

KIC 006621280

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})
006621280-01	OBS	No	1.075530	132.268141	65.2	3.559	7.4	8.0	0.76	5676	0.73	1433.49
006621280-03	OBS	No	342.222651	204.356575	942.4	10.118	18.9	7.1	0.76	5676	2.47	0.66
006621280-04	OBS	No	256.582561	223.324753	251.5	8.842	13.2	2.2	0.76	5676	1.39	0.97
006621280-05	OBS	No	190.666167	231.136880	384.6	3.454	12.2	2.3	0.76	5676	1.76	1.44
006621280-06	OBS	No	478.822416	561.710136	1236.7	20.311	9.8	7.0	0.76	5676	3.19	0.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006621280-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006621280-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

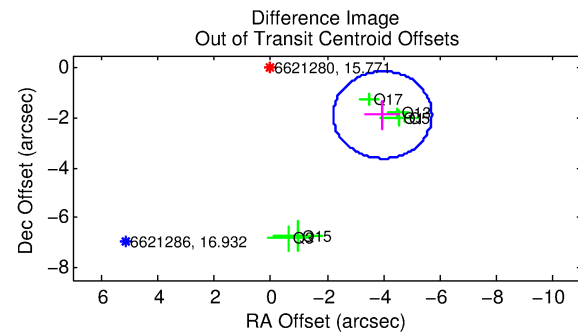
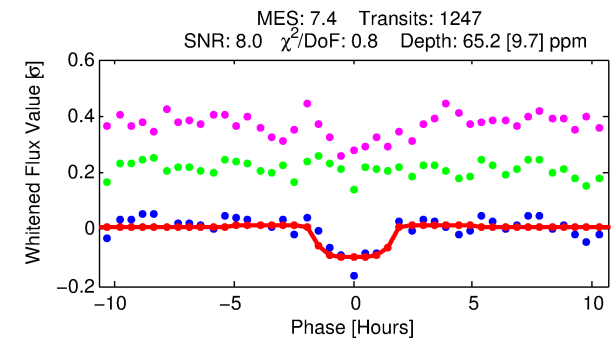
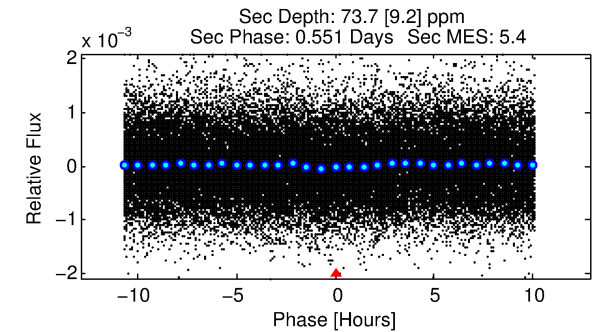
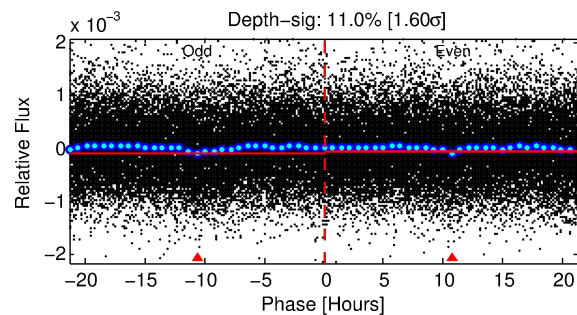
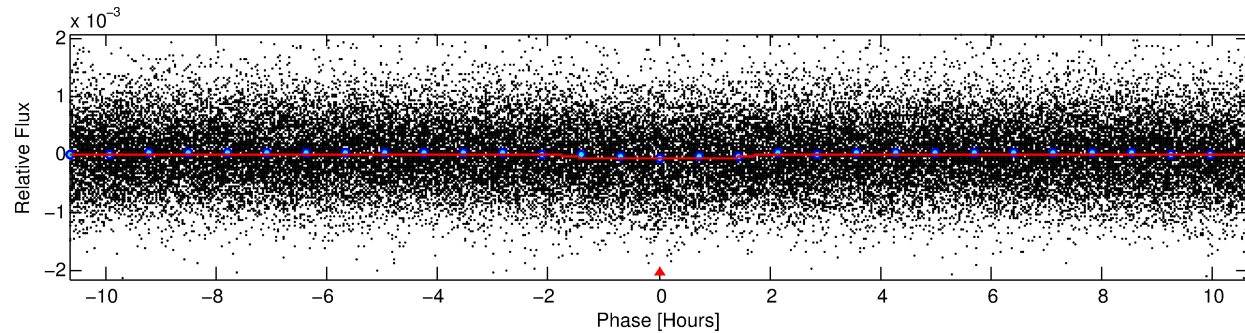
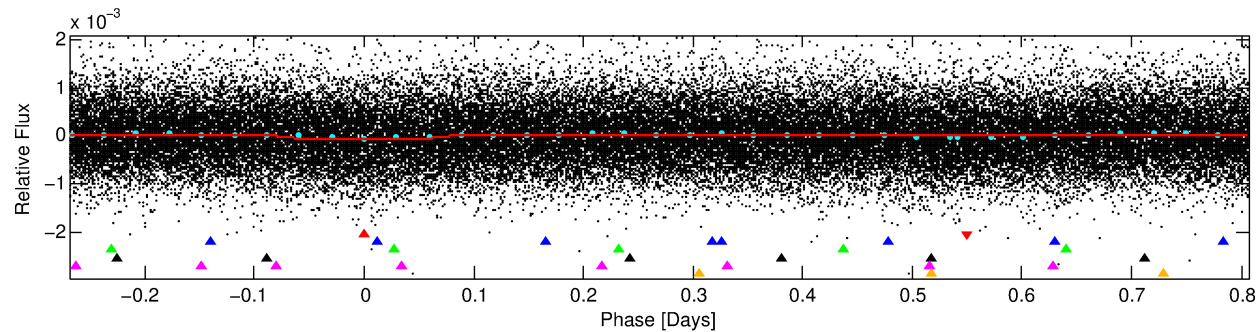
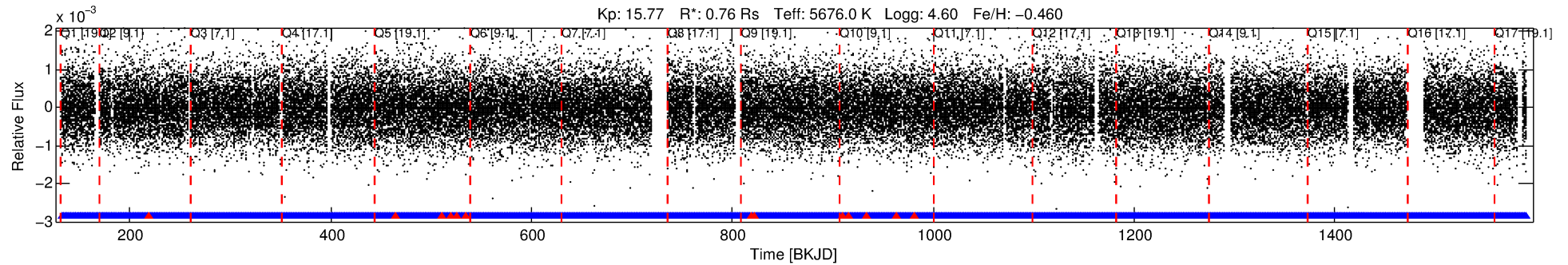
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006621280-01

No Significant Match Found

DV One-Page Summary

KIC: 6621280 Candidate: 1 of 6 Period: 1.076 d



DV Fit Results:

Period = 1.07553 [0.00001] d
Epoch = 132.2681 [0.0049] BKJD
Rp/R* = 0.0088 [0.0063]
a/R* = 1.41 [2.50]
b = 0.90 [0.77]
Seff = 1433.49 [420.02]
Teq = 1569 [115] K
Rp = 0.73 [0.55] Re
a = 0.0193 [0.0036] AU
Ag = 28.76 [42.12] [0.66 σ]
Teffp = 5618 [2029] K [1.99 σ]

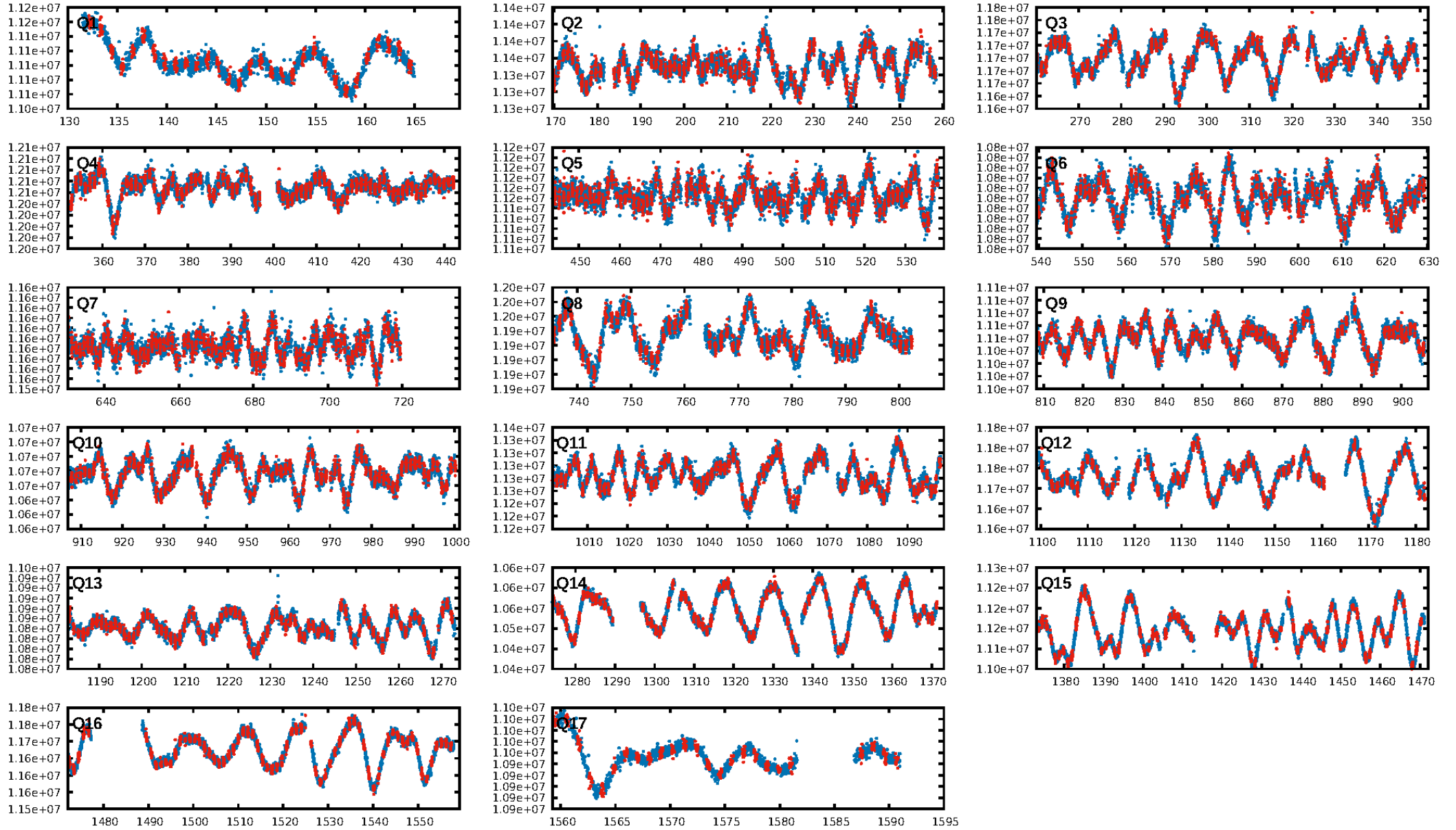
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1251.76 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.19e-14
RollingBand-fgt: 0.99 [1177/1191]
GhostDiagnostic-chr: -2.443
Centroid-sig: 0.0%
Centroid-so: 6.263 arcsec [4.68 σ]
OotOffset-rm: 4.390 arcsec [7.55 σ]
KicOffset-rm: 4.346 arcsec [7.68 σ]
OotOffset-st: 0/2/0/4 [6]
KicOffset-st: 0/2/0/4 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 1.00 [17/17]

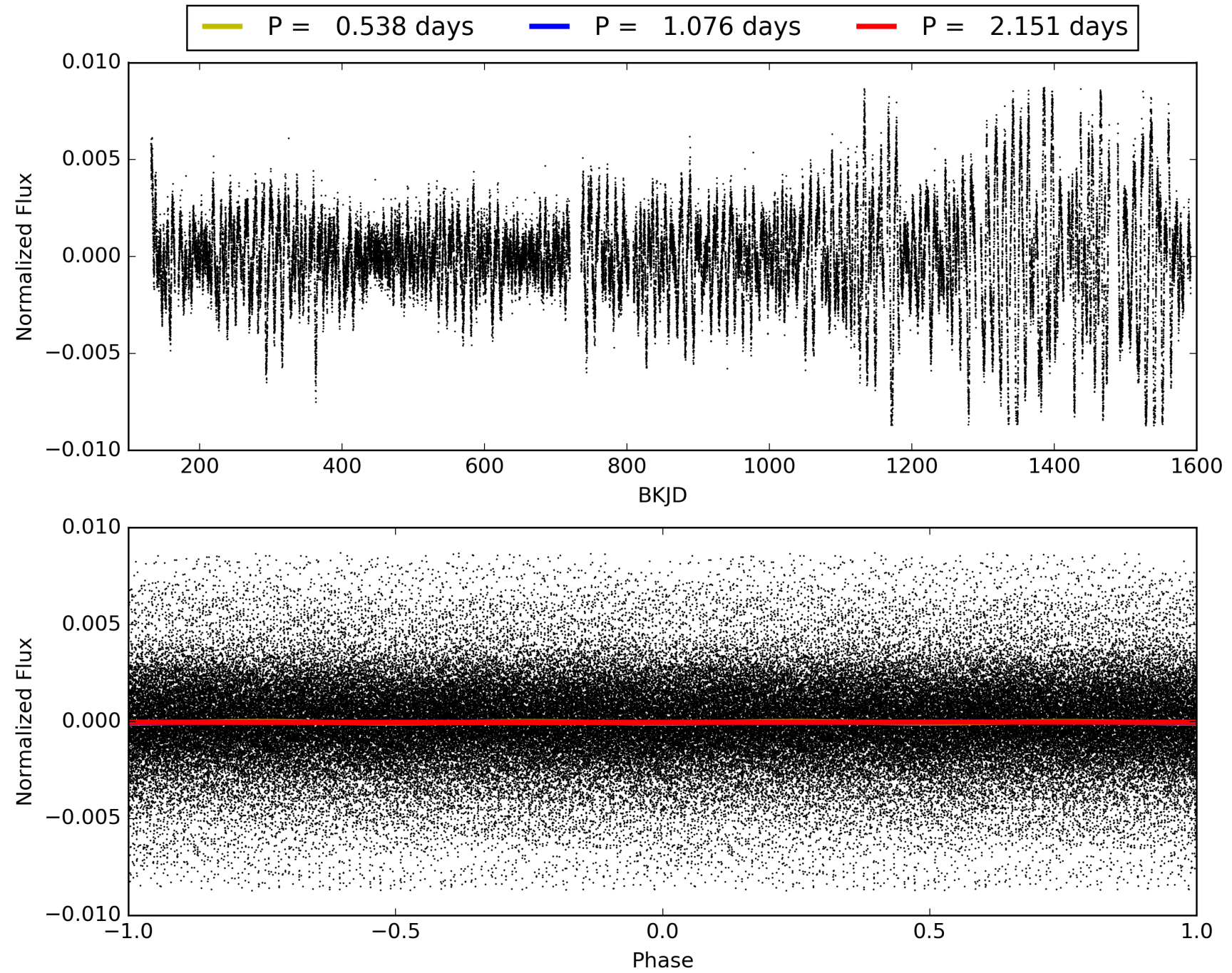
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:11:07 Z

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

TCE 006621280-01, PDC Light Curves

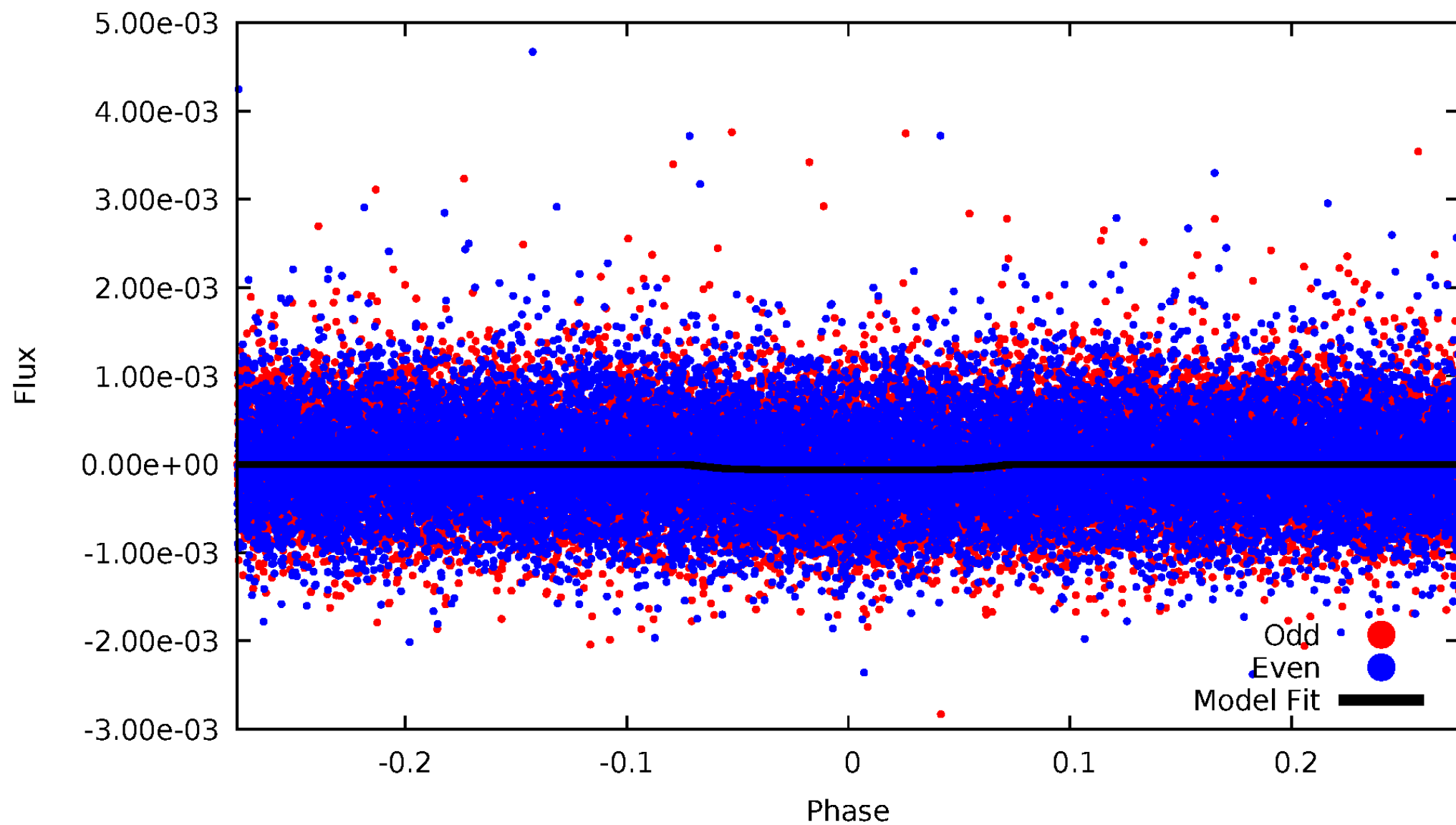


TCE 006621280-01



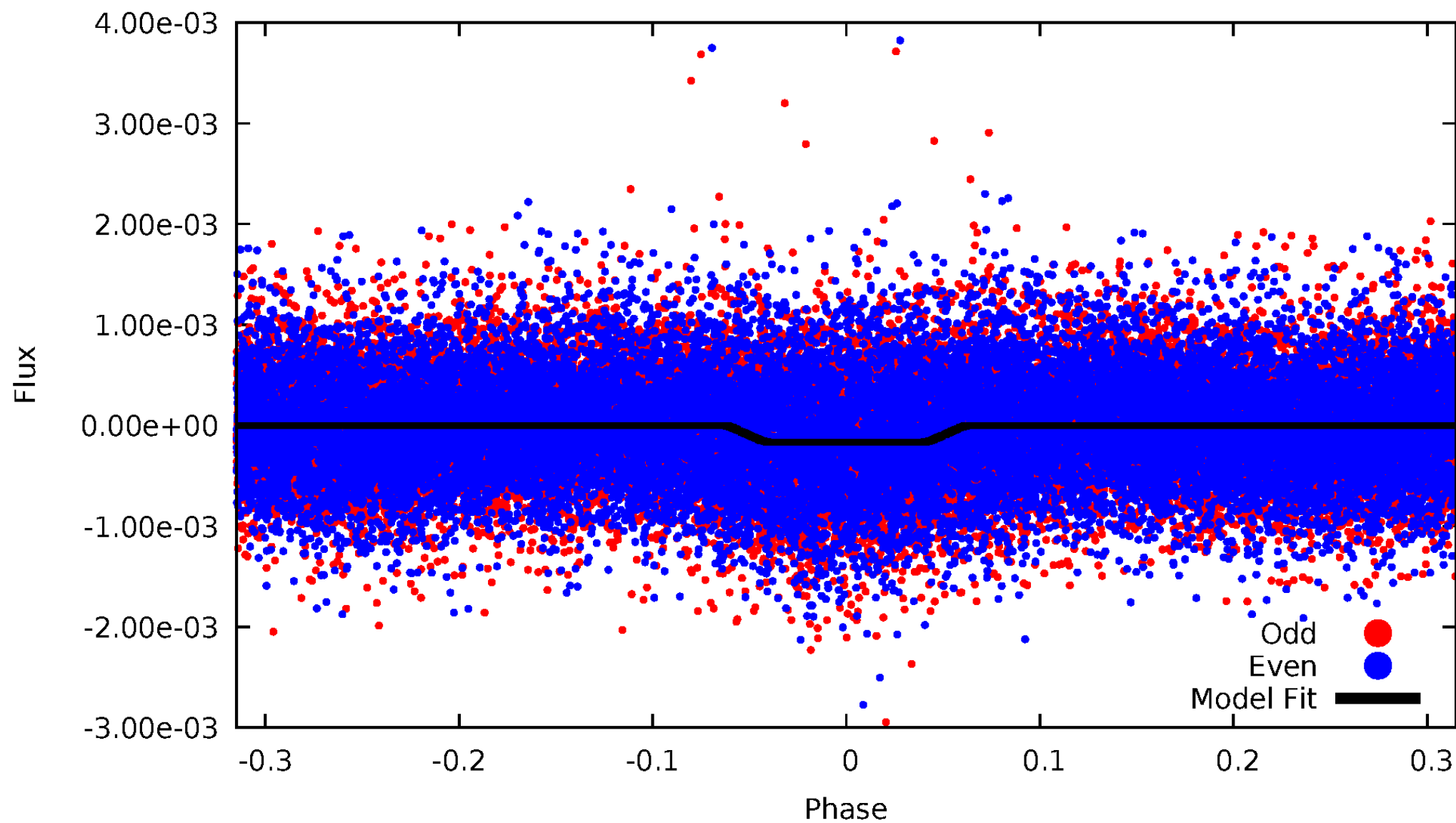
DV Odd/Even

TCE 006621280-01

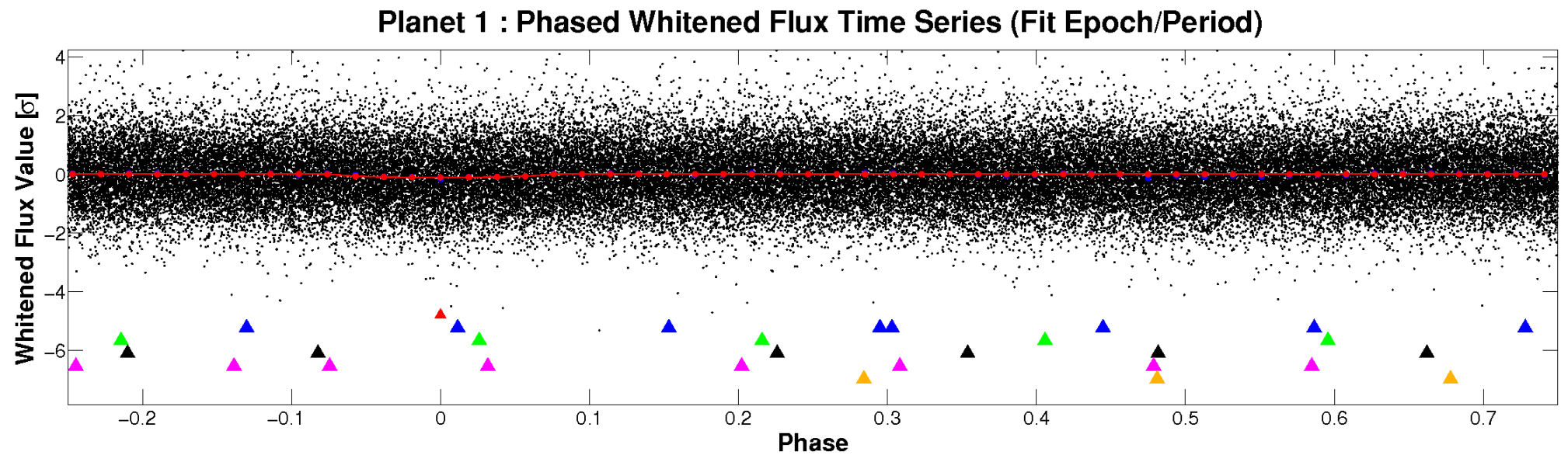
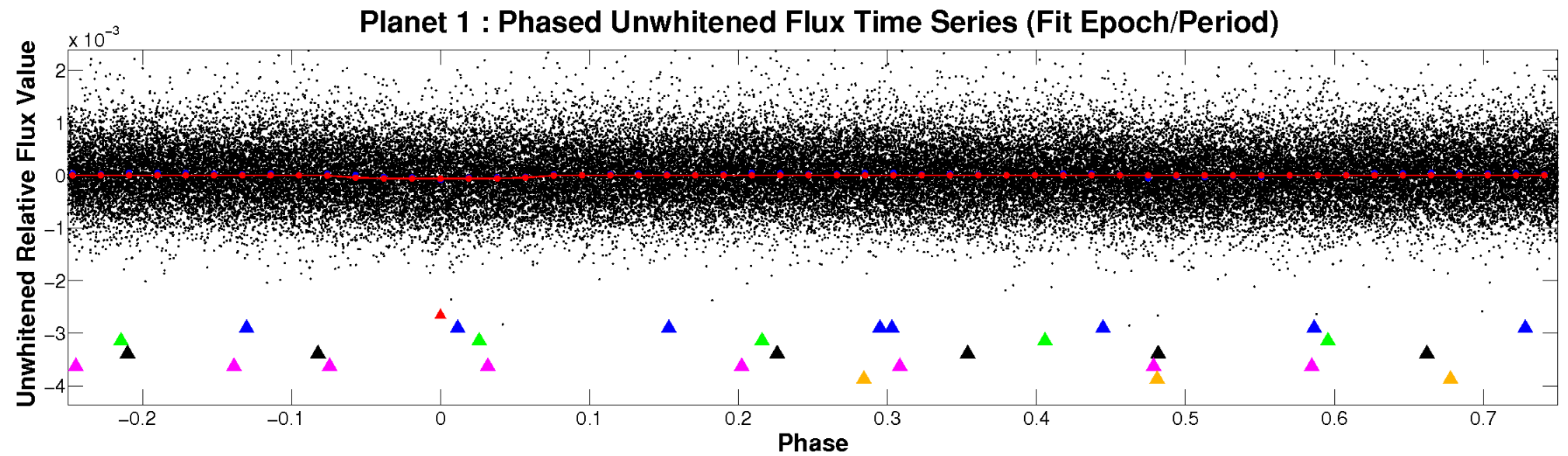


ALT Odd/Even

TCE 006621280-01

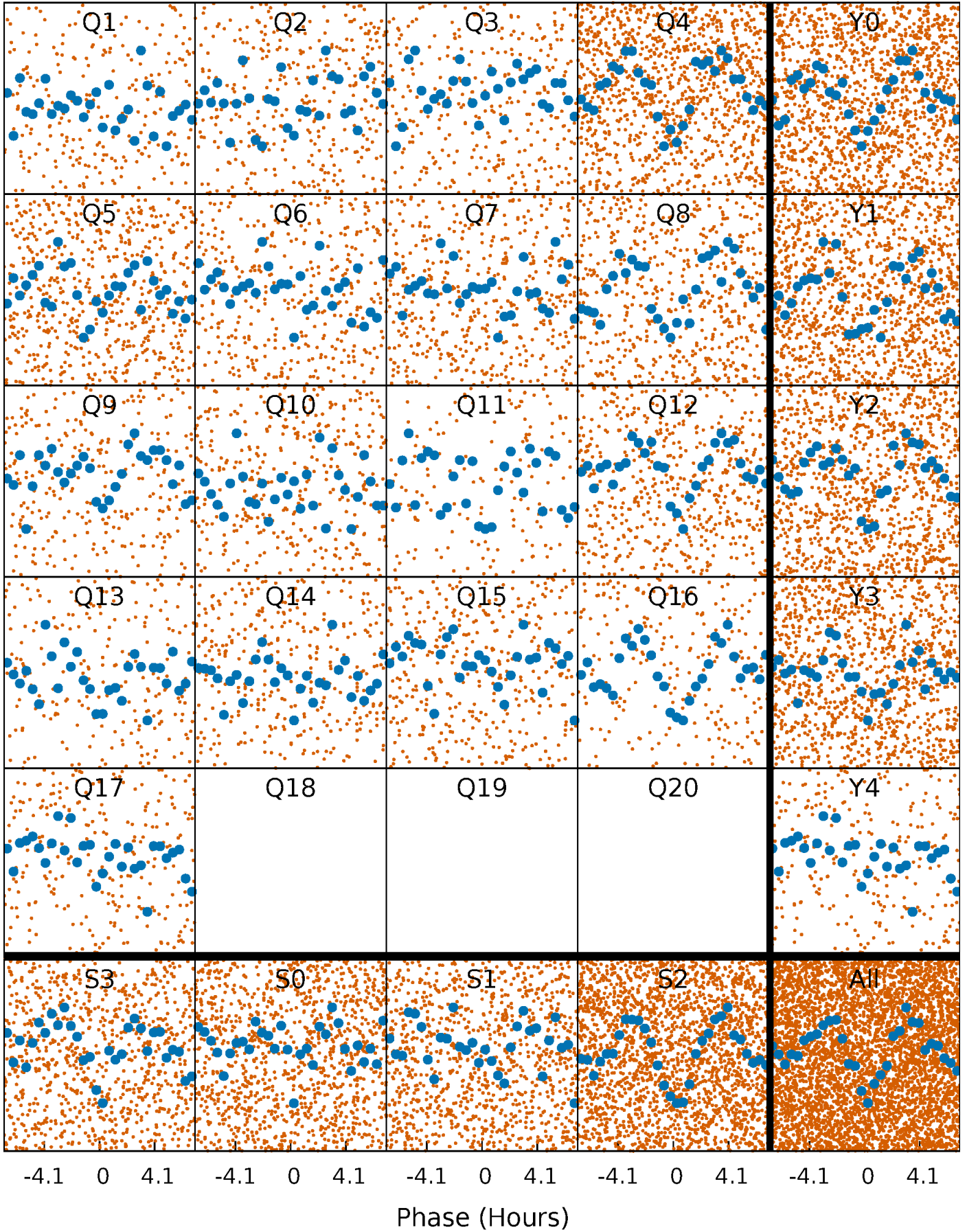


Non-Whitened Vs. Whitened Light Curve



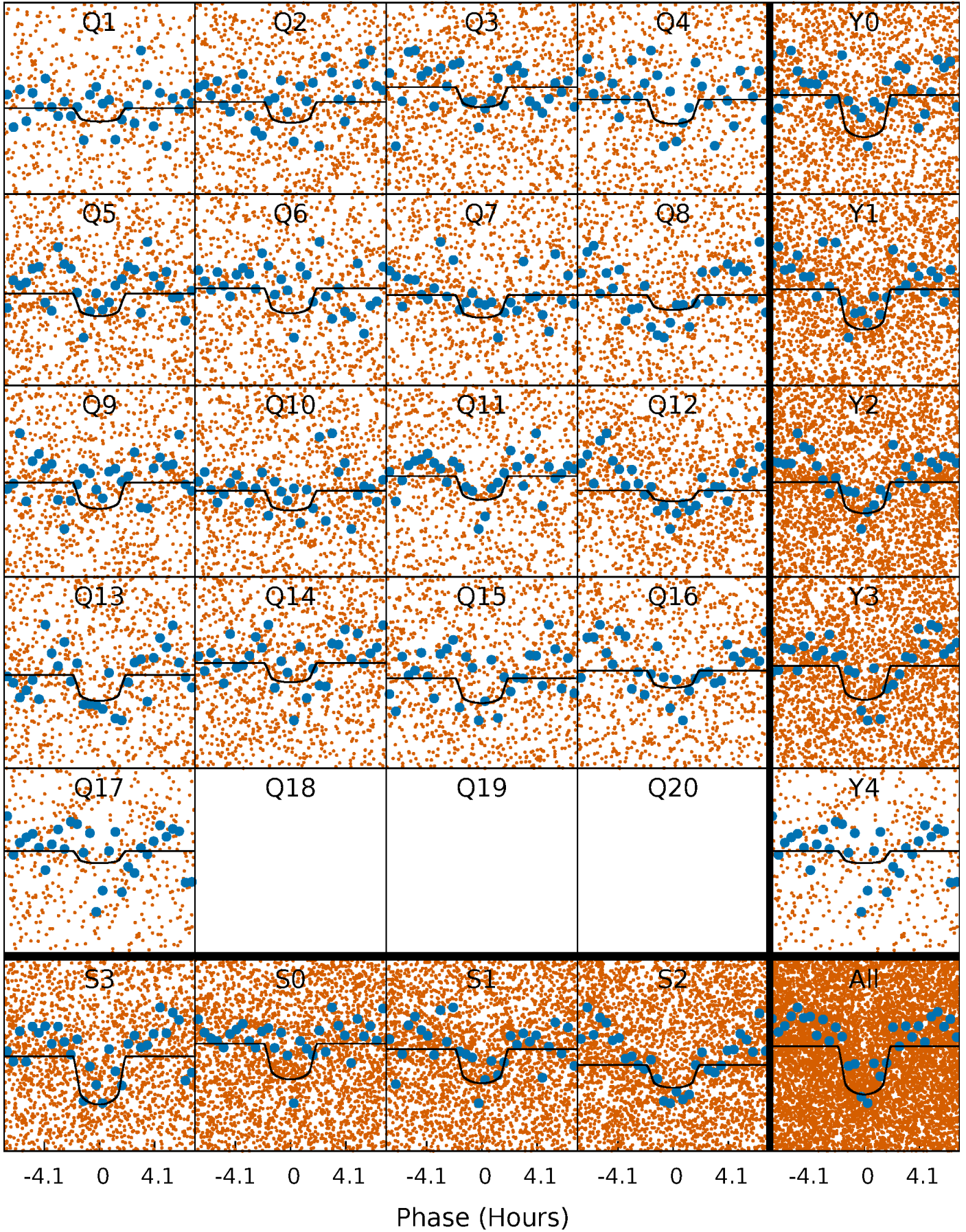
PDC Quarter-Phased Transit Curves

TCE 006621280-01 P= 1.075530 Days $T_0=132.268141$ (BKJD)



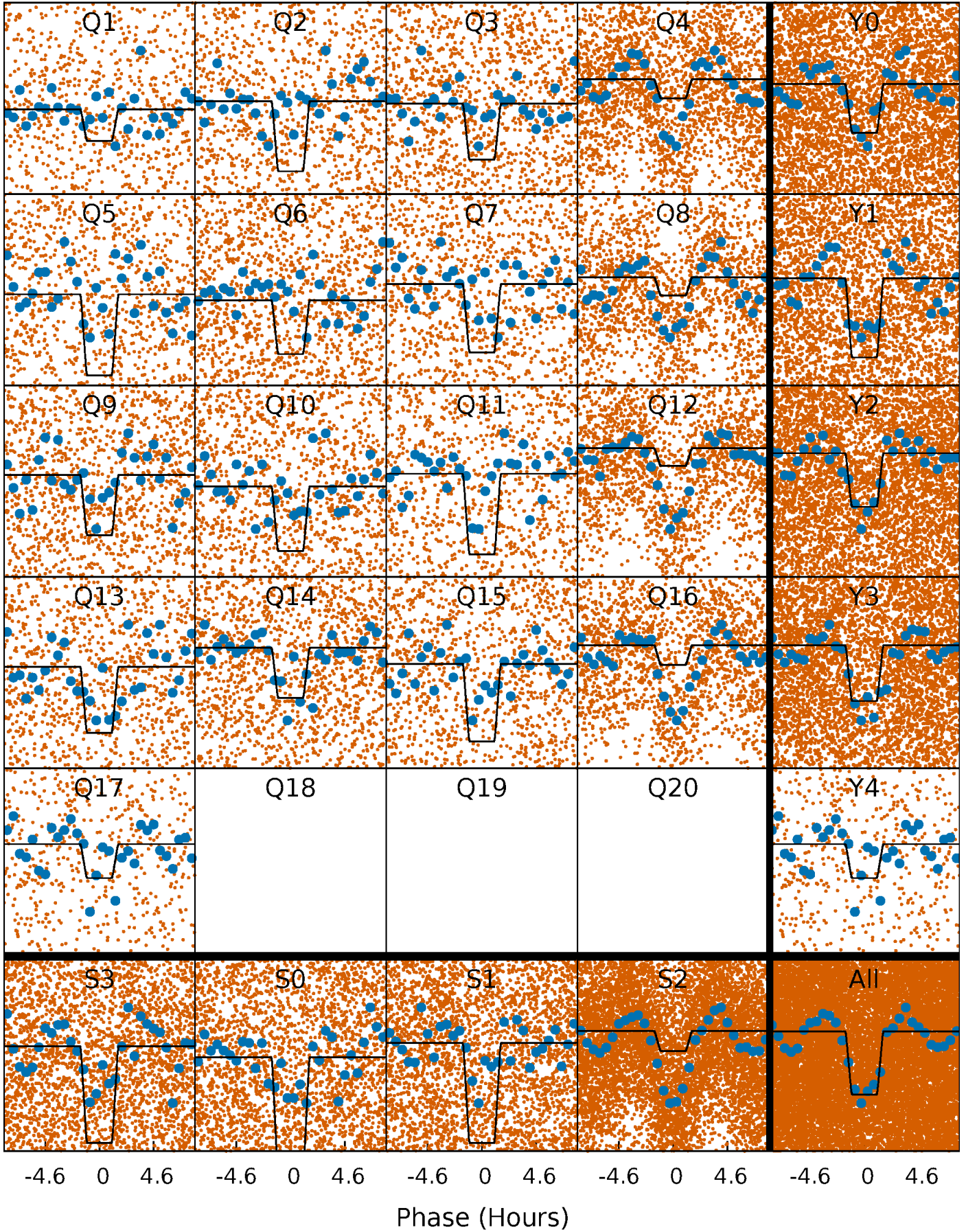
DV Quarter-Phased Transit Curves

TCE 006621280-01 P= 1.075530 Days $T_0=132.268141$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

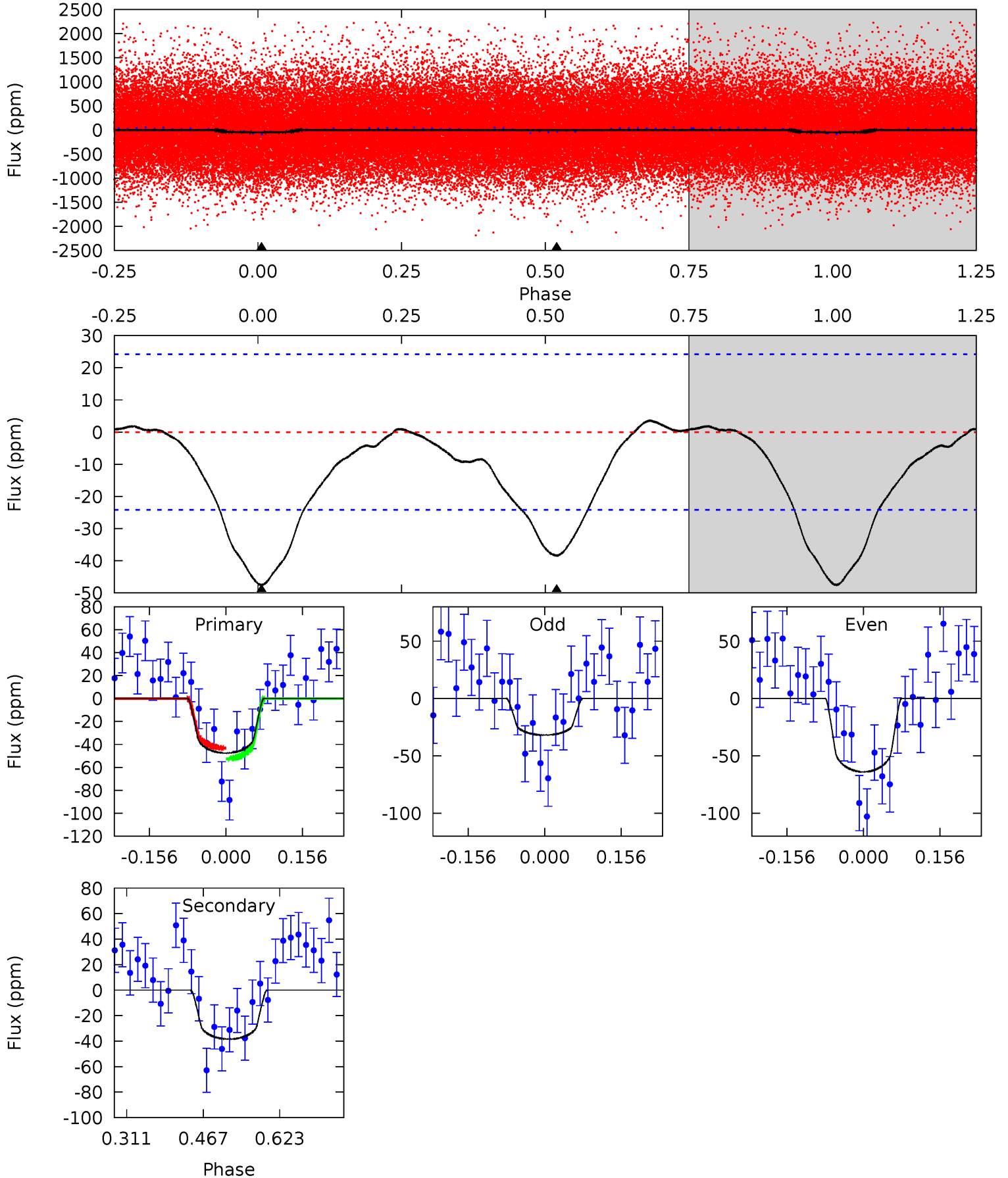
TCE 006621280-01 P= 1.075554 Days $T_0=132.261295$ (BKJD)



DV Model-Shift Uniqueness Test

006621280-01, P = 1.075530 Days, E = 131.192611 Days

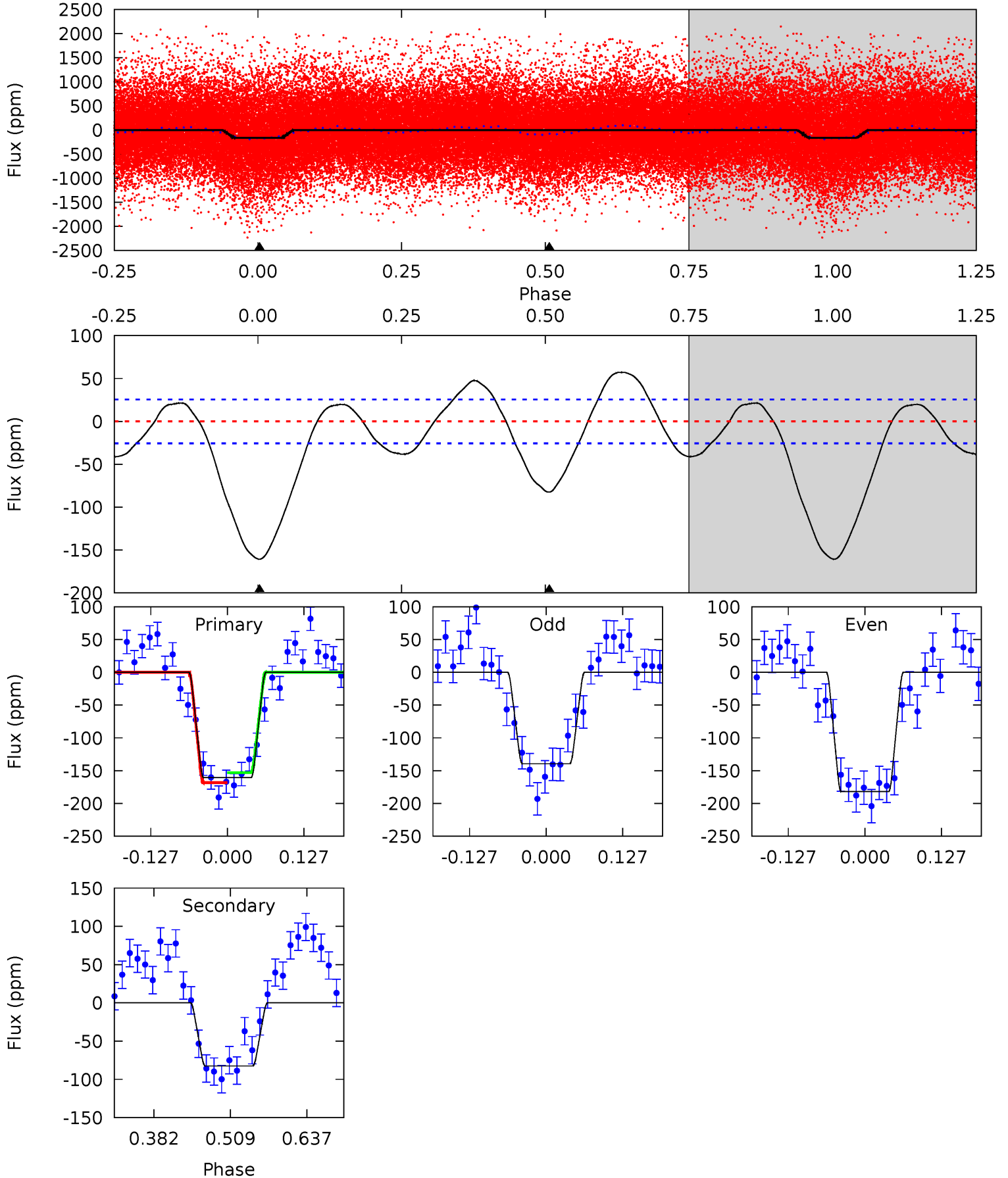
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.79	7.10	0	0	4.47	1.42	0.62	8.79	8.79	7.10	7.10	2.97	1.17	0.07	0.87



Alt Model-Shift Uniqueness Test

006621280-01, P = 1.075554 Days, E = 131.185741 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.3	14.5	0	0	4.51	1.52	5.09	28.3	28.3	14.5	14.5	3.74	1.17	0.26	1.36



Stellar Parameters For KIC 006621280

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5676^{+172}_{-172}	$4.598^{+0.036}_{-0.144}$	$-0.460^{+0.300}_{-0.300}$	$0.759^{+0.170}_{-0.057}$	$0.848^{+0.080}_{-0.089}$	$2.729^{+0.517}_{-1.165}$
	+3%/-3%	+1%/-3%	+65%/-65%	+22%/-8%	+9%/-10%	+19%/-43%
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 006621280-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-38 ± 5	$0.81^{+0.53}_{-0.48}$	2229^{+121}_{-91}	4708^{+2628}_{-879}	12^{+61}_{-8}
Alt.	-82 ± 6	$1.14^{+0.57}_{-0.52}$	2229^{+125}_{-88}	4782^{+1435}_{-693}	13^{+30}_{-7}

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

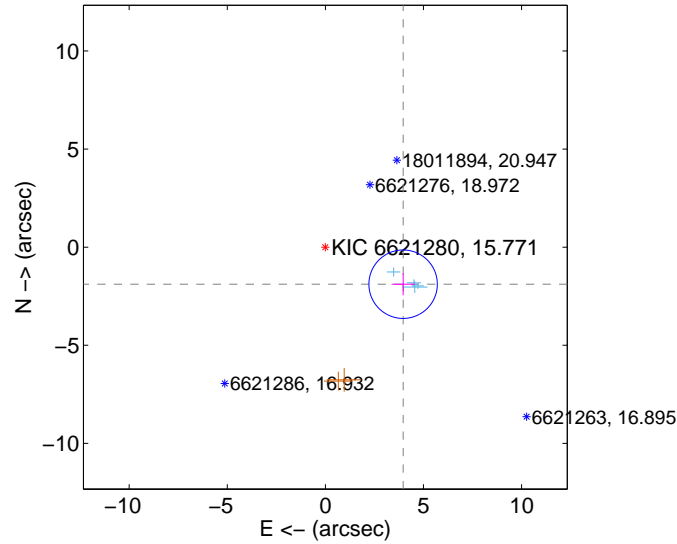
Supplemental centroid analysis for 006621280-01. Kepler magnitude: 15.77. Transit SNR 8.02

There are 4 quarters with good PRF difference image offsets

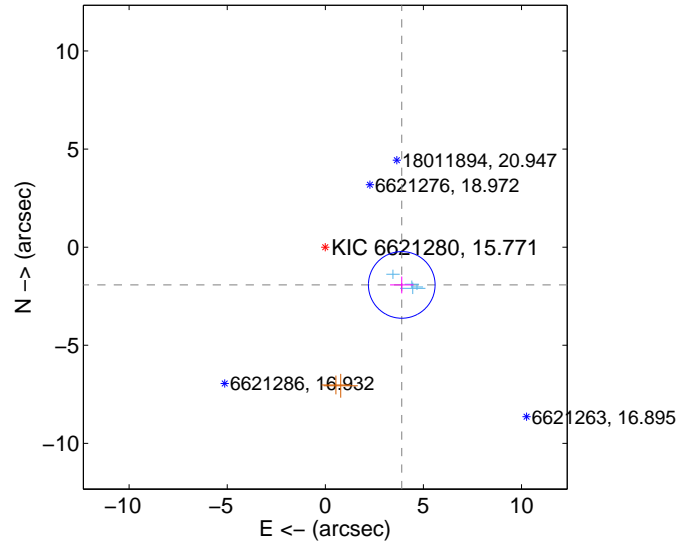
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.390 ± 0.581	7.55	-3.963 ± 0.586	-1.888 ± 0.560
PRF-fit source offset from KIC position	4.346 ± 0.566	7.68	-3.896 ± 0.595	-1.924 ± 0.430
photometric centroid source offset	6.26 ± 1.34	4.68	-4.96 ± 1.29	-3.83 ± 1.42

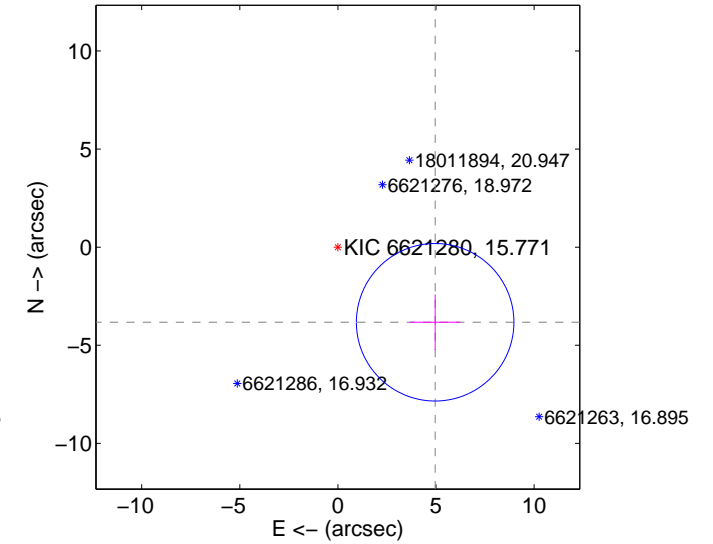
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

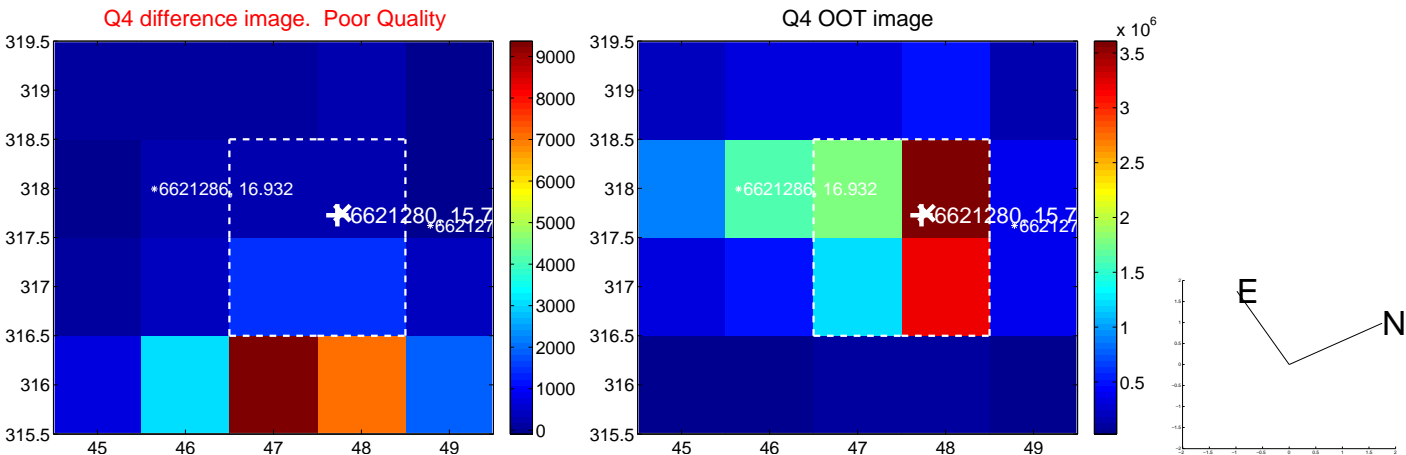
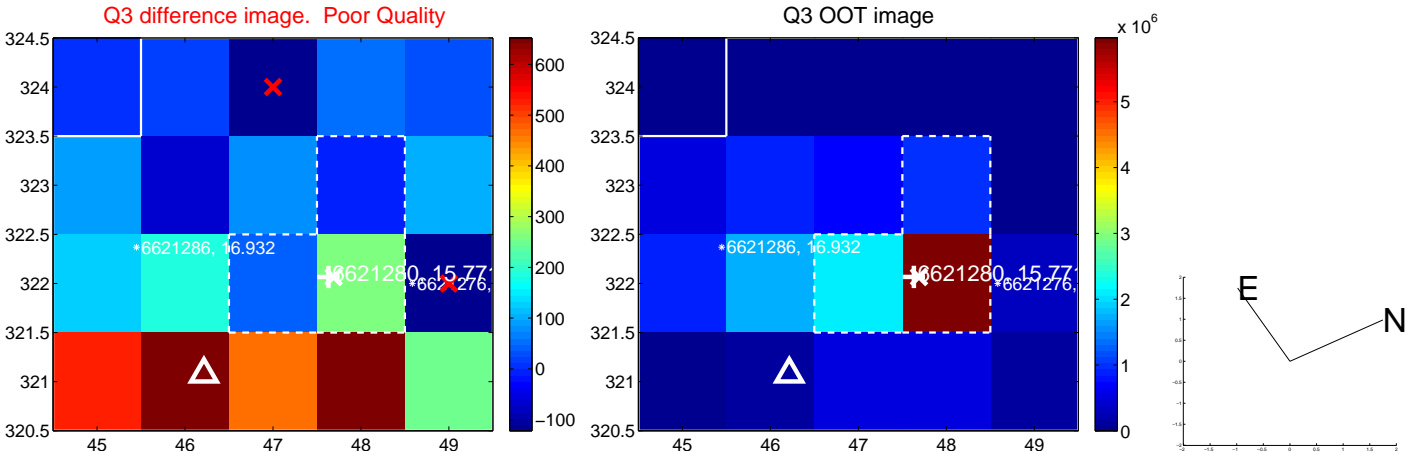
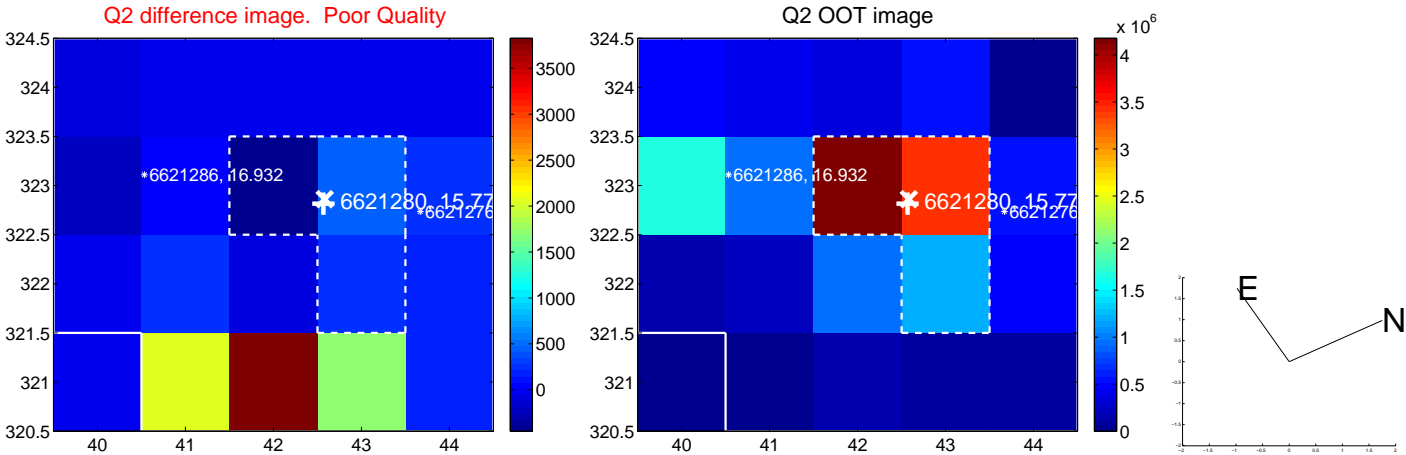
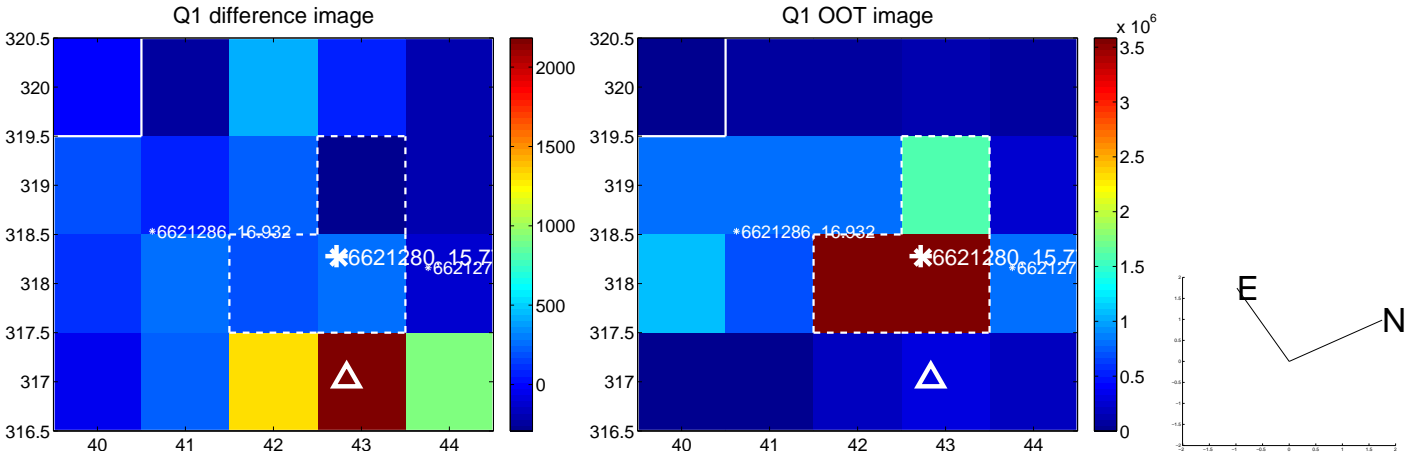


offset from photometric centroids

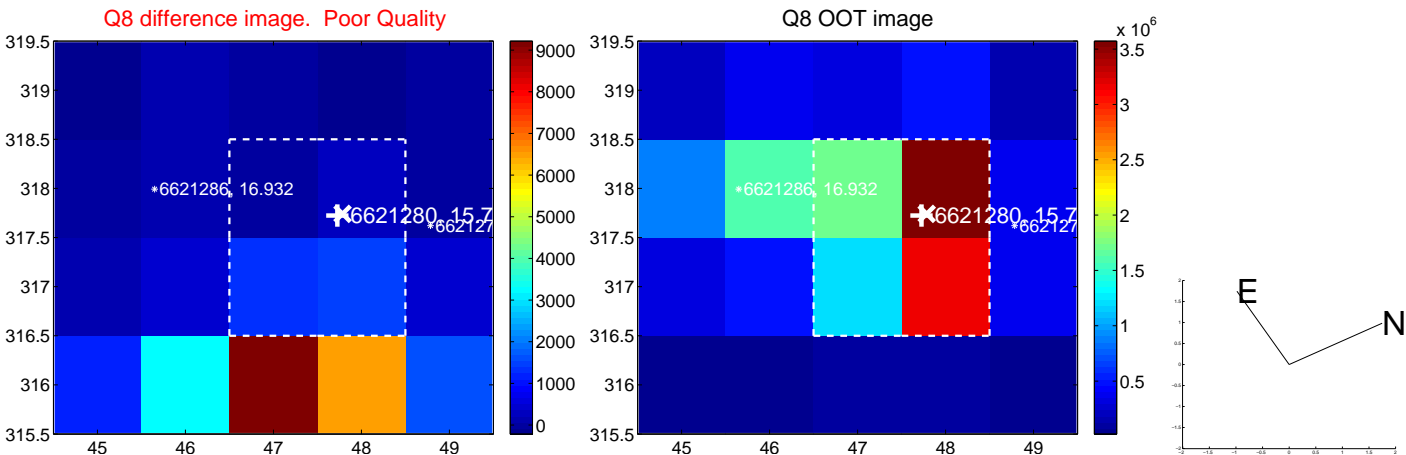
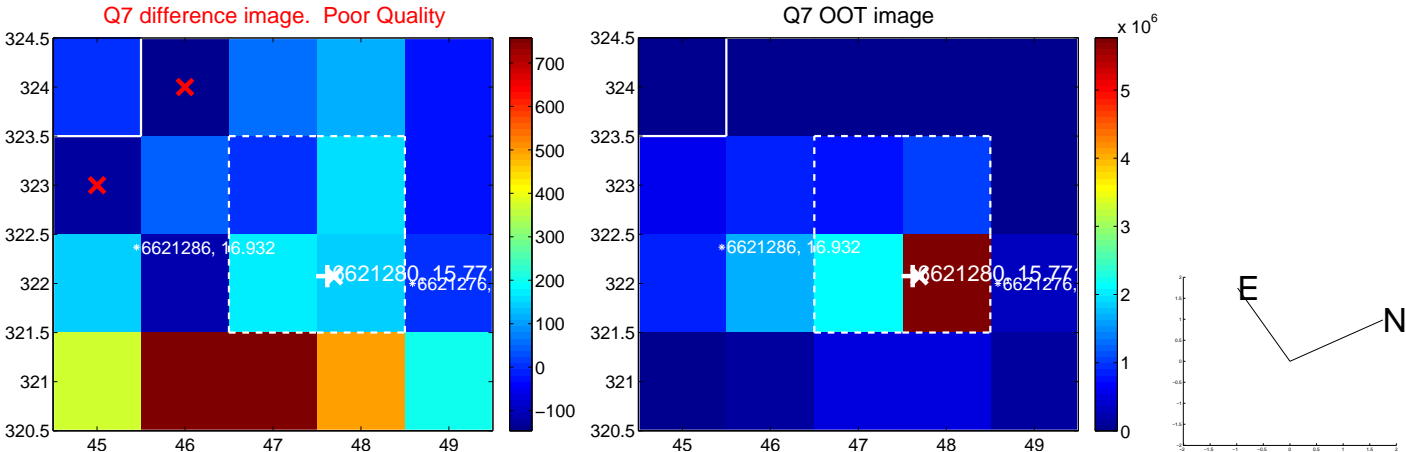
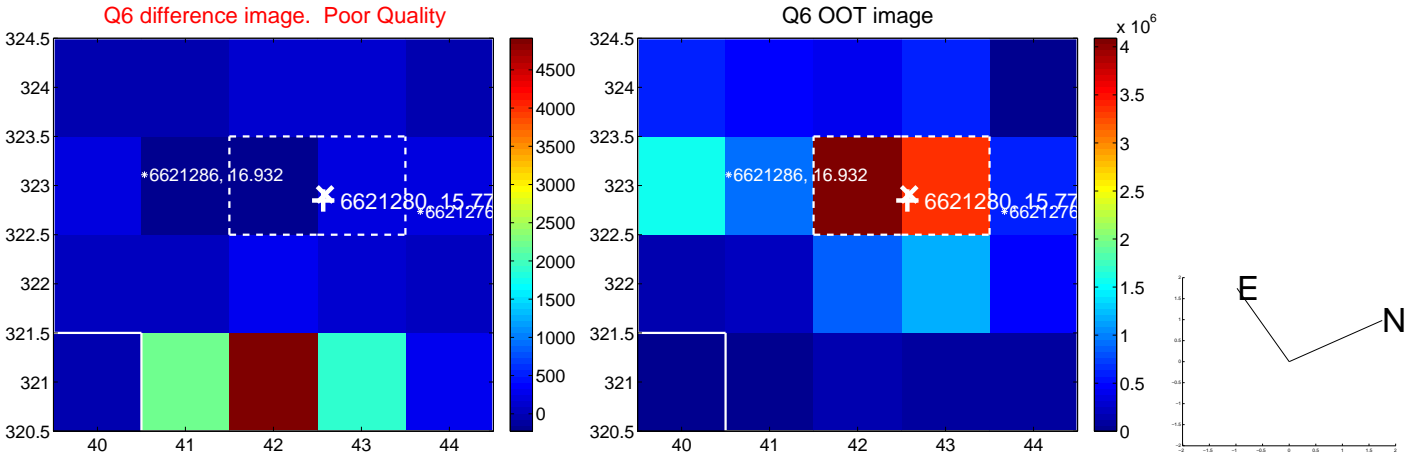
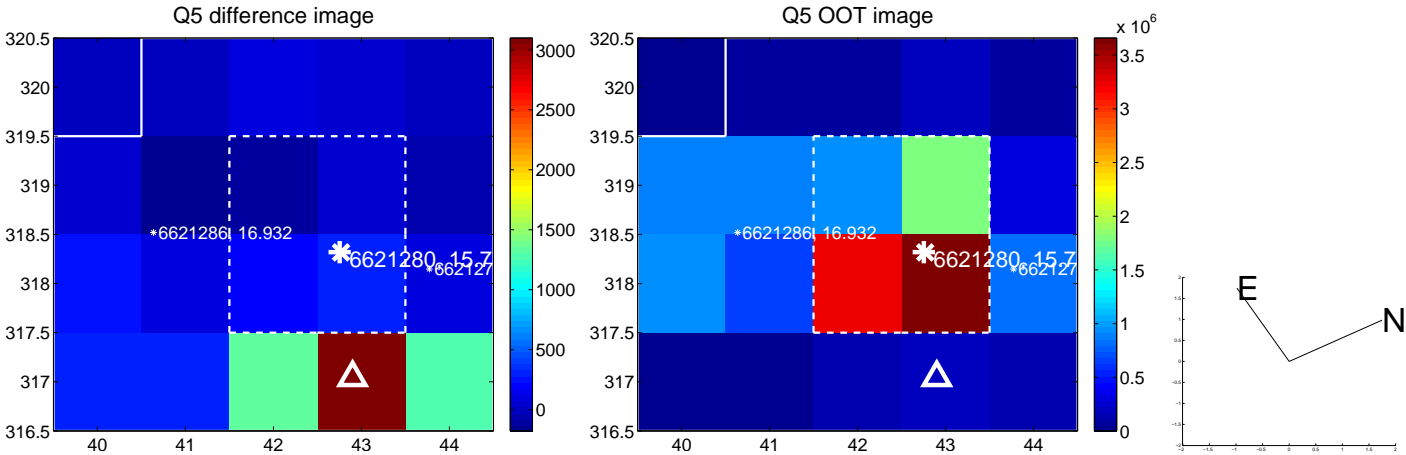


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

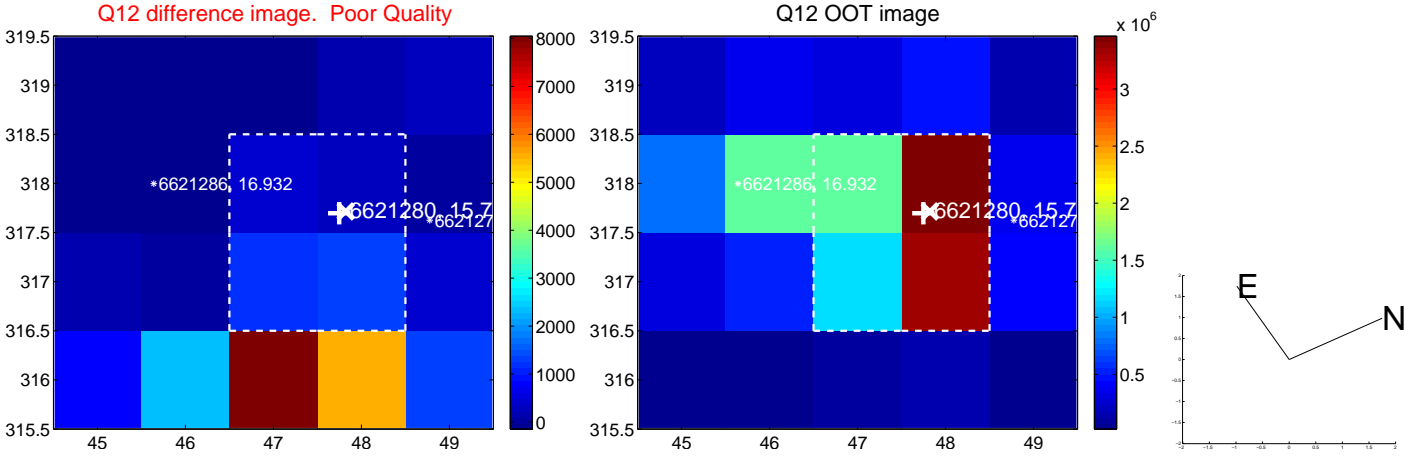
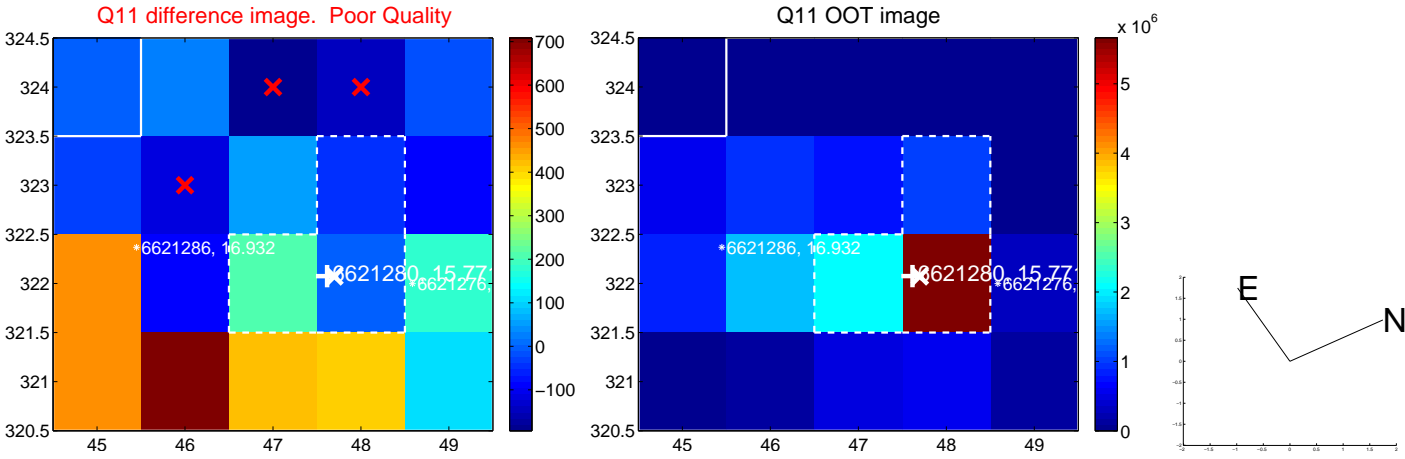
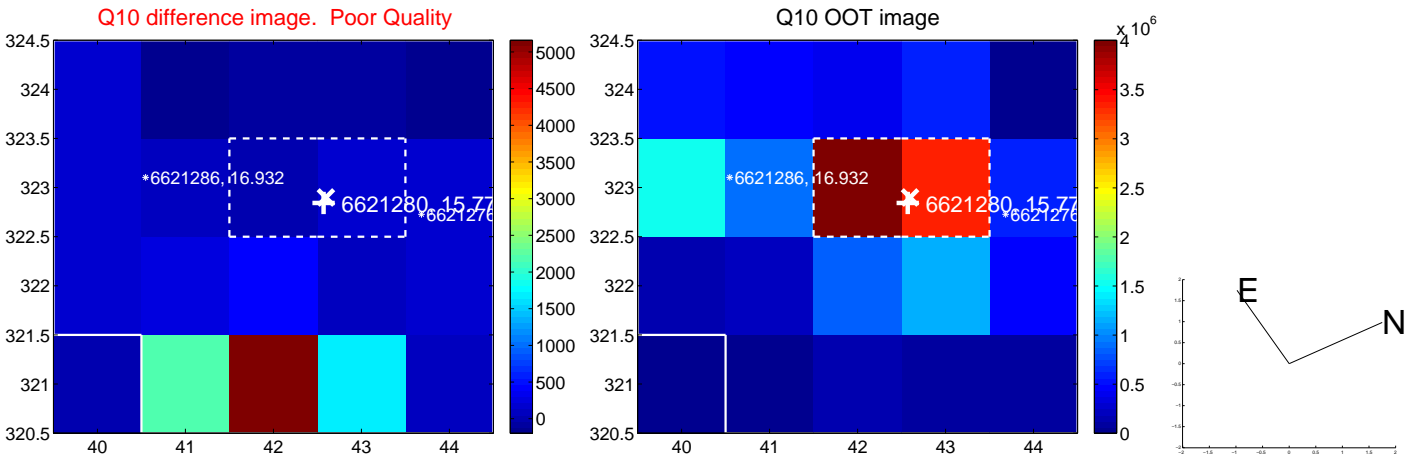
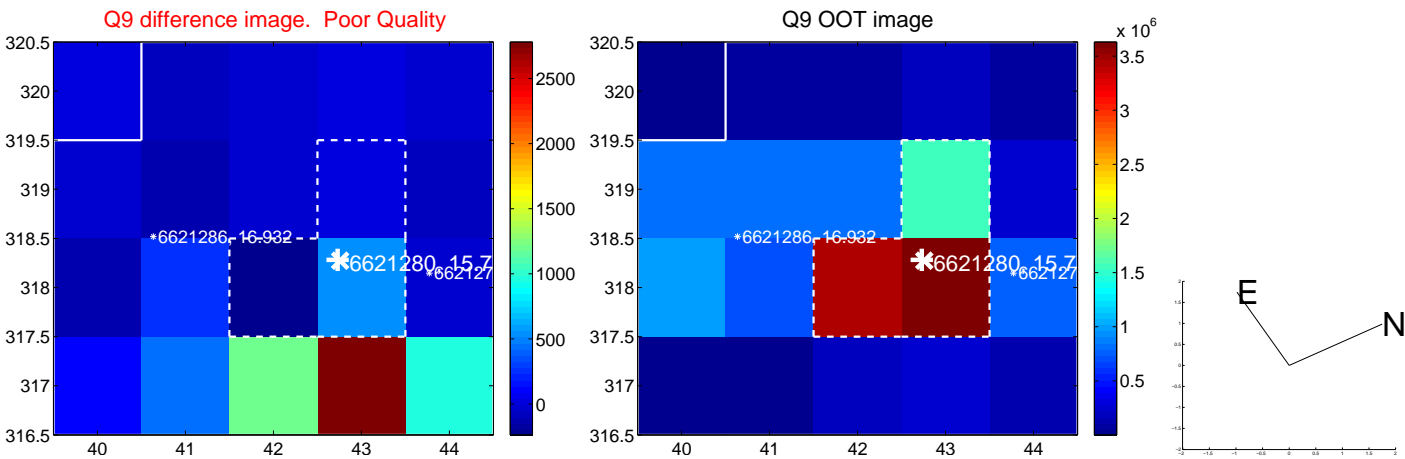
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



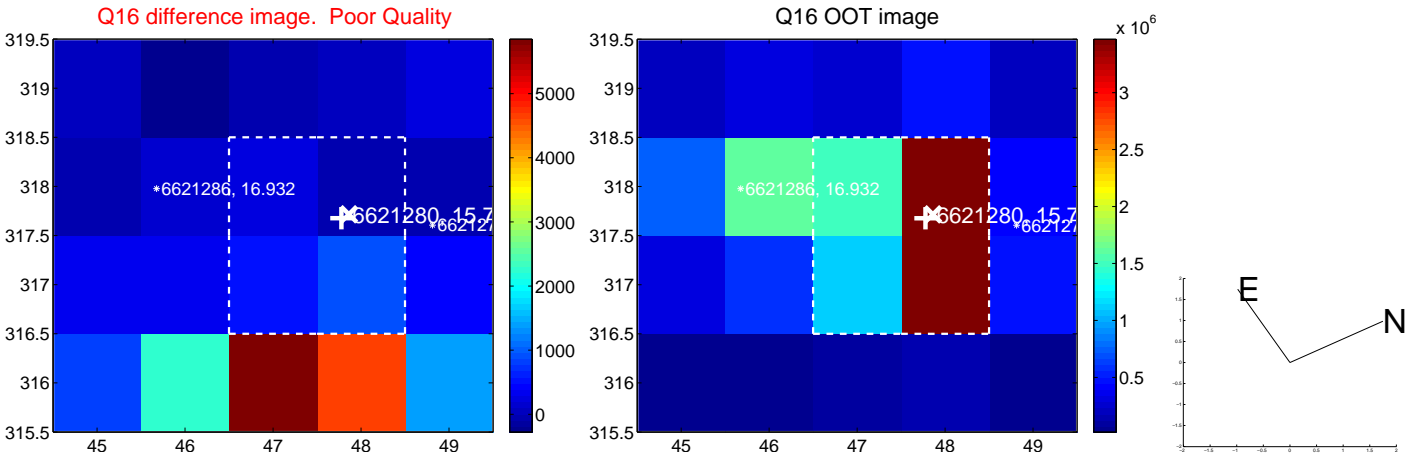
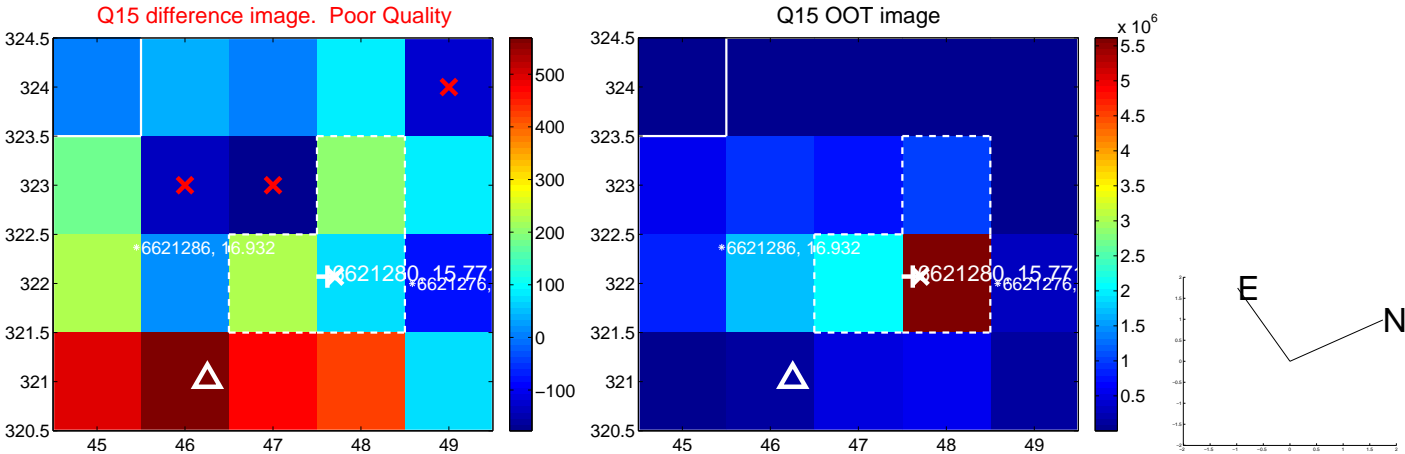
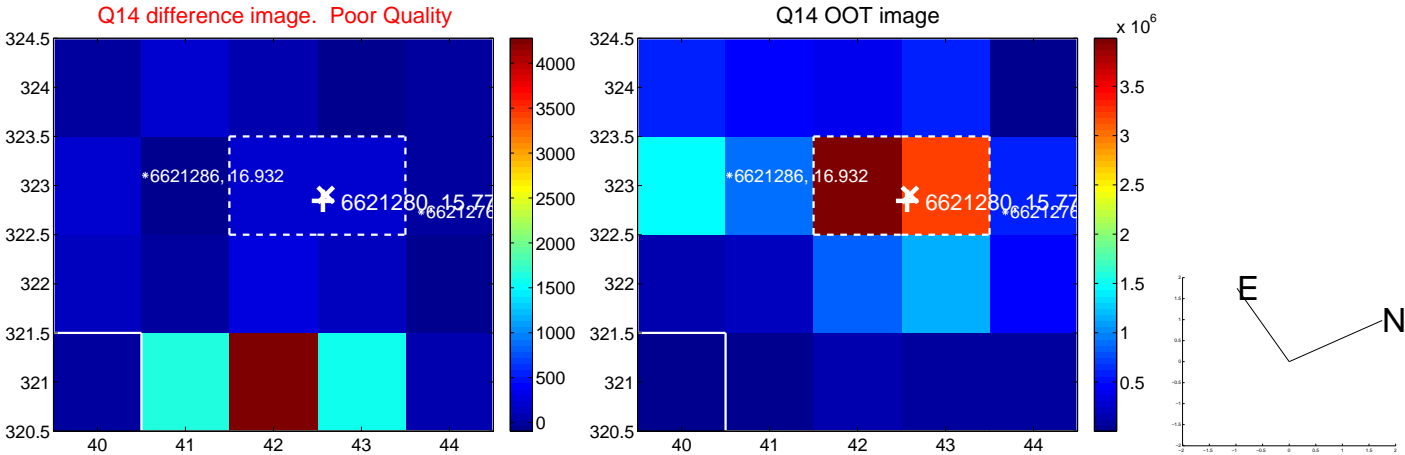
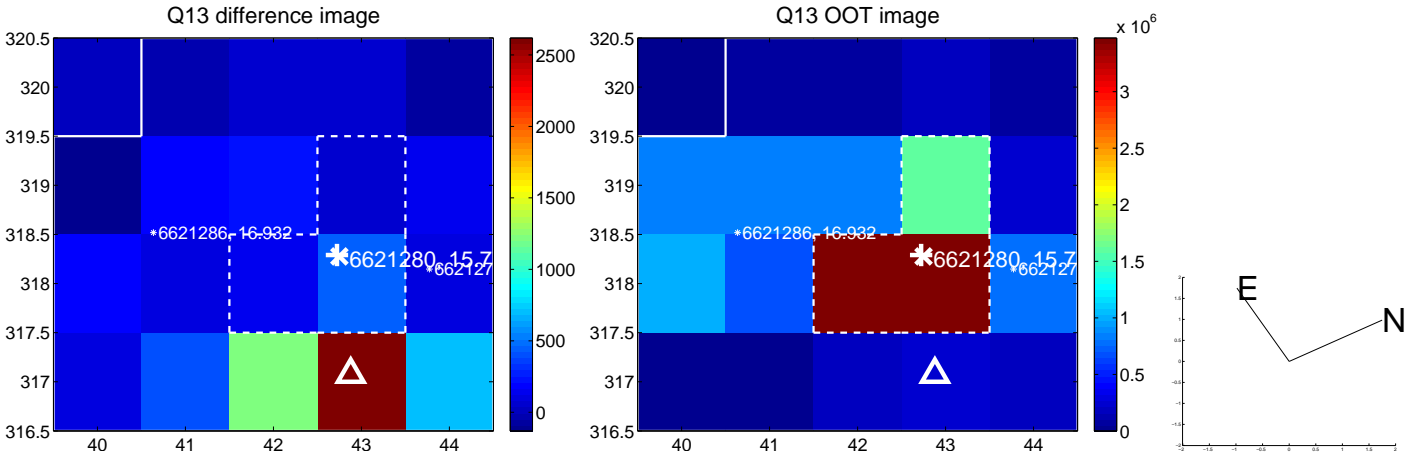
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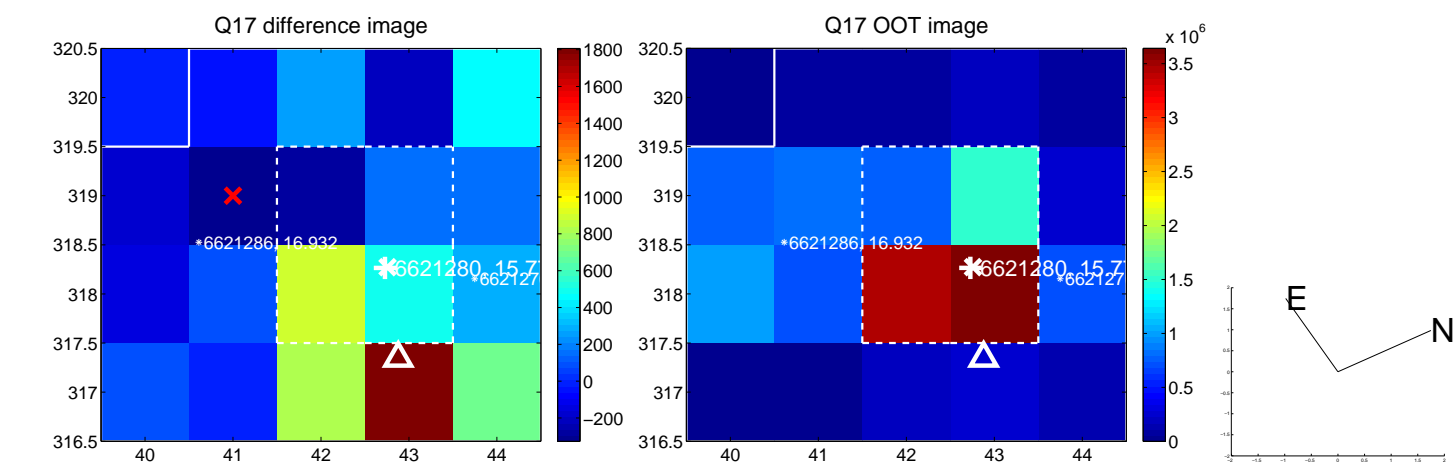
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



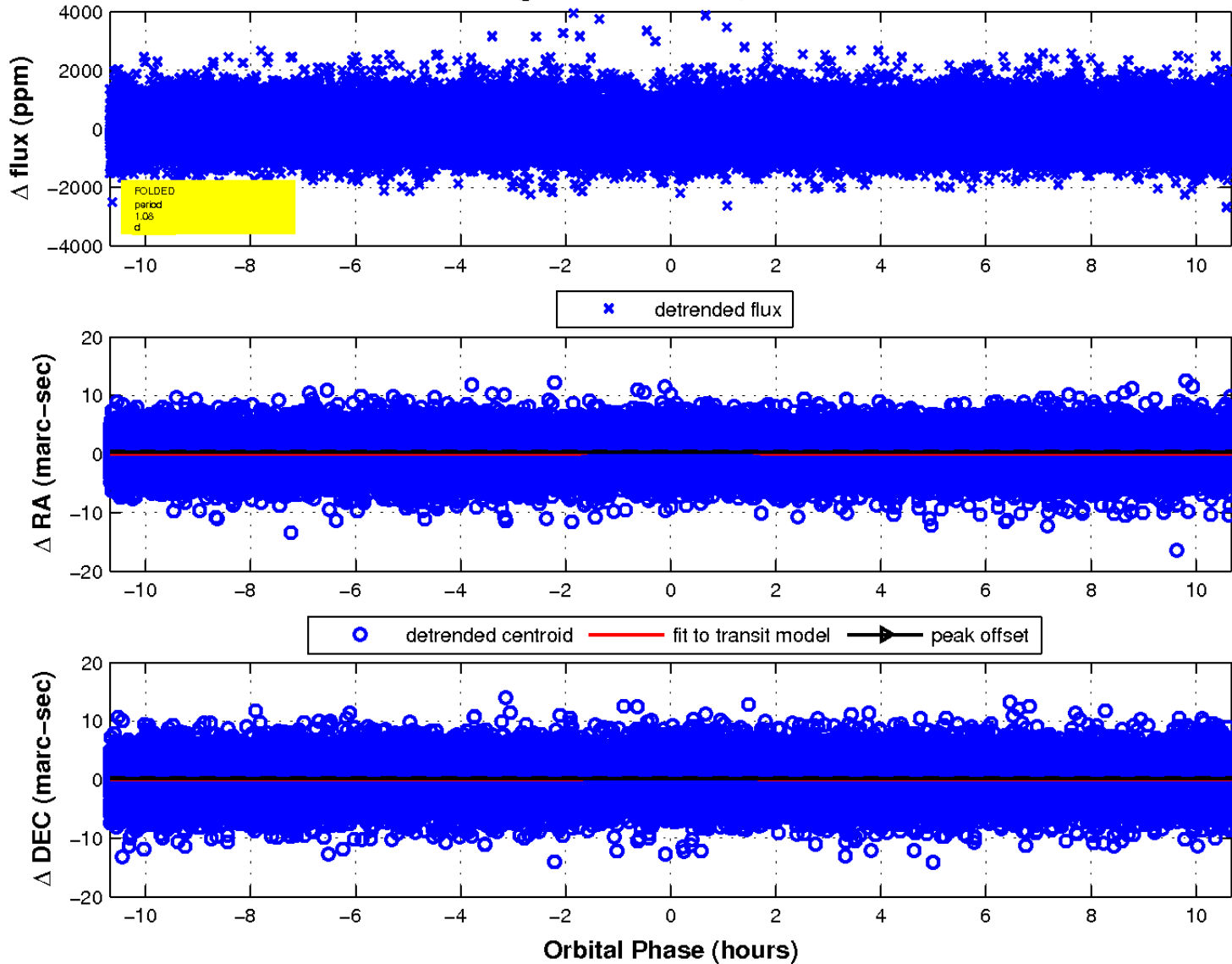
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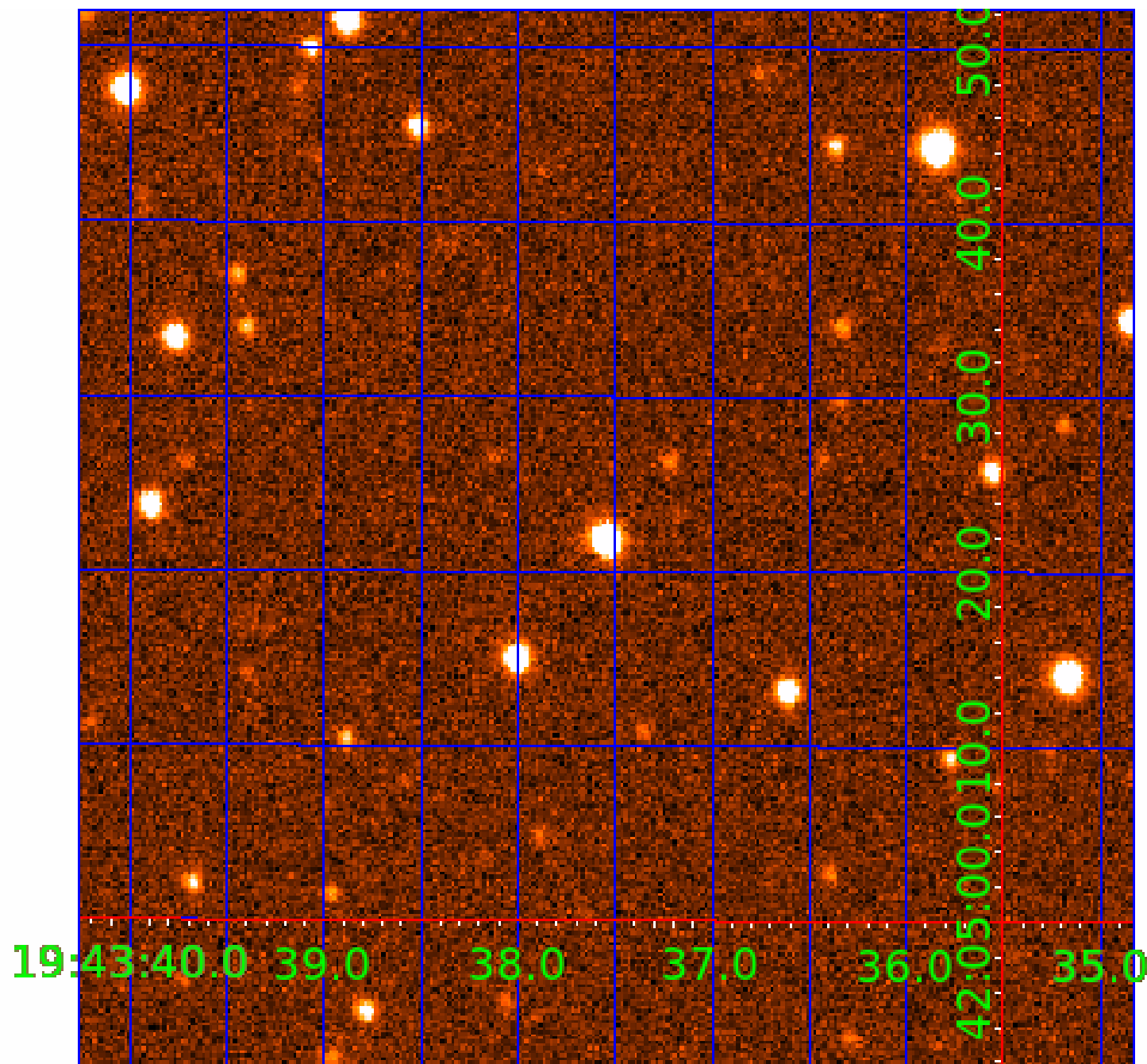


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 006621280

Q1-17 DR25 TCE Parameters

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Robovetter Results

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006621280-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

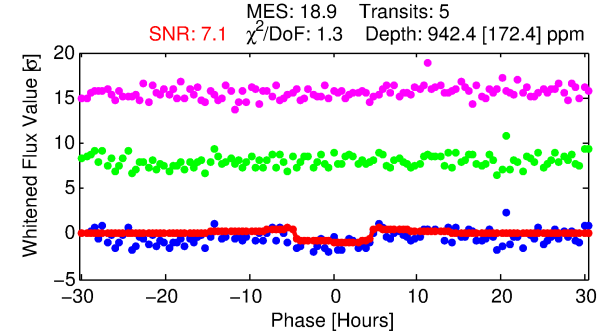
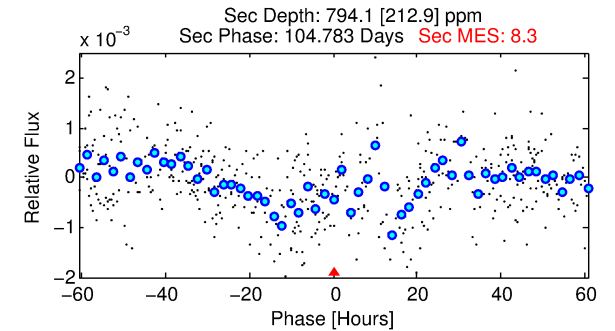
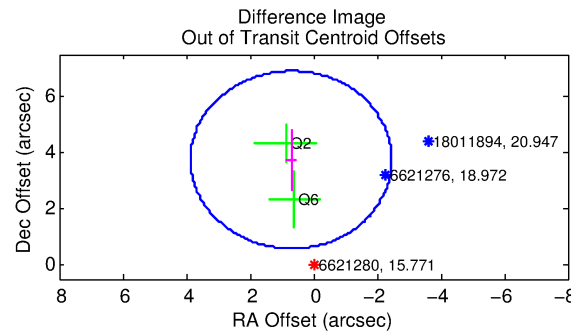
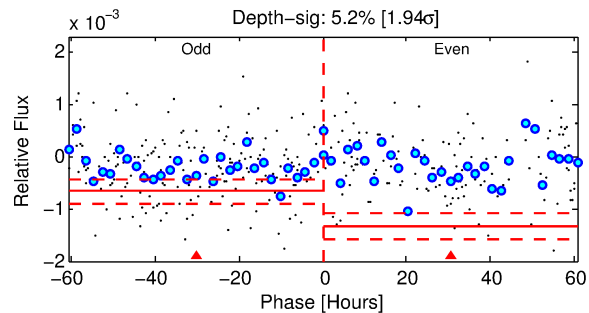
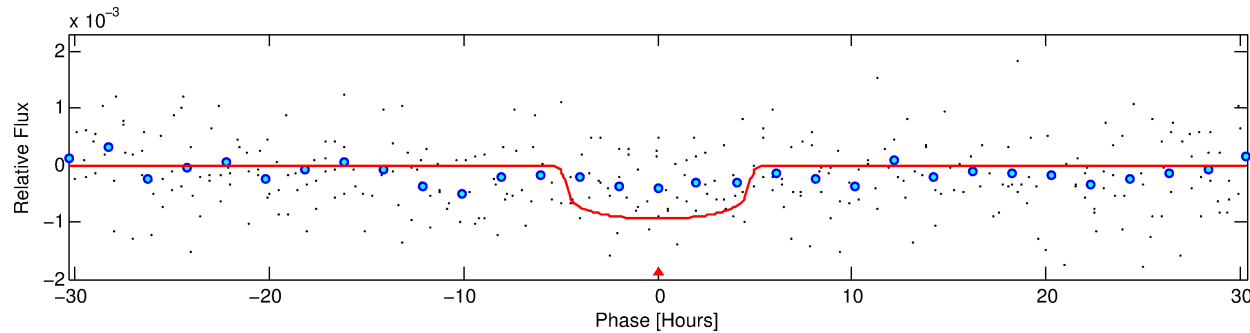
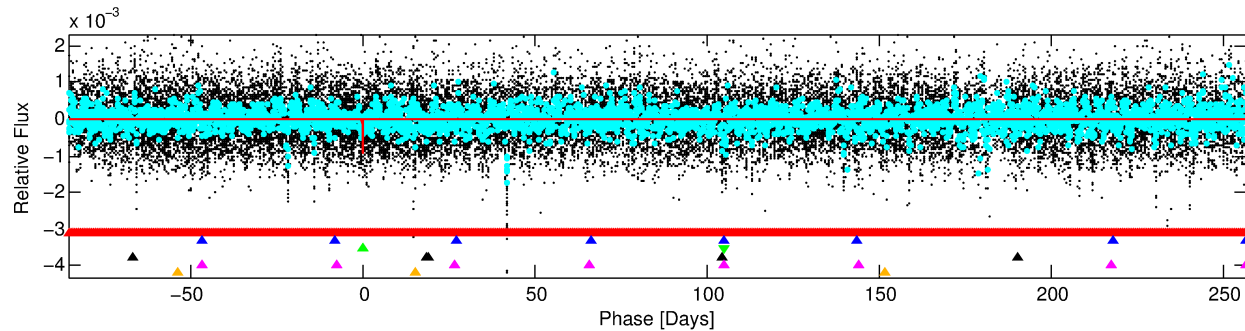
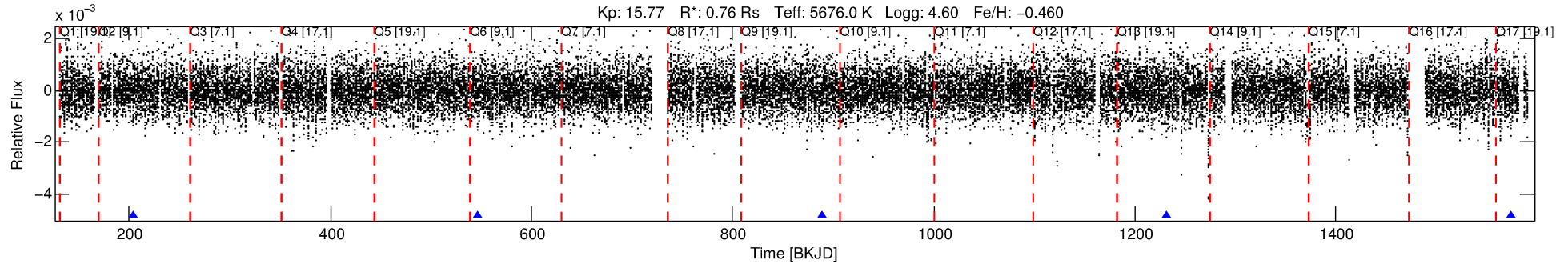
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006621280-03

No Significant Match Found

DV One-Page Summary

KIC: 6621280 Candidate: 3 of 6 Period: 342.223 d



DV Fit Results:

Period = 342.22265 [0.01639] d
Epoch = 204.3566 [0.0407] BKJD
Rp/R* = 0.0298 [0.0159]
a/R* = 202.40 [484.98]
b = 0.67 [1.97]
Seff = 0.66 [0.19]
Teq = 230 [17] K
Rp = 2.47 [1.43] Re
a = 0.9010 [0.1674] AU
Ag = 58312.52 [65955.08] [0.88σ]
Teffp = 5522 [1527] K [3.47σ]

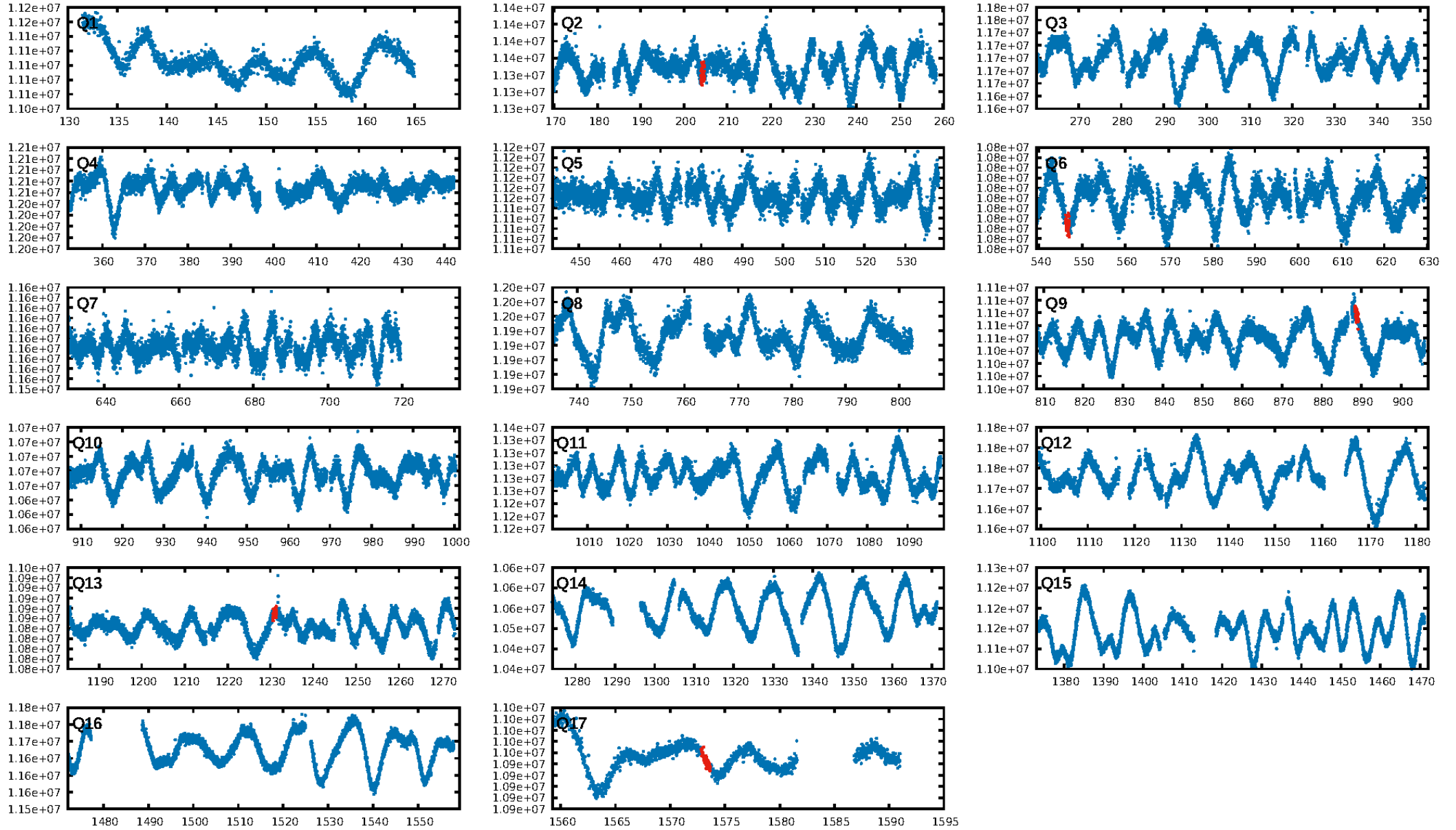
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [152.96σ]
LongPeriod-sig: 100.0% [144.48σ]
ModelChiSquare2-sig: 3.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.17e-33
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.805
Centroid-sig: 13.8%
Centroid-so: 2.149 arcsec [2.13σ]
OotOffset-rm: 3.809 arcsec [3.61σ]
KicOffset-rm: 3.606 arcsec [3.27σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/4]

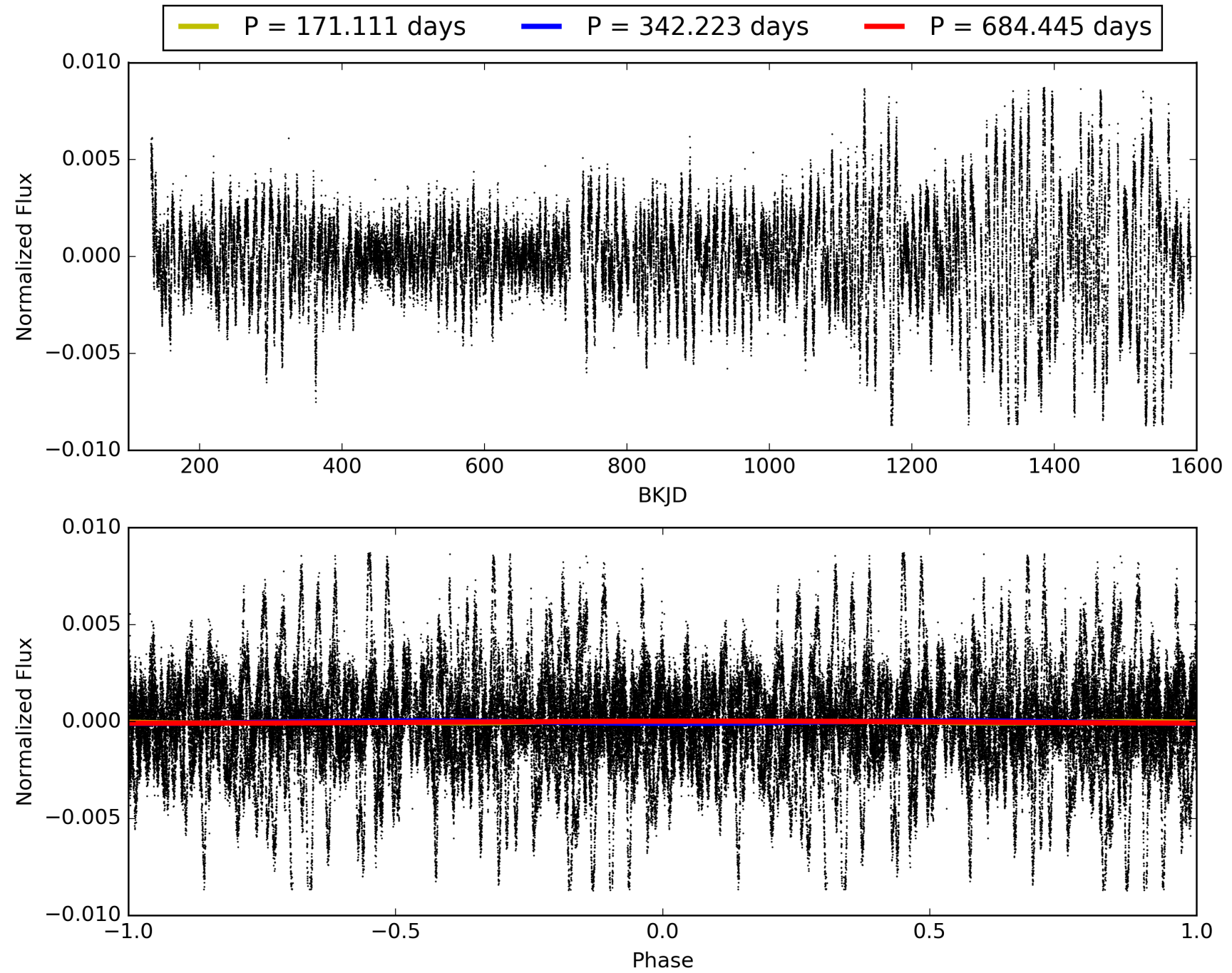
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:11:39 Z

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

TCE 006621280-03, PDC Light Curves

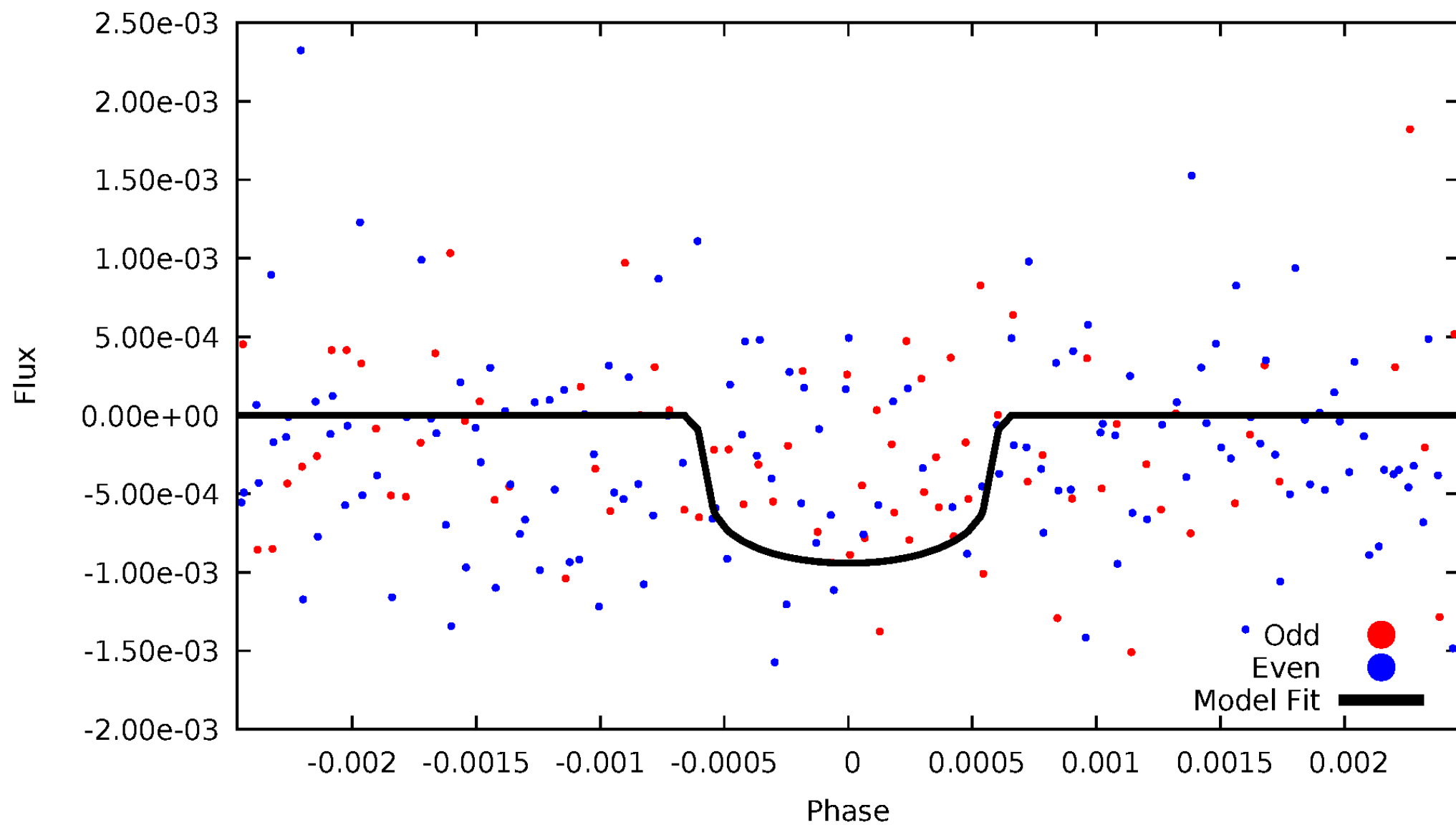


TCE 006621280-03



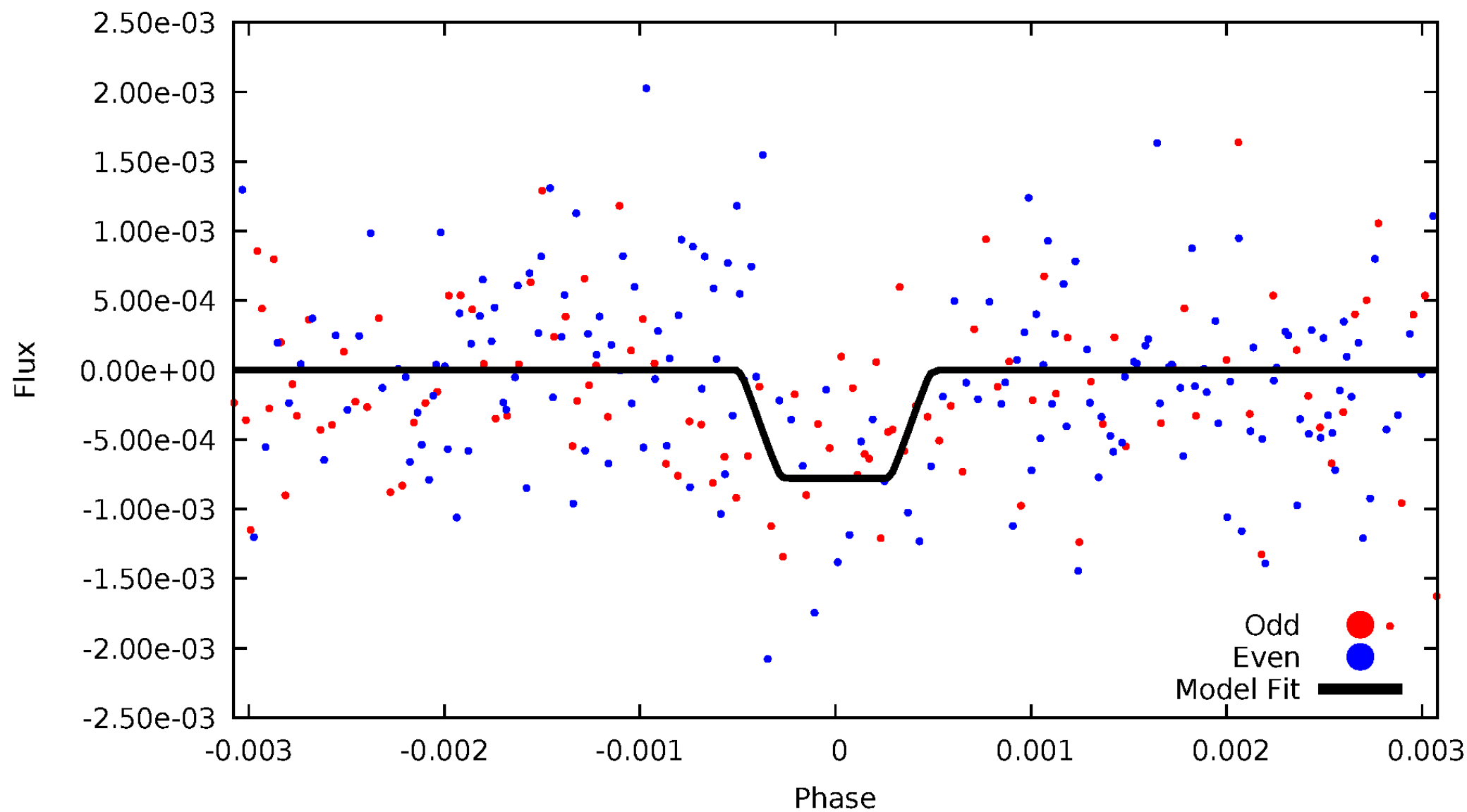
DV Odd/Even

TCE 006621280-03



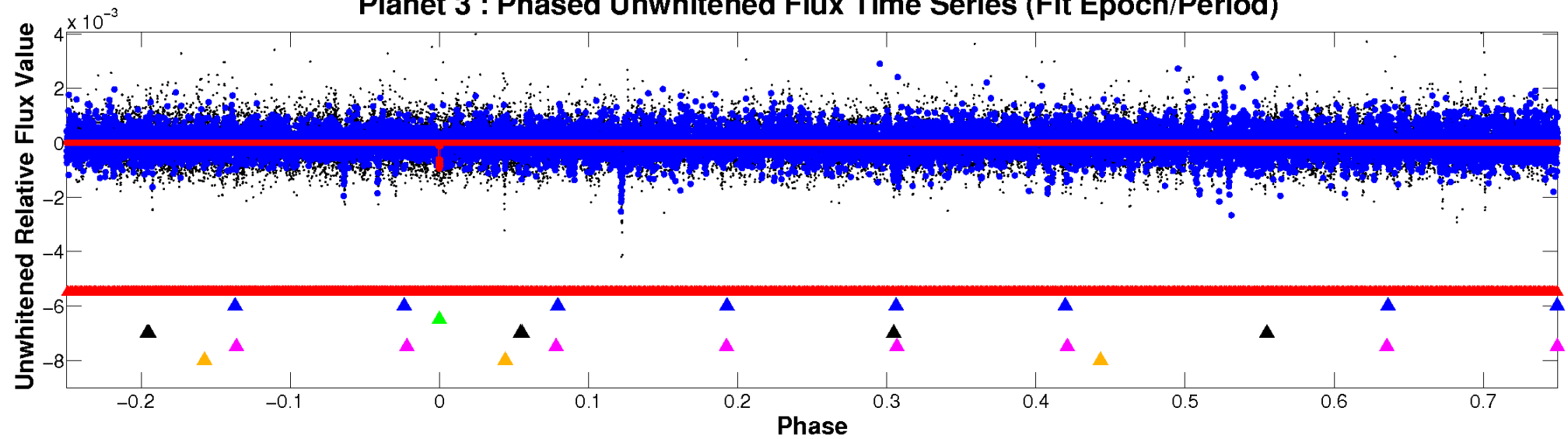
ALT Odd/Even

TCE 006621280-03

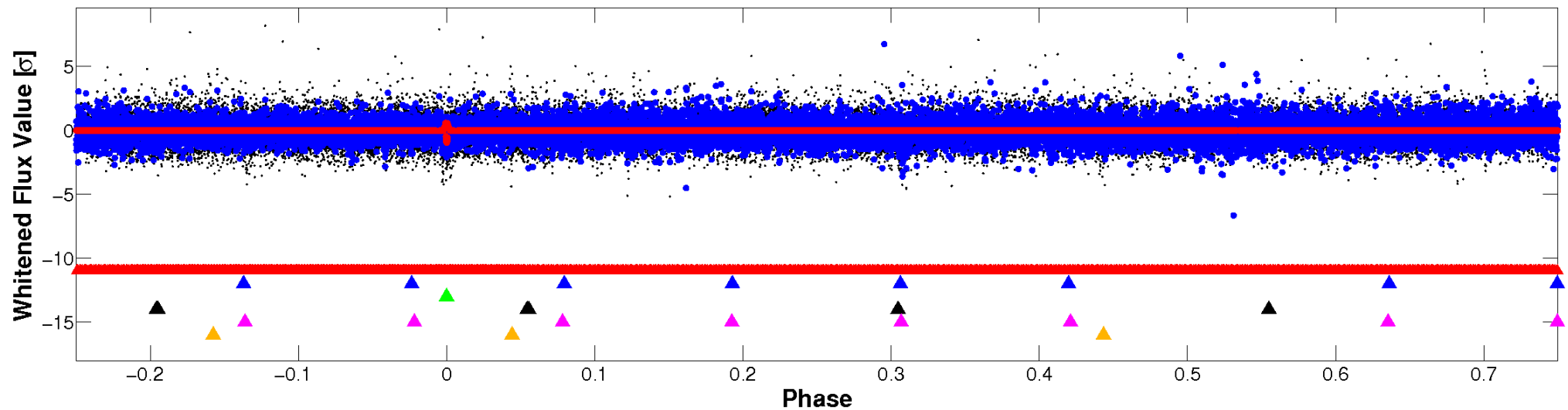


Non-Whitened Vs. Whitened Light Curve

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

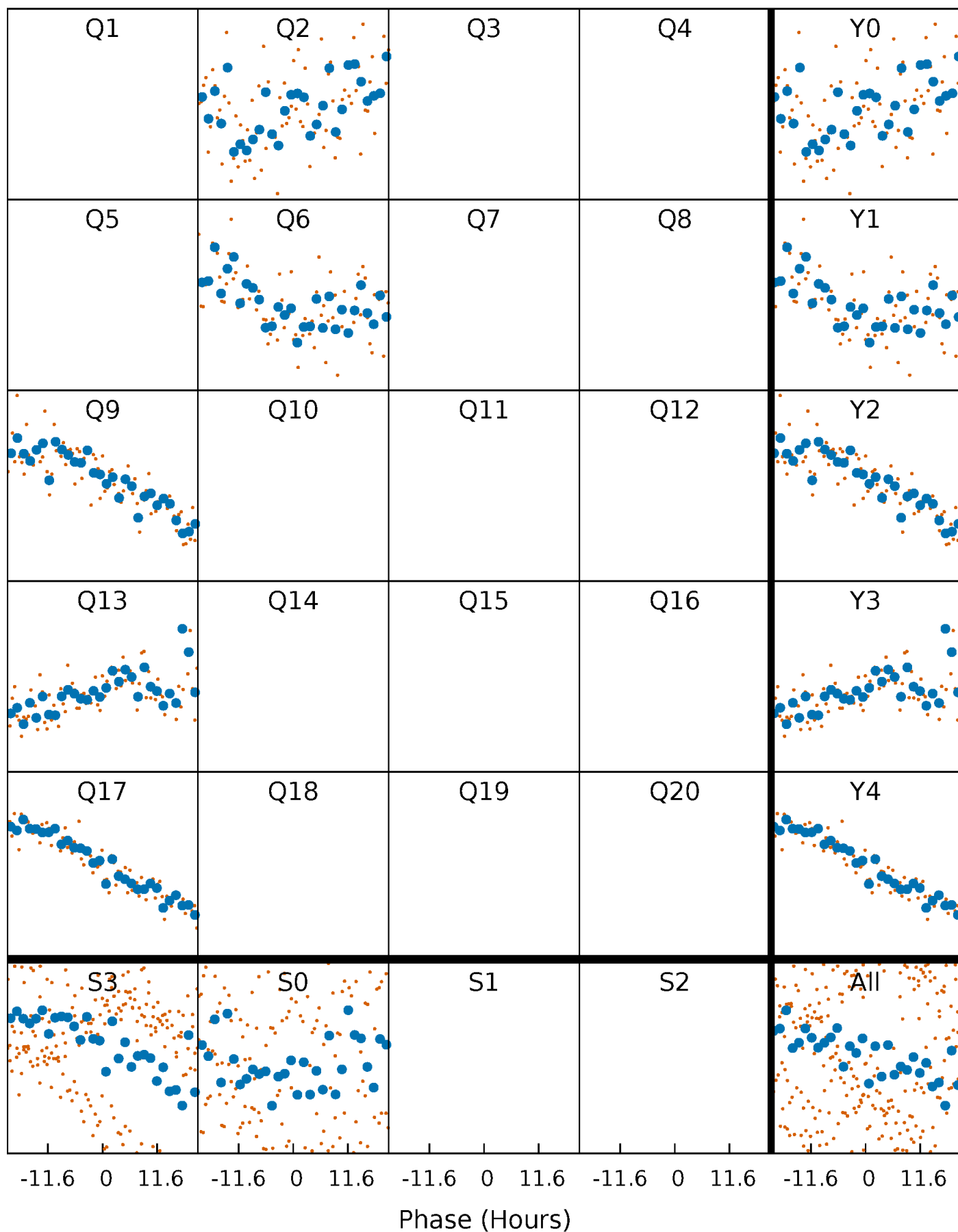


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



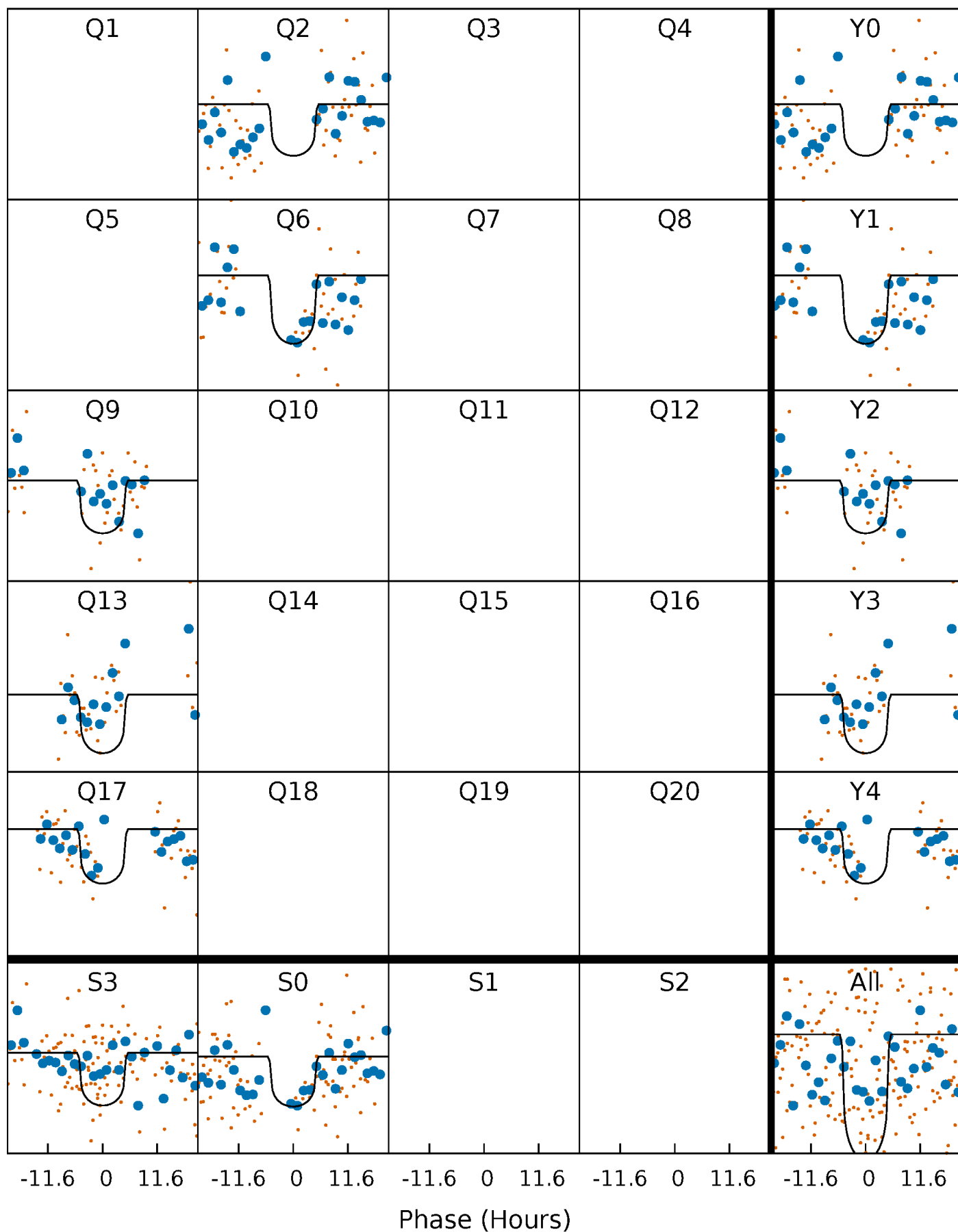
PDC Quarter-Phased Transit Curves

TCE 006621280-03 $P=342.222651$ Days $T_0=204.356575$ (BKJD)



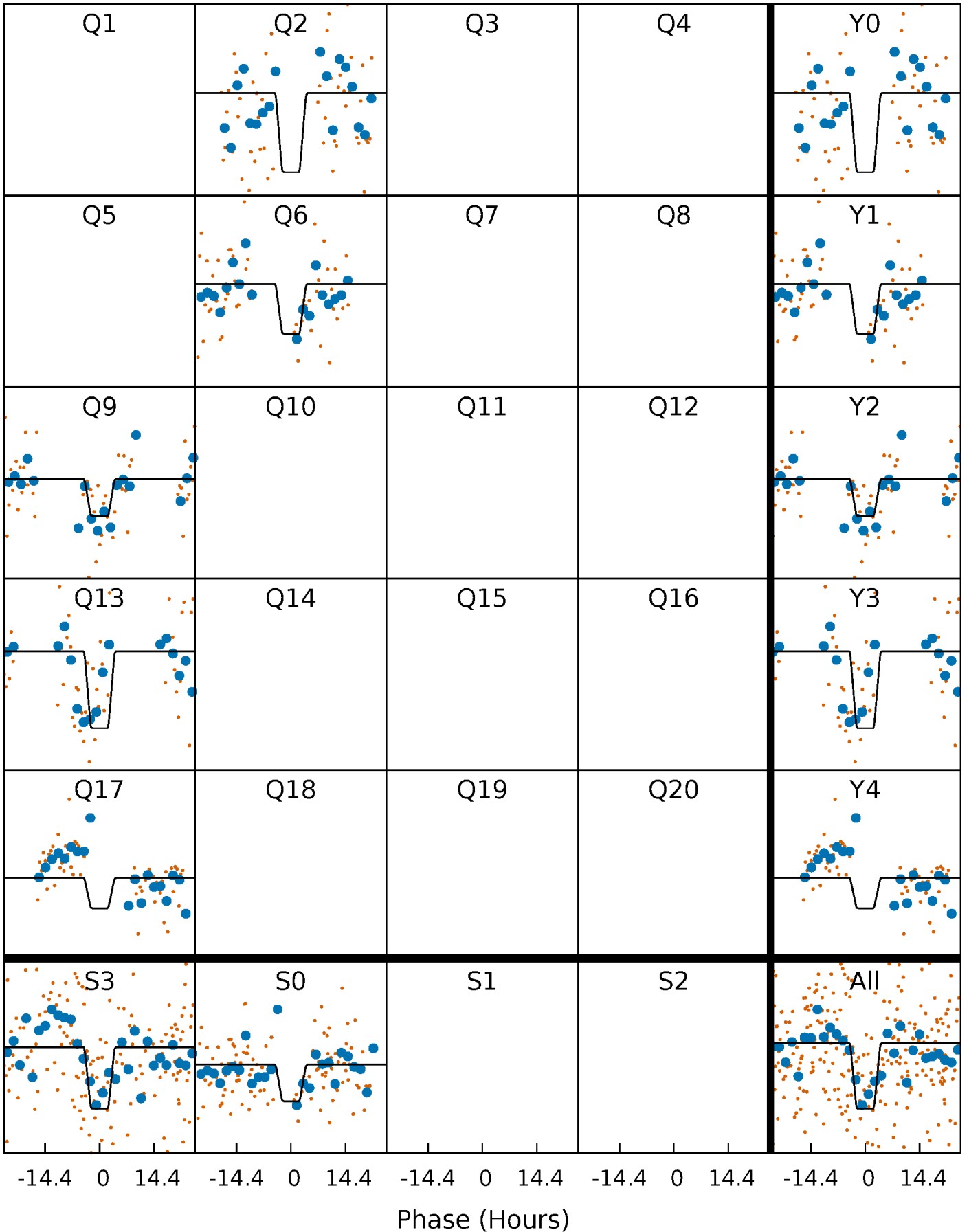
DV Quarter-Phased Transit Curves

TCE 006621280-03 $P=342.222651$ Days $T_0=204.356575$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

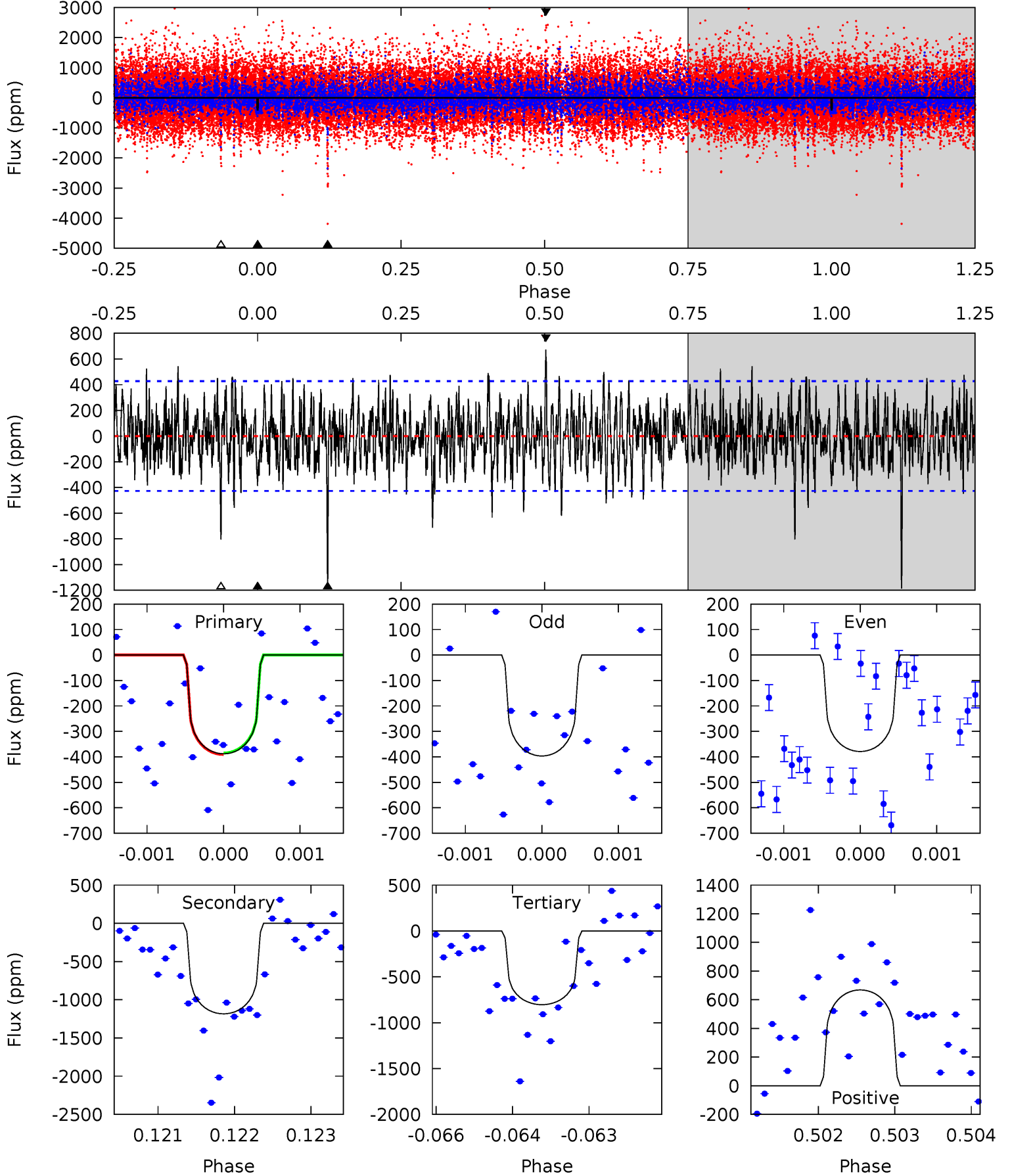
TCE 006621280-03 P=342.275752 Days $T_0=204.267227$ (BKJD)



DV Model-Shift Uniqueness Test

006621280-03, P = 342.222651 Days, E = 204.356575 Days

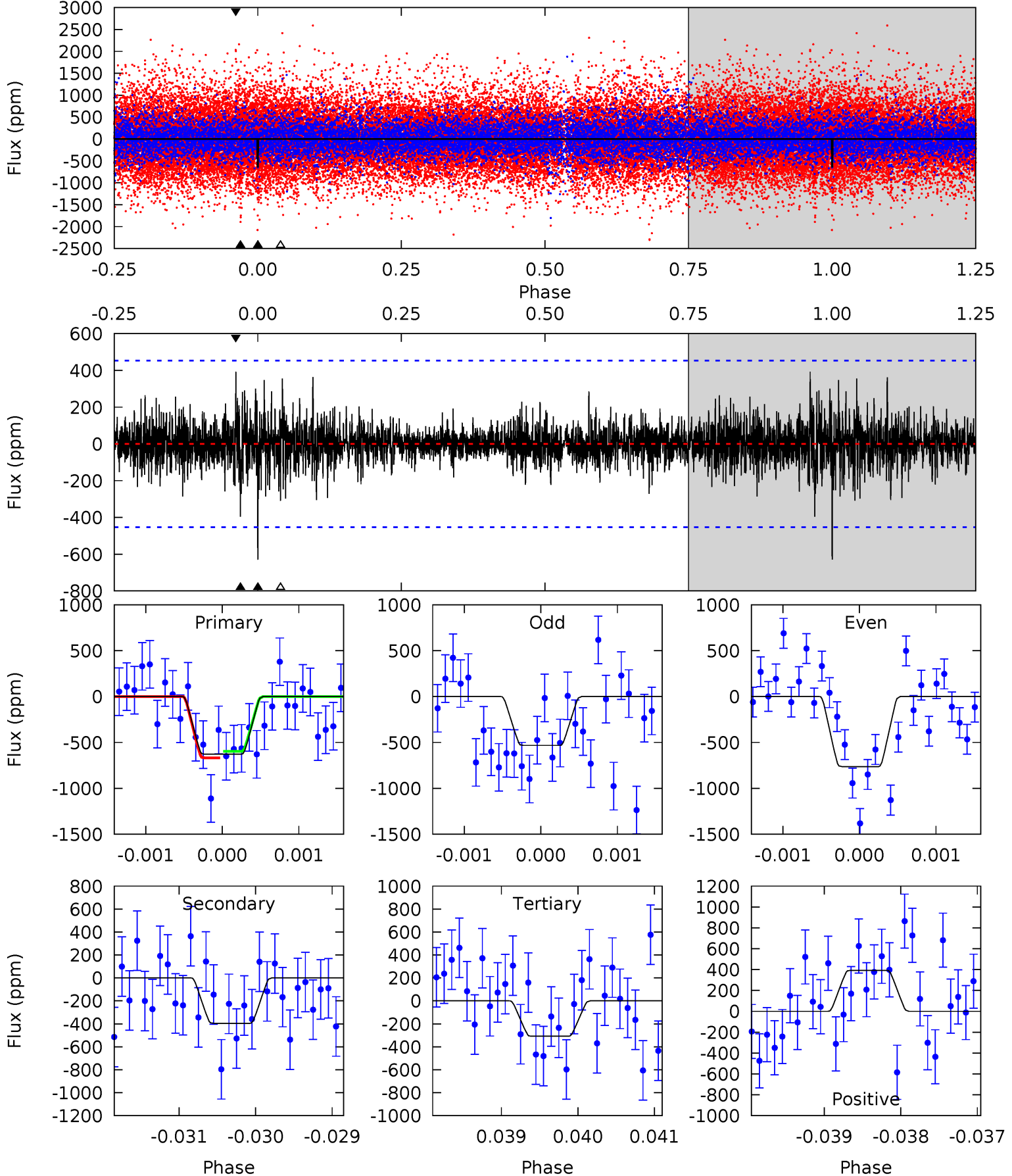
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.91	15.0	10.2	8.46	5.41	3.22	2.34	-5.26	-3.55	4.82	6.52	0.11	1.10	0.36	0.04



Alt Model-Shift Uniqueness Test

006621280-03, P = 342.275752 Days, E = 204.267227 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.56	4.75	3.70	4.71	5.45	3.29	0.93	3.85	2.84	1.04	0.03	1.39	-0.26	0.38	0.42



Stellar Parameters For KIC 006621280

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5676^{+172}_{-172}	$4.598^{+0.036}_{-0.144}$	$-0.460^{+0.300}_{-0.300}$	$0.759^{+0.170}_{-0.057}$	$0.848^{+0.080}_{-0.089}$	$2.729^{+0.517}_{-1.165}$
	+3%/-3%	+1%/-3%	+65%/-65%	+22%/-8%	+9%/-10%	+19%/-43%
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 006621280-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1184 ± 79	$2.62^{+1.44}_{-1.33}$	328^{+17}_{-15}	6118^{+3048}_{-1157}	$77199^{+245187}_{-44852}$
Alt.	-395 ± 83	$2.54^{+1.26}_{-1.27}$	327^{+17}_{-13}	4795^{+1758}_{-791}	26738^{+84126}_{-15934}

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

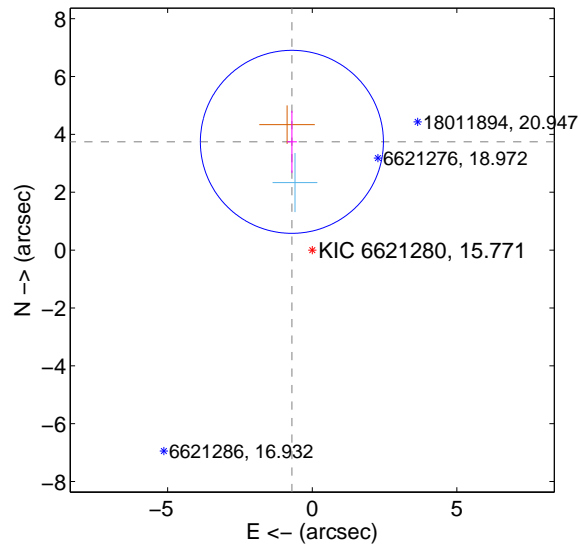
Supplemental centroid analysis for 006621280-03. Kepler magnitude: 15.77. Transit SNR 7.06

There are 1 quarters with good PRF difference image offsets

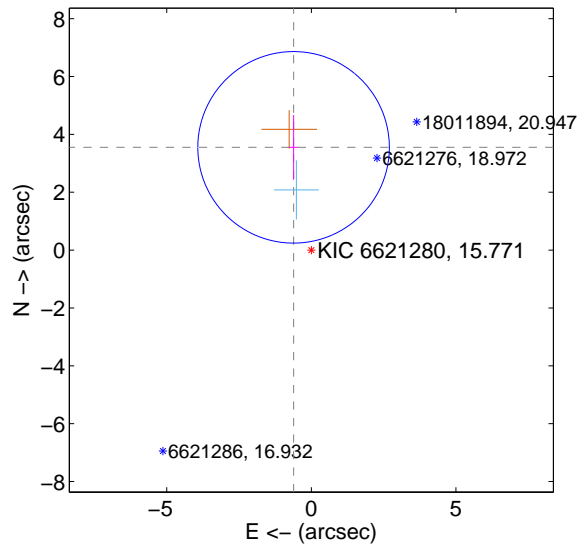
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.809 ± 1.055	3.61	0.704 ± 0.170	3.744 ± 1.073
PRF-fit source offset from KIC position	3.606 ± 1.104	3.27	0.614 ± 0.157	3.553 ± 1.120
photometric centroid source offset	2.15 ± 1.01	2.13	1.02 ± 0.93	-1.89 ± 1.03

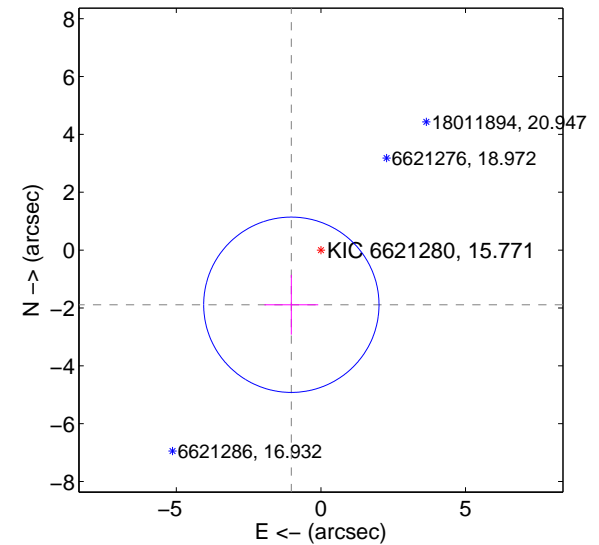
offset from difference PRF-fit to OOT PRF-fit



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.

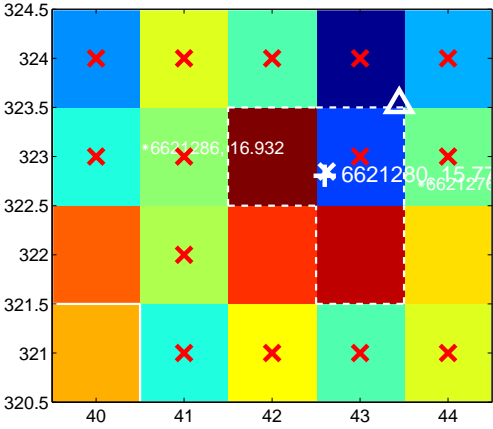
Q1 no difference image



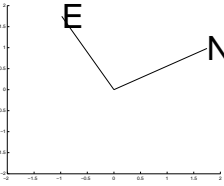
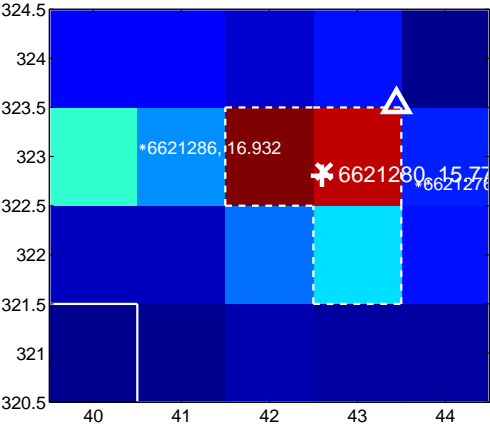
Q1 no OOT image



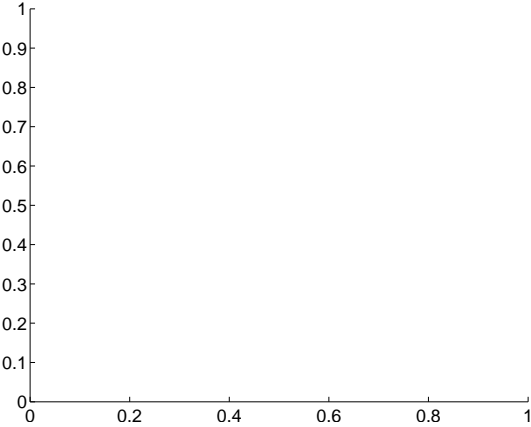
Q2 difference image. Poor Quality



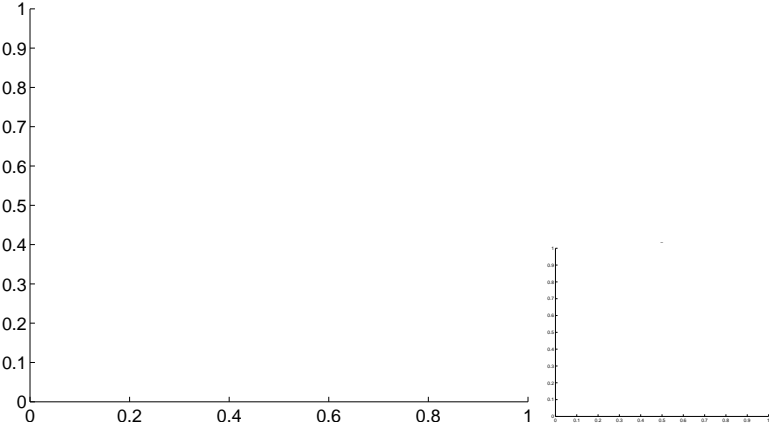
Q2 OOT image



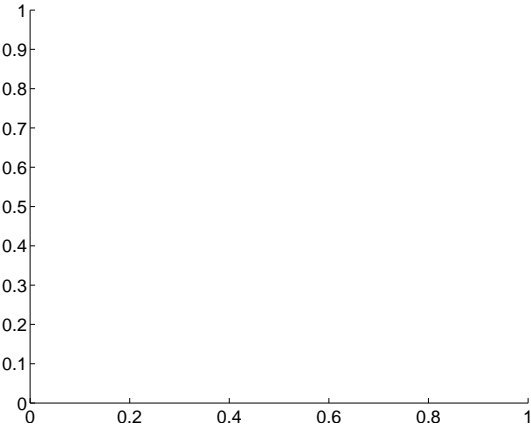
Q3 no difference image



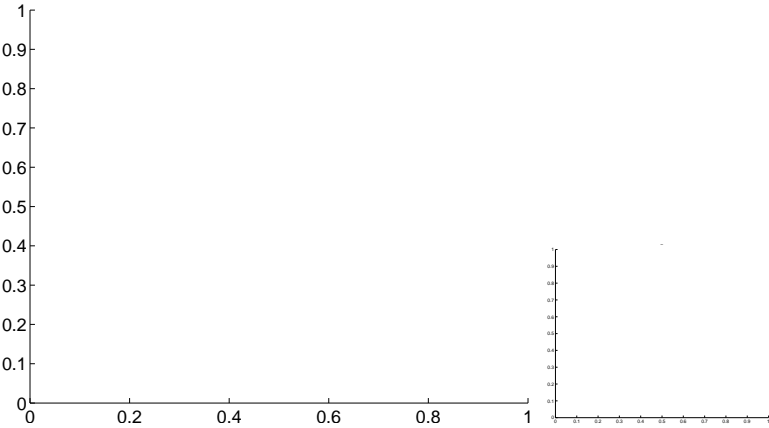
Q3 no OOT image



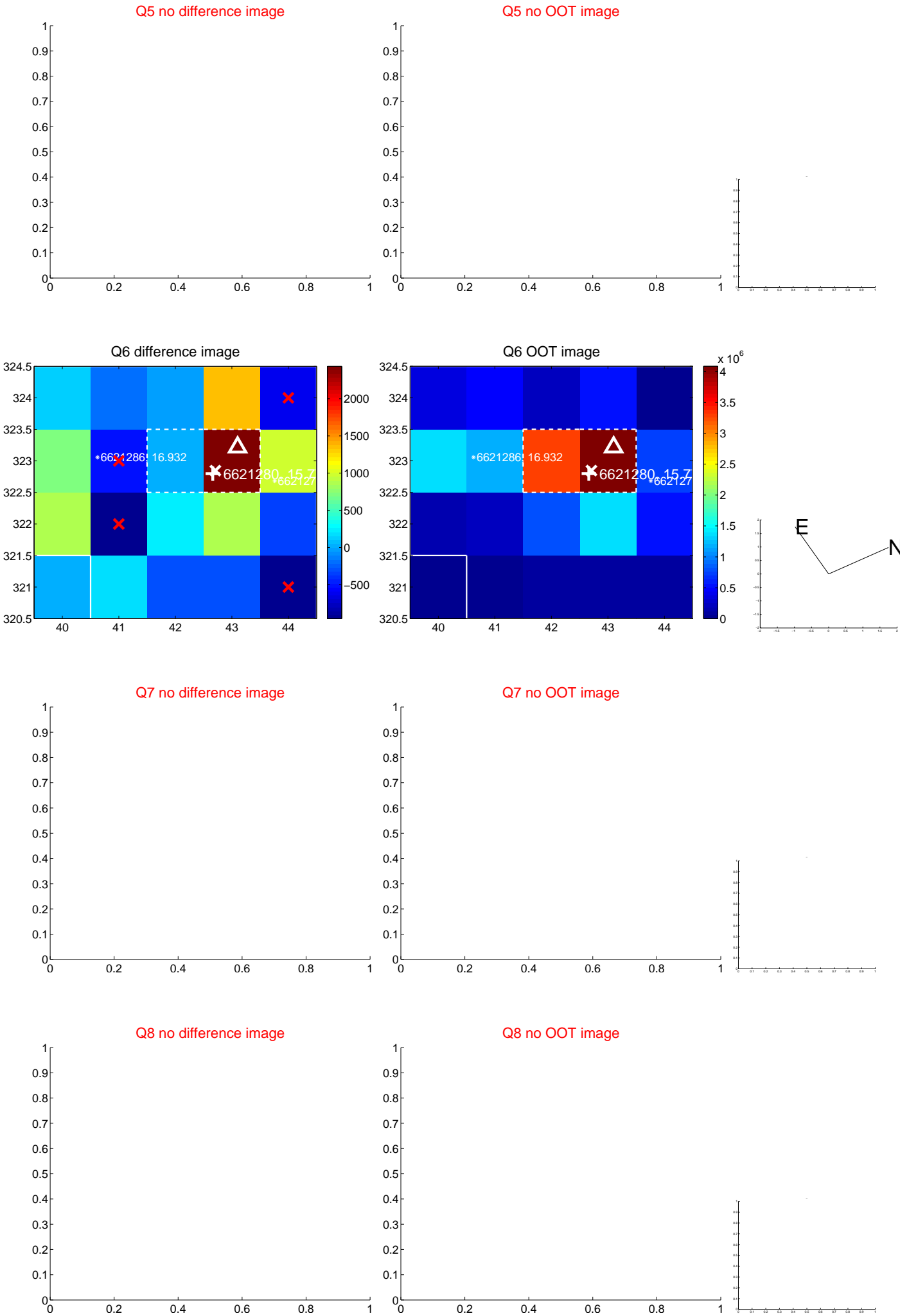
Q4 no difference image



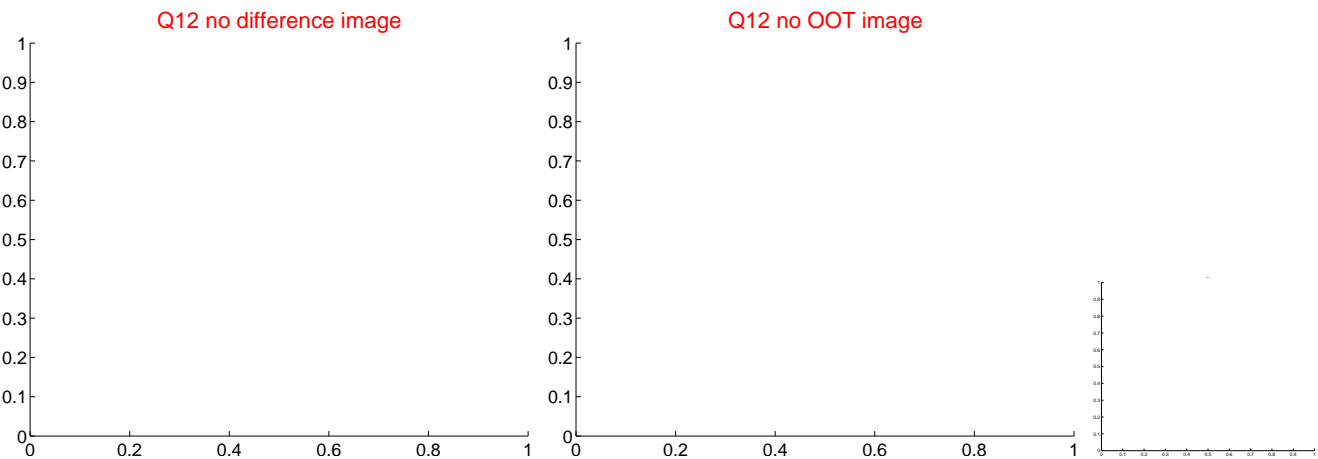
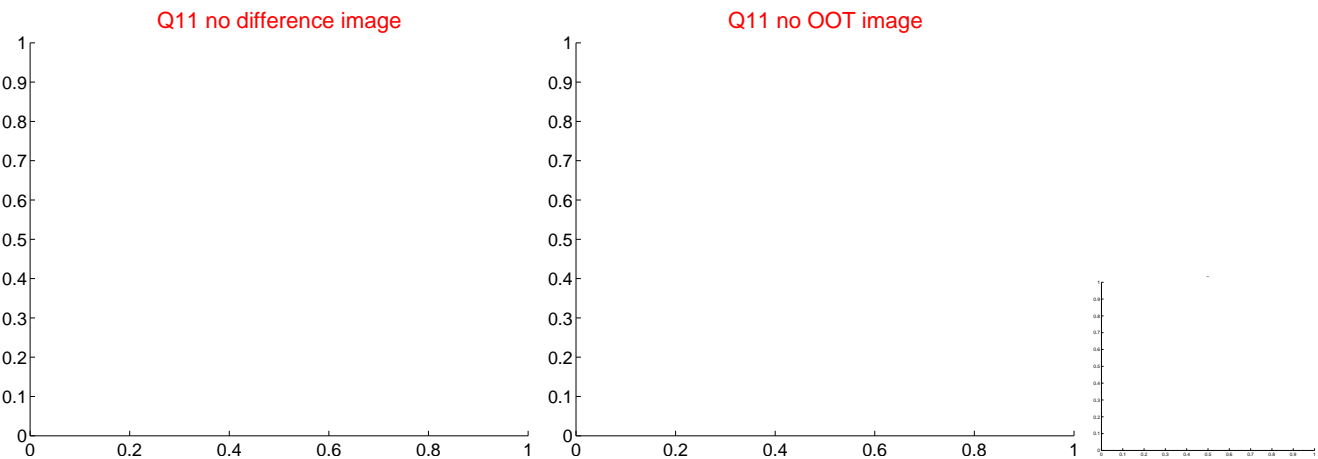
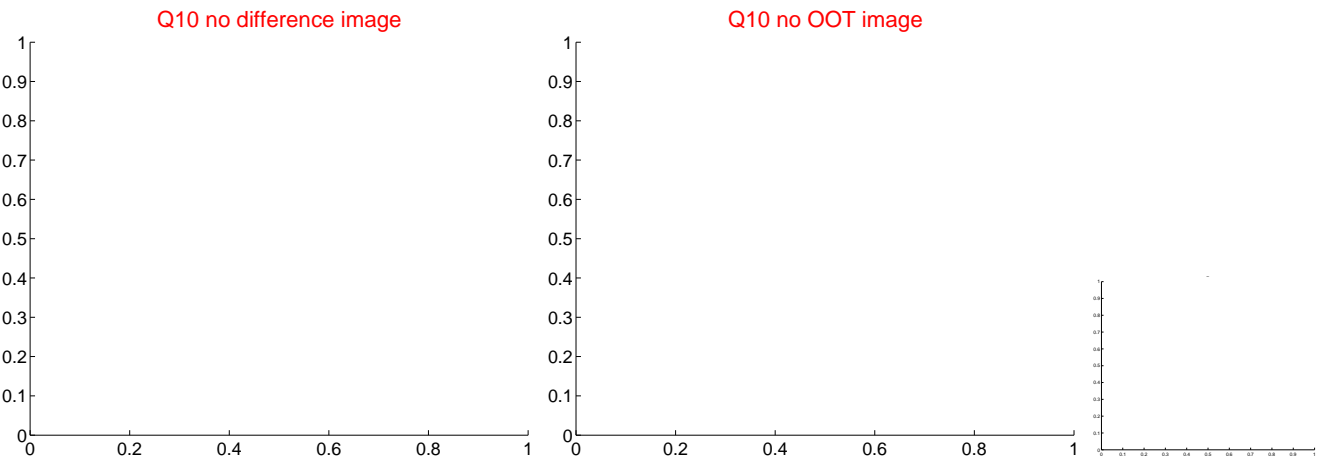
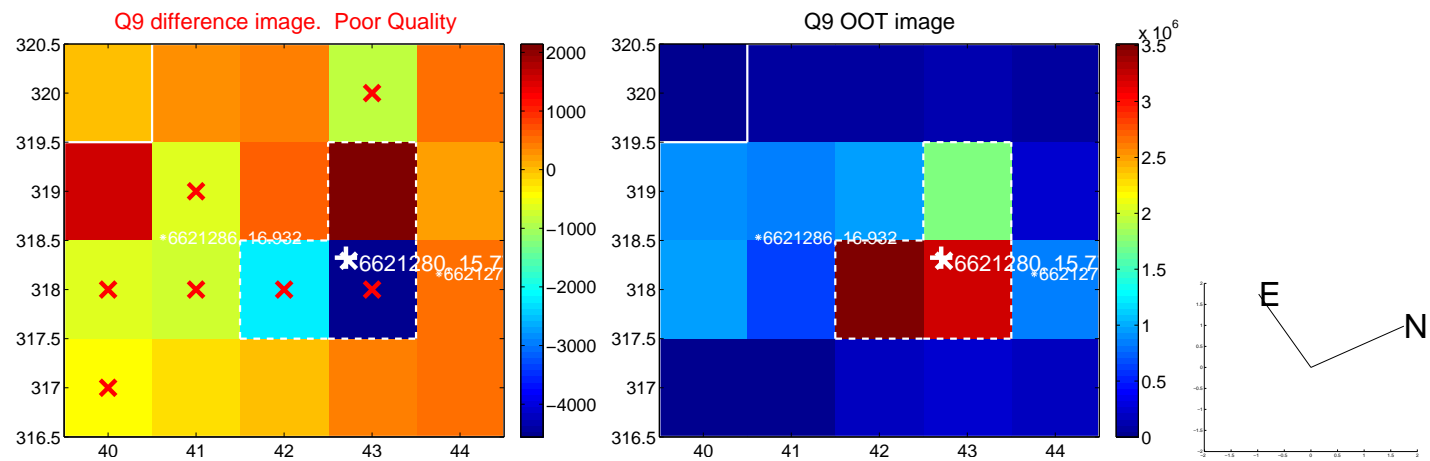
Q4 no OOT image



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



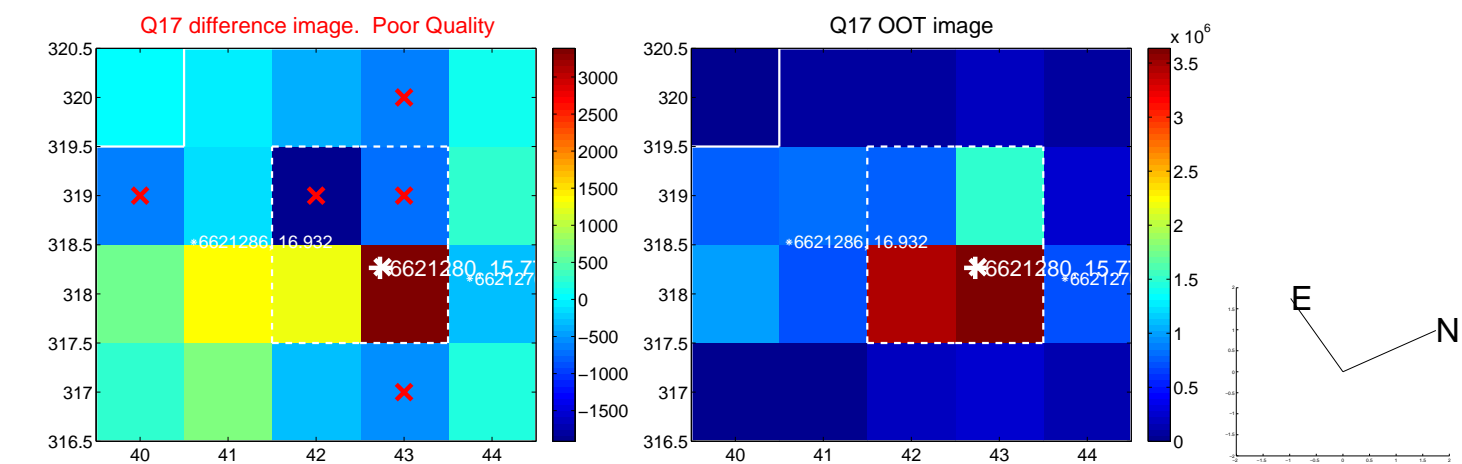
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



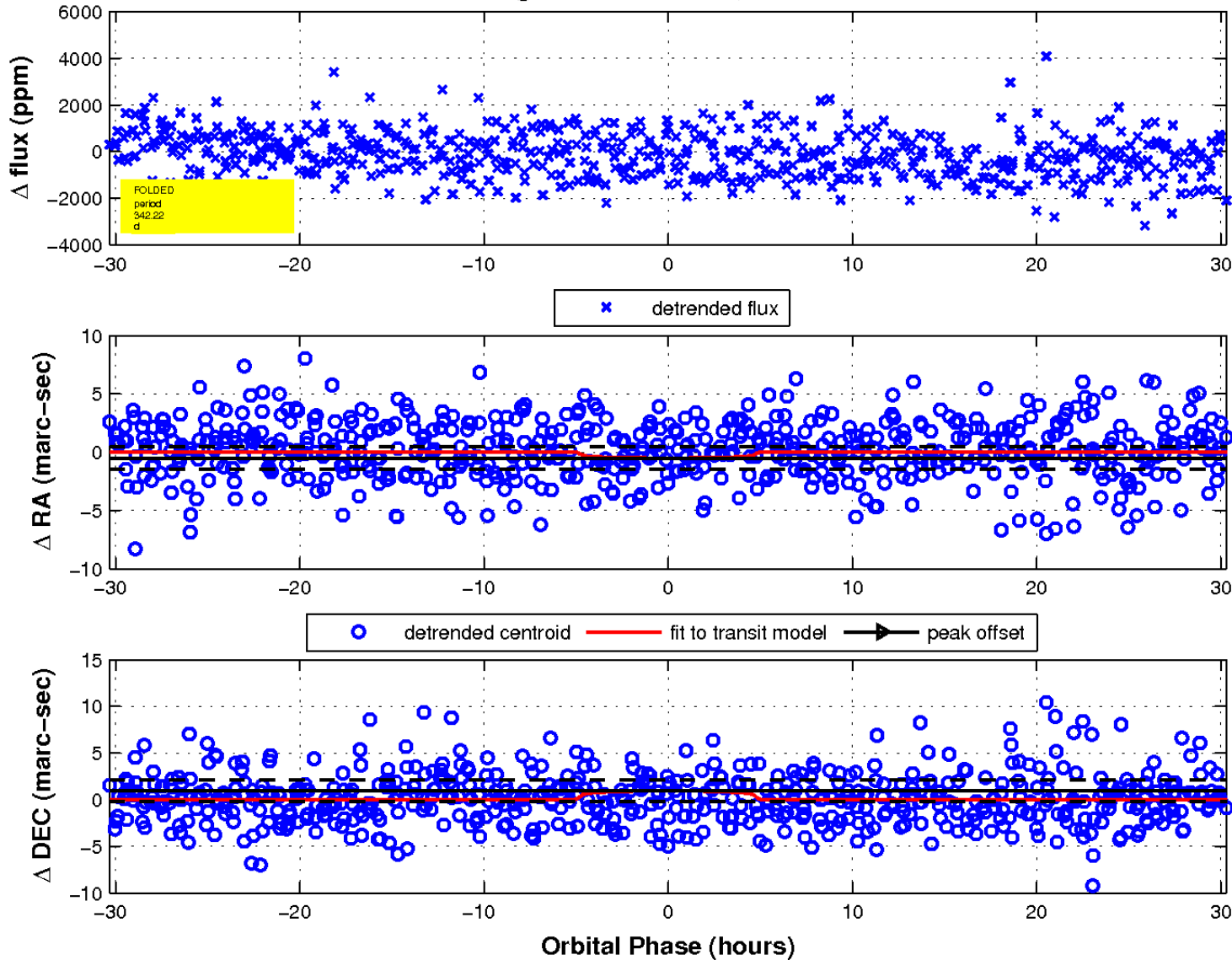
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

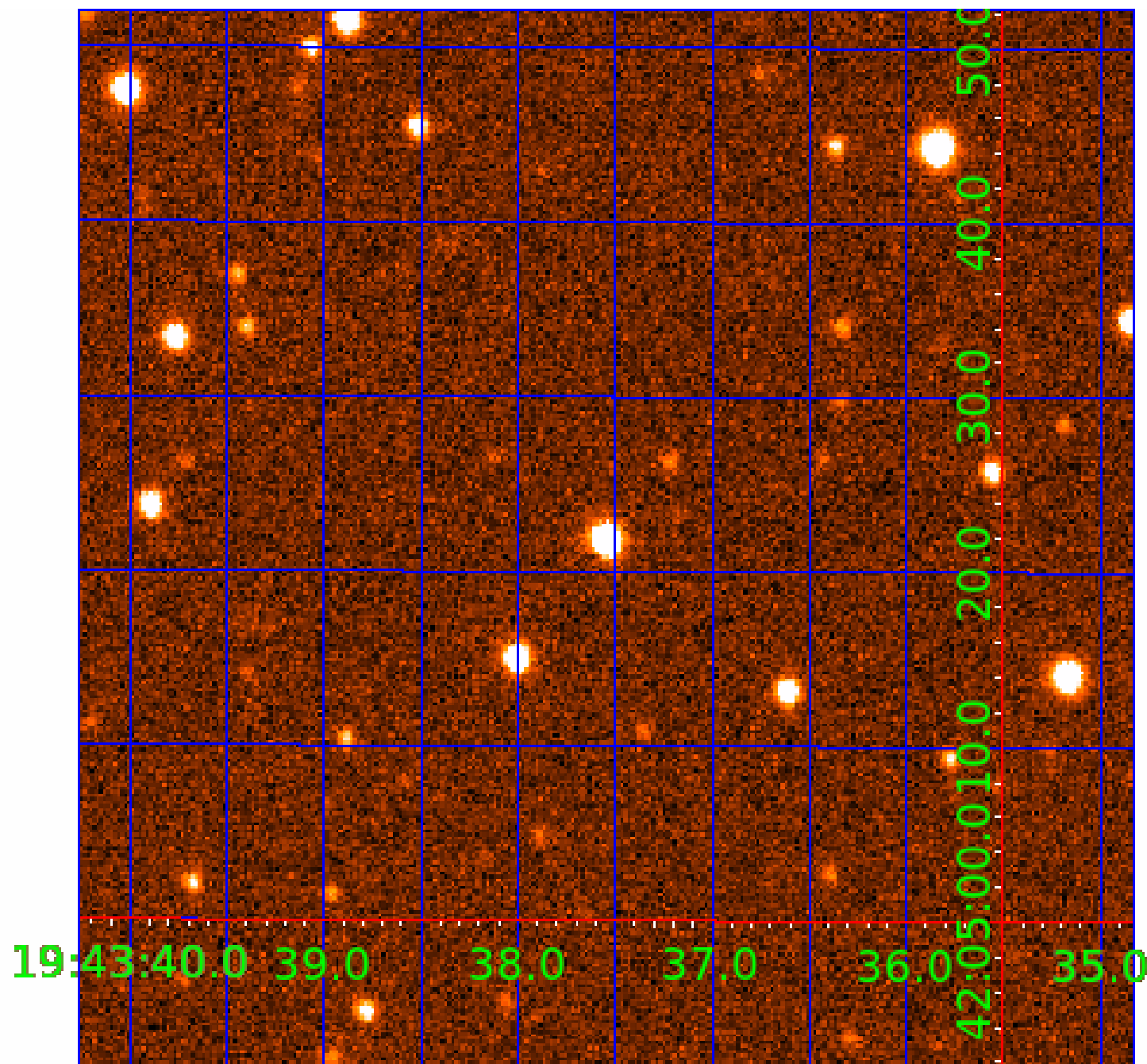


fluxWeightedCentroids, Planet 3 of 6



UKIRT Image

Declination



KIC 006621280

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})
006621280-01	OBS	No	1.075530	132.268141	65.2	3.559	7.4	8.0	0.76	5676	0.73	1433.49
006621280-03	OBS	No	342.222651	204.356575	942.4	10.118	18.9	7.1	0.76	5676	2.47	0.66
006621280-04	OBS	No	256.582561	223.324753	251.5	8.842	13.2	2.2	0.76	5676	1.39	0.97
006621280-05	OBS	No	190.666167	231.136880	384.6	3.454	12.2	2.3	0.76	5676	1.76	1.44
006621280-06	OBS	No	478.822416	561.710136	1236.7	20.311	9.8	7.0	0.76	5676	3.19	0.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006621280-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006621280-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

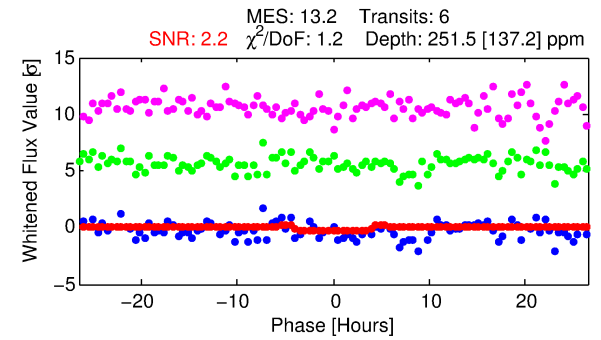
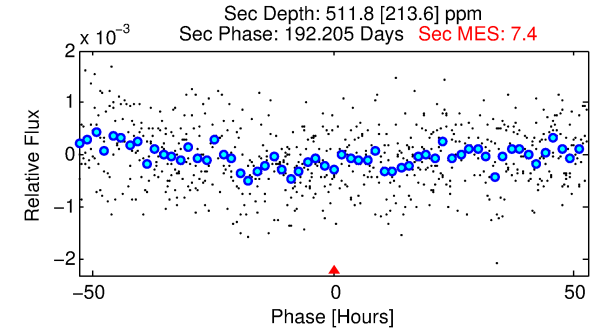
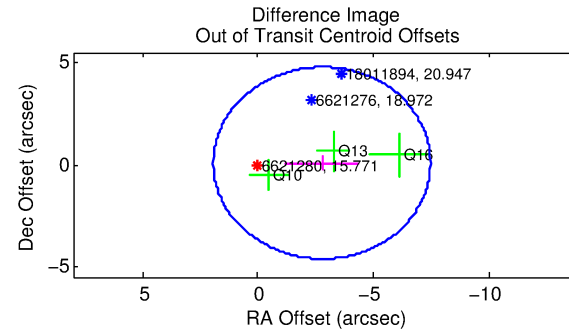
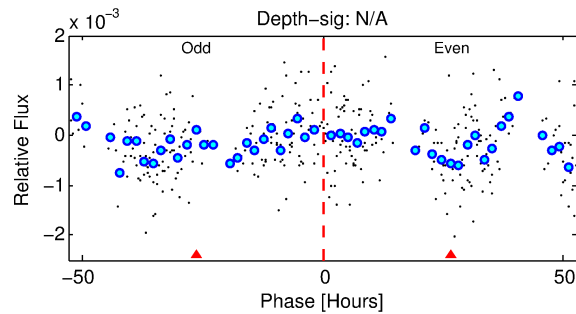
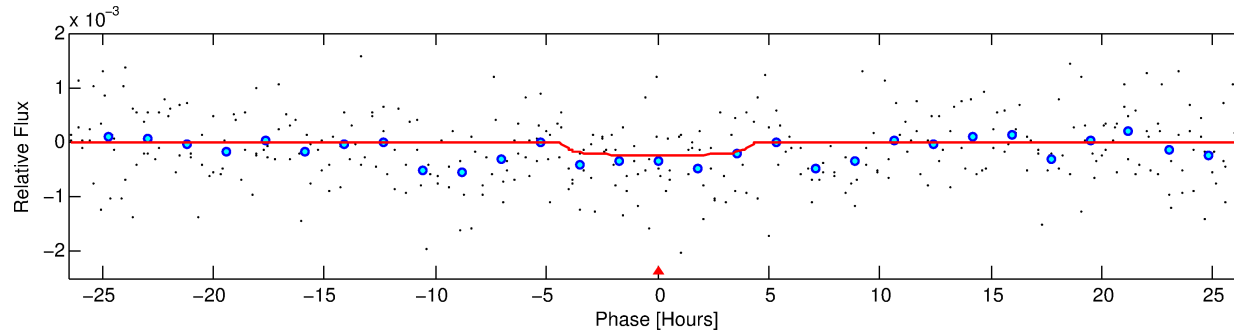
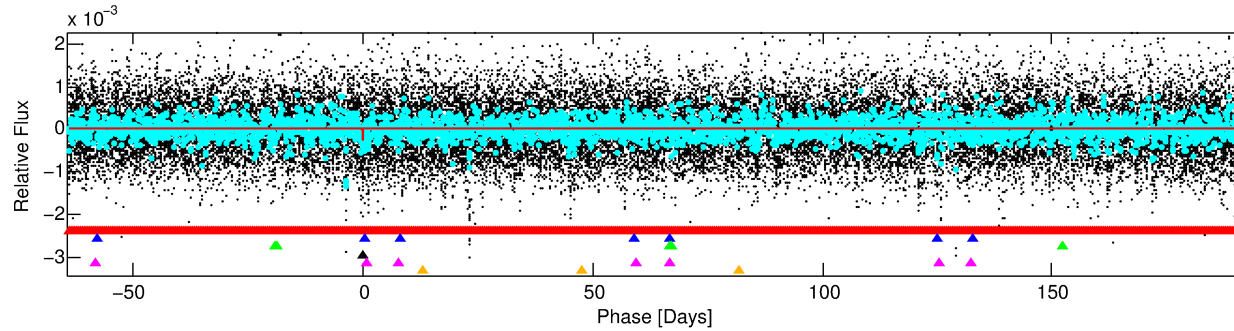
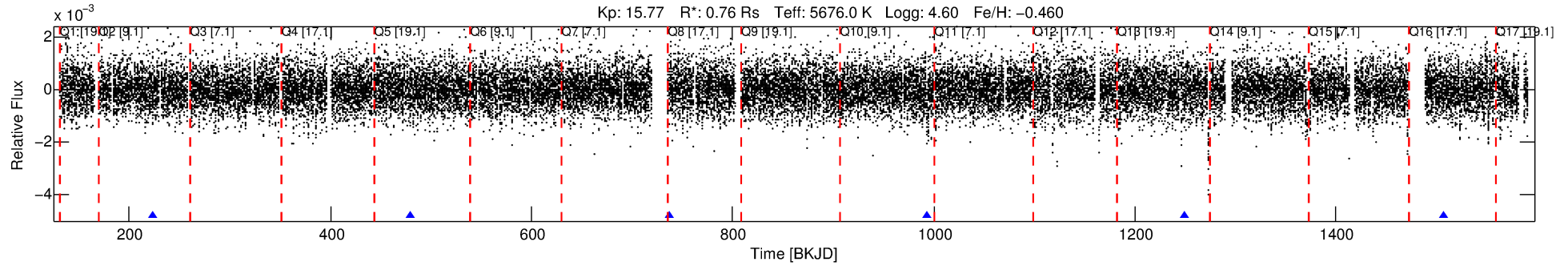
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006621280-04

No Significant Match Found

DV One-Page Summary

KIC: 6621280 Candidate: 4 of 6 Period: 256.583 d



DV Fit Results:

Period = 256.58256 [0.01887] d
Epoch = 223.3248 [0.0604] BKJD
Rp/R* = 0.0167 [0.0155]
a/R* = 118.03 [494.45]
b = 0.87 [1.22]
Seff = 0.97 [0.28]
Teq = 253 [19] K
Rp = 1.39 [1.32] Re
a = 0.7436 [0.1381] AU
Ag = 81068.18 [155683.06] [0.52σ]
Teffp = 6600 [3144] K [2.02σ]

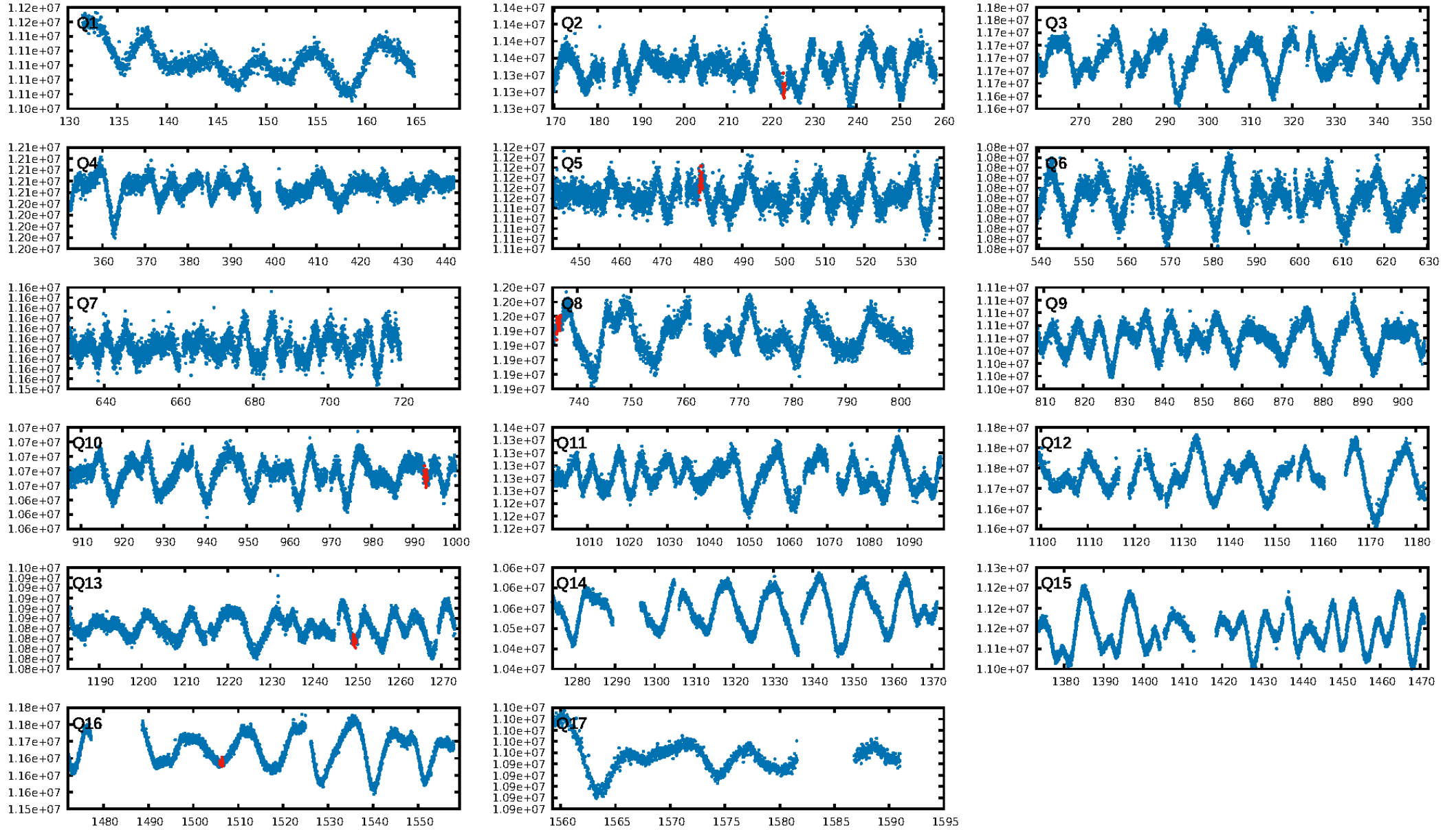
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [166.65σ]
LongPeriod-sig: 100.0% [152.96σ]
ModelChiSquare2-sig: 4.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.83e-18
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.4349
Centroid-sig: 15.9%
Centroid-so: 3.724 arcsec [1.02σ]
OotOffset-rm: 2.763 arcsec [1.77σ]
KicOffset-rm: 2.732 arcsec [2.01σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/4]

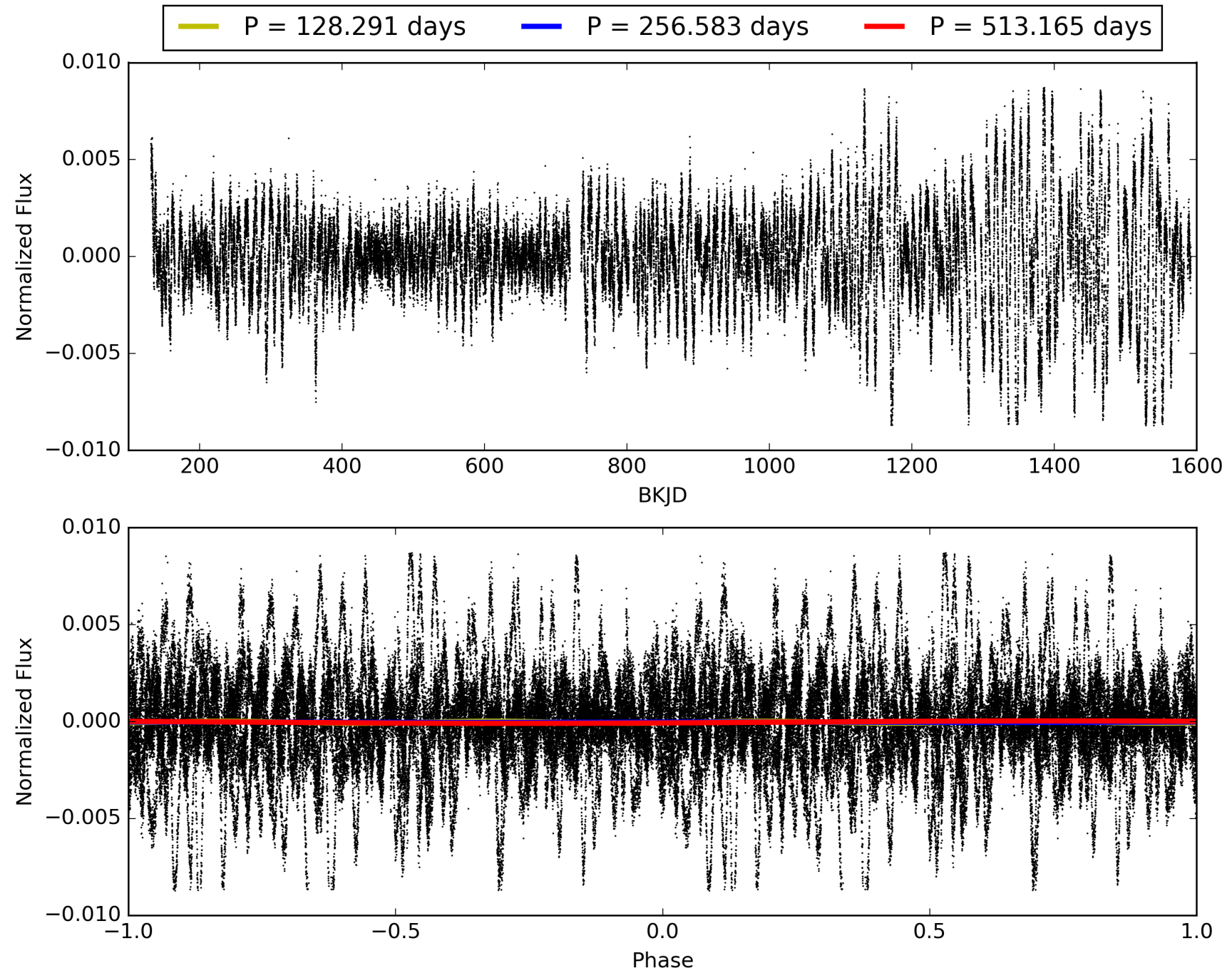
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:11:46 Z

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

TCE 006621280-04, PDC Light Curves

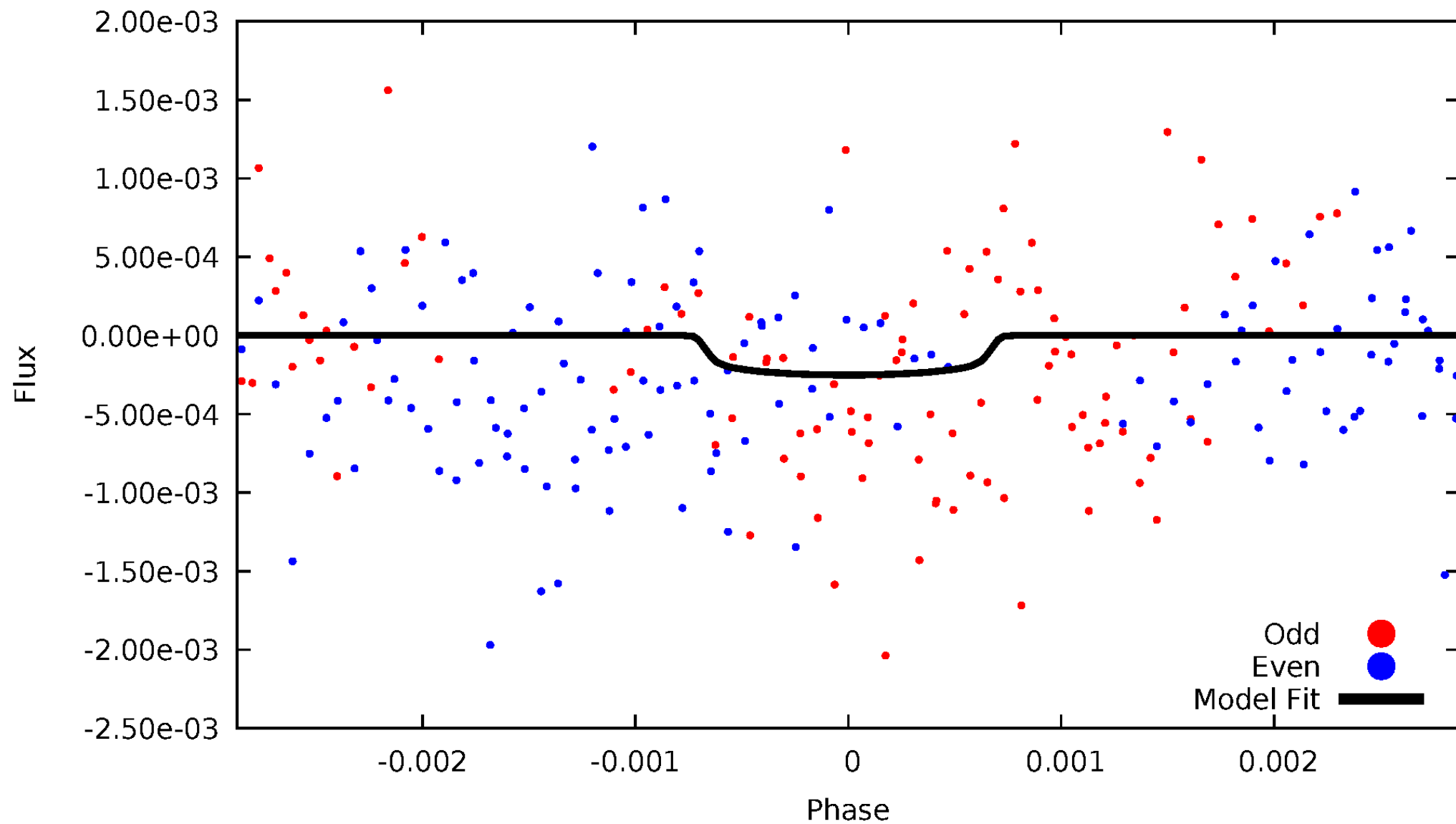


TCE 006621280-04



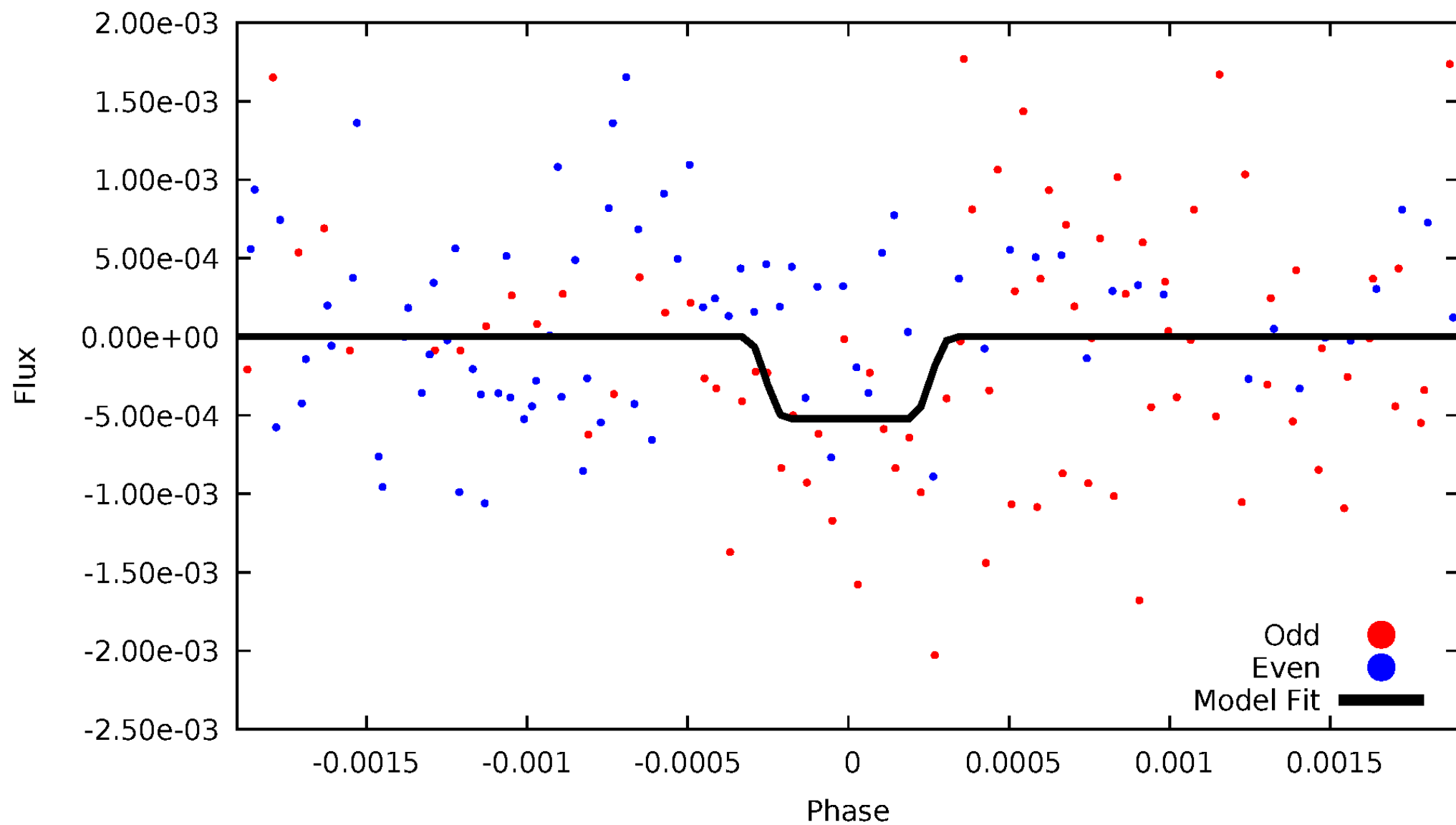
DV Odd/Even

TCE 006621280-04



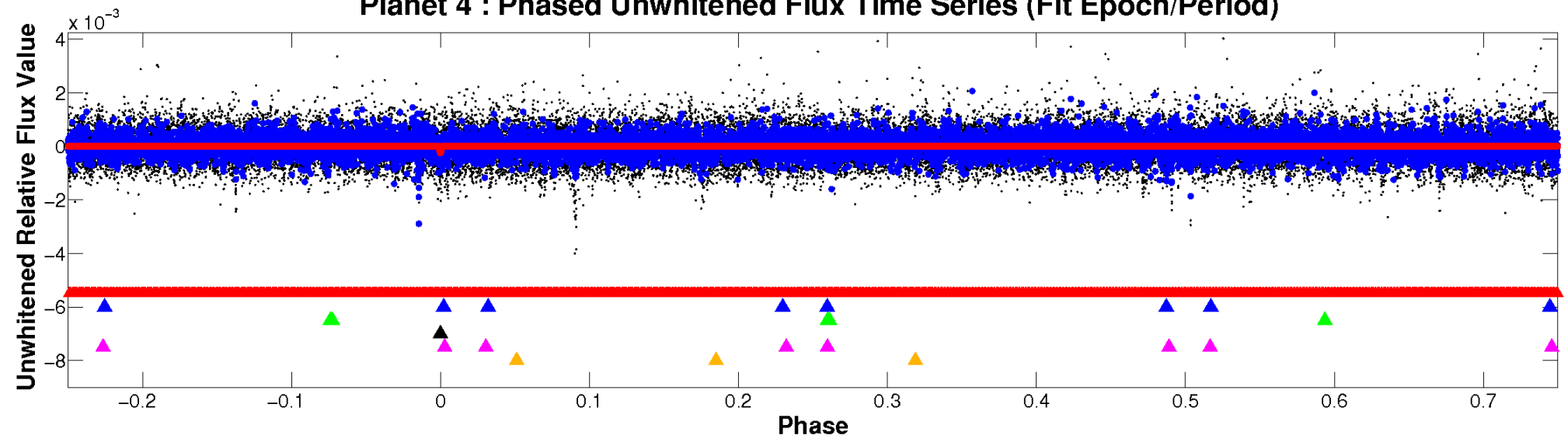
ALT Odd/Even

TCE 006621280-04

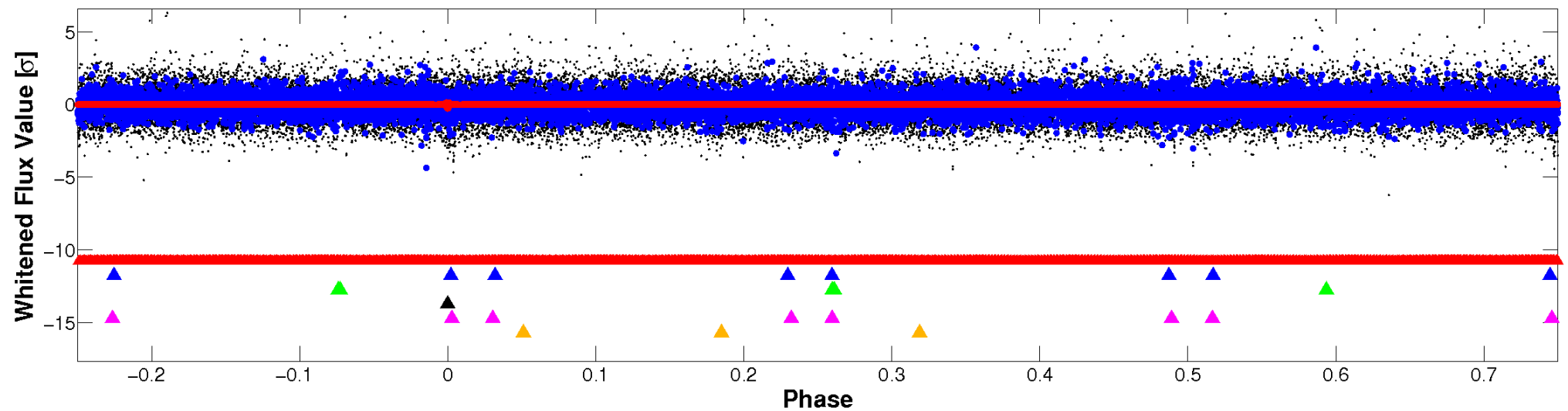


Non-Whitened Vs. Whitened Light Curve

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

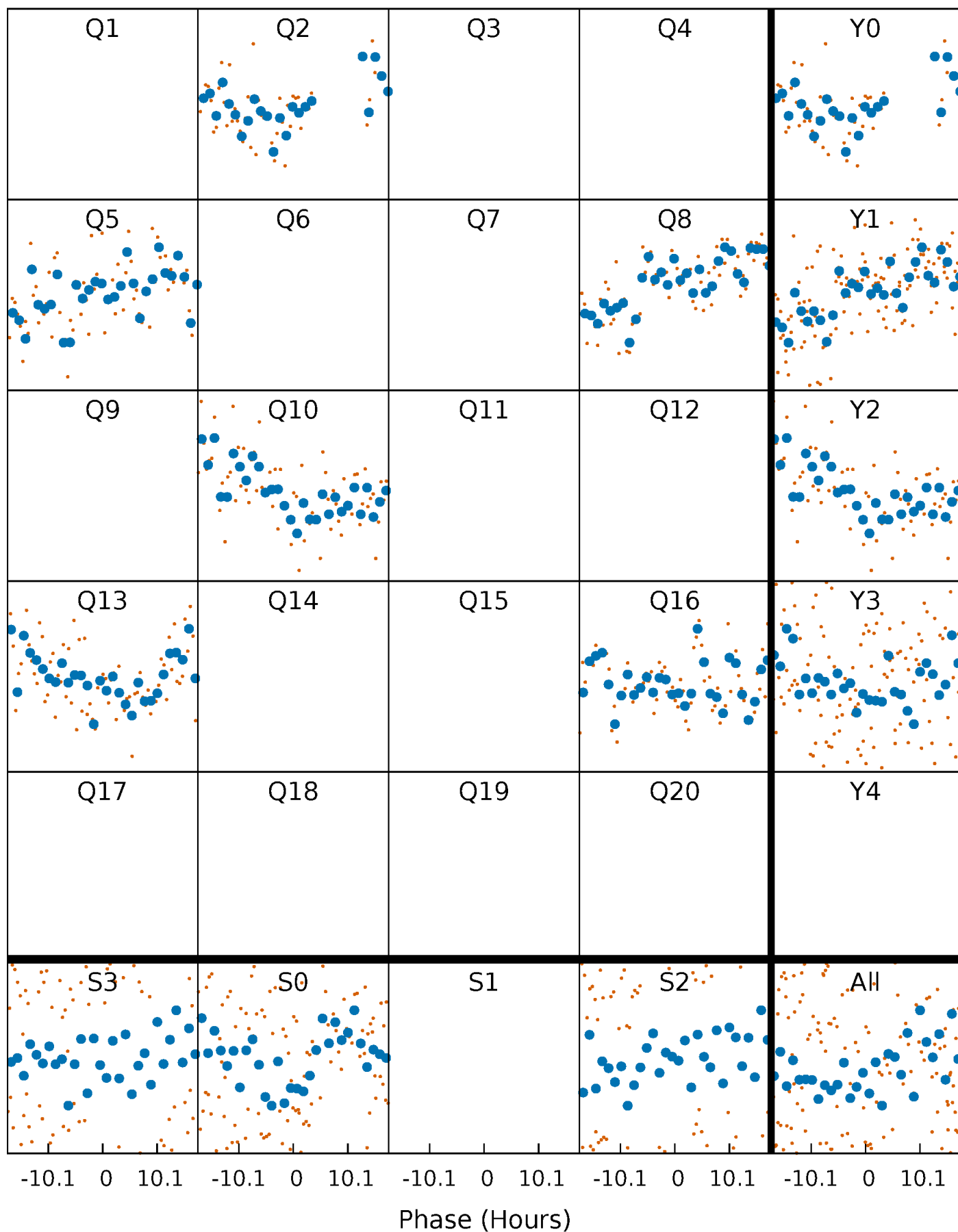


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



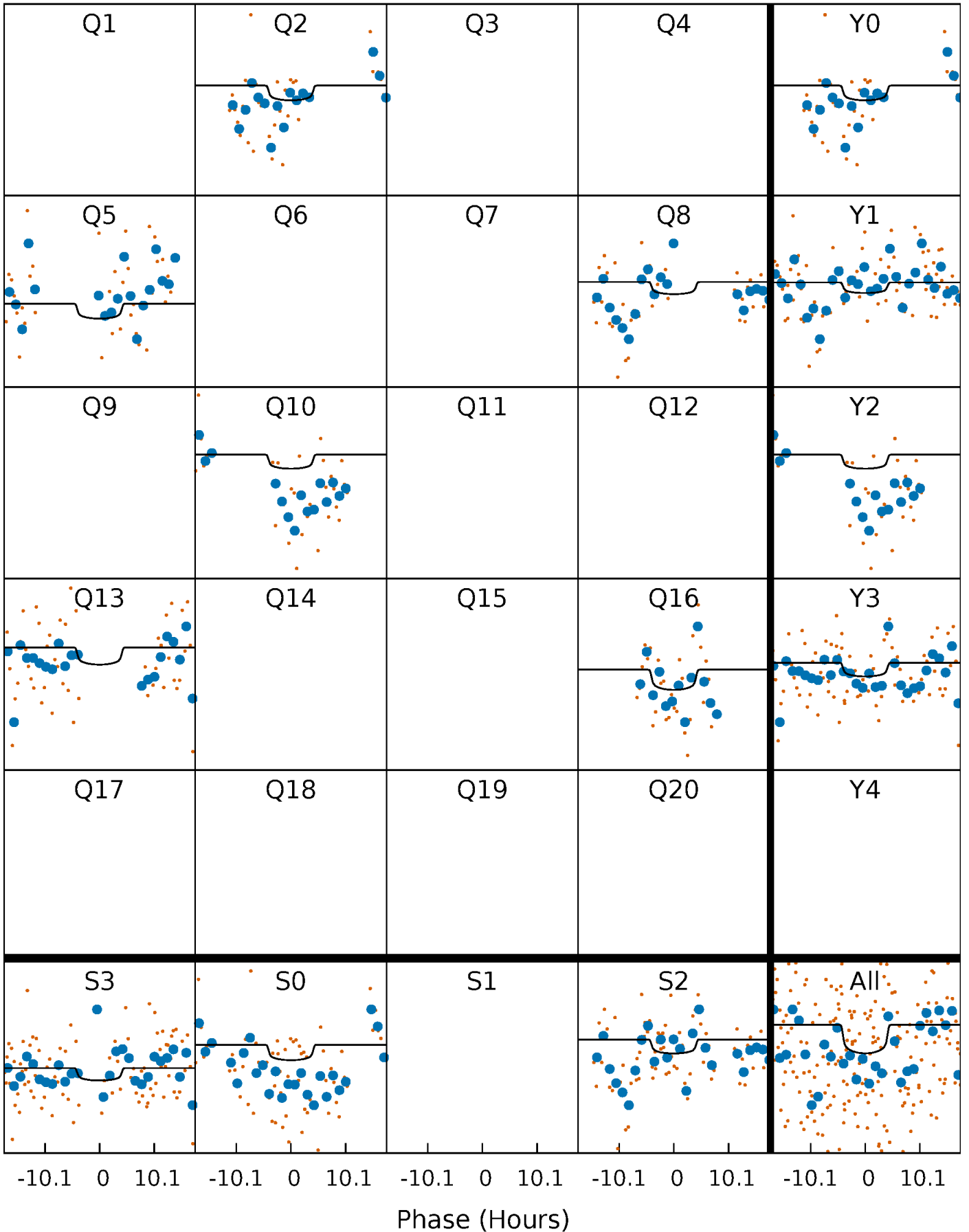
PDC Quarter-Phased Transit Curves

TCE 006621280-04 P=256.582561 Days $T_0=223.324753$ (BKJD)



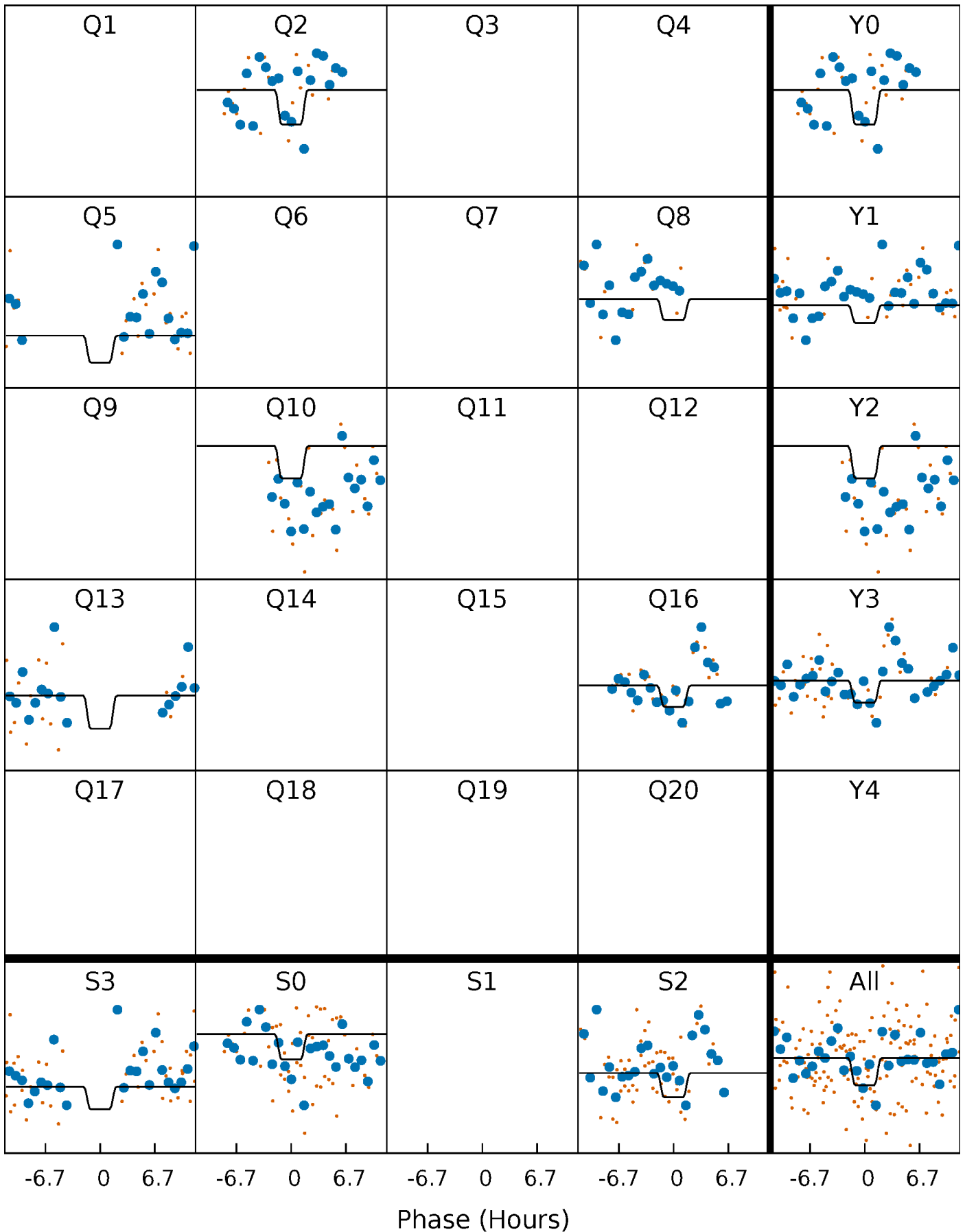
DV Quarter-Phased Transit Curves

TCE 006621280-04 $P=256.582561$ Days $T_0=223.324753$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

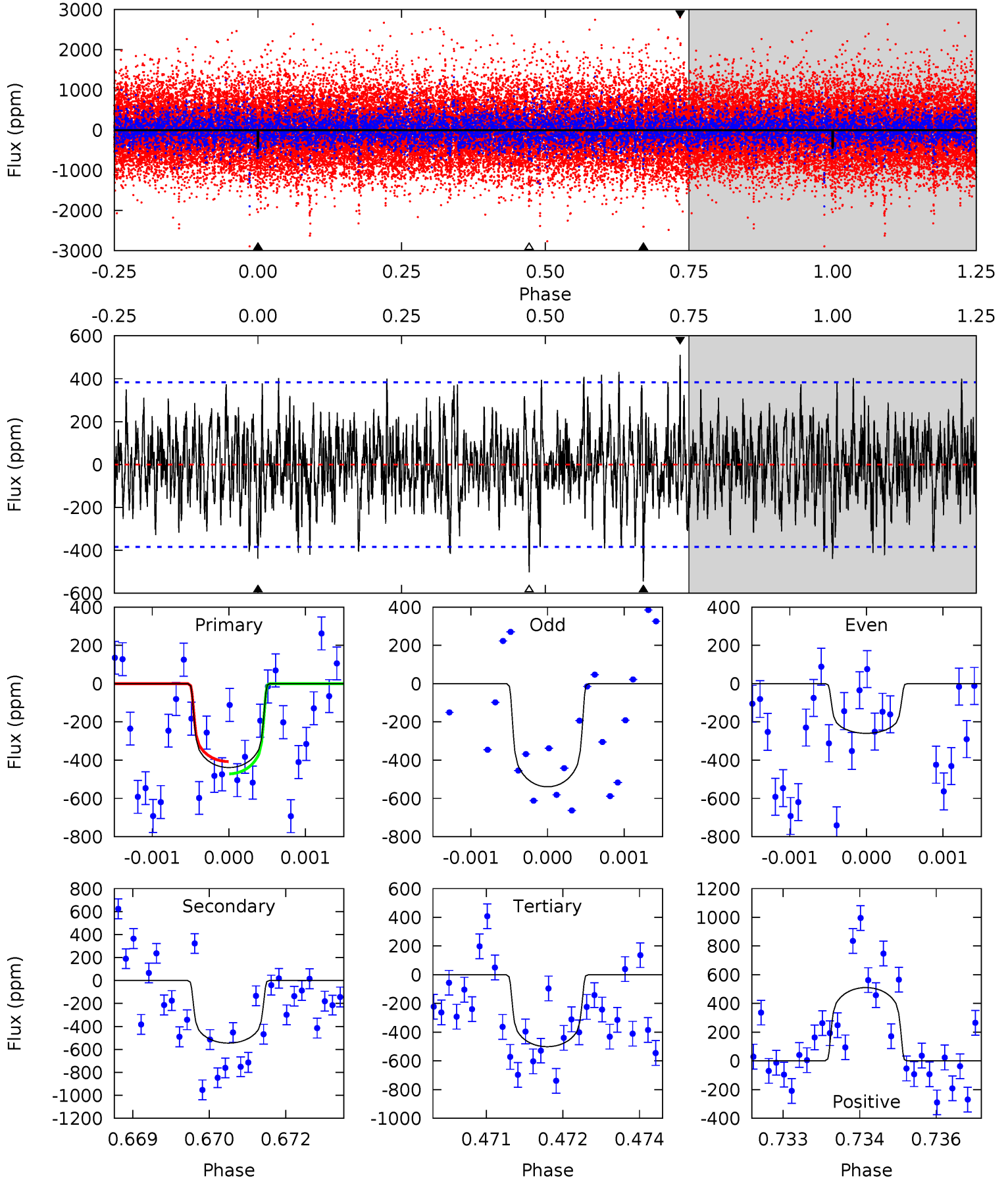
TCE 006621280-04 P=256.618269 Days $T_0=223.193522$ (BKJD)



DV Model-Shift Uniqueness Test

006621280-04, P = 256.582561 Days, E = 223.324753 Days

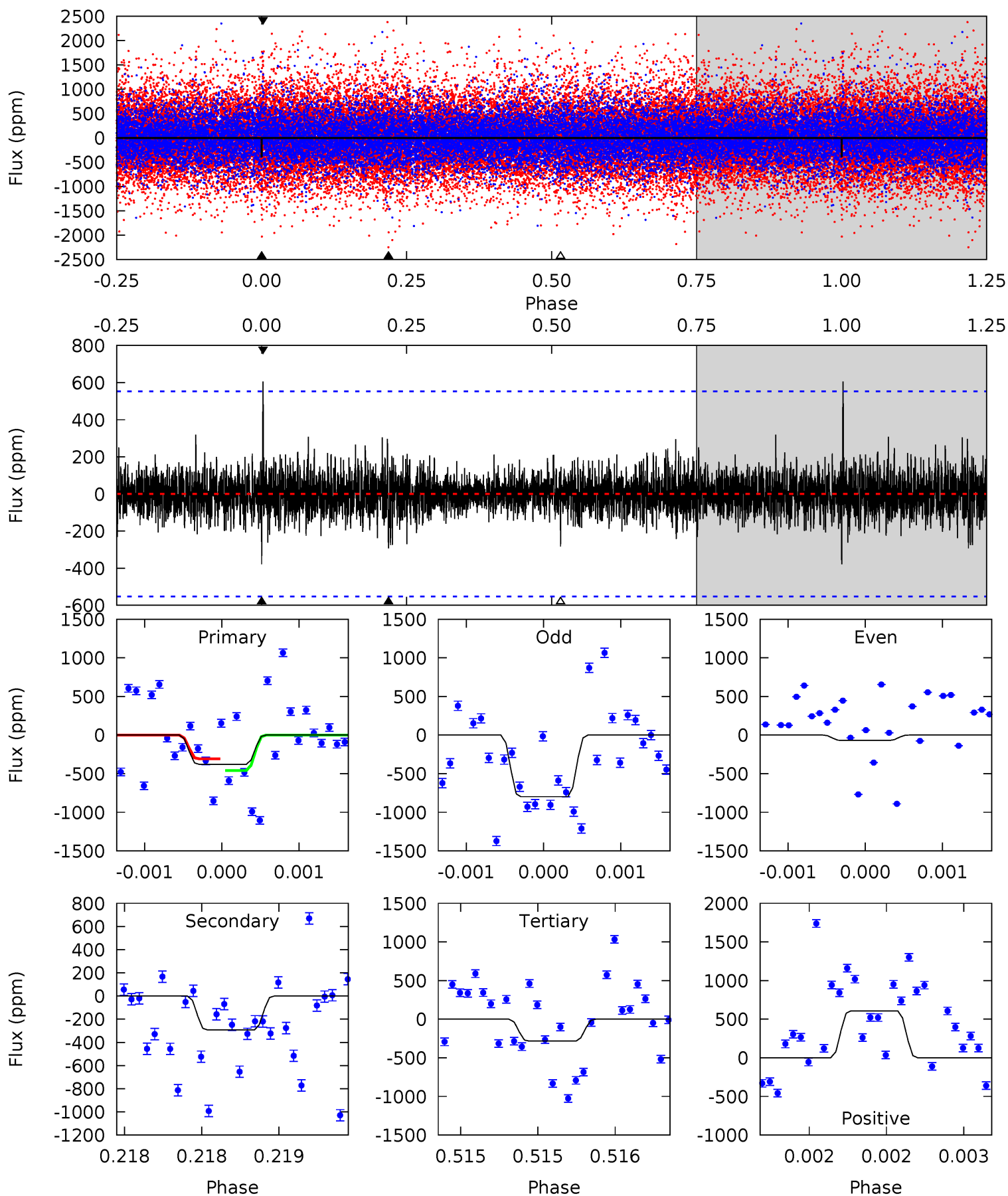
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.16	7.65	7.04	7.17	5.38	3.18	1.94	-0.88	-1.01	0.62	0.49	1.89	1.15	0.48	0.45



Alt Model-Shift Uniqueness Test

006621280-04, P = 256.618269 Days, E = 223.193522 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.79	2.93	2.83	6.07	5.54	3.43	0.77	0.96	-2.28	0.10	-3.14	3.64	1.04	0.62	0.75



Stellar Parameters For KIC 006621280

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5676^{+172}_{-172}	$4.598^{+0.036}_{-0.144}$	$-0.460^{+0.300}_{-0.300}$	$0.759^{+0.170}_{-0.057}$	$0.848^{+0.080}_{-0.089}$	$2.729^{+0.517}_{-1.165}$
	+3%/-3%	+1%/-3%	+65%/-65%	+22%/-8%	+9%/-10%	+19%/-43%
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 006621280-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-545 ± 71	$1.62^{+1.28}_{-0.97}$	359^{+21}_{-14}	6341^{+4973}_{-1509}	$63035^{+353750}_{-43175}$
Alt.	-292 ± 100	$2.06^{+1.22}_{-1.02}$	360^{+18}_{-15}	4858^{+1816}_{-864}	19640^{+64028}_{-12331}

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

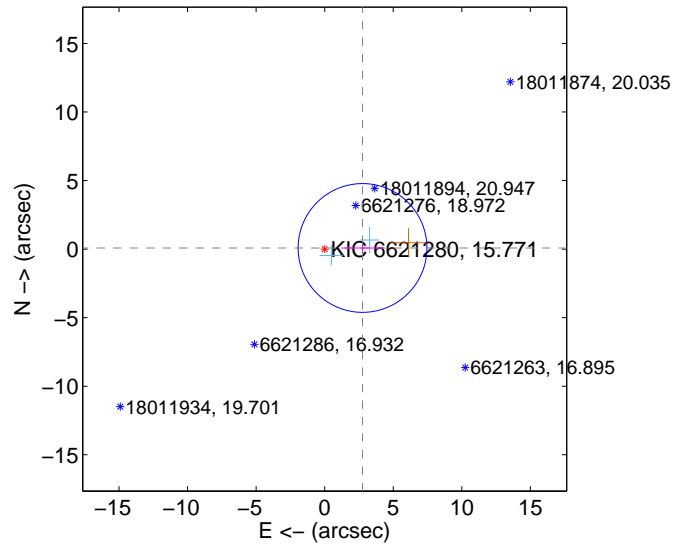
Supplemental centroid analysis for 006621280-04. Kepler magnitude: 15.77. Transit SNR 2.20

There are 2 quarters with good PRF difference image offsets

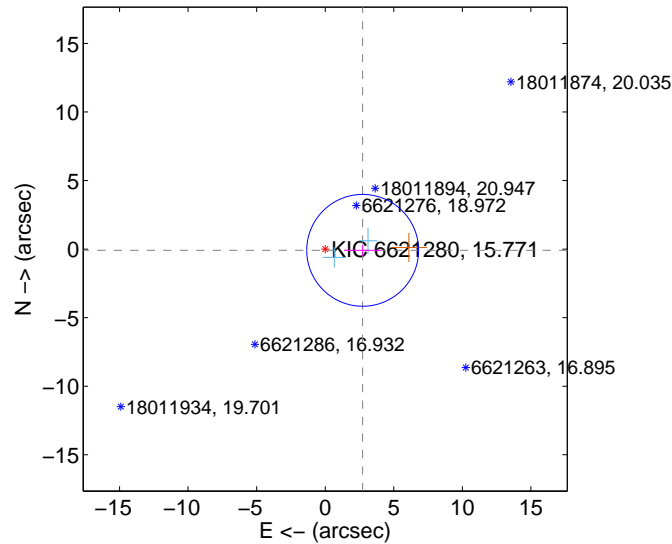
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.763 ± 1.565	1.77	-2.762 ± 1.558	0.083 ± 0.345
PRF-fit source offset from KIC position	2.732 ± 1.360	2.01	-2.731 ± 1.360	-0.090 ± 0.413
photometric centroid source offset	3.72 ± 3.66	1.02	-3.55 ± 3.64	1.12 ± 3.89

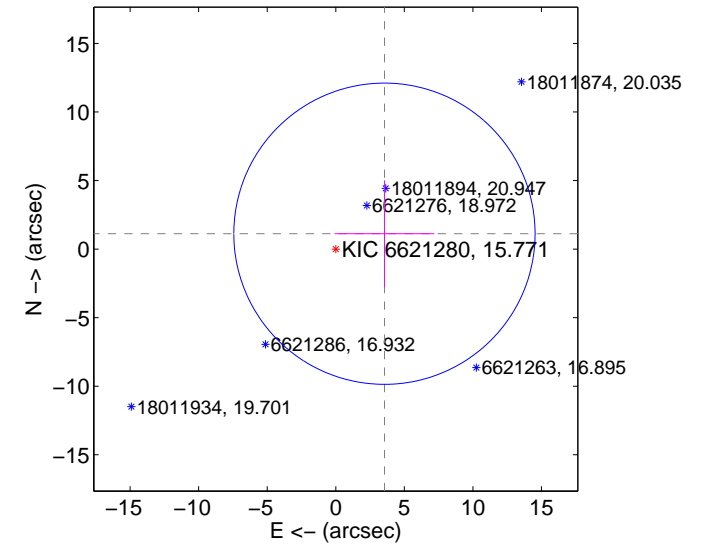
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

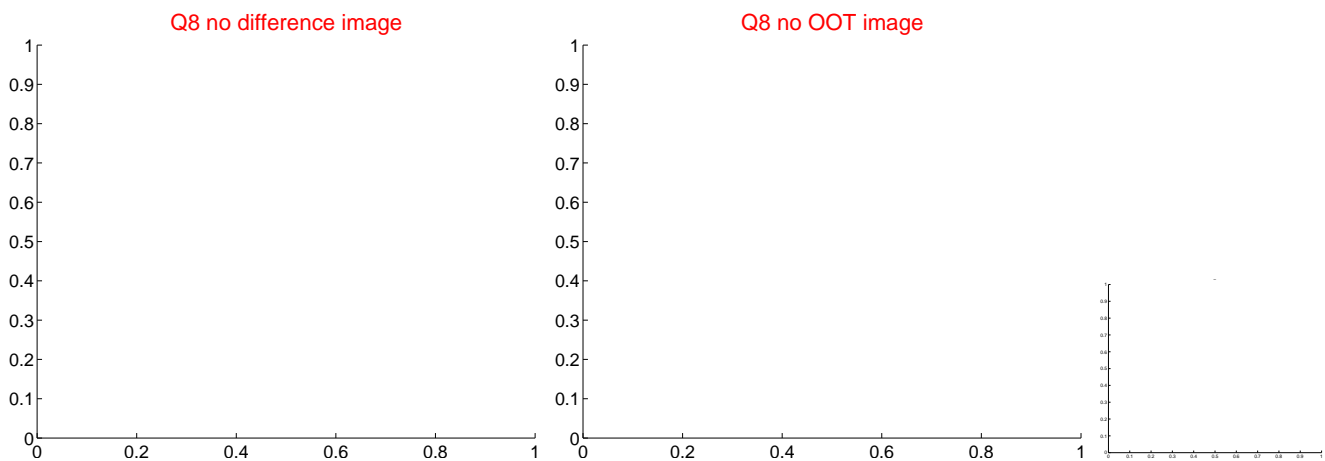
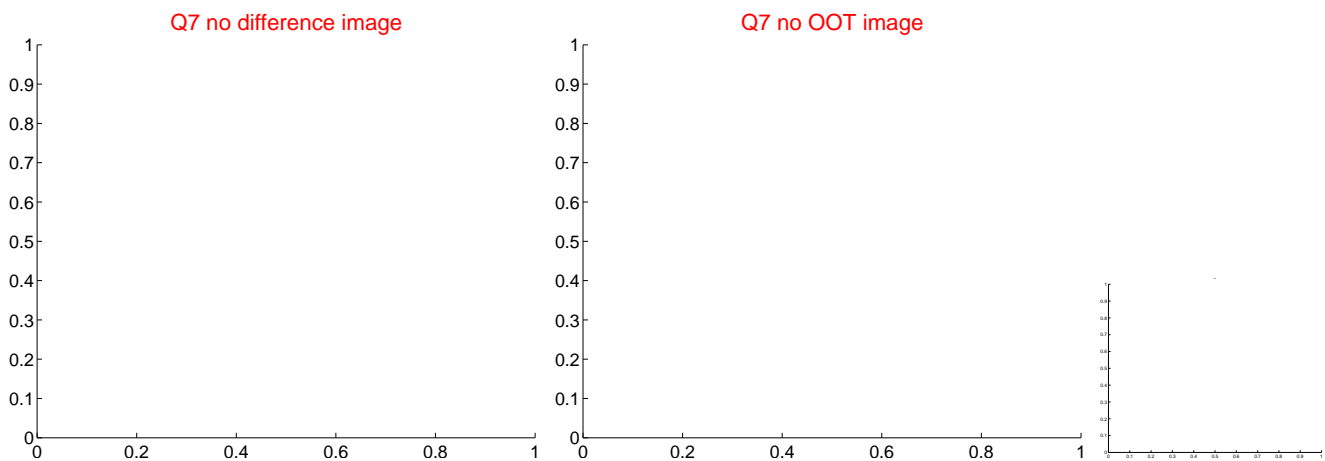
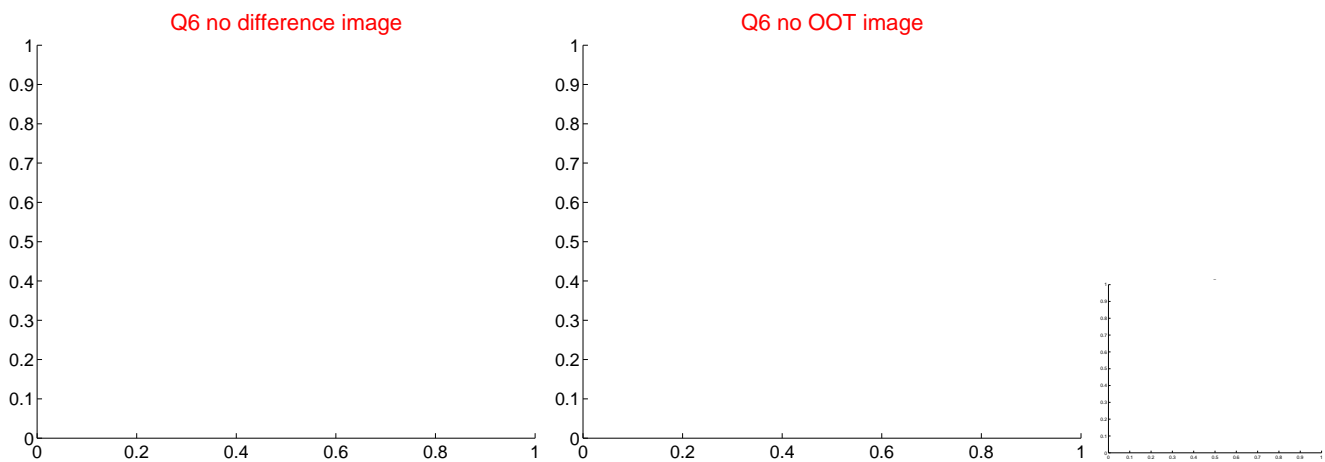
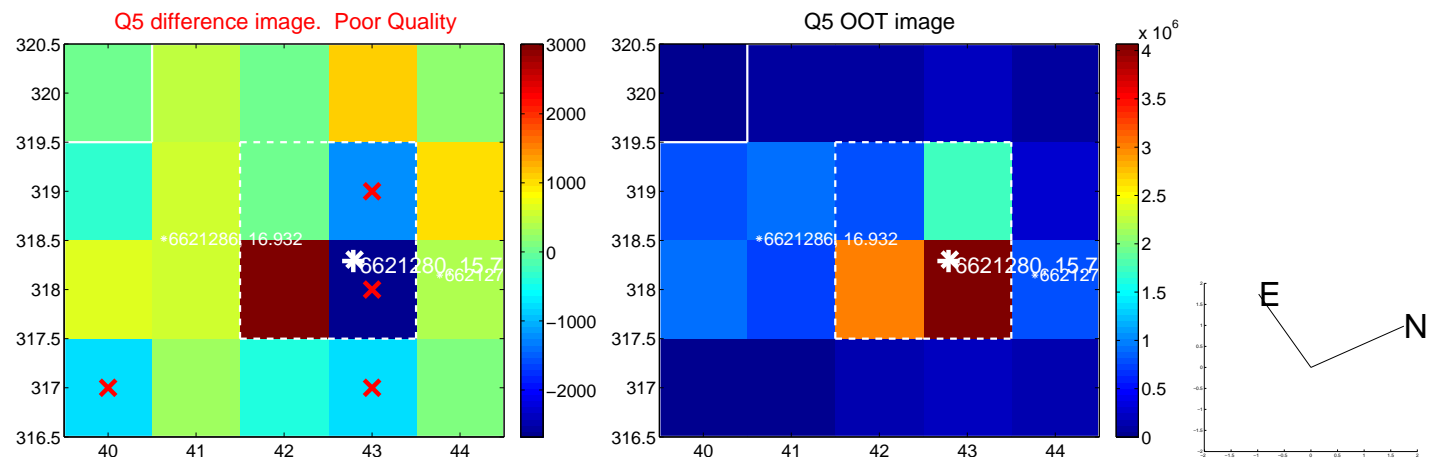


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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

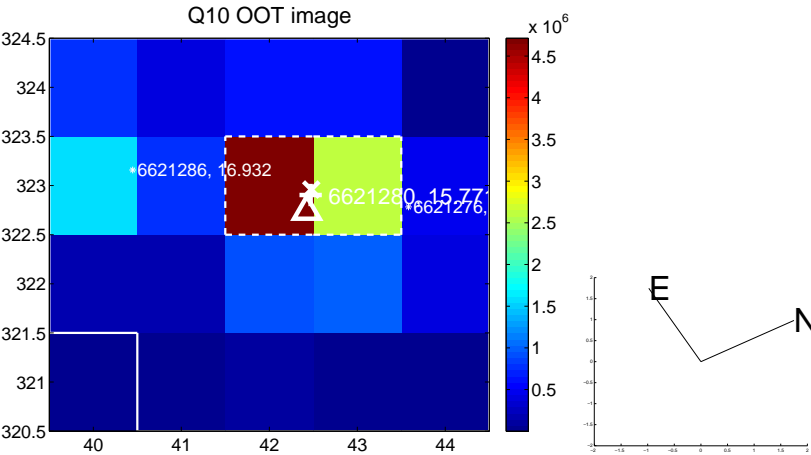
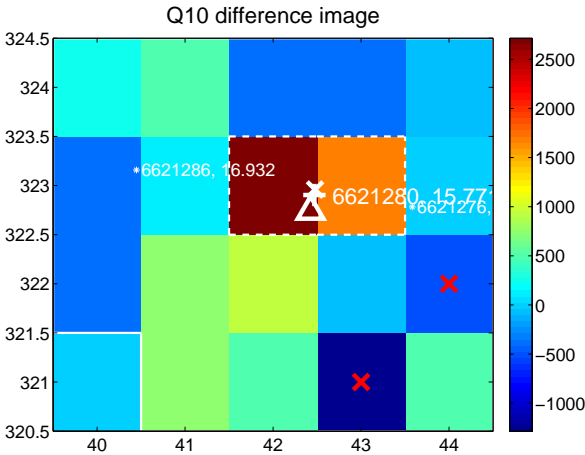


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

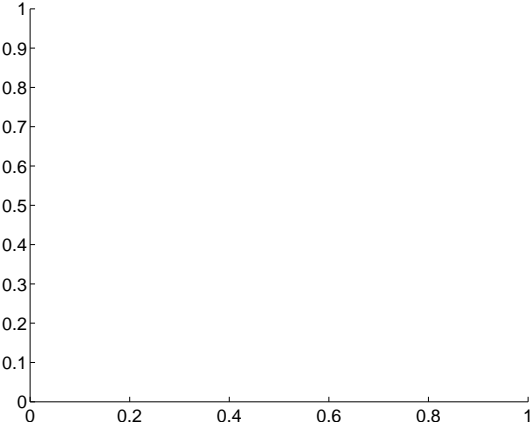
Q9 no difference image



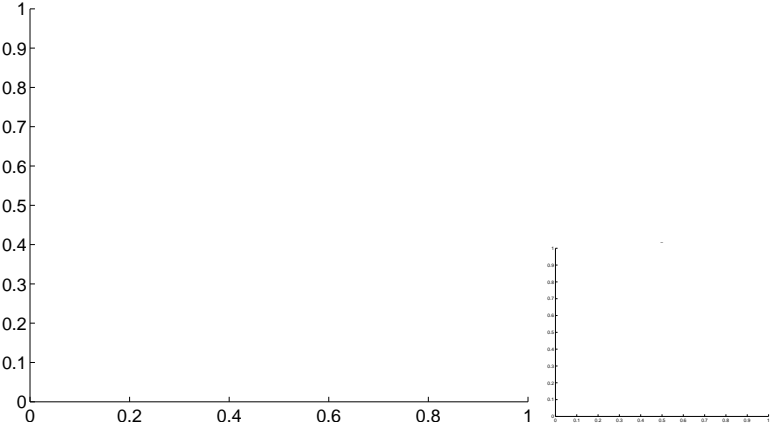
Q9 no OOT image



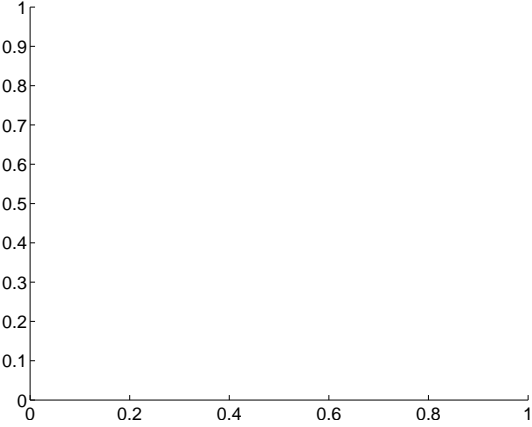
Q11 no difference image



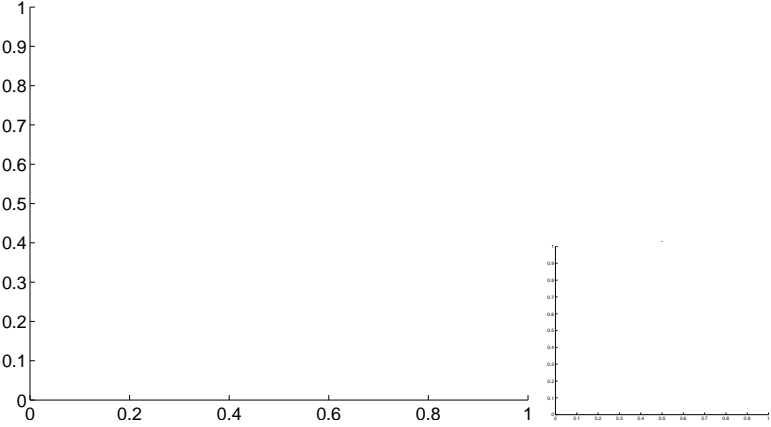
Q11 no OOT image



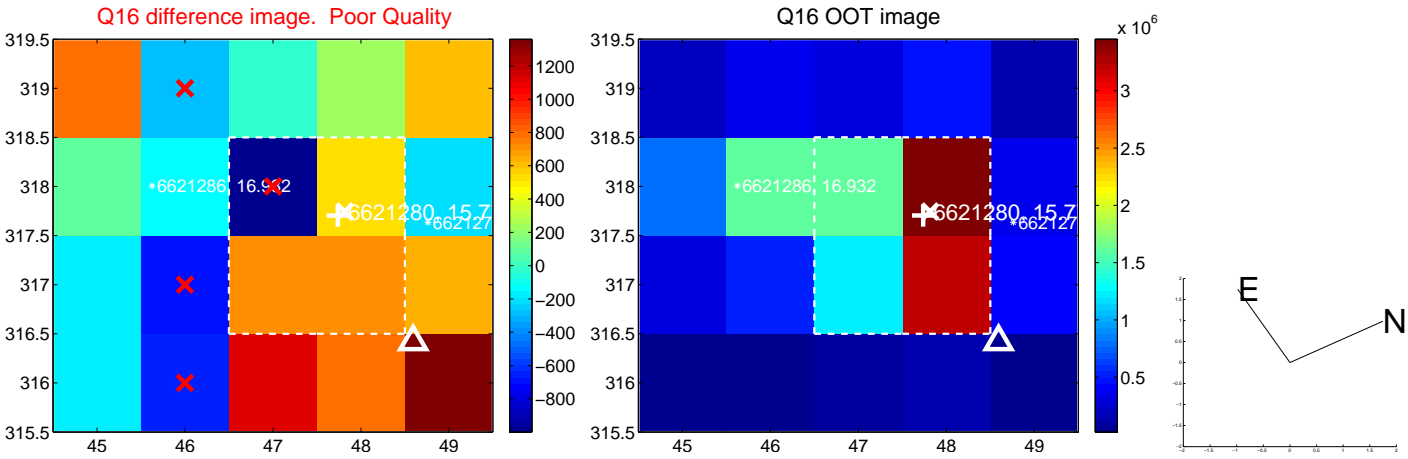
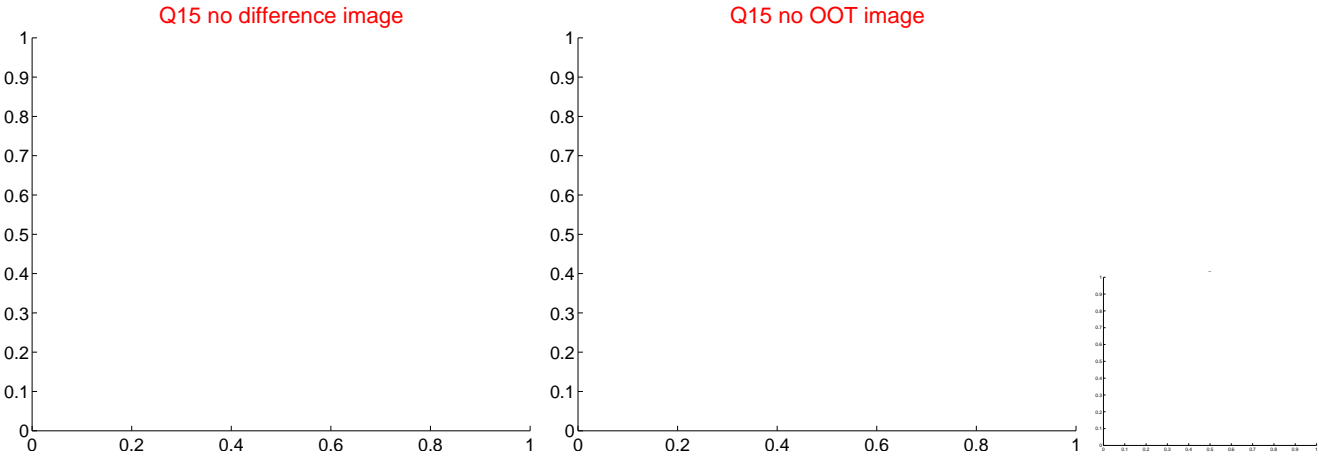
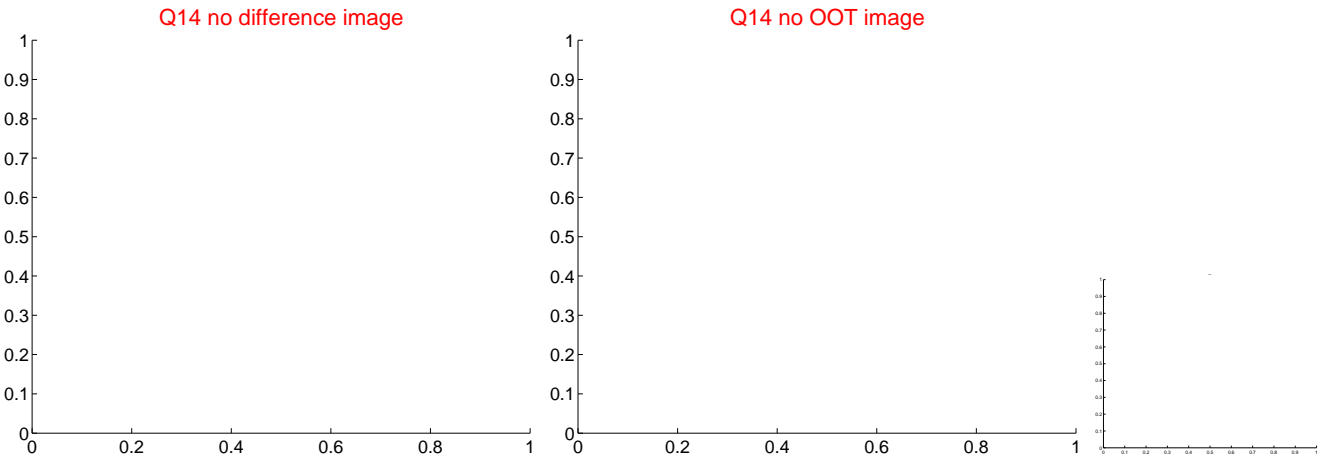
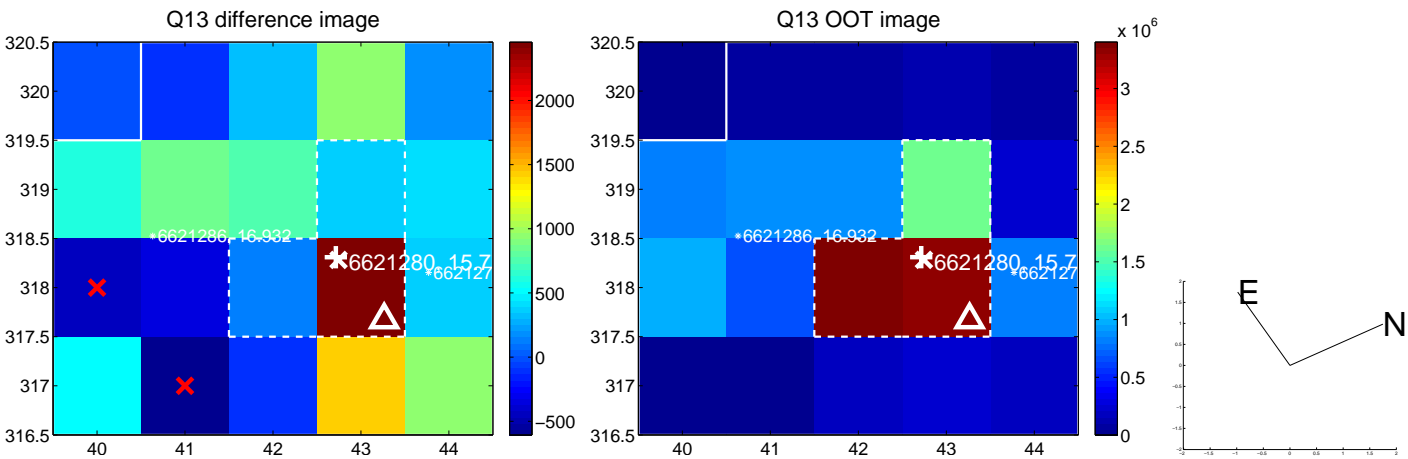
Q12 no difference image



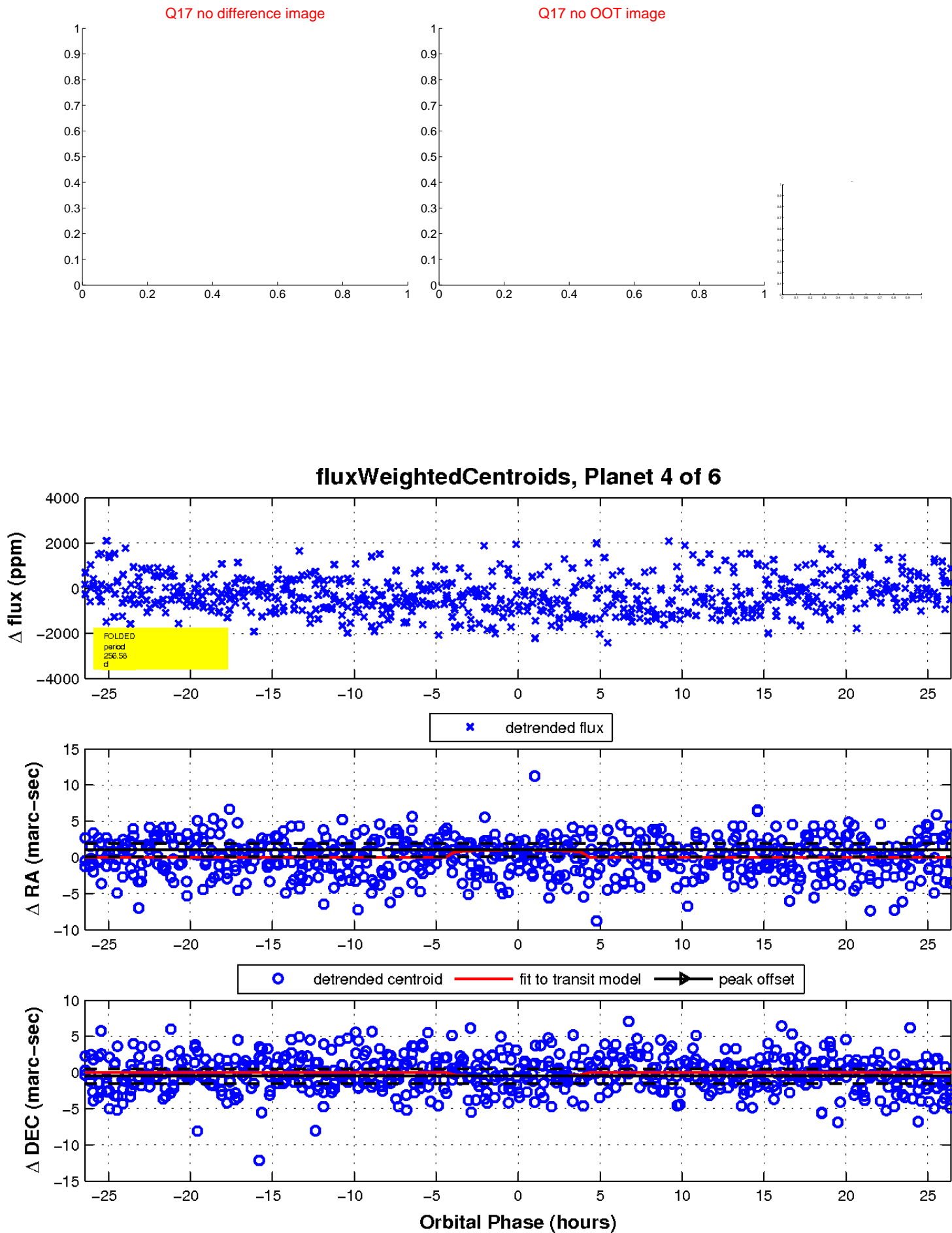
Q12 no OOT image



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

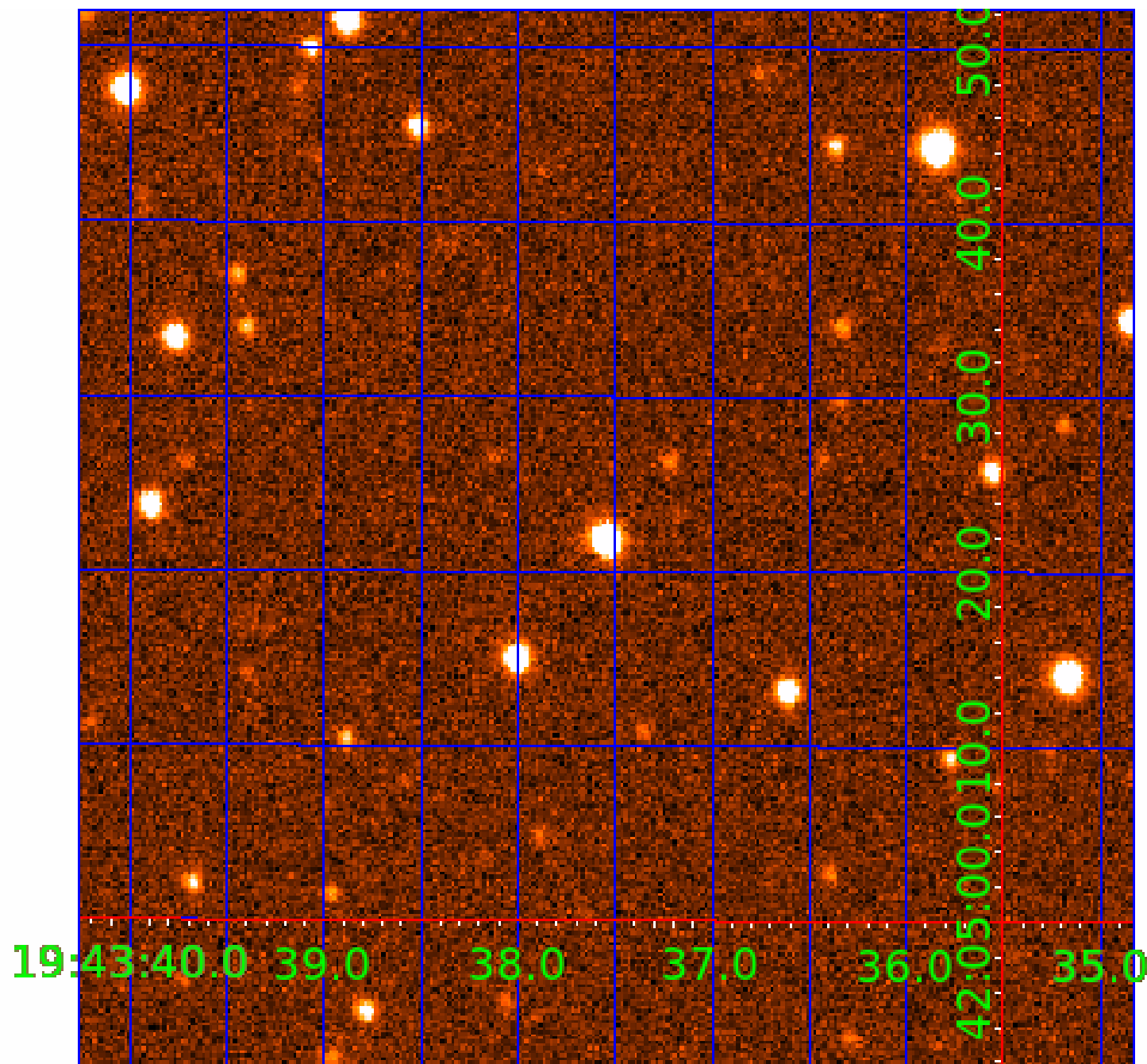


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006621280

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})
006621280-01	OBS	No	1.075530	132.268141	65.2	3.559	7.4	8.0	0.76	5676	0.73	1433.49
006621280-03	OBS	No	342.222651	204.356575	942.4	10.118	18.9	7.1	0.76	5676	2.47	0.66
006621280-04	OBS	No	256.582561	223.324753	251.5	8.842	13.2	2.2	0.76	5676	1.39	0.97
006621280-05	OBS	No	190.666167	231.136880	384.6	3.454	12.2	2.3	0.76	5676	1.76	1.44
006621280-06	OBS	No	478.822416	561.710136	1236.7	20.311	9.8	7.0	0.76	5676	3.19	0.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006621280-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006621280-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

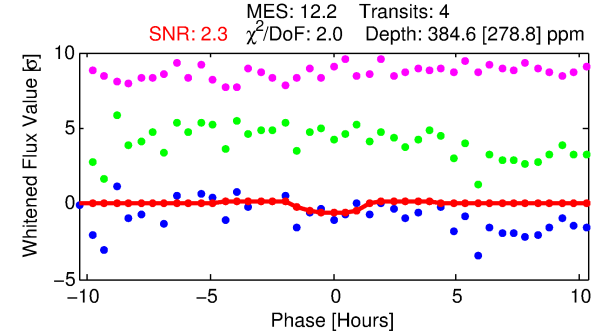
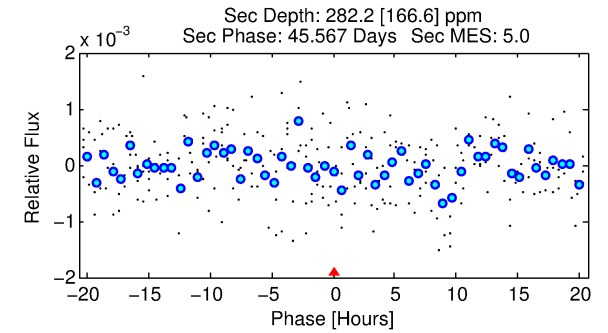
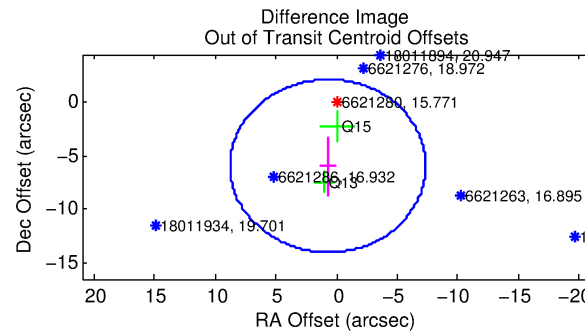
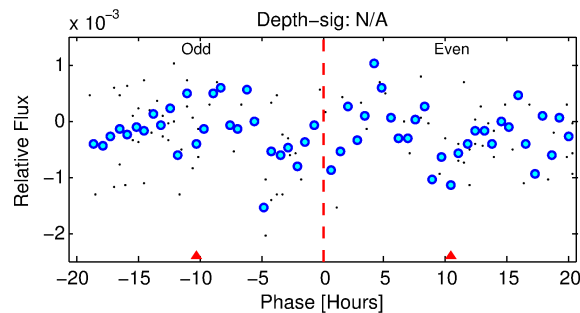
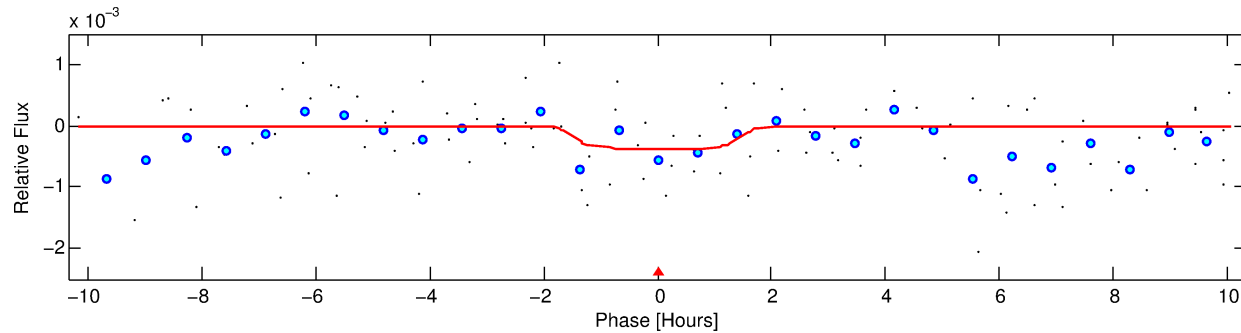
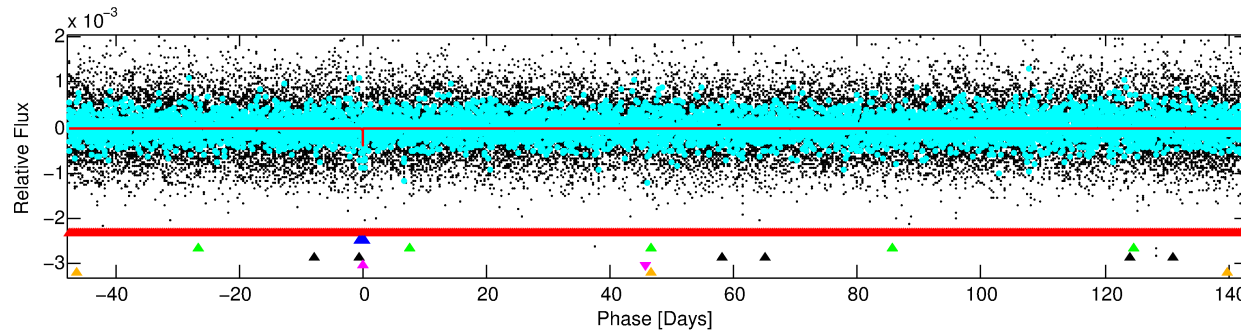
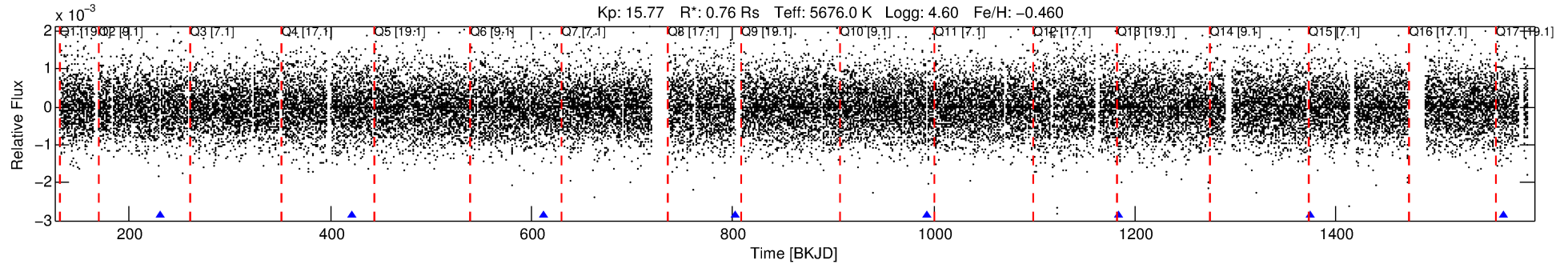
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006621280-05

No Significant Match Found

DV One-Page Summary

KIC: 6621280 Candidate: 5 of 6 Period: 190.666 d



DV Fit Results:

Period = 190.66617 [0.01328] d
Epoch = 231.1369 [0.0600] BKJD
Rp/R* = 0.0213 [0.0436]
a/R* = 204.00 [1928.28]
b = 0.90 [2.06]
Seff = 1.44 [0.42]
Teq = 279 [20] K
Rp = 1.76 [3.63] Re
a = 0.6101 [0.1133] AU
Ag = 18568.44 [76947.82] [0.24σ]
Teffp = 5041 [5214] K [0.91σ]

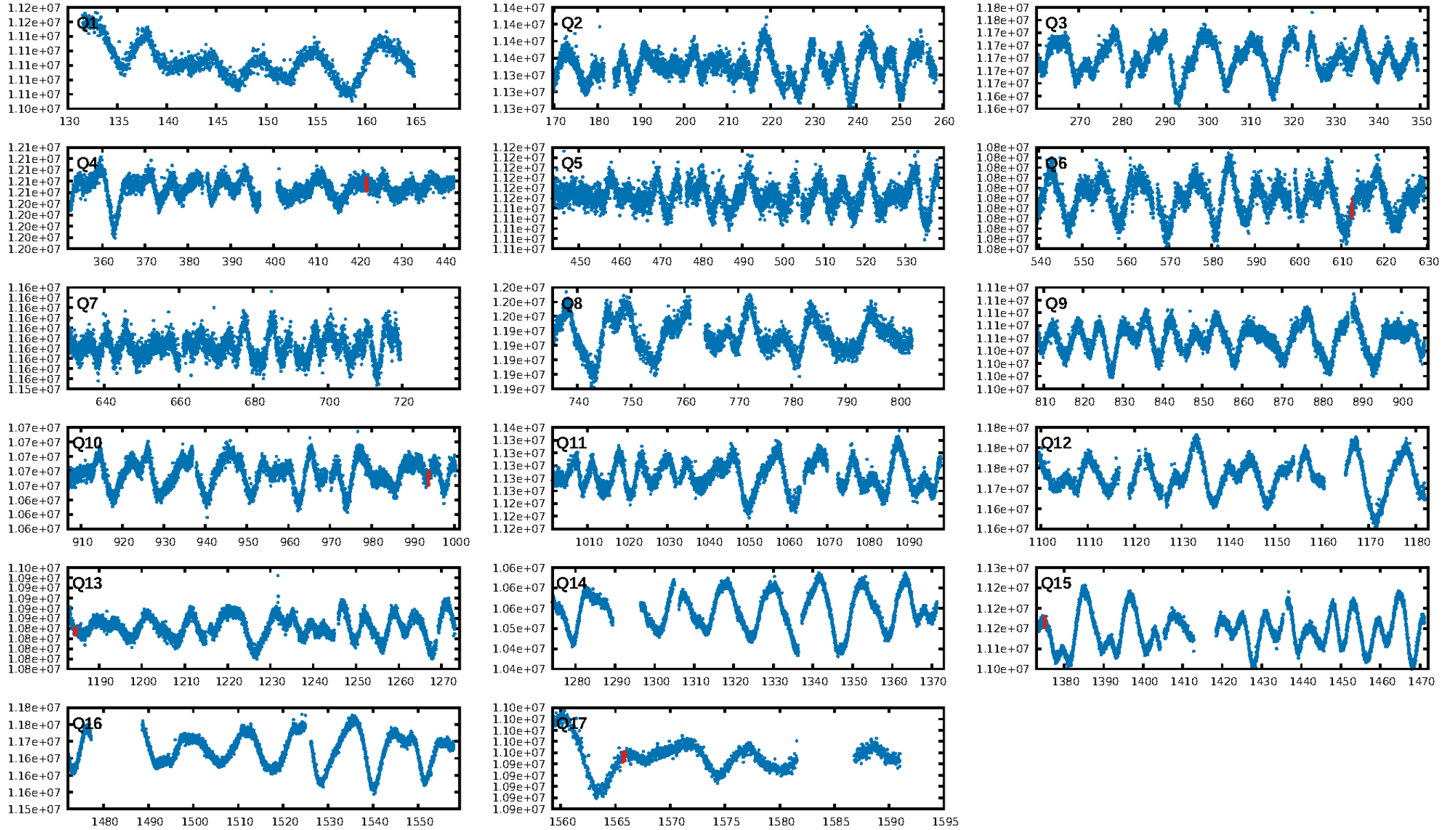
DV Diagnostic Results:

ShortPeriod-sig: 67.6% [0.99σ]
LongPeriod-sig: 100.0% [166.65σ]
ModelChiSquare2-sig: 8.1%
ModelChiSquareGof-sig: 64.7%
Bootstrap-pfa: 3.47e-22
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.933
Centroid-sig: 15.5%
Centroid-so: 4.233 arcsec [1.31σ]
OotOffset-rm: 5.974 arcsec [2.22σ]
KicOffset-rm: 6.172 arcsec [2.44σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.17 [1/6]

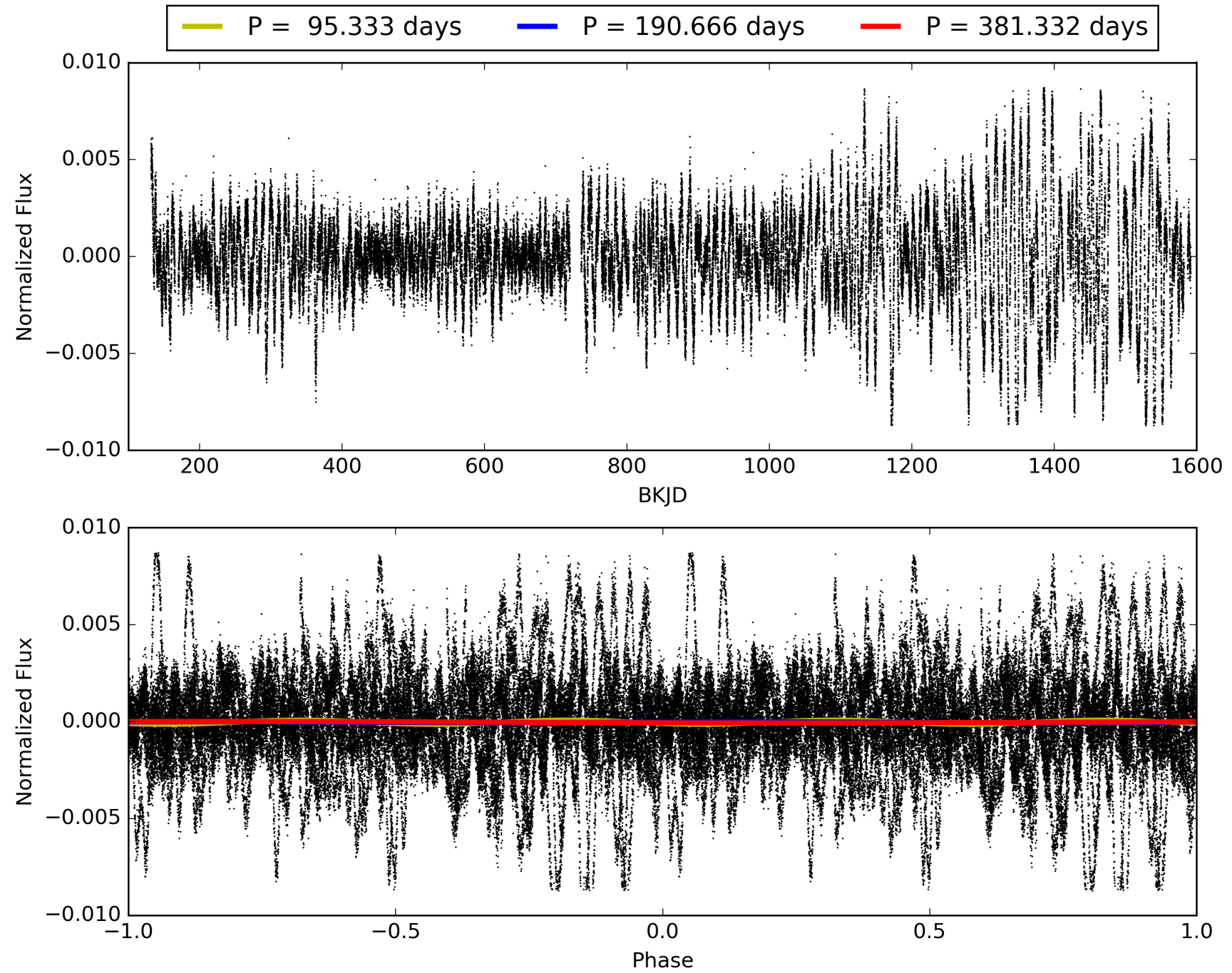
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:11:53 Z

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

TCE 006621280-05, PDC Light Curves

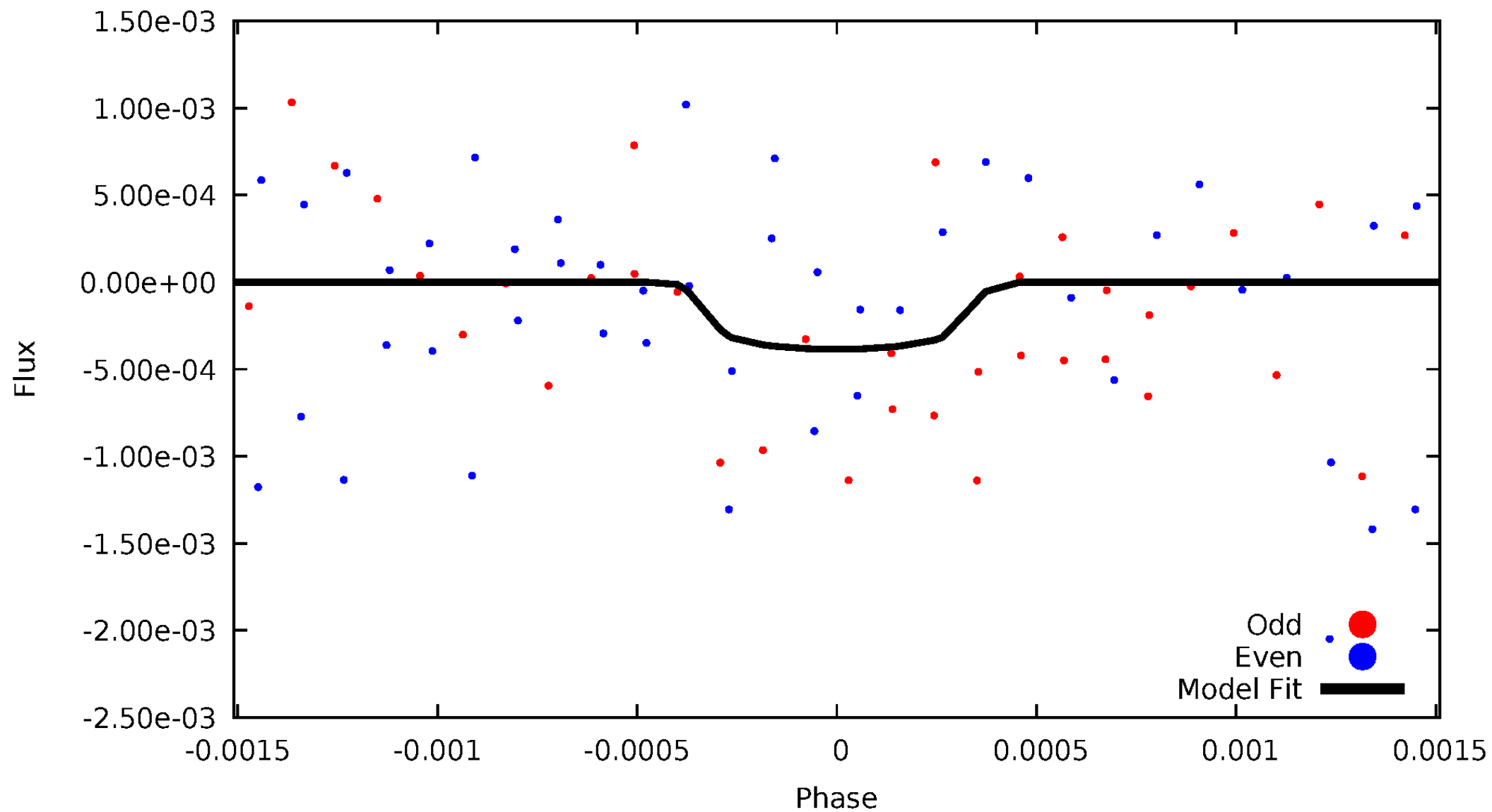


TCE 006621280-05



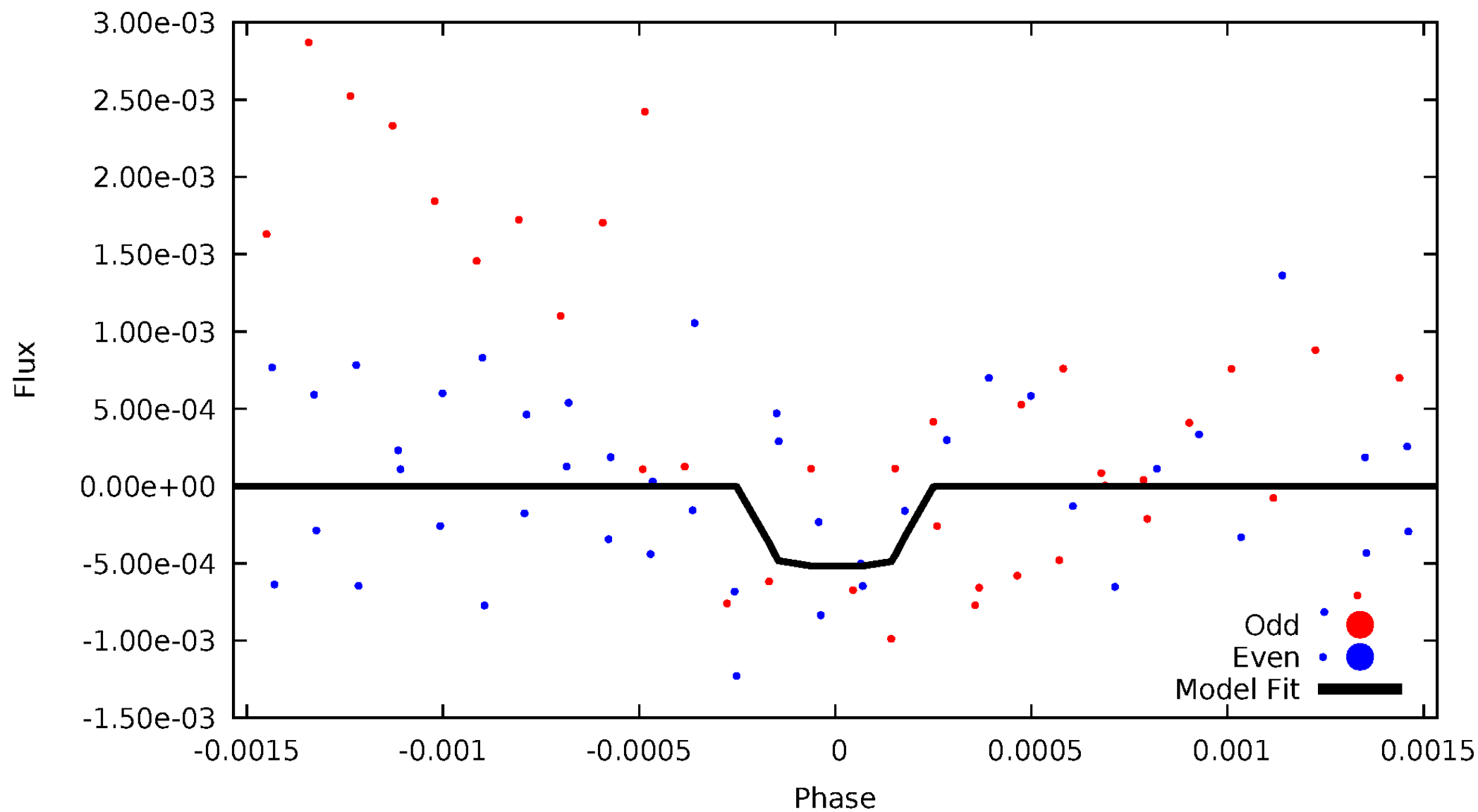
DV Odd/Even

TCE 006621280-05



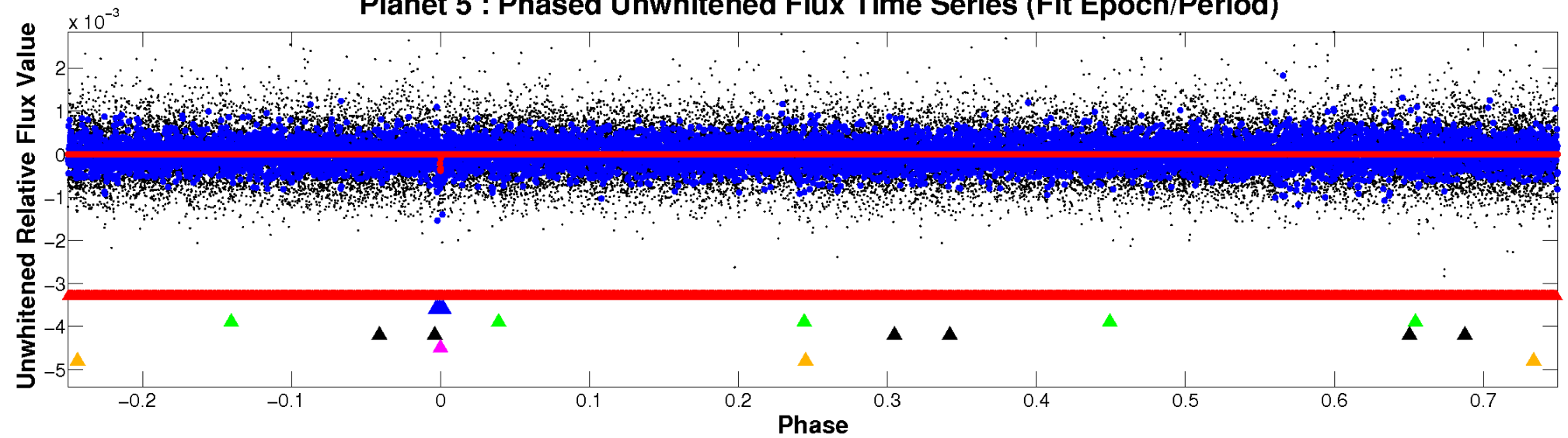
ALT Odd/Even

TCE 006621280-05

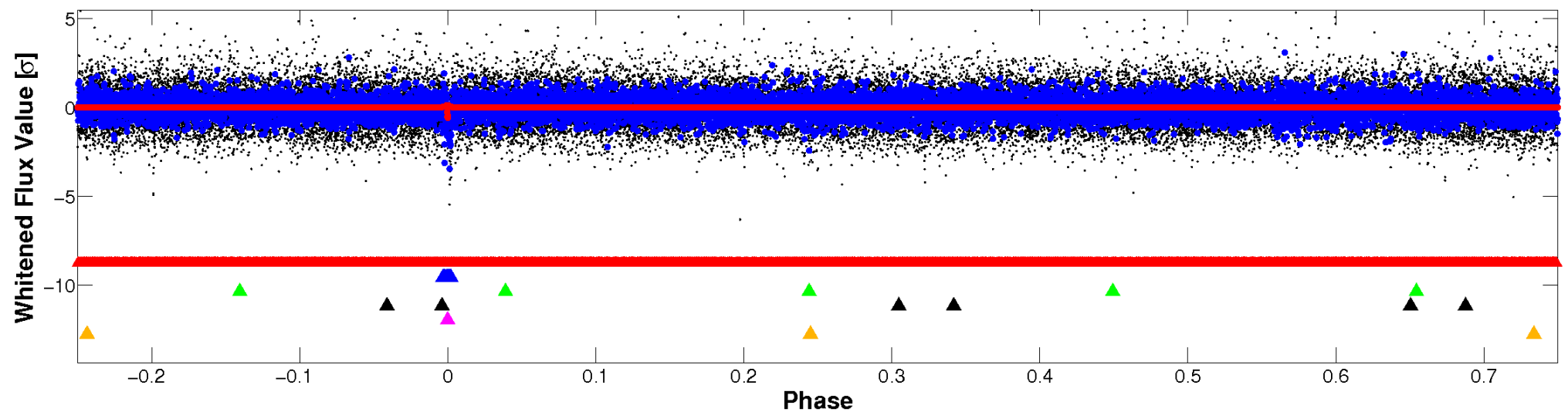


Non-Whitened Vs. Whitened Light Curve

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

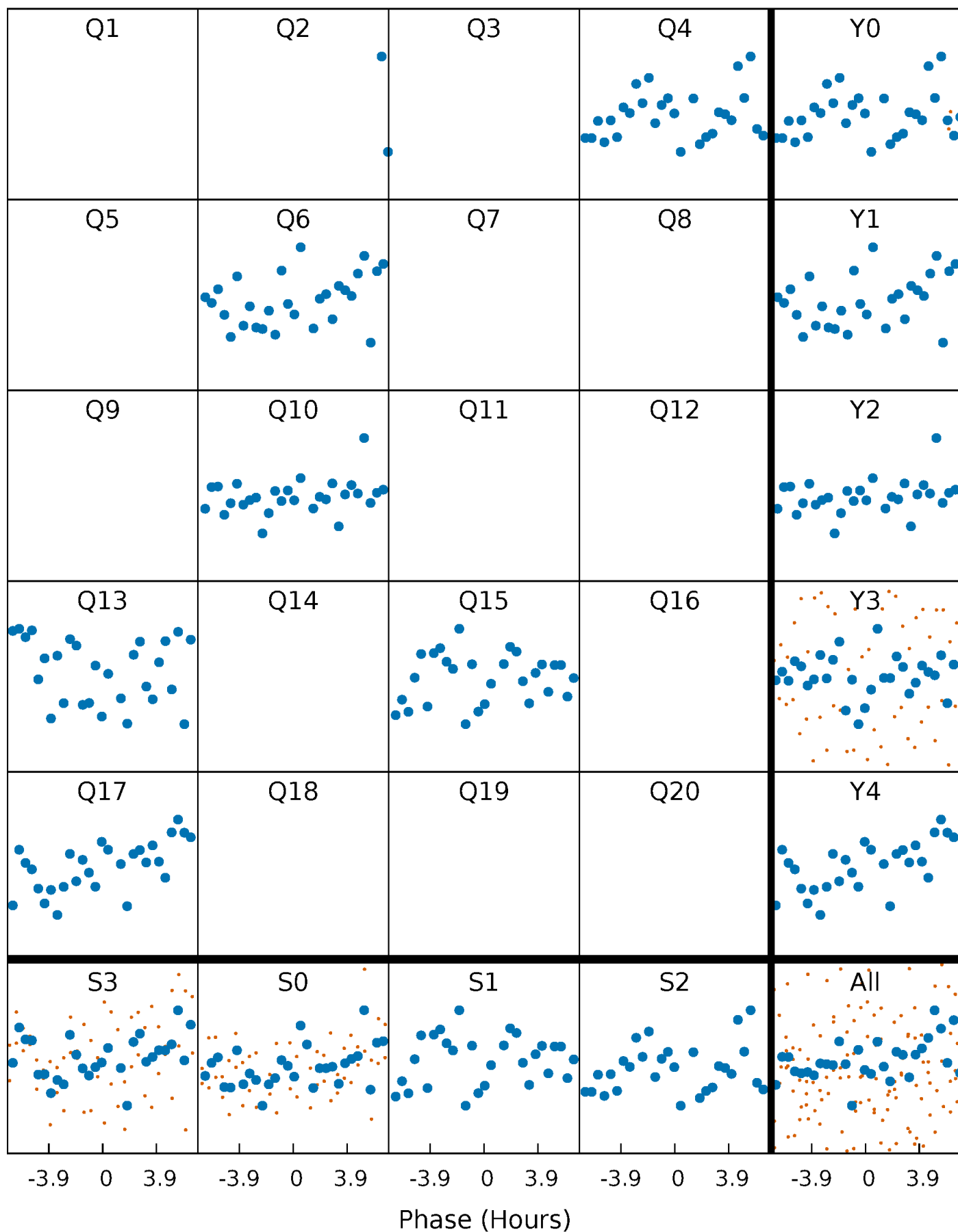


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



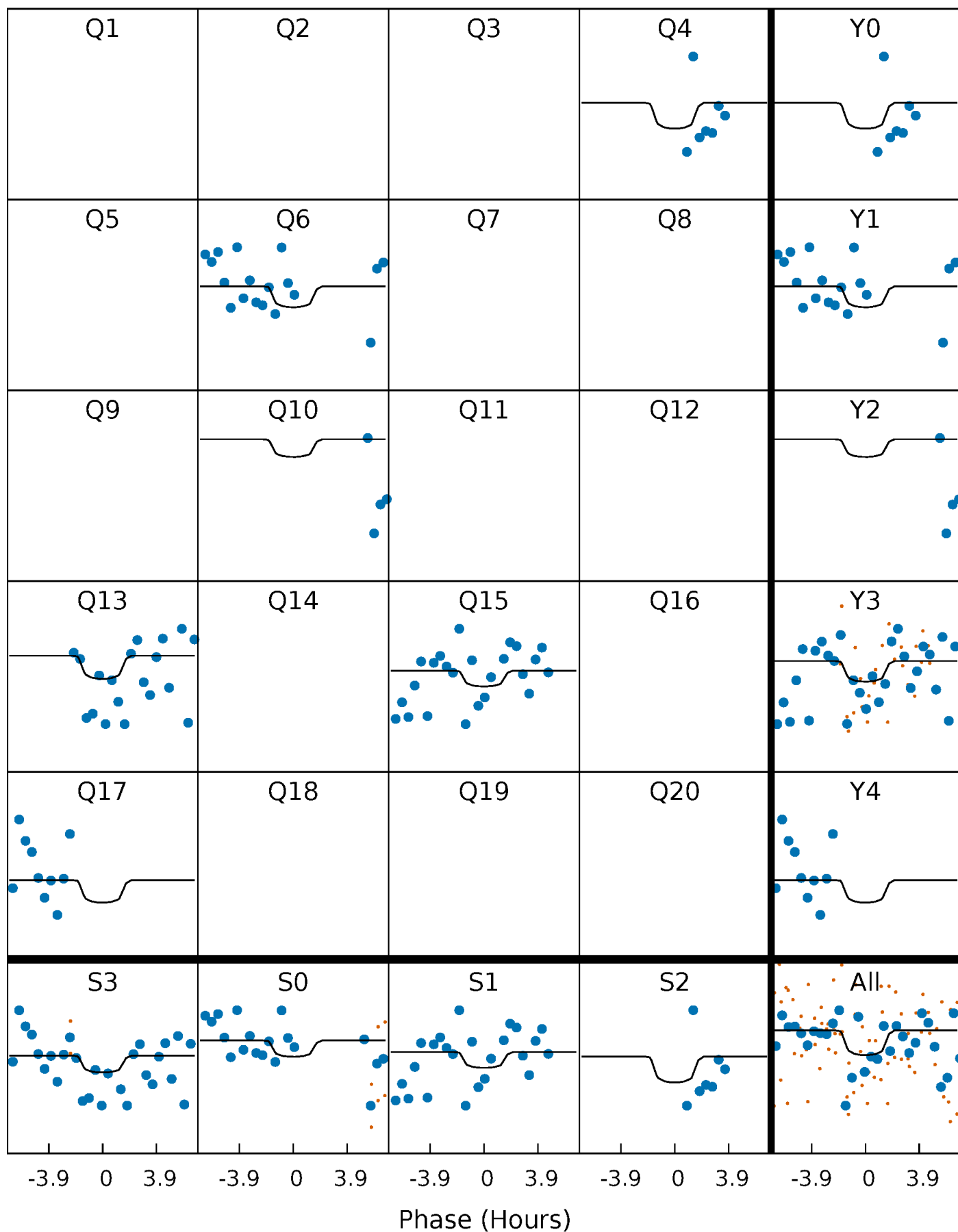
PDC Quarter-Phased Transit Curves

TCE 006621280-05 P=190.666167 Days $T_0=231.136880$ (BKJD)



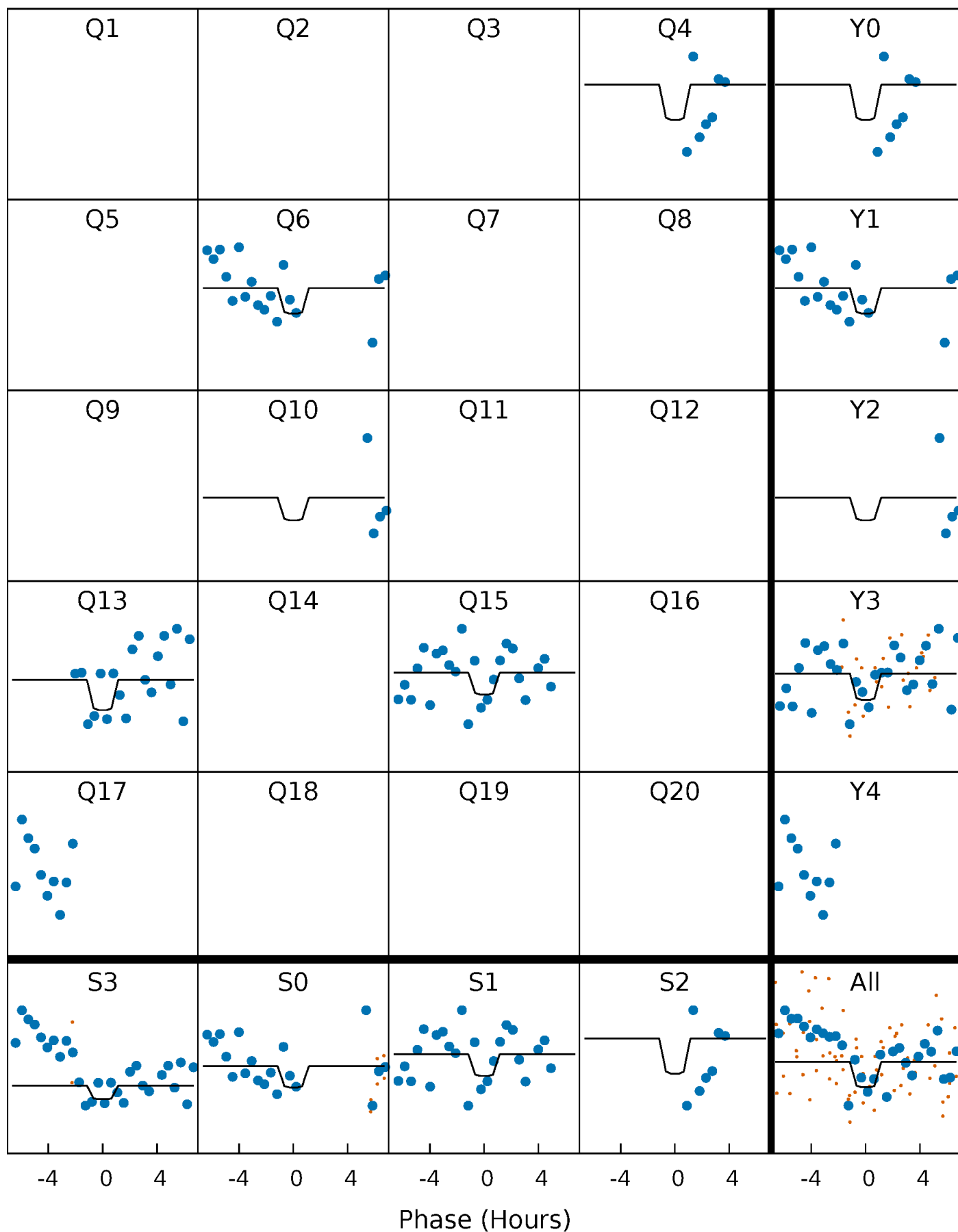
DV Quarter-Phased Transit Curves

TCE 006621280-05 $P=190.666167$ Days $T_0=231.136880$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

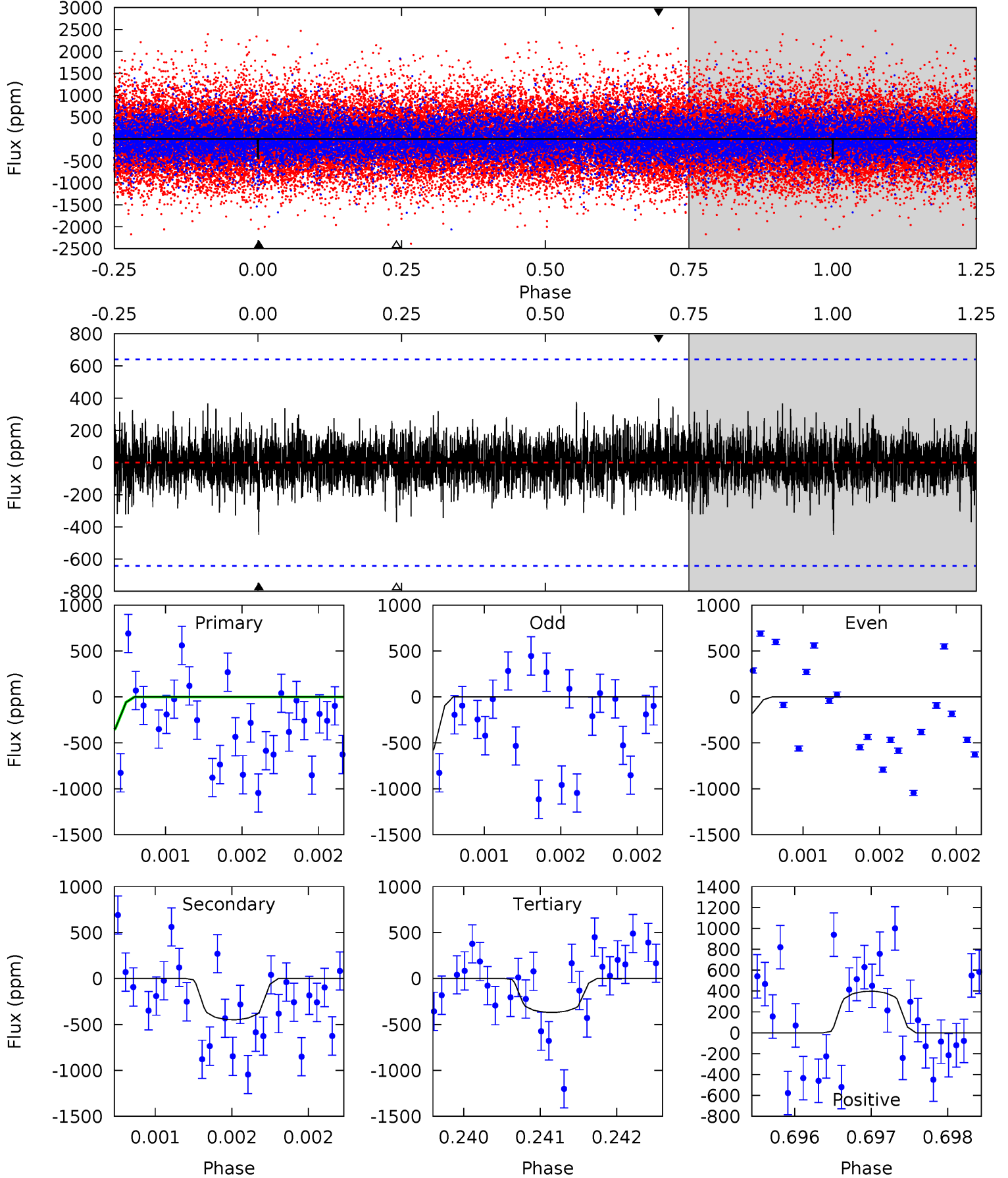
TCE 006621280-05 $P=190.665548$ Days $T_0=231.136974$ (BKJD)



DV Model-Shift Uniqueness Test

006621280-05, $P = 190.666167$ Days, $E = 40.470713$ Days

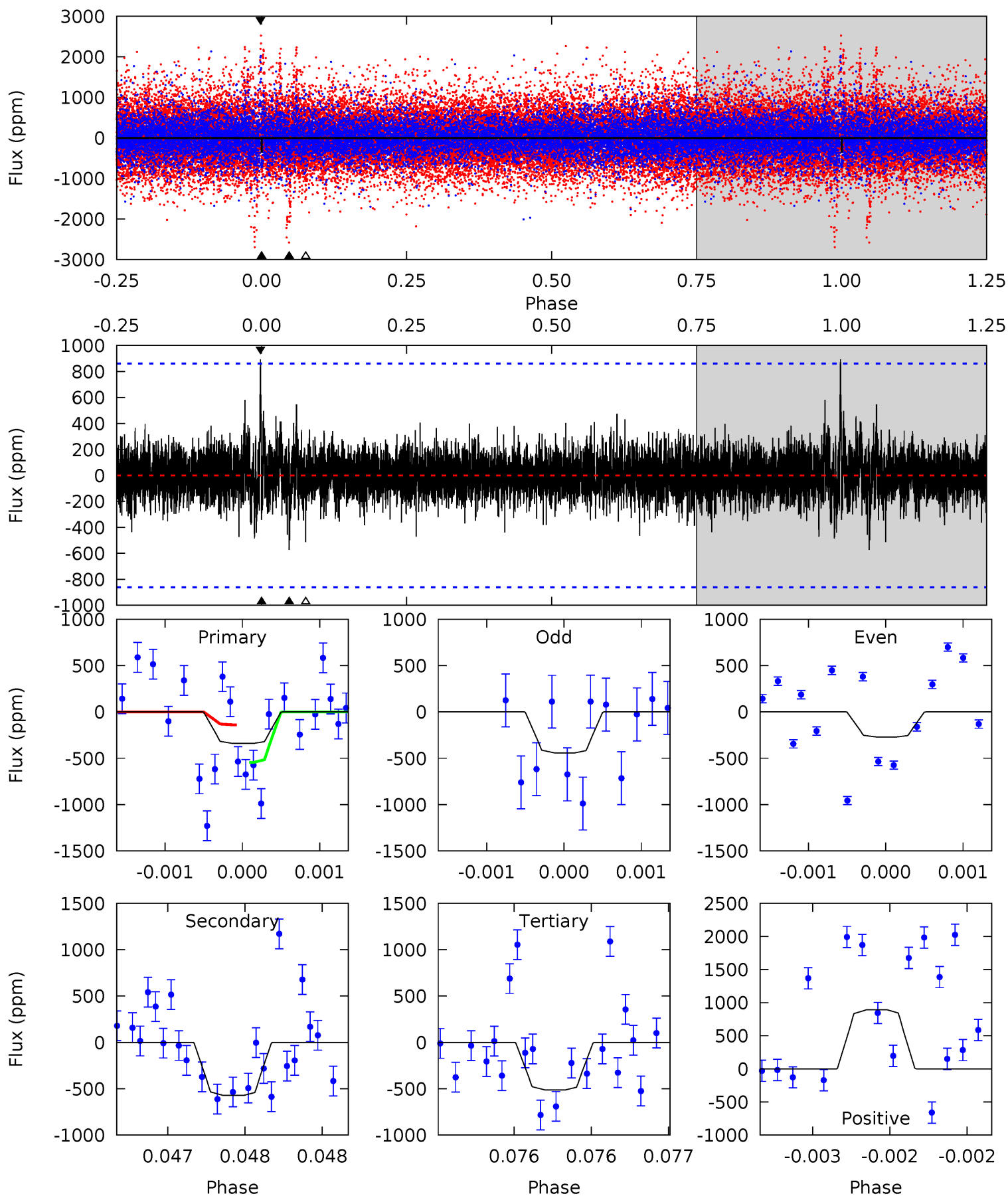
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.61	3.84	3.16	3.41	5.50	3.36	0.84	0.45	0.20	0.69	0.44	2.06	1.28	0.47	0.02



Alt Model-Shift Uniqueness Test

006621280-05, $P = 190.665548$ Days, $E = 40.471426$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.20	3.71	3.32	5.78	5.57	3.48	0.80	-1.12	-3.58	0.39	-2.07	0.53	1.34	0.61	1.32



Stellar Parameters For KIC 006621280

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5676^{+172}_{-172}	$4.598^{+0.036}_{-0.144}$	$-0.460^{+0.300}_{-0.300}$	$0.759^{+0.170}_{-0.057}$	$0.848^{+0.080}_{-0.089}$	$2.729^{+0.517}_{-1.165}$
	+3%/-3%	+1%/-3%	+65%/-65%	+22%/-8%	+9%/-10%	+19%/-43%
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 006621280-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-449 ± 117	$3.30^{+3.15}_{-2.29}$	397^{+23}_{-16}	4410^{+3225}_{-923}	8141^{+76135}_{-6062}
Alt.	-573 ± 155	$3.36^{+3.20}_{-2.32}$	396^{+21}_{-17}	4553^{+3614}_{-965}	9373^{+92306}_{-6843}

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 $A_{obs} \gg 1.0$

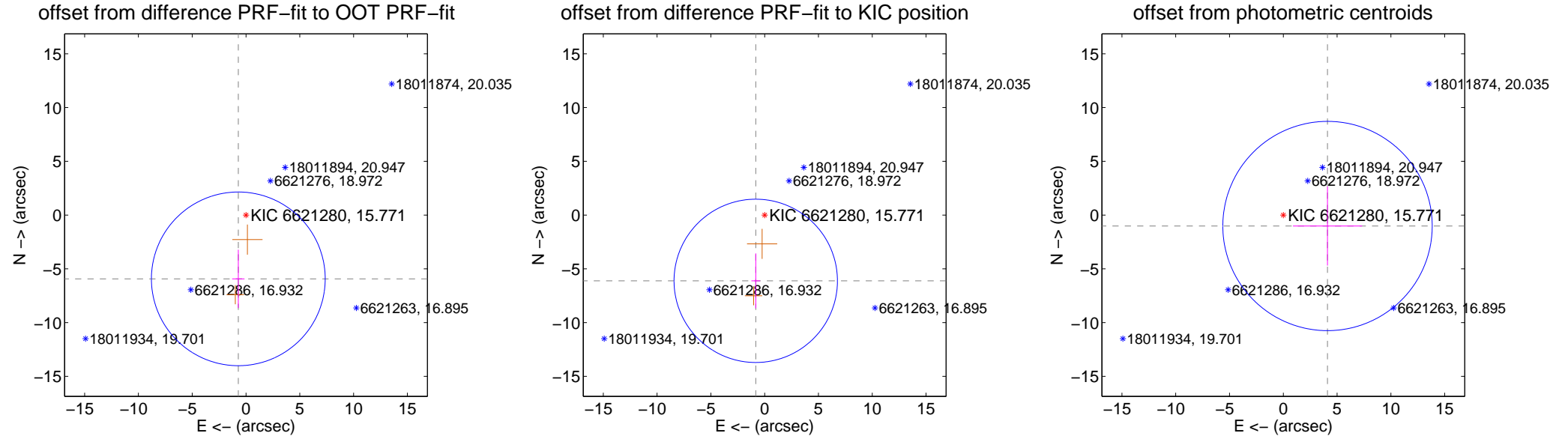
DV Centroid Data

Supplemental centroid analysis for 006621280-05. Kepler magnitude: 15.77. Transit SNR 2.31

There are 0 quarters with good PRF difference image offsets

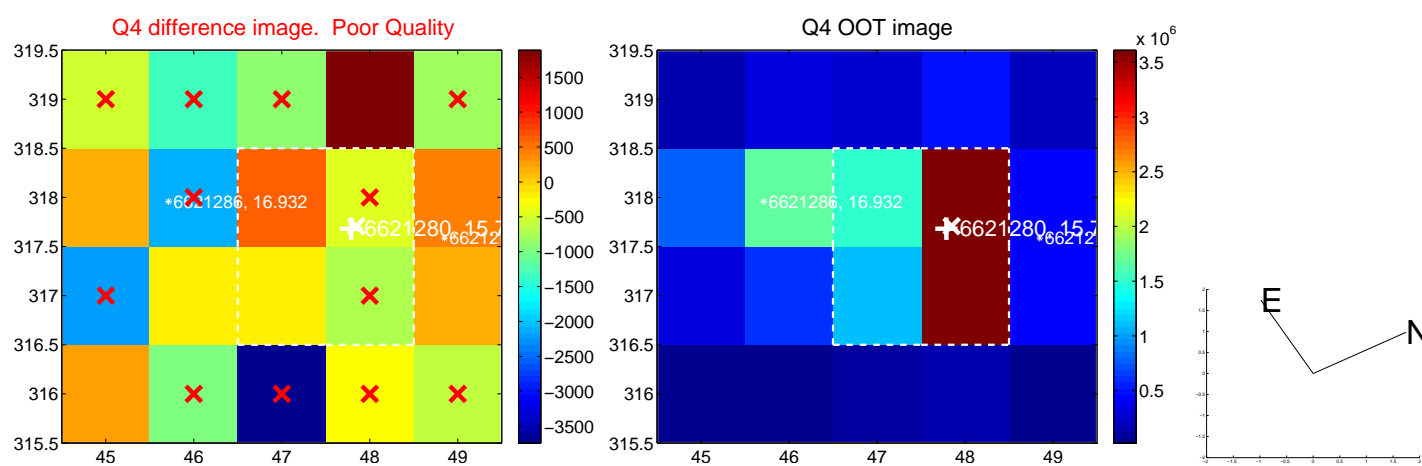
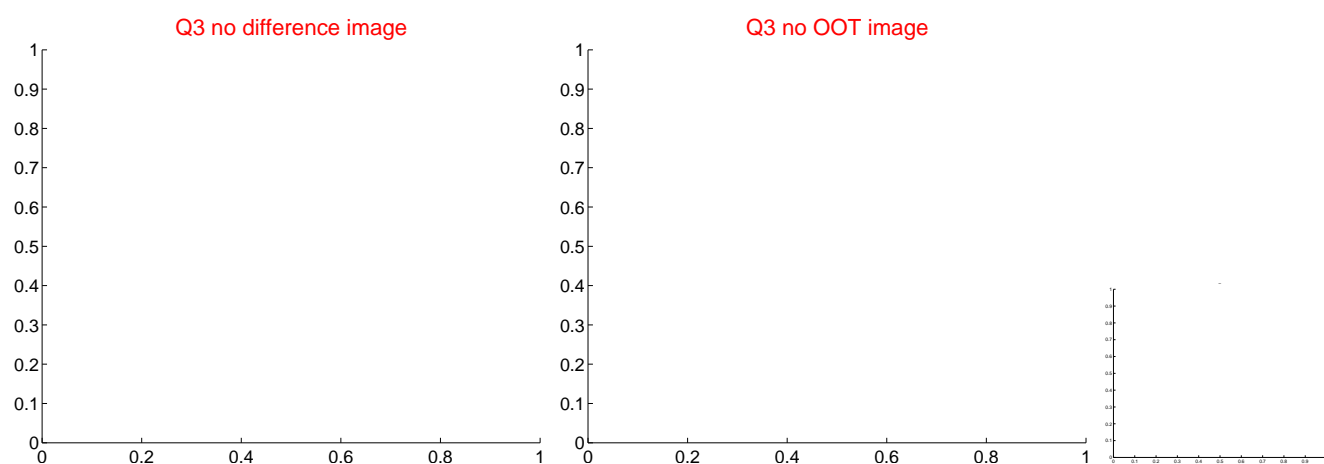
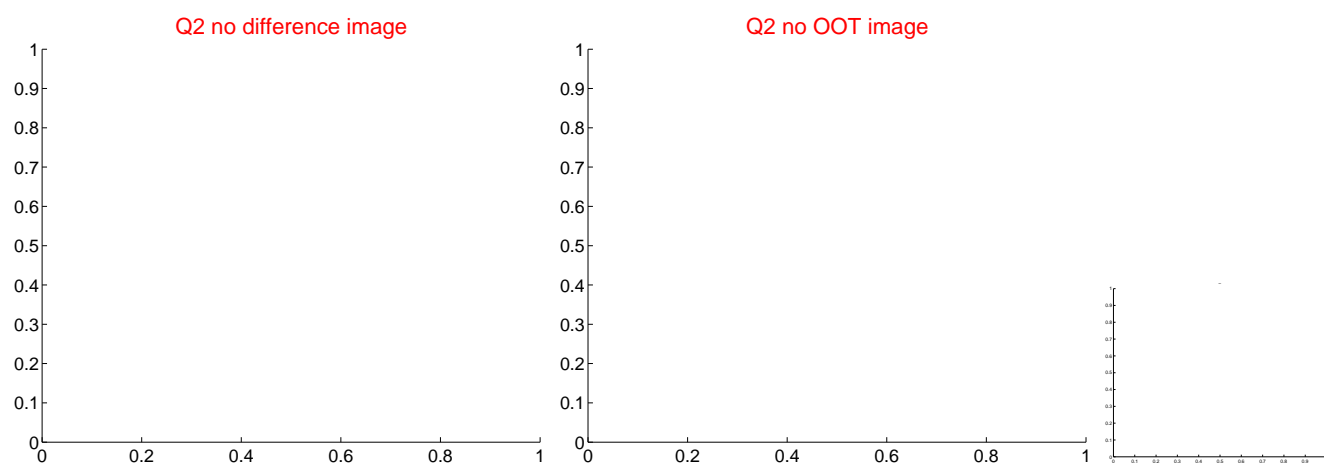
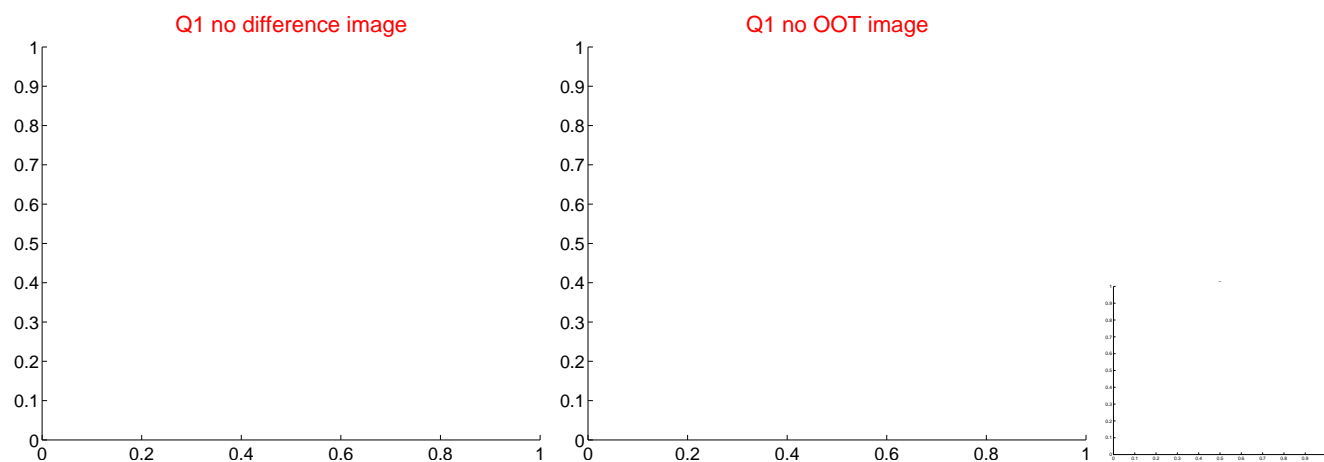
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.974 ± 2.693	2.22	0.715 ± 0.574	-5.931 ± 2.711
PRF-fit source offset from KIC position	6.172 ± 2.531	2.44	0.829 ± 0.407	-6.116 ± 2.554
photometric centroid source offset	4.23 ± 3.24	1.31	-4.11 ± 3.22	-1.02 ± 3.68

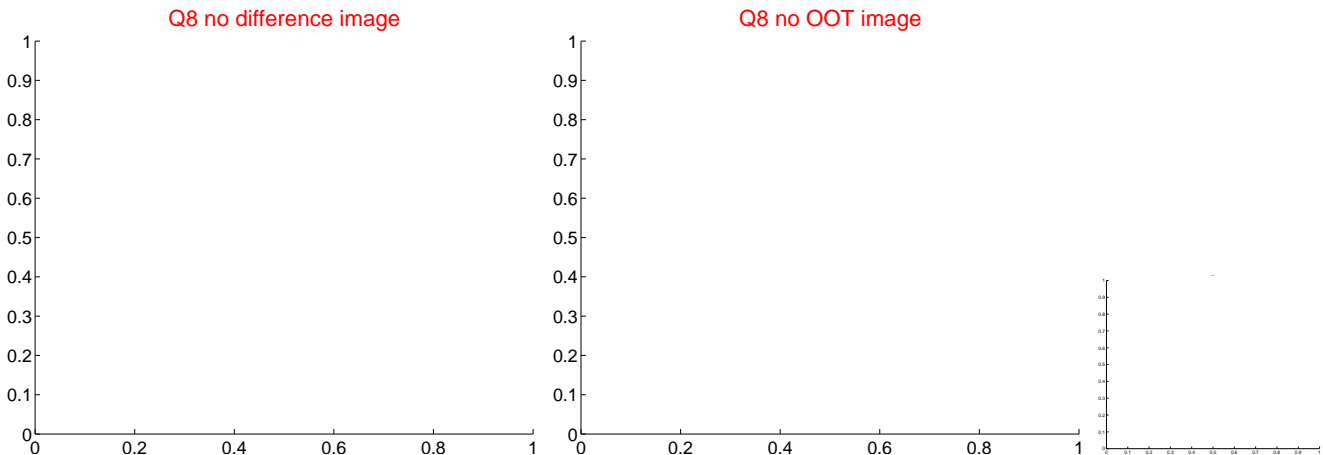
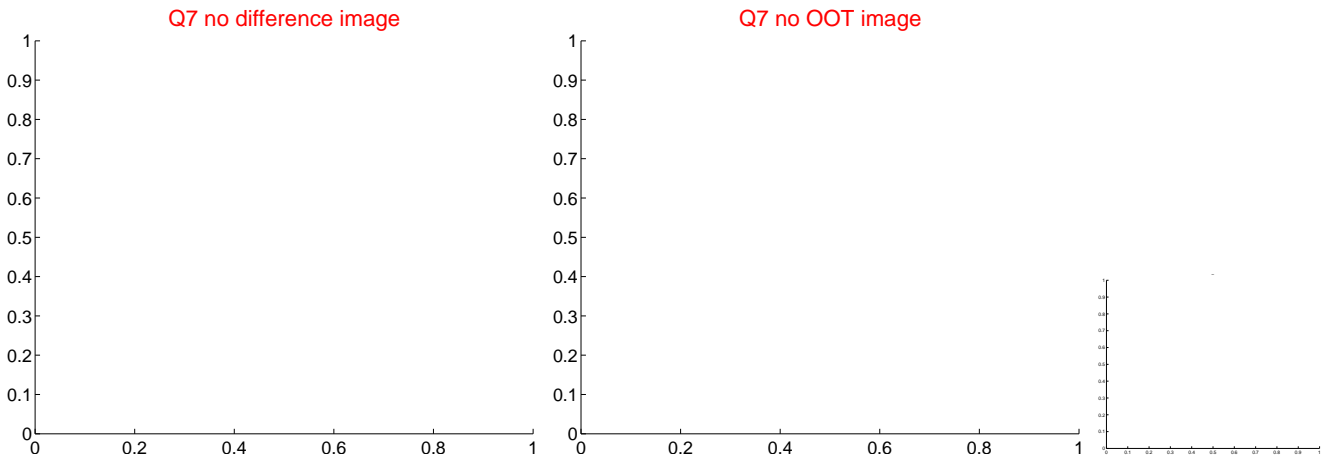
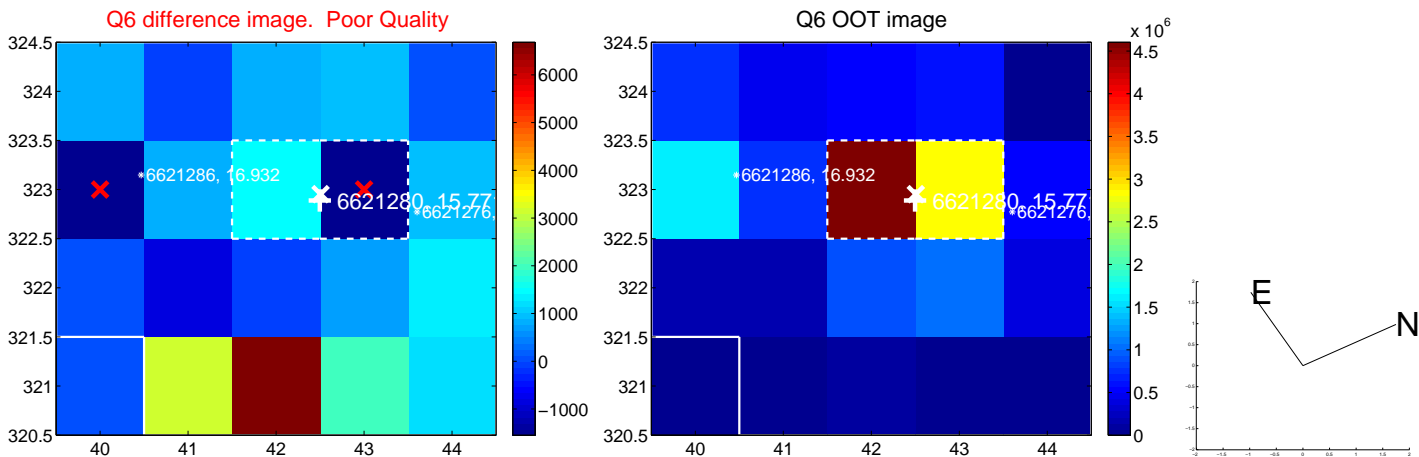
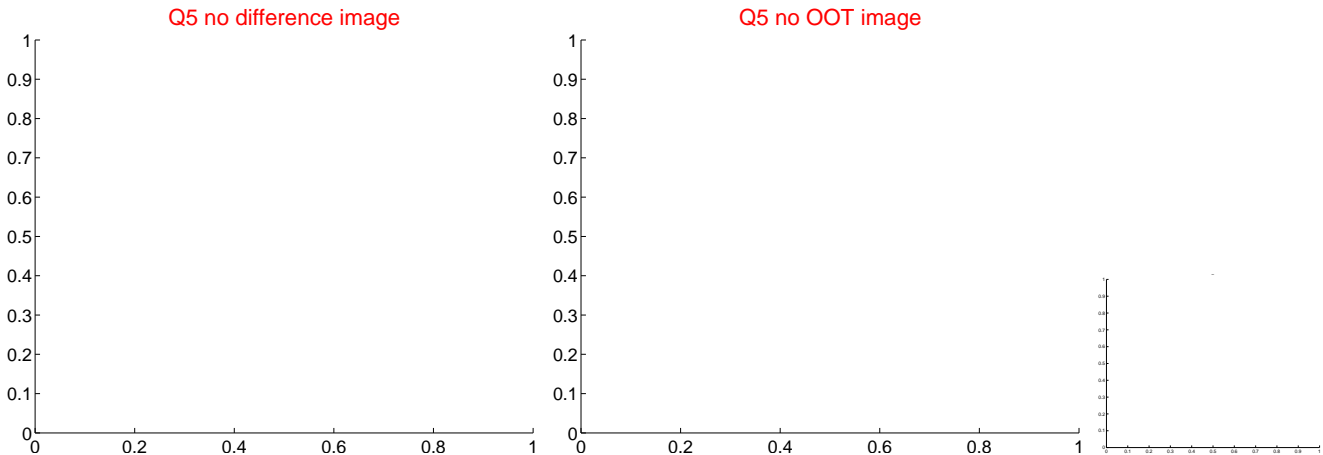


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

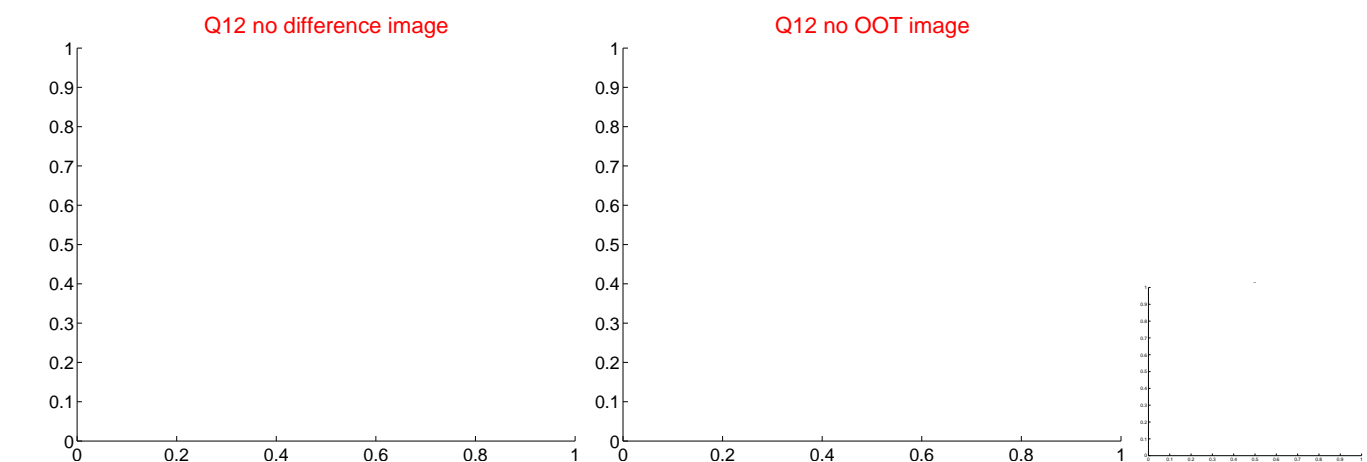
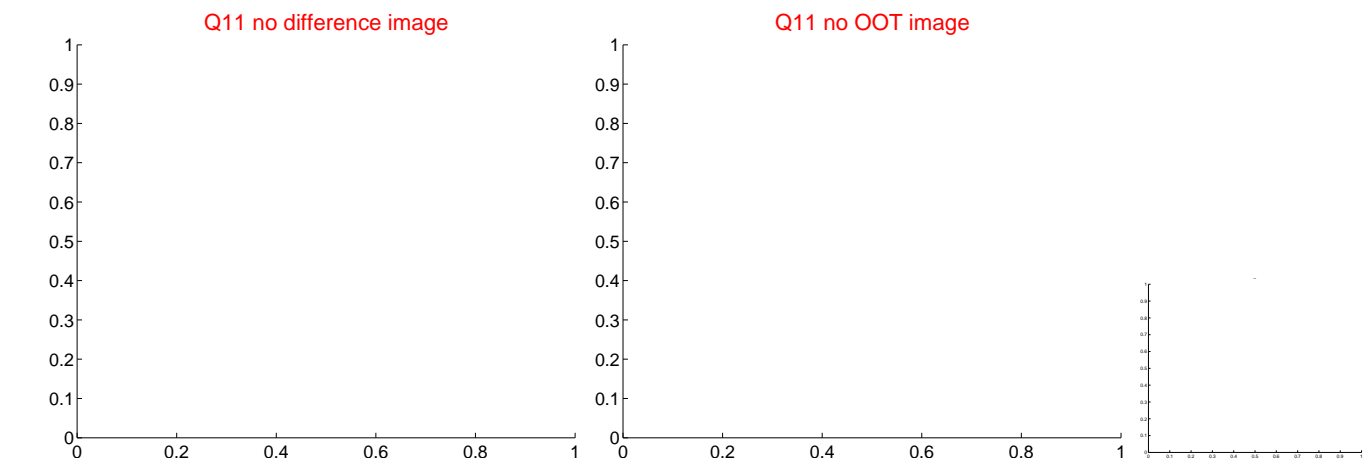
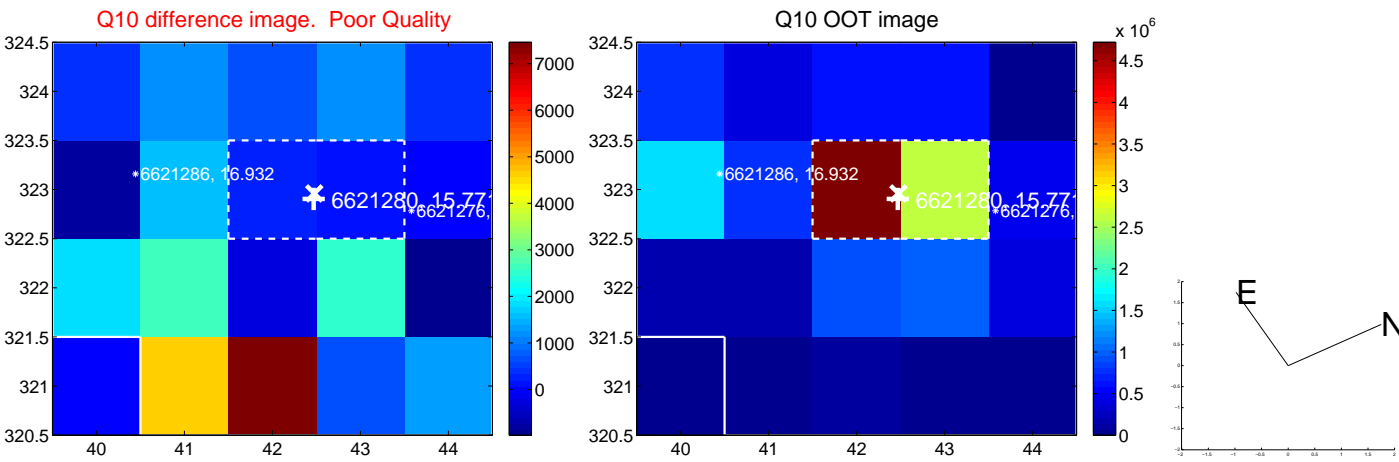
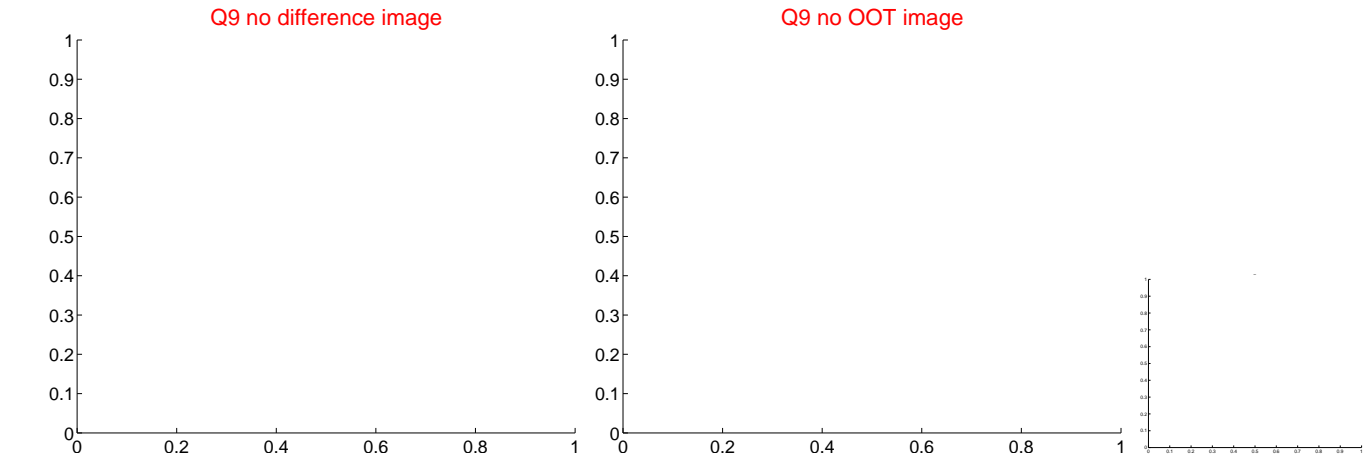
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



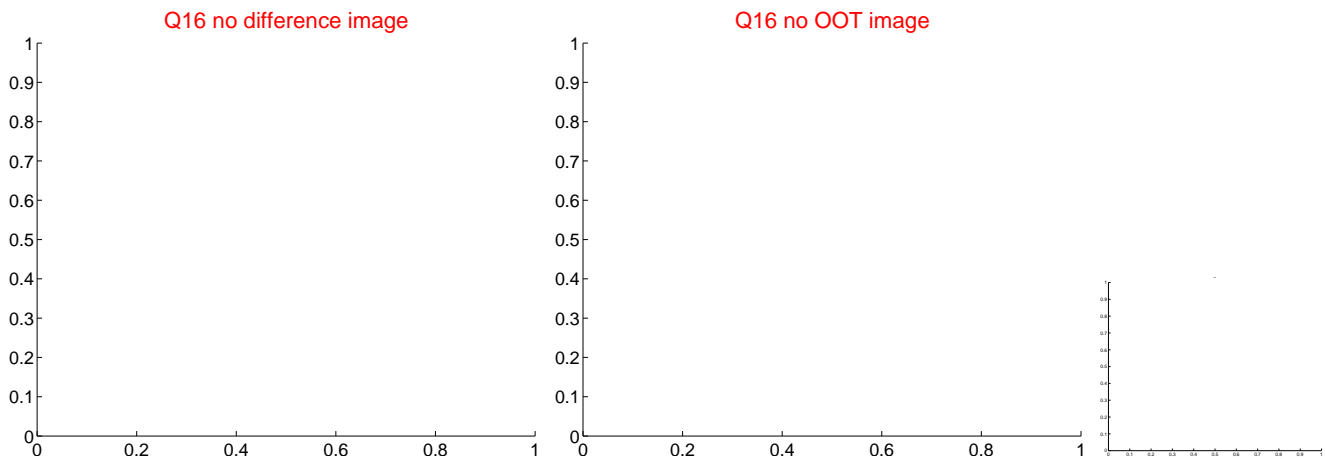
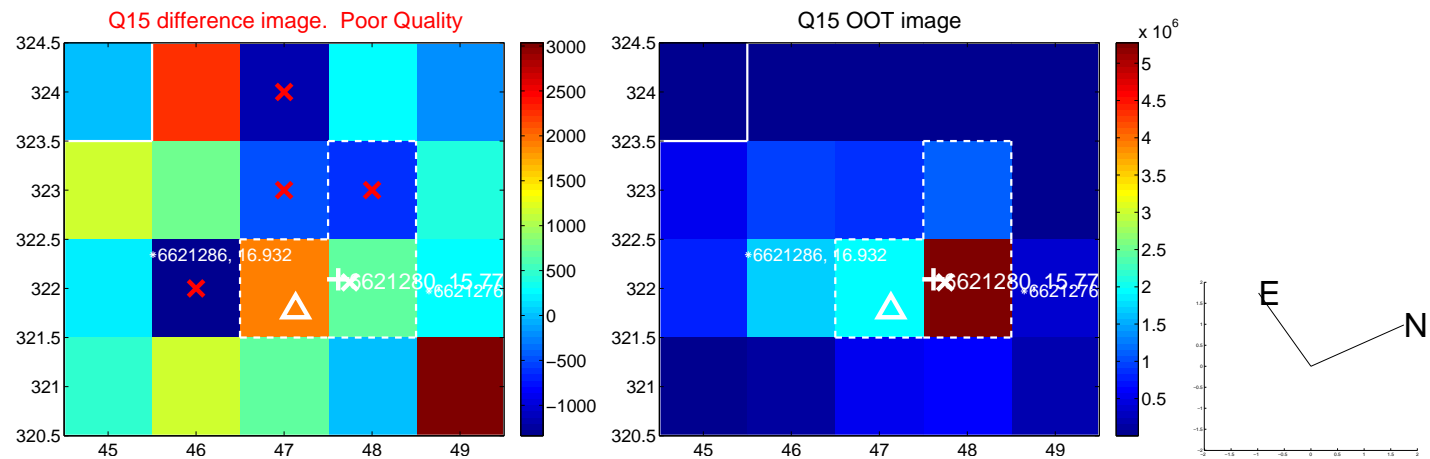
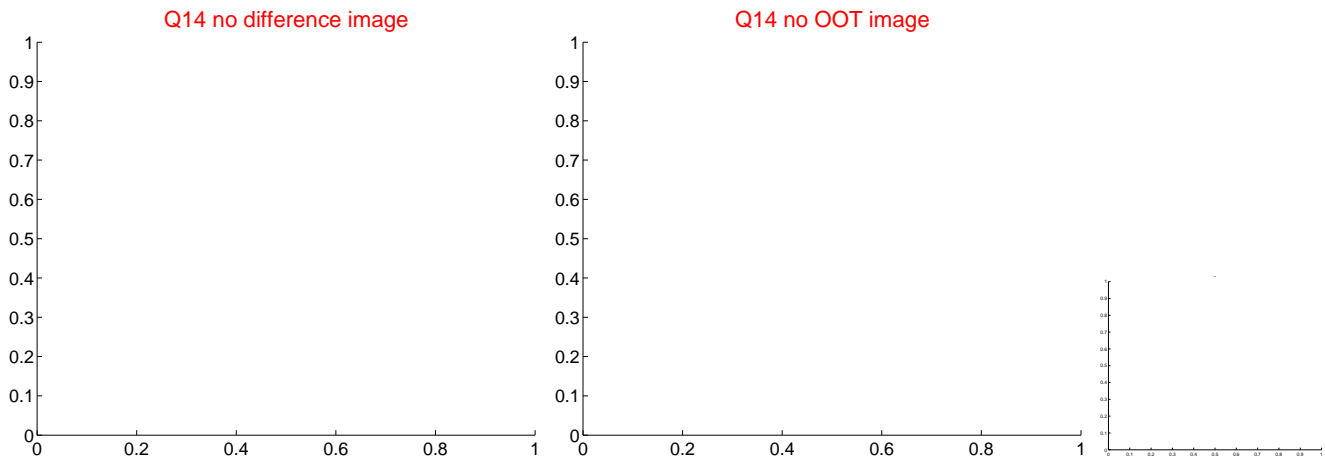
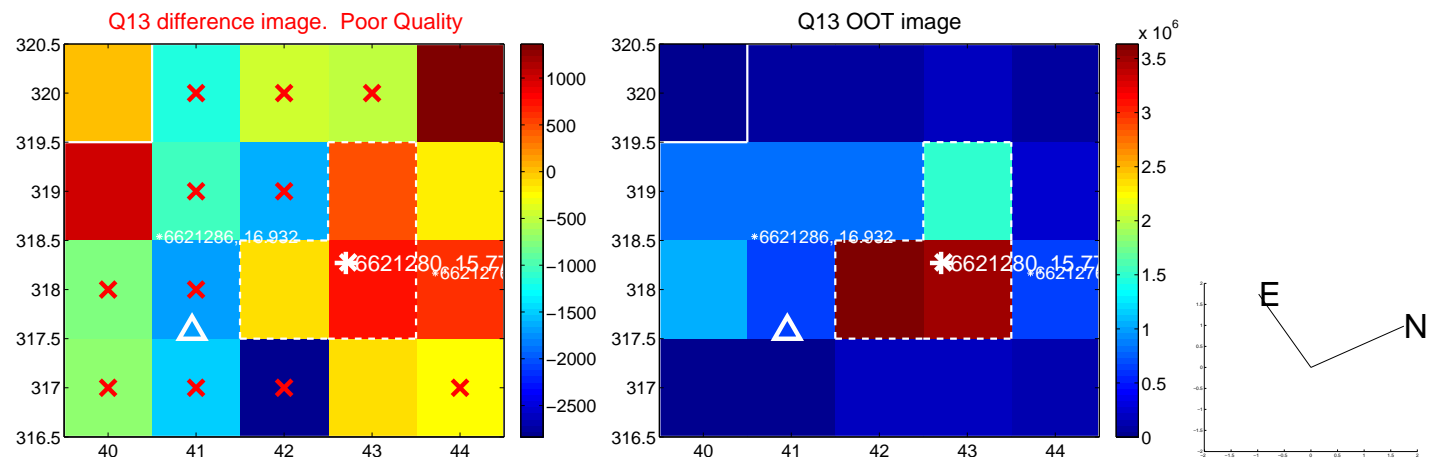
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



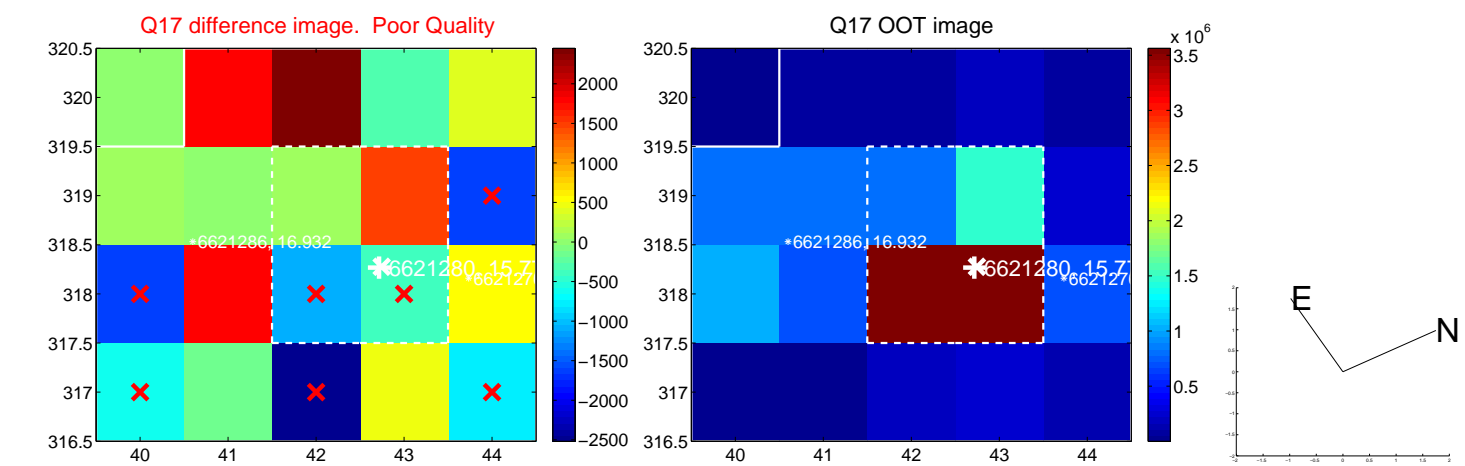
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



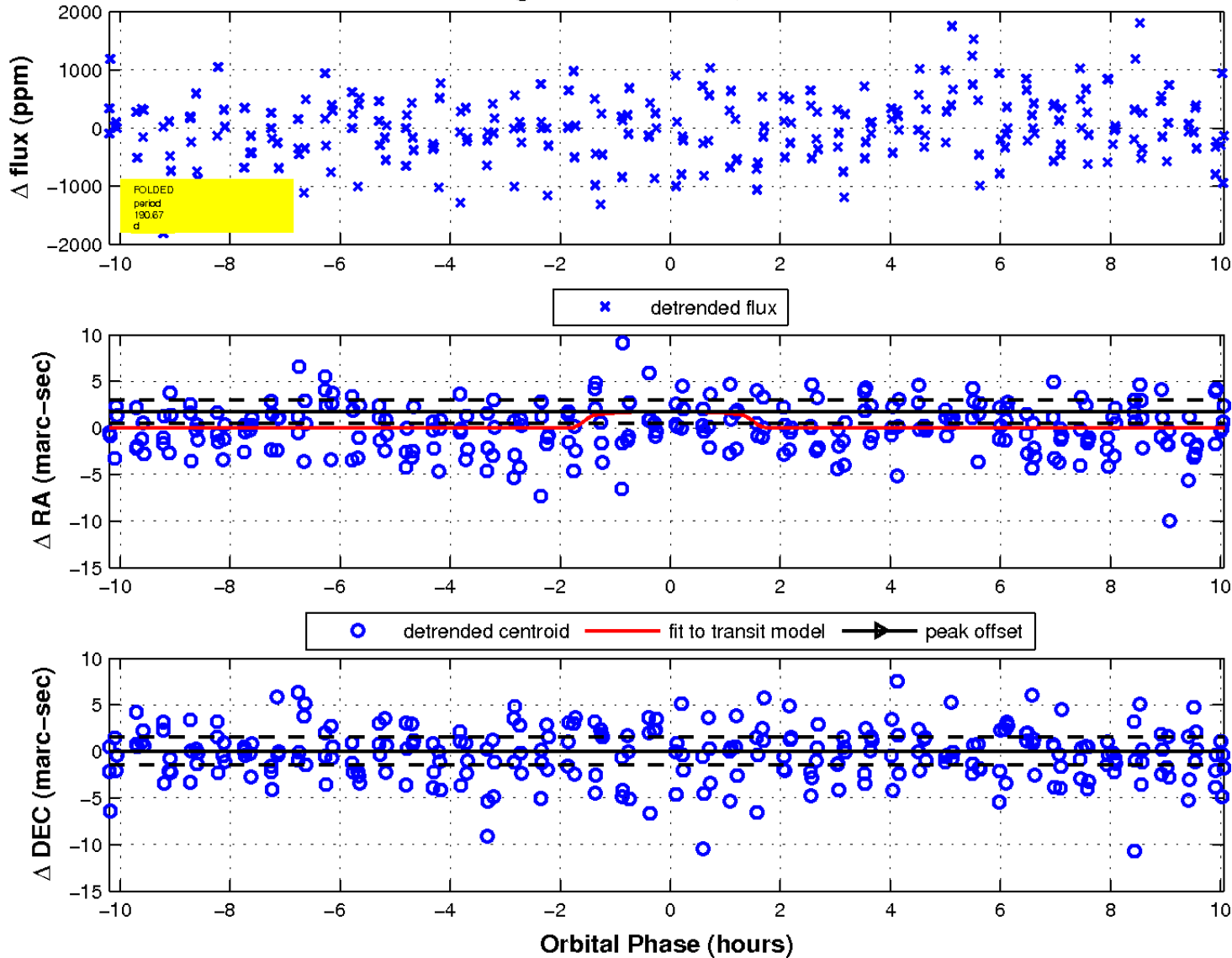
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

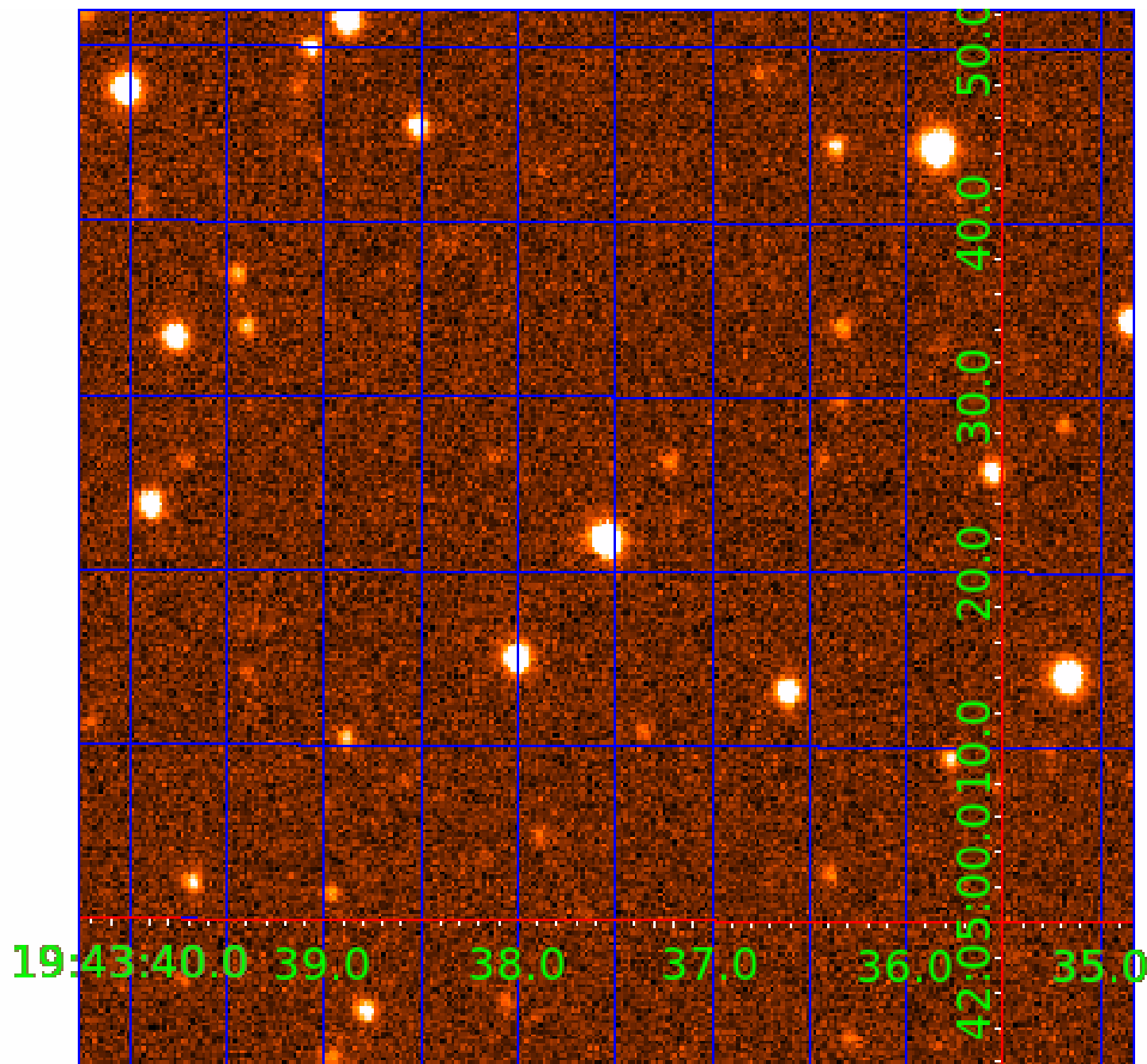


fluxWeightedCentroids, Planet 5 of 6



UKIRT Image

Declination



KIC 006621280

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})
006621280-01	OBS	No	1.075530	132.268141	65.2	3.559	7.4	8.0	0.76	5676	0.73	1433.49
006621280-03	OBS	No	342.222651	204.356575	942.4	10.118	18.9	7.1	0.76	5676	2.47	0.66
006621280-04	OBS	No	256.582561	223.324753	251.5	8.842	13.2	2.2	0.76	5676	1.39	0.97
006621280-05	OBS	No	190.666167	231.136880	384.6	3.454	12.2	2.3	0.76	5676	1.76	1.44
006621280-06	OBS	No	478.822416	561.710136	1236.7	20.311	9.8	7.0	0.76	5676	3.19	0.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006621280-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
006621280-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006621280-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

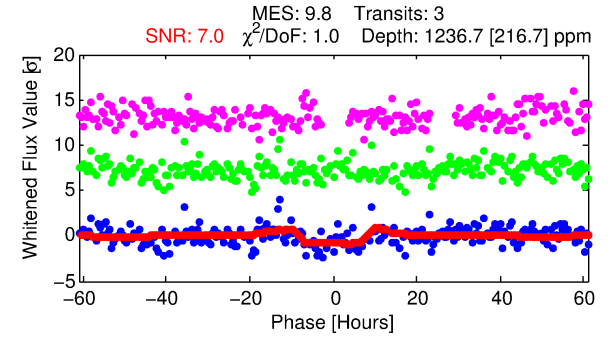
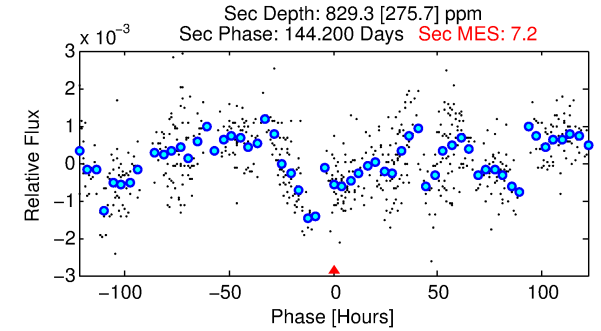
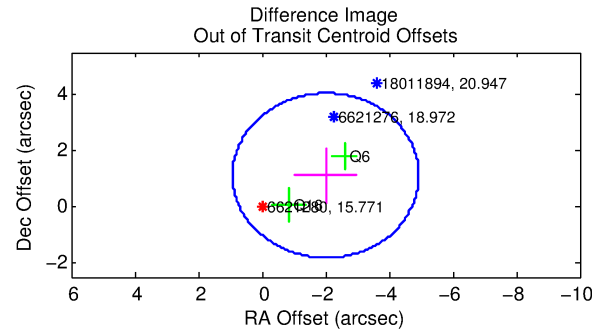
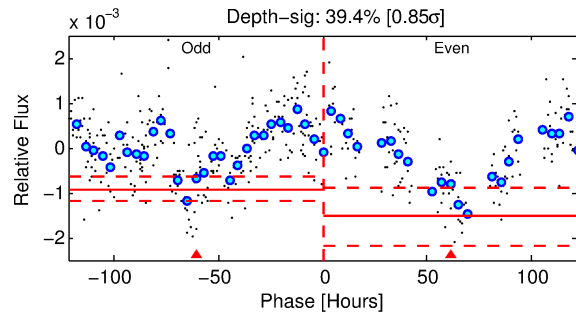
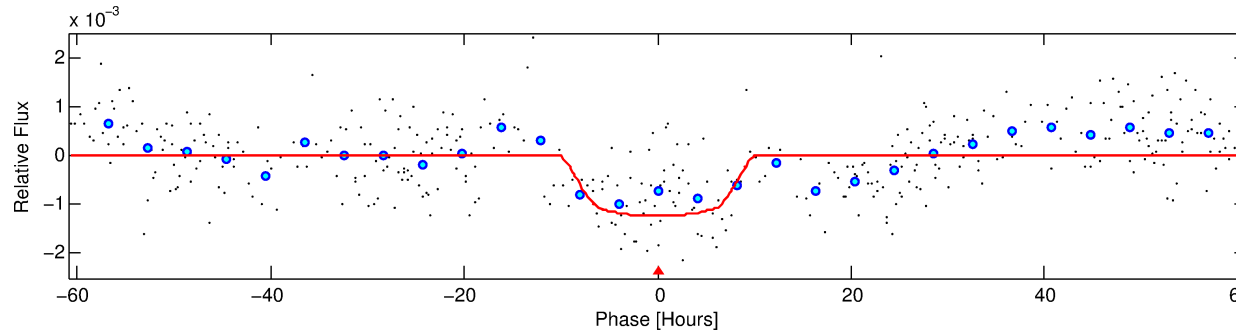
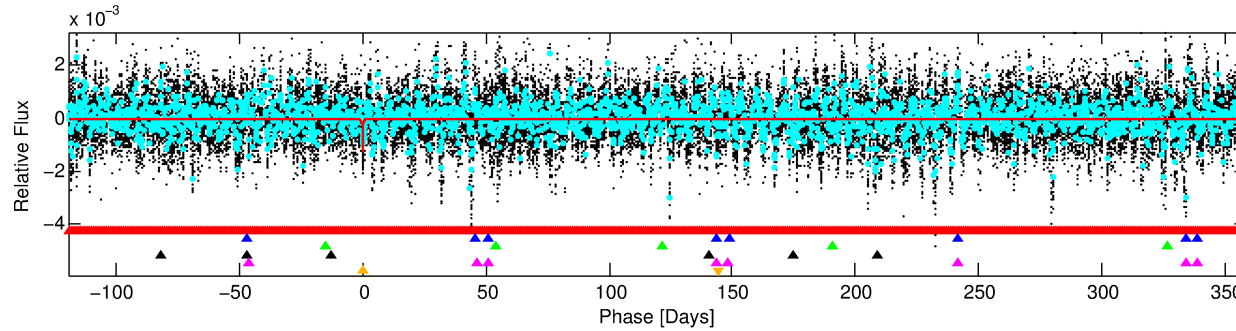
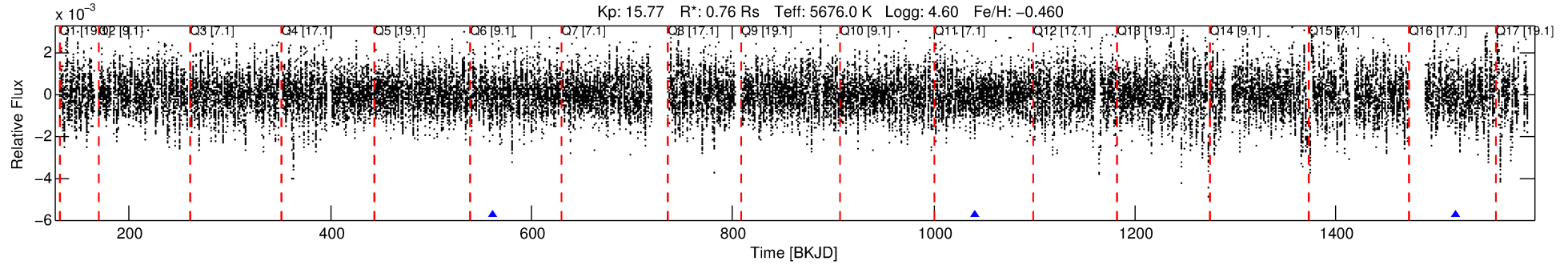
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006621280-06

No Significant Match Found

DV One-Page Summary

KIC: 6621280 Candidate: 6 of 6 Period: 478.822 d



DV Fit Results:

Period = 478.82242 [0.04734] d
Epoch = 561.7101 [0.0551] BKJD
Rp/R* = 0.0386 [0.0048]
a/R* = 90.35 [35.06]
b = 0.91 [0.07]
Seff = 0.42 [0.12]
Teq = 205 [15] K
Rp = 3.19 [0.82] Re
a = 1.1271 [0.2094] AU
Ag = 56834.05 [28107.43] [2.02 σ]
Teffp = 4905 [532] K [8.83 σ]

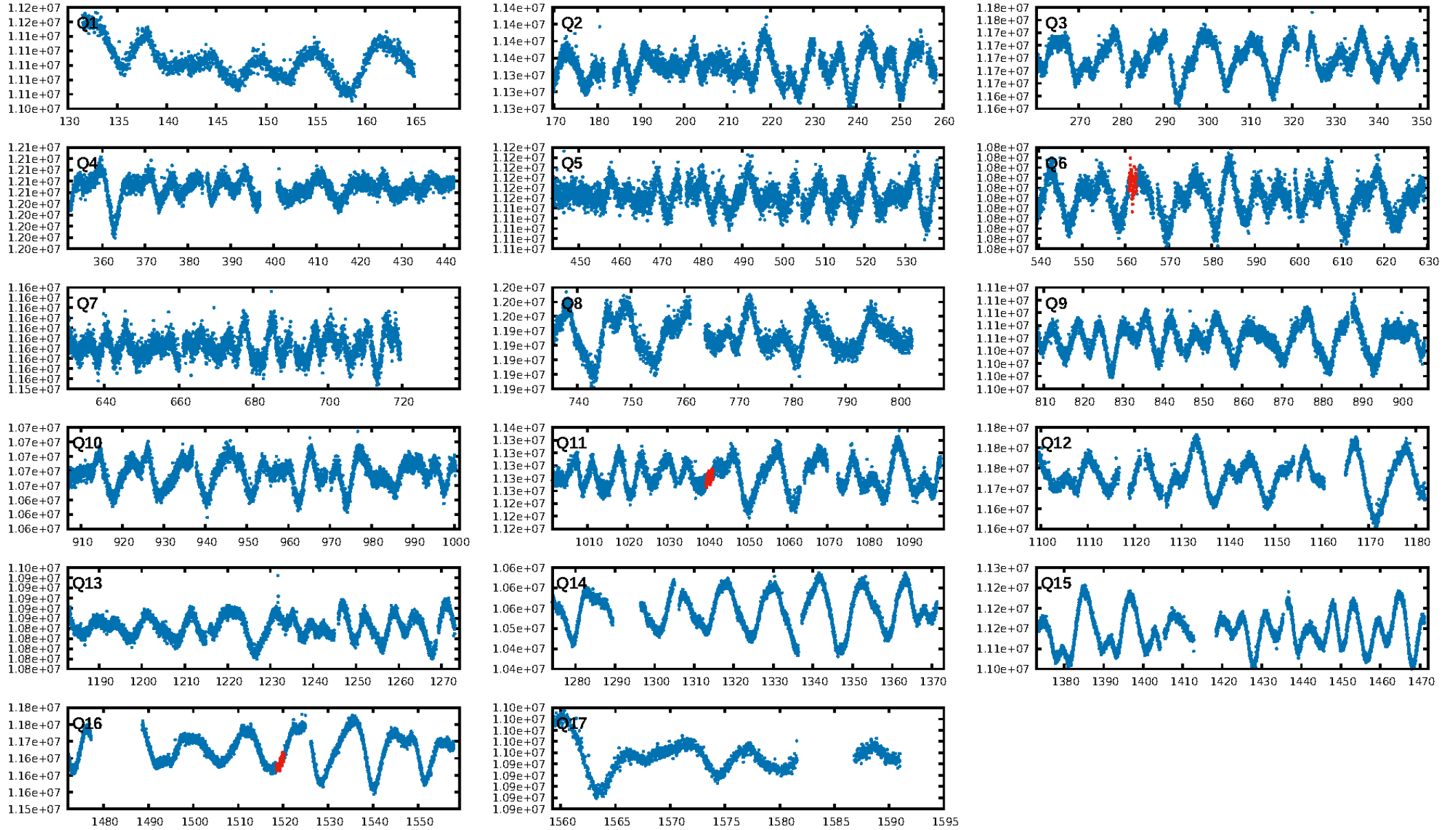
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [144.48 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.60e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -5.694
Centroid-sig: 22.3%
Centroid-so: 1.731 arcsec [1.71 σ]
OotOffset-rm: 2.295 arcsec [2.35 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 2.246 arcsec [2.12 σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

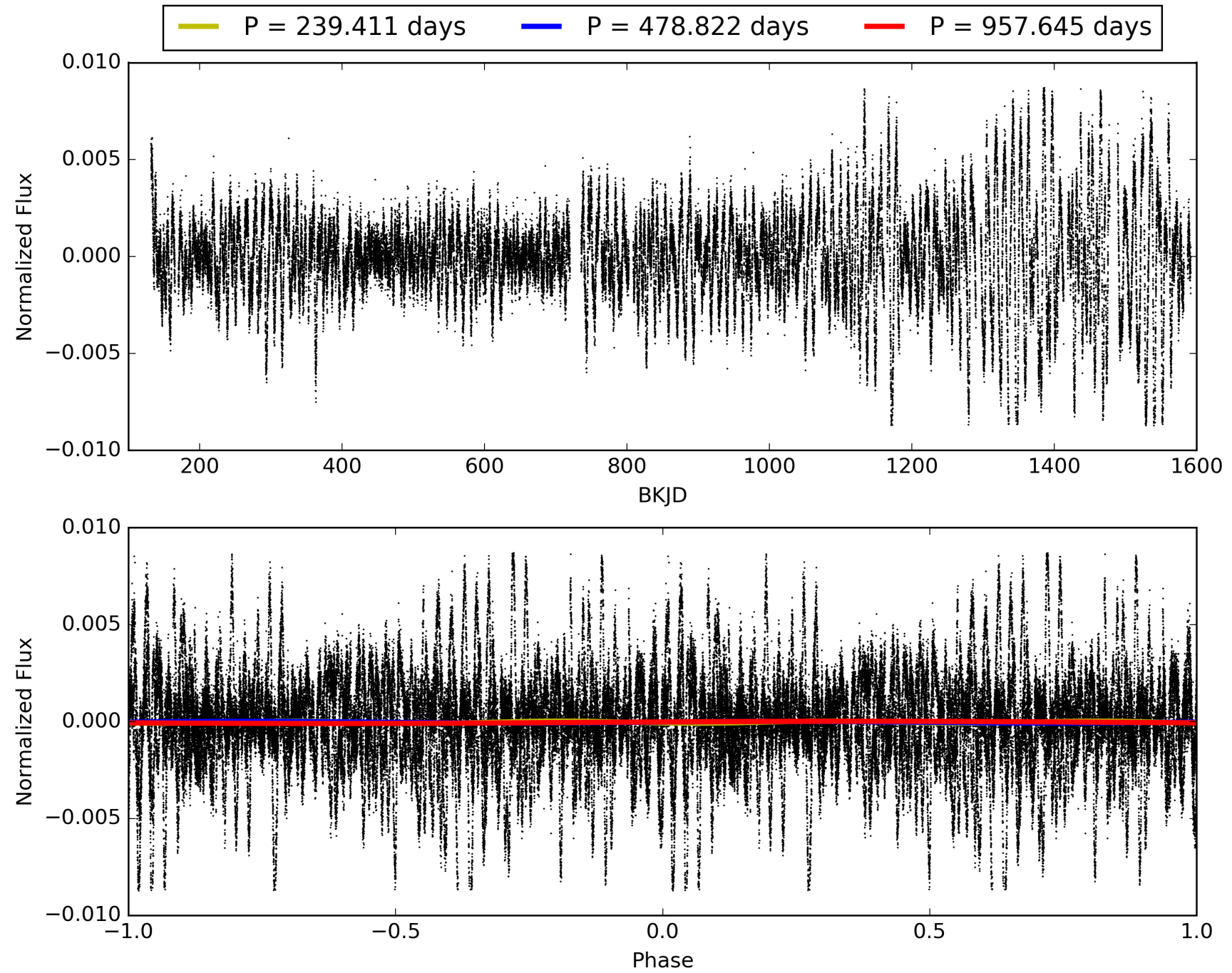
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:12:00 Z

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

TCE 006621280-06, PDC Light Curves

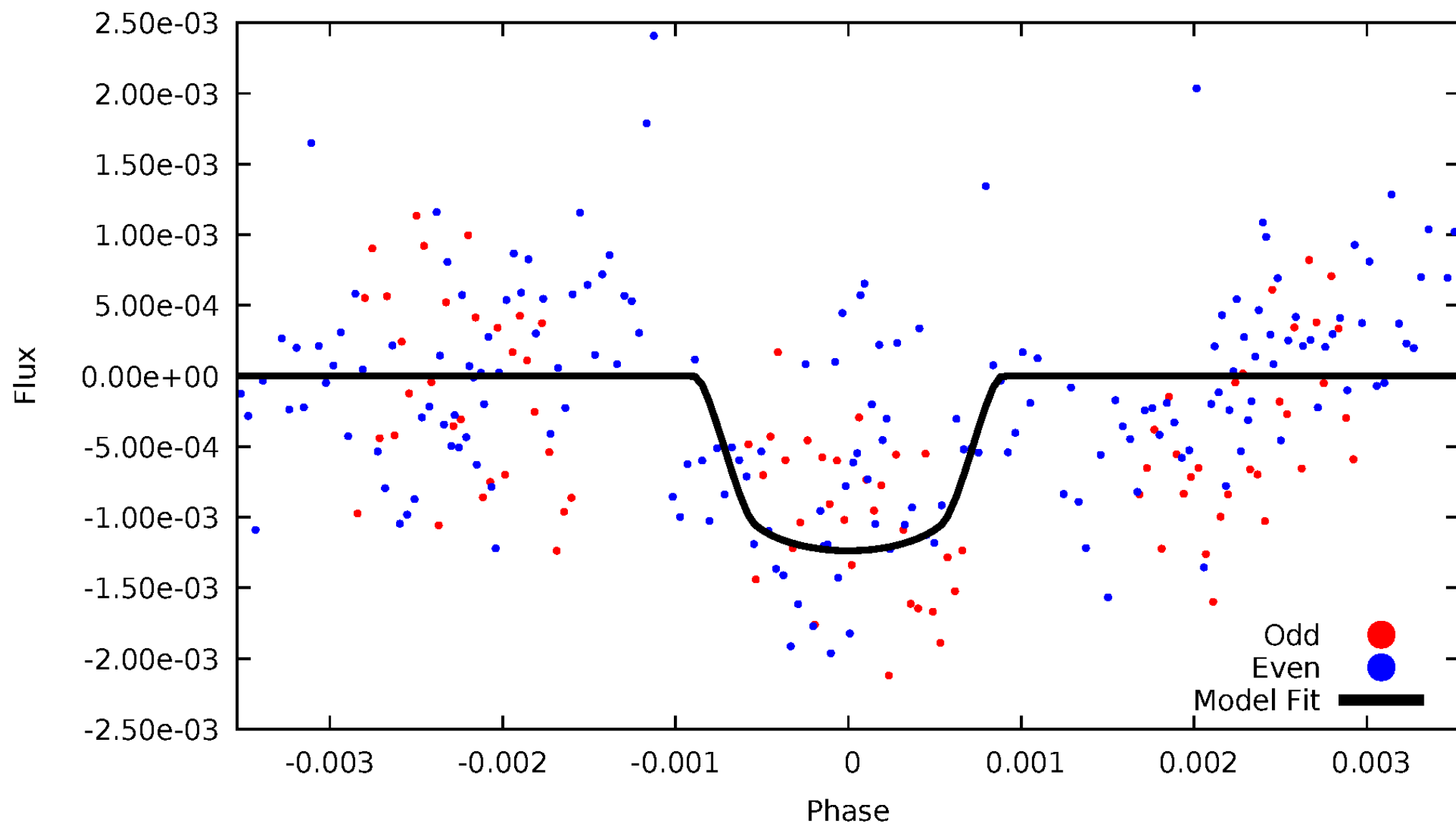


TCE 006621280-06



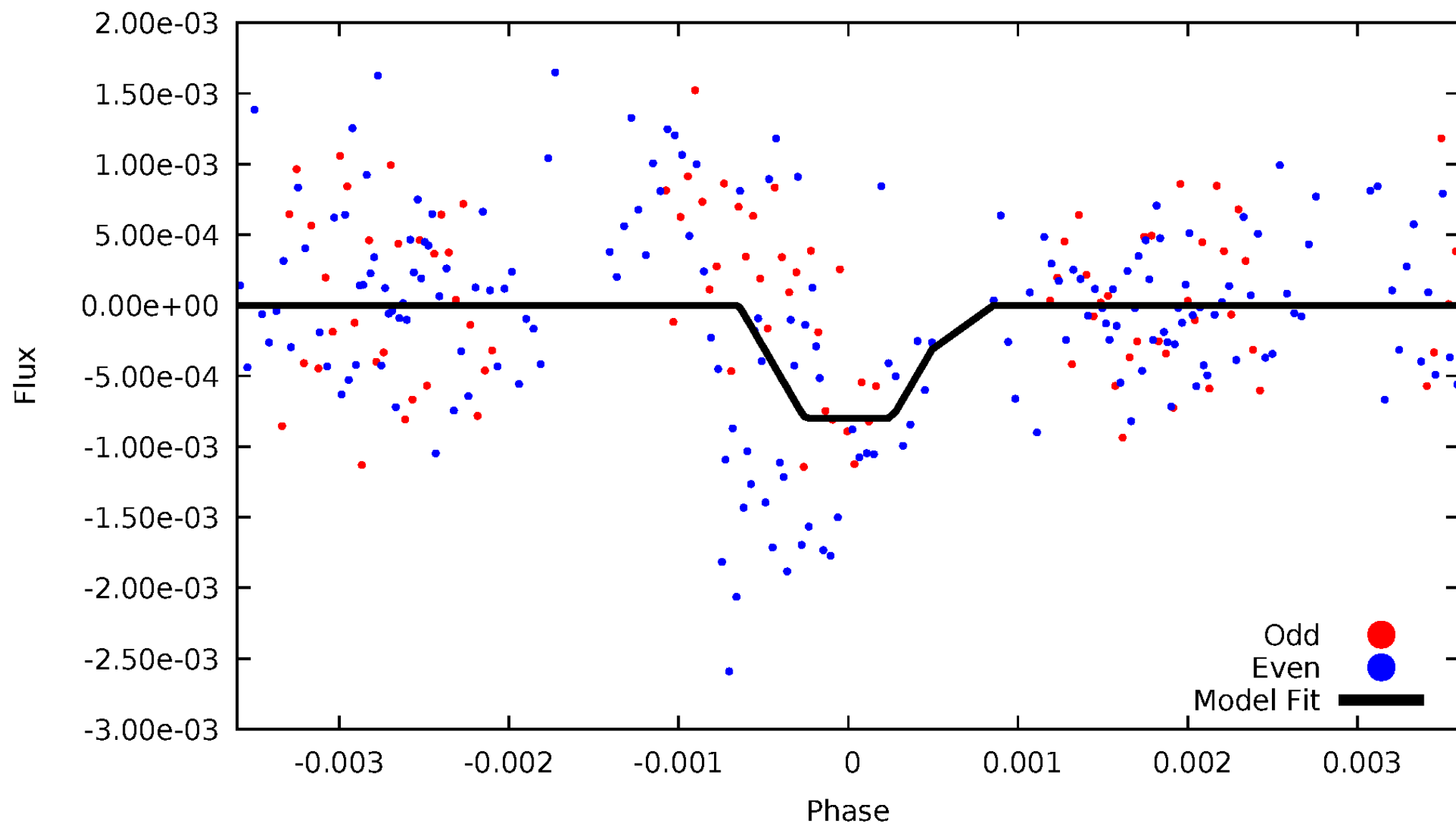
DV Odd/Even

TCE 006621280-06



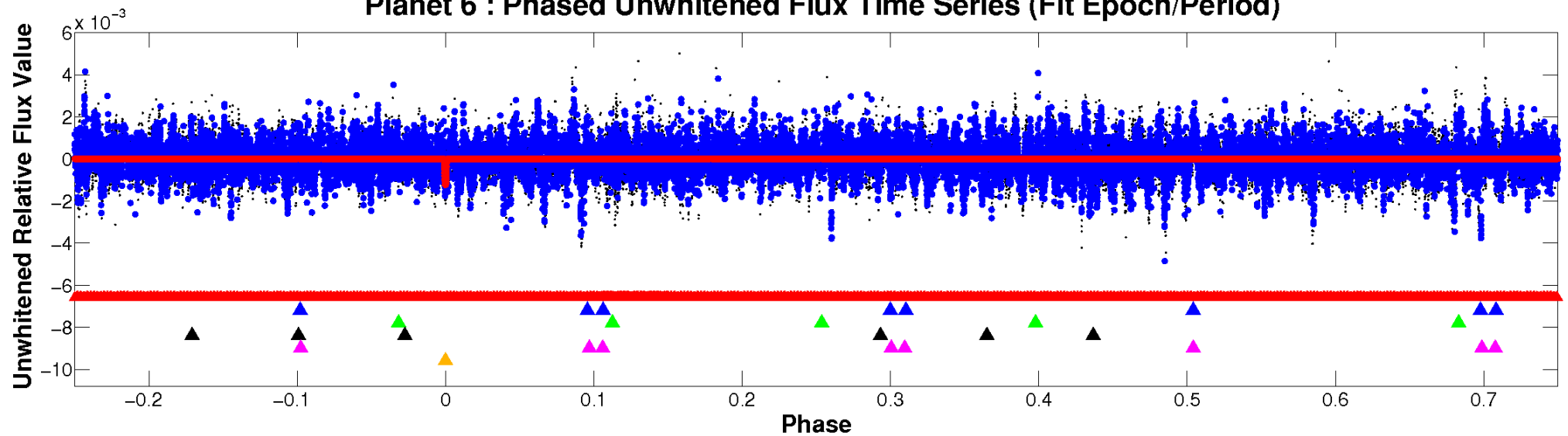
ALT Odd/Even

TCE 006621280-06

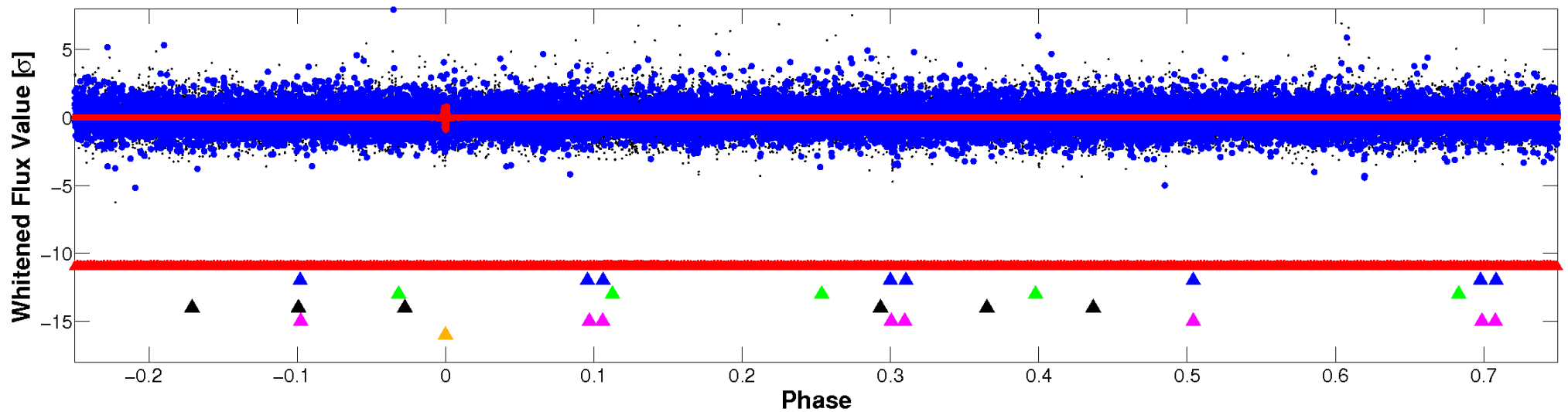


Non-Whitened Vs. Whitened Light Curve

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

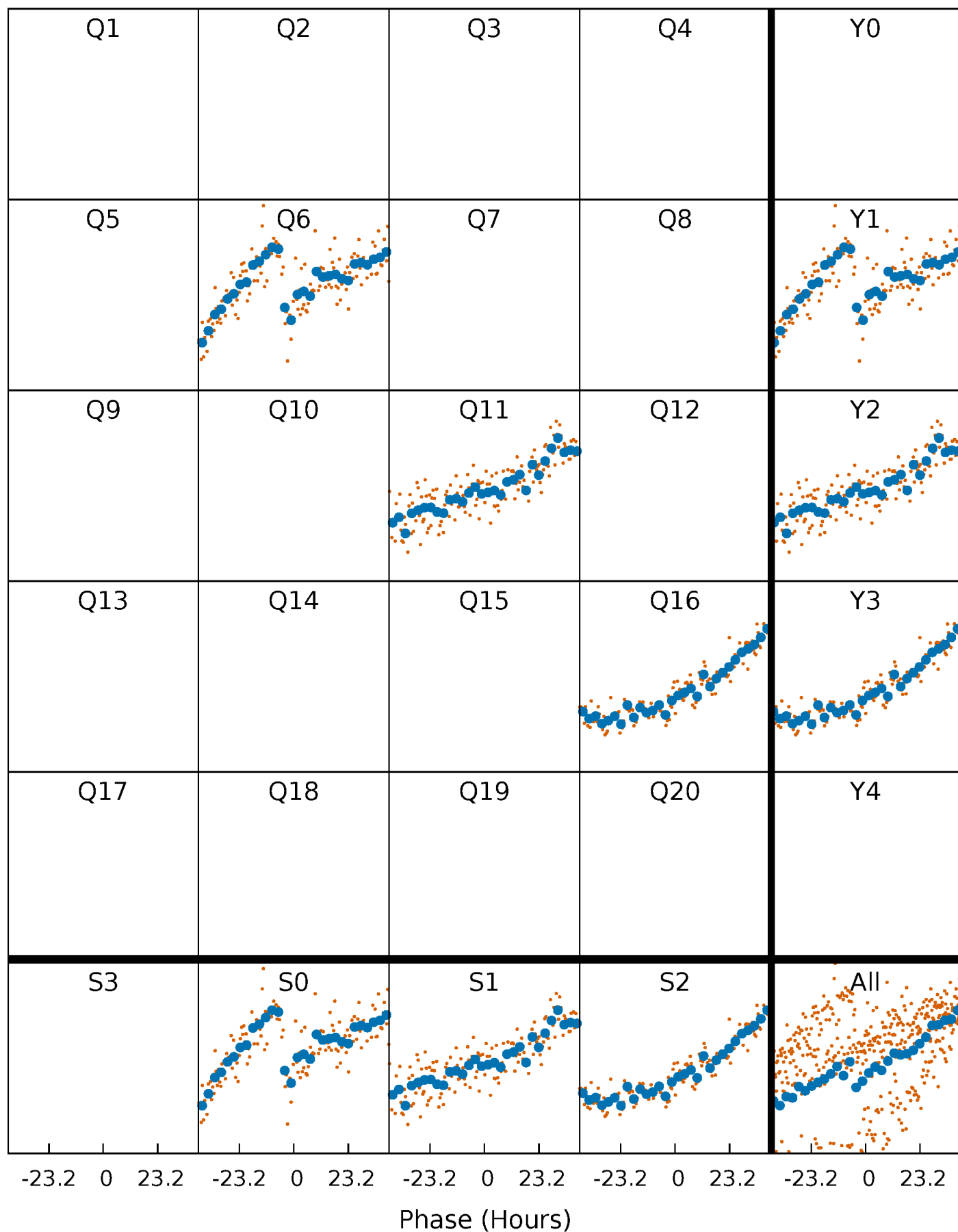


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



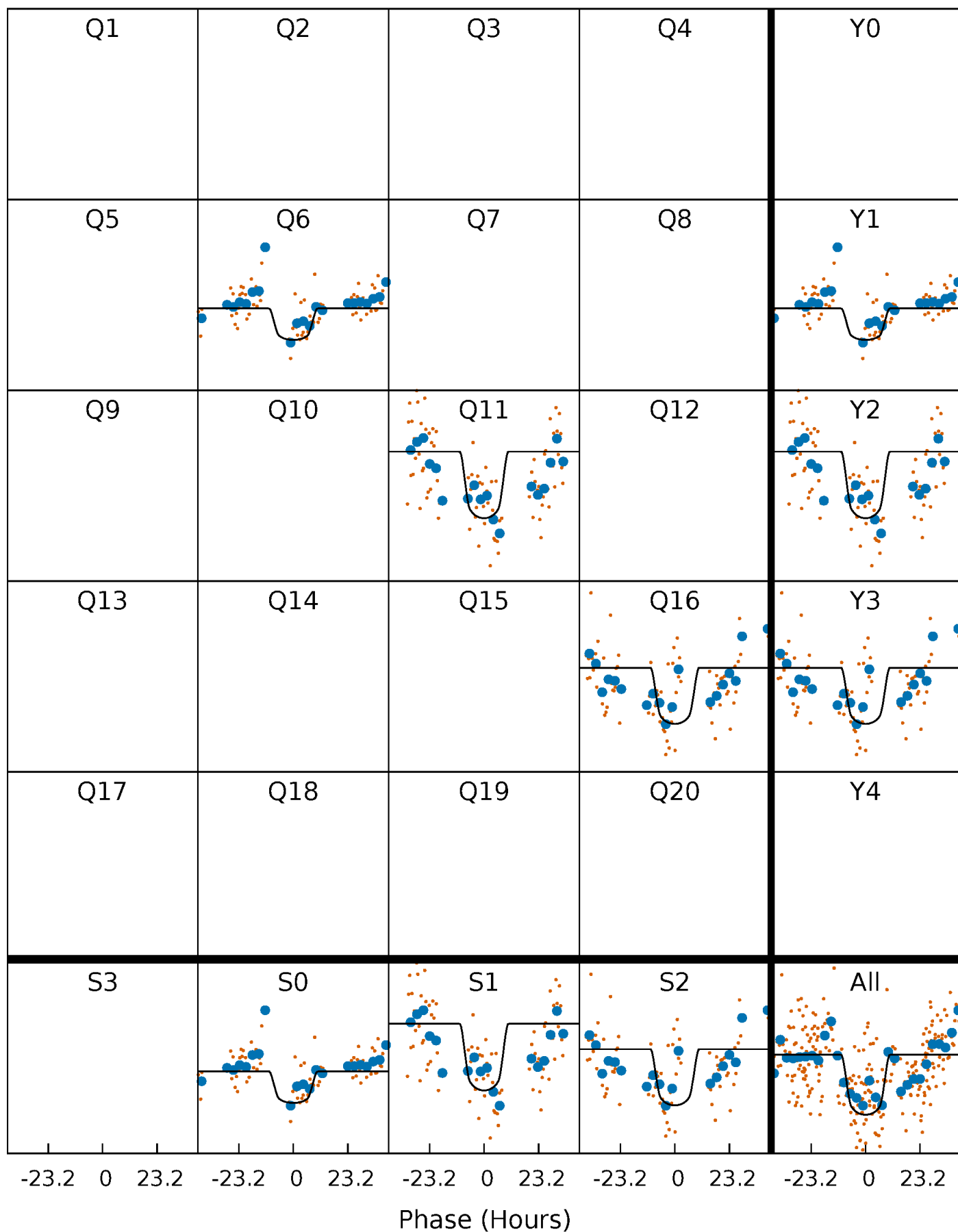
PDC Quarter-Phased Transit Curves

TCE 006621280-06 $P=478.822416$ Days $T_0=561.710136$ (BKJD)



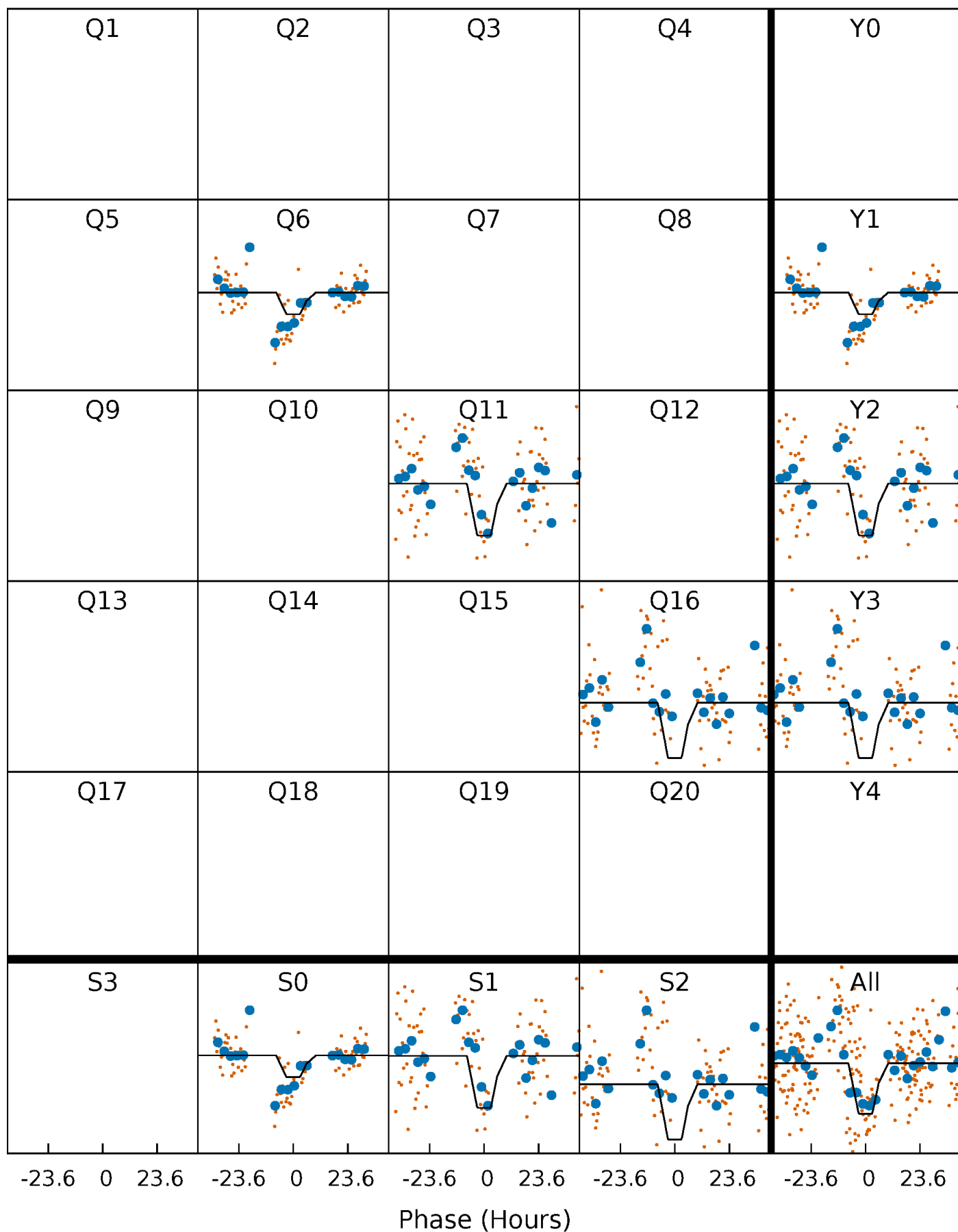
DV Quarter-Phased Transit Curves

TCE 006621280-06 P=478.822416 Days $T_0=561.710136$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

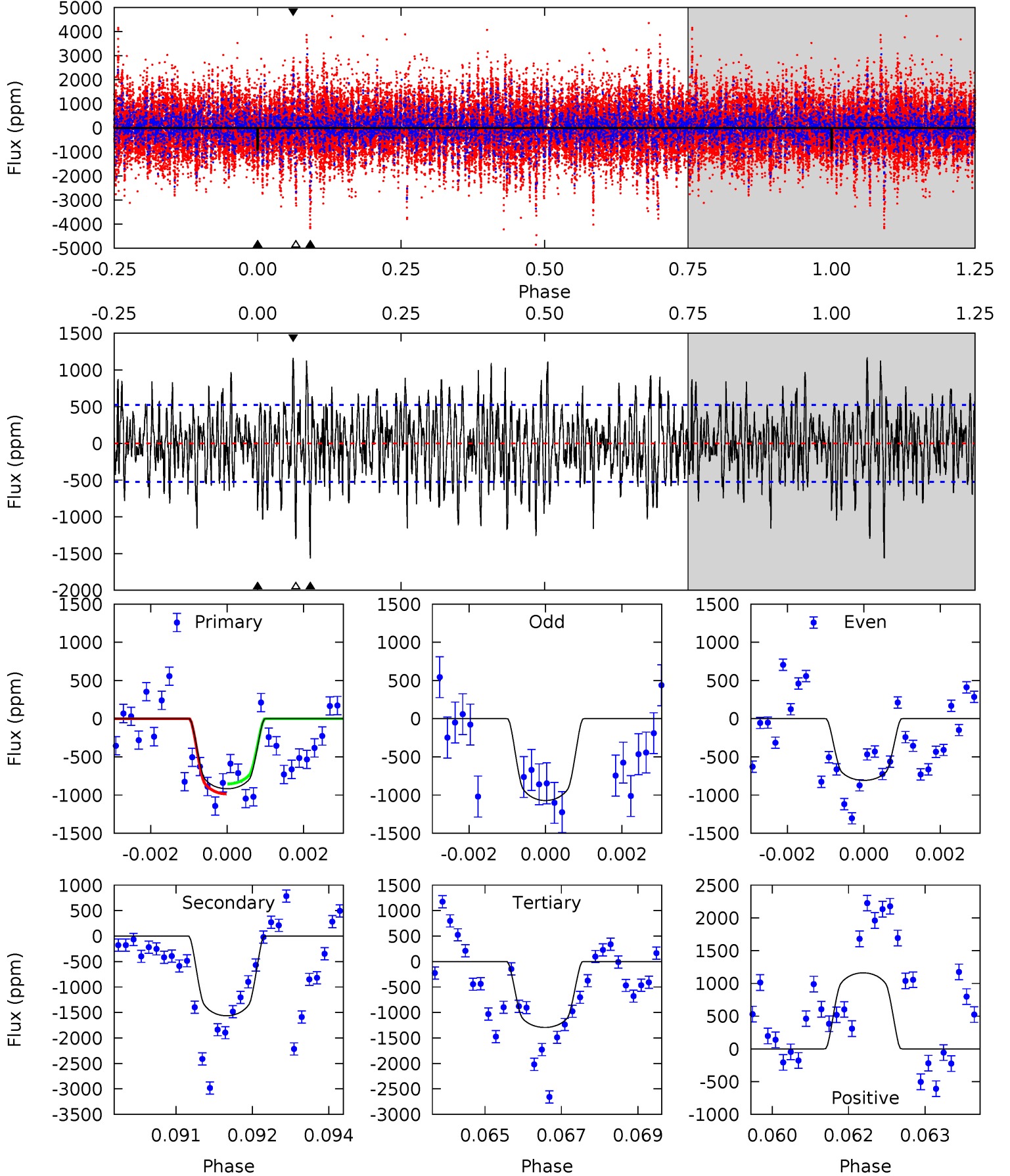
TCE 006621280-06 $P=478.771933$ Days $T_0=561.998074$ (BKJD)



DV Model-Shift Uniqueness Test

006621280-06, P = 478.822416 Days, E = 82.887720 Days

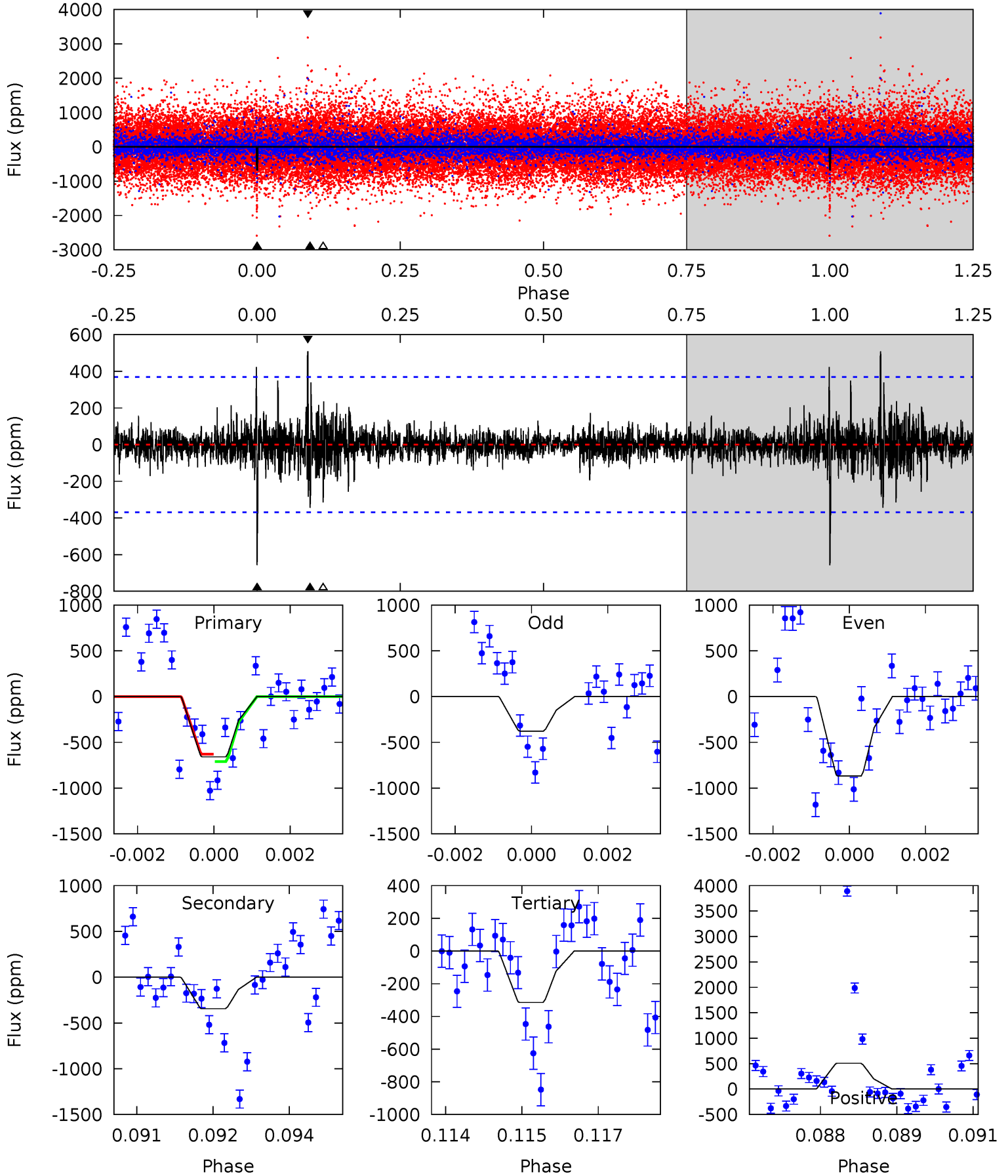
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.37	16.0	13.2	11.9	5.34	3.12	3.95	-3.84	-2.49	2.77	4.12	1.33	1.11	0.43	0.67



Alt Model-Shift Uniqueness Test

006621280-06, P = 478.771933 Days, E = 83.226141 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.58	5.01	4.58	7.38	5.38	3.17	0.84	5.00	2.20	0.43	-2.37	3.41	1.29	0.44	0.52



Stellar Parameters For KIC 006621280

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5676^{+172}_{-172}	$4.598^{+0.036}_{-0.144}$	$-0.460^{+0.300}_{-0.300}$	$0.759^{+0.170}_{-0.057}$	$0.848^{+0.080}_{-0.089}$	$2.729^{+0.517}_{-1.165}$
	+3%/-3%	+1%/-3%	+65%/-65%	+22%/-8%	+9%/-10%	+19%/-43%
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 006621280-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1564 ± 98	$3.32^{+0.53}_{-0.45}$	293^{+15}_{-12}	5752^{+454}_{-385}	98182^{+33243}_{-24617}
Alt.	-344 ± 69	$2.42^{+0.45}_{-0.45}$	291^{+15}_{-12}	4730^{+431}_{-360}	40133^{+22597}_{-12915}

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 $A_{obs} \gg 1.0$

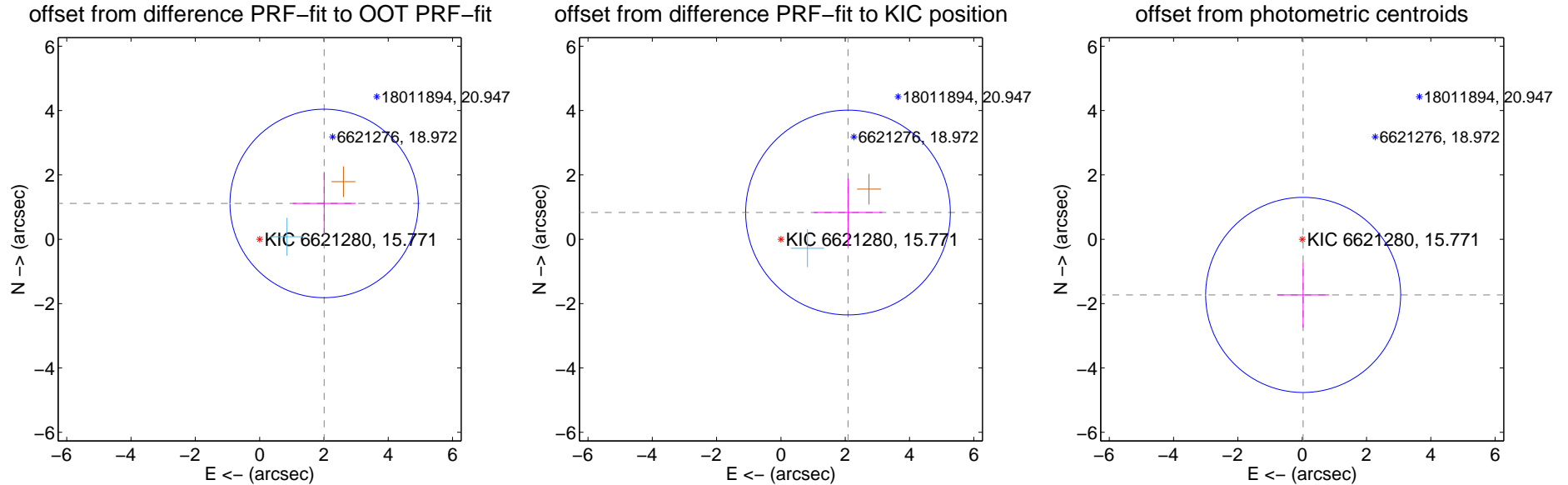
DV Centroid Data

Supplemental centroid analysis for 006621280-06. Kepler magnitude: 15.77. Transit SNR 7.04

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.295 ± 0.977	2.35	-2.007 ± 0.975	1.113 ± 0.981
PRF-fit source offset from KIC position	2.246 ± 1.061	2.12	-2.087 ± 1.063	0.831 ± 1.053
photometric centroid source offset	1.73 ± 1.01	1.71	-0.03 ± 0.81	-1.73 ± 1.01



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

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



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

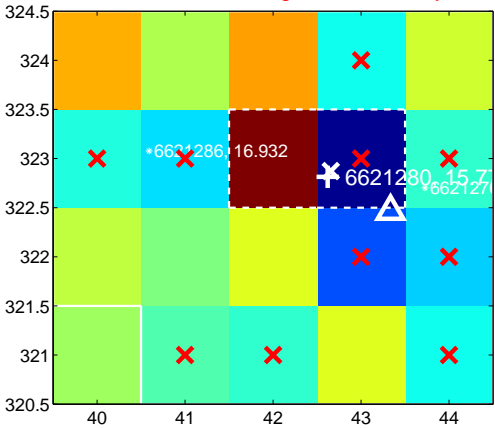
Q5 no difference image



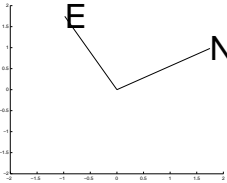
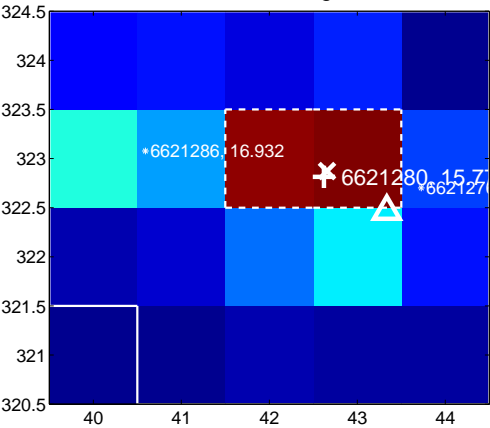
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



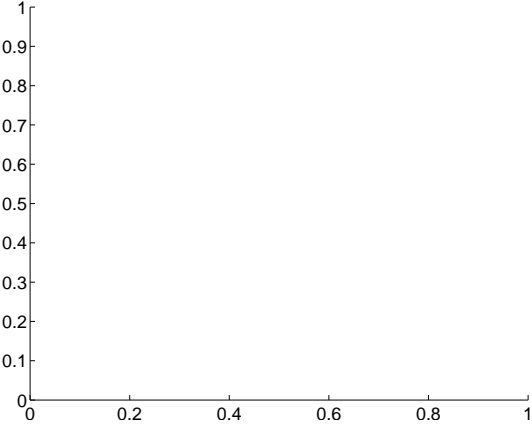
Q7 no difference image



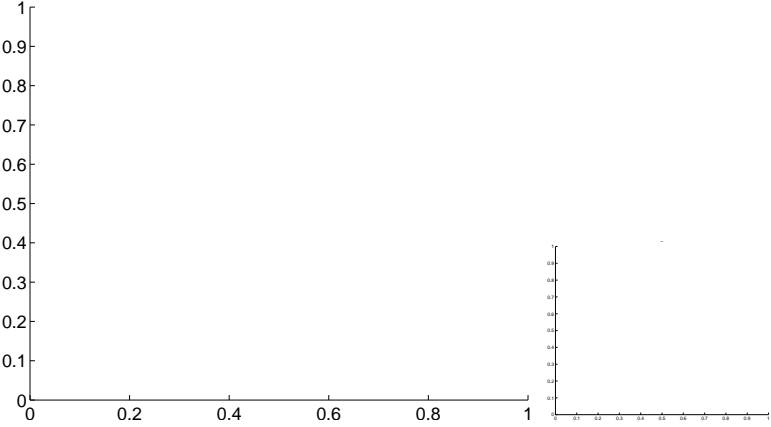
Q7 no OOT image



Q8 no difference image



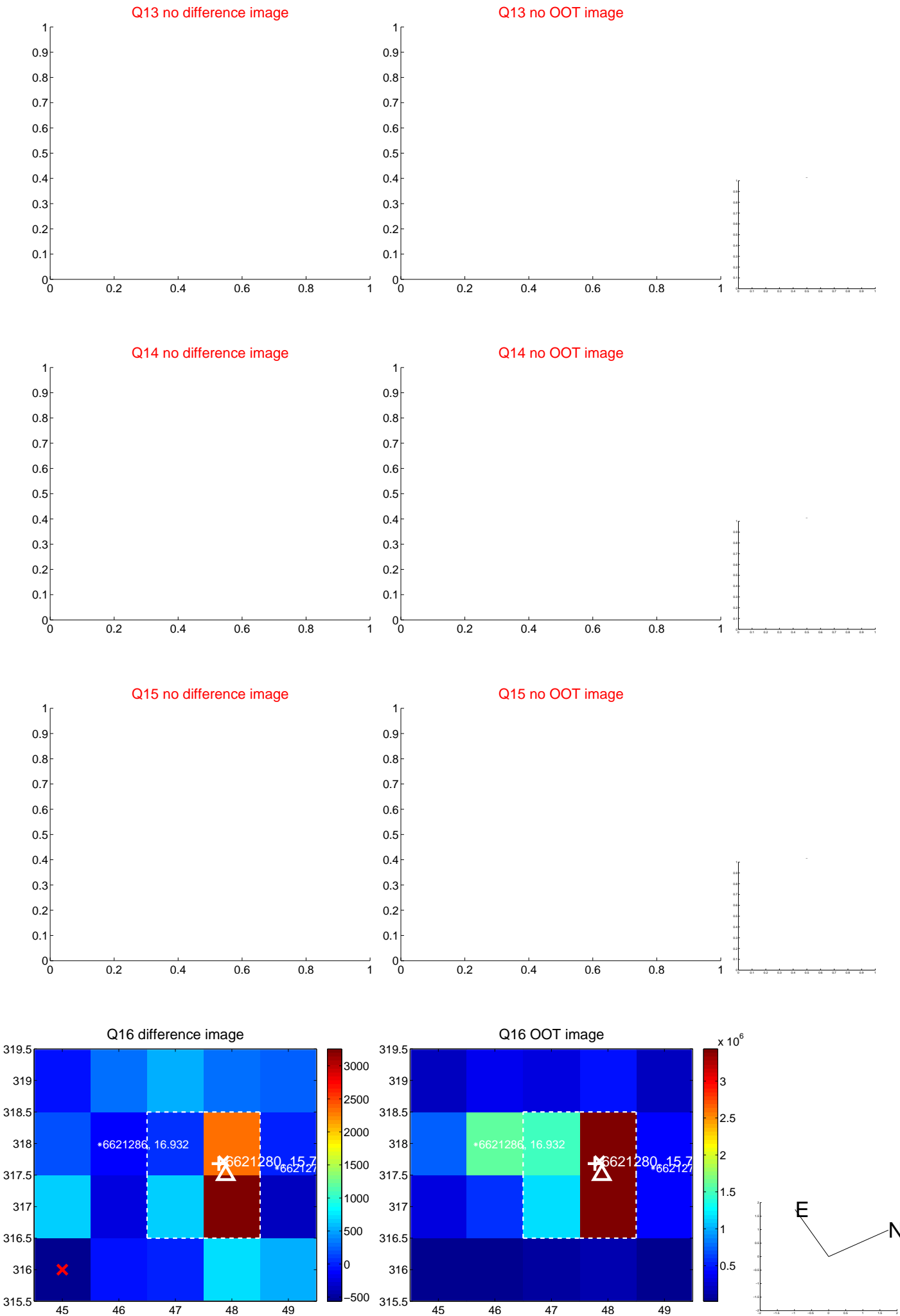
Q8 no OOT image



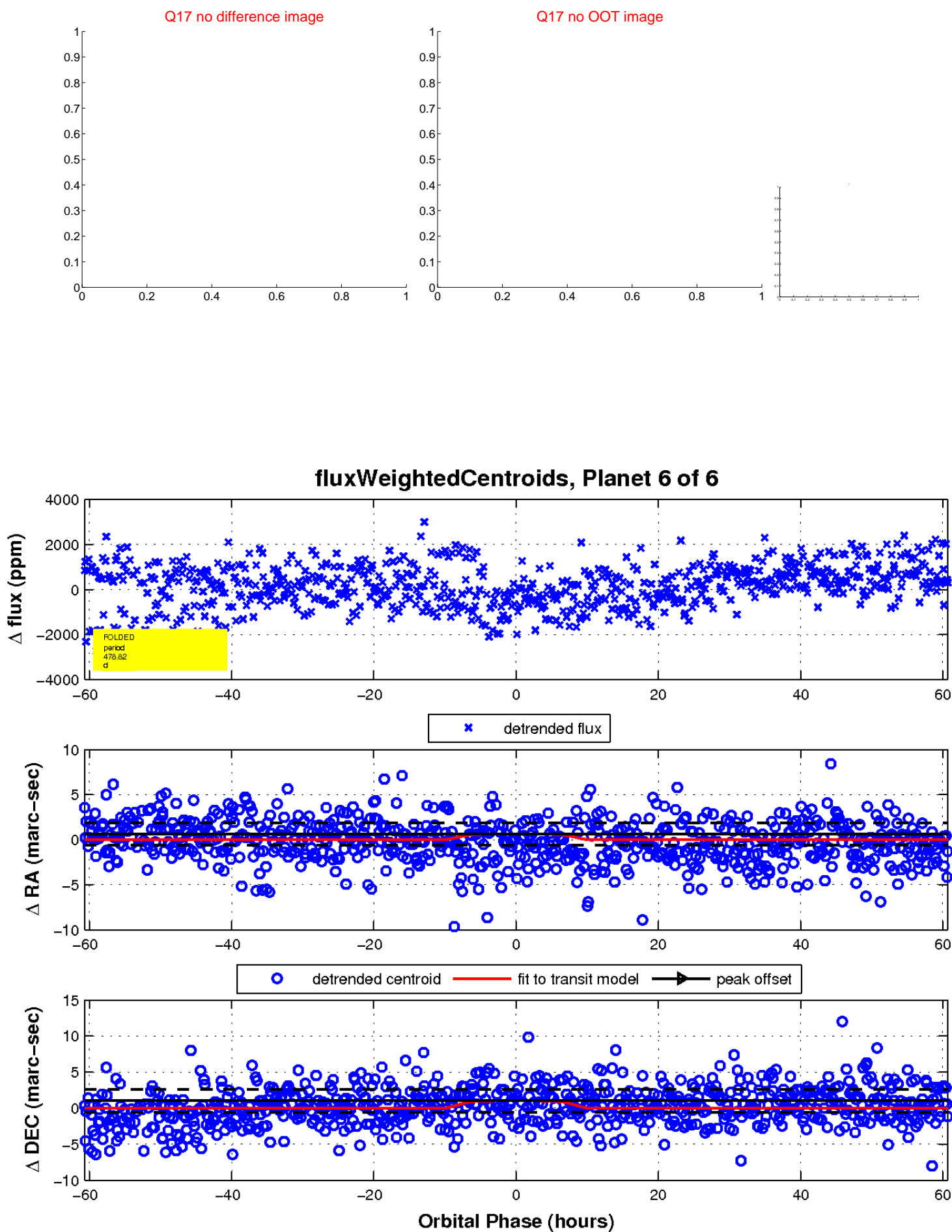
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

