

KIC 011970692

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})
011970692-01	OBS	No	400.955329	223.651411	1234.1	16.883	18.8	7.2	3.98	4885	13.61	7.70
011970692-02	OBS	No	561.249886	276.725816	1266.8	16.427	17.2	6.0	3.98	4885	13.70	4.91
011970692-03	OBS	No	550.011478	268.632868	937.0	5.855	14.6	6.3	3.98	4885	13.76	5.05
011970692-04	OBS	No	390.744375	241.548549	1625.3	17.521	26.2	8.0	3.98	4885	19.29	7.96
011970692-05	OBS	No	415.571562	198.558785	587.6	3.273	14.4	5.1	3.98	4885	10.11	7.34
011970692-06	OBS	No	631.061195	194.546206	1140.4	8.970	16.4	7.3	3.98	4885	13.60	4.20
011970692-07	OBS	No	399.209135	294.381564	1169.7	2.871	14.6	9.6	3.98	4885	15.35	7.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011970692-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011970692-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
011970692-03	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
011970692-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011970692-05	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
011970692-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
011970692-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—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.

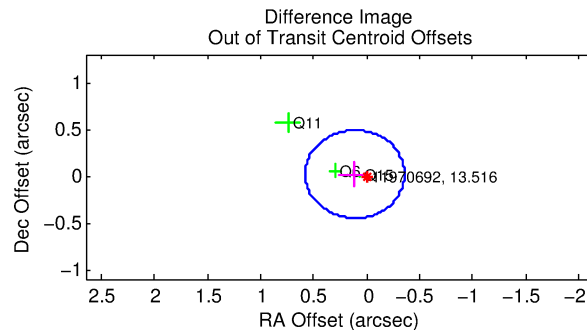
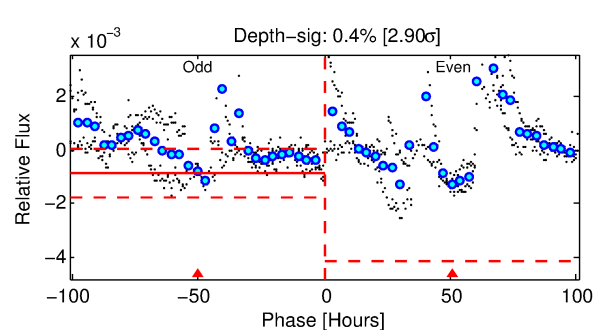
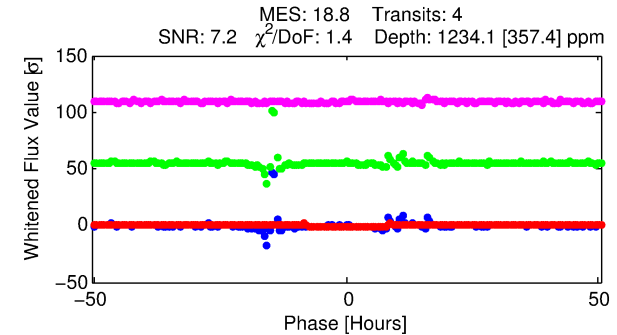
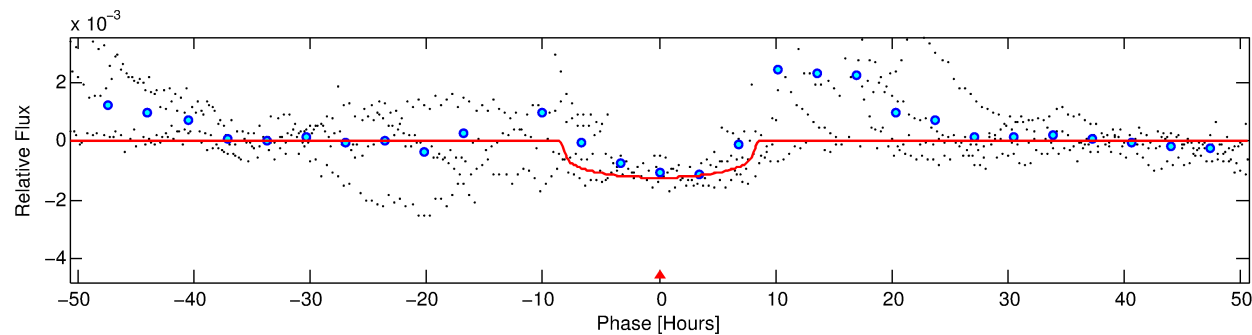
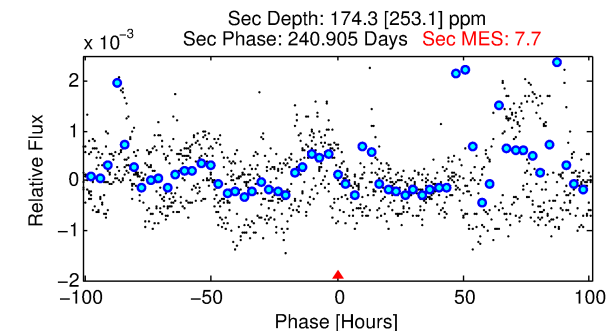
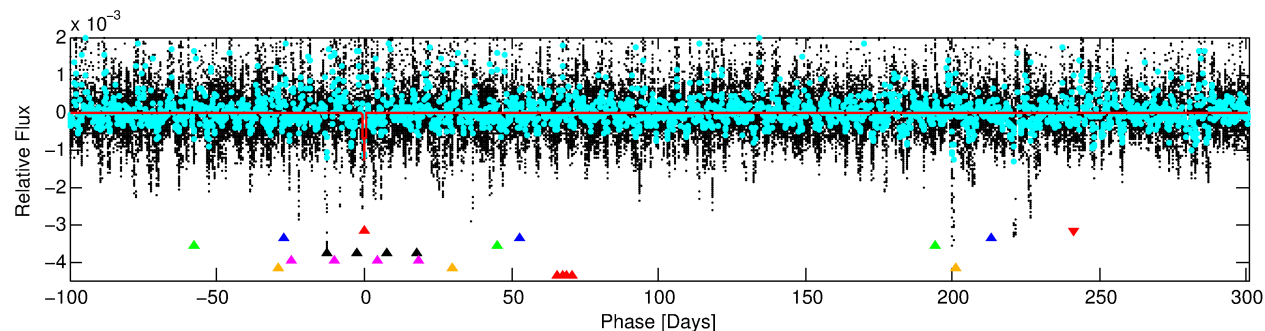
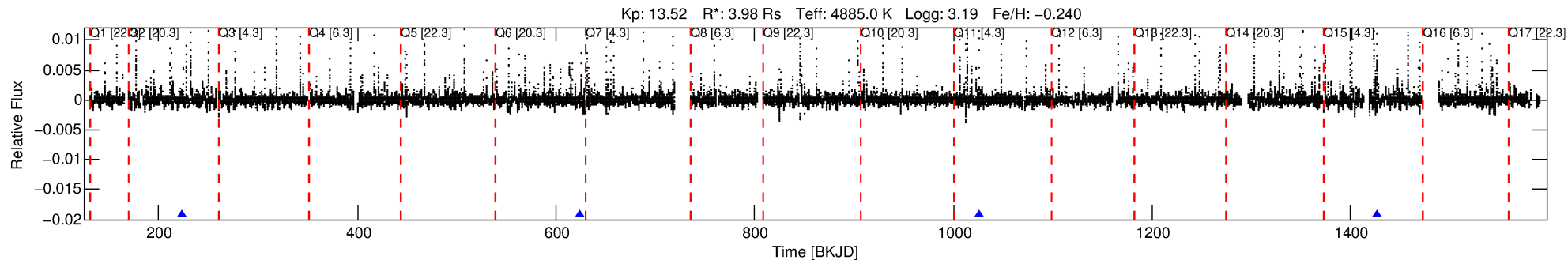
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970692-01

No Significant Match Found

DV One-Page Summary

KIC: 11970692 Candidate: 1 of 7 Period: 400.955 d



DV Fit Results:

Period = 400.95533 [0.00772] d
Epoch = 223.6514 [0.0145] BKJD
Rp/R* = 0.0313 [0.0150]
a/R* = 183.18 [277.23]
b = 0.21 [6.92]
Seff = 7.70 [4.85]
Teq = 425 [67] K
Rp = 13.61 [10.09] Re
a = 1.0251 [0.4623] AU
Ag = 543.95 [1003.44] [0.54 σ]
Teff = 3171 [1380] K [1.99 σ]

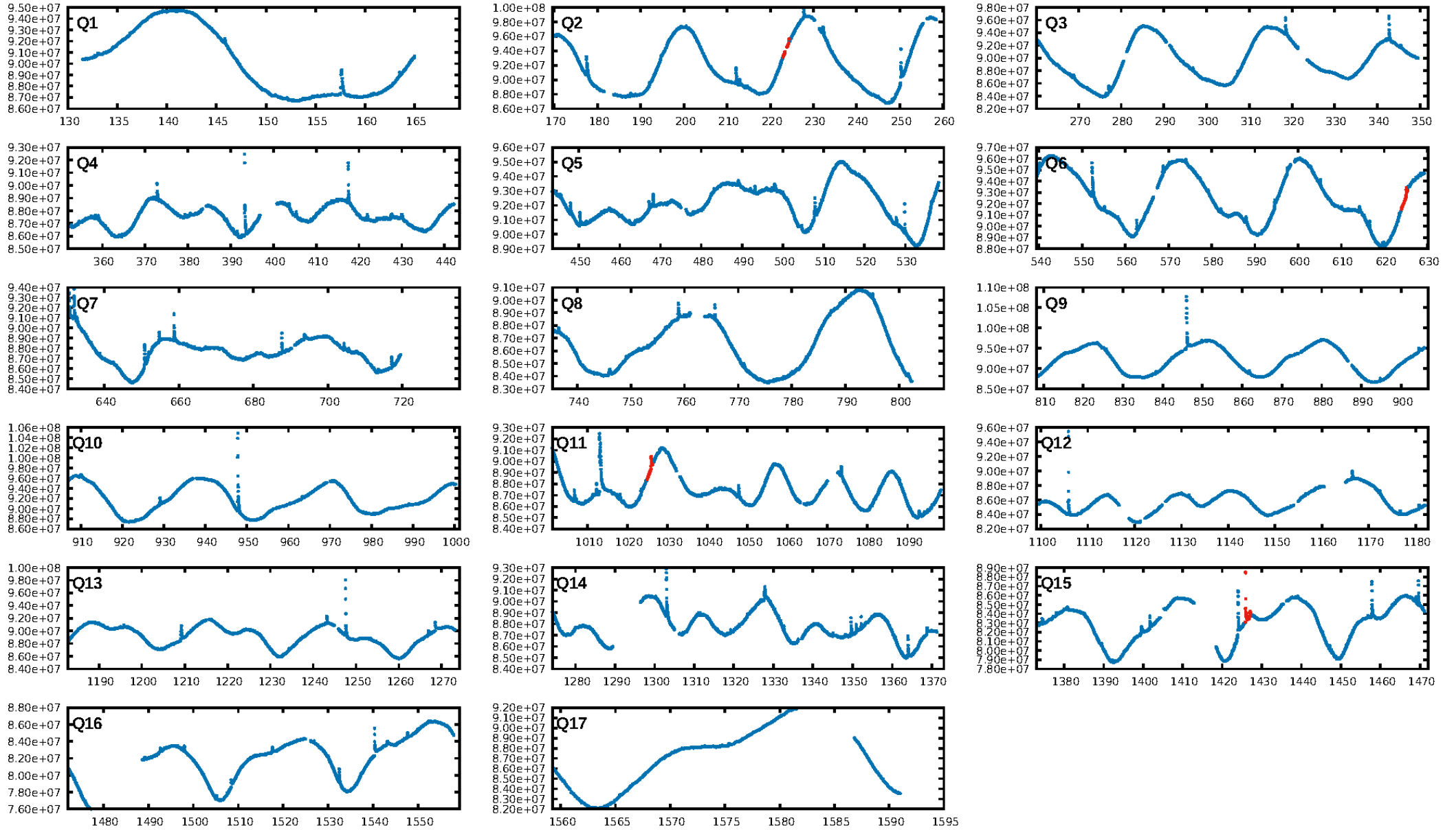
DV Diagnostic Results:

ShortPeriod-sig: 98.6% [2.45 σ]
LongPeriod-sig: 100.0% [20.40 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 95.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.518
Centroid-sig: 25.9%
Centroid-so: 0.161 arcsec [0.56 σ]
OotOffset-rm: 0.114 arcsec [0.73 σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-rm: 0.135 arcsec [0.94 σ]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

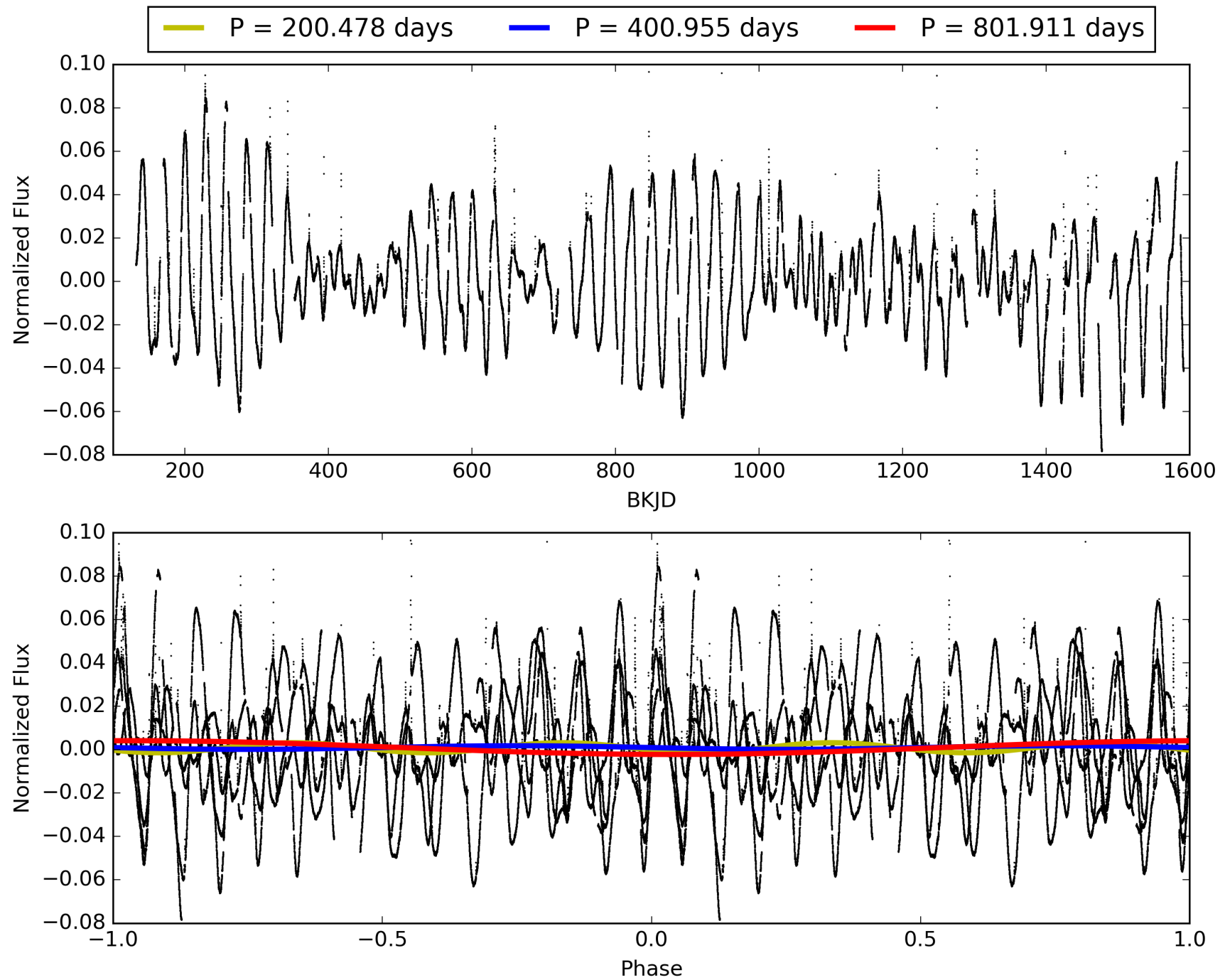
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:55:43 Z

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

TCE 011970692-01, PDC Light Curves

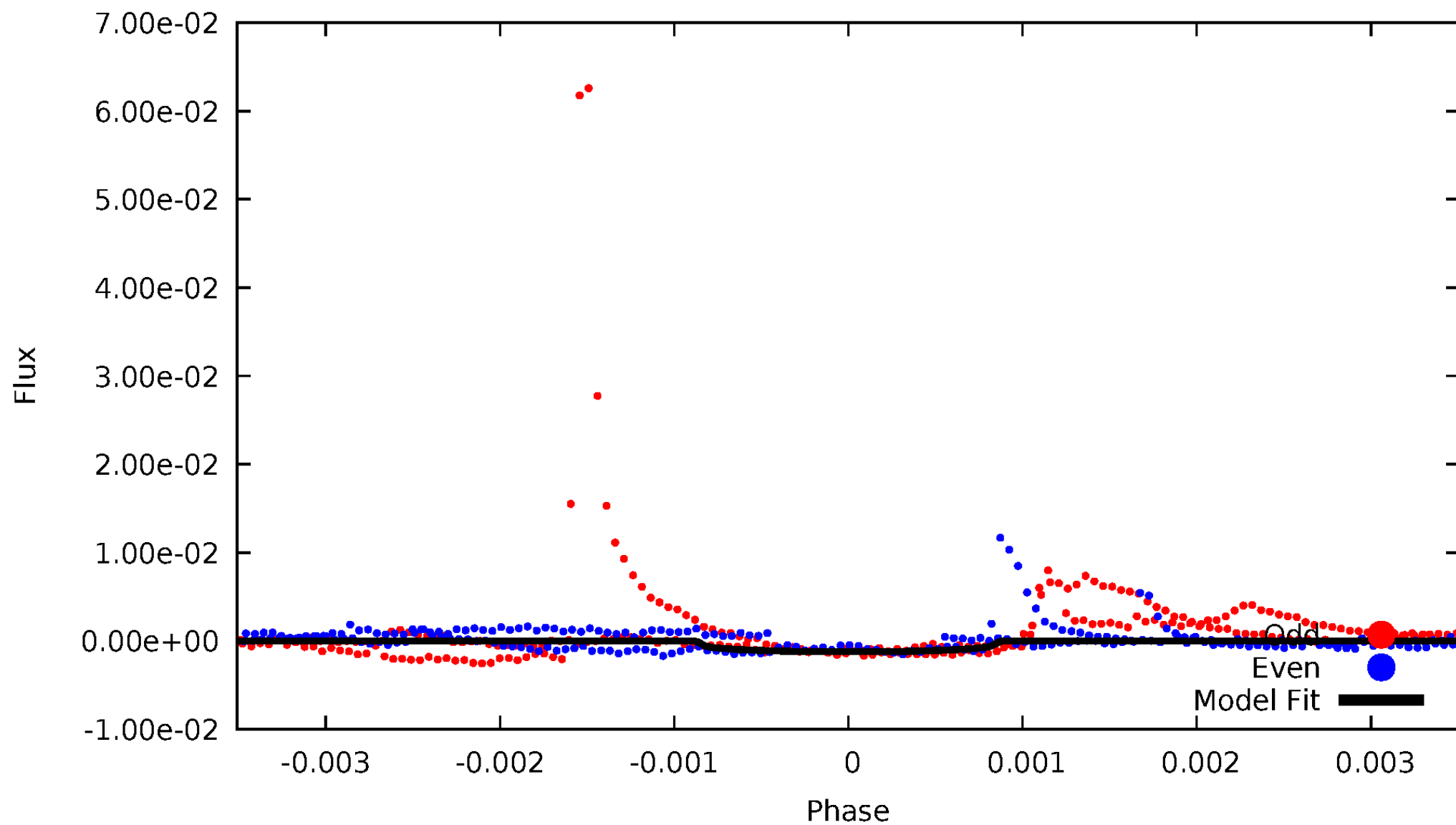


TCE 011970692-01



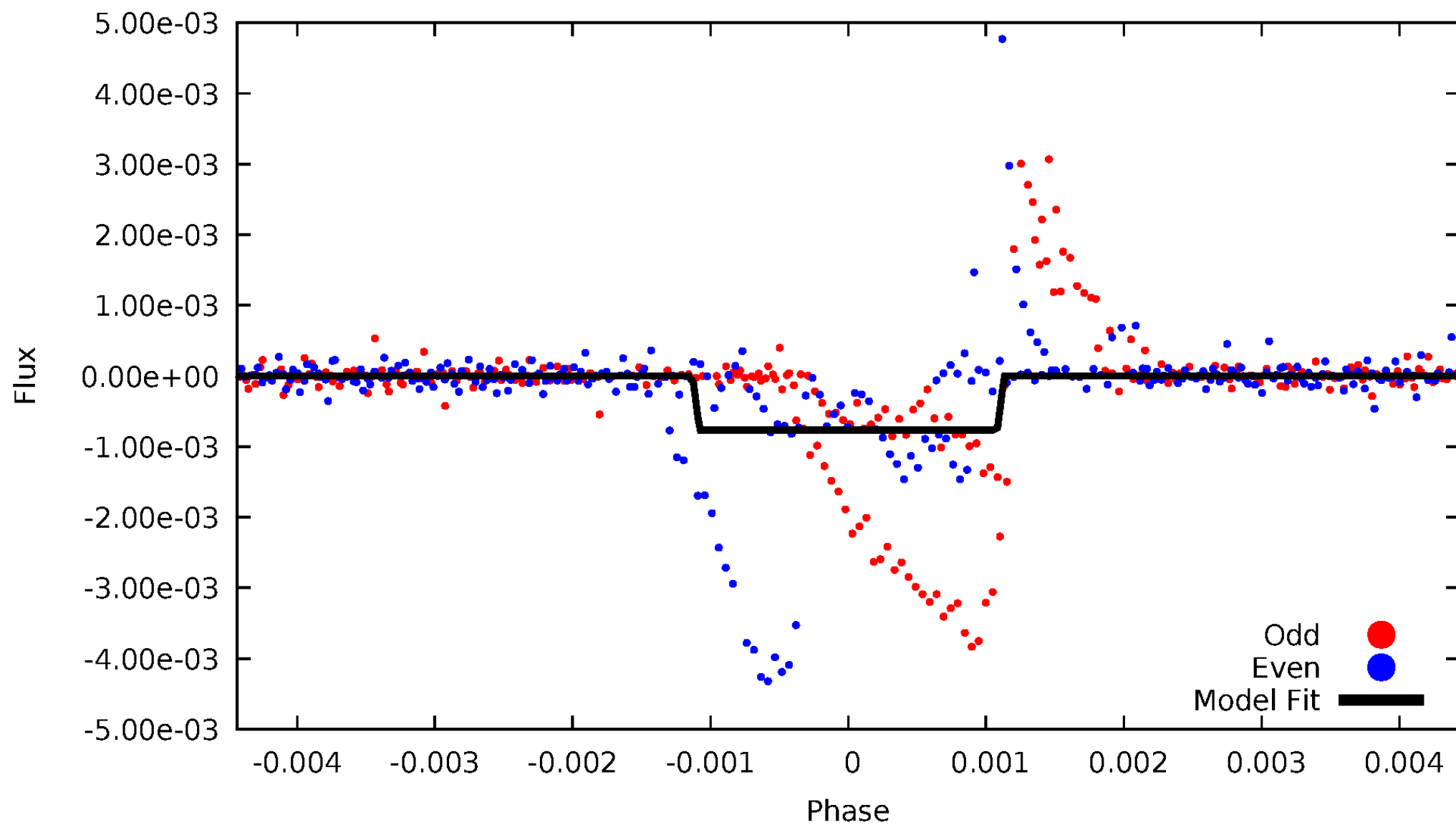
DV Odd/Even

TCE 011970692-01



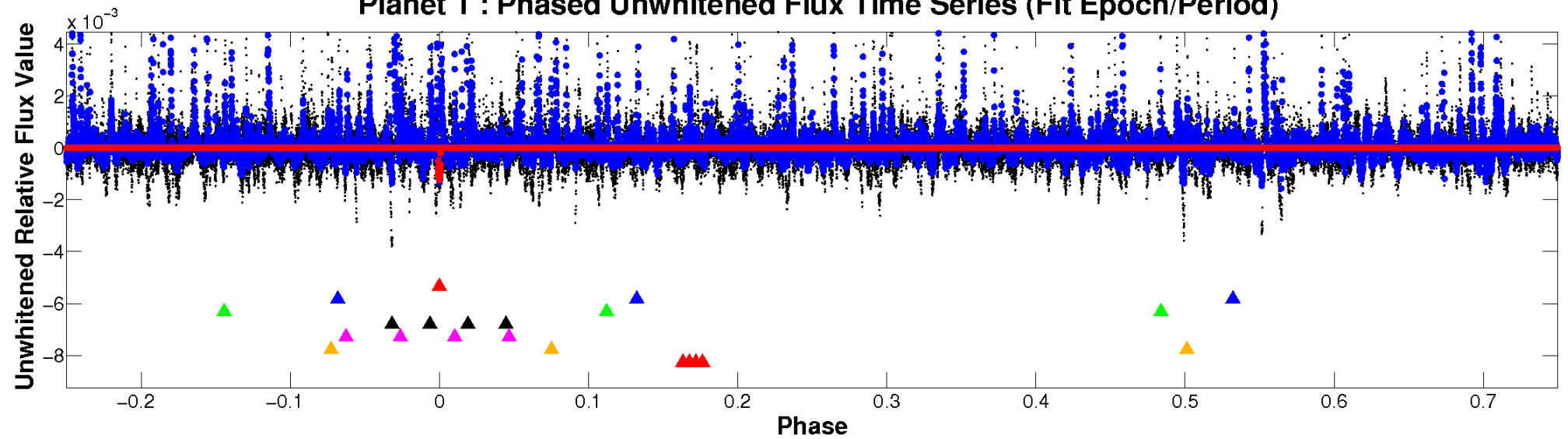
ALT Odd/Even

TCE 011970692-01

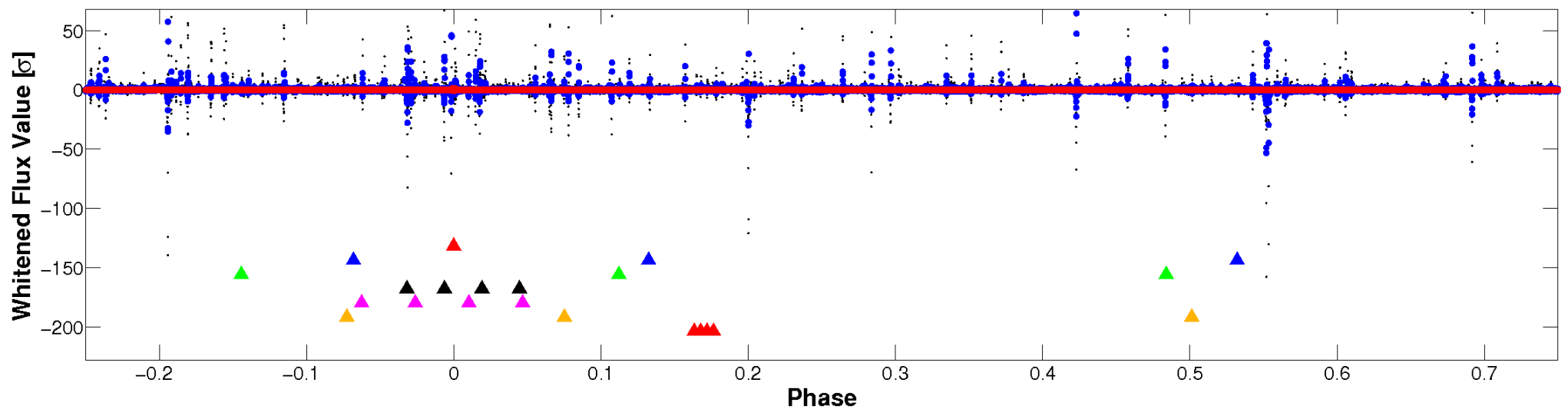


Non-Whitened Vs. Whitened Light Curve

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

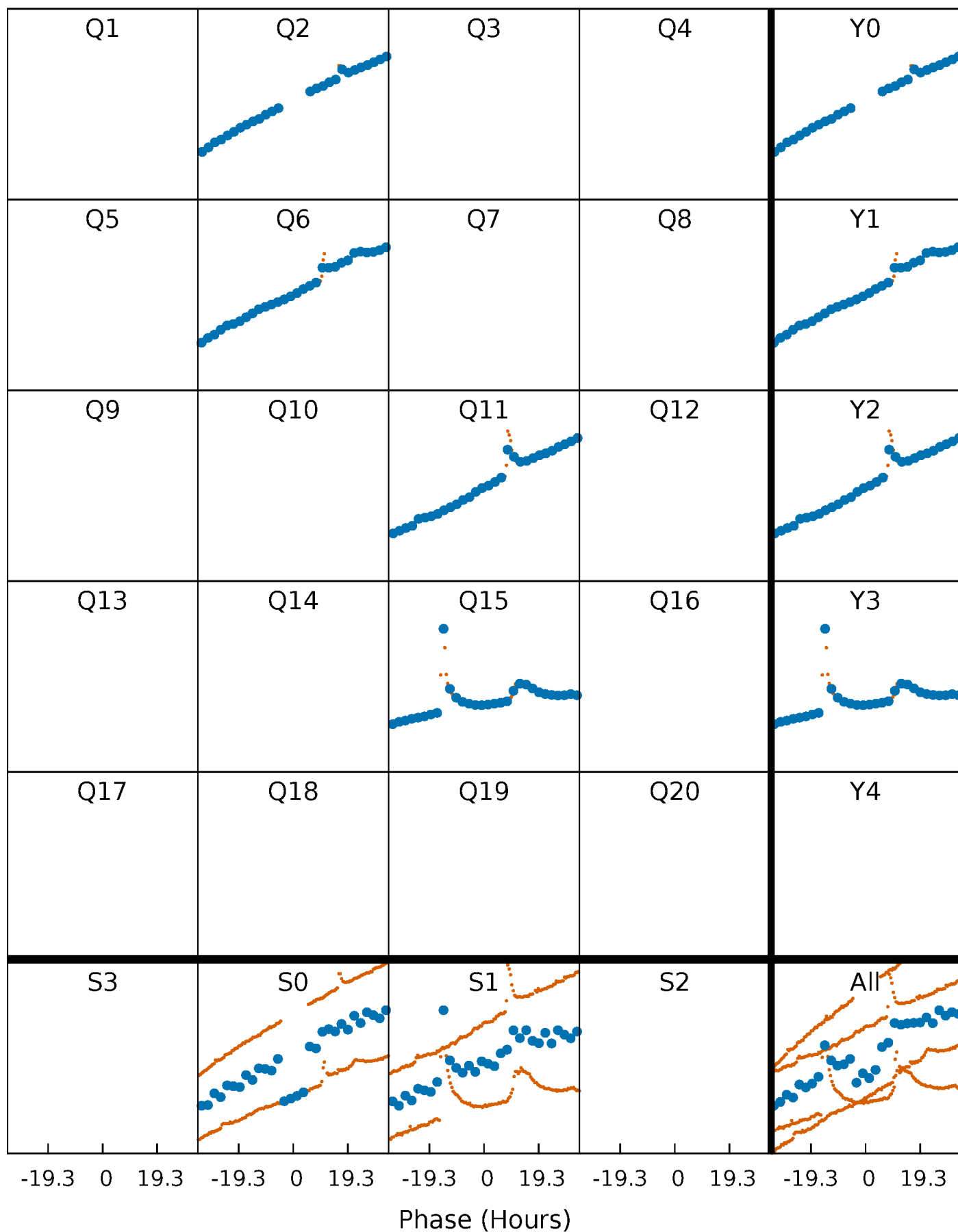


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



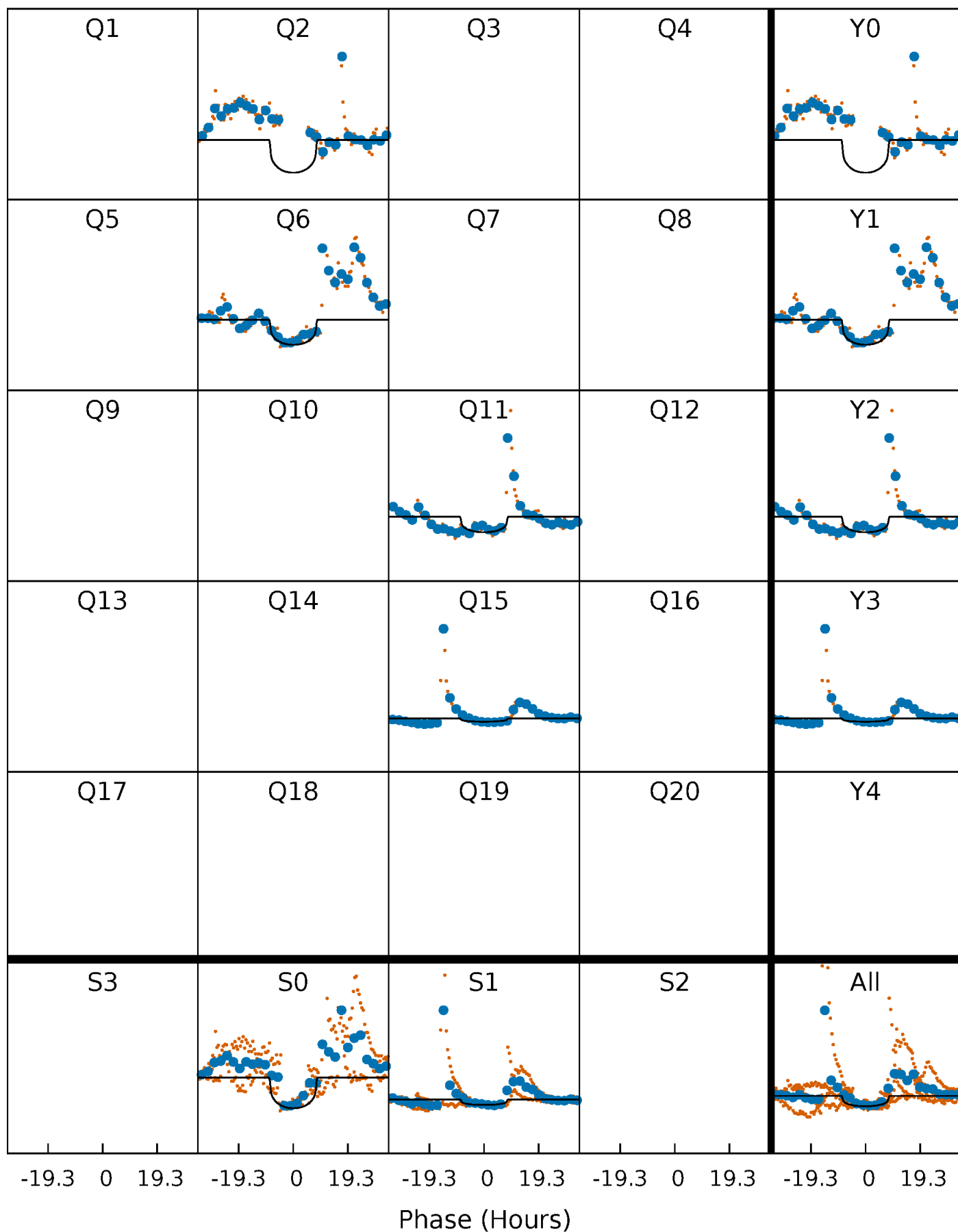
PDC Quarter-Phased Transit Curves

TCE 011970692-01 P=400.955329 Days $T_0=223.651411$ (BKJD)



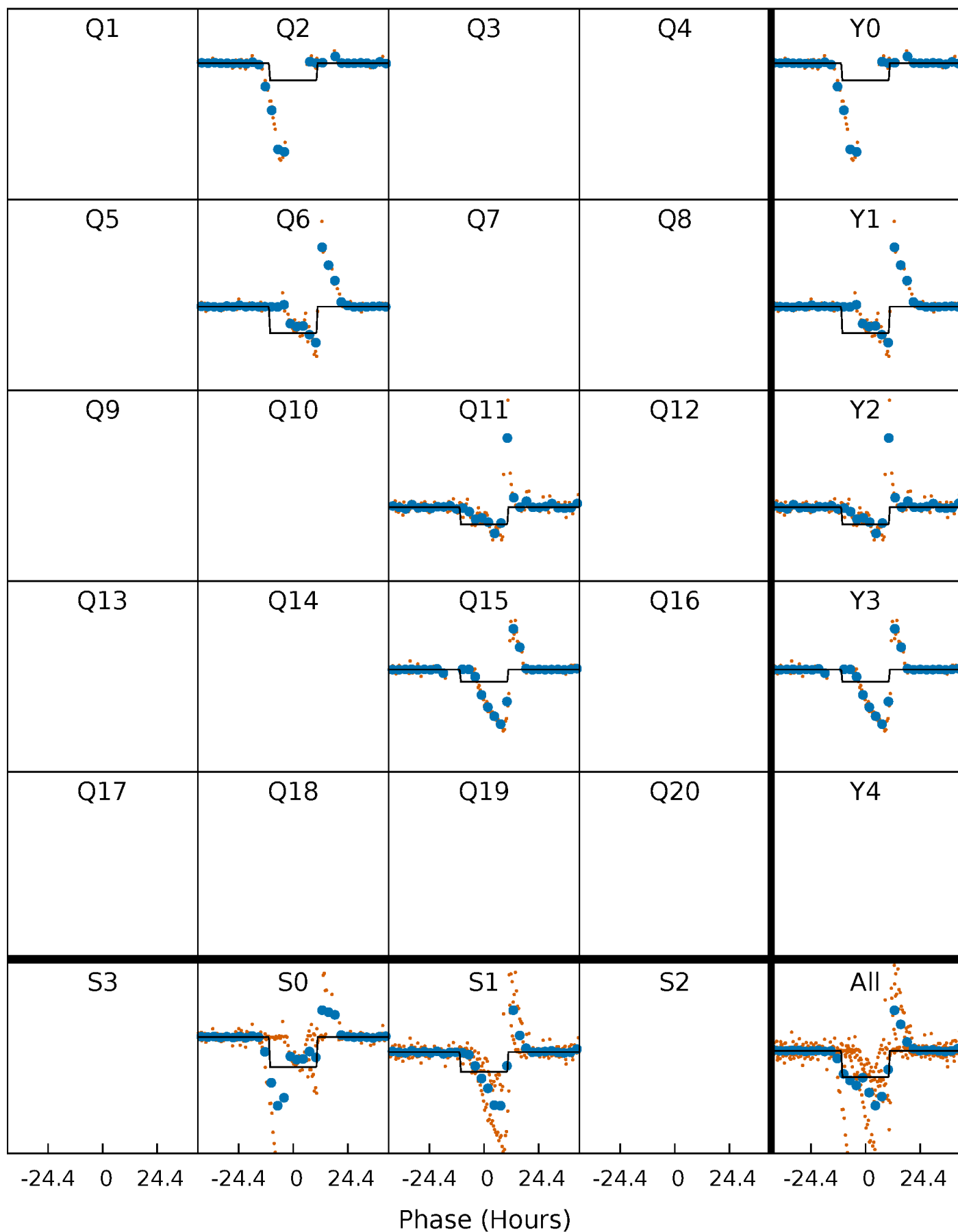
DV Quarter-Phased Transit Curves

TCE 011970692-01 P=400.955329 Days $T_0=223.651411$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

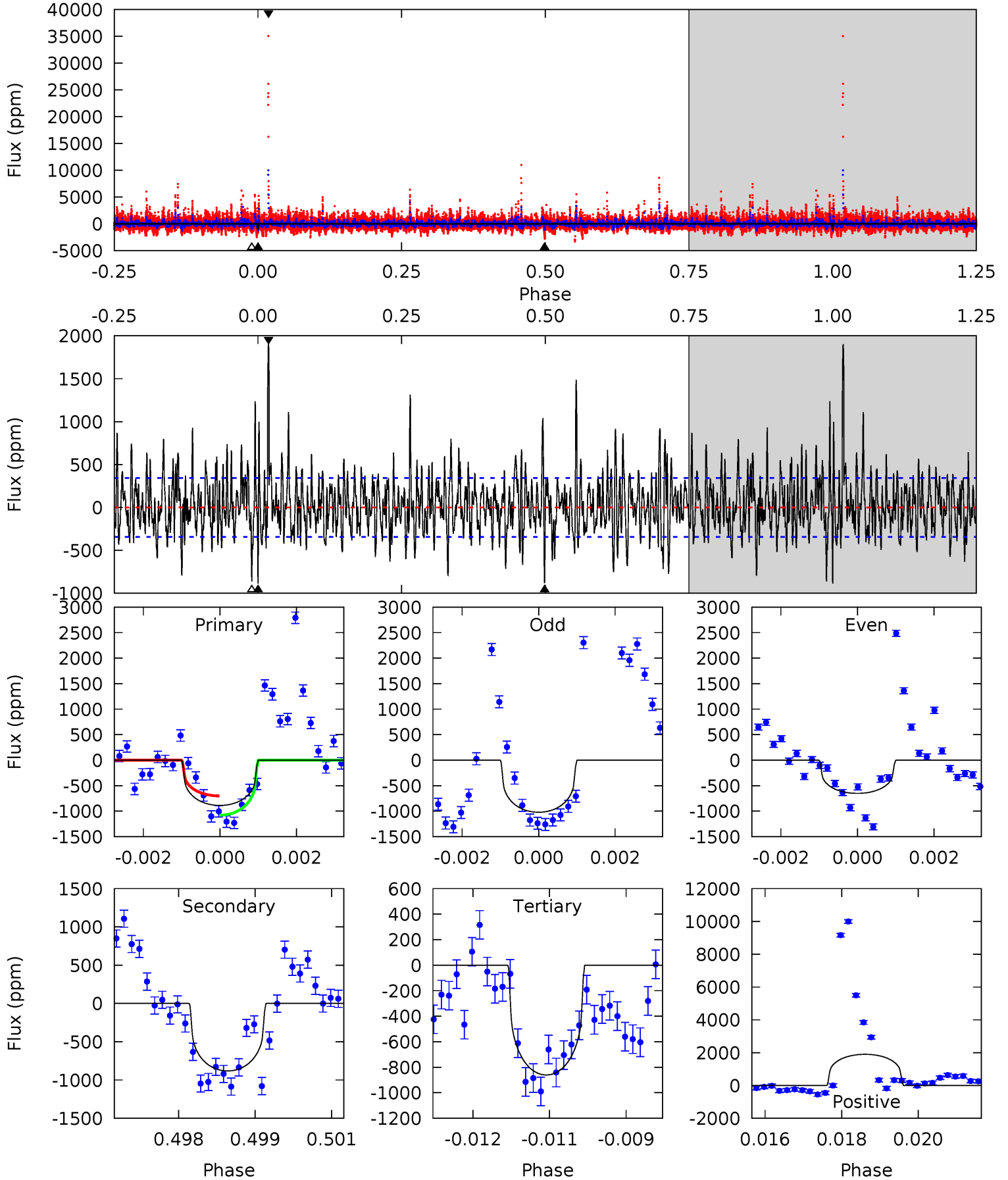
TCE 011970692-01 P=400.954125 Days $T_0=223.617191$ (BKJD)



DV Model-Shift Uniqueness Test

011970692-01, P = 400.955329 Days, E = 223.651411 Days

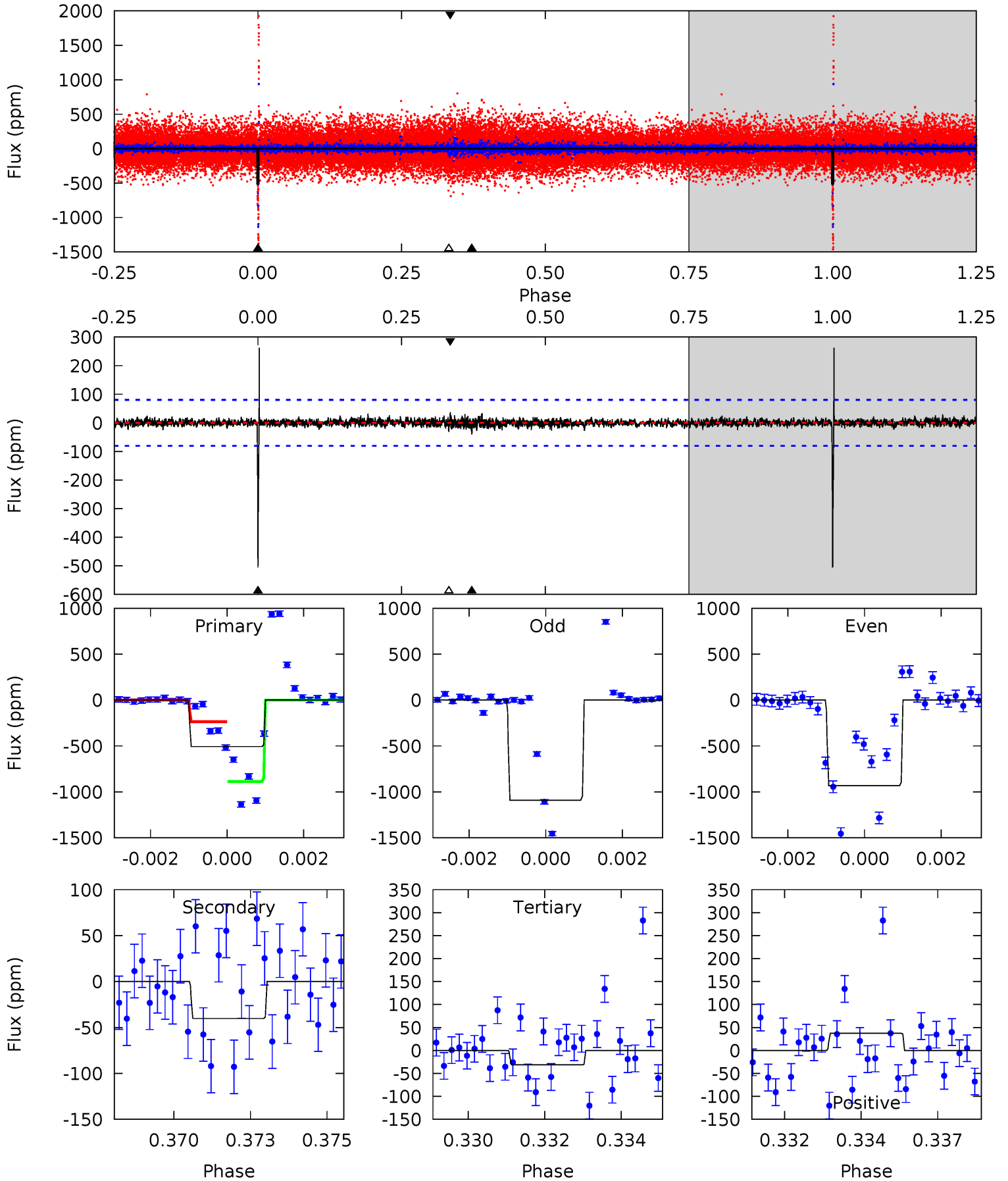
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	13.7	13.4	29.6	5.35	3.12	4.66	0.42	-15.8	0.33	-15.9	1.39	0.58	0.68	2.97



Alt Model-Shift Uniqueness Test

011970692-01, P = 400.954125 Days, E = 223.617191 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.4	2.66	2.07	2.47	5.30	3.05	0.50	31.3	30.9	0.59	0.19	6.24	1.01	0.34	21.0



Stellar Parameters For KIC 011970692

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4885^{+135}_{-98}	$3.189^{+0.320}_{-0.320}$	$-0.240^{+0.300}_{-0.200}$	$3.981^{+2.259}_{-1.216}$	$0.893^{+0.342}_{-0.057}$	$0.020^{+0.042}_{-0.013}$
	+3%/-2%	+10%/-10%	+125%/-83%	+57%/-31%	+38%/-6%	+210%/-67%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011970692-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-881 ± 64	$13.99^{+7.77}_{-6.71}$	593^{+75}_{-57}	4792^{+1538}_{-650}	2762^{+8308}_{-1619}
Alt.	-40 ± 15	$11.89^{+7.40}_{-6.04}$	589^{+84}_{-61}	2978^{+706}_{-355}	168^{+529}_{-111}

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

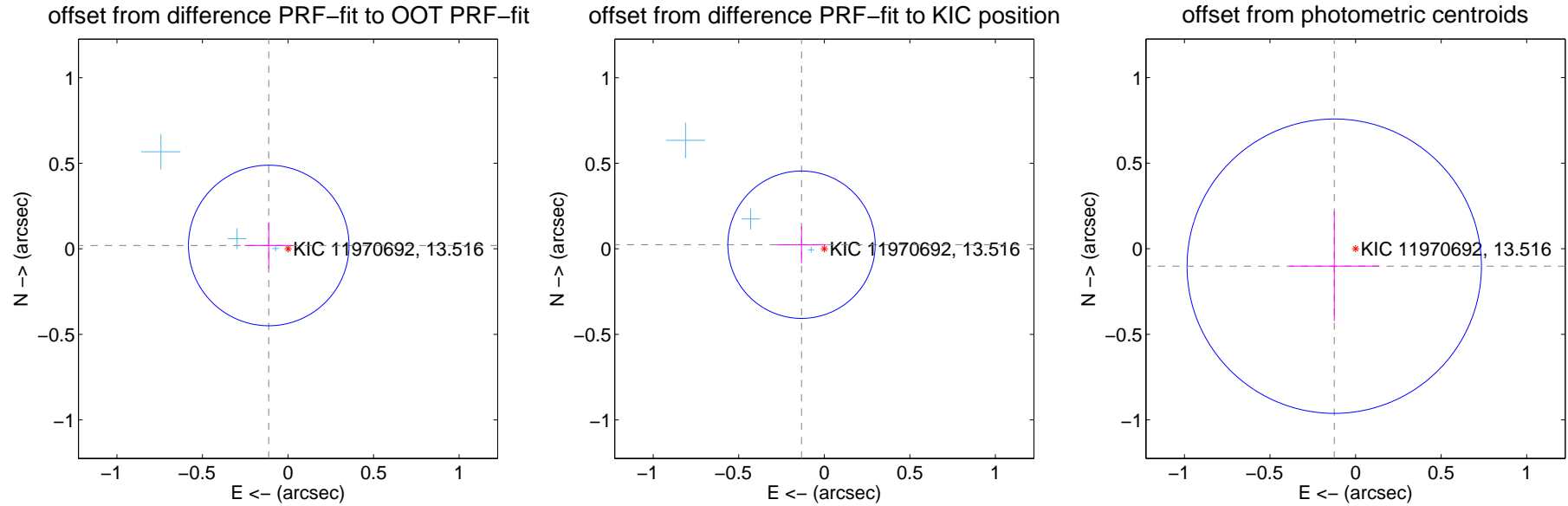
DV Centroid Data

Supplemental centroid analysis for 011970692-01. Kepler magnitude: 13.52. Transit SNR 7.23

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.114 ± 0.156	0.73	0.113 ± 0.141	0.020 ± 0.135
PRF-fit source offset from KIC position	0.135 ± 0.144	0.94	0.133 ± 0.145	0.024 ± 0.108
photometric centroid source offset	0.16 ± 0.29	0.56	0.12 ± 0.26	-0.10 ± 0.32



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.

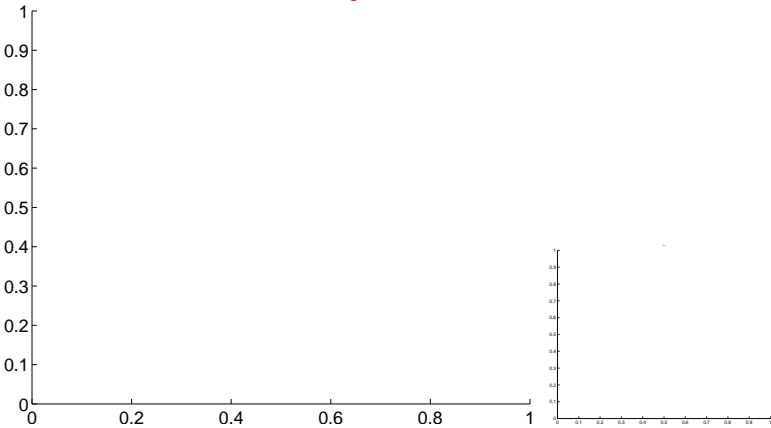


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

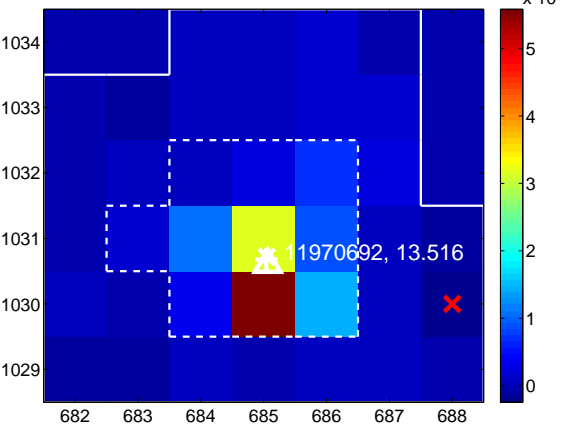
Q5 no difference image



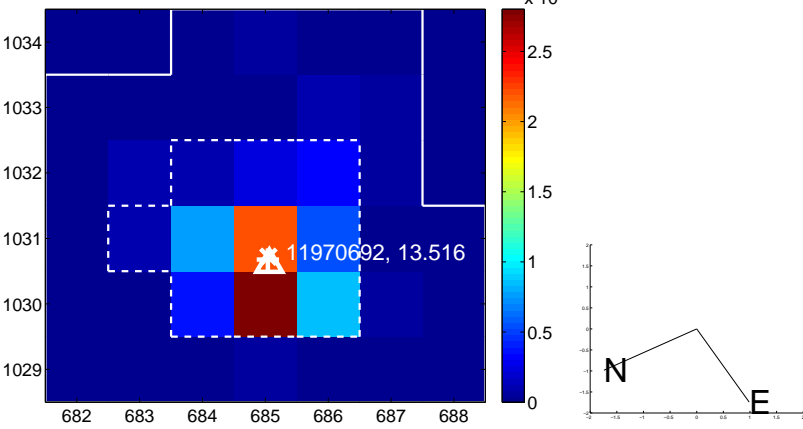
Q5 no OOT image



Q6 difference image



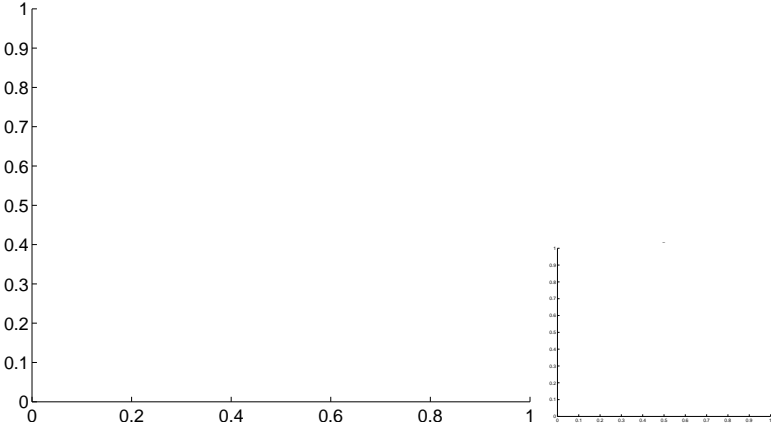
Q6 OOT image



Q7 no difference image



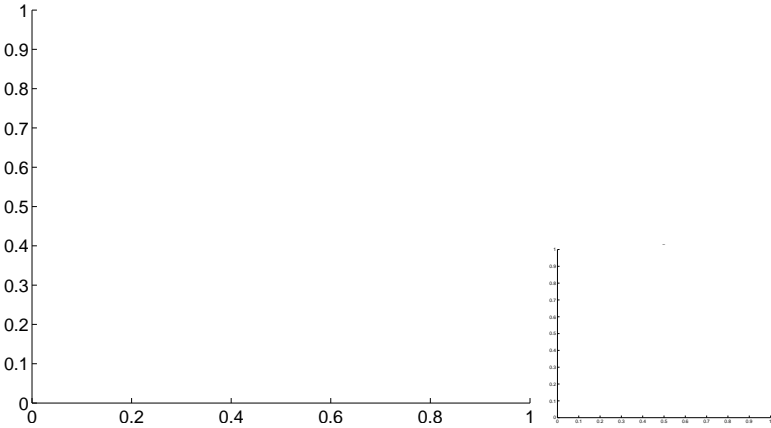
Q7 no OOT image



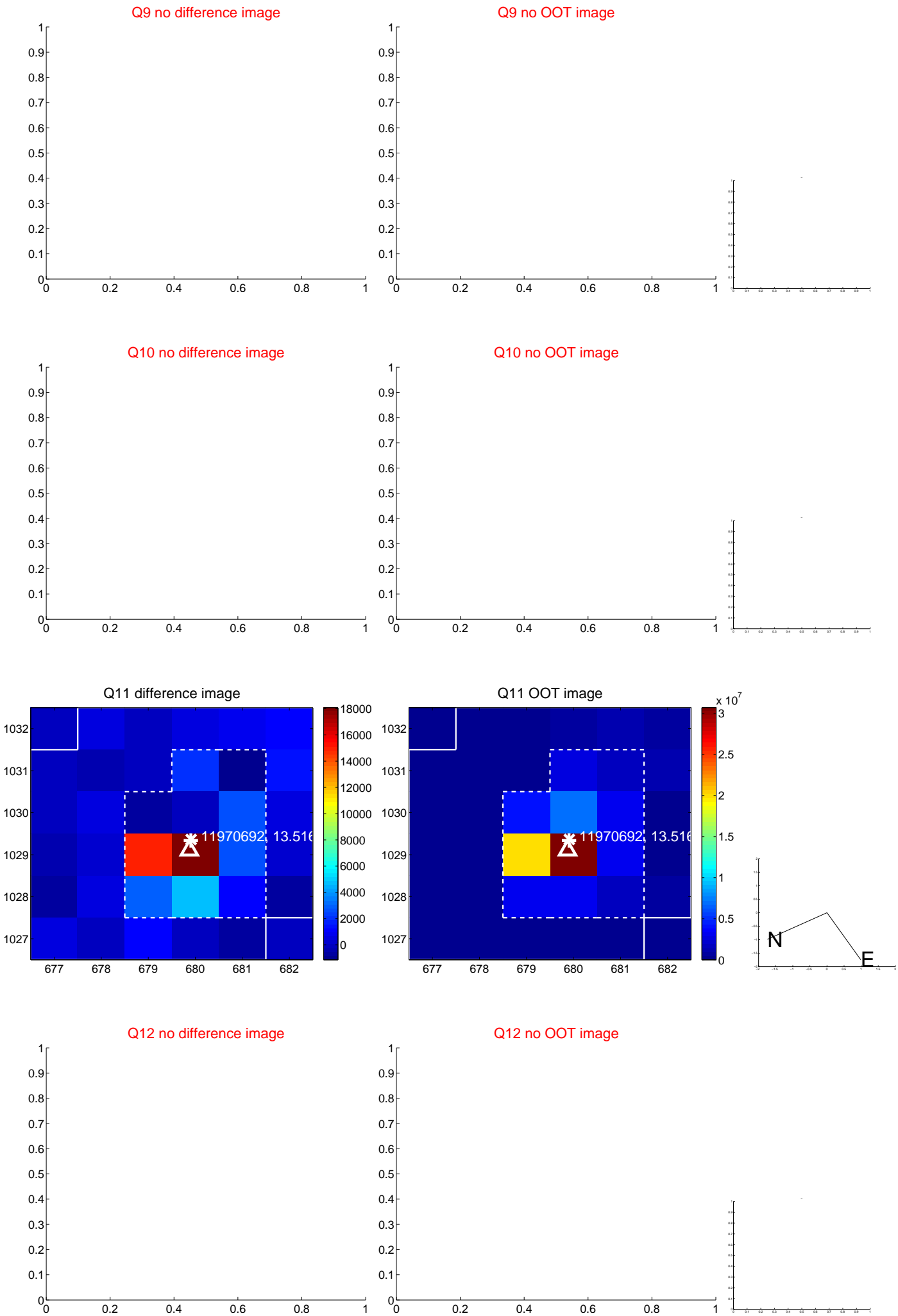
Q8 no difference image



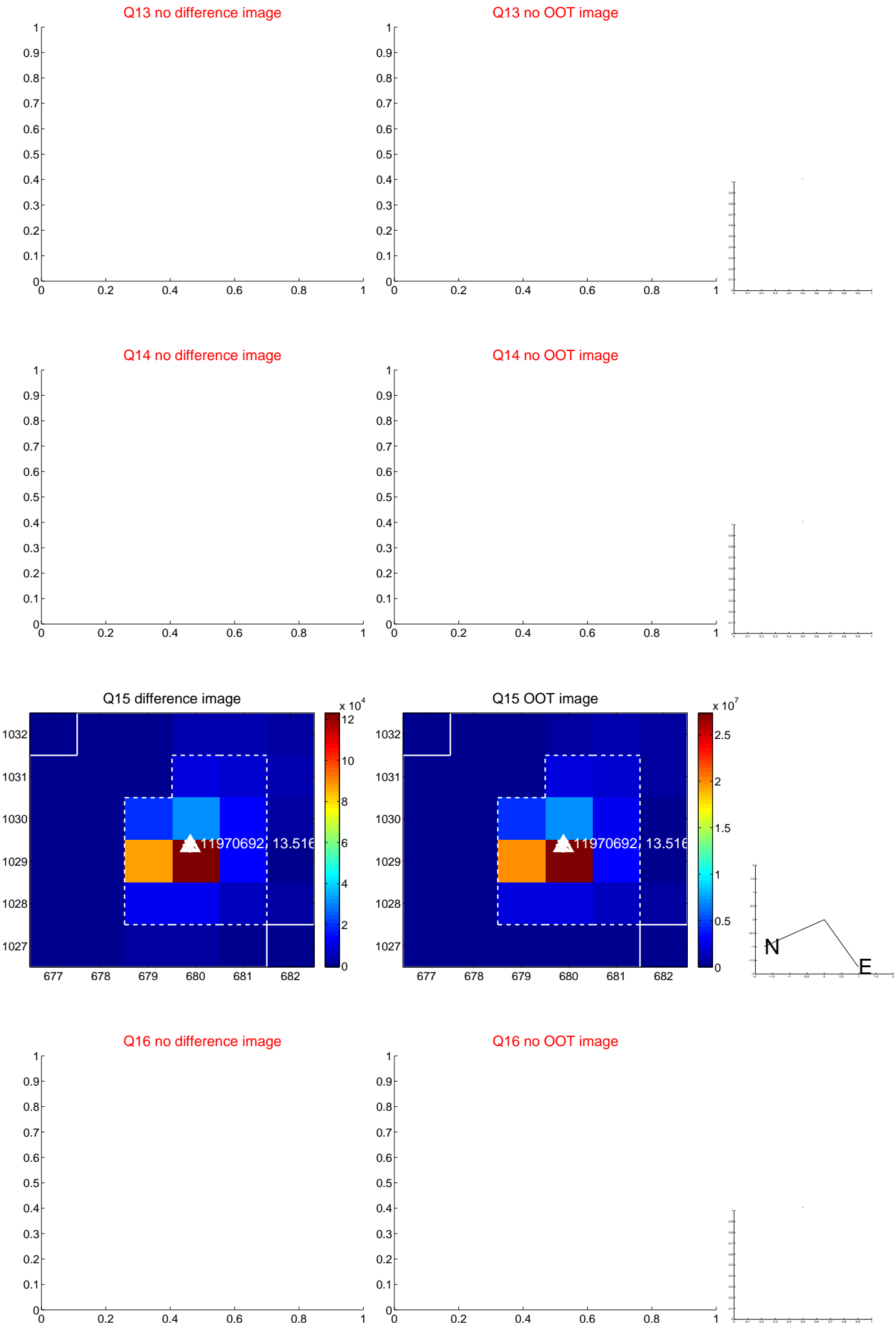
Q8 no OOT image



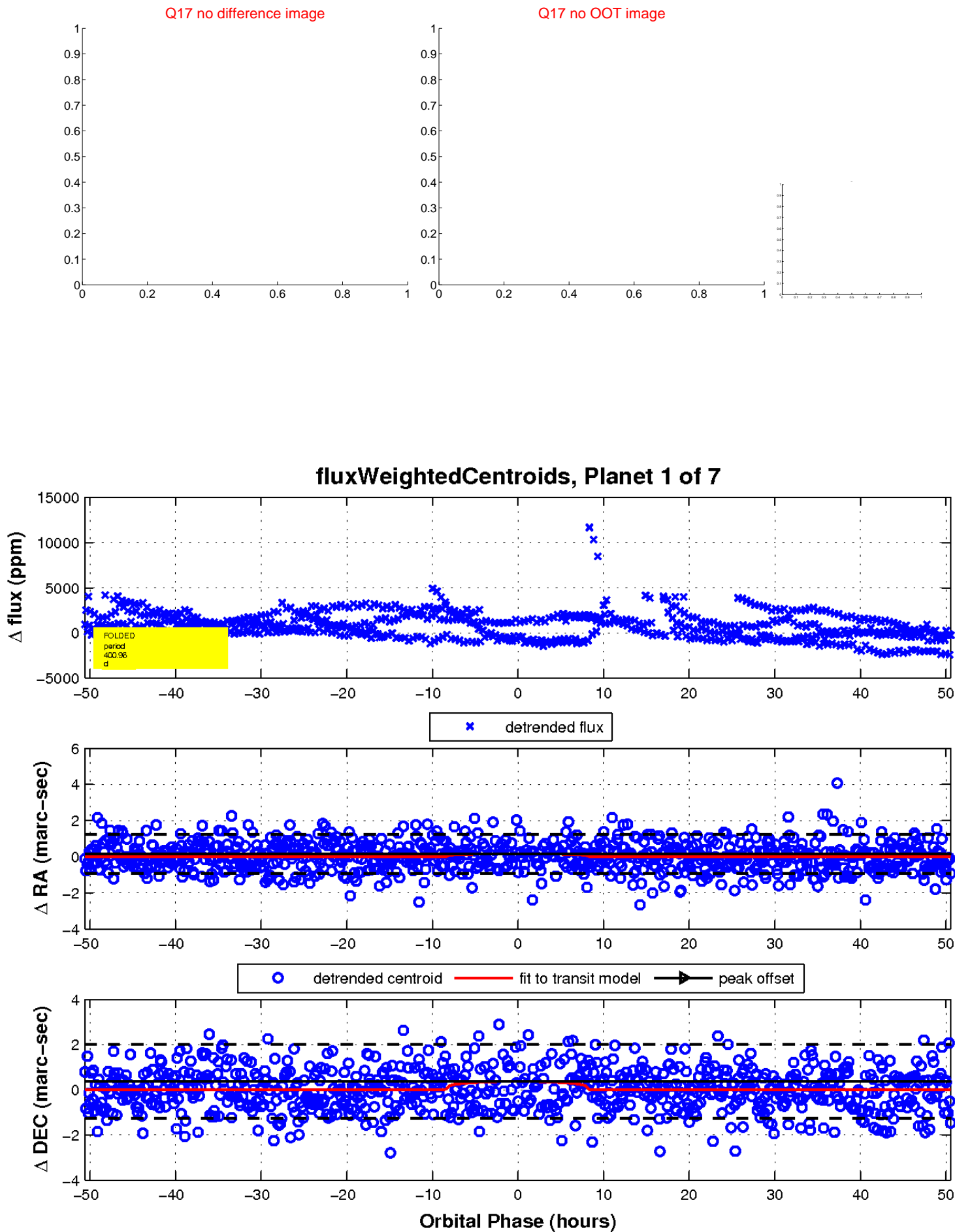
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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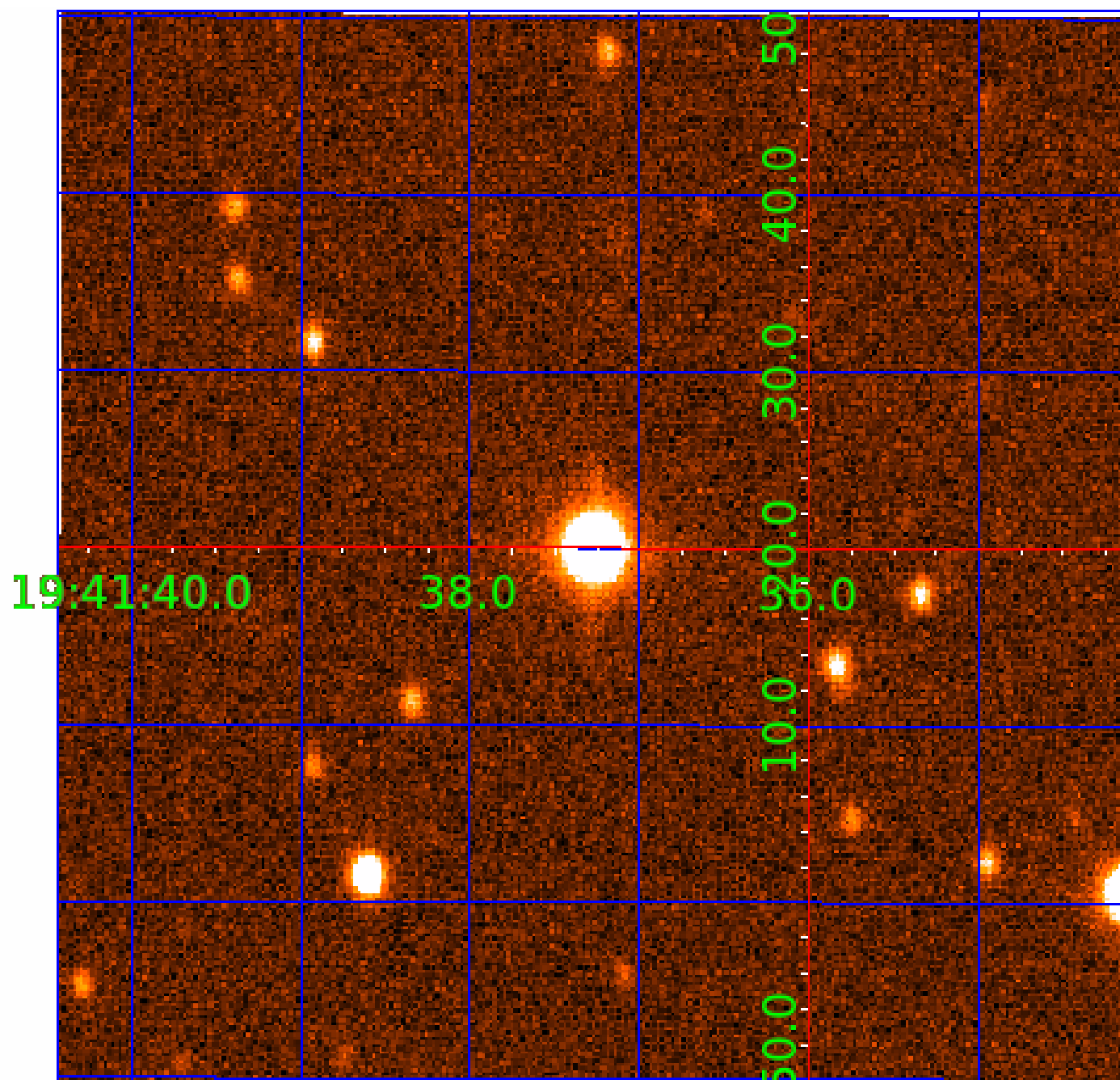


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011970692

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})
011970692-01	OBS	No	400.955329	223.651411	1234.1	16.883	18.8	7.2	3.98	4885	13.61	7.70
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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011970692-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
011970692-03	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
011970692-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011970692-05	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
011970692-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
011970692-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—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.

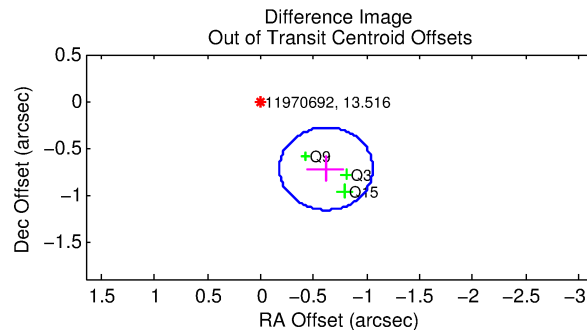
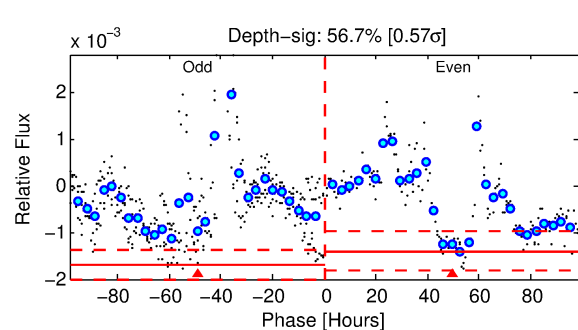
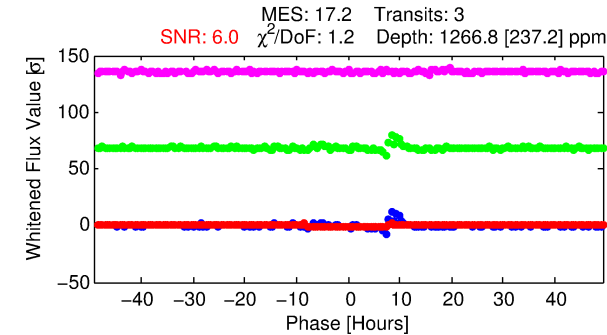
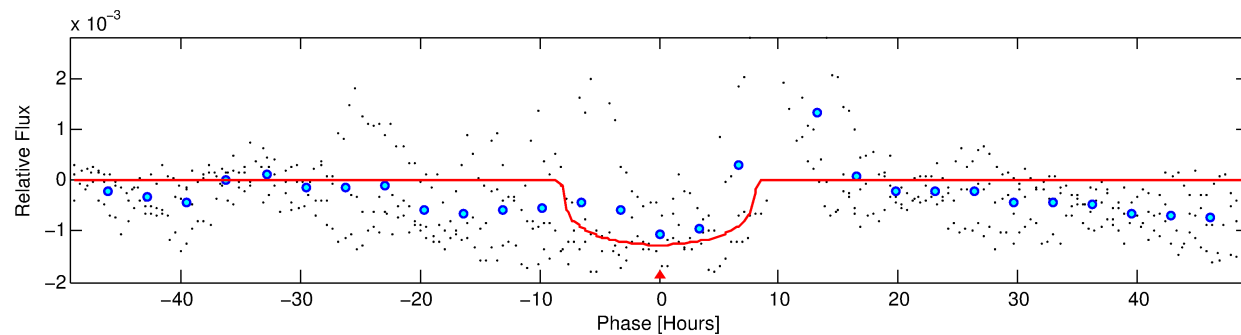
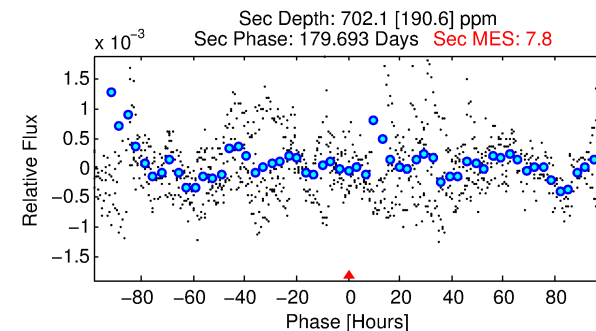
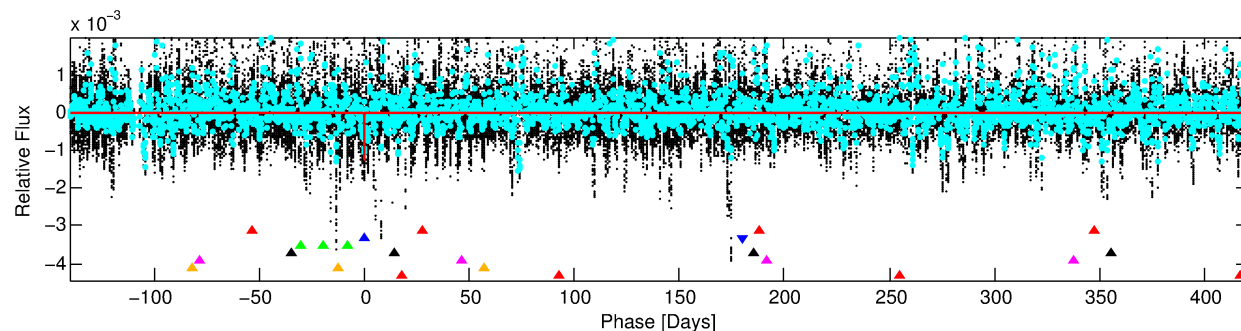
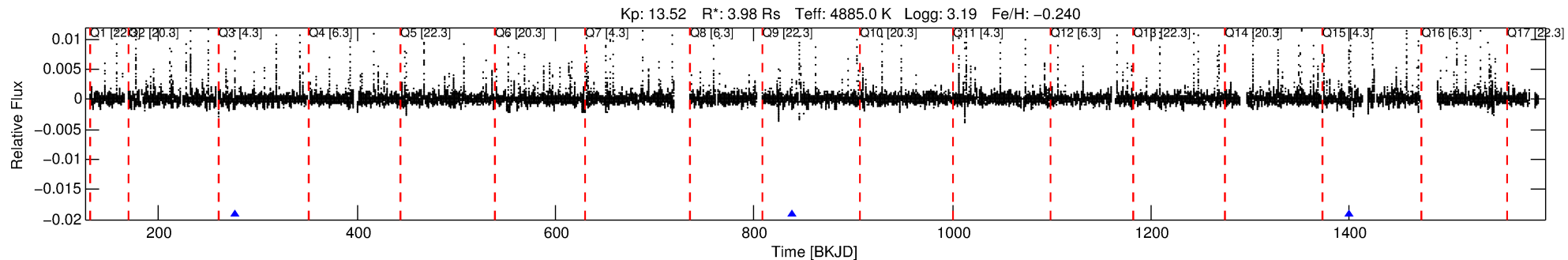
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970692-02

No Significant Match Found

DV One-Page Summary

KIC: 11970692 Candidate: 2 of 7 Period: 561.250 d



DV Fit Results:

Period = 561.24989 [0.00749] d
Epoch = 276.7258 [0.0094] BKJD
Rp/R* = 0.0315 [0.0112]
a/R* = 269.24 [302.79]
b = 0.00 [1138.14]
Seff = 4.91 [3.10]
Teq = 380 [60] K
Rp = 13.70 [9.17] Re
a = 1.2827 [0.5785] AU
Ag = 3385.42 [3317.47] [1.02σ]
Teff = 4478 [858] K [4.76σ]

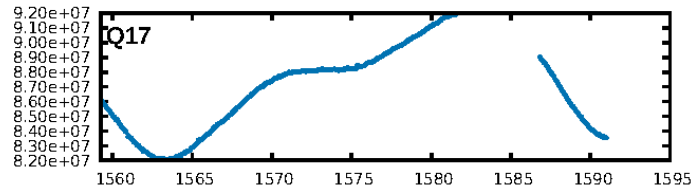
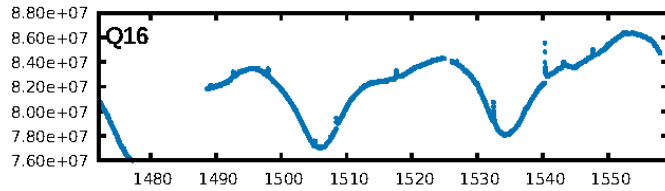
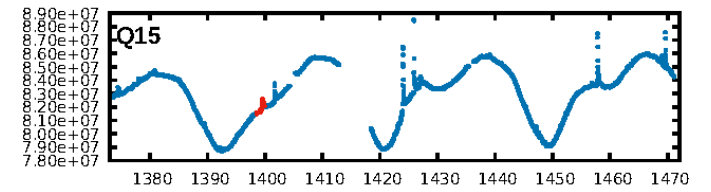
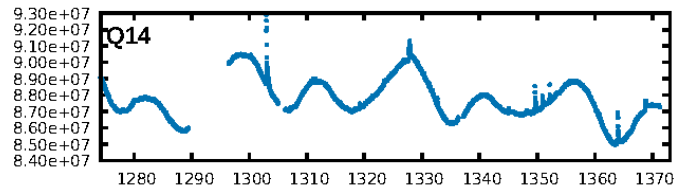
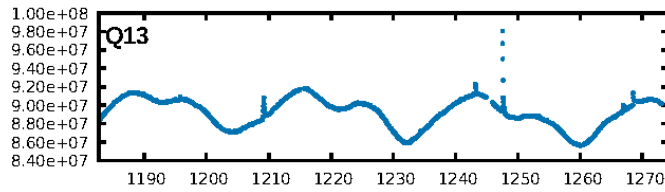
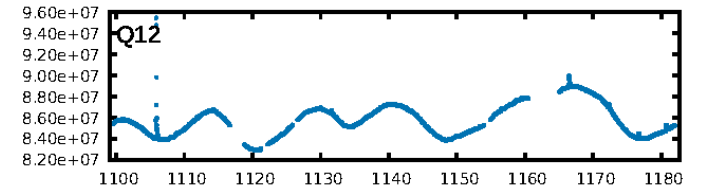
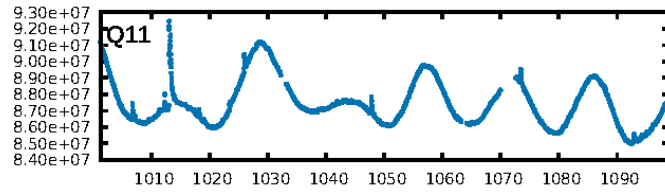
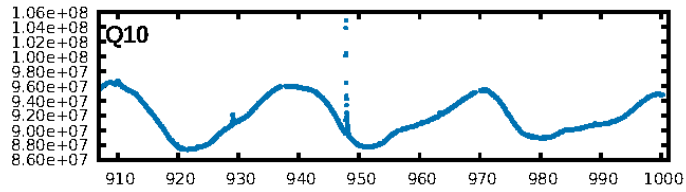
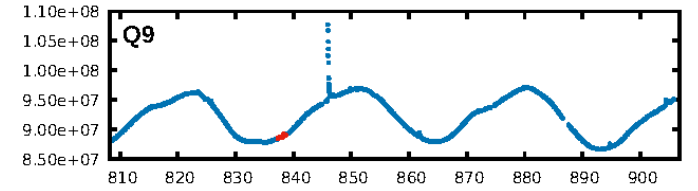
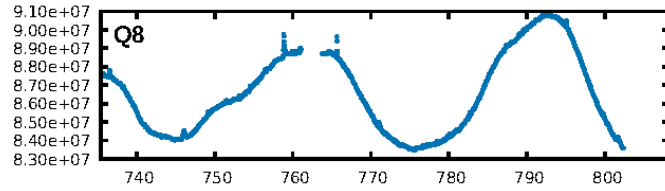
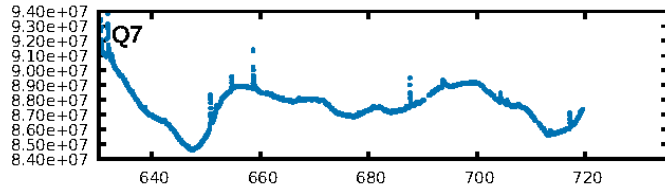
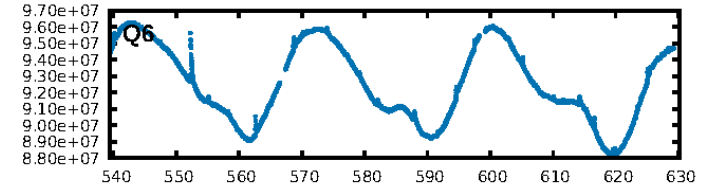
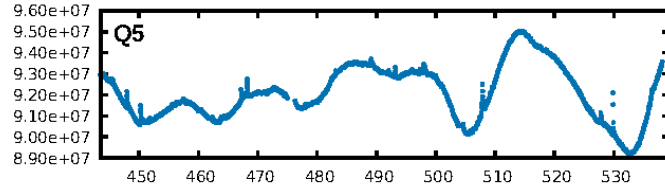
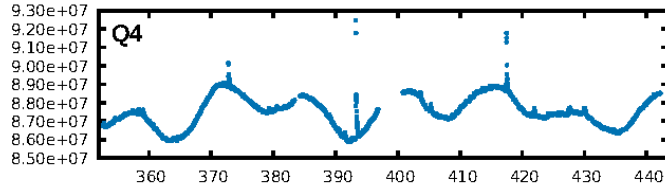
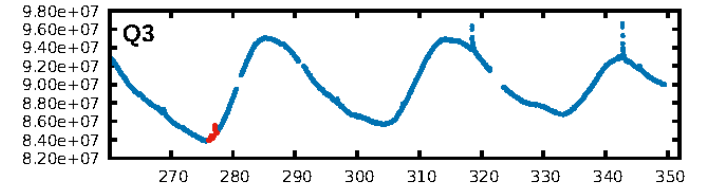
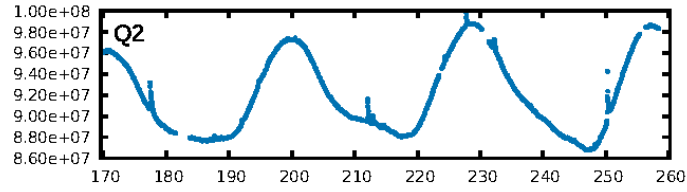
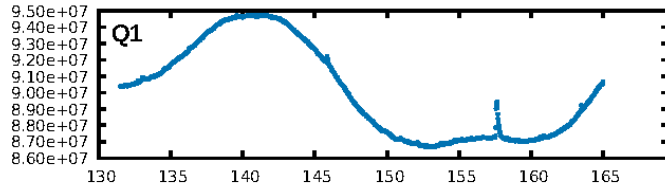
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.47σ]
LongPeriod-sig: 100.0% [89.52σ]
ModelChiSquare2-sig: 19.2%
ModelChiSquareGof-sig: 94.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.051
Centroid-sig: 27.7%
Centroid-so: 0.231 arcsec [0.69σ]
OotOffset-rm: 0.949 arcsec [6.45σ]
KicOffset-rm: 0.989 arcsec [7.18σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

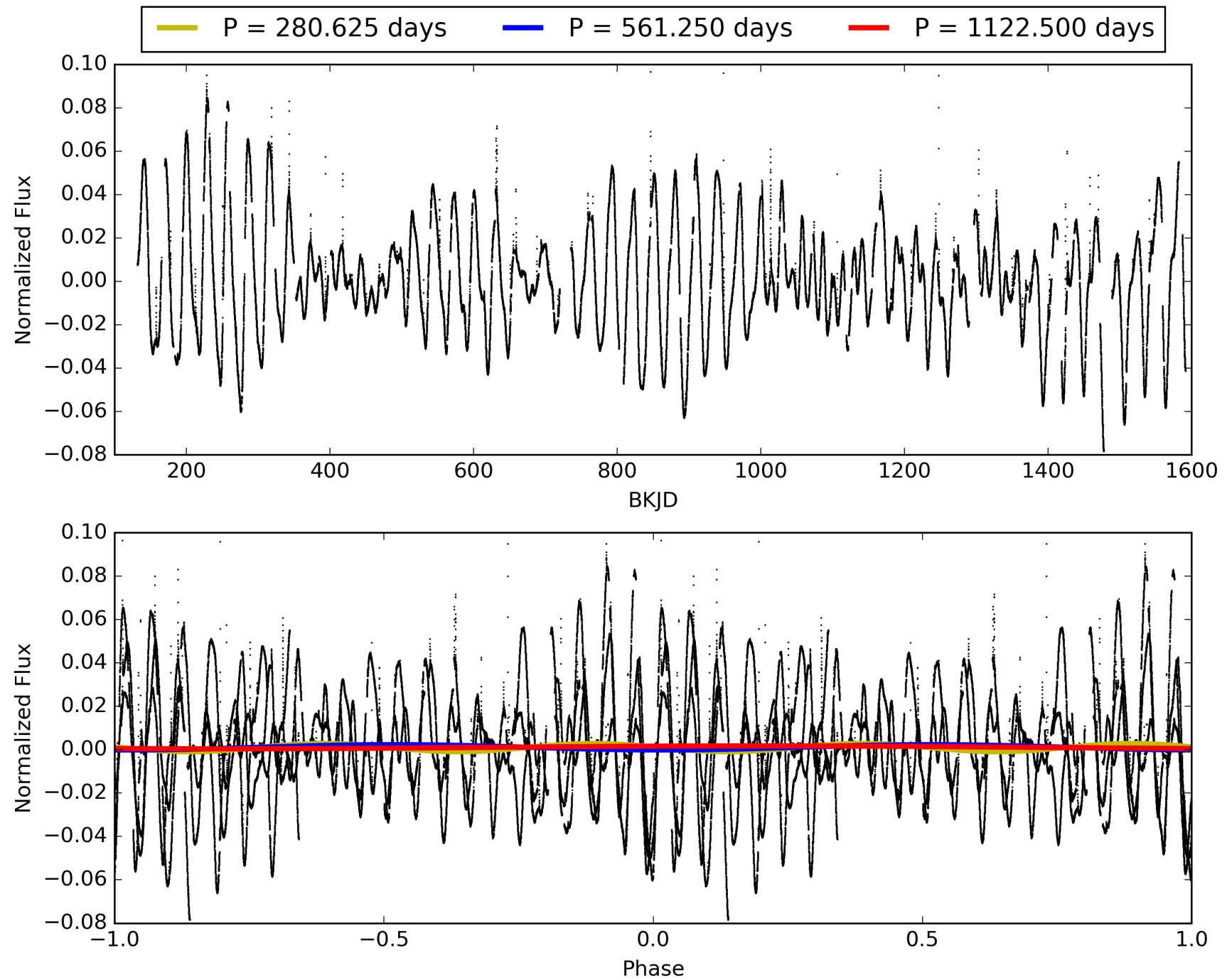
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:55:52 Z

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

TCE 011970692-02, PDC Light Curves

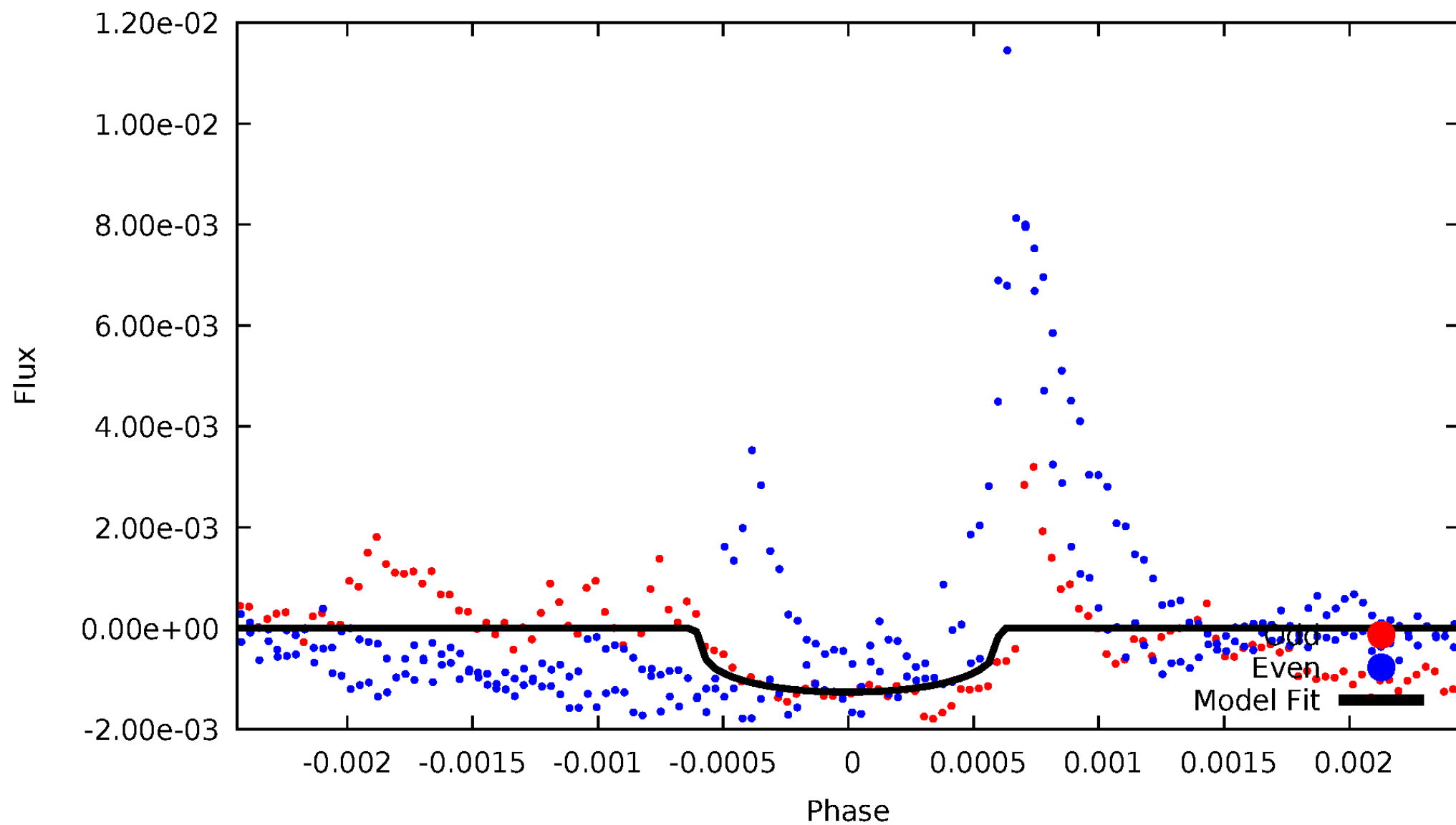


TCE 011970692-02



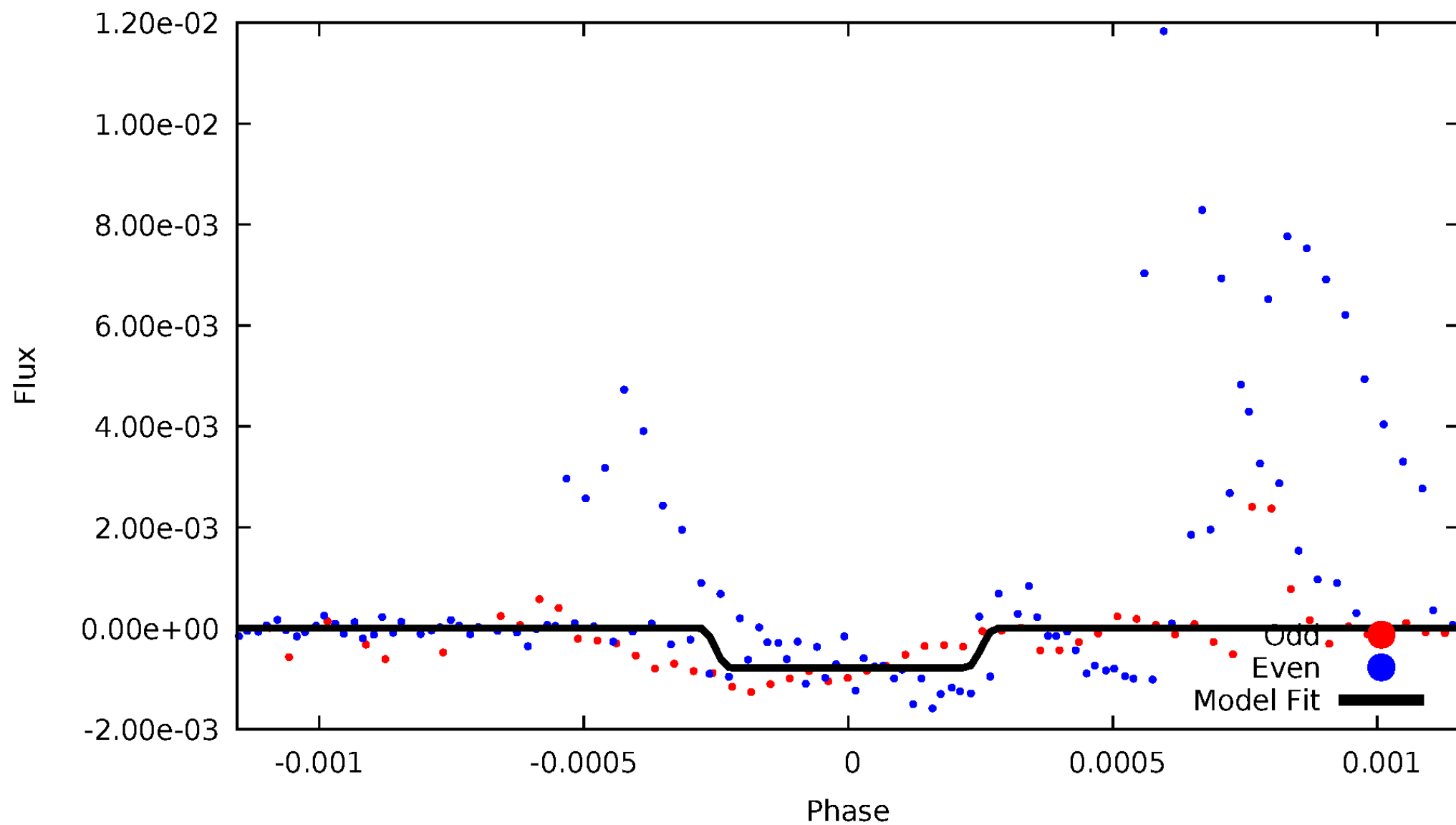
DV Odd/Even

TCE 011970692-02



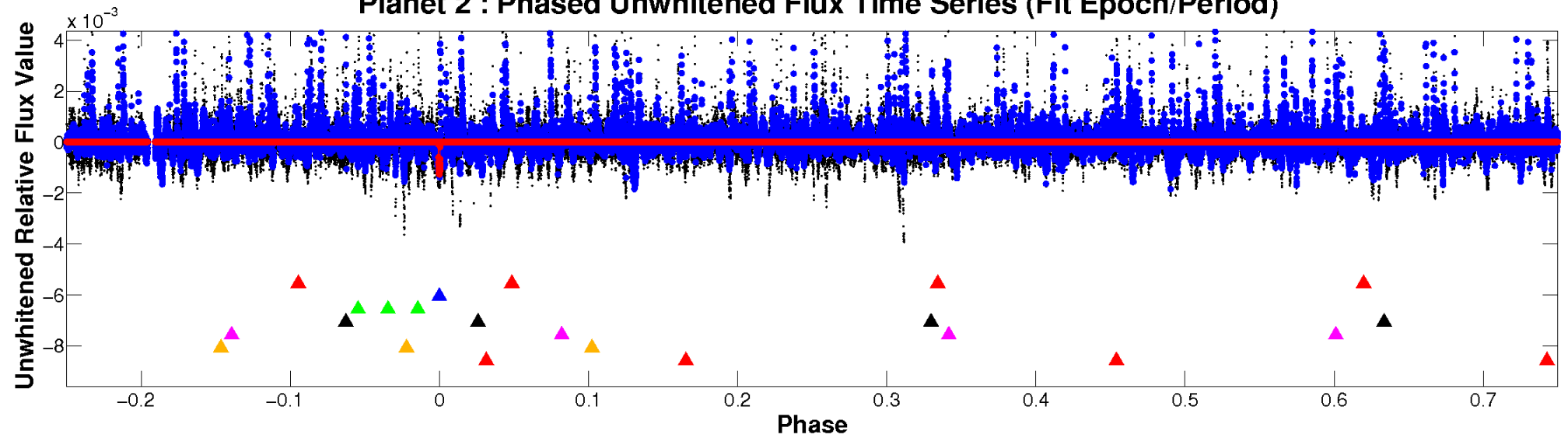
ALT Odd/Even

TCE 011970692-02

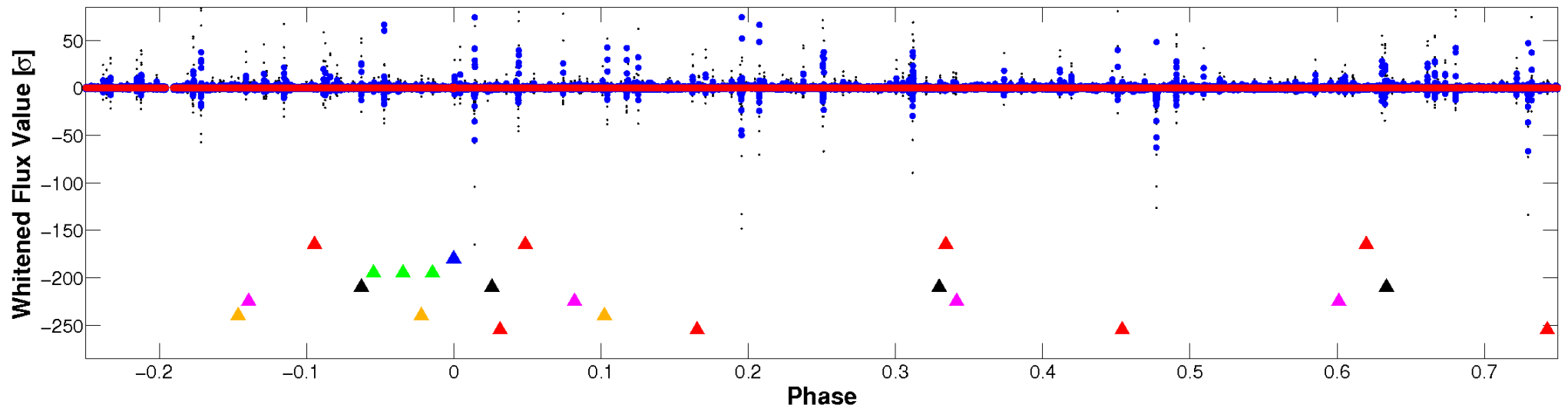


Non-Whitened Vs. Whitened Light Curve

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

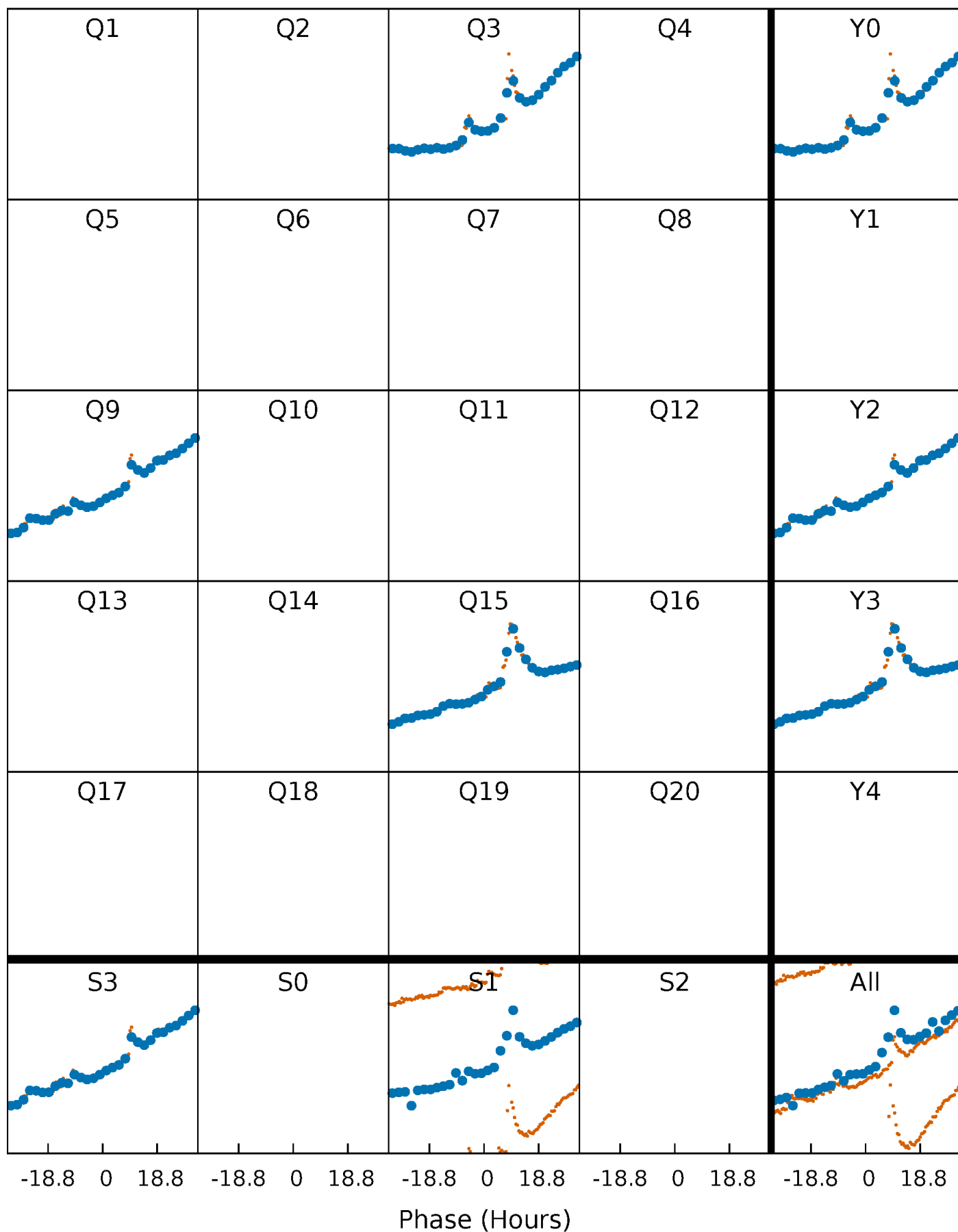


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



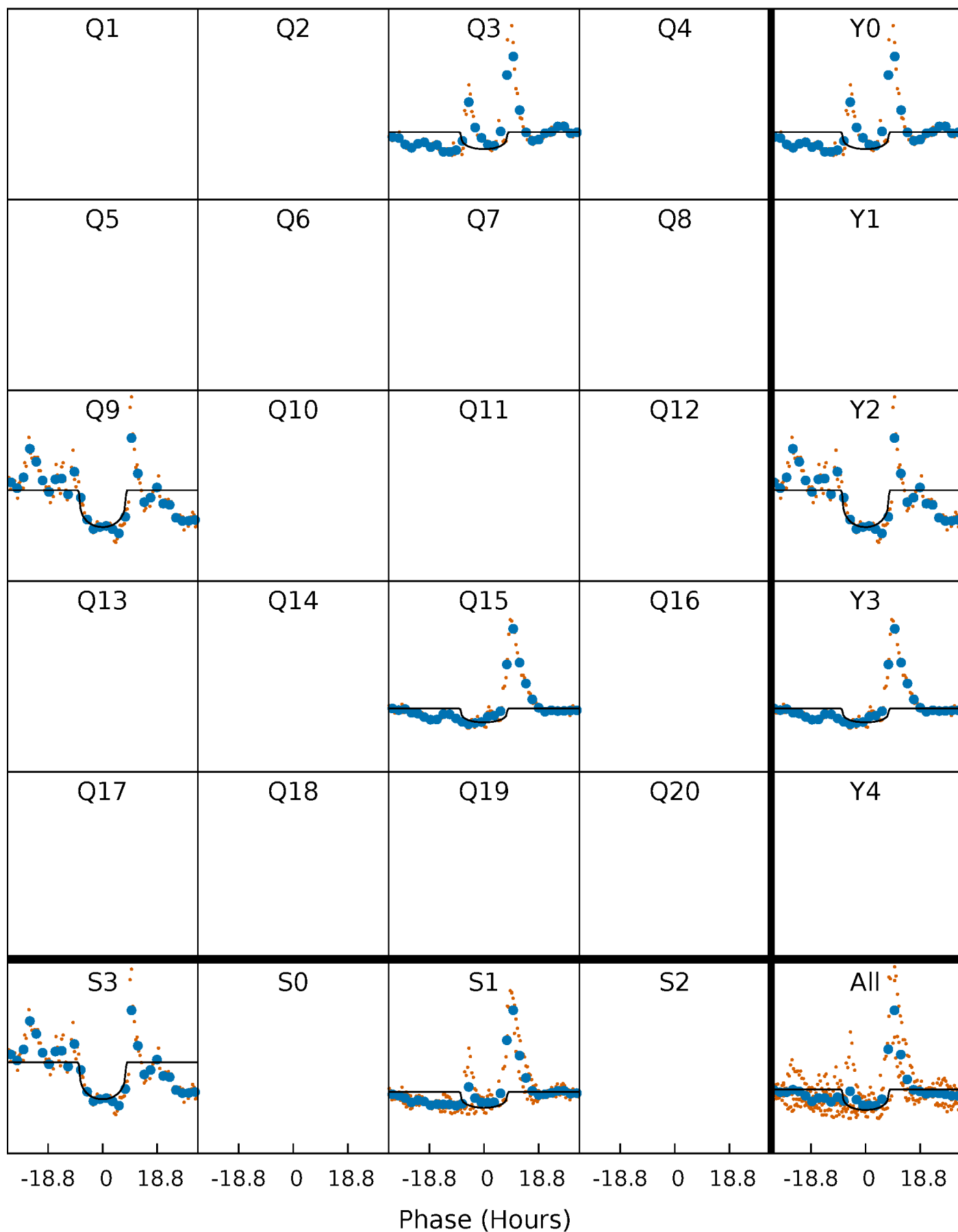
PDC Quarter-Phased Transit Curves

TCE 011970692-02 $P=561.249886$ Days $T_0=276.725816$ (BKJD)



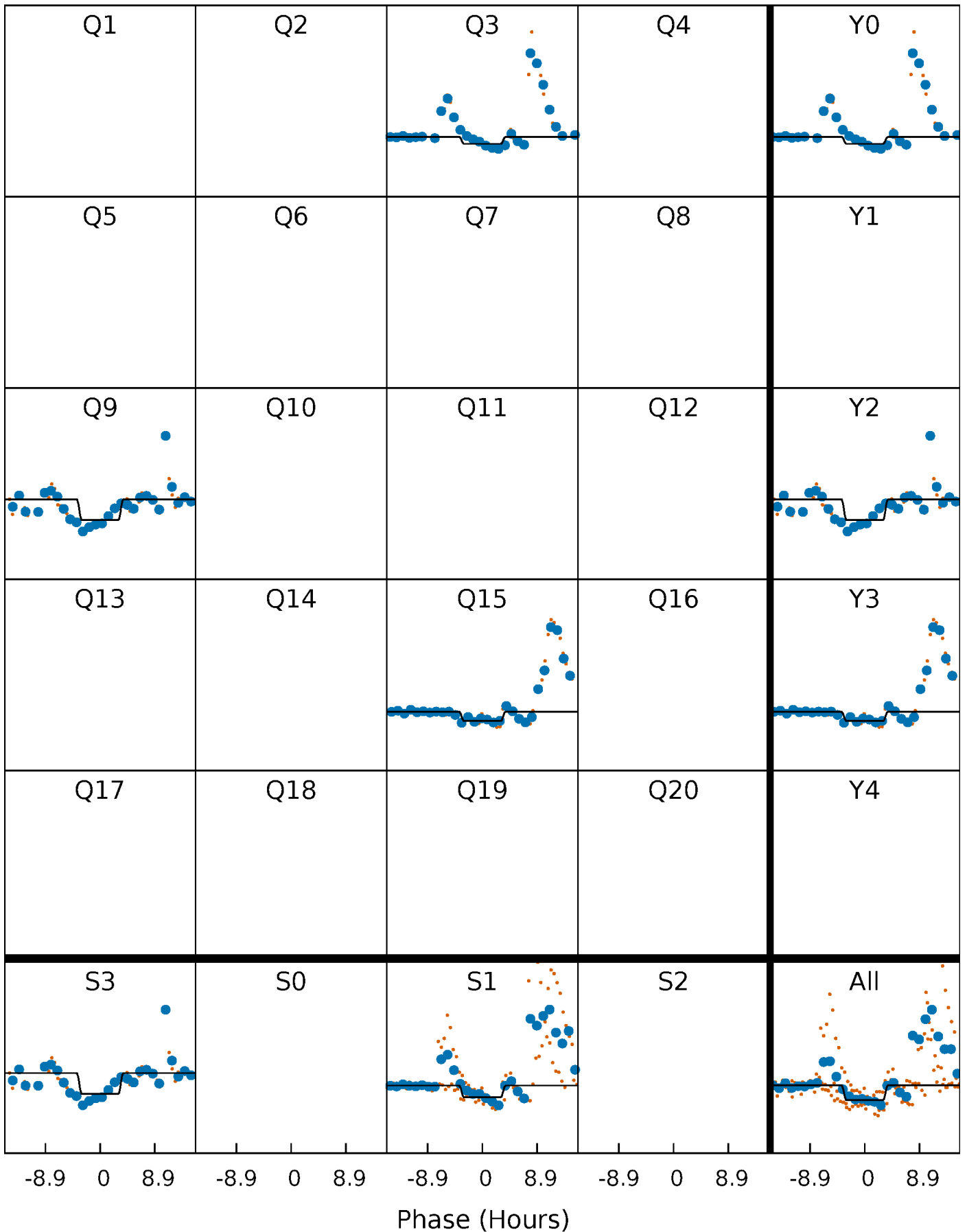
DV Quarter-Phased Transit Curves

TCE 011970692-02 $P=561.249886$ Days $T_0=276.725816$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

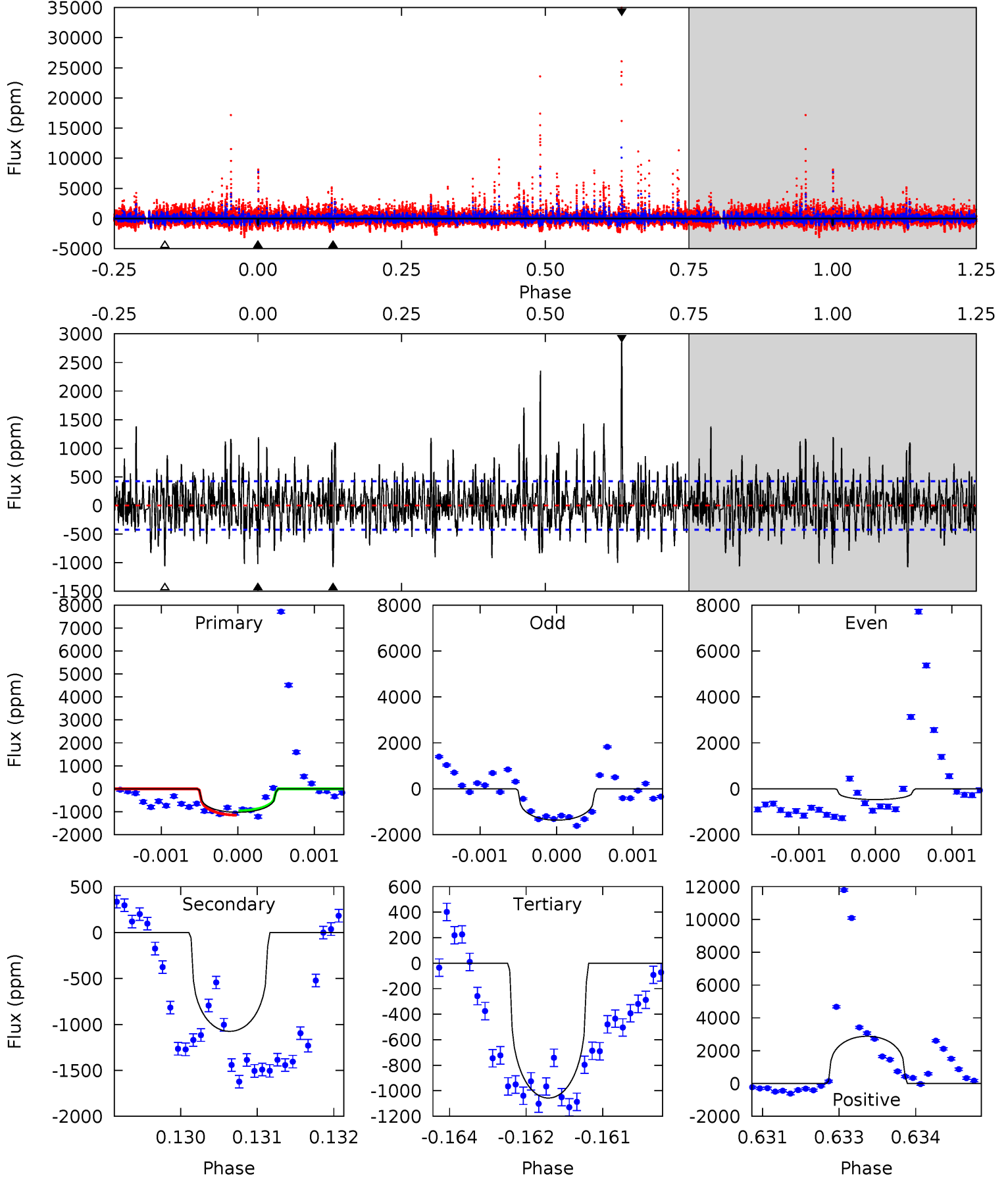
TCE 011970692-02 P=561.194103 Days $T_0=276.747636$ (BKJD)



DV Model-Shift Uniqueness Test

011970692-02, P = 561.249886 Days, E = 276.725816 Days

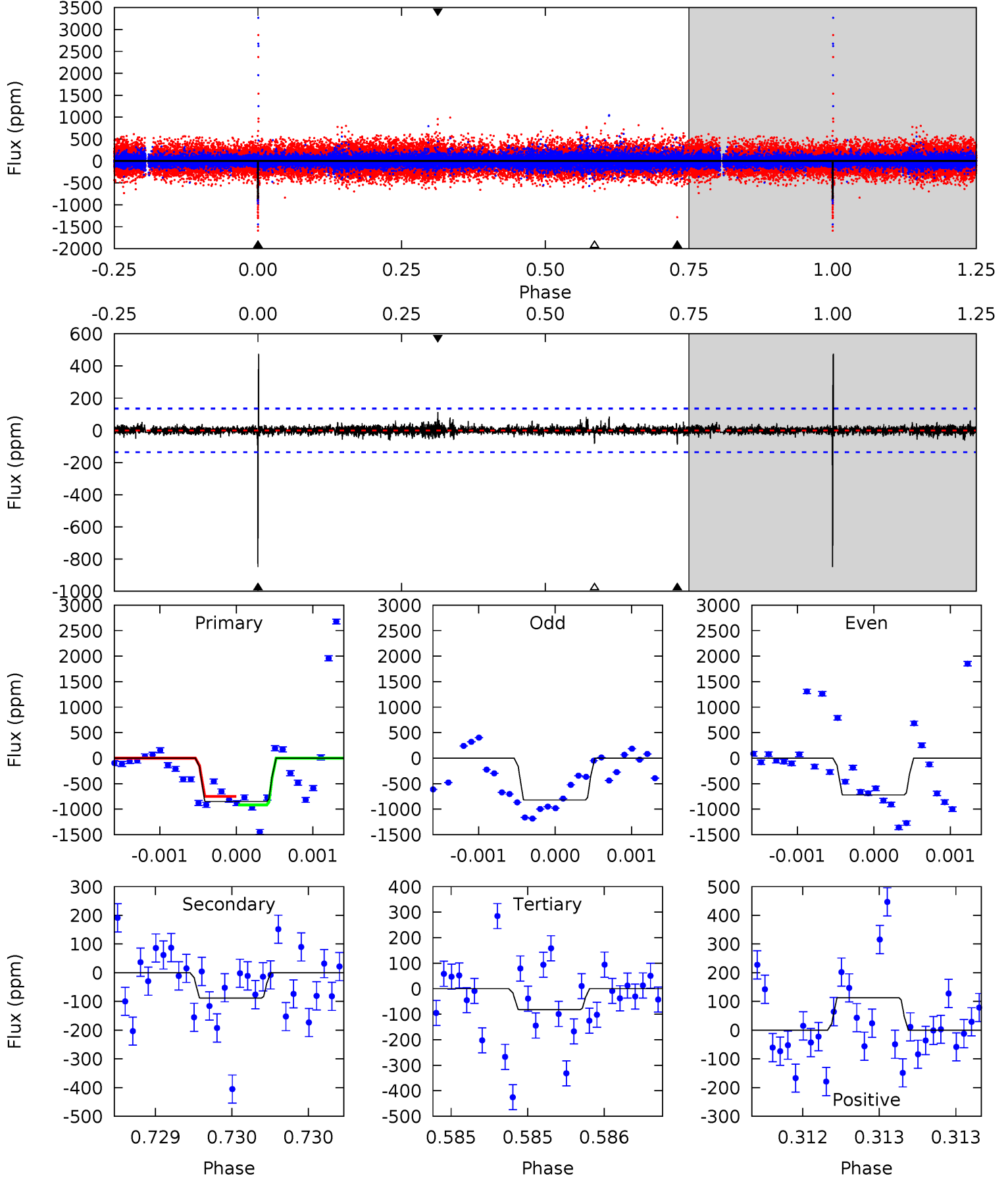
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	13.7	13.5	36.7	5.42	3.24	4.36	-0.42	-23.7	0.23	-23.0	1.78	0.83	0.73	1.21



Alt Model-Shift Uniqueness Test

011970692-02, P = 561.194103 Days, E = 276.747636 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	3.60	3.35	4.61	5.56	3.46	0.63	31.4	30.1	0.26	-1.01	1.73	0.98	0.36	3.40



Stellar Parameters For KIC 011970692

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4885^{+135}_{-98}	$3.189^{+0.320}_{-0.320}$	$-0.240^{+0.300}_{-0.200}$	$3.981^{+2.259}_{-1.216}$	$0.893^{+0.342}_{-0.057}$	$0.020^{+0.042}_{-0.013}$
	+3%/-2%	+10%/-10%	+125%/-83%	+57%/-31%	+38%/-6%	+210%/-67%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011970692-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1075 ± 78	$14.28^{+6.77}_{-5.75}$	532^{+73}_{-56}	4962^{+1128}_{-576}	5053^{+8686}_{-2765}
Alt.	-88 ± 24	$12.77^{+6.49}_{-5.09}$	533^{+76}_{-51}	3285^{+576}_{-328}	484^{+987}_{-274}

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 $A_{obs} \gg 1.0$

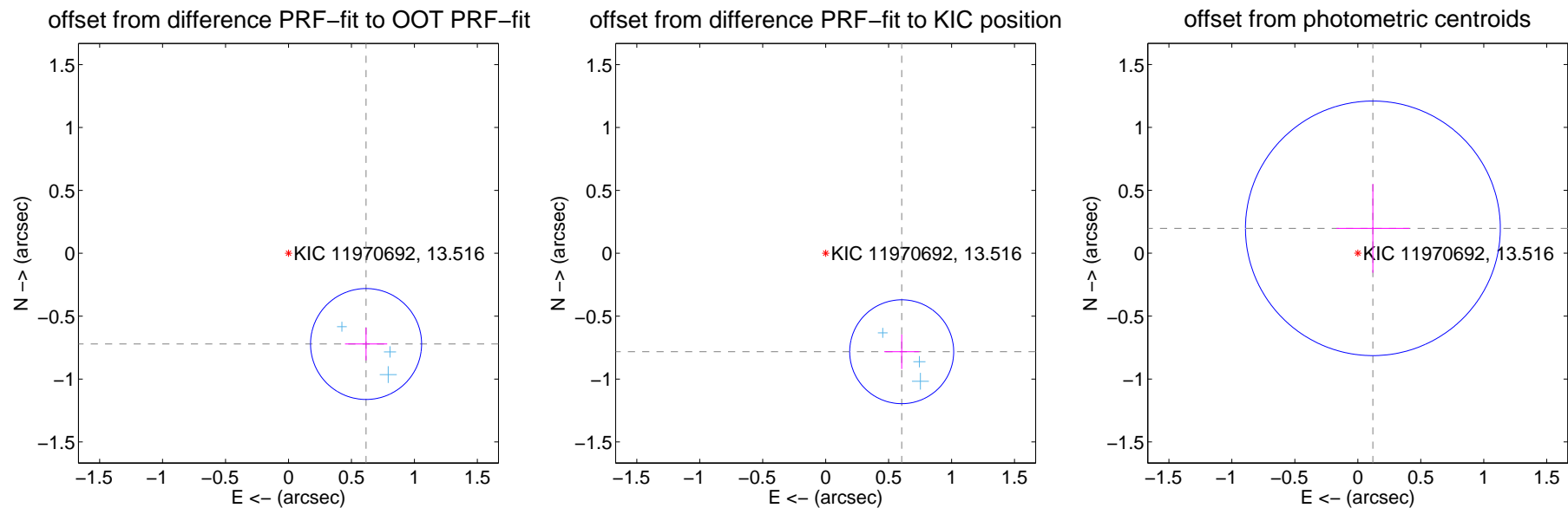
DV Centroid Data

Supplemental centroid analysis for 011970692-02. Kepler magnitude: 13.52. Transit SNR 6.05

There are 3 quarters with good PRF difference image offsets

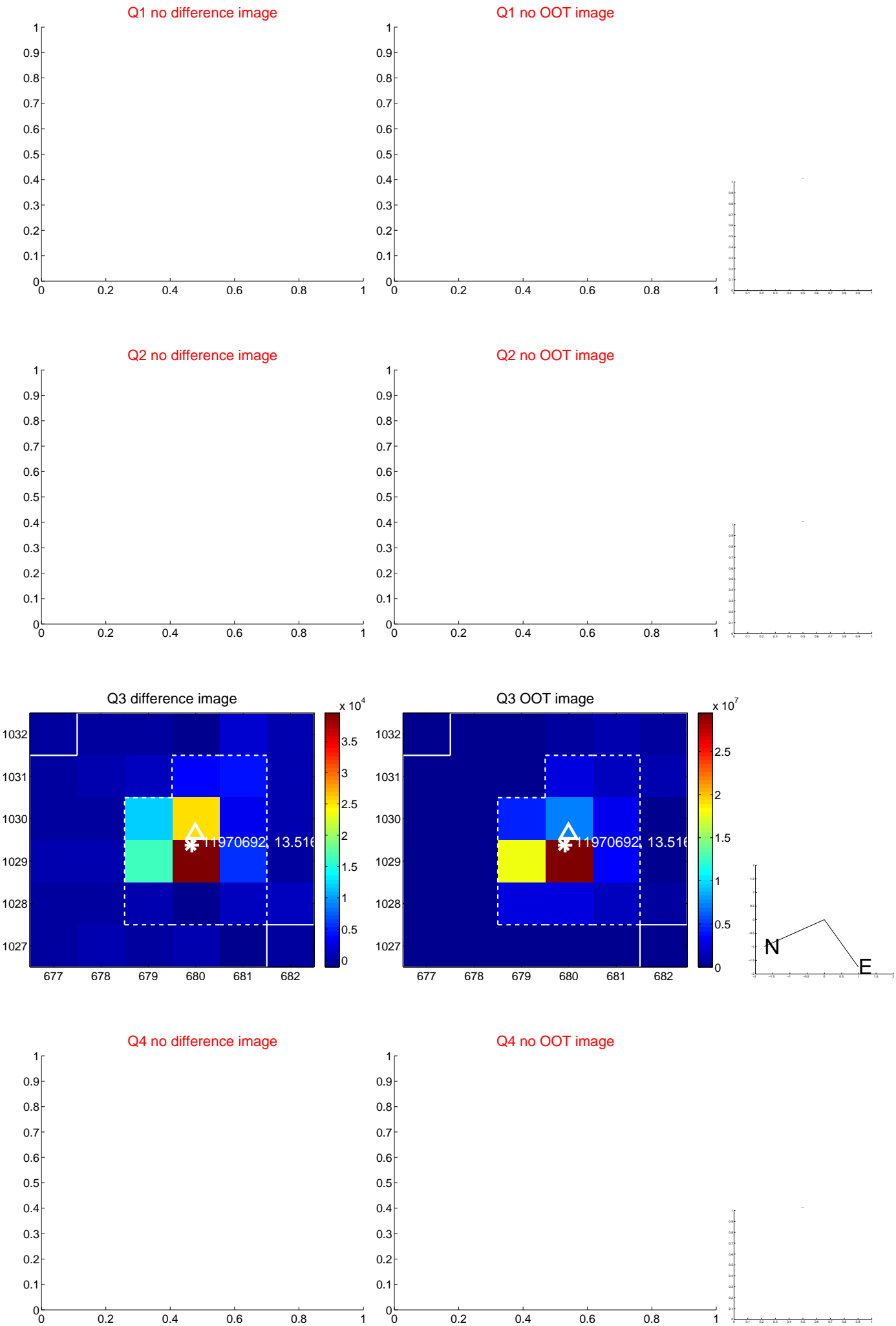
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.949 ± 0.147	6.45	-0.616 ± 0.168	-0.721 ± 0.130
PRF-fit source offset from KIC position	0.989 ± 0.138	7.18	-0.604 ± 0.139	-0.783 ± 0.137
photometric centroid source offset	0.23 ± 0.34	0.69	-0.12 ± 0.29	0.20 ± 0.35



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.

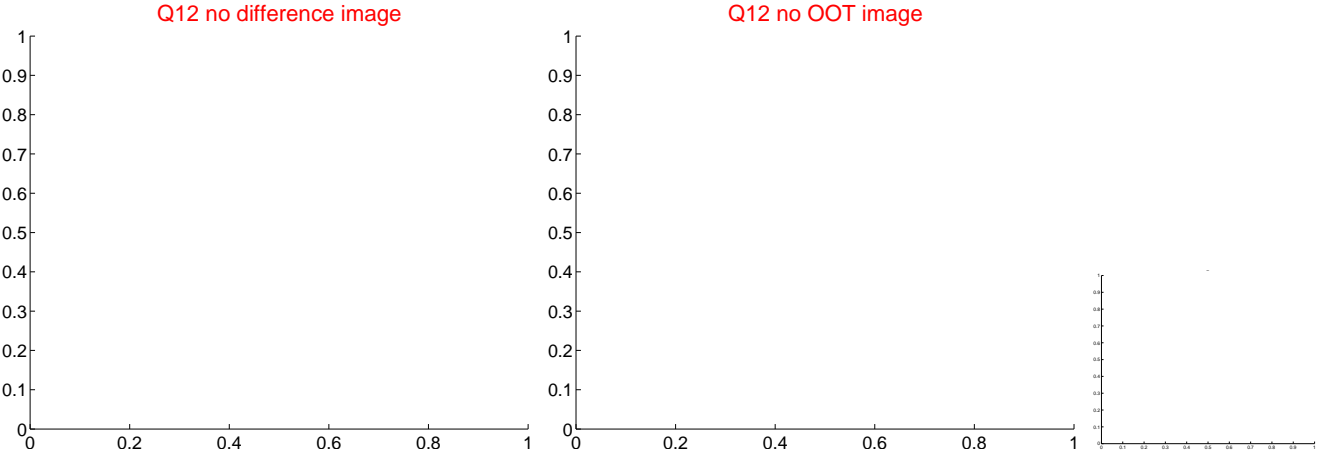
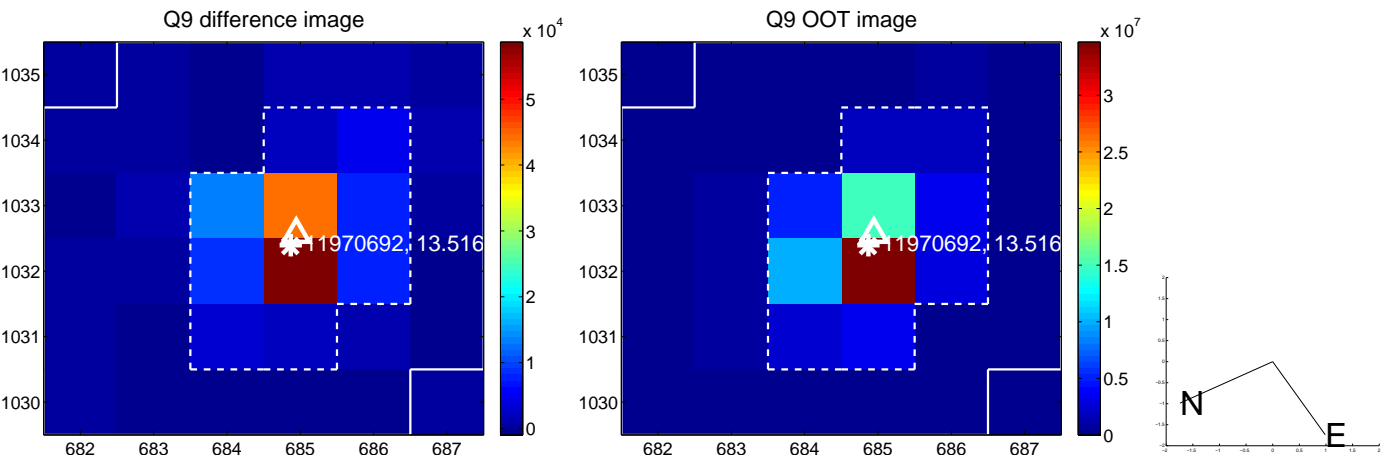
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

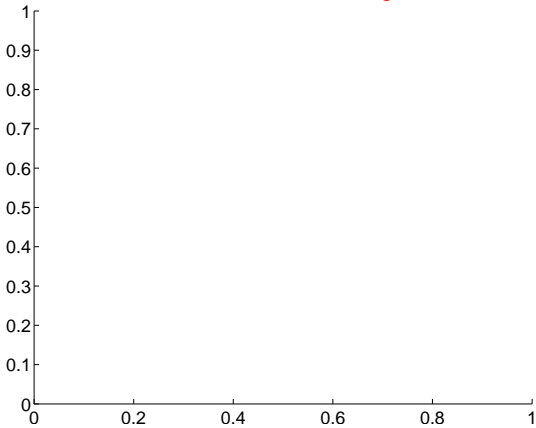


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

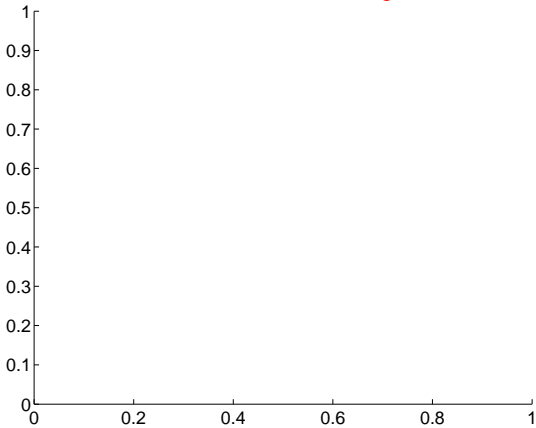
Q13 no difference image



Q13 no OOT image



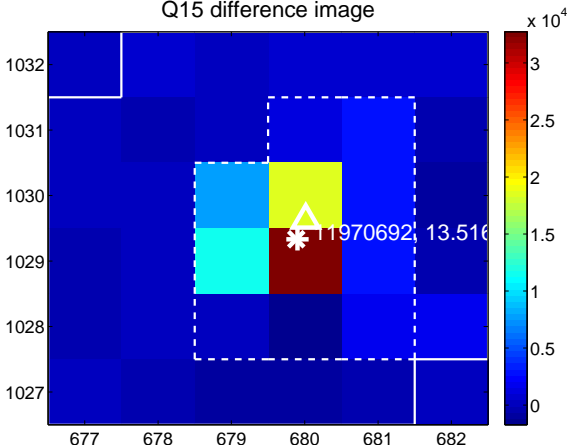
Q14 no difference image



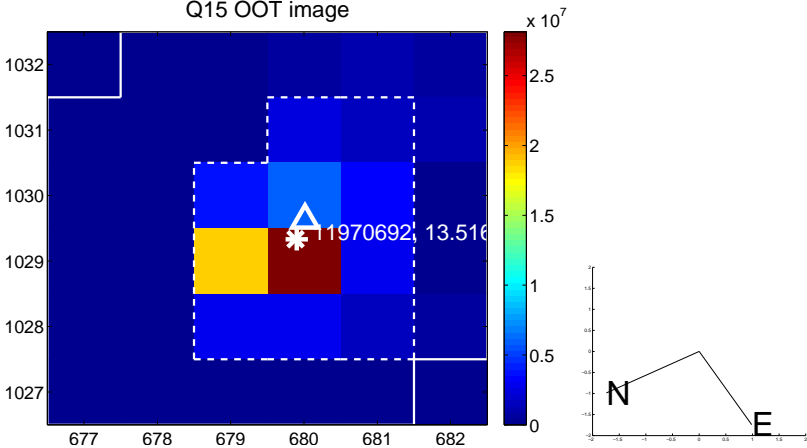
Q14 no OOT image



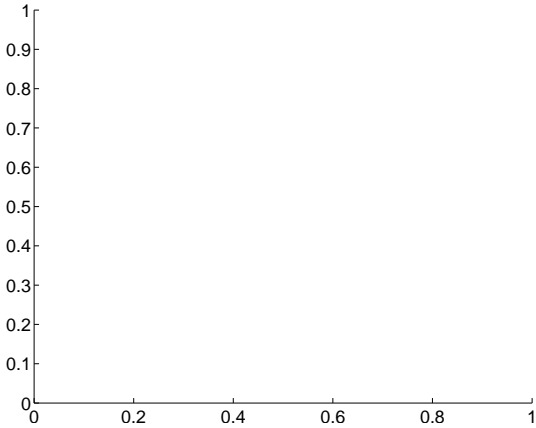
Q15 difference image



Q15 OOT image



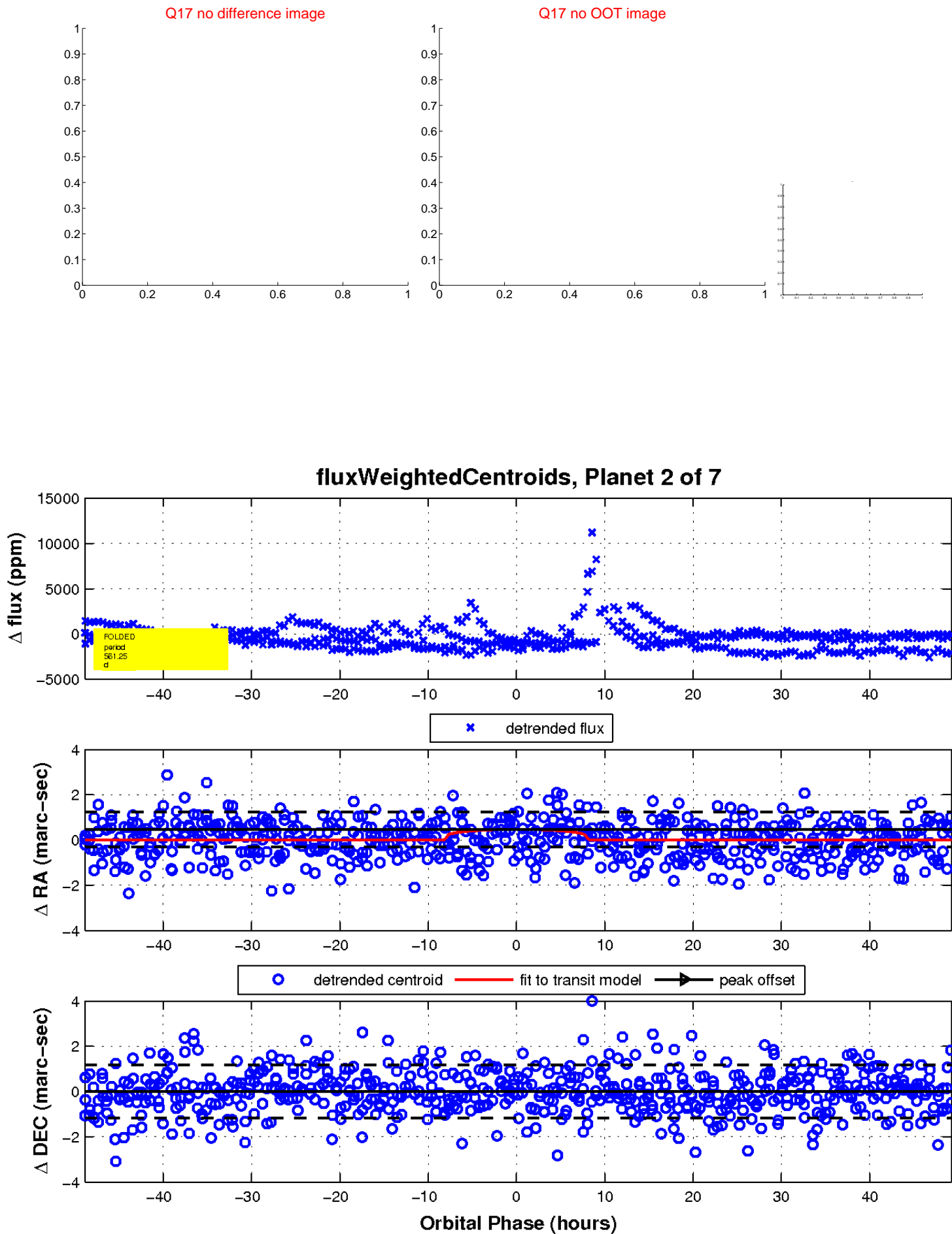
Q16 no difference image



Q16 no OOT image

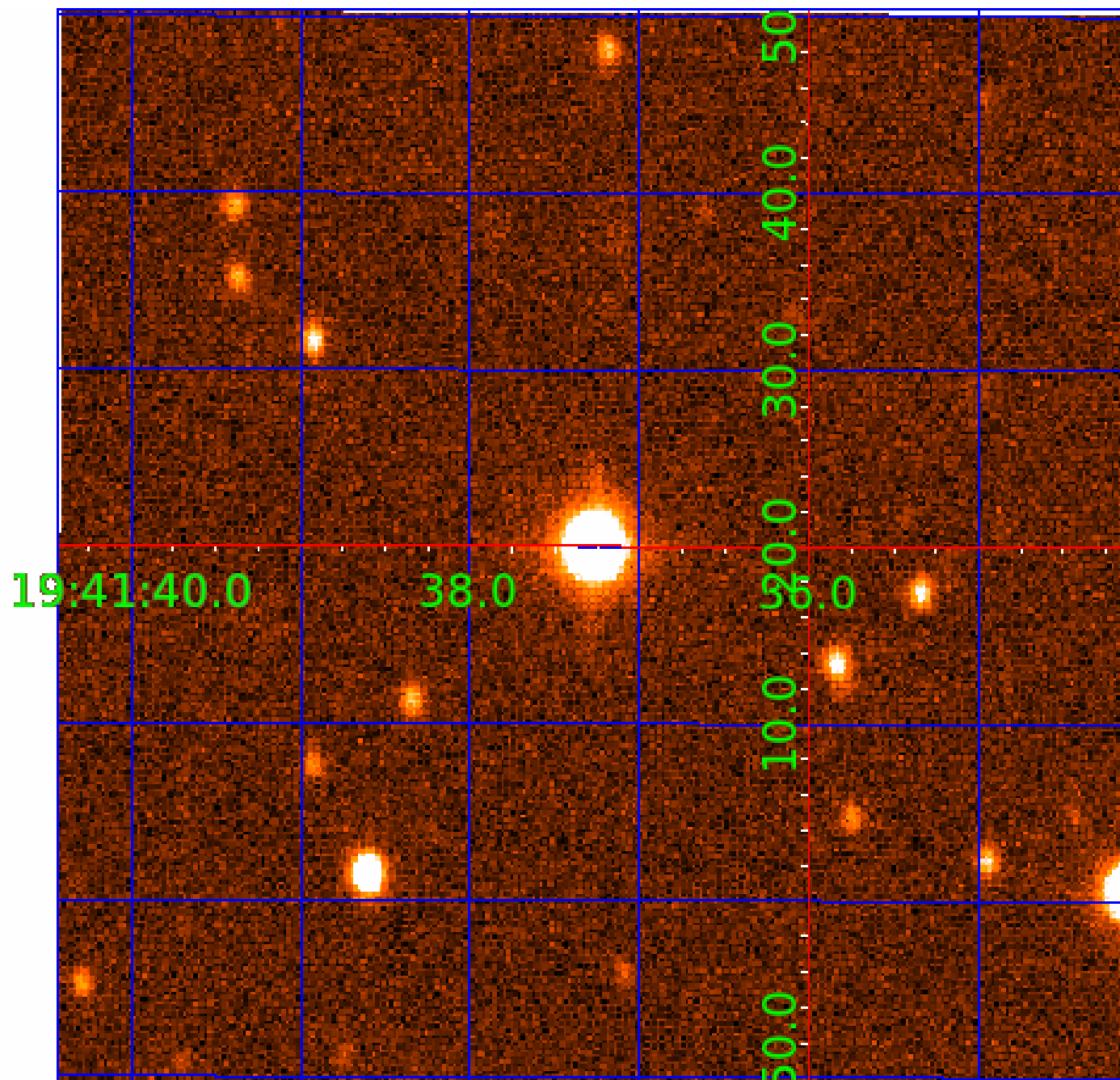


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011970692

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})
011970692-01	OBS	No	400.955329	223.651411	1234.1	16.883	18.8	7.2	3.98	4885	13.61	7.70
011970692-02	OBS	No	561.249886	276.725816	1266.8	16.427	17.2	6.0	3.98	4885	13.70	4.91
011970692-03	OBS	No	550.011478	268.632868	937.0	5.855	14.6	6.3	3.98	4885	13.76	5.05
011970692-04	OBS	No	390.744375	241.548549	1625.3	17.521	26.2	8.0	3.98	4885	19.29	7.96
011970692-05	OBS	No	415.571562	198.558785	587.6	3.273	14.4	5.1	3.98	4885	10.11	7.34
011970692-06	OBS	No	631.061195	194.546206	1140.4	8.970	16.4	7.3	3.98	4885	13.60	4.20
011970692-07	OBS	No	399.209135	294.381564	1169.7	2.871	14.6	9.6	3.98	4885	15.35	7.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011970692-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011970692-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
011970692-03	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
011970692-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011970692-05	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
011970692-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
011970692-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—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.

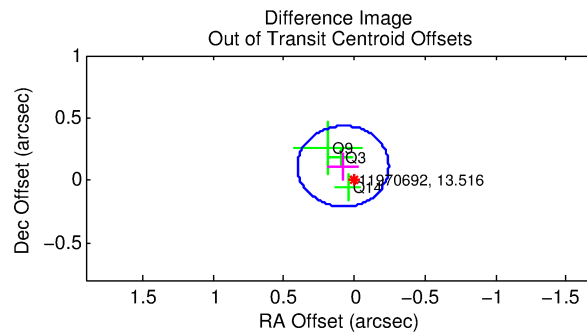
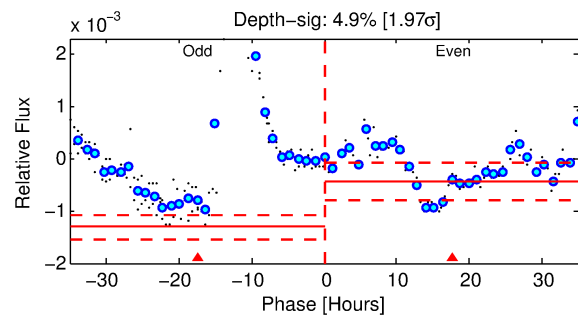
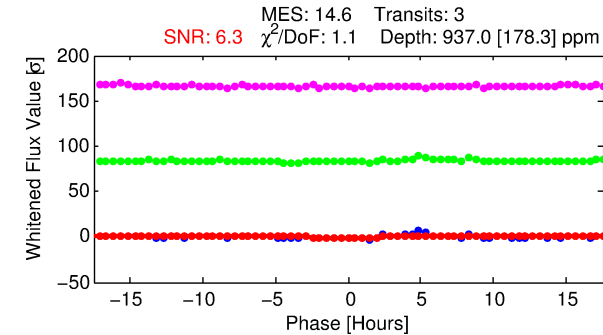
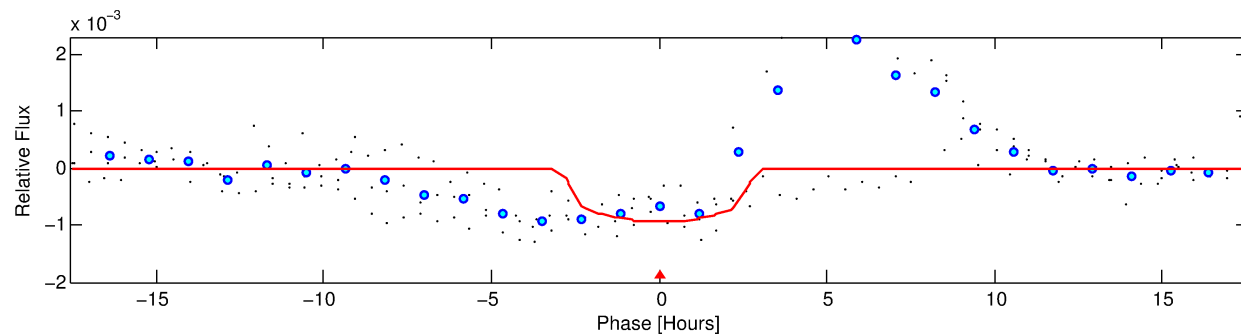
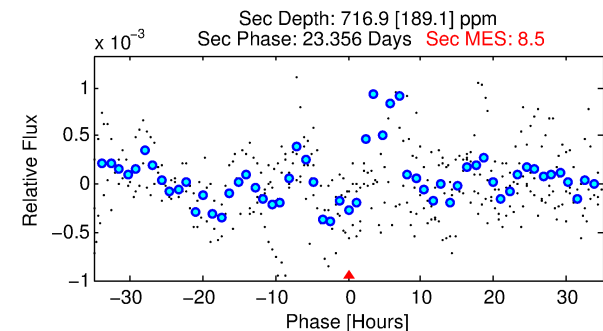
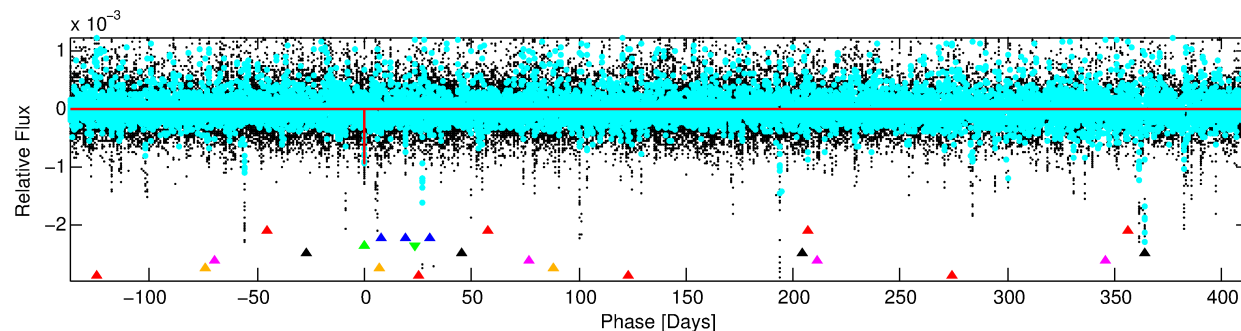
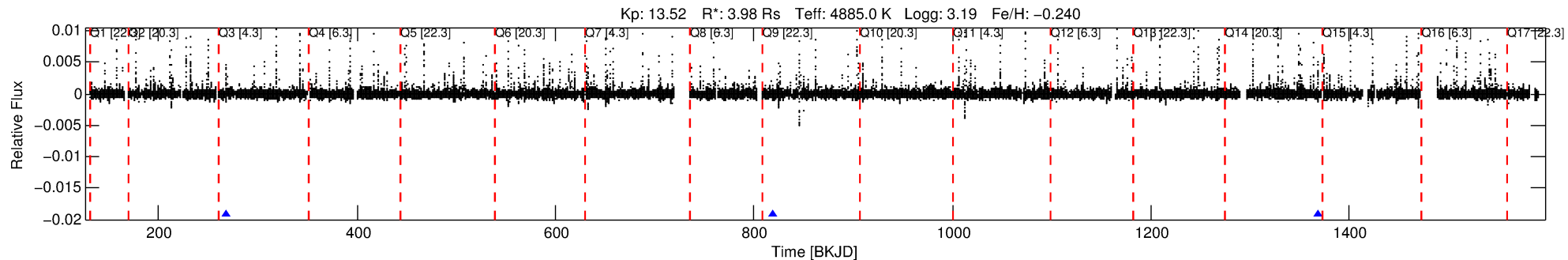
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970692-03

No Significant Match Found

DV One-Page Summary

KIC: 11970692 Candidate: 3 of 7 Period: 550.011 d



DV Fit Results:

Period = 550.01148 [0.00467] d
Epoch = 268.6329 [0.0062] BKJD
Rp/R* = 0.0317 [0.0164]
a/R* = 456.41 [817.93]
b = 0.81 [0.77]
Seff = 5.05 [3.18]
Teq = 382 [60] K
Rp = 13.76 [10.57] Re
a = 1.2655 [0.5708] AU
Ag = 3336.75 [4119.99] [0.81σ]
Teff = 4492 [1205] K [3.40σ]

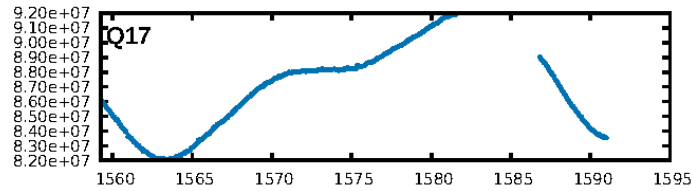
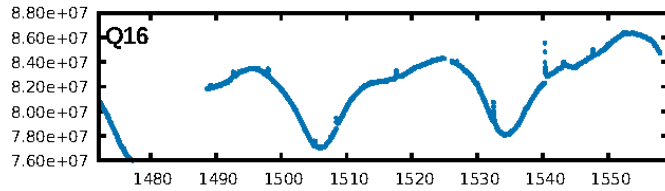
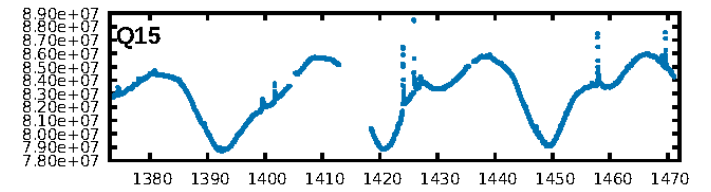
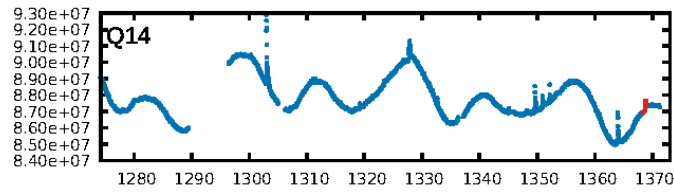
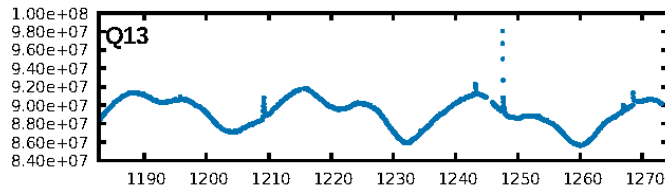
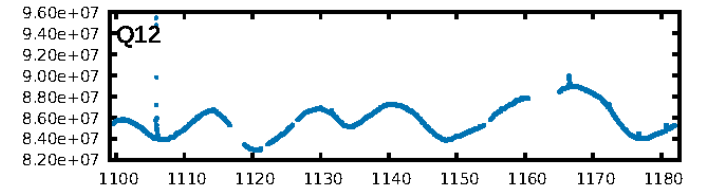
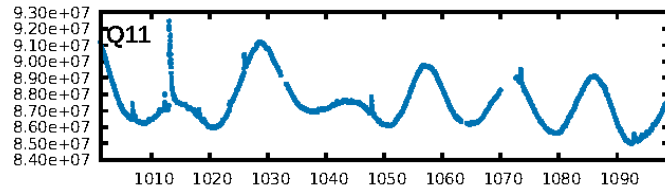
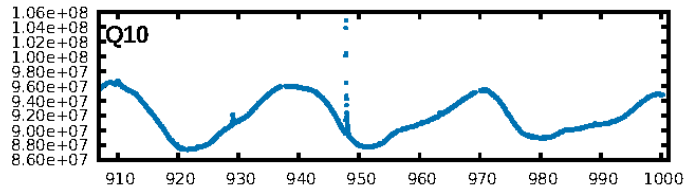
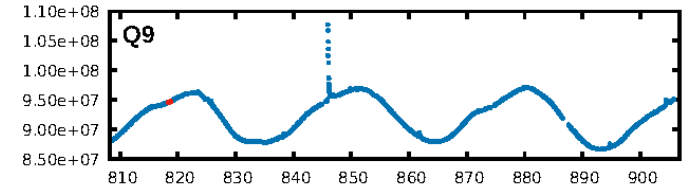
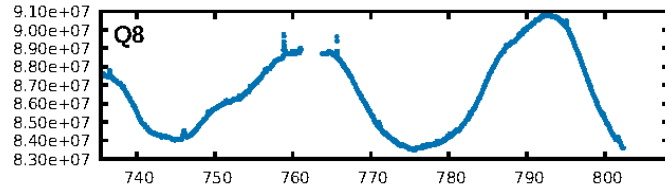
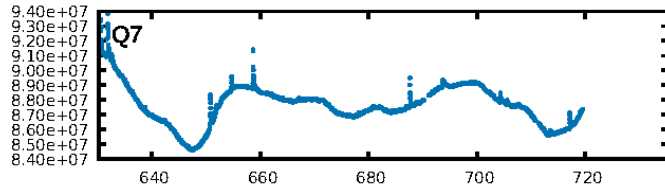
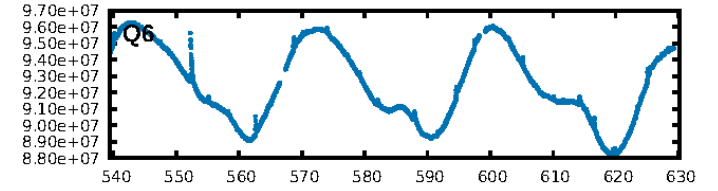
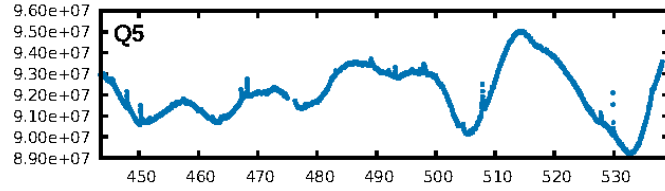
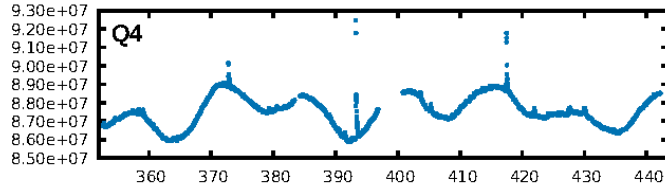
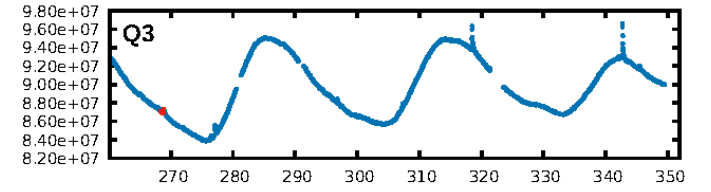
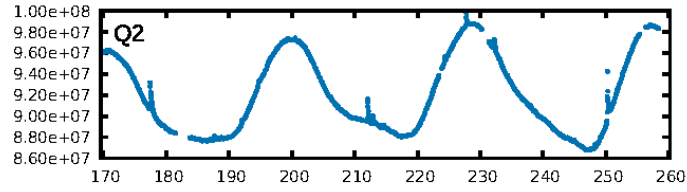
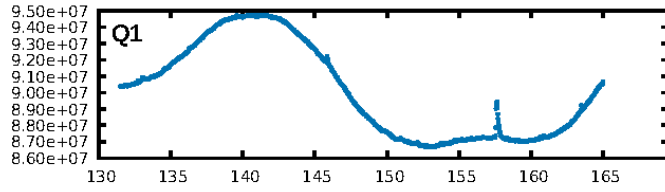
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [481.01σ]
LongPeriod-sig: 100.0% [15.47σ]
ModelChiSquare2-sig: 4.1%
ModelChiSquareGof-sig: 88.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.034
Centroid-sig: 41.4%
Centroid-so: 0.466 arcsec [0.76σ]
OotOffset-rm: 0.136 arcsec [1.26σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.212 arcsec [1.93σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

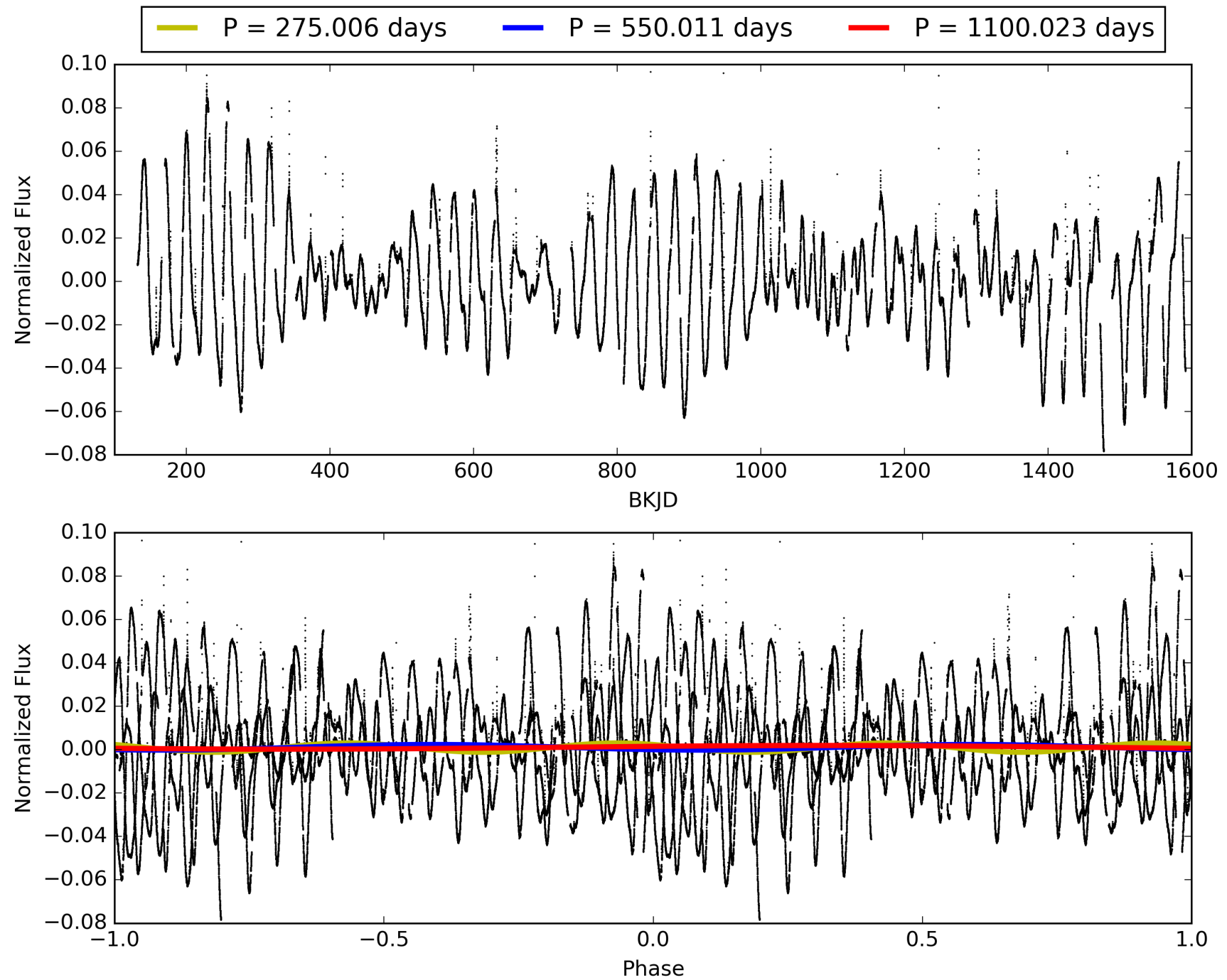
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:56:06 Z

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

TCE 011970692-03, PDC Light Curves

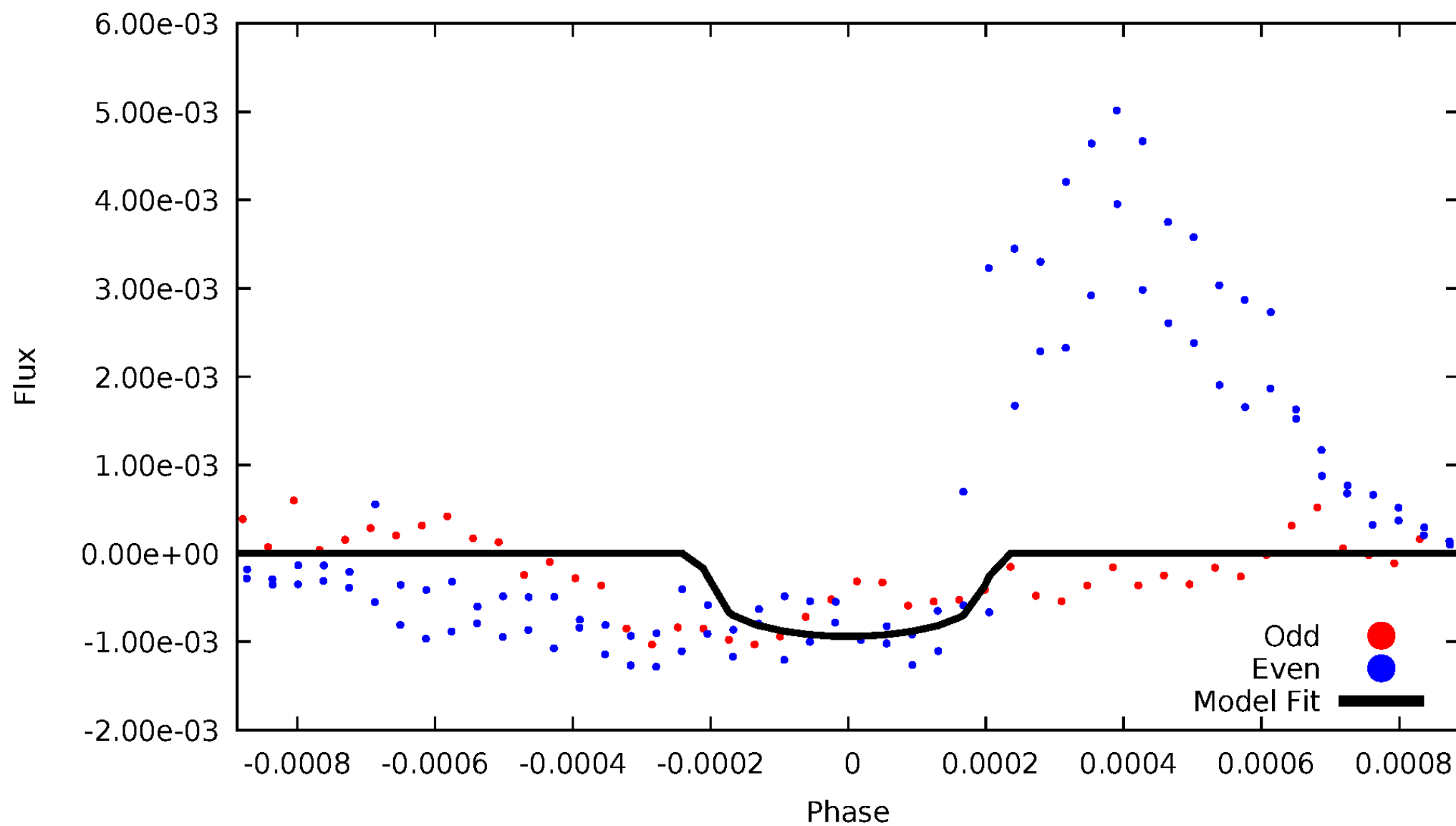


TCE 011970692-03



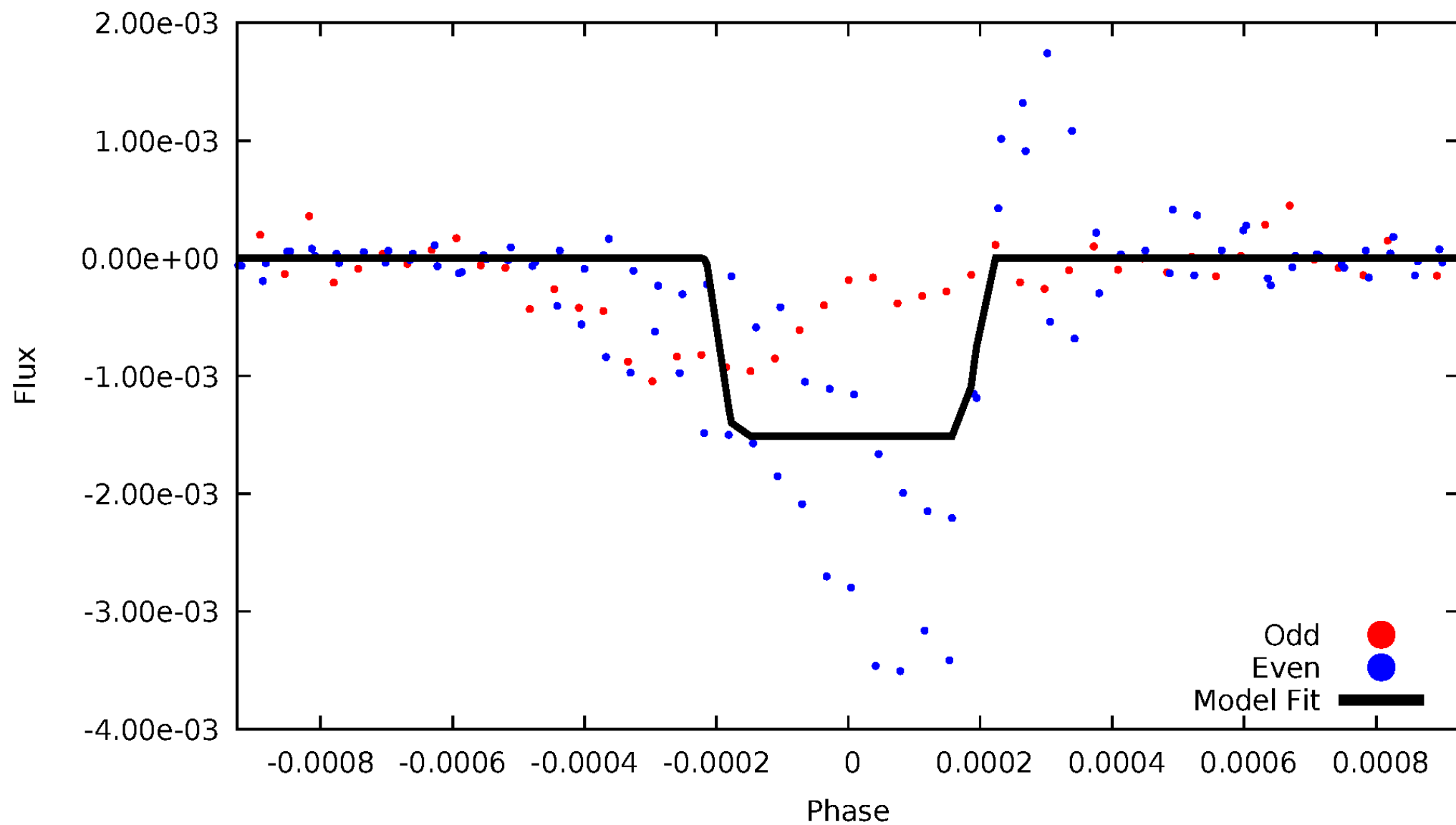
DV Odd/Even

TCE 011970692-03



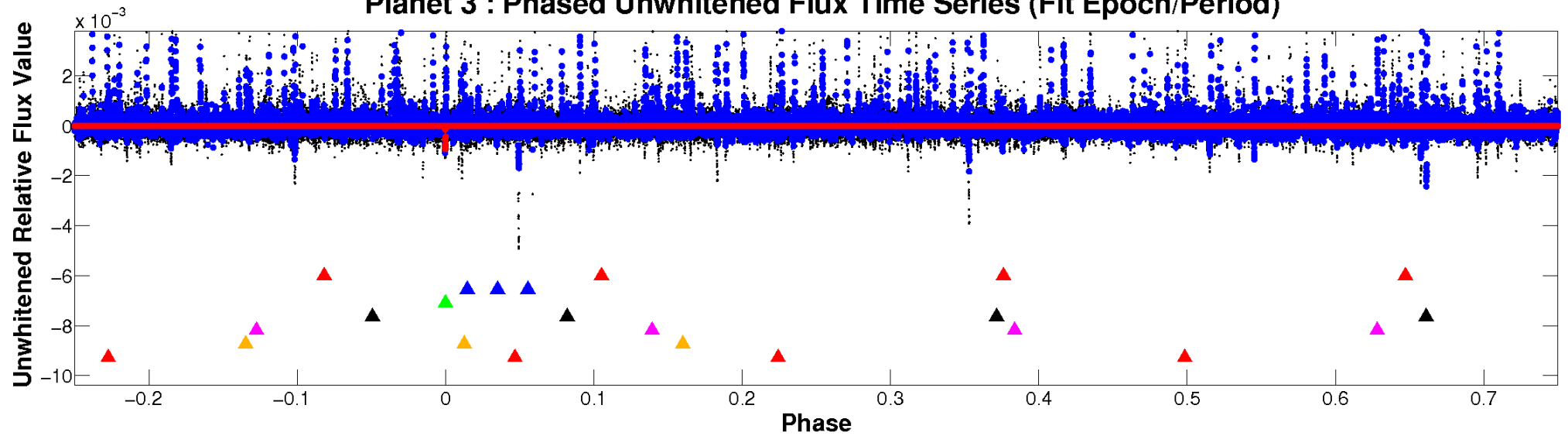
ALT Odd/Even

TCE 011970692-03

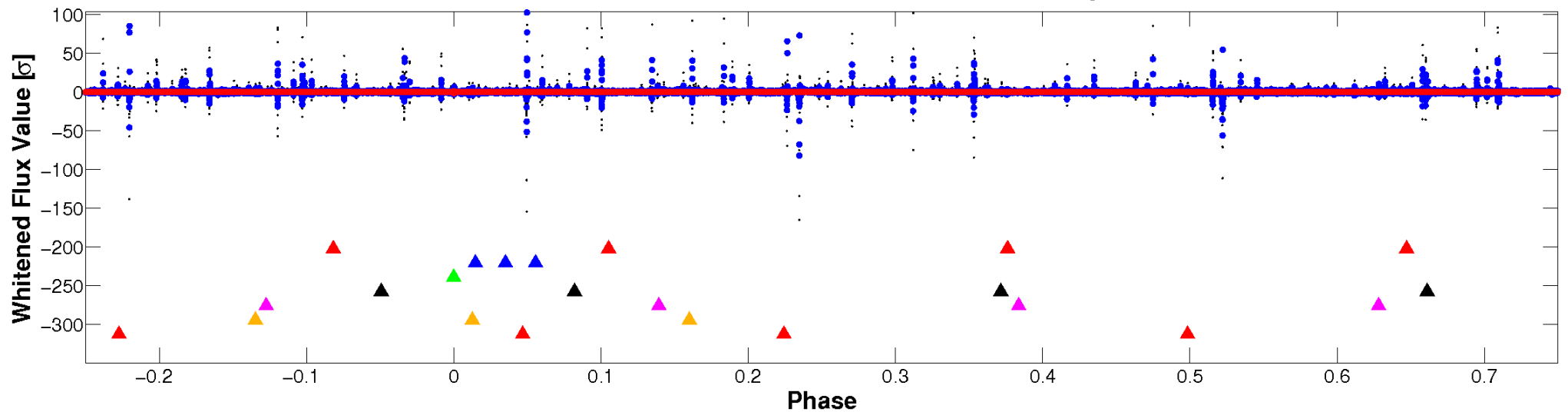


Non-Whitened Vs. Whitened Light Curve

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

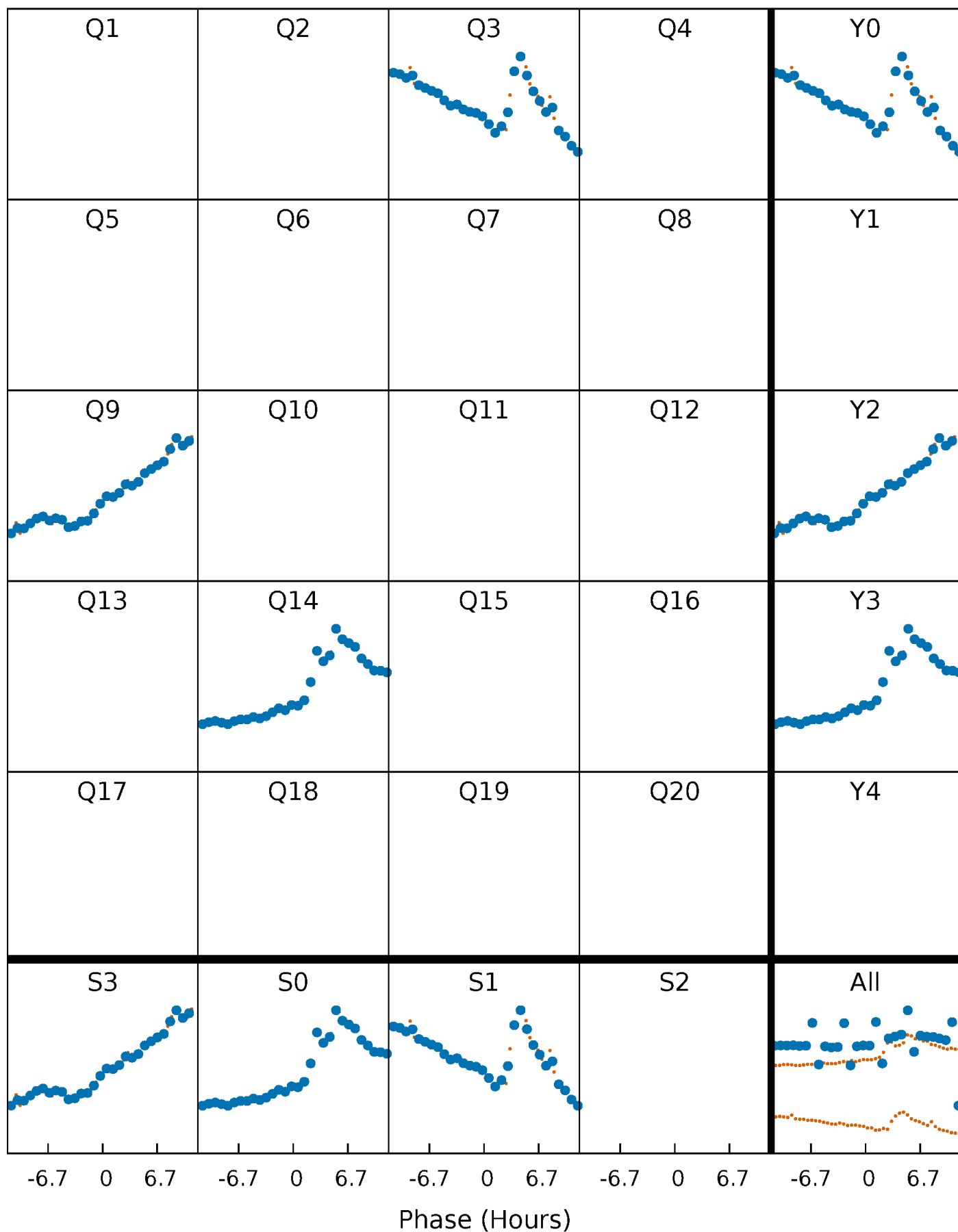


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



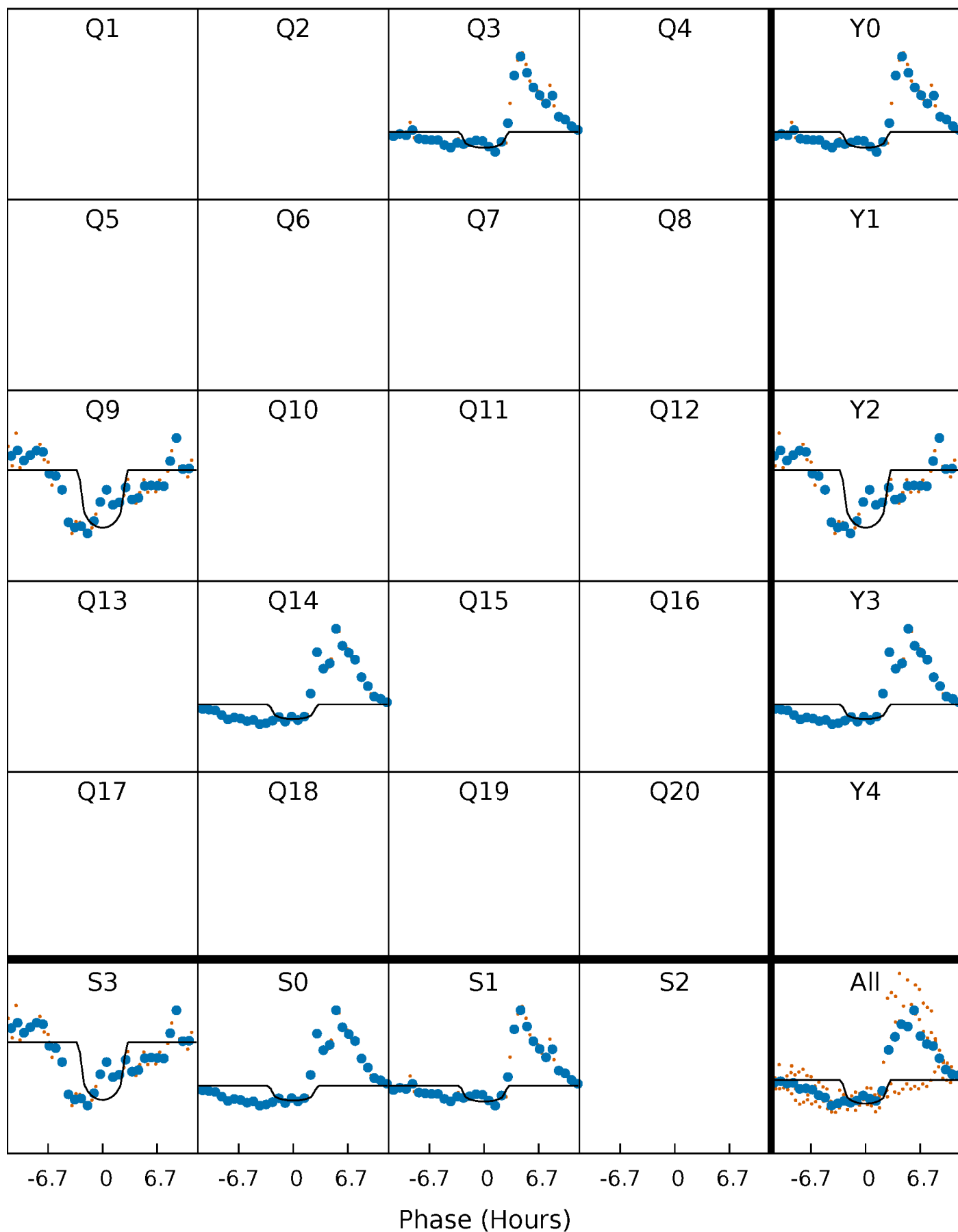
PDC Quarter-Phased Transit Curves

TCE 011970692-03 $P=550.011478$ Days $T_0=268.632868$ (BKJD)



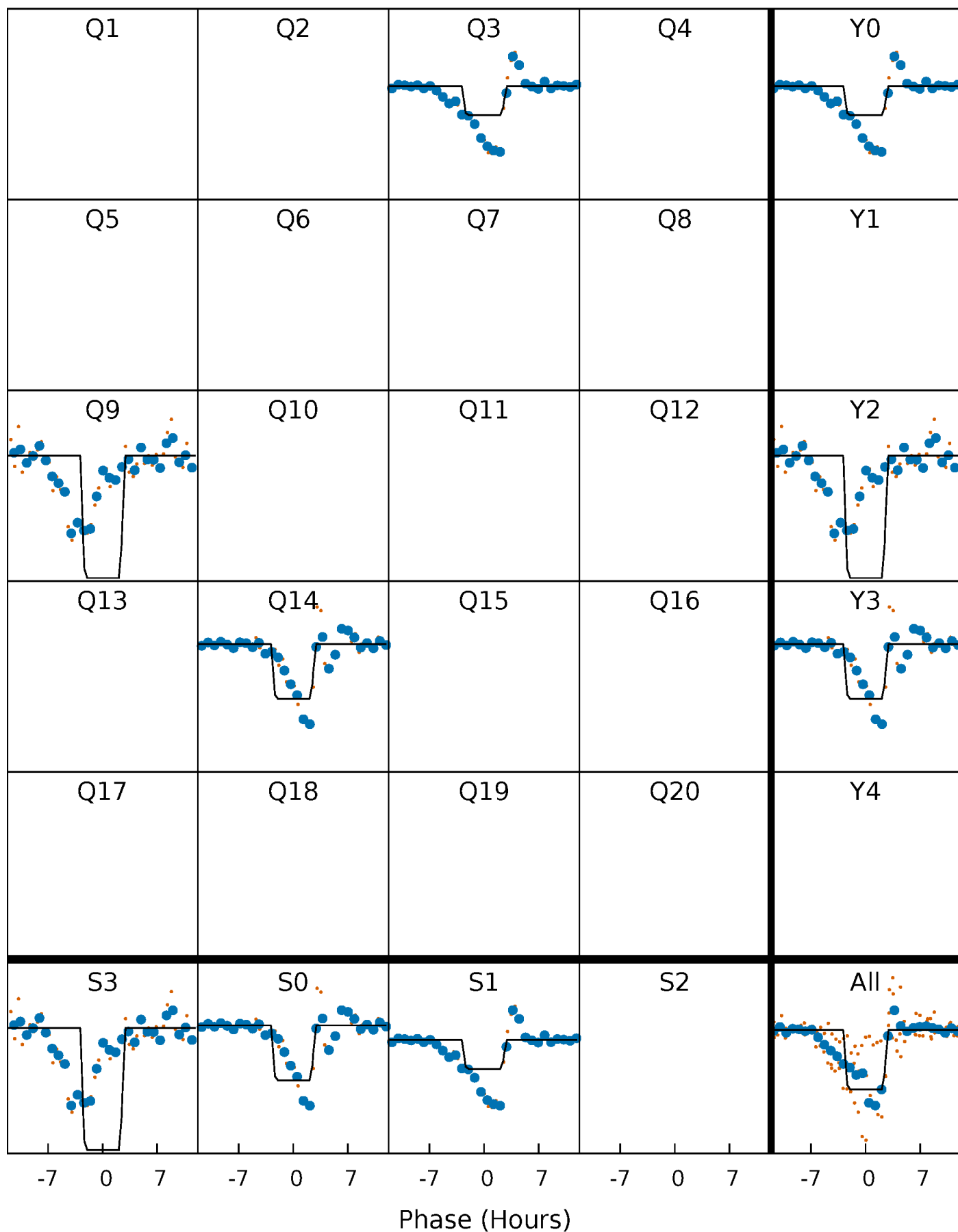
DV Quarter-Phased Transit Curves

TCE 011970692-03 P=550.011478 Days $T_0=268.632868$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

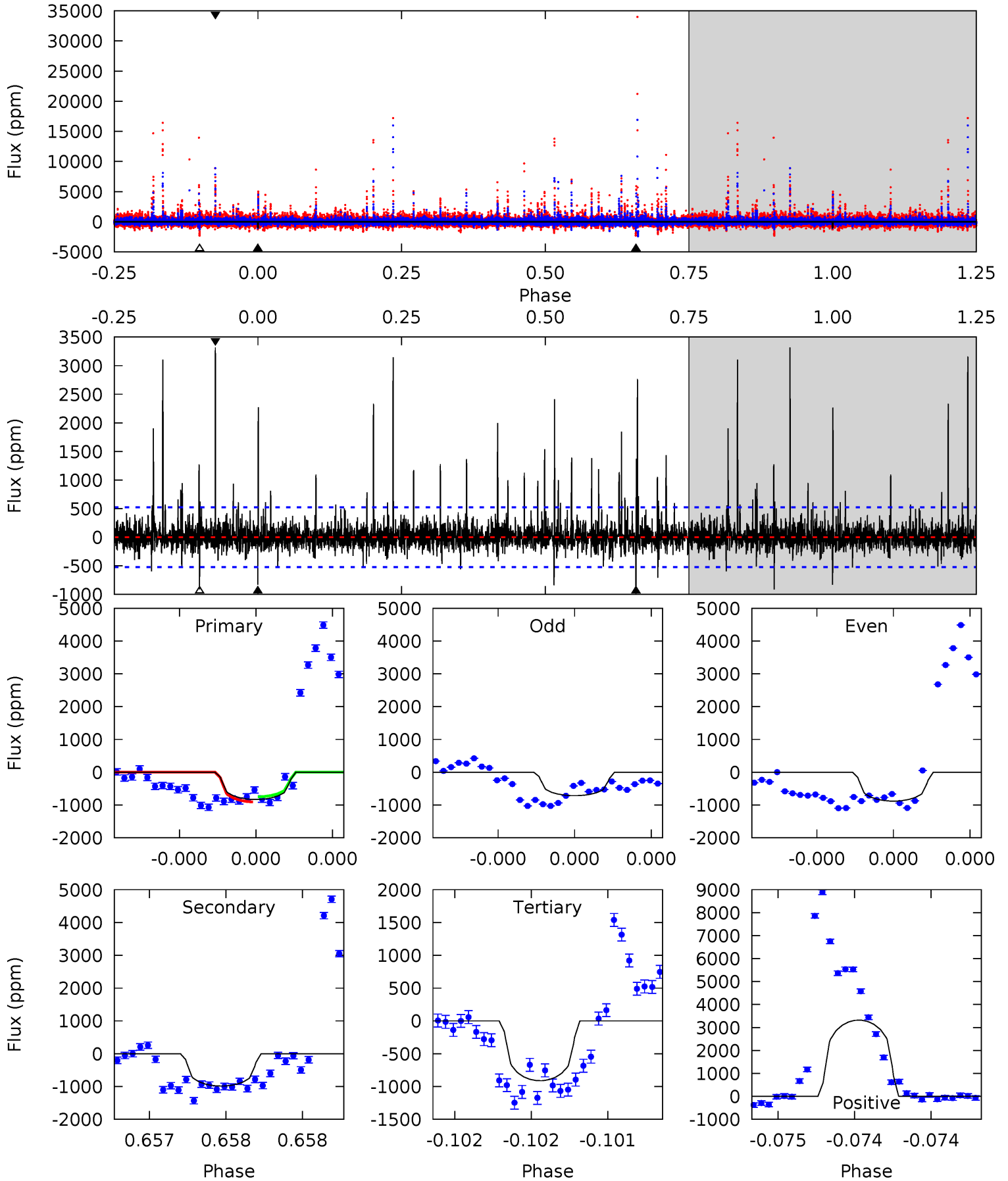
TCE 011970692-03 P=549.989701 Days $T_0=268.661302$ (BKJD)



DV Model-Shift Uniqueness Test

011970692-03, P = 550.011478 Days, E = 268.632868 Days

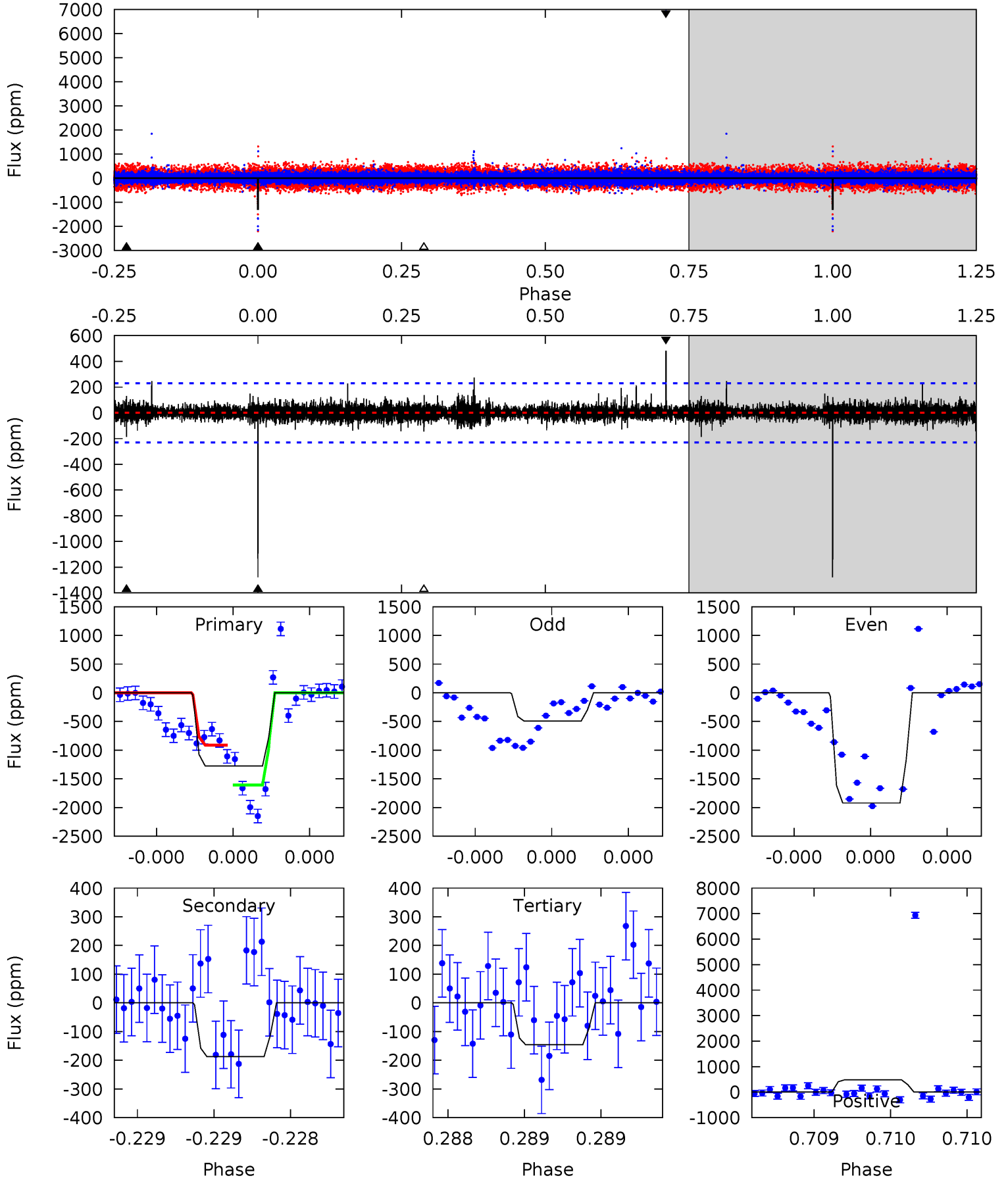
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.88	10.5	9.74	35.4	5.59	3.51	2.51	-0.86	-26.6	0.81	-24.9	0.25	1.01	0.77	0.83



Alt Model-Shift Uniqueness Test

011970692-03, P = 549.989701 Days, E = 268.661302 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.2	4.57	3.56	11.7	5.61	3.53	0.77	27.7	19.5	1.02	-7.17	19.4	1.14	0.27	8.73



Stellar Parameters For KIC 011970692

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4885^{+135}_{-98}	$3.189^{+0.320}_{-0.320}$	$-0.240^{+0.300}_{-0.200}$	$3.981^{+2.259}_{-1.216}$	$0.893^{+0.342}_{-0.057}$	$0.020^{+0.042}_{-0.013}$
	+3%/-2%	+10%/-10%	+125%/-83%	+57%/-31%	+38%/-6%	+210%/-67%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011970692-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-986 ± 94	$14.31^{+8.21}_{-6.95}$	533^{+70}_{-53}	4858^{+1579}_{-684}	4465^{+11157}_{-2600}
Alt.	-187 ± 41	$17.05^{+9.67}_{-7.25}$	531^{+77}_{-52}	3364^{+683}_{-347}	597^{+1294}_{-352}

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

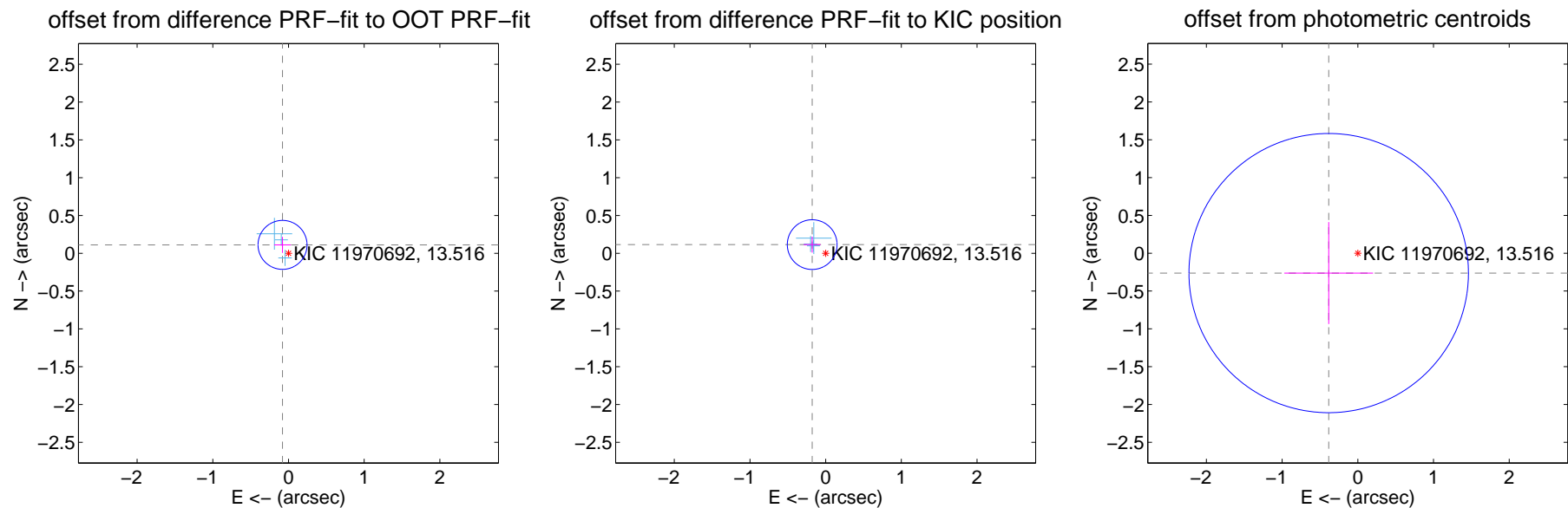
DV Centroid Data

Supplemental centroid analysis for 011970692-03. Kepler magnitude: 13.52. Transit SNR 6.31

There are 3 quarters with good PRF difference image offsets

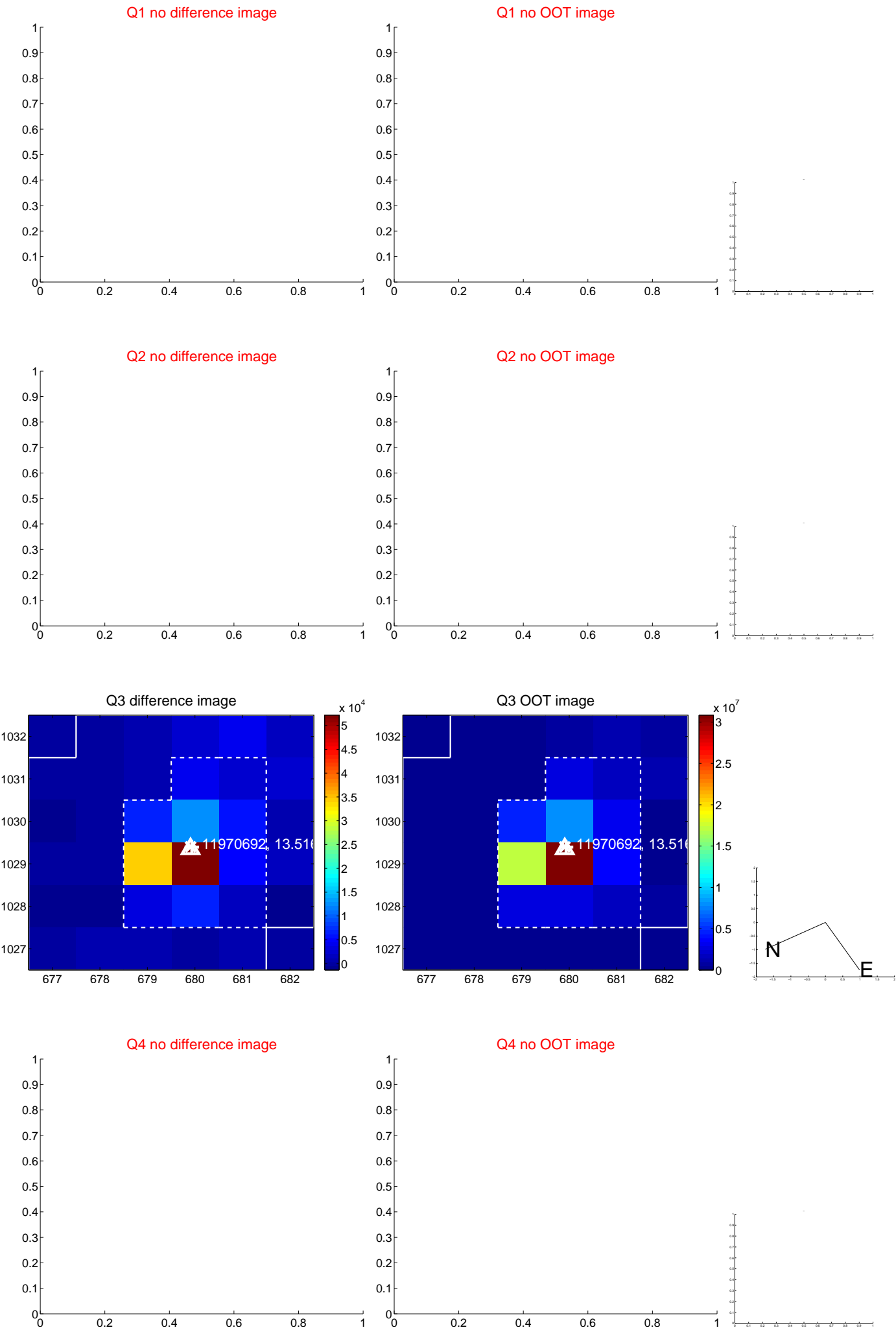
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.136 ± 0.108	1.26	0.079 ± 0.111	0.111 ± 0.106
PRF-fit source offset from KIC position	0.212 ± 0.110	1.93	0.178 ± 0.111	0.115 ± 0.106
photometric centroid source offset	0.47 ± 0.62	0.76	0.38 ± 0.59	-0.26 ± 0.67



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.

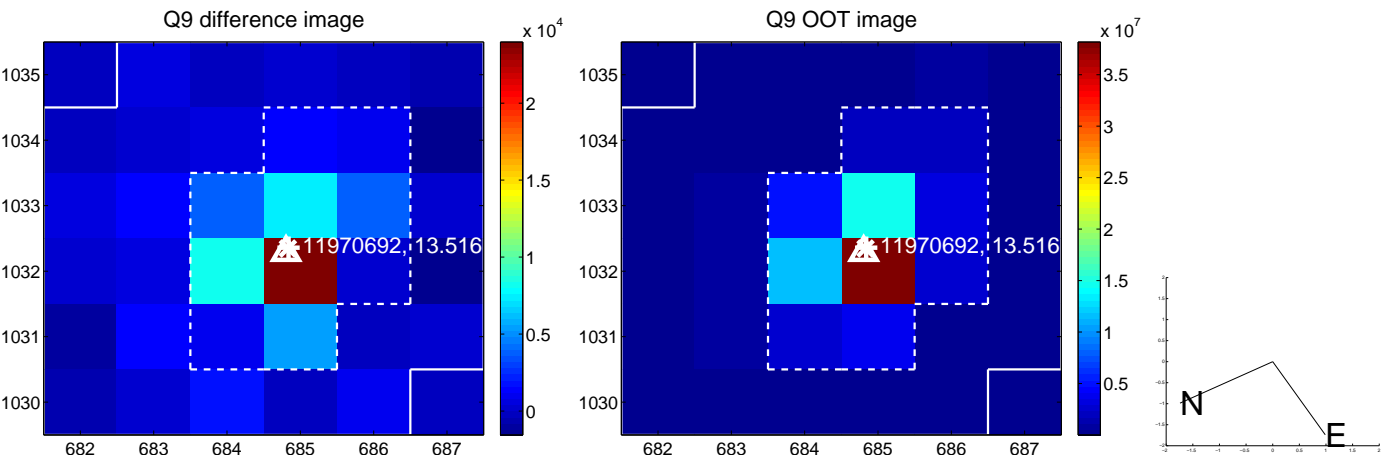
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

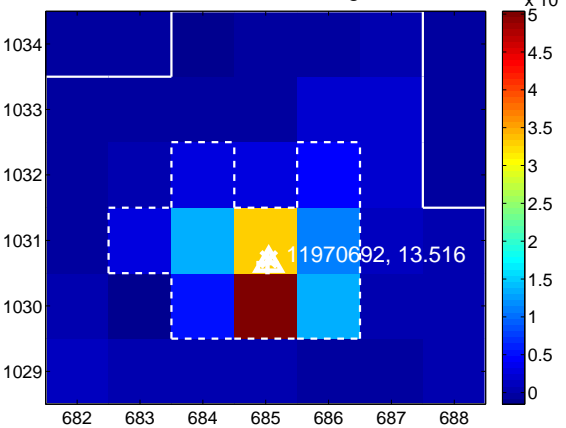
Q13 no difference image



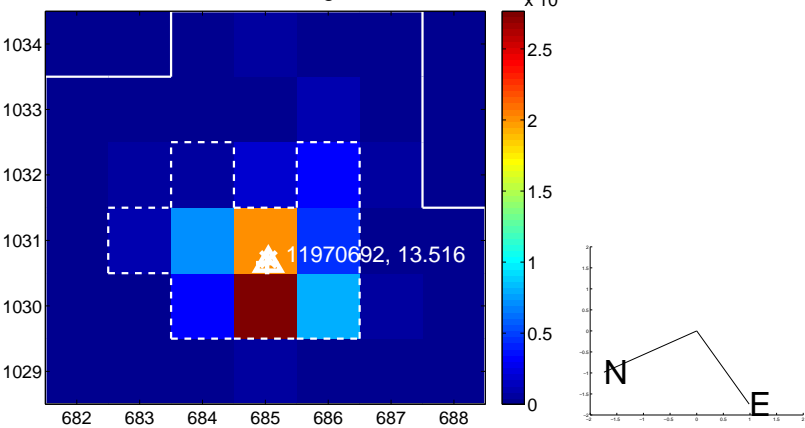
Q13 no OOT image



Q14 difference image



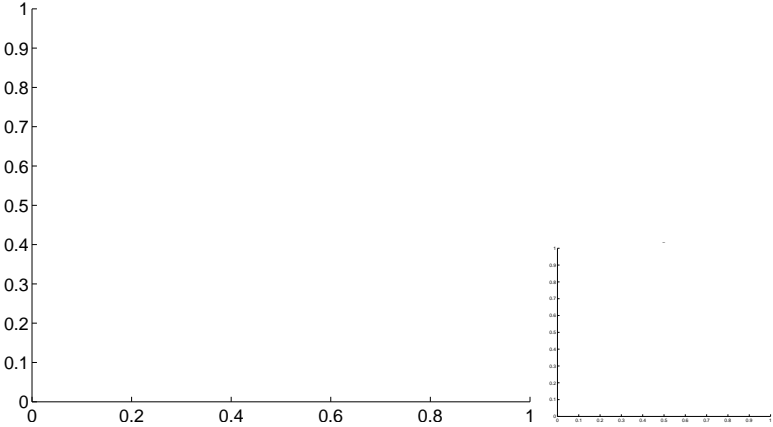
Q14 OOT image



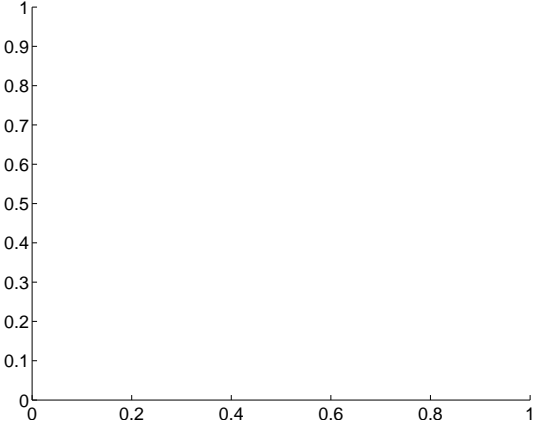
Q15 no difference image



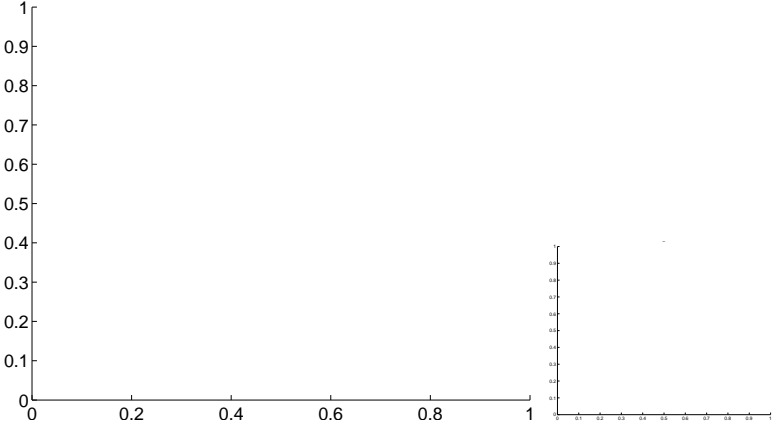
Q15 no OOT image



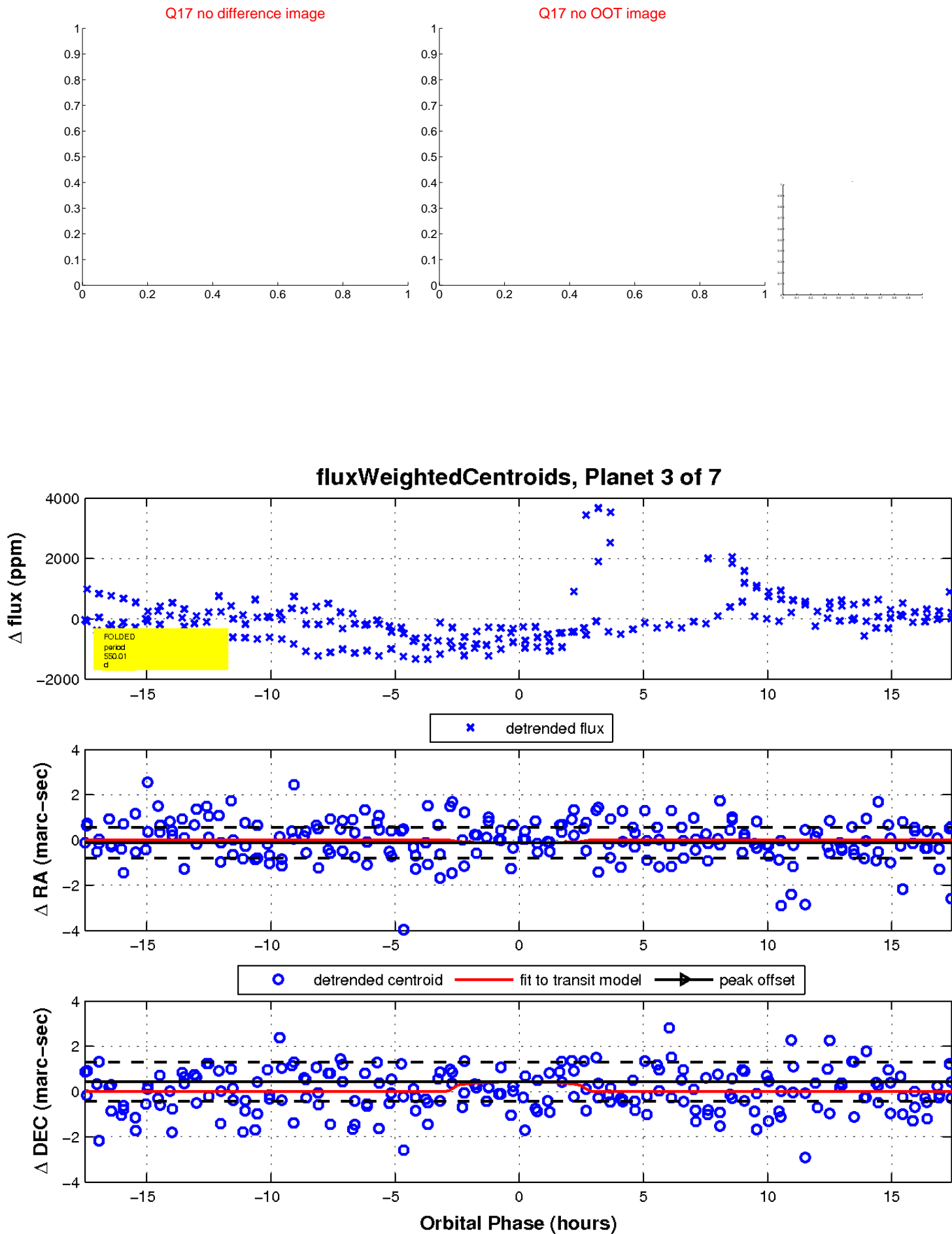
Q16 no difference image



Q16 no OOT image

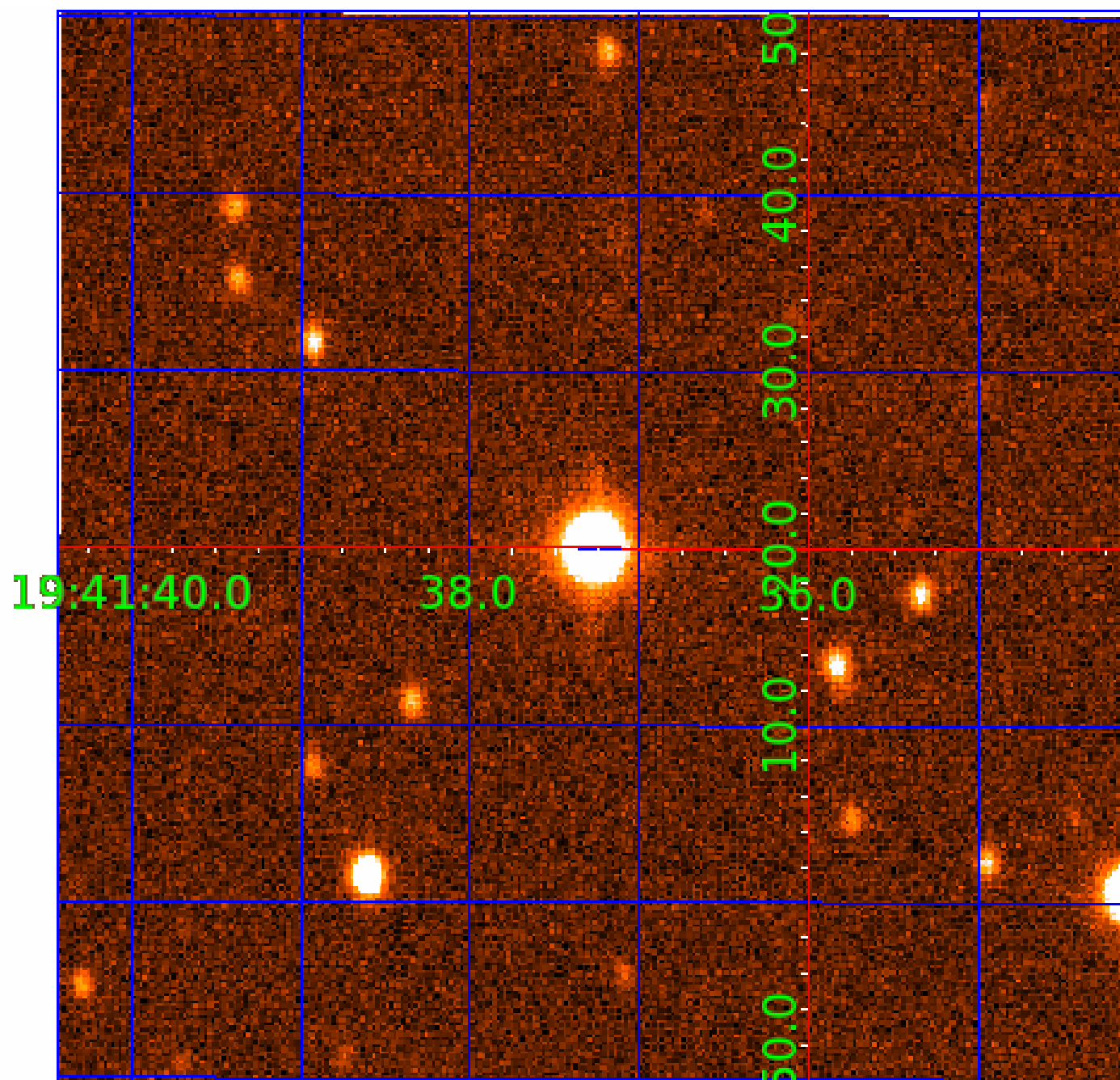


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011970692

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})
011970692-01	OBS	No	400.955329	223.651411	1234.1	16.883	18.8	7.2	3.98	4885	13.61	7.70
011970692-02	OBS	No	561.249886	276.725816	1266.8	16.427	17.2	6.0	3.98	4885	13.70	4.91
011970692-03	OBS	No	550.011478	268.632868	937.0	5.855	14.6	6.3	3.98	4885	13.76	5.05
011970692-04	OBS	No	390.744375	241.548549	1625.3	17.521	26.2	8.0	3.98	4885	19.29	7.96
011970692-05	OBS	No	415.571562	198.558785	587.6	3.273	14.4	5.1	3.98	4885	10.11	7.34
011970692-06	OBS	No	631.061195	194.546206	1140.4	8.970	16.4	7.3	3.98	4885	13.60	4.20
011970692-07	OBS	No	399.209135	294.381564	1169.7	2.871	14.6	9.6	3.98	4885	15.35	7.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011970692-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011970692-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
011970692-03	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
011970692-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011970692-05	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
011970692-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
011970692-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—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.

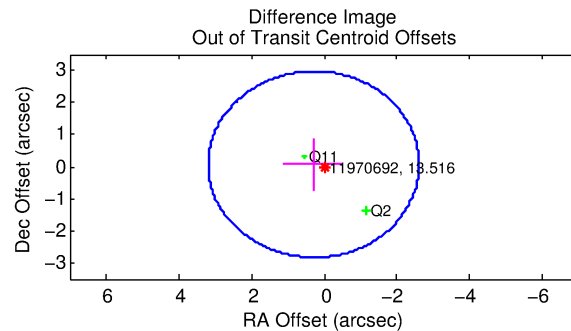
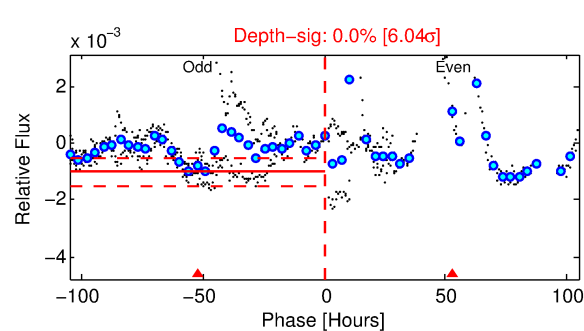
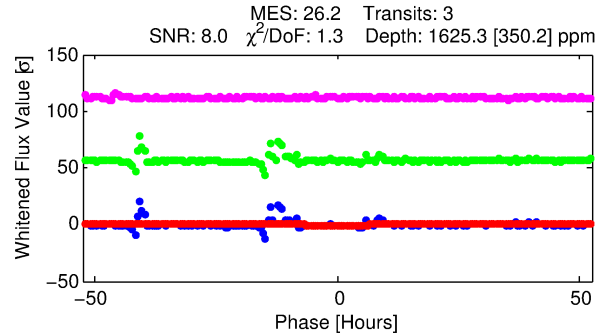
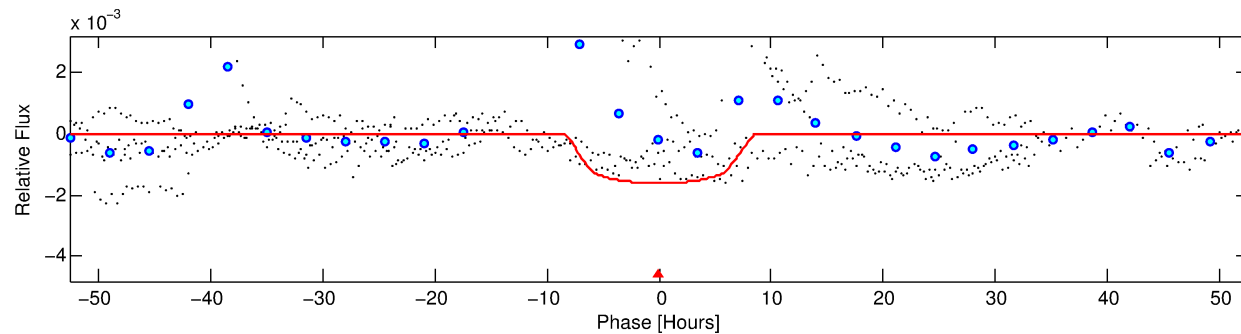
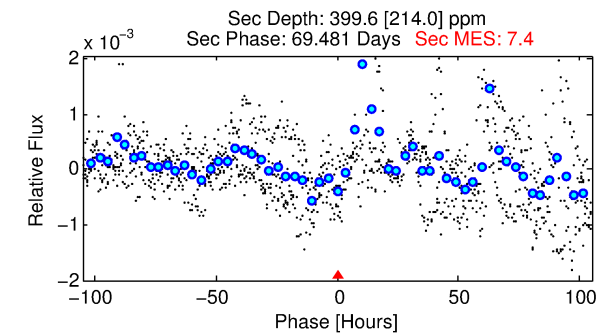
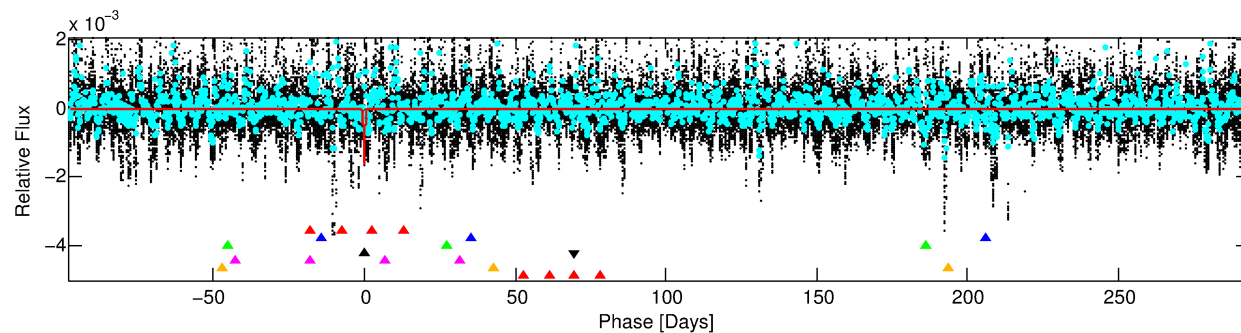
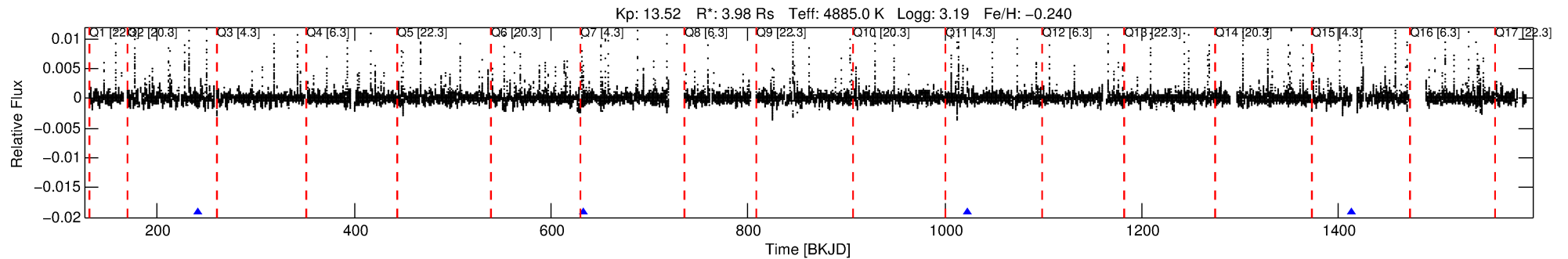
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970692-04

No Significant Match Found

DV One-Page Summary

KIC: 11970692 Candidate: 4 of 7 Period: 390.744 d



DV Fit Results:

Period = 390.74437 [0.01788] d
Epoch = 241.5485 [0.0233] BKJD
Rp/R* = 0.0444 [0.0053]
a/R* = 93.76 [15.27]
b = 0.89 [0.04]
Seff = 7.96 [5.02]
Teq = 428 [67] K
Rp = 19.29 [11.19] Re
a = 1.0076 [0.4545] AU
Ag = 599.84 [512.05] [1.17σ]
Teff = 3278 [489] K [5.77σ]

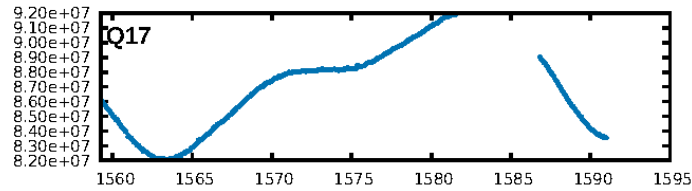
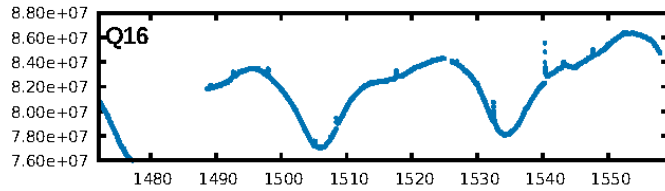
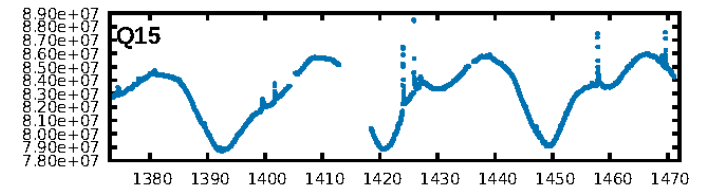
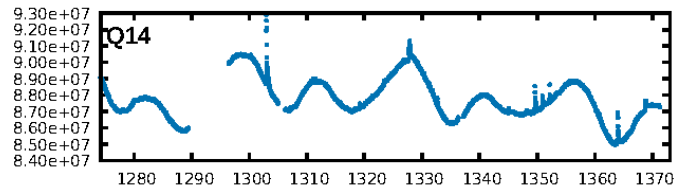
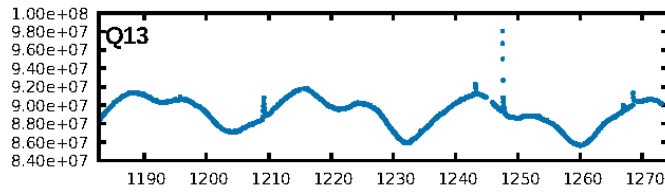
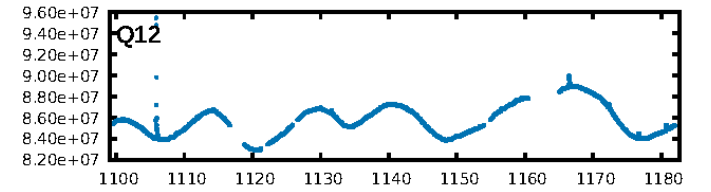
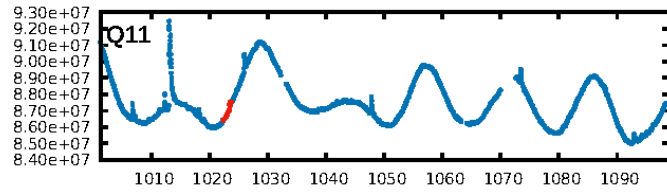
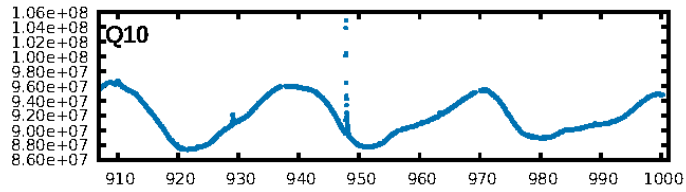
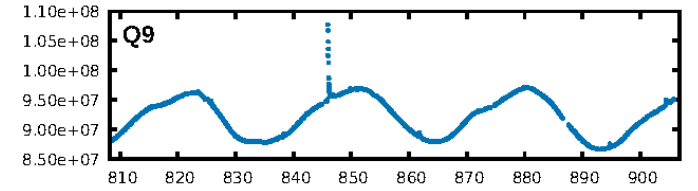
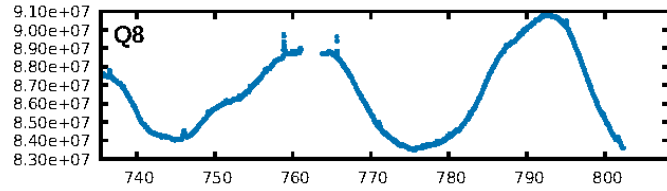
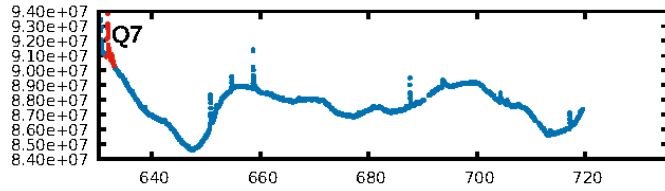
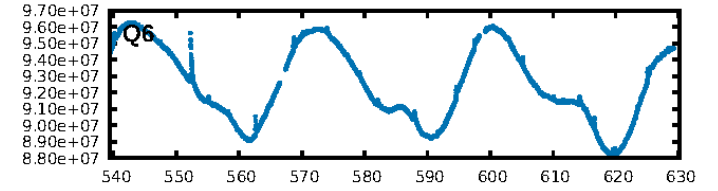
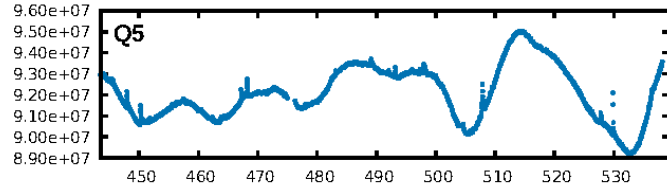
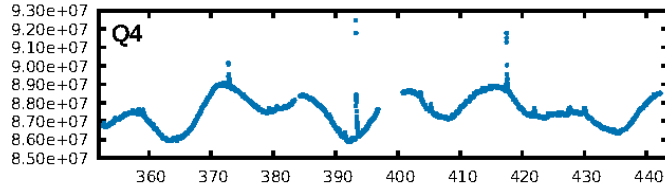
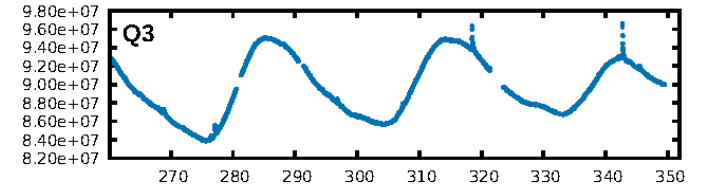
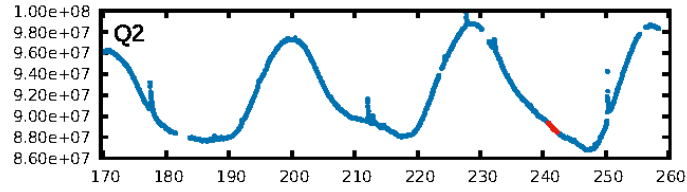
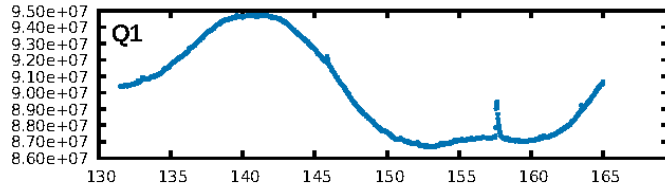
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [11.44σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 94.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9898
Centroid-sig: 60.5%
Centroid-so: 0.431 arcsec [1.75σ]
OotOffset-rm: 0.298 arcsec [0.31σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 0.386 arcsec [0.36σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

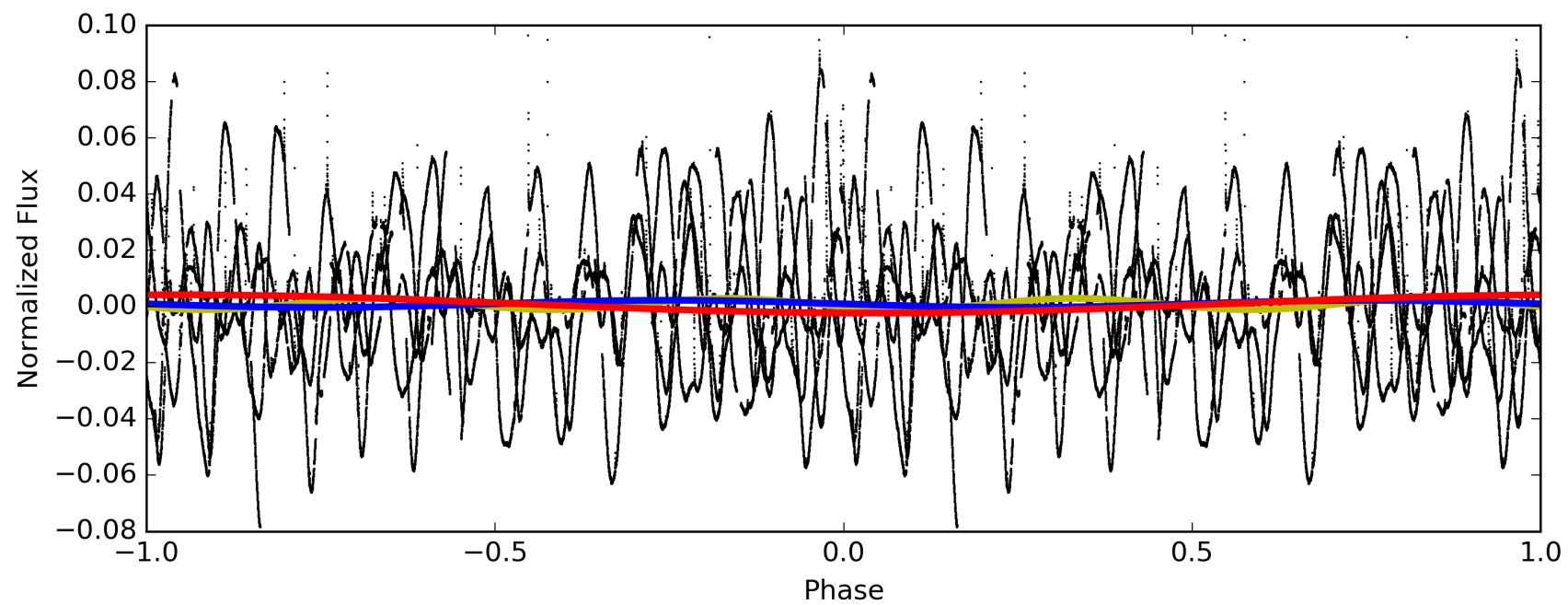
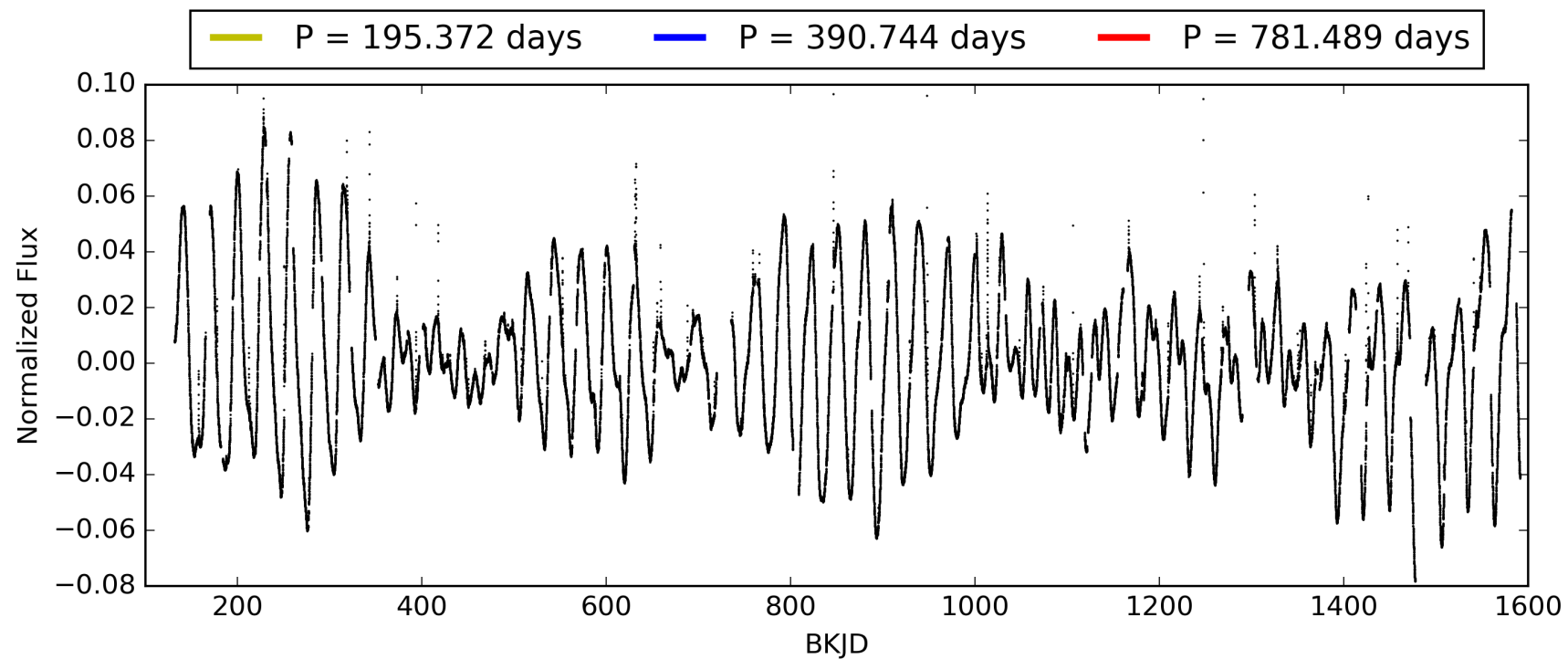
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:56:14 Z

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

TCE 011970692-04, PDC Light Curves

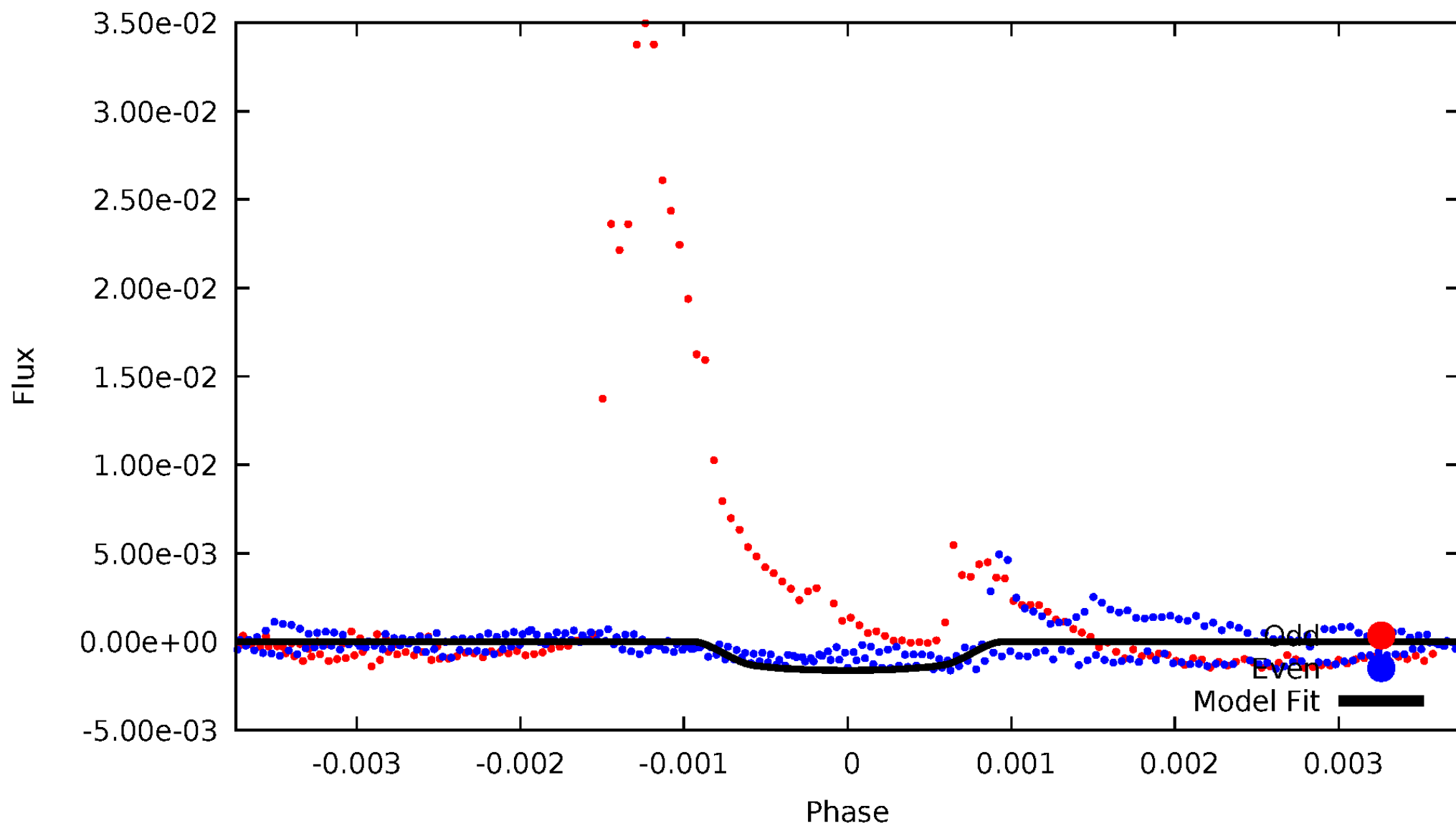


TCE 011970692-04



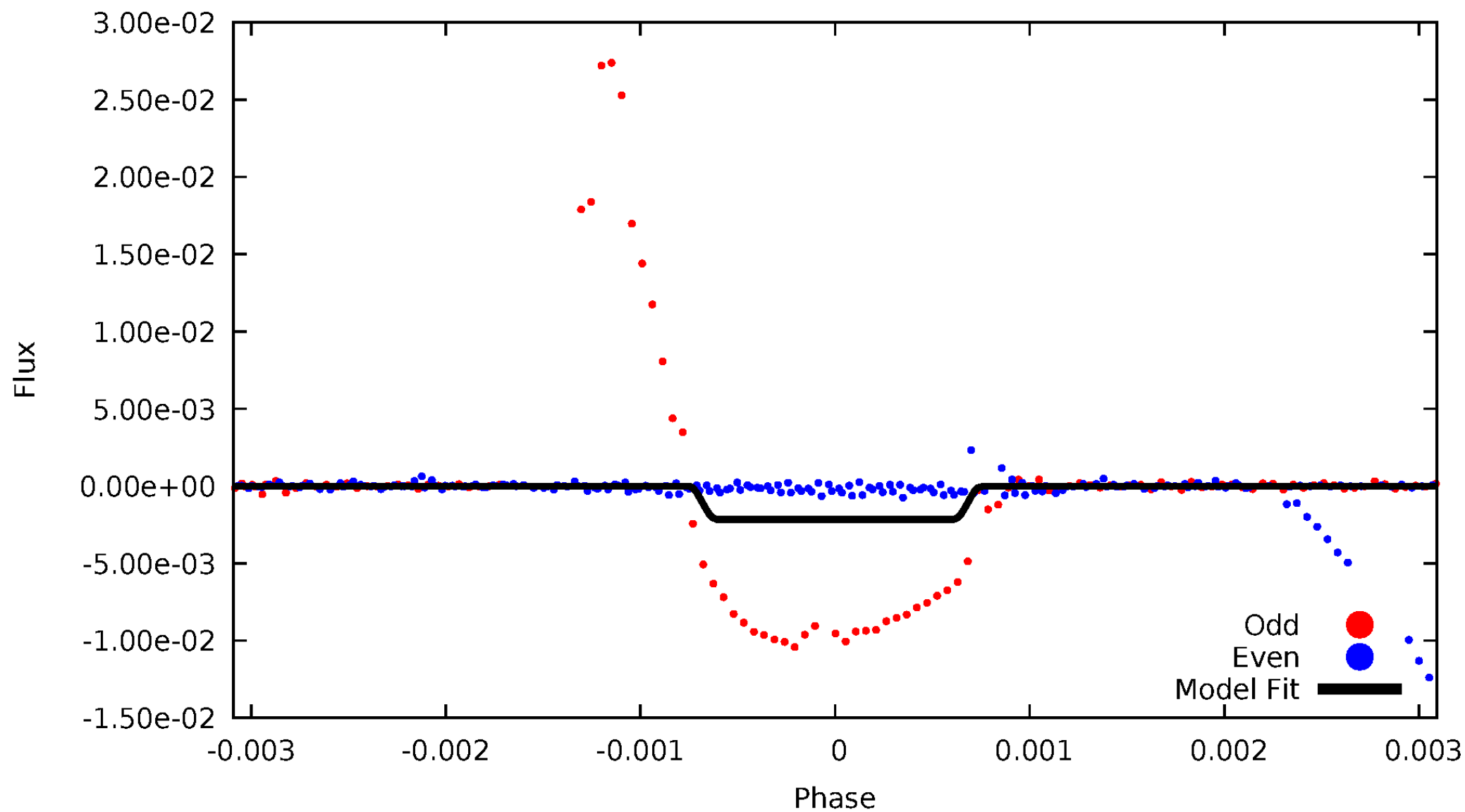
DV Odd/Even

TCE 011970692-04



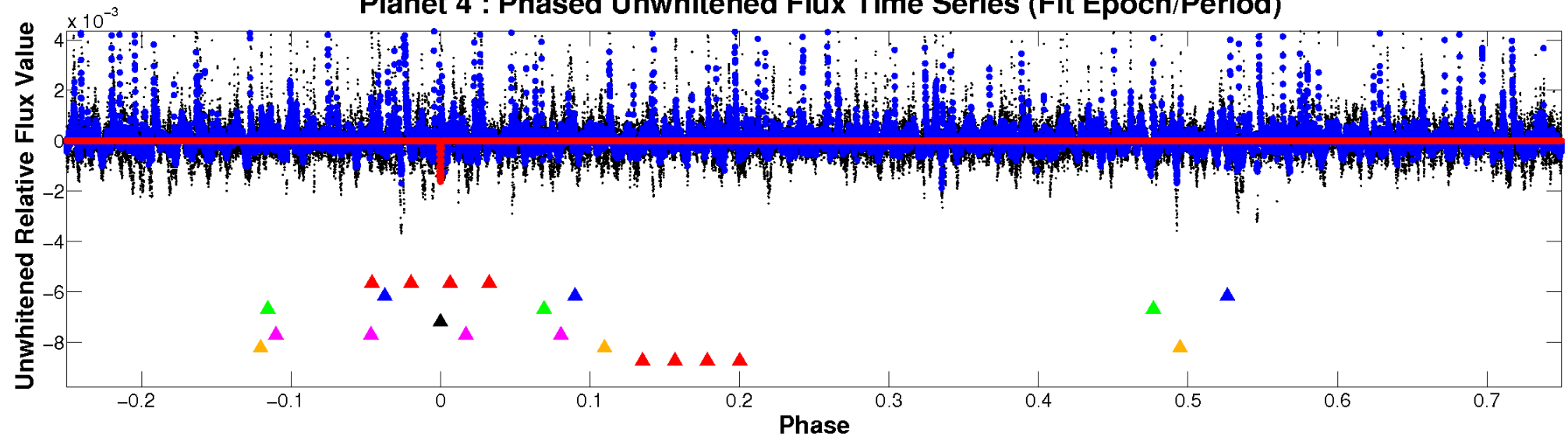
ALT Odd/Even

TCE 011970692-04

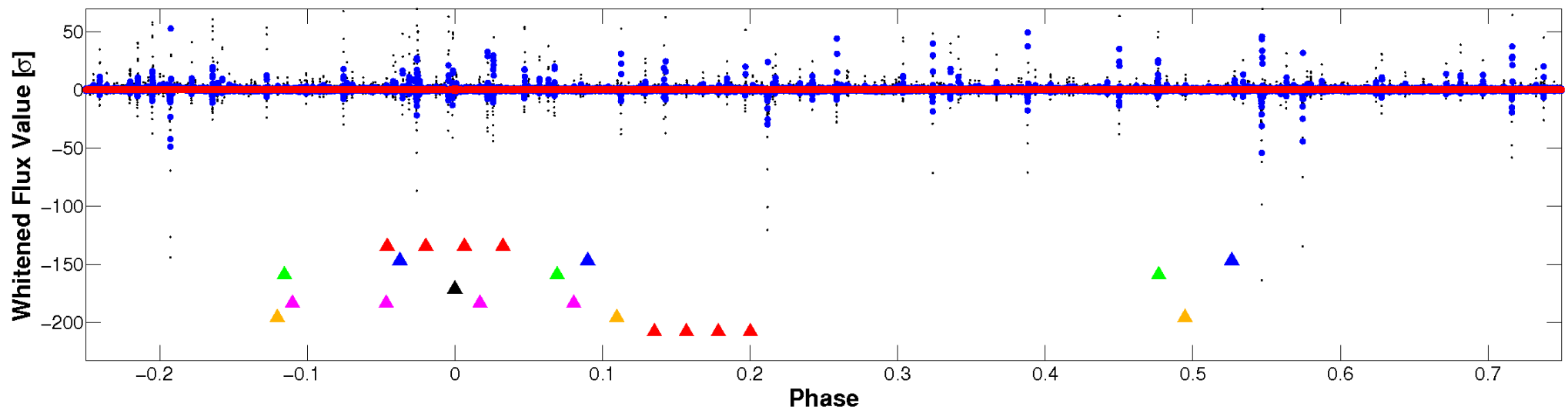


Non-Whitened Vs. Whitened Light Curve

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

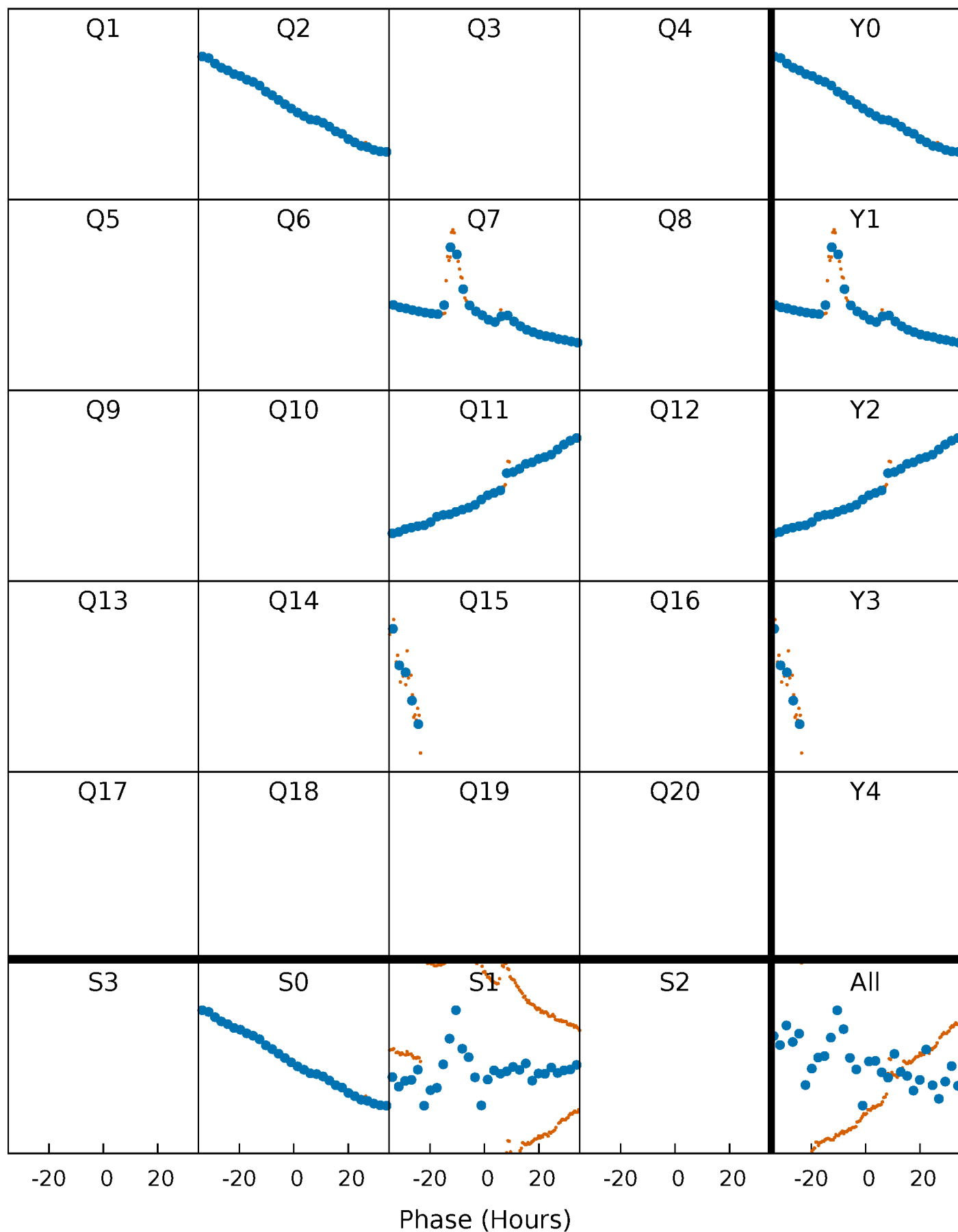


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



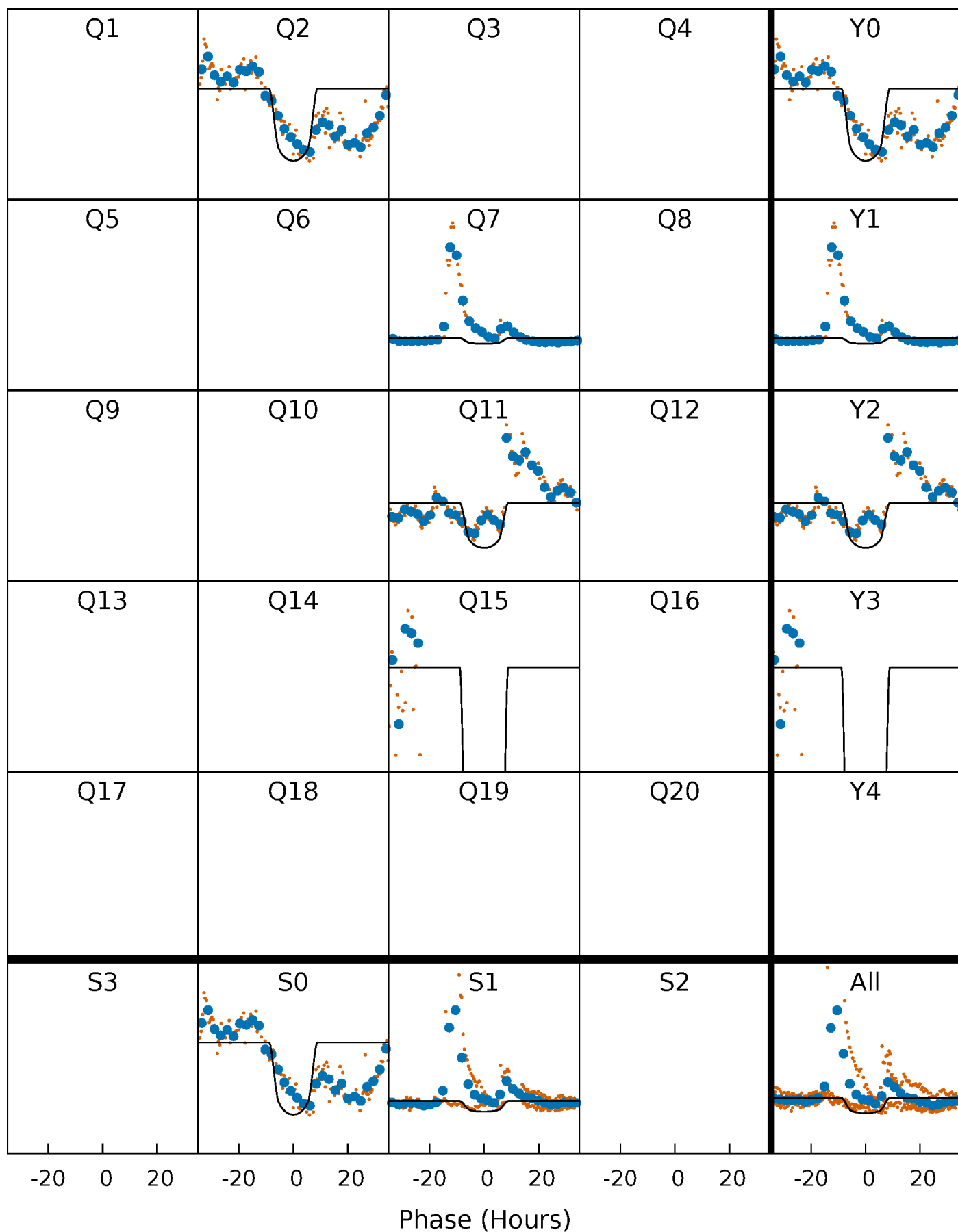
PDC Quarter-Phased Transit Curves

TCE 011970692-04 $P=390.744374$ Days $T_0=241.548549$ (BKJD)



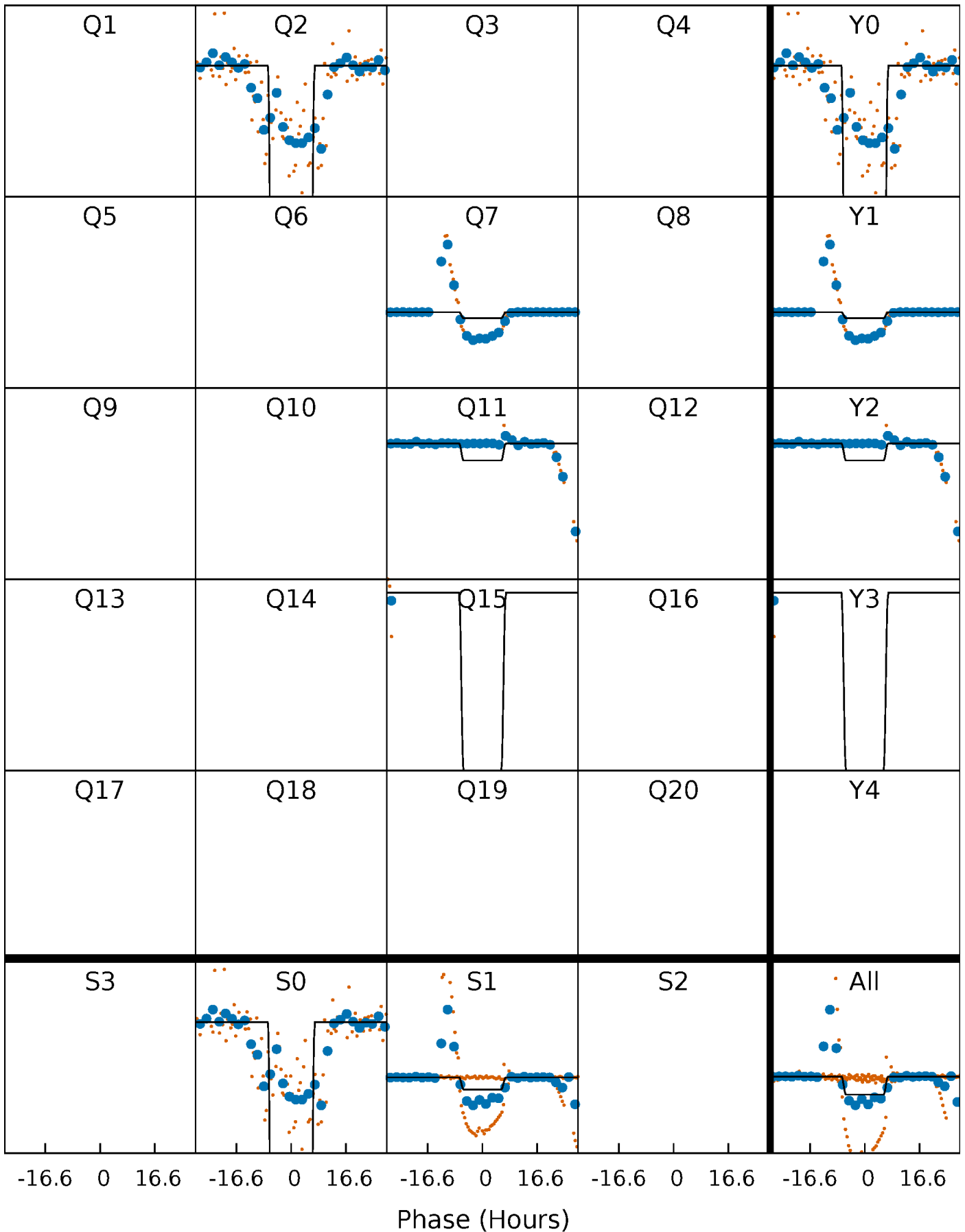
DV Quarter-Phased Transit Curves

TCE 011970692-04 $P=390.744374$ Days $T_0=241.548549$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

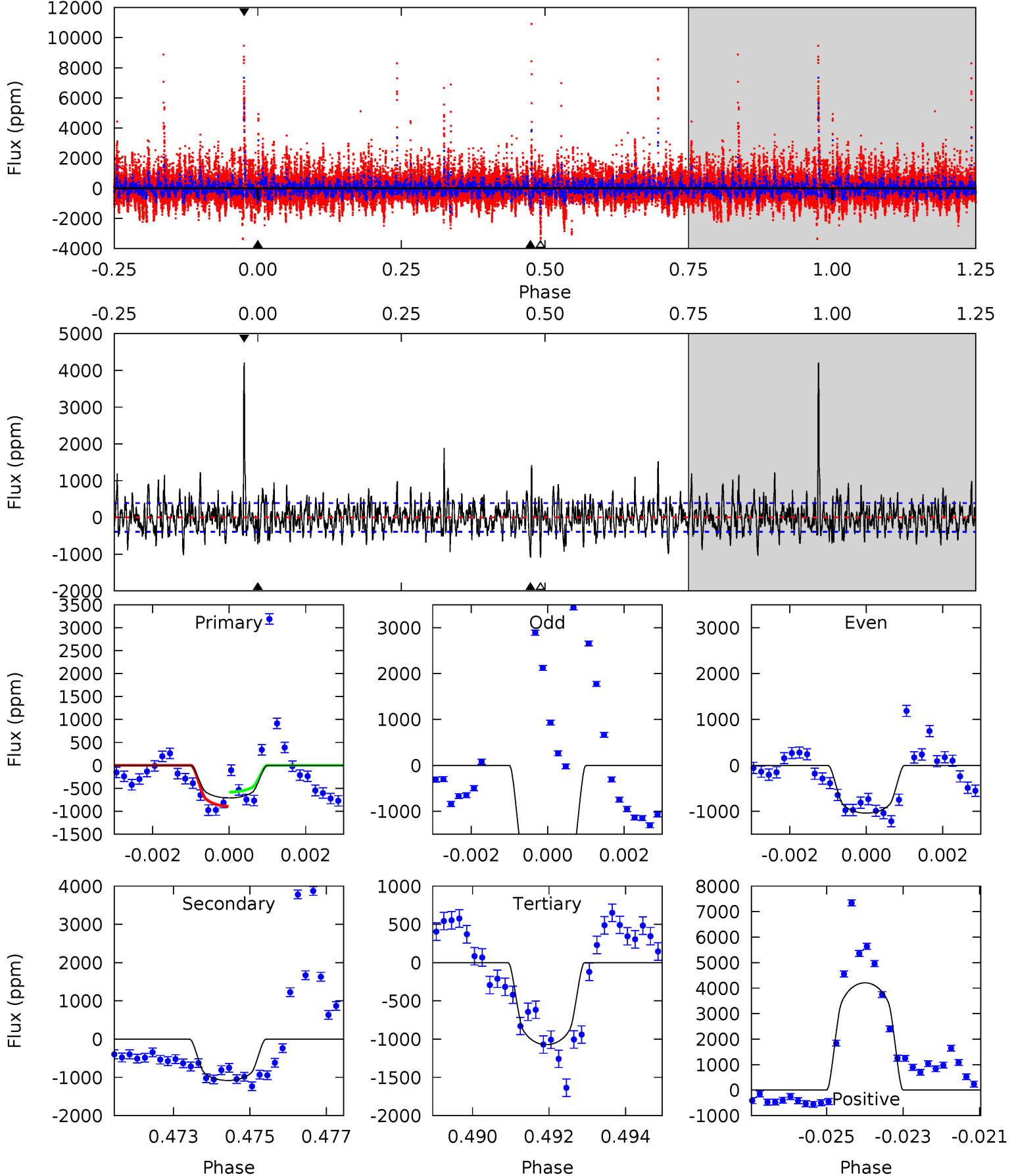
TCE 011970692-04 $P=390.846324$ Days $T_0=241.412266$ (BKJD)



DV Model-Shift Uniqueness Test

011970692-04, P = 390.744374 Days, E = 241.548549 Days

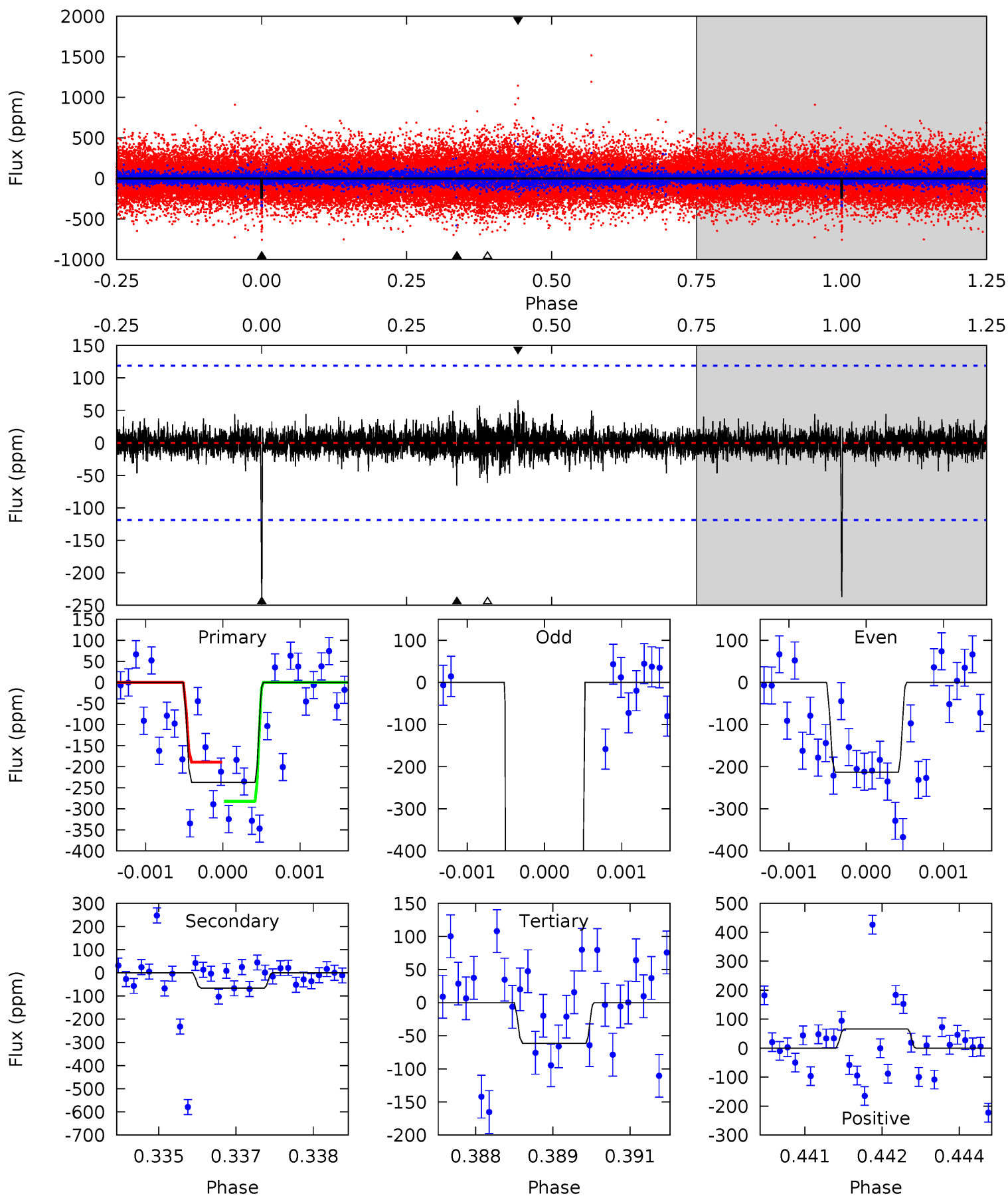
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	14.8	14.7	57.7	5.34	3.11	4.81	-4.96	-47.9	0.11	-42.9	5.62	-0.29	0.80	2.11



Alt Model-Shift Uniqueness Test

011970692-04, P = 390.846324 Days, E = 241.412266 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	2.98	2.78	2.98	5.38	3.18	0.52	7.95	7.75	0.20	-0.00	191.9	7.73	0.22	2.13



Stellar Parameters For KIC 011970692

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4885^{+135}_{-98}	$3.189^{+0.320}_{-0.320}$	$-0.240^{+0.300}_{-0.200}$	$3.981^{+2.259}_{-1.216}$	$0.893^{+0.342}_{-0.057}$	$0.020^{+0.042}_{-0.013}$
	+3%/-2%	+10%/-10%	+125%/-83%	+57%/-31%	+38%/-6%	+210%/-67%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011970692-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1081 ± 73	$19.77^{+6.55}_{-4.66}$	597^{+81}_{-58}	4343^{+260}_{-217}	1639^{+1089}_{-697}
Alt.	-66 ± 22	$20.40^{+7.03}_{-4.42}$	597^{+86}_{-59}	2767^{+145}_{-173}	88^{+70}_{-43}

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 $A_{obs} \gg 1.0$

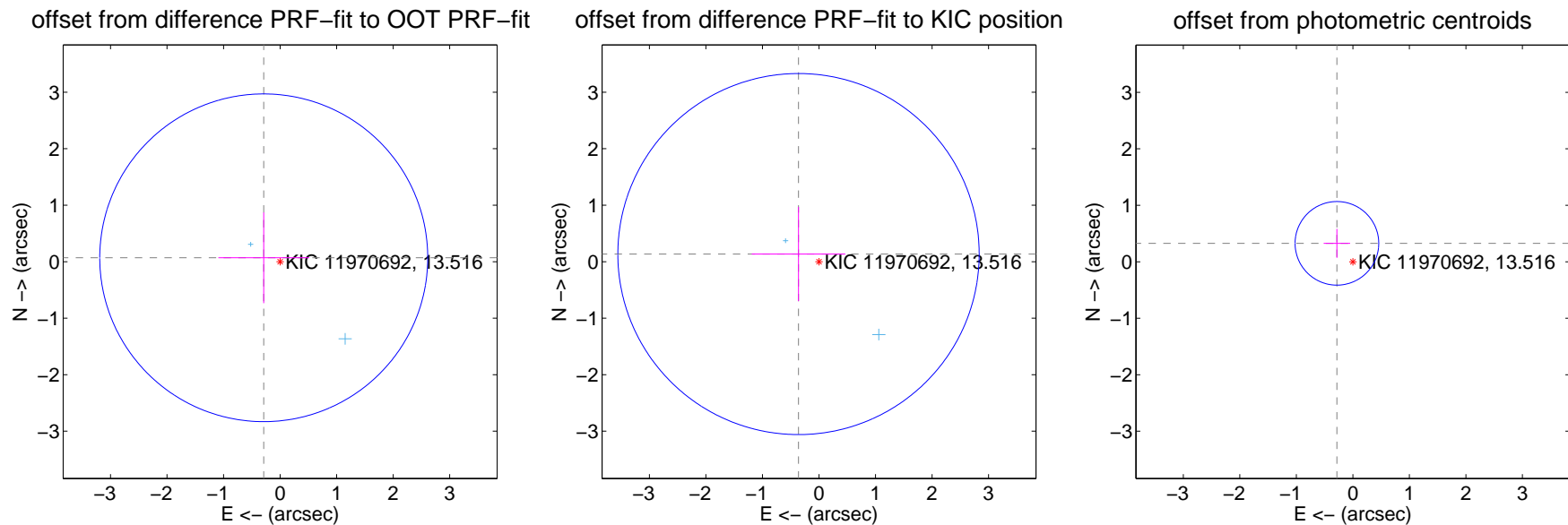
DV Centroid Data

Supplemental centroid analysis for 011970692-04. Kepler magnitude: 13.52. Transit SNR 8.01

There are 2 quarters with good PRF difference image offsets

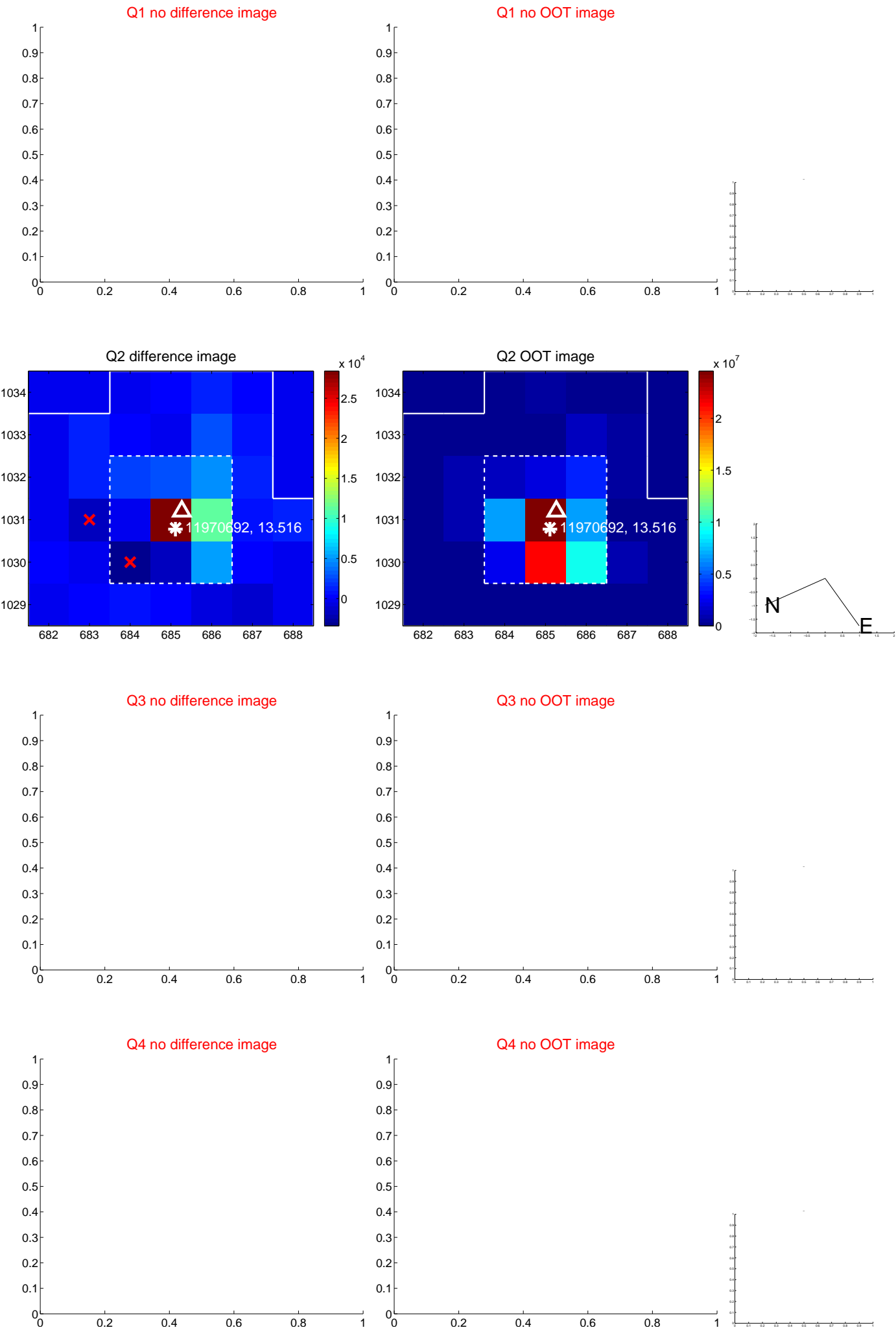
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.298 ± 0.967	0.31	0.289 ± 0.803	0.069 ± 0.803
PRF-fit source offset from KIC position	0.386 ± 1.065	0.36	0.362 ± 0.827	0.135 ± 0.834
photometric centroid source offset	0.43 ± 0.25	1.75	0.28 ± 0.23	0.33 ± 0.26



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.

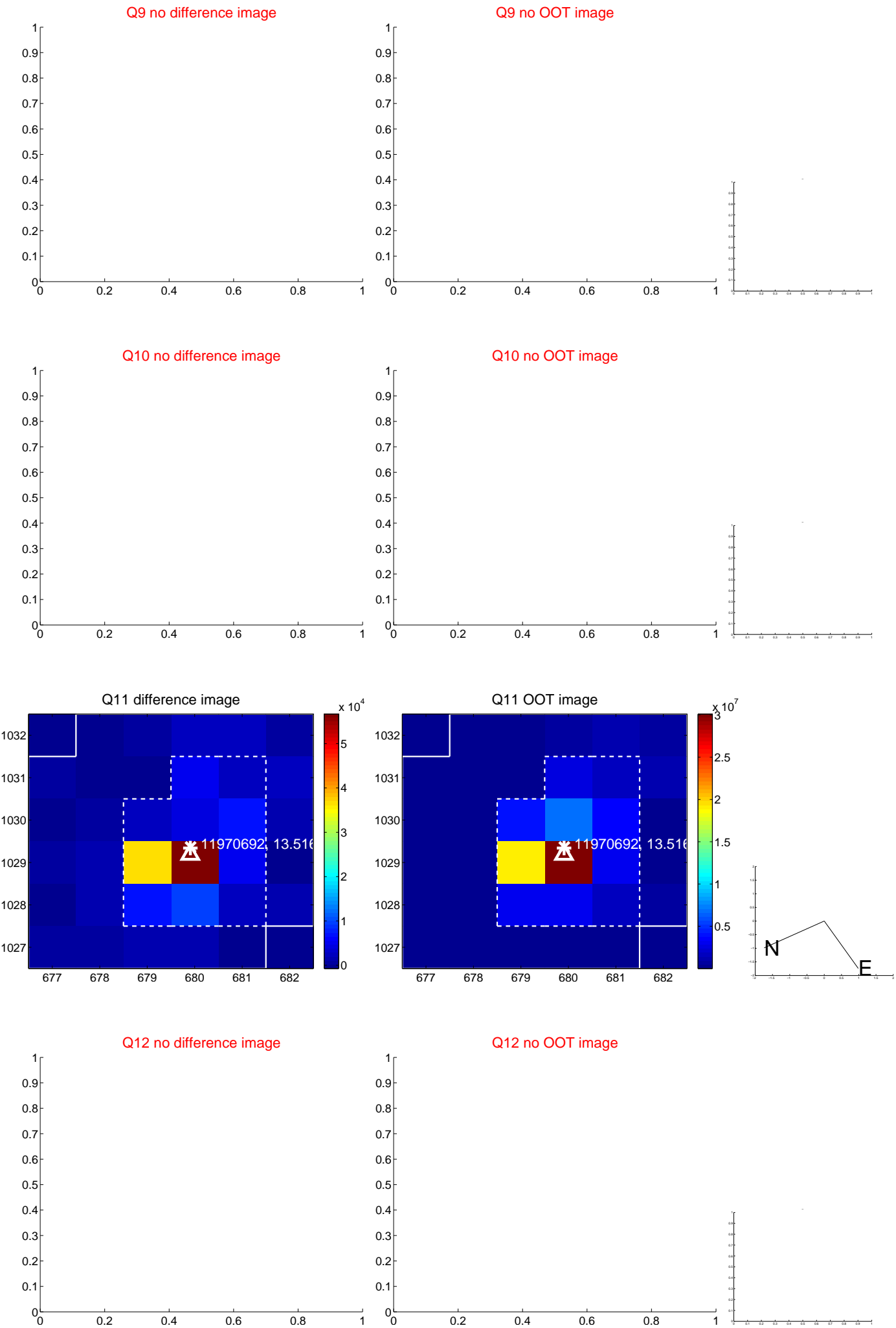
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



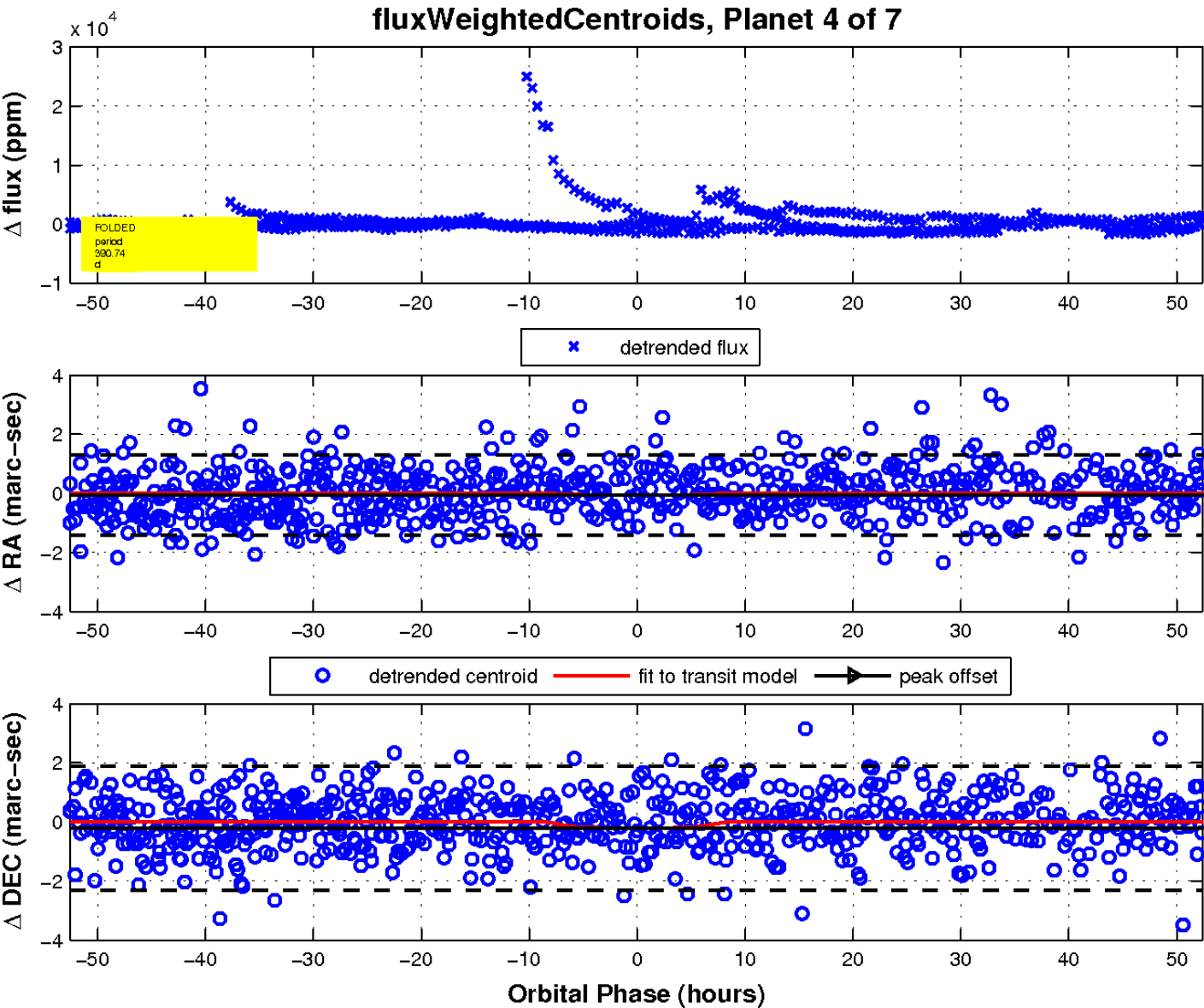
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

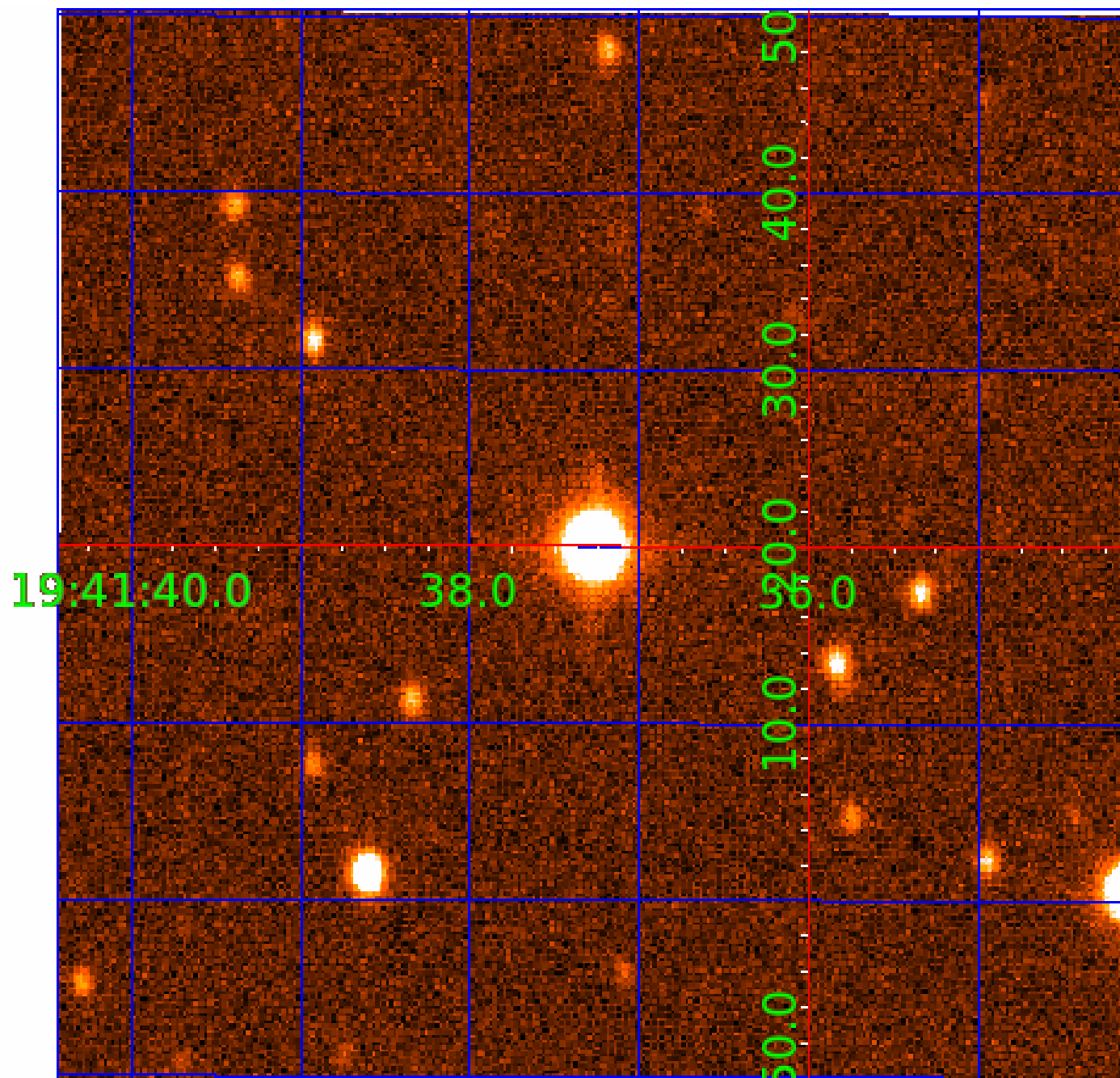


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011970692

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})
011970692-01	OBS	No	400.955329	223.651411	1234.1	16.883	18.8	7.2	3.98	4885	13.61	7.70
011970692-02	OBS	No	561.249886	276.725816	1266.8	16.427	17.2	6.0	3.98	4885	13.70	4.91
011970692-03	OBS	No	550.011478	268.632868	937.0	5.855	14.6	6.3	3.98	4885	13.76	5.05
011970692-04	OBS	No	390.744375	241.548549	1625.3	17.521	26.2	8.0	3.98	4885	19.29	7.96
011970692-05	OBS	No	415.571562	198.558785	587.6	3.273	14.4	5.1	3.98	4885	10.11	7.34
011970692-06	OBS	No	631.061195	194.546206	1140.4	8.970	16.4	7.3	3.98	4885	13.60	4.20
011970692-07	OBS	No	399.209135	294.381564	1169.7	2.871	14.6	9.6	3.98	4885	15.35	7.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011970692-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011970692-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
011970692-03	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
011970692-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011970692-05	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
011970692-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
011970692-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—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.

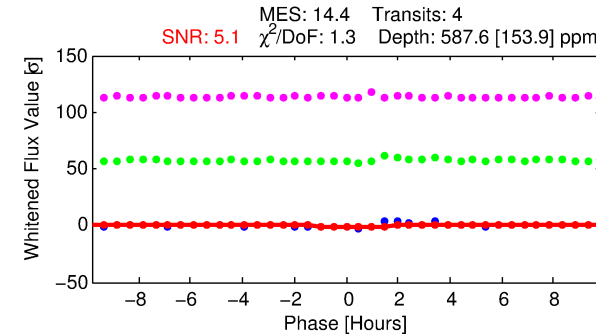
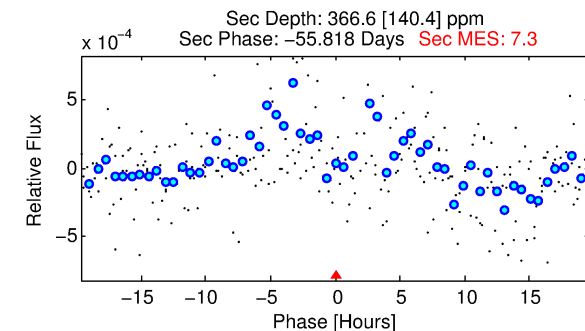
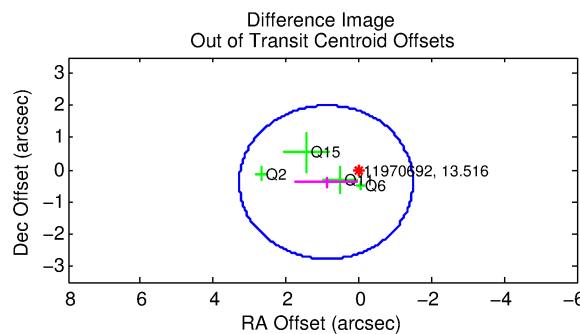
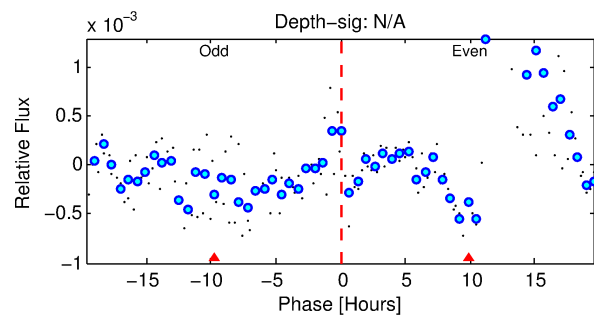
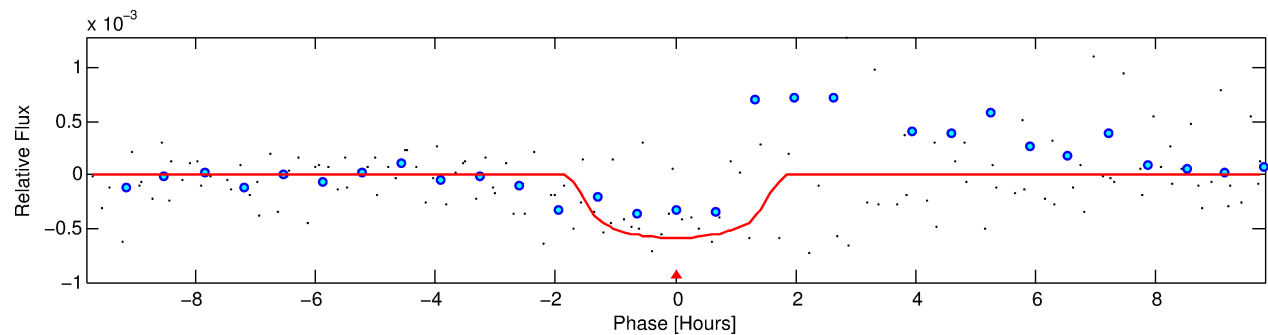
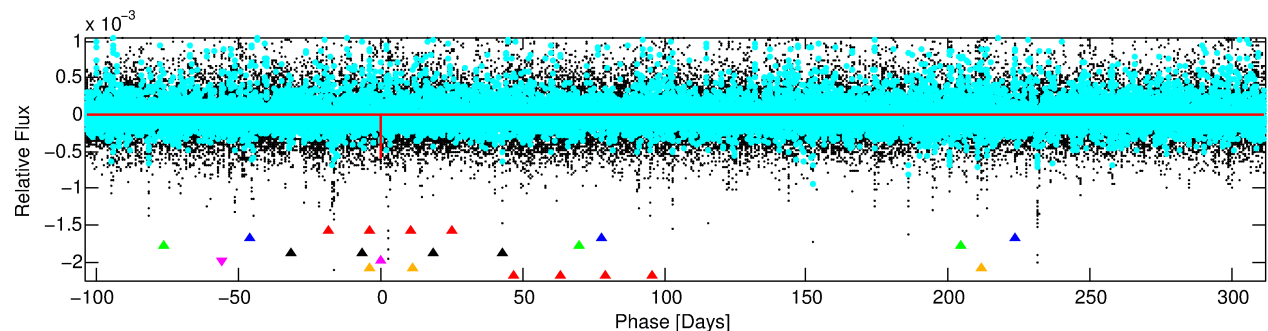
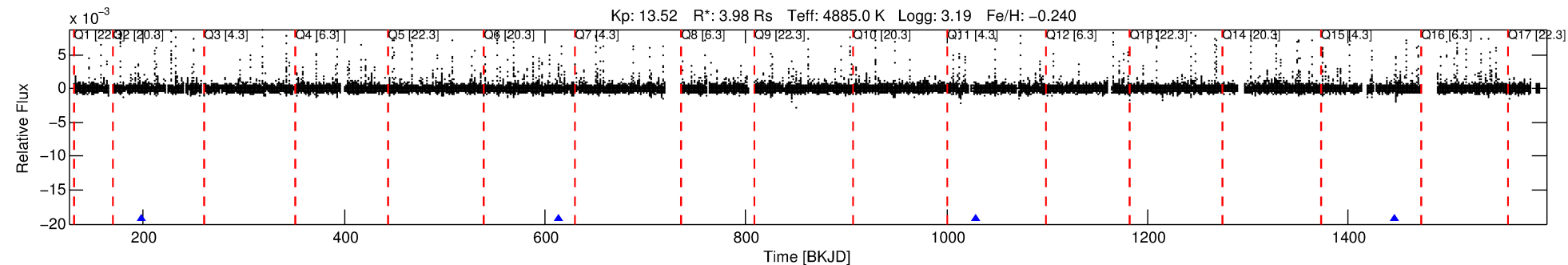
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970692-05

No Significant Match Found

DV One-Page Summary

KIC: 11970692 Candidate: 5 of 7 Period: 415.572 d



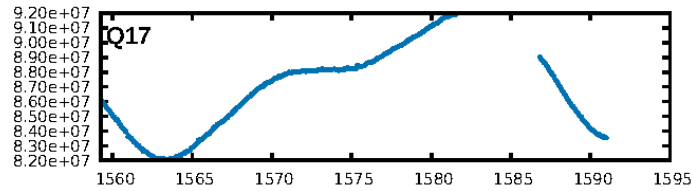
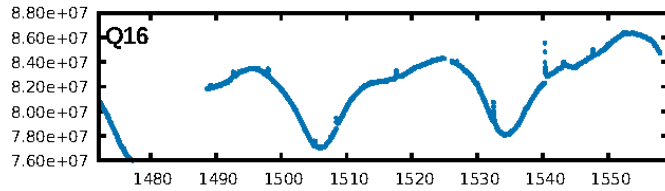
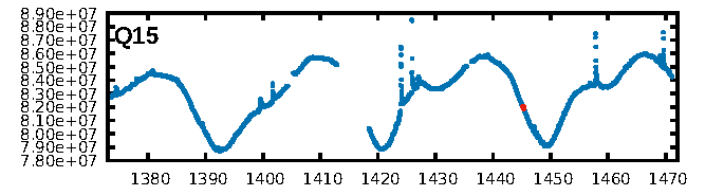
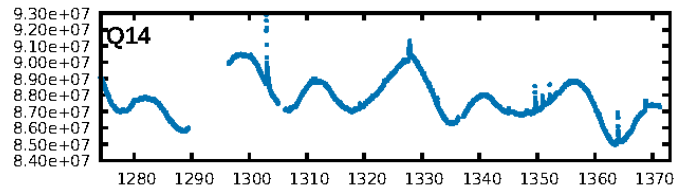
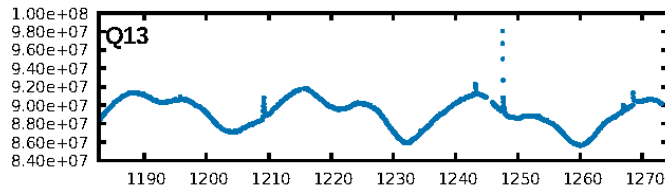
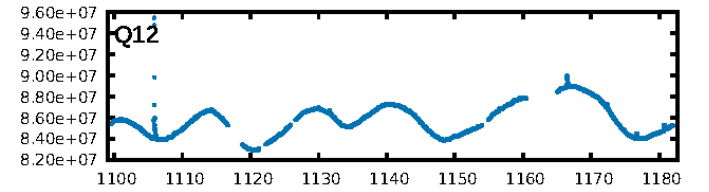
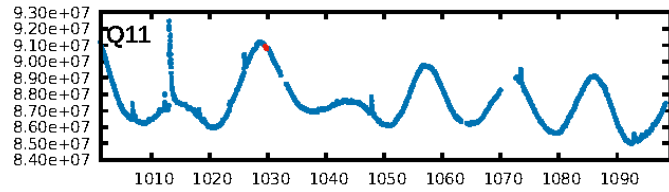
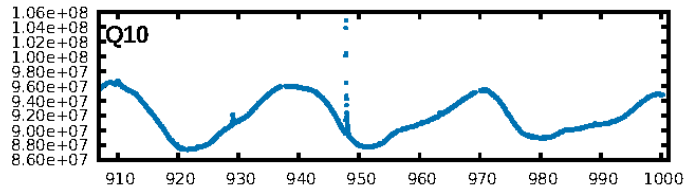
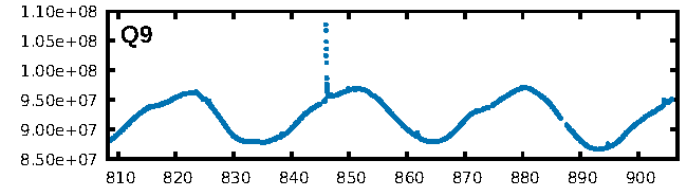
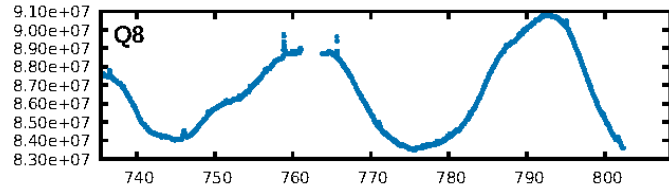
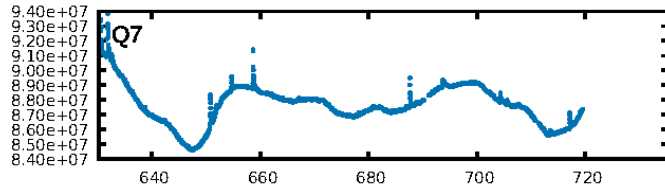
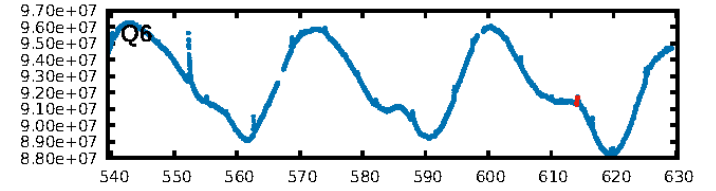
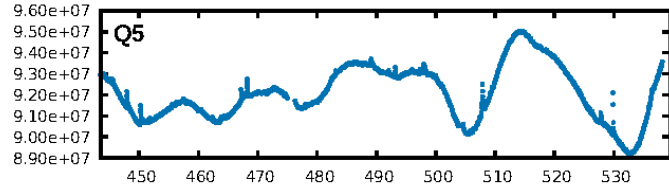
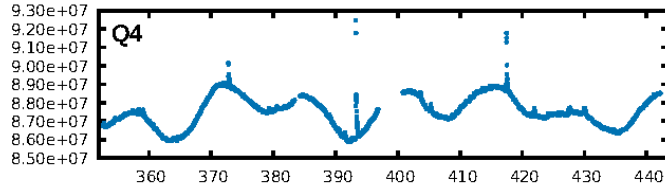
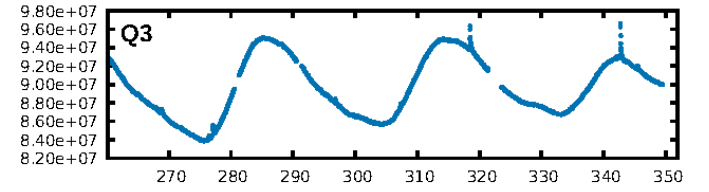
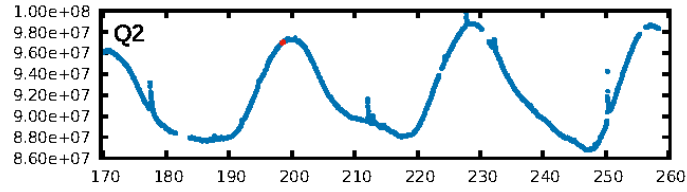
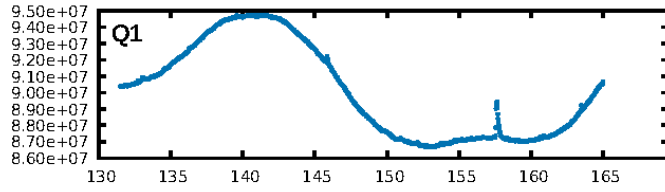
DV Fit Results:

Period = 415.57156 [0.00398] d
Epoch = 198.5588 [0.0082] BKJD
Rp/R* = 0.0233 [0.0413]
a/R* = 768.39 [4703.99]
b = 0.65 [5.62]
Seff = 7.34 [4.62]
Teq = 420 [66] K
Rp = 10.11 [18.85] Re
a = 1.0498 [0.4735] AU
Ag = 2174.47 [7884.03] [0.28 σ]
Teffp = 4431 [3959] K [1.01 σ]

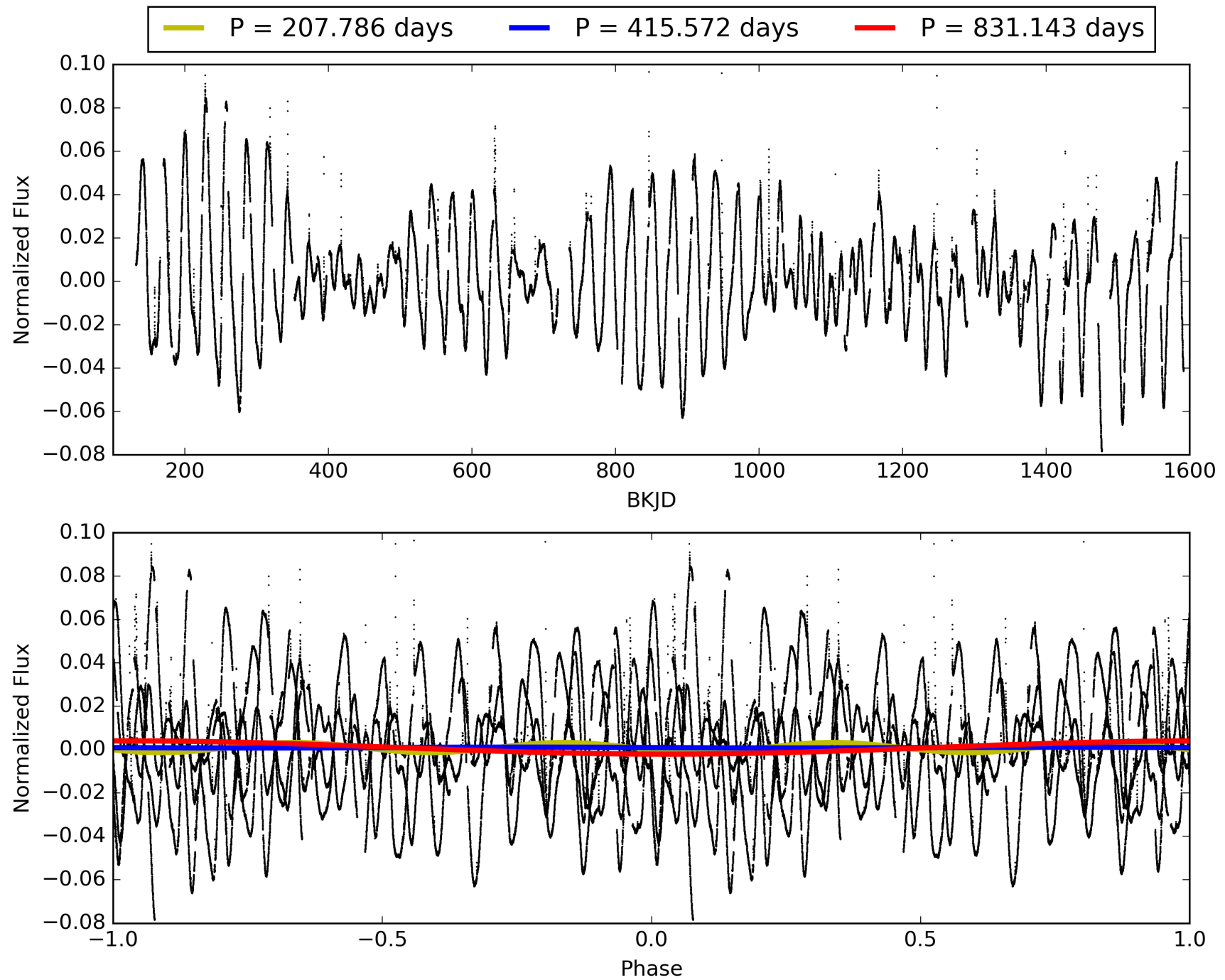
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.40 σ]
LongPeriod-sig: 100.0% [481.01 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 72.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.265
Centroid-sig: 78.5%
Centroid-so: 0.773 arcsec [0.74 σ]
OotOffset-rm: 0.978 arcsec [1.23 σ]
KicOffset-rm: 1.028 arcsec [1.26 σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 011970692-05, PDC Light Curves

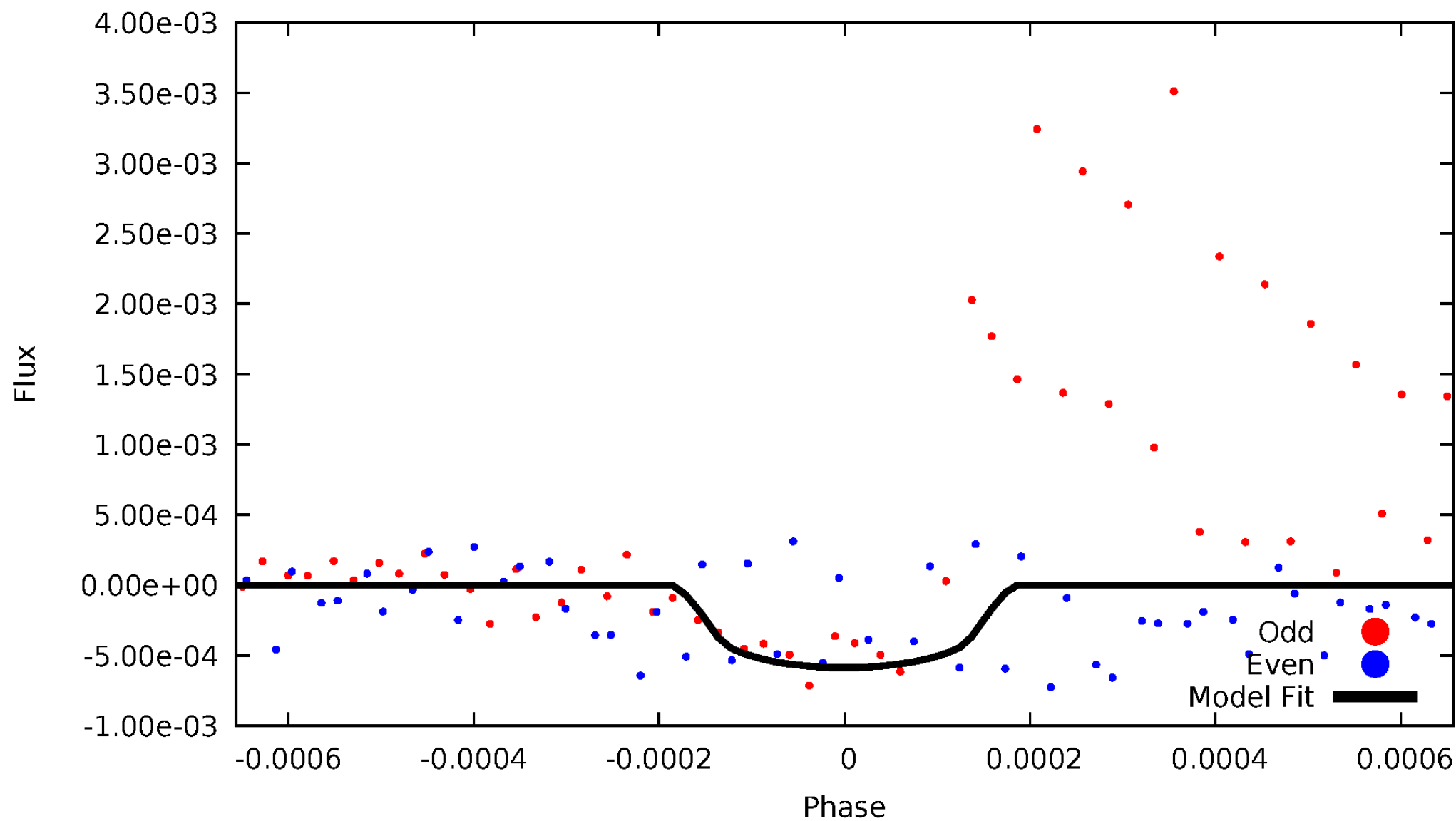


TCE 011970692-05



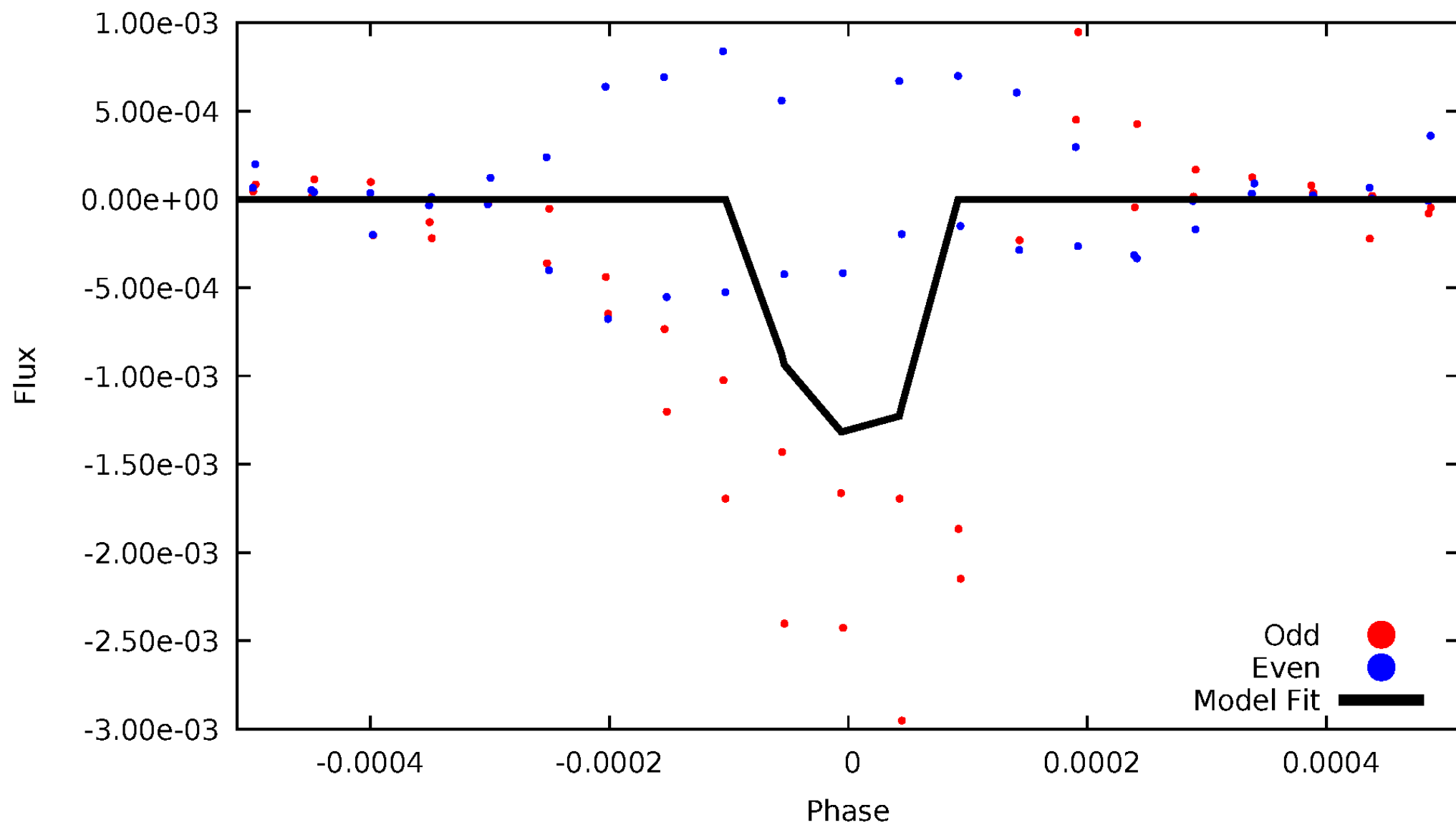
DV Odd/Even

TCE 011970692-05



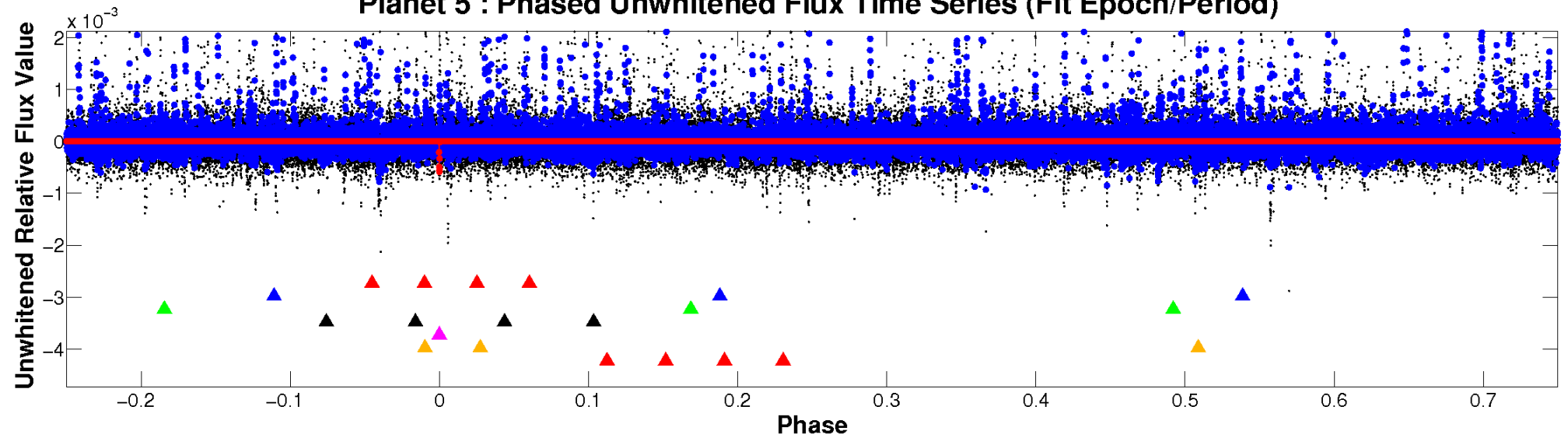
ALT Odd/Even

TCE 011970692-05

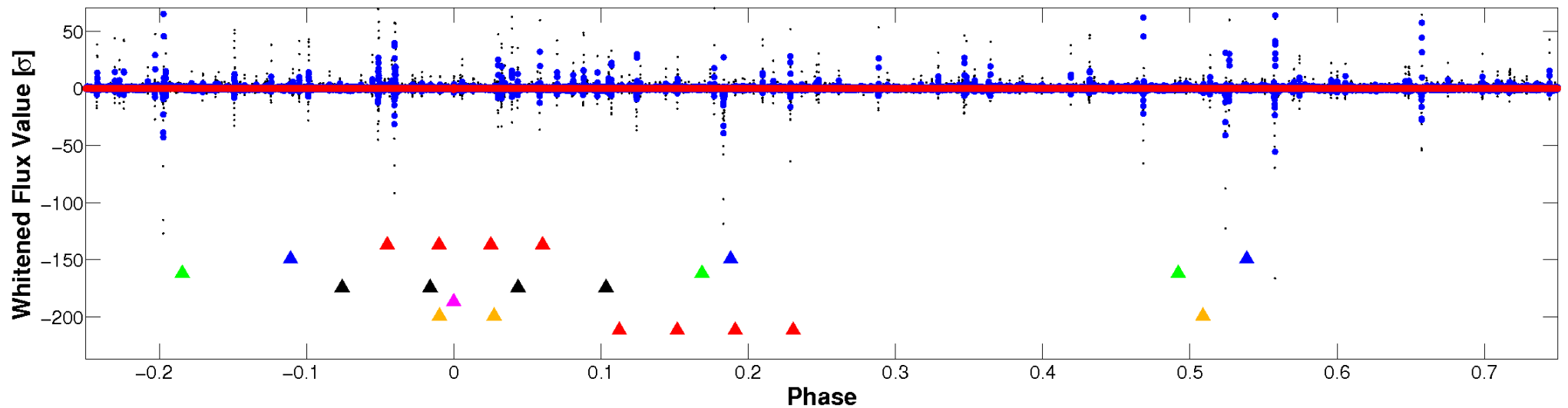


Non-Whitened Vs. Whitened Light Curve

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

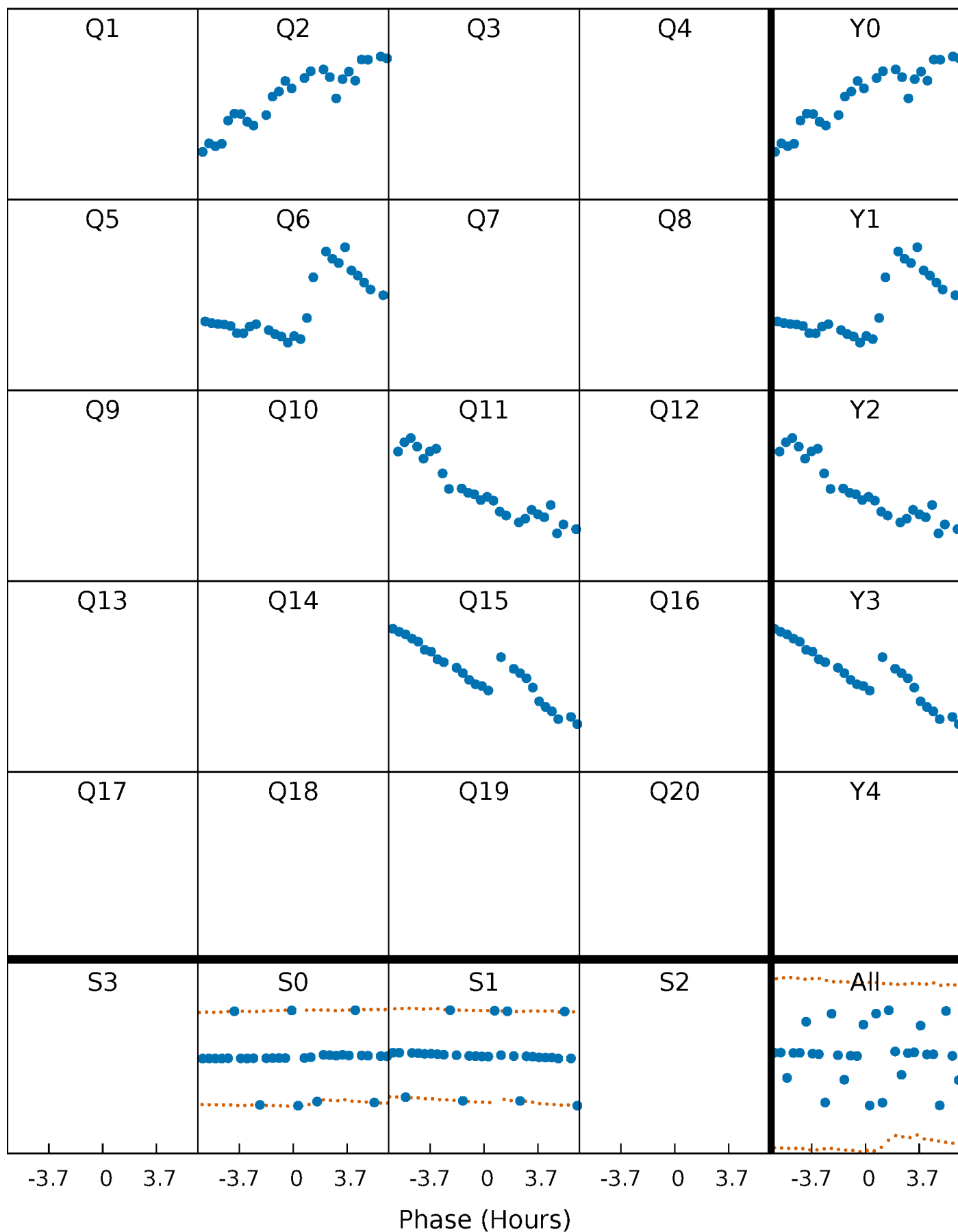


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



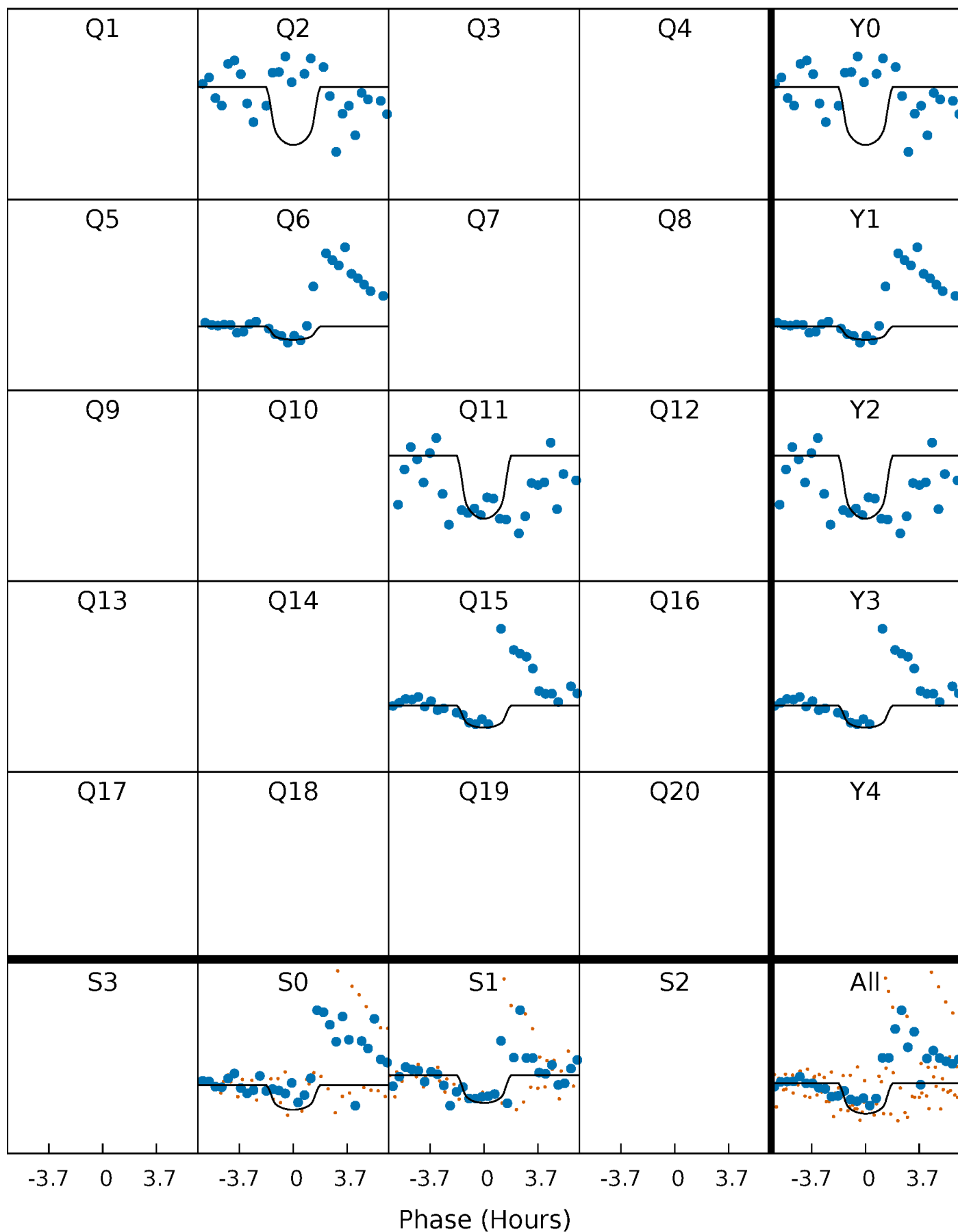
PDC Quarter-Phased Transit Curves

TCE 011970692-05 P=415.571562 Days $T_0=198.558785$ (BKJD)



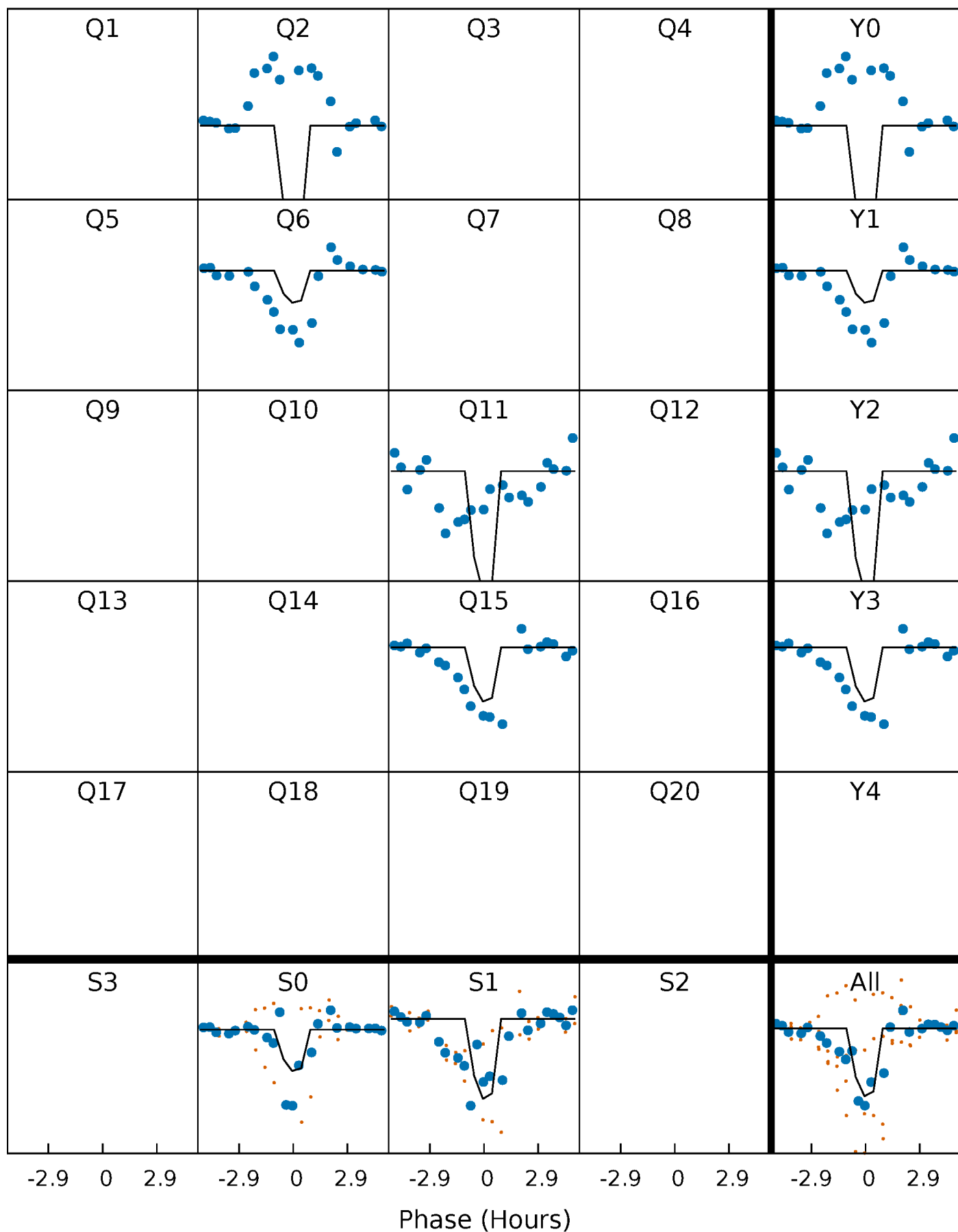
DV Quarter-Phased Transit Curves

TCE 011970692-05 $P=415.571562$ Days $T_0=198.558785$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

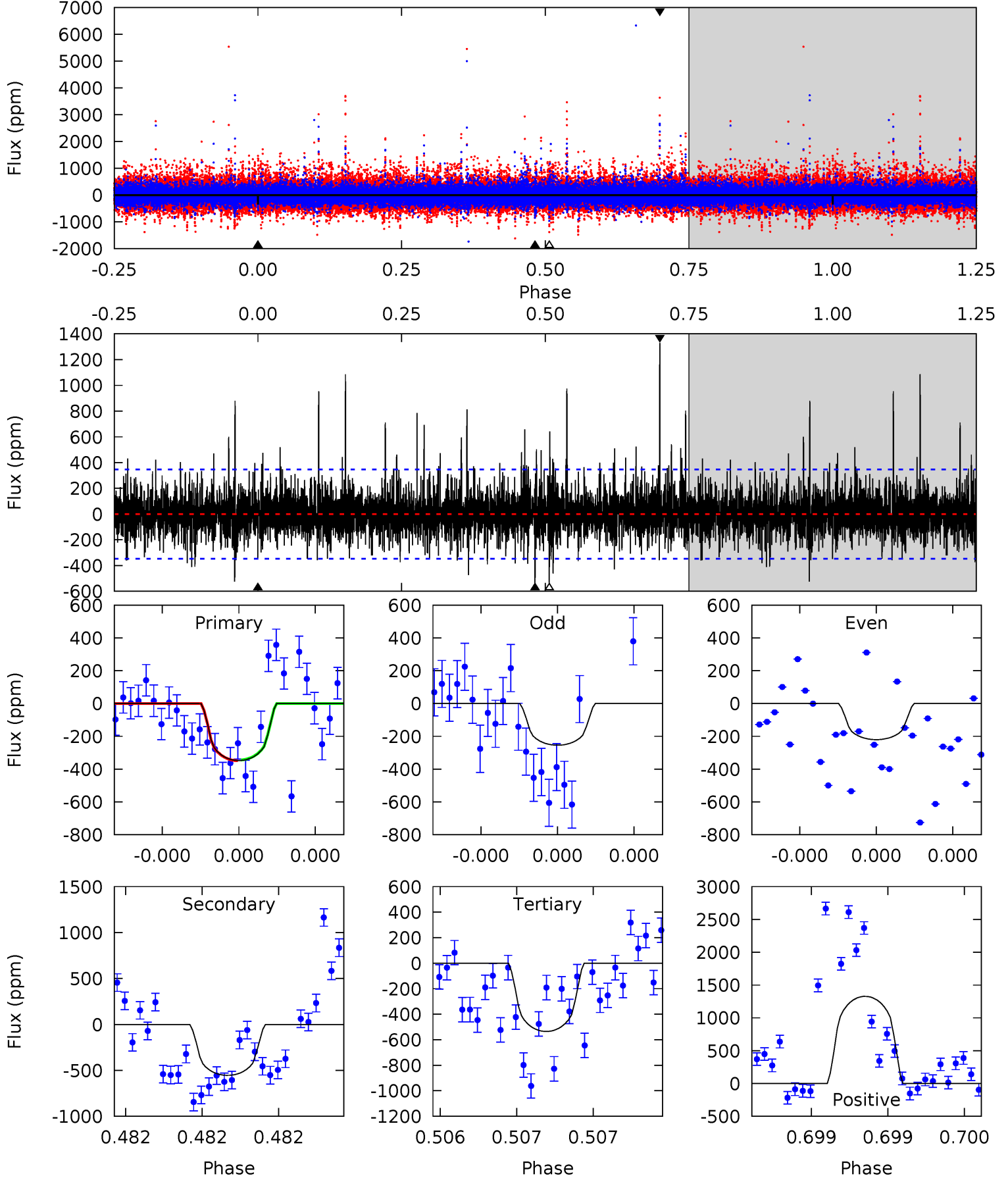
TCE 011970692-05 $P=415.557310$ Days $T_0=198.579402$ (BKJD)



DV Model-Shift Uniqueness Test

011970692-05, P = 415.571562 Days, E = 198.558785 Days

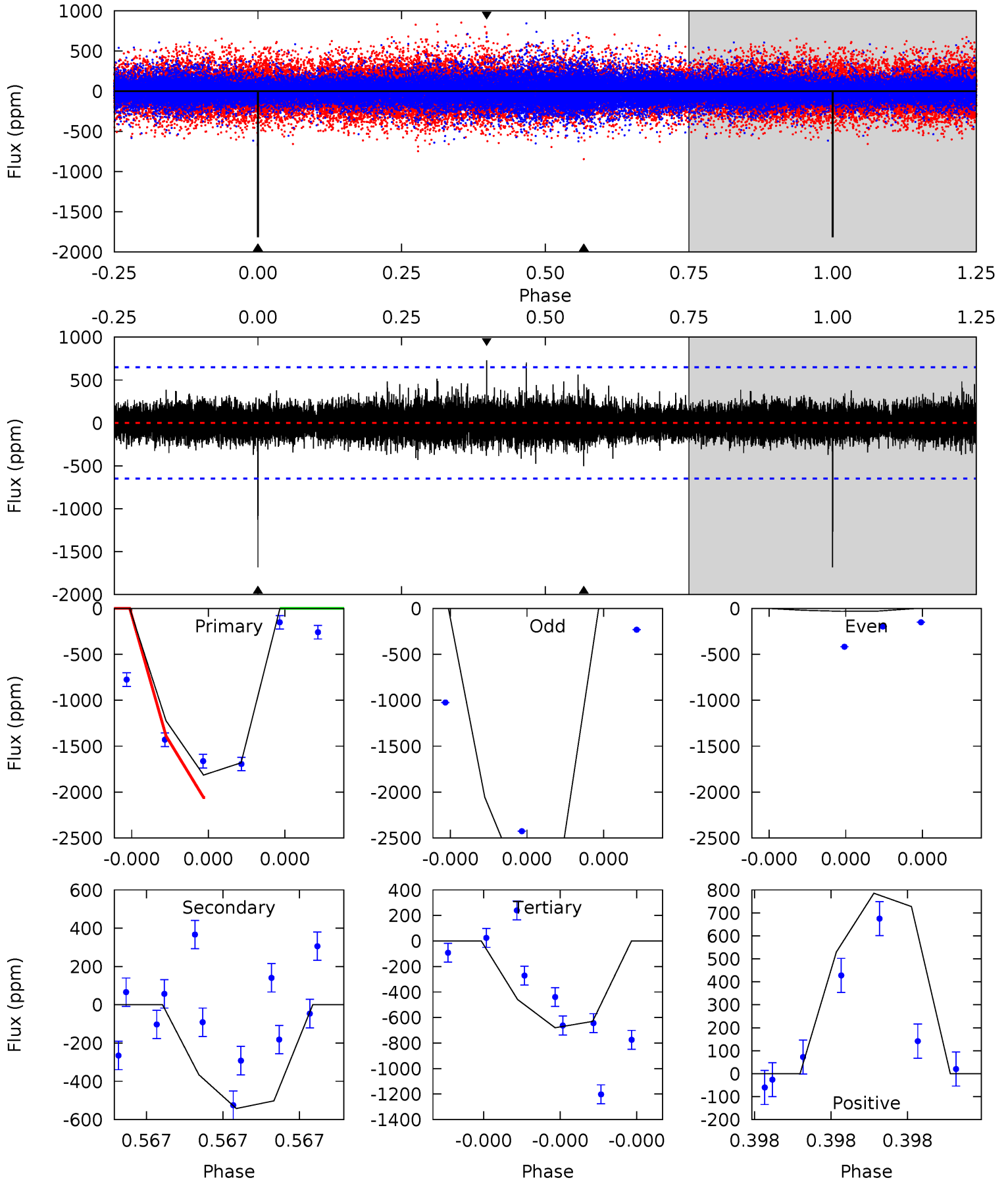
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.64	8.99	8.67	21.5	5.62	3.56	2.15	-3.04	-15.9	0.31	-12.5	0.06	0.86	0.71	0.04



Alt Model-Shift Uniqueness Test

011970692-05, P = 415.557310 Days, E = 198.579402 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	4.53	5.68	6.57	5.85	3.89	0.87	9.48	8.60	-1.16	-2.04	16.2	1.00	0.30	0



Stellar Parameters For KIC 011970692

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4885^{+135}_{-98}	$3.189^{+0.320}_{-0.320}$	$-0.240^{+0.300}_{-0.200}$	$3.981^{+2.259}_{-1.216}$	$0.893^{+0.342}_{-0.057}$	$0.020^{+0.042}_{-0.013}$
	+3%/-2%	+10%/-10%	+125%/-83%	+57%/-31%	+38%/-6%	+210%/-67%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011970692-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-555 ± 62	$17.58^{+16.03}_{-11.34}$	586^{+71}_{-60}	4040^{+2122}_{-772}	1137^{+7757}_{-821}
Alt.	-502 ± 111	$19.46^{+18.44}_{-12.53}$	583^{+82}_{-55}	3770^{+1971}_{-638}	847^{+5642}_{-613}

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

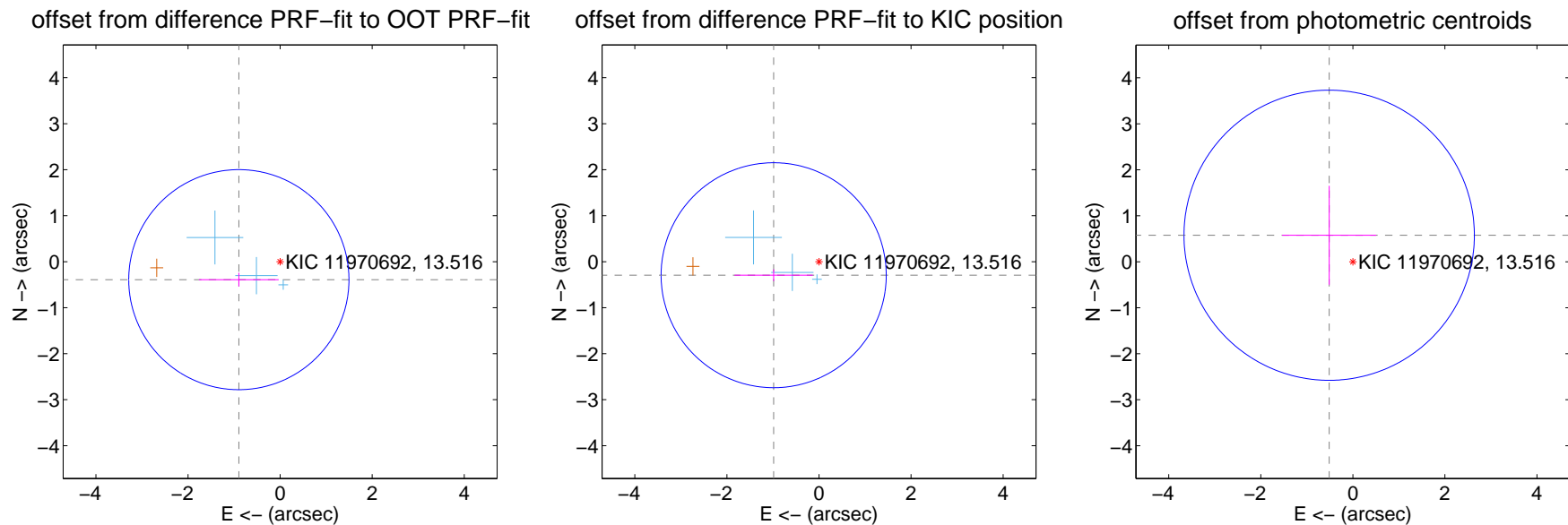
DV Centroid Data

Supplemental centroid analysis for 011970692-05. Kepler magnitude: 13.52. Transit SNR 5.10

There are 3 quarters with good PRF difference image offsets

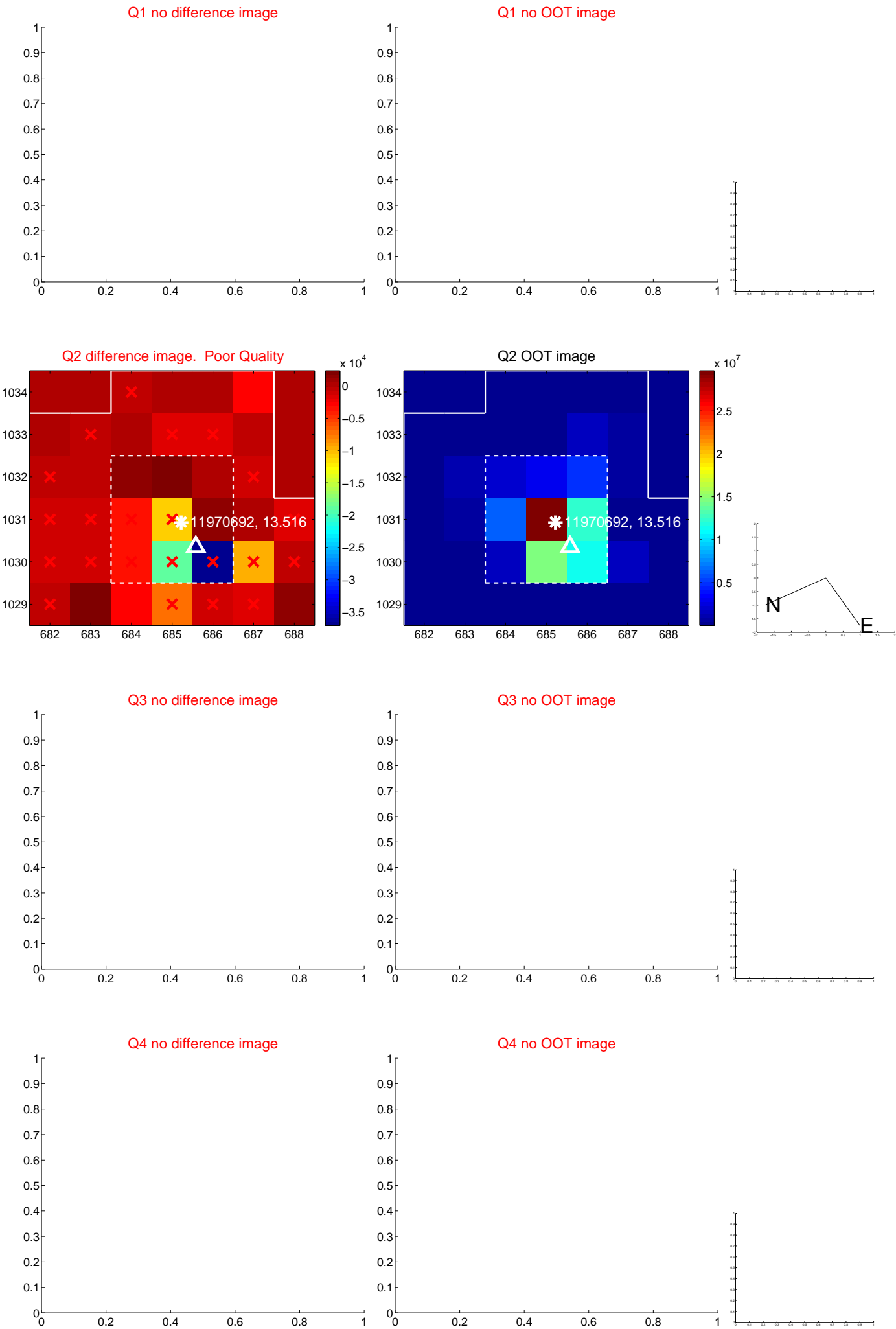
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.978 ± 0.797	1.23	0.896 ± 0.867	-0.390 ± 0.149
PRF-fit source offset from KIC position	1.028 ± 0.815	1.26	0.985 ± 0.850	-0.294 ± 0.128
photometric centroid source offset	0.77 ± 1.05	0.74	0.51 ± 1.02	0.58 ± 1.08



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.

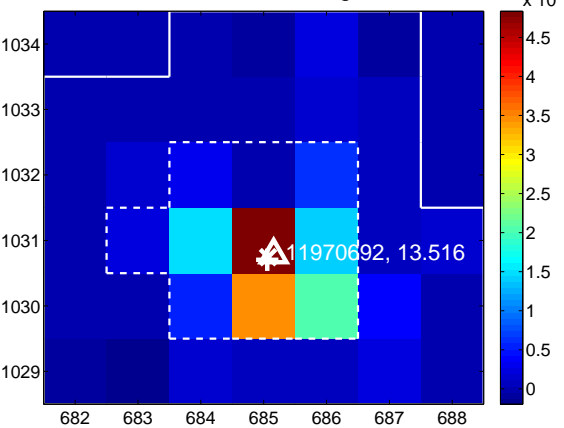
Q5 no difference image



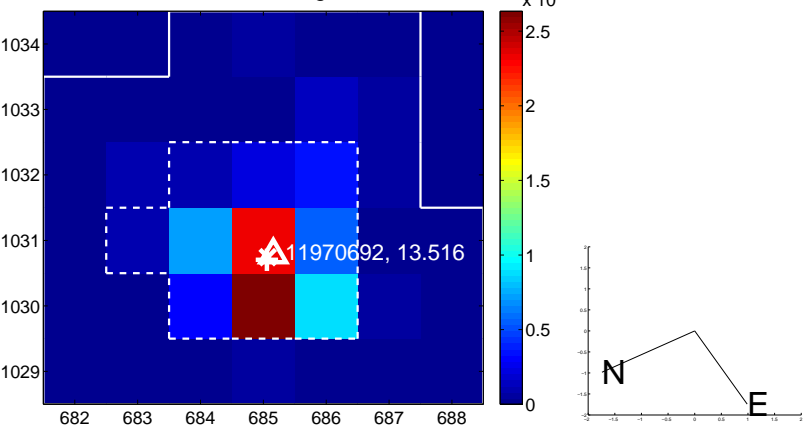
Q5 no OOT image



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.

Q9 no difference image



Q9 no OOT image



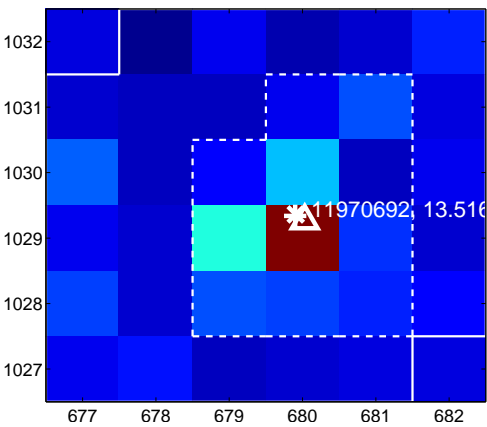
Q10 no difference image



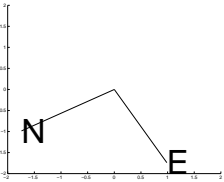
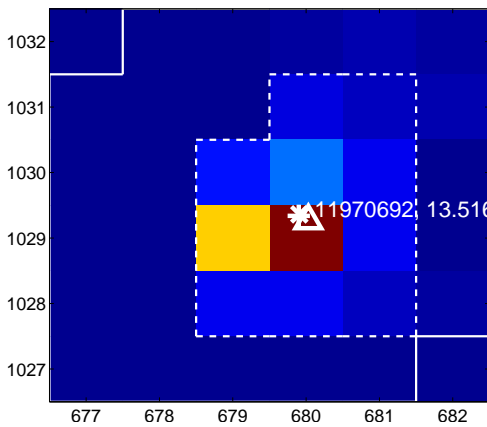
Q10 no OOT image



Q11 difference image



Q11 OOT image



Q12 no difference image



Q12 no OOT image



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

Q13 no difference image



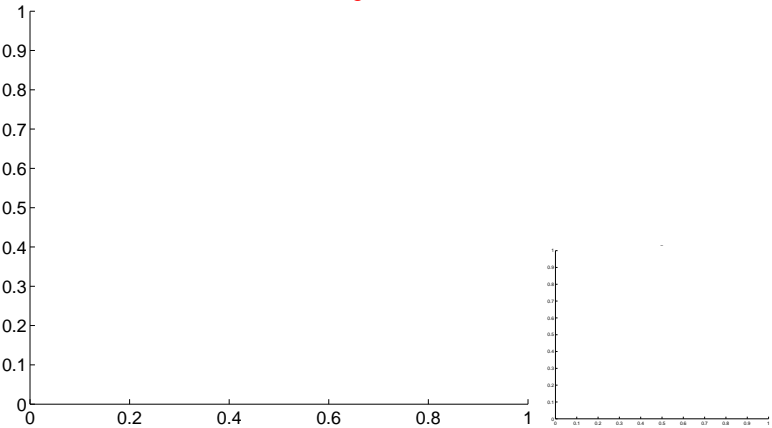
Q13 no OOT image



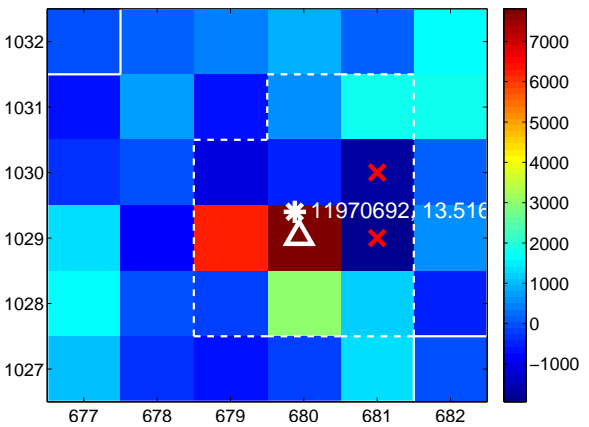
Q14 no difference image



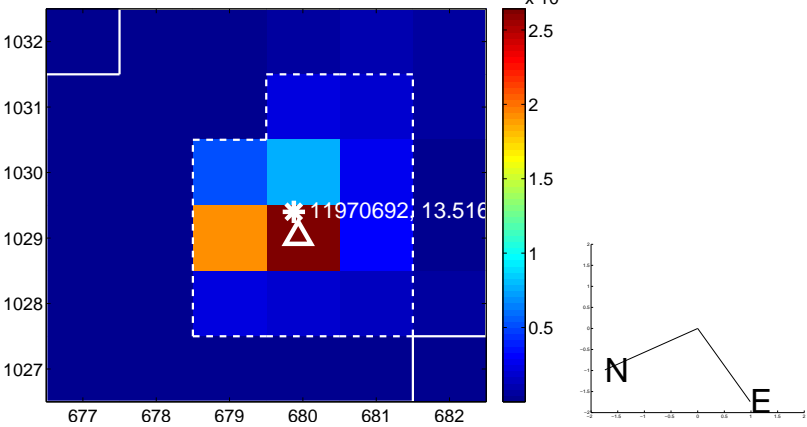
Q14 no OOT image



Q15 difference image



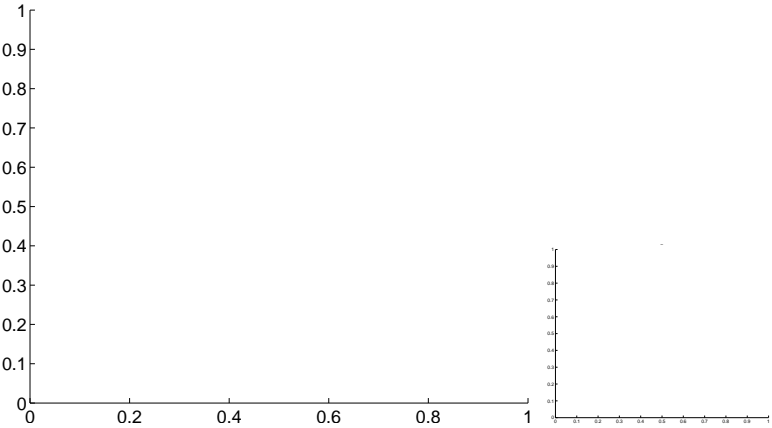
Q15 OOT image



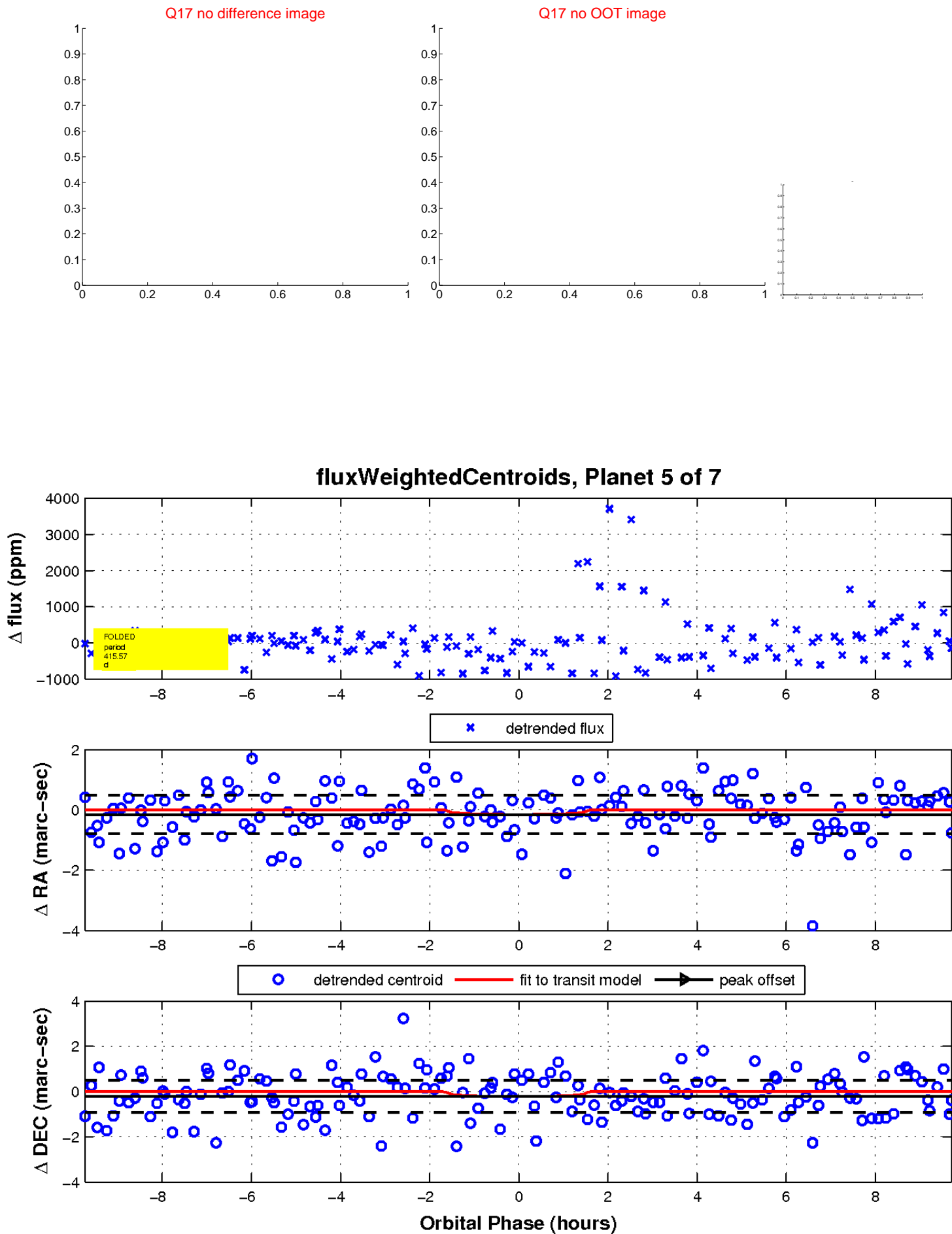
Q16 no difference image



Q16 no OOT image

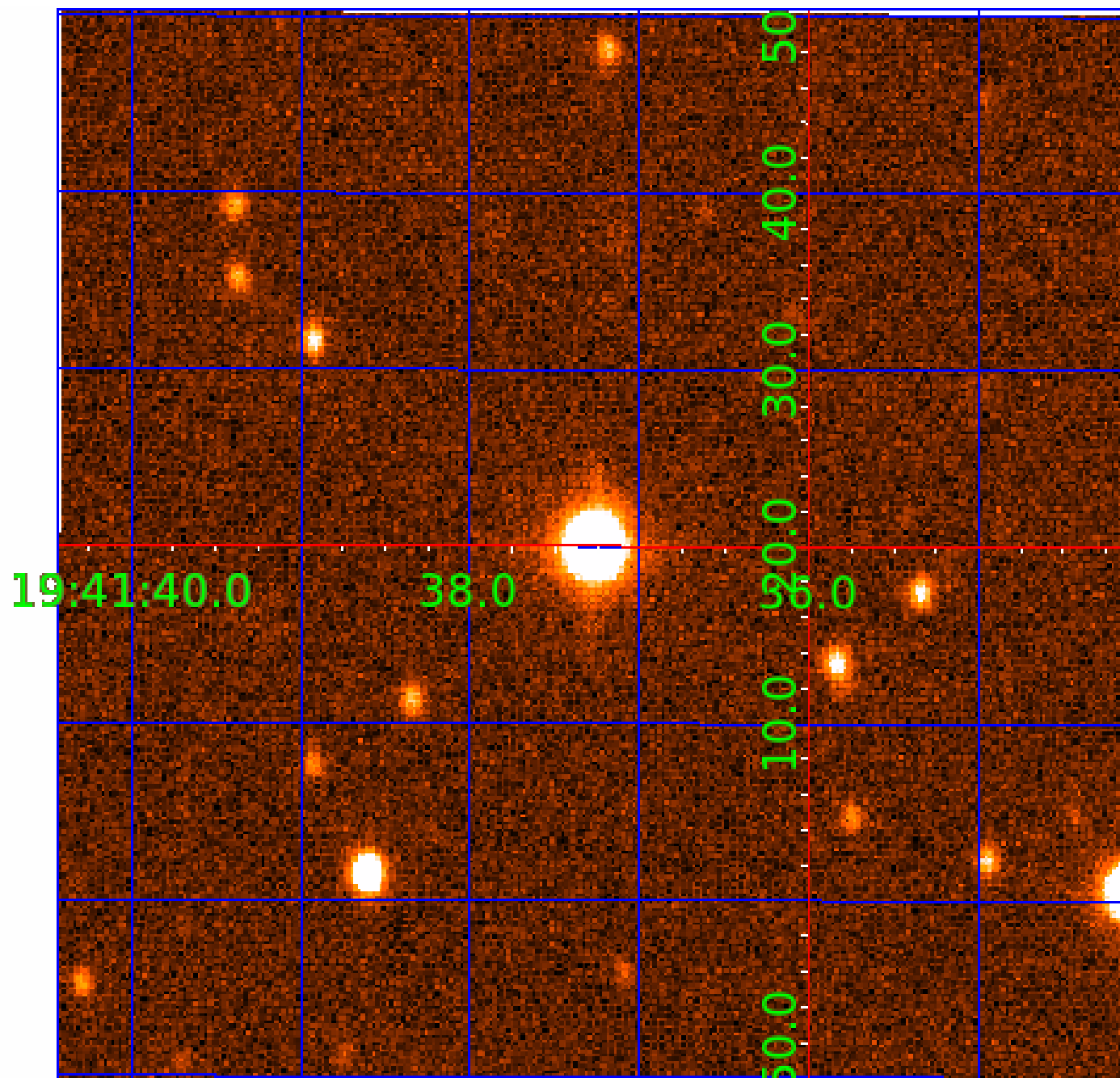


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011970692

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})
011970692-01	OBS	No	400.955329	223.651411	1234.1	16.883	18.8	7.2	3.98	4885	13.61	7.70
011970692-02	OBS	No	561.249886	276.725816	1266.8	16.427	17.2	6.0	3.98	4885	13.70	4.91
011970692-03	OBS	No	550.011478	268.632868	937.0	5.855	14.6	6.3	3.98	4885	13.76	5.05
011970692-04	OBS	No	390.744375	241.548549	1625.3	17.521	26.2	8.0	3.98	4885	19.29	7.96
011970692-05	OBS	No	415.571562	198.558785	587.6	3.273	14.4	5.1	3.98	4885	10.11	7.34
011970692-06	OBS	No	631.061195	194.546206	1140.4	8.970	16.4	7.3	3.98	4885	13.60	4.20
011970692-07	OBS	No	399.209135	294.381564	1169.7	2.871	14.6	9.6	3.98	4885	15.35	7.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011970692-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011970692-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
011970692-03	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
011970692-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011970692-05	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
011970692-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
011970692-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—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.

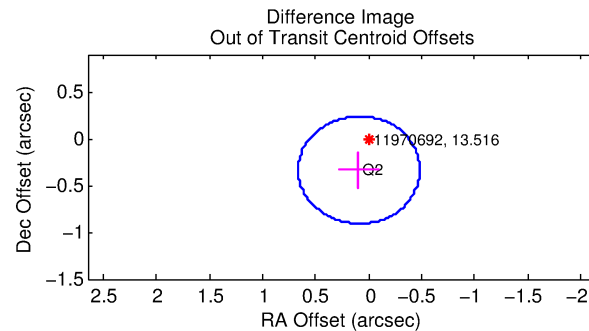
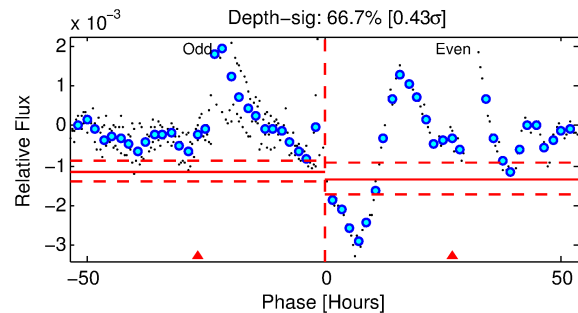
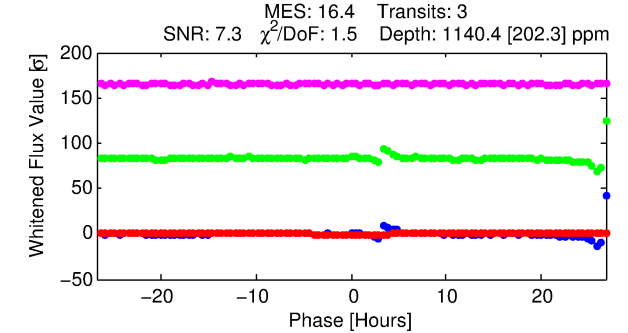
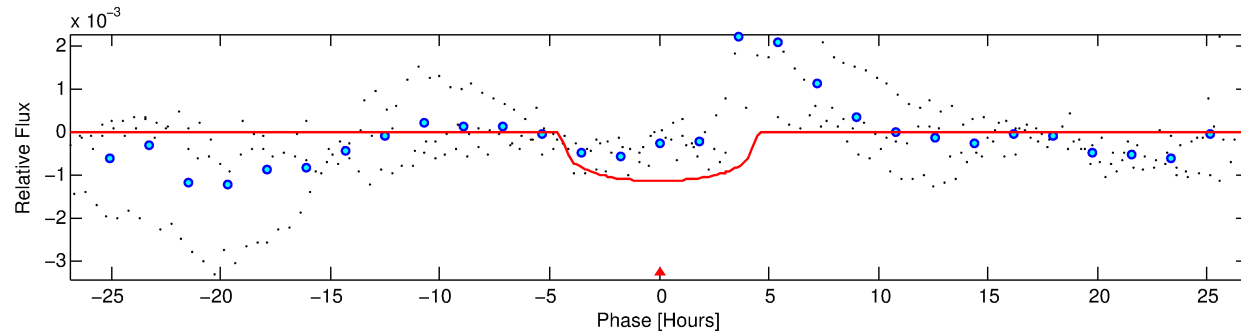
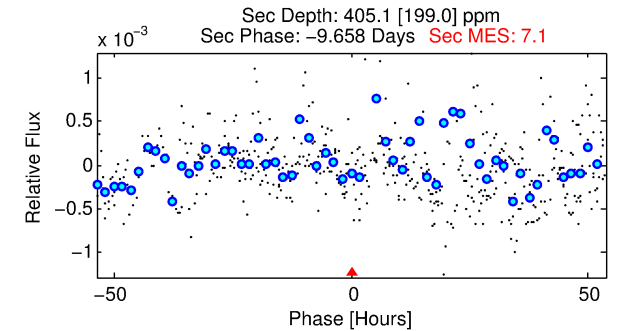
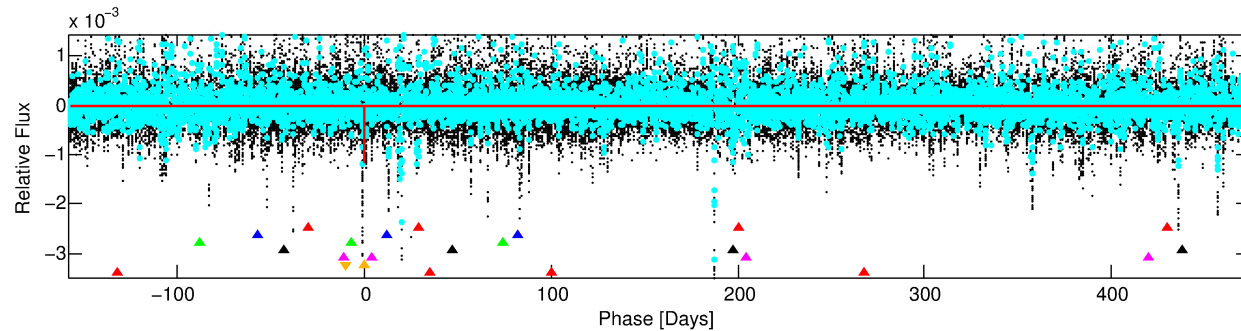
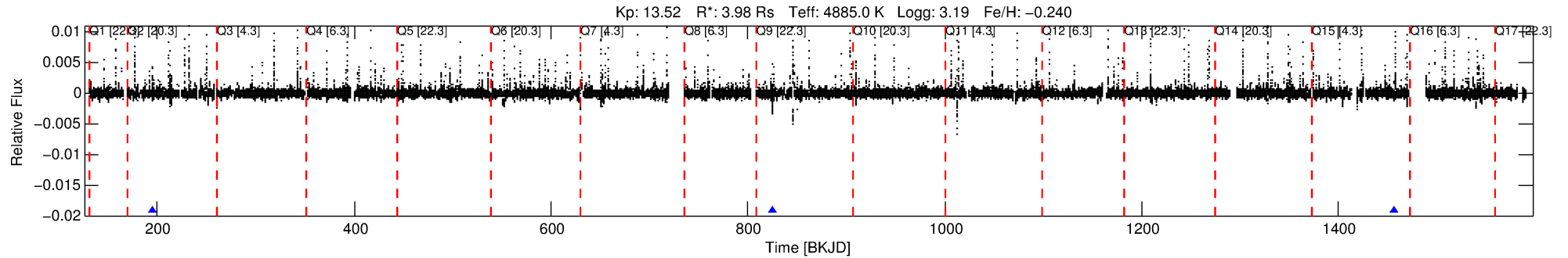
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970692-06

No Significant Match Found

DV One-Page Summary

KIC: 11970692 Candidate: 6 of 7 Period: 631.061 d



DV Fit Results:

Period = 631.06120 [0.00577] d
Epoch = 194.5462 [0.0078] BKJD
Rp/R* = 0.0313 [0.0152]
a/R* = 480.22 [771.49]
b = 0.51 [2.32]
Seff = 4.20 [2.65]
Teq = 365 [57] K
Rp = 13.60 [10.14] Re
a = 1.3870 [0.6256] AU
Ag = 2318.68 [2899.00] [0.80 σ]
Teffp = 3917 [1069] K [3.32 σ]

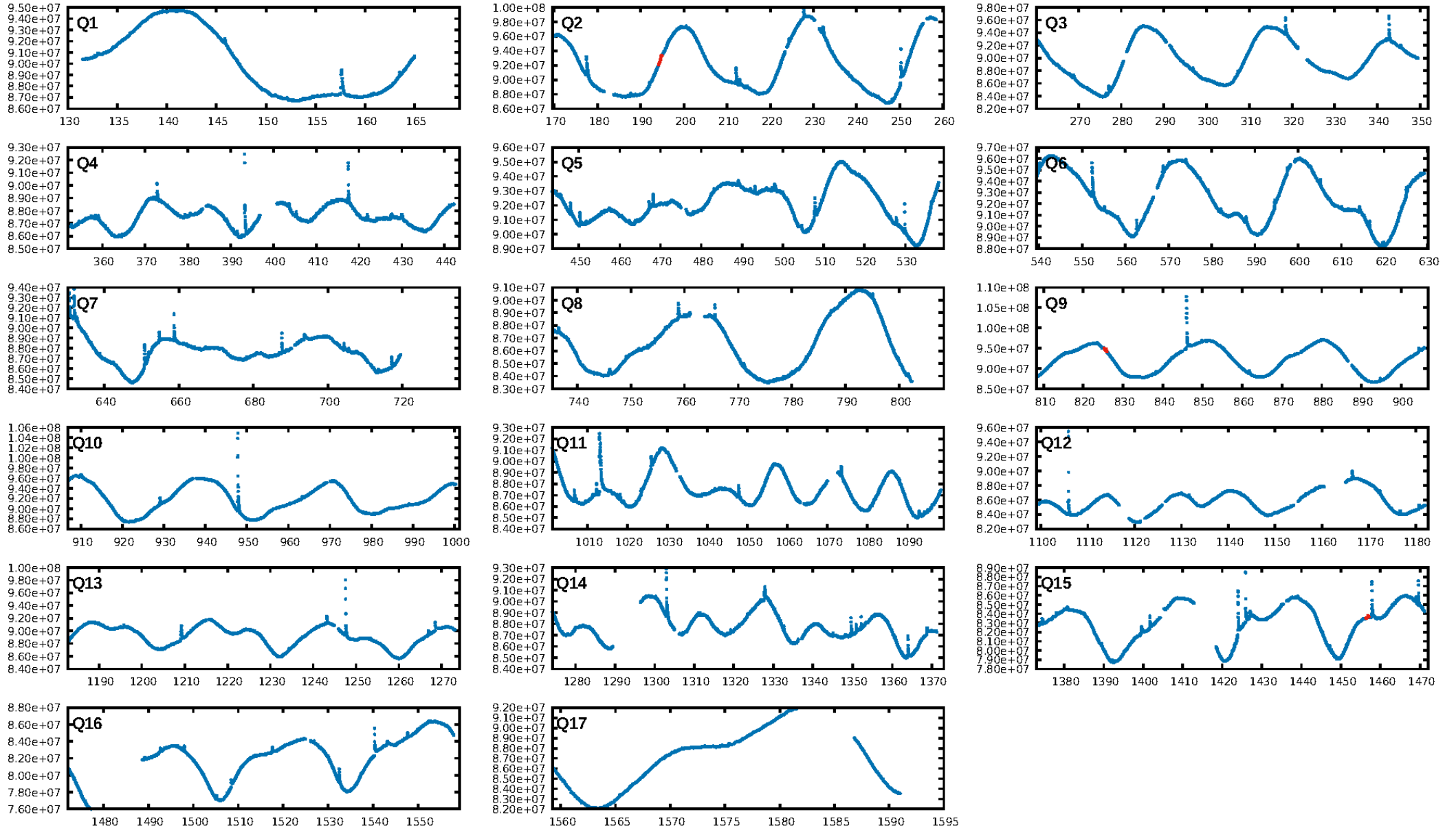
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [89.52 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 90.3%
ModelChiSquareGof-sig: 89.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7867
Centroid-sig: 96.8%
Centroid-so: 0.389 arcsec [0.90 σ]
OotOffset-rm: 0.348 arcsec [1.82 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-rm: 0.337 arcsec [1.77 σ]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

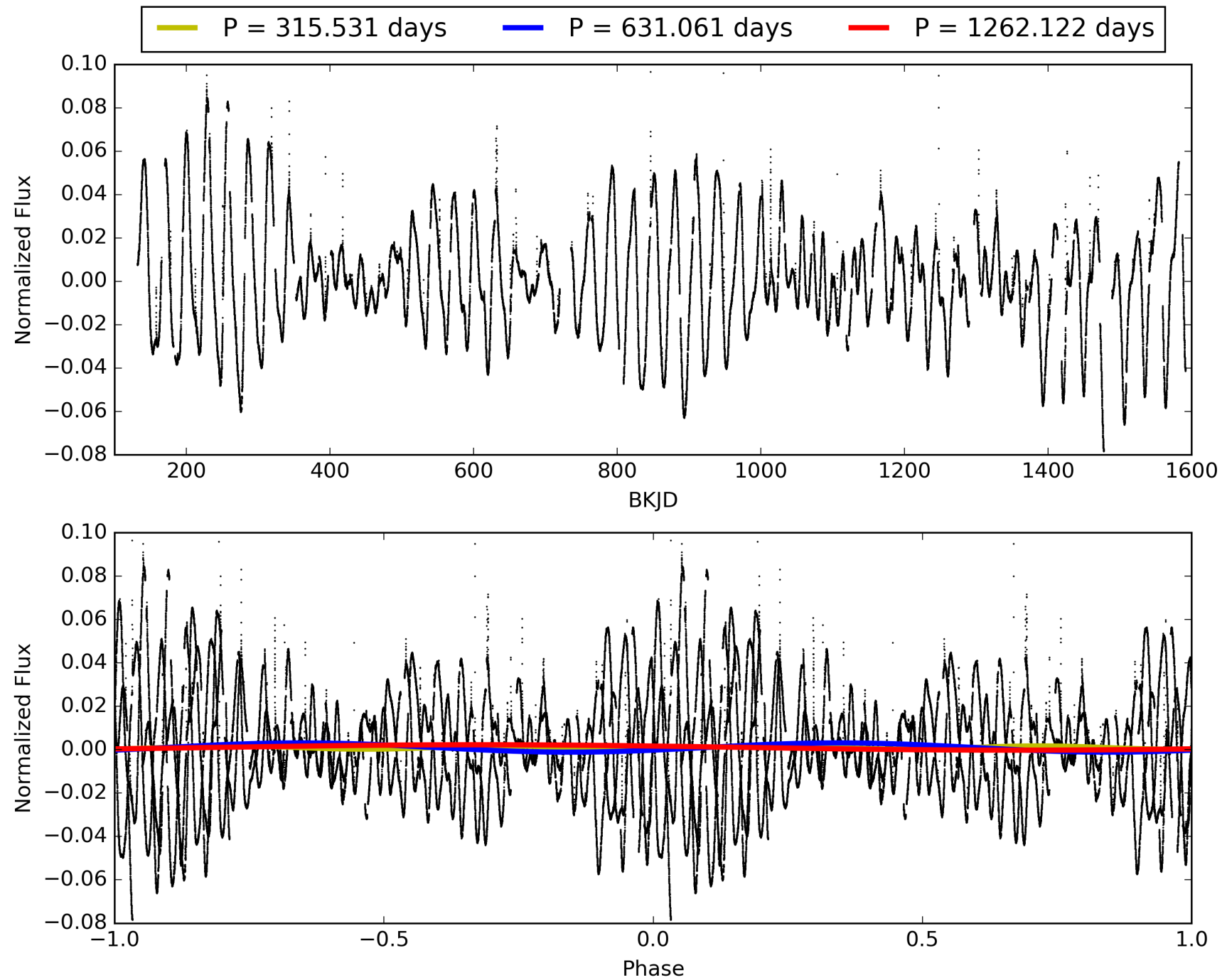
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:56:44 Z

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

TCE 011970692-06, PDC Light Curves

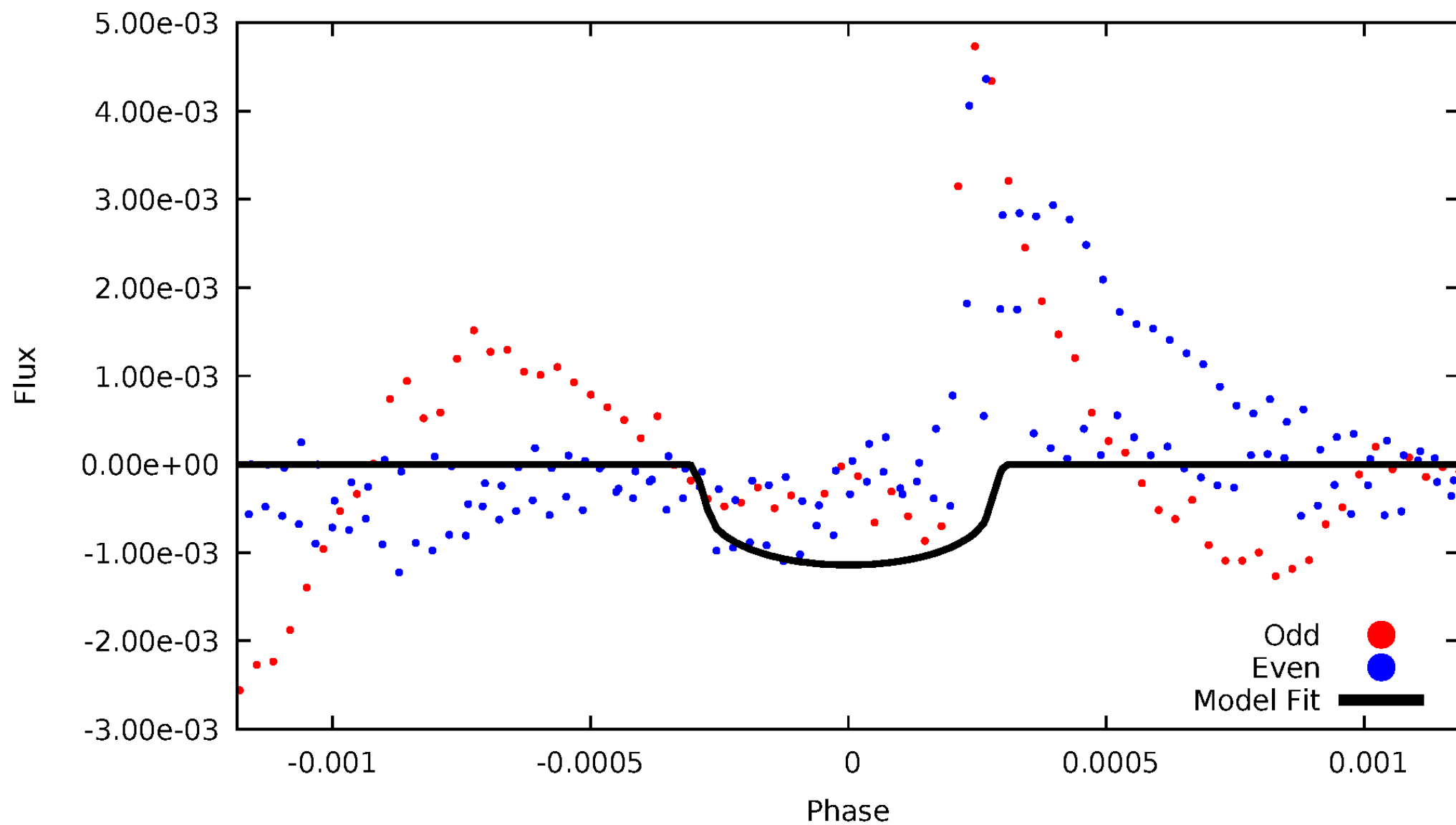


TCE 011970692-06



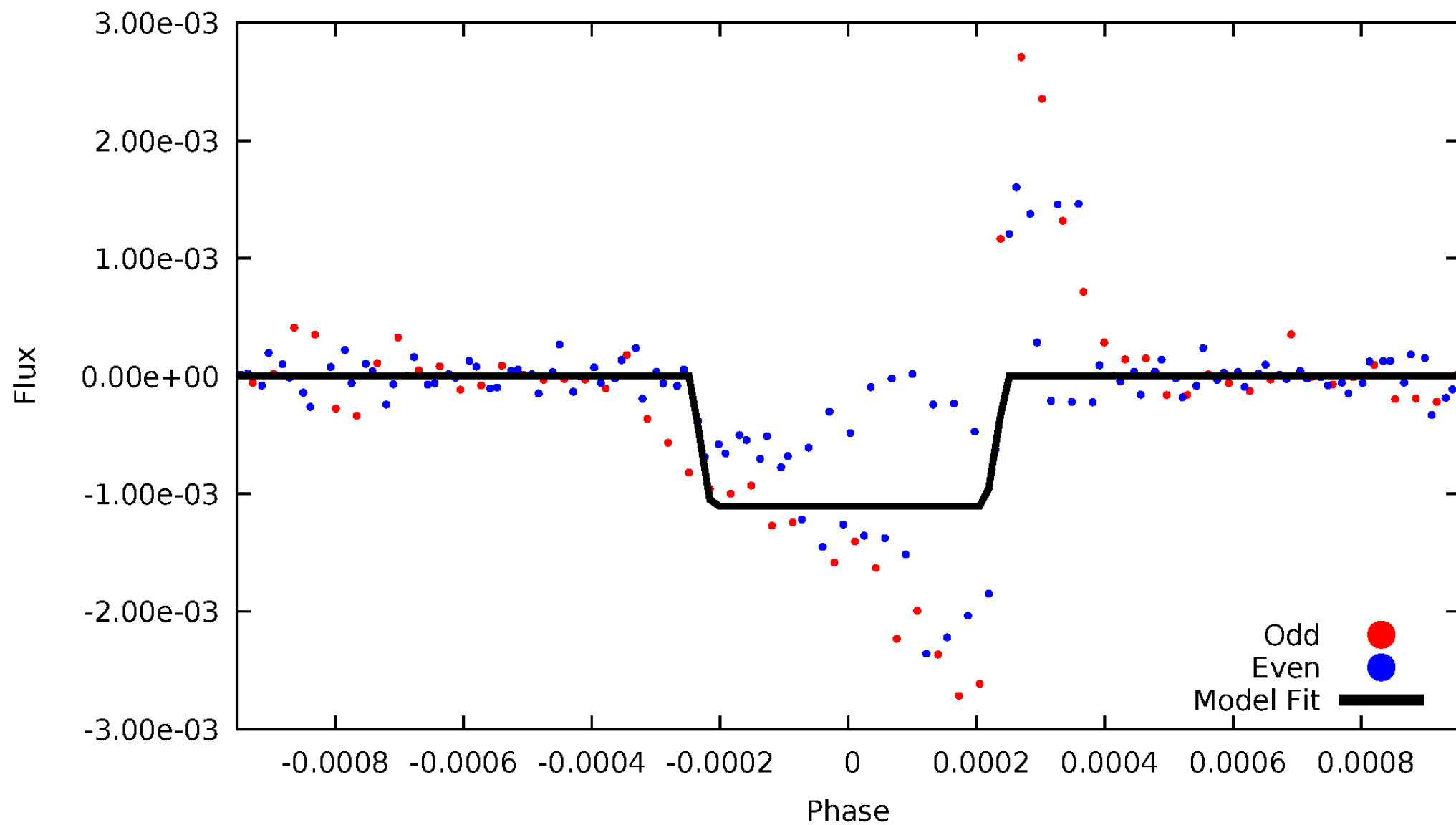
DV Odd/Even

TCE 011970692-06



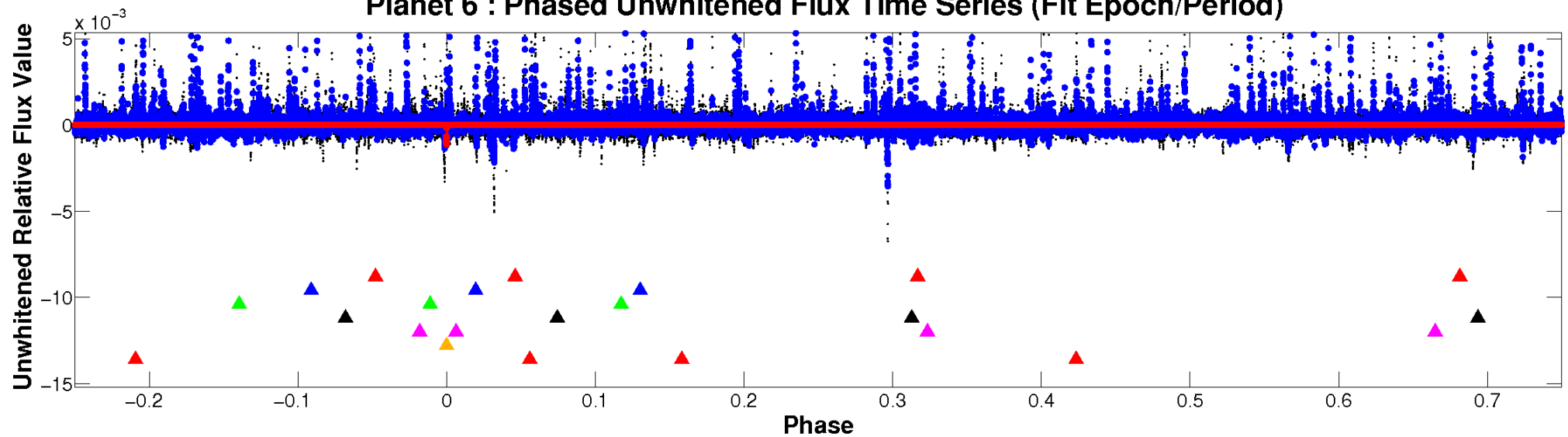
ALT Odd/Even

TCE 011970692-06

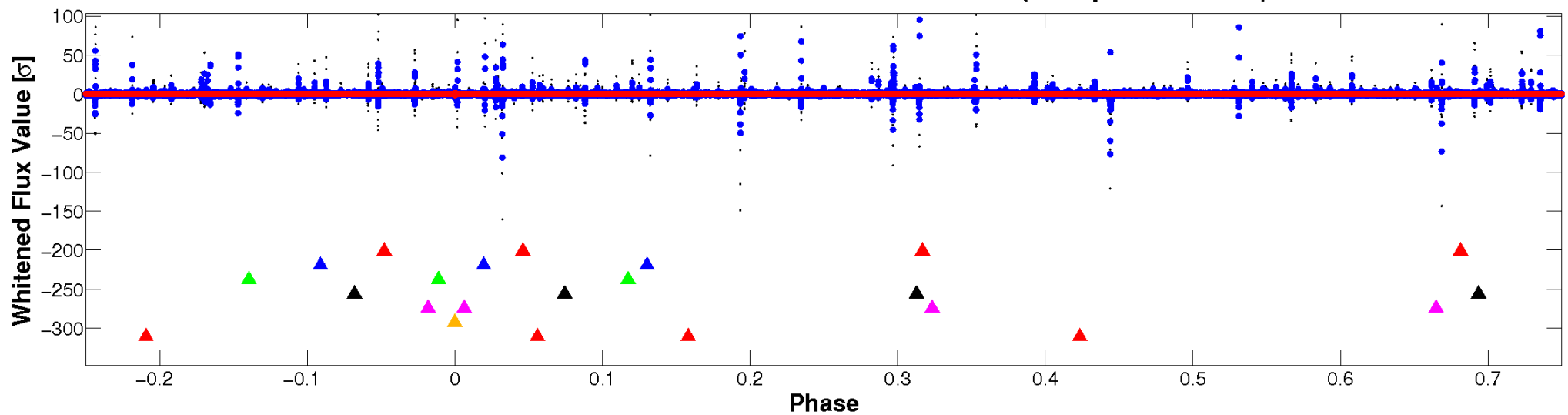


Non-Whitened Vs. Whitened Light Curve

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

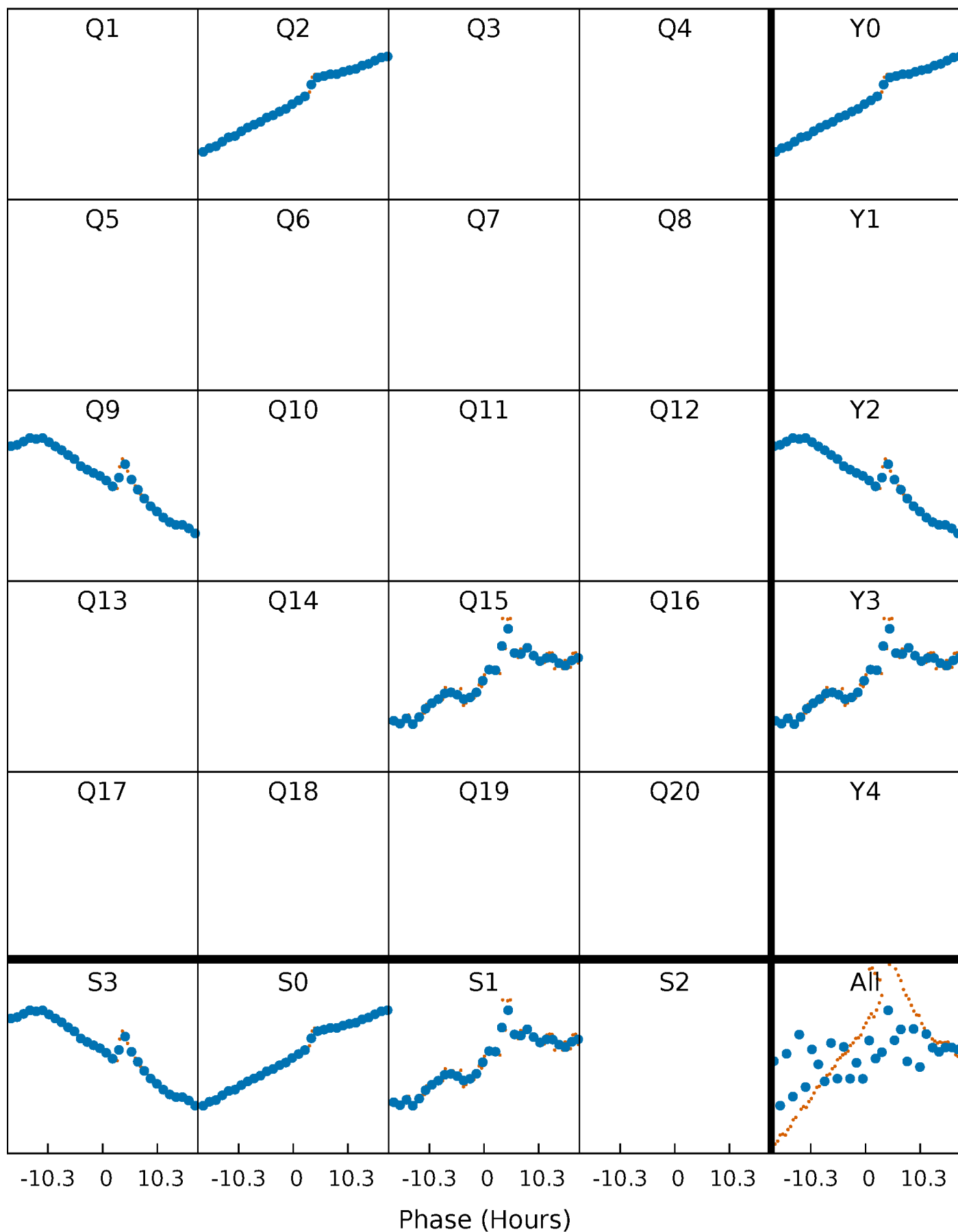


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



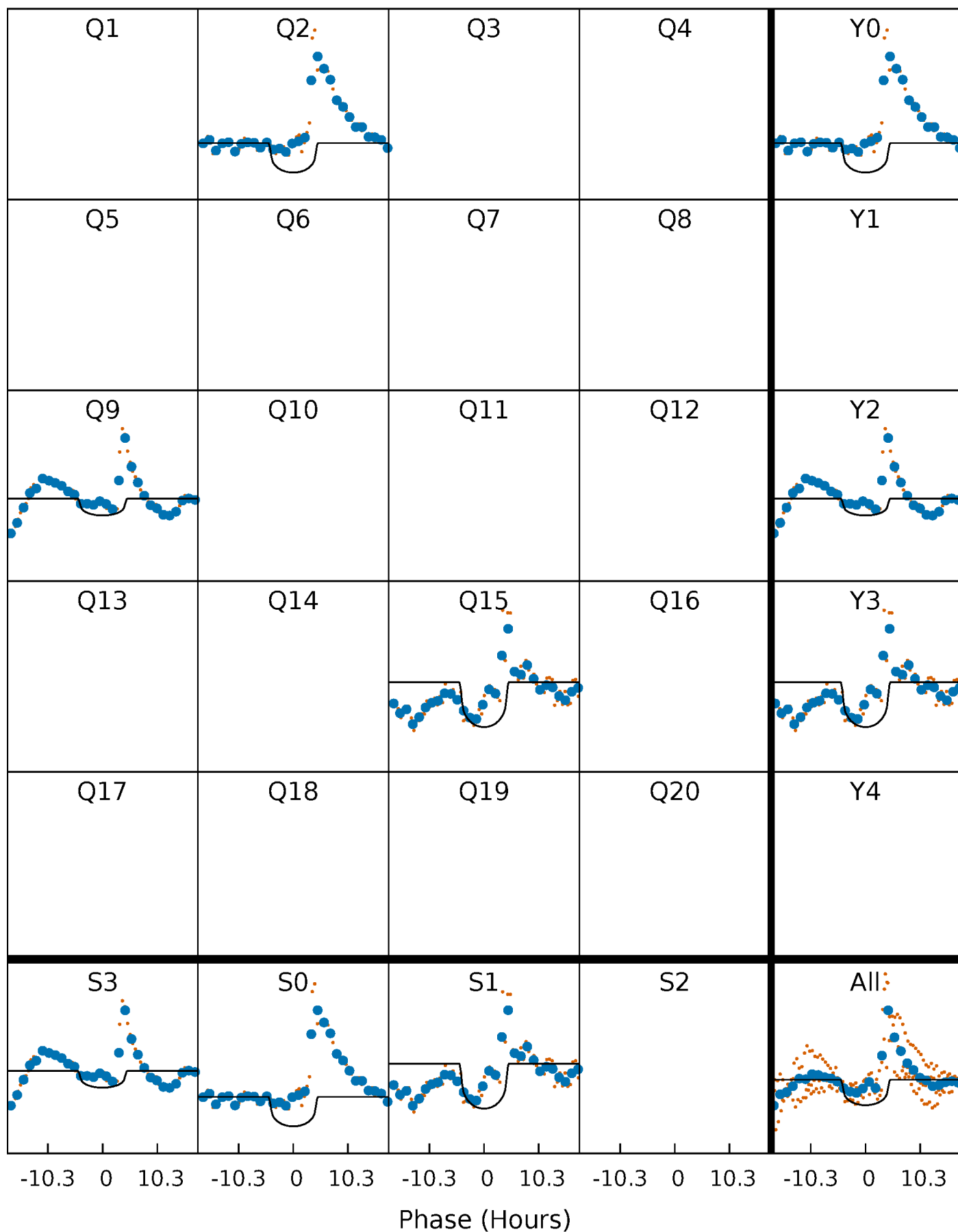
PDC Quarter-Phased Transit Curves

TCE 011970692-06 P=631.061195 Days $T_0=194.546206$ (BKJD)



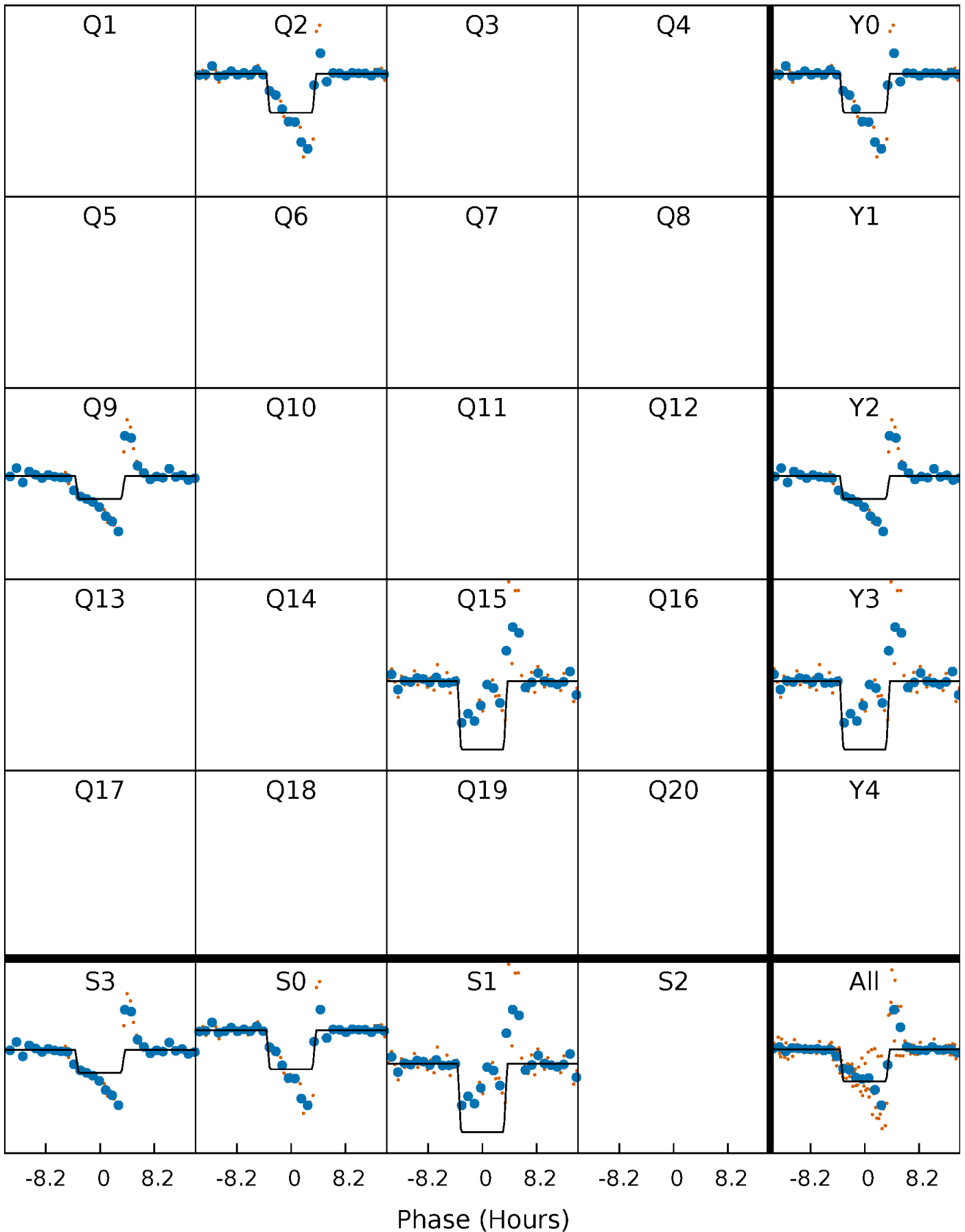
DV Quarter-Phased Transit Curves

TCE 011970692-06 P=631.061195 Days $T_0=194.546206$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

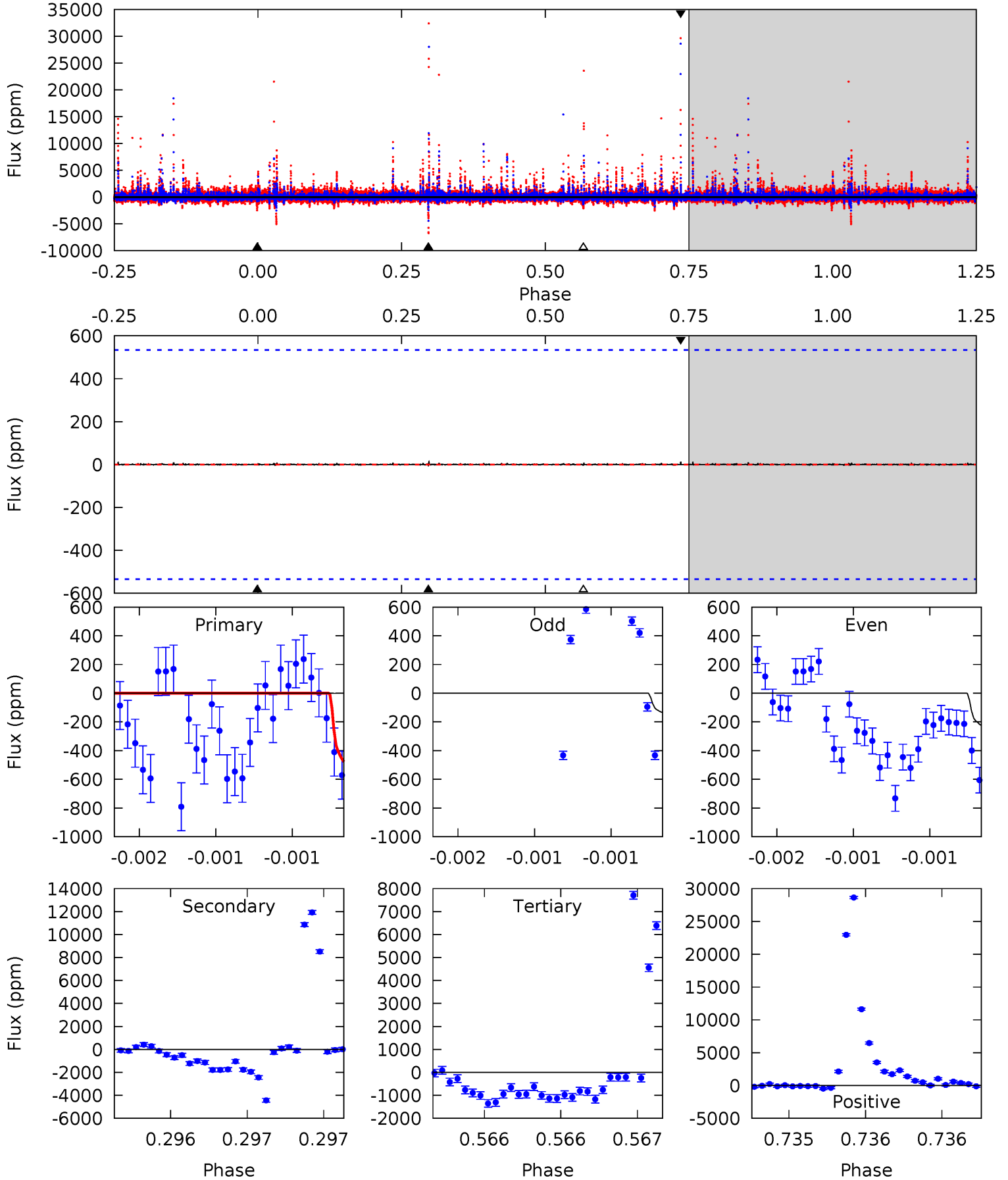
TCE 011970692-06 P=631.056445 Days $T_0=194.535645$ (BKJD)



DV Model-Shift Uniqueness Test

011970692-06, P = 631.061195 Days, E = 194.546206 Days

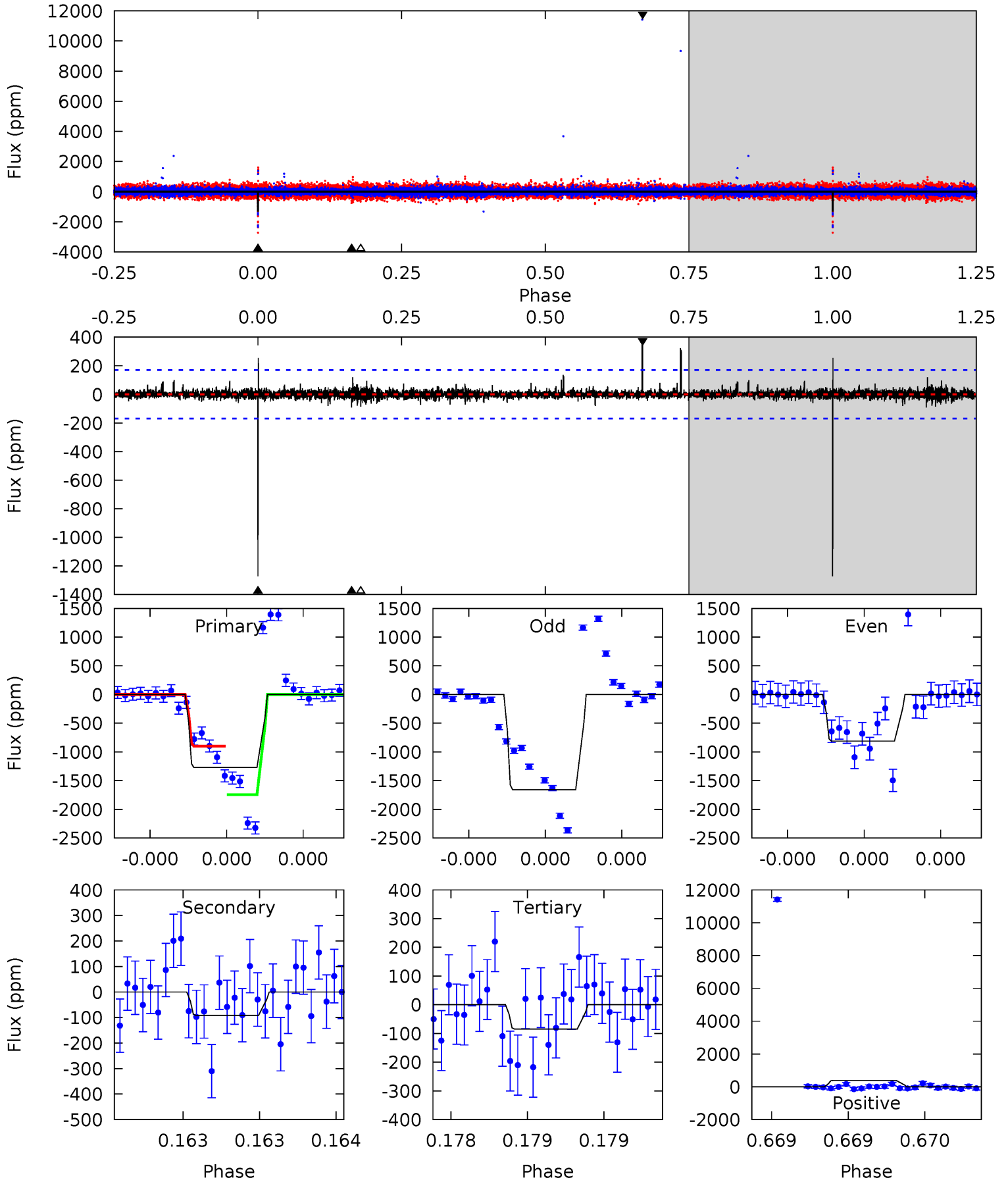
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.02	0.06	0.04	0.12	5.54	3.43	0.01	-0.02	-0.10	0.02	-0.06	0.19	0.06	0.72	0.29



Alt Model-Shift Uniqueness Test

011970692-06, P = 631.056445 Days, E = 194.535645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.9	3.00	2.78	12.9	5.58	3.50	0.64	39.1	29.0	0.22	-9.86	10.9	0.84	0.23	13.8



Stellar Parameters For KIC 011970692

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4885^{+135}_{-98}	$3.189^{+0.320}_{-0.320}$	$-0.240^{+0.300}_{-0.200}$	$3.981^{+2.259}_{-1.216}$	$0.893^{+0.342}_{-0.057}$	$0.020^{+0.042}_{-0.013}$
	+3%/-2%	+10%/-10%	+125%/-83%	+57%/-31%	+38%/-6%	+210%/-67%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011970692-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 96	$14.05^{+8.03}_{-6.83}$	512^{+67}_{-54}	2302^{+1124}_{-5610}	37^{+748}_{-676}
Alt.	-91 ± 30	$14.80^{+8.48}_{-6.72}$	509^{+67}_{-49}	3147^{+668}_{-328}	437^{+1110}_{-272}

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

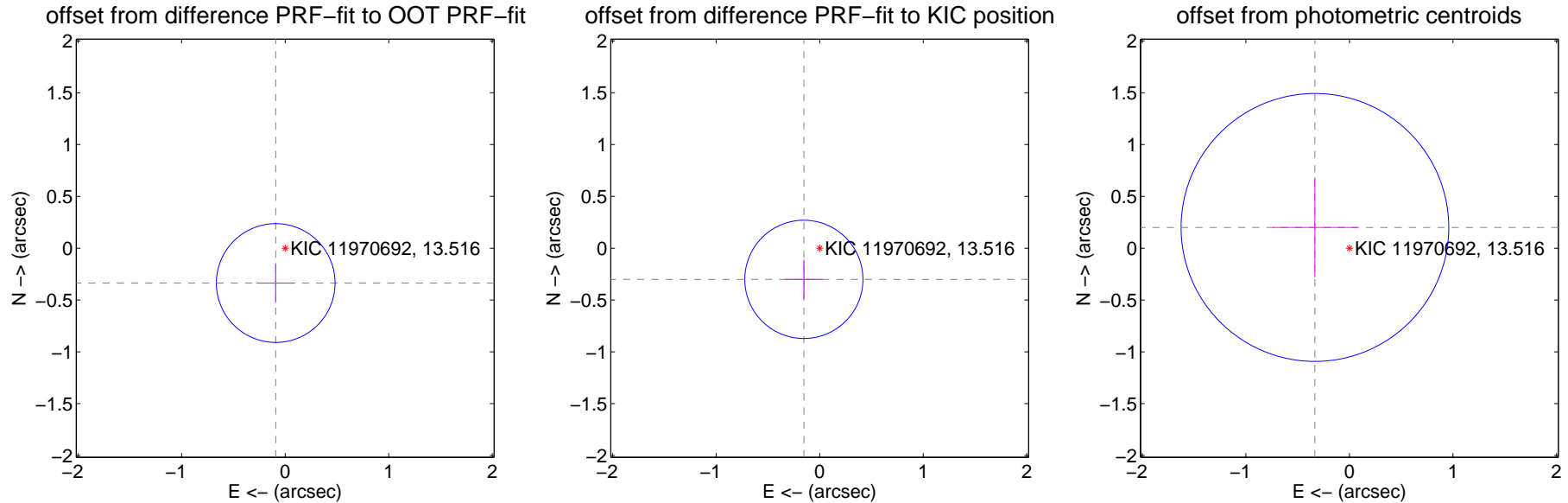
DV Centroid Data

Supplemental centroid analysis for 011970692-06. Kepler magnitude: 13.52. Transit SNR 7.25

There are 1 quarters with good PRF difference image offsets

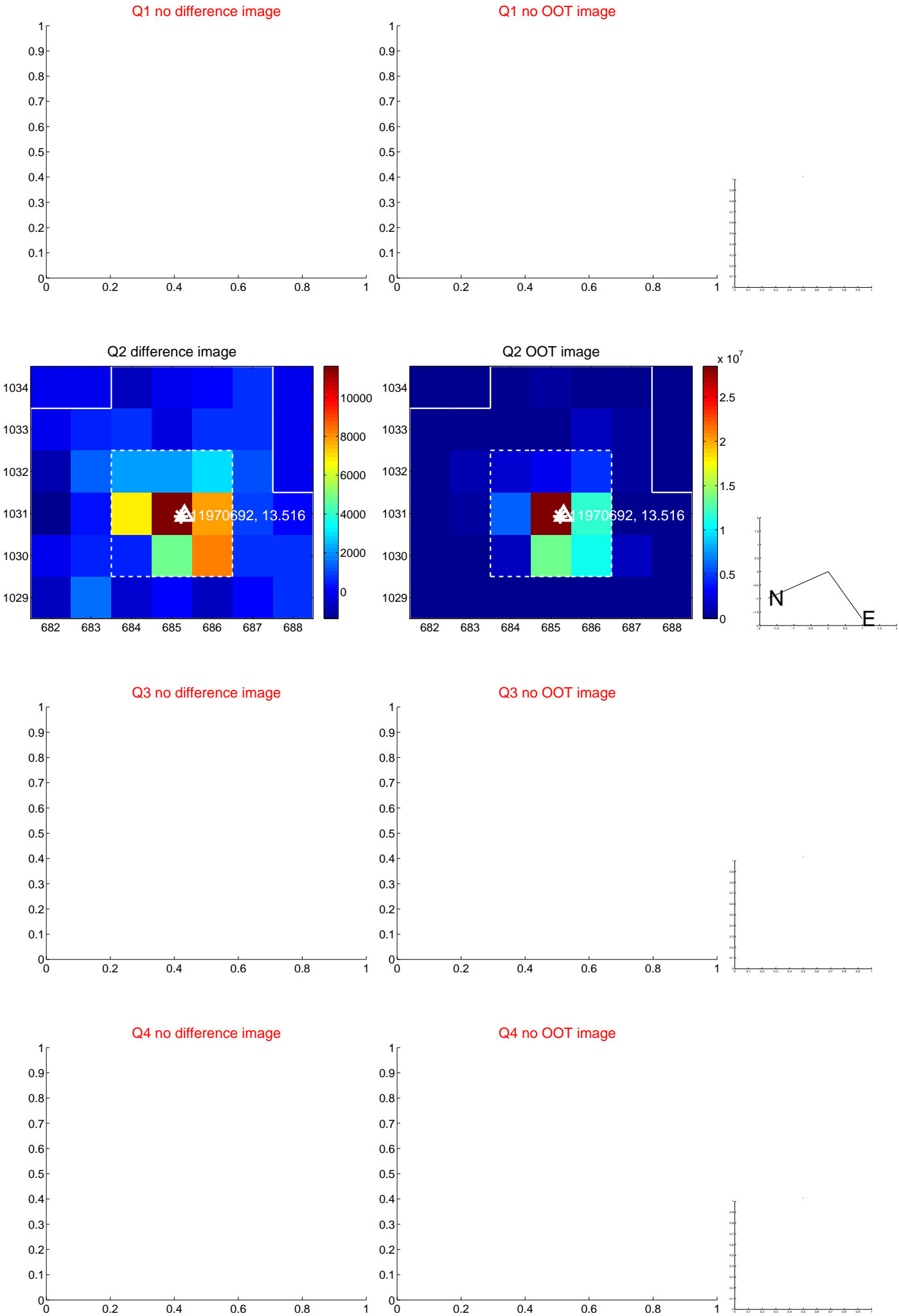
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.348 ± 0.191	1.82	0.091 ± 0.185	-0.336 ± 0.191
PRF-fit source offset from KIC position	0.337 ± 0.190	1.77	0.153 ± 0.185	-0.301 ± 0.191
photometric centroid source offset	0.39 ± 0.43	0.90	0.33 ± 0.41	0.20 ± 0.48



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.

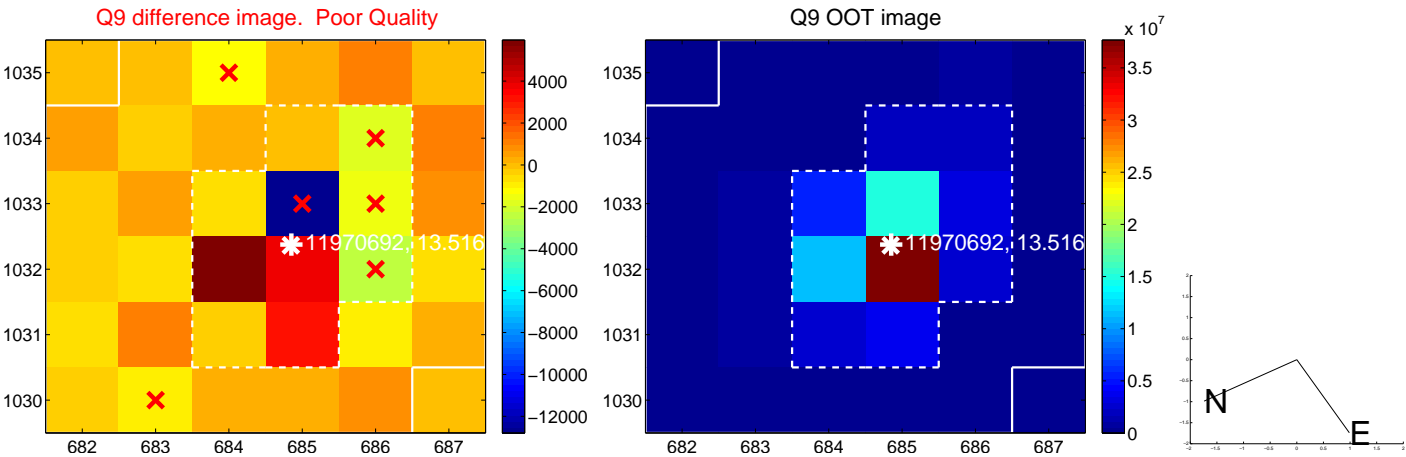
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

Q13 no difference image



Q13 no OOT image



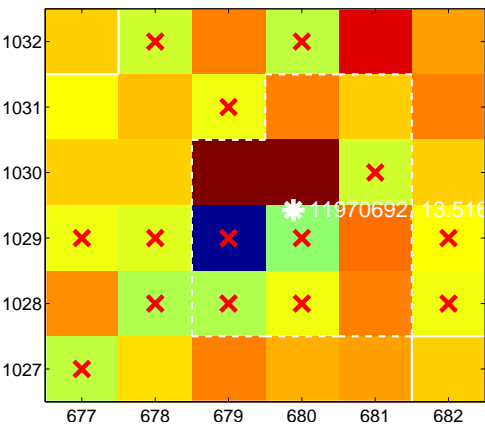
Q14 no difference image



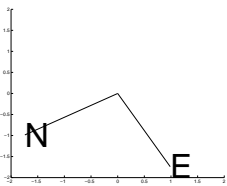
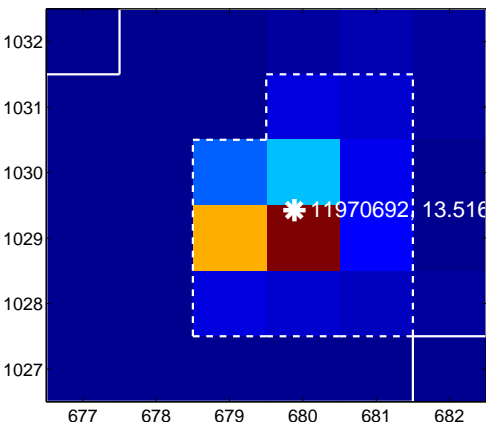
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



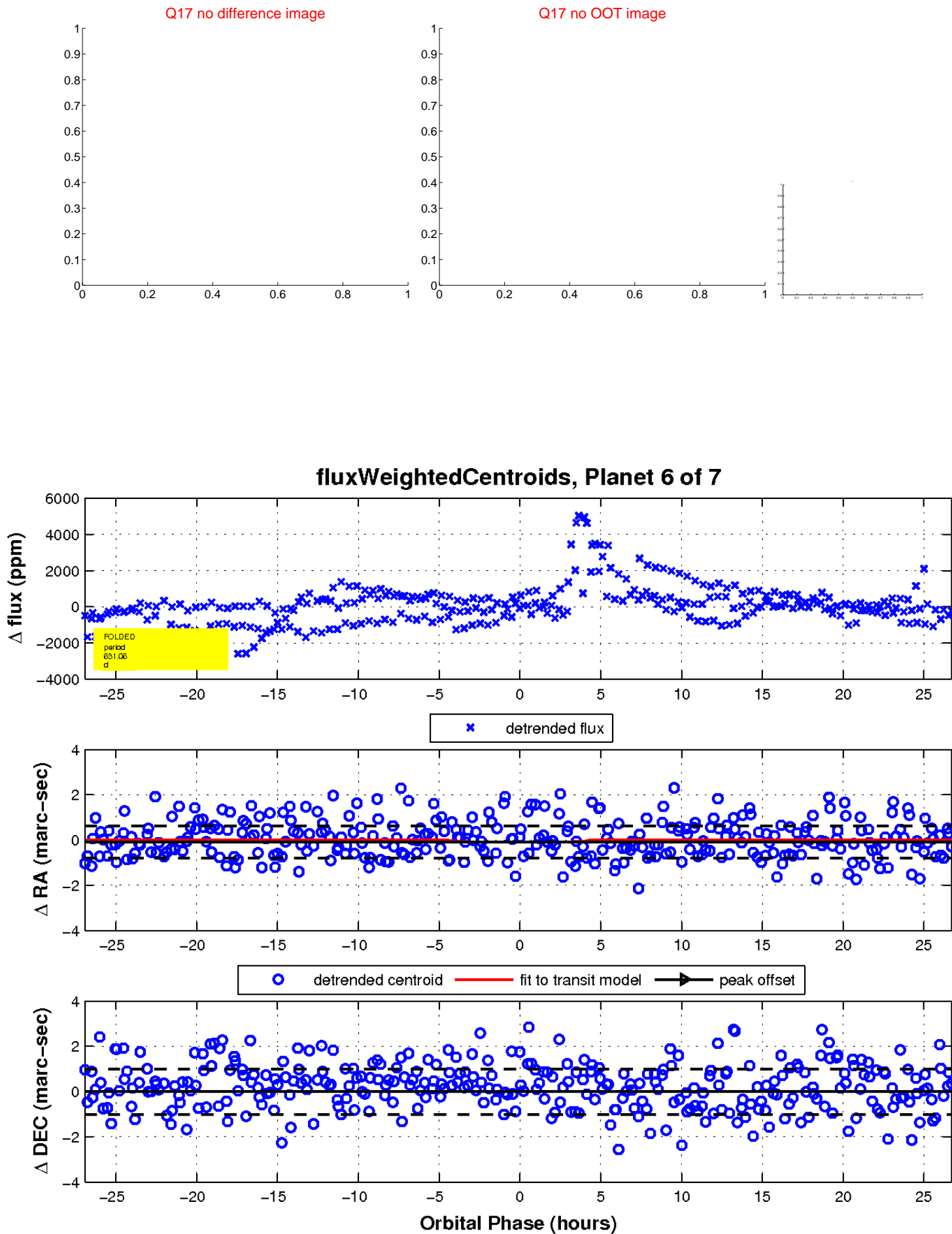
Q16 no difference image



Q16 no OOT image



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



UKIRT Image



KIC 011970692

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})
011970692-01	OBS	No	400.955329	223.651411	1234.1	16.883	18.8	7.2	3.98	4885	13.61	7.70
011970692-02	OBS	No	561.249886	276.725816	1266.8	16.427	17.2	6.0	3.98	4885	13.70	4.91
011970692-03	OBS	No	550.011478	268.632868	937.0	5.855	14.6	6.3	3.98	4885	13.76	5.05
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011970692-06	OBS	No	631.061195	194.546206	1140.4	8.970	16.4	7.3	3.98	4885	13.60	4.20
011970692-07	OBS	No	399.209135	294.381564	1169.7	2.871	14.6	9.6	3.98	4885	15.35	7.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011970692-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011970692-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_UNRESOLVED_OFFSET
011970692-03	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
011970692-04	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011970692-05	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
011970692-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
011970692-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—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.

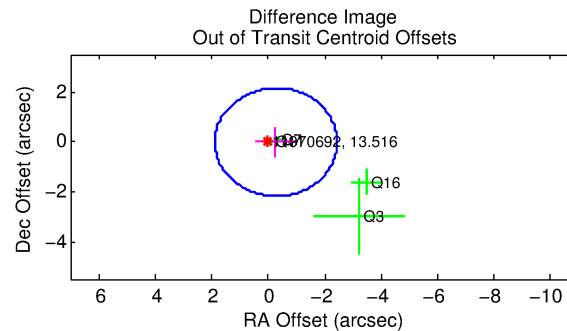
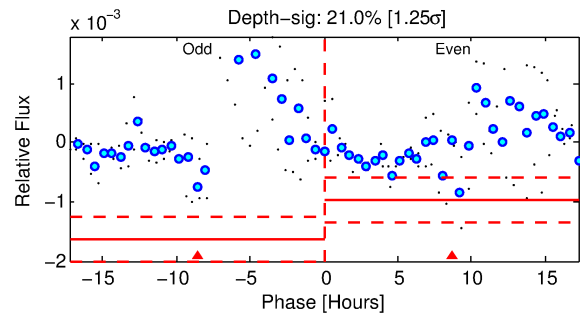
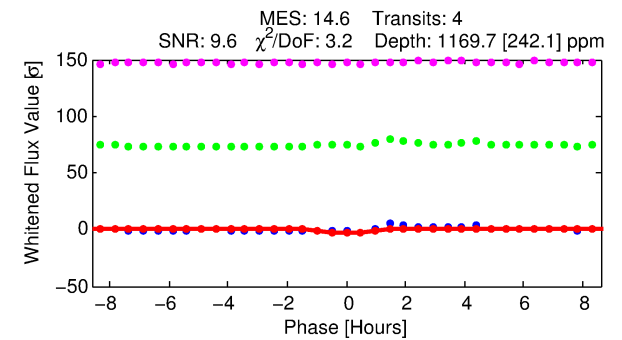
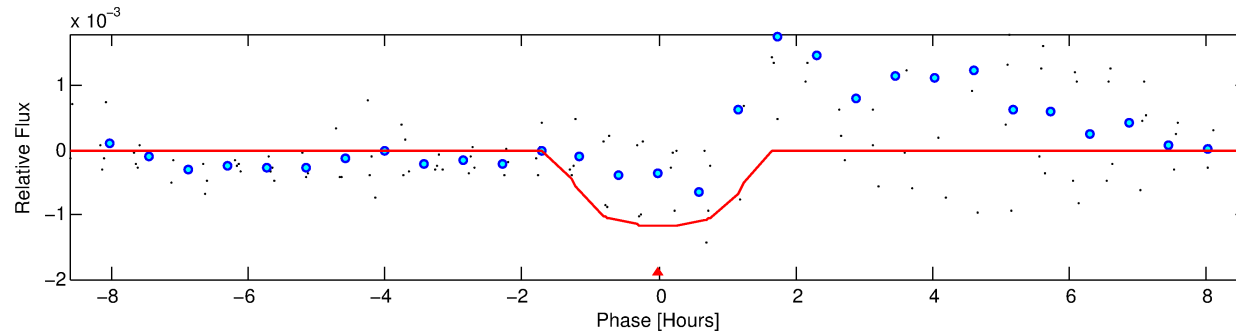
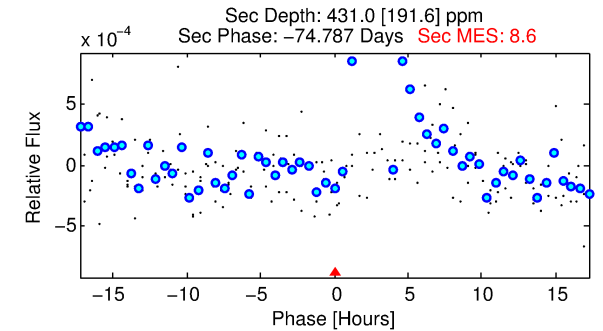
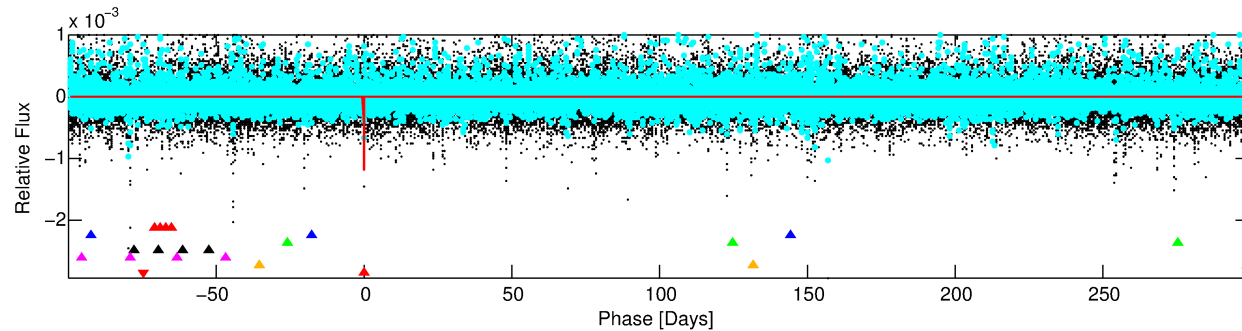
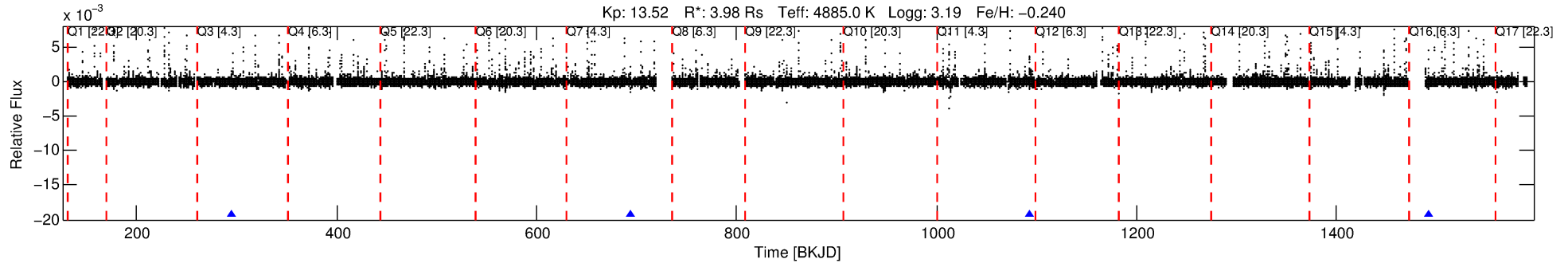
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970692-07

No Significant Match Found

DV One-Page Summary

KIC: 11970692 Candidate: 7 of 7 Period: 399.209 d



DV Fit Results:

Period = 399.20914 [0.00432] d
Epoch = 294.3816 [0.0093] BKJD
Rp/R* = 0.0353 [0.0767]
a/R* = 691.42 [5385.22]
b = 0.81 [3.51]
Seff = 7.74 [4.87]
Teq = 425 [67] K
Rp = 15.35 [34.44] Re
a = 1.0221 [0.4610] AU
Ag = 1050.81 [4630.82] [0.23 σ]
Teffp = 3744 [4085] K [0.81 σ]

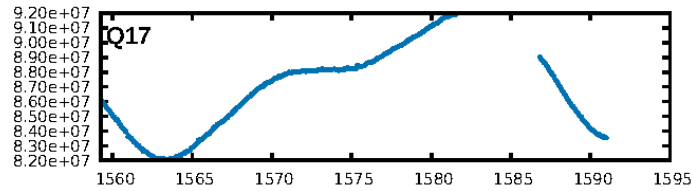
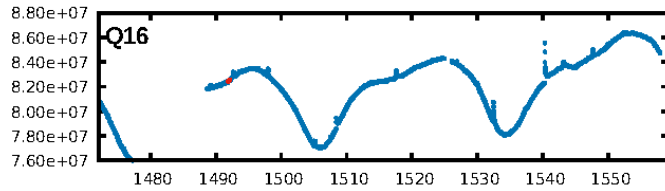
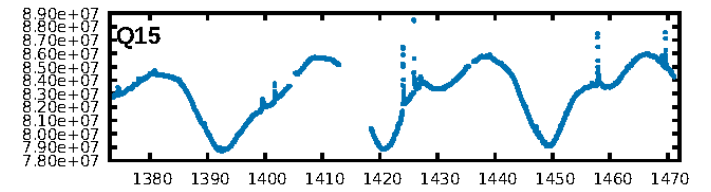
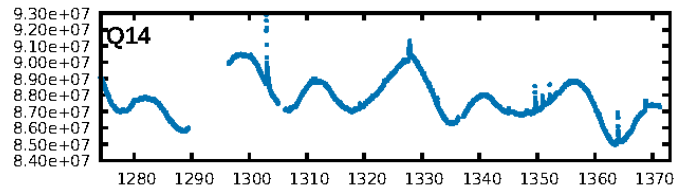
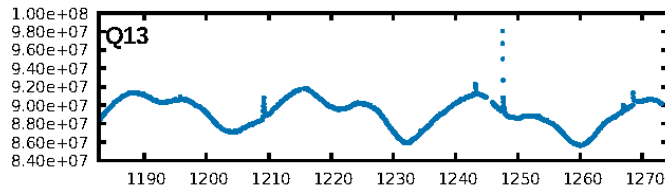
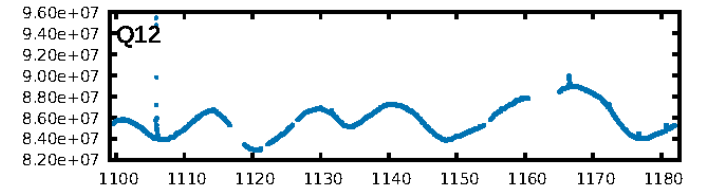
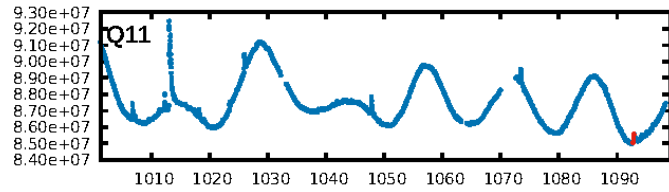
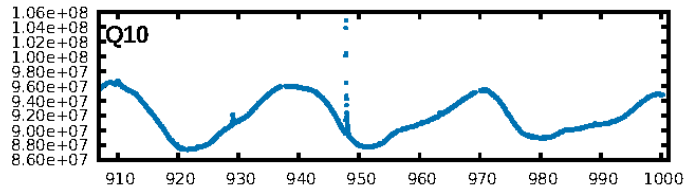
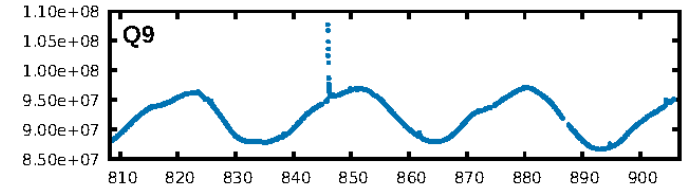
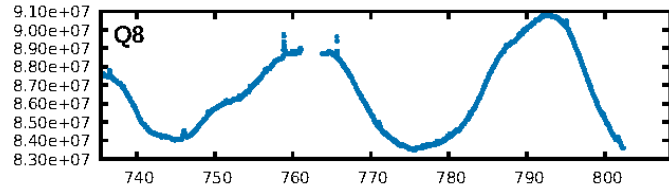
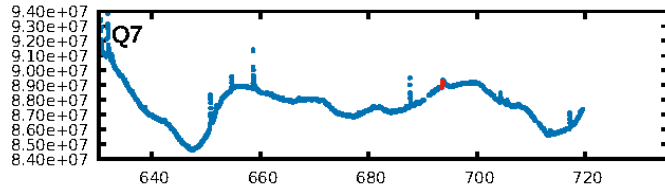
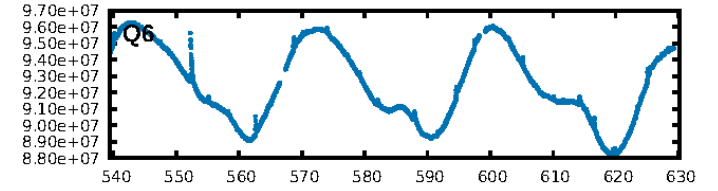
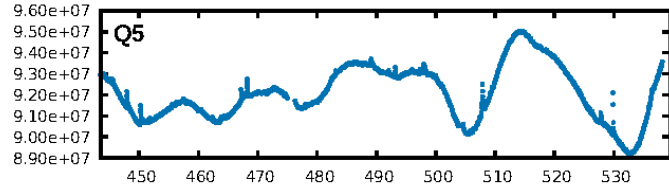
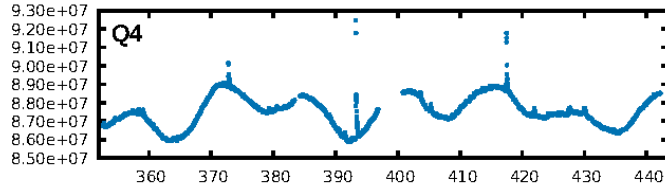
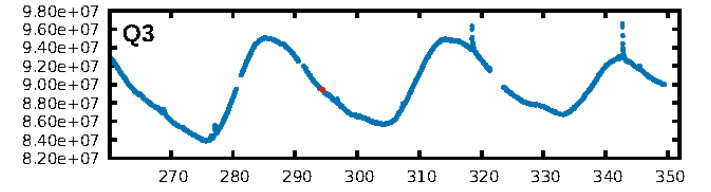
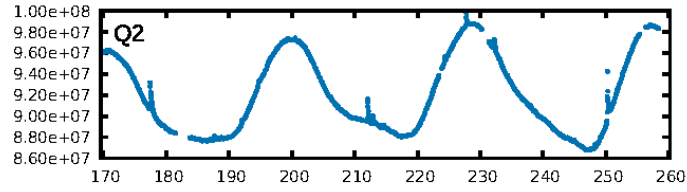
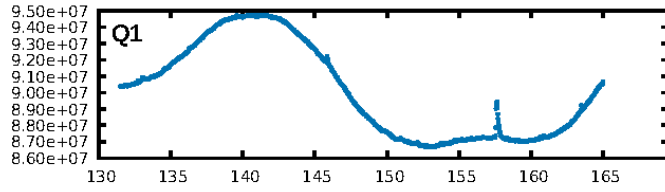
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.44 σ]
LongPeriod-sig: 98.6% [2.45 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.699
Centroid-sig: 60.2%
Centroid-so: 0.408 arcsec [0.68 σ]
OotOffset-rm: 0.279 arcsec [0.39 σ]
KicOffset-rm: 0.250 arcsec [0.30 σ]
OotOffset-st: 0/3/1/0 [4]
KicOffset-st: 0/3/1/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

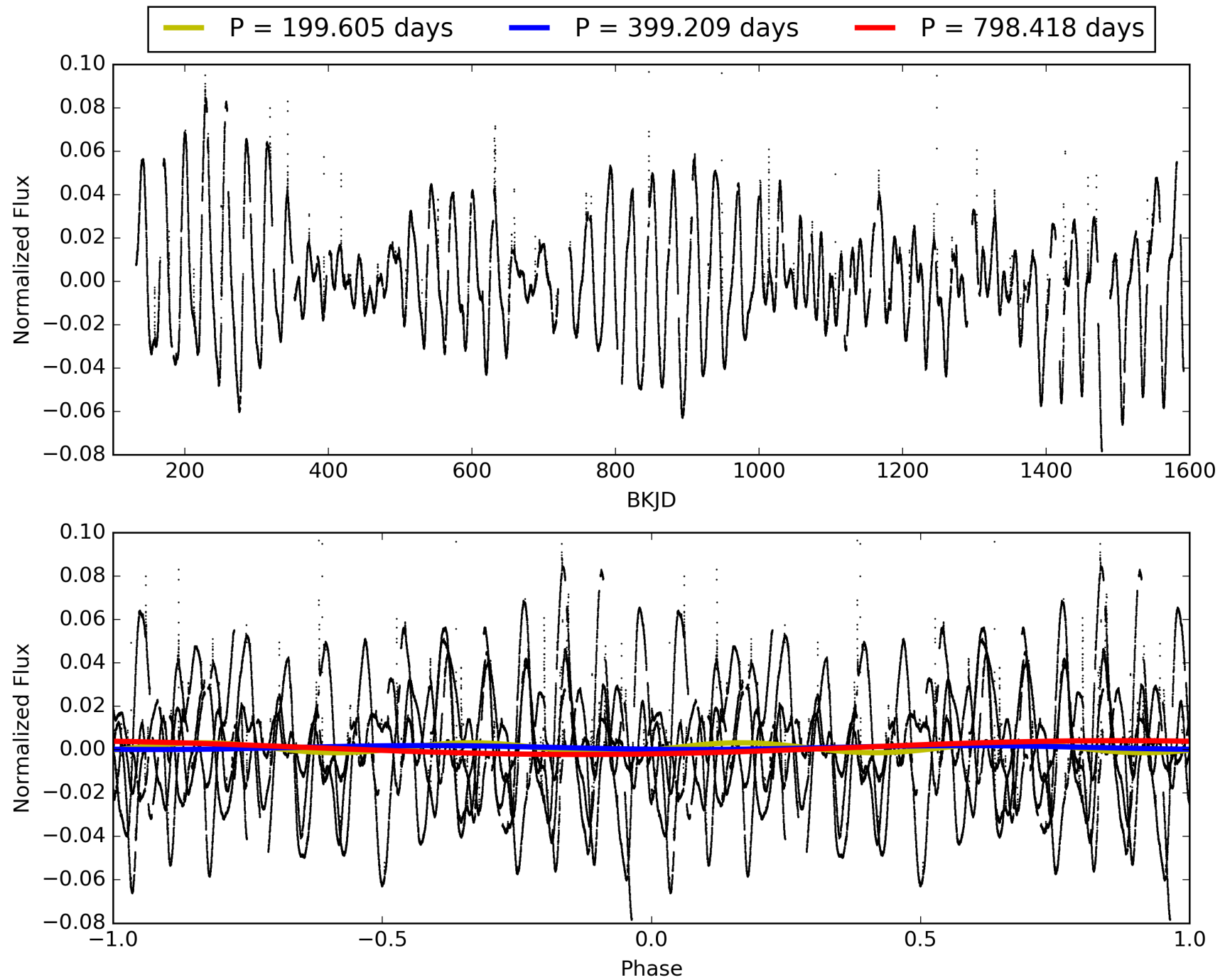
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:57:03 Z

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

TCE 011970692-07, PDC Light Curves

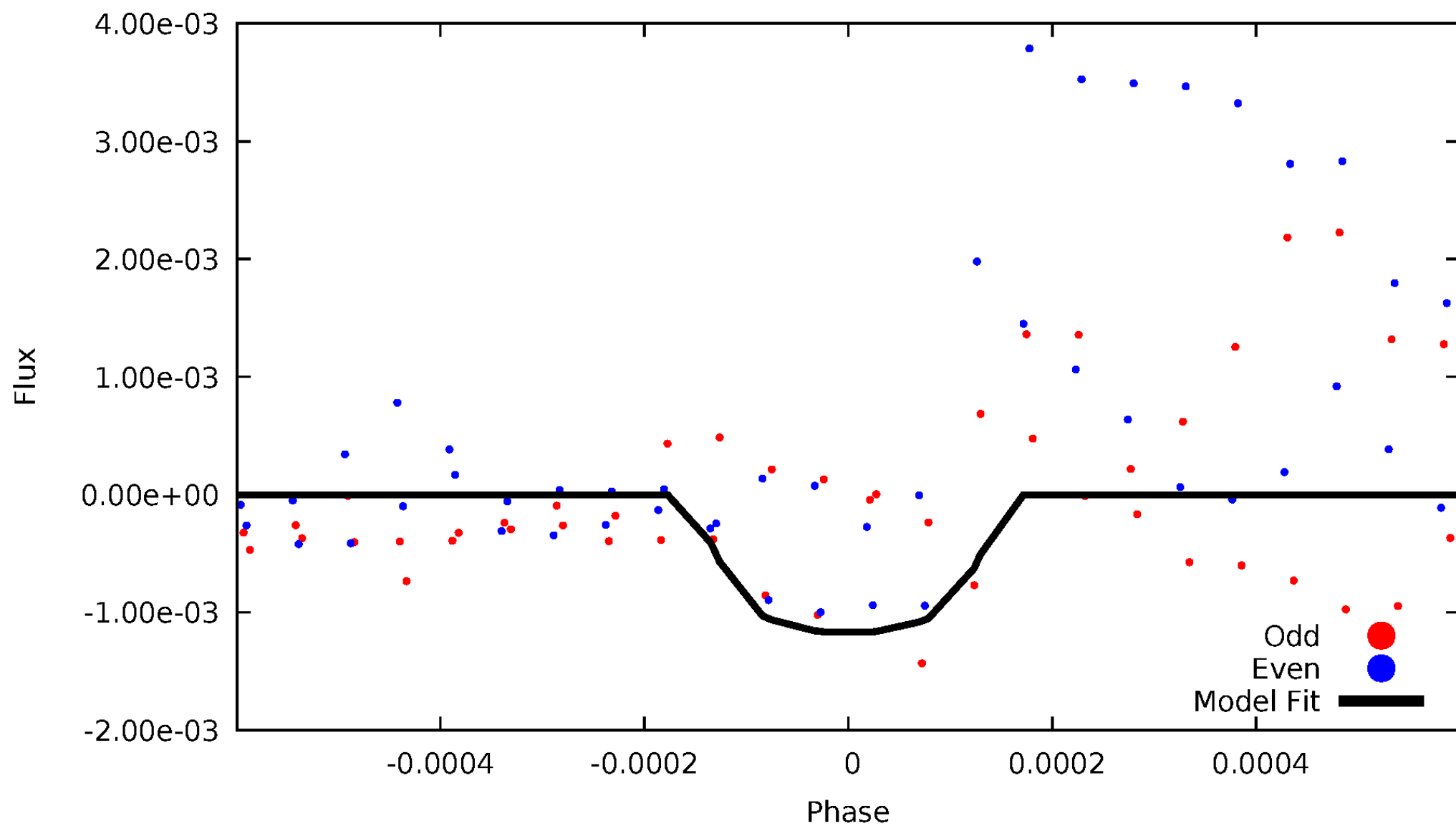


TCE 011970692-07



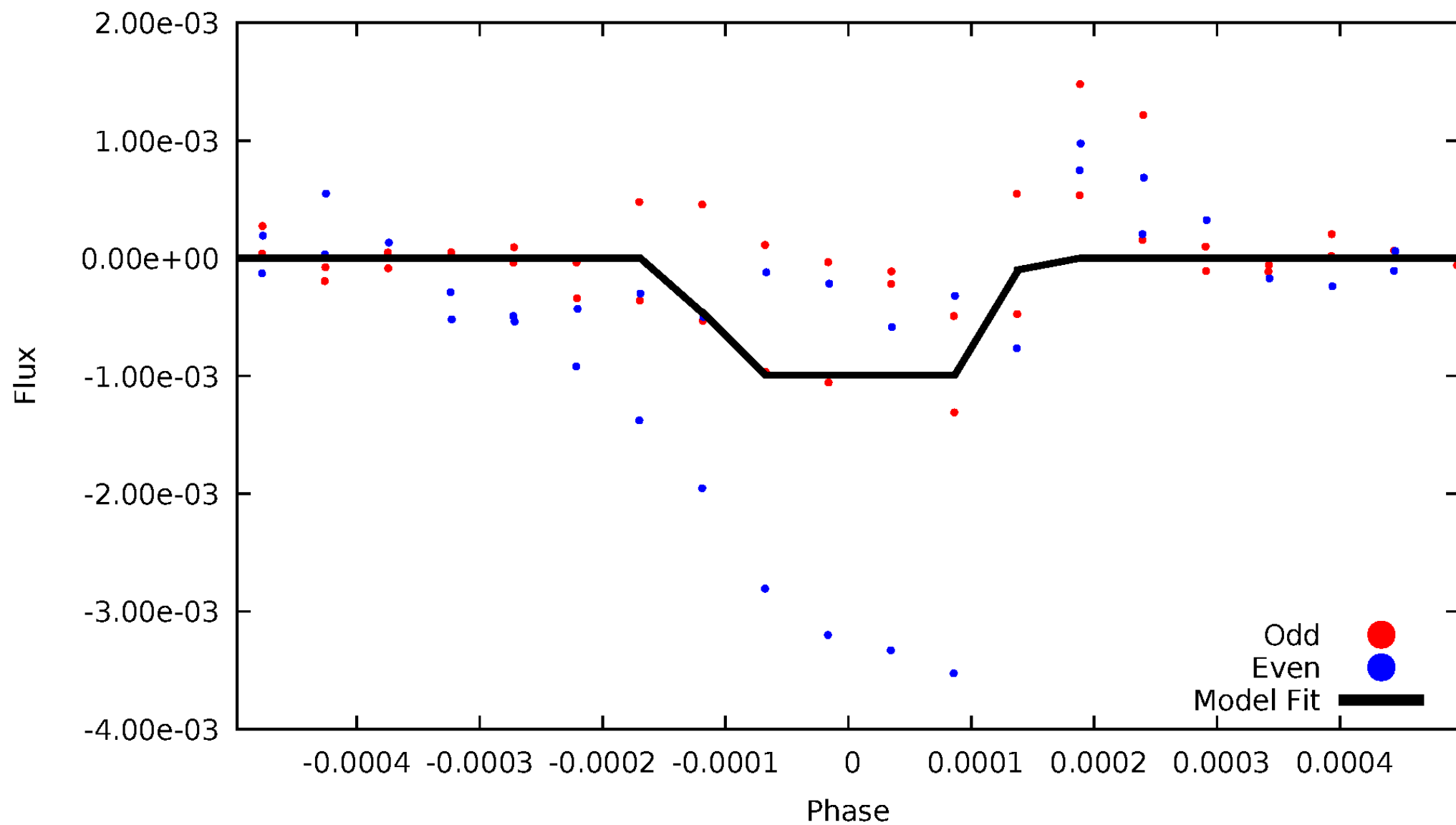
DV Odd/Even

TCE 011970692-07



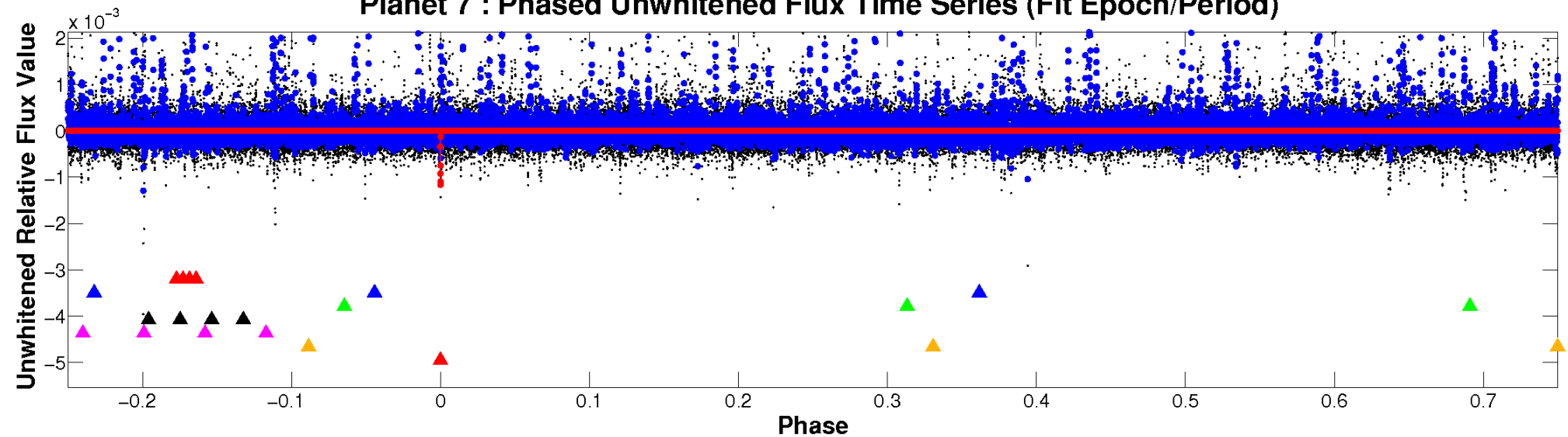
ALT Odd/Even

TCE 011970692-07

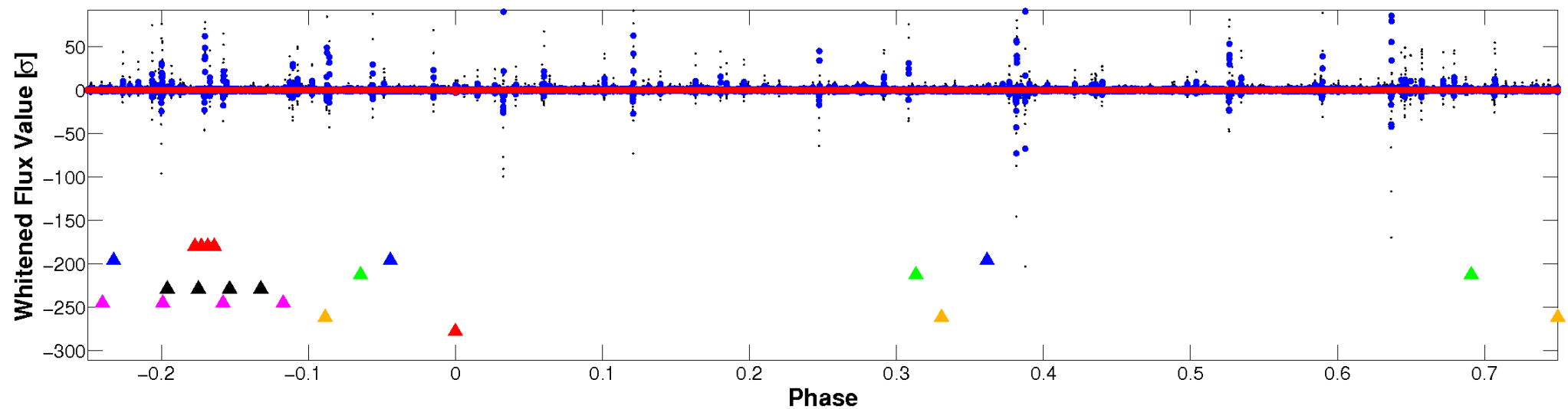


Non-Whitened Vs. Whitened Light Curve

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

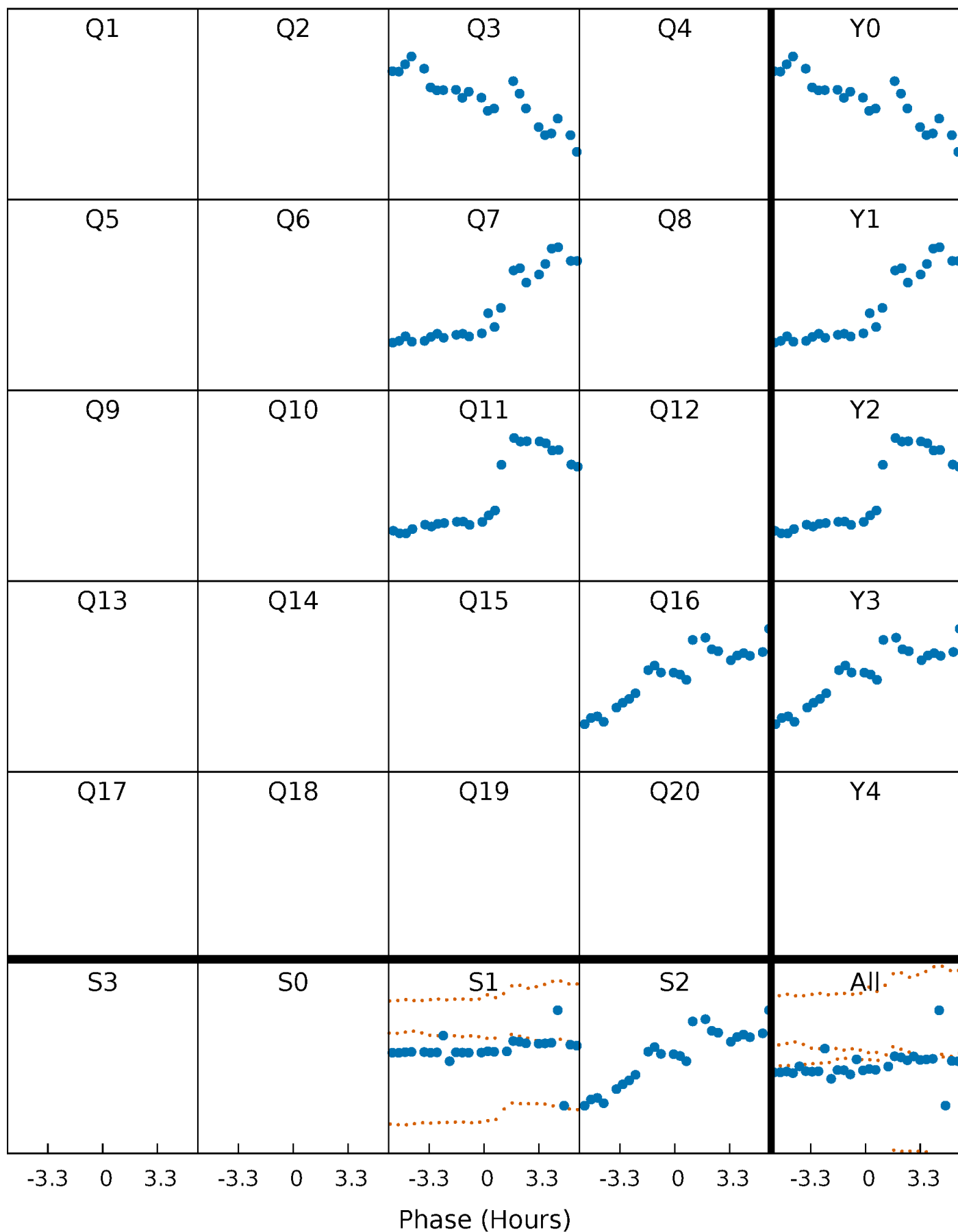


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



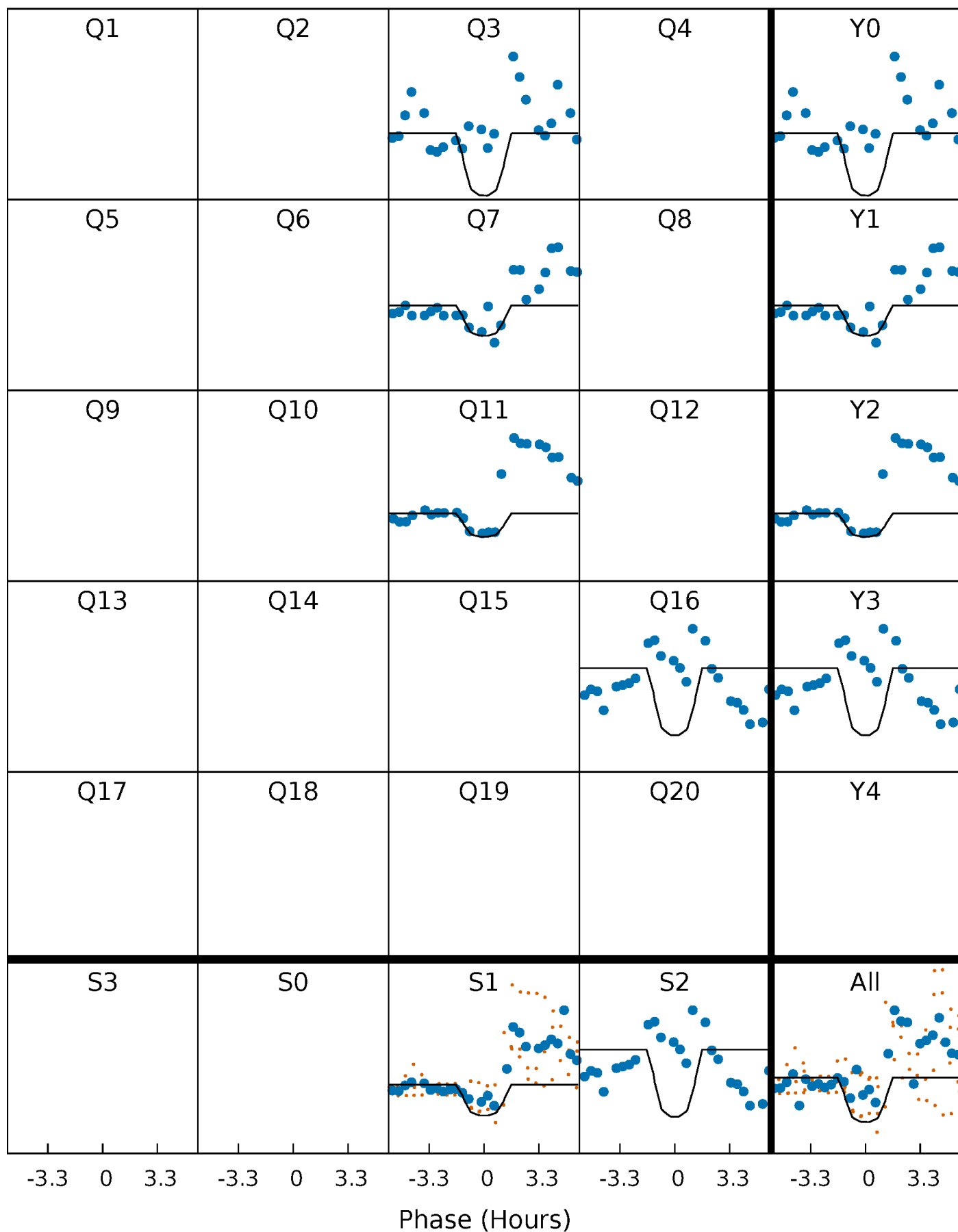
PDC Quarter-Phased Transit Curves

TCE 011970692-07 $P=399.209135$ Days $T_0=294.381564$ (BKJD)



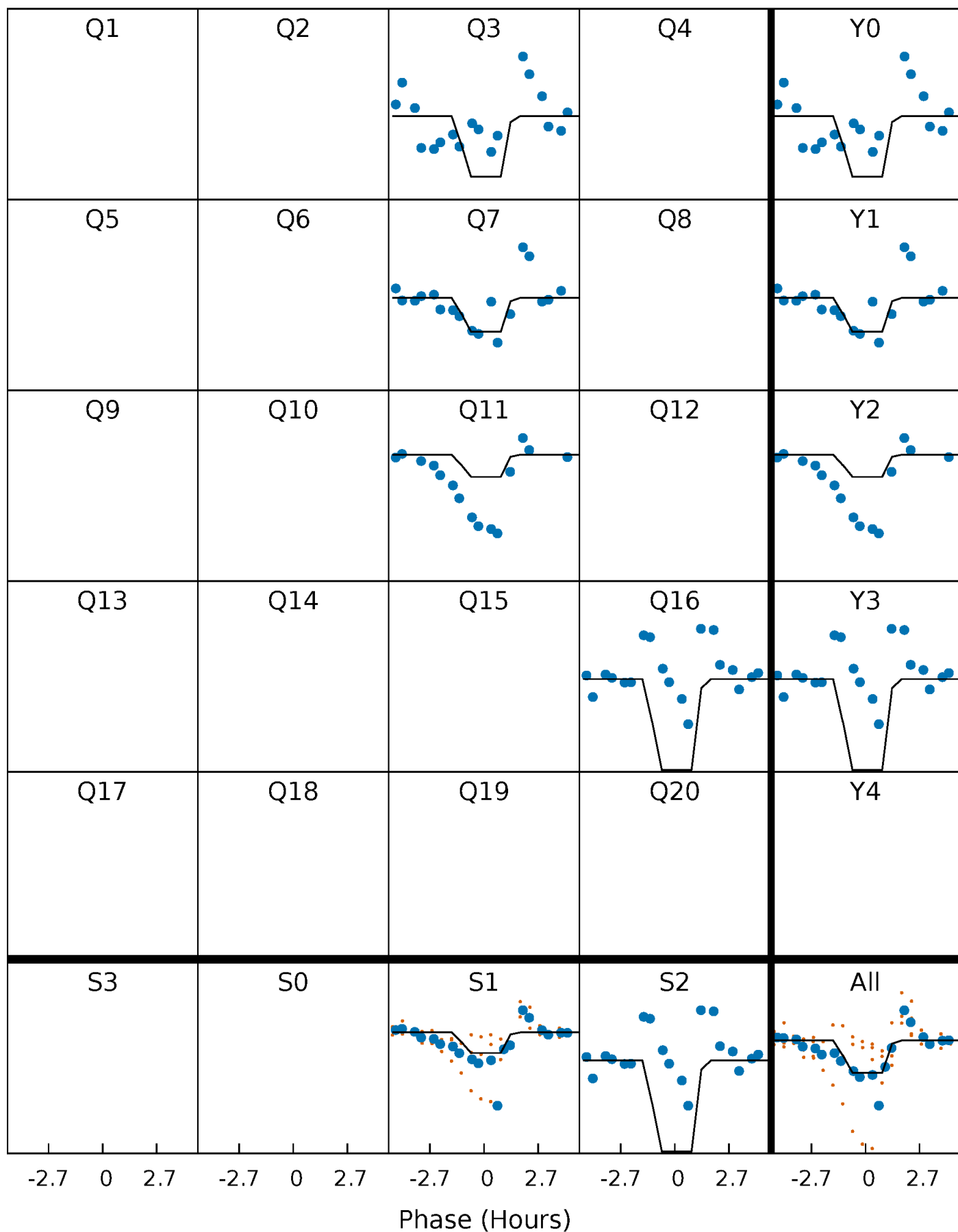
DV Quarter-Phased Transit Curves

TCE 011970692-07 $P=399.209135$ Days $T_0=294.381564$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

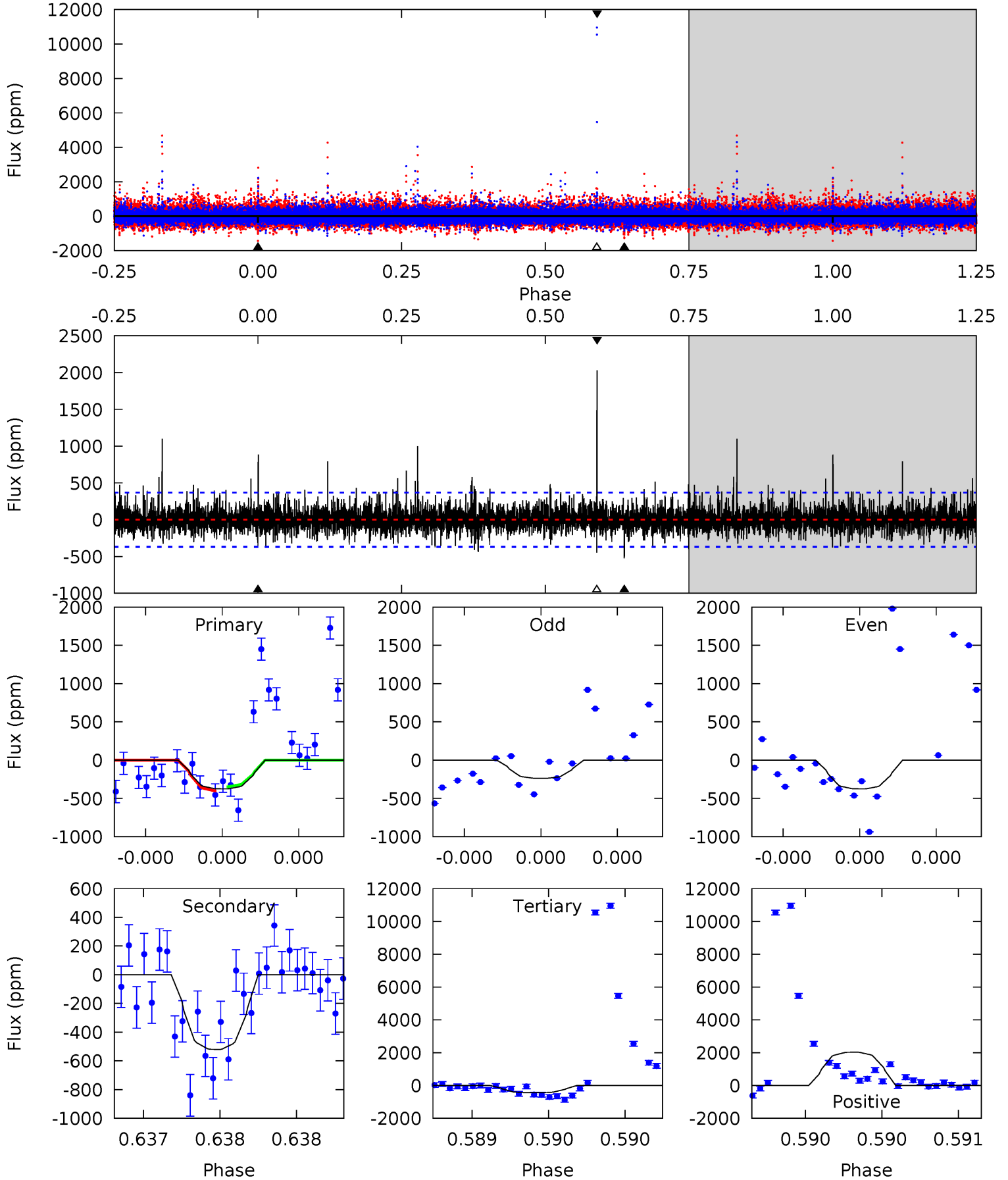
TCE 011970692-07 $P=399.210462$ Days $T_0=294.374642$ (BKJD)



DV Model-Shift Uniqueness Test

011970692-07, P = 399.209135 Days, E = 294.381564 Days

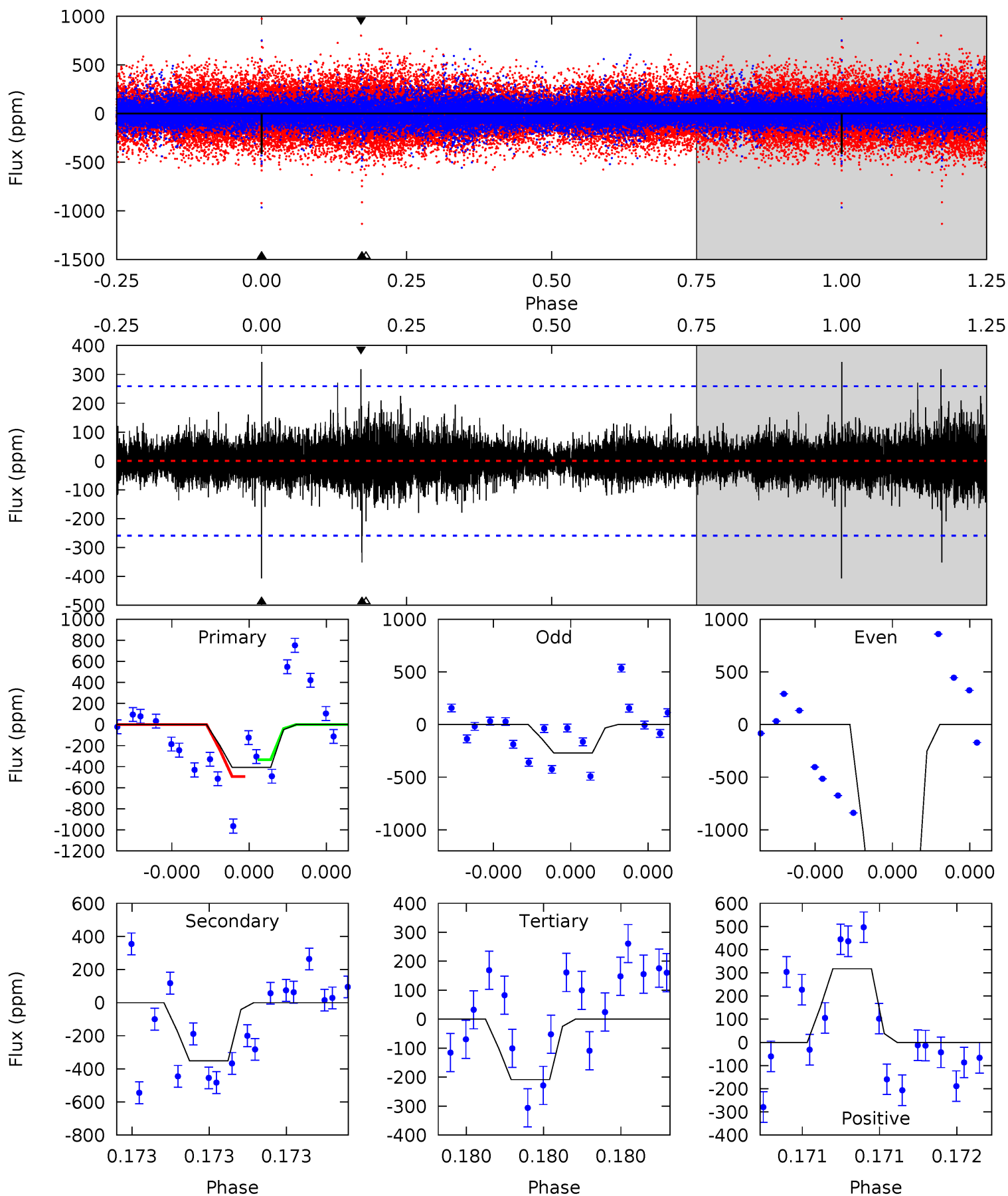
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.77	7.99	6.82	31.1	5.66	3.61	1.86	-1.05	-25.4	1.17	-23.2	0.29	1.02	0.80	0.44



Alt Model-Shift Uniqueness Test

011970692-07, P = 399.210462 Days, E = 294.374642 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.90	7.68	4.56	6.95	5.66	3.61	0.85	4.34	1.96	3.11	0.73	18.7	1.86	0.46	1.75



Stellar Parameters For KIC 011970692

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4885^{+135}_{-98}	$3.189^{+0.320}_{-0.320}$	$-0.240^{+0.300}_{-0.200}$	$3.981^{+2.259}_{-1.216}$	$0.893^{+0.342}_{-0.057}$	$0.020^{+0.042}_{-0.013}$
	+3%/-2%	+10%/-10%	+125%/-83%	+57%/-31%	+38%/-6%	+210%/-67%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011970692-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-521 ± 65	$29.75^{+27.40}_{-19.72}$	593^{+80}_{-60}	3358^{+1543}_{-573}	373^{+2790}_{-279}
Alt.	-351 ± 46	$29.10^{+31.71}_{-20.53}$	593^{+79}_{-59}	3122^{+1736}_{-501}	240^{+2807}_{-179}

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 $A_{obs} \gg 1.0$

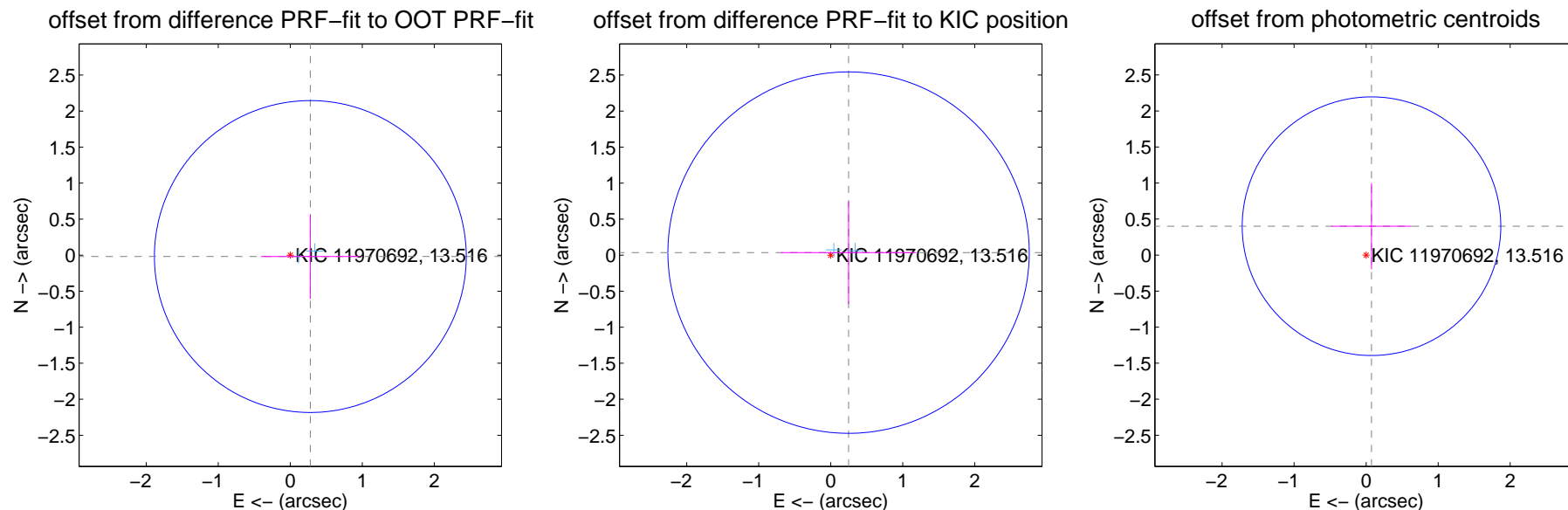
DV Centroid Data

Supplemental centroid analysis for 011970692-07. Kepler magnitude: 13.52. Transit SNR 9.60

There are 2 quarters with good PRF difference image offsets

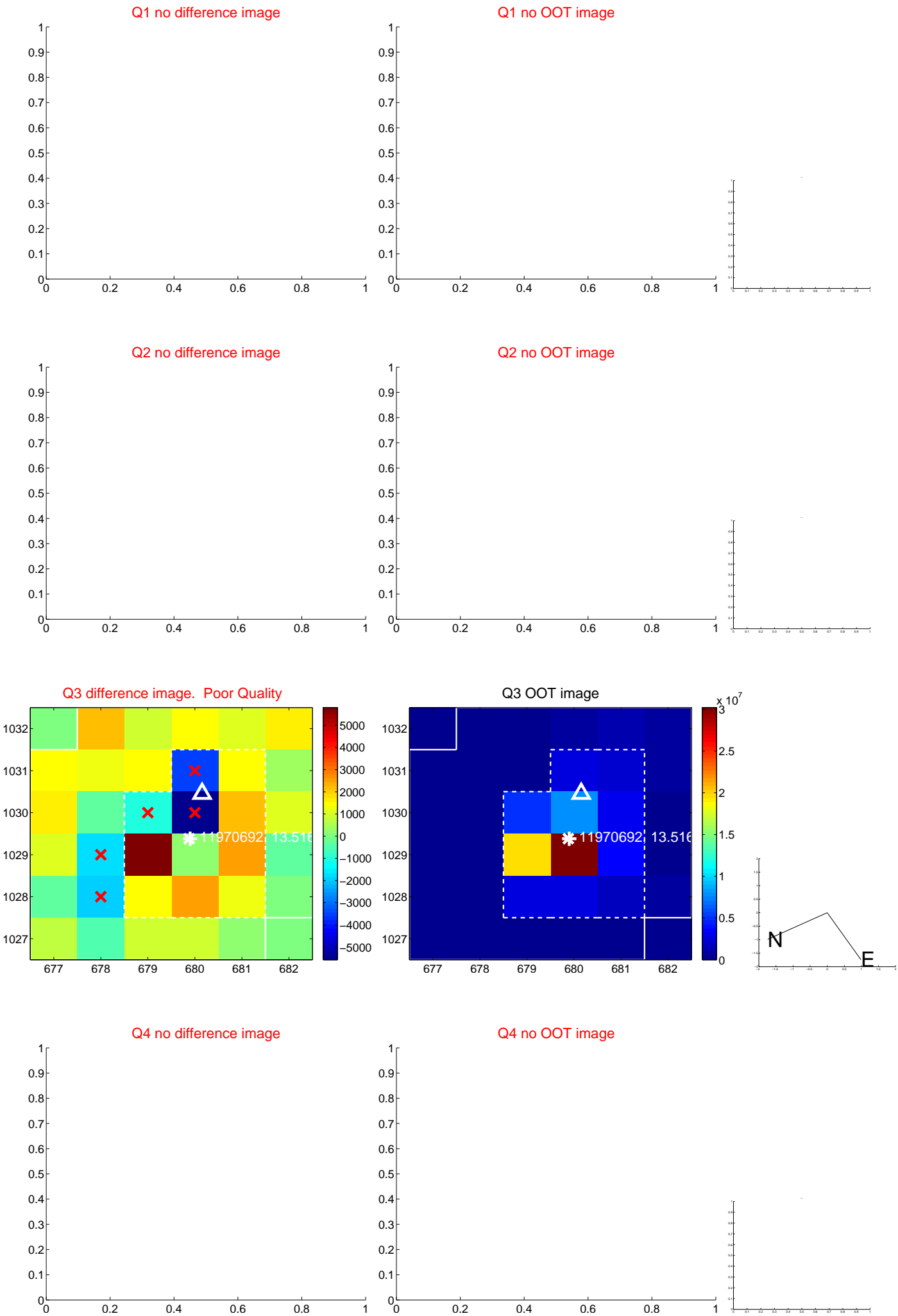
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.279 ± 0.722	0.39	-0.279 ± 0.686	-0.019 ± 0.589
PRF-fit source offset from KIC position	0.250 ± 0.836	0.30	-0.248 ± 0.937	0.035 ± 0.711
photometric centroid source offset	0.41 ± 0.60	0.68	-0.07 ± 0.56	0.40 ± 0.60

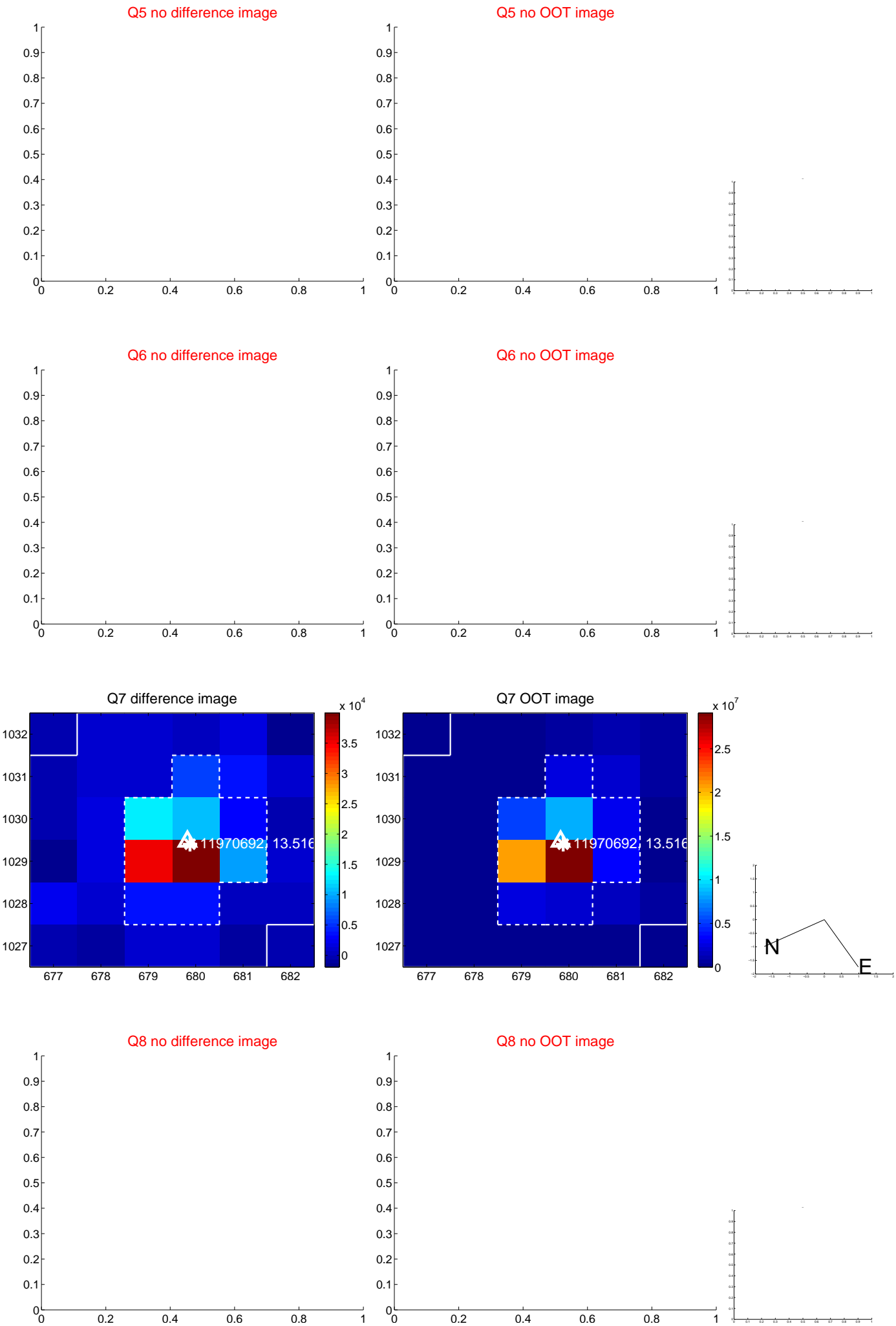


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

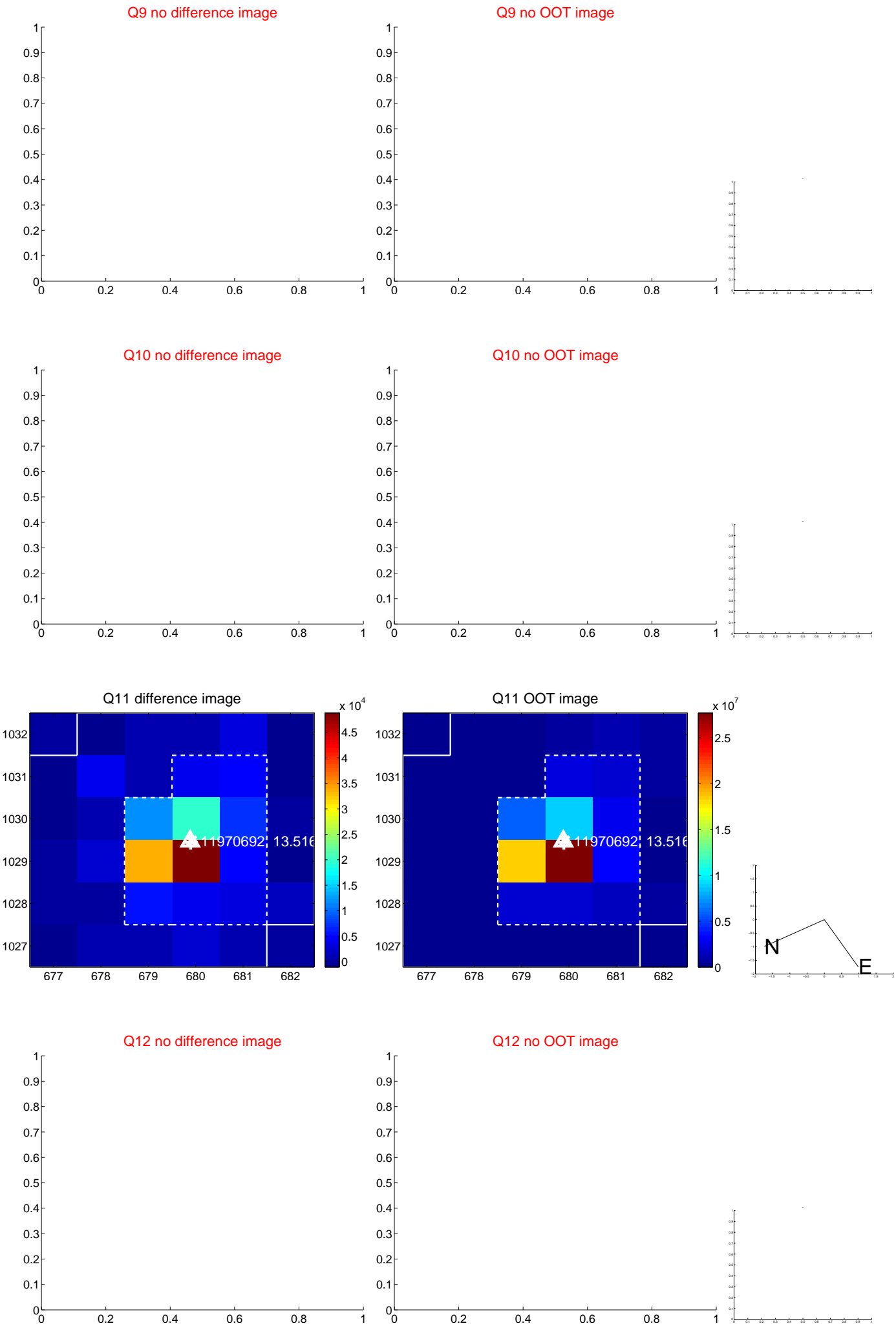
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



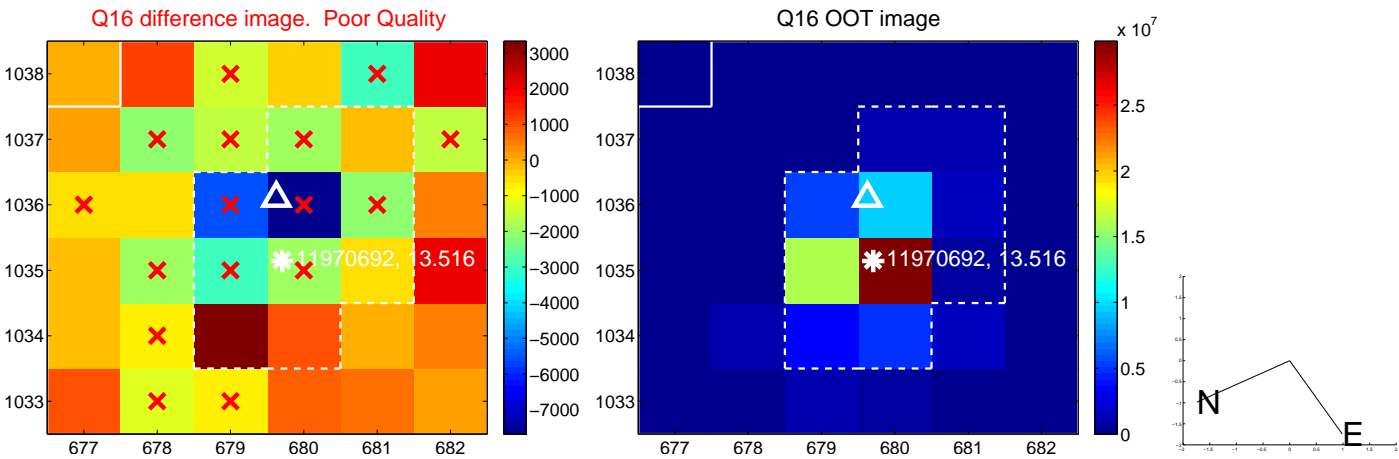
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



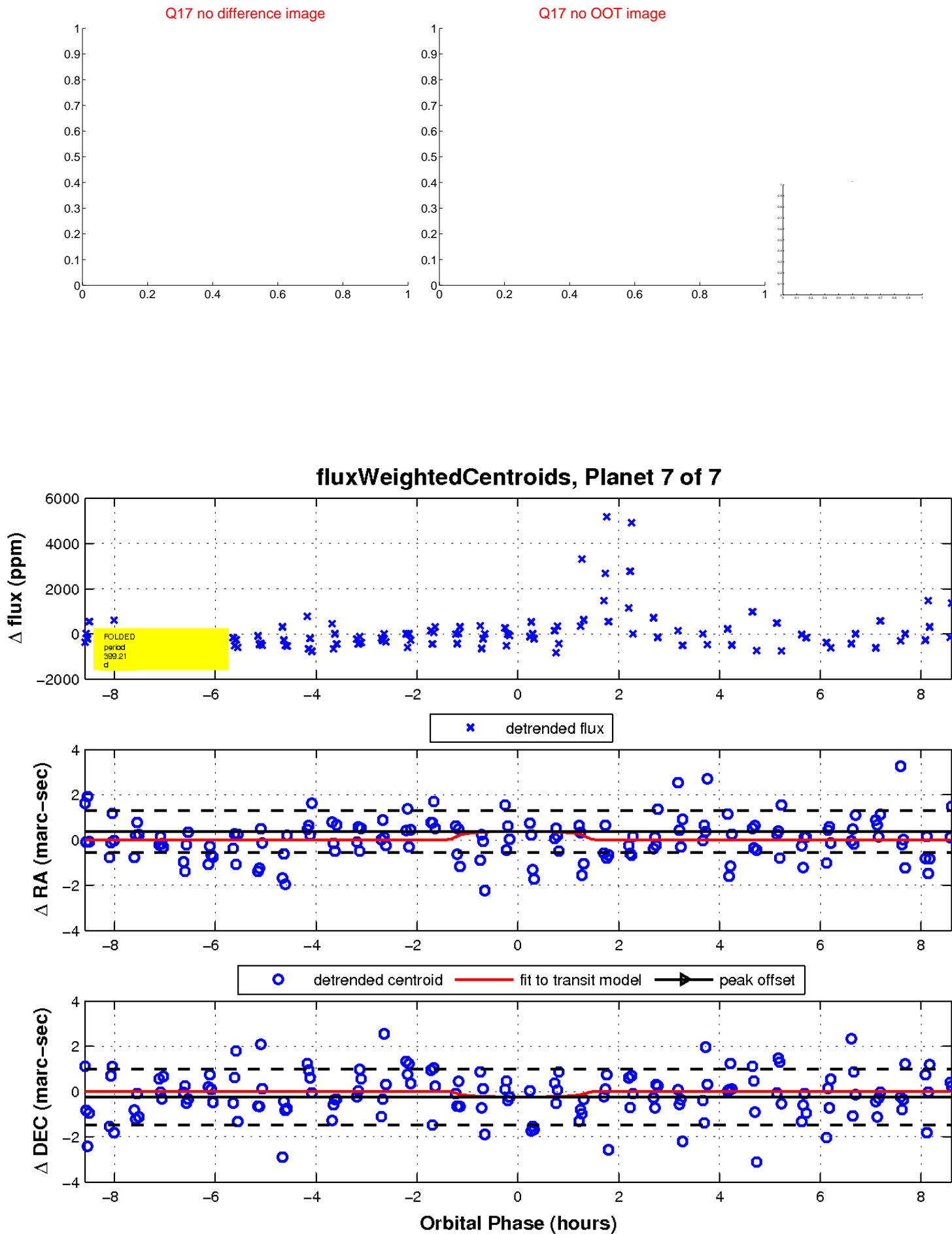
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

