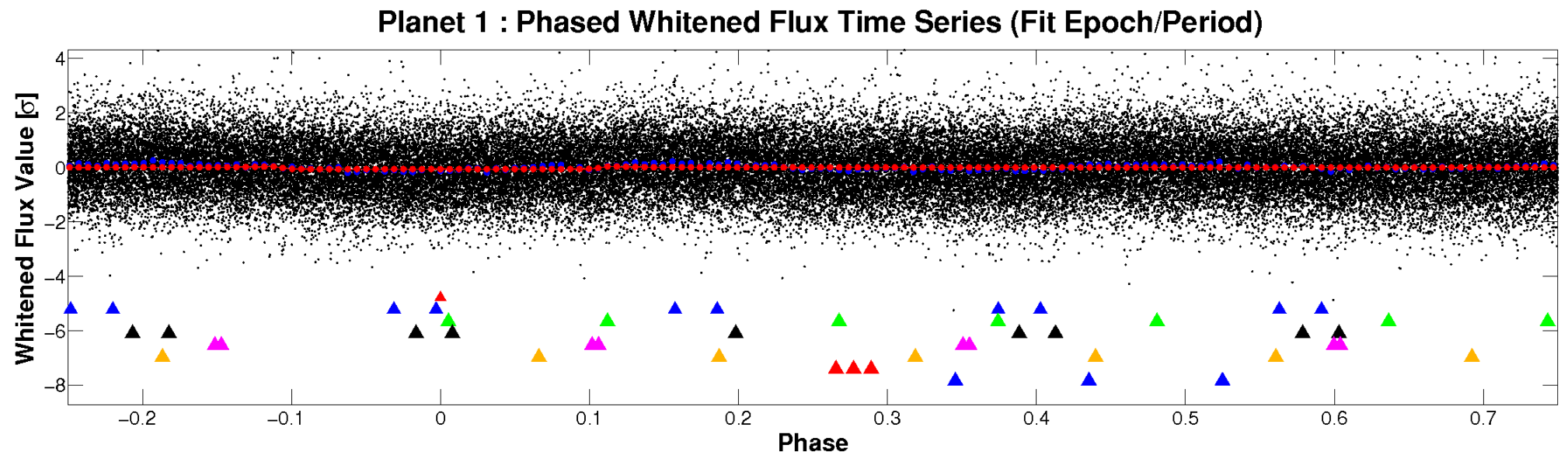
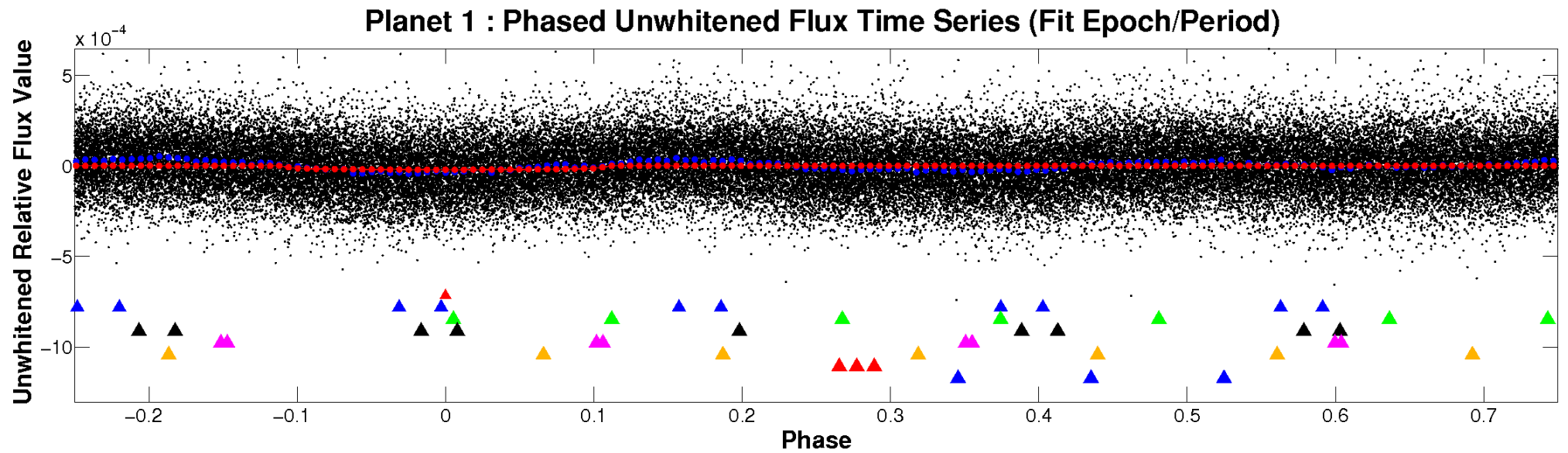


ALT Odd/Even

TCE 005817210-01

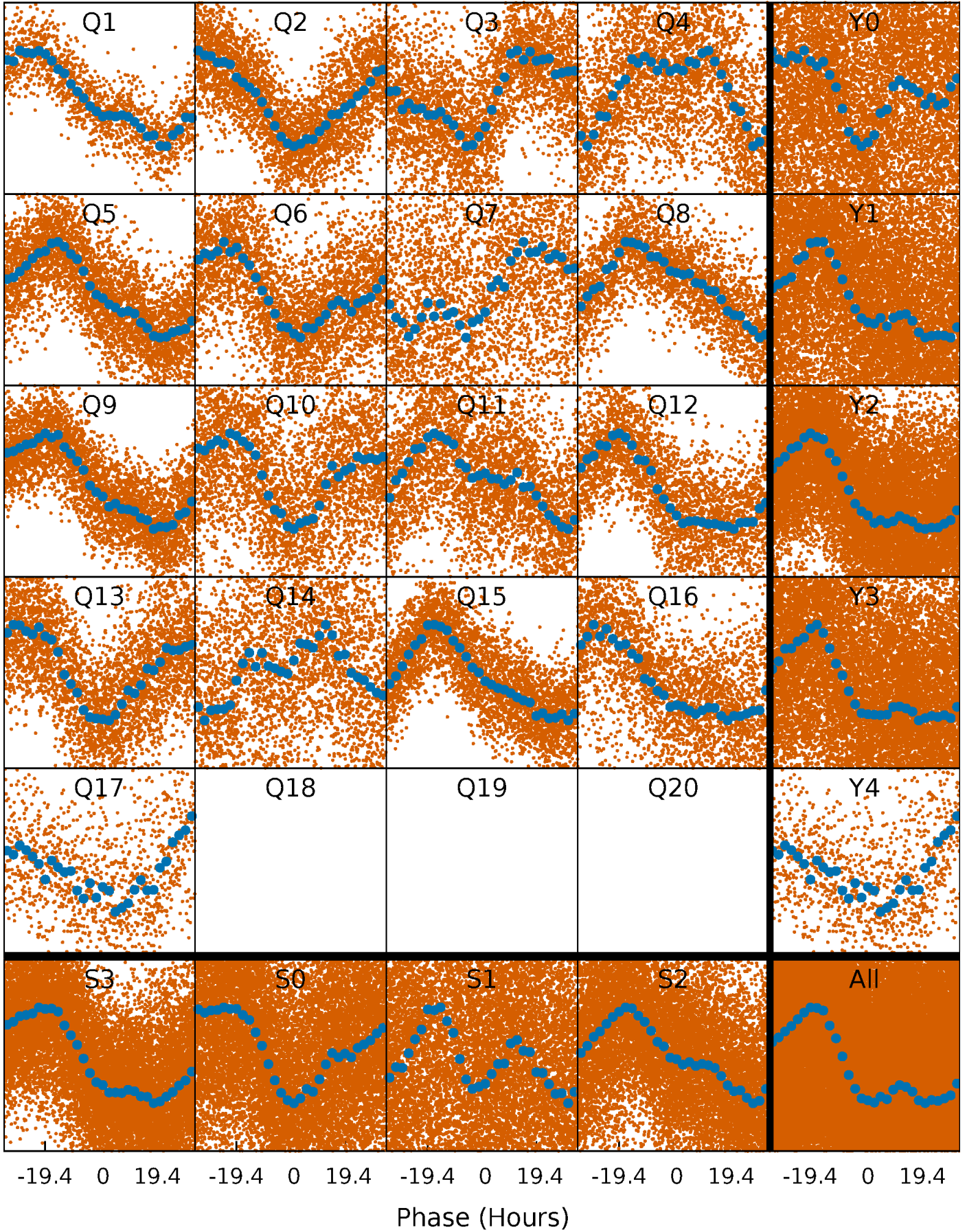


Non-Whitened Vs. Whitened Light Curve



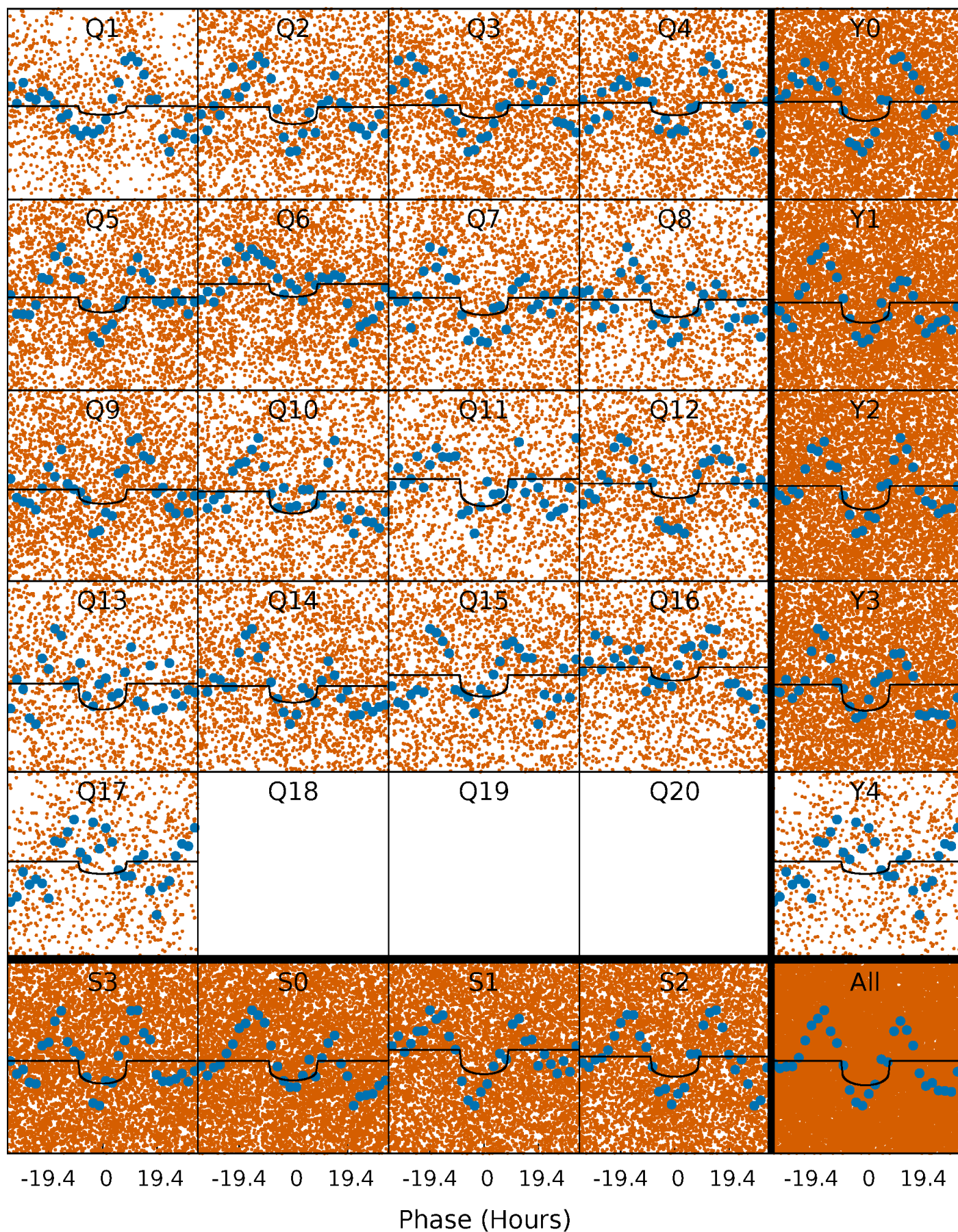
PDC Quarter-Phased Transit Curves

TCE 005817210-01 P= 3.282245 Days $T_0=132.595698$ (BKJD)



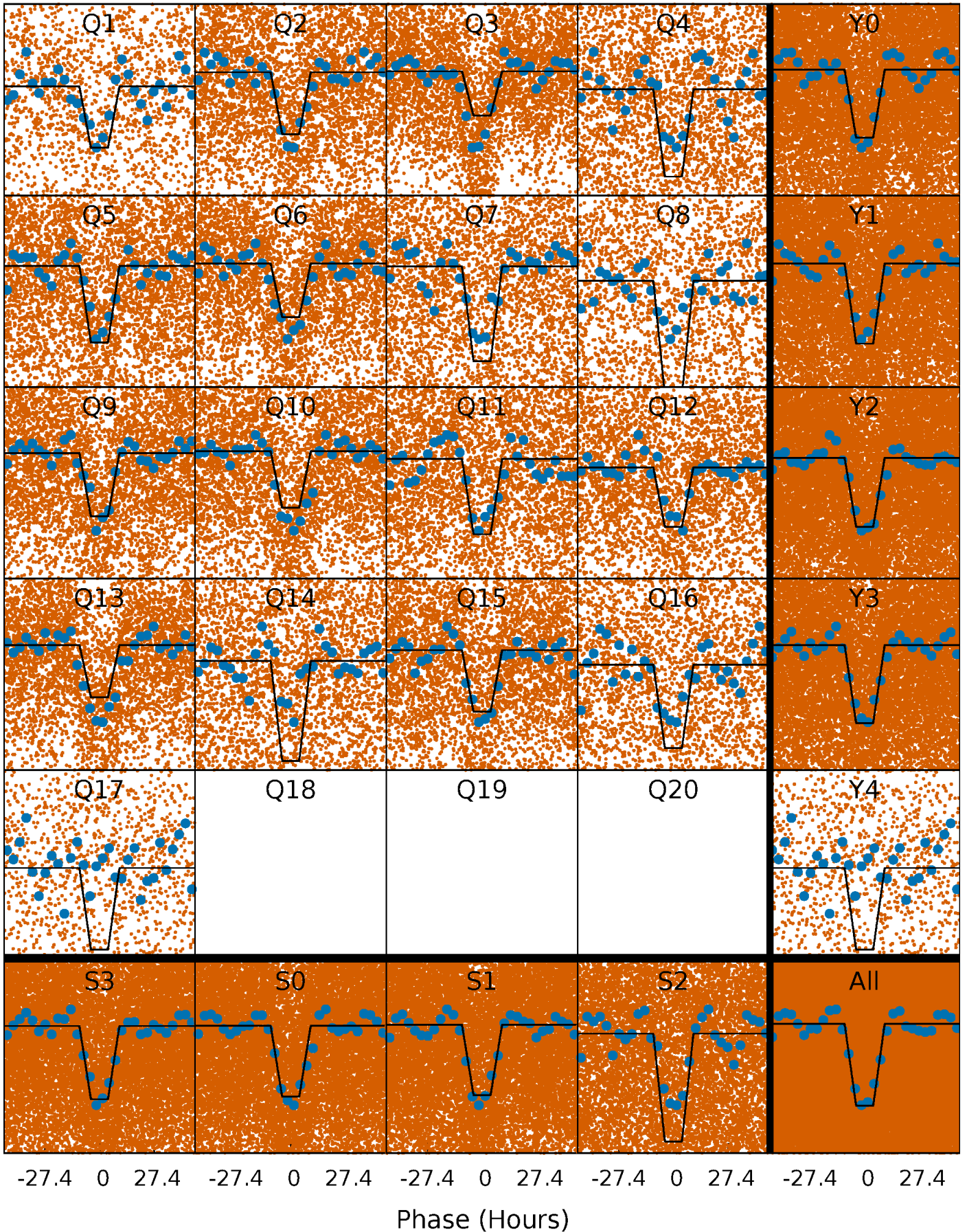
DV Quarter-Phased Transit Curves

TCE 005817210-01 P= 3.282245 Days $T_0=132.595698$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

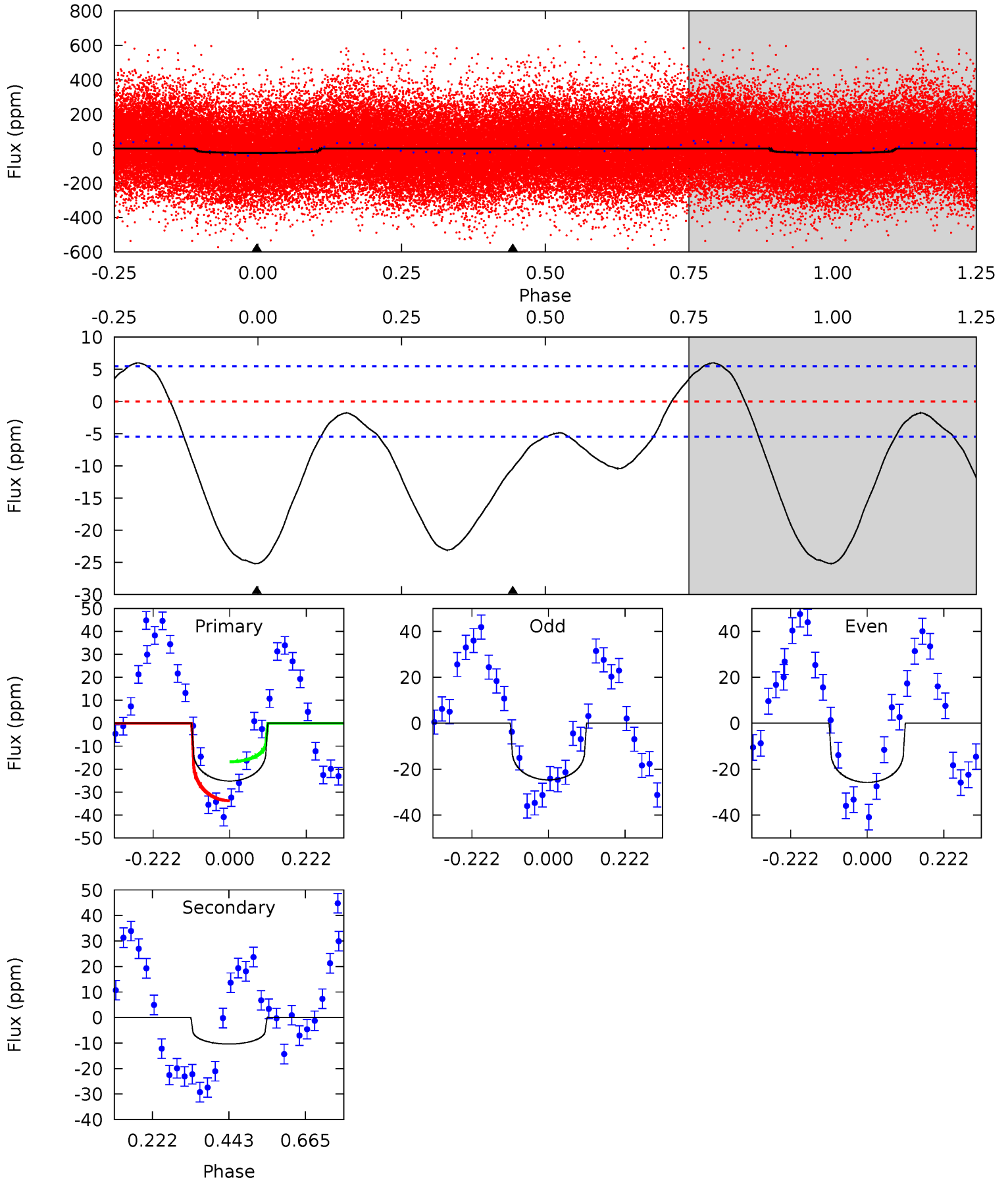
TCE 005817210-01 P= 3.282004 Days $T_0=132.590764$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-01, P = 3.282245 Days, E = 129.313453 Days

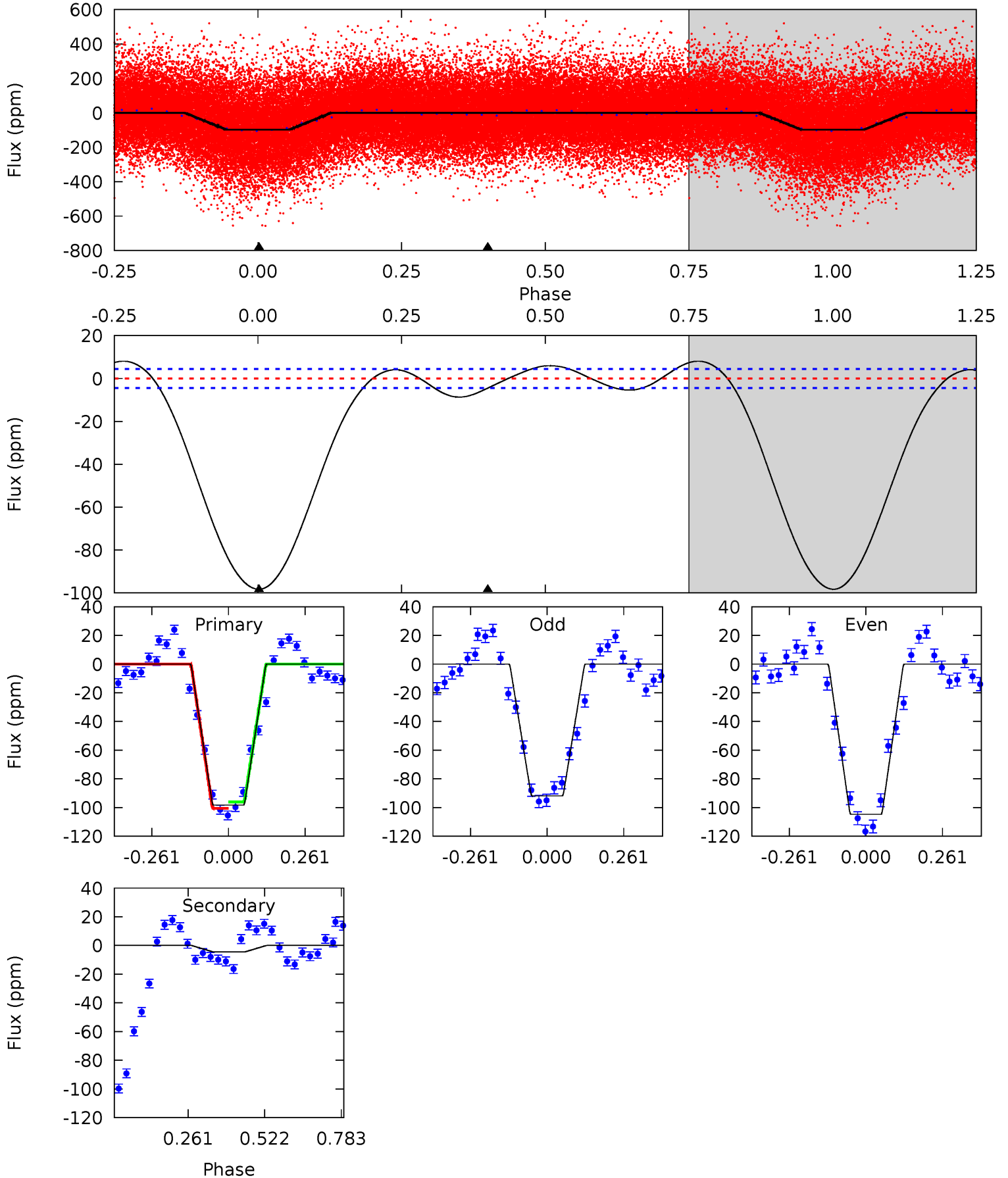
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	8.37	0	0	4.39	1.22	3.50	20.3	20.3	8.37	8.37	0.44	0.92	0.19	6.98



Alt Model-Shift Uniqueness Test

005817210-01, P = 3.282004 Days, E = 129.308760 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
95.5	4.34	0	0	4.36	1.12	4.13	95.5	95.5	4.34	4.34	6.27	1.08	0.08	2.03



Stellar Parameters For KIC 005817210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$1.43^{+0.98}_{-0.88}$	2812^{+181}_{-282}	4972^{+3026}_{-966}	$7.030^{+38.890}_{-4.628}$
Alt.	-4 ± 1	$3.00^{+1.31}_{-1.25}$	2808^{+192}_{-274}	2999^{+757}_{-913}	$0.643^{+1.250}_{-0.329}$

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

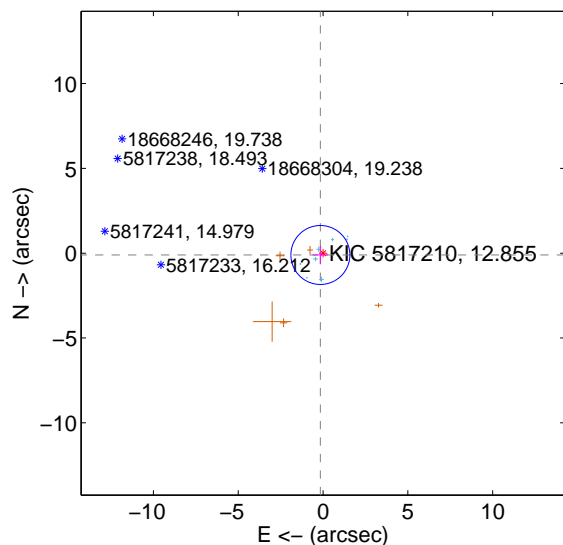
Supplemental centroid analysis for 005817210-01. Kepler magnitude: 12.86. Transit SNR 7.80

There are 8 quarters with good PRF difference image offsets

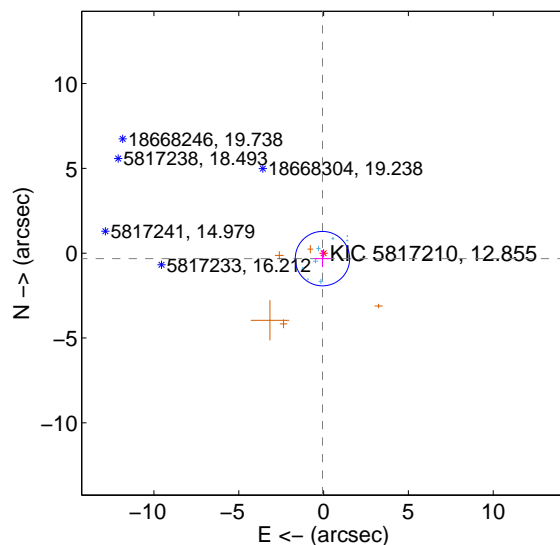
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.190 ± 0.579	0.33	0.157 ± 0.451	-0.106 ± 0.532
PRF-fit source offset from KIC position	0.328 ± 0.535	0.61	0.066 ± 0.484	-0.322 ± 0.500
photometric centroid source offset	5.06 ± 2.27	2.23	-5.06 ± 2.27	-0.08 ± 0.94

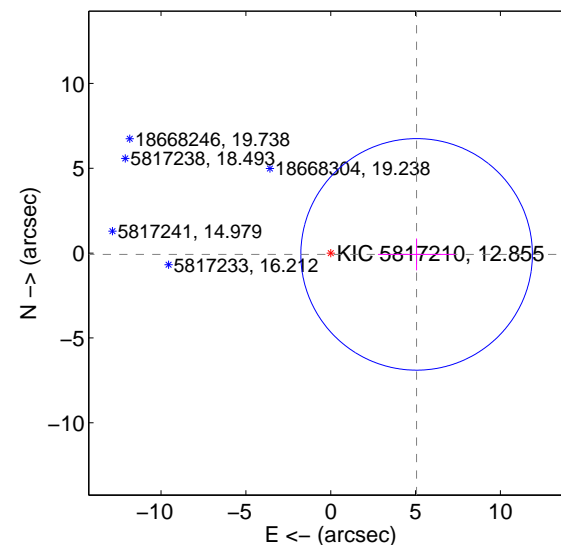
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

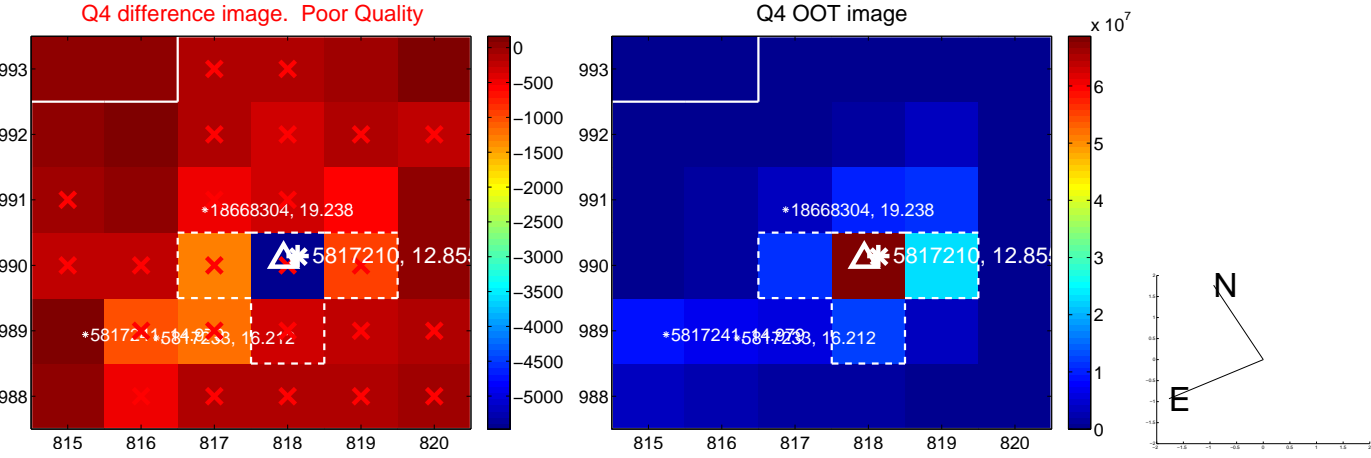
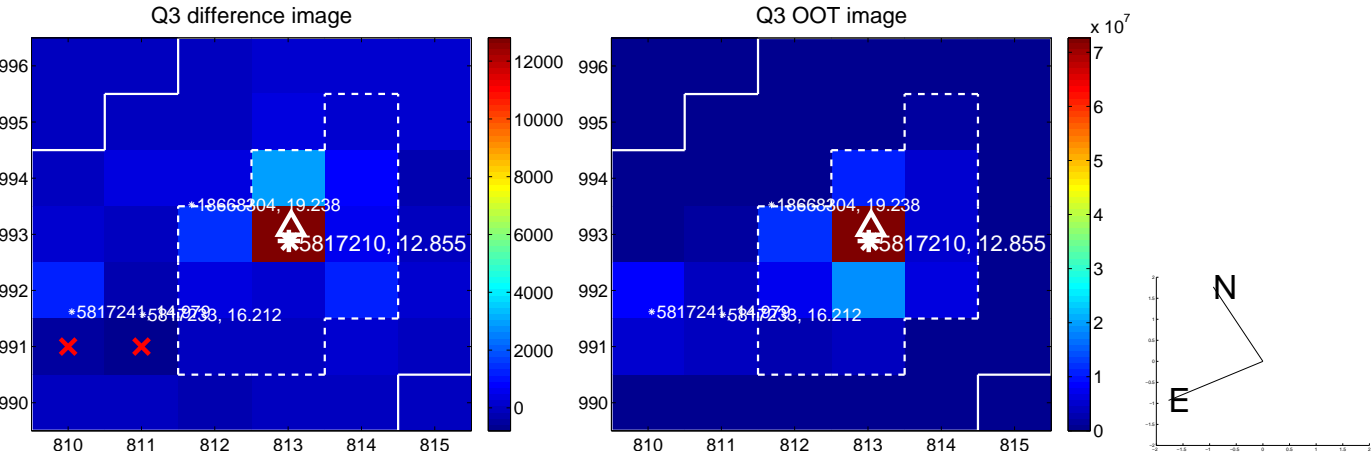
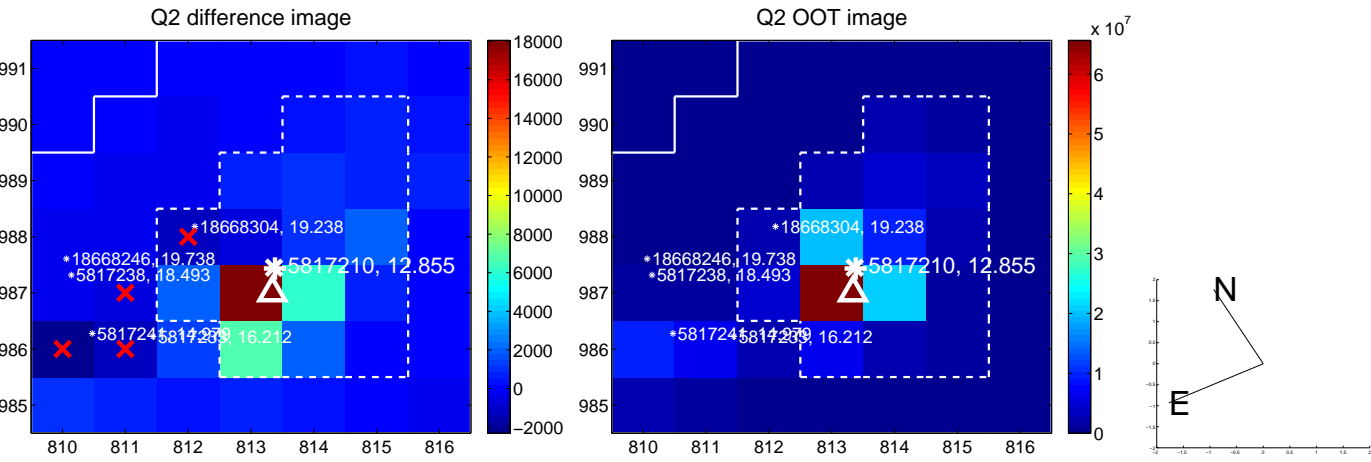
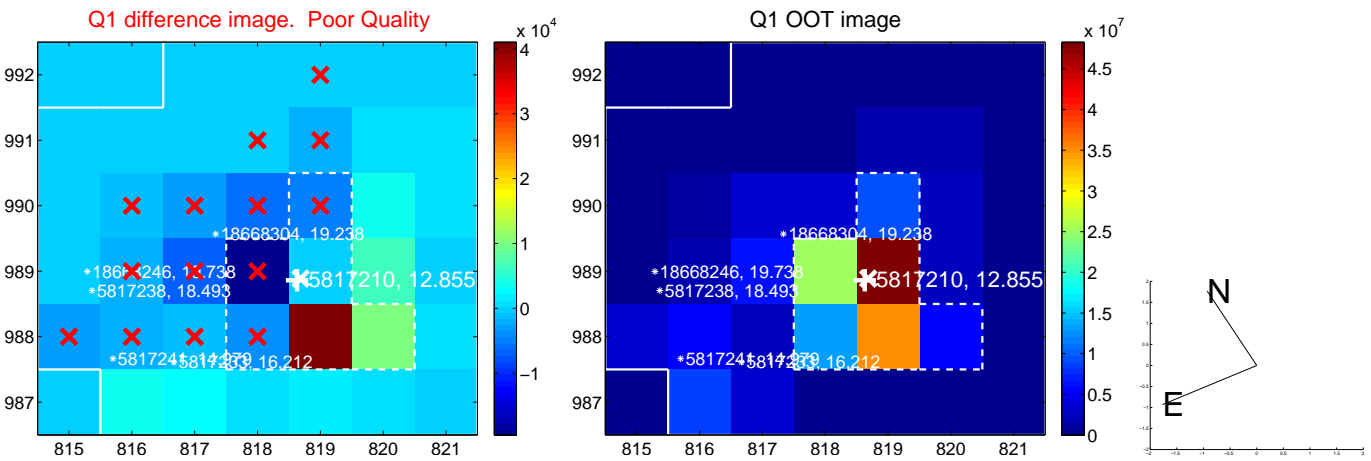


offset from photometric centroids

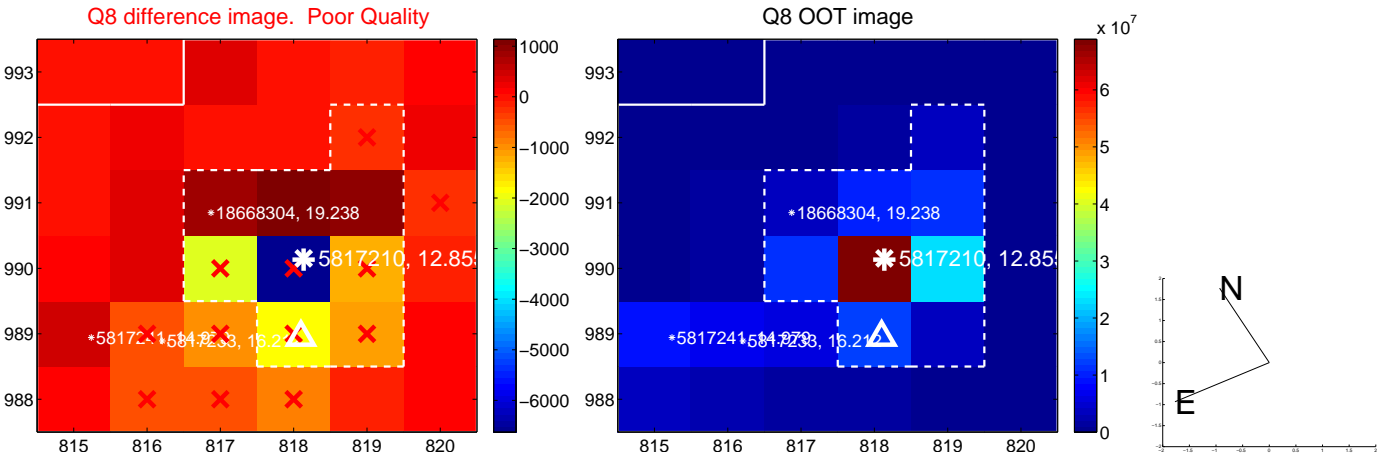
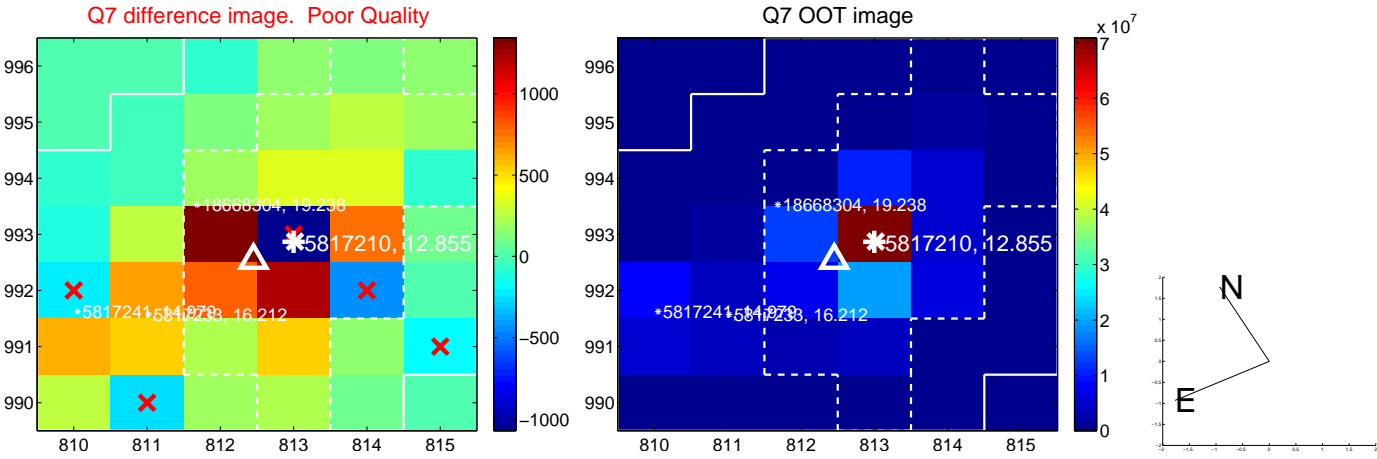
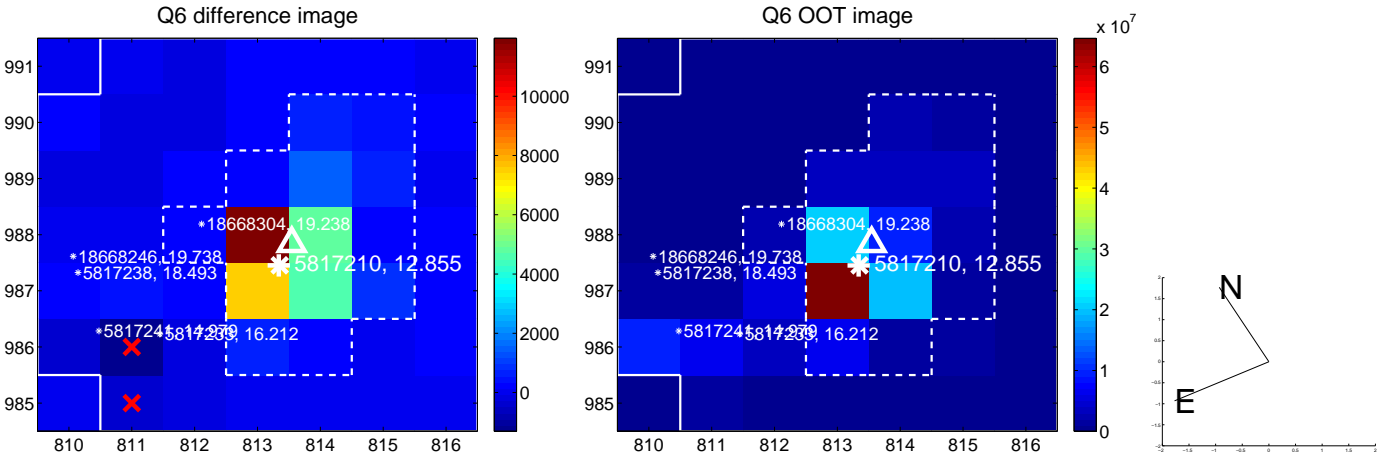
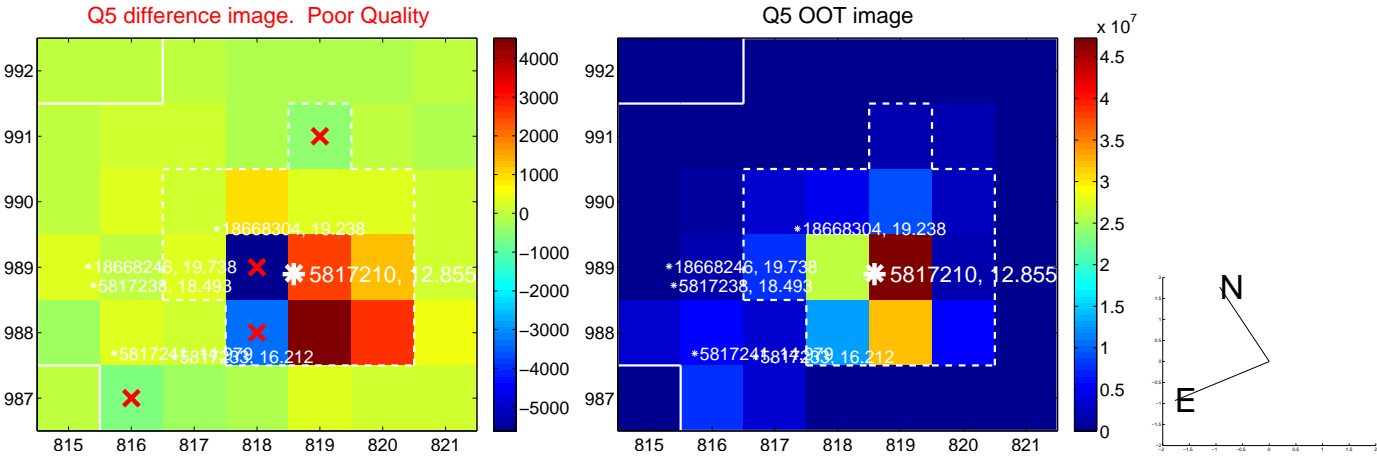


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

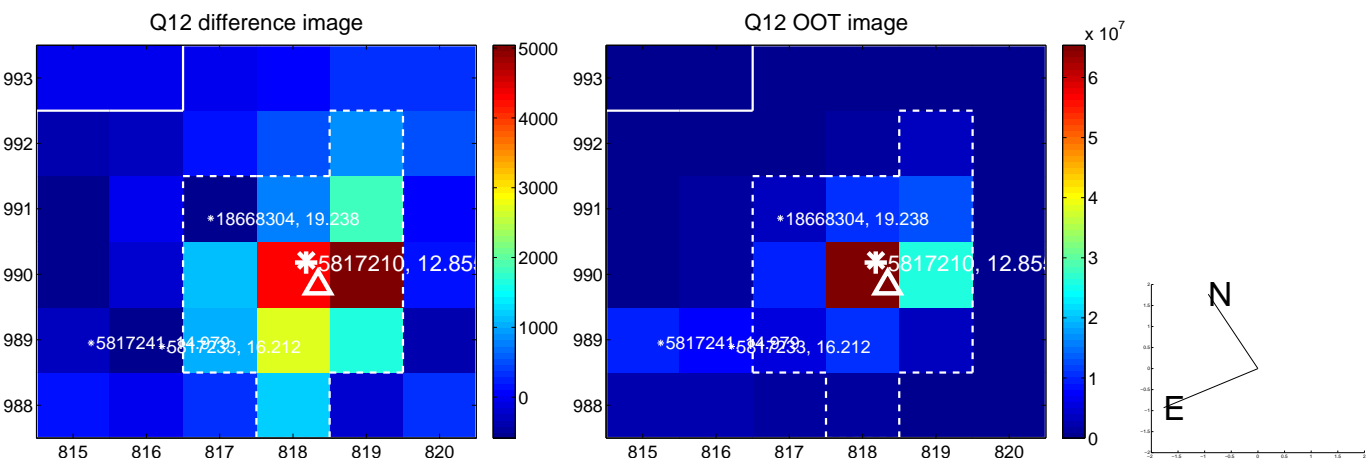
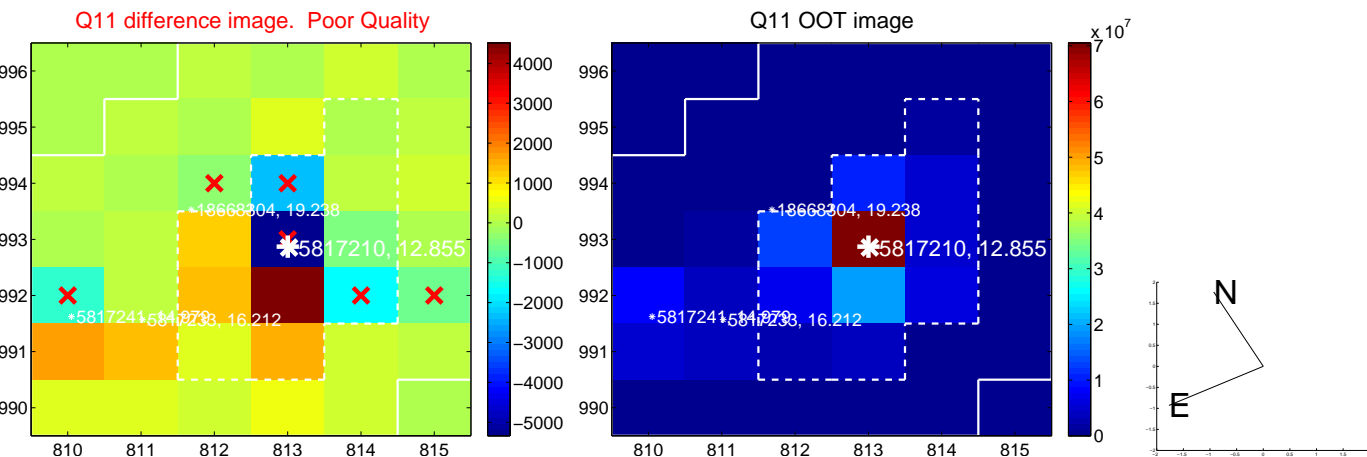
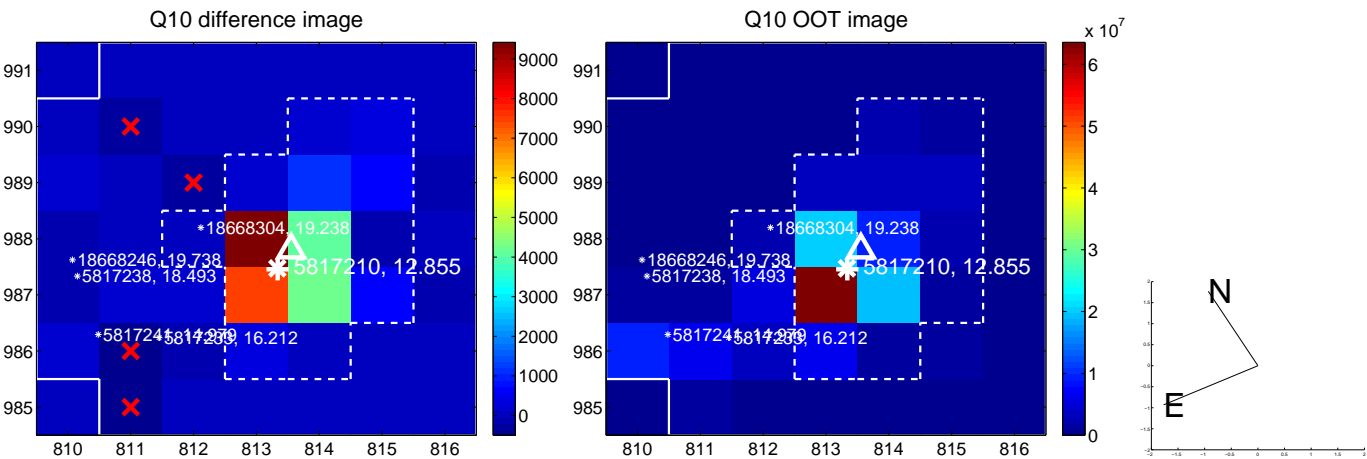
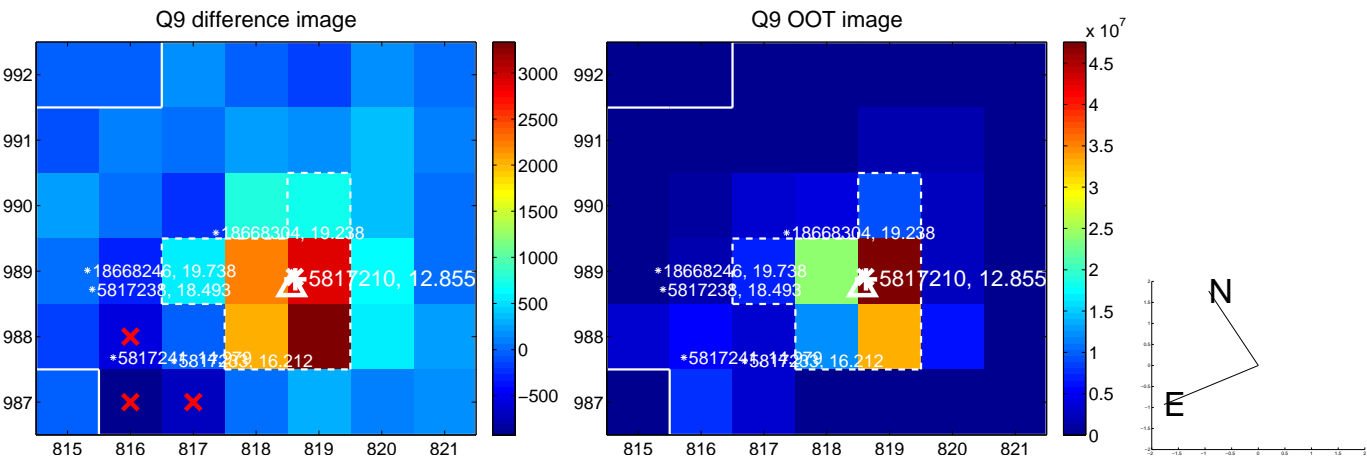
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



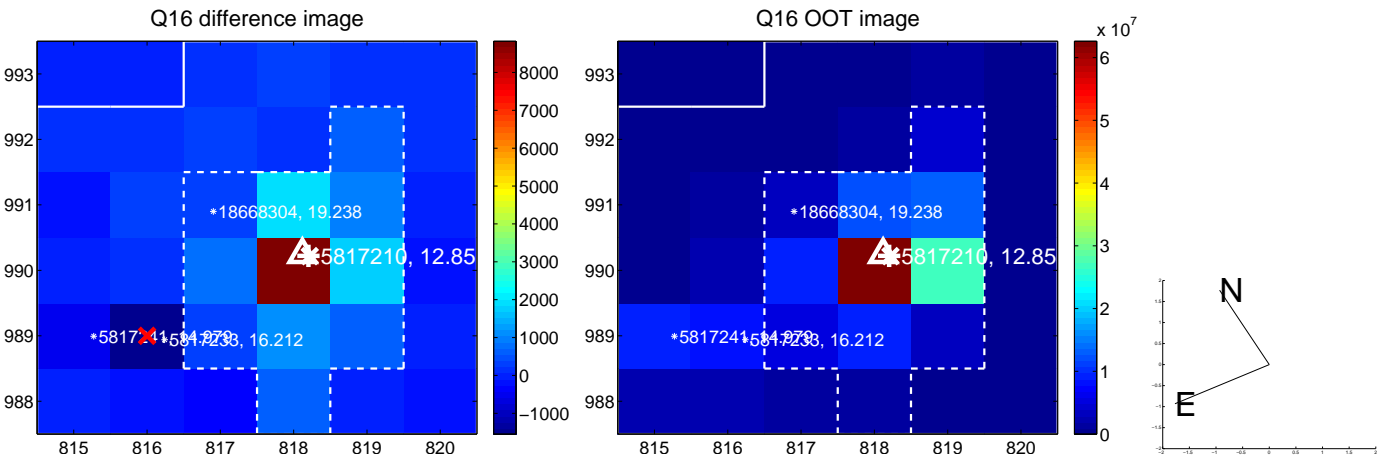
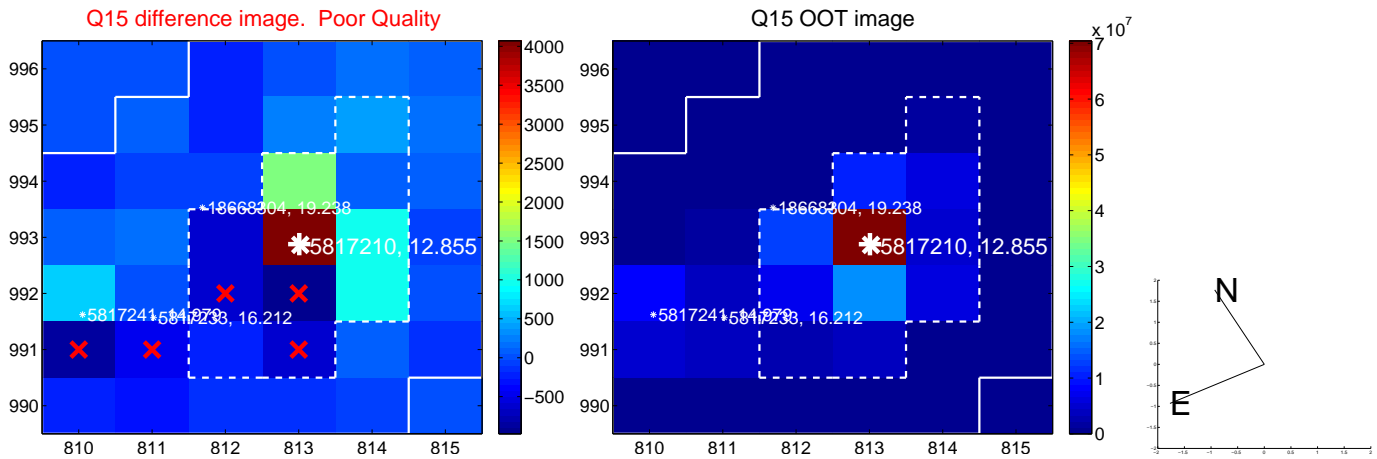
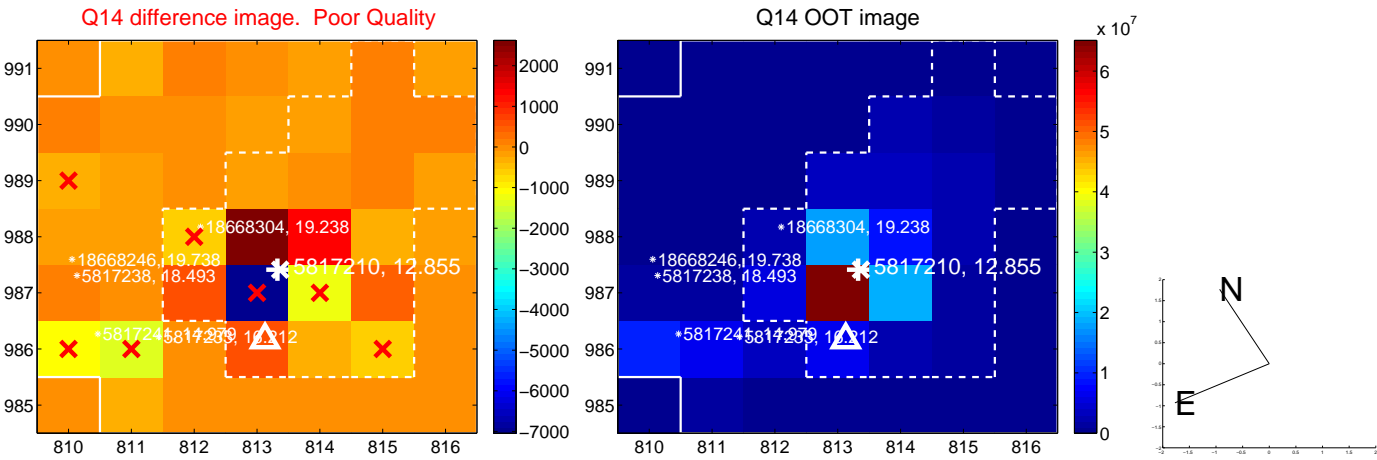
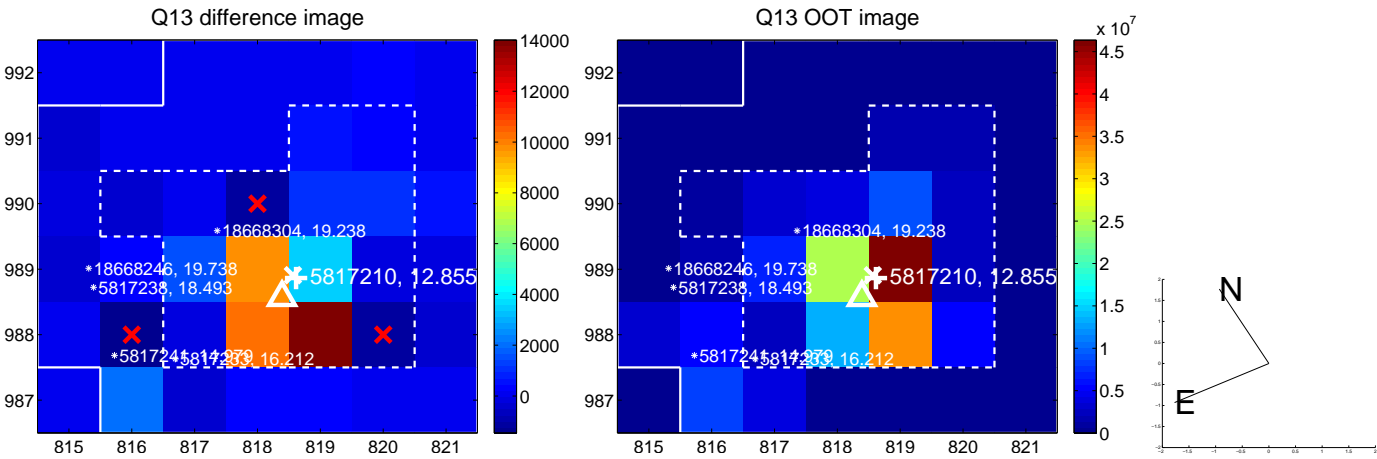
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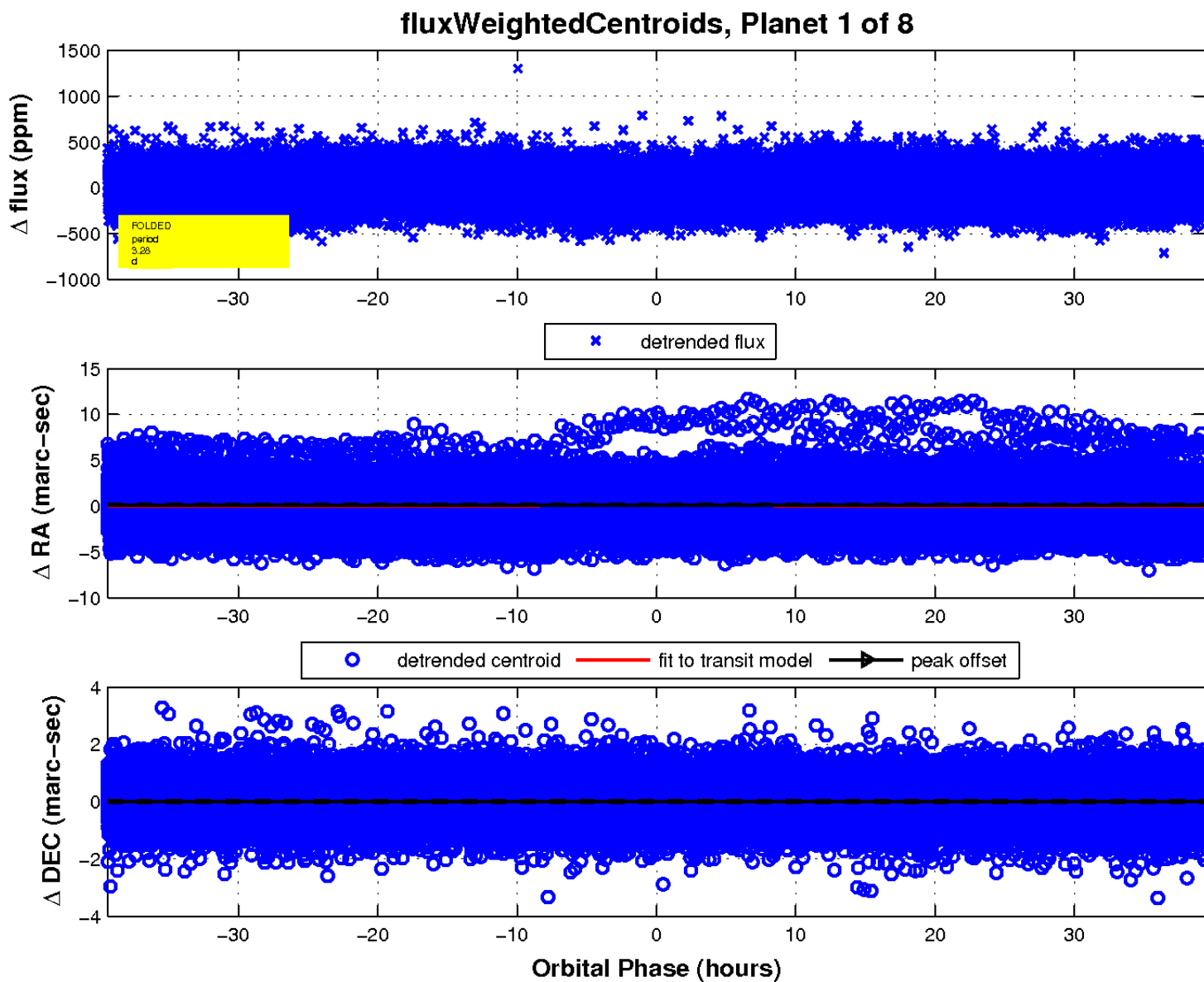
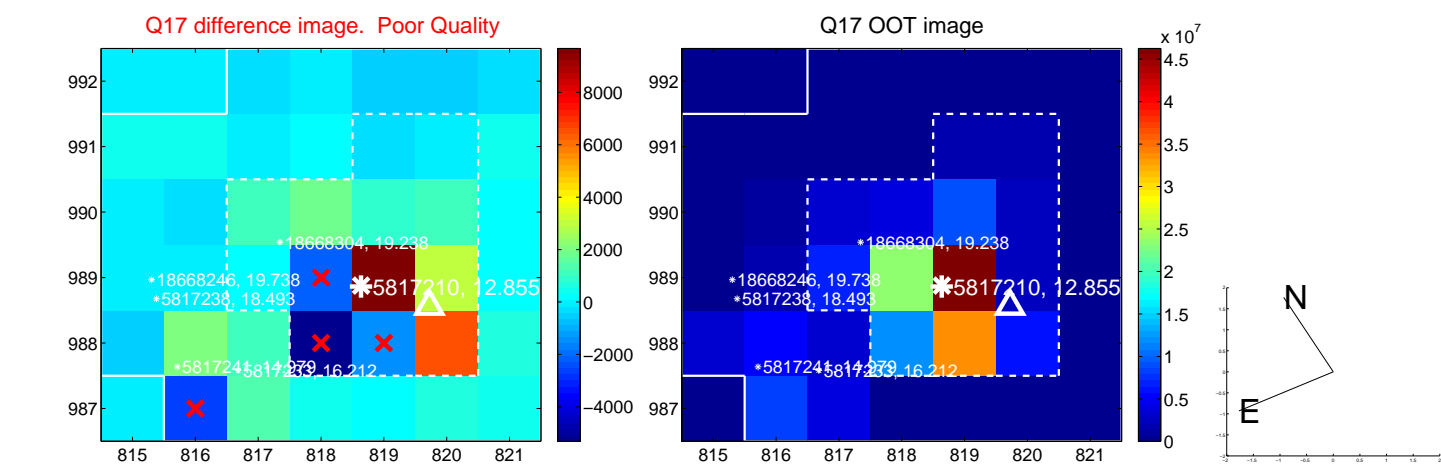
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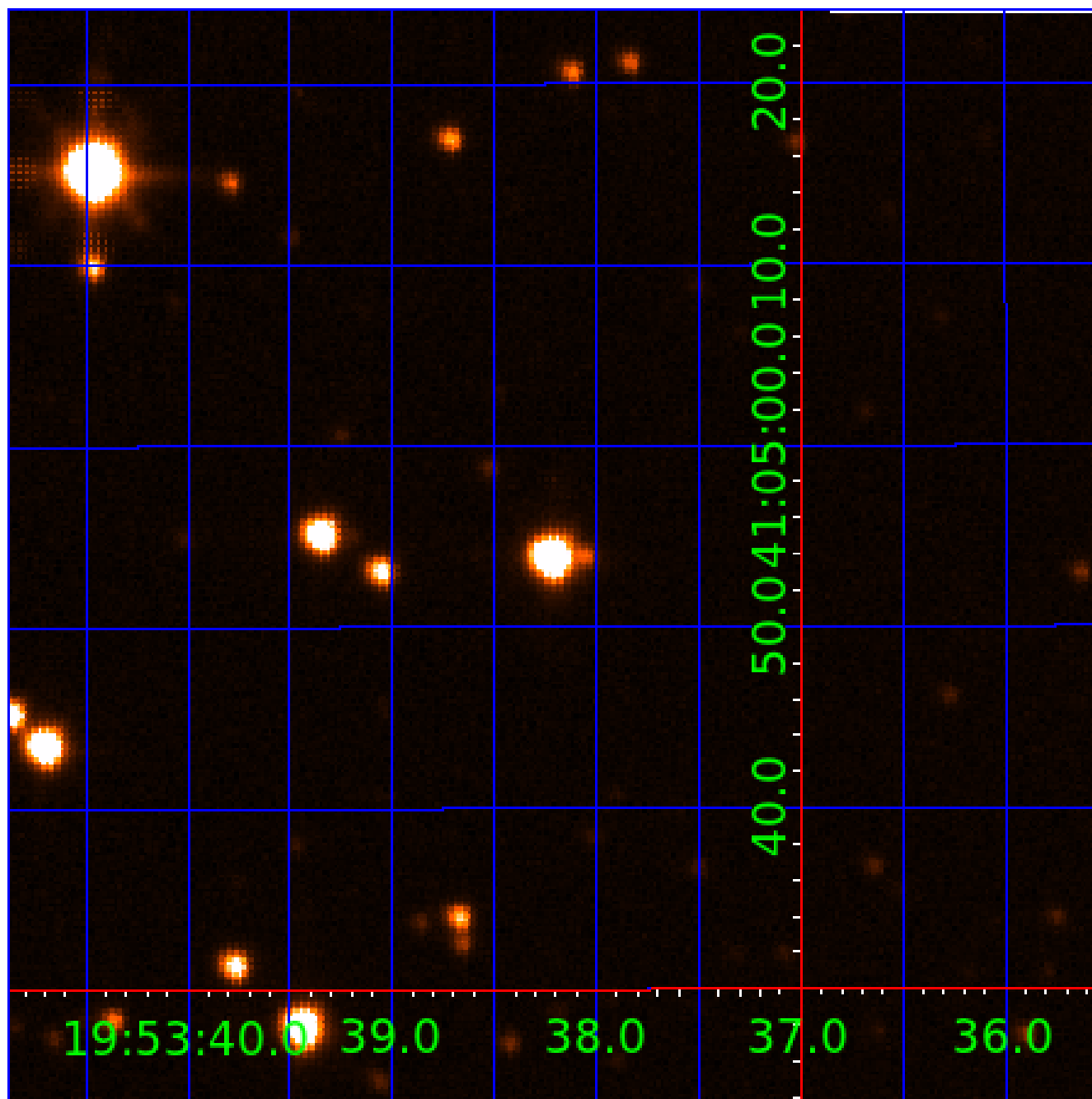


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UKIRT Image

Declination



KIC 005817210

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005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
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N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

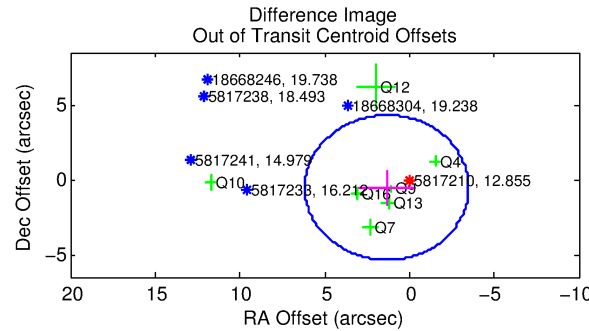
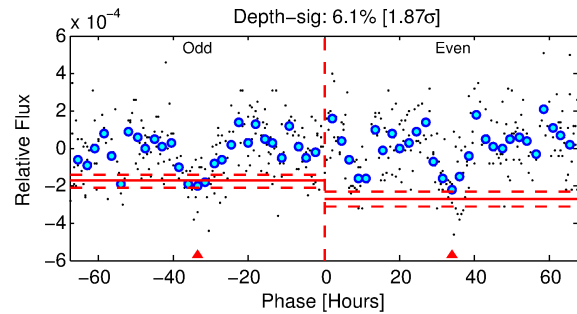
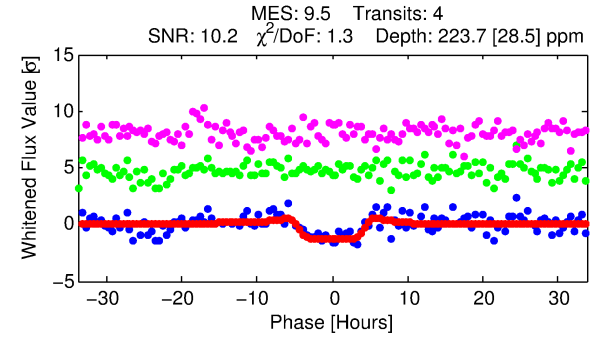
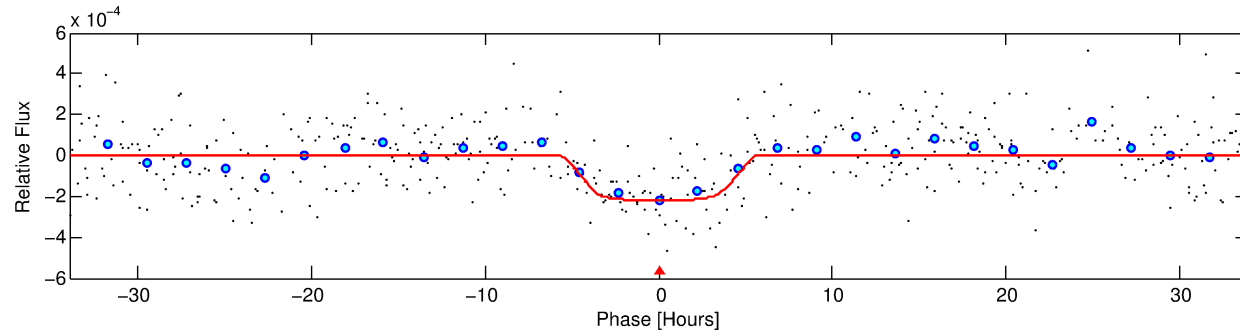
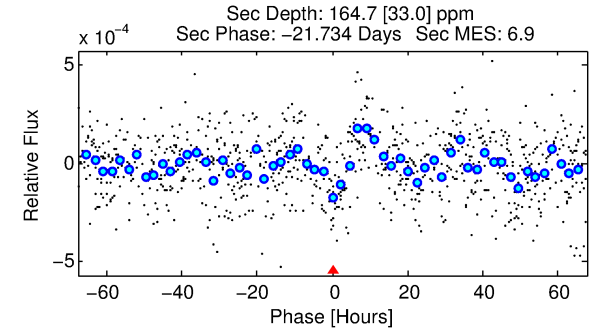
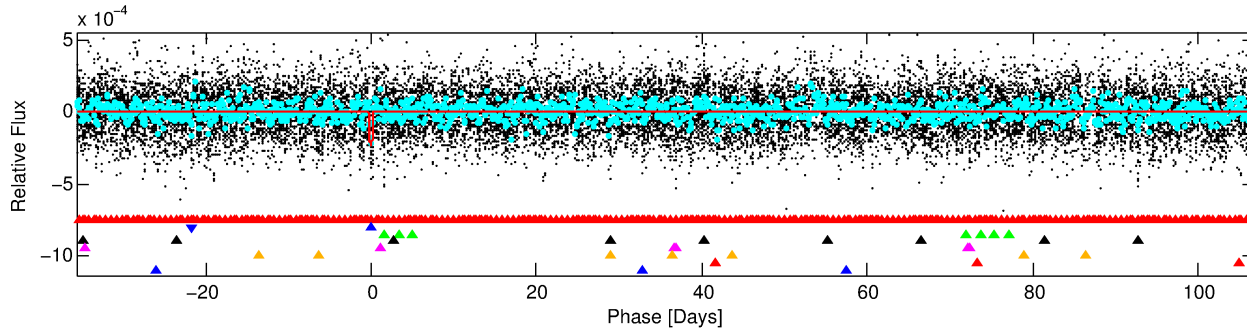
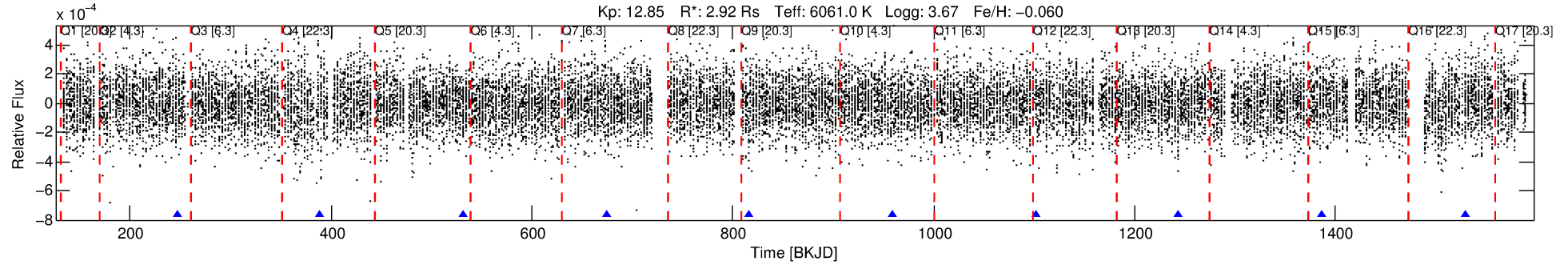
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-02

No Significant Match Found

DV One-Page Summary

KIC: 5817210 Candidate: 2 of 8 Period: 142.468 d



DV Fit Results:

Period = 142.46804 [0.00394] d
Epoch = 246.6595 [0.0245] BKJD
Rp/R* = 0.0176 [0.0015]
a/R* = 31.42 [8.31]
b = 0.96 [0.02]
Seff = 27.94 [16.70]
Teq = 586 [88] K
Rp = 5.61 [2.33] Re
a = 0.6071 [0.2278] AU
Ag = 1061.25 [682.21] [1.55σ]
Teffp = 5173 [377] K [11.84σ]

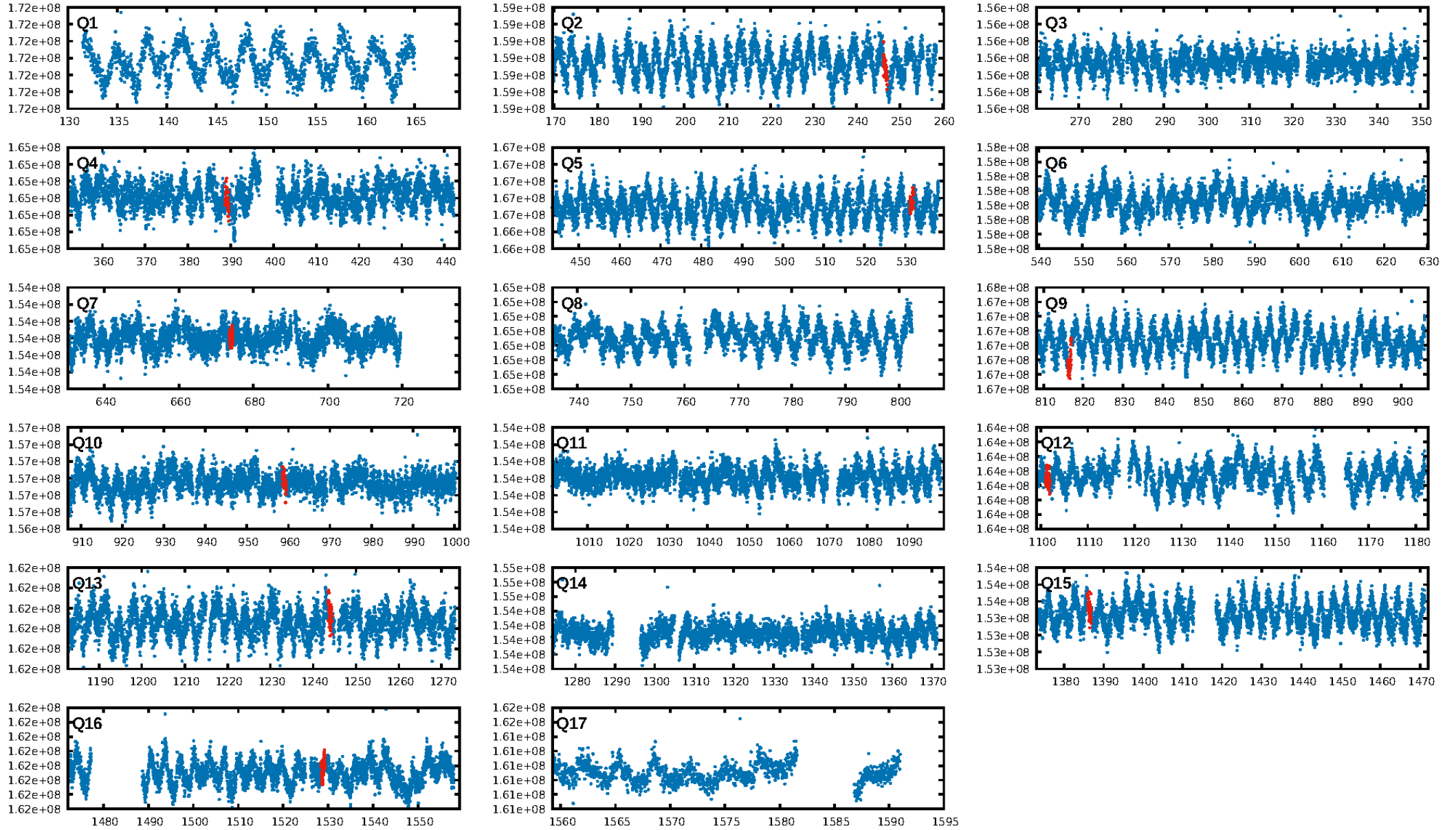
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [163.46σ]
LongPeriod-sig: 100.0% [50.78σ]
ModelChiSquare2-sig: 14.1%
ModelChiSquareGof-sig: 97.4%
Bootstrap-pfa: 1.45e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.115
Centroid-sig: 16.2%
Centroid-so: 1.344 arcsec [0.99σ]
OotOffset-rm: 1.442 arcsec [0.90σ]
KicOffset-rm: 1.521 arcsec [1.10σ]
OotOffset-st: 1/1/3/2 [7]
KicOffset-st: 1/1/3/2 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.50 [4/8]

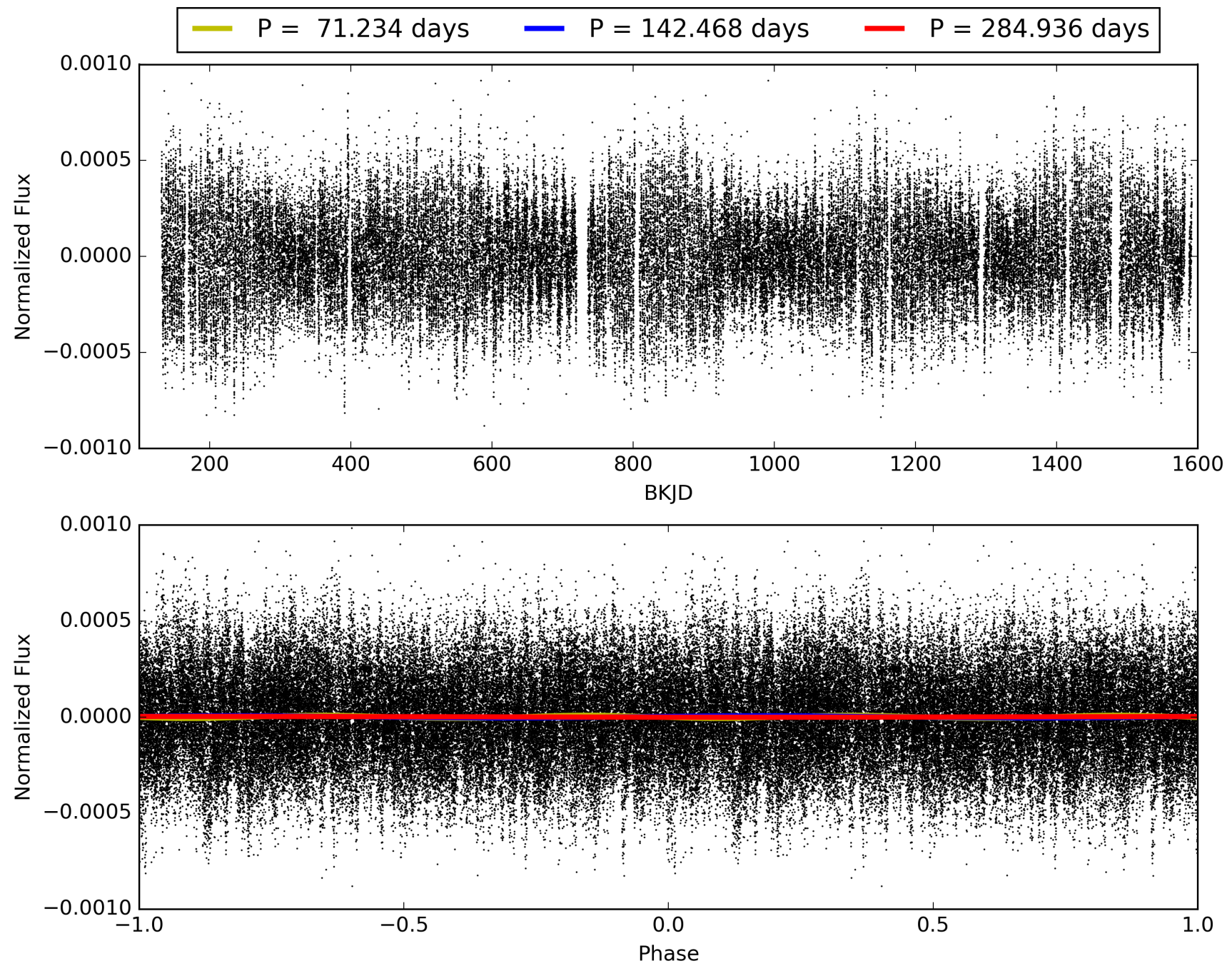
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:12 Z

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

TCE 005817210-02, PDC Light Curves

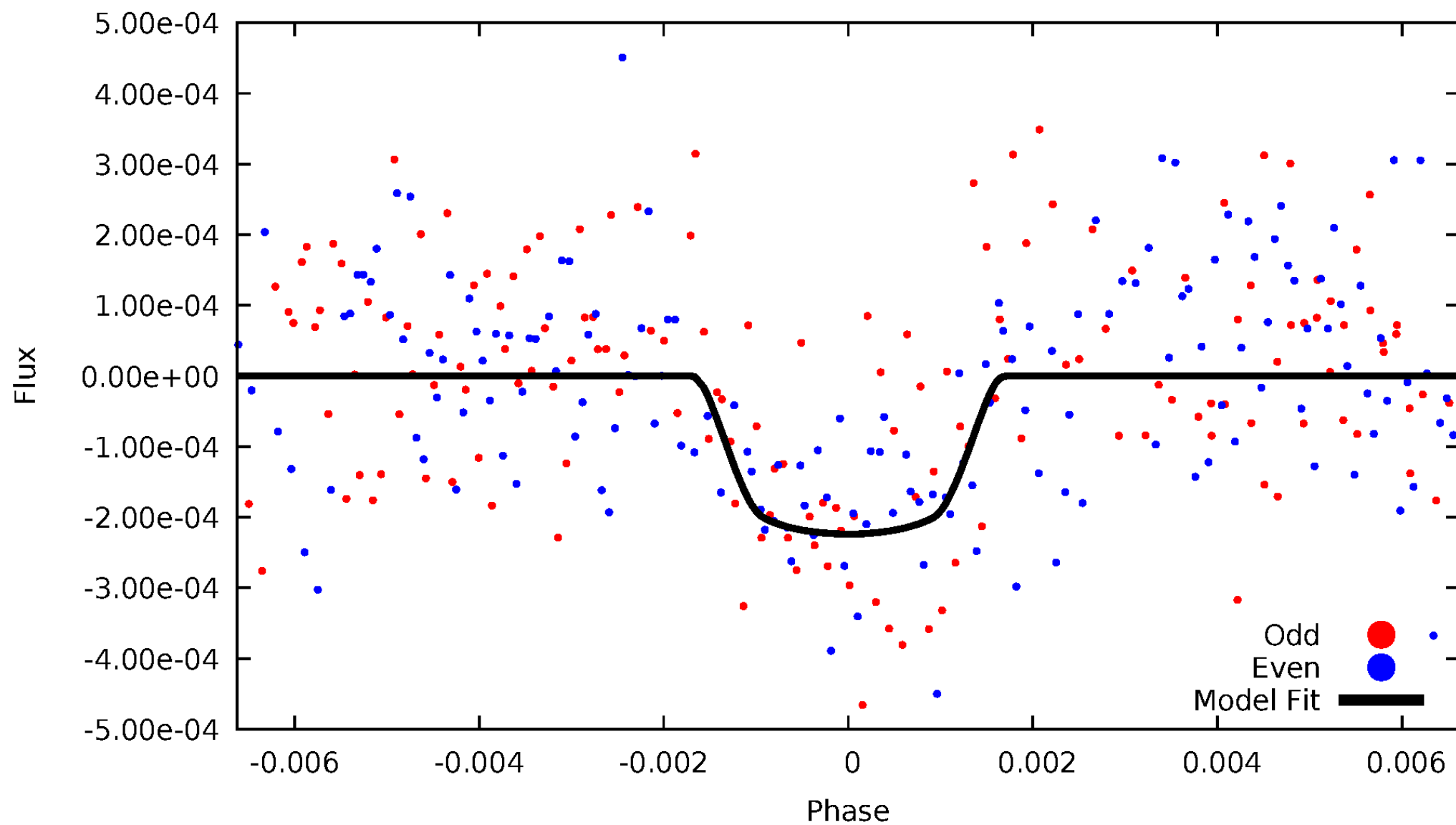


TCE 005817210-02



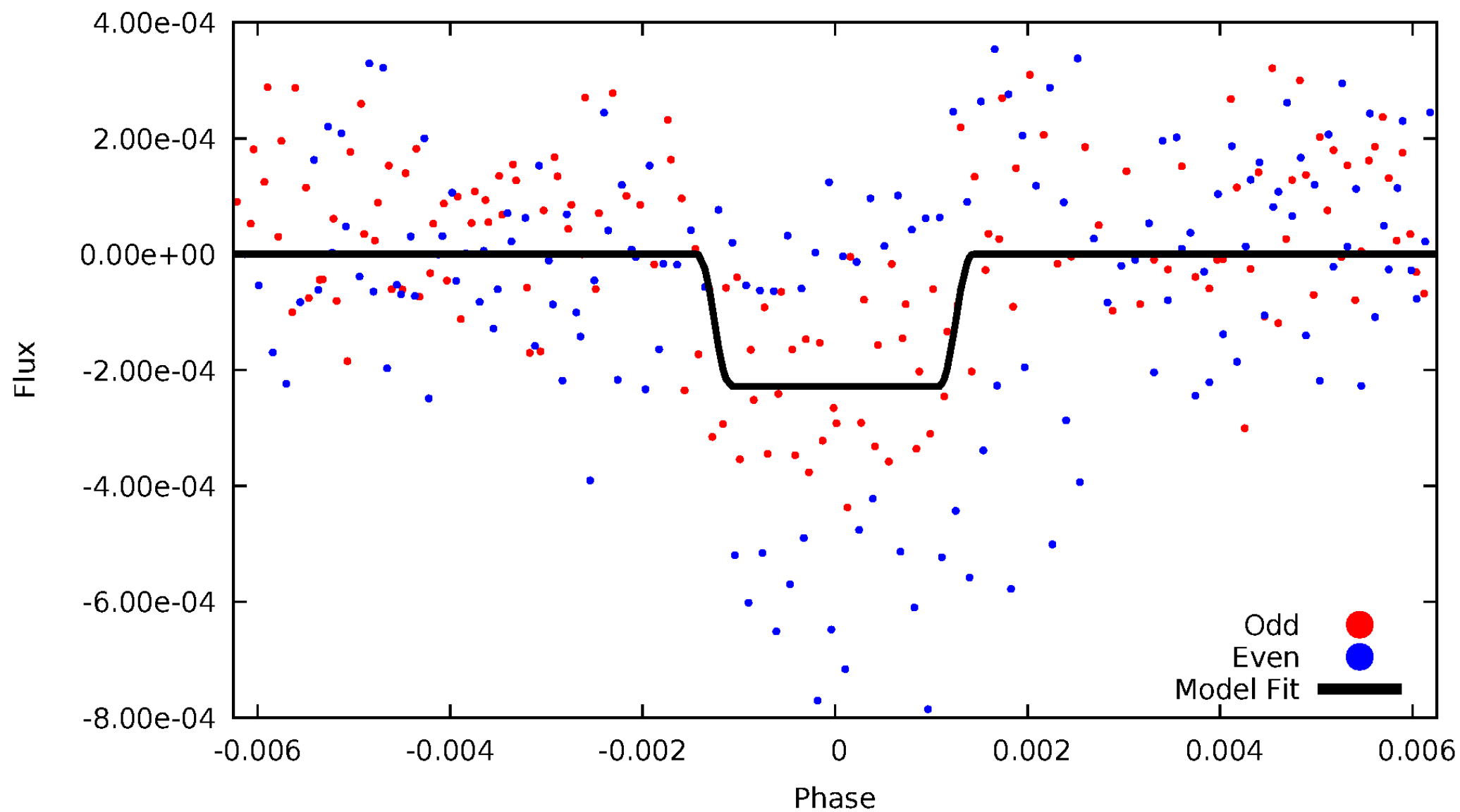
DV Odd/Even

TCE 005817210-02



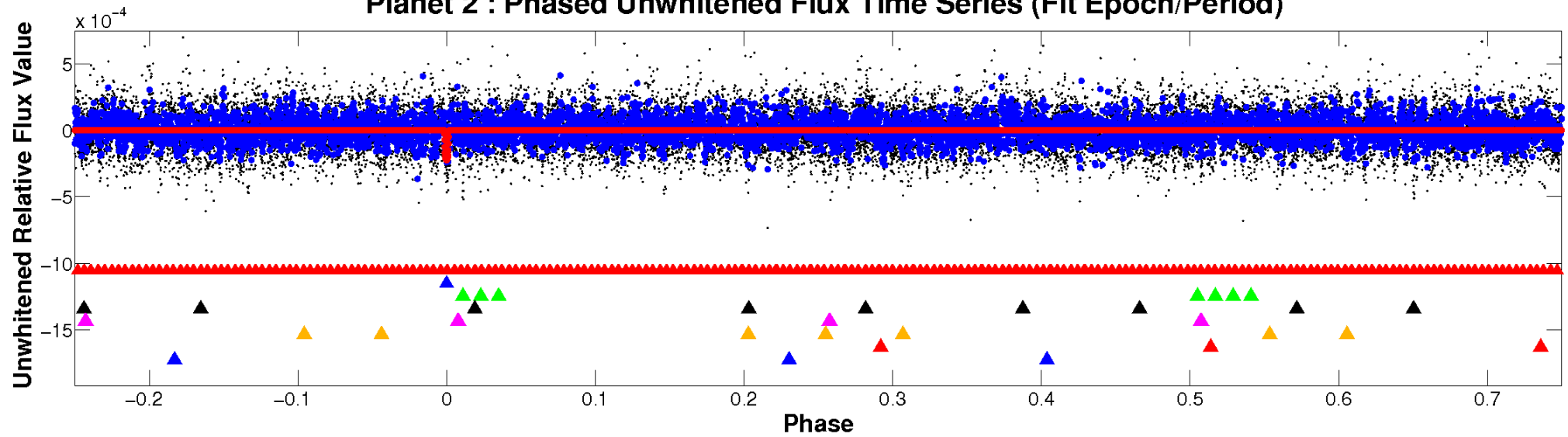
ALT Odd/Even

TCE 005817210-02

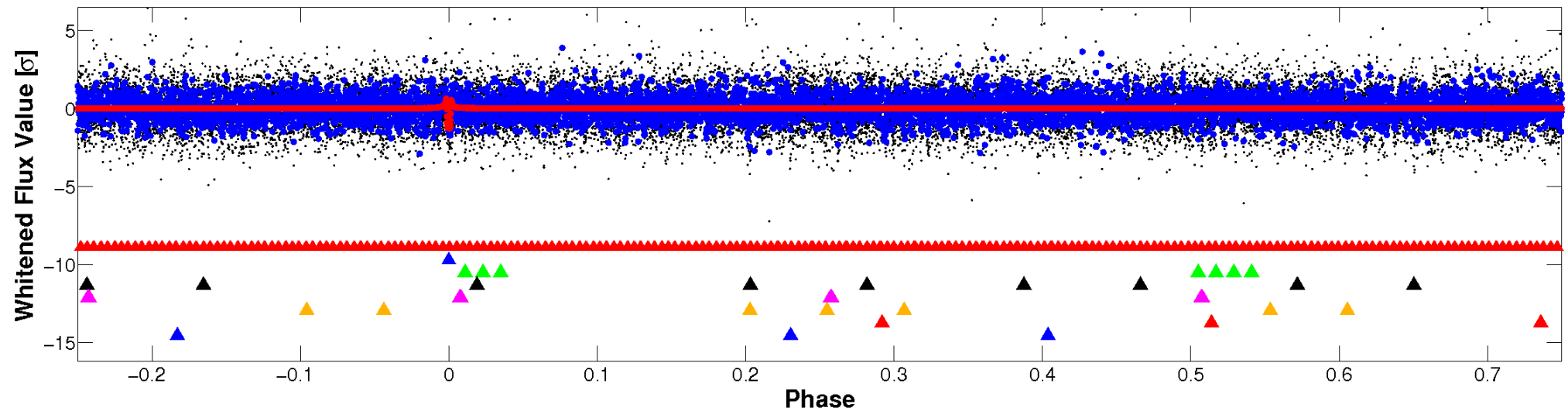


Non-Whitened Vs. Whitened Light Curve

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

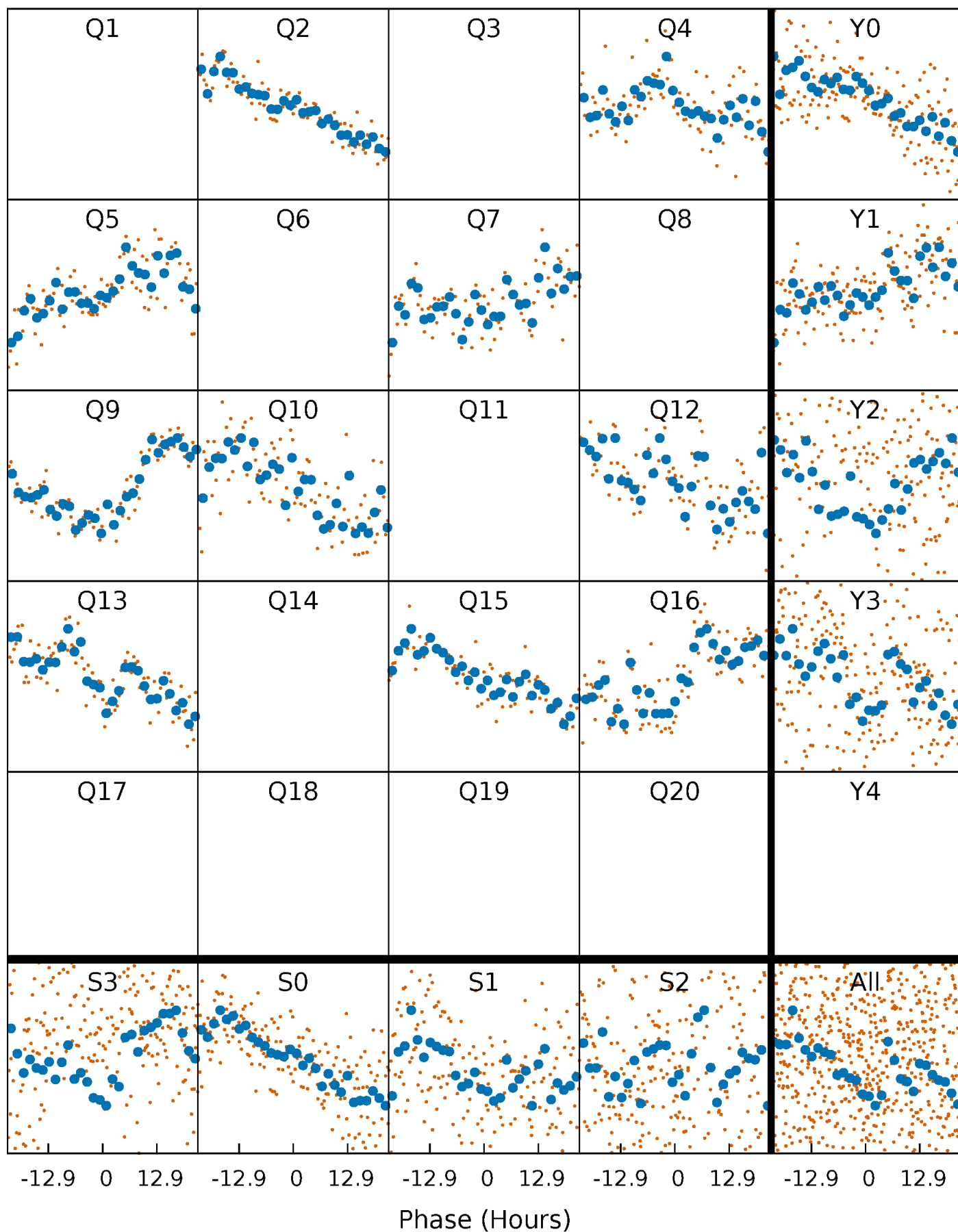


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



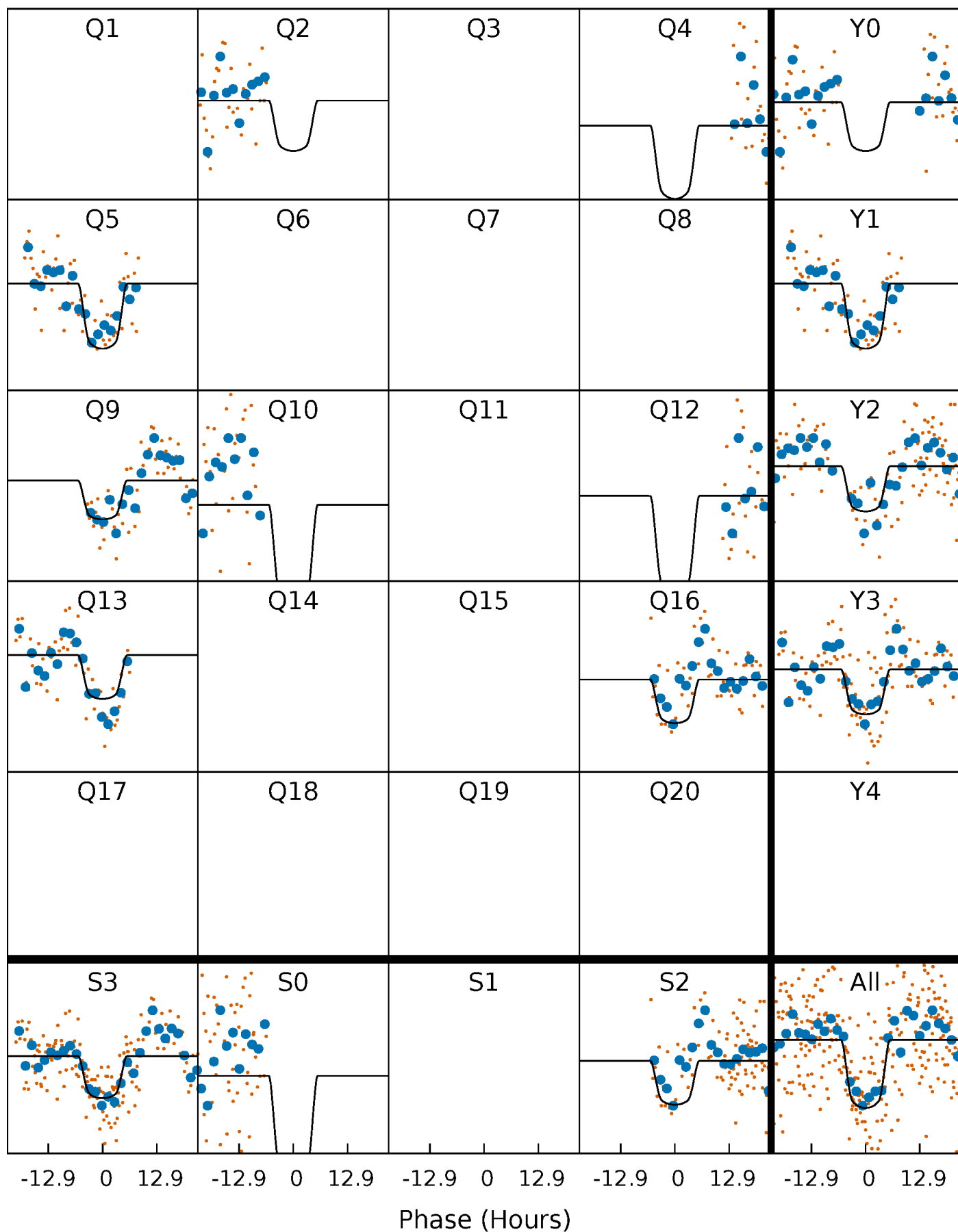
PDC Quarter-Phased Transit Curves

TCE 005817210-02 P=142.468035 Days $T_0=246.659542$ (BKJD)



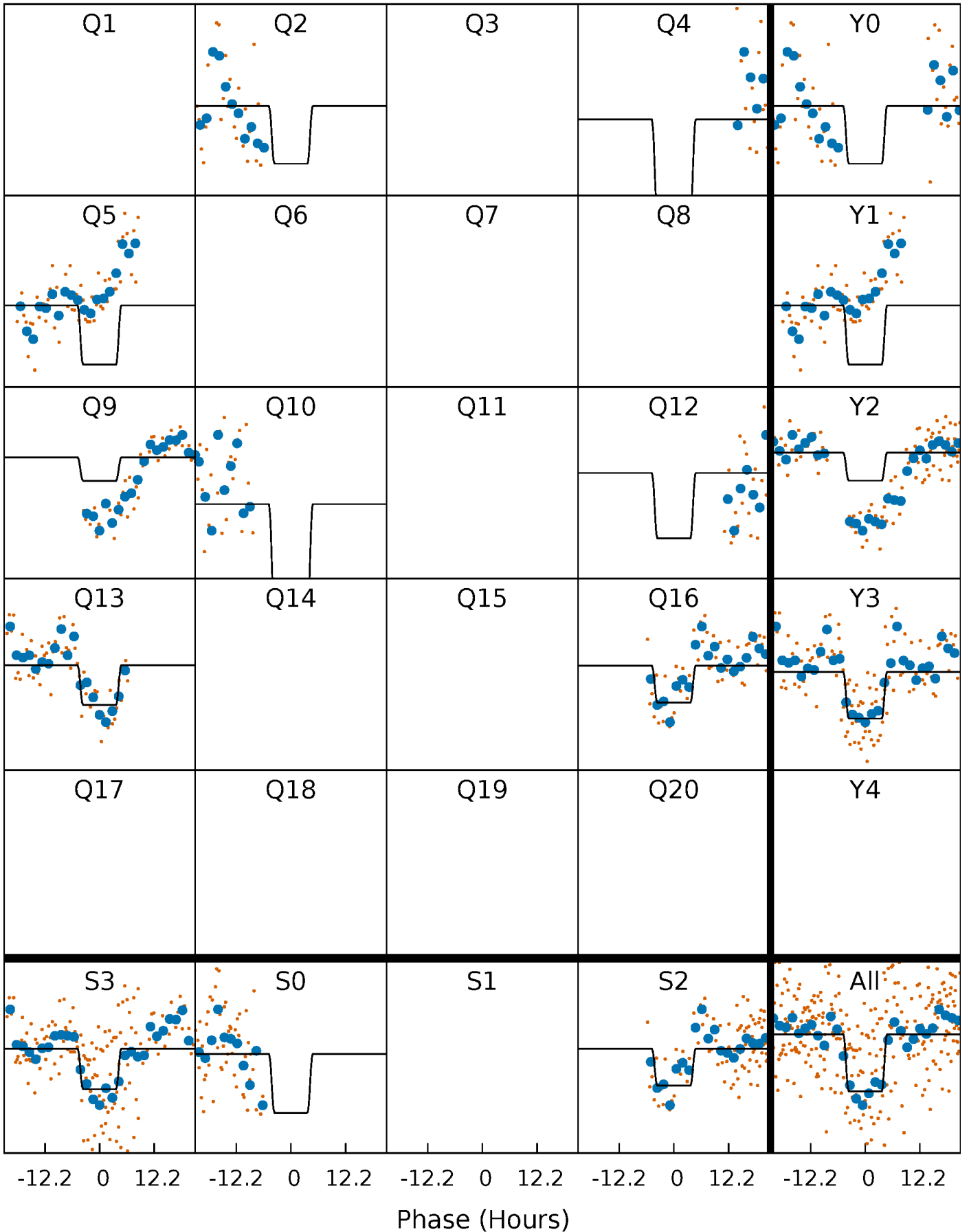
DV Quarter-Phased Transit Curves

TCE 005817210-02 P=142.468035 Days $T_0=246.659542$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

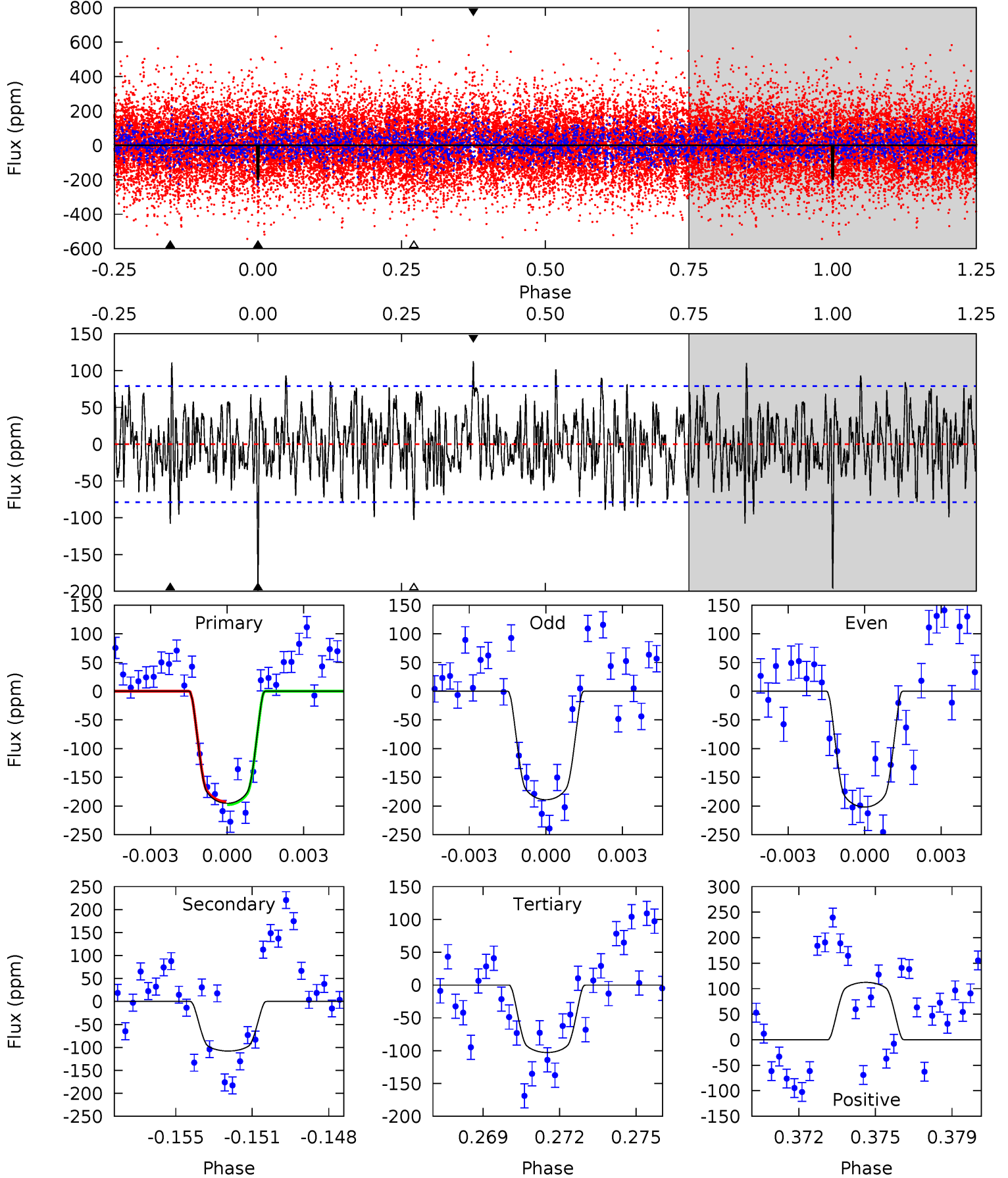
TCE 005817210-02 P=142.469592 Days $T_0=246.652476$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-02, P = 142.468035 Days, E = 104.191507 Days

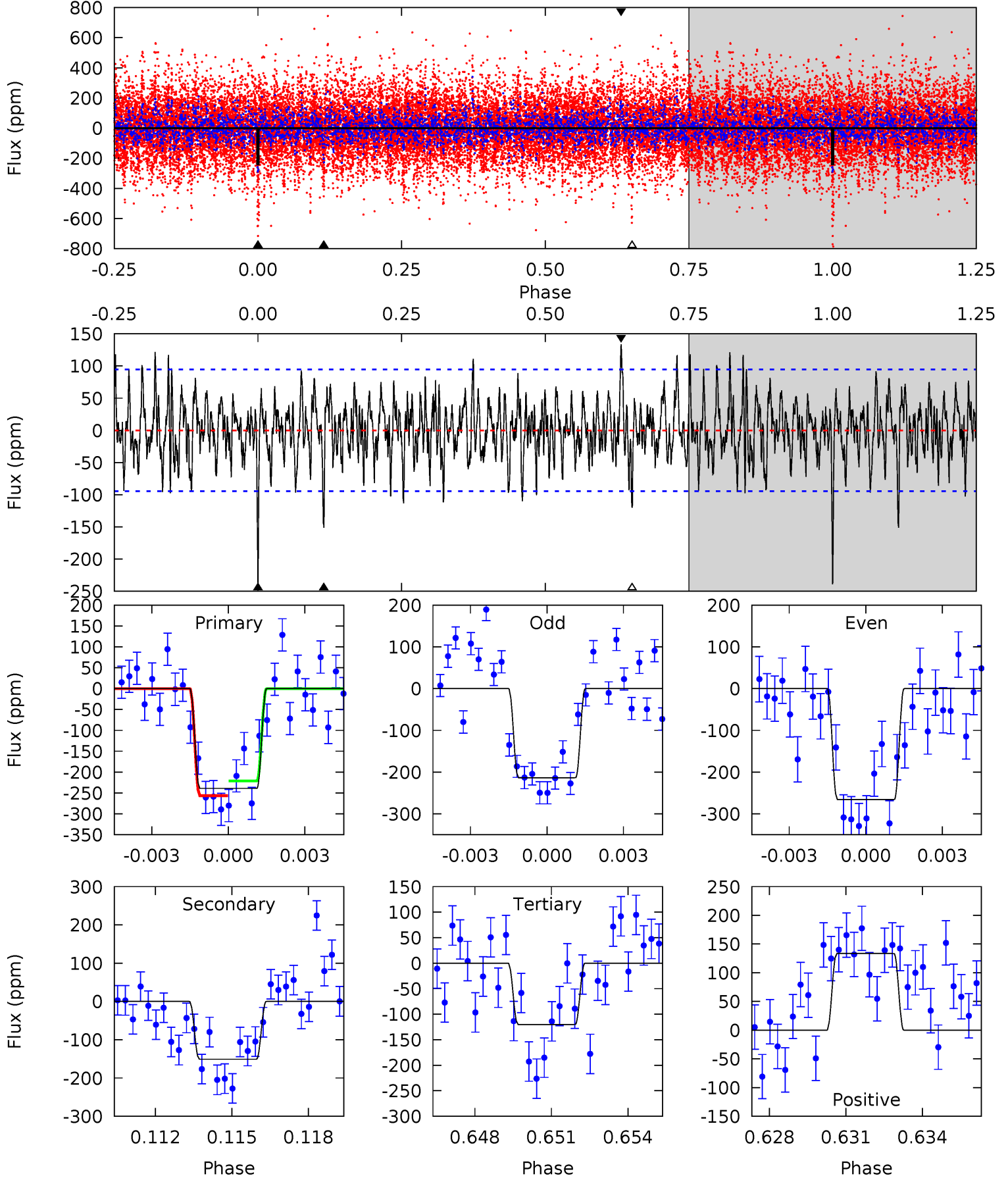
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	7.16	6.82	7.45	5.23	2.93	2.30	6.13	5.50	0.34	-0.29	0.42	0.96	0.37	0.16



Alt Model-Shift Uniqueness Test

005817210-02, P = 142.469592 Days, E = 104.182884 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	8.40	6.68	7.43	5.26	2.98	2.14	6.61	5.86	1.72	0.97	1.45	1.16	0.36	0.98



Stellar Parameters For KIC 005817210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-108 ± 15	$5.35^{+0.96}_{-1.12}$	801^{+53}_{-73}	4768^{+272}_{-230}	757^{+413}_{-211}
Alt.	-151 ± 18	$4.60^{+0.79}_{-1.06}$	803^{+49}_{-82}	5500^{+357}_{-312}	1478^{+862}_{-417}

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 $A_{obs} \gg 1.0$

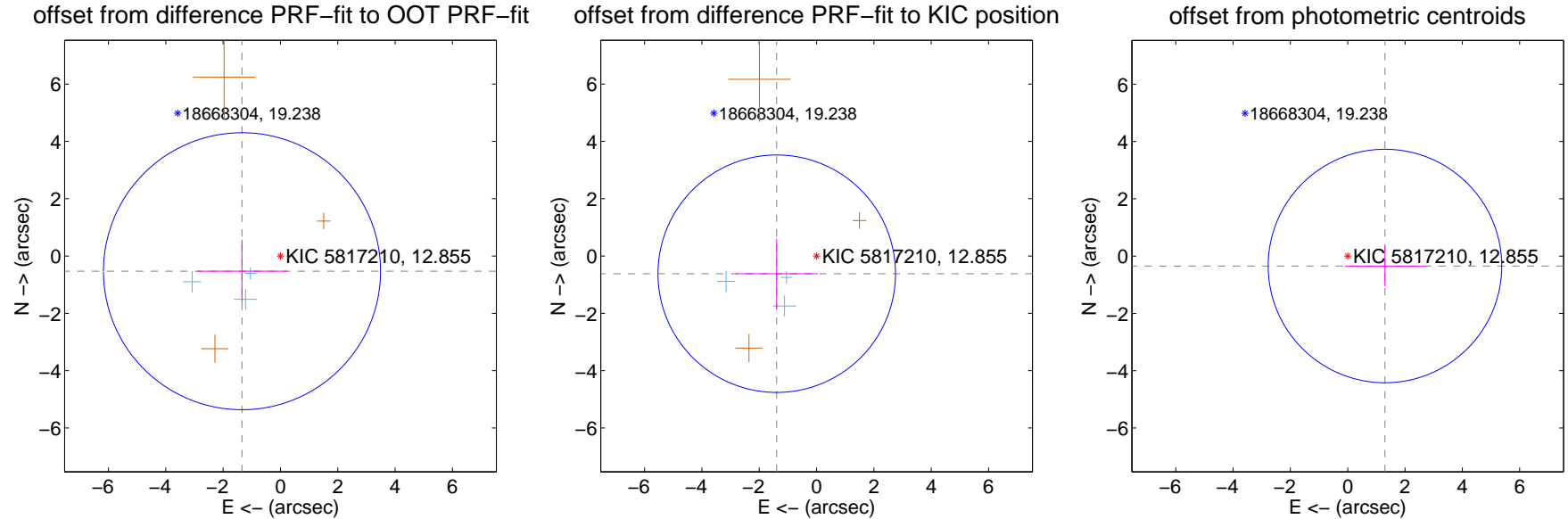
DV Centroid Data

Supplemental centroid analysis for 005817210-02. Kepler magnitude: 12.86. Transit SNR 10.24

There are 3 quarters with good PRF difference image offsets

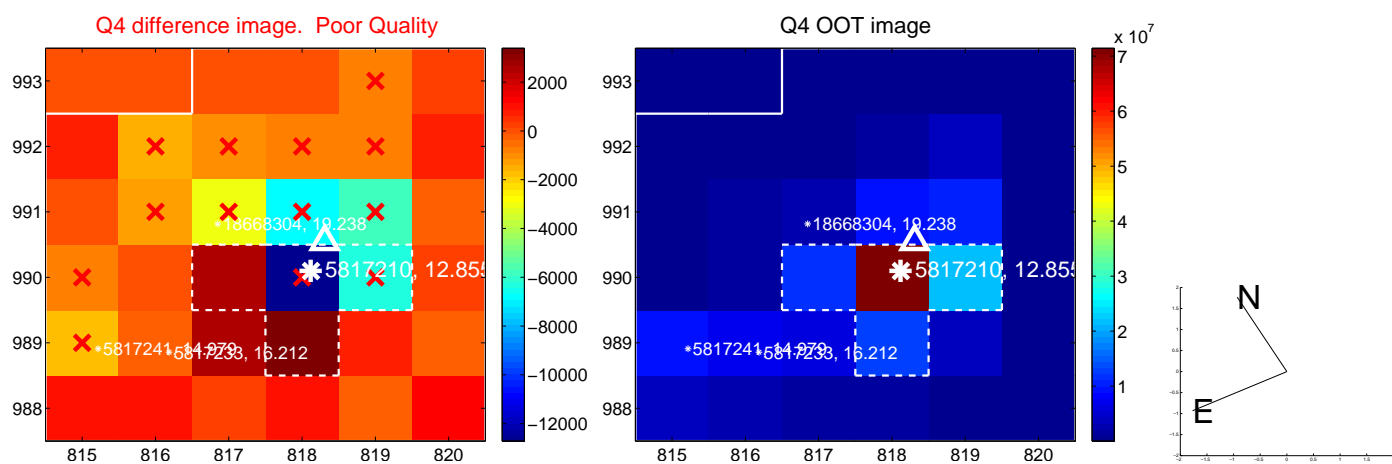
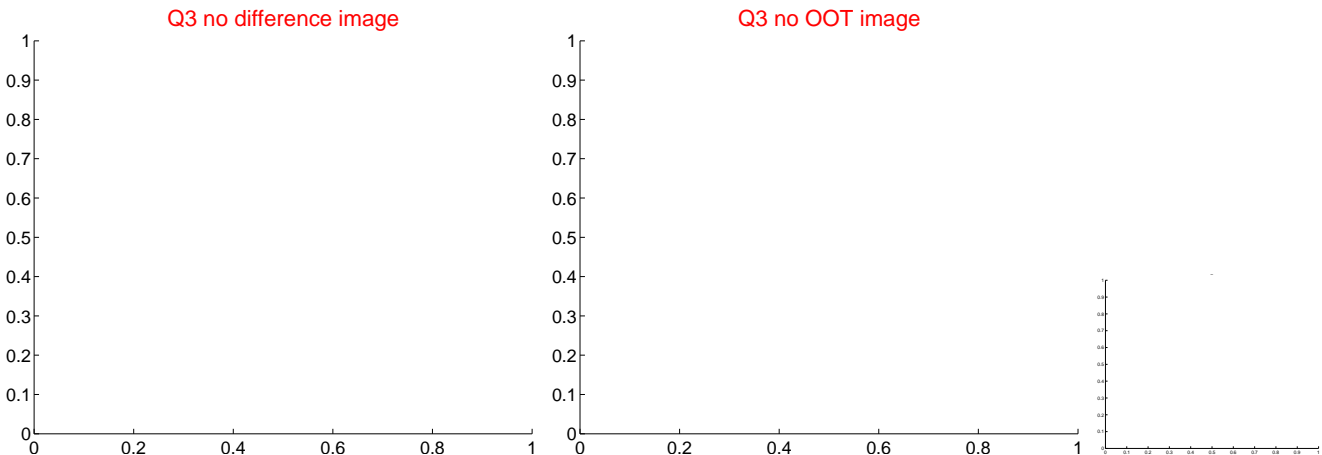
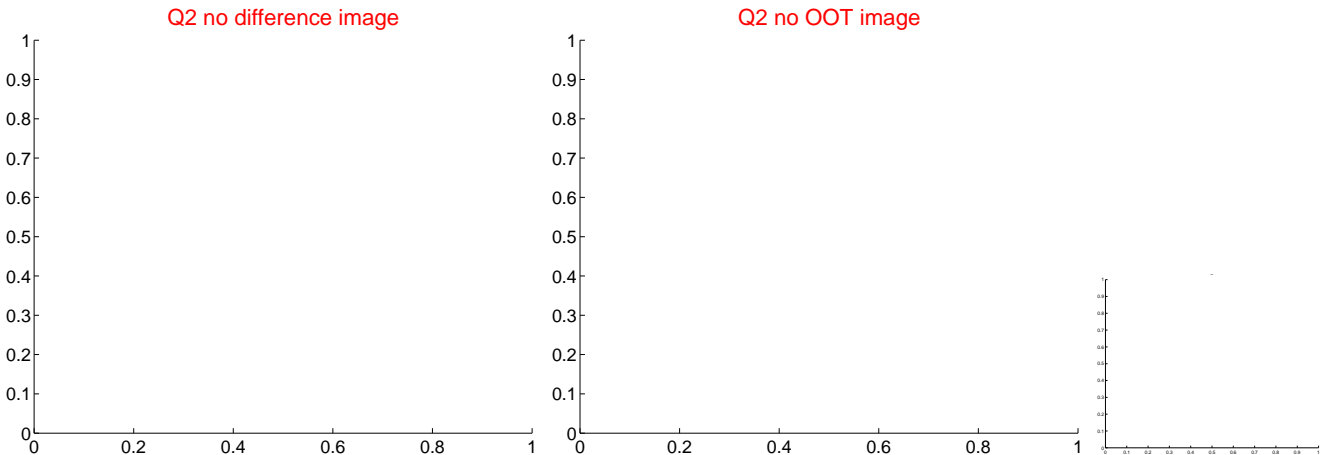
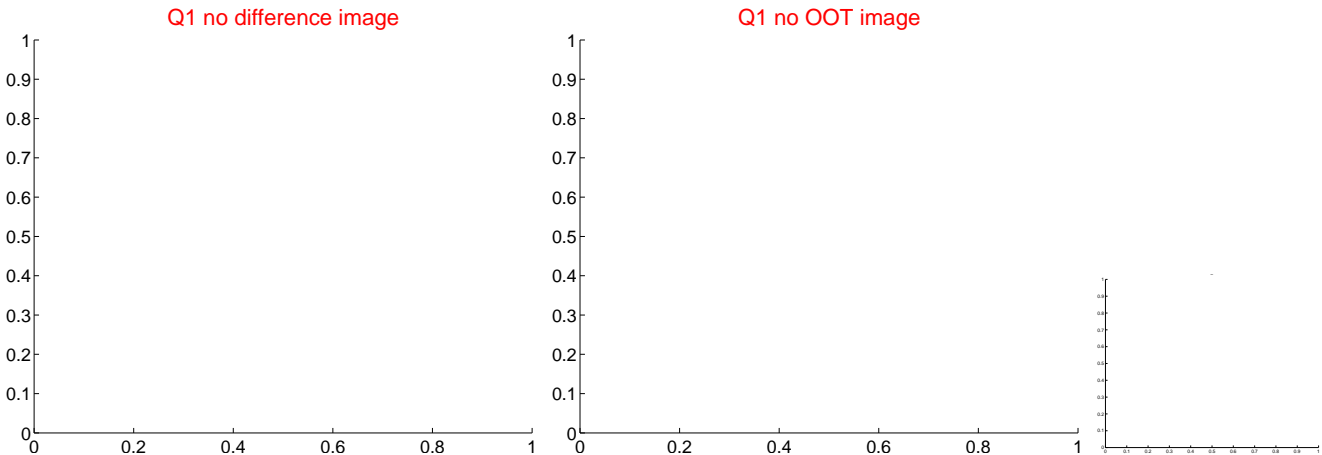
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.442 ± 1.611	0.90	1.342 ± 1.564	-0.530 ± 1.097
PRF-fit source offset from KIC position	1.521 ± 1.381	1.10	1.390 ± 1.437	-0.617 ± 1.217
photometric centroid source offset	1.34 ± 1.36	0.99	-1.30 ± 1.39	-0.35 ± 0.71

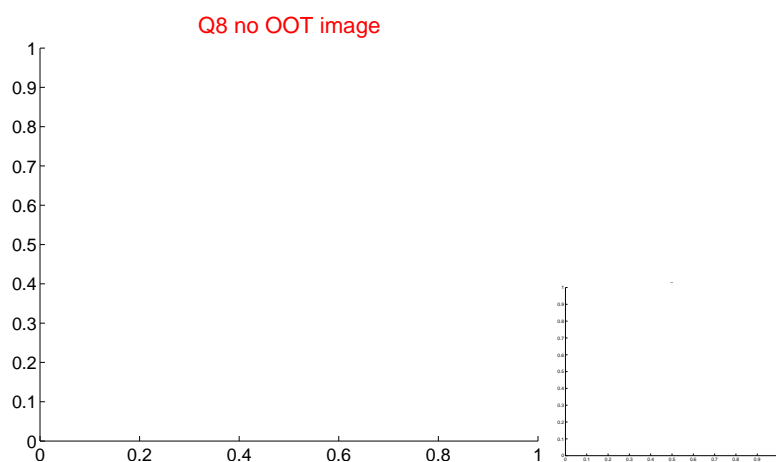
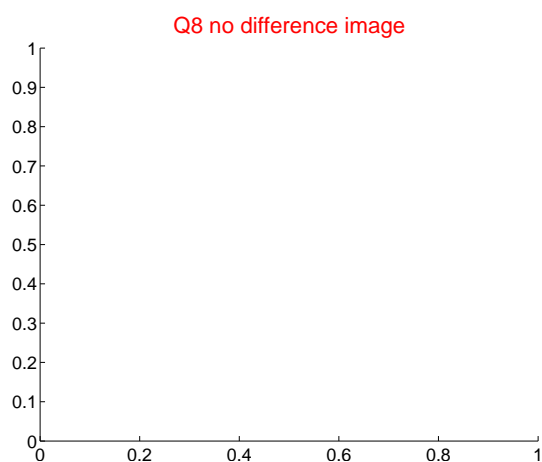
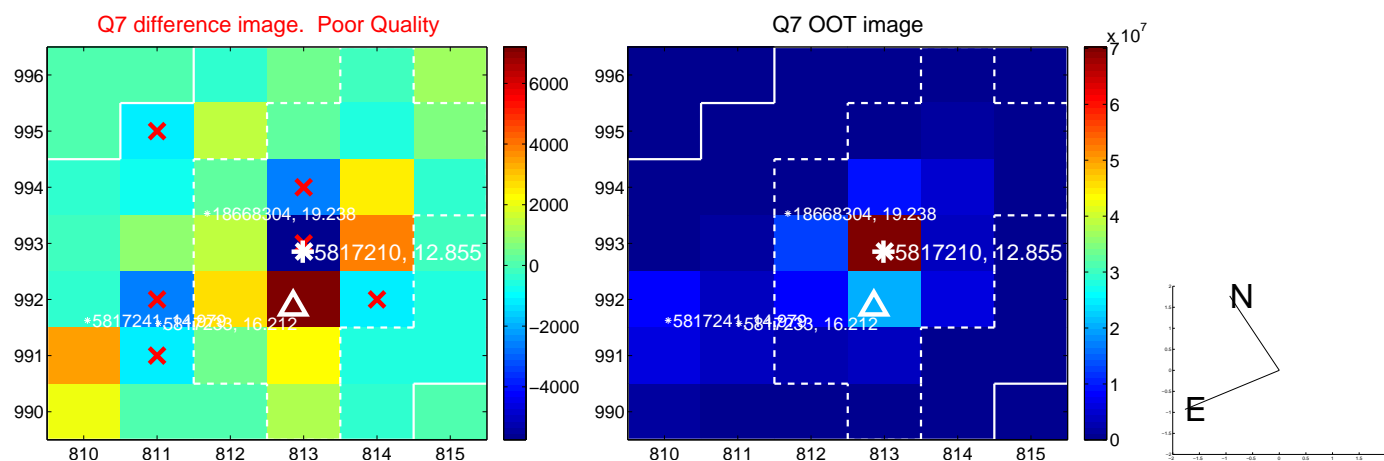
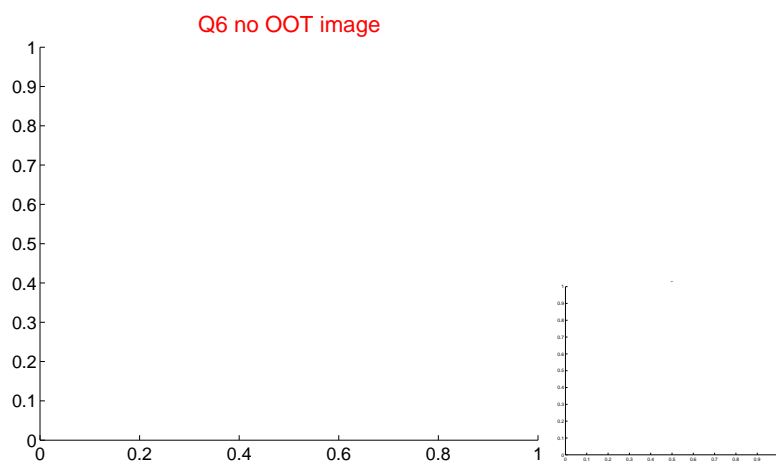
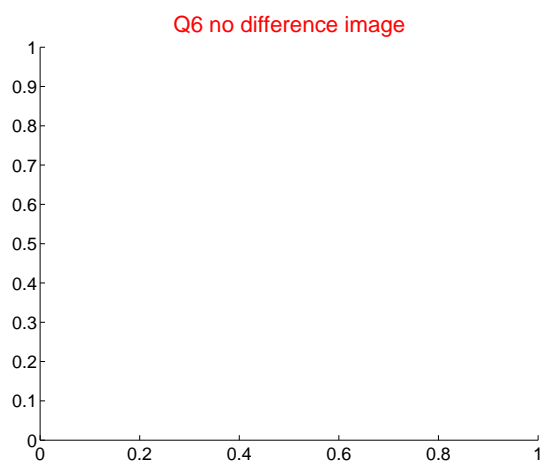
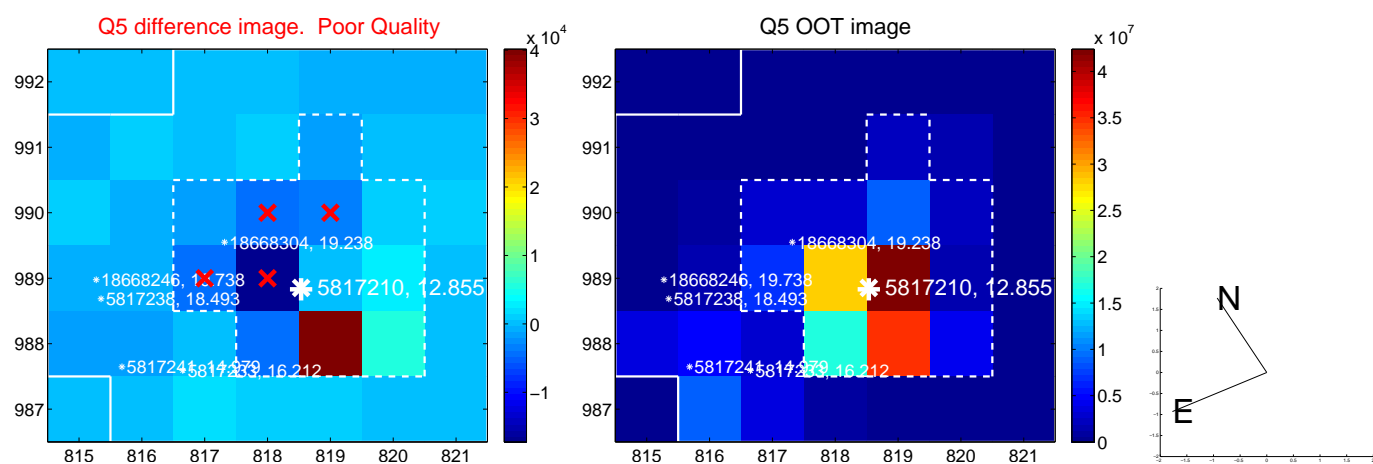


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

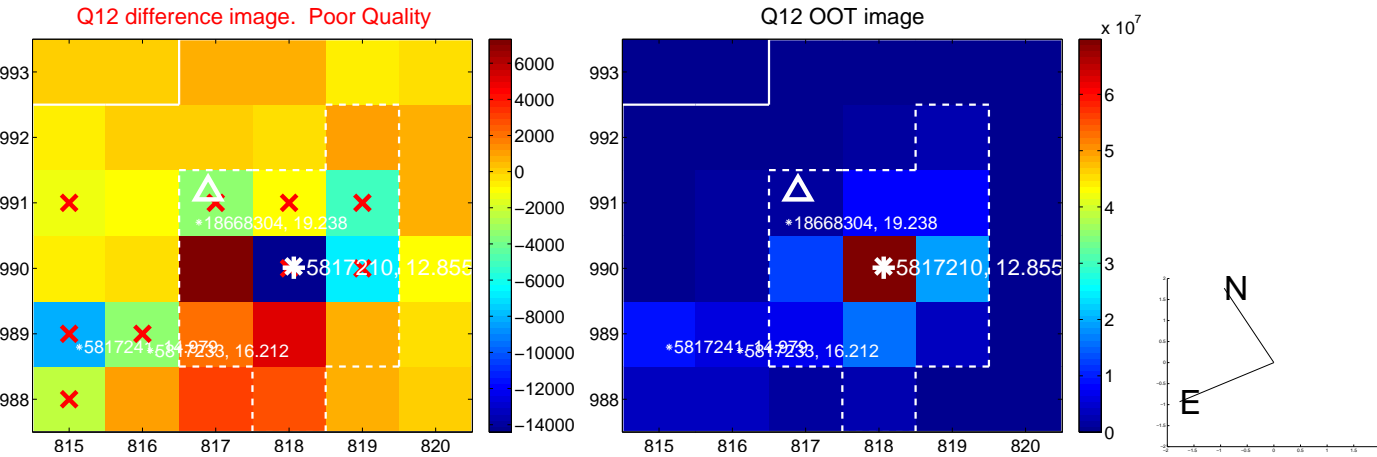
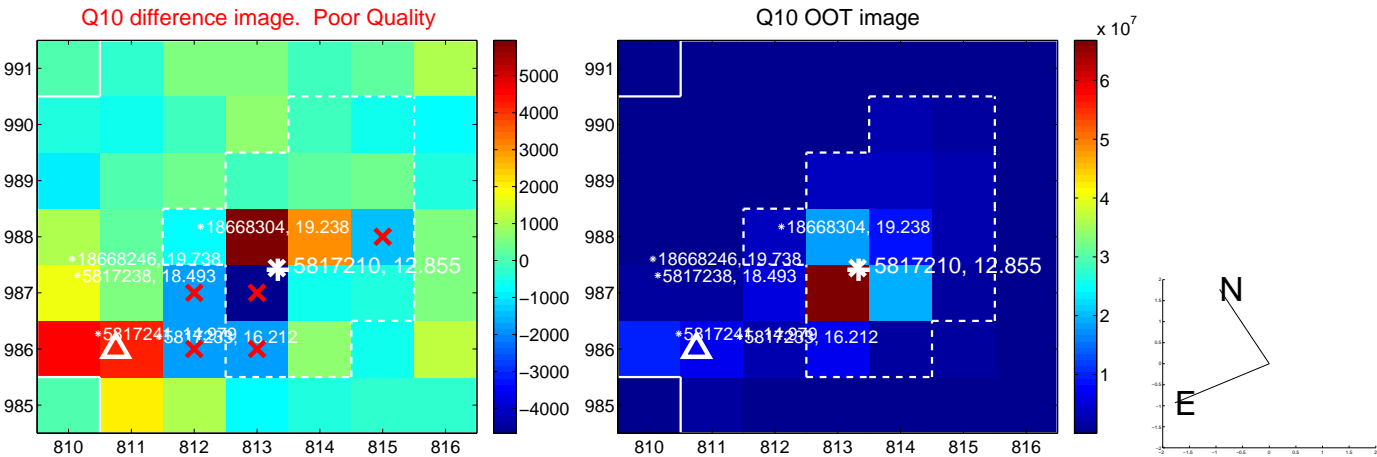
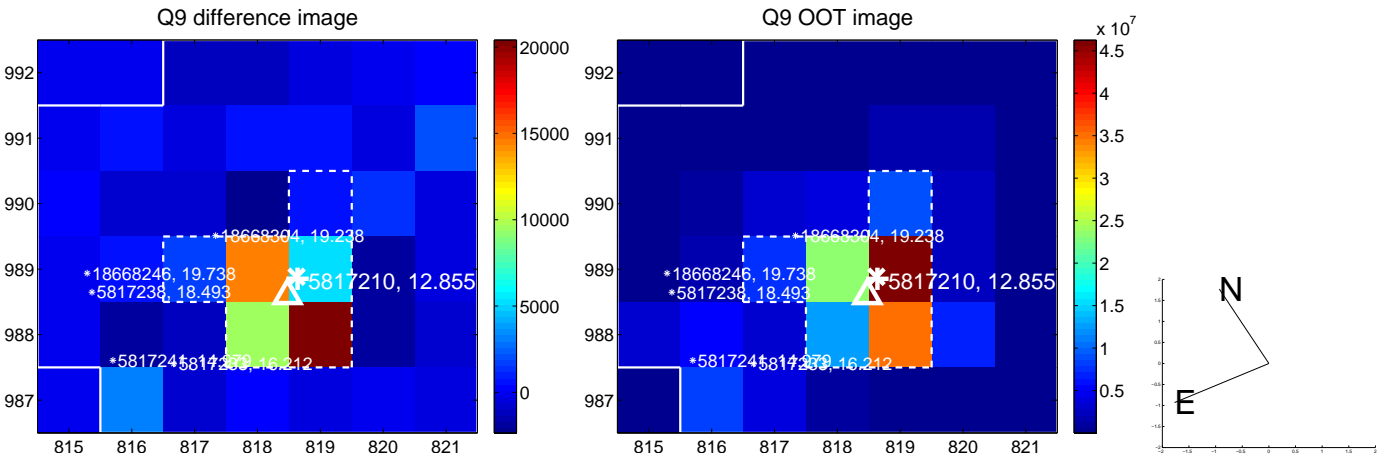
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



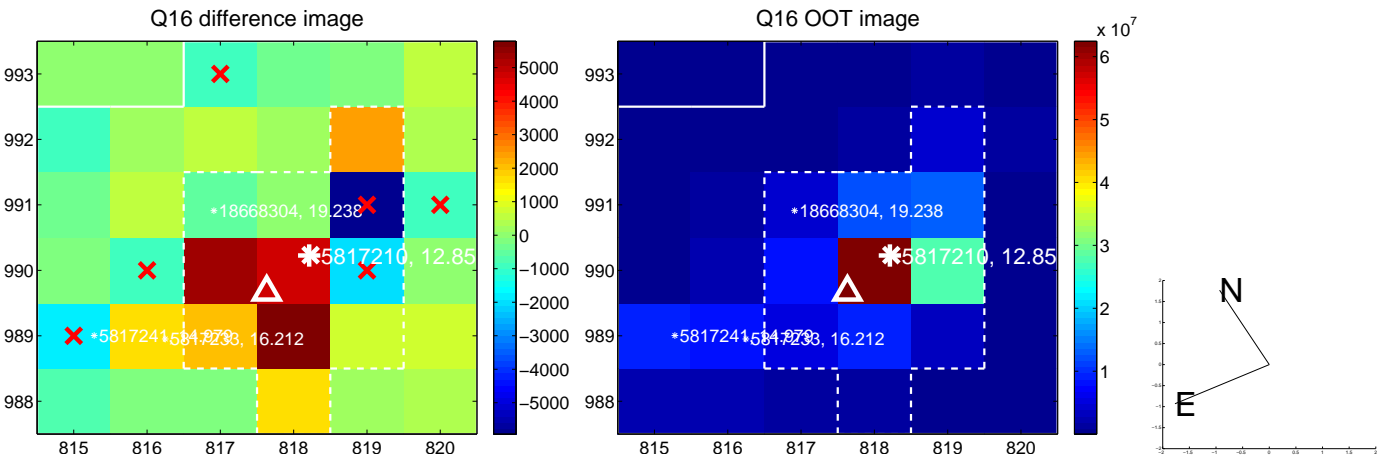
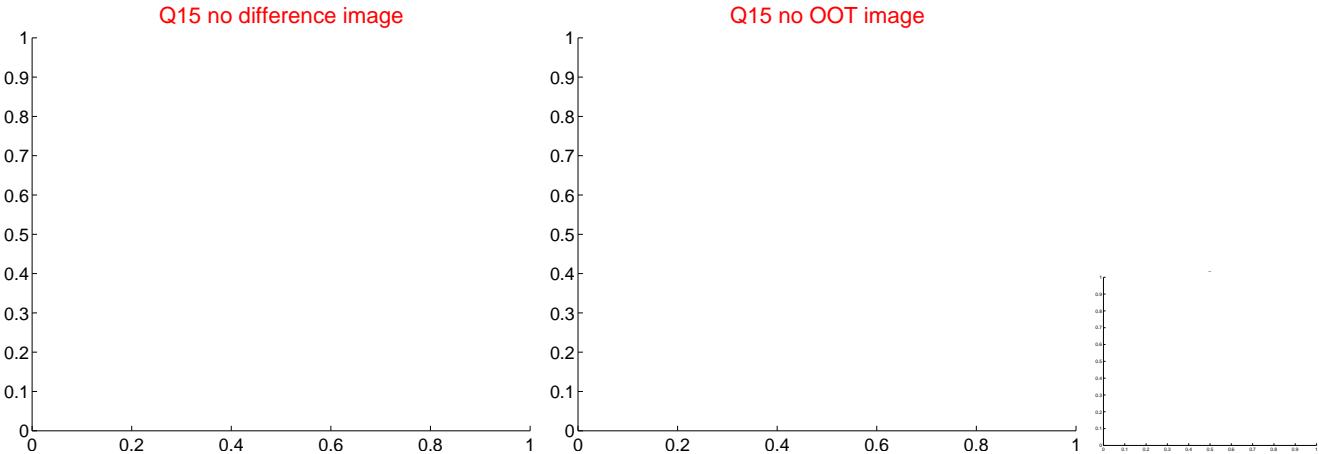
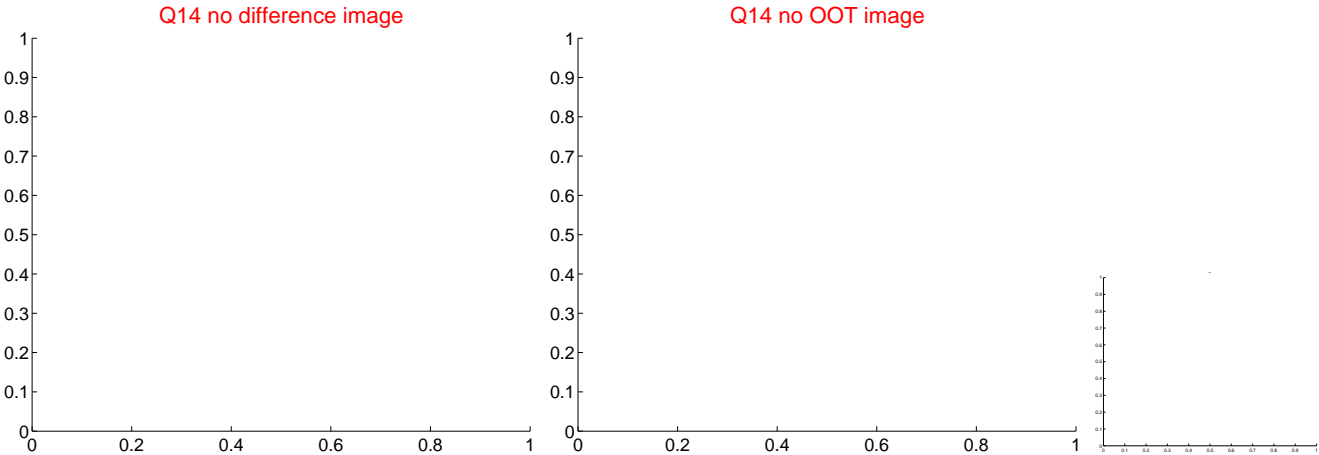
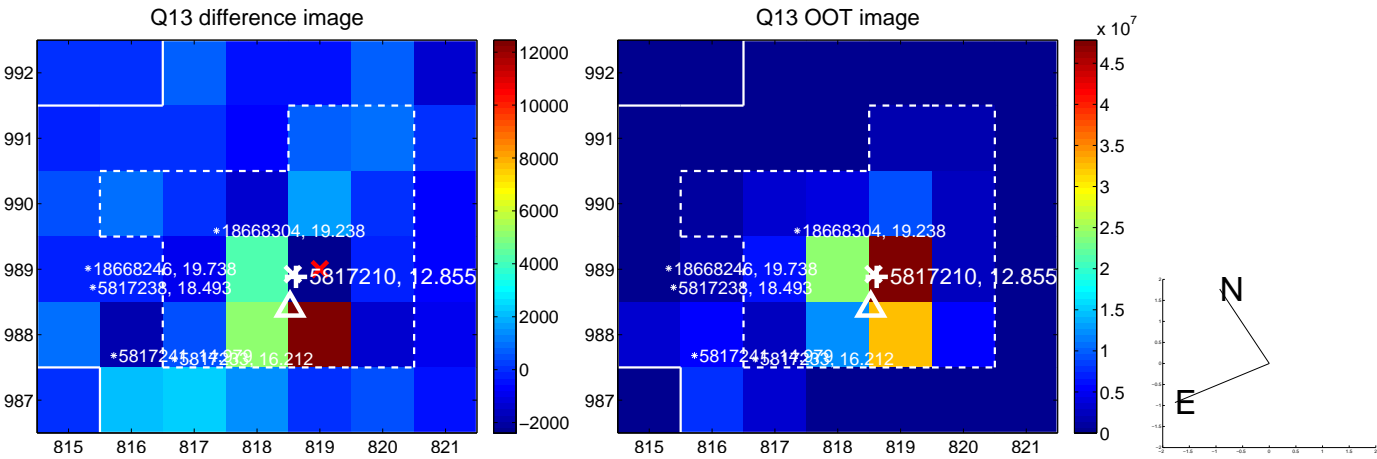
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



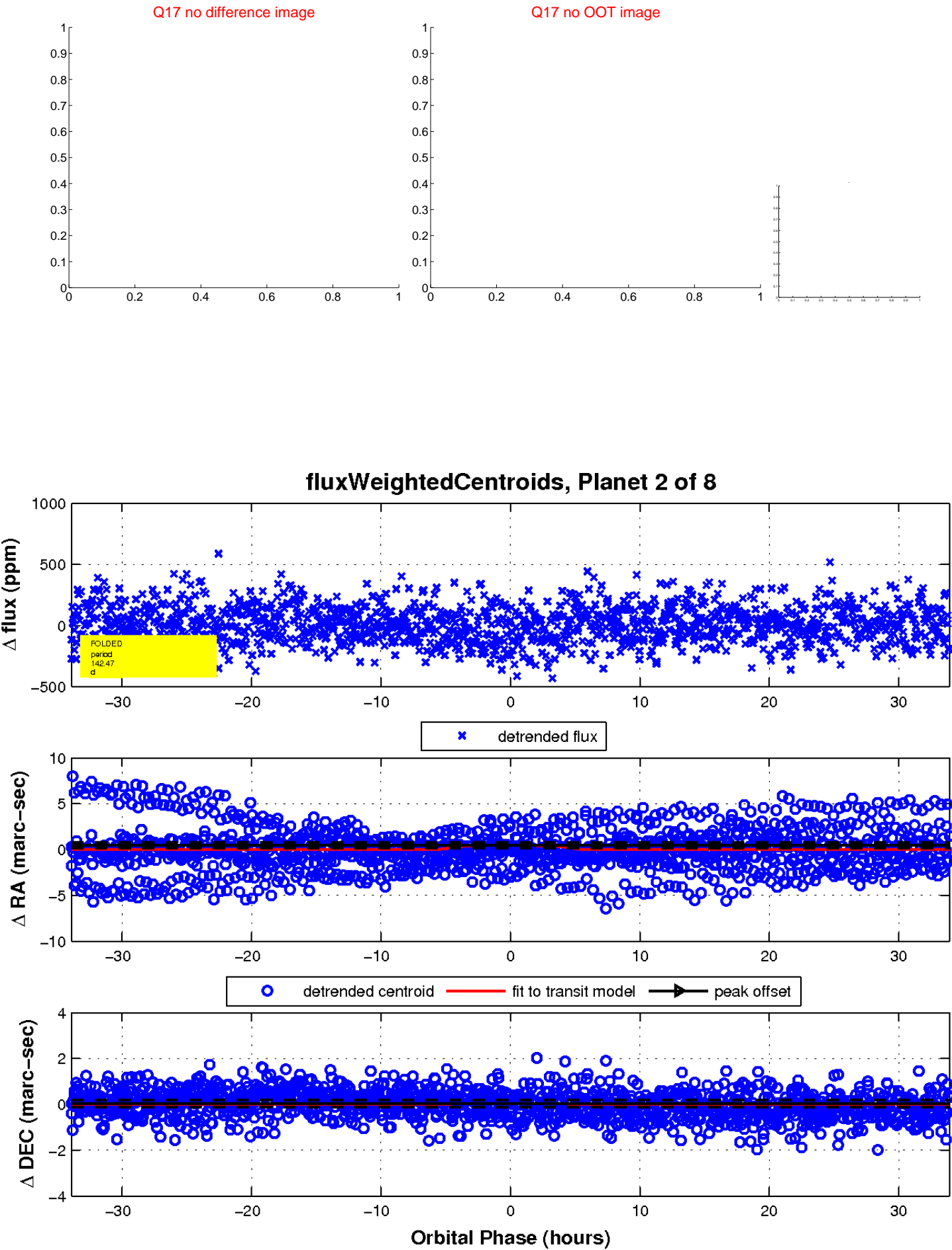
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

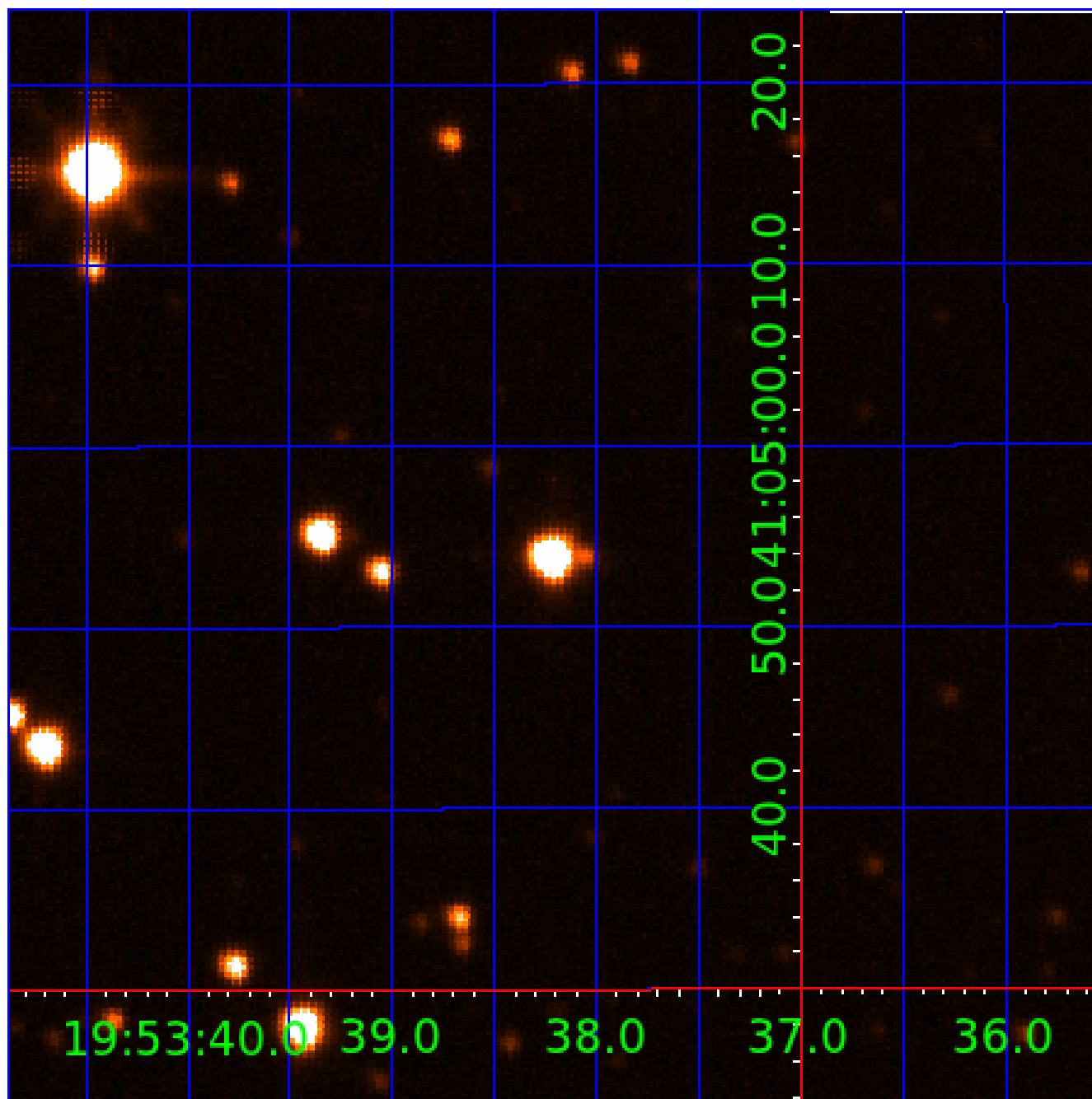


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005817210

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})
005817210-01	OBS	No	3.282245	132.595698	21.0	17.015	10.9	7.8	2.92	6061	1.33	4261.54
005817210-02	OBS	No	142.468035	246.659542	223.7	11.320	9.5	10.2	2.92	6061	5.61	27.94
005817210-03	OBS	No	214.556799	176.143016	298.0	3.549	8.9	8.0	2.92	6061	5.81	16.18
005817210-04	OBS	No	168.723409	144.341929	220.1	5.082	8.7	8.4	2.92	6061	4.90	22.30
005817210-05	OBS	No	178.058270	247.822659	225.3	3.950	8.5	8.5	2.92	6061	5.03	20.75
005817210-06	OBS	No	192.426020	275.572658	95.8	17.716	7.9	4.3	2.92	6061	3.04	18.71
005817210-07	OBS	No	538.249487	209.036189	303.9	25.151	7.6	7.4	2.92	6061	5.76	4.75
005817210-08	OBS	No	653.461104	137.012295	139.9	13.770	7.7	5.5	2.92	6061	3.84	3.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817210-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005817210-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005817210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005817210-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

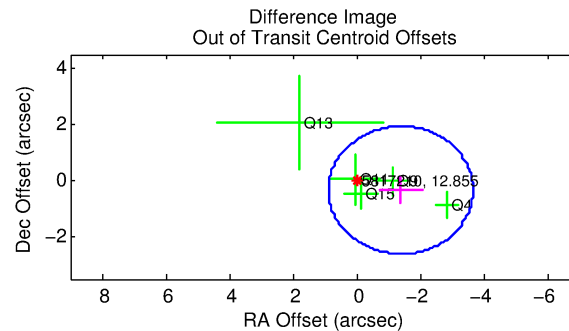
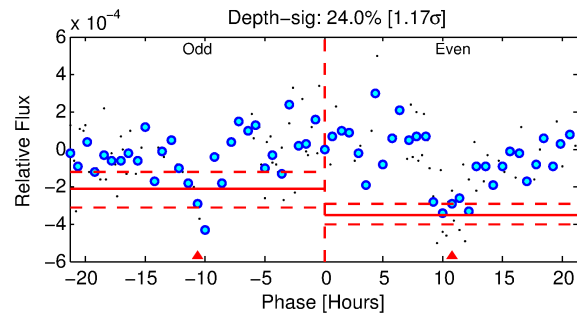
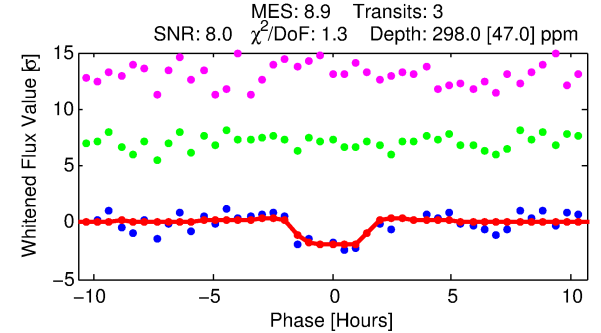
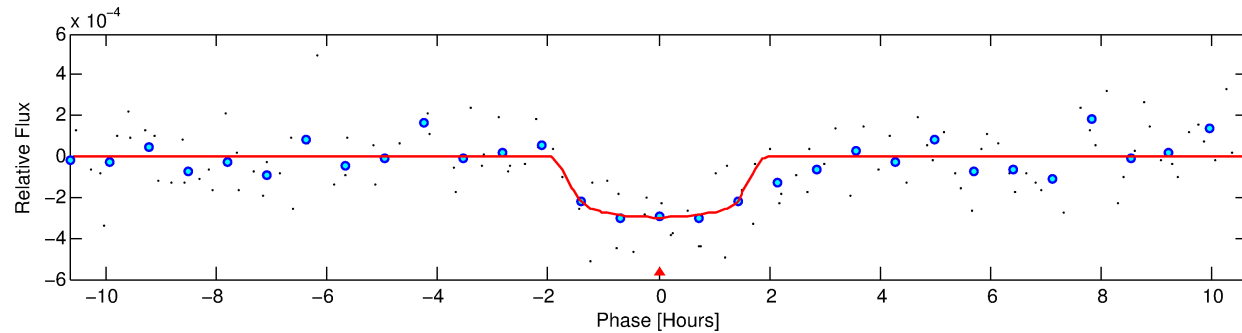
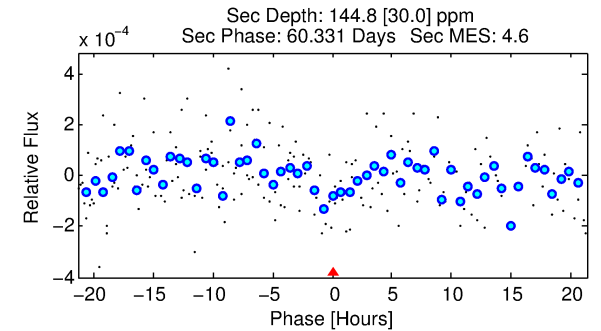
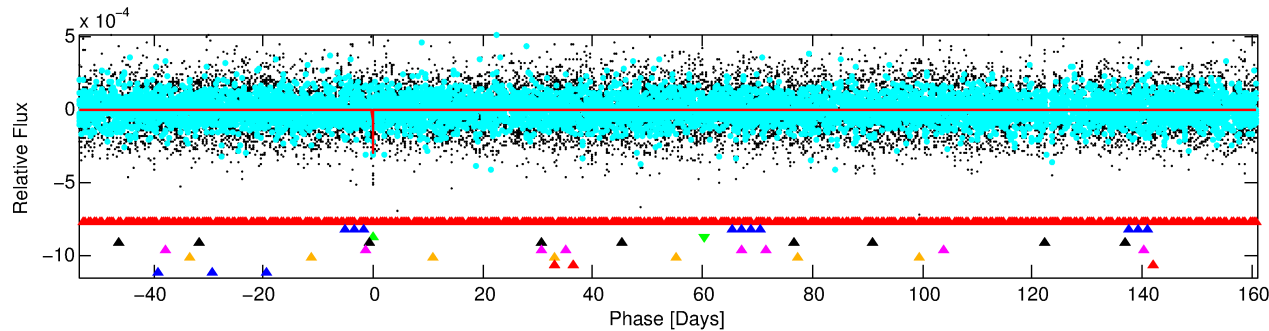
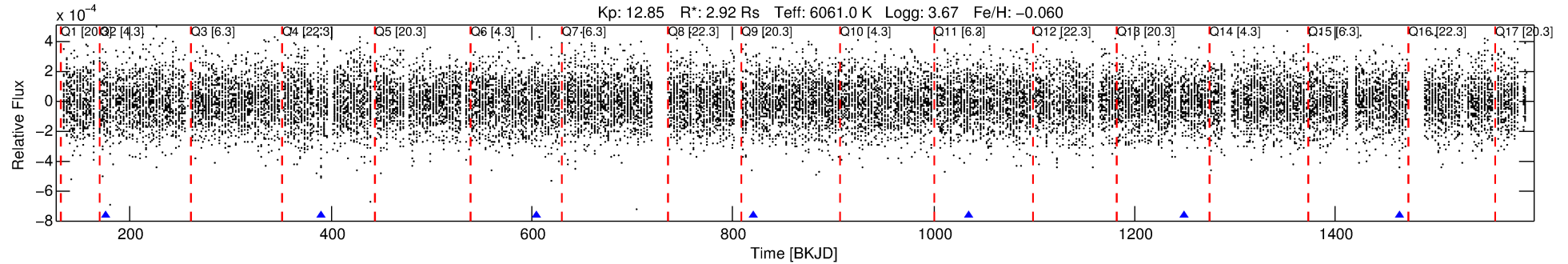
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-03

No Significant Match Found

DV One-Page Summary

KIC: 5817210 Candidate: 3 of 8 Period: 214.557 d



DV Fit Results:

Period = 214.55680 [0.00263] d
Epoch = 176.1430 [0.0099] BKJD
Rp/R* = 0.0182 [0.0192]
a/R* = 242.18 [1327.86]
b = 0.87 [1.51]
Seff = 16.18 [9.67]
Teq = 511 [76] K
Rp = 5.81 [6.57] Re
a = 0.7976 [0.2993] AU
Ag = 1503.01 [3305.93] [0.45 σ]
Teffp = 4924 [2614] K [1.69 σ]

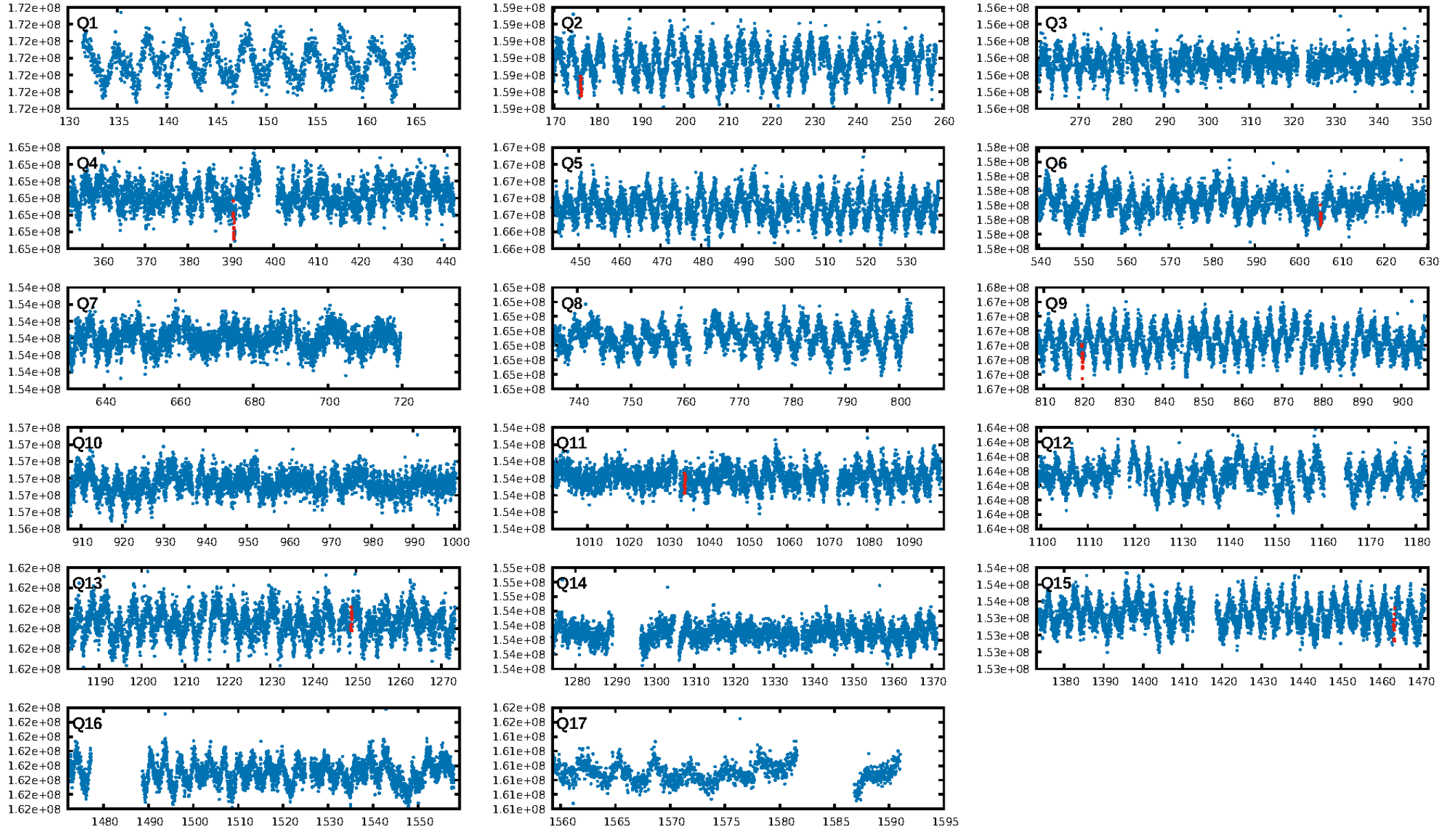
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.40 σ]
LongPeriod-sig: 100.0% [305.85 σ]
ModelChiSquare2-sig: 2.9%
ModelChiSquareGof-sig: 58.6%
Bootstrap-pfa: 1.88e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -6.26
Centroid-sig: 65.6%
Centroid-so: 1.401 arcsec [1.09 σ]
OotOffset-rm: 1.432 arcsec [1.89 σ]
KicOffset-rm: 1.425 arcsec [1.94 σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.71 [5/7]

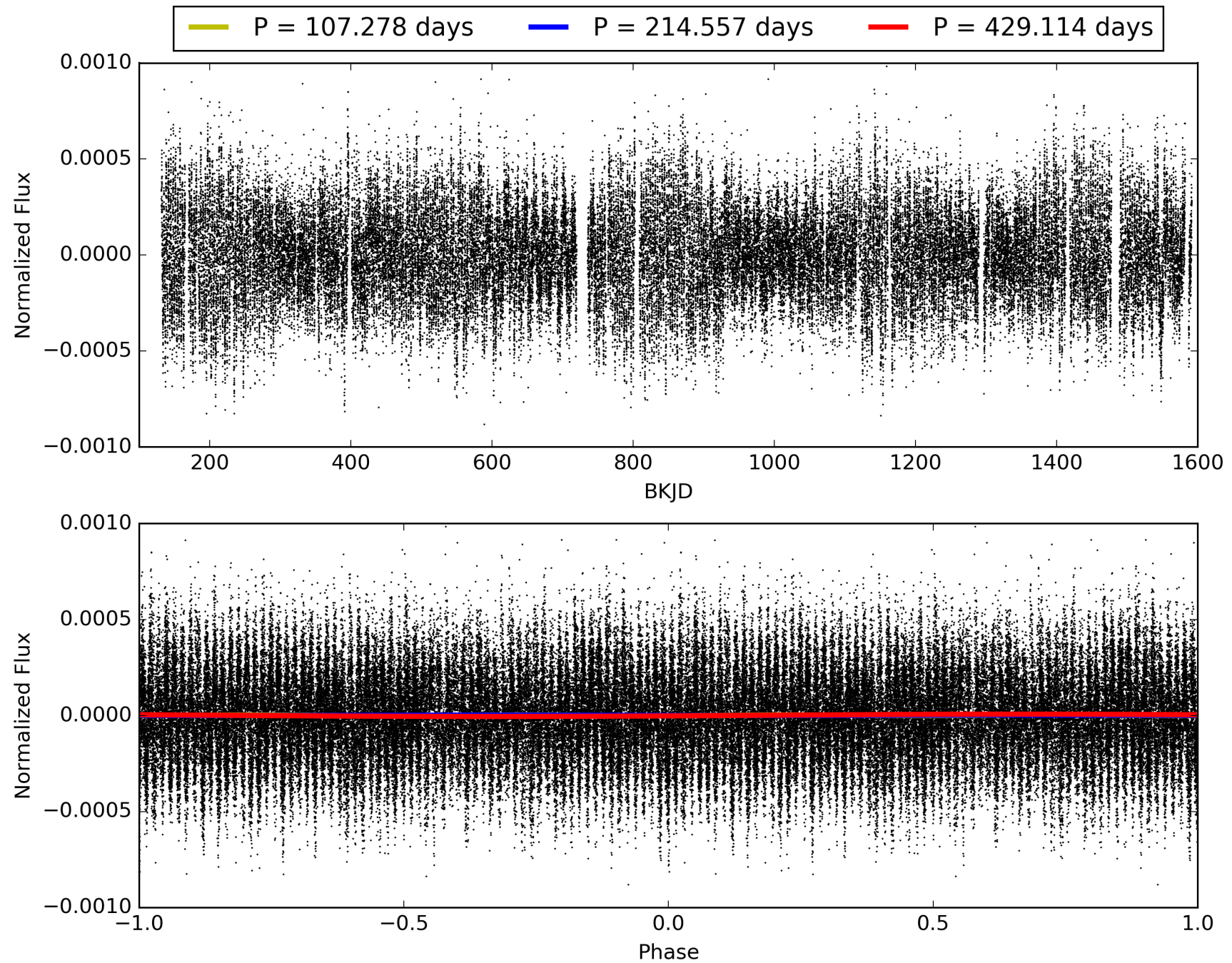
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:18 Z

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

TCE 005817210-03, PDC Light Curves

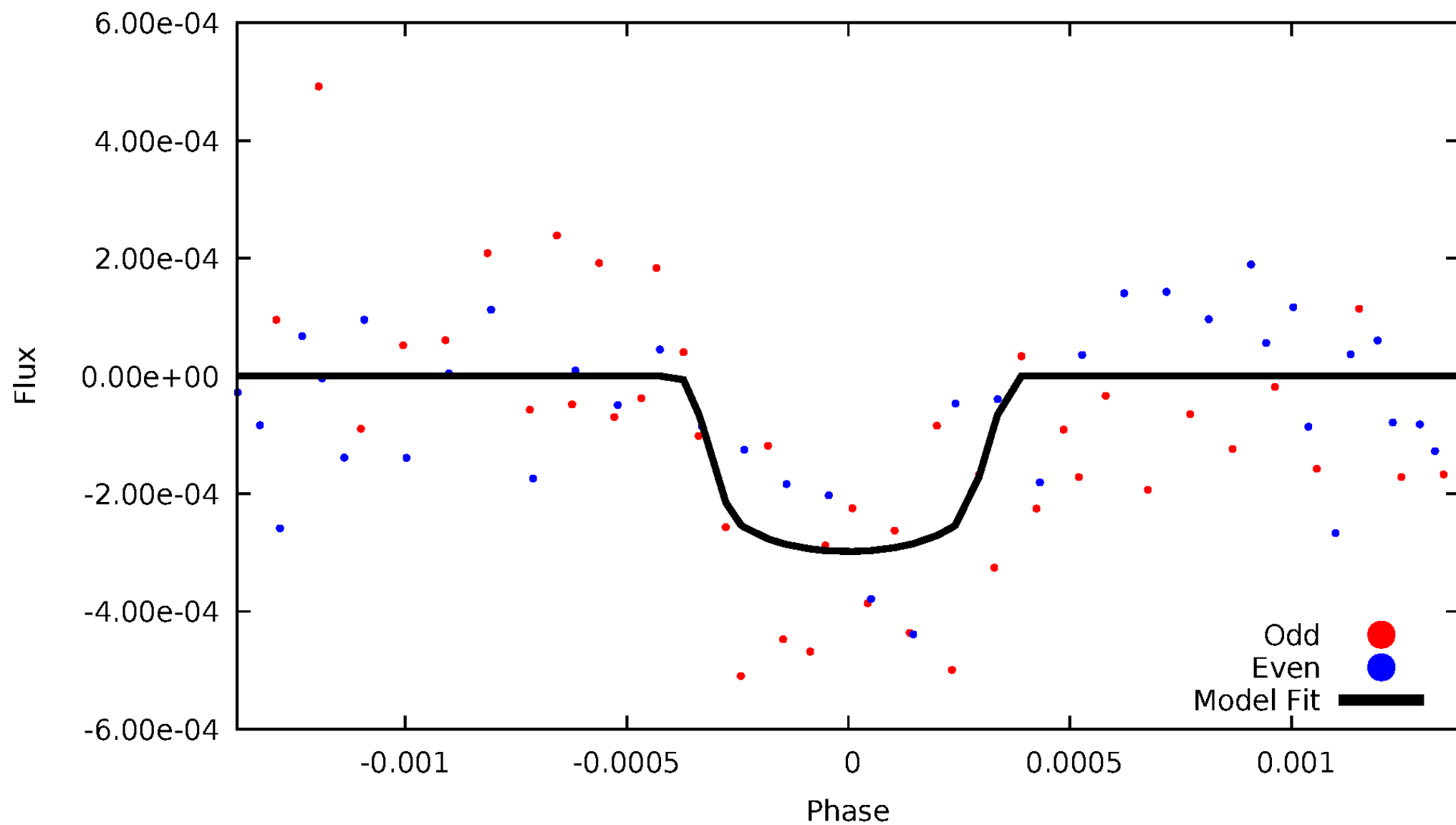


TCE 005817210-03



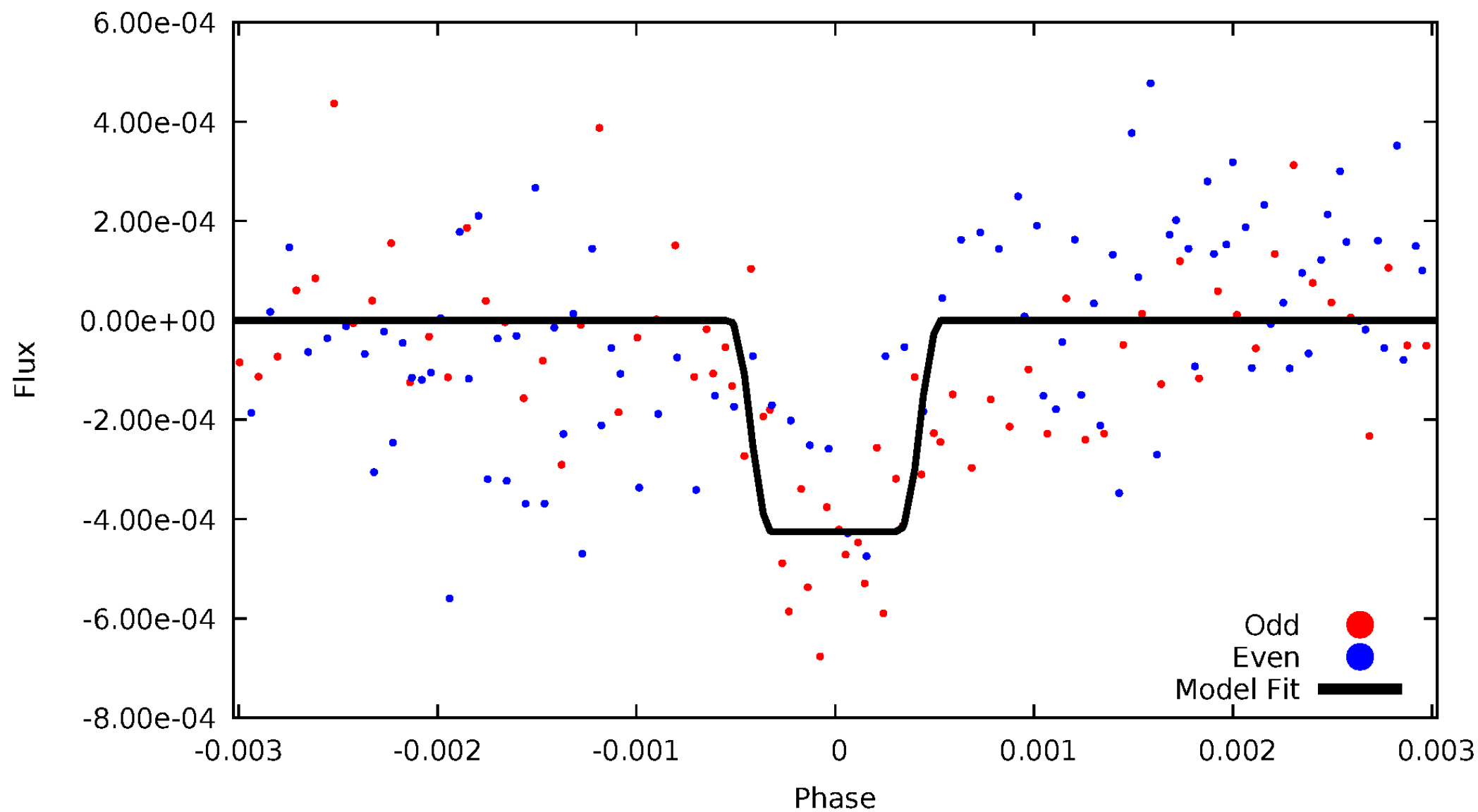
DV Odd/Even

TCE 005817210-03



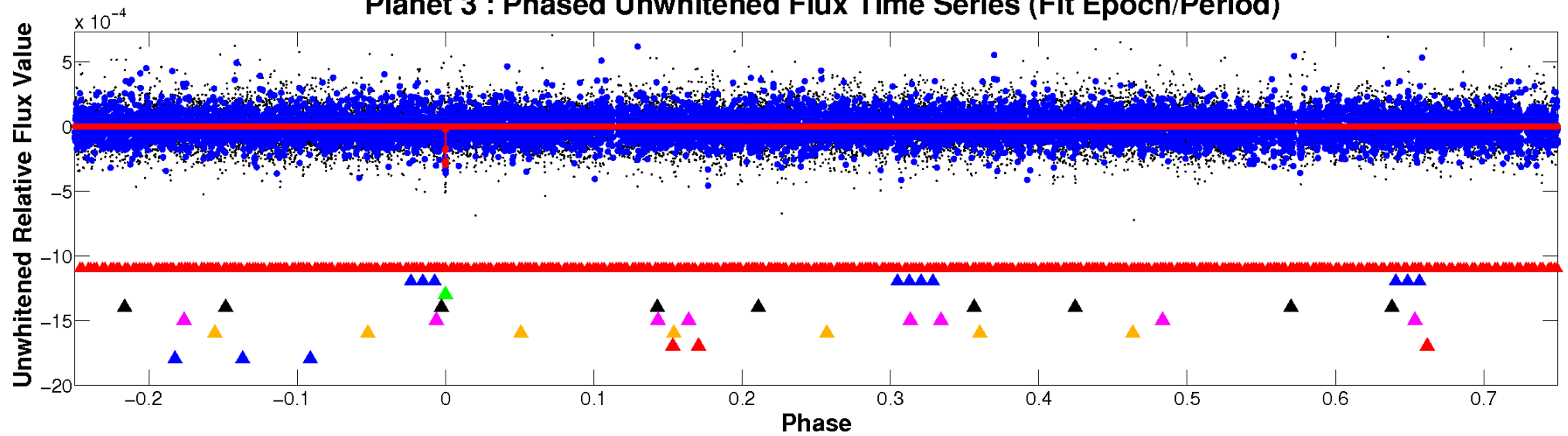
ALT Odd/Even

TCE 005817210-03

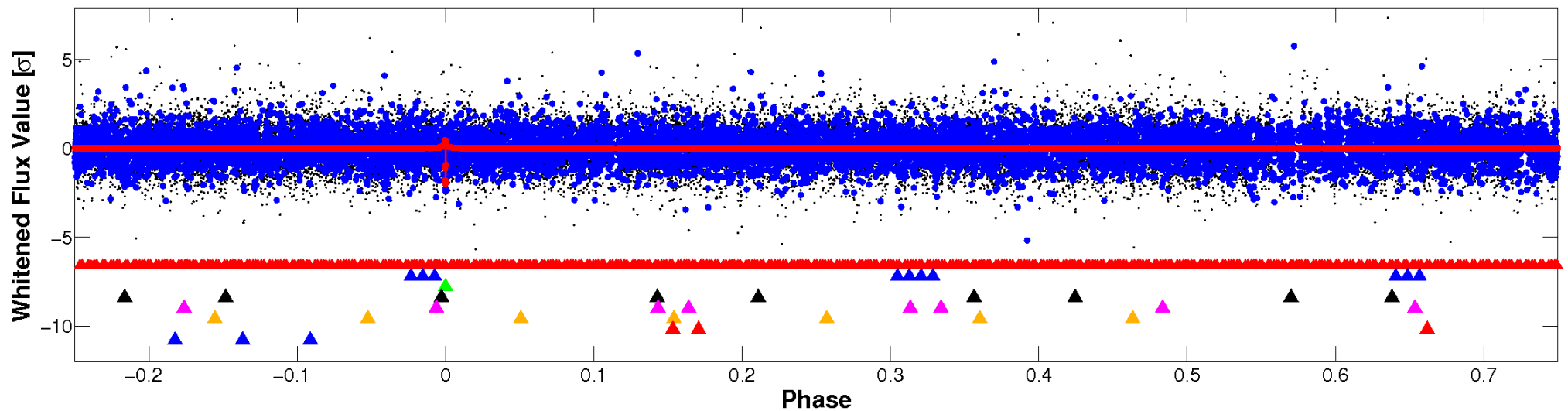


Non-Whitened Vs. Whitened Light Curve

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

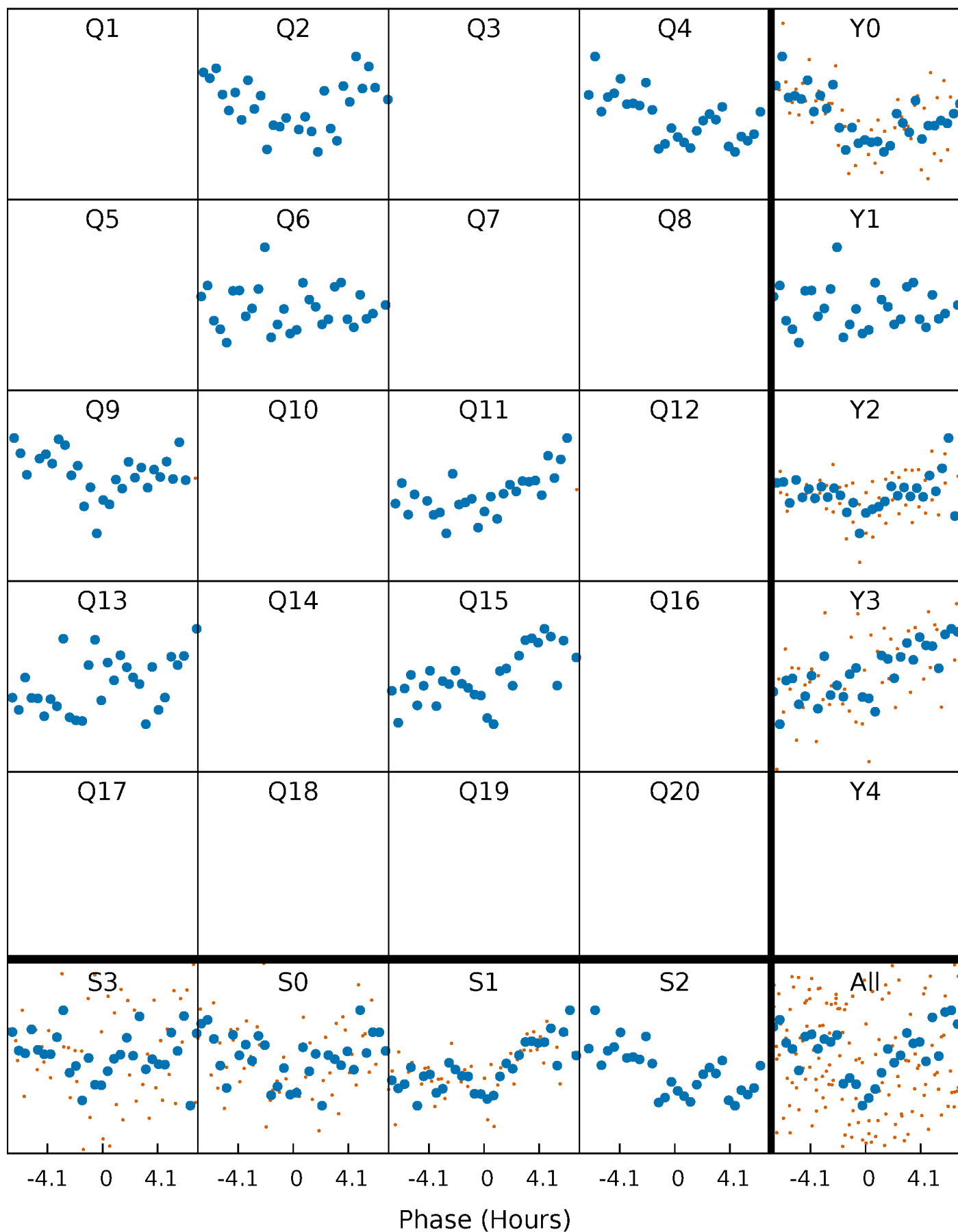


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



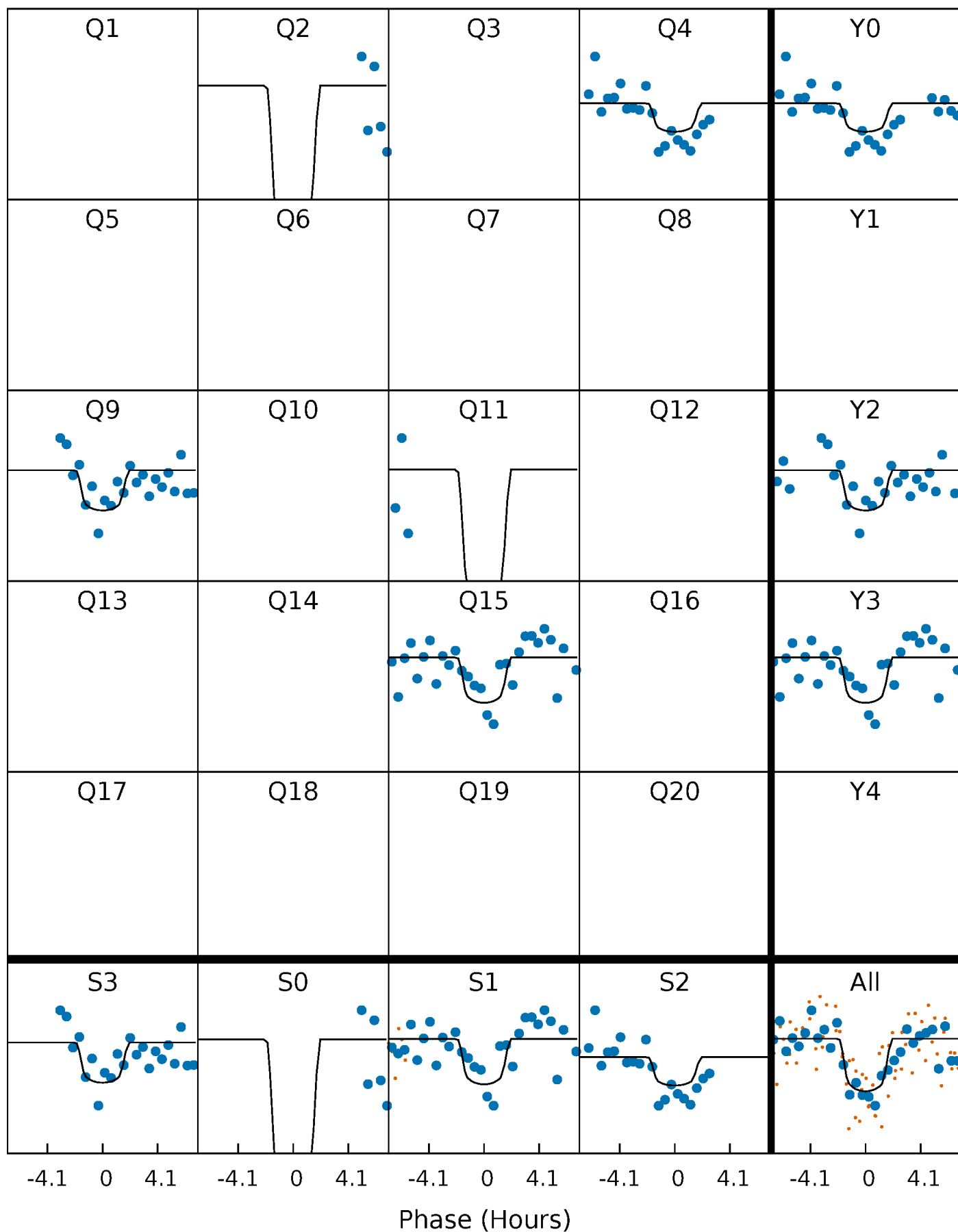
PDC Quarter-Phased Transit Curves

TCE 005817210-03 P=214.556799 Days $T_0=176.143016$ (BKJD)



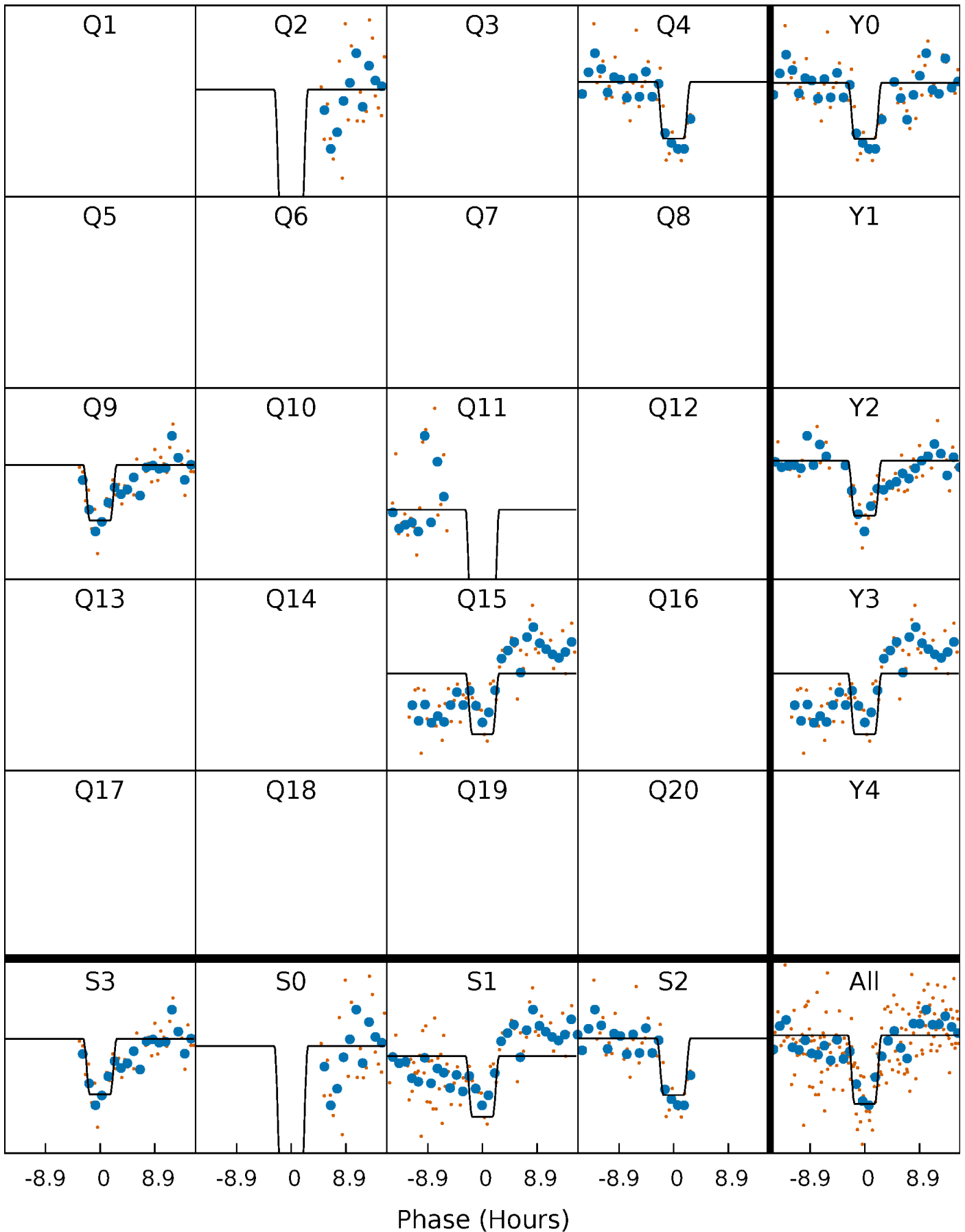
DV Quarter-Phased Transit Curves

TCE 005817210-03 $P=214.556799$ Days $T_0=176.143016$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

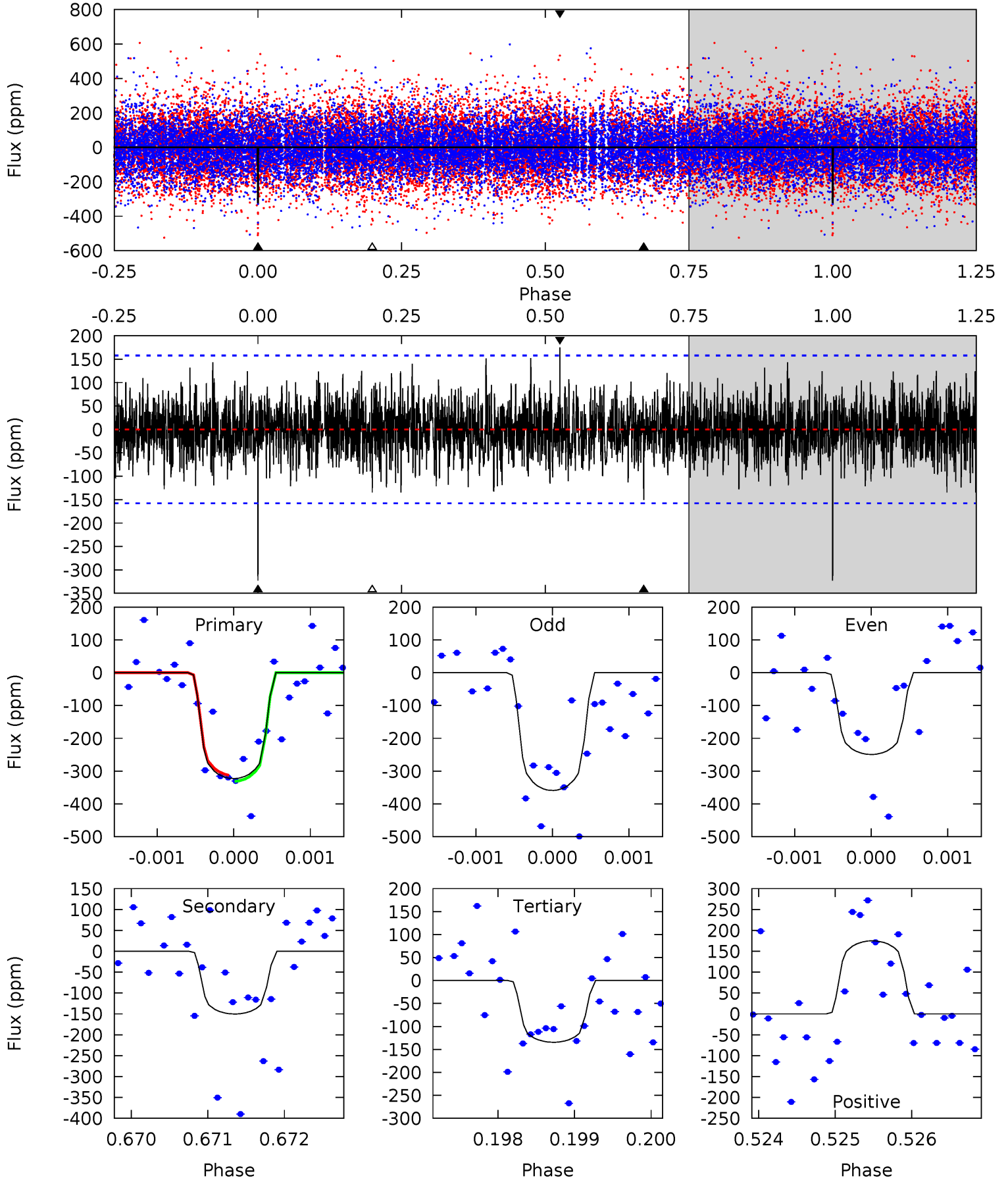
TCE 005817210-03 P=214.556722 Days $T_0=176.141148$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-03, P = 214.556799 Days, E = 176.143016 Days

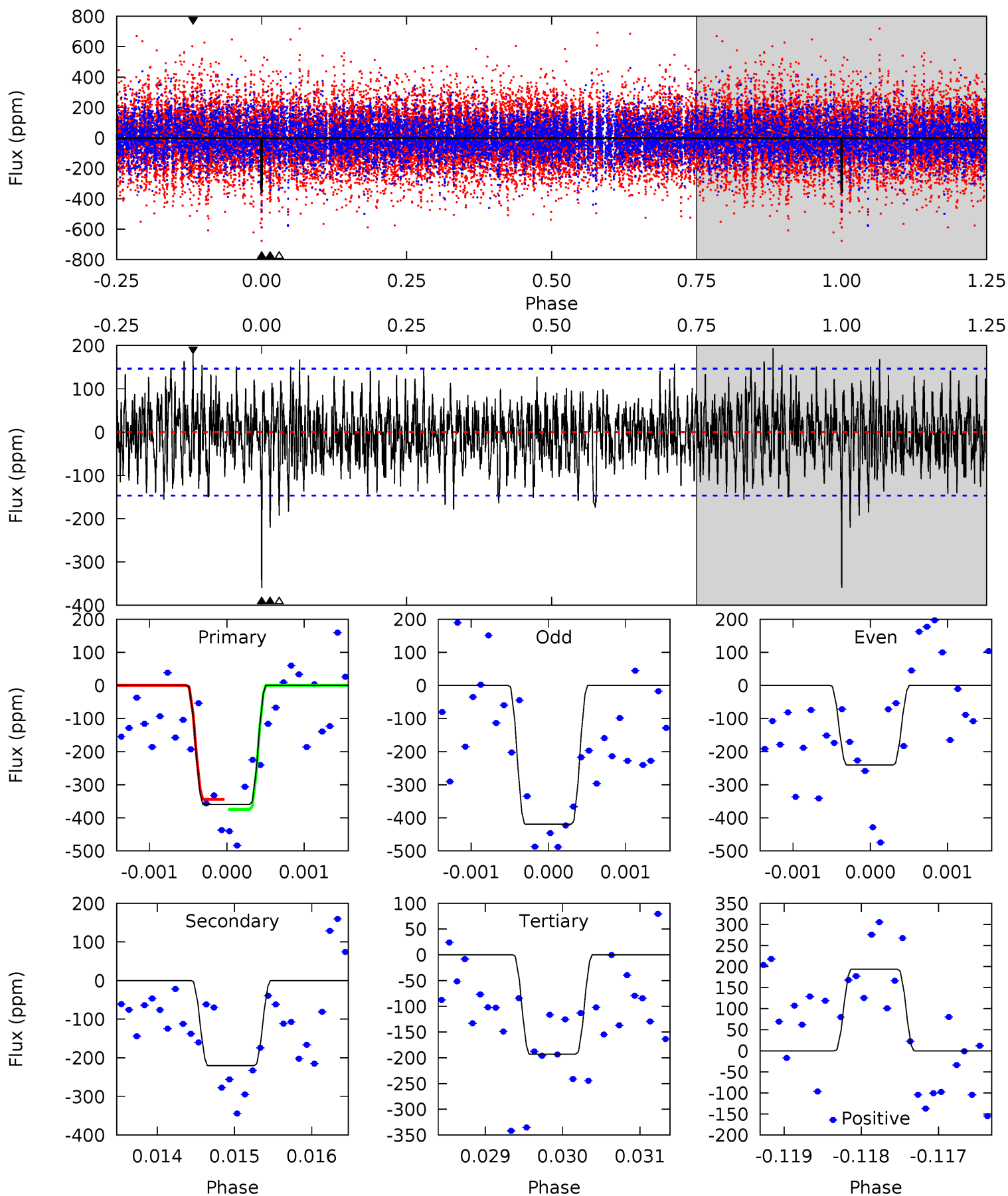
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	5.25	4.70	6.11	5.51	3.39	1.50	6.58	5.17	0.55	-0.86	1.78	1.25	0.35	0.33



Alt Model-Shift Uniqueness Test

005817210-03, P = 214.556722 Days, E = 176.141148 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	8.19	7.17	7.19	5.44	3.28	2.02	6.20	6.17	1.02	0.99	3.16	0.92	0.35	0.57



Stellar Parameters For KIC 005817210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-150 ± 29	$6.44^{+5.26}_{-4.01}$	704^{+39}_{-64}	4671^{+3023}_{-893}	1233^{+8015}_{-861}
Alt.	-220 ± 27	$6.94^{+5.79}_{-4.21}$	699^{+45}_{-68}	4865^{+2645}_{-904}	1599^{+8481}_{-1112}

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

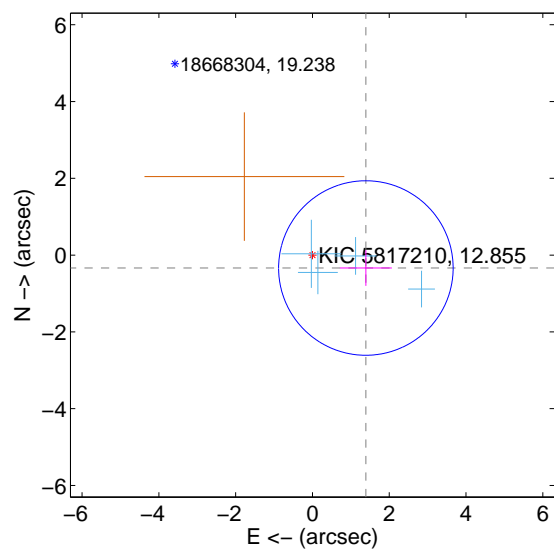
Supplemental centroid analysis for 005817210-03. Kepler magnitude: 12.86. Transit SNR 7.96

There are 4 quarters with good PRF difference image offsets

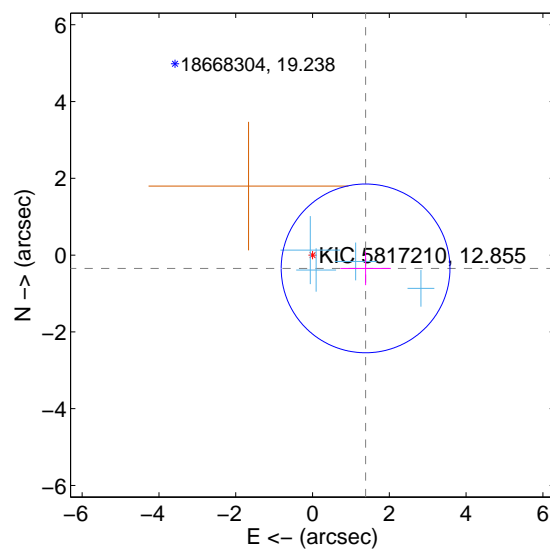
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.432 ± 0.758	1.89	-1.392 ± 0.678	-0.337 ± 0.463
PRF-fit source offset from KIC position	1.425 ± 0.733	1.94	-1.382 ± 0.655	-0.346 ± 0.437
photometric centroid source offset	1.40 ± 1.28	1.09	1.40 ± 1.28	-0.06 ± 0.85

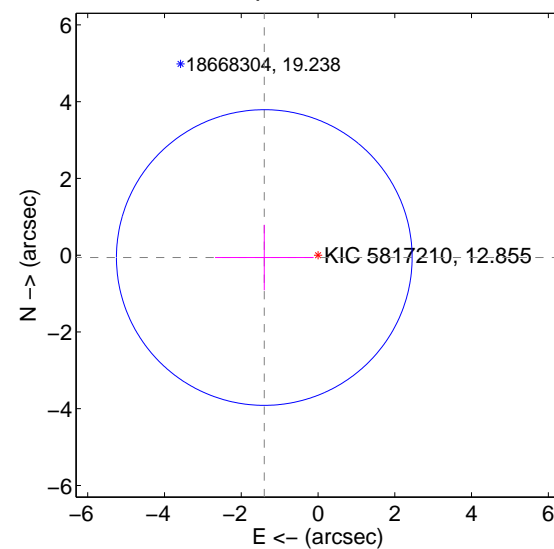
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

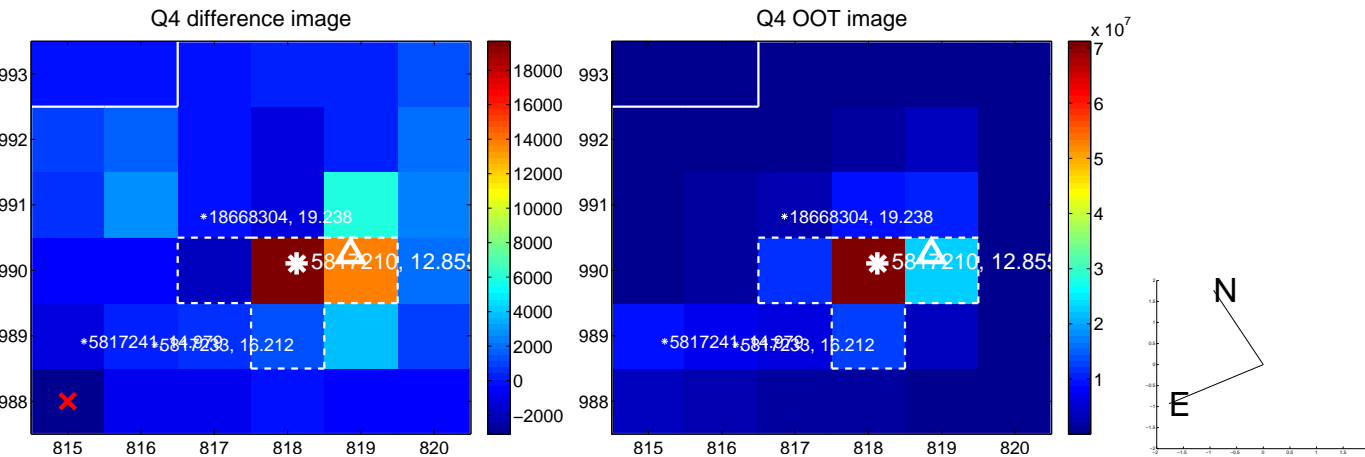
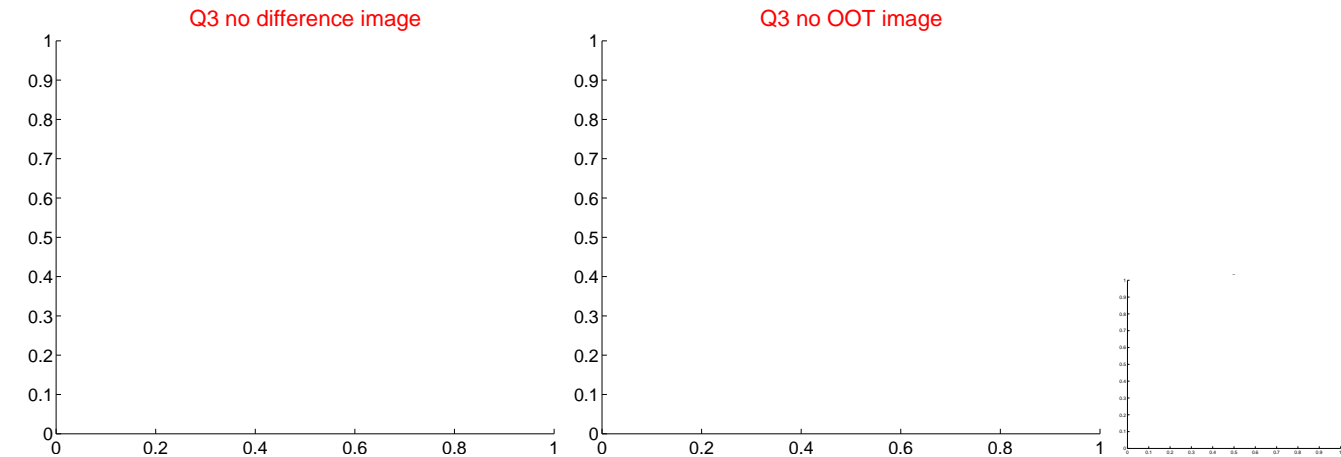
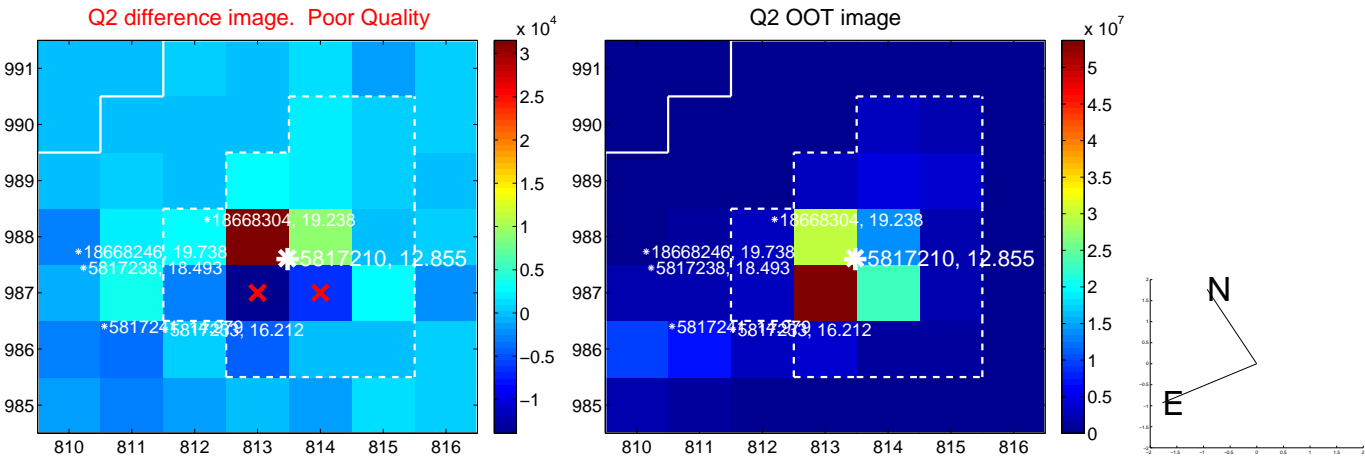


offset from photometric centroids

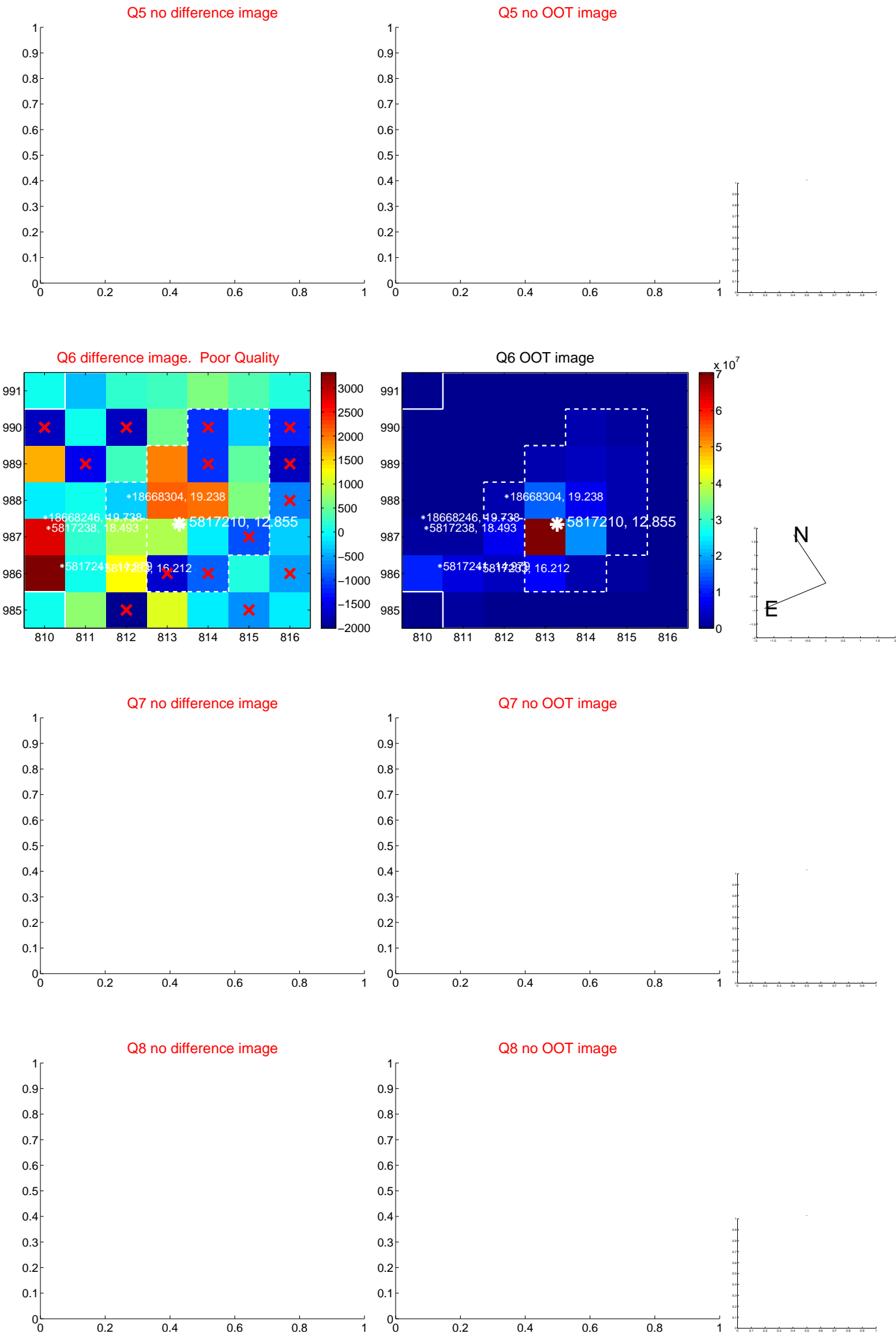


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

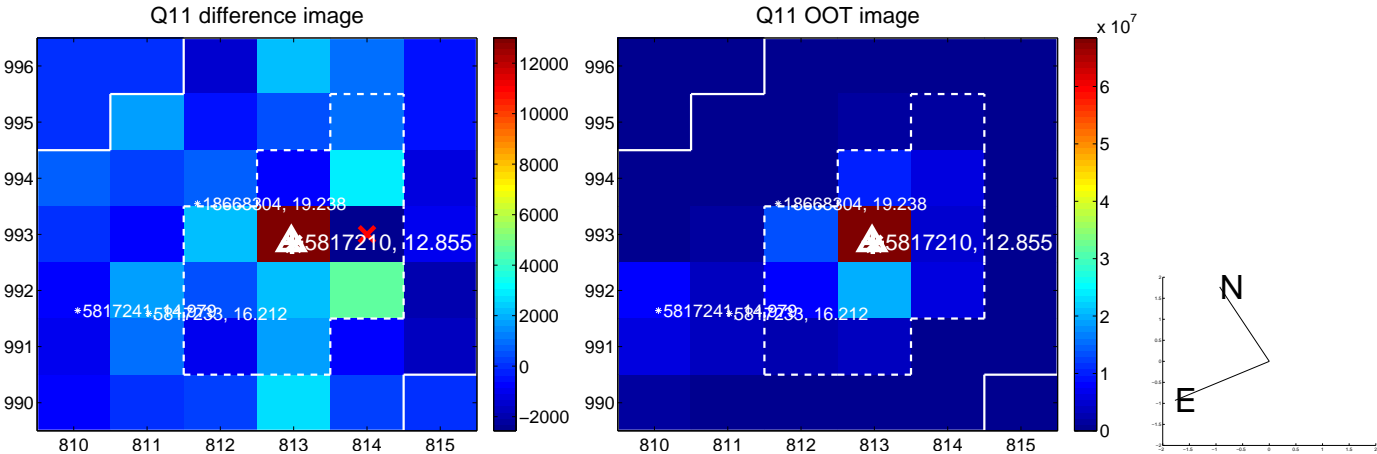
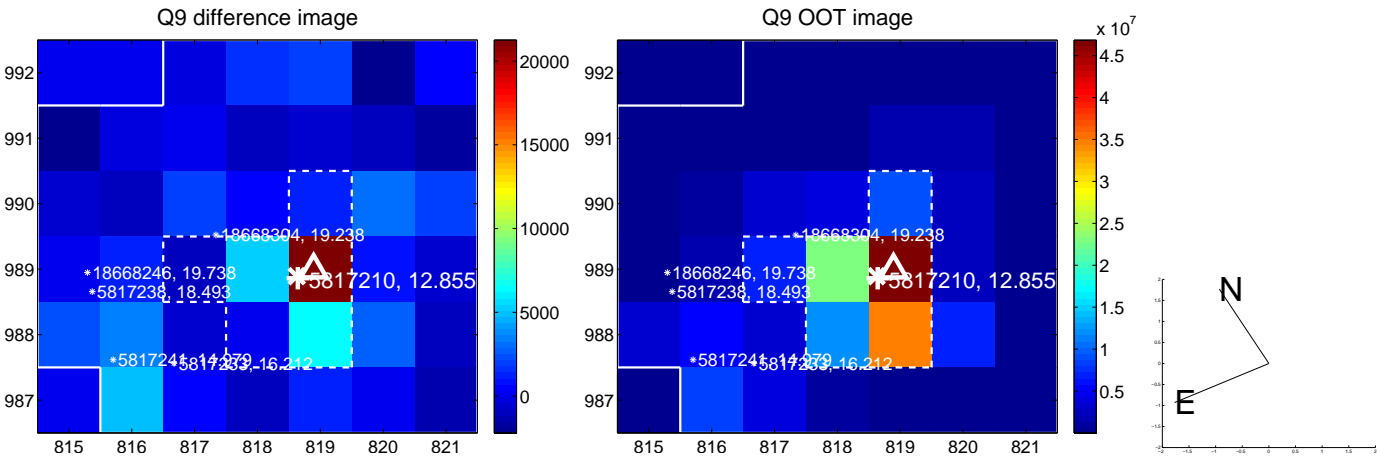
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



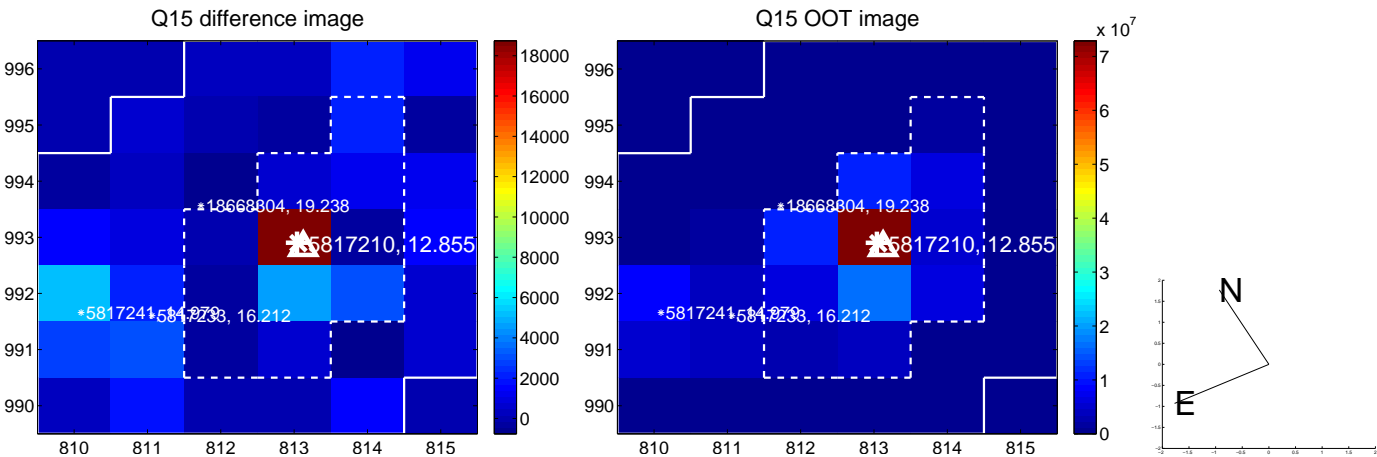
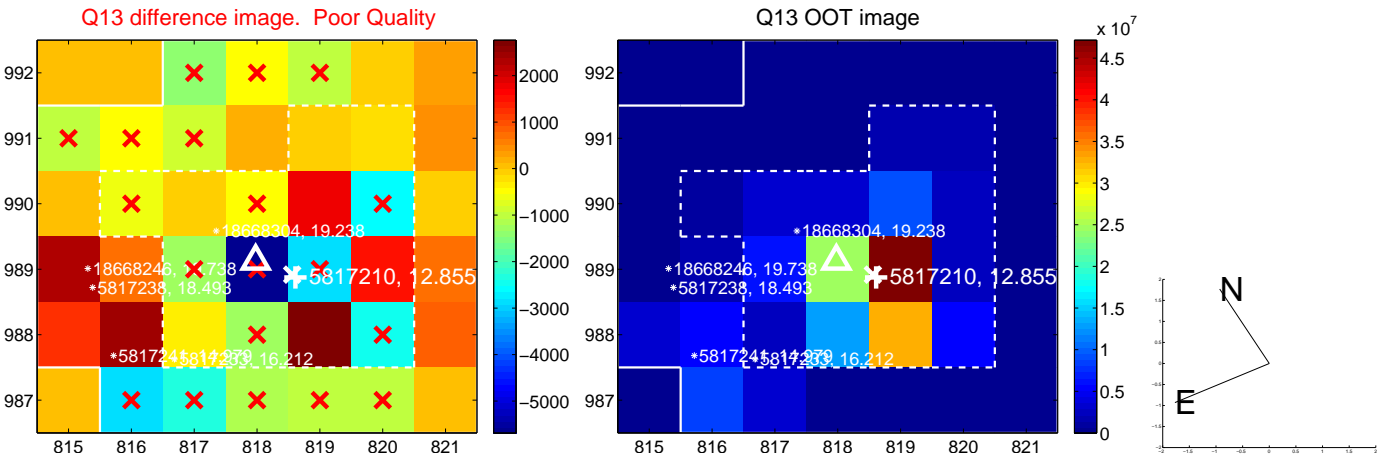
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



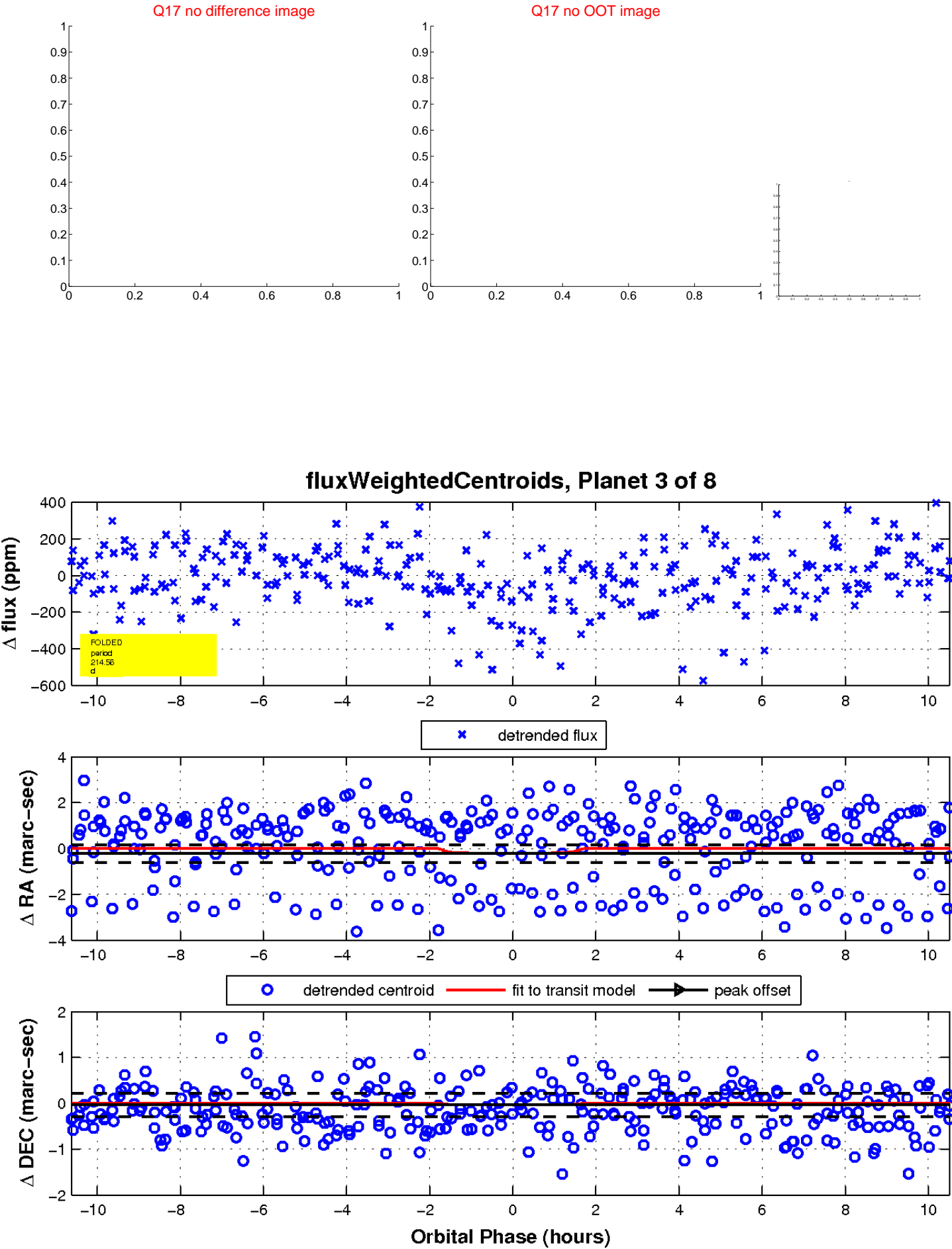
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

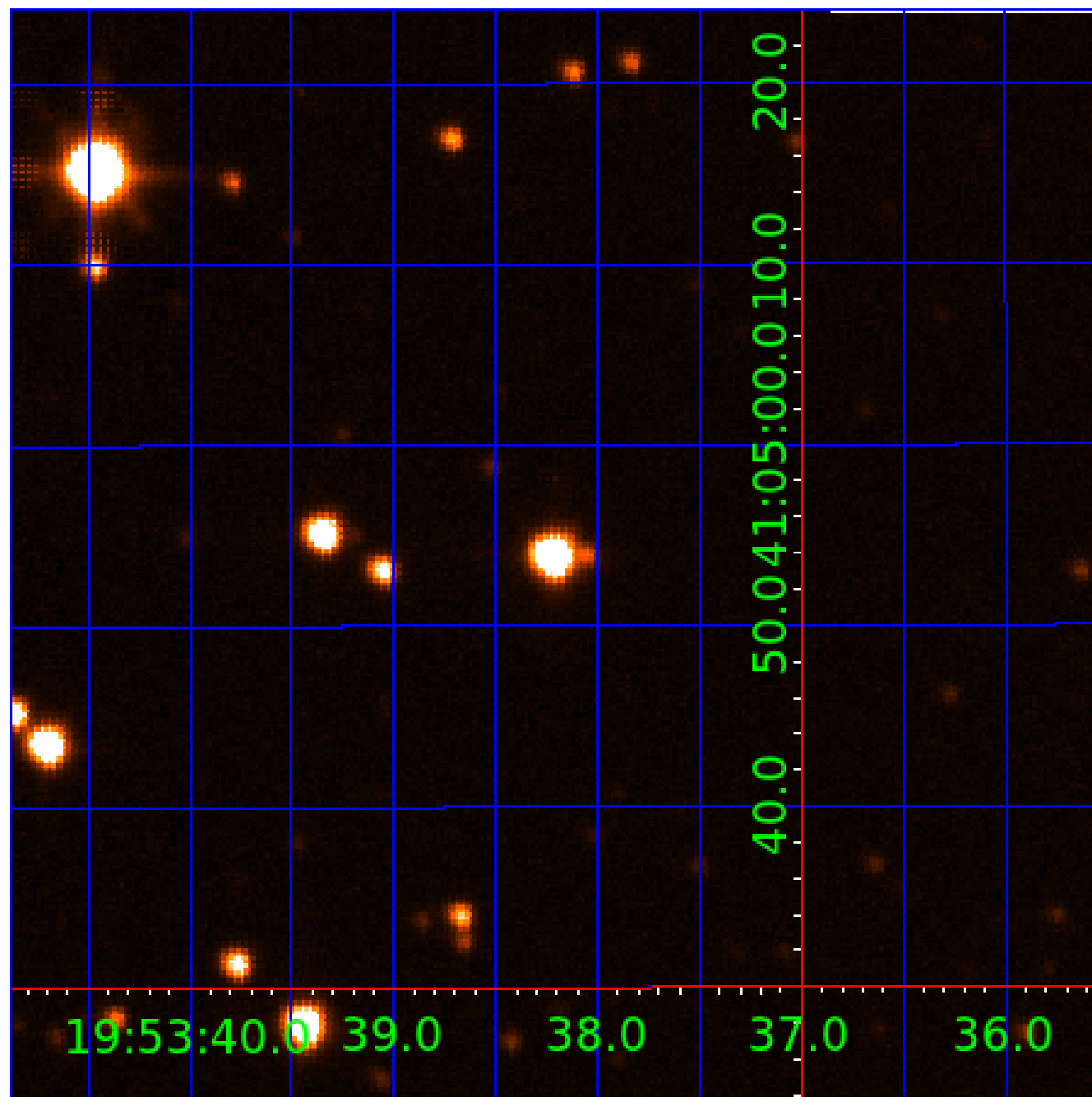


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005817210

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})
005817210-01	OBS	No	3.282245	132.595698	21.0	17.015	10.9	7.8	2.92	6061	1.33	4261.54
005817210-02	OBS	No	142.468035	246.659542	223.7	11.320	9.5	10.2	2.92	6061	5.61	27.94
005817210-03	OBS	No	214.556799	176.143016	298.0	3.549	8.9	8.0	2.92	6061	5.81	16.18
005817210-04	OBS	No	168.723409	144.341929	220.1	5.082	8.7	8.4	2.92	6061	4.90	22.30
005817210-05	OBS	No	178.058270	247.822659	225.3	3.950	8.5	8.5	2.92	6061	5.03	20.75
005817210-06	OBS	No	192.426020	275.572658	95.8	17.716	7.9	4.3	2.92	6061	3.04	18.71
005817210-07	OBS	No	538.249487	209.036189	303.9	25.151	7.6	7.4	2.92	6061	5.76	4.75
005817210-08	OBS	No	653.461104	137.012295	139.9	13.770	7.7	5.5	2.92	6061	3.84	3.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817210-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005817210-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005817210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005817210-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

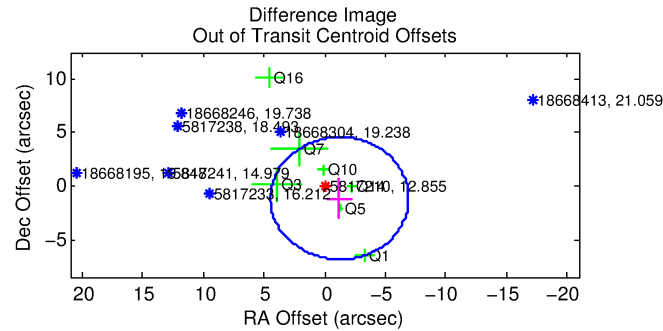
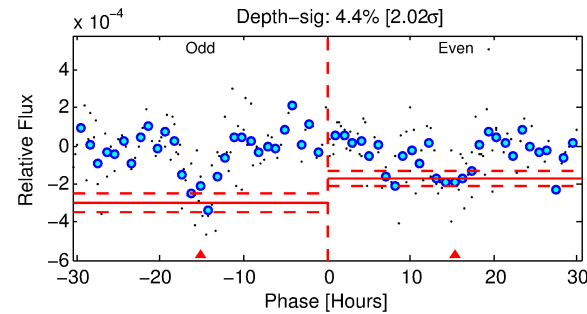
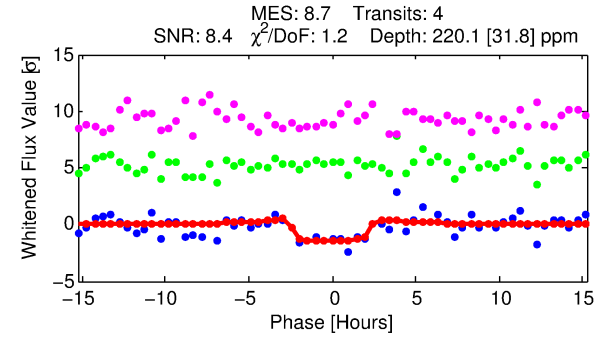
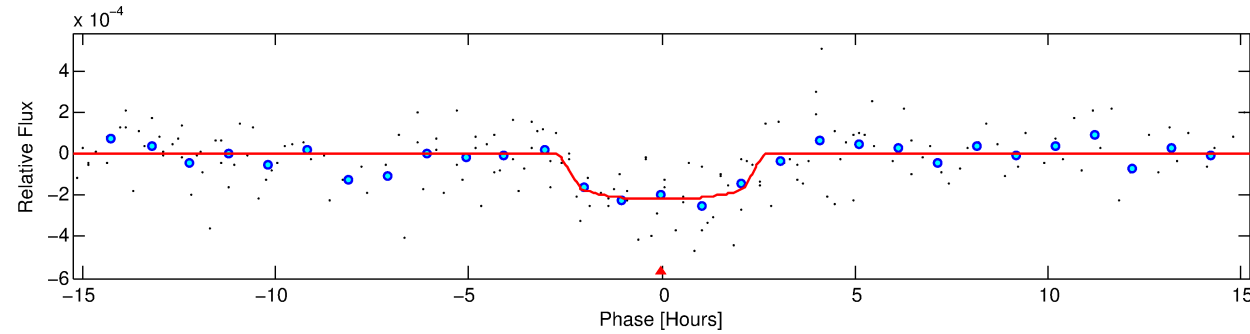
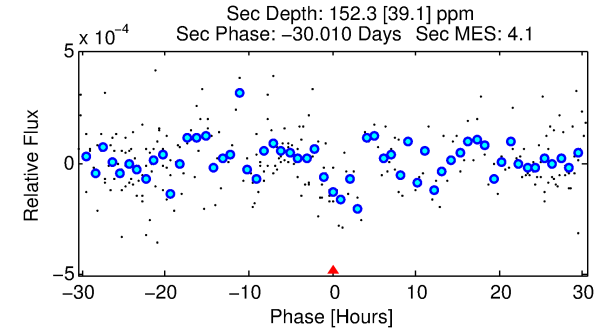
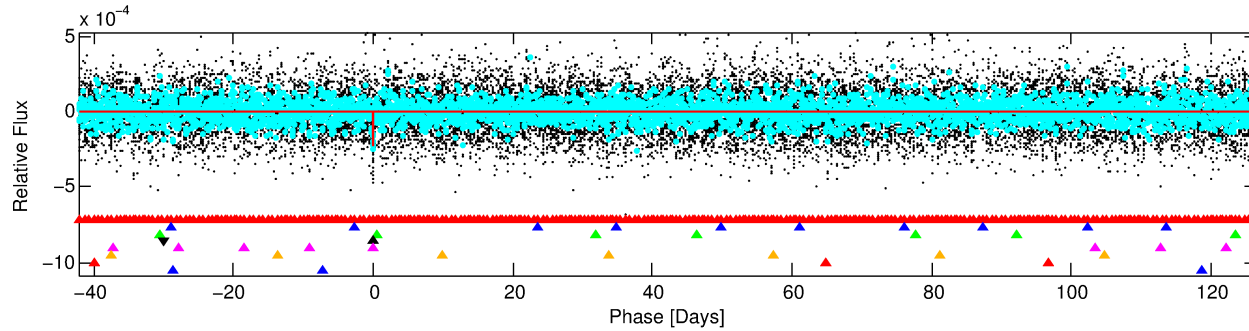
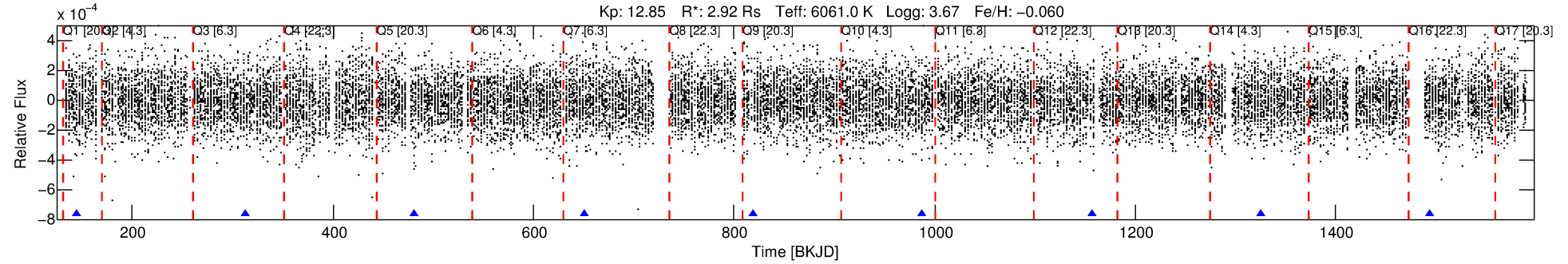
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-04

No Significant Match Found

DV One-Page Summary

KIC: 5817210 Candidate: 4 of 8 Period: 168.723 d



DV Fit Results:

Period = 168.72341 [0.00218] d
Epoch = 144.3419 [0.0102] BKJD
Rp/R* = 0.0154 [0.0093]
a/R* = 142.74 [435.98]
b = 0.85 [1.04]
Seff = 22.30 [13.33]
Teq = 554 [83] K
Rp = 4.90 [3.56] Re
a = 0.6795 [0.2550] AU
Ag = 1610.91 [2194.16] [0.73σ]
Teffp = 5427 [1677] K [2.90σ]

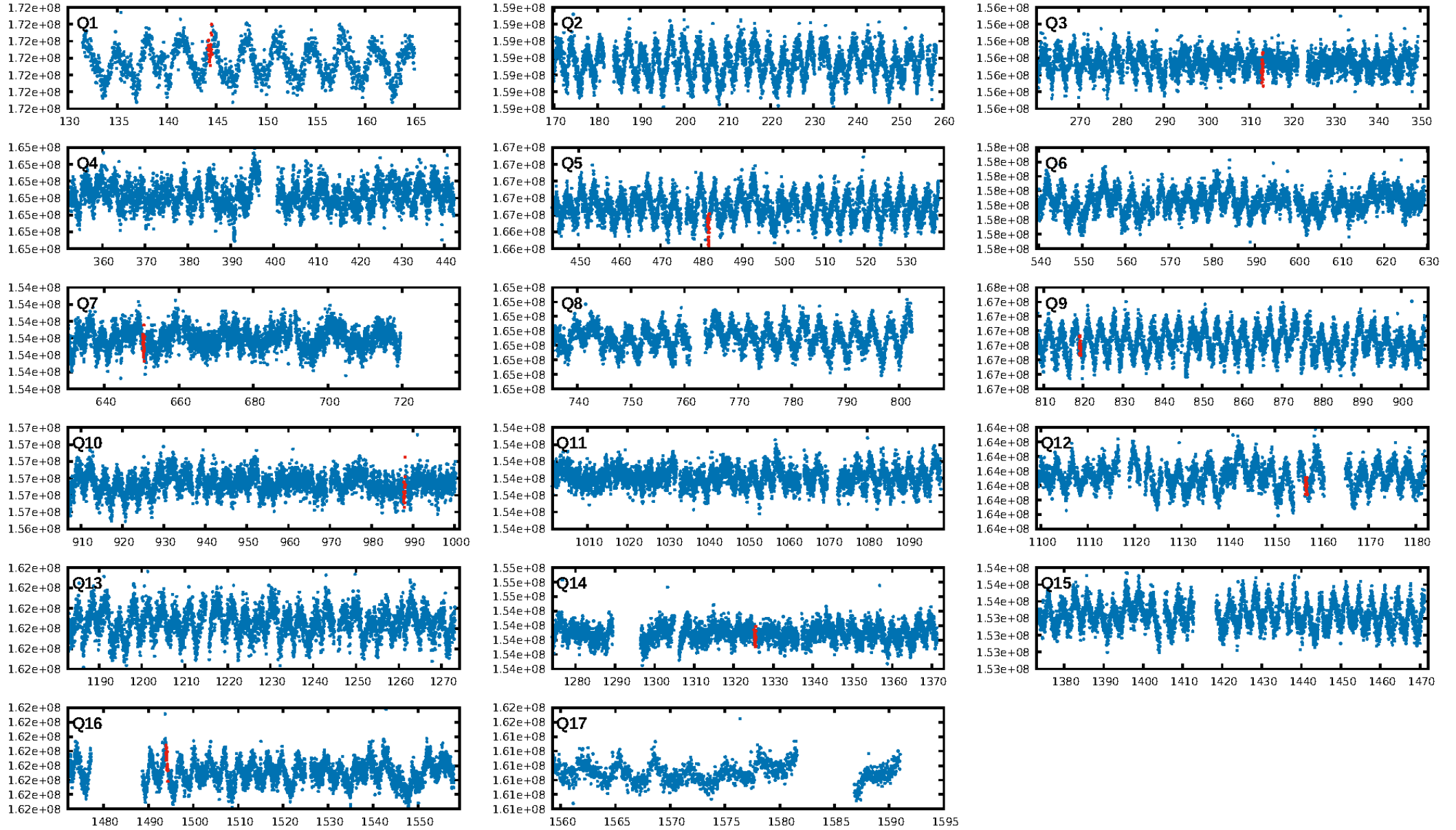
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [50.78σ]
LongPeriod-sig: 100.0% [34.81σ]
ModelChiSquare2-sig: 3.5%
ModelChiSquareGof-sig: 59.4%
Bootstrap-pfa: 2.72e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.696
Centroid-sig: 97.8%
Centroid-so: 0.705 arcsec [0.50σ]
OotOffset-rm: 1.682 arcsec [0.88σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-rm: 1.665 arcsec [0.83σ]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.44 [4/9]

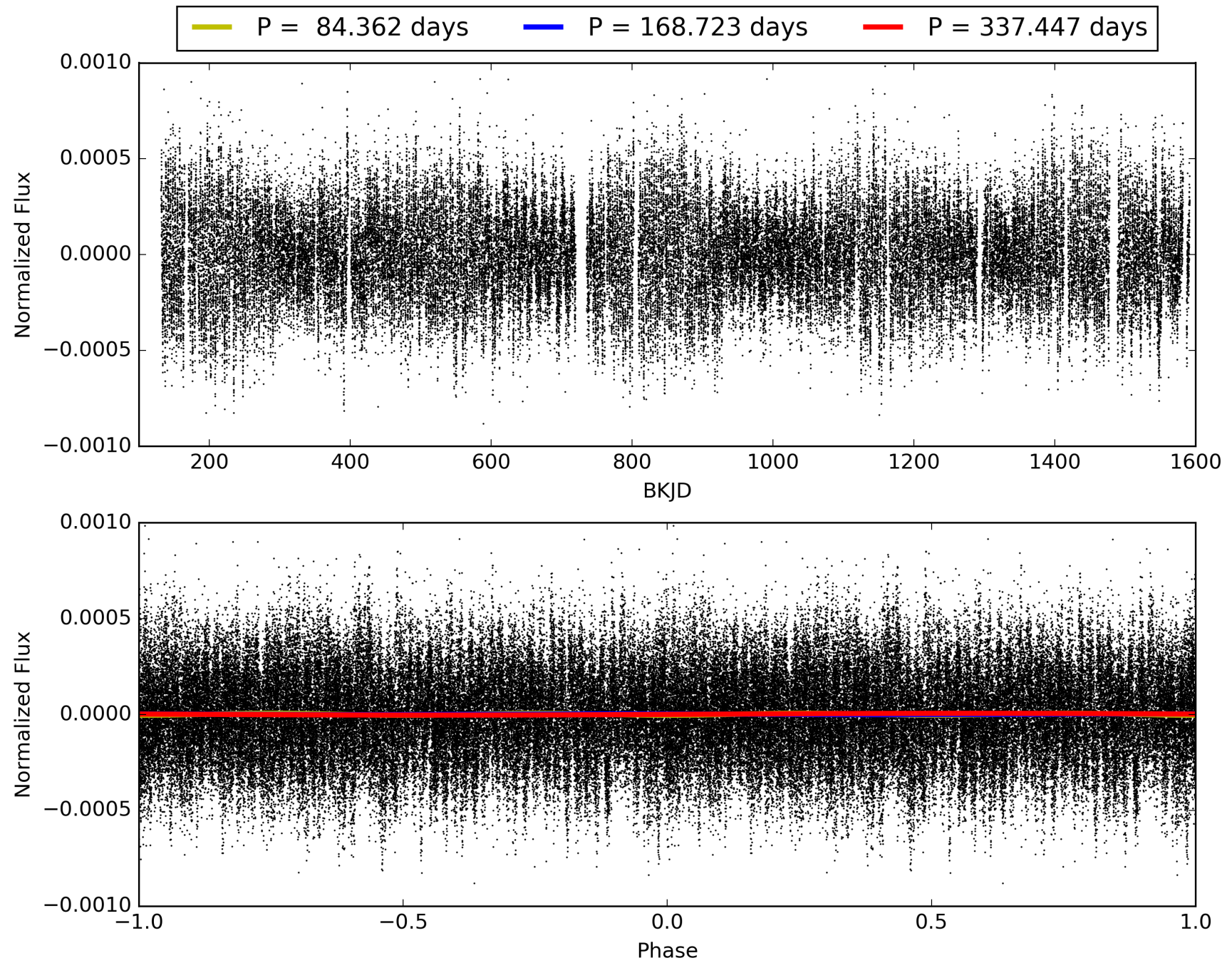
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:23 Z

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

TCE 005817210-04, PDC Light Curves

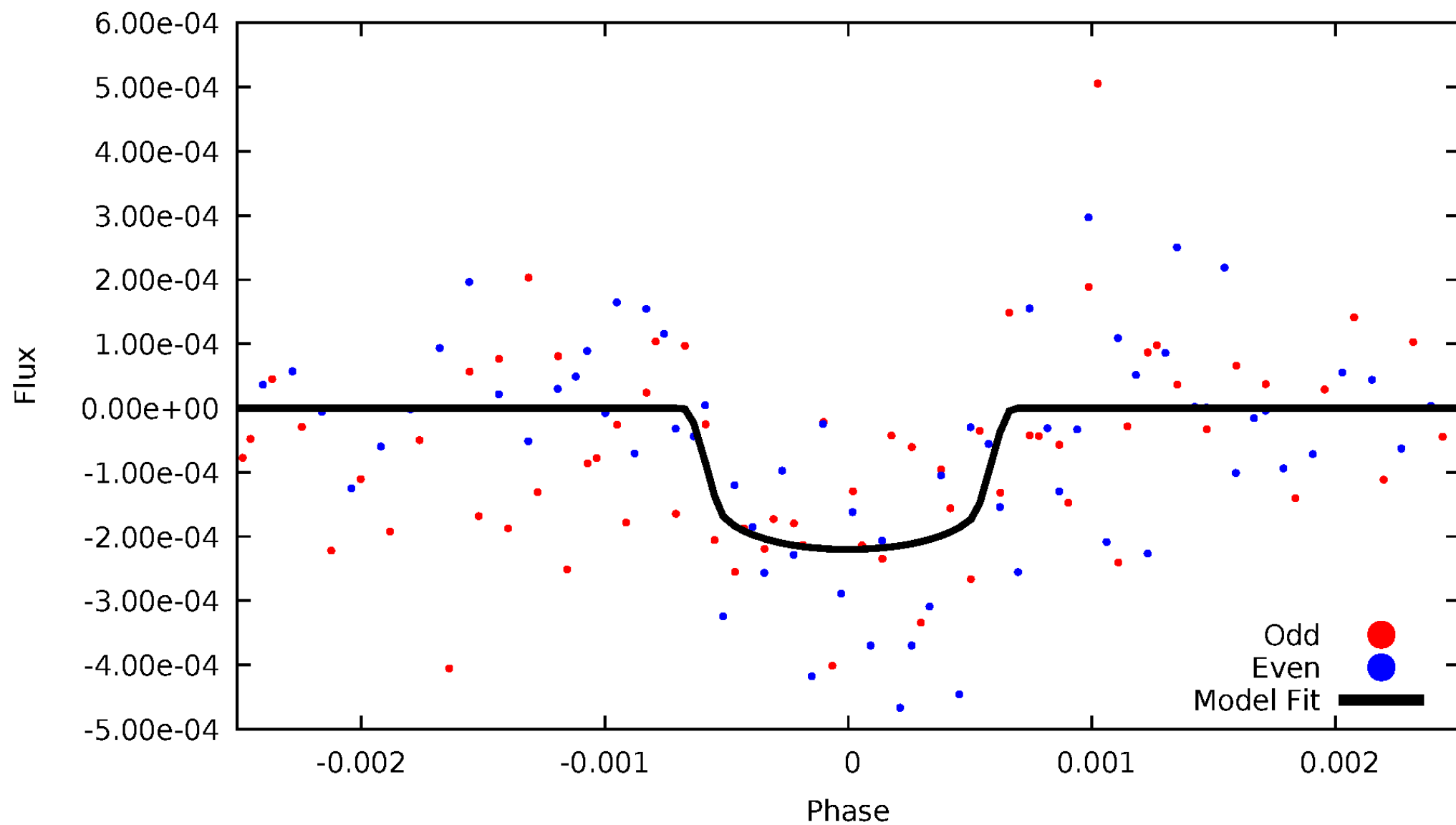


TCE 005817210-04



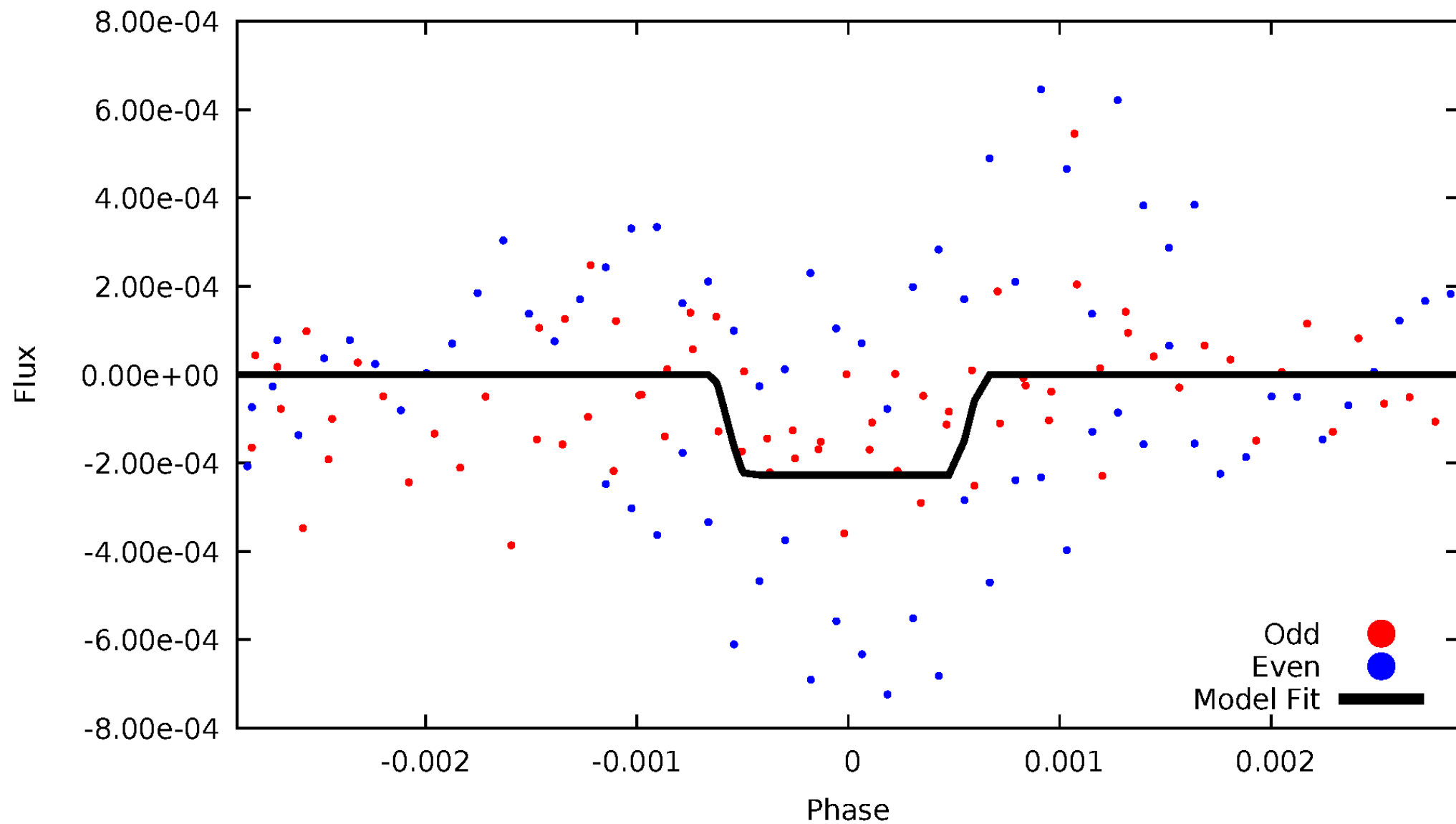
DV Odd/Even

TCE 005817210-04



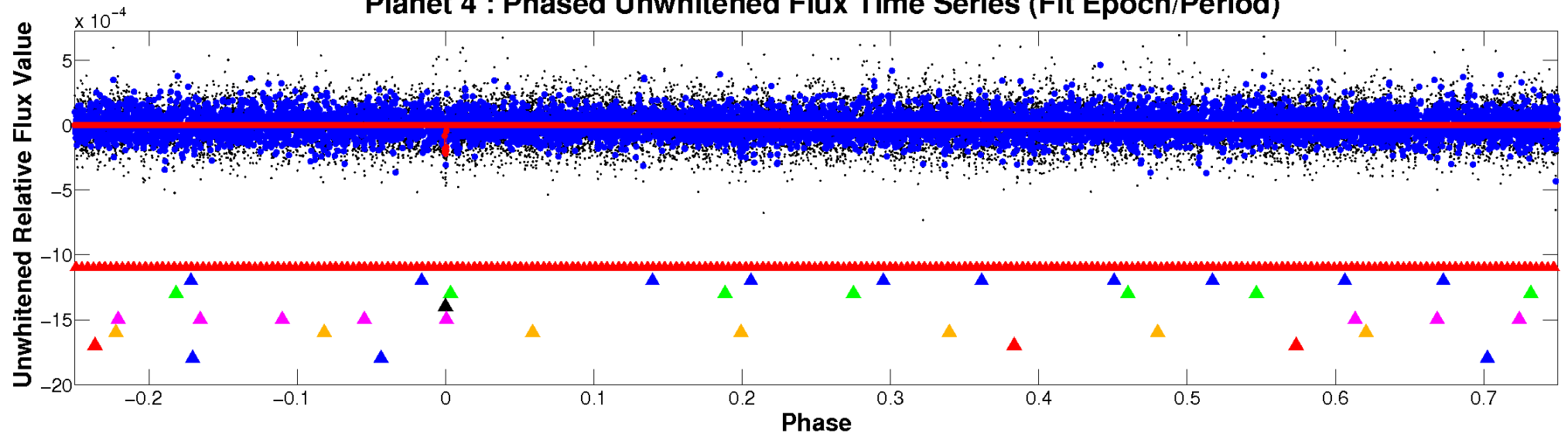
ALT Odd/Even

TCE 005817210-04

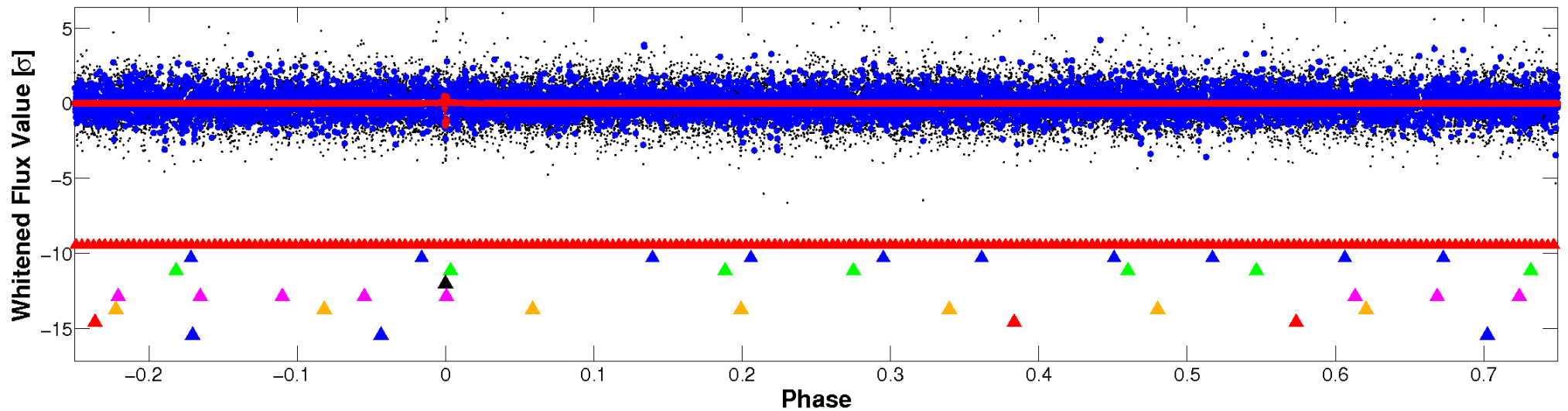


Non-Whitened Vs. Whitened Light Curve

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

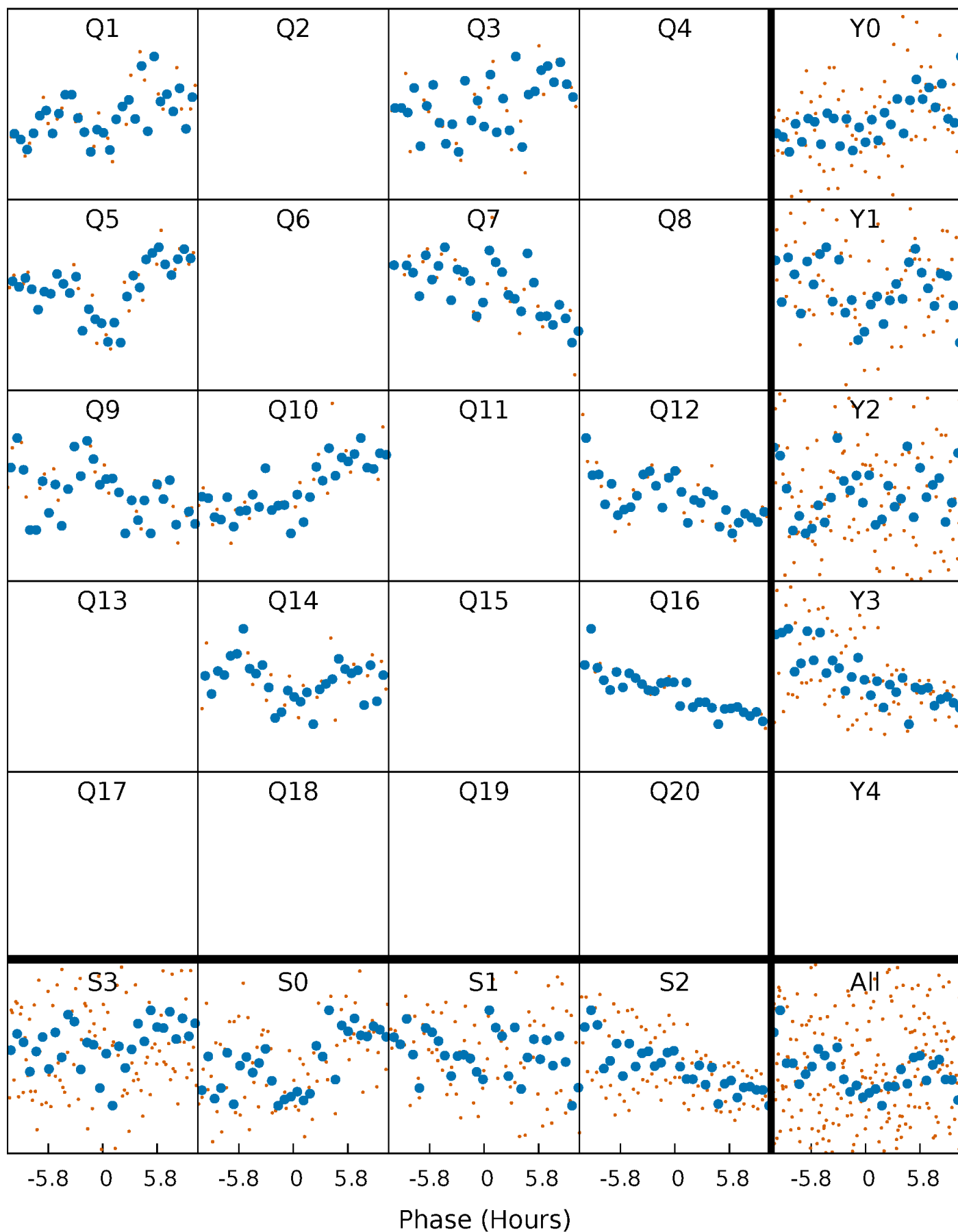


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



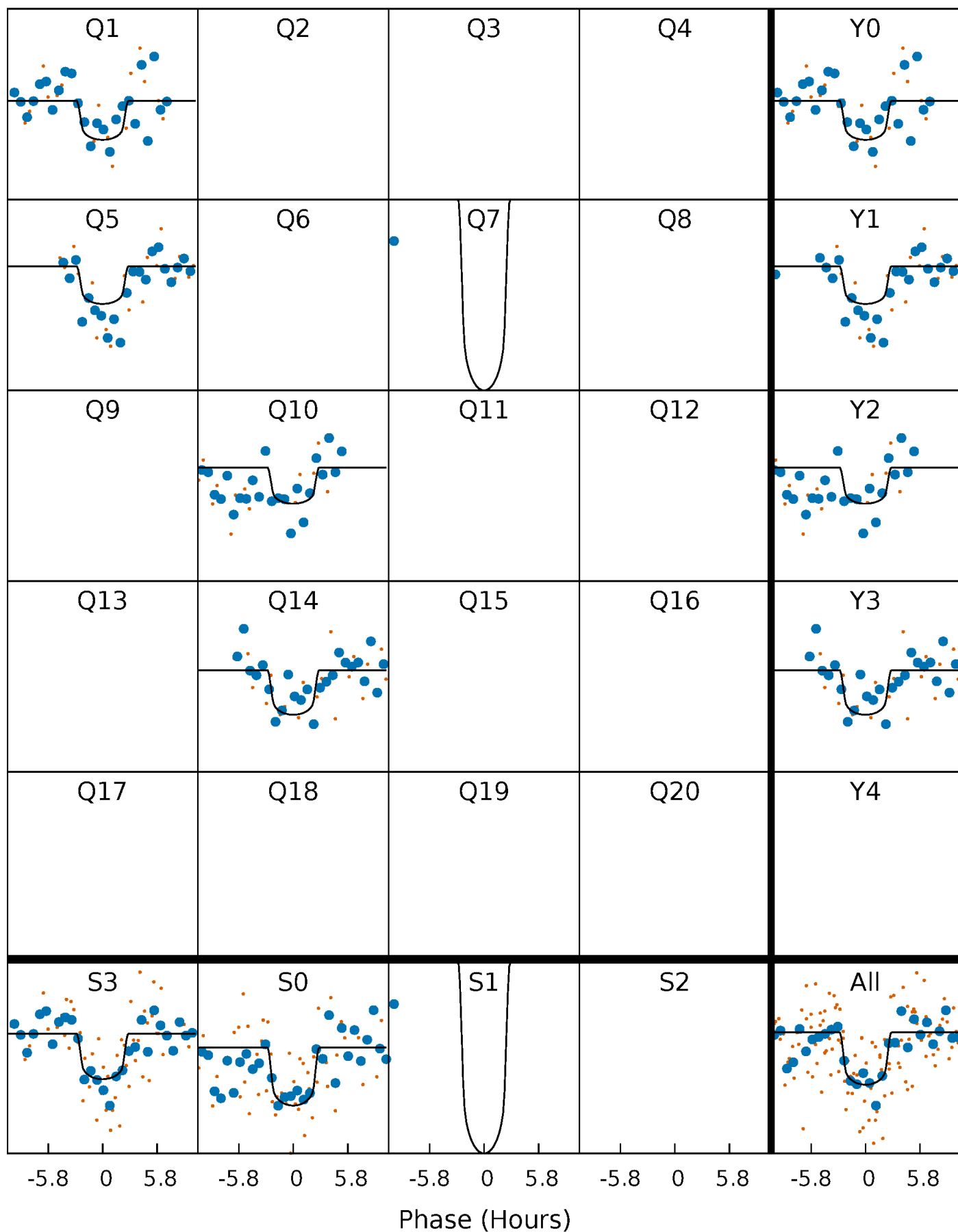
PDC Quarter-Phased Transit Curves

TCE 005817210-04 P=168.723409 Days $T_0=144.341929$ (BKJD)



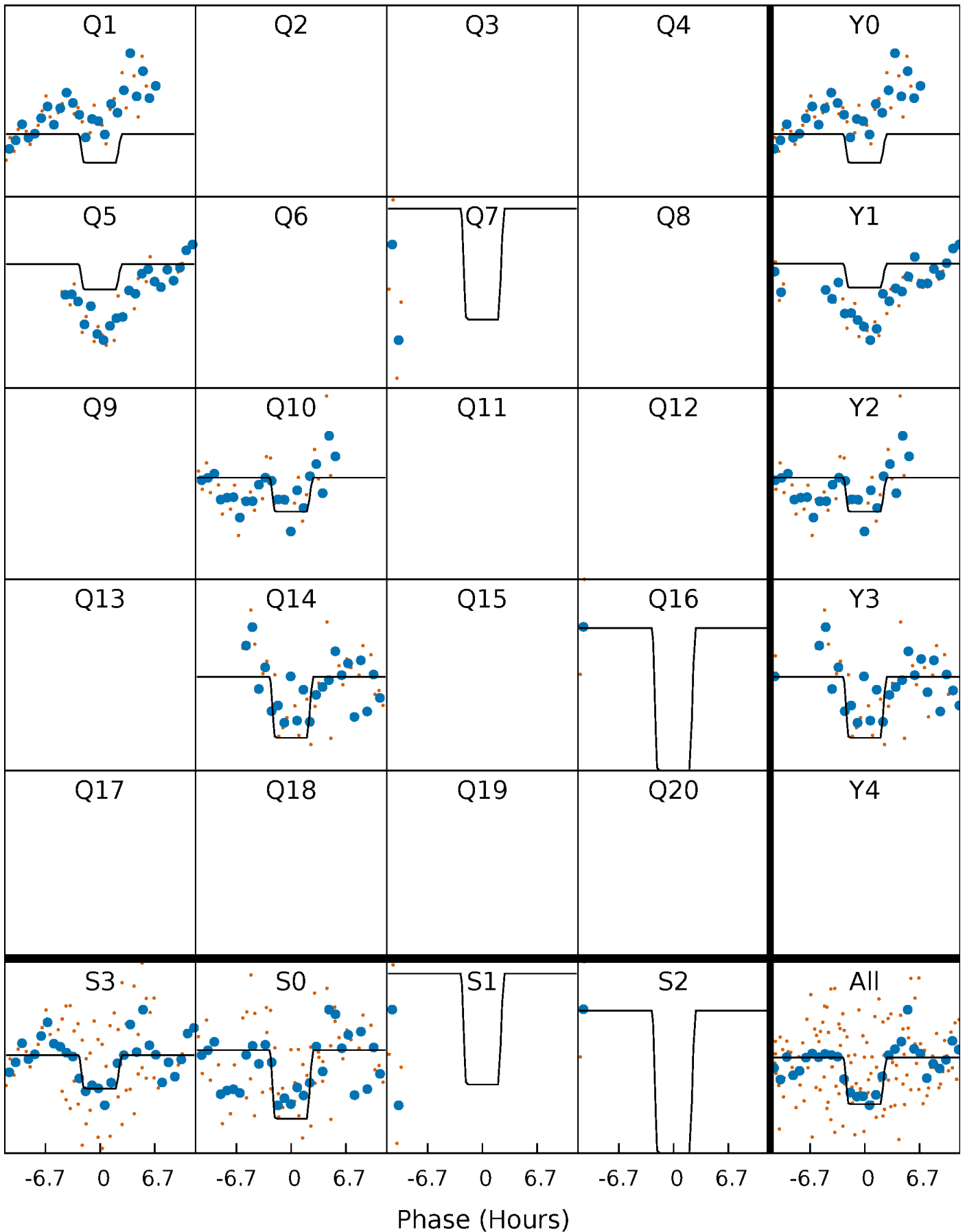
DV Quarter-Phased Transit Curves

TCE 005817210-04 P=168.723409 Days $T_0=144.341929$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

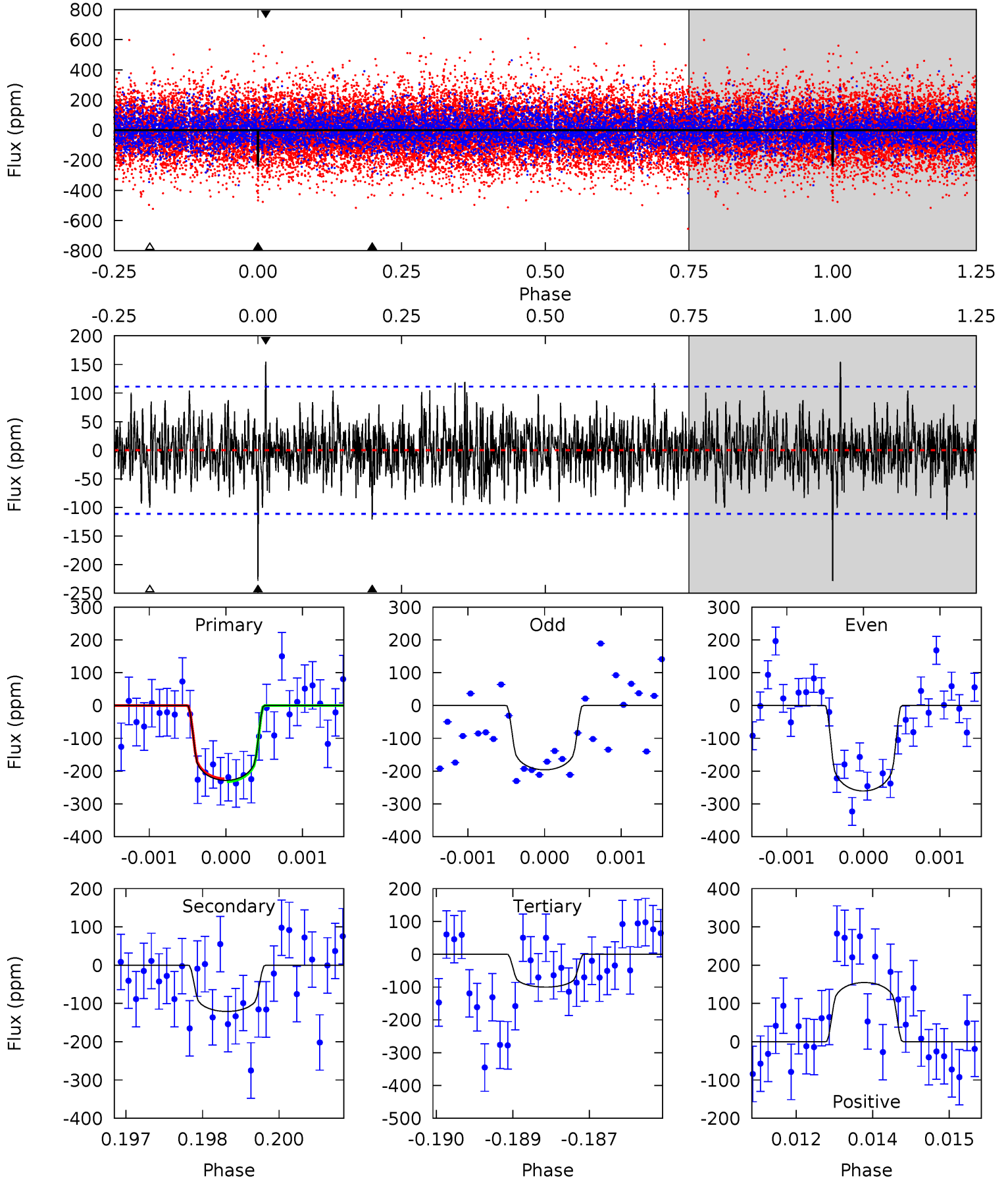
TCE 005817210-04 P=168.719340 Days $T_0=144.354664$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-04, P = 168.723409 Days, E = 144.341929 Days

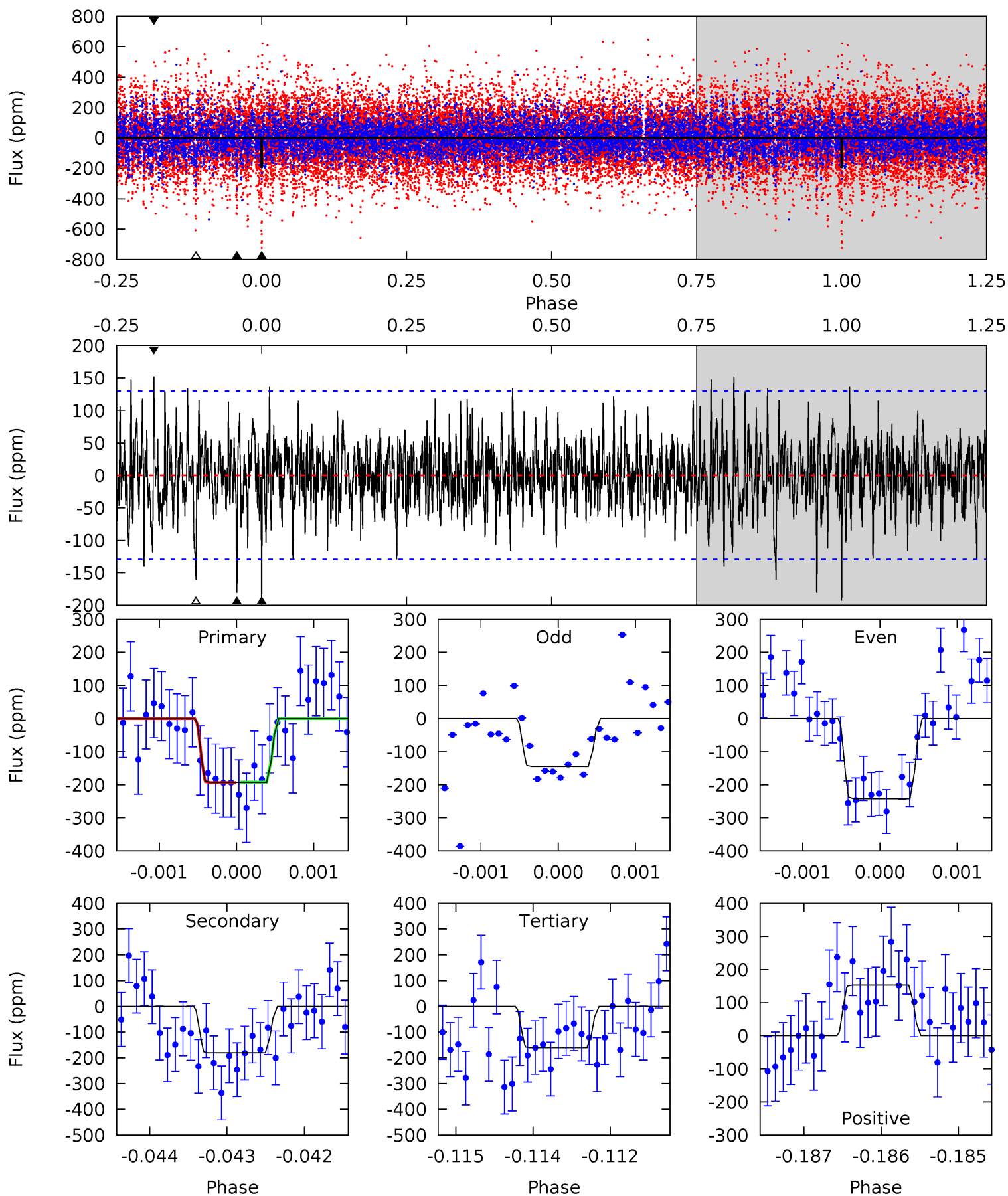
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	5.87	4.86	7.51	5.40	3.20	1.71	6.22	3.57	1.00	-1.64	1.56	1.13	0.40	0.21



Alt Model-Shift Uniqueness Test

005817210-04, P = 168.719340 Days, E = 144.354664 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.06	7.55	6.72	6.38	5.42	3.23	1.75	1.34	1.69	0.83	1.17	2.04	1.34	0.44	0.03



Stellar Parameters For KIC 005817210

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-121 ± 21	$4.66^{+2.88}_{-2.53}$	749^{+55}_{-70}	5106^{+2096}_{-883}	1391^{+5133}_{-850}
Alt.	-180 ± 24	$4.64^{+2.64}_{-2.53}$	759^{+49}_{-66}	5609^{+2925}_{-945}	2055^{+8070}_{-1200}

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

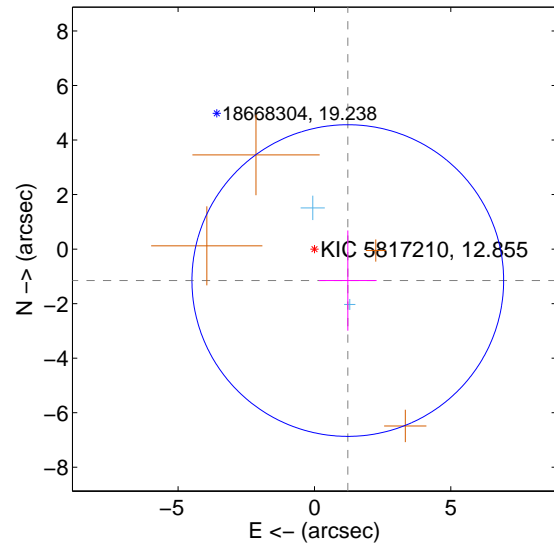
Supplemental centroid analysis for 005817210-04. Kepler magnitude: 12.86. Transit SNR 8.39

There are 2 quarters with good PRF difference image offsets

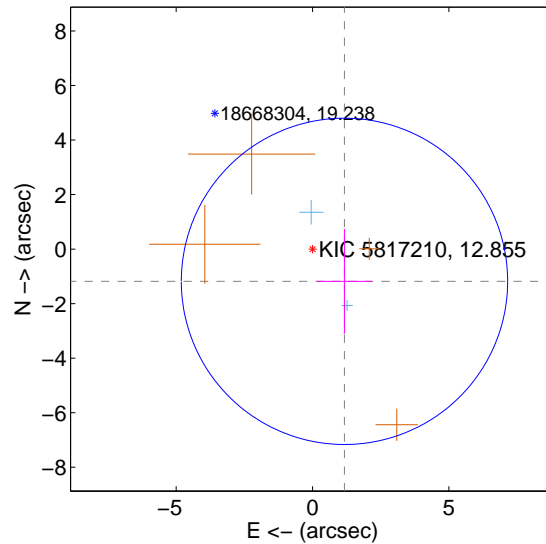
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.682 ± 1.905	0.88	-1.223 ± 1.056	-1.154 ± 1.838
PRF-fit source offset from KIC position	1.665 ± 1.995	0.83	-1.172 ± 1.012	-1.183 ± 1.921
photometric centroid source offset	0.71 ± 1.41	0.50	0.70 ± 1.42	-0.08 ± 0.89

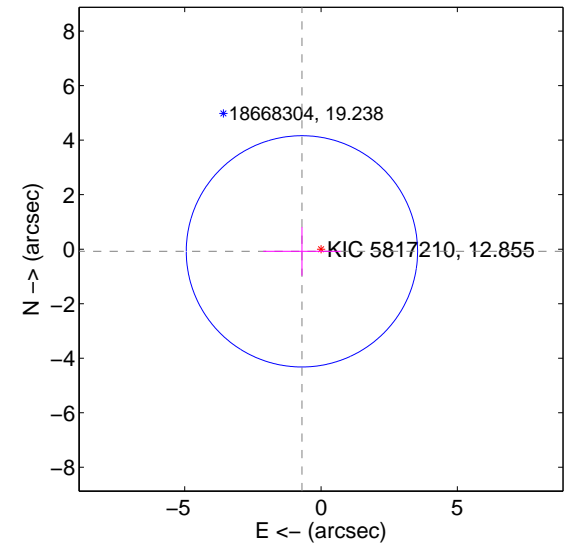
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

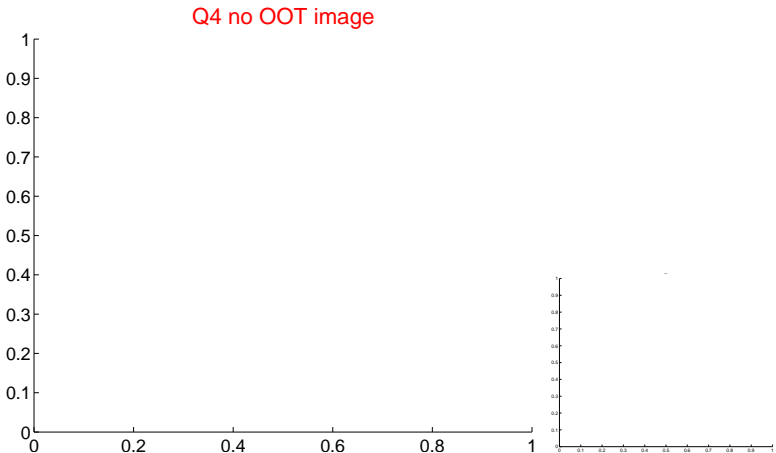
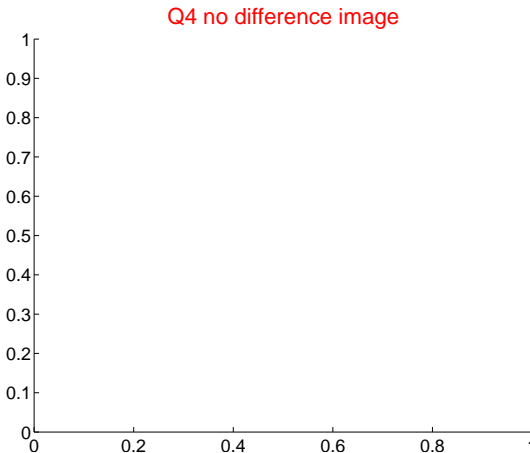
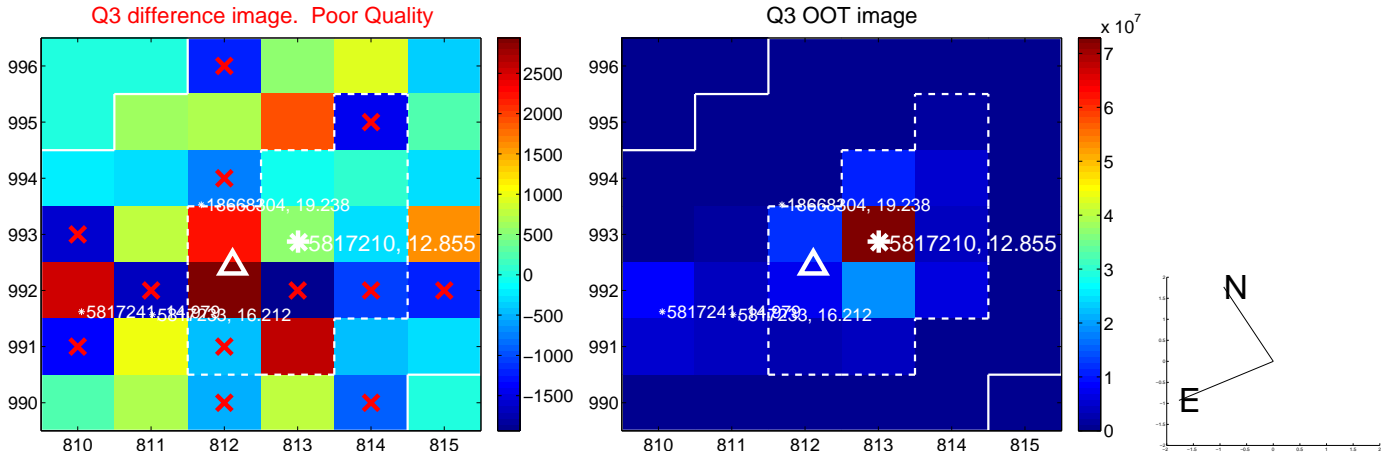
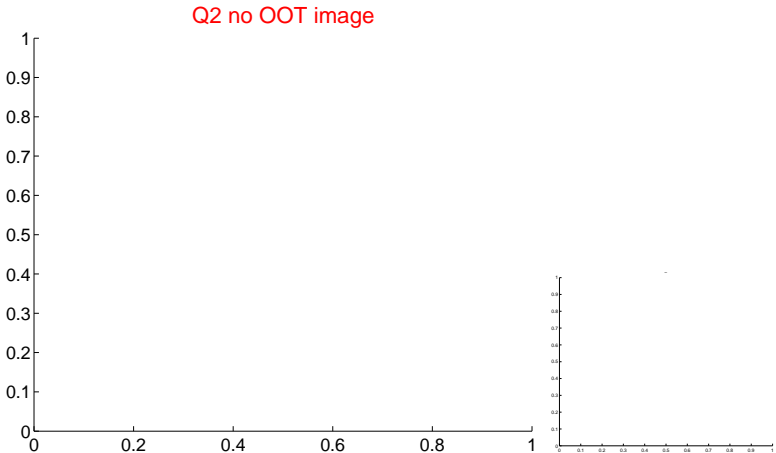
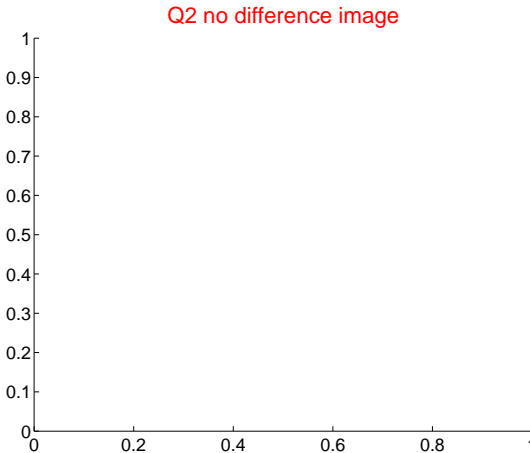
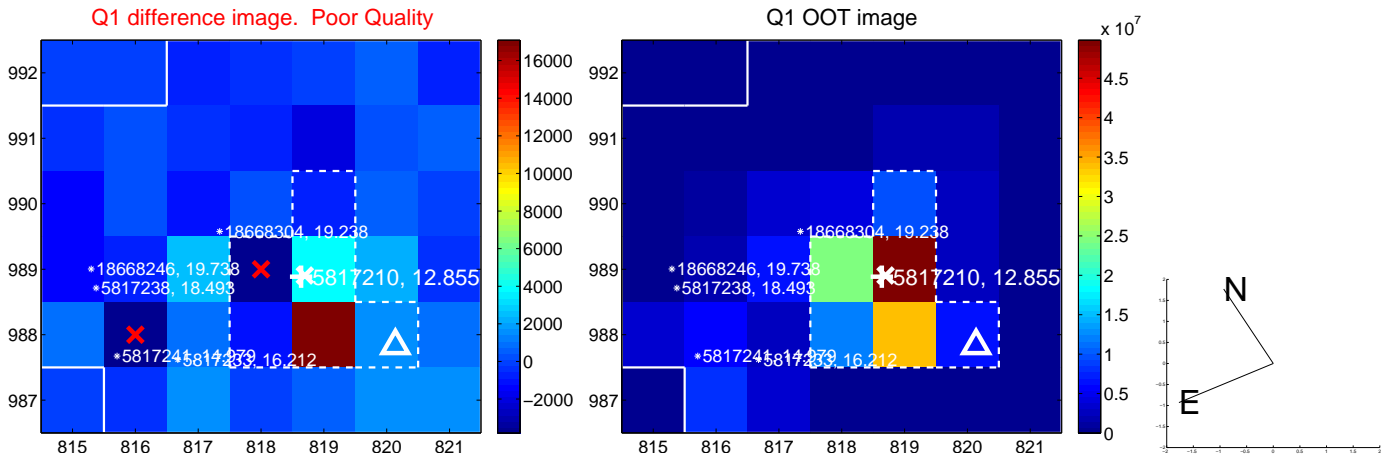


offset from photometric centroids

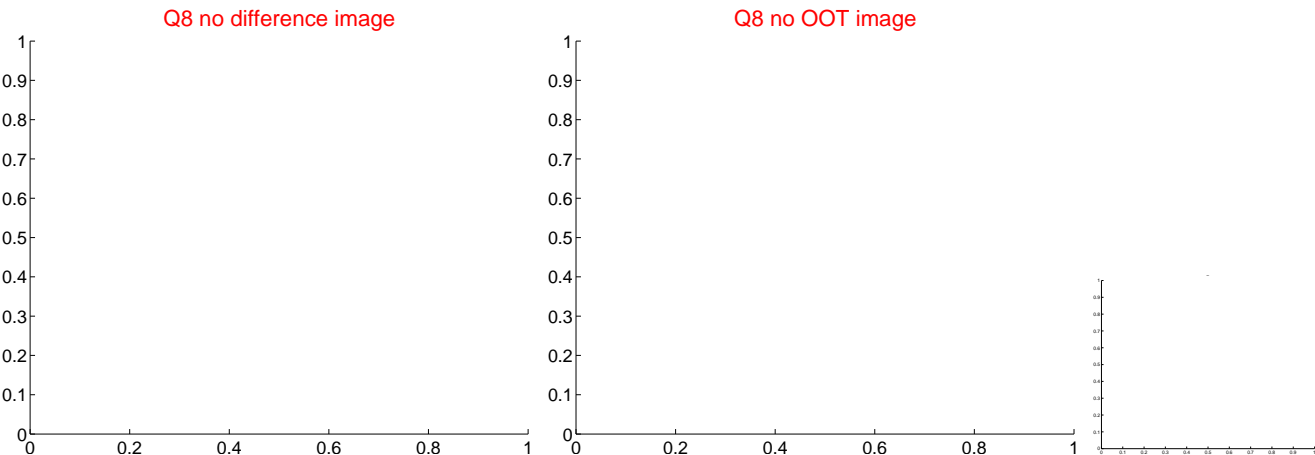
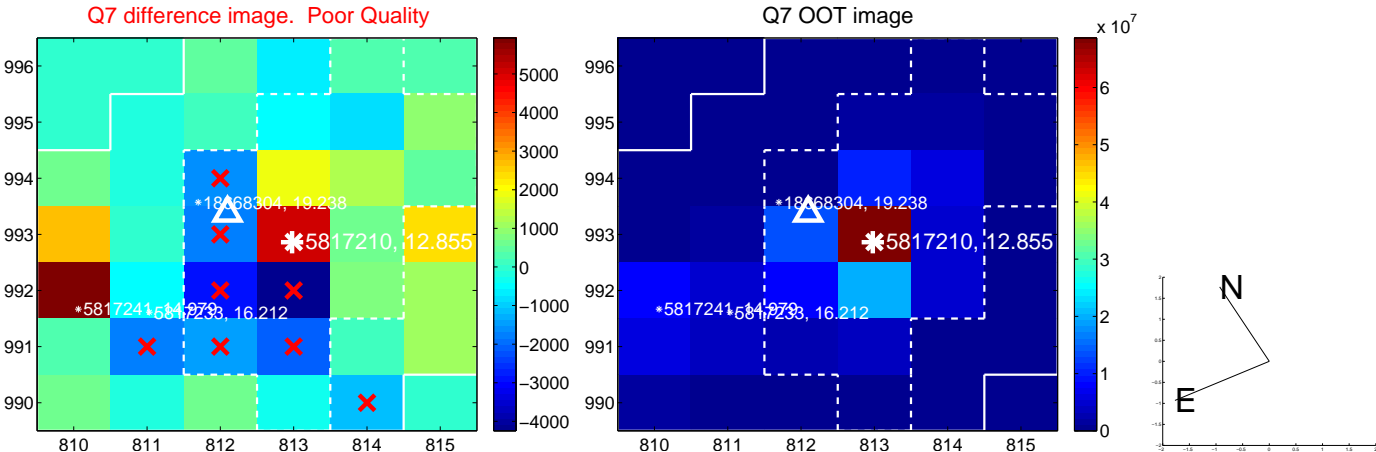
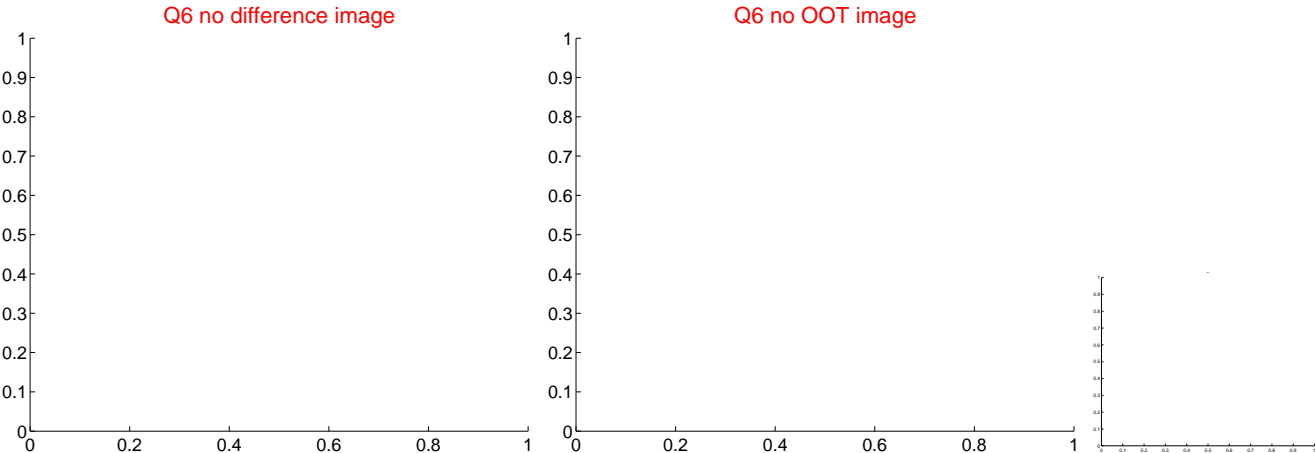
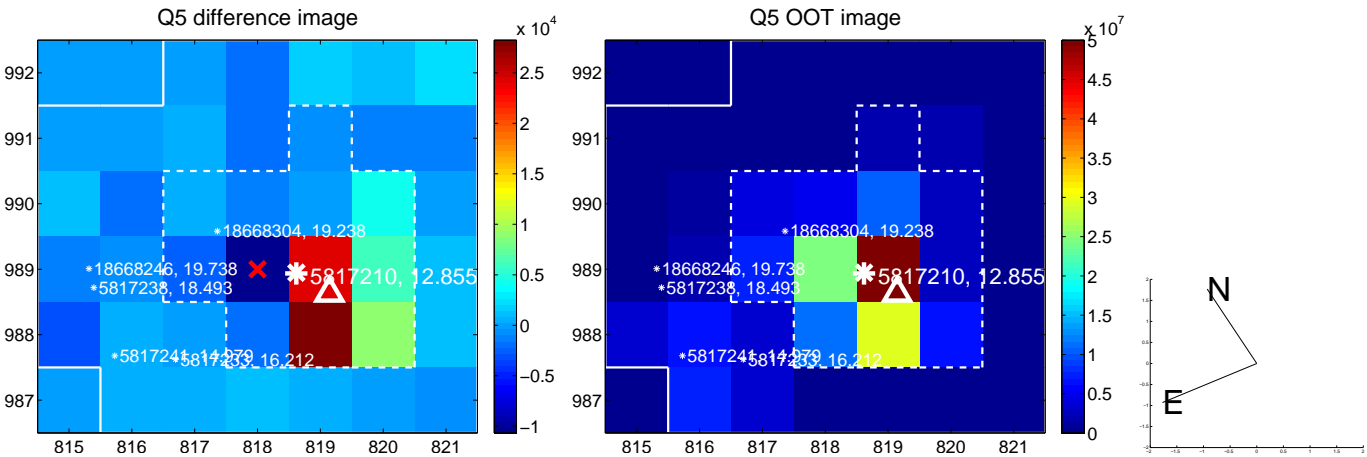


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

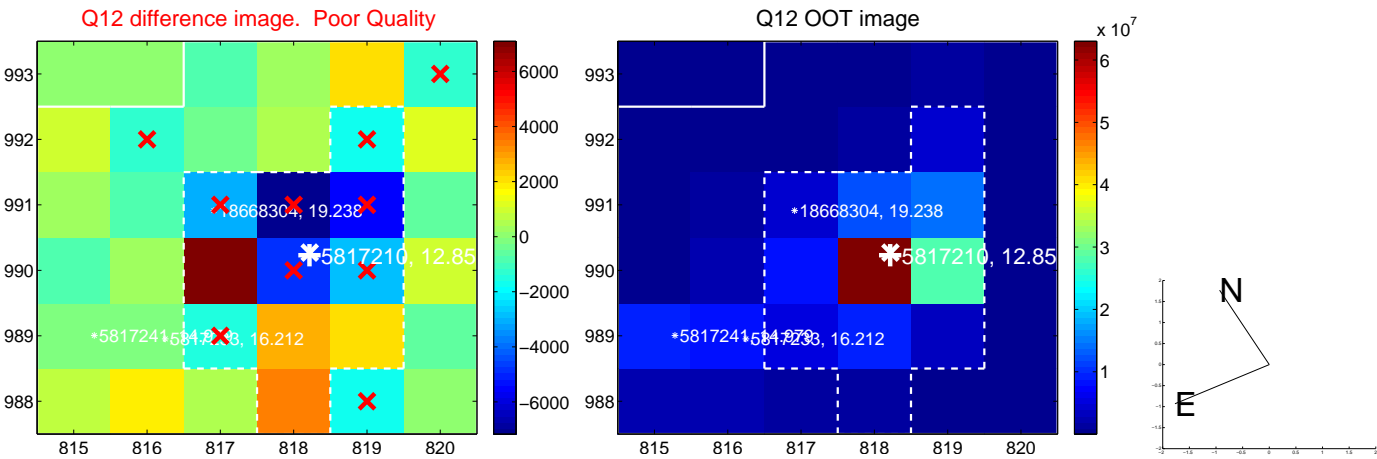
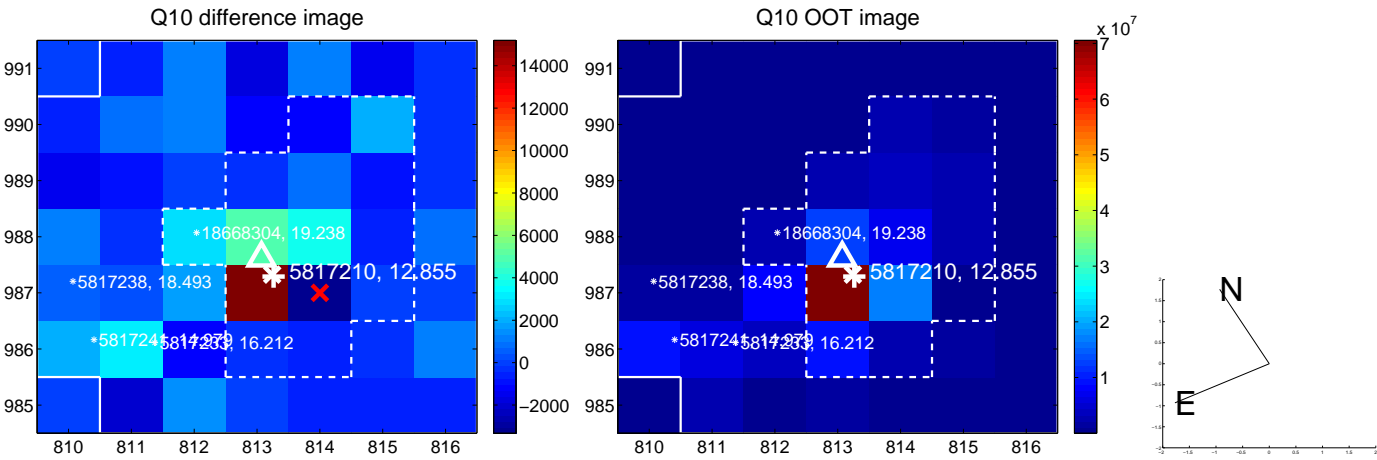
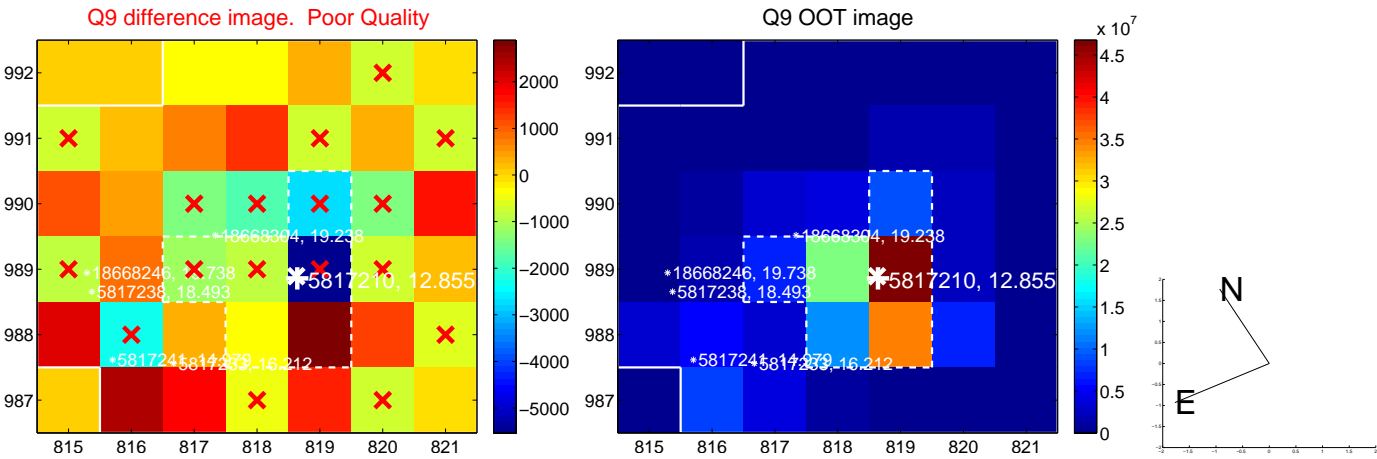
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



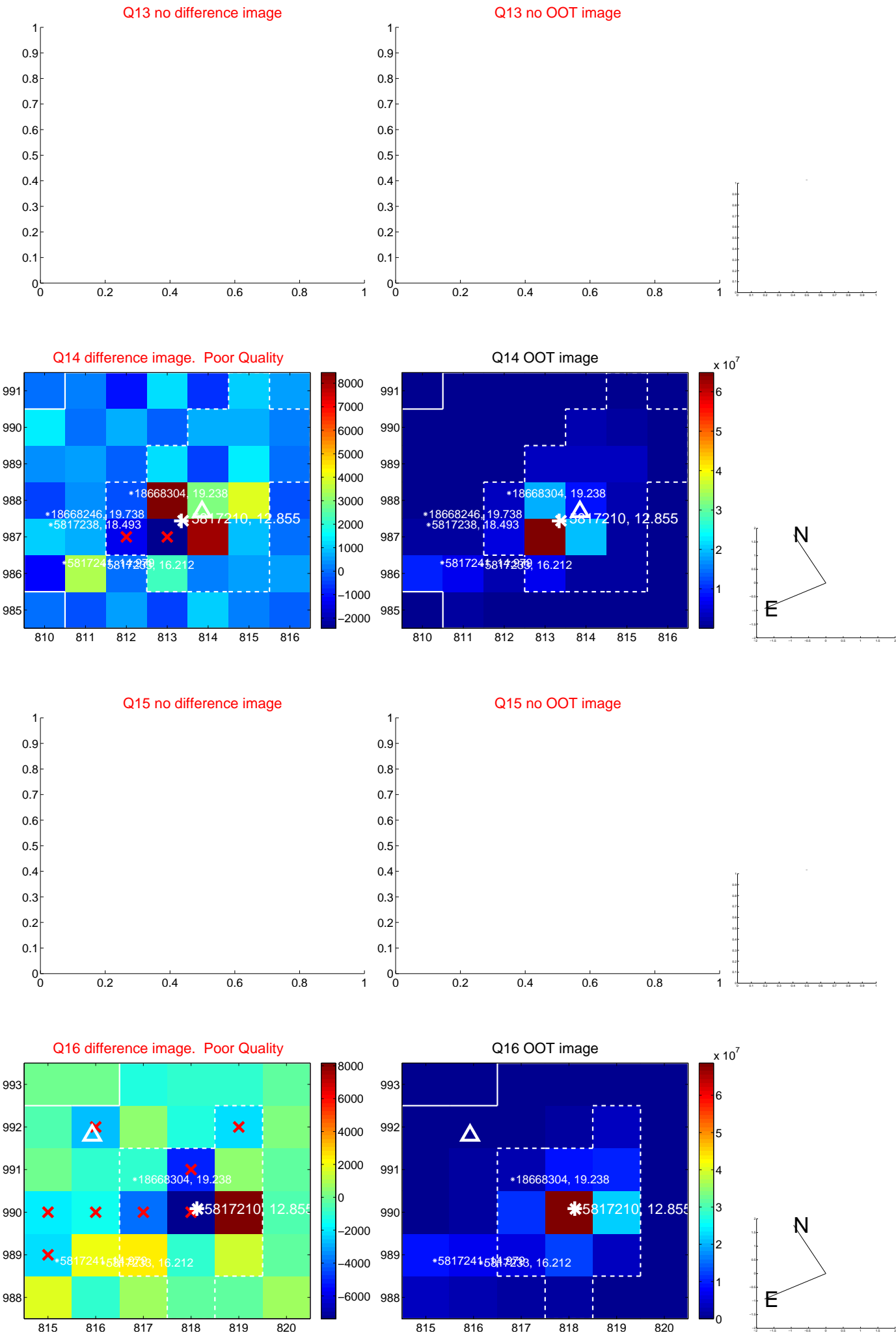
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



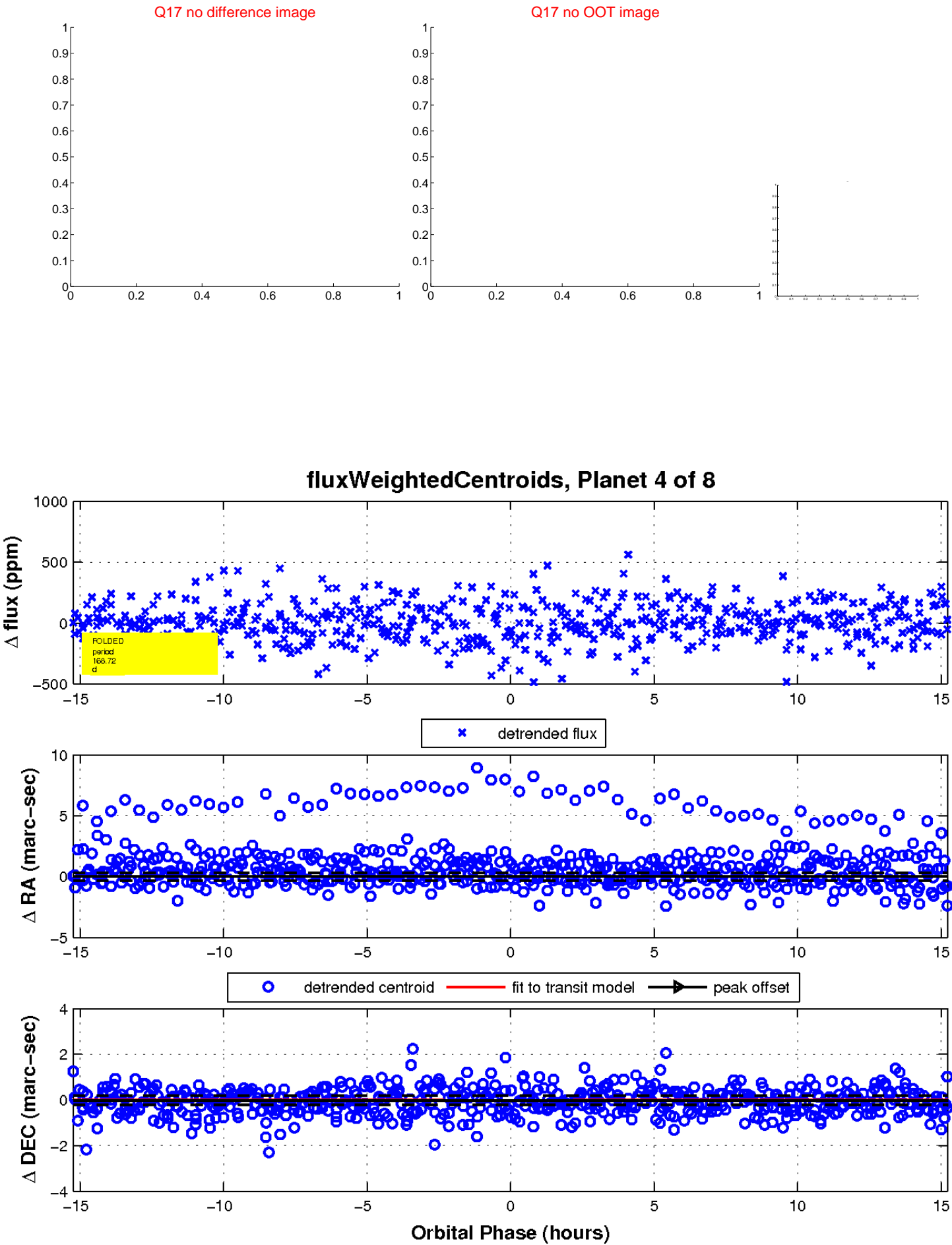
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

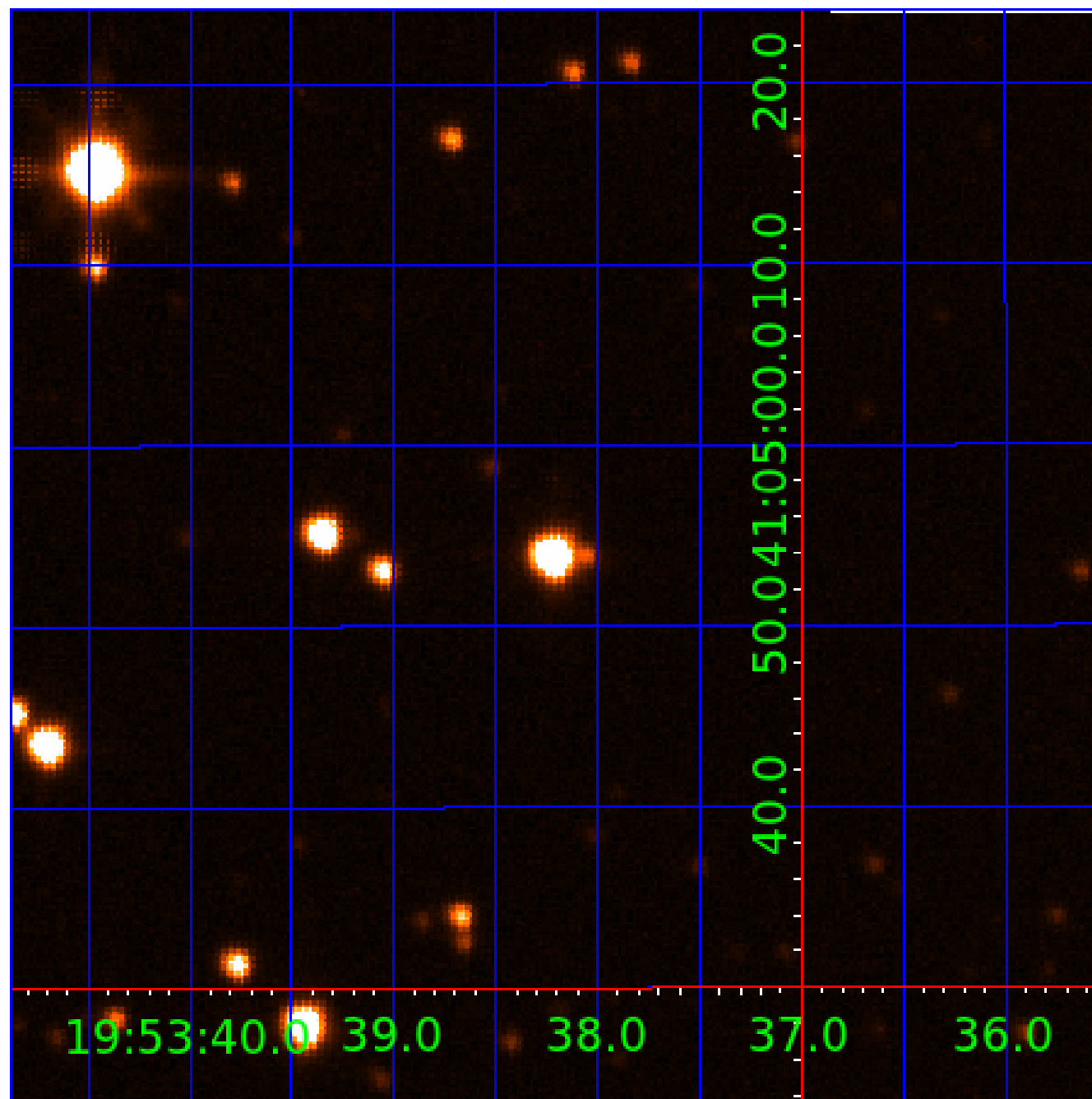


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005817210

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})
005817210-01	OBS	No	3.282245	132.595698	21.0	17.015	10.9	7.8	2.92	6061	1.33	4261.54
005817210-02	OBS	No	142.468035	246.659542	223.7	11.320	9.5	10.2	2.92	6061	5.61	27.94
005817210-03	OBS	No	214.556799	176.143016	298.0	3.549	8.9	8.0	2.92	6061	5.81	16.18
005817210-04	OBS	No	168.723409	144.341929	220.1	5.082	8.7	8.4	2.92	6061	4.90	22.30
005817210-05	OBS	No	178.058270	247.822659	225.3	3.950	8.5	8.5	2.92	6061	5.03	20.75
005817210-06	OBS	No	192.426020	275.572658	95.8	17.716	7.9	4.3	2.92	6061	3.04	18.71
005817210-07	OBS	No	538.249487	209.036189	303.9	25.151	7.6	7.4	2.92	6061	5.76	4.75
005817210-08	OBS	No	653.461104	137.012295	139.9	13.770	7.7	5.5	2.92	6061	3.84	3.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817210-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005817210-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005817210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005817210-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

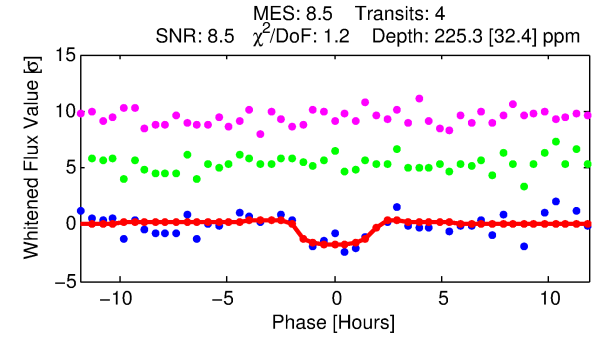
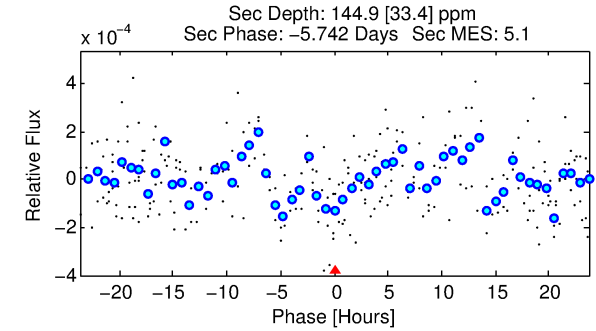
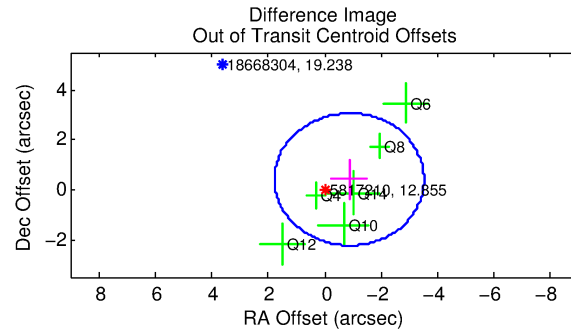
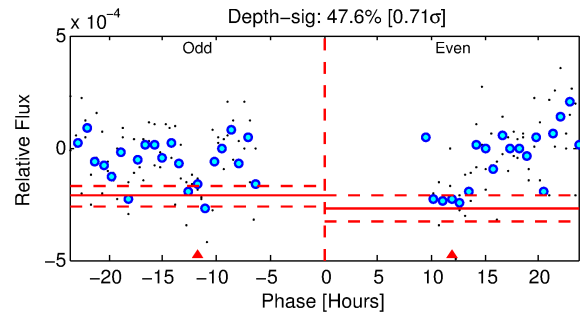
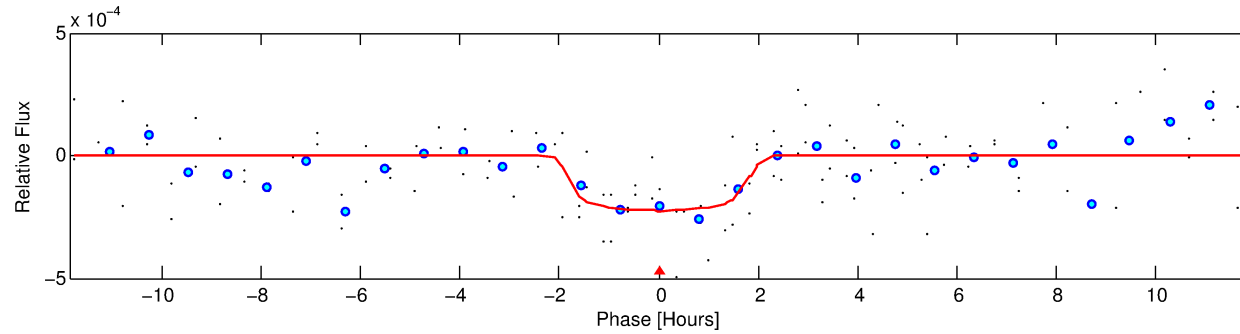
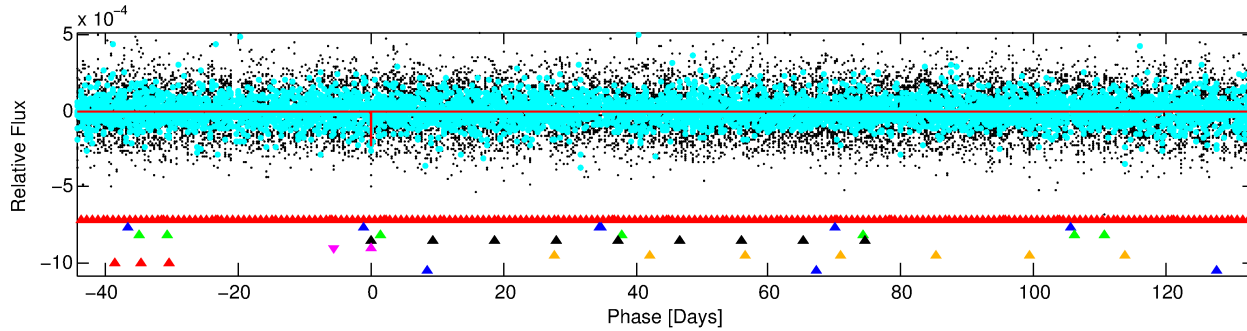
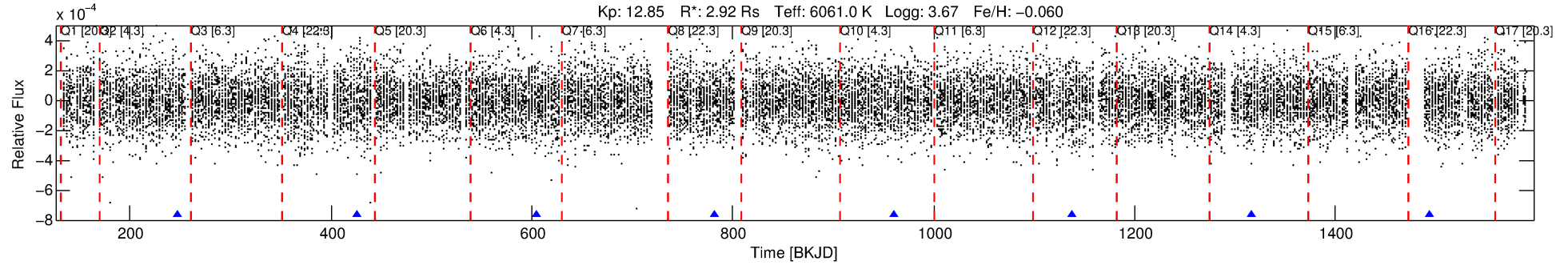
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-05

No Significant Match Found

DV One-Page Summary

KIC: 5817210 Candidate: 5 of 8 Period: 178.058 d



DV Fit Results:

Period = 178.05827 [0.00304] d
Epoch = 247.8227 [0.0115] BKJD
Rp/R* = 0.0158 [0.0107]
a/R* = 181.12 [638.18]
b = 0.87 [1.00]
Seff = 20.75 [12.40]
Teq = 544 [81] K
Rp = 5.03 [3.98] Re
a = 0.7044 [0.2643] AU
Ag = 1559.86 [2333.79] [0.67σ]
Teffp = 5288 [1827] K [2.59σ]

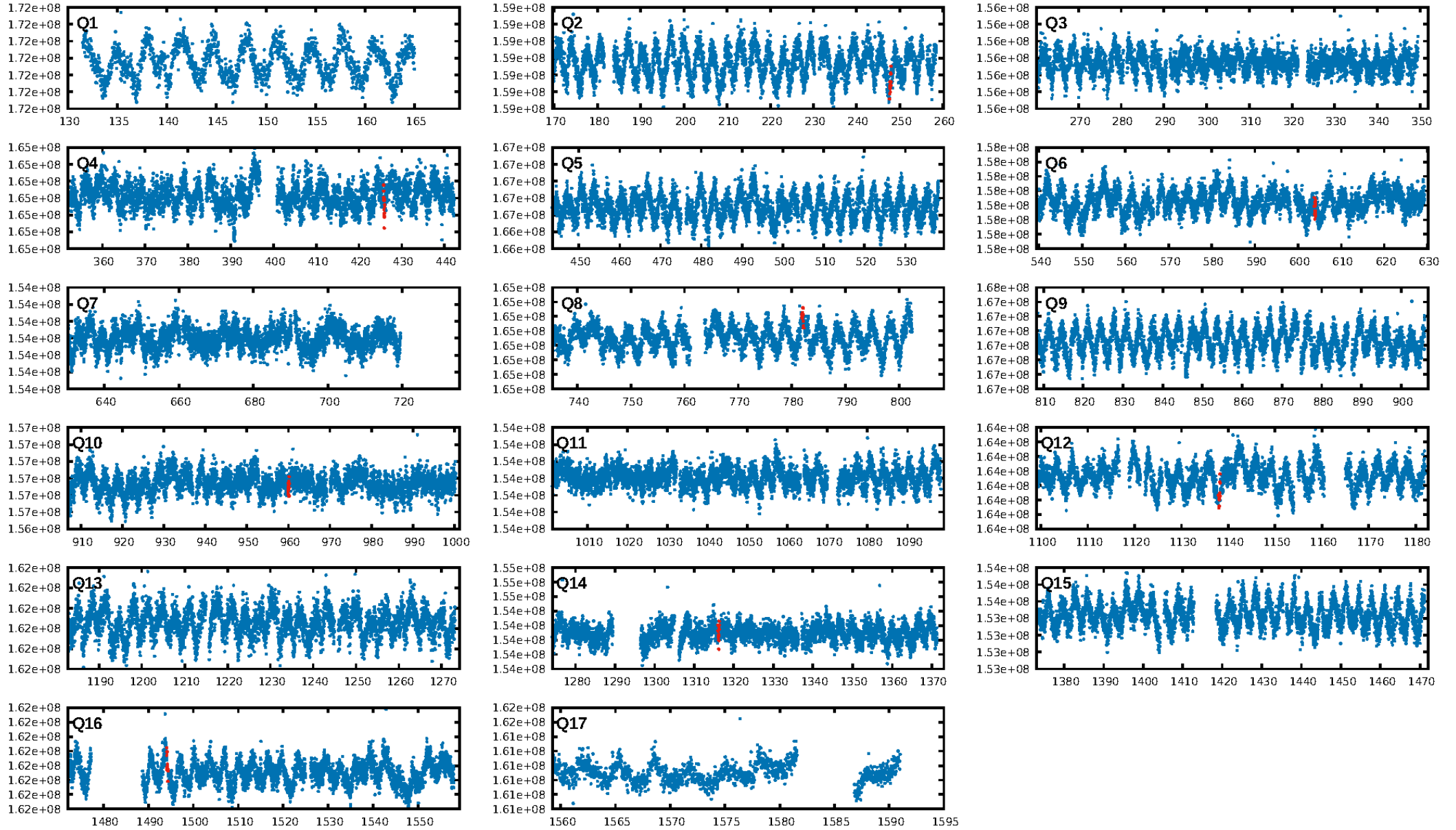
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [34.81σ]
LongPeriod-sig: 100.0% [19.00σ]
ModelChiSquare2-sig: 15.9%
ModelChiSquareGof-sig: 89.7%
Bootstrap-pfa: 1.46e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 16.87
Centroid-sig: 60.9%
Centroid-so: 0.407 arcsec [0.27σ]
OotOffset-rm: 0.961 arcsec [1.09σ]
KicOffset-rm: 0.885 arcsec [1.11σ]
OotOffset-st: 3/0/3/0 [6]
KicOffset-st: 3/0/3/0 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.50 [4/8]

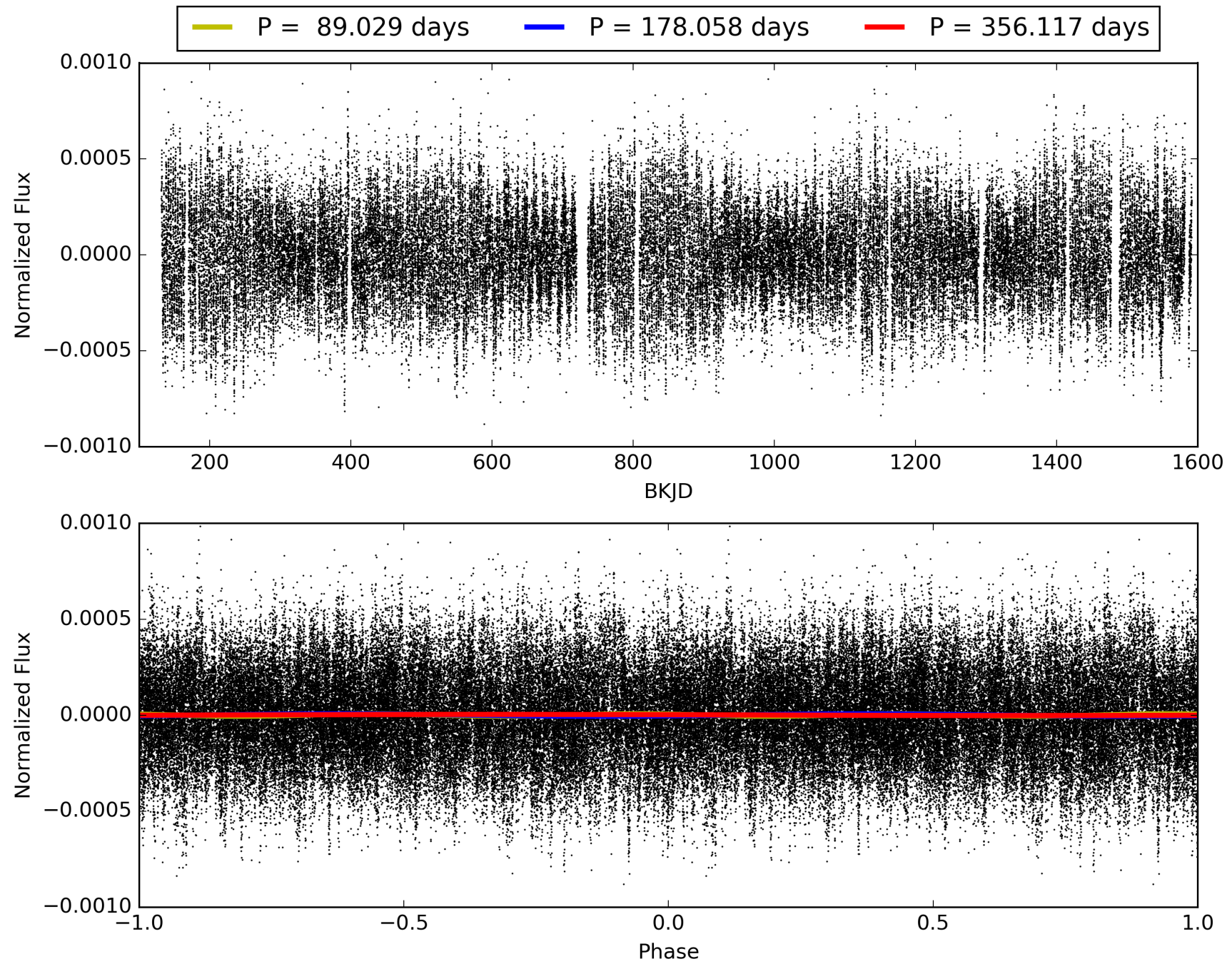
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:29 Z

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

TCE 005817210-05, PDC Light Curves

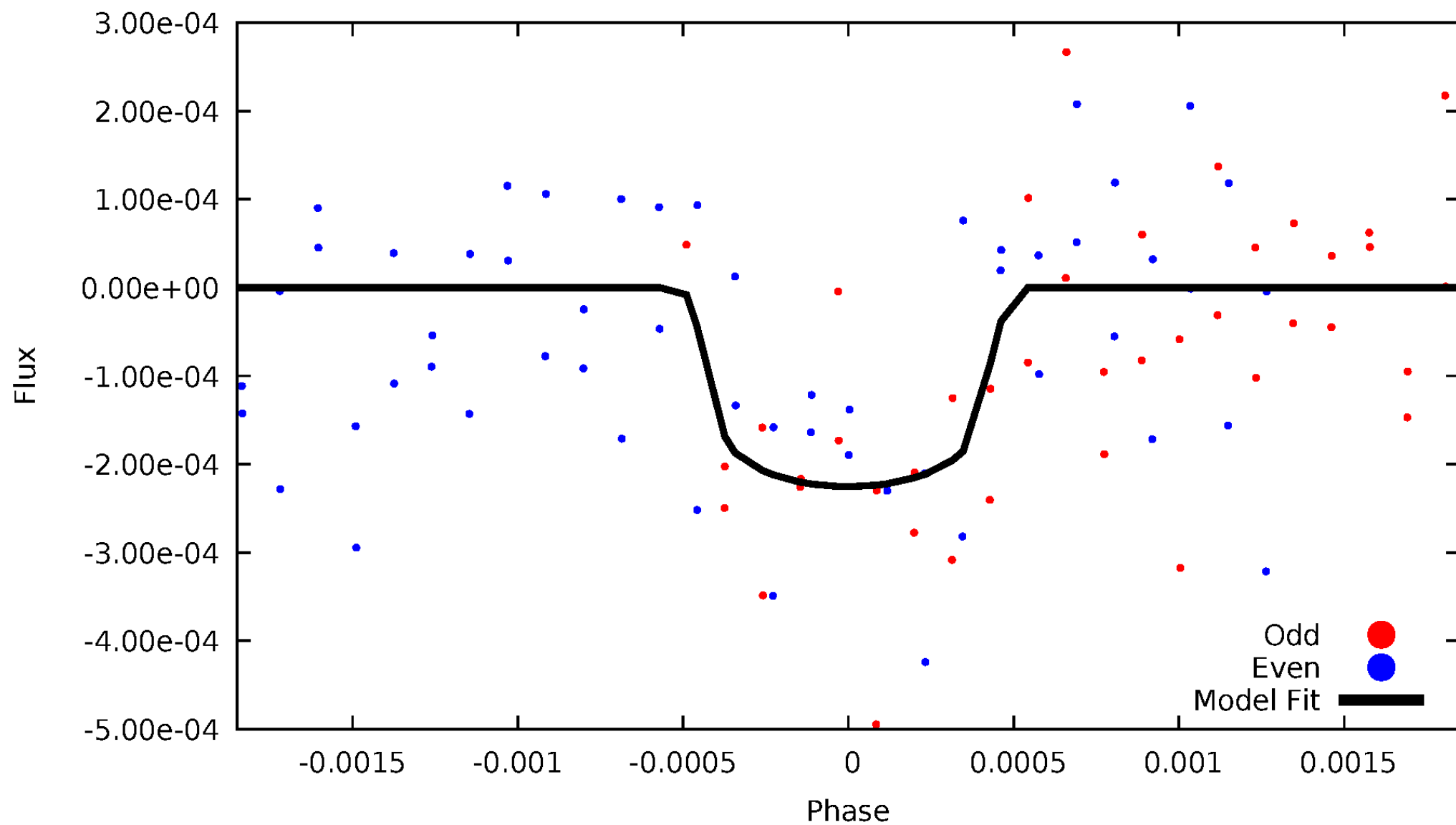


TCE 005817210-05



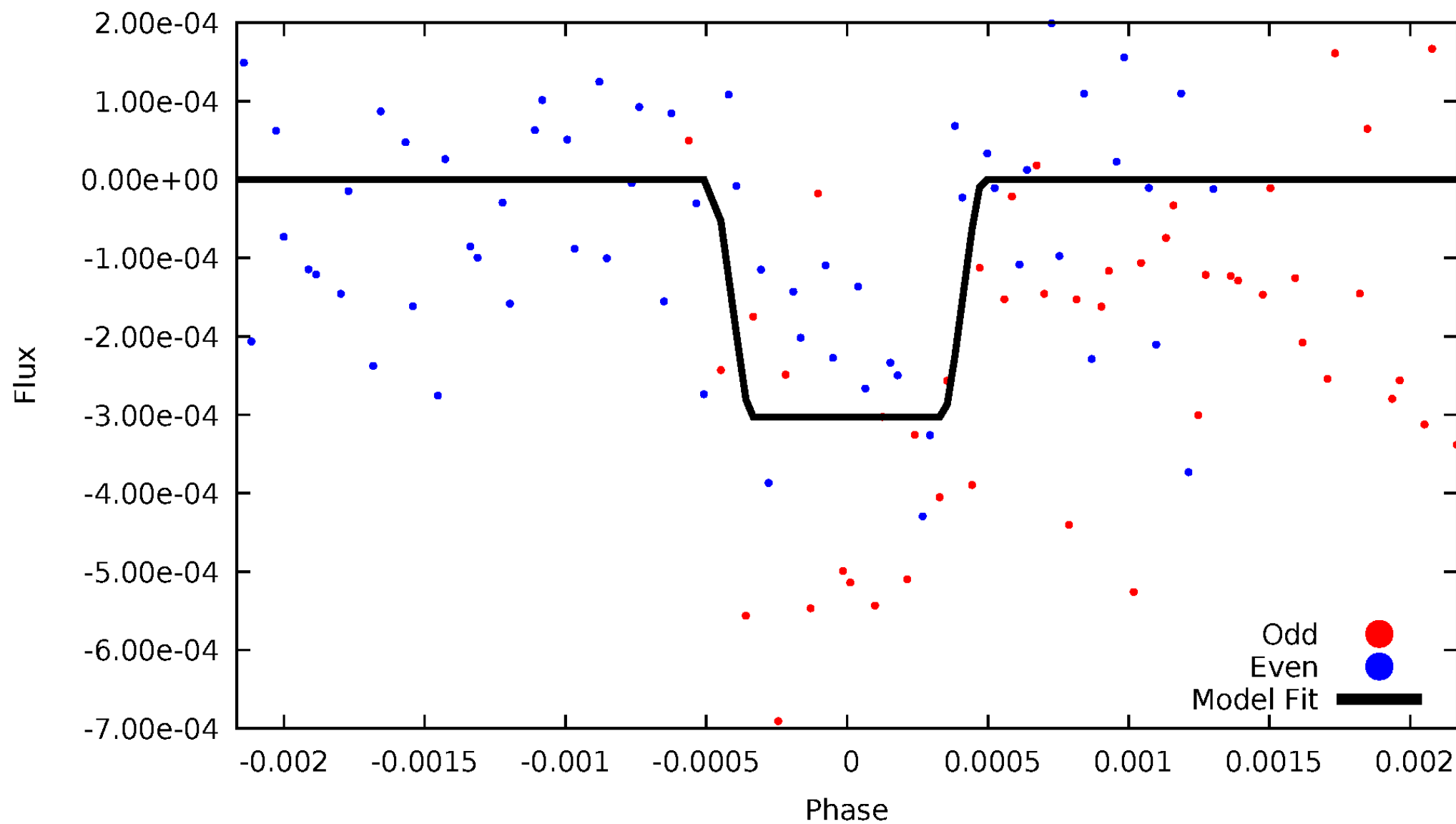
DV Odd/Even

TCE 005817210-05



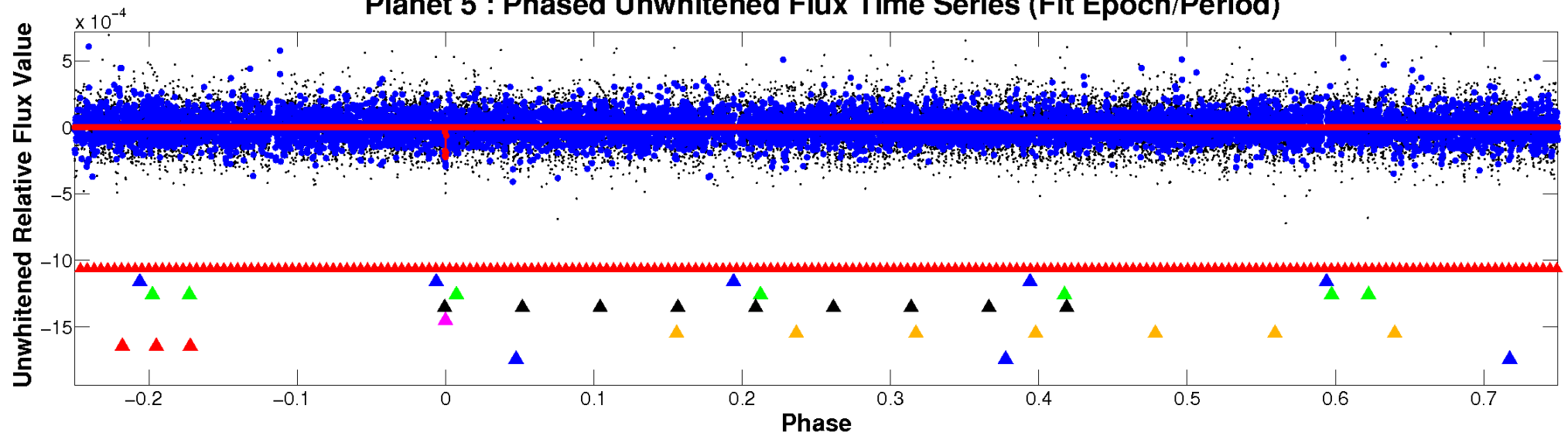
ALT Odd/Even

TCE 005817210-05

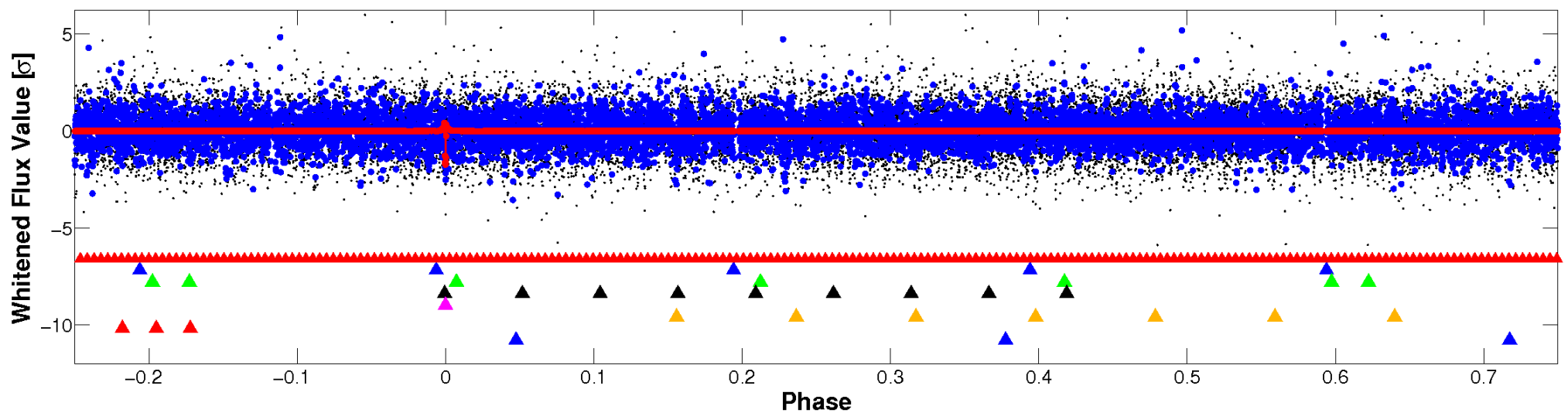


Non-Whitened Vs. Whitened Light Curve

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



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



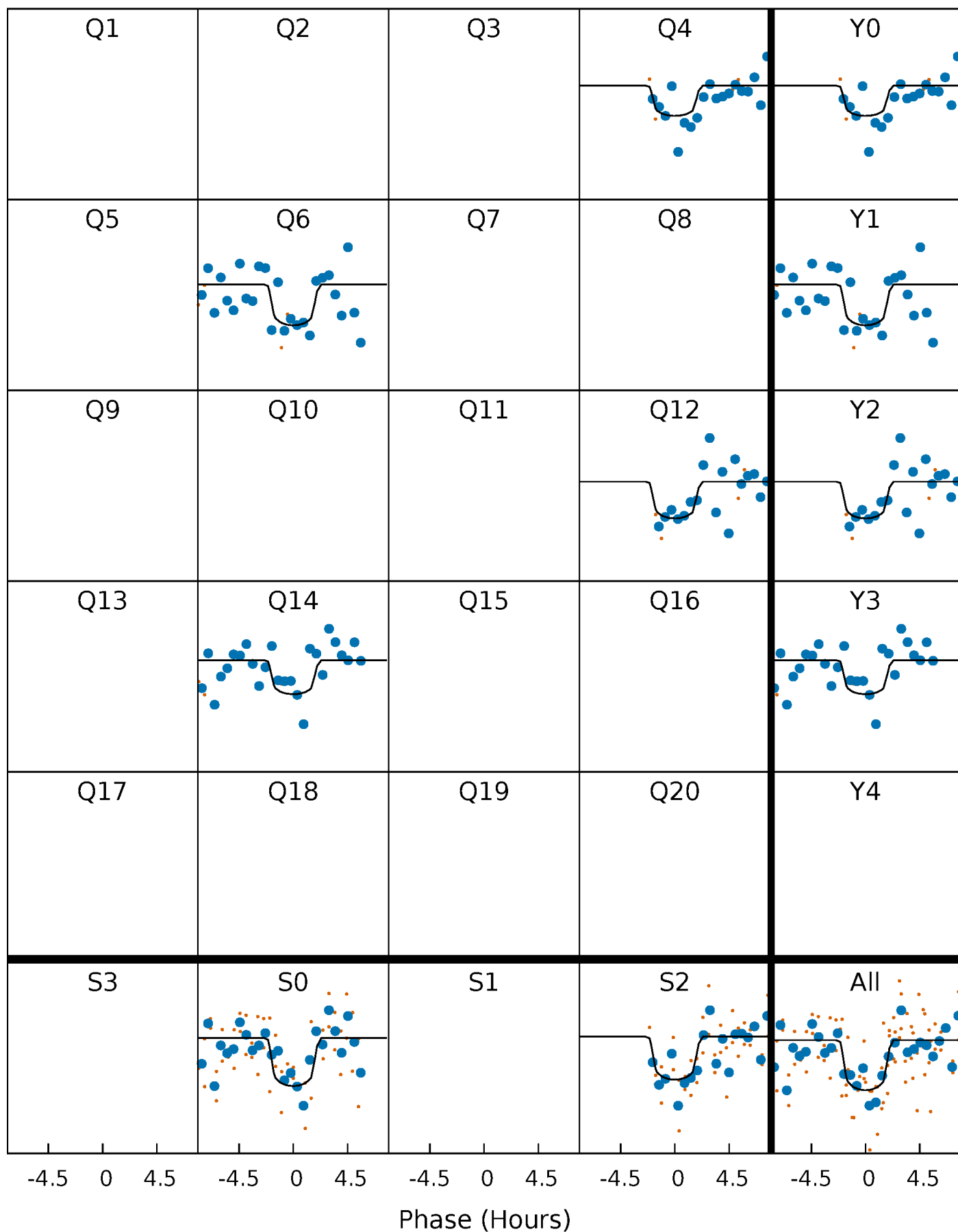
PDC Quarter-Phased Transit Curves

TCE 005817210-05 P=178.058270 Days $T_0=247.822659$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005817210-05 $P=178.058270$ Days $T_0=247.822659$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

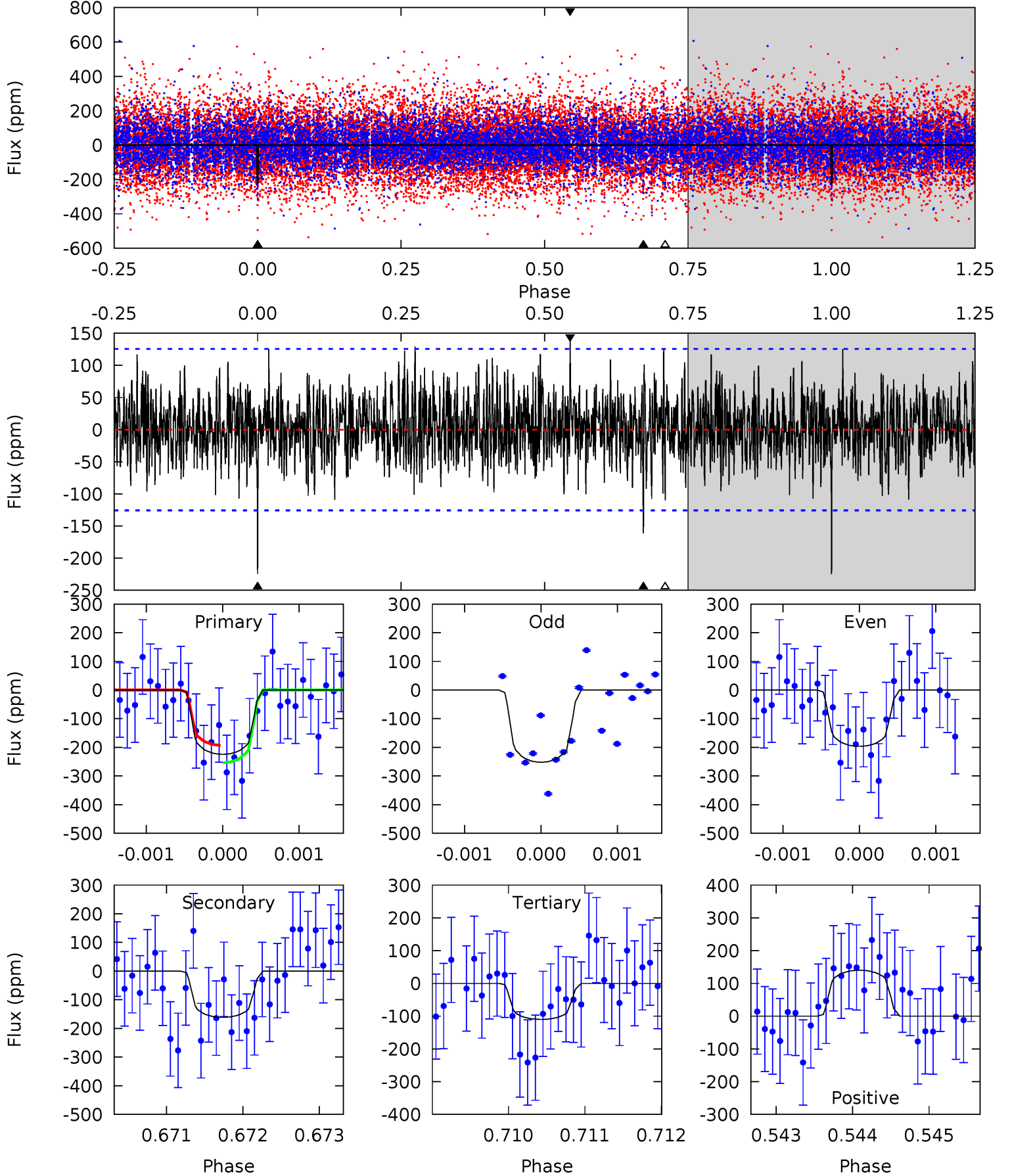
TCE 005817210-05 $P=178.054417$ Days $T_0=247.839468$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-05, $P = 178.058270$ Days, $E = 69.764389$ Days

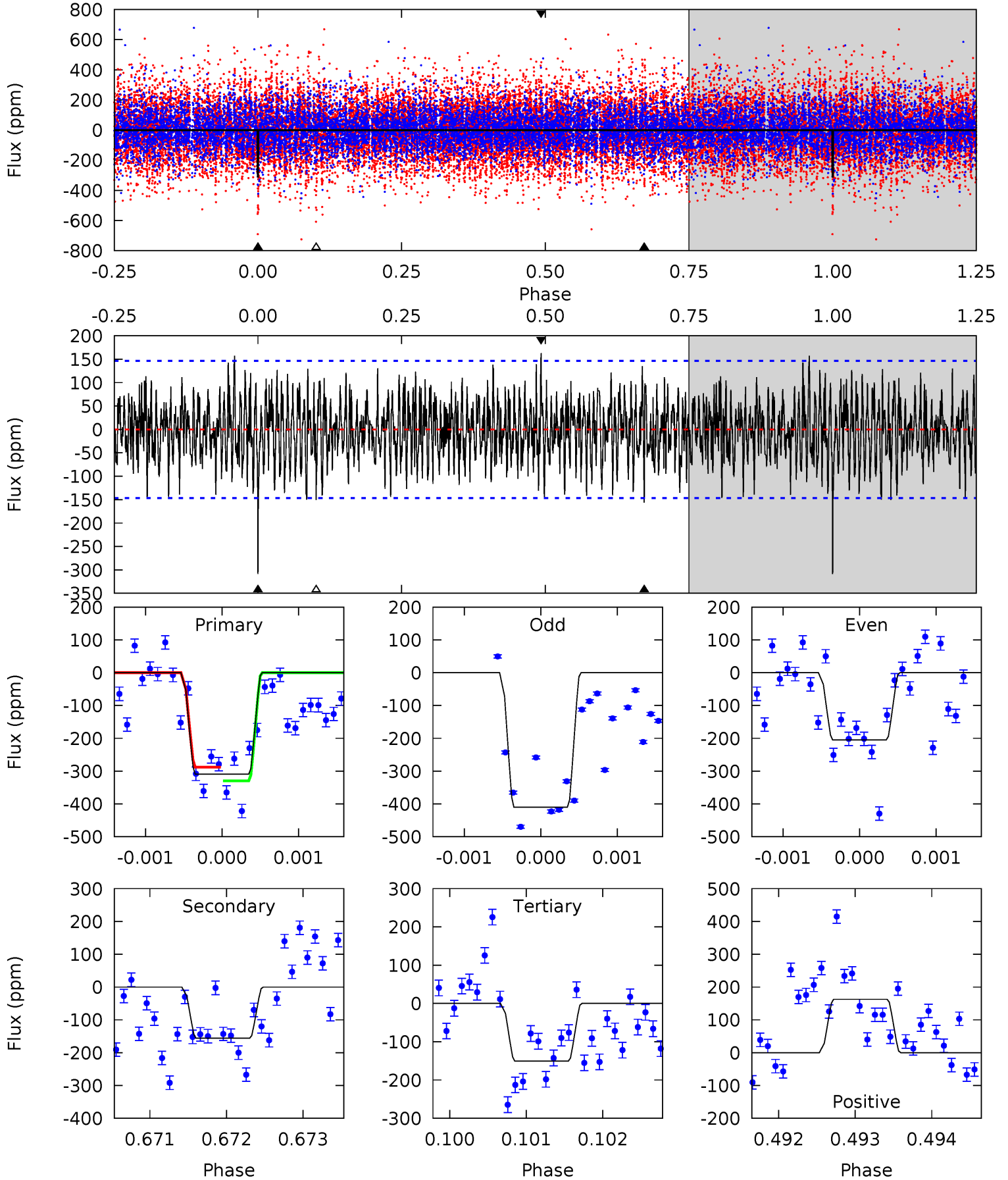
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.73	7.00	4.77	6.08	5.45	3.28	1.64	4.97	3.66	2.23	0.92	1.20	0.99	0.38	1.31



Alt Model-Shift Uniqueness Test

005817210-05, $P = 178.054417$ Days, $E = 69.785051$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	5.82	5.62	6.06	5.46	3.31	2.05	5.91	5.46	0.20	-0.24	3.81	1.18	0.34	0.77



Stellar Parameters For KIC 005817210

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-161 ± 23	$4.75^{+3.46}_{-2.78}$	744^{+46}_{-71}	5397^{+3280}_{-1001}	1932^{+9520}_{-1263}
Alt.	-156 ± 27	$5.23^{+3.33}_{-2.93}$	746^{+45}_{-75}	5088^{+2513}_{-837}	1543^{+6303}_{-979}

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

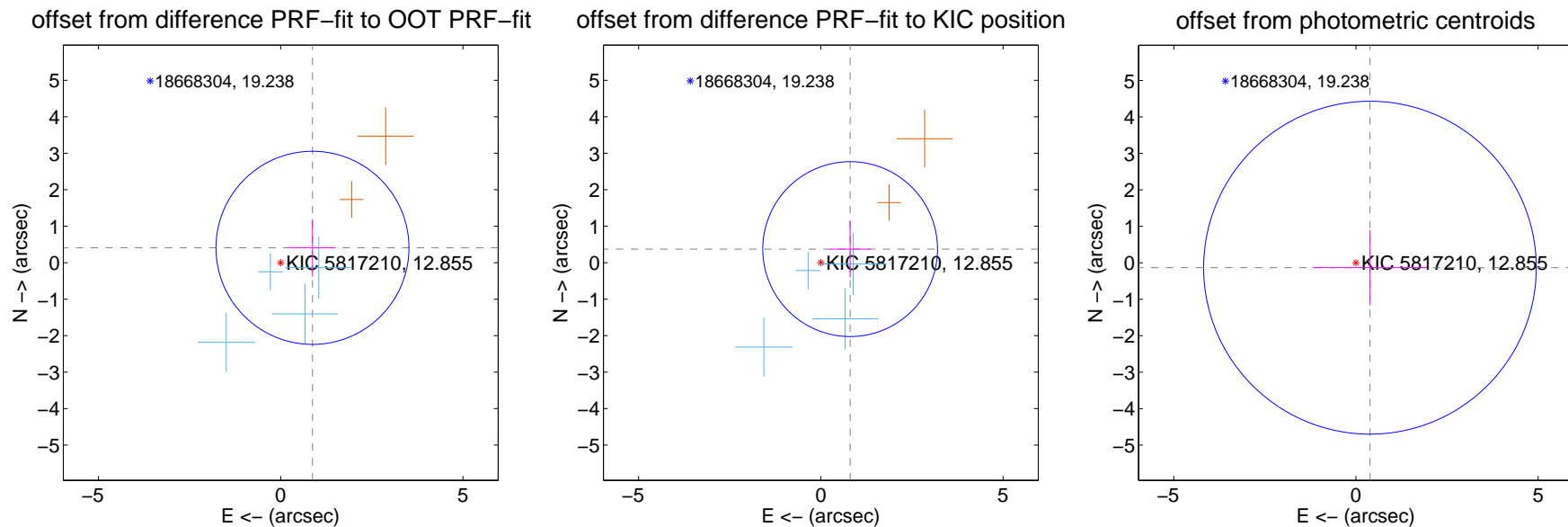
DV Centroid Data

Supplemental centroid analysis for 005817210-05. Kepler magnitude: 12.86. Transit SNR 8.55

There are 4 quarters with good PRF difference image offsets

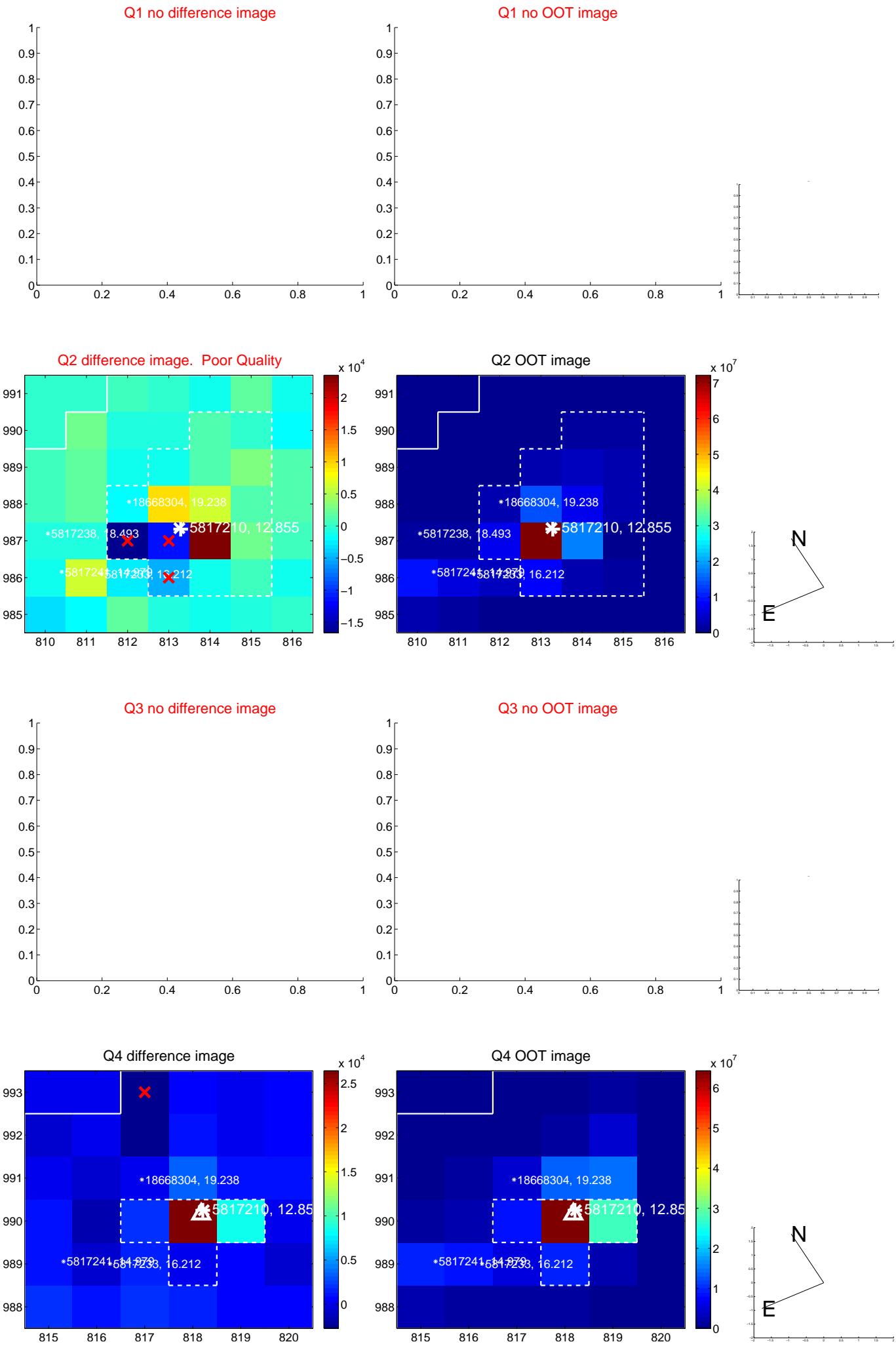
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.961 ± 0.882	1.09	-0.871 ± 0.628	0.407 ± 0.791
PRF-fit source offset from KIC position	0.885 ± 0.799	1.11	-0.803 ± 0.558	0.372 ± 0.781
photometric centroid source offset	0.41 ± 1.52	0.27	-0.38 ± 1.57	-0.13 ± 1.03

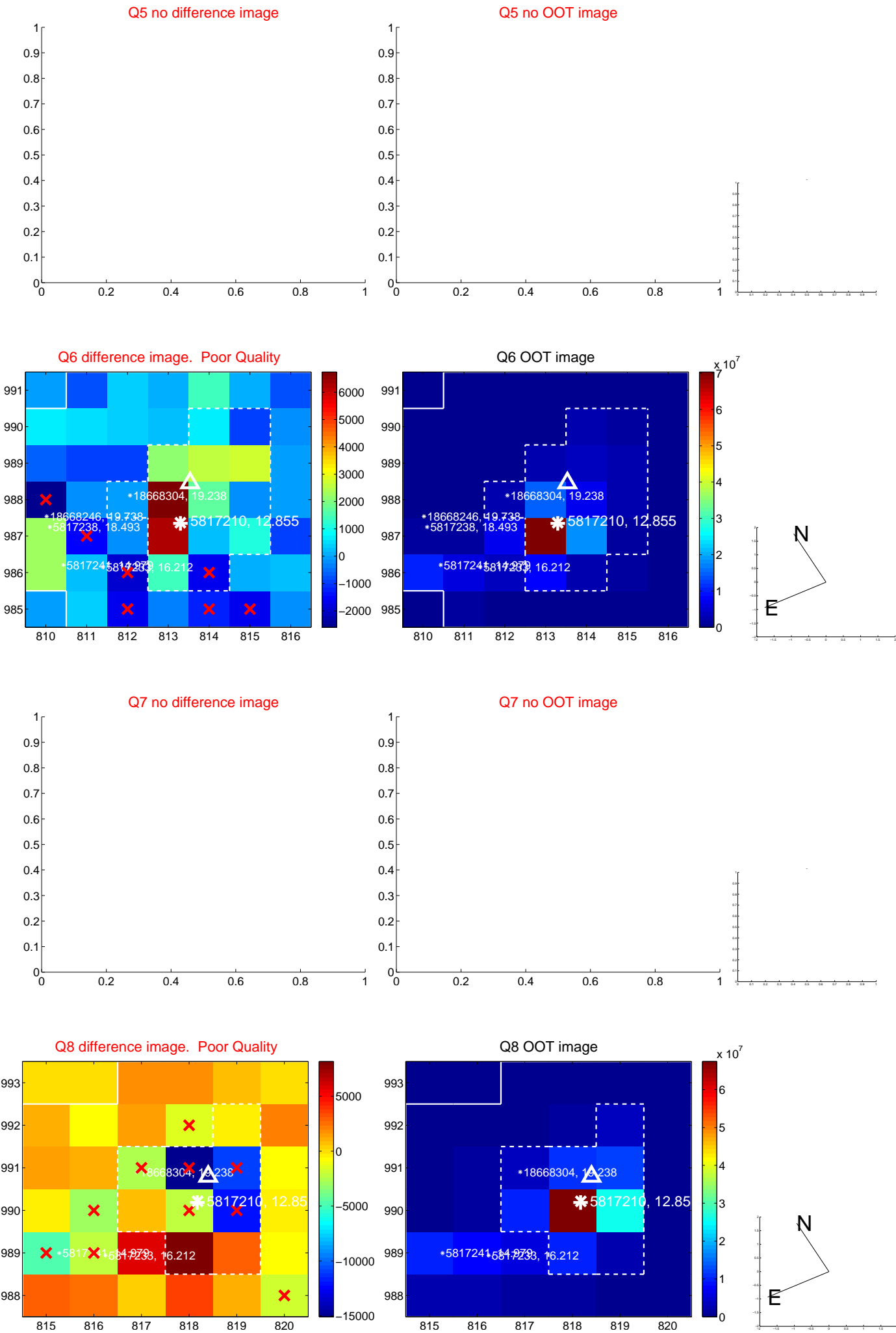


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

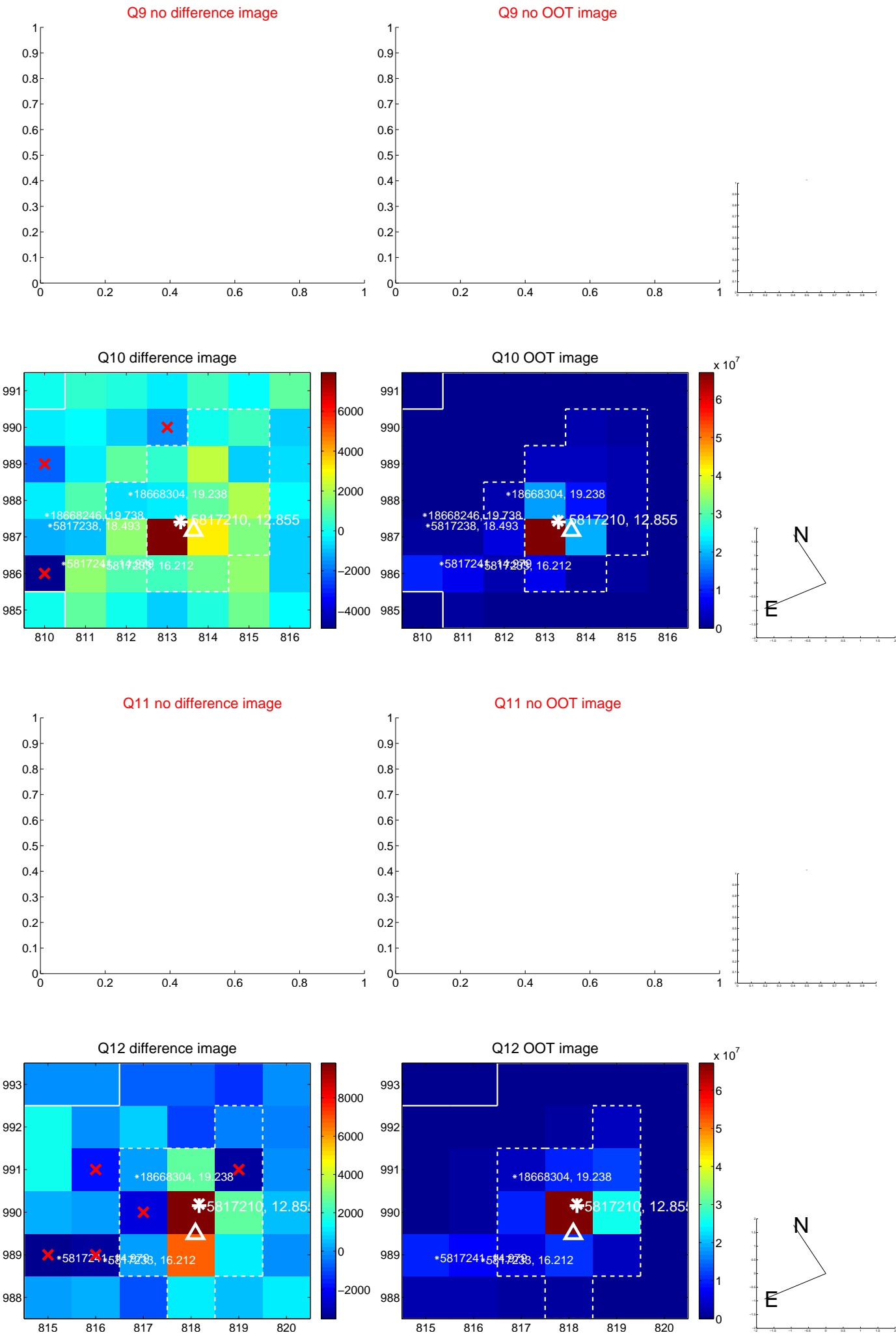
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



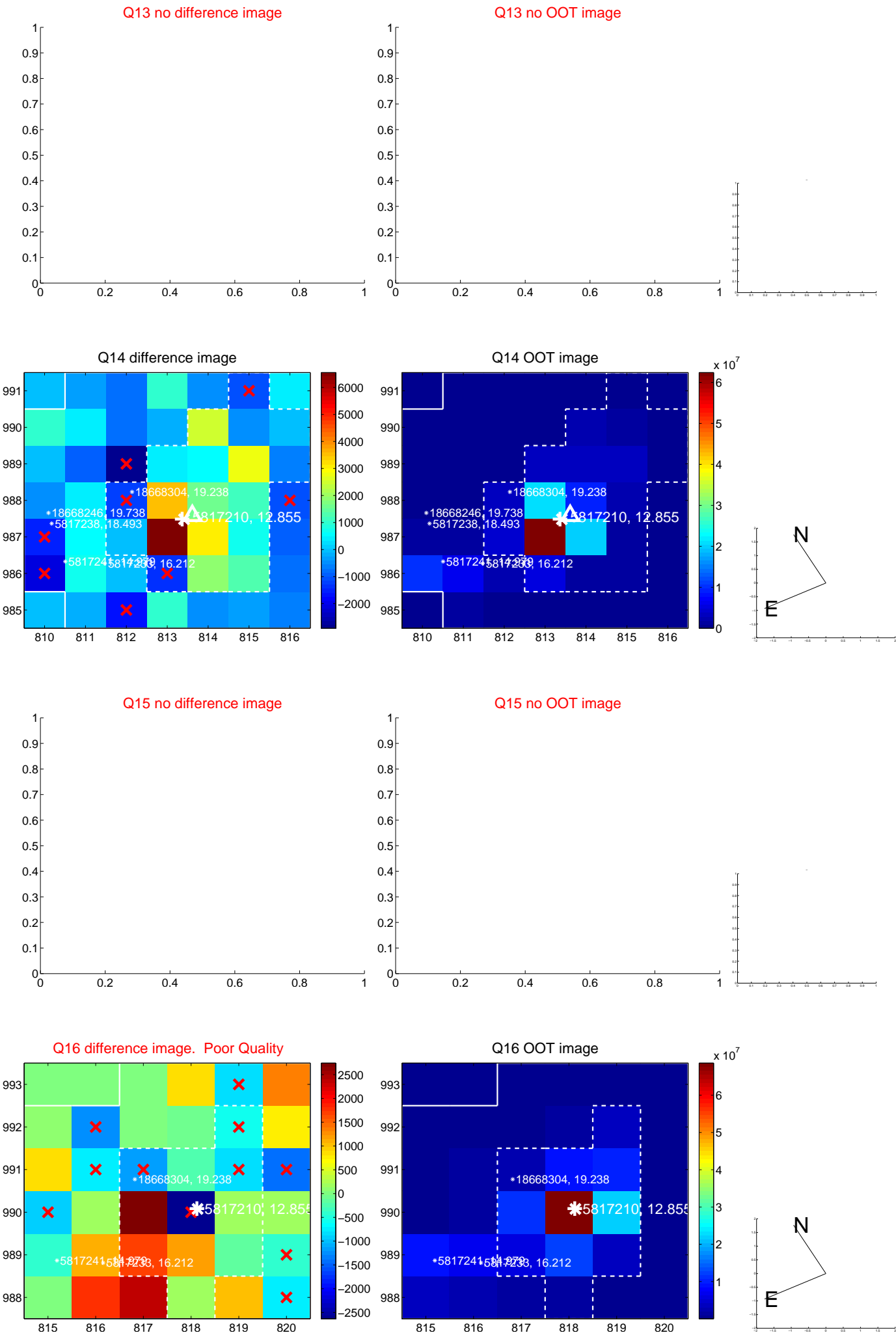
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



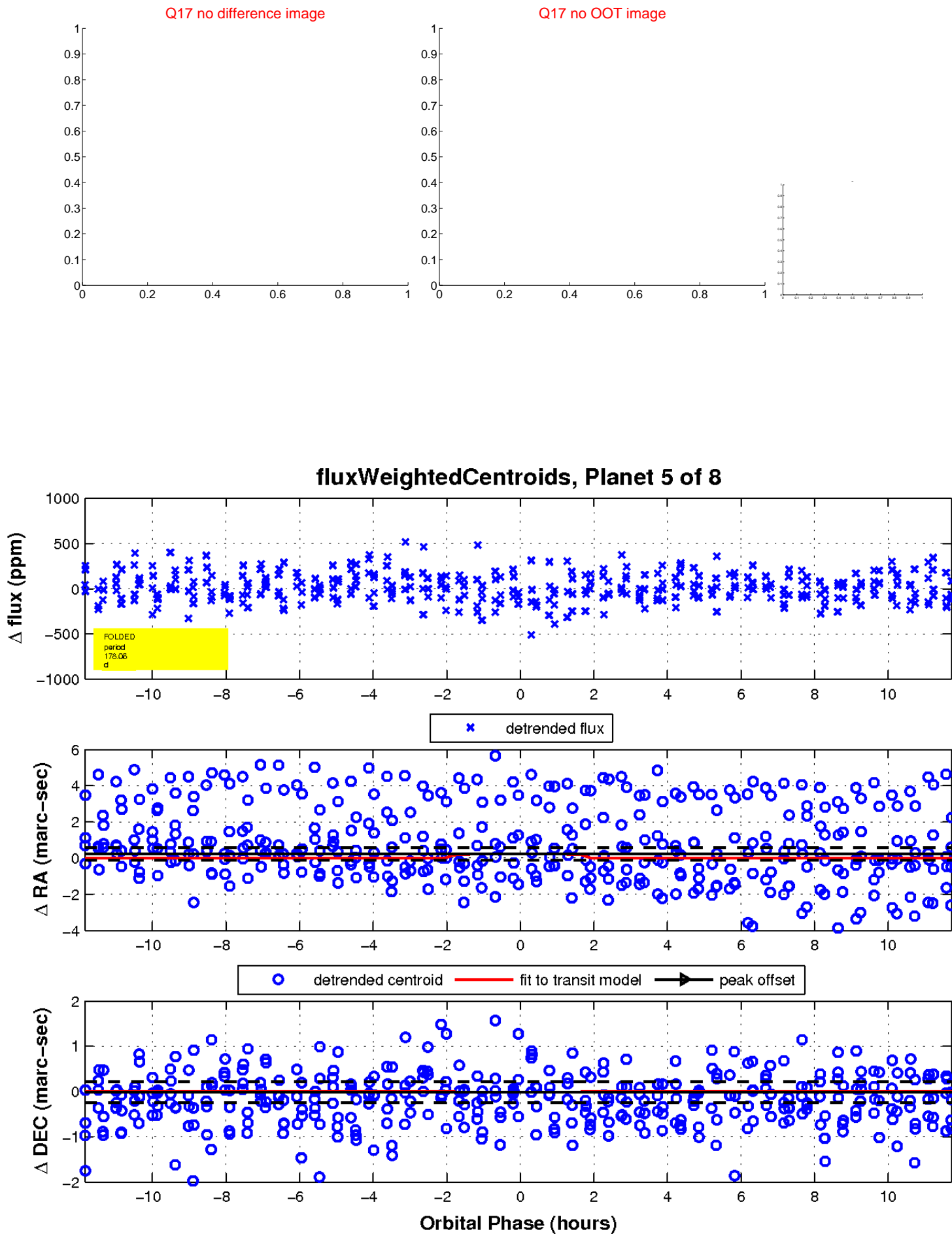
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

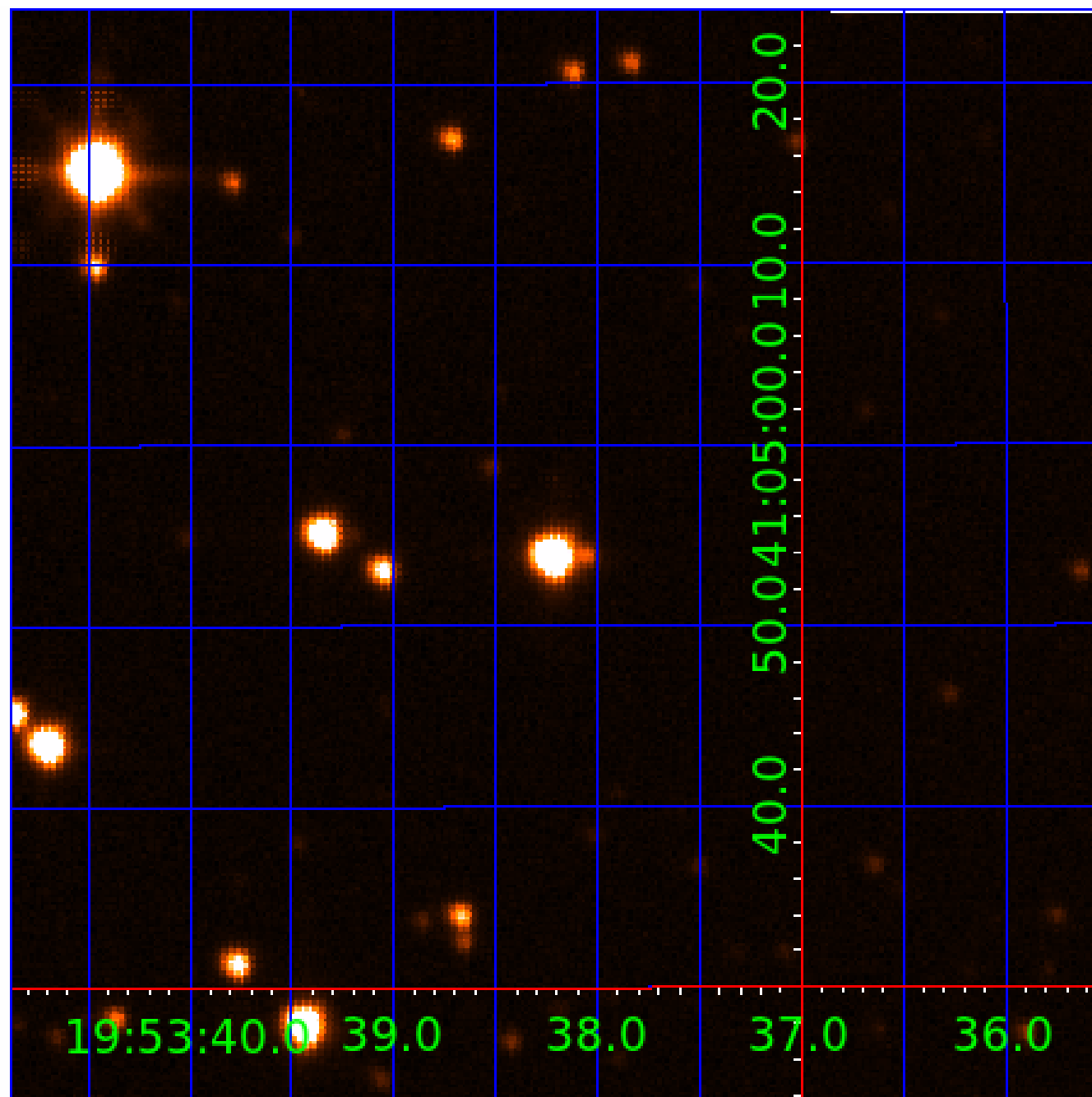


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005817210

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})
005817210-01	OBS	No	3.282245	132.595698	21.0	17.015	10.9	7.8	2.92	6061	1.33	4261.54
005817210-02	OBS	No	142.468035	246.659542	223.7	11.320	9.5	10.2	2.92	6061	5.61	27.94
005817210-03	OBS	No	214.556799	176.143016	298.0	3.549	8.9	8.0	2.92	6061	5.81	16.18
005817210-04	OBS	No	168.723409	144.341929	220.1	5.082	8.7	8.4	2.92	6061	4.90	22.30
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005817210-08	OBS	No	653.461104	137.012295	139.9	13.770	7.7	5.5	2.92	6061	3.84	3.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817210-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005817210-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005817210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005817210-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

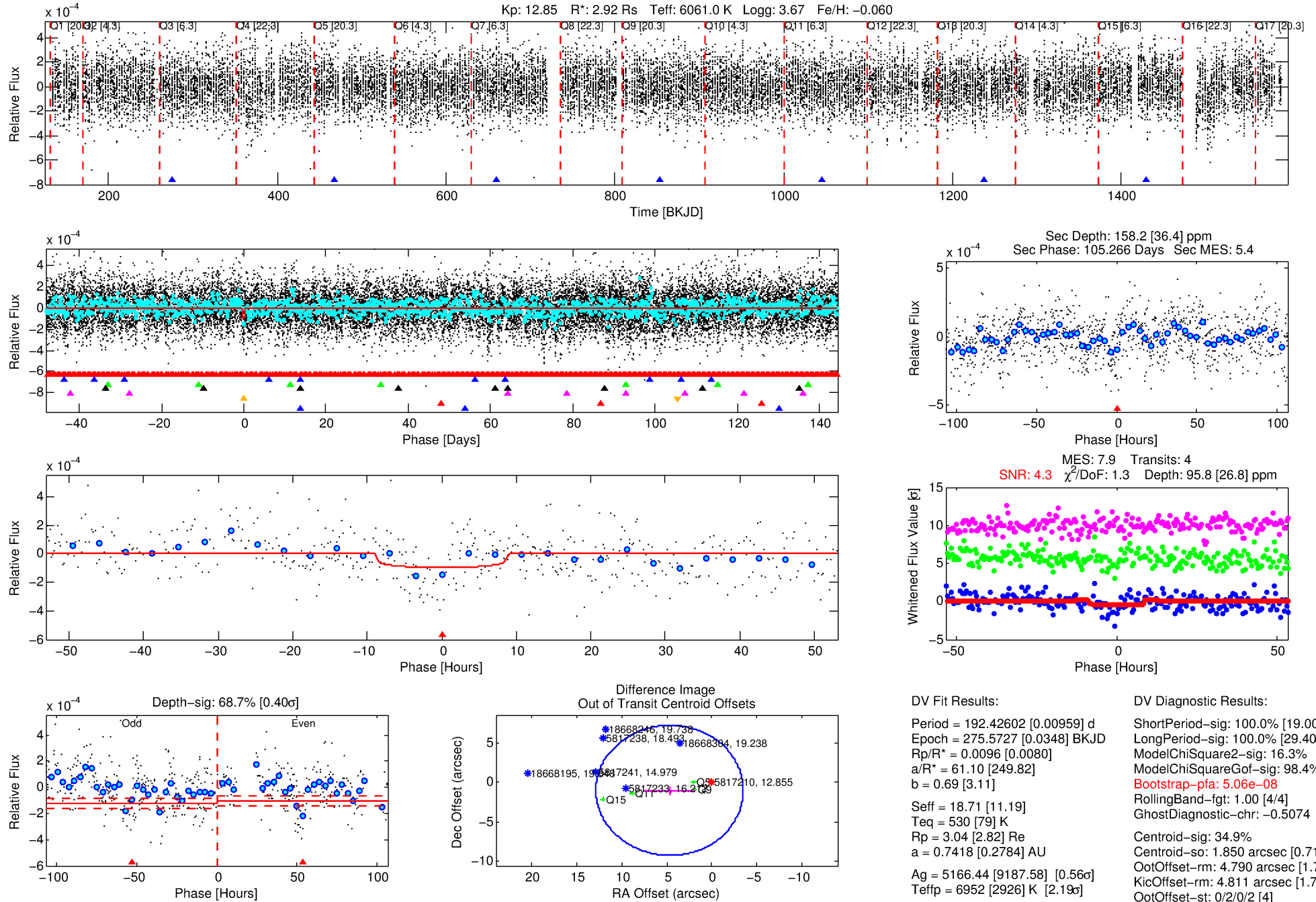
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-06

No Significant Match Found

DV One-Page Summary

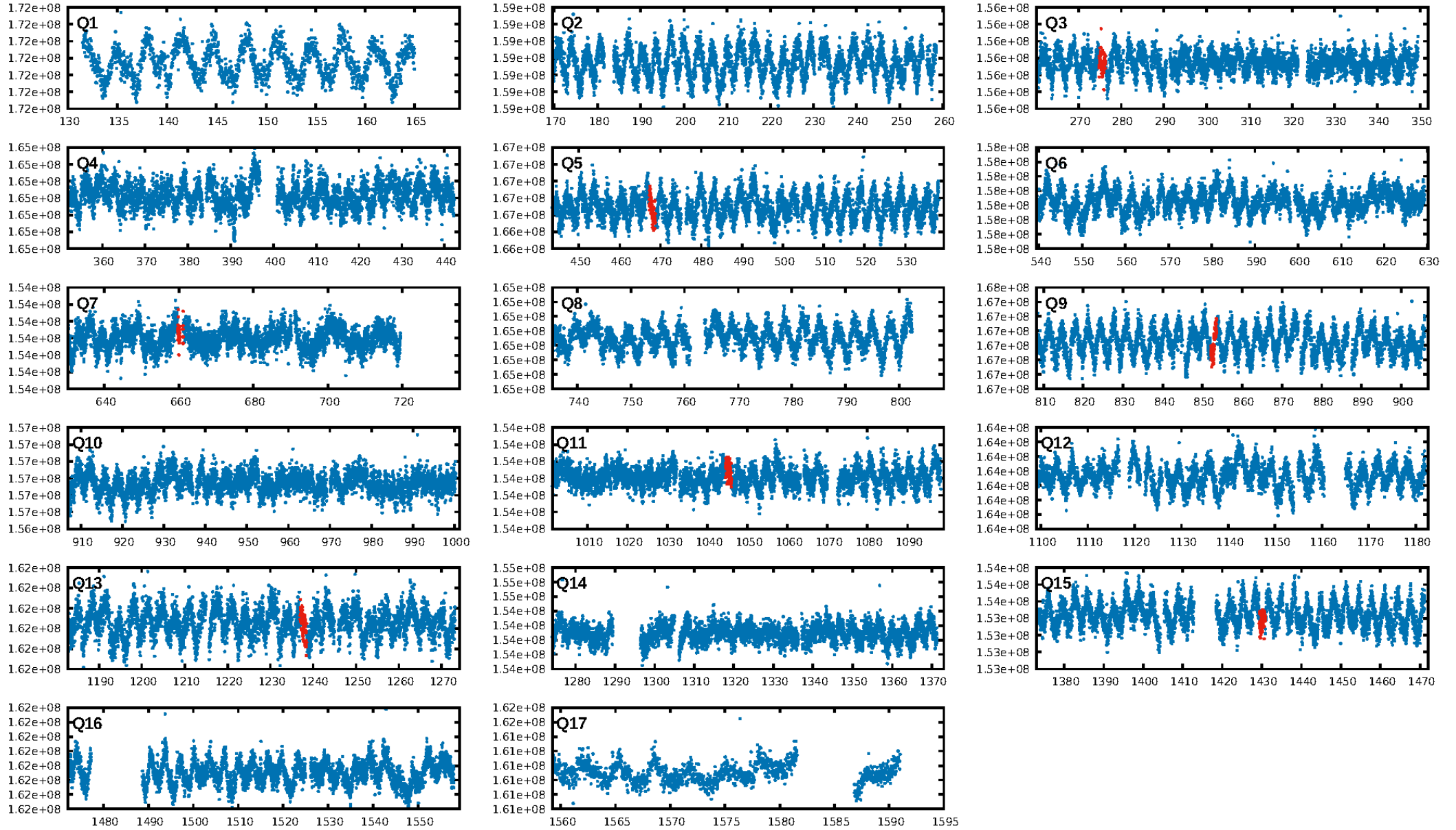
KIC: 5817210 Candidate: 6 of 8 Period: 192.426 d



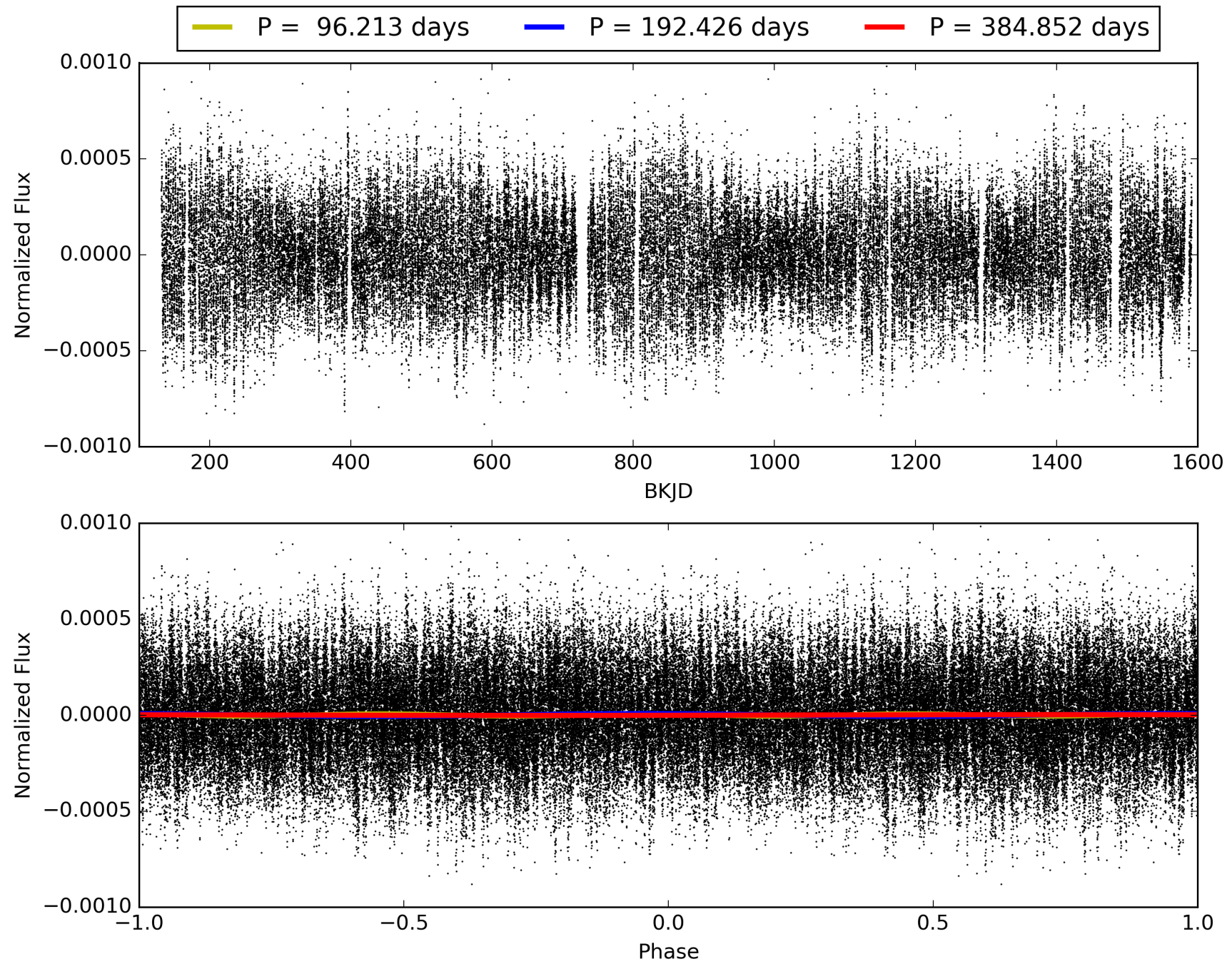
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:34 Z

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

TCE 005817210-06, PDC Light Curves

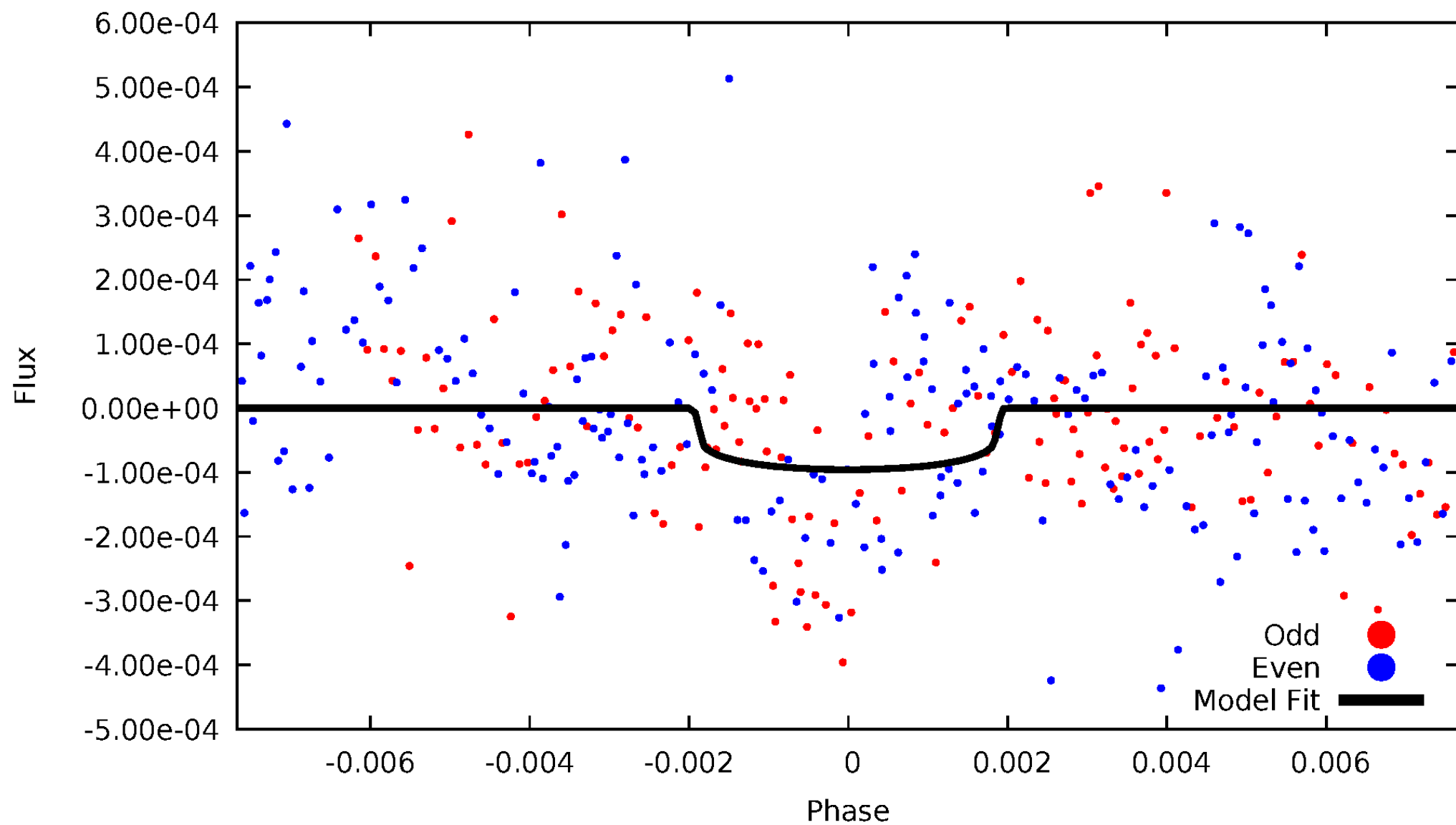


TCE 005817210-06



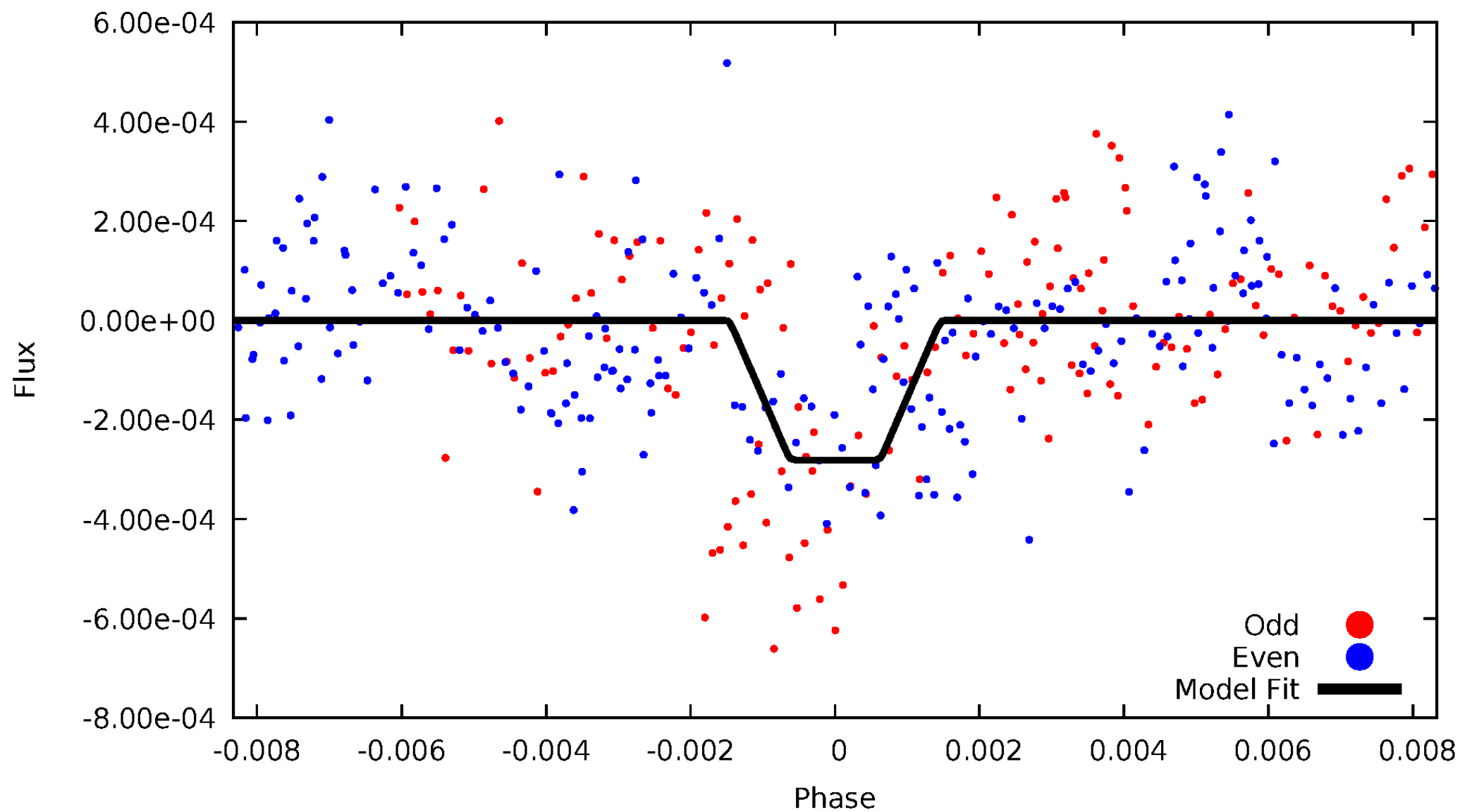
DV Odd/Even

TCE 005817210-06



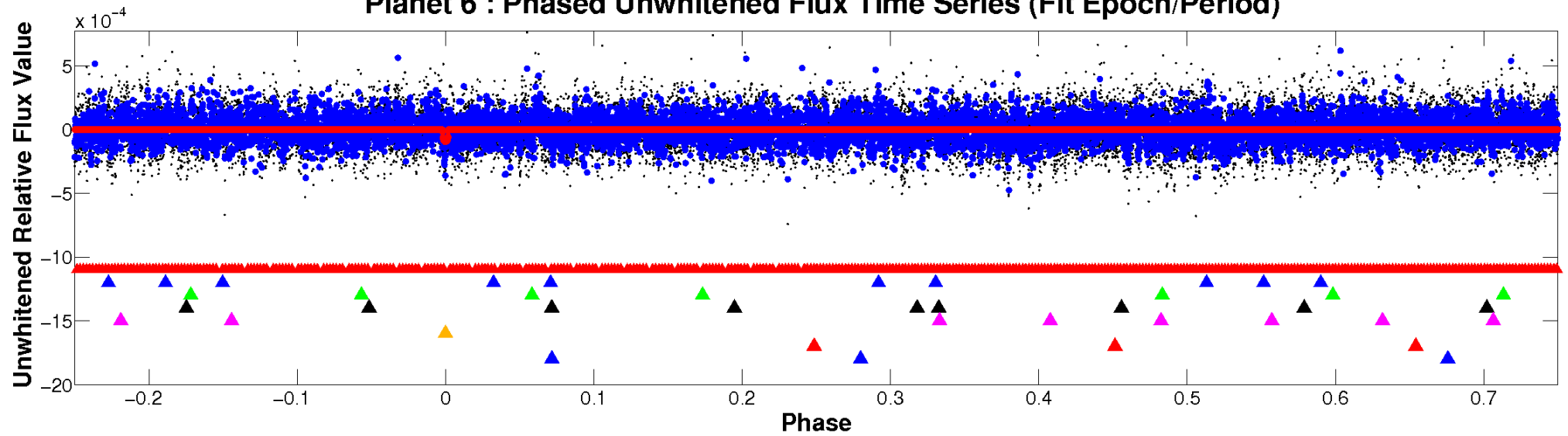
ALT Odd/Even

TCE 005817210-06

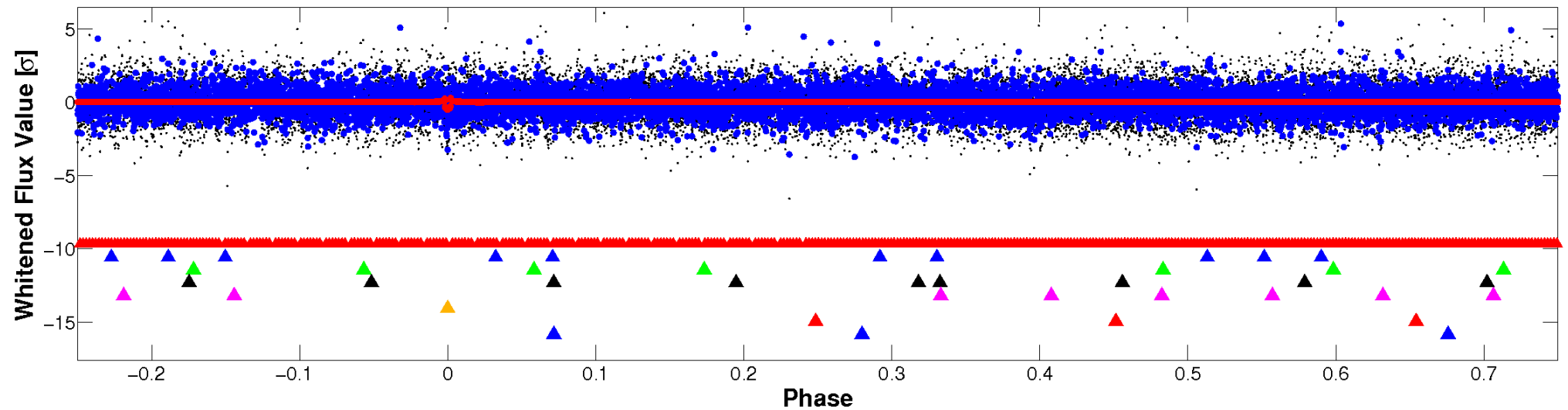


Non-Whitened Vs. Whitened Light Curve

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



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



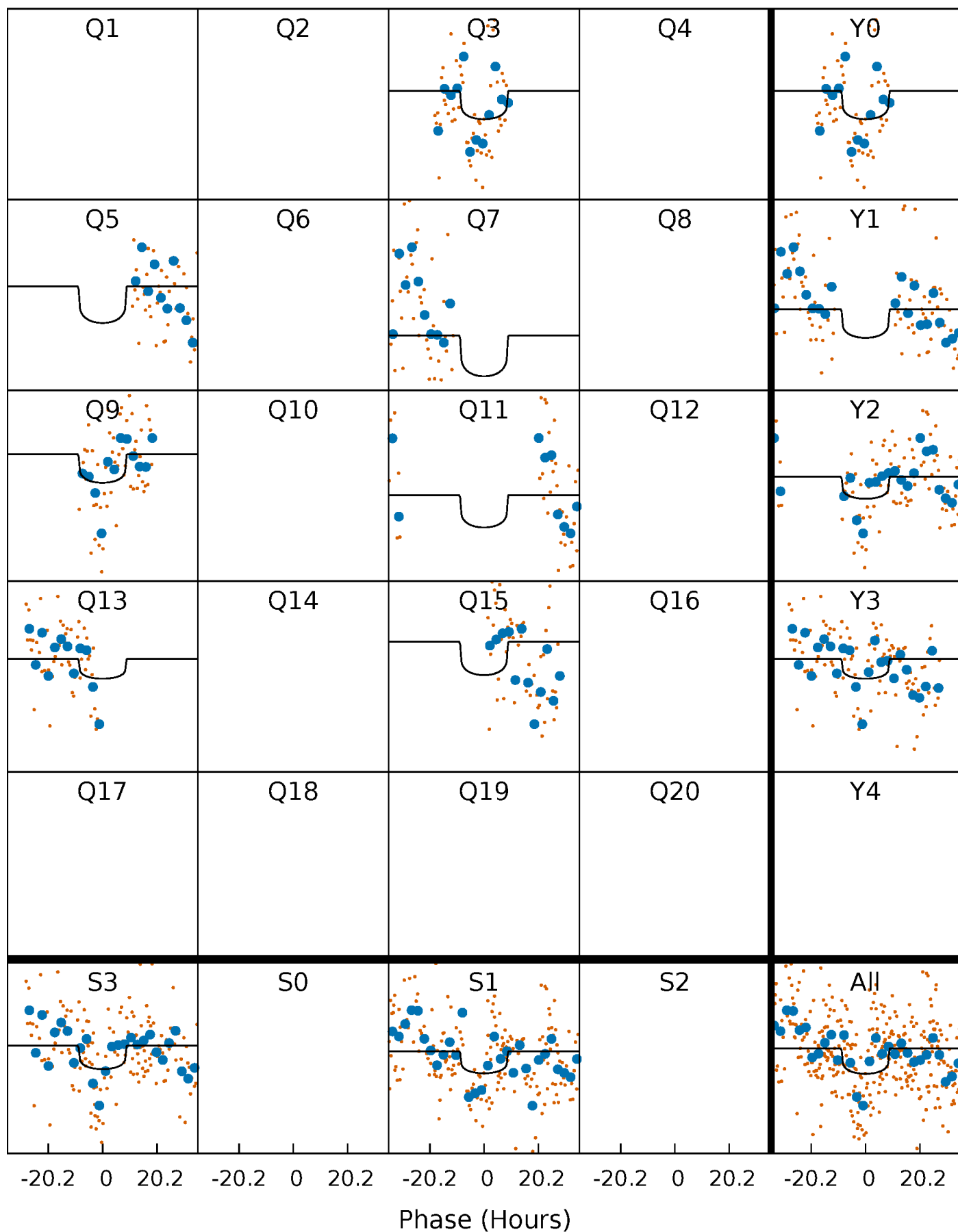
PDC Quarter-Phased Transit Curves

TCE 005817210-06 P=192.426020 Days $T_0=275.572658$ (BKJD)



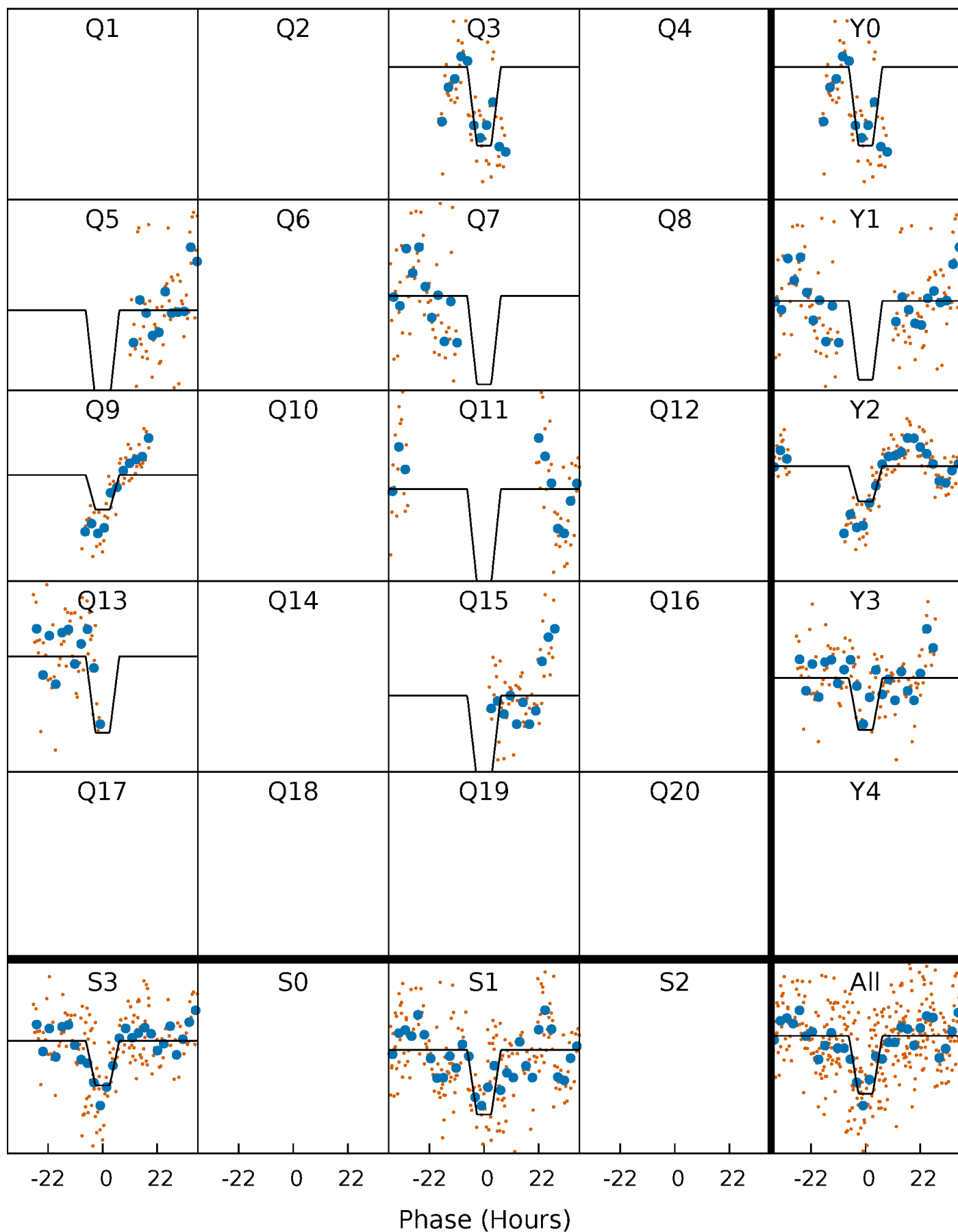
DV Quarter-Phased Transit Curves

TCE 005817210-06 P=192.426020 Days $T_0=275.572658$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

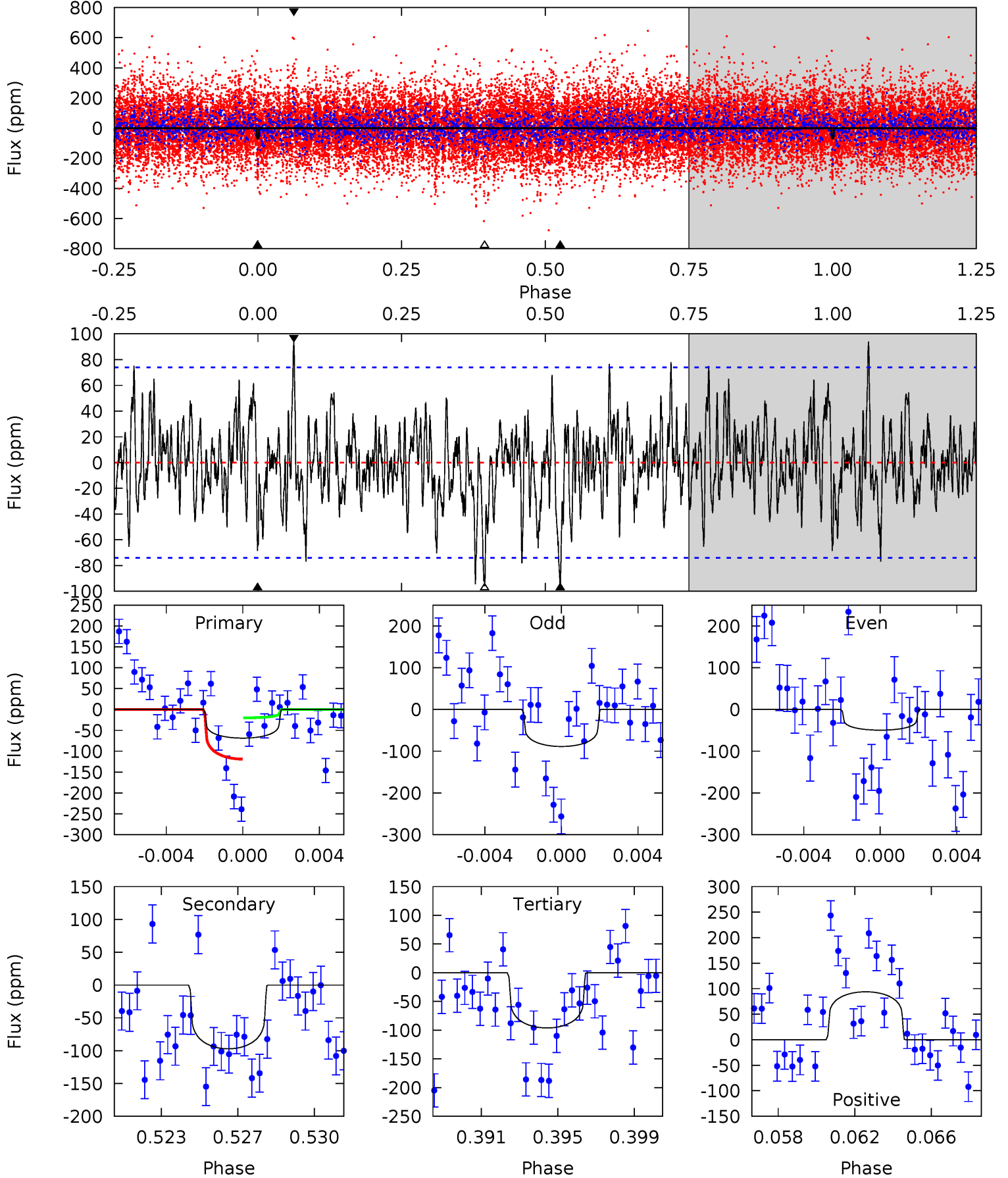
TCE 005817210-06 P=192.421569 Days $T_0=275.572036$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-06, $P = 192.426020$ Days, $E = 83.146638$ Days

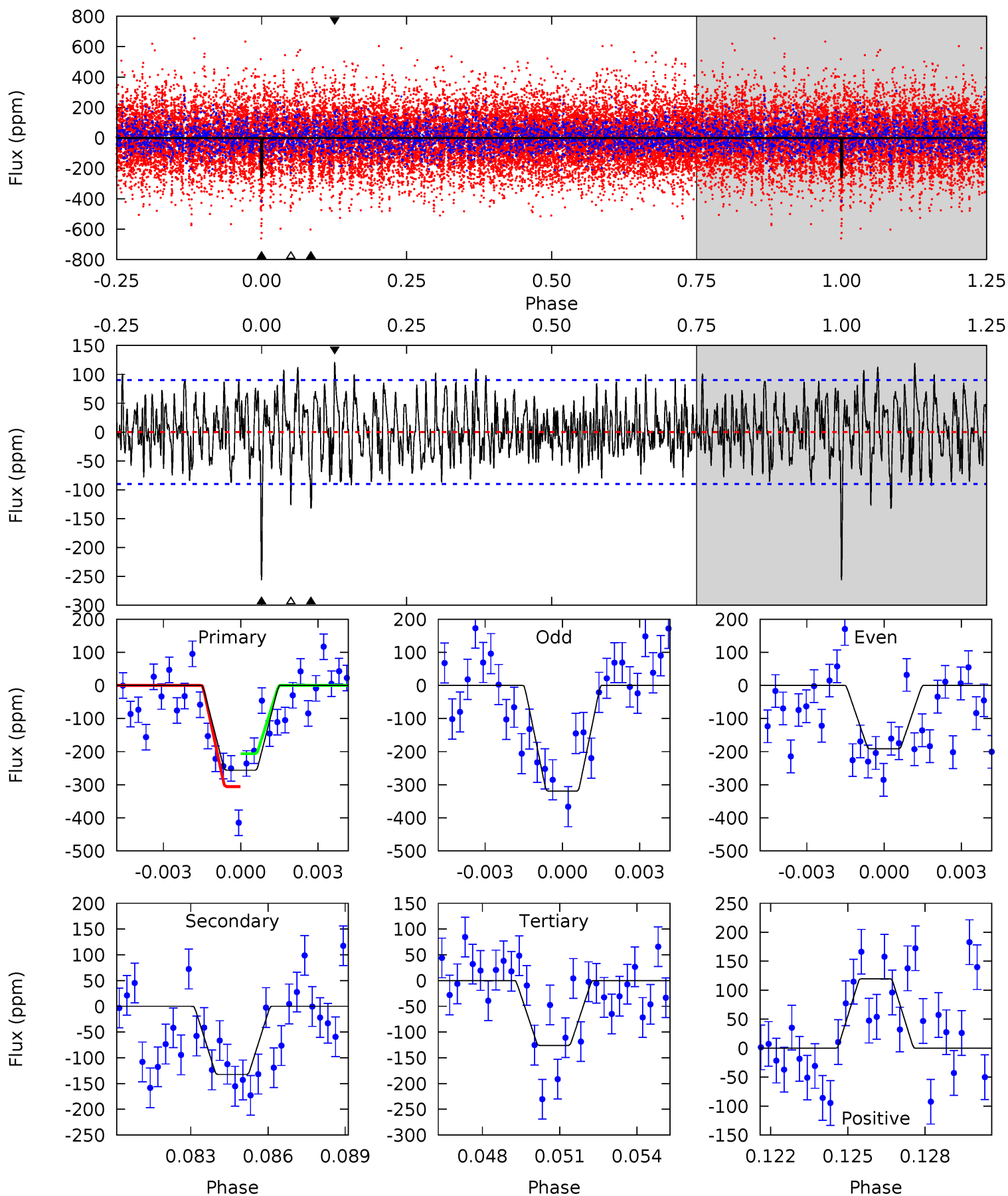
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.83	6.83	6.76	6.61	5.21	2.89	1.87	-1.93	-1.78	0.07	0.22	1.38	0.76	0.49	3.48



Alt Model-Shift Uniqueness Test

005817210-06, P = 192.421569 Days, E = 83.150467 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	7.73	7.36	7.00	5.25	2.97	2.26	7.60	7.96	0.37	0.73	3.72	1.18	0.32	2.91



Stellar Parameters For KIC 005817210

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-97 ± 14	$3.12^{+2.48}_{-1.84}$	727^{+45}_{-72}	5828^{+3954}_{-1248}	3069^{+15207}_{-2110}
Alt.	-132 ± 17	$4.78^{+2.77}_{-2.21}$	728^{+43}_{-66}	5176^{+1742}_{-809}	1716^{+4479}_{-993}

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 $A_{obs} \gg 1.0$

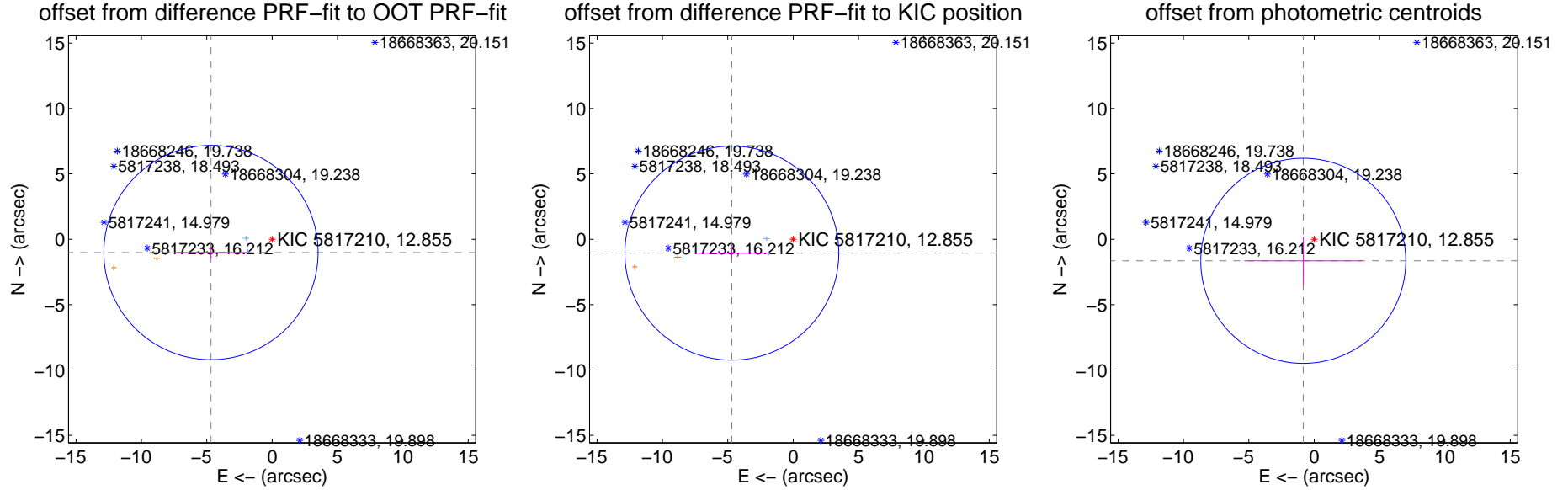
DV Centroid Data

Supplemental centroid analysis for 005817210-06. Kepler magnitude: 12.86. Transit SNR 4.32

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.790 ± 2.731	1.75	4.681 ± 2.793	-1.016 ± 0.463
PRF-fit source offset from KIC position	4.811 ± 2.728	1.76	4.693 ± 2.795	-1.060 ± 0.443
photometric centroid source offset	1.85 ± 2.61	0.71	0.84 ± 4.51	-1.65 ± 1.83



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

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

Q1 no difference image



Q1 no OOT image



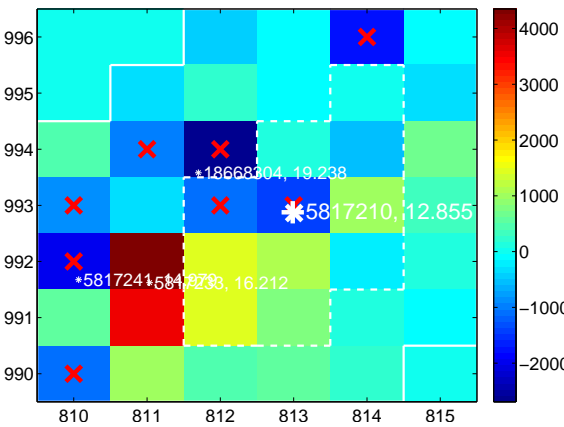
Q2 no difference image



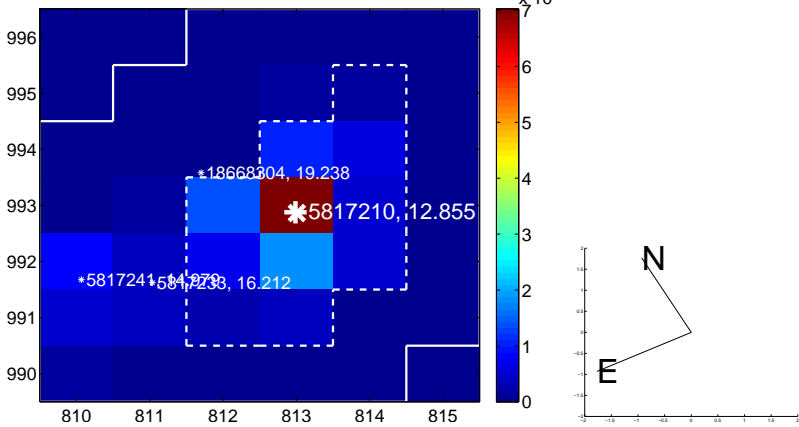
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



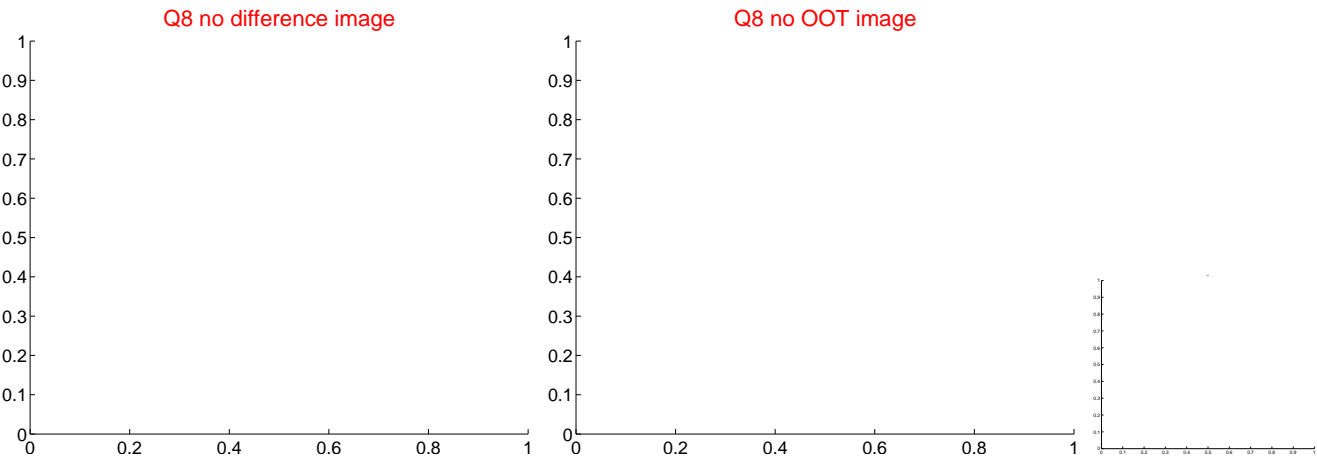
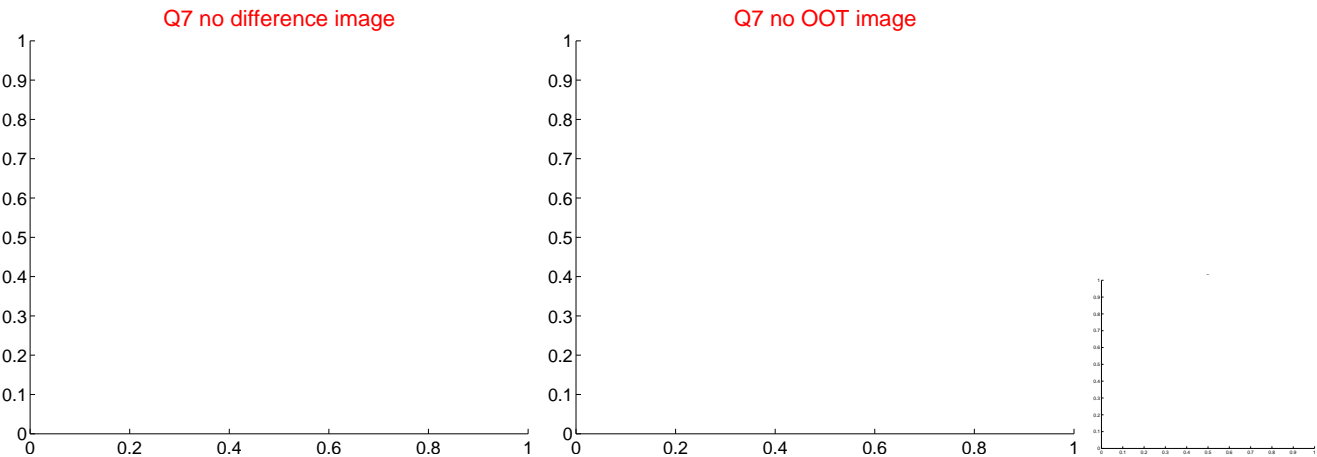
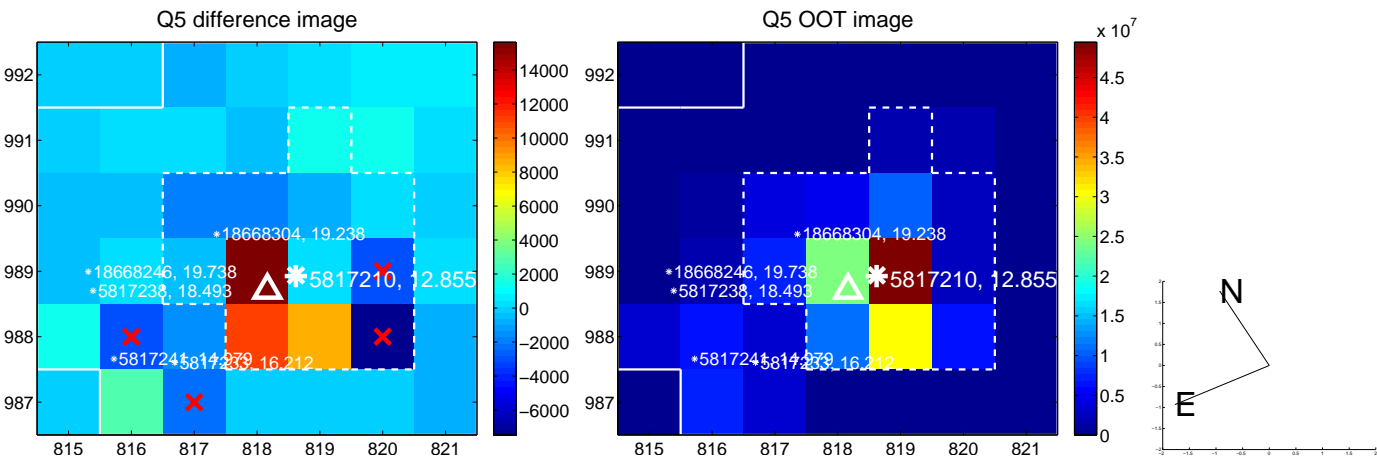
Q4 no difference image



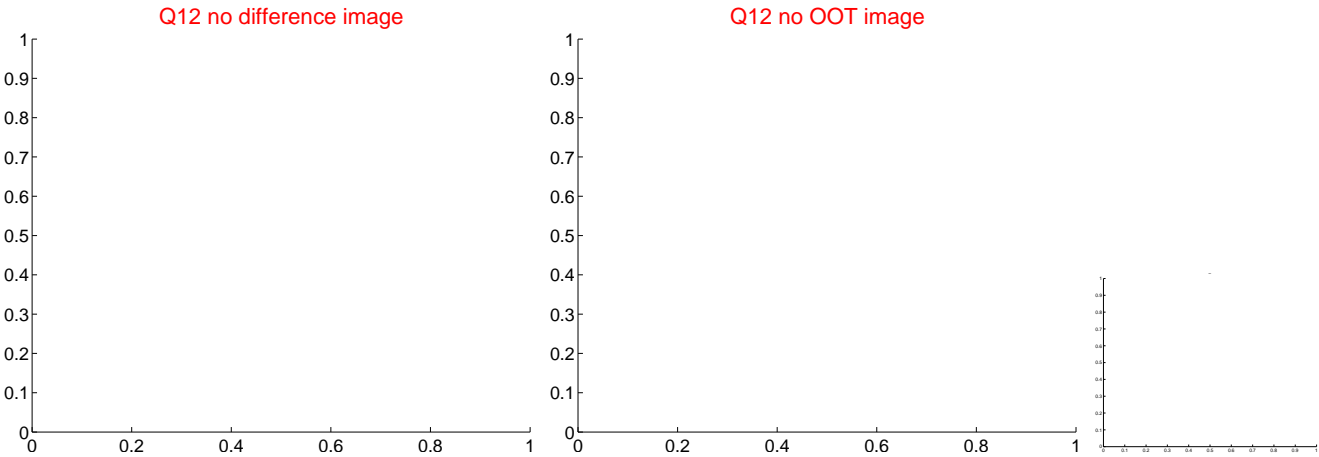
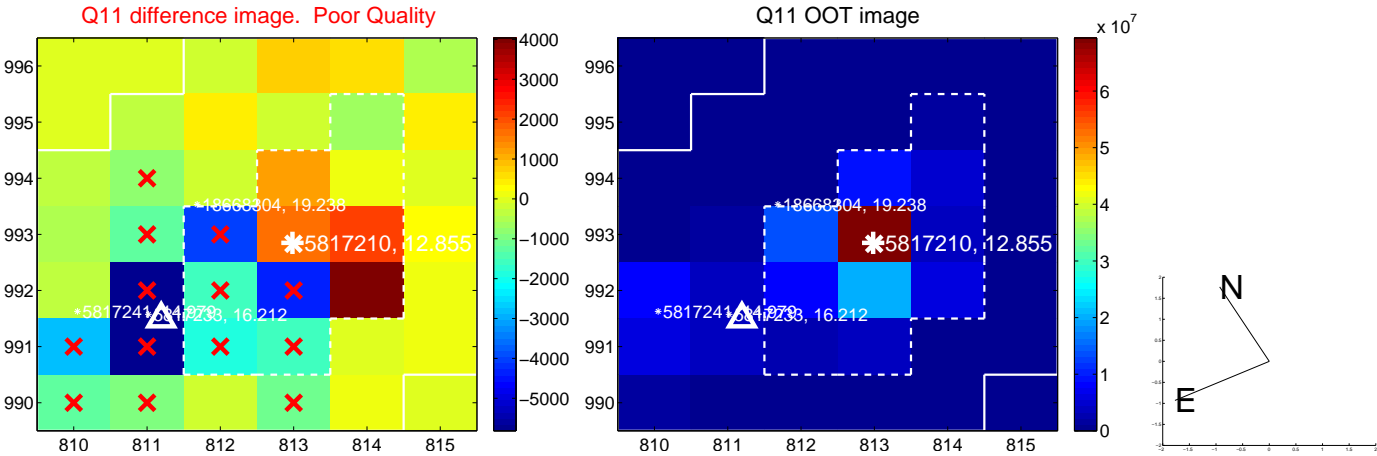
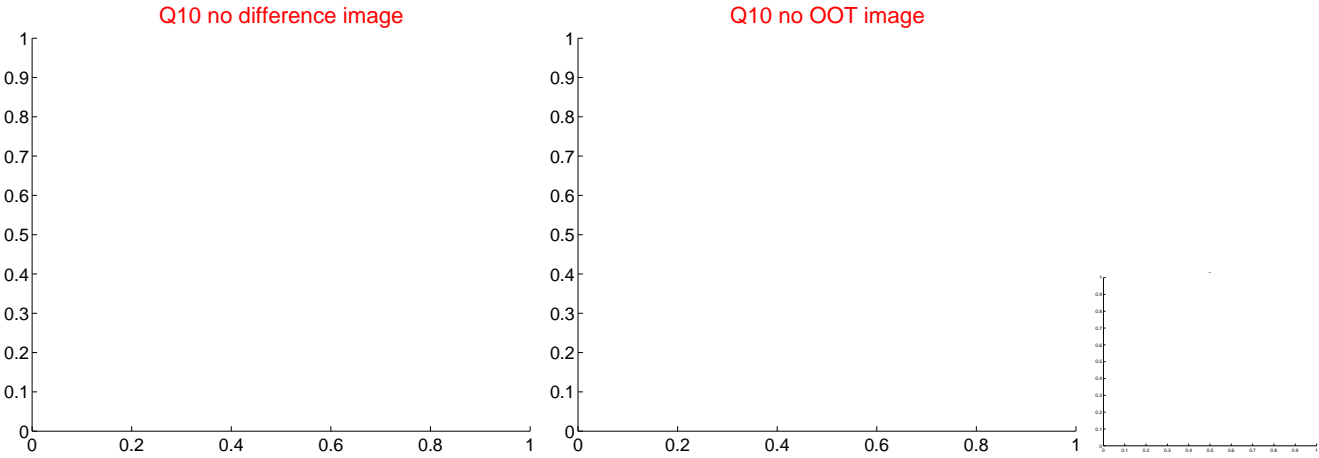
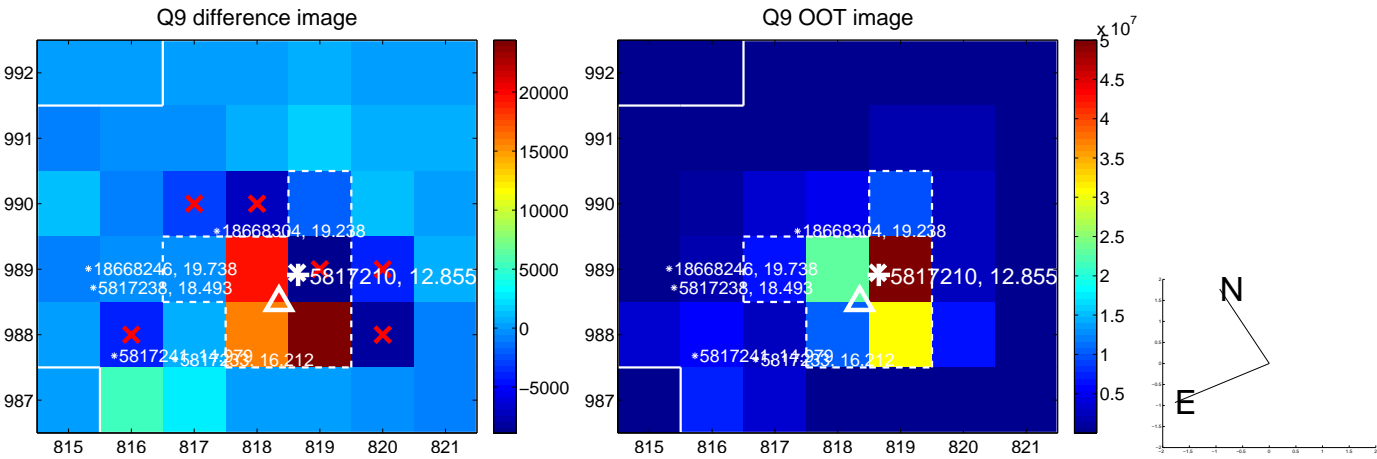
Q4 no OOT image



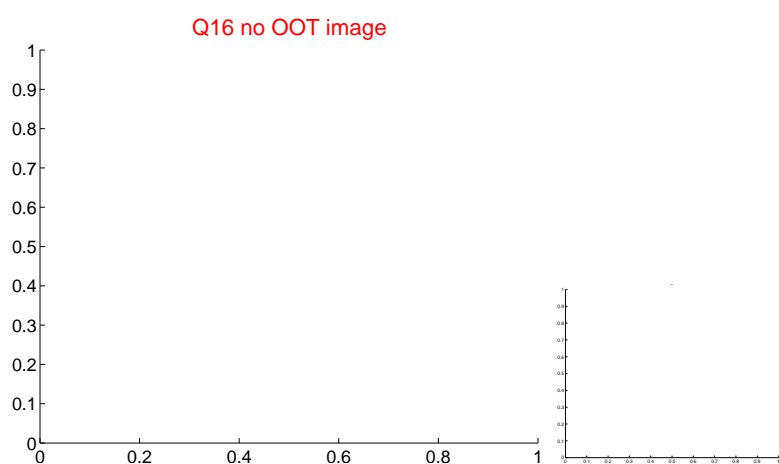
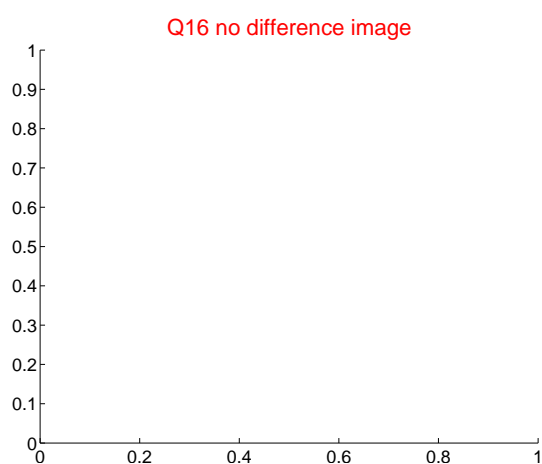
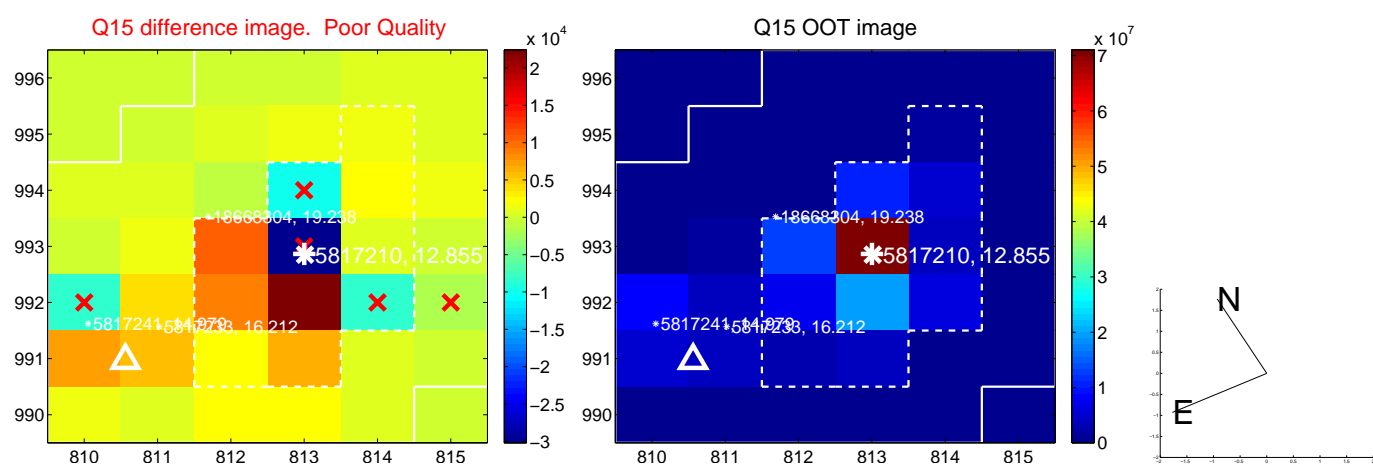
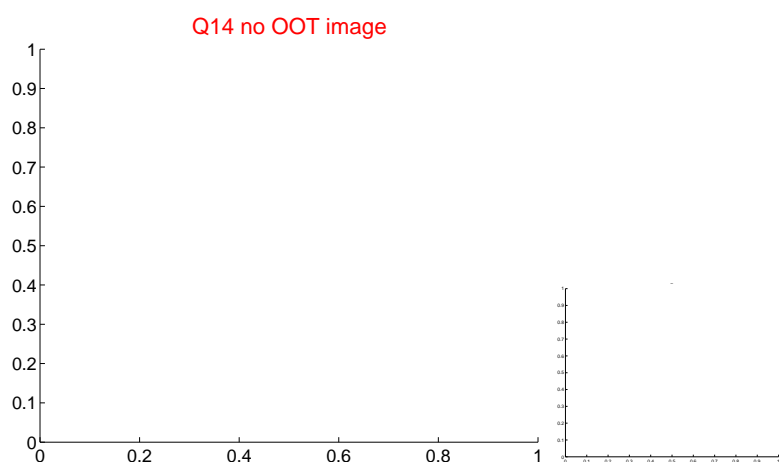
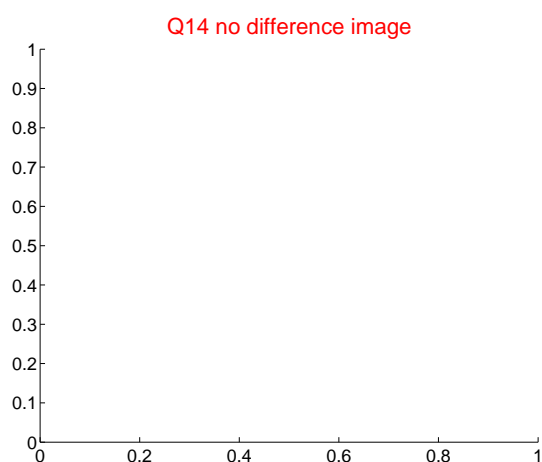
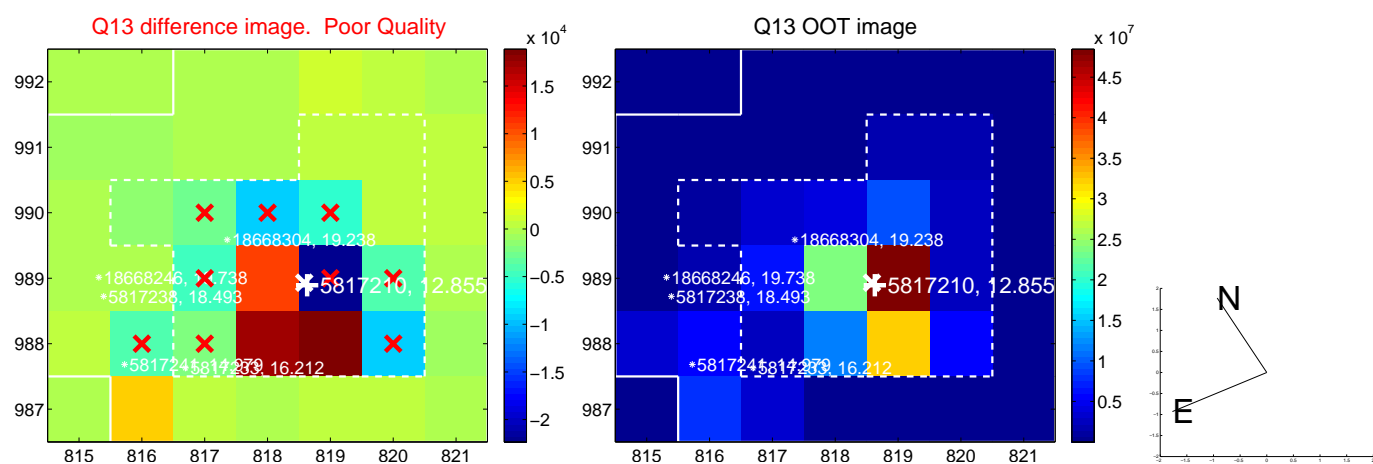
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



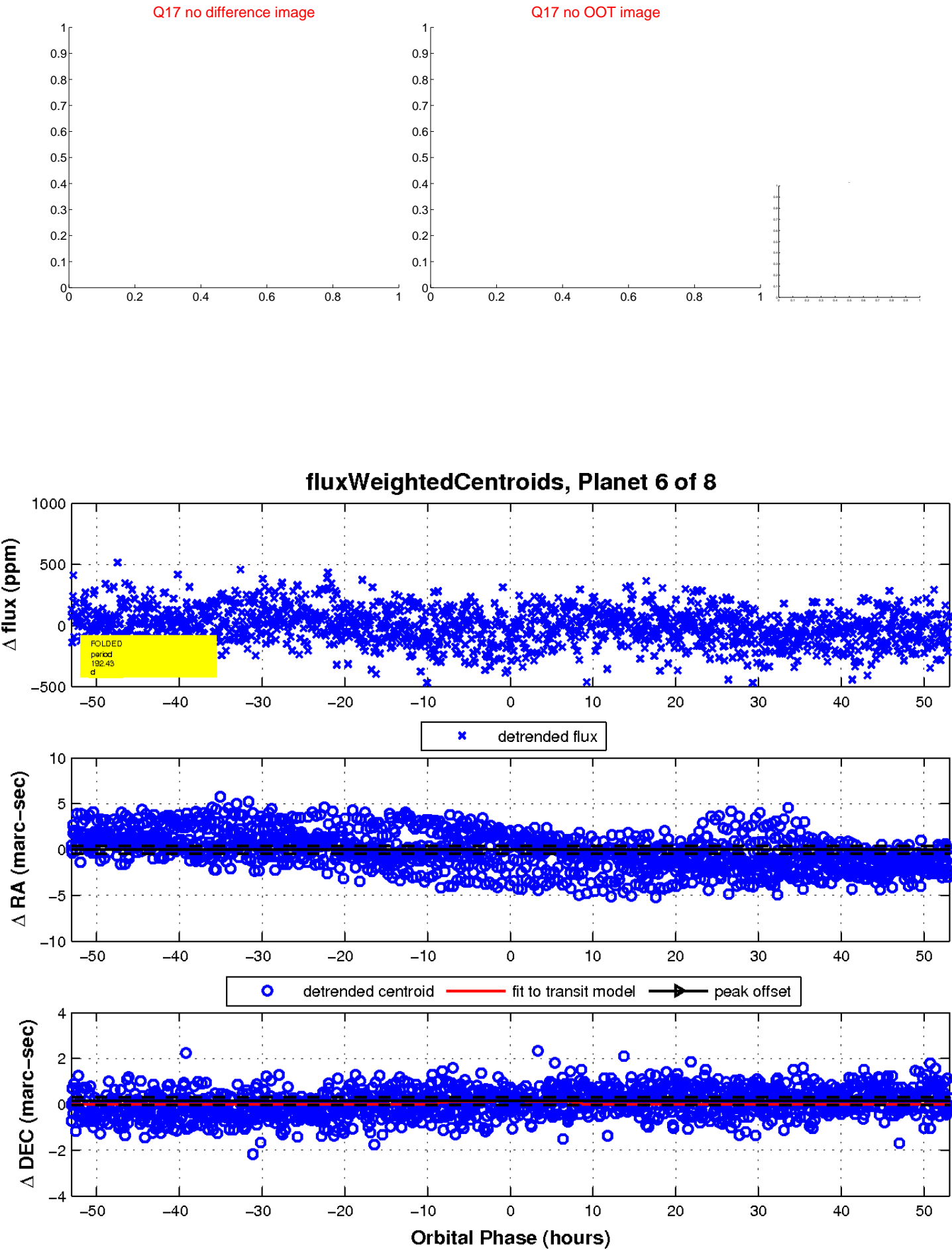
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

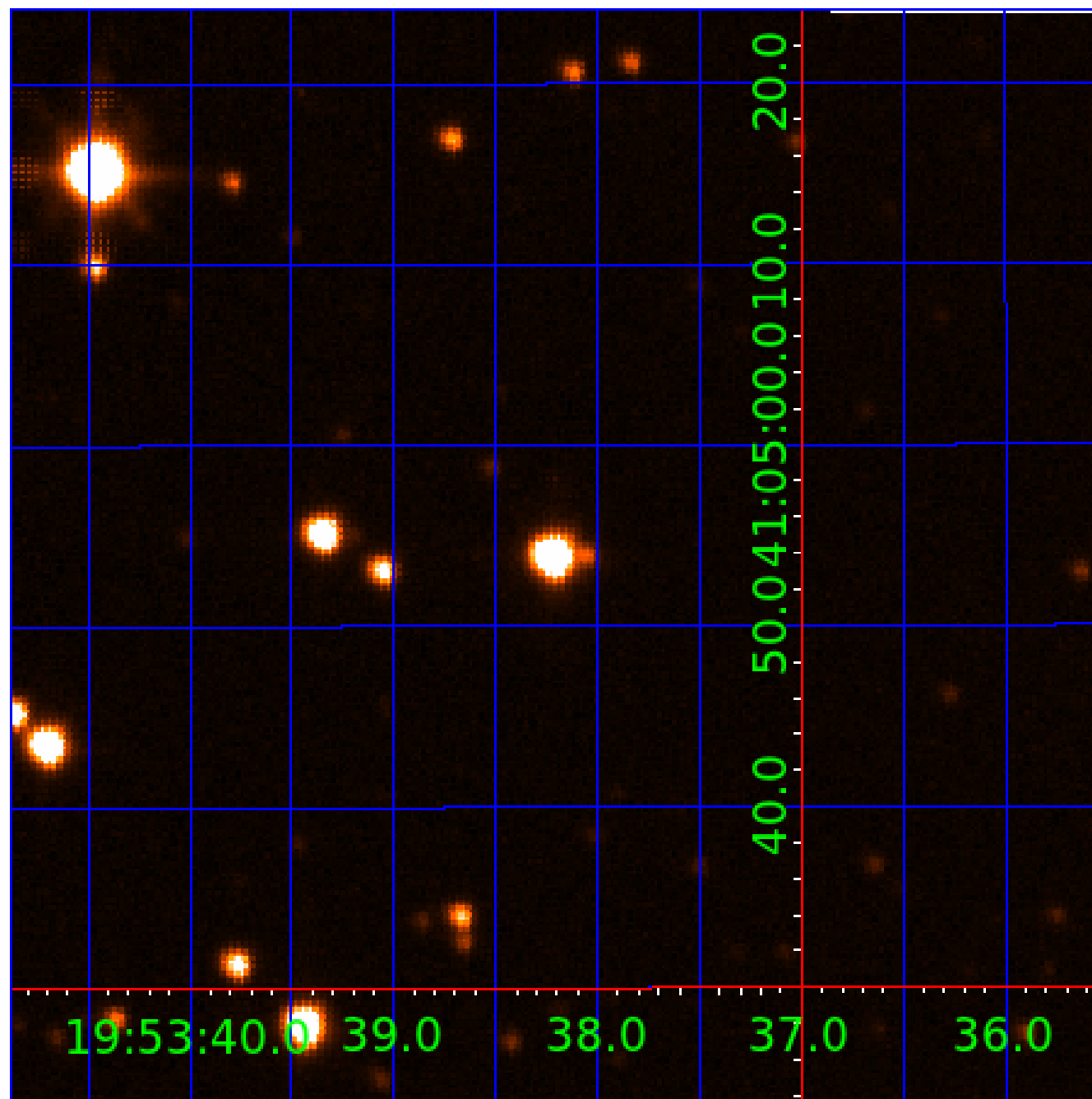


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005817210

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})
005817210-01	OBS	No	3.282245	132.595698	21.0	17.015	10.9	7.8	2.92	6061	1.33	4261.54
005817210-02	OBS	No	142.468035	246.659542	223.7	11.320	9.5	10.2	2.92	6061	5.61	27.94
005817210-03	OBS	No	214.556799	176.143016	298.0	3.549	8.9	8.0	2.92	6061	5.81	16.18
005817210-04	OBS	No	168.723409	144.341929	220.1	5.082	8.7	8.4	2.92	6061	4.90	22.30
005817210-05	OBS	No	178.058270	247.822659	225.3	3.950	8.5	8.5	2.92	6061	5.03	20.75
005817210-06	OBS	No	192.426020	275.572658	95.8	17.716	7.9	4.3	2.92	6061	3.04	18.71
005817210-07	OBS	No	538.249487	209.036189	303.9	25.151	7.6	7.4	2.92	6061	5.76	4.75
005817210-08	OBS	No	653.461104	137.012295	139.9	13.770	7.7	5.5	2.92	6061	3.84	3.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817210-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005817210-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005817210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005817210-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

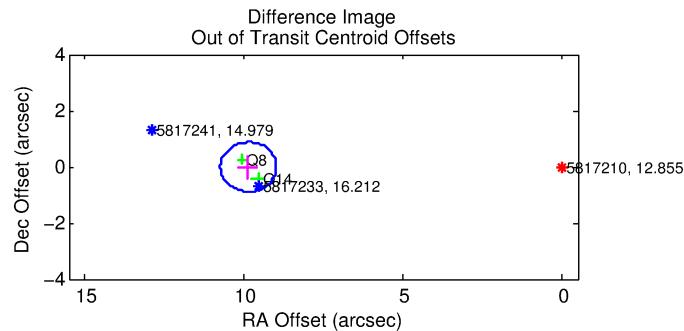
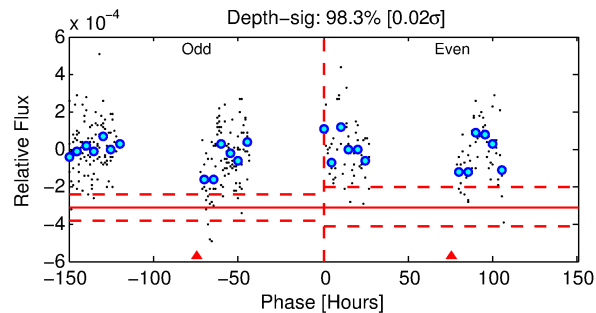
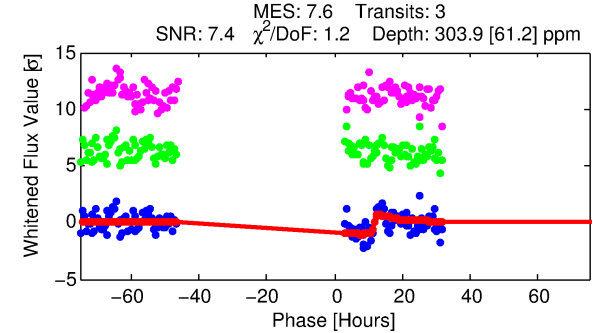
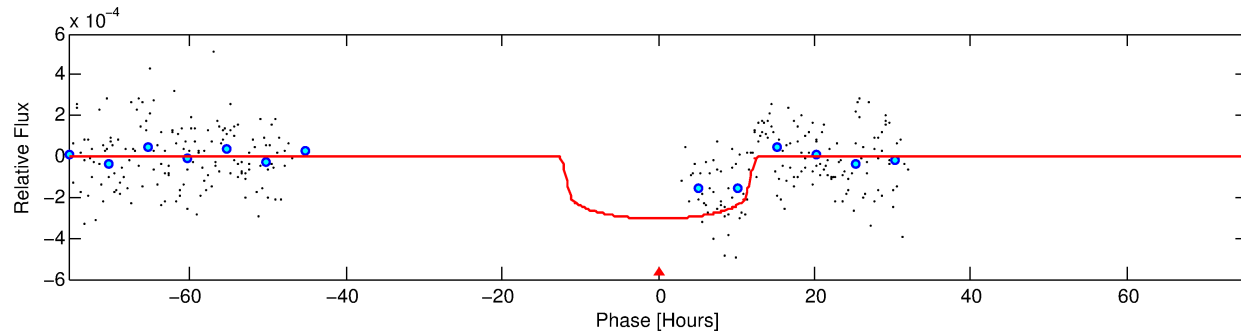
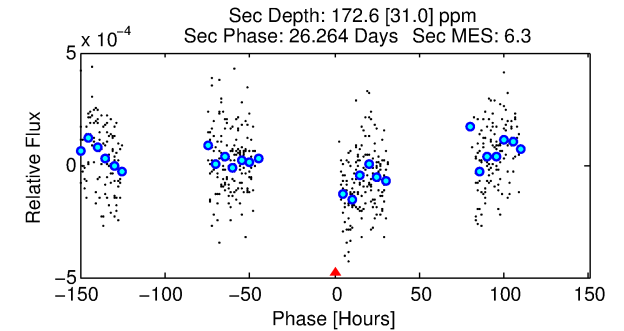
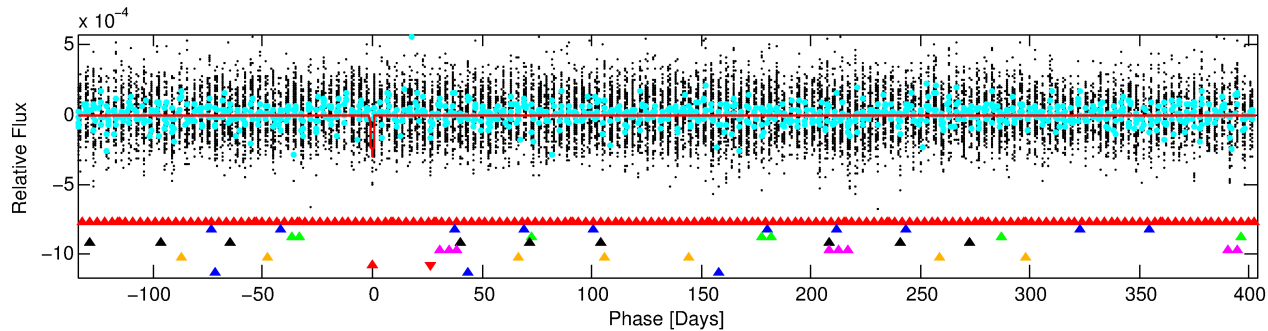
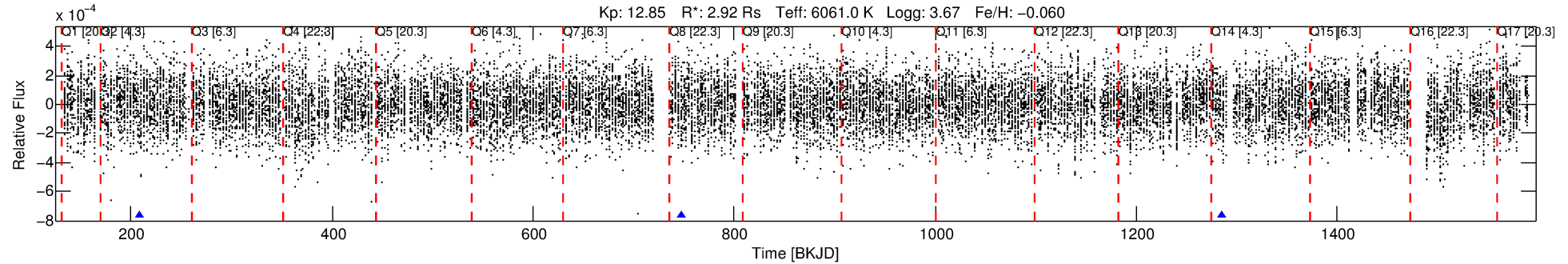
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-07

No Significant Match Found

DV One-Page Summary

KIC: 5817210 Candidate: 7 of 8 Period: 538.249 d



DV Fit Results:

Period = 538.24949 [0.01790] d
Epoch = 209.0362 [0.2253] BKJD
Rp/R* = 0.0181 [0.0033]
a/R* = 92.52 [86.48]
b = 0.85 [0.20]
Seff = 4.75 [2.84]
Teq = 376 [56] K
Rp = 5.76 [2.57] Re
a = 1.4726 [0.5526] AU
Ag = 6202.37 [4418.80] [1.40σ]
Teffp = 5164 [547] K [8.71σ]

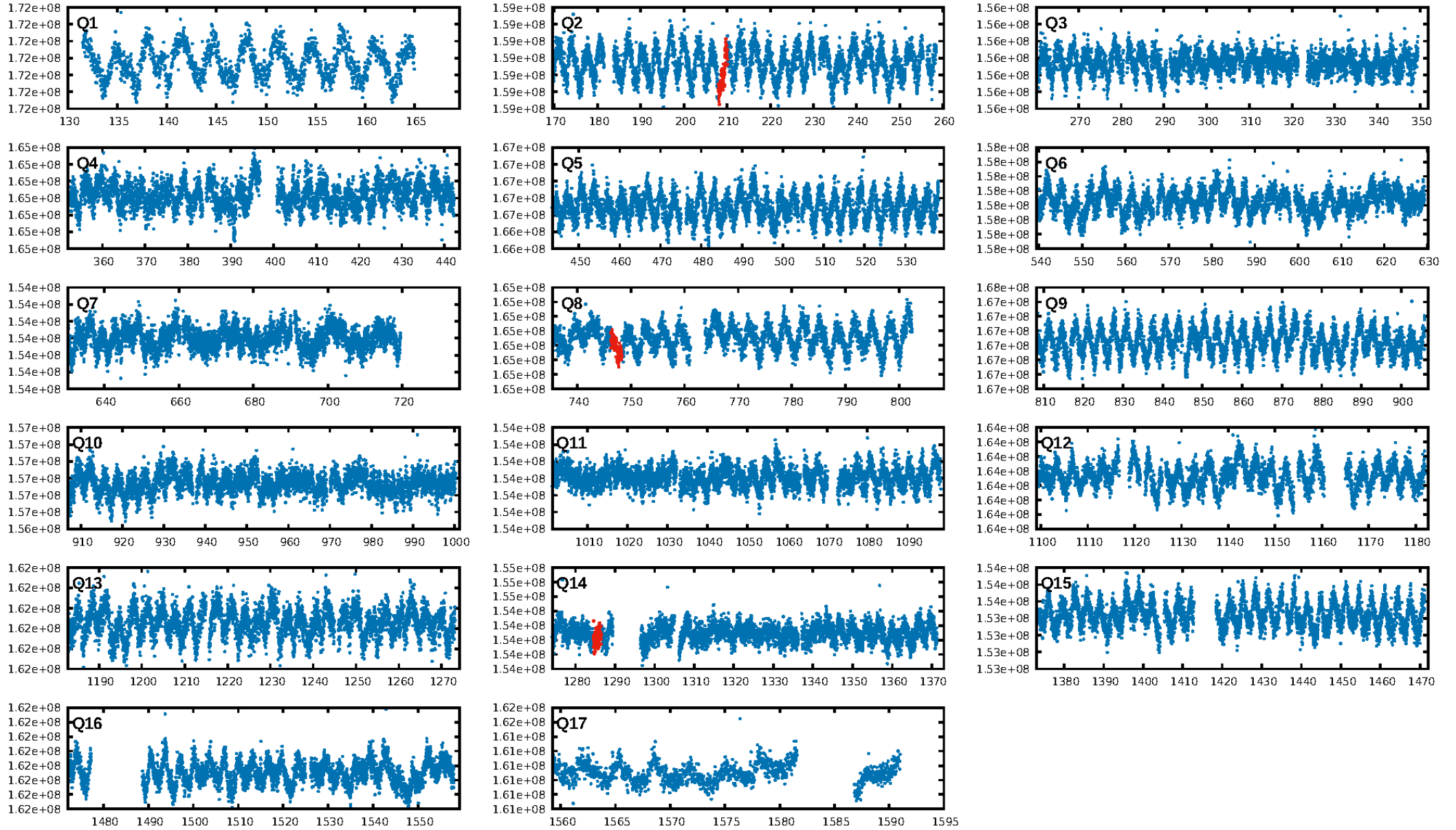
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [305.85σ]
LongPeriod-sig: 100.0% [96.43σ]
ModelChiSquare2-sig: 59.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.10e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 9.865
Centroid-sig: 23.0%
Centroid-so: 0.592 arcsec [0.44σ]
OotOffset-rm: 9.855 arcsec [33.46σ]
KicOffset-rm: 9.908 arcsec [43.06σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.00 [0/3]

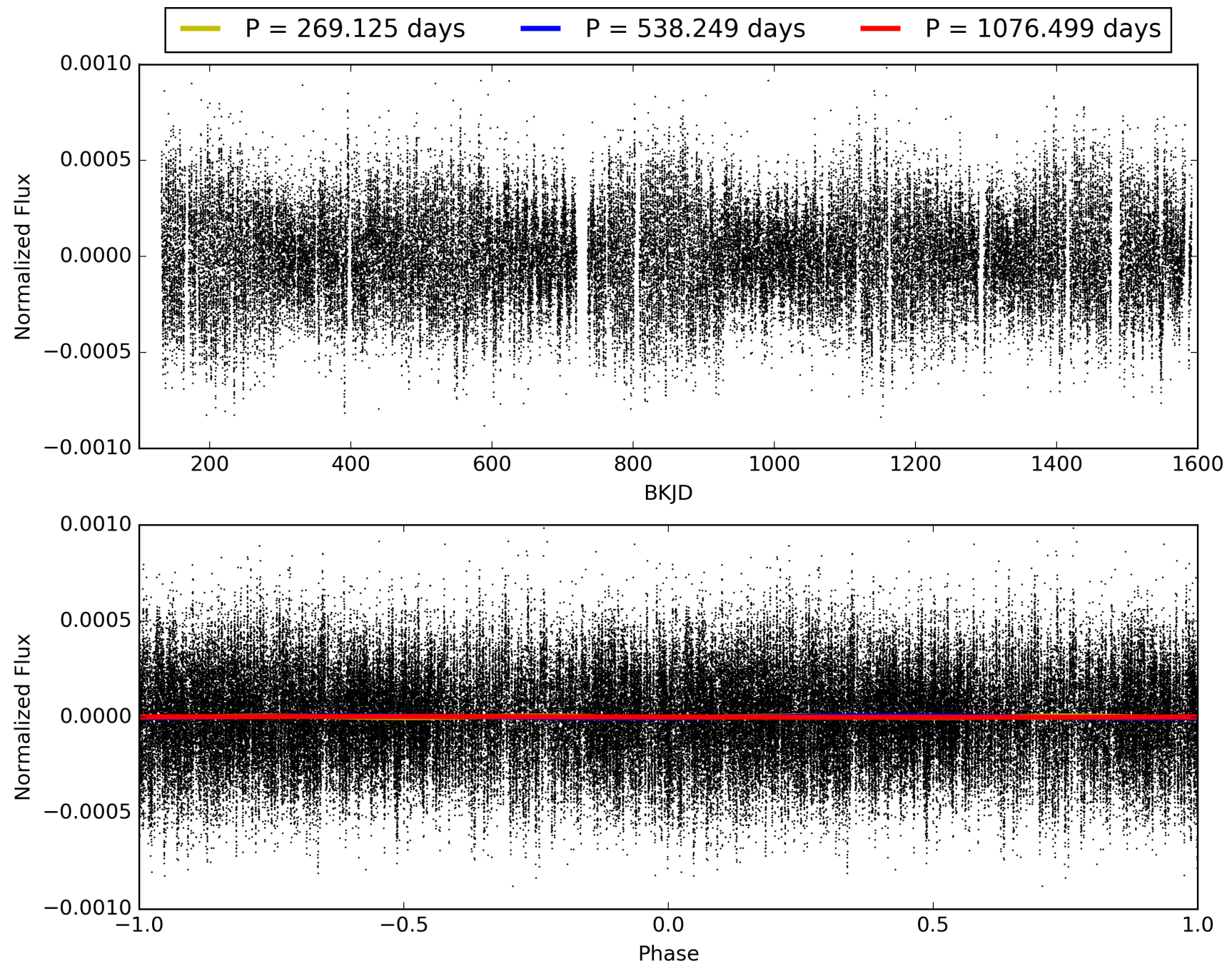
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:39 Z

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

TCE 005817210-07, PDC Light Curves

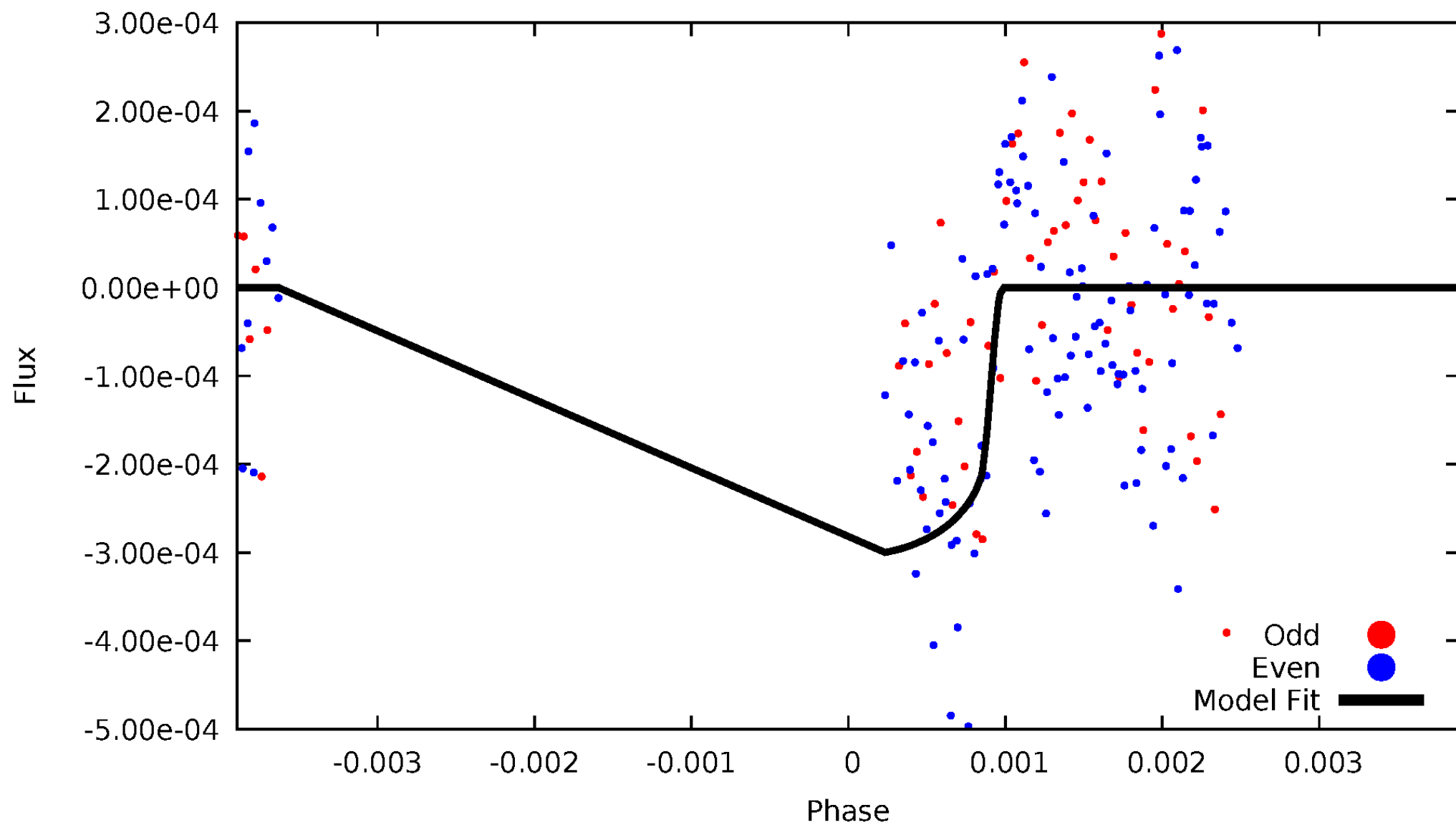


TCE 005817210-07



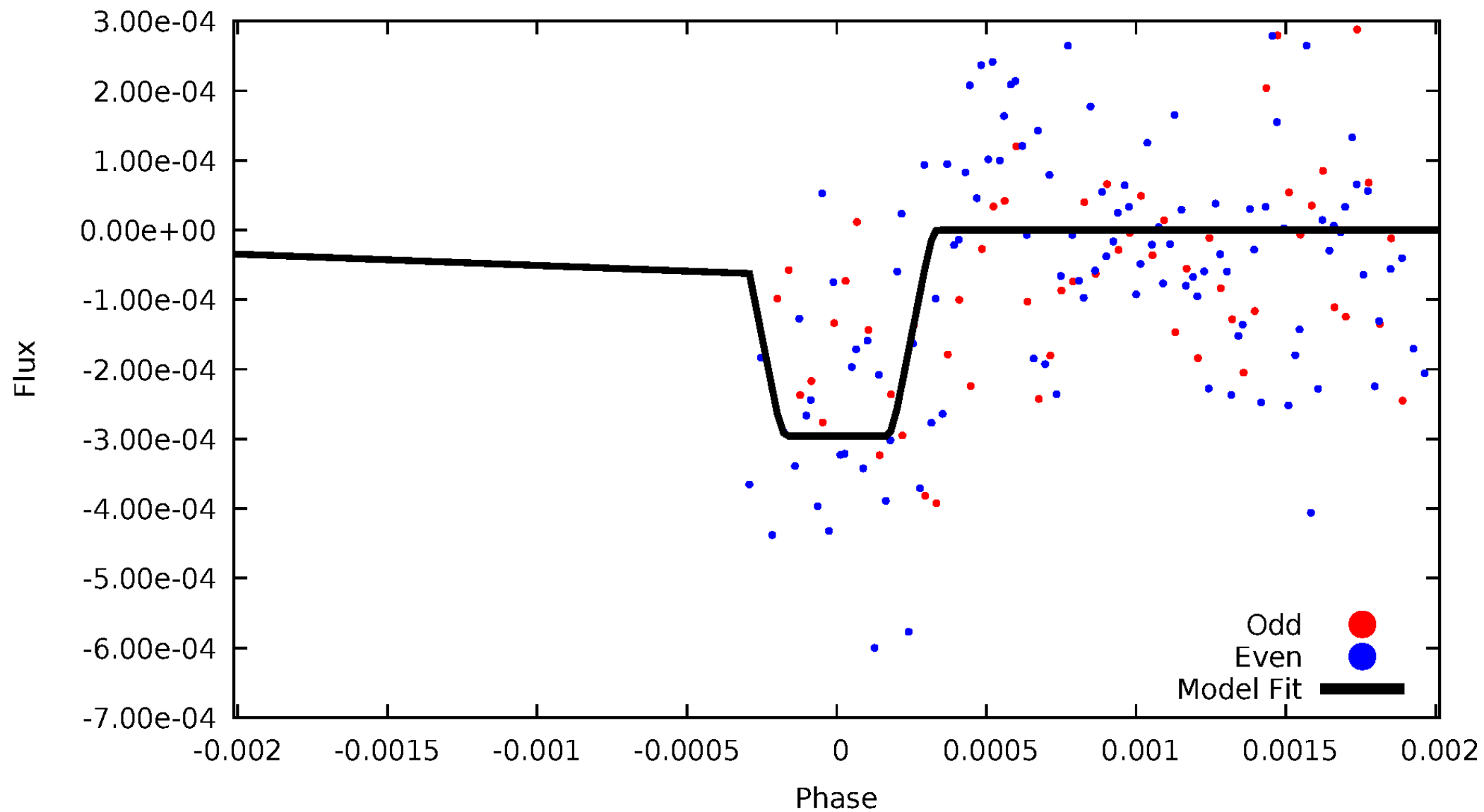
DV Odd/Even

TCE 005817210-07



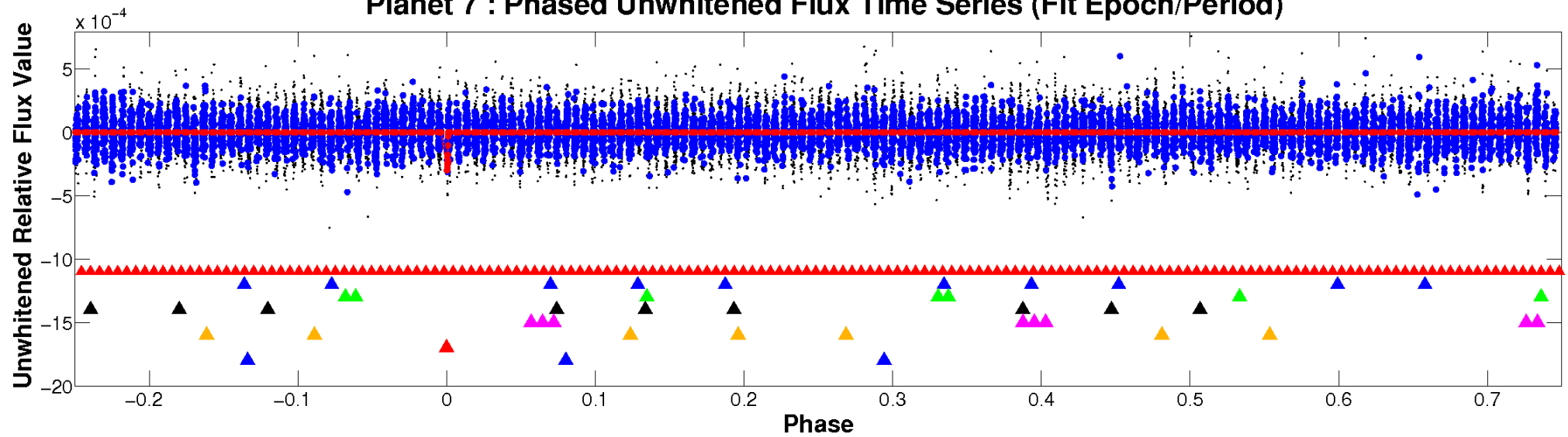
ALT Odd/Even

TCE 005817210-07

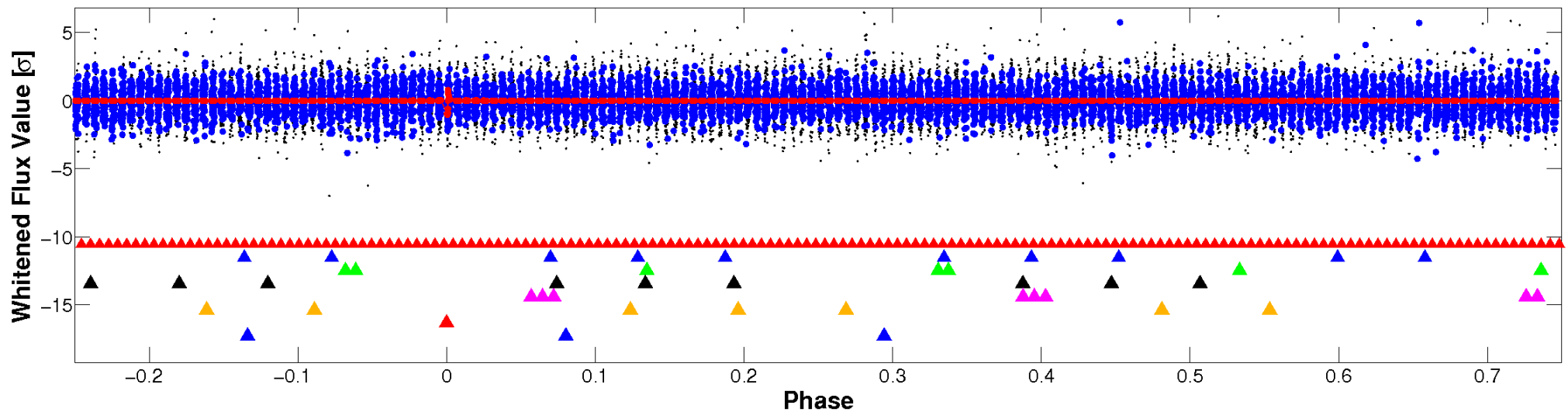


Non-Whitened Vs. Whitened Light Curve

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

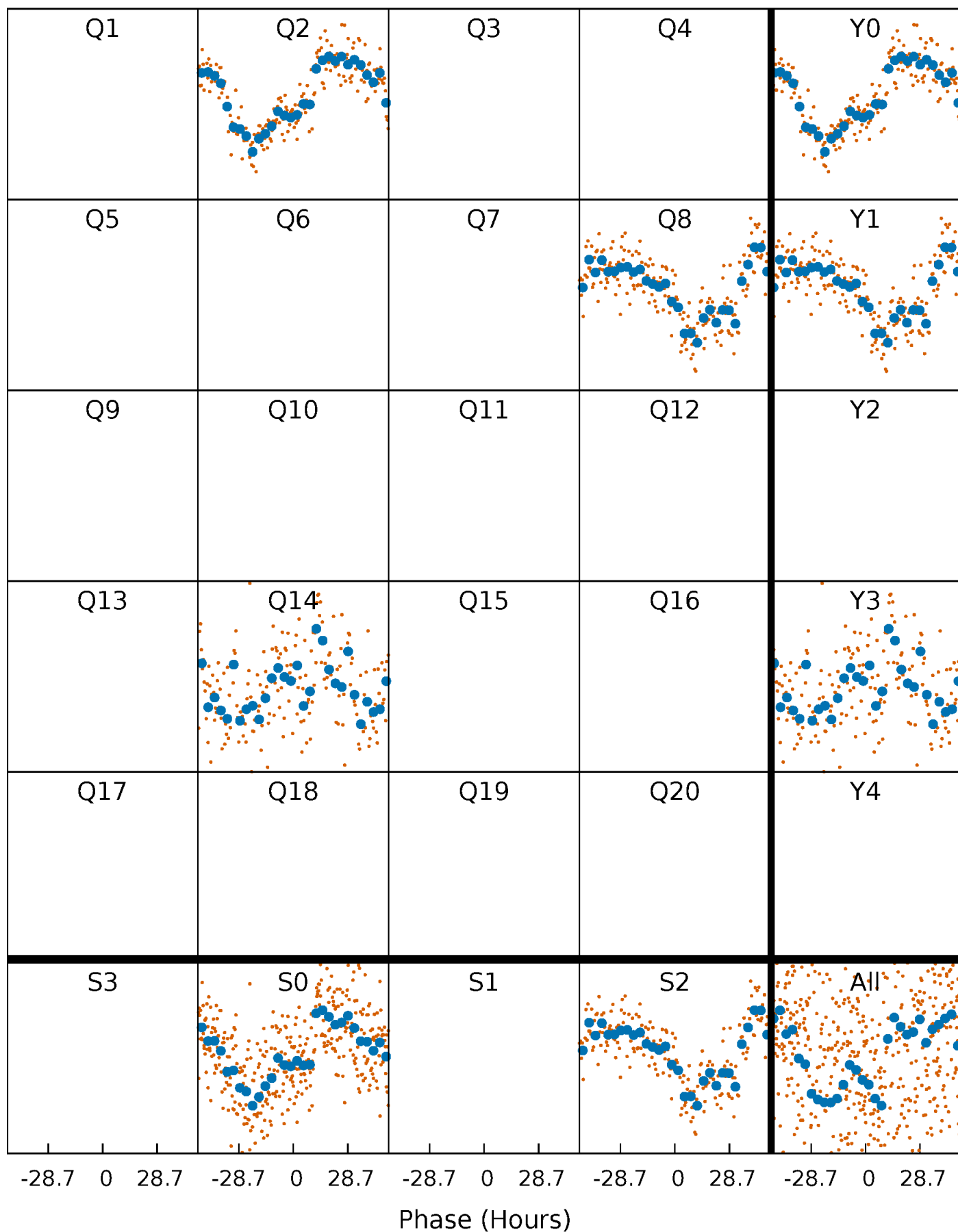


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



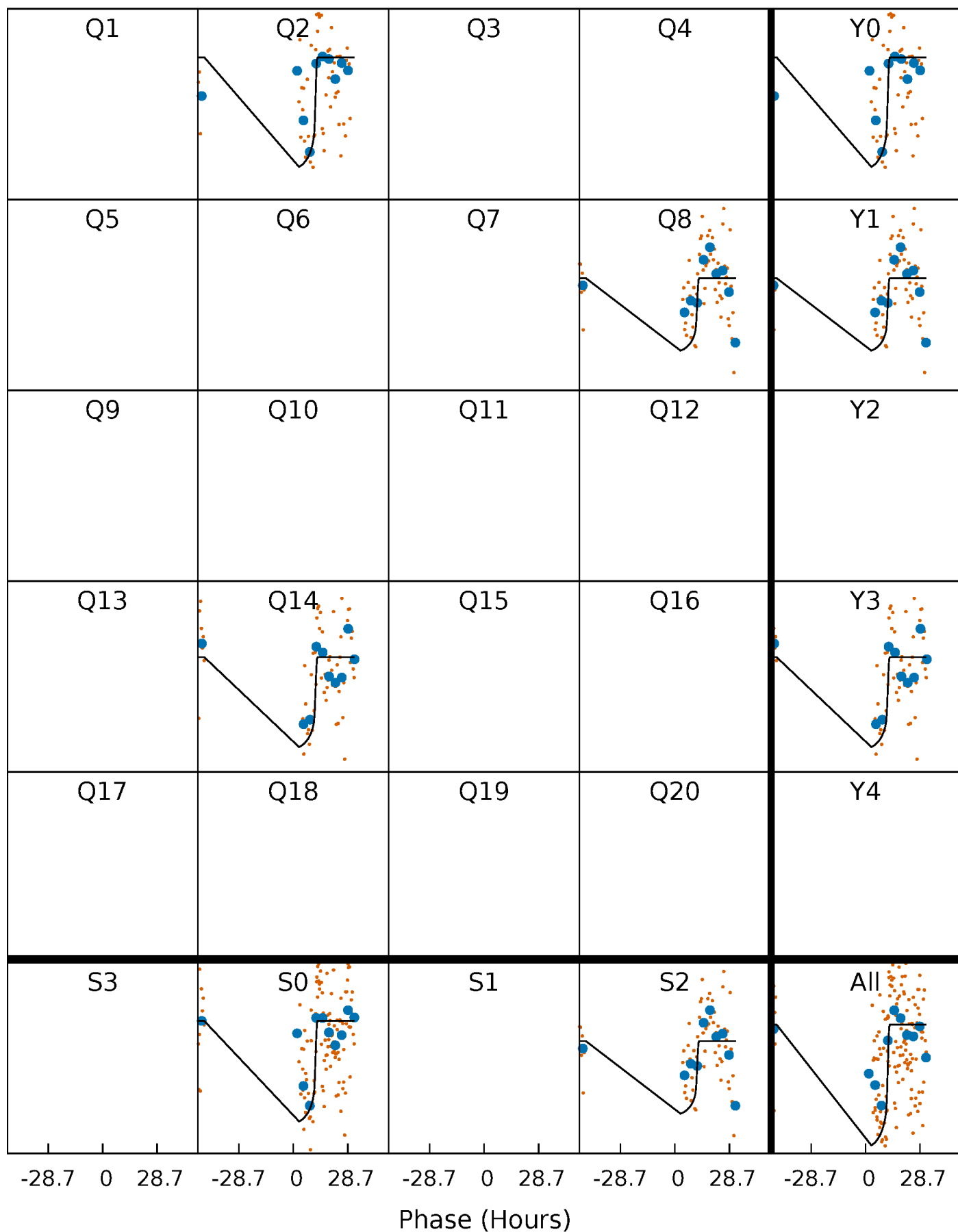
PDC Quarter-Phased Transit Curves

TCE 005817210-07 P=538.249487 Days $T_0=209.036189$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005817210-07 P=538.249487 Days $T_0=209.036189$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

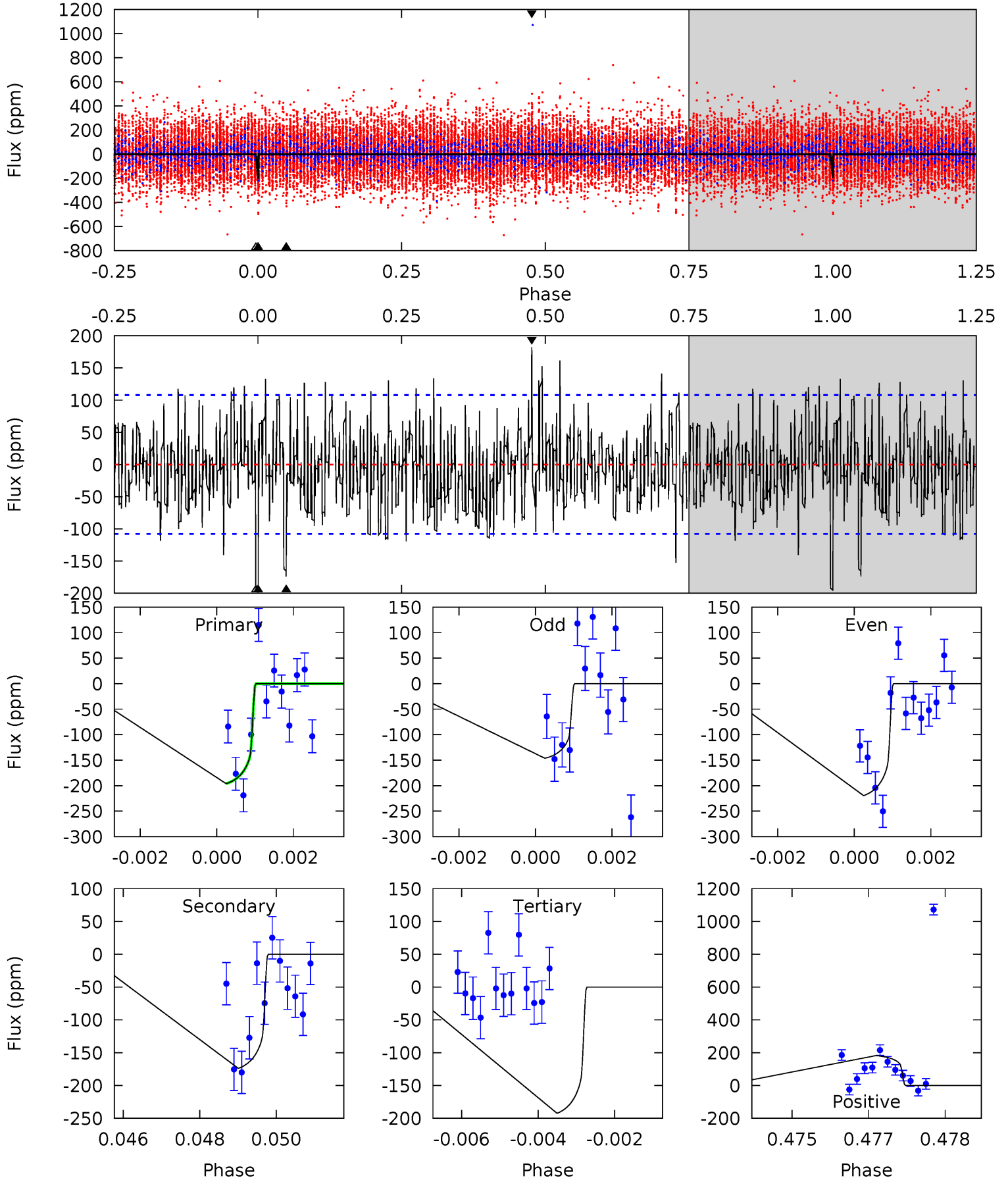
TCE 005817210-07 P=538.247215 Days $T_0=209.319035$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-07, P = 538.249487 Days, E = 209.036189 Days

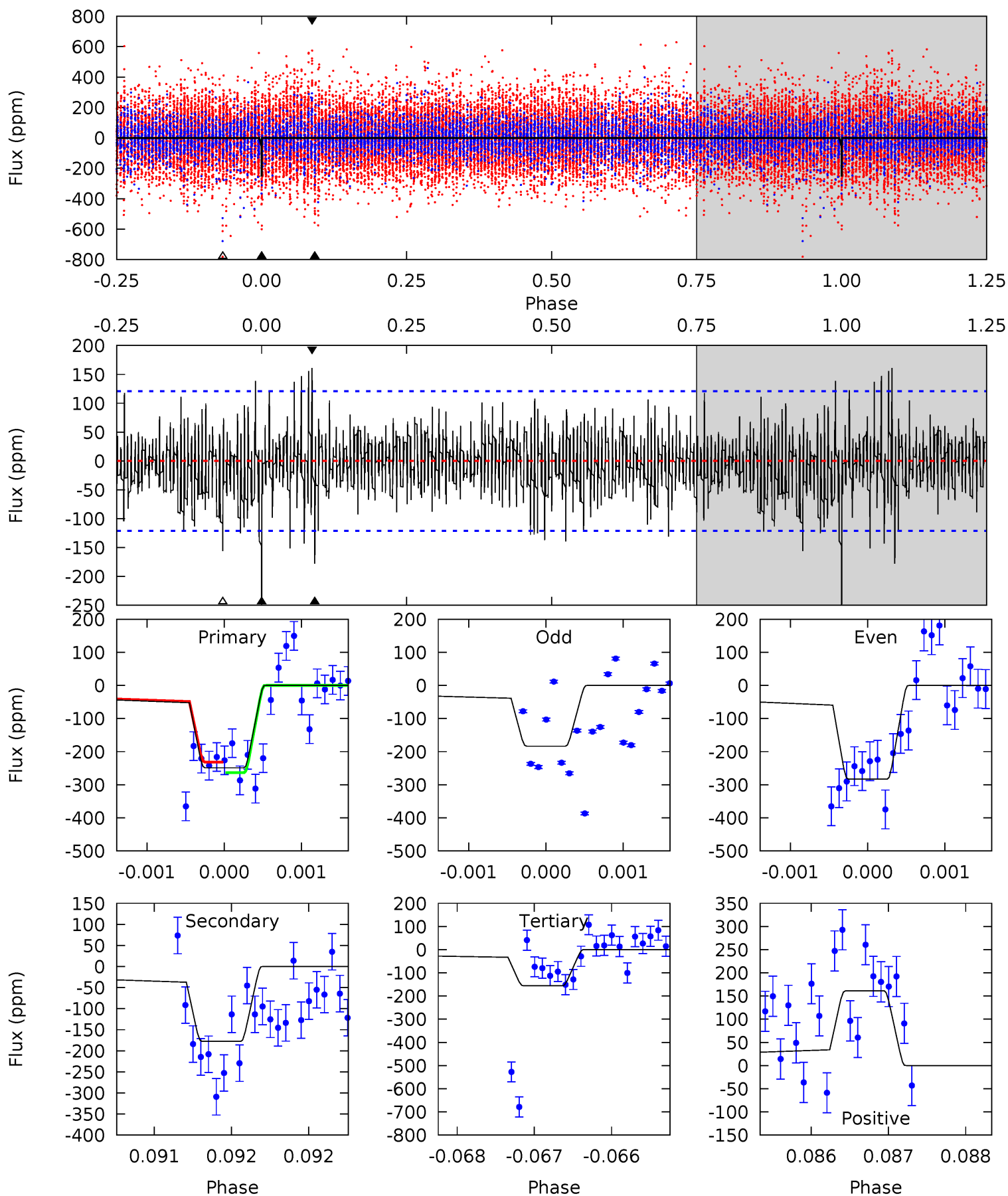
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.69	8.59	9.50	9.00	5.33	3.10	2.30	0.18	0.69	-0.91	-0.41	1.71	0.95	0.48	0



Alt Model-Shift Uniqueness Test

005817210-07, P = 538.247215 Days, E = 209.319035 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	8.12	7.13	7.36	5.53	3.41	1.90	4.24	4.02	0.99	0.76	2.18	1.32	0.39	0.71



Stellar Parameters For KIC 005817210

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-174 ± 20	$5.36^{+1.38}_{-1.32}$	516^{+30}_{-48}	5232^{+514}_{-414}	7227^{+4906}_{-2706}
Alt.	-178 ± 22	$5.17^{+1.32}_{-1.36}$	516^{+33}_{-48}	5375^{+567}_{-427}	7986^{+6165}_{-2819}

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

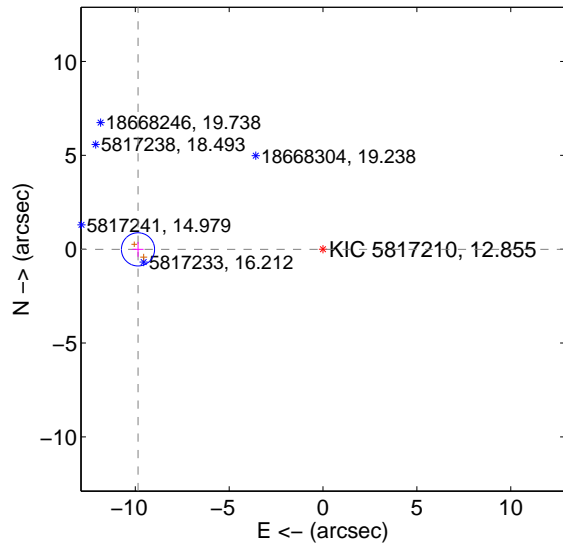
Supplemental centroid analysis for 005817210-07. Kepler magnitude: 12.86. Transit SNR 7.44

There are 0 quarters with good PRF difference image offsets

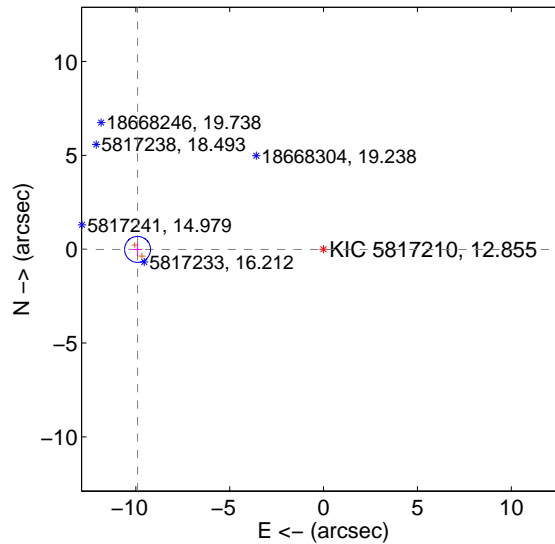
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.855 ± 0.295	33.46	9.855 ± 0.295	-0.010 ± 0.397
PRF-fit source offset from KIC position	9.908 ± 0.230	43.06	9.908 ± 0.230	-0.013 ± 0.341
photometric centroid source offset	0.59 ± 1.34	0.44	-0.26 ± 2.56	0.53 ± 0.84

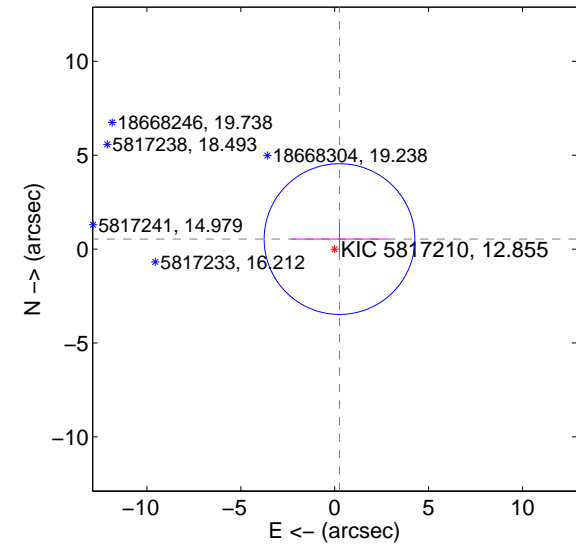
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

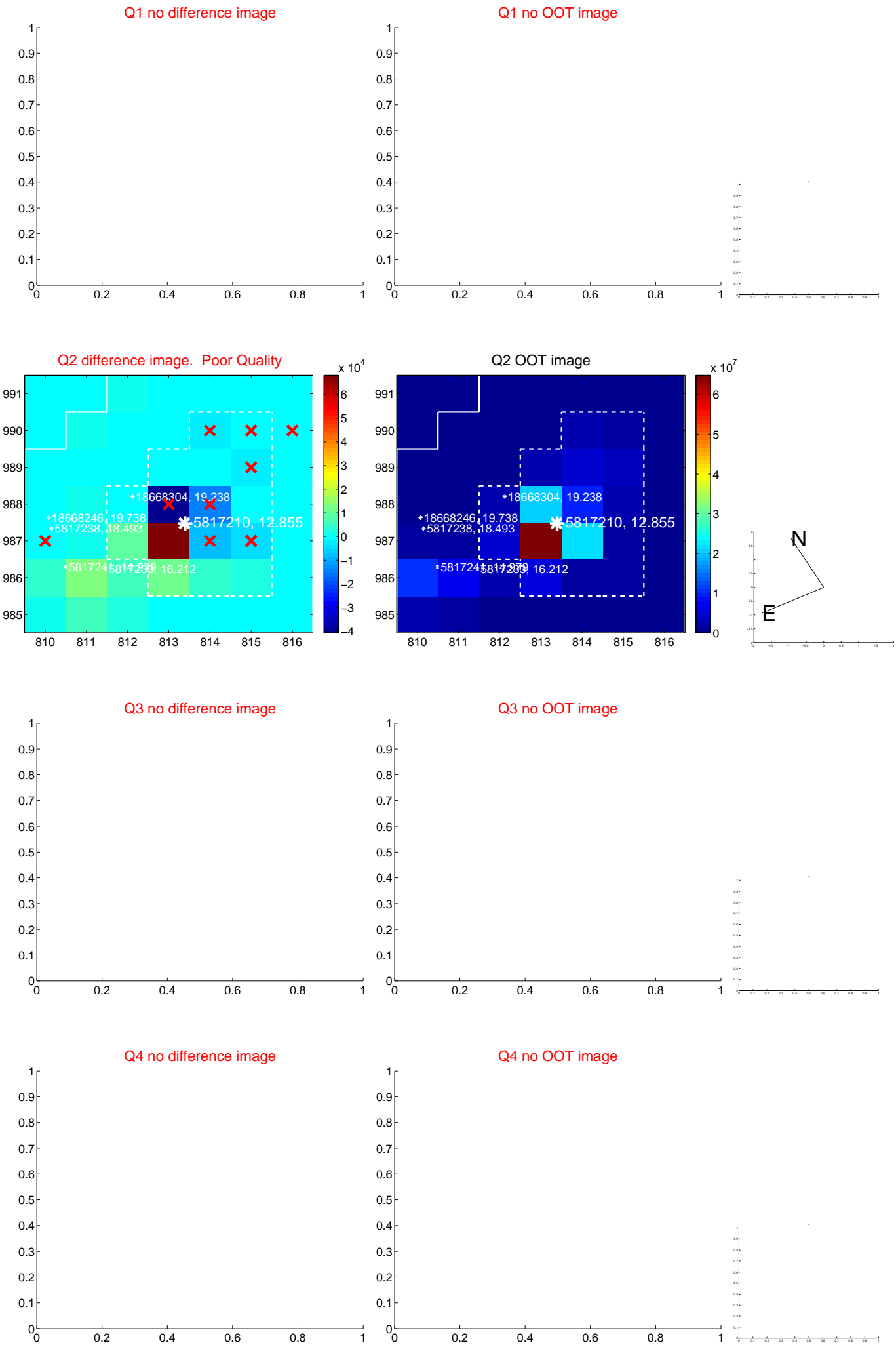


offset from photometric centroids

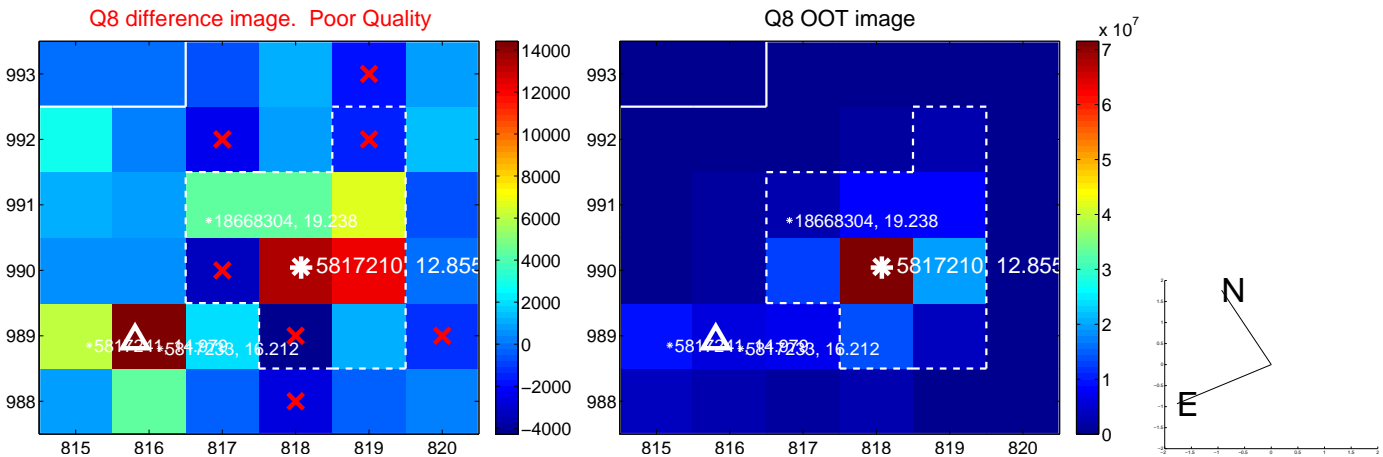
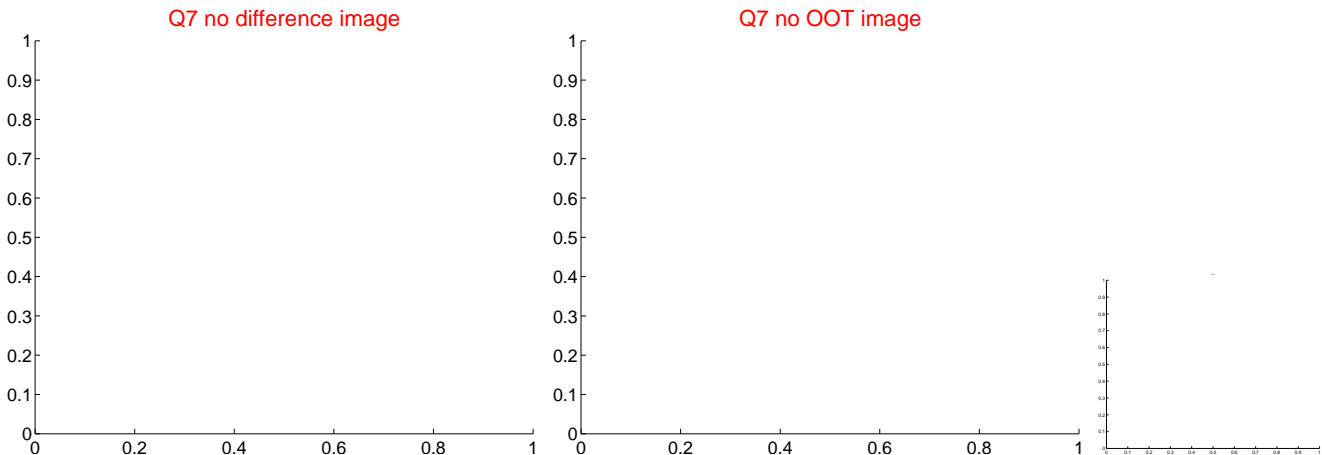
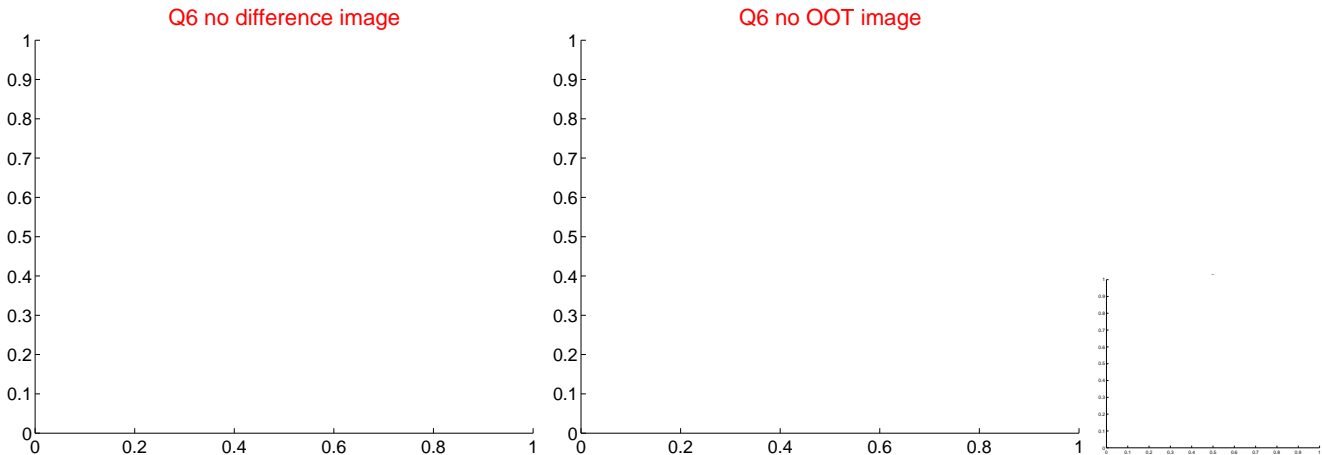
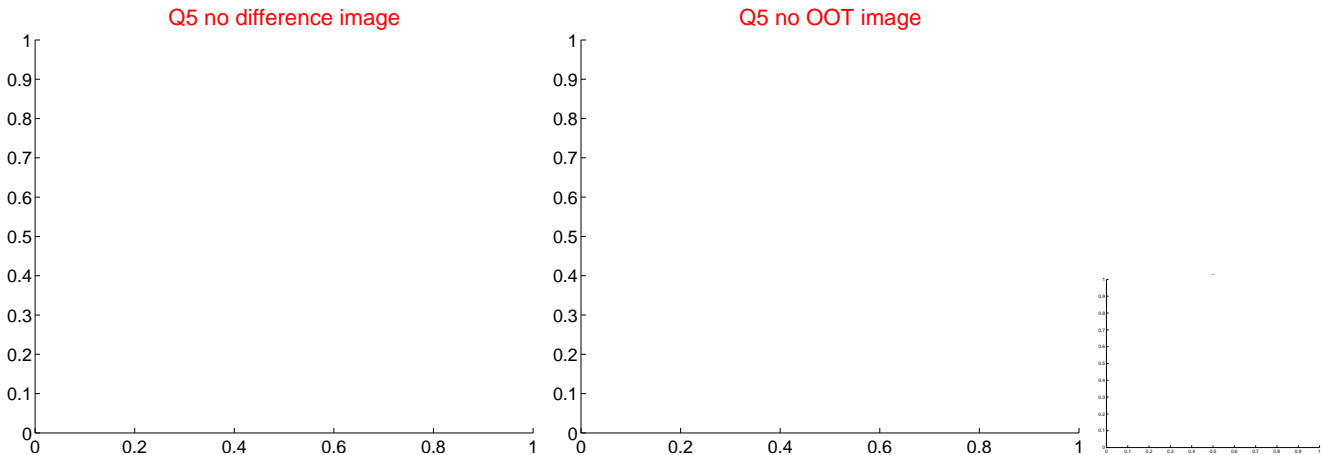


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



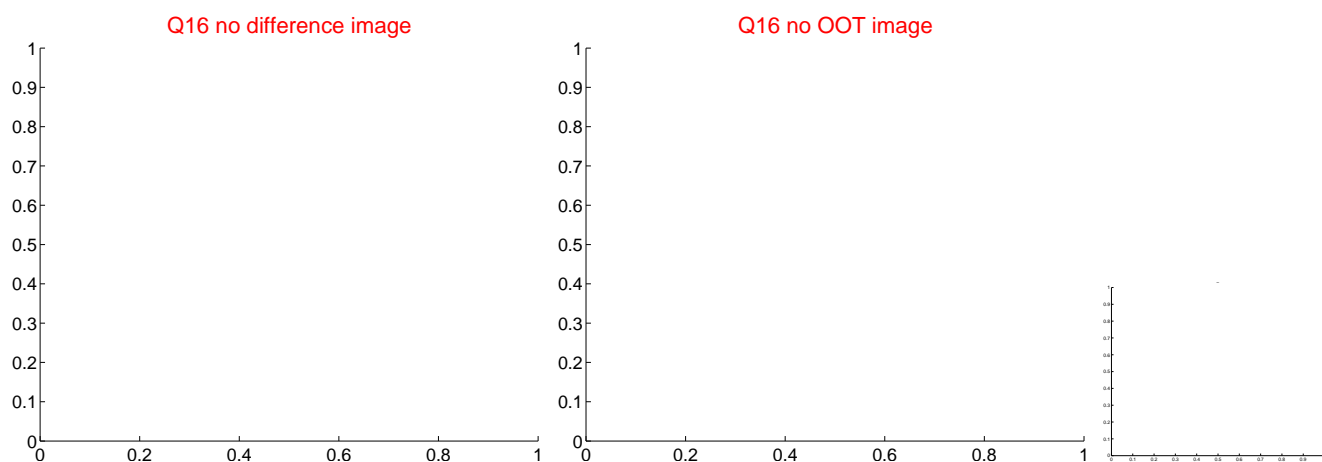
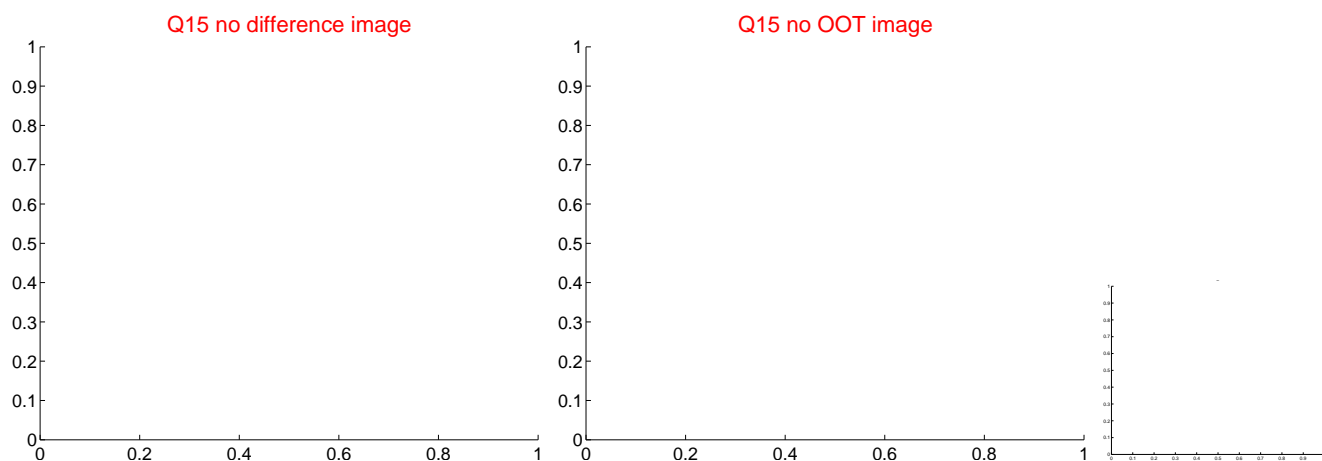
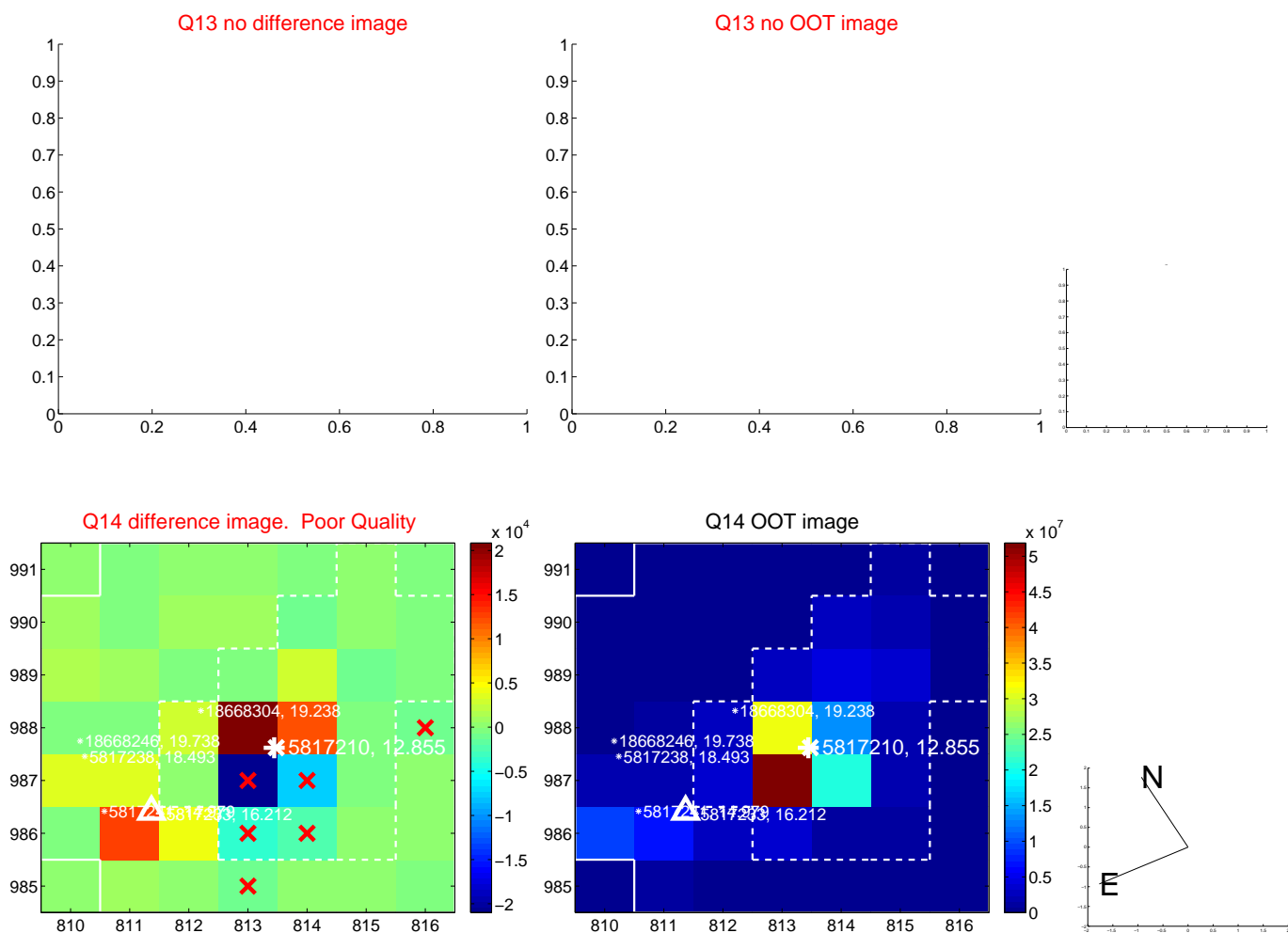
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



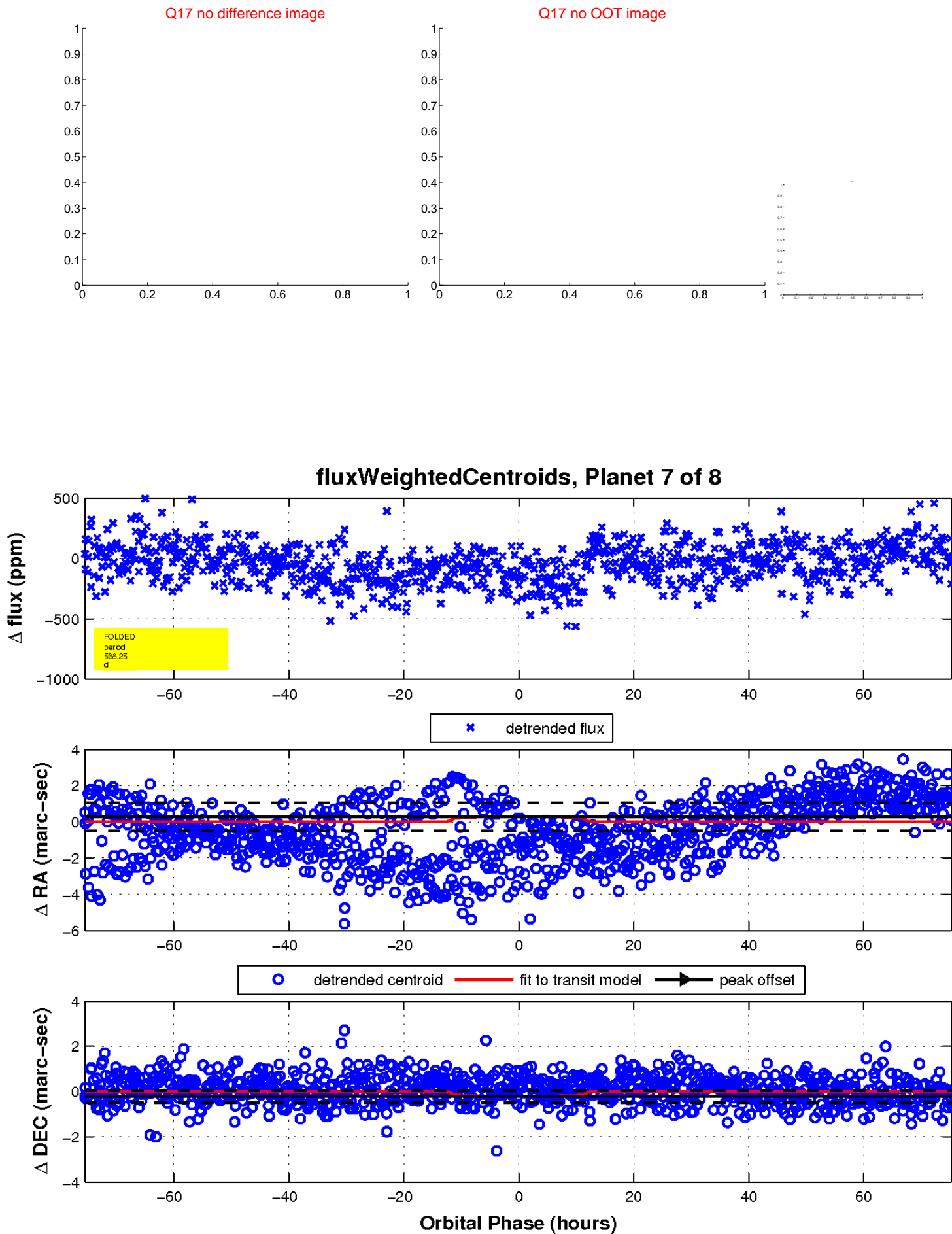
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

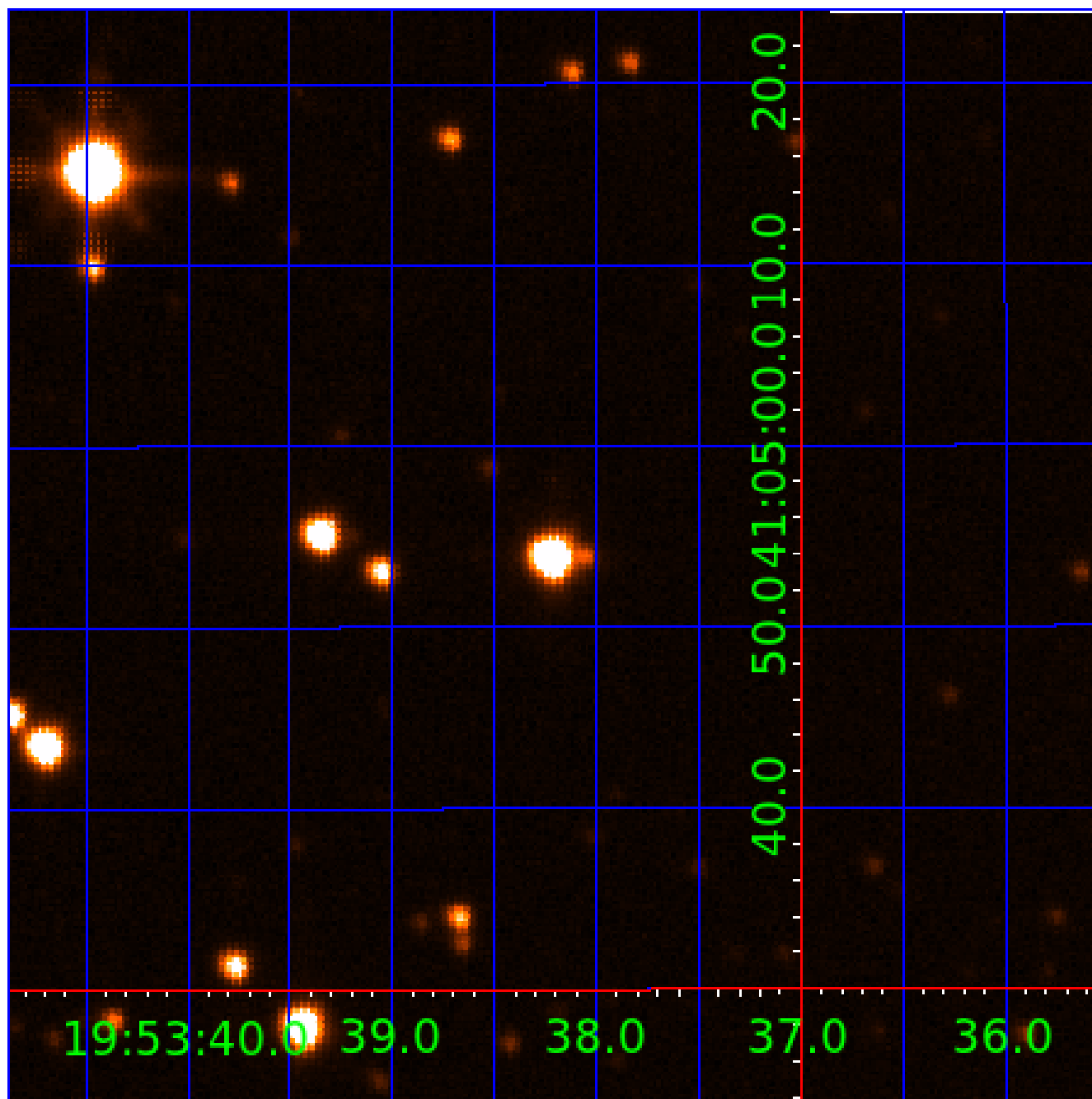


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005817210

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})
005817210-01	OBS	No	3.282245	132.595698	21.0	17.015	10.9	7.8	2.92	6061	1.33	4261.54
005817210-02	OBS	No	142.468035	246.659542	223.7	11.320	9.5	10.2	2.92	6061	5.61	27.94
005817210-03	OBS	No	214.556799	176.143016	298.0	3.549	8.9	8.0	2.92	6061	5.81	16.18
005817210-04	OBS	No	168.723409	144.341929	220.1	5.082	8.7	8.4	2.92	6061	4.90	22.30
005817210-05	OBS	No	178.058270	247.822659	225.3	3.950	8.5	8.5	2.92	6061	5.03	20.75
005817210-06	OBS	No	192.426020	275.572658	95.8	17.716	7.9	4.3	2.92	6061	3.04	18.71
005817210-07	OBS	No	538.249487	209.036189	303.9	25.151	7.6	7.4	2.92	6061	5.76	4.75
005817210-08	OBS	No	653.461104	137.012295	139.9	13.770	7.7	5.5	2.92	6061	3.84	3.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817210-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005817210-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
005817210-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005817210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005817210-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005817210-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

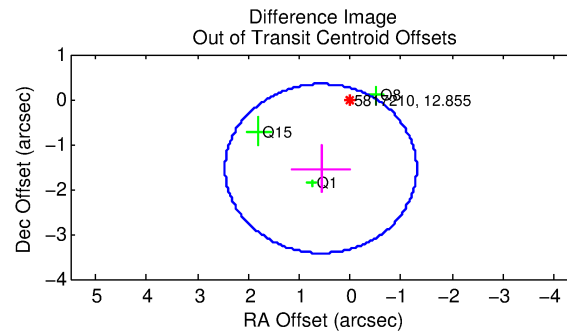
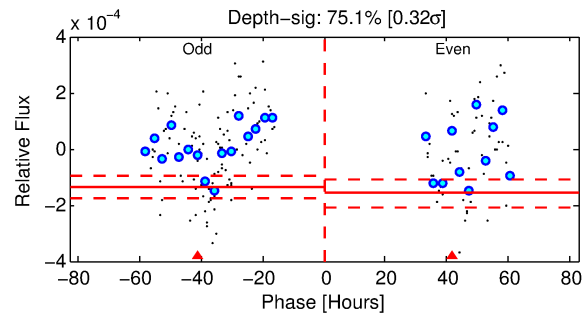
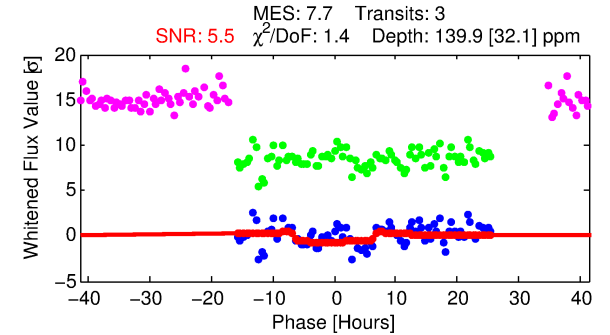
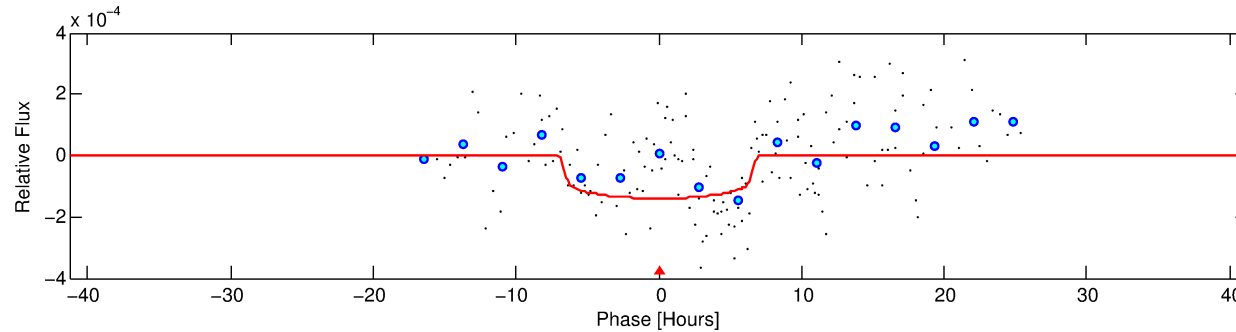
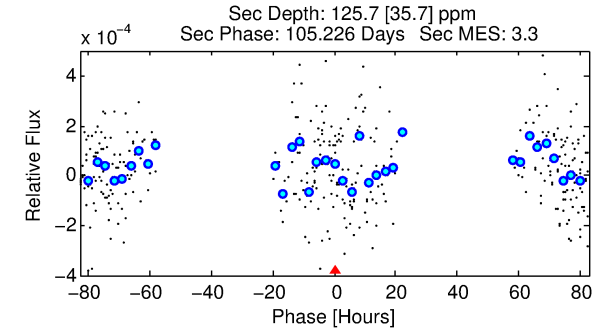
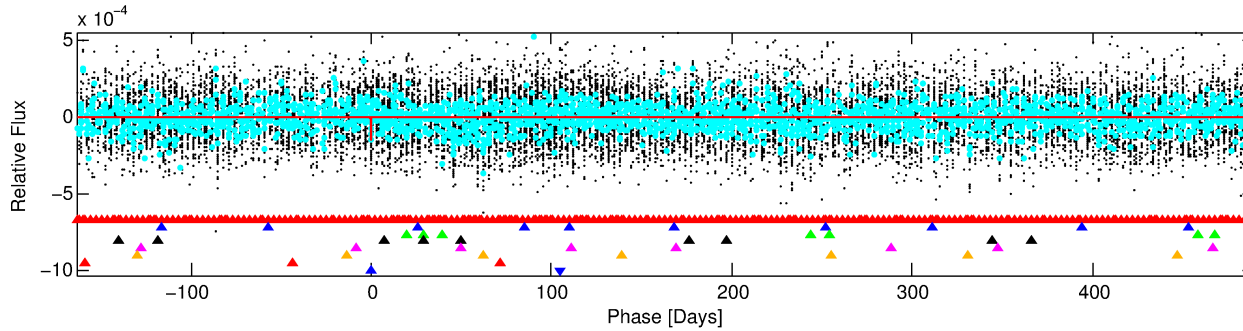
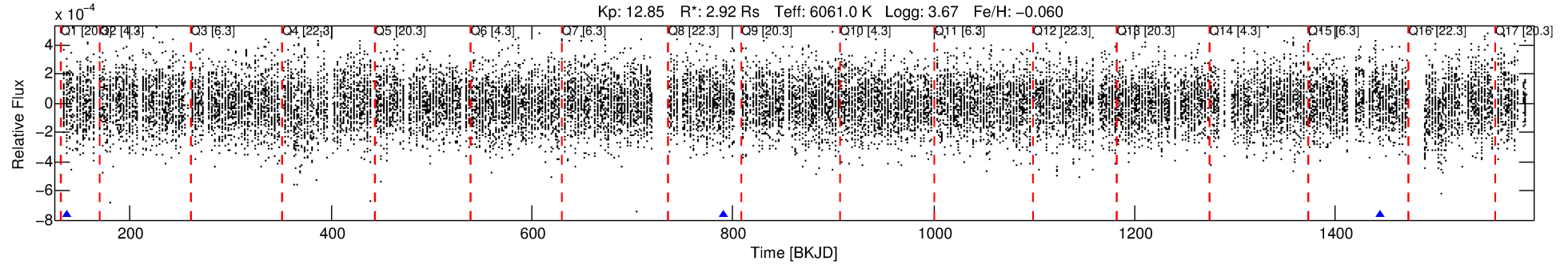
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817210-08

No Significant Match Found

DV One-Page Summary

KIC: 5817210 Candidate: 8 of 8 Period: 653.461 d



DV Fit Results:

Period = 653.46110 [0.02292] d
Epoch = 137.0123 [0.0374] BKJD
Rp/R* = 0.0121 [0.0047]
a/R* = 218.00 [401.74]
b = 0.81 [0.76]
Seff = 3.67 [2.19]
Teq = 353 [53] K
Rp = 3.84 [2.16] Re
a = 1.6758 [0.6289] AU
Ag = 13144.71 [13329.78] [0.99 σ]
Teffp = 5841 [1222] K [4.49 σ]

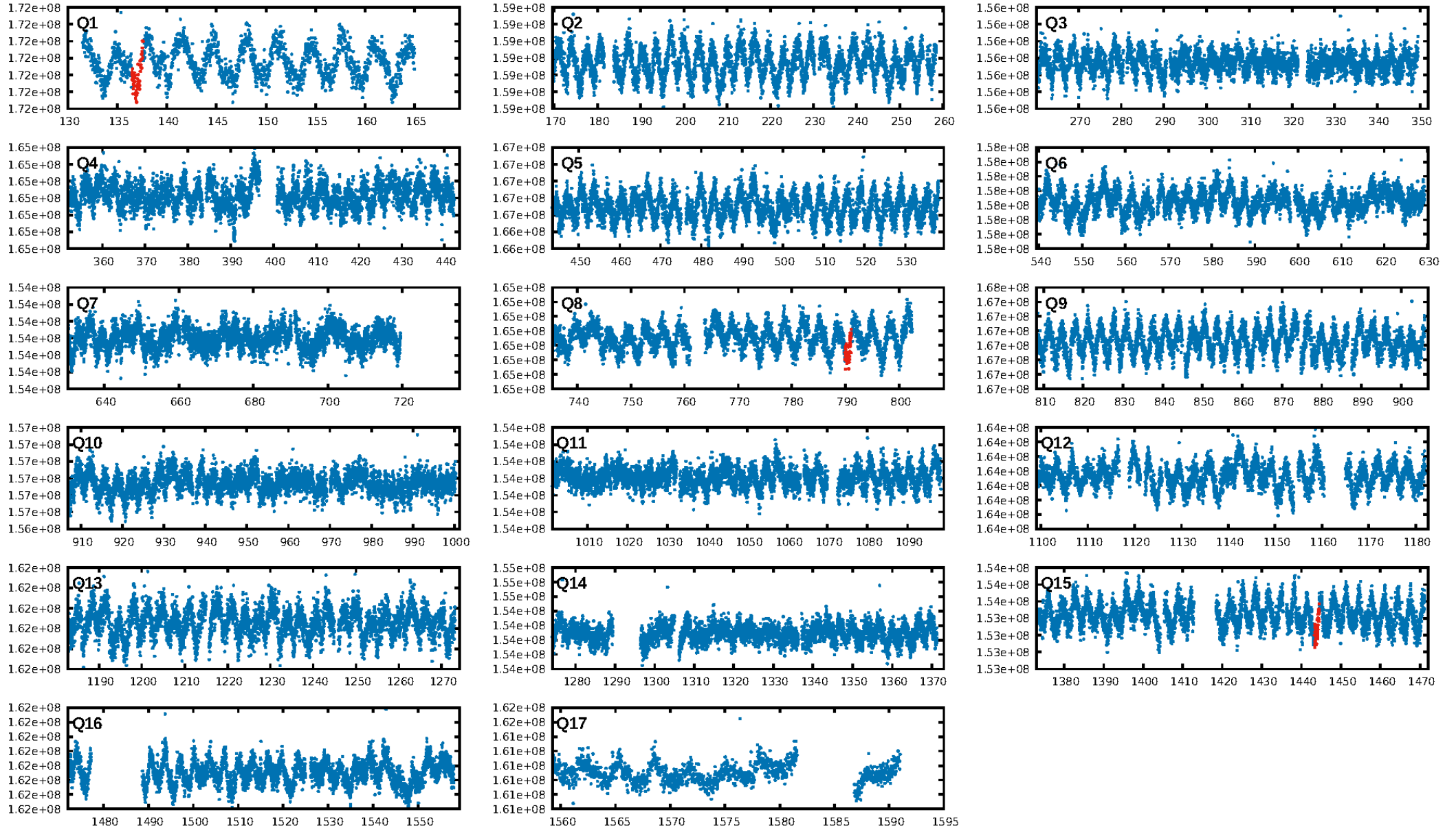
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [96.43 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.1%
ModelChiSquareGof-sig: 89.4%
Bootstrap-pfa: 3.96e-08
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.8615
Centroid-sig: 65.2%
Centroid-so: 0.948 arcsec [0.43 σ]
OotOffset-rm: 1.646 arcsec [2.62 σ]
KicOffset-rm: 1.680 arcsec [3.14 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

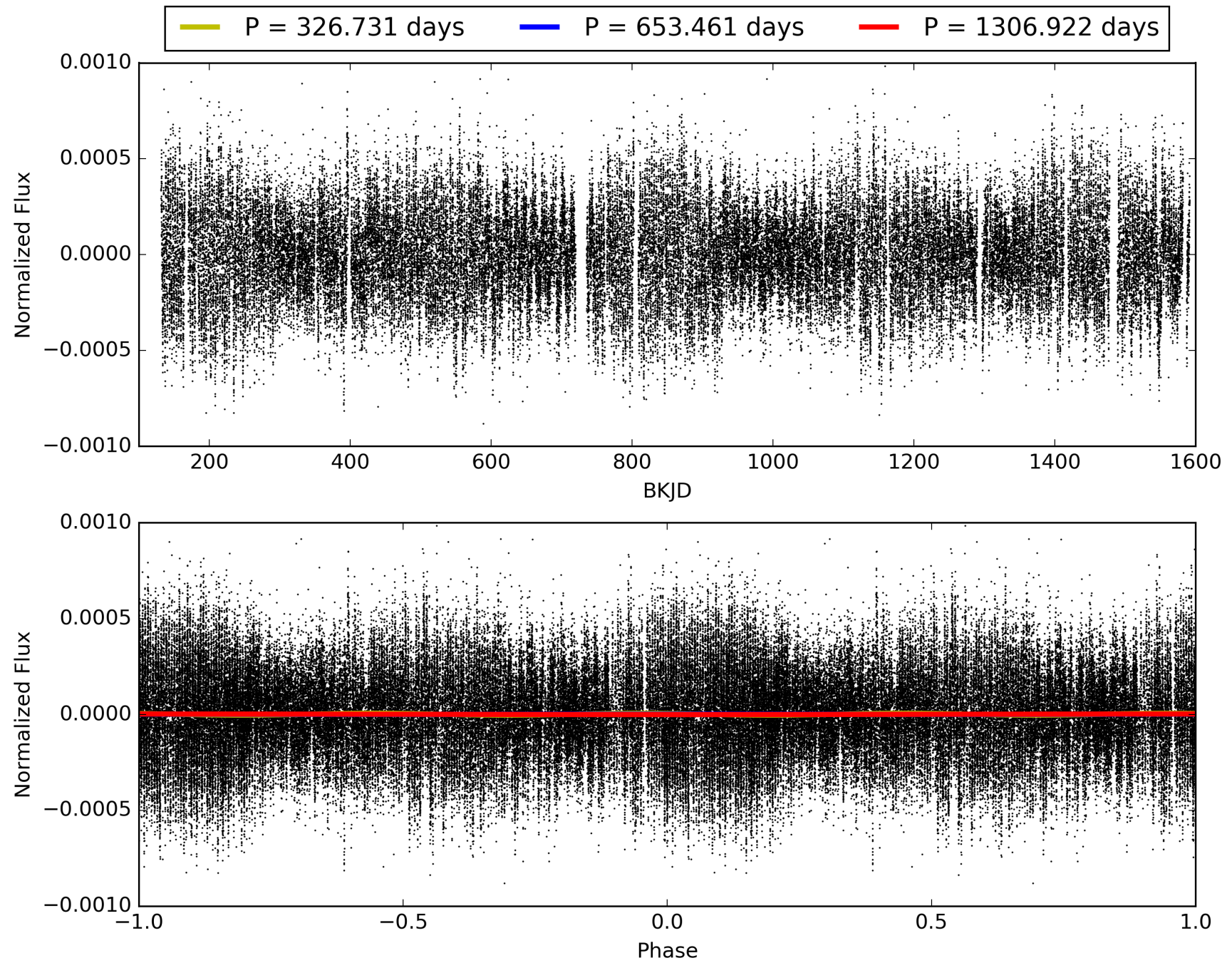
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:15:45 Z

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

TCE 005817210-08, PDC Light Curves

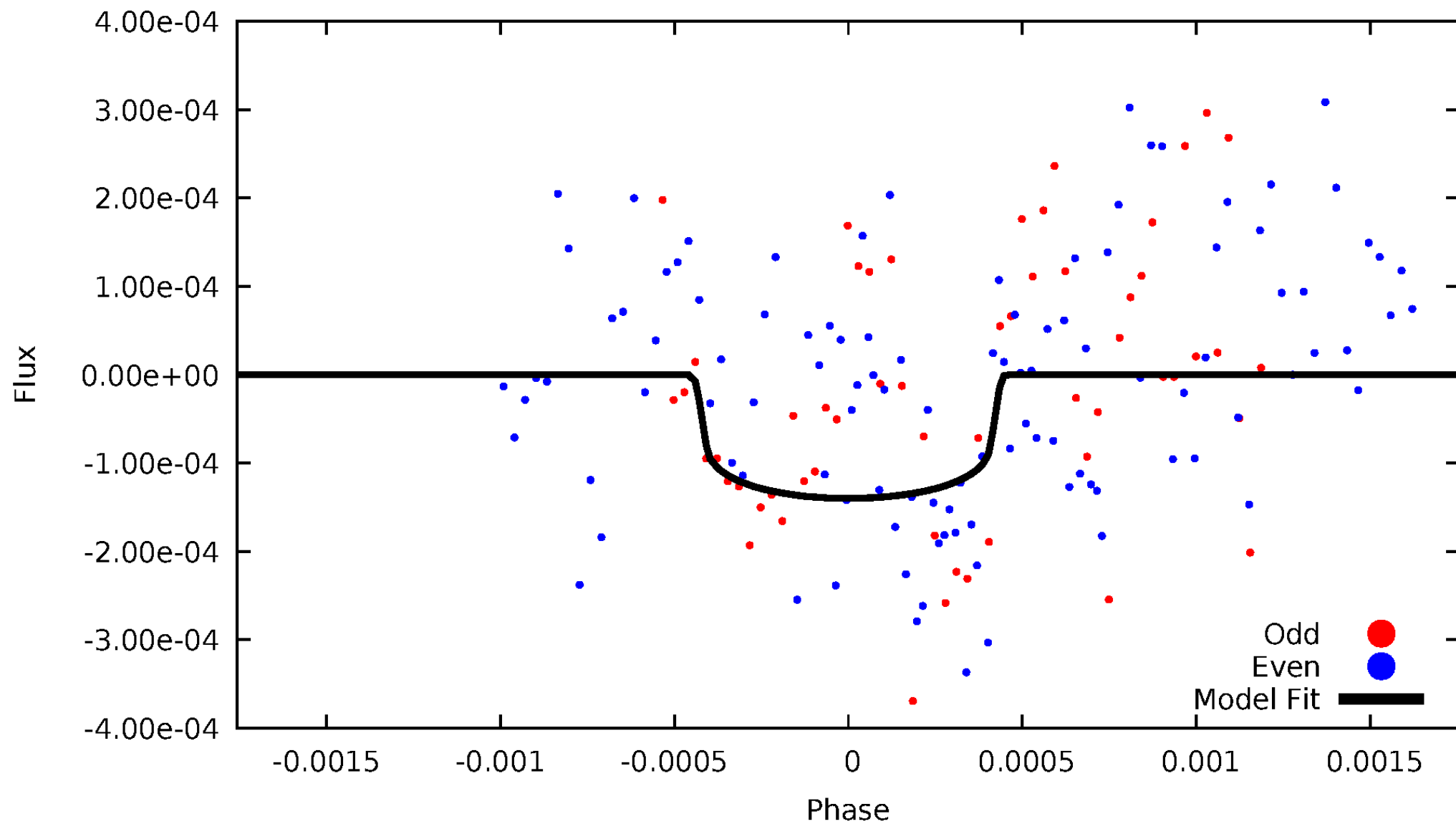


TCE 005817210-08



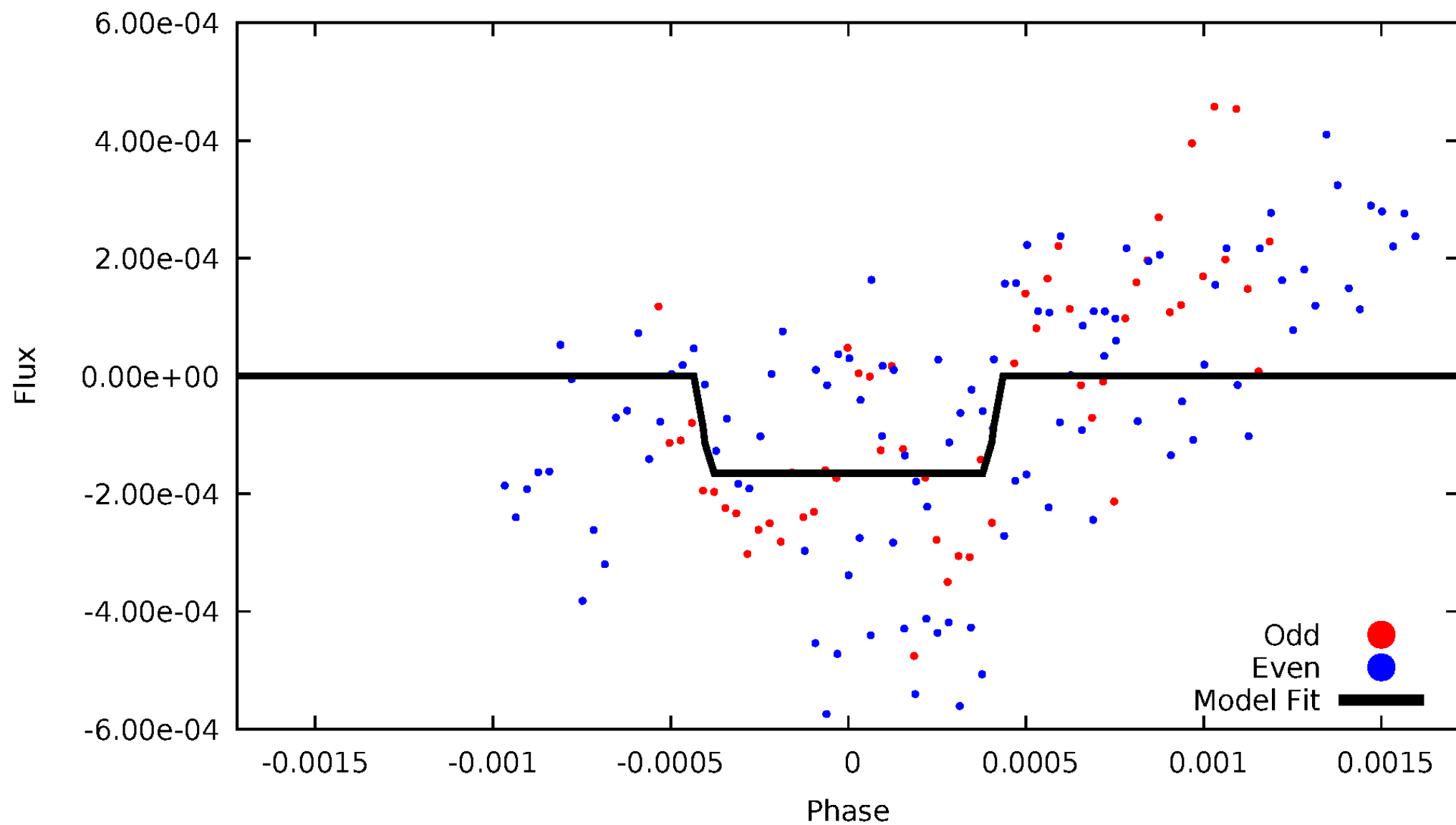
DV Odd/Even

TCE 005817210-08



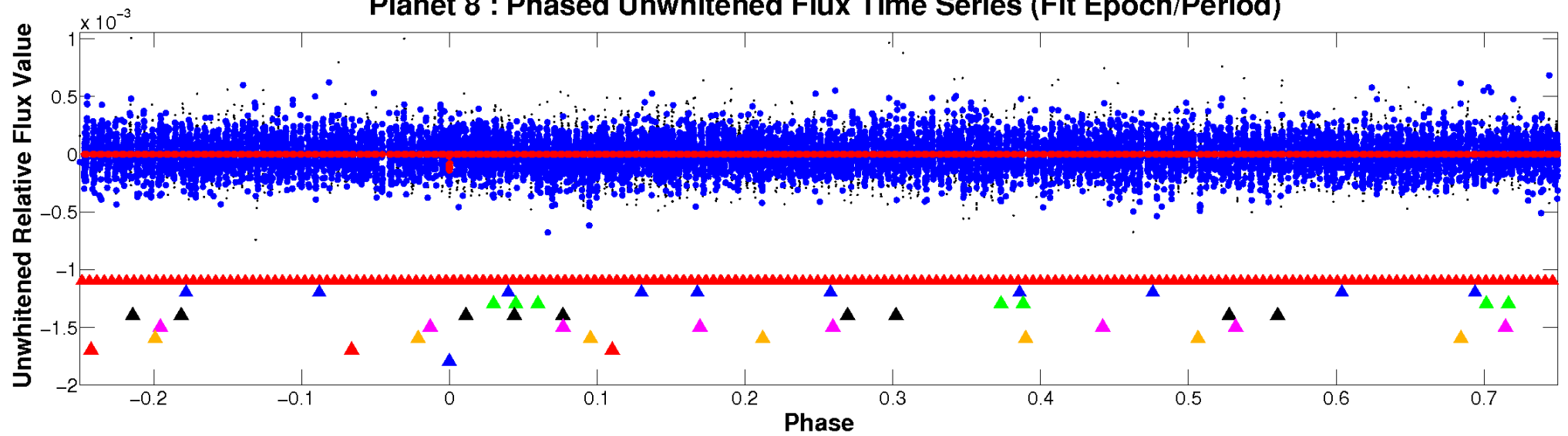
ALT Odd/Even

TCE 005817210-08

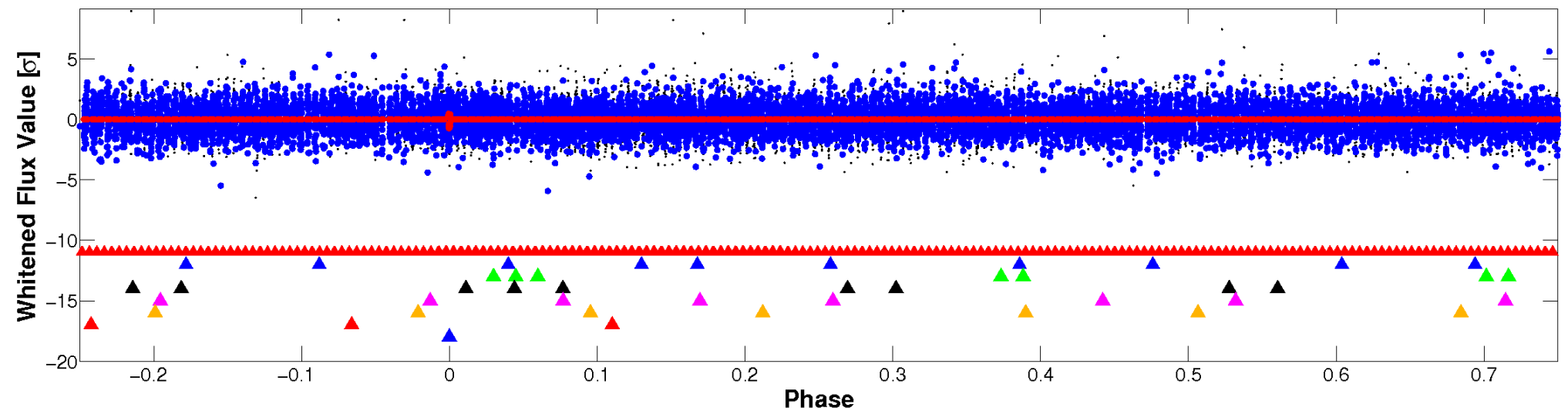


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

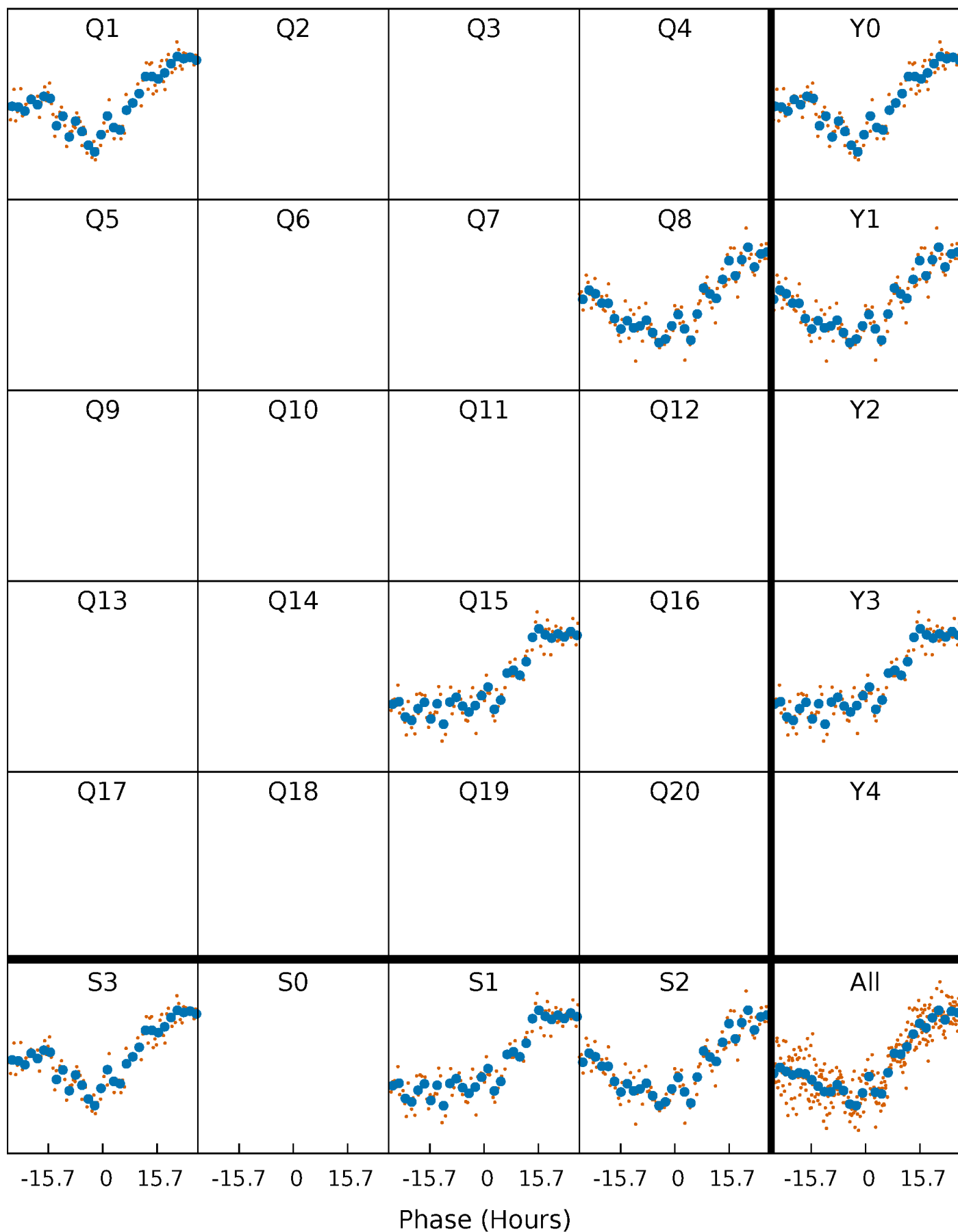


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



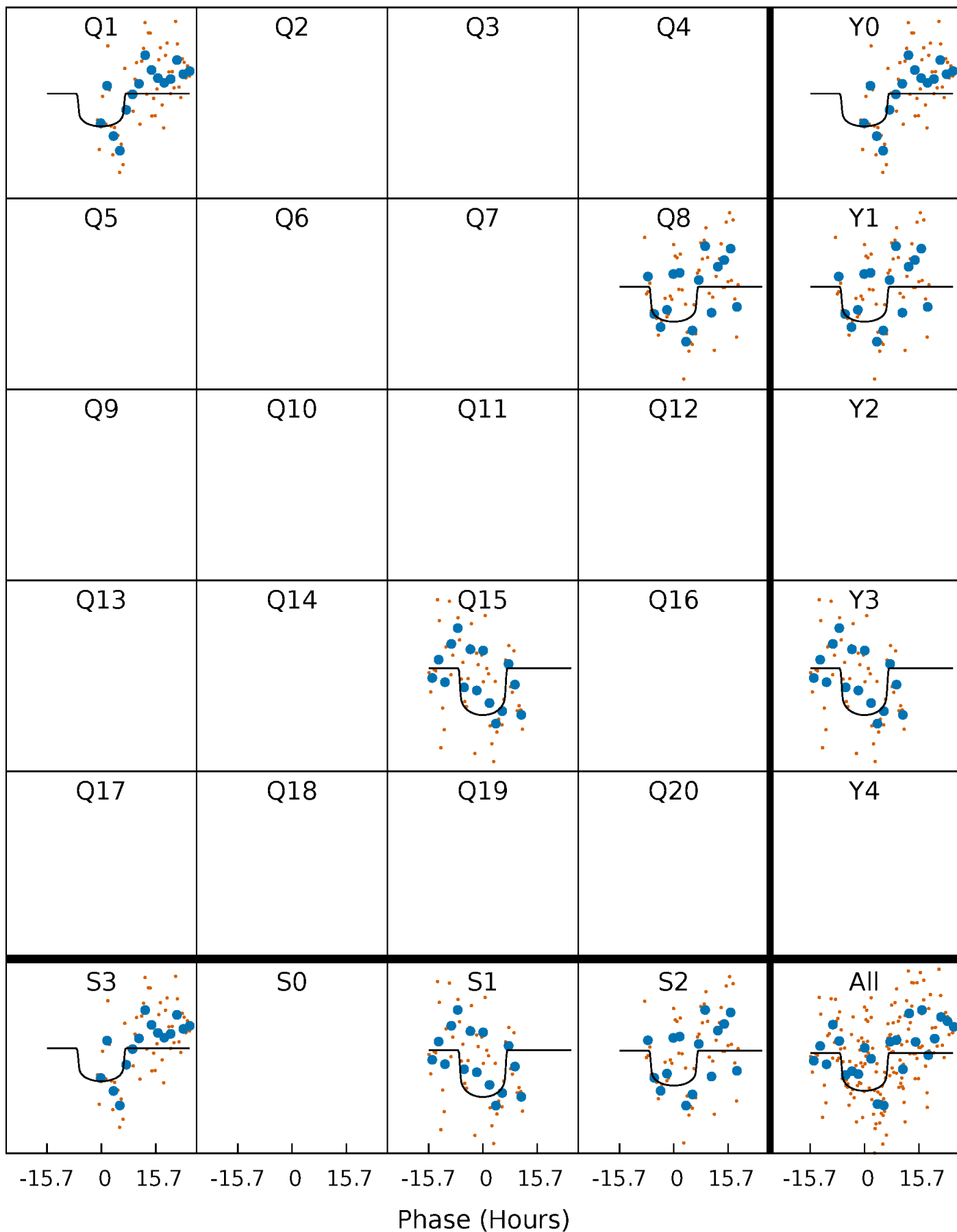
PDC Quarter-Phased Transit Curves

TCE 005817210-08 P=653.461104 Days $T_0=137.012295$ (BKJD)



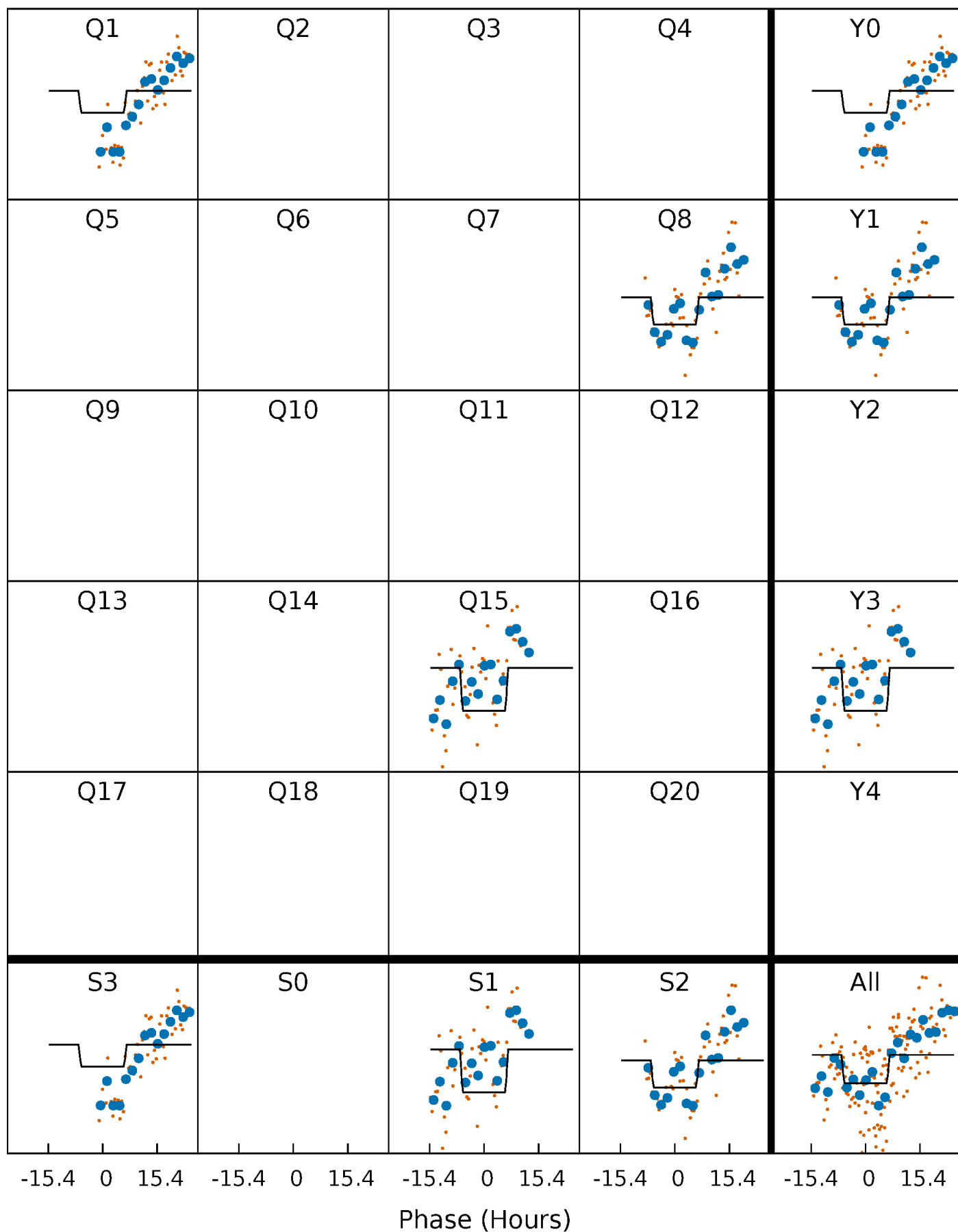
DV Quarter-Phased Transit Curves

TCE 005817210-08 P=653.461104 Days $T_0=137.012295$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

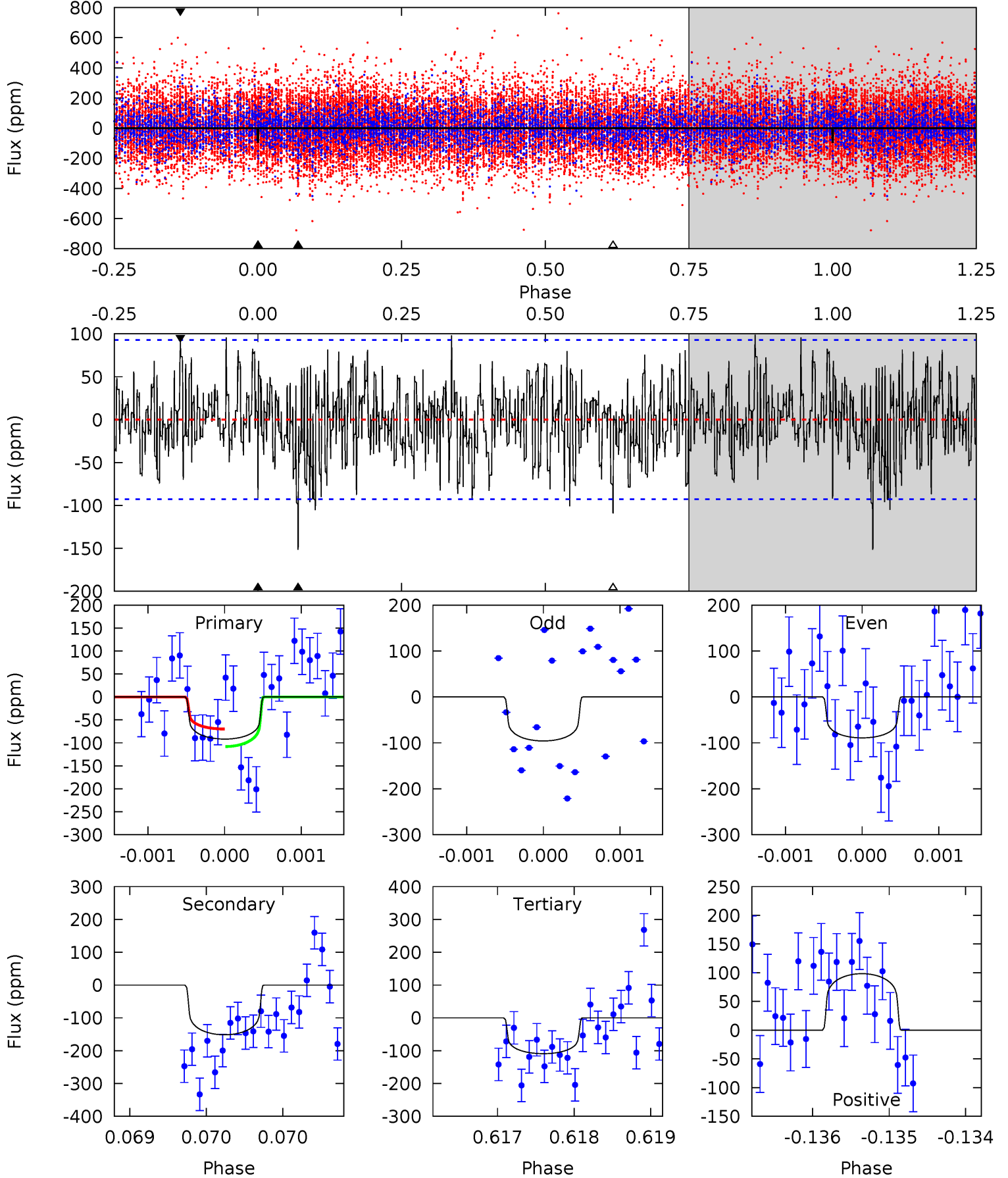
TCE 005817210-08 $P=653.444815$ Days $T_0=137.028828$ (BKJD)



DV Model-Shift Uniqueness Test

005817210-08, P = 653.461104 Days, E = 137.012295 Days

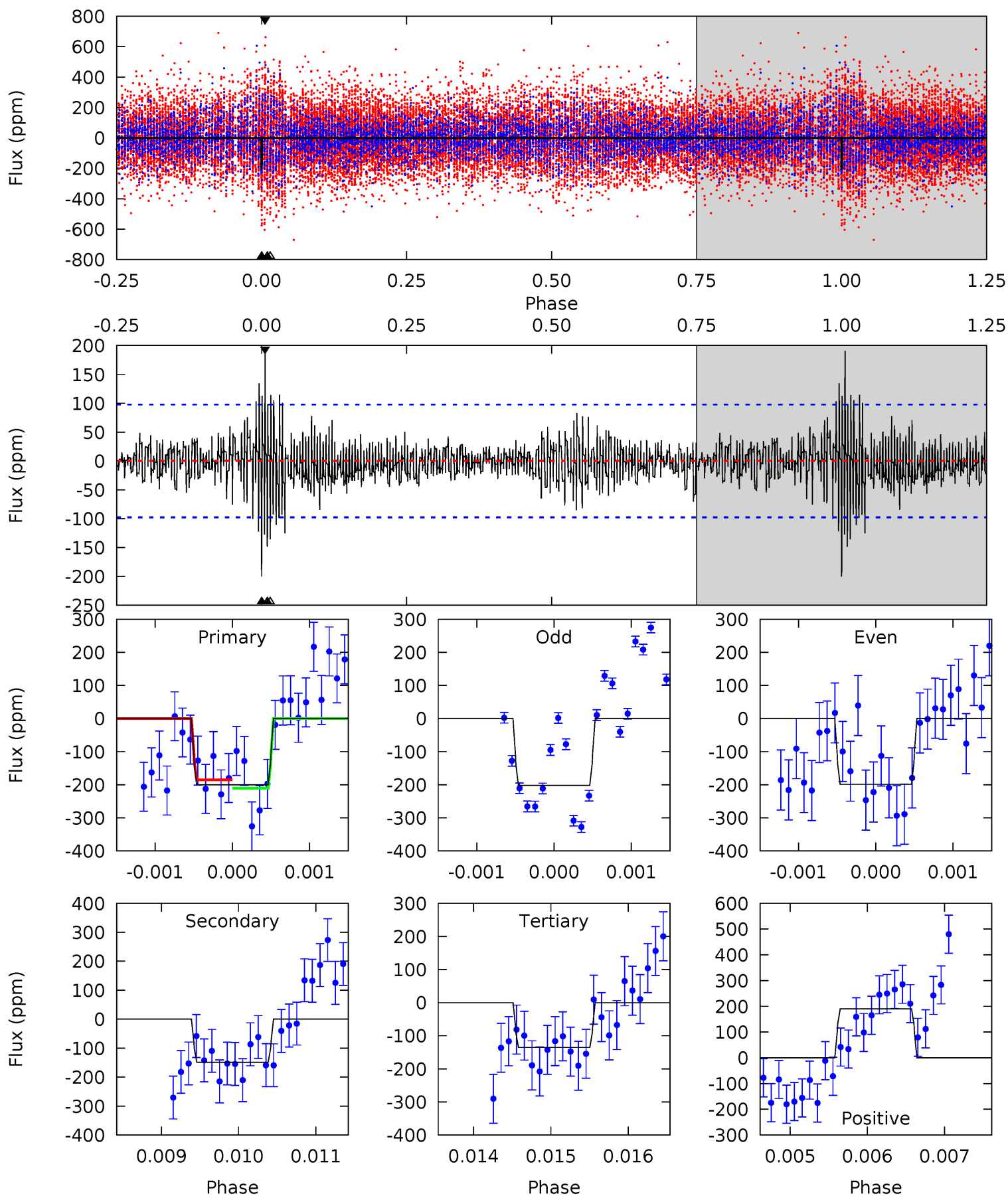
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.41	8.94	6.44	5.80	5.47	3.32	1.97	-1.03	-0.39	2.50	3.13	0.19	1.01	0.39	1.12



Alt Model-Shift Uniqueness Test

005817210-08, P = 653.444815 Days, E = 137.028828 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	8.36	7.61	10.7	5.49	3.35	1.62	3.64	0.55	0.75	-2.35	0.09	1.11	0.49	0.70



Stellar Parameters For KIC 005817210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6061^{+183}_{-165}	$3.675^{+0.338}_{-0.090}$	$-0.060^{+0.350}_{-0.250}$	$2.918^{+0.475}_{-1.187}$	$1.470^{+0.185}_{-0.343}$	$0.083^{+0.214}_{-0.024}$
	+3%/-3%	+9%/-2%	+583%/-417%	+16%/-41%	+13%/-23%	+257%/-29%
Source	PHO1	FLK73	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 005817210-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-151 ± 17	$3.50^{+1.65}_{-1.50}$	485^{+28}_{-48}	6124^{+2174}_{-881}	19052^{+37739}_{-10130}
Alt.	-149 ± 18	$3.80^{+1.61}_{-1.49}$	487^{+28}_{-48}	5925^{+1620}_{-776}	16051^{+25353}_{-8141}

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 $A_{obs} \gg 1.0$

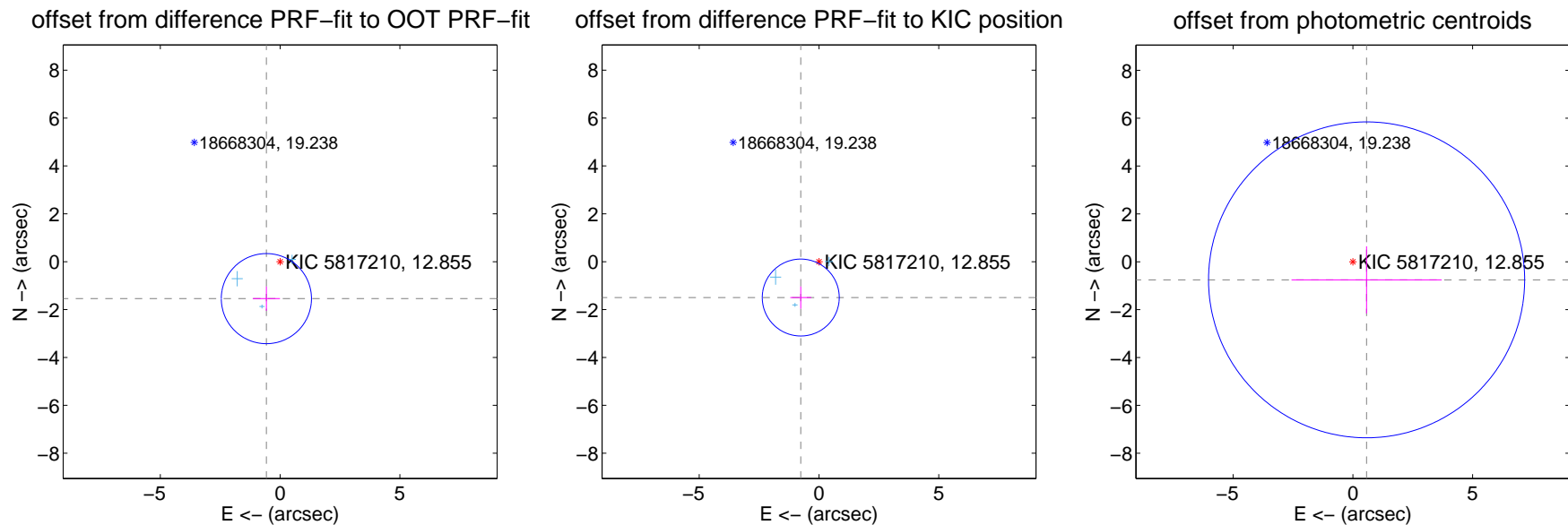
DV Centroid Data

Supplemental centroid analysis for 005817210-08. Kepler magnitude: 12.86. Transit SNR 5.53

There are 3 quarters with good PRF difference image offsets

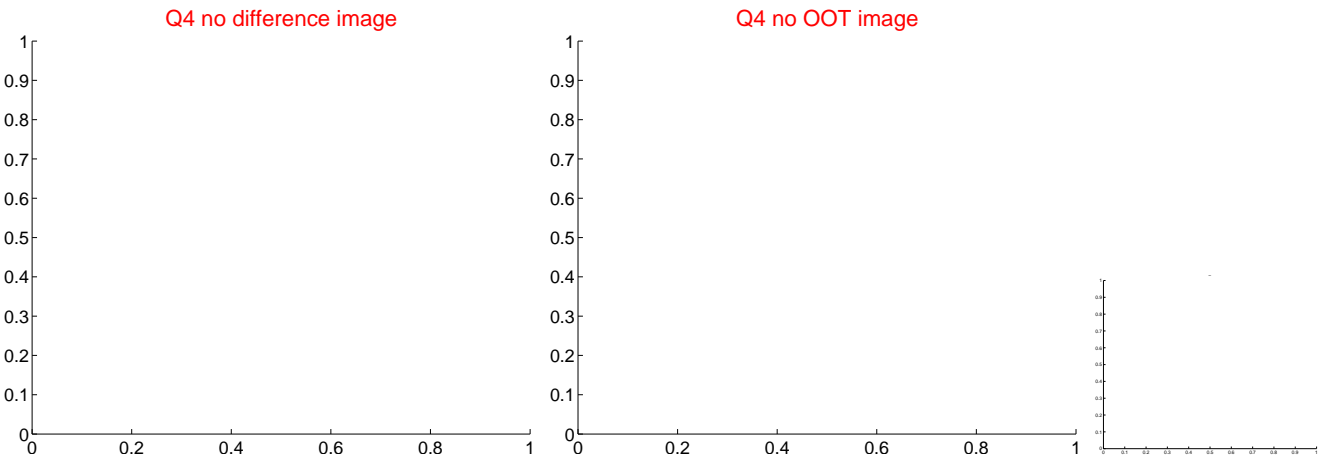
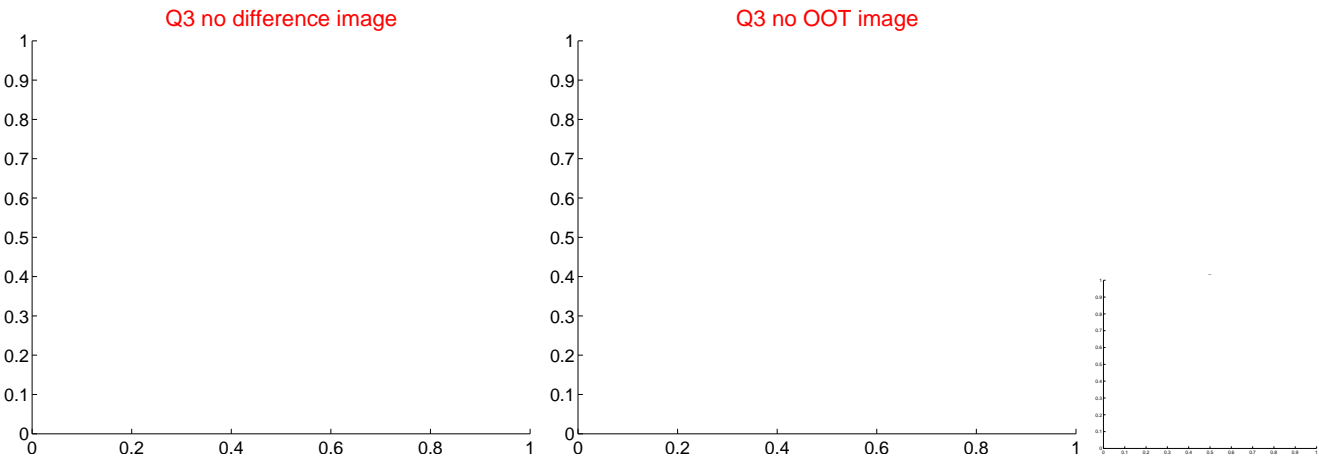
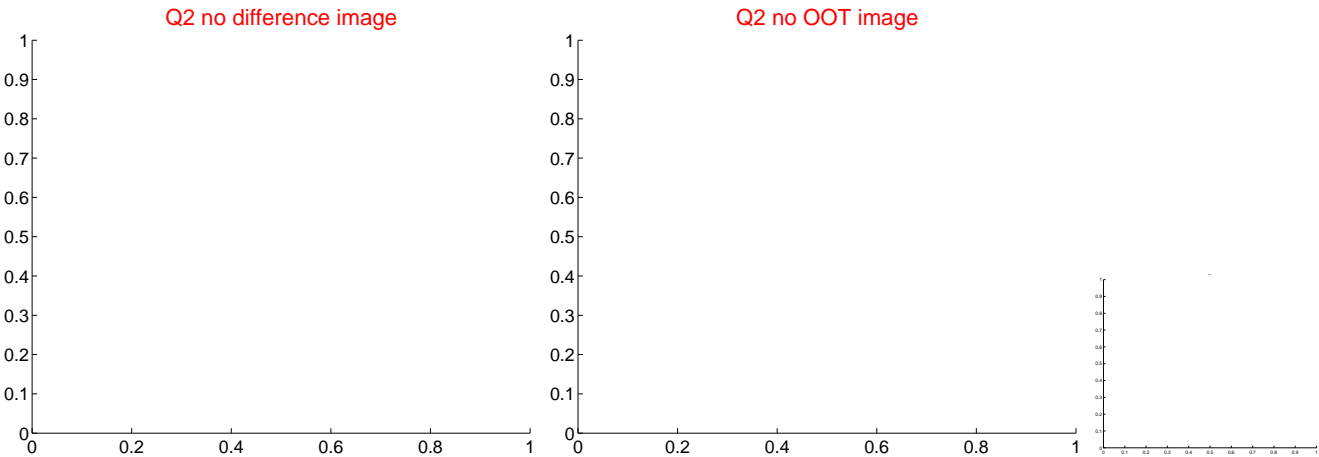
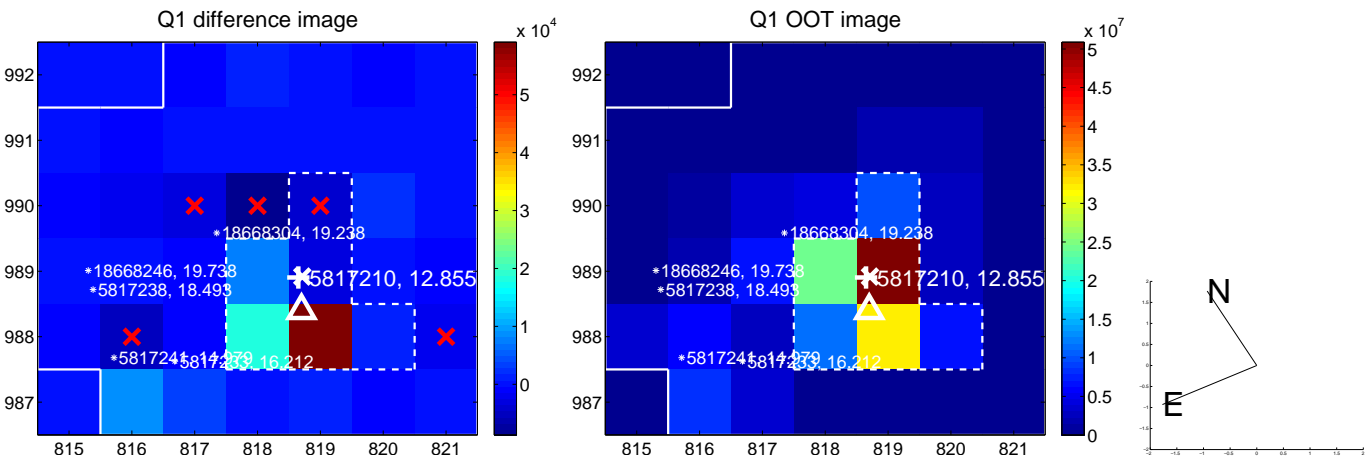
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.646 ± 0.628	2.62	0.573 ± 0.568	-1.543 ± 0.510
PRF-fit source offset from KIC position	1.680 ± 0.536	3.14	0.761 ± 0.437	-1.497 ± 0.462
photometric centroid source offset	0.95 ± 2.20	0.43	-0.57 ± 3.14	-0.76 ± 1.40

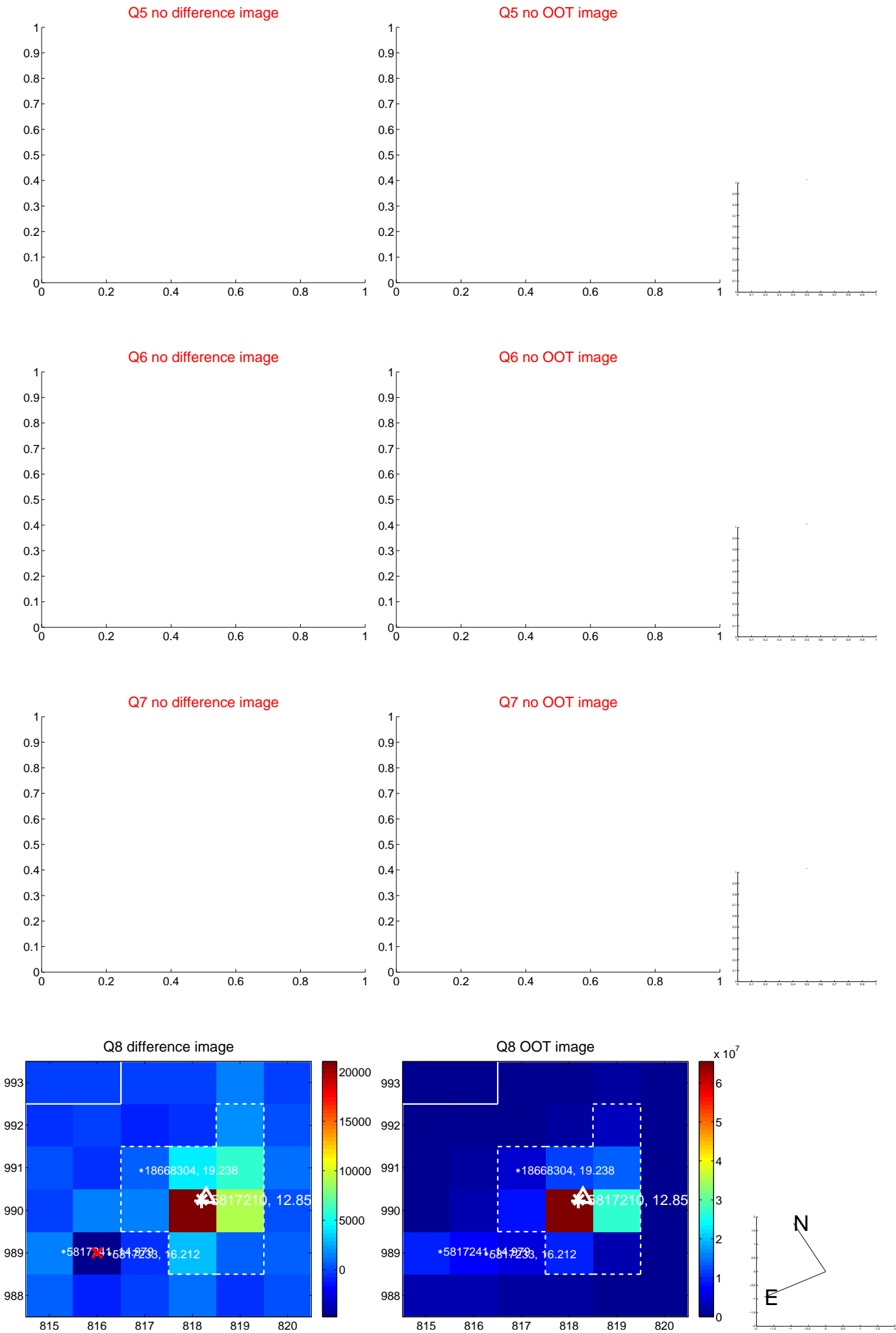


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

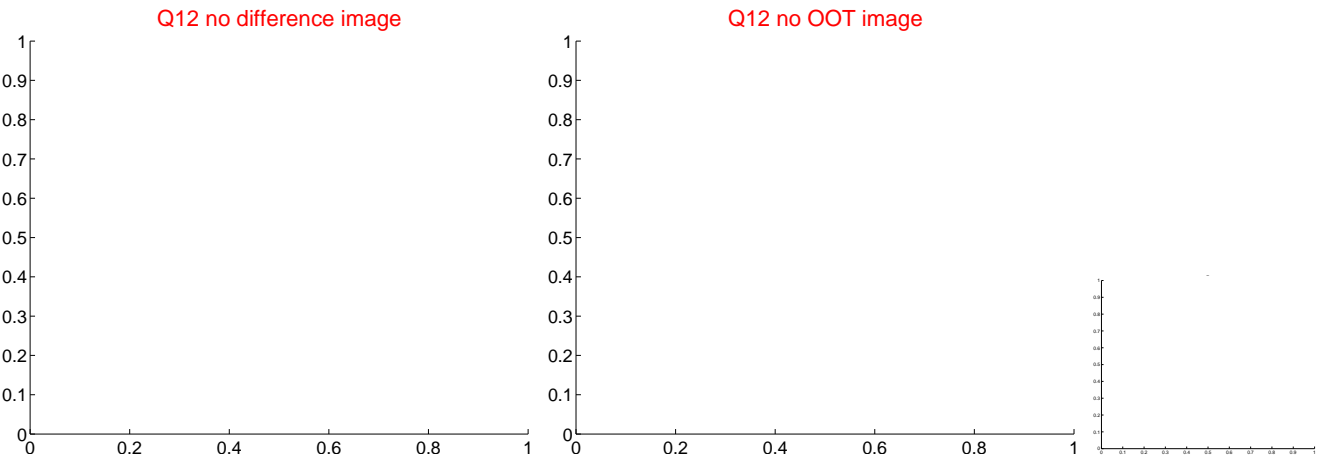
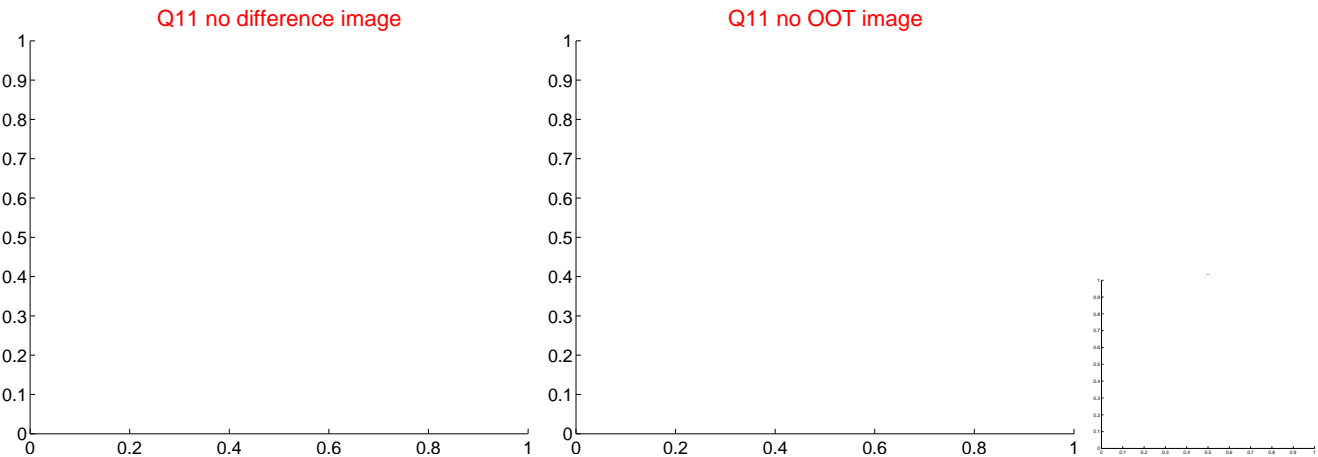
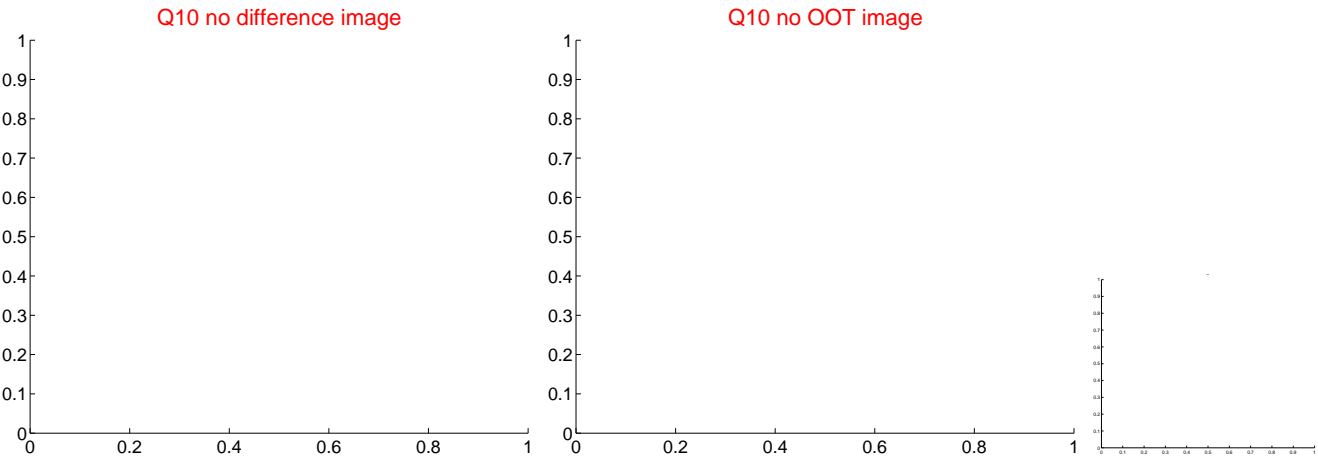
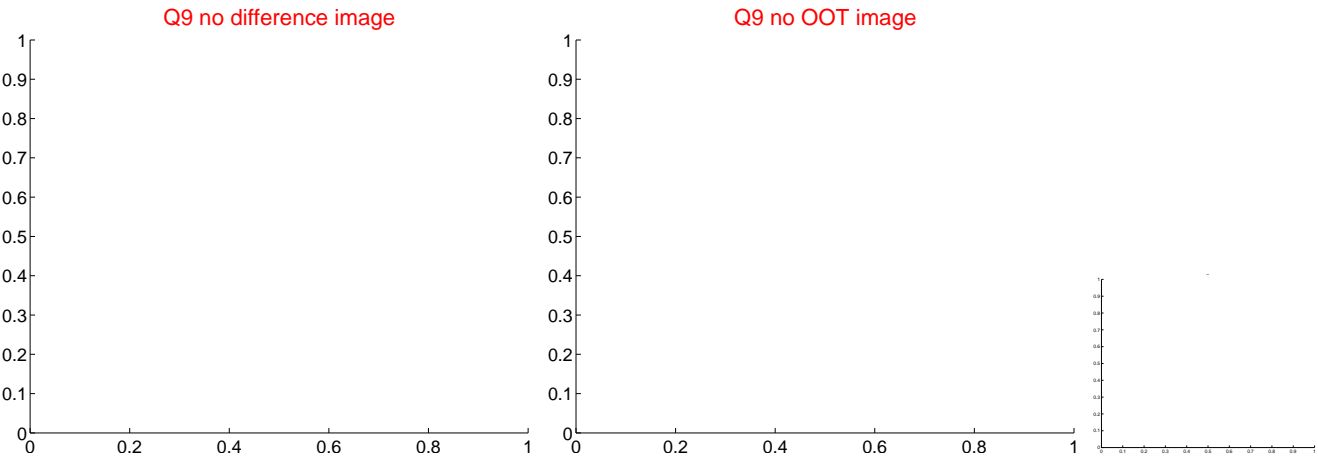
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



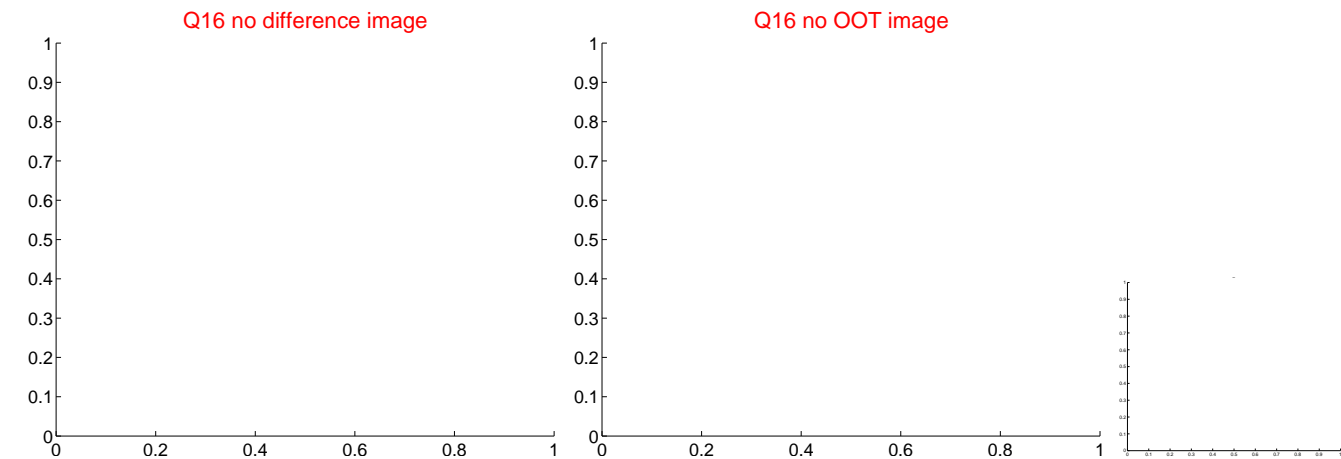
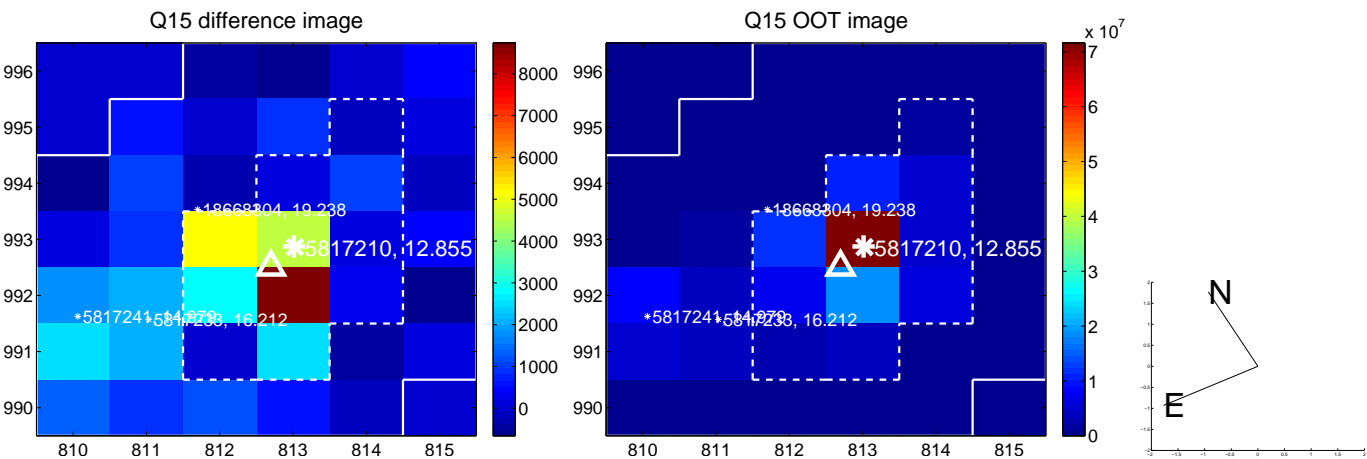
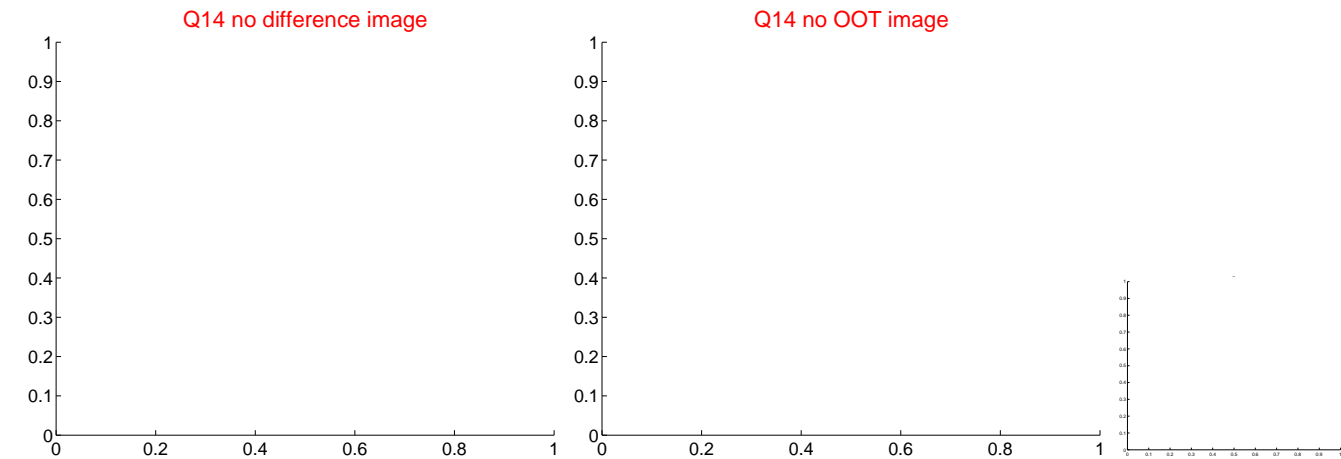
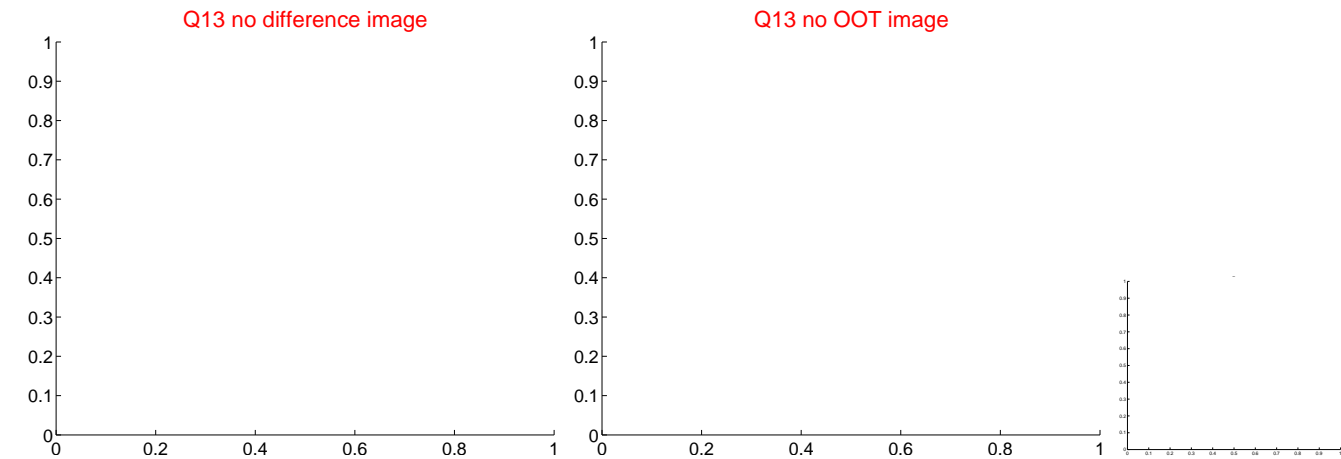
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



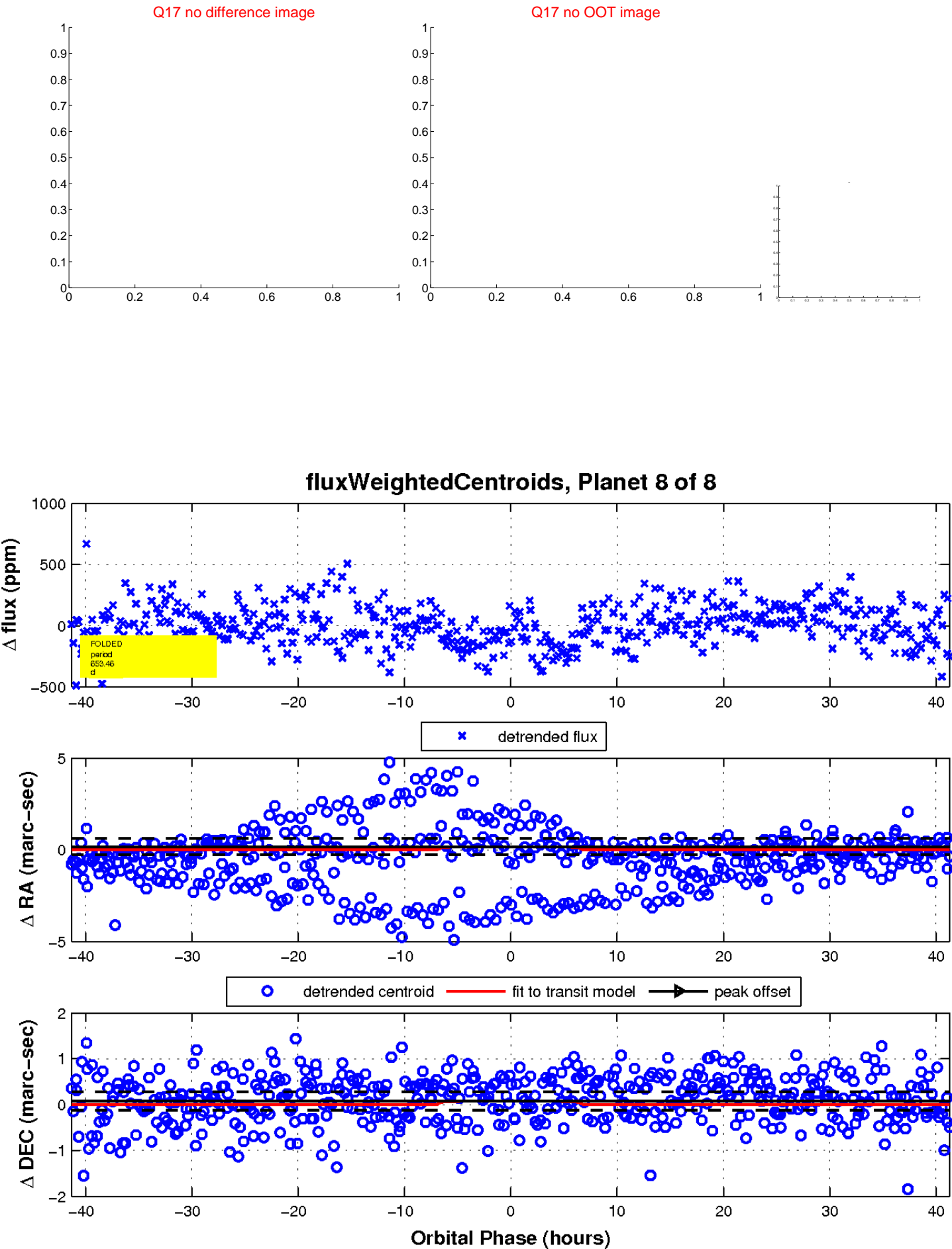
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

