

KIC 006468033

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})
006468033-01	OBS	No	0.927526	132.294772	56.3	5.605	8.2	10.7	0.95	5499	0.71	2253.88
006468033-02	OBS	No	76.577897	134.192326	770.4	13.938	20.7	4.7	0.95	5499	2.64	6.27
006468033-03	OBS	No	31.356677	154.901209	1075.5	15.327	14.9	8.8	0.95	5499	4.00	20.62
006468033-06	OBS	No	206.792931	168.120526	2233.0	6.400	14.7	9.5	0.95	5499	4.54	1.67
006468033-07	OBS	No	300.547582	181.774690	2575.0	10.460	12.0	9.5	0.95	5499	5.59	1.01
006468033-08	OBS	No	291.150468	205.607637	18339.3	109.283	12.1	11.0	0.95	5499	19.31	1.06
006468033-09	OBS	No	66.061273	177.240066	1521.5	10.930	10.4	8.5	0.95	5499	7.29	7.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006468033-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
006468033-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006468033-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

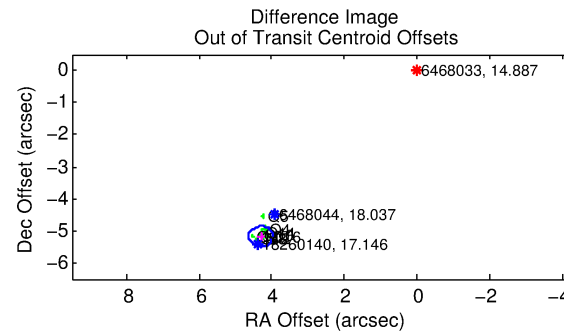
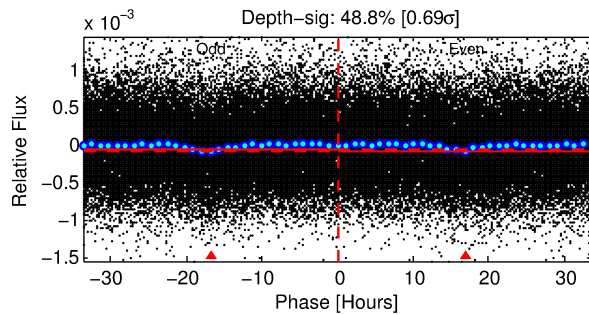
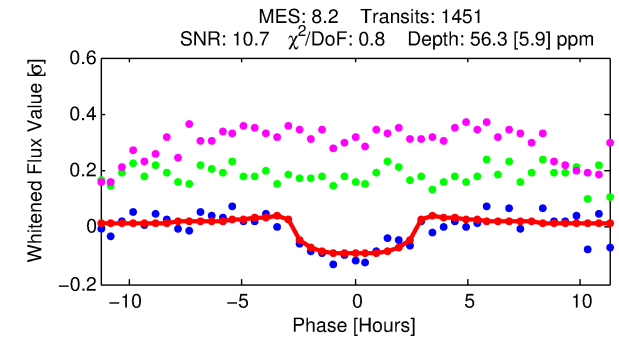
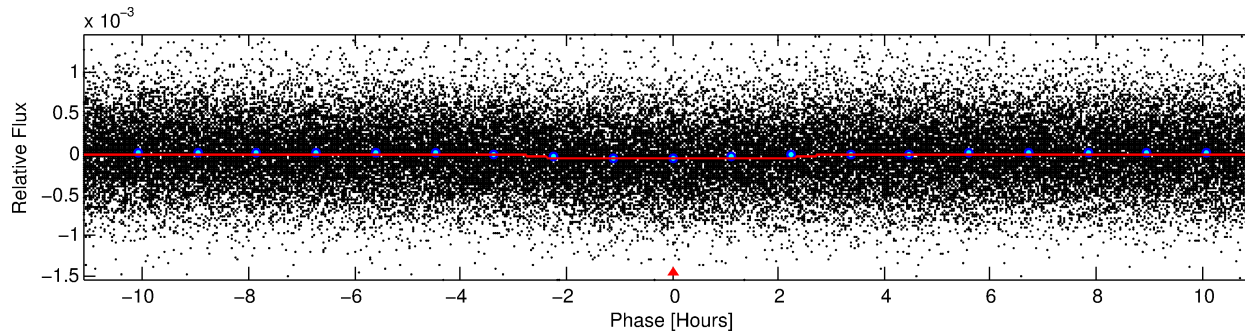
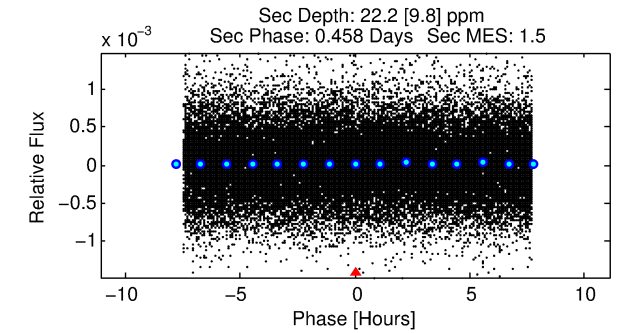
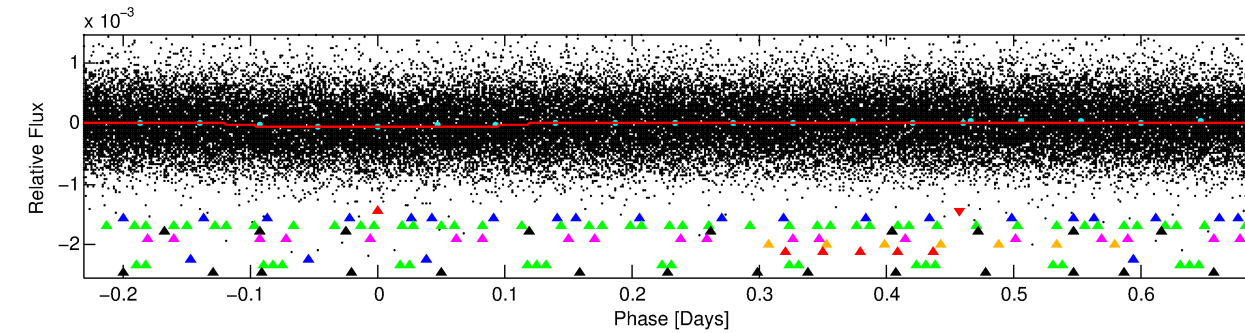
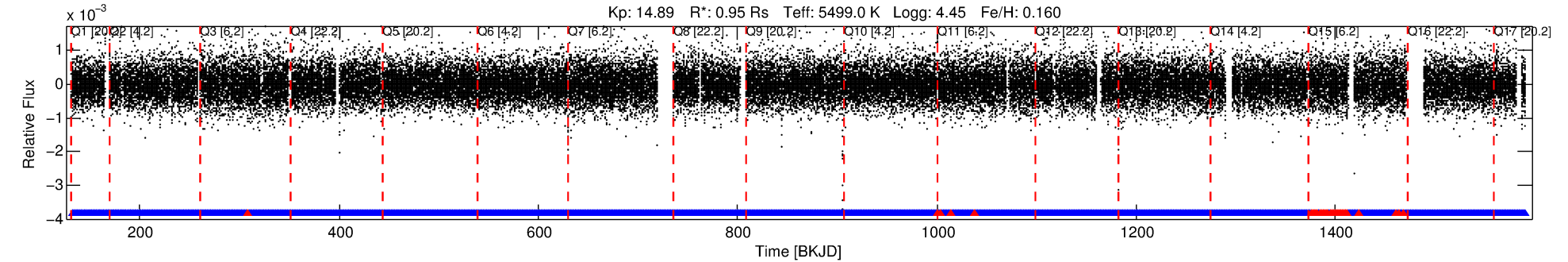
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006468033-01

No Significant Match Found

DV One-Page Summary

KIC: 6468033 Candidate: 1 of 10 Period: 0.928 d



DV Fit Results:

Period = 0.92753 [0.00001] d
Epoch = 132.2948 [0.0045] BKJD
Rp/R* = 0.0068 [0.0048]
a/R* = 1.40 [1.90]
b = 0.23 [11.96]
Seff = 2253.88 [792.00]
Teq = 1757 [154] K
Rp = 0.71 [0.54] Re
a = 0.0182 [0.0041] AU
Ag = 8.12 [12.39] [0.57σ]
Teffp = 4585 [1713] K [1.64σ]

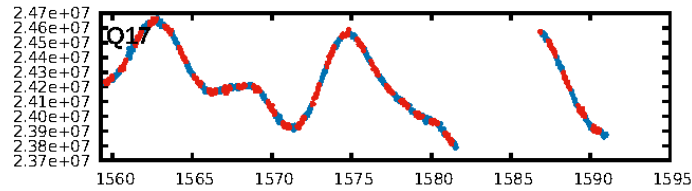
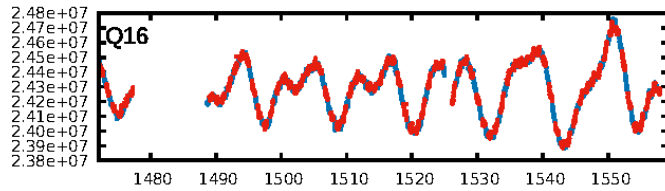
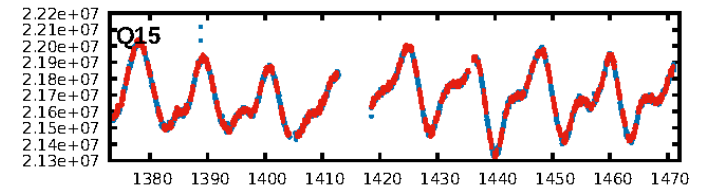
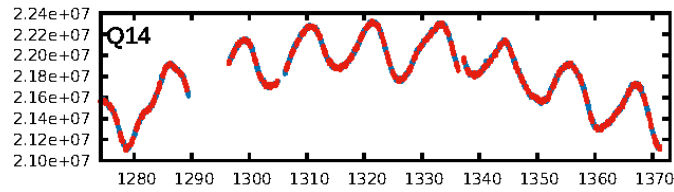
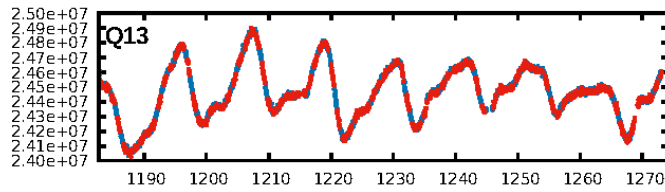
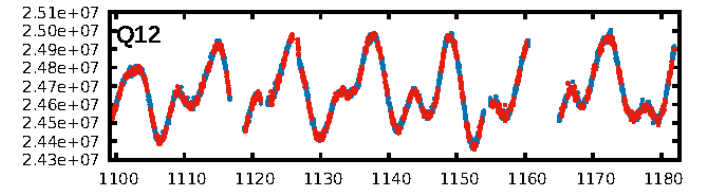
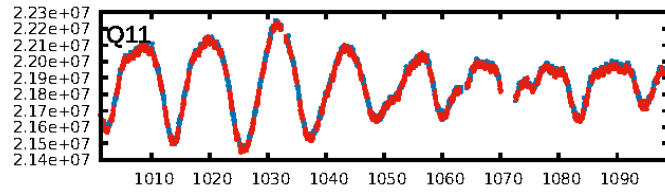
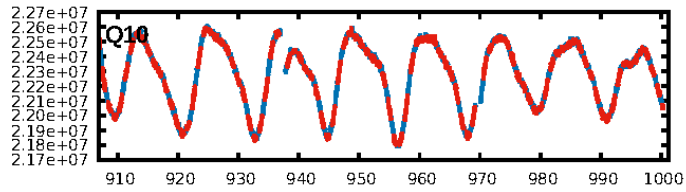
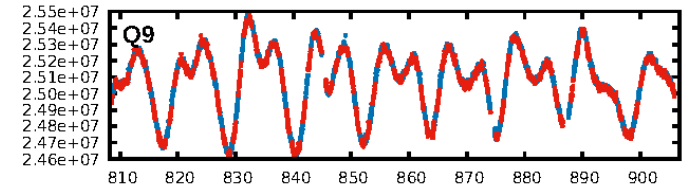
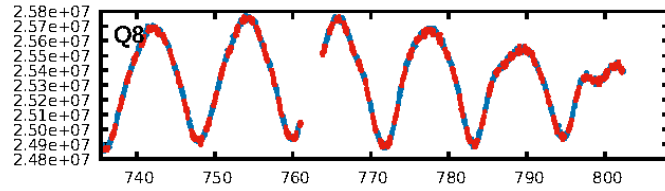
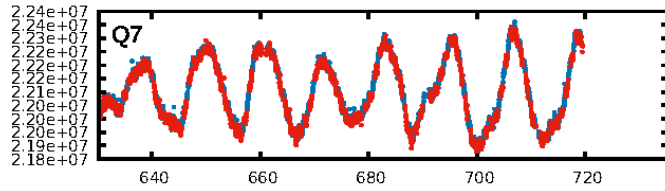
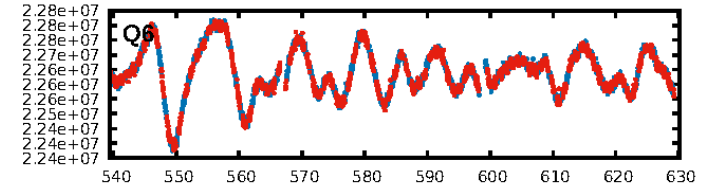
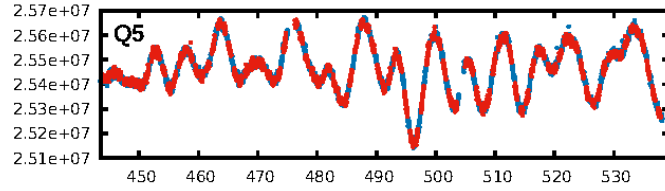
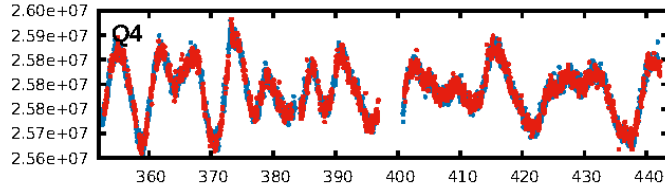
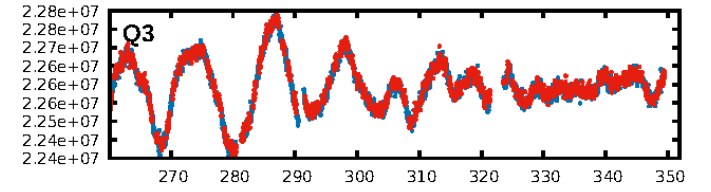
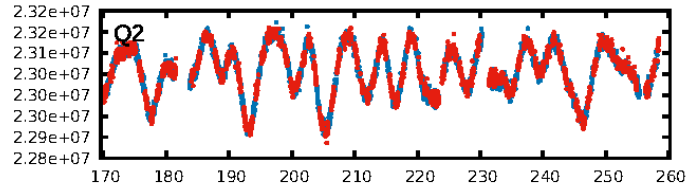
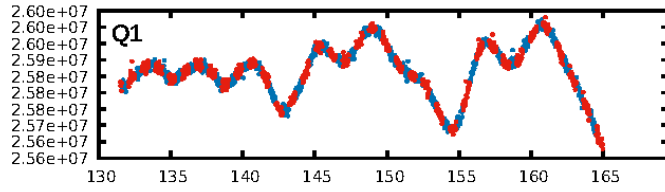
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [44.75σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [1343/1387]
GhostDiagnostic-chr: 0.09408
Centroid-sig: 0.0%
Centroid-so: 2.732 arcsec [2.47σ]
OotOffset-rm: 6.727 arcsec [62.52σ]
KicOffset-rm: 6.784 arcsec [65.33σ]
OotOffset-st: 3/0/4/1 [8]
KicOffset-st: 3/0/4/1 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

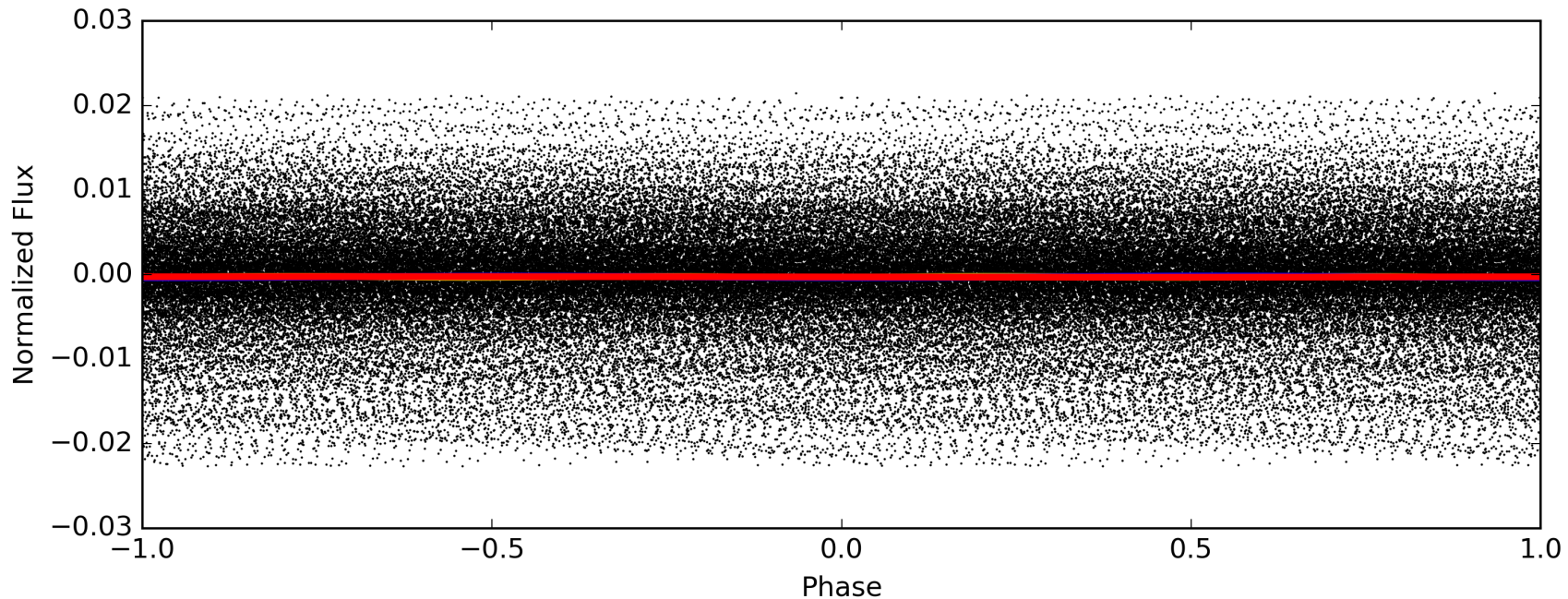
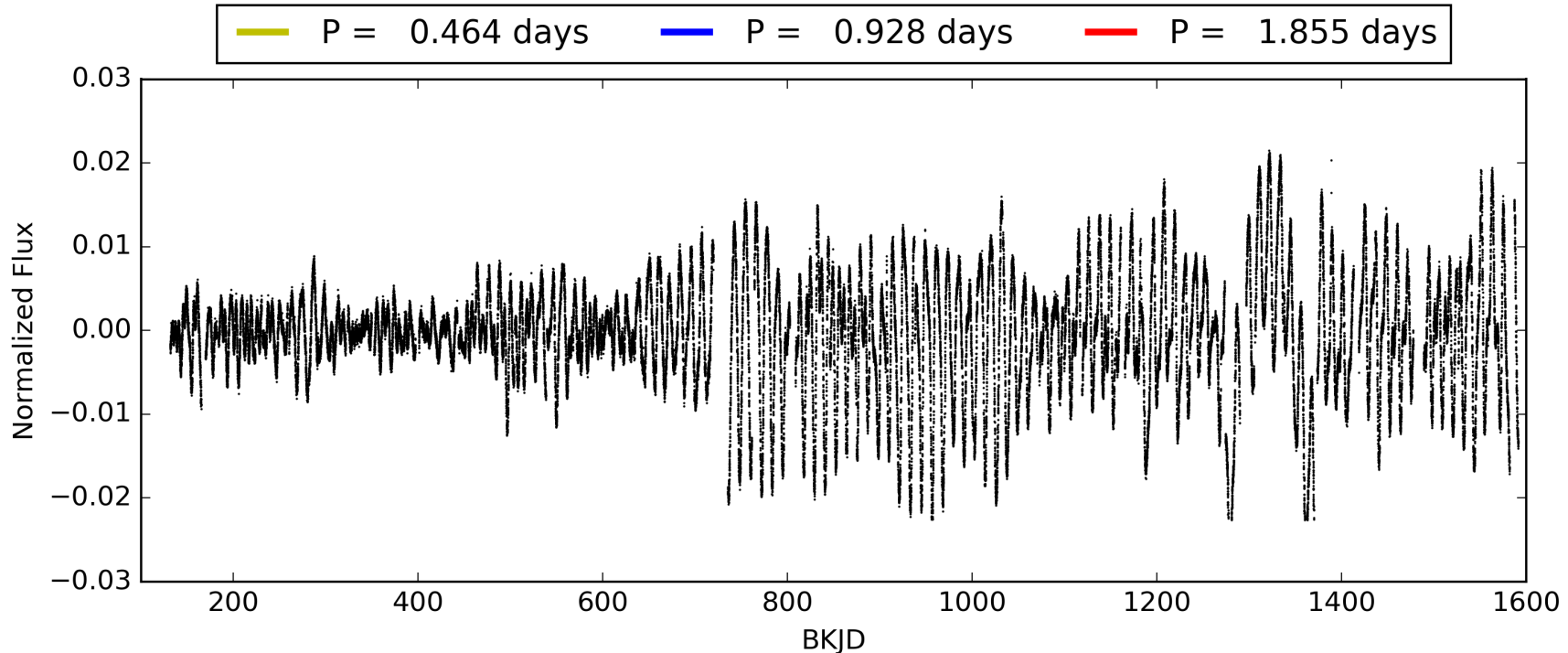
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:12:33 Z

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

TCE 006468033-01, PDC Light Curves

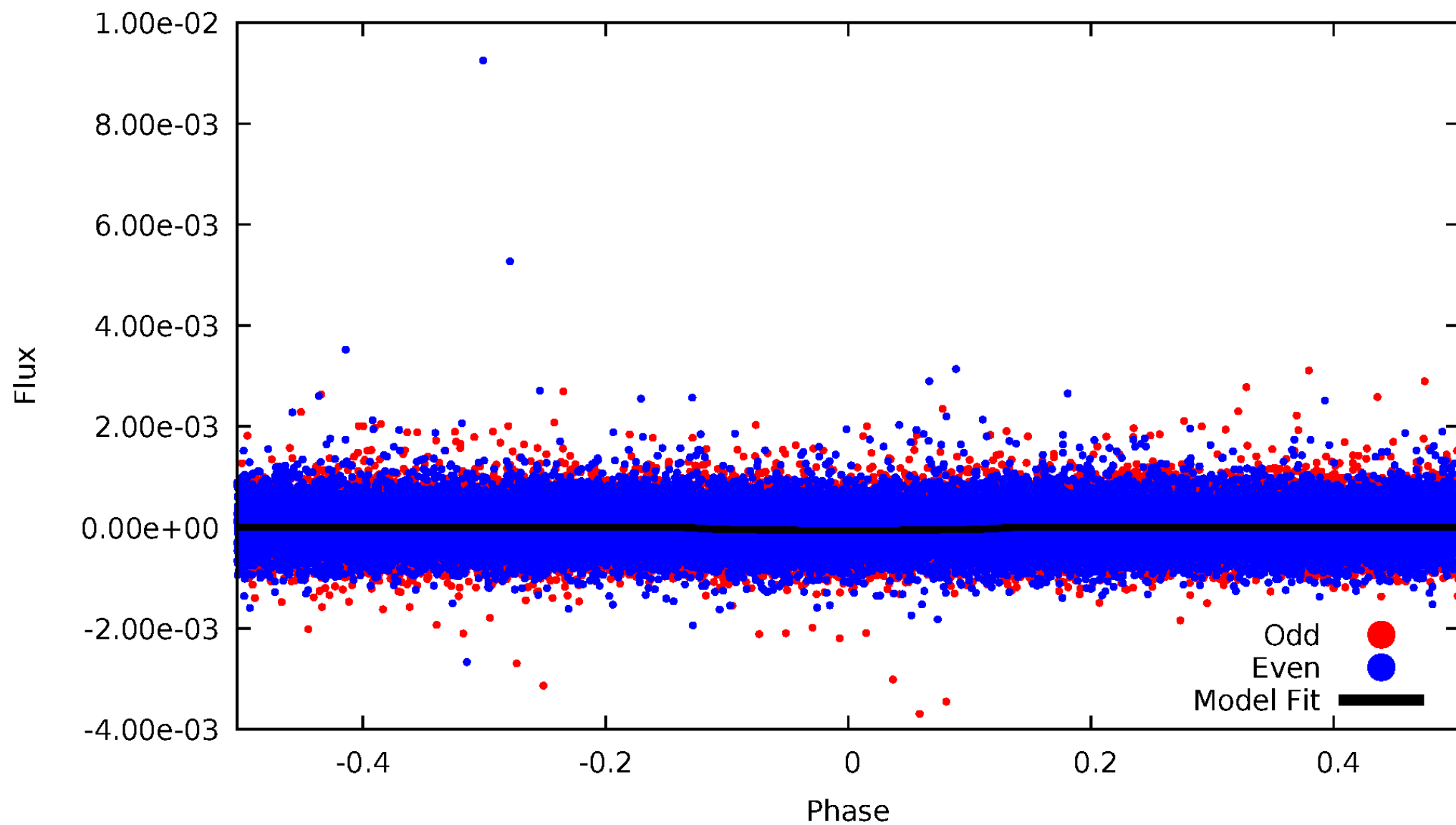


TCE 006468033-01



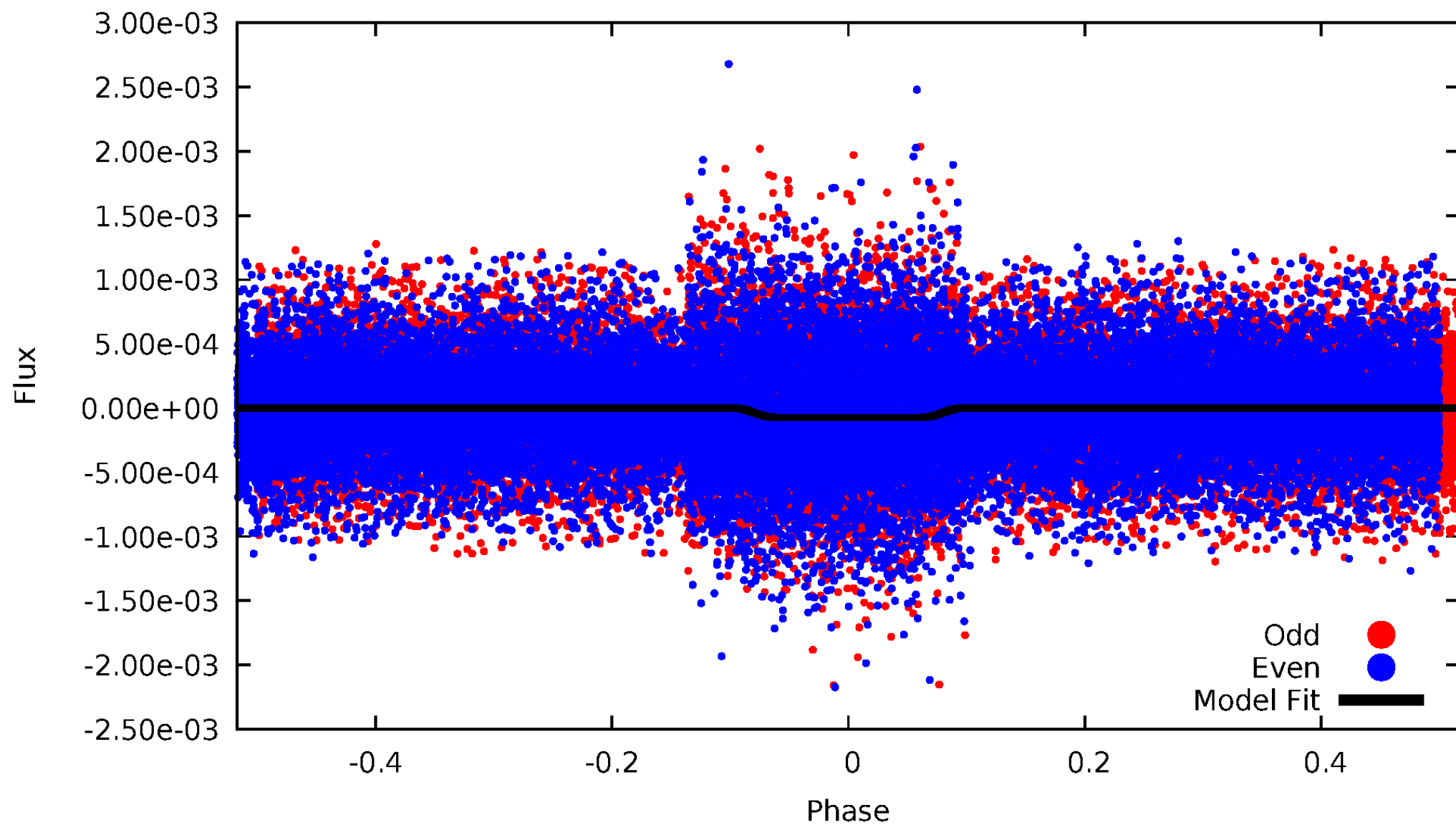
DV Odd/Even

TCE 006468033-01

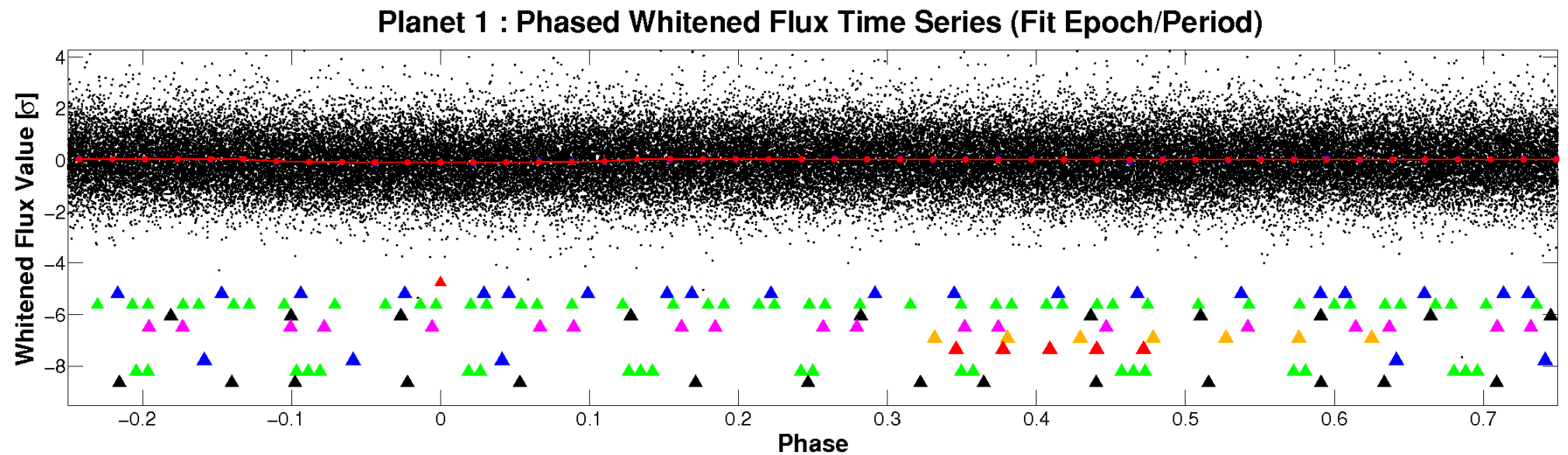
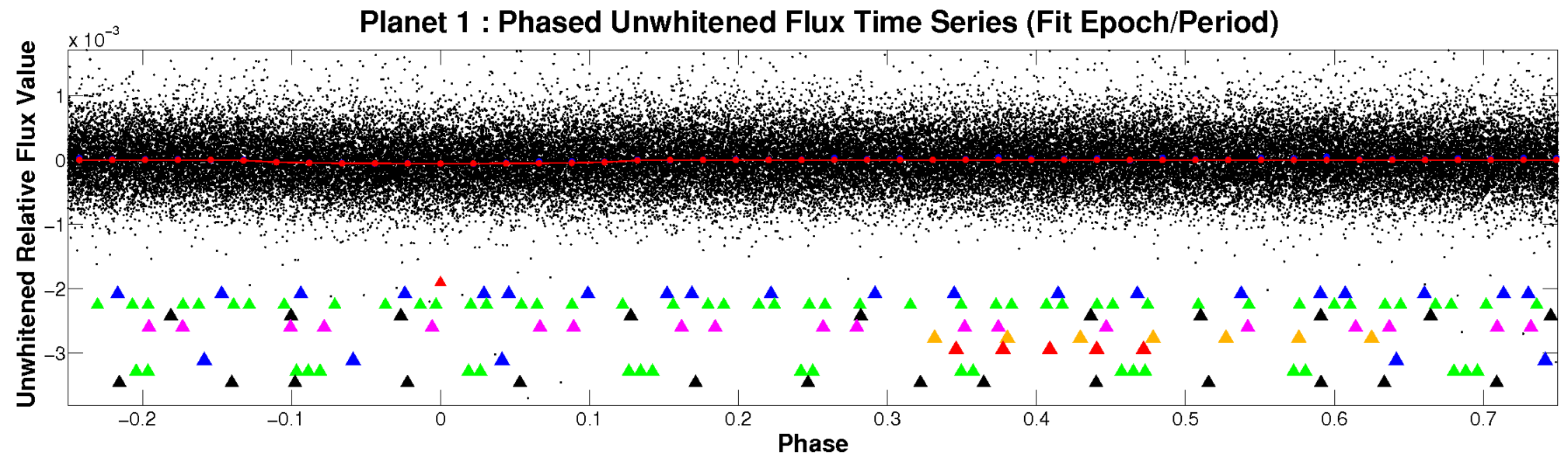


ALT Odd/Even

TCE 006468033-01

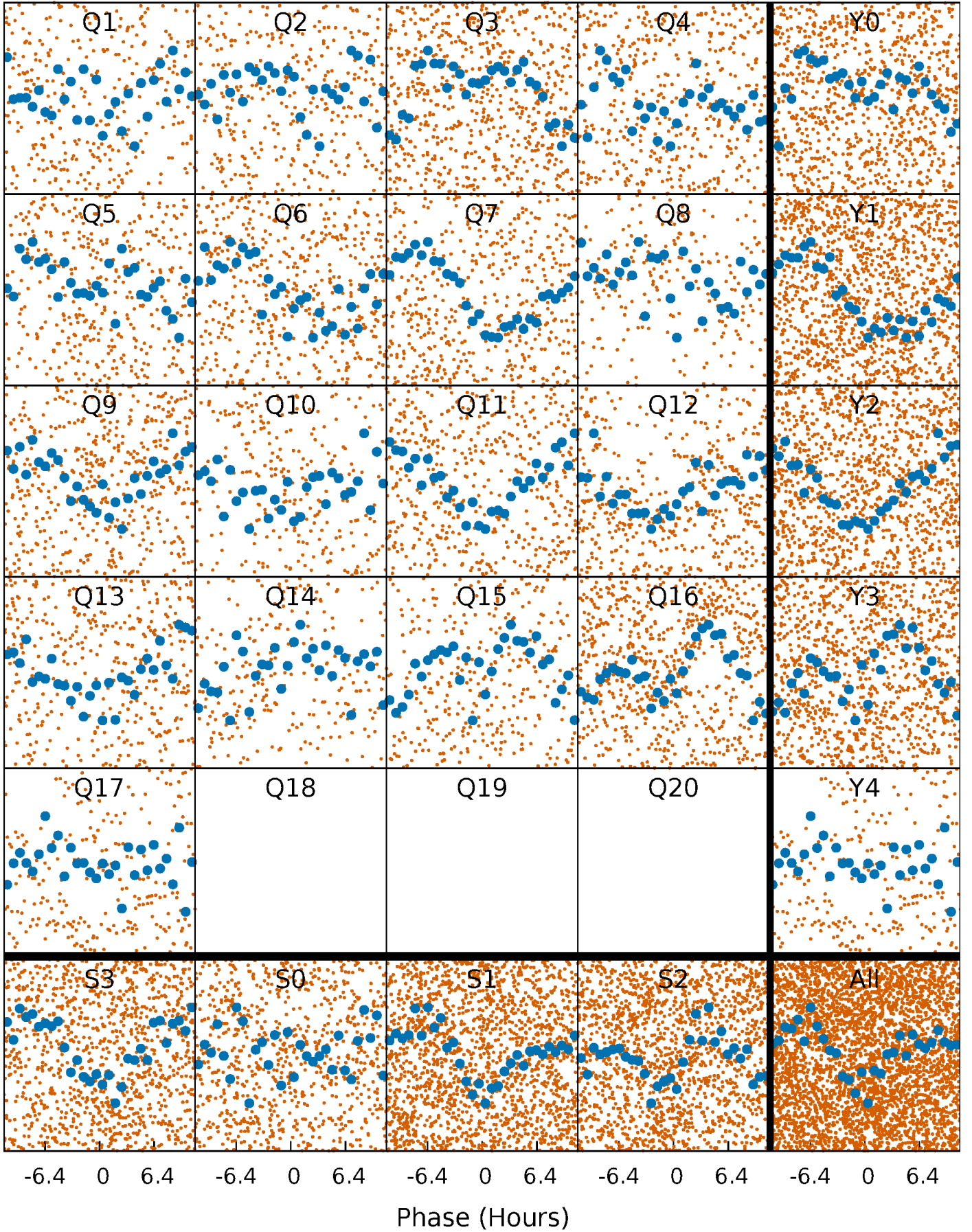


Non-Whitened Vs. Whitened Light Curve



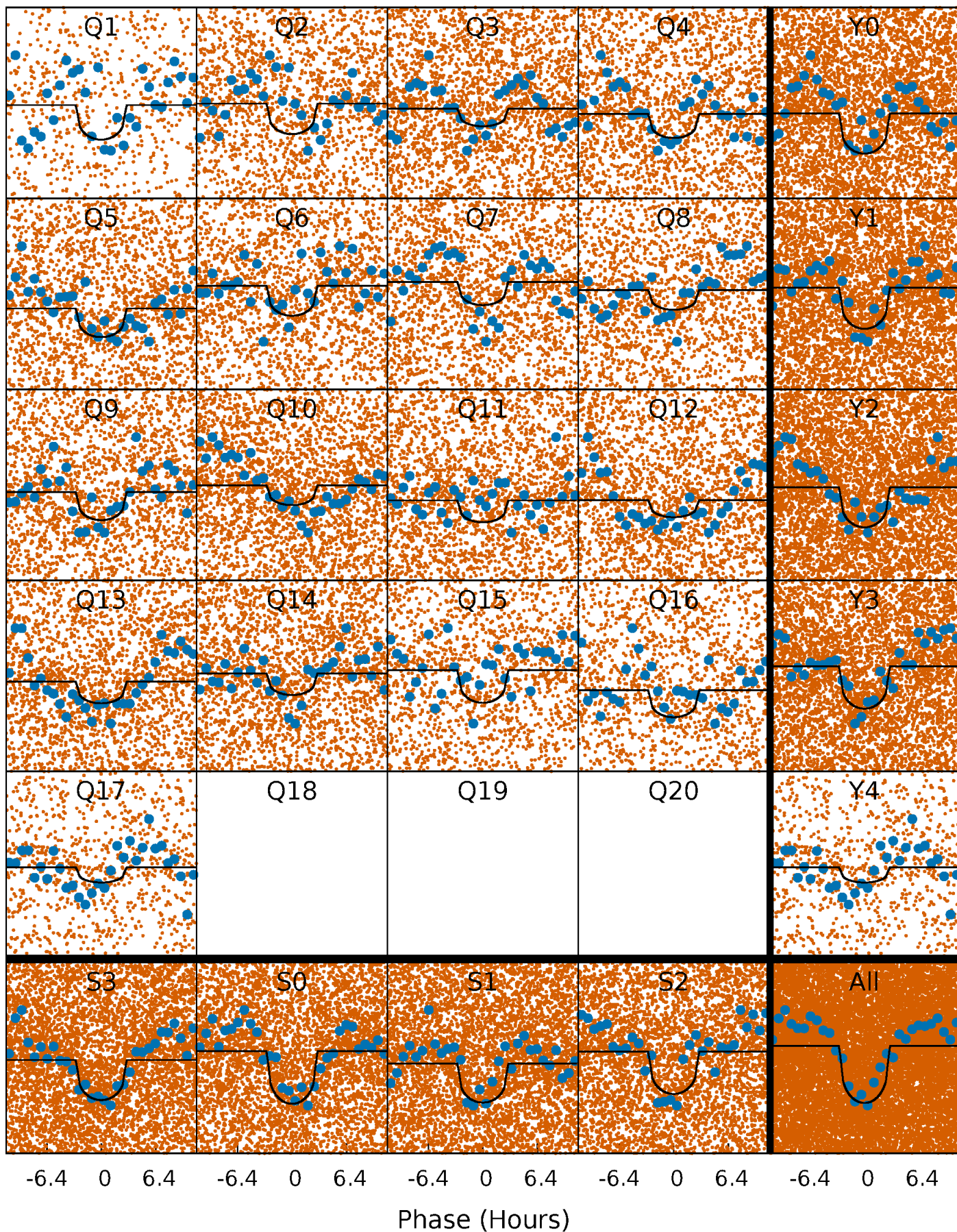
PDC Quarter-Phased Transit Curves

TCE 006468033-01 P= 0.927526 Days $T_0=132.294772$ (BKJD)



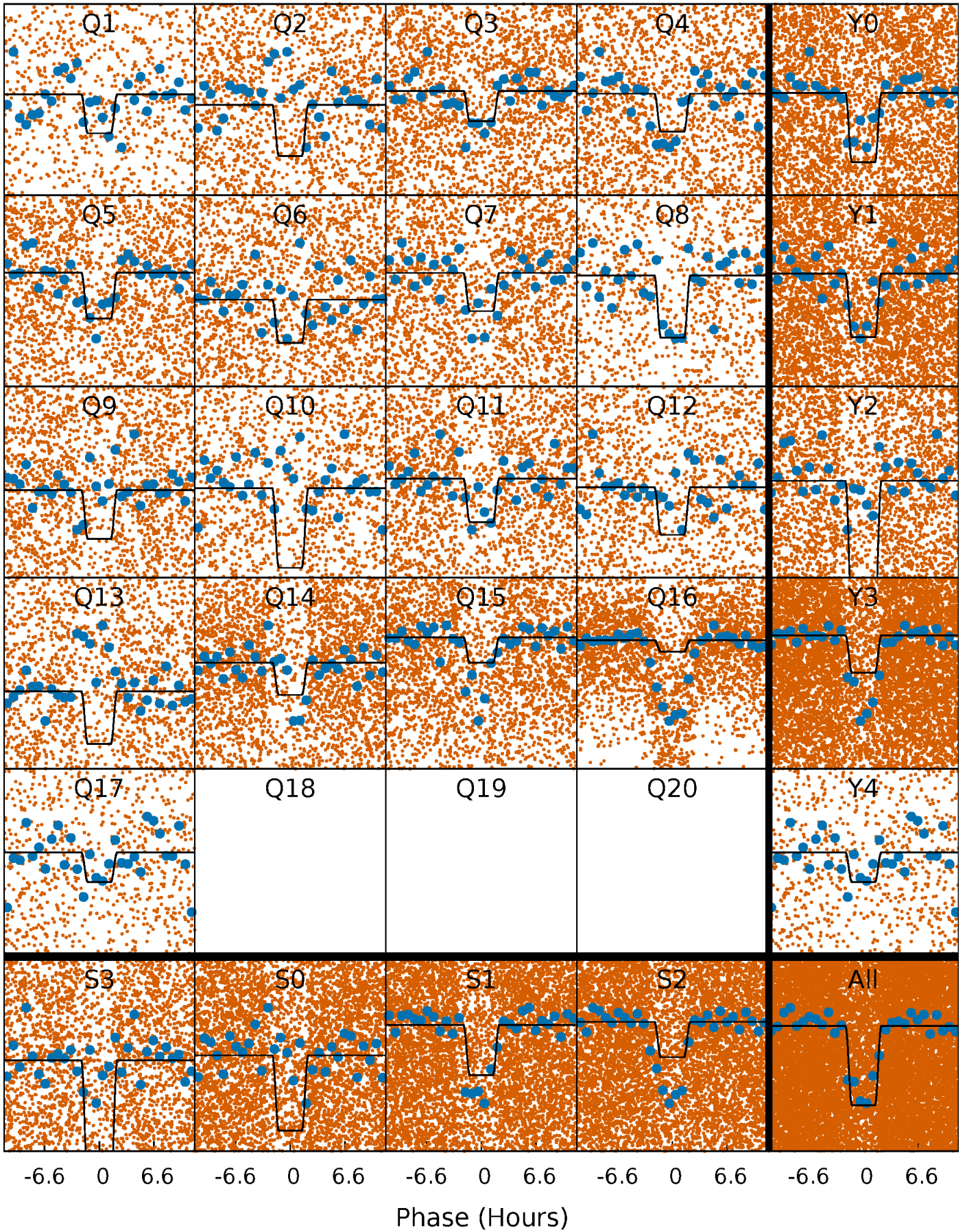
DV Quarter-Phased Transit Curves

TCE 006468033-01 P= 0.927526 Days $T_0=132.294772$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

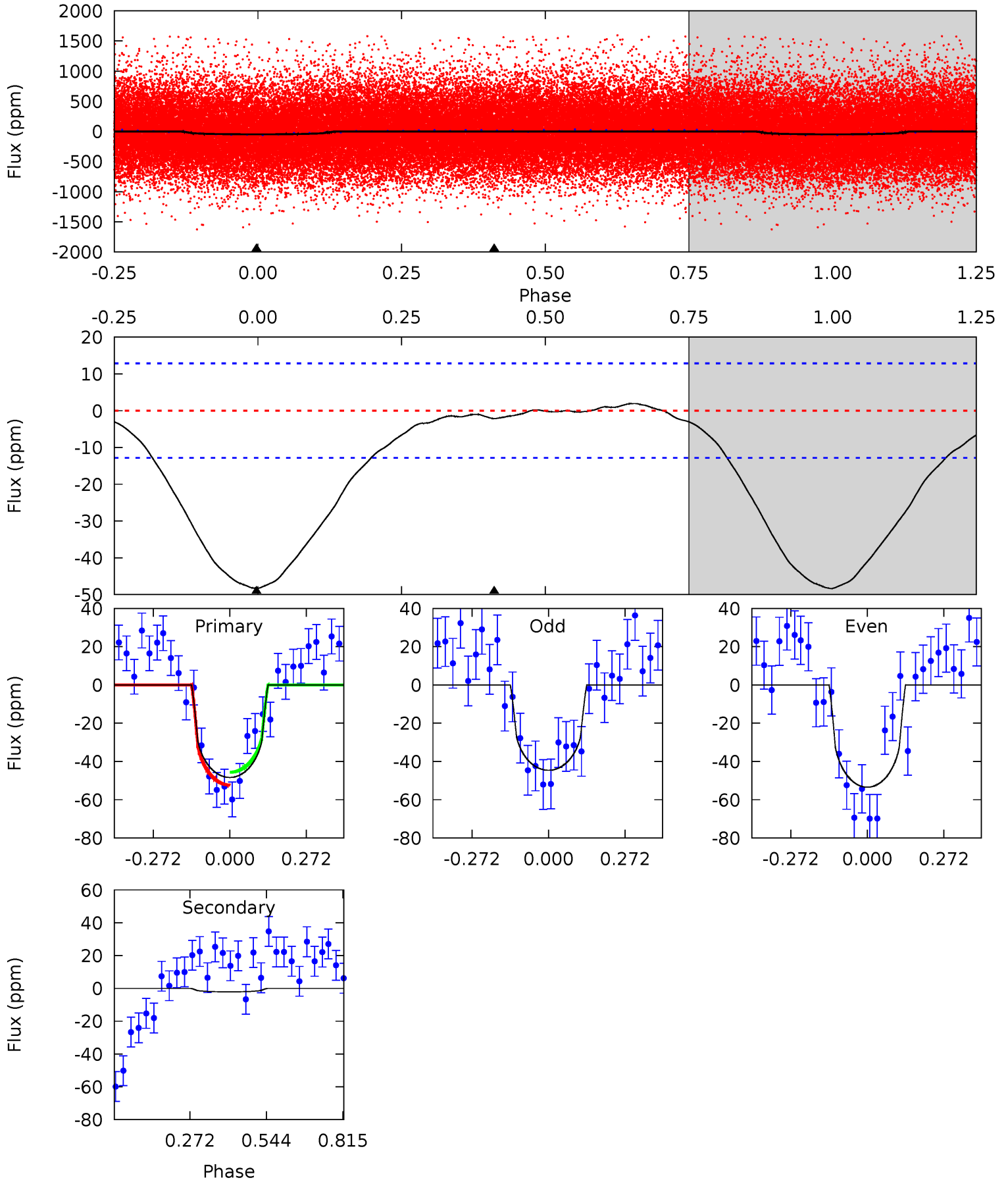
TCE 006468033-01 P= 0.927494 Days $T_0=132.304794$ (BKJD)



DV Model-Shift Uniqueness Test

006468033-01, P = 0.927526 Days, E = 131.367246 Days

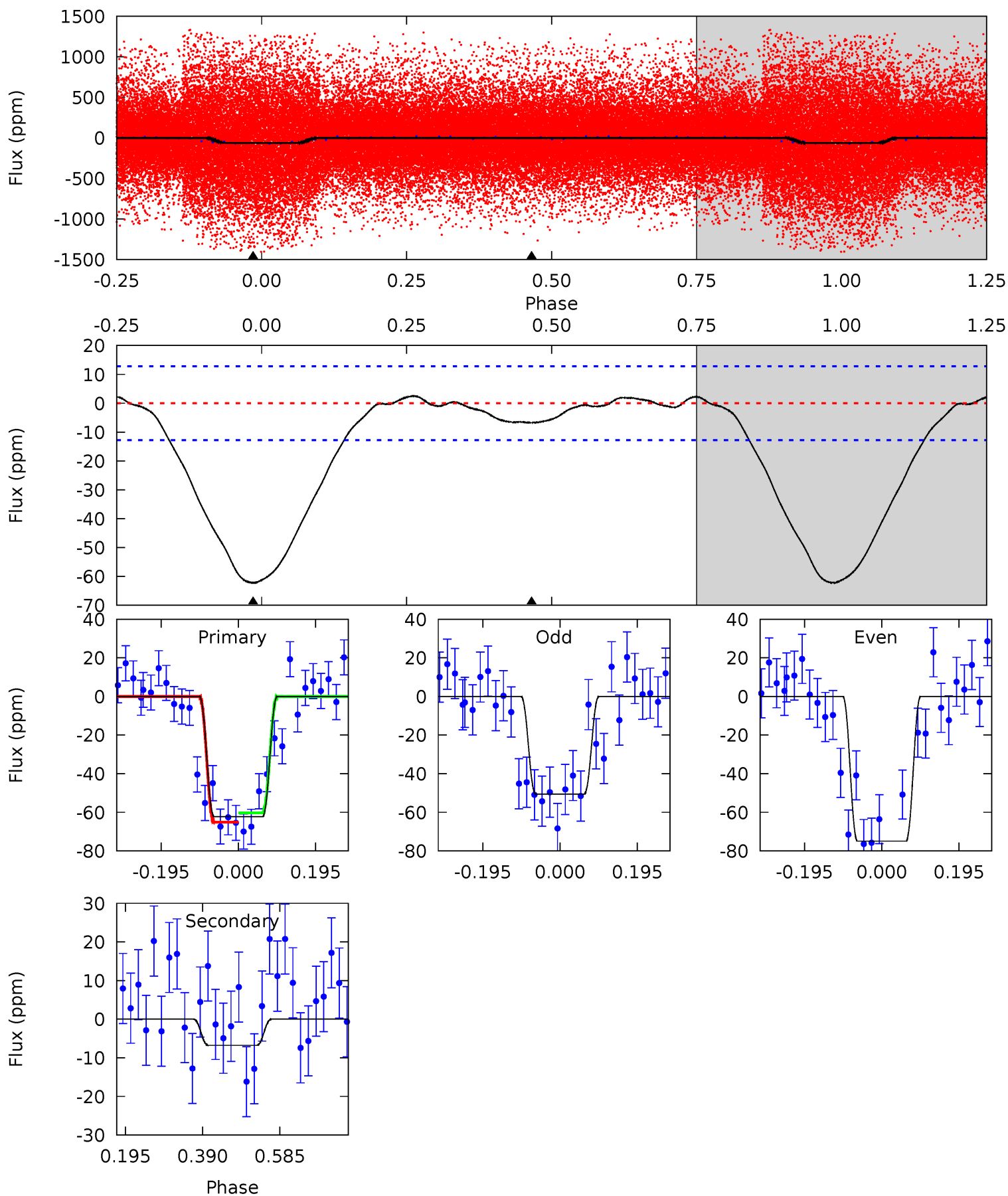
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	0.72	0	0	4.35	1.10	0.57	16.4	16.4	0.72	0.72	1.50	0.87	0.04	1.11



Alt Model-Shift Uniqueness Test

006468033-01, P = 0.927494 Days, E = 131.377300 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	2.35	0	0	4.42	1.30	0.47	21.6	21.6	2.35	2.35	4.26	1.13	0.04	0.84



Stellar Parameters For KIC 006468033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5499^{+164}_{-164}	$4.449^{+0.078}_{-0.182}$	$0.160^{+0.250}_{-0.300}$	$0.955^{+0.253}_{-0.109}$	$0.935^{+0.090}_{-0.082}$	$1.514^{+0.603}_{-0.706}$
	+3%/-3%	+2%/-4%	+156%/-188%	+26%/-11%	+10%/-9%	+40%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006468033-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2 ± 3	$0.76^{+0.52}_{-0.44}$	2485^{+163}_{-125}	2702^{+1420}_{-5759}	$0.524^{+3.378}_{-0.769}$
Alt.	-7 ± 3	$0.95^{+0.53}_{-0.47}$	2492^{+152}_{-129}	3293^{+1093}_{-726}	$1.271^{+4.149}_{-0.810}$

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 $A_{obs} \gg 1.0$

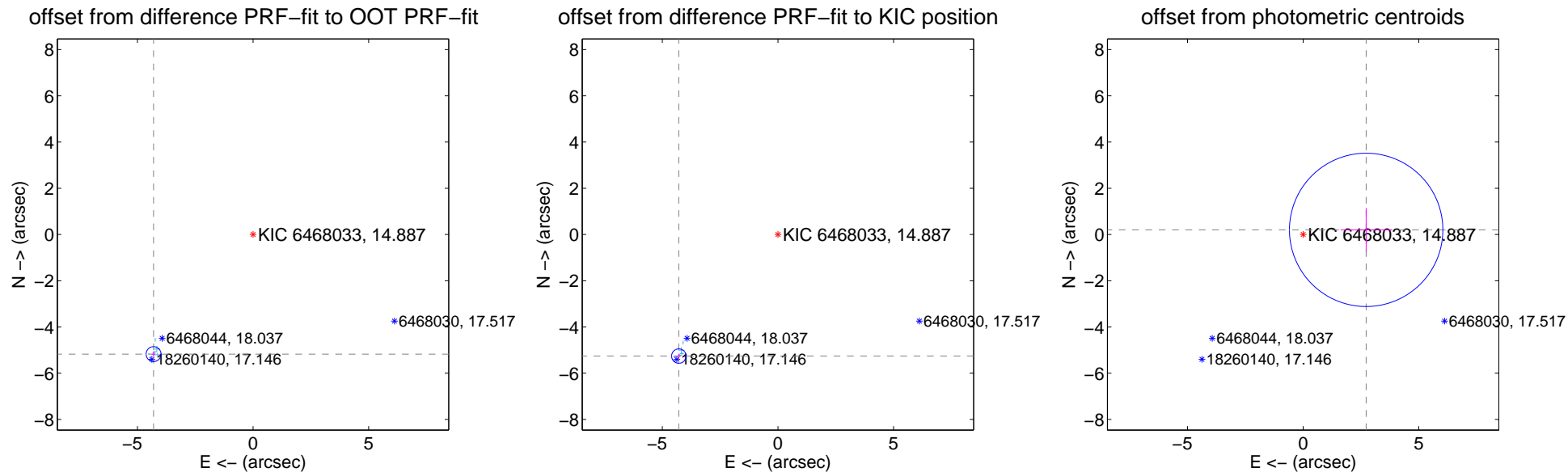
DV Centroid Data

Supplemental centroid analysis for 006468033-01. Kepler magnitude: 14.89. Transit SNR 10.75

There are 8 quarters with good PRF difference image offsets

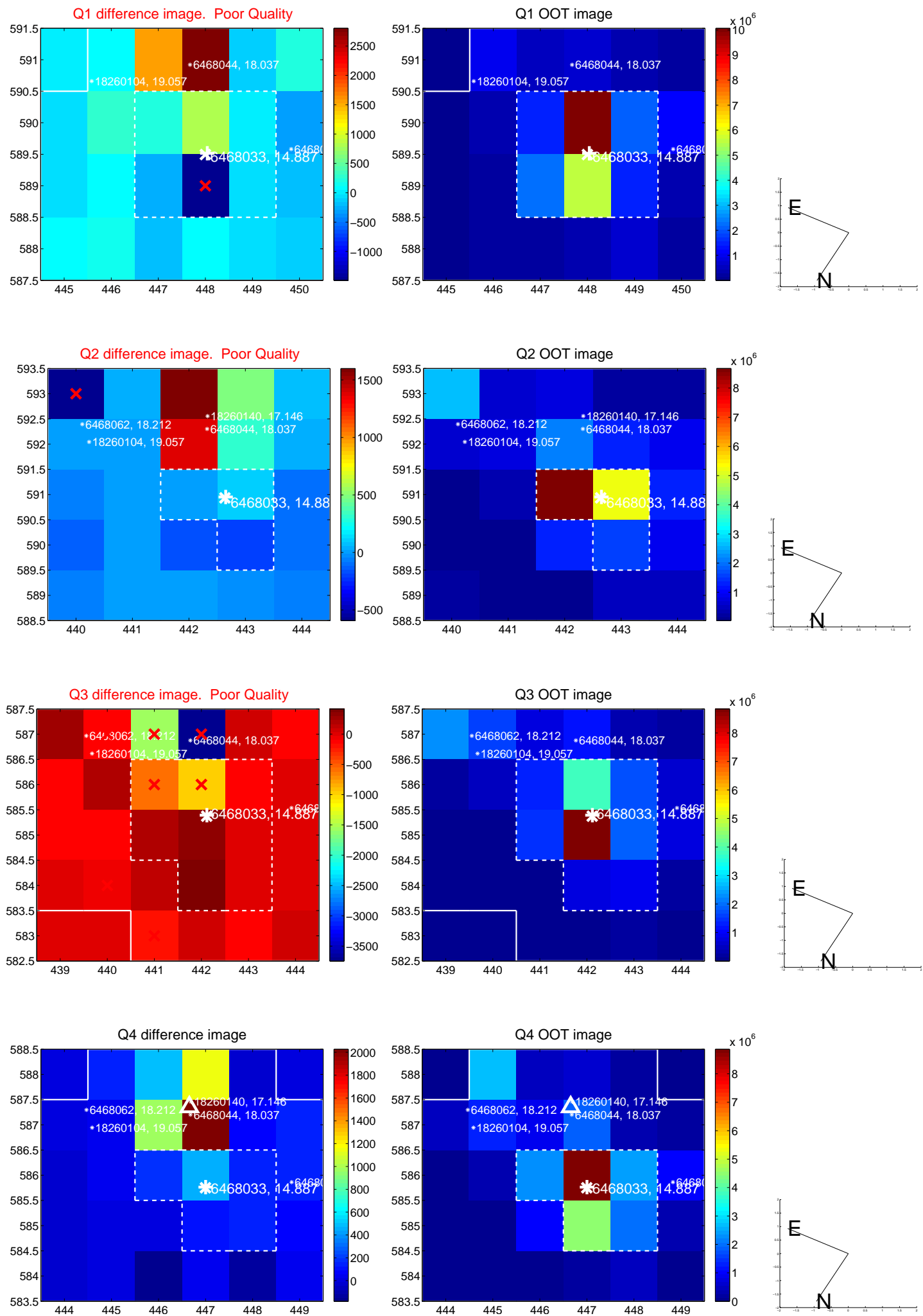
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.727 ± 0.108	62.52	4.300 ± 0.080	-5.173 ± 0.110
PRF-fit source offset from KIC position	6.784 ± 0.104	65.33	4.286 ± 0.078	-5.259 ± 0.101
photometric centroid source offset	2.73 ± 1.11	2.47	-2.72 ± 1.11	0.20 ± 0.95

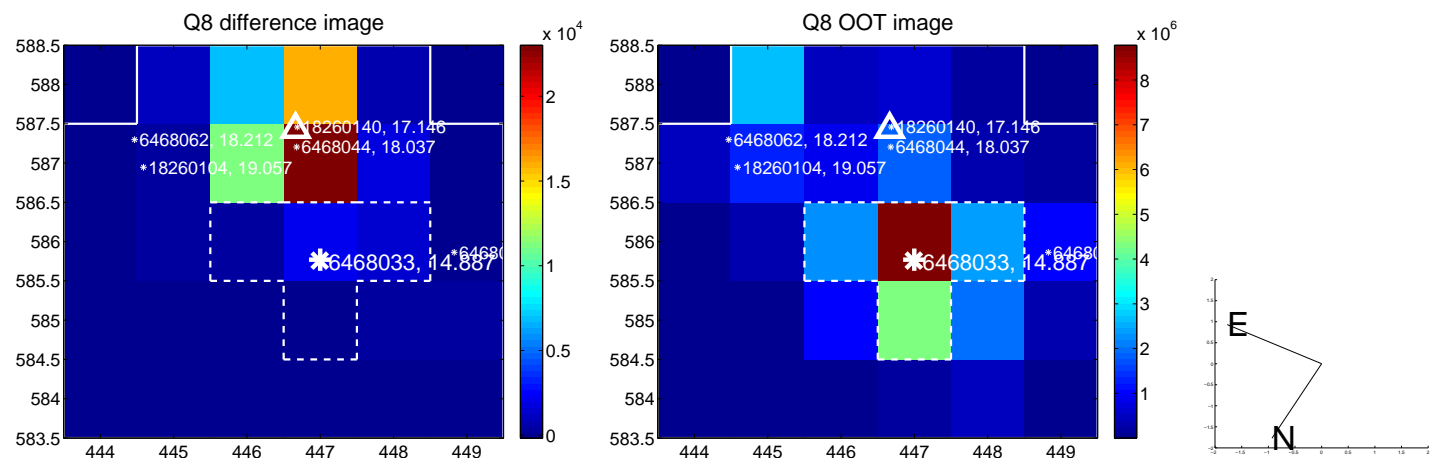
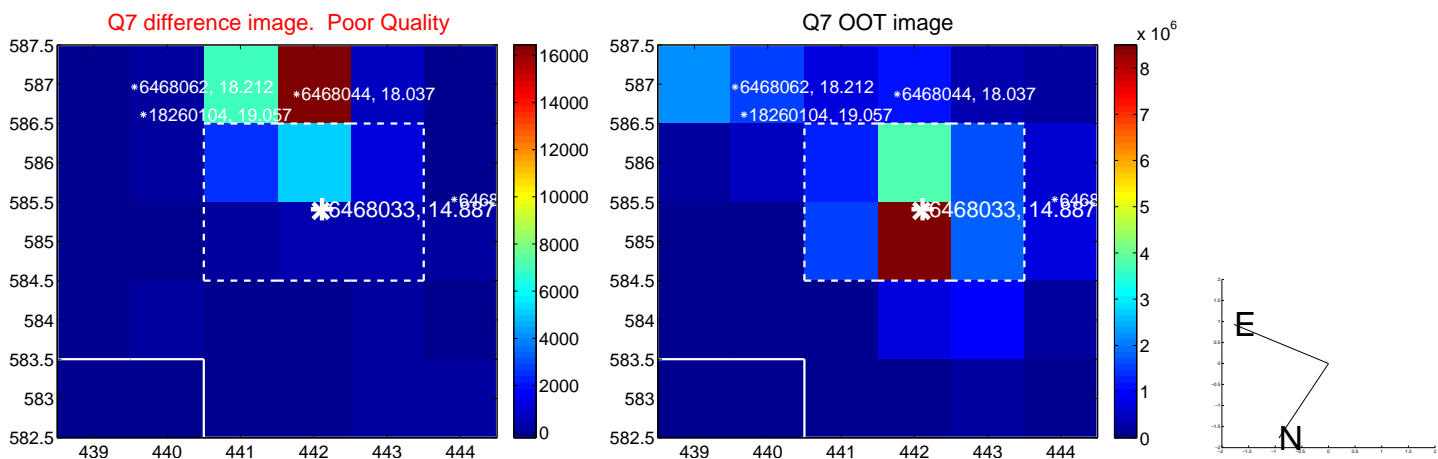
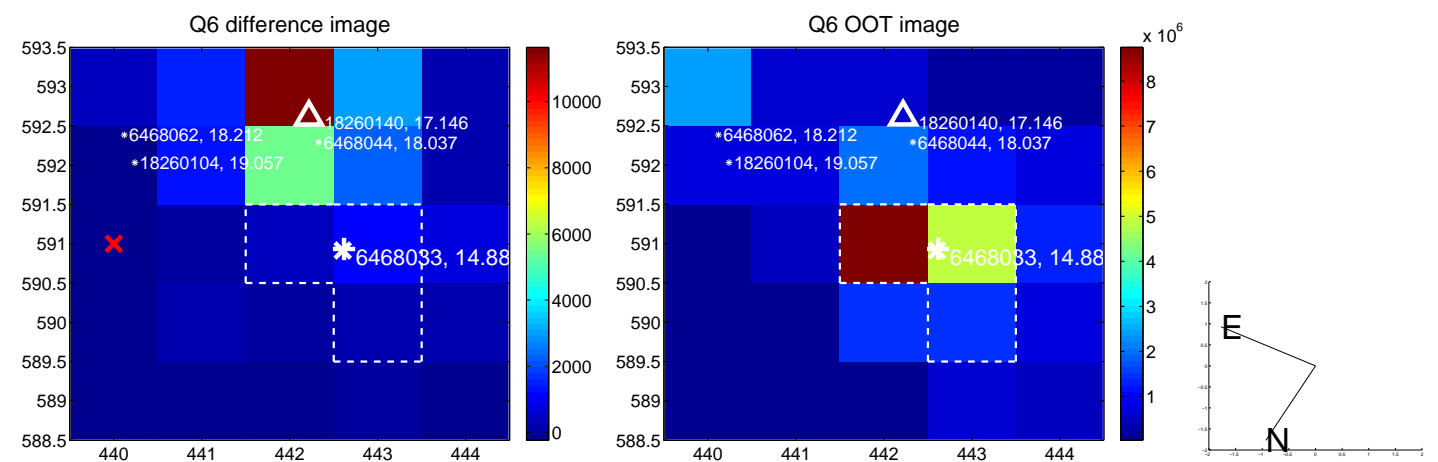
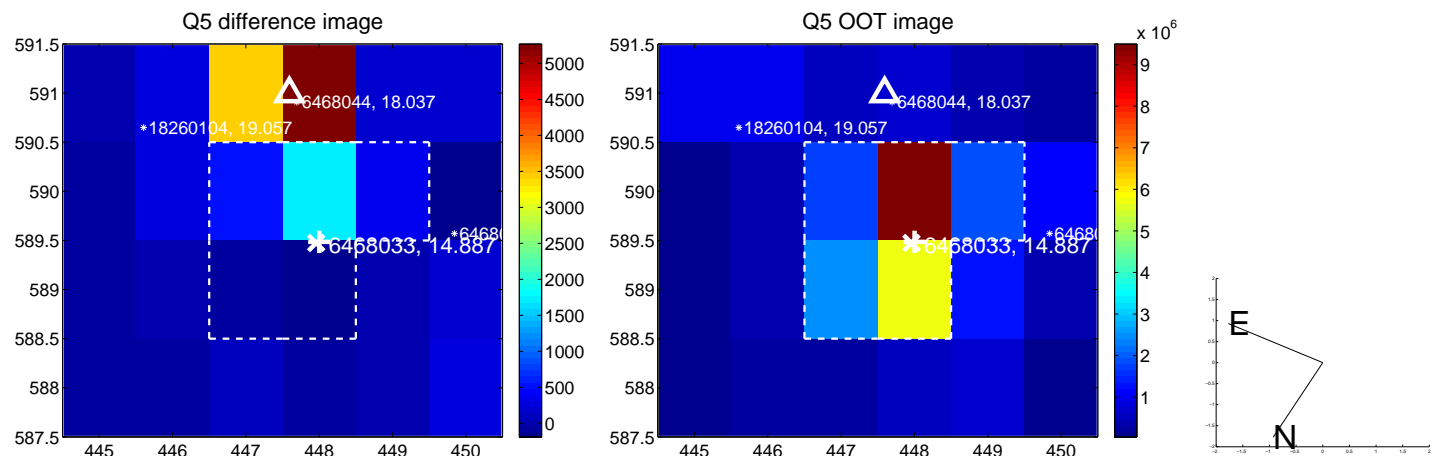


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

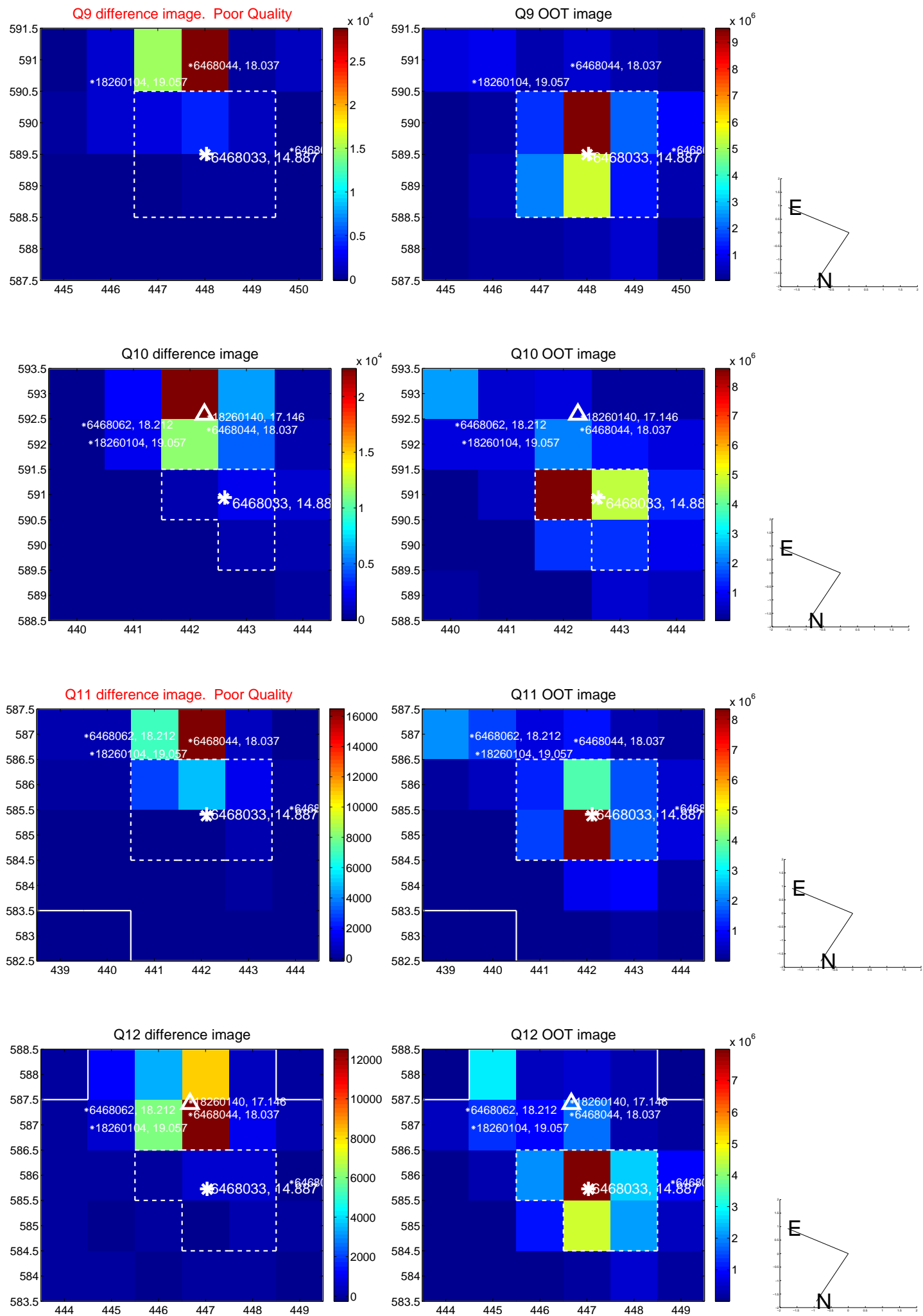
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



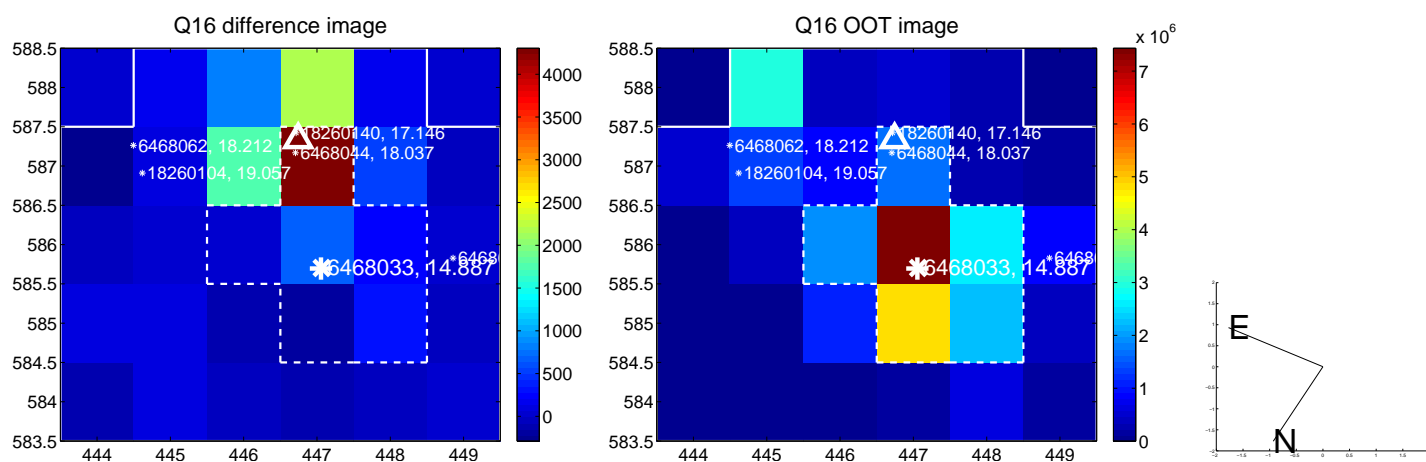
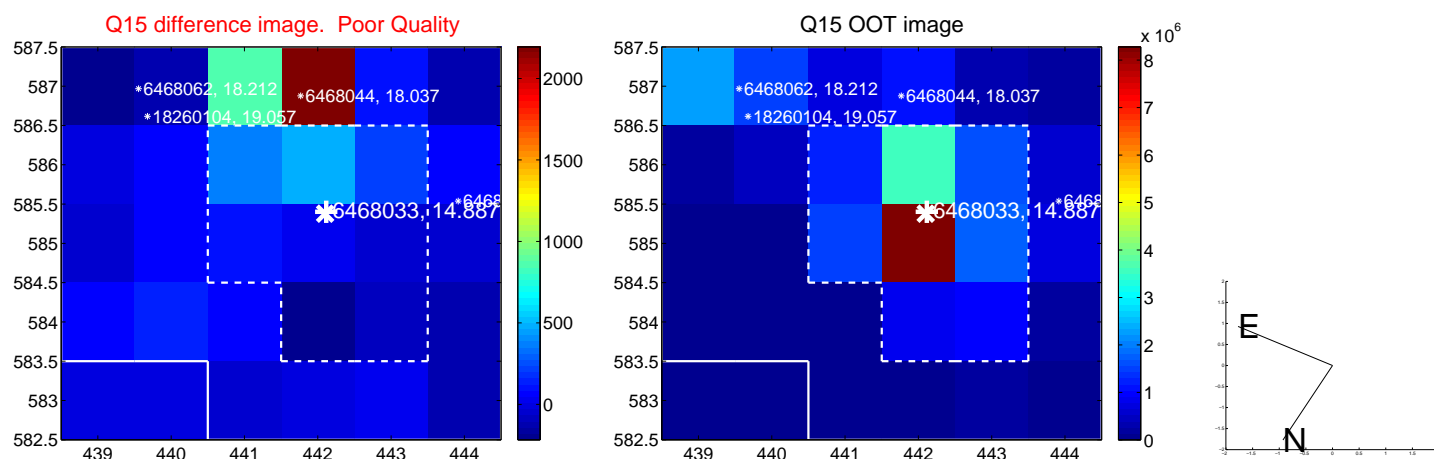
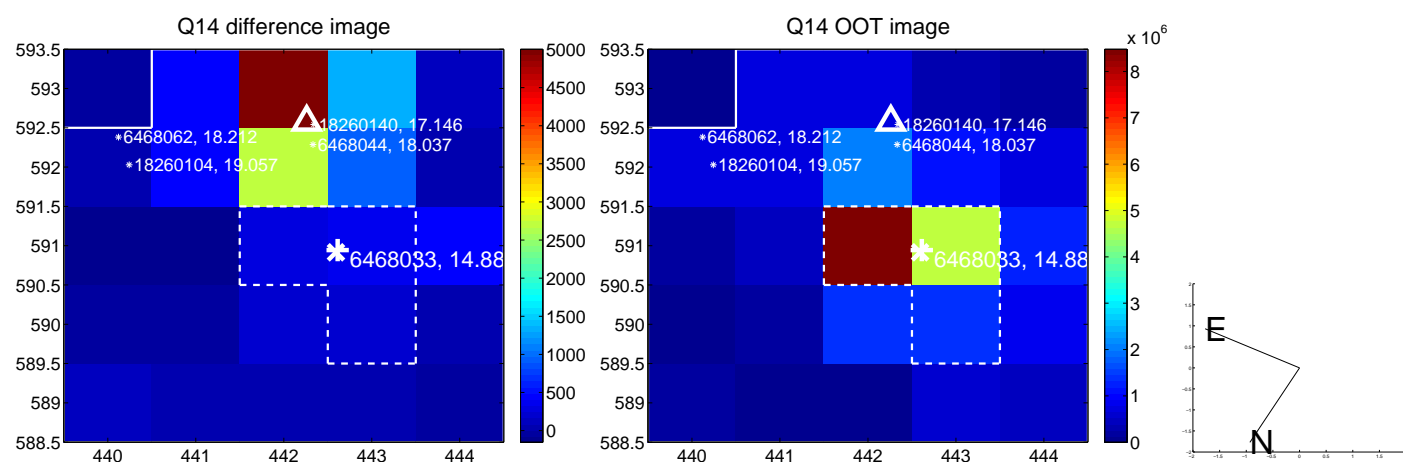
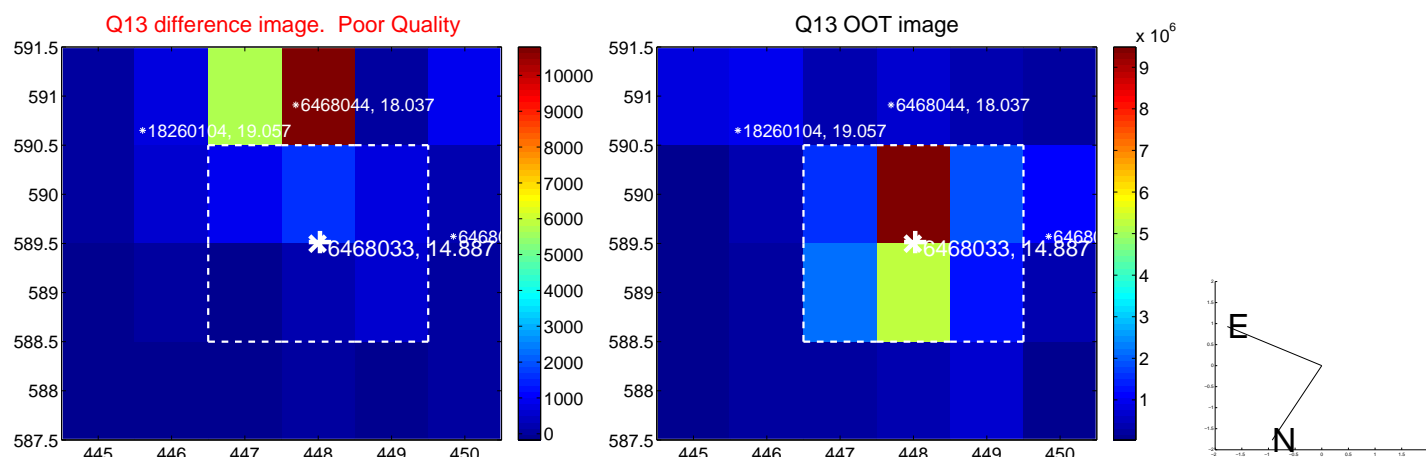
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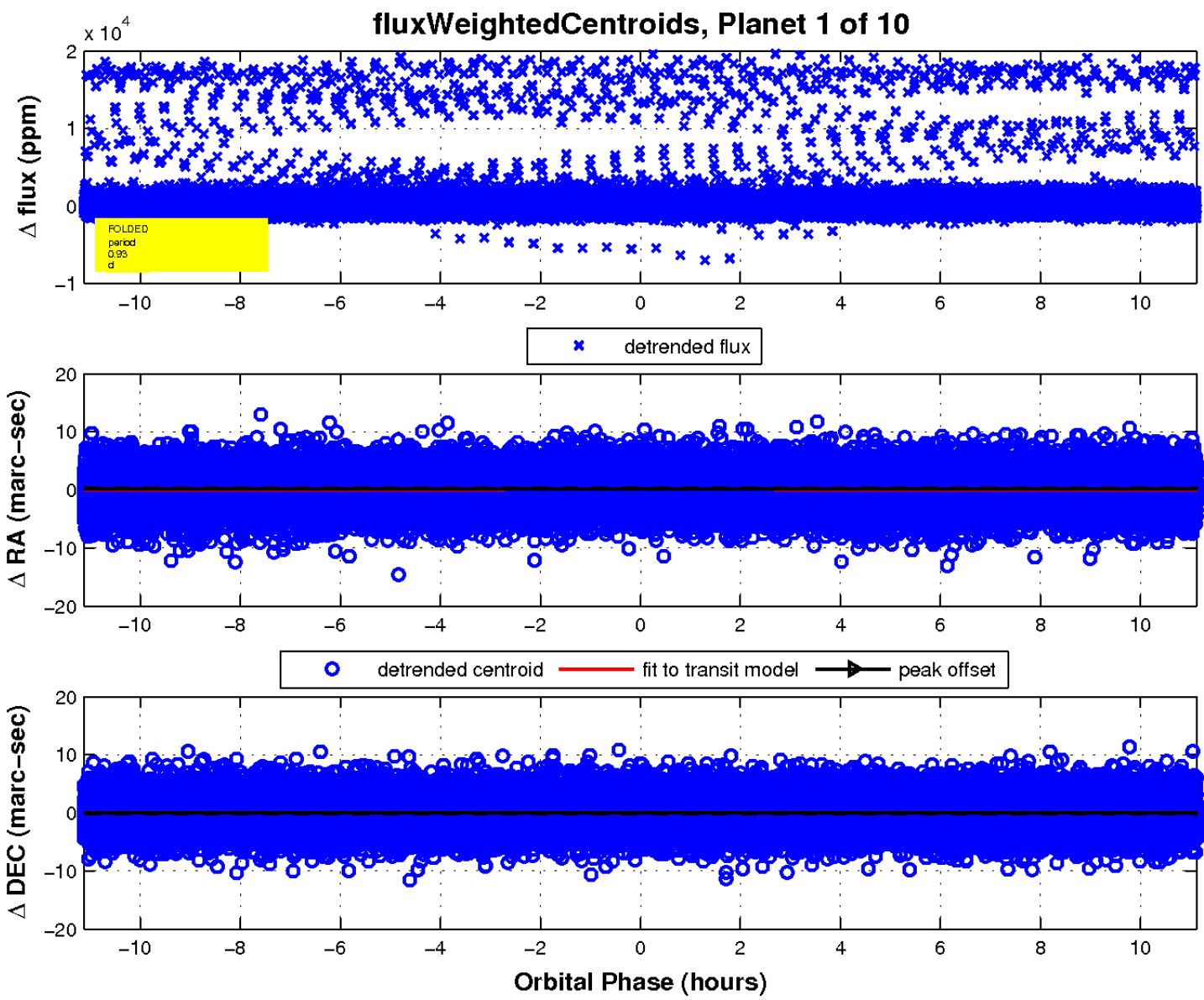
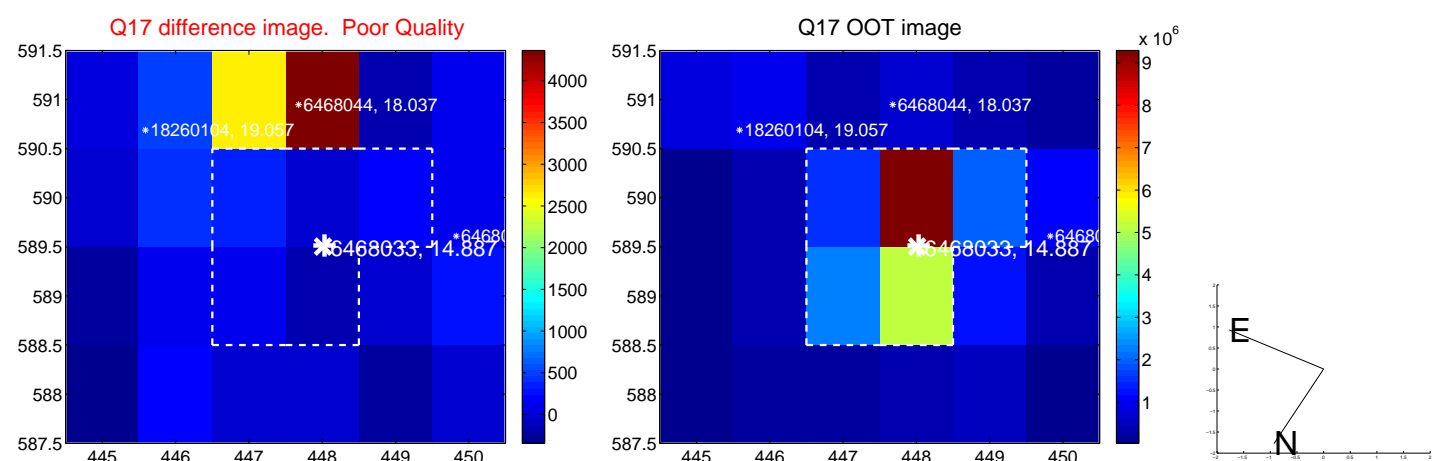
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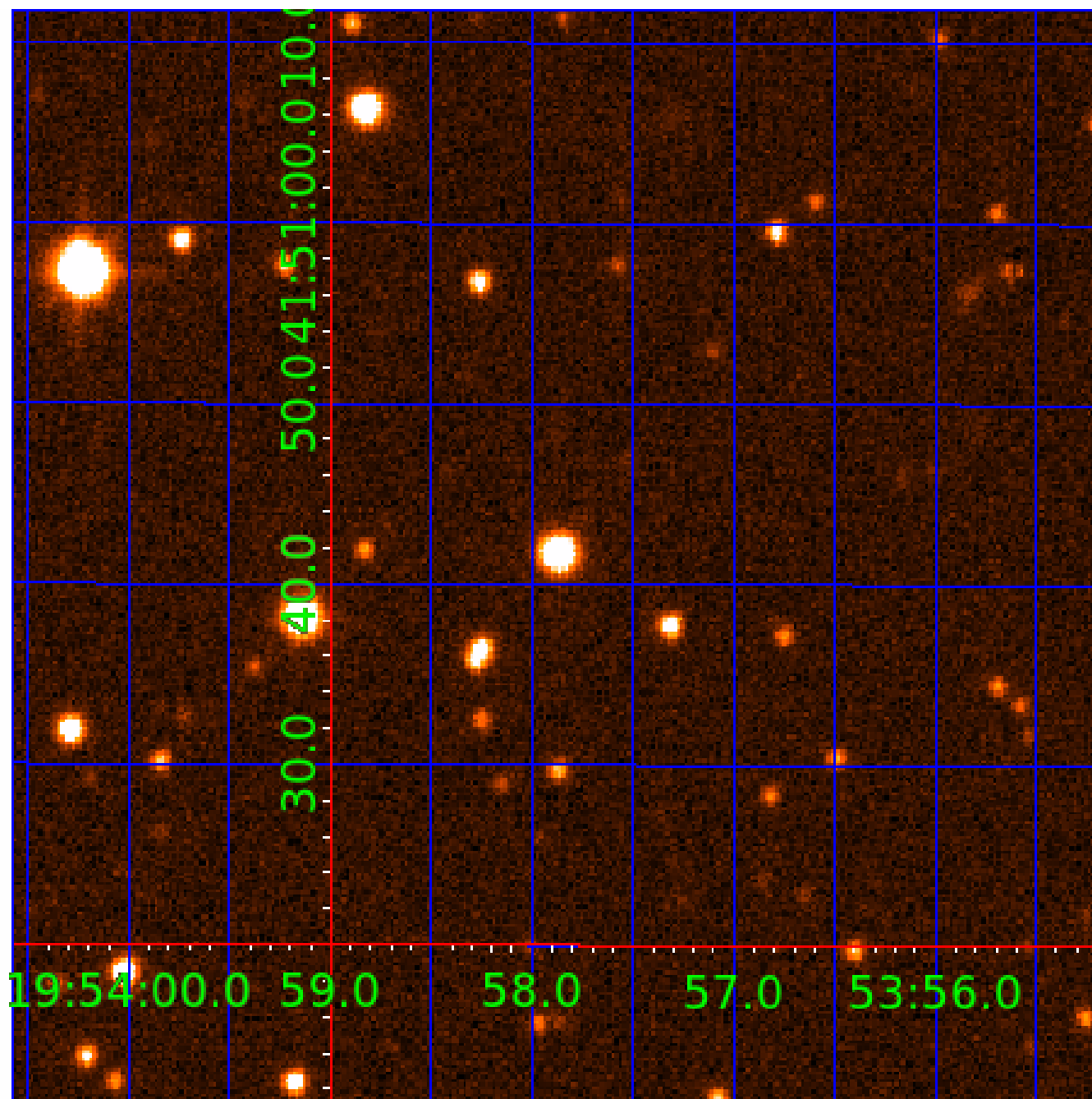


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UKIRT Image

Declination



KIC 006468033

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006468033-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

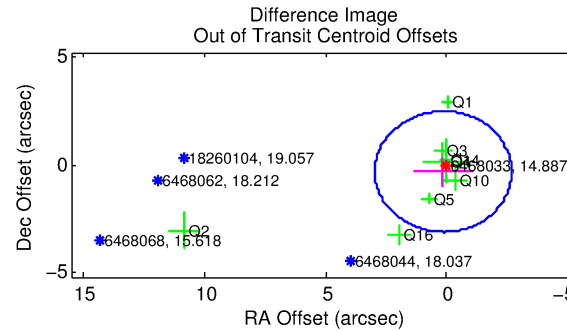
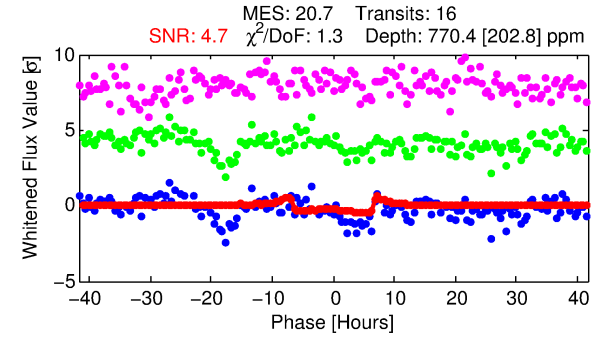
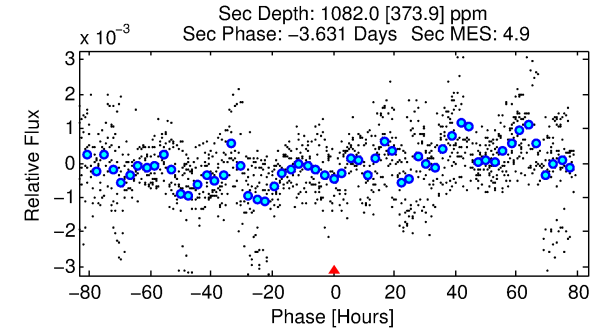
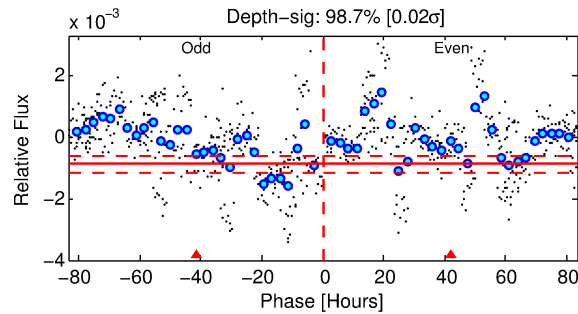
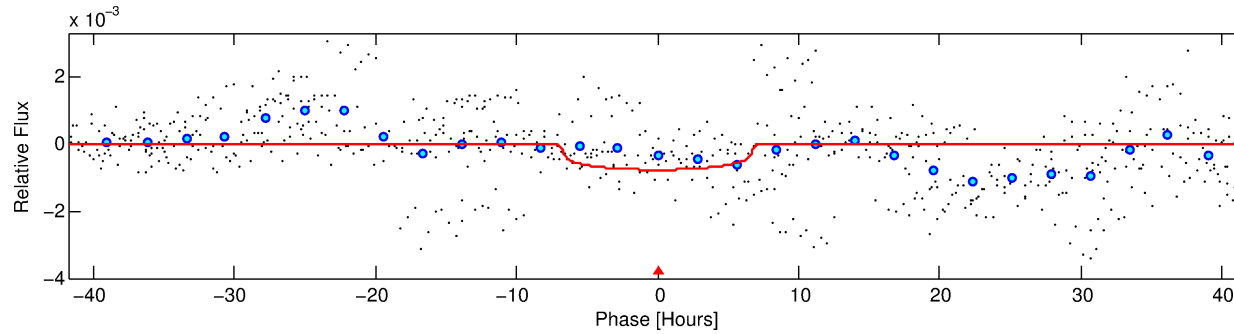
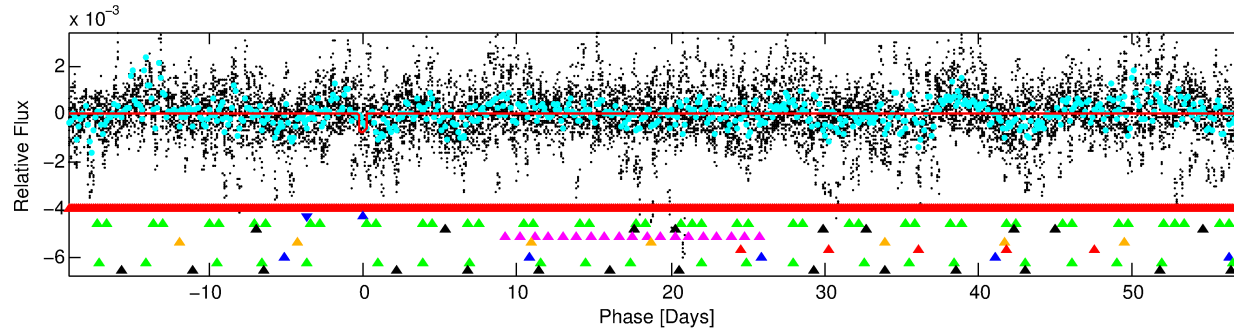
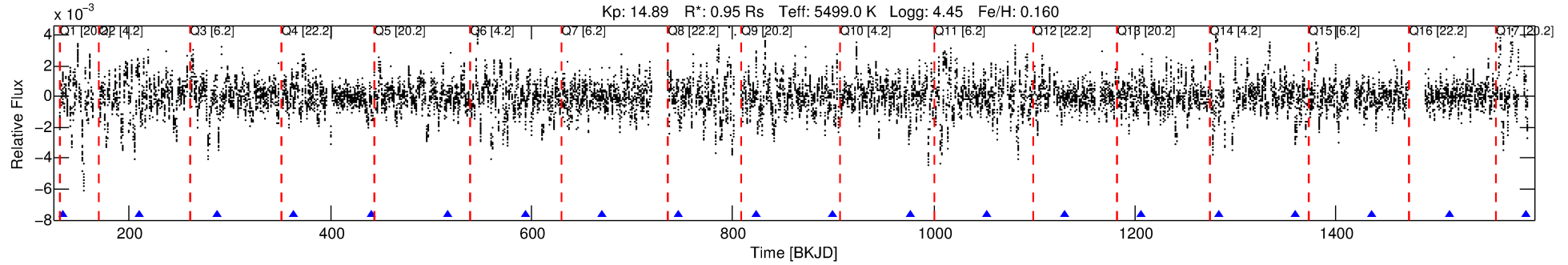
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006468033-02

No Significant Match Found

DV One-Page Summary

KIC: 6468033 Candidate: 2 of 10 Period: 76.578 d



DV Fit Results:

Period = 76.57790 [0.00166] d
Epoch = 134.1923 [0.0181] BKJD
Rp/R* = 0.0254 [0.0186]
a/R* = 40.22 [111.69]
b = 0.37 [6.64]
Seff = 6.27 [2.20]
Teq = 403 [35] K
Rp = 2.64 [2.07] Re
a = 0.3452 [0.0777] AU
Ag = 10152.64 [15694.84] [0.65σ]
Teffp = 6262 [2372] K [2.47σ]

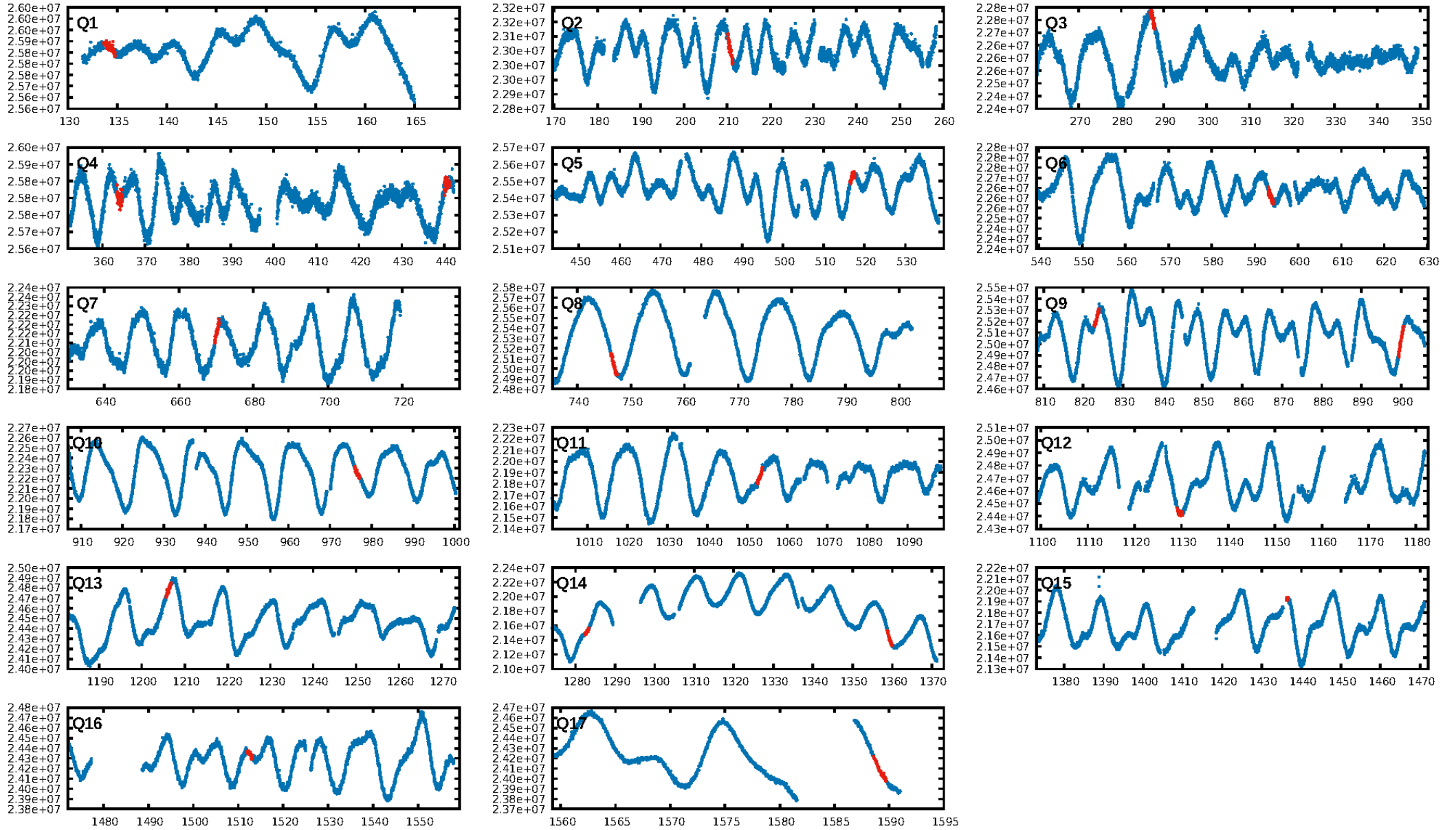
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.25σ]
LongPeriod-sig: 83.3% [1.38σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: -17.54
Centroid-sig: 45.0%
Centroid-so: 0.544 arcsec [1.03σ]
OotOffset-rm: 0.359 arcsec [0.38σ]
OotOffset-st: 3/1/2/2 [8]
KicOffset-rm: 0.485 arcsec [0.41σ]
KicOffset-st: 3/1/2/2 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 0.00 [0/14]

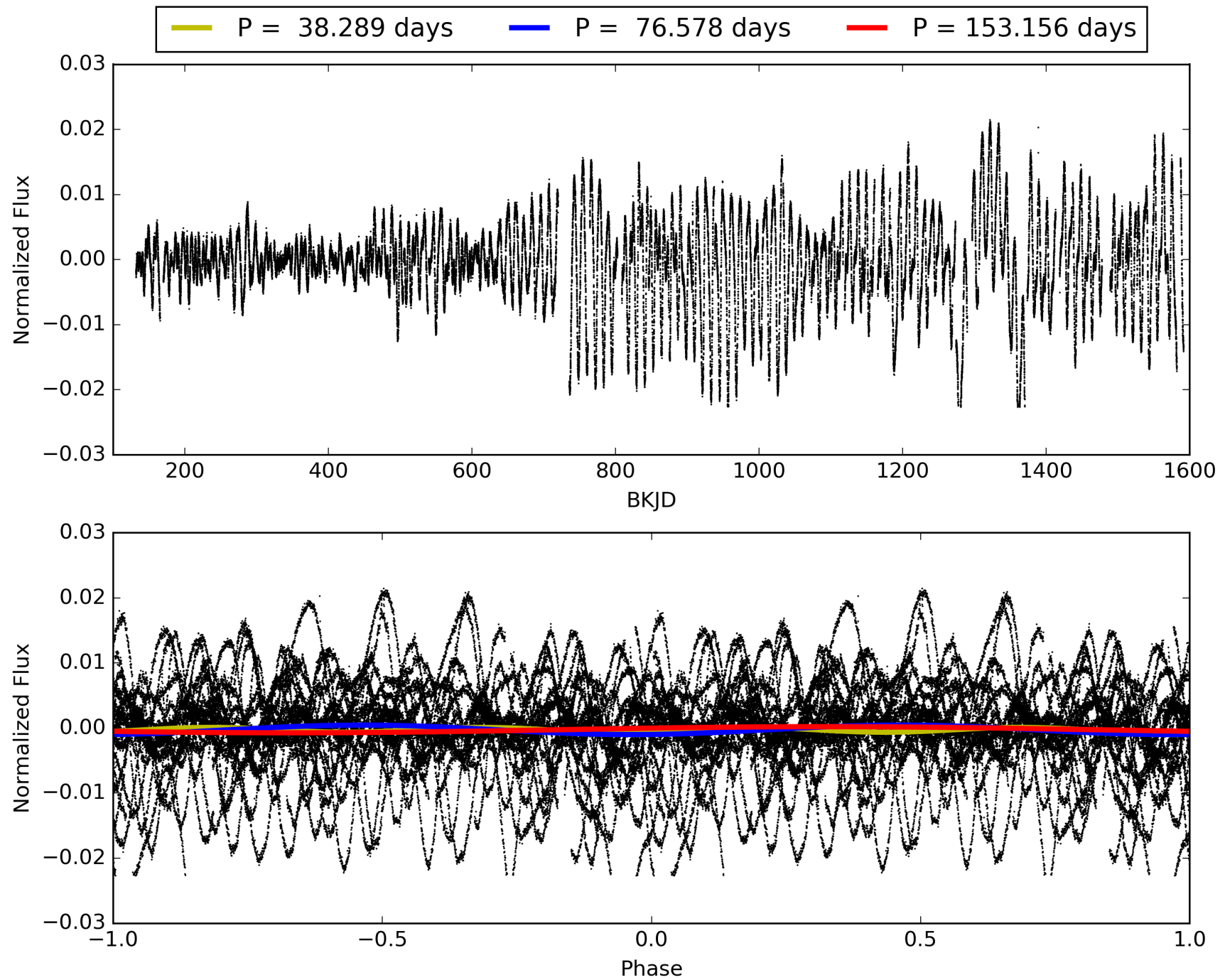
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:12:44 Z

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

TCE 006468033-02, PDC Light Curves

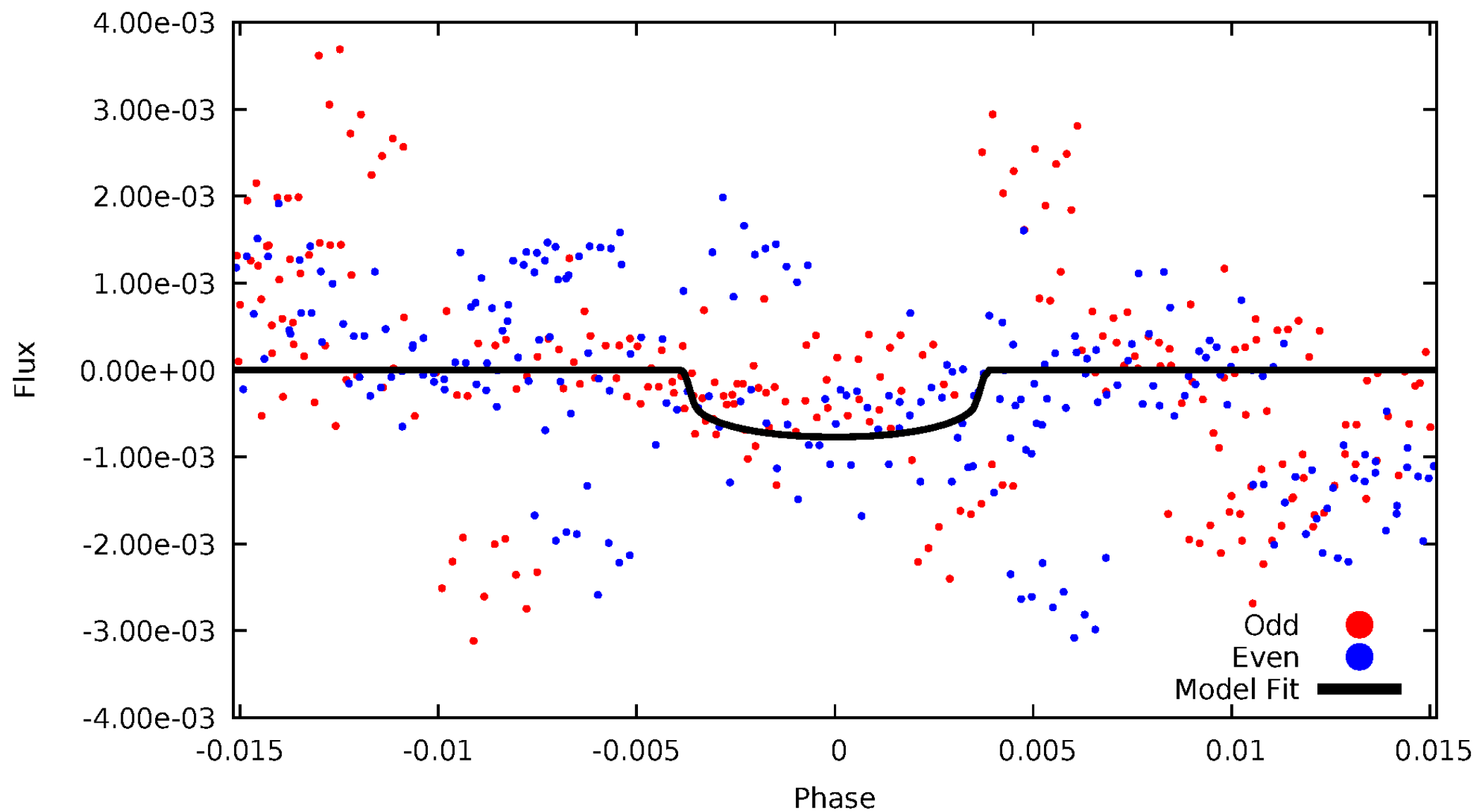


TCE 006468033-02



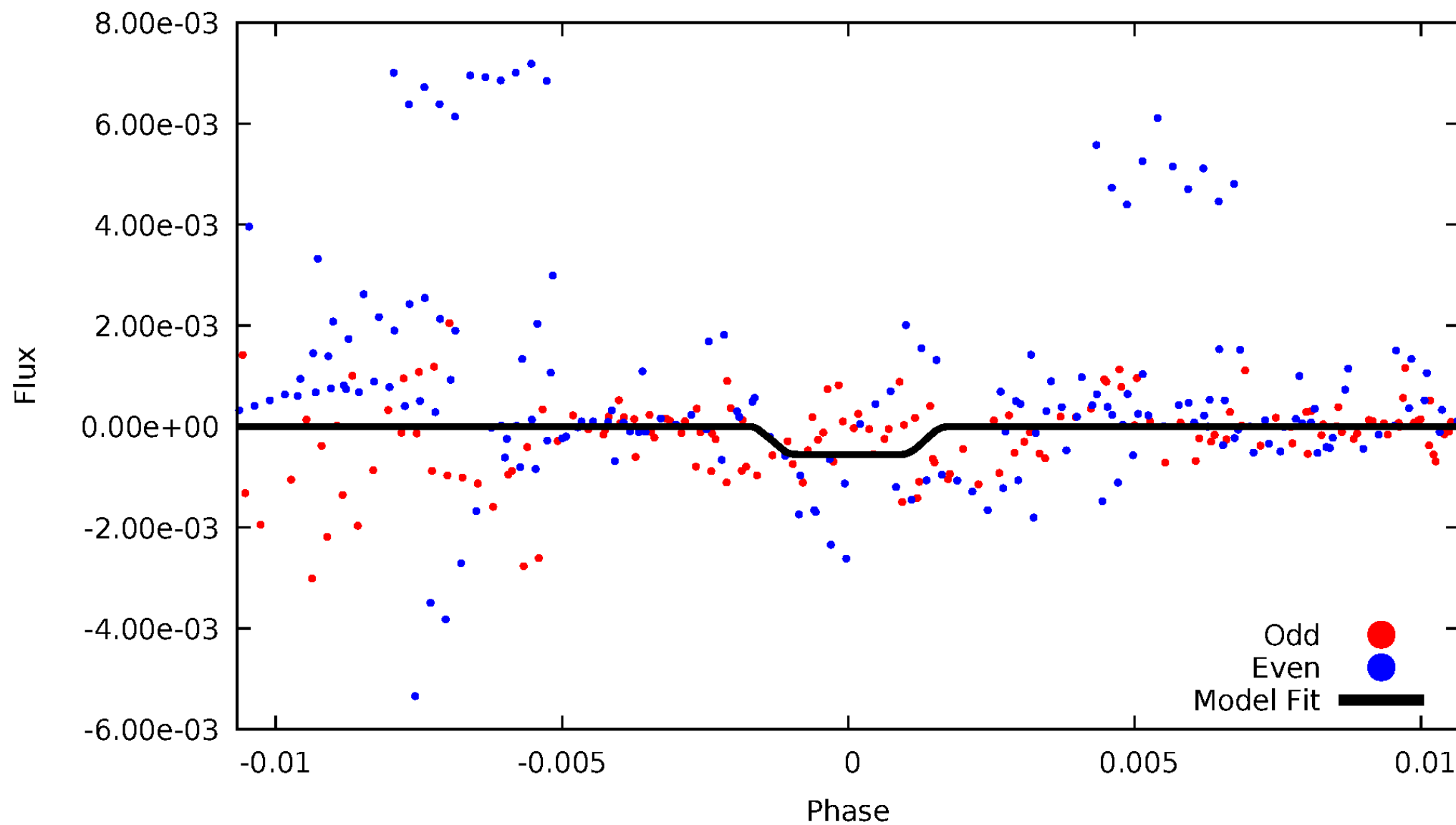
DV Odd/Even

TCE 006468033-02



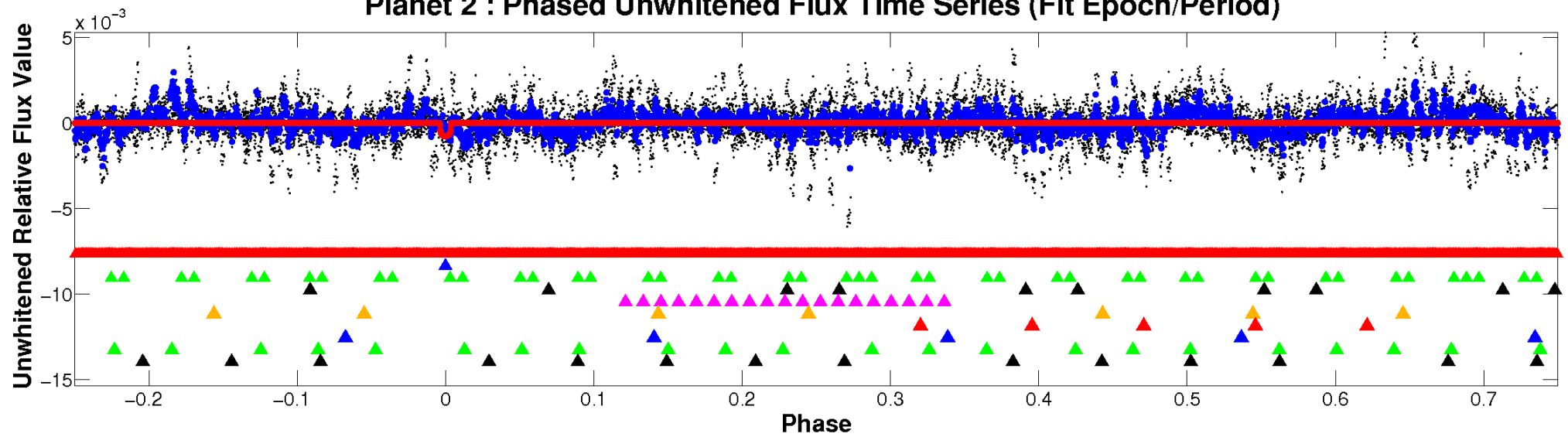
ALT Odd/Even

TCE 006468033-02

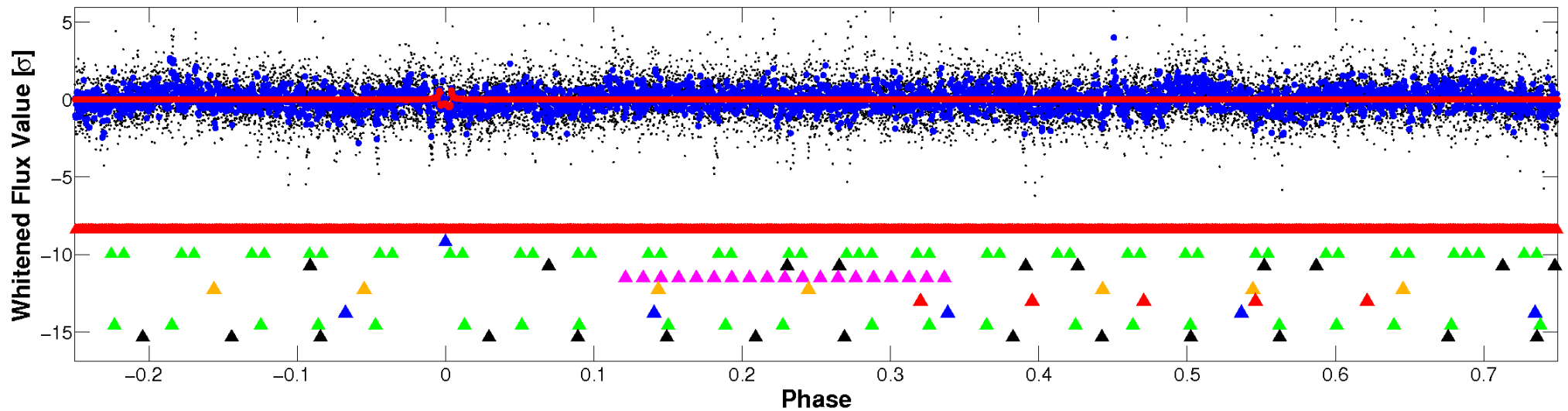


Non-Whitened Vs. Whitened Light Curve

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

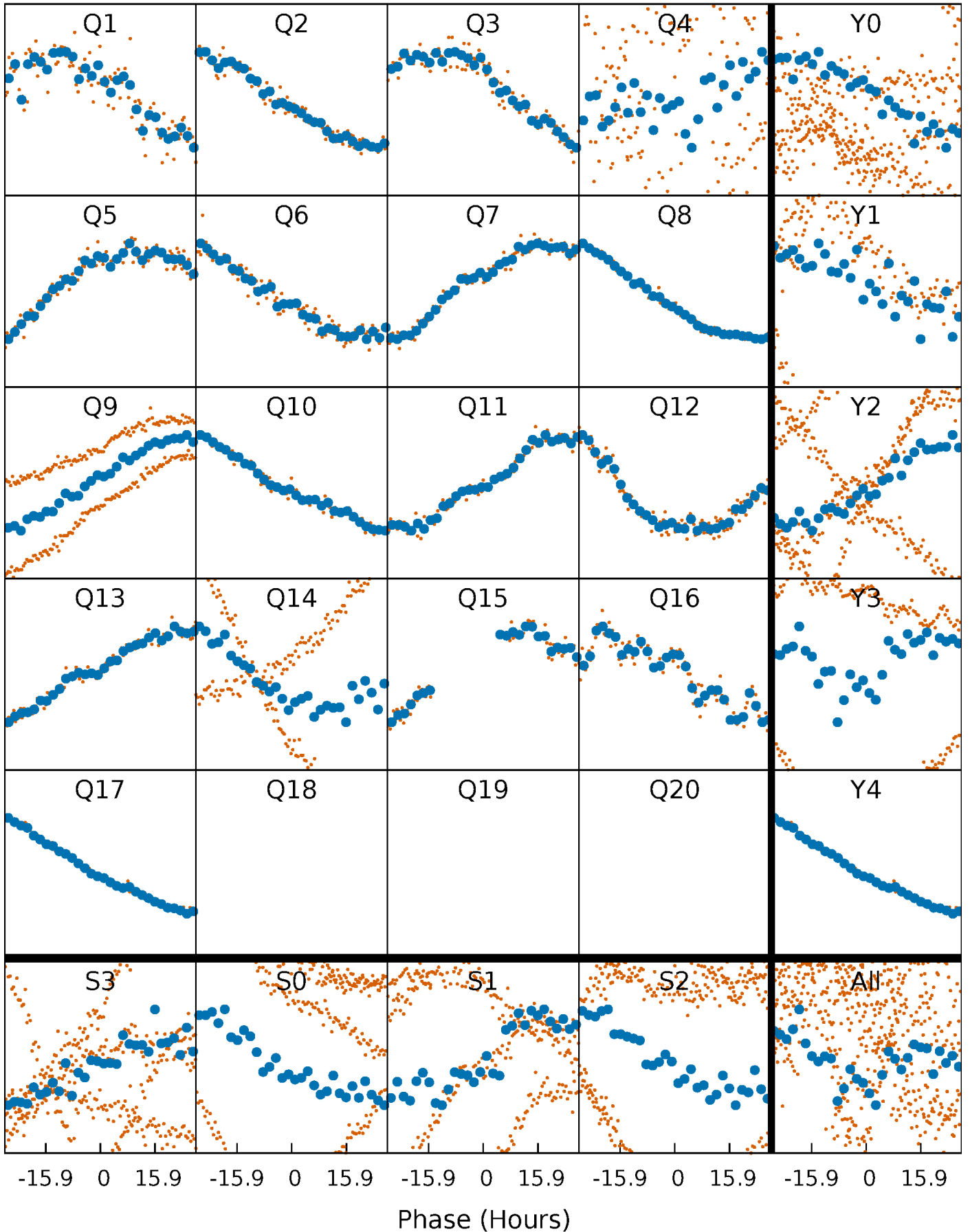


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



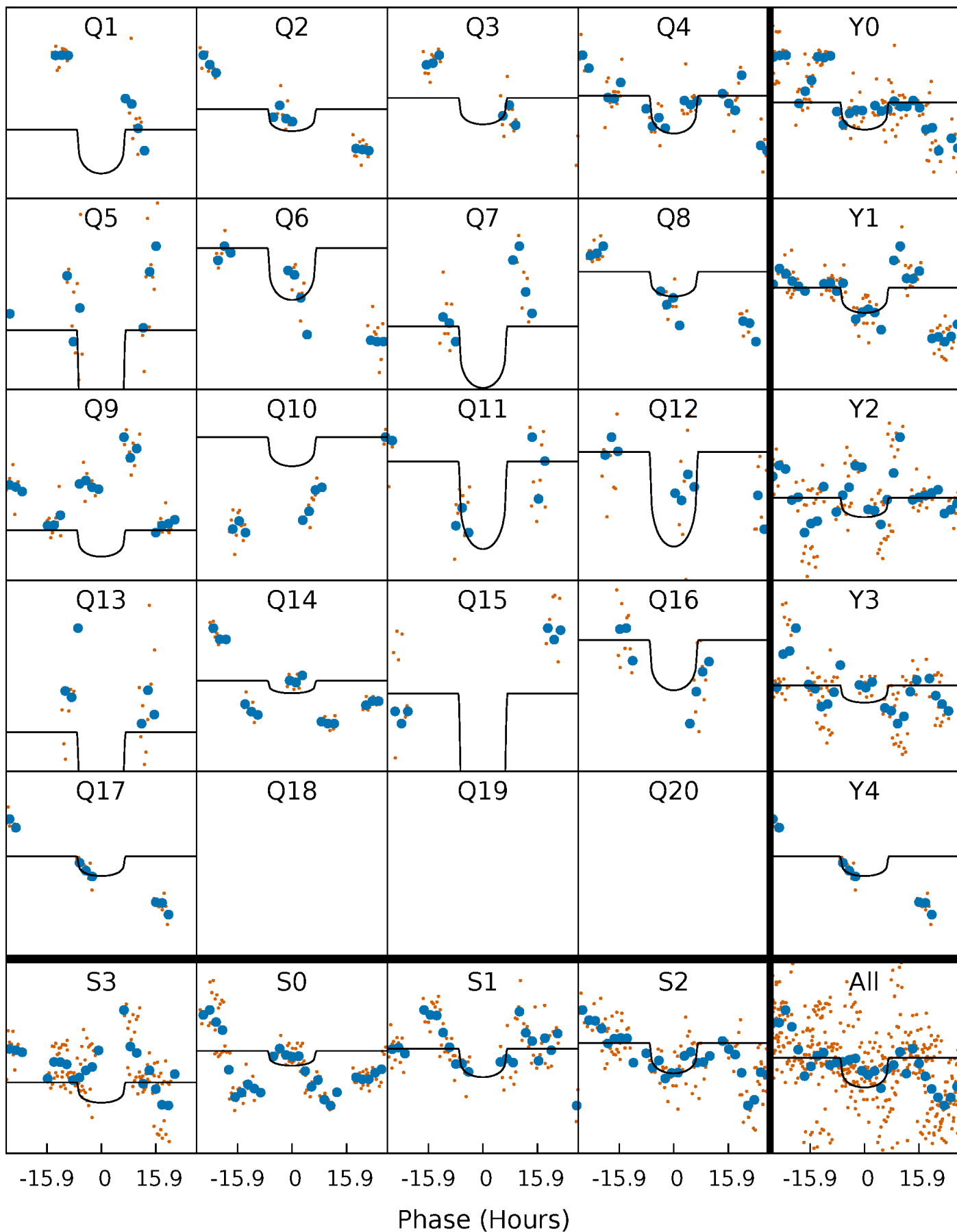
PDC Quarter-Phased Transit Curves

TCE 006468033-02 P= 76.577897 Days $T_0=134.192327$ (BKJD)



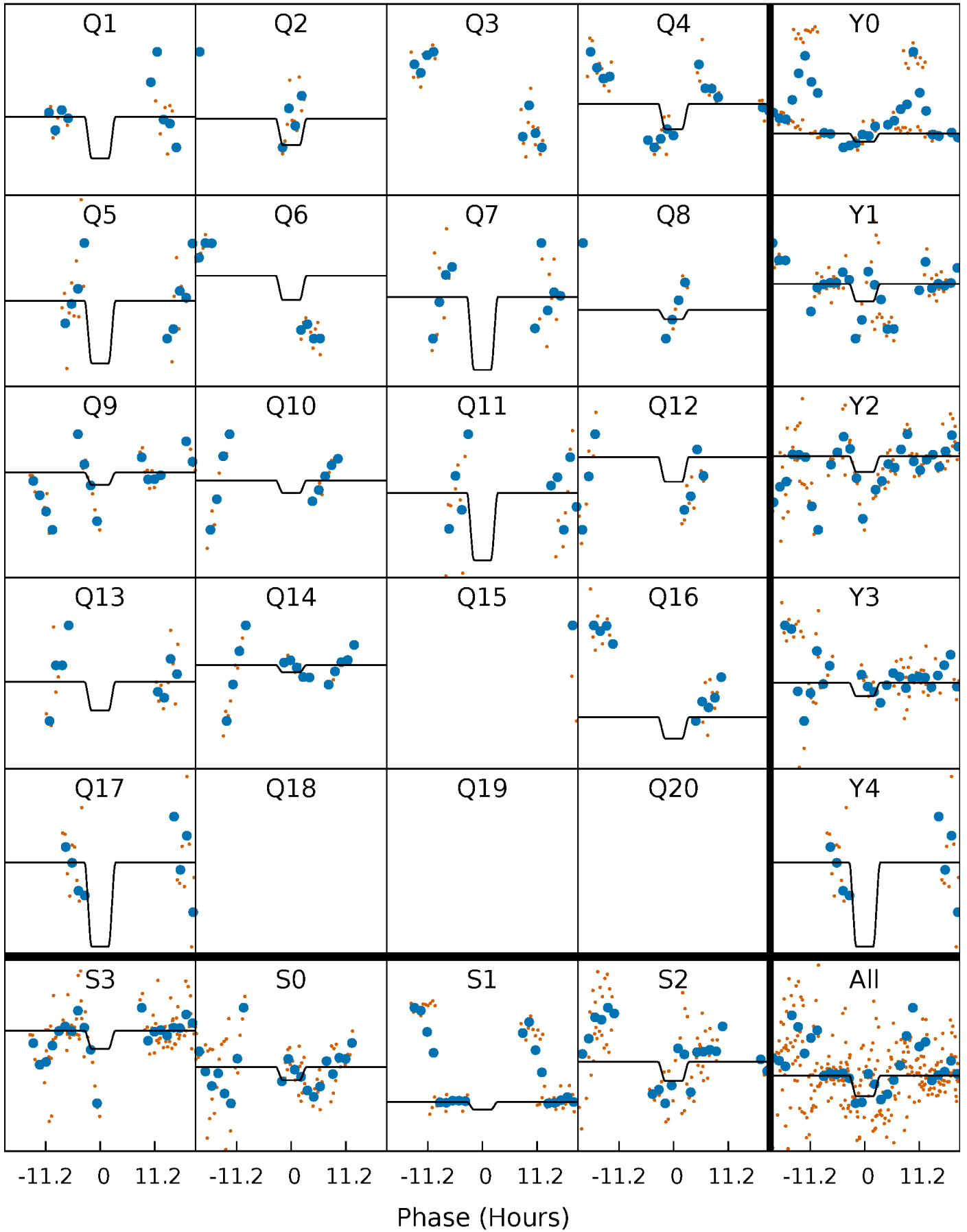
DV Quarter-Phased Transit Curves

TCE 006468033-02 P= 76.577897 Days $T_0=134.192327$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

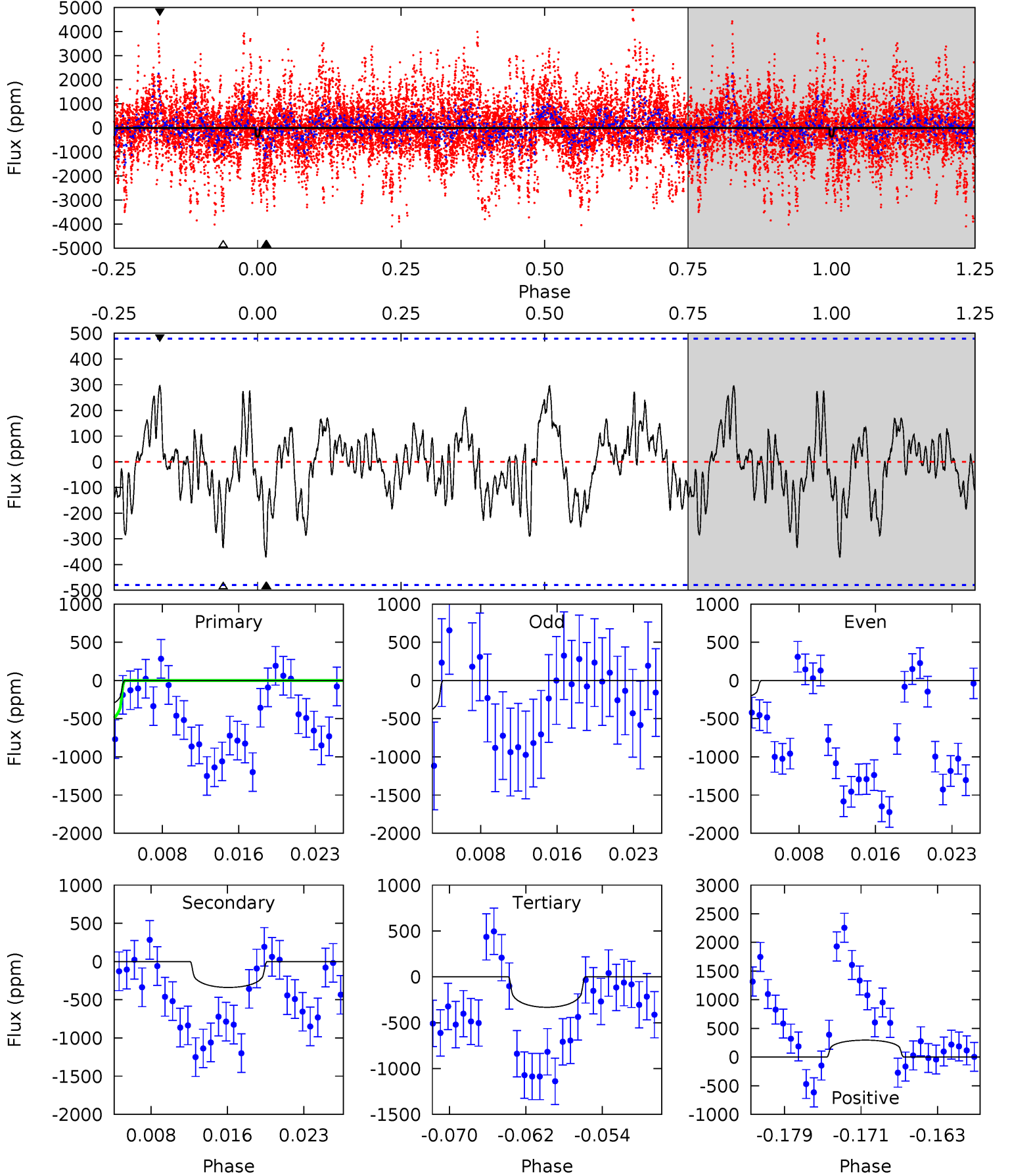
TCE 006468033-02 P= 76.586101 Days $T_0=134.060412$ (BKJD)



DV Model-Shift Uniqueness Test

006468033-02, P = 76.577897 Days, E = 57.614430 Days

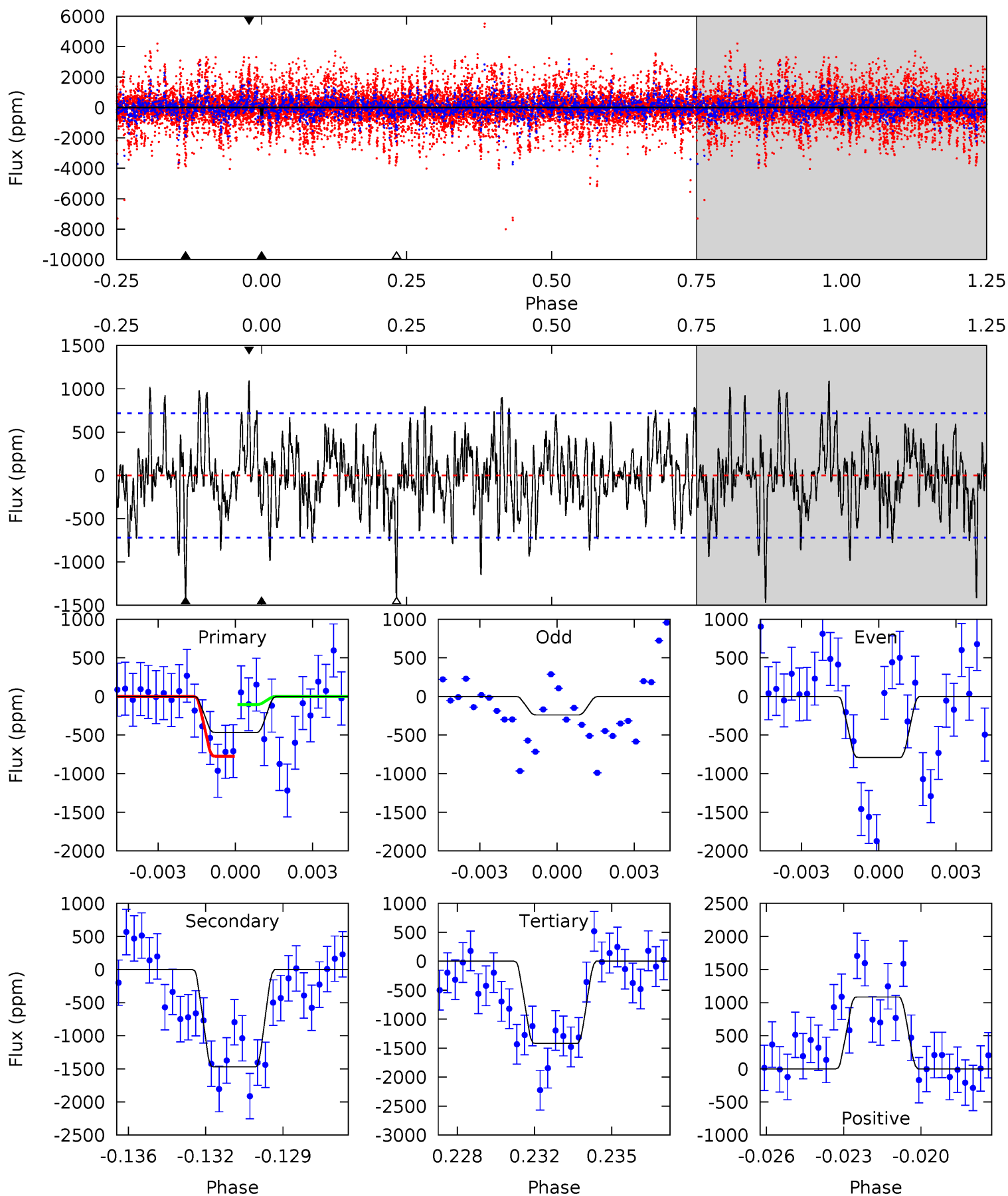
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.92	3.59	3.52	3.13	5.07	2.66	1.23	0.40	0.79	0.07	0.46	1.15	0.81	0.44	2.53



Alt Model-Shift Uniqueness Test

006468033-02, P = 76.586101 Days, E = 57.474311 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.39	10.7	10.3	7.91	5.23	2.94	2.46	-6.95	-4.52	0.38	2.80	1.72	1.22	0.42	2.49



Stellar Parameters For KIC 006468033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5499^{+164}_{-164}	$4.449^{+0.078}_{-0.182}$	$0.160^{+0.250}_{-0.300}$	$0.955^{+0.253}_{-0.109}$	$0.935^{+0.090}_{-0.082}$	$1.514^{+0.603}_{-0.706}$
	+3%/-3%	+2%/-4%	+156%/-188%	+26%/-11%	+10%/-9%	+40%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006468033-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-339 ± 94	$2.92^{+1.88}_{-1.83}$	569^{+40}_{-27}	4680^{+2703}_{-854}	2605^{+15345}_{-1699}
Alt.	-1470 ± 137	$2.78^{+1.91}_{-1.66}$	571^{+39}_{-27}	6761^{+5701}_{-1567}	12361^{+67868}_{-7916}

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

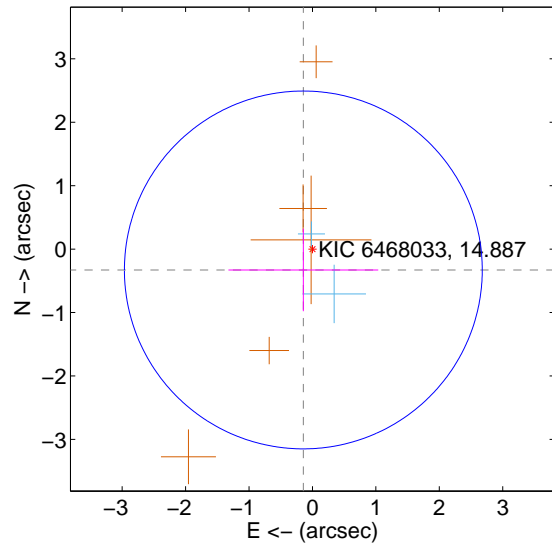
Supplemental centroid analysis for 006468033-02. Kepler magnitude: 14.89. Transit SNR 4.71

There are 2 quarters with good PRF difference image offsets

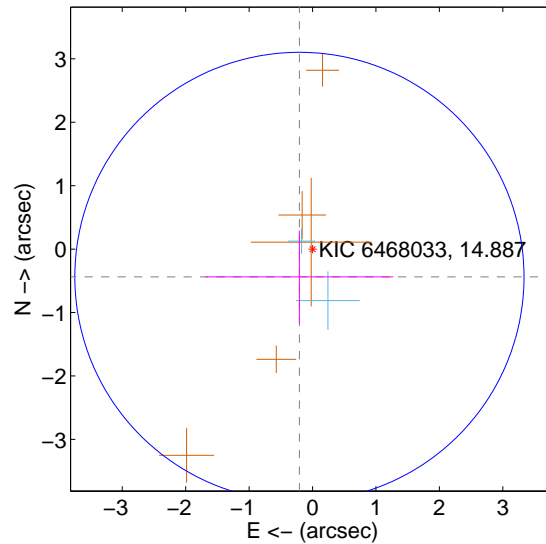
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.359 ± 0.940	0.38	0.143 ± 1.181	-0.329 ± 0.651
PRF-fit source offset from KIC position	0.485 ± 1.180	0.41	0.207 ± 1.481	-0.438 ± 0.730
photometric centroid source offset	0.54 ± 0.53	1.03	0.54 ± 0.53	-0.00 ± 0.50

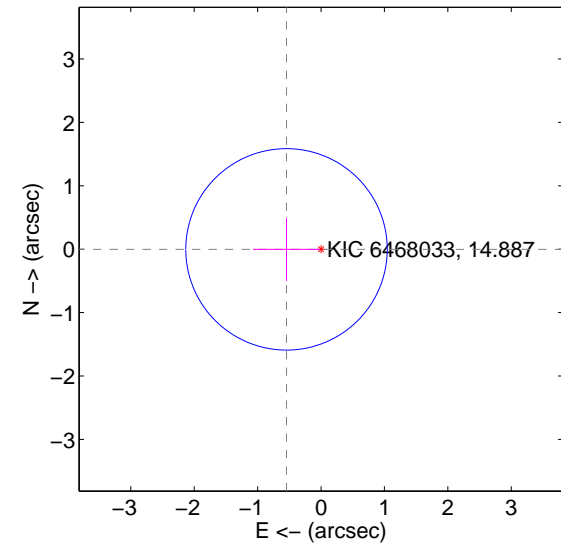
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

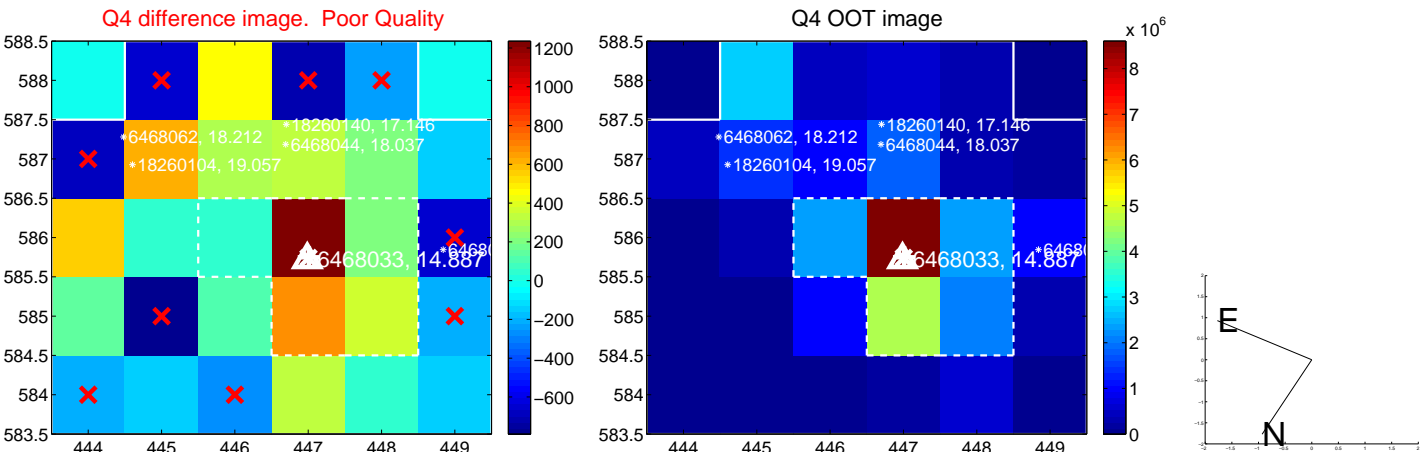
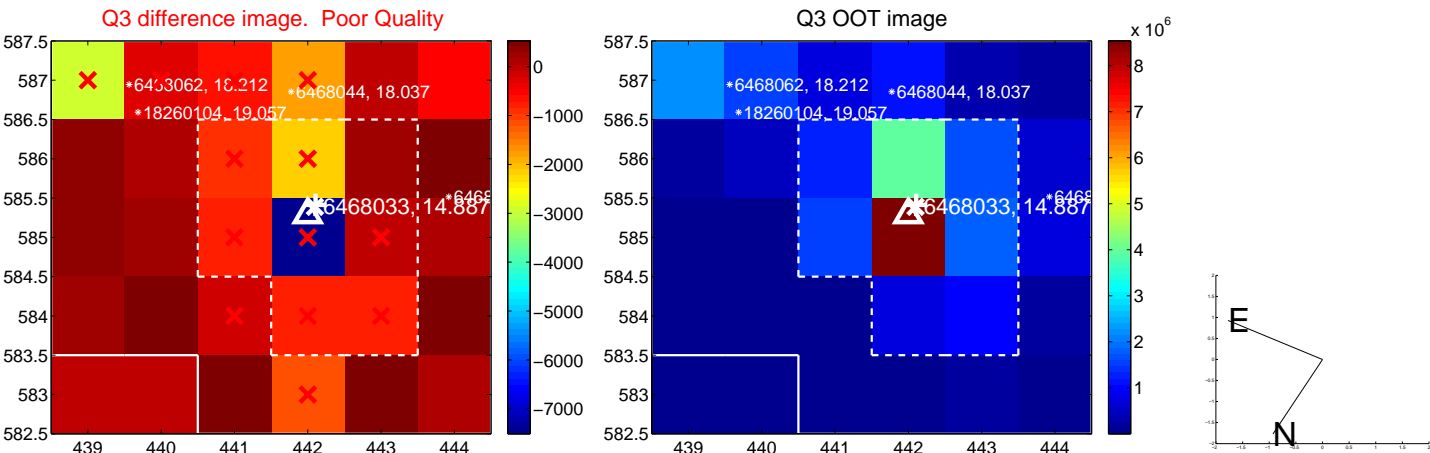
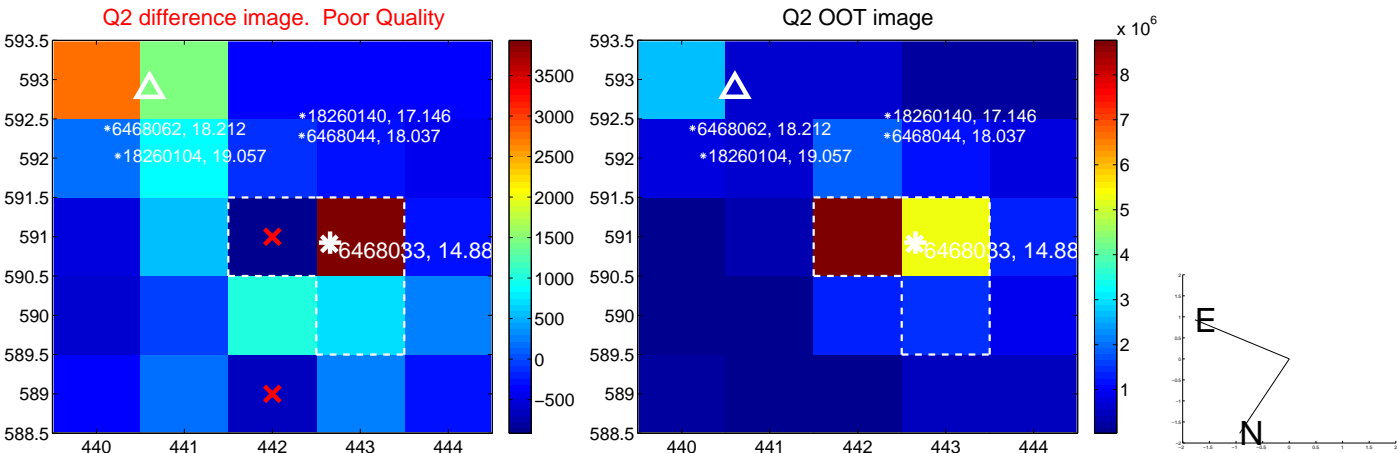
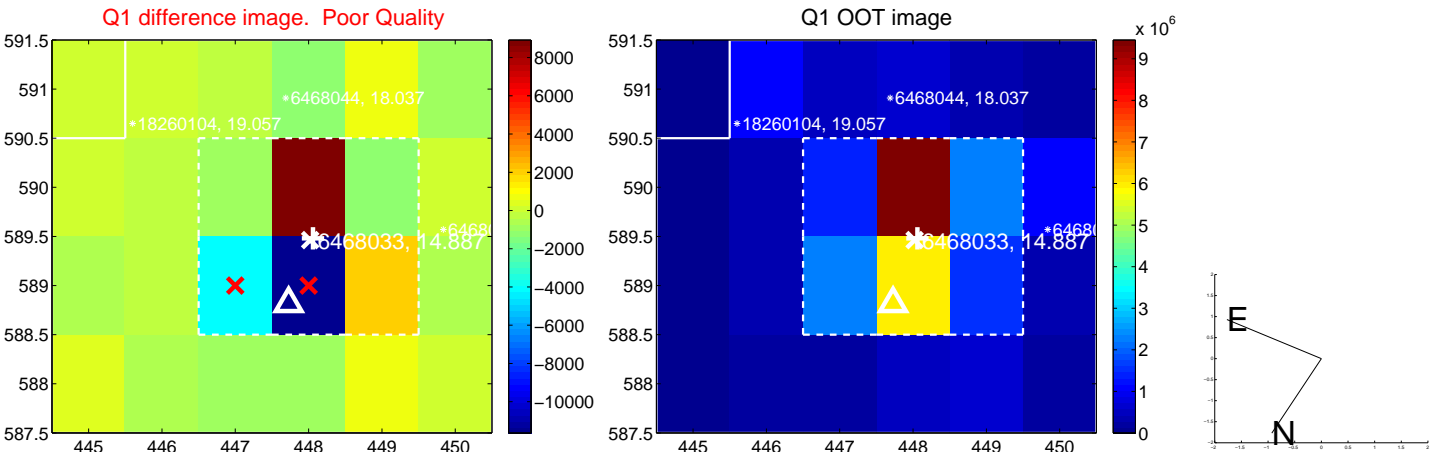


offset from photometric centroids

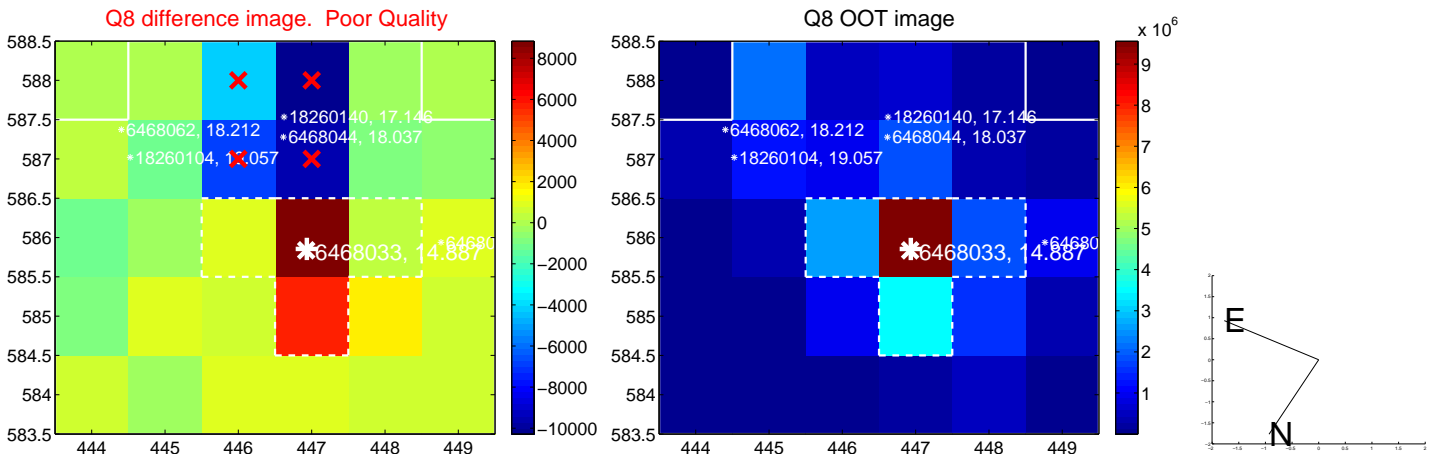
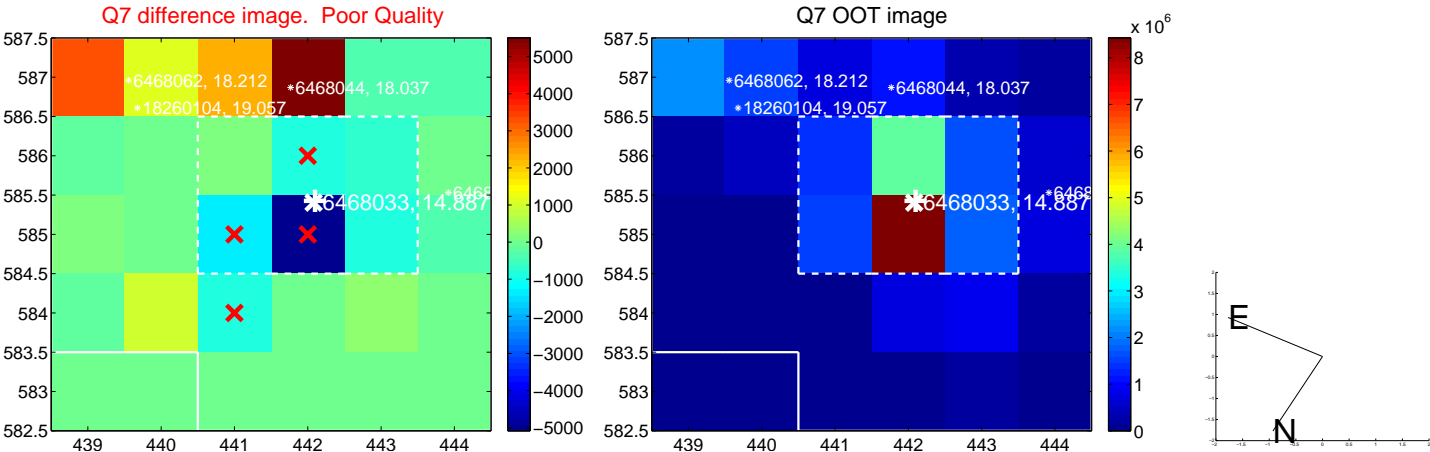
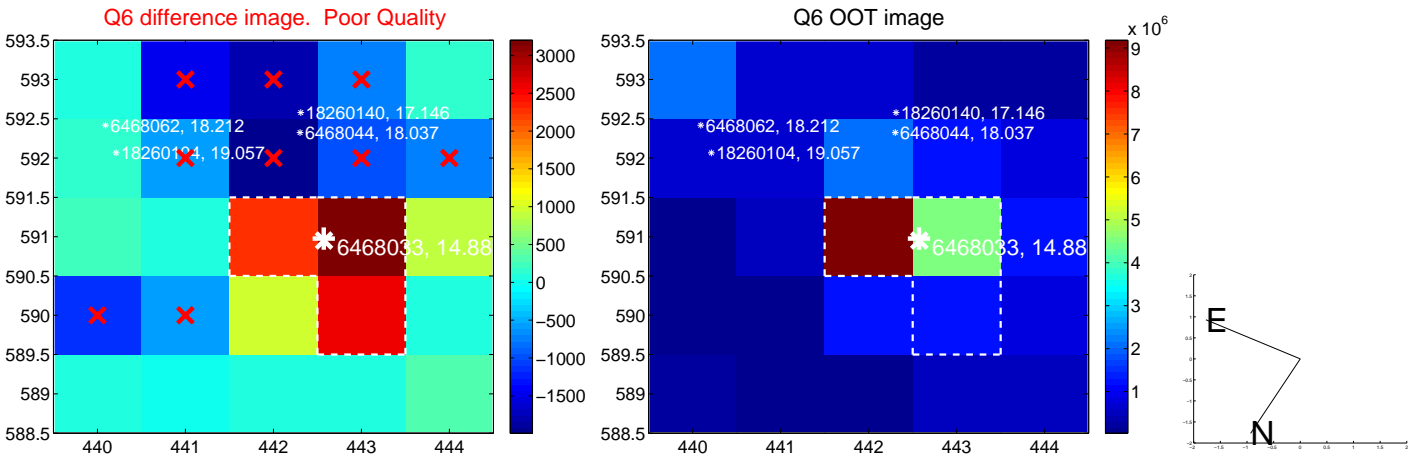
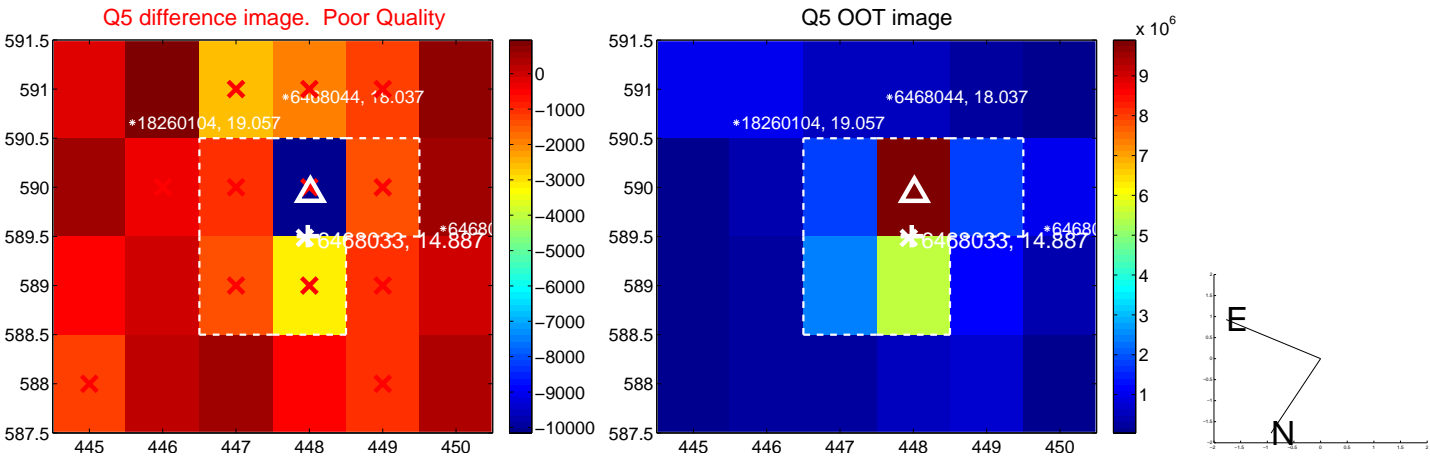


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

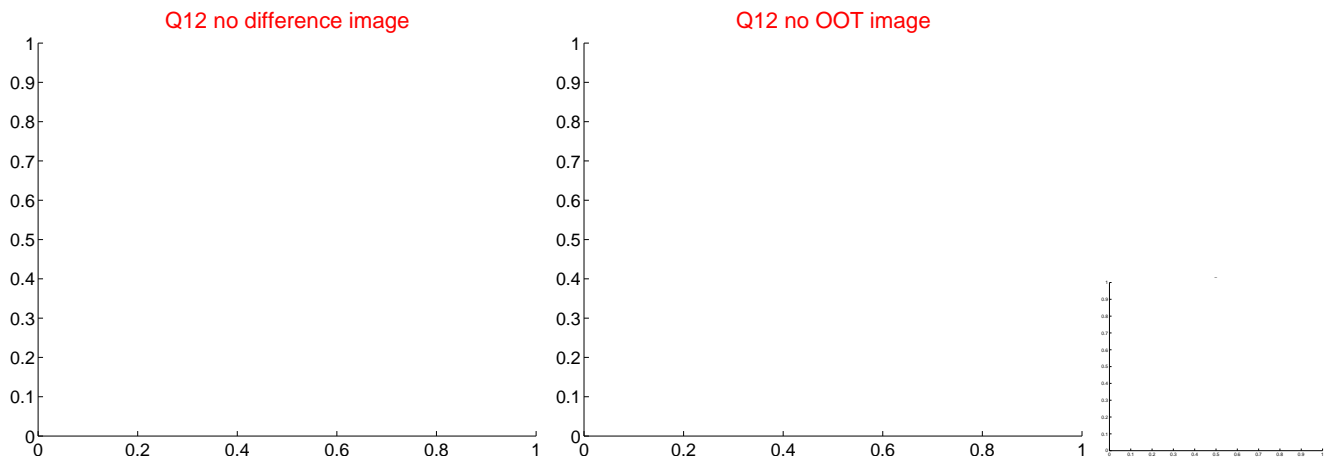
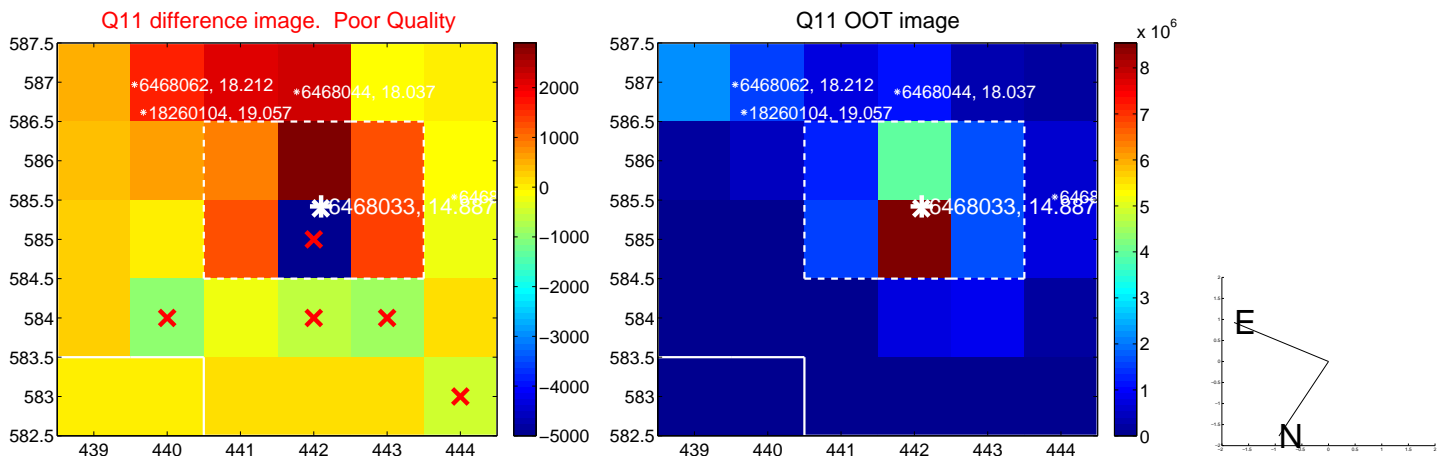
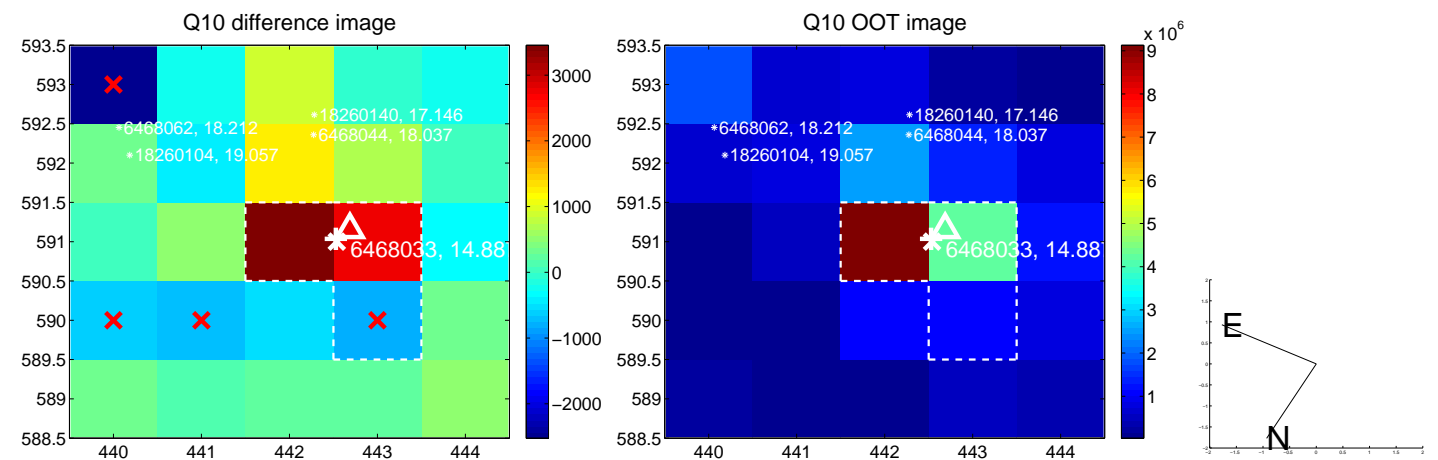
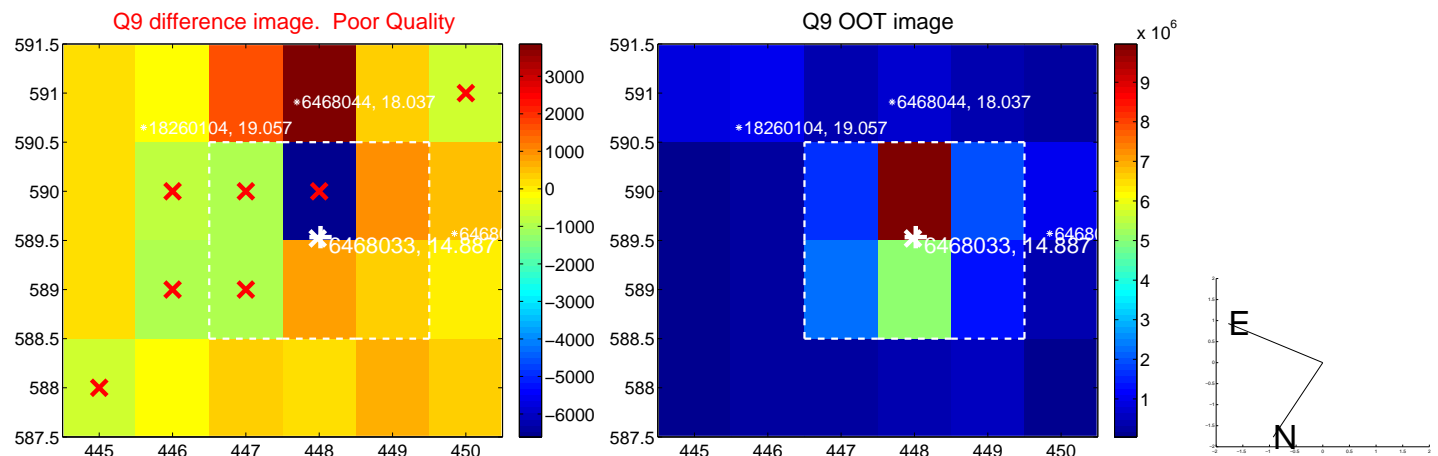
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



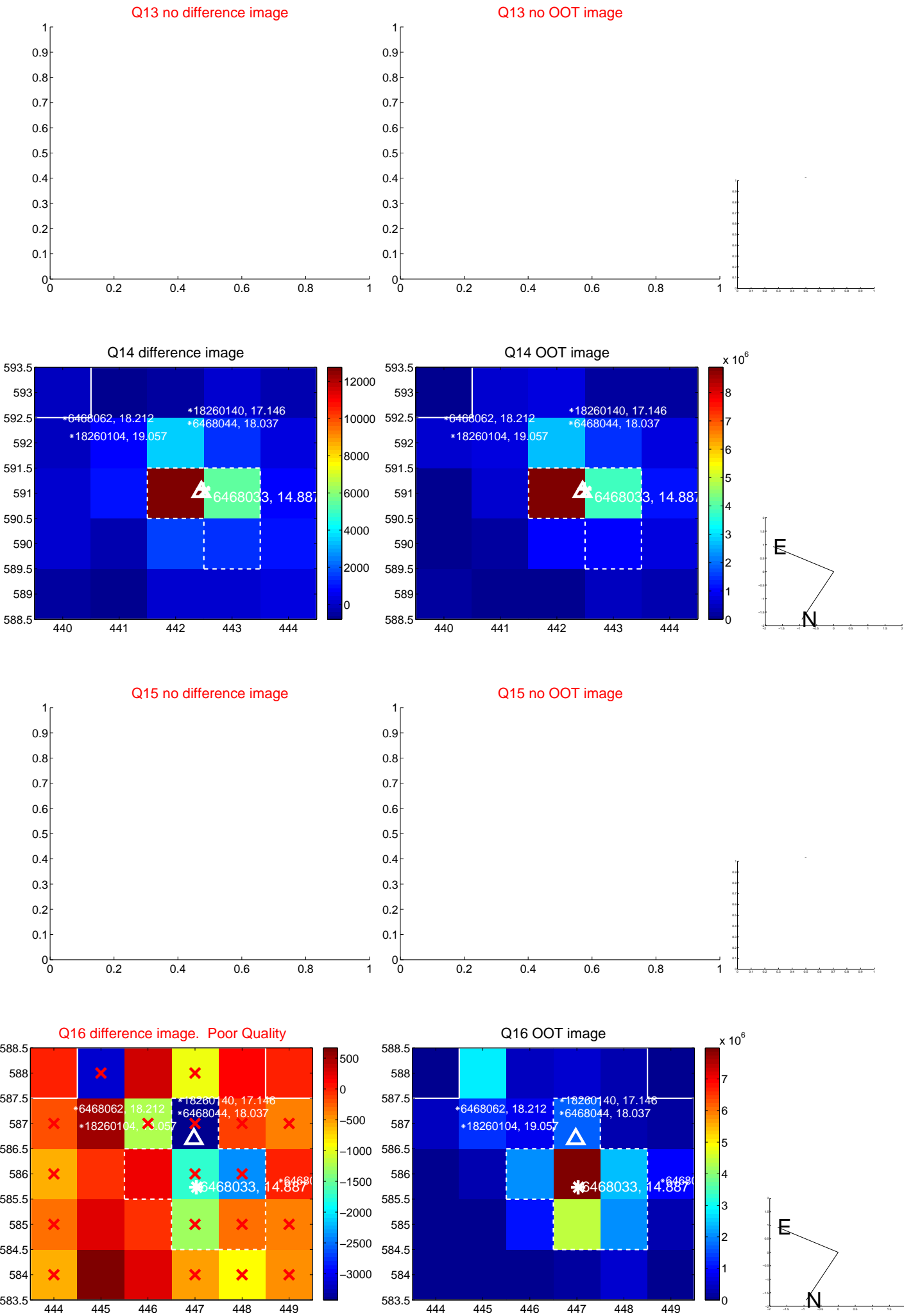
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



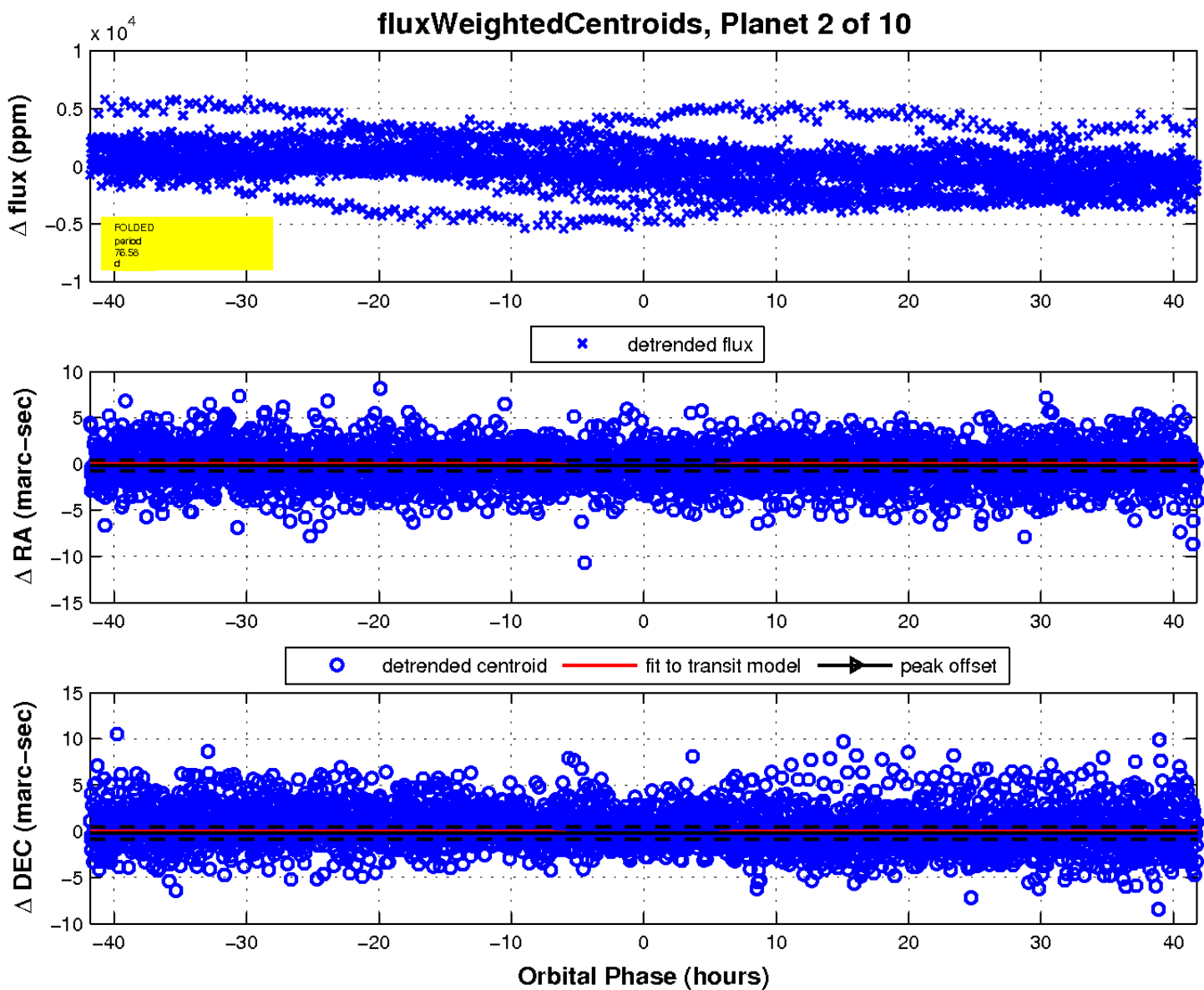
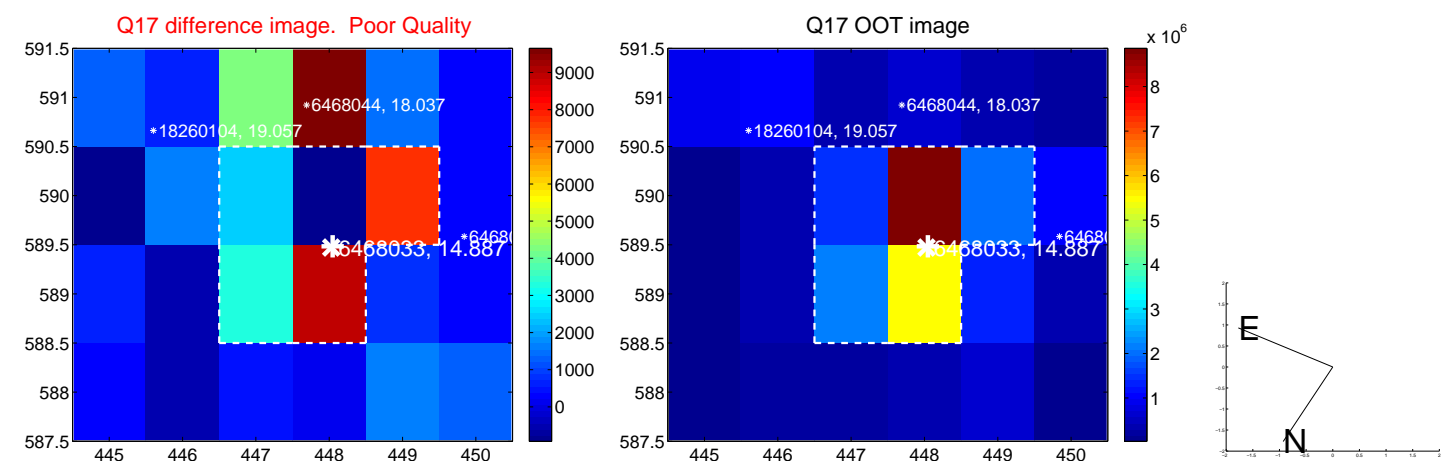
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

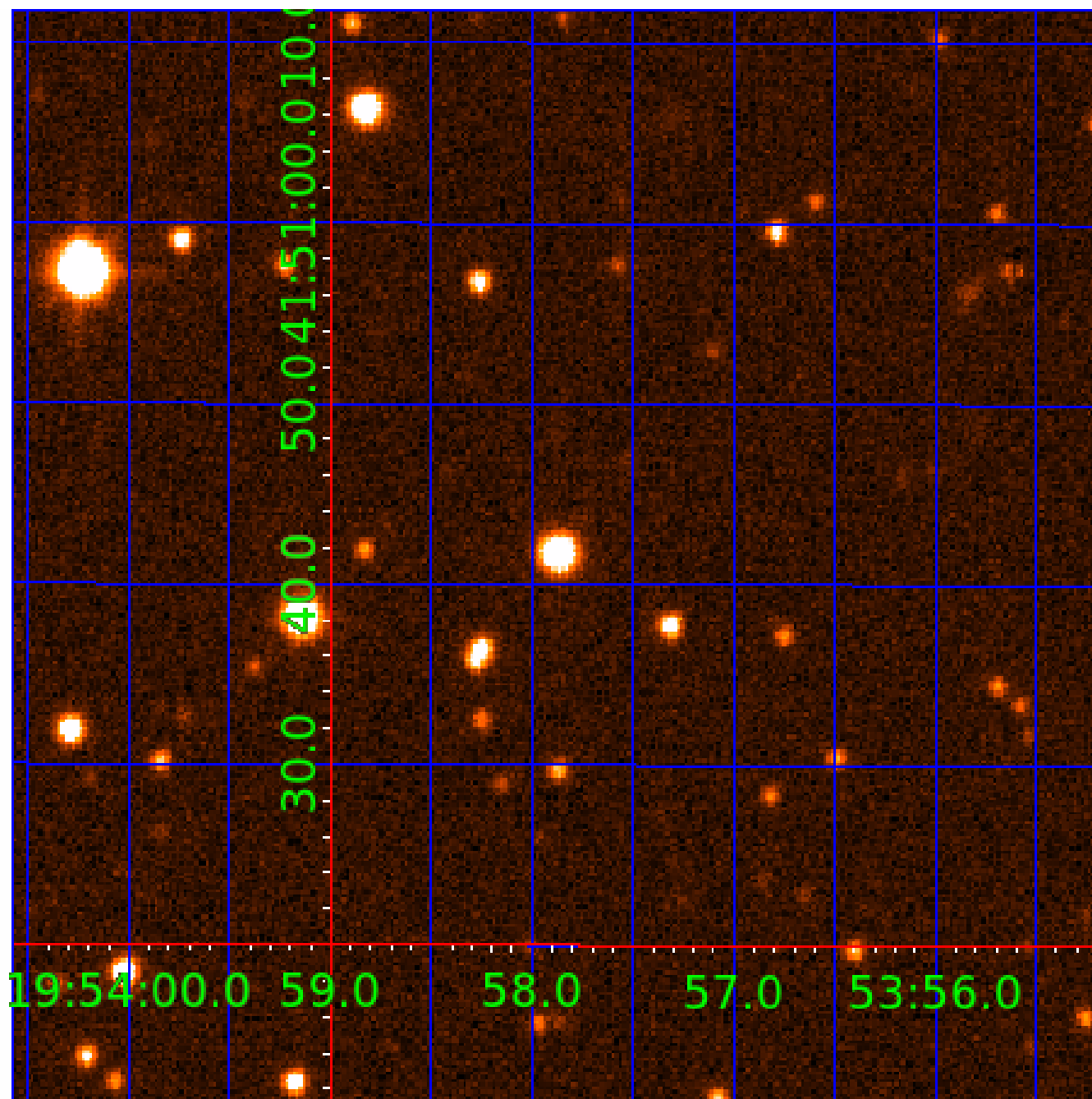


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006468033

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})
006468033-01	OBS	No	0.927526	132.294772	56.3	5.605	8.2	10.7	0.95	5499	0.71	2253.88
006468033-02	OBS	No	76.577897	134.192326	770.4	13.938	20.7	4.7	0.95	5499	2.64	6.27
006468033-03	OBS	No	31.356677	154.901209	1075.5	15.327	14.9	8.8	0.95	5499	4.00	20.62
006468033-06	OBS	No	206.792931	168.120526	2233.0	6.400	14.7	9.5	0.95	5499	4.54	1.67
006468033-07	OBS	No	300.547582	181.774690	2575.0	10.460	12.0	9.5	0.95	5499	5.59	1.01
006468033-08	OBS	No	291.150468	205.607637	18339.3	109.283	12.1	11.0	0.95	5499	19.31	1.06
006468033-09	OBS	No	66.061273	177.240066	1521.5	10.930	10.4	8.5	0.95	5499	7.29	7.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006468033-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
006468033-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006468033-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

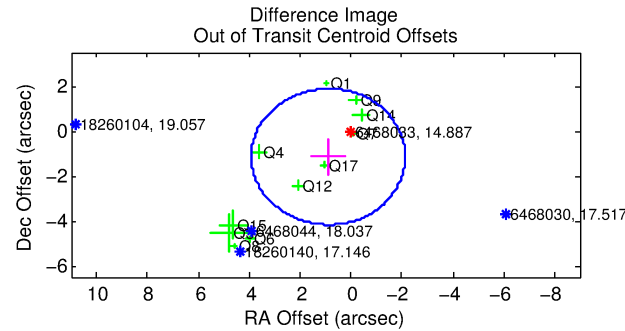
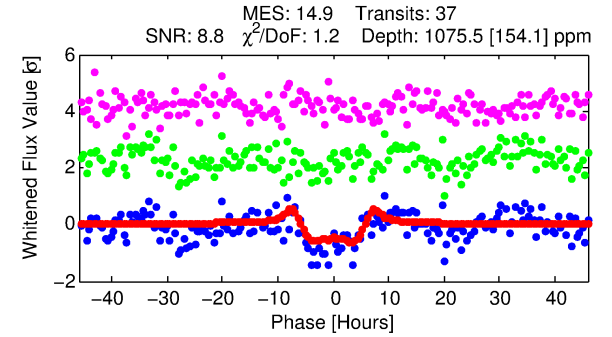
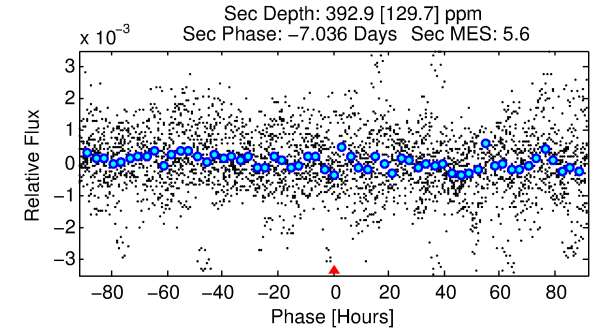
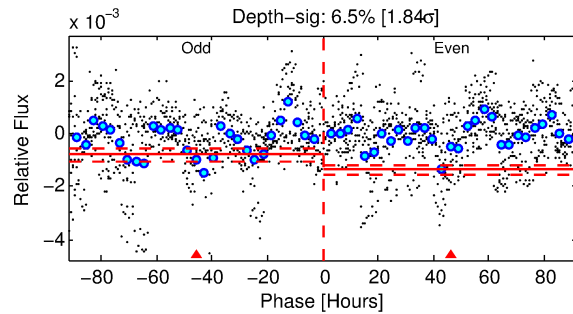
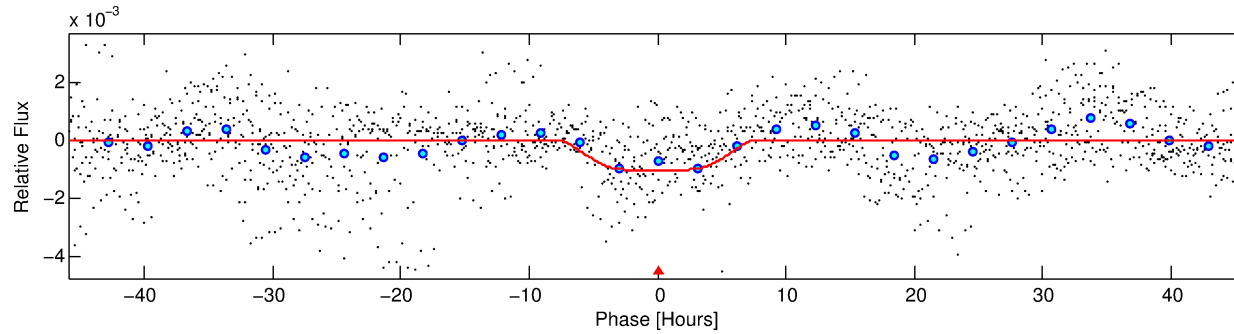
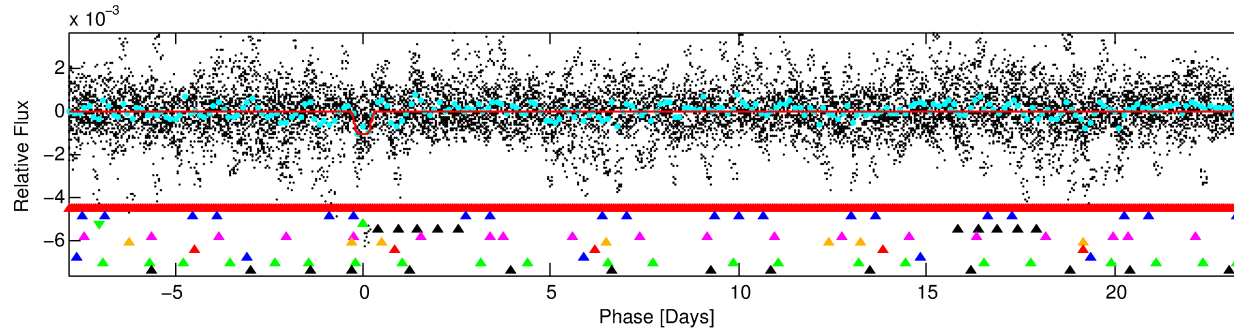
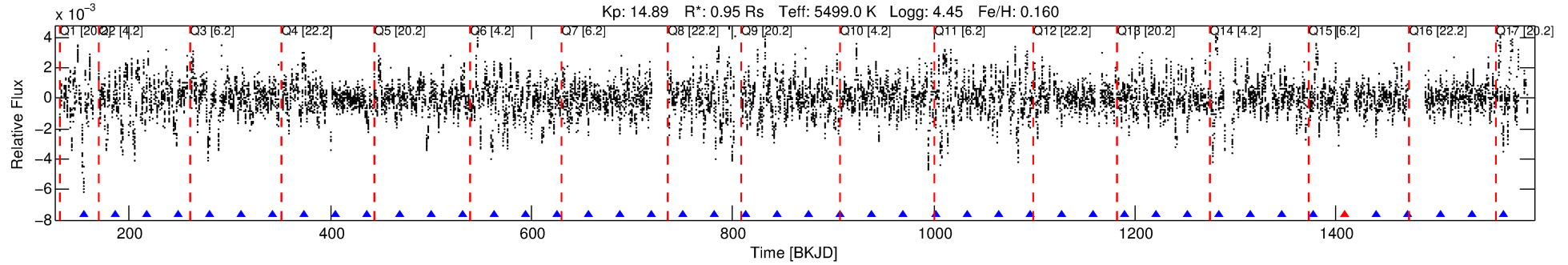
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006468033-03

No Significant Match Found

DV One-Page Summary

KIC: 6468033 Candidate: 3 of 10 Period: 31.357 d



DV Fit Results:

Period = 31.35668 [0.00095] d
Epoch = 154.9012 [0.0235] BKJD
Rp/R* = 0.0384 [0.0031]
a/R* = 6.85 [0.75]
b = 0.94 [0.01]
Seff = 20.62 [7.25]
Teq = 543 [48] K
Rp = 4.00 [1.11] Re
a = 0.1904 [0.0429] AU
Ag = 489.27 [242.03] [2.02 σ]
Teffp = 3951 [382] K [8.85 σ]

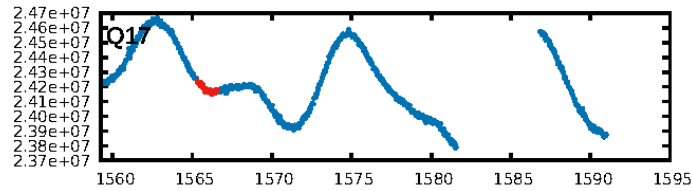
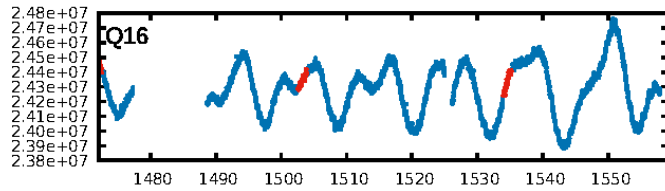
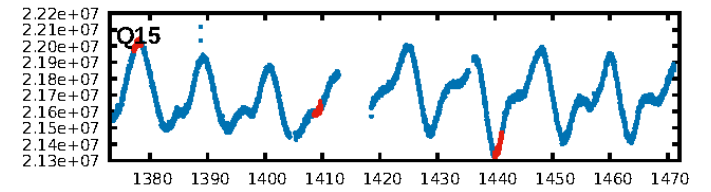
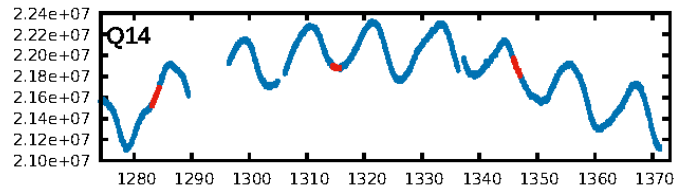
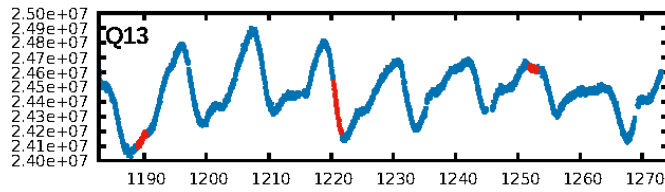
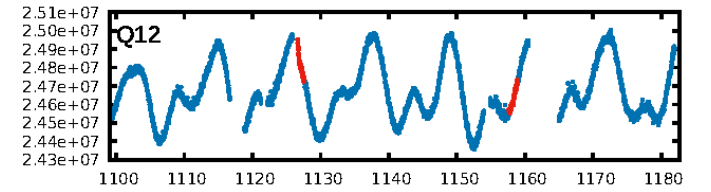
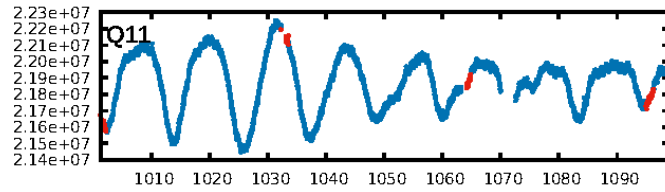
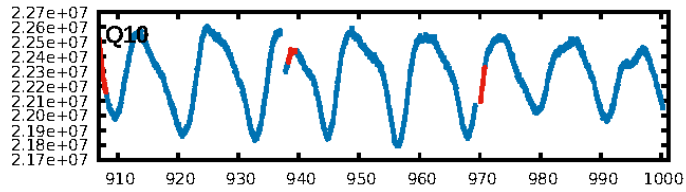
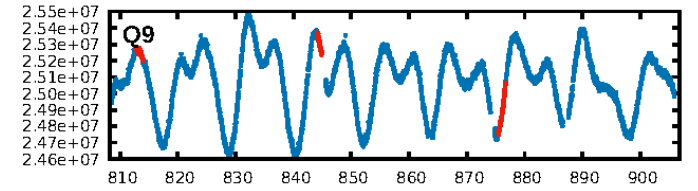
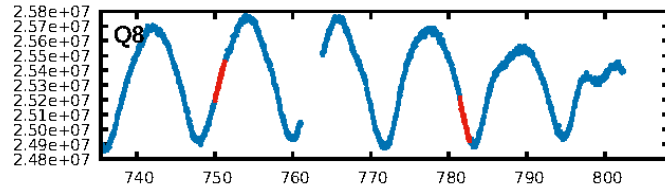
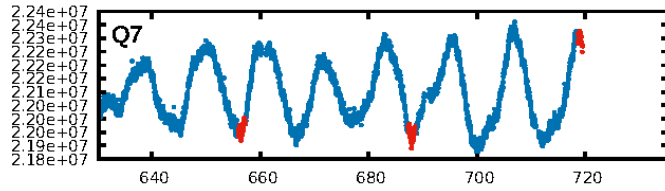
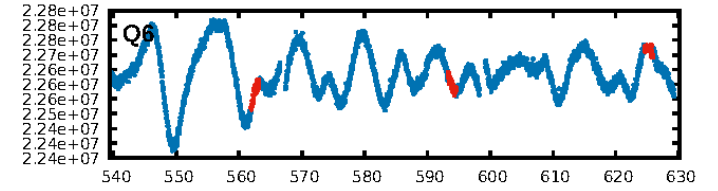
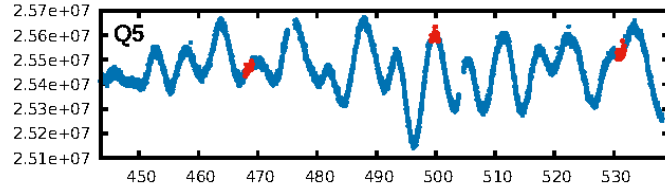
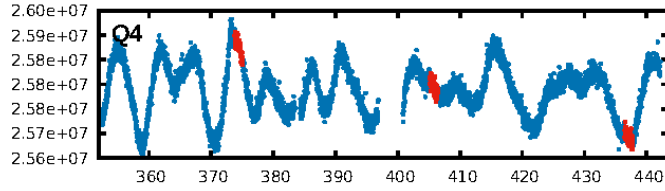
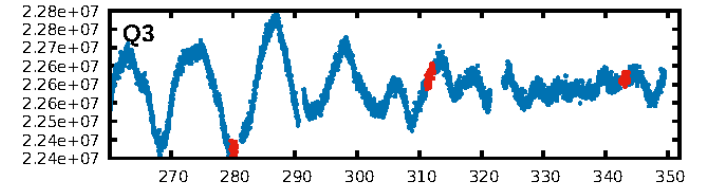
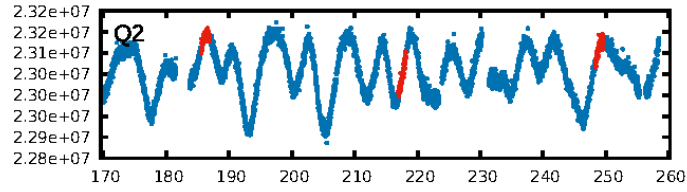
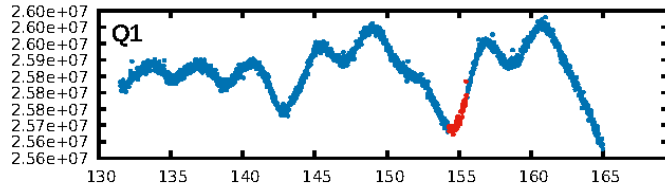
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [44.75 σ]
LongPeriod-sig: 100.0% [44.25 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [34/35]
GhostDiagnostic-chr: 0.3432
Centroid-sig: 10.9%
Centroid-so: 0.444 arcsec [1.53 σ]
OotOffset-rm: 1.456 arcsec [1.44 σ]
KicOffset-rm: 1.455 arcsec [1.51 σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 0.00 [0/15]

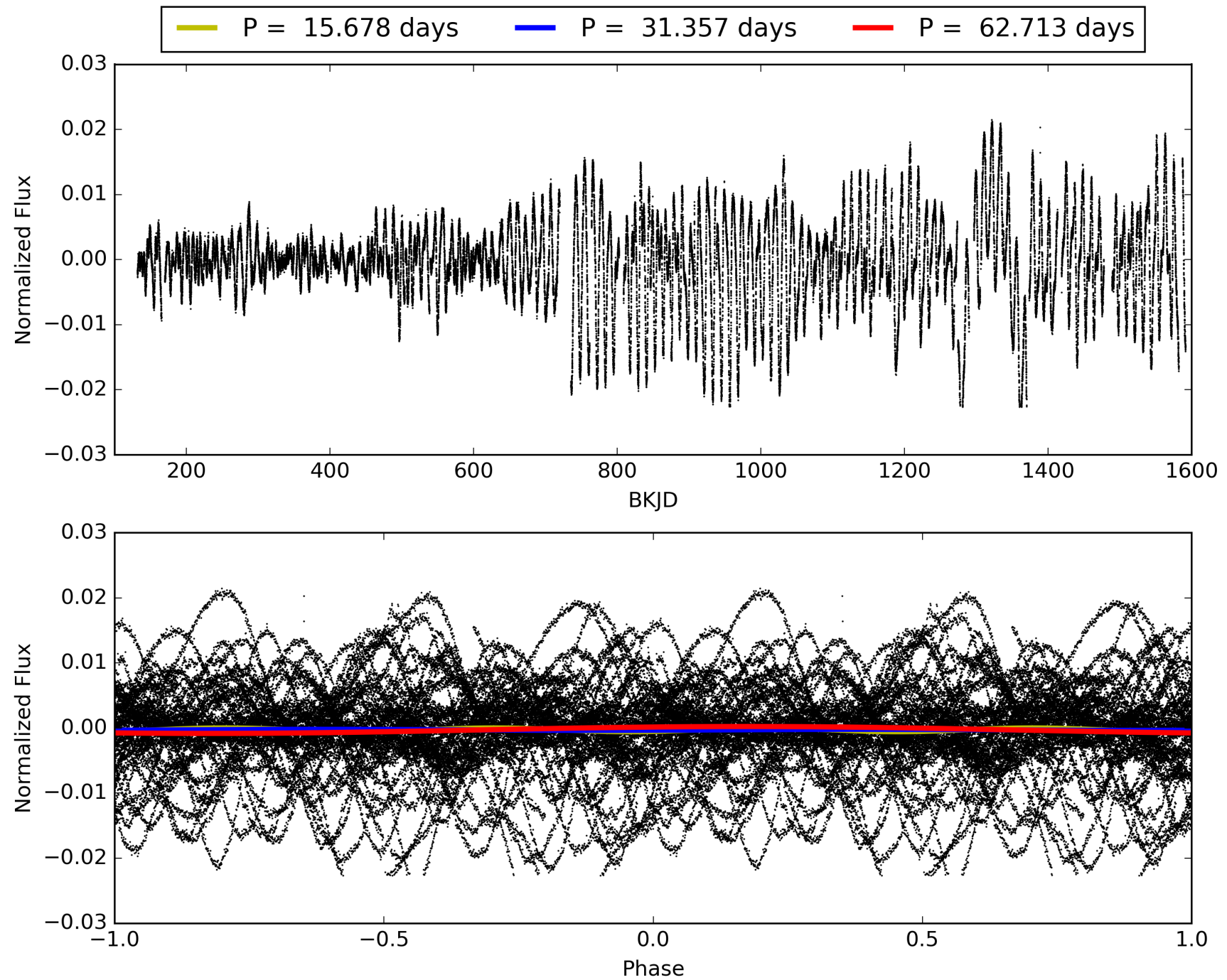
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:12:48 Z

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

TCE 006468033-03, PDC Light Curves

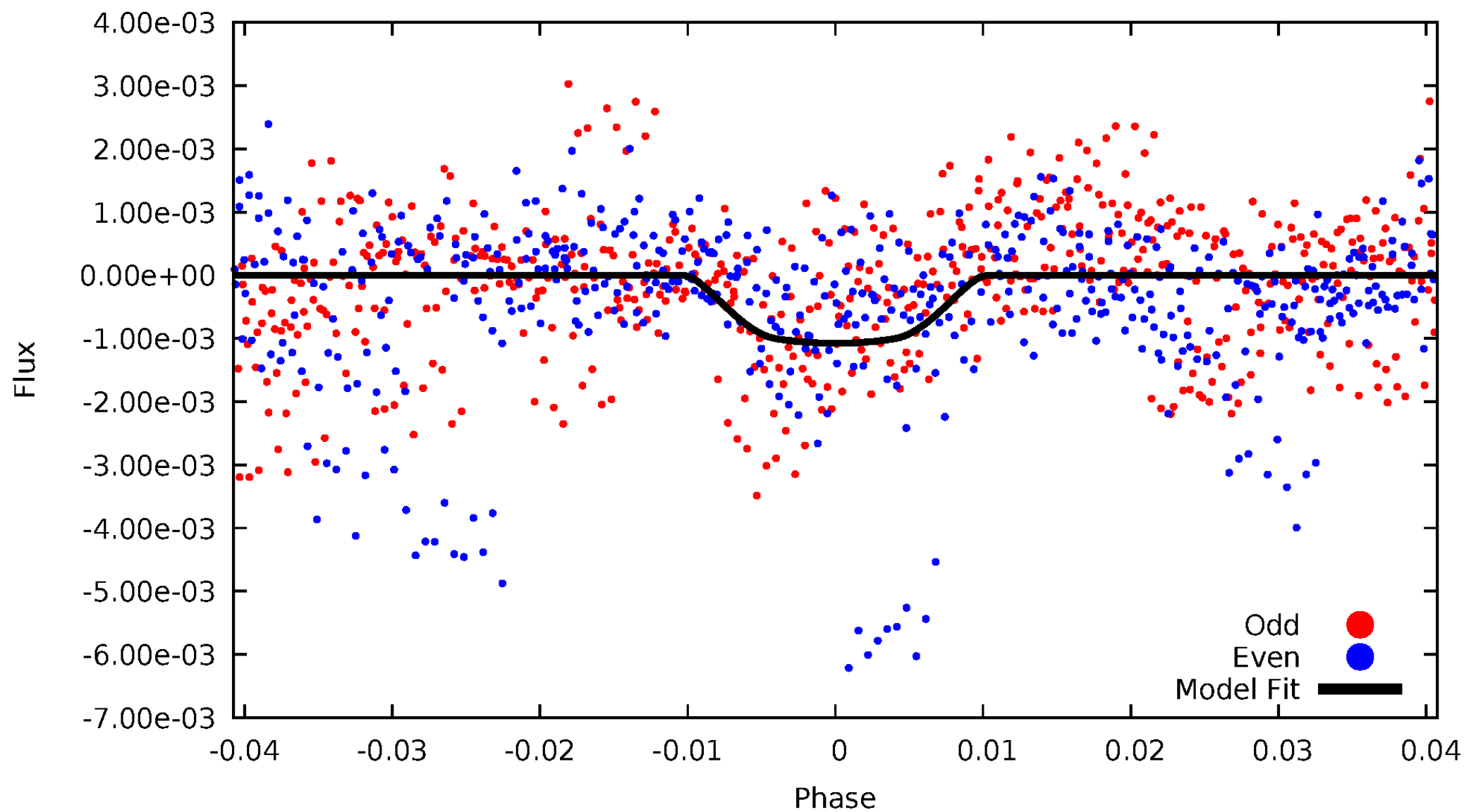


TCE 006468033-03



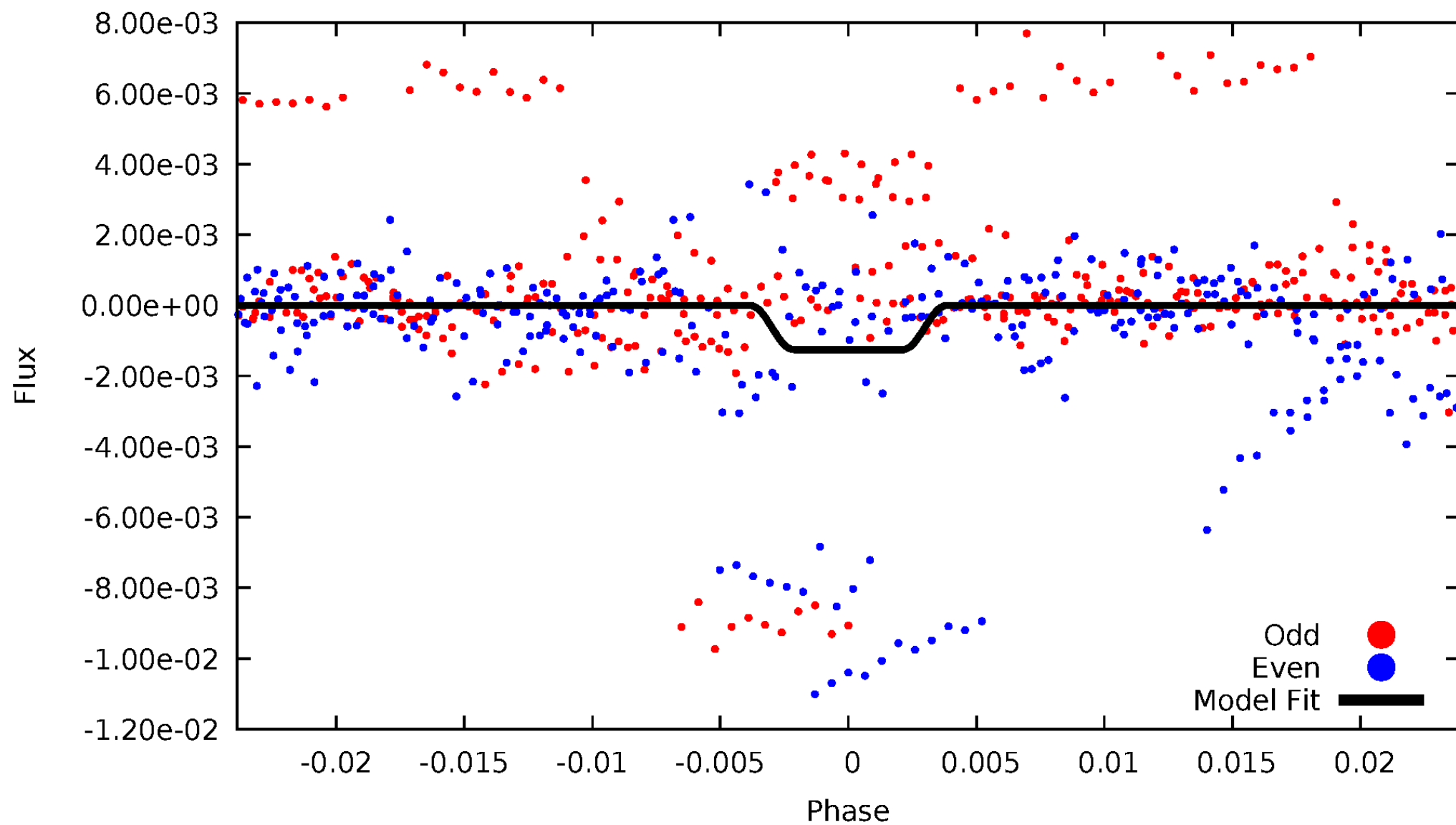
DV Odd/Even

TCE 006468033-03



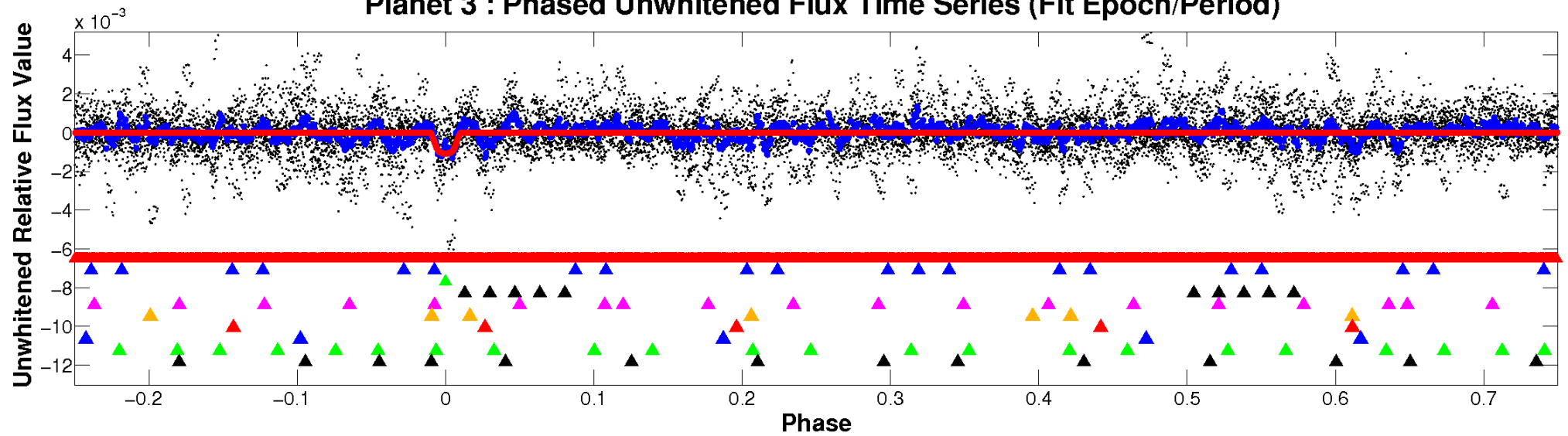
ALT Odd/Even

TCE 006468033-03

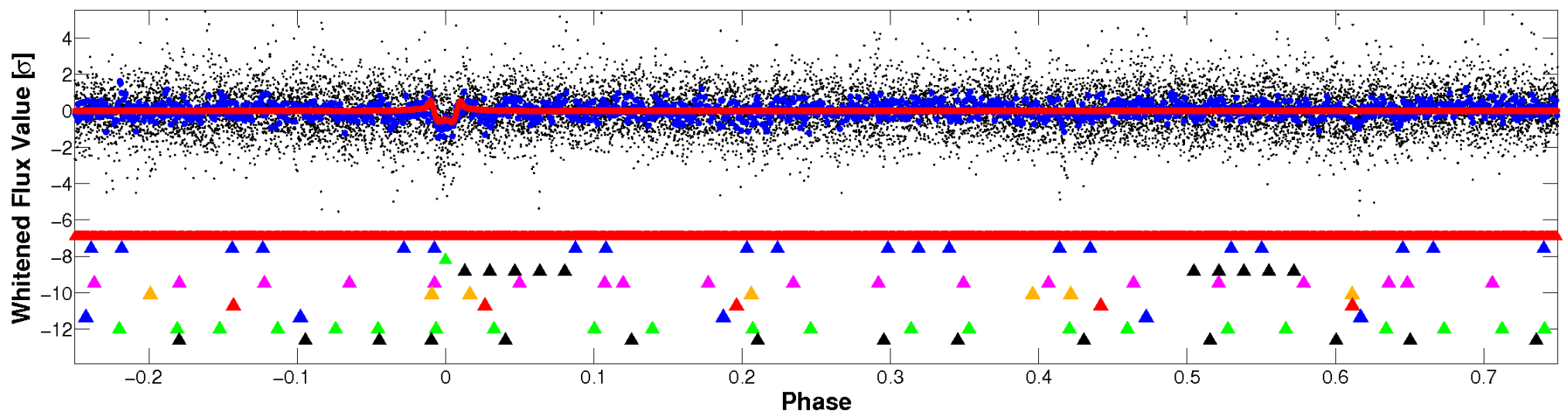


Non-Whitened Vs. Whitened Light Curve

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

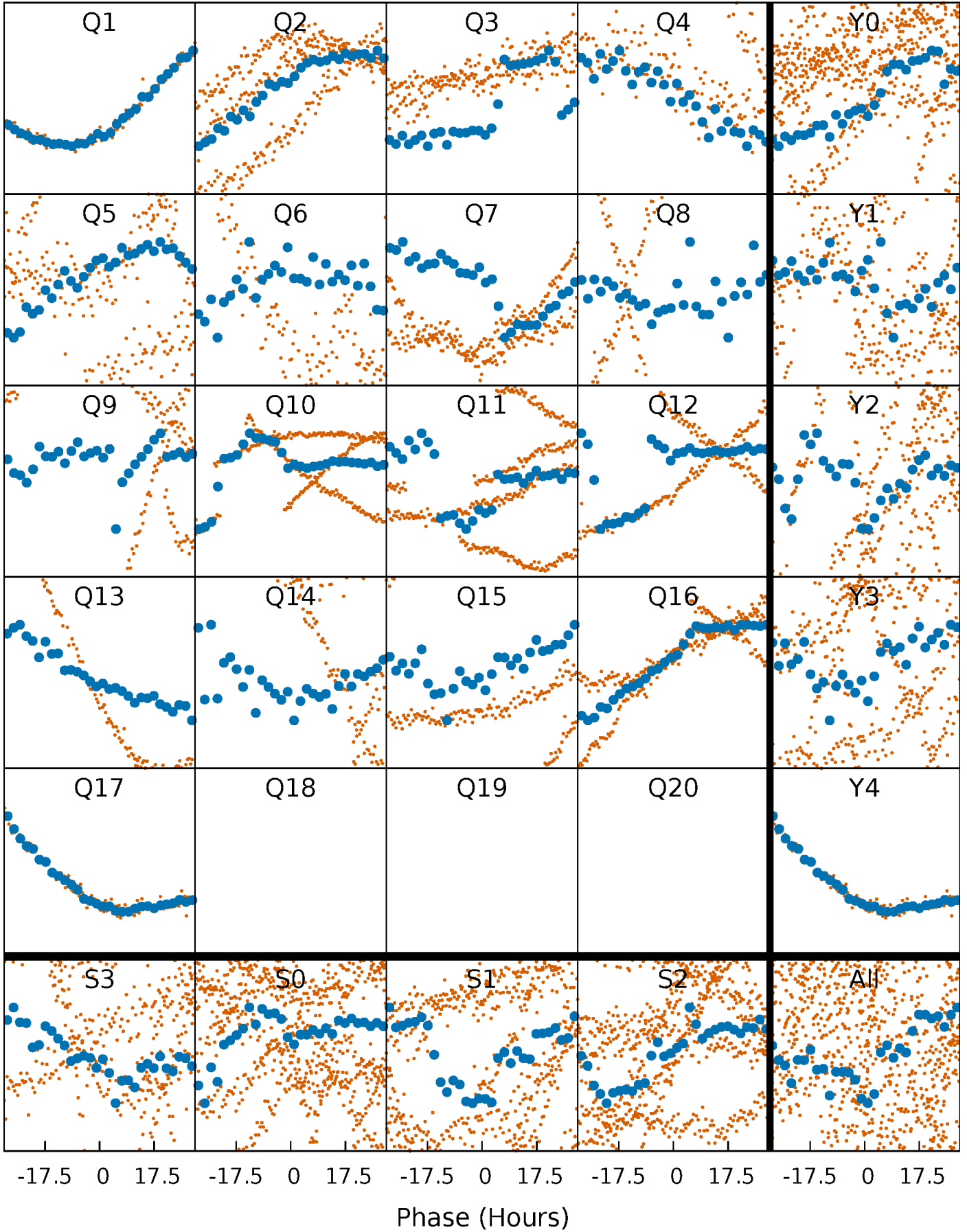


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



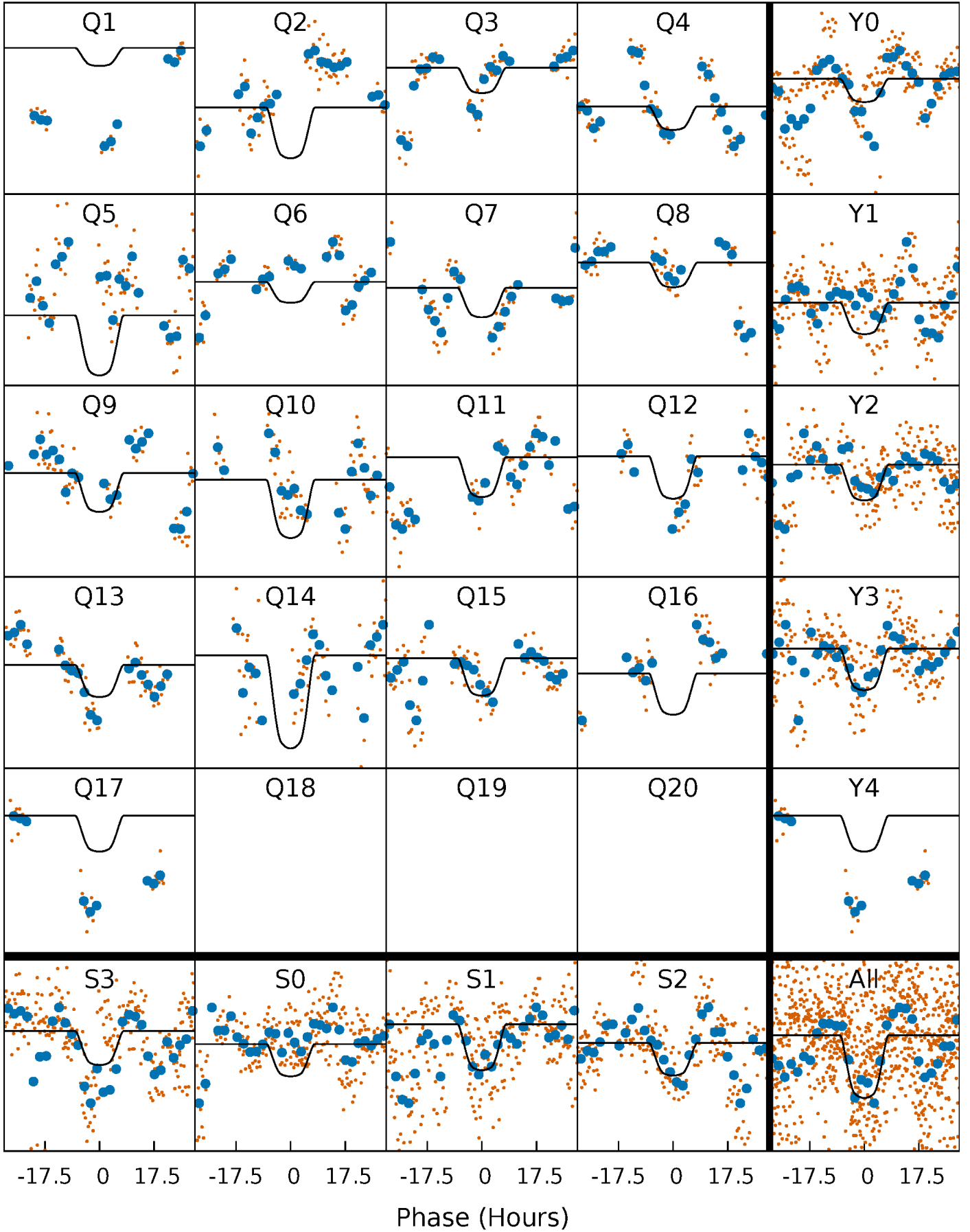
PDC Quarter-Phased Transit Curves

TCE 006468033-03 P= 31.356677 Days $T_0=154.901209$ (BKJD)



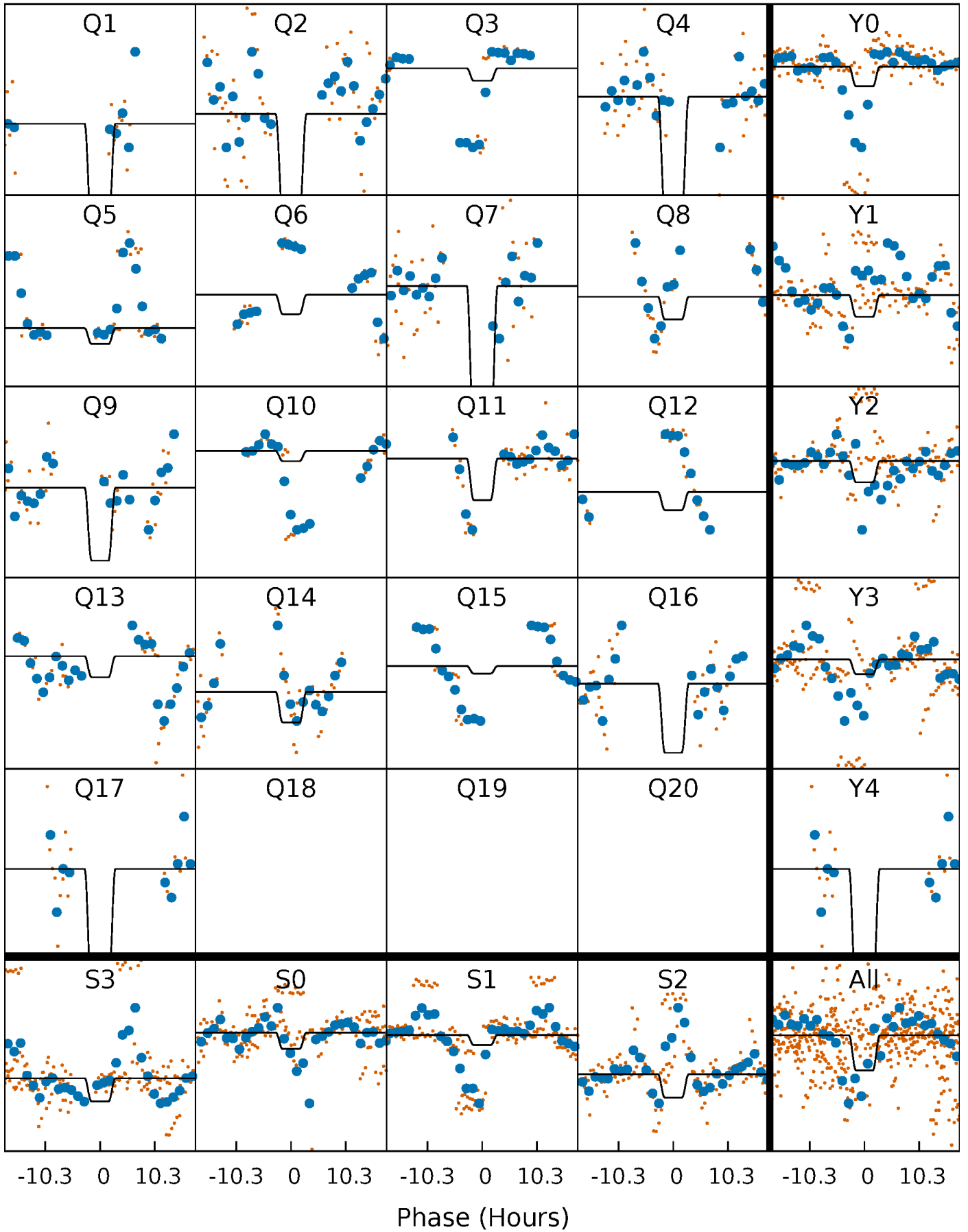
DV Quarter-Phased Transit Curves

TCE 006468033-03 $P = 31.356677$ Days $T_0 = 154.901209$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

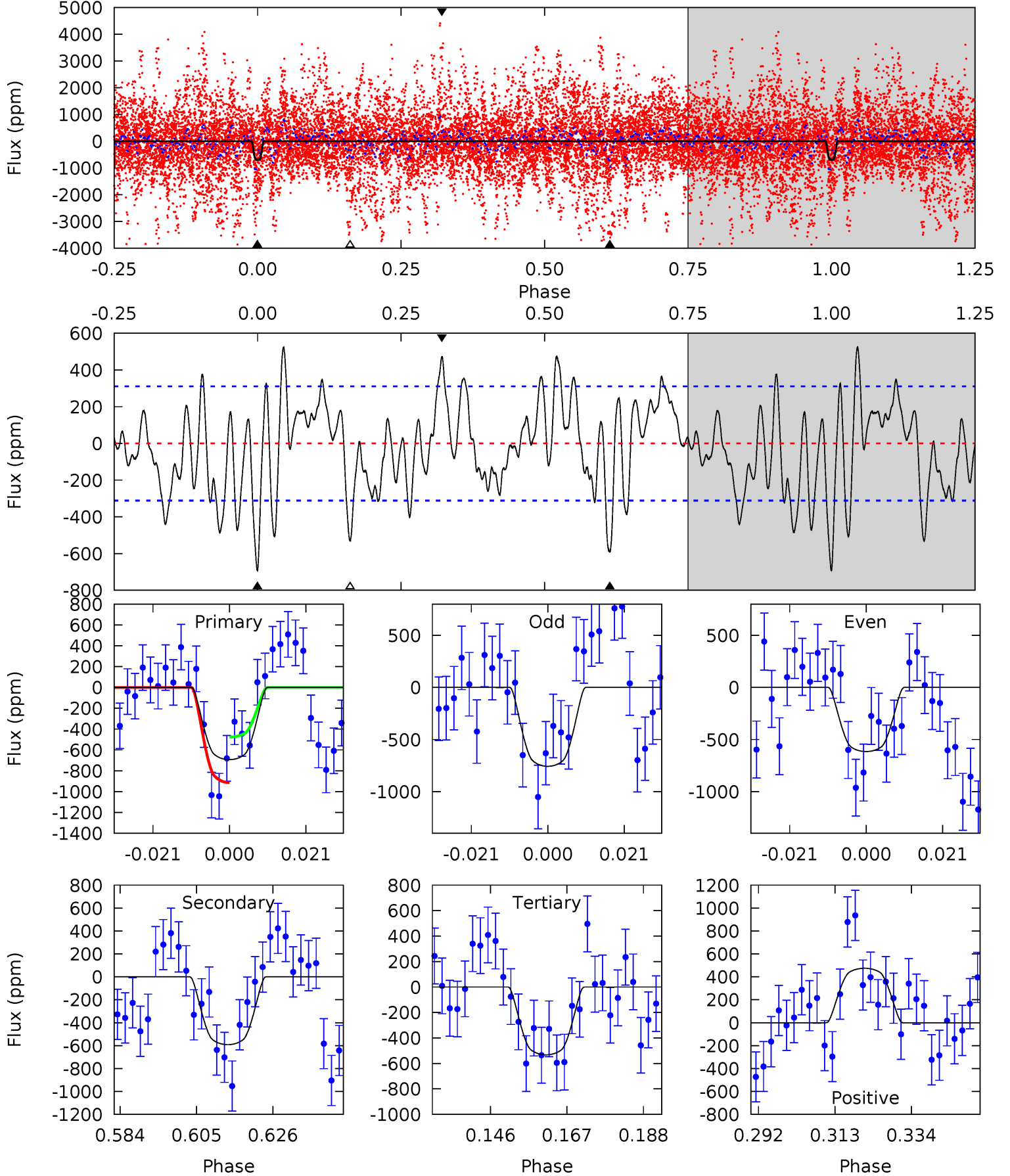
TCE 006468033-03 P= 31.361258 Days $T_0=154.859878$ (BKJD)



DV Model-Shift Uniqueness Test

006468033-03, P = 31.356677 Days, E = 123.544532 Days

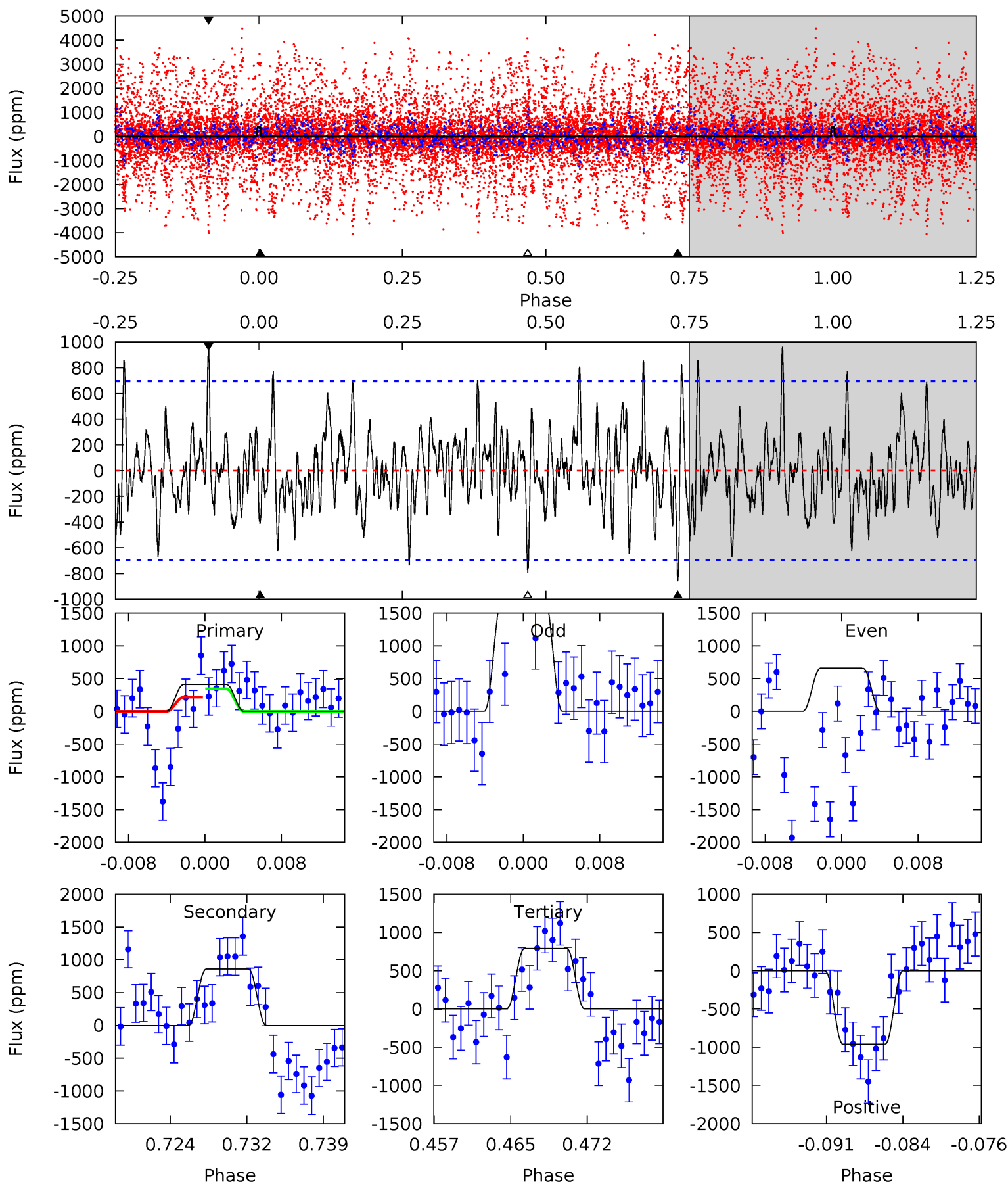
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	9.29	8.35	7.45	4.88	2.31	3.39	2.53	3.43	0.93	1.83	1.13	-2.93	0.43	3.43



Alt Model-Shift Uniqueness Test

006468033-03, P = 31.361258 Days, E = 123.498620 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.00	6.26	5.78	7.01	5.08	2.67	1.91	-2.78	-4.01	0.49	-0.75	3.98	6.98	0.53	0



Stellar Parameters For KIC 006468033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5499^{+164}_{-164}	$4.449^{+0.078}_{-0.182}$	$0.160^{+0.250}_{-0.300}$	$0.955^{+0.253}_{-0.109}$	$0.935^{+0.090}_{-0.082}$	$1.514^{+0.603}_{-0.706}$
	+3%/-3%	+2%/-4%	+156%/-188%	+26%/-11%	+10%/-9%	+40%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006468033-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-592 ± 64	$4.07^{+0.63}_{-0.46}$	767^{+51}_{-38}	4540^{+223}_{-220}	701^{+203}_{-180}
Alt.	-859 ± 137	$3.83^{+0.59}_{-0.51}$	769^{+54}_{-37}	5025^{+293}_{-268}	1149^{+435}_{-319}

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 $A_{obs} \gg 1.0$

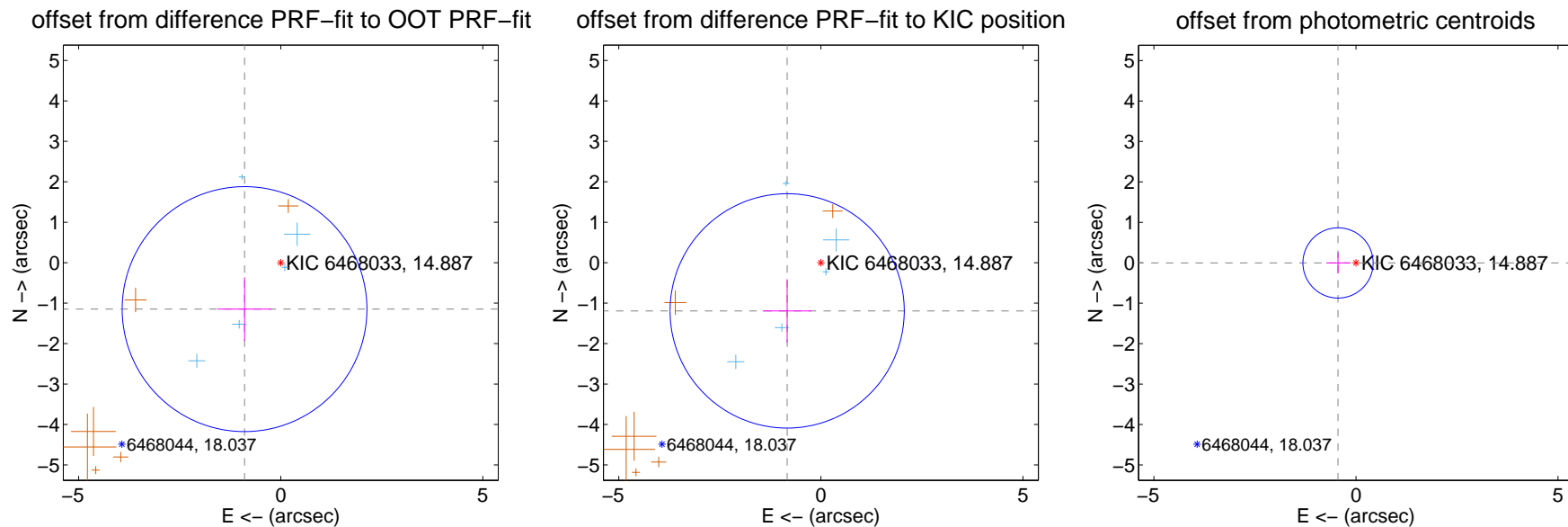
DV Centroid Data

Supplemental centroid analysis for 006468033-03. Kepler magnitude: 14.89. Transit SNR 8.79

There are 5 quarters with good PRF difference image offsets

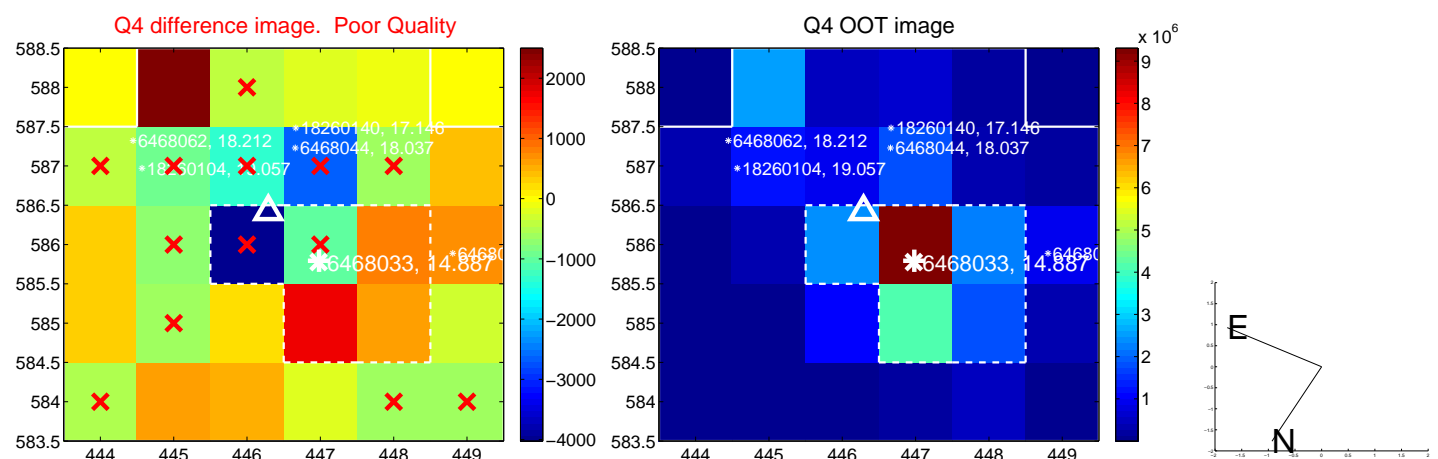
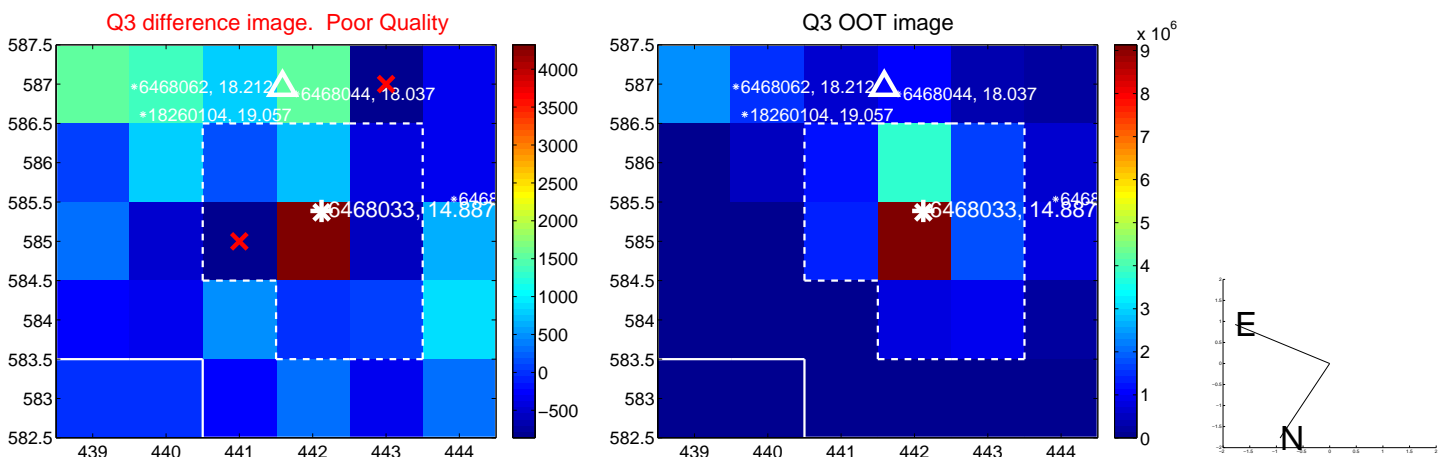
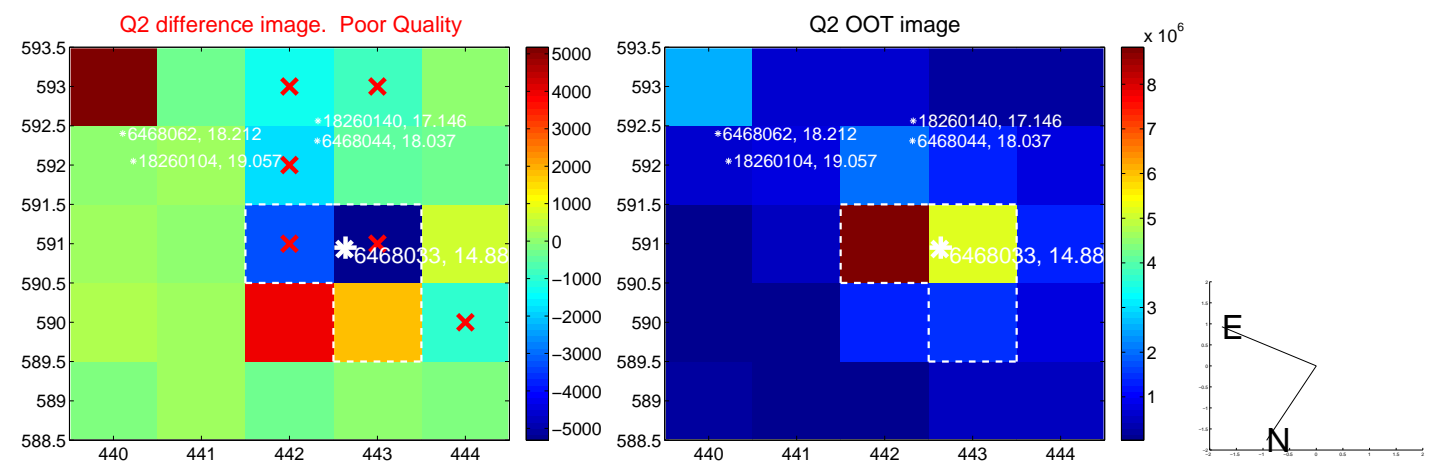
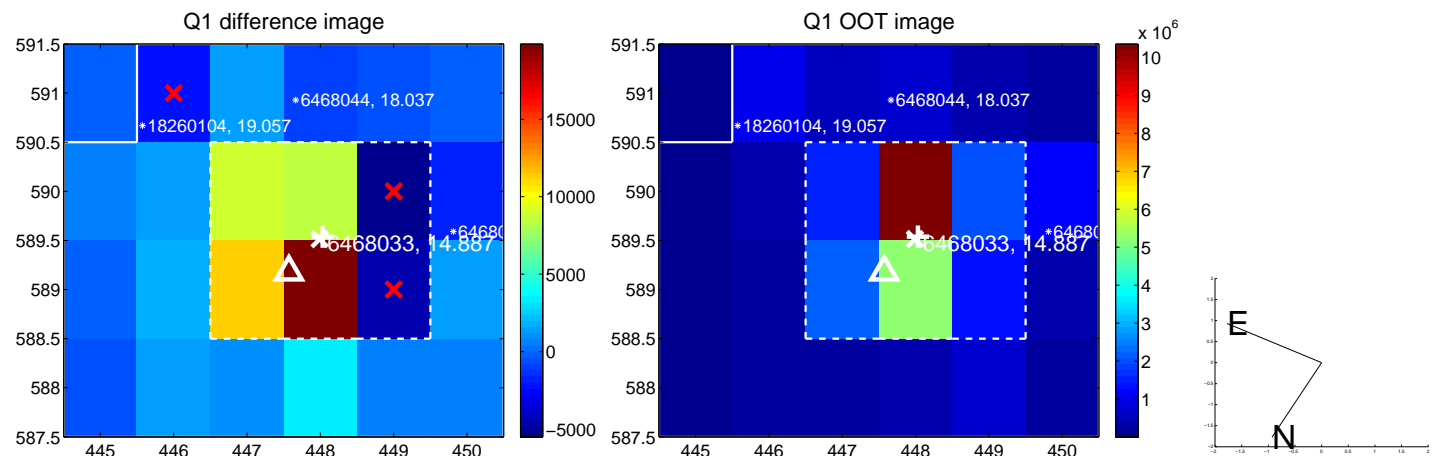
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.456 ± 1.009	1.44	0.896 ± 0.672	-1.148 ± 0.789
PRF-fit source offset from KIC position	1.455 ± 0.966	1.51	0.834 ± 0.604	-1.192 ± 0.783
photometric centroid source offset	0.44 ± 0.29	1.53	0.44 ± 0.29	-0.00 ± 0.26

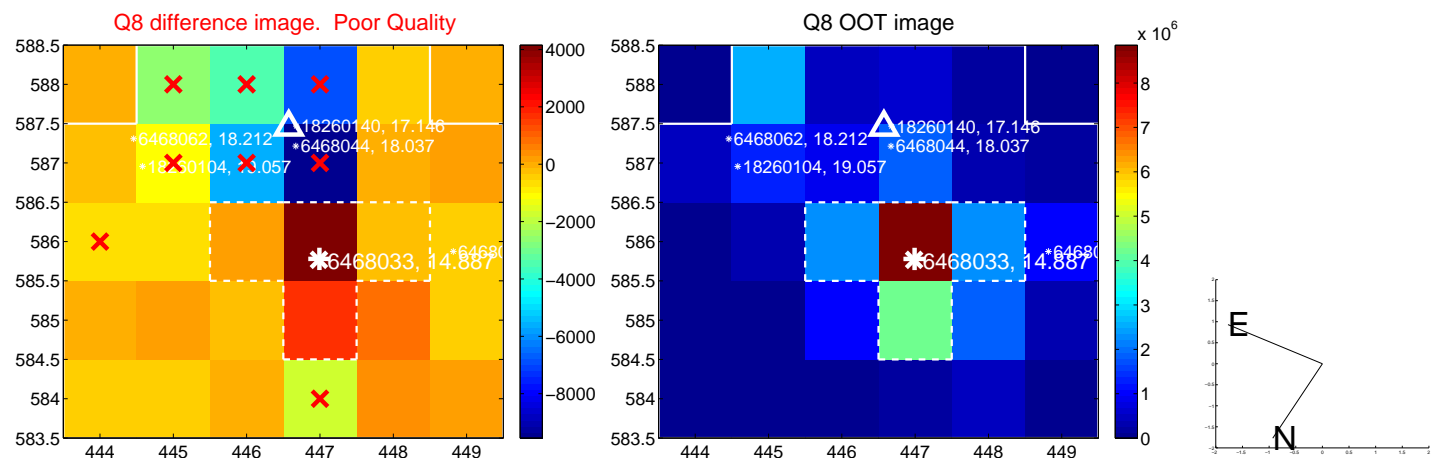
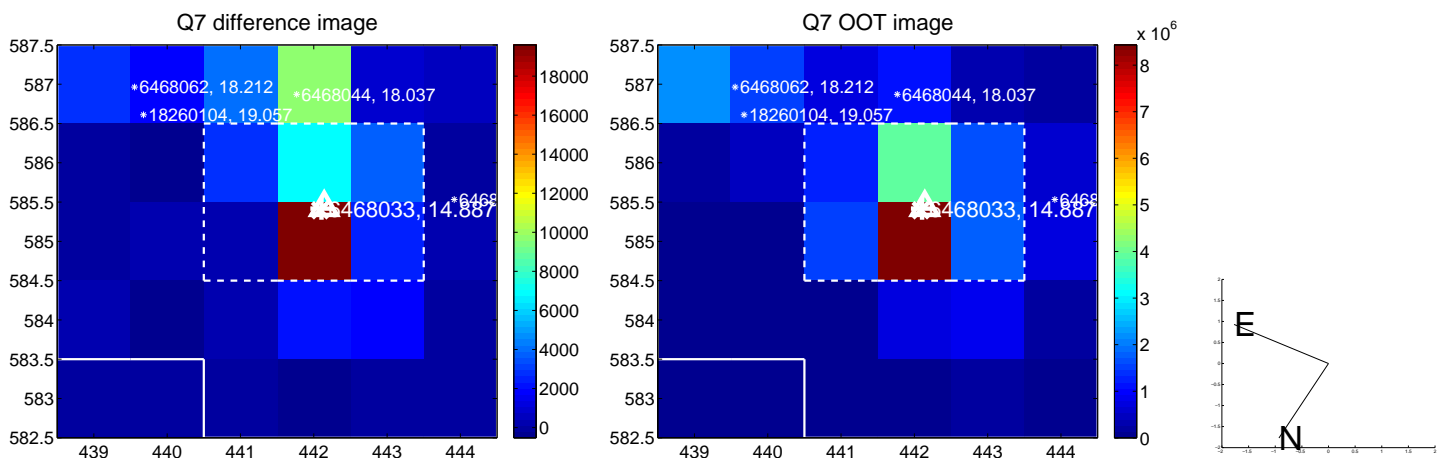
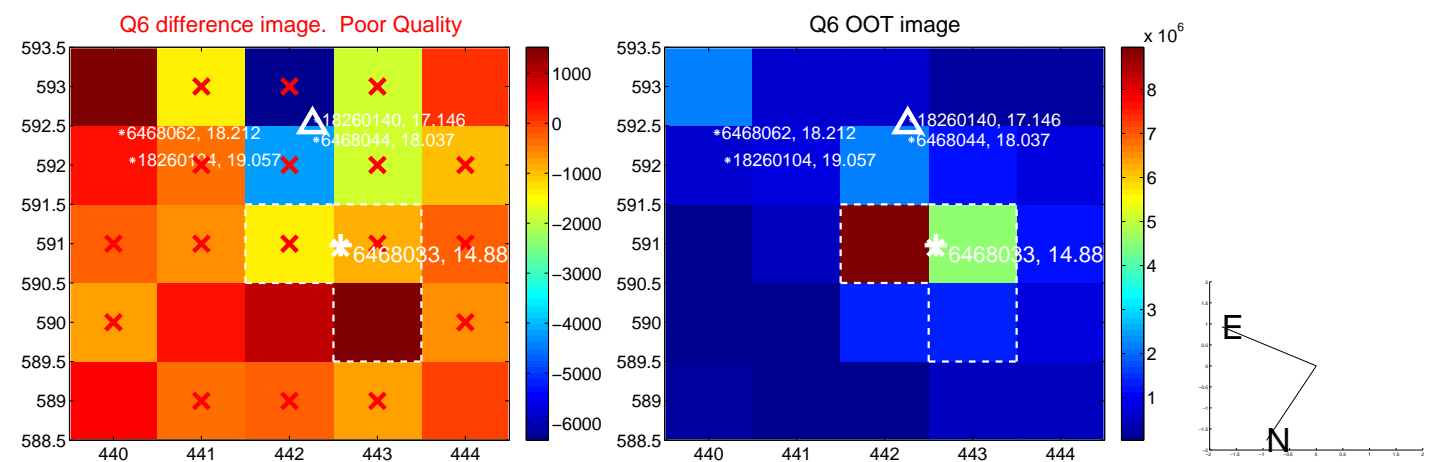
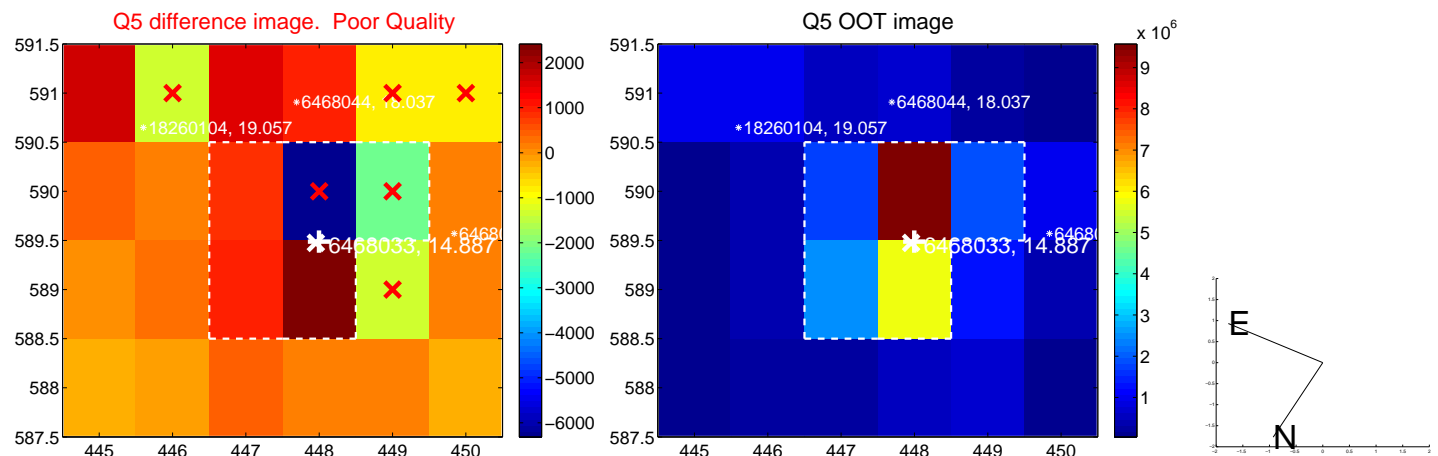


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

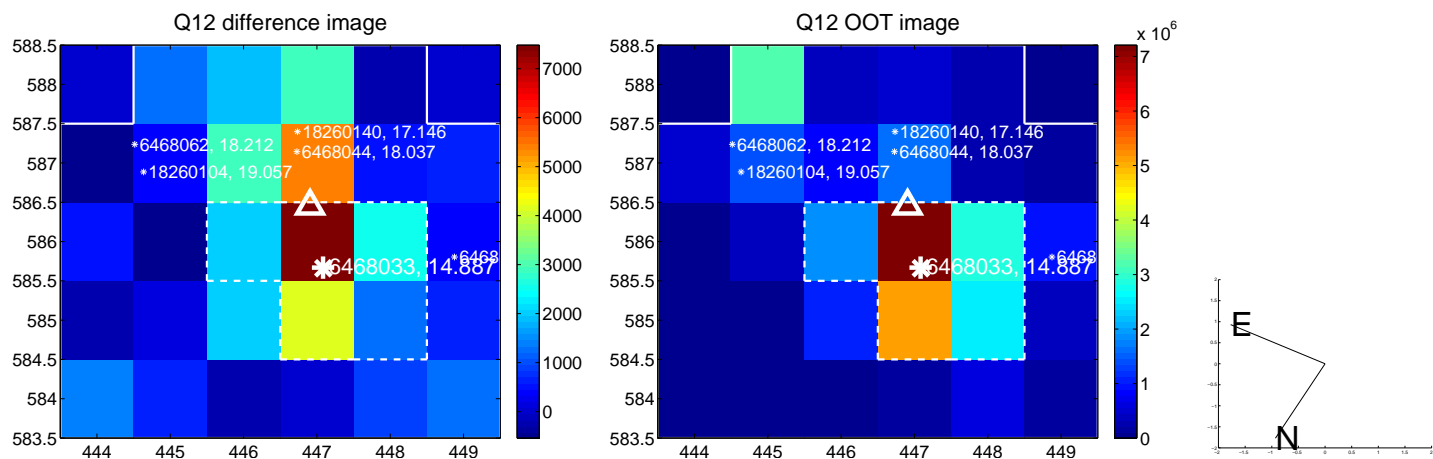
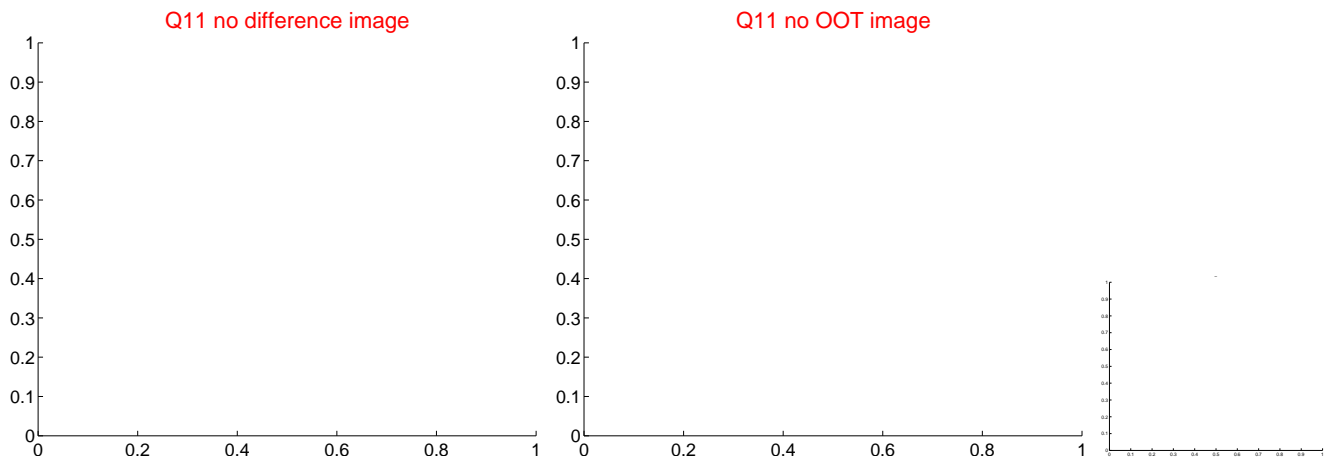
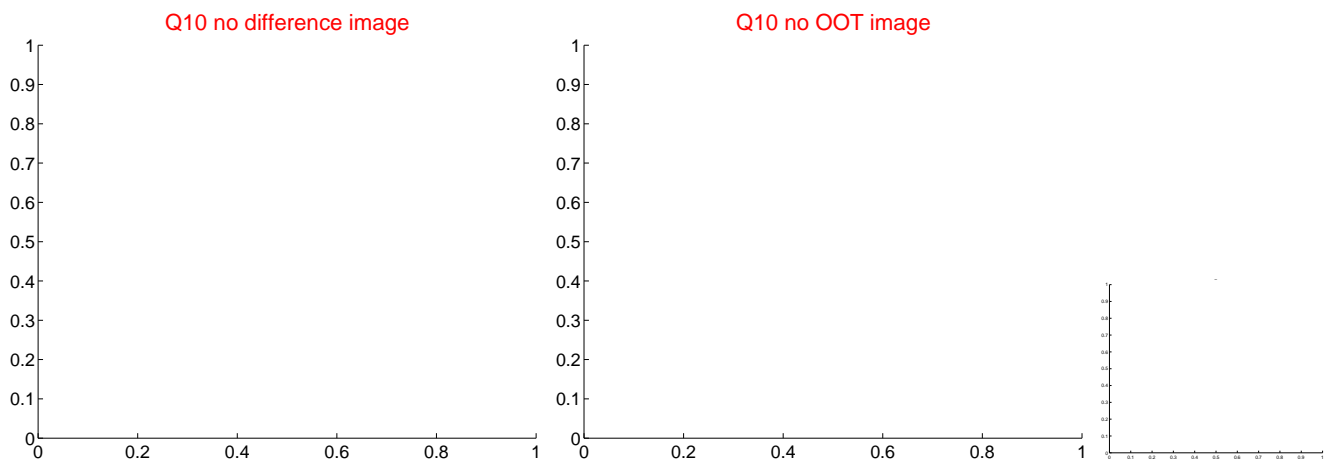
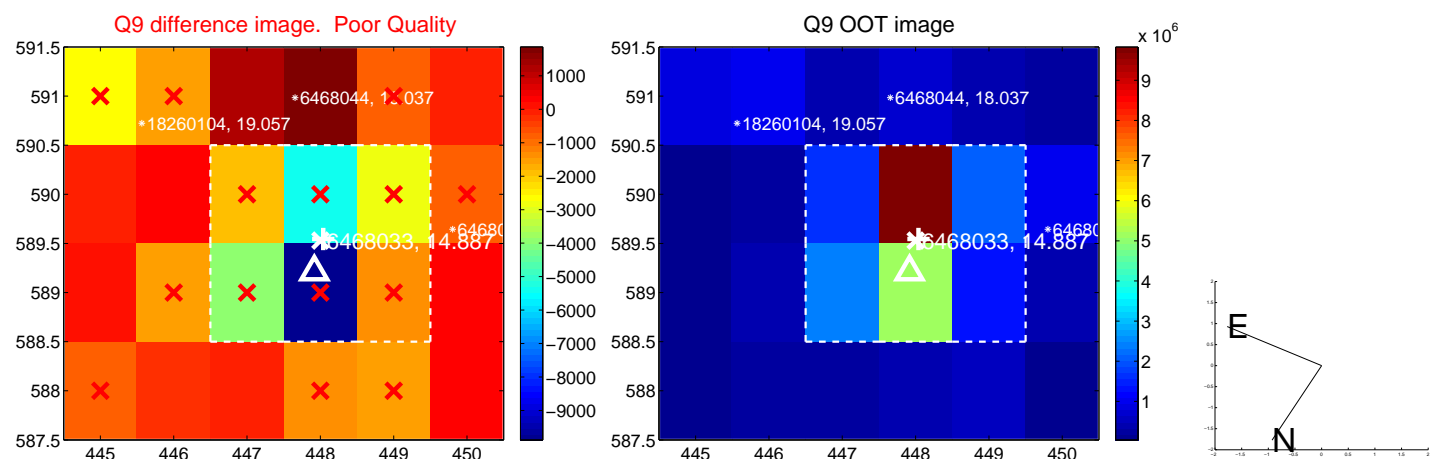
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



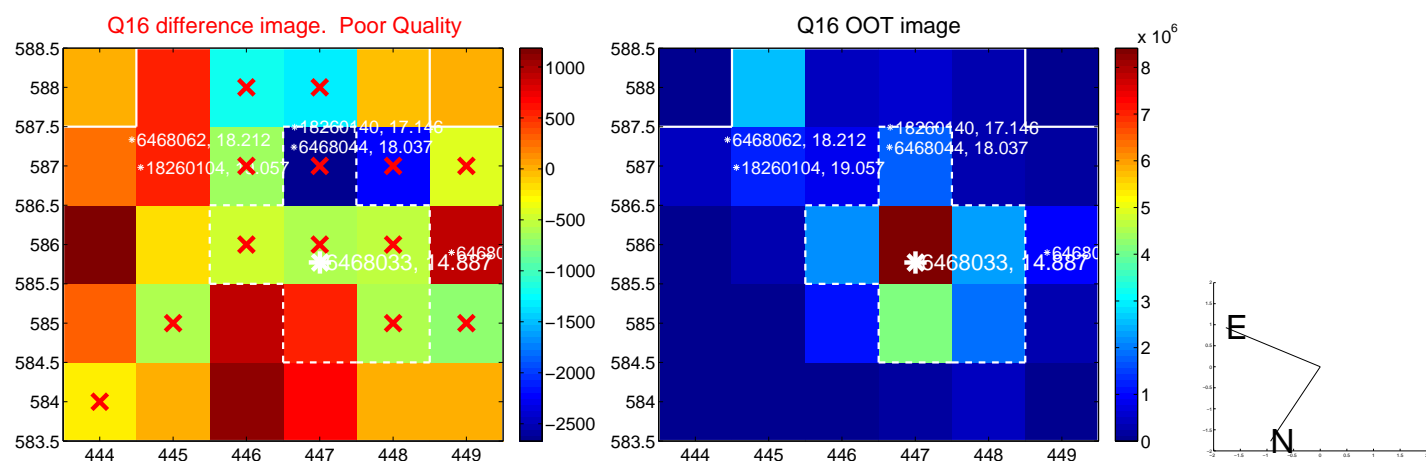
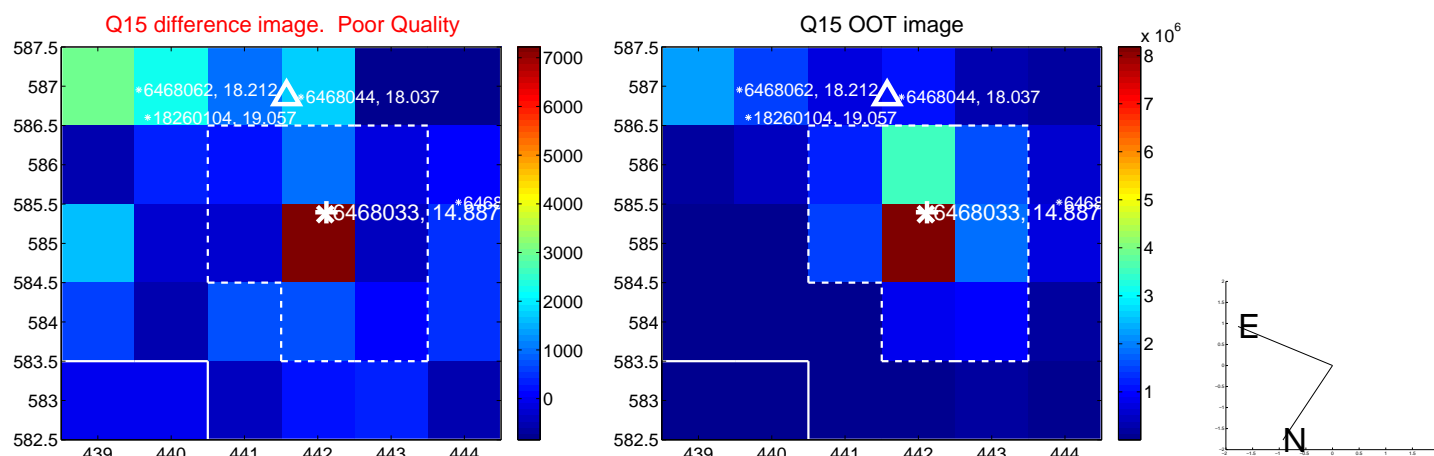
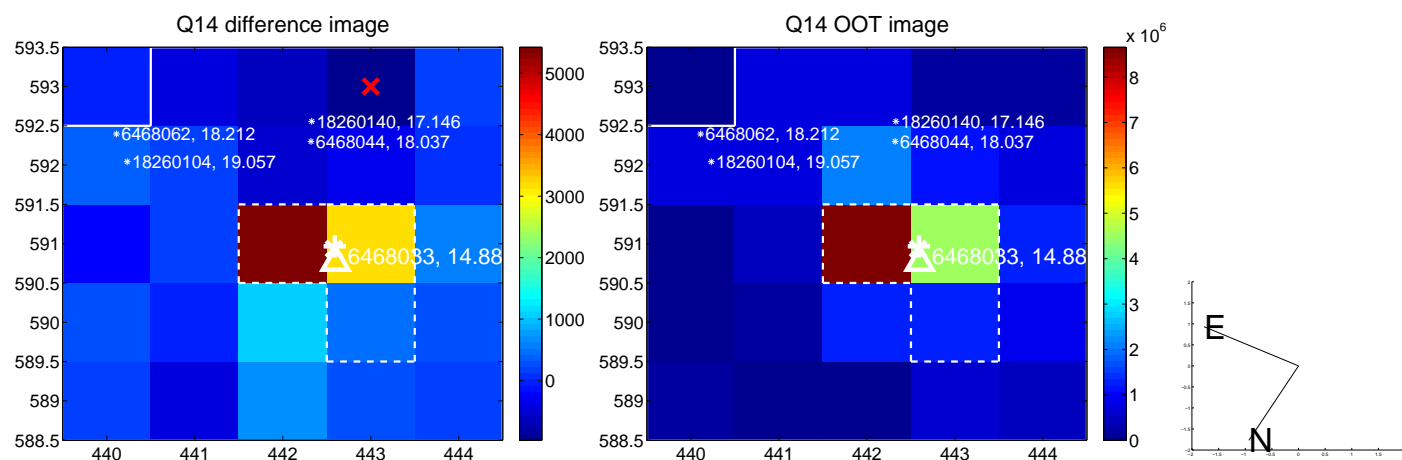
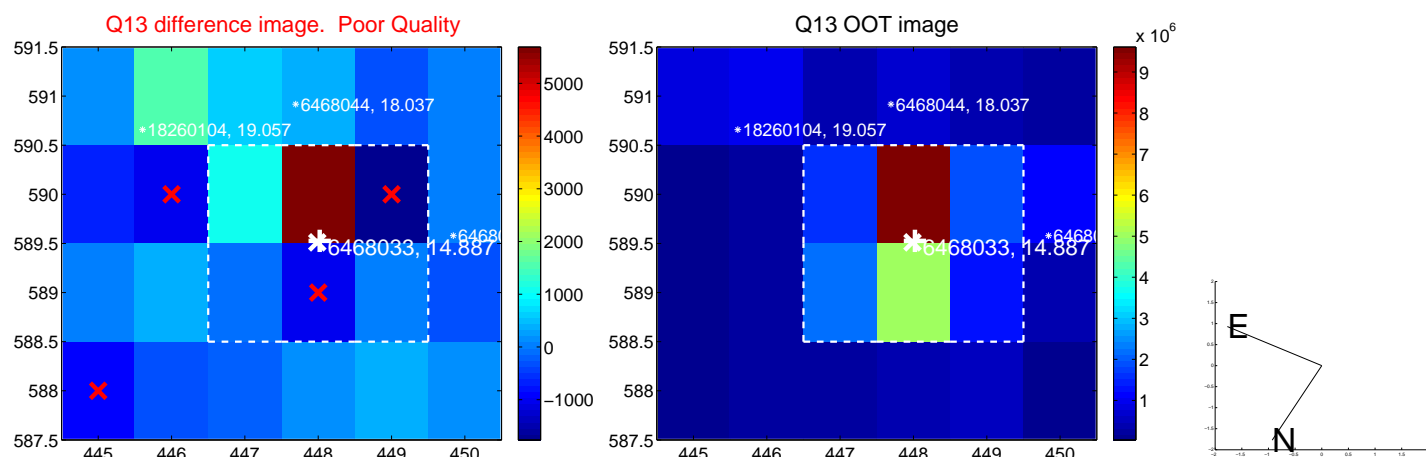
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



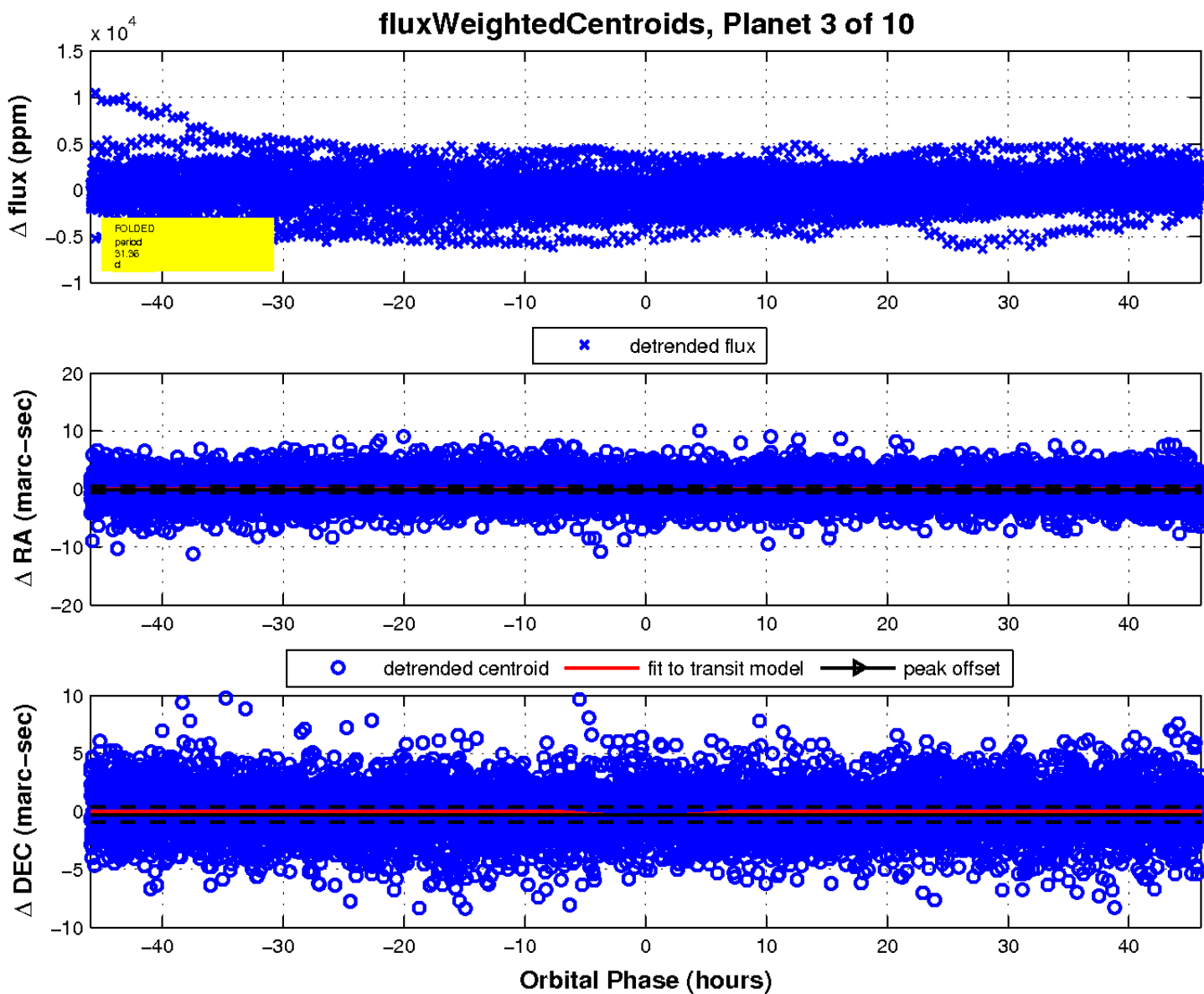
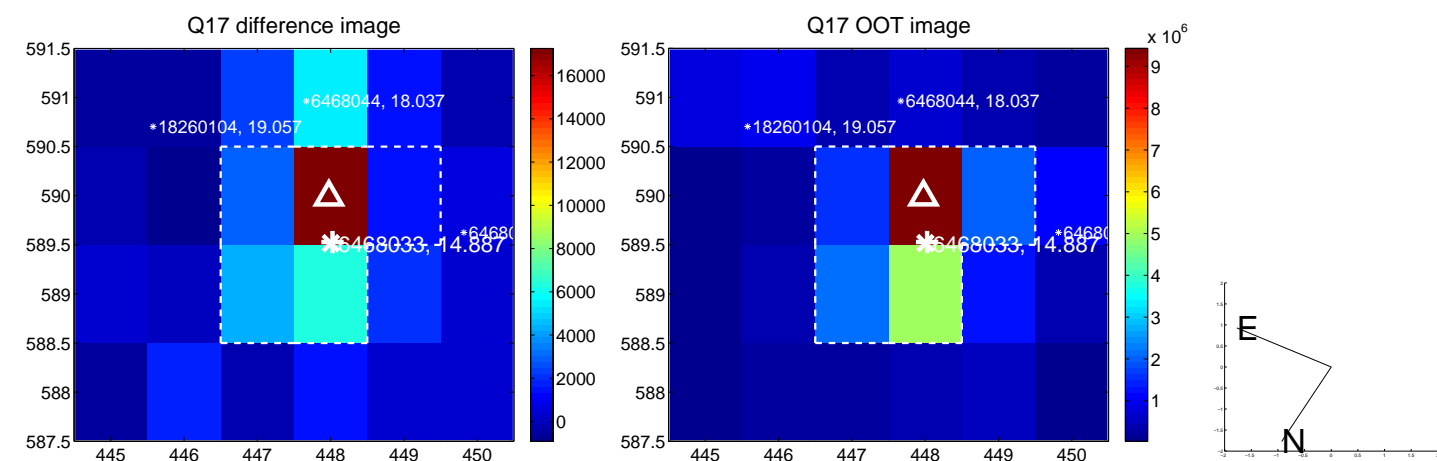
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

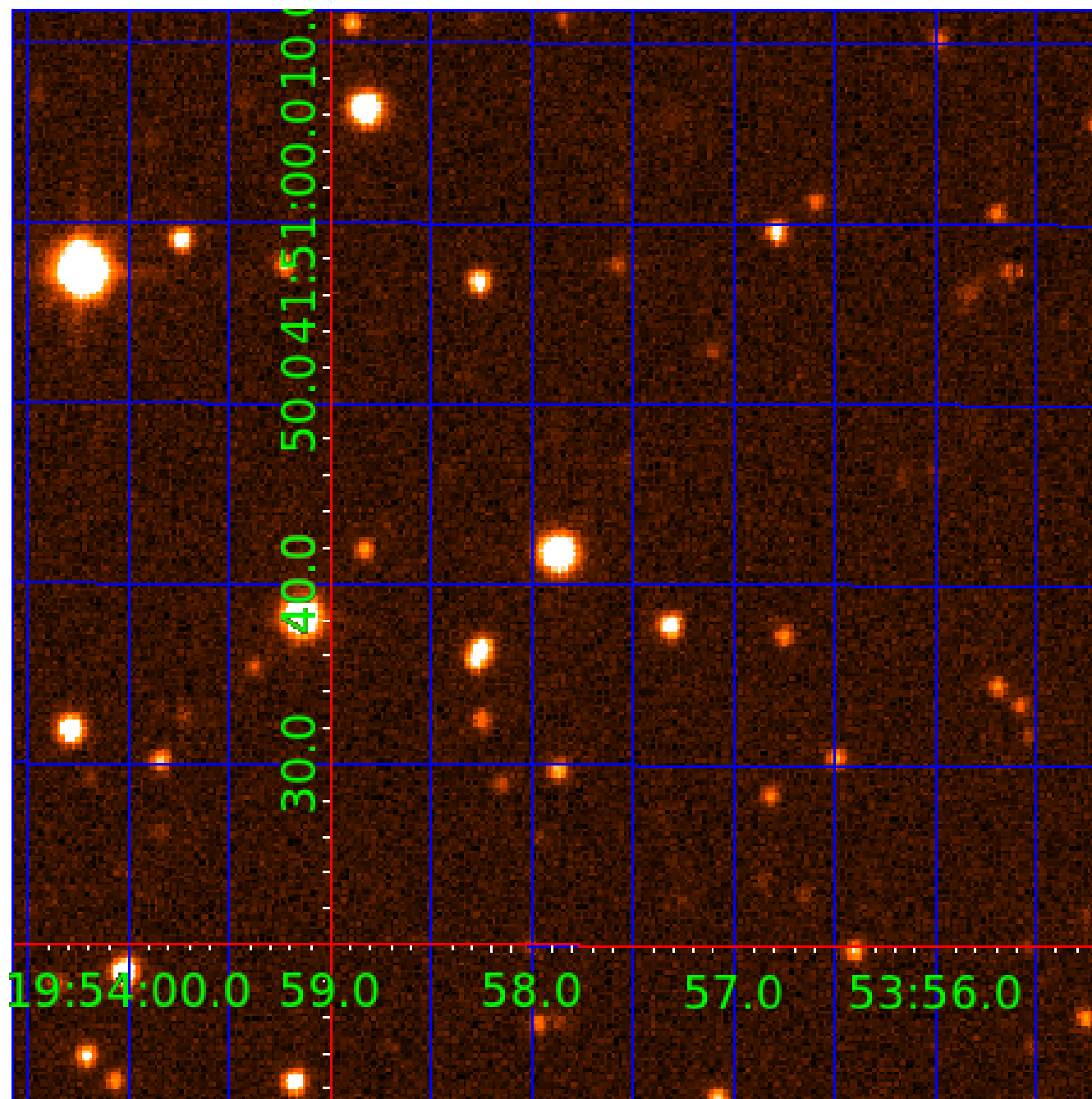


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006468033

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})
006468033-01	OBS	No	0.927526	132.294772	56.3	5.605	8.2	10.7	0.95	5499	0.71	2253.88
006468033-02	OBS	No	76.577897	134.192326	770.4	13.938	20.7	4.7	0.95	5499	2.64	6.27
006468033-03	OBS	No	31.356677	154.901209	1075.5	15.327	14.9	8.8	0.95	5499	4.00	20.62
006468033-06	OBS	No	206.792931	168.120526	2233.0	6.400	14.7	9.5	0.95	5499	4.54	1.67
006468033-07	OBS	No	300.547582	181.774690	2575.0	10.460	12.0	9.5	0.95	5499	5.59	1.01
006468033-08	OBS	No	291.150468	205.607637	18339.3	109.283	12.1	11.0	0.95	5499	19.31	1.06
006468033-09	OBS	No	66.061273	177.240066	1521.5	10.930	10.4	8.5	0.95	5499	7.29	7.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006468033-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
006468033-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006468033-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

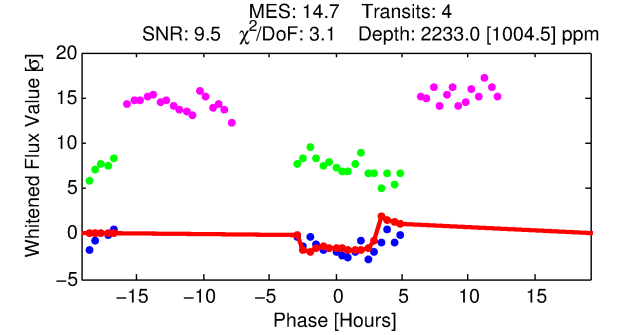
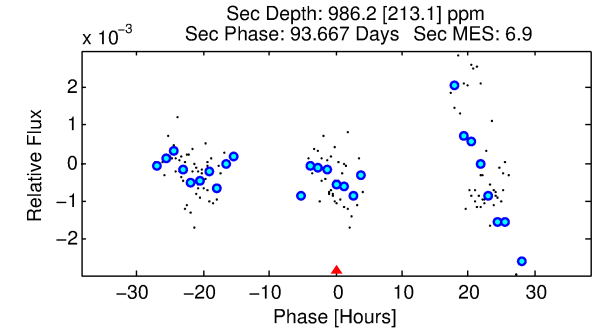
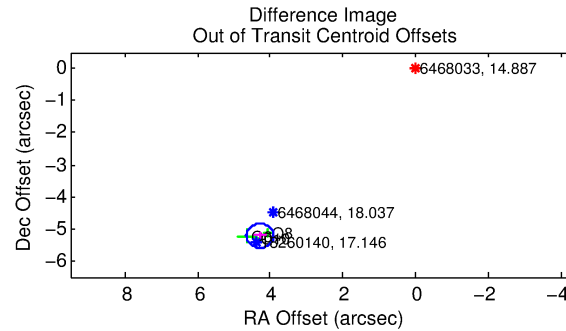
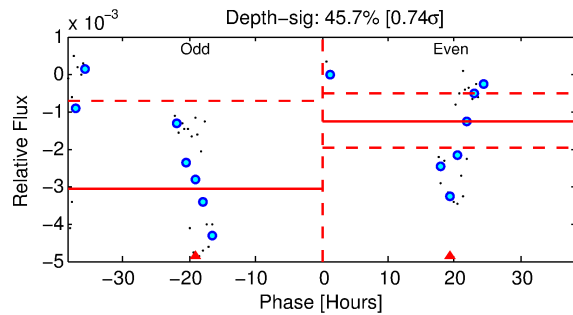
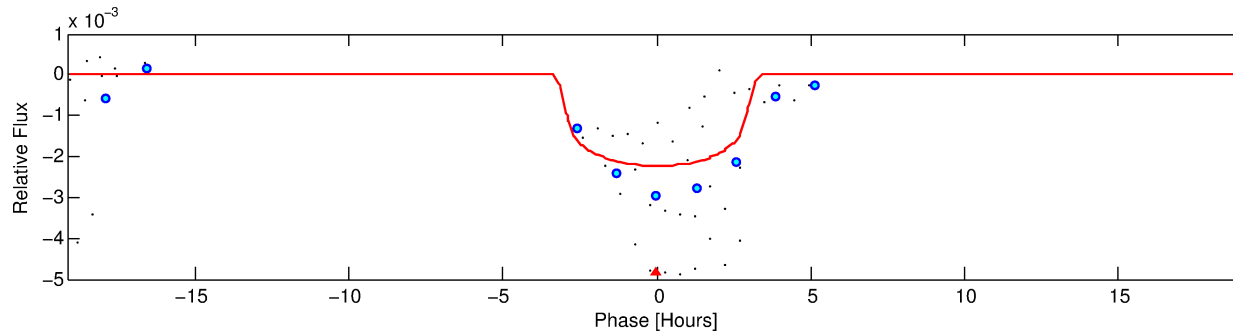
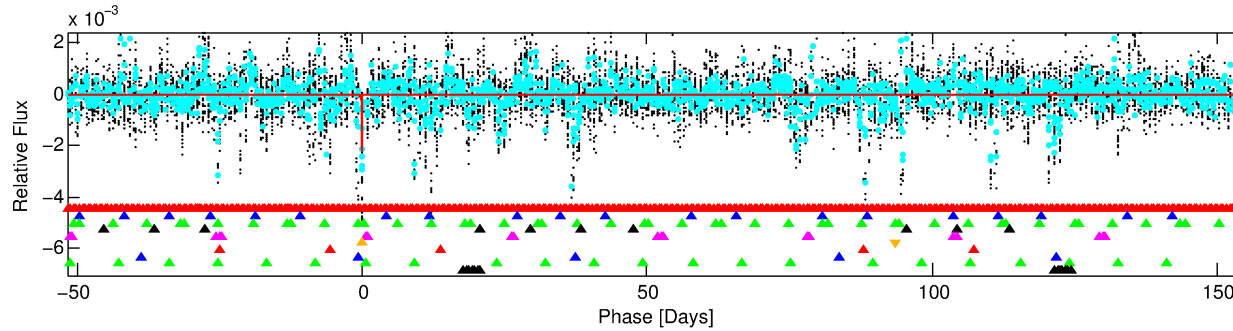
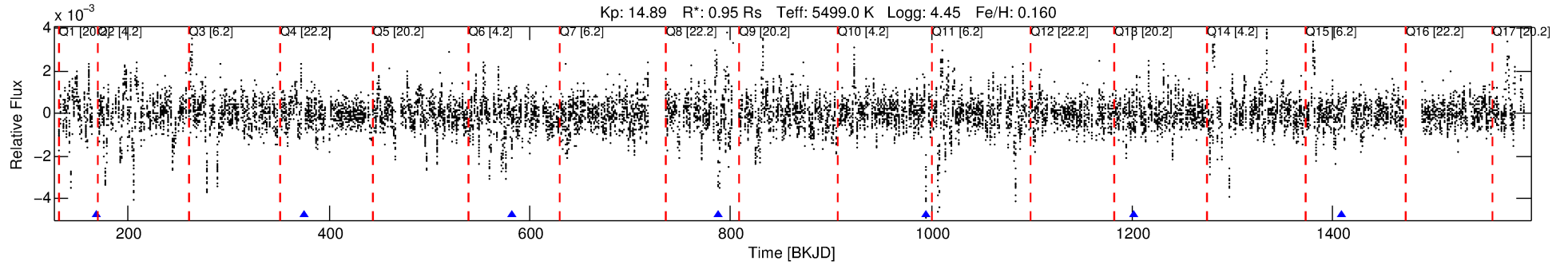
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006468033-06

No Significant Match Found

DV One-Page Summary

KIC: 6468033 Candidate: 6 of 10 Period: 206.793 d



DV Fit Results:

Period = 206.79293 [0.03528] d
Epoch = 168.1205 [0.1222] BKJD
Rp/R* = 0.0435 [0.0580]
a/R* = 234.53 [1150.13]
b = 0.43 [8.93]
Seff = 1.67 [0.59]
Teq = 290 [25] K
Rp = 4.54 [6.16] Re
a = 0.6695 [0.1507] AU
Ag = 11809.05 [31809.11] [0.37 σ]
Teff = 4670 [3124] K [1.40 σ]

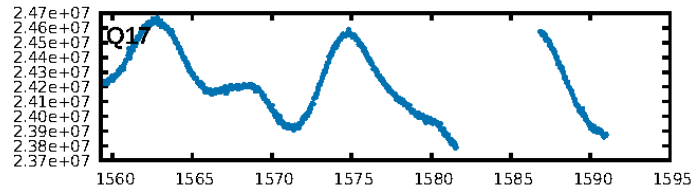
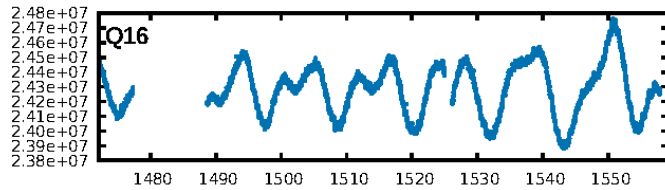
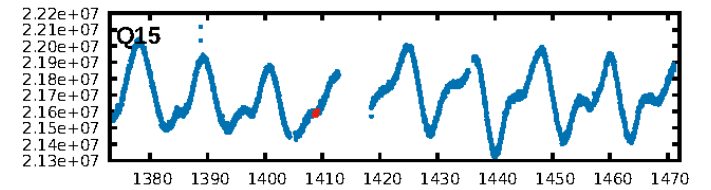
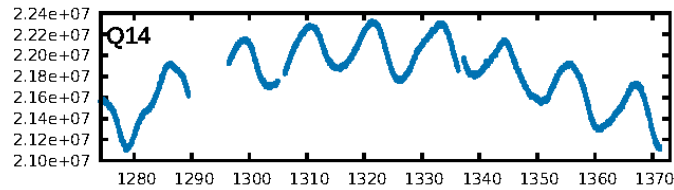
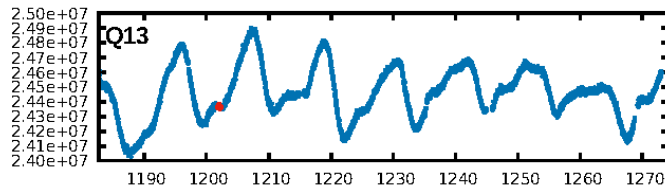
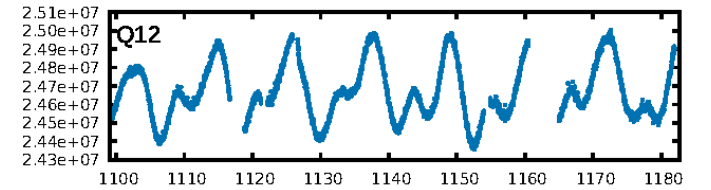
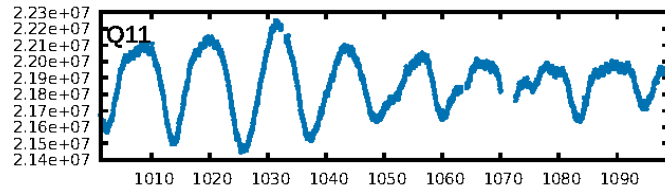
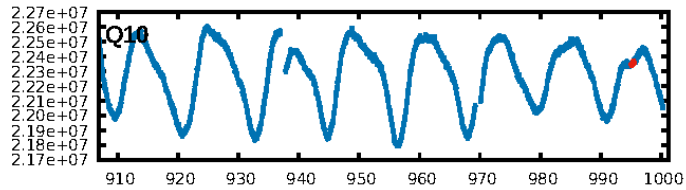
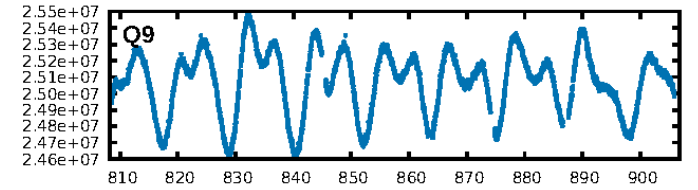
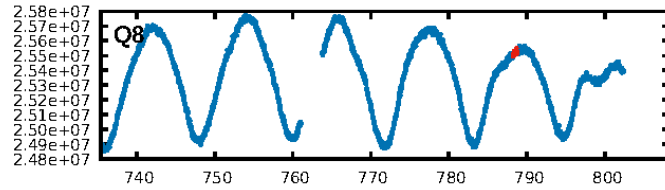
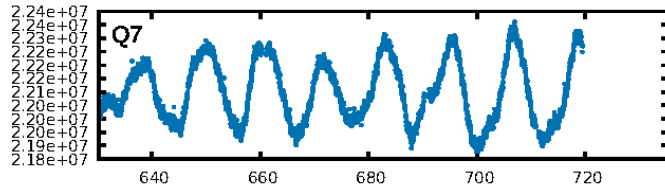
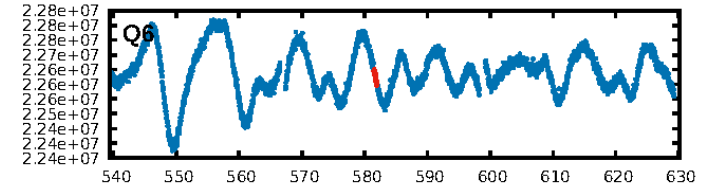
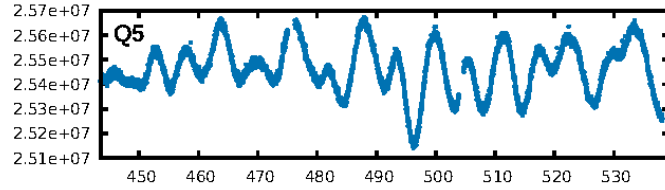
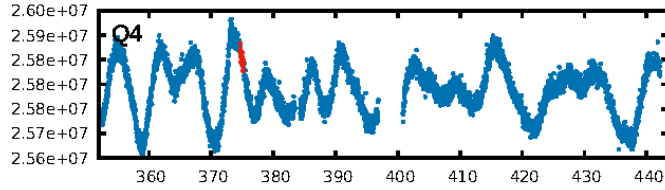
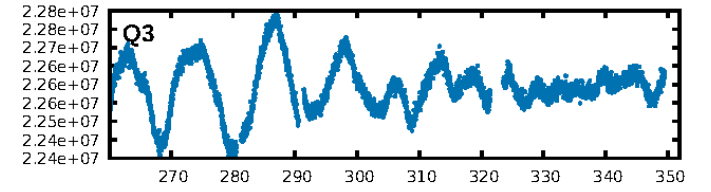
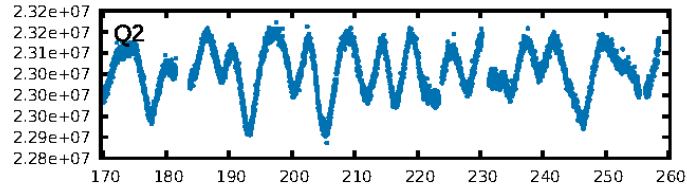
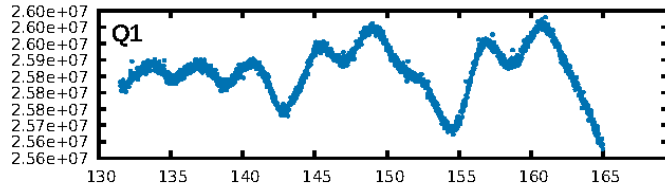
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [79.78 σ]
LongPeriod-sig: 100.0% [18.49 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 9.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.6795
Centroid-sig: 46.4%
Centroid-so: 0.692 arcsec [1.65 σ]
OotOffset-rm: 6.752 arcsec [53.95 σ]
KicOffset-rm: 6.859 arcsec [41.71 σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.00 [0/6]

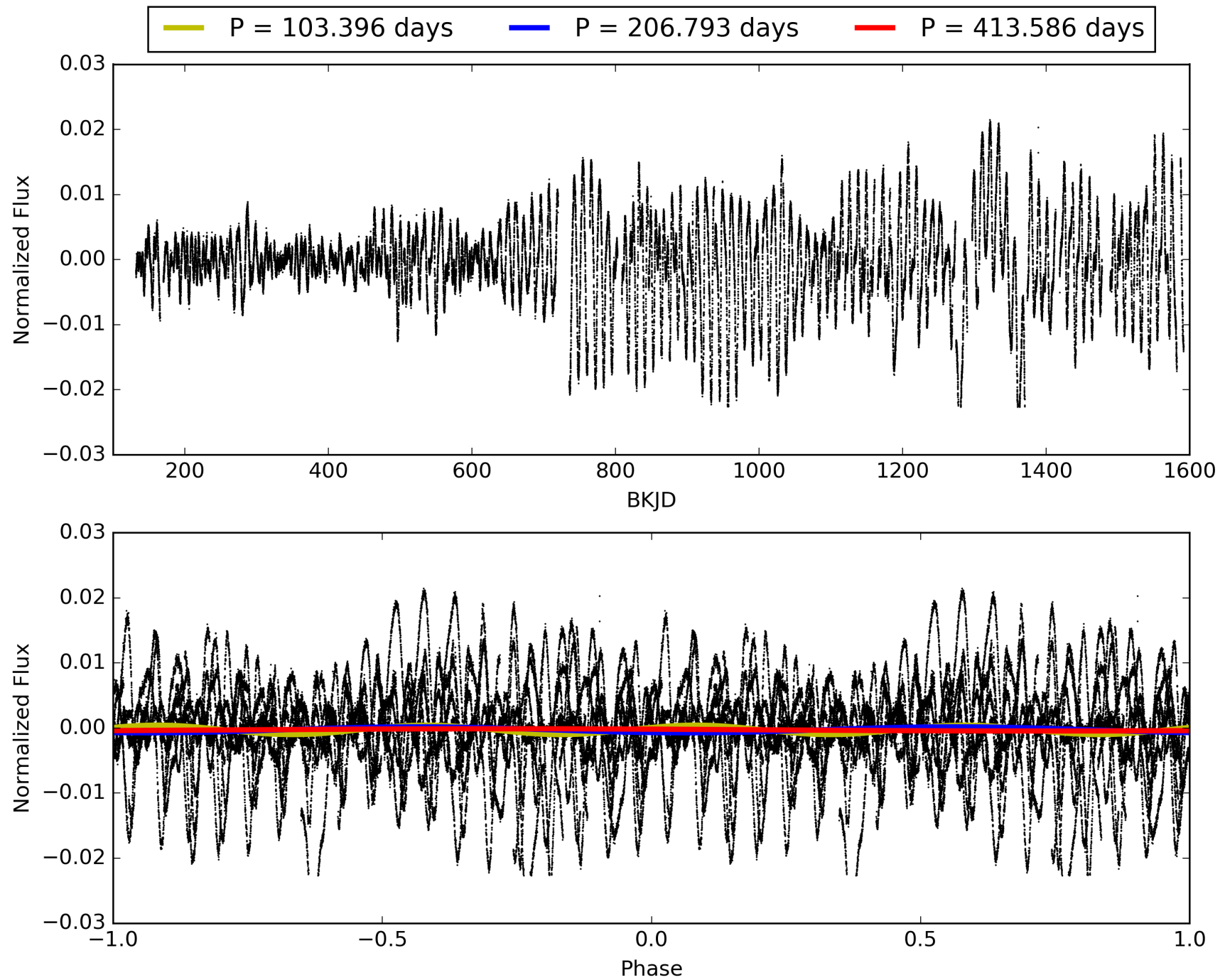
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:13:00 Z

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

TCE 006468033-06, PDC Light Curves

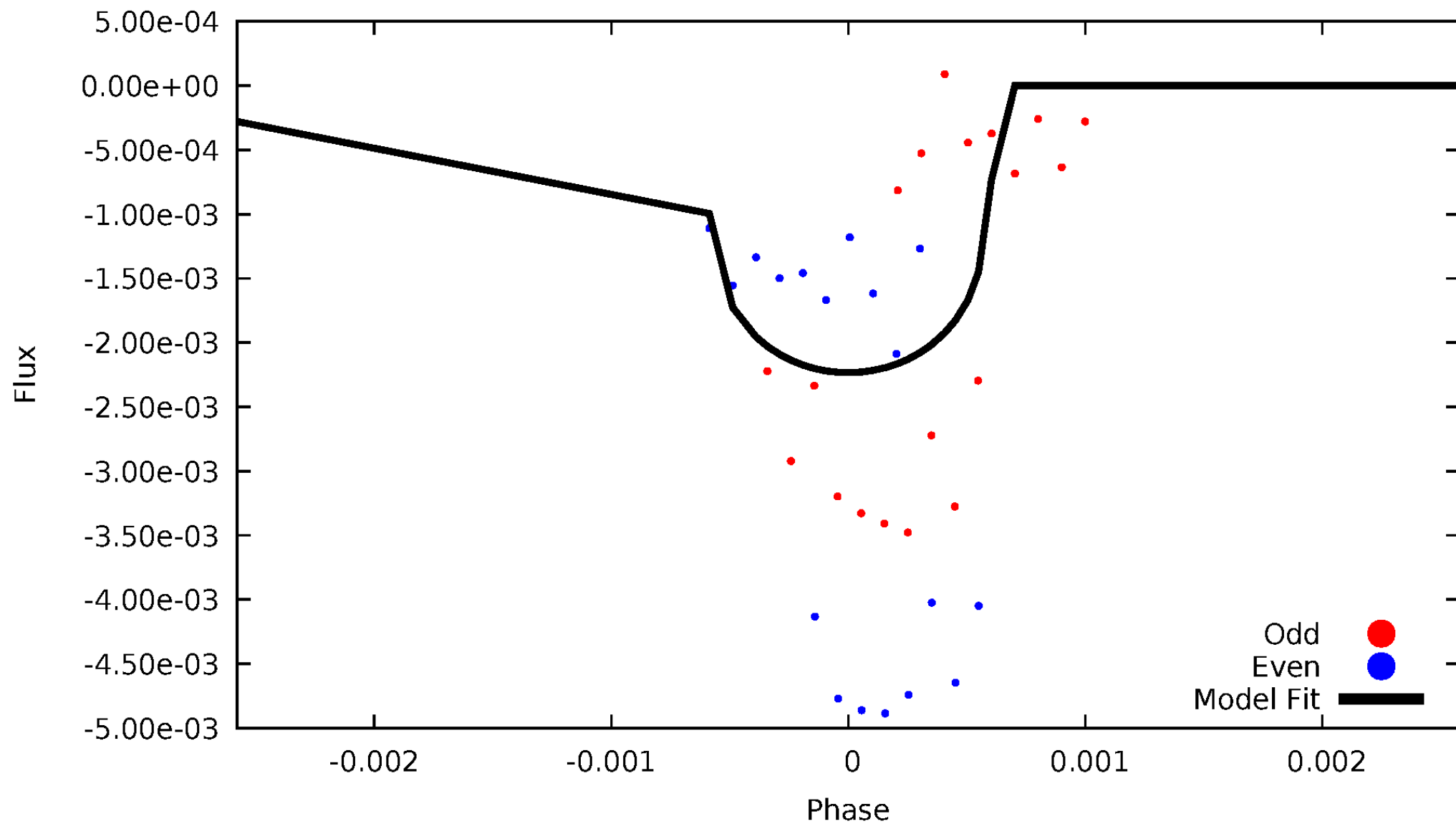


TCE 006468033-06



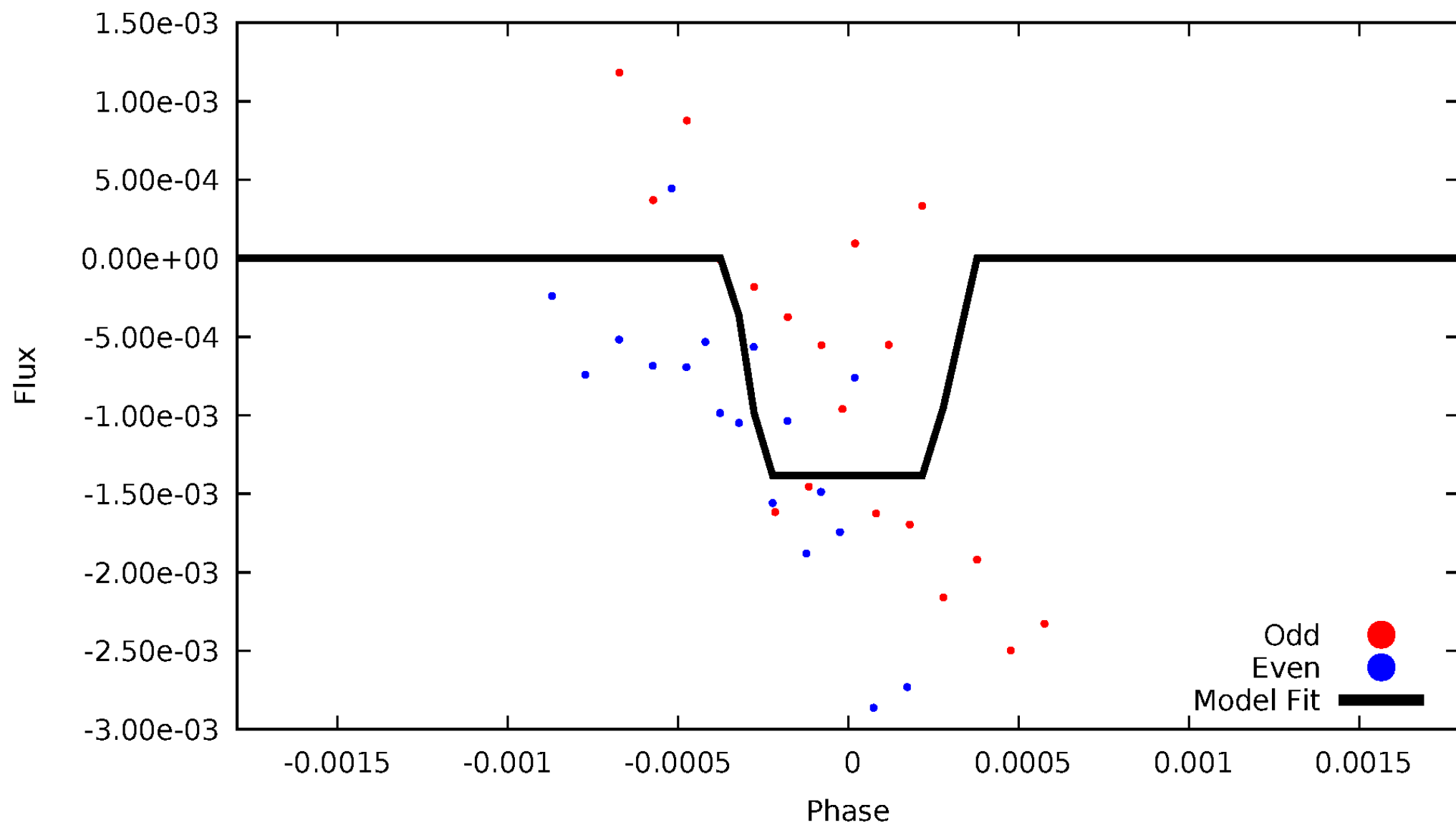
DV Odd/Even

TCE 006468033-06



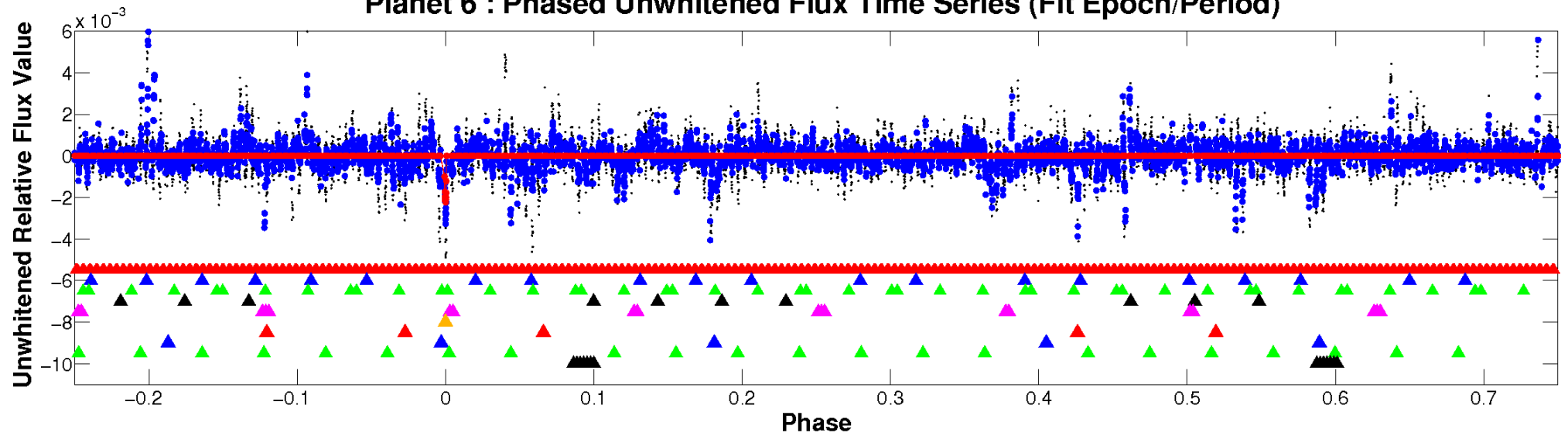
ALT Odd/Even

TCE 006468033-06

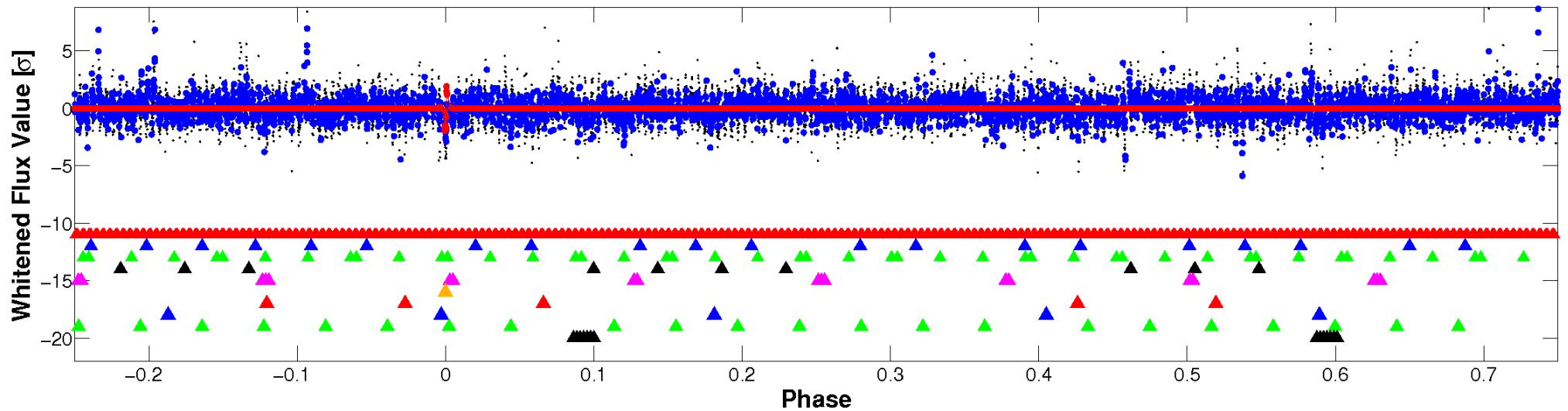


Non-Whitened Vs. Whitened Light Curve

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

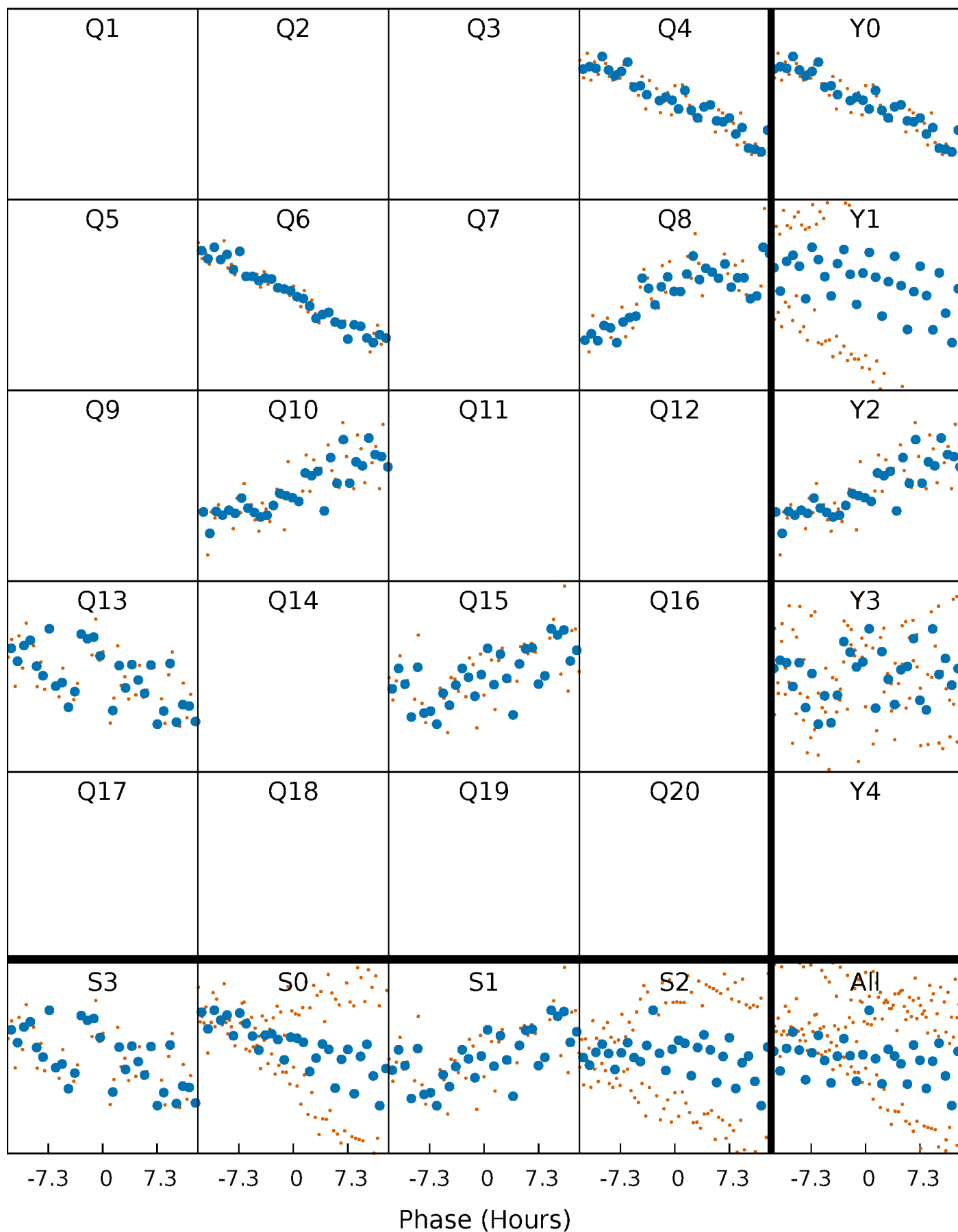


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



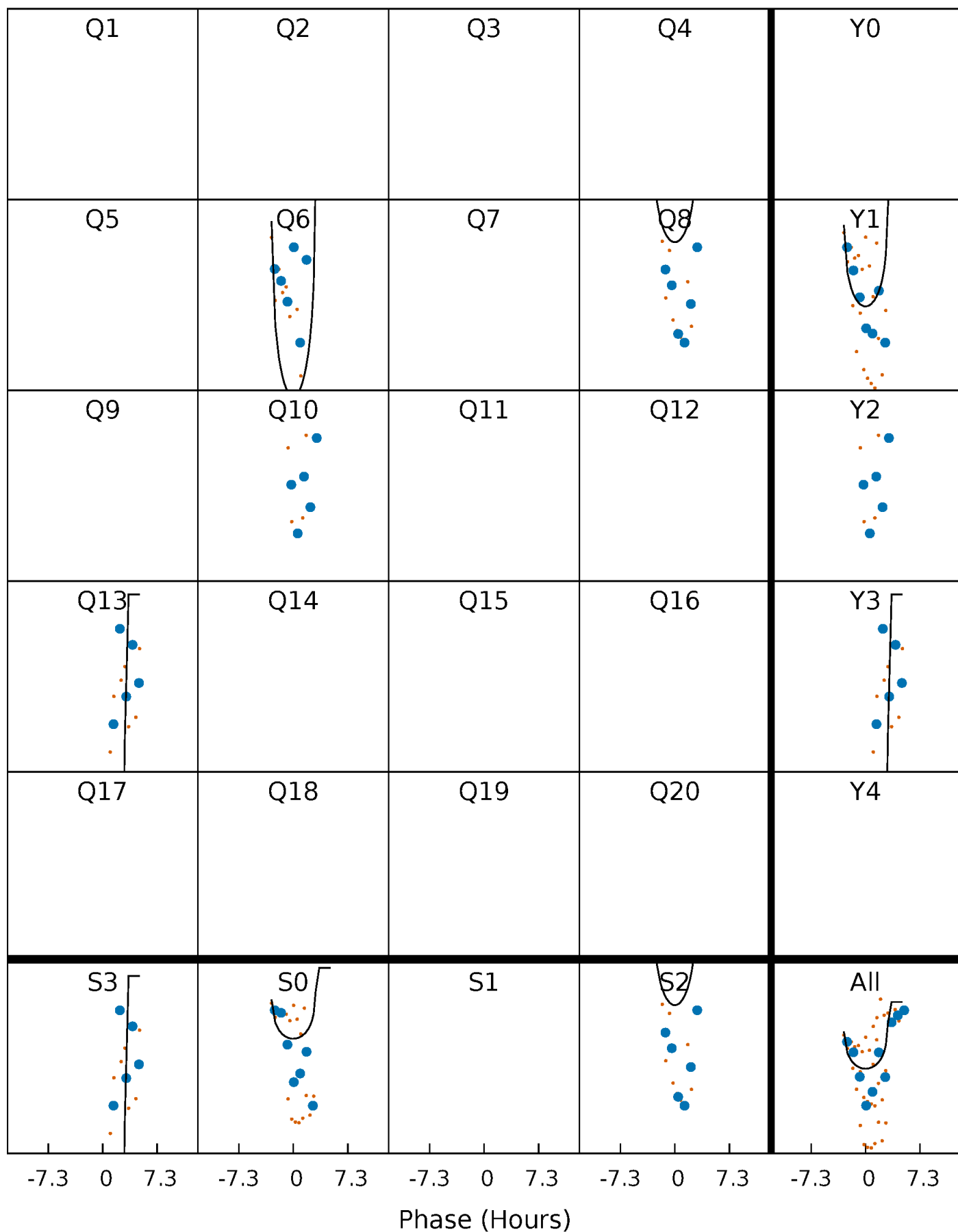
PDC Quarter-Phased Transit Curves

TCE 006468033-06 P=206.792931 Days $T_0=168.120526$ (BKJD)



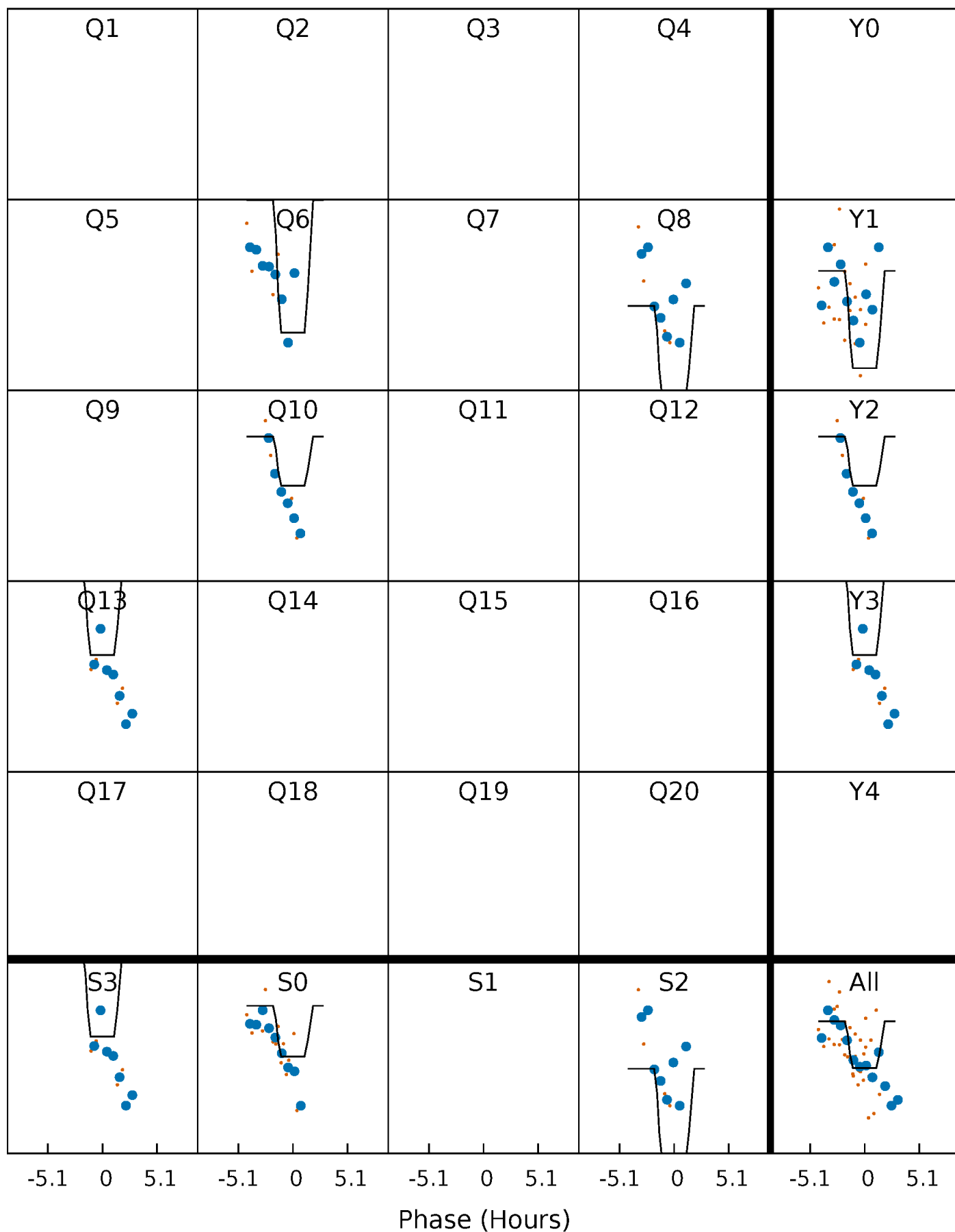
DV Quarter-Phased Transit Curves

TCE 006468033-06 P=206.792931 Days $T_0=168.120526$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

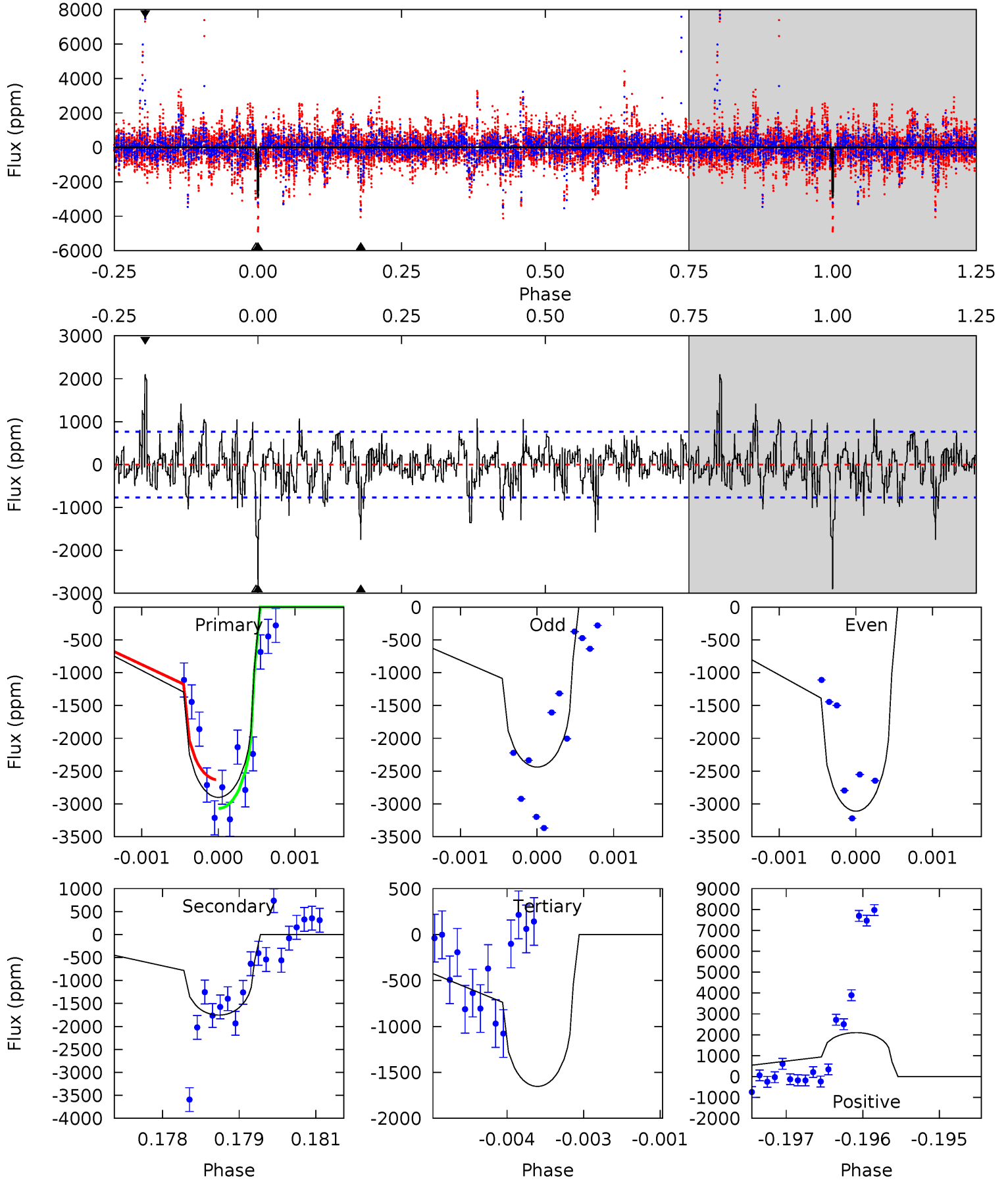
TCE 006468033-06 P=206.802572 Days $T_0=168.159944$ (BKJD)



DV Model-Shift Uniqueness Test

006468033-06, P = 206.792931 Days, E = 168.120526 Days

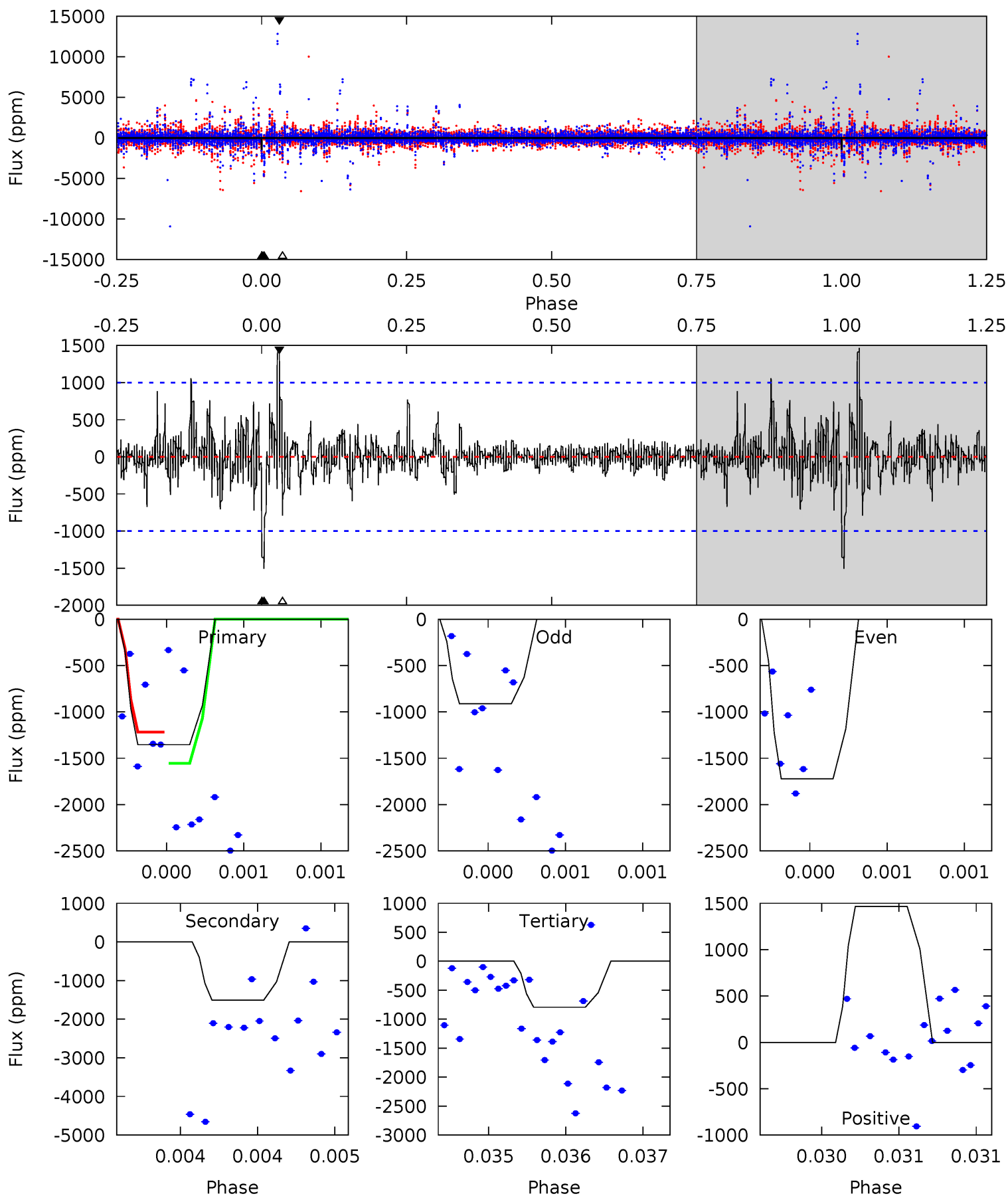
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	12.4	11.7	14.8	5.41	3.22	2.64	8.80	5.63	0.72	-2.45	2.23	1.06	0.42	1.47



Alt Model-Shift Uniqueness Test

006468033-06, P = 206.802572 Days, E = 168.159944 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.51	8.35	4.39	8.13	5.54	3.43	1.00	3.11	-0.62	3.95	0.22	1.56	0.95	0.49	0.90



Stellar Parameters For KIC 006468033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5499^{+164}_{-164}	$4.449^{+0.078}_{-0.182}$	$0.160^{+0.250}_{-0.300}$	$0.955^{+0.253}_{-0.109}$	$0.935^{+0.090}_{-0.082}$	$1.514^{+0.603}_{-0.706}$
	+3%/-3%	+2%/-4%	+156%/-188%	+26%/-11%	+10%/-9%	+40%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006468033-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1755 ± 142	$5.99^{+5.52}_{-3.89}$	410^{+26}_{-19}	4861^{+3428}_{-1062}	12051^{+87103}_{-8766}
Alt.	-1505 ± 180	$6.47^{+5.70}_{-4.29}$	410^{+29}_{-20}	4541^{+3129}_{-898}	8708^{+65572}_{-6222}

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 $A_{obs} \gg 1.0$

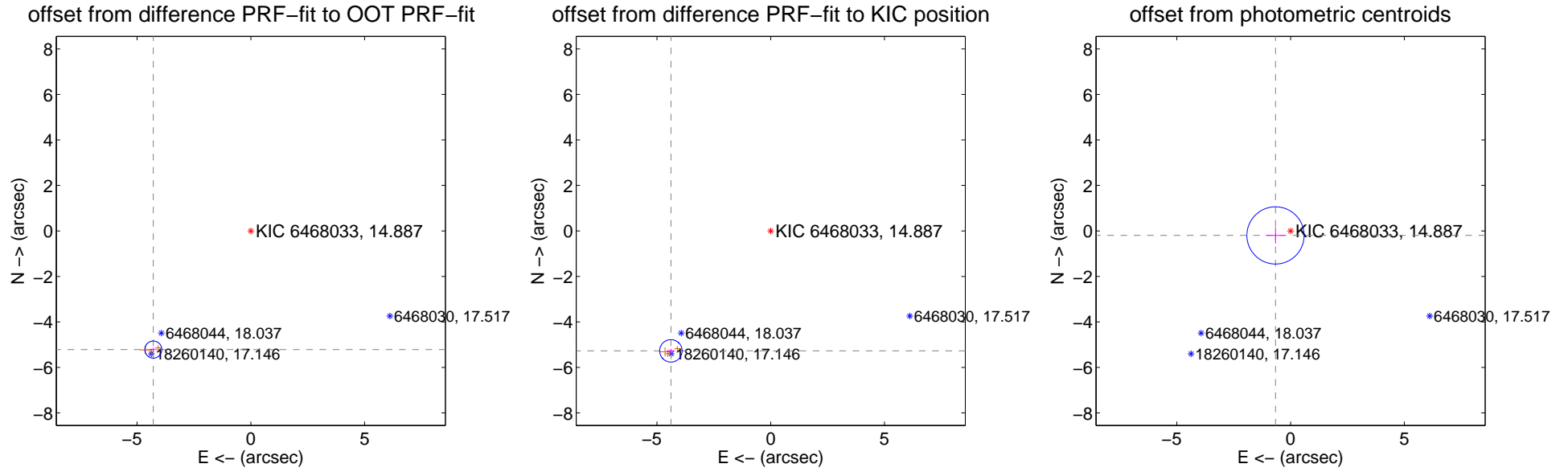
DV Centroid Data

Supplemental centroid analysis for 006468033-06. Kepler magnitude: 14.89. Transit SNR 9.49

There are 0 quarters with good PRF difference image offsets

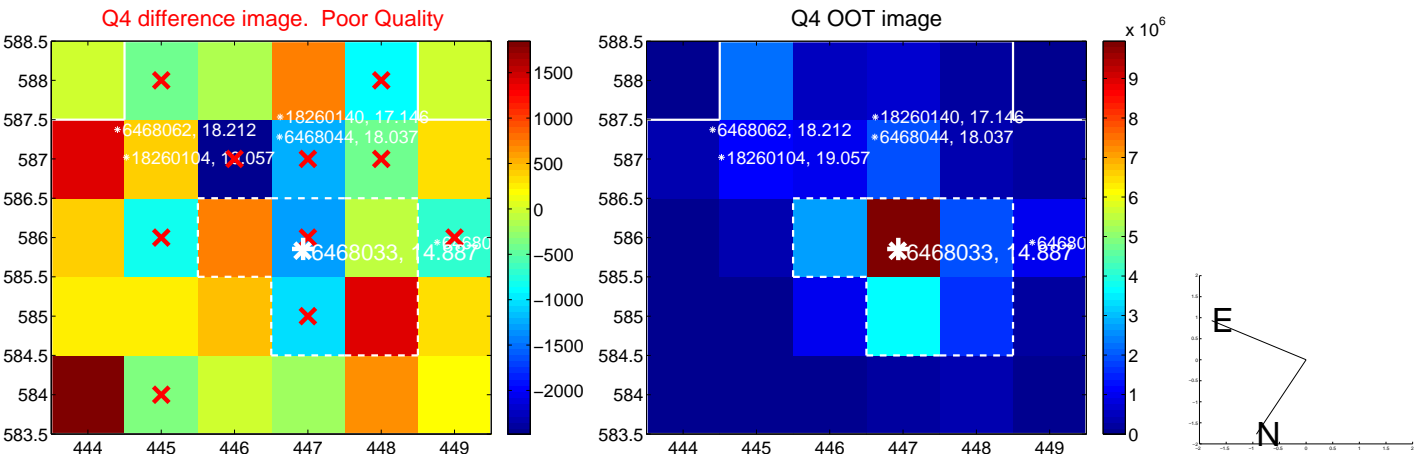
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.752 ± 0.125	53.95	4.287 ± 0.164	-5.216 ± 0.090
PRF-fit source offset from KIC position	6.859 ± 0.164	41.71	4.387 ± 0.185	-5.272 ± 0.087
photometric centroid source offset	0.69 ± 0.42	1.65	0.66 ± 0.42	-0.20 ± 0.36

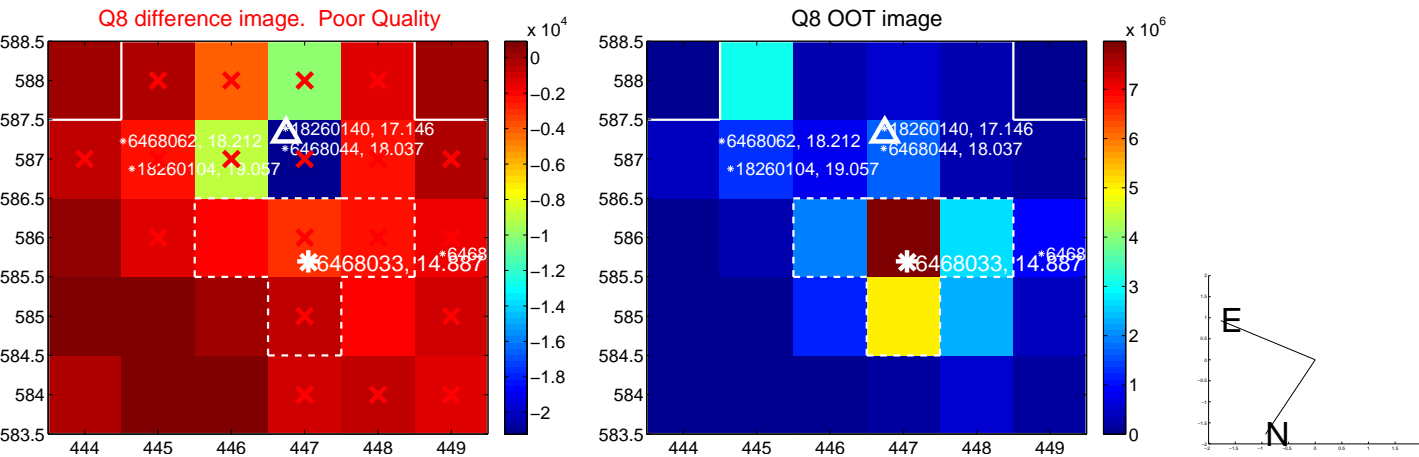
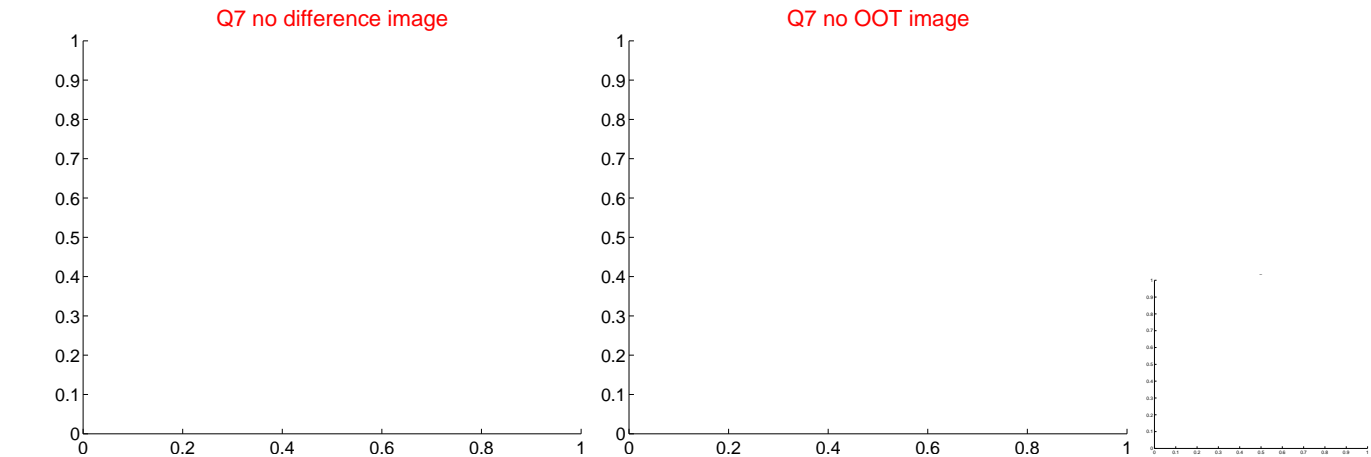
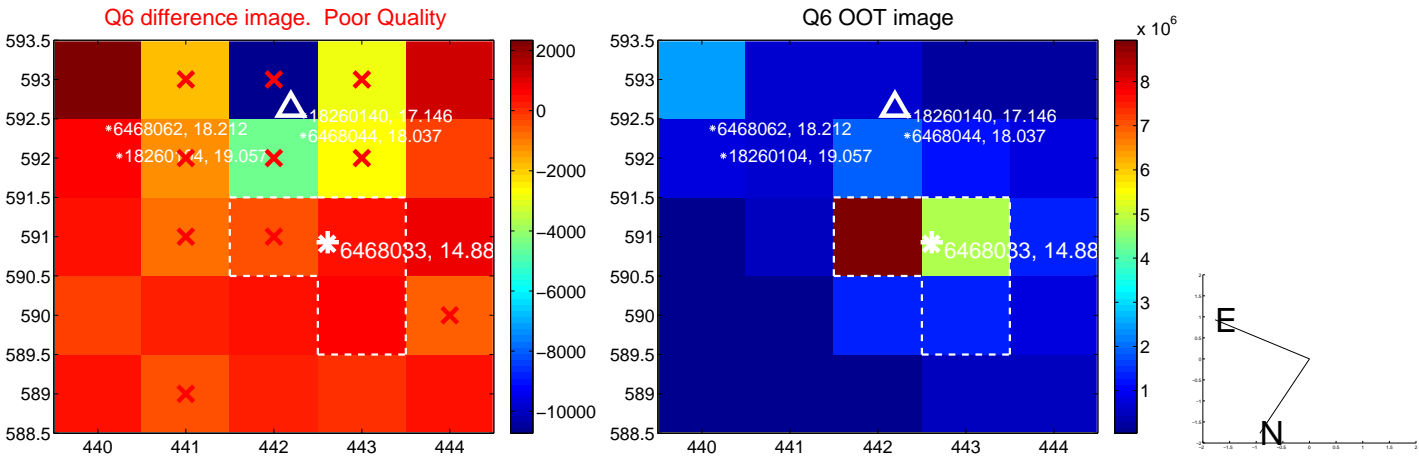
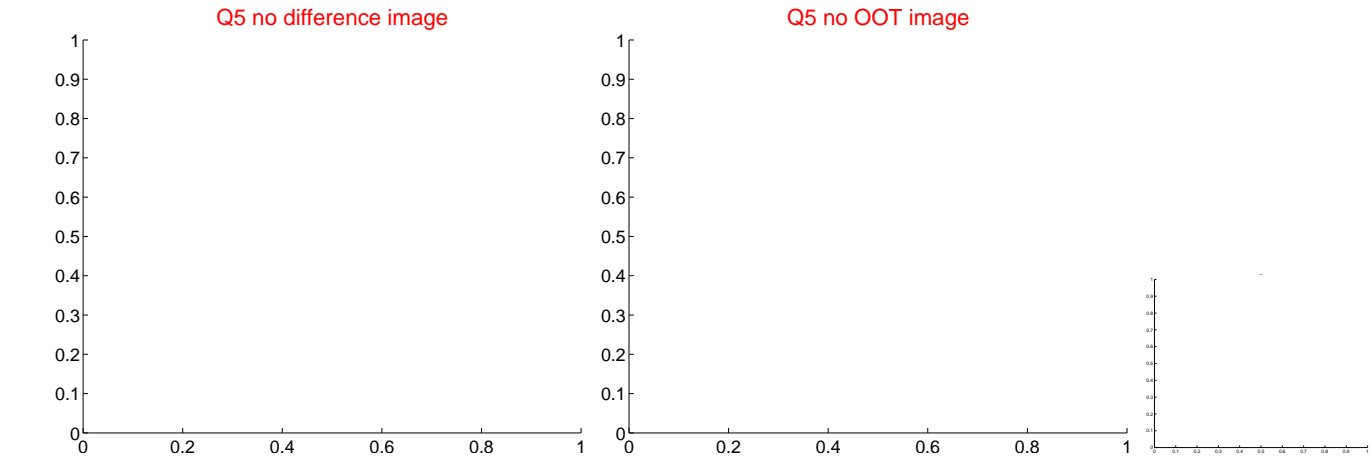


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

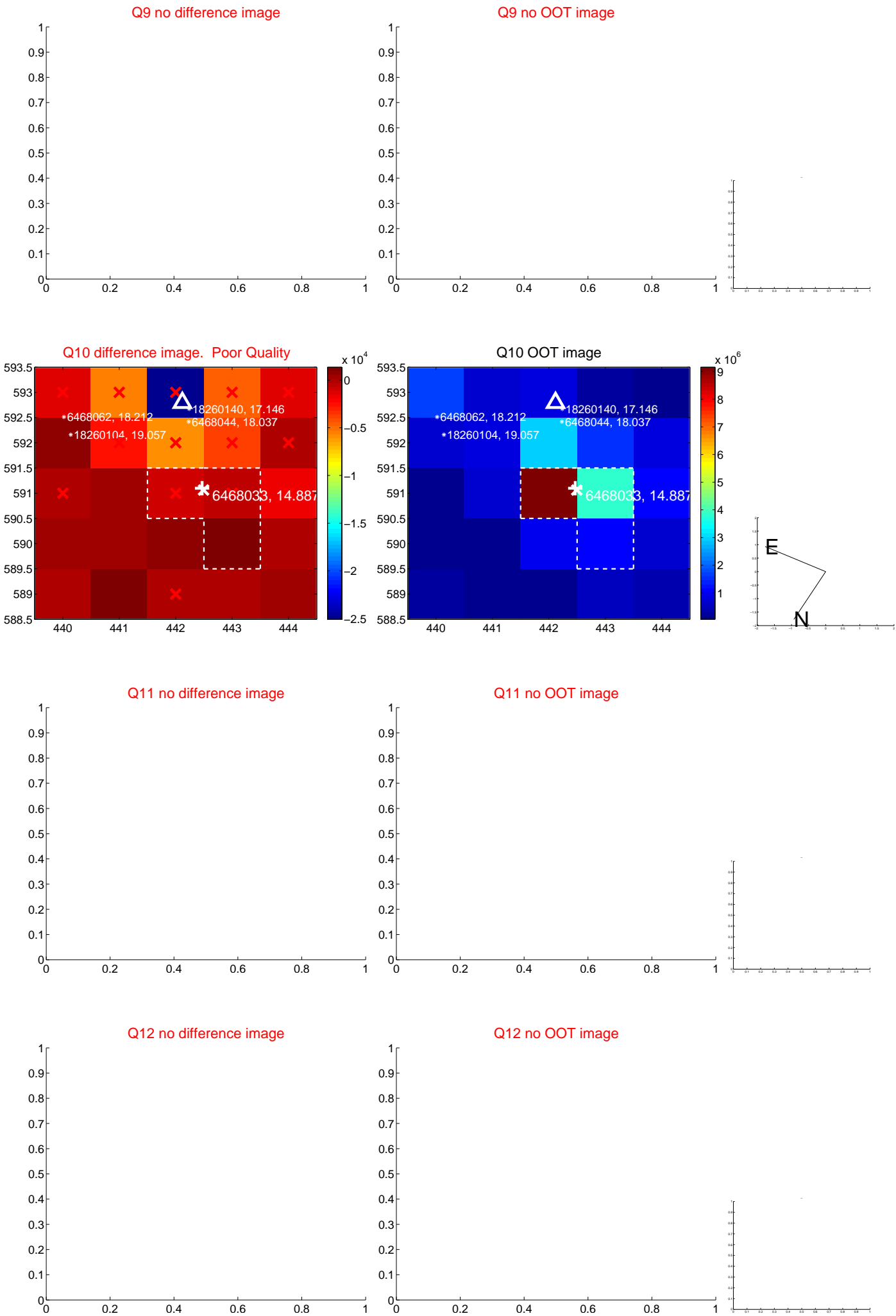
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



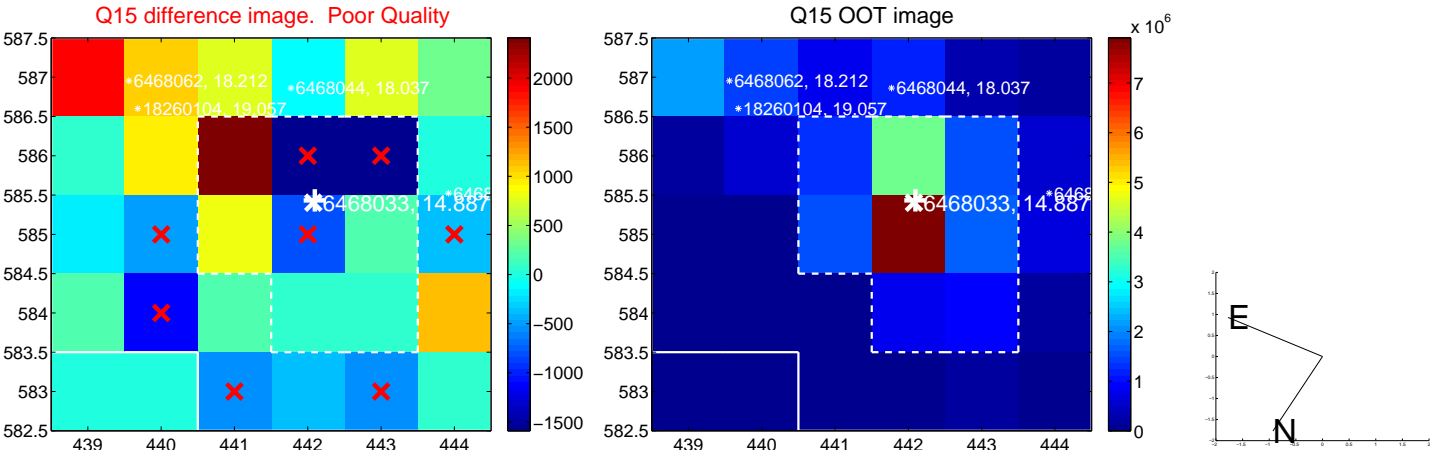
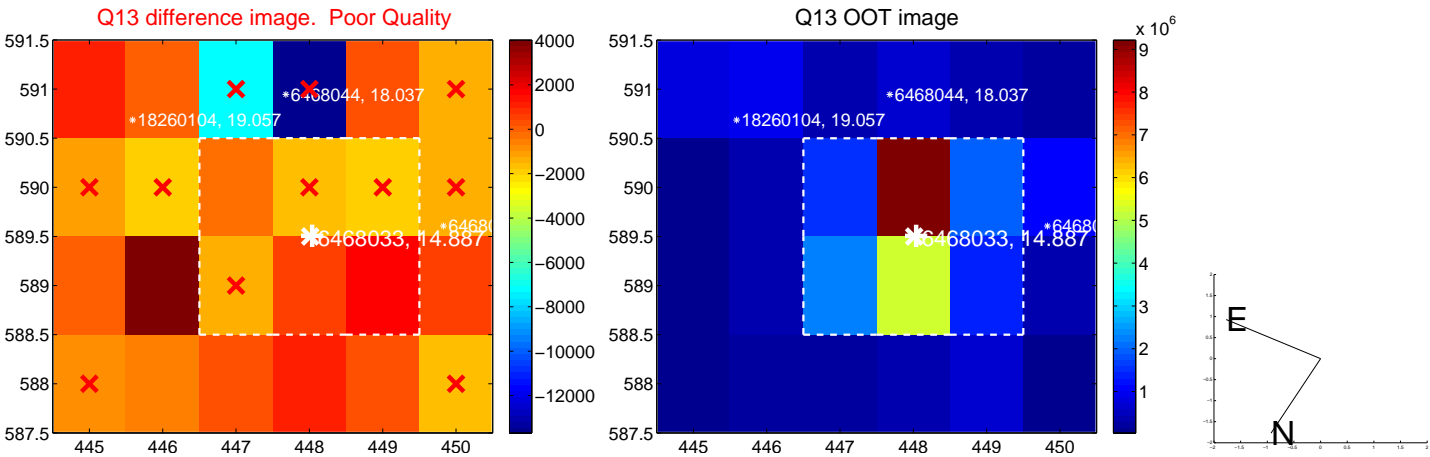
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



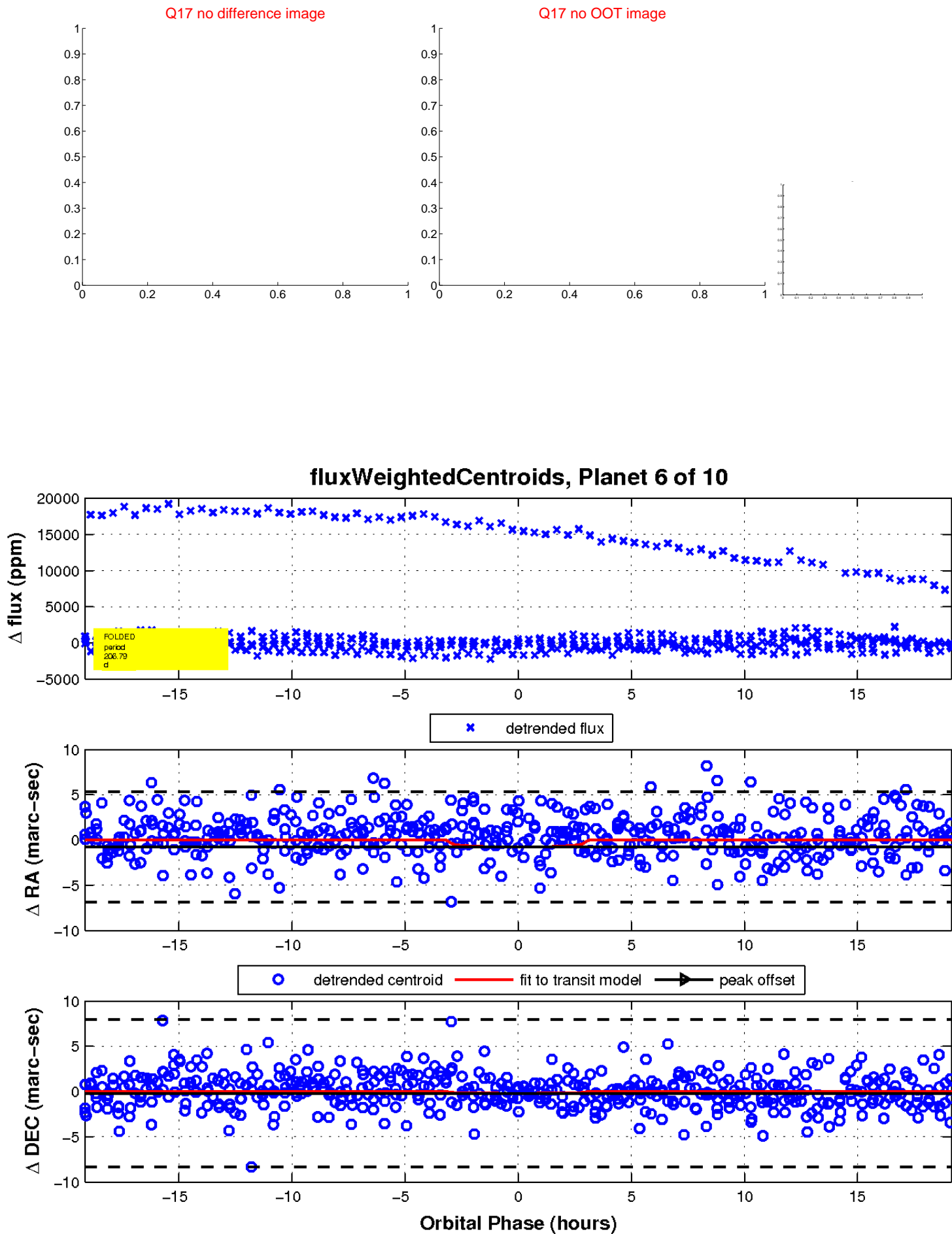
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

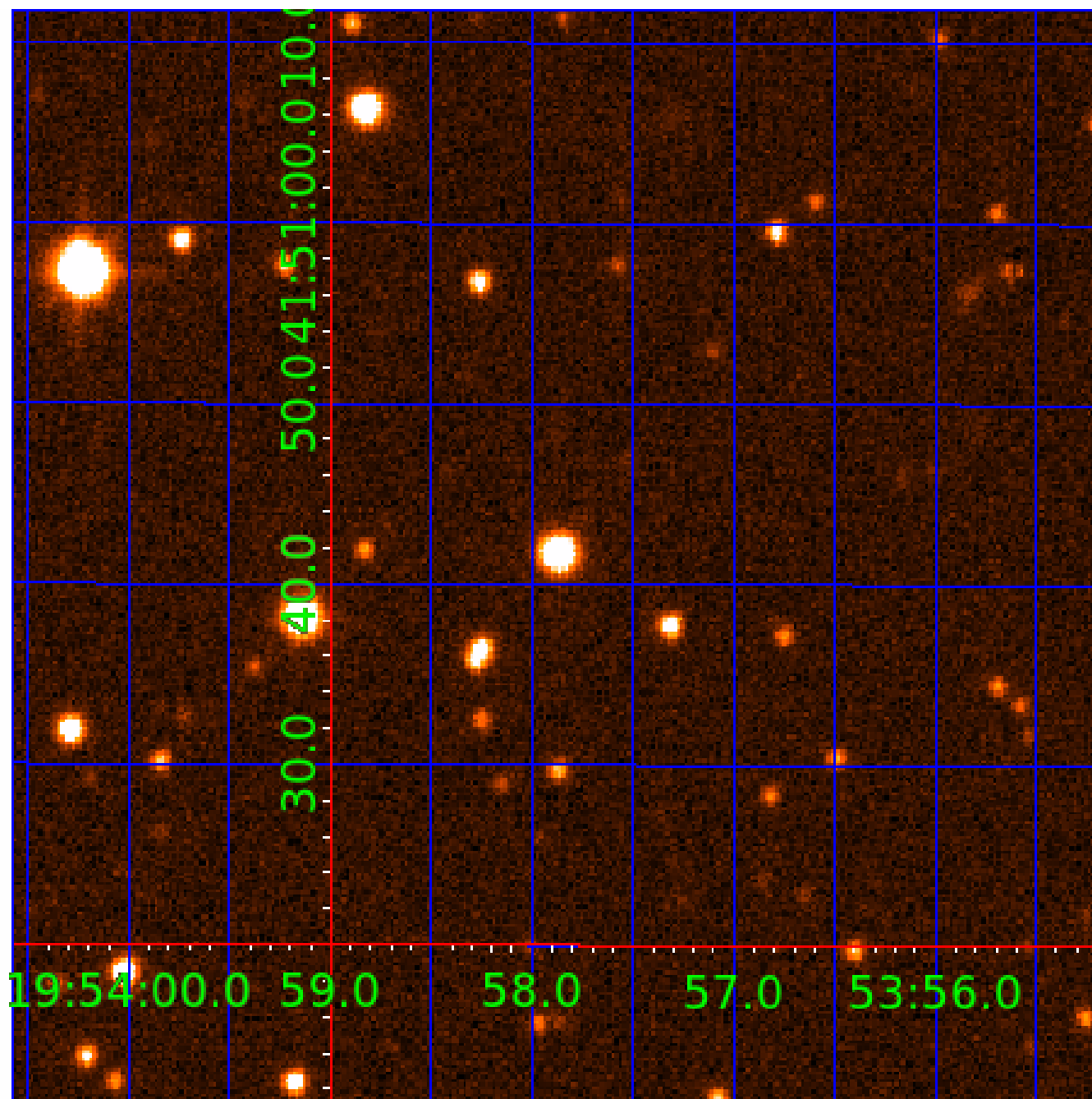


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006468033

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})
006468033-01	OBS	No	0.927526	132.294772	56.3	5.605	8.2	10.7	0.95	5499	0.71	2253.88
006468033-02	OBS	No	76.577897	134.192326	770.4	13.938	20.7	4.7	0.95	5499	2.64	6.27
006468033-03	OBS	No	31.356677	154.901209	1075.5	15.327	14.9	8.8	0.95	5499	4.00	20.62
006468033-06	OBS	No	206.792931	168.120526	2233.0	6.400	14.7	9.5	0.95	5499	4.54	1.67
006468033-07	OBS	No	300.547582	181.774690	2575.0	10.460	12.0	9.5	0.95	5499	5.59	1.01
006468033-08	OBS	No	291.150468	205.607637	18339.3	109.283	12.1	11.0	0.95	5499	19.31	1.06
006468033-09	OBS	No	66.061273	177.240066	1521.5	10.930	10.4	8.5	0.95	5499	7.29	7.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006468033-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
006468033-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006468033-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

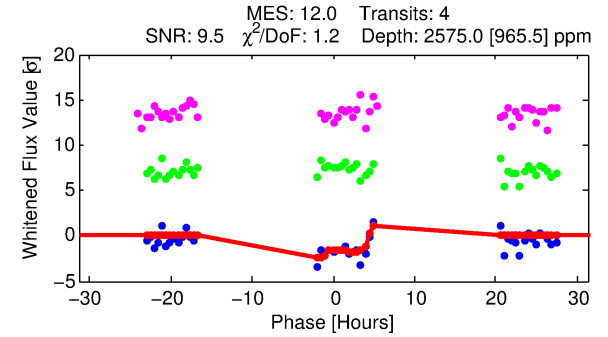
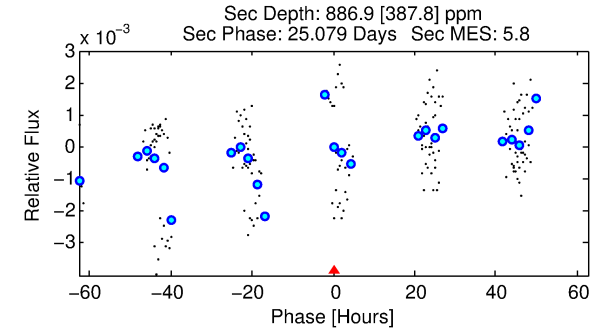
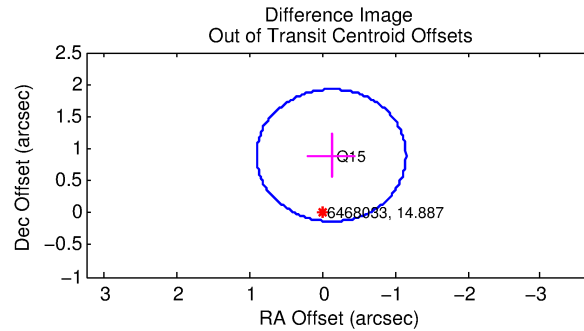
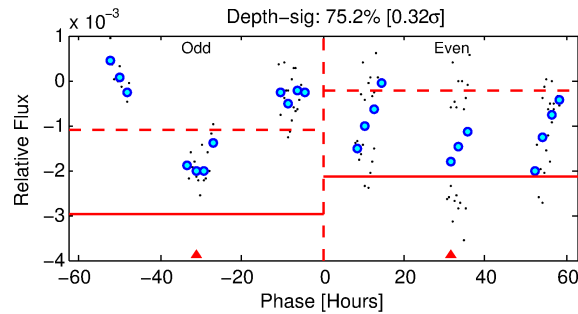
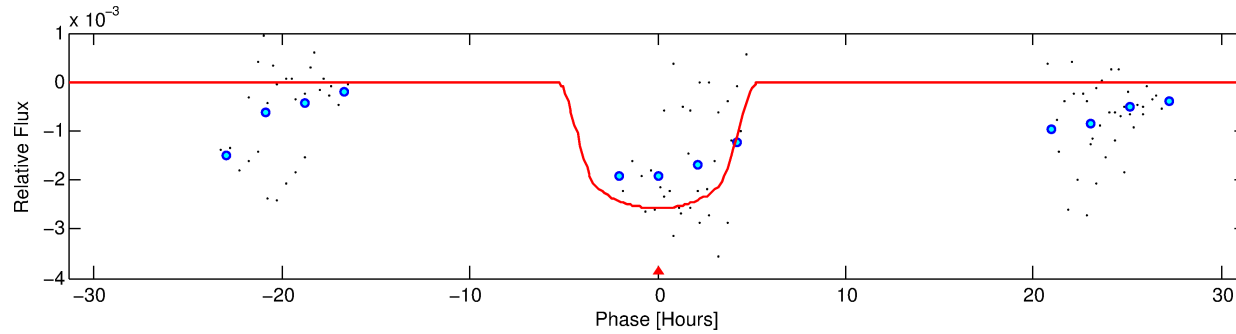
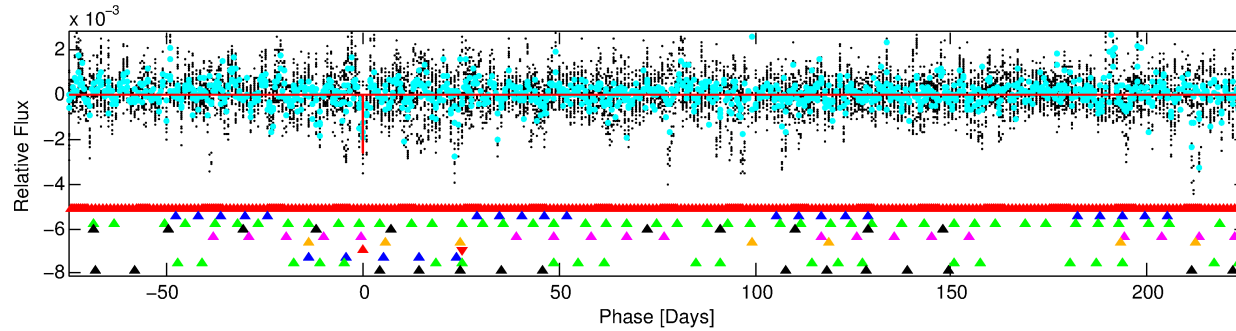
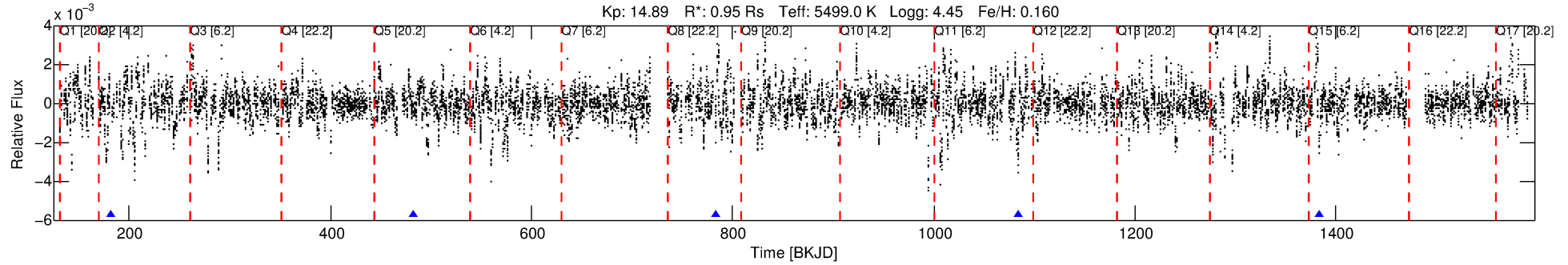
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006468033-07

No Significant Match Found

DV One-Page Summary

KIC: 6468033 Candidate: 7 of 10 Period: 300.548 d



DV Fit Results:

Period = 300.54758 [0.01386] d
Epoch = 181.7747 [0.1002] BKJD
Rp/R* = 0.0537 [0.0100]
a/R* = 135.36 [73.54]
b = 0.85 [0.09]
Seff = 1.01 [0.36]
Teq = 256 [22] K
Rp = 5.60 [1.81] Re
a = 0.8590 [0.1934] AU
Ag = 11497.83 [7619.30] [1.51 σ]
Teffp = 4095 [601] K [6.39 σ]

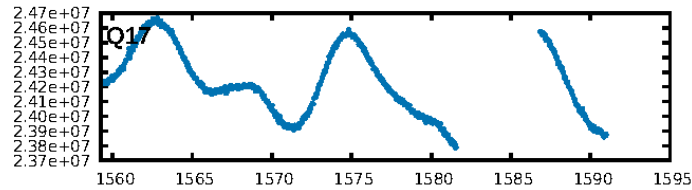
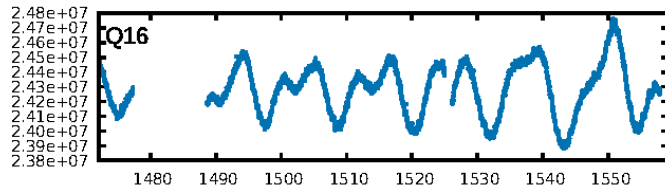
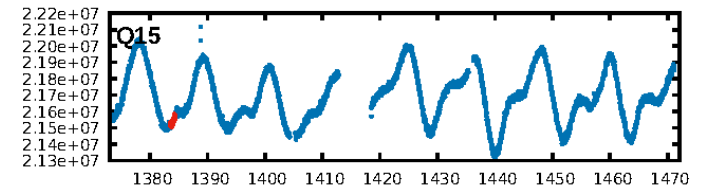
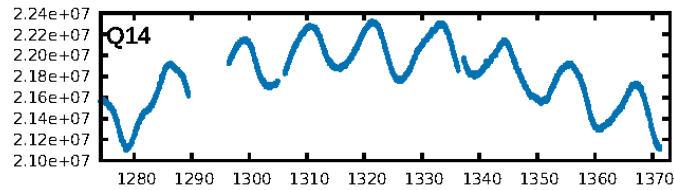
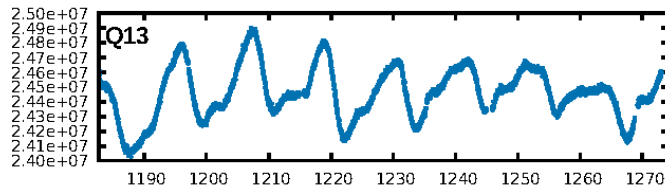
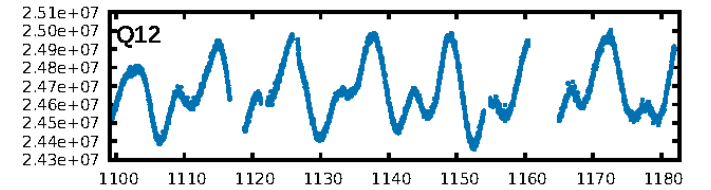
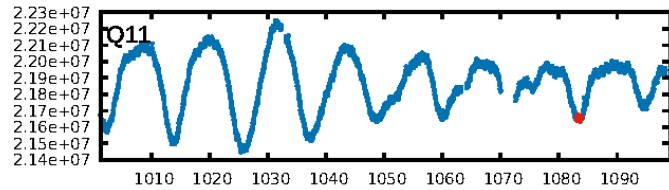
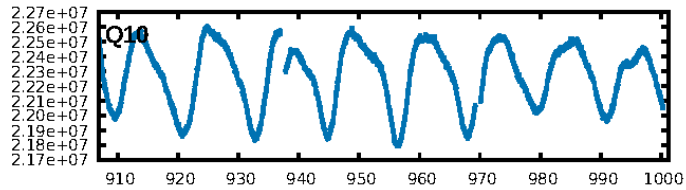
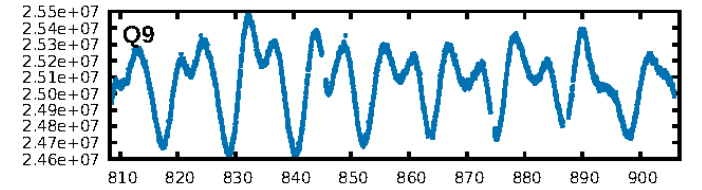
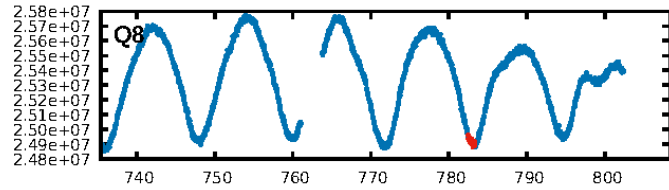
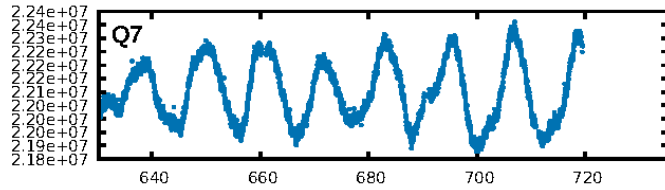
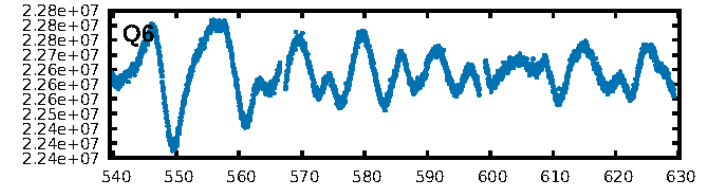
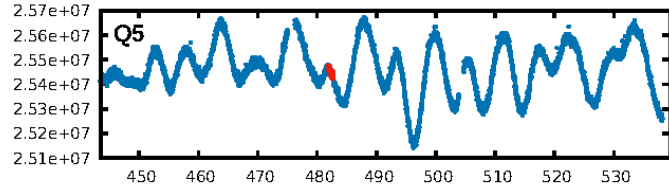
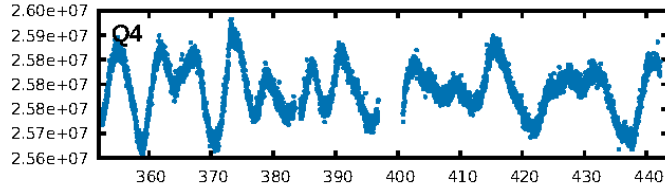
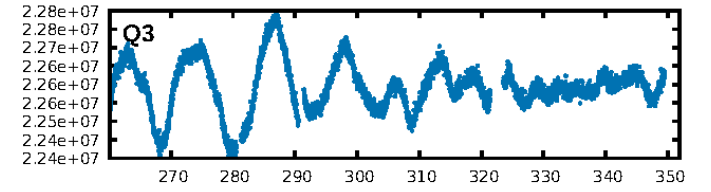
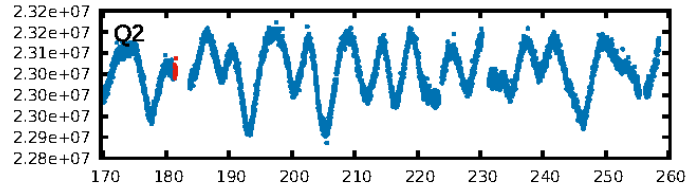
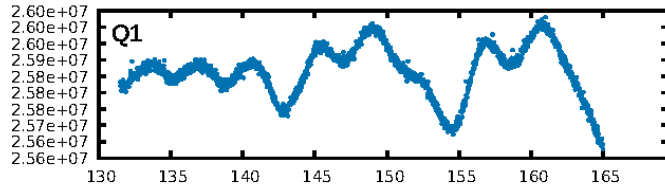
DV Diagnostic Results:

ShortPeriod-sig: 96.0% [2.05 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.8321
Centroid-sig: 0.5%
Centroid-so: 0.450 arcsec [0.96 σ]
OotOffset-rm: 0.902 arcsec [2.63 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-rm: 0.746 arcsec [2.18 σ]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/3]

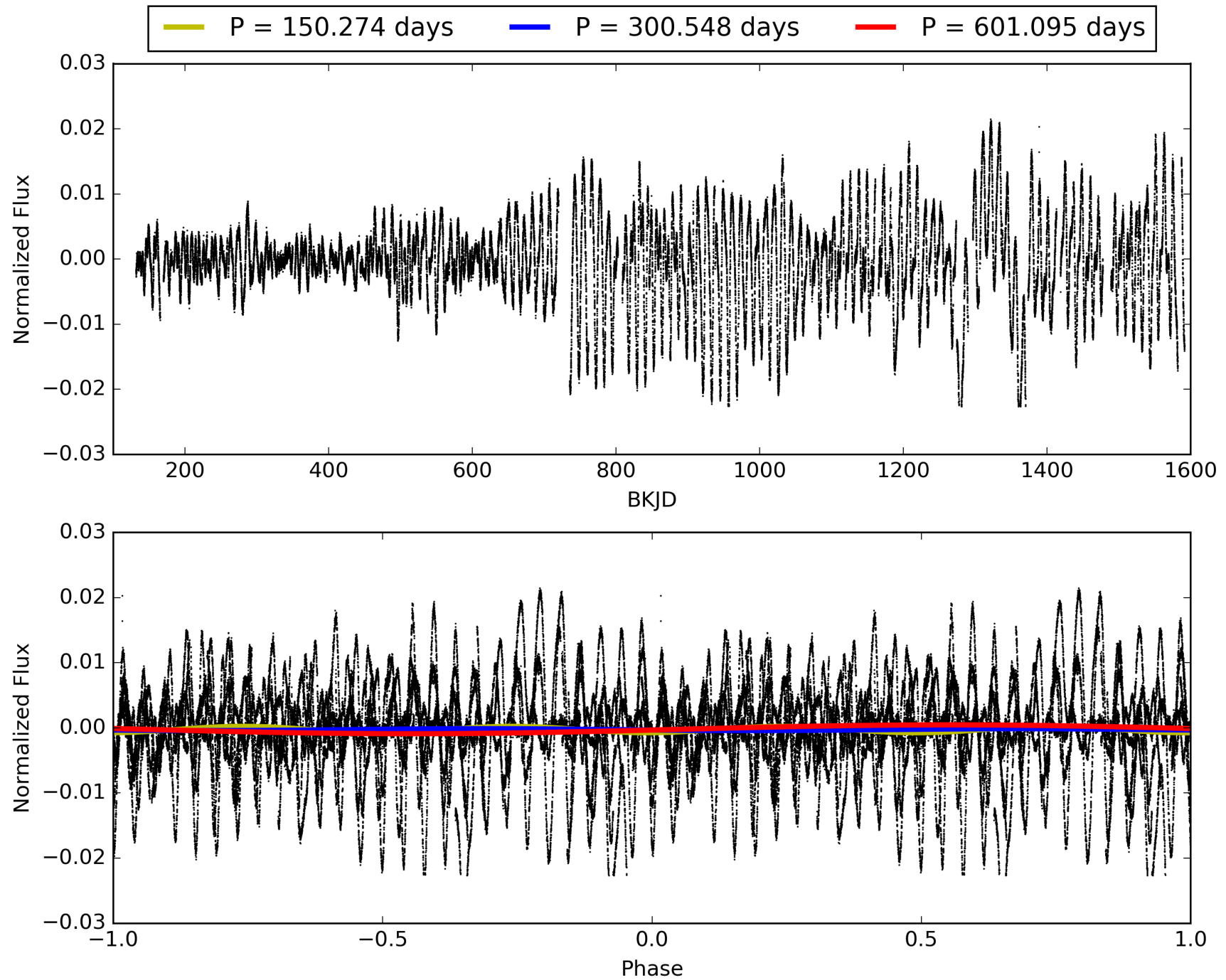
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:13:04 Z

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

TCE 006468033-07, PDC Light Curves

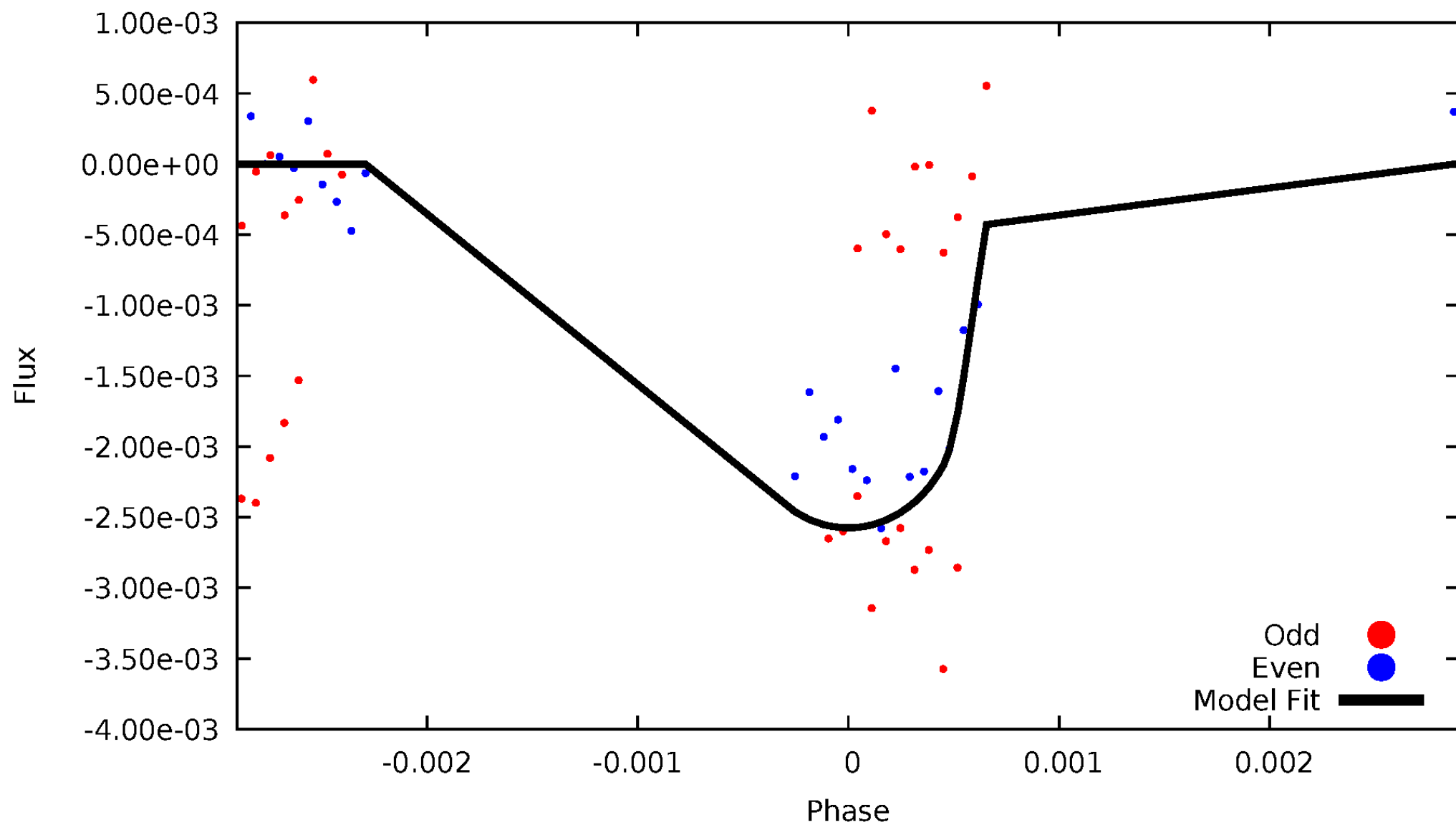


TCE 006468033-07



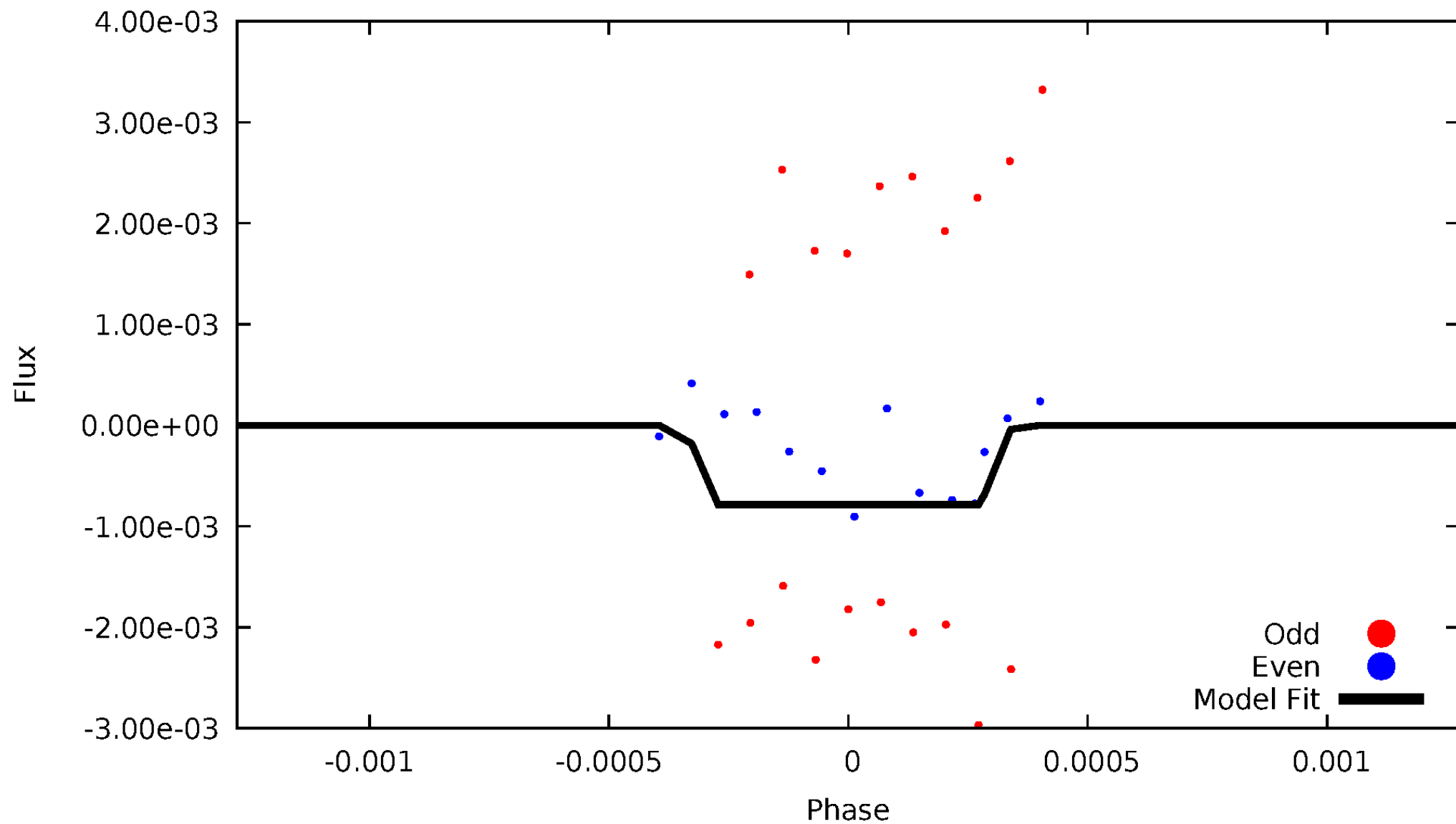
DV Odd/Even

TCE 006468033-07



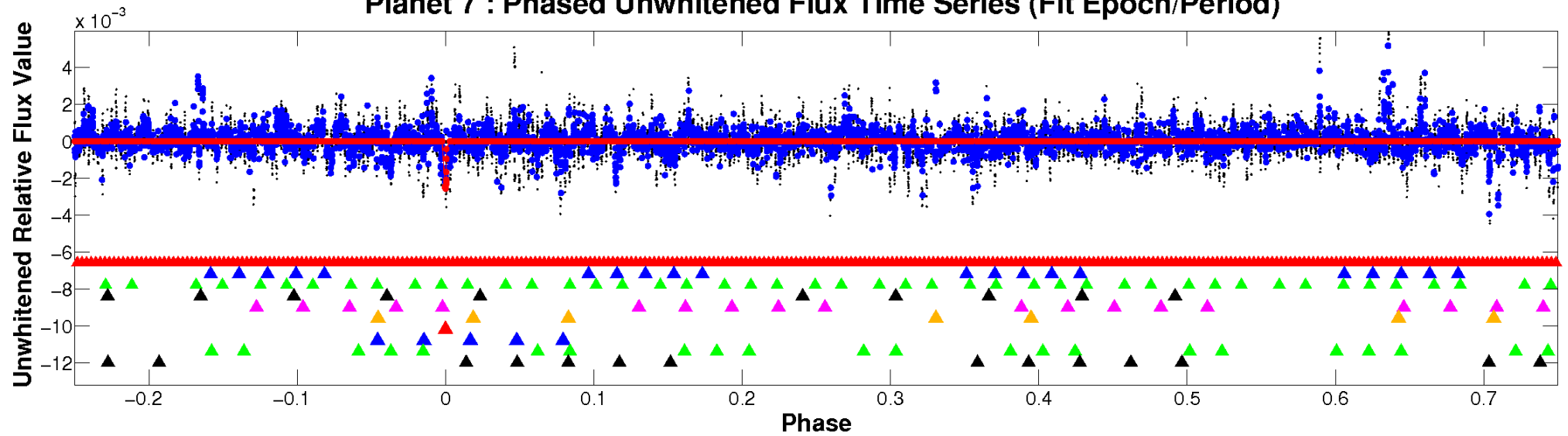
ALT Odd/Even

TCE 006468033-07

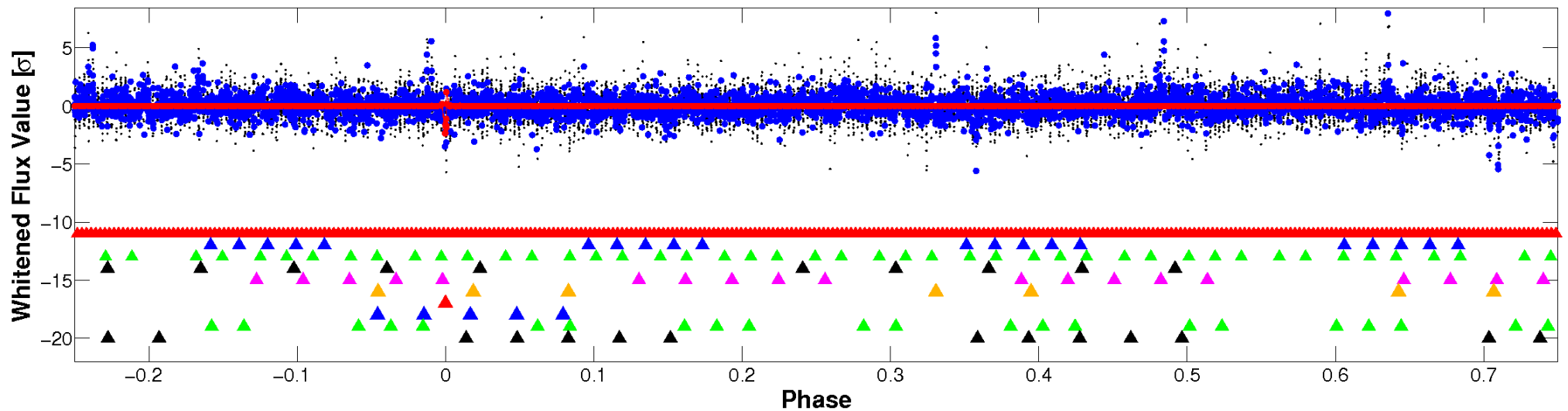


Non-Whitened Vs. Whitened Light Curve

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

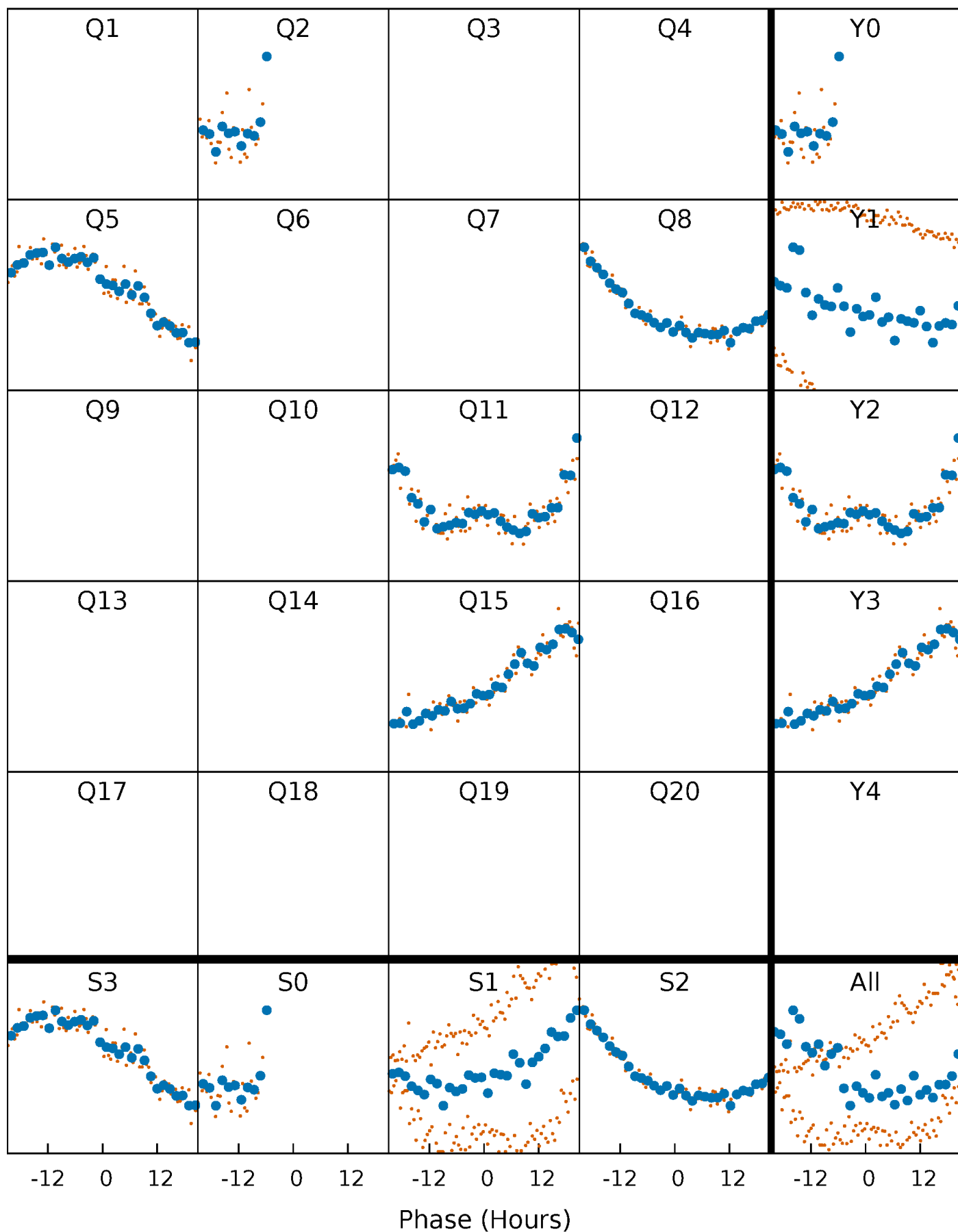


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



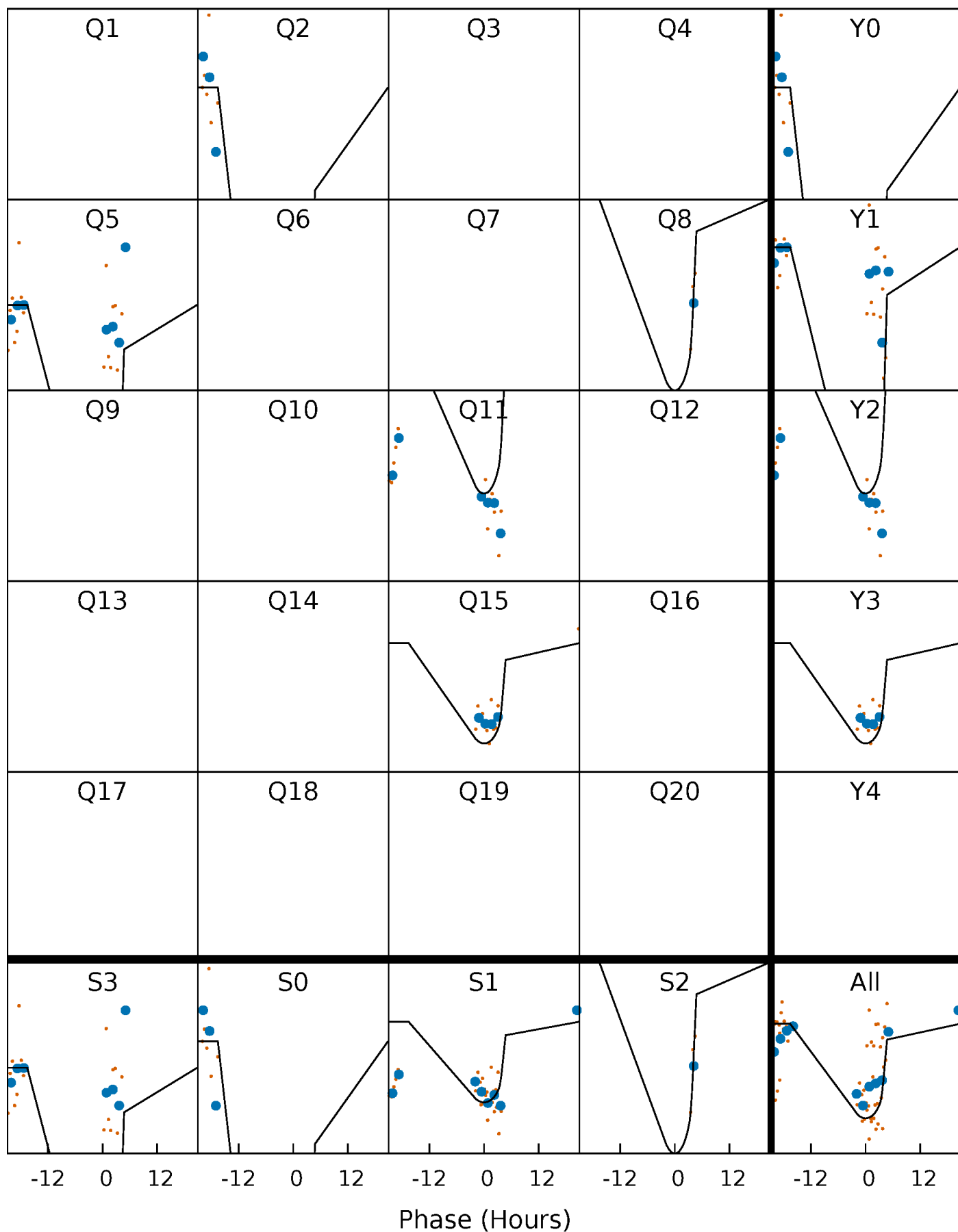
PDC Quarter-Phased Transit Curves

TCE 006468033-07 P=300.547582 Days $T_0=181.774690$ (BKJD)



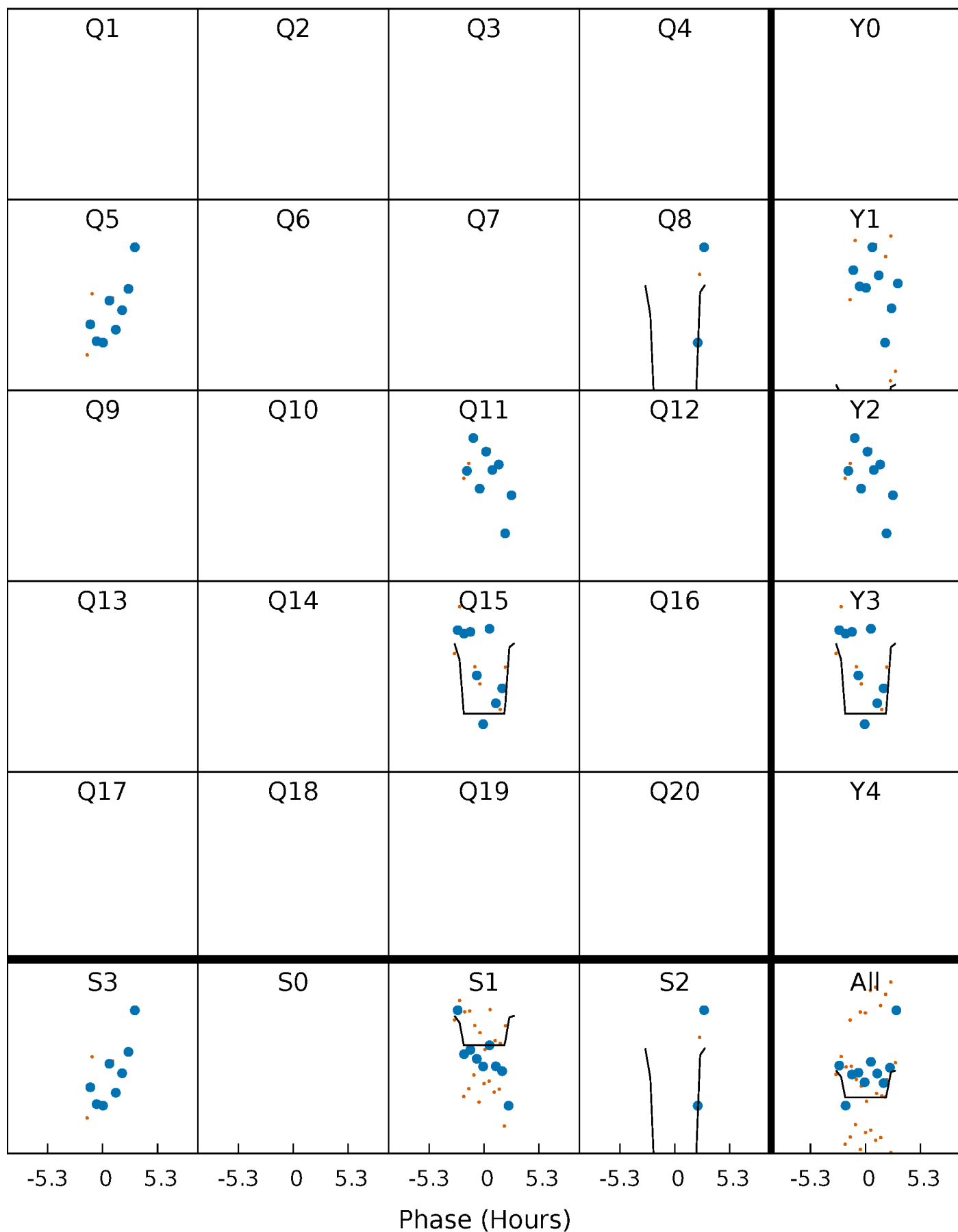
DV Quarter-Phased Transit Curves

TCE 006468033-07 $P=300.547582$ Days $T_0=181.774690$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

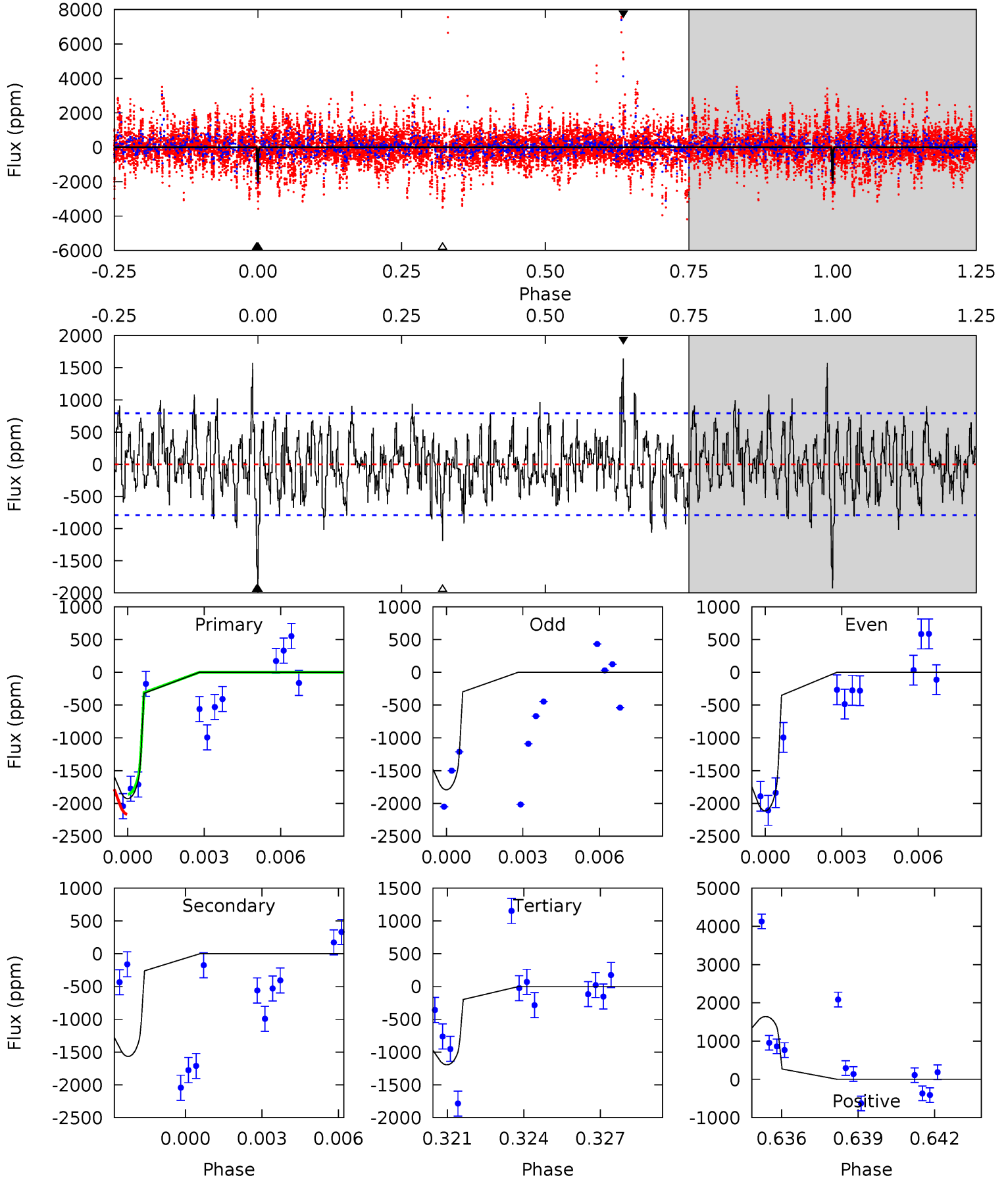
TCE 006468033-07 P=300.536801 Days $T_0=181.860726$ (BKJD)



DV Model-Shift Uniqueness Test

006468033-07, P = 300.547582 Days, E = 181.774690 Days

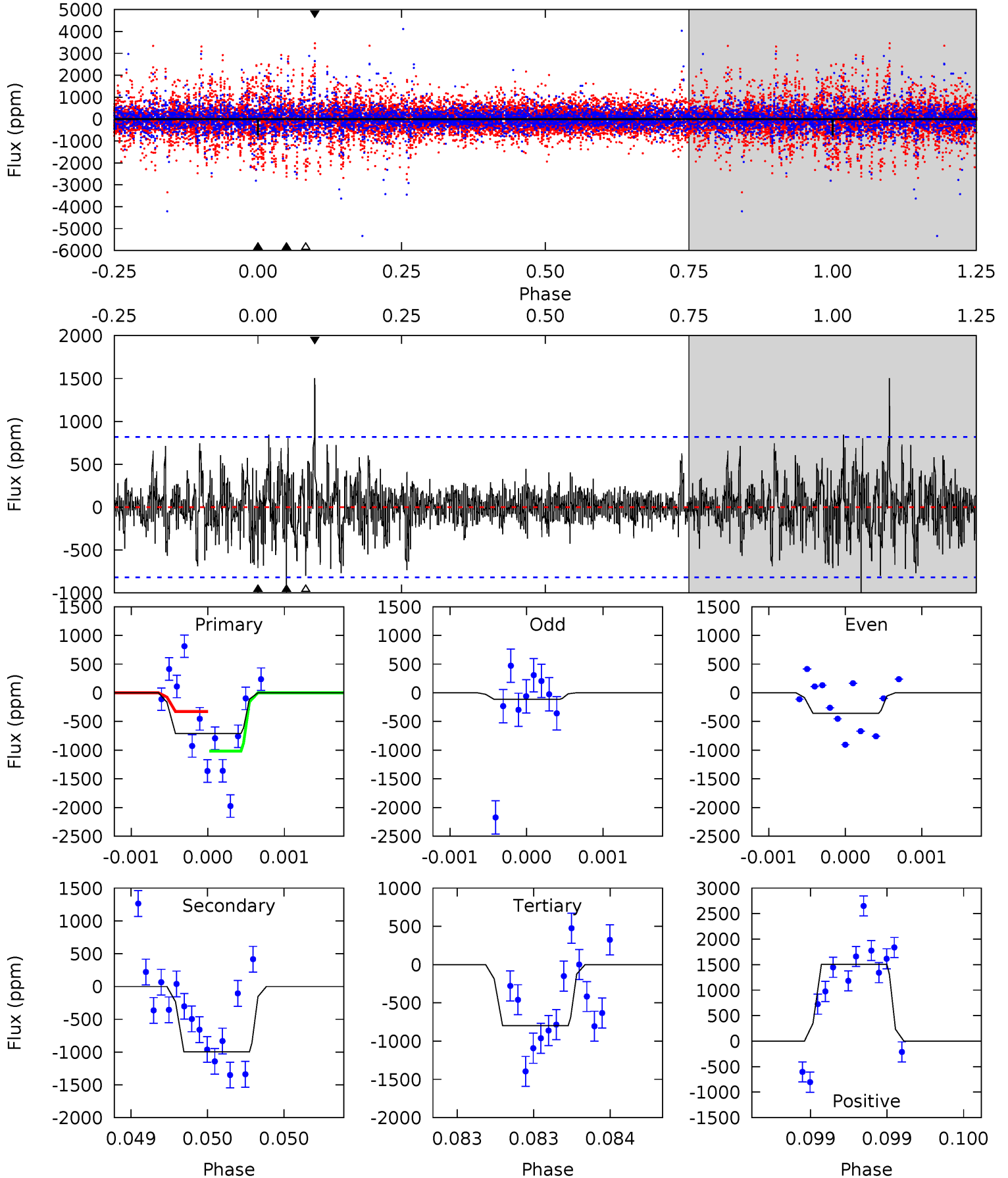
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	10.4	7.91	10.9	5.25	2.96	2.45	4.86	1.89	2.47	-0.50	1.03	0.86	0.46	0.67



Alt Model-Shift Uniqueness Test

006468033-07, P = 300.536801 Days, E = 181.860726 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.80	6.75	5.41	10.2	5.54	3.43	1.34	-0.61	-5.38	1.34	-3.43	0.92	0.50	0.60	2.36



Stellar Parameters For KIC 006468033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5499^{+164}_{-164}	$4.449^{+0.078}_{-0.182}$	$0.160^{+0.250}_{-0.300}$	$0.955^{+0.253}_{-0.109}$	$0.935^{+0.090}_{-0.082}$	$1.514^{+0.603}_{-0.706}$
	+3%/-3%	+2%/-4%	+156%/-188%	+26%/-11%	+10%/-9%	+40%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006468033-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1566 ± 151	$5.77^{+1.28}_{-1.17}$	362^{+22}_{-18}	4800^{+470}_{-354}	18909^{+11004}_{-6371}
Alt.	-996 ± 148	$3.03^{+1.12}_{-1.06}$	362^{+25}_{-19}	5785^{+1455}_{-789}	44151^{+62886}_{-21306}

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

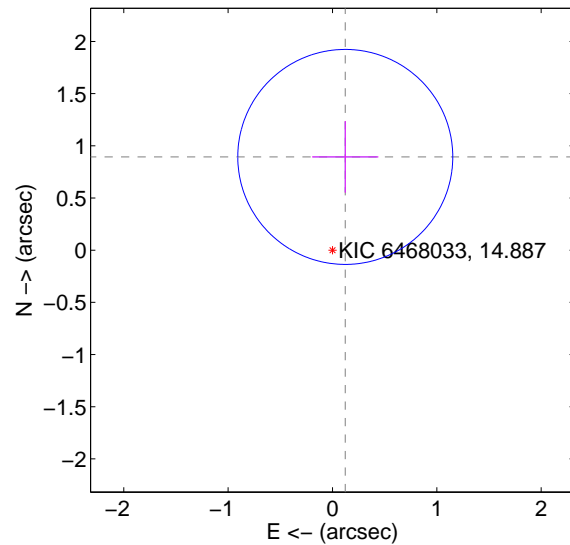
Supplemental centroid analysis for 006468033-07. Kepler magnitude: 14.89. Transit SNR 9.53

There are 1 quarters with good PRF difference image offsets

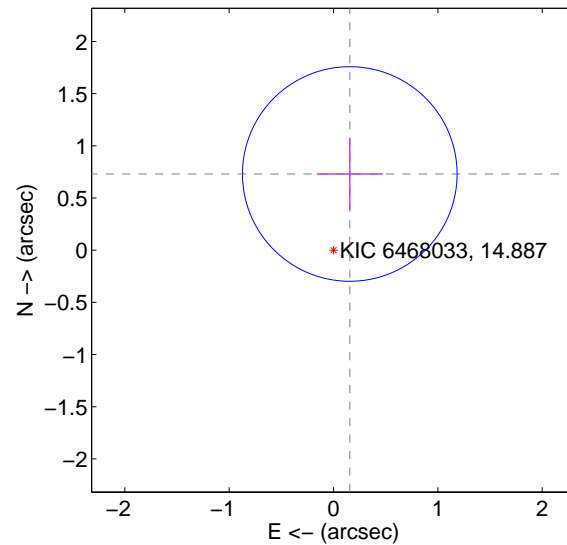
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.902 ± 0.343	2.63	-0.123 ± 0.318	0.894 ± 0.344
PRF-fit source offset from KIC position	0.746 ± 0.343	2.18	-0.156 ± 0.318	0.730 ± 0.344
photometric centroid source offset	0.45 ± 0.47	0.96	-0.24 ± 0.51	0.38 ± 0.45

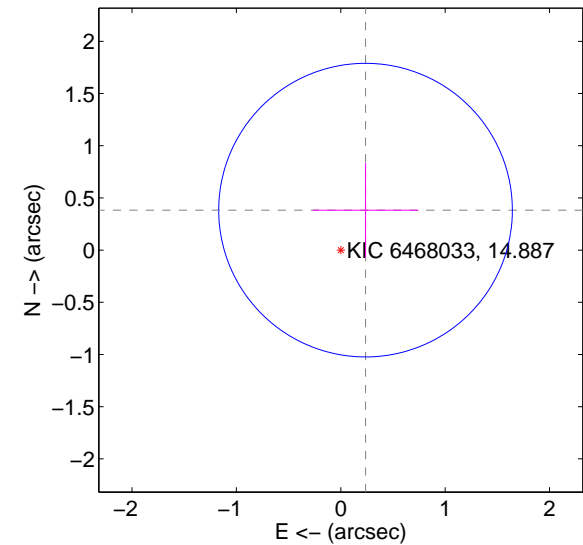
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

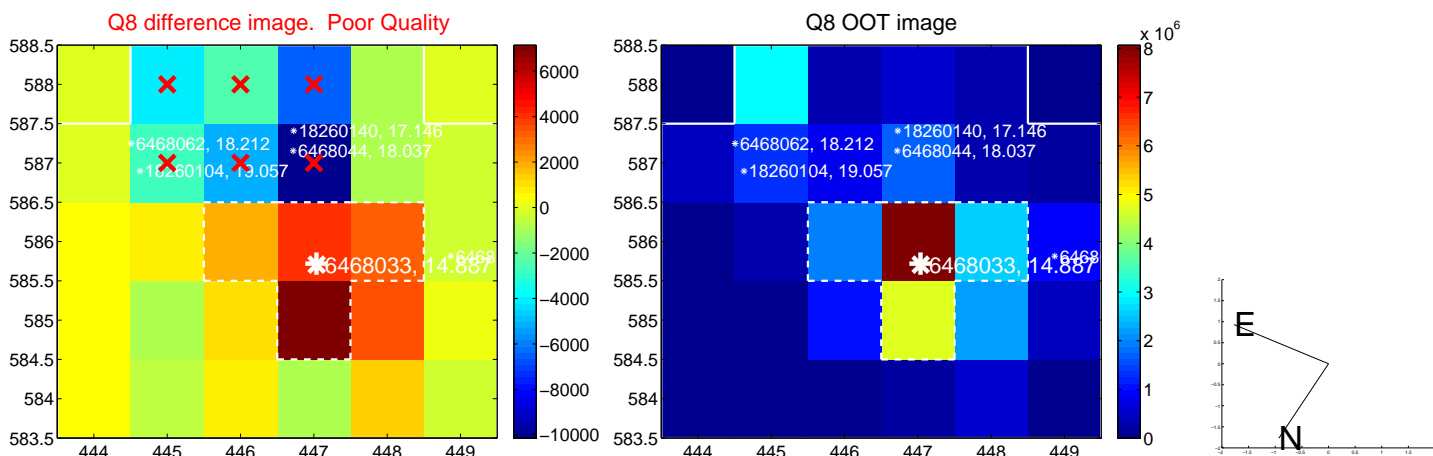
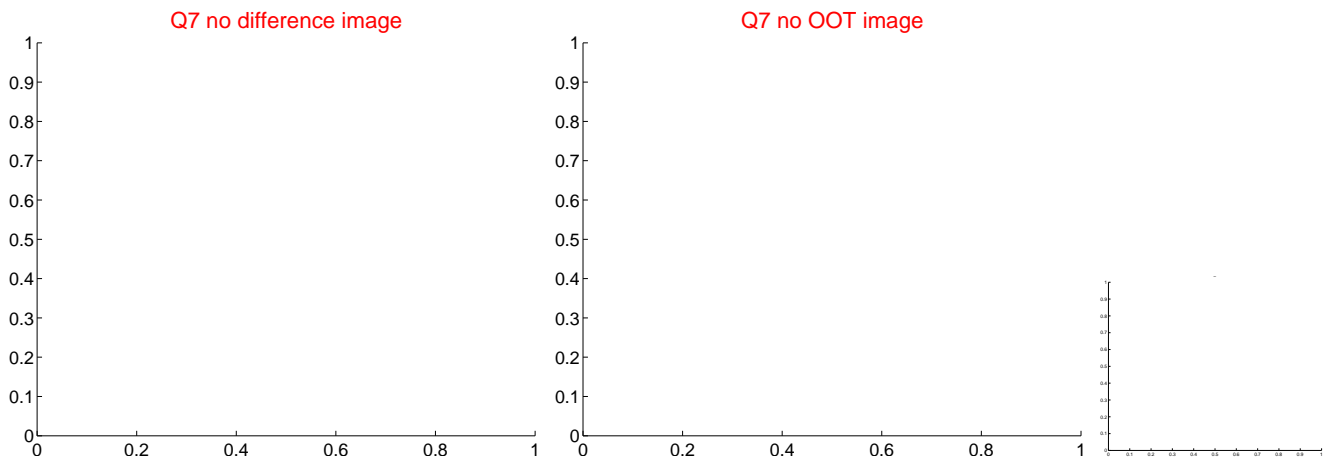
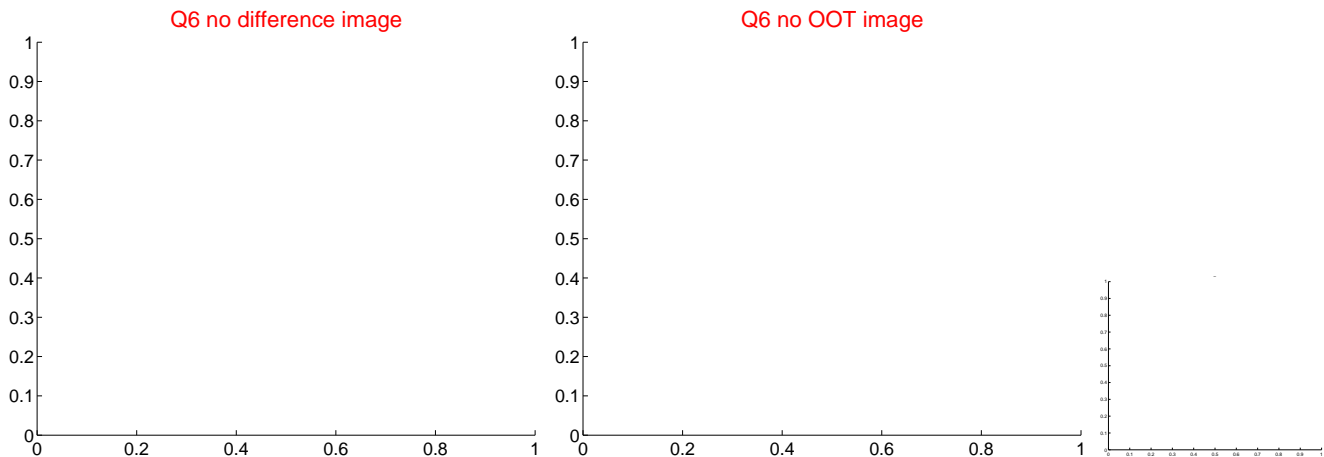
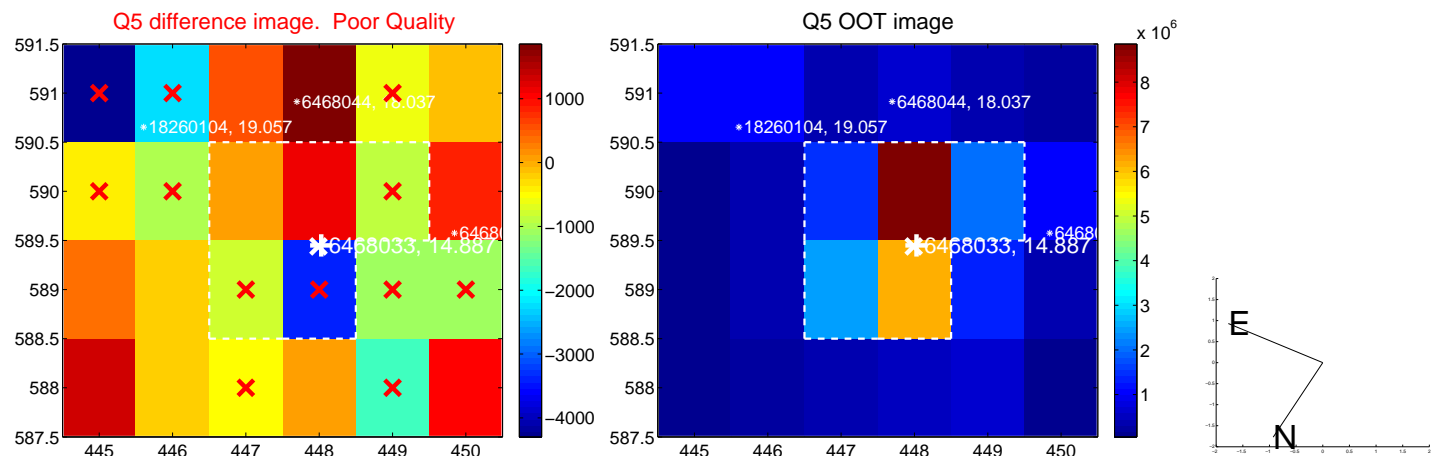


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



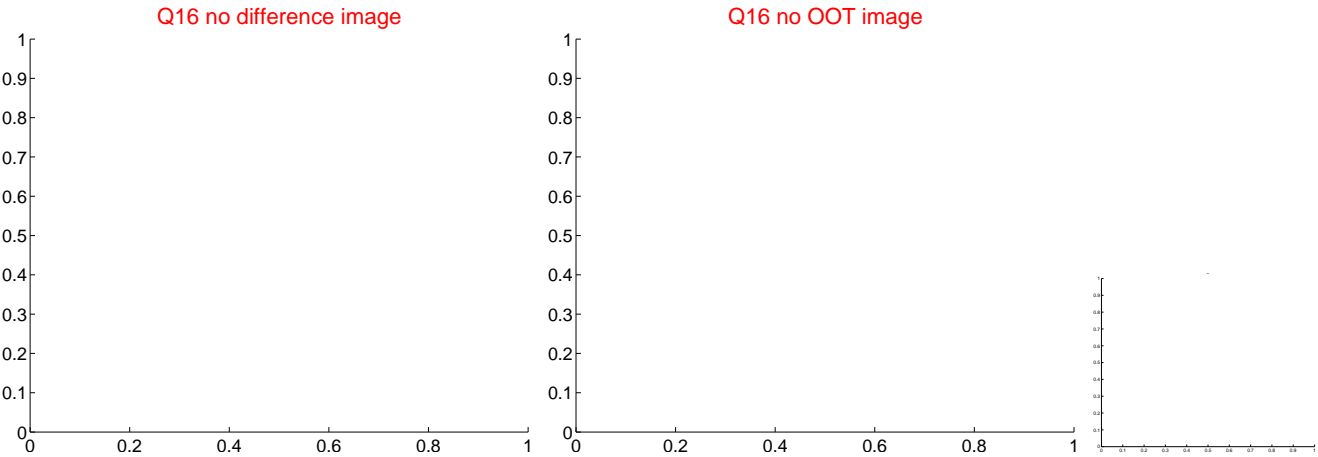
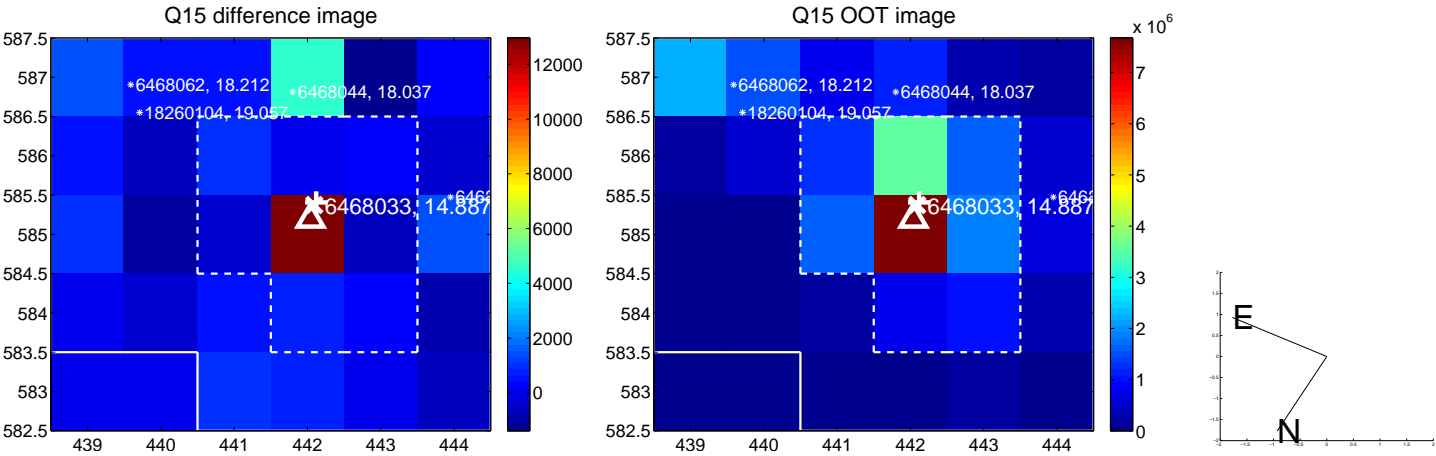
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



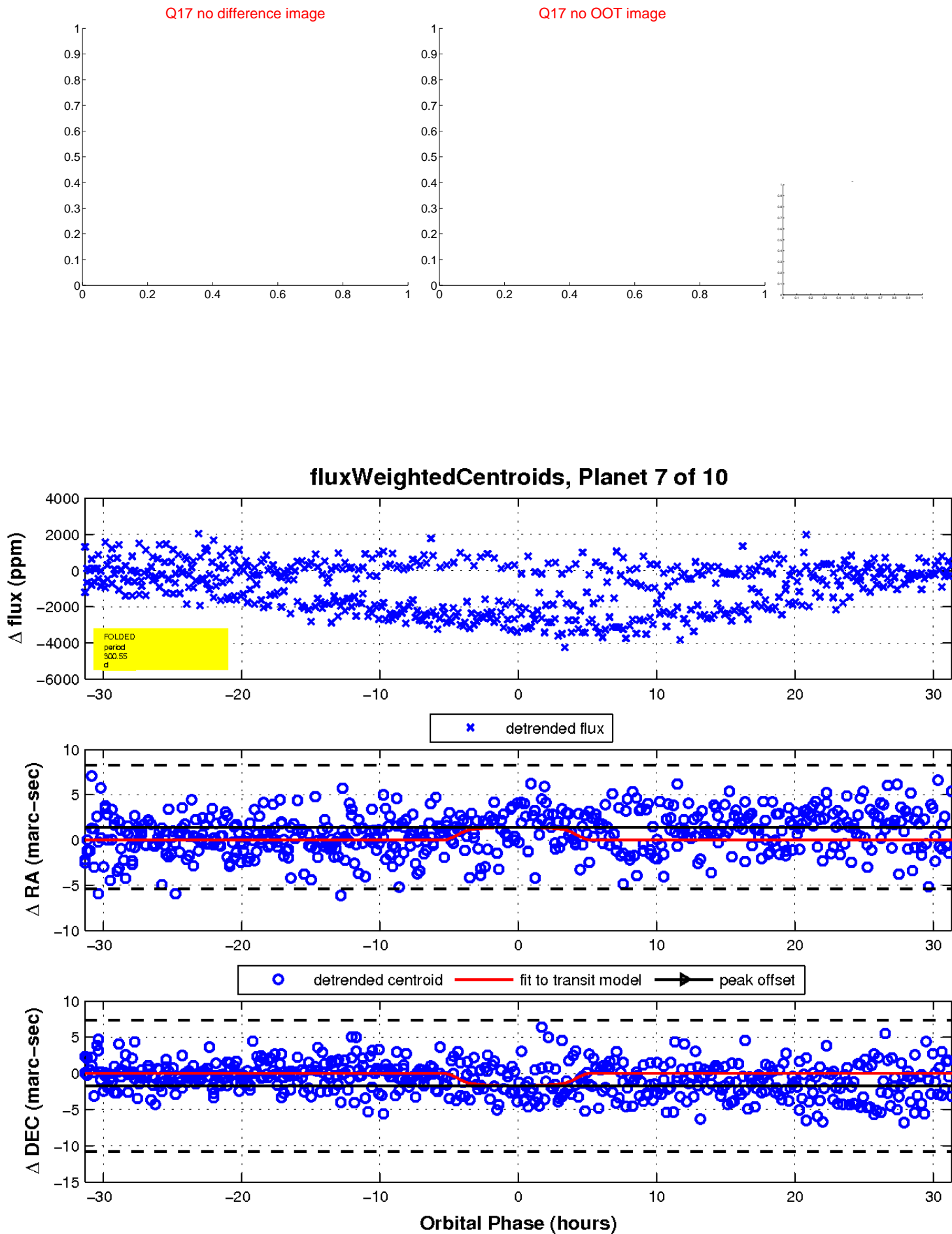
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

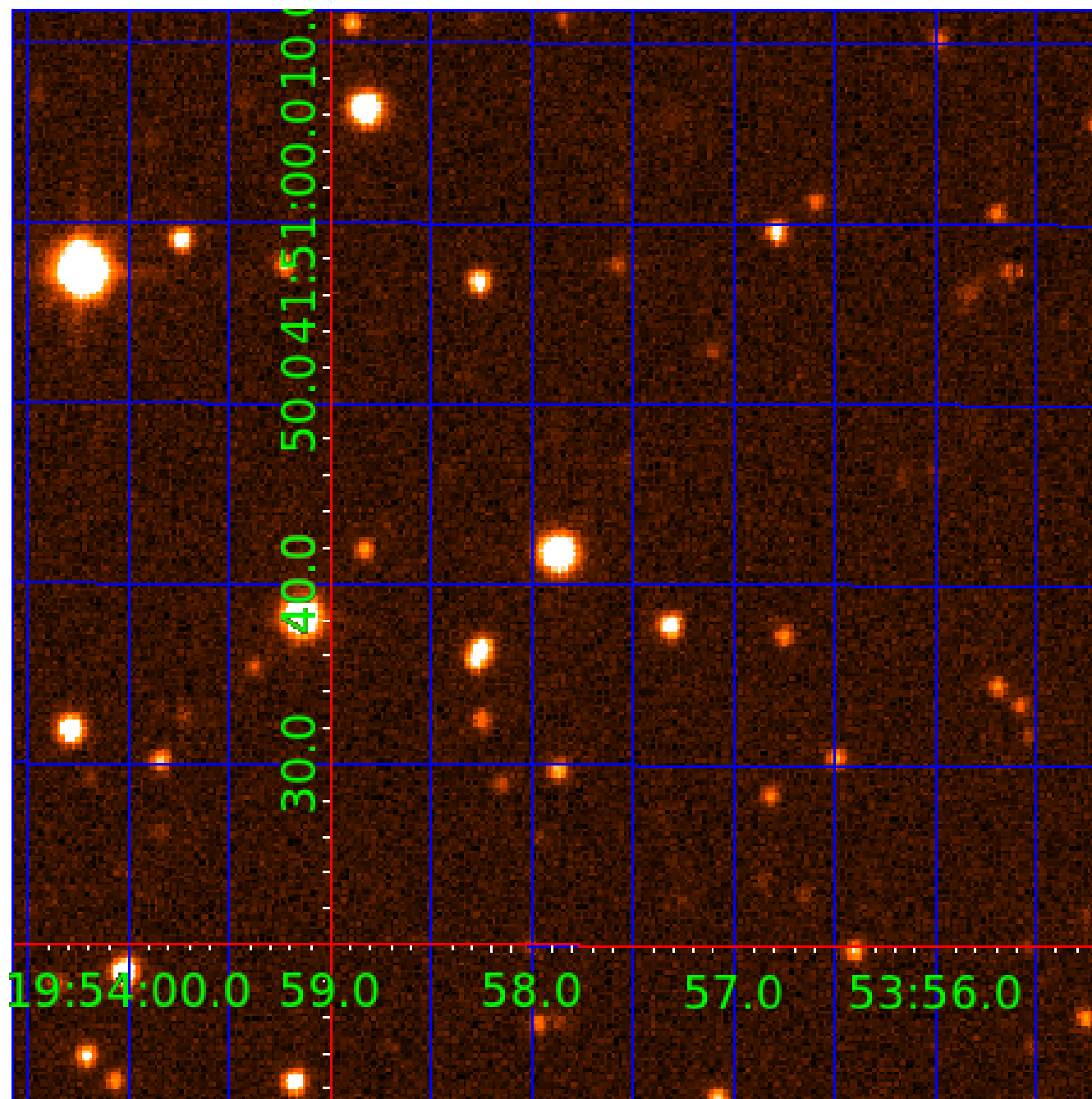


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006468033

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})
006468033-01	OBS	No	0.927526	132.294772	56.3	5.605	8.2	10.7	0.95	5499	0.71	2253.88
006468033-02	OBS	No	76.577897	134.192326	770.4	13.938	20.7	4.7	0.95	5499	2.64	6.27
006468033-03	OBS	No	31.356677	154.901209	1075.5	15.327	14.9	8.8	0.95	5499	4.00	20.62
006468033-06	OBS	No	206.792931	168.120526	2233.0	6.400	14.7	9.5	0.95	5499	4.54	1.67
006468033-07	OBS	No	300.547582	181.774690	2575.0	10.460	12.0	9.5	0.95	5499	5.59	1.01
006468033-08	OBS	No	291.150468	205.607637	18339.3	109.283	12.1	11.0	0.95	5499	19.31	1.06
006468033-09	OBS	No	66.061273	177.240066	1521.5	10.930	10.4	8.5	0.95	5499	7.29	7.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006468033-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
006468033-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006468033-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

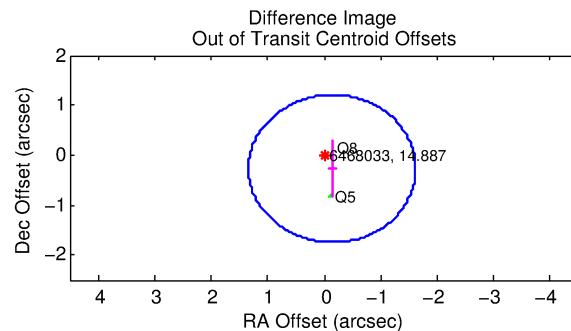
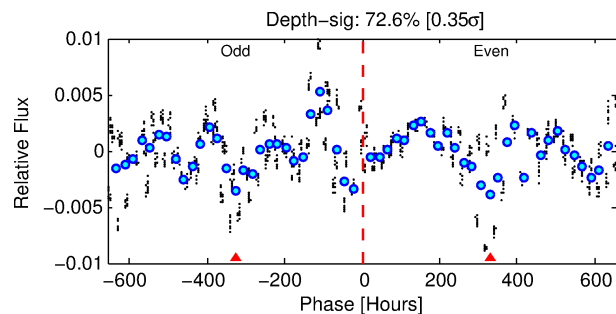
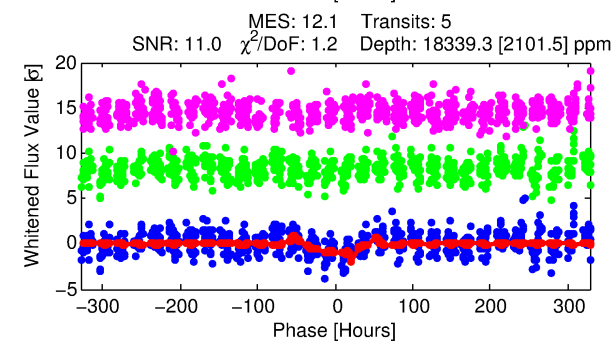
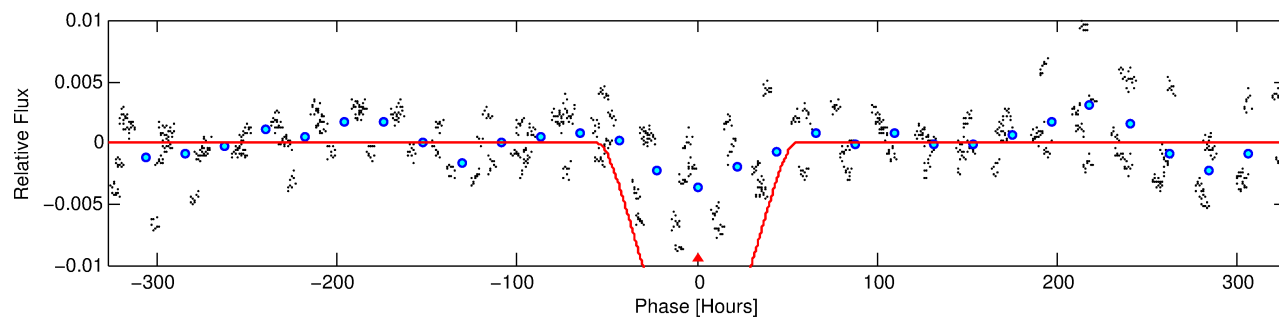
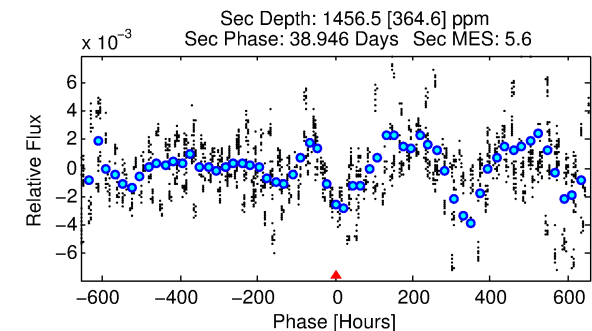
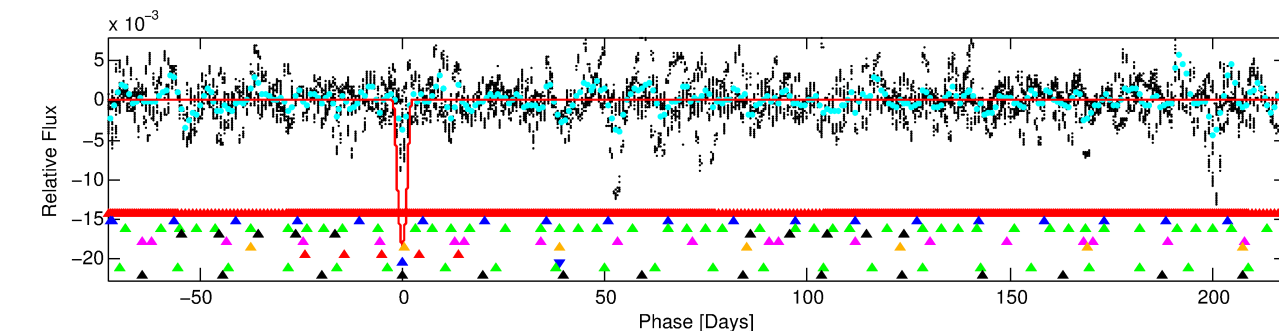
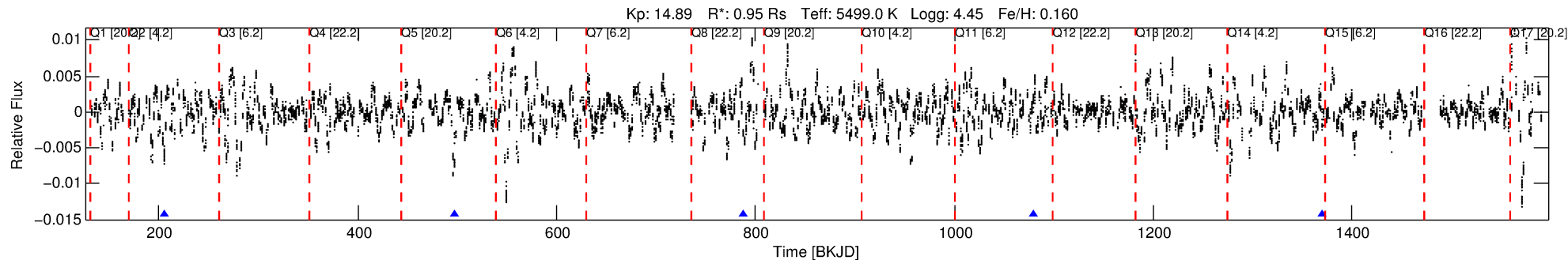
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006468033-08

No Significant Match Found

DV One-Page Summary

KIC: 6468033 Candidate: 8 of 10 Period: 291.150 d



DV Fit Results:

Period = 291.15047 [0.04803] d
Epoch = 205.6076 [0.0836] BKJD
Rp/R* = 0.1853 [0.0967]
a/R* = 14.60 [1.26]
b = 0.95 [0.15]
Seff = 1.06 [0.37]
Teq = 259 [23] K
Rp = 19.31 [11.30] Re
a = 0.8410 [0.1894] AU
Ag = 1519.33 [1705.94] [0.89σ]
Teffp = 2495 [674] K [3.32σ]

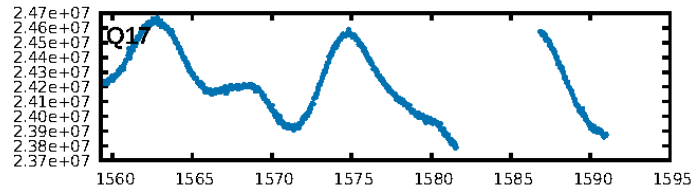
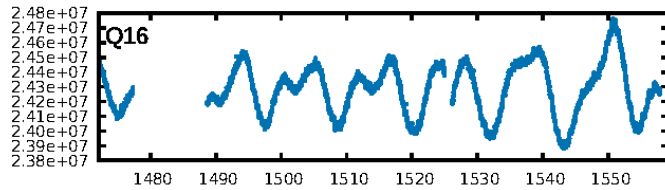
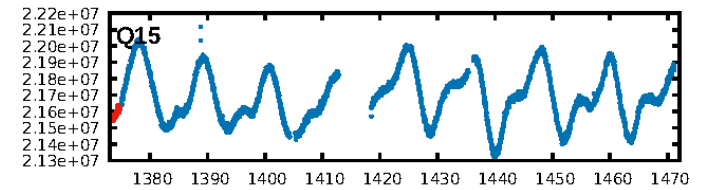
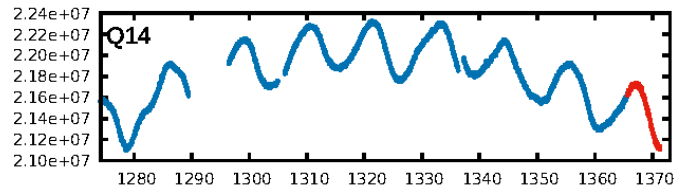
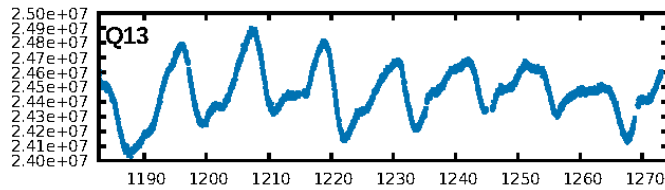
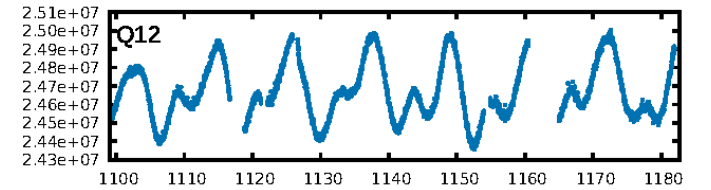
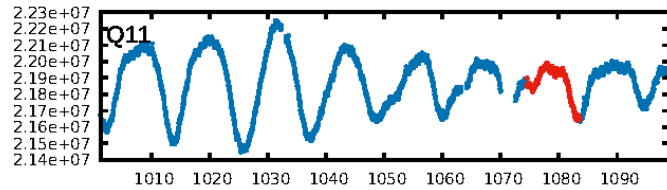
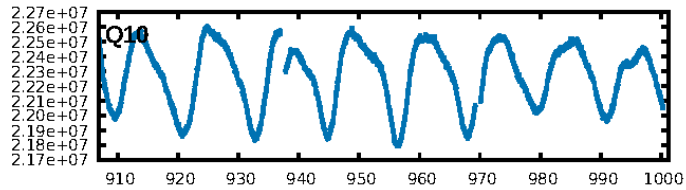
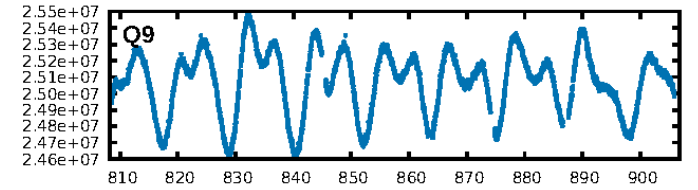
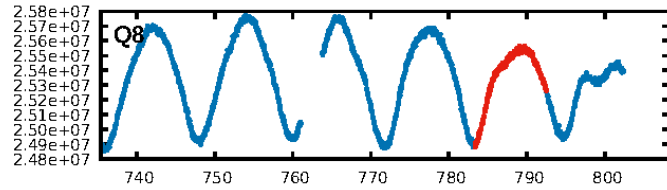
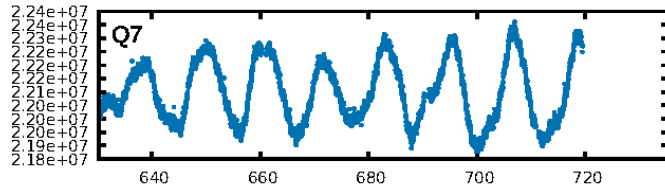
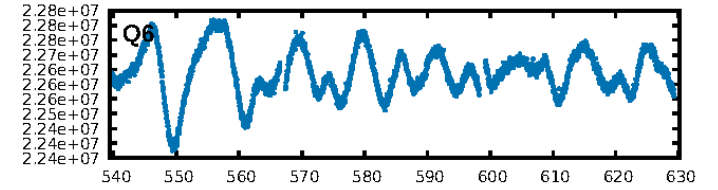
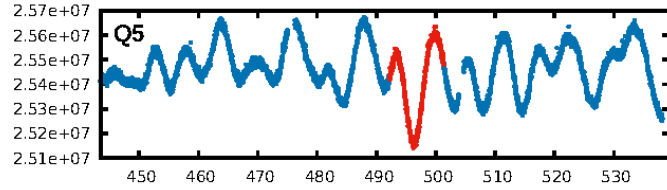
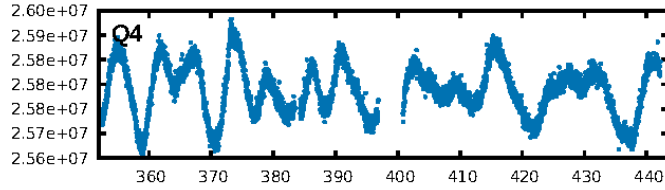
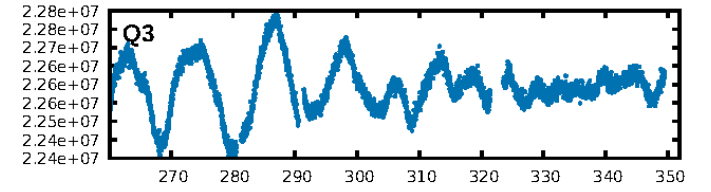
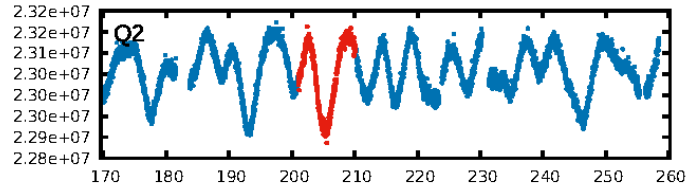
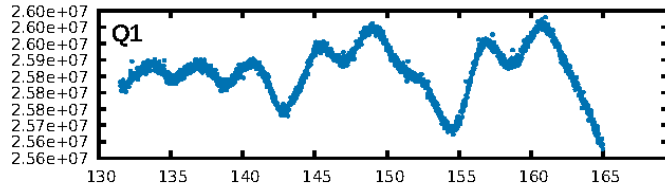
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.49σ]
LongPeriod-sig: 96.0% [2.05σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.439
Centroid-sig: 5.0%
Centroid-so: 0.383 arcsec [15.50σ]
OotOffset-rm: 0.305 arcsec [0.62σ]
KicOffset-rm: 0.379 arcsec [0.67σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

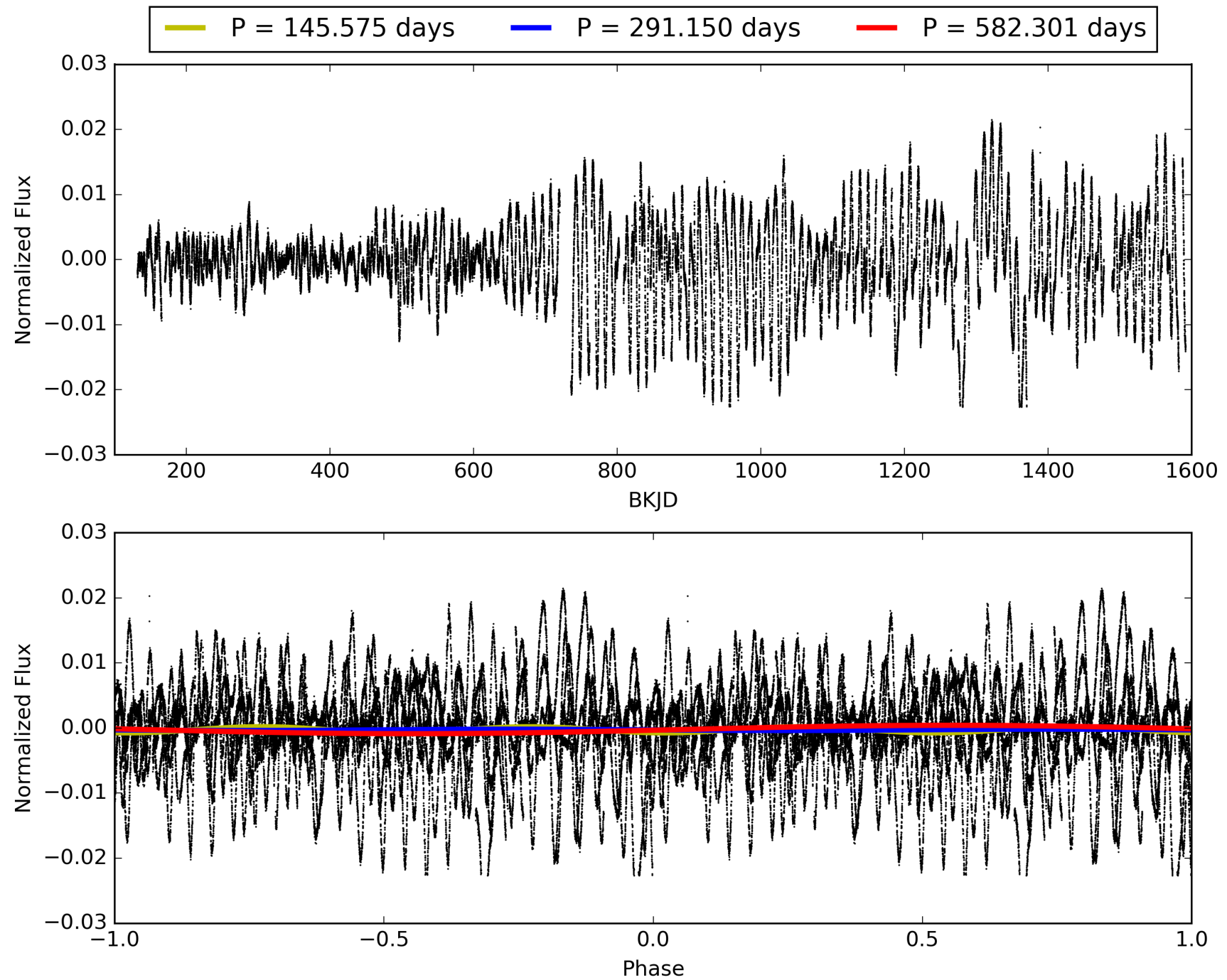
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:13:12 Z

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

TCE 006468033-08, PDC Light Curves

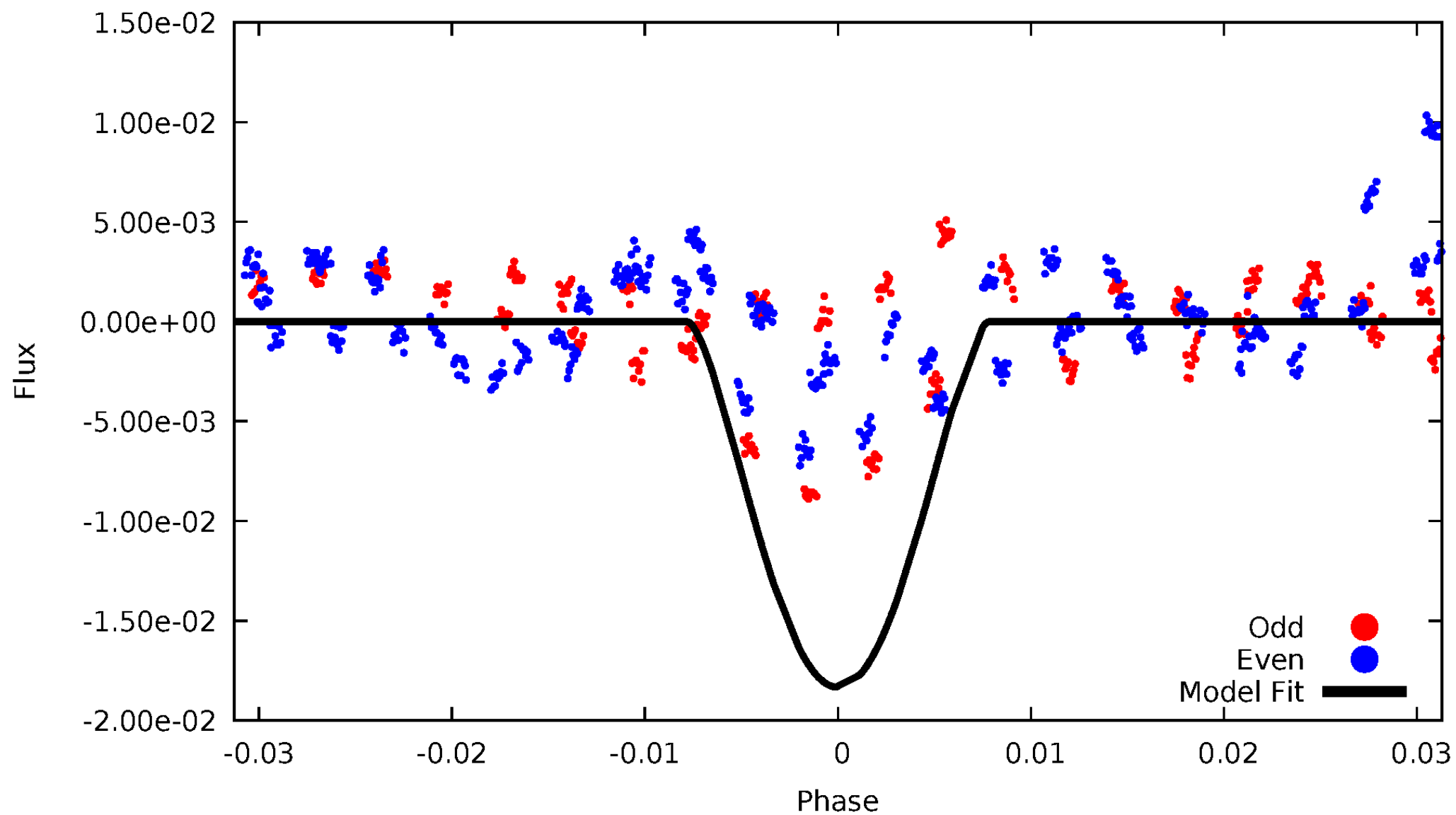


TCE 006468033-08



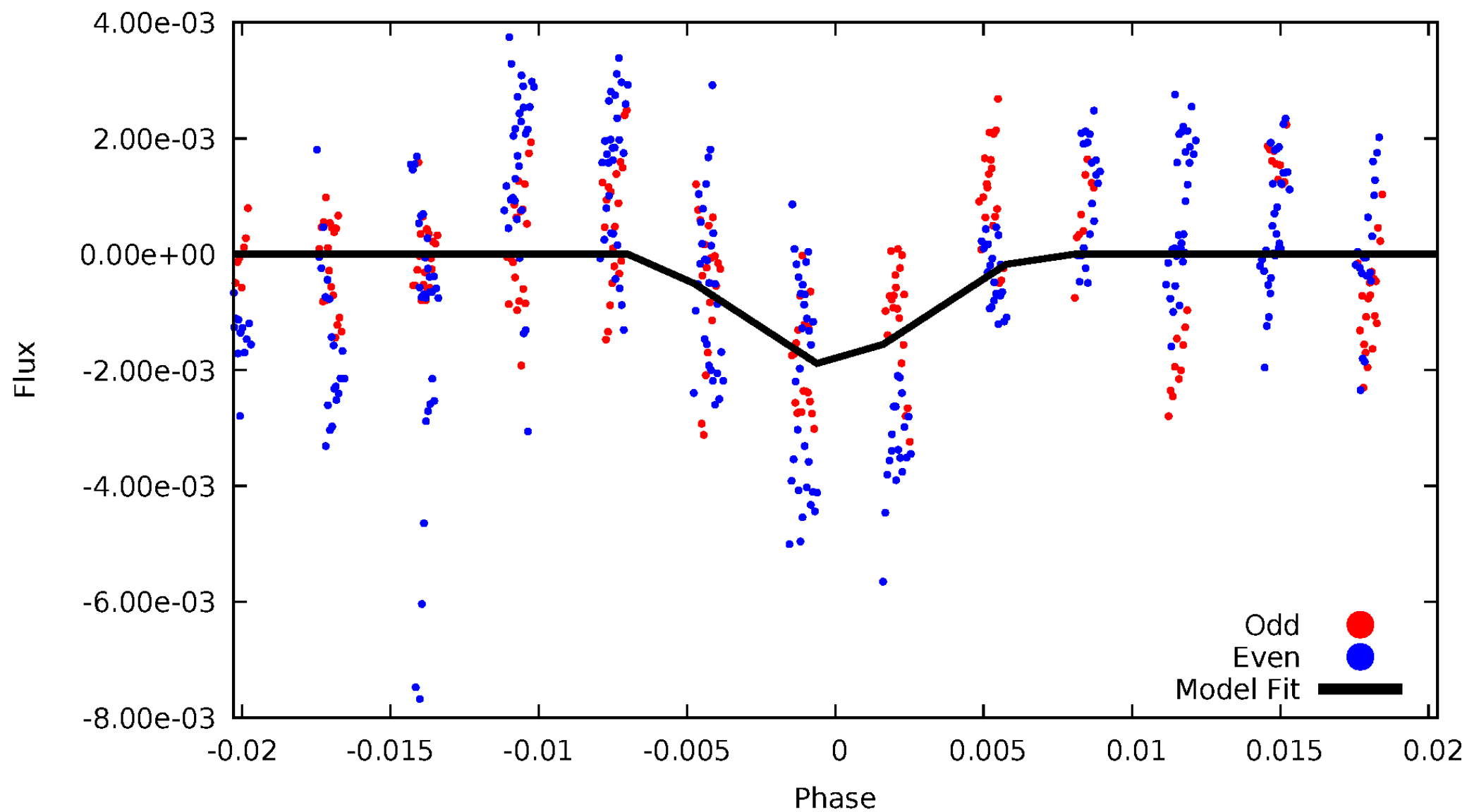
DV Odd/Even

TCE 006468033-08



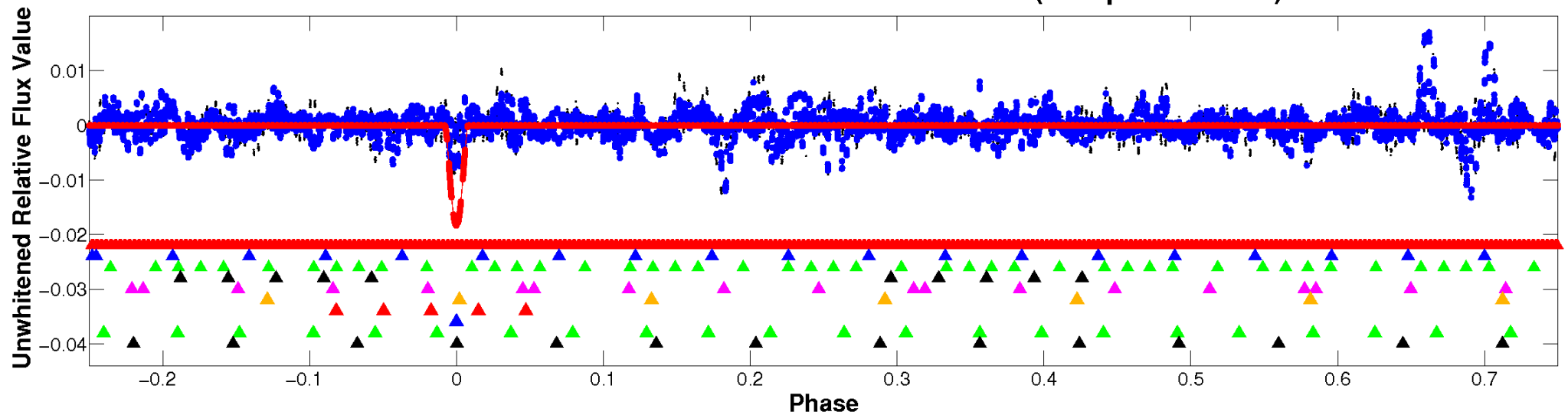
ALT Odd/Even

TCE 006468033-08

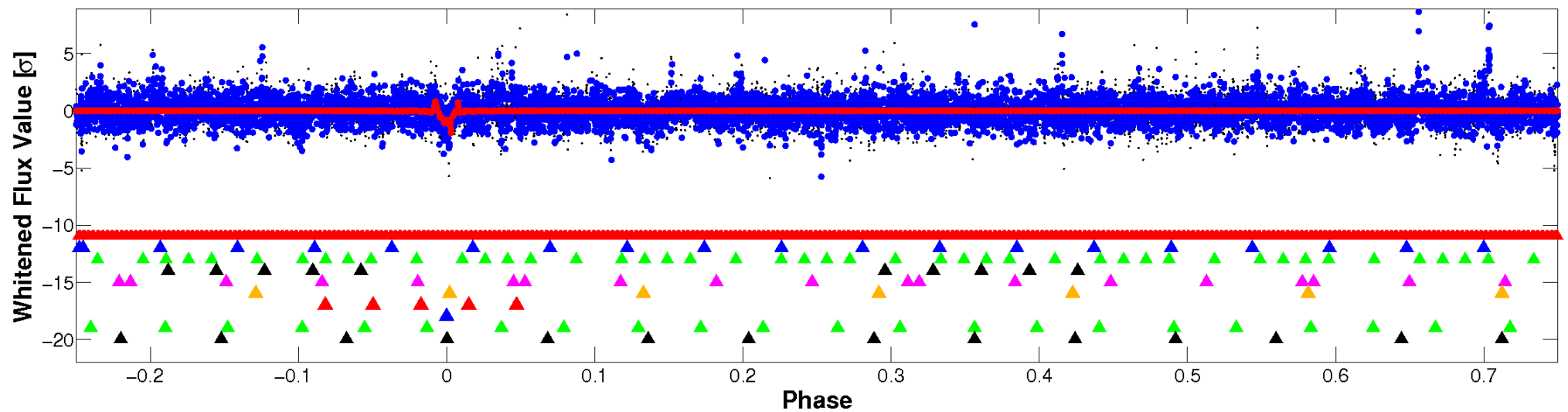


Non-Whitened Vs. Whitened Light Curve

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

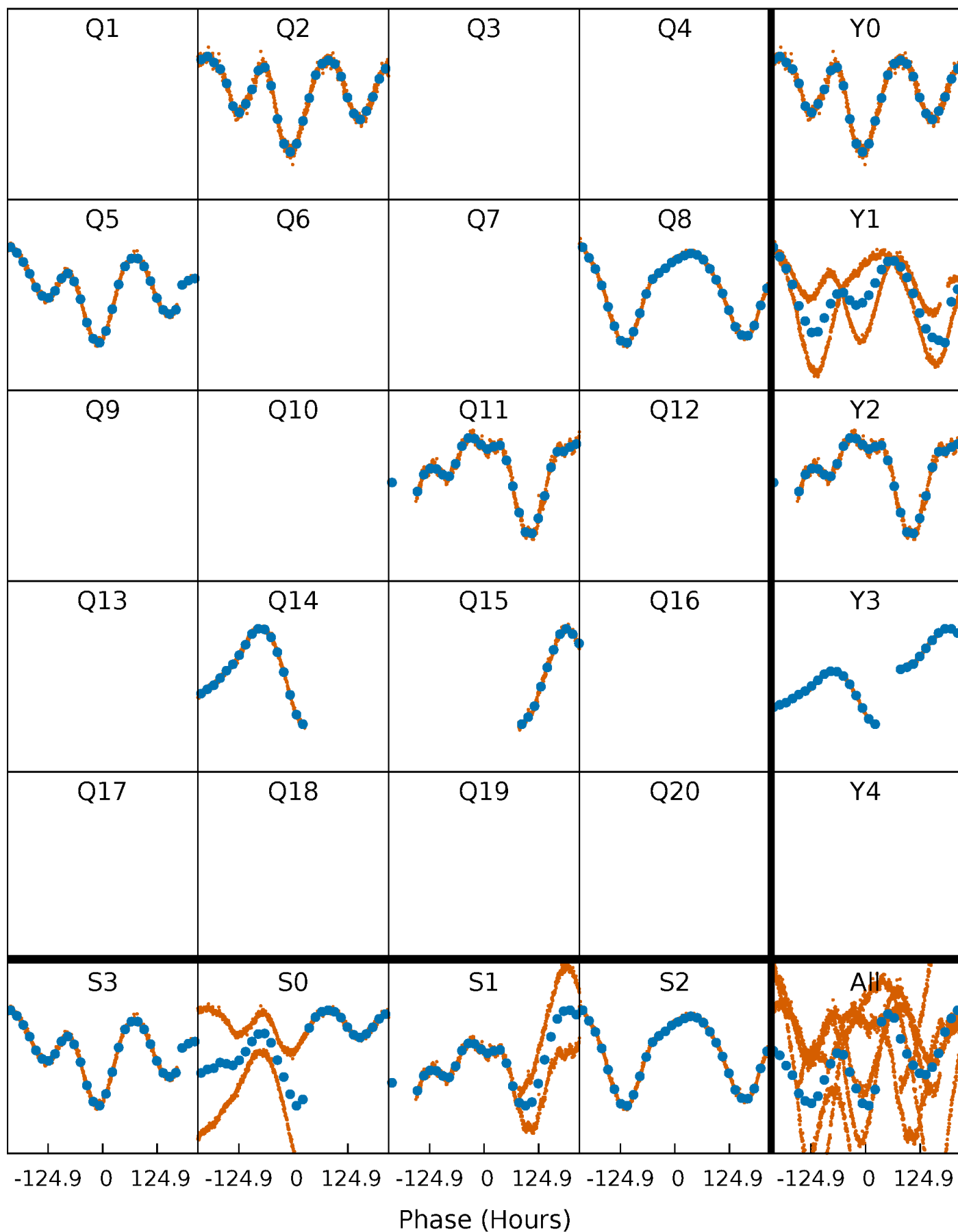


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



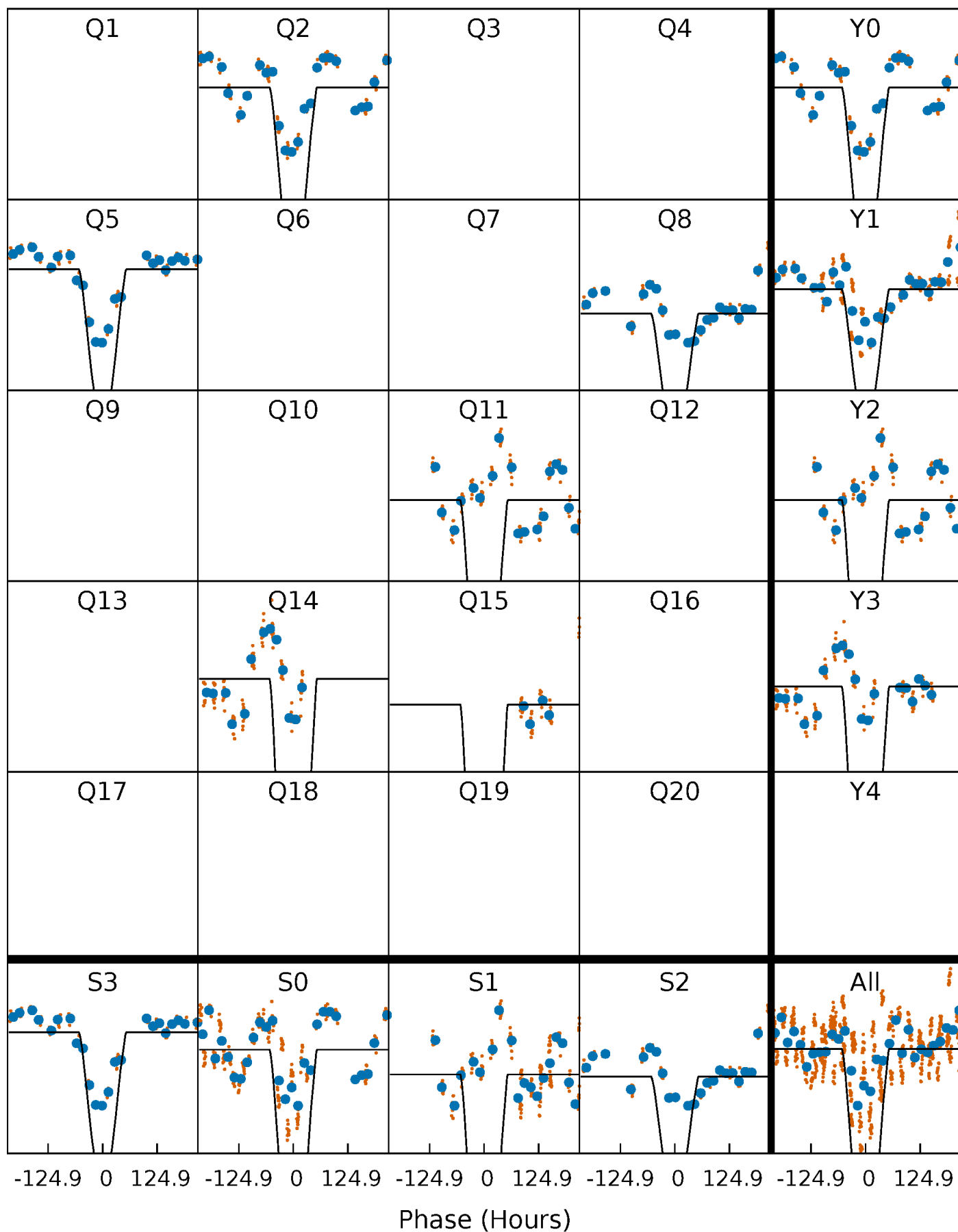
PDC Quarter-Phased Transit Curves

TCE 006468033-08 P=291.150467 Days $T_0=205.607637$ (BKJD)



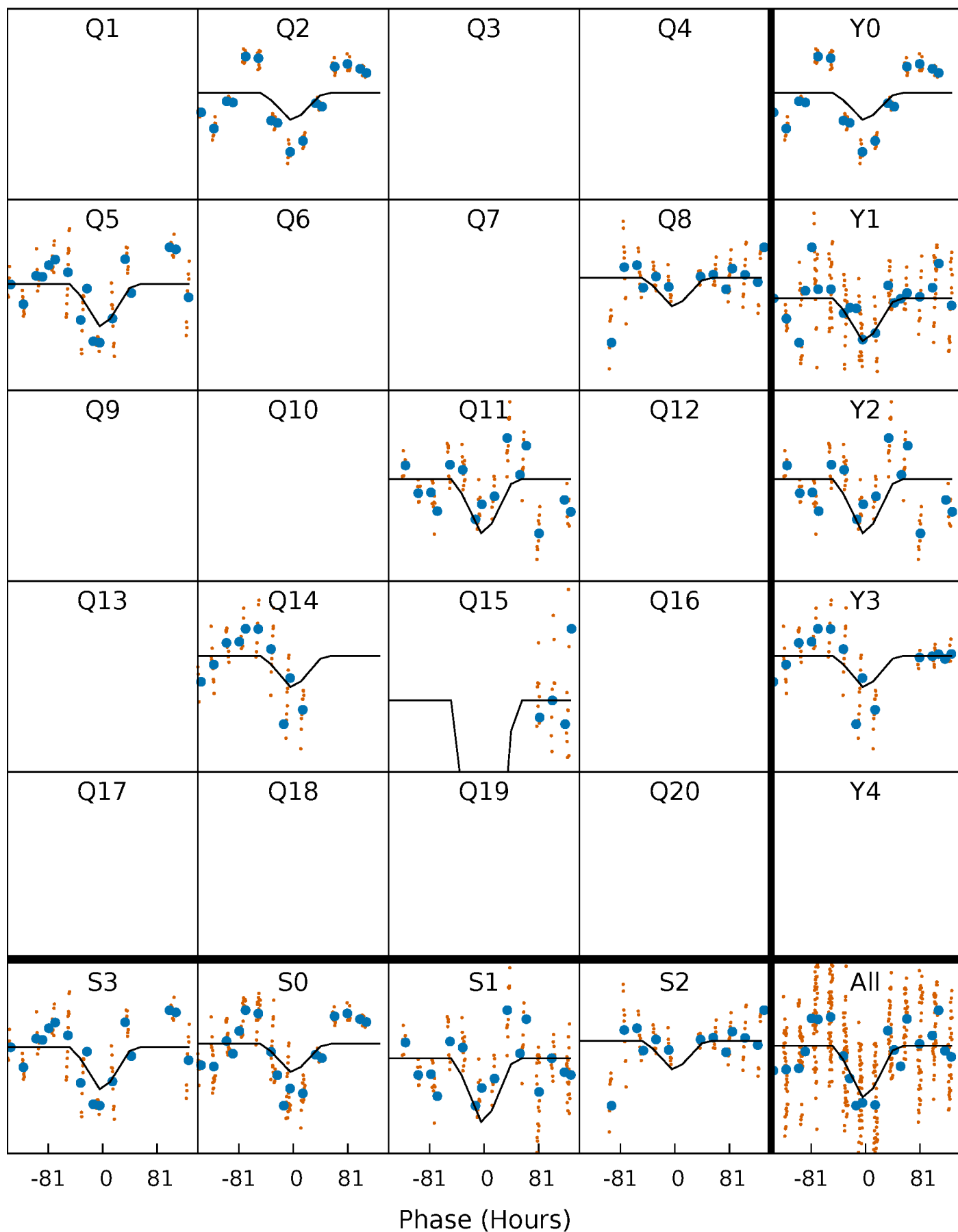
DV Quarter-Phased Transit Curves

TCE 006468033-08 $P=291.150467$ Days $T_0=205.607637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

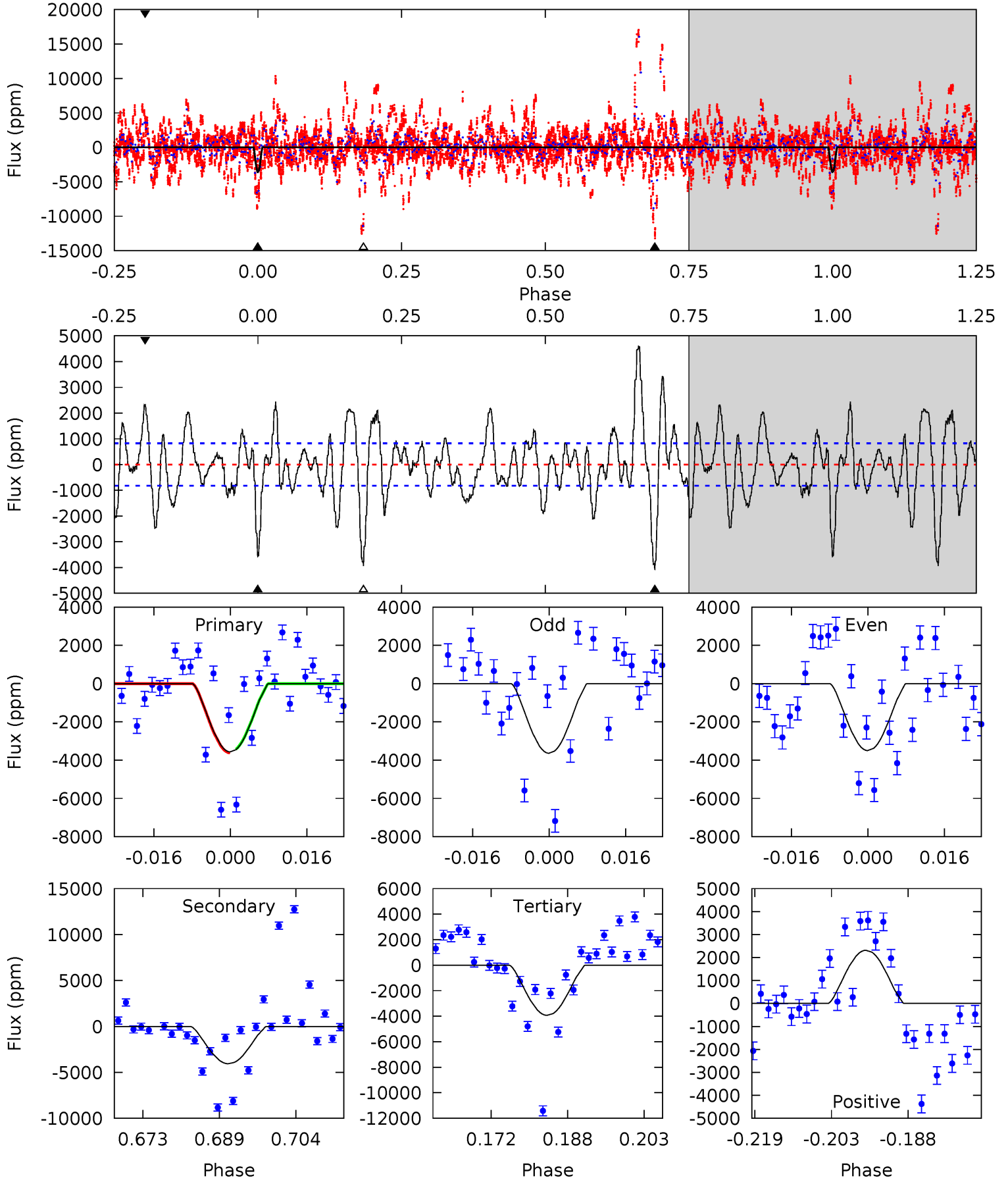
TCE 006468033-08 P=291.266775 Days $T_0=205.378489$ (BKJD)



DV Model-Shift Uniqueness Test

006468033-08, P = 291.150467 Days, E = 205.607637 Days

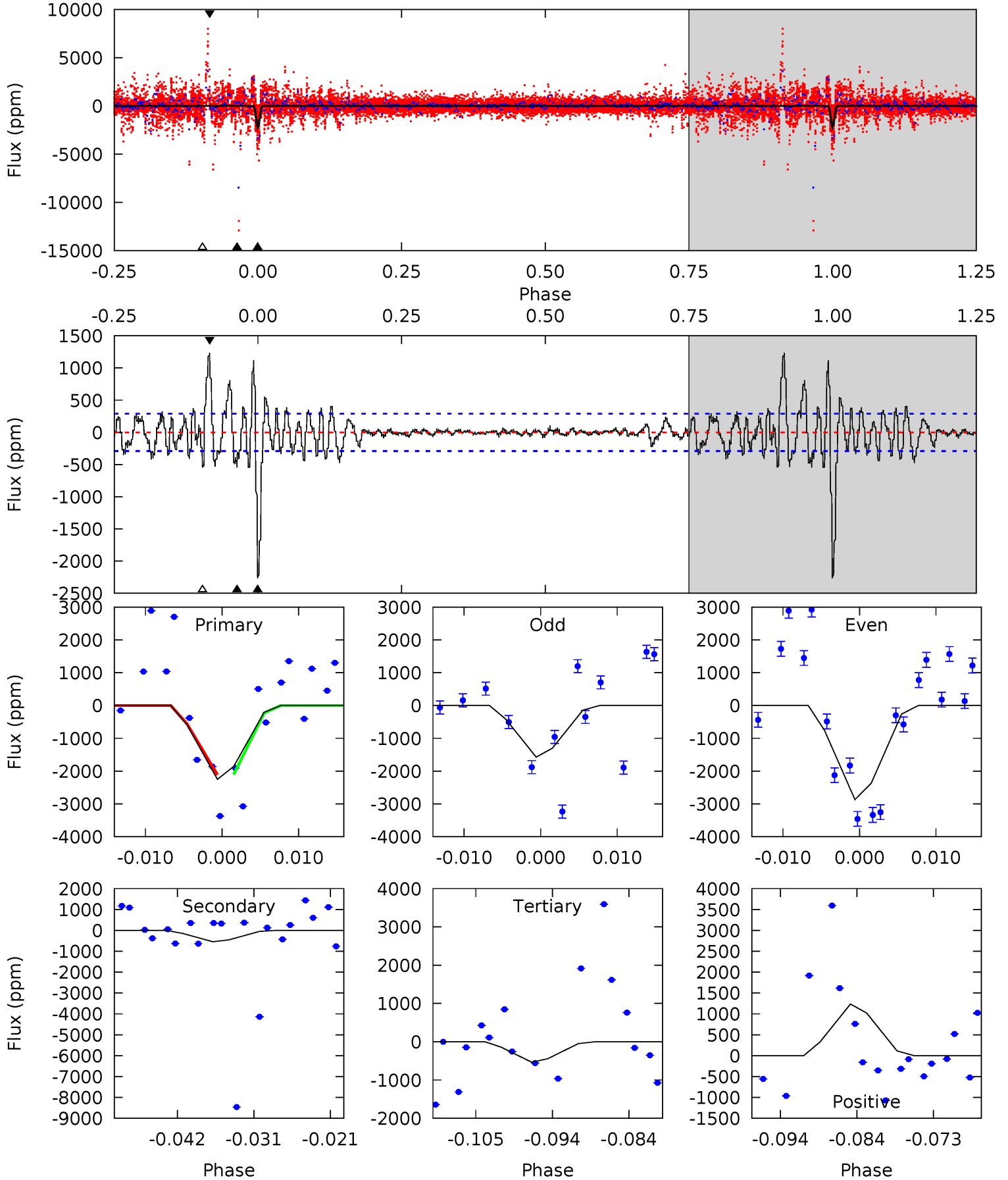
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	24.4	23.6	13.9	4.94	2.42	6.67	-2.19	7.53	0.77	10.5	0.41	1.18	0.53	0.58



Alt Model-Shift Uniqueness Test

006468033-08, P = 291.266775 Days, E = 205.378489 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.9	9.43	9.26	21.4	5.02	2.56	3.09	29.7	17.6	0.18	-11.9	10.1	0.91	0.35	0.09



Stellar Parameters For KIC 006468033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5499^{+164}_{-164}	$4.449^{+0.078}_{-0.182}$	$0.160^{+0.250}_{-0.300}$	$0.955^{+0.253}_{-0.109}$	$0.935^{+0.090}_{-0.082}$	$1.514^{+0.603}_{-0.706}$
	+3%/-3%	+2%/-4%	+156%/-188%	+26%/-11%	+10%/-9%	+40%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006468033-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4063 ± 166	$20.08^{+11.02}_{-9.77}$	367^{+25}_{-18}	3644^{+959}_{-435}	3929^{+10578}_{-2271}
Alt.	-546 ± 58	$9.99^{+9.34}_{-6.20}$	365^{+25}_{-18}	3295^{+1327}_{-557}	2085^{+12386}_{-1550}

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 $A_{obs} \gg 1.0$

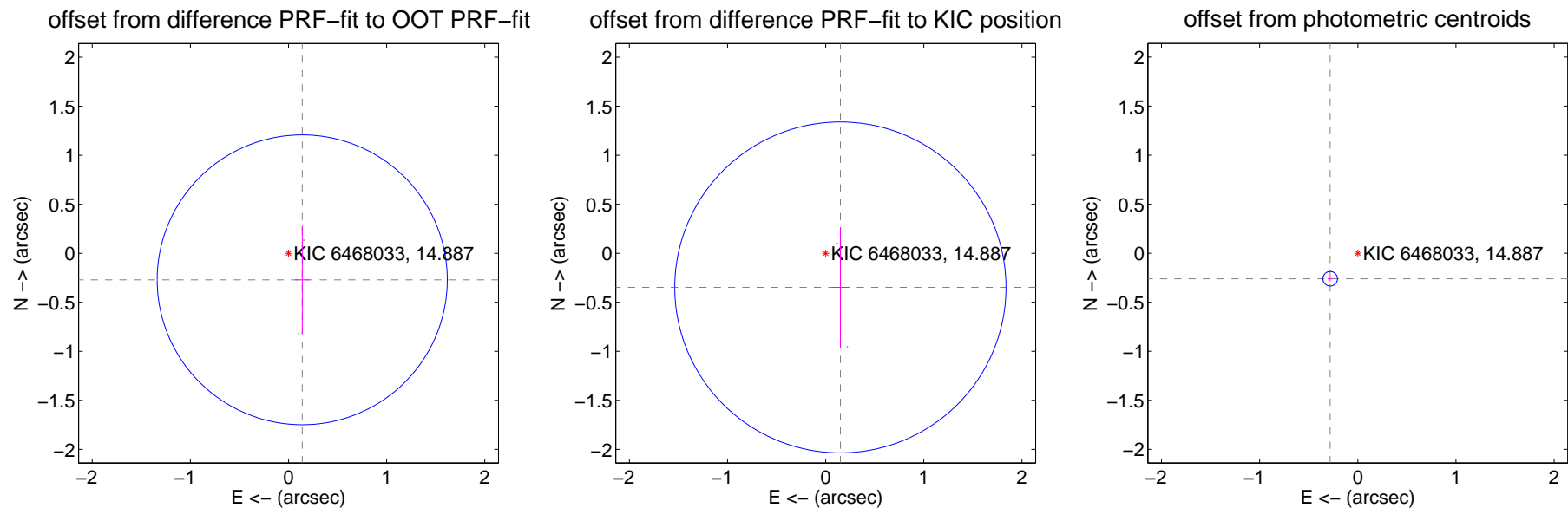
DV Centroid Data

Supplemental centroid analysis for 006468033-08. Kepler magnitude: 14.89. Transit SNR 10.99

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.305 ± 0.493	0.62	-0.140 ± 0.072	-0.271 ± 0.553
PRF-fit source offset from KIC position	0.379 ± 0.562	0.67	-0.150 ± 0.086	-0.348 ± 0.611
photometric centroid source offset	0.38 ± 0.02	15.50	0.28 ± 0.03	-0.26 ± 0.02

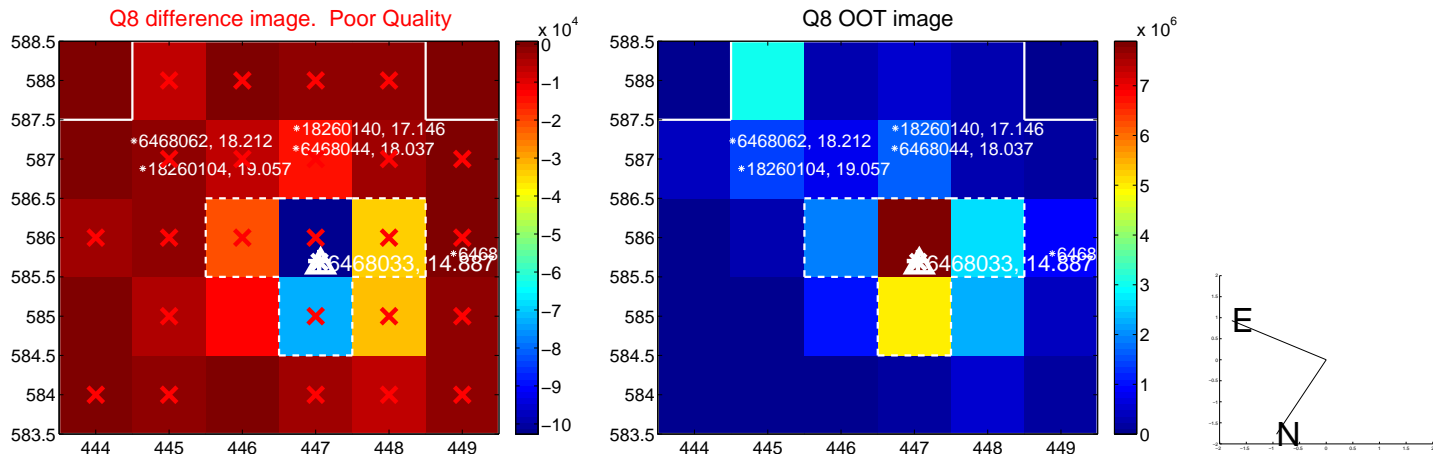
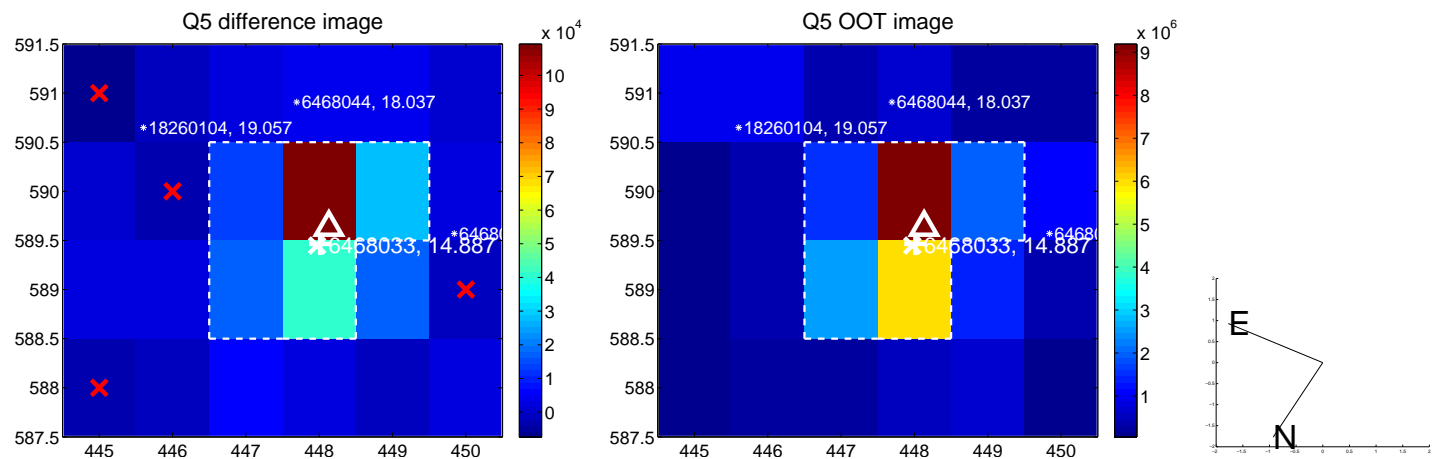


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



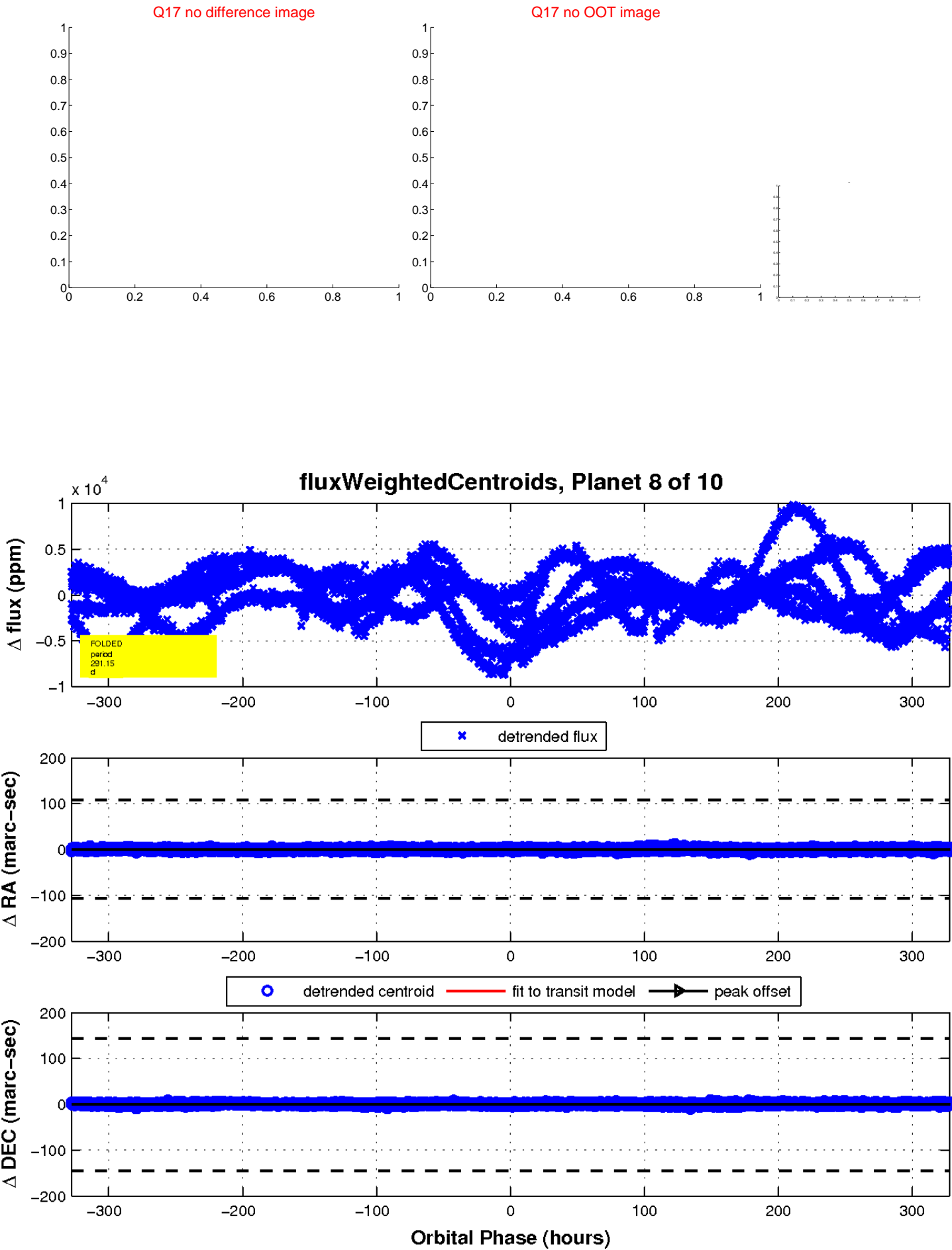
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

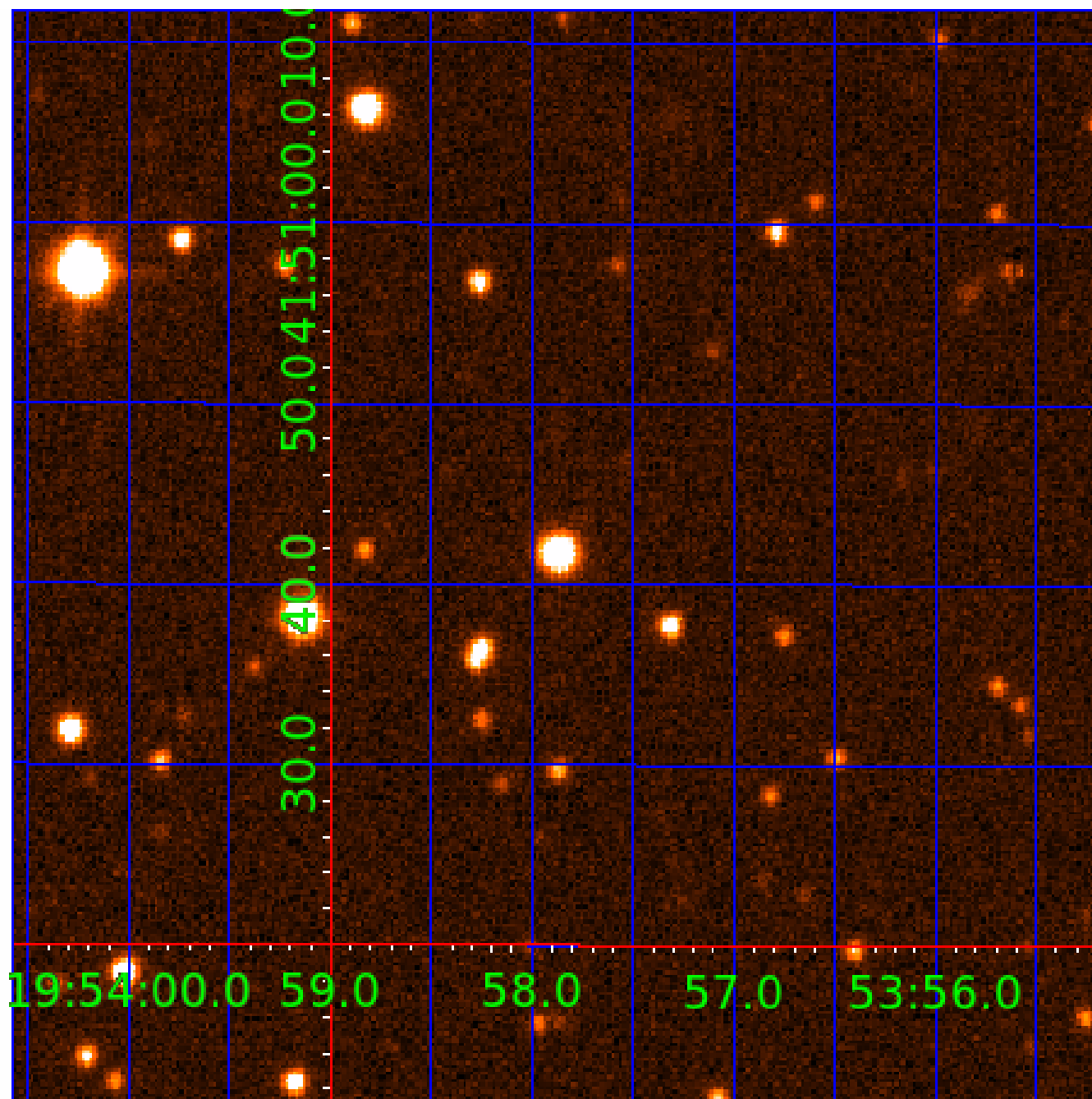


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006468033

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})
006468033-01	OBS	No	0.927526	132.294772	56.3	5.605	8.2	10.7	0.95	5499	0.71	2253.88
006468033-02	OBS	No	76.577897	134.192326	770.4	13.938	20.7	4.7	0.95	5499	2.64	6.27
006468033-03	OBS	No	31.356677	154.901209	1075.5	15.327	14.9	8.8	0.95	5499	4.00	20.62
006468033-06	OBS	No	206.792931	168.120526	2233.0	6.400	14.7	9.5	0.95	5499	4.54	1.67
006468033-07	OBS	No	300.547582	181.774690	2575.0	10.460	12.0	9.5	0.95	5499	5.59	1.01
006468033-08	OBS	No	291.150468	205.607637	18339.3	109.283	12.1	11.0	0.95	5499	19.31	1.06
006468033-09	OBS	No	66.061273	177.240066	1521.5	10.930	10.4	8.5	0.95	5499	7.29	7.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006468033-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
006468033-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006468033-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006468033-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006468033-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS

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

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

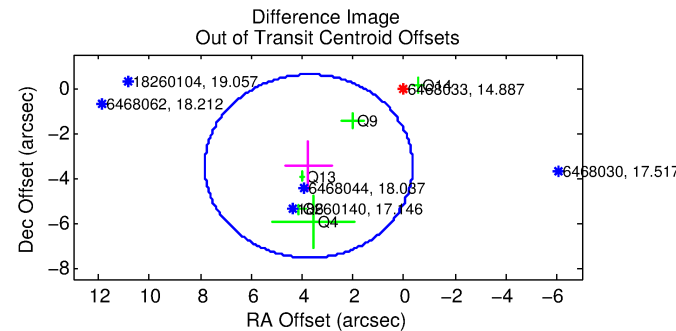
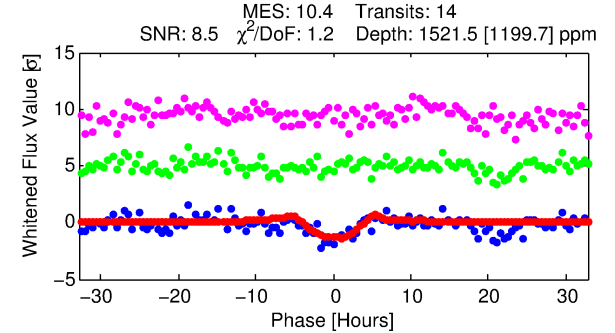
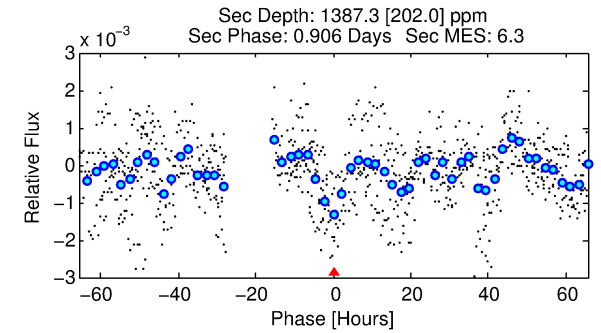
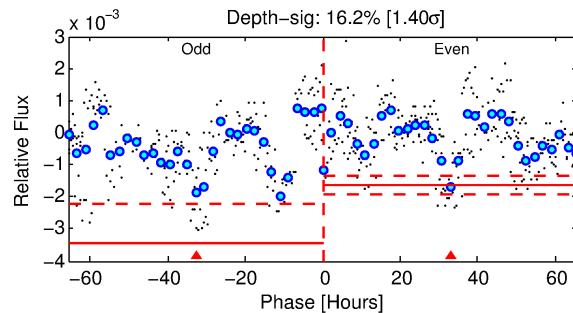
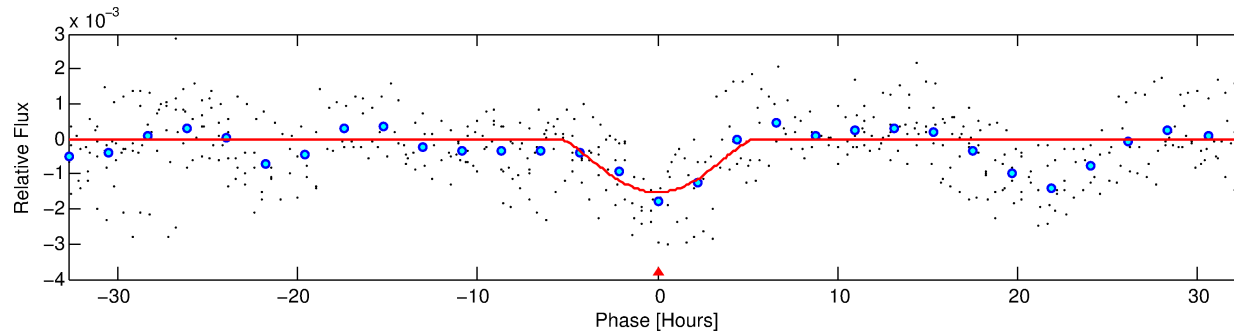
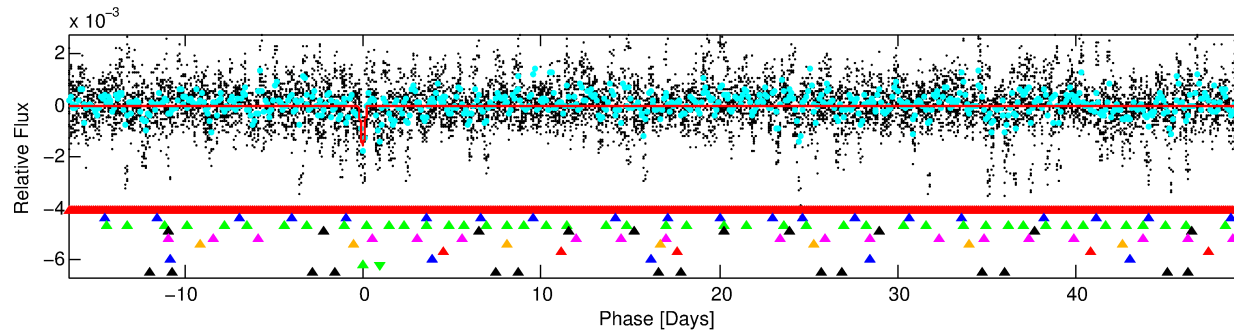
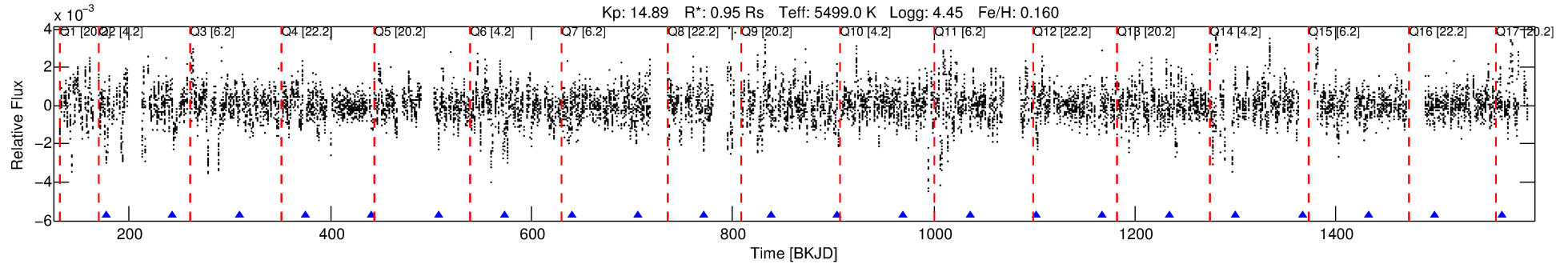
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006468033-09

No Significant Match Found

DV One-Page Summary

KIC: 6468033 Candidate: 9 of 10 Period: 66.061 d



DV Fit Results:

Period = 66.06127 [0.00202] d
Epoch = 177.2401 [0.0242] BKJD
Rp/R* = 0.0700 [0.1841]
a/R* = 17.61 [10.06]
b = 1.00 [0.30]
Seff = 7.63 [2.68]
Teq = 424 [37] K
Rp = 7.29 [19.28] Re
a = 0.3128 [0.0704] AU
Ag = 1404.39 [7407.13] [0.19 σ]
Teffp = 4012 [5281] K [0.68 σ]

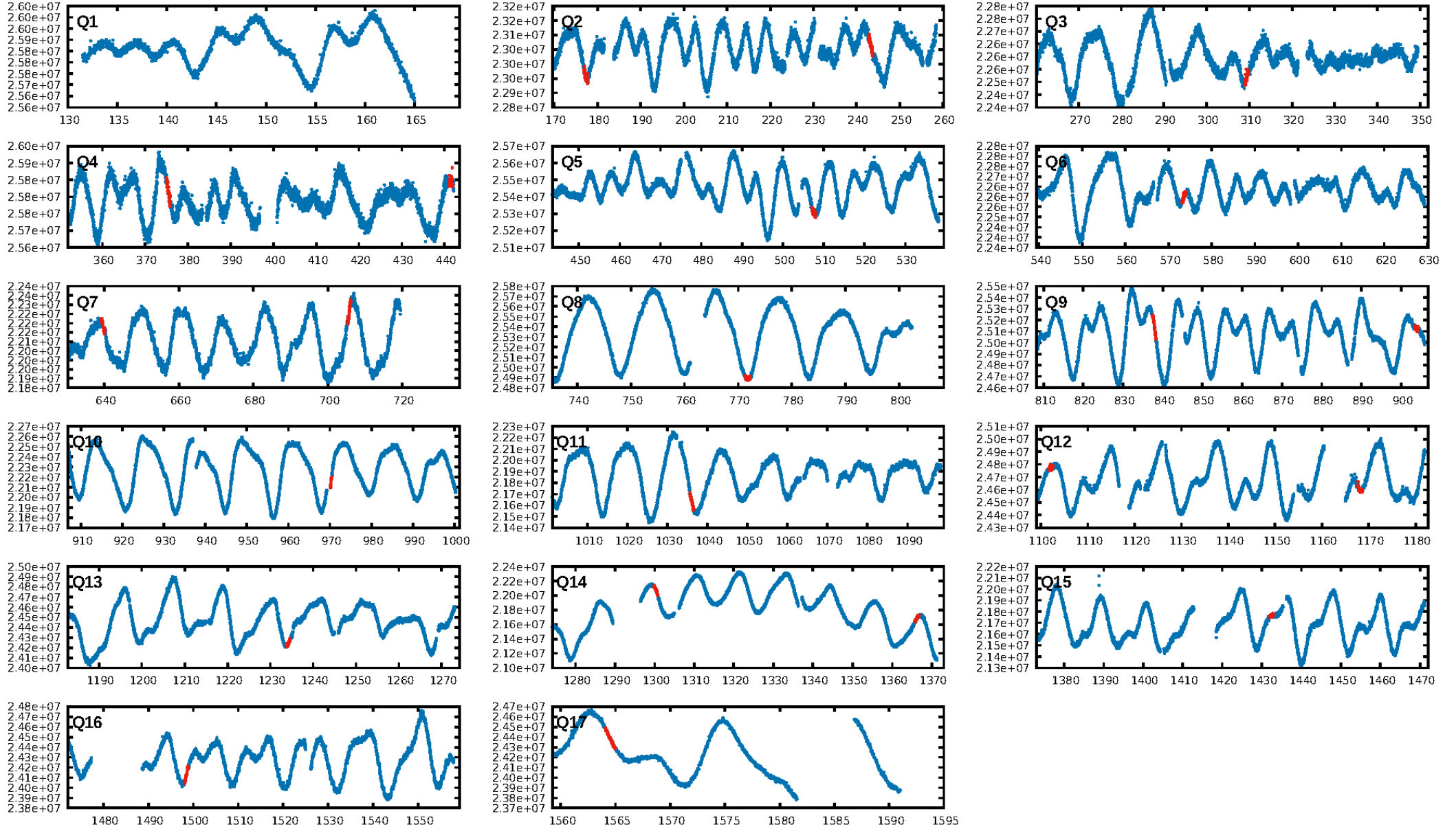
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [44.25 σ]
LongPeriod-sig: 100.0% [14.25 σ]
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -3.705
Centroid-sig: 2.0%
Centroid-so: 0.610 arcsec [1.83 σ]
OotOffset-rm: 5.106 arcsec [3.75 σ]
KicOffset-rm: 5.123 arcsec [4.82 σ]
OotOffset-st: 2/0/1/2 [5]
KicOffset-st: 2/0/1/2 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.00 [0/14]

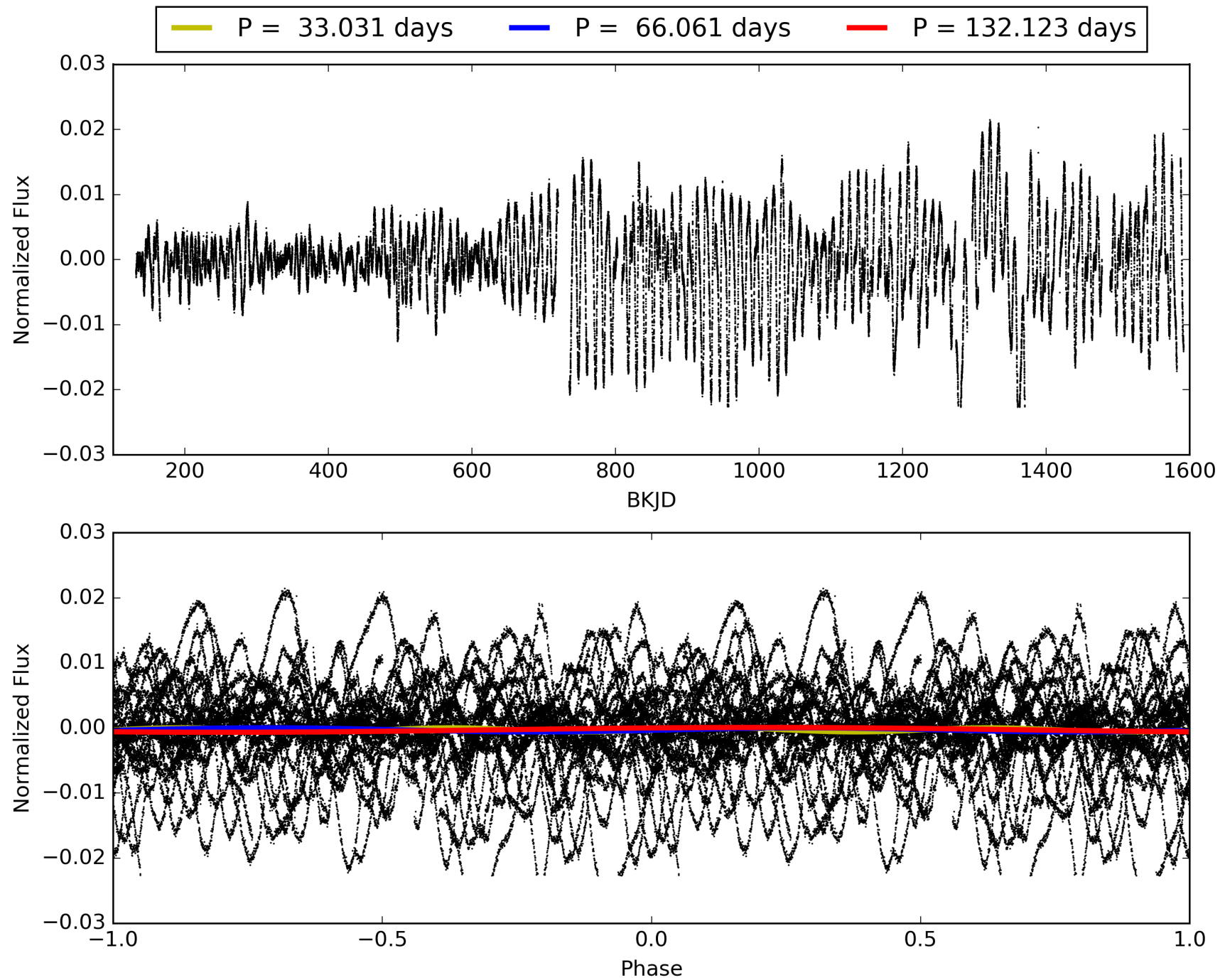
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:13:15 Z

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

TCE 006468033-09, PDC Light Curves

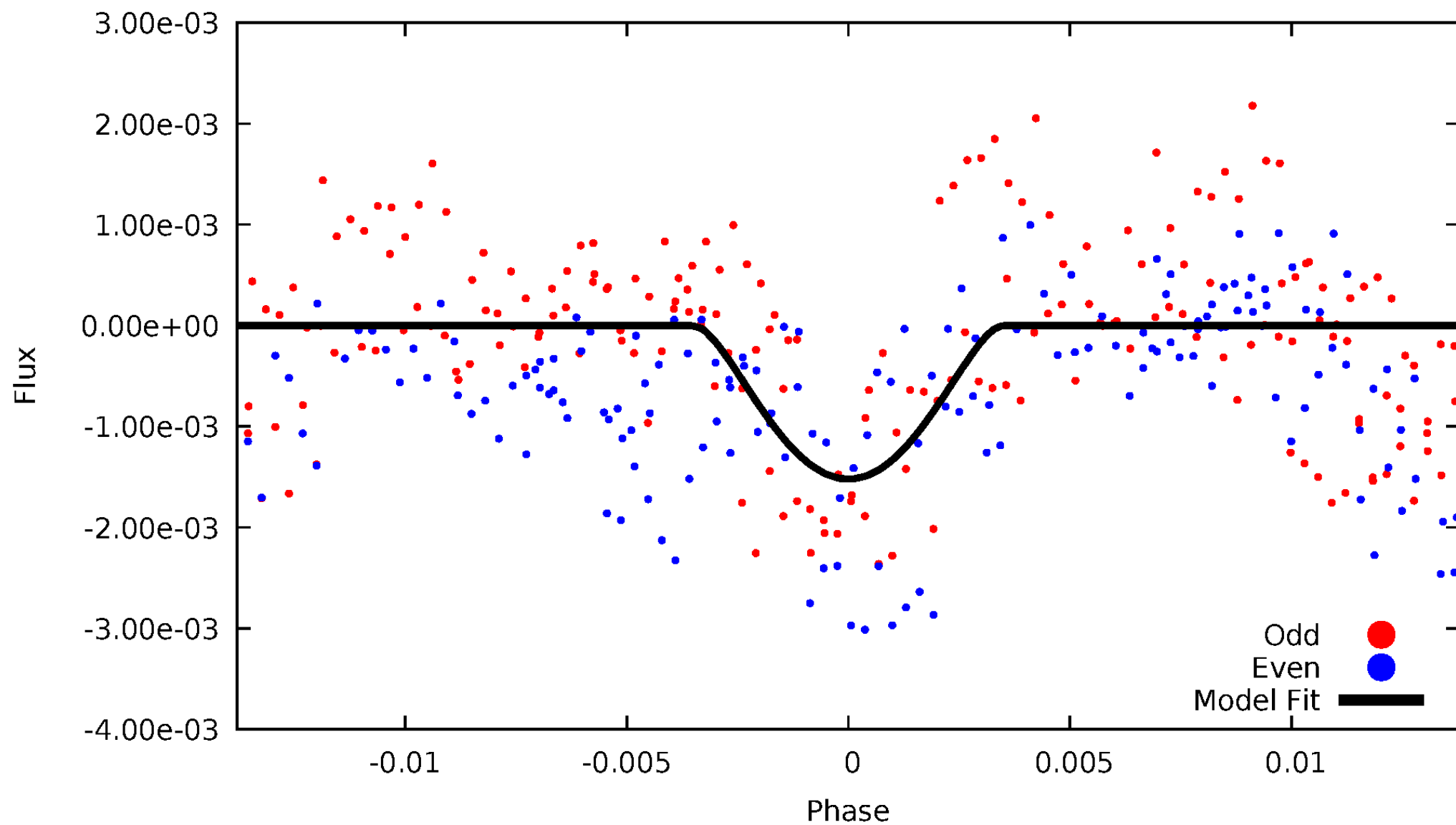


TCE 006468033-09



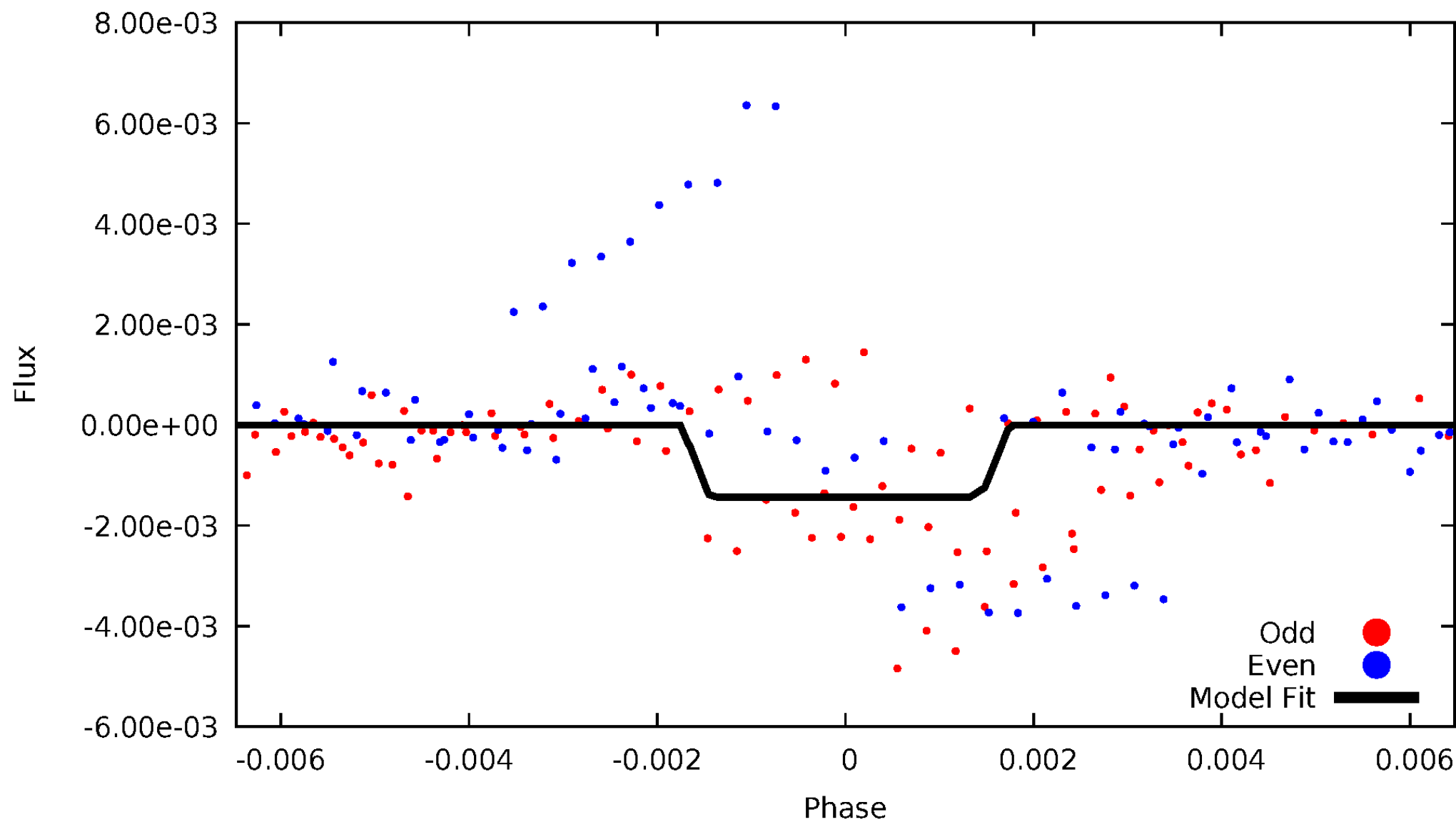
DV Odd/Even

TCE 006468033-09



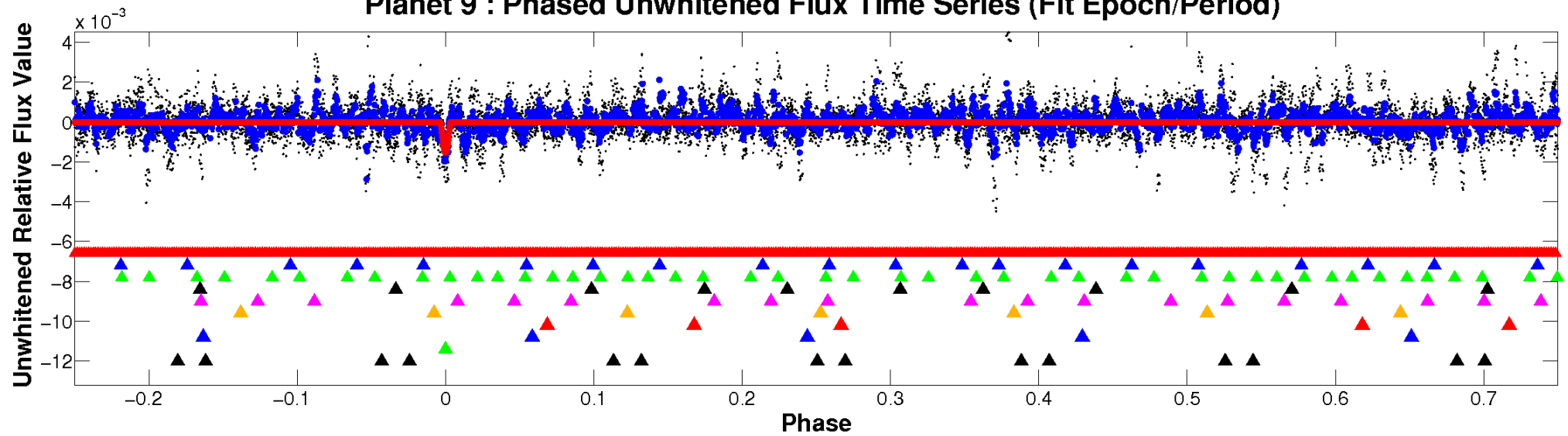
ALT Odd/Even

TCE 006468033-09

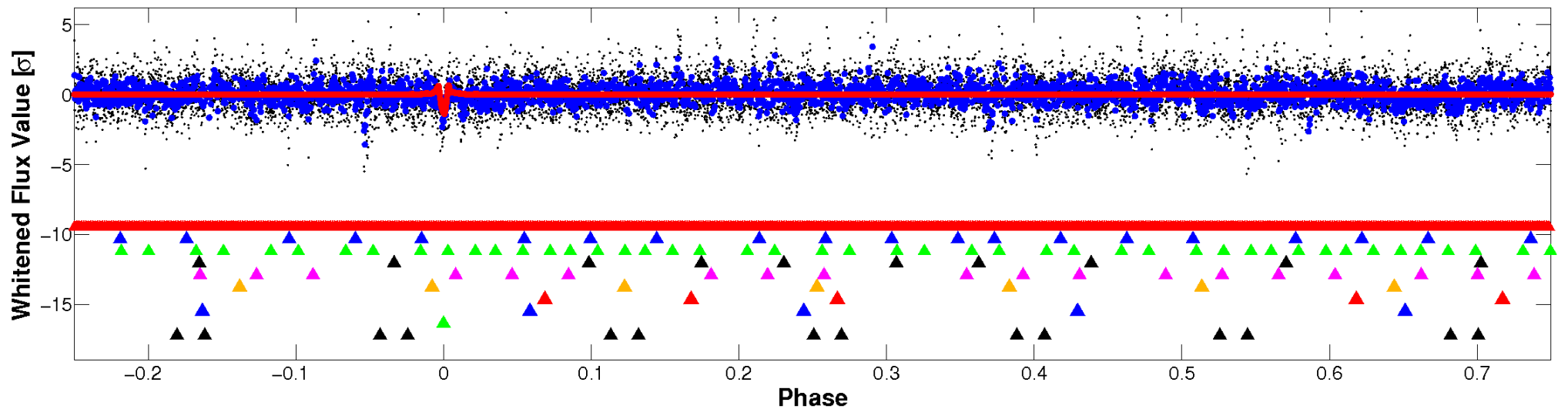


Non-Whitened Vs. Whitened Light Curve

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

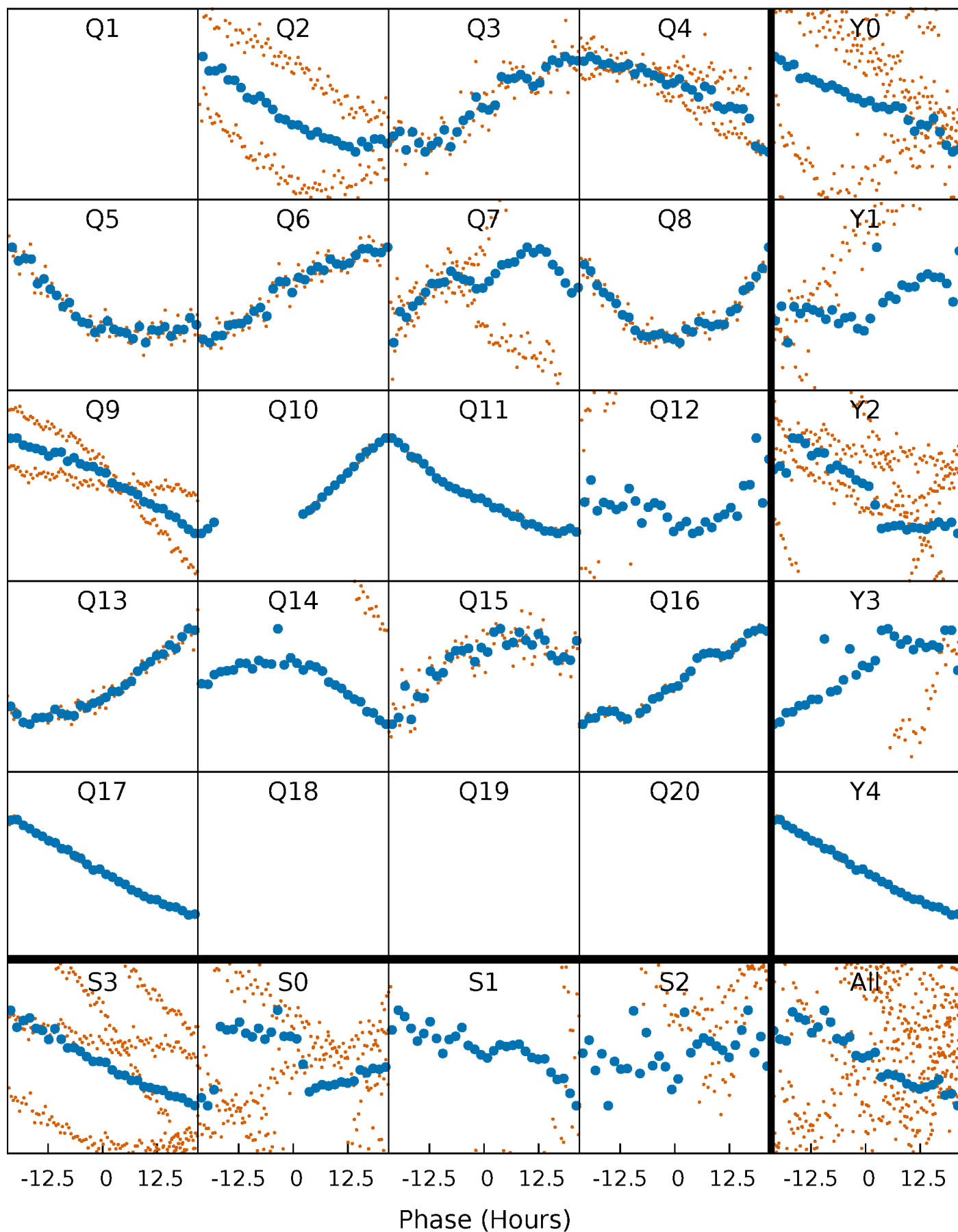


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



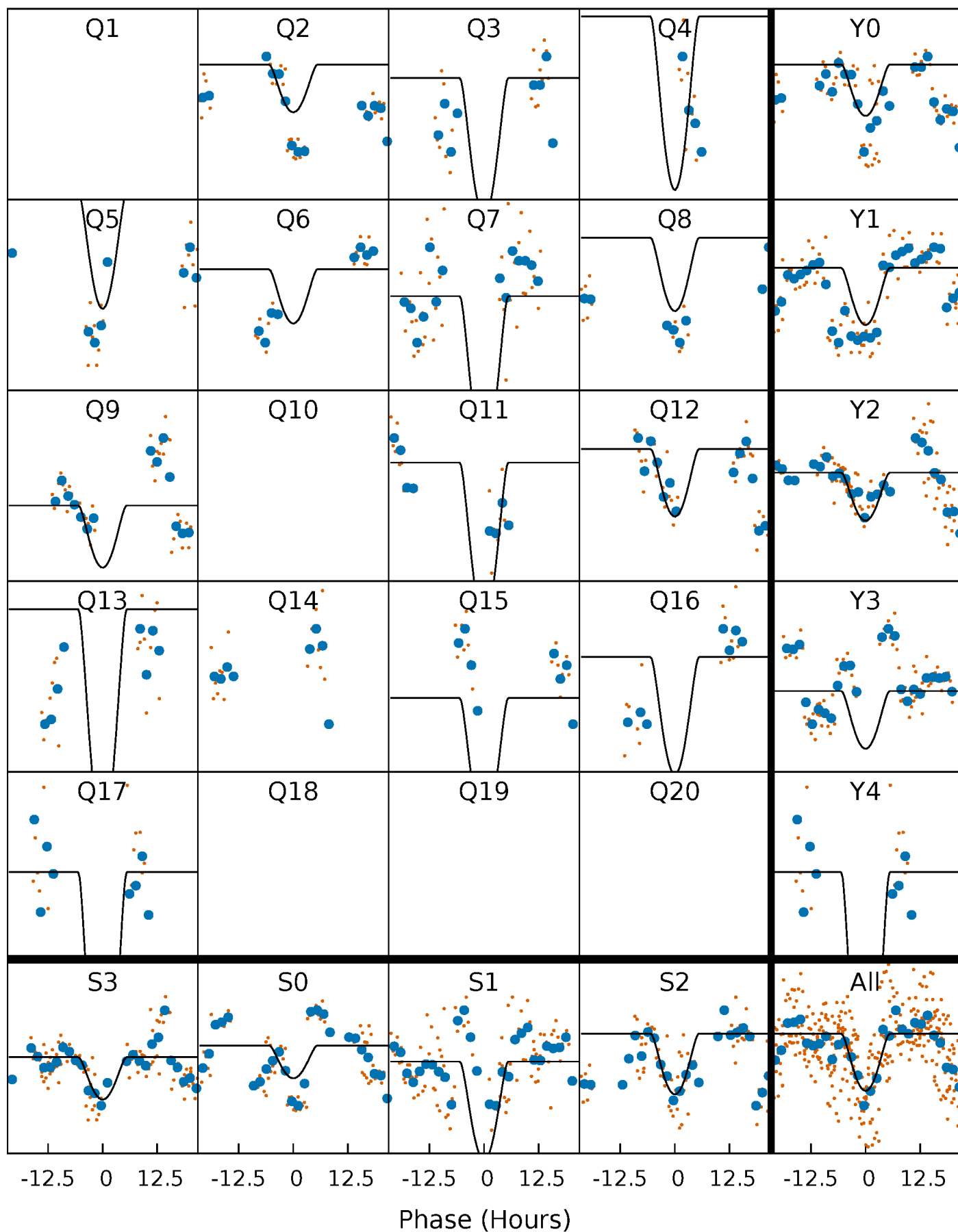
PDC Quarter-Phased Transit Curves

TCE 006468033-09 P= 66.061273 Days $T_0=177.240066$ (BKJD)



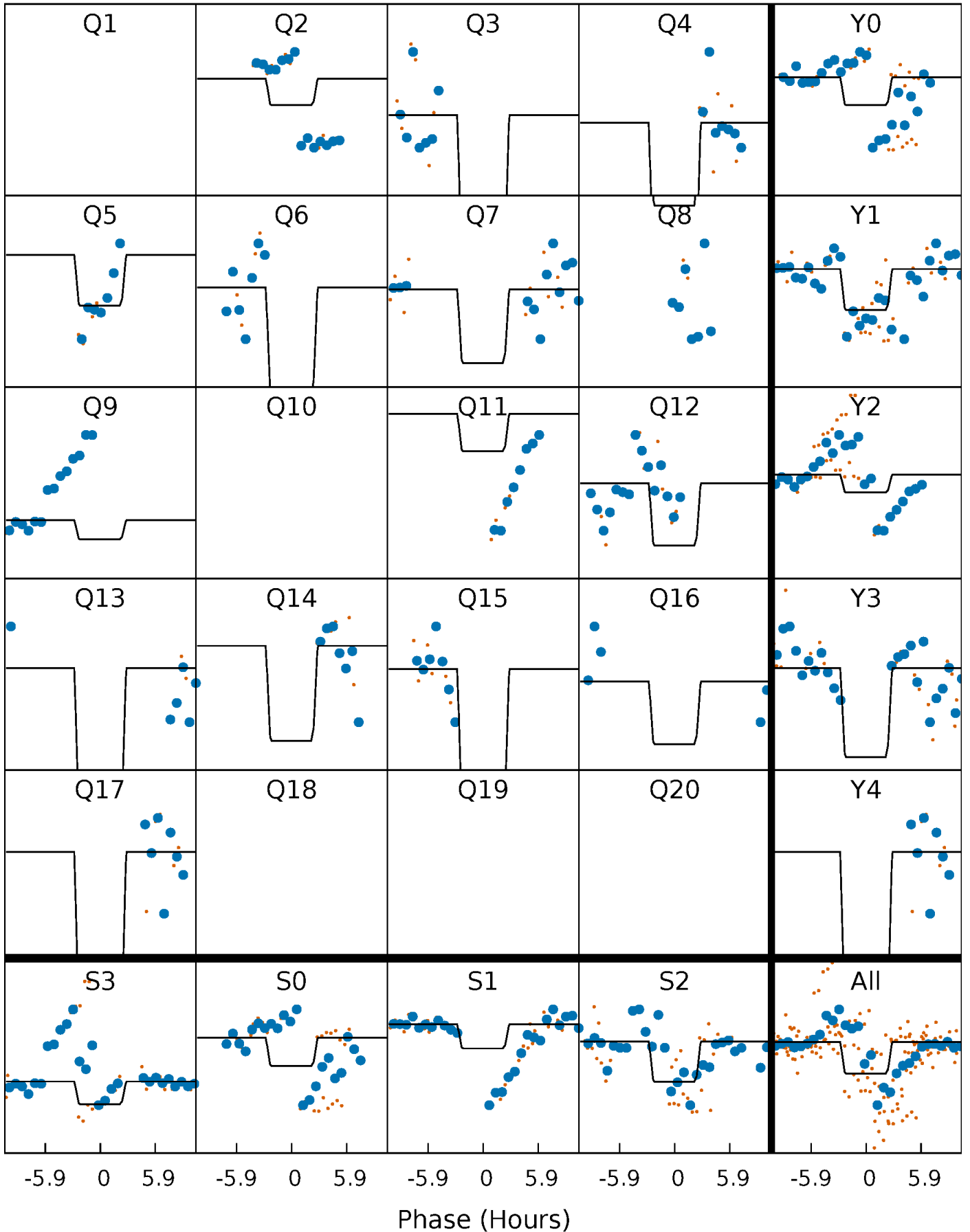
DV Quarter-Phased Transit Curves

TCE 006468033-09 P= 66.061273 Days $T_0=177.240066$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

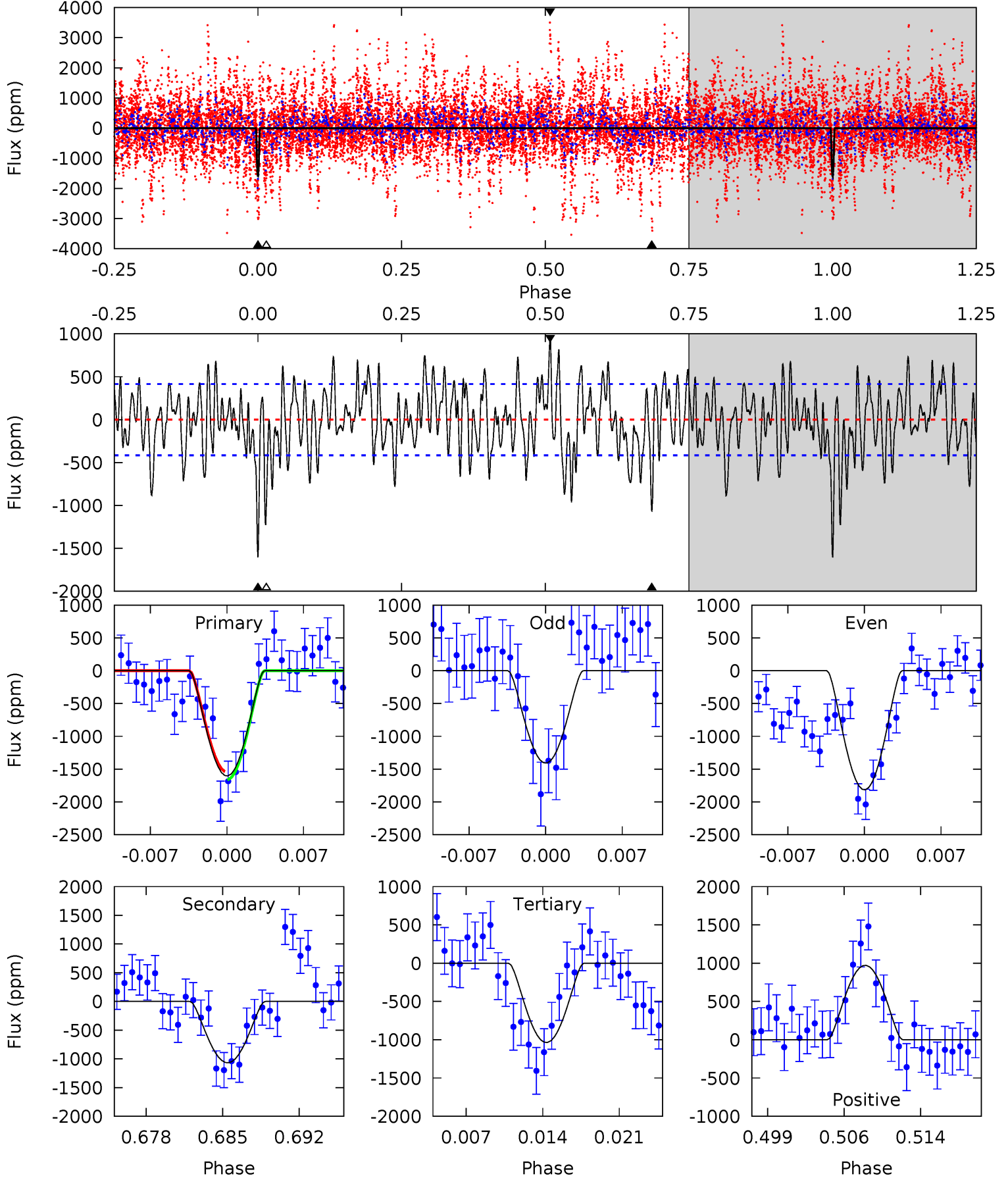
TCE 006468033-09 $P = 66.068261$ Days $T_0 = 177.143586$ (BKJD)



DV Model-Shift Uniqueness Test

006468033-09, P = 66.061273 Days, E = 111.178793 Days

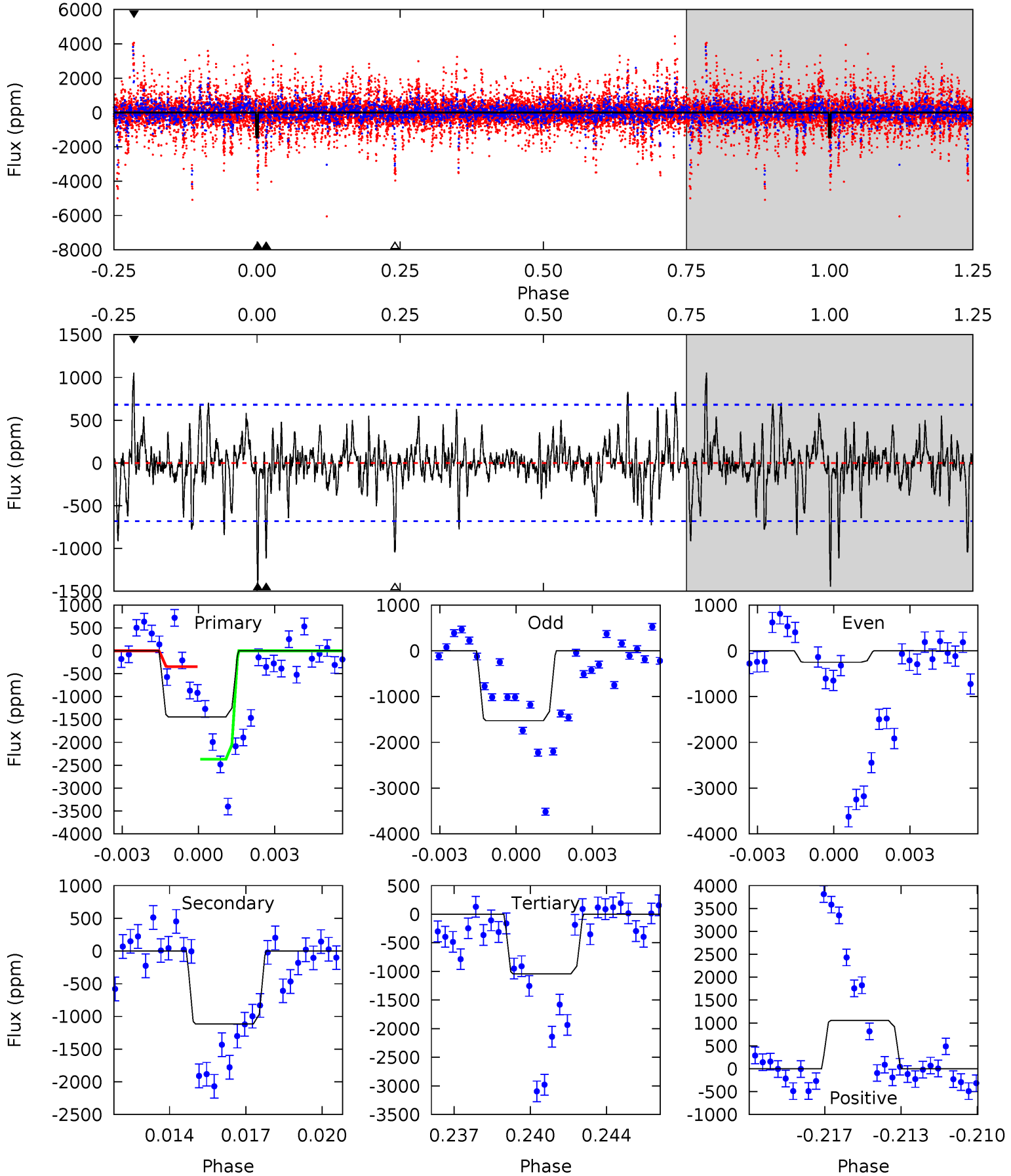
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	13.1	12.7	11.9	5.09	2.69	4.19	6.97	7.75	0.38	1.17	2.43	1.10	0.38	0.77



Alt Model-Shift Uniqueness Test

006468033-09, P = 66.068261 Days, E = 111.075325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	8.58	8.02	8.10	5.23	2.93	1.70	3.07	3.00	0.56	0.48	4.33	0.53	0.42	7.62



Stellar Parameters For KIC 006468033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5499^{+164}_{-164}	$4.449^{+0.078}_{-0.182}$	$0.160^{+0.250}_{-0.300}$	$0.955^{+0.253}_{-0.109}$	$0.935^{+0.090}_{-0.082}$	$1.514^{+0.603}_{-0.706}$
	+3%/-3%	+2%/-4%	+156%/-188%	+26%/-11%	+10%/-9%	+40%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006468033-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1067 ± 82	$16.70^{+15.77}_{-11.35}$	601^{+39}_{-31}	3140^{+1454}_{-516}	210^{+1785}_{-156}
Alt.	-1116 ± 130	$14.08^{+16.99}_{-9.36}$	599^{+39}_{-30}	3306^{+1654}_{-628}	301^{+2395}_{-237}

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 $A_{obs} \gg 1.0$

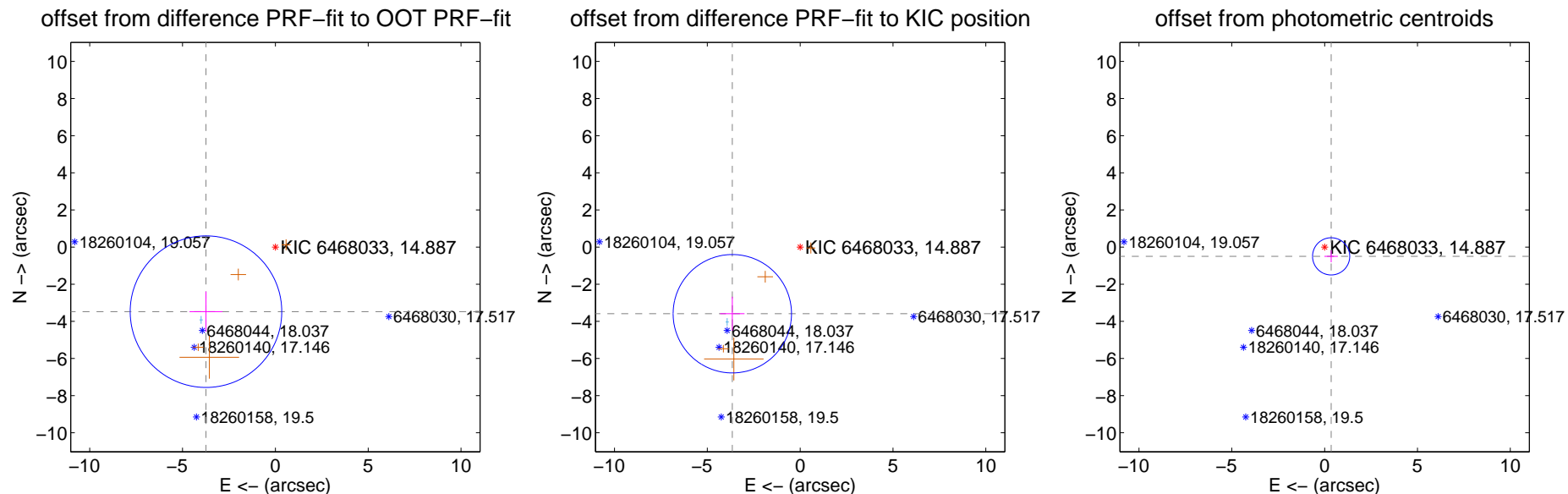
DV Centroid Data

Supplemental centroid analysis for 006468033-09. Kepler magnitude: 14.89. Transit SNR 8.50

There are 1 quarters with good PRF difference image offsets

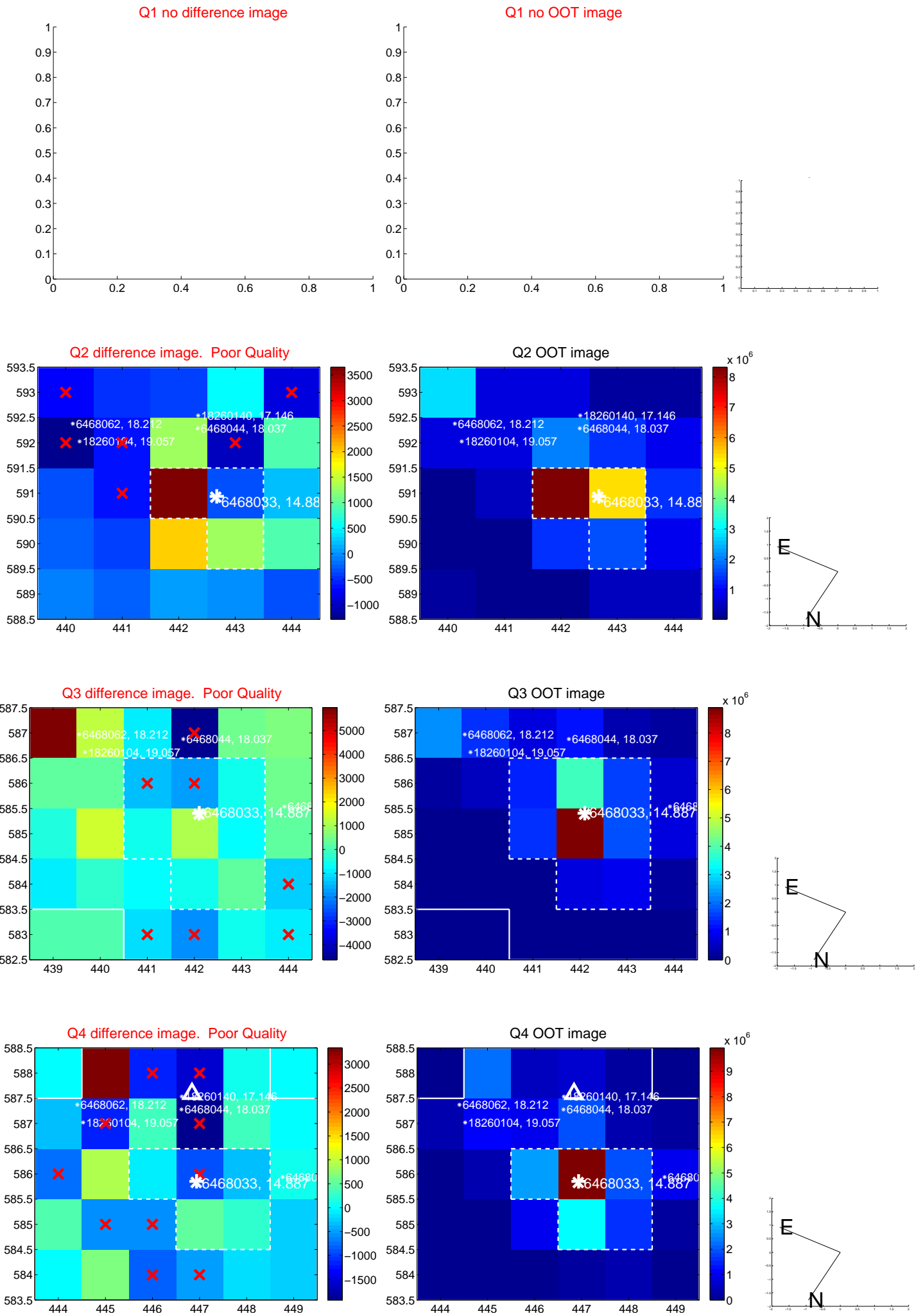
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.106 ± 1.361	3.75	3.738 ± 0.887	-3.478 ± 1.086
PRF-fit source offset from KIC position	5.123 ± 1.063	4.82	3.654 ± 0.659	-3.590 ± 0.915
photometric centroid source offset	0.61 ± 0.33	1.83	-0.35 ± 0.36	-0.50 ± 0.32

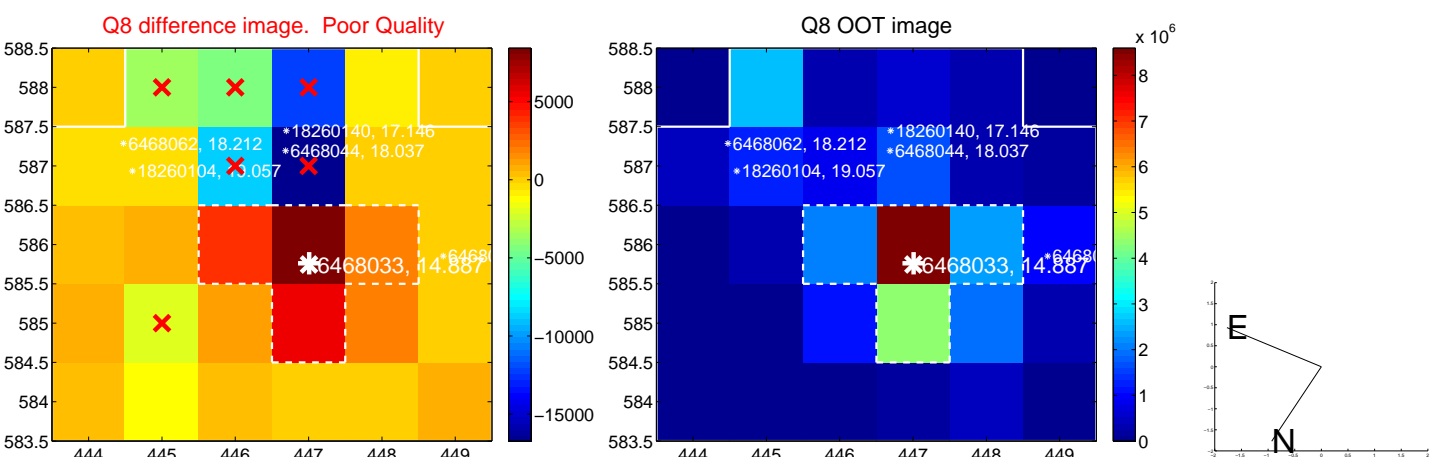
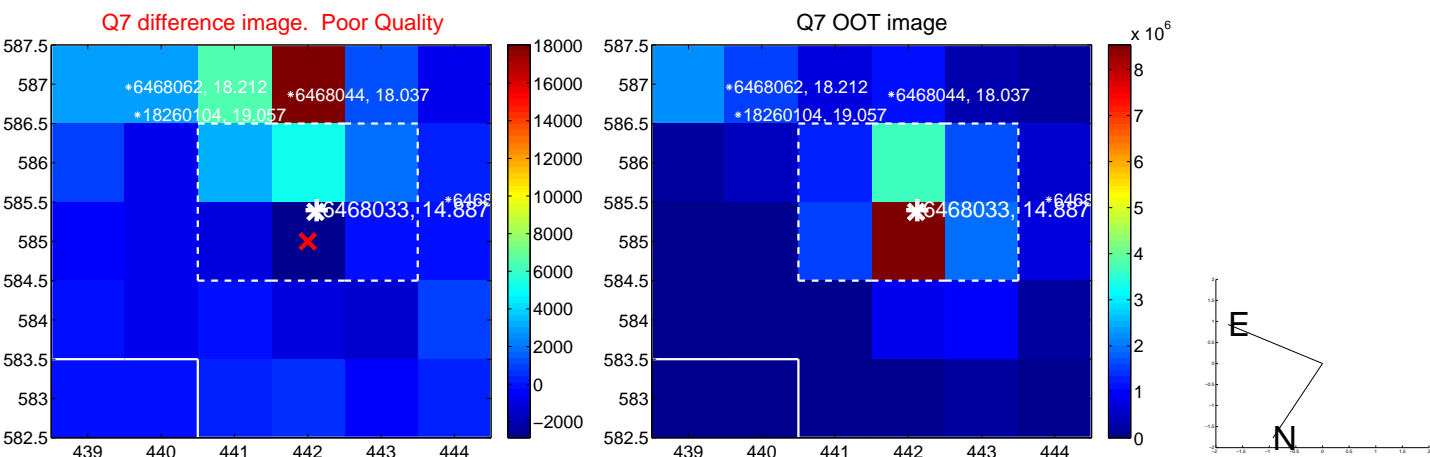
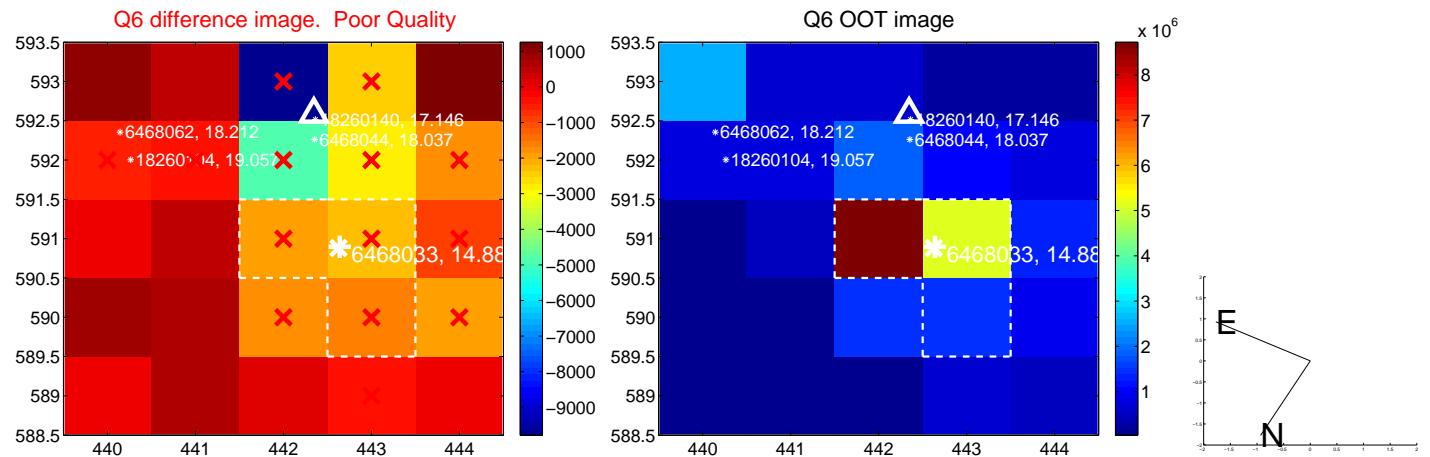
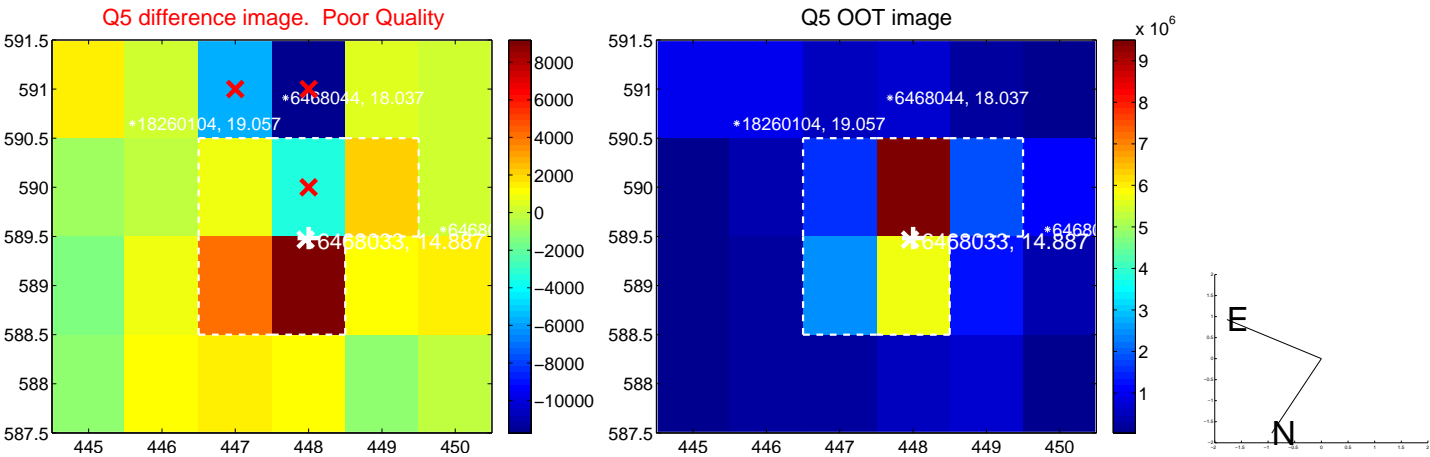


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

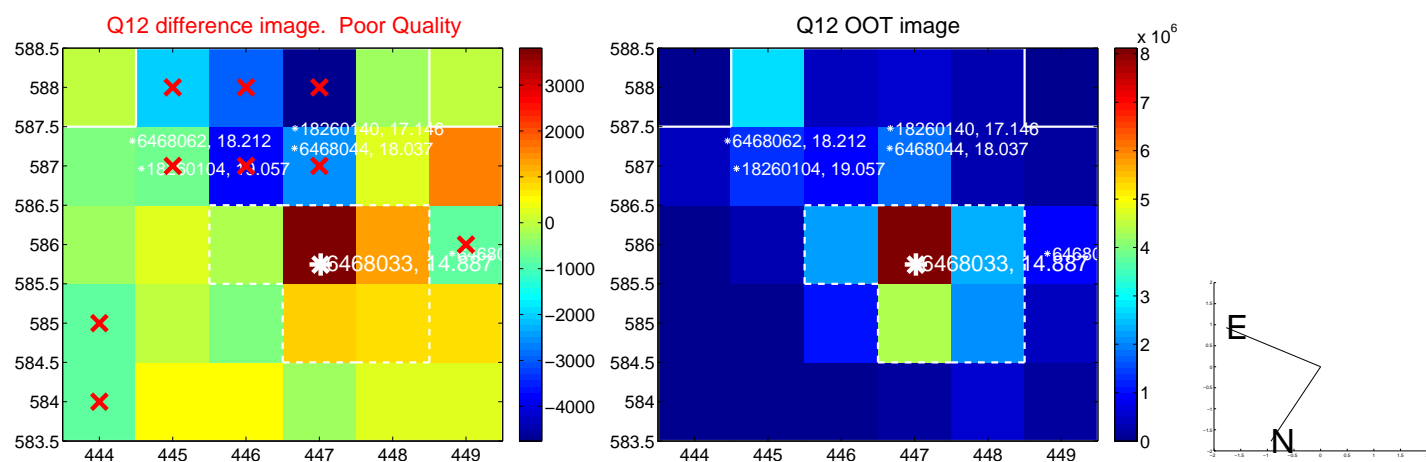
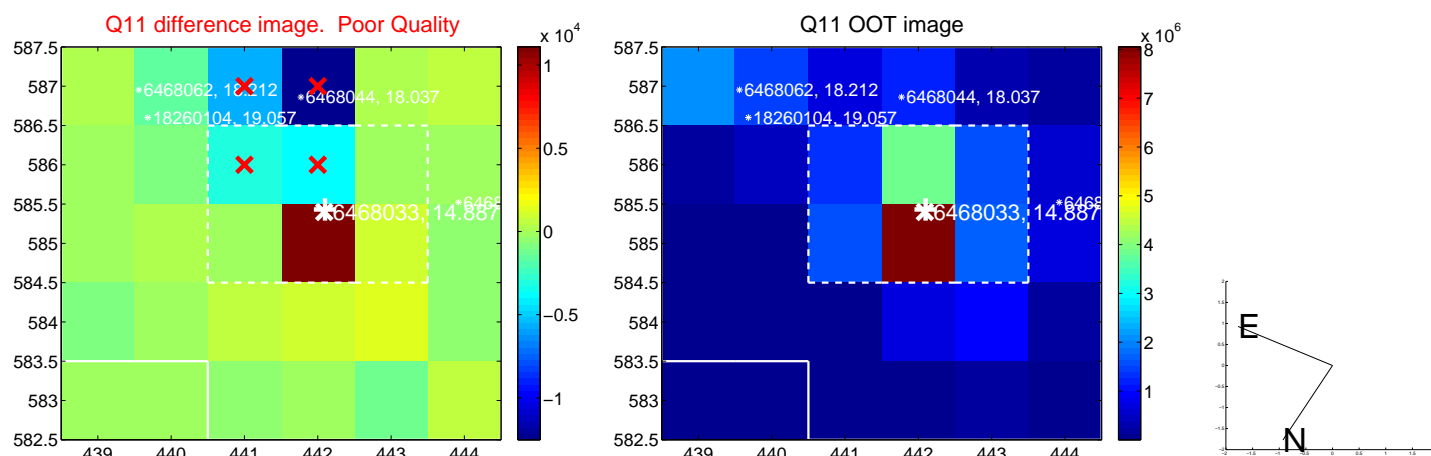
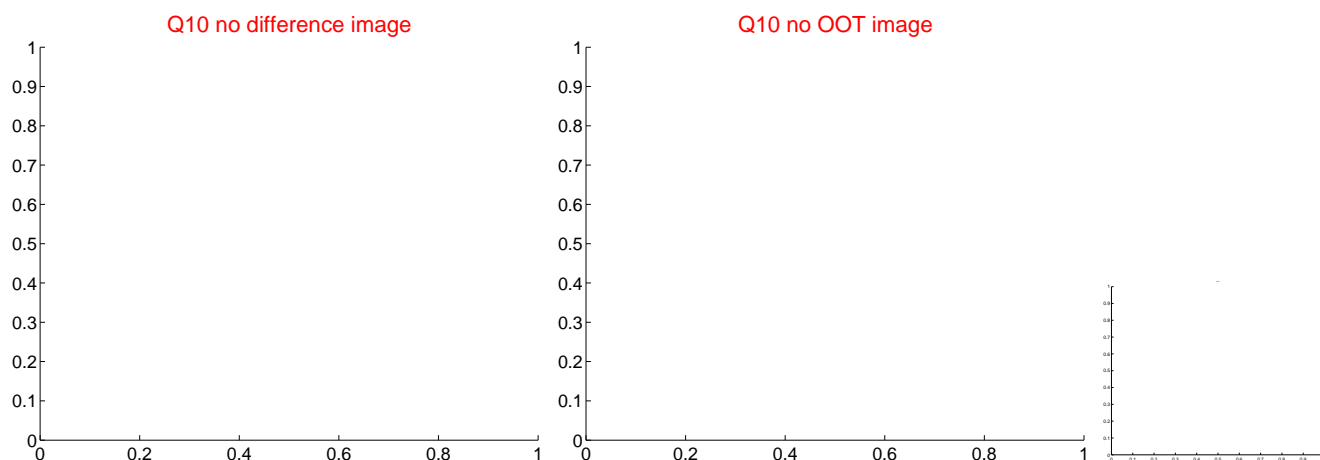
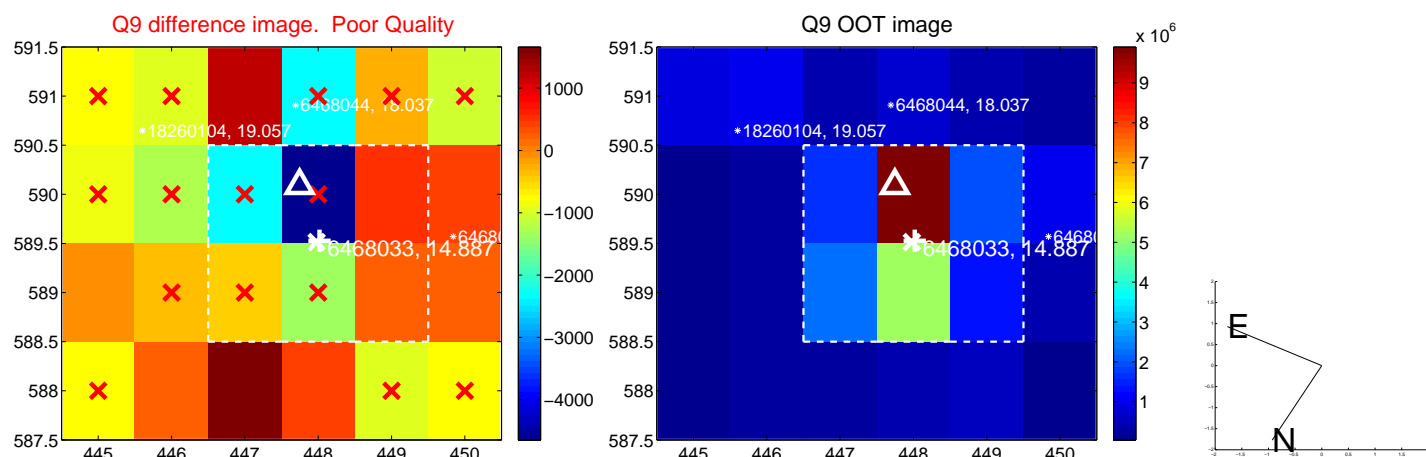
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



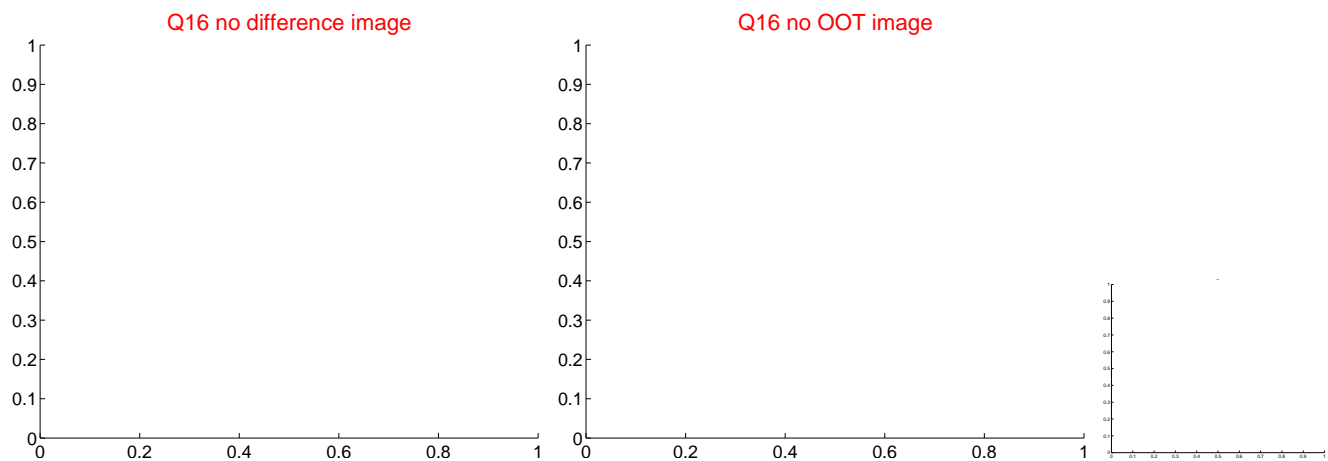
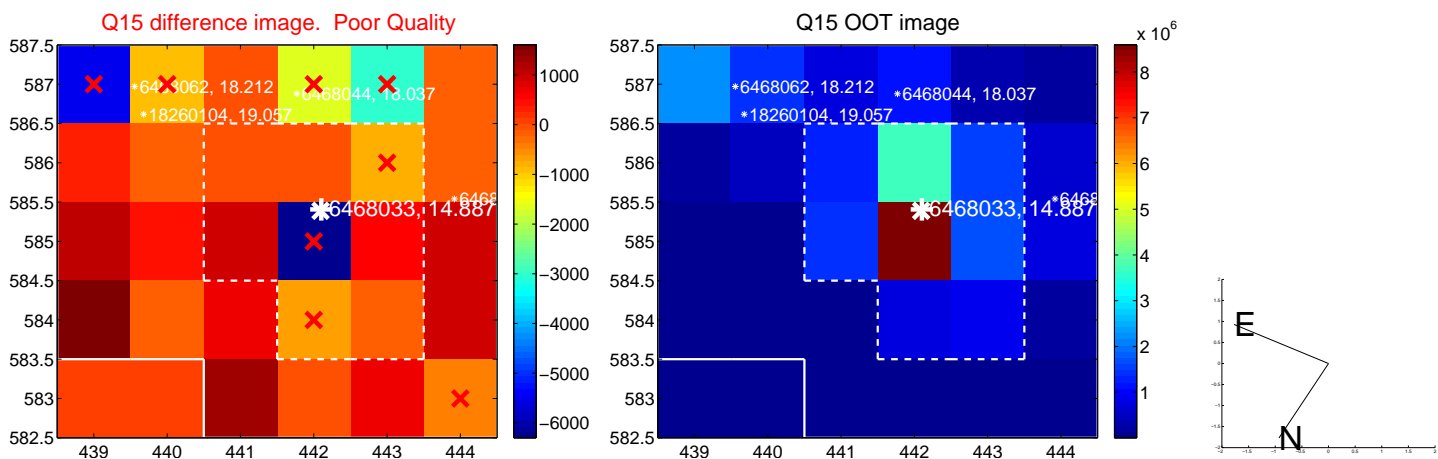
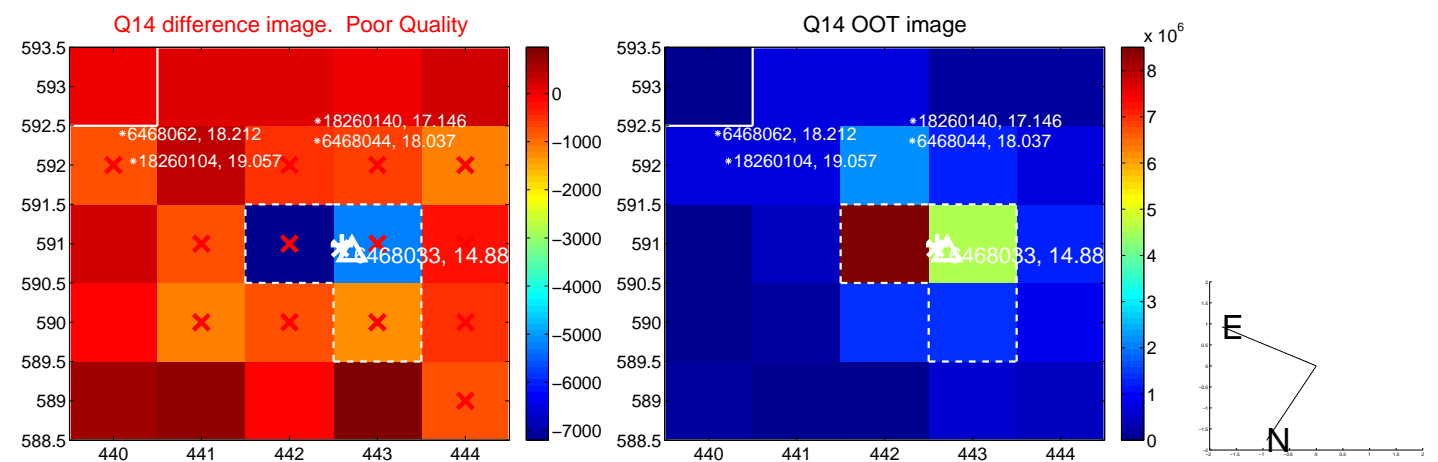
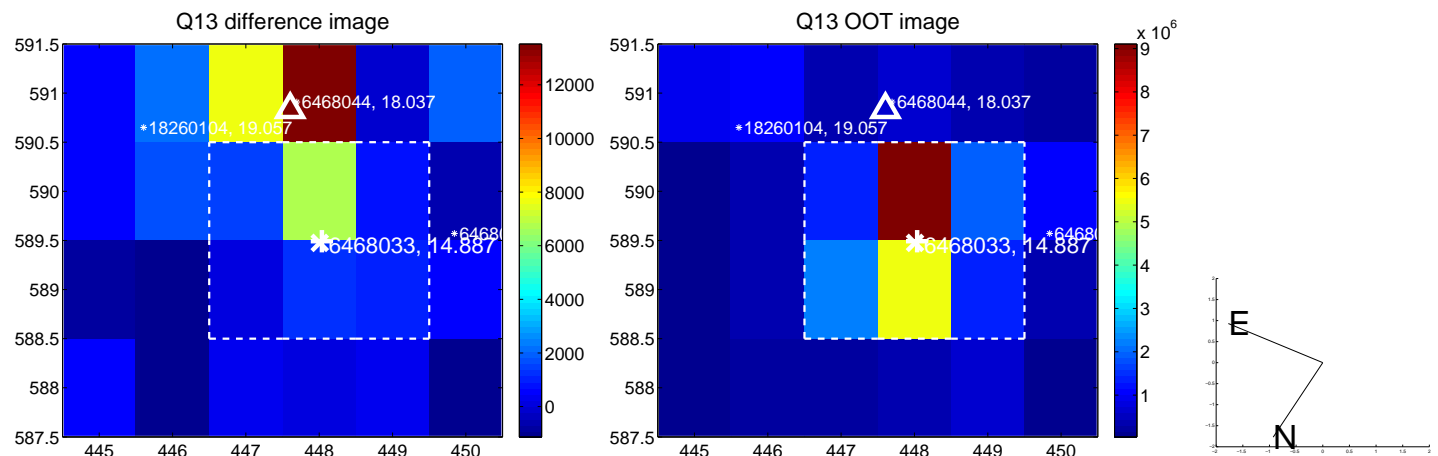
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



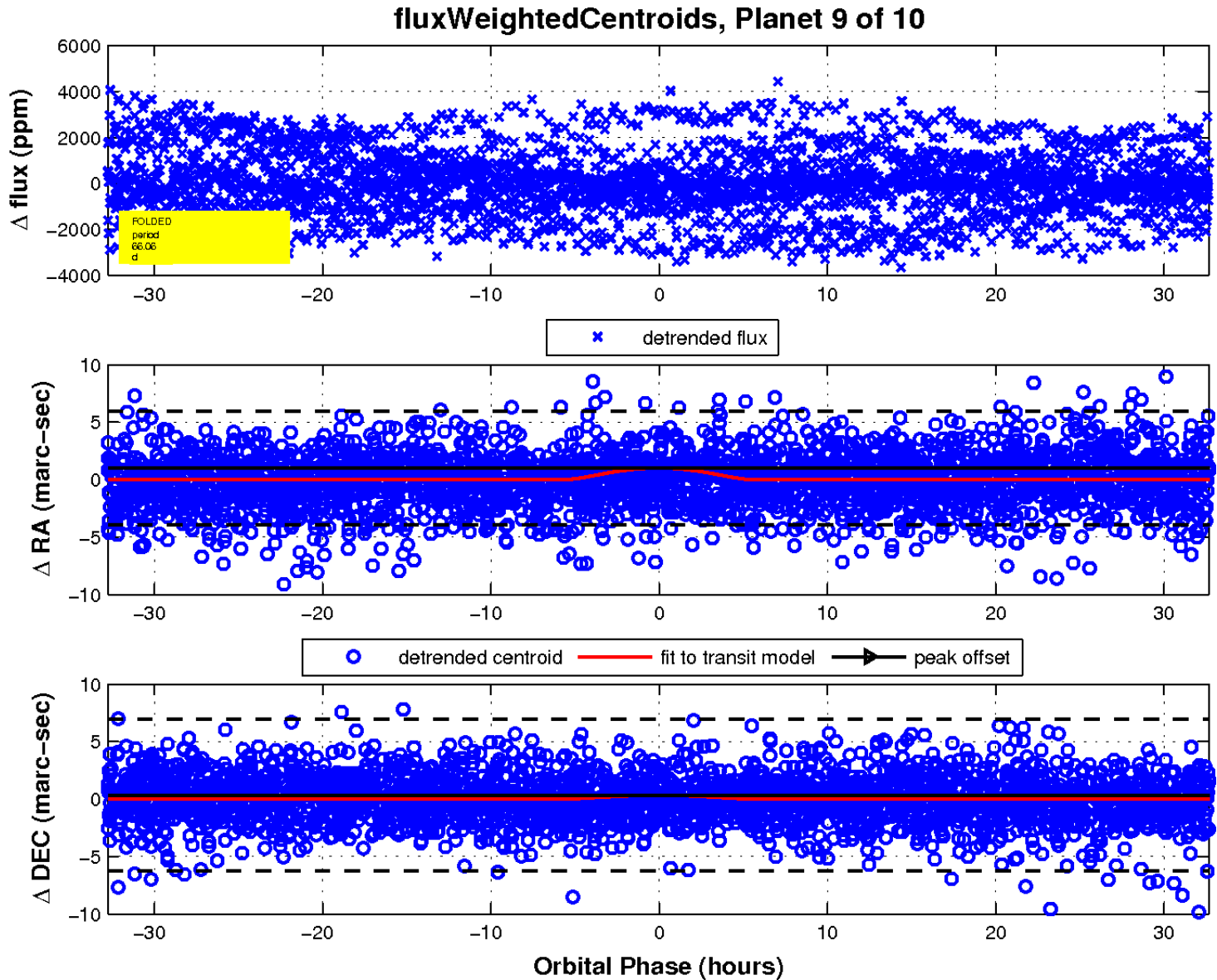
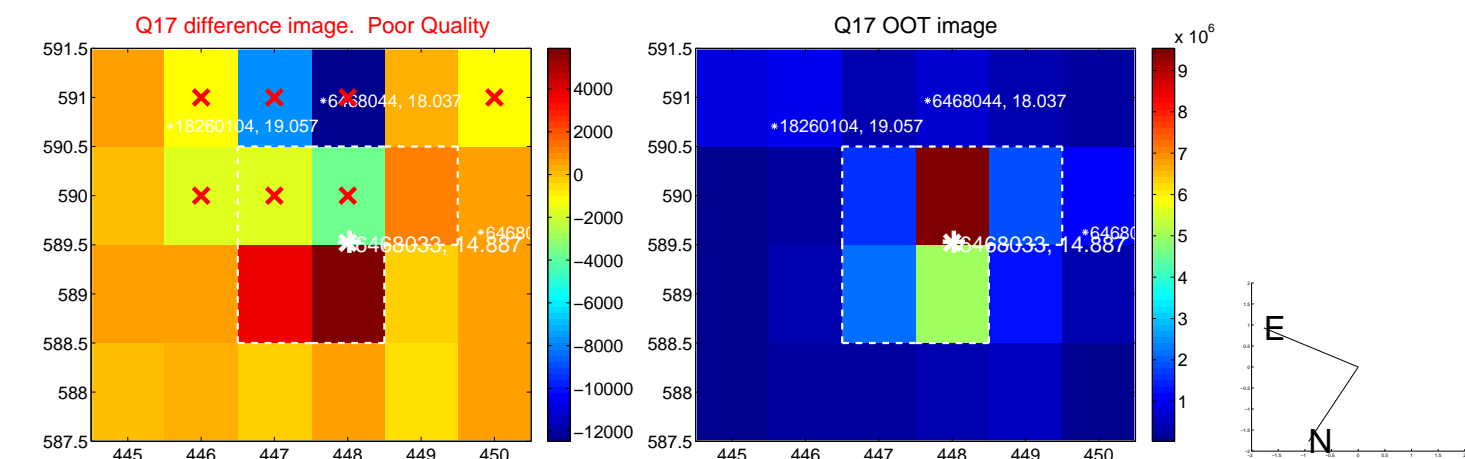
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

