

KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
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006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

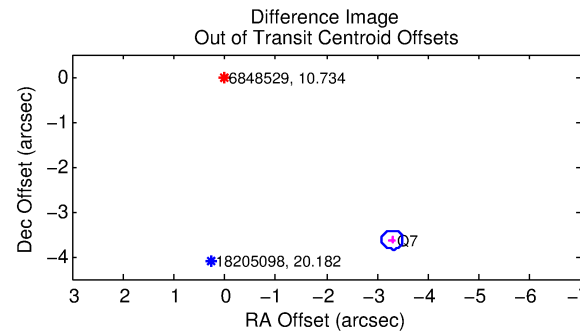
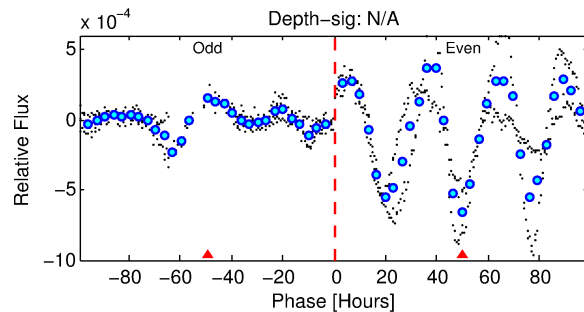
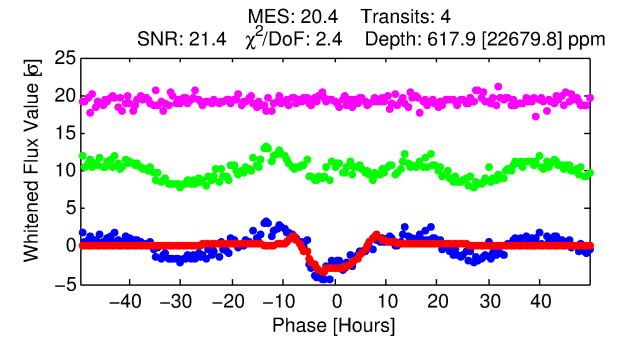
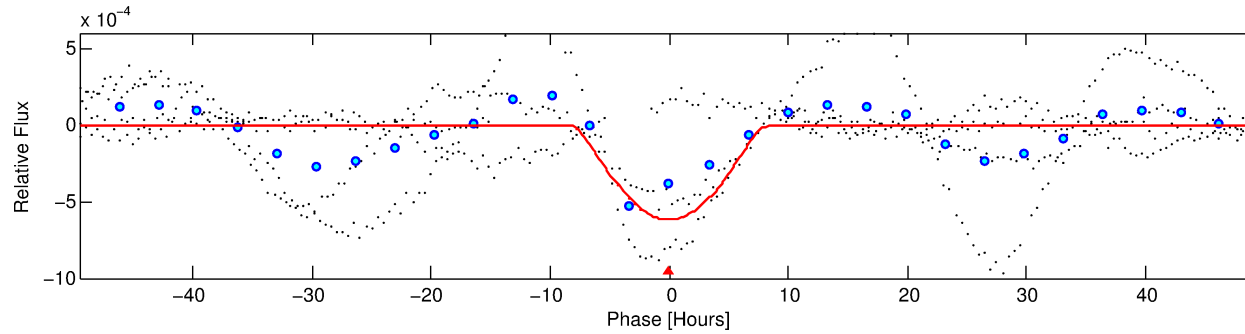
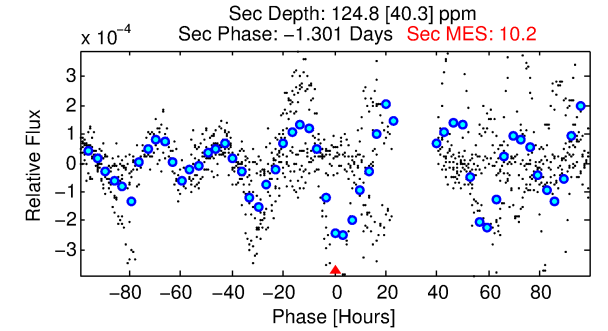
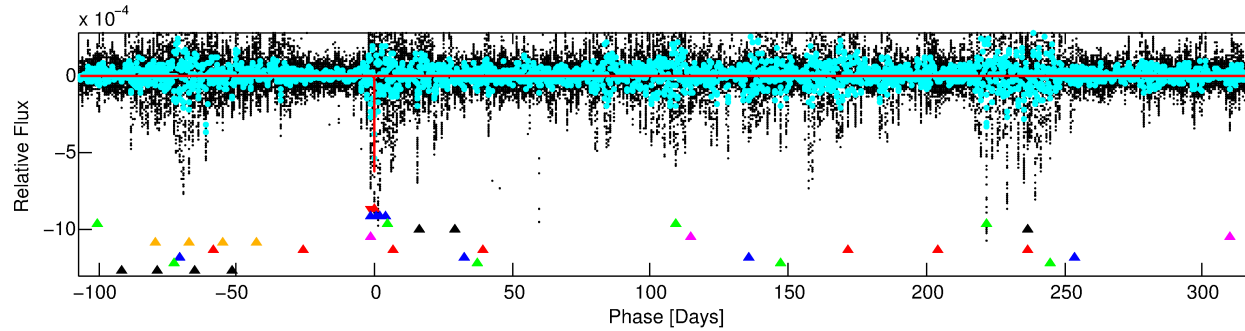
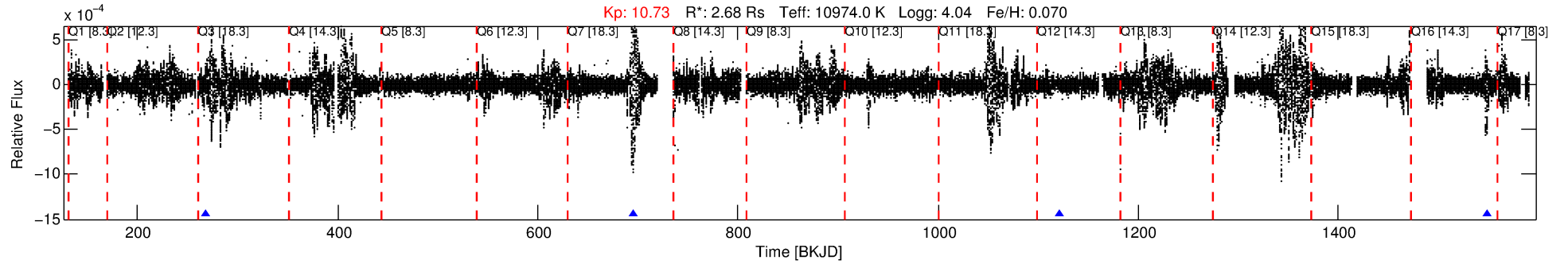
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-01

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 1 of 10 Period: 427.141 d



DV Fit Results:

Period = 427.14052 [0.00934] d
Epoch = 267.6207 [0.0189] BKJD
Rp/R* = 0.0408 [0.0453]
a/R* = 57.06 [16.03]
b = 1.00 [1.01]
Seff = 37.38 [18.36]
Teq = 631 [77] K
Rp = 11.93 [13.84] Re
a = 1.5783 [0.4762] AU
Ag = 1202.78 [2752.35] [0.44σ]
Teffp = 5741 [3229] K [1.58σ]

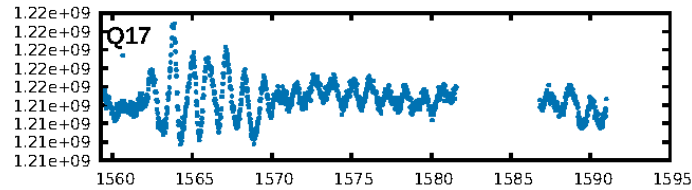
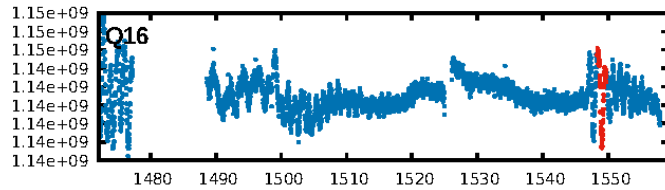
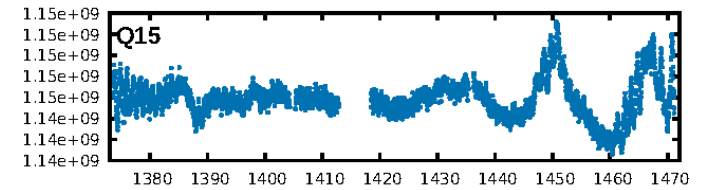
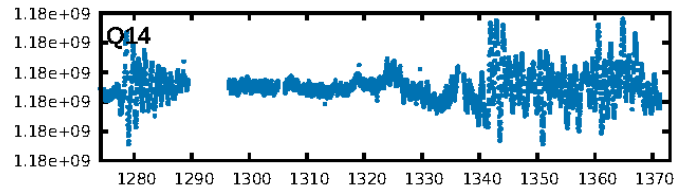
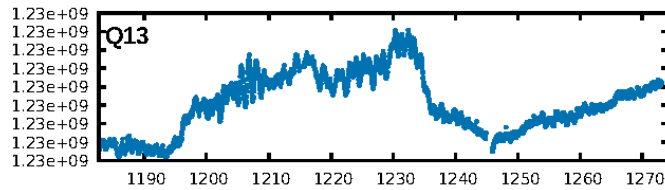
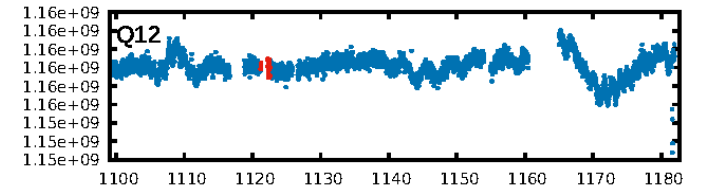
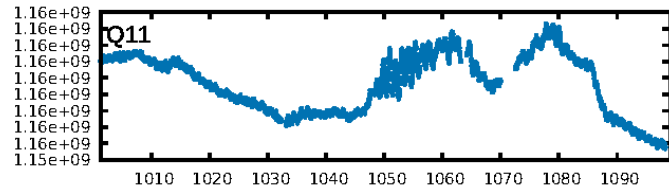
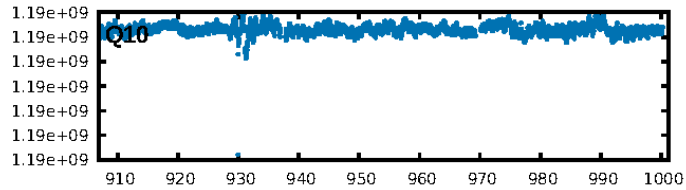
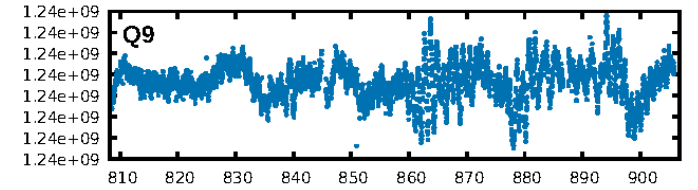
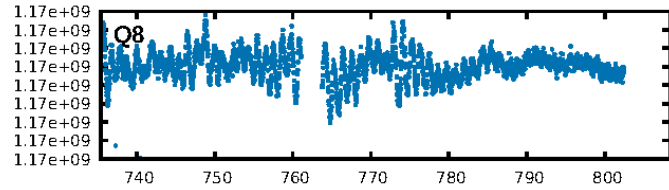
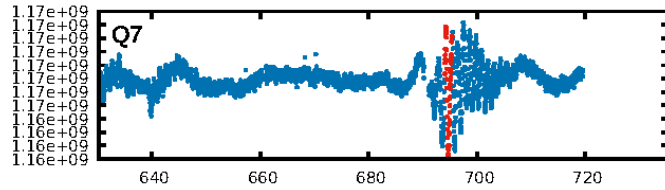
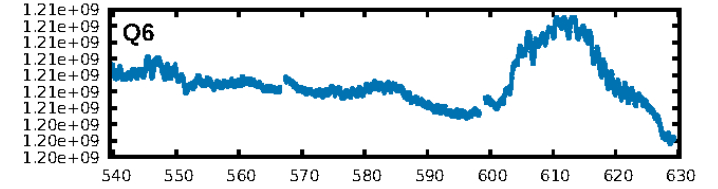
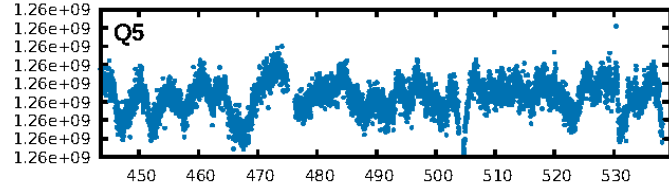
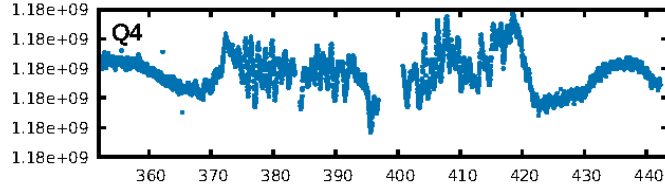
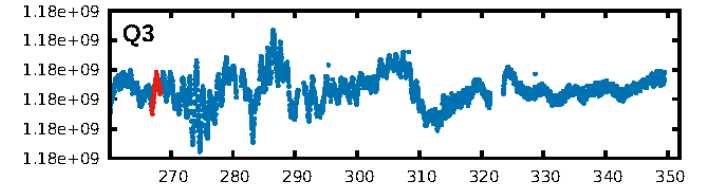
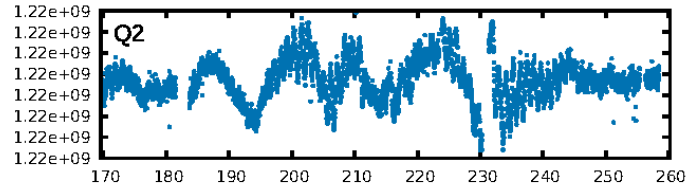
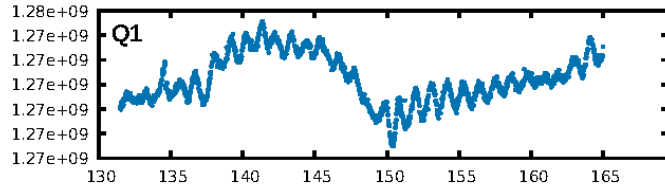
DV Diagnostic Results:

ShortPeriod-sig: 92.3% [1.77σ]
LongPeriod-sig: 100.0% [12.63σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 40.5%
Bootstrap-pfa: 1.45e-30
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 7.977
Centroid-sig: 1.4%
Centroid-so: 0.838 arcsec [3.32σ]
OotOffset-rm: 4.896 arcsec [70.19σ]
KicOffset-rm: 4.400 arcsec [63.21σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/1]

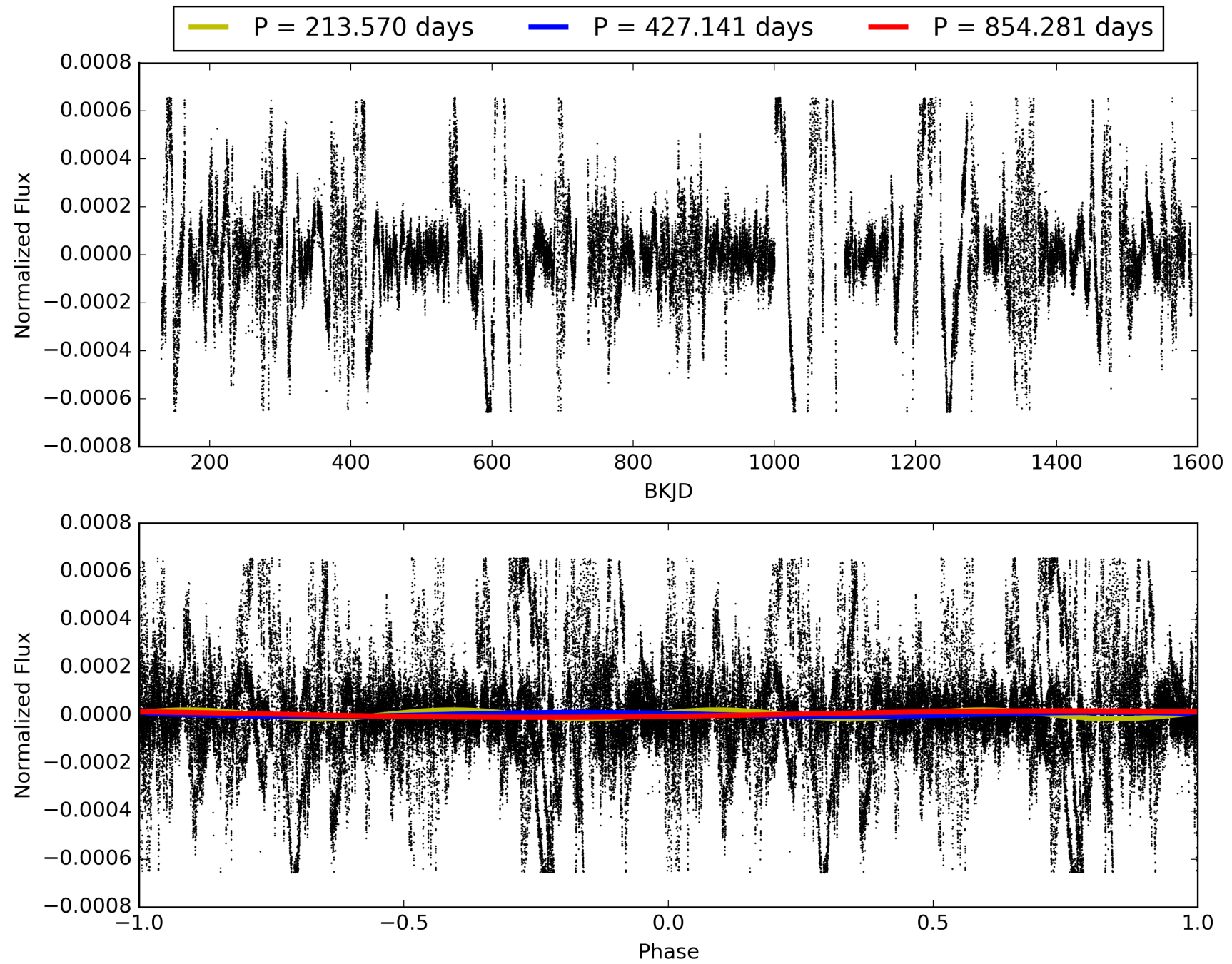
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006848529-01, PDC Light Curves

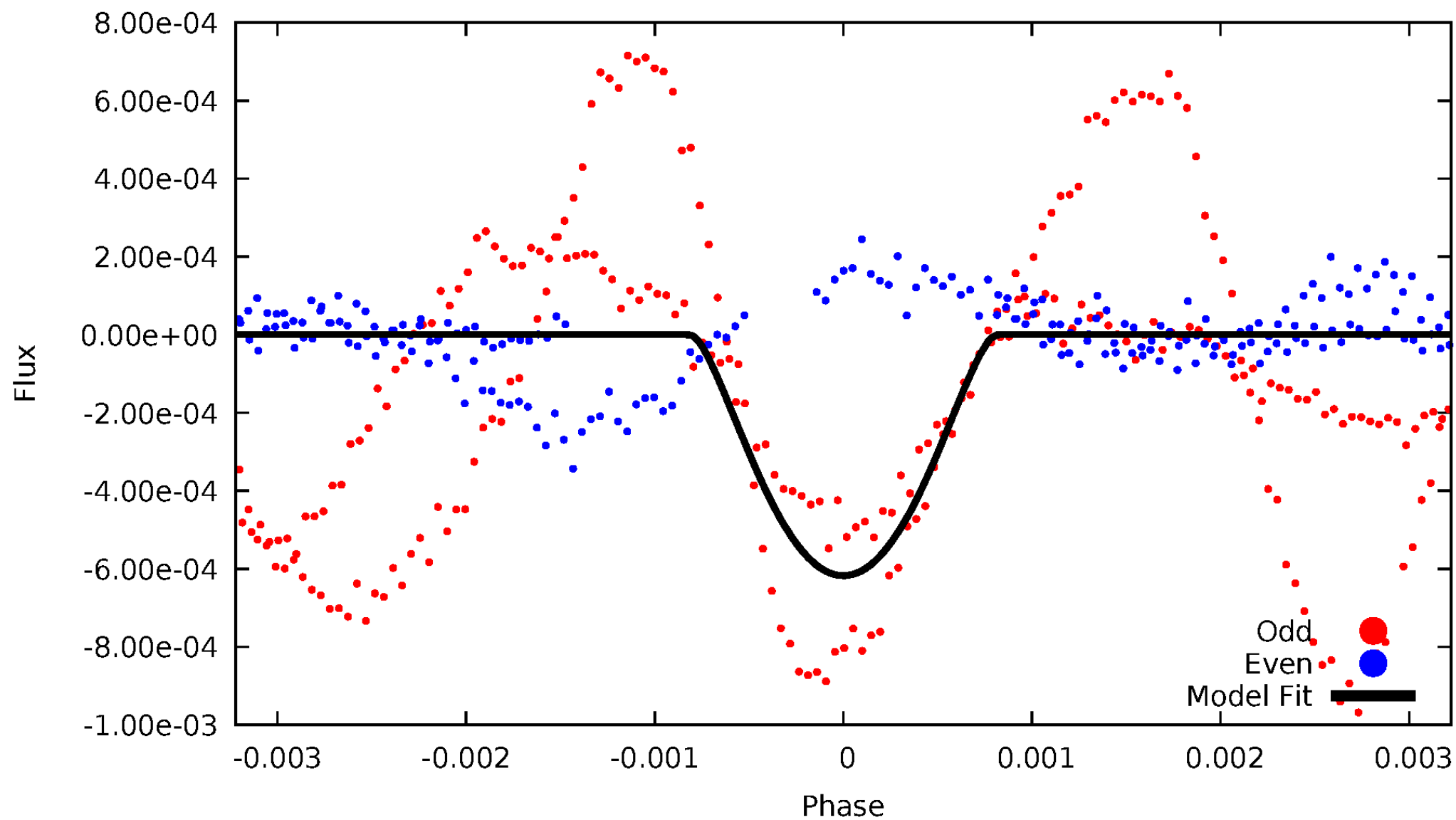


TCE 006848529-01



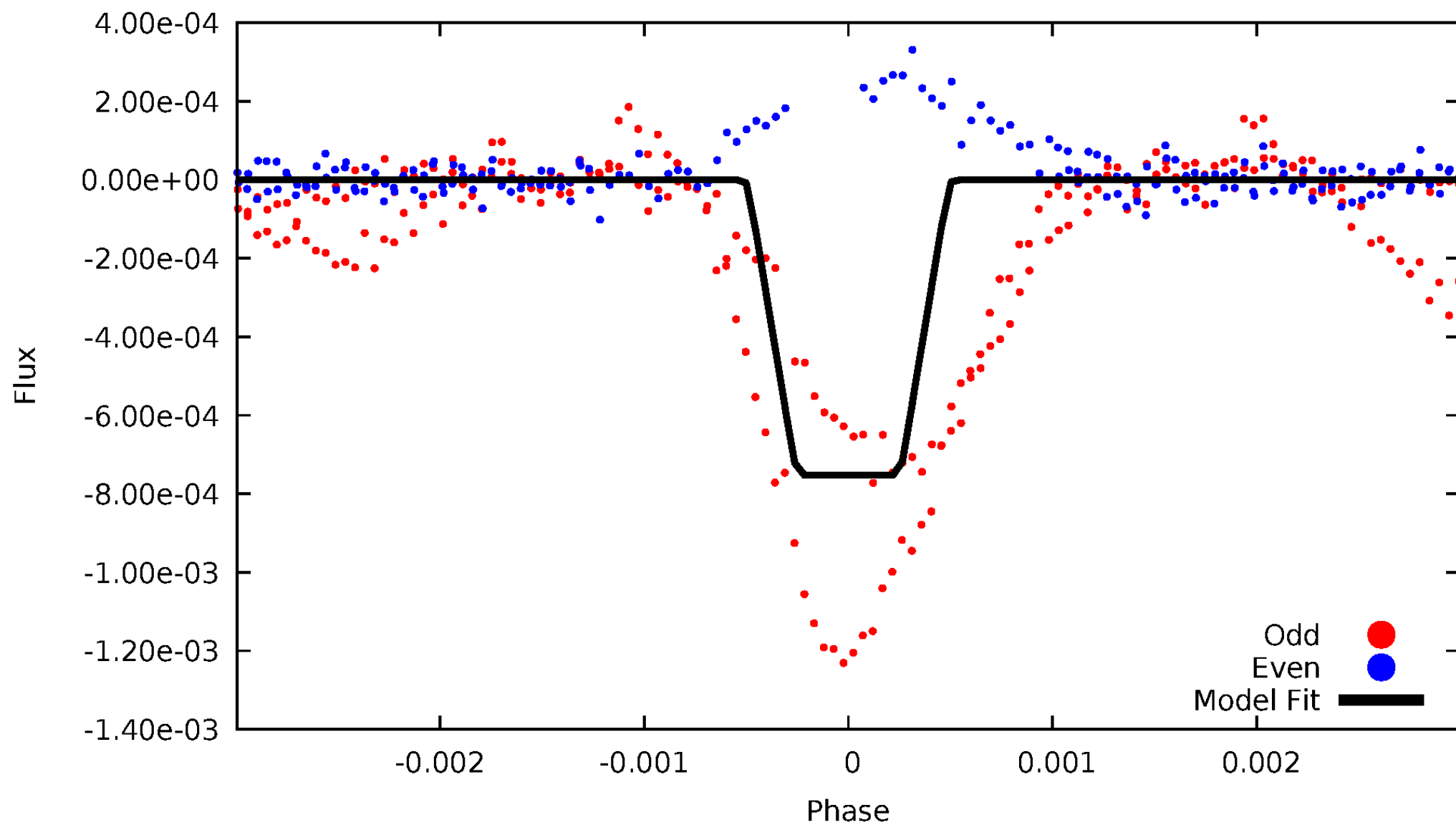
DV Odd/Even

TCE 006848529-01



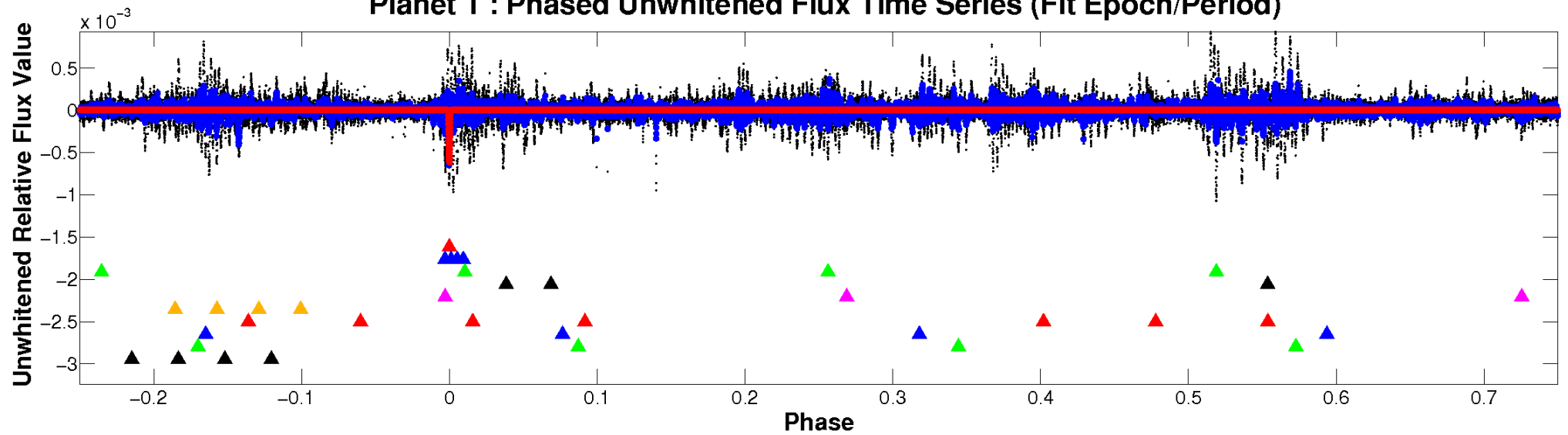
ALT Odd/Even

TCE 006848529-01

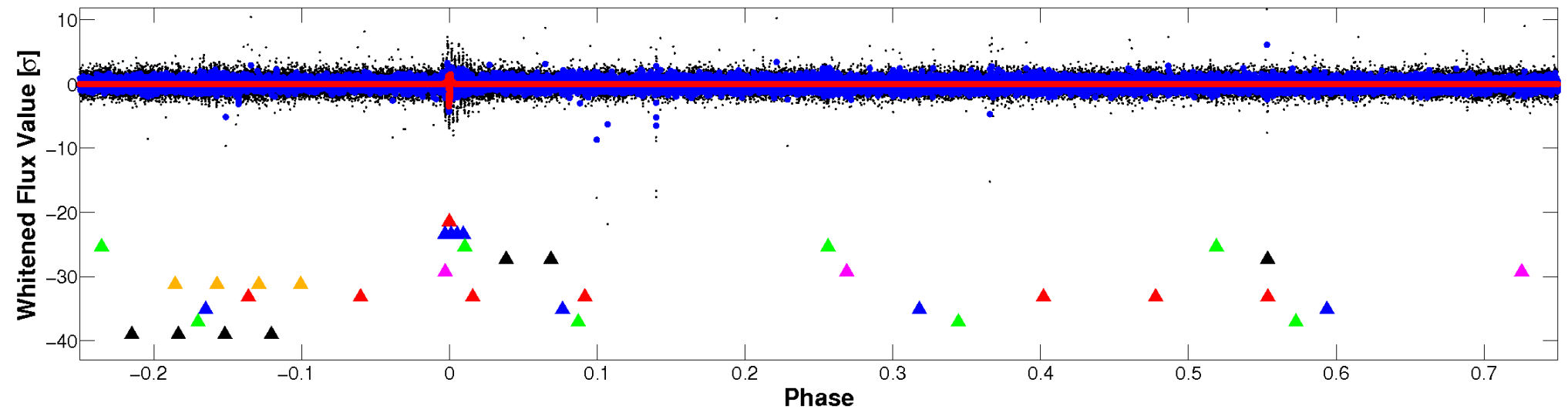


Non-Whitened Vs. Whitened Light Curve

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

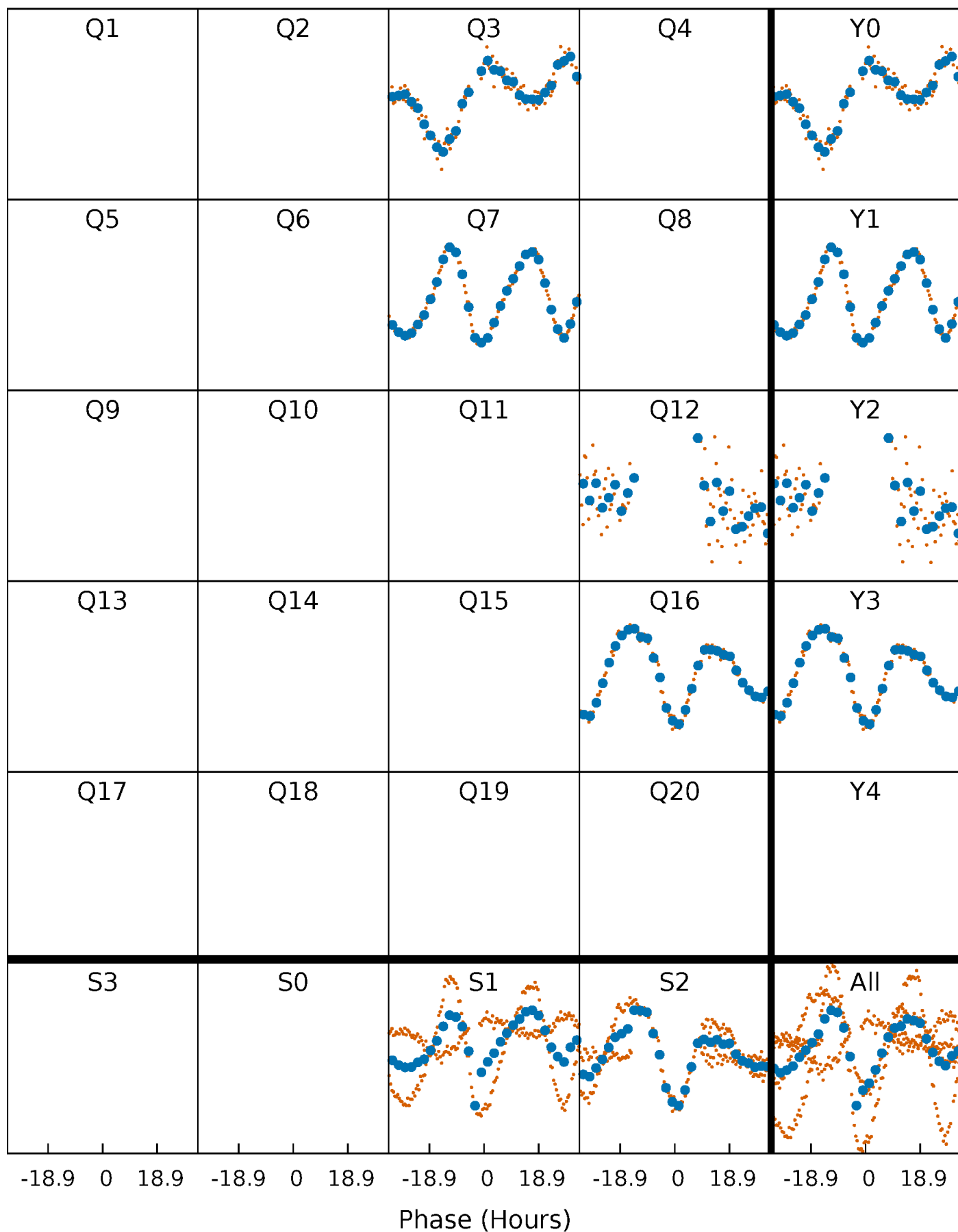


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



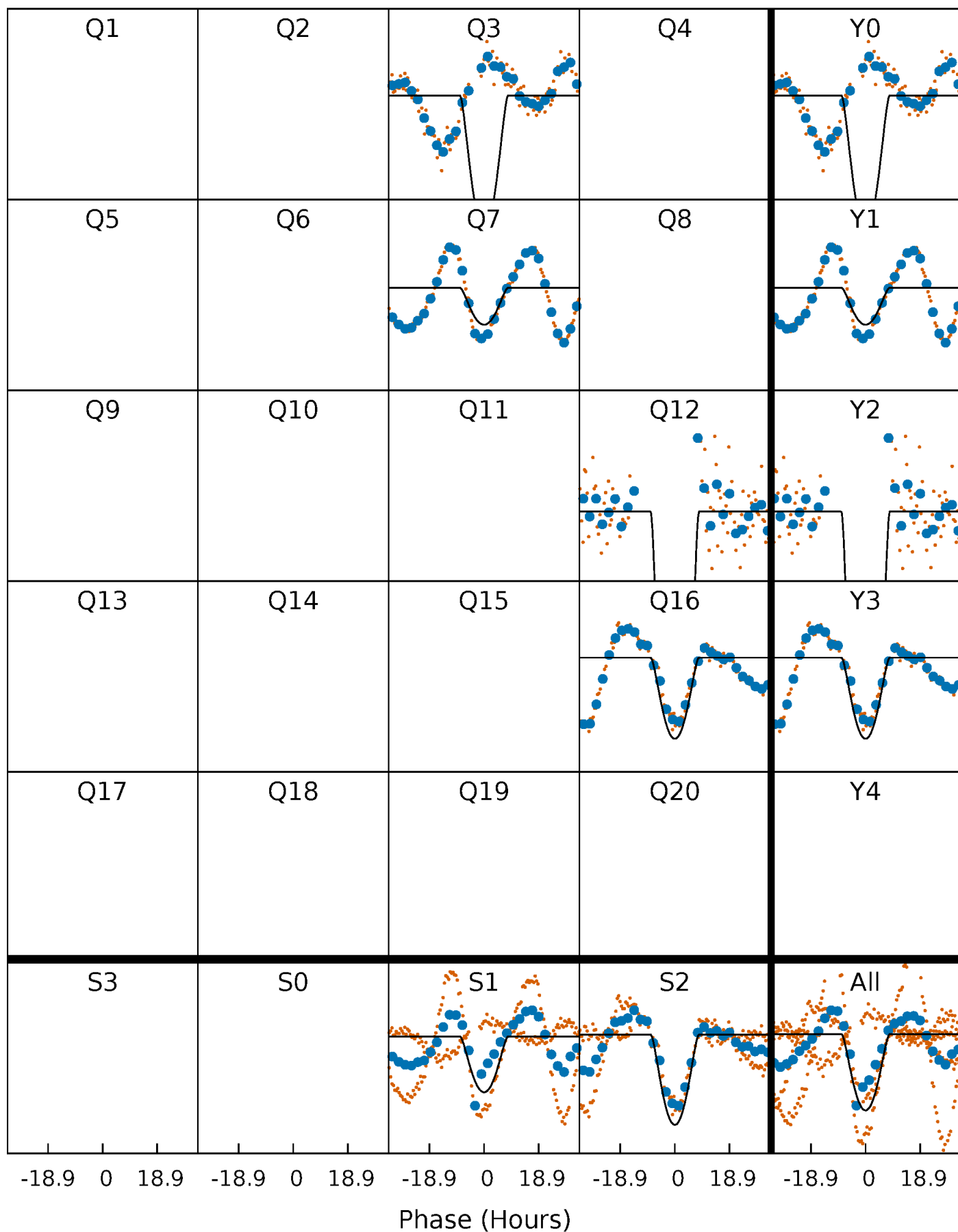
PDC Quarter-Phased Transit Curves

TCE 006848529-01 P=427.140524 Days $T_0=267.620670$ (BKJD)



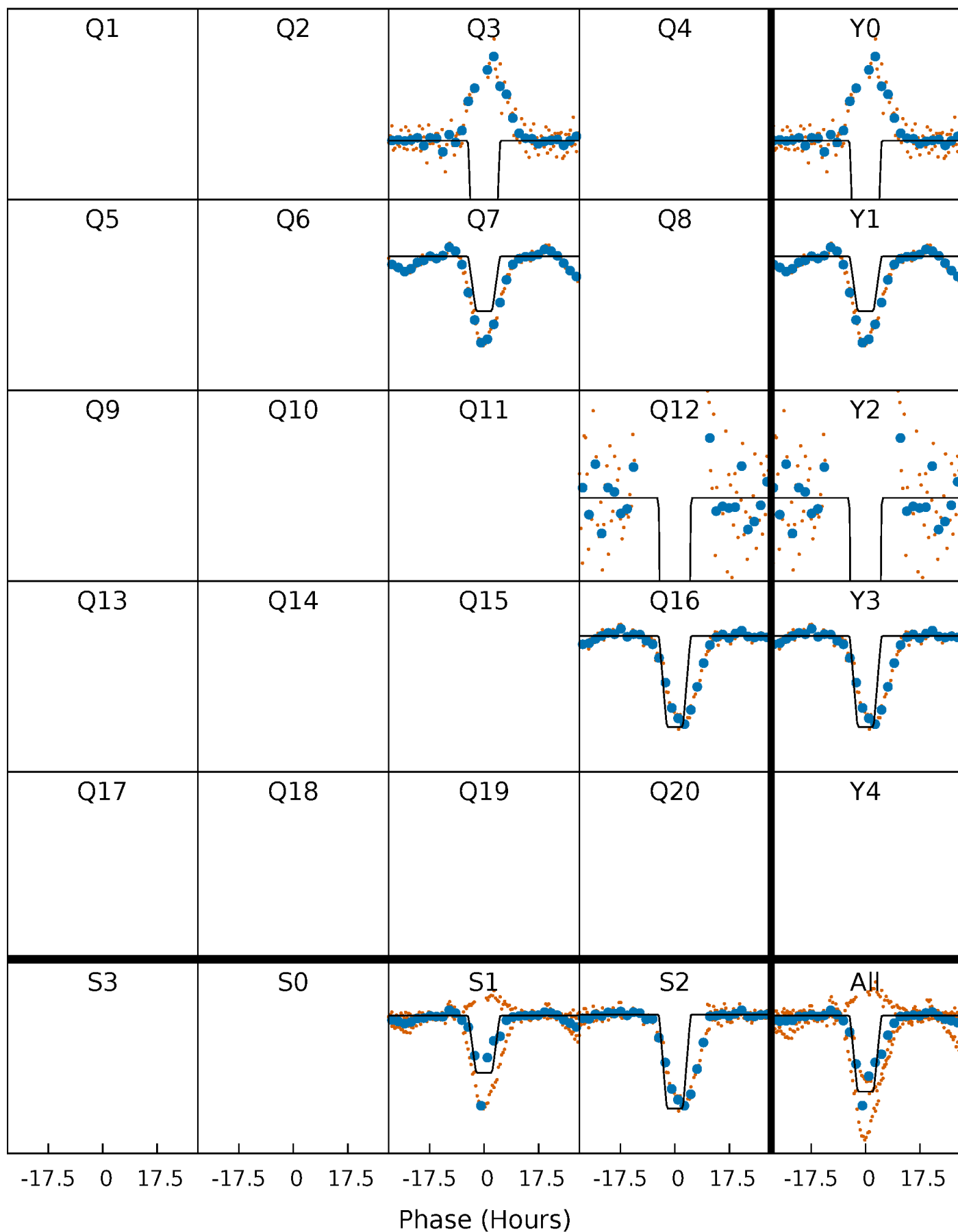
DV Quarter-Phased Transit Curves

TCE 006848529-01 P=427.140524 Days $T_0=267.620670$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

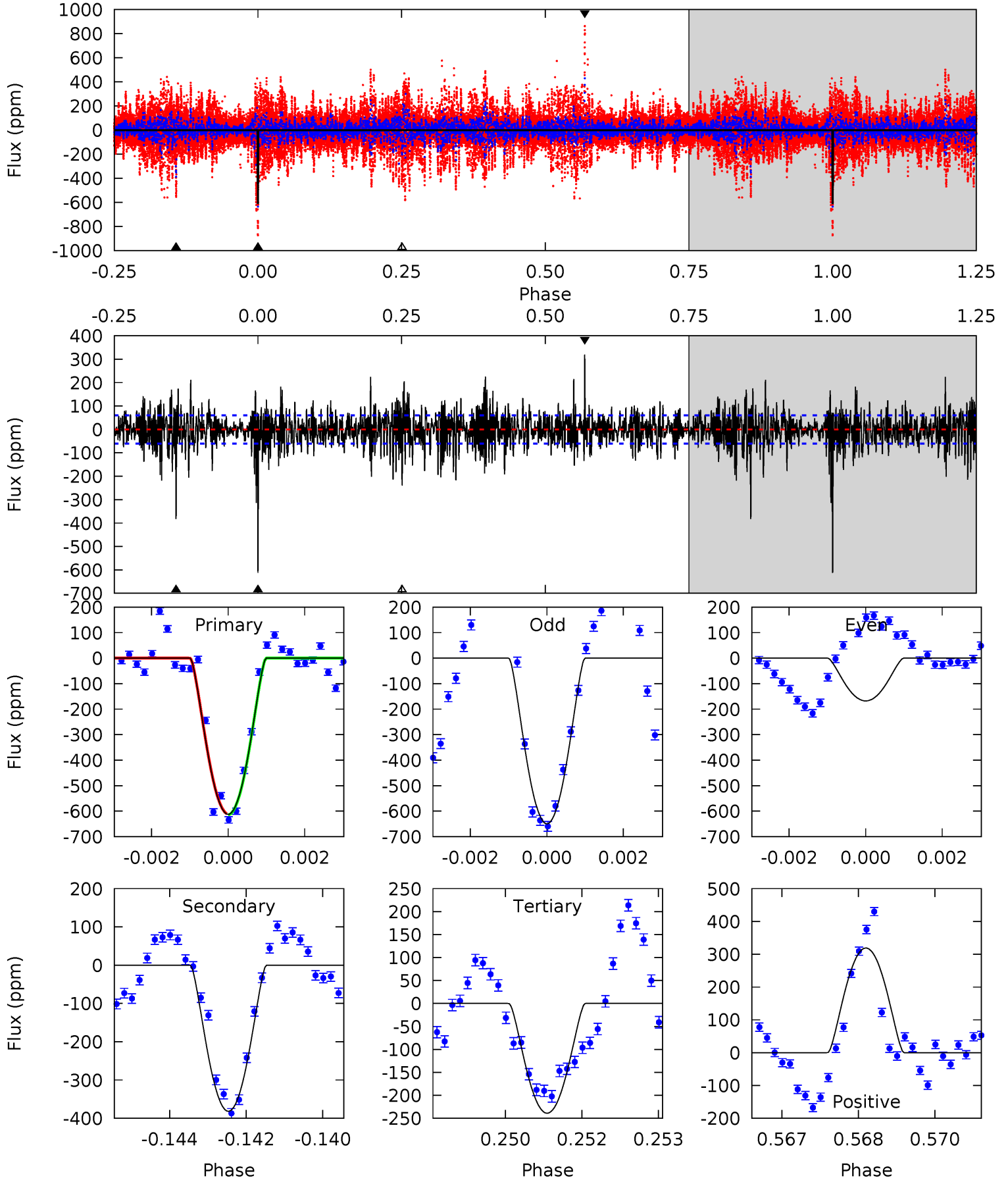
TCE 006848529-01 P=427.143138 Days $T_0=267.527883$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-01, P = 427.140524 Days, E = 267.620670 Days

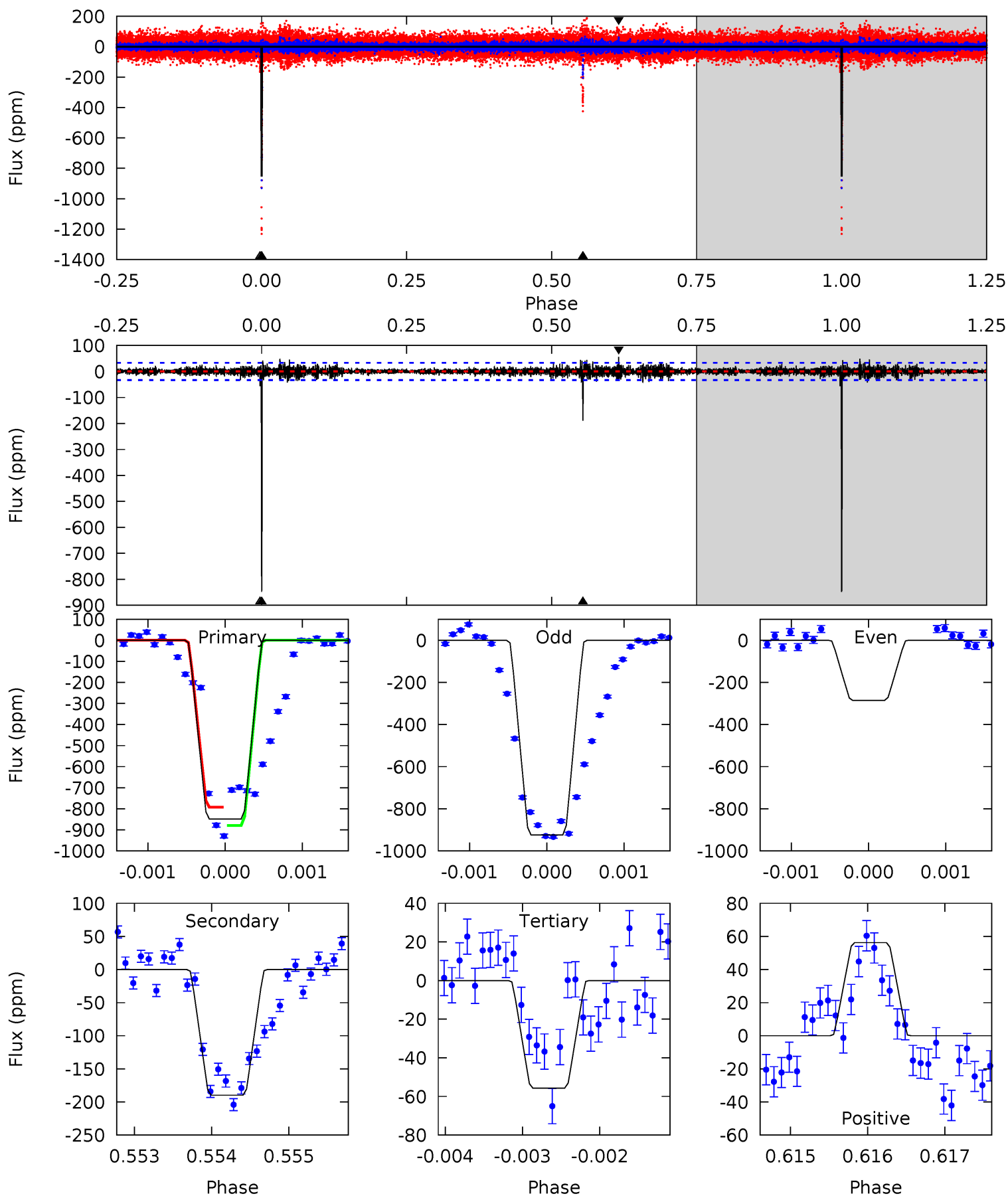
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.1	33.7	21.1	28.2	5.36	3.15	5.07	33.0	25.9	12.6	5.54	18.5	0.77	0.34	0.20



Alt Model-Shift Uniqueness Test

006848529-01, P = 427.143138 Days, E = 267.527883 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
138.6	31.0	9.09	9.19	5.44	3.28	1.47	129.5	129.4	21.9	21.8	57.5	0.76	0.06	6.65



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-382 ± 11	$14.18^{+12.66}_{-9.08}$	873^{+68}_{-77}	6032^{+4997}_{-1416}	2496^{+17123}_{-1794}
Alt.	-190 ± 6	$12.16^{+11.50}_{-7.92}$	879^{+63}_{-79}	5521^{+5117}_{-1250}	1684^{+12463}_{-1235}

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 $A_{obs} \gg 1.0$

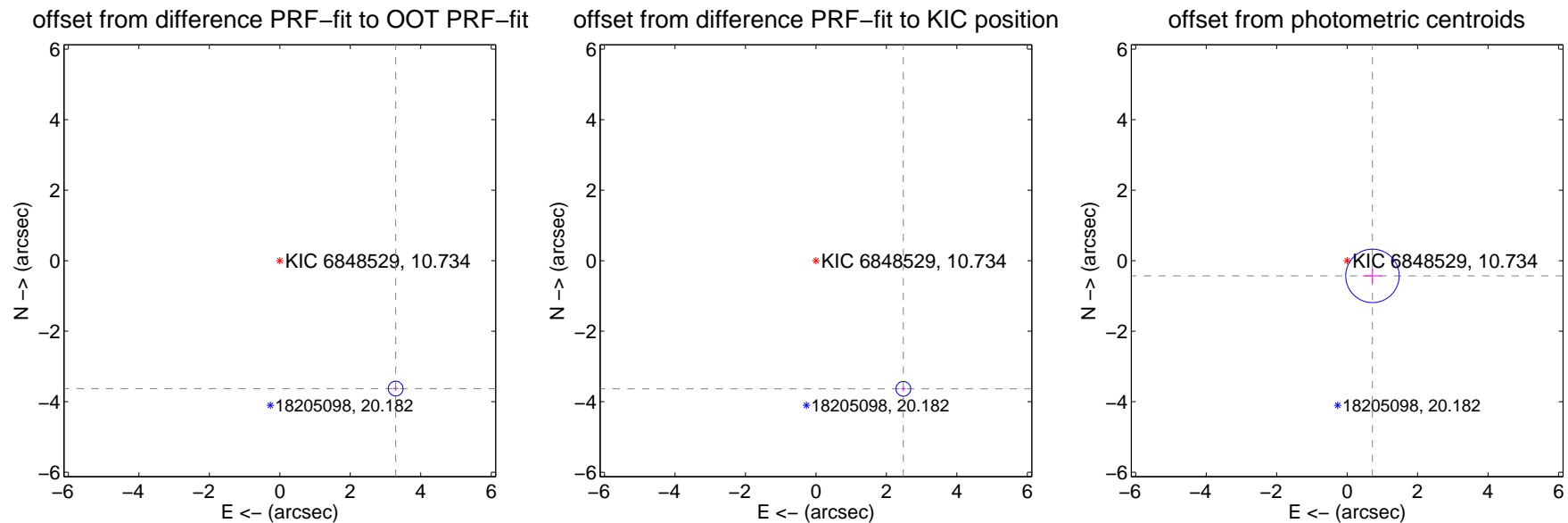
DV Centroid Data

Supplemental centroid analysis for 006848529-01. **Kepler magnitude: 10.73.** Transit SNR 21.45

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.81 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.896 ± 0.070	70.19	-3.288 ± 0.070	-3.627 ± 0.069
PRF-fit source offset from KIC position	4.400 ± 0.070	63.21	-2.481 ± 0.070	-3.634 ± 0.069
photometric centroid source offset	0.84 ± 0.25	3.32	-0.72 ± 0.27	-0.43 ± 0.21

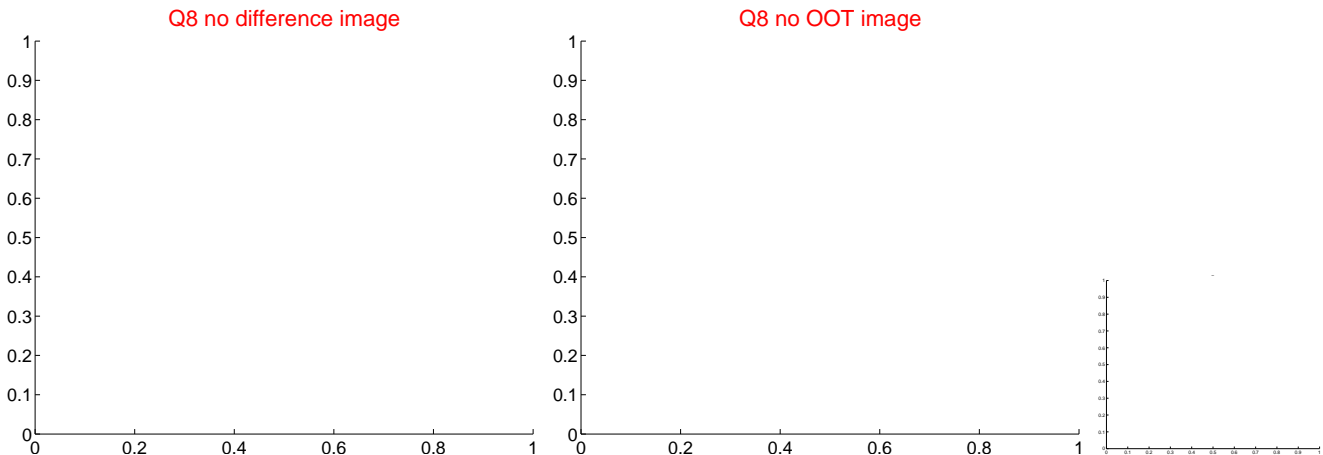
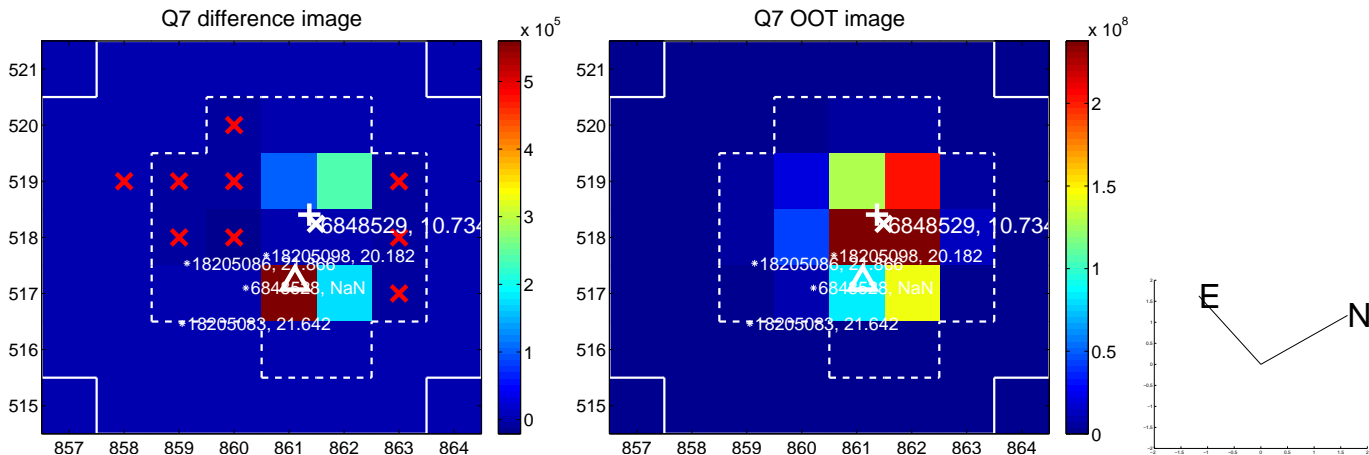
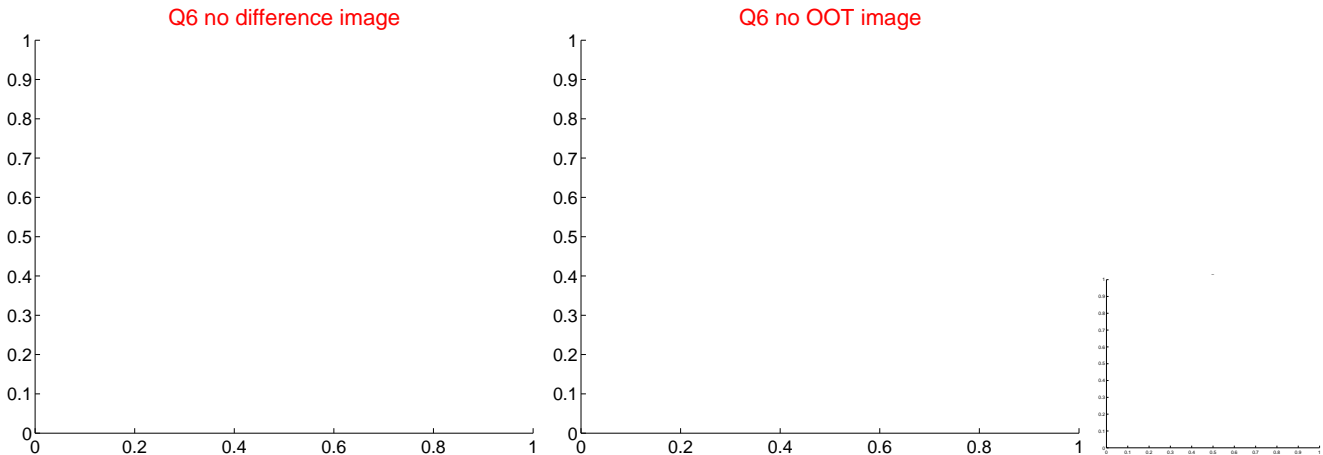
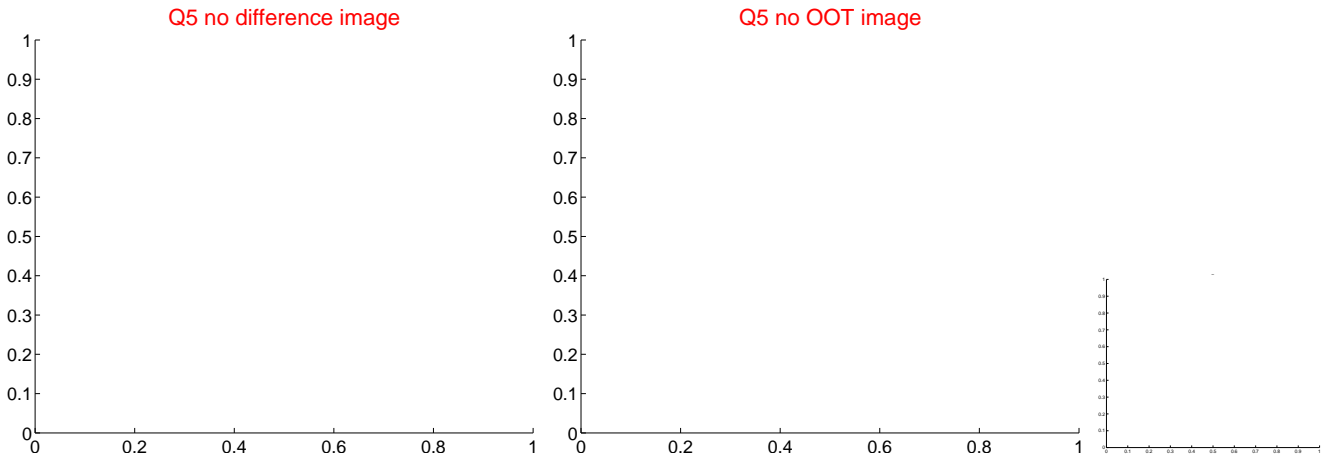


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



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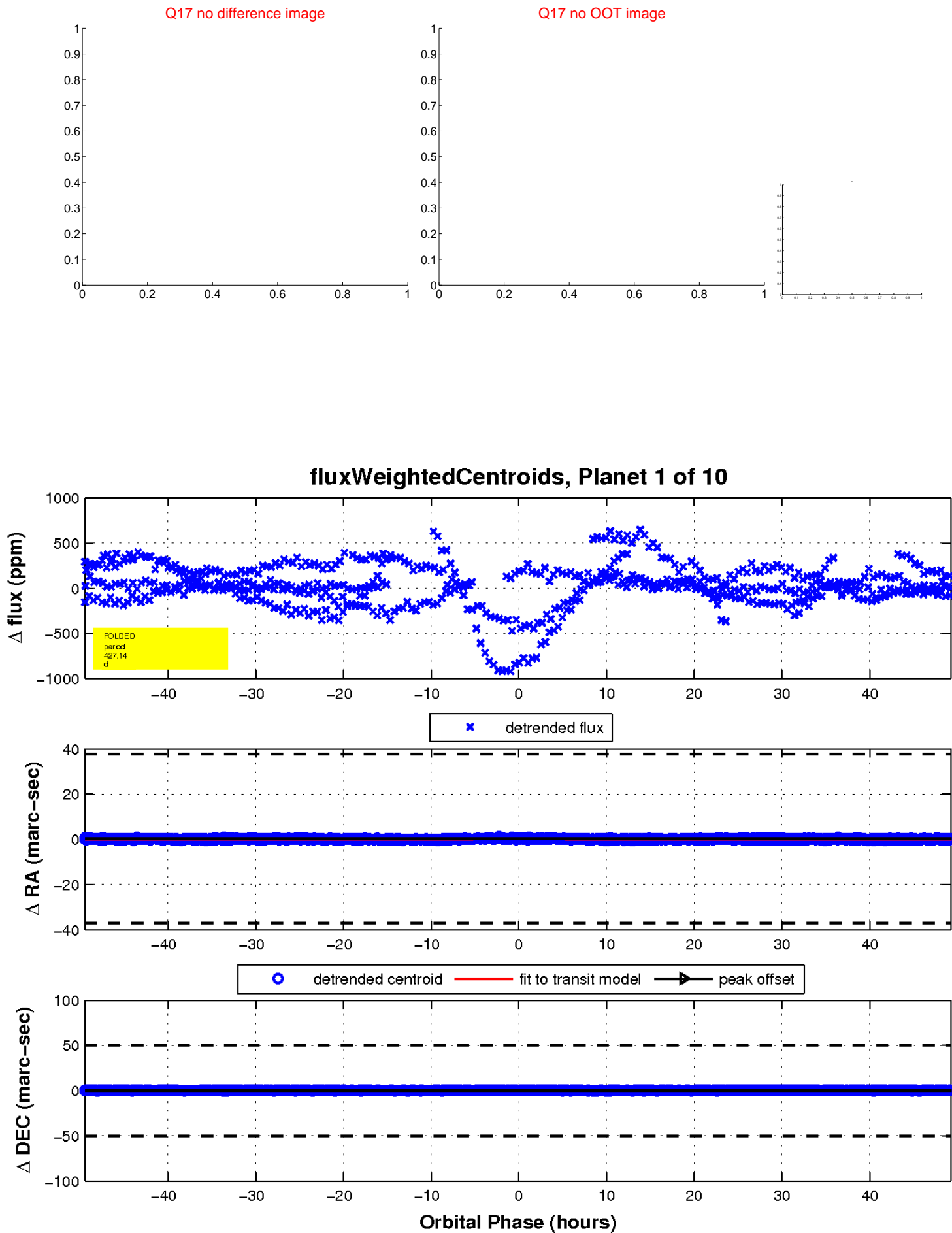
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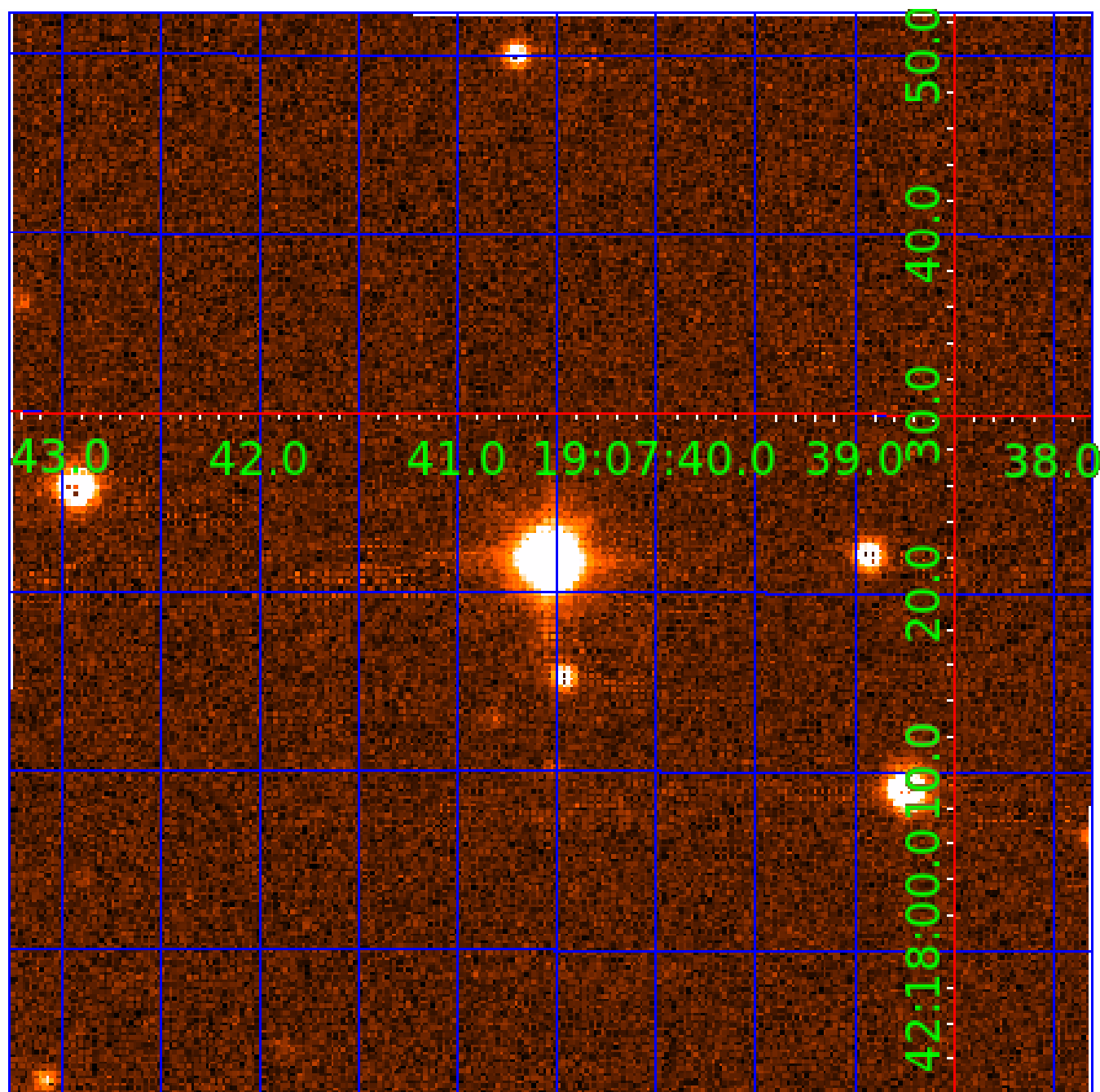


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UKIRT Image

Declination



KIC 006848529

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006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
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006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

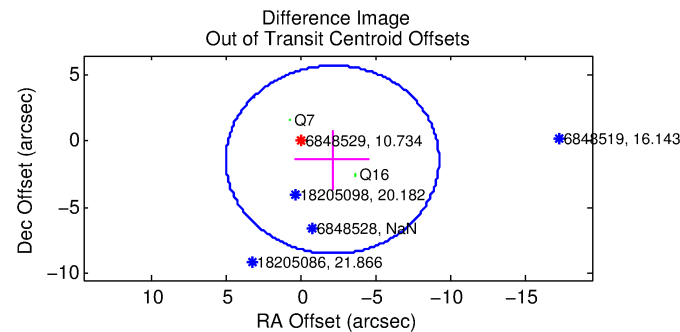
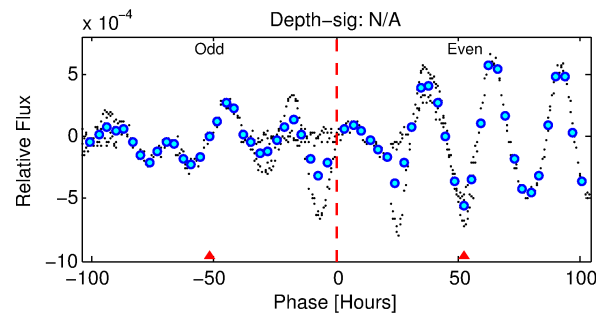
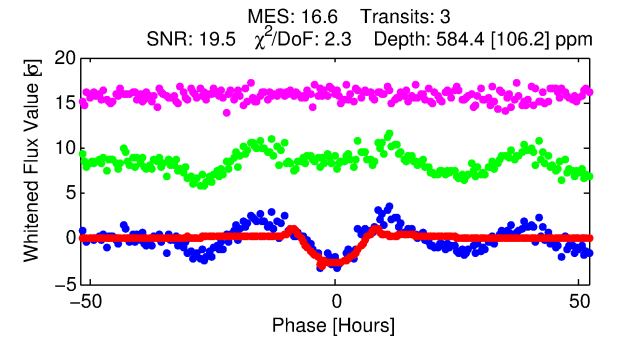
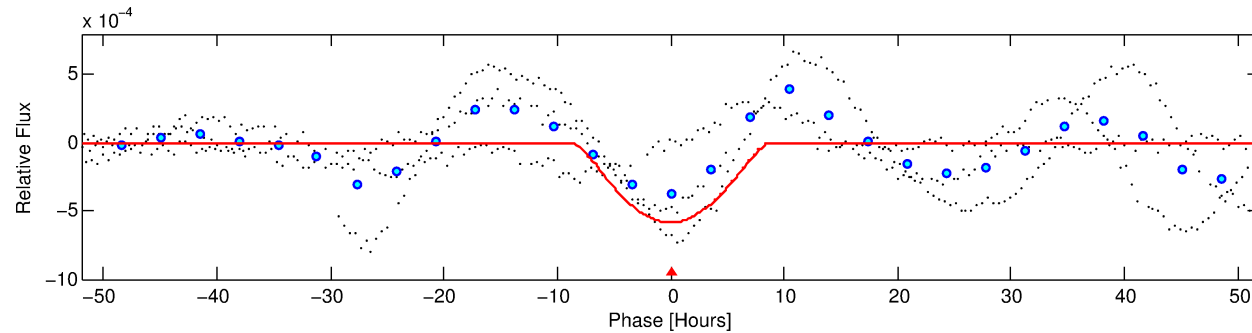
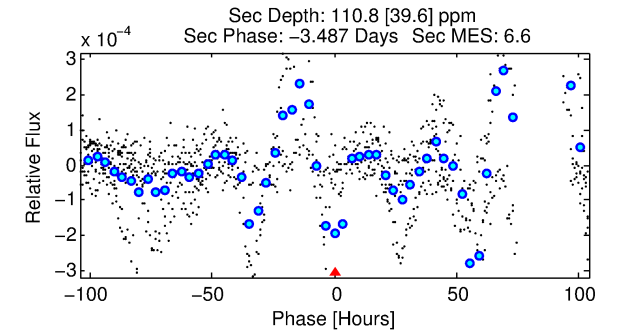
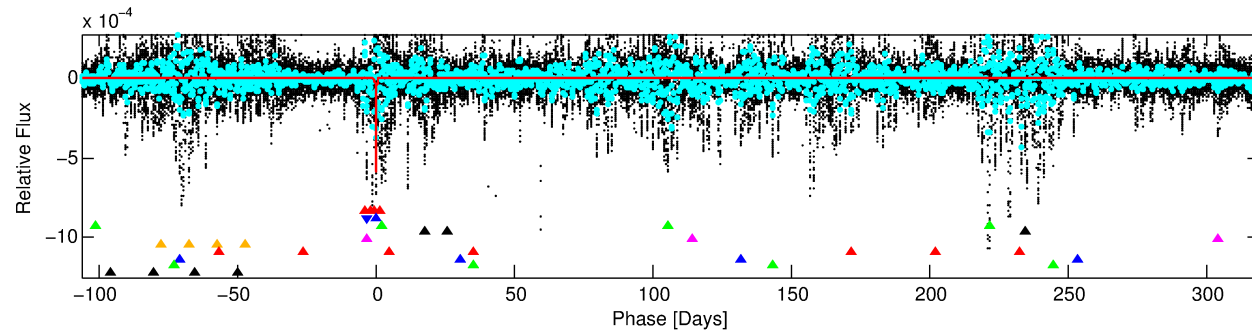
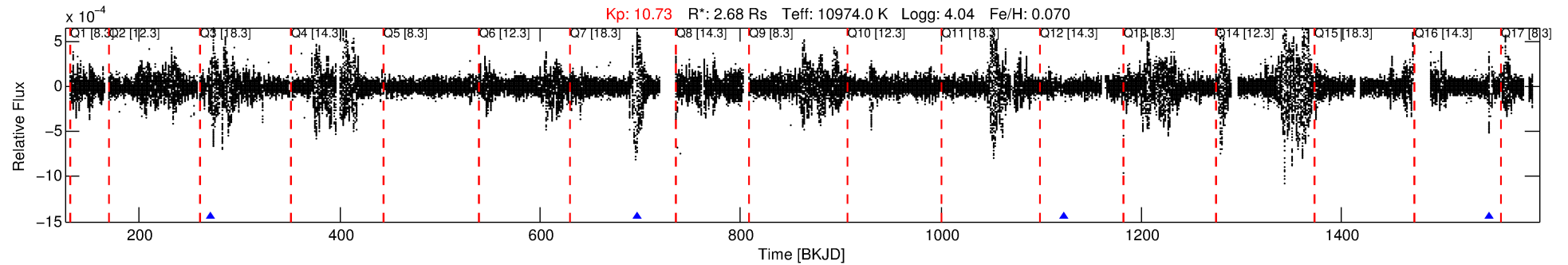
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-02

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 2 of 10 Period: 425.377 d



DV Fit Results:

Period = 425.37731 [0.01182] d
Epoch = 271.6504 [0.0208] BKJD
 R_p/R^* = 0.0397 [0.0450]
 a/R^* = 53.43 [15.45]
 b = 1.00 [0.07]
 Seff = 37.59 [18.46]
 T_{eq} = 631 [78] K
 R_p = 11.60 [13.73] R_e
 a = 1.5739 [0.4748] AU
 A_g = 1122.41 [2626.80] [0.43σ]
 T_{eff} = 5650 [3252] K [1.54σ]

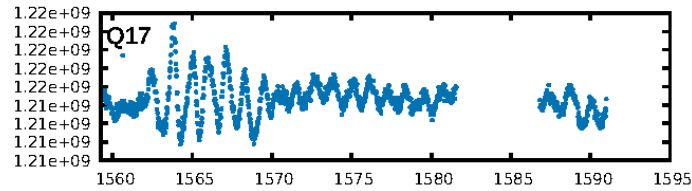
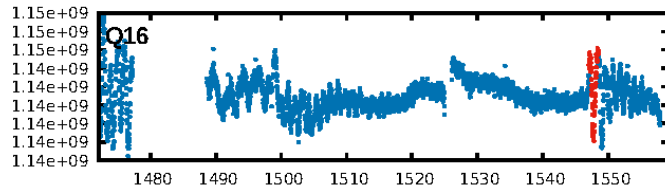
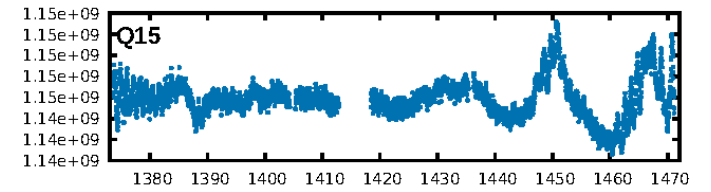
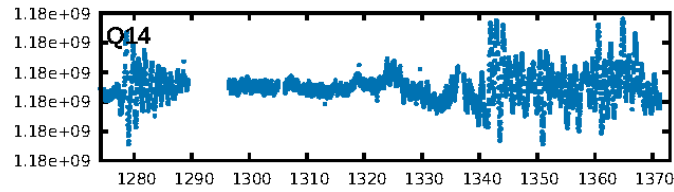
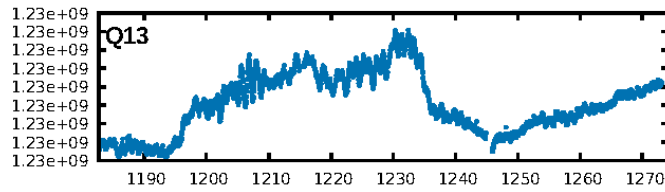
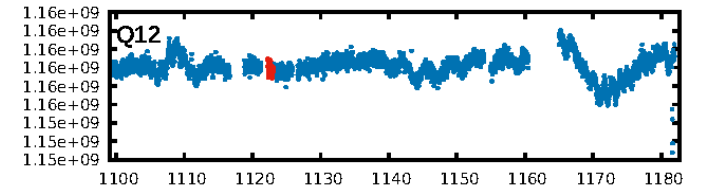
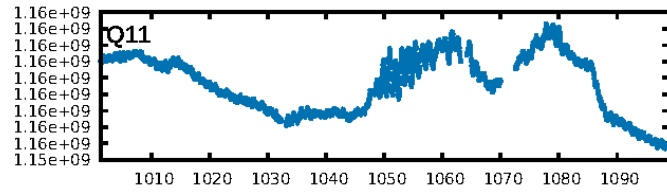
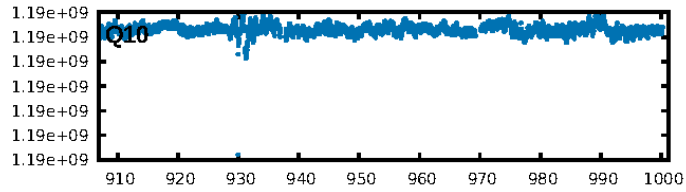
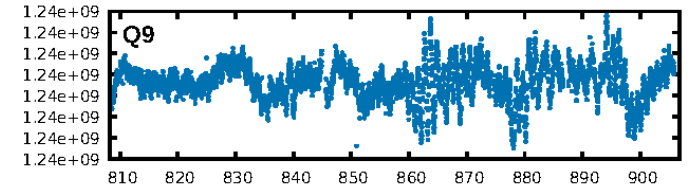
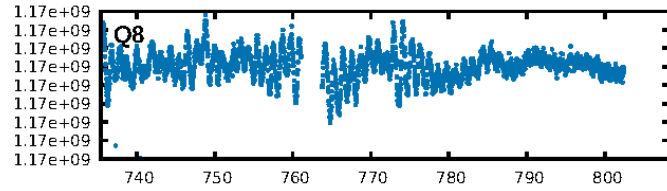
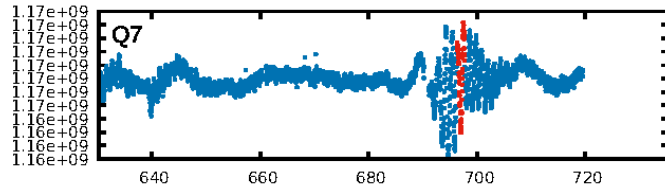
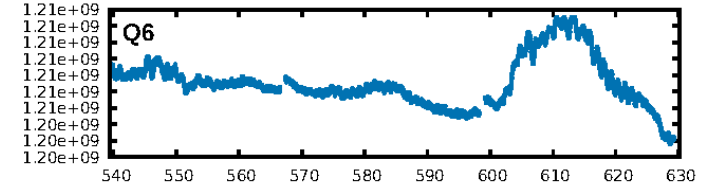
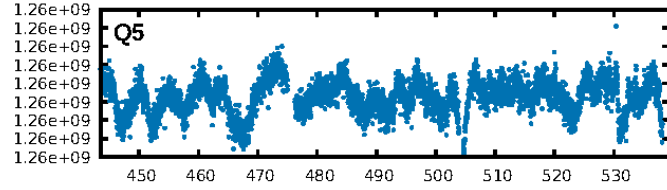
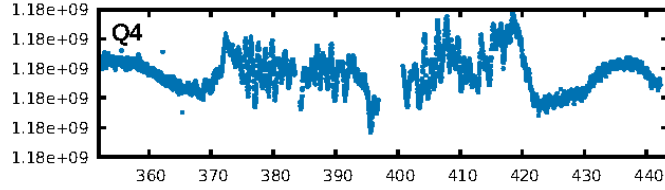
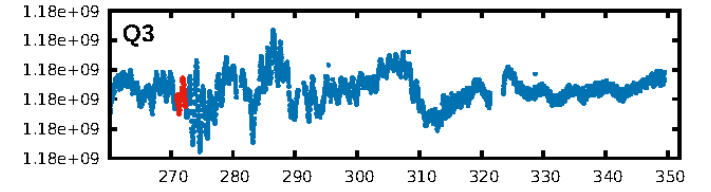
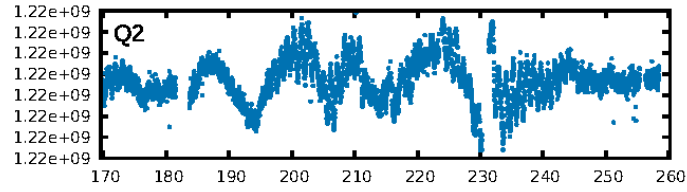
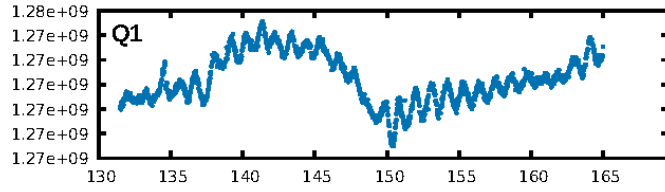
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.48σ]
LongPeriod-sig: 92.3% [1.77σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 23.6%
Bootstrap-pfa: 7.06e-22
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -6.437
Centroid-sig: 0.2%
Centroid-so: 0.963 arcsec [4.11σ]
OotOffset-rm: 2.570 arcsec [1.08σ]
KicOffset-rm: 2.308 arcsec [0.74σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.50 [1/2]

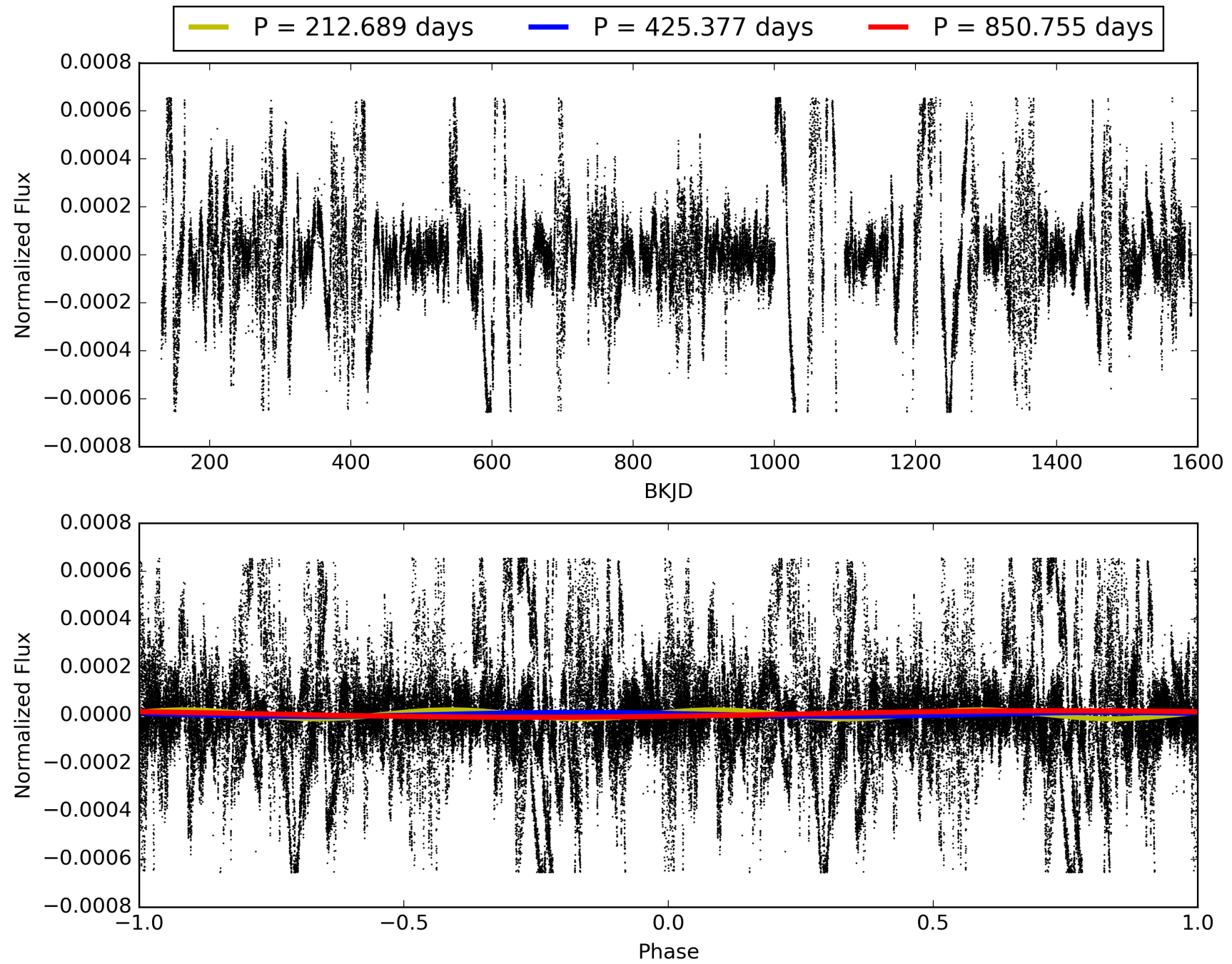
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:21:08 Z

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

TCE 006848529-02, PDC Light Curves

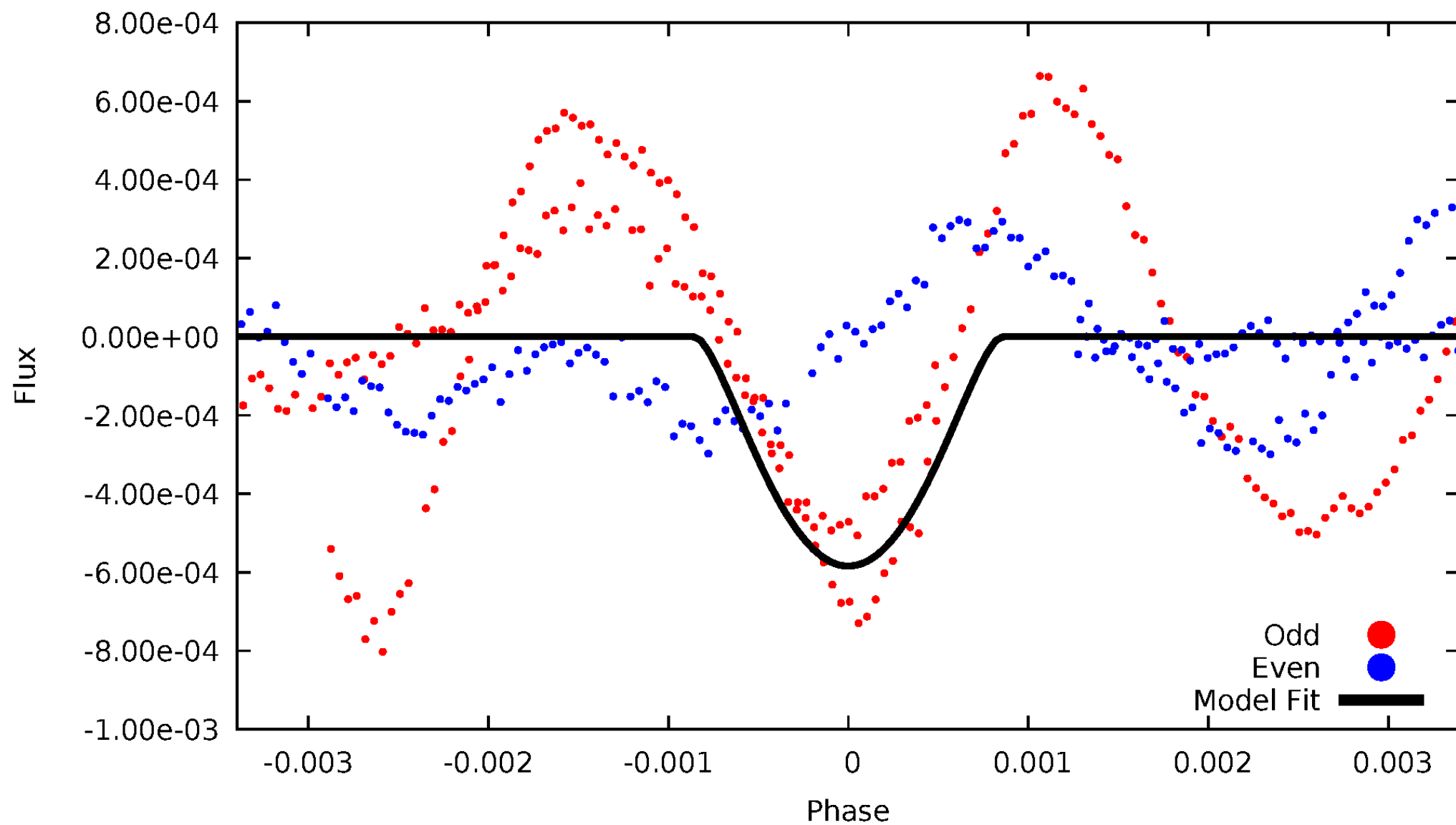


TCE 006848529-02



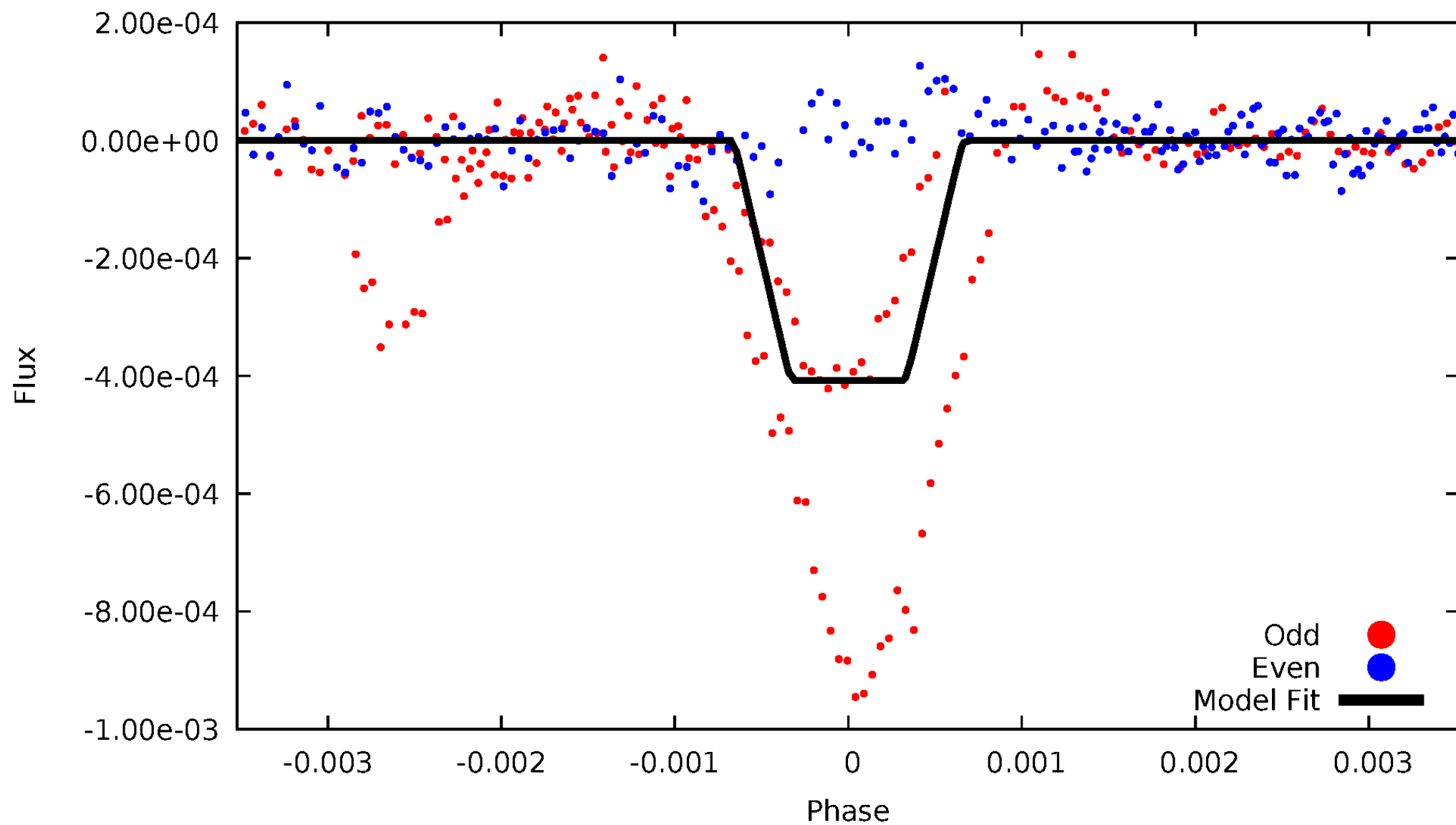
DV Odd/Even

TCE 006848529-02



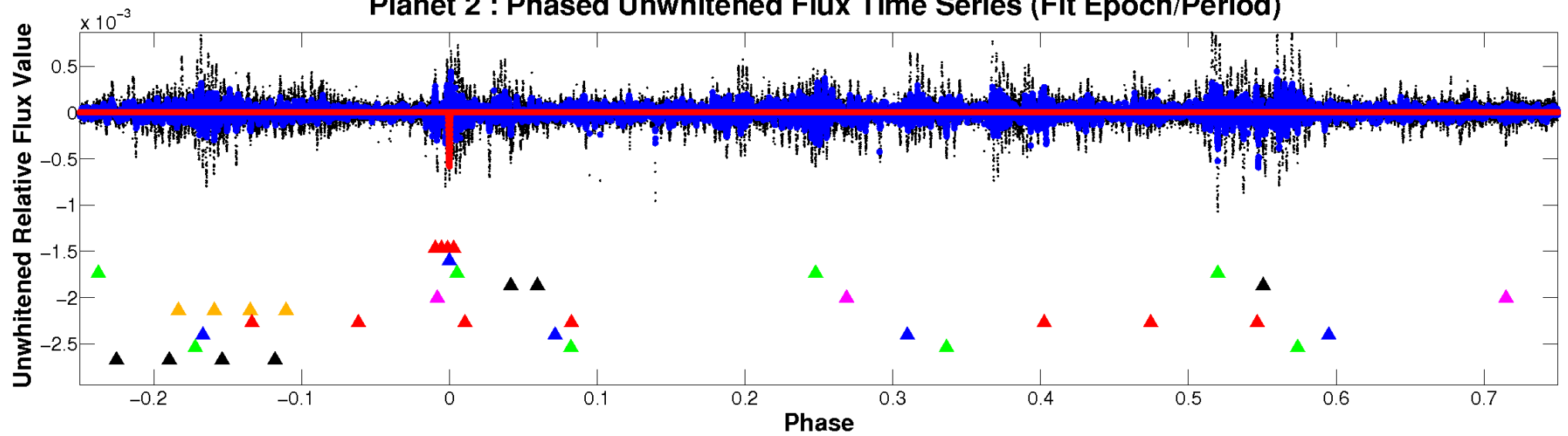
ALT Odd/Even

TCE 006848529-02

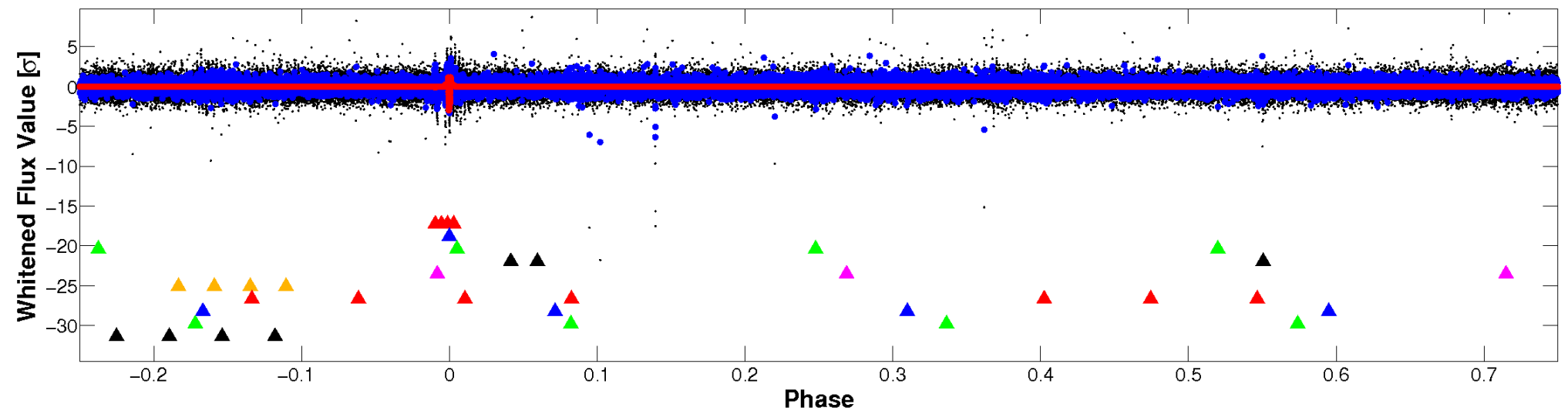


Non-Whitened Vs. Whitened Light Curve

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

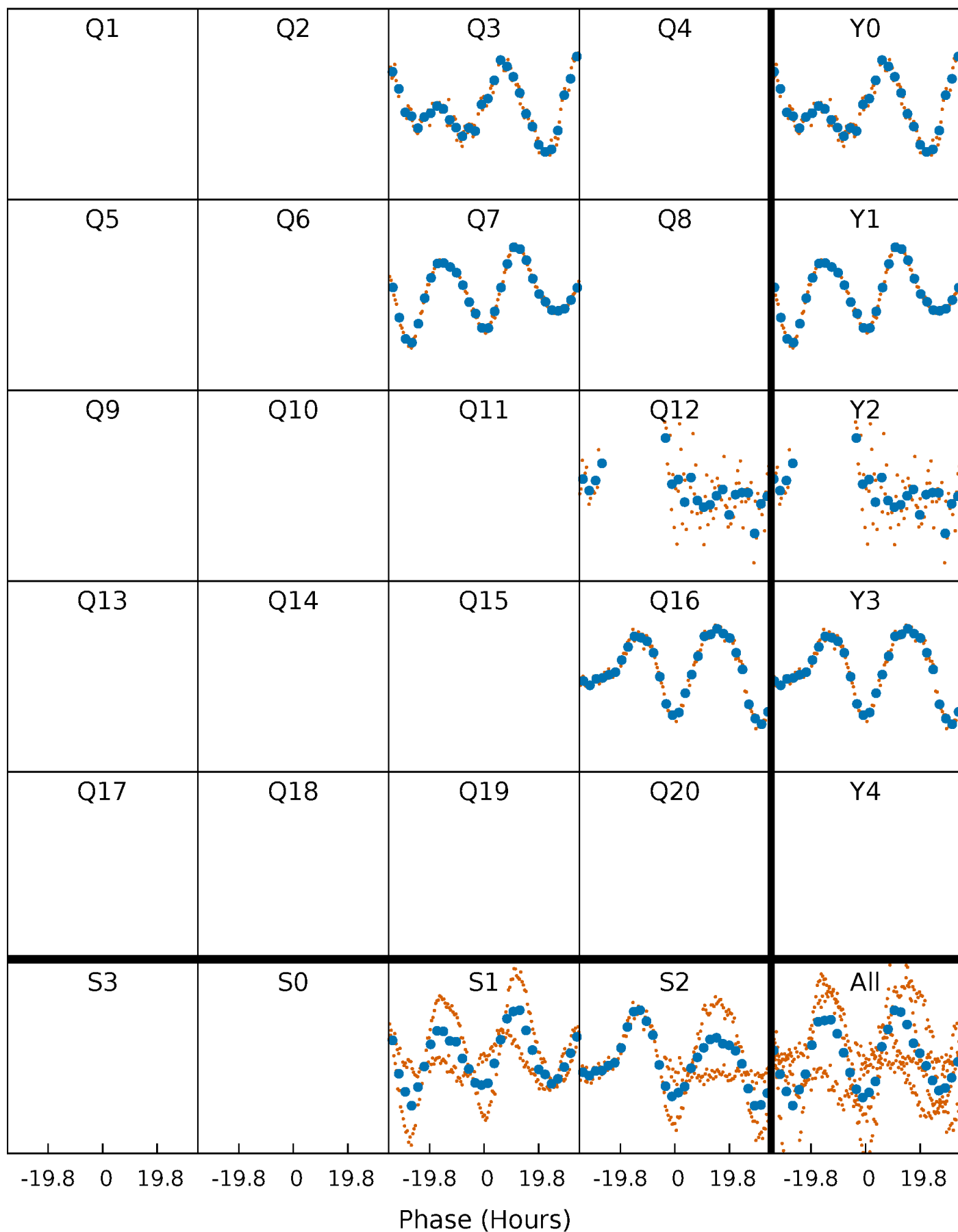


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



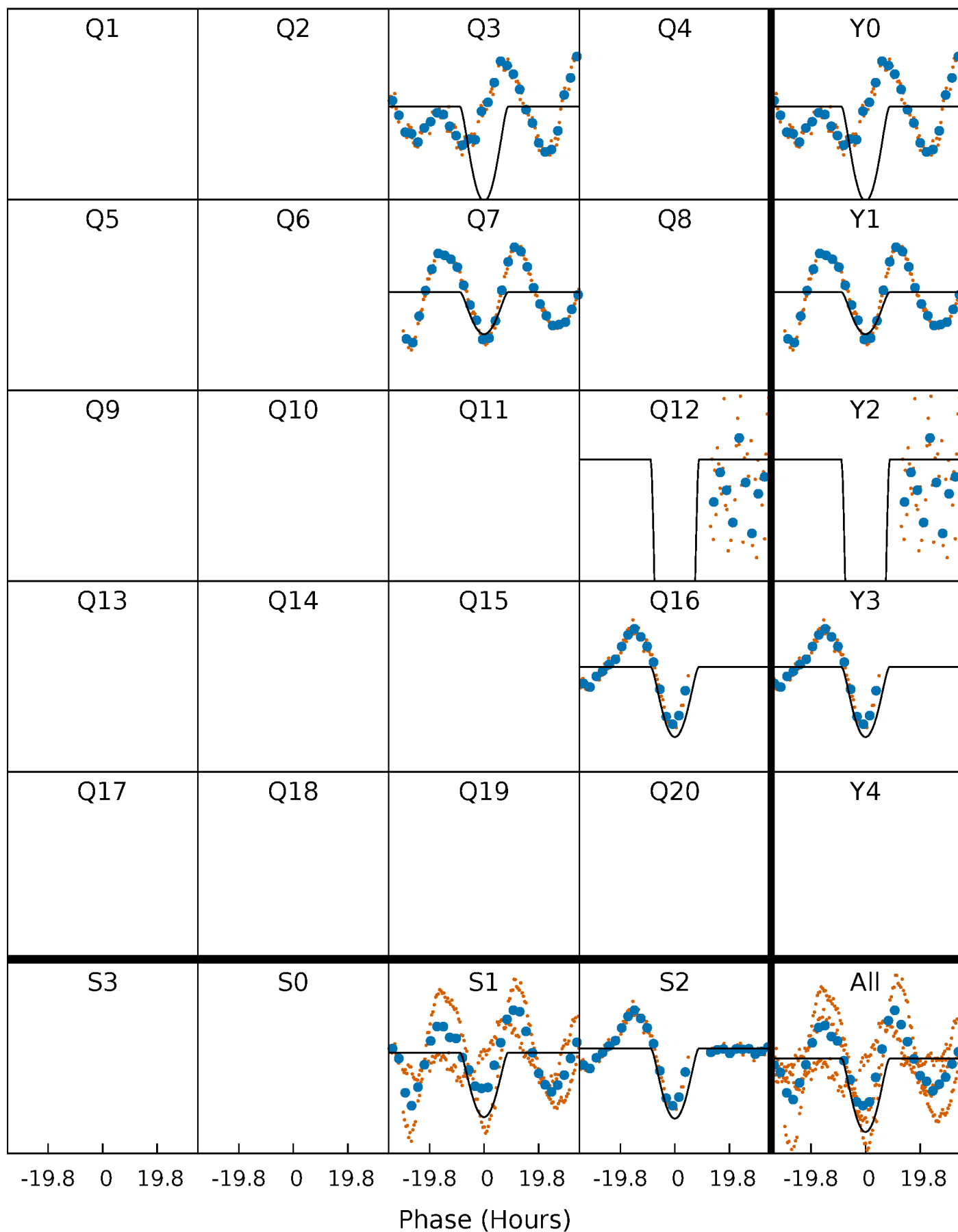
PDC Quarter-Phased Transit Curves

TCE 006848529-02 $P=425.377313$ Days $T_0=271.650415$ (BKJD)



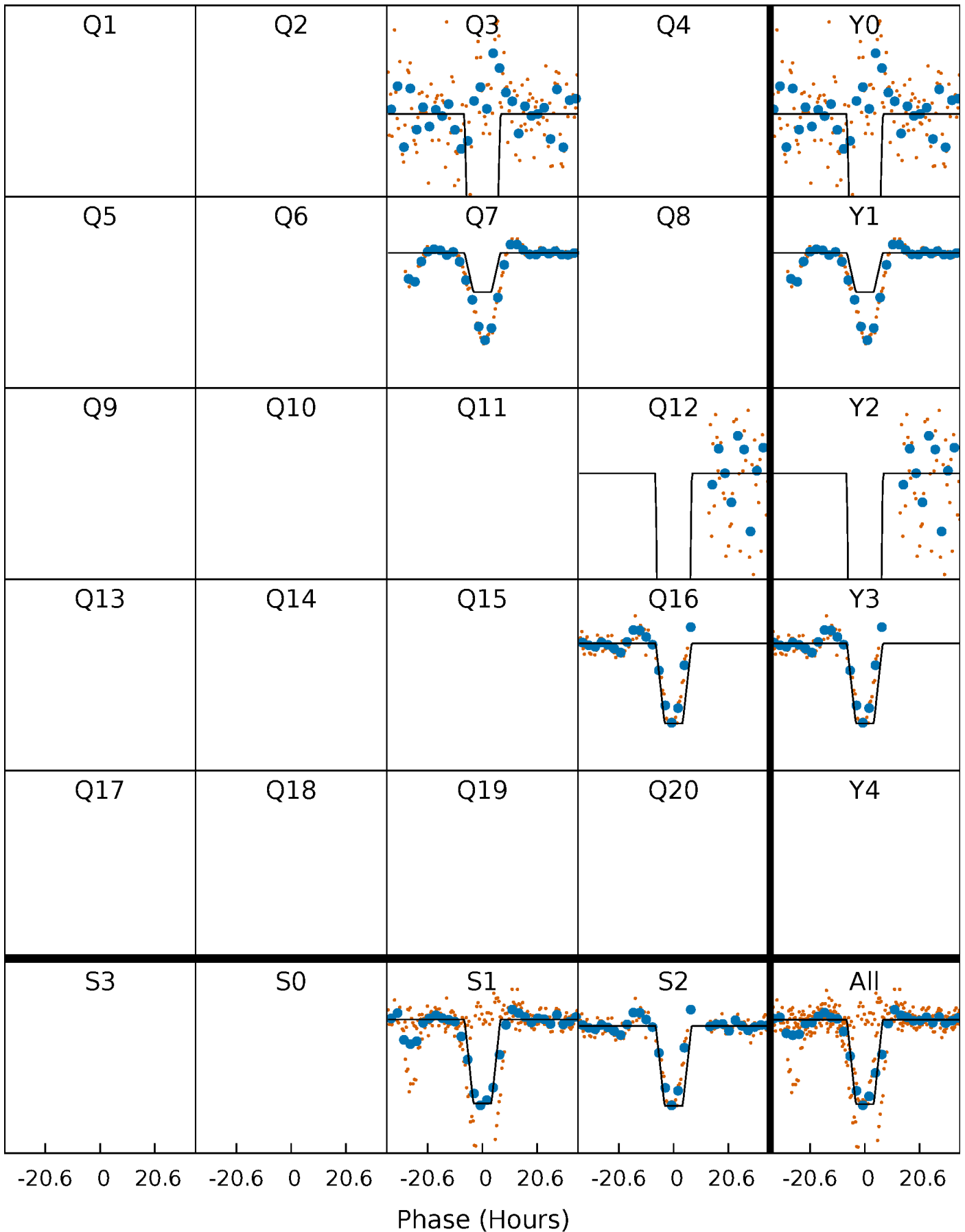
DV Quarter-Phased Transit Curves

TCE 006848529-02 P=425.377313 Days $T_0=271.650415$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

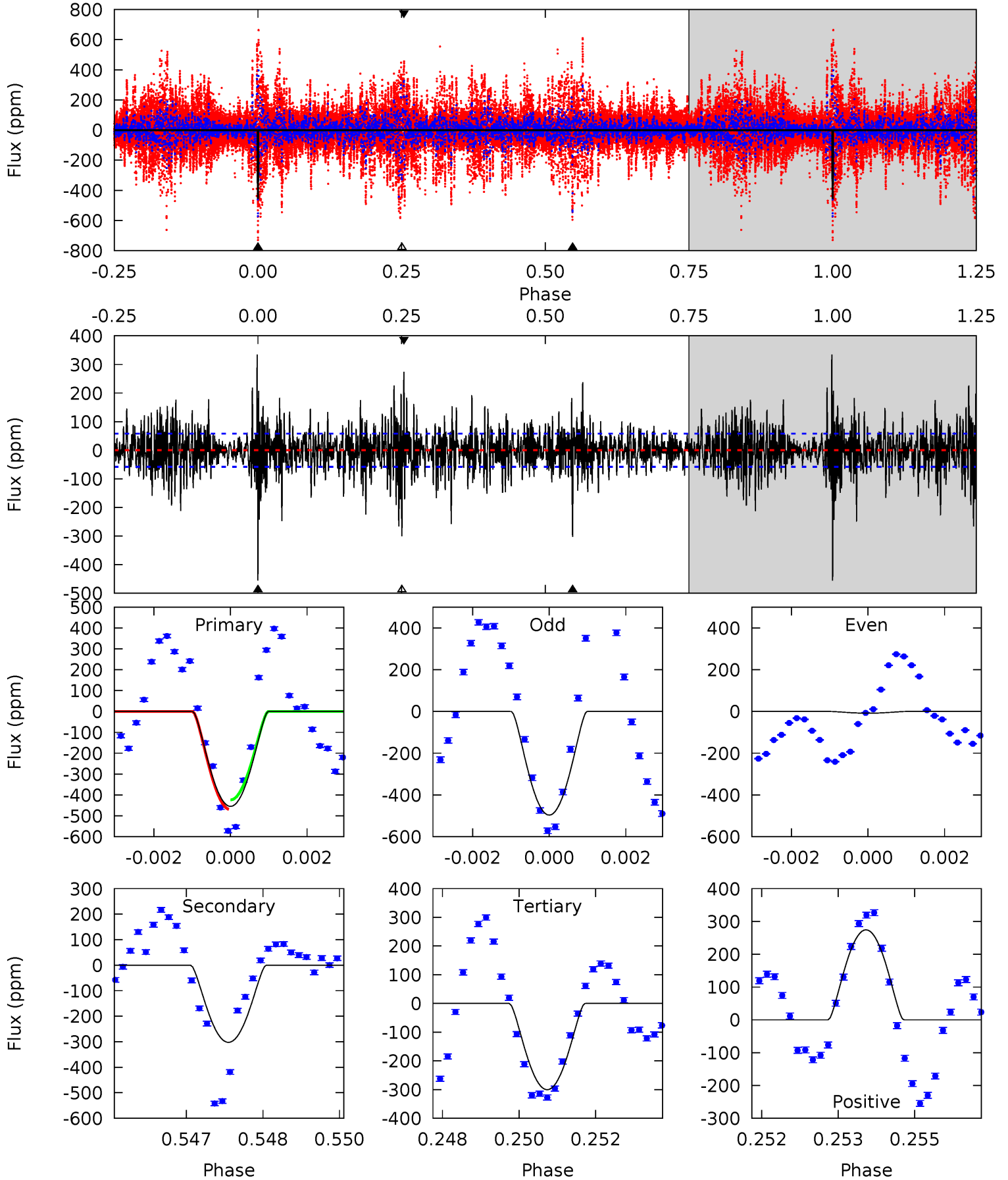
TCE 006848529-02 P=425.358607 Days $T_0=271.674997$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-02, P = 425.377313 Days, E = 271.650415 Days

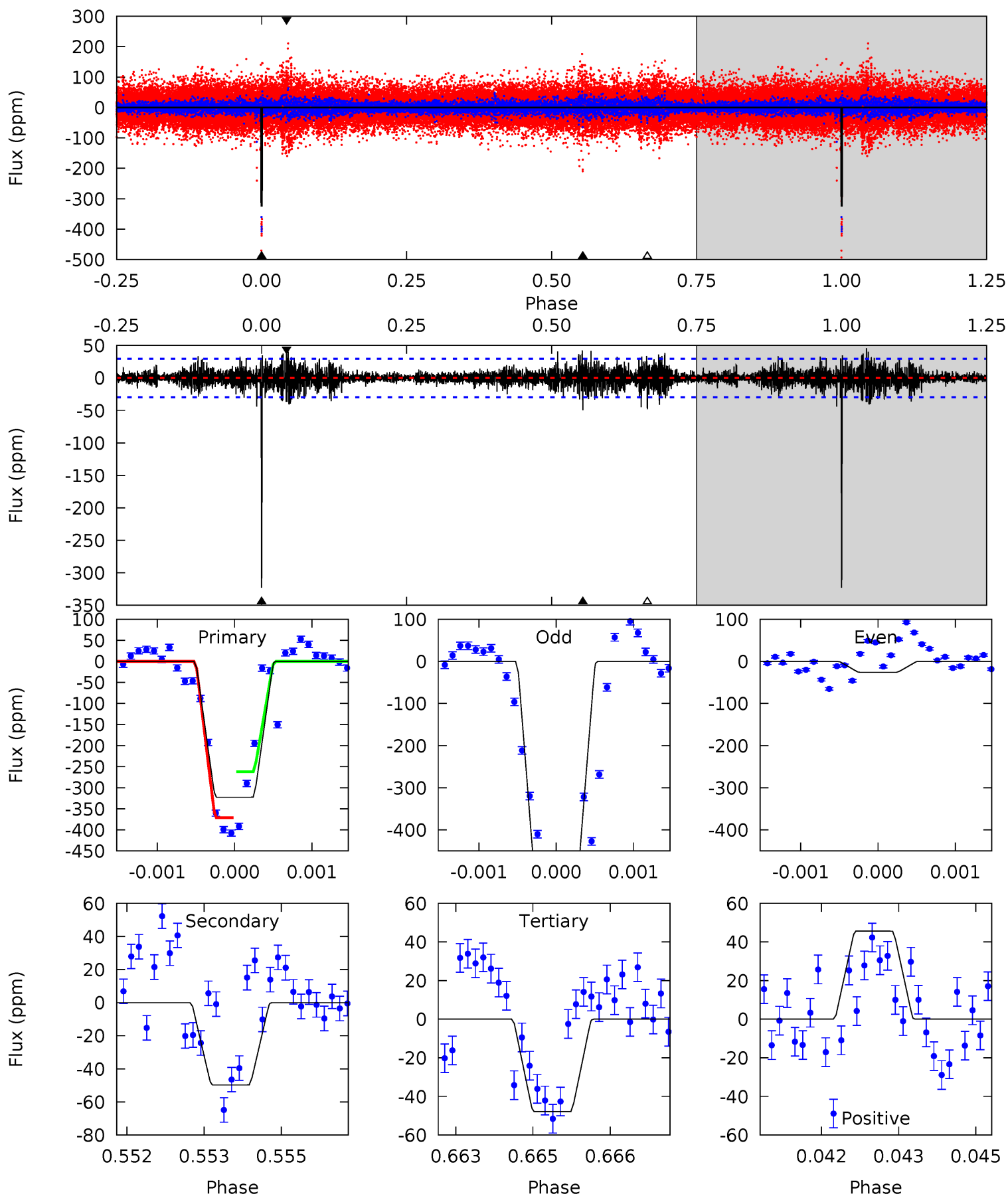
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.2	28.0	27.8	25.4	5.35	3.13	5.30	14.3	16.7	0.19	2.60	19.8	0.76	0.42	0



Alt Model-Shift Uniqueness Test

006848529-02, P = 425.358607 Days, E = 271.674997 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.1	9.11	8.76	8.35	5.40	3.21	1.70	50.3	50.7	0.34	0.76	63.4	1.15	0.12	0



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-303 ± 11	$14.15^{+12.13}_{-8.43}$	874^{+63}_{-79}	5757^{+3945}_{-1336}	2045^{+10131}_{-1465}
Alt.	-50 ± 5	$11.36^{+10.74}_{-7.77}$	873^{+71}_{-76}	4280^{+2842}_{-832}	534^{+4446}_{-404}

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

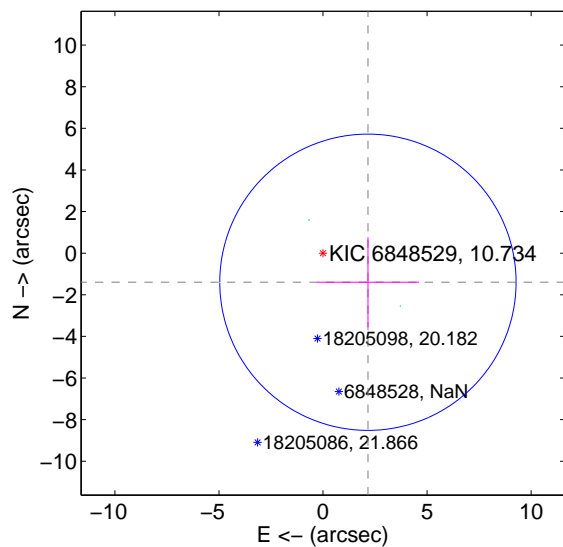
Supplemental centroid analysis for 006848529-02. **Kepler magnitude: 10.73.** Transit SNR 19.51

There are 2 quarters with good PRF difference image offsets

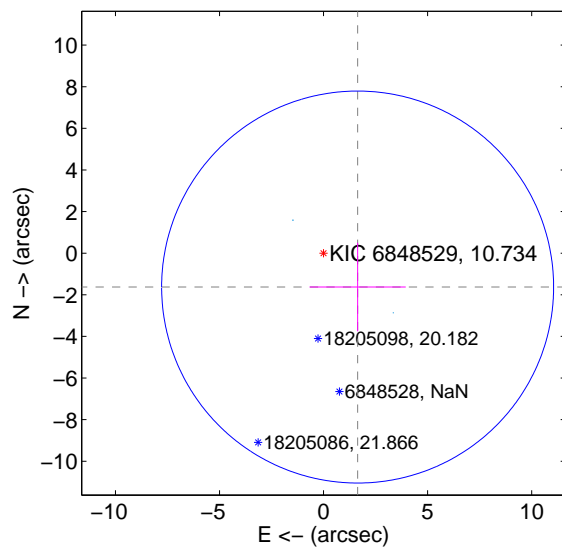
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.570 ± 2.373	1.08	-2.157 ± 2.454	-1.397 ± 2.167
PRF-fit source offset from KIC position	2.308 ± 3.139	0.74	-1.636 ± 2.311	-1.628 ± 2.129
photometric centroid source offset	0.96 ± 0.23	4.11	-0.68 ± 0.26	-0.69 ± 0.20

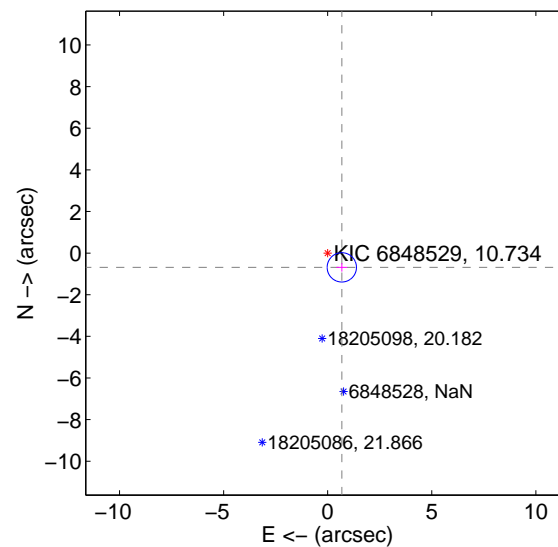
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

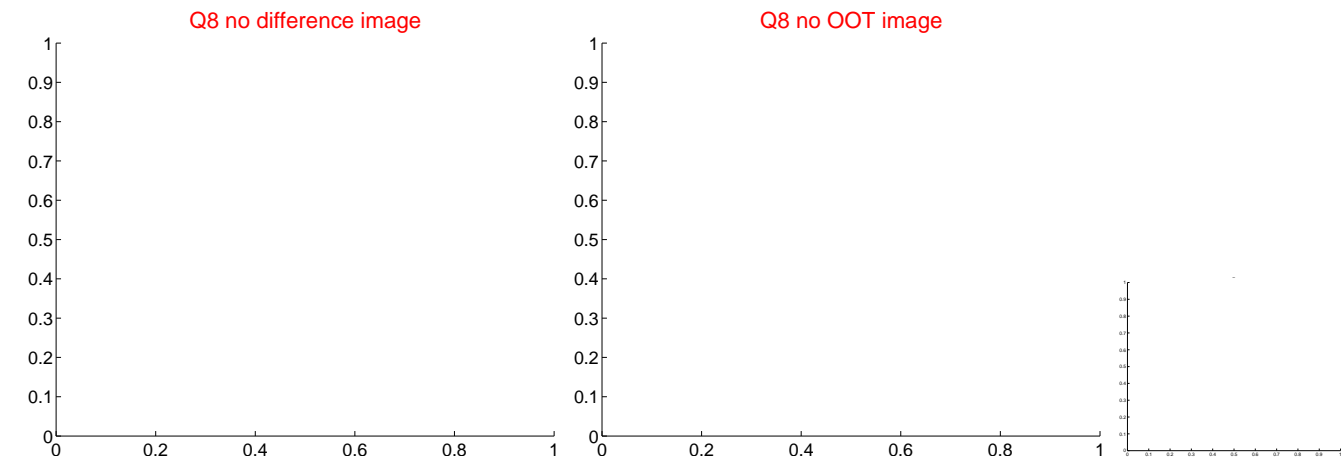
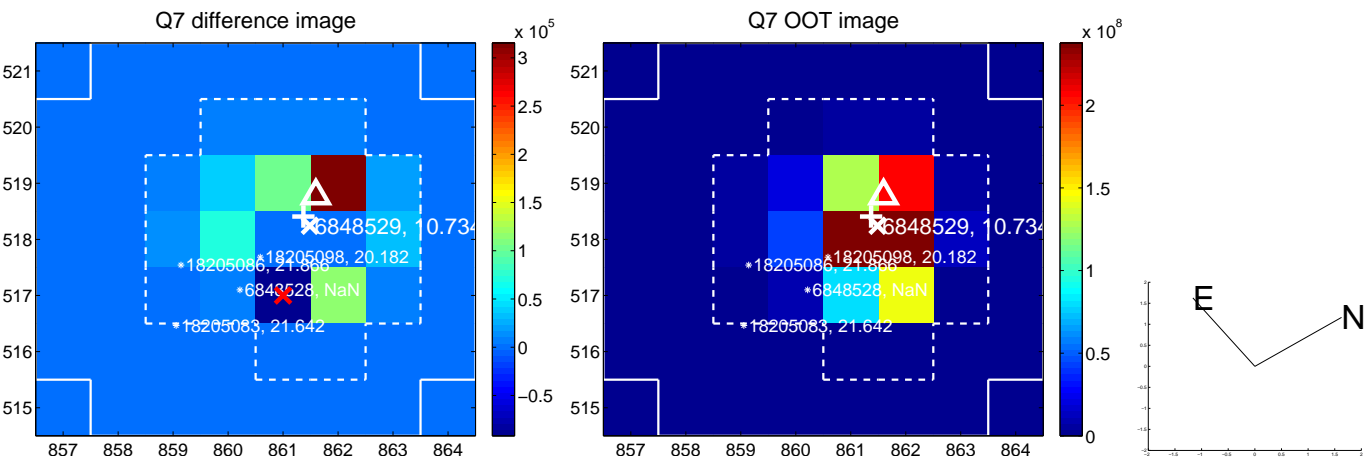


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



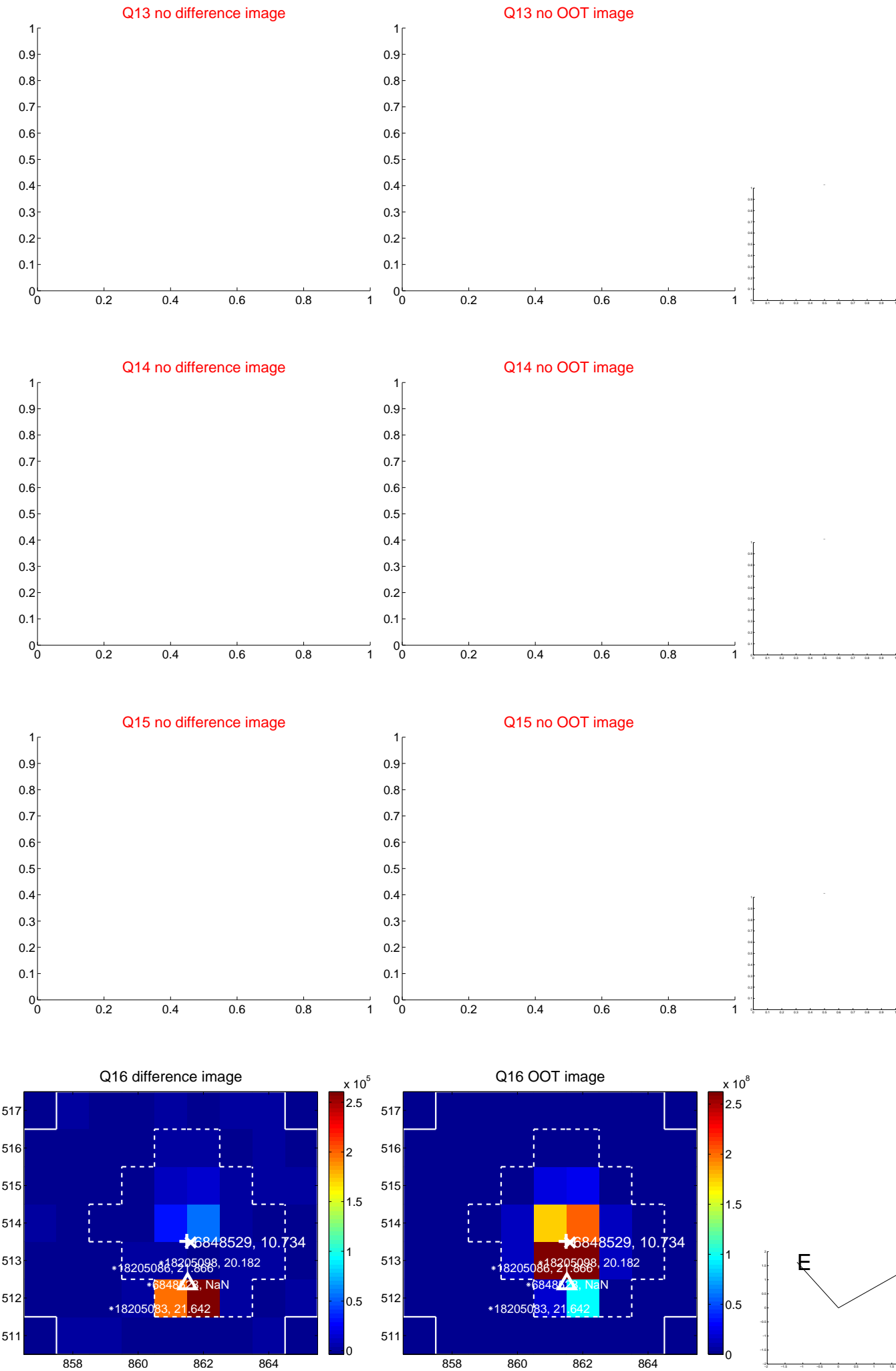
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



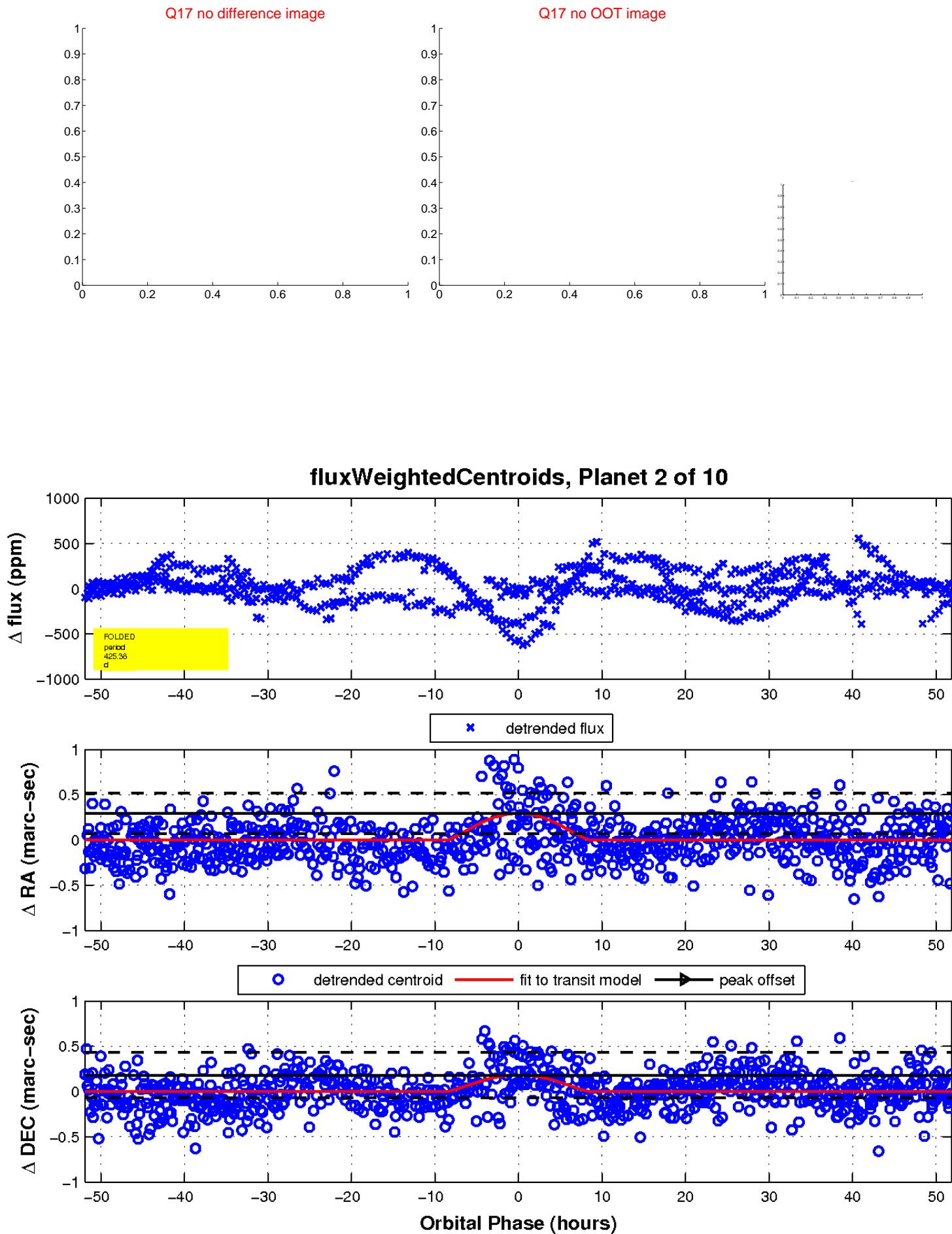
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

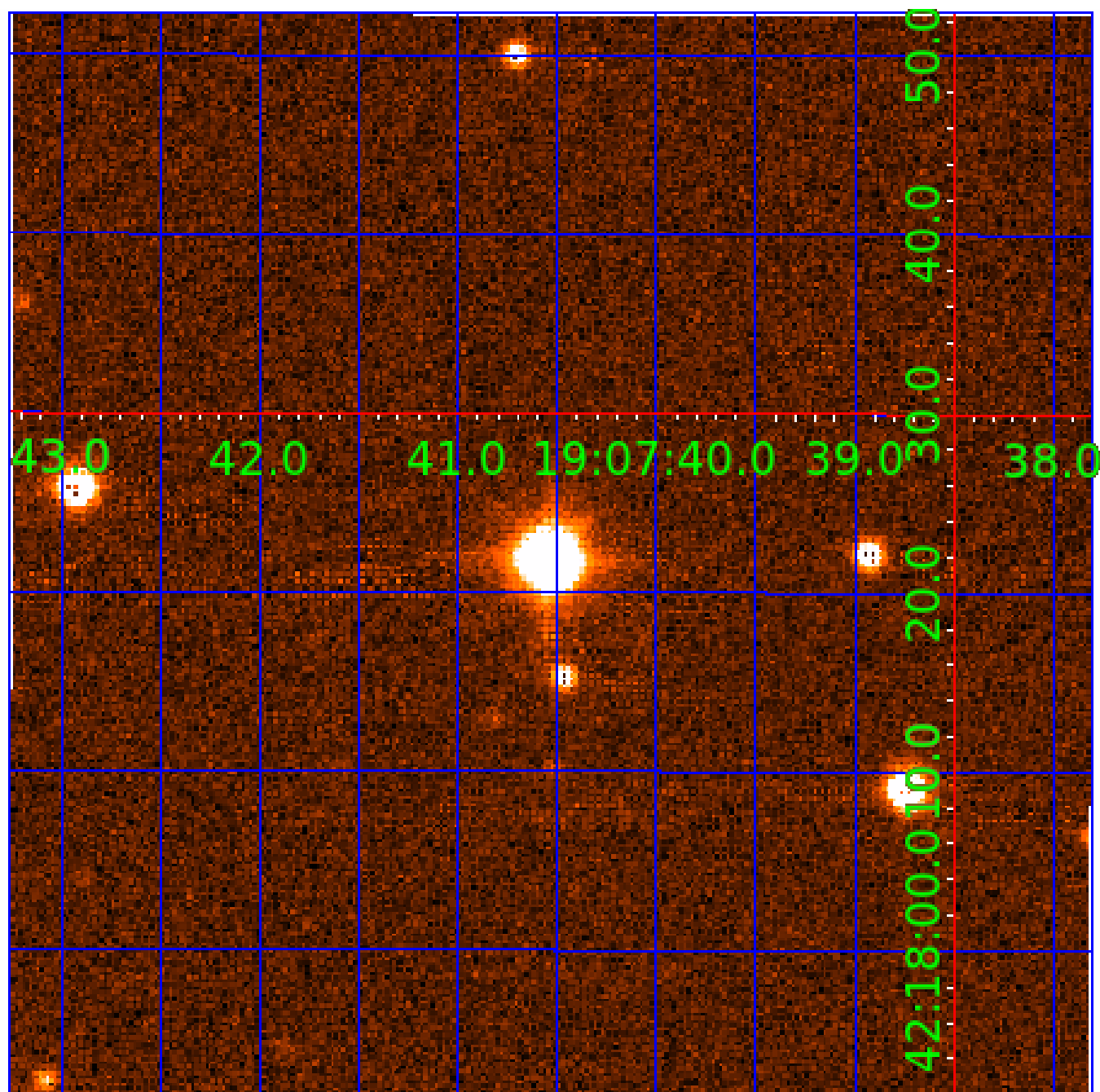


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

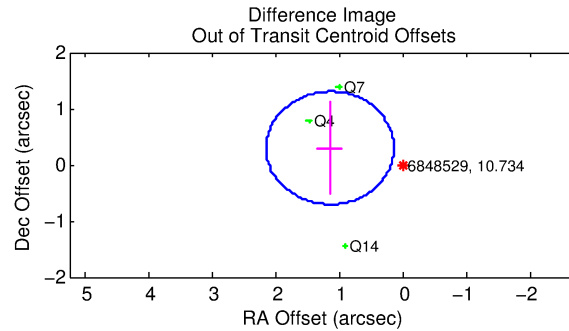
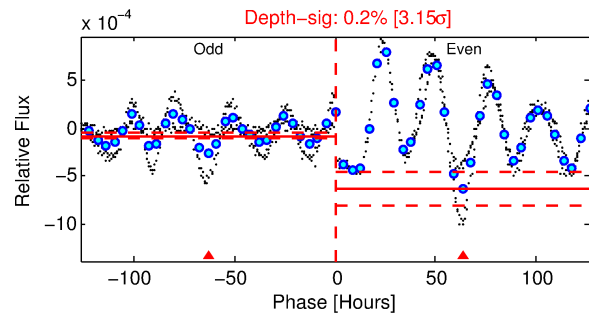
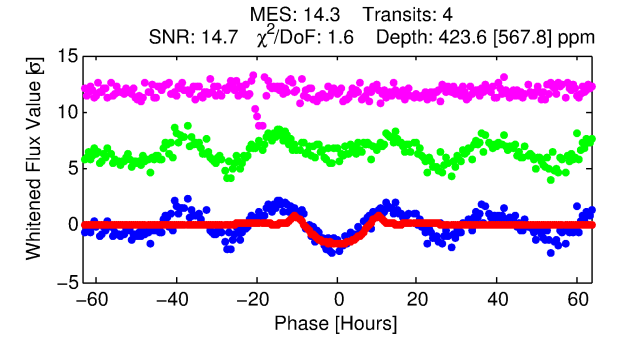
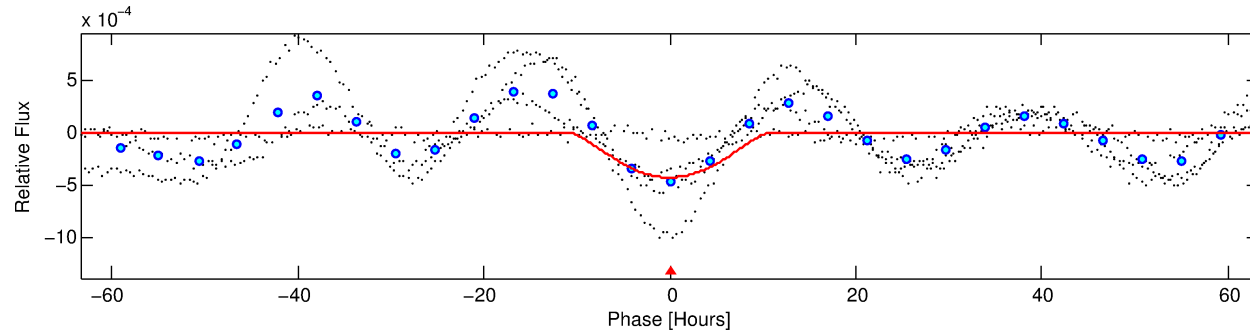
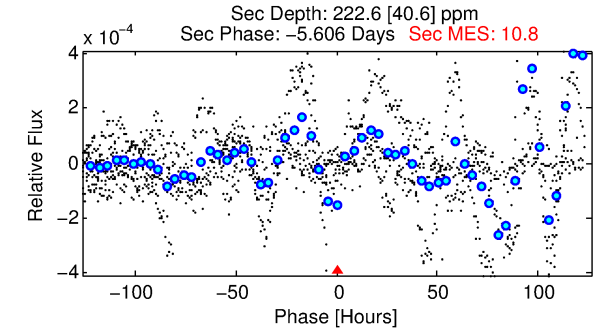
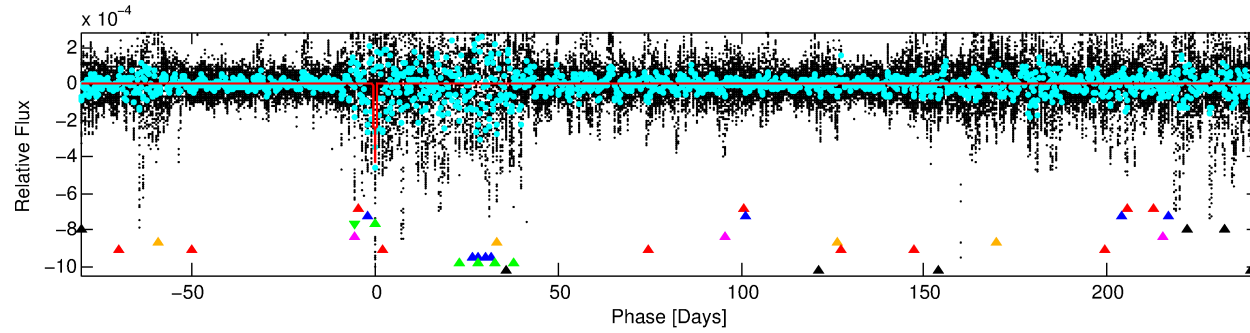
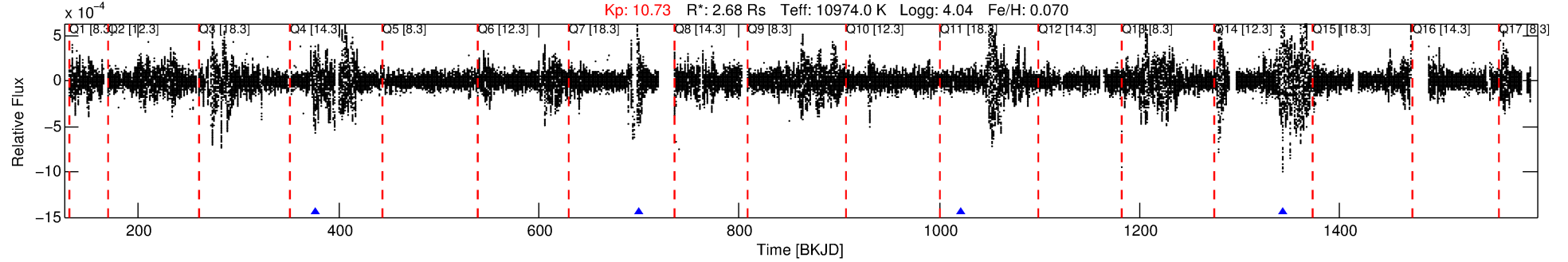
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-03

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 3 of 10 Period: 322.165 d



DV Fit Results:

Period = 322.16519 [0.01577] d
Epoch = 377.0665 [0.0255] BKJD
Rp/R* = 0.0340 [0.0319]
a/R* = 30.67 [7.36]
b = 1.00 [0.01]
Seff = 54.45 [26.74]
Teq = 693 [85] K
Rp = 9.95 [9.91] Re
a = 1.3077 [0.3945] AU
Ag = 2117.12 [4097.51] [0.52σ]
Teffp = 7265 [3431] K [1.91σ]

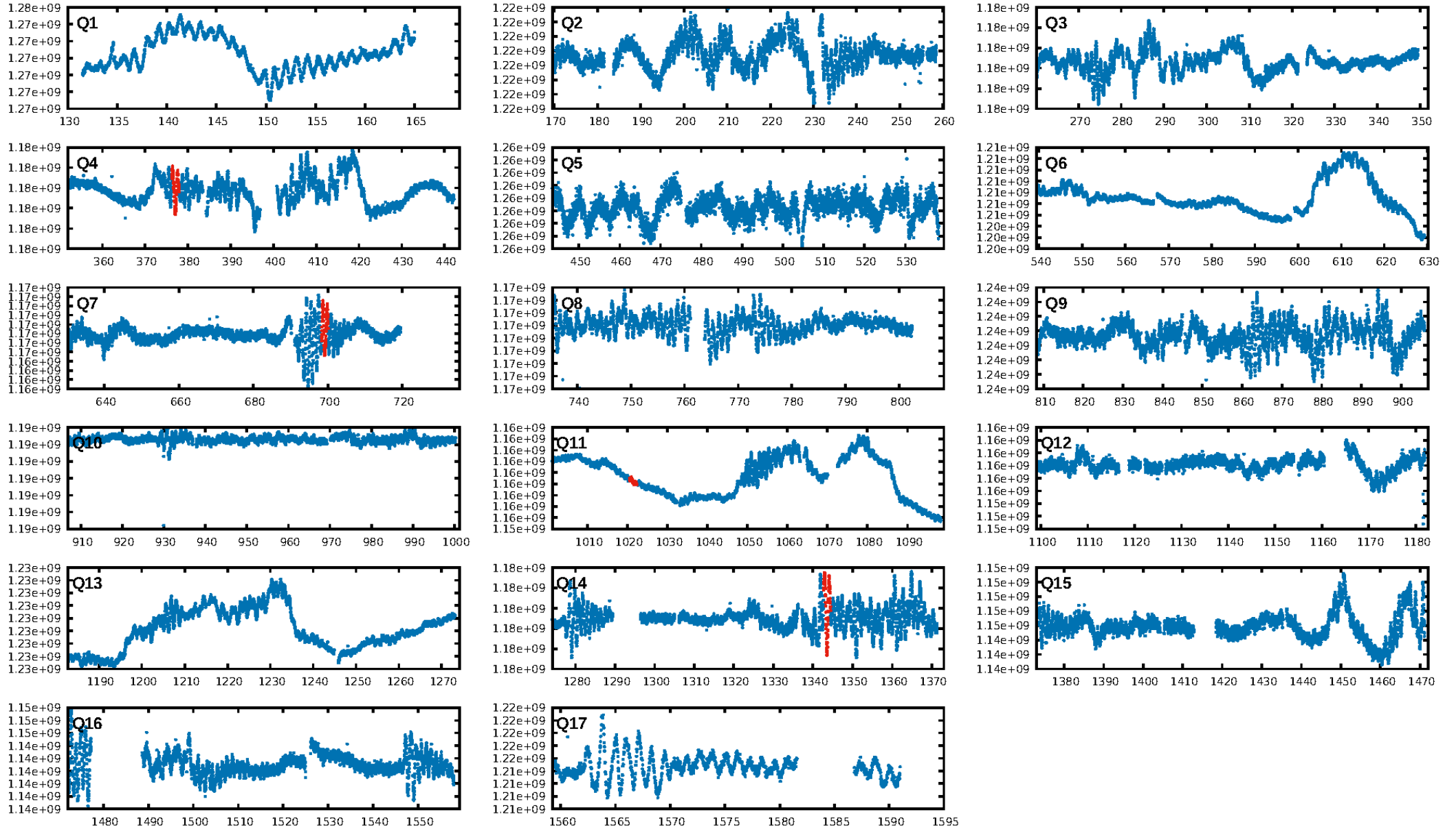
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.96σ]
LongPeriod-sig: 87.3% [1.53σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 39.0%
Bootstrap-pfa: 8.88e-20
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.398
Centroid-sig: 3.6%
Centroid-so: 0.902 arcsec [2.95σ]
OotOffset-rm: 1.191 arcsec [3.56σ]
KicOffset-rm: 1.756 arcsec [10.56σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

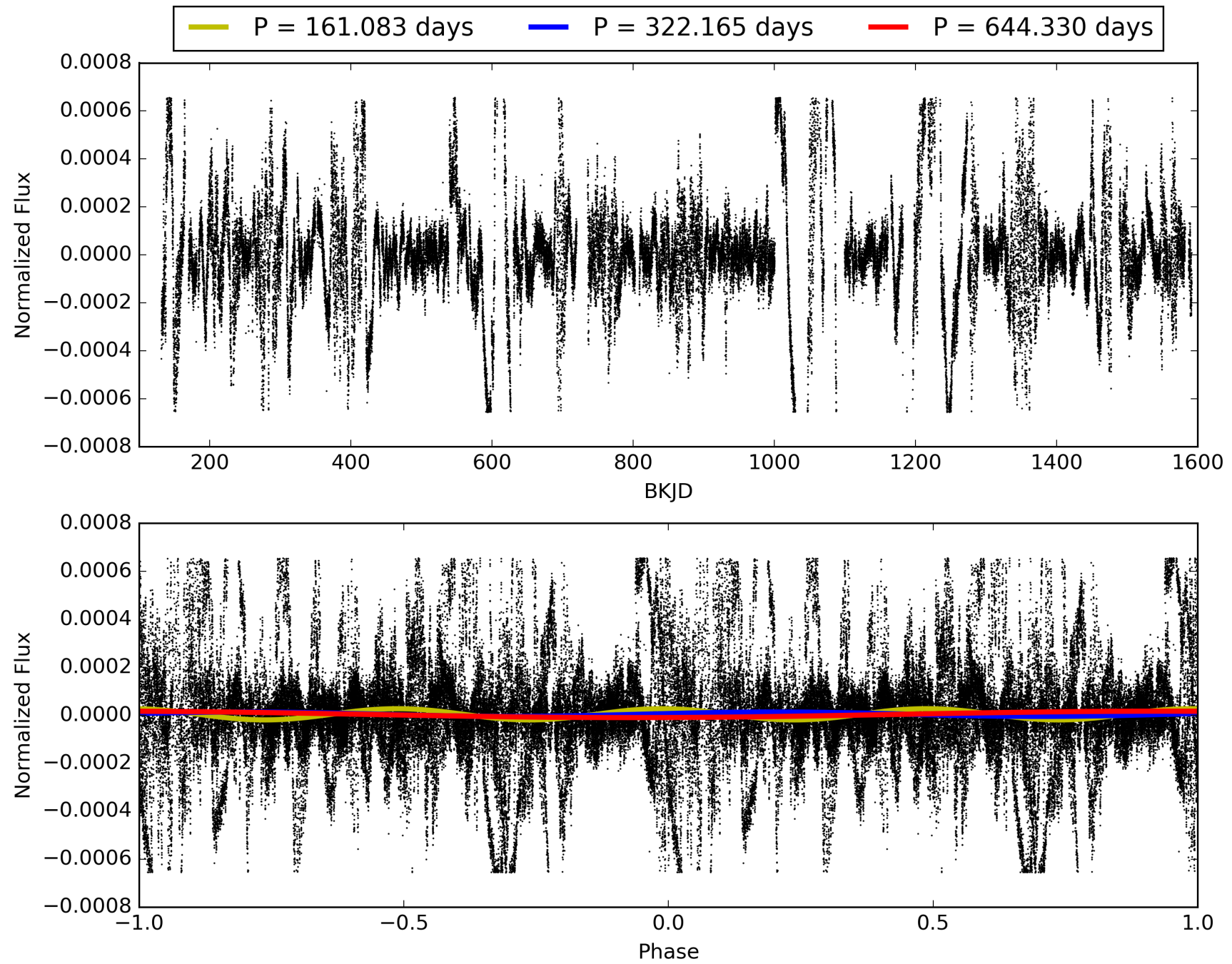
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:21:16 Z

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

TCE 006848529-03, PDC Light Curves

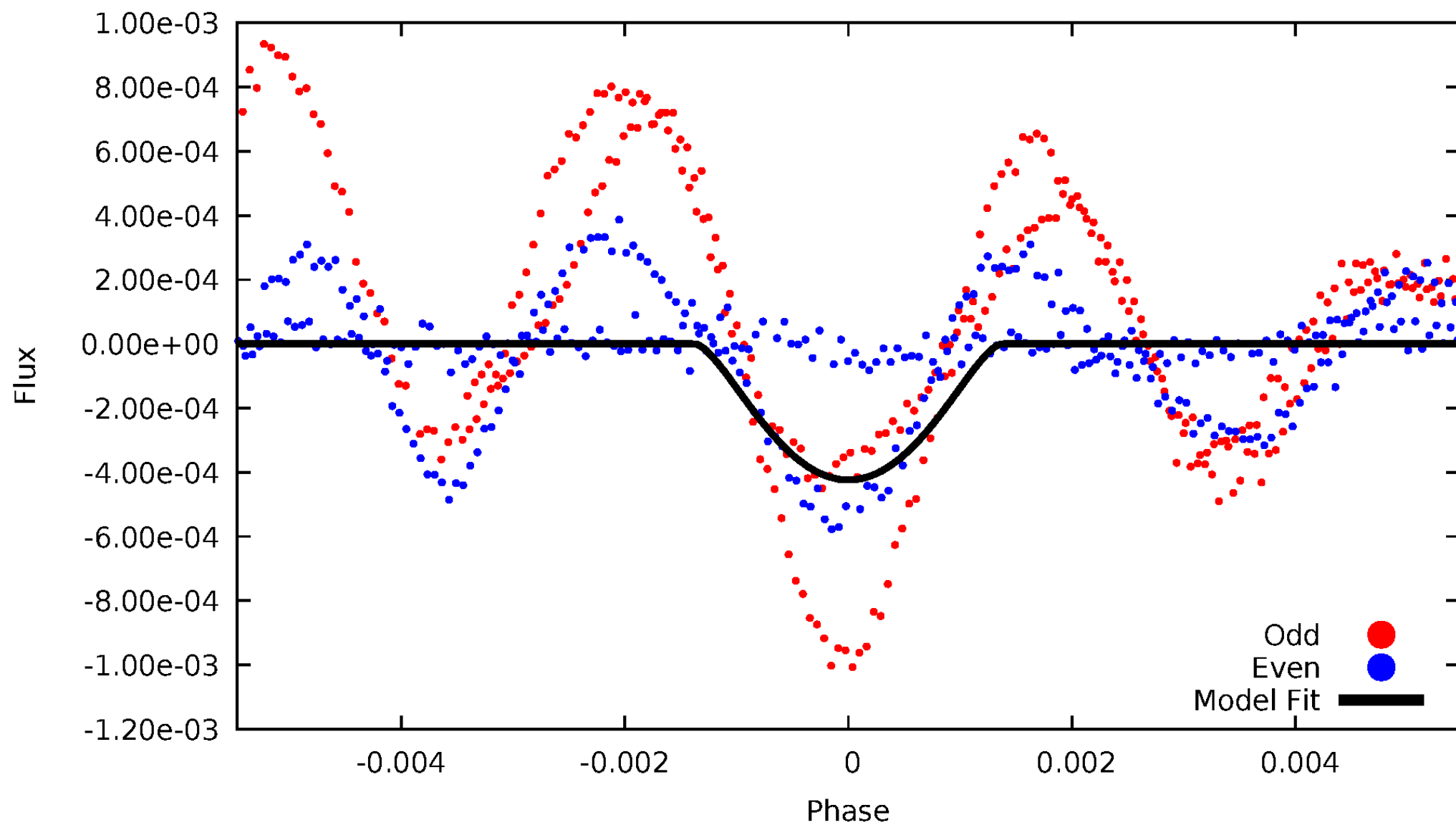


TCE 006848529-03



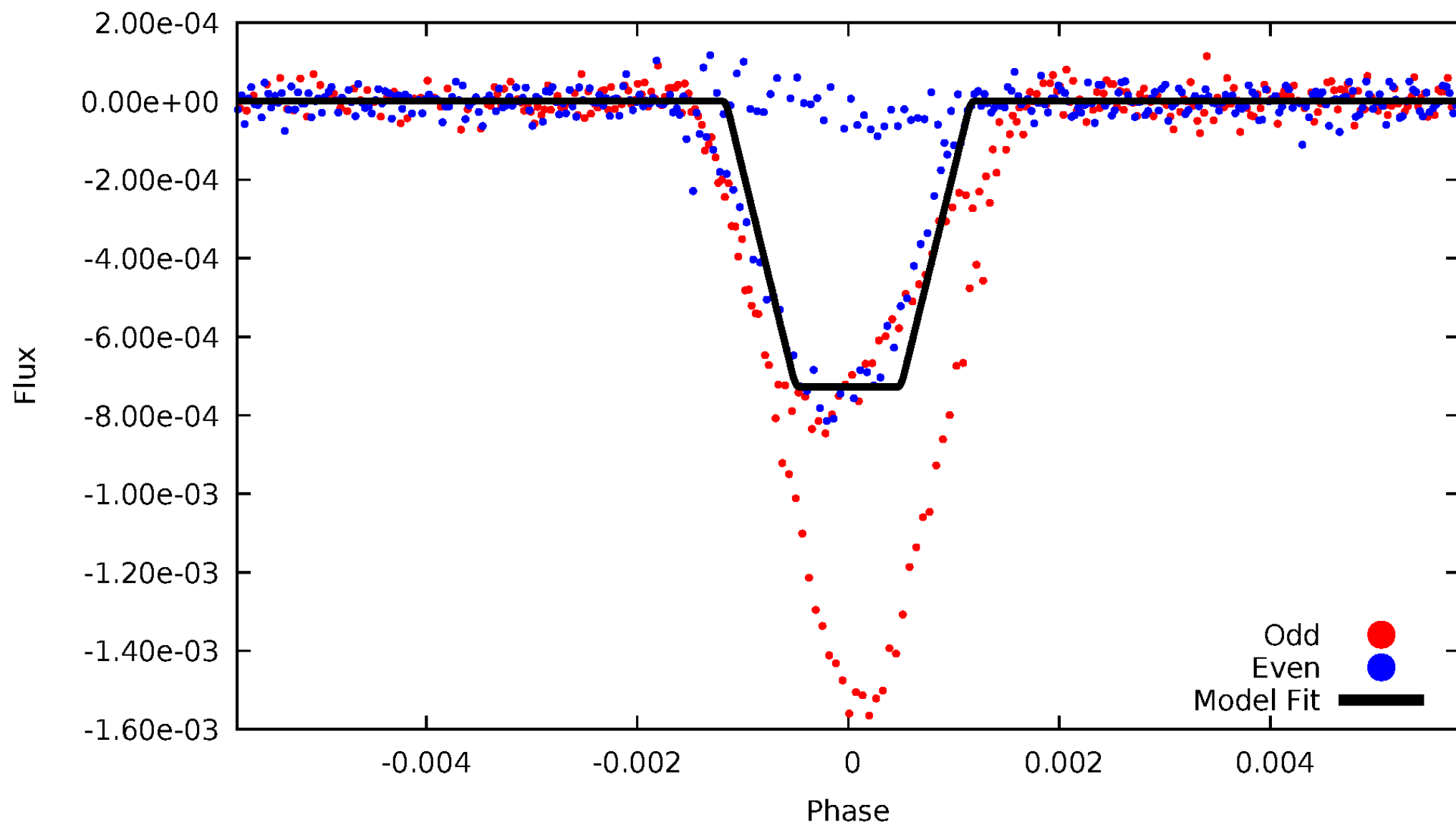
DV Odd/Even

TCE 006848529-03



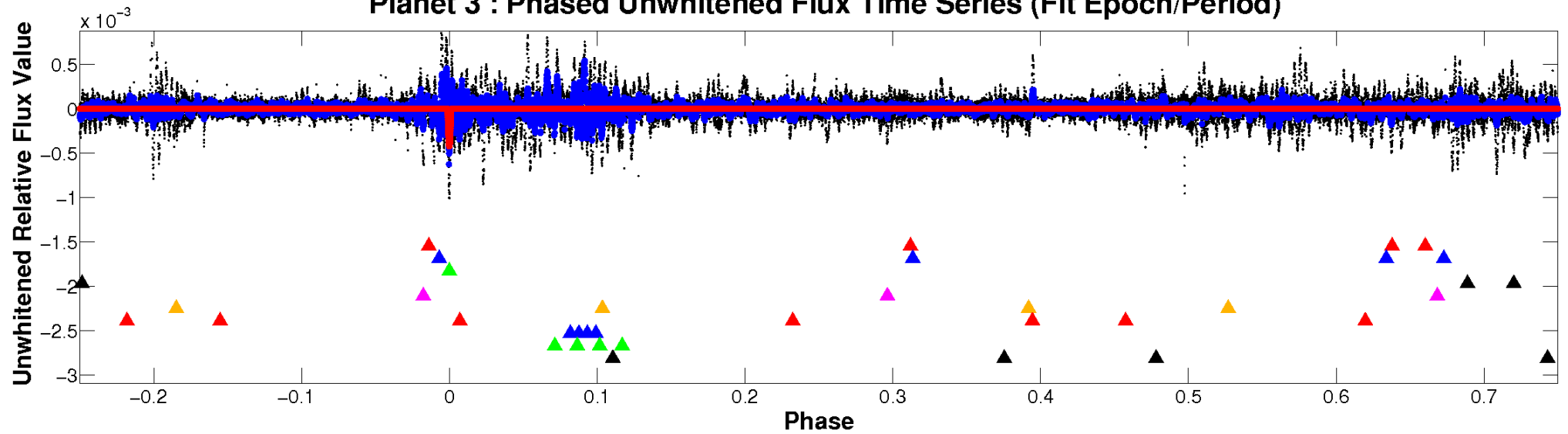
ALT Odd/Even

TCE 006848529-03

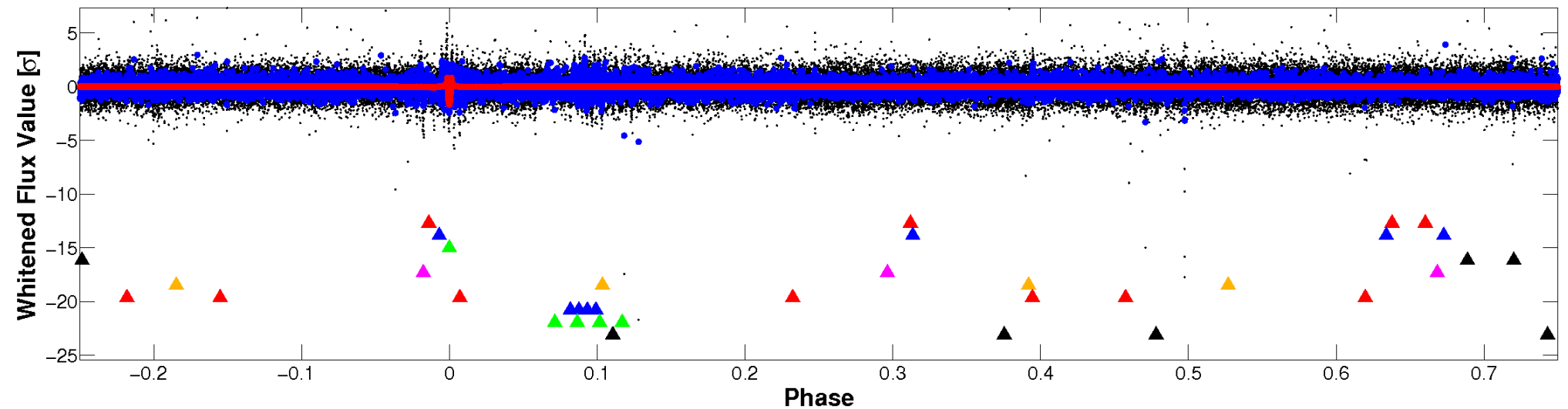


Non-Whitened Vs. Whitened Light Curve

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

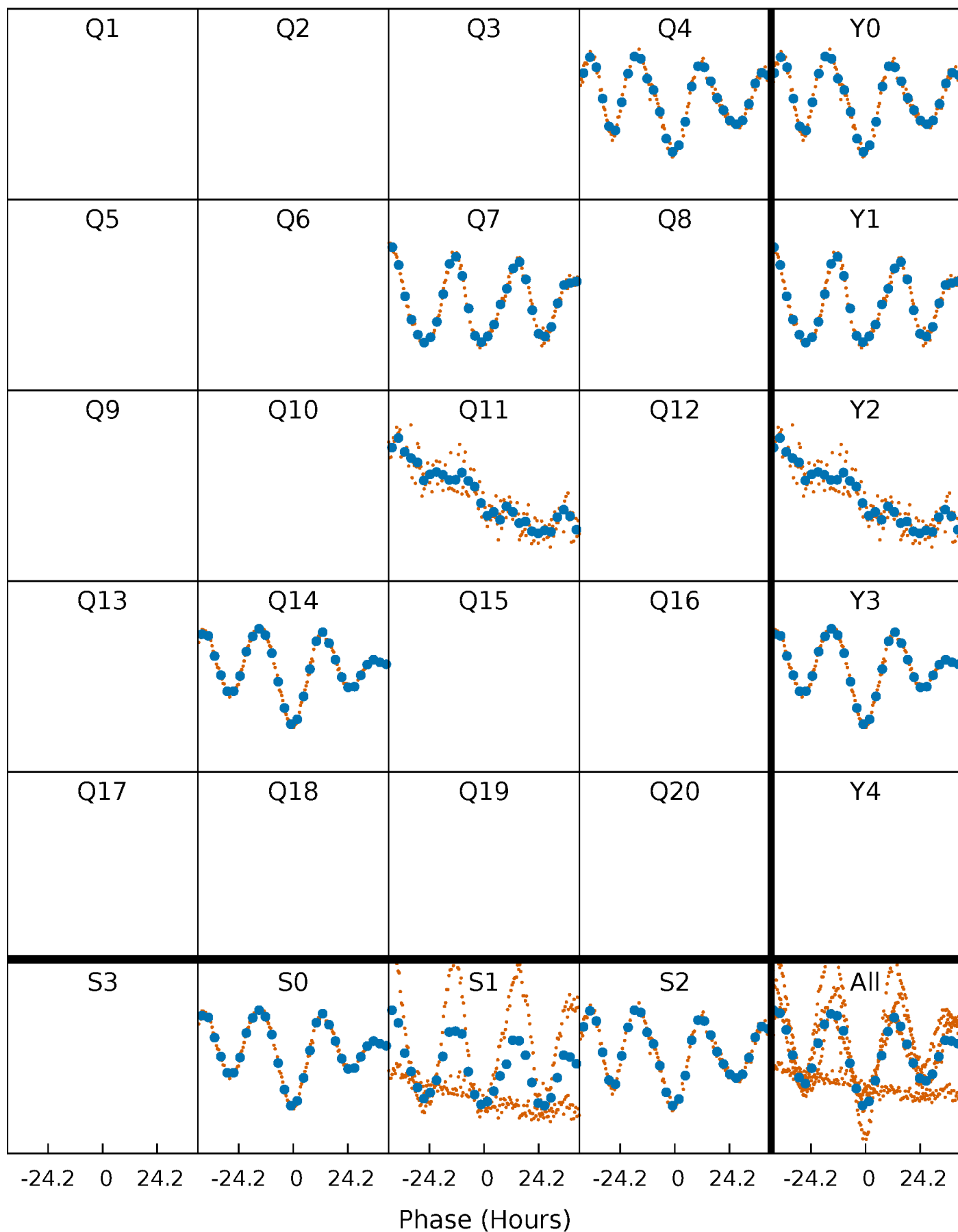


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



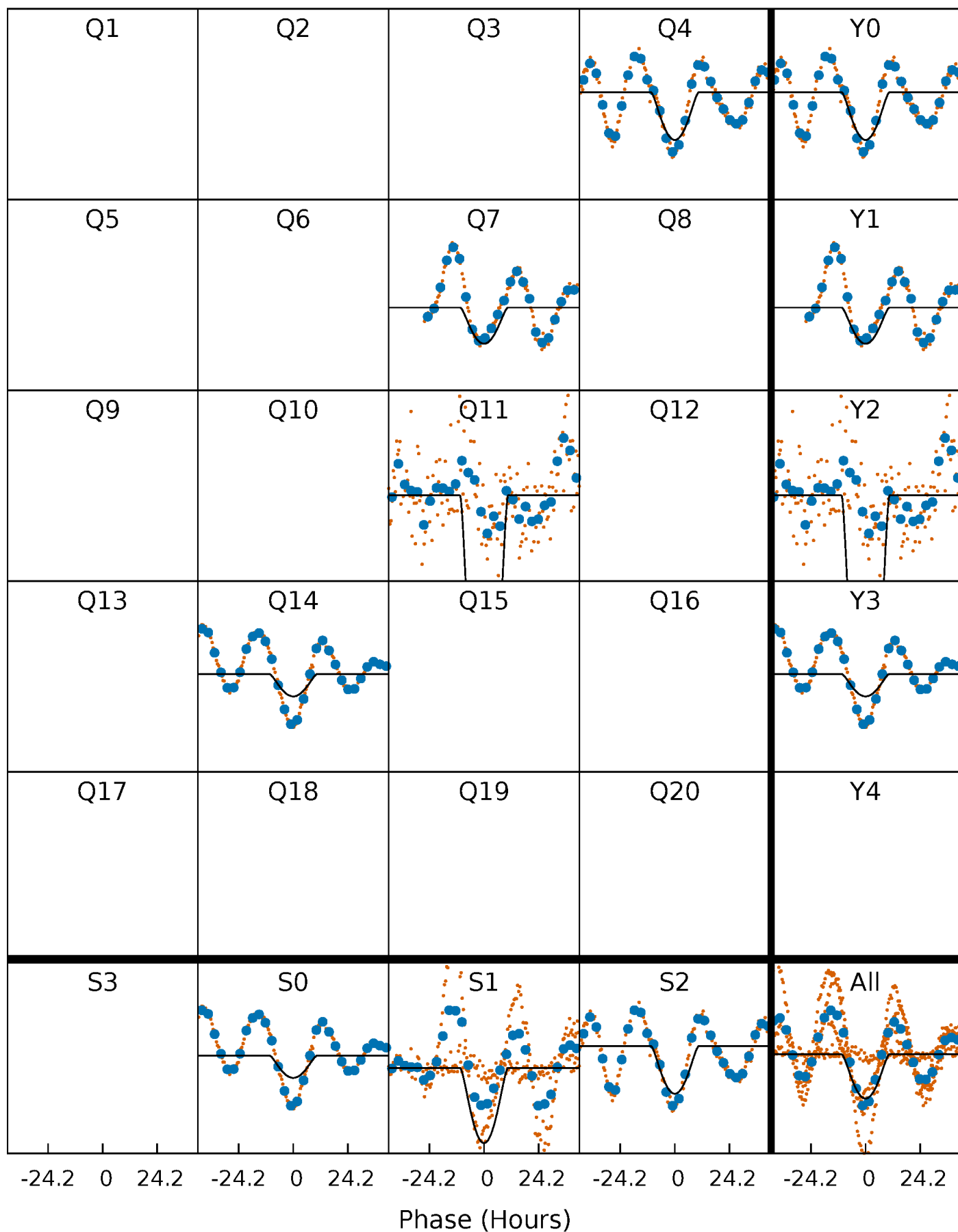
PDC Quarter-Phased Transit Curves

TCE 006848529-03 $P=322.165190$ Days $T_0=377.066539$ (BKJD)



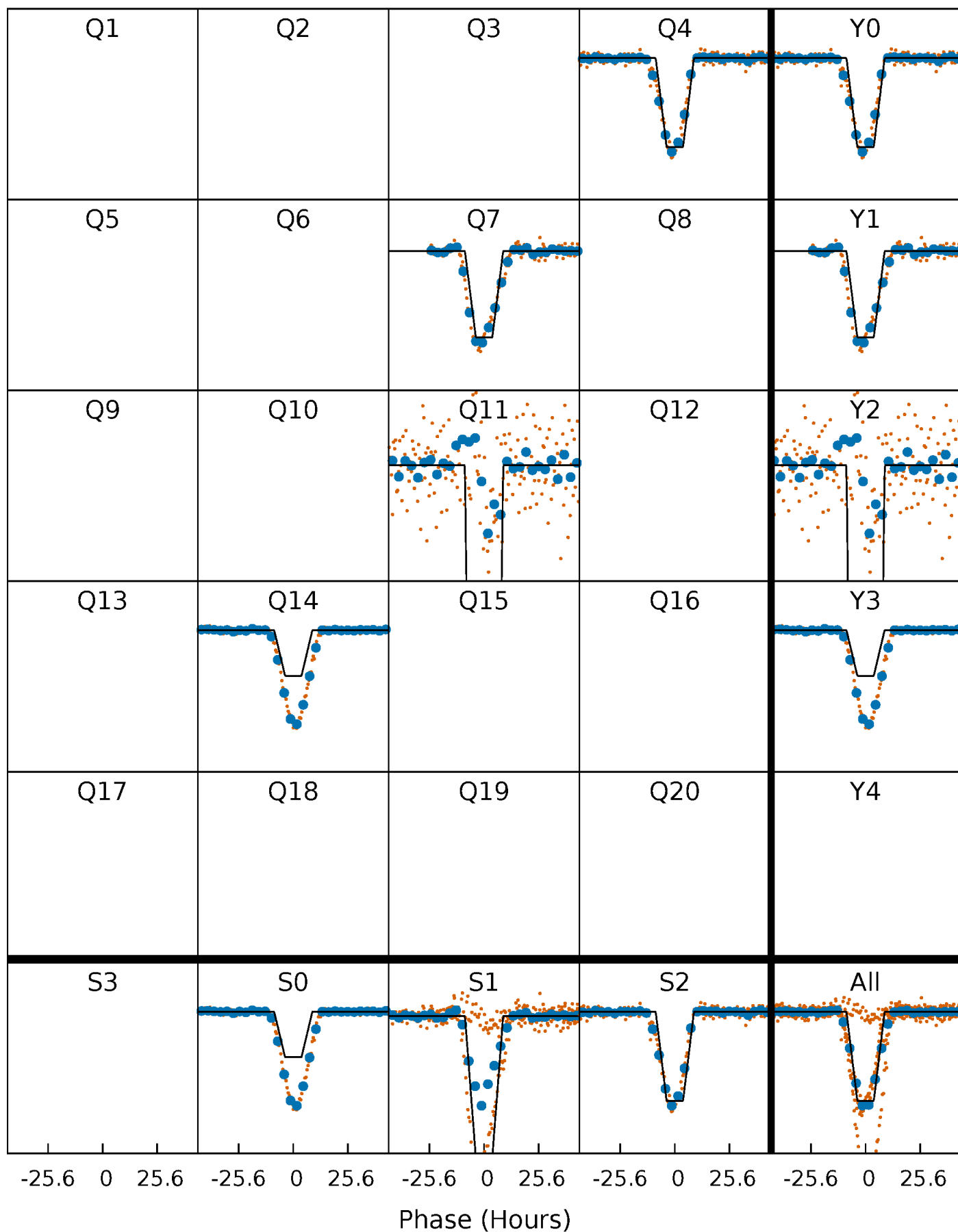
DV Quarter-Phased Transit Curves

TCE 006848529-03 $P=322.165190$ Days $T_0=377.066539$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

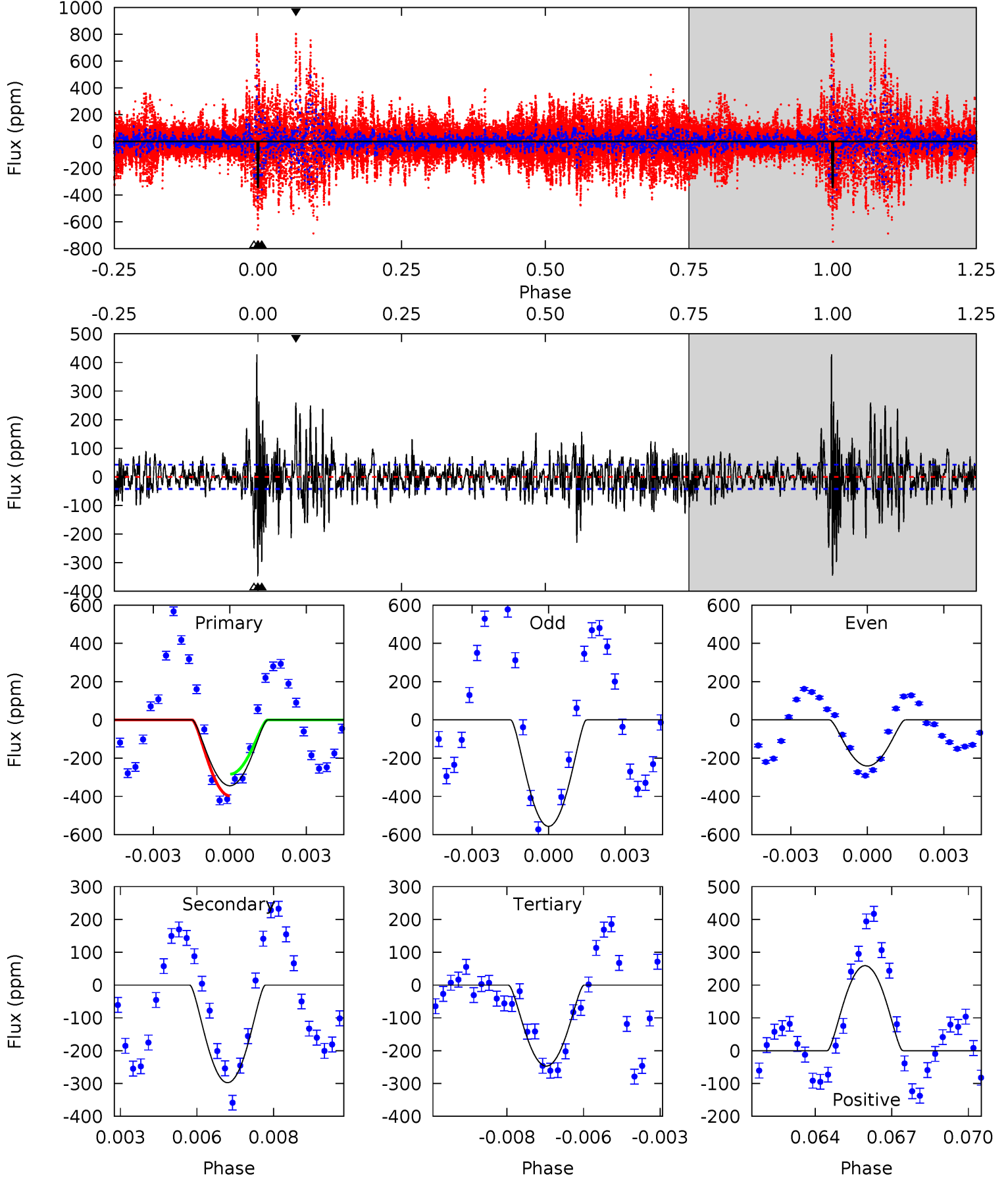
TCE 006848529-03 P=322.141885 Days $T_0=377.084221$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-03, P = 322.165190 Days, E = 54.901349 Days

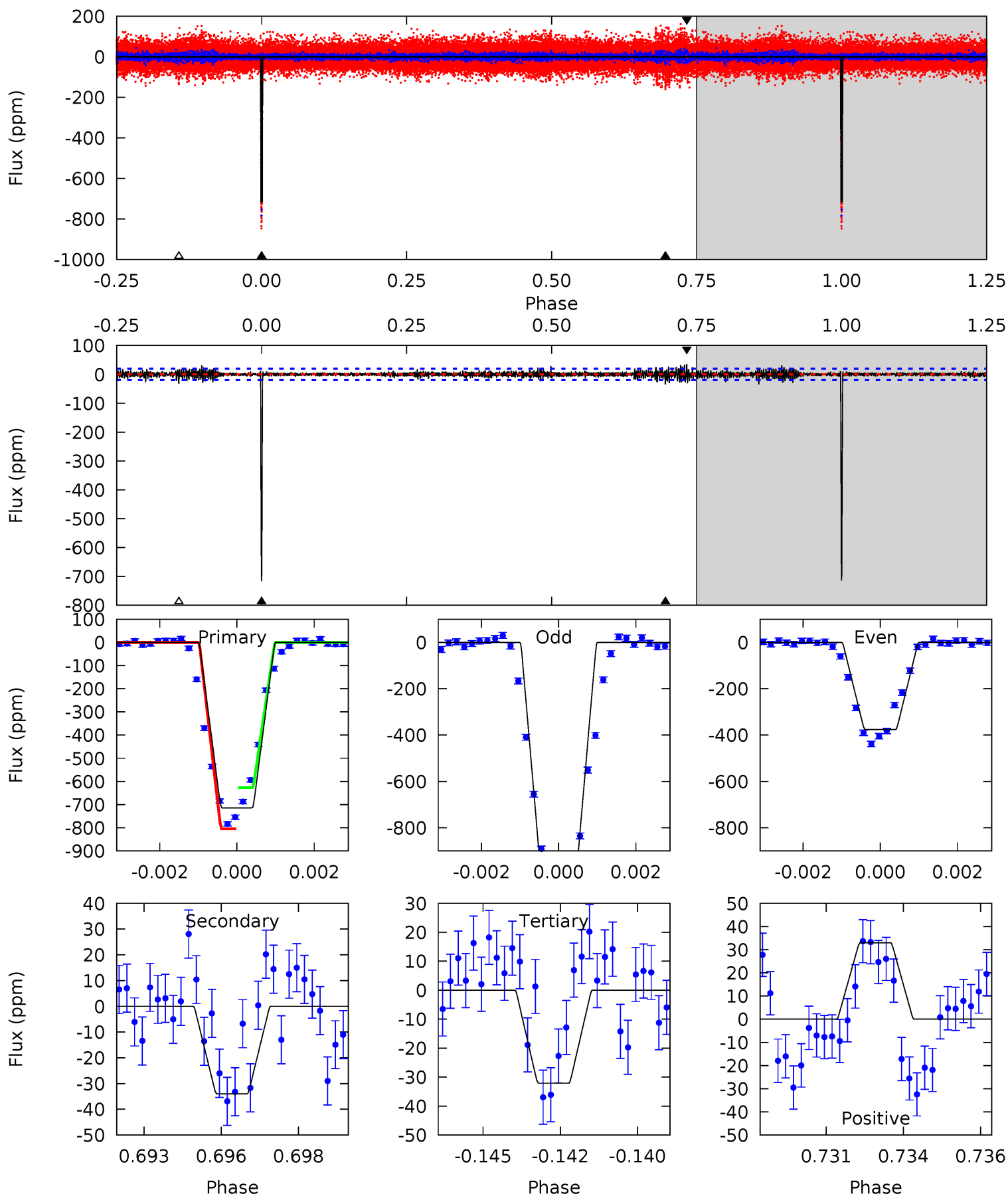
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.7	36.9	30.6	32.1	5.27	2.99	6.19	12.0	10.5	6.27	4.77	18.9	1.04	0.55	7.01



Alt Model-Shift Uniqueness Test

006848529-03, P = 322.141885 Days, E = 54.942336 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
192.7	9.18	8.66	8.91	5.30	3.04	1.76	184.1	183.8	0.52	0.27	122.3	1.00	0.04	24.0



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-298 ± 8	$10.67^{+9.34}_{-7.08}$	958^{+77}_{-84}	6580^{+6948}_{-1631}	2384^{+18273}_{-1713}
Alt.	-34 ± 4	$10.03^{+8.89}_{-6.26}$	959^{+77}_{-93}	4158^{+2185}_{-738}	305^{+1839}_{-218}

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

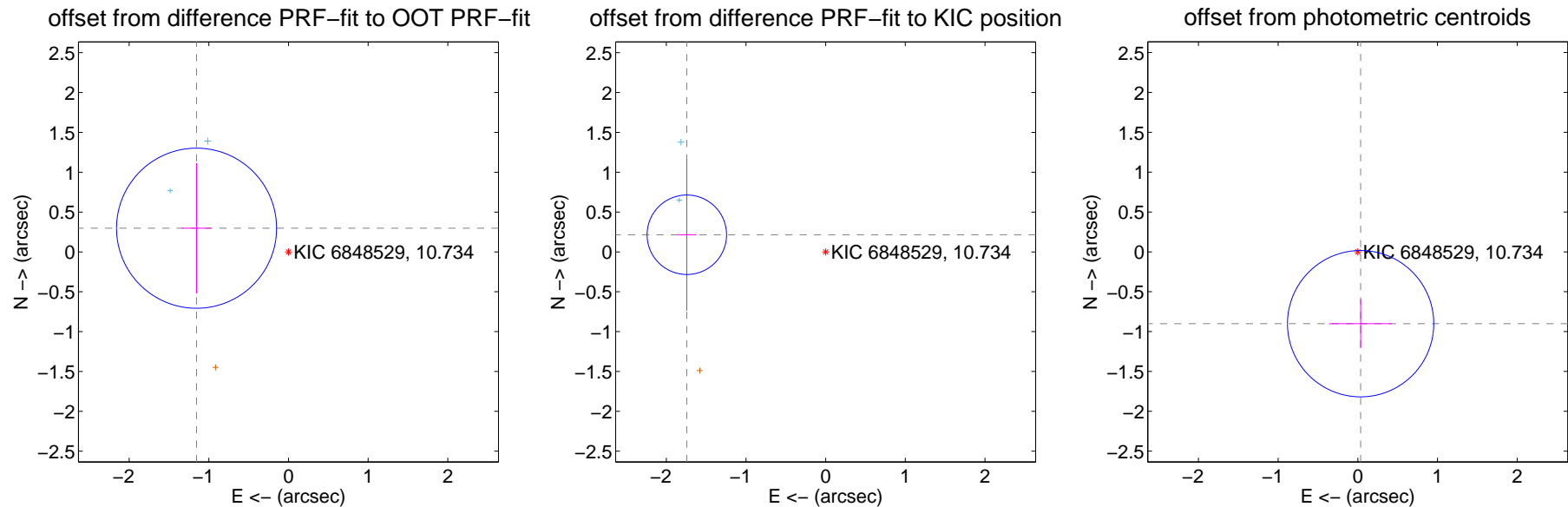
DV Centroid Data

Supplemental centroid analysis for 006848529-03. **Kepler magnitude: 10.73.** Transit SNR 14.66

There are 2 quarters with good PRF difference image offsets

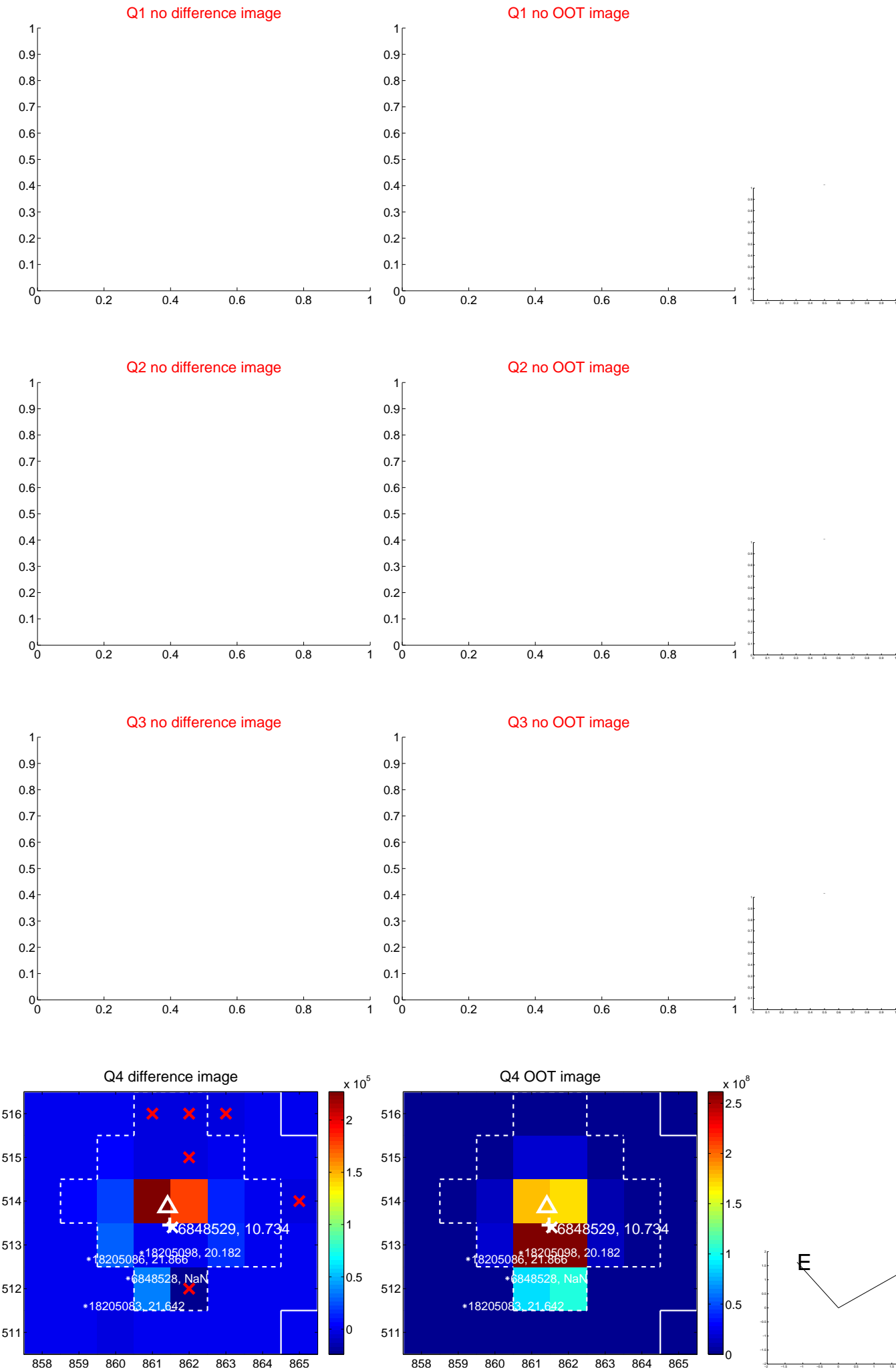
The direct PRF centroid is offset from the target star catalog position by about 0.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.191 \pm 0.335	3.56	1.154 \pm 0.186	0.297 \pm 0.817
PRF-fit source offset from KIC position	1.756 \pm 0.166	10.56	1.742 \pm 0.119	0.215 \pm 0.952
photometric centroid source offset	0.90 \pm 0.31	2.95	-0.04 \pm 0.39	-0.90 \pm 0.31

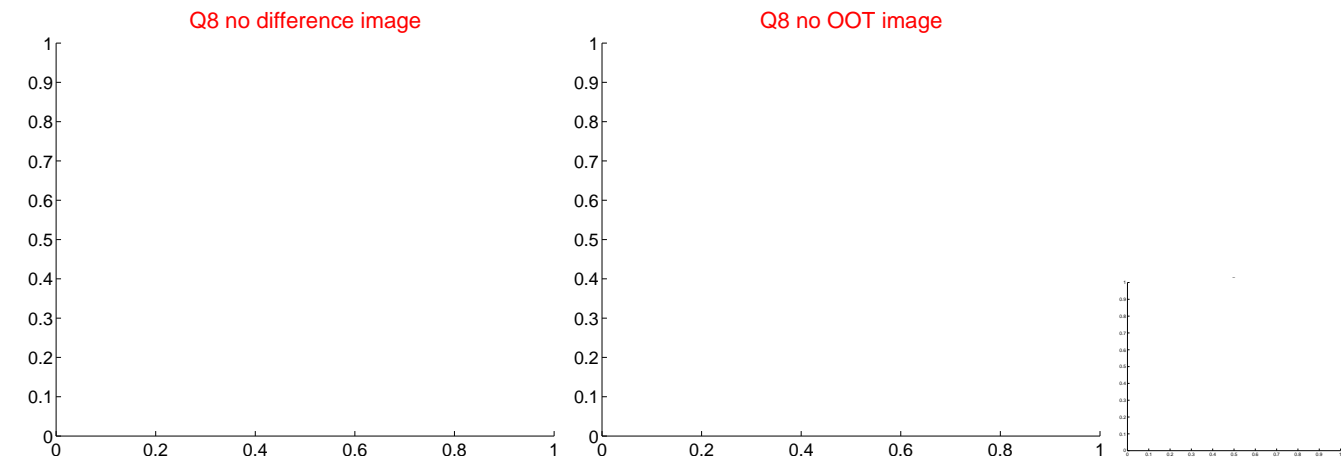
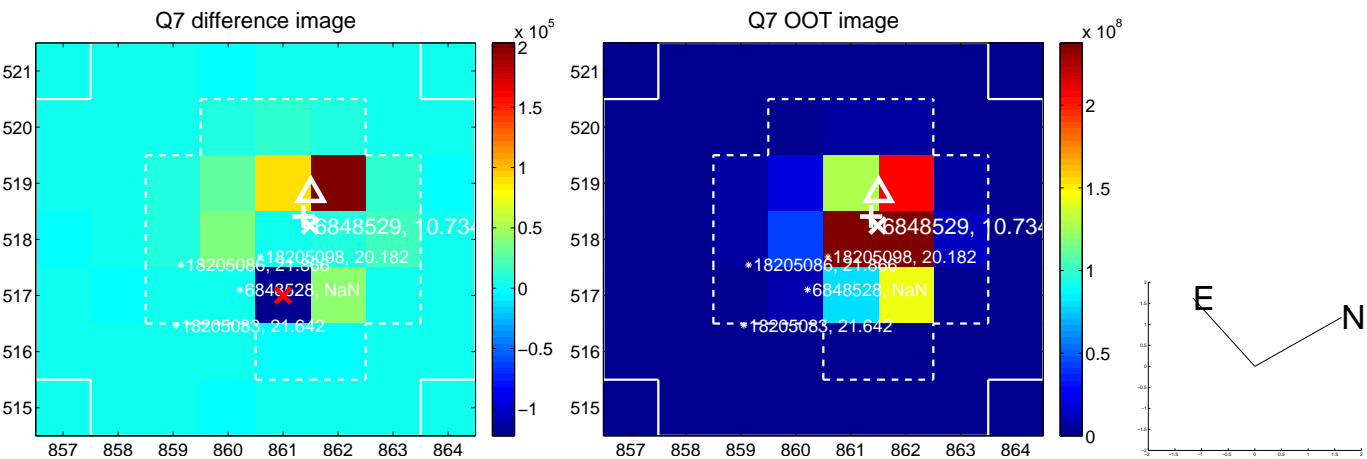


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



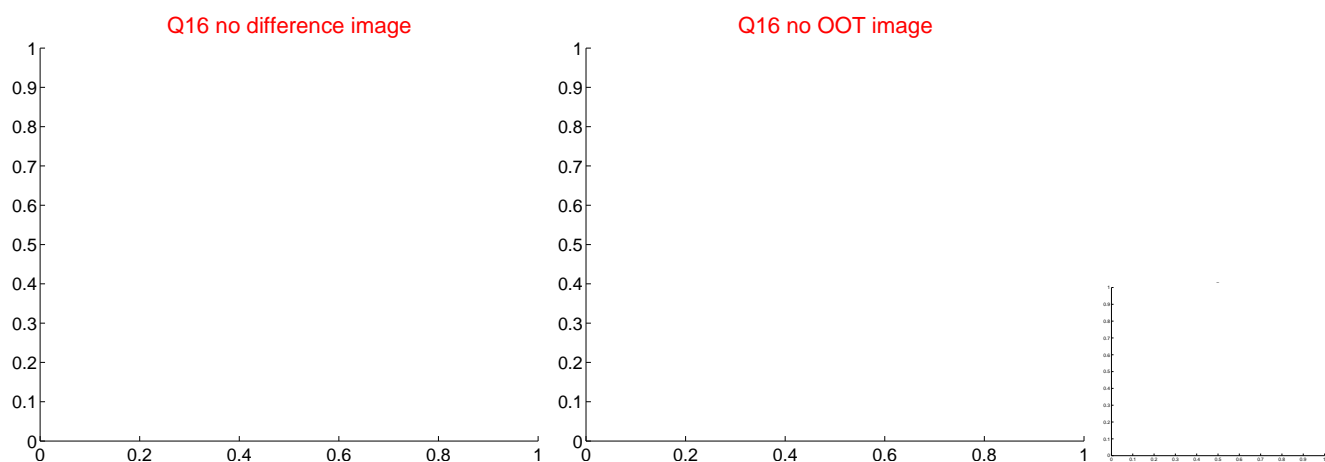
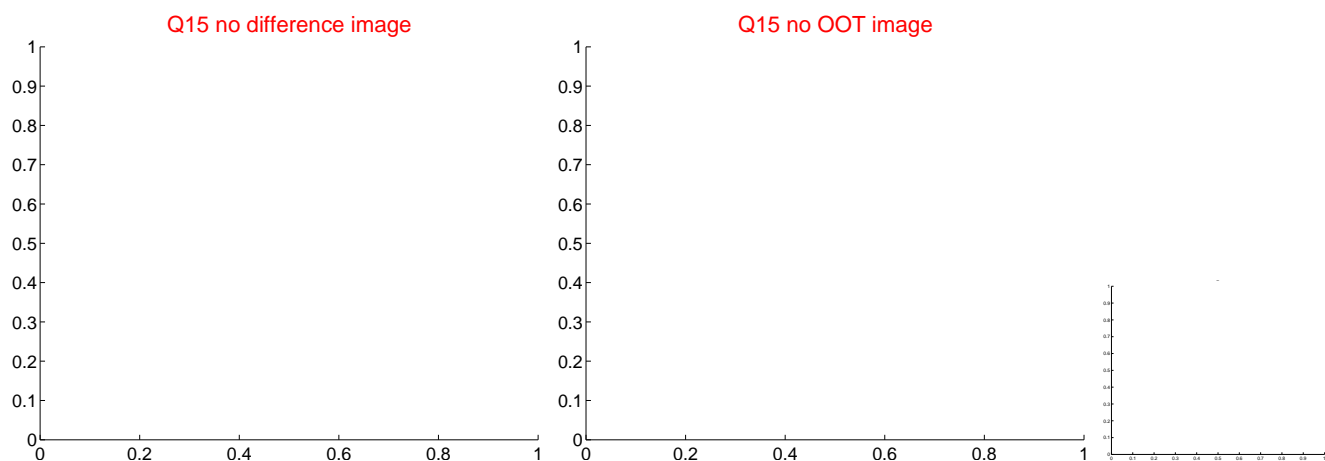
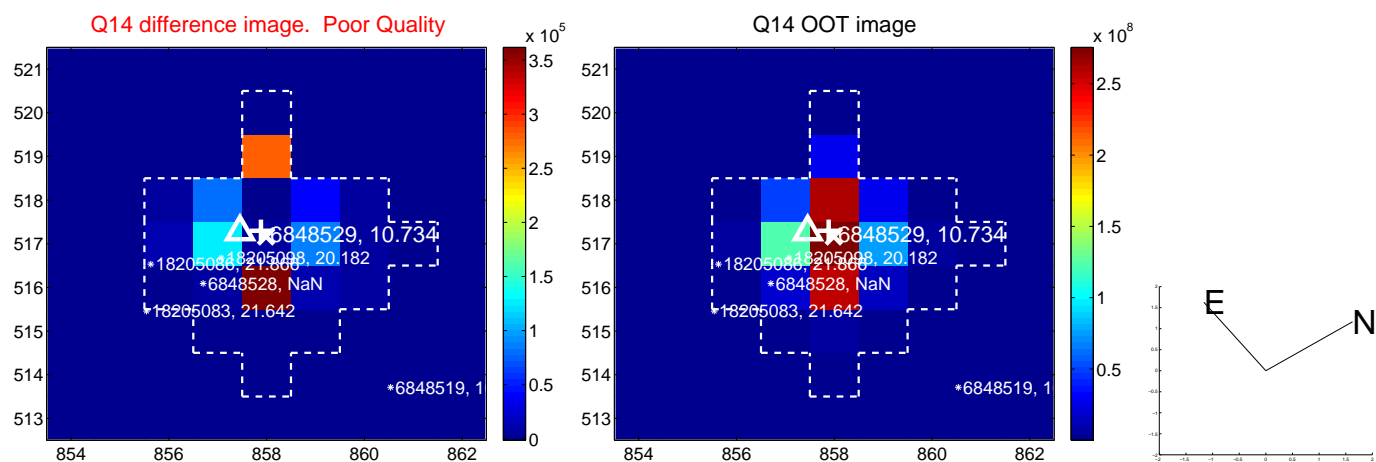
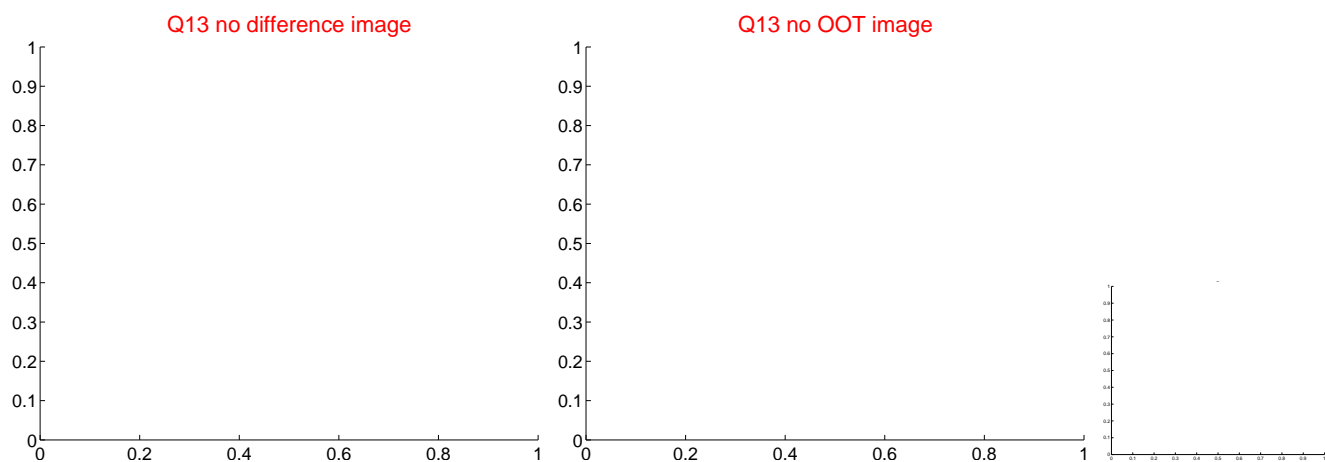
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



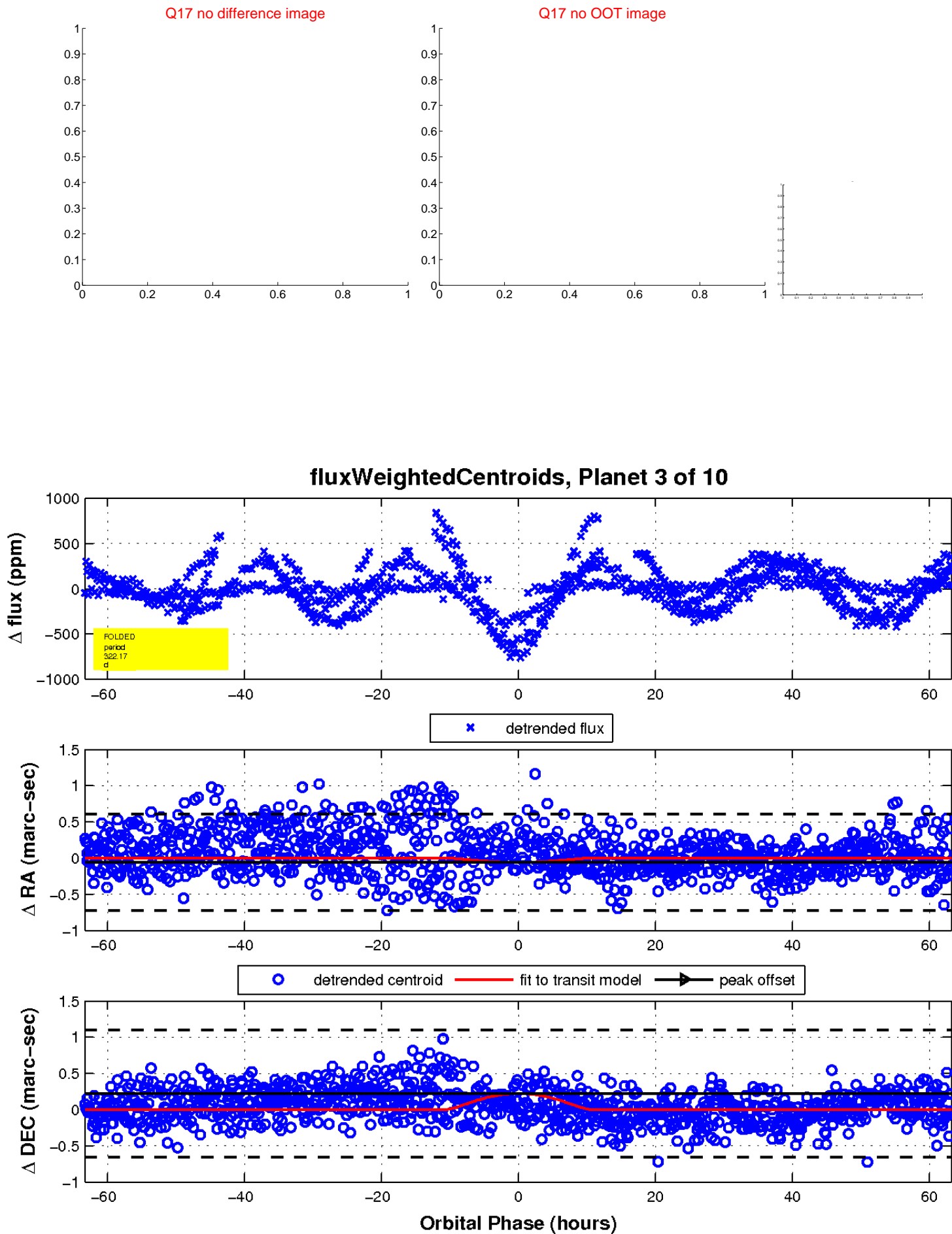
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

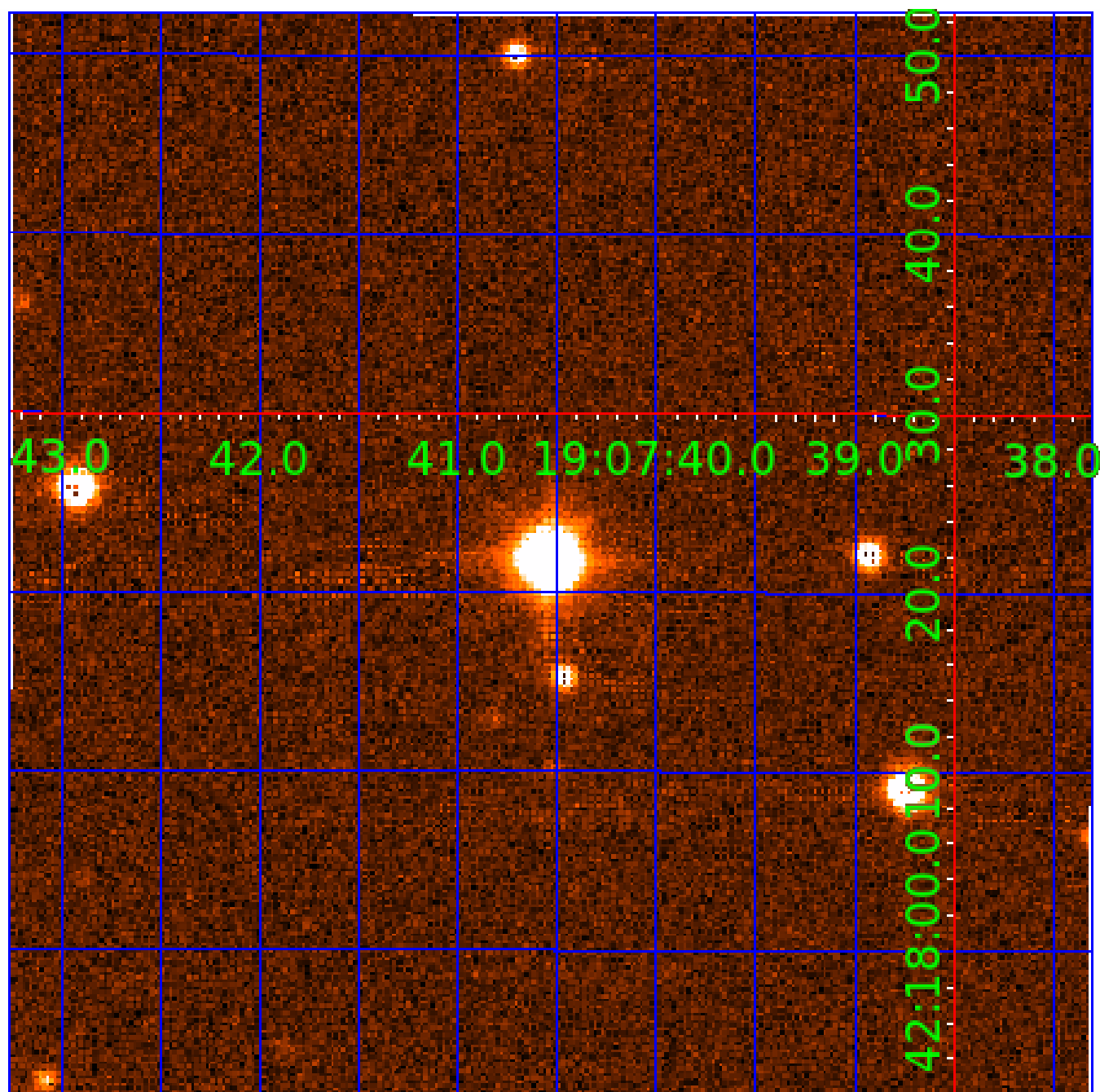


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

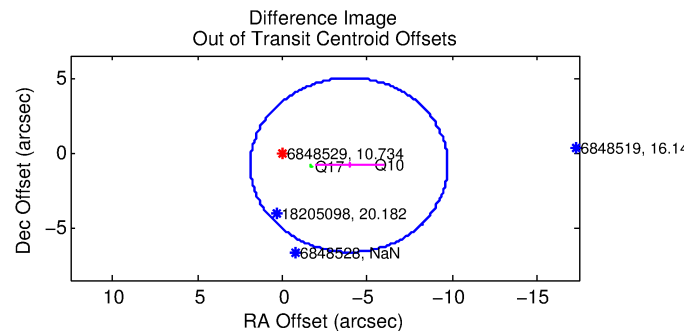
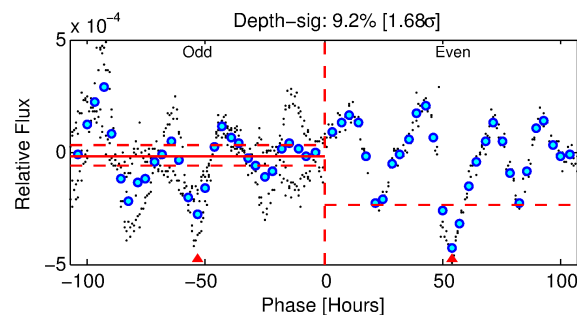
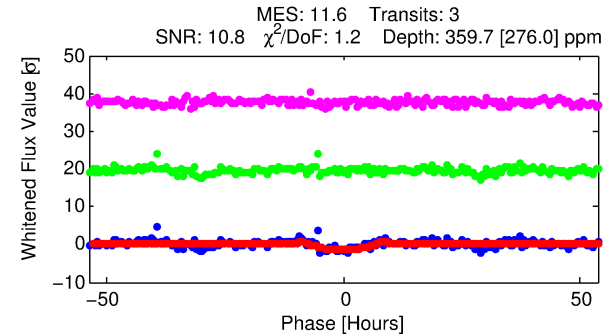
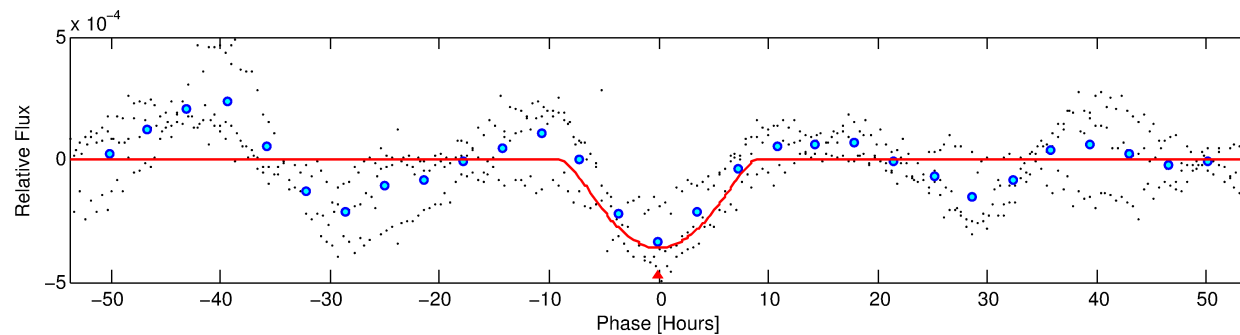
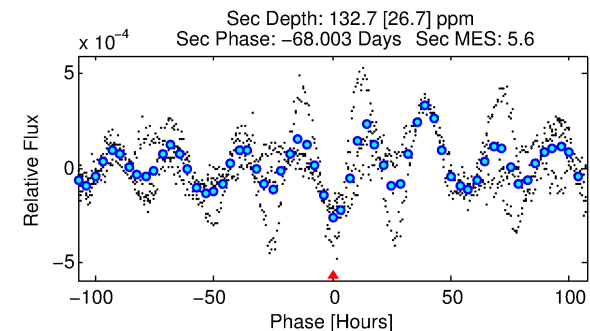
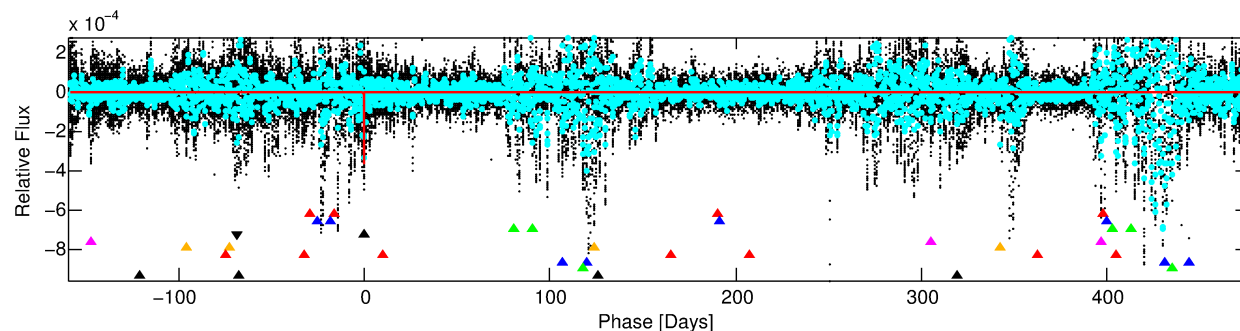
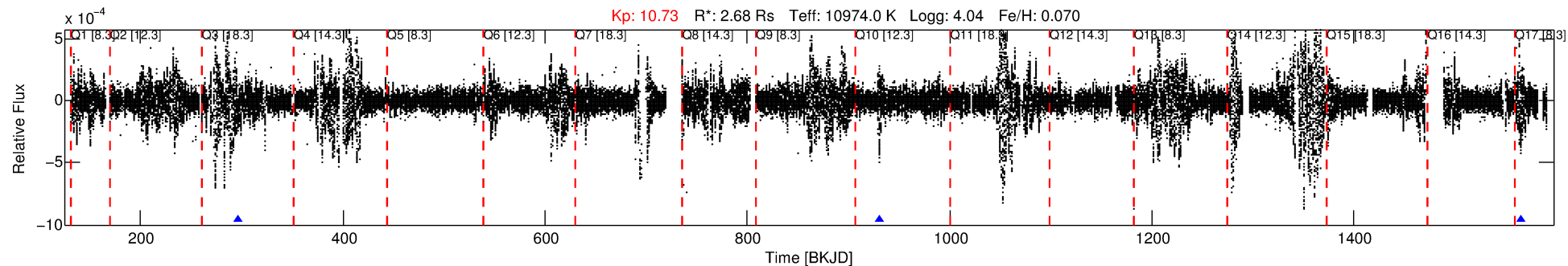
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-04

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 4 of 10 Period: 634.238 d



DV Fit Results:

Period = 634.23760 [0.01962] d
Epoch = 296.9984 [0.0263] BKJD
Rp/R* = 0.0315 [0.0313]
a/R* = 68.31 [17.52]
b = 1.00 [0.03]
Seff = 22.07 [10.84]
Teff = 553 [68] K
Rp = 9.19 [9.68] Re
a = 2.0541 [0.6197] AU
Ag = 3644.09 [7482.10] [0.49 σ]
Teffp = 6639 [3336] K [1.82 σ]

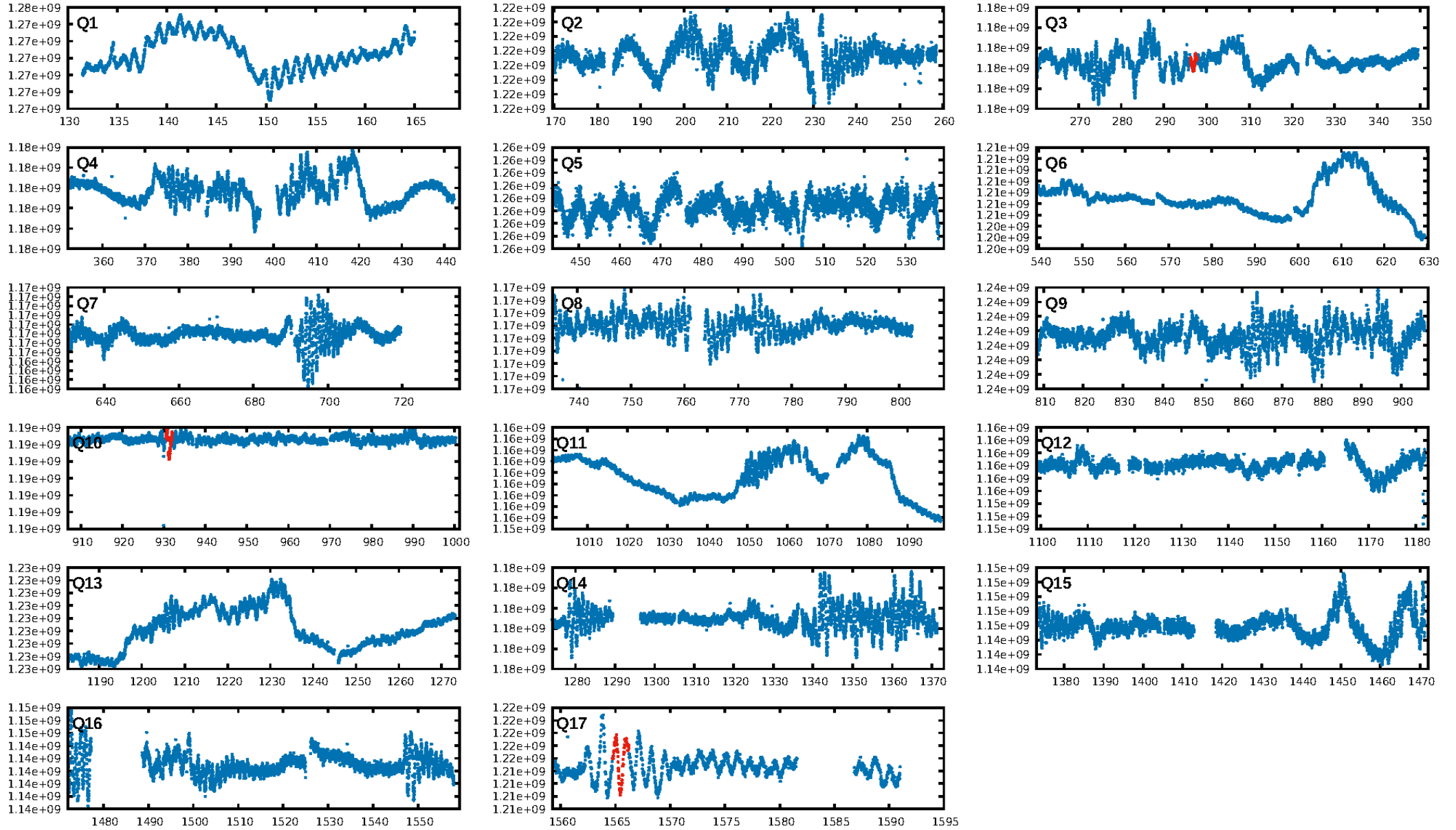
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [84.43 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 3.34e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 4.292
Centroid-sig: 0.4%
Centroid-so: 1.049 arcsec [3.36 σ]
OotOffset-rm: 4.031 arcsec [2.08 σ]
KicOffset-rm: 4.066 arcsec [3.29 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

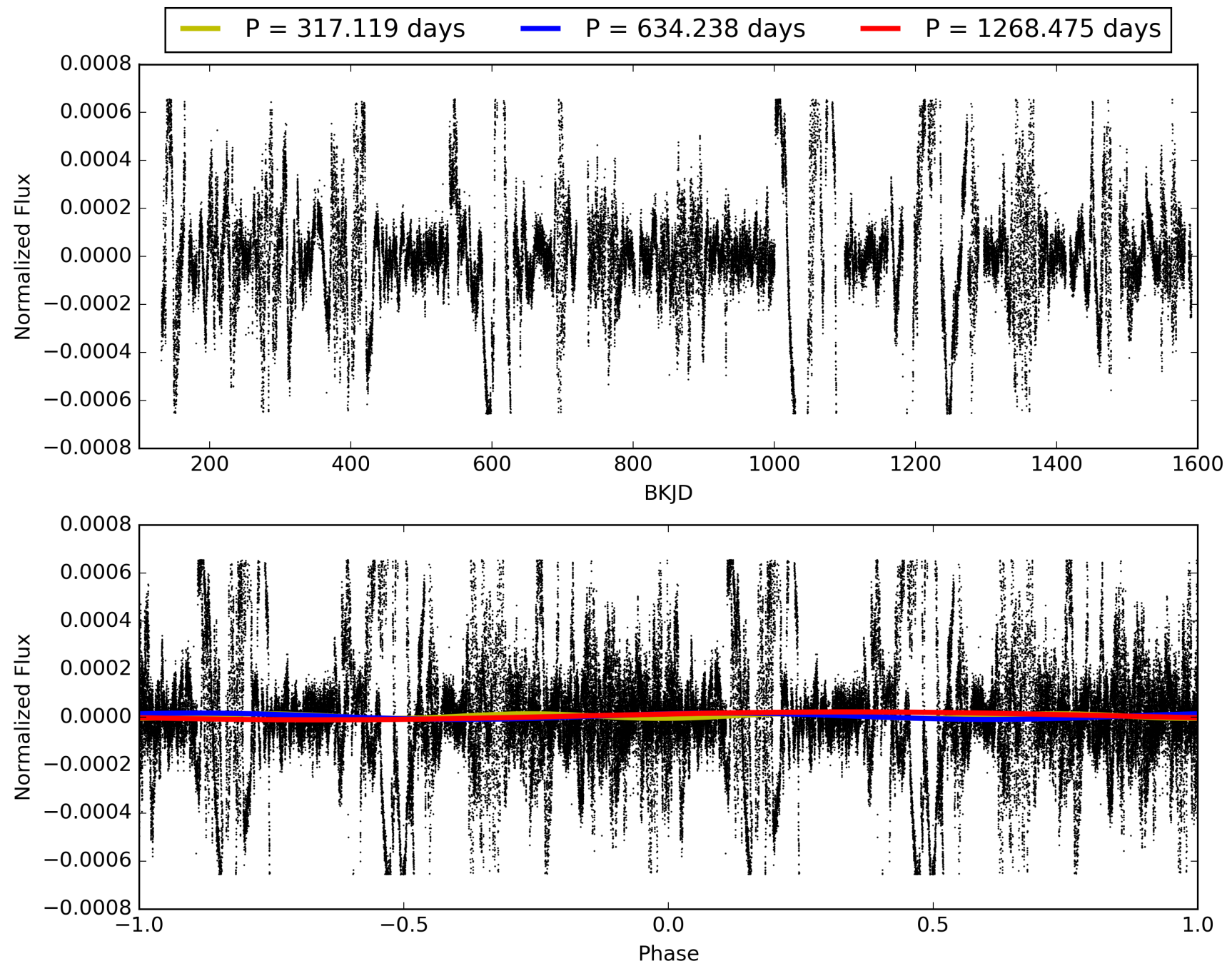
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:21:25 Z

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

TCE 006848529-04, PDC Light Curves

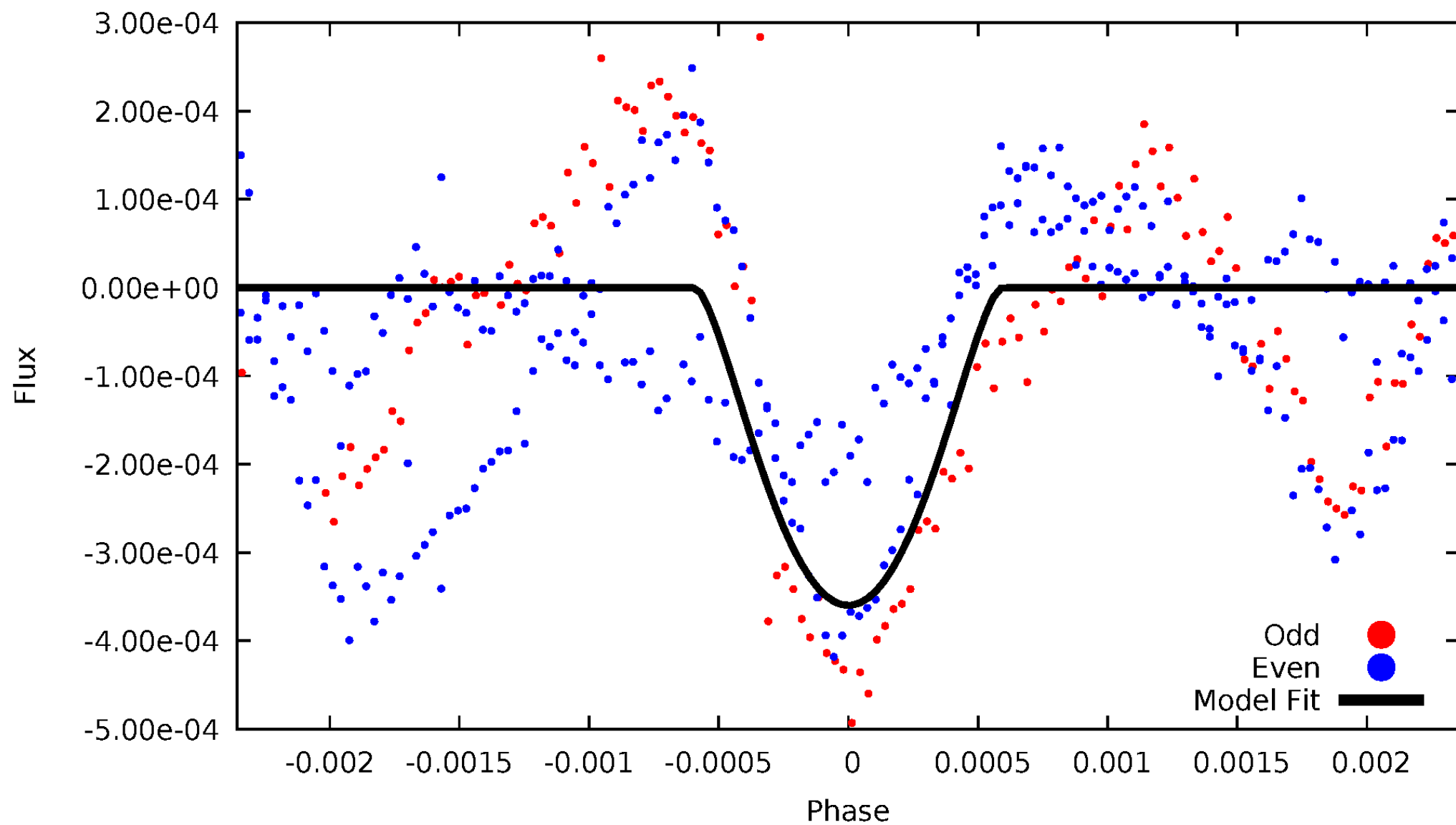


TCE 006848529-04



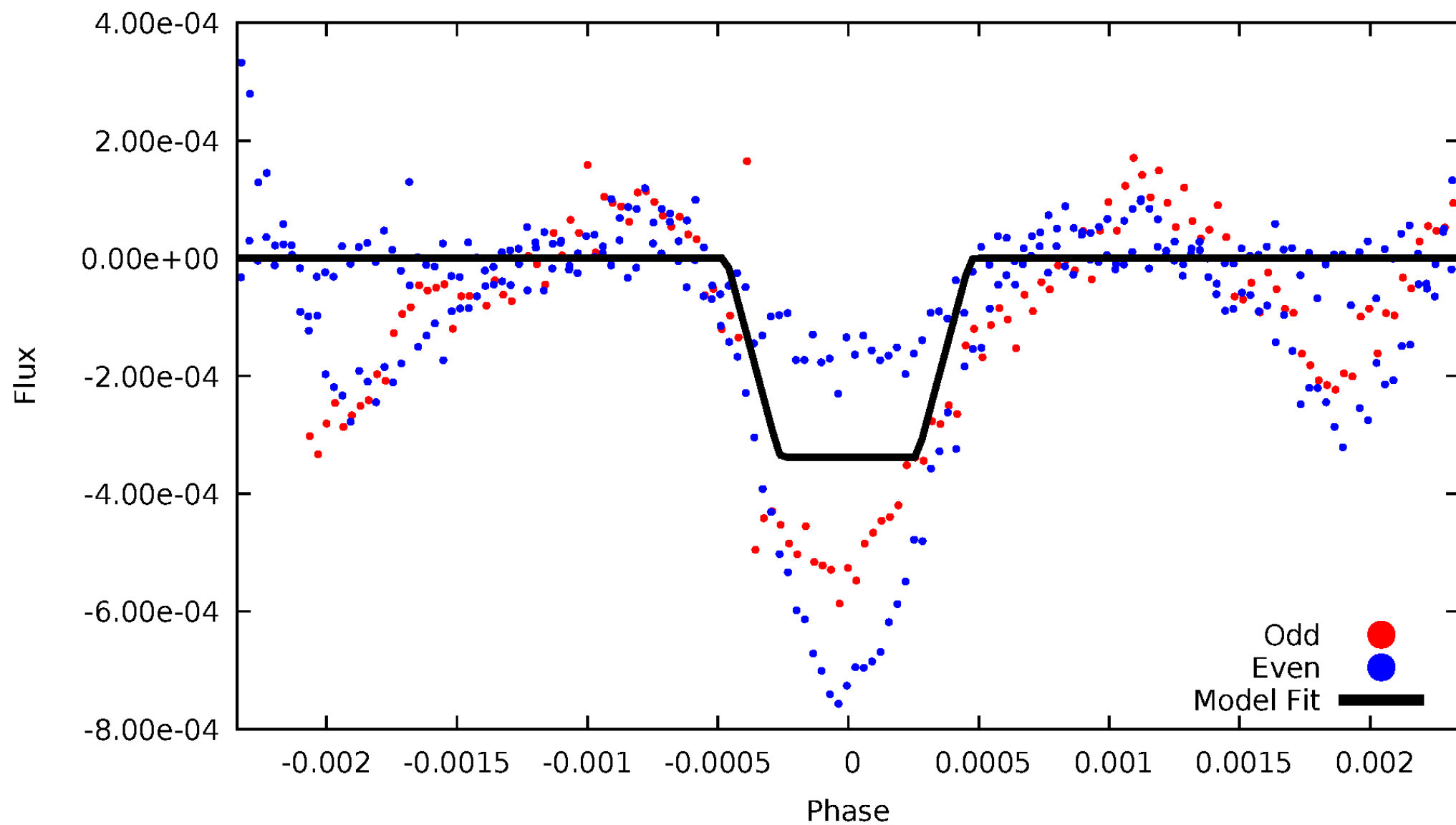
DV Odd/Even

TCE 006848529-04



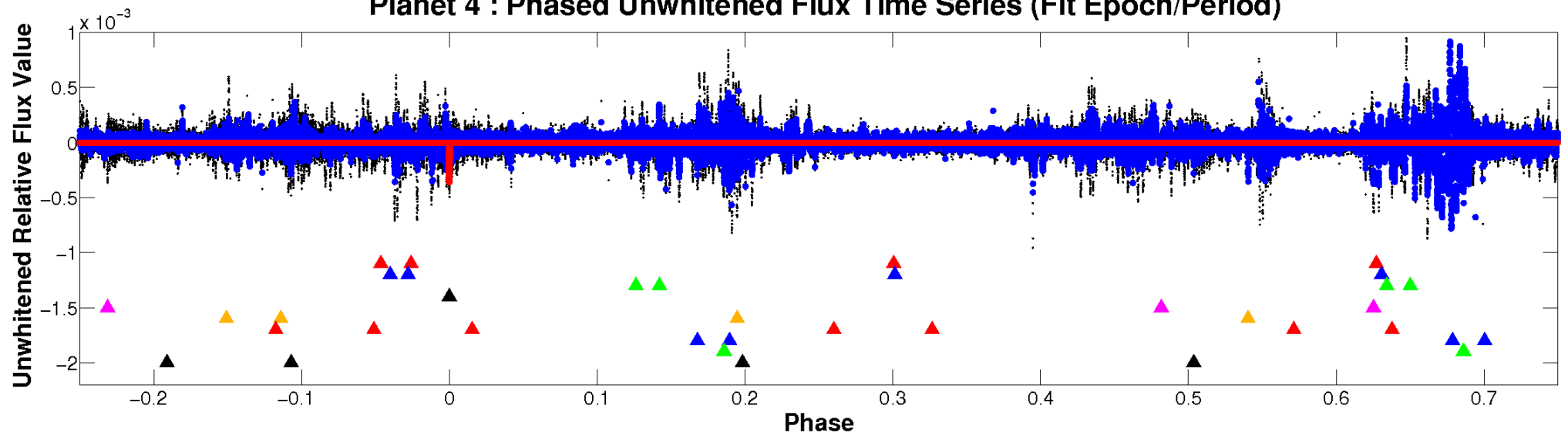
ALT Odd/Even

TCE 006848529-04

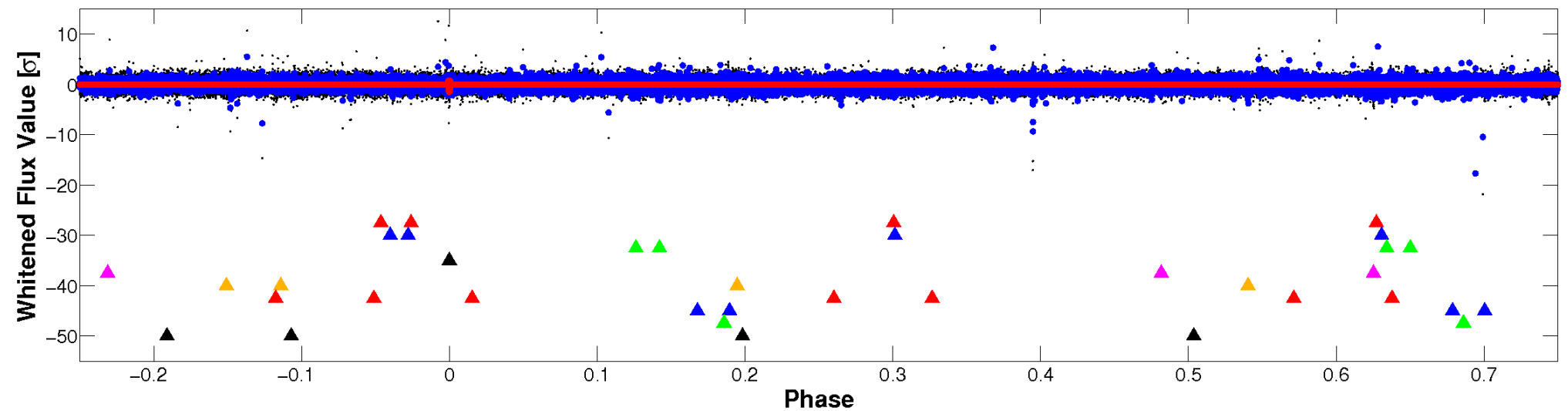


Non-Whitened Vs. Whitened Light Curve

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

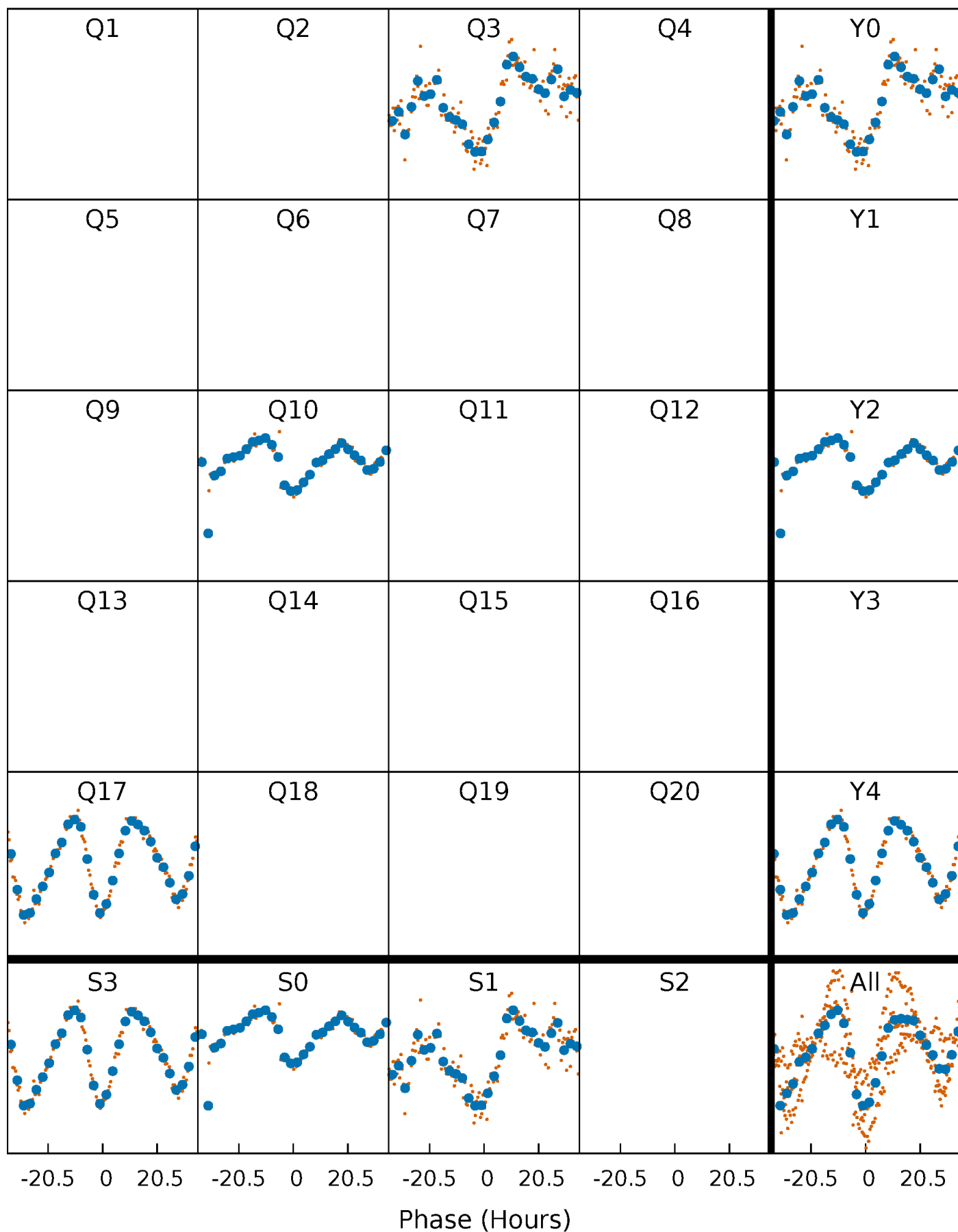


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



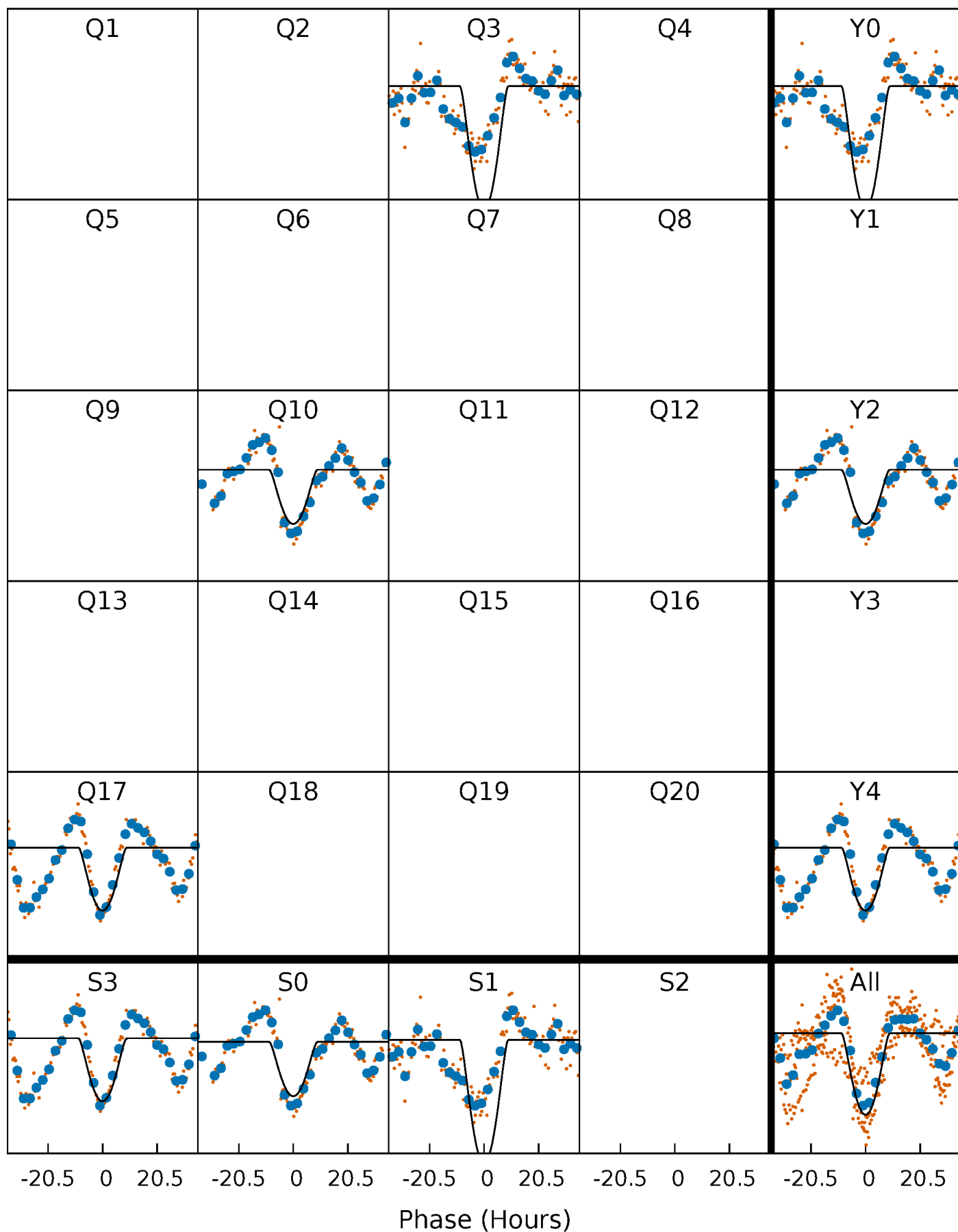
PDC Quarter-Phased Transit Curves

TCE 006848529-04 P=634.237601 Days $T_0=296.998362$ (BKJD)



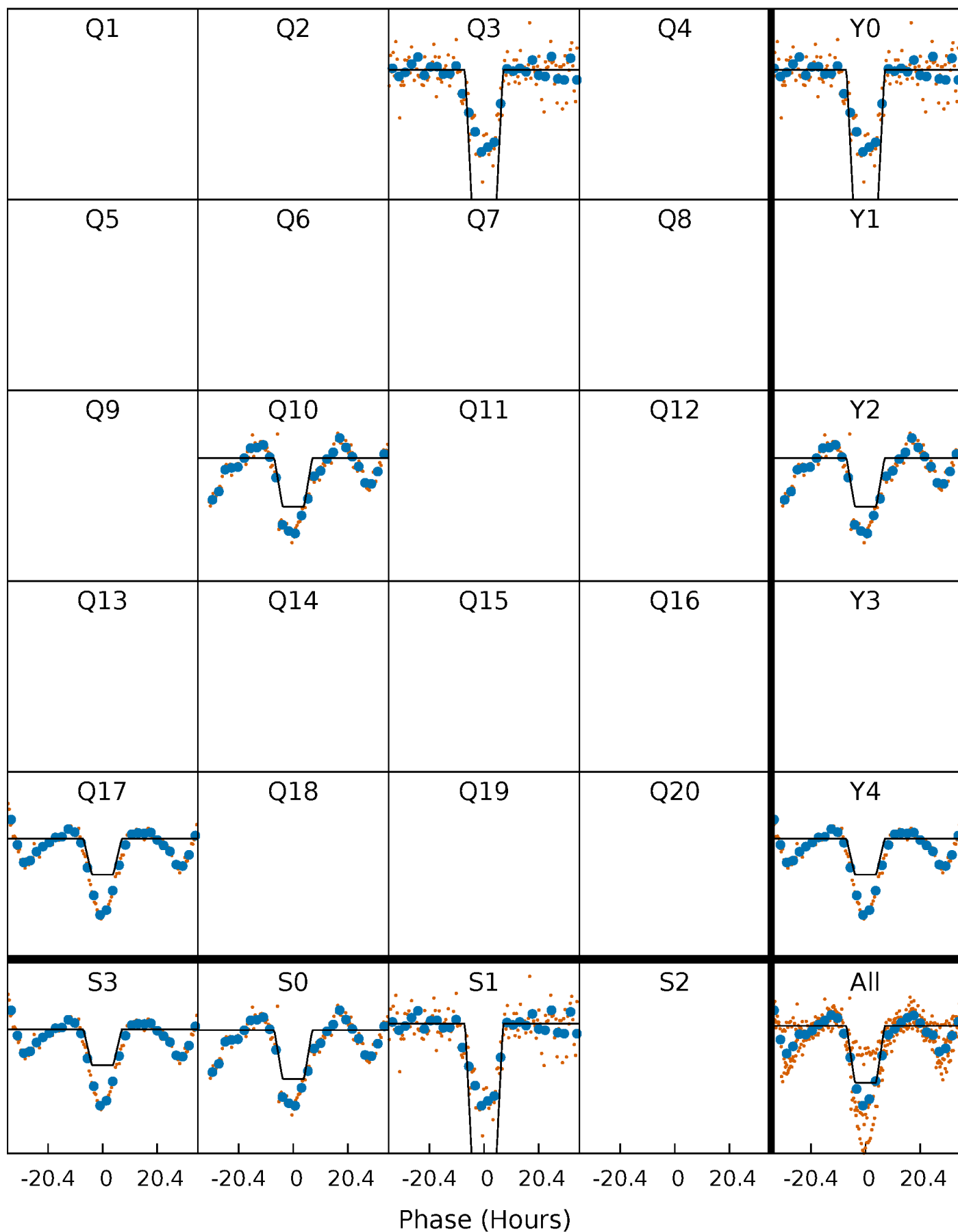
DV Quarter-Phased Transit Curves

TCE 006848529-04 $P=634.237601$ Days $T_0=296.998362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

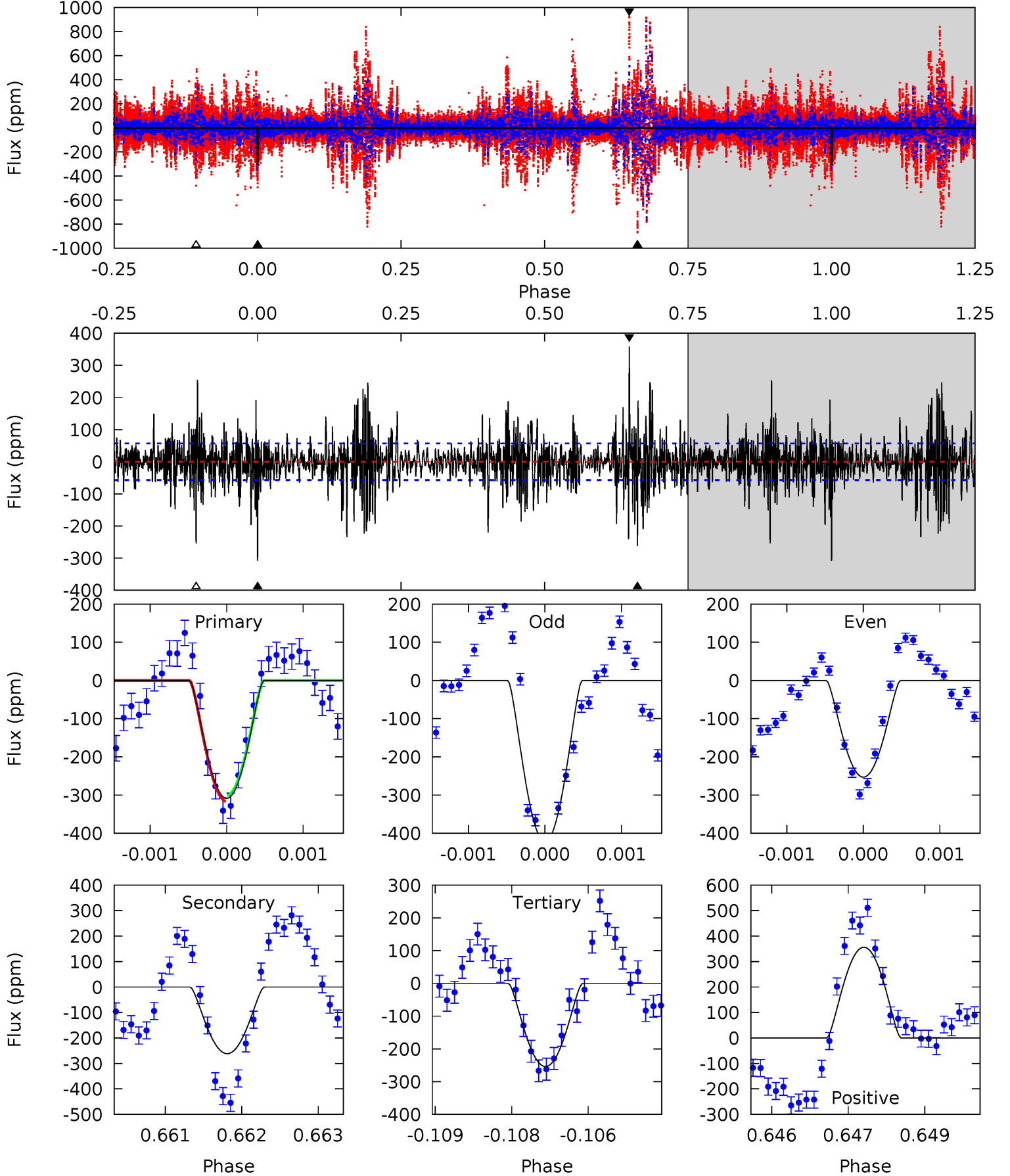
TCE 006848529-04 P=634.196402 Days $T_0=297.069512$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-04, P = 634.237601 Days, E = 296.998362 Days

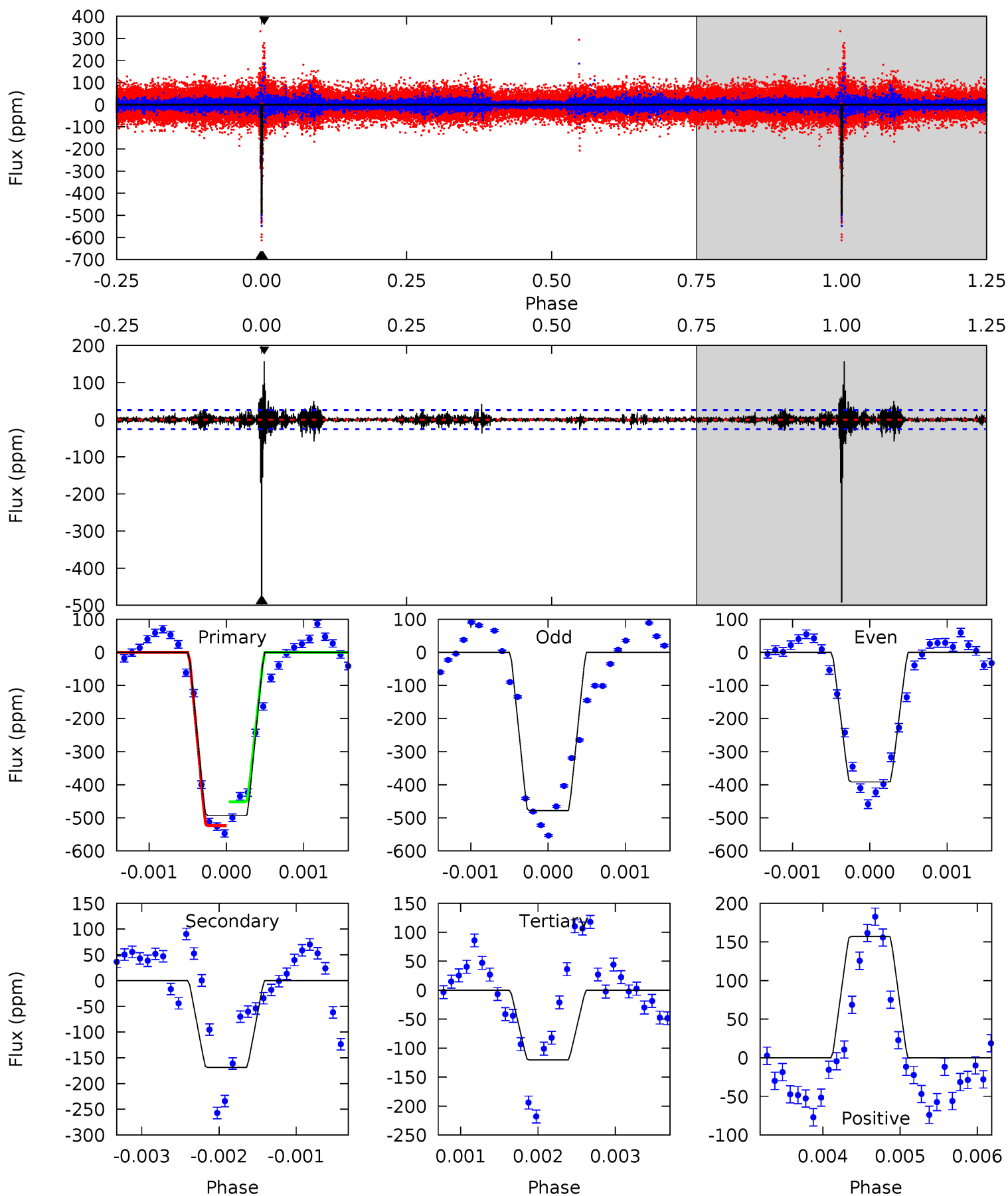
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.2	24.8	24.0	33.7	5.42	3.23	5.14	5.20	-4.50	0.75	-8.95	7.51	0.95	0.54	0.73



Alt Model-Shift Uniqueness Test

006848529-04, P = 634.196402 Days, E = 297.069512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
104.7	35.8	25.6	33.4	5.46	3.30	2.12	79.2	71.4	10.3	2.49	10.9	0.88	0.24	7.18



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-262 ± 11	$10.08^{+9.07}_{-6.61}$	761^{+63}_{-69}	6590^{+6348}_{-1602}	5955^{+43419}_{-4336}
Alt.	-169 ± 5	$8.37^{+8.25}_{-5.58}$	761^{+63}_{-73}	6462^{+7046}_{-1722}	5330^{+42900}_{-3971}

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

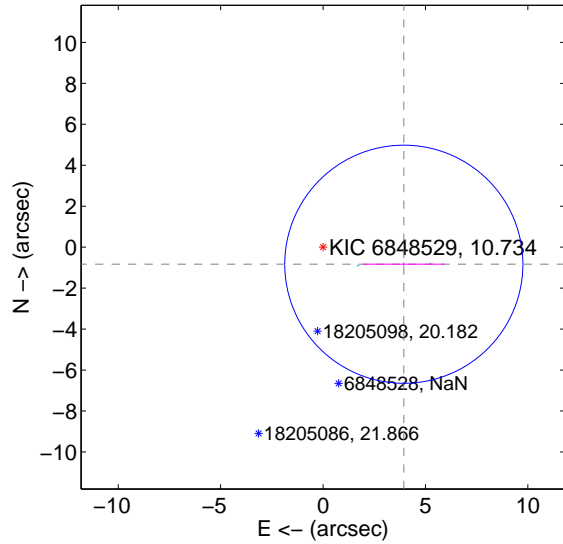
Supplemental centroid analysis for 006848529-04. **Kepler magnitude: 10.73.** Transit SNR 10.85

There are 2 quarters with good PRF difference image offsets

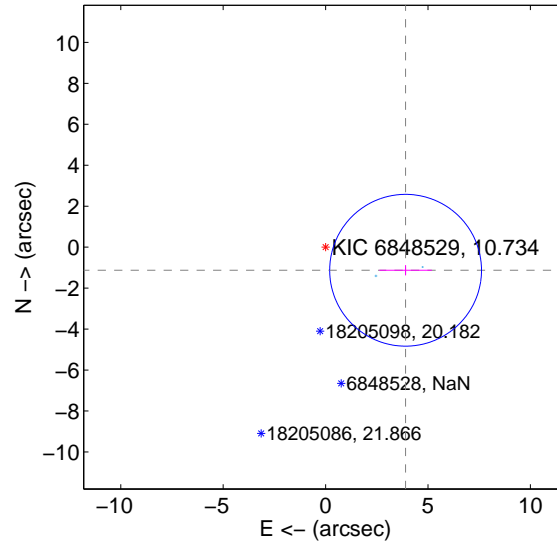
The direct PRF centroid is offset from the target star catalog position by about 0.91 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.031 ± 1.938	2.08	-3.944 ± 1.980	-0.833 ± 0.085
PRF-fit source offset from KIC position	4.066 ± 1.235	3.29	-3.907 ± 1.284	-1.127 ± 0.253
photometric centroid source offset	1.05 ± 0.31	3.36	-0.81 ± 0.35	-0.67 ± 0.24

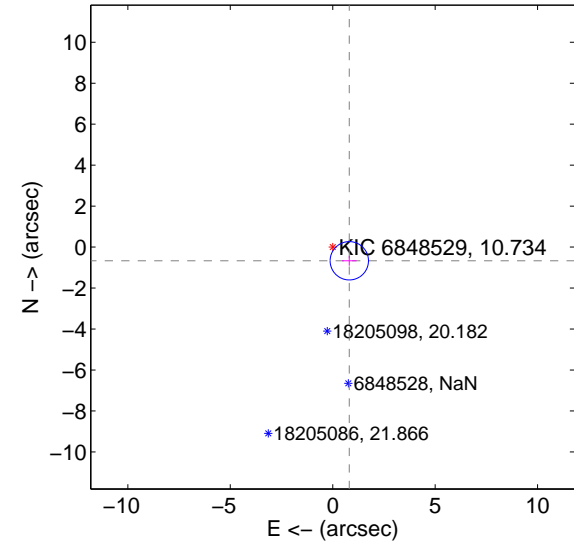
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

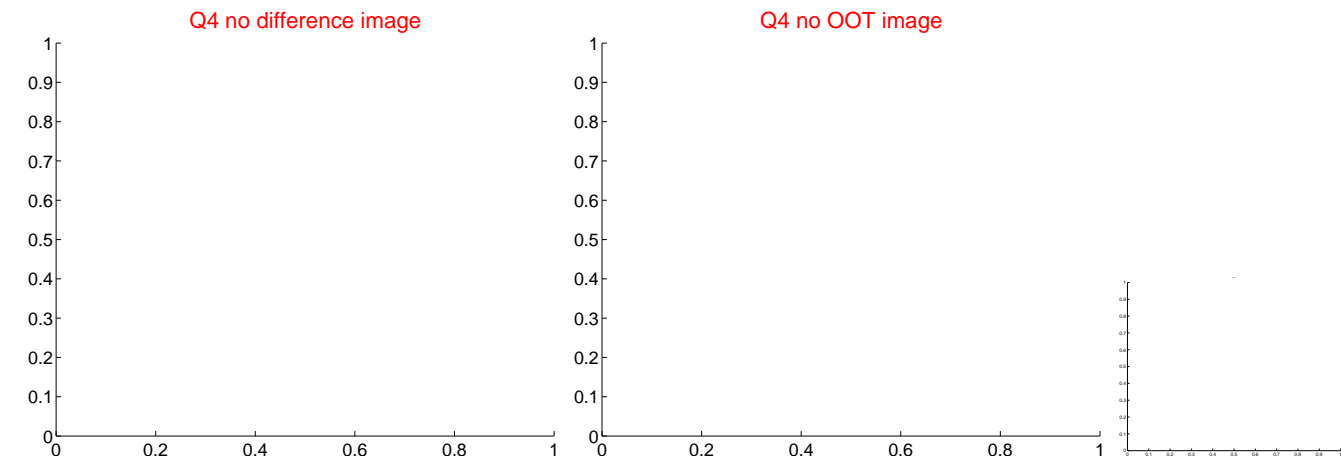
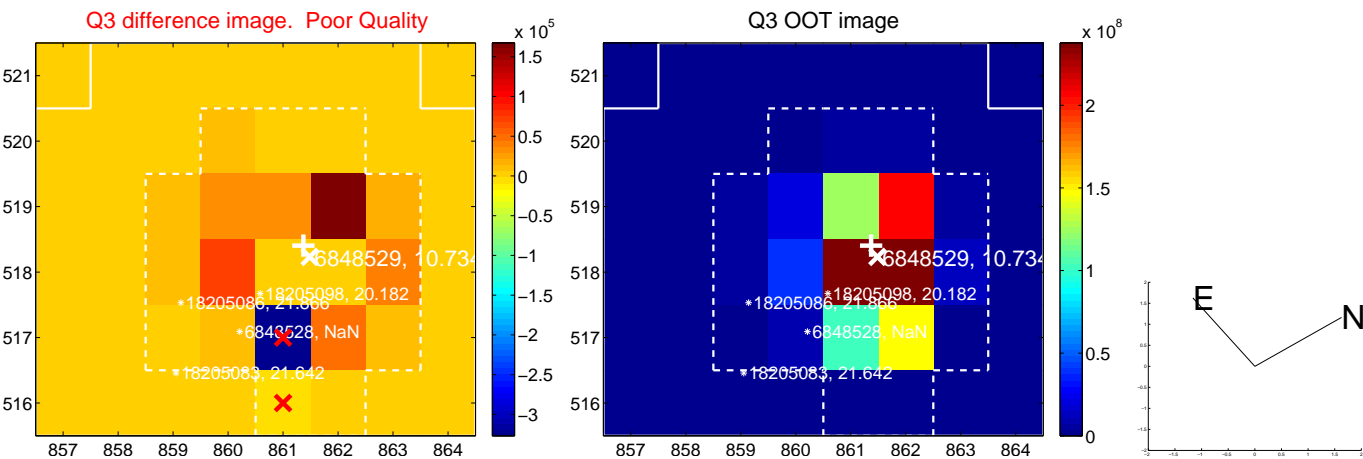


offset from photometric centroids



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

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



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



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

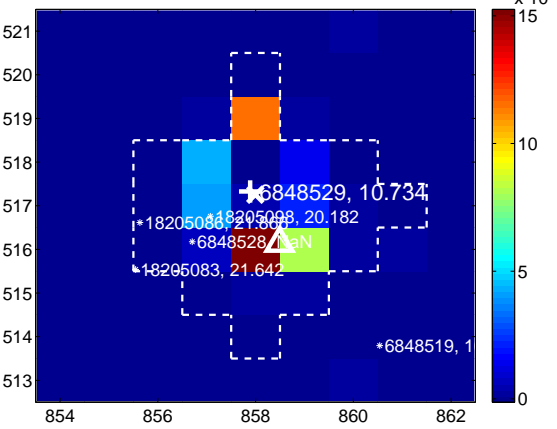
Q9 no difference image



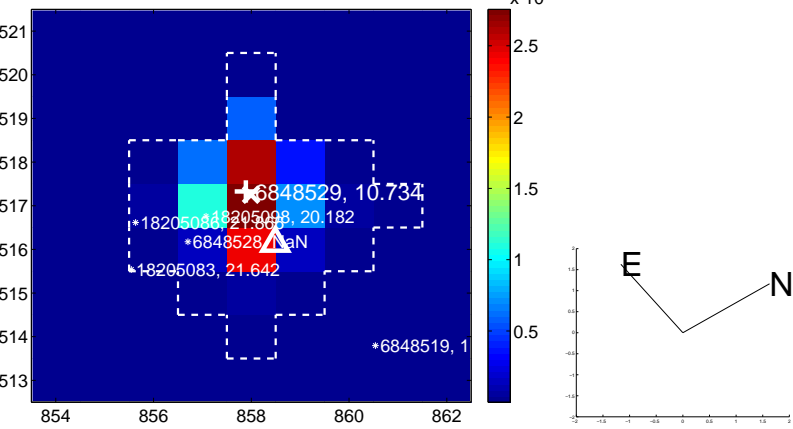
Q9 no OOT image



Q10 difference image



Q10 OOT image



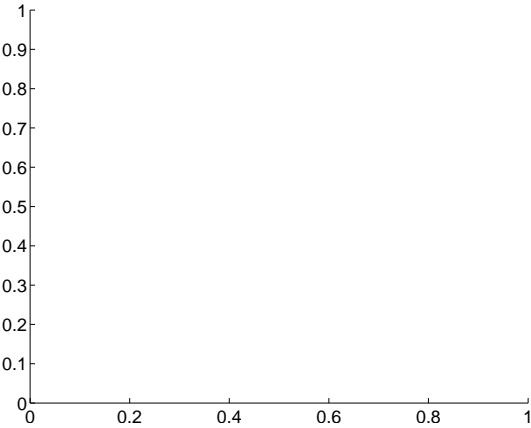
Q11 no difference image



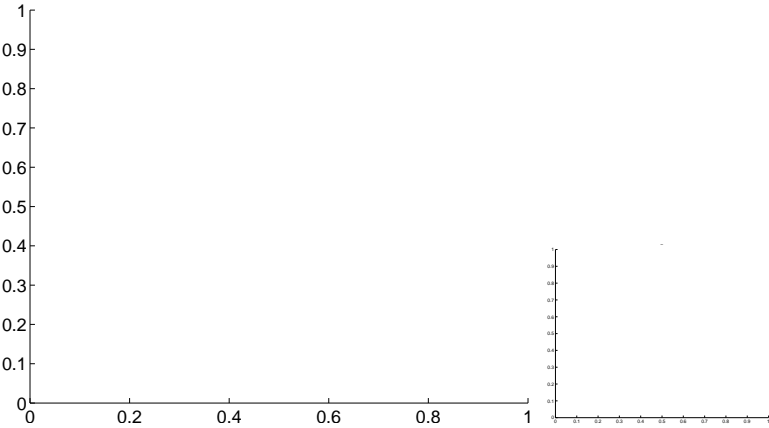
Q11 no OOT image



Q12 no difference image



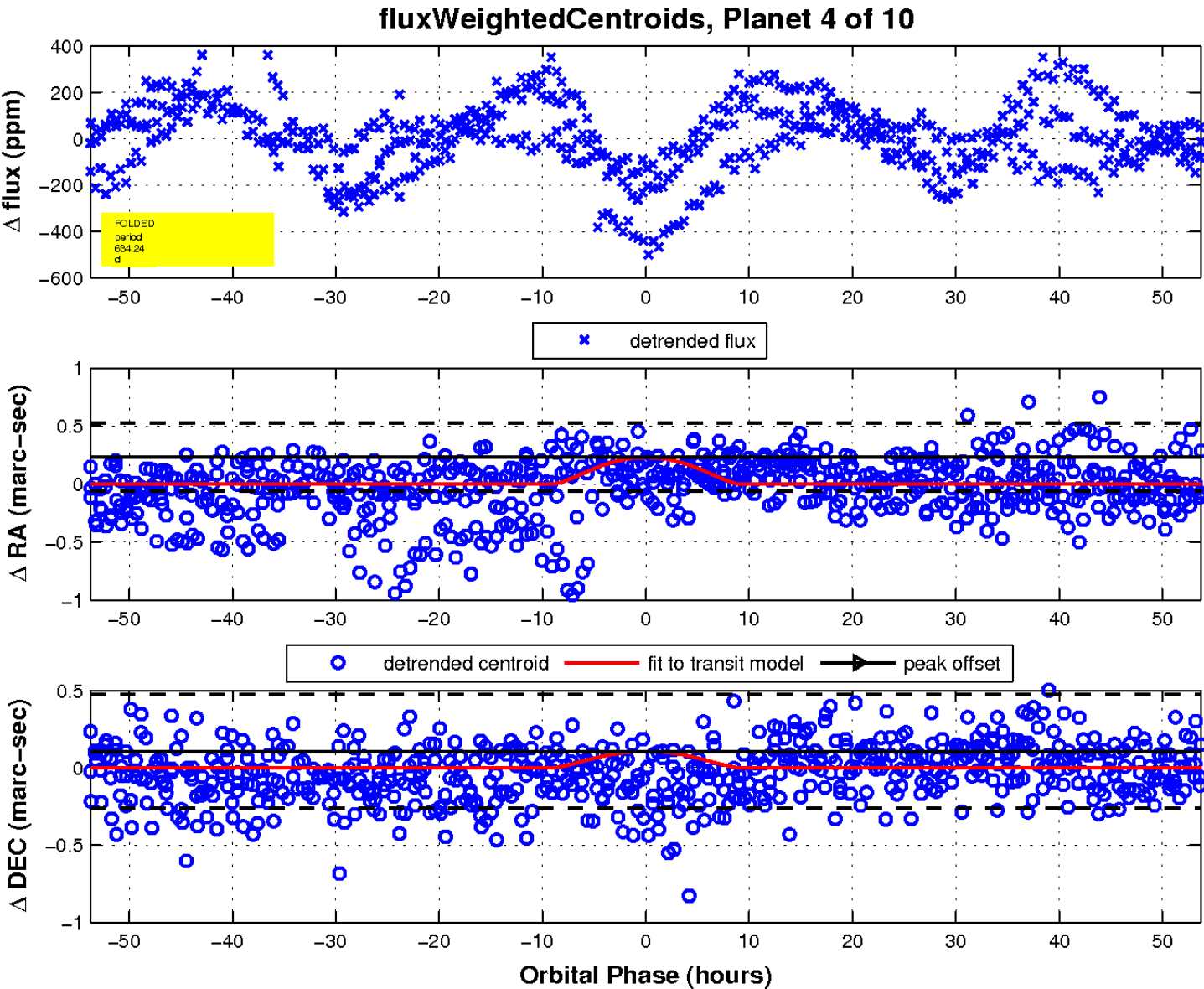
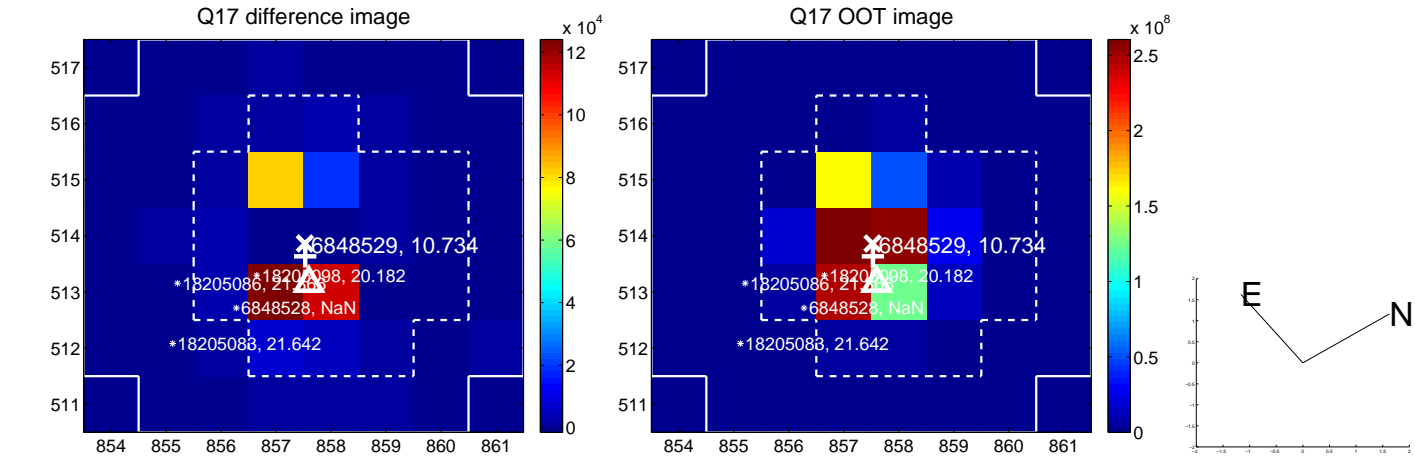
Q12 no OOT image



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

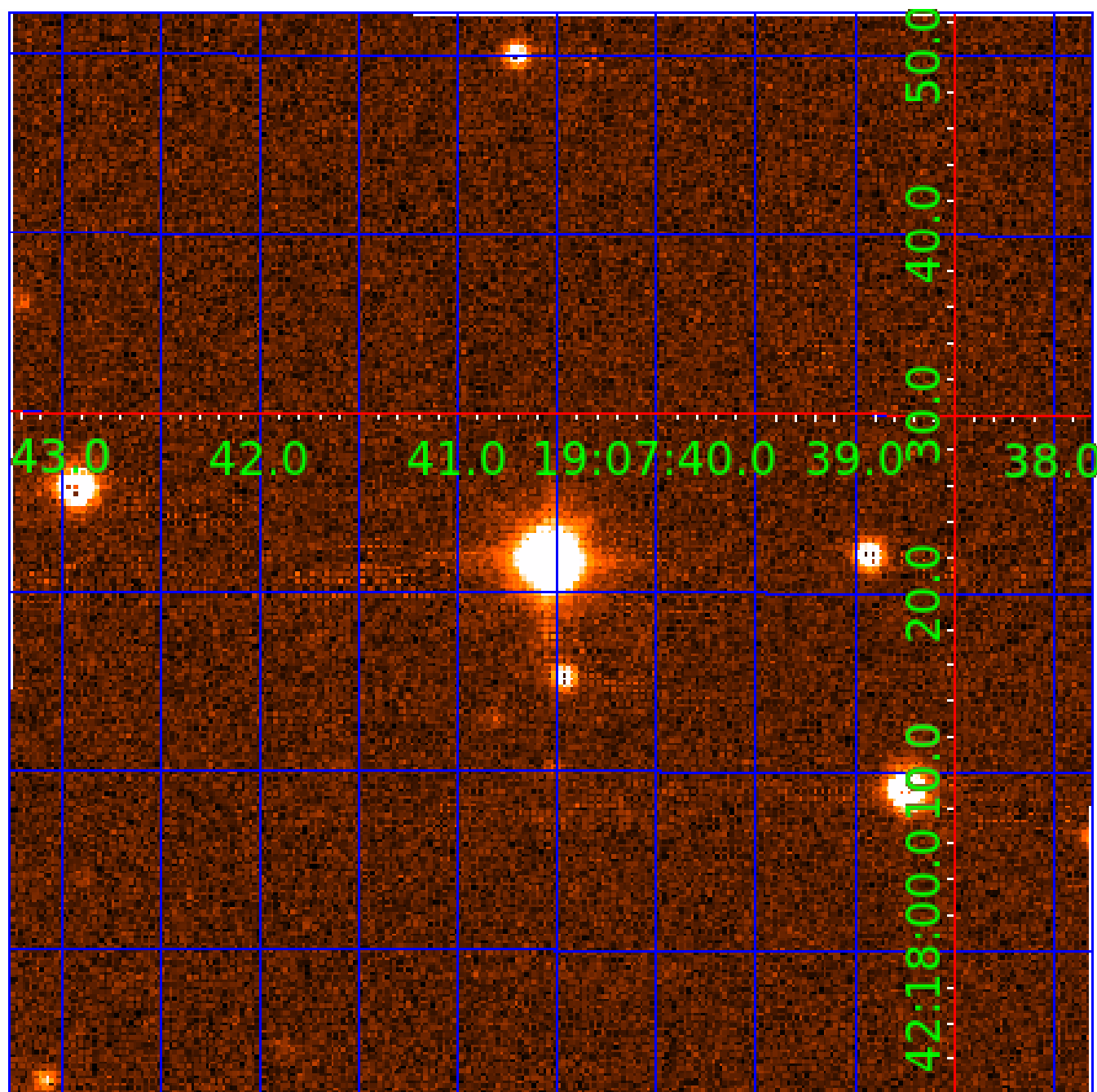


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

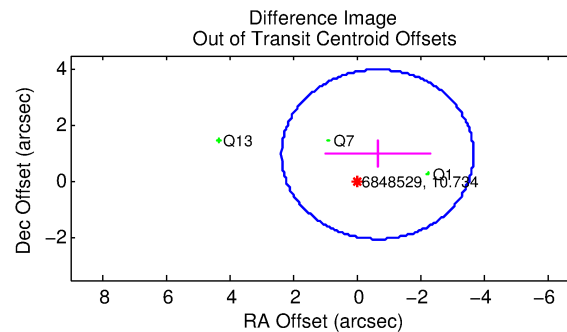
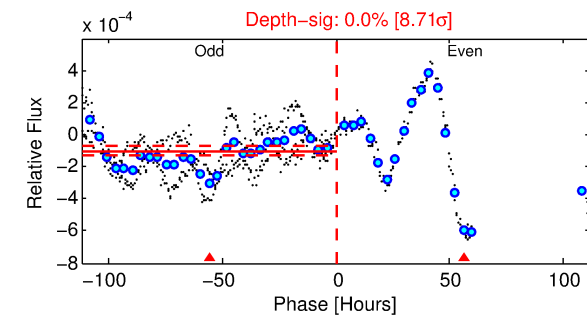
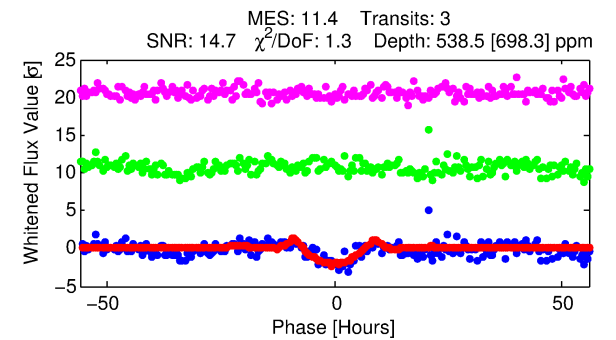
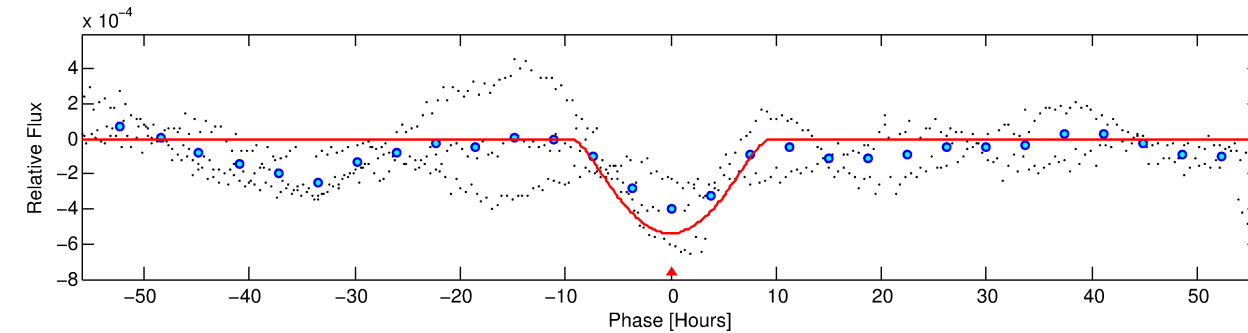
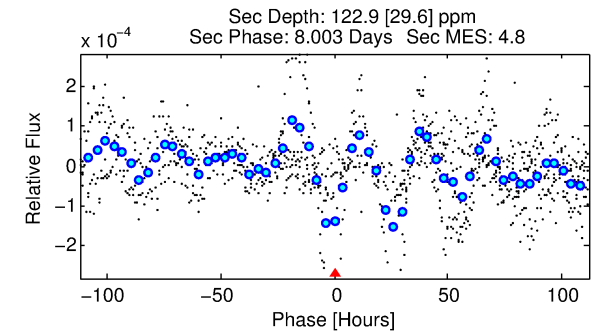
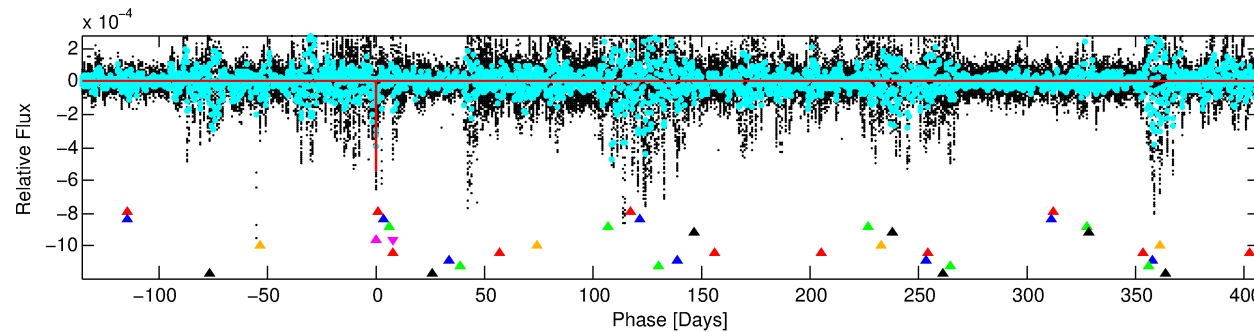
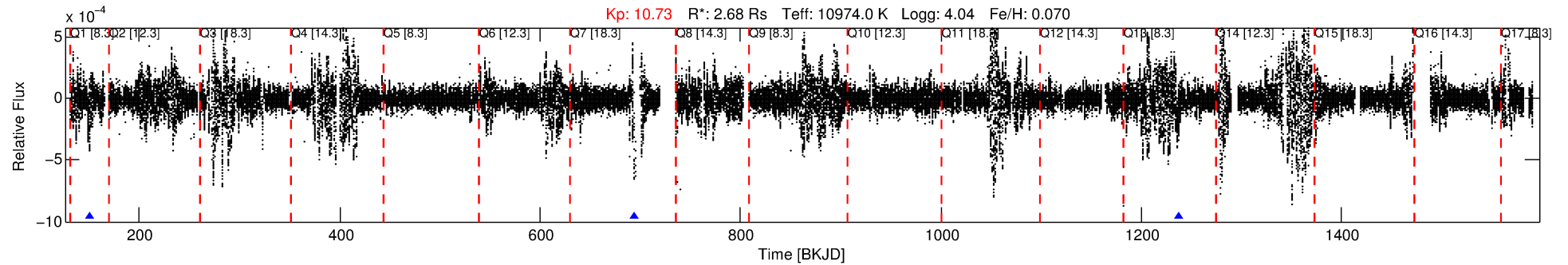
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-05

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 5 of 10 Period: 543.178 d



DV Fit Results:

Period = 543.17753 [0.01324] d
Epoch = 150.3830 [0.0177] BKJD
Rp/R* = 0.0382 [0.0292]
a/R* = 62.06 [12.04]
b = 1.00 [0.01]
Seff = 27.14 [13.33]
Teq = 582 [71] K
Rp = 11.16 [9.35] Re
a = 1.8525 [0.5589] AU
Ag = 1862.69 [3008.72] [0.62σ]
Teffp = 5911 [2305] K [2.31σ]

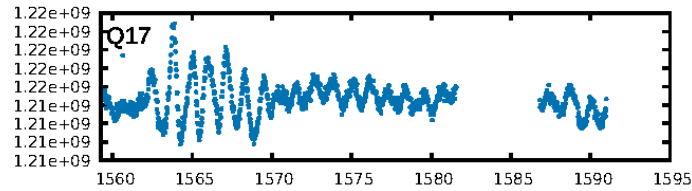
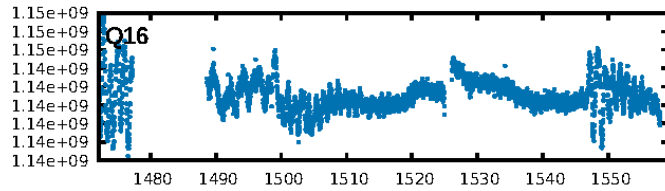
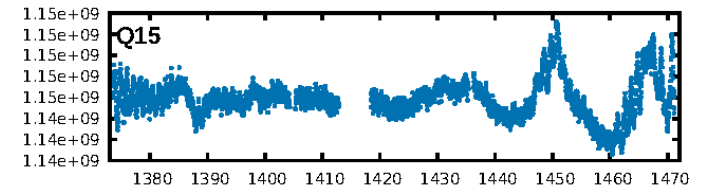
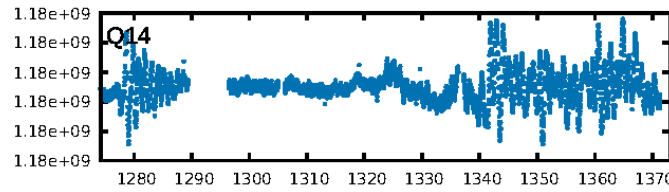
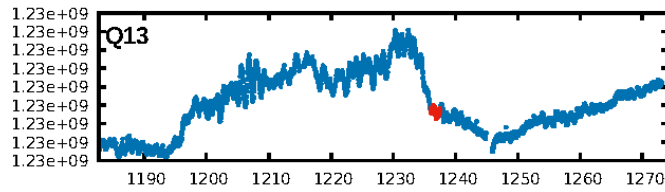
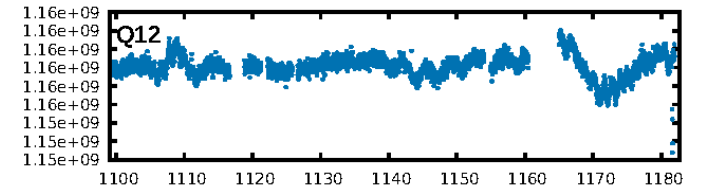
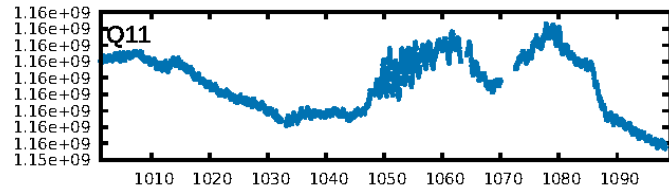
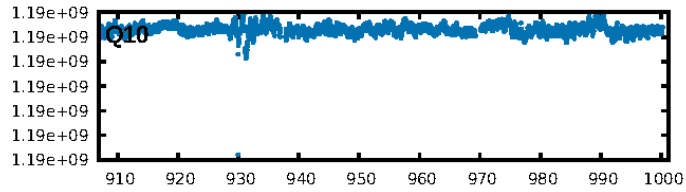
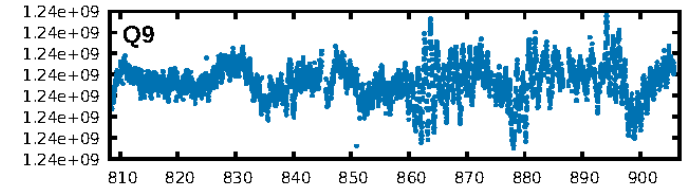
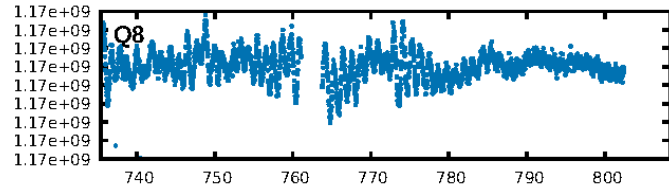
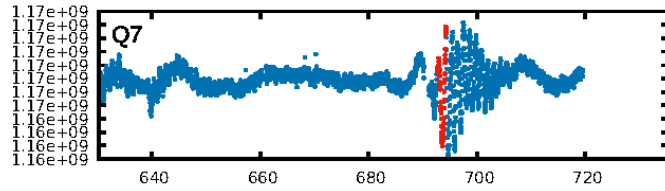
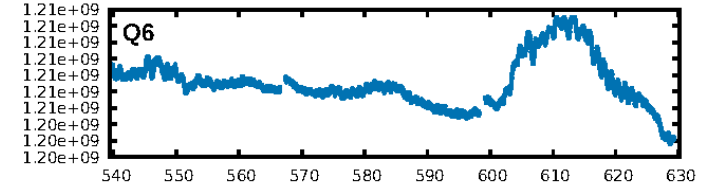
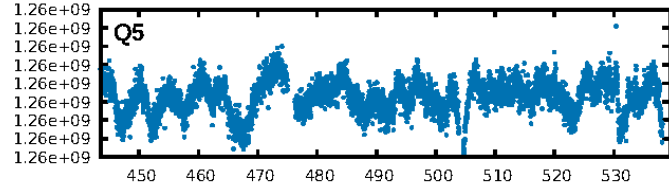
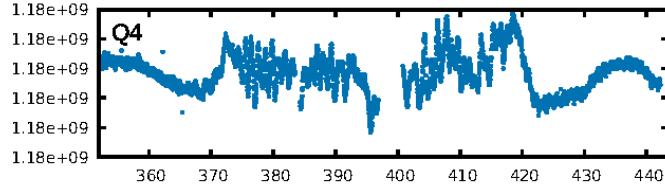
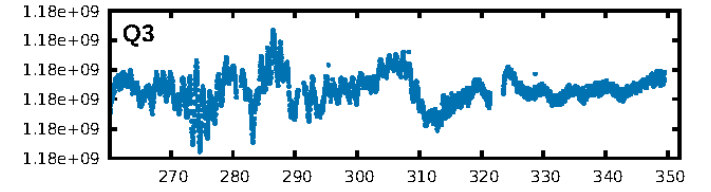
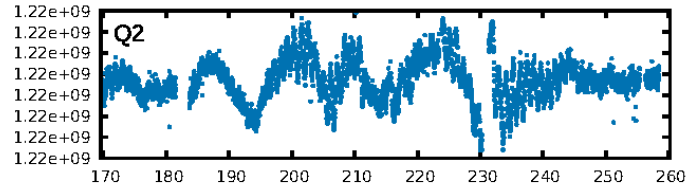
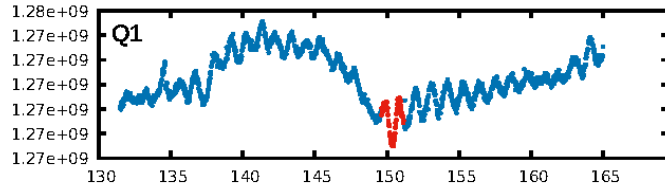
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [91.23σ]
LongPeriod-sig: 100.0% [84.43σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 91.1%
Bootstrap-pfa: 7.38e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.681
Centroid-sig: 37.7%
Centroid-so: 0.346 arcsec [1.57σ]
OotOffset-rm: 1.179 arcsec [1.17σ]
KicOffset-rm: 1.082 arcsec [0.70σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

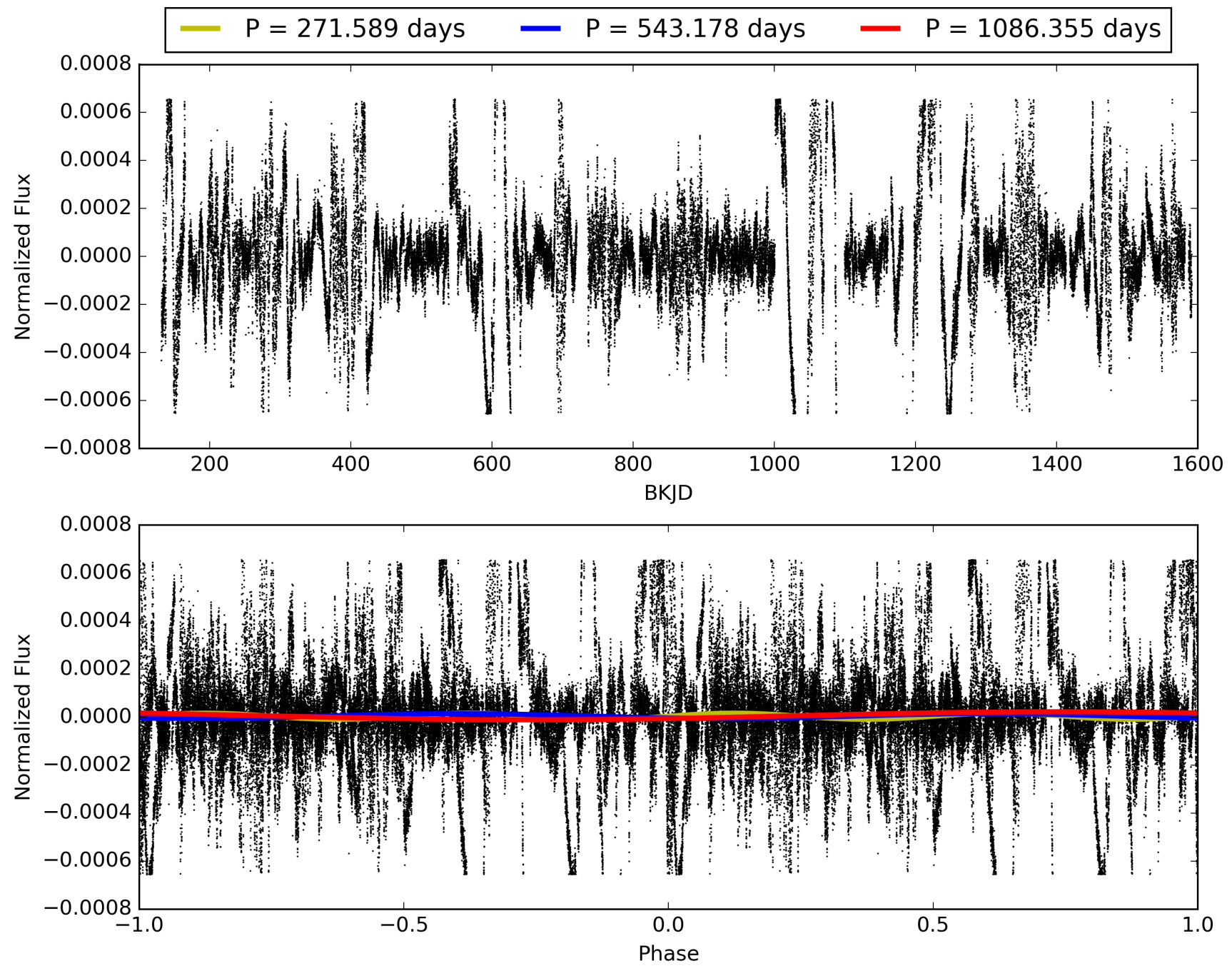
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:21:34 Z

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

TCE 006848529-05, PDC Light Curves

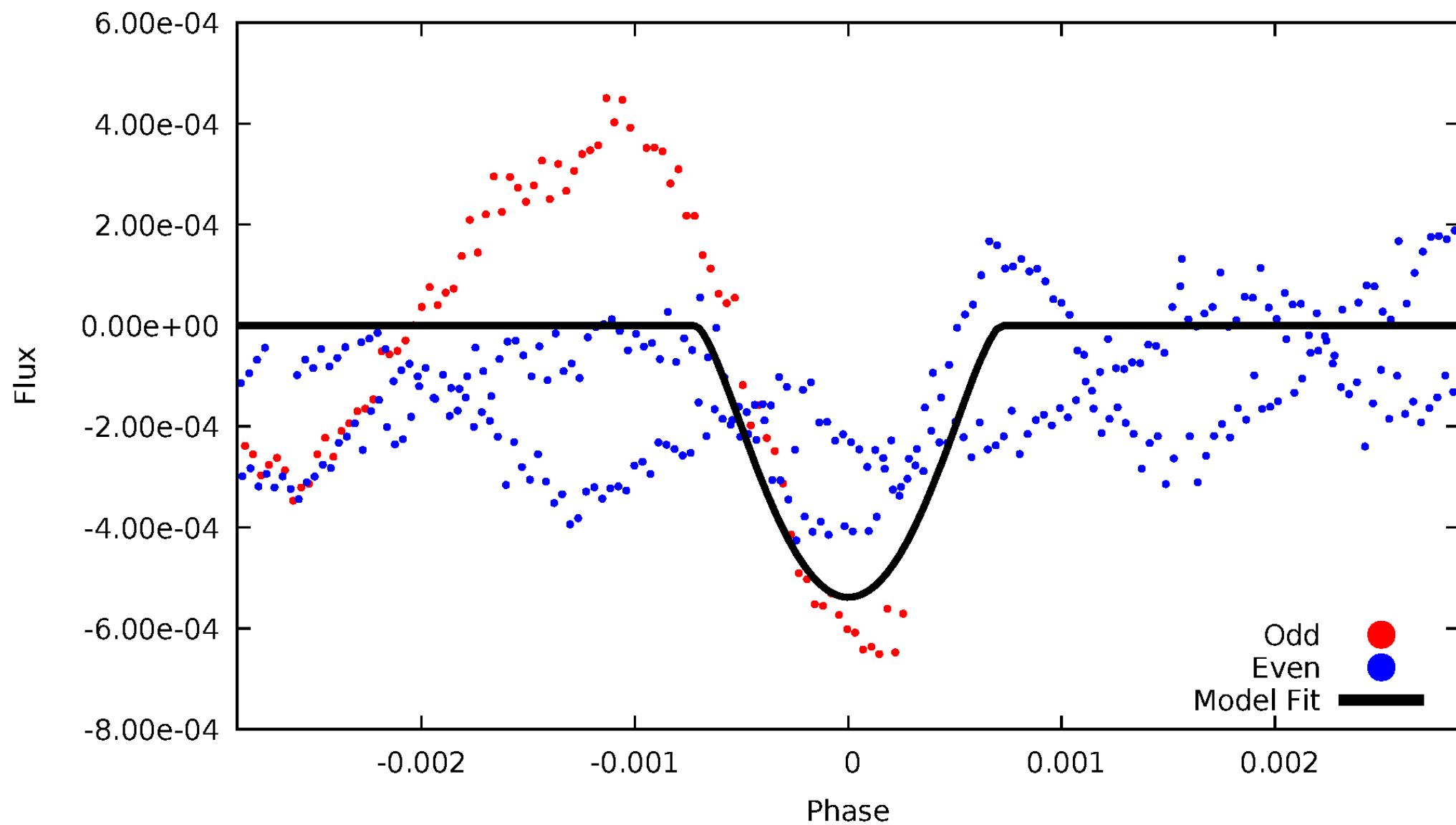


TCE 006848529-05



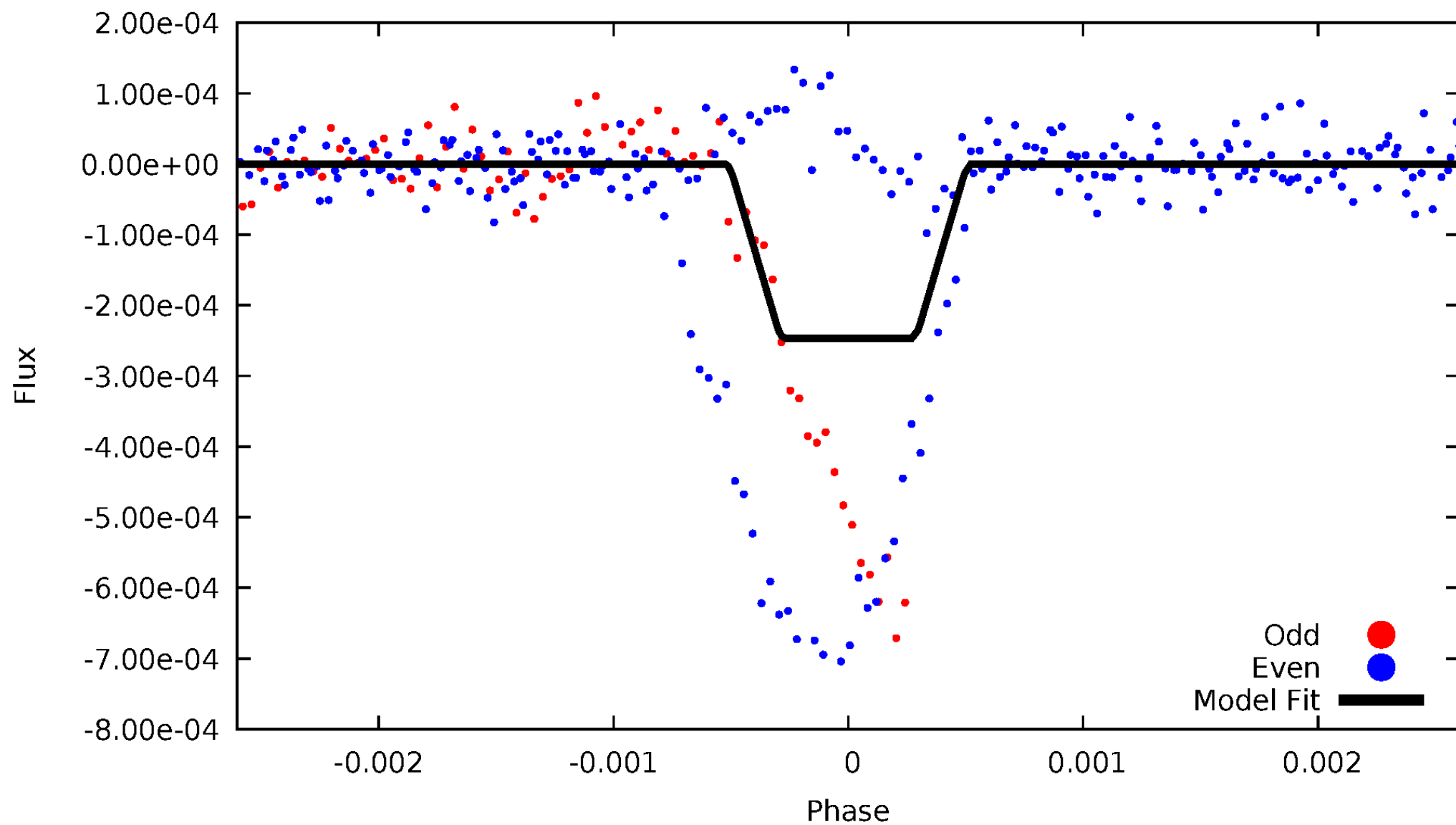
DV Odd/Even

TCE 006848529-05



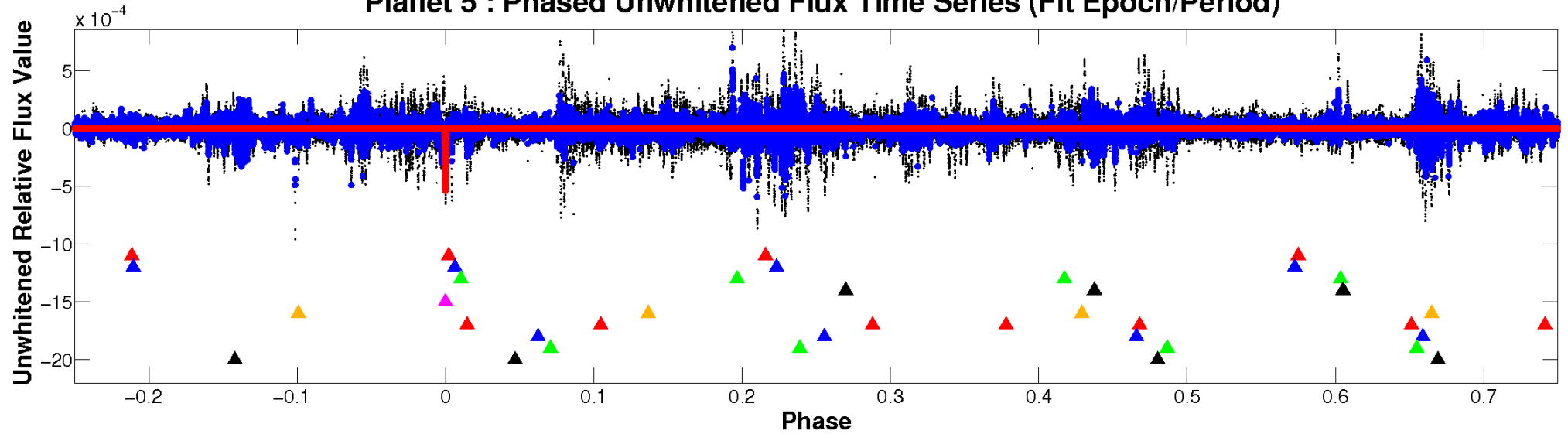
ALT Odd/Even

TCE 006848529-05

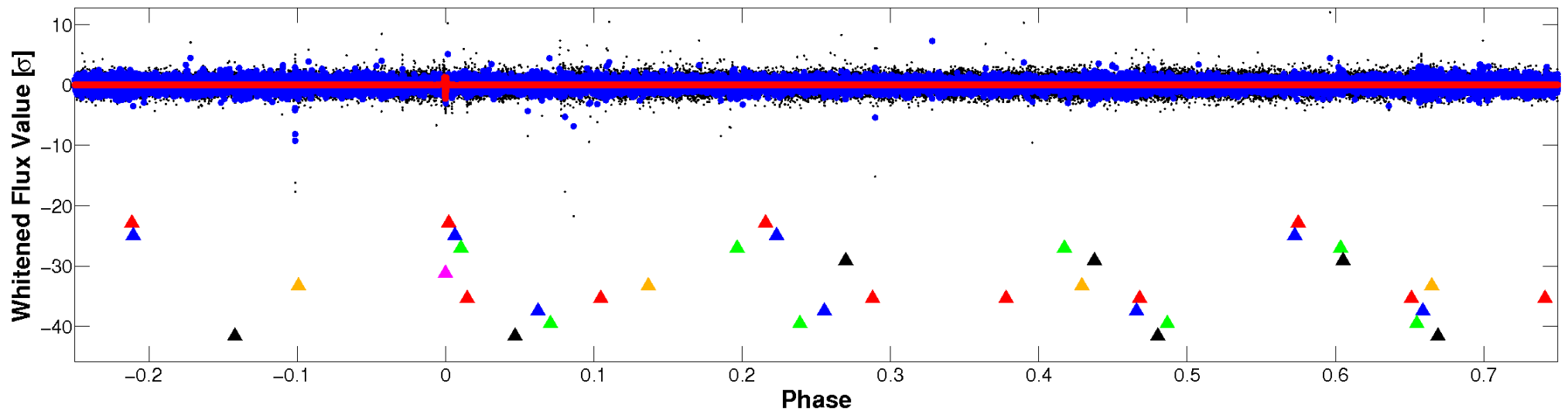


Non-Whitened Vs. Whitened Light Curve

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

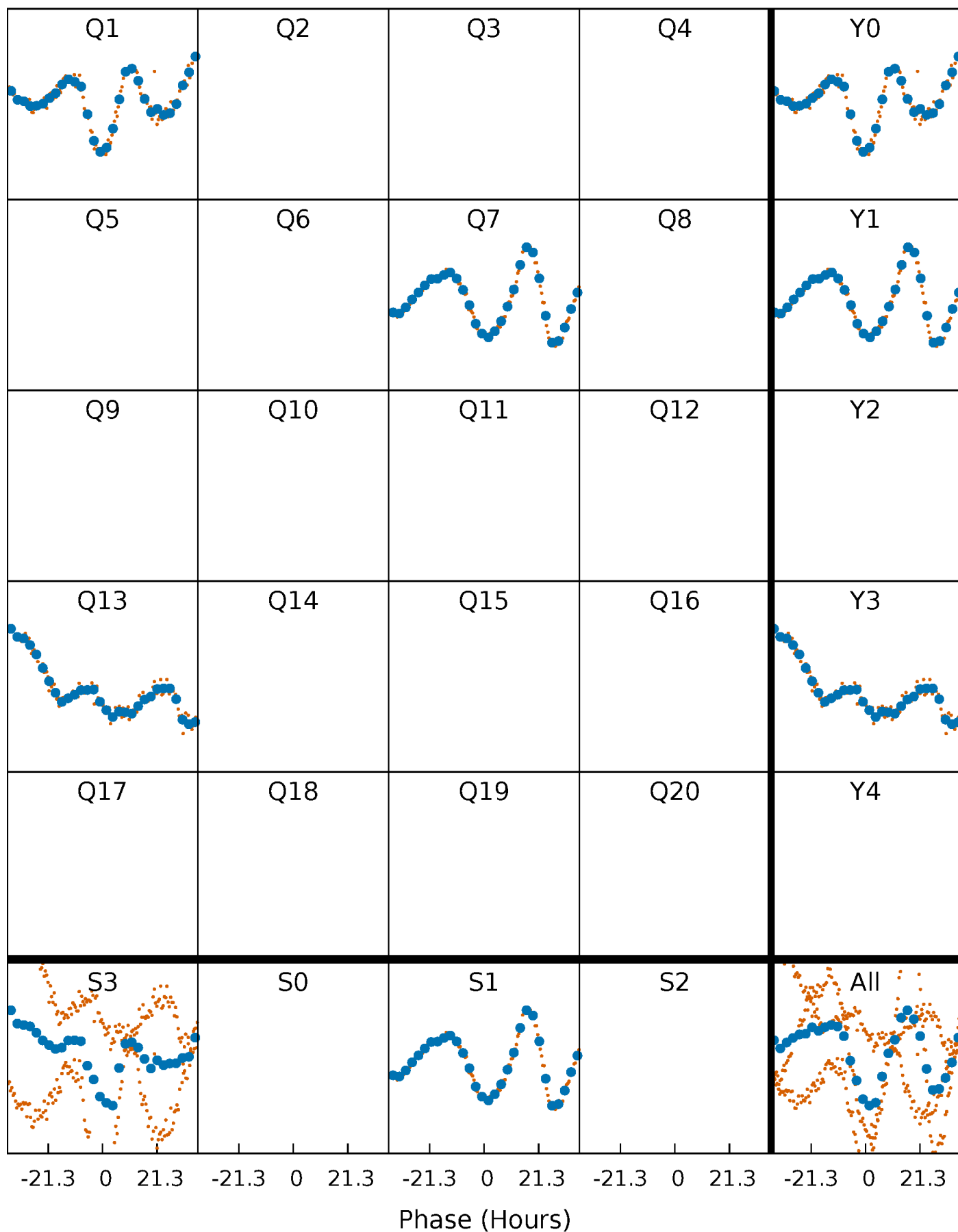


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



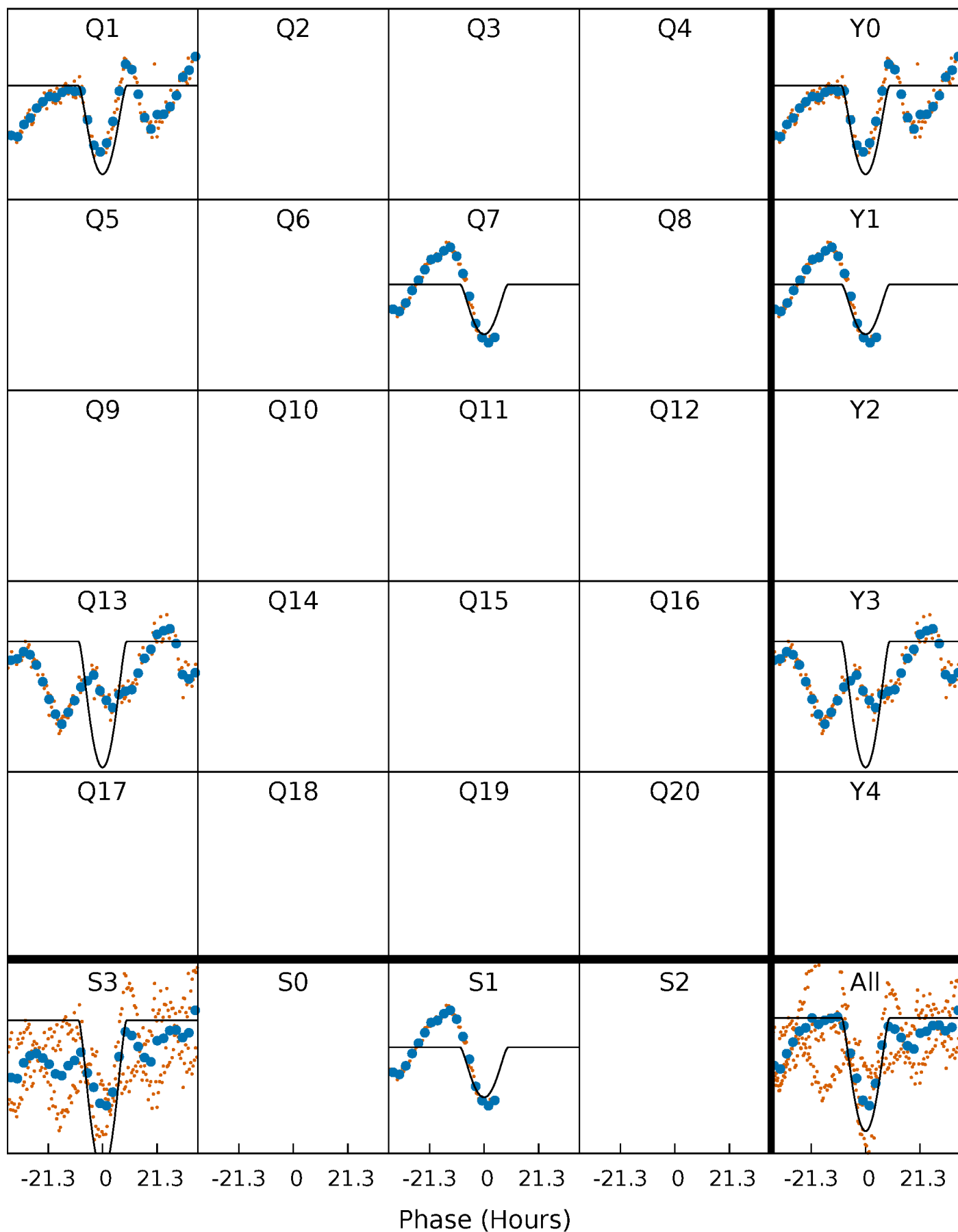
PDC Quarter-Phased Transit Curves

TCE 006848529-05 $P=543.177525$ Days $T_0=150.383009$ (BKJD)



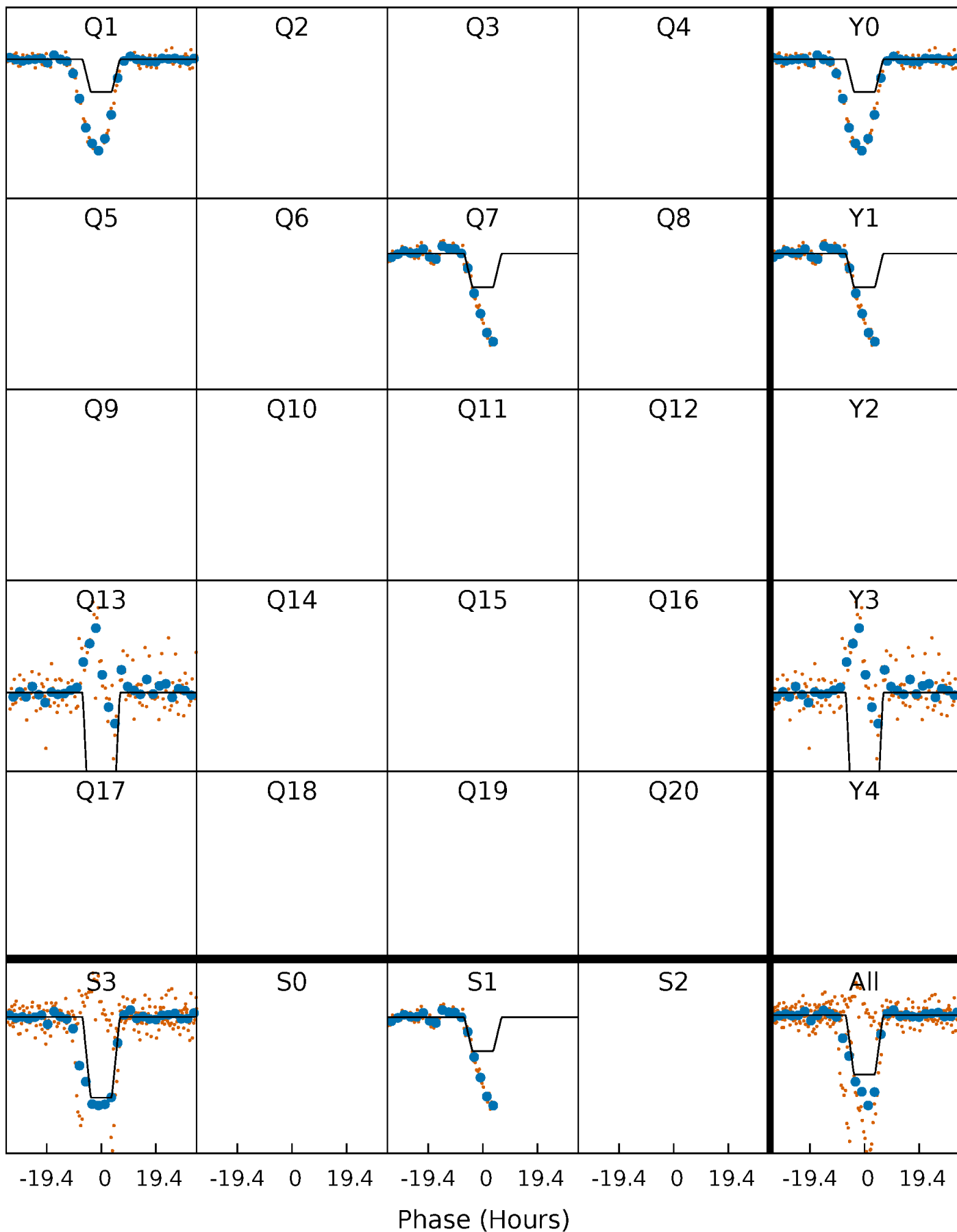
DV Quarter-Phased Transit Curves

TCE 006848529-05 $P=543.177525$ Days $T_0=150.383009$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

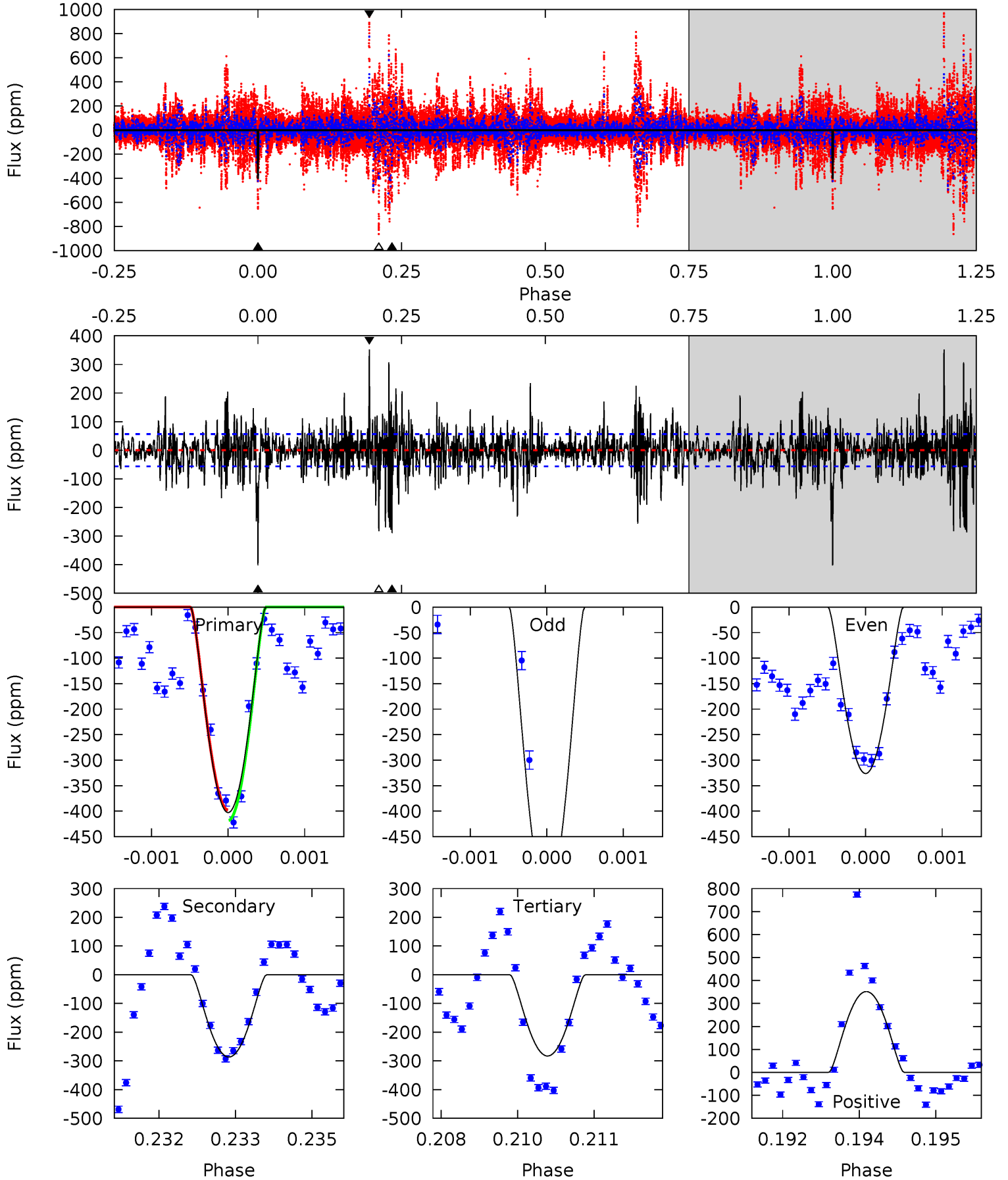
TCE 006848529-05 $P=543.117214$ Days $T_0=150.451815$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-05, P = 543.177525 Days, E = 150.383009 Days

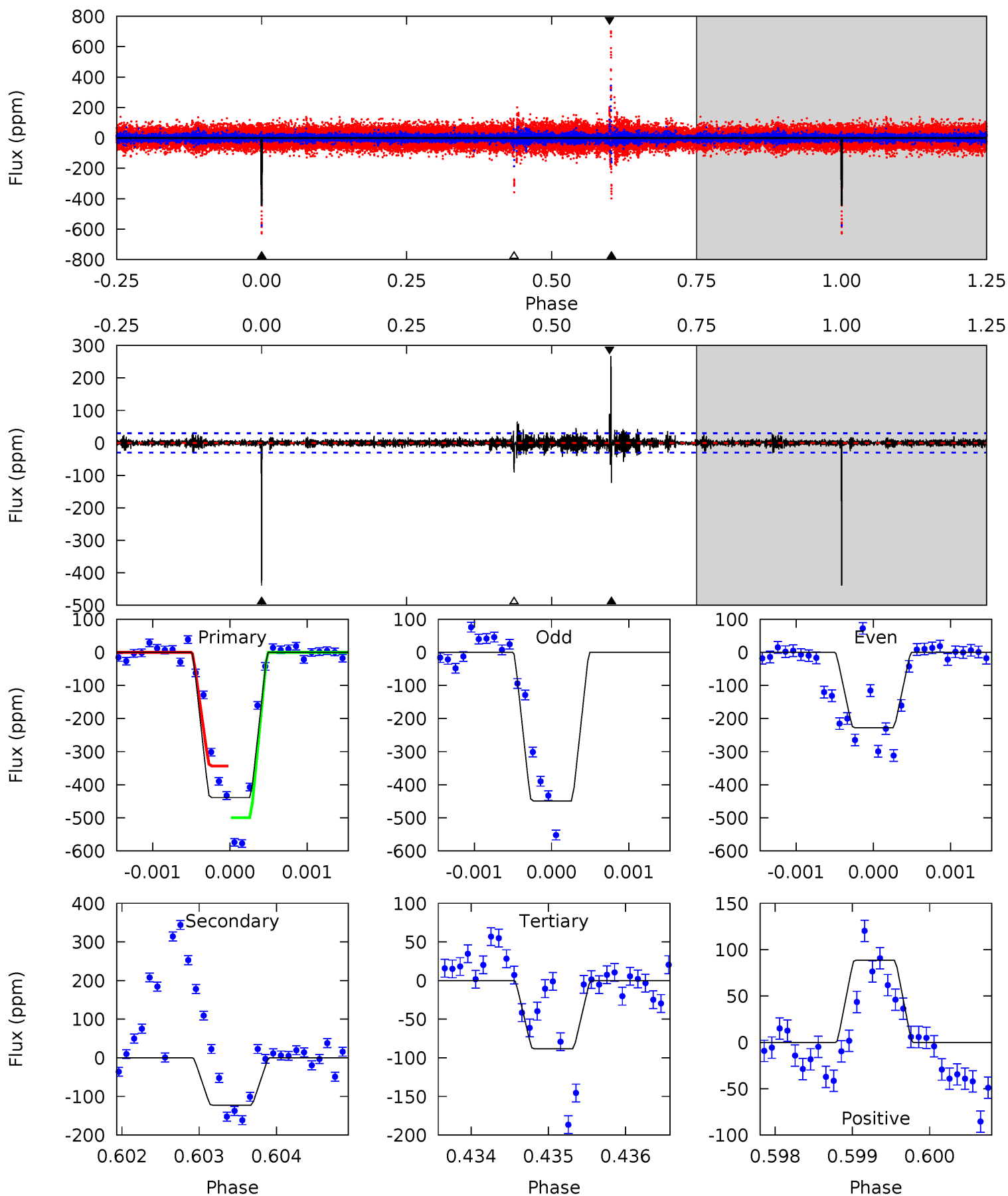
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.3	27.3	26.9	33.5	5.38	3.18	5.25	11.4	4.84	0.34	-6.21	10.9	1.07	0.47	0.98



Alt Model-Shift Uniqueness Test

006848529-05, P = 543.117214 Days, E = 150.451815 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.1	22.4	16.1	16.2	5.44	3.28	1.74	63.9	63.9	6.27	6.21	22.1	0.76	0.38	0



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-287 ± 11	$11.46^{+9.11}_{-6.56}$	806^{+71}_{-72}	6261^{+3990}_{-1372}	3959^{+16926}_{-2673}
Alt.	-123 ± 5	$6.96^{+7.22}_{-4.54}$	804^{+63}_{-74}	6479^{+6238}_{-1738}	4509^{+32527}_{-3414}

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 $A_{obs} \gg 1.0$

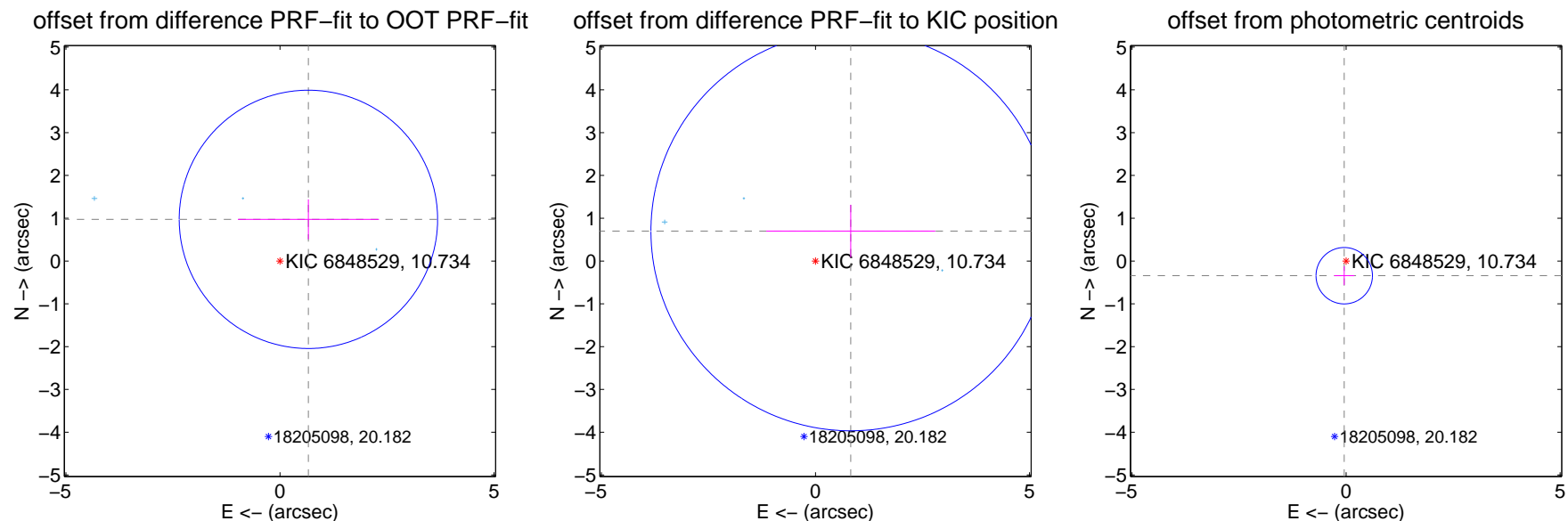
DV Centroid Data

Supplemental centroid analysis for 006848529-05. **Kepler magnitude: 10.73.** Transit SNR 14.71

There are 3 quarters with good PRF difference image offsets

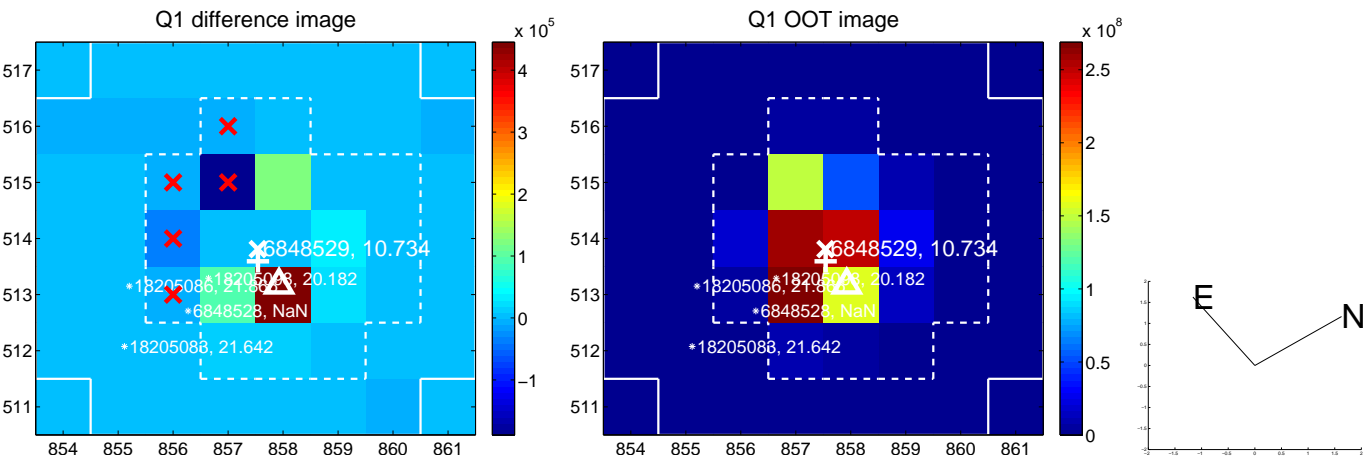
The direct PRF centroid is offset from the target star catalog position by about 0.98 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.179 ± 1.006	1.17	-0.665 ± 1.648	0.974 ± 0.467
PRF-fit source offset from KIC position	1.082 ± 1.556	0.70	-0.824 ± 1.974	0.701 ± 0.613
photometric centroid source offset	0.35 ± 0.22	1.57	0.04 ± 0.23	-0.34 ± 0.22

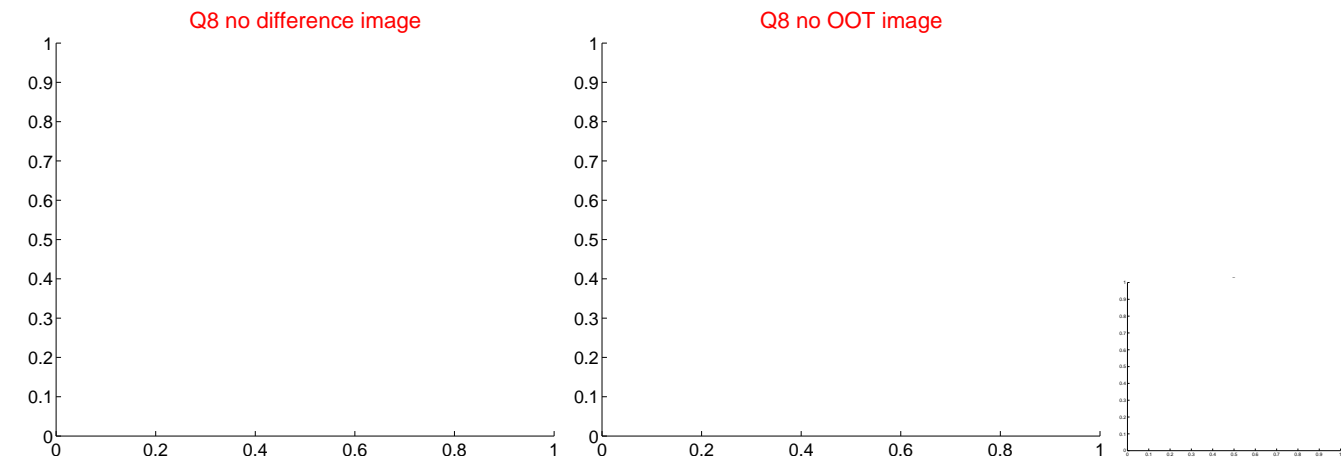
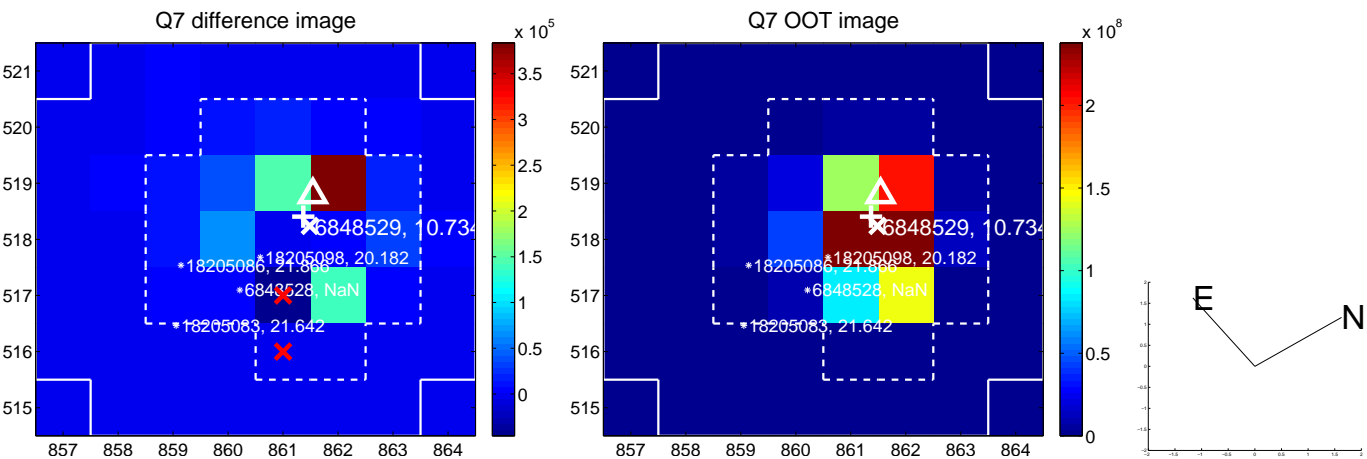


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



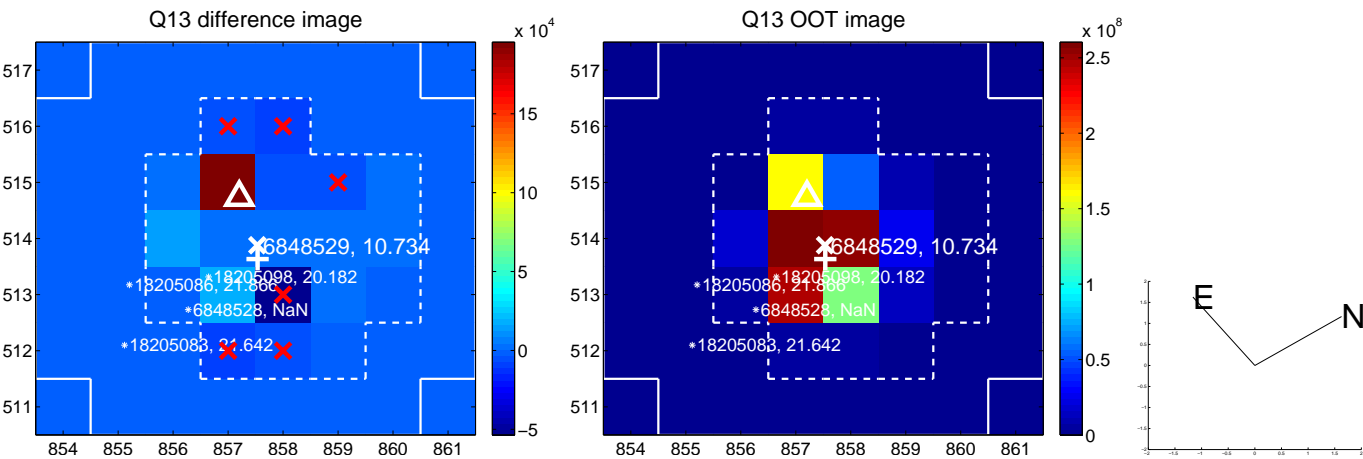
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



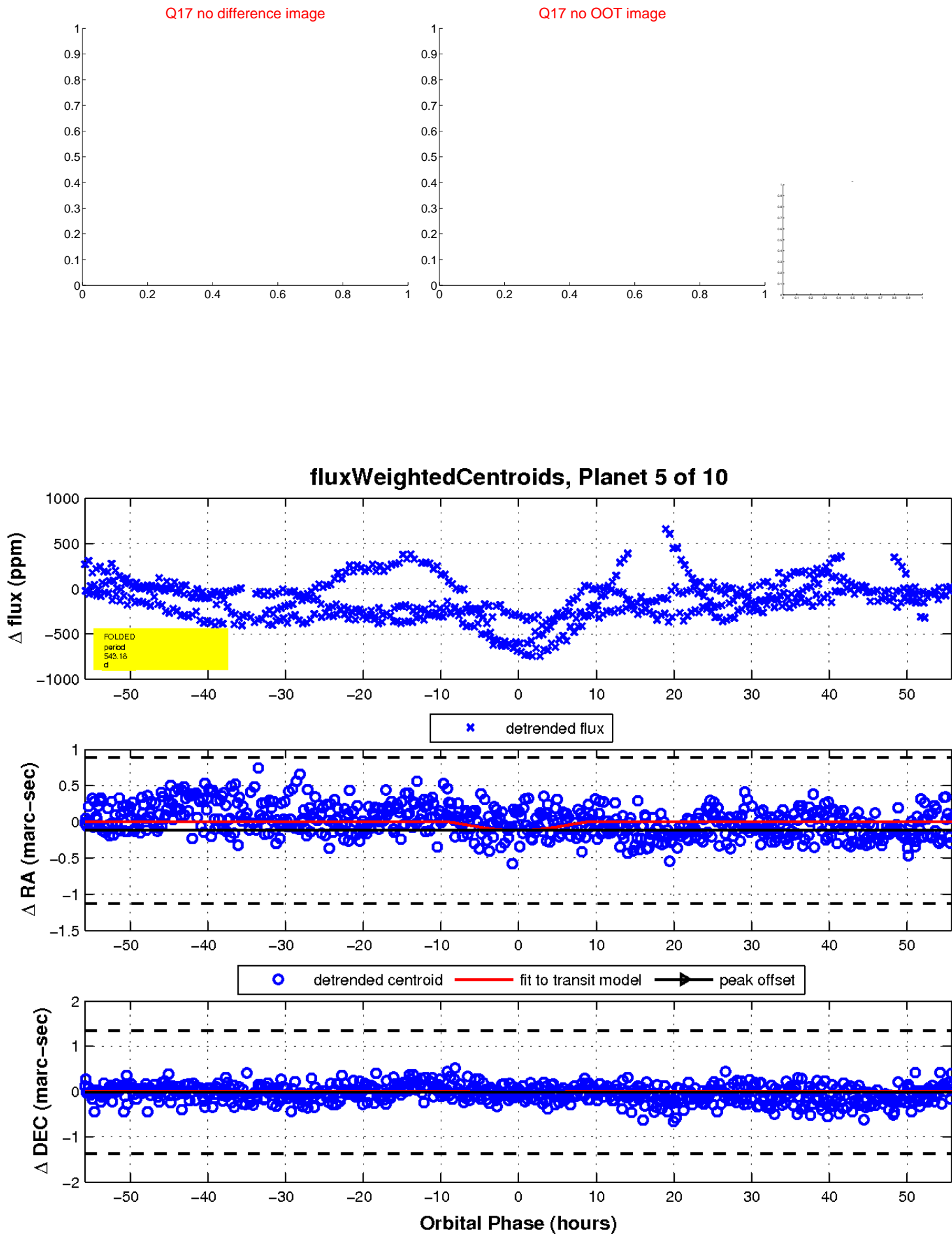
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

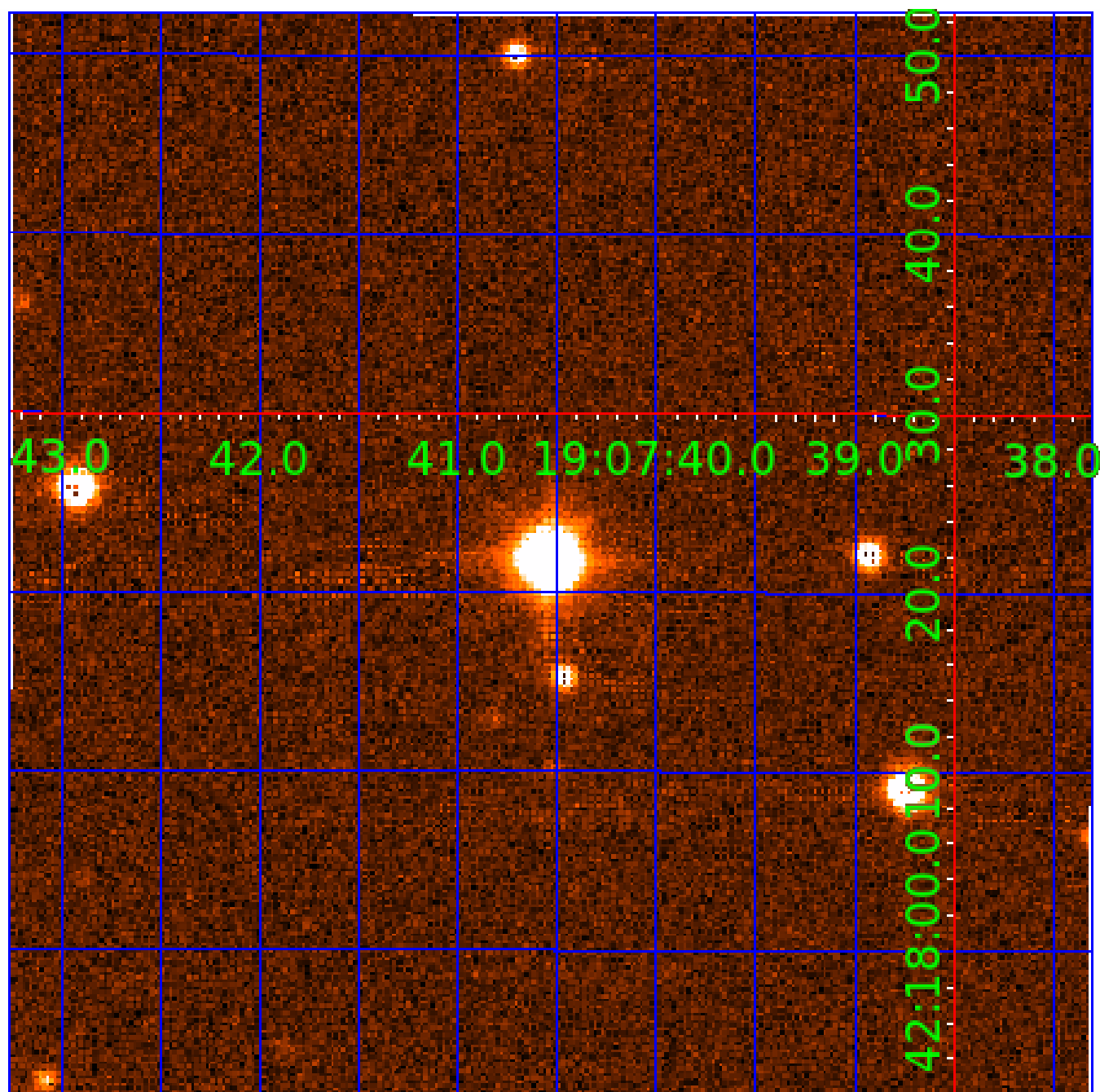


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

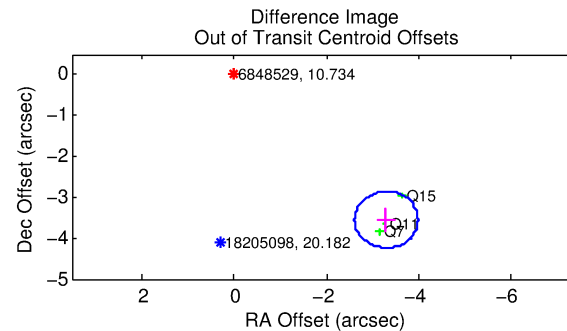
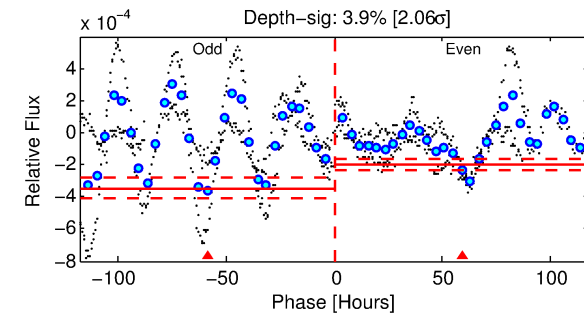
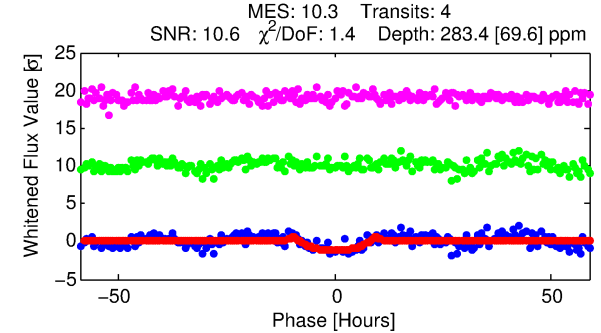
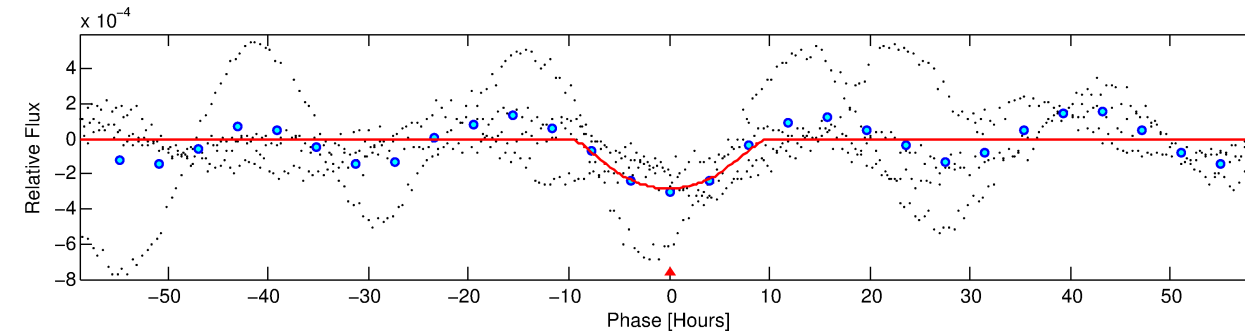
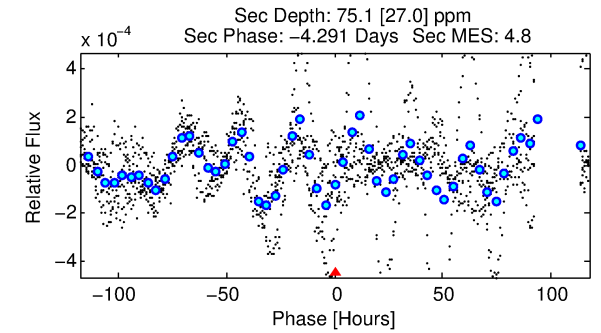
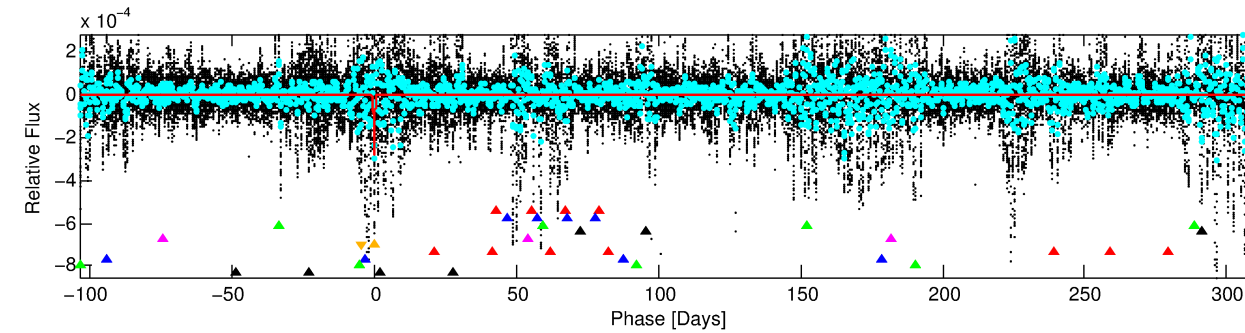
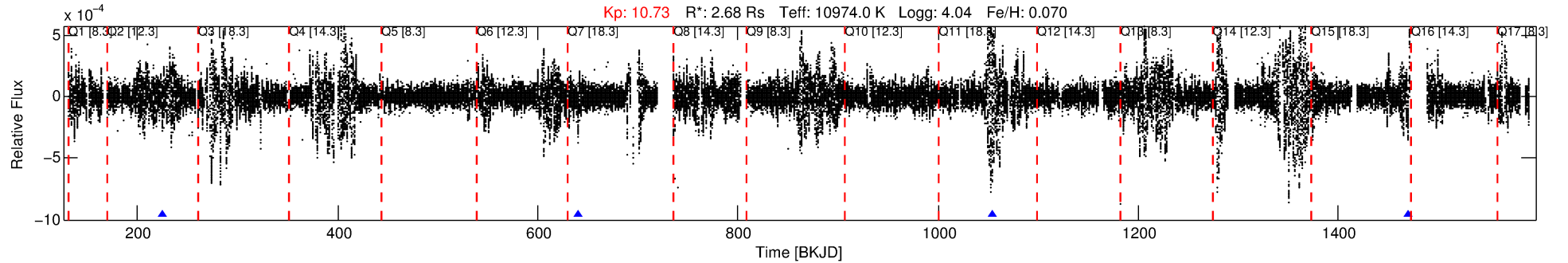
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-06

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 6 of 10 Period: 415.049 d



DV Fit Results:

Period = 415.04889 [0.01641] d
Epoch = 224.6676 [0.0302] BKJD
Rp/R* = 0.0210 [0.0067]
a/R* = 42.31 [6.54]
b = 0.99 [0.01]
Seff = 38.84 [19.08]
Teq = 637 [78] K
Rp = 6.13 [2.86] Re
a = 1.5483 [0.4671] AU
Ag = 2641.79 [2277.10] [1.16σ]
Teffp = 7056 [1328] K [4.83σ]

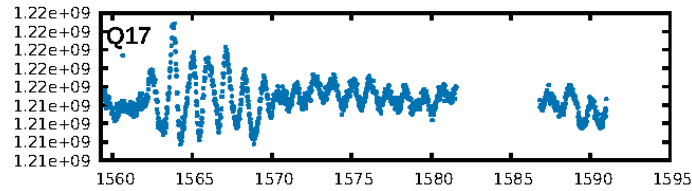
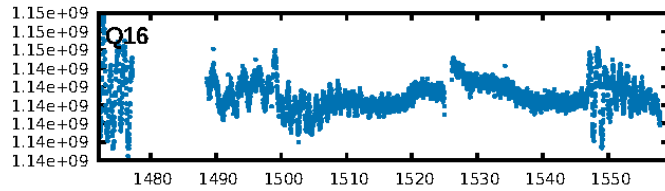
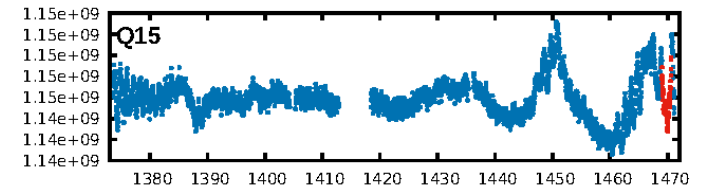
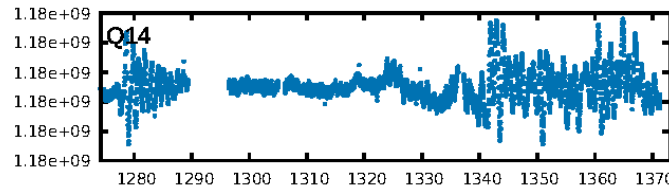
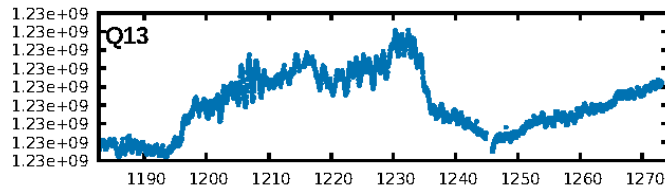
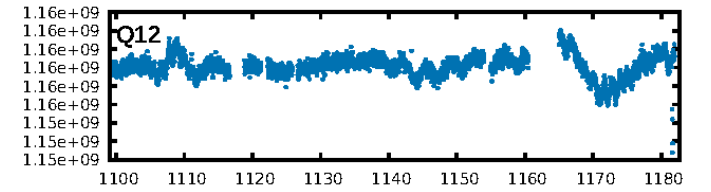
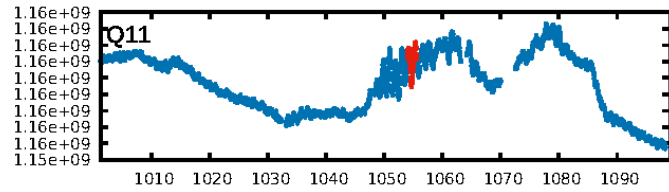
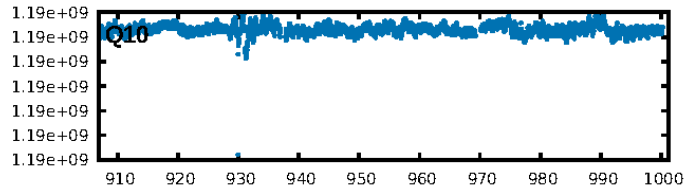
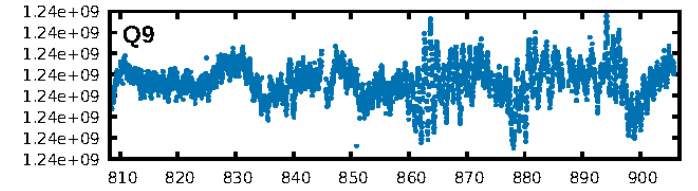
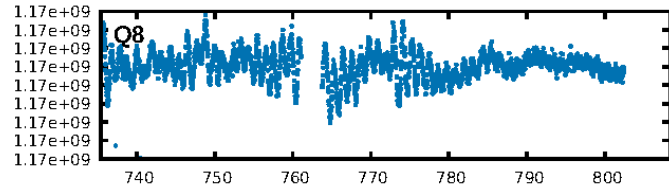
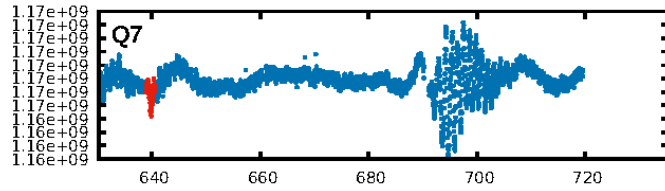
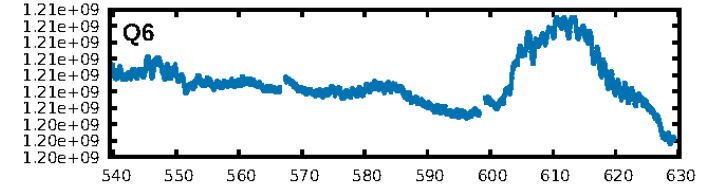
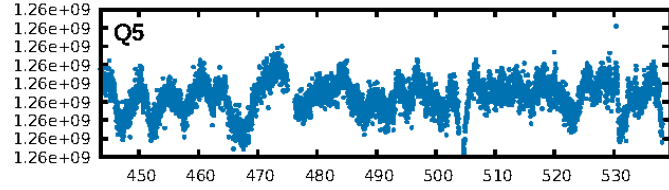
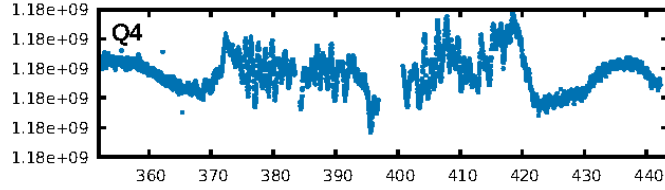
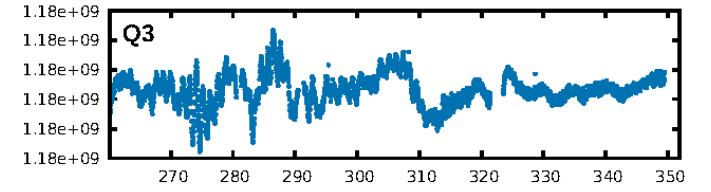
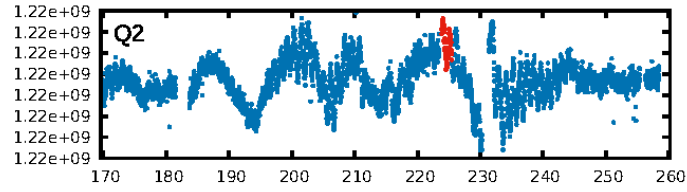
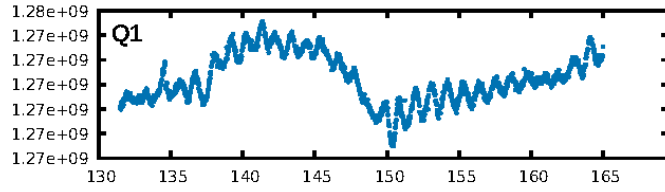
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [77.99σ]
LongPeriod-sig: 100.0% [9.48σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 81.8%
Bootstrap-pfa: 5.98e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.311
Centroid-sig: 36.2%
Centroid-so: 0.756 arcsec [1.81σ]
OotOffset-rm: 4.842 arcsec [21.08σ]
KicOffset-rm: 4.359 arcsec [21.15σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

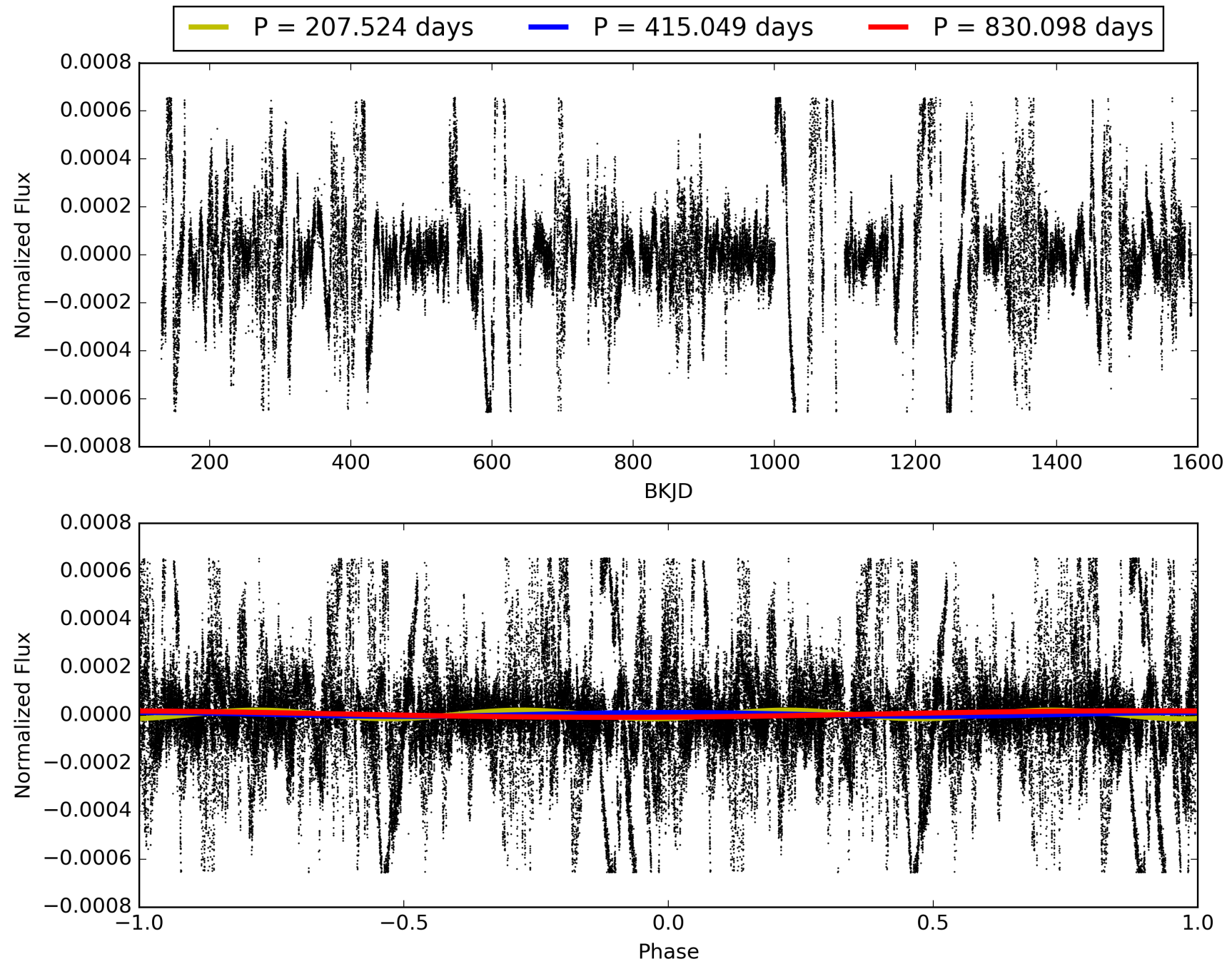
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:21:42 Z

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

TCE 006848529-06, PDC Light Curves

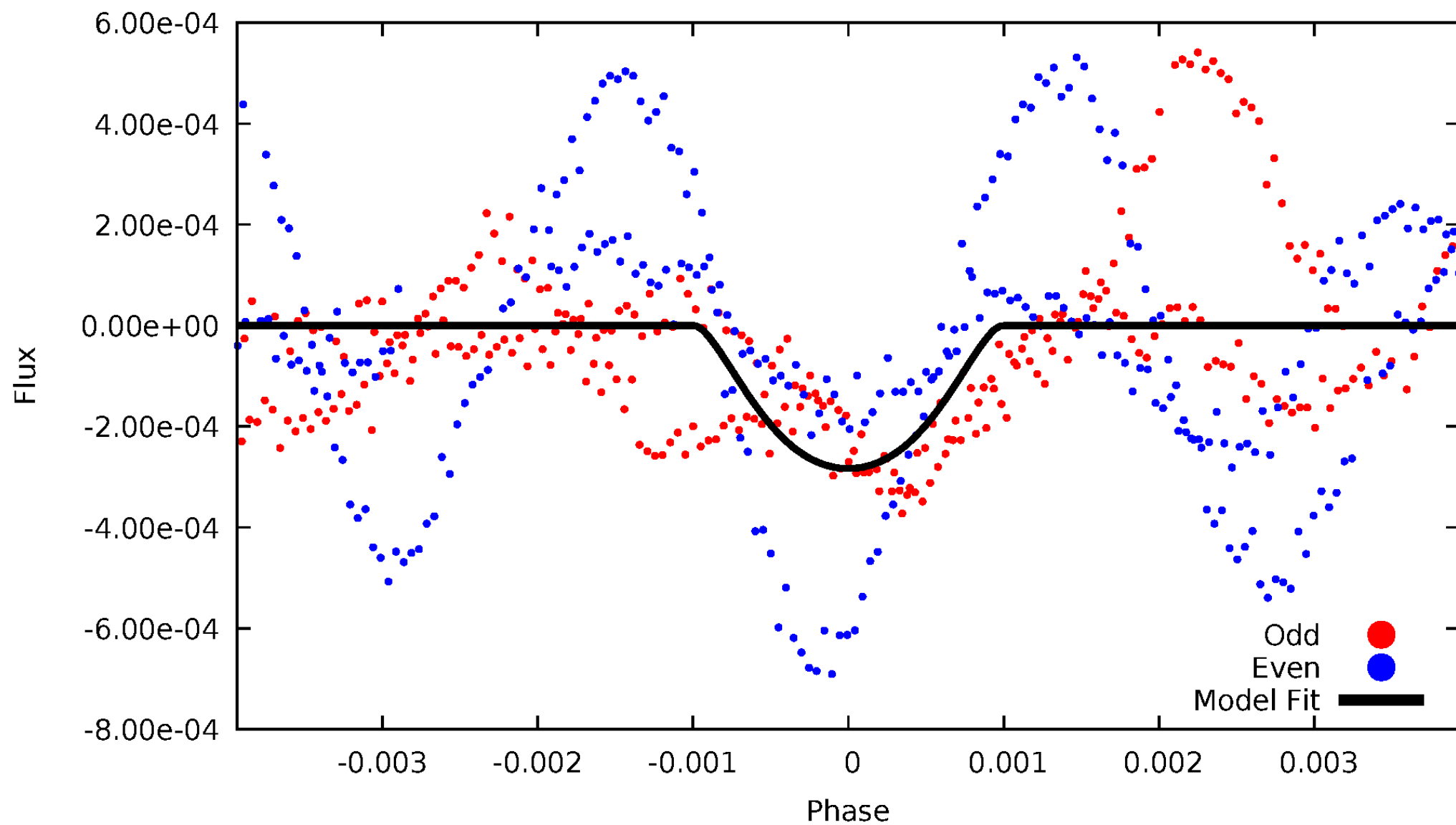


TCE 006848529-06



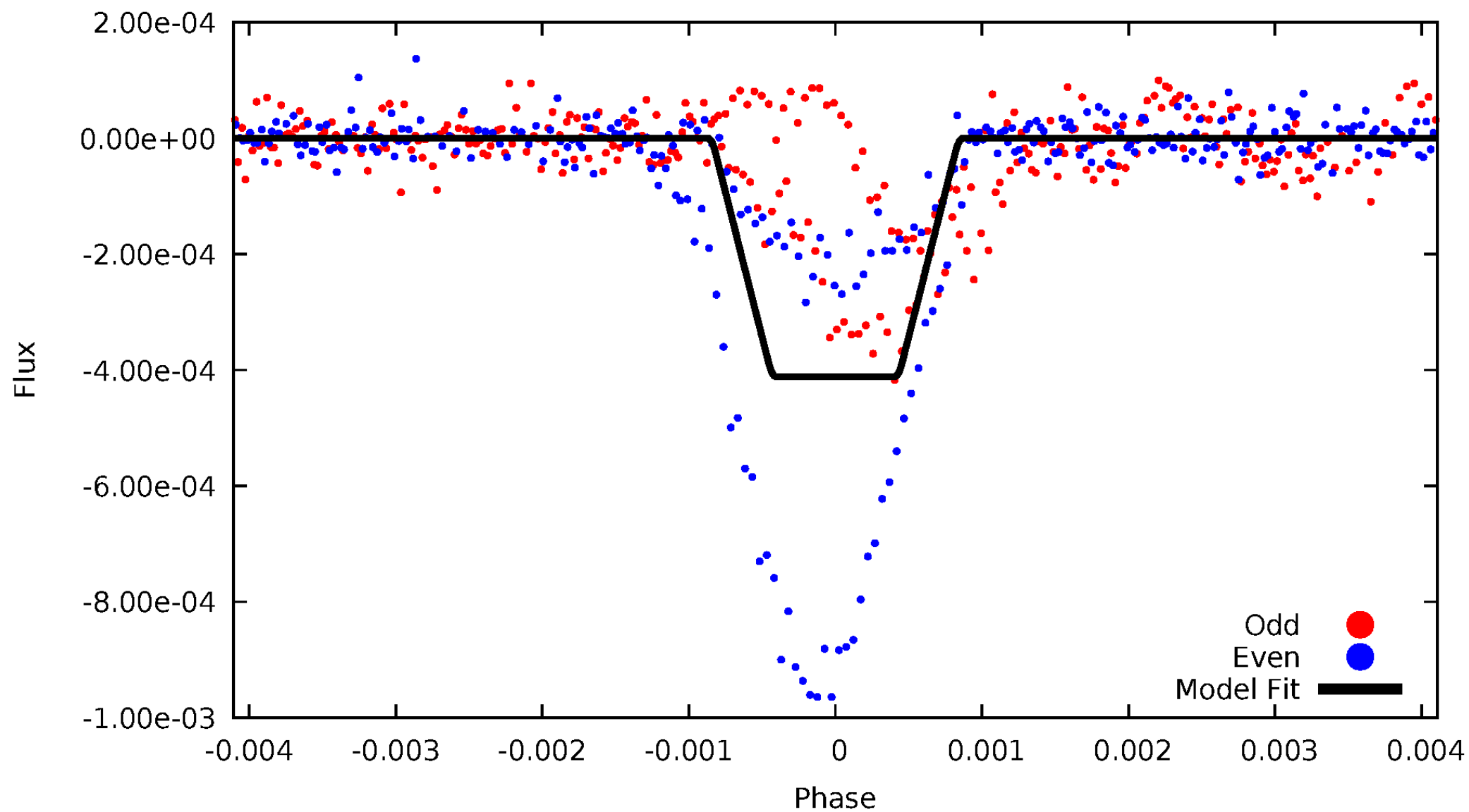
DV Odd/Even

TCE 006848529-06



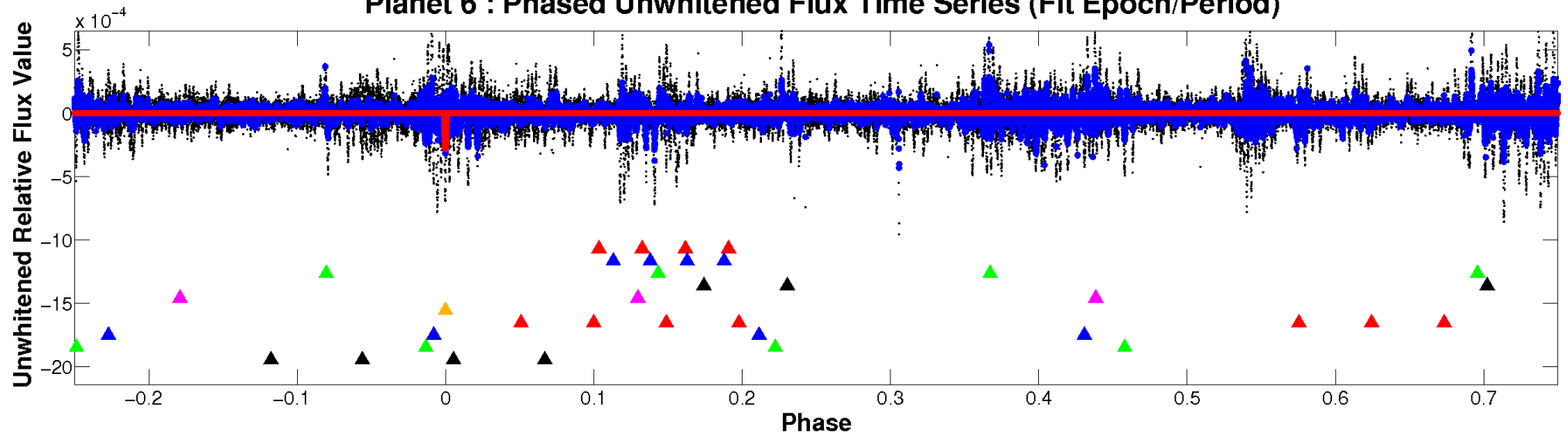
ALT Odd/Even

TCE 006848529-06

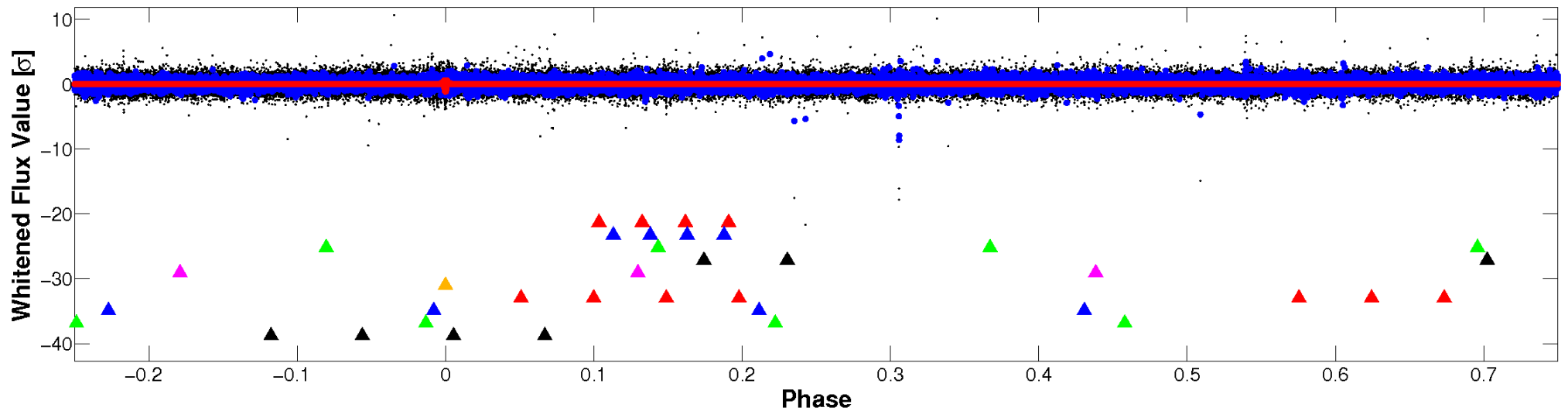


Non-Whitened Vs. Whitened Light Curve

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

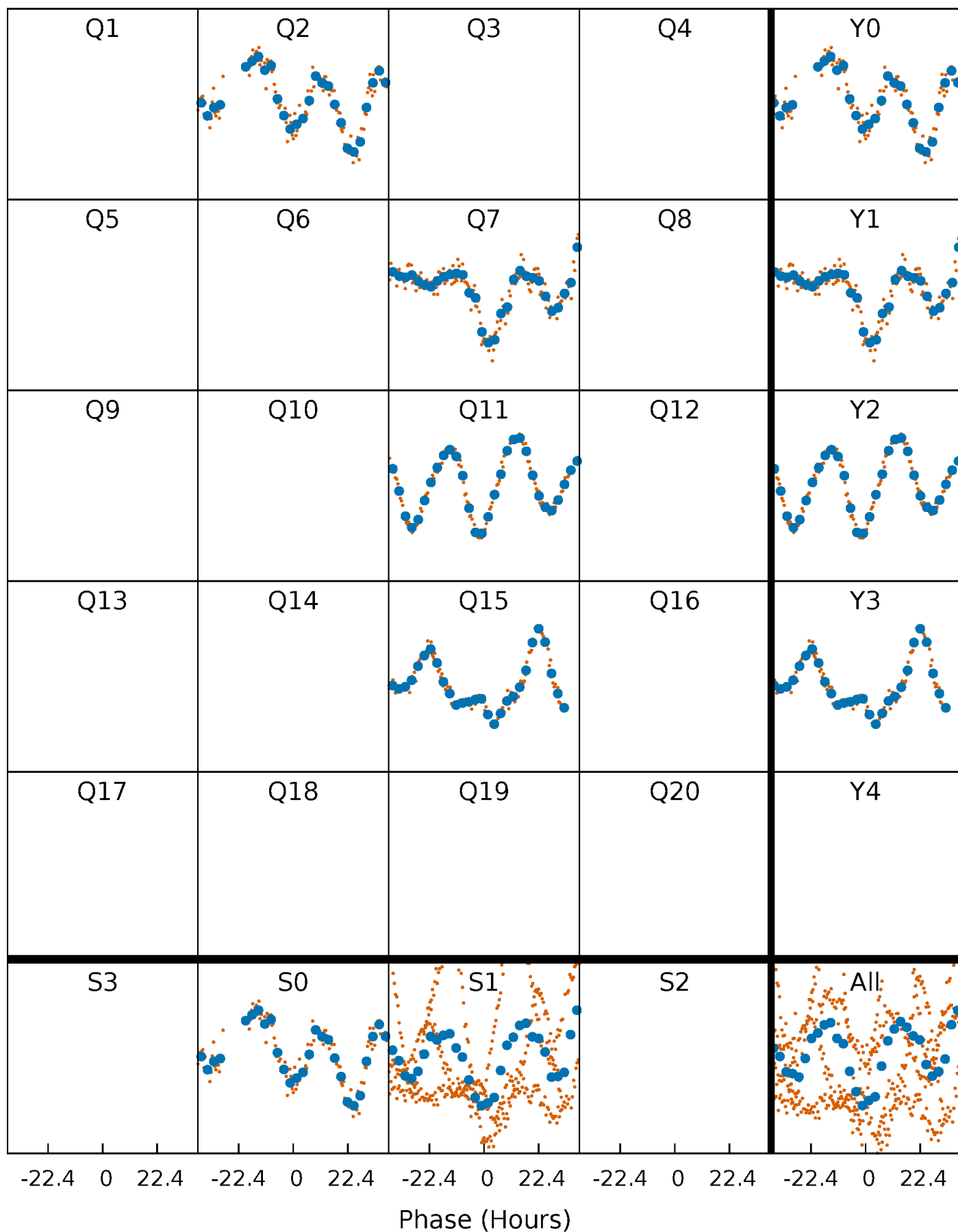


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



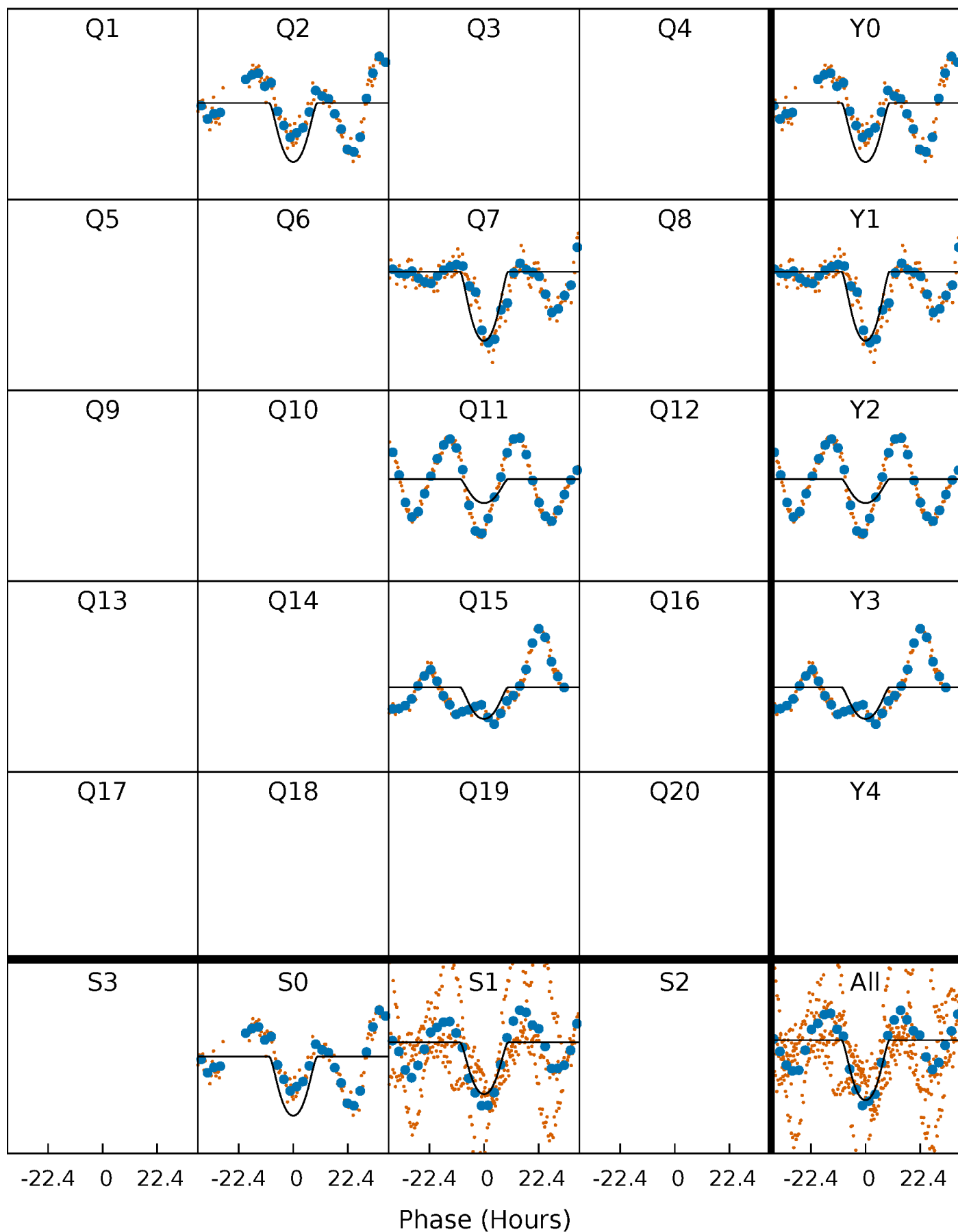
PDC Quarter-Phased Transit Curves

TCE 006848529-06 $P=415.048892$ Days $T_0=224.667614$ (BKJD)



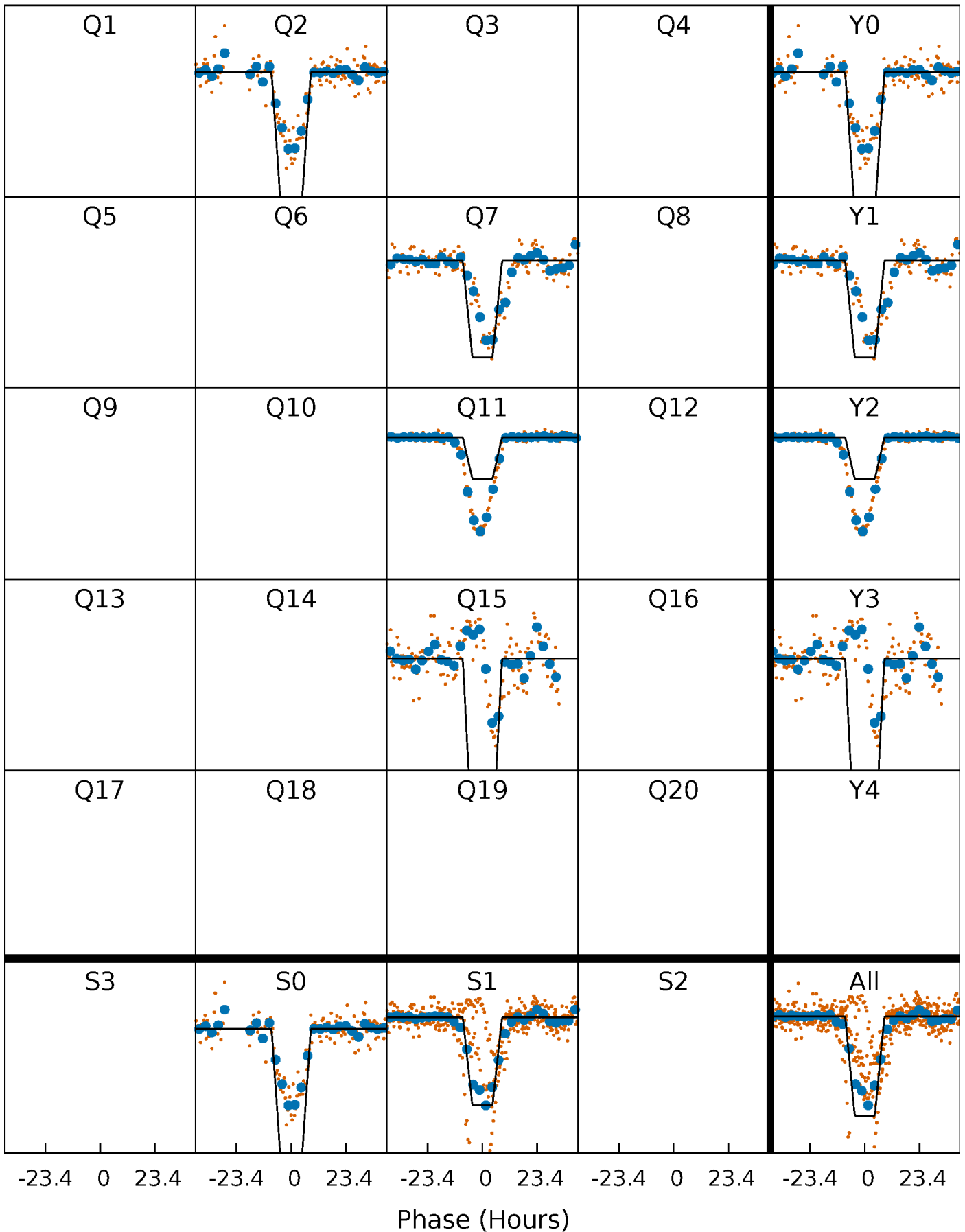
DV Quarter-Phased Transit Curves

TCE 006848529-06 P=415.048892 Days $T_0=224.667614$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

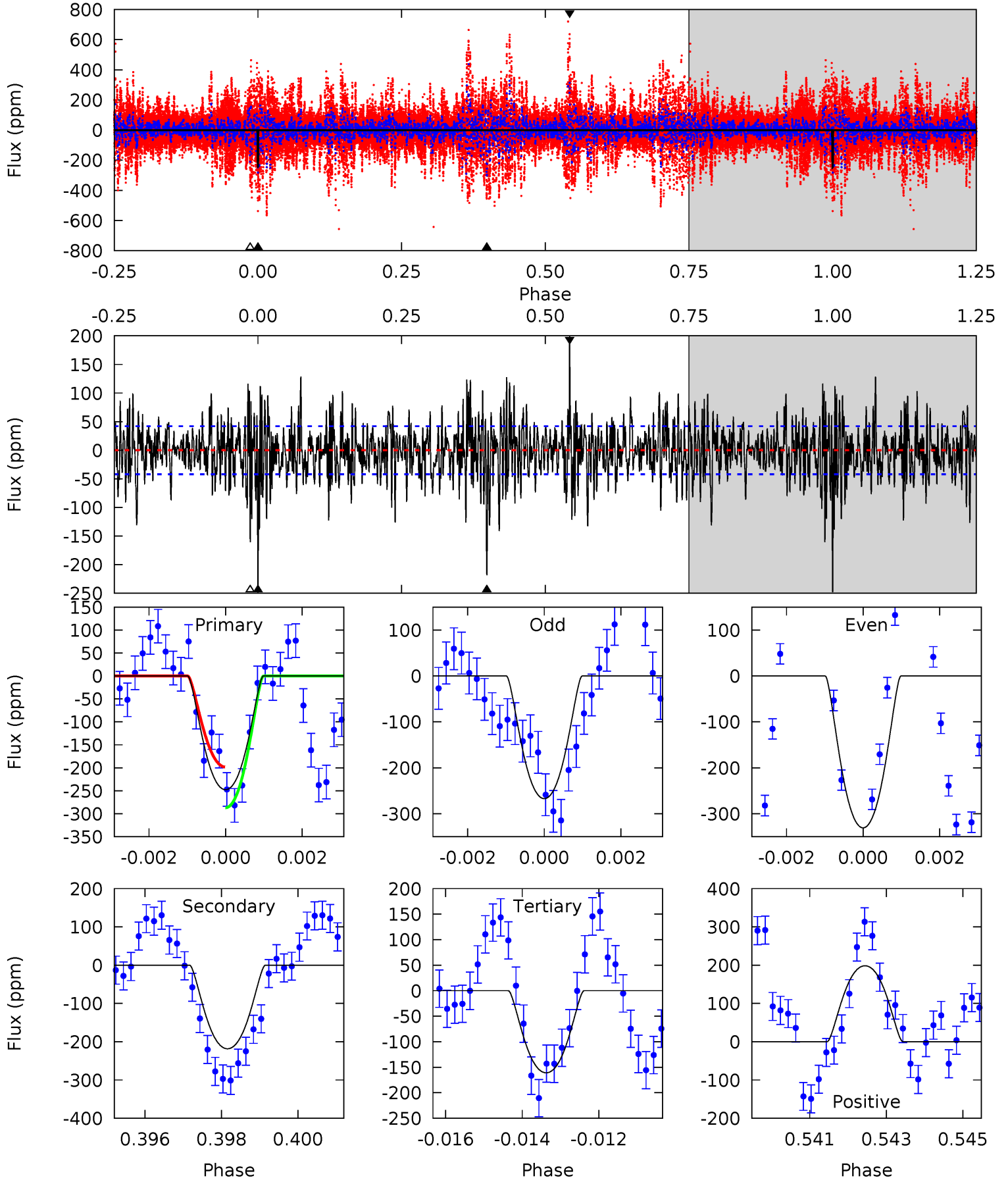
TCE 006848529-06 P=415.039660 Days $T_0=224.652657$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-06, P = 415.048892 Days, E = 224.667614 Days

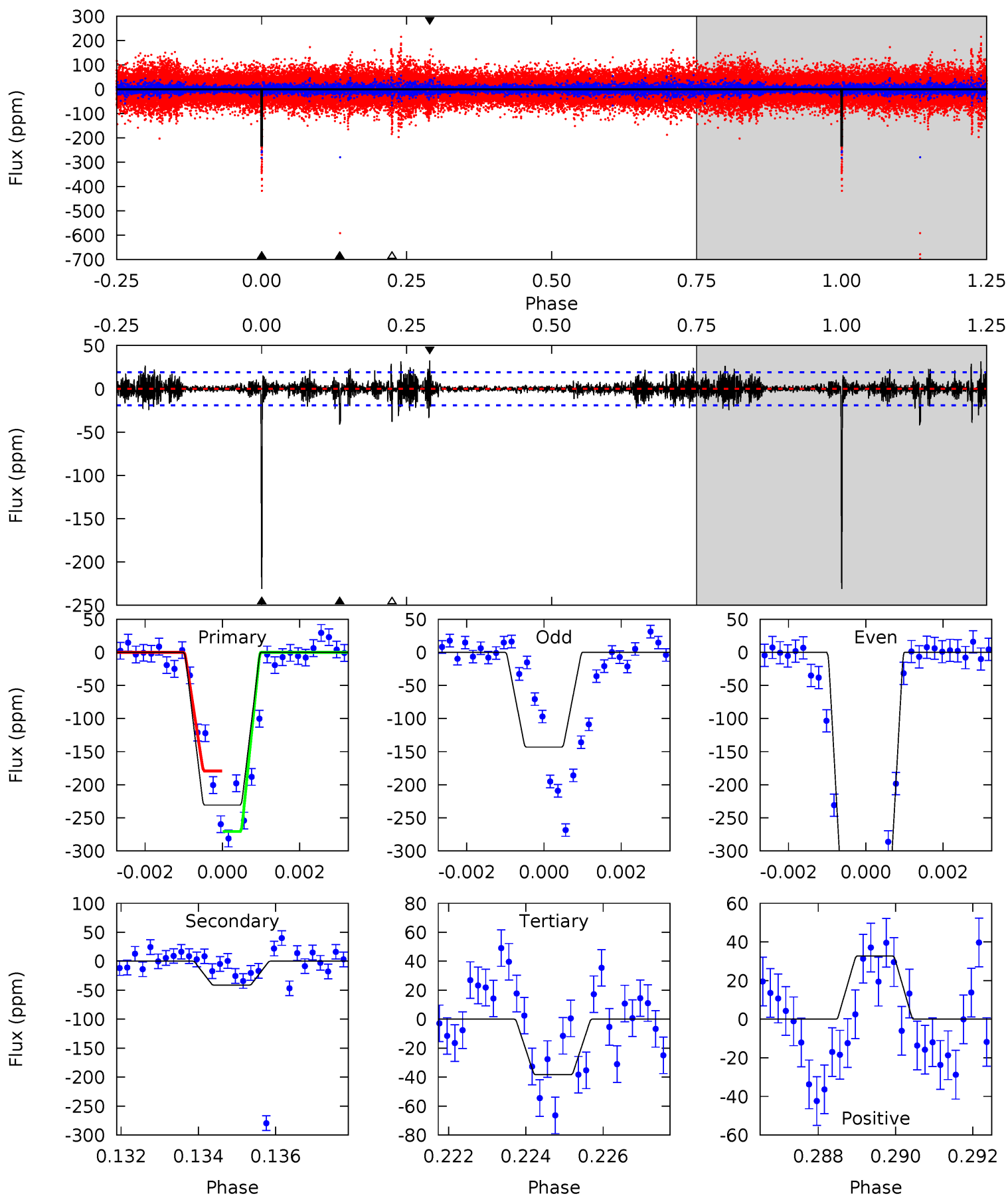
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	27.7	20.4	25.2	5.33	3.09	5.05	11.0	6.25	7.29	2.53	3.65	1.12	0.44	0



Alt Model-Shift Uniqueness Test

006848529-06, P = 415.039660 Days, E = 224.652657 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.7	11.5	10.7	9.15	5.35	3.13	1.72	54.0	55.5	0.81	2.38	55.8	1.37	0.12	12.6



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-218 ± 8	$5.92^{+2.21}_{-2.10}$	882^{+73}_{-83}	8510^{+2823}_{-1346}	8119^{+10949}_{-3805}
Alt.	-41 ± 4	$5.71^{+2.39}_{-2.05}$	878^{+77}_{-75}	5481^{+1180}_{-648}	1609^{+2257}_{-779}

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 $A_{obs} \gg 1.0$

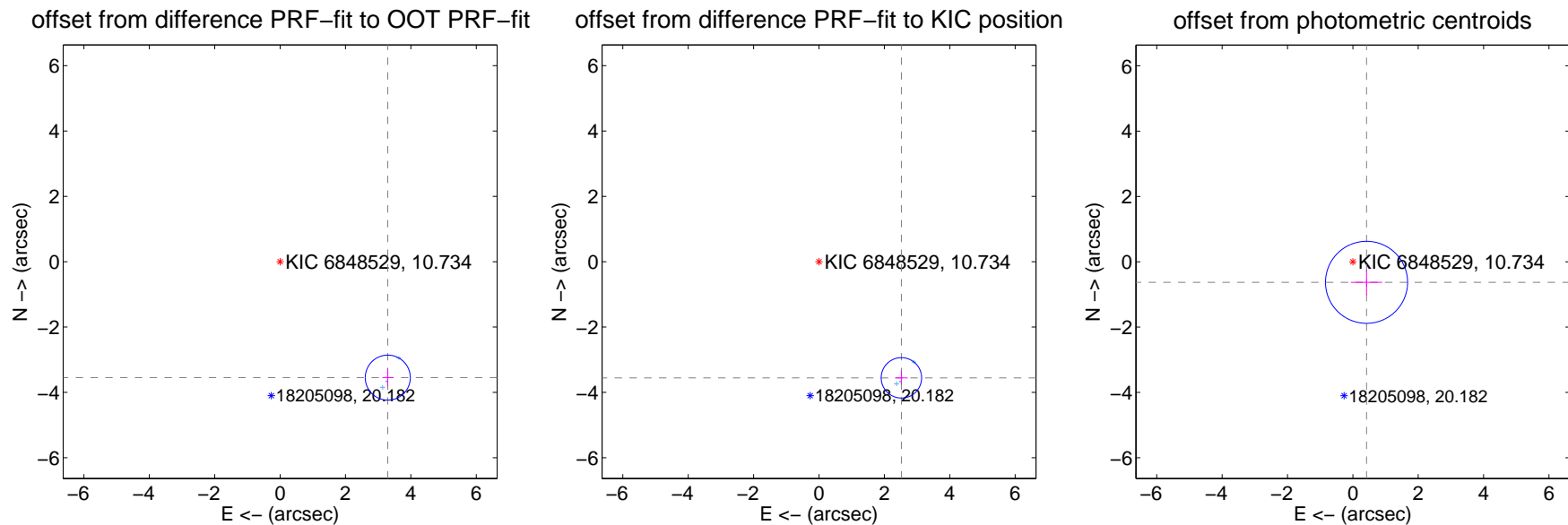
DV Centroid Data

Supplemental centroid analysis for 006848529-06. **Kepler magnitude: 10.73.** Transit SNR 10.60

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.842 ± 0.230	21.08	-3.294 ± 0.164	-3.548 ± 0.274
PRF-fit source offset from KIC position	4.359 ± 0.206	21.15	-2.521 ± 0.193	-3.556 ± 0.213
photometric centroid source offset	0.76 ± 0.42	1.81	-0.42 ± 0.48	-0.63 ± 0.39

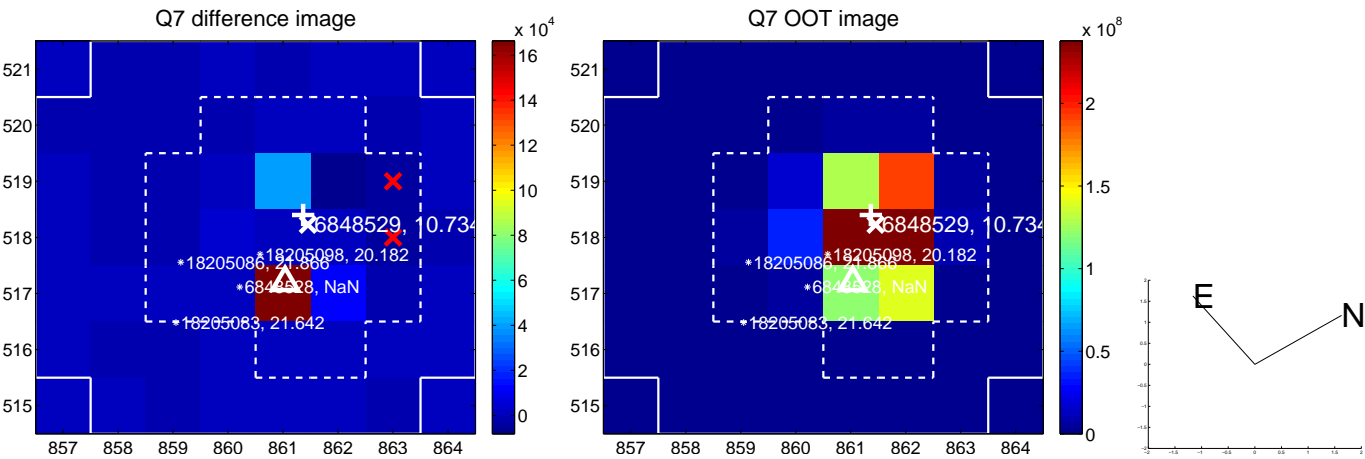


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

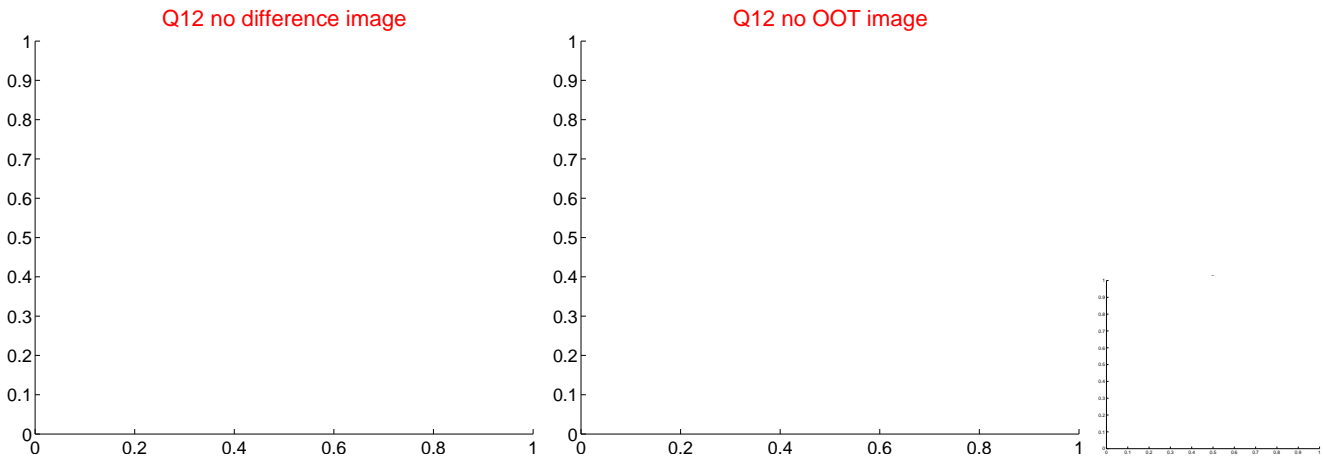
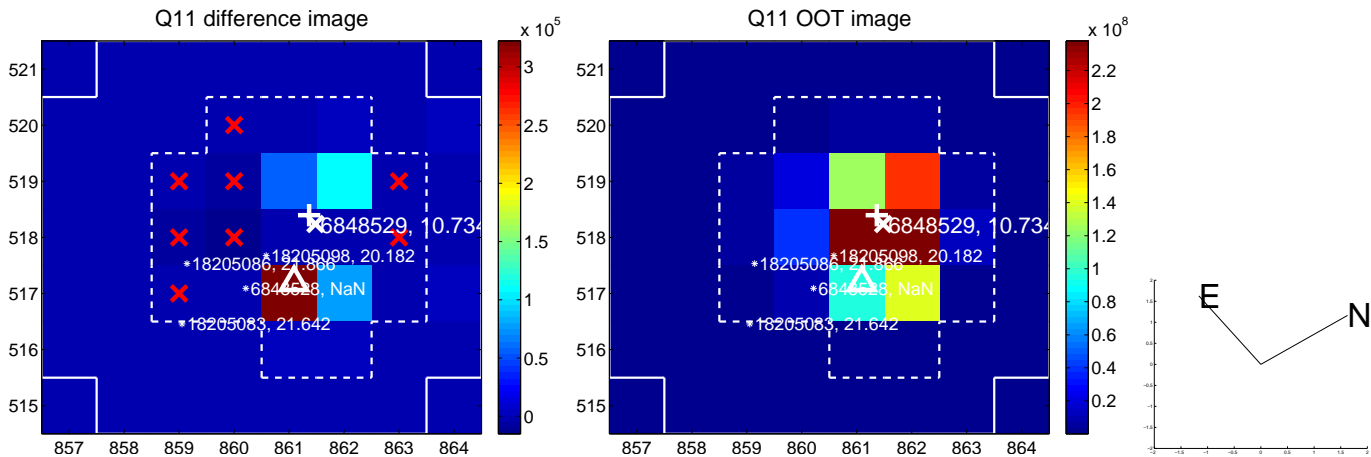
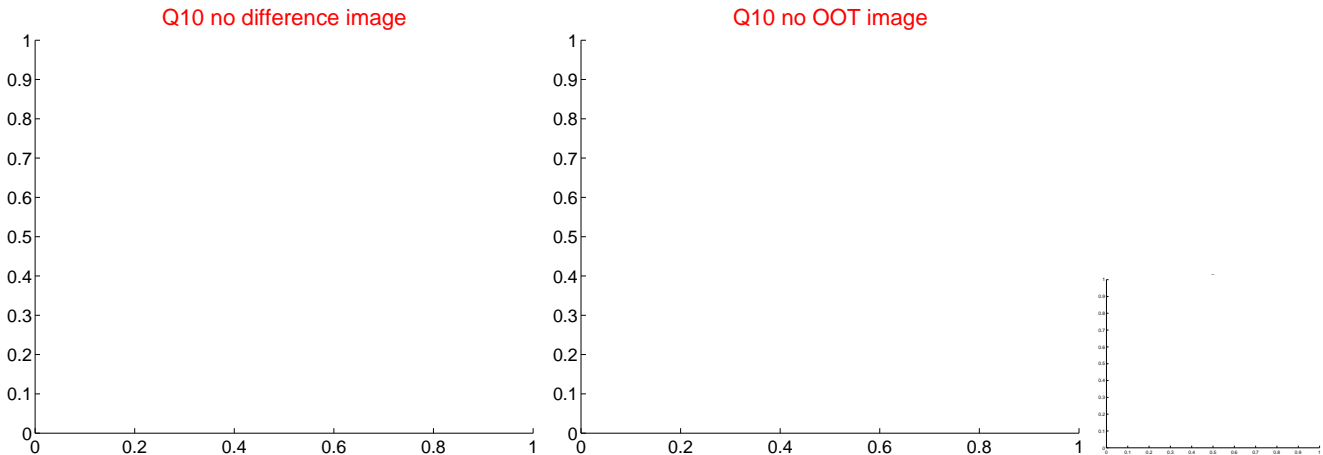
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



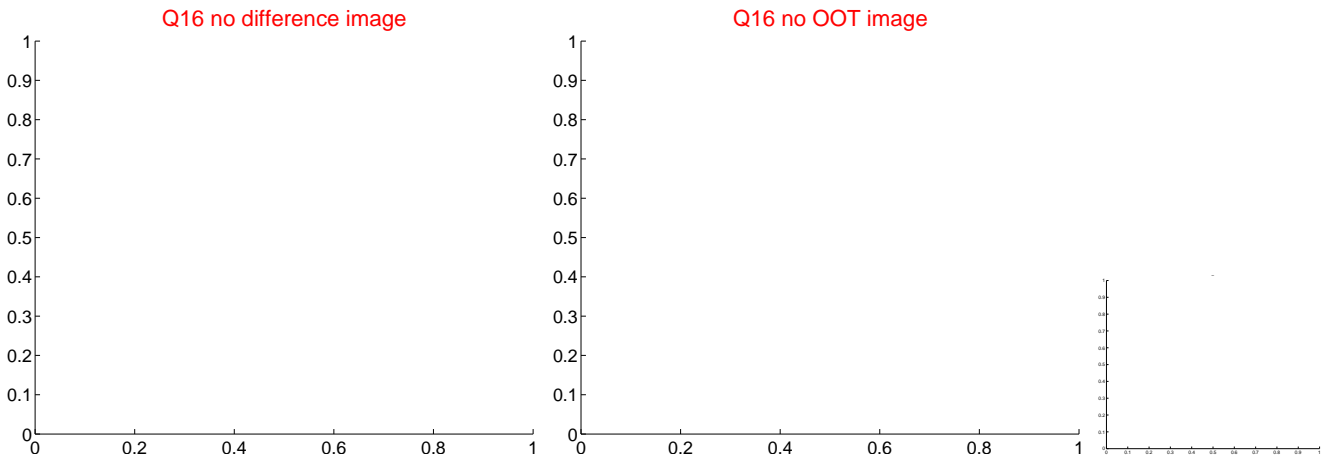
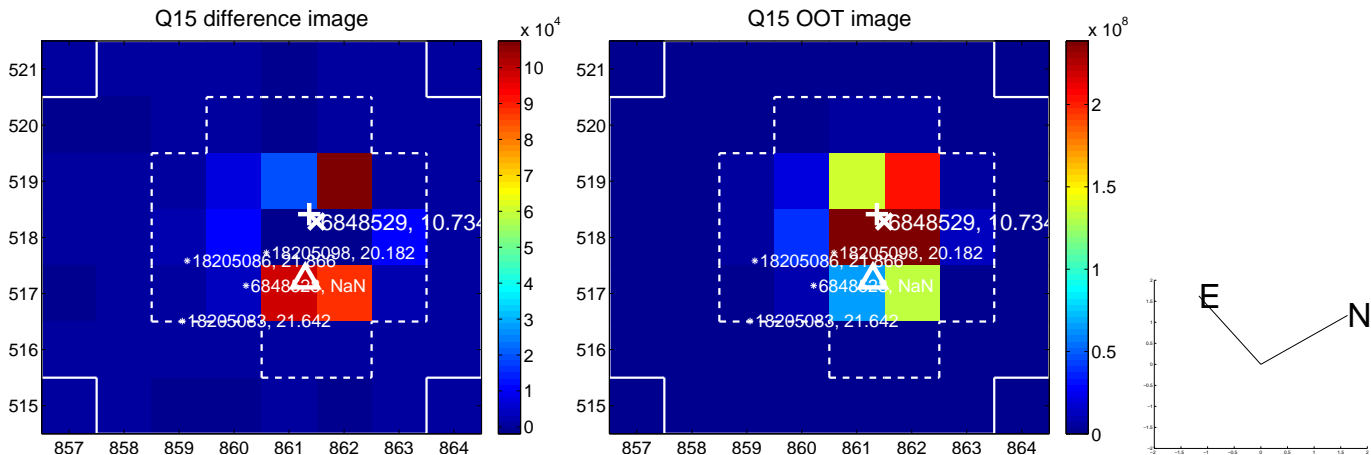
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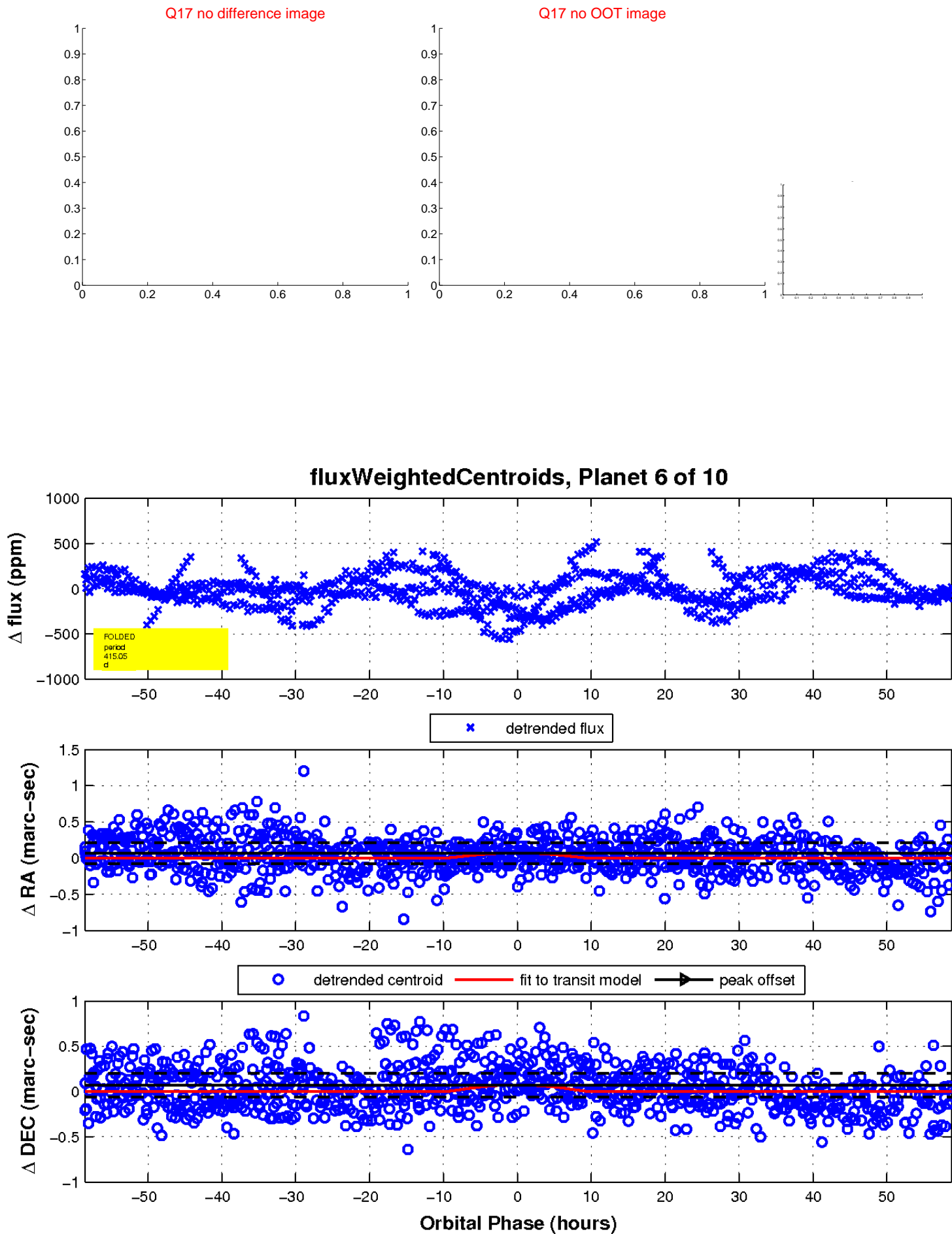
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

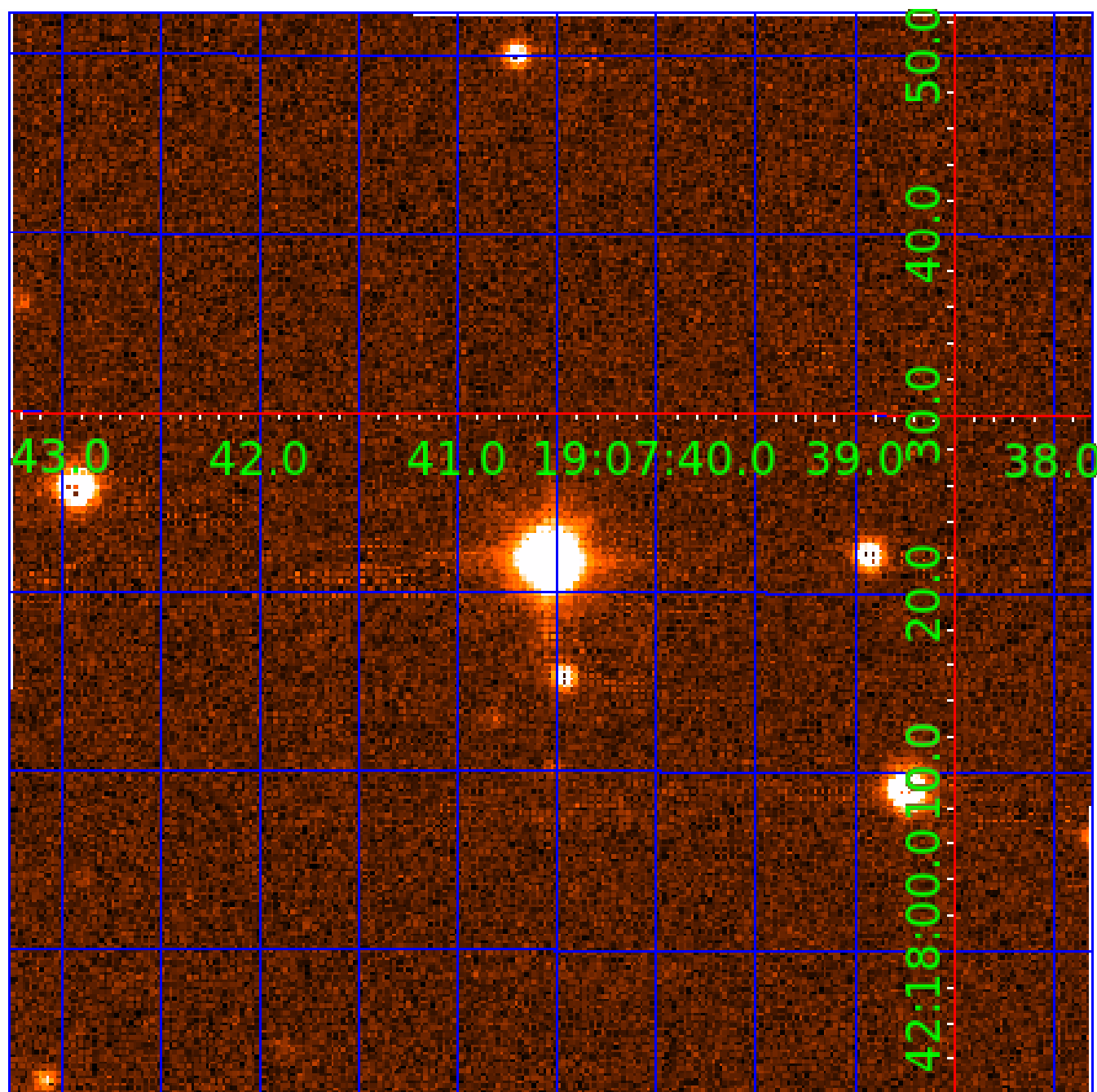


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
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006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

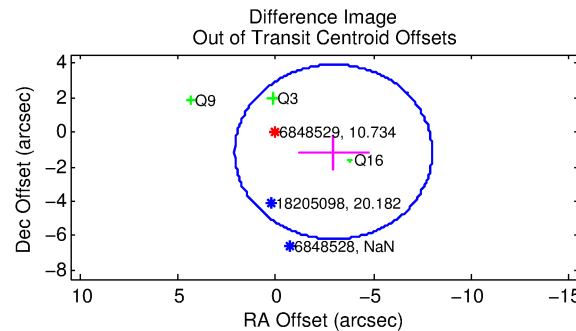
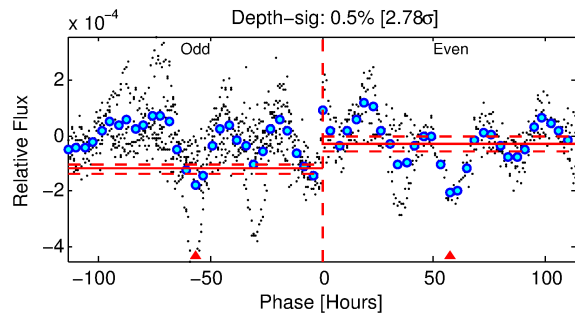
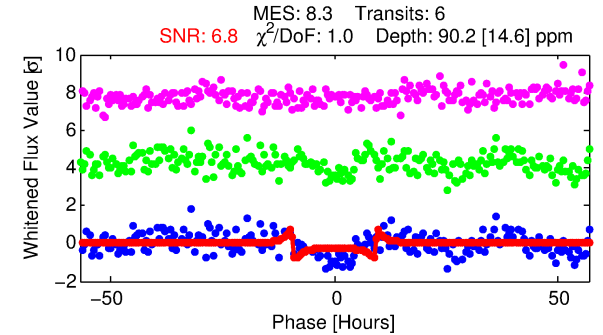
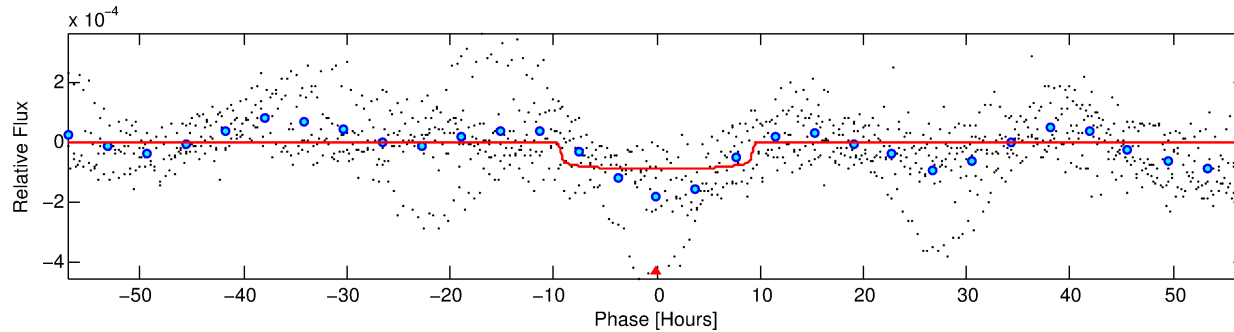
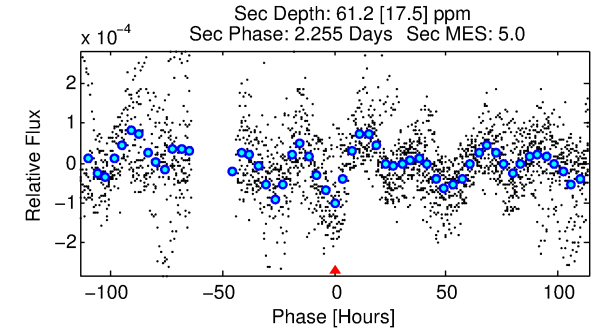
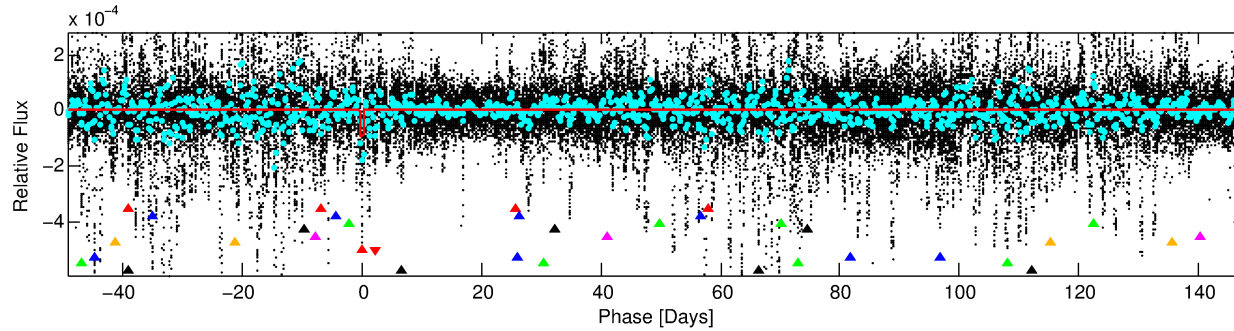
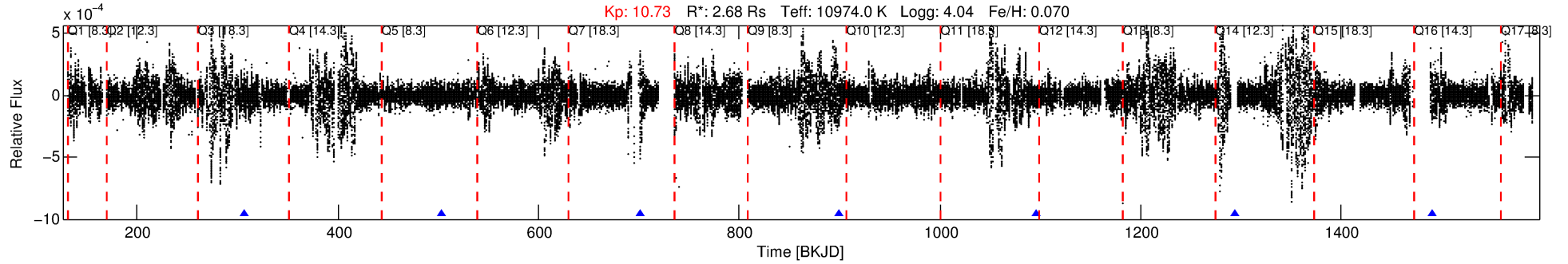
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-07

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 7 of 10 Period: 197.361 d



DV Fit Results:

Period = 197.36128 [0.00233] d
Epoch = 306.7934 [0.0079] BKJD
Rp/R* = 0.0095 [0.0011]
a/R* = 49.73 [24.68]
b = 0.79 [0.24]
Seff = 104.66 [51.40]
Teq = 816 [100] K
Rp = 2.79 [1.00] Re
a = 0.9433 [0.2846] AU
Ag = 3856.58 [2246.85] [1.72σ]
Teffp = 9937 [1004] K [9.04σ]

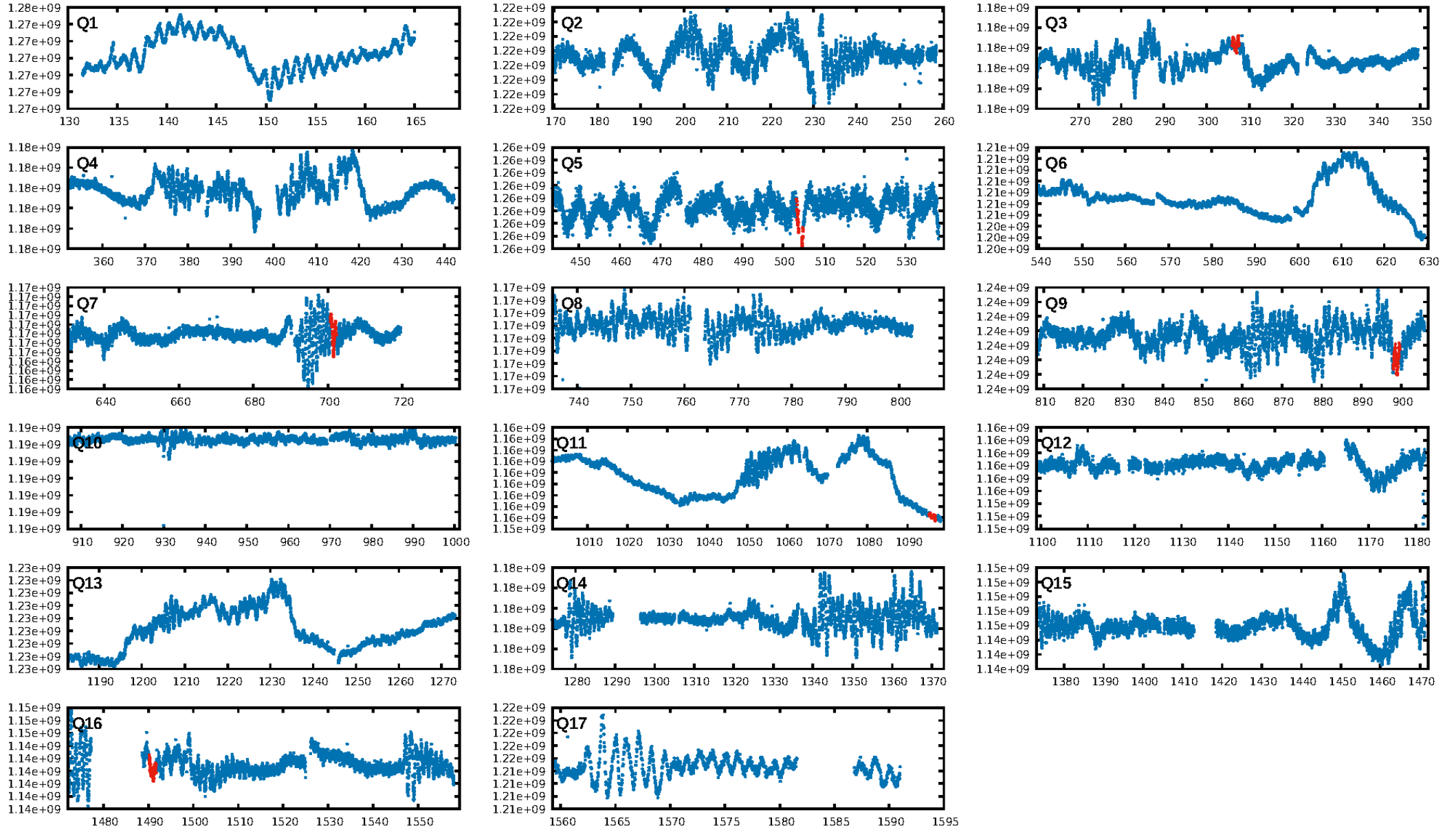
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [101.97σ]
ModelChiSquare2-sig: 12.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.48e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -109.8
Centroid-sig: 36.5%
Centroid-so: 1.183 arcsec [1.21σ]
OotOffset-rm: 3.164 arcsec [1.88σ]
KicOffset-rm: 2.987 arcsec [1.56σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [4/4]

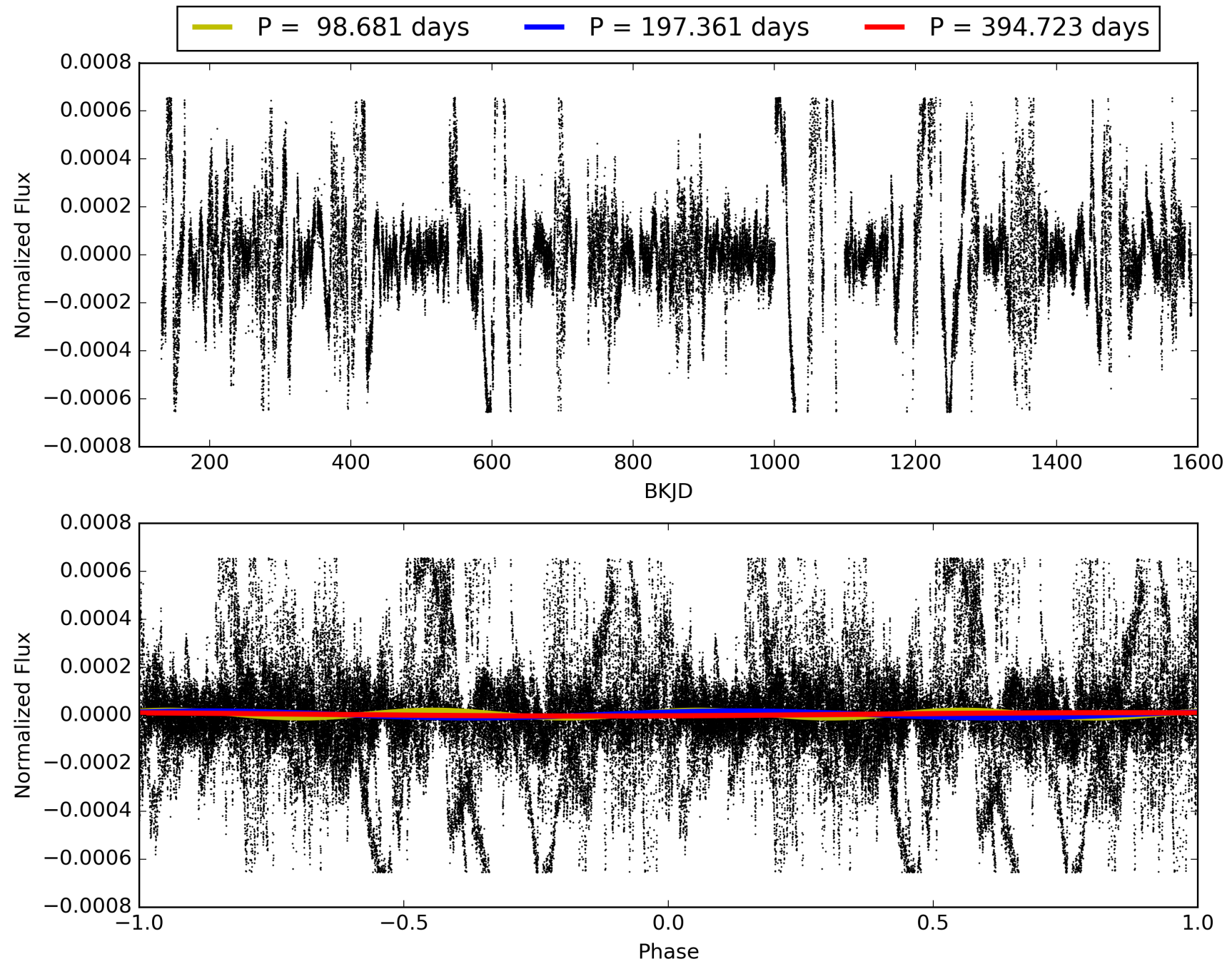
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:21:49 Z

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

TCE 006848529-07, PDC Light Curves

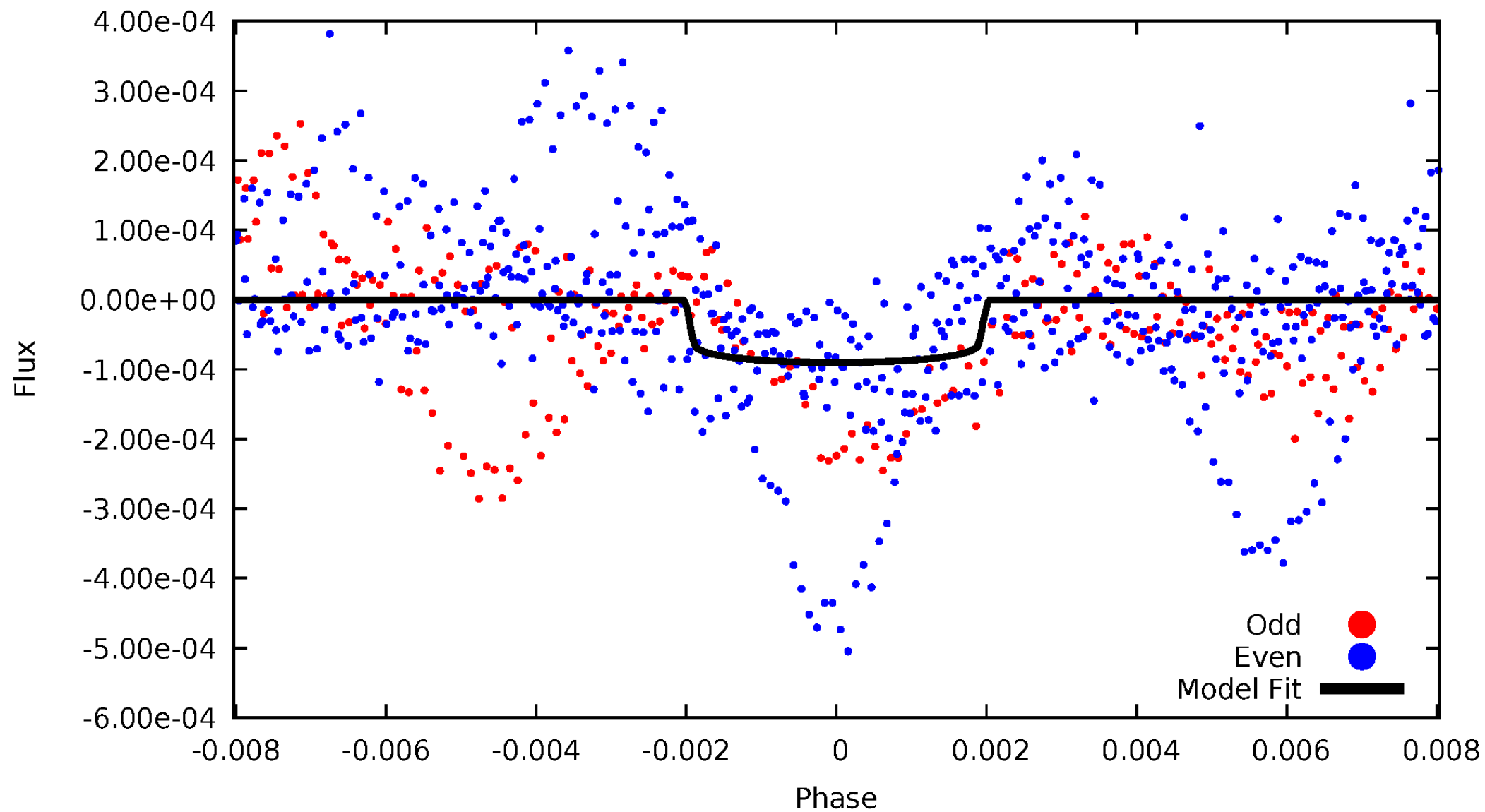


TCE 006848529-07



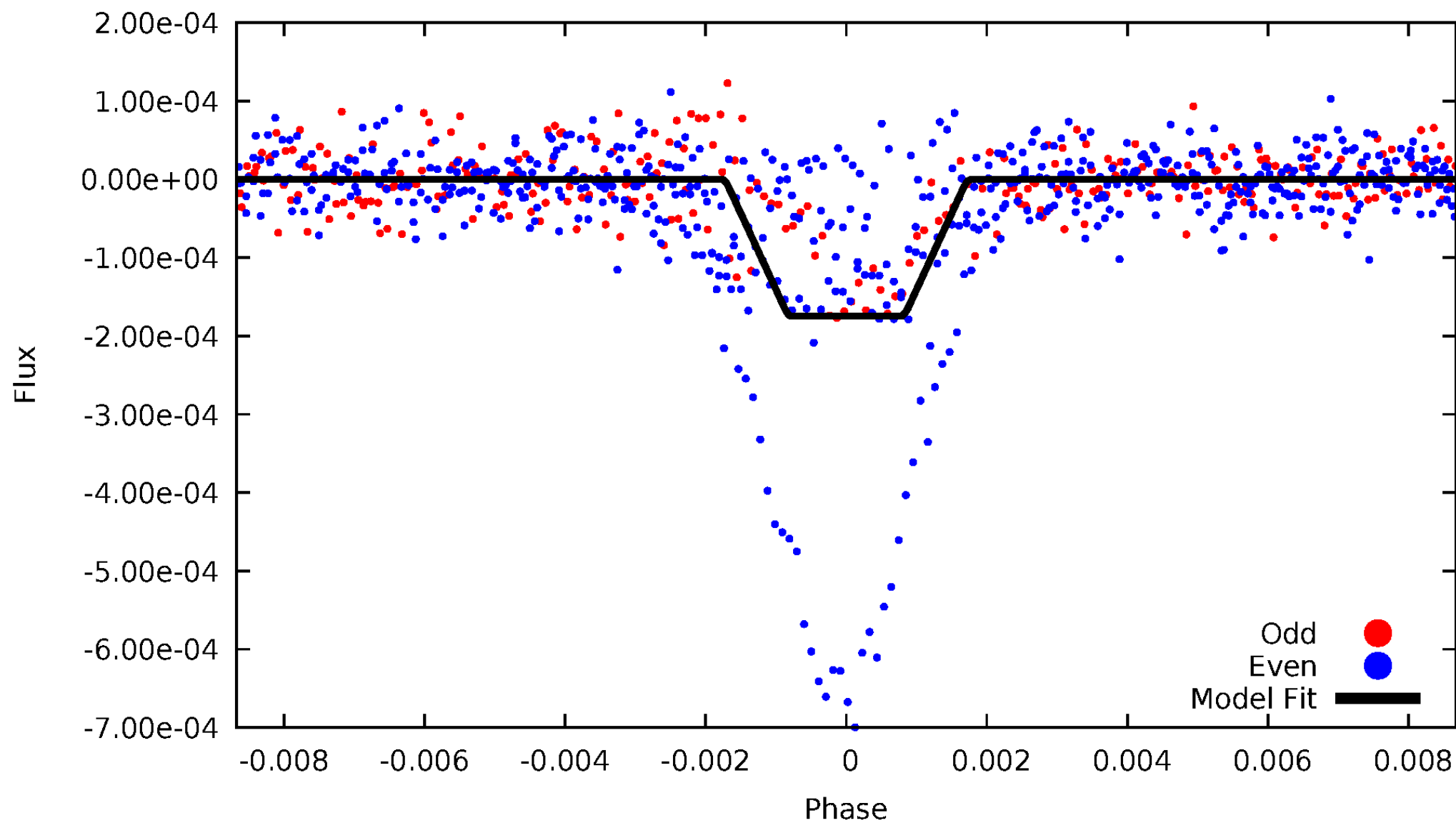
DV Odd/Even

TCE 006848529-07



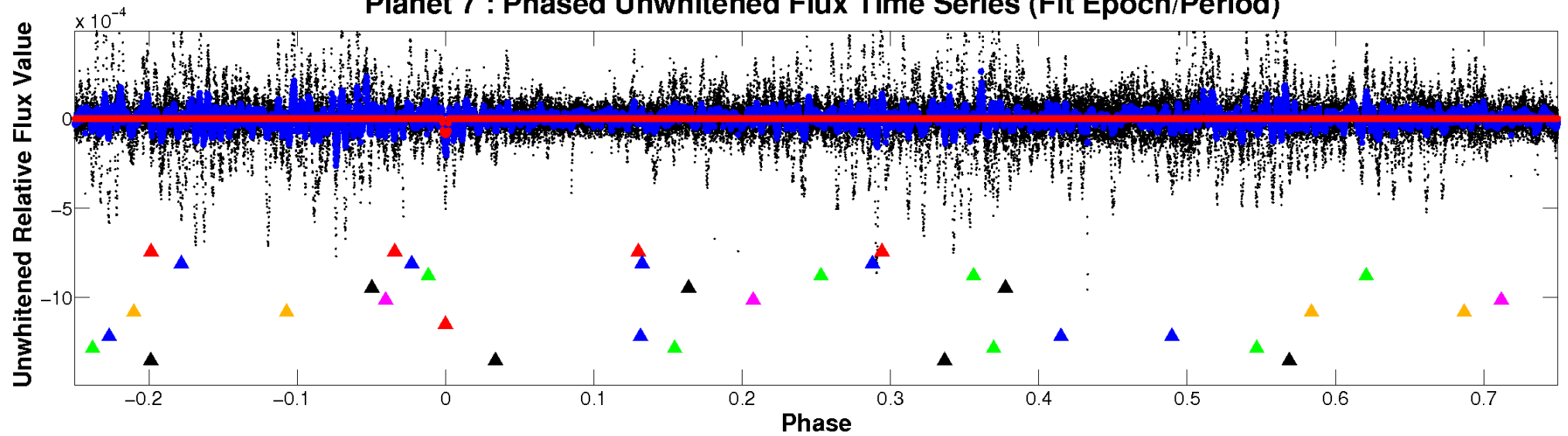
ALT Odd/Even

TCE 006848529-07

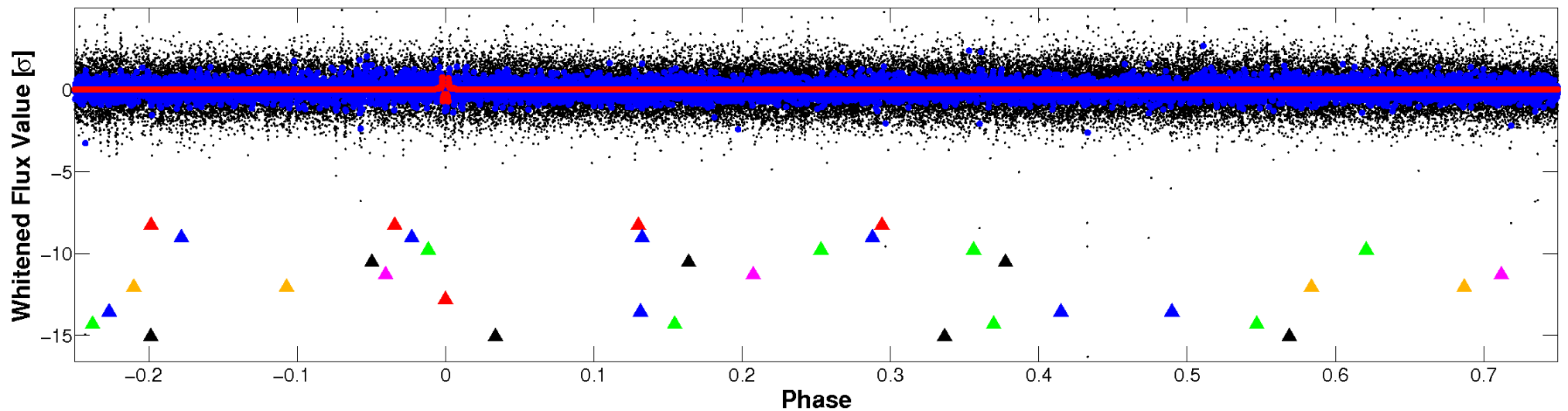


Non-Whitened Vs. Whitened Light Curve

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

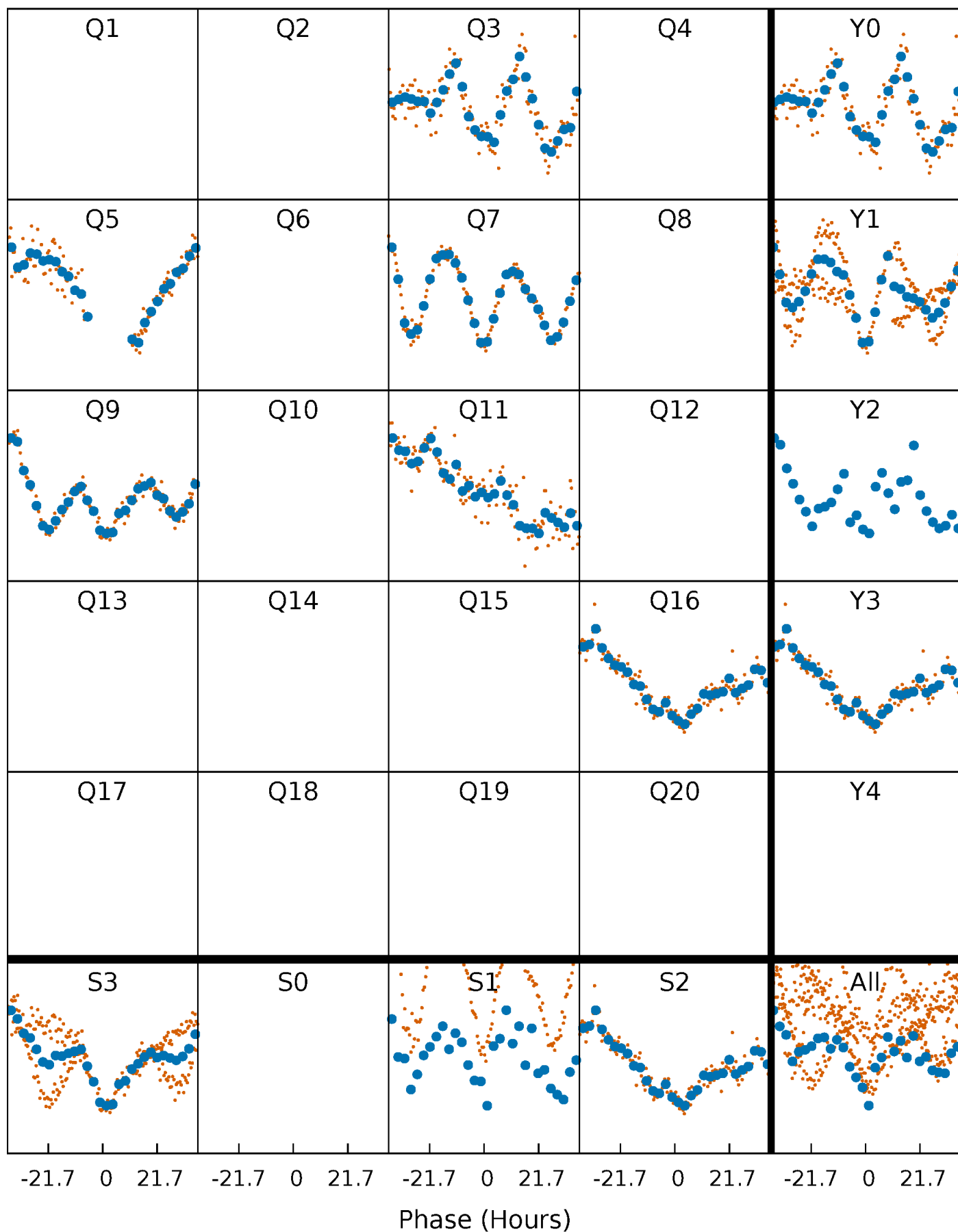


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



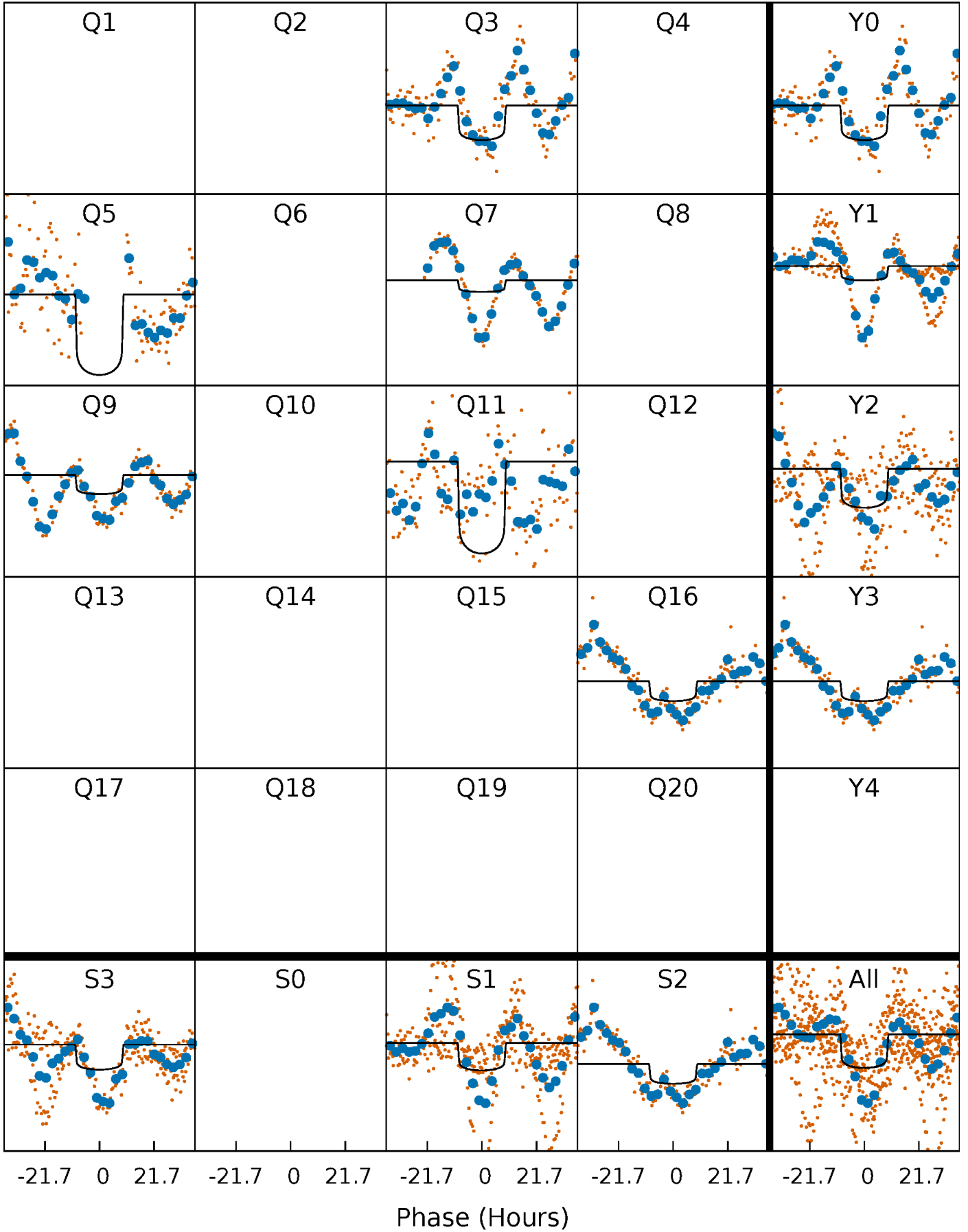
PDC Quarter-Phased Transit Curves

TCE 006848529-07 P=197.361283 Days $T_0=306.793358$ (BKJD)



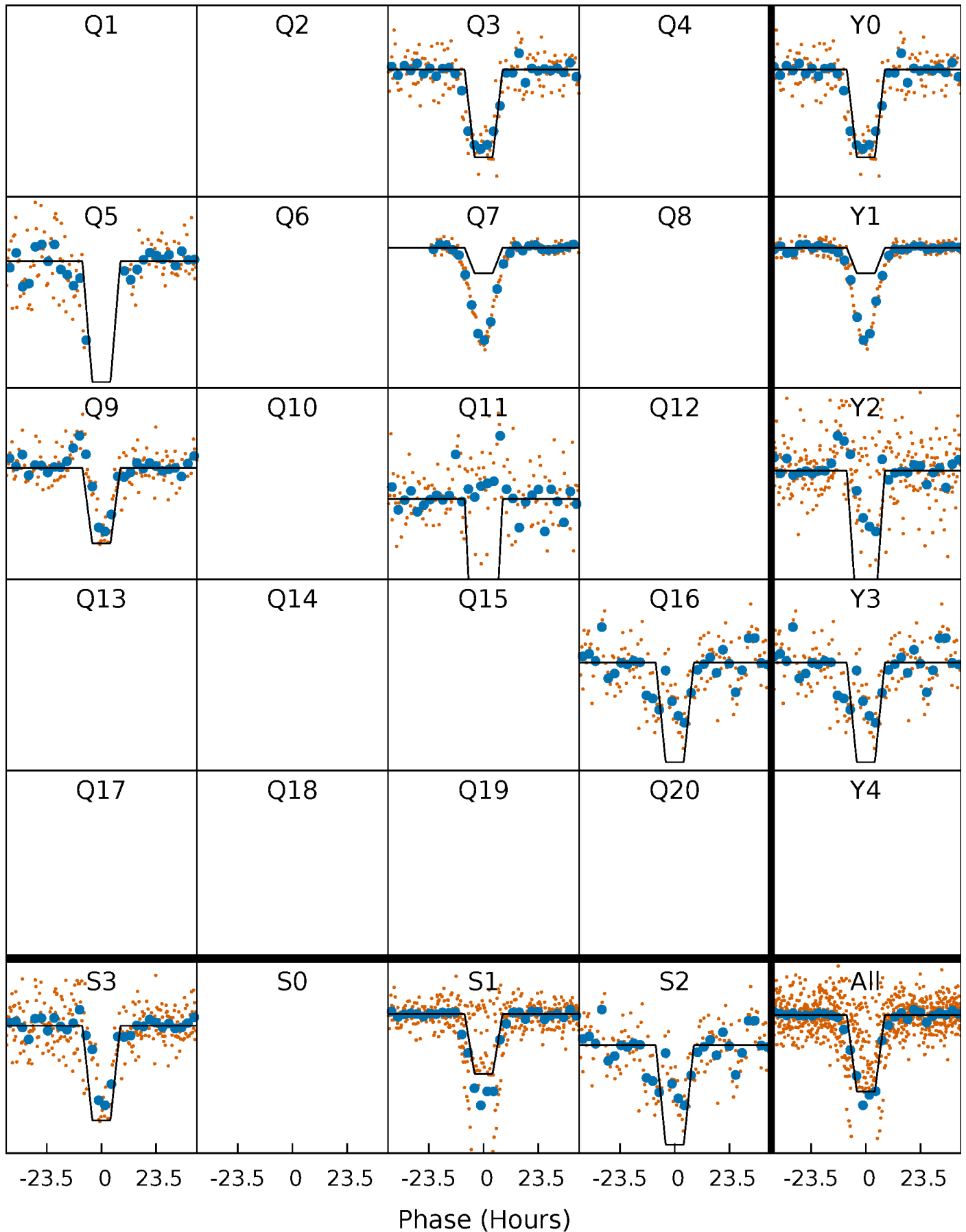
DV Quarter-Phased Transit Curves

TCE 006848529-07 $P=197.361283$ Days $T_0=306.793358$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

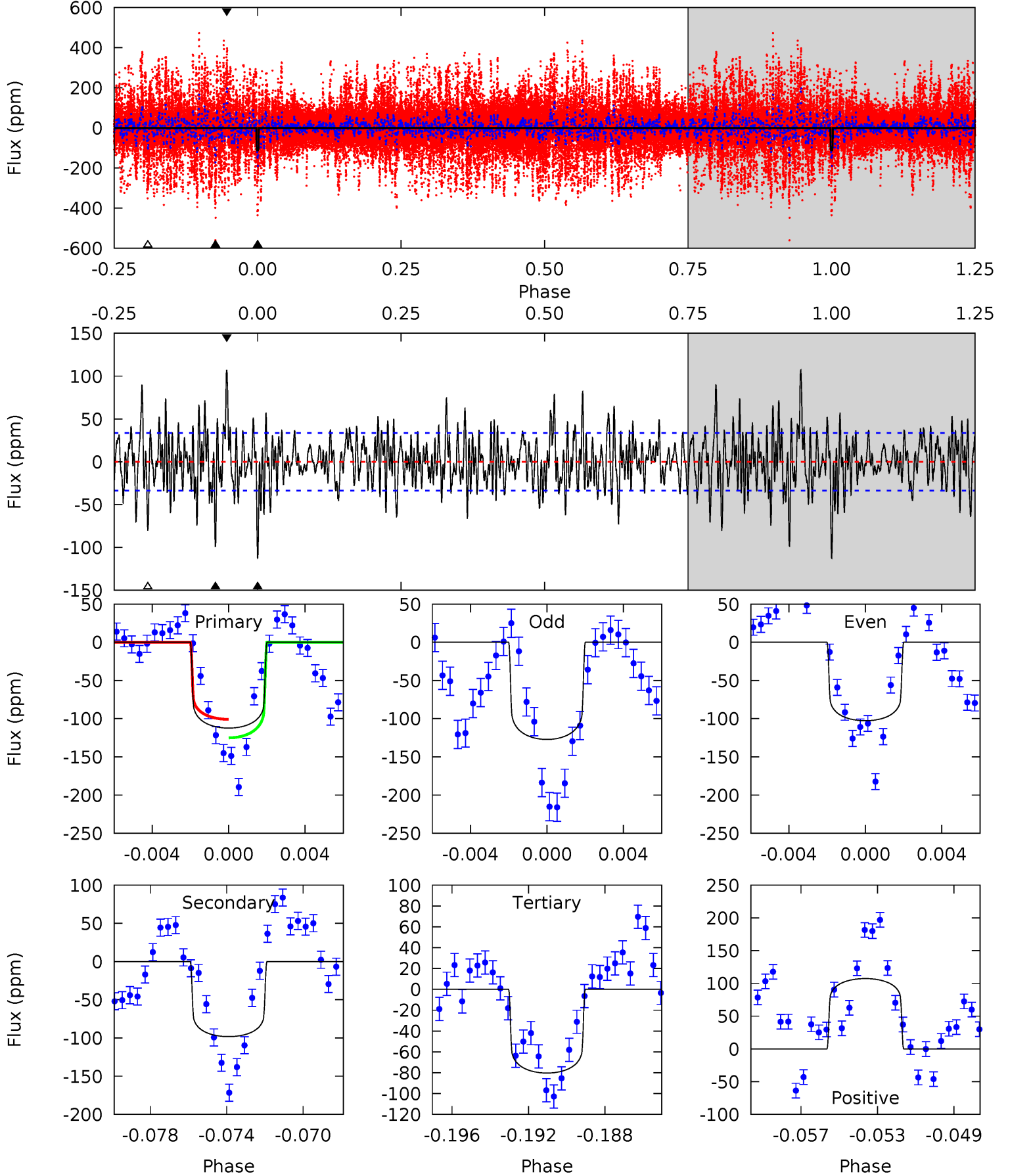
TCE 006848529-07 $P=197.360945$ Days $T_0=306.800192$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-07, P = 197.361283 Days, E = 109.432075 Days

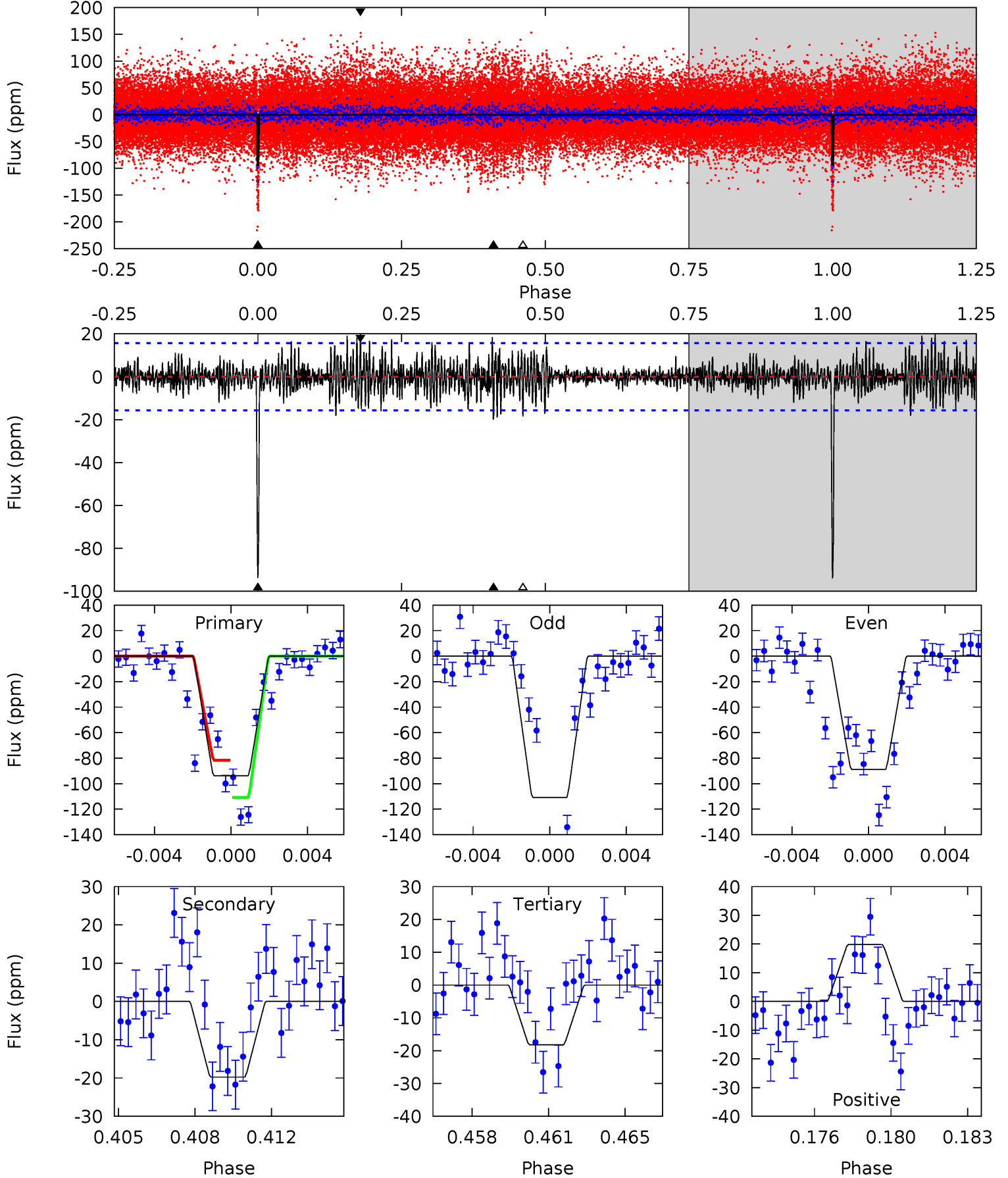
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	15.2	12.4	16.6	5.20	2.87	3.87	4.95	0.78	2.76	-1.41	1.52	1.01	0.49	1.89



Alt Model-Shift Uniqueness Test

006848529-07, P = 197.360945 Days, E = 109.439247 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	6.58	6.08	6.60	5.22	2.92	1.64	25.2	24.7	0.51	-0.01	3.30	1.57	0.17	0



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-07 / KOI 8128.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-98 ± 6	$2.72^{+0.60}_{-0.54}$	1125^{+93}_{-97}	11126^{+1353}_{-925}	6276^{+3417}_{-1905}
Alt.	-20 ± 3	$3.78^{+0.73}_{-0.74}$	1127^{+93}_{-104}	5662^{+304}_{-334}	659^{+323}_{-205}

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

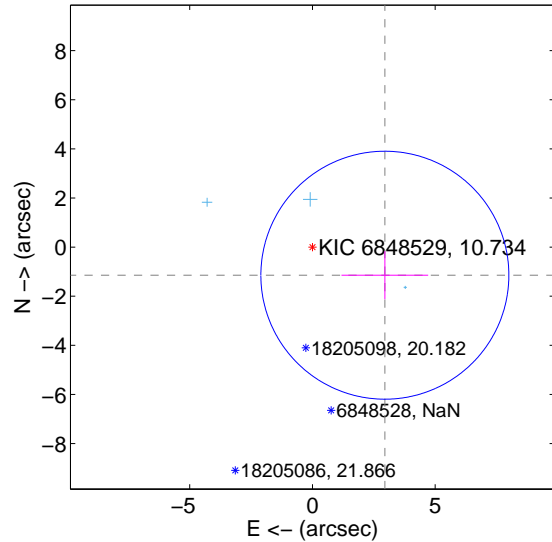
Supplemental centroid analysis for 006848529-07. **Kepler magnitude: 10.73.** Transit SNR 6.85

There are 3 quarters with good PRF difference image offsets

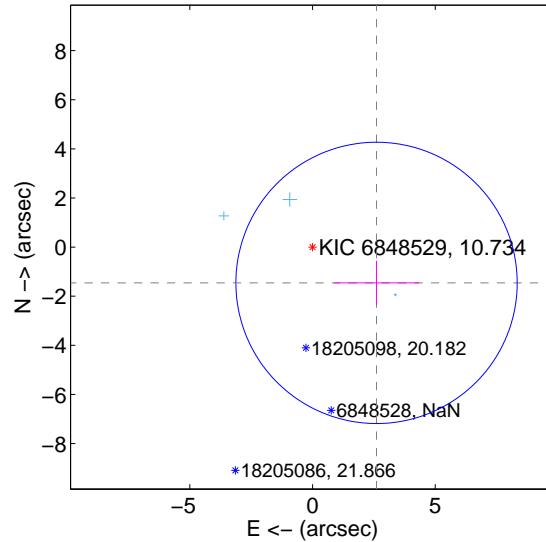
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.164 ± 1.683	1.88	-2.949 ± 1.765	-1.145 ± 0.978
PRF-fit source offset from KIC position	2.987 ± 1.909	1.56	-2.607 ± 1.738	-1.457 ± 0.900
photometric centroid source offset	1.18 ± 0.98	1.21	-1.16 ± 0.99	-0.22 ± 0.77

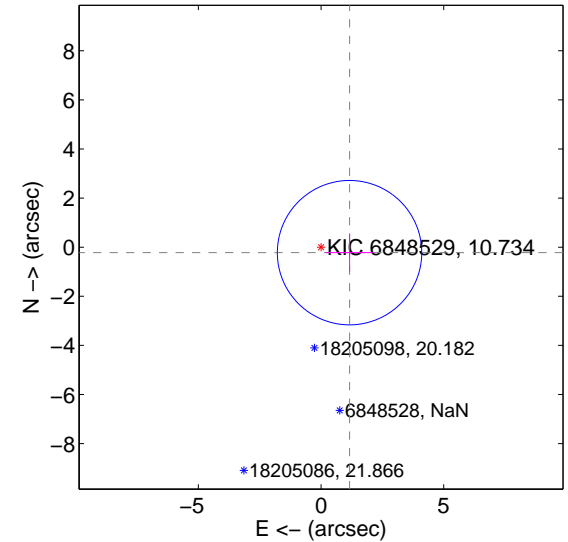
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

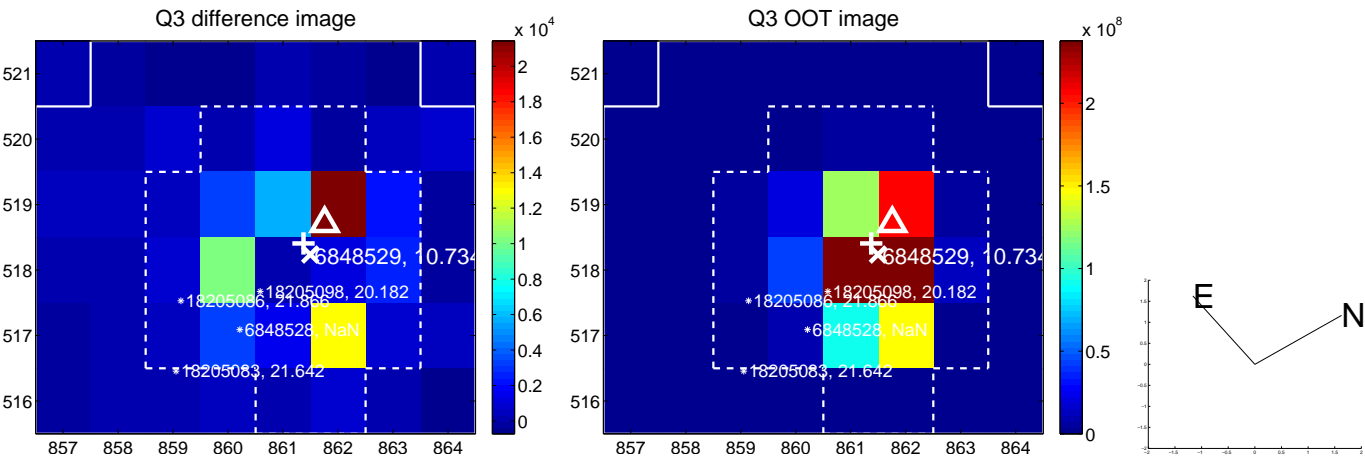


offset from photometric centroids

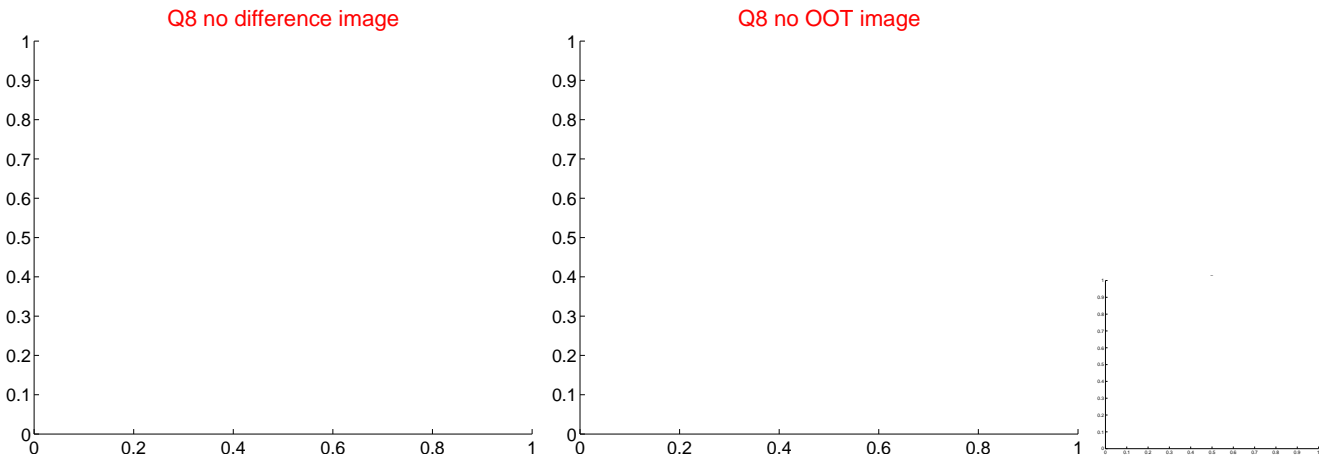
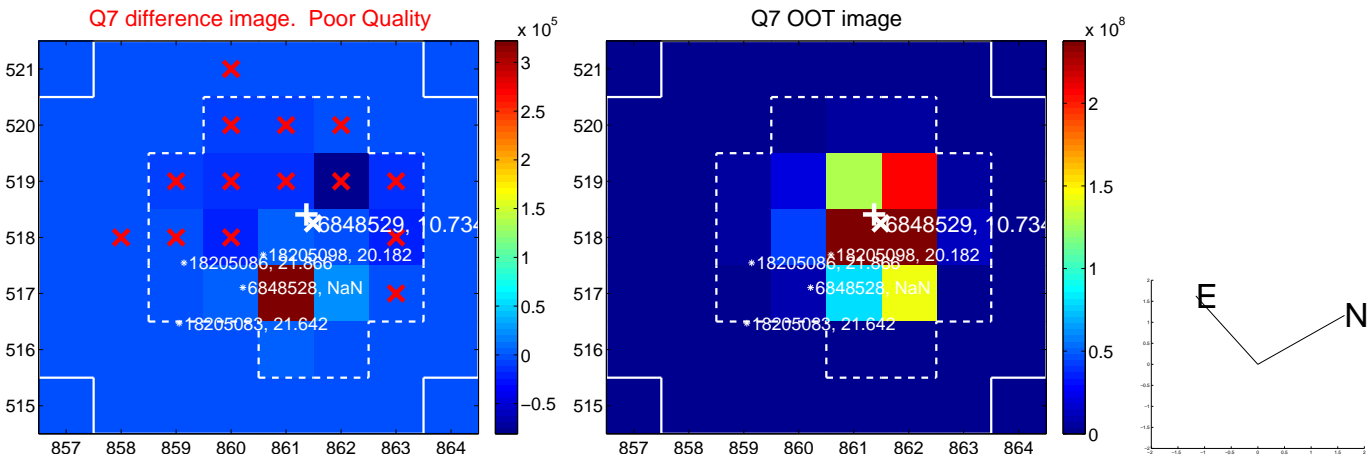
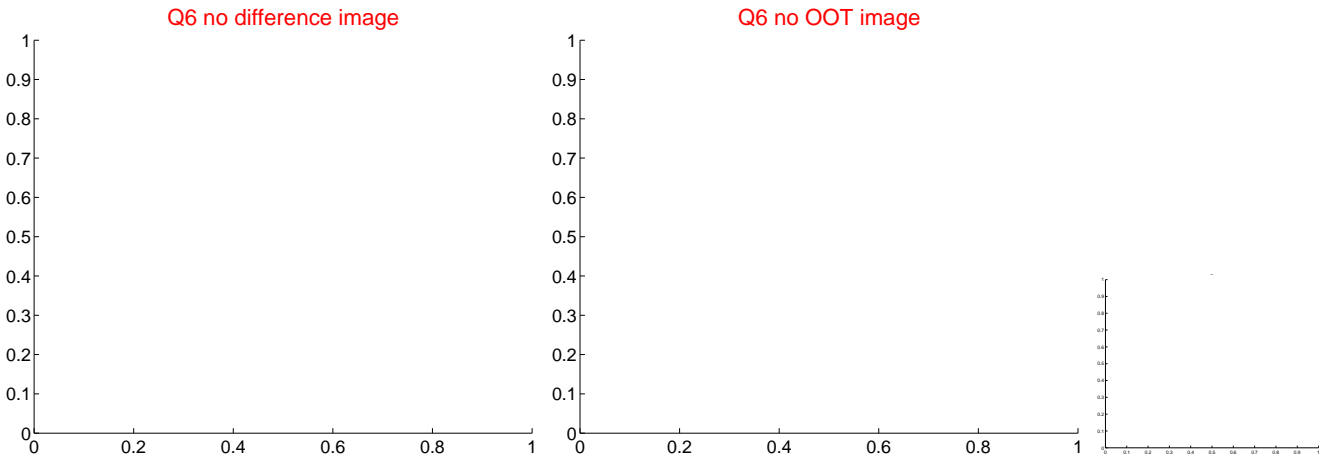
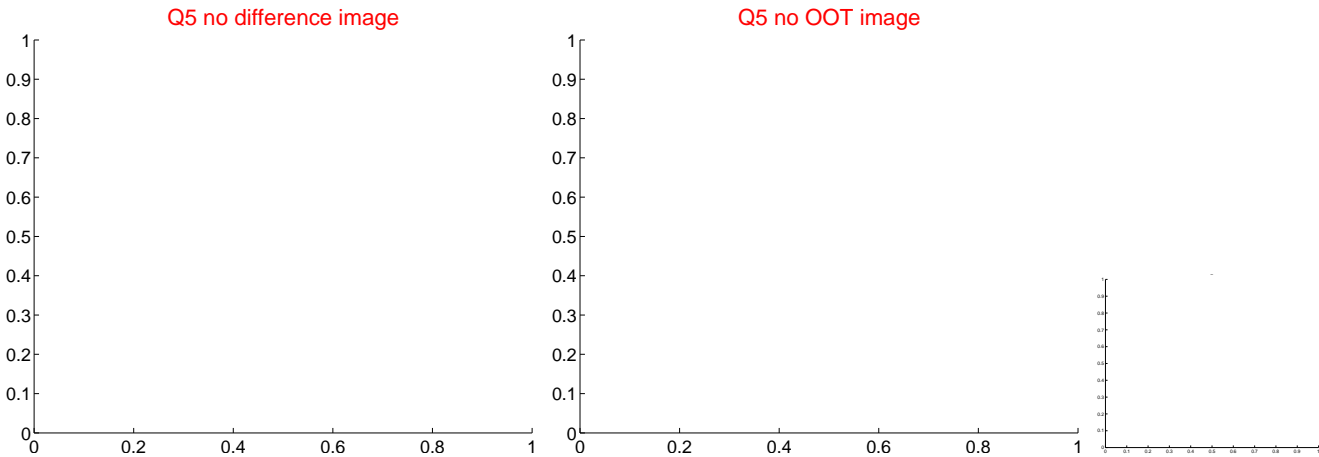


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

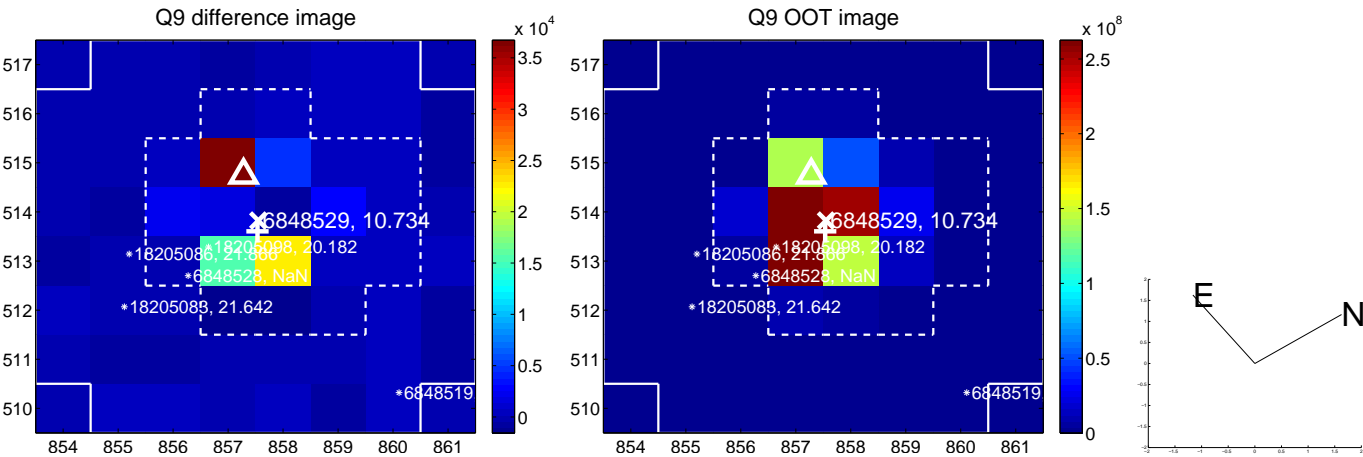
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



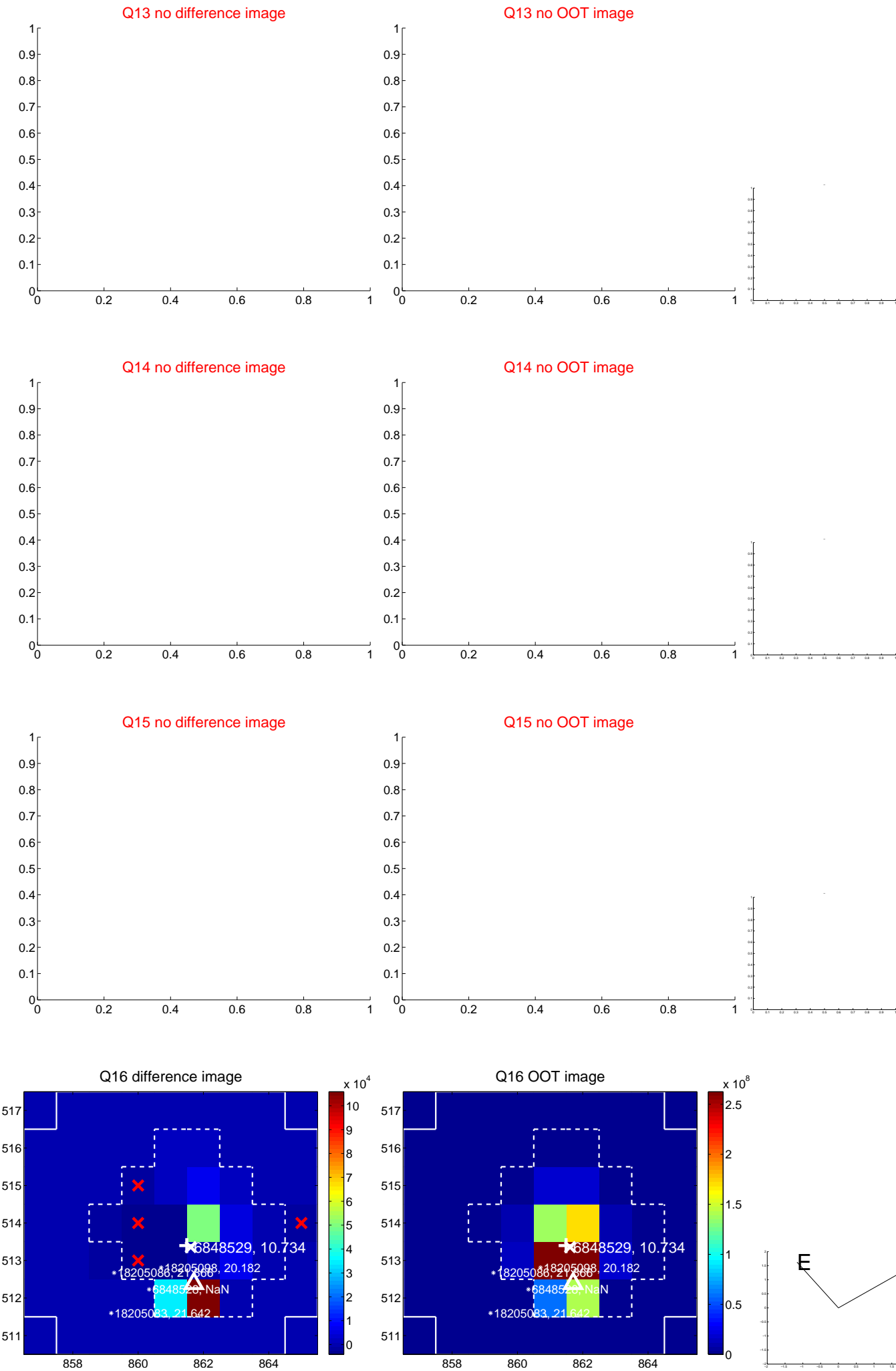
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



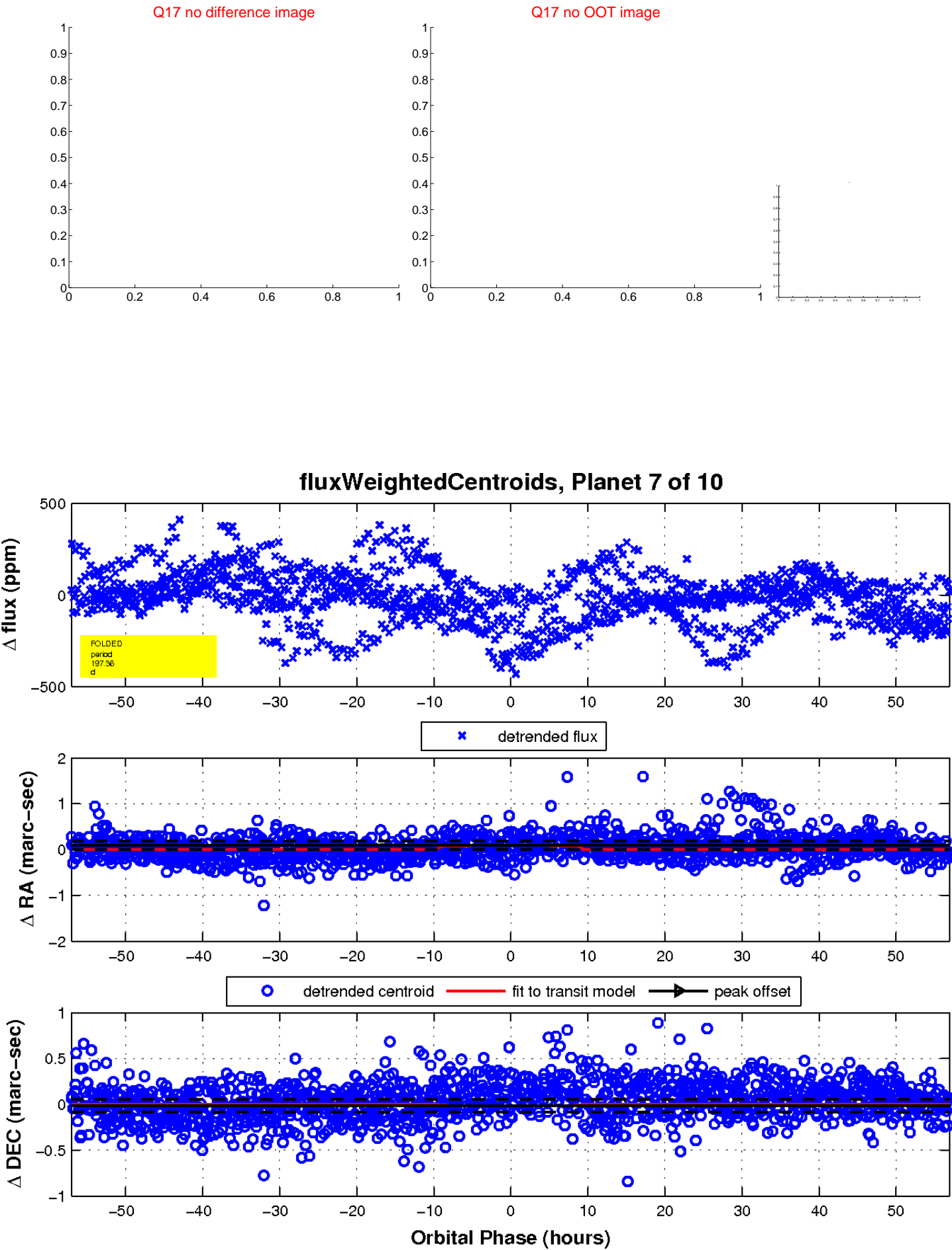
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

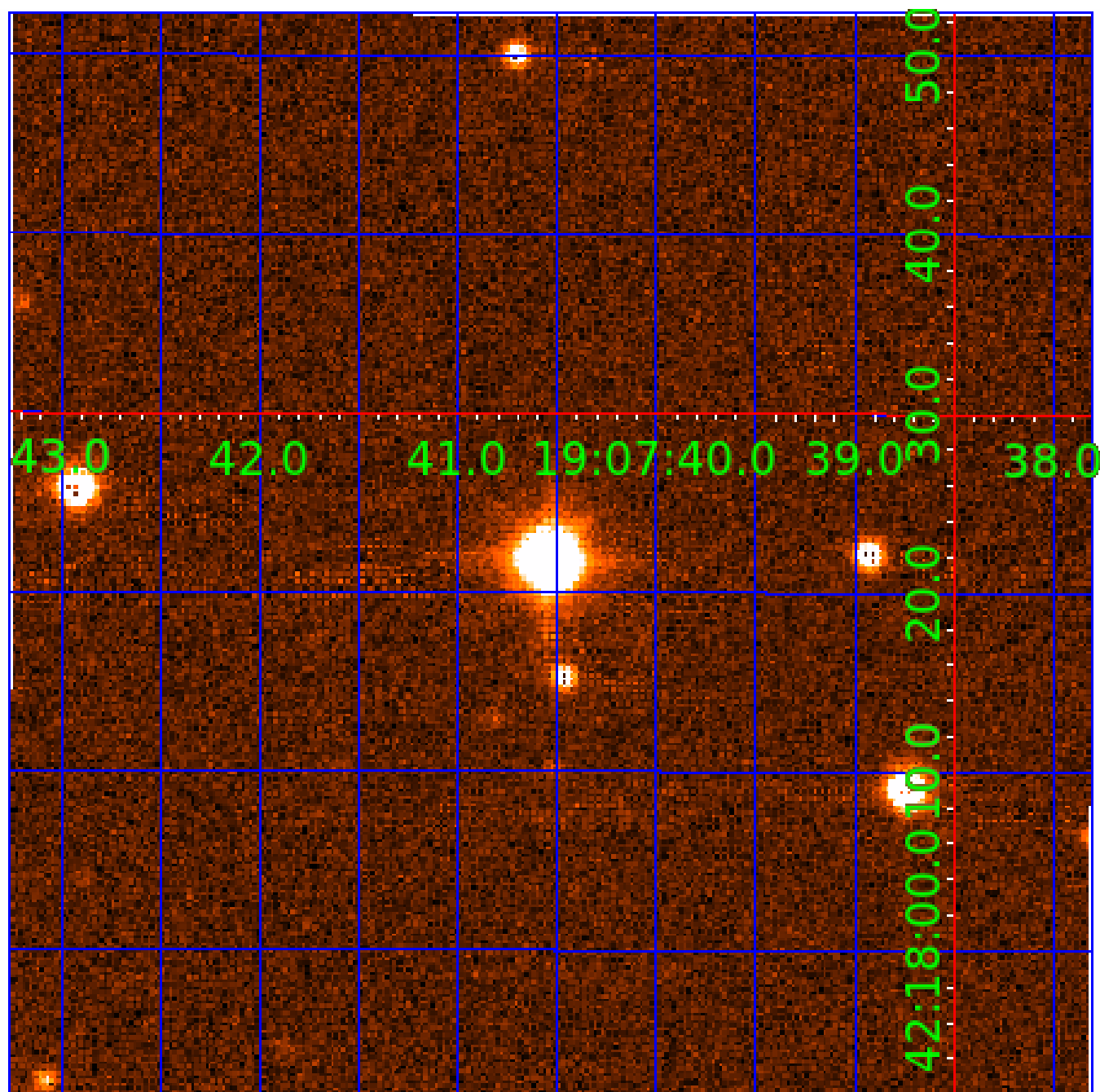


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

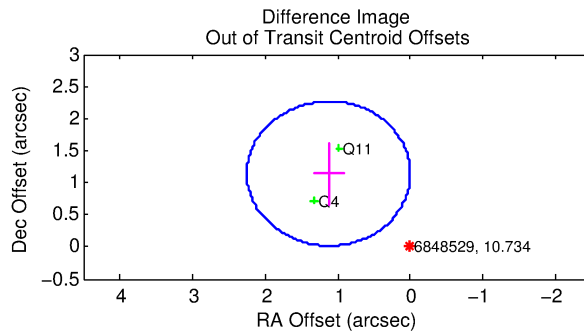
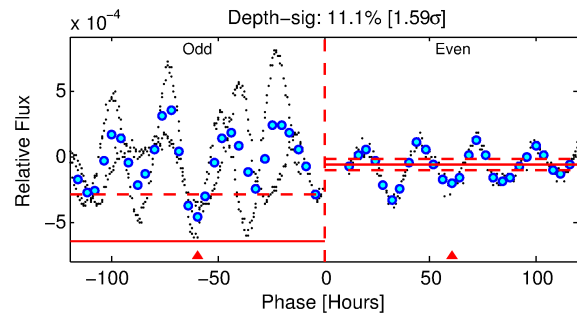
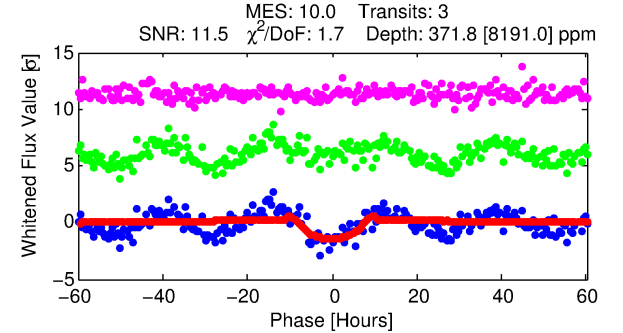
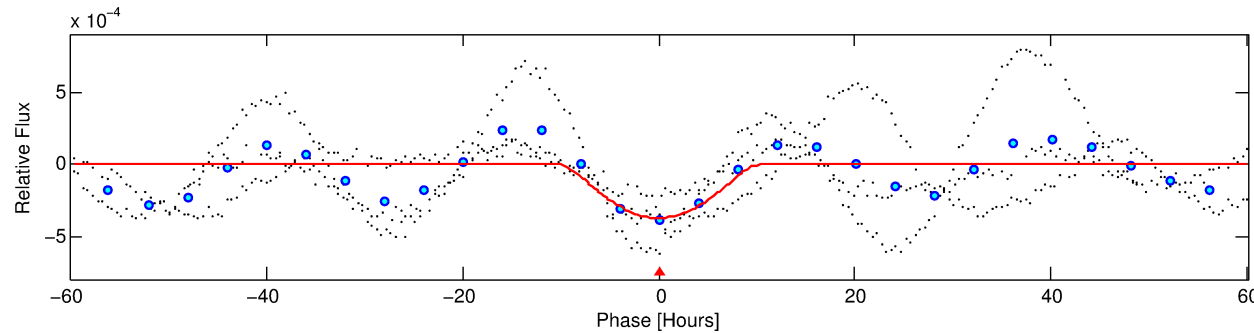
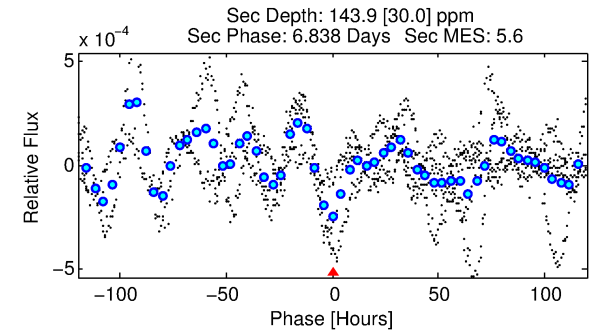
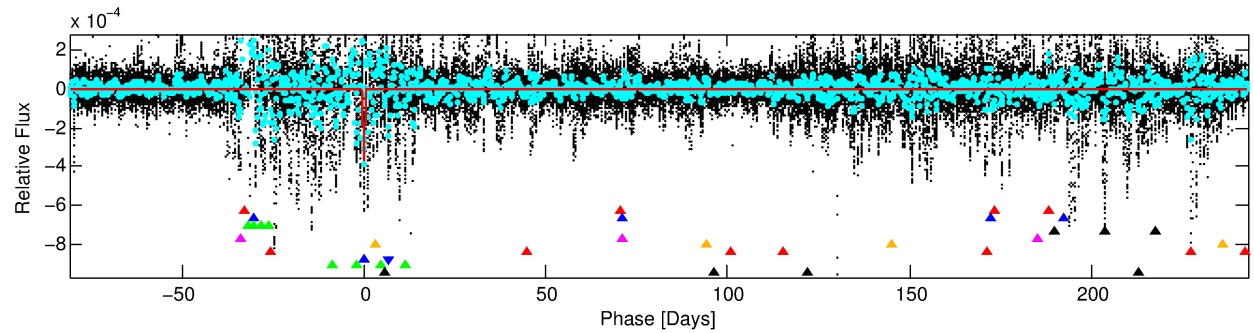
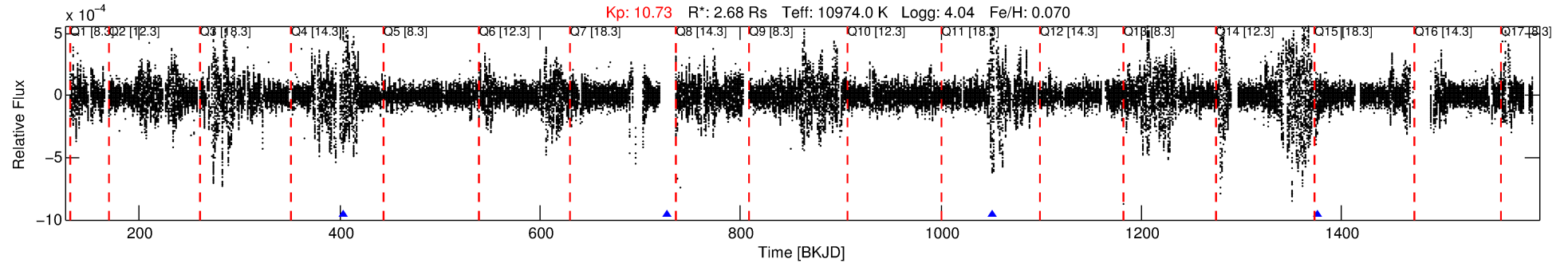
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-08

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 8 of 10 Period: 324.016 d



DV Fit Results:

Period = 324.01620 [0.01735] d
Epoch = 403.4531 [0.0408] BKJD
Rp/R* = 0.0320 [0.0454]
a/R* = 31.53 [11.47]
b = 1.00 [0.44]
Seff = 54.04 [26.54]
Teq = 691 [85] K
Rp = 9.34 [13.64] Re
a = 1.3127 [0.3960] AU
Ag = 1562.77 [4505.21] [0.35σ]
Teffp = 6721 [4792] K [1.26σ]

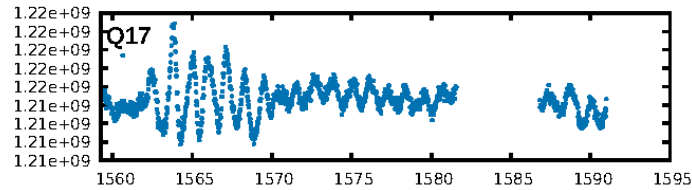
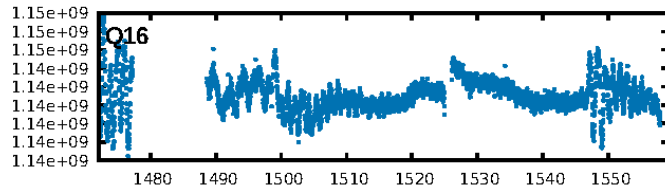
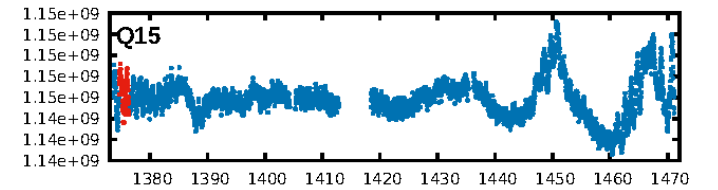
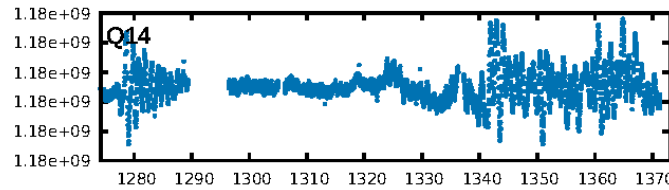
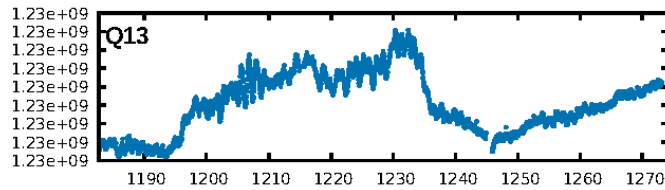
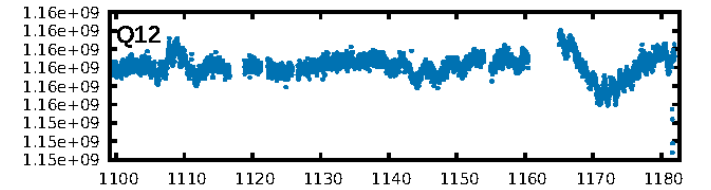
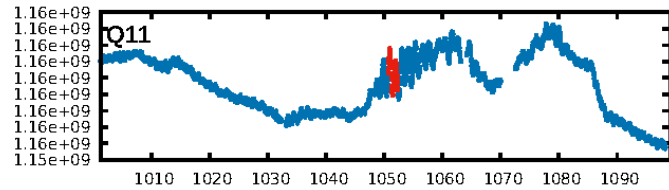
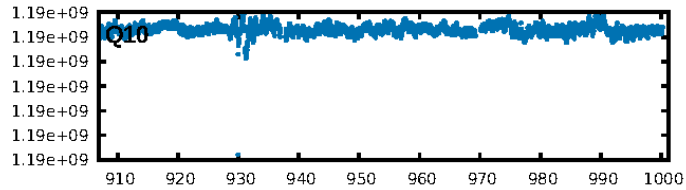
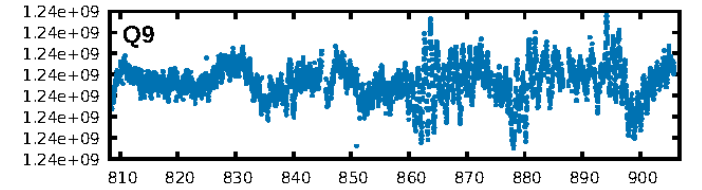
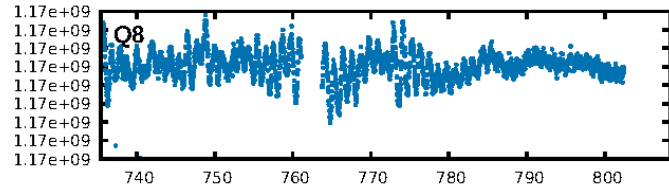
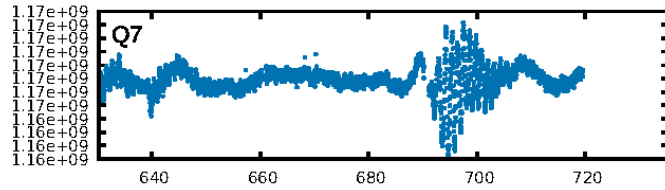
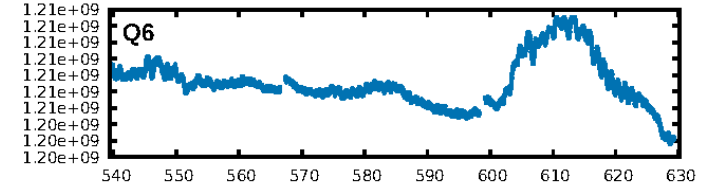
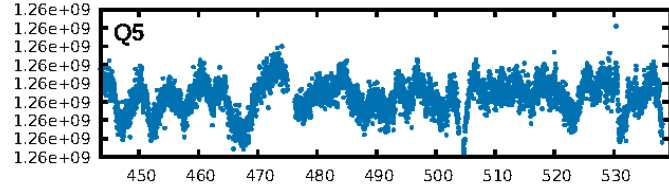
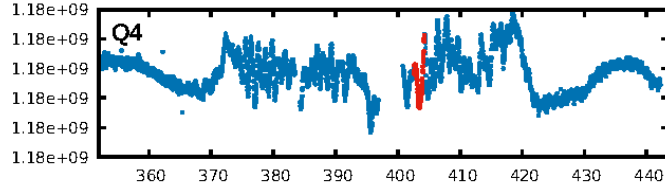
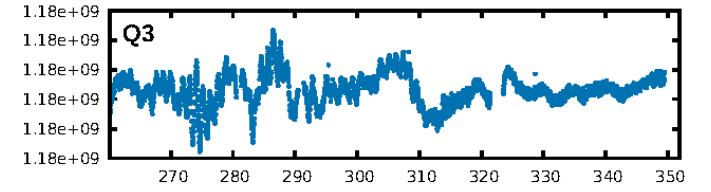
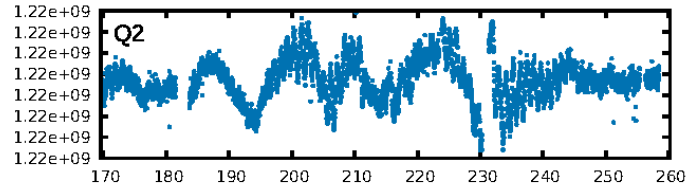
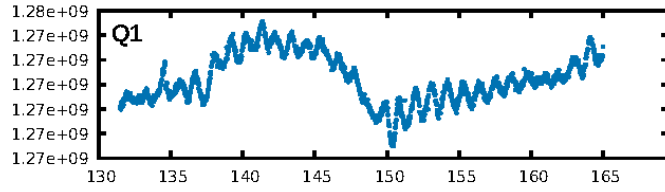
DV Diagnostic Results:

ShortPeriod-sig: 87.3% [1.53σ]
LongPeriod-sig: 100.0% [77.99σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 57.0%
Bootstrap-pfa: 1.78e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.125
Centroid-sig: 4.4%
Centroid-so: 0.976 arcsec [2.37σ]
OotOffset-rm: 1.602 arcsec [4.27σ]
KicOffset-rm: 2.032 arcsec [6.54σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

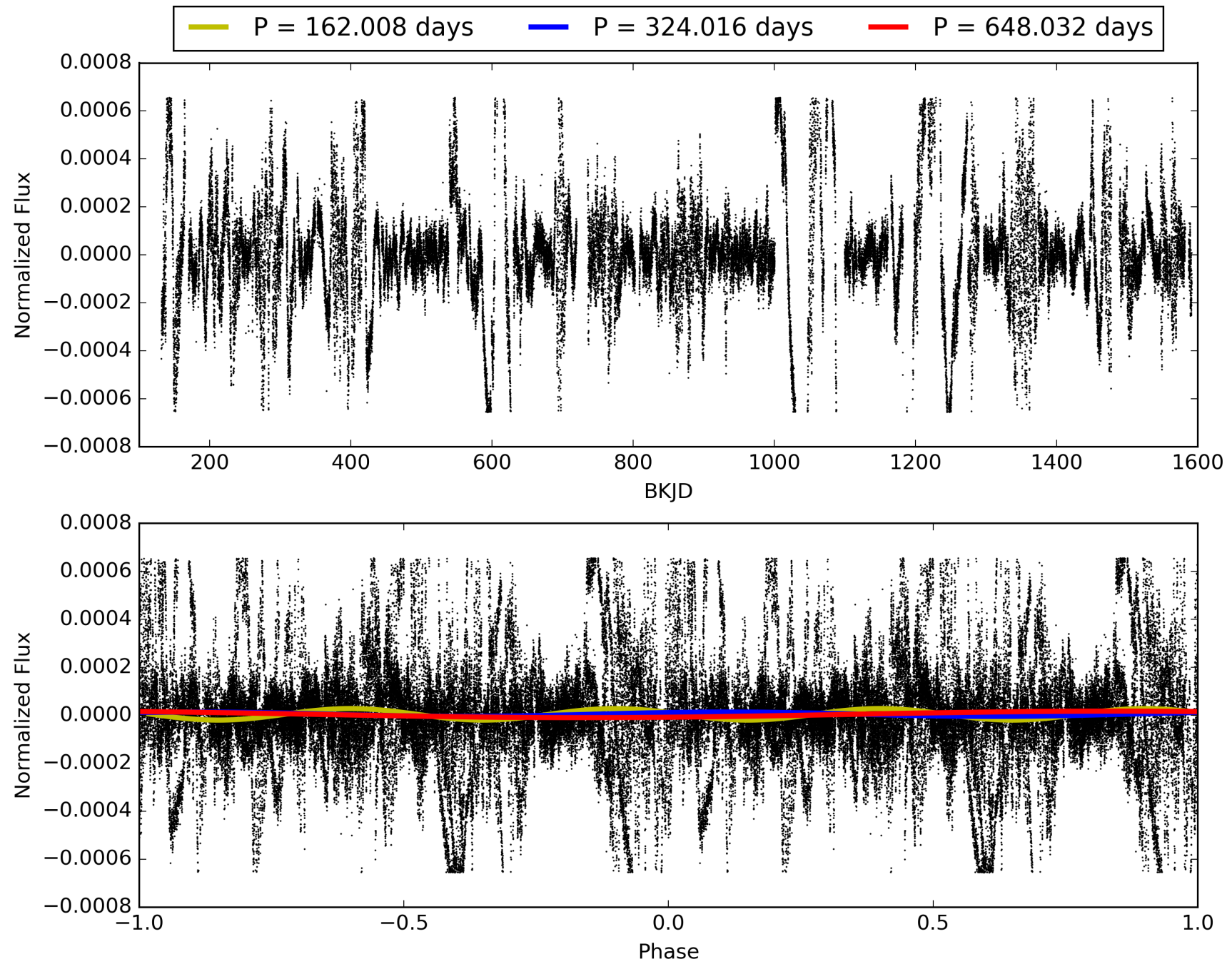
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:21:57 Z

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

TCE 006848529-08, PDC Light Curves

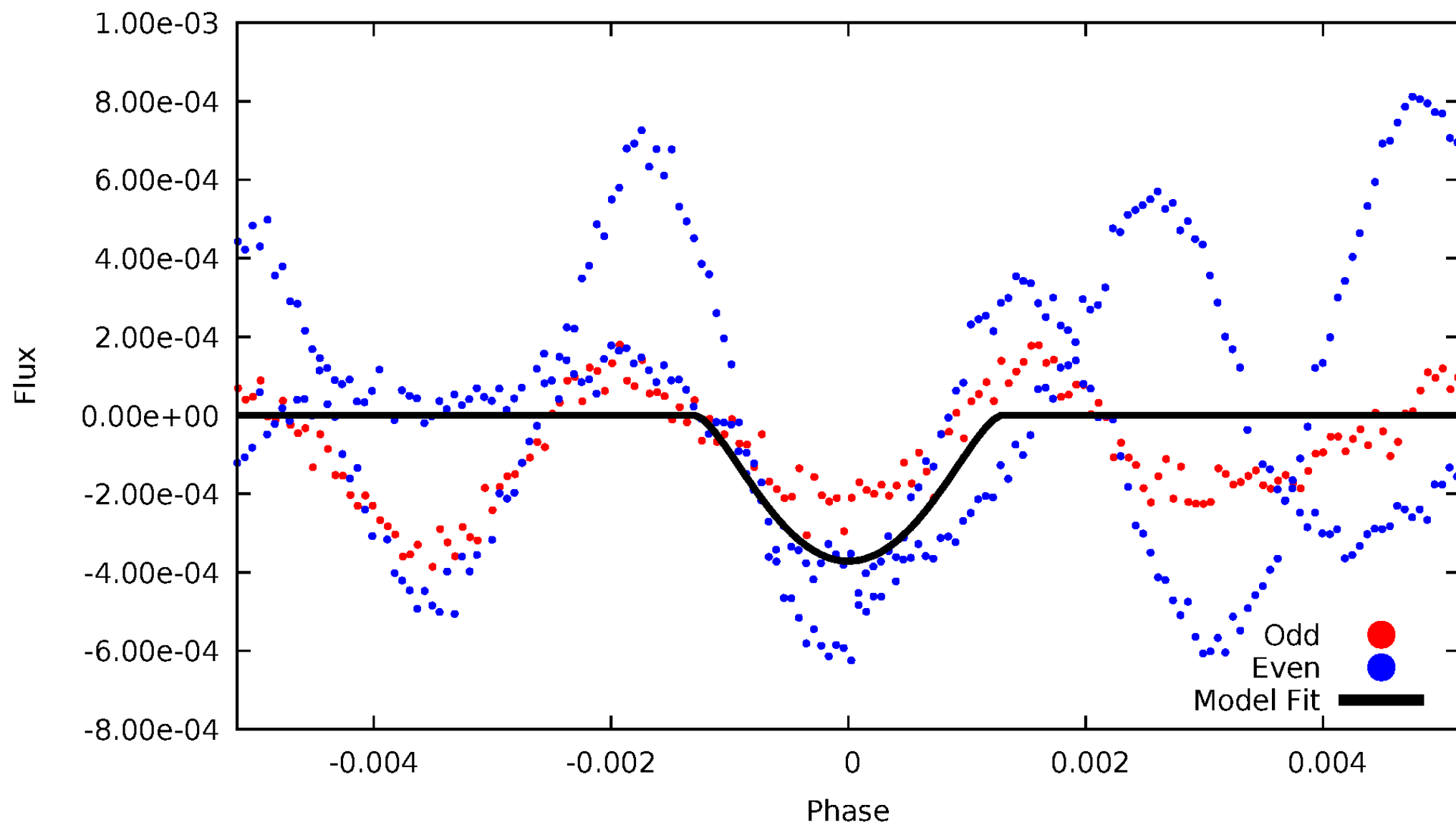


TCE 006848529-08



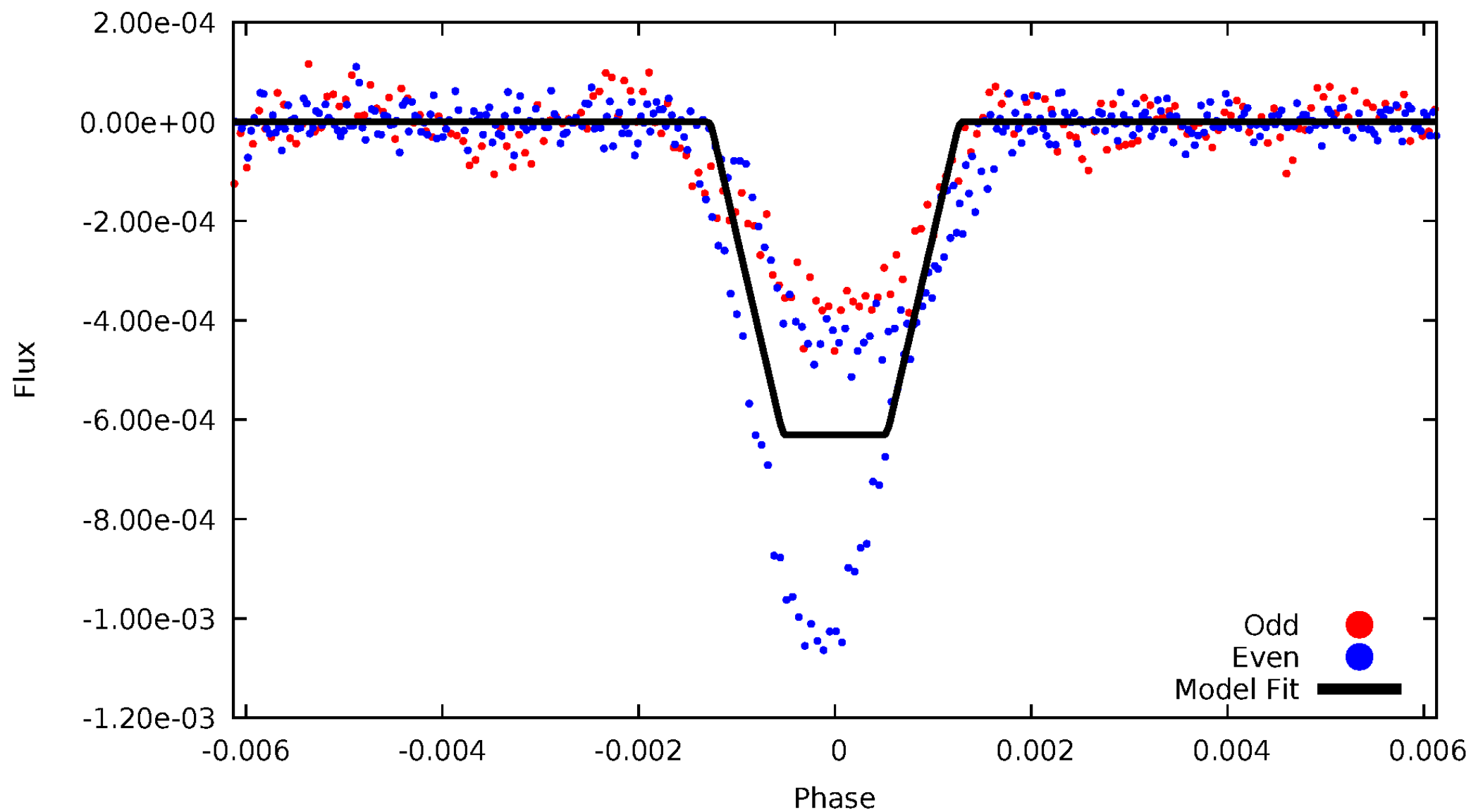
DV Odd/Even

TCE 006848529-08



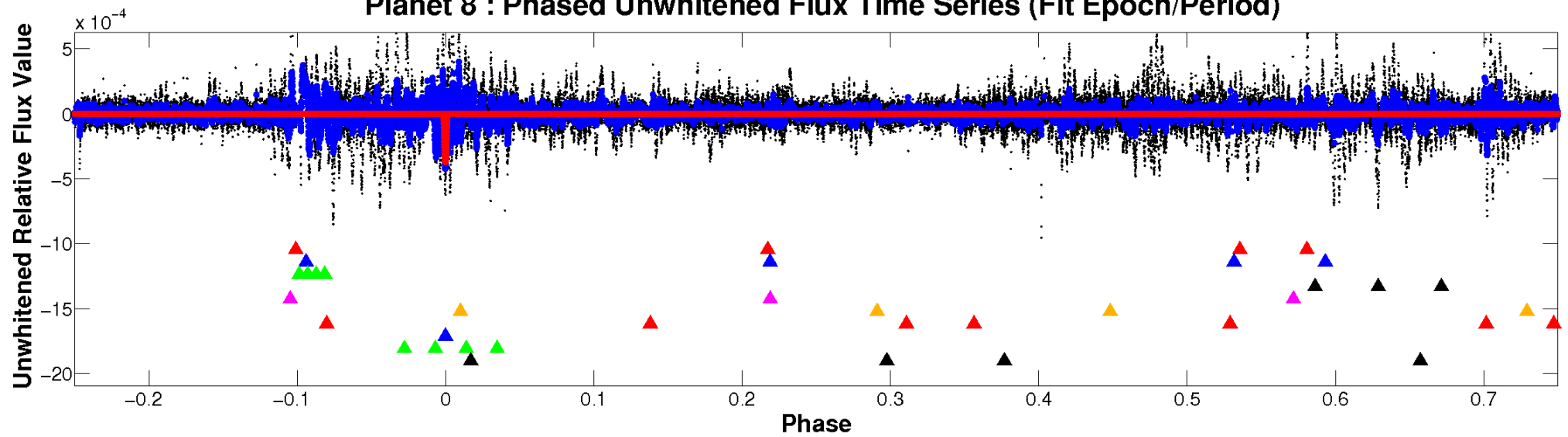
ALT Odd/Even

TCE 006848529-08

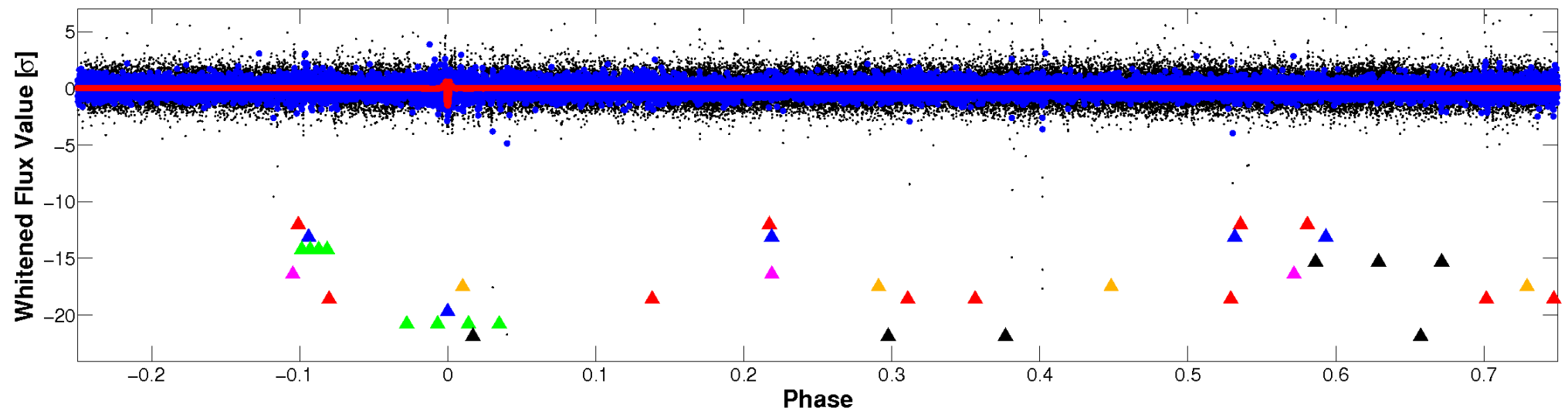


Non-Whitened Vs. Whitened Light Curve

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

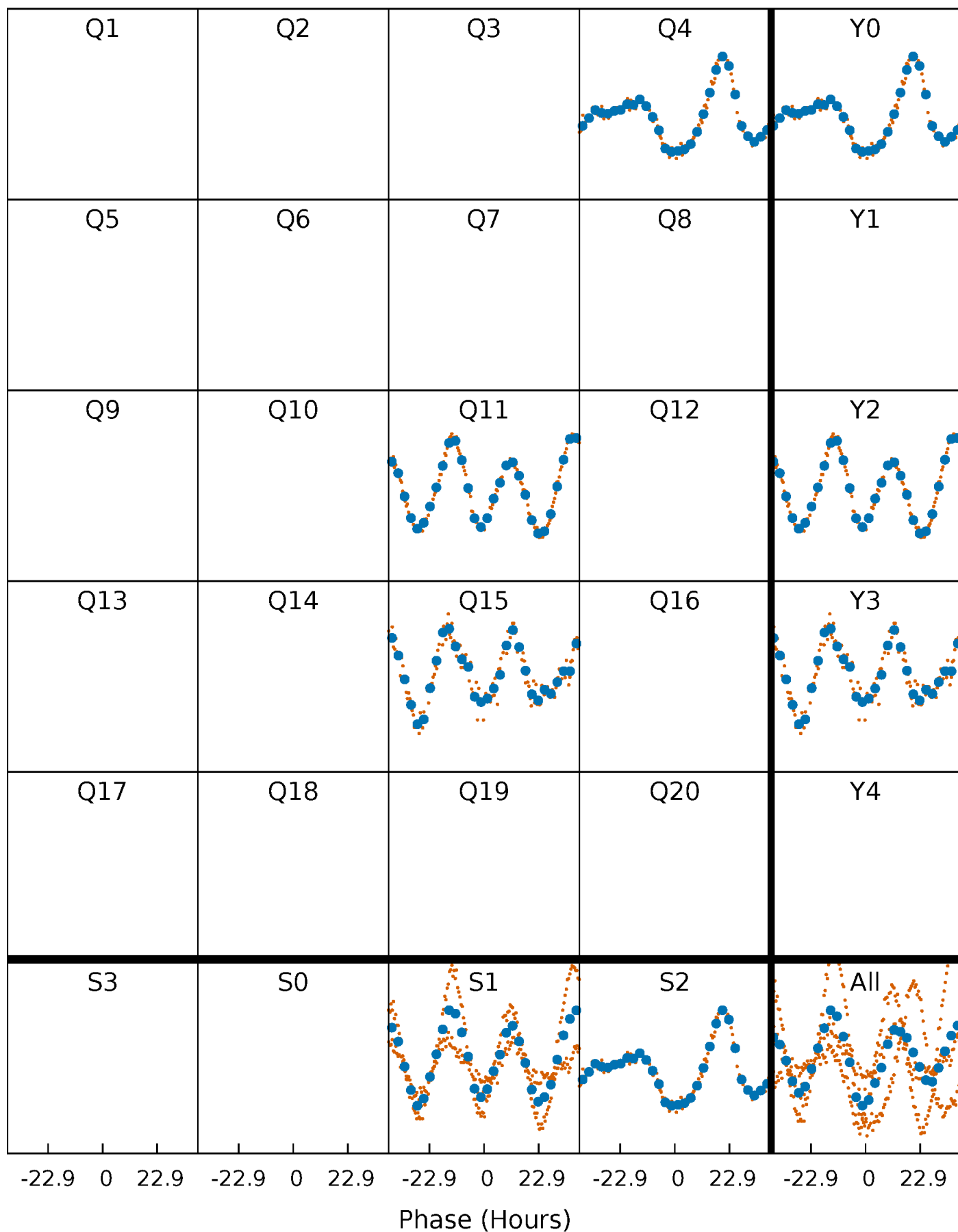


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



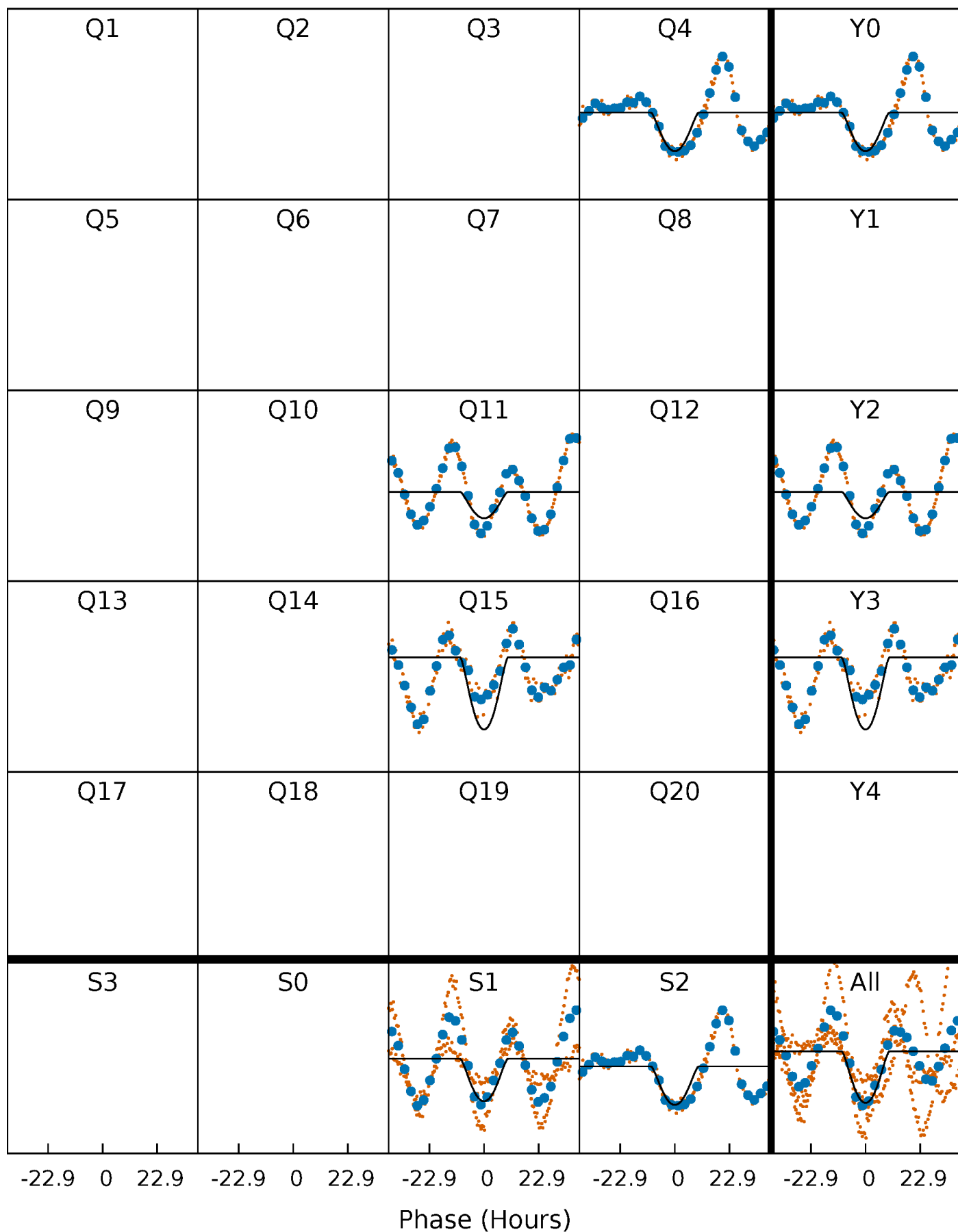
PDC Quarter-Phased Transit Curves

TCE 006848529-08 $P=324.016204$ Days $T_0=403.453053$ (BKJD)



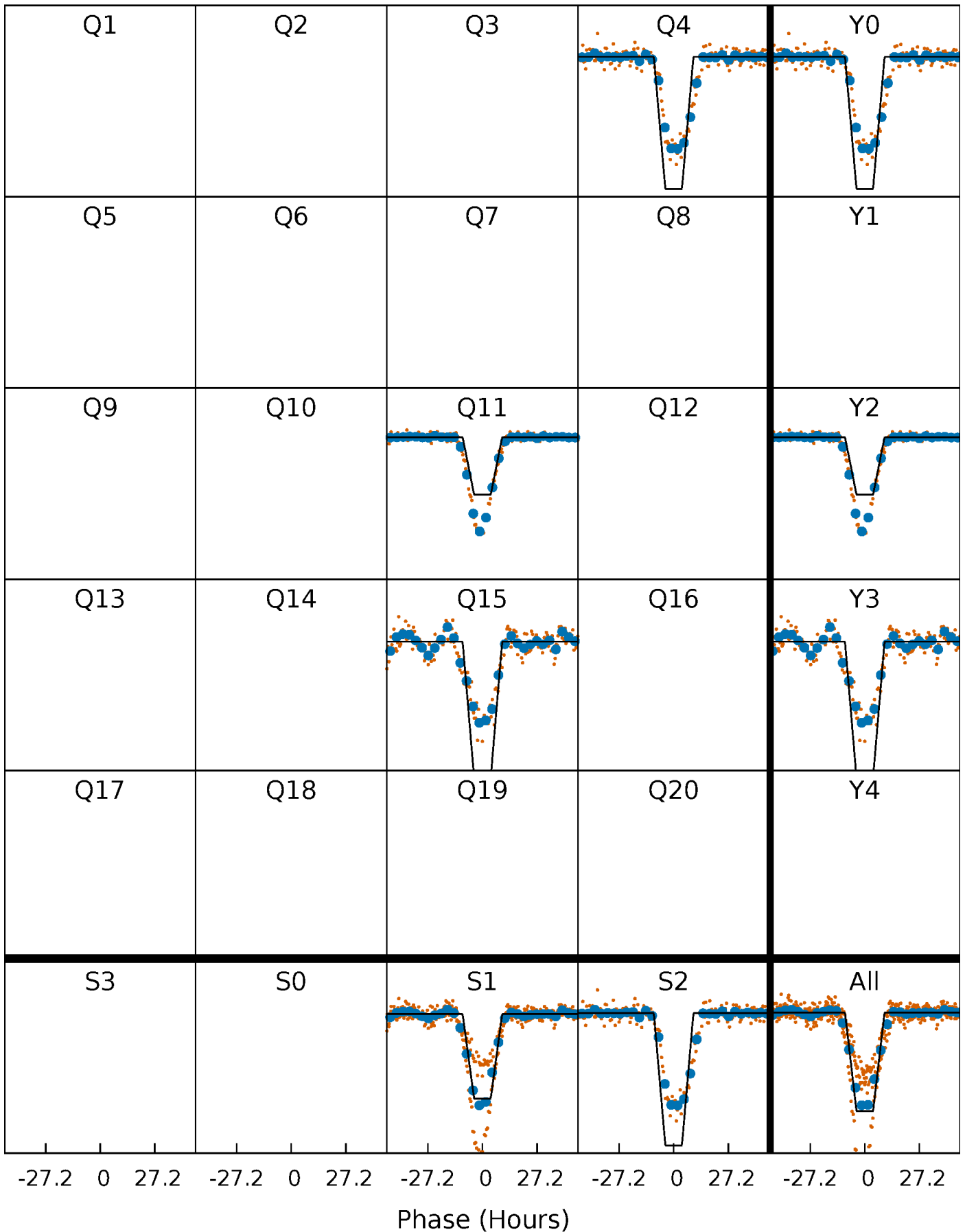
DV Quarter-Phased Transit Curves

TCE 006848529-08 $P=324.016204$ Days $T_0=403.453053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

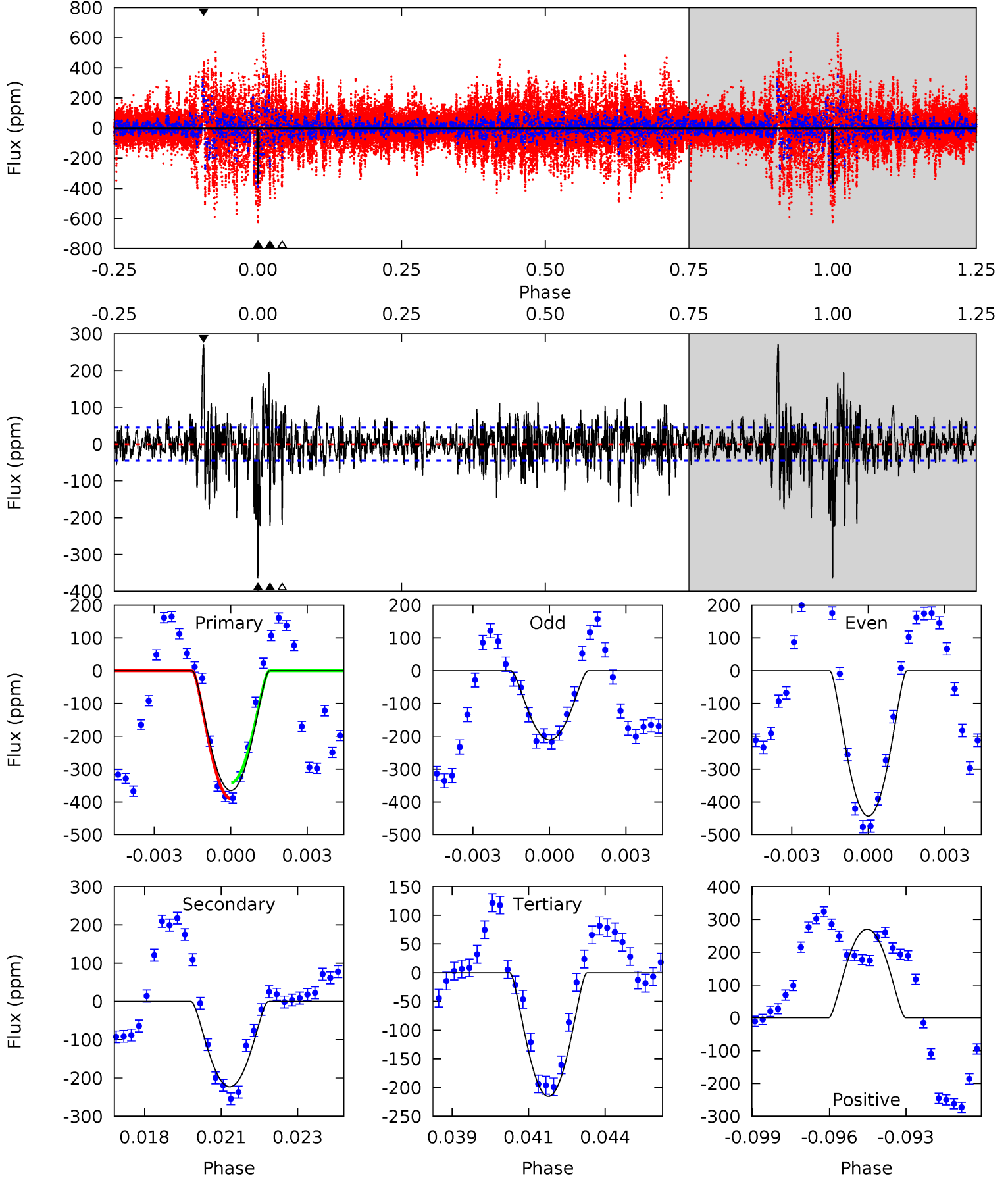
TCE 006848529-08 P=324.021772 Days $T_0=403.426016$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-08, P = 324.016204 Days, E = 79.436849 Days

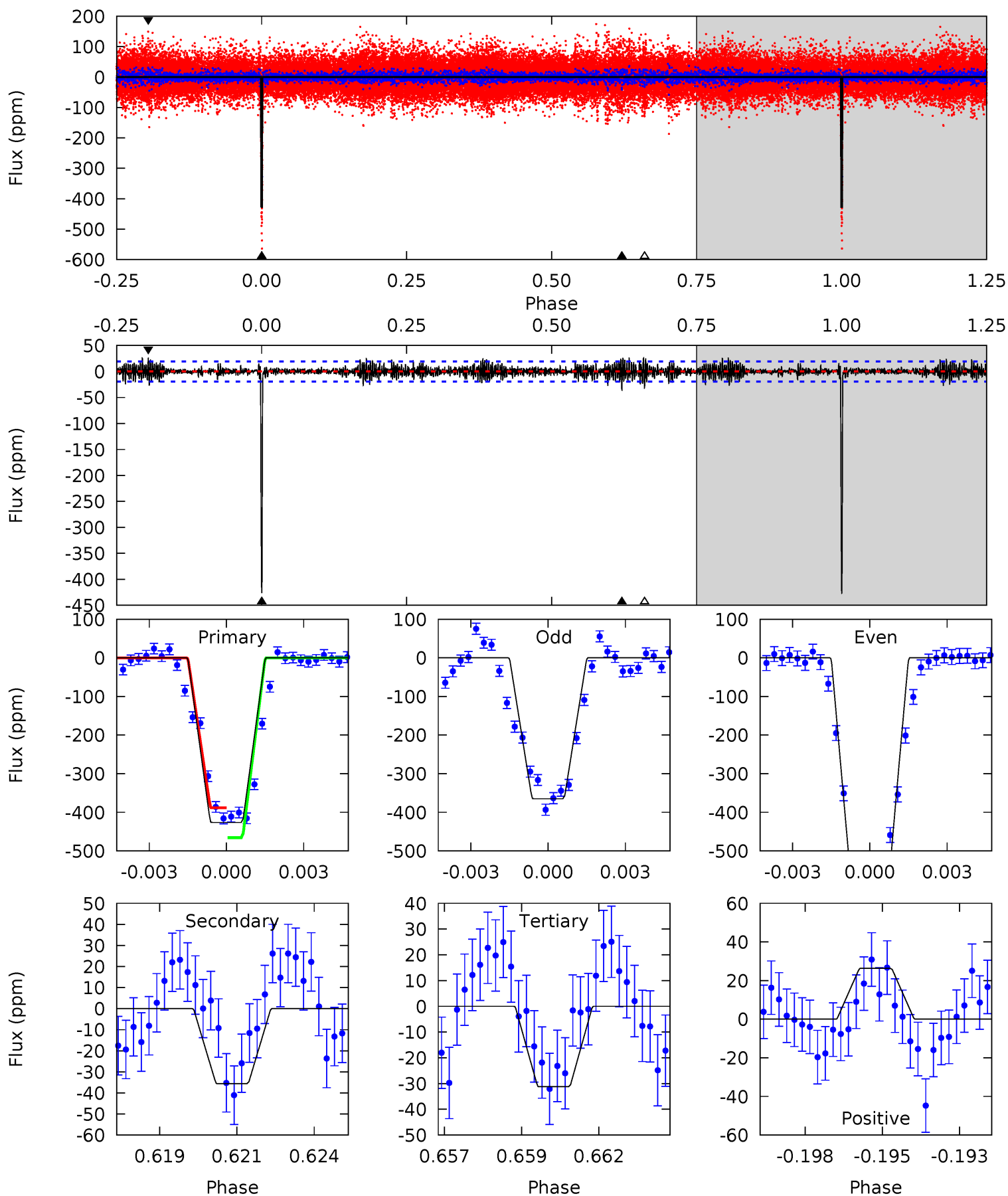
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.8	26.1	25.2	31.6	5.28	3.01	5.18	17.6	11.1	0.87	-5.55	11.1	0.86	0.43	2.77



Alt Model-Shift Uniqueness Test

006848529-08, P = 324.021772 Days, E = 79.404244 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
116.1	9.70	8.51	7.17	5.28	3.02	1.96	107.6	109.0	1.19	2.53	41.9	1.30	0.06	10.3



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-223 ± 9	$12.95^{+10.86}_{-8.19}$	957^{+79}_{-88}	5634^{+4561}_{-1283}	1234^{+7728}_{-873}
Alt.	-36 ± 4	$11.36^{+11.53}_{-7.36}$	949^{+77}_{-83}	3989^{+2200}_{-767}	249^{+1763}_{-187}

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

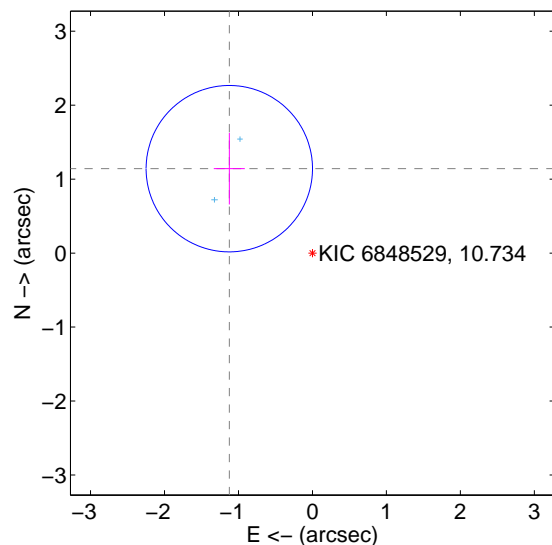
Supplemental centroid analysis for 006848529-08. **Kepler magnitude: 10.73.** Transit SNR 11.53

There are 2 quarters with good PRF difference image offsets

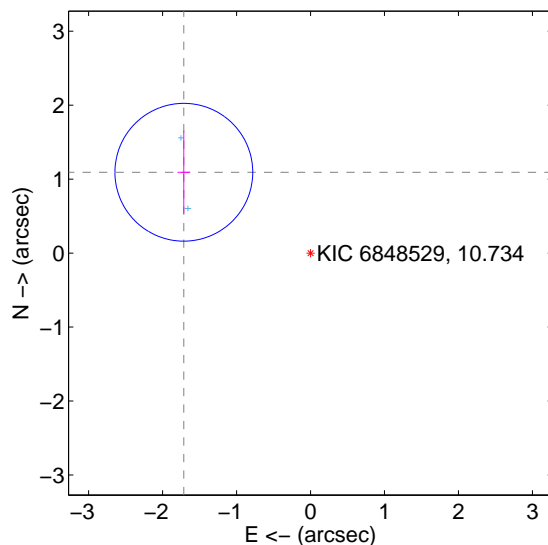
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.602 ± 0.375	4.27	1.124 ± 0.209	1.141 ± 0.484
PRF-fit source offset from KIC position	2.032 ± 0.310	6.54	1.713 ± 0.086	1.093 ± 0.561
photometric centroid source offset	0.98 ± 0.41	2.37	-0.57 ± 0.49	-0.79 ± 0.36

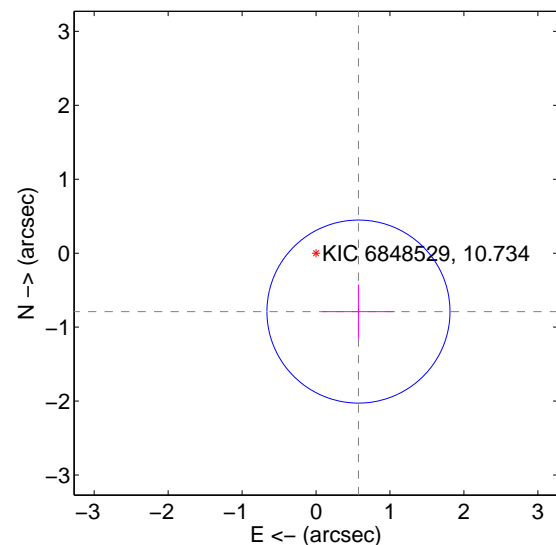
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

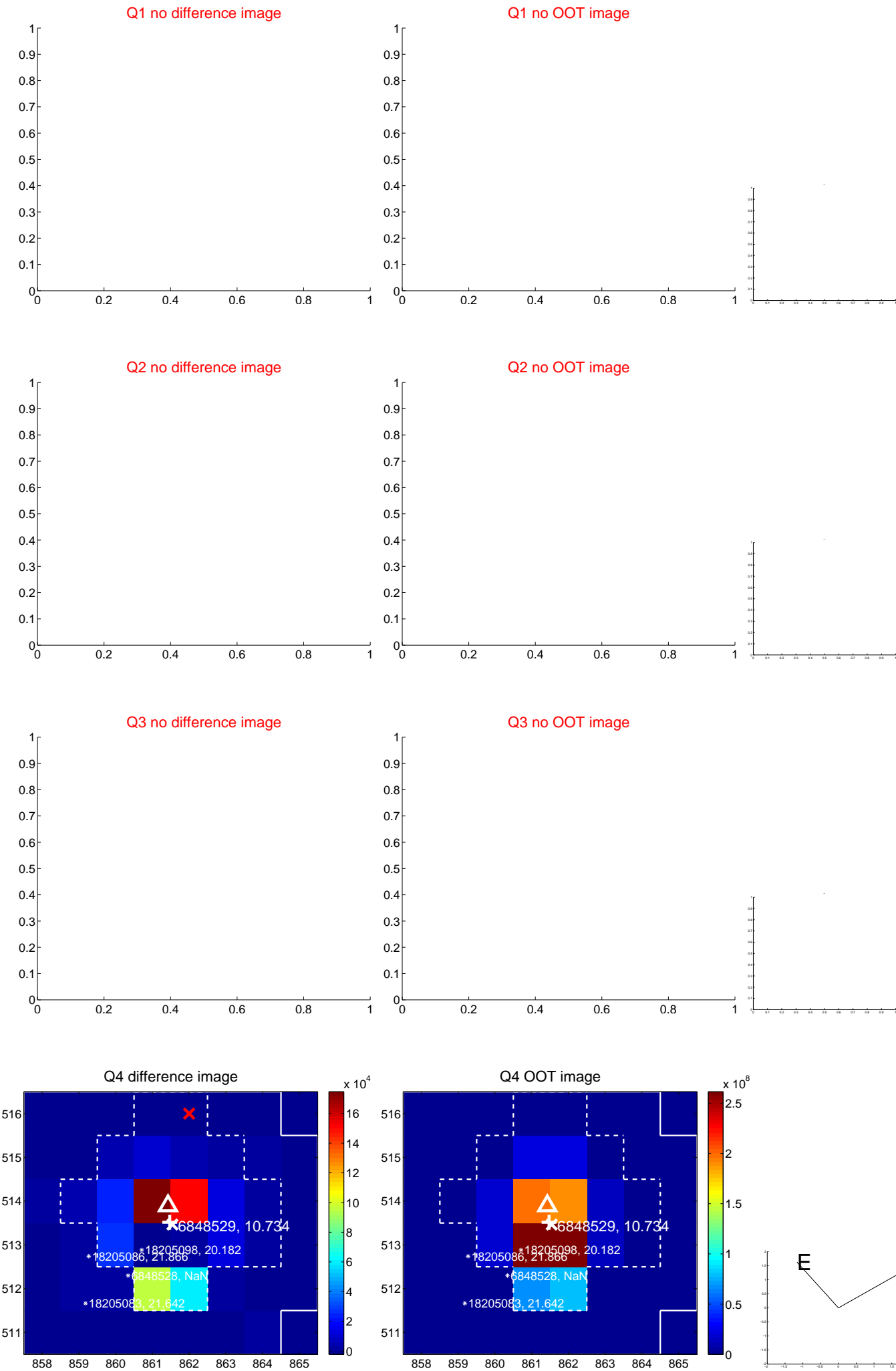


offset from photometric centroids



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

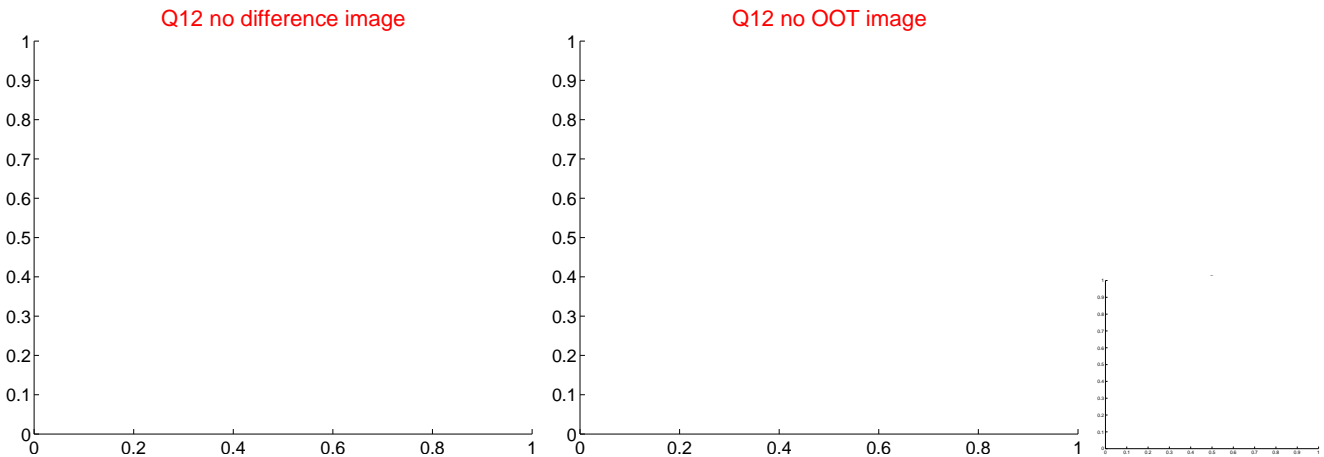
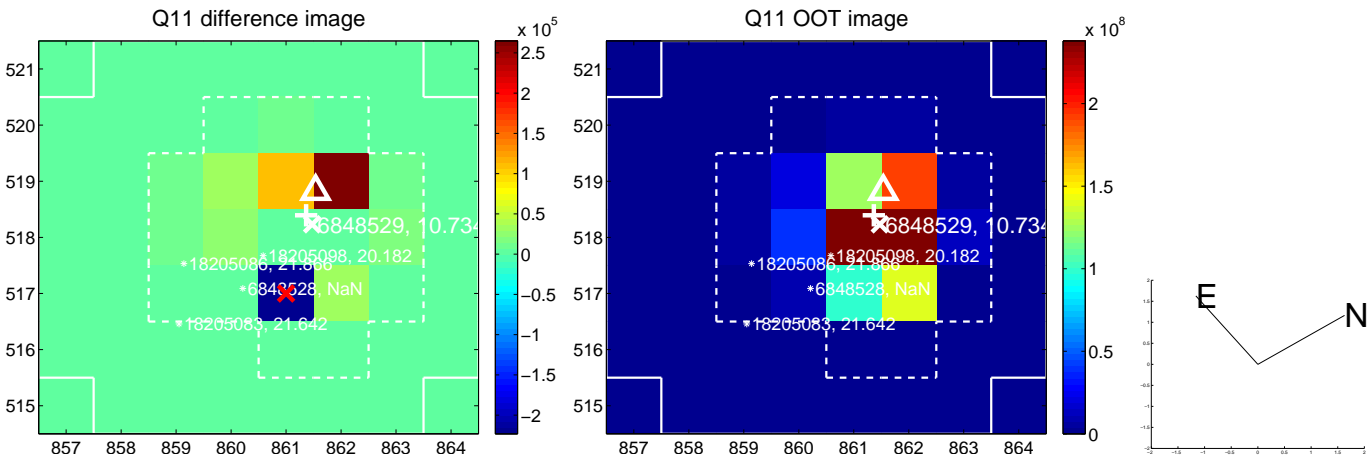
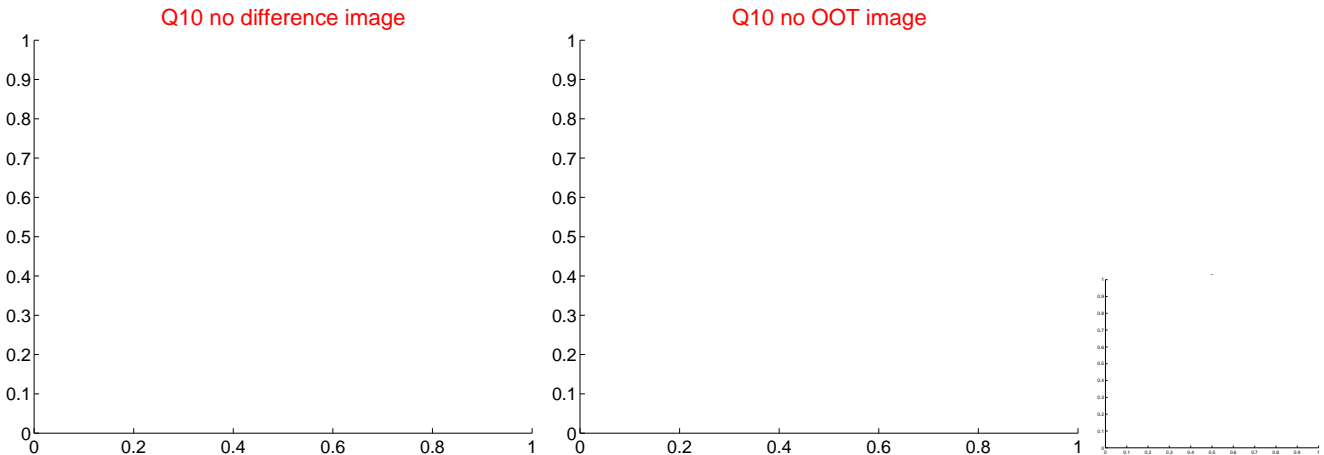
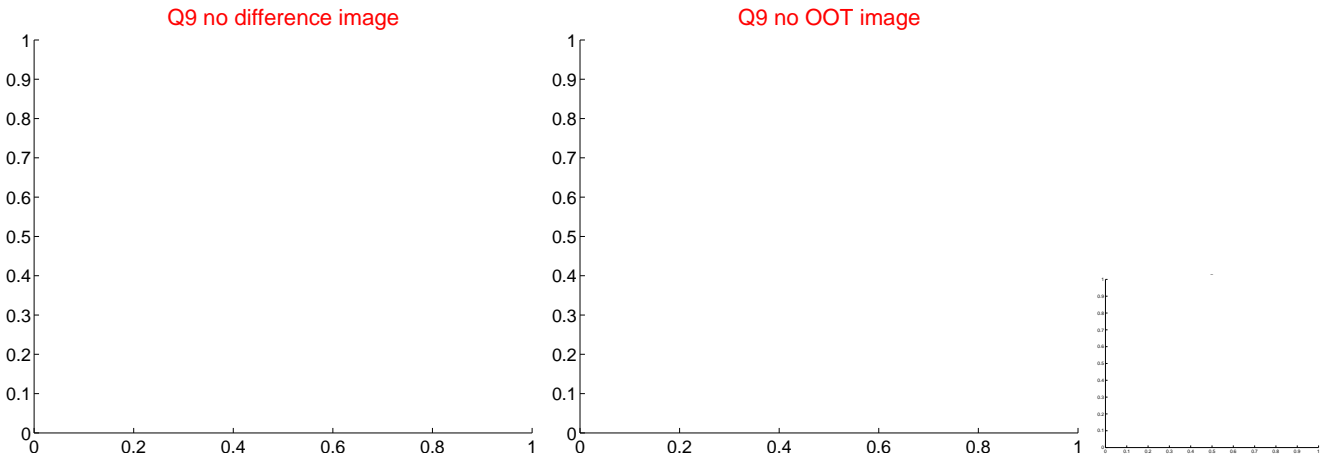
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



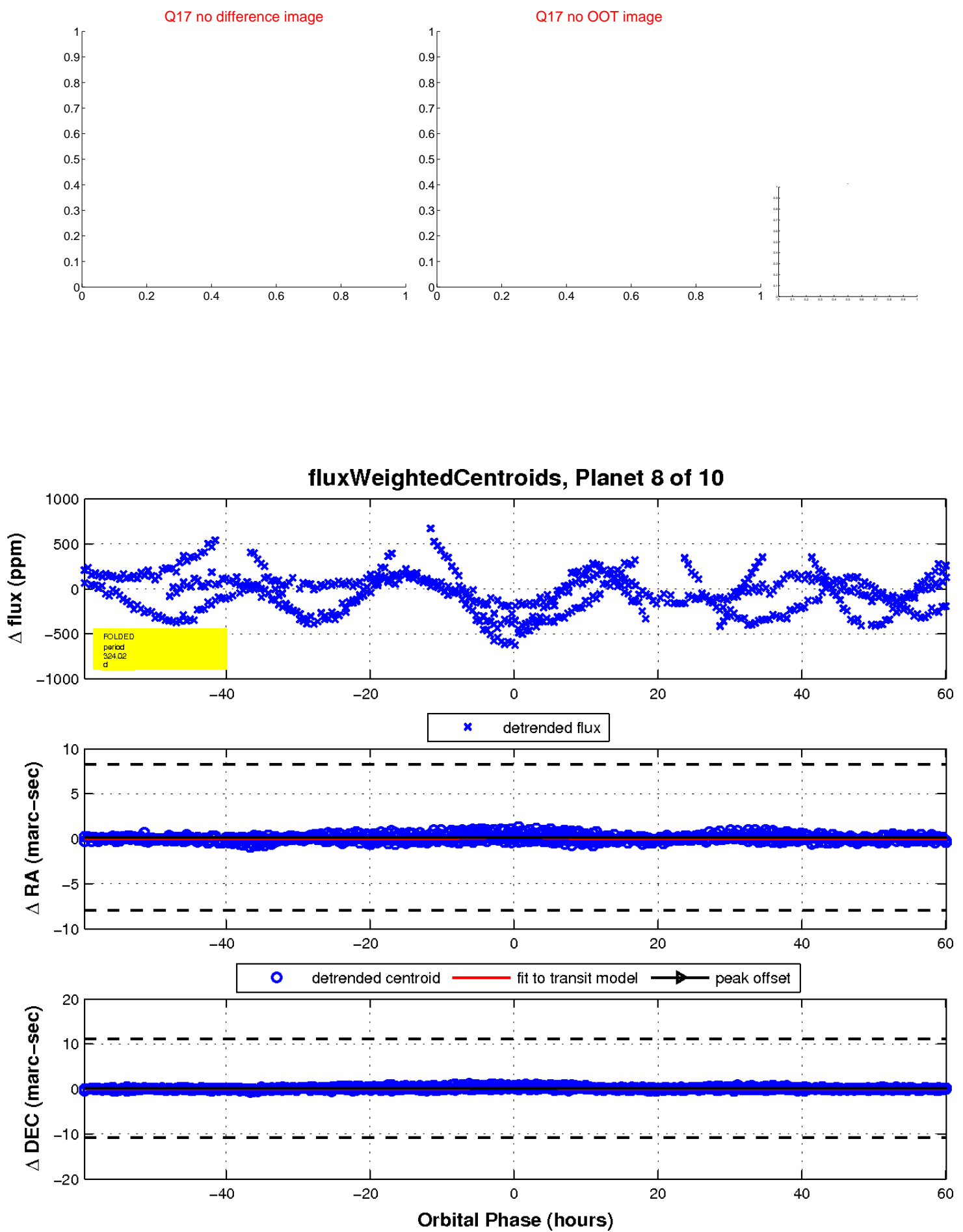
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

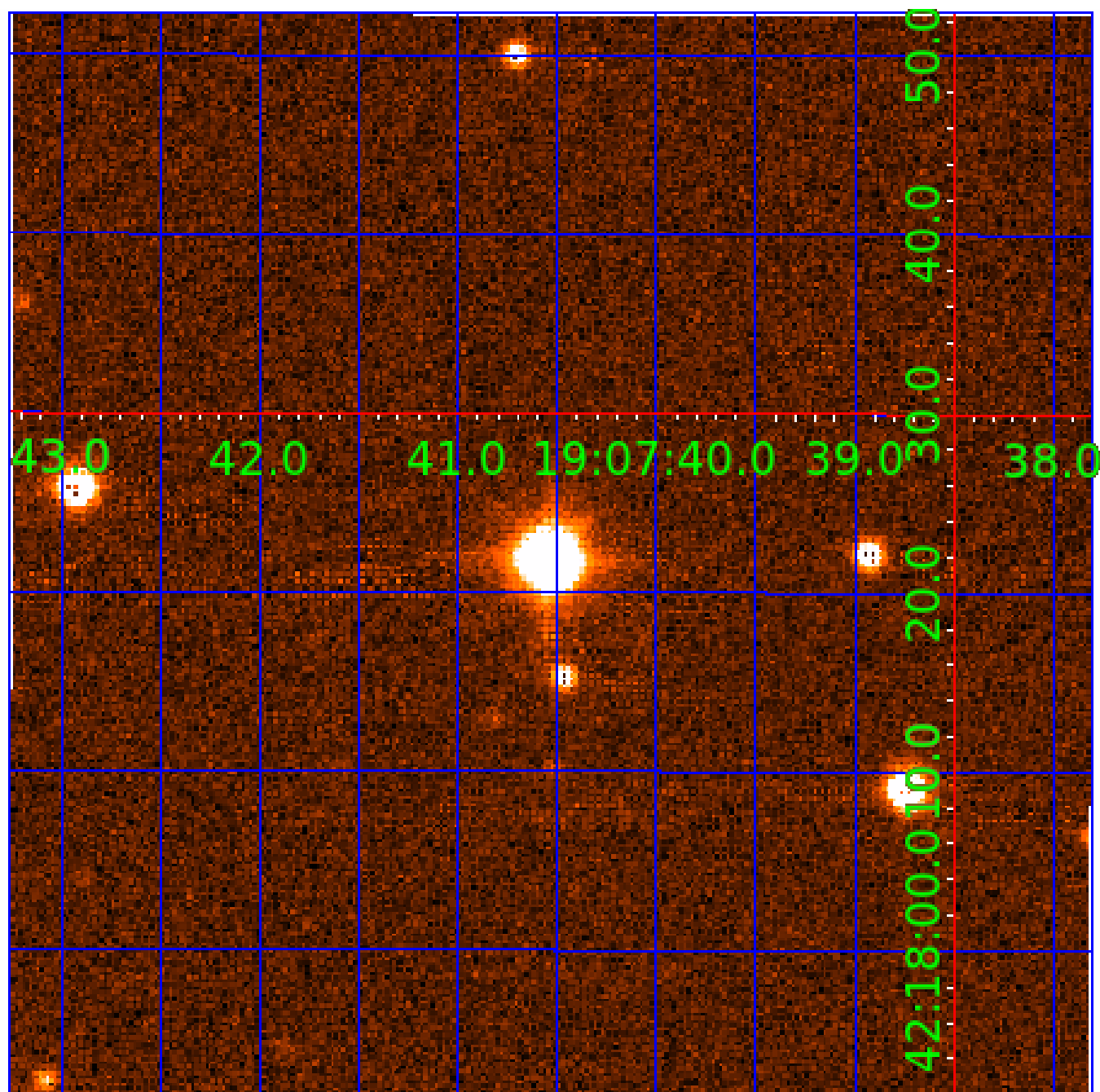


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

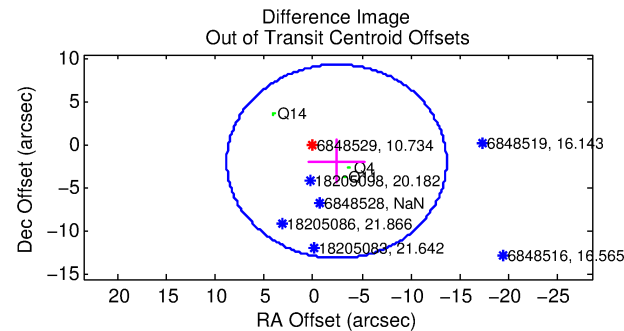
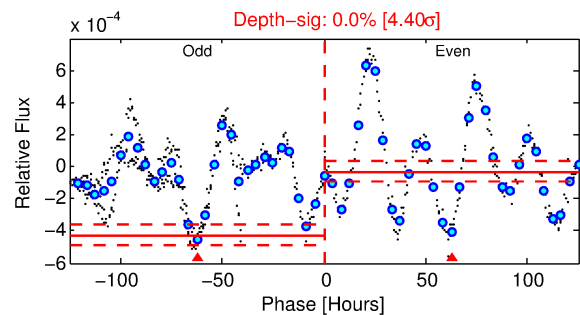
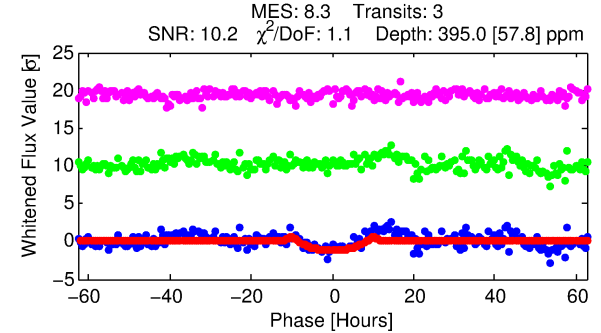
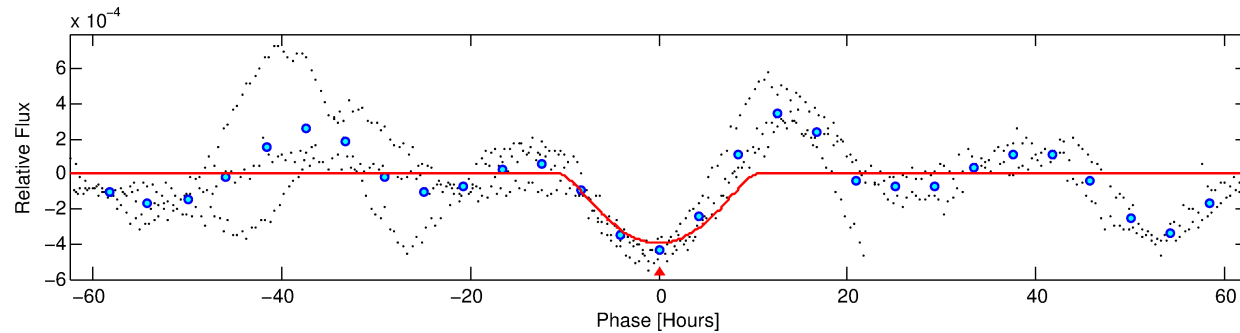
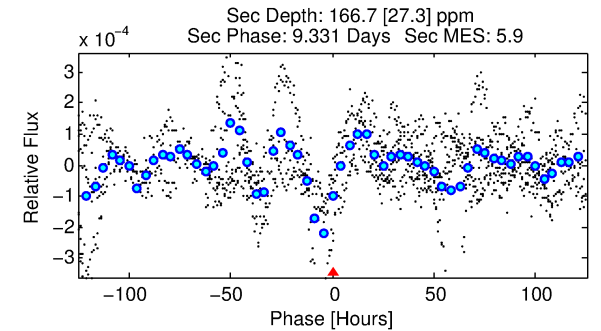
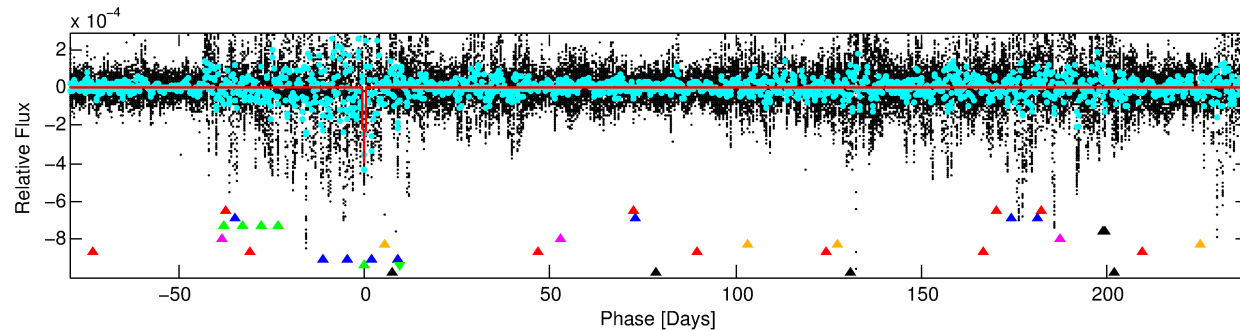
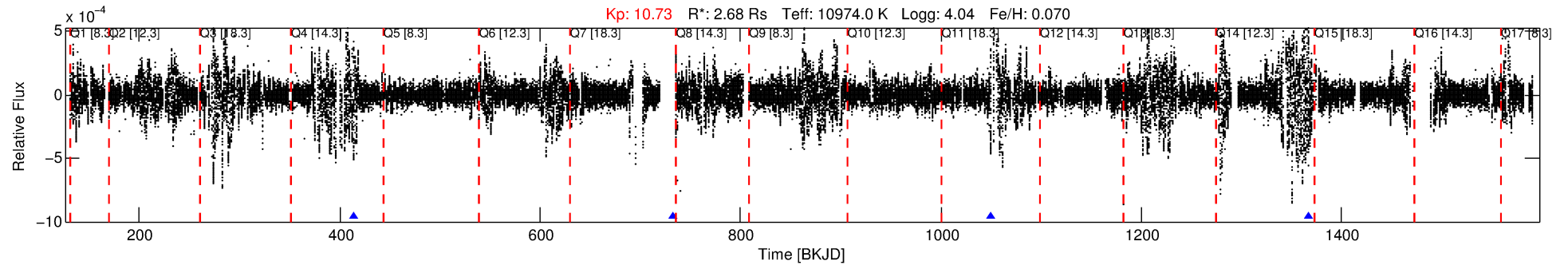
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-09

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 9 of 10 Period: 317.268 d



DV Fit Results:

Period = 317.26805 [0.01504] d
Epoch = 414.7429 [0.0274] BKJD
Rp/R* = 0.0282 [0.0169]
a/R* = 31.31 [5.91]
b = 0.99 [0.03]
Seff = 55.58 [27.30]
Teq = 696 [85] K
Rp = 8.25 [5.69] Re
a = 1.2944 [0.3905] AU
Ag = 2257.74 [2919.58] [0.77σ]
Teffp = 7420 [2269] K [2.96σ]

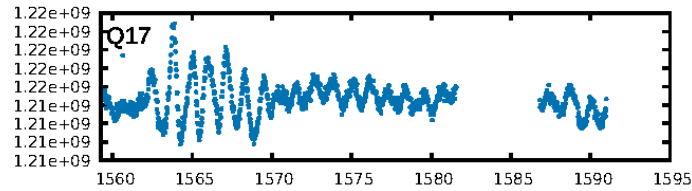
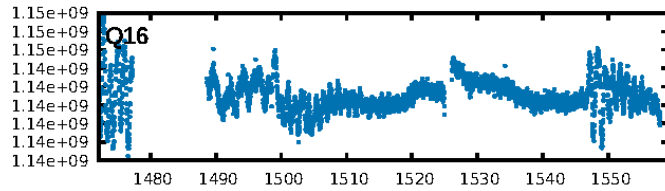
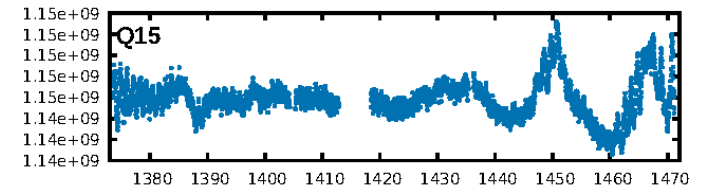
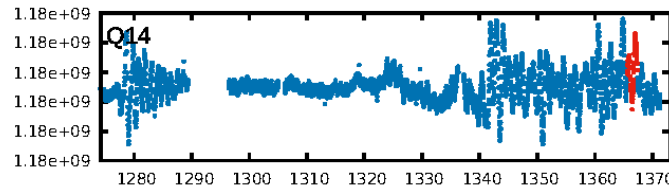
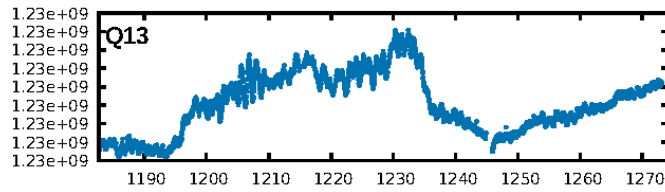
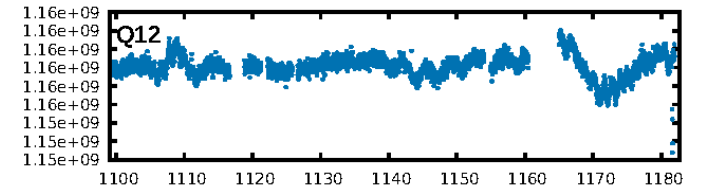
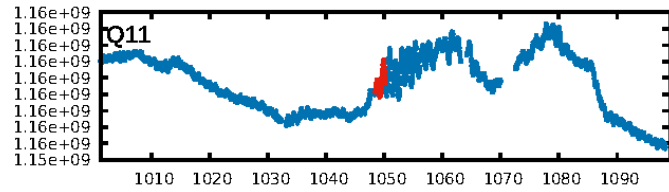
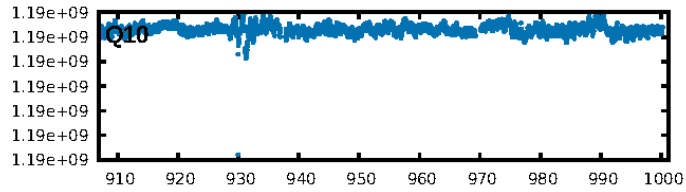
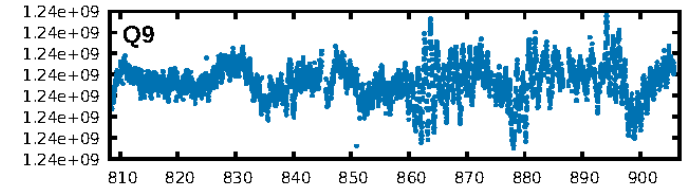
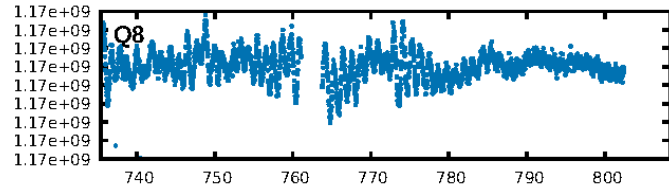
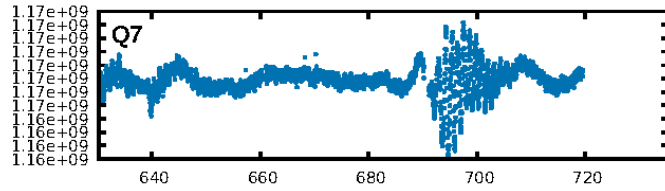
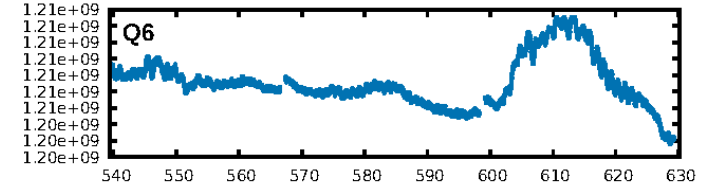
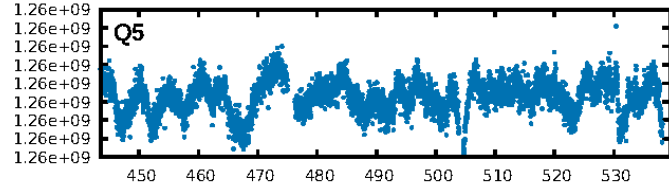
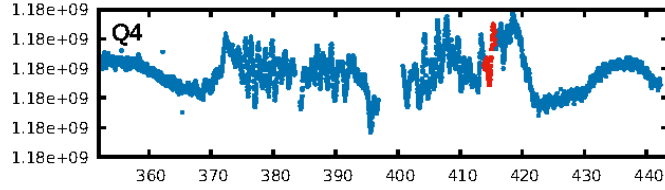
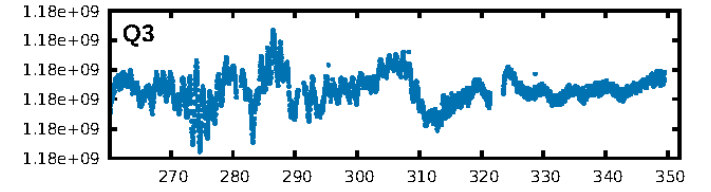
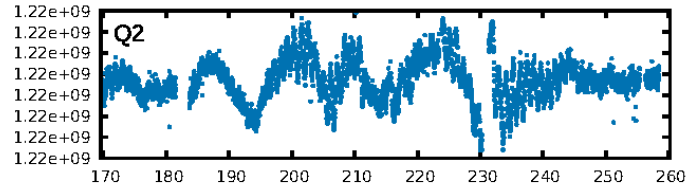
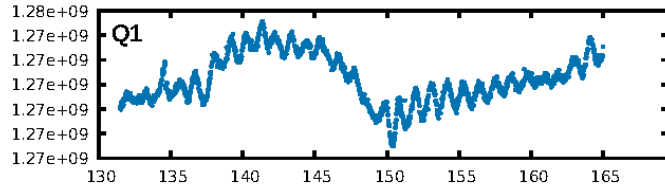
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [101.97σ]
LongPeriod-sig: 100.0% [3.96σ]
ModelChiSquare2-sig: 12.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.92e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.618
Centroid-sig: 8.0%
Centroid-so: 0.982 arcsec [2.05σ]
OotOffset-rm: 3.063 arcsec [0.82σ]
KicOffset-rm: 2.709 arcsec [1.10σ]
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KicOffset-st: 1/1/1/0 [3]
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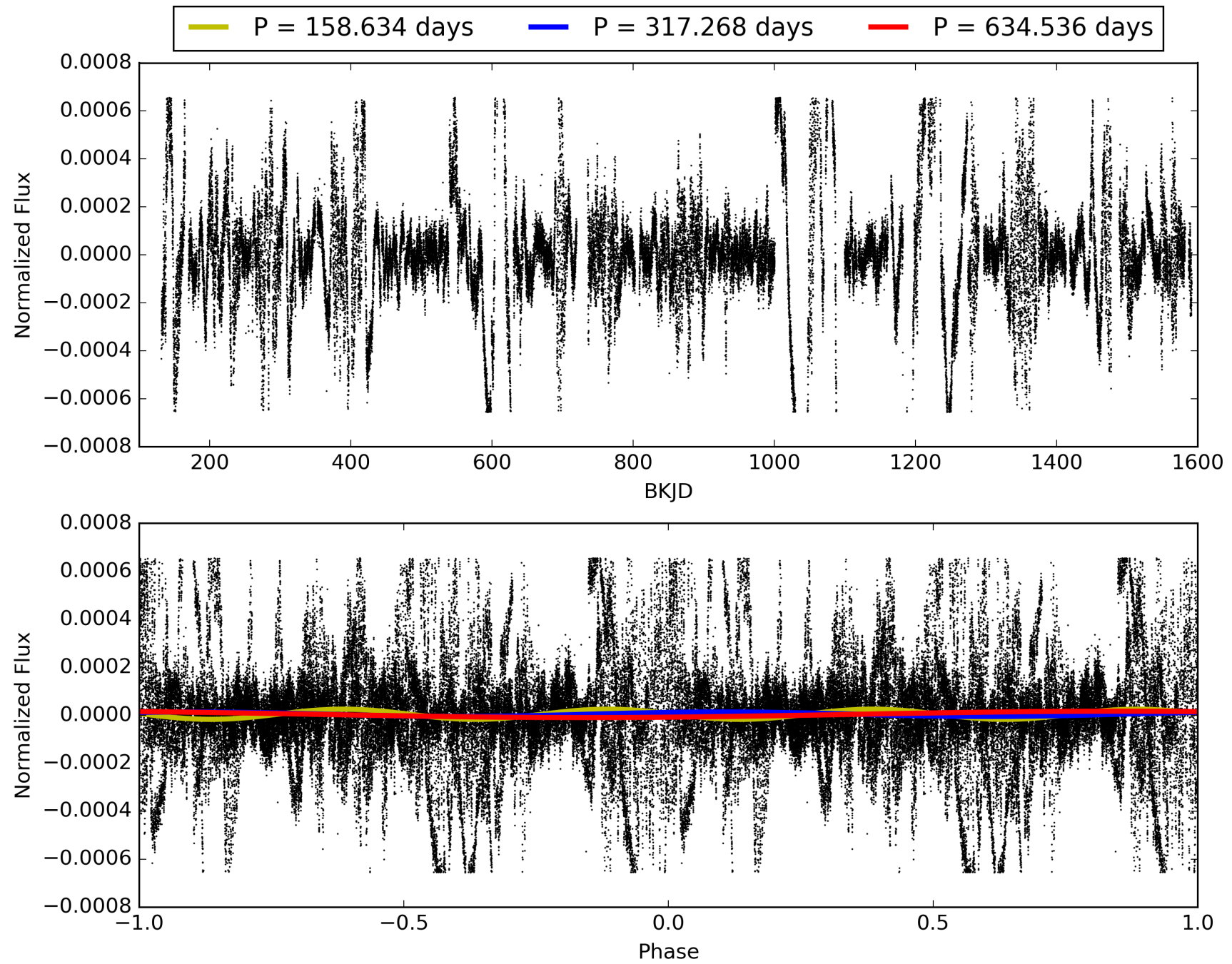
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:22:04 Z

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

TCE 006848529-09, PDC Light Curves

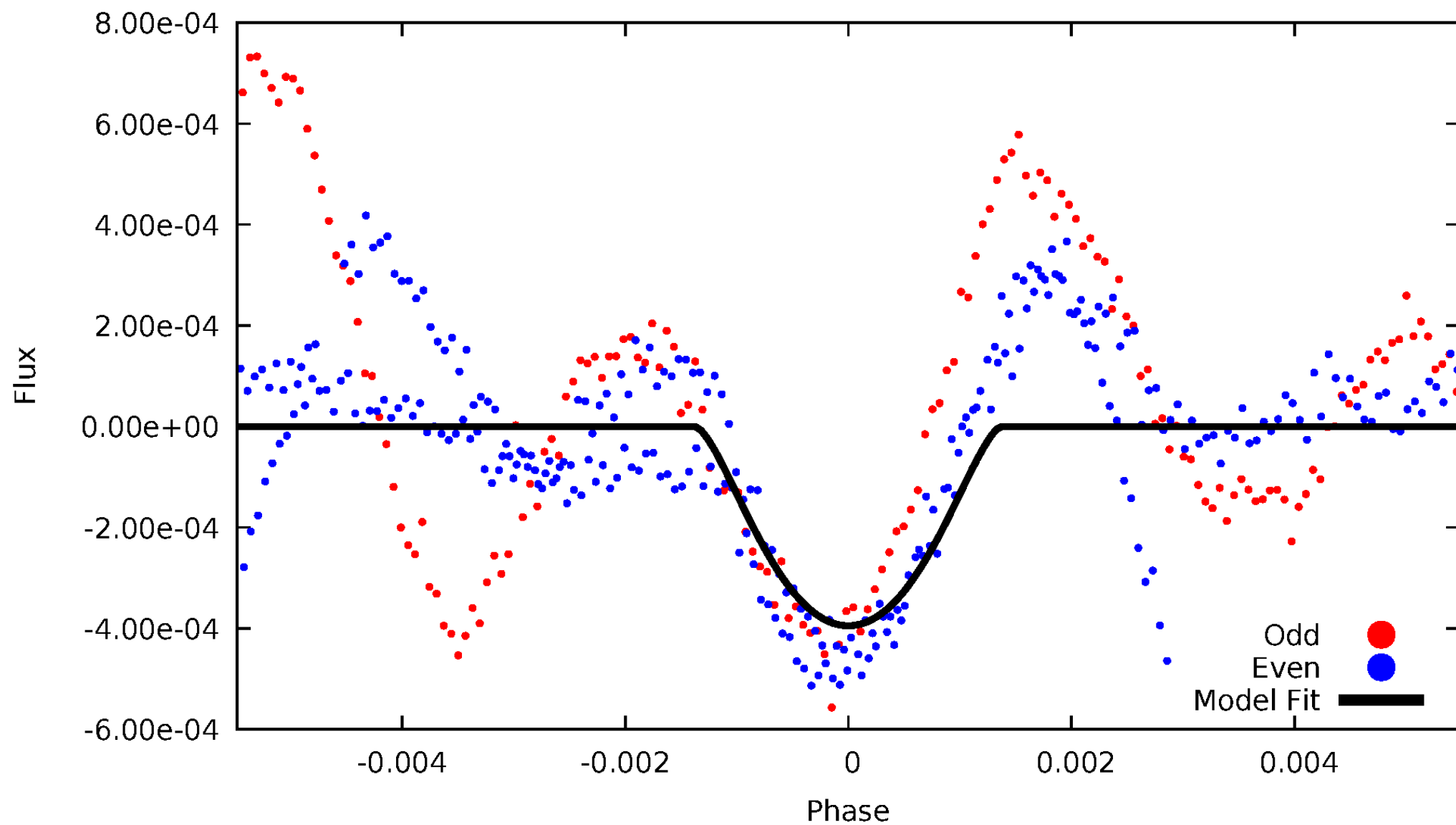


TCE 006848529-09



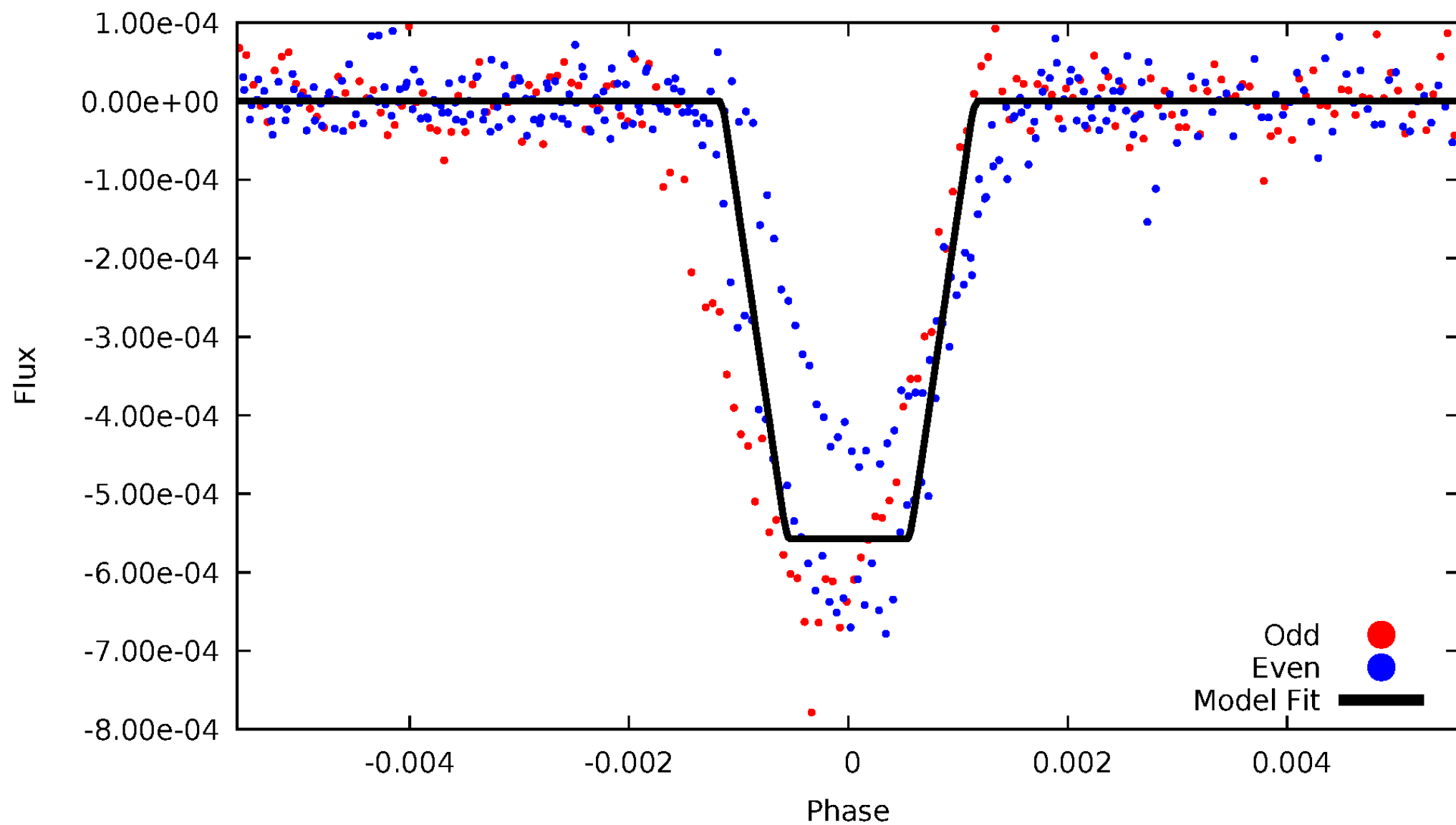
DV Odd/Even

TCE 006848529-09



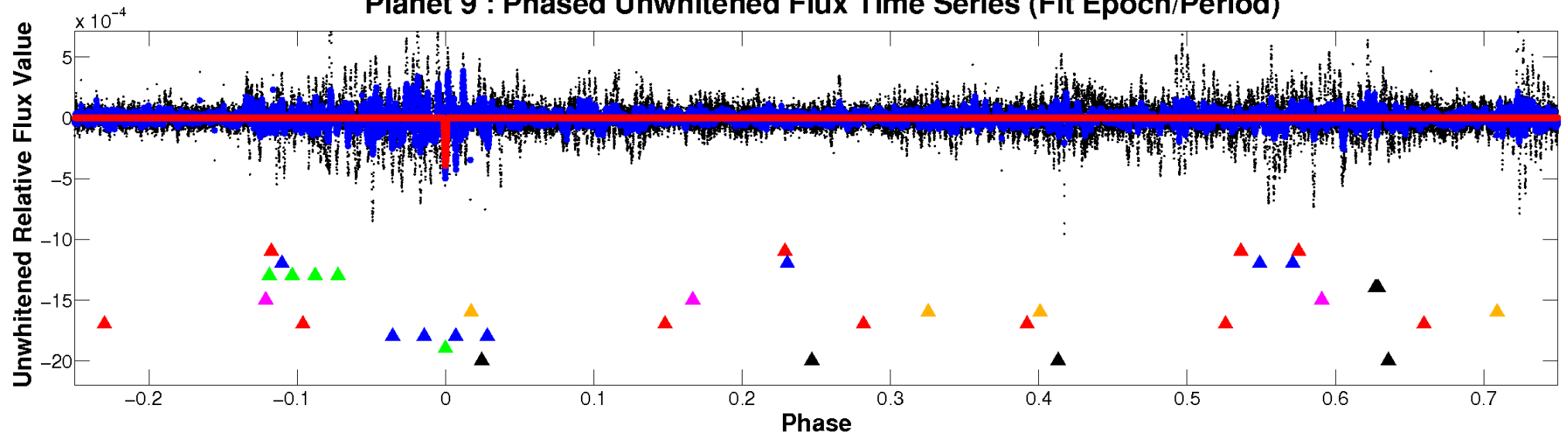
ALT Odd/Even

TCE 006848529-09

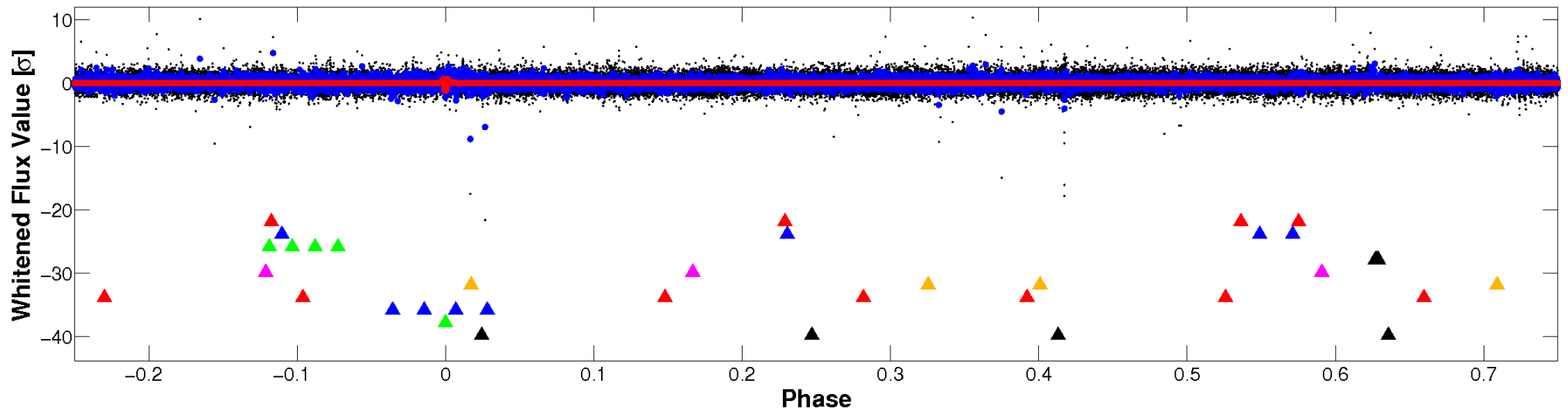


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

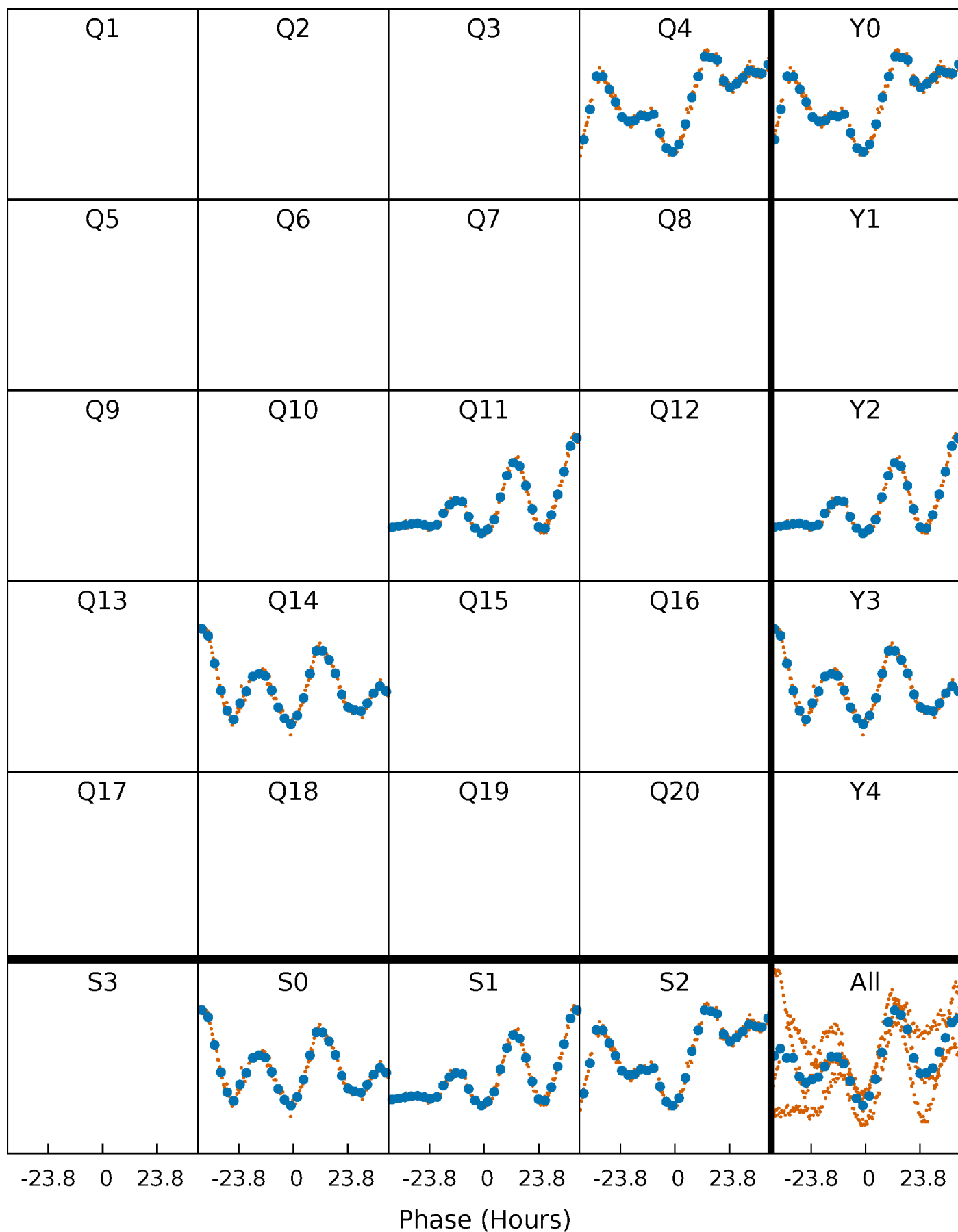


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



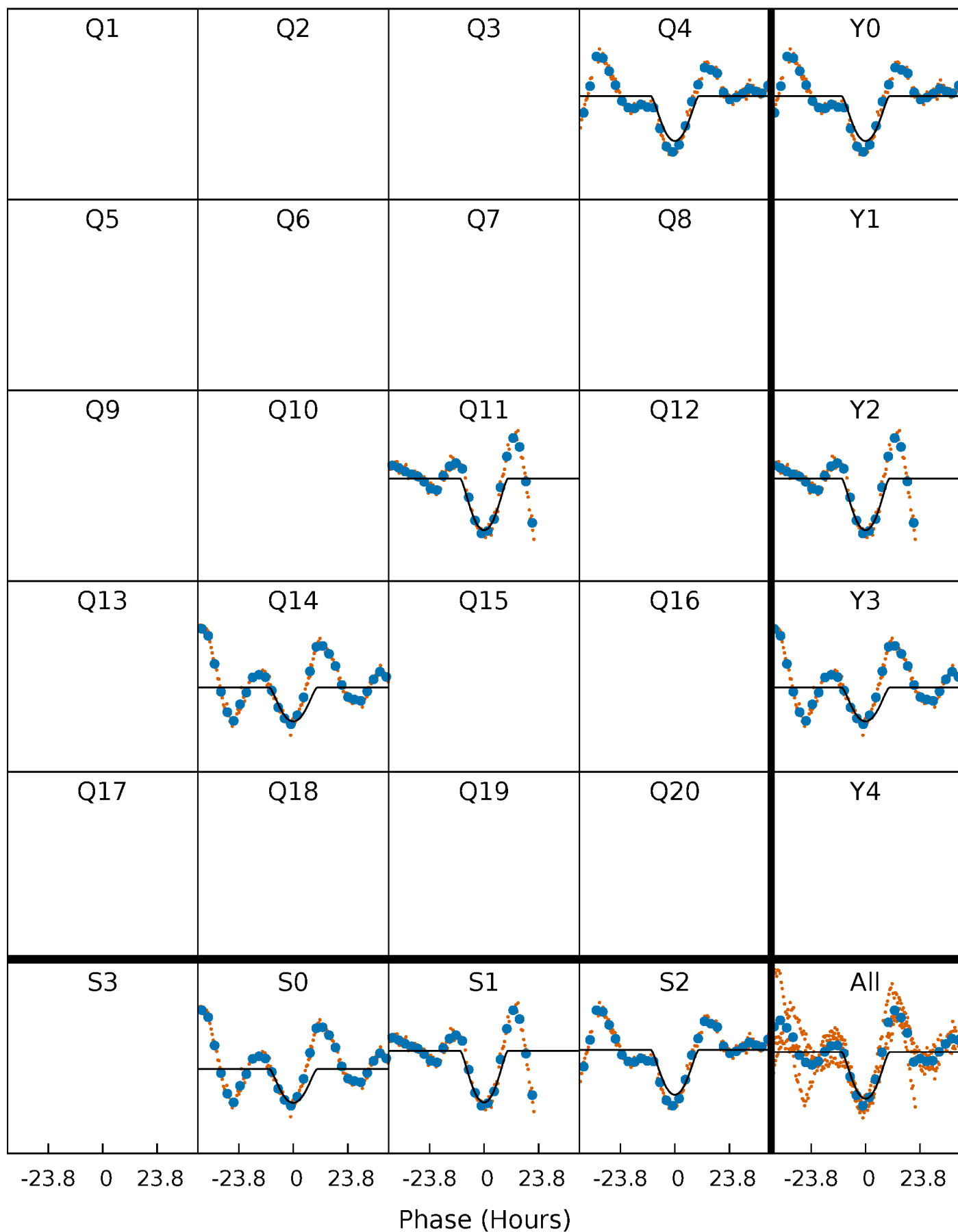
PDC Quarter-Phased Transit Curves

TCE 006848529-09 $P=317.268046$ Days $T_0=414.742883$ (BKJD)



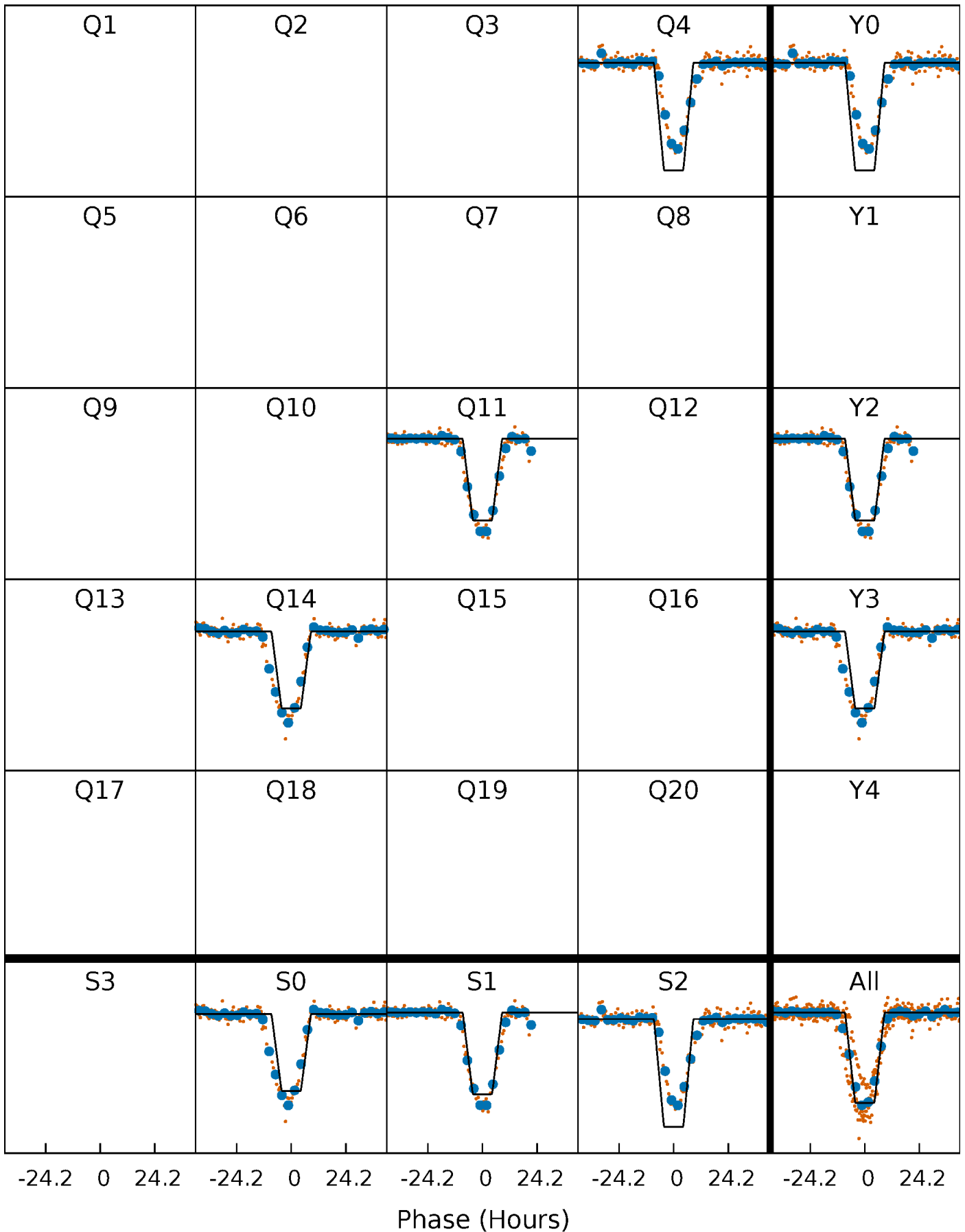
DV Quarter-Phased Transit Curves

TCE 006848529-09 $P=317.268046$ Days $T_0=414.742883$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

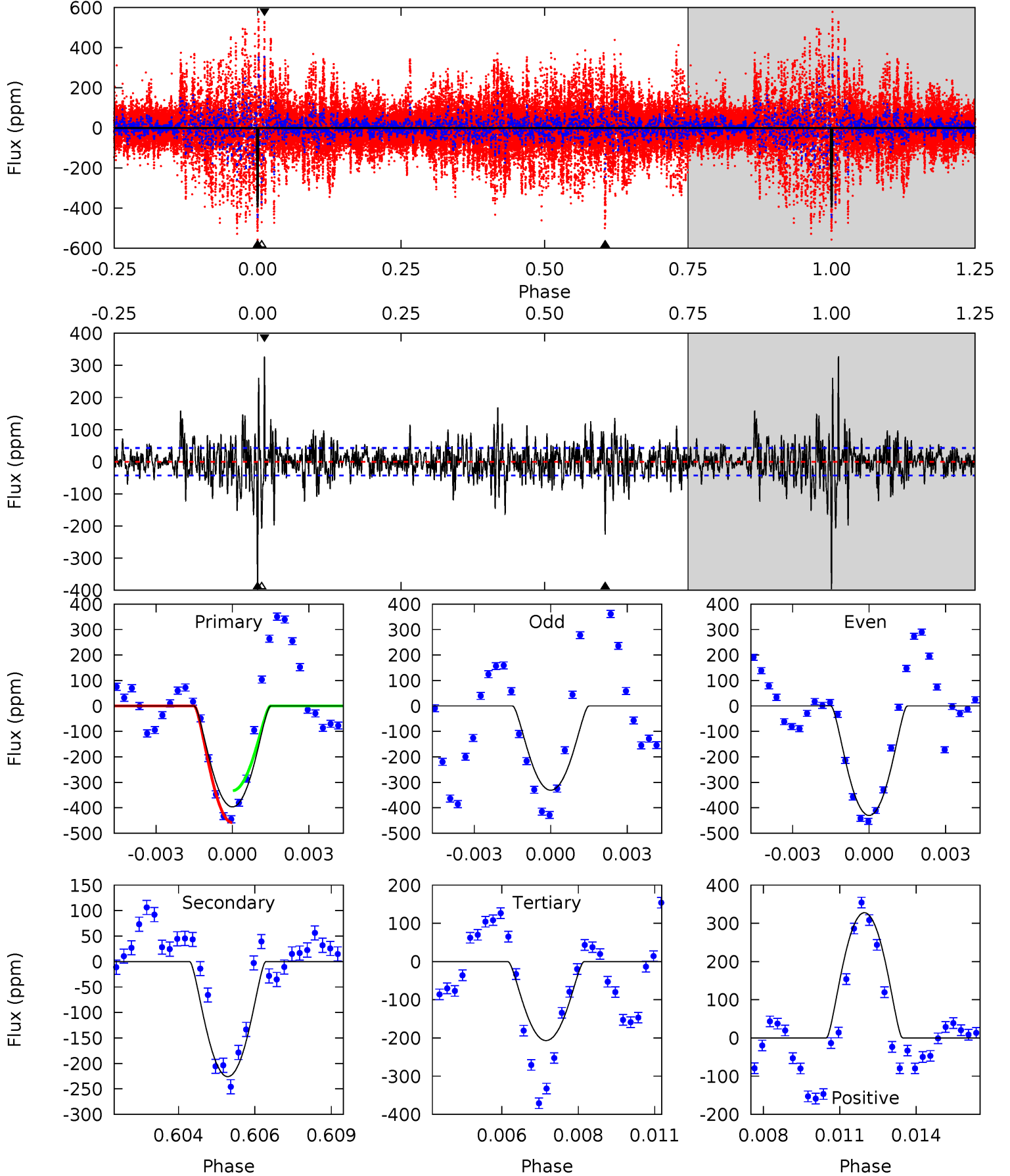
TCE 006848529-09 P=317.305942 Days $T_0=414.688381$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-09, P = 317.268046 Days, E = 97.474837 Days

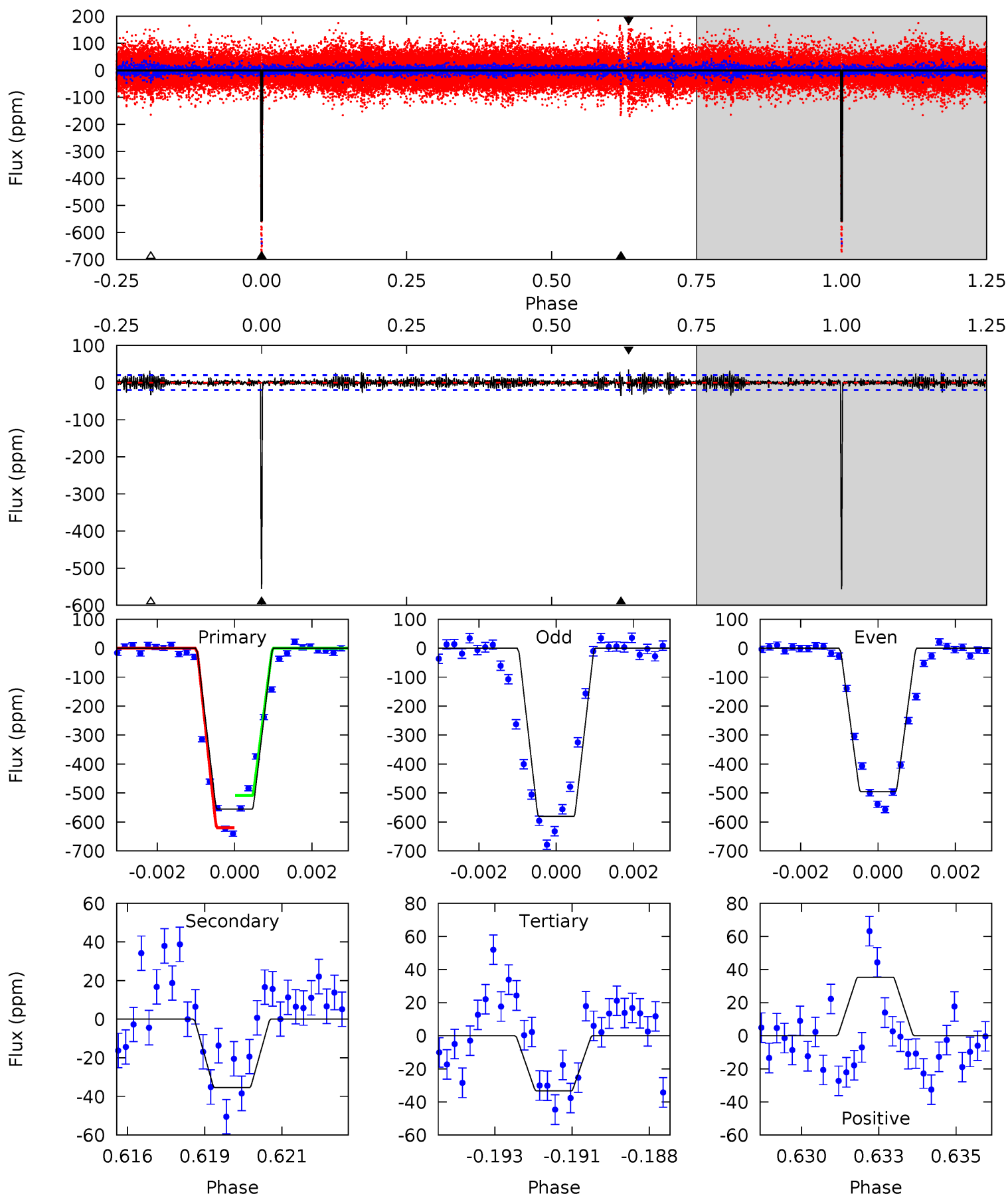
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.6	27.7	25.3	40.2	5.27	2.99	5.29	23.2	8.40	2.33	-12.5	4.91	1.01	0.45	7.66



Alt Model-Shift Uniqueness Test

006848529-09, P = 317.305942 Days, E = 97.382439 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
143.3	9.13	8.60	9.12	5.30	3.04	1.78	134.7	134.2	0.53	0.01	11.9	0.90	0.06	13.9



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-226 ± 8	$8.47^{+5.21}_{-4.83}$	961^{+82}_{-96}	6874^{+4940}_{-1335}	2768^{+12258}_{-1681}
Alt.	-35 ± 4	$6.86^{+5.41}_{-3.63}$	966^{+76}_{-90}	4891^{+2466}_{-883}	660^{+2525}_{-449}

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

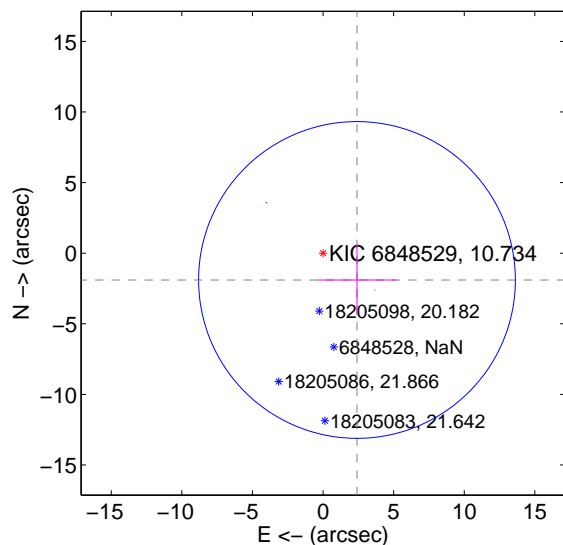
Supplemental centroid analysis for 006848529-09. **Kepler magnitude: 10.73.** Transit SNR 10.16

There are 2 quarters with good PRF difference image offsets

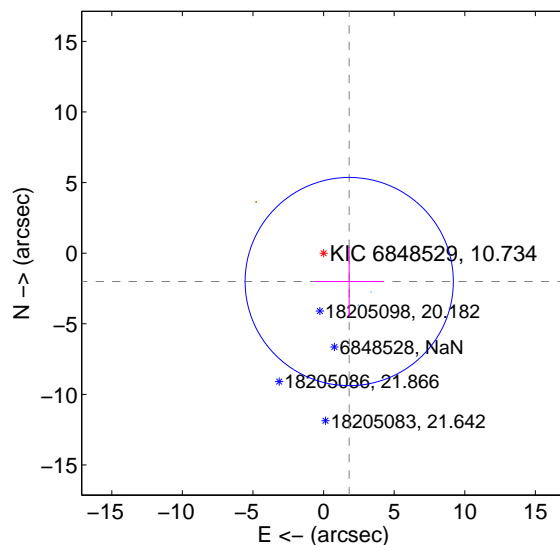
The direct PRF centroid is offset from the target star catalog position by about 0.76 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.063 ± 3.739	0.82	-2.404 ± 2.793	-1.897 ± 2.518
PRF-fit source offset from KIC position	2.709 ± 2.457	1.10	-1.816 ± 2.408	-2.010 ± 2.496
photometric centroid source offset	0.98 ± 0.48	2.05	-0.43 ± 0.62	-0.88 ± 0.44

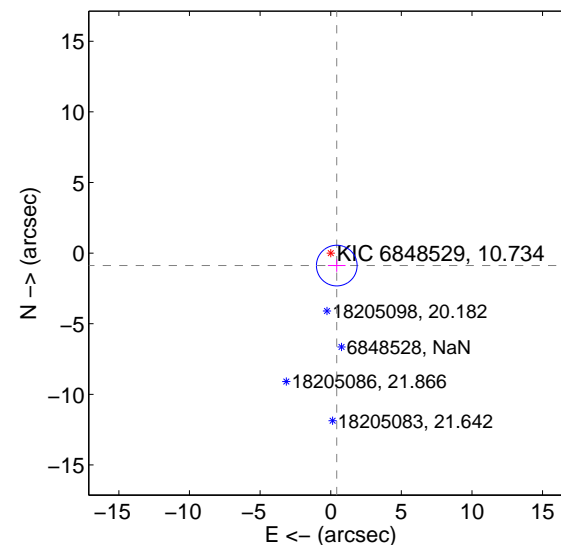
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

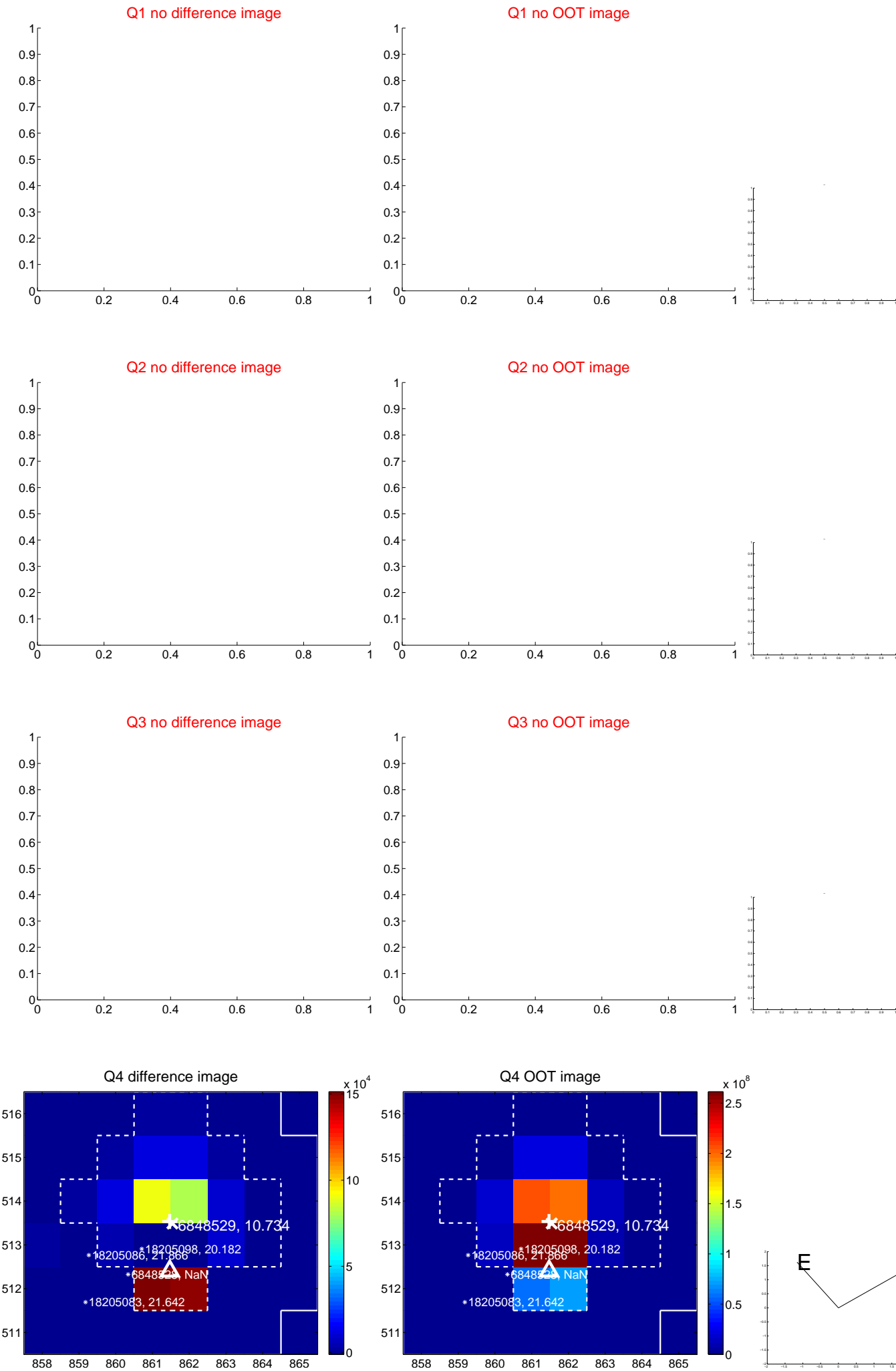


offset from photometric centroids



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

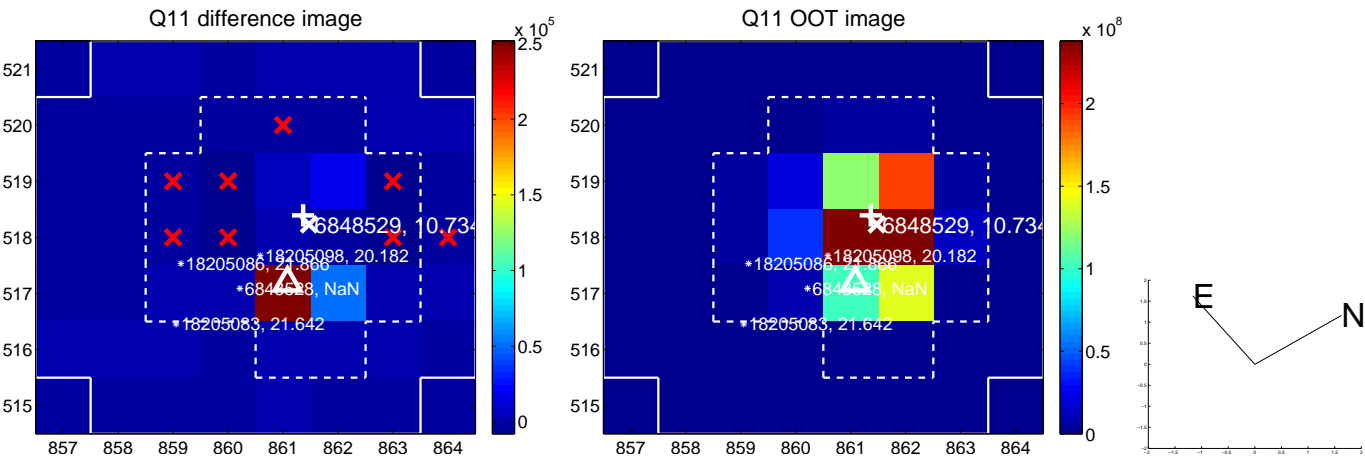
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



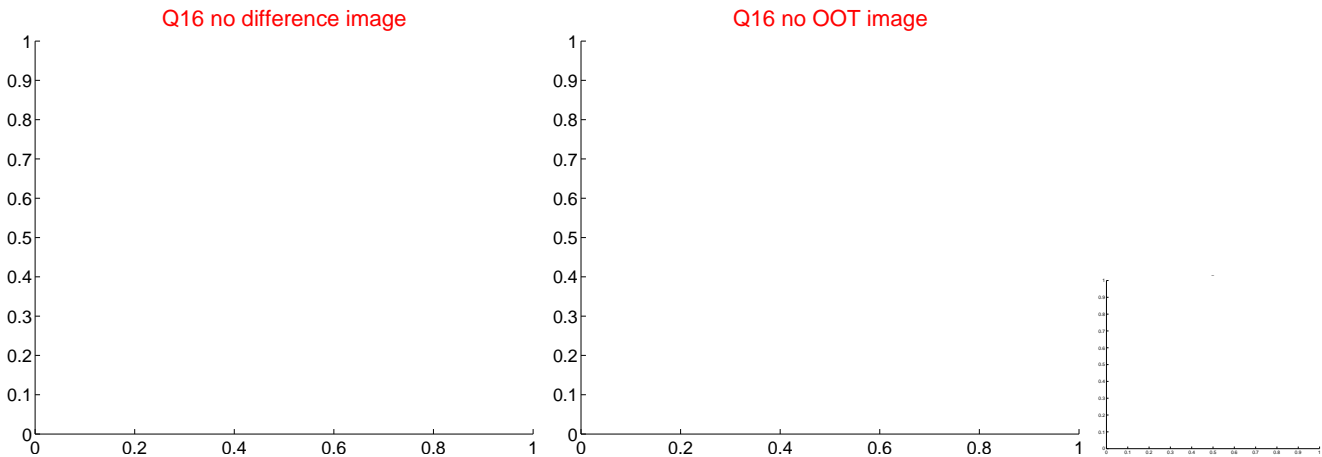
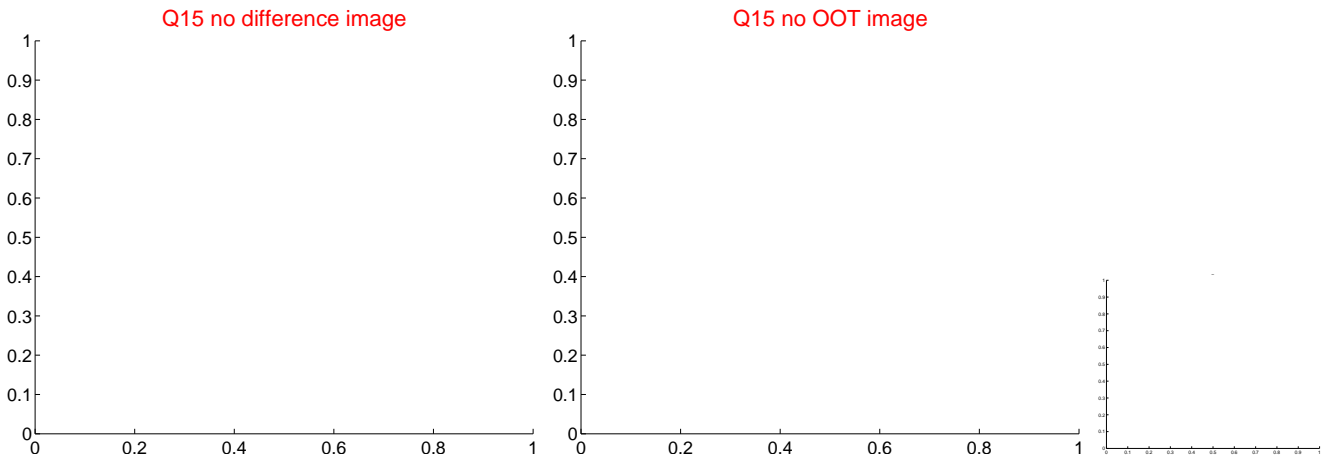
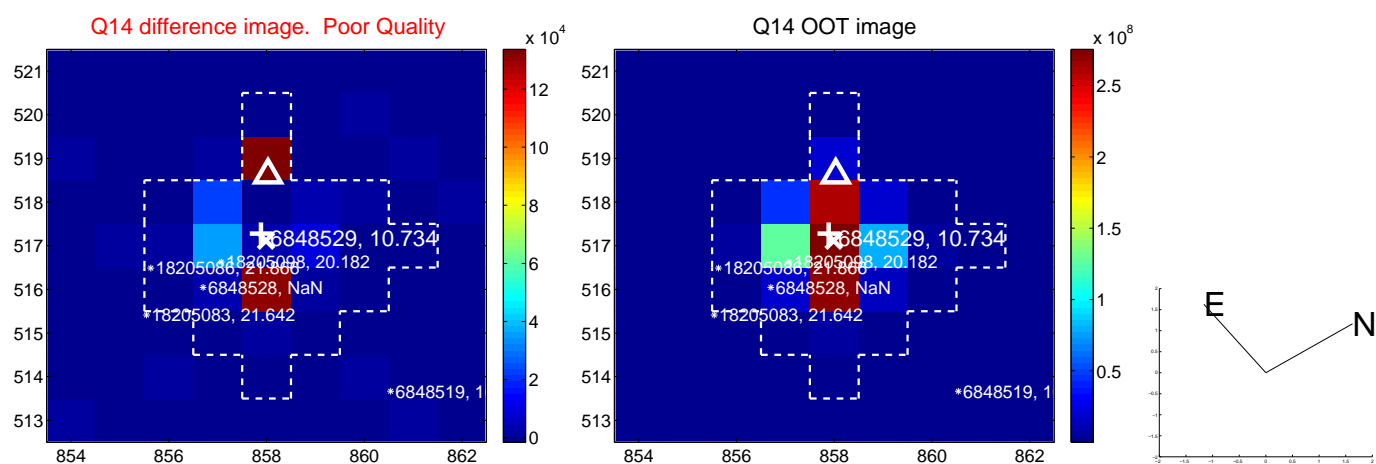
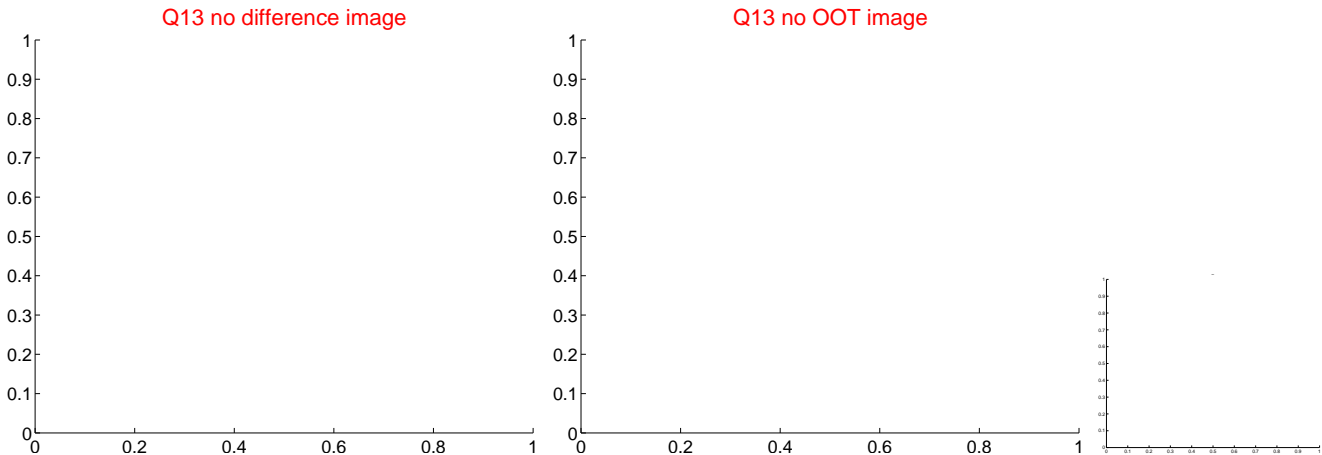
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



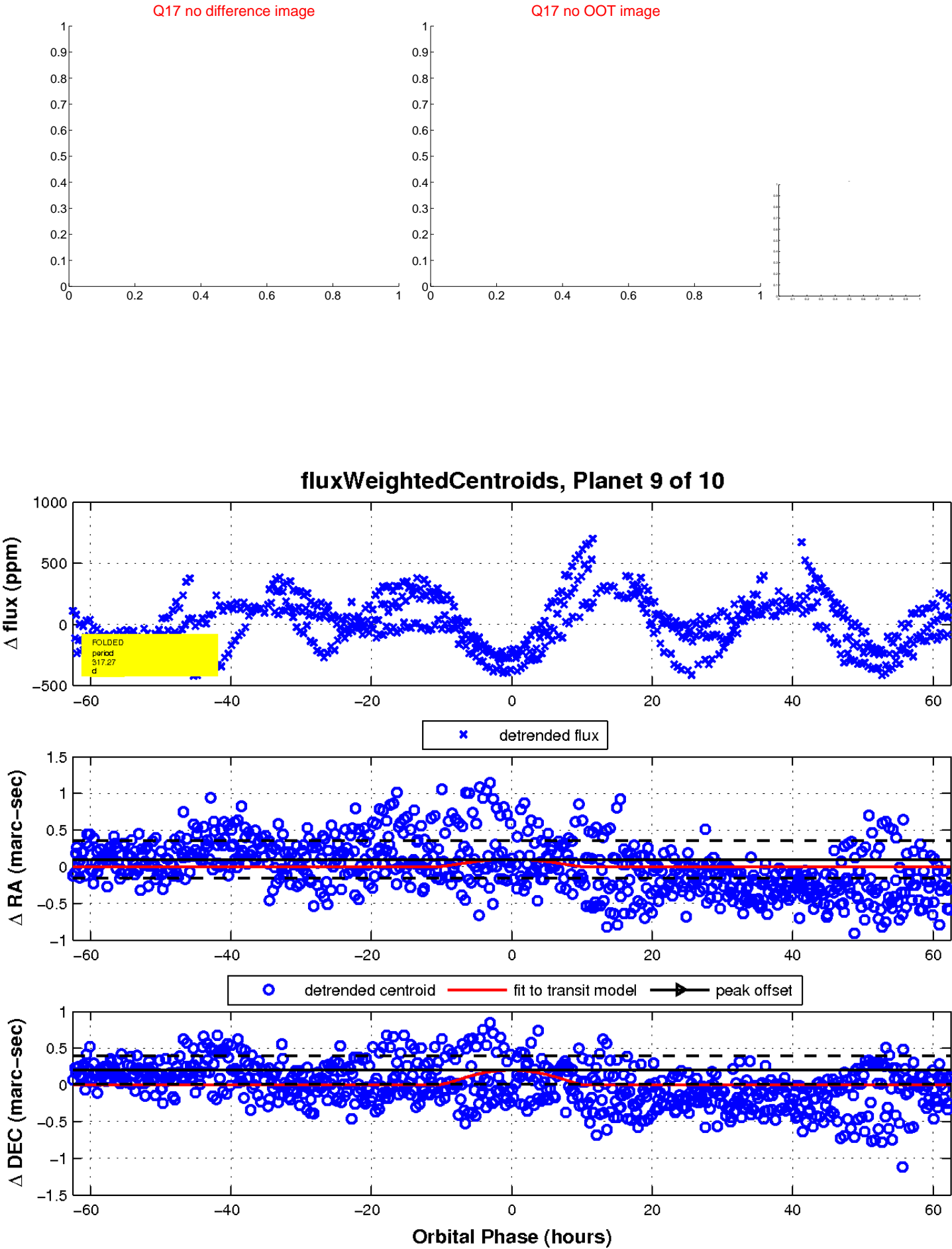
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

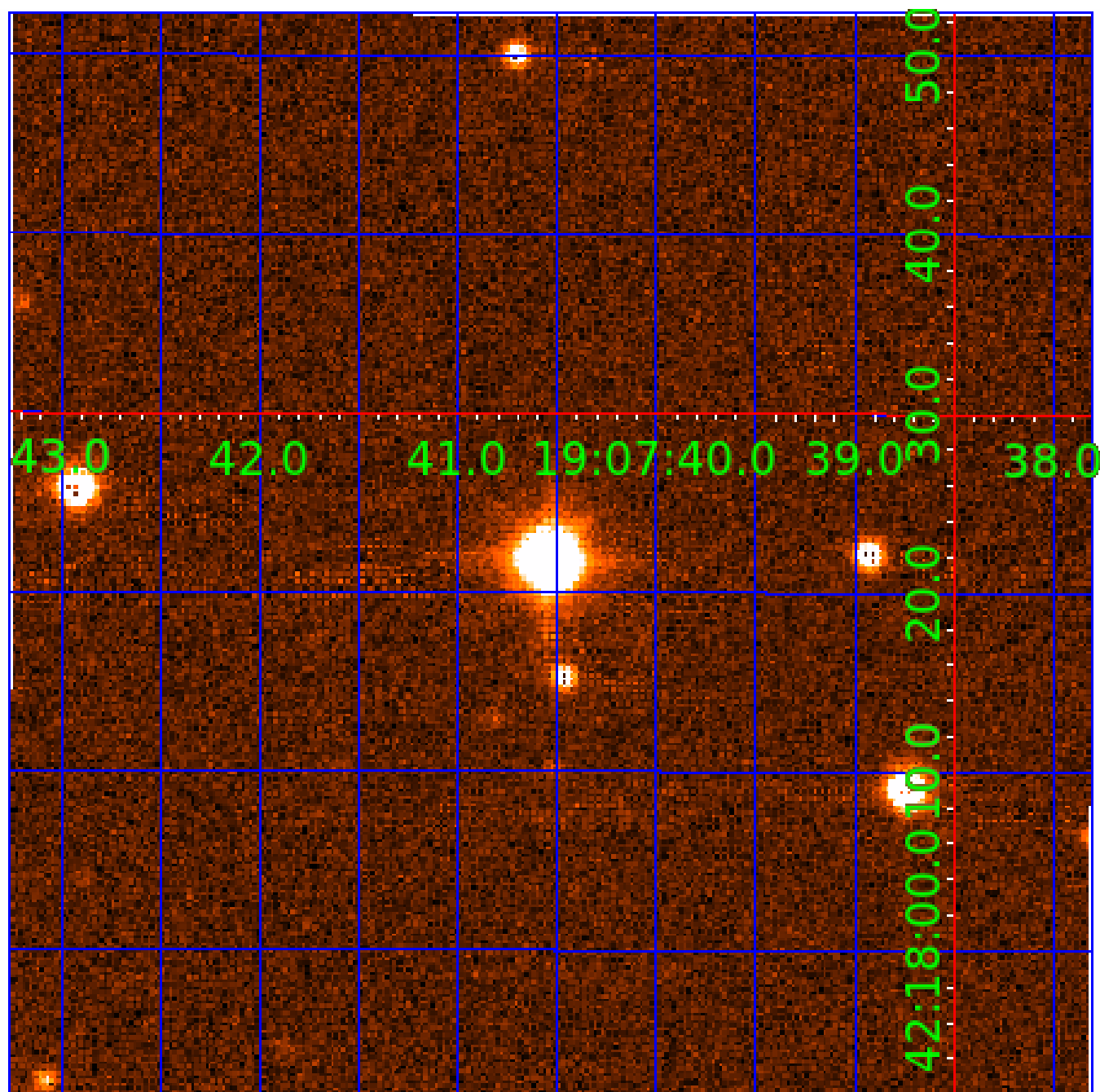


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006848529

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})
006848529-01	OBS	No	427.140524	267.620670	617.9	16.509	20.4	21.4	2.68	10974	11.93	37.38
006848529-02	OBS	No	425.377313	271.650415	584.4	17.326	16.6	19.5	2.68	10974	11.60	37.59
006848529-03	OBS	No	322.165191	377.066539	423.6	21.132	14.3	14.7	2.68	10974	9.95	54.45
006848529-04	OBS	No	634.237601	296.998362	359.7	17.937	11.6	10.8	2.68	10974	9.19	22.07
006848529-05	OBS	No	543.177525	150.383009	538.5	18.663	11.4	14.7	2.68	10974	11.16	27.14
006848529-06	OBS	No	415.048891	224.667614	283.4	19.592	10.3	10.6	2.68	10974	6.12	38.84
006848529-07	OBS	8128.01	197.361283	306.793358	90.2	19.013	8.3	6.8	2.68	10974	2.79	104.66
006848529-08	OBS	No	324.016203	403.453053	371.8	20.023	10.0	11.5	2.68	10974	9.34	54.04
006848529-09	OBS	No	317.268046	414.742883	395.0	20.857	8.3	10.2	2.68	10974	8.25	55.58
006848529-10	OBS	No	440.585610	175.853421	171.6	19.496	8.5	9.4	2.68	10974	4.21	35.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006848529-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
006848529-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED
006848529-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-07	OBS	FP	0.01	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
006848529-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
006848529-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—CENT_SATURATED

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

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

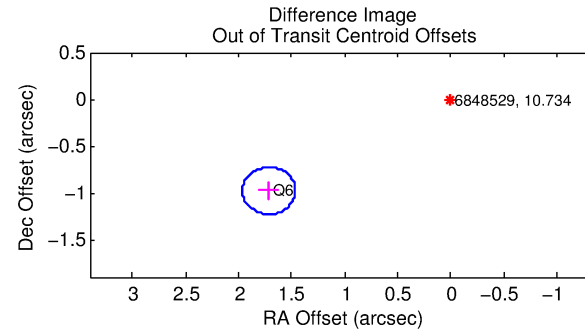
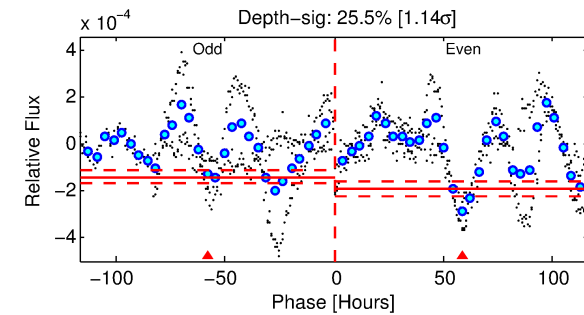
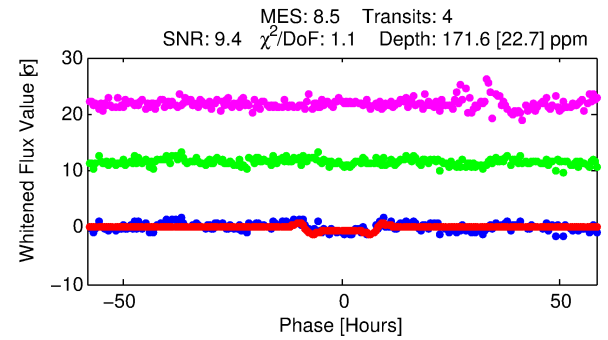
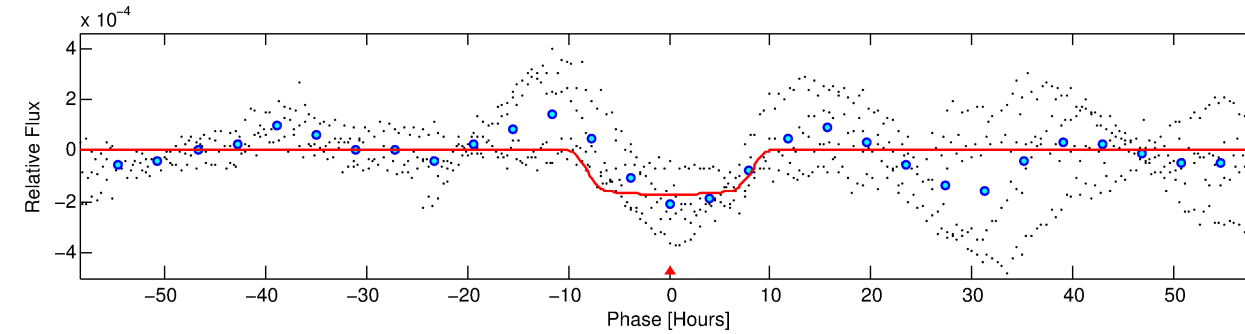
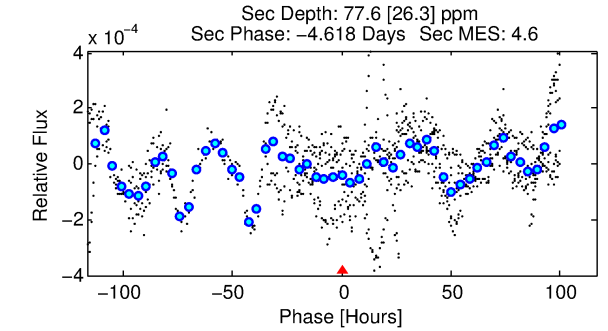
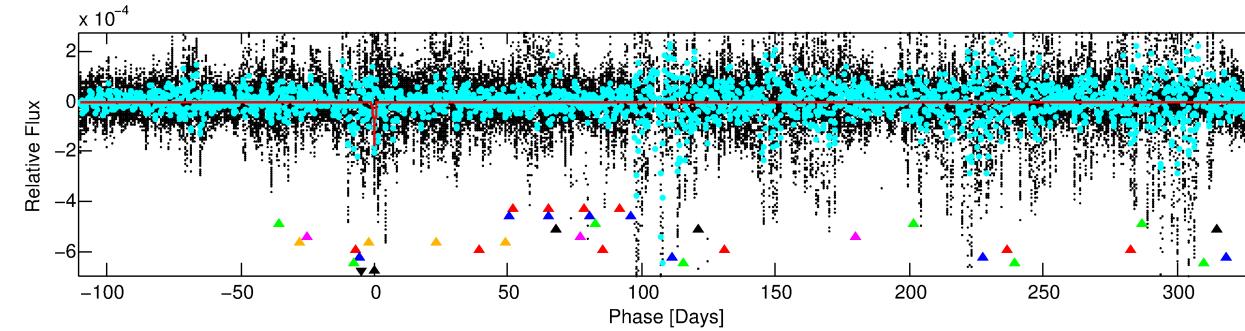
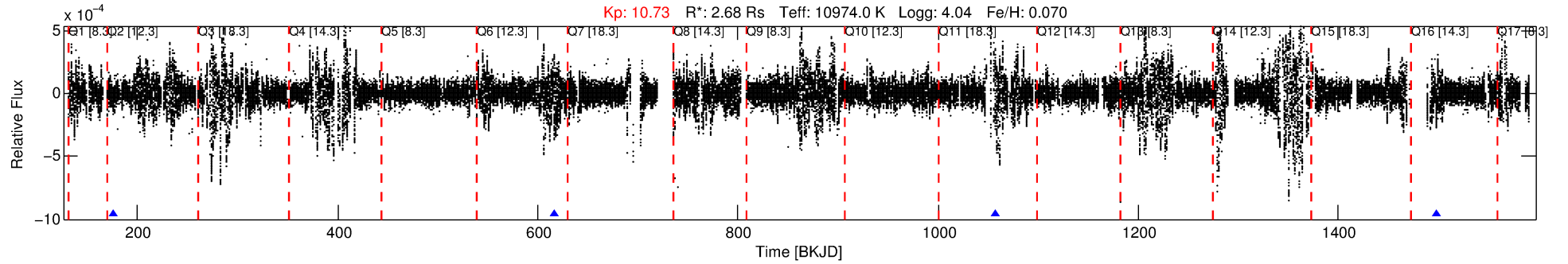
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006848529-10

No Significant Match Found

DV One-Page Summary

KIC: 6848529 Candidate: 10 of 10 Period: 440.586 d



DV Fit Results:

Period = 440.58561 [0.00748] d
Epoch = 175.8534 [0.0136] BKJD
Rp/R* = 0.0144 [0.0010]
a/R* = 56.16 [5.29]
b = 0.96 [0.01]
Seff = 35.87 [17.62]
Teq = 624 [77] K
Rp = 4.21 [1.47] Re
a = 1.6112 [0.4861] AU
Ag = 6247.15 [3656.57] [1.71σ]
Teffp = 8578 [875] K [9.06σ]

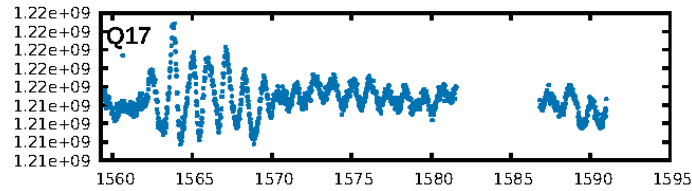
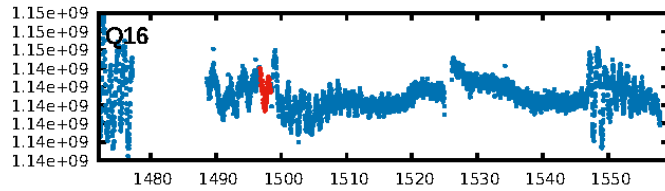
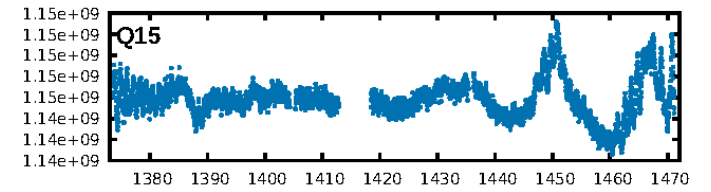
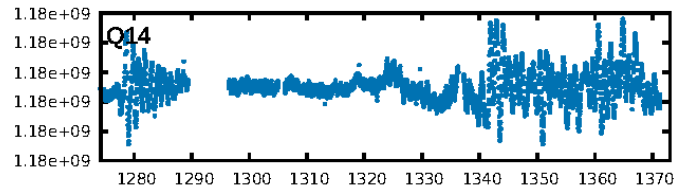
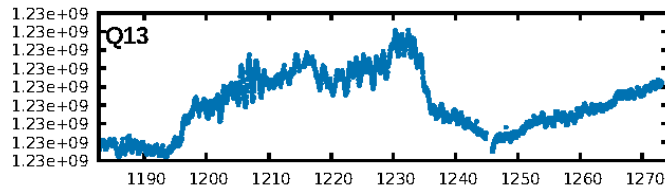
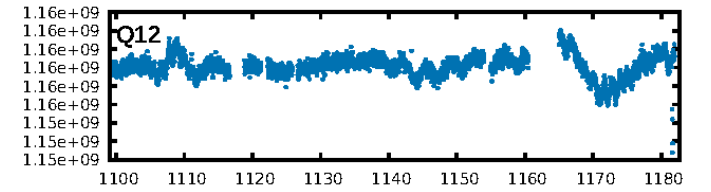
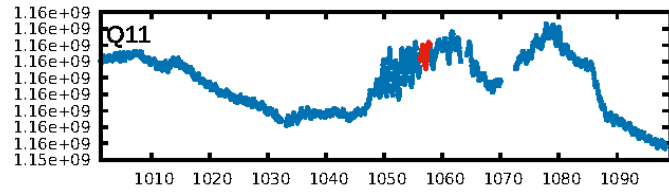
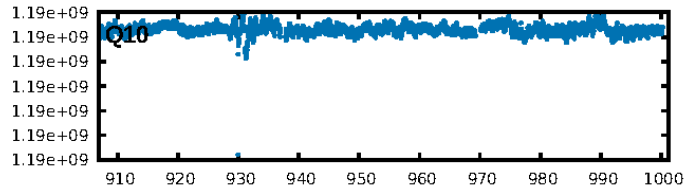
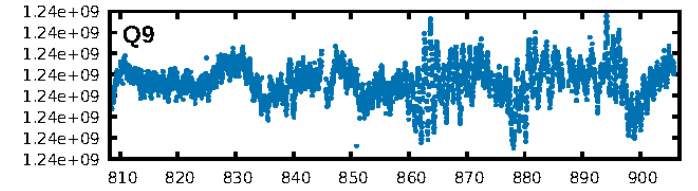
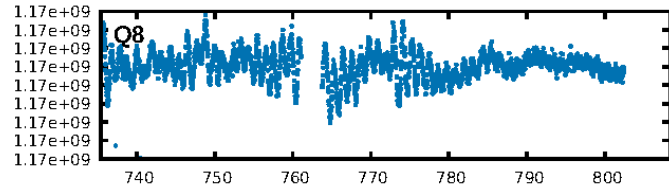
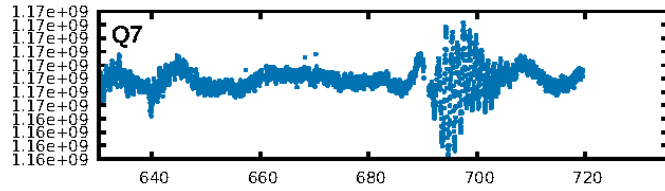
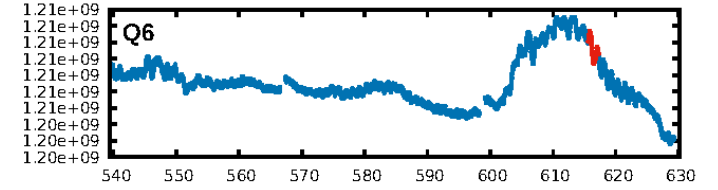
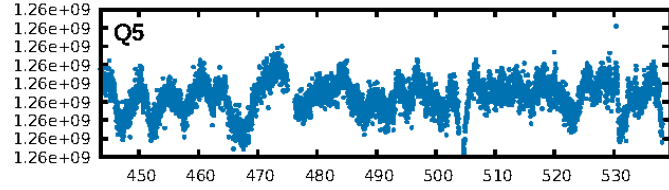
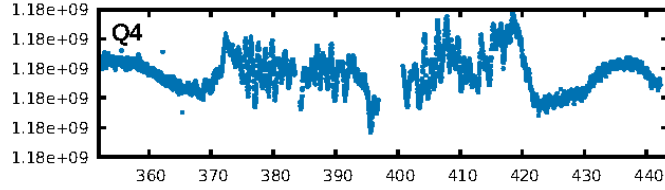
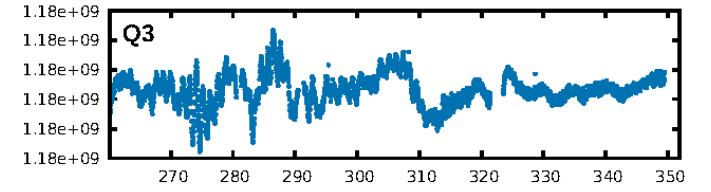
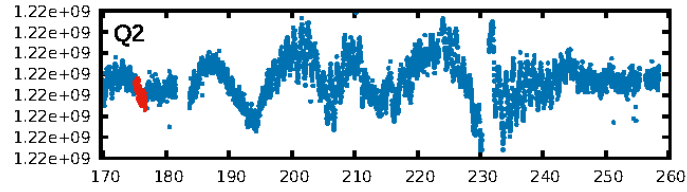
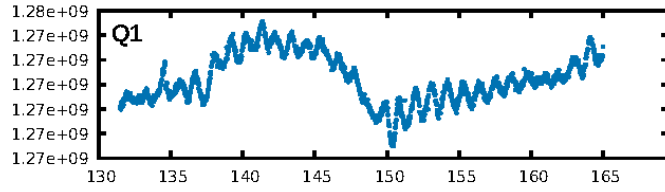
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.63σ]
LongPeriod-sig: 100.0% [91.23σ]
ModelChiSquare2-sig: 18.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 4.32e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.4821
Centroid-sig: 38.6%
Centroid-so: 0.439 arcsec [0.52σ]
OotOffset-rm: 1.973 arcsec [23.65σ]
KicOffset-rm: 2.604 arcsec [31.18σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

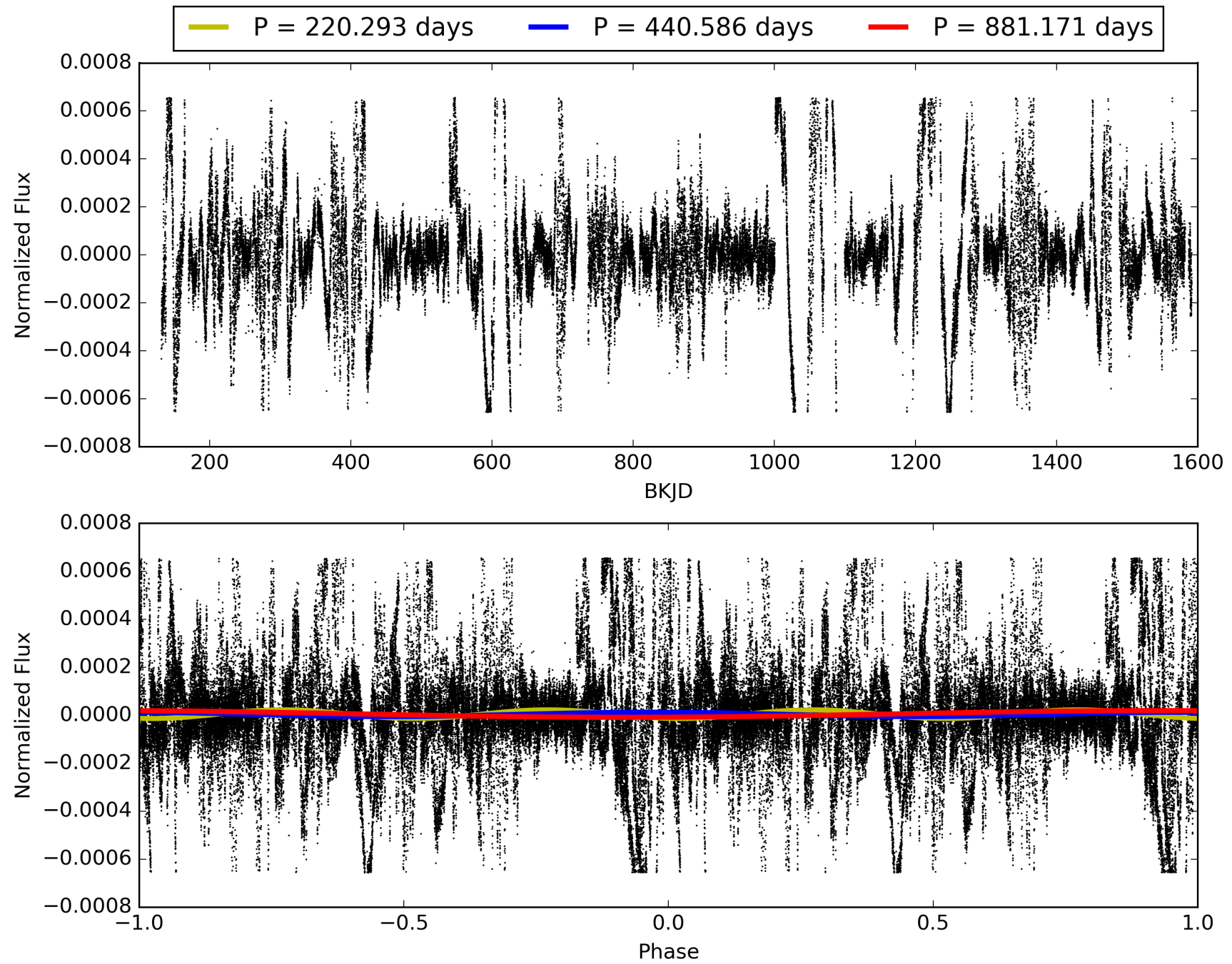
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:22:13 Z

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

TCE 006848529-10, PDC Light Curves

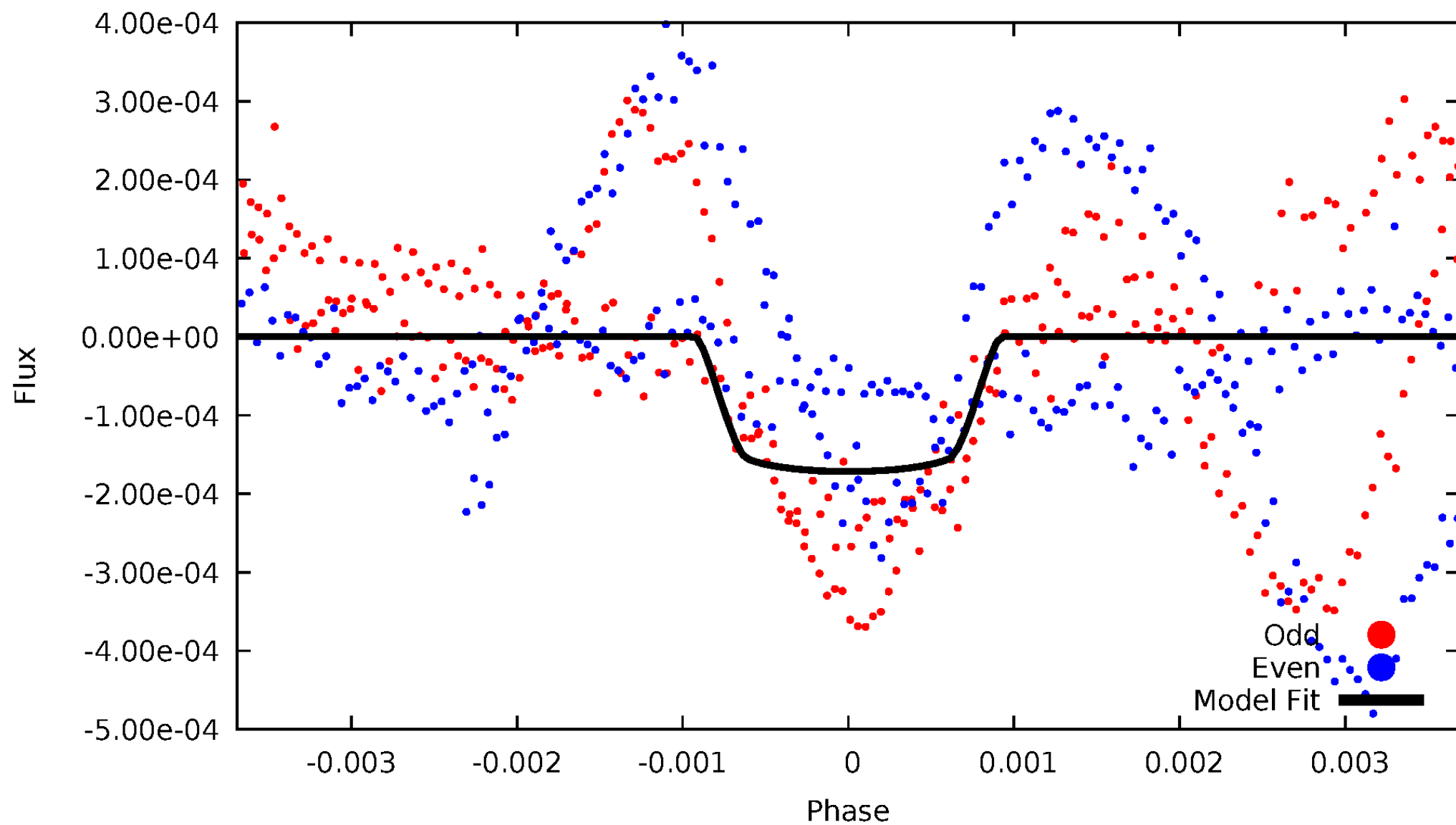


TCE 006848529-10



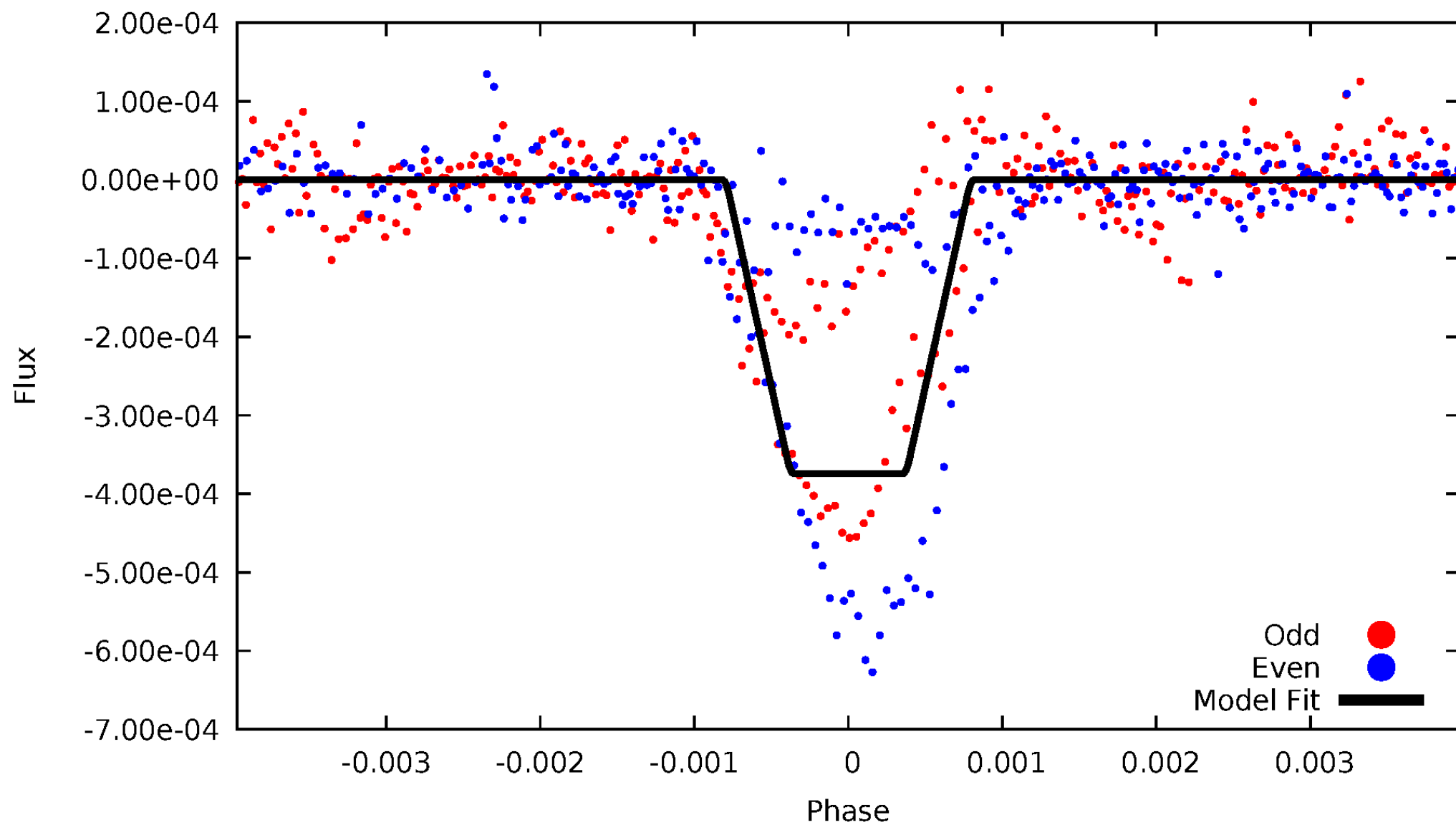
DV Odd/Even

TCE 006848529-10



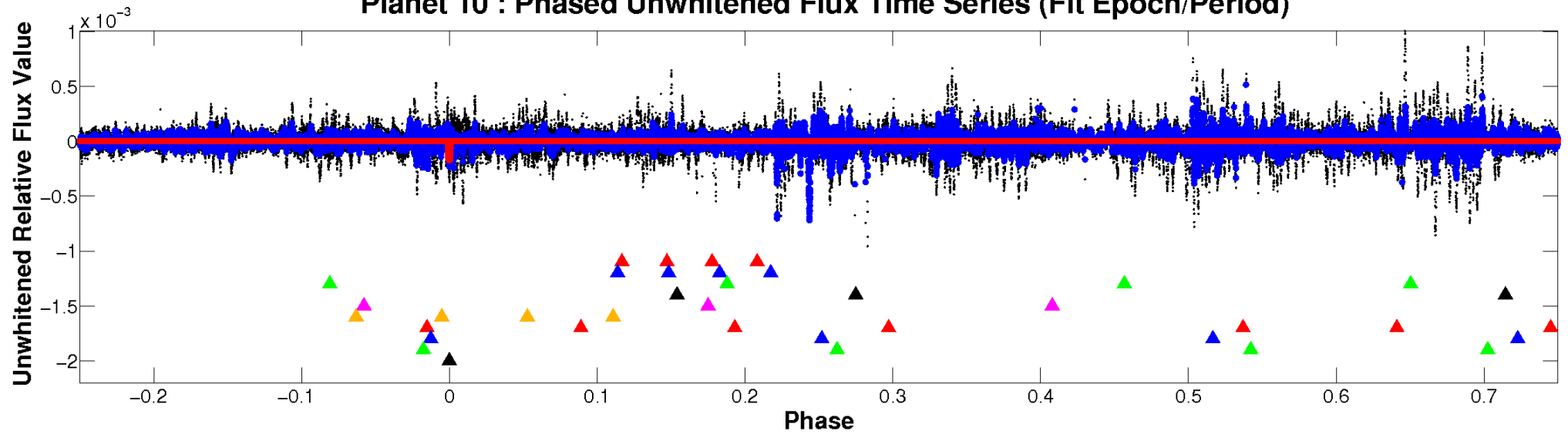
ALT Odd/Even

TCE 006848529-10

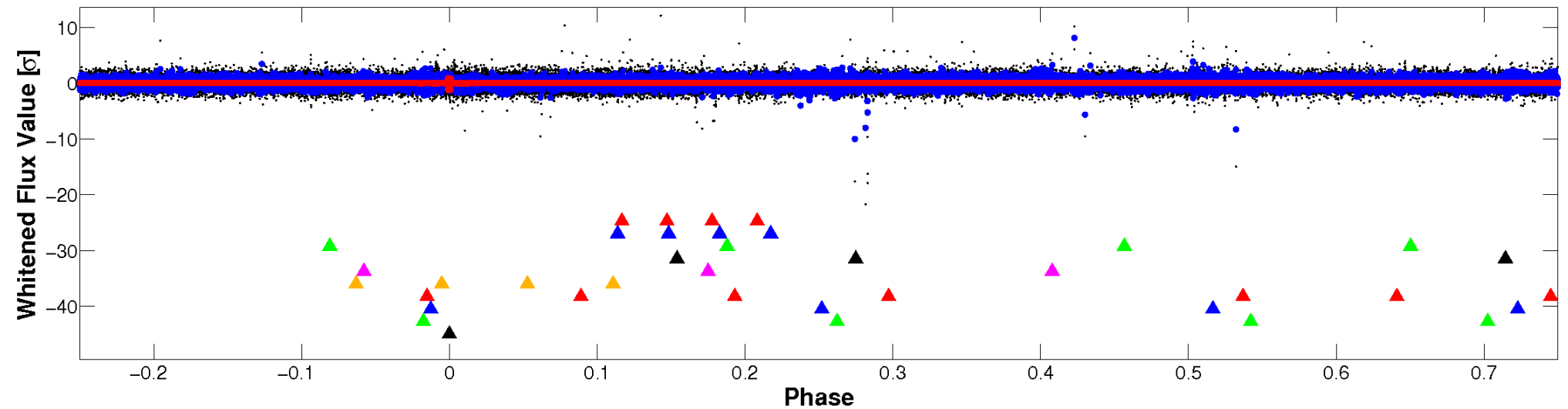


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

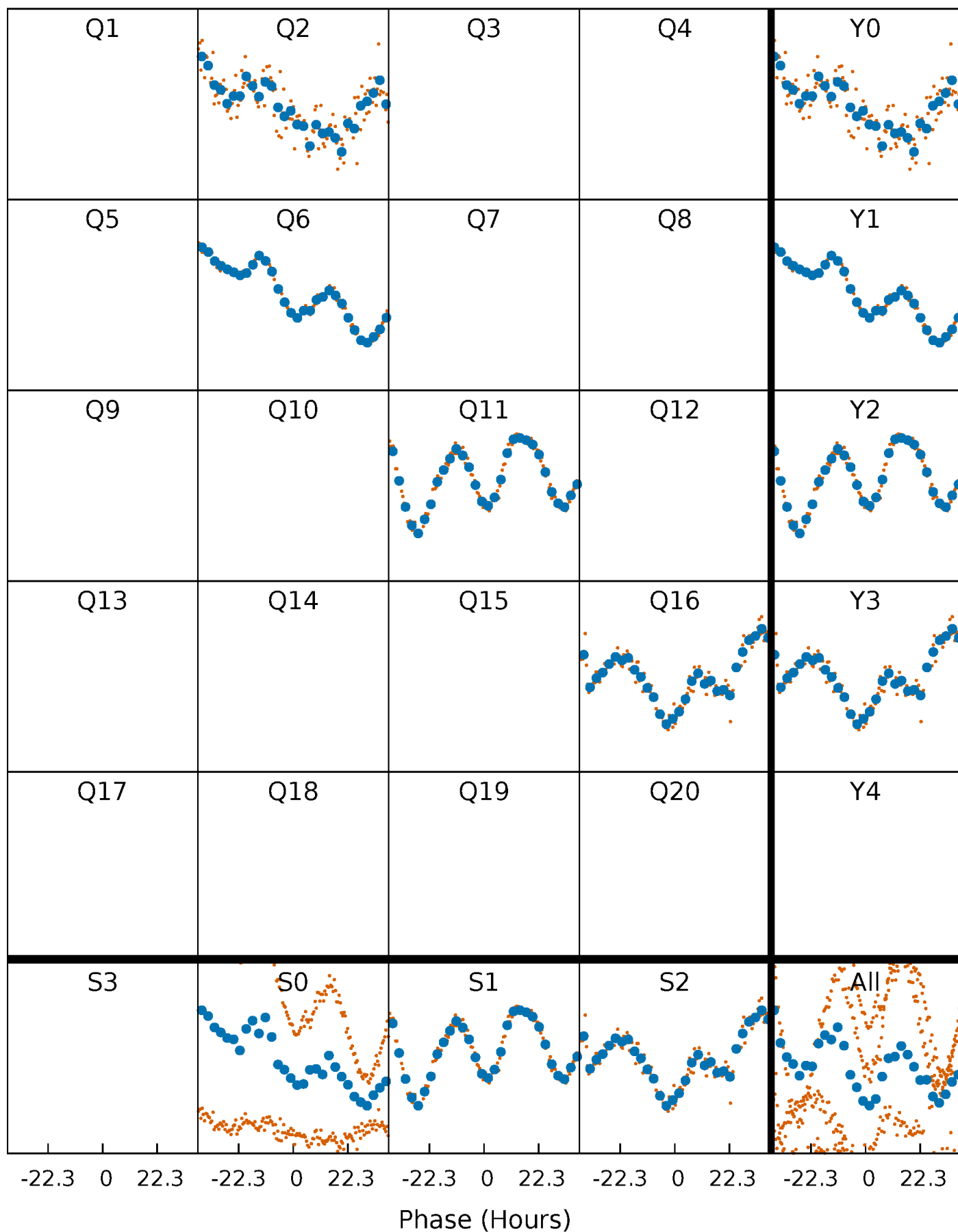


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



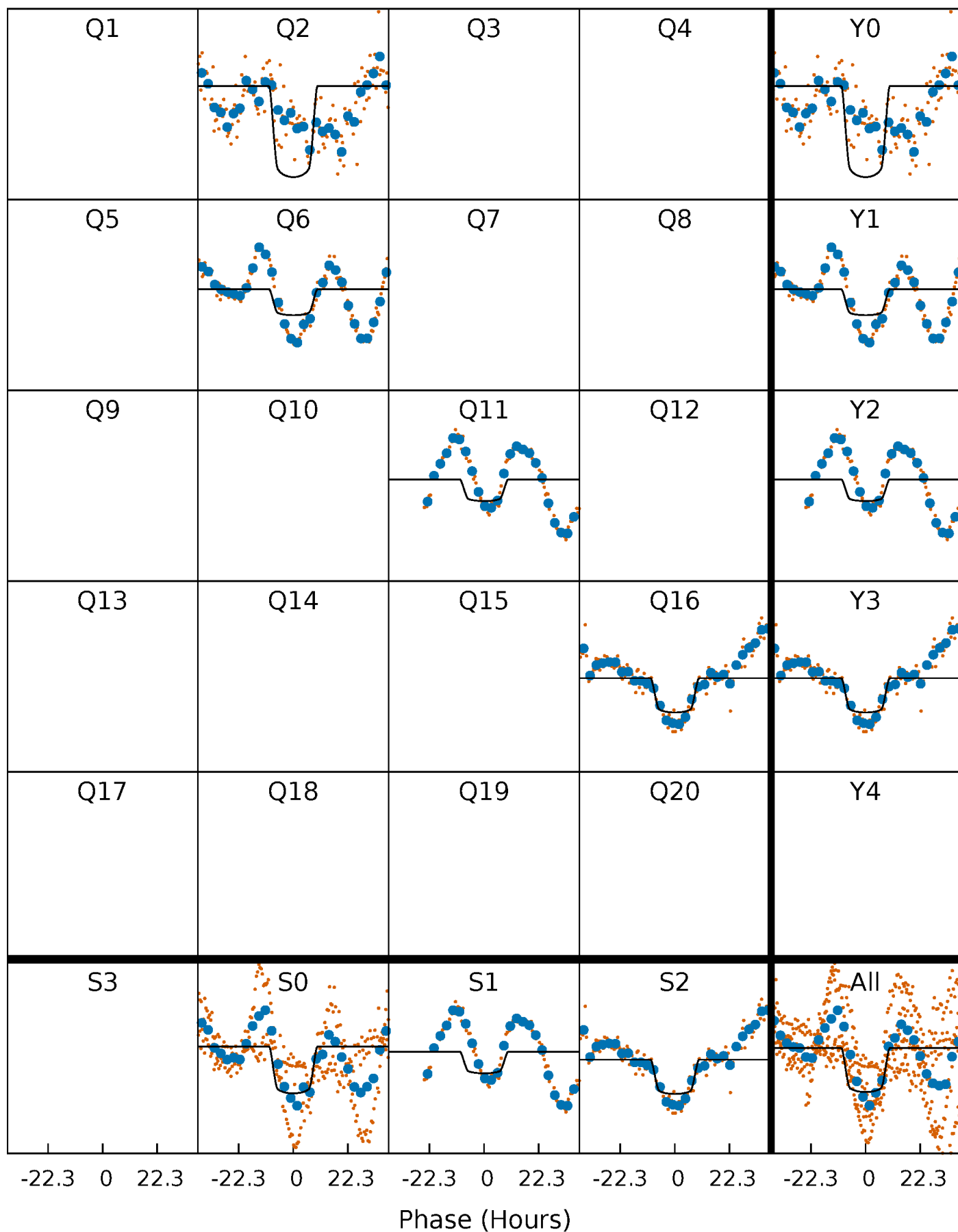
PDC Quarter-Phased Transit Curves

TCE 006848529-10 $P=440.585610$ Days $T_0=175.853421$ (BKJD)



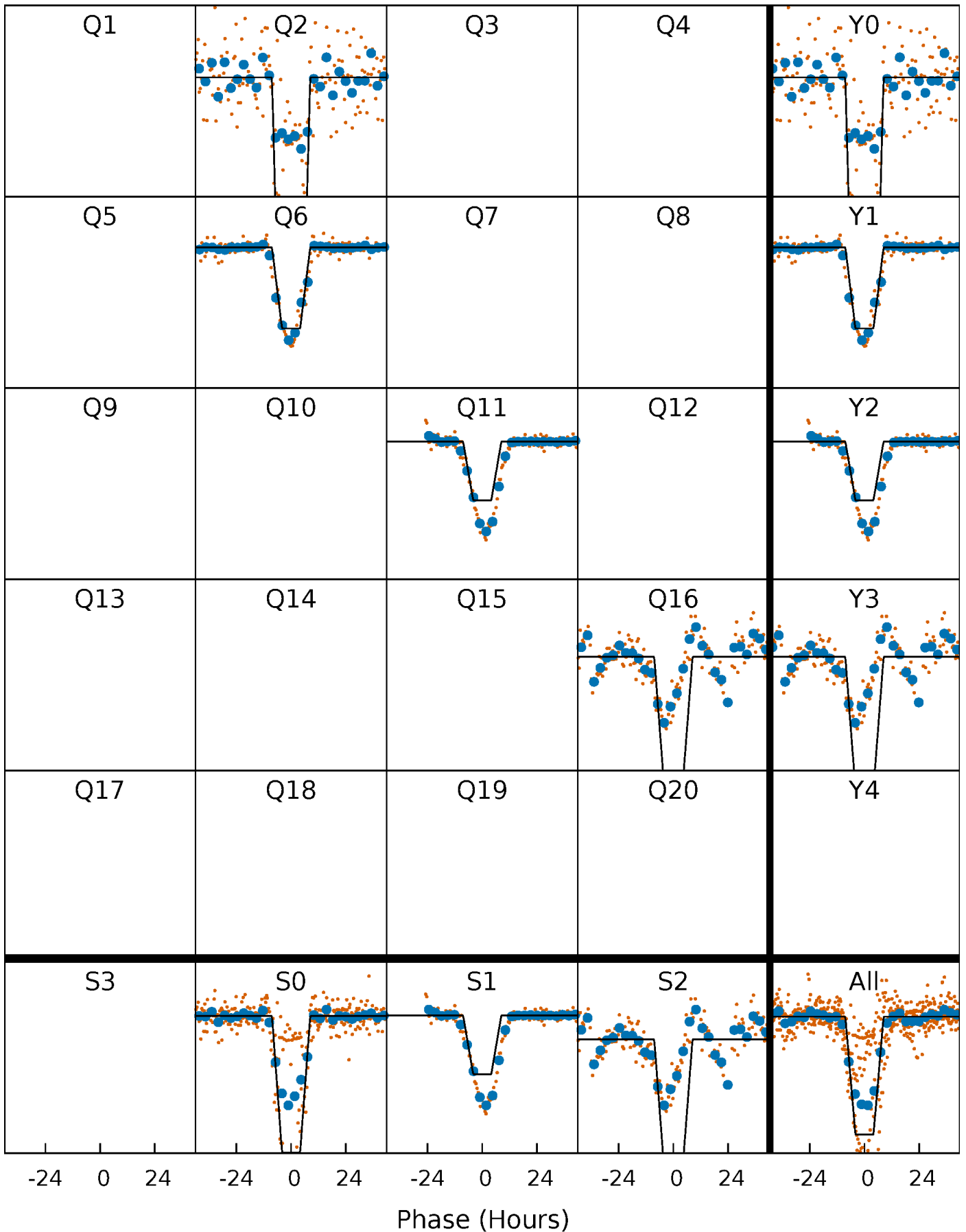
DV Quarter-Phased Transit Curves

TCE 006848529-10 P=440.585610 Days $T_0=175.853421$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

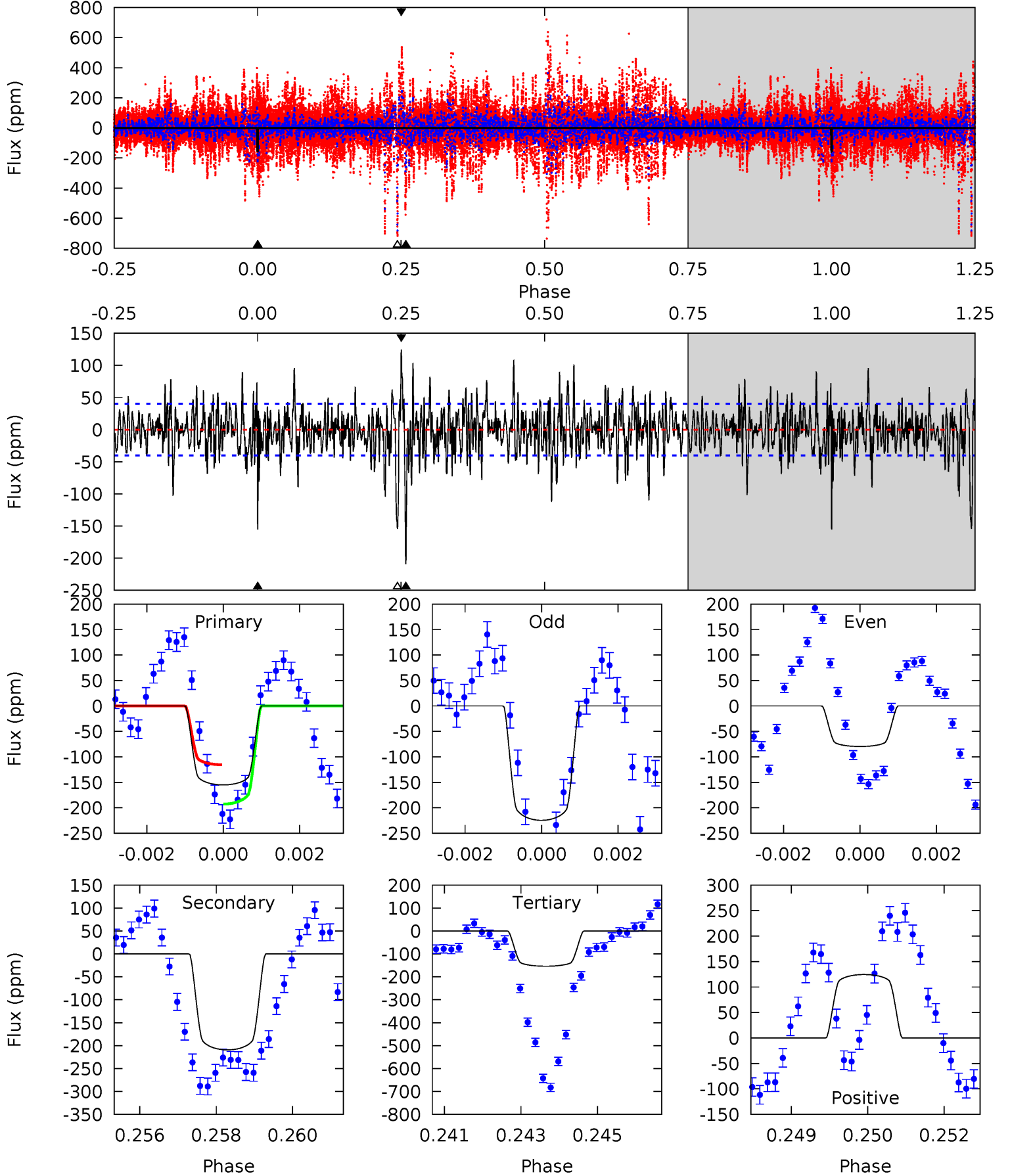
TCE 006848529-10 P=440.581610 Days $T_0=175.879803$ (BKJD)



DV Model-Shift Uniqueness Test

006848529-10, P = 440.585610 Days, E = 175.853421 Days

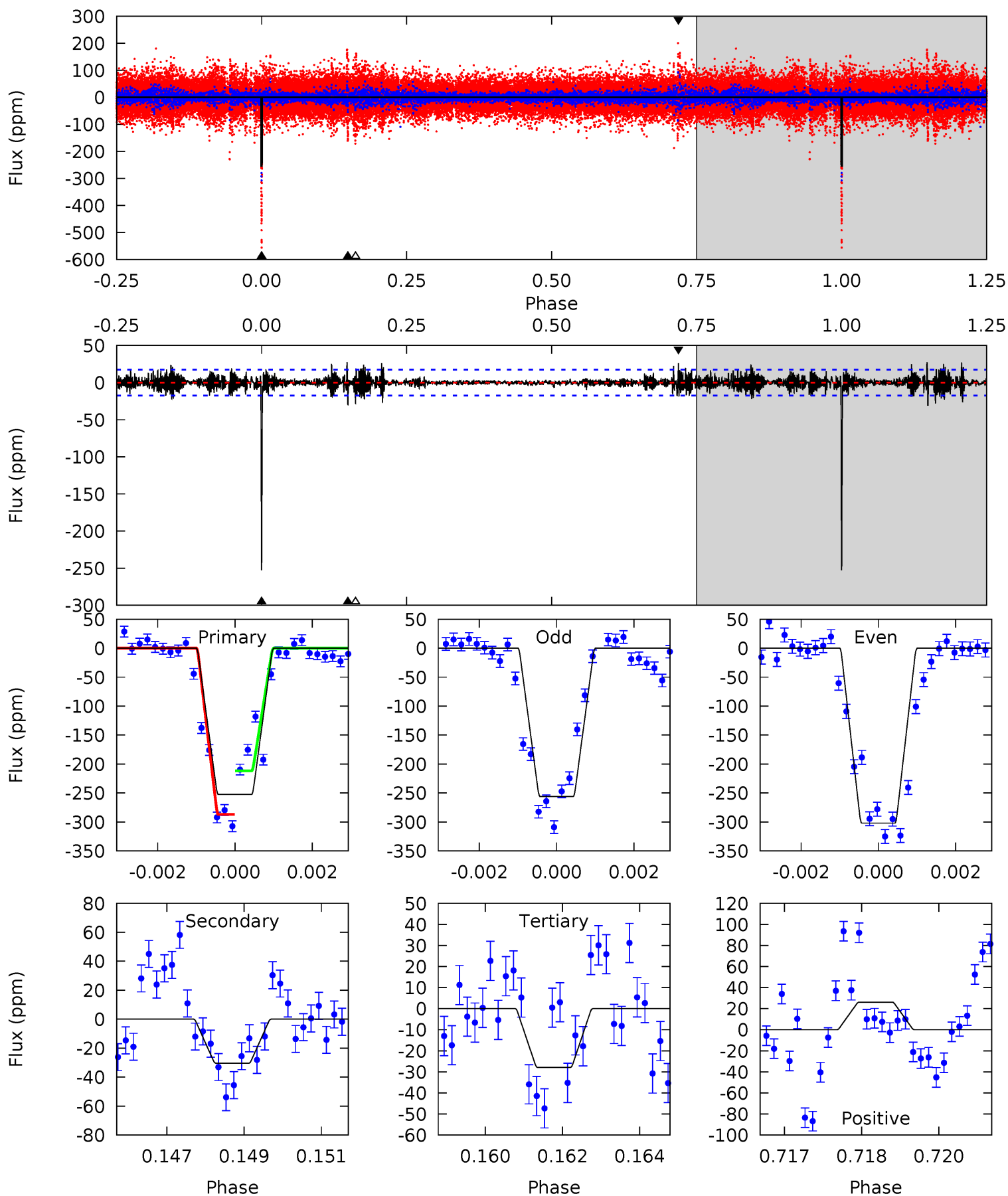
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	27.7	20.4	16.5	5.34	3.11	3.98	0.16	4.04	7.35	11.2	8.58	1.07	0.37	5.19



Alt Model-Shift Uniqueness Test

006848529-10, P = 440.581610 Days, E = 175.879803 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.8	9.36	8.58	8.06	5.36	3.15	1.63	69.2	69.8	0.78	1.29	7.44	1.08	0.10	11.2



Stellar Parameters For KIC 006848529

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10974^{+266}_{-495}	$4.041^{+0.258}_{-0.172}$	$0.070^{+0.150}_{-0.600}$	$2.677^{+0.748}_{-0.914}$	$2.873^{+0.241}_{-0.723}$	$0.211^{+0.363}_{-0.103}$
	+2%/-5%	+6%/-4%	+214%/-857%	+28%/-34%	+8%/-25%	+172%/-49%
Source	KIC0	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 006848529-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-209 ± 8	$4.11^{+0.74}_{-0.83}$	857^{+71}_{-78}	10909^{+743}_{-723}	17296^{+8436}_{-4586}
Alt.	-30 ± 3	$5.62^{+0.87}_{-1.03}$	866^{+64}_{-74}	5255^{+194}_{-204}	1359^{+563}_{-354}

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 $A_{obs} \gg 1.0$

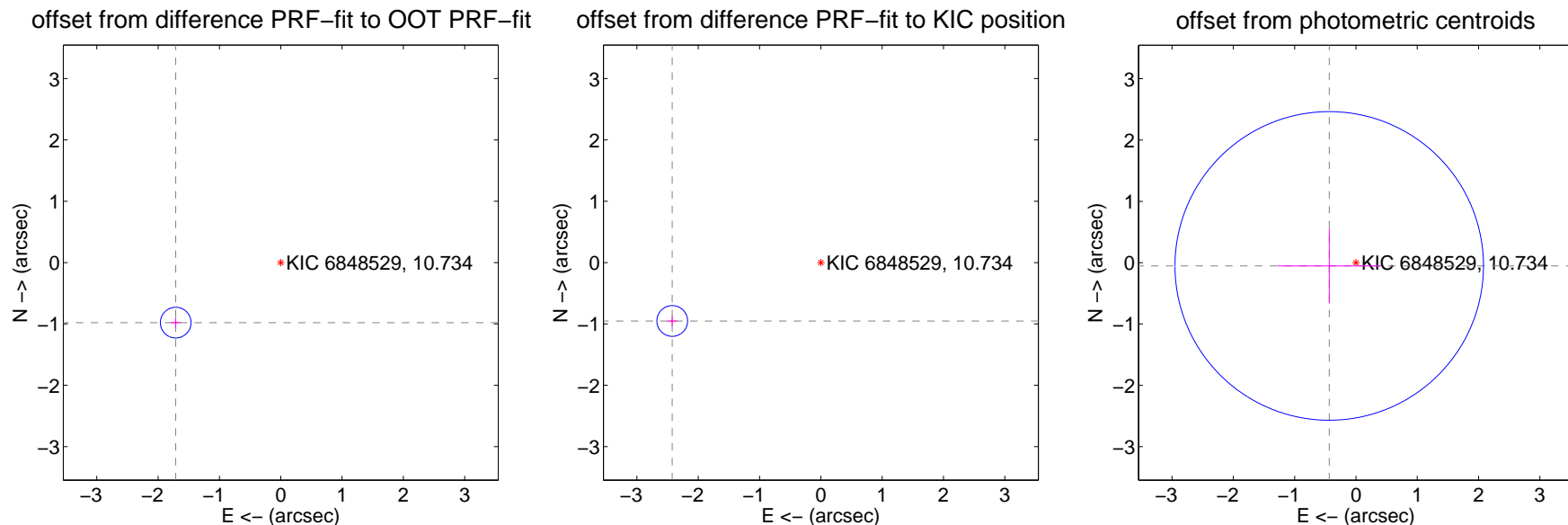
DV Centroid Data

Supplemental centroid analysis for 006848529-10. **Kepler magnitude: 10.73.** Transit SNR 9.37

There are 0 quarters with good PRF difference image offsets

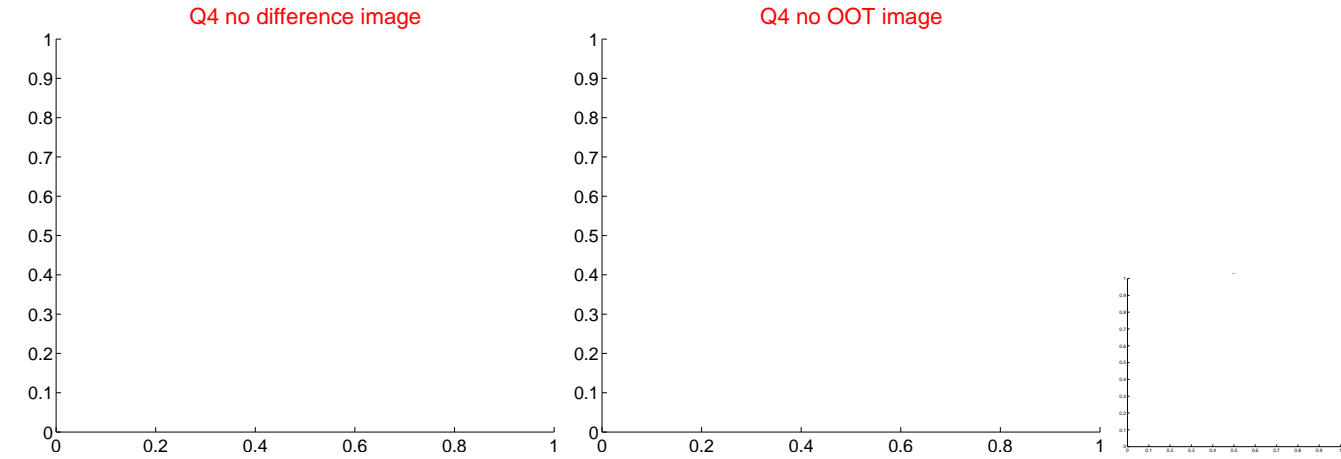
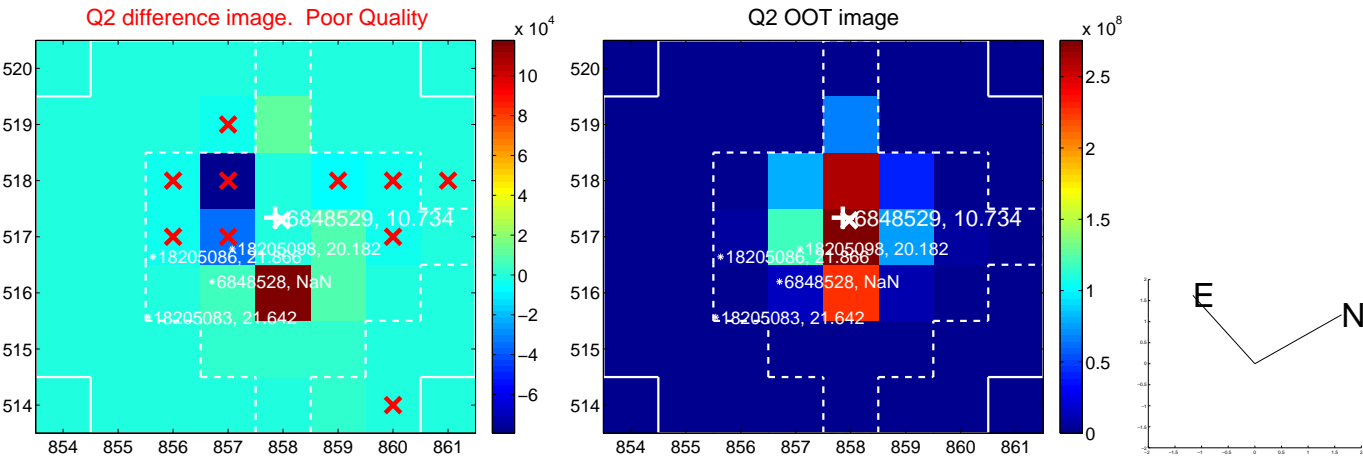
The direct PRF centroid is offset from the target star catalog position by about 0.71 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.973 ± 0.083	23.65	1.713 ± 0.084	-0.979 ± 0.083
PRF-fit source offset from KIC position	2.604 ± 0.084	31.18	2.424 ± 0.084	-0.952 ± 0.083
photometric centroid source offset	0.44 ± 0.84	0.52	0.44 ± 0.84	-0.05 ± 0.61

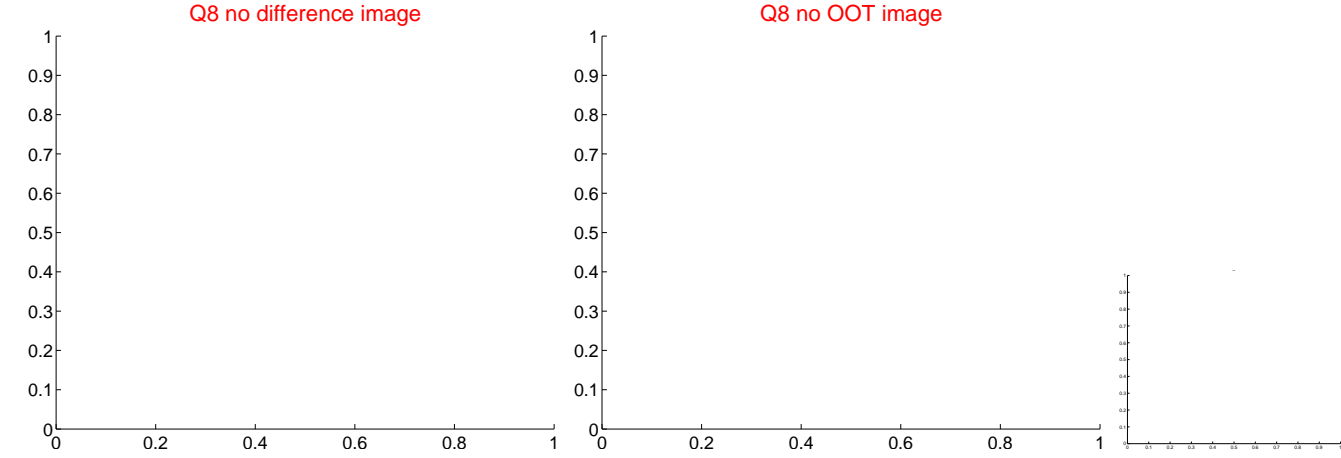
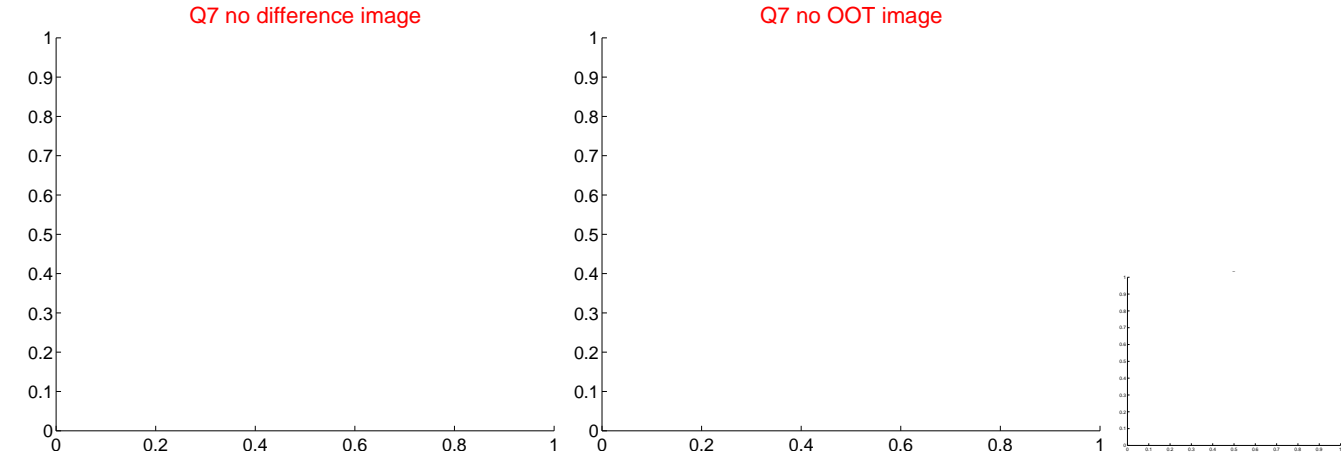
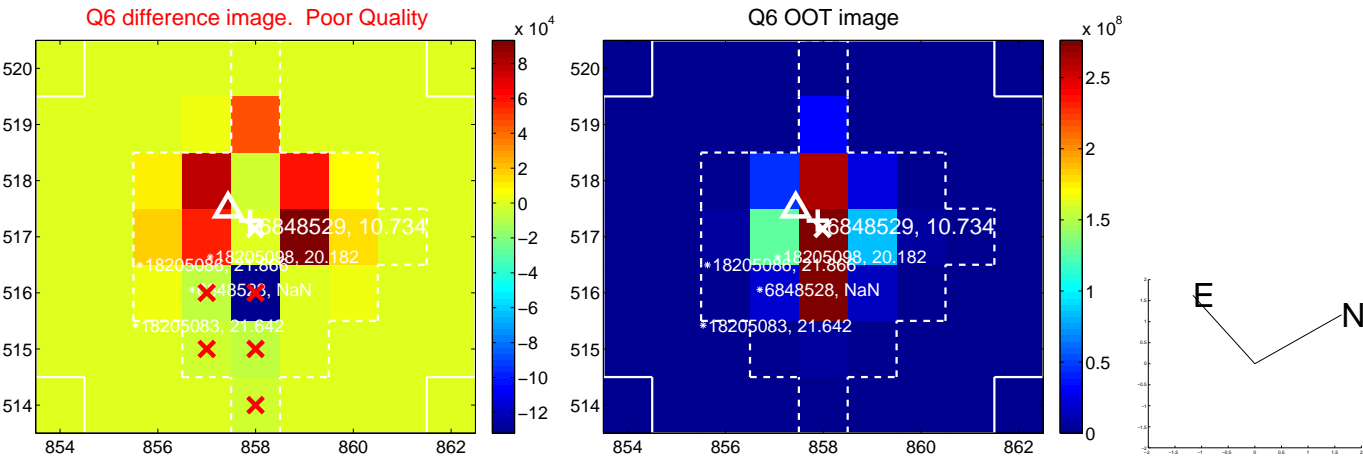


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

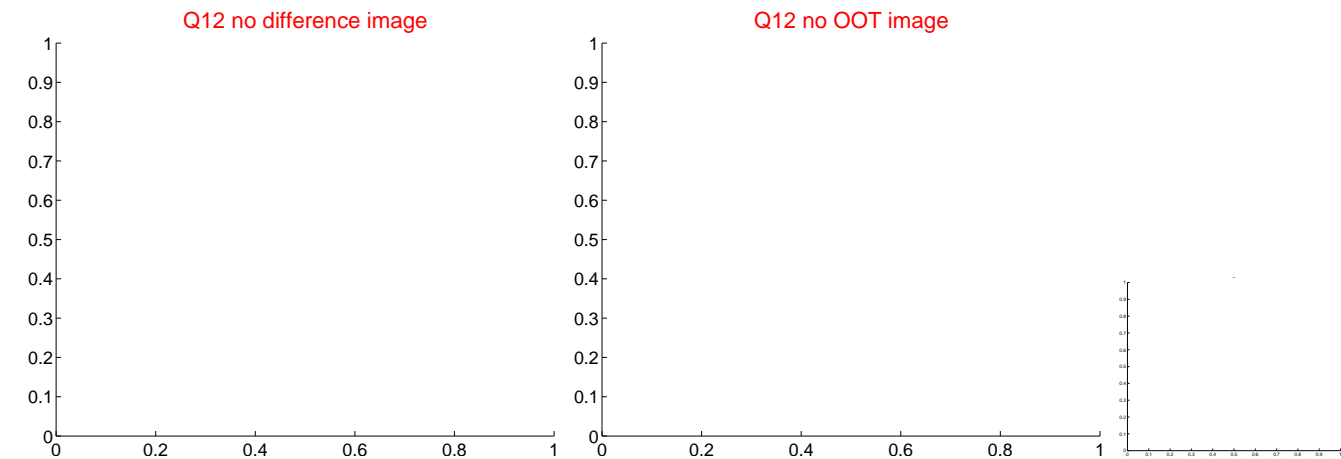
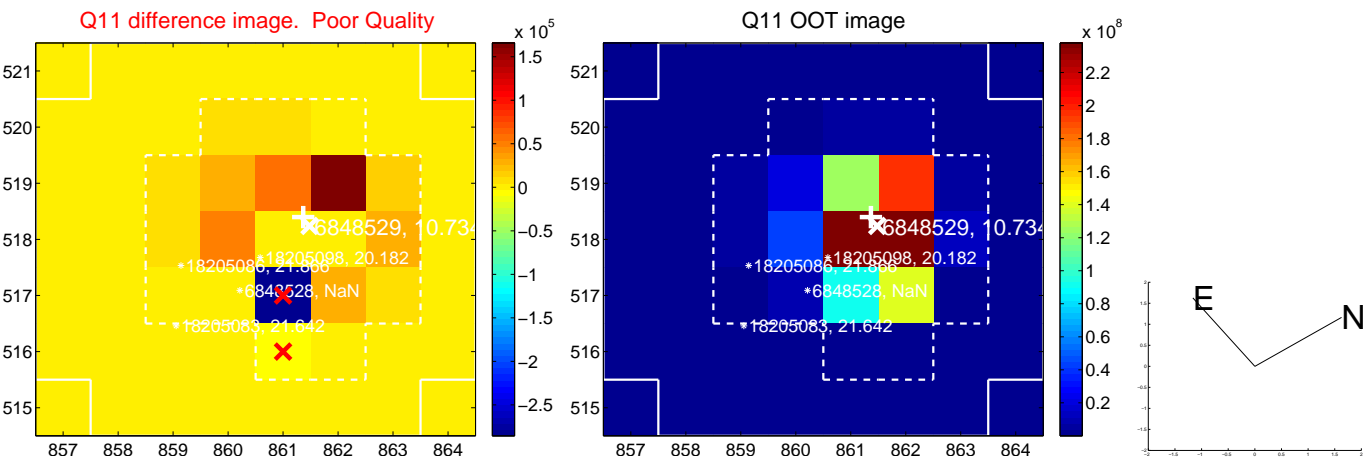
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



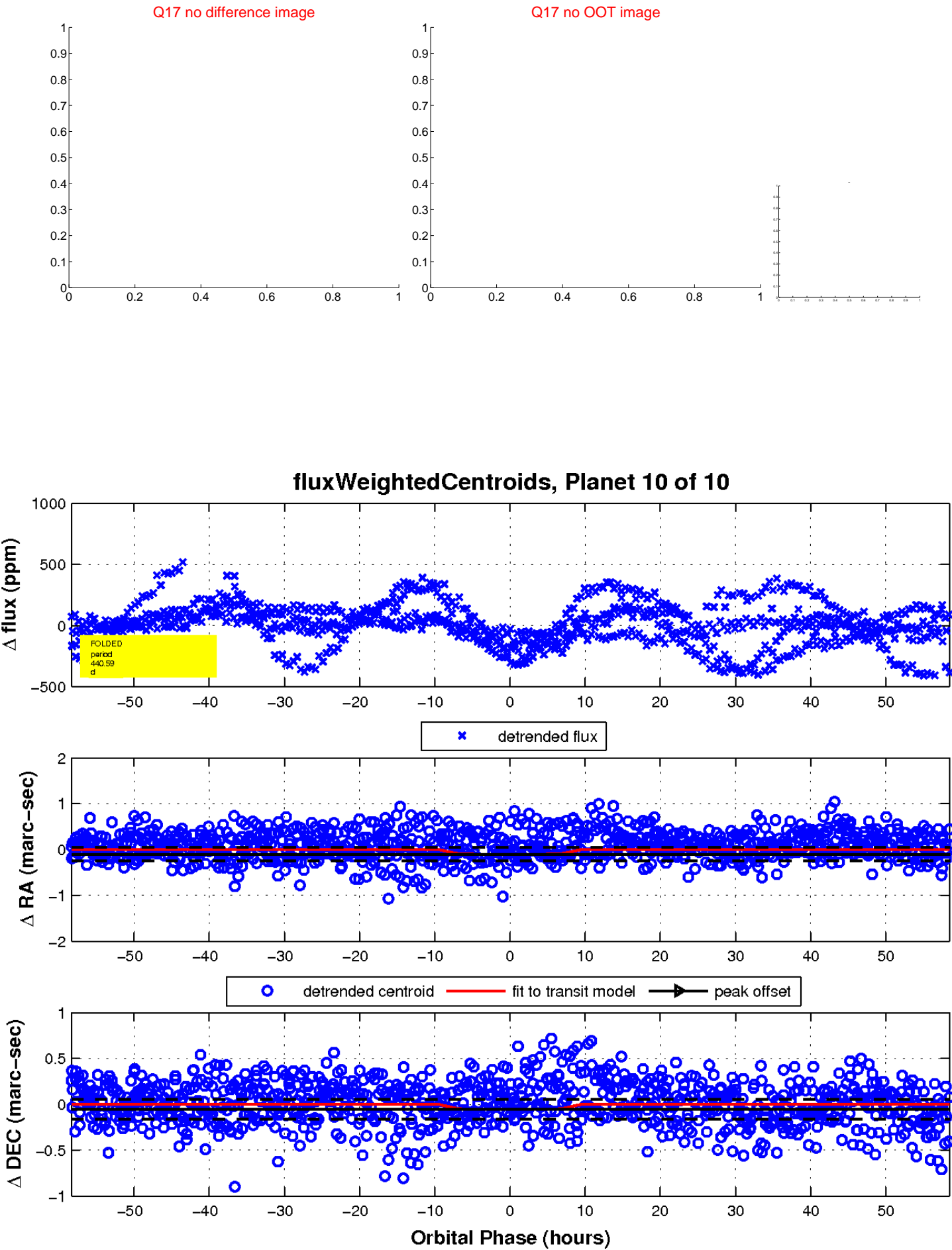
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

