

KIC 007107430

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})
007107430-01	OBS	No	292.253875	300.868430	198.0	8.109	13.9	3.0	0.57	4110	0.85	0.17
007107430-02	OBS	No	491.429298	439.145465	1082.3	7.574	20.2	9.7	0.57	4110	3.77	0.08
007107430-03	OBS	No	497.676146	282.596337	1042.3	10.777	13.2	11.8	0.57	4110	1.91	0.08
007107430-04	OBS	No	496.004754	203.259880	618.4	4.626	11.7	8.1	0.57	4110	1.54	0.08
007107430-05	OBS	No	460.858990	378.203982	521.5	6.135	11.6	6.5	0.57	4110	1.44	0.09
007107430-06	OBS	No	424.961906	433.194900	365.4	19.518	10.9	3.4	0.57	4110	1.14	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007107430-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007107430-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

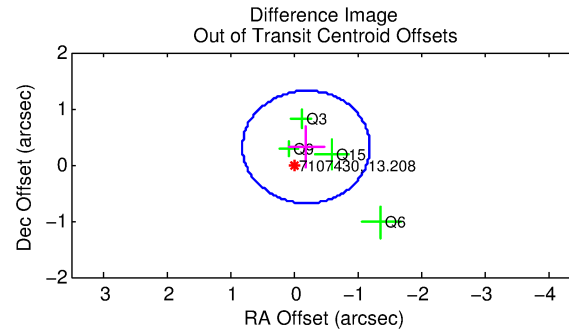
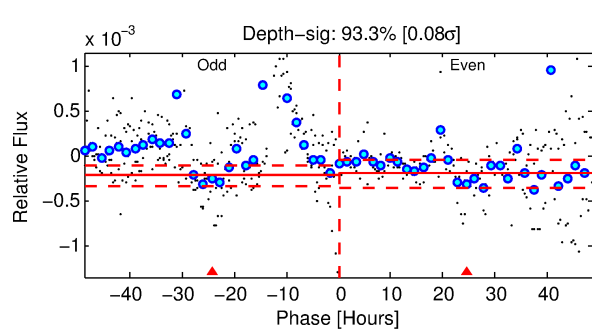
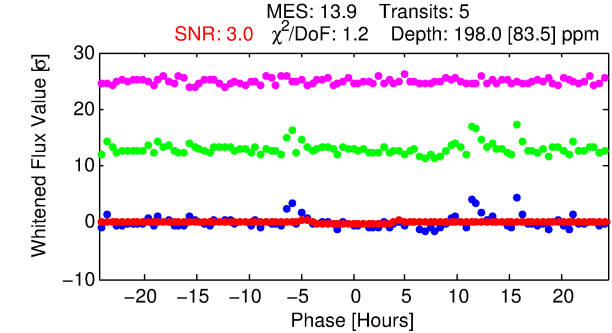
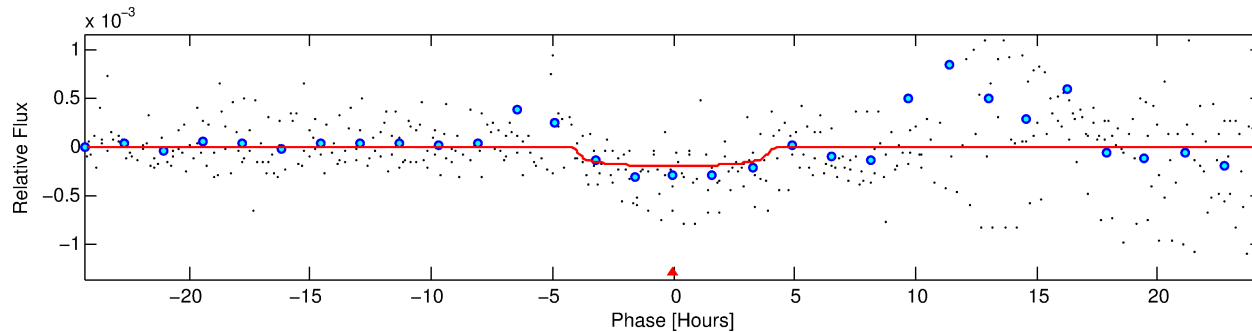
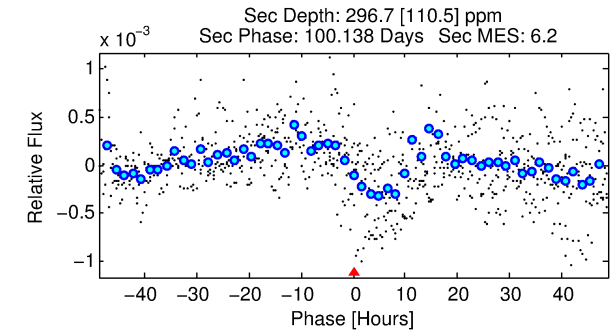
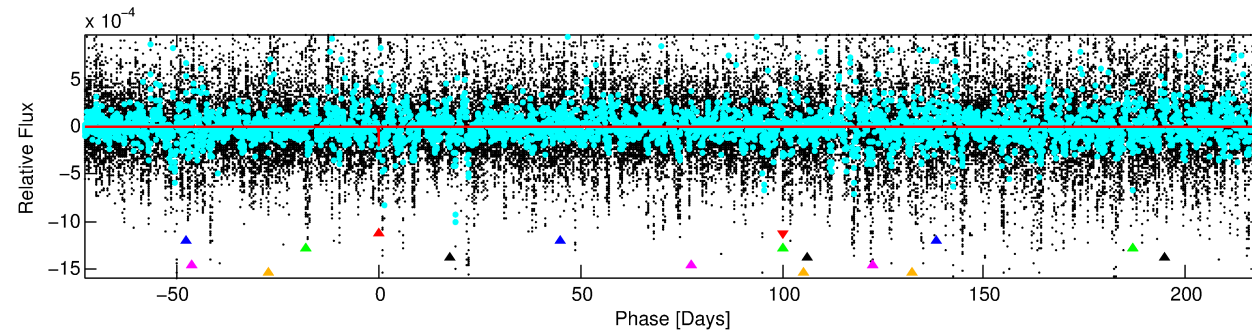
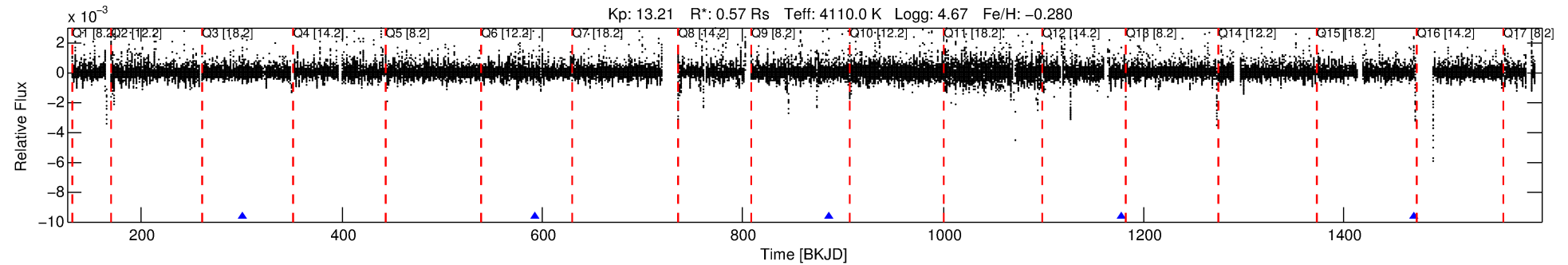
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007107430-01

No Significant Match Found

DV One-Page Summary

KIC: 7107430 Candidate: 1 of 6 Period: 292.254 d



DV Fit Results:

Period = 292.25388 [0.00775] d
Epoch = 300.8684 [0.0192] BKJD
Rp/R* = 0.0136 [0.0221]
a/R* = 212.19 [1388.55]
b = 0.66 [5.66]
Seff = 0.17 [0.02]
Teq = 163 [4] K
Rp = 0.85 [1.39] Re
a = 0.7123 [0.0359] AU
Ag = 114052.32 [374396.02] [0.30σ]
Teffp = 4629 [3799] K [1.18σ]

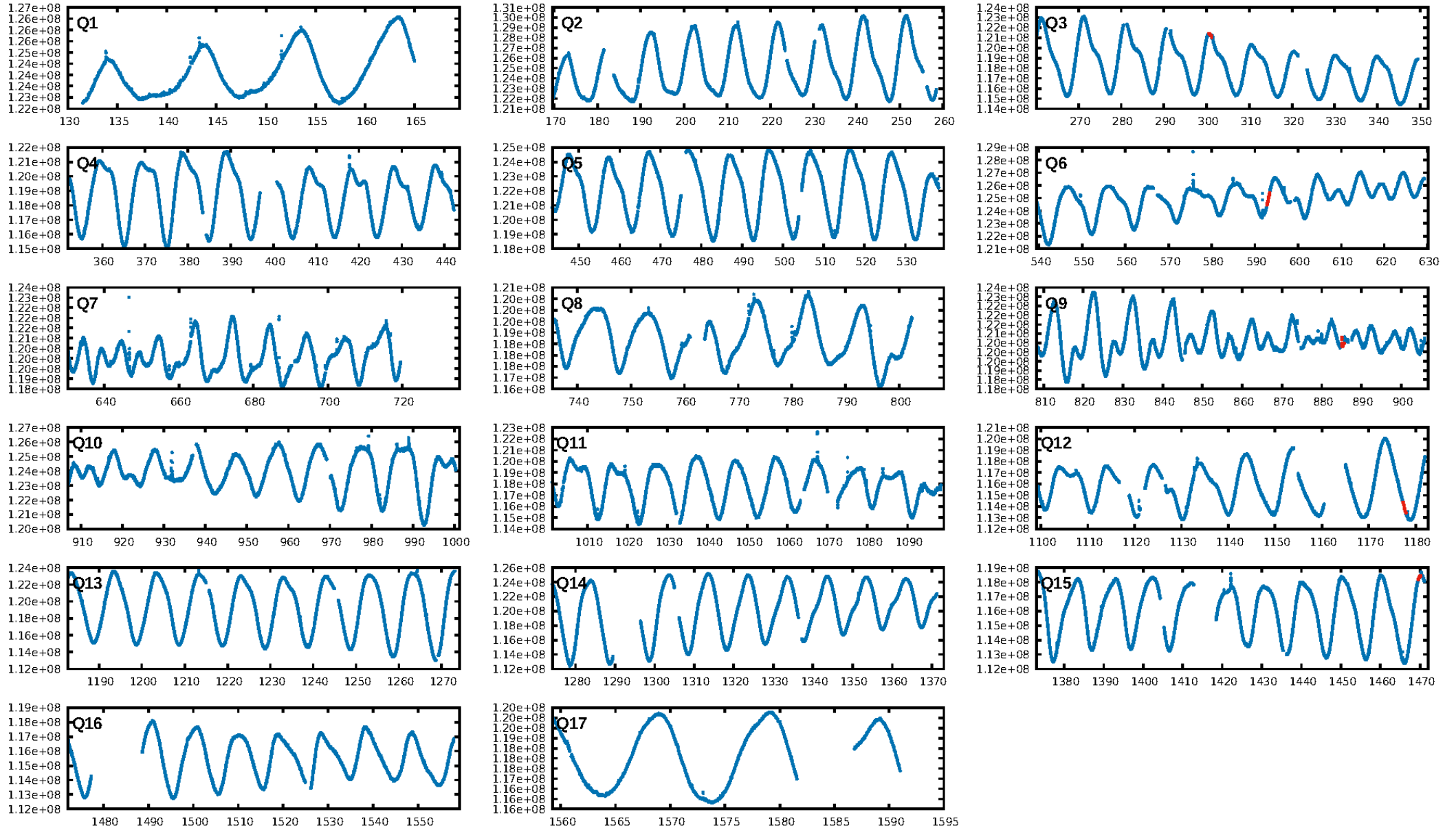
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [150.69σ]
ModelChiSquare2-sig: 80.5%
ModelChiSquareGof-sig: 95.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.44
Centroid-sig: 70.1%
Centroid-so: 0.995 arcsec [0.73σ]
OotOffset-rm: 0.371 arcsec [1.11σ]
KicOffset-rm: 0.445 arcsec [1.26σ]
OotOffset-st: 1/2/0/1 [4]
KicOffset-st: 1/2/0/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

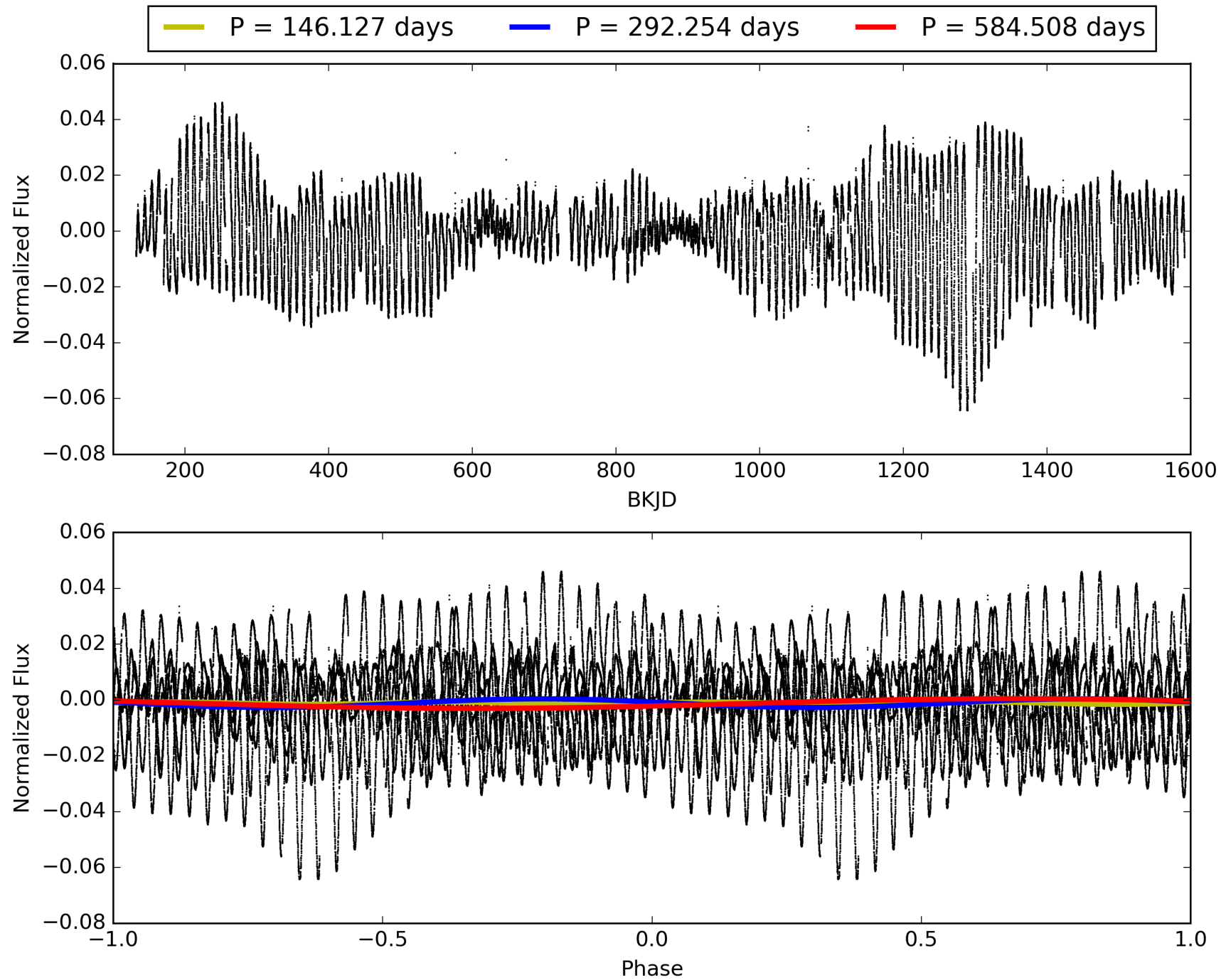
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:34:56 Z

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

TCE 007107430-01, PDC Light Curves

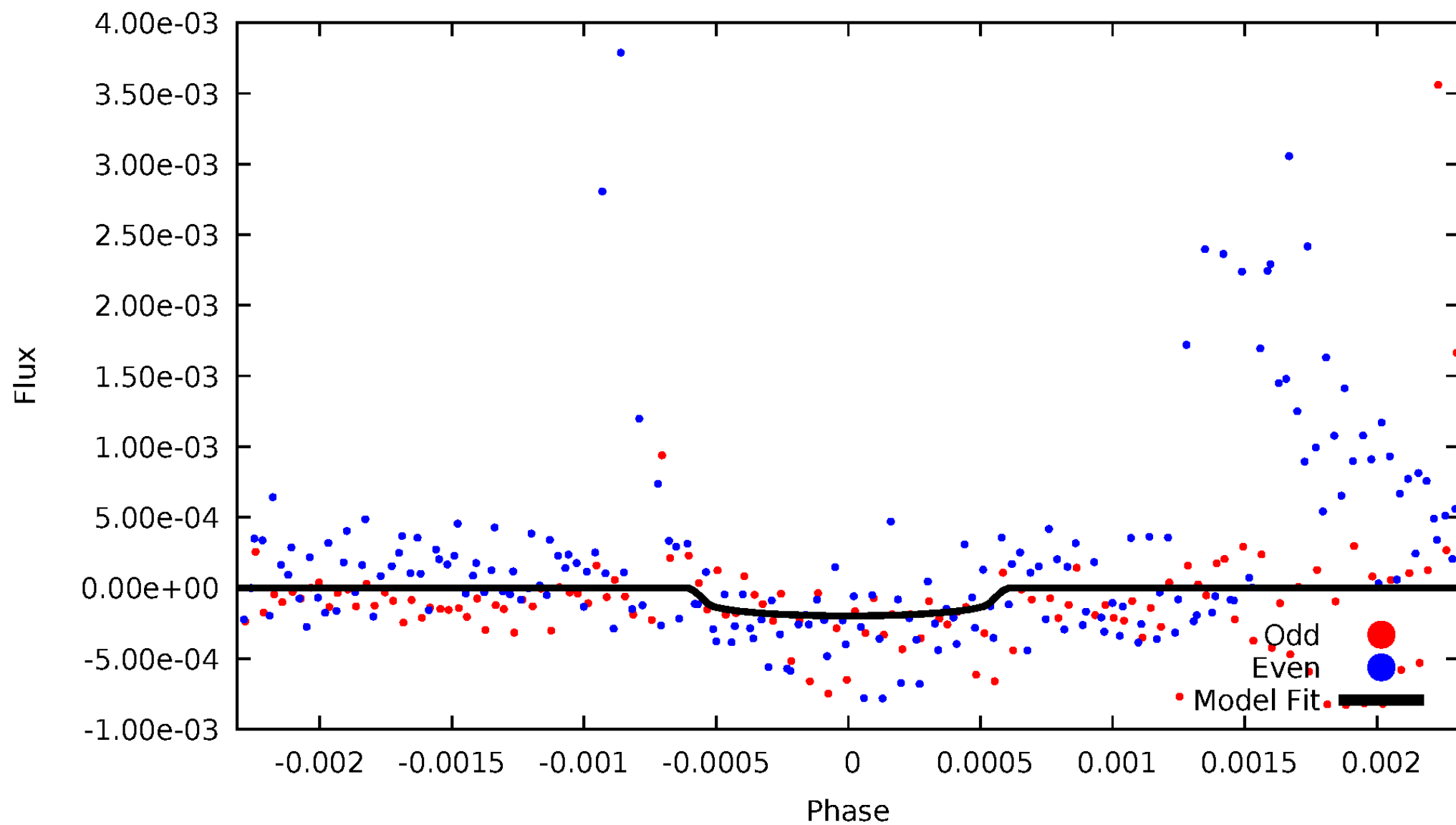


TCE 007107430-01



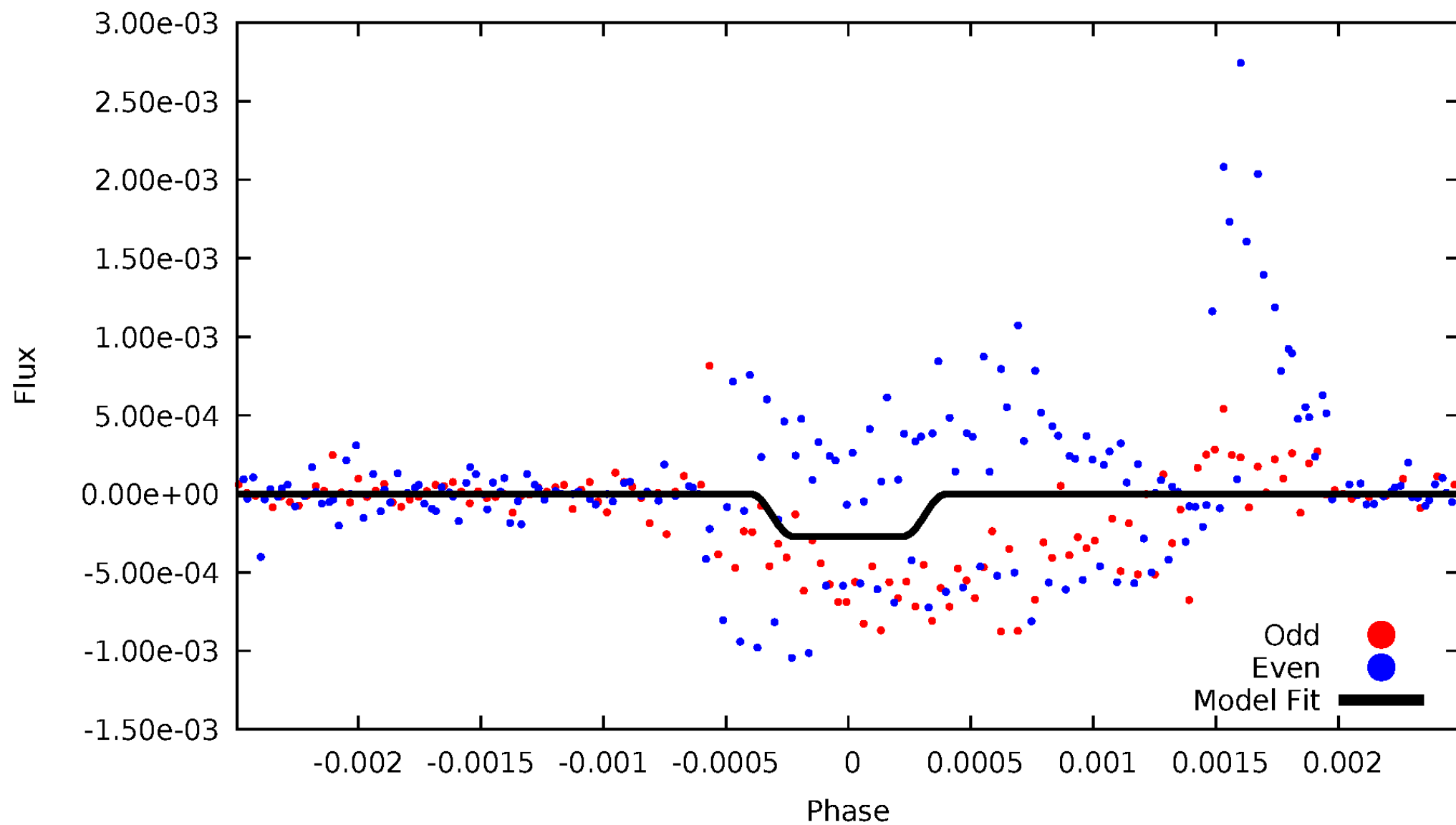
DV Odd/Even

TCE 007107430-01



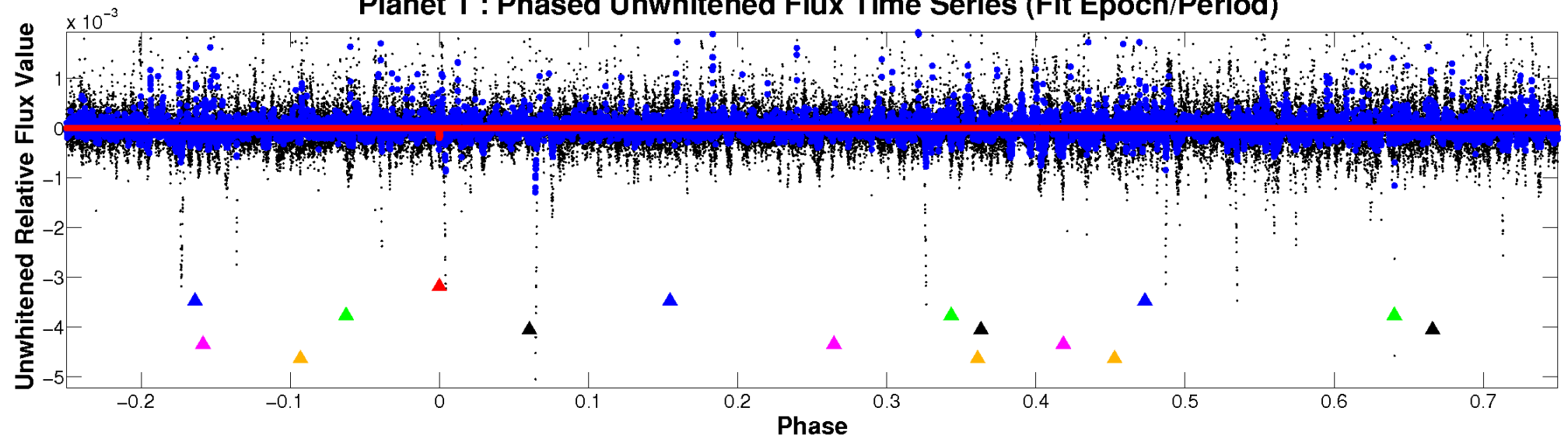
ALT Odd/Even

TCE 007107430-01

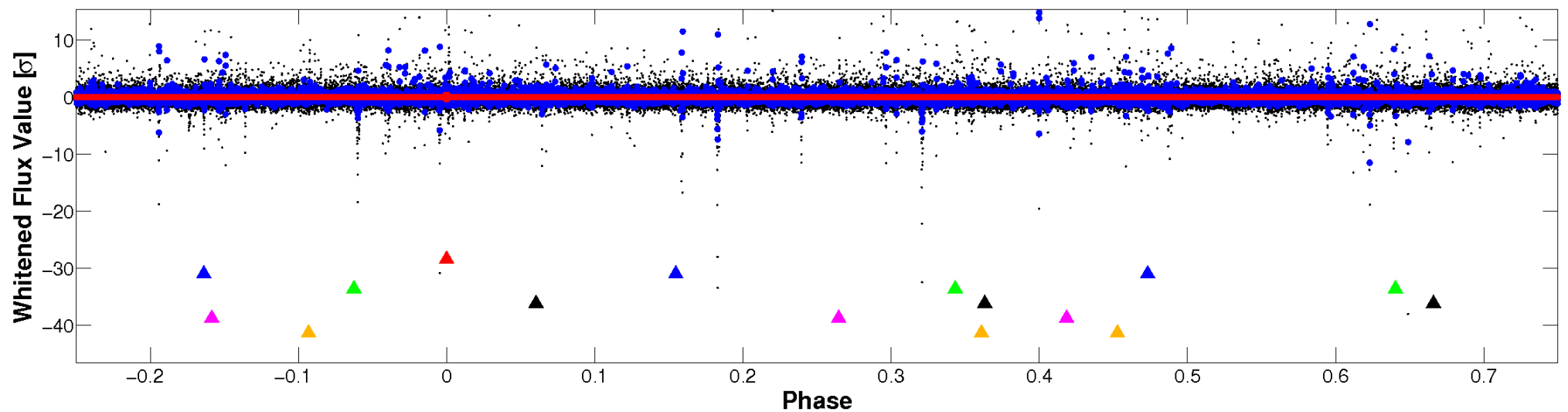


Non-Whitened Vs. Whitened Light Curve

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

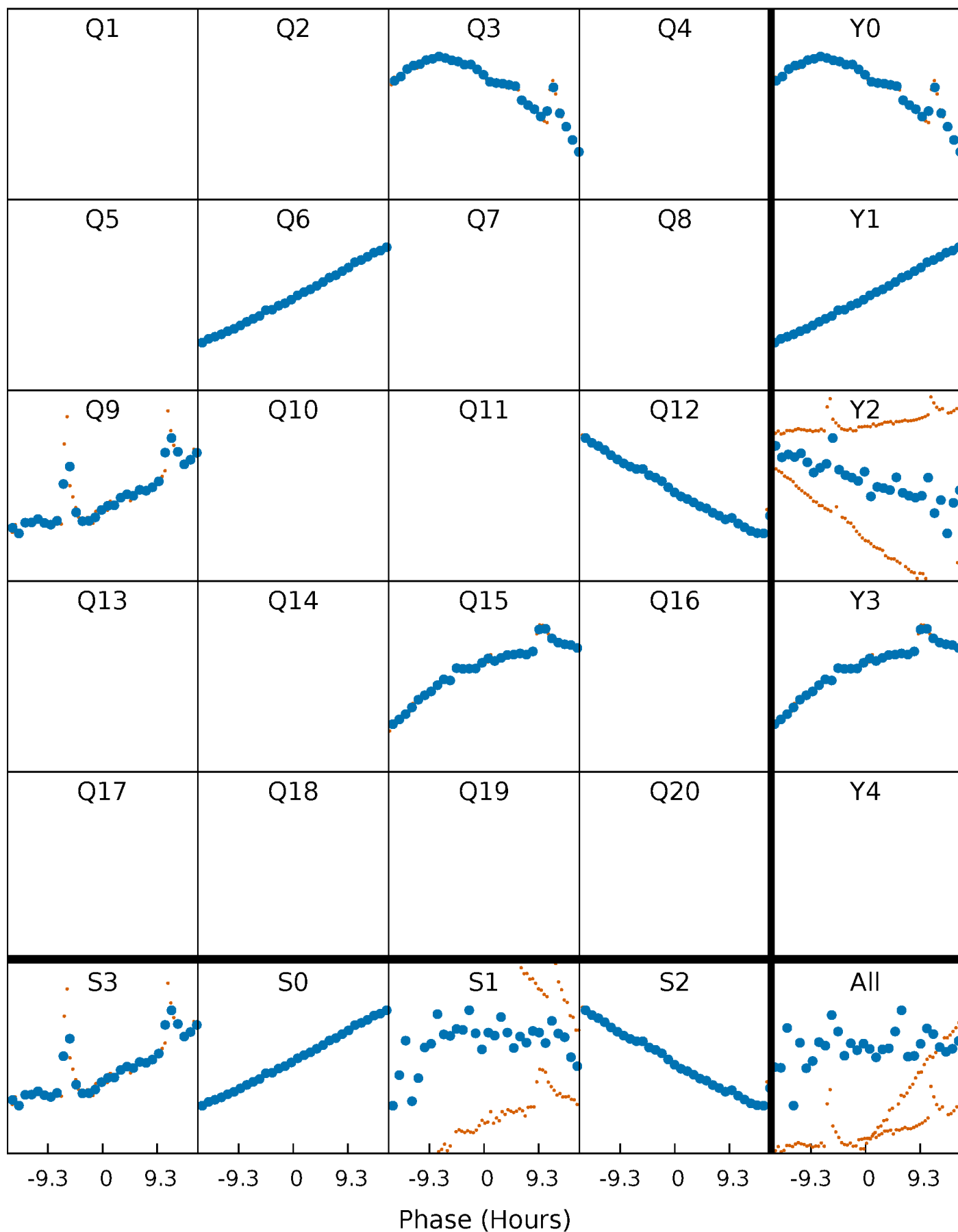


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



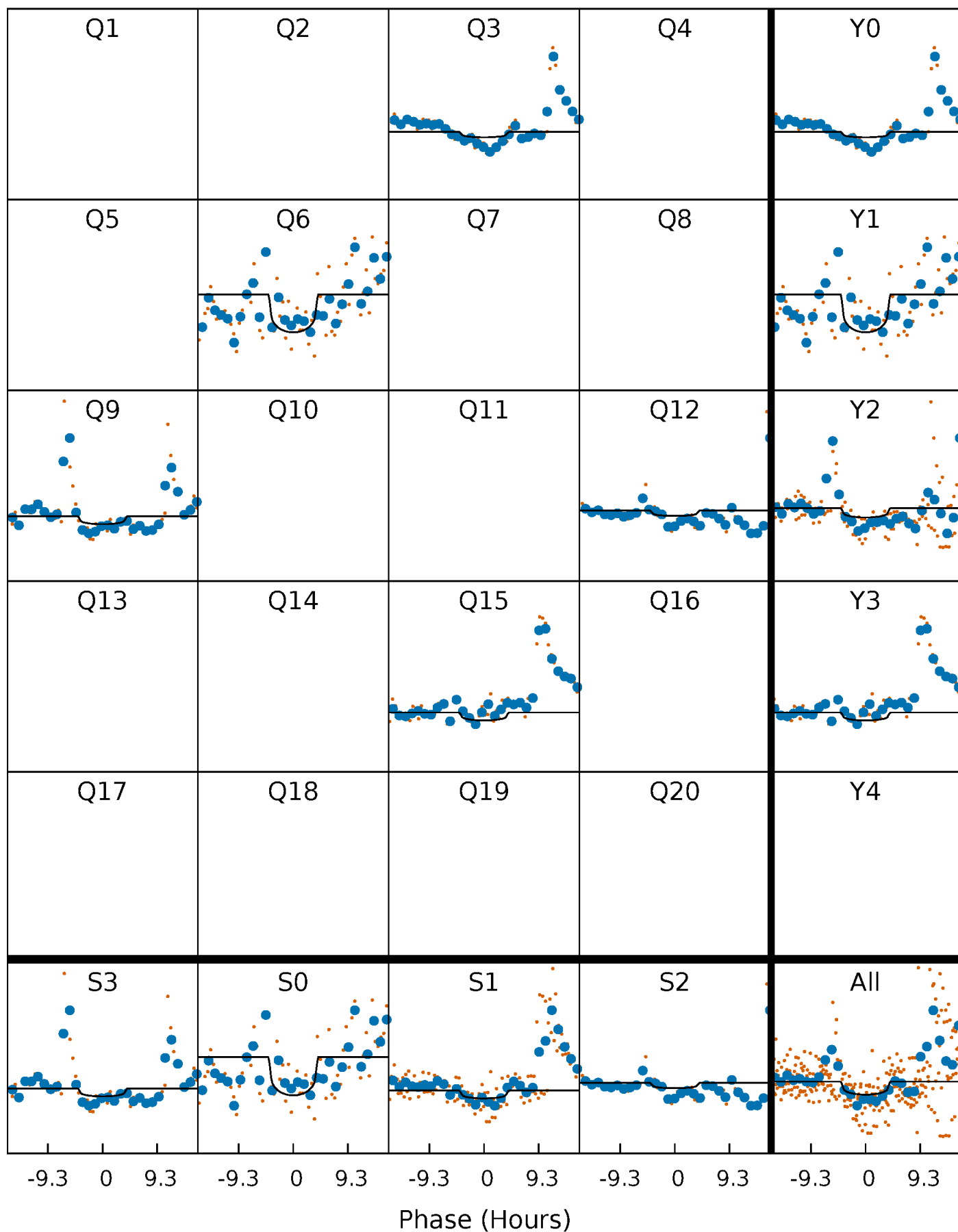
PDC Quarter-Phased Transit Curves

TCE 007107430-01 P=292.253875 Days $T_0=300.868430$ (BKJD)



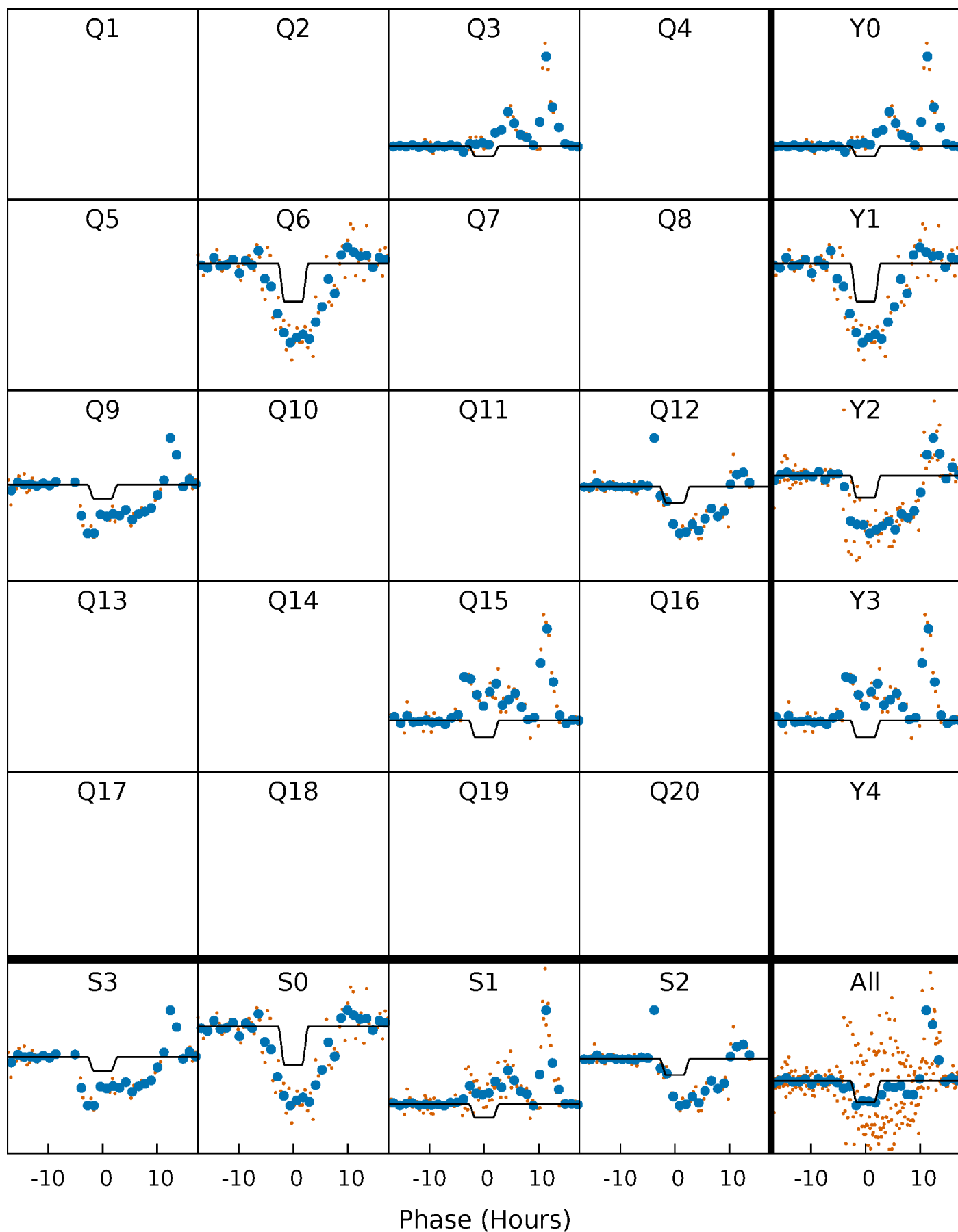
DV Quarter-Phased Transit Curves

TCE 007107430-01 P=292.253875 Days $T_0=300.868430$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

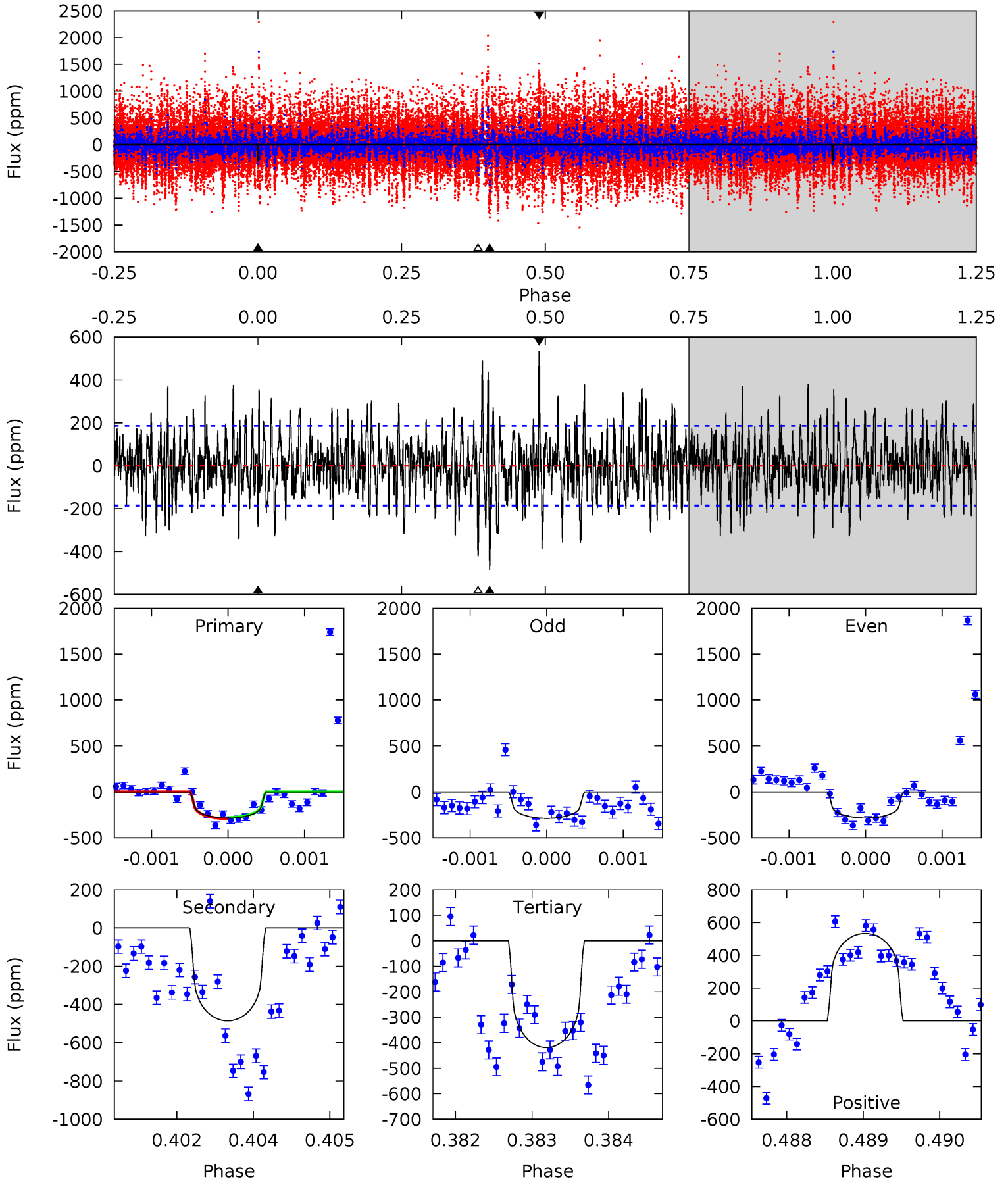
TCE 007107430-01 P=292.233964 Days $T_0=300.887691$ (BKJD)



DV Model-Shift Uniqueness Test

007107430-01, P = 292.253875 Days, E = 8.614555 Days

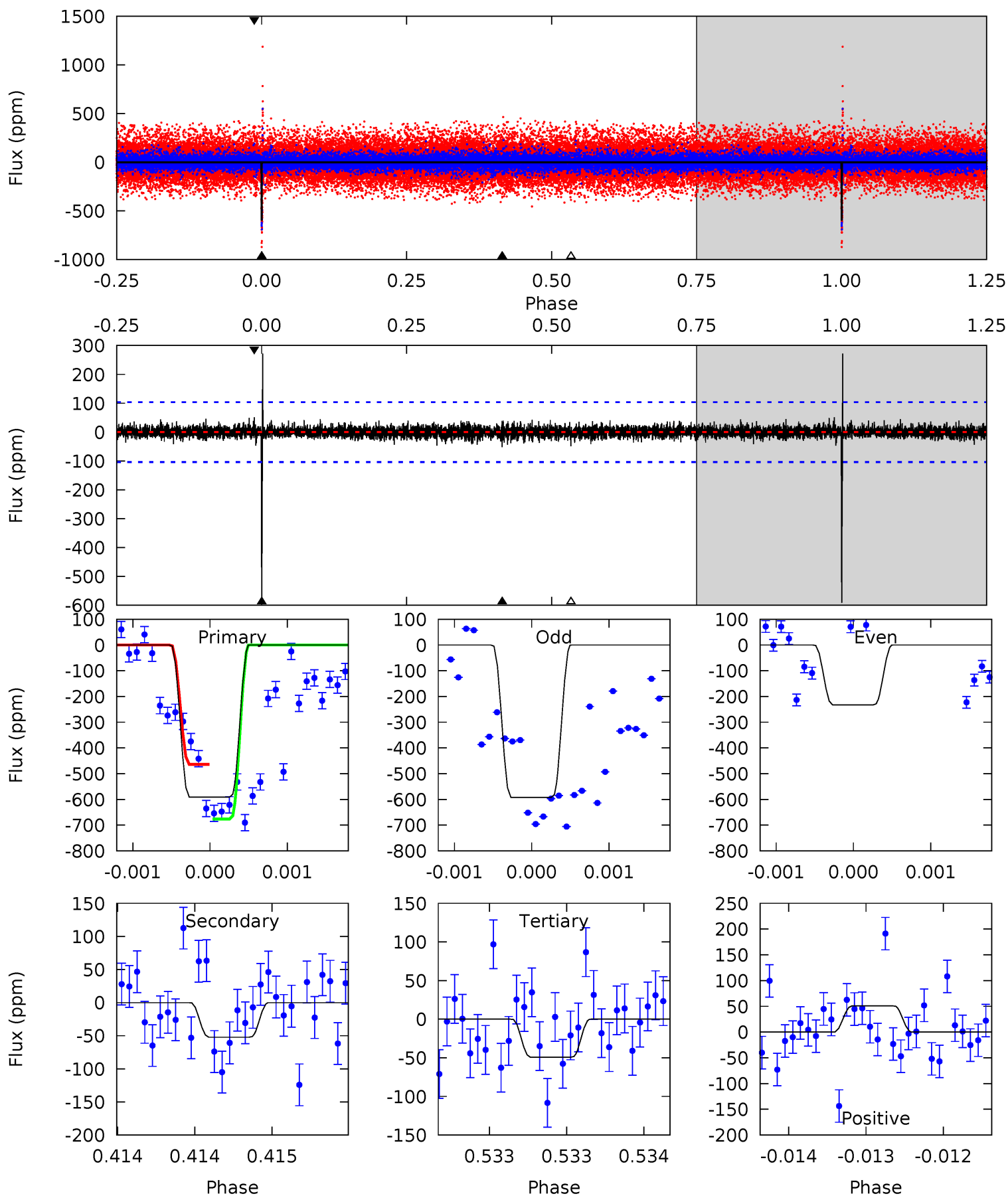
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.34	14.2	12.2	15.5	5.42	3.23	3.51	-3.88	-7.21	1.94	-1.39	0.05	0.90	0.52	0.20



Alt Model-Shift Uniqueness Test

007107430-01, P = 292.233964 Days, E = 8.653727 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	2.76	2.60	2.70	5.49	3.35	0.66	28.7	28.6	0.16	0.07	10.8	0.49	0.31	5.74



Stellar Parameters For KIC 007107430

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4110^{+74}_{-83}	$4.670^{+0.039}_{-0.015}$	$-0.280^{+0.150}_{-0.150}$	$0.575^{+0.023}_{-0.035}$	$0.565^{+0.032}_{-0.029}$	$4.185^{+0.655}_{-0.294}$
	+2%/-2%	+1%/-0%	+54%/-54%	+4%/-6%	+6%/-5%	+16%/-7%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007107430-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-486 ± 34	$1.30^{+1.26}_{-0.91}$	226^{+5}_{-5}	4180^{+3131}_{-824}	$80970^{+842840}_{-59667}$
Alt.	-52 ± 19	$1.40^{+1.30}_{-0.93}$	226^{+5}_{-5}	2864^{+1089}_{-469}	7001^{+56791}_{-5282}

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

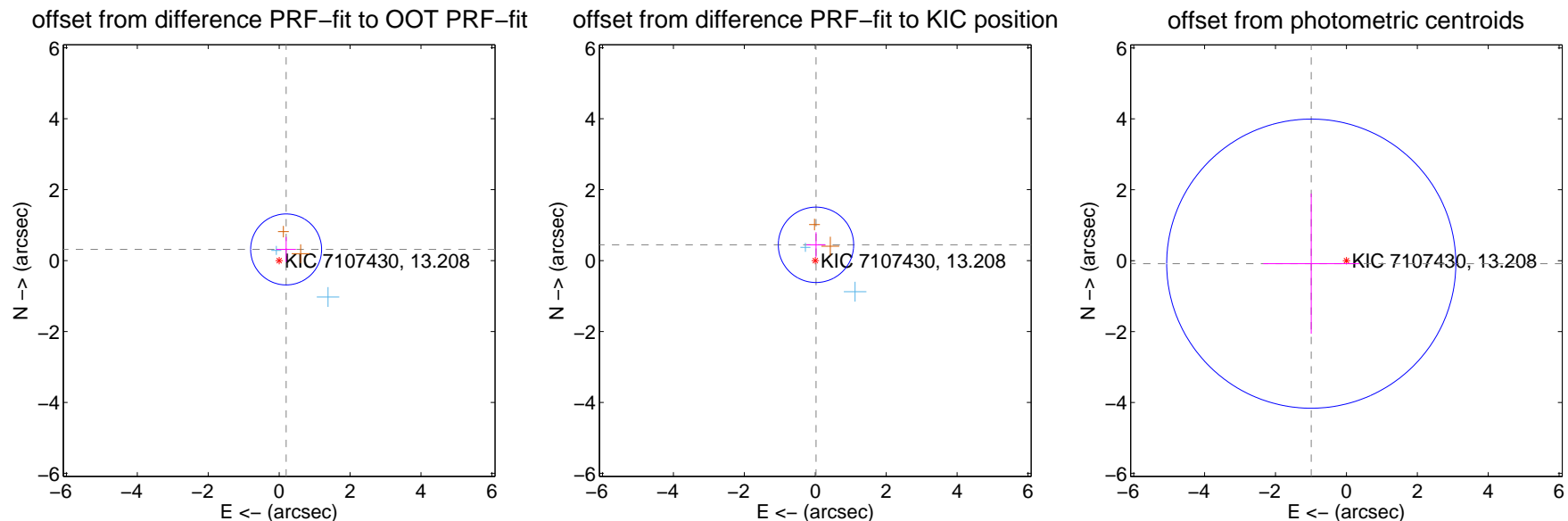
DV Centroid Data

Supplemental centroid analysis for 007107430-01. Kepler magnitude: 13.21. Transit SNR 3.00

There are 2 quarters with good PRF difference image offsets

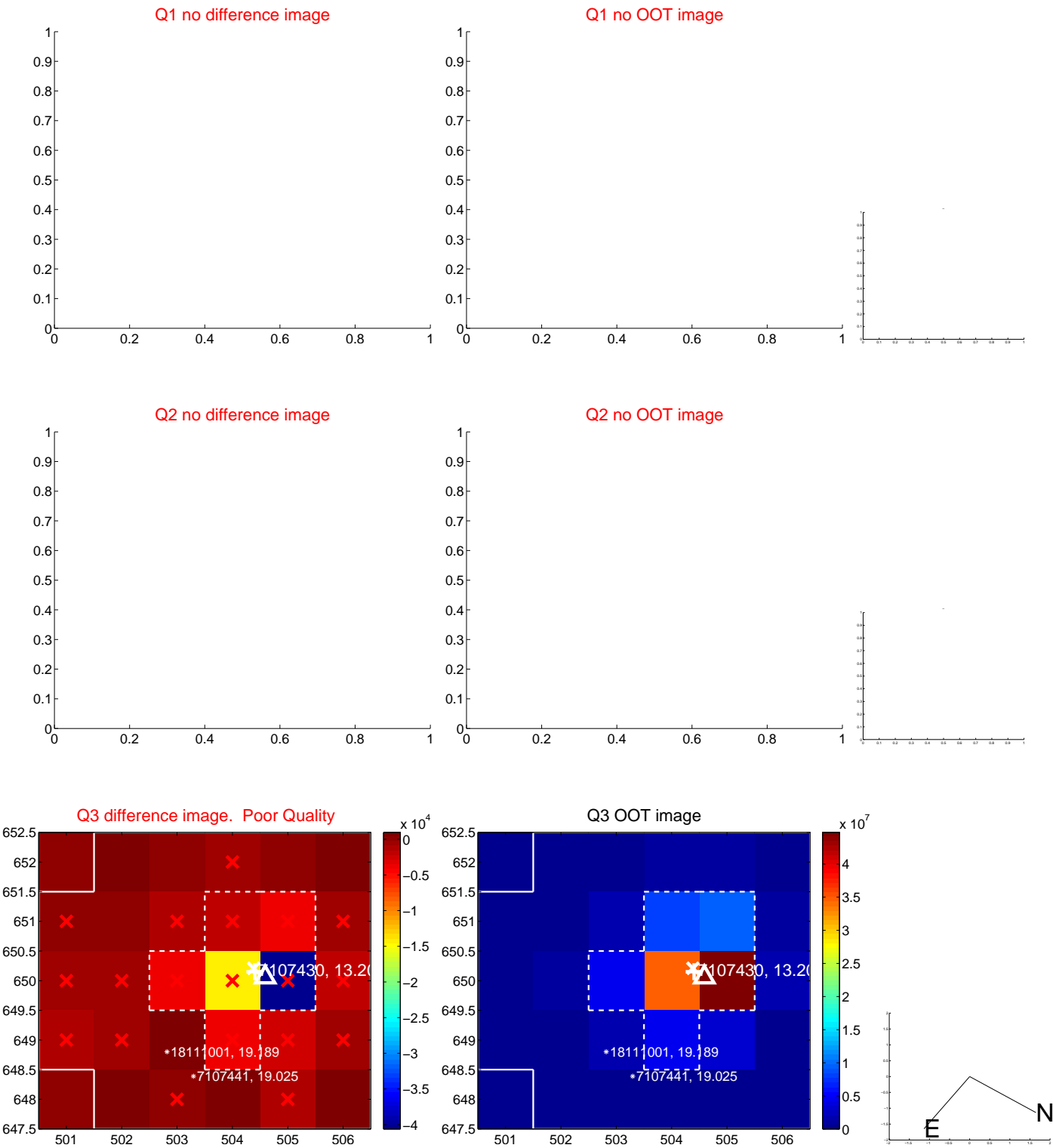
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.371 ± 0.334	1.11	-0.197 ± 0.278	0.315 ± 0.353
PRF-fit source offset from KIC position	0.445 ± 0.354	1.26	-0.020 ± 0.267	0.445 ± 0.354
photometric centroid source offset	1.00 ± 1.36	0.73	0.99 ± 1.35	-0.08 ± 1.98



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.

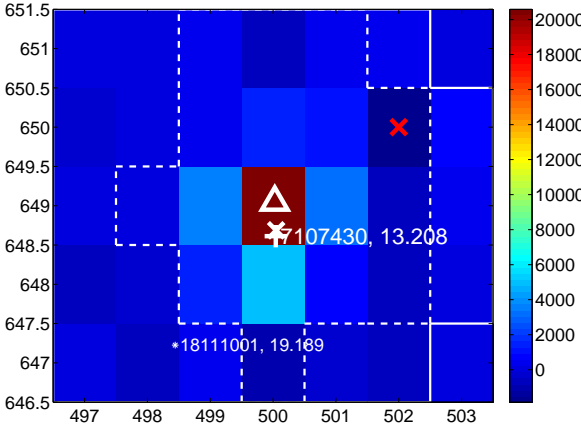
Q5 no difference image



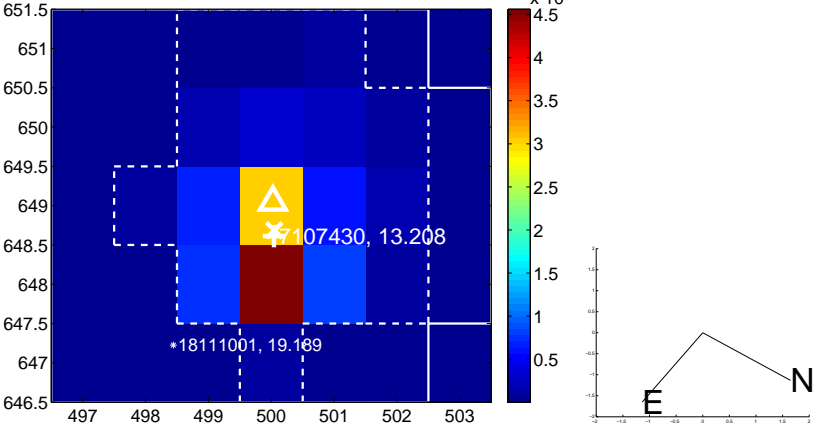
Q5 no OOT image



Q6 difference image



Q6 OOT image



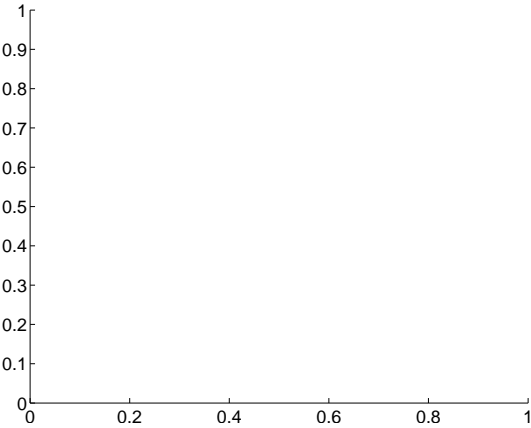
Q7 no difference image



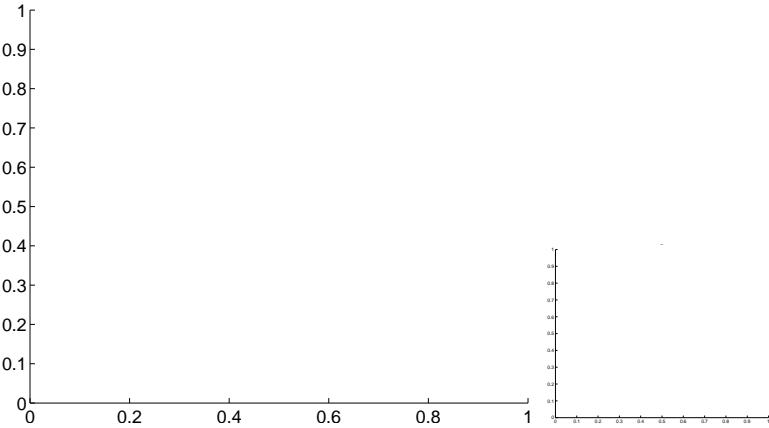
Q7 no OOT image



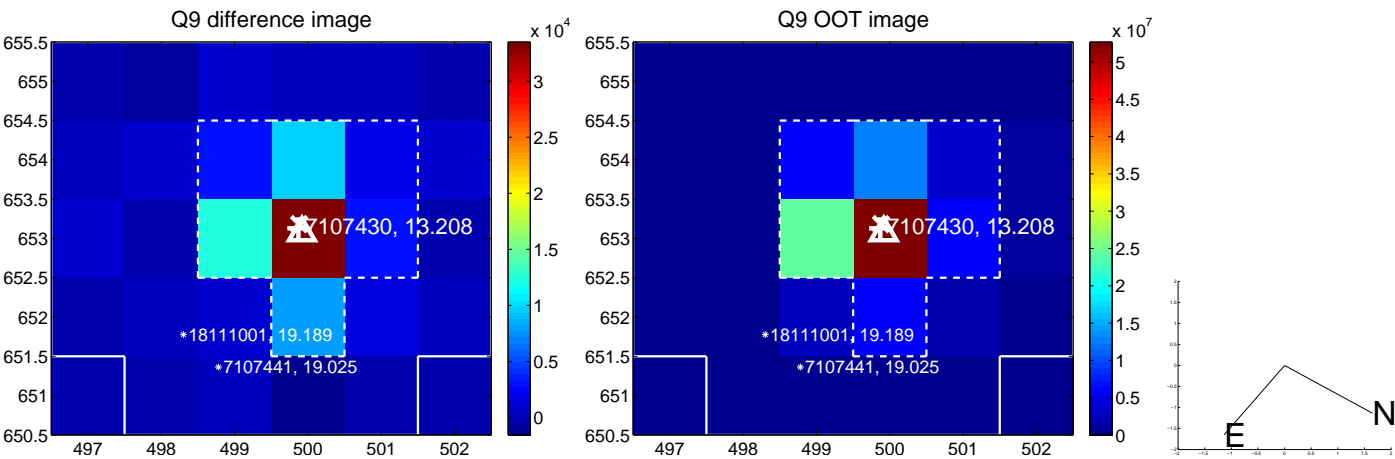
Q8 no difference image



Q8 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.

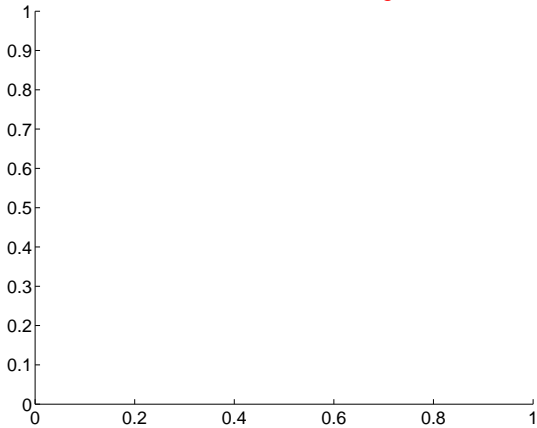
Q13 no difference image



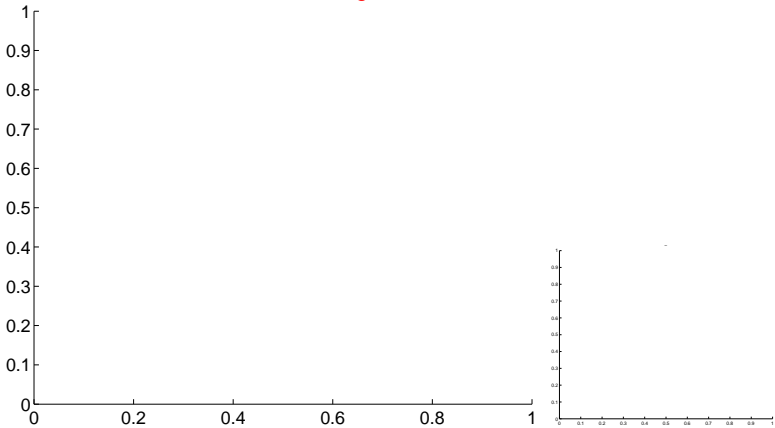
Q13 no OOT image



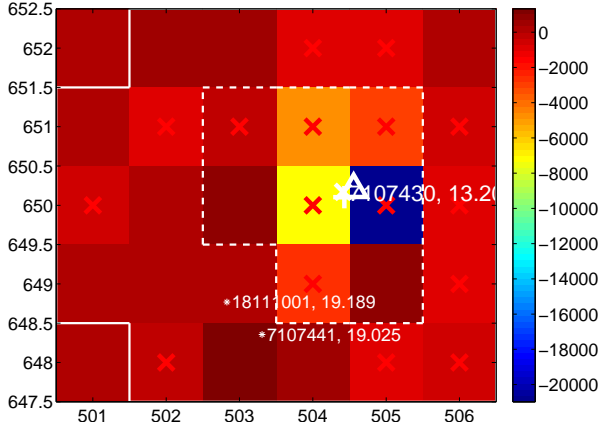
Q14 no difference image



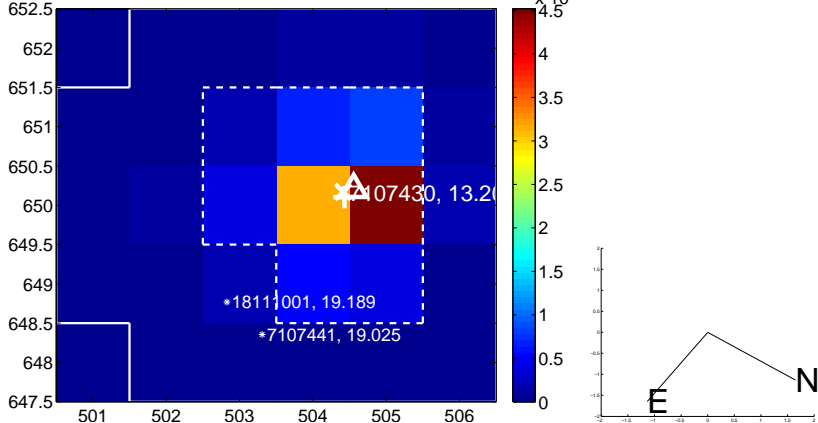
Q14 no OOT image



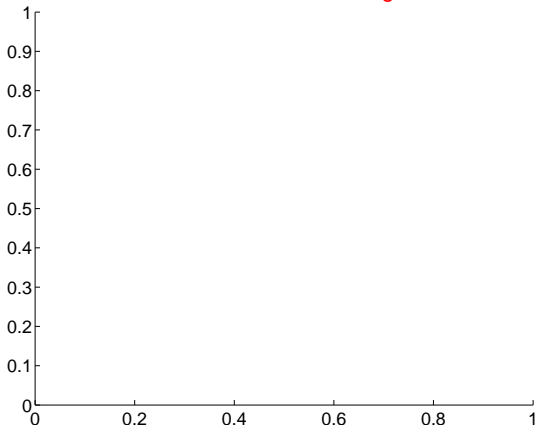
Q15 difference image. Poor Quality



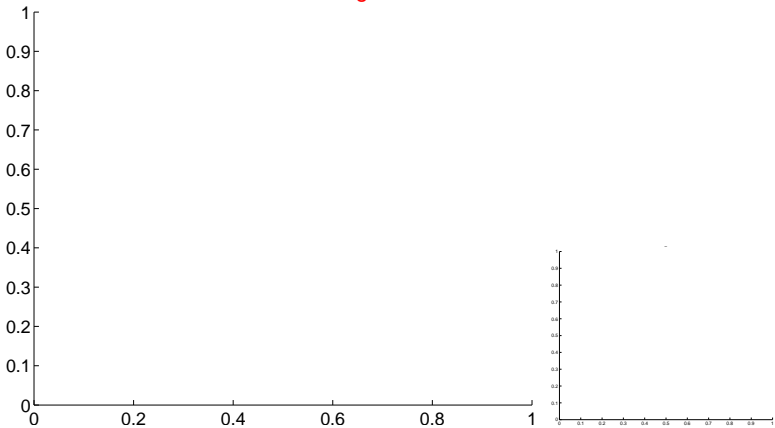
Q15 OOT image



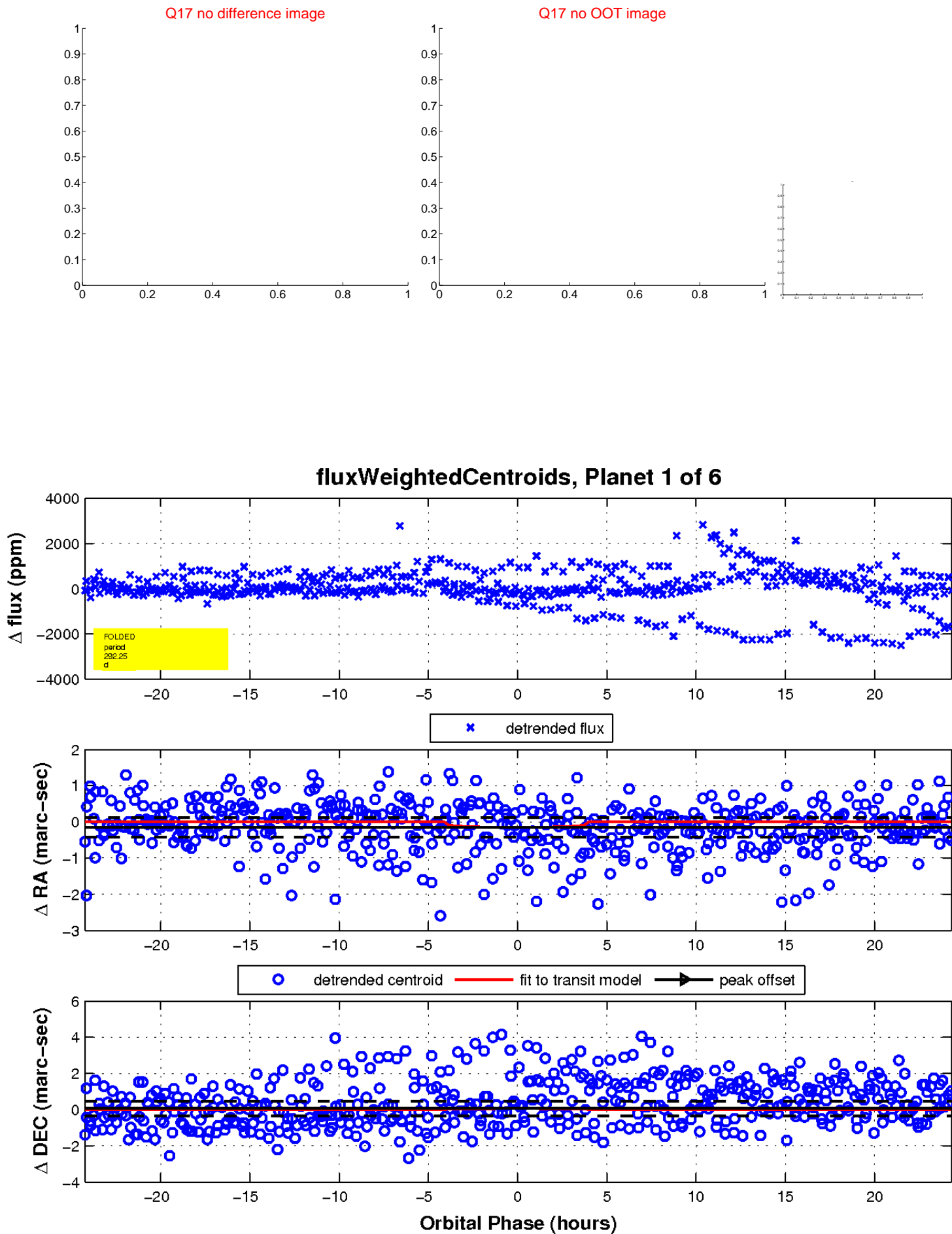
Q16 no difference image



Q16 no OOT image

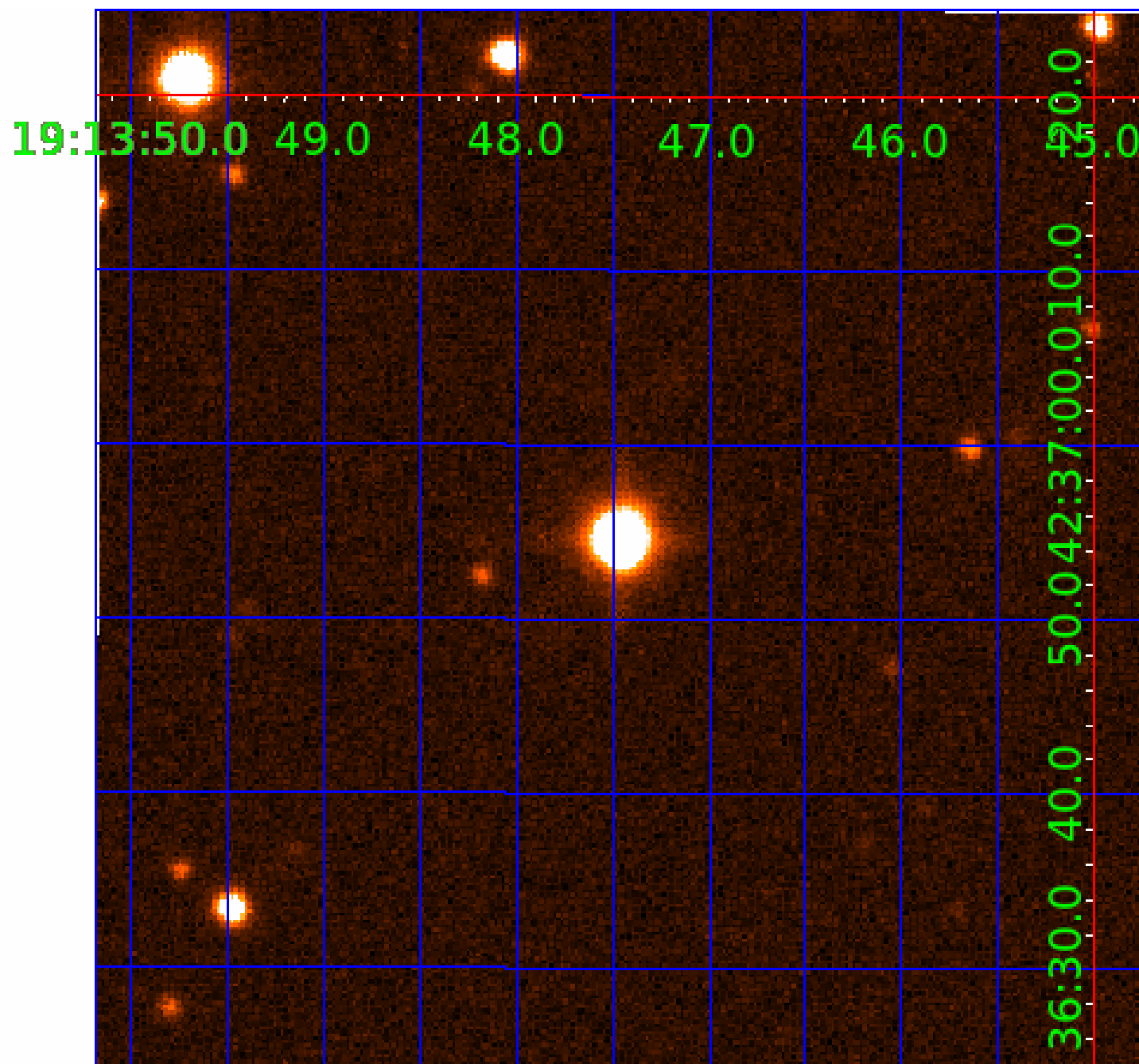


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007107430

Q1-17 DR25 TCE Parameters

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007107430-04	OBS	No	496.004754	203.259880	618.4	4.626	11.7	8.1	0.57	4110	1.54	0.08
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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007107430-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007107430-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

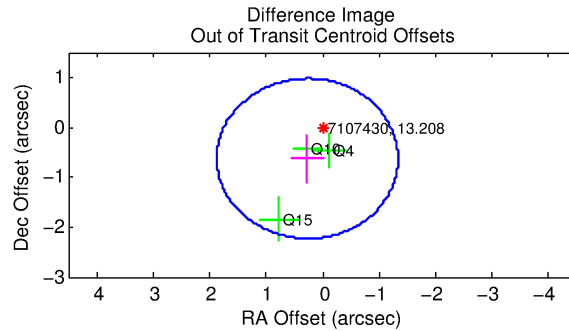
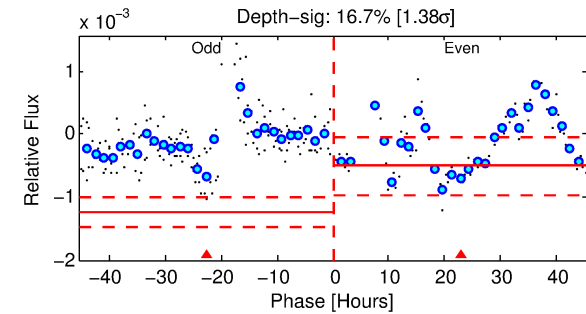
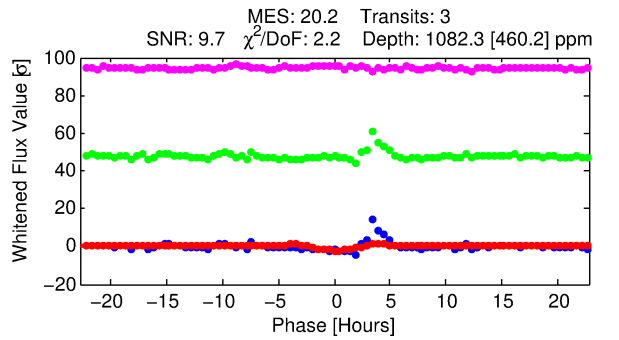
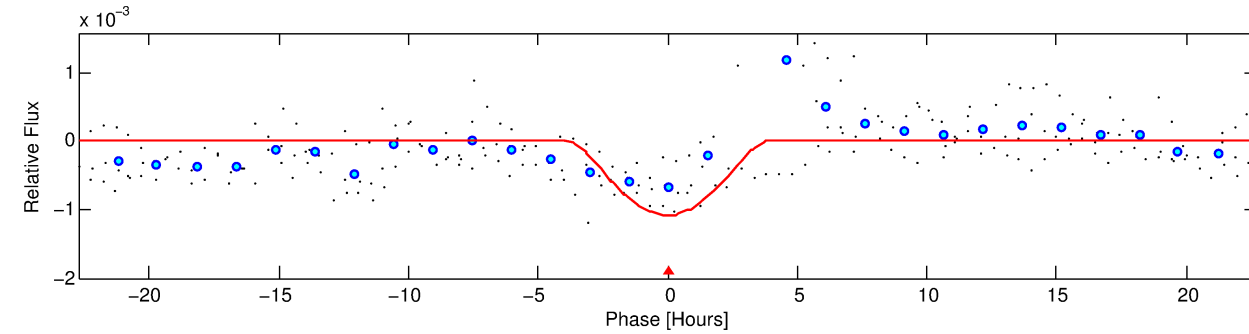
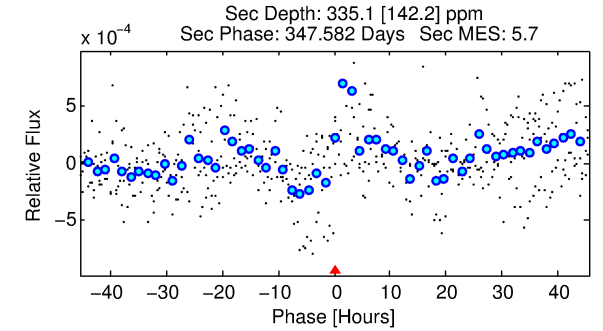
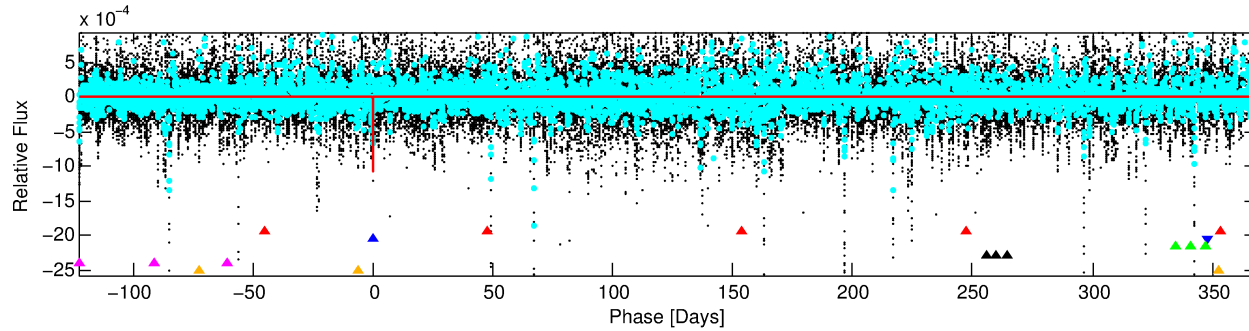
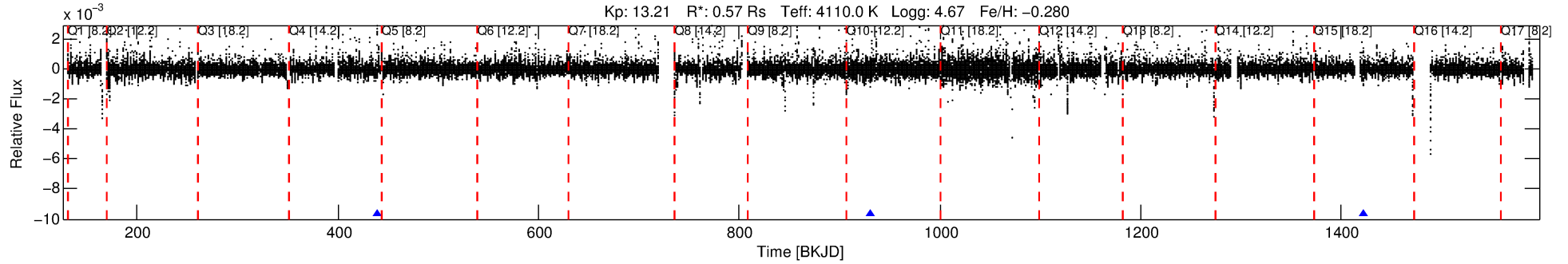
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007107430-02

No Significant Match Found

DV One-Page Summary

KIC: 7107430 Candidate: 2 of 6 Period: 491.429 d



DV Fit Results:

Period = 491.42930 [0.01232] d
Epoch = 439.1455 [0.0152] BKJD
Rp/R* = 0.0601 [0.2138]
a/R* = 174.53 [140.73]
b = 1.00 [0.29]
Seff = 0.08 [0.01]
Teq = 137 [4] K
Rp = 3.77 [13.42] Re
a = 1.0072 [0.0508] AU
Ag = 13147.00 [93685.22] [0.14 σ]
Teffp = 2268 [4041] K [0.53 σ]

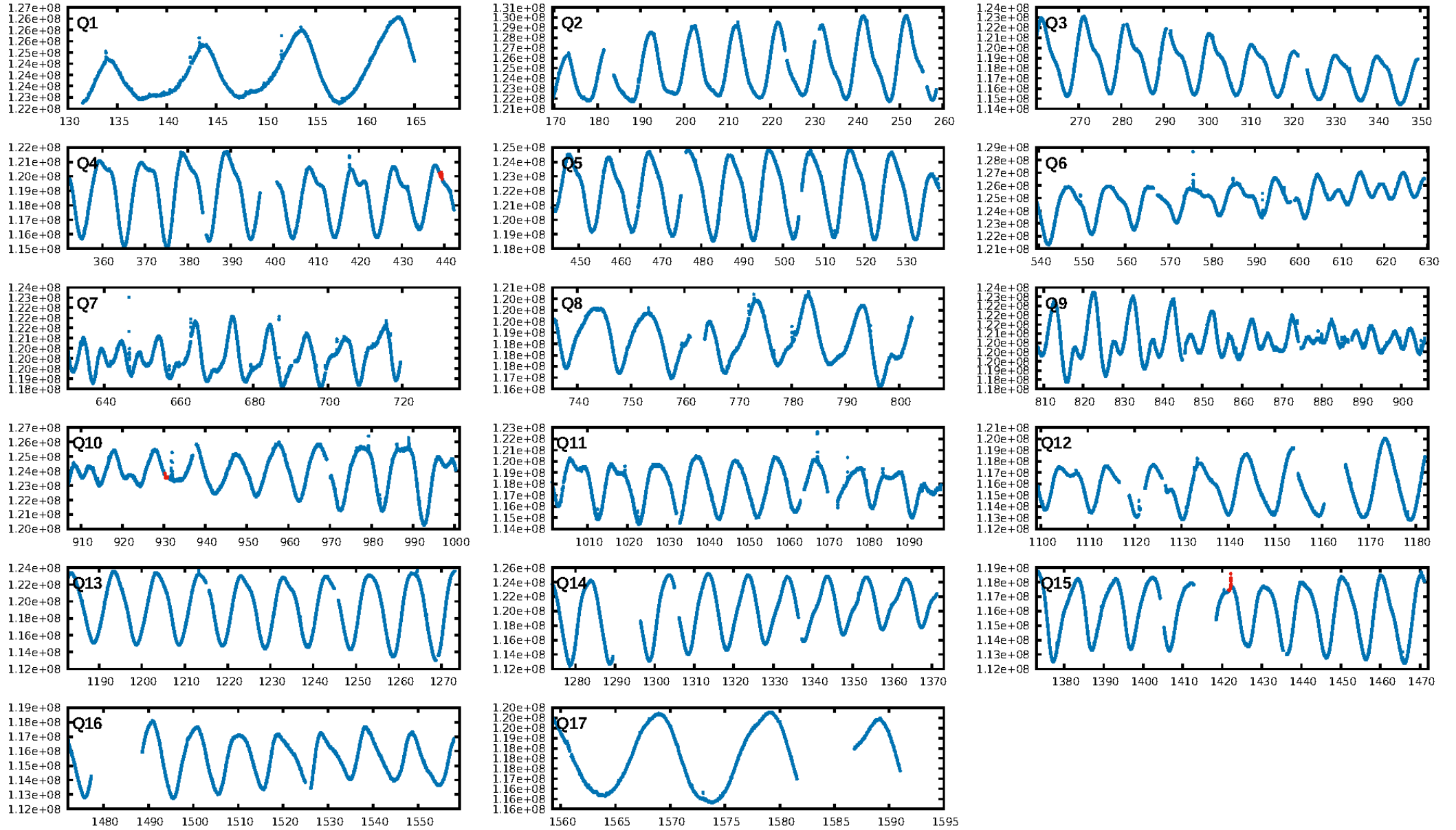
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [75.28 σ]
LongPeriod-sig: 100.0% [12.37 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 7.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.484
Centroid-sig: 0.5%
Centroid-so: 1.065 arcsec [1.86 σ]
OotOffset-rm: 0.684 arcsec [1.28 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.708 arcsec [1.71 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

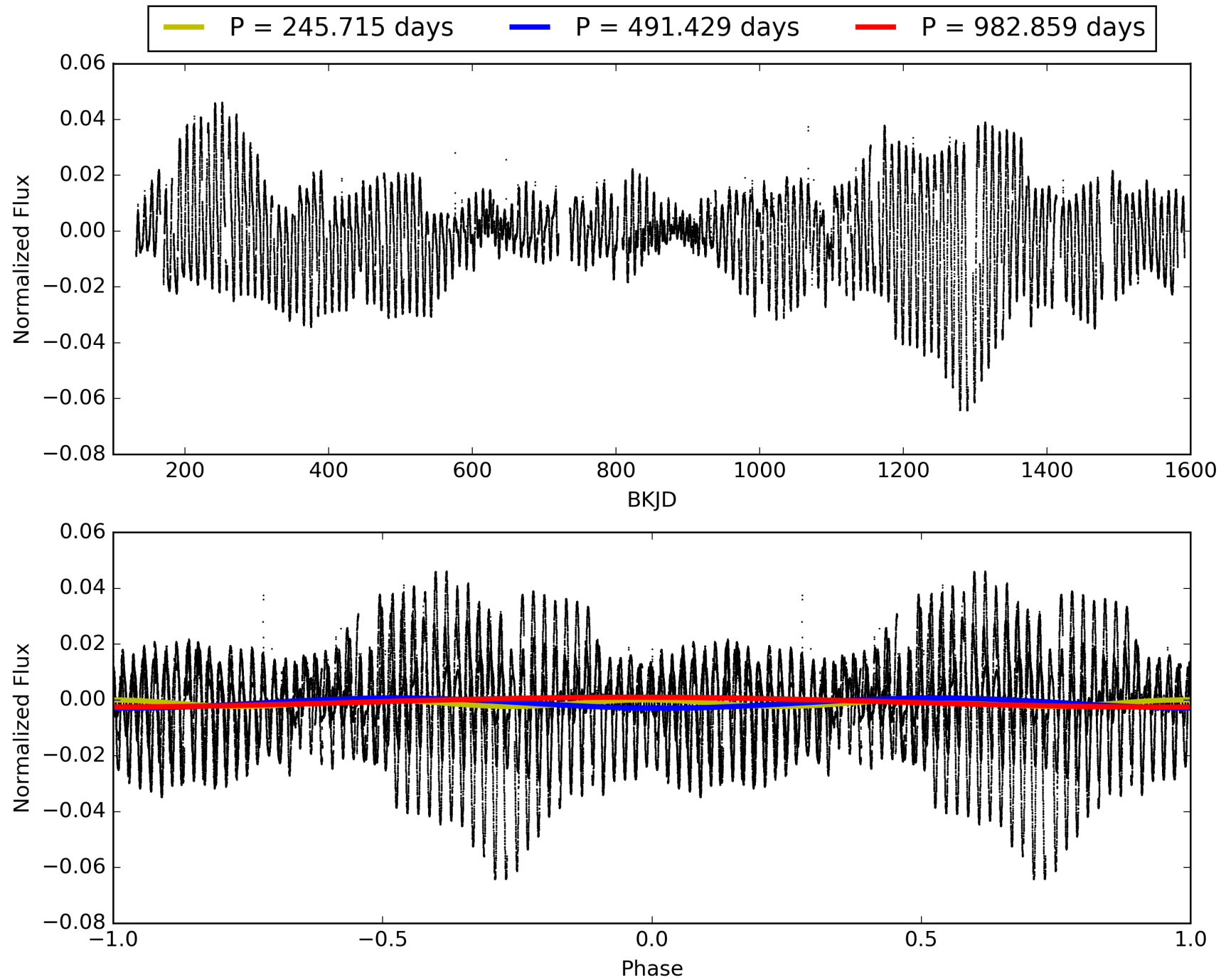
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:35:08 Z

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

TCE 007107430-02, PDC Light Curves

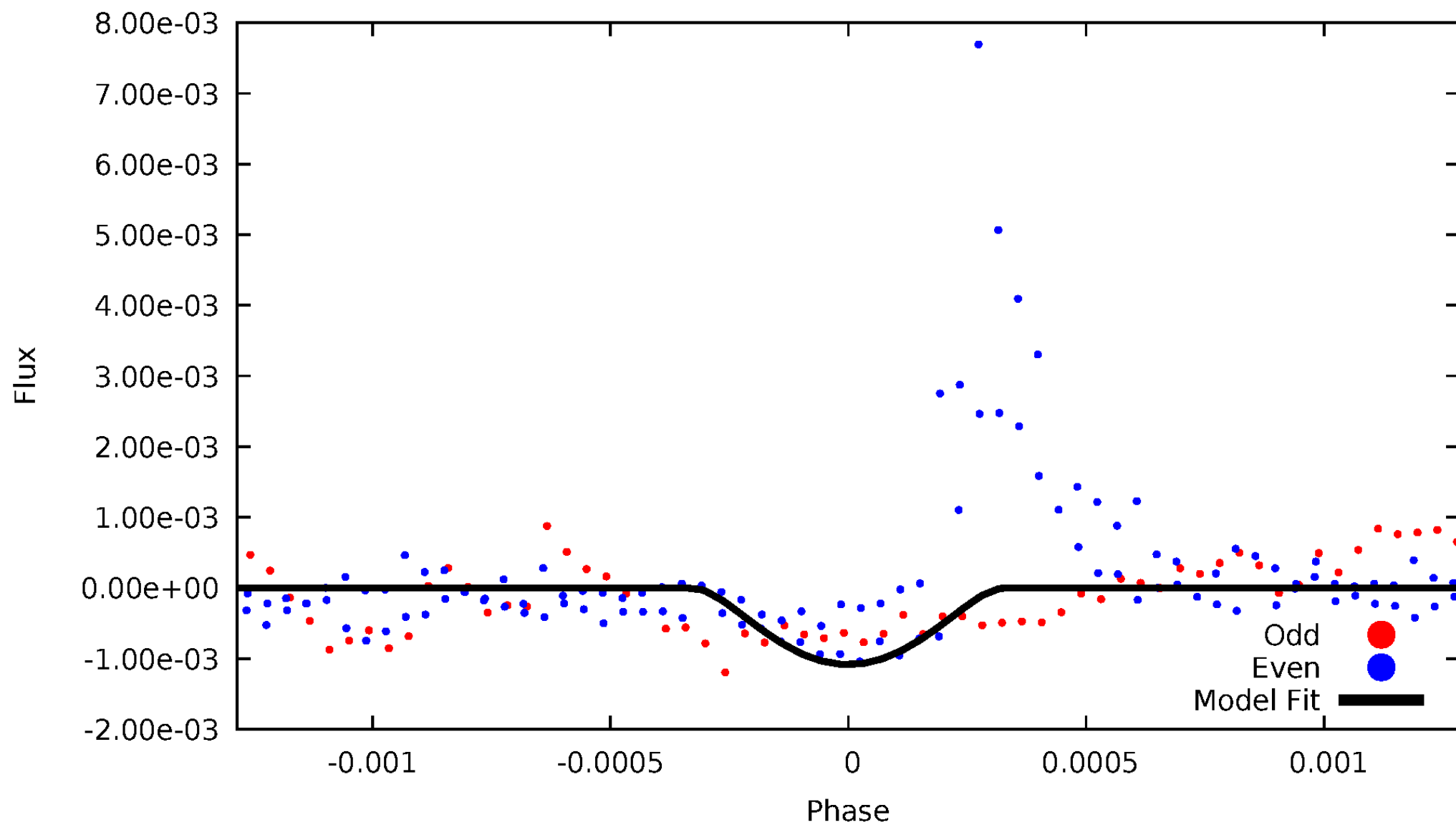


TCE 007107430-02



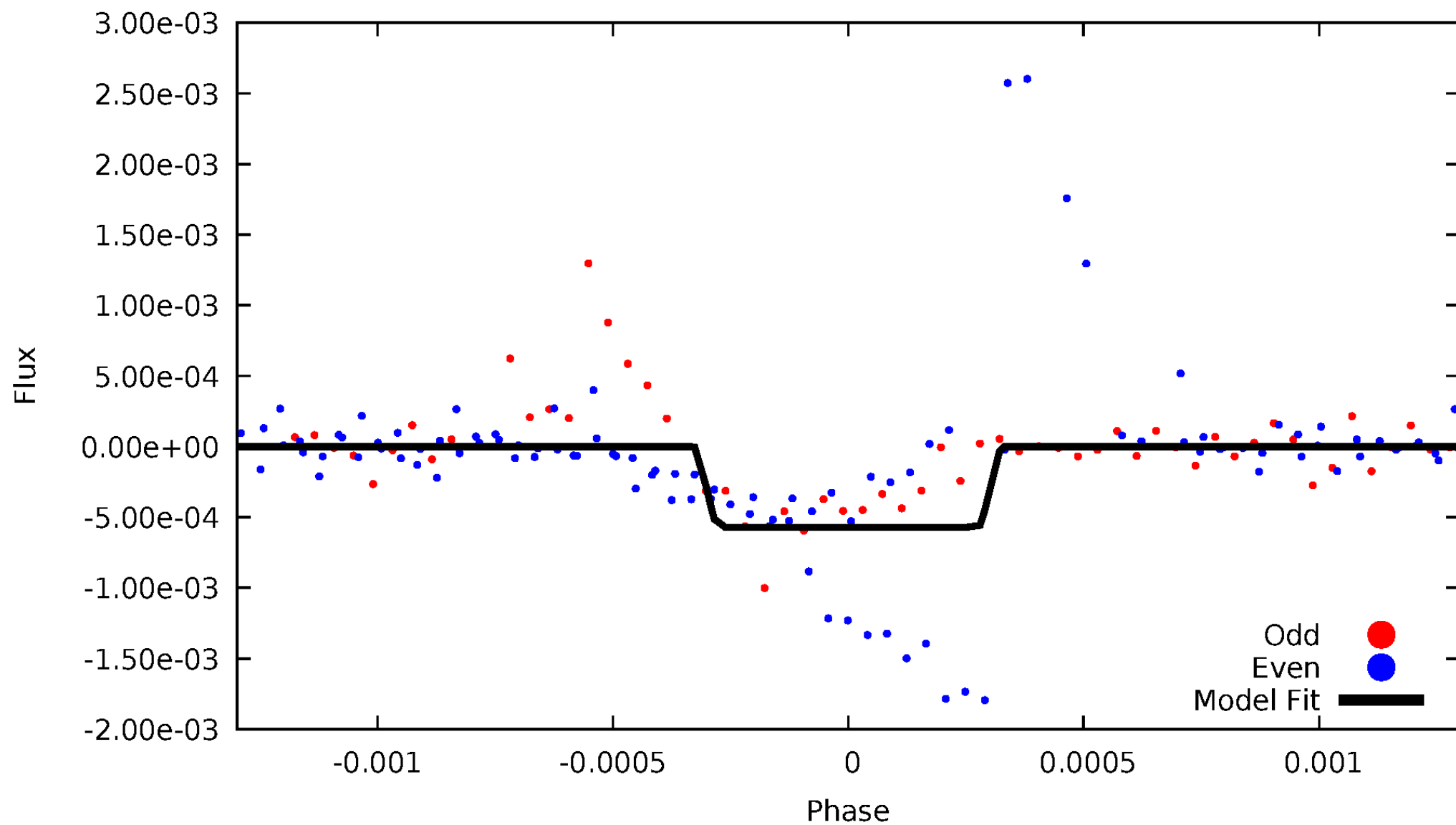
DV Odd/Even

TCE 007107430-02



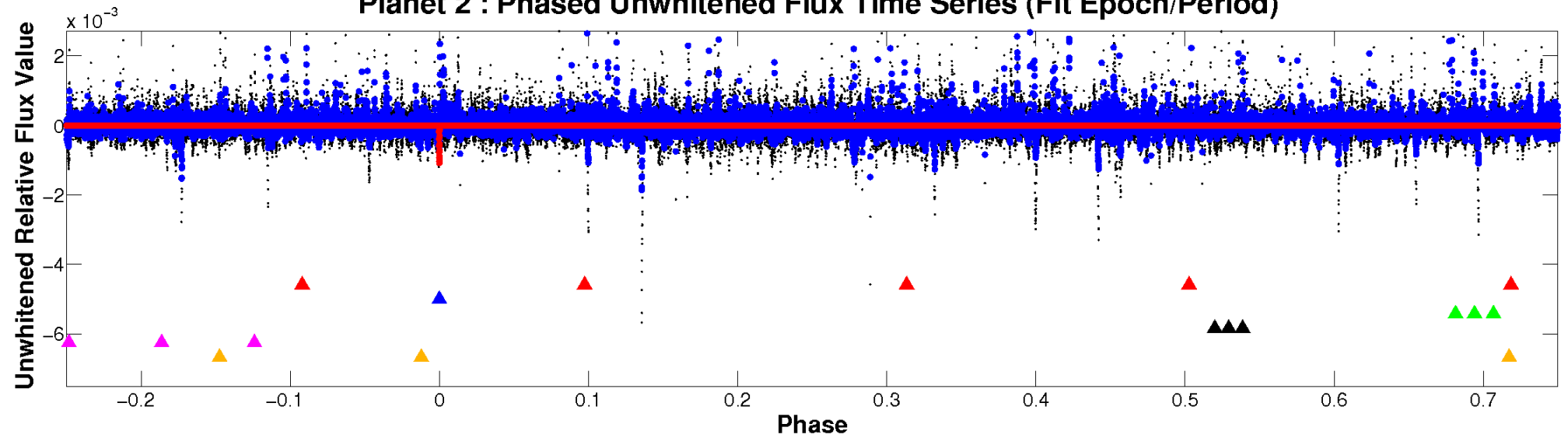
ALT Odd/Even

TCE 007107430-02

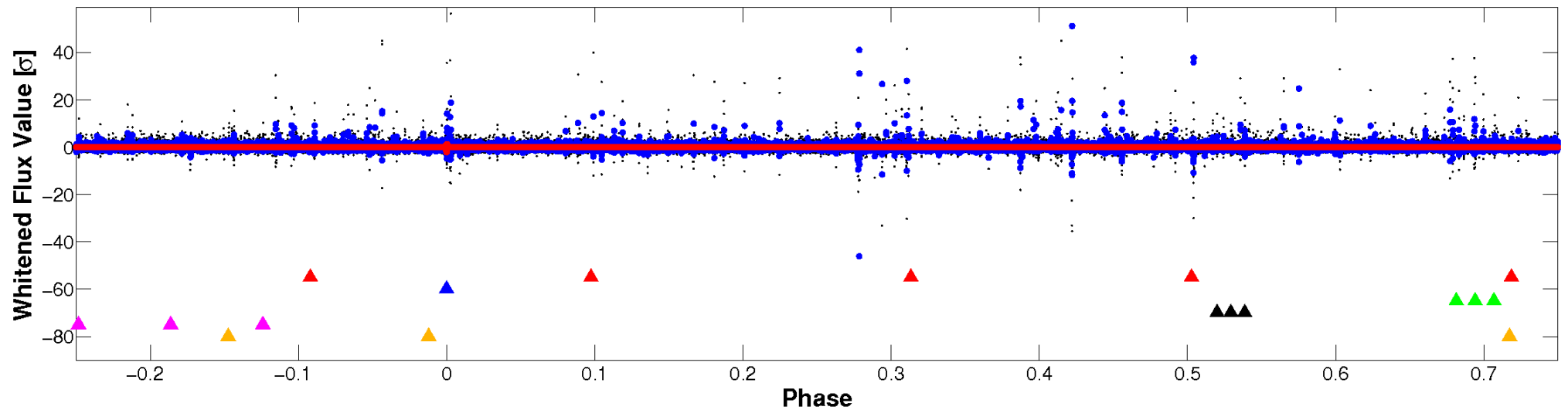


Non-Whitened Vs. Whitened Light Curve

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

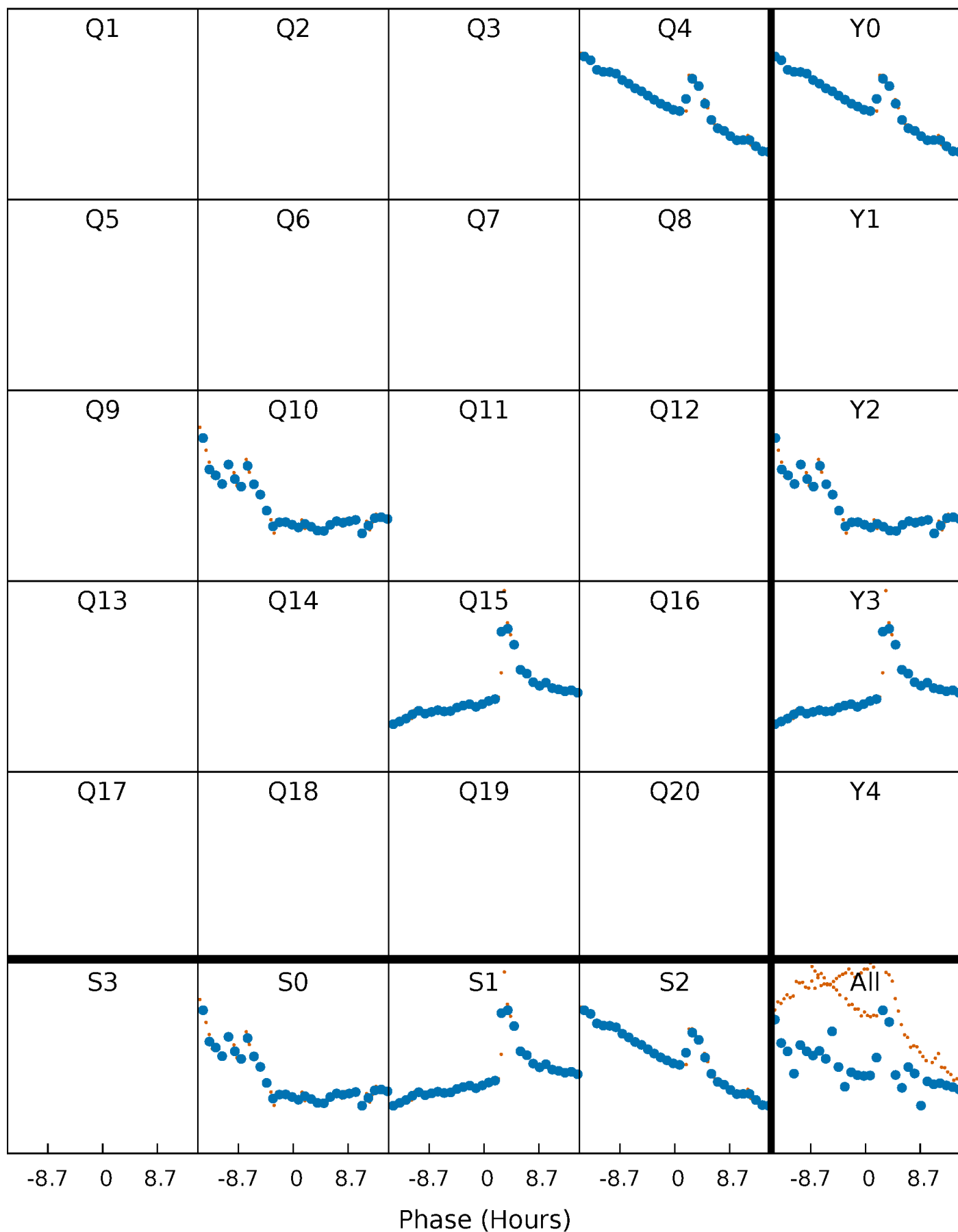


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



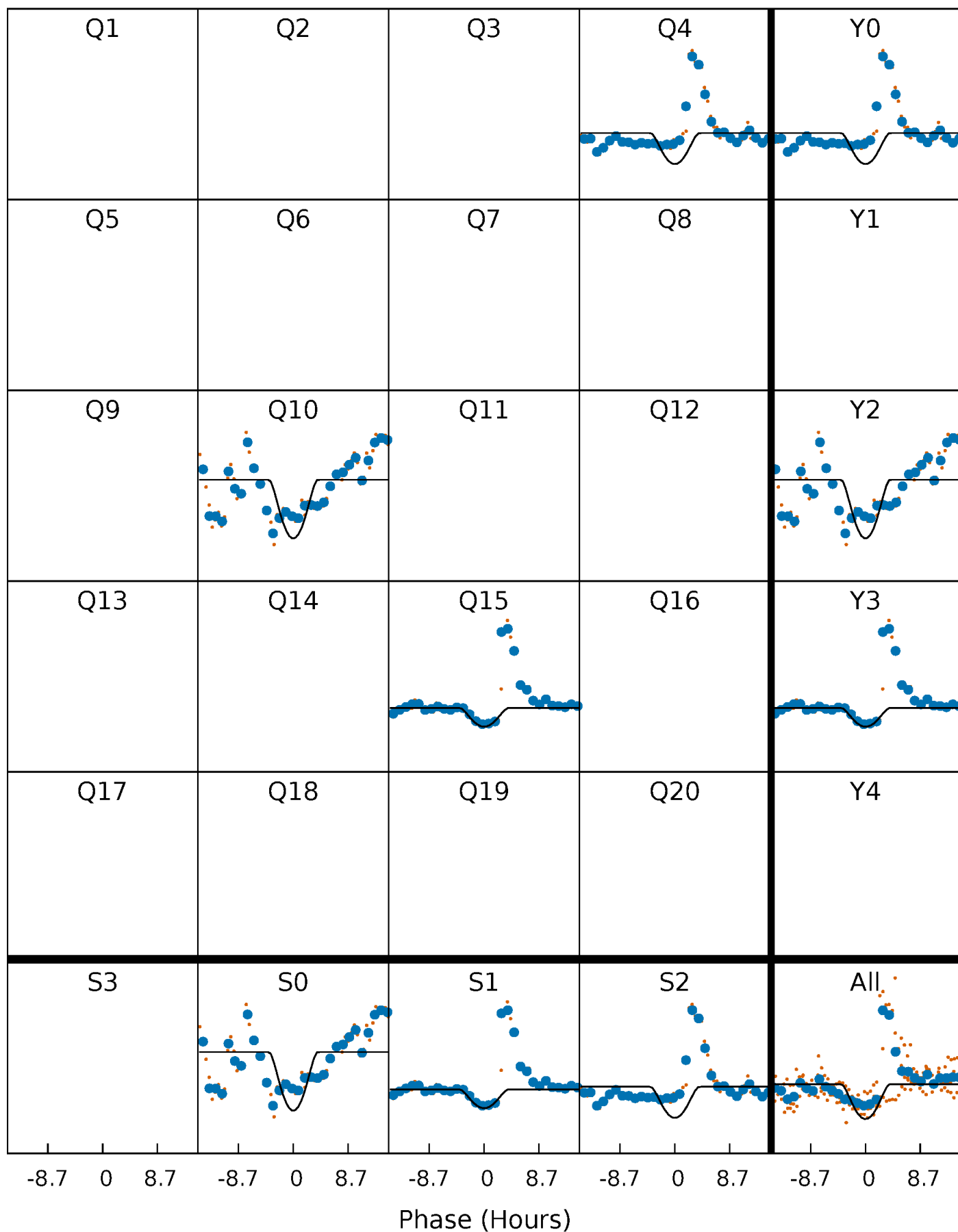
PDC Quarter-Phased Transit Curves

TCE 007107430-02 P=491.429298 Days $T_0=439.145465$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007107430-02 $P=491.429298$ Days $T_0=439.145465$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

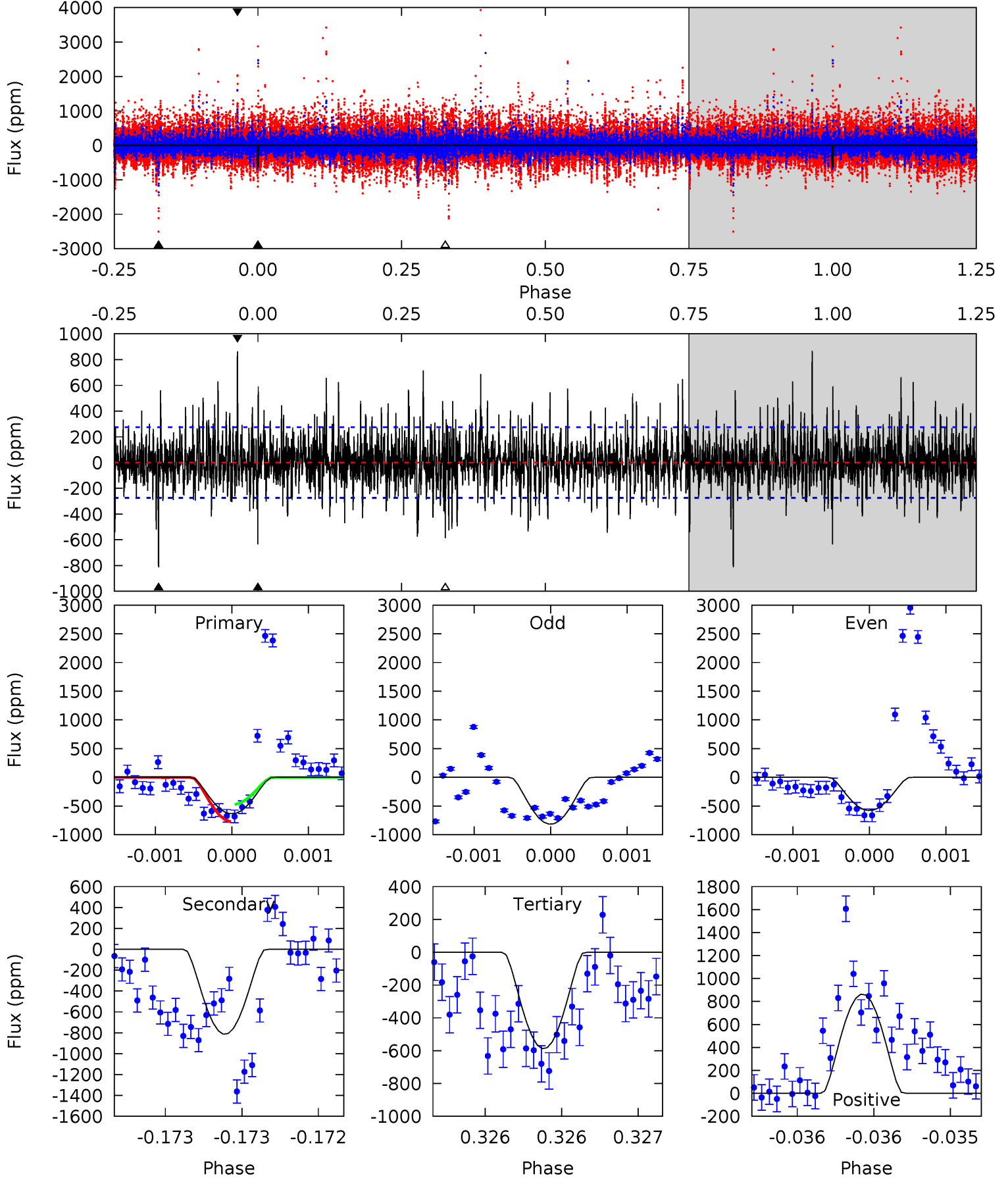
TCE 007107430-02 P=491.420307 Days $T_0=439.114498$ (BKJD)



DV Model-Shift Uniqueness Test

007107430-02, P = 491.429298 Days, E = 439.145465 Days

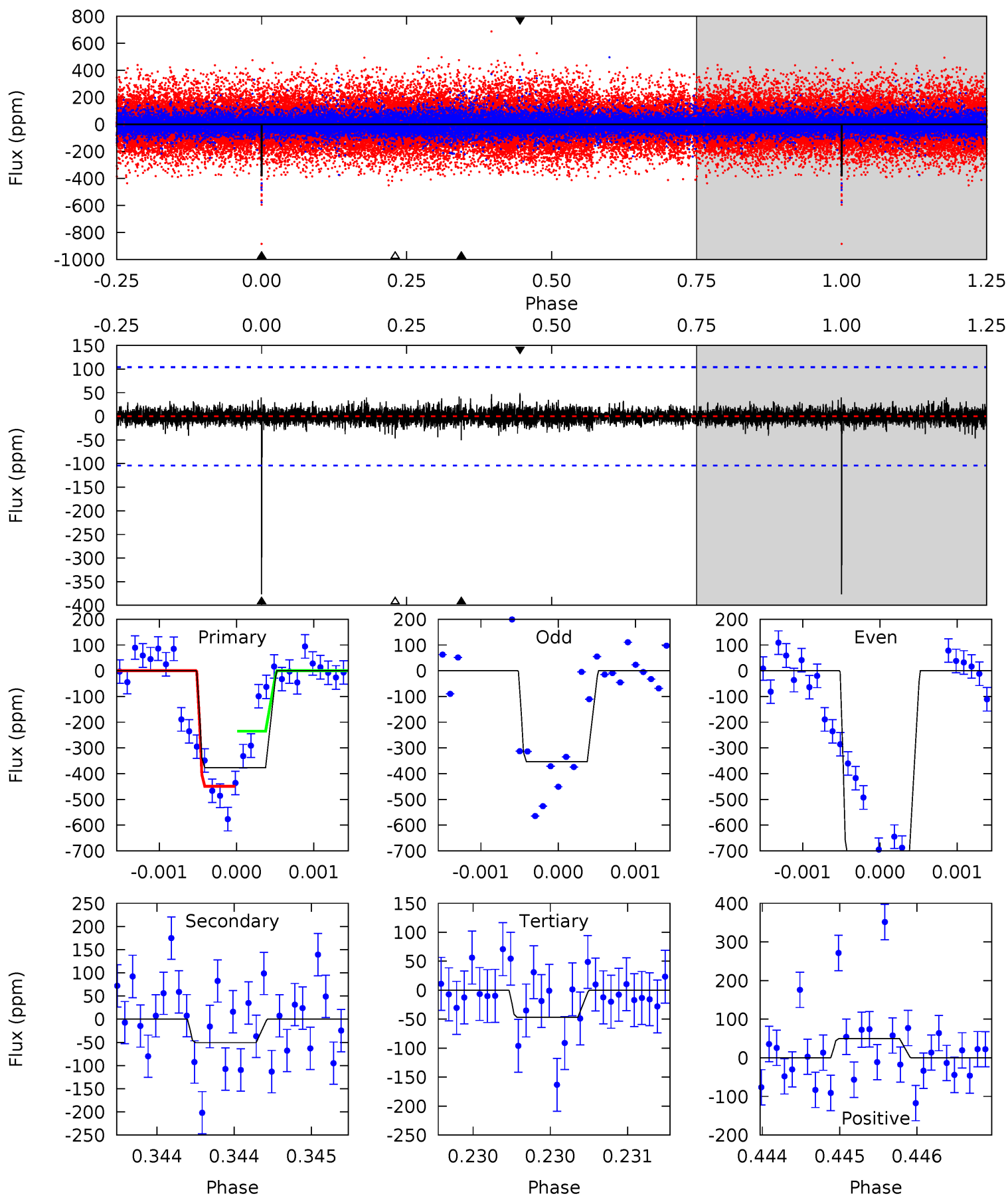
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	16.4	11.8	17.4	5.53	3.42	3.03	0.95	-4.60	4.55	-1.00	1.57	0.67	0.51	3.00



Alt Model-Shift Uniqueness Test

007107430-02, P = 491.420307 Days, E = 439.114498 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	2.68	2.49	2.63	5.53	3.42	0.48	17.5	17.4	0.20	0.05	10.1	1.52	0.12	0



Stellar Parameters For KIC 007107430

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4110^{+74}_{-83}	$4.670^{+0.039}_{-0.015}$	$-0.280^{+0.150}_{-0.150}$	$0.575^{+0.023}_{-0.035}$	$0.565^{+0.032}_{-0.029}$	$4.185^{+0.655}_{-0.294}$
	+2%/-2%	+1%/-0%	+54%/-54%	+4%/-6%	+6%/-5%	+16%/-7%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007107430-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-813 ± 50	$10.45^{+10.53}_{-7.04}$	190^{+4}_{-4}	2454^{+890}_{-355}	4296^{+36271}_{-3250}
Alt.	-51 ± 19	$9.55^{+9.96}_{-6.54}$	191^{+4}_{-5}	1839^{+539}_{-236}	281^{+2861}_{-220}

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

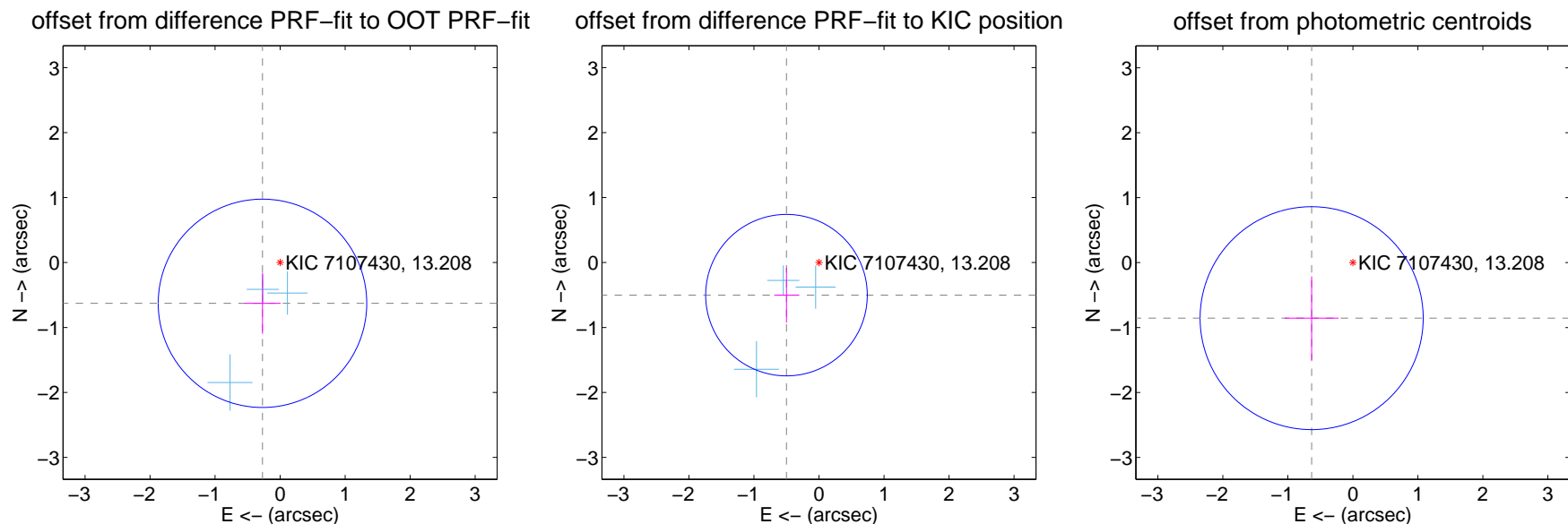
DV Centroid Data

Supplemental centroid analysis for 007107430-02. Kepler magnitude: 13.21. Transit SNR 9.72

There are 3 quarters with good PRF difference image offsets

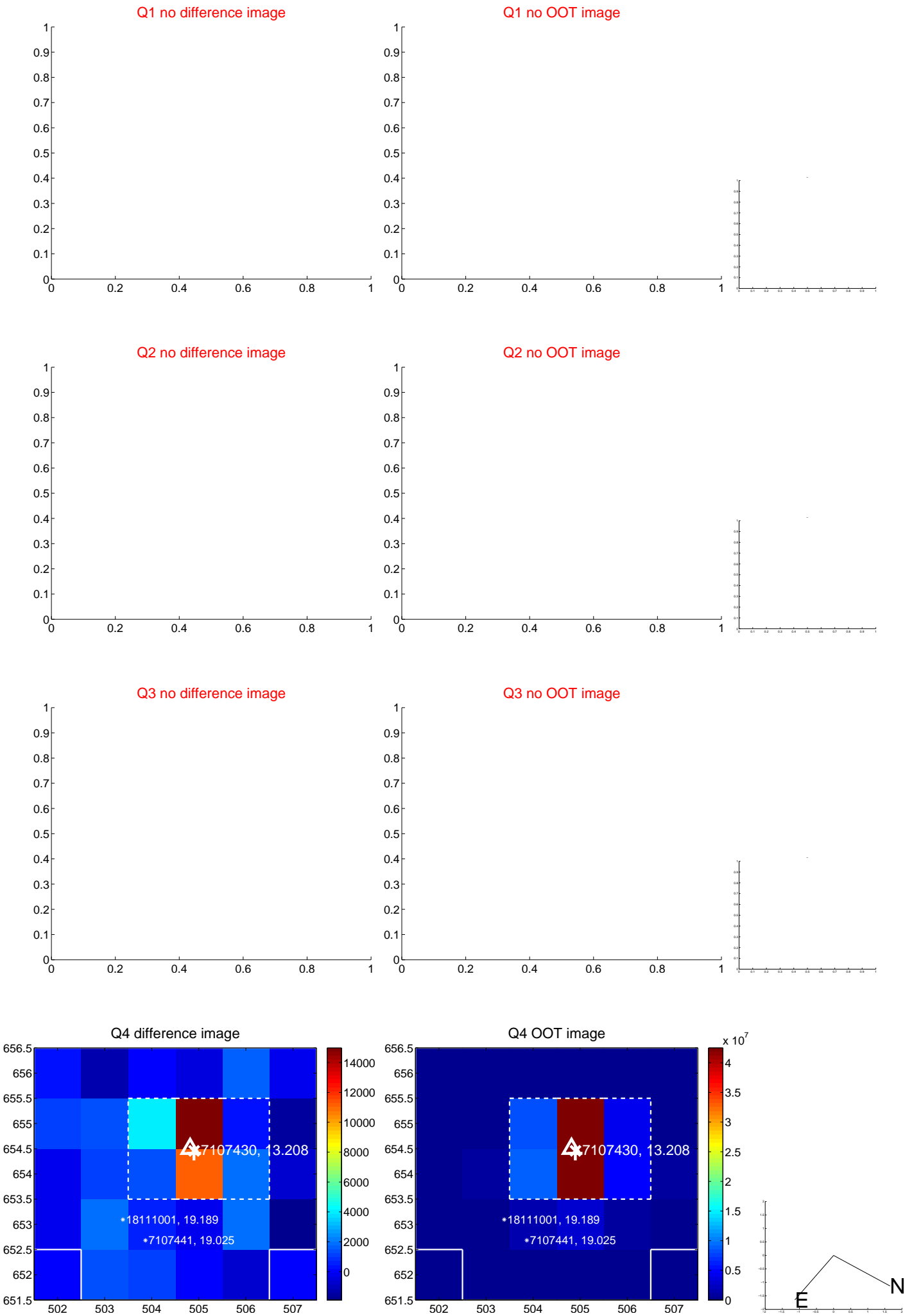
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.684 ± 0.534	1.28	0.271 ± 0.280	-0.628 ± 0.469
PRF-fit source offset from KIC position	0.708 ± 0.414	1.71	0.500 ± 0.188	-0.502 ± 0.423
photometric centroid source offset	1.06 ± 0.57	1.86	0.63 ± 0.41	-0.86 ± 0.64



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.

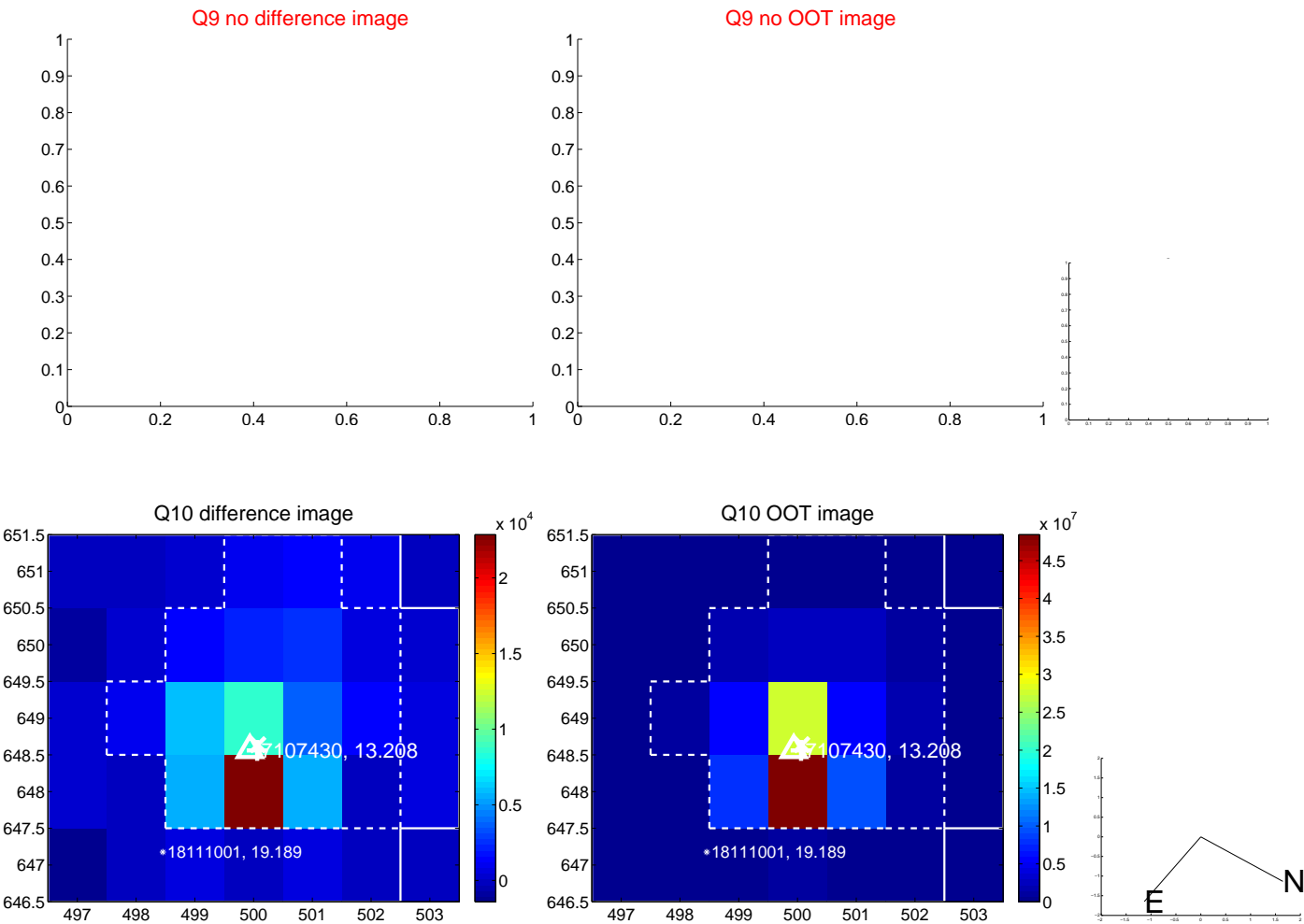
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



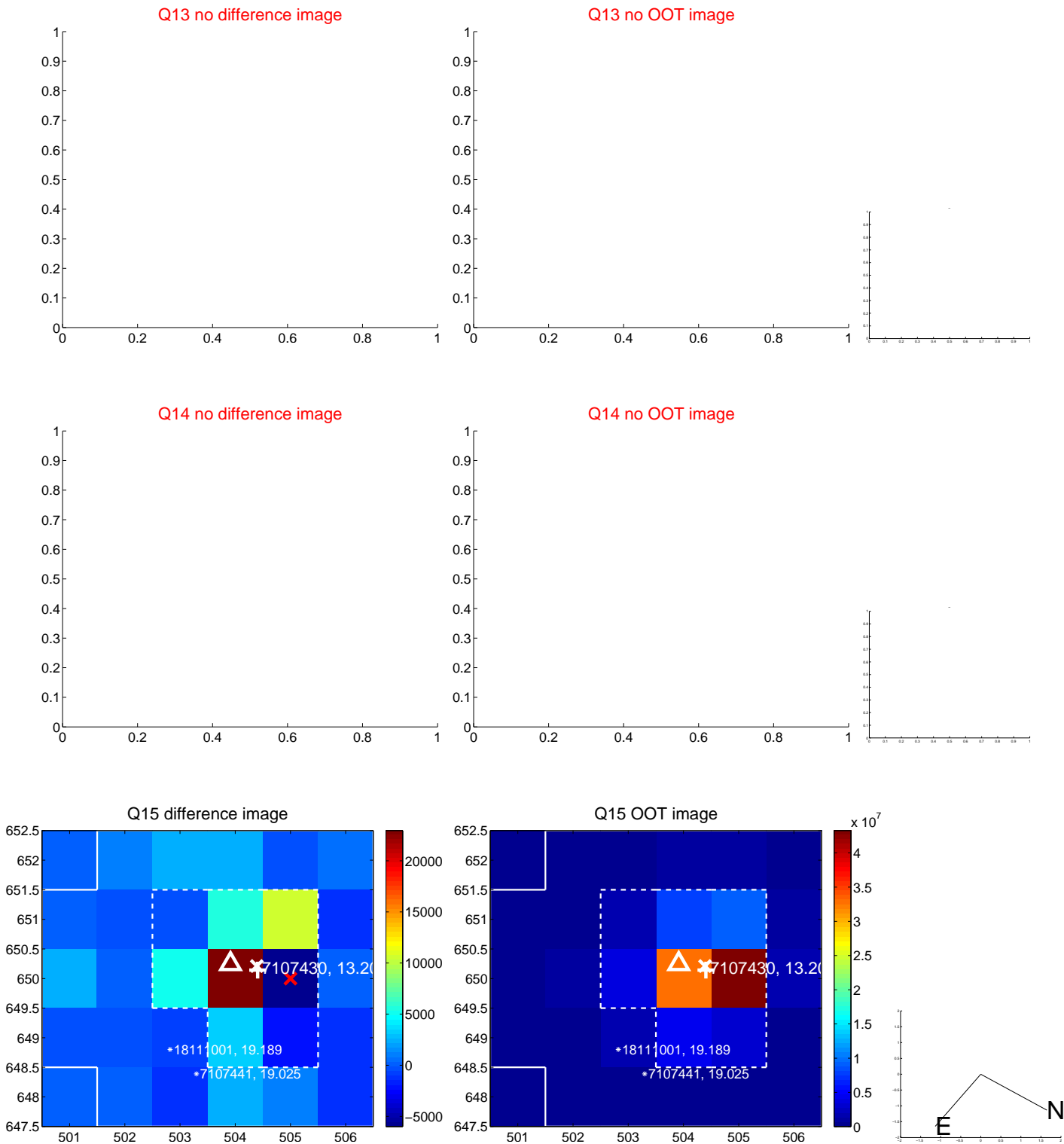
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



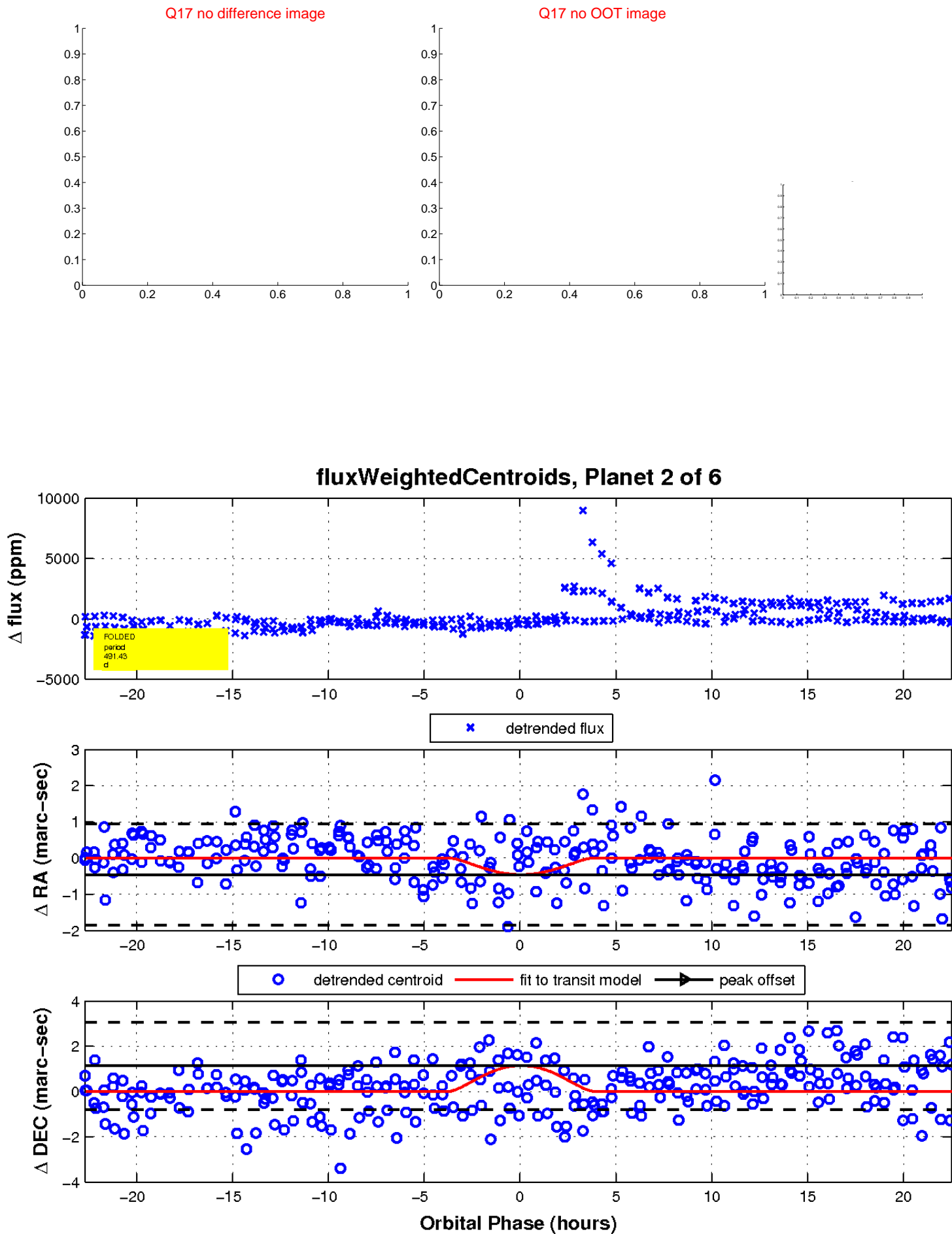
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

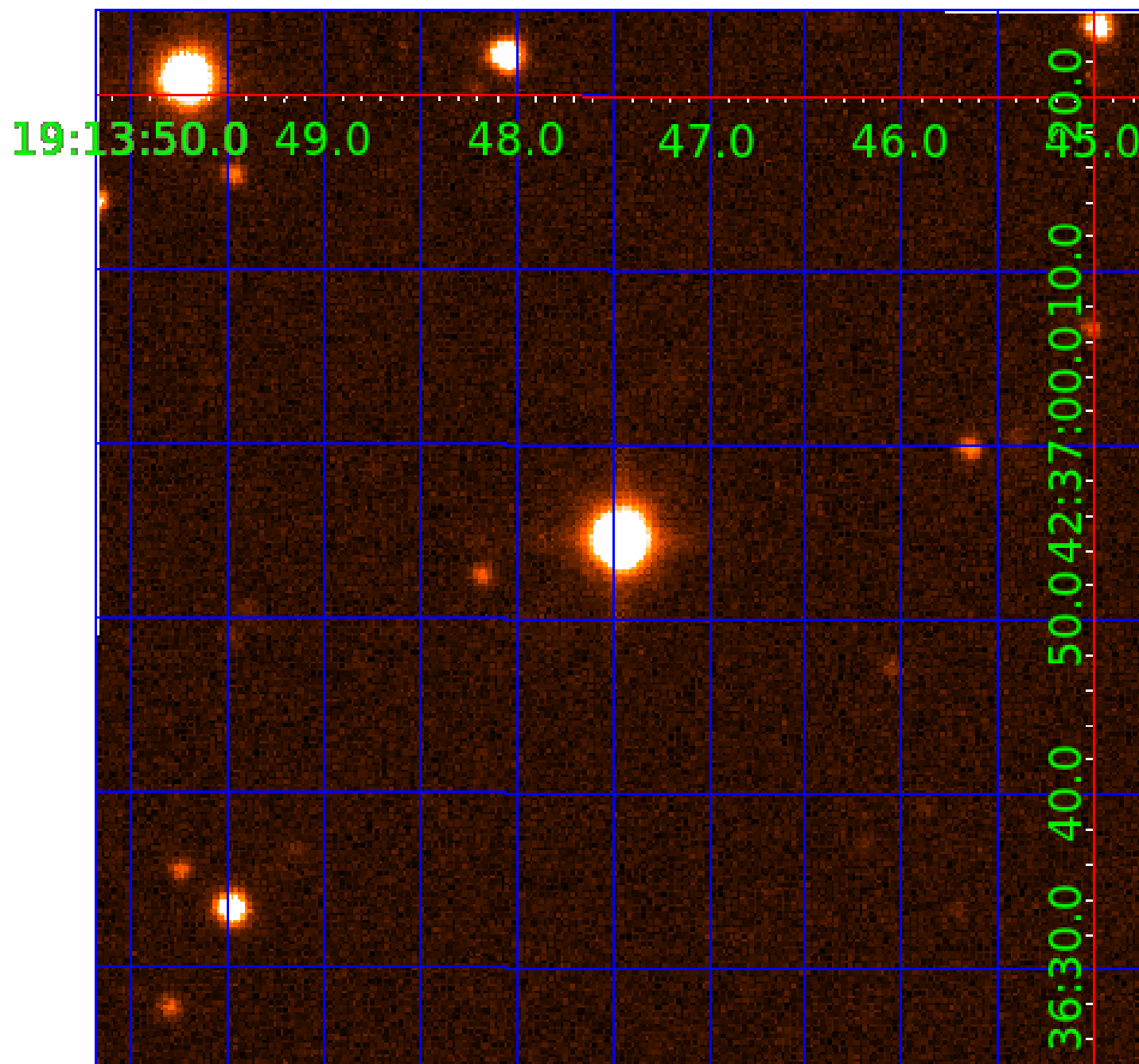


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007107430

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})
007107430-01	OBS	No	292.253875	300.868430	198.0	8.109	13.9	3.0	0.57	4110	0.85	0.17
007107430-02	OBS	No	491.429298	439.145465	1082.3	7.574	20.2	9.7	0.57	4110	3.77	0.08
007107430-03	OBS	No	497.676146	282.596337	1042.3	10.777	13.2	11.8	0.57	4110	1.91	0.08
007107430-04	OBS	No	496.004754	203.259880	618.4	4.626	11.7	8.1	0.57	4110	1.54	0.08
007107430-05	OBS	No	460.858990	378.203982	521.5	6.135	11.6	6.5	0.57	4110	1.44	0.09
007107430-06	OBS	No	424.961906	433.194900	365.4	19.518	10.9	3.4	0.57	4110	1.14	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007107430-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007107430-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

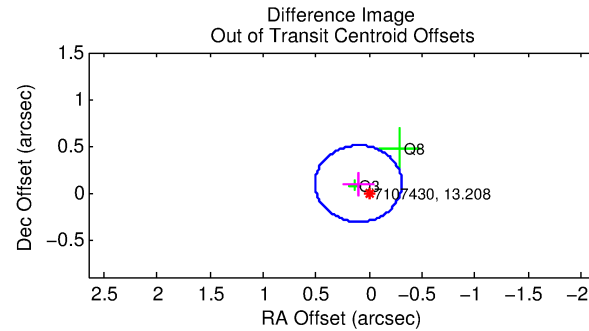
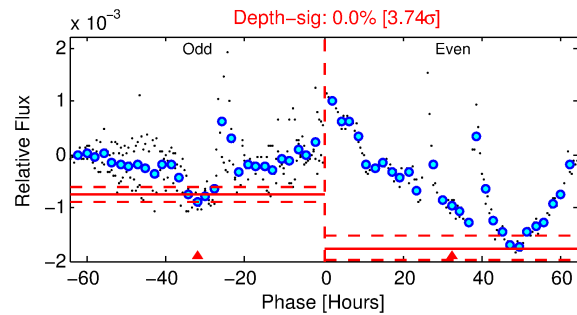
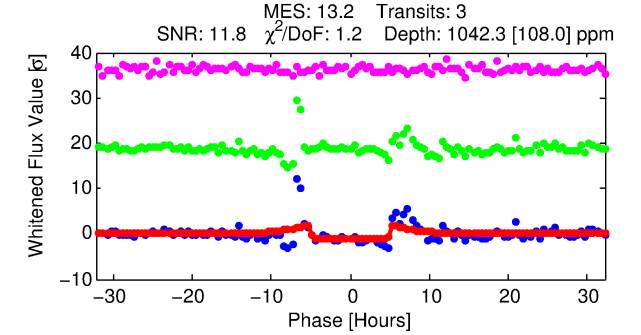
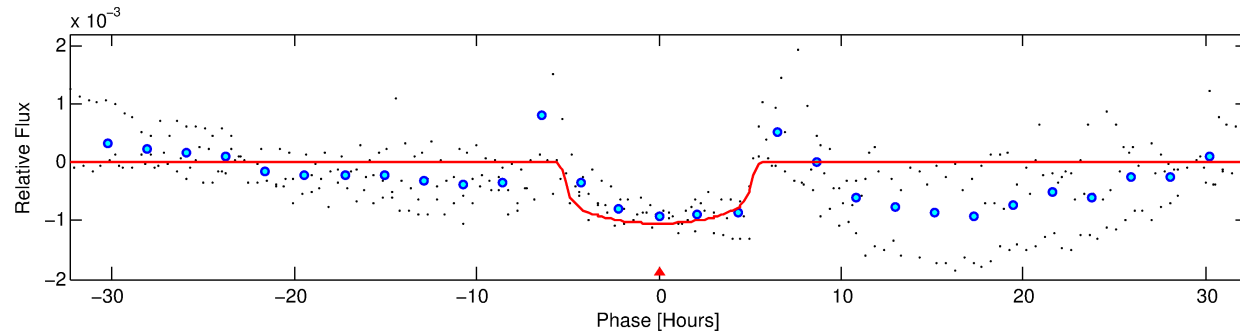
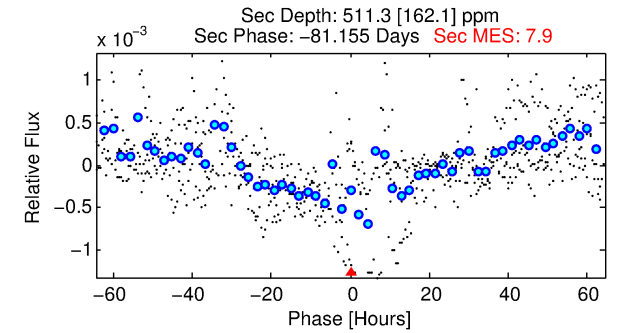
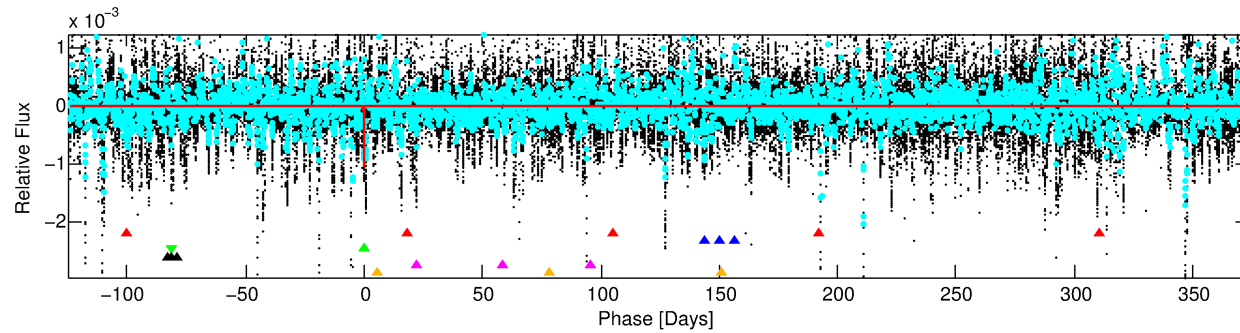
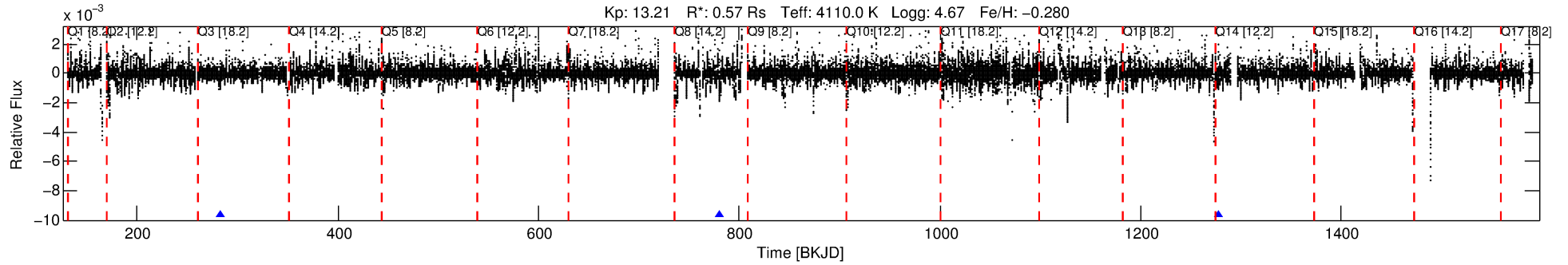
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007107430-03

No Significant Match Found

DV One-Page Summary

KIC: 7107430 Candidate: 3 of 6 Period: 497.676 d



DV Fit Results:

Period = 497.67615 [0.00502] d
Epoch = 282.5963 [0.0076] BKJD
Rp/R* = 0.0304 [0.0064]
a/R* = 305.17 [233.50]
b = 0.56 [0.94]
Seff = 0.08 [0.01]
Teq = 136 [4] K
Rp = 1.91 [0.42] Re
a = 1.0157 [0.0512] AU
Ag = 79779.25 [42541.55] [1.88 σ]
Teffp = 3545 [474] K [7.20 σ]

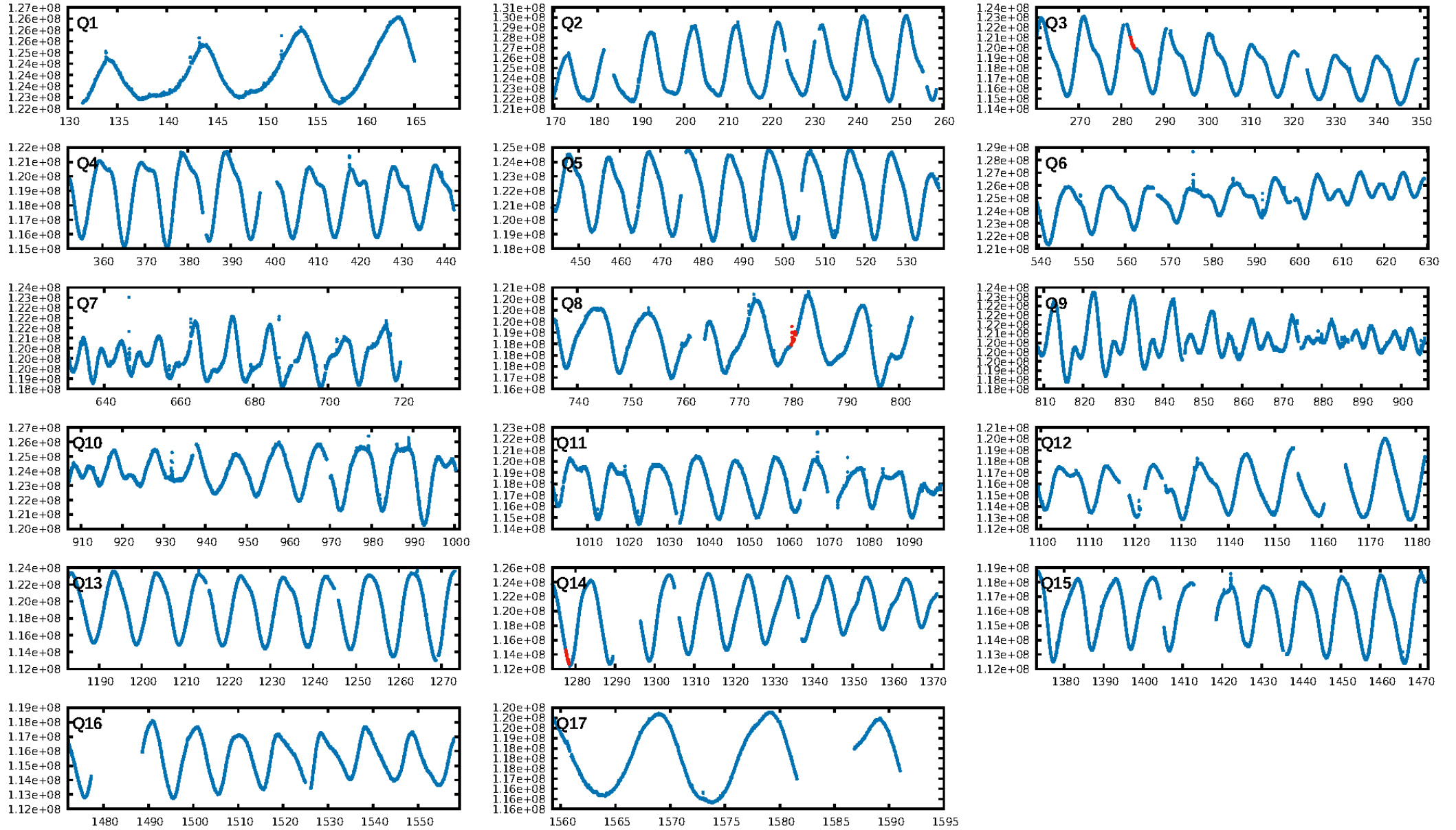
DV Diagnostic Results:

ShortPeriod-sig: 99.9% [3.42 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.3%
ModelChiSquareGof-sig: 74.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.593
Centroid-sig: 44.7%
Centroid-so: 0.514 arcsec [1.54 σ]
OotOffset-rm: 0.141 arcsec [1.04 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.376 arcsec [2.91 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

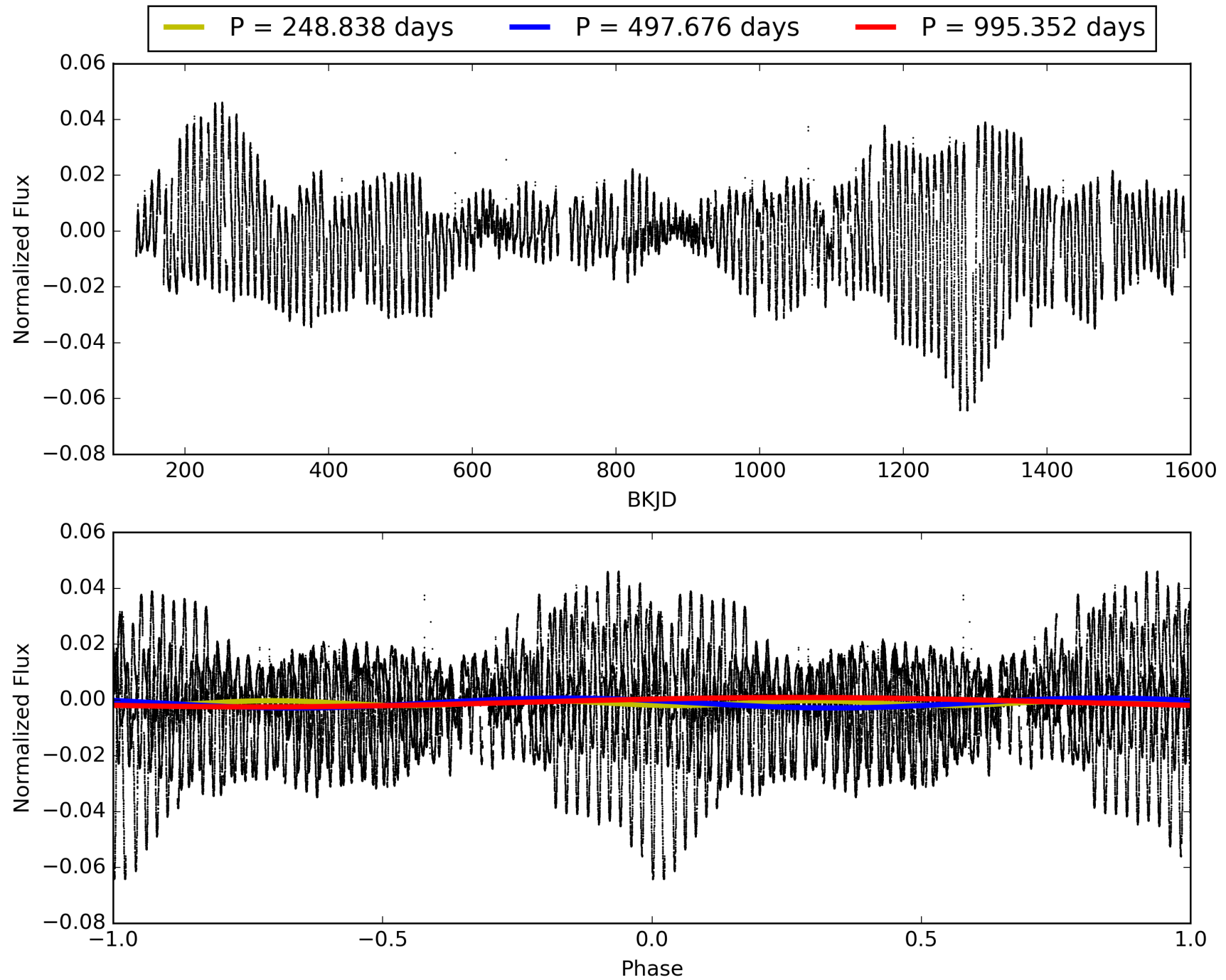
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:35:18 Z

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

TCE 007107430-03, PDC Light Curves

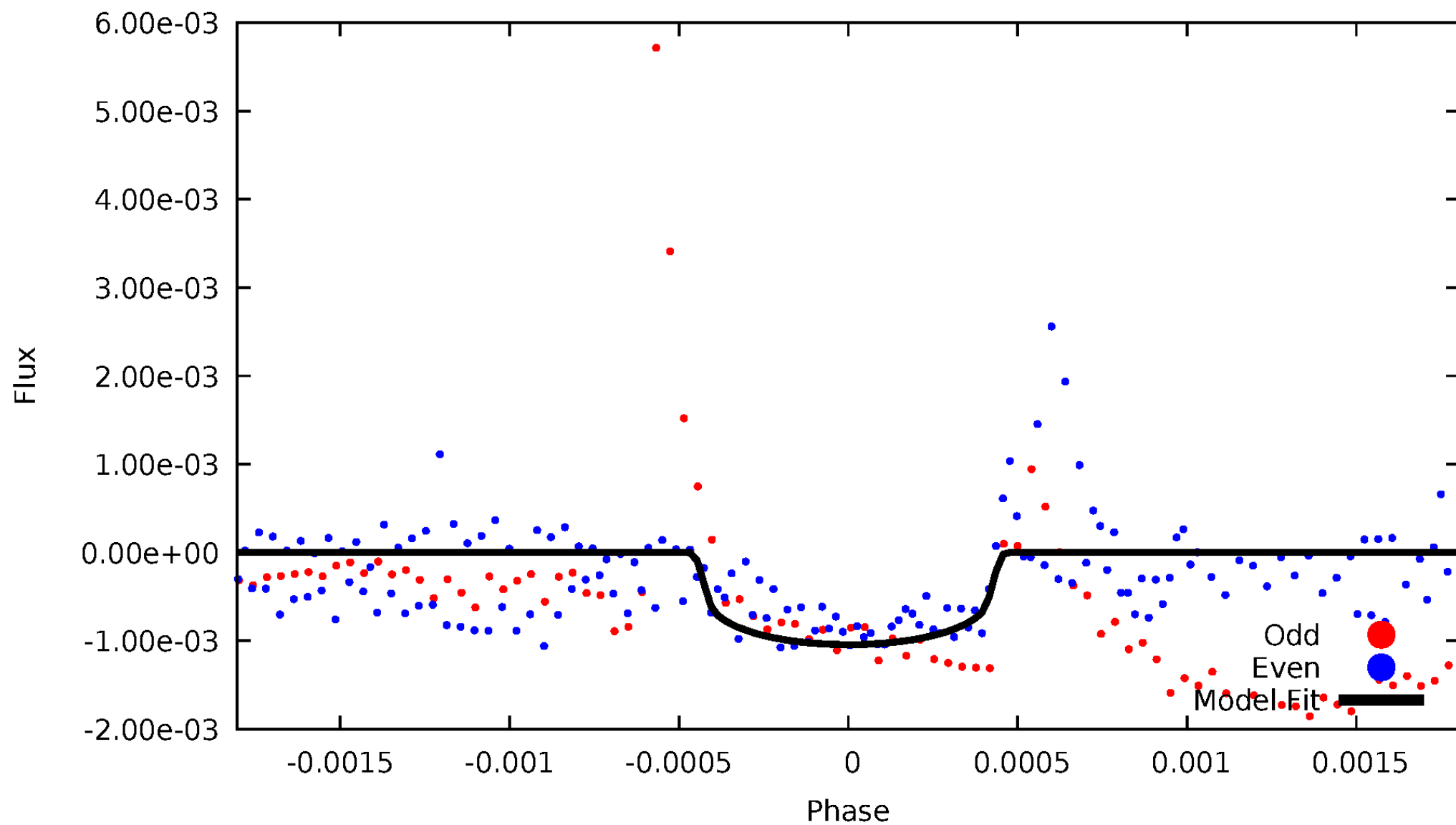


TCE 007107430-03



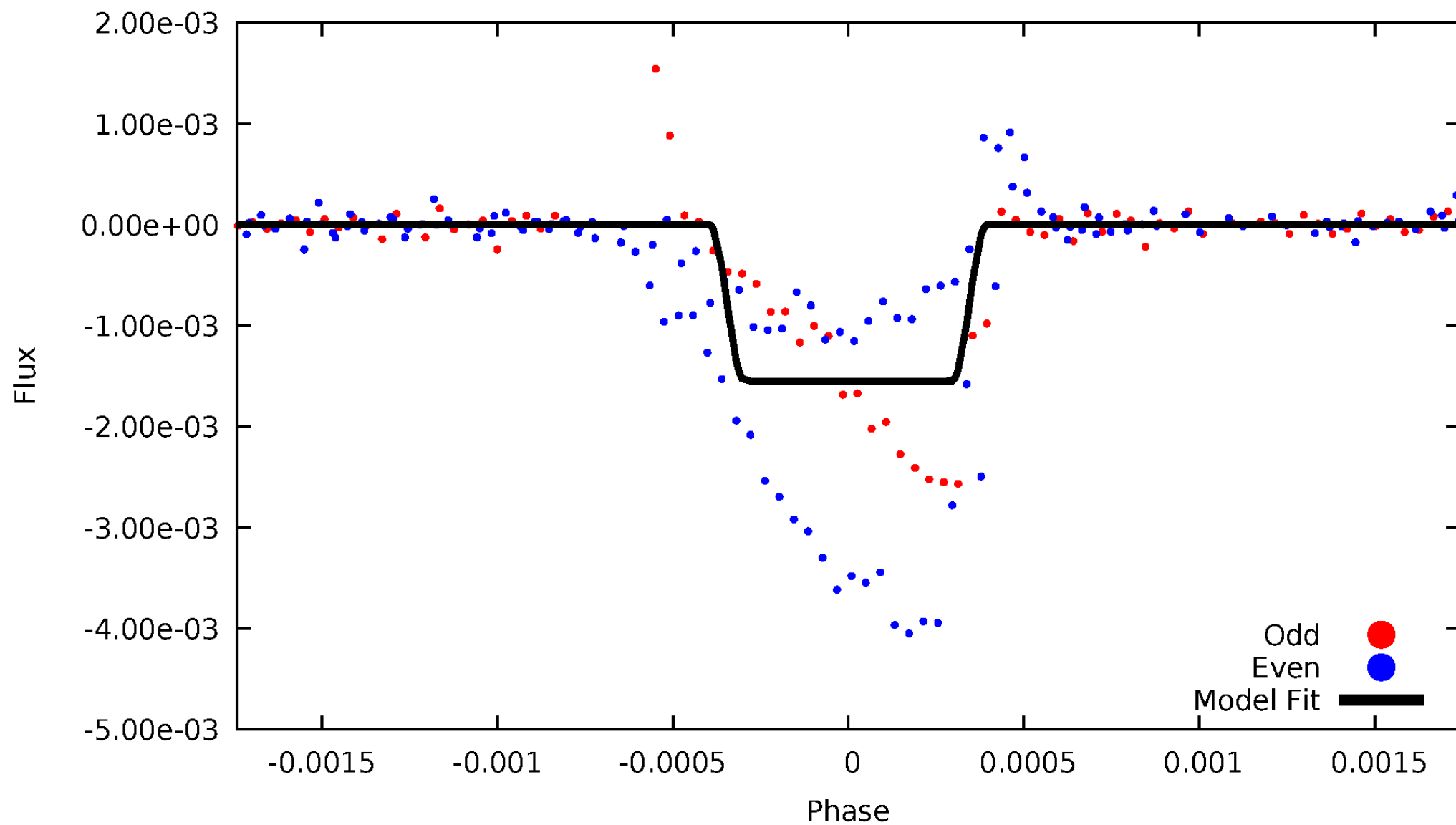
DV Odd/Even

TCE 007107430-03



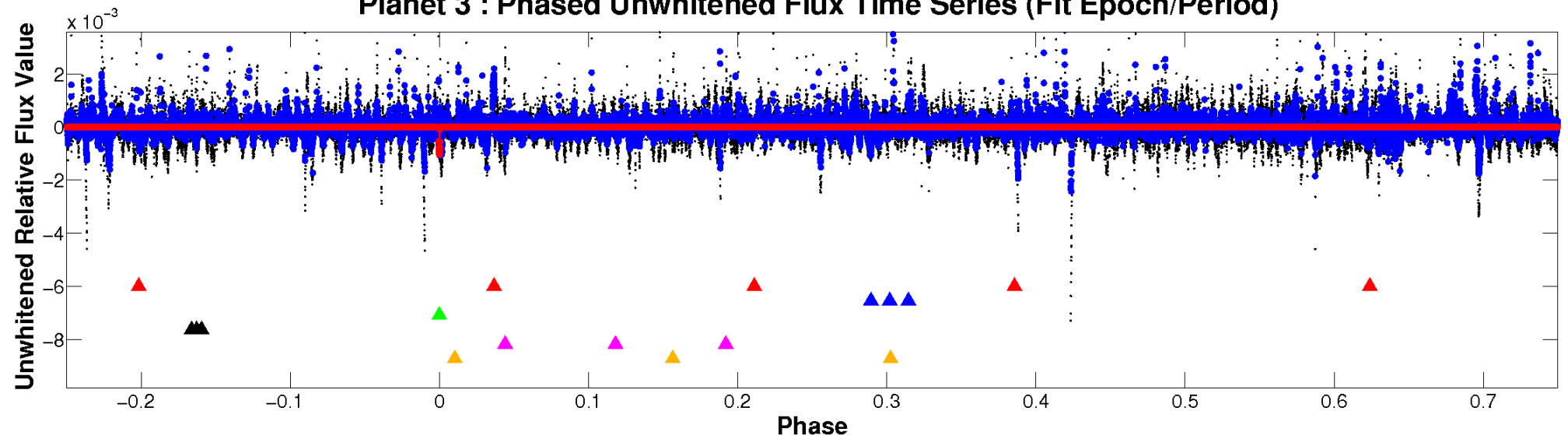
ALT Odd/Even

TCE 007107430-03

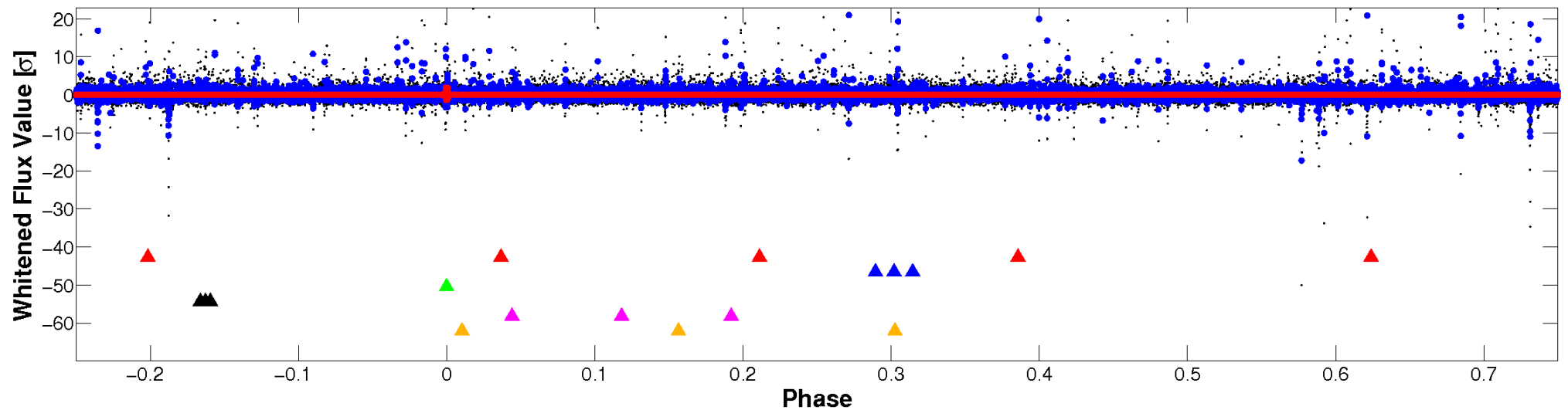


Non-Whitened Vs. Whitened Light Curve

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

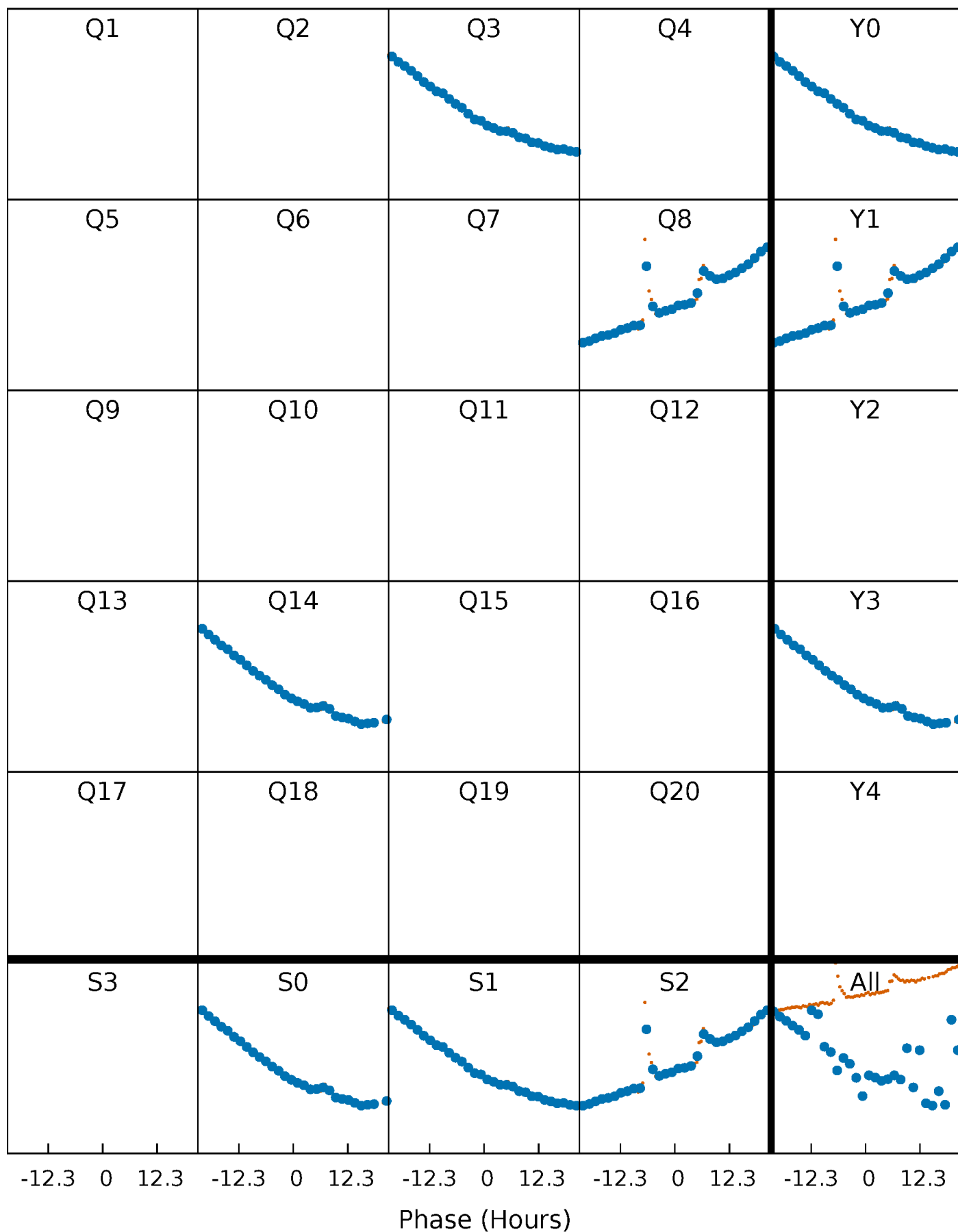


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



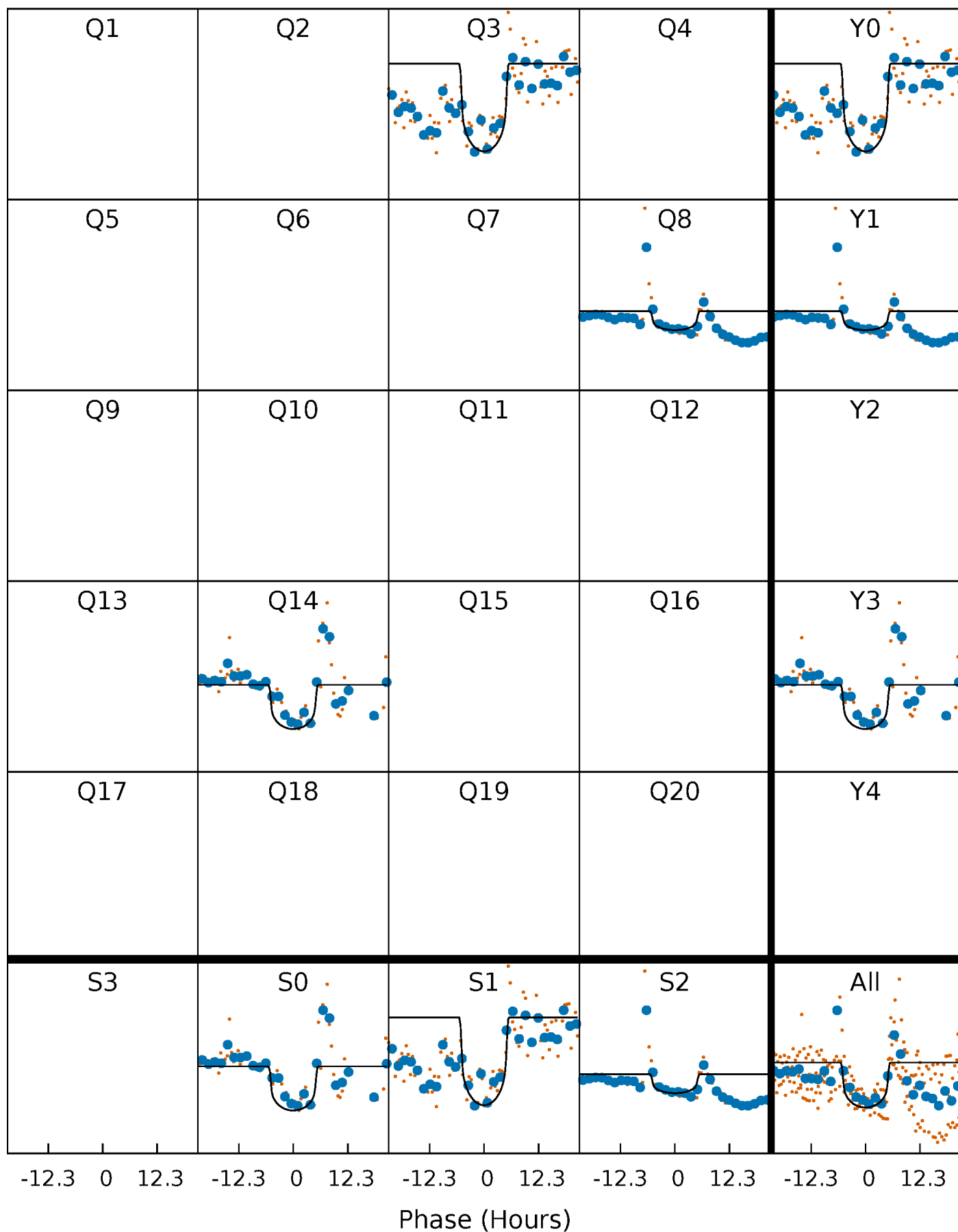
PDC Quarter-Phased Transit Curves

TCE 007107430-03 $P=497.676146$ Days $T_0=282.596337$ (BKJD)



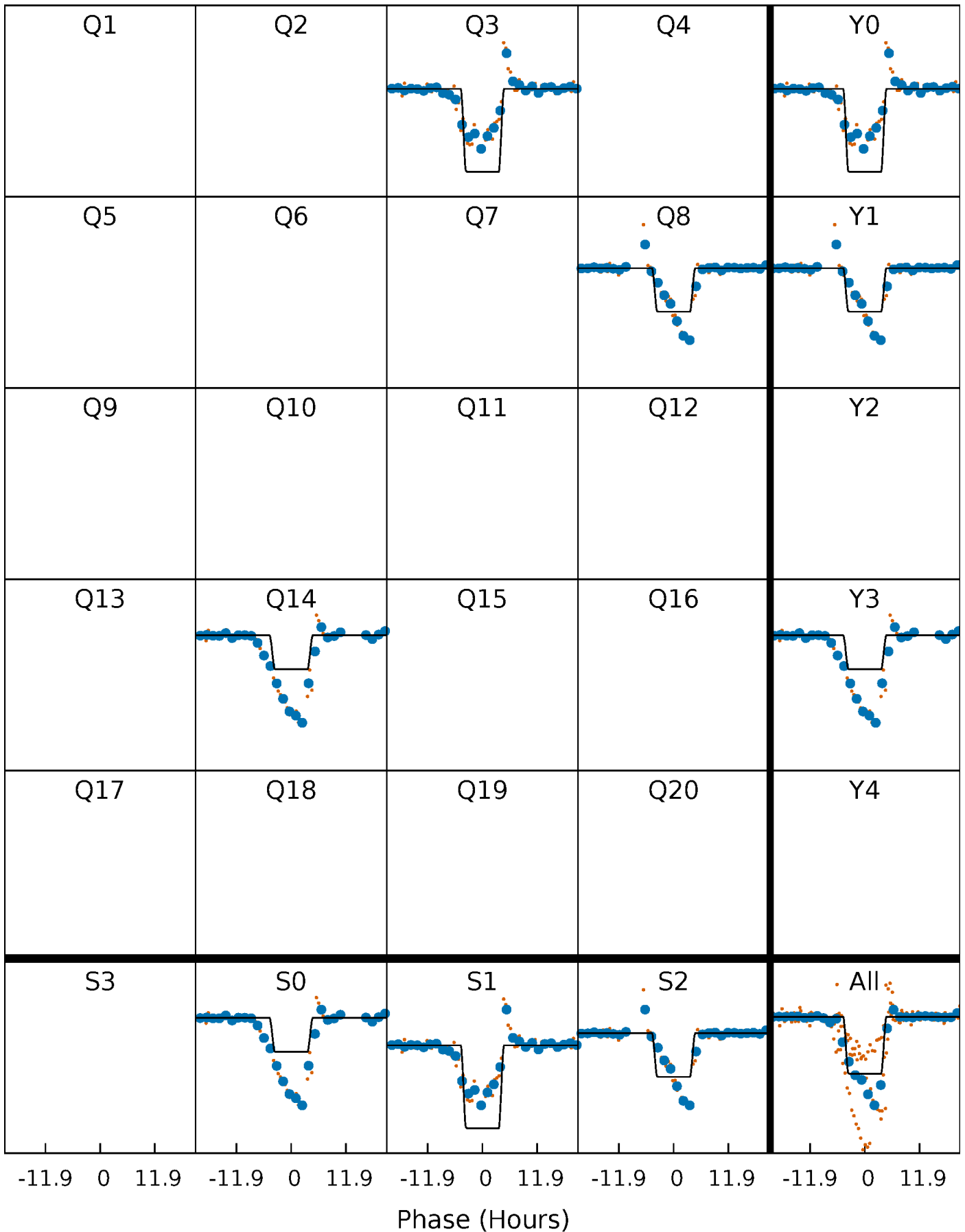
DV Quarter-Phased Transit Curves

TCE 007107430-03 P=497.676146 Days $T_0=282.596337$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

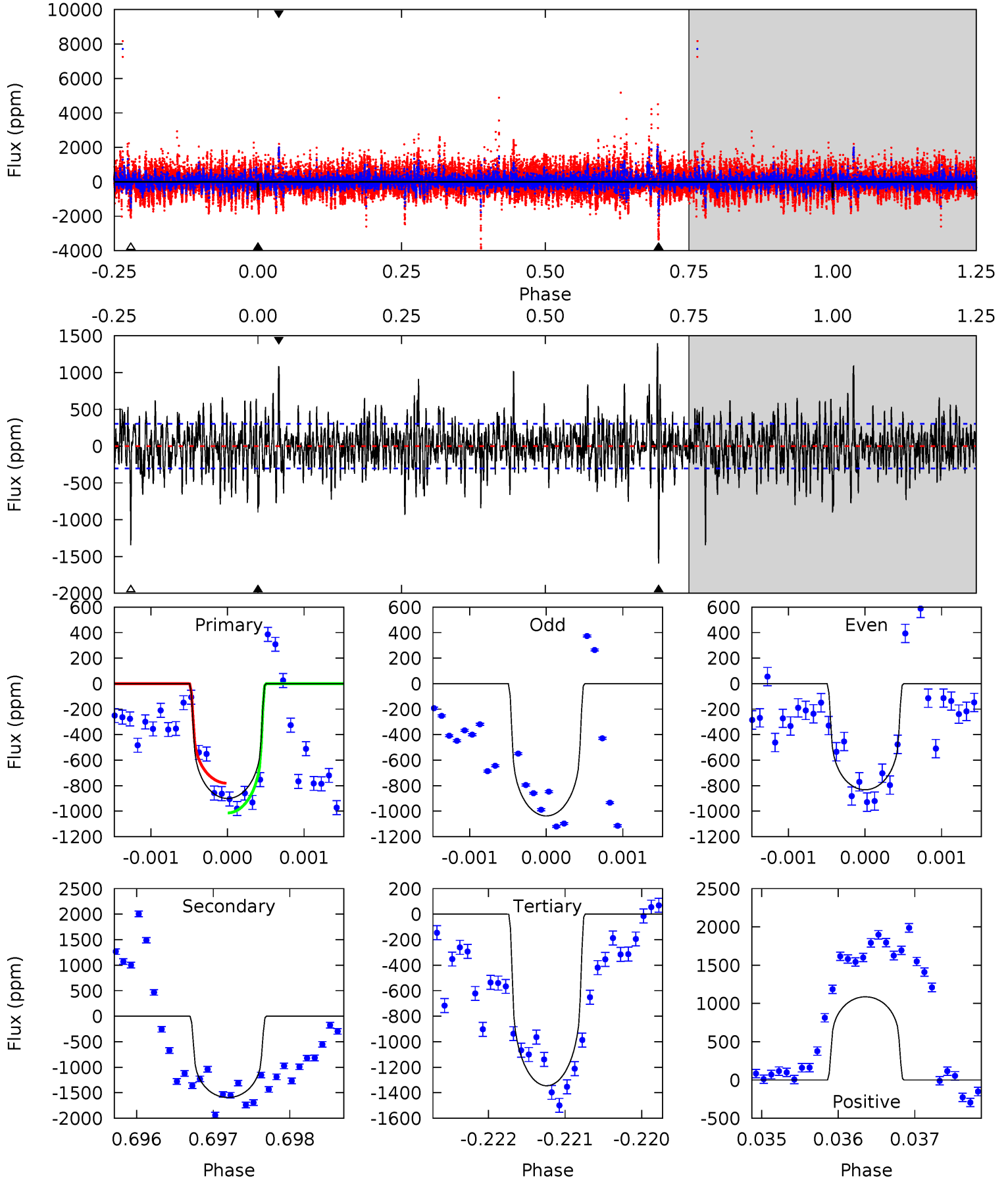
TCE 007107430-03 P=497.693410 Days $T_0=282.631182$ (BKJD)



DV Model-Shift Uniqueness Test

007107430-03, P = 497.676146 Days, E = 282.596337 Days

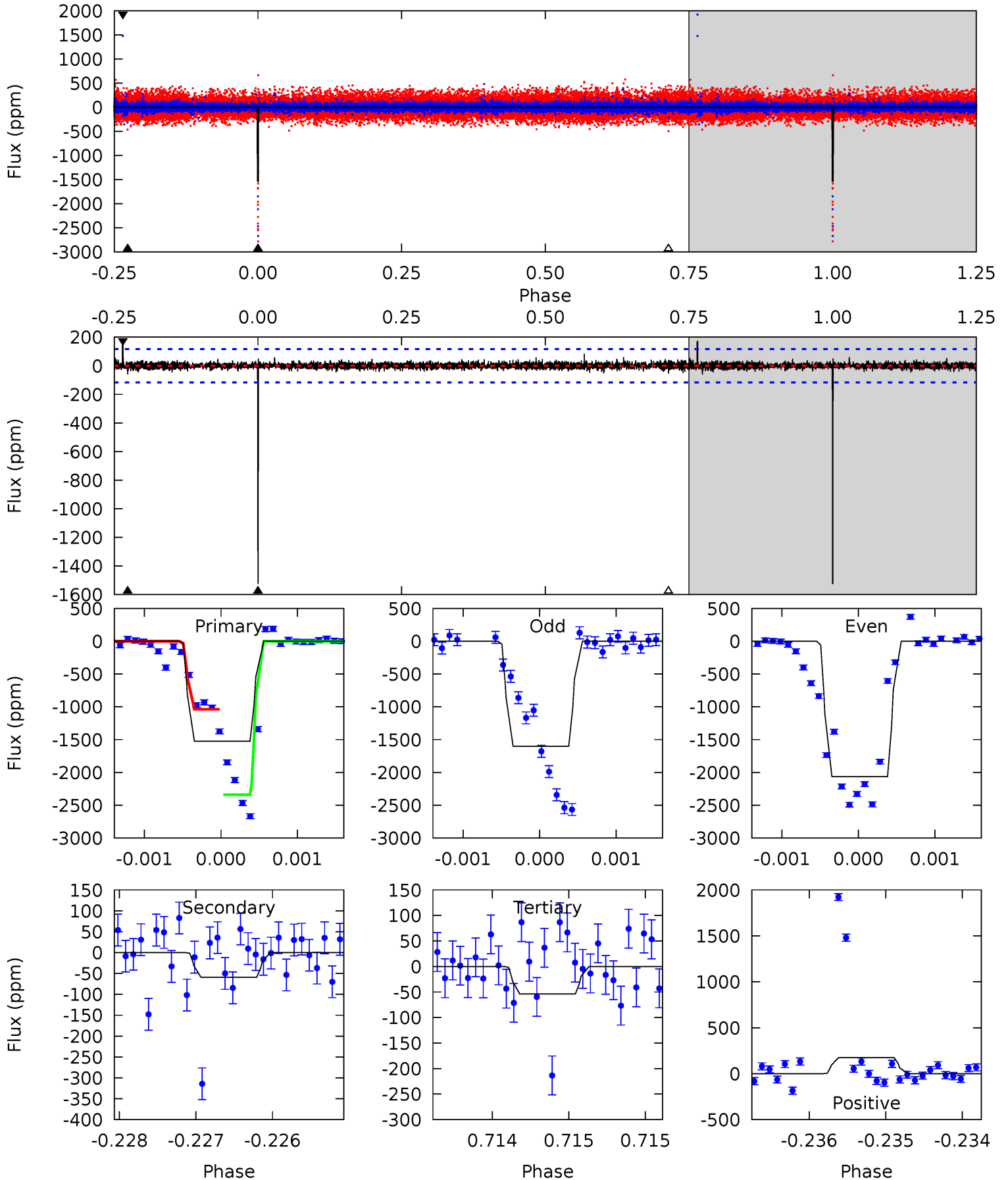
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	28.6	24.2	19.5	5.46	3.31	4.51	-7.99	-3.35	4.46	9.10	1.44	1.00	0.47	2.10



Alt Model-Shift Uniqueness Test

007107430-03, P = 497.693410 Days, E = 282.631182 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.1	2.80	2.54	8.23	5.50	3.36	0.57	69.5	63.8	0.26	-5.43	12.7	1.18	0.10	31.4



Stellar Parameters For KIC 007107430

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4110^{+74}_{-83}	$4.670^{+0.039}_{-0.015}$	$-0.280^{+0.150}_{-0.150}$	$0.575^{+0.023}_{-0.035}$	$0.565^{+0.032}_{-0.029}$	$4.185^{+0.655}_{-0.294}$
	+2%/-2%	+1%/-0%	+54%/-54%	+4%/-6%	+6%/-5%	+16%/-7%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007107430-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1593 ± 56	$1.92^{+0.36}_{-0.42}$	190^{+4}_{-4}	4540^{+471}_{-313}	$247930^{+164170}_{-73230}$
Alt.	-59 ± 21	$2.46^{+0.40}_{-0.41}$	189^{+4}_{-4}	2531^{+165}_{-151}	5623^{+3453}_{-2302}

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

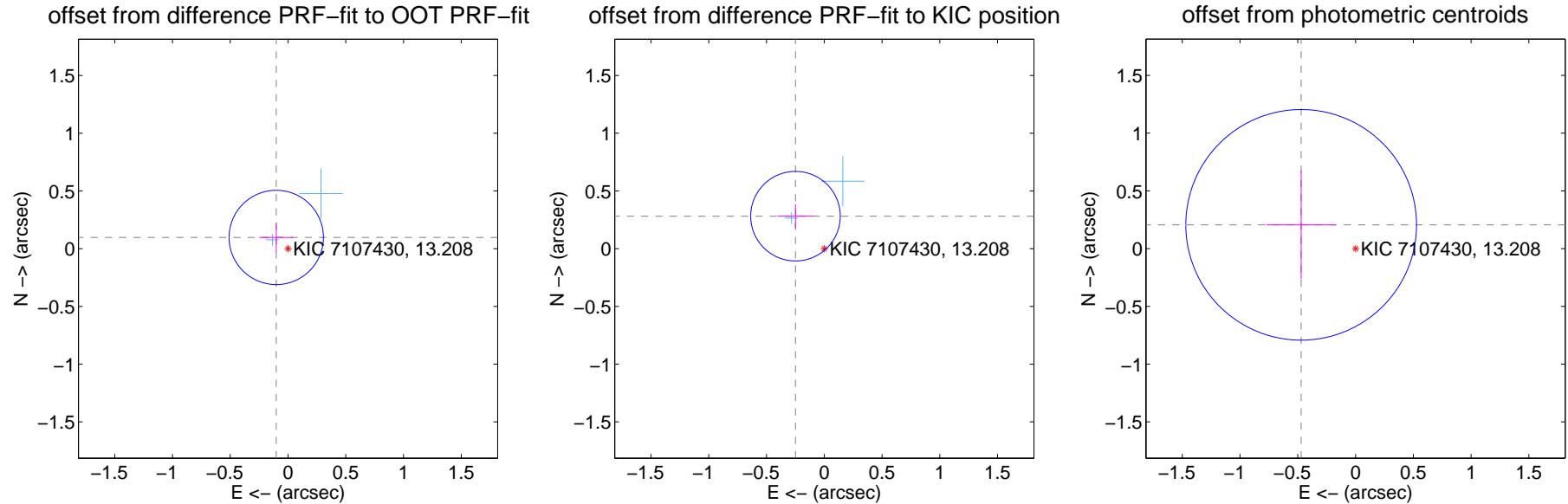
DV Centroid Data

Supplemental centroid analysis for 007107430-03. Kepler magnitude: 13.21. Transit SNR 11.84

There are 2 quarters with good PRF difference image offsets

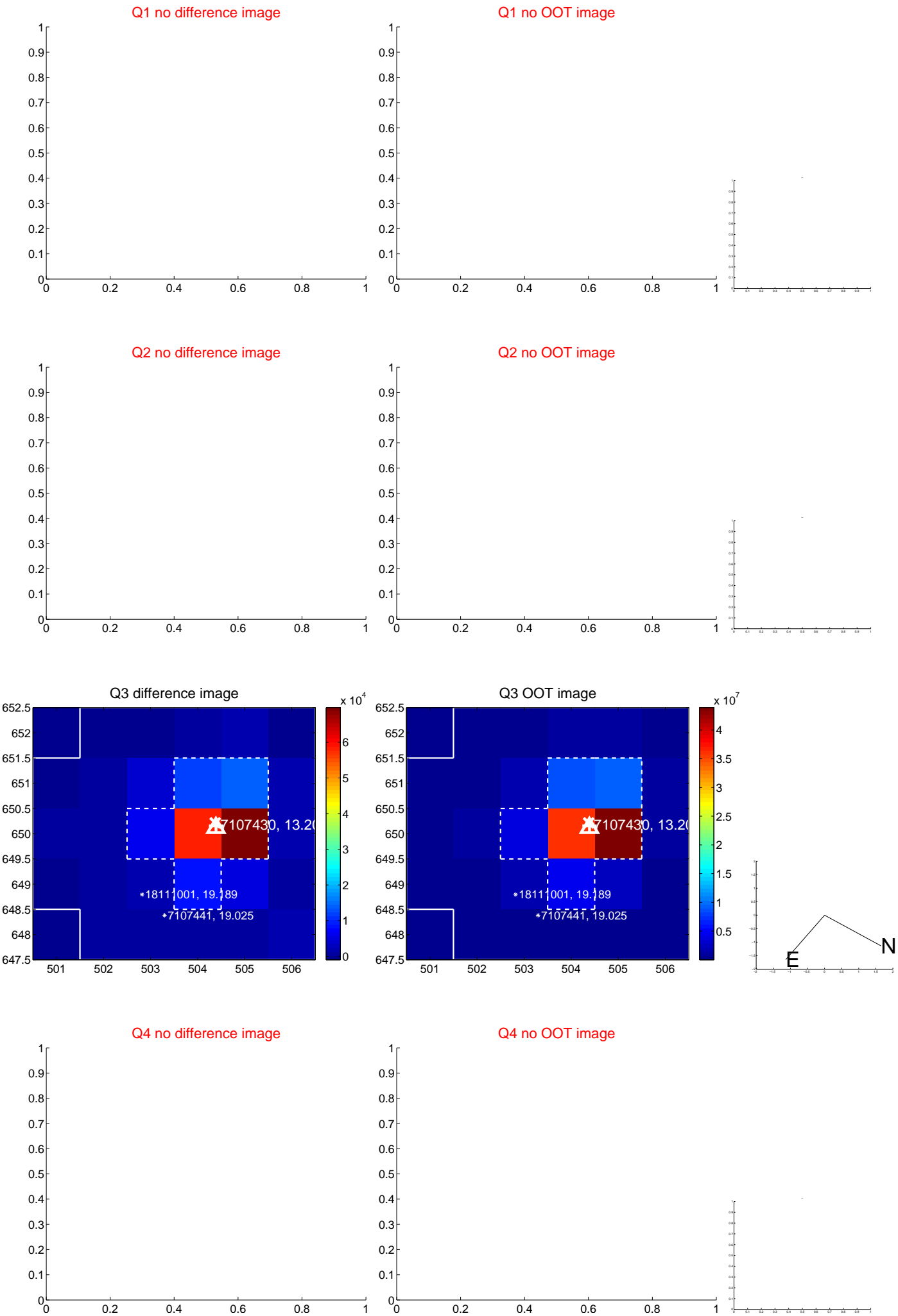
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.141 ± 0.136	1.04	0.102 ± 0.148	0.097 ± 0.122
PRF-fit source offset from KIC position	0.376 ± 0.129	2.91	0.249 ± 0.154	0.282 ± 0.106
photometric centroid source offset	0.51 ± 0.33	1.54	0.47 ± 0.30	0.21 ± 0.47

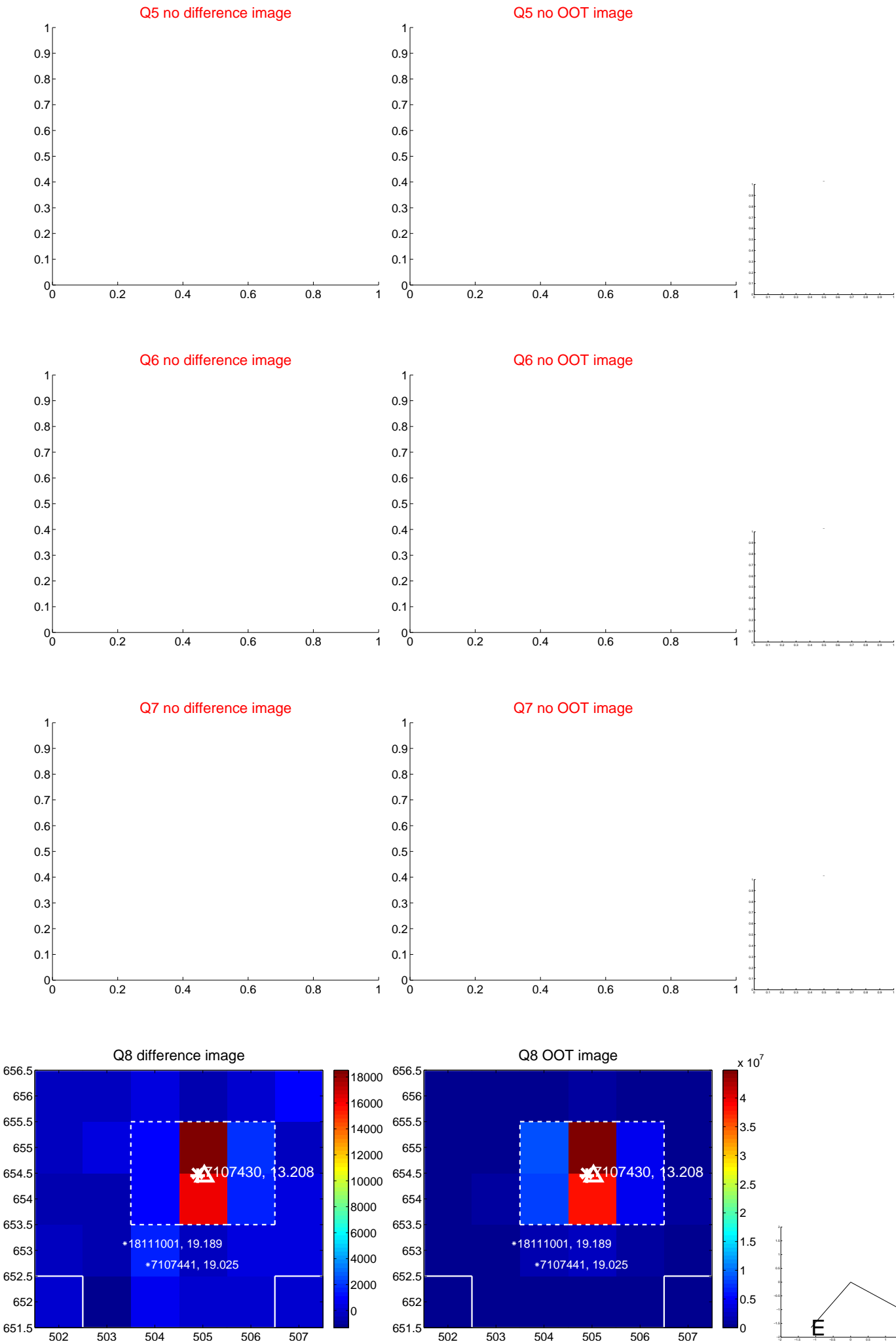


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



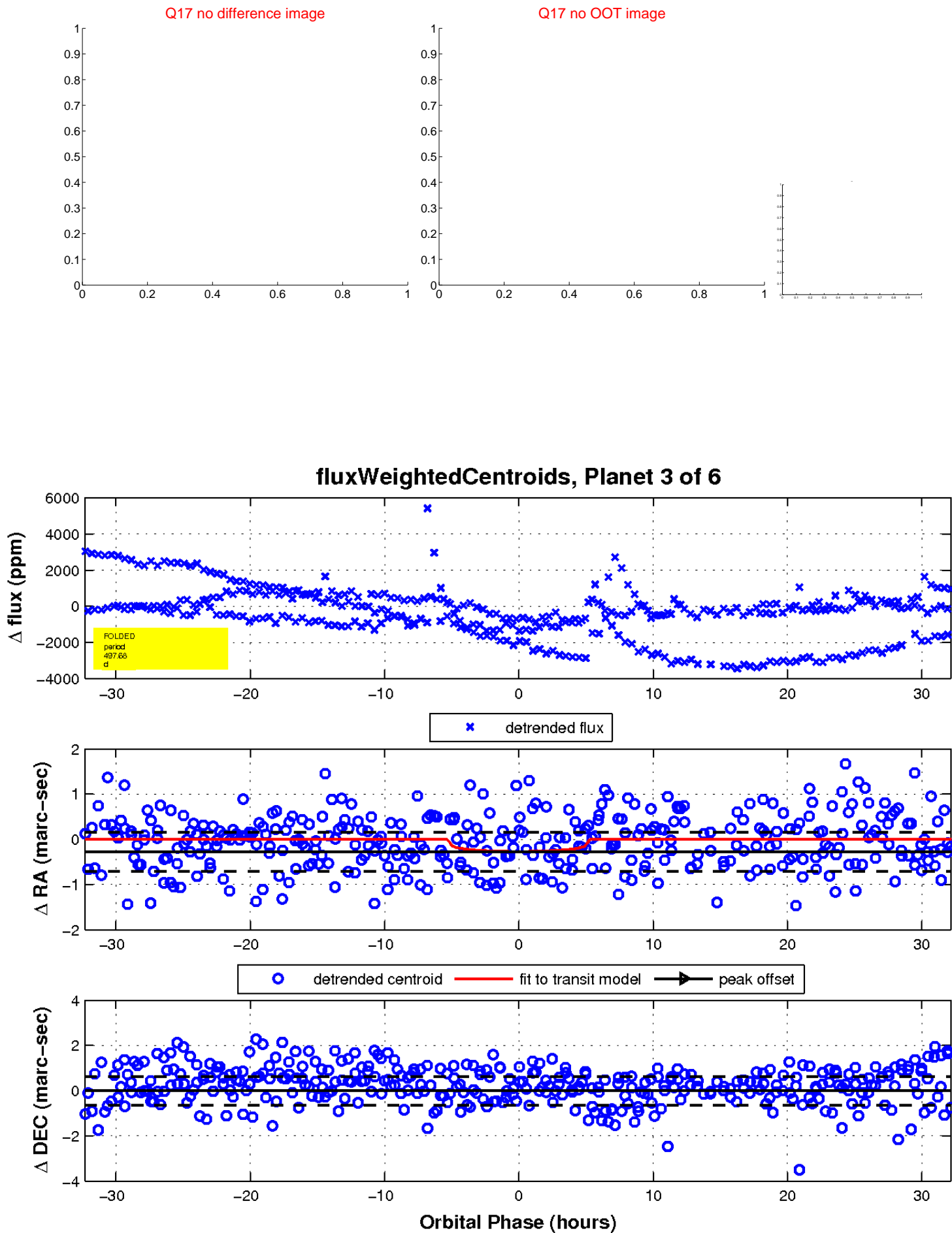
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

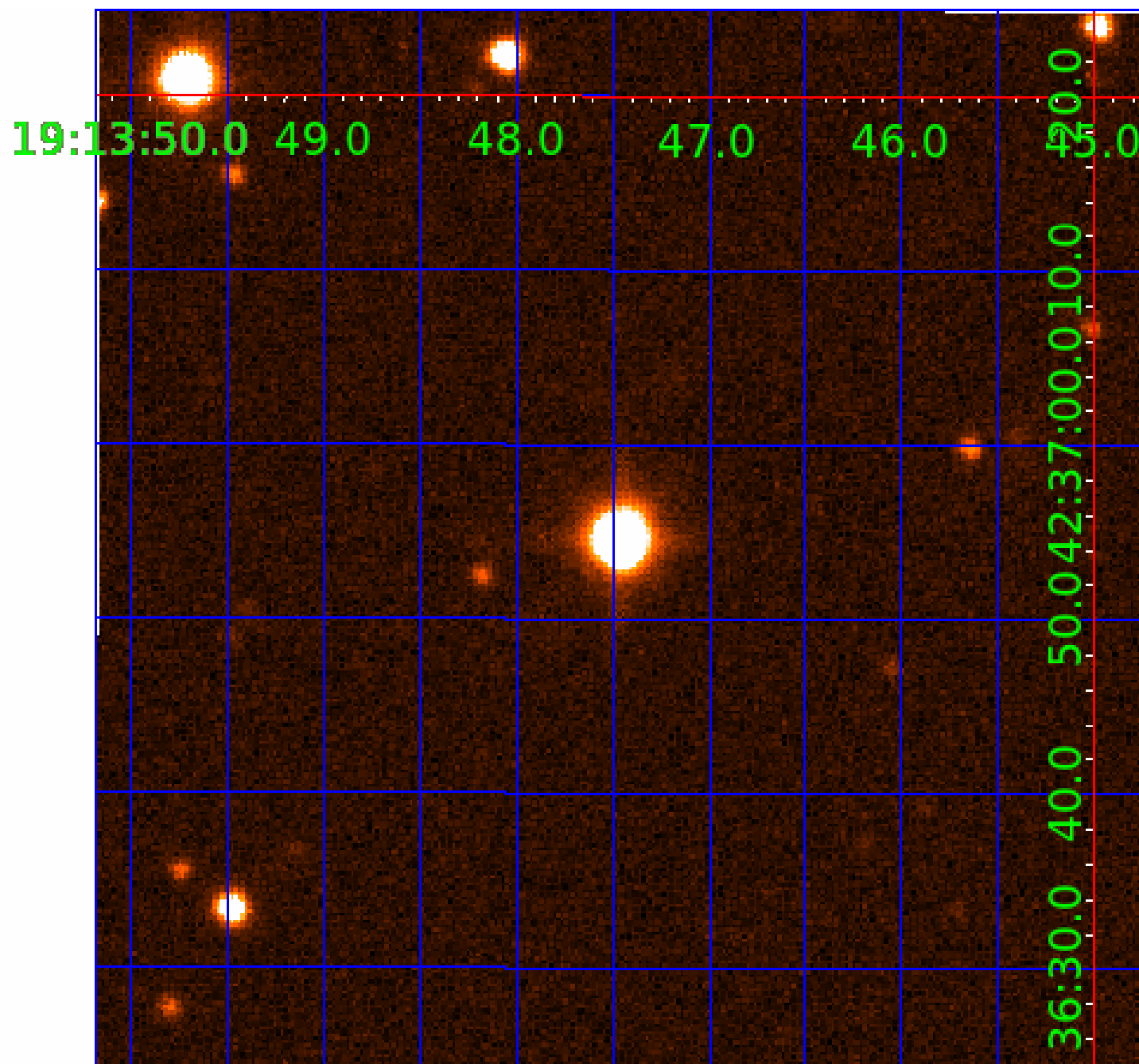


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007107430

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})
007107430-01	OBS	No	292.253875	300.868430	198.0	8.109	13.9	3.0	0.57	4110	0.85	0.17
007107430-02	OBS	No	491.429298	439.145465	1082.3	7.574	20.2	9.7	0.57	4110	3.77	0.08
007107430-03	OBS	No	497.676146	282.596337	1042.3	10.777	13.2	11.8	0.57	4110	1.91	0.08
007107430-04	OBS	No	496.004754	203.259880	618.4	4.626	11.7	8.1	0.57	4110	1.54	0.08
007107430-05	OBS	No	460.858990	378.203982	521.5	6.135	11.6	6.5	0.57	4110	1.44	0.09
007107430-06	OBS	No	424.961906	433.194900	365.4	19.518	10.9	3.4	0.57	4110	1.14	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007107430-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007107430-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

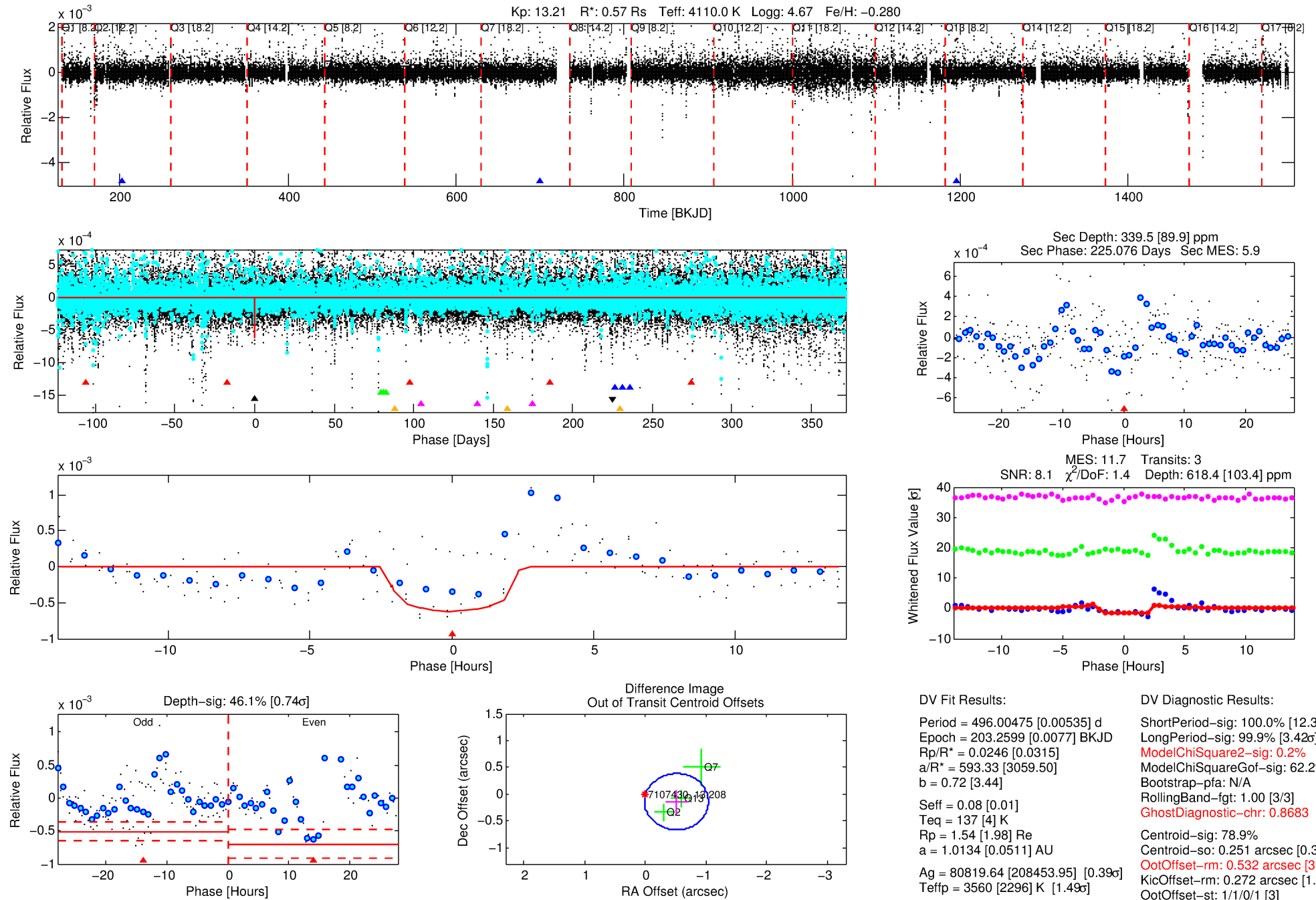
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007107430-04

No Significant Match Found

DV One-Page Summary

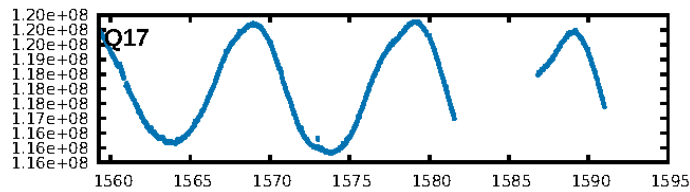
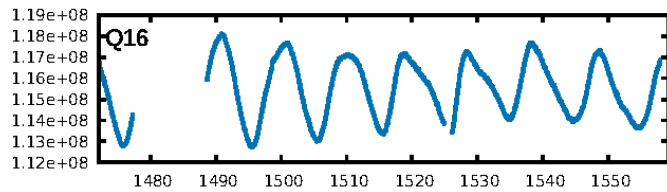
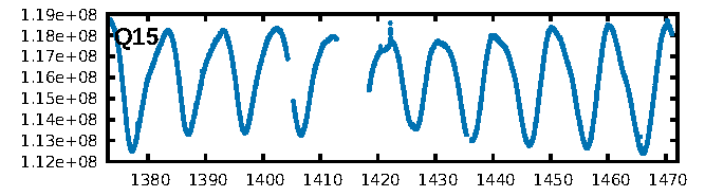
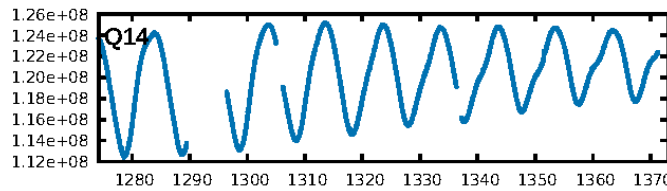
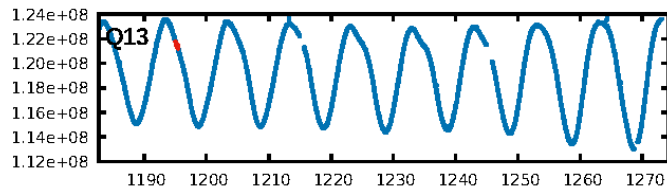
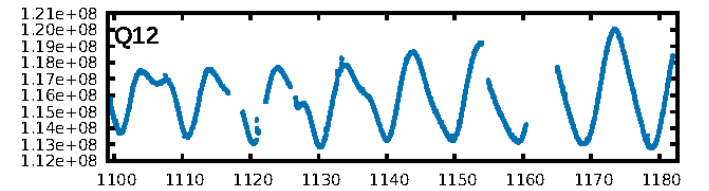
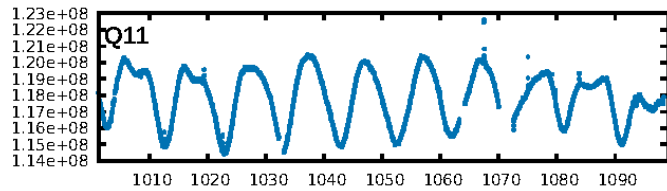
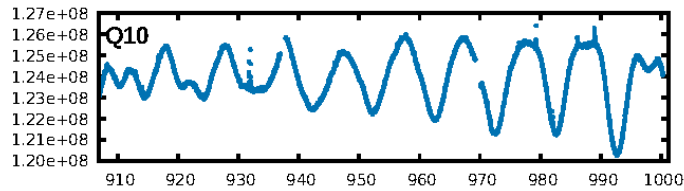
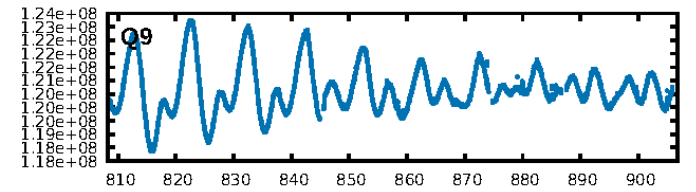
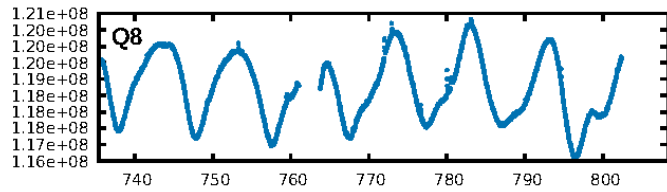
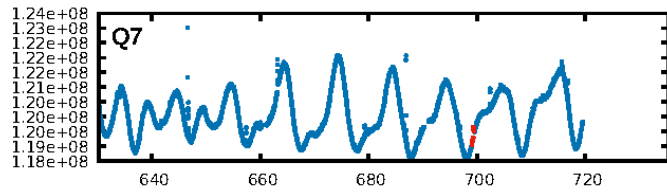
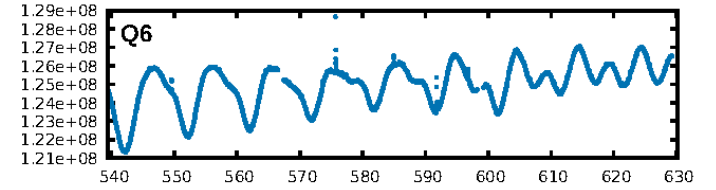
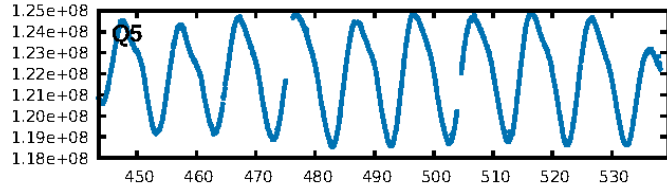
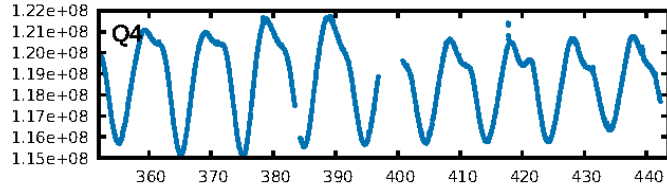
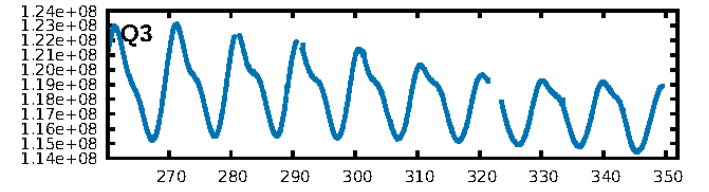
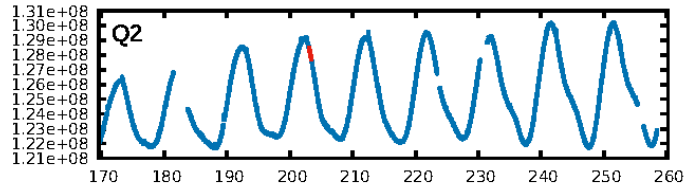
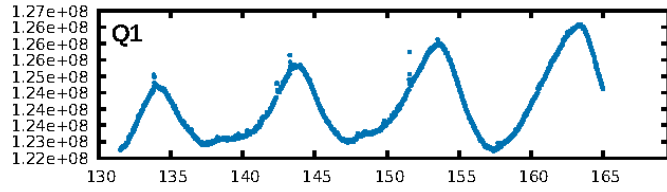
KIC: 7107430 Candidate: 4 of 6 Period: 496.005 d



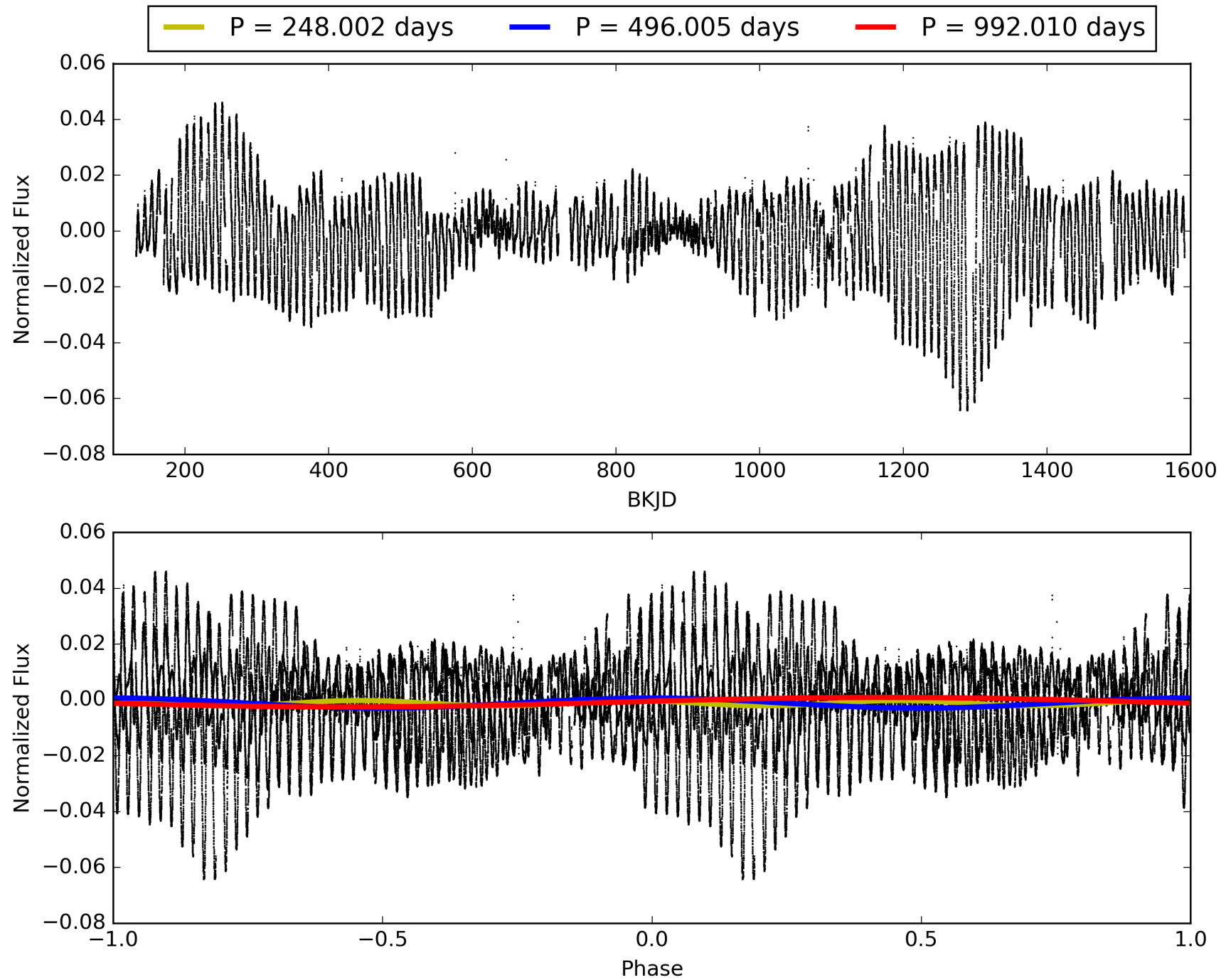
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:35:34 Z

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

TCE 007107430-04, PDC Light Curves

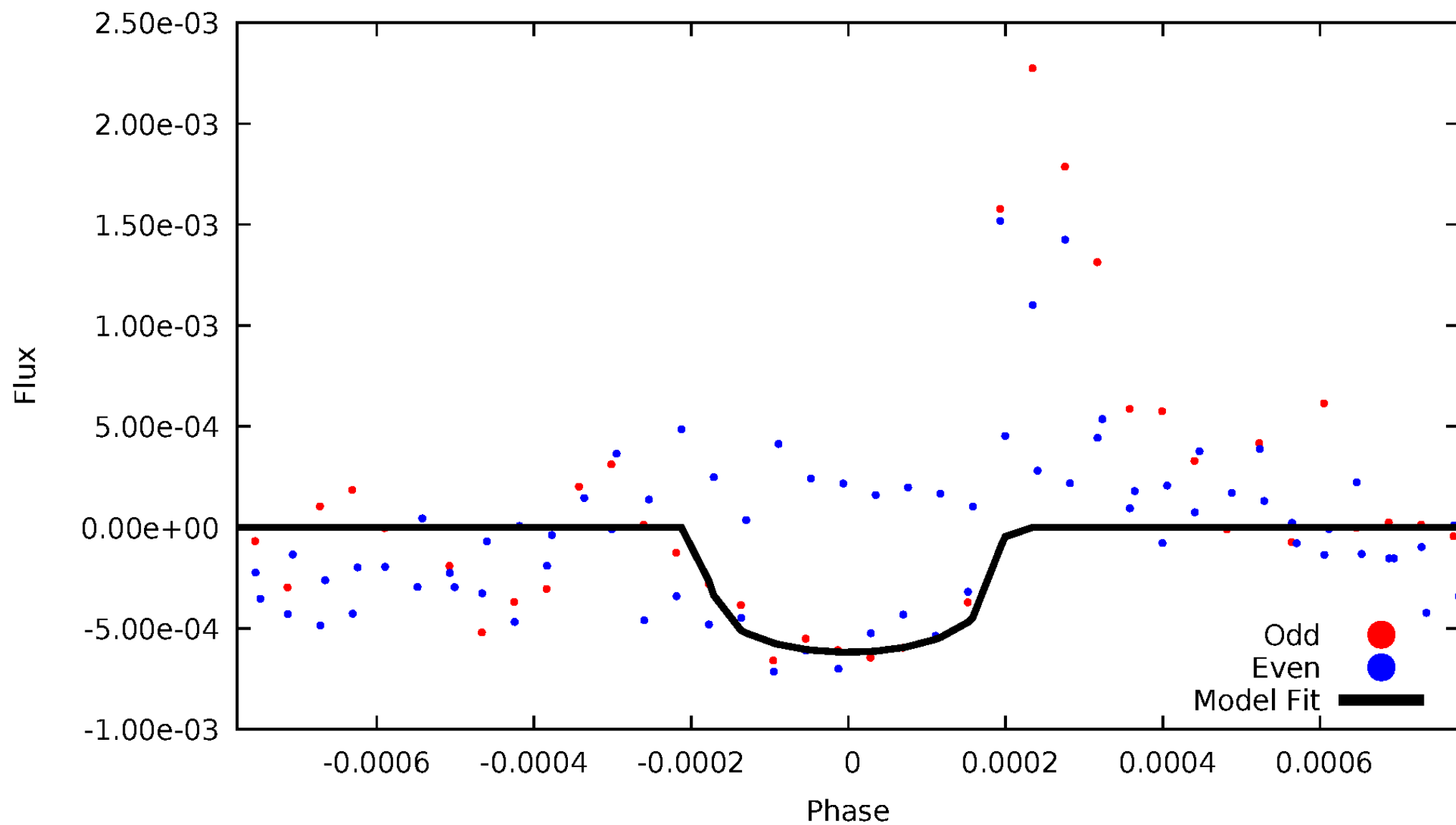


TCE 007107430-04



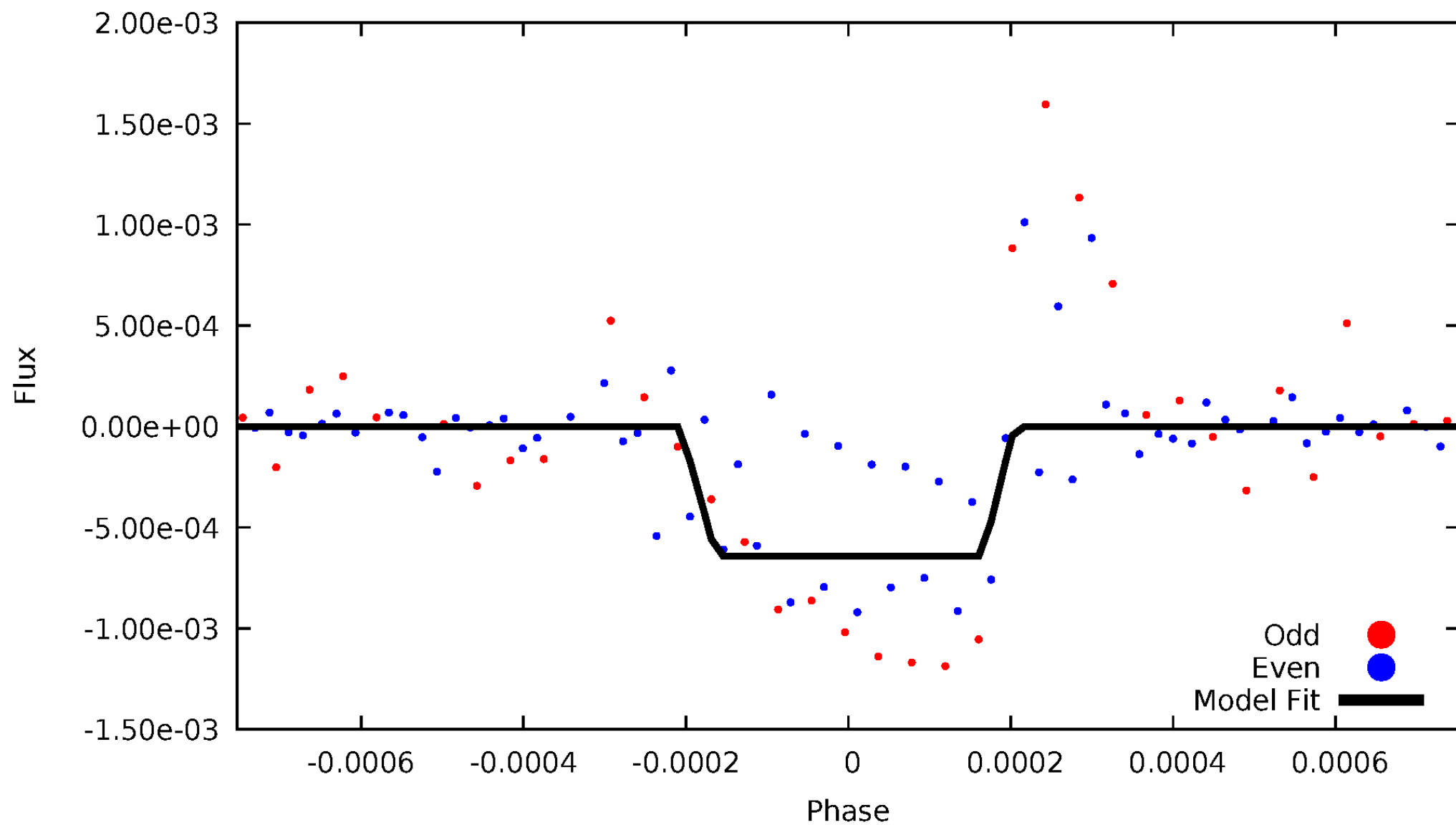
DV Odd/Even

TCE 007107430-04



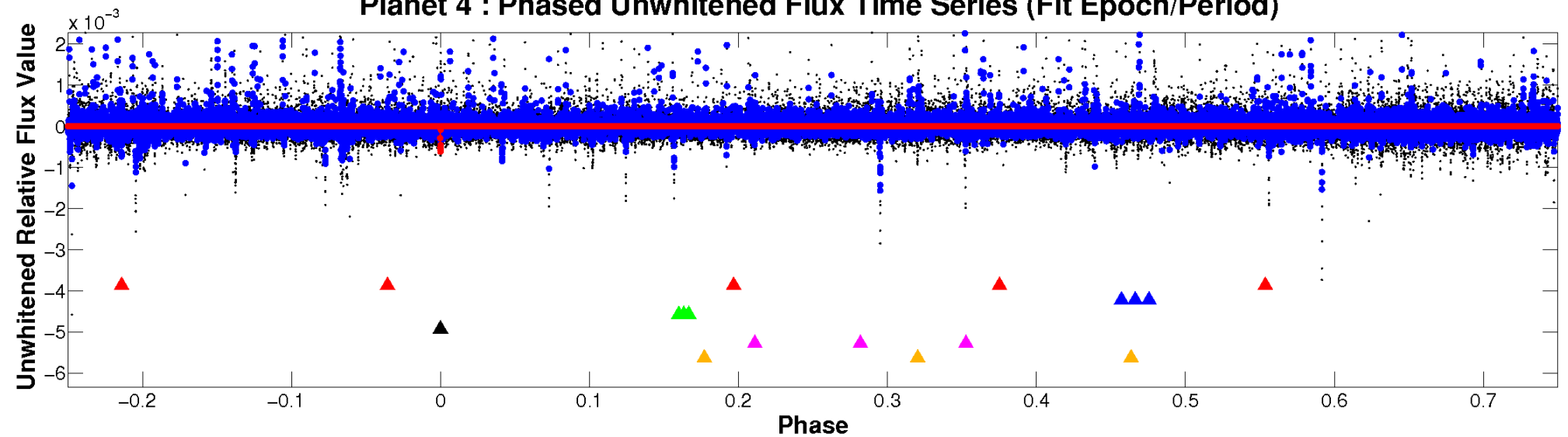
ALT Odd/Even

TCE 007107430-04

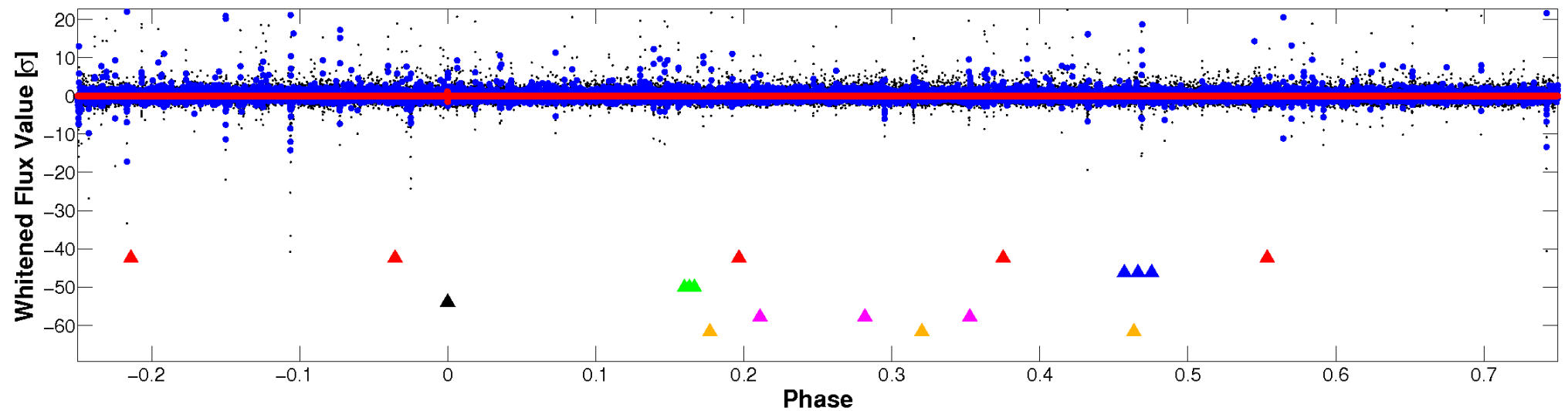


Non-Whitened Vs. Whitened Light Curve

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

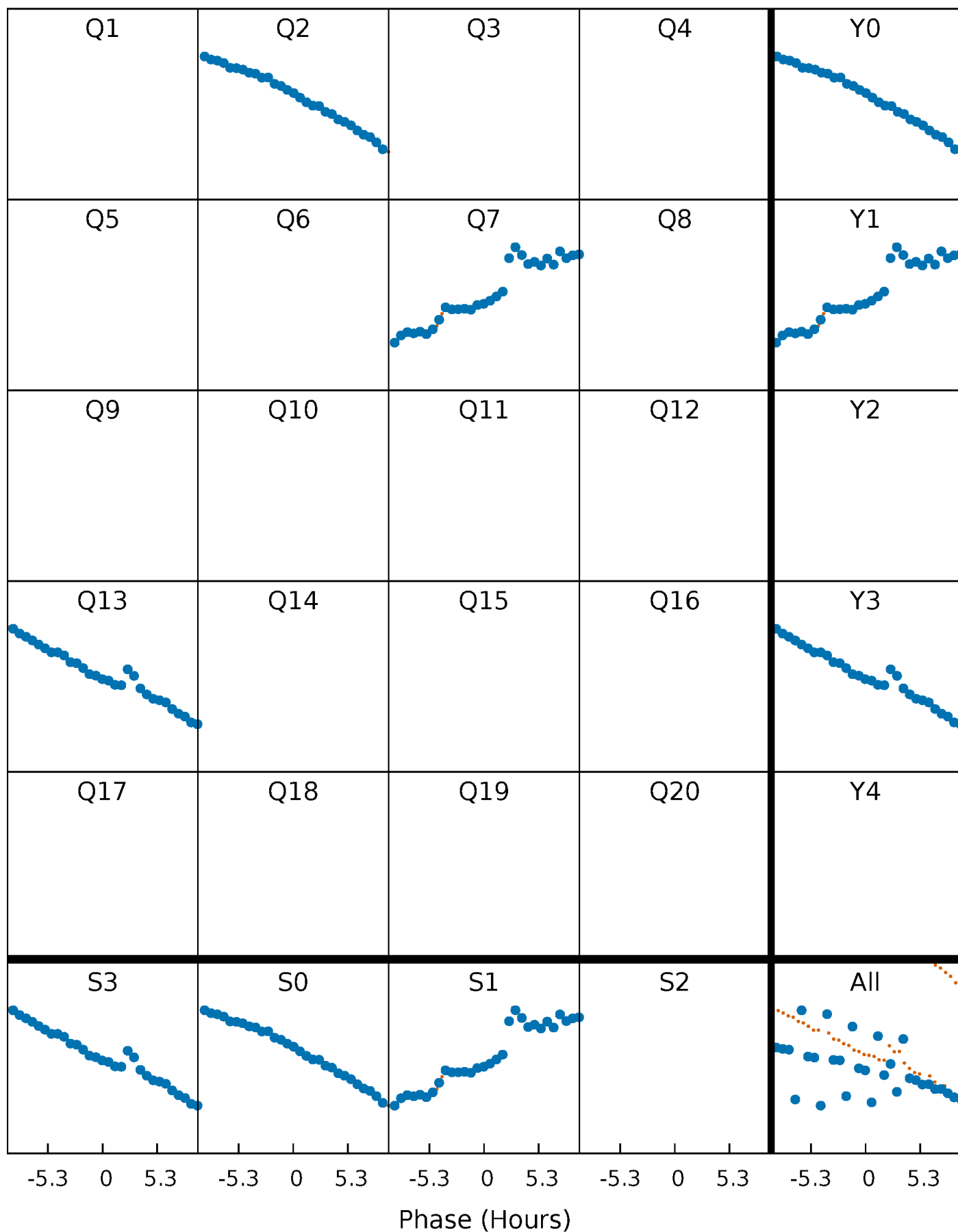


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



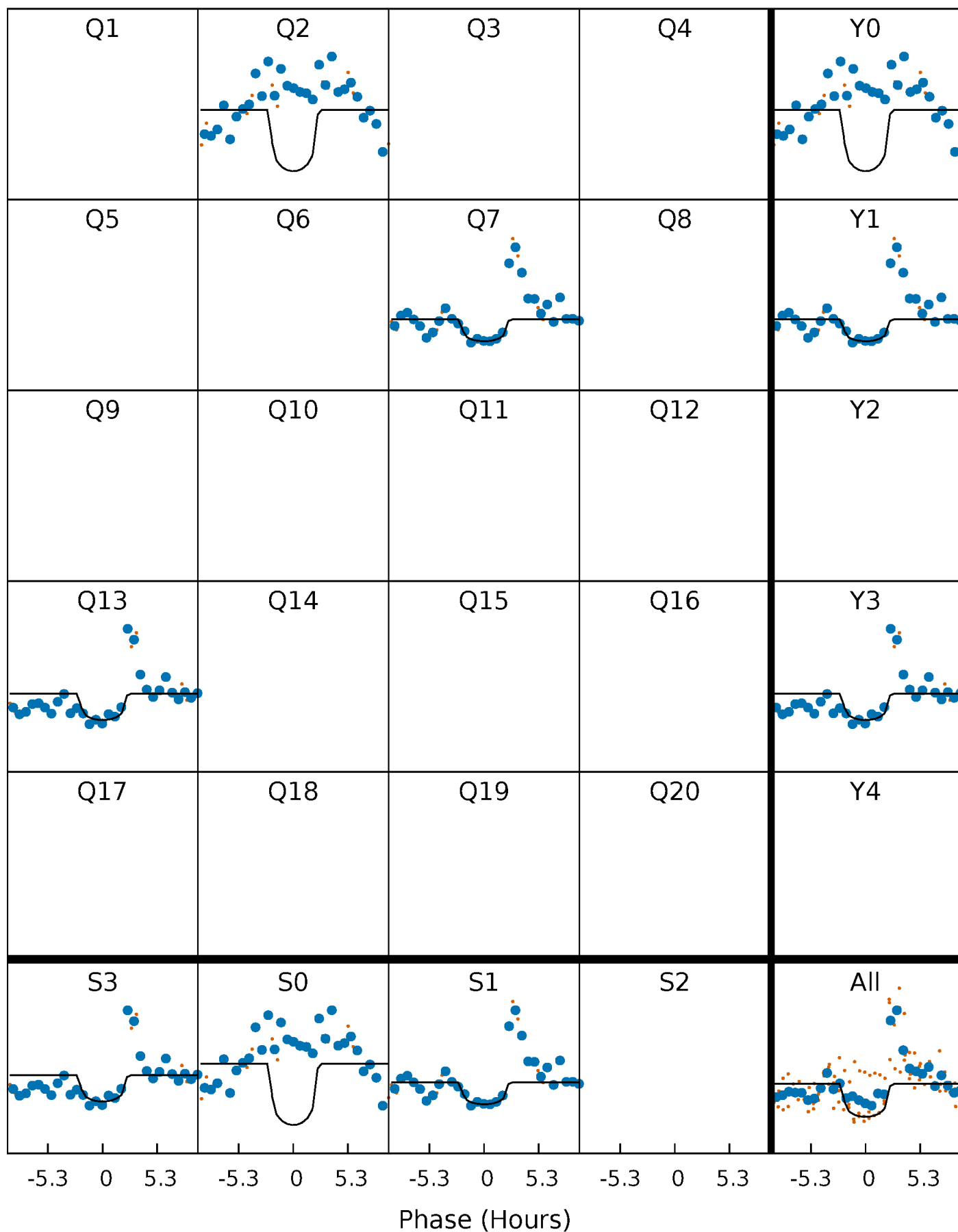
PDC Quarter-Phased Transit Curves

TCE 007107430-04 $P=496.004754$ Days $T_0=203.259881$ (BKJD)



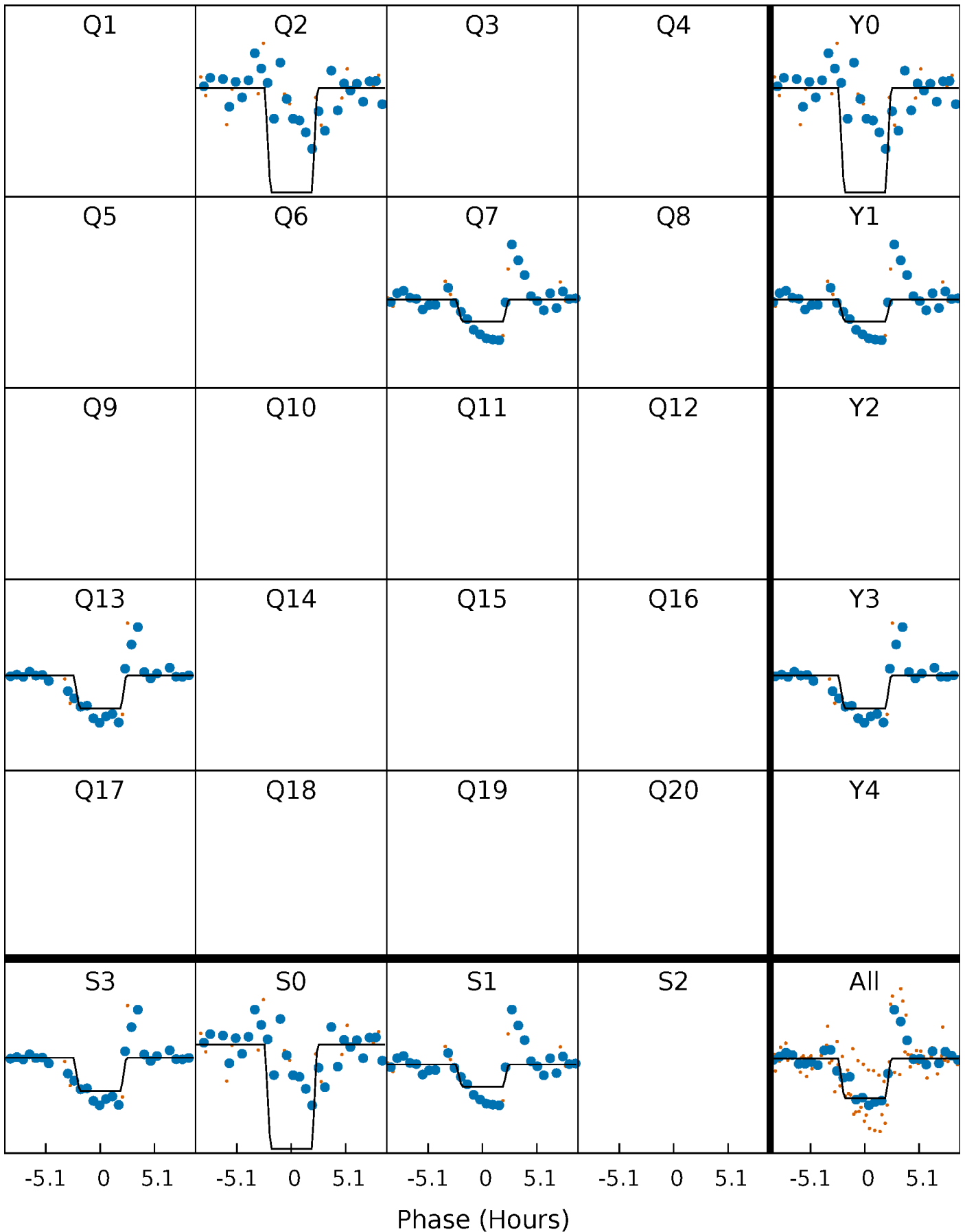
DV Quarter-Phased Transit Curves

TCE 007107430-04 P=496.004754 Days $T_0=203.259881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

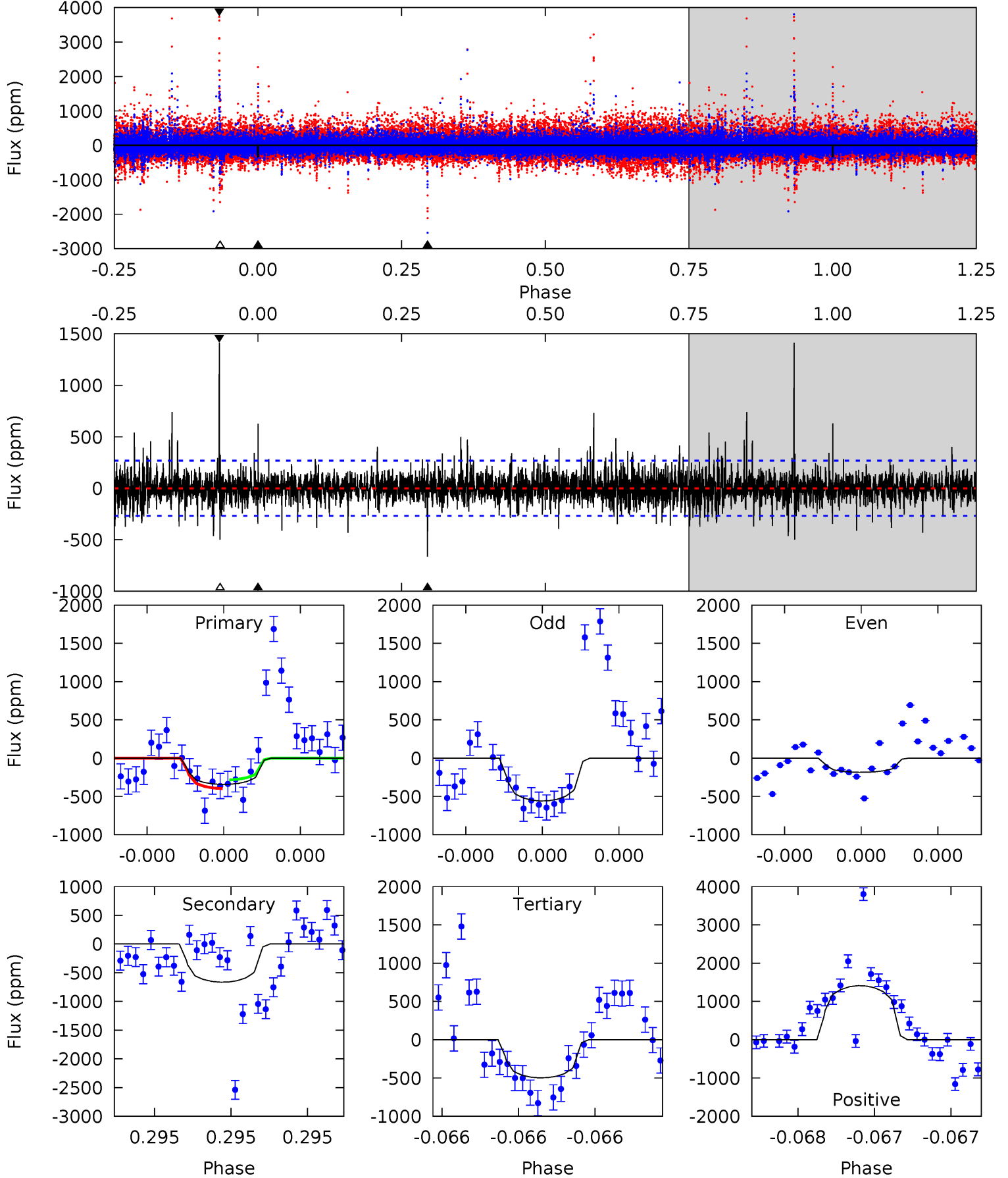
TCE 007107430-04 P=495.997424 Days $T_0=203.262825$ (BKJD)



DV Model-Shift Uniqueness Test

007107430-04, P = 496.004754 Days, E = 203.259881 Days

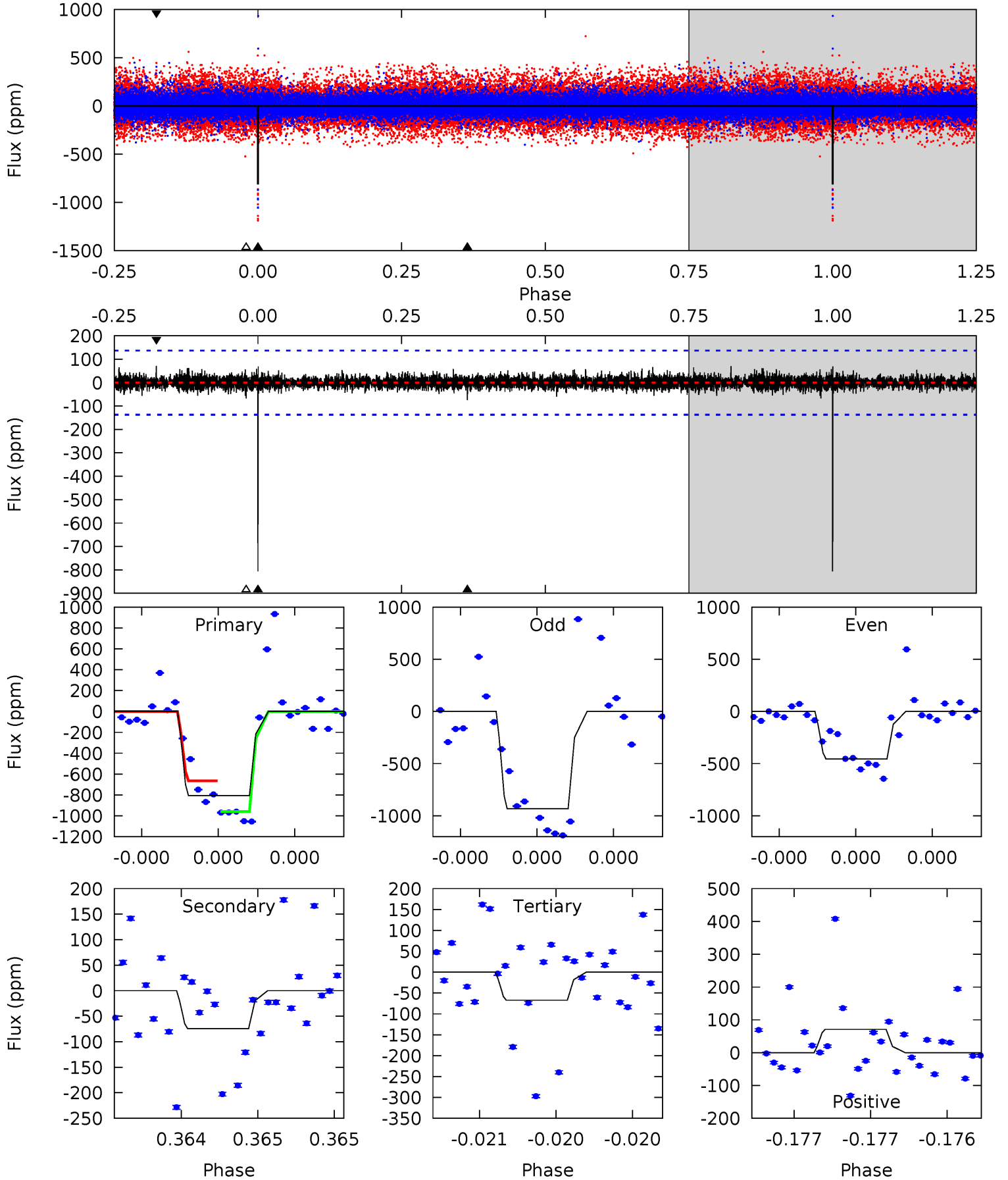
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.22	14.0	10.5	29.7	5.62	3.56	2.07	-3.25	-22.5	3.49	-15.7	2.69	0.53	0.68	1.19



Alt Model-Shift Uniqueness Test

007107430-04, P = 495.997424 Days, E = 203.262825 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.0	3.04	2.75	2.90	5.61	3.54	0.56	30.2	30.1	0.28	0.14	10.9	0.78	0.08	5.91



Stellar Parameters For KIC 007107430

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4110^{+74}_{-83}	$4.670^{+0.039}_{-0.015}$	$-0.280^{+0.150}_{-0.150}$	$0.575^{+0.023}_{-0.035}$	$0.565^{+0.032}_{-0.029}$	$4.185^{+0.655}_{-0.294}$
	+2%/-2%	+1%/-0%	+54%/-54%	+4%/-6%	+6%/-5%	+16%/-7%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007107430-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-664 ± 48	$2.02^{+1.82}_{-1.26}$	190^{+4}_{-4}	3795^{+1736}_{-701}	$92042^{+557441}_{-66484}$
Alt.	-74 ± 24	$2.12^{+1.86}_{-1.37}$	190^{+4}_{-4}	2700^{+925}_{-418}	9201^{+61368}_{-6963}

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

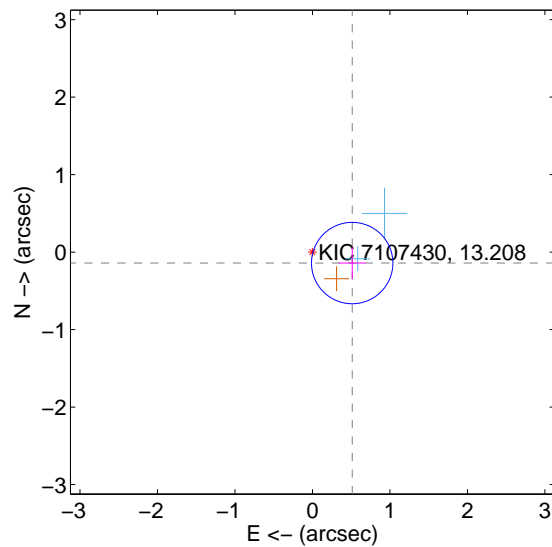
Supplemental centroid analysis for 007107430-04. Kepler magnitude: 13.21. Transit SNR 8.09

There are 2 quarters with good PRF difference image offsets

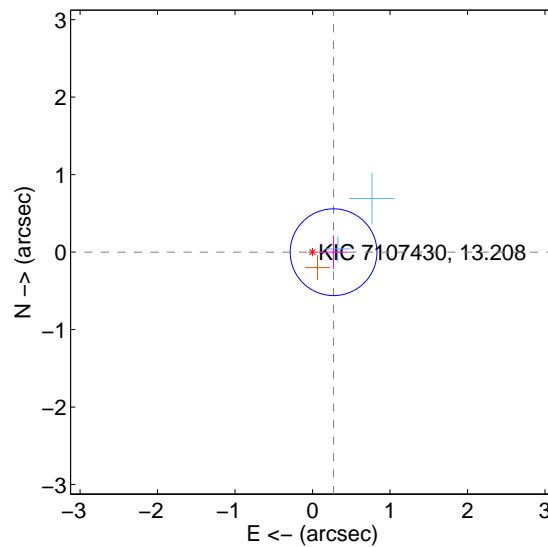
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.532 ± 0.175	3.04	-0.513 ± 0.173	-0.141 ± 0.205
PRF-fit source offset from KIC position	0.272 ± 0.187	1.46	-0.272 ± 0.187	-0.001 ± 0.214
photometric centroid source offset	0.25 ± 0.78	0.32	0.23 ± 0.74	-0.11 ± 0.94

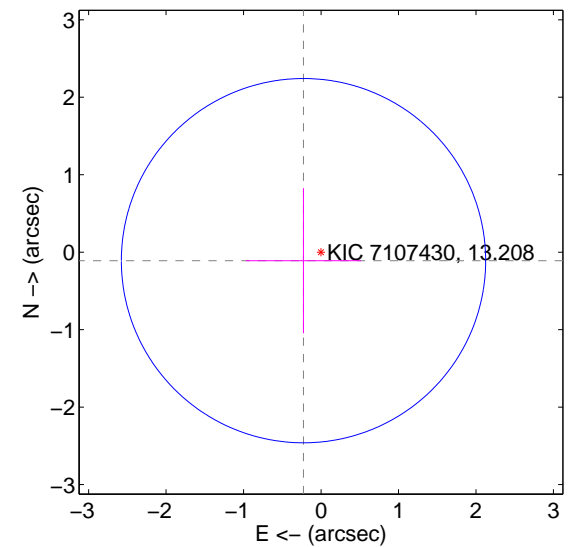
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

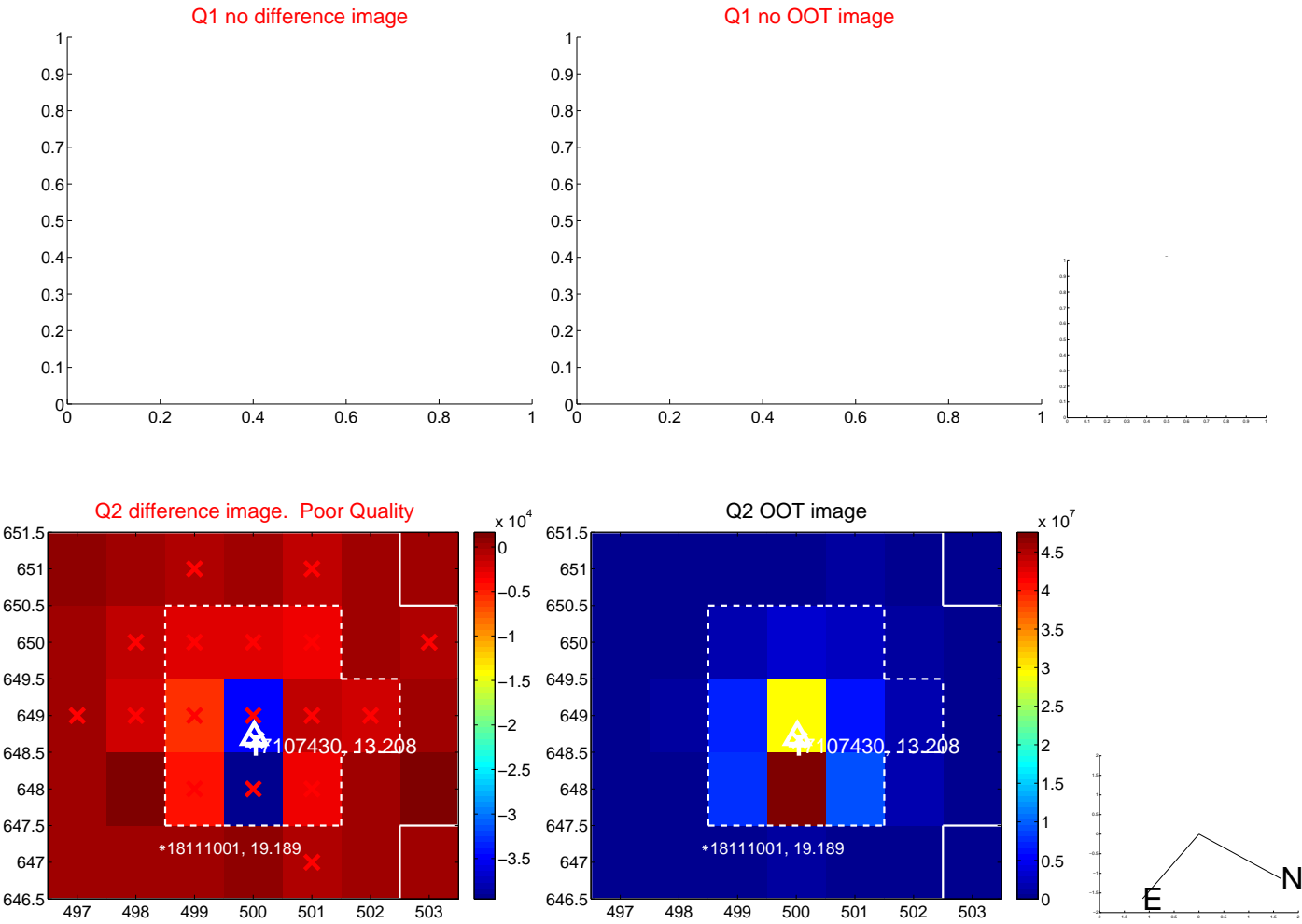


offset from photometric centroids

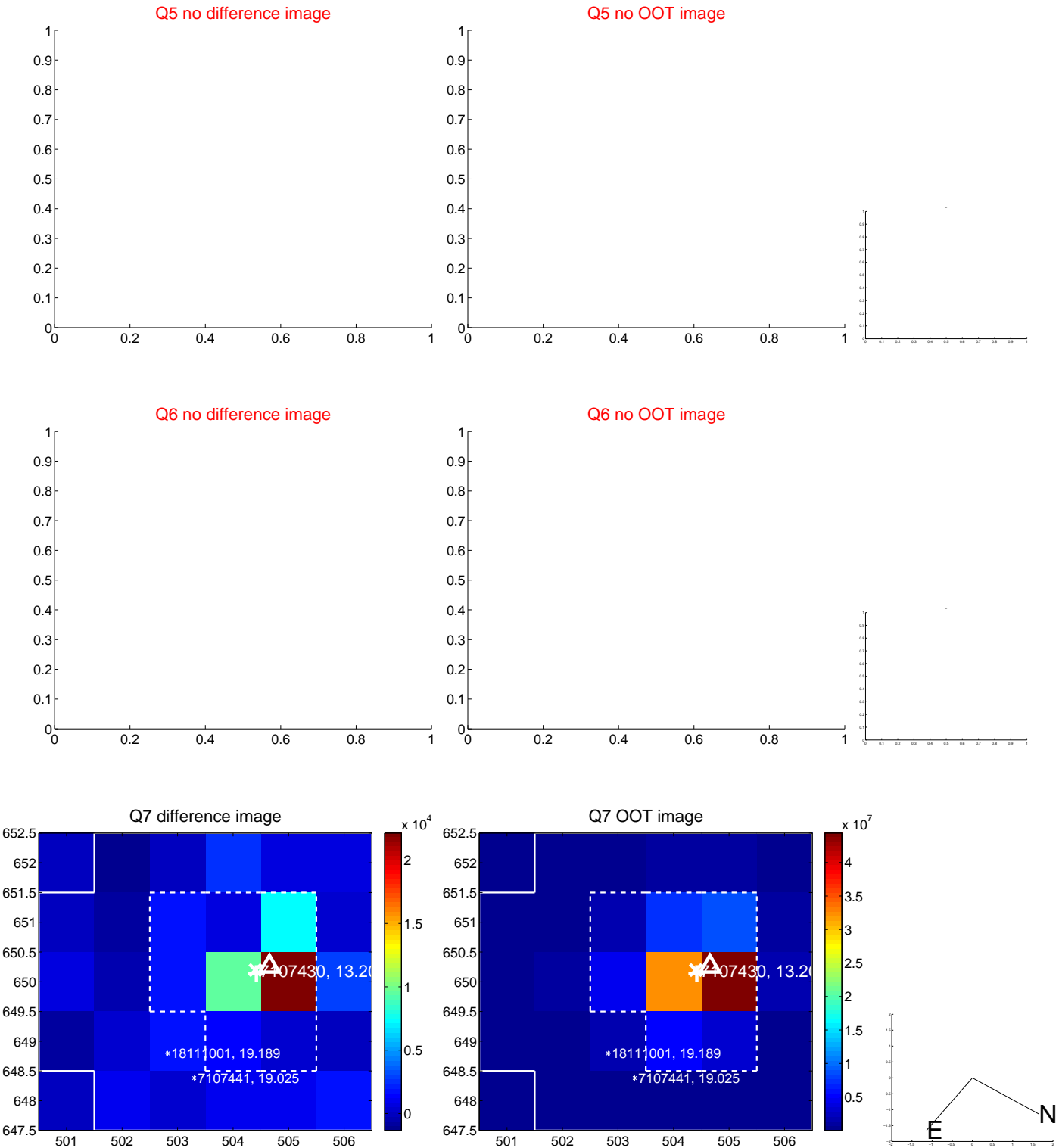


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



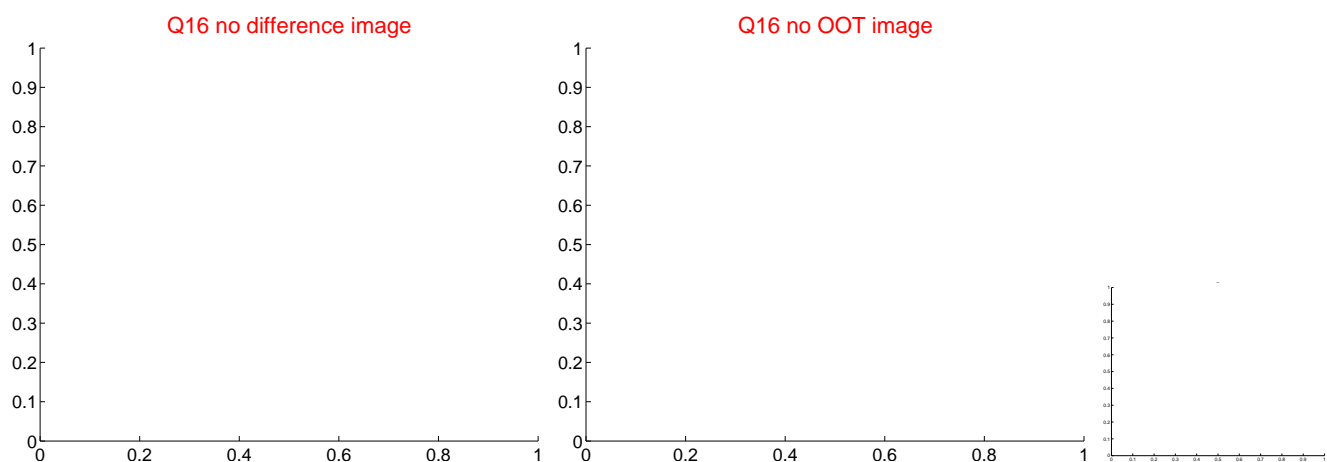
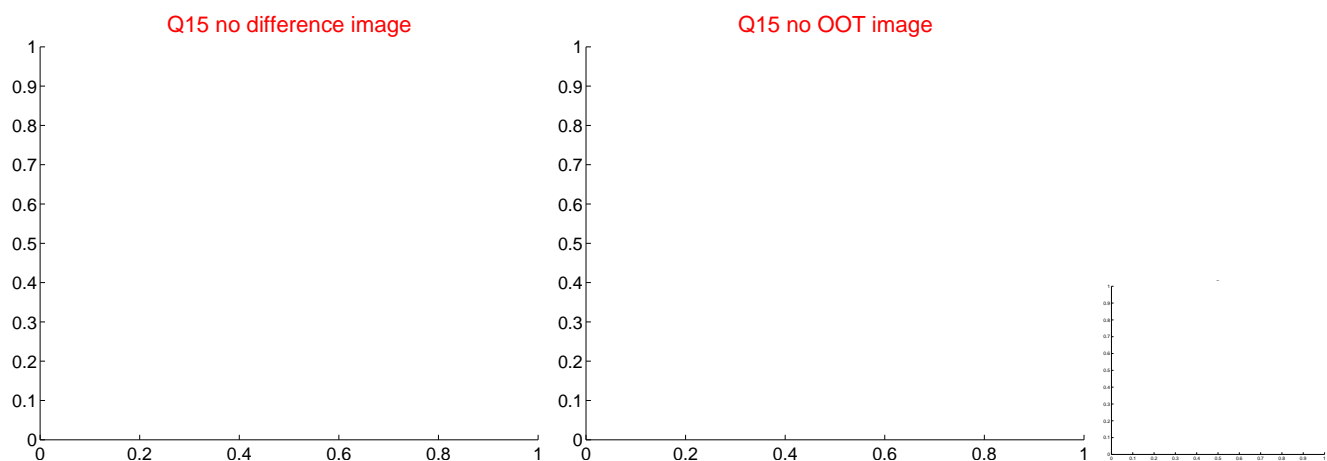
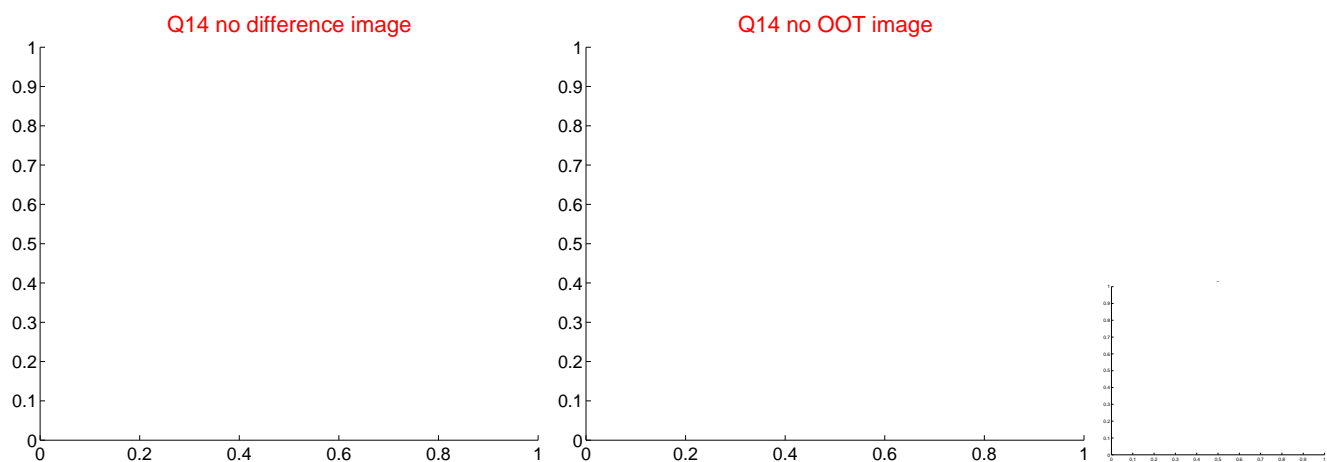
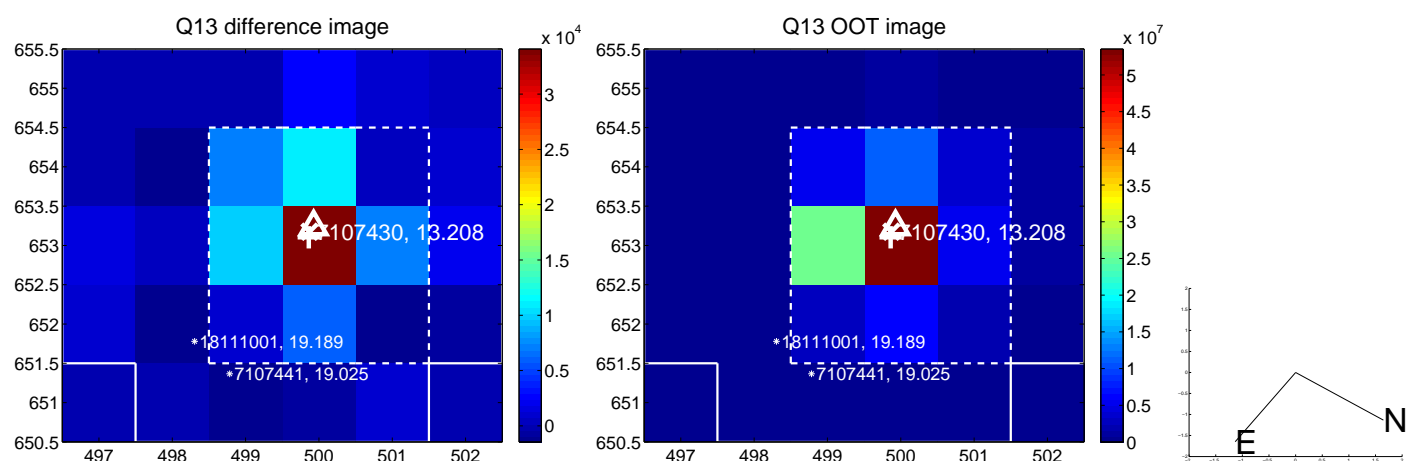
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



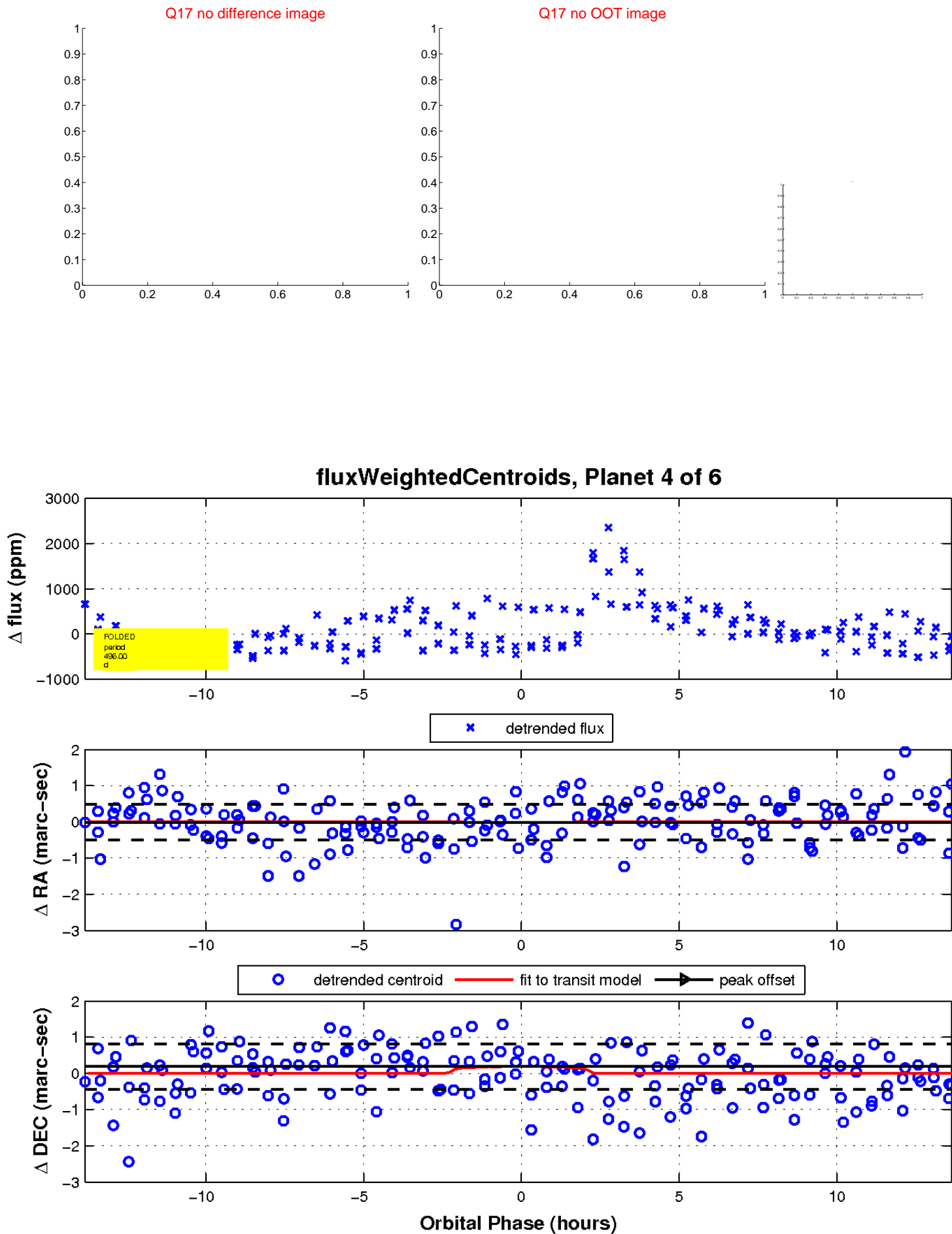
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

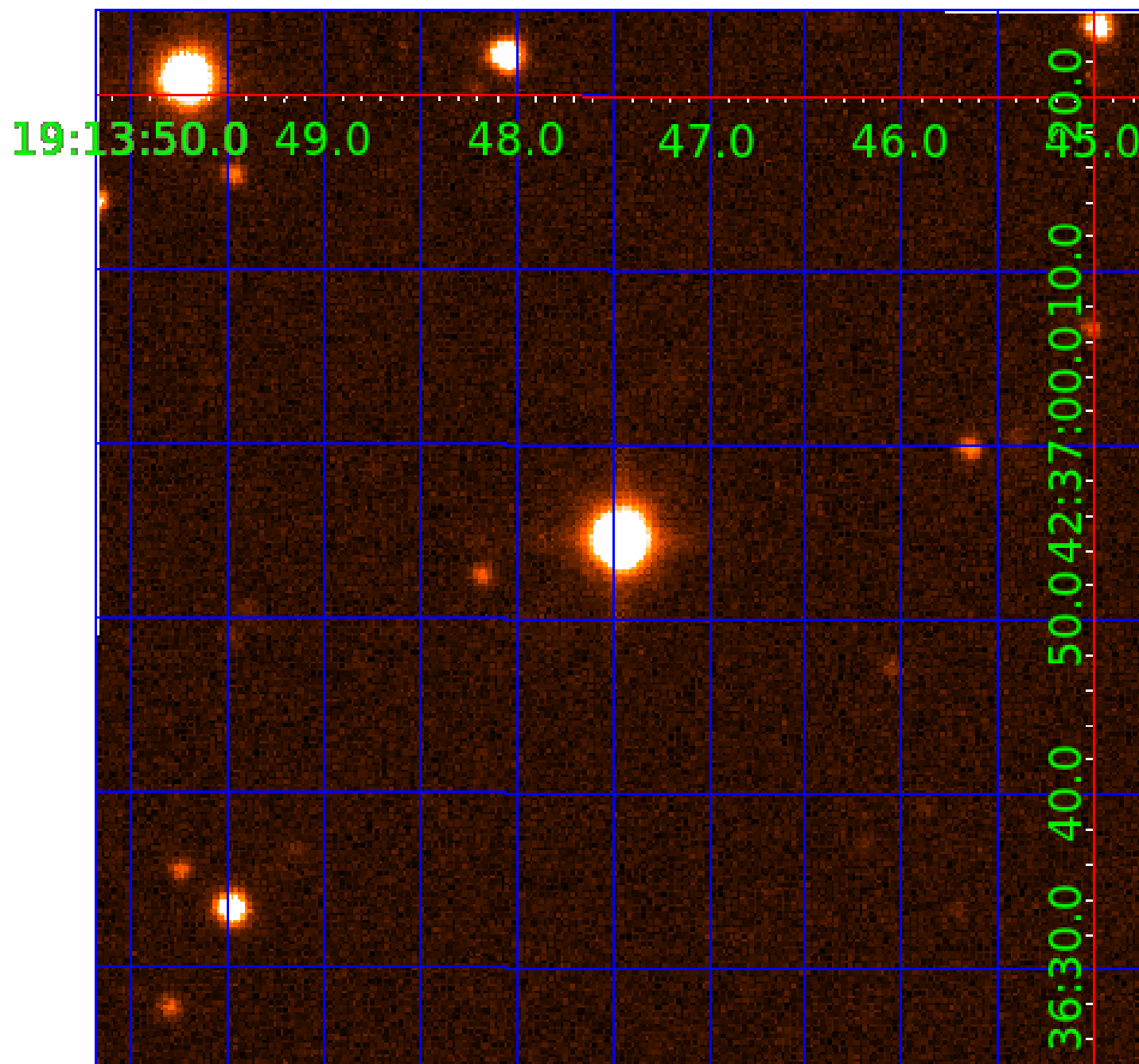


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007107430

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})
007107430-01	OBS	No	292.253875	300.868430	198.0	8.109	13.9	3.0	0.57	4110	0.85	0.17
007107430-02	OBS	No	491.429298	439.145465	1082.3	7.574	20.2	9.7	0.57	4110	3.77	0.08
007107430-03	OBS	No	497.676146	282.596337	1042.3	10.777	13.2	11.8	0.57	4110	1.91	0.08
007107430-04	OBS	No	496.004754	203.259880	618.4	4.626	11.7	8.1	0.57	4110	1.54	0.08
007107430-05	OBS	No	460.858990	378.203982	521.5	6.135	11.6	6.5	0.57	4110	1.44	0.09
007107430-06	OBS	No	424.961906	433.194900	365.4	19.518	10.9	3.4	0.57	4110	1.14	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007107430-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007107430-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

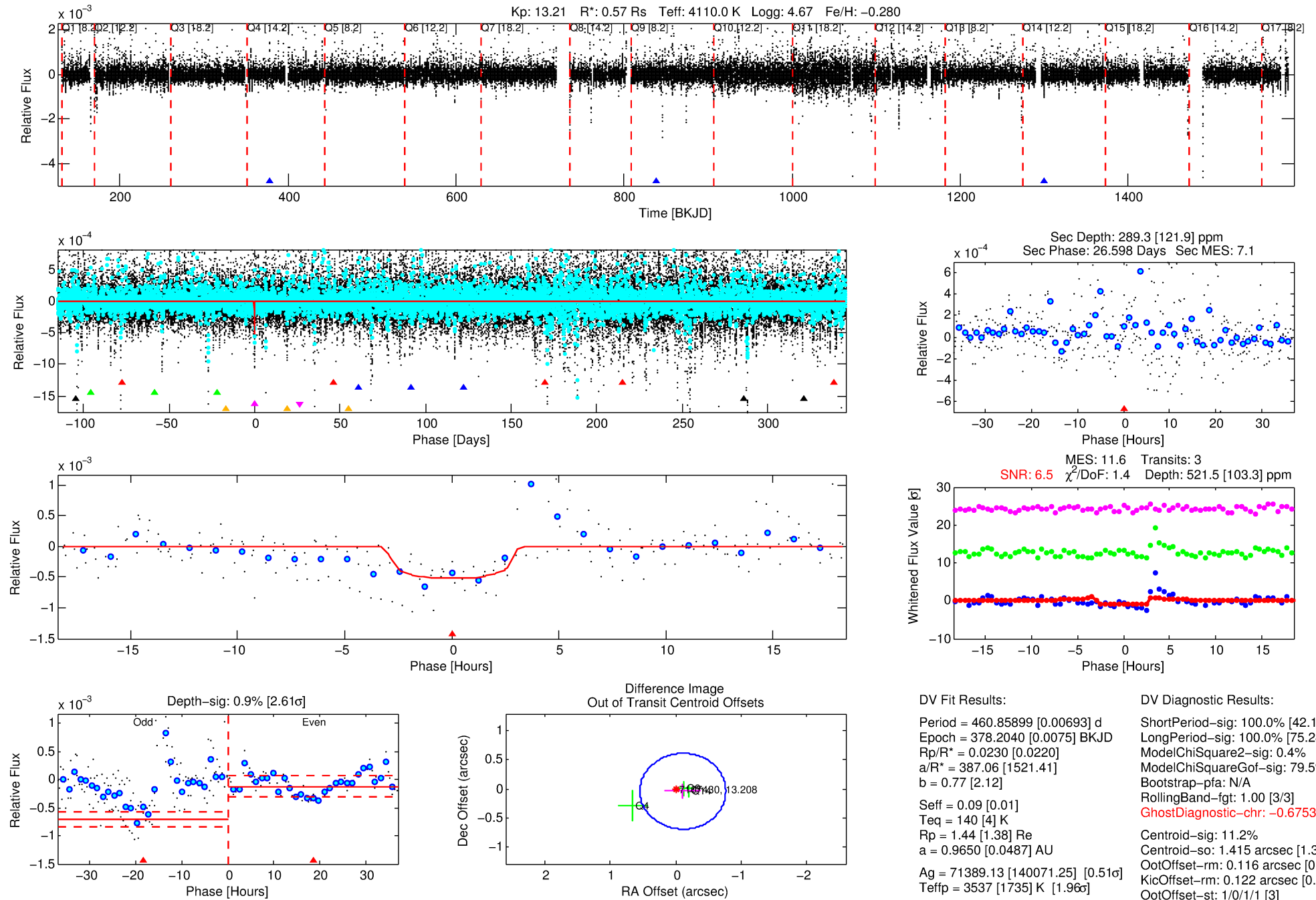
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007107430-05

No Significant Match Found

DV One-Page Summary

KIC: 7107430 Candidate: 5 of 6 Period: 460.859 d



DV Fit Results:

Period = 460.85899 [0.00693] d
Epoch = 378.2040 [0.0075] BKJD
Rp/R* = 0.0230 [0.0220]
a/R* = 387.06 [1521.41]
b = 0.77 [2.12]
Seff = 0.09 [0.01]
Teq = 140 [4] K
Rp = 1.44 [1.38] Re
a = 0.9650 [0.0487] AU
Ag = 71389.13 [140071.25] [0.51] σ
Teffp = 3537 [1735] K [1.96] σ

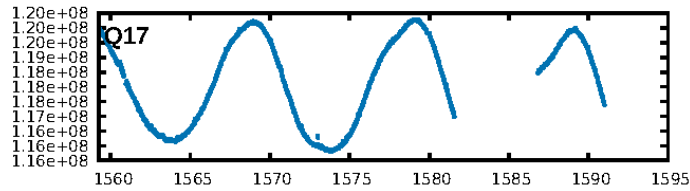
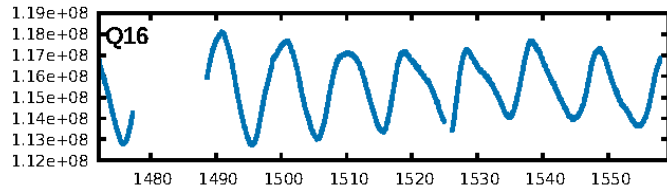
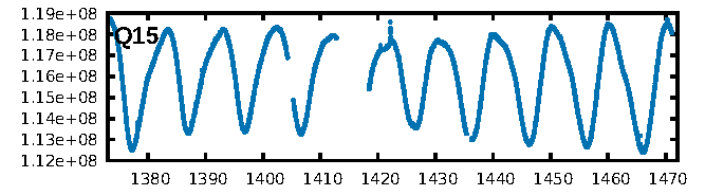
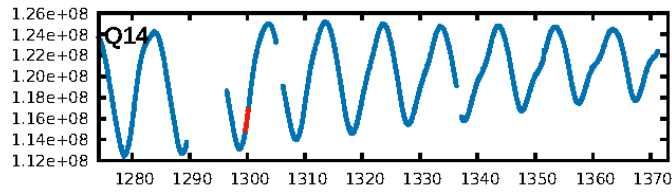
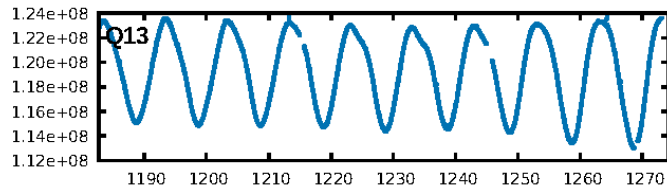
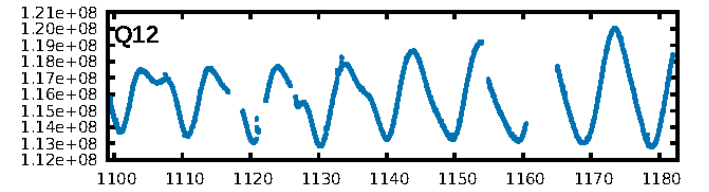
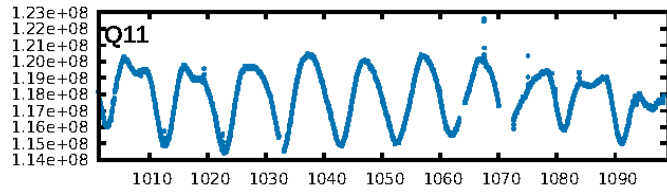
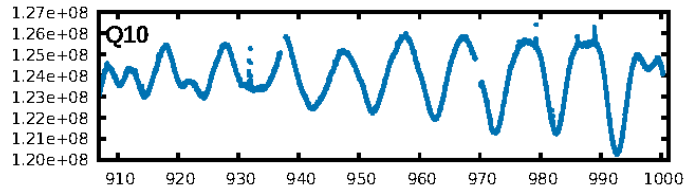
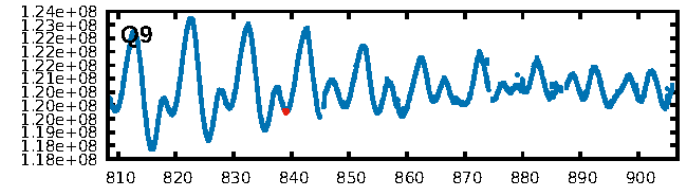
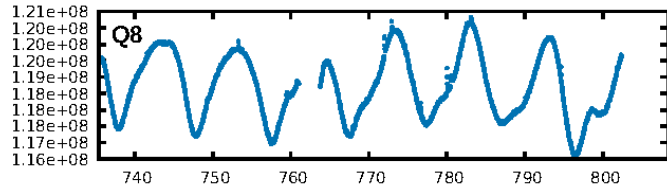
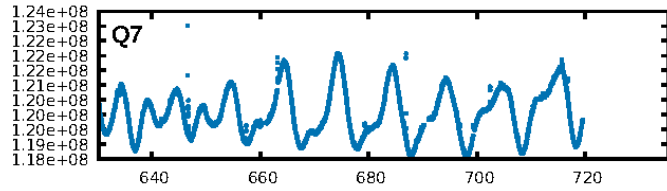
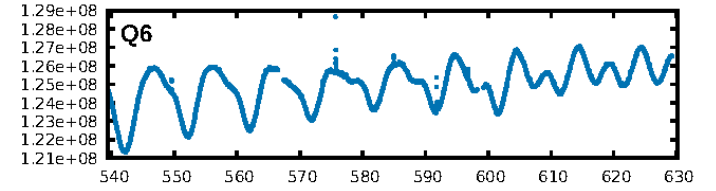
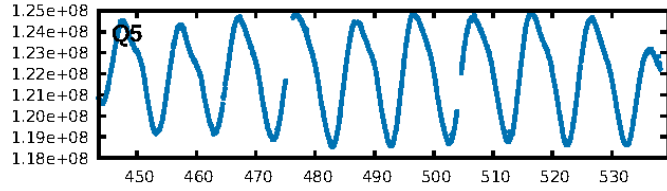
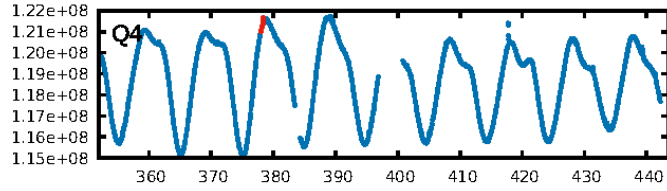
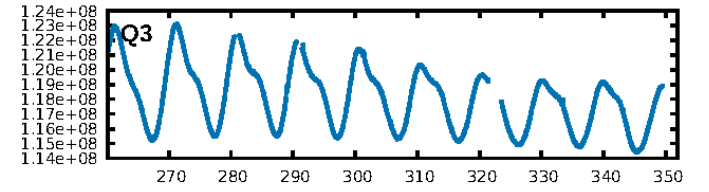
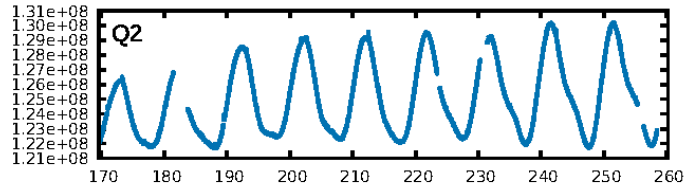
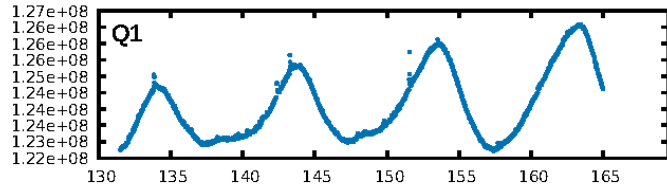
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [42.11] σ
LongPeriod-sig: 100.0% [75.28] σ
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 79.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.6753
Centroid-sig: 11.2%
Centroid-so: 1.415 arcsec [1.34] σ
OotOffset-rm: 0.116 arcsec [0.53] σ
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.122 arcsec [0.92] σ
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

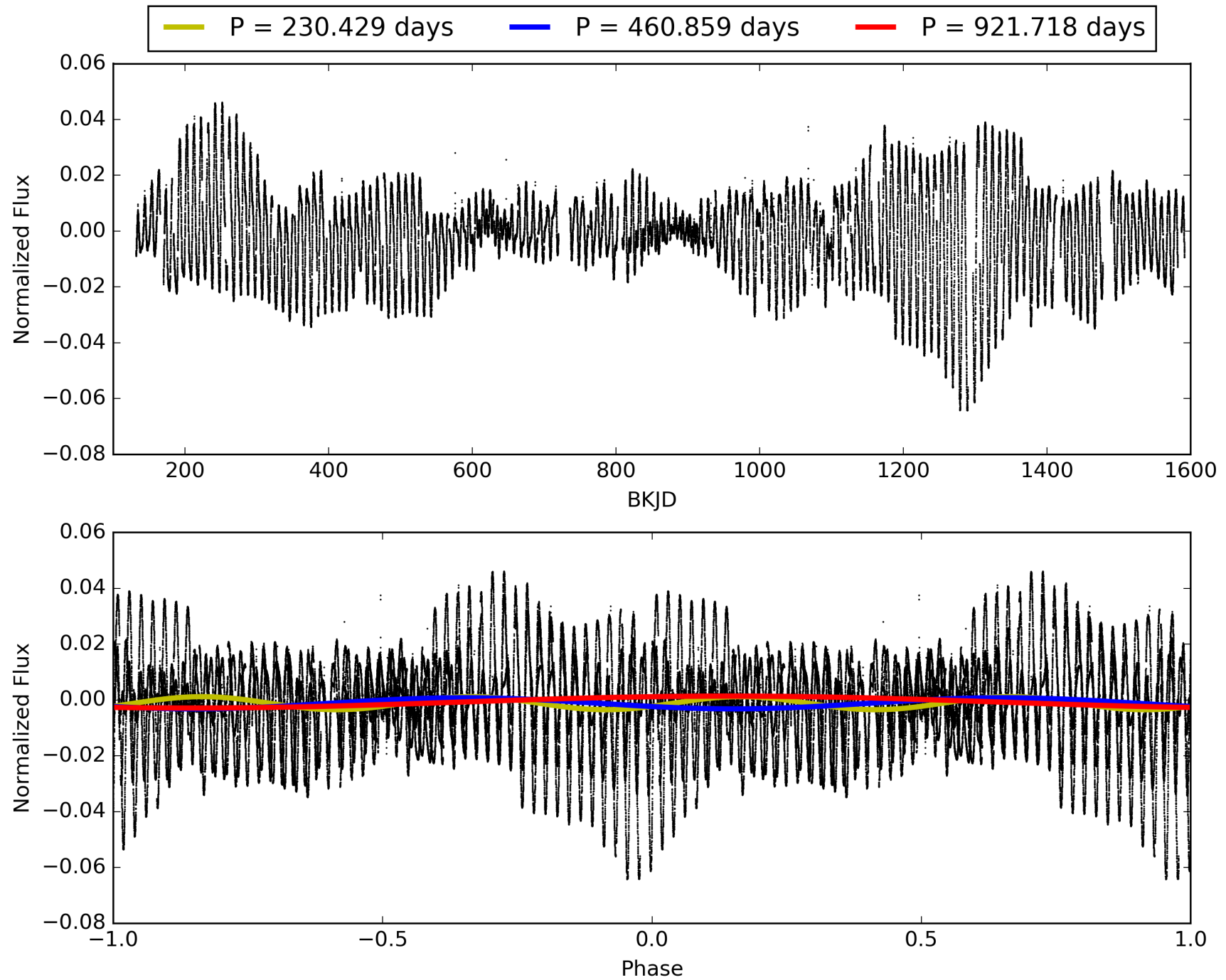
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:35:47 Z

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

TCE 007107430-05, PDC Light Curves

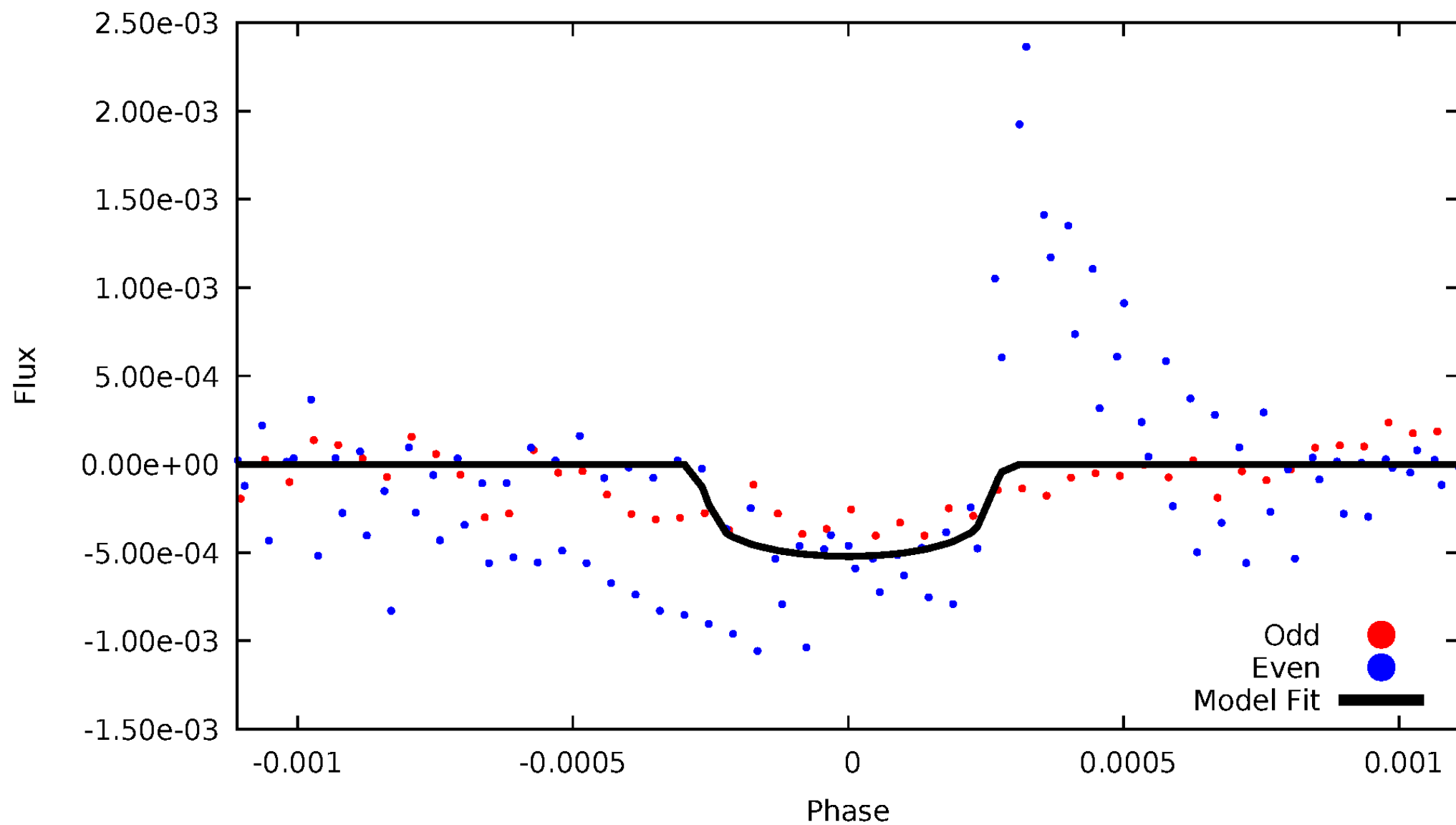


TCE 007107430-05



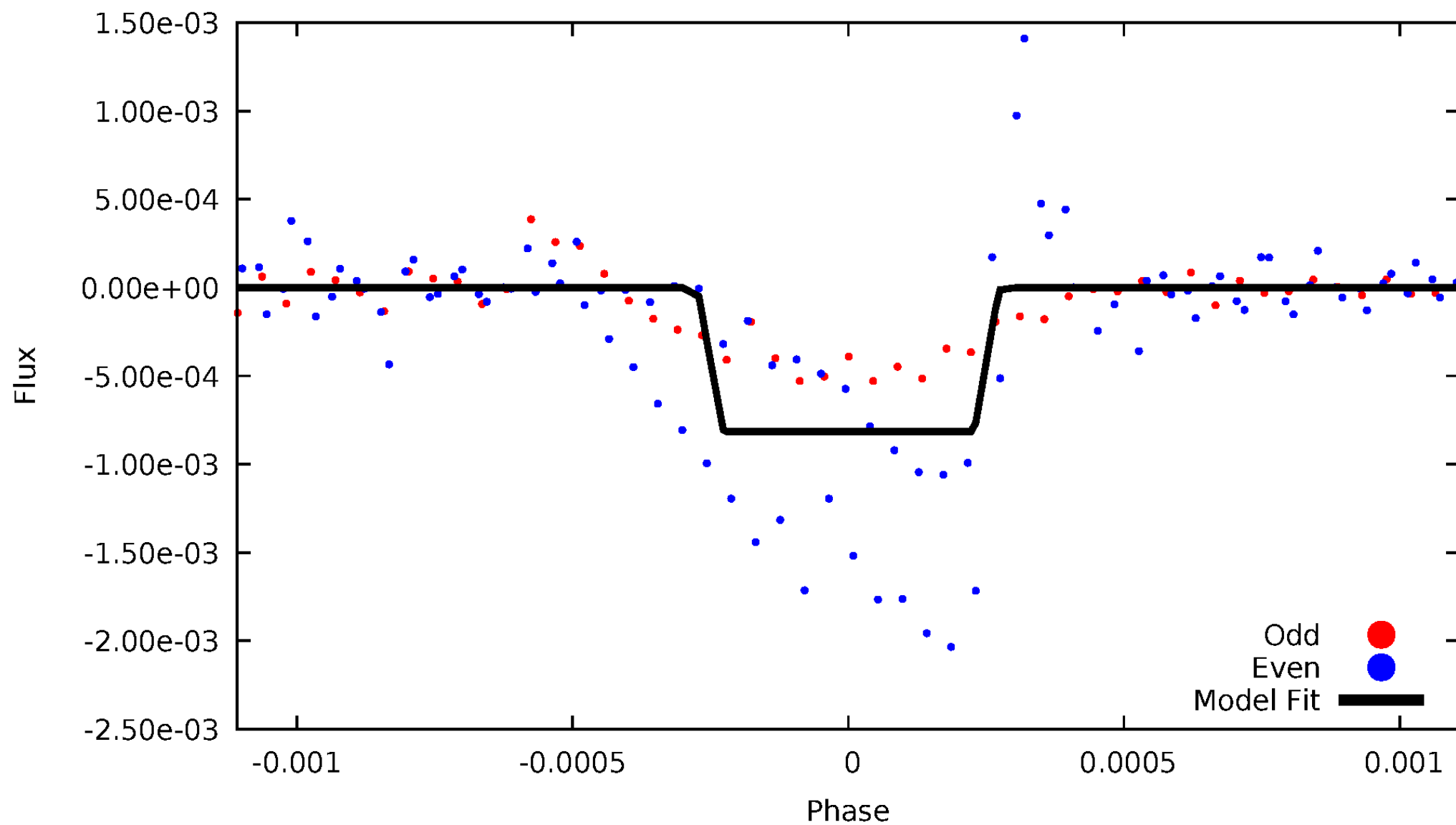
DV Odd/Even

TCE 007107430-05



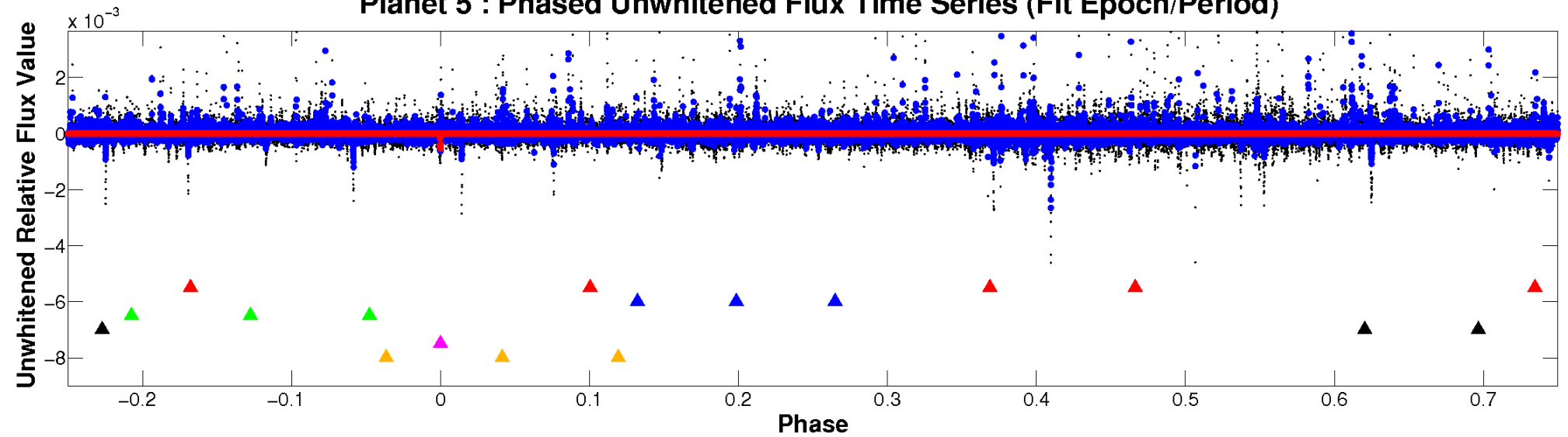
ALT Odd/Even

TCE 007107430-05

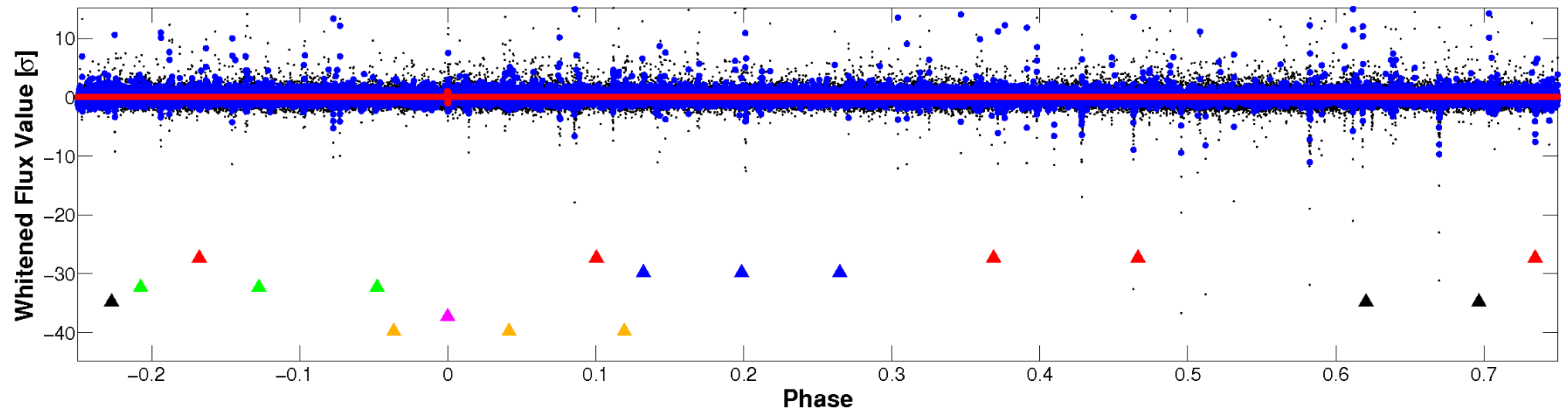


Non-Whitened Vs. Whitened Light Curve

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

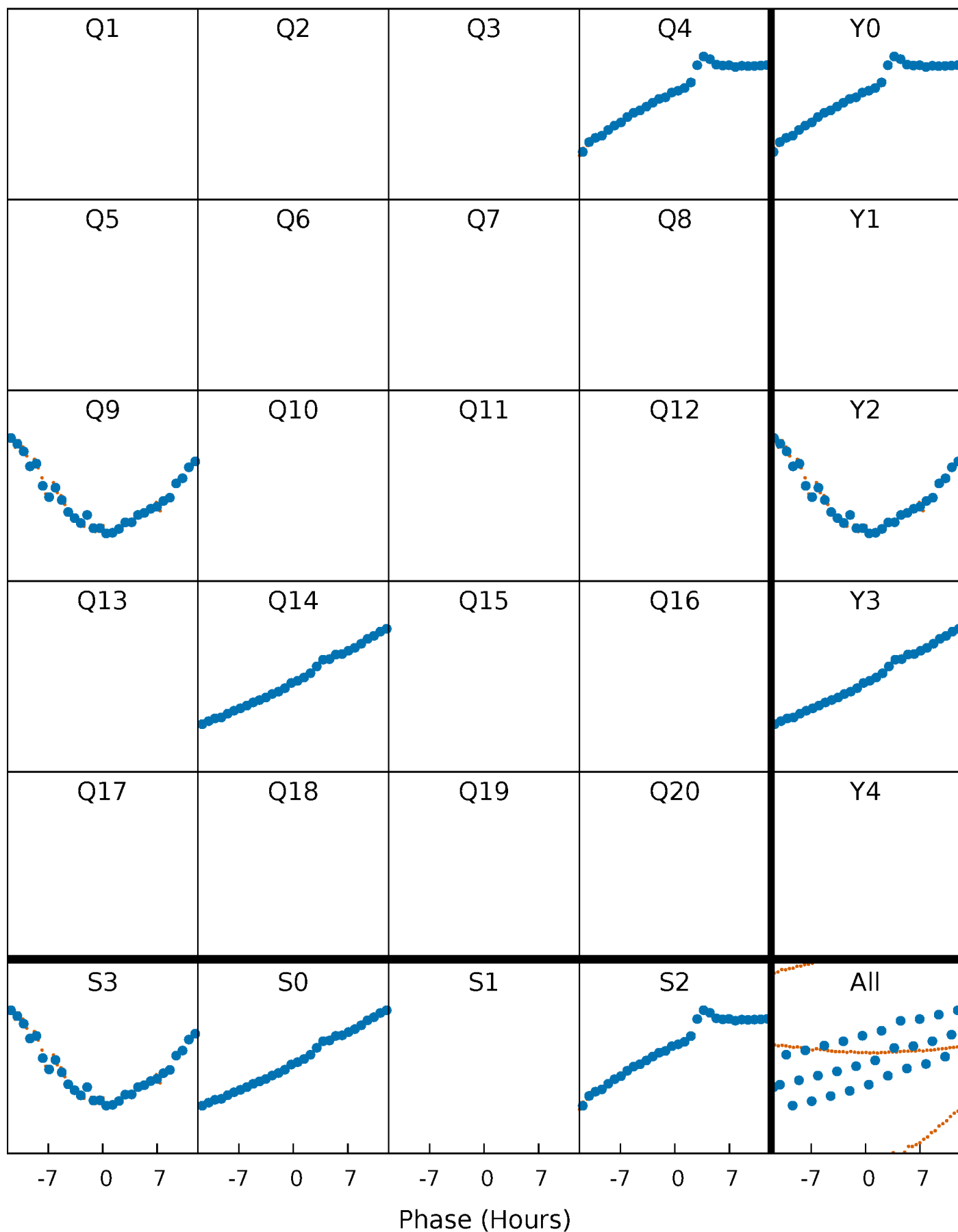


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



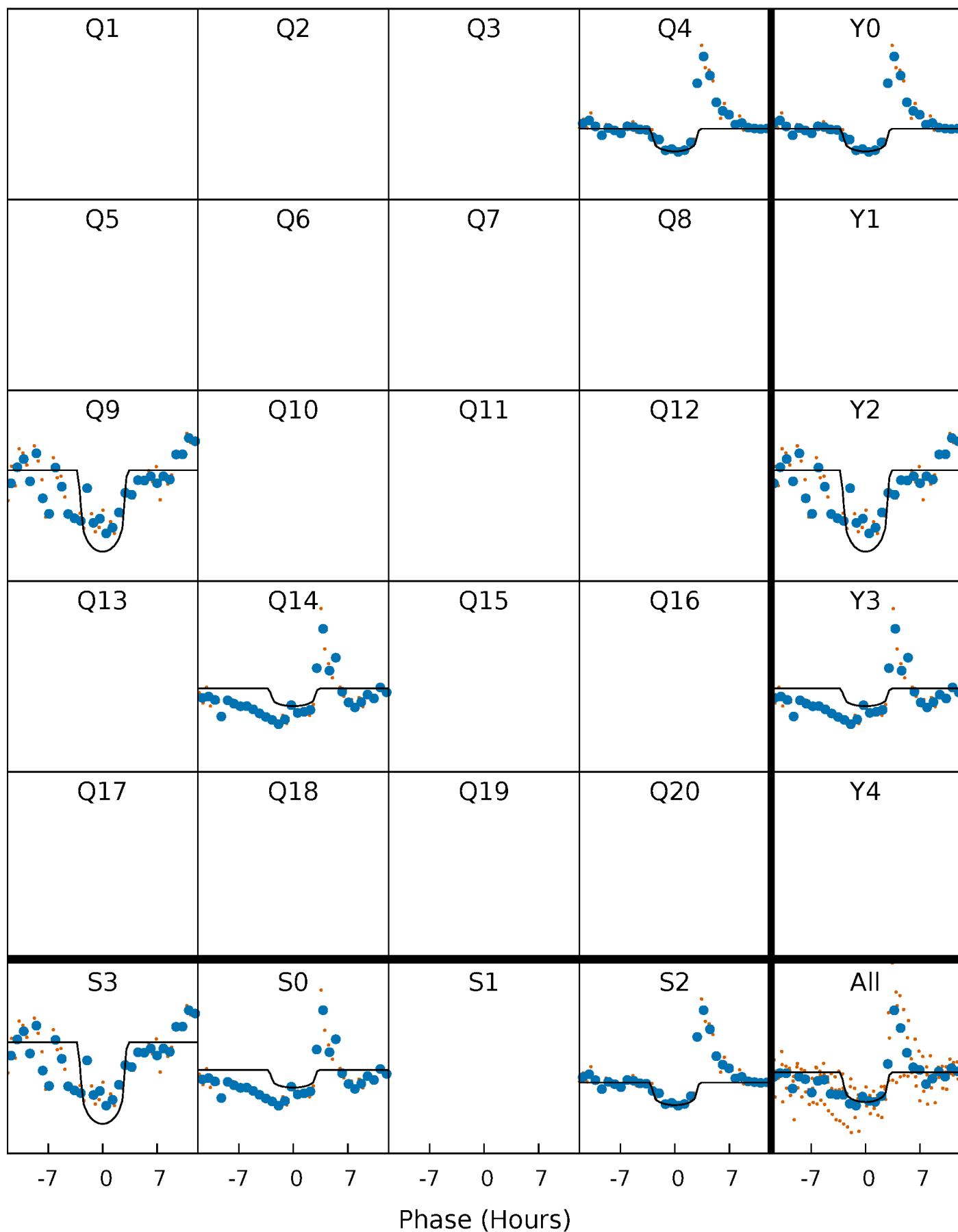
PDC Quarter-Phased Transit Curves

TCE 007107430-05 $P=460.858990$ Days $T_0=378.203982$ (BKJD)



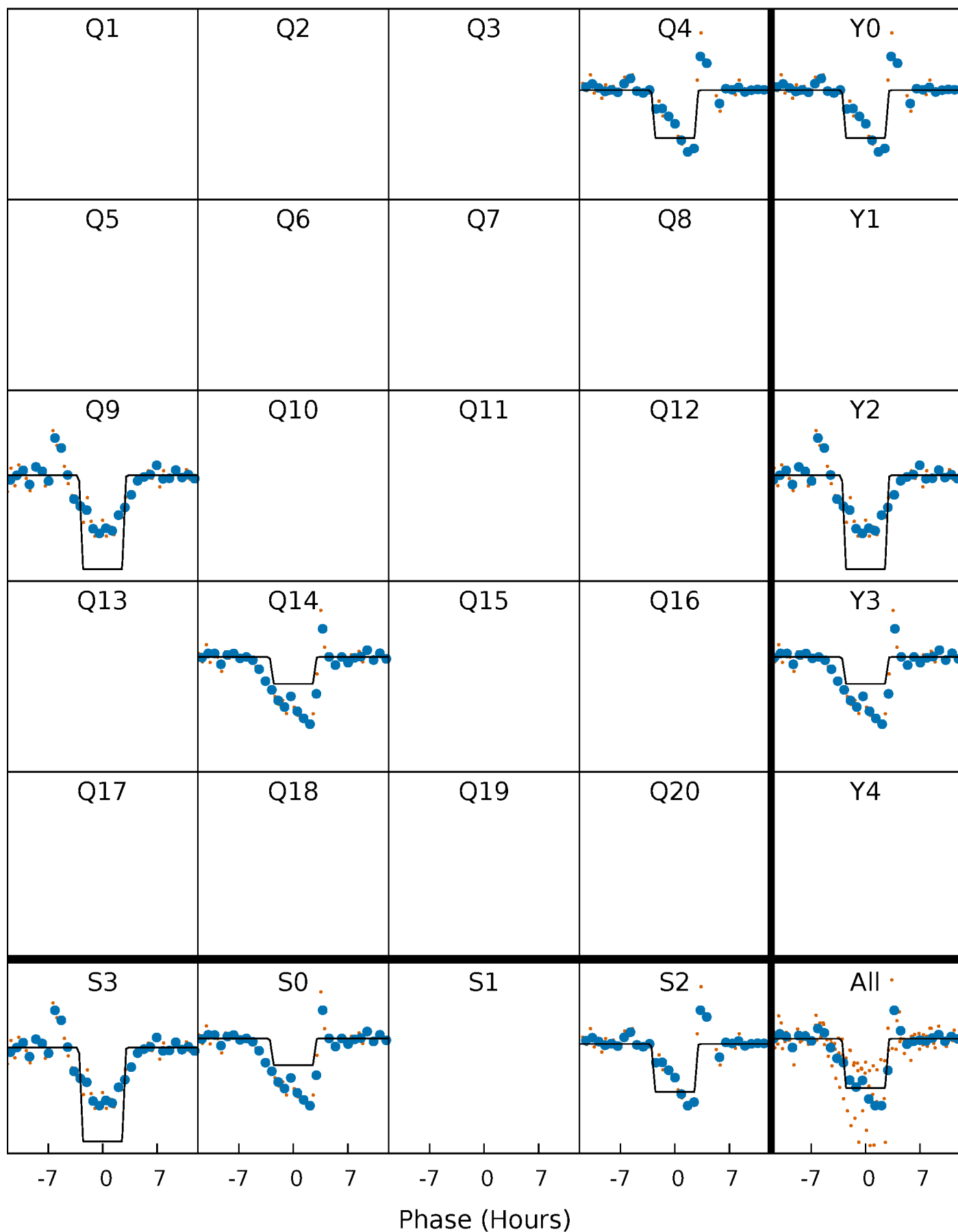
DV Quarter-Phased Transit Curves

TCE 007107430-05 $P=460.858990$ Days $T_0=378.203982$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

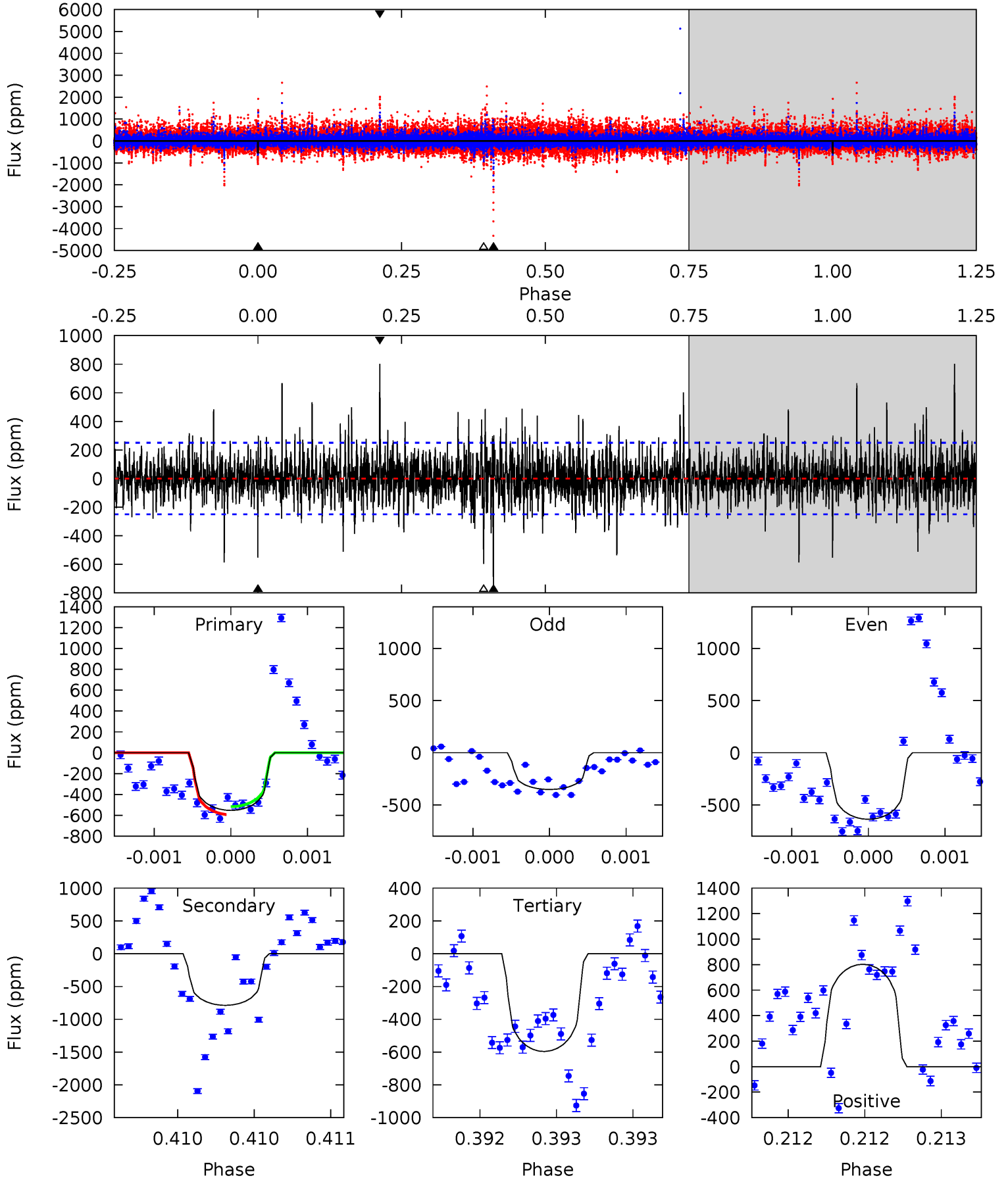
TCE 007107430-05 $P=460.858512$ Days $T_0=378.206479$ (BKJD)



DV Model-Shift Uniqueness Test

007107430-05, P = 460.858990 Days, E = 378.203982 Days

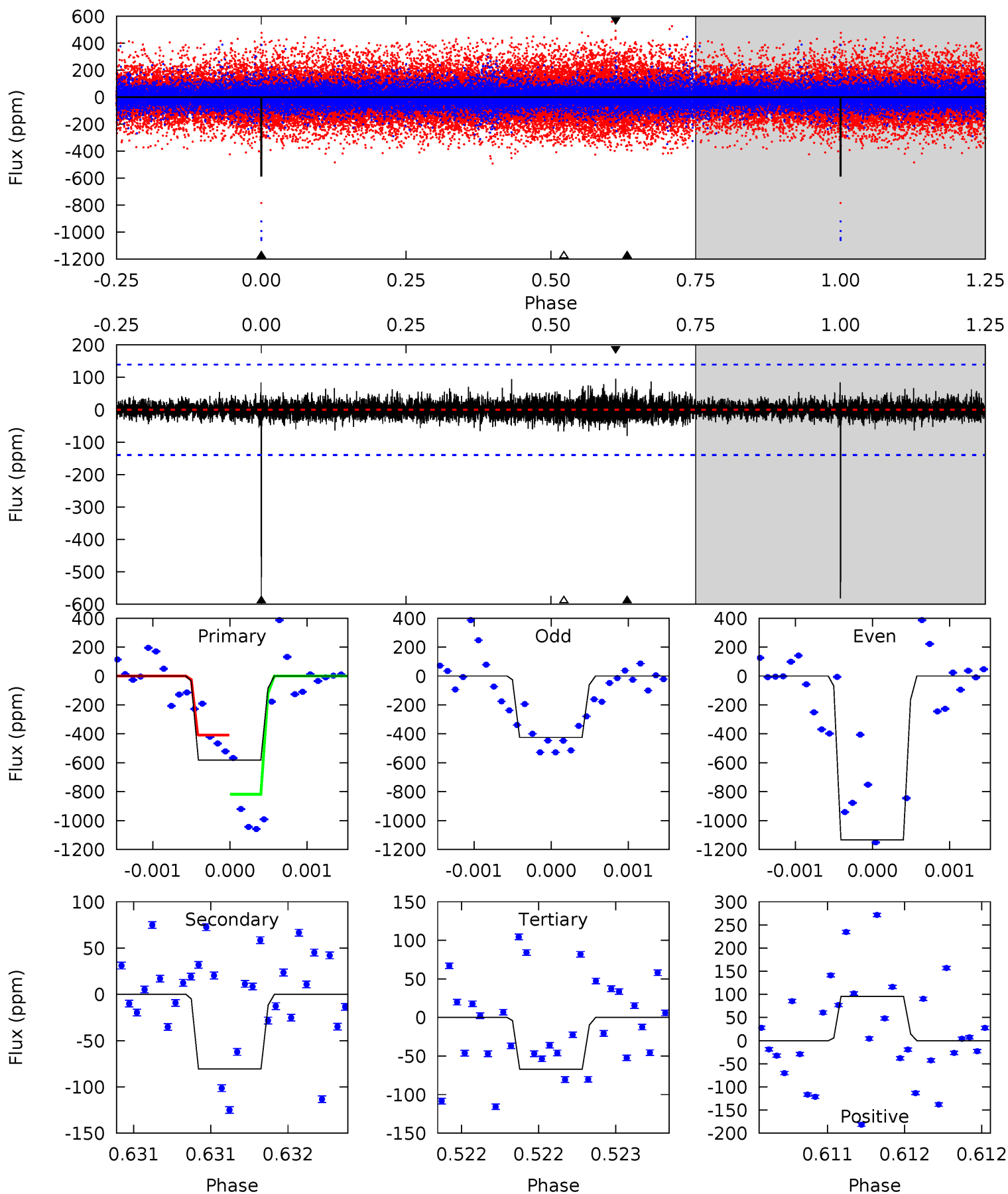
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	17.5	13.2	17.8	5.56	3.46	2.62	-0.97	-5.55	4.25	-0.33	2.18	1.23	0.50	0.85



Alt Model-Shift Uniqueness Test

007107430-05, P = 460.858512 Days, E = 378.206479 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.2	3.21	2.67	3.82	5.56	3.46	0.62	20.5	19.4	0.54	-0.60	17.1	1.39	0.14	8.34



Stellar Parameters For KIC 007107430

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4110^{+74}_{-83}	$4.670^{+0.039}_{-0.015}$	$-0.280^{+0.150}_{-0.150}$	$0.575^{+0.023}_{-0.035}$	$0.565^{+0.032}_{-0.029}$	$4.185^{+0.655}_{-0.294}$
	+2%/-2%	+1%/-0%	+54%/-54%	+4%/-6%	+6%/-5%	+16%/-7%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007107430-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-787 ± 45	$1.74^{+1.24}_{-1.02}$	195^{+4}_{-4}	4102^{+1829}_{-686}	$131213^{+625450}_{-85657}$
Alt.	-81 ± 25	$1.93^{+1.27}_{-1.12}$	194^{+4}_{-4}	2806^{+819}_{-368}	11111^{+49897}_{-7473}

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

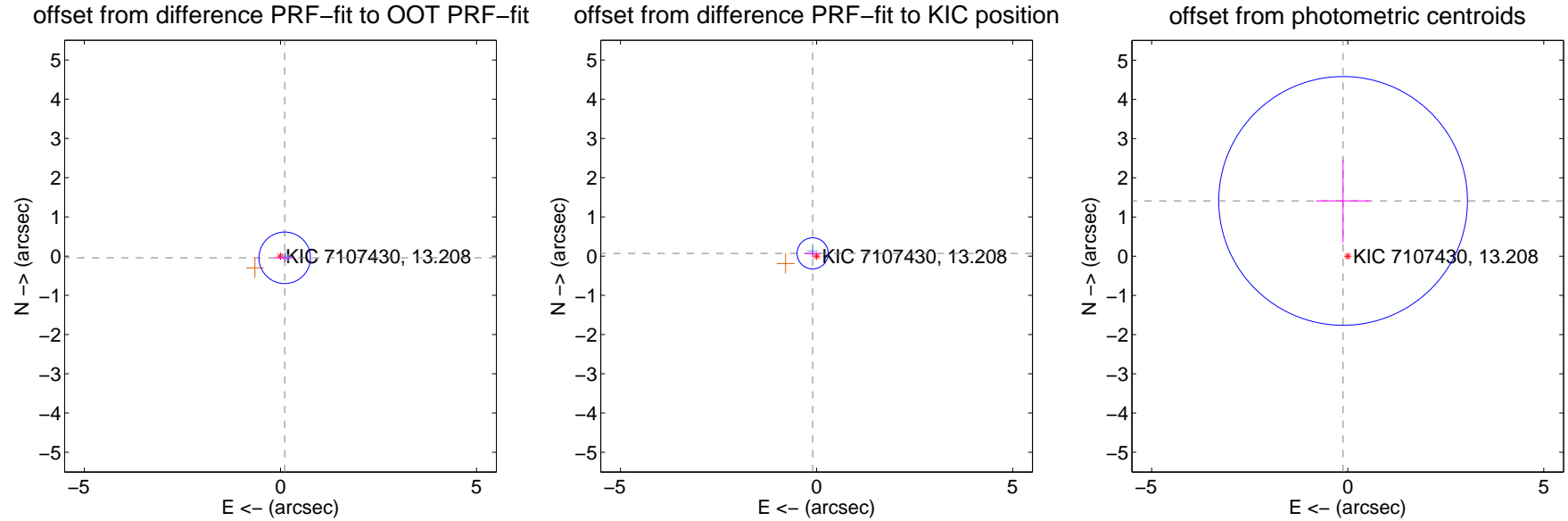
DV Centroid Data

Supplemental centroid analysis for 007107430-05. Kepler magnitude: 13.21. Transit SNR 6.45

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.116 ± 0.219	0.53	-0.108 ± 0.269	-0.043 ± 0.115
PRF-fit source offset from KIC position	0.122 ± 0.132	0.92	0.100 ± 0.203	0.070 ± 0.100
photometric centroid source offset	1.42 ± 1.06	1.34	0.12 ± 0.69	1.41 ± 1.06



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



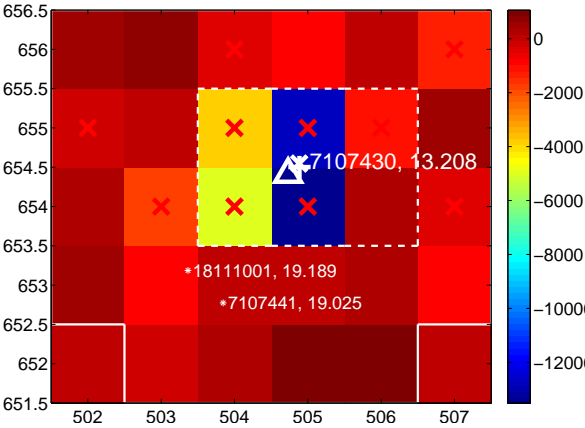
Q3 no difference image



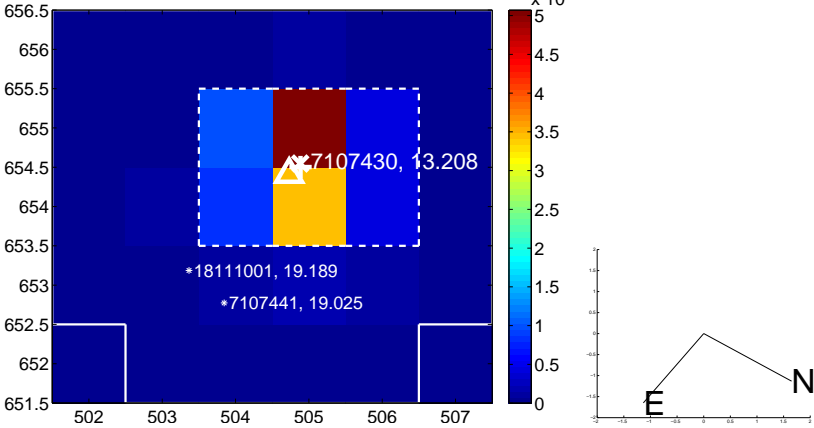
Q3 no OOT image



Q4 difference image. Poor Quality



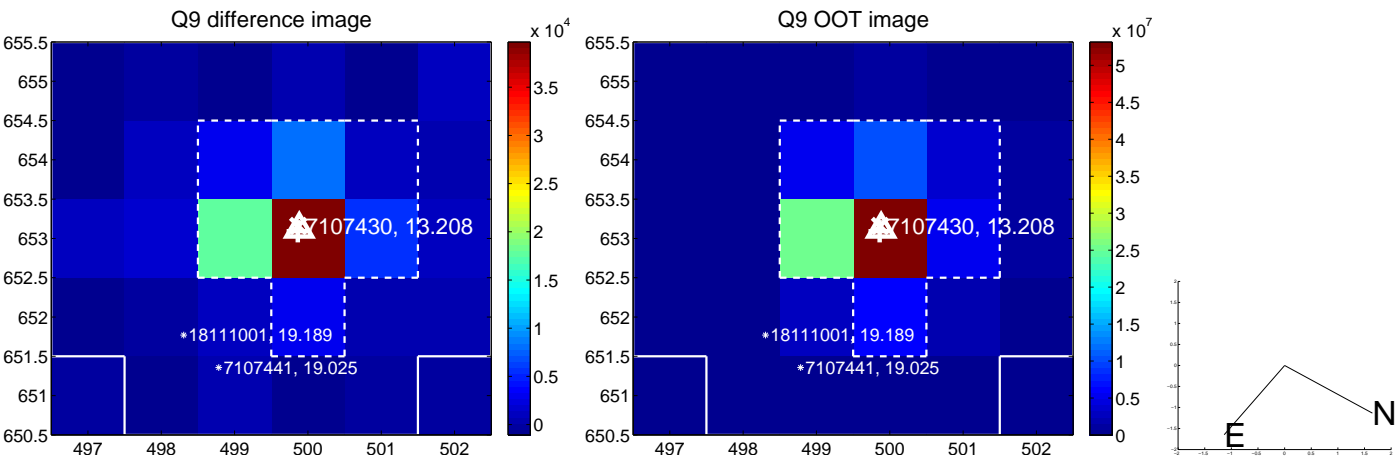
Q4 OOT image



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

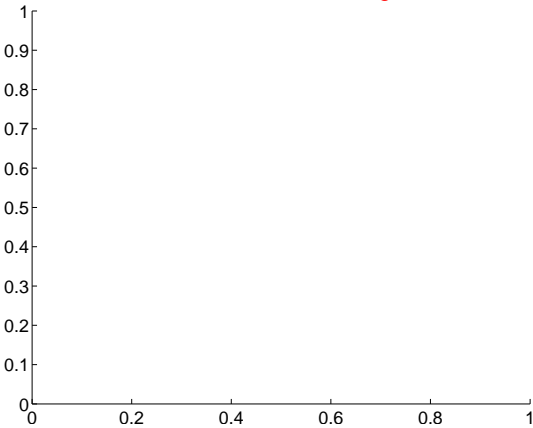


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

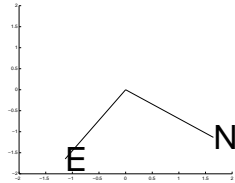
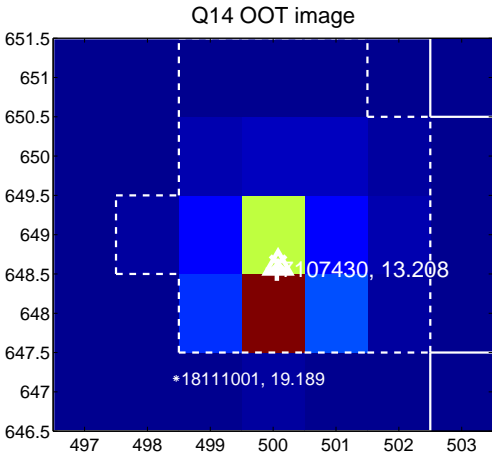
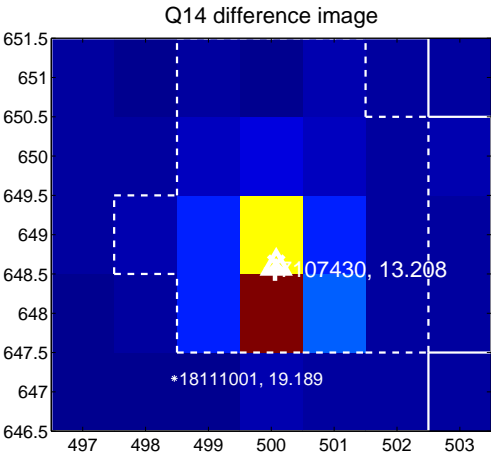


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

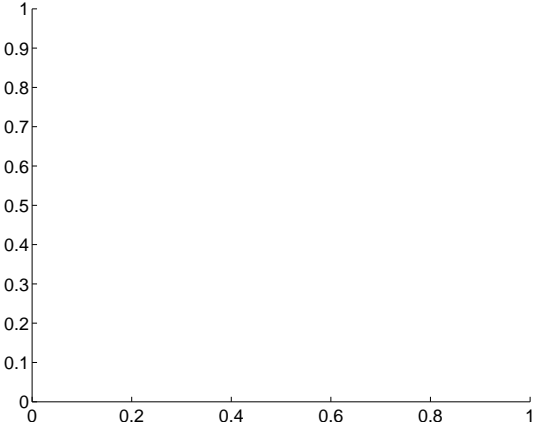
Q13 no difference image



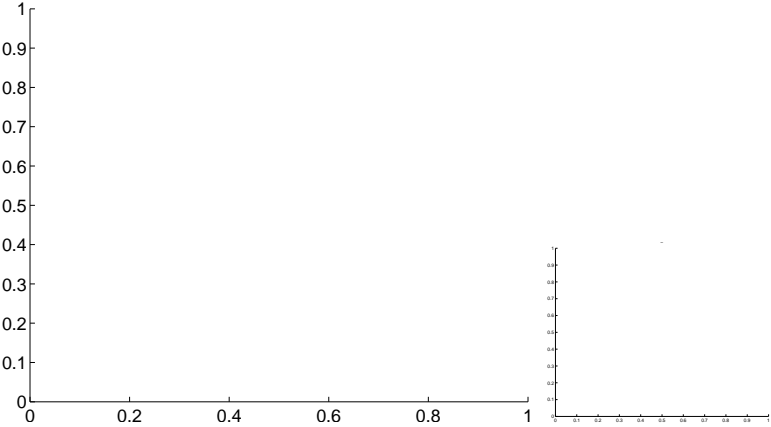
Q13 no OOT image



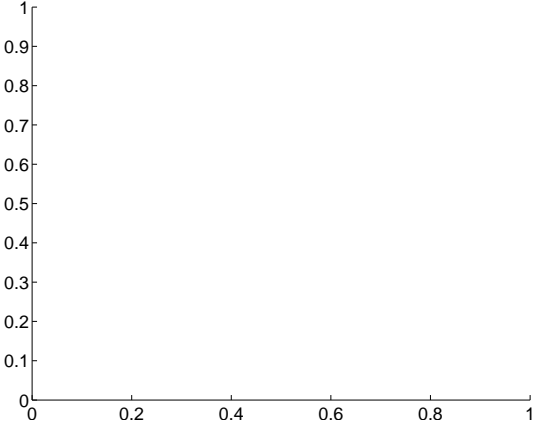
Q15 no difference image



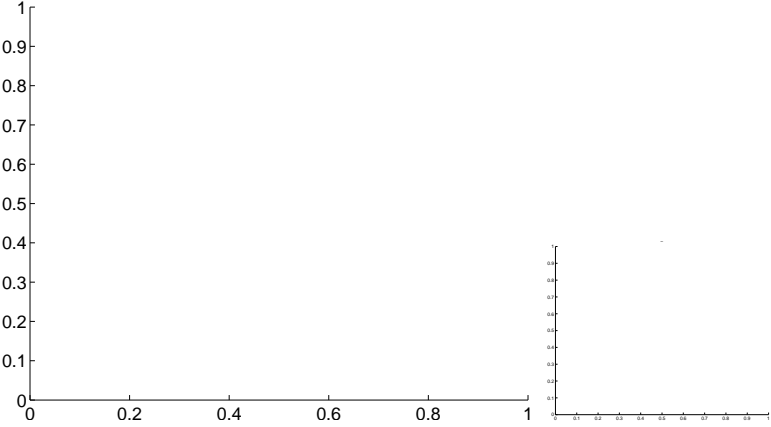
Q15 no OOT image



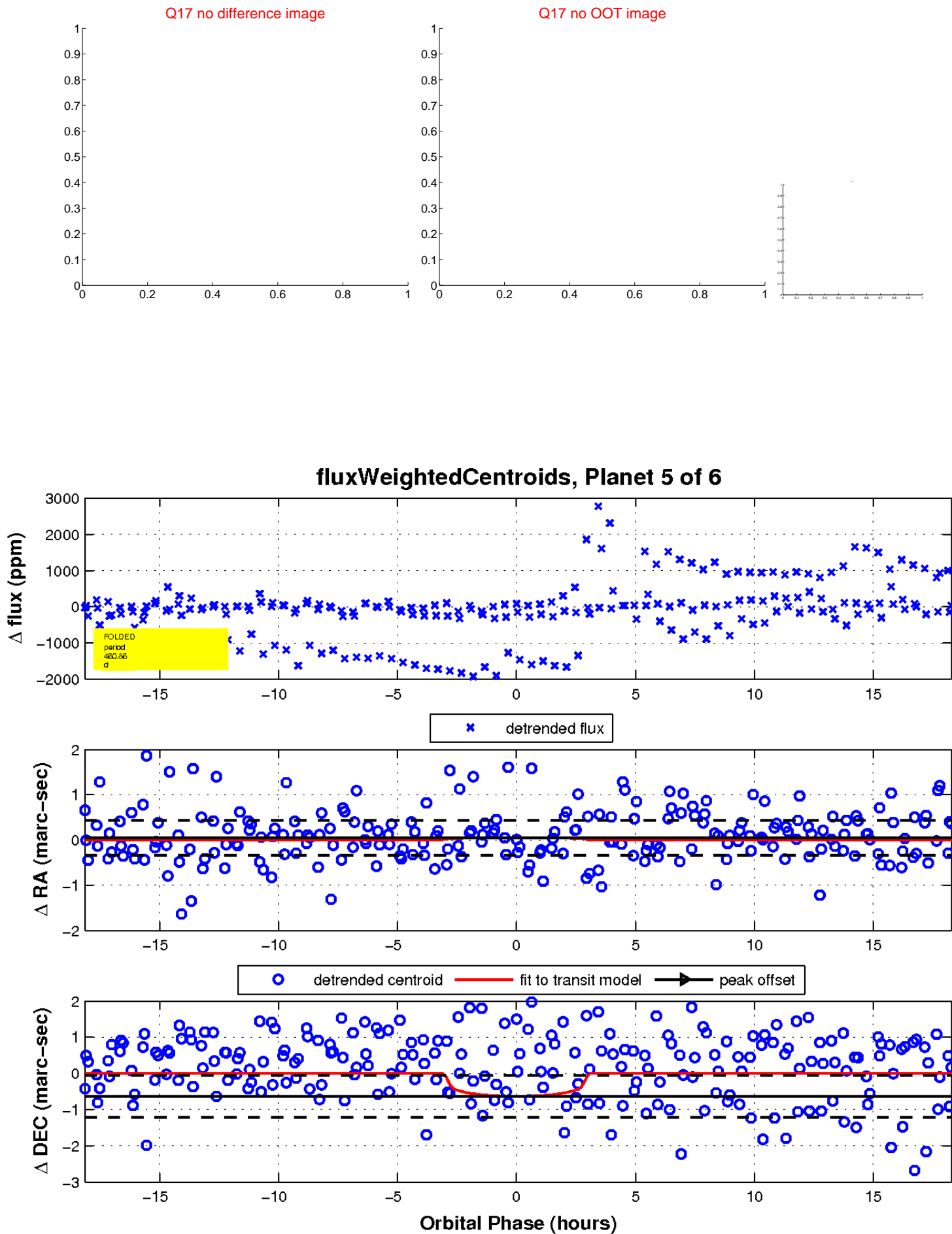
Q16 no difference image



Q16 no OOT image

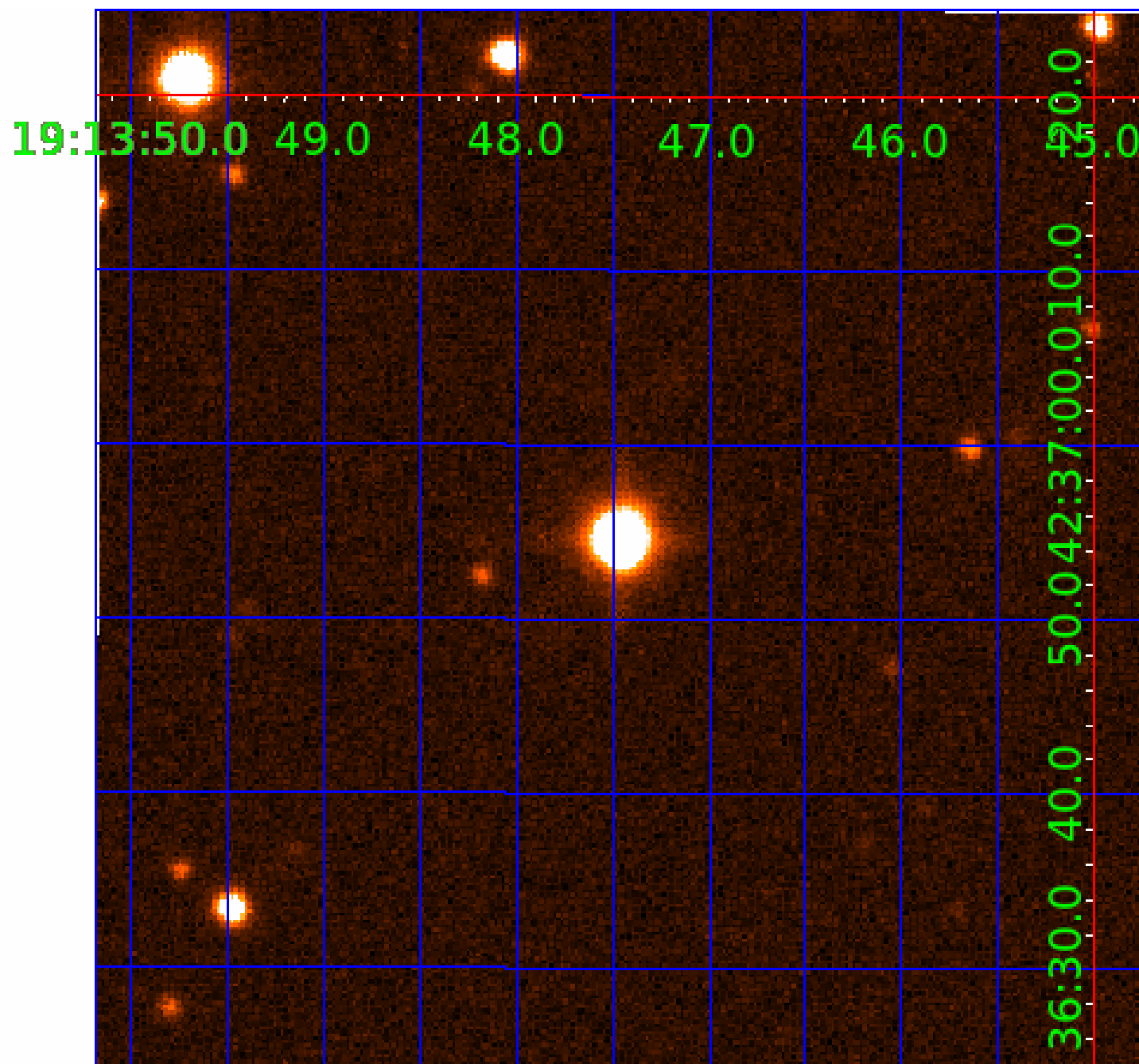


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007107430

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})
007107430-01	OBS	No	292.253875	300.868430	198.0	8.109	13.9	3.0	0.57	4110	0.85	0.17
007107430-02	OBS	No	491.429298	439.145465	1082.3	7.574	20.2	9.7	0.57	4110	3.77	0.08
007107430-03	OBS	No	497.676146	282.596337	1042.3	10.777	13.2	11.8	0.57	4110	1.91	0.08
007107430-04	OBS	No	496.004754	203.259880	618.4	4.626	11.7	8.1	0.57	4110	1.54	0.08
007107430-05	OBS	No	460.858990	378.203982	521.5	6.135	11.6	6.5	0.57	4110	1.44	0.09
007107430-06	OBS	No	424.961906	433.194900	365.4	19.518	10.9	3.4	0.57	4110	1.14	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007107430-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007107430-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
007107430-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007107430-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

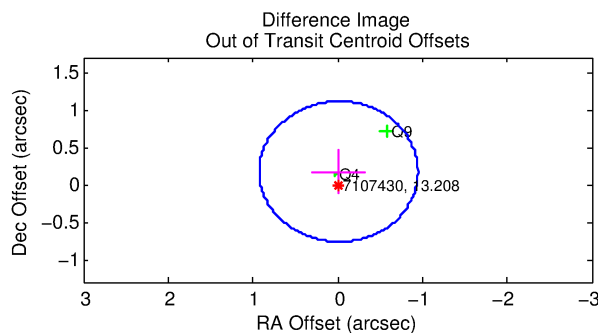
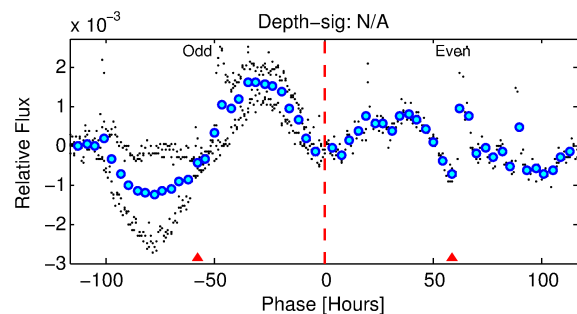
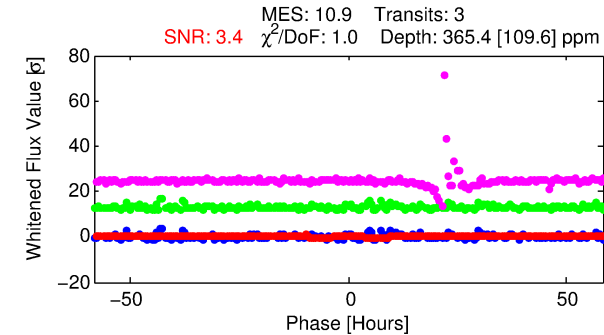
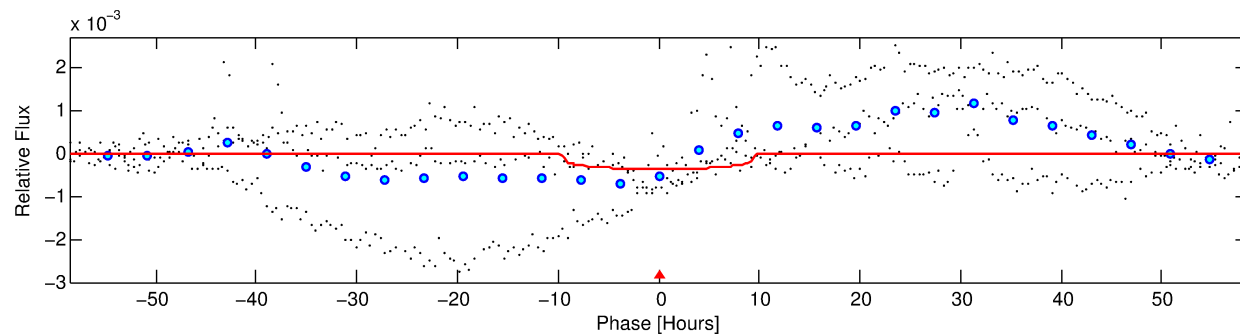
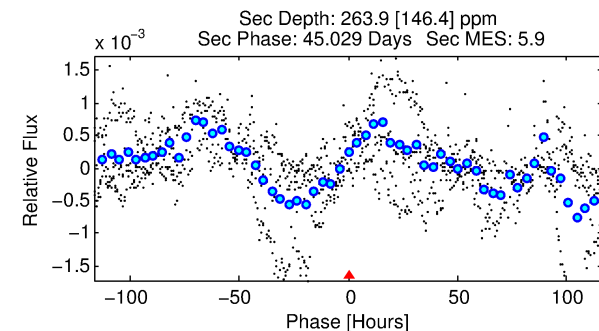
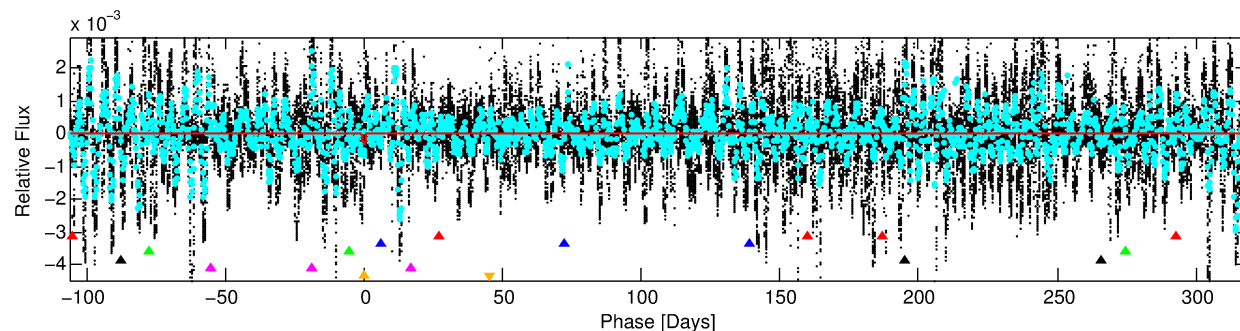
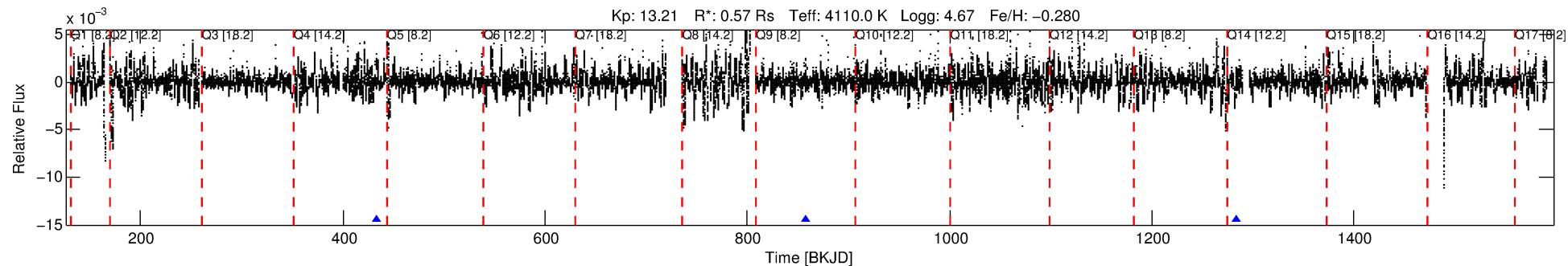
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007107430-06

No Significant Match Found

DV One-Page Summary

KIC: 7107430 Candidate: 6 of 6 Period: 424.962 d



DV Fit Results:

Period = 424.96191 [0.01166] d
Epoch = 433.1949 [0.0148] BKJD
Rp/R* = 0.0182 [0.0062]
a/R* = 136.14 [158.03]
b = 0.61 [1.22]
Seff = 0.10 [0.01]
Teq = 144 [4] K
Rp = 1.14 [0.40] Re
a = 0.9142 [0.0461] AU
Ag = 93184.91 [82344.57] [1.13] σ
Teffp = 3884 [859] K [4.36] σ

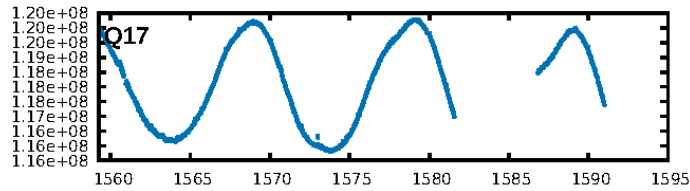
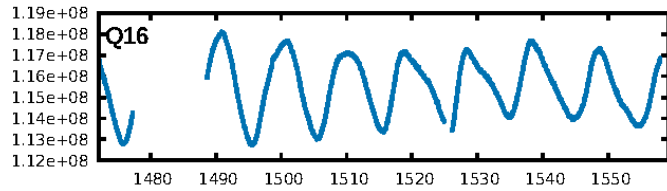
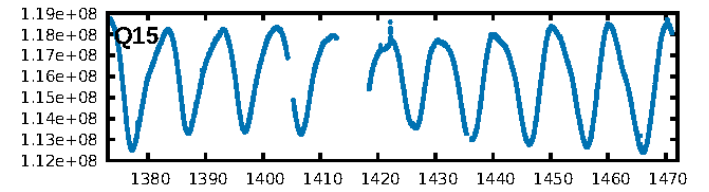
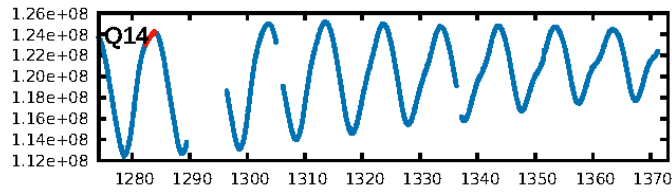
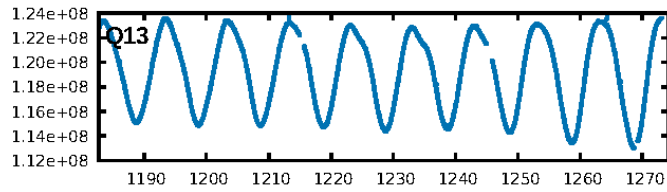
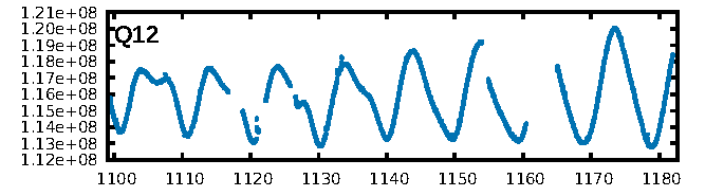
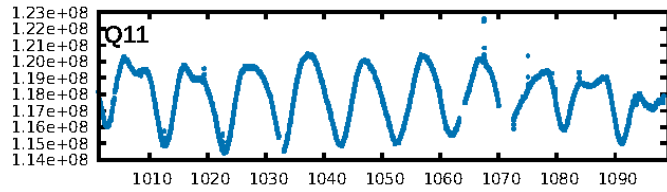
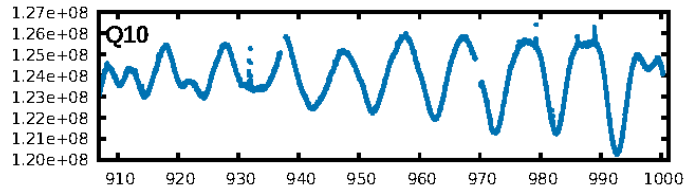
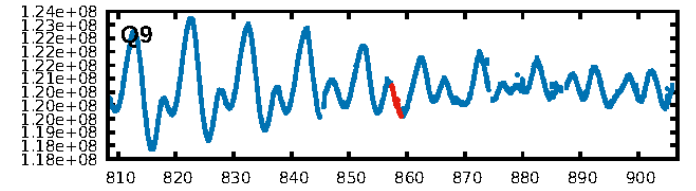
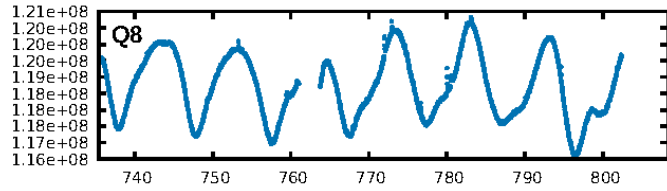
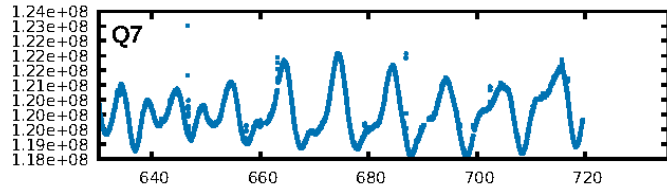
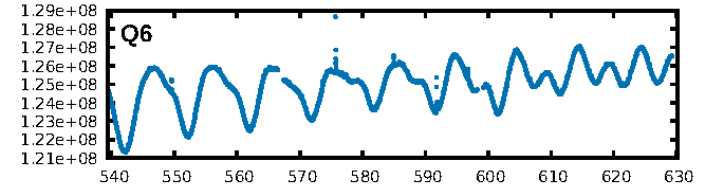
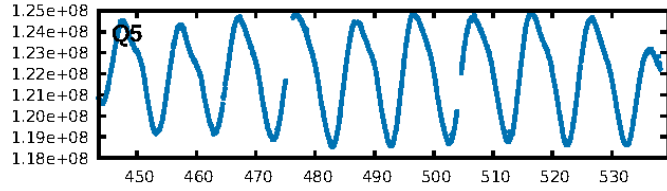
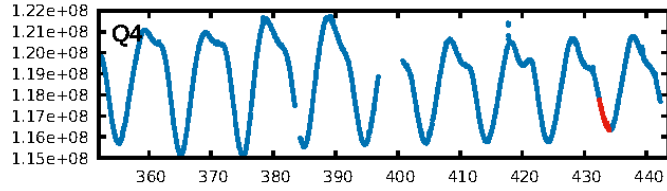
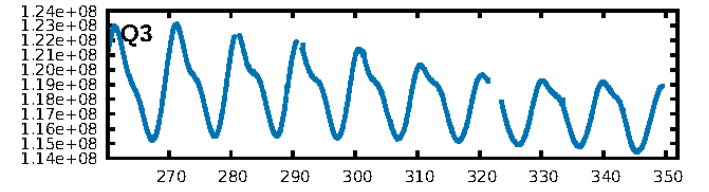
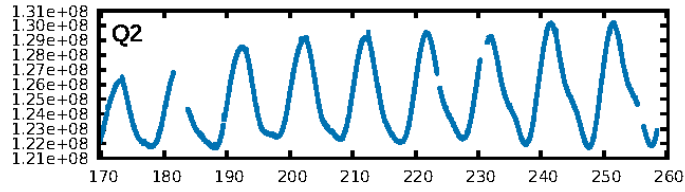
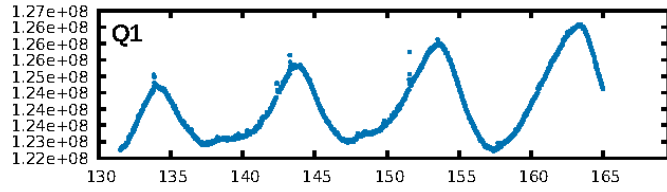
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [150.69] σ
LongPeriod-sig: 100.0% [42.11] σ
ModelChiSquare2-sig: 6.5%
ModelChiSquareGoF-sig: 95.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5918
Centroid-sig: 49.4%
Centroid-so: 0.736 arcsec [0.51] σ
OotOffset-rm: 0.174 arcsec [0.56] σ
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.305 arcsec [1.71] σ
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

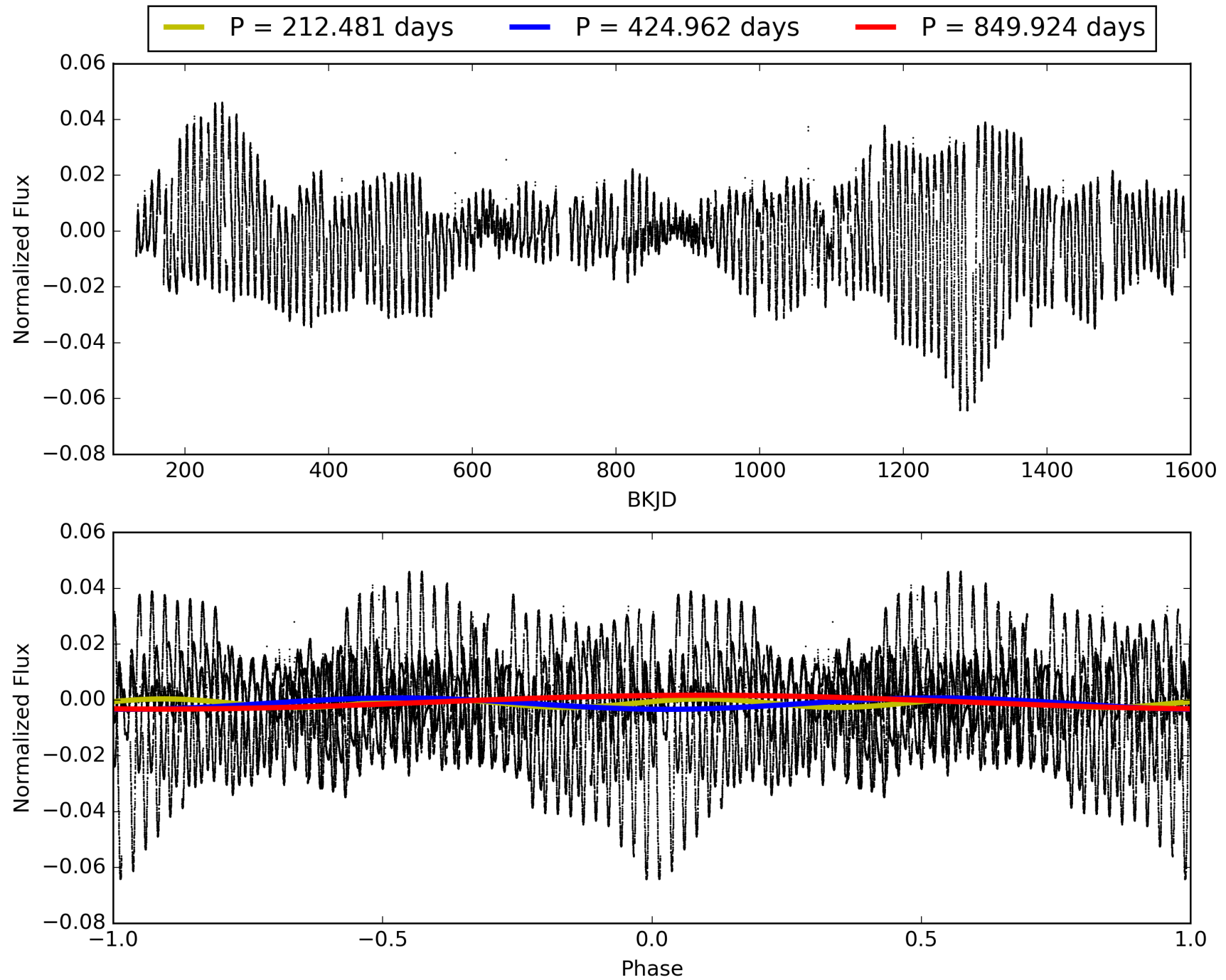
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:35:55 Z

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

TCE 007107430-06, PDC Light Curves

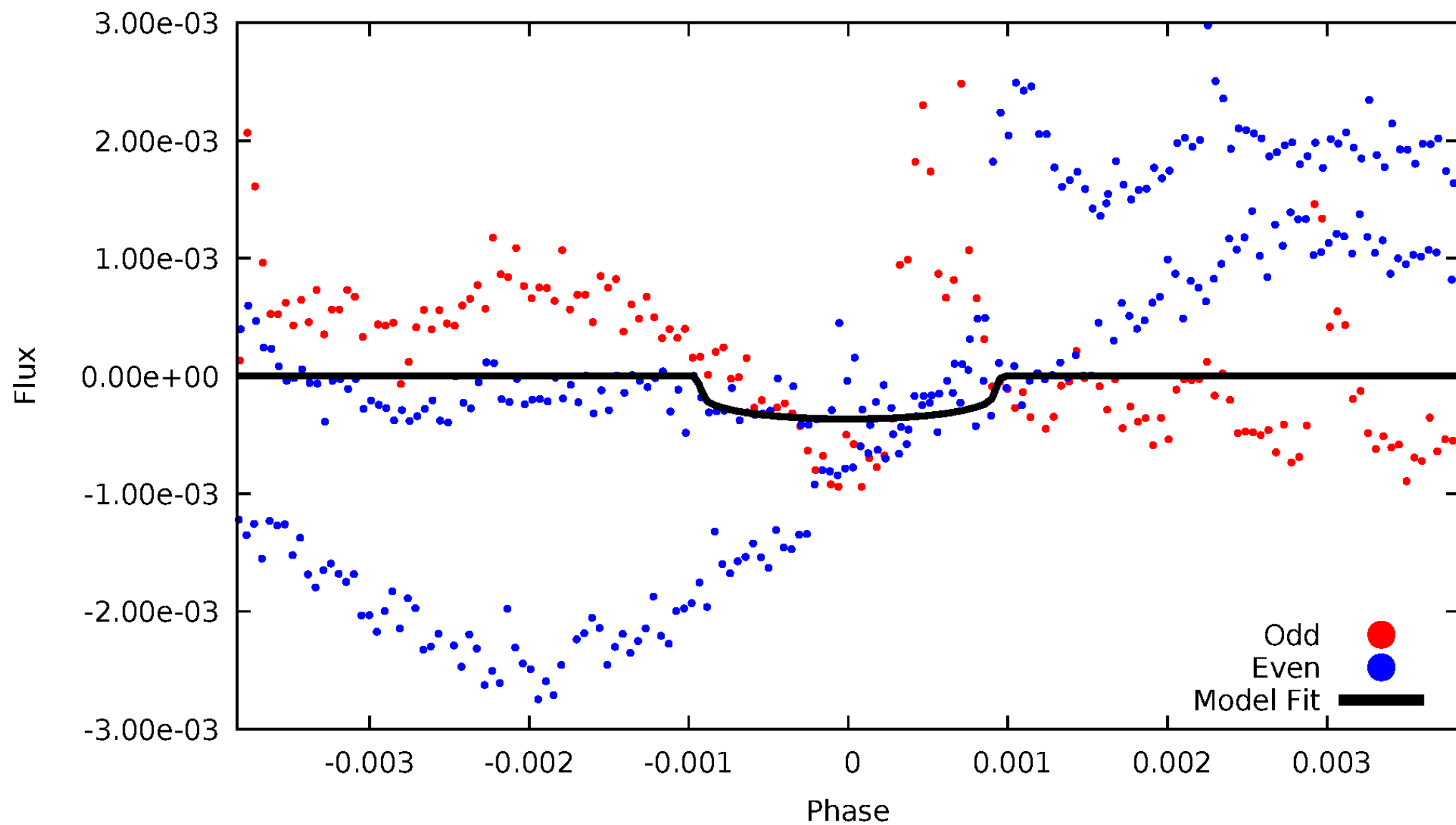


TCE 007107430-06



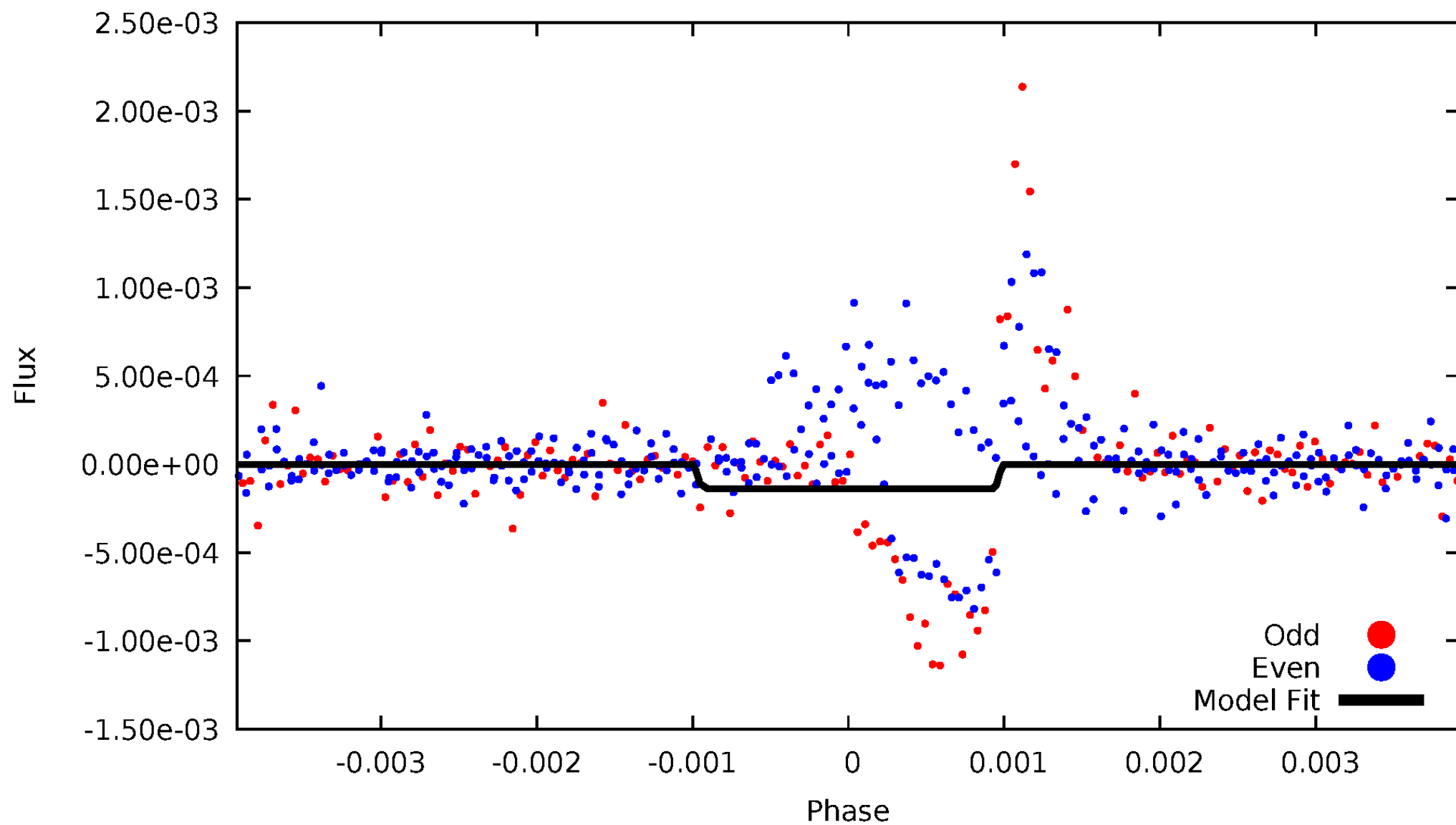
DV Odd/Even

TCE 007107430-06



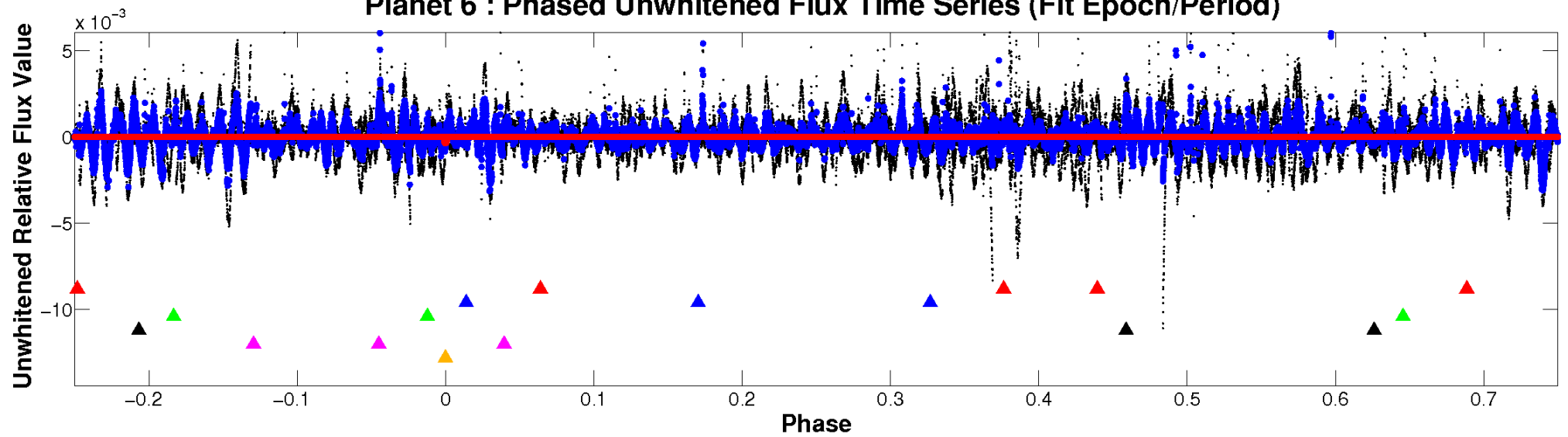
ALT Odd/Even

TCE 007107430-06

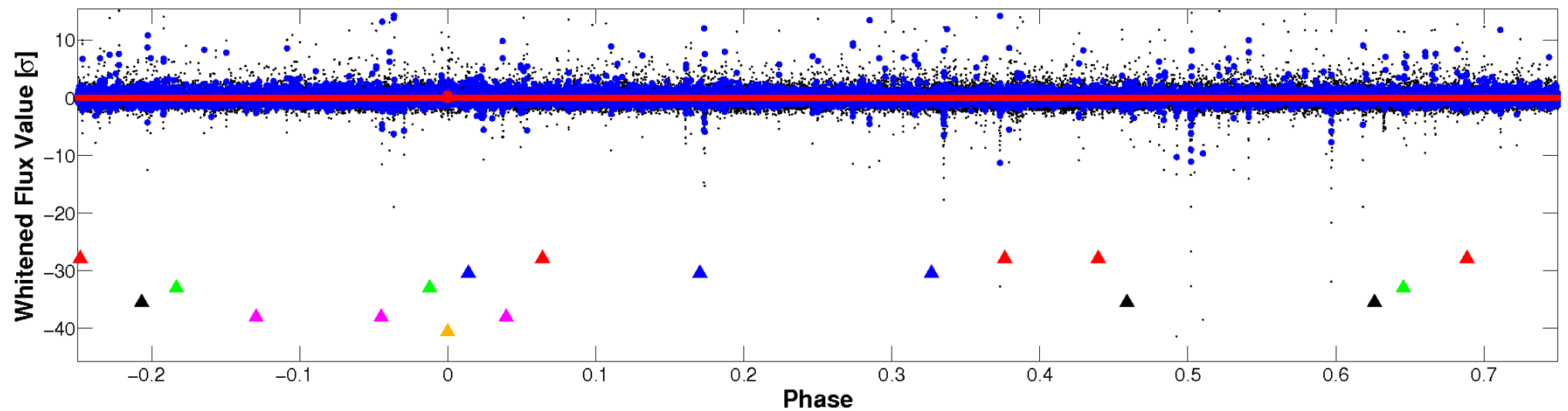


Non-Whitened Vs. Whitened Light Curve

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

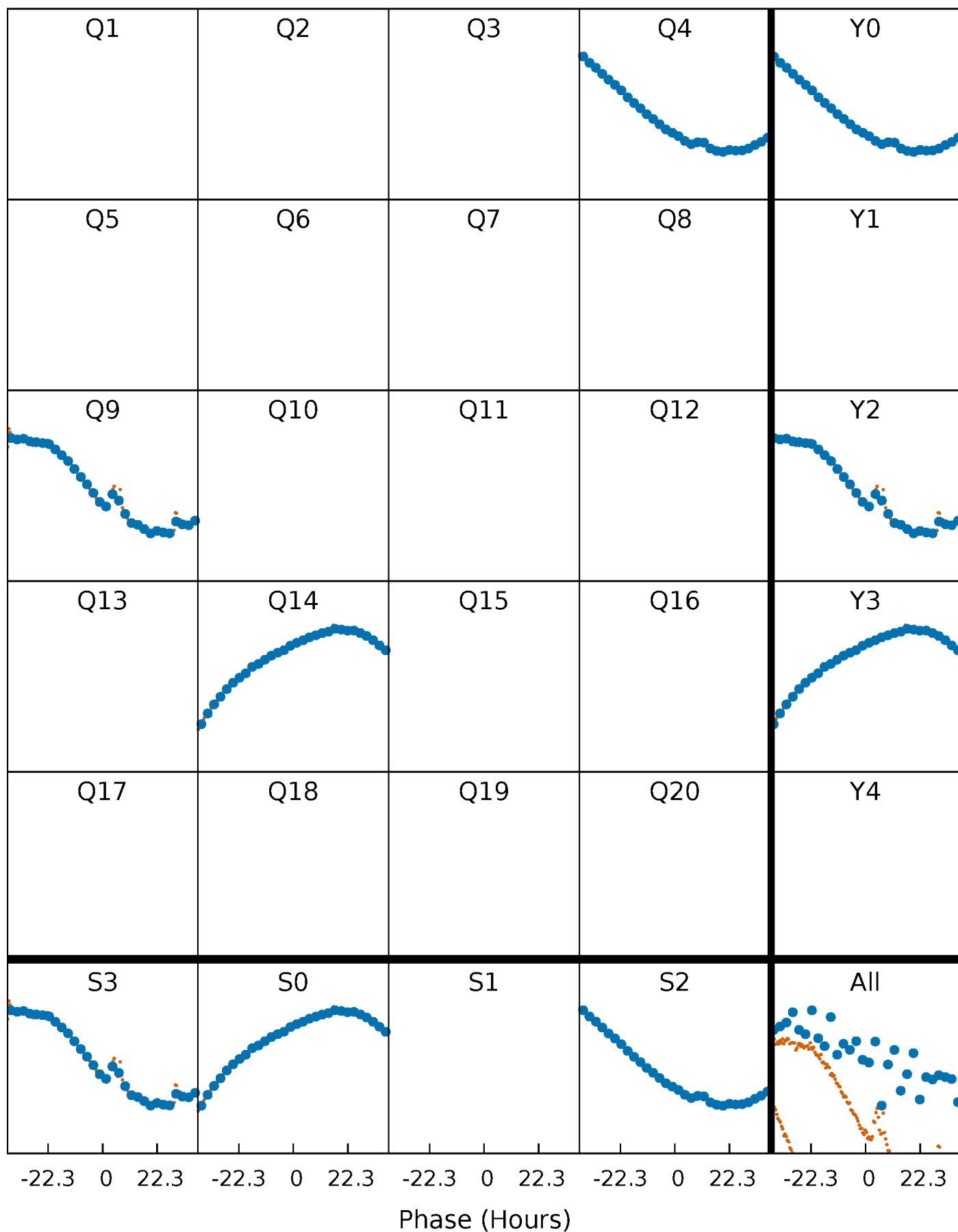


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



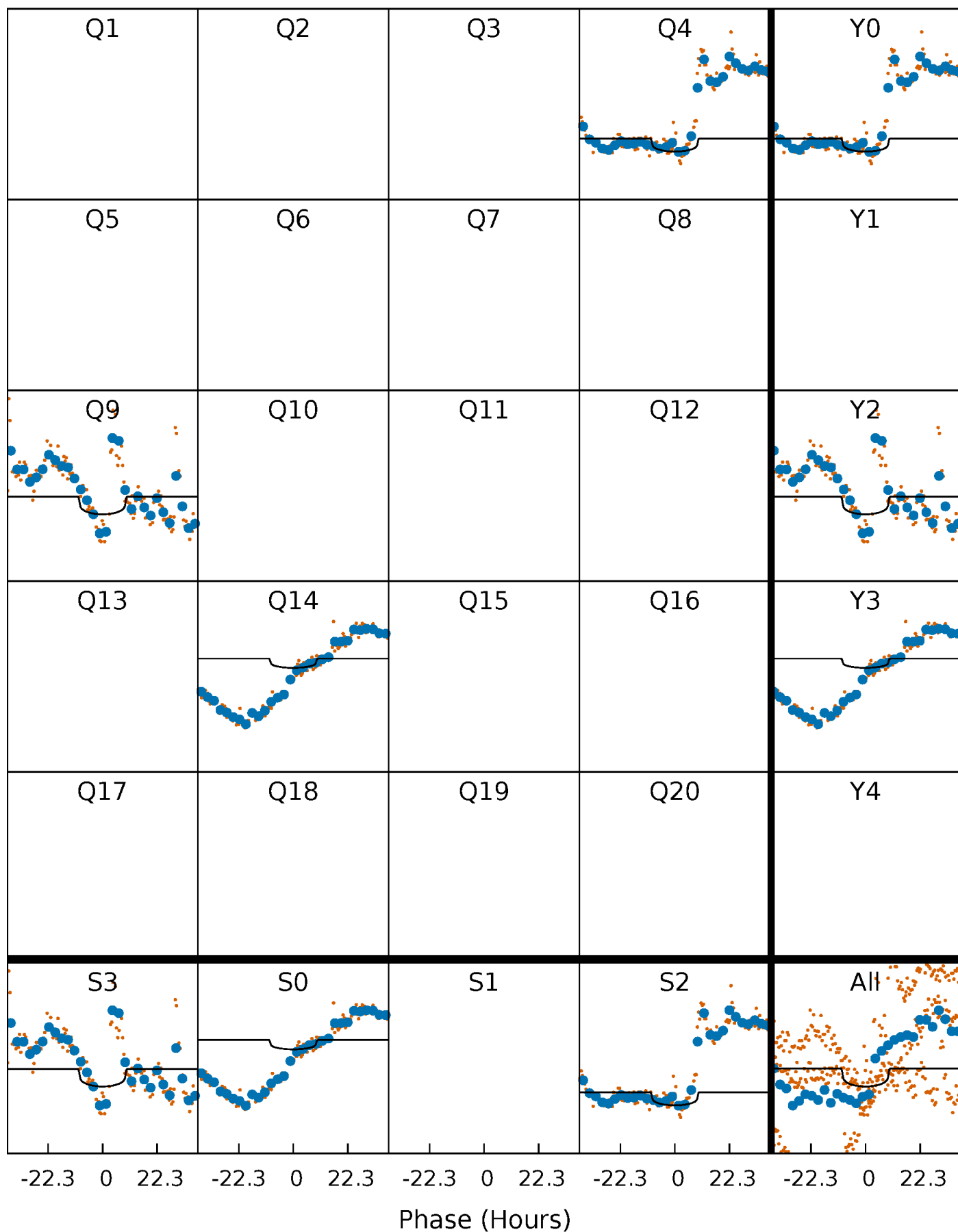
PDC Quarter-Phased Transit Curves

TCE 007107430-06 P=424.961906 Days $T_0=433.194900$ (BKJD)



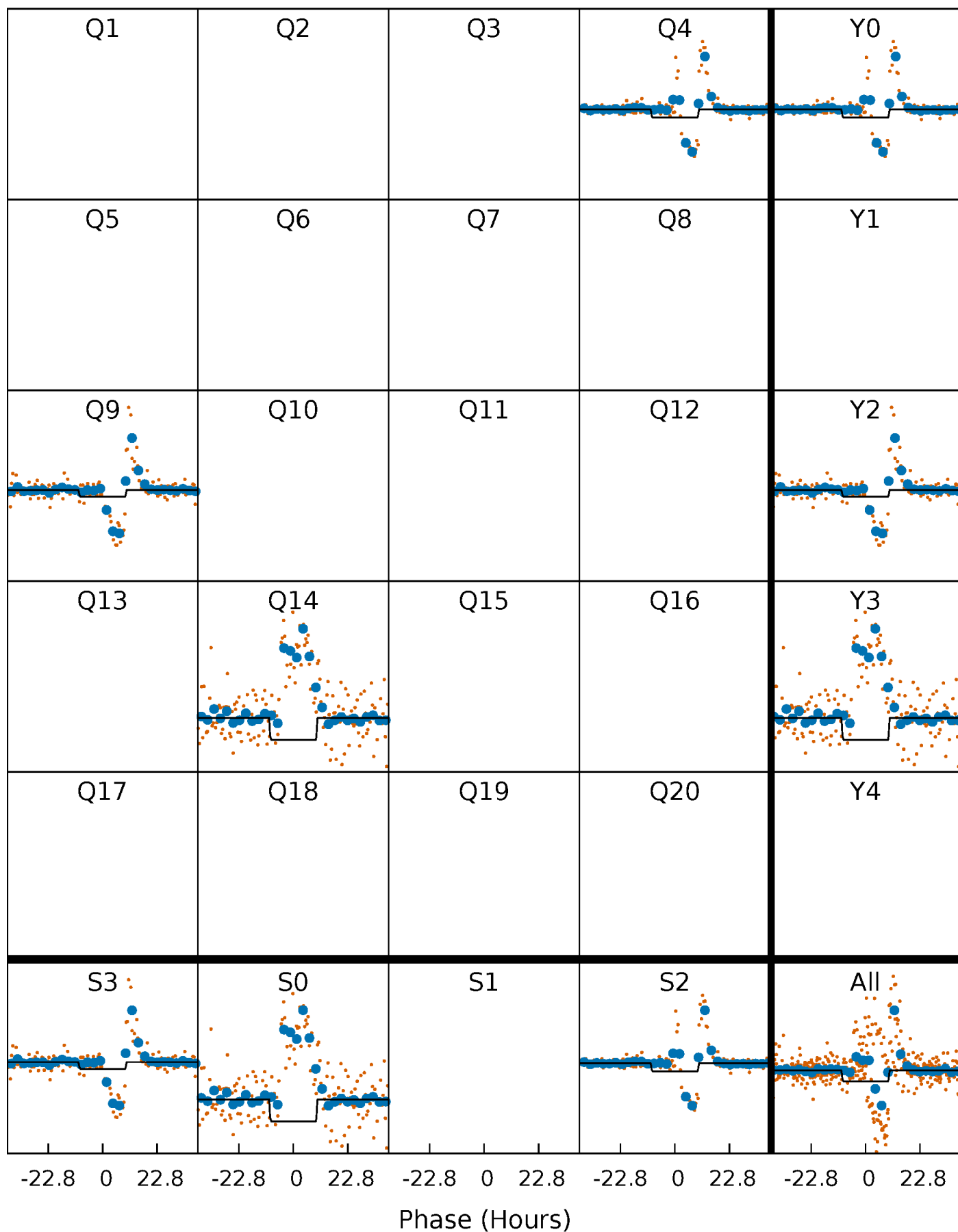
DV Quarter-Phased Transit Curves

TCE 007107430-06 P=424.961906 Days $T_0=433.194900$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

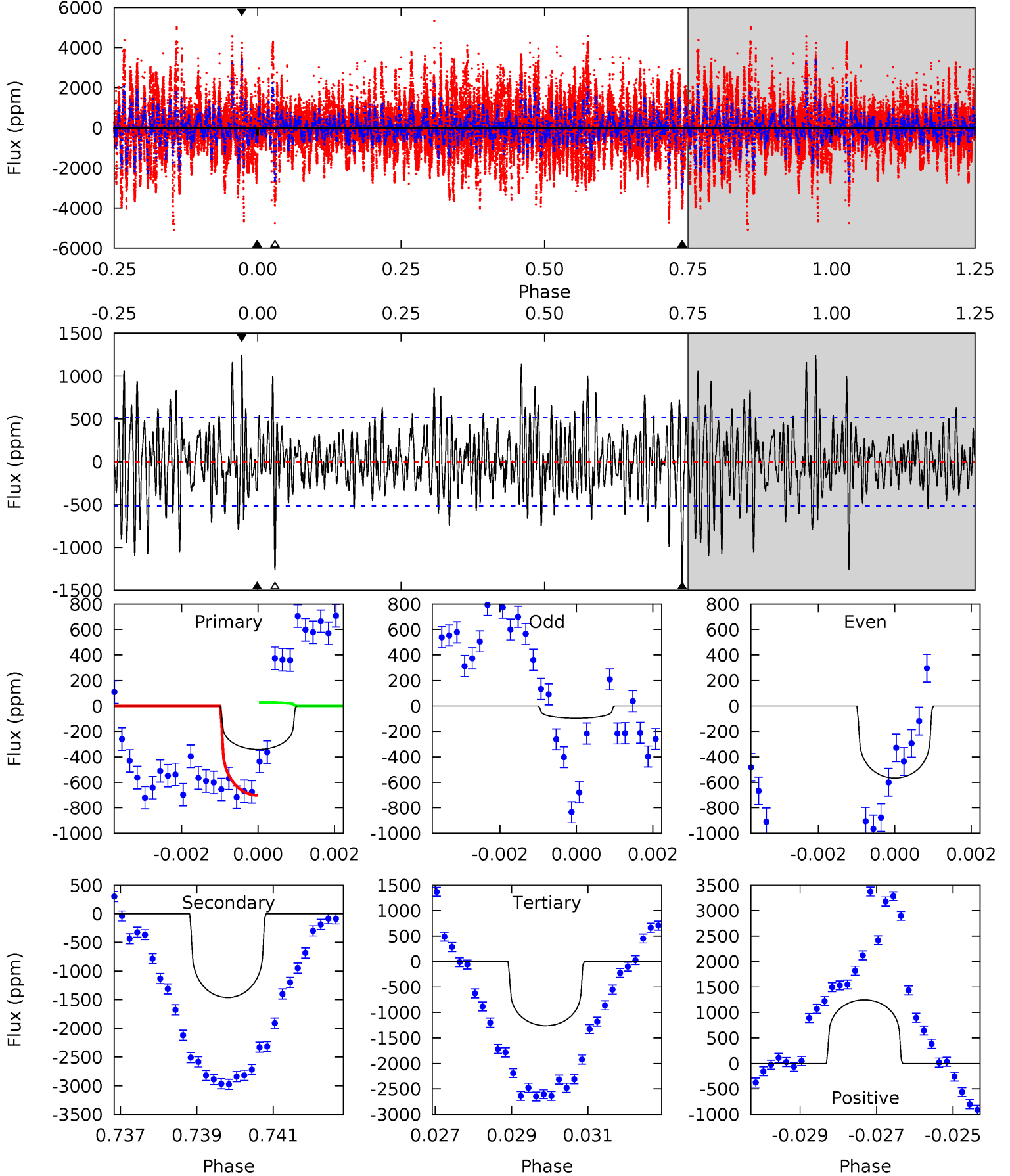
TCE 007107430-06 P=424.725167 Days $T_0=433.155531$ (BKJD)



DV Model-Shift Uniqueness Test

007107430-06, P = 424.961906 Days, E = 8.232994 Days

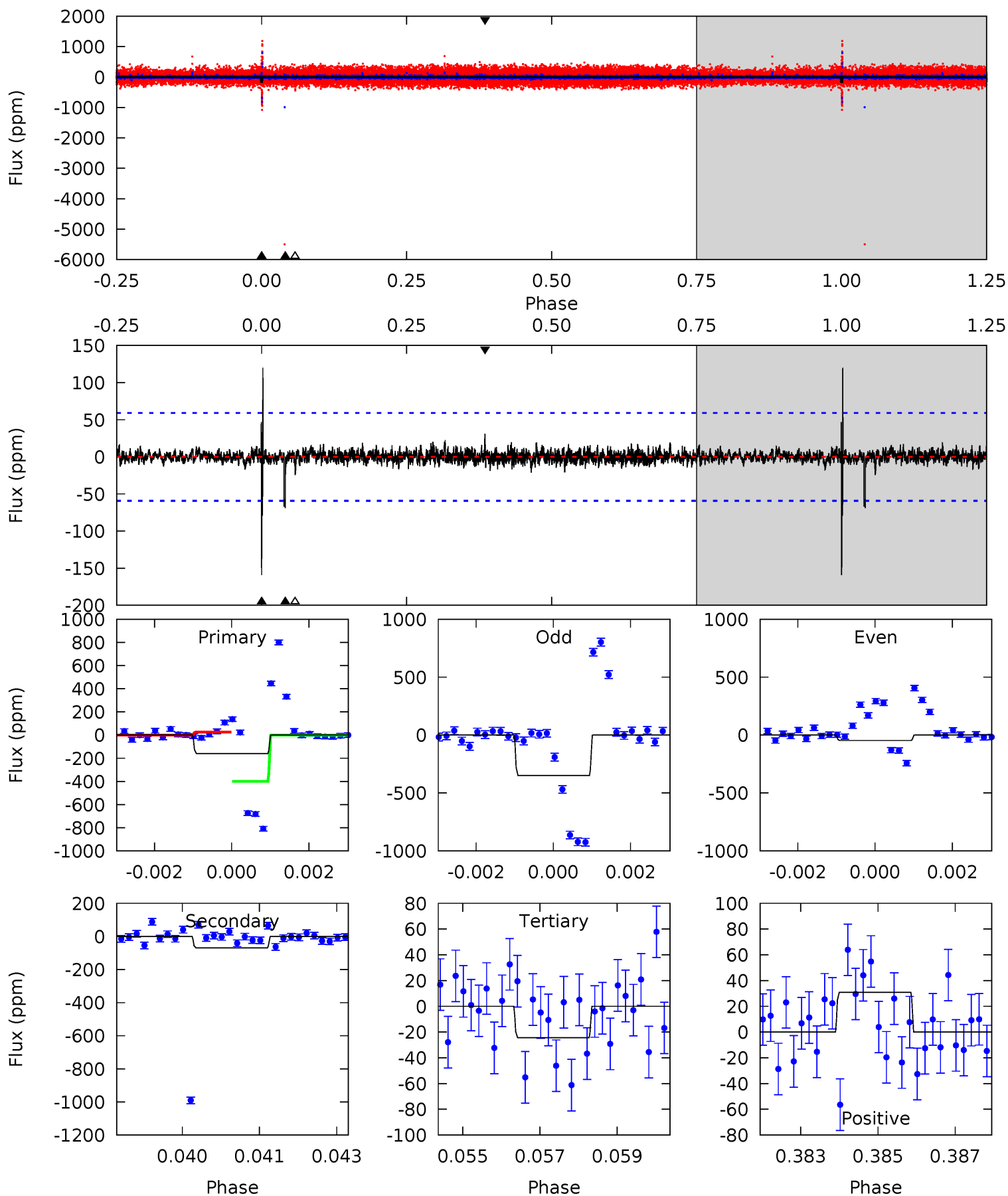
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.53	15.1	13.0	12.9	5.33	3.10	3.41	-9.48	-9.36	2.09	2.21	2.09	1.81	0.46	3.52



Alt Model-Shift Uniqueness Test

007107430-06, P = 424.725167 Days, E = 8.430364 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	6.20	2.19	2.78	5.33	3.09	0.50	12.1	11.5	4.02	3.42	14.0	0.37	0.43	16.2



Stellar Parameters For KIC 007107430

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4110^{+74}_{-83}	$4.670^{+0.039}_{-0.015}$	$-0.280^{+0.150}_{-0.150}$	$0.575^{+0.023}_{-0.035}$	$0.565^{+0.032}_{-0.029}$	$4.185^{+0.655}_{-0.294}$
	+2%/-2%	+1%/-0%	+54%/-54%	+4%/-6%	+6%/-5%	+16%/-7%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007107430-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1462 ± 97	$1.11^{+0.44}_{-0.40}$	200^{+4}_{-5}	5638^{+1465}_{-784}	$559261^{+771678}_{-271043}$
Alt.	-69 ± 11	$0.74^{+0.39}_{-0.34}$	200^{+4}_{-4}	3635^{+908}_{-465}	$58025^{+153515}_{-33158}$

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

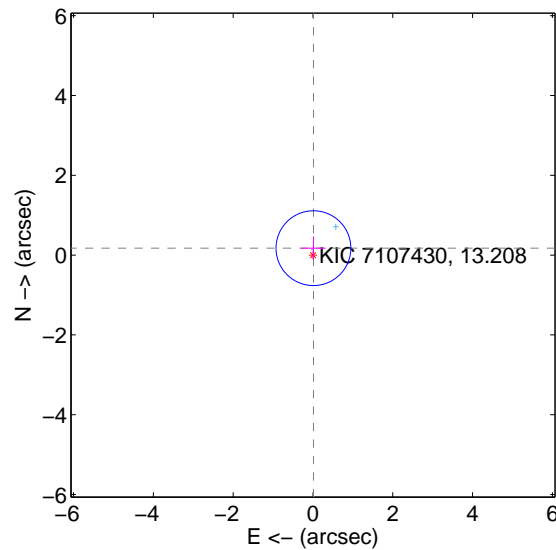
Supplemental centroid analysis for 007107430-06. Kepler magnitude: 13.21. Transit SNR 3.41

There are 2 quarters with good PRF difference image offsets

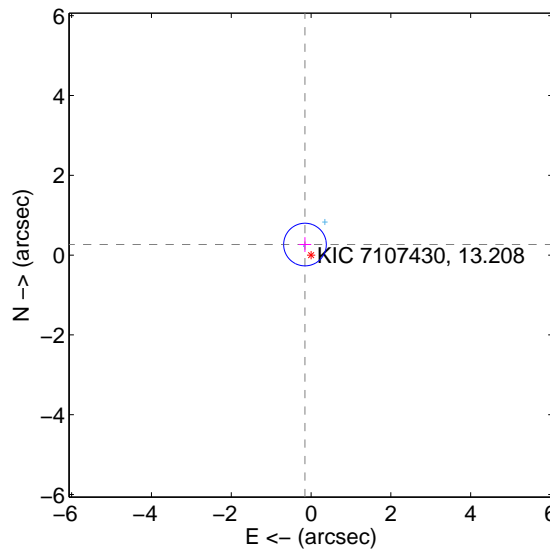
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.174 ± 0.312	0.56	-0.012 ± 0.305	0.174 ± 0.294
PRF-fit source offset from KIC position	0.305 ± 0.178	1.71	0.152 ± 0.157	0.264 ± 0.185
photometric centroid source offset	0.74 ± 1.44	0.51	-0.44 ± 0.81	0.59 ± 1.69

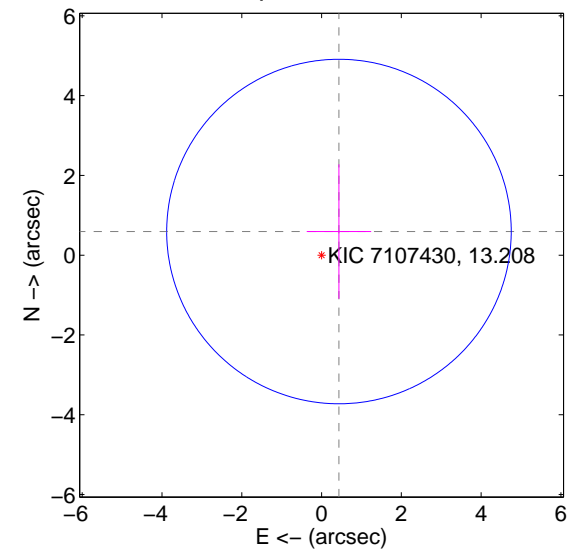
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

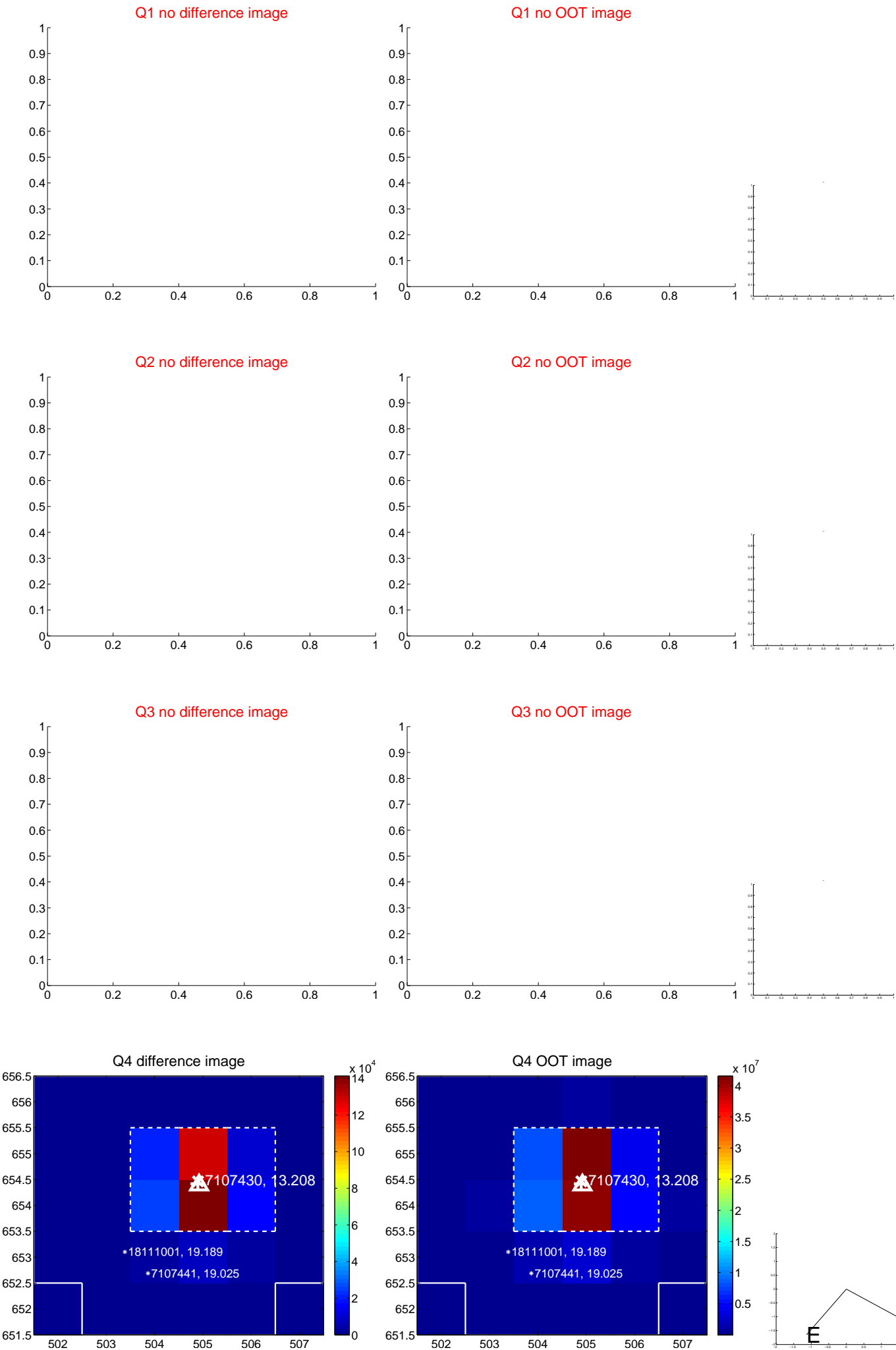


offset from photometric centroids



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.

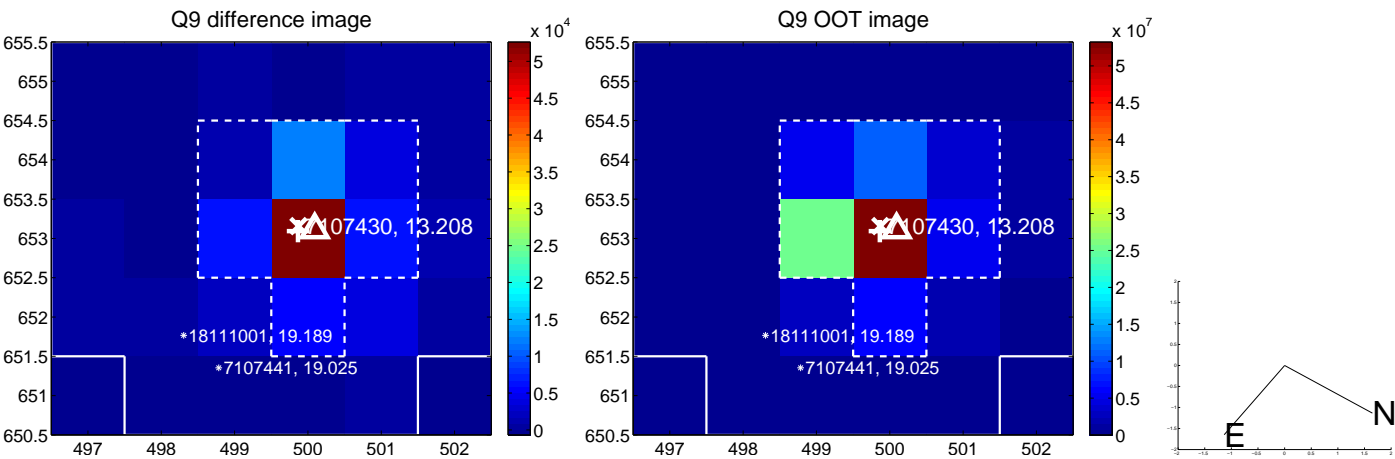
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



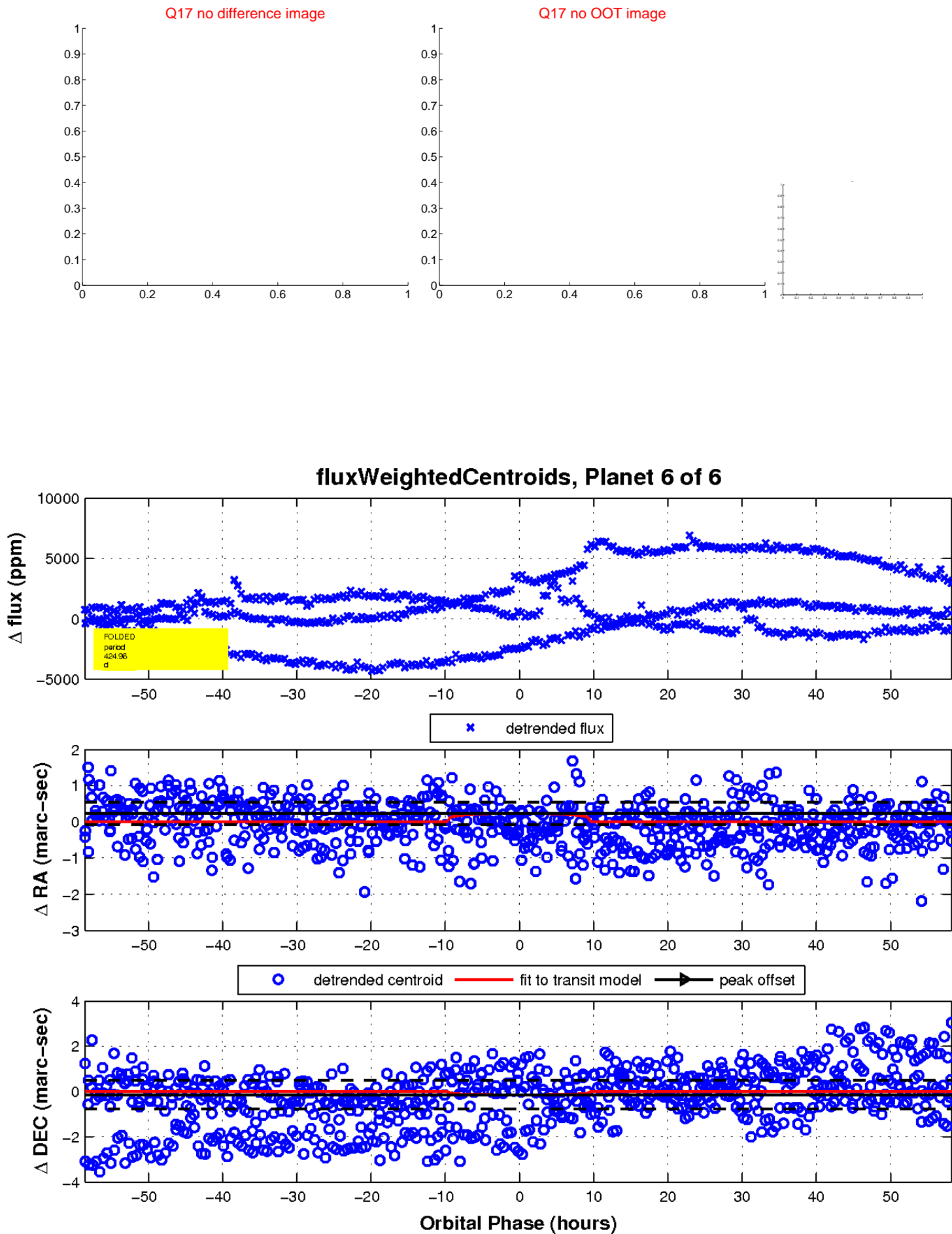
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

