

KIC 009268481

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})
009268481-01	OBS	No	1.741012	133.196957	105.6	2.724	10.0	7.1	0.16	3209	0.16	11.43
009268481-02	OBS	No	3.482122	132.495076	152.5	2.878	8.3	7.8	0.16	3209	0.22	4.53
009268481-03	OBS	No	1.741205	131.897707	176.9	6.011	9.0	13.6	0.16	3209	0.46	11.42
009268481-04	OBS	No	140.804551	271.923607	1074.2	7.500	8.7	-1.0	0.16	3209	0.52	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009268481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
009268481-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

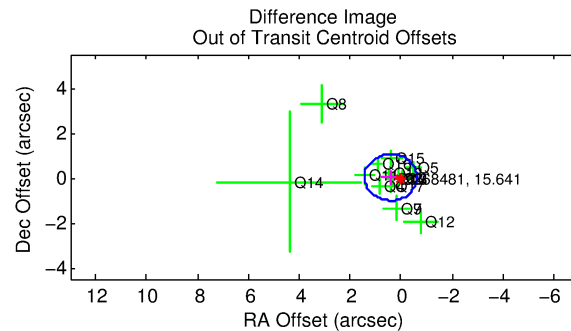
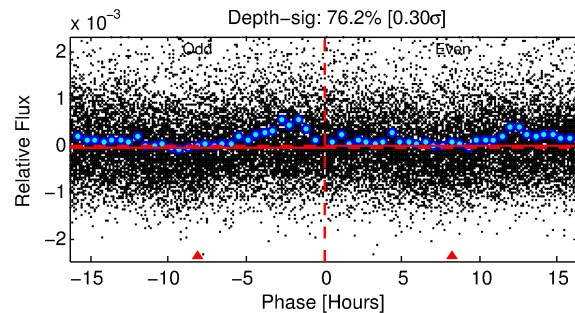
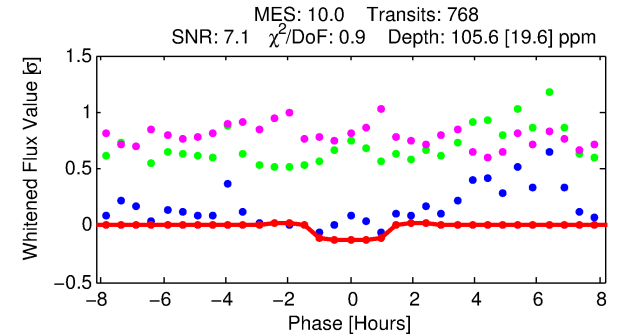
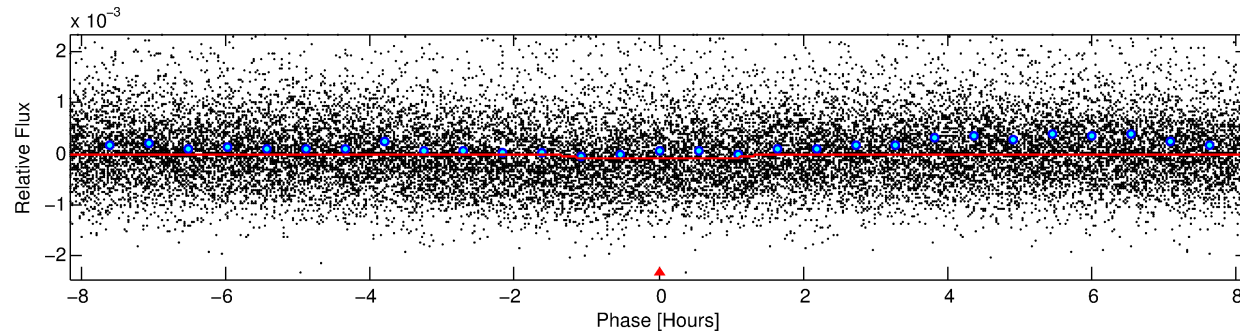
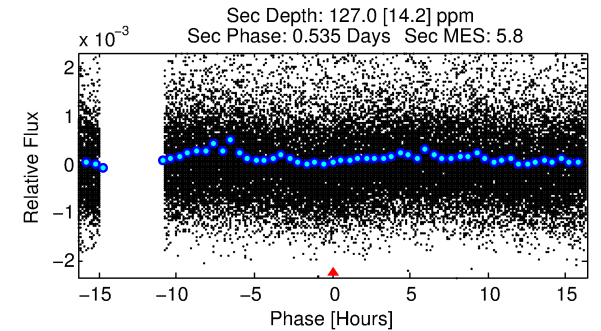
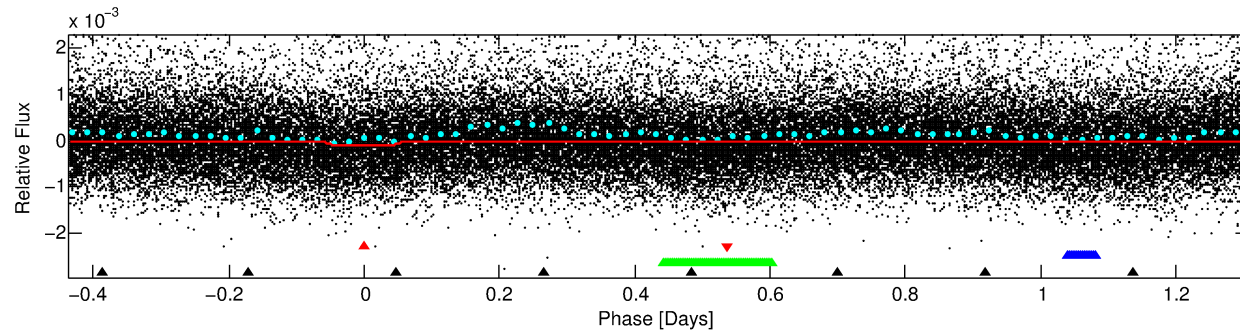
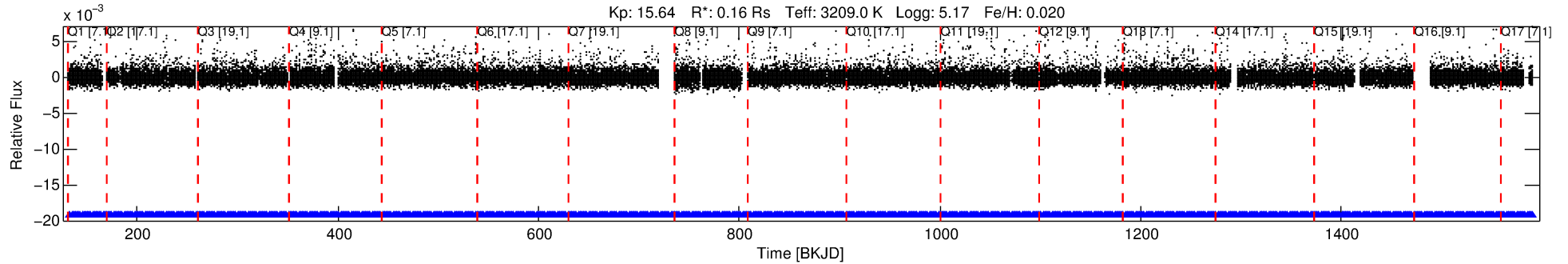
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009268481-01

No Significant Match Found

DV One-Page Summary

KIC: 9268481 Candidate: 1 of 4 Period: 1.741 d



DV Fit Results:

Period = 1.74101 [0.00002] d
Epoch = 133.1970 [0.0050] BKJD
Rp/R* = 0.0093 [0.0300]
a/R* = 4.96 [66.99]
b = 0.01 [1112.02]
Seff = 11.42 [2.52]
Teq = 469 [26] K
Rp = 0.16 [0.53] Re
a = 0.0147 [0.0027] AU
Ag = 565.26 [3653.26] [0.15σ]
Teffp = 3534 [5707] K [0.54σ]

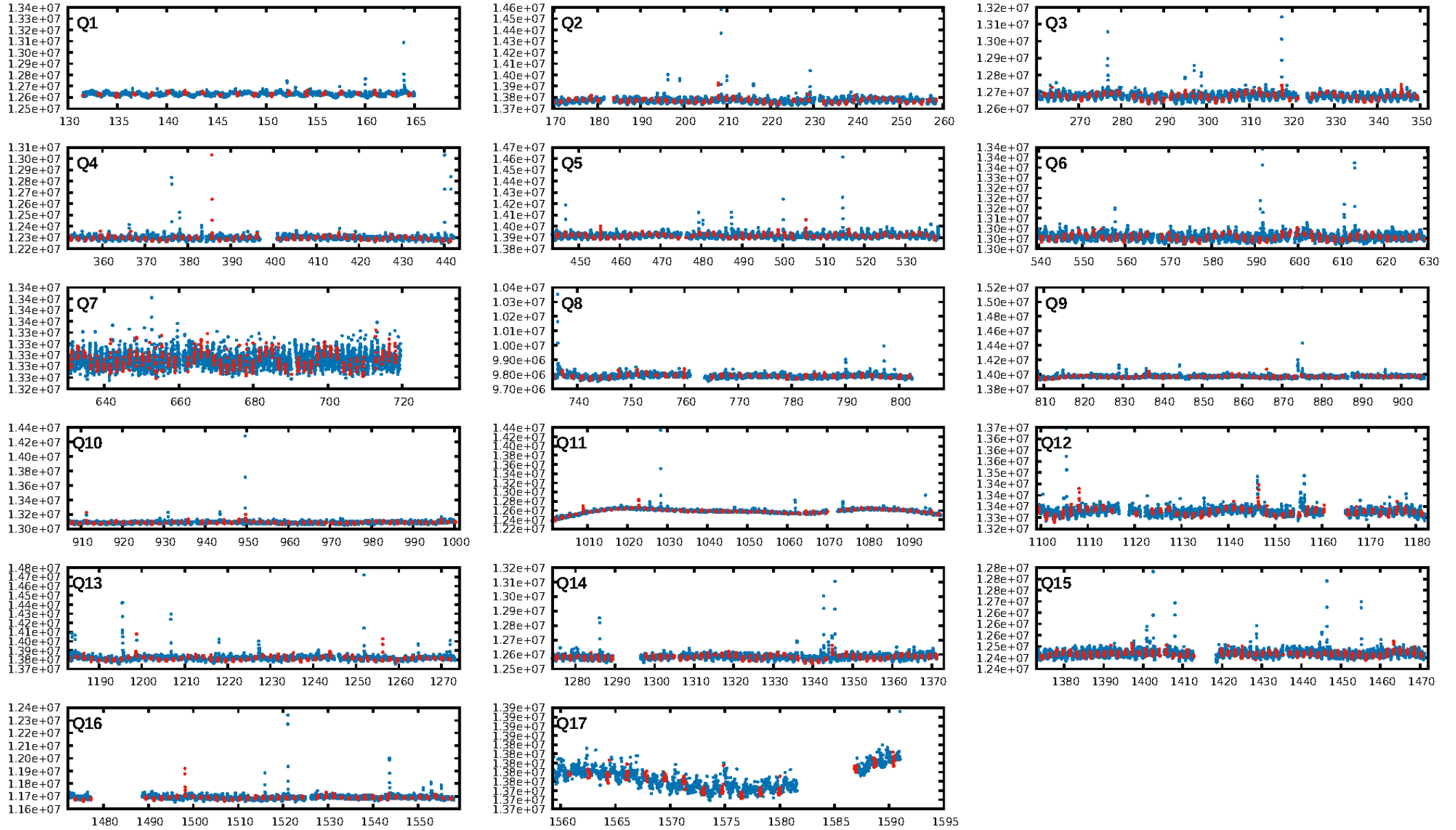
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [733/733]
GhostDiagnostic-chr: -3146
Centroid-sig: 64.7%
Centroid-so: 1.444 arcsec [1.26σ]
OotOffset-rm: 0.412 arcsec [1.20σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-rm: 1.089 arcsec [3.37σ]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.87 [13/15]
DiffImageOverlap-fno: 1.00 [17/17]

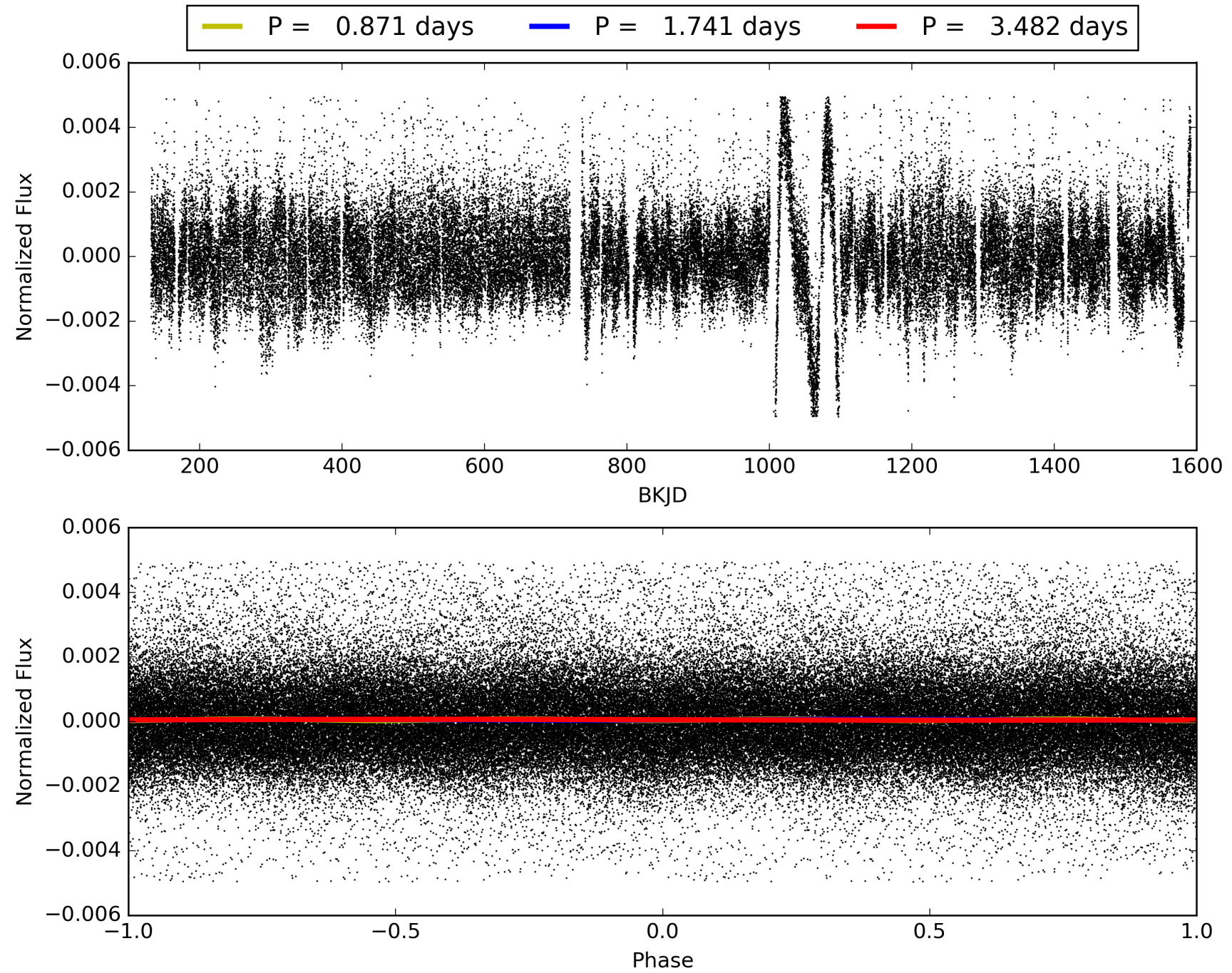
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:23:22 Z

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

TCE 009268481-01, PDC Light Curves

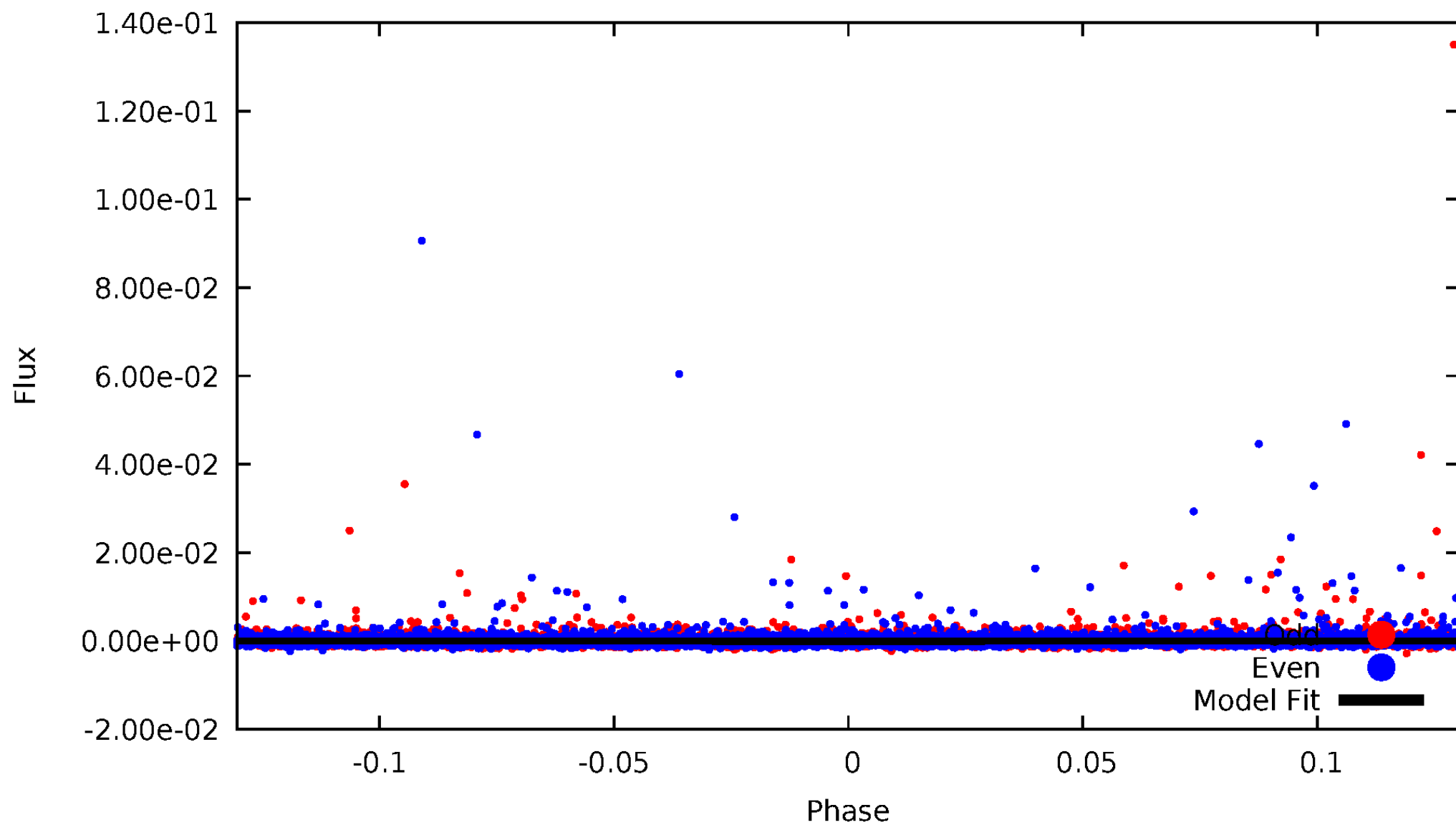


TCE 009268481-01



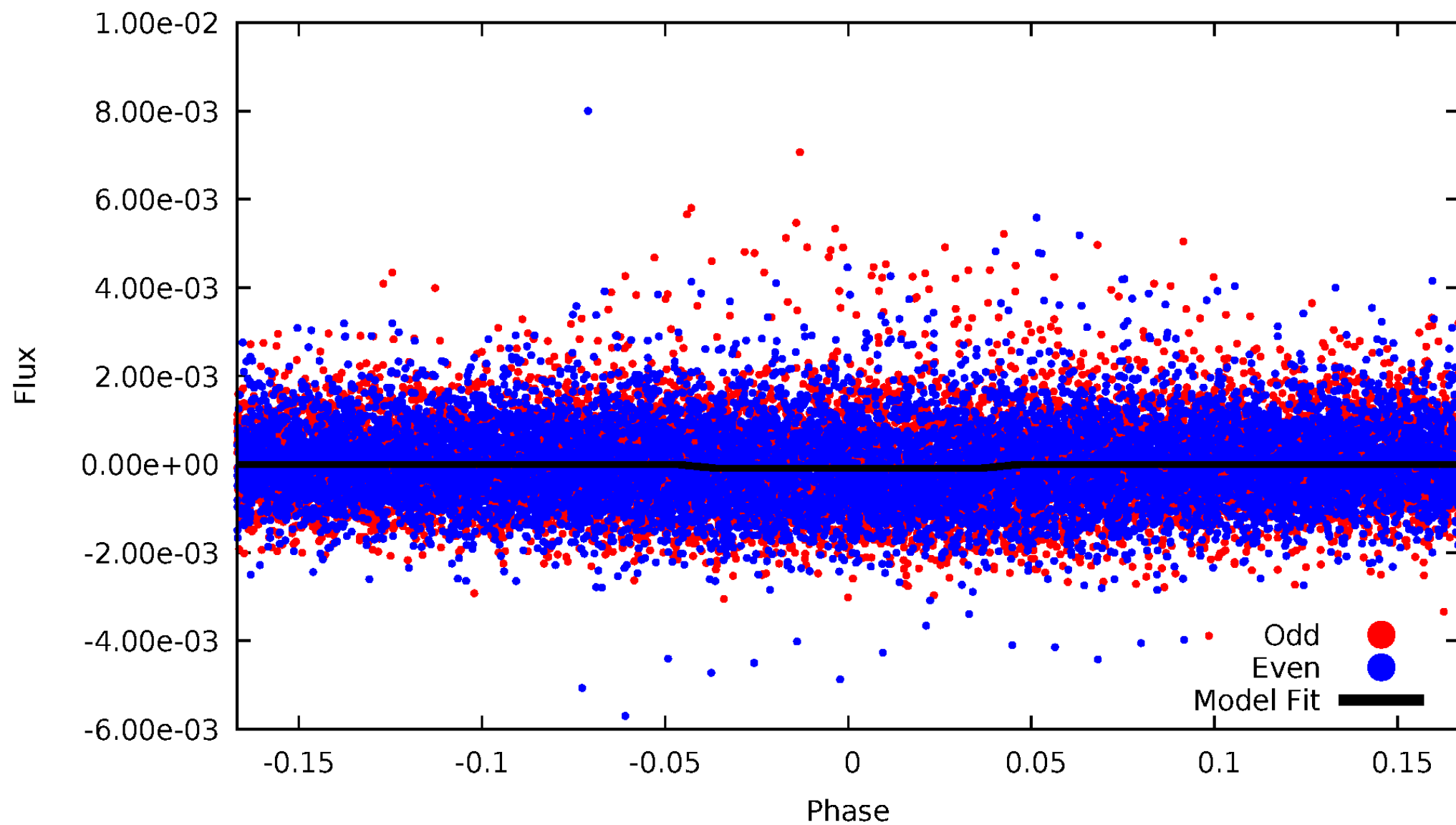
DV Odd/Even

TCE 009268481-01



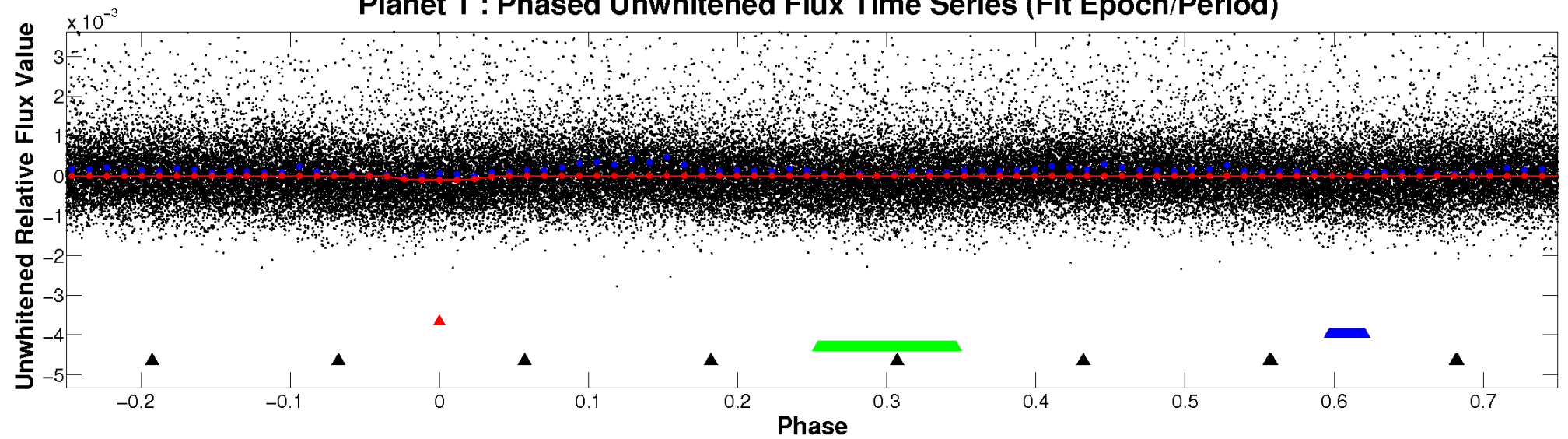
ALT Odd/Even

TCE 009268481-01

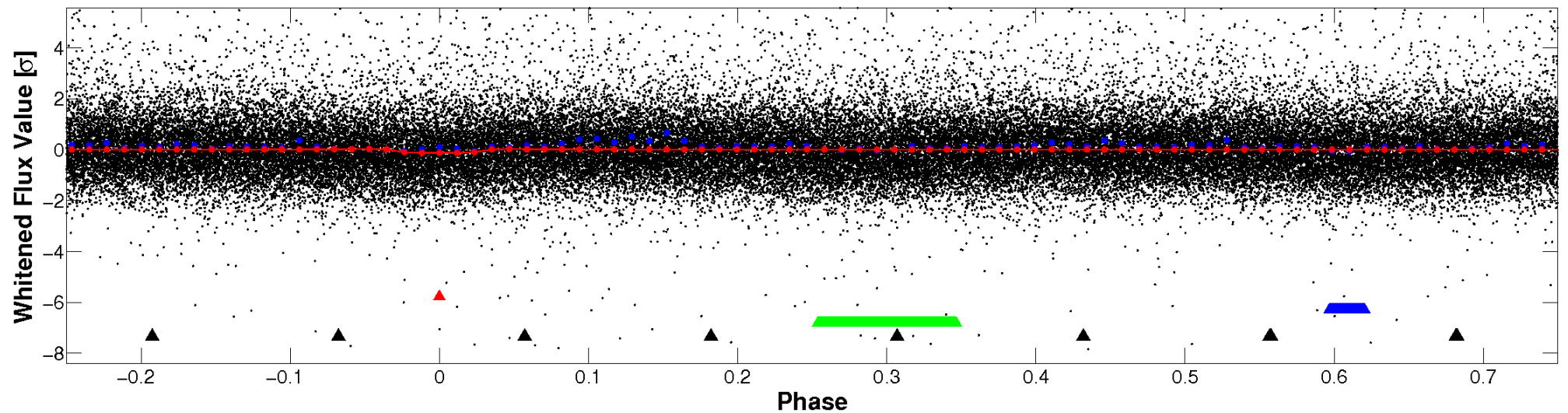


Non-Whitened Vs. Whitened Light Curve

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

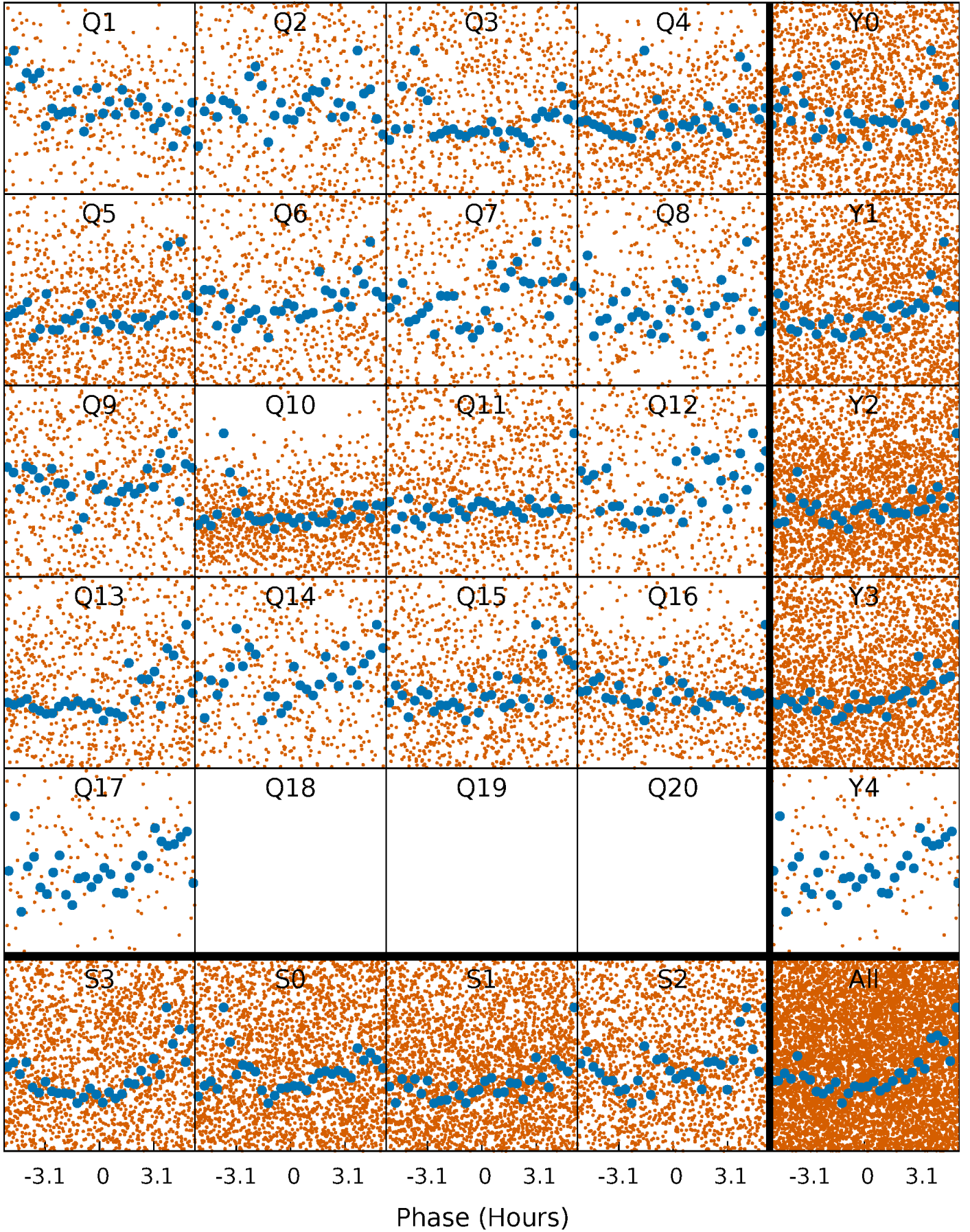


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



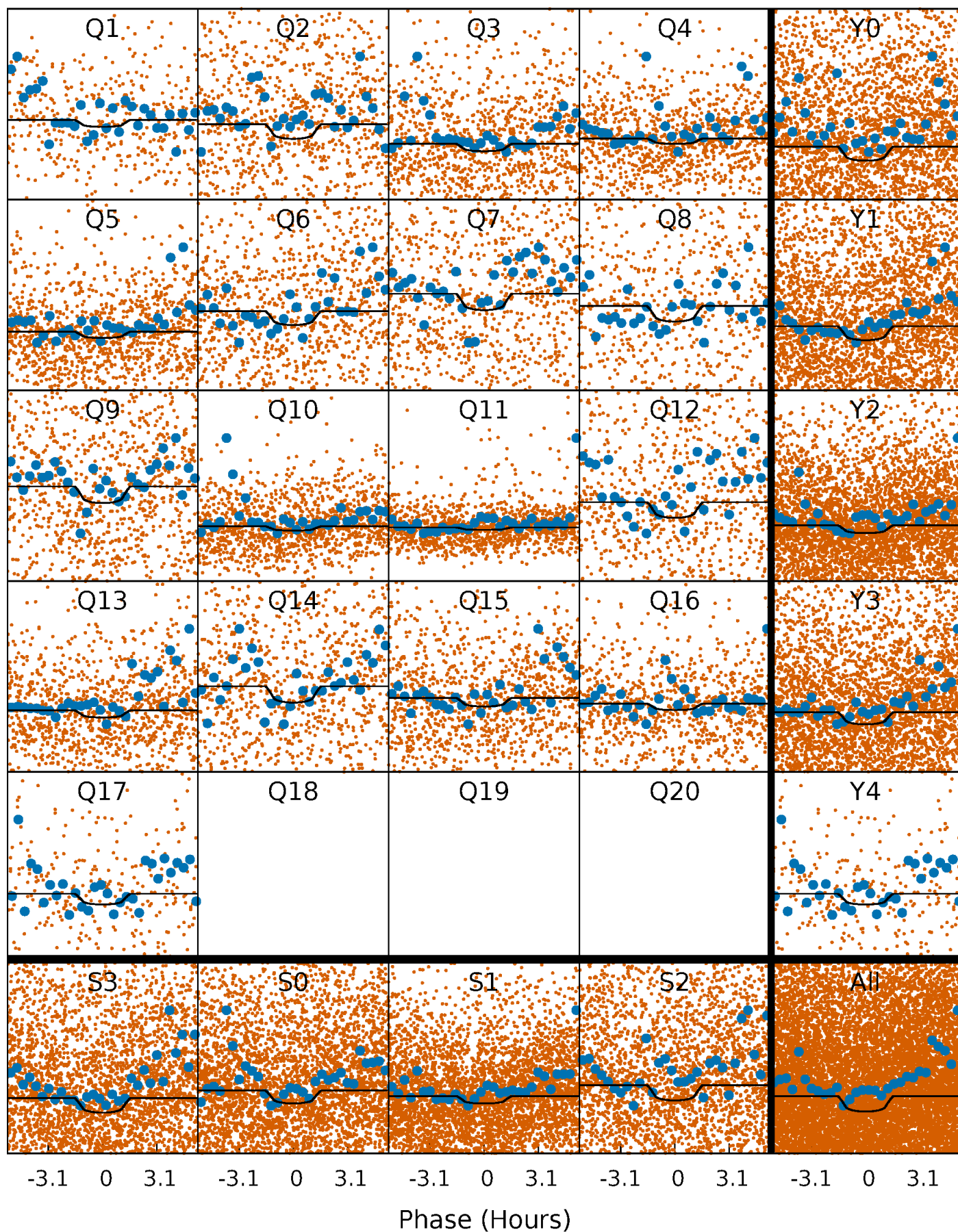
PDC Quarter-Phased Transit Curves

TCE 009268481-01 P= 1.741012 Days $T_0=133.196957$ (BKJD)



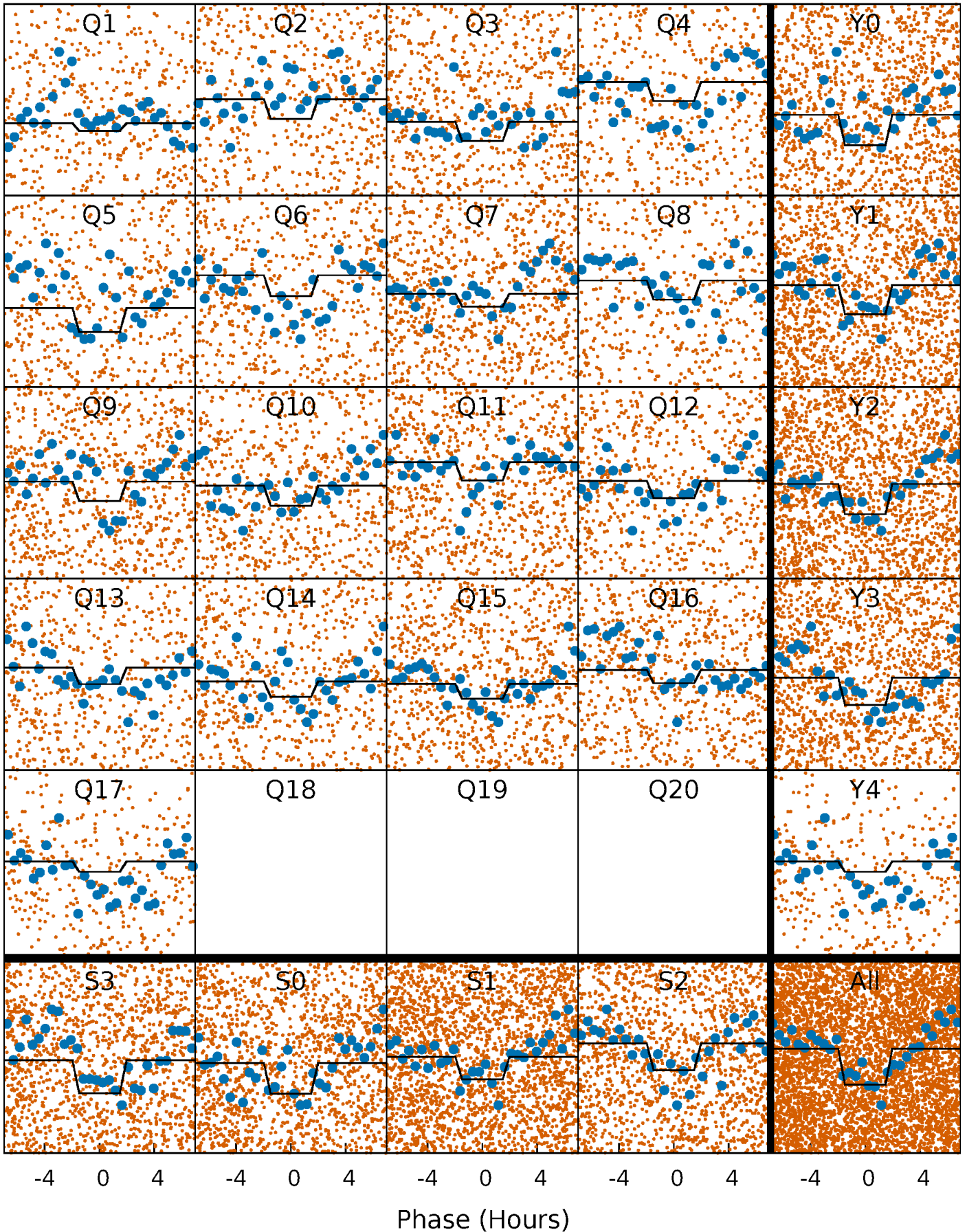
DV Quarter-Phased Transit Curves

TCE 009268481-01 P= 1.741012 Days $T_0=133.196957$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

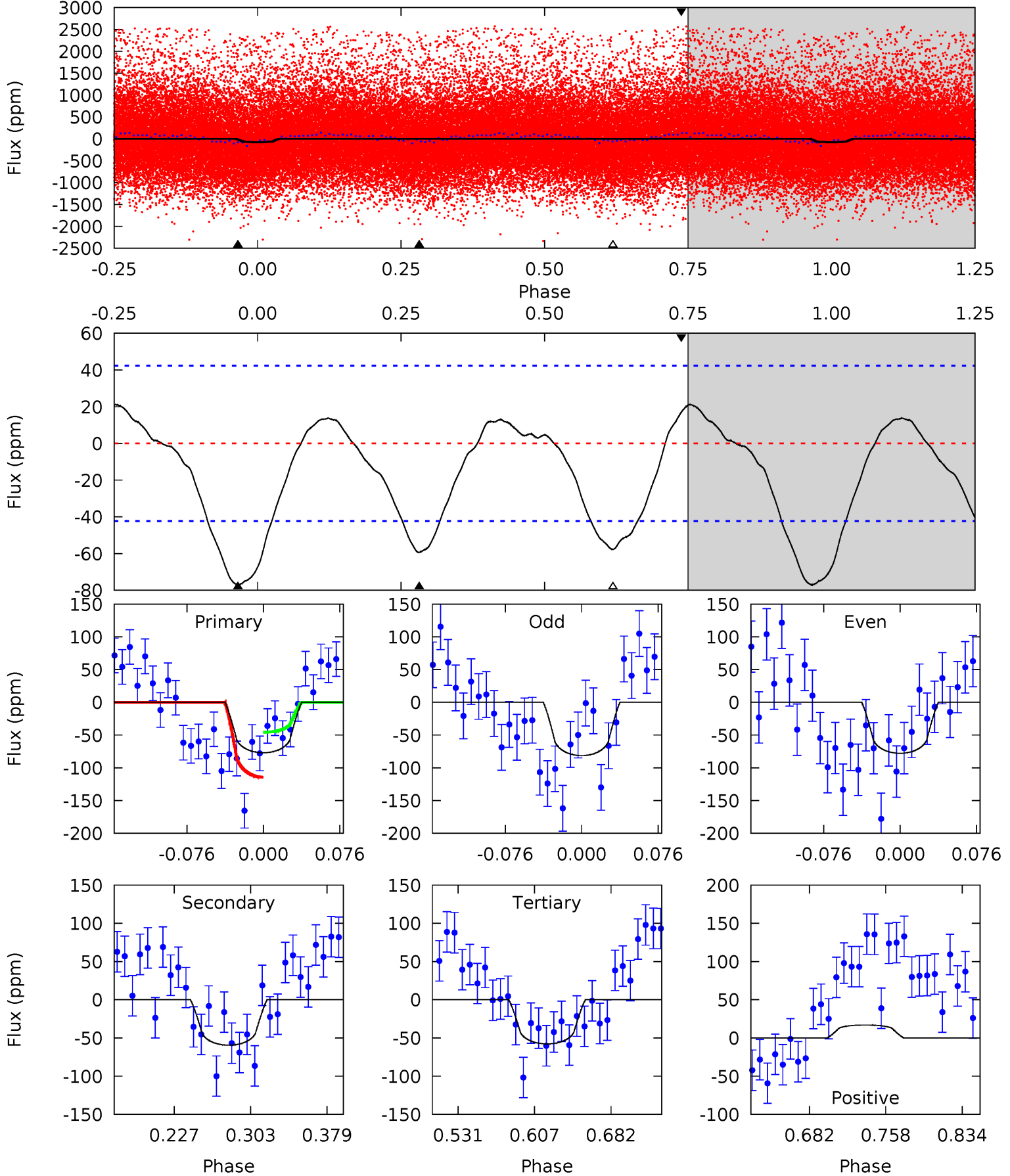
TCE 009268481-01 P= 1.741005 Days $T_0=133.123837$ (BKJD)



DV Model-Shift Uniqueness Test

009268481-01, P = 1.741012 Days, E = 131.455945 Days

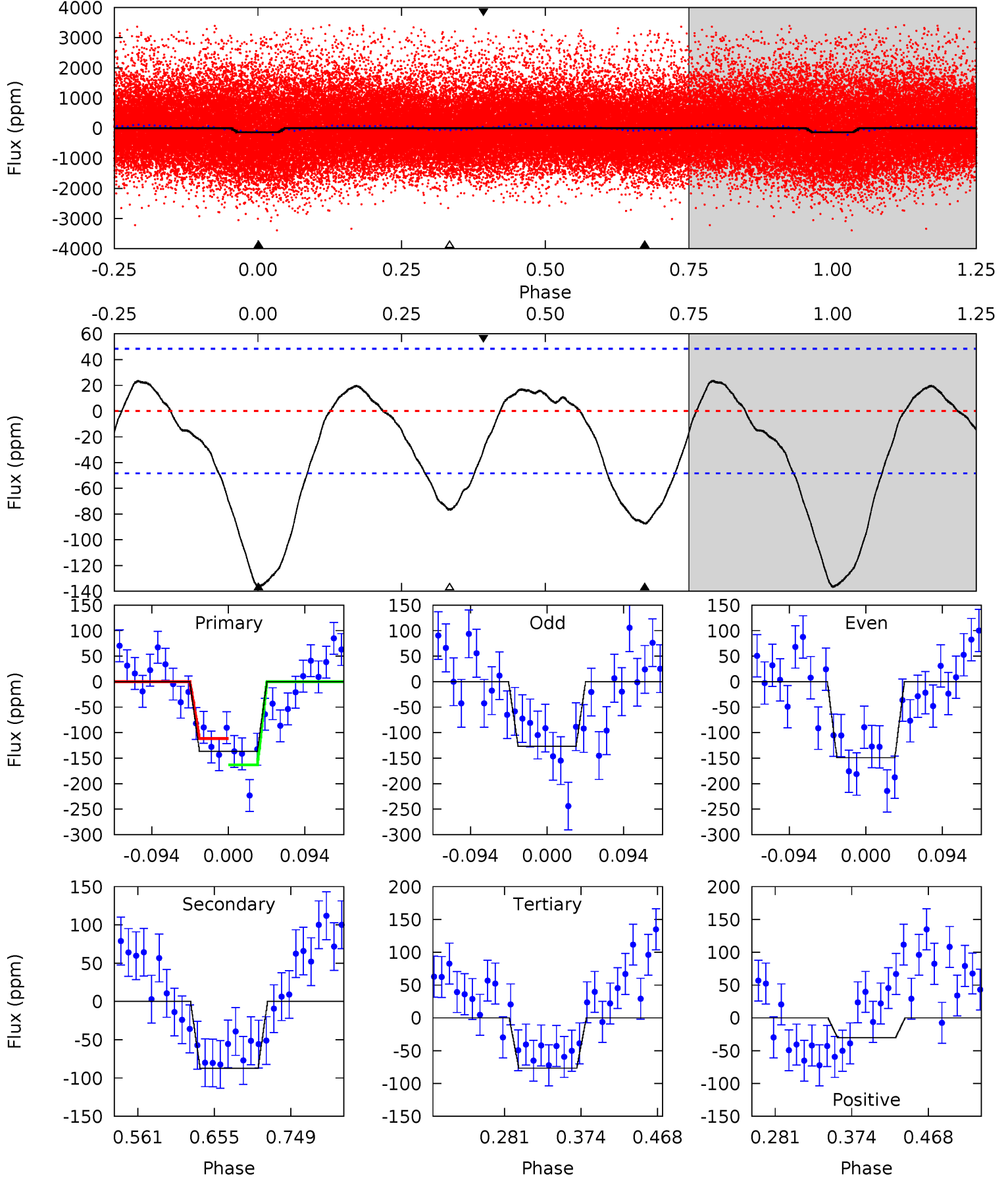
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.42	6.49	6.31	1.86	4.62	1.78	2.30	2.11	6.56	0.18	4.64	0.19	-0.21	0.22	3.78



Alt Model-Shift Uniqueness Test

009268481-01, P = 1.741005 Days, E = 131.382832 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	8.28	7.26	-2.87	4.58	1.68	2.62	5.68	15.8	1.02	11.1	1.06	0.67	0.15	2.47



Stellar Parameters For KIC 009268481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3209^{+35}_{-19}	$5.168^{+0.056}_{-0.084}$	$0.020^{+0.100}_{-0.100}$	$0.161^{+0.042}_{-0.018}$	$0.140^{+0.042}_{-0.015}$	$46.800^{+14.330}_{-15.450}$
	+1%/-1%	+1%/-2%	+500%/-500%	+26%/-11%	+30%/-11%	+31%/-33%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009268481-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-59 ± 9	$0.43^{+0.44}_{-0.29}$	658^{+24}_{-17}	2381^{+884}_{-348}	39^{+377}_{-30}
Alt.	-87 ± 11	$0.44^{+0.43}_{-0.30}$	659^{+23}_{-19}	2476^{+896}_{-353}	53^{+448}_{-40}

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 $A_{obs} \gg 1.0$

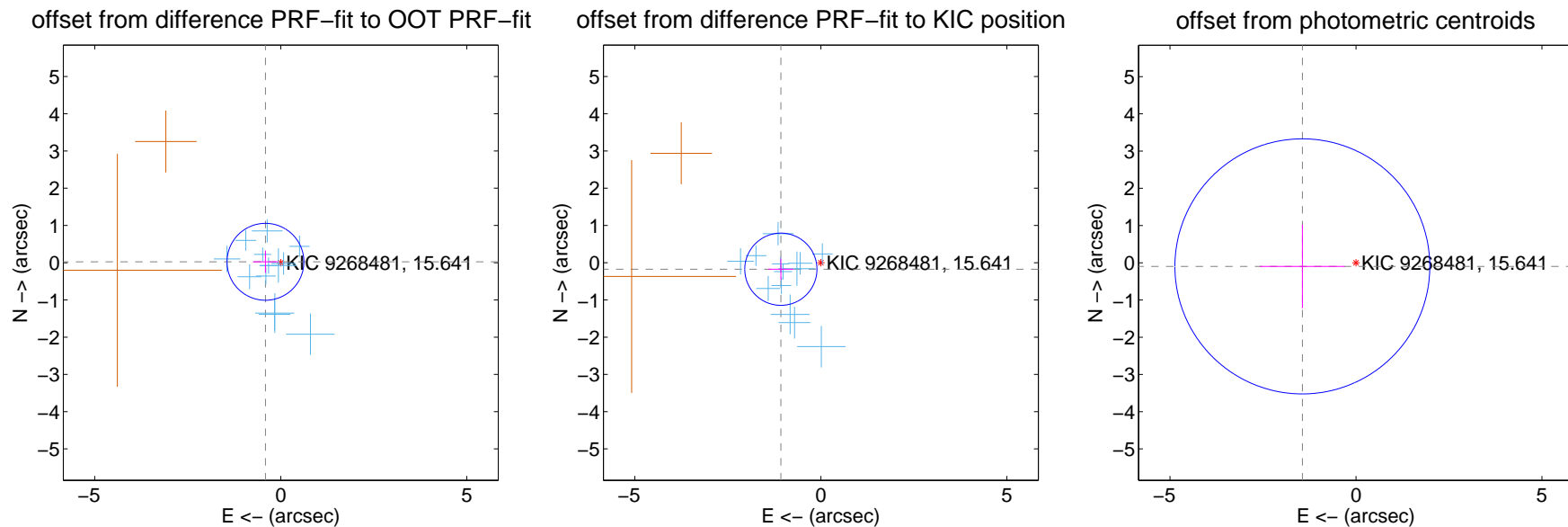
DV Centroid Data

Supplemental centroid analysis for 009268481-01. Kepler magnitude: 15.64. Transit SNR 7.15

There are 13 quarters with good PRF difference image offsets

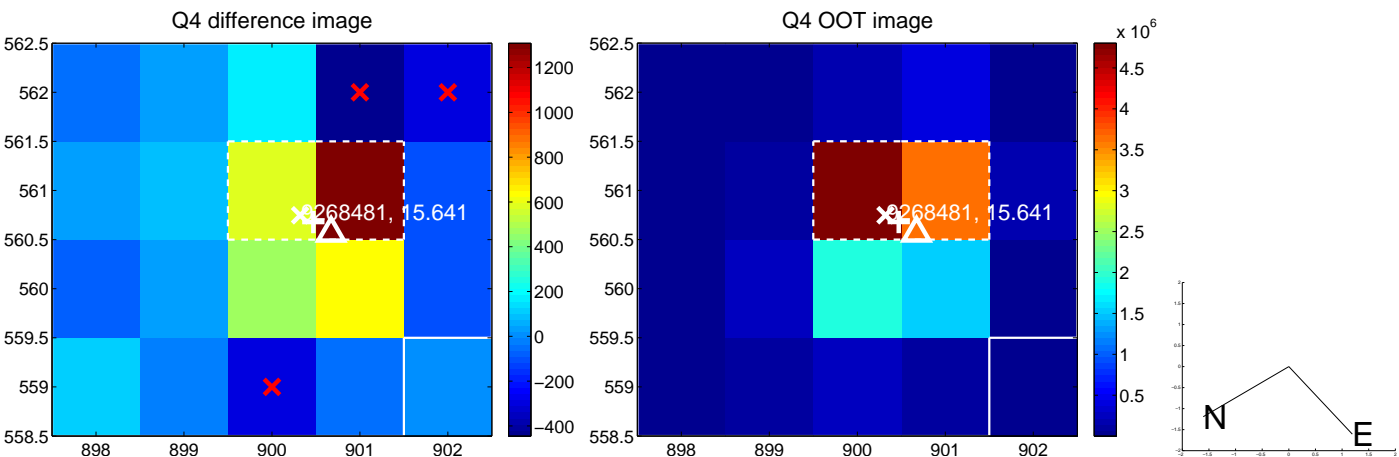
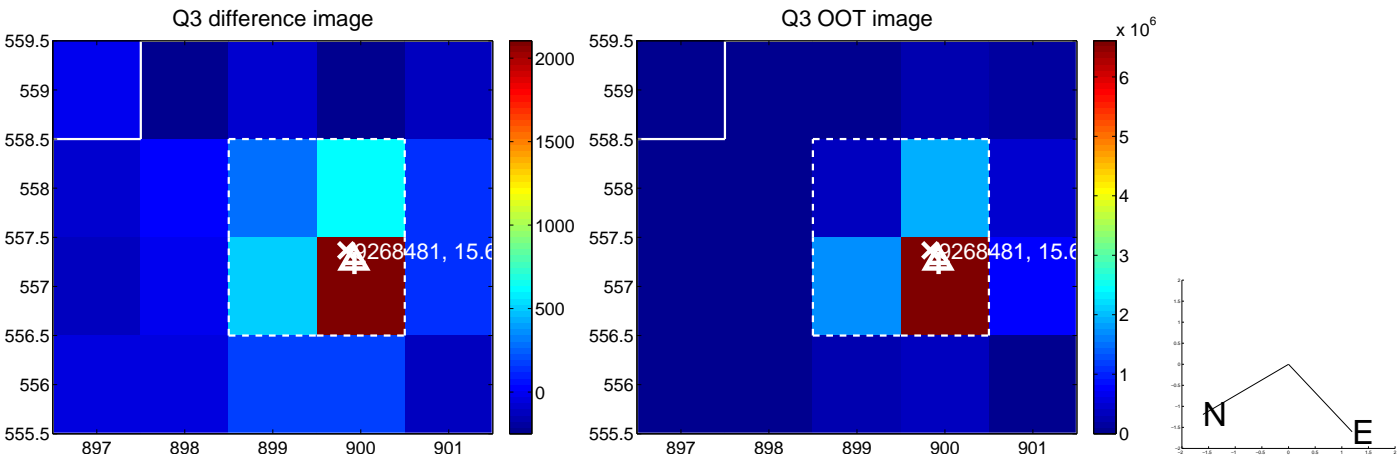
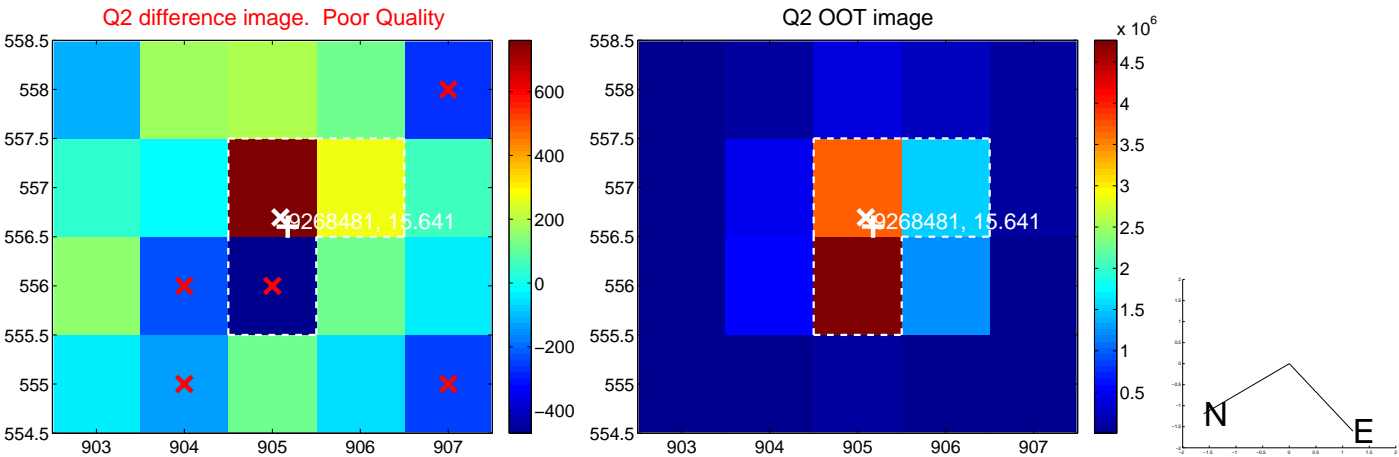
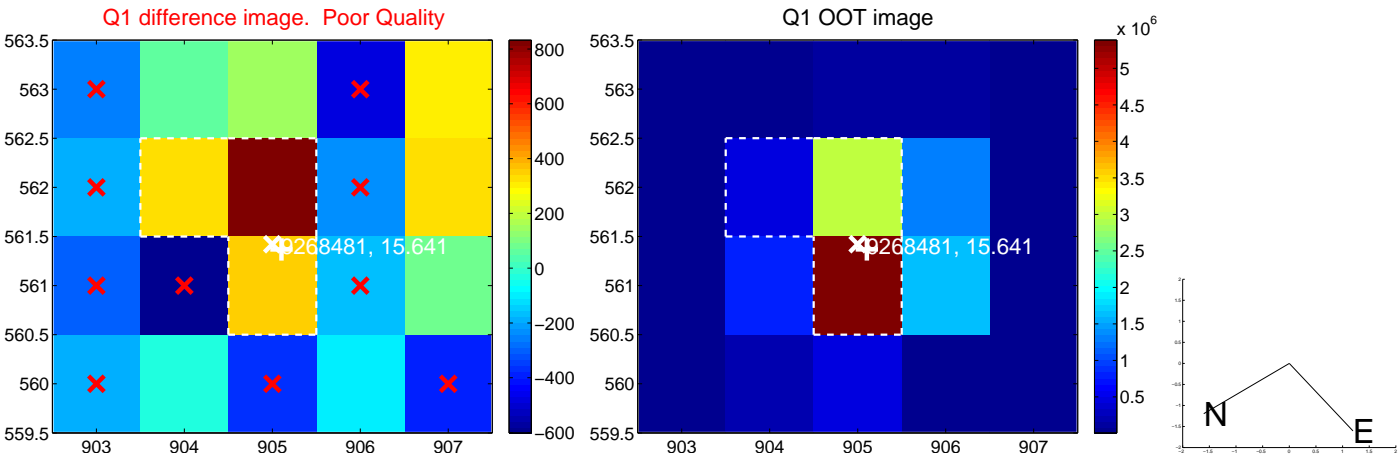
The direct PRF centroid is offset from the target star catalog position by about 0.71 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.412 ± 0.344	1.20	0.411 ± 0.337	0.024 ± 0.293
PRF-fit source offset from KIC position	1.089 ± 0.323	3.37	1.075 ± 0.340	-0.176 ± 0.288
photometric centroid source offset	1.44 ± 1.14	1.26	1.44 ± 1.14	-0.10 ± 1.12

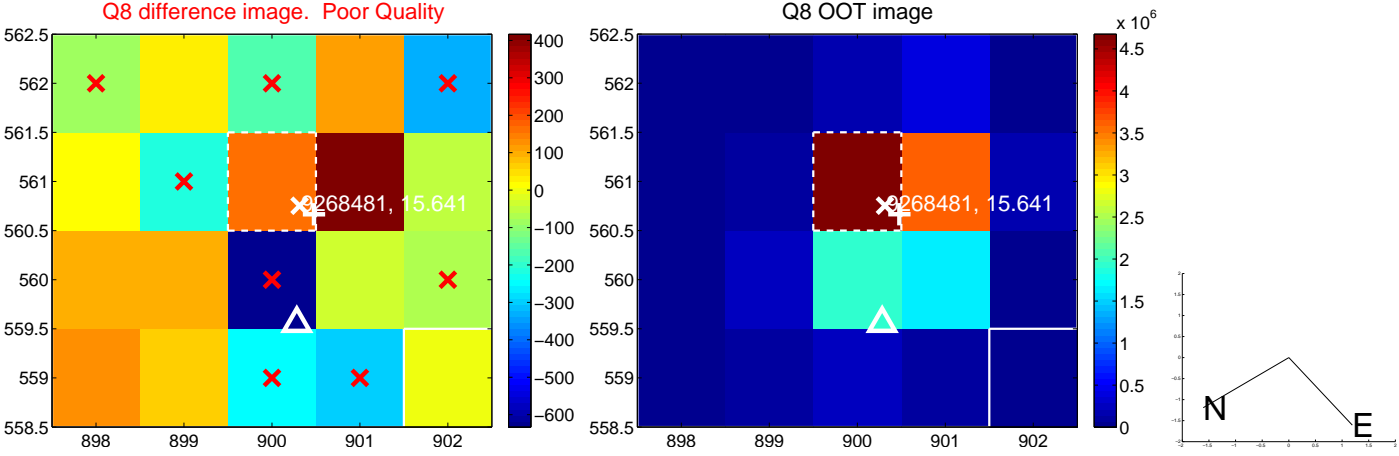
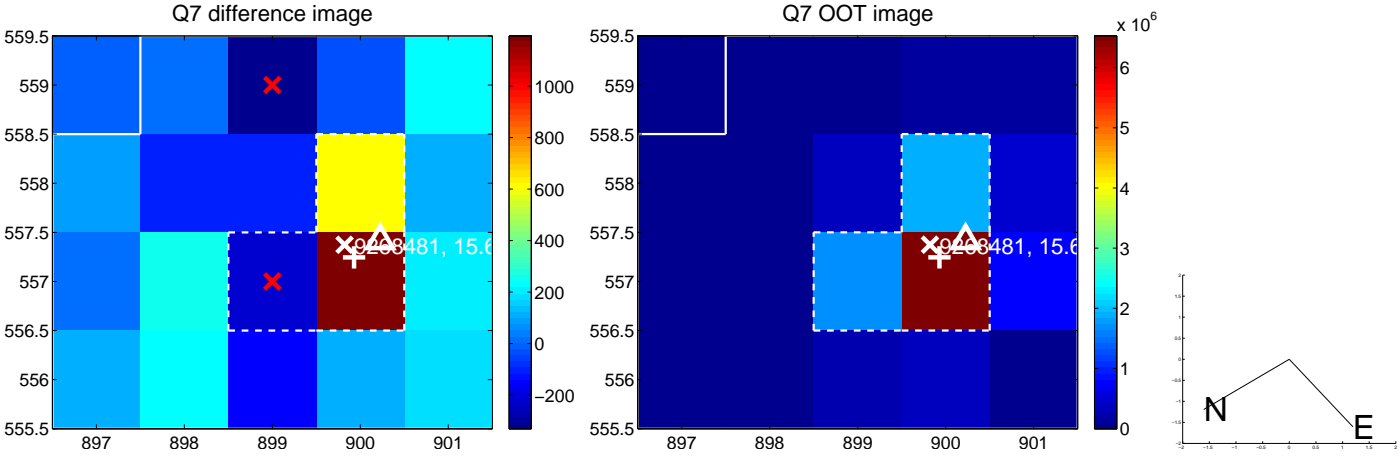
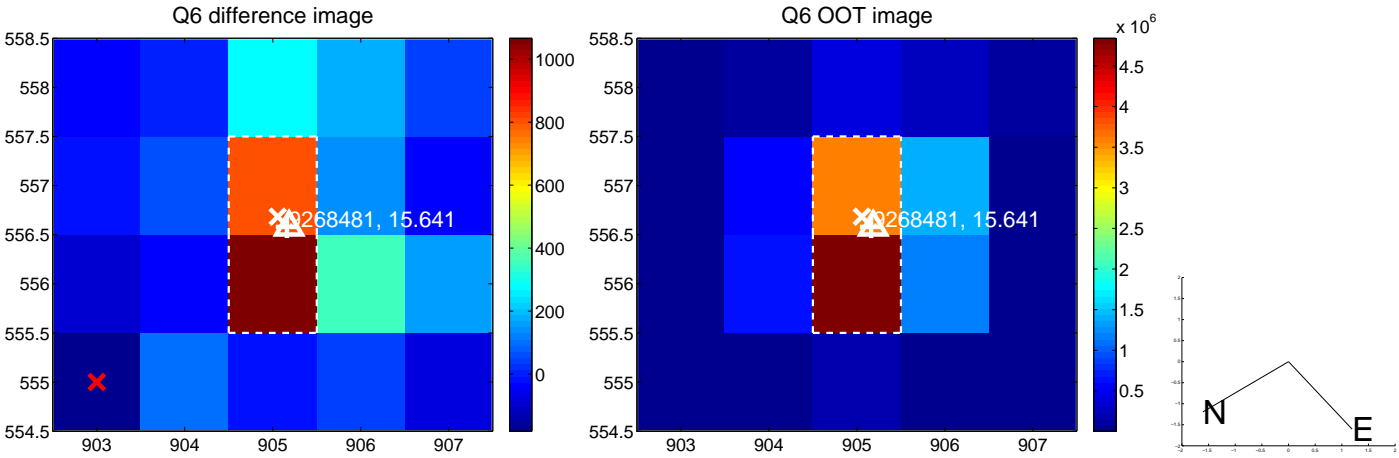
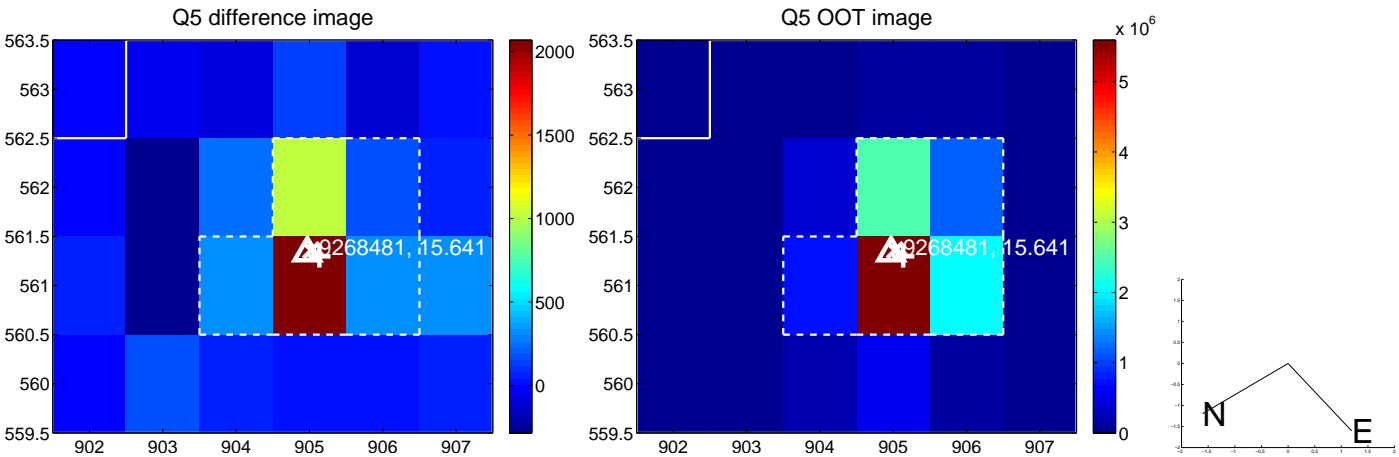


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

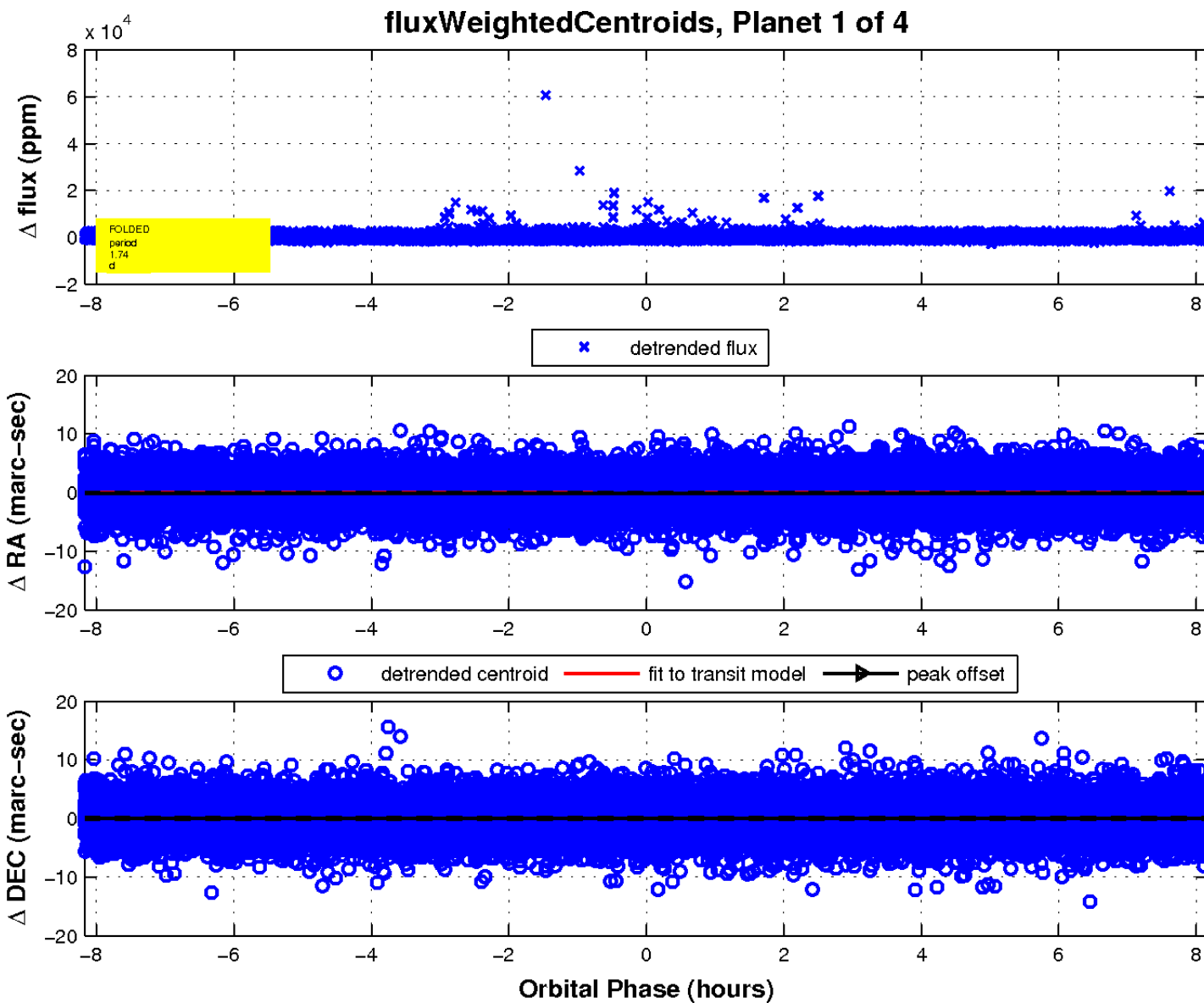
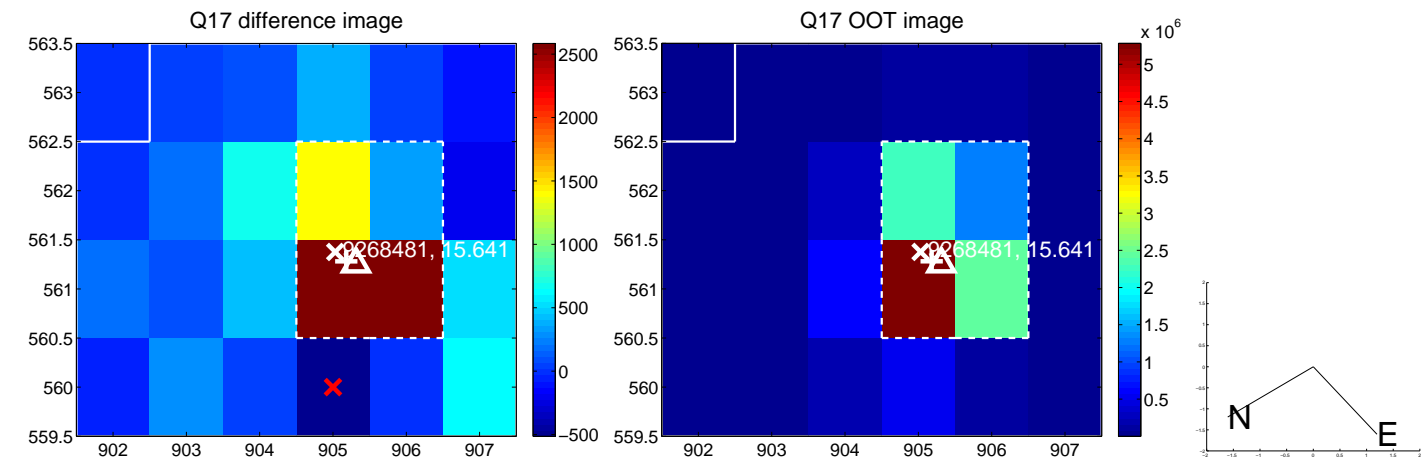
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

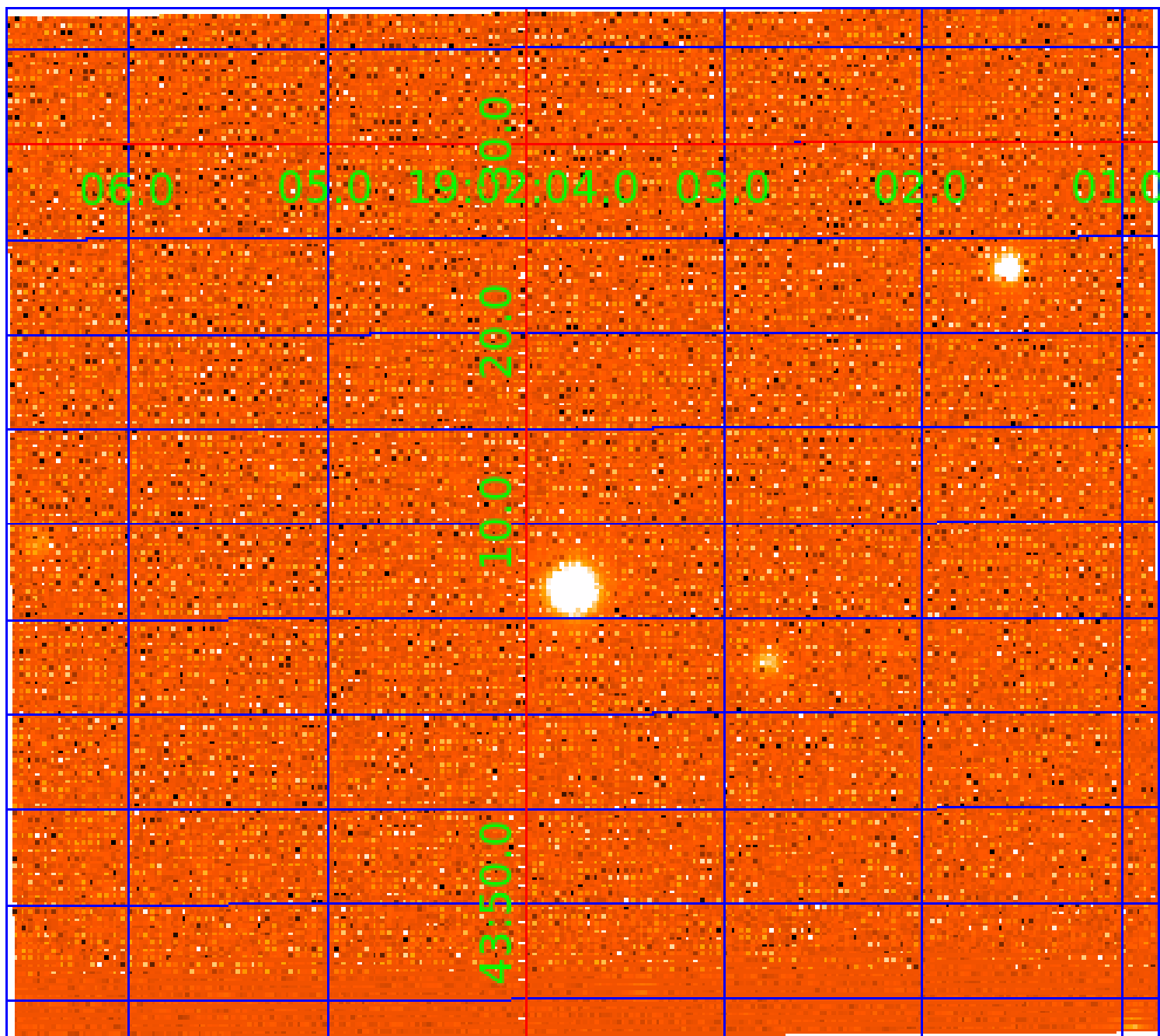


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009268481

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})
009268481-01	OBS	No	1.741012	133.196957	105.6	2.724	10.0	7.1	0.16	3209	0.16	11.43
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009268481-04	OBS	No	140.804551	271.923607	1074.2	7.500	8.7	-1.0	0.16	3209	0.52	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009268481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
009268481-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

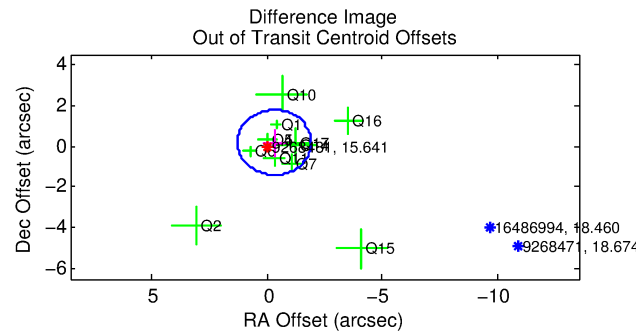
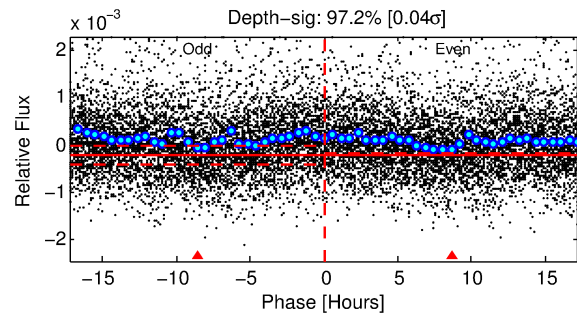
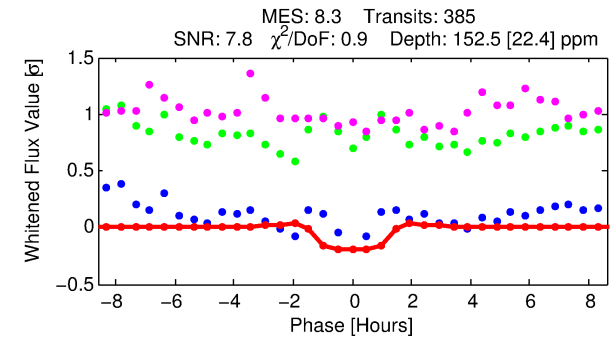
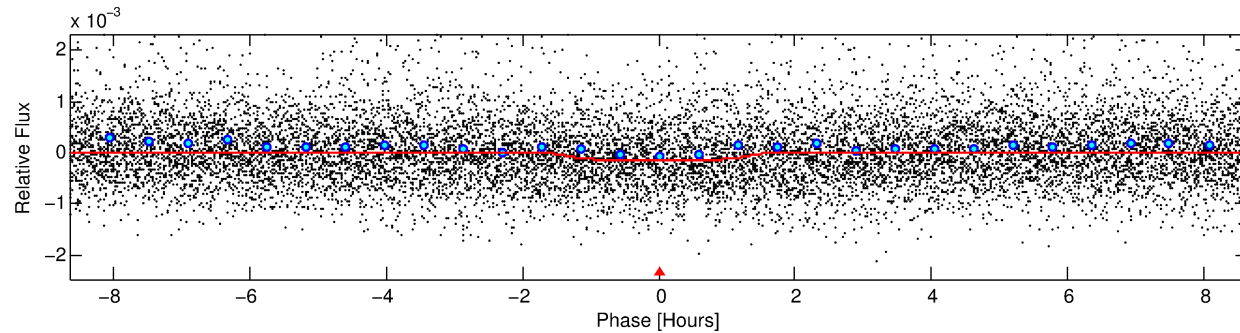
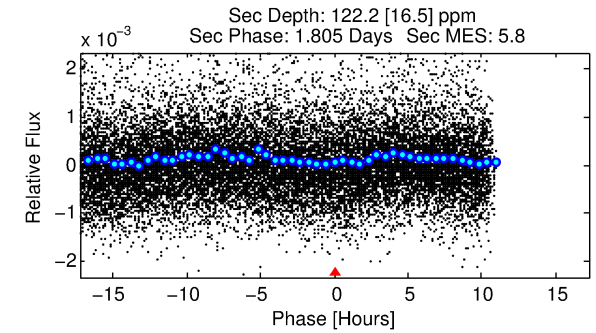
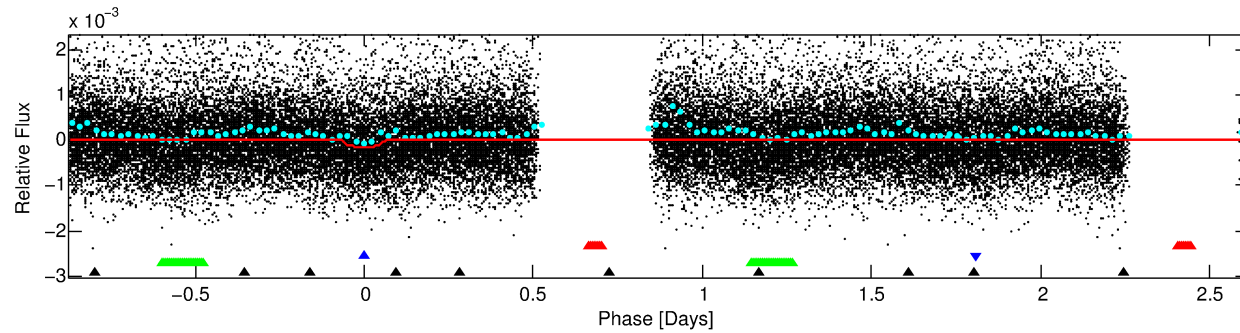
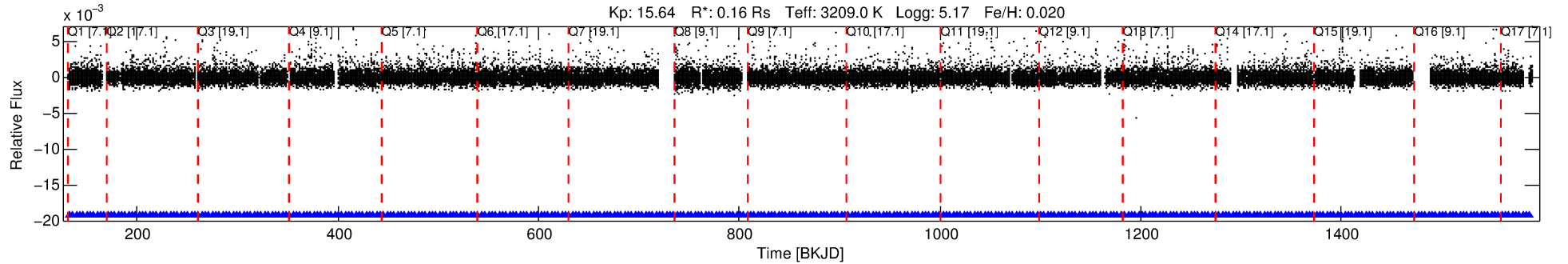
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009268481-02

No Significant Match Found

DV One-Page Summary

KIC: 9268481 Candidate: 2 of 4 Period: 3.482 d



DV Fit Results:

Period = 3.48212 [0.00003] d
Epoch = 132.4951 [0.0050] BKJD
Rp/R* = 0.0128 [0.0153]
a/R* = 5.42 [26.93]
b = 0.83 [1.93]
Seff = 4.53 [1.00]
Teq = 372 [21] K
Rp = 0.22 [0.27] Re
a = 0.0233 [0.0043] AU
Ag = 724.98 [1741.07] [0.42σ]
Teffp = 2985 [1785] K [1.46σ]

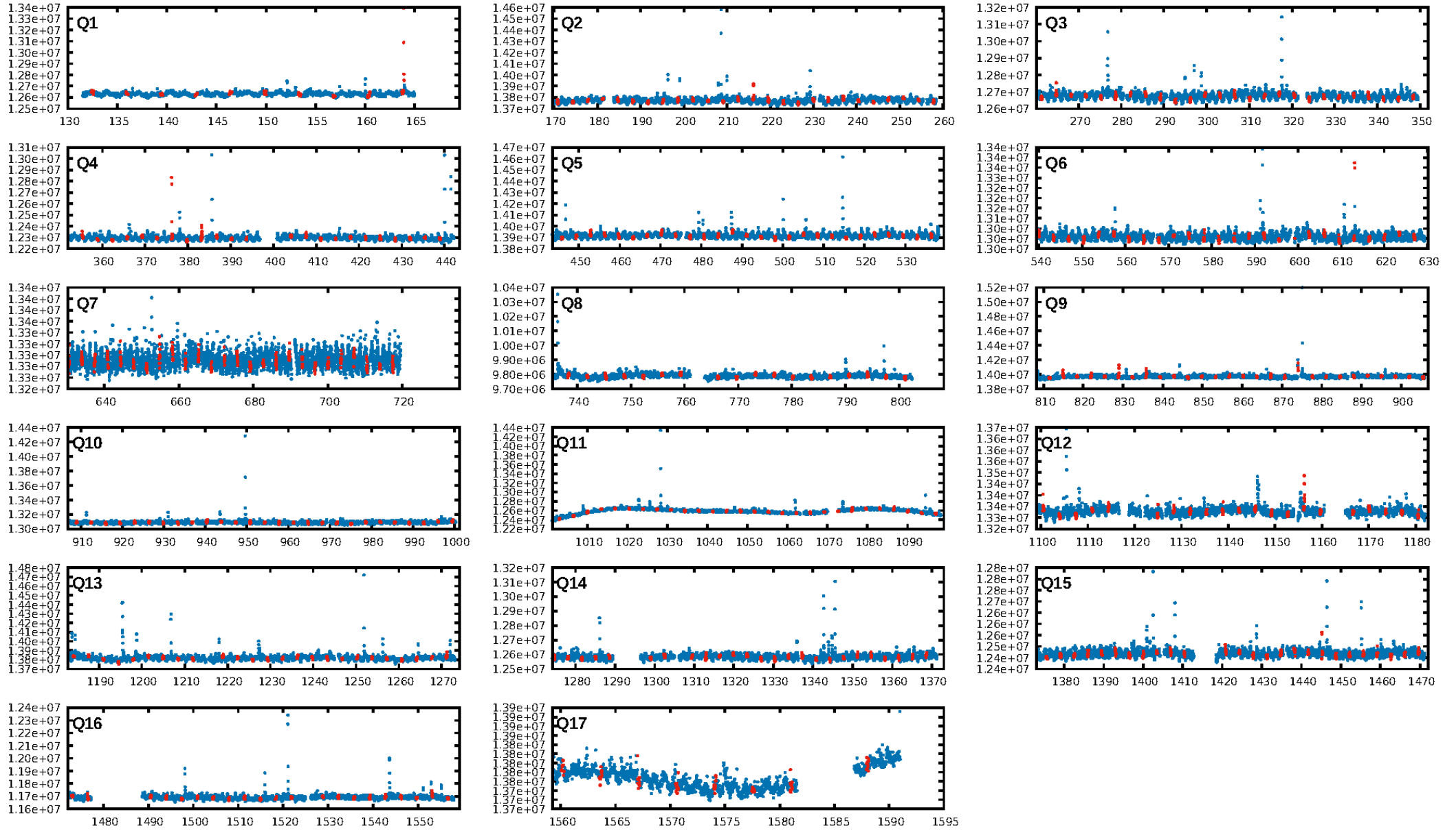
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.27σ]
LongPeriod-sig: 100.0% [410.27σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [367/367]
GhostDiagnostic-chr: 0.7259
Centroid-sig: 0.0%
Centroid-so: 3.558 arcsec [3.24σ]
OotOffset-rm: 0.367 arcsec [0.69σ]
KicOffset-rm: 0.212 arcsec [0.43σ]
OotOffset-st: 4/3/2/3 [12]
KicOffset-st: 4/3/2/3 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [17/17]

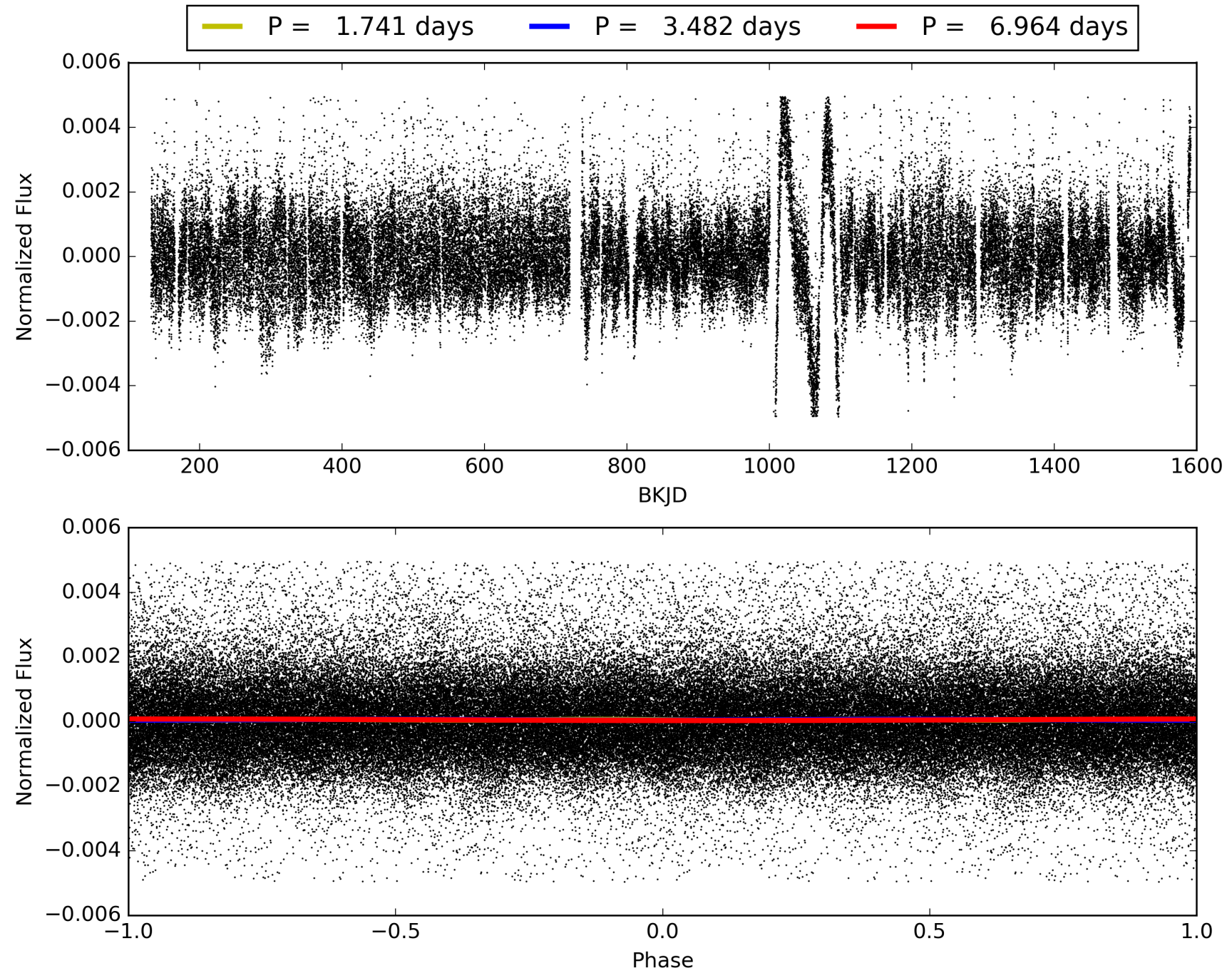
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:23:30 Z

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

TCE 009268481-02, PDC Light Curves

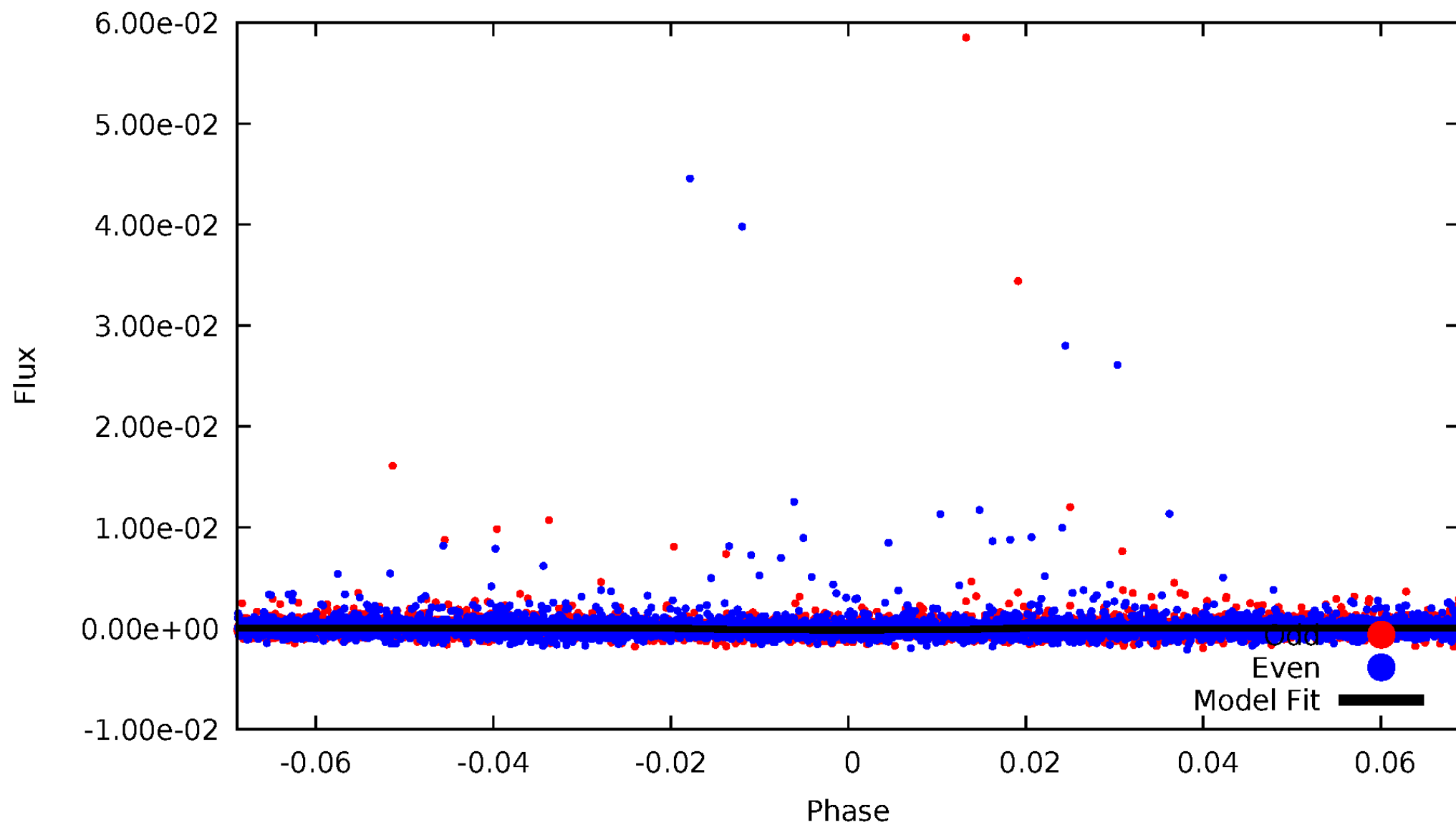


TCE 009268481-02



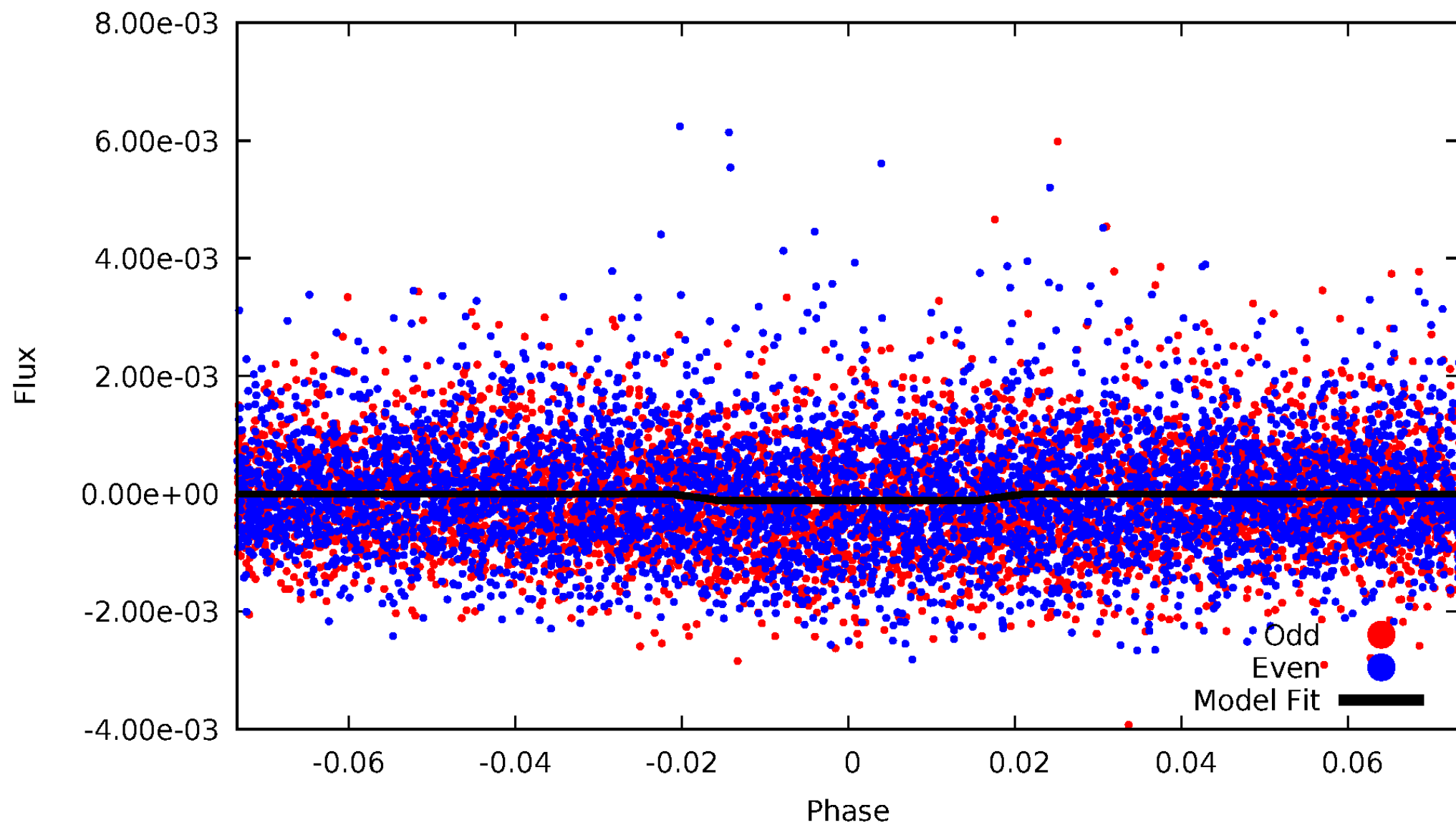
DV Odd/Even

TCE 009268481-02



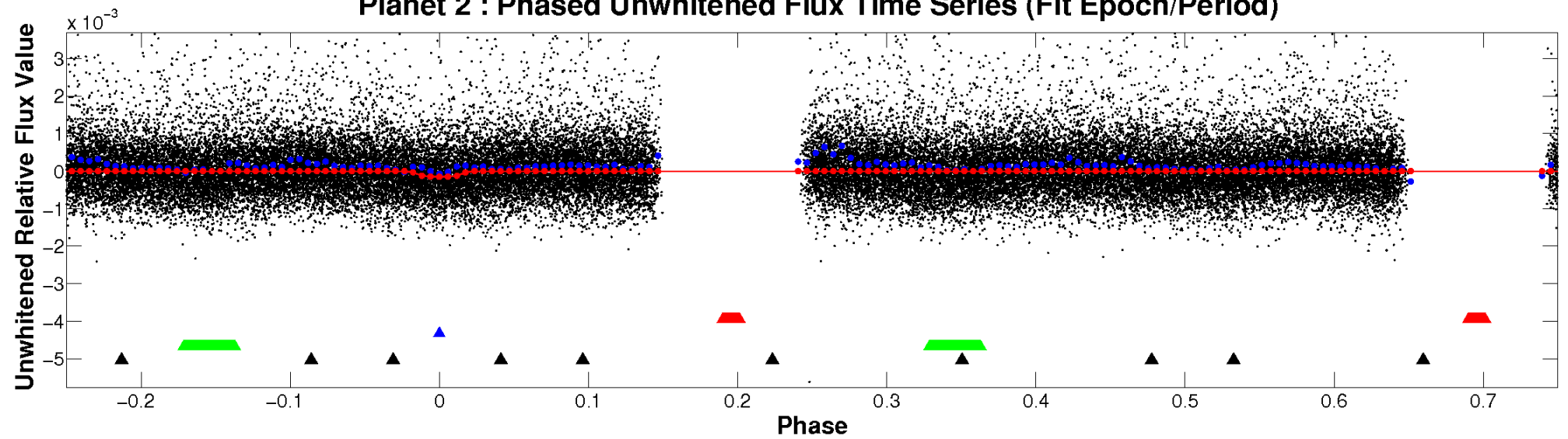
ALT Odd/Even

TCE 009268481-02

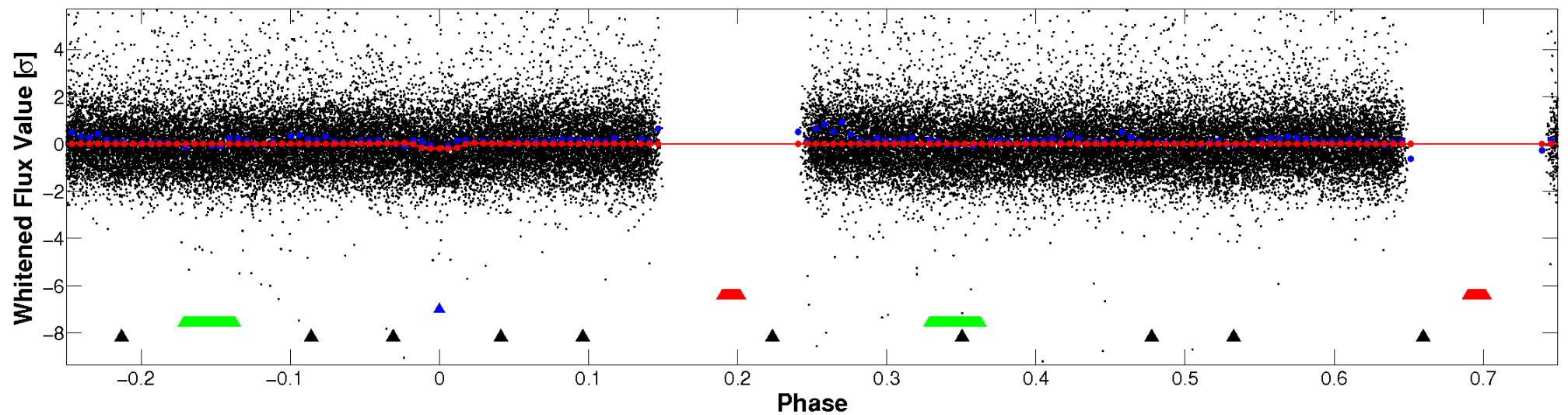


Non-Whitened Vs. Whitened Light Curve

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

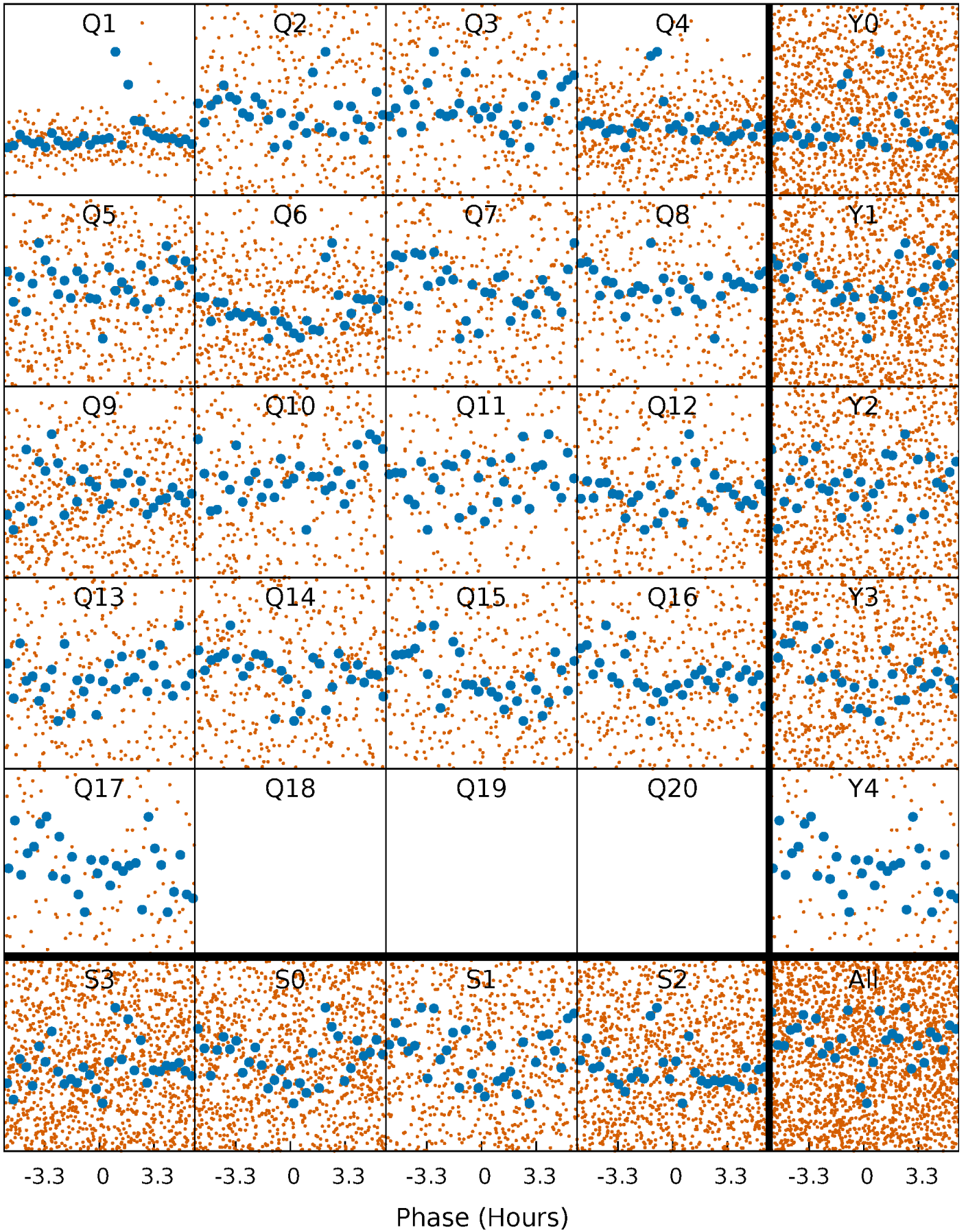


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



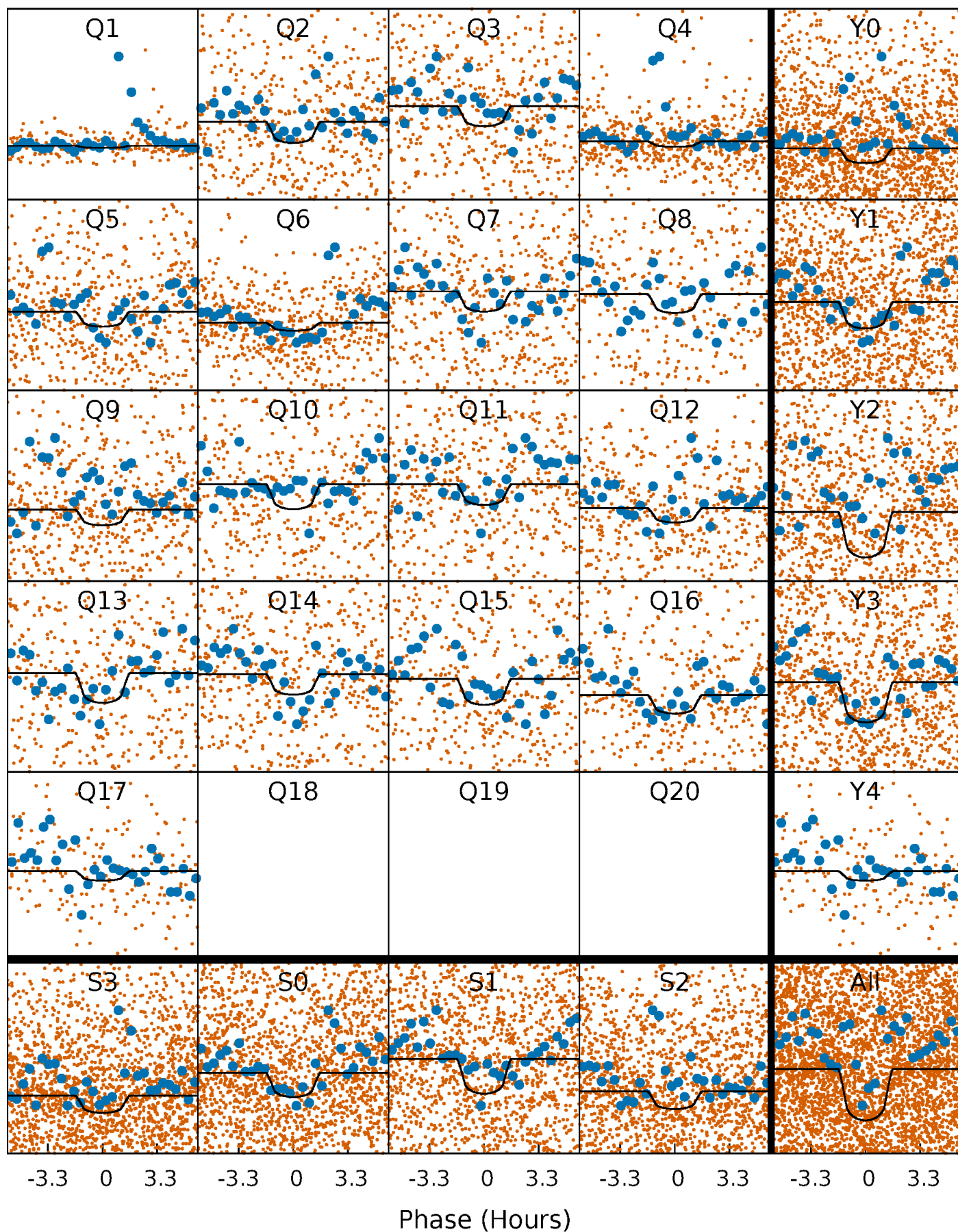
PDC Quarter-Phased Transit Curves

TCE 009268481-02 P= 3.482122 Days $T_0=132.495076$ (BKJD)



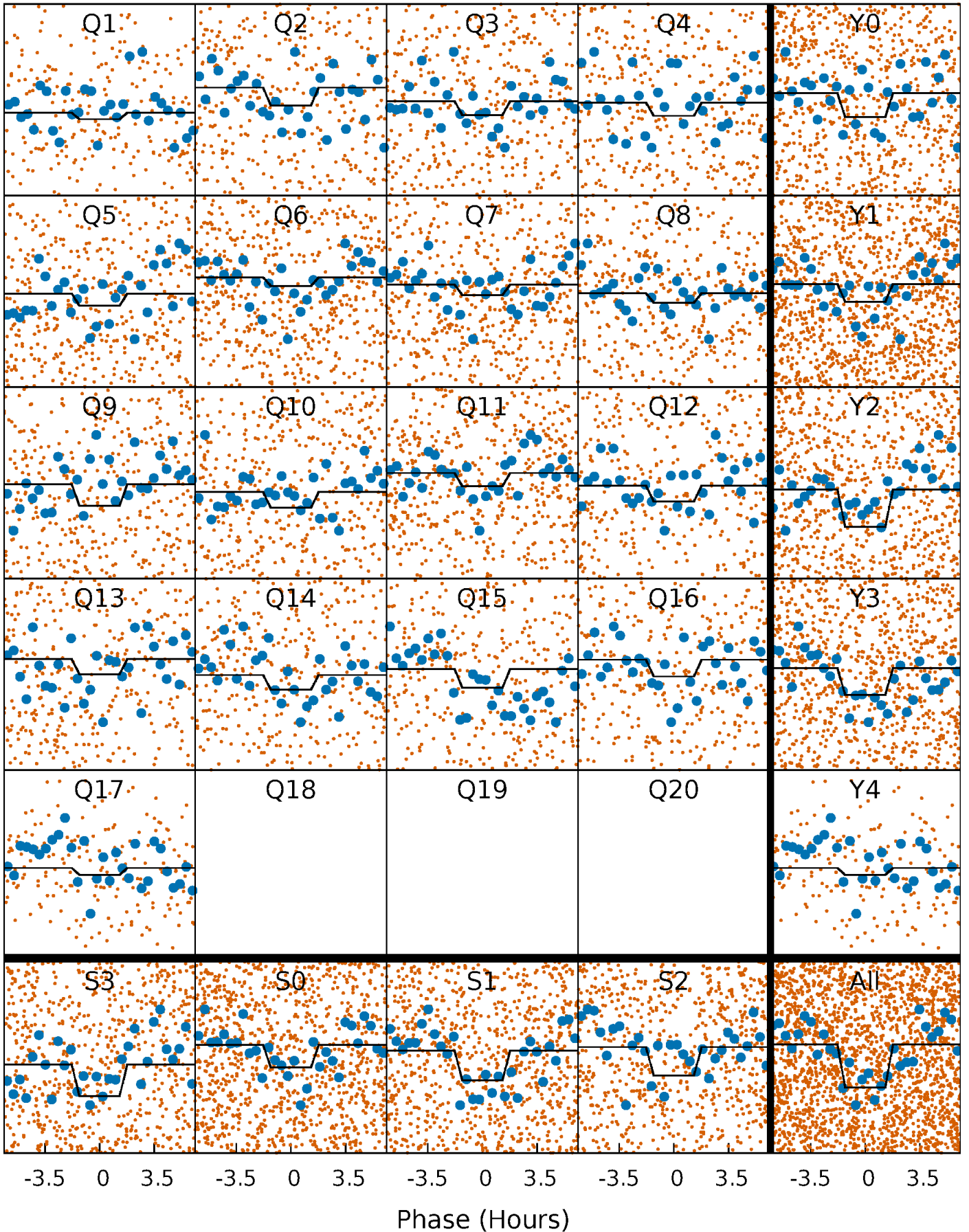
DV Quarter-Phased Transit Curves

TCE 009268481-02 P= 3.482122 Days $T_0=132.495076$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

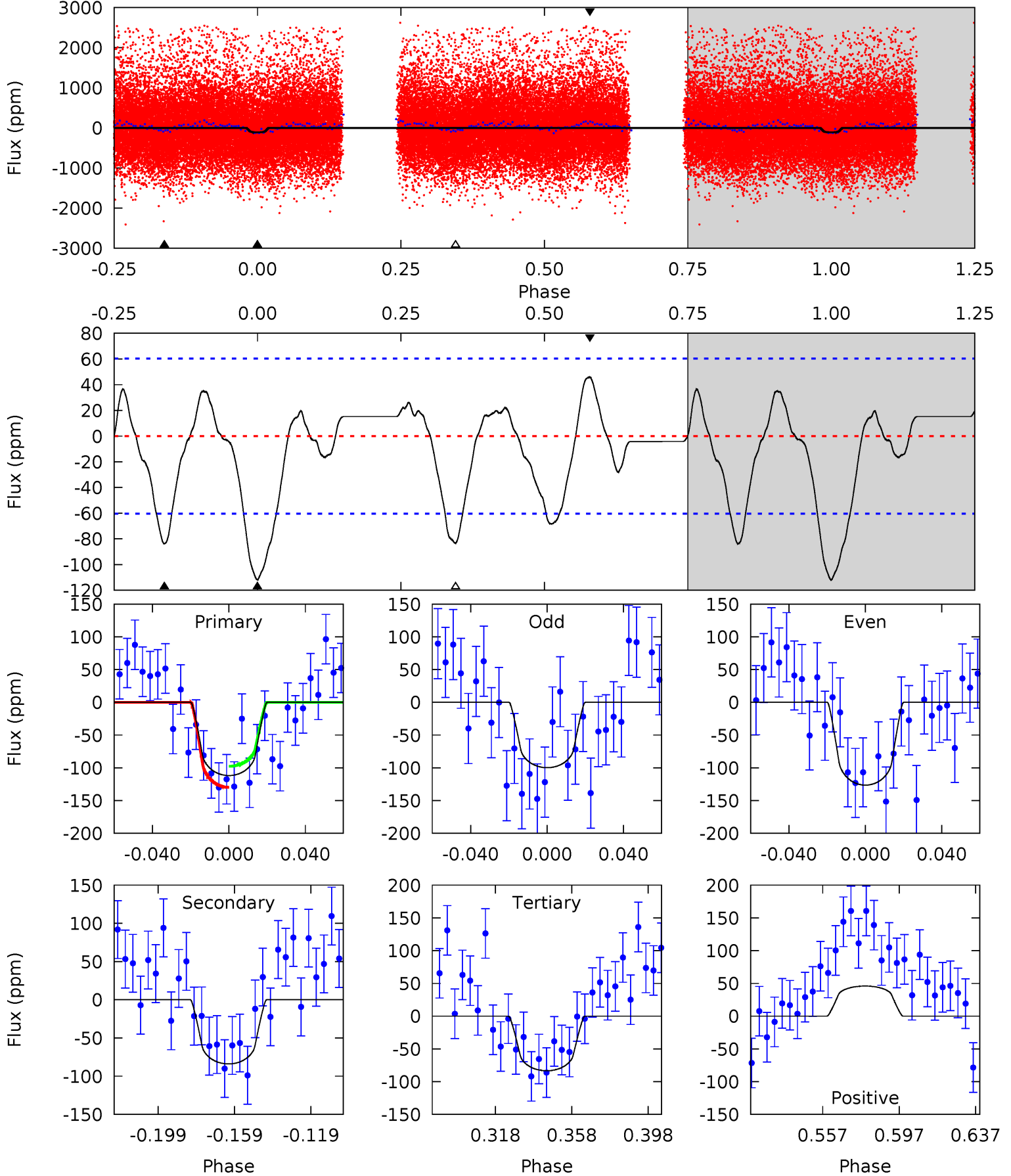
TCE 009268481-02 P= 3.481955 Days $T_0=132.537013$ (BKJD)



DV Model-Shift Uniqueness Test

009268481-02, P = 3.482122 Days, E = 129.012954 Days

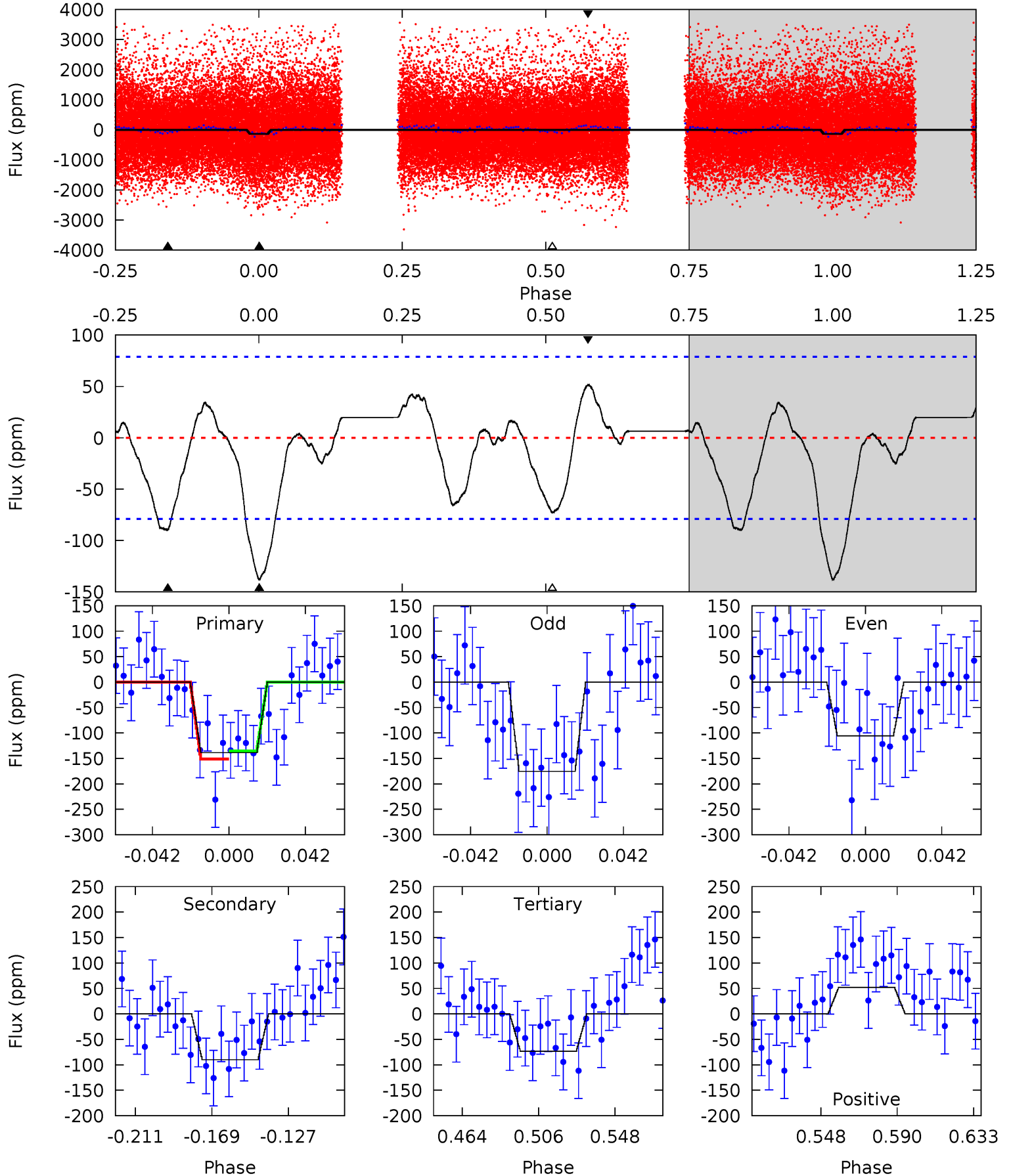
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.81	6.61	6.56	3.62	4.75	2.06	2.38	2.24	5.19	0.05	3.00	1.06	-0.24	0.29	1.28



Alt Model-Shift Uniqueness Test

009268481-02, P = 3.481955 Days, E = 129.055058 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.33	5.42	4.40	3.12	4.74	2.03	1.79	3.93	5.22	1.02	2.30	2.10	0.69	0.27	0.48



Stellar Parameters For KIC 009268481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3209^{+35}_{-19}	$5.168^{+0.056}_{-0.084}$	$0.020^{+0.100}_{-0.100}$	$0.161^{+0.042}_{-0.018}$	$0.140^{+0.042}_{-0.015}$	$46.800^{+14.330}_{-15.450}$
	+1%/-1%	+1%/-2%	+500%/-500%	+26%/-11%	+30%/-11%	+31%/-33%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009268481-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-84 ± 13	$0.31^{+0.25}_{-0.20}$	523^{+19}_{-13}	2709^{+942}_{-376}	273^{+1990}_{-192}
Alt.	-90 ± 17	$0.28^{+0.26}_{-0.19}$	523^{+17}_{-15}	2795^{+1037}_{-421}	343^{+2412}_{-250}

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

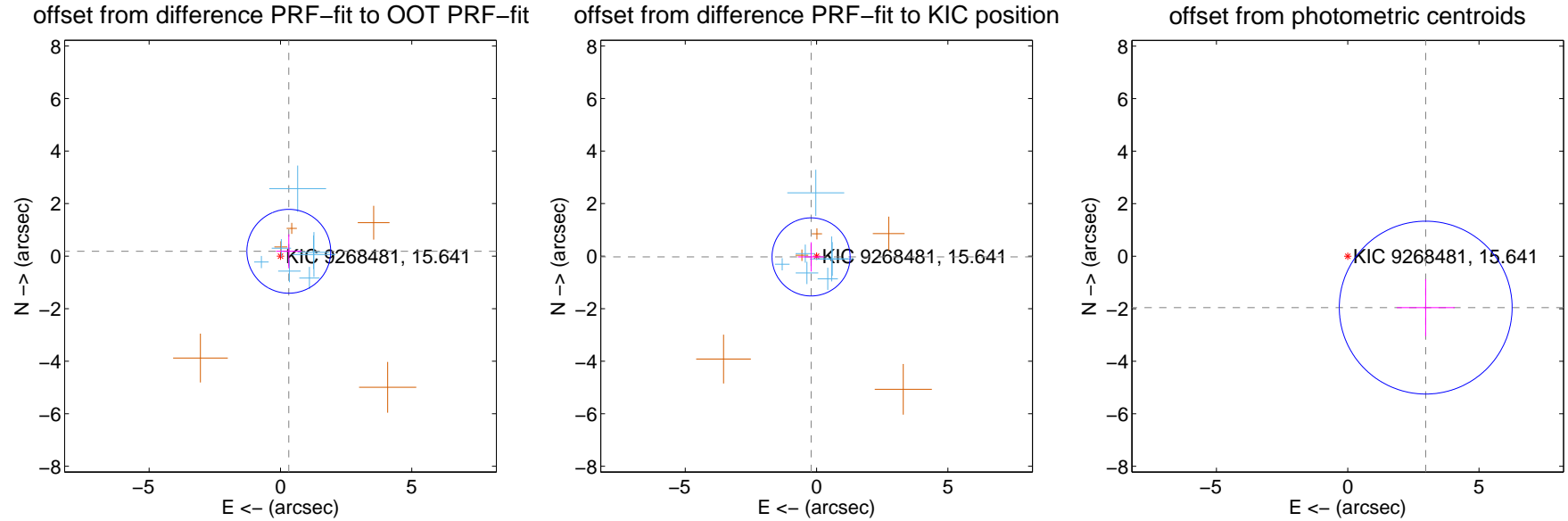
DV Centroid Data

Supplemental centroid analysis for 009268481-02. Kepler magnitude: 15.64. Transit SNR 7.81

There are 7 quarters with good PRF difference image offsets

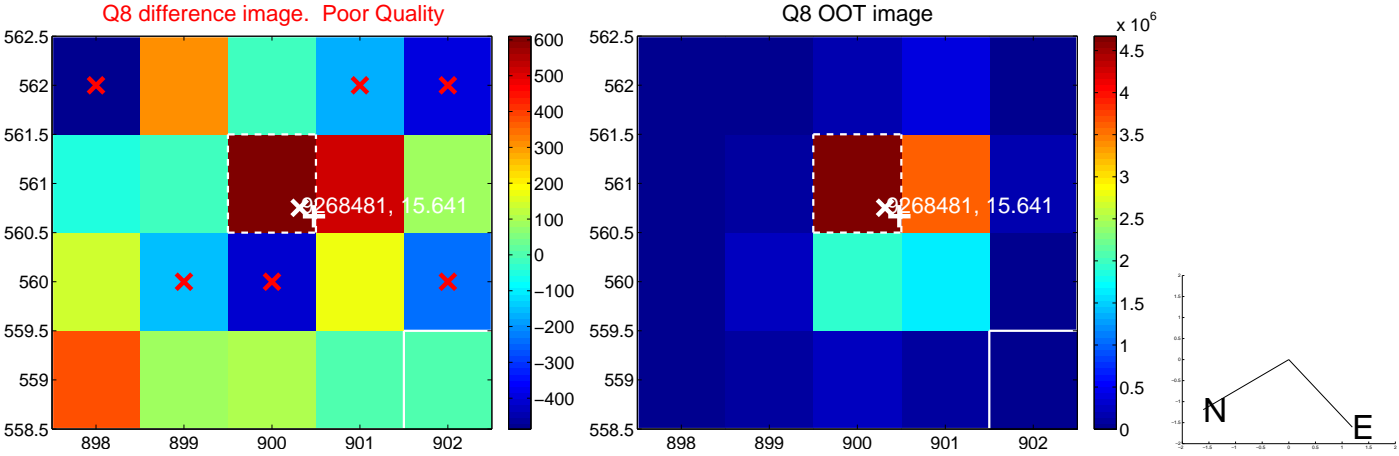
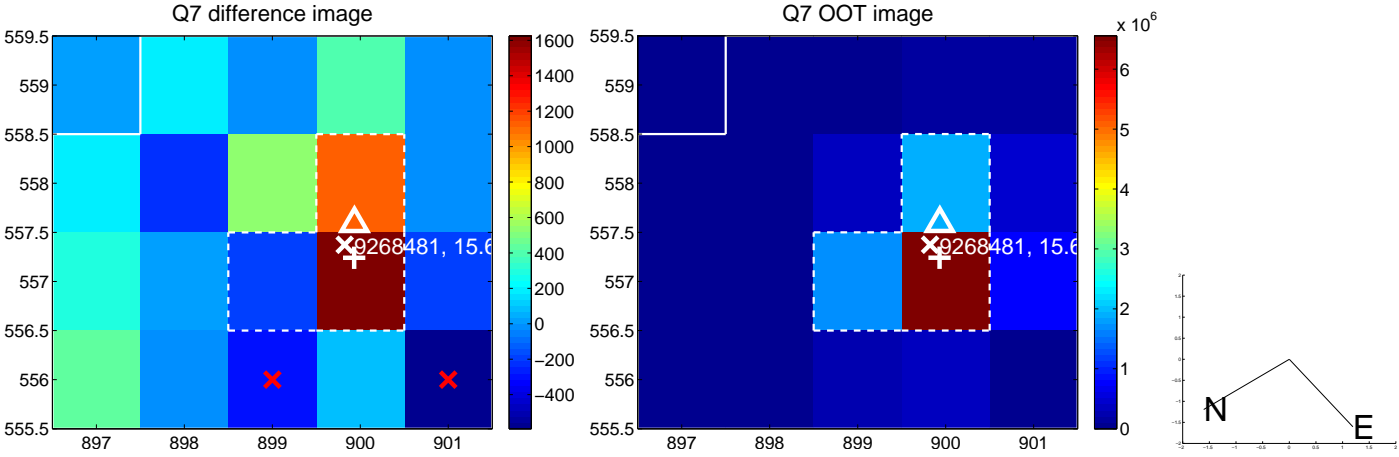
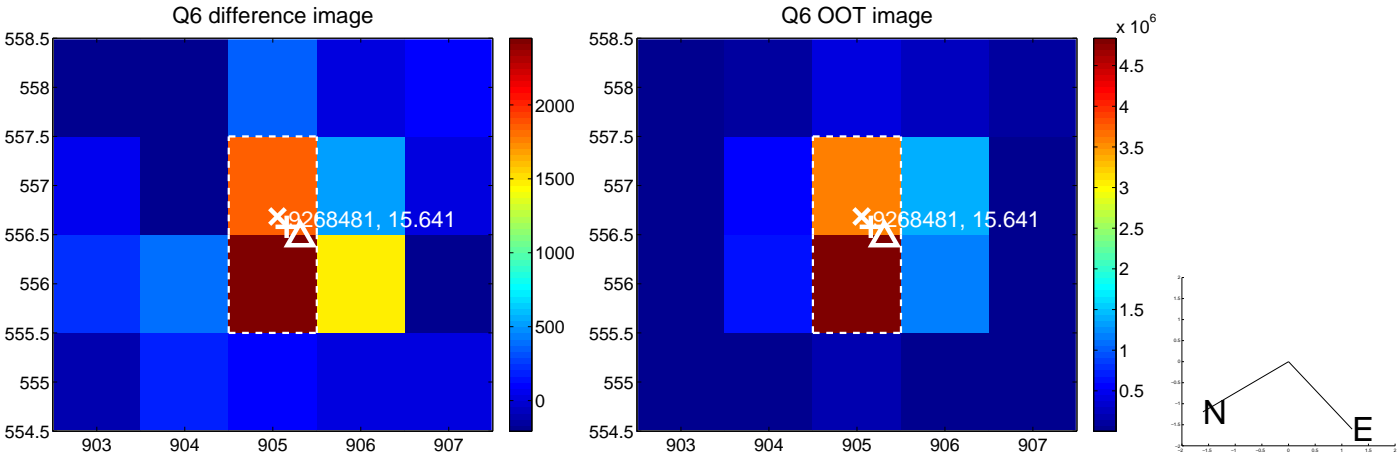
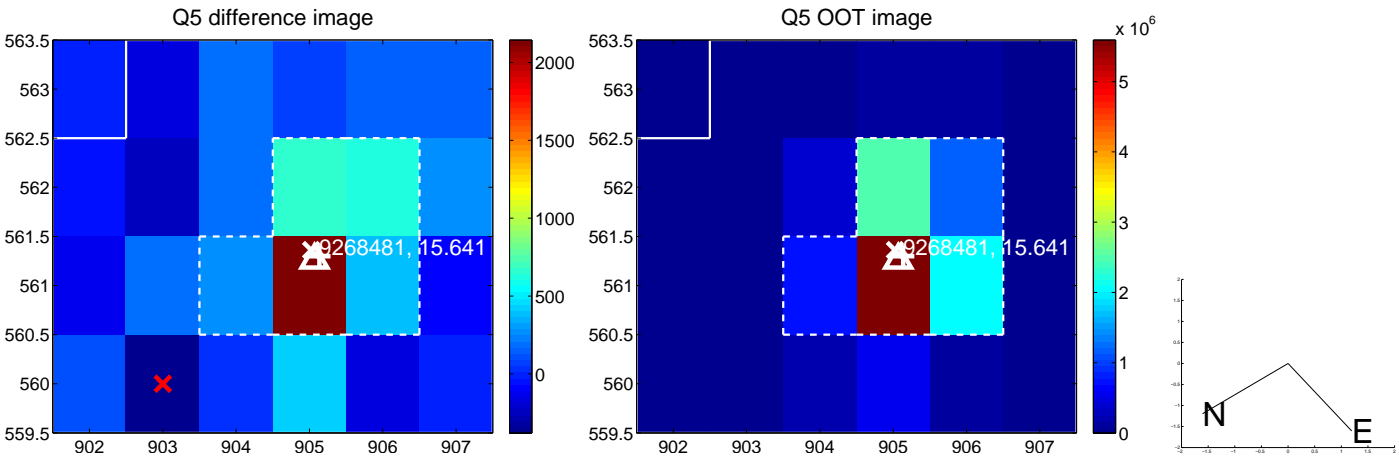
The direct PRF centroid is offset from the target star catalog position by about 0.71 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.367 ± 0.532	0.69	-0.318 ± 0.483	0.185 ± 0.647
PRF-fit source offset from KIC position	0.212 ± 0.496	0.43	0.209 ± 0.497	-0.030 ± 0.555
photometric centroid source offset	3.56 ± 1.10	3.24	-2.97 ± 1.10	-1.96 ± 1.08

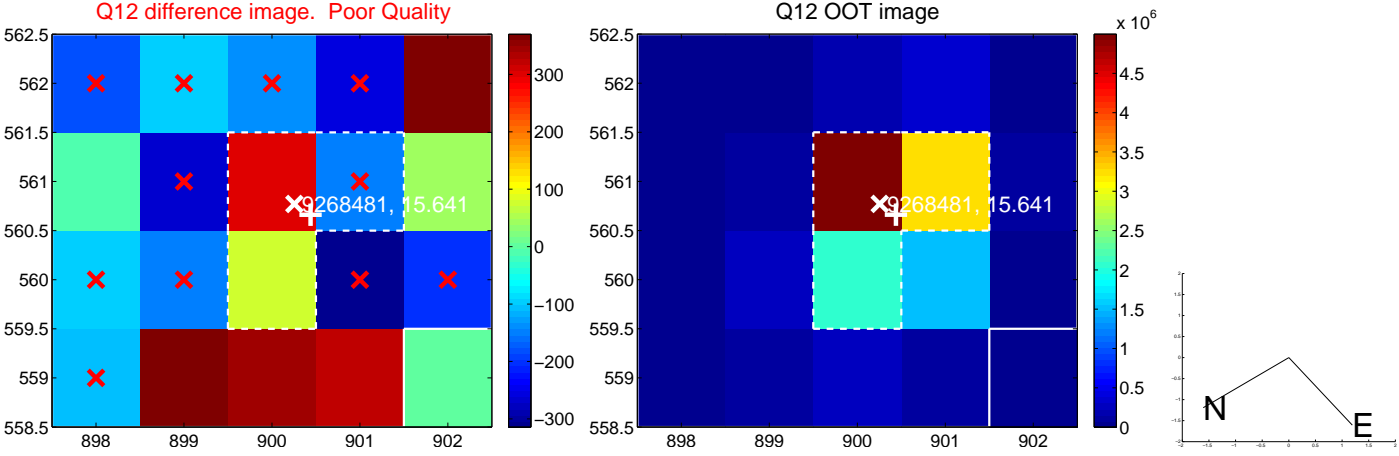
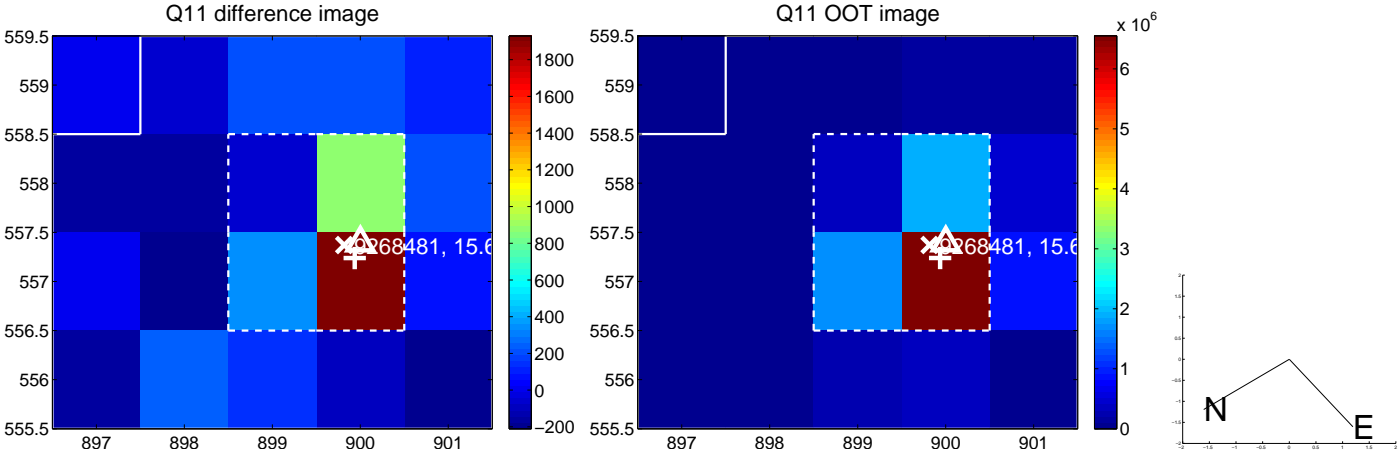
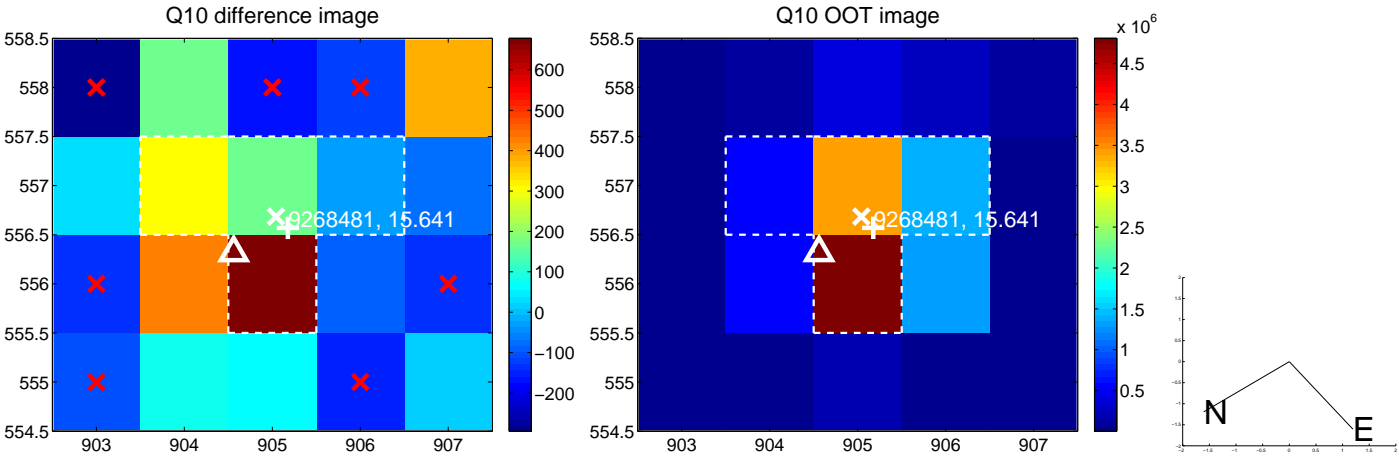
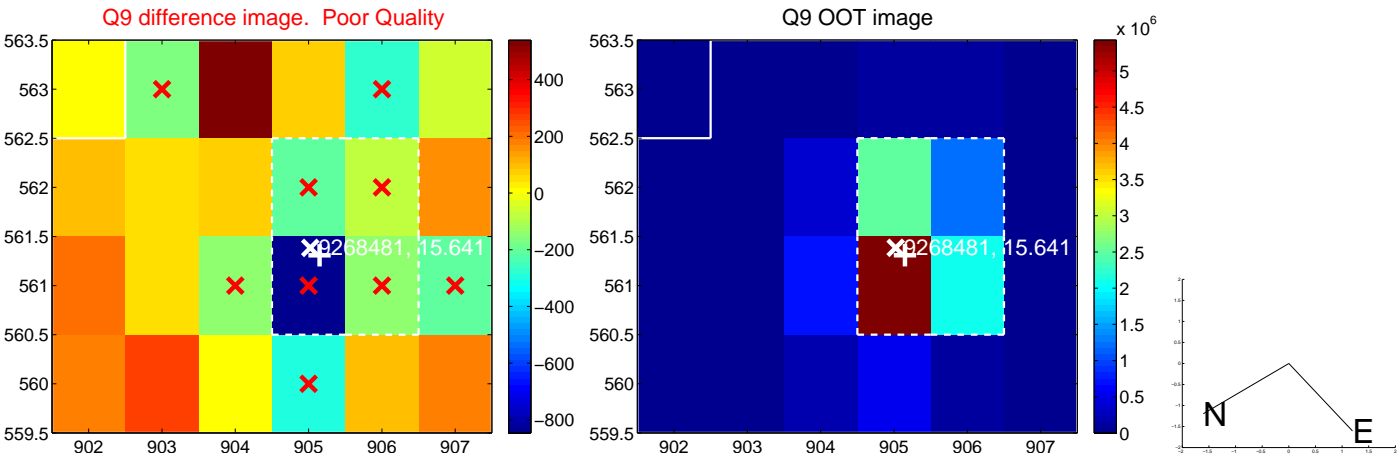


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

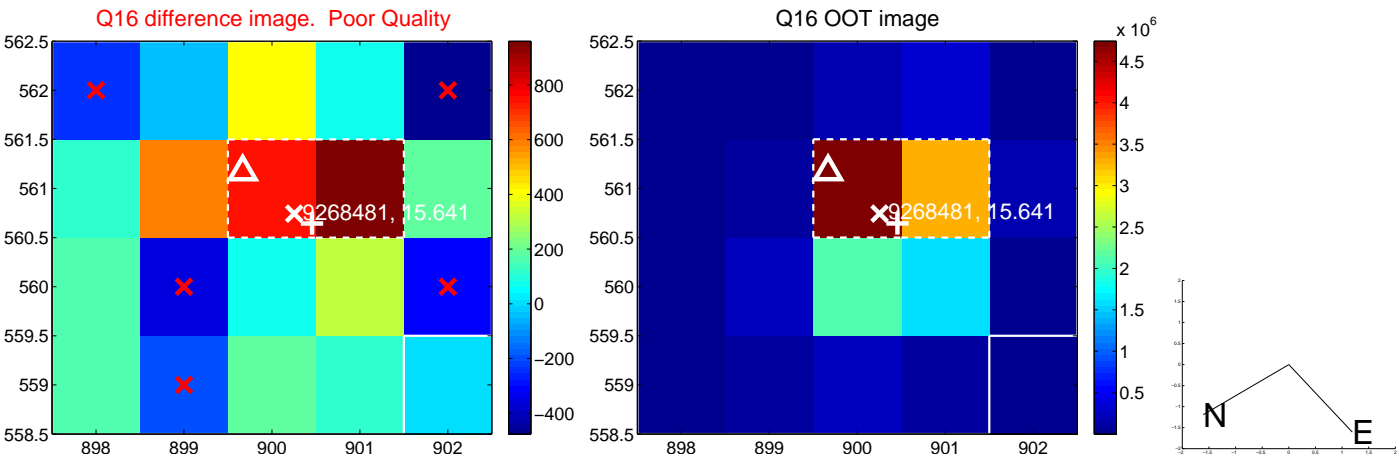
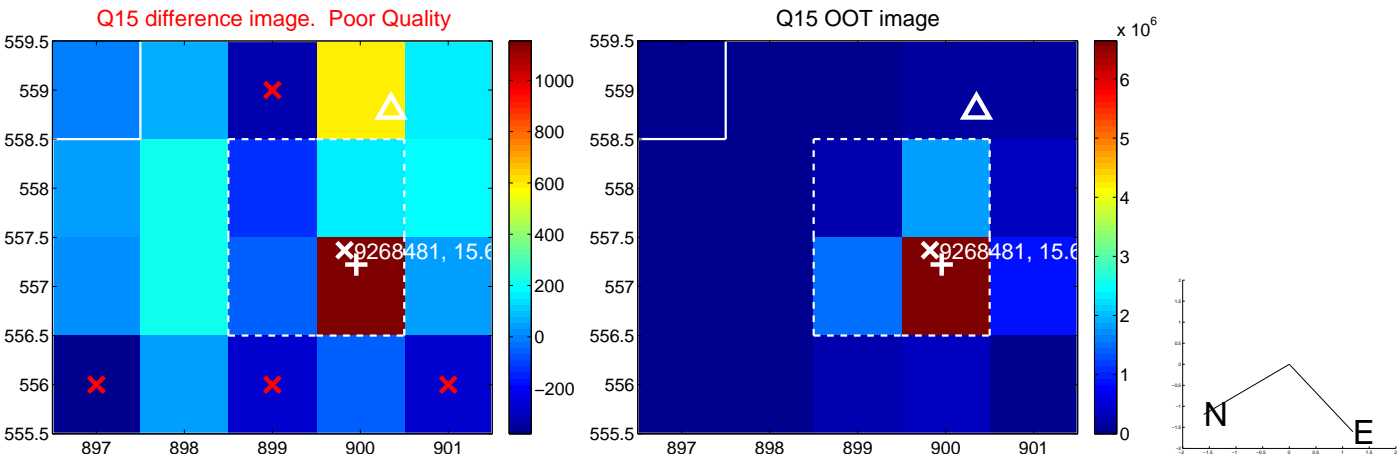
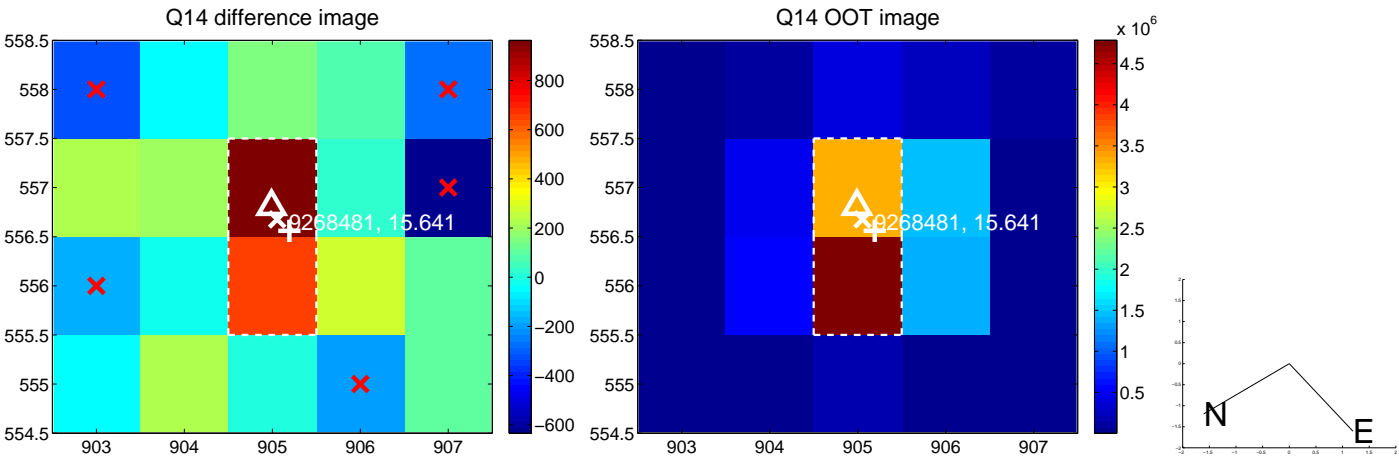
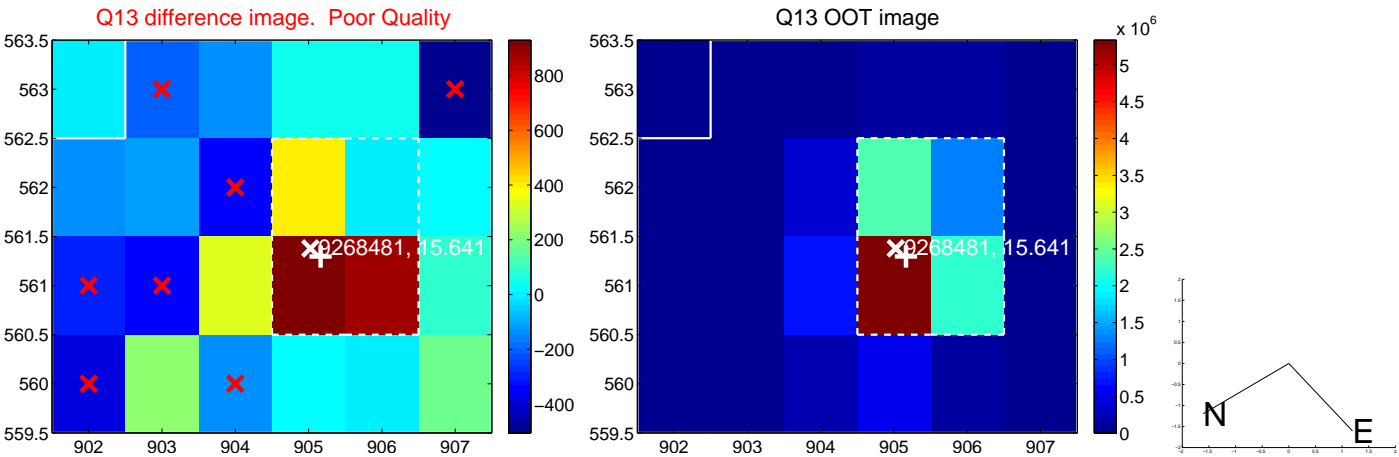
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



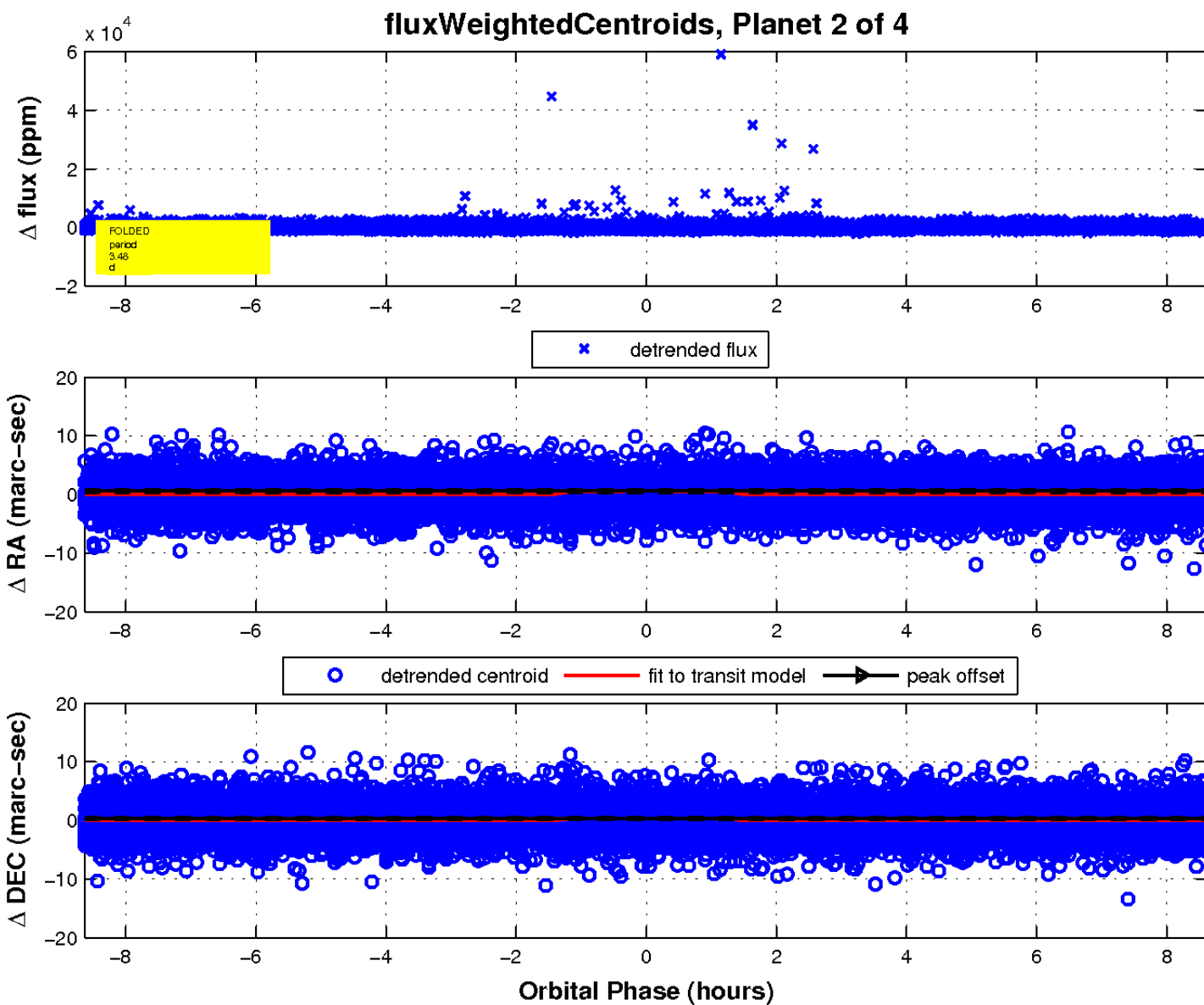
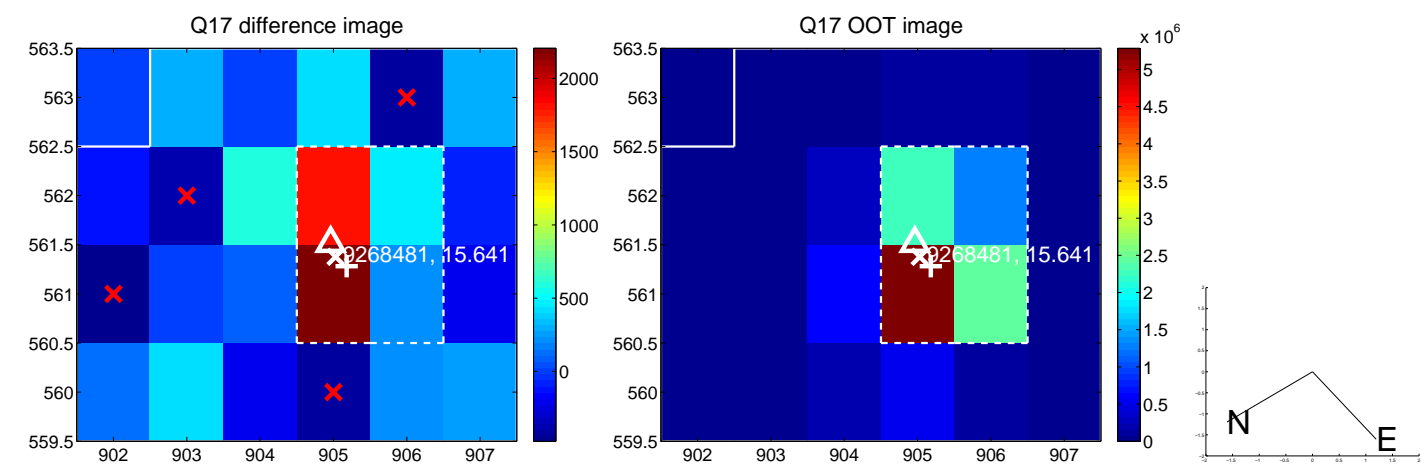
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

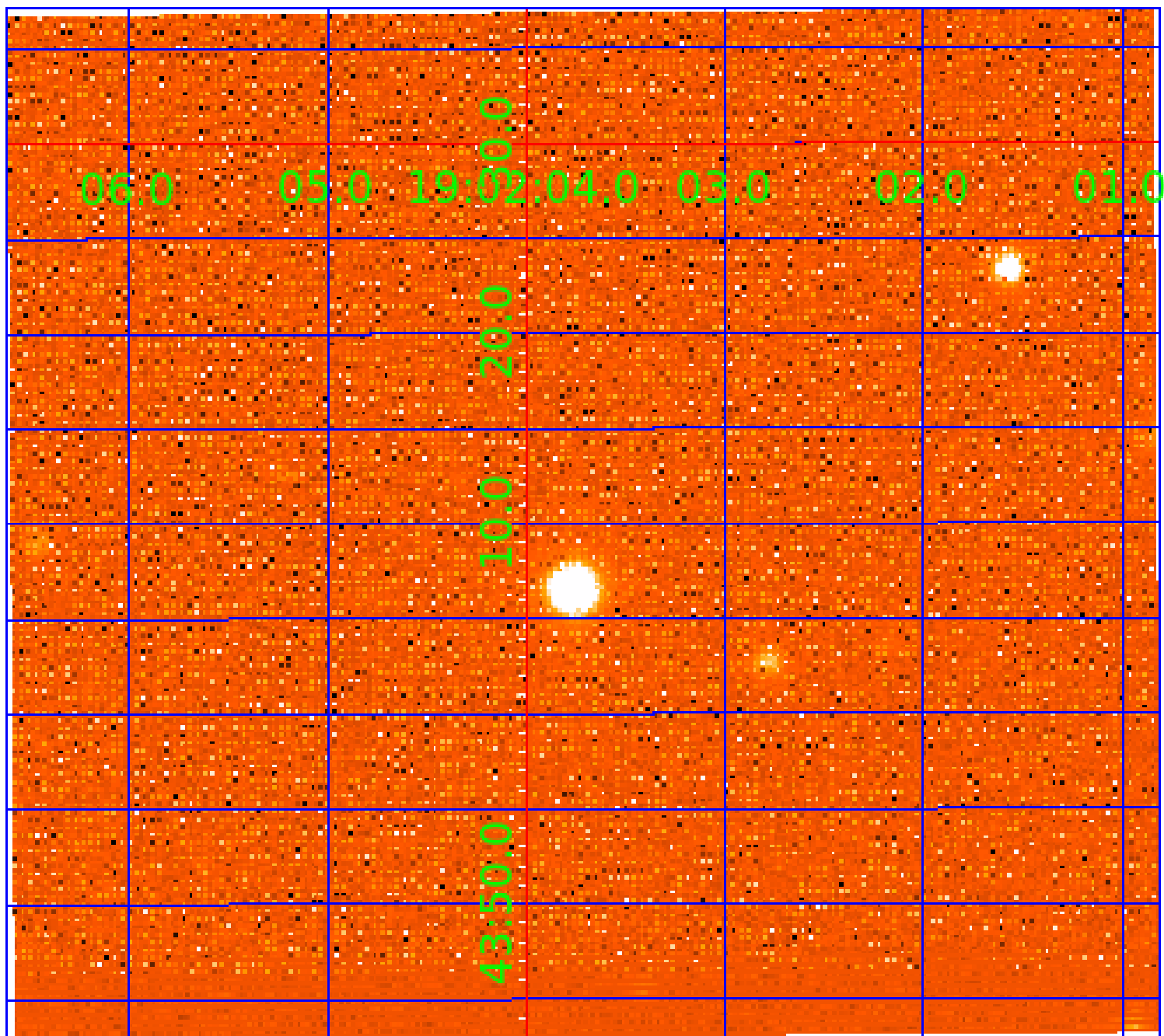


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009268481

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})
009268481-01	OBS	No	1.741012	133.196957	105.6	2.724	10.0	7.1	0.16	3209	0.16	11.43
009268481-02	OBS	No	3.482122	132.495076	152.5	2.878	8.3	7.8	0.16	3209	0.22	4.53
009268481-03	OBS	No	1.741205	131.897707	176.9	6.011	9.0	13.6	0.16	3209	0.46	11.42
009268481-04	OBS	No	140.804551	271.923607	1074.2	7.500	8.7	-1.0	0.16	3209	0.52	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009268481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
009268481-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

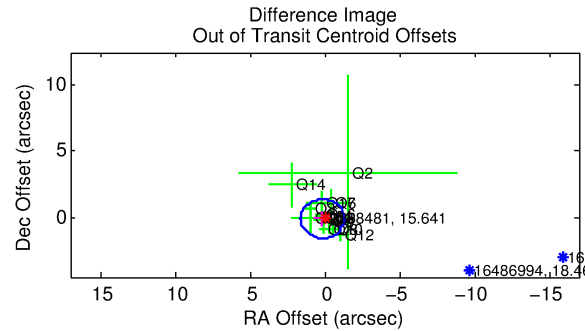
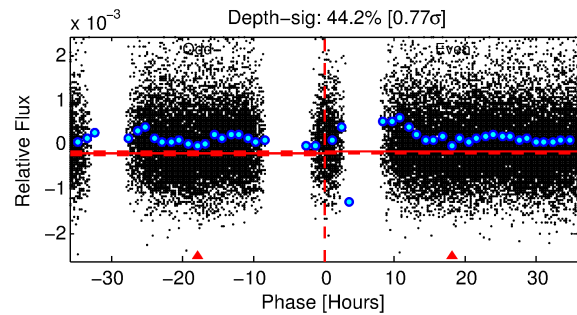
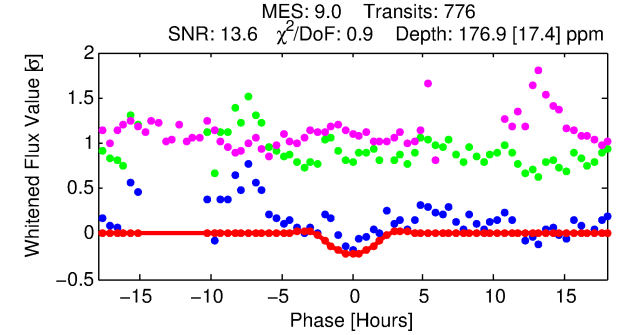
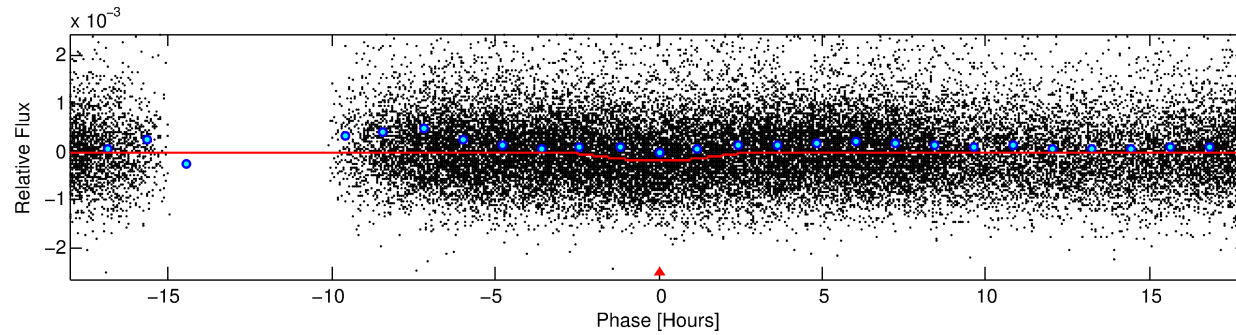
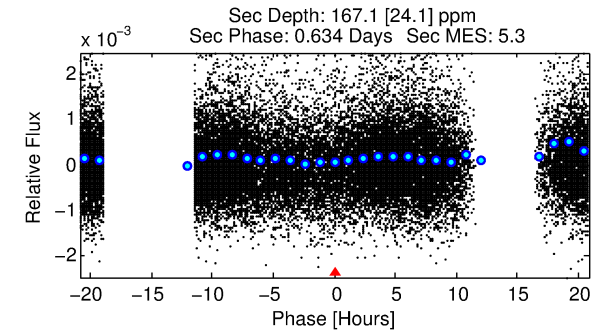
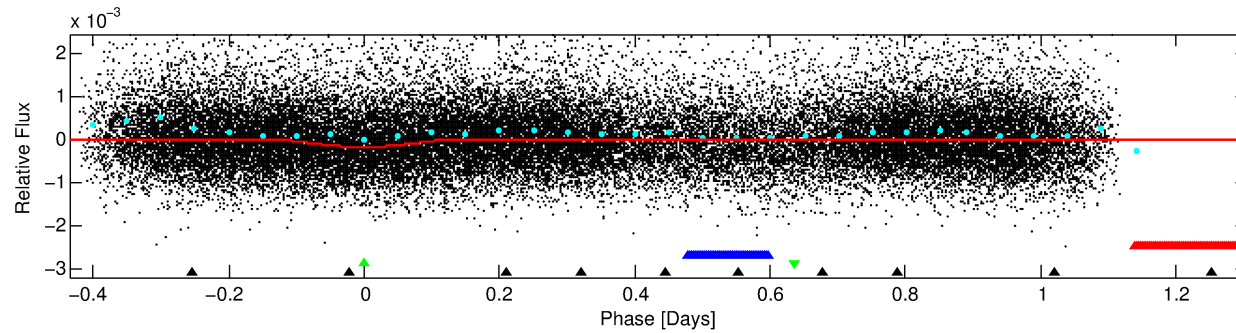
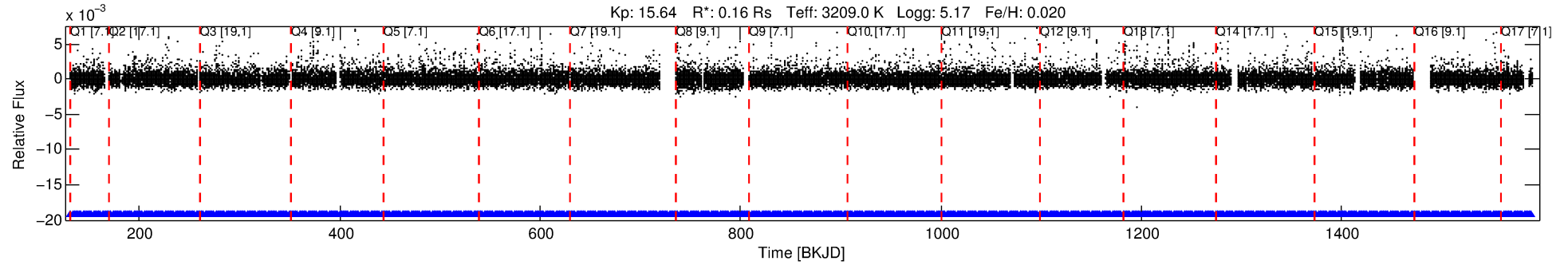
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009268481-03

No Significant Match Found

DV One-Page Summary

KIC: 9268481 Candidate: 3 of 4 Period: 1.741 d



DV Fit Results:

Period = 1.74121 [0.00002] d
Epoch = 131.8977 [0.0074] BKJD
Rp/R* = 0.0260 [0.0600]
a/R* = 1.13 [0.07]
b = 1.00 [0.08]
Seff = 11.42 [2.52]
Teq = 469 [26] K
Rp = 0.46 [1.06] Re
a = 0.0147 [0.0027] AU
Ag = 94.83 [437.74] [0.21σ]
Teffp = 2262 [2607] K [0.69σ]

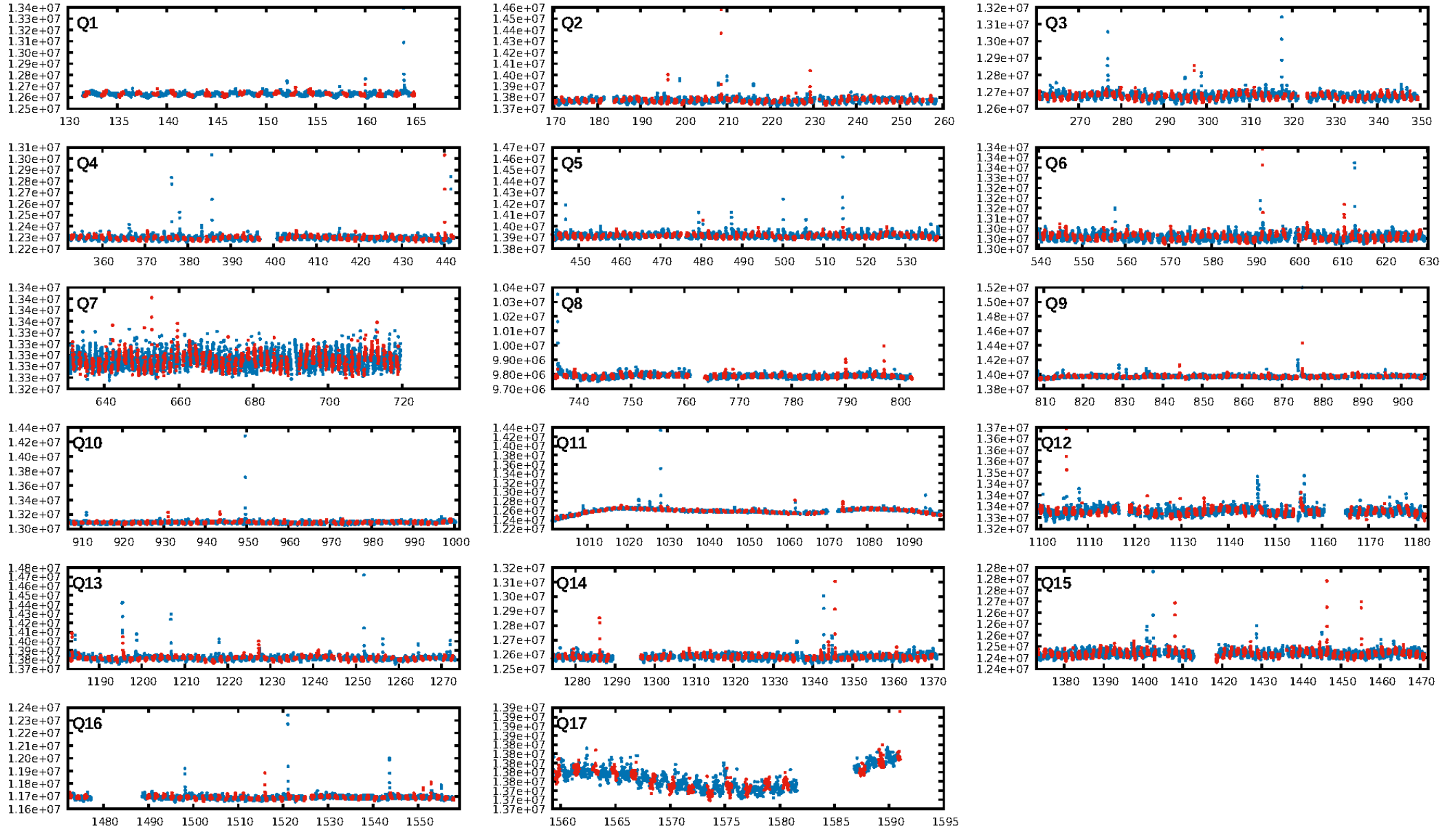
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 100.0% [6.27σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [740/740]
GhostDiagnostic-chr: 1.375
Centroid-sig: 0.0%
Centroid-so: 1.765 arcsec [2.96σ]
OotOffset-rm: 0.189 arcsec [0.39σ]
KicOffset-rm: 0.811 arcsec [1.66σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 0.29 [5/17]

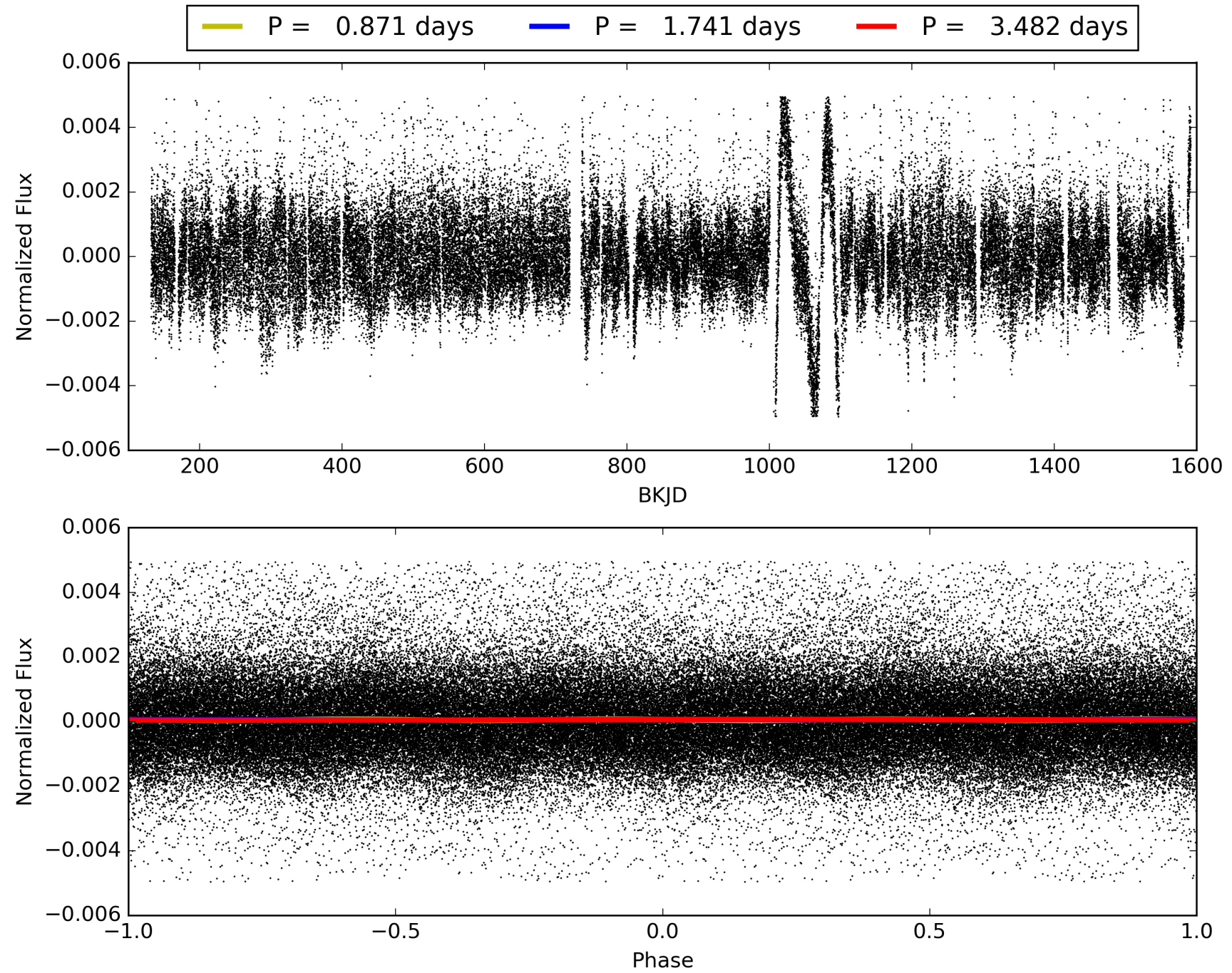
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:23:38 Z

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

TCE 009268481-03, PDC Light Curves

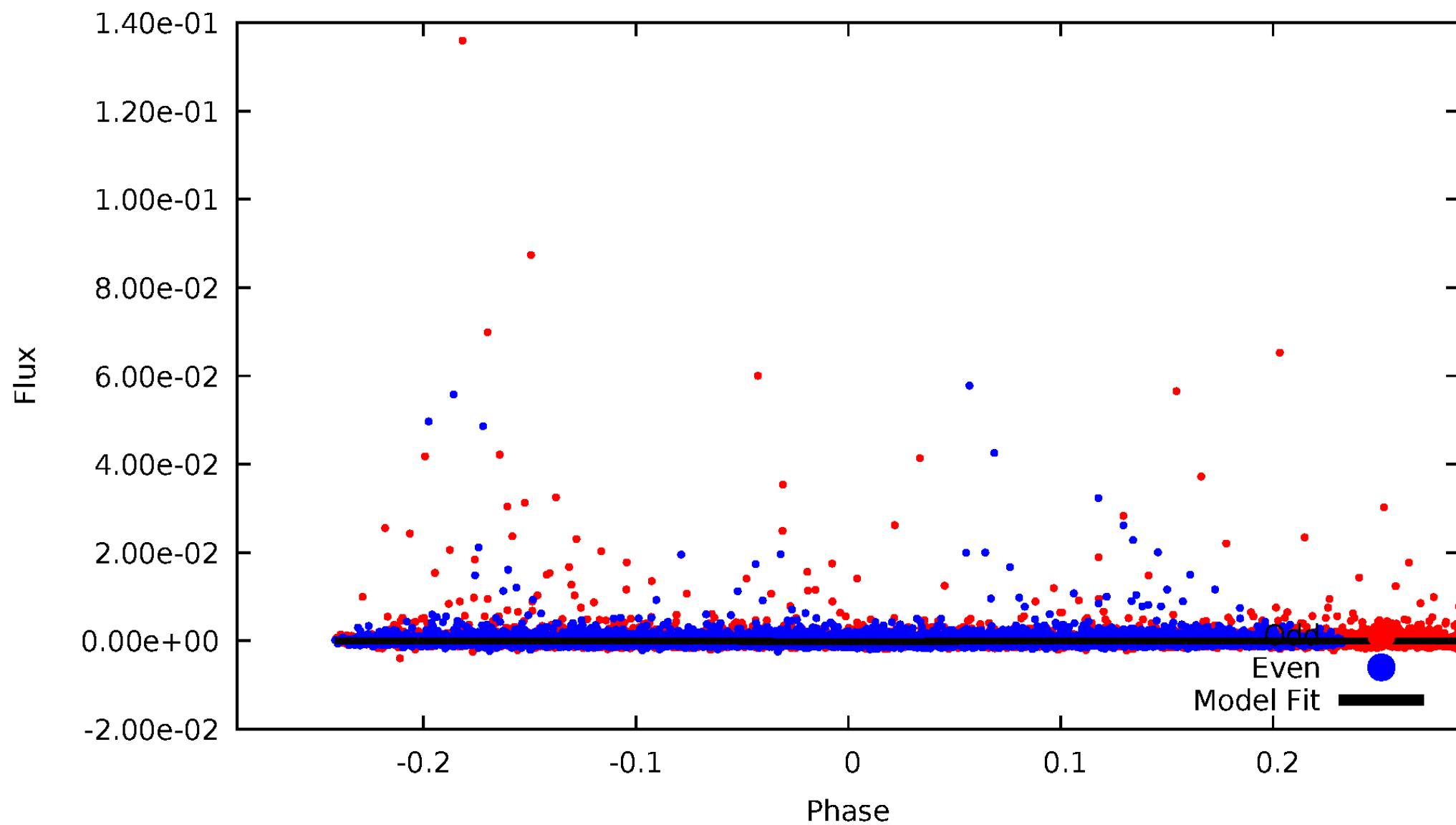


TCE 009268481-03



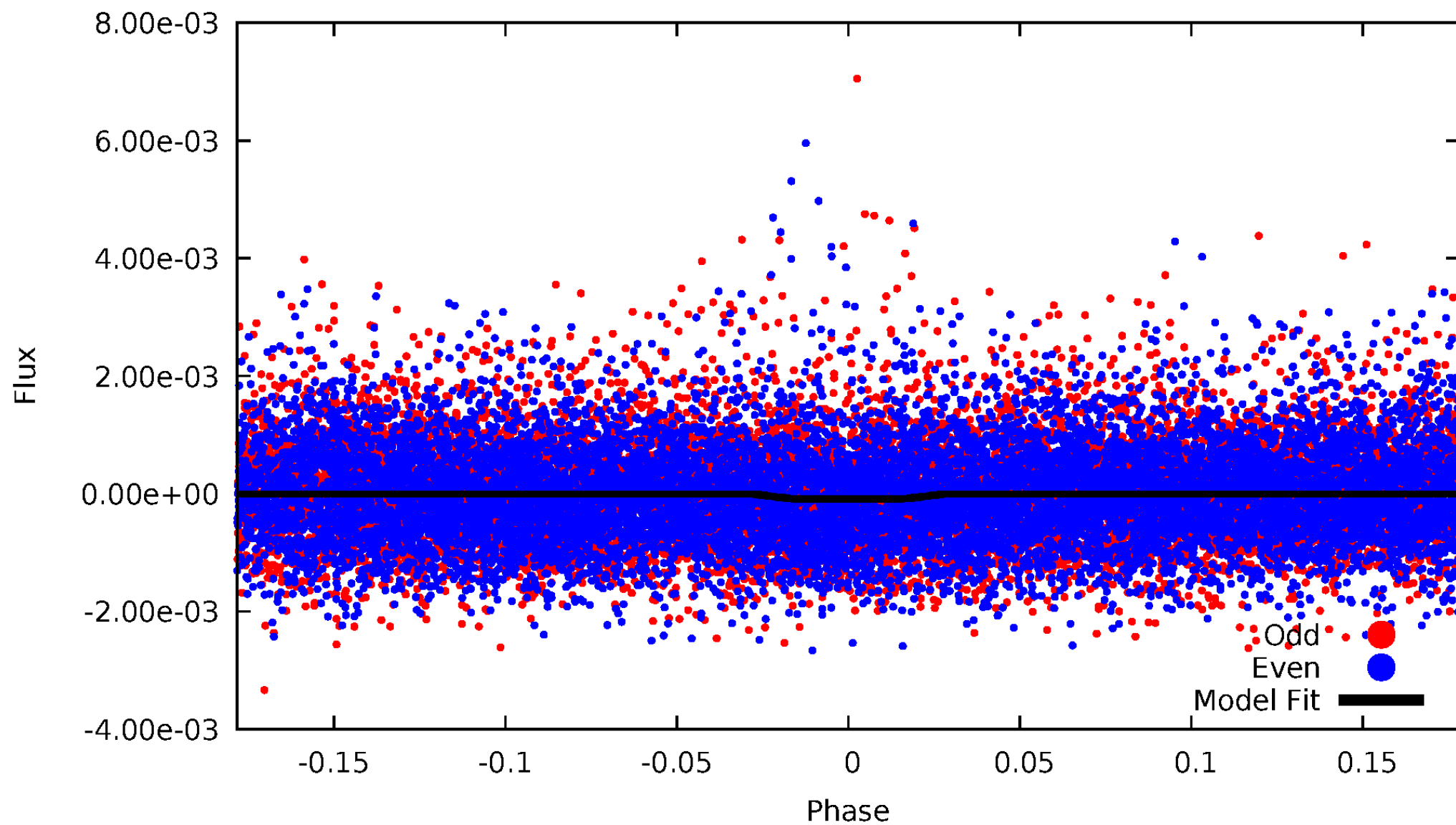
DV Odd/Even

TCE 009268481-03



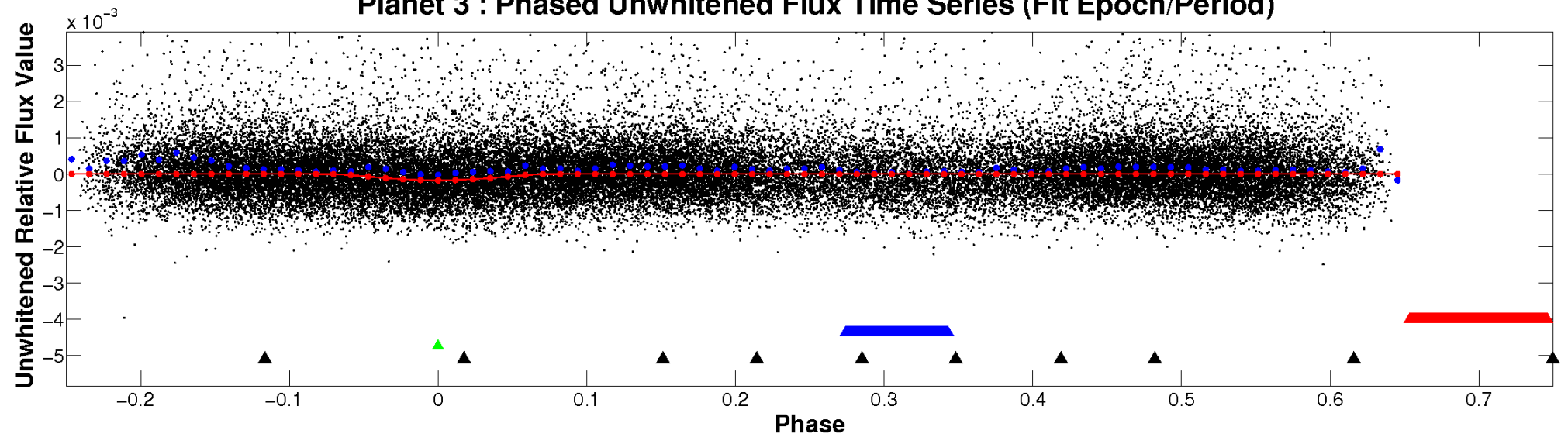
ALT Odd/Even

TCE 009268481-03

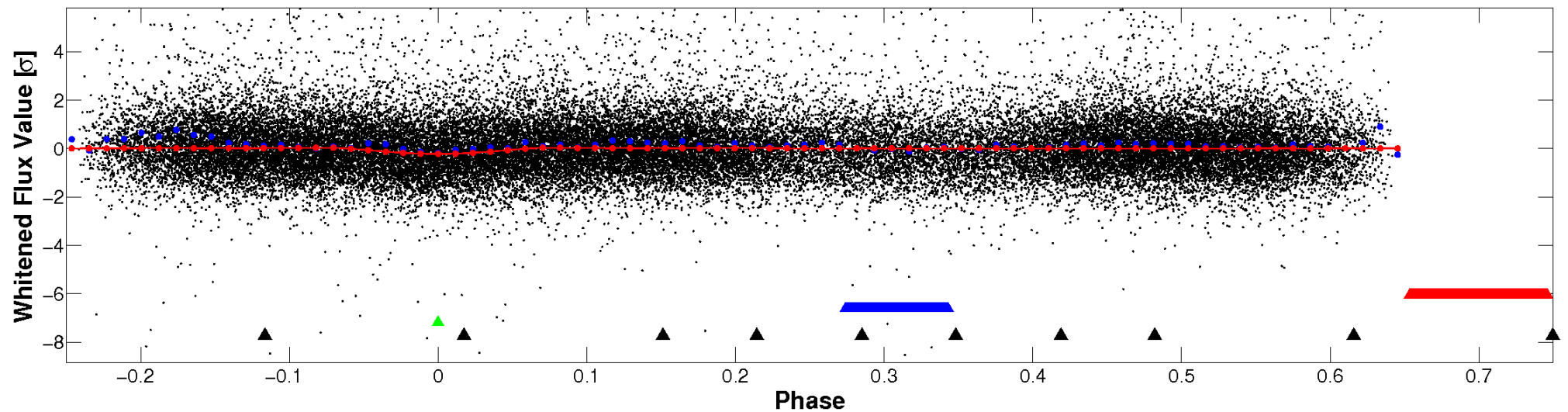


Non-Whitened Vs. Whitened Light Curve

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

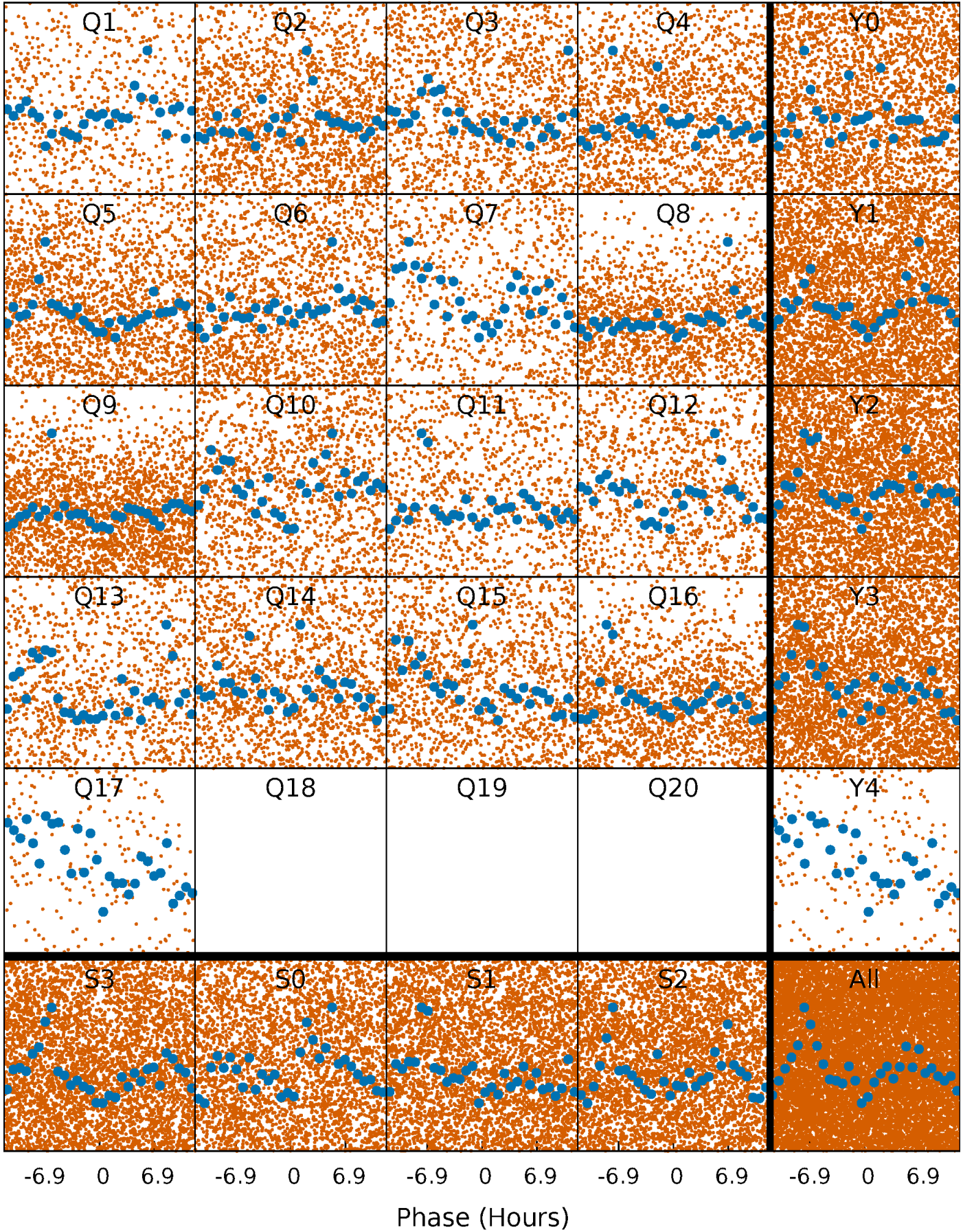


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



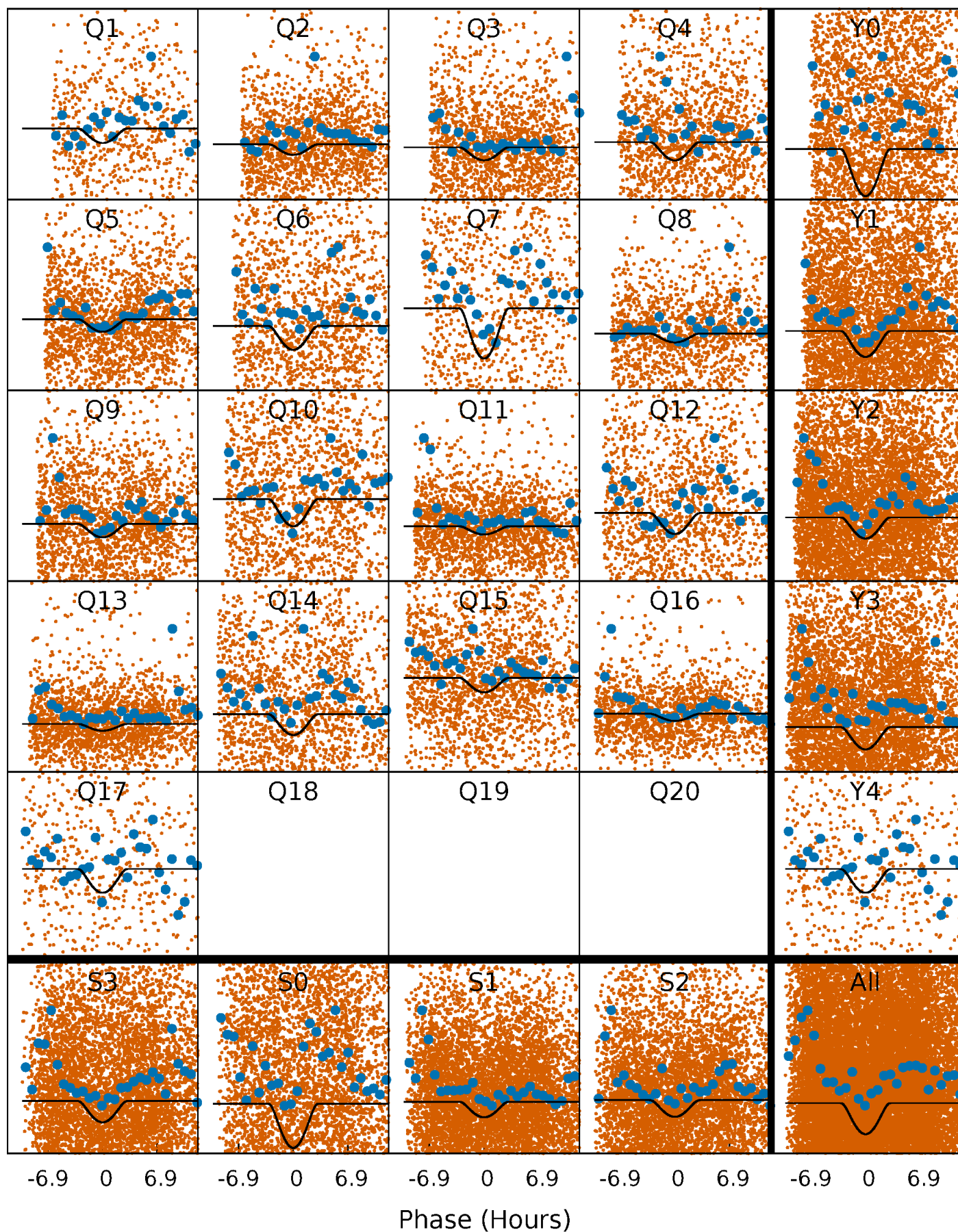
PDC Quarter-Phased Transit Curves

TCE 009268481-03 P= 1.741205 Days $T_0=131.897707$ (BKJD)



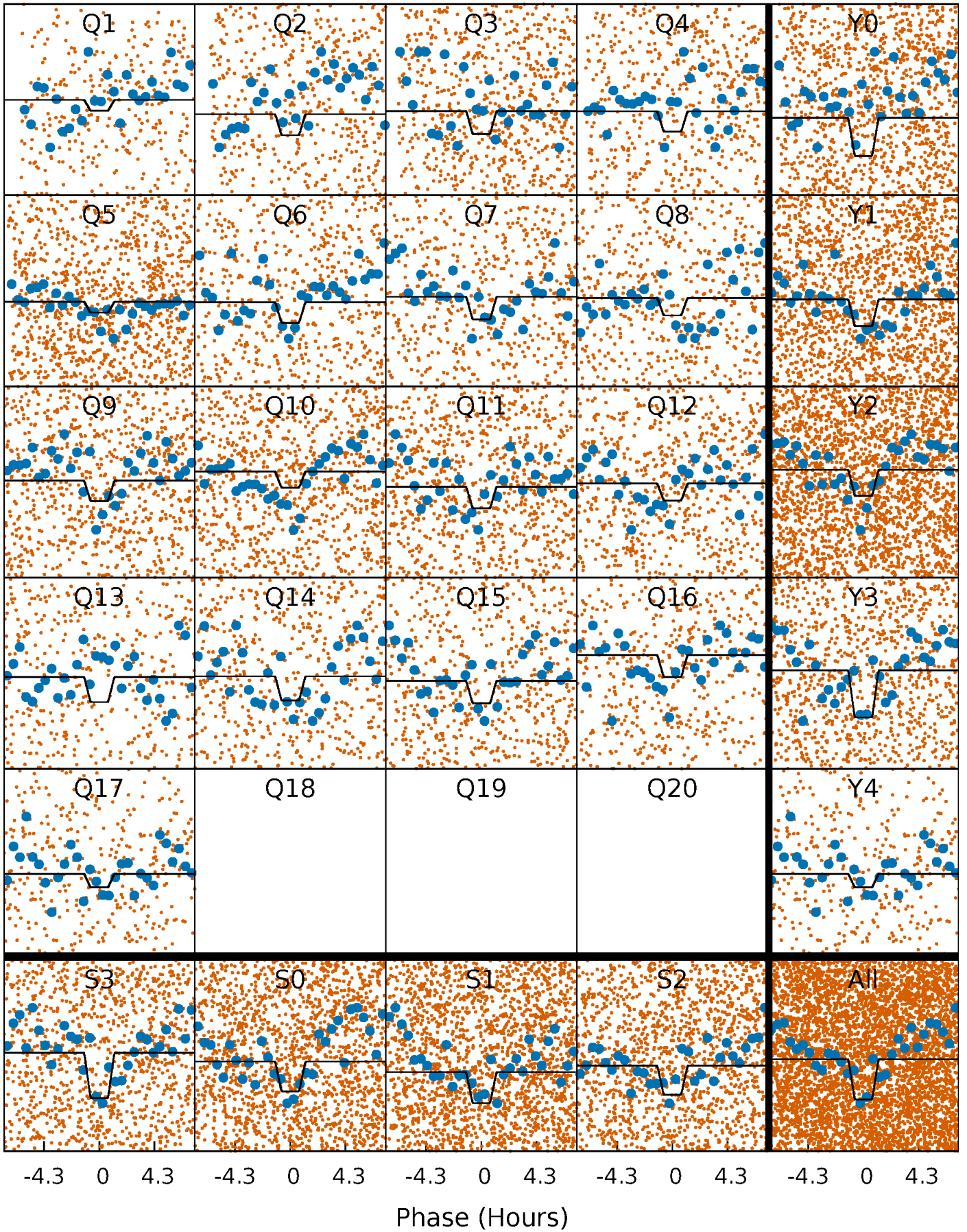
DV Quarter-Phased Transit Curves

TCE 009268481-03 P= 1.741205 Days $T_0=131.897707$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

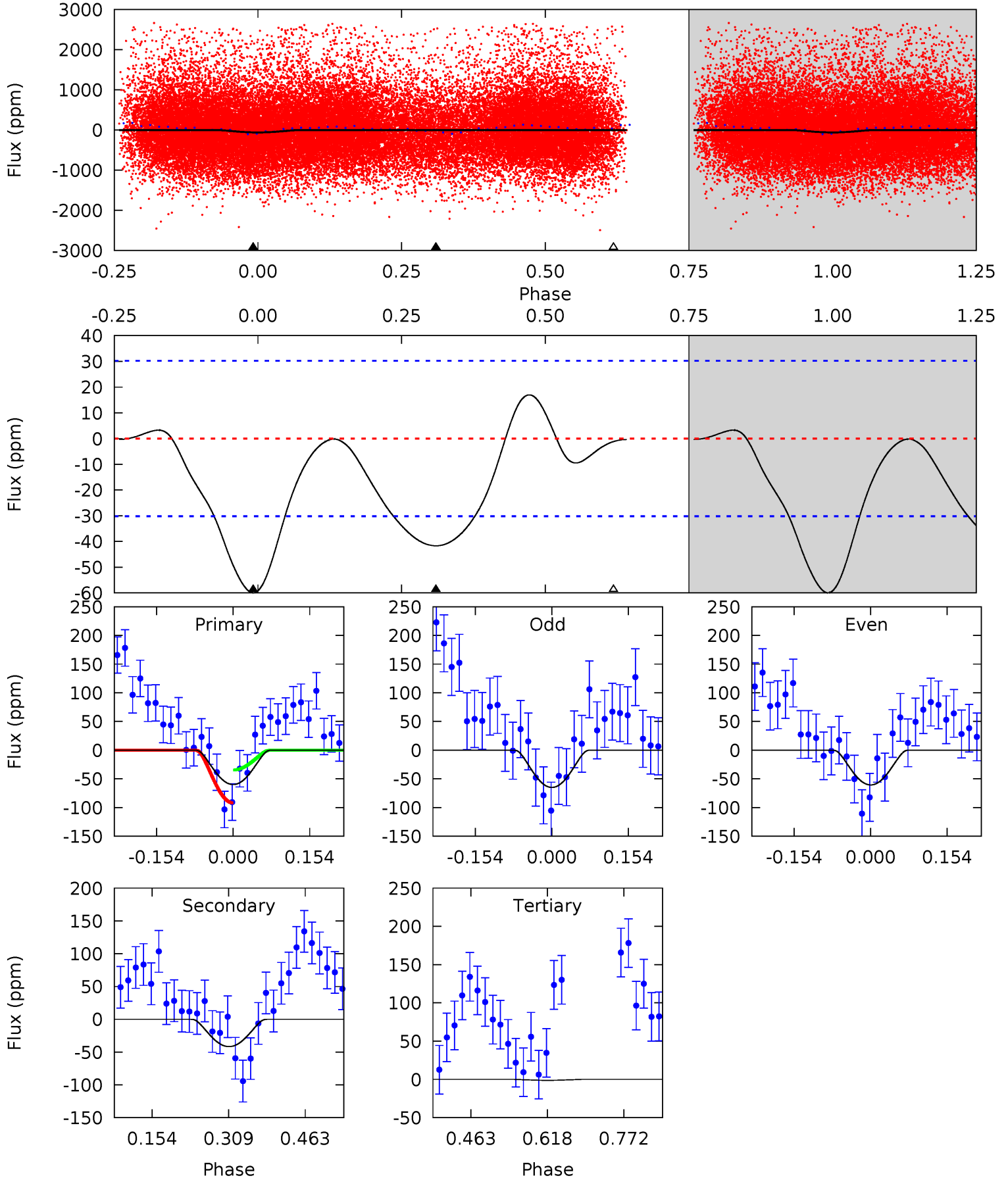
TCE 009268481-03 P= 1.741200 Days $T_0=131.888116$ (BKJD)



DV Model-Shift Uniqueness Test

009268481-03, P = 1.741205 Days, E = 130.156502 Days

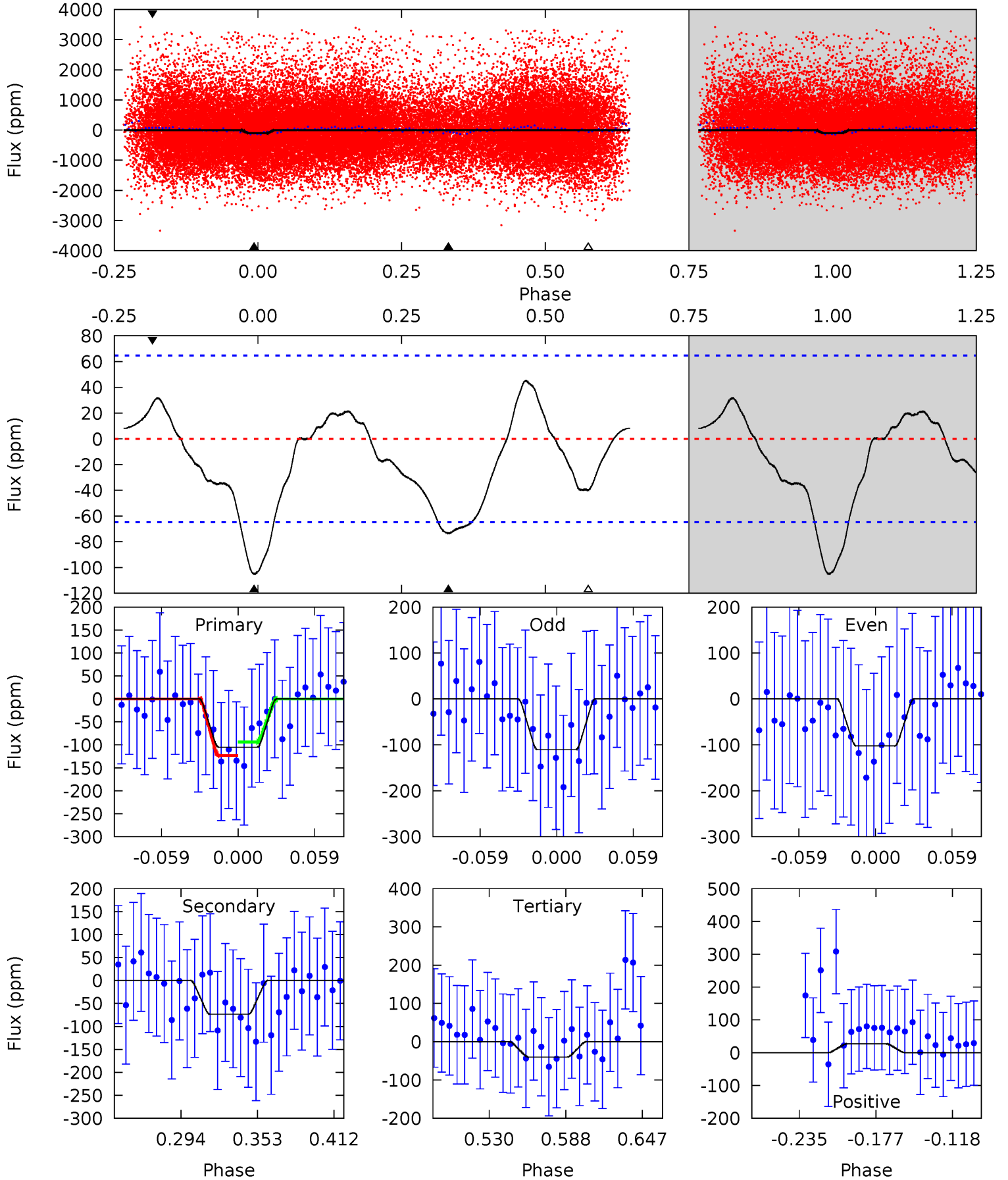
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.88	6.17	0.18	0	4.47	1.42	1.24	8.71	8.88	6.00	6.17	0.33	-1.67	0.22	4.26



Alt Model-Shift Uniqueness Test

009268481-03, P = 1.741200 Days, E = 130.146916 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	5.30	2.89	1.96	4.67	1.89	1.64	4.70	5.63	2.41	3.34	0.29	0.45	0.30	1.06



Stellar Parameters For KIC 009268481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3209^{+35}_{-19}	$5.168^{+0.056}_{-0.084}$	$0.020^{+0.100}_{-0.100}$	$0.161^{+0.042}_{-0.018}$	$0.140^{+0.042}_{-0.015}$	$46.800^{+14.330}_{-15.450}$
	+1%/-1%	+1%/-2%	+500%/-500%	+26%/-11%	+30%/-11%	+31%/-33%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009268481-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 7	$0.98^{+0.85}_{-0.66}$	660^{+25}_{-19}	1914^{+519}_{-240}	$5.176^{+41.187}_{-3.737}$
Alt.	-73 ± 14	$0.76^{+0.85}_{-0.52}$	658^{+24}_{-17}	2147^{+648}_{-327}	15^{+133}_{-12}

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

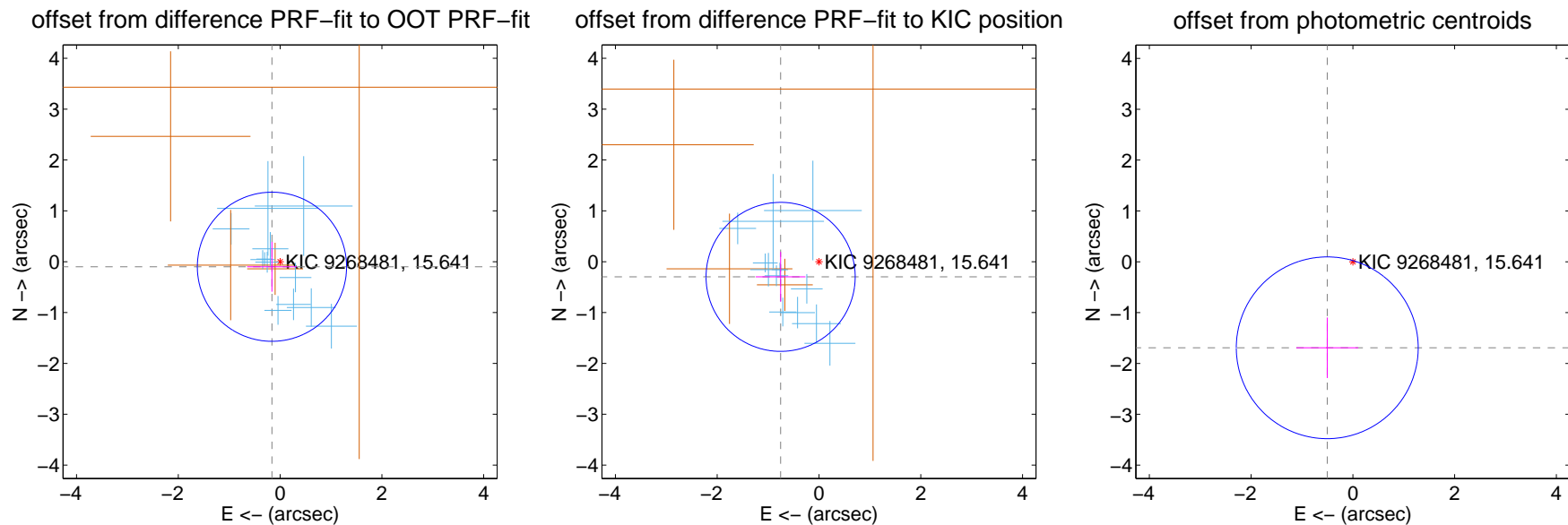
DV Centroid Data

Supplemental centroid analysis for 009268481-03. Kepler magnitude: 15.64. Transit SNR 13.62

There are 12 quarters with good PRF difference image offsets

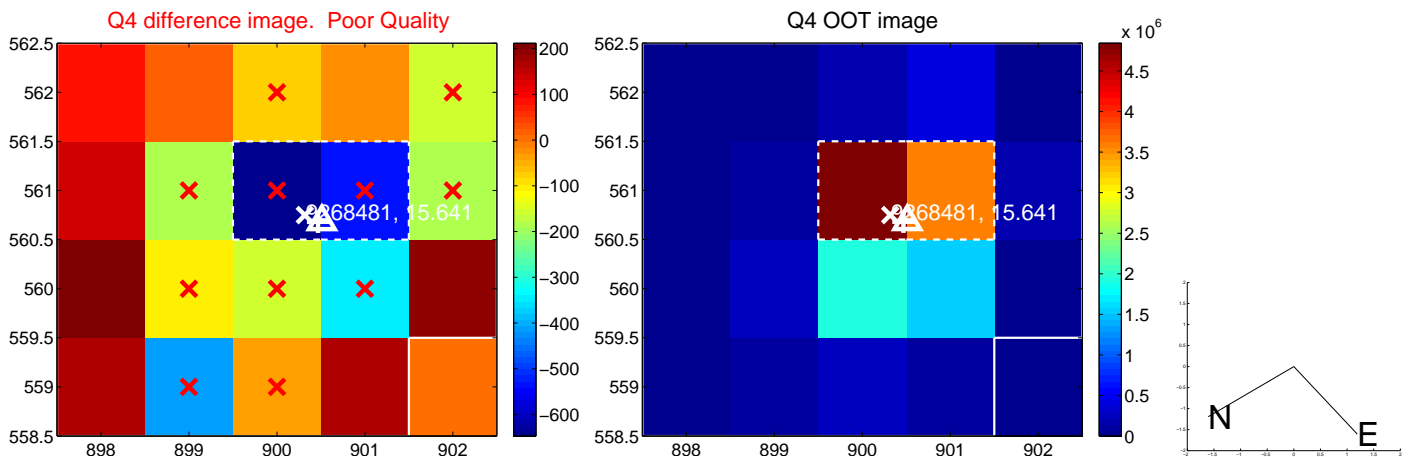
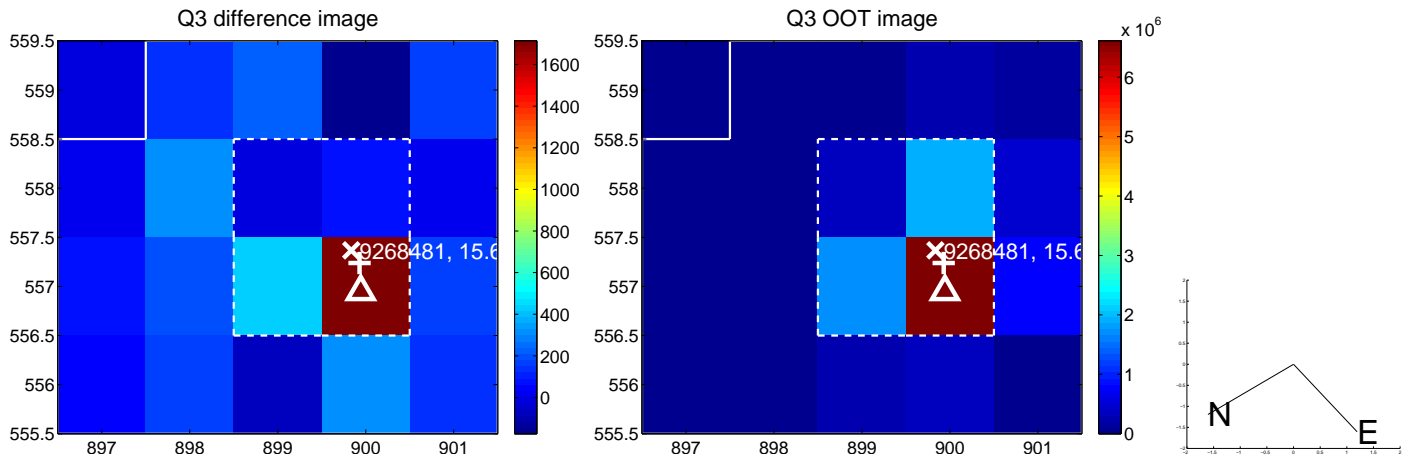
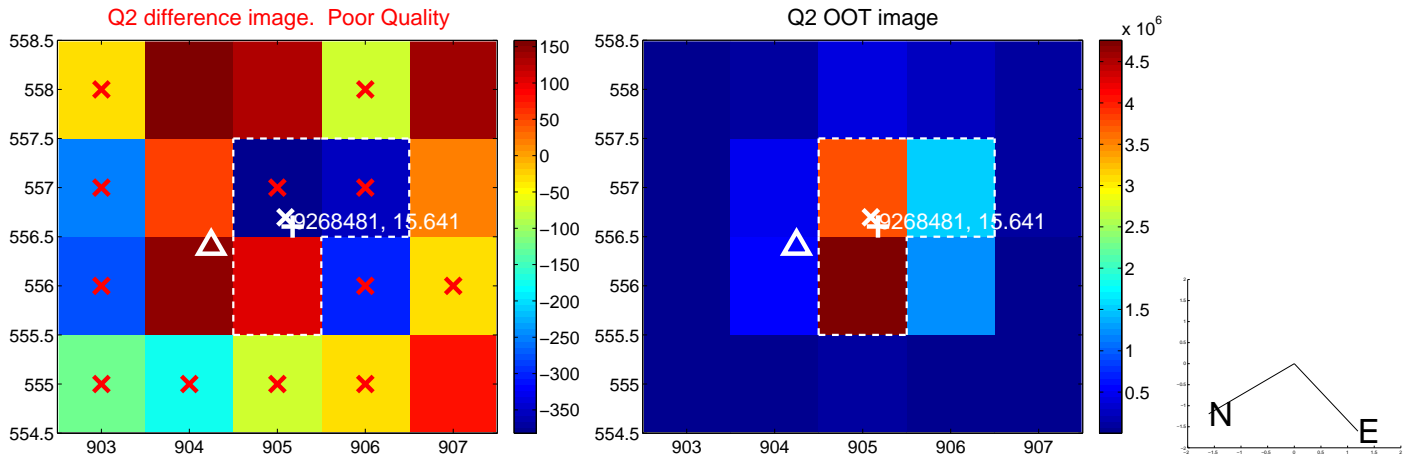
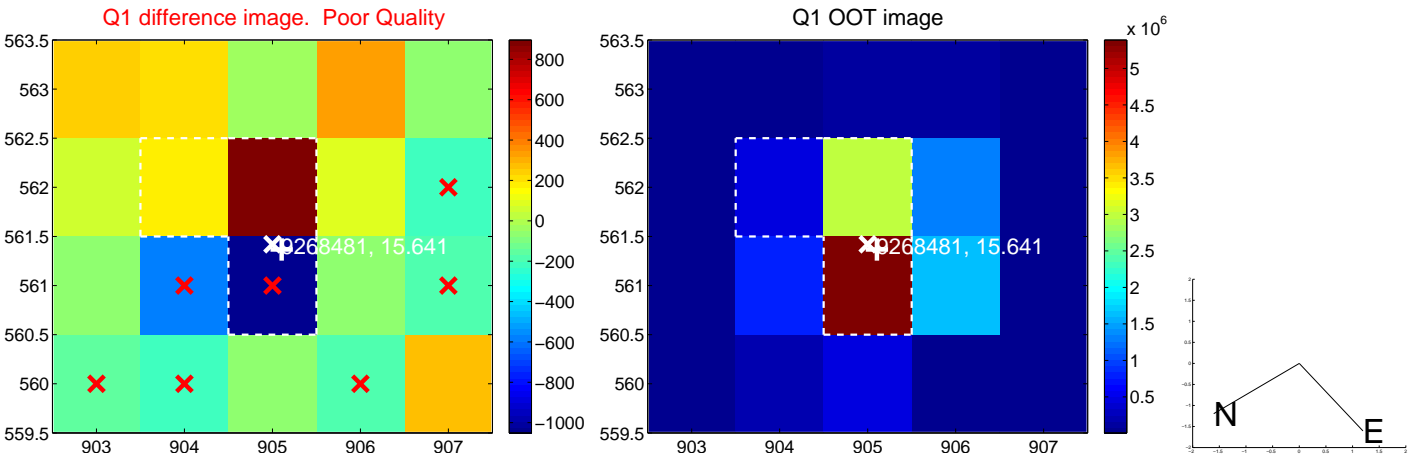
The direct PRF centroid is offset from the target star catalog position by about 0.71 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.189 ± 0.489	0.39	0.160 ± 0.488	-0.099 ± 0.490
PRF-fit source offset from KIC position	0.811 ± 0.488	1.66	0.754 ± 0.488	-0.298 ± 0.490
photometric centroid source offset	1.77 ± 0.60	2.96	0.50 ± 0.61	-1.69 ± 0.59

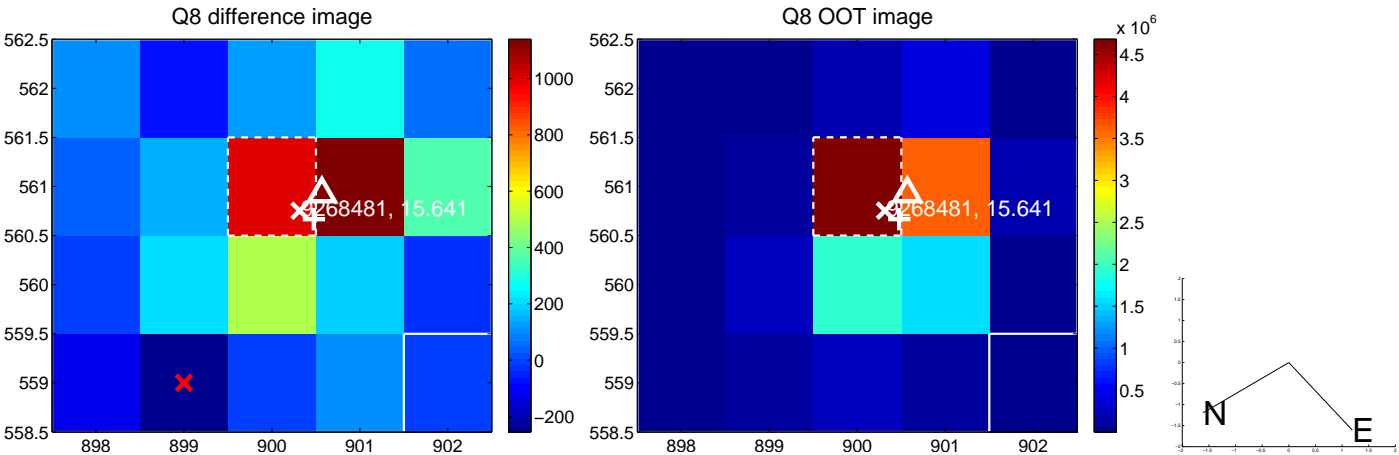
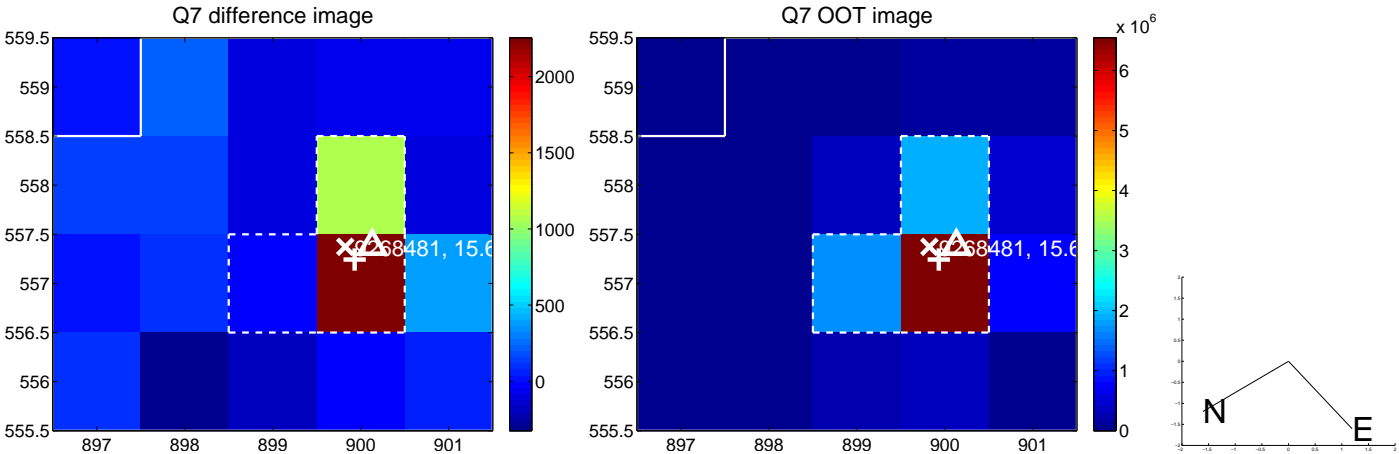
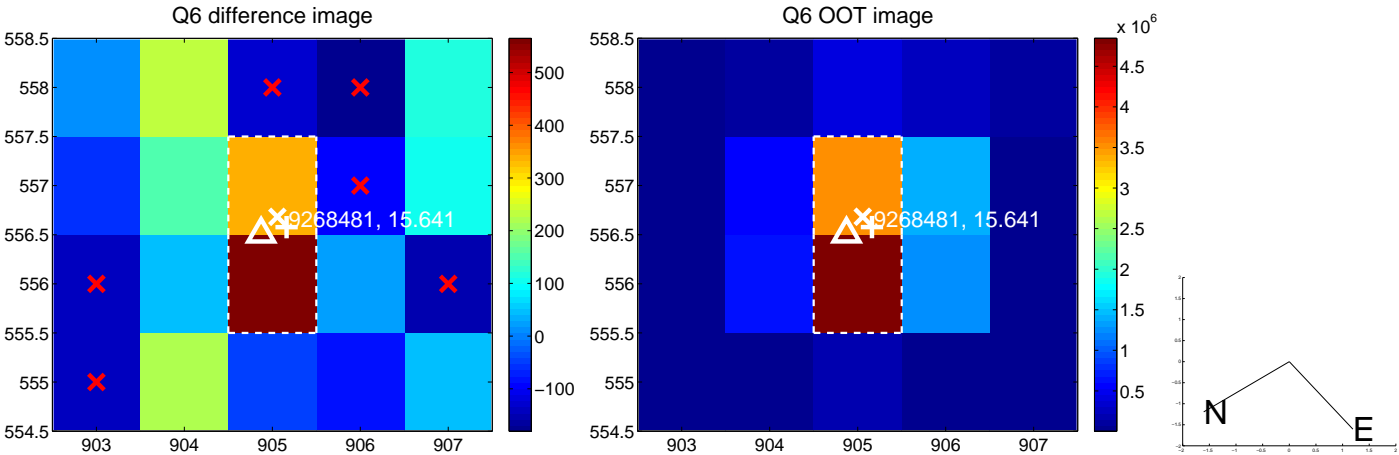
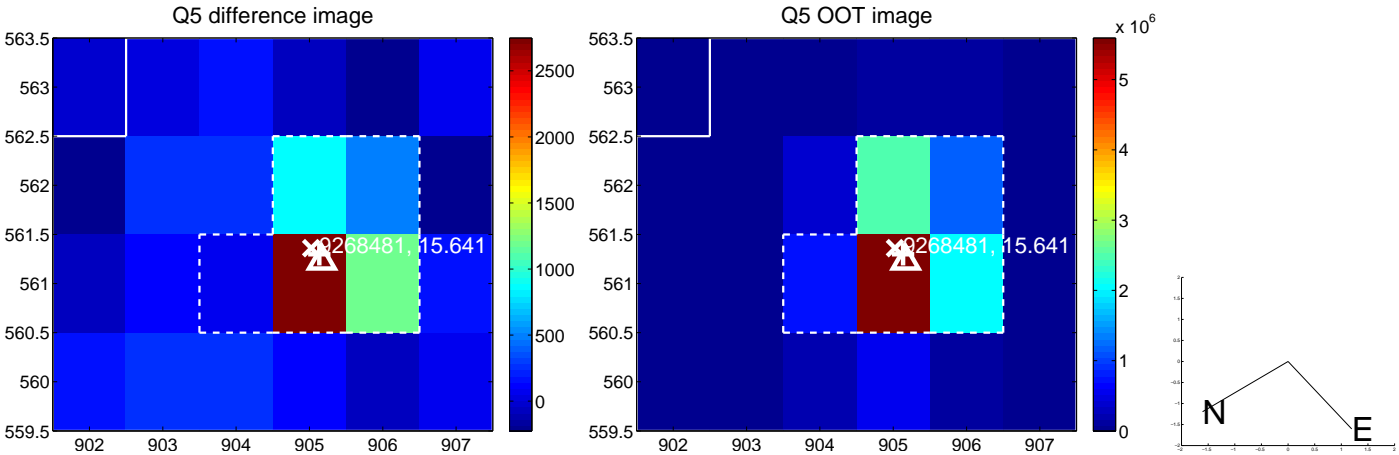


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

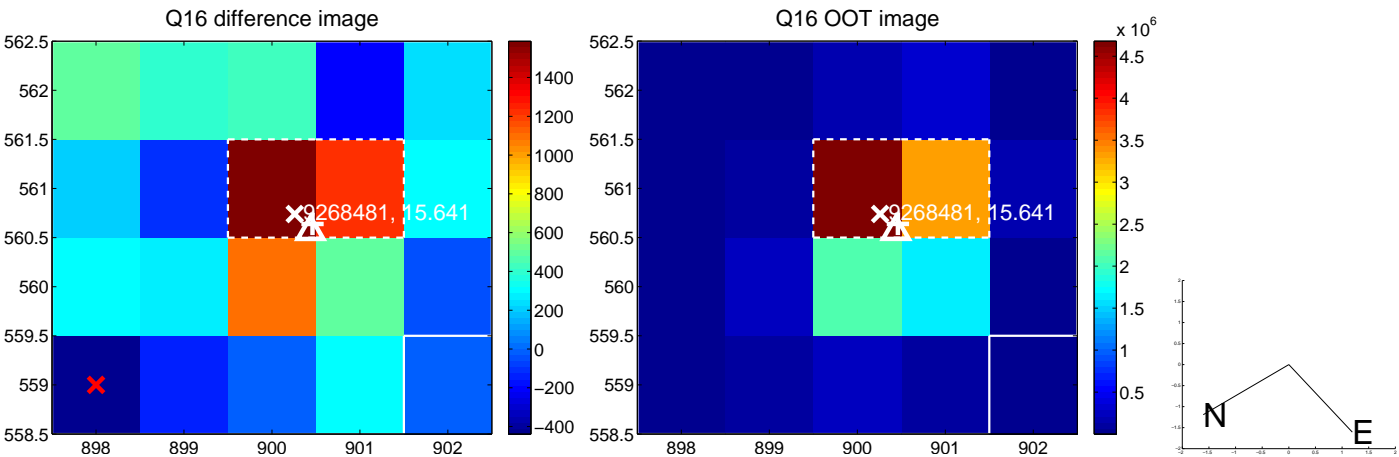
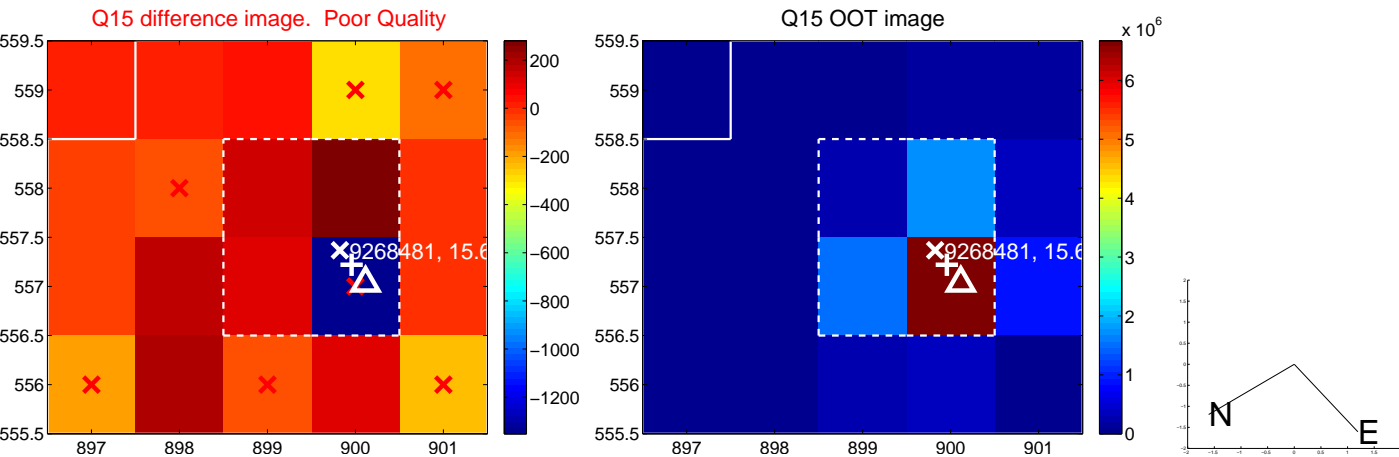
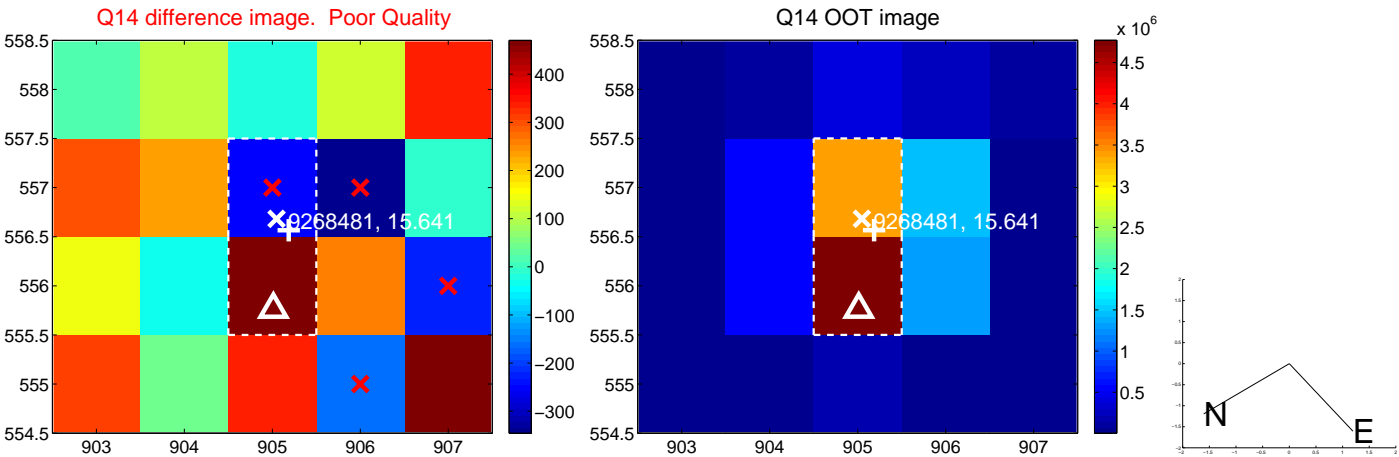
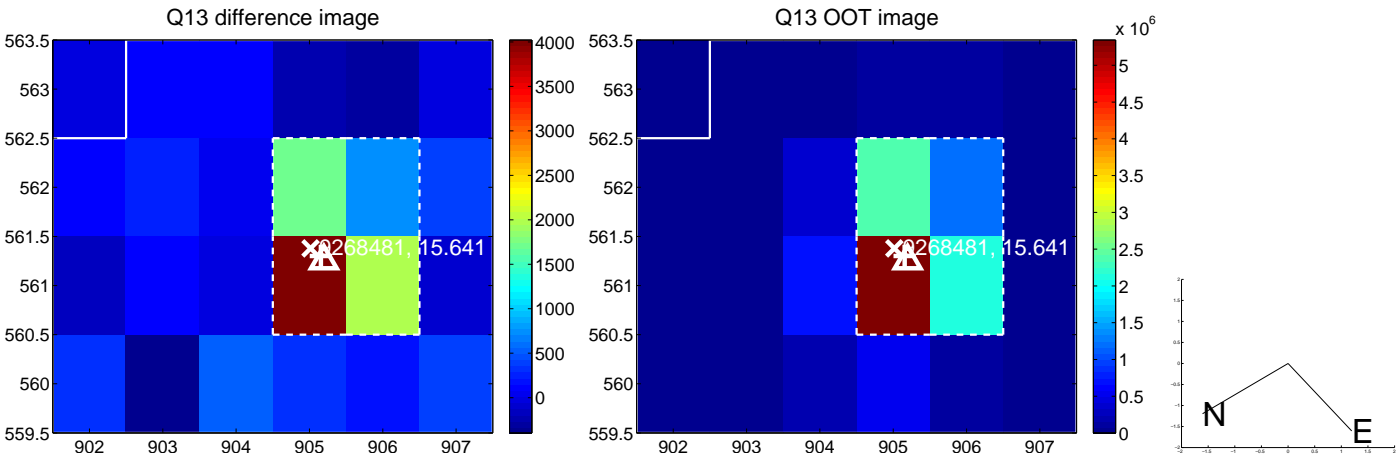
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



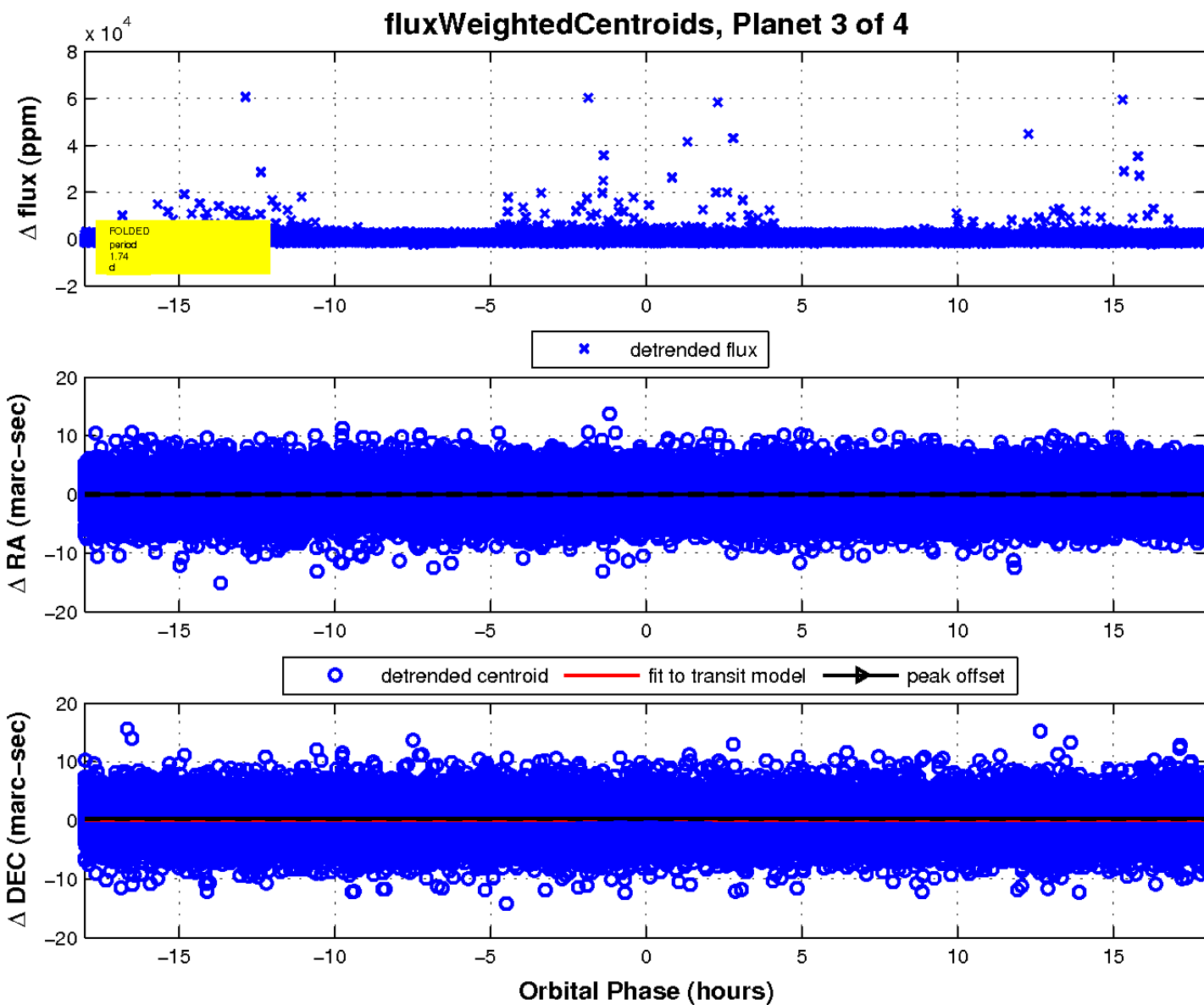
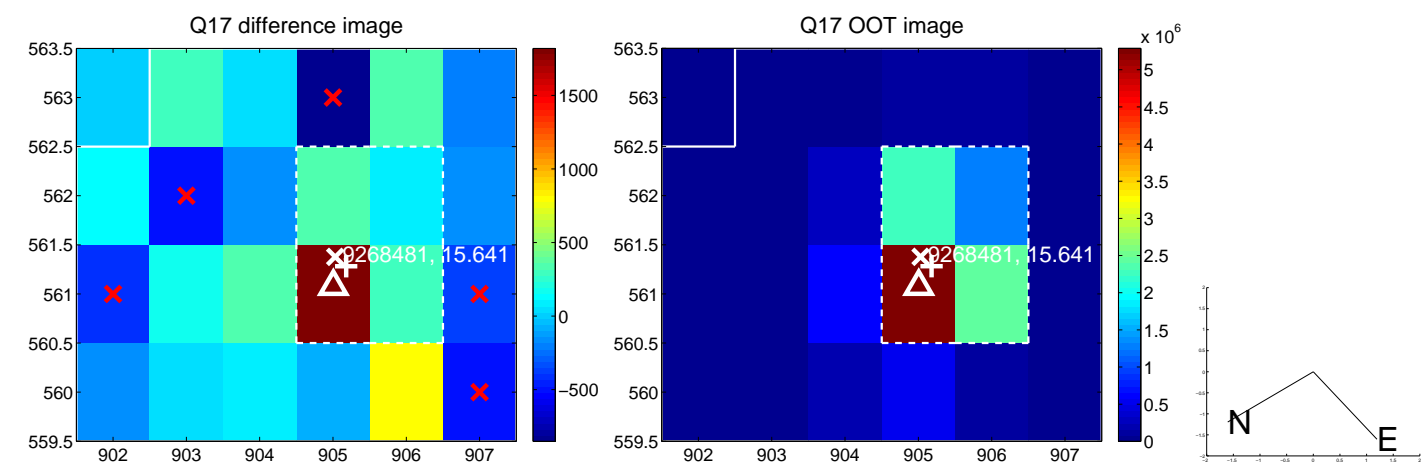
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

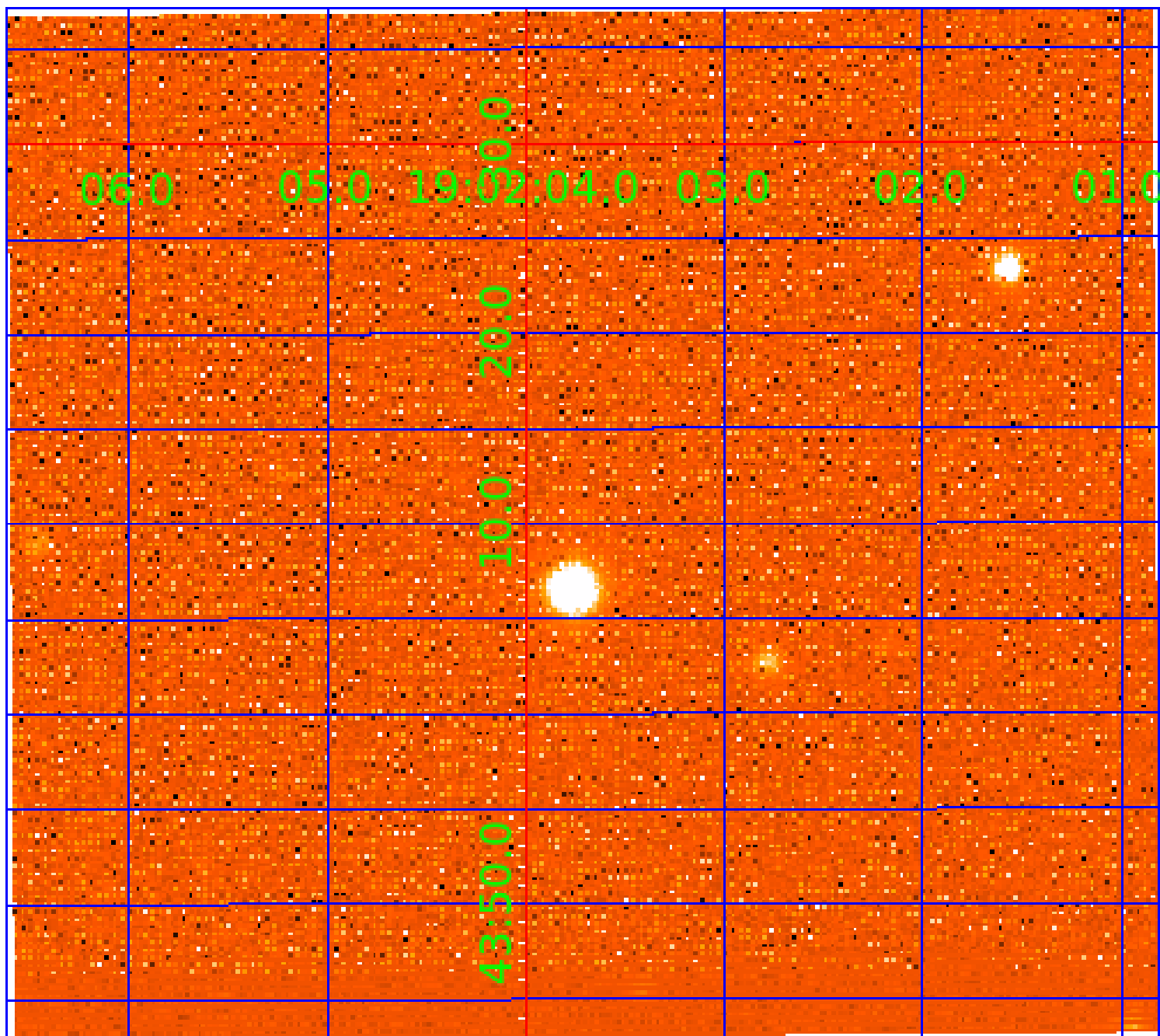


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009268481

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})
009268481-01	OBS	No	1.741012	133.196957	105.6	2.724	10.0	7.1	0.16	3209	0.16	11.43
009268481-02	OBS	No	3.482122	132.495076	152.5	2.878	8.3	7.8	0.16	3209	0.22	4.53
009268481-03	OBS	No	1.741205	131.897707	176.9	6.011	9.0	13.6	0.16	3209	0.46	11.42
009268481-04	OBS	No	140.804551	271.923607	1074.2	7.500	8.7	-1.0	0.16	3209	0.52	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009268481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
009268481-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_KIC_POS
009268481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

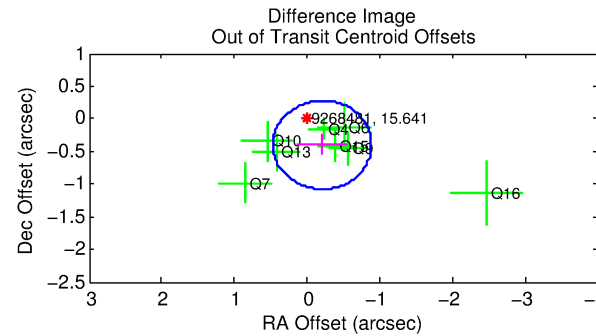
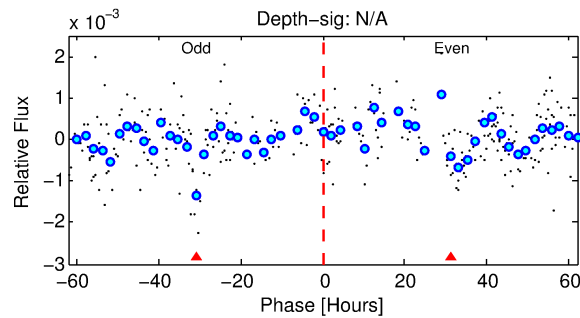
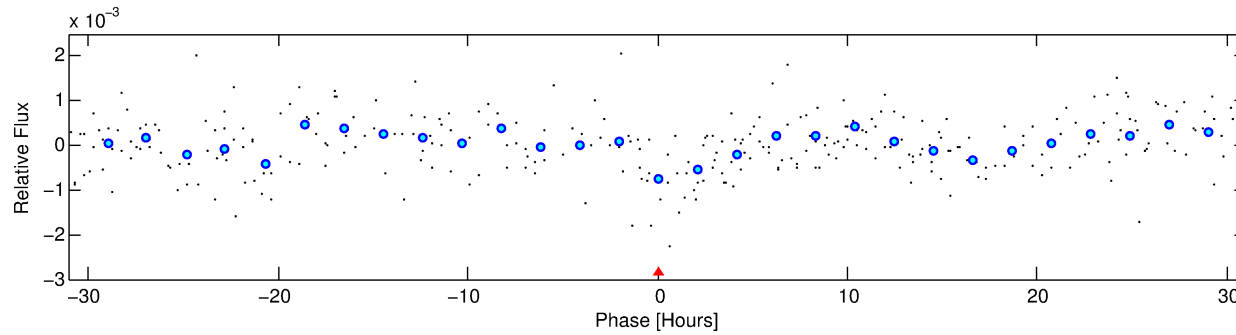
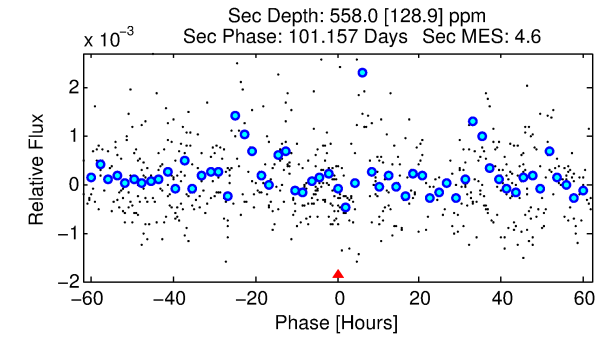
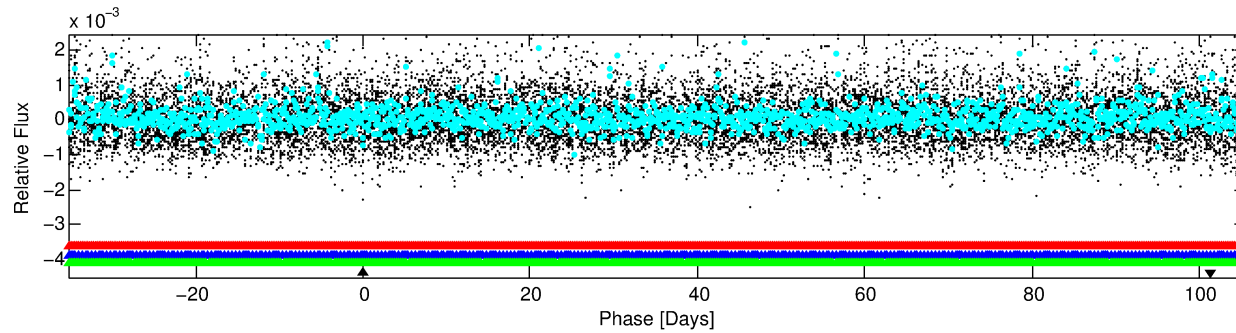
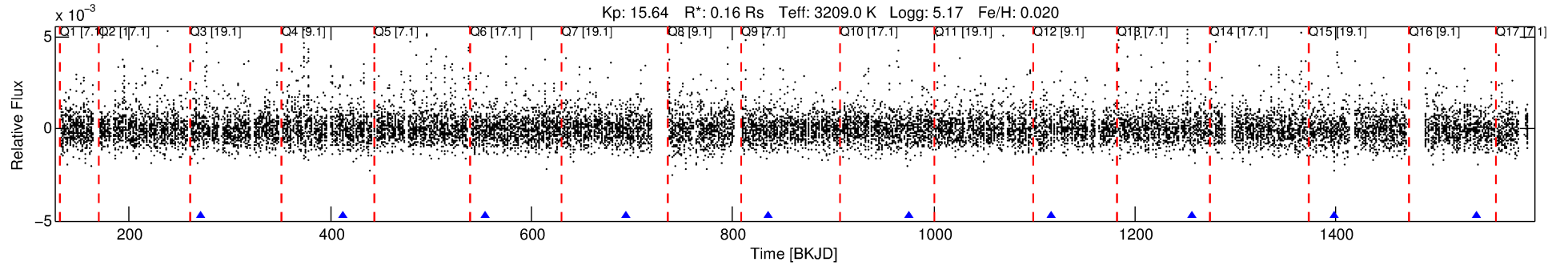
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009268481-04

No Significant Match Found

DV One-Page Summary

KIC: 9268481 Candidate: 4 of 4 Period: 140.805 d



TPS TCE Results:

Period = 140.80455 d
Epoch = 271.9236 BKJD

DV fit results are unavailable

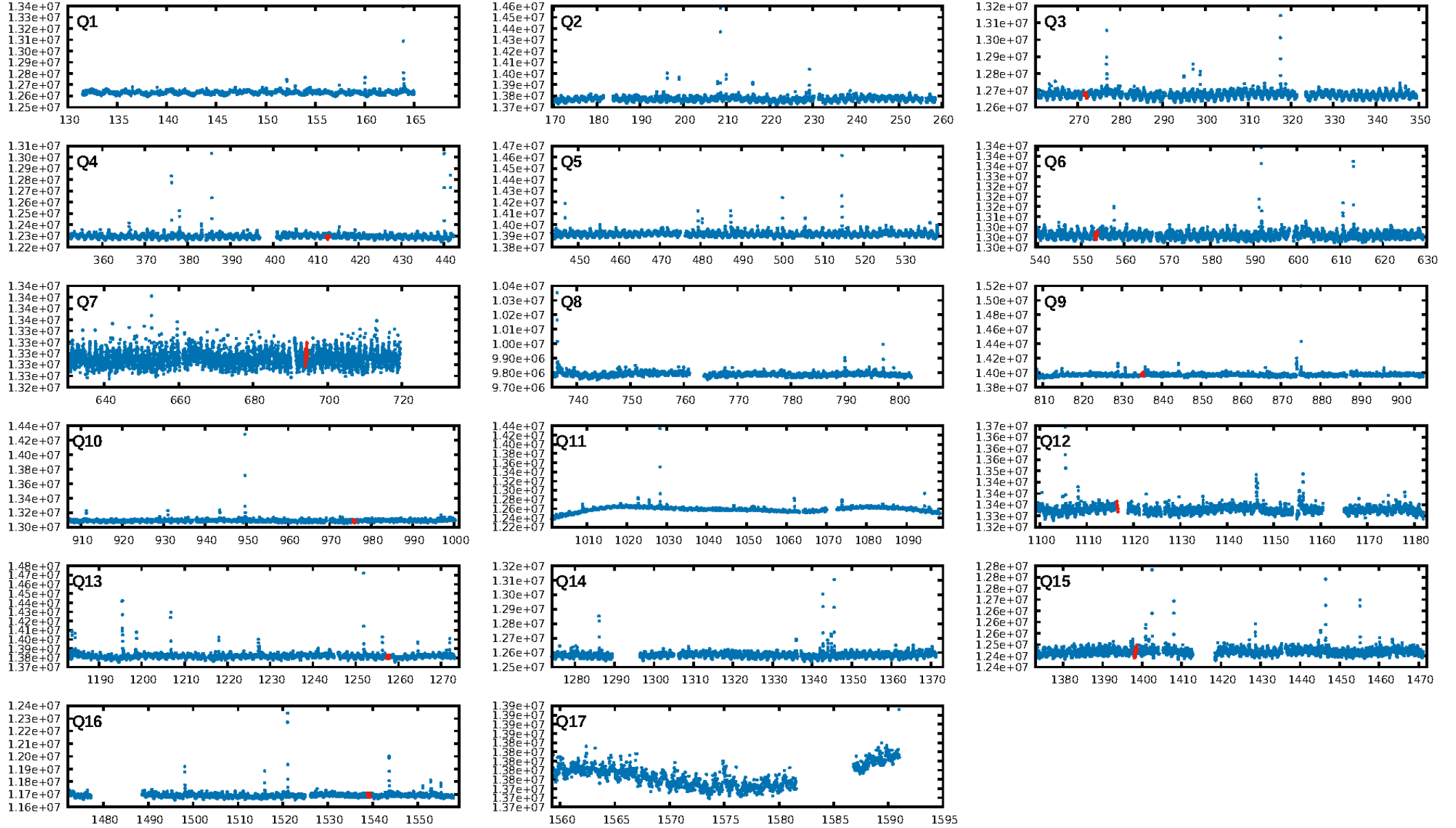
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [410.27 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -6.393
Centroid-sig: 76.6%
Centroid-so: 0.605 arcsec [1.11 σ]
OotOffset-rm: 0.450 arcsec [1.99 σ]
KicOffset-rm: 0.726 arcsec [3.86 σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 0.00 [0/8]

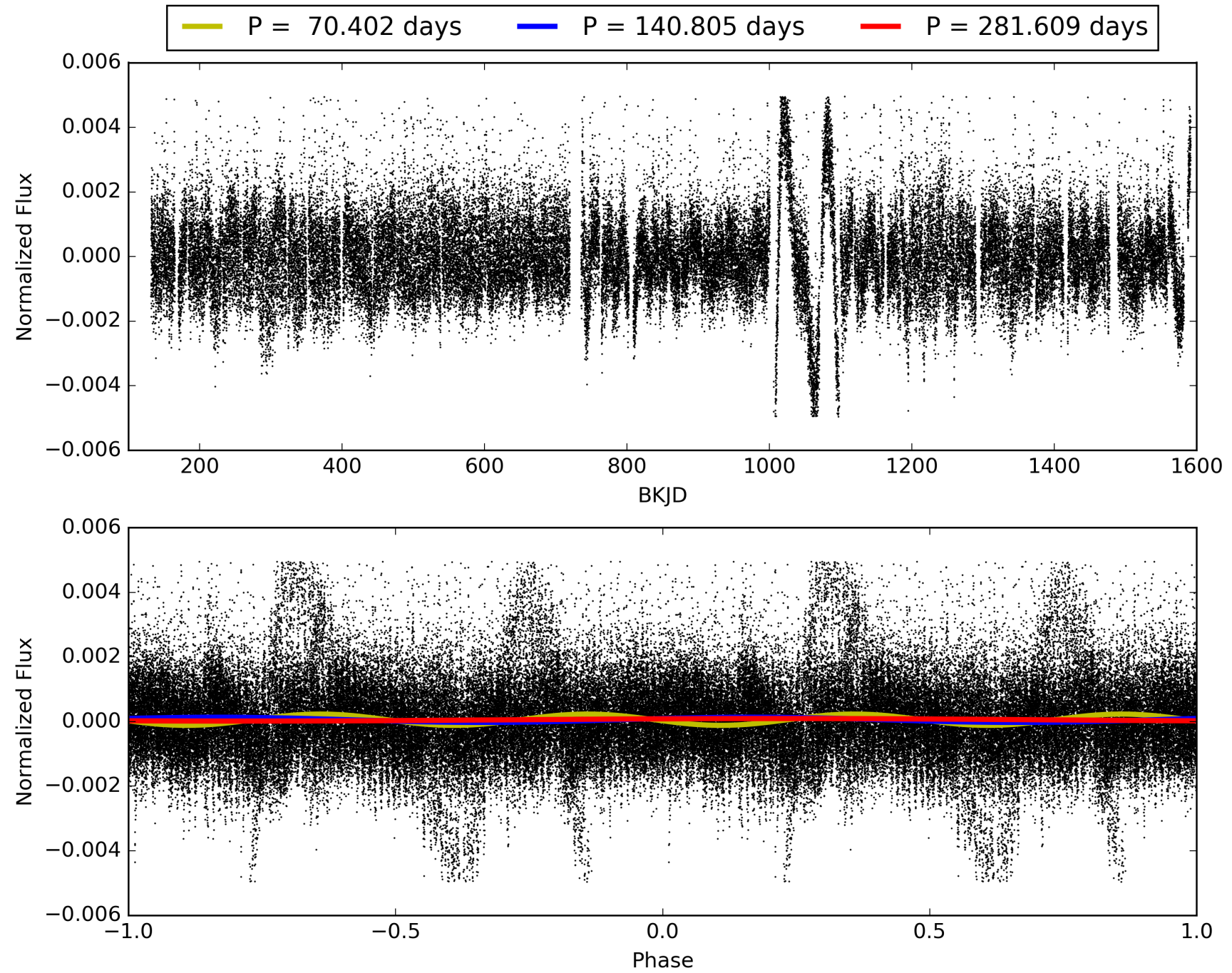
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:23:46 Z

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

TCE 009268481-04, PDC Light Curves

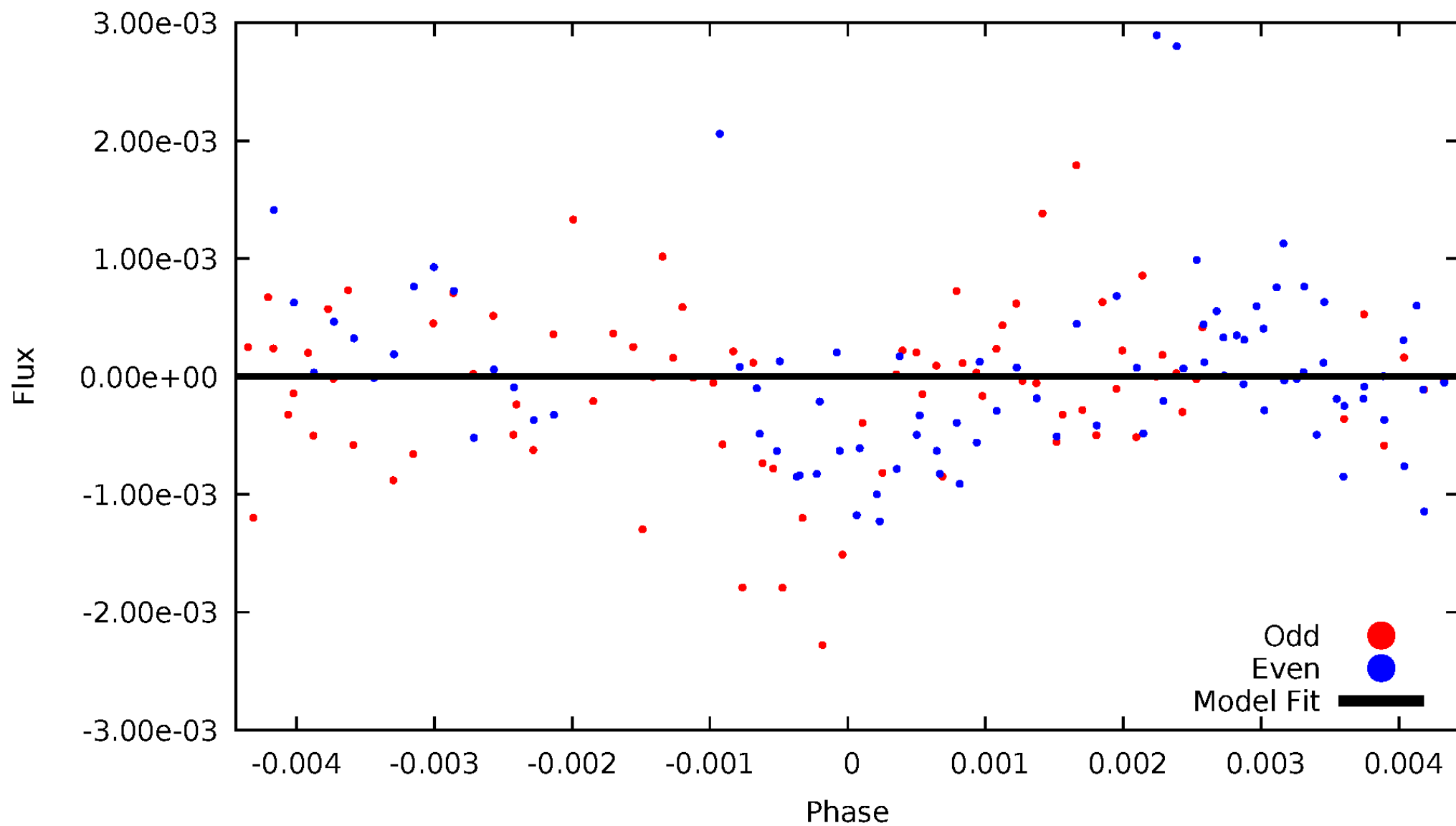


TCE 009268481-04



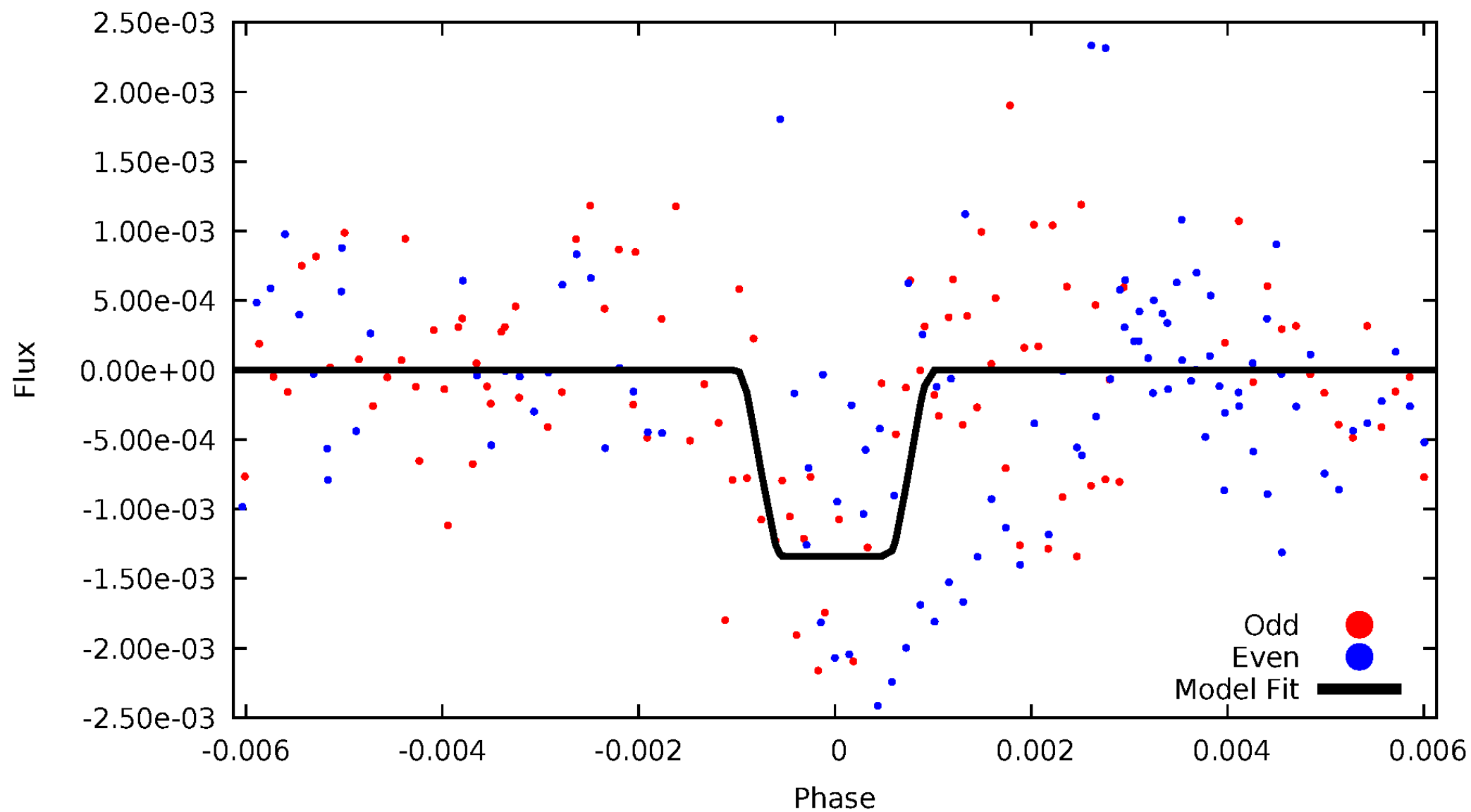
DV Odd/Even

TCE 009268481-04



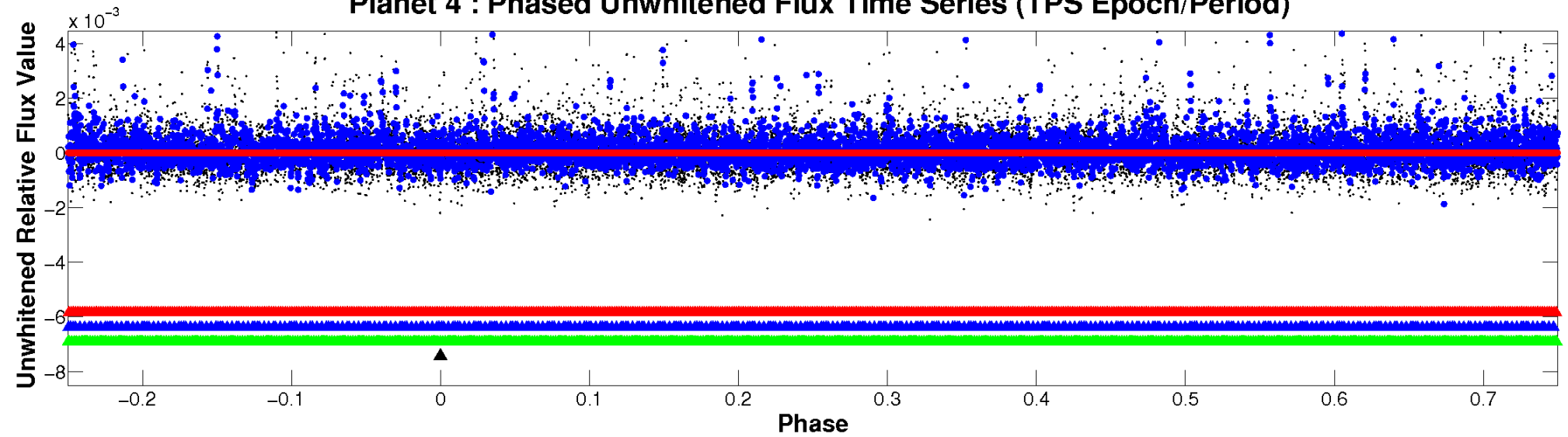
ALT Odd/Even

TCE 009268481-04

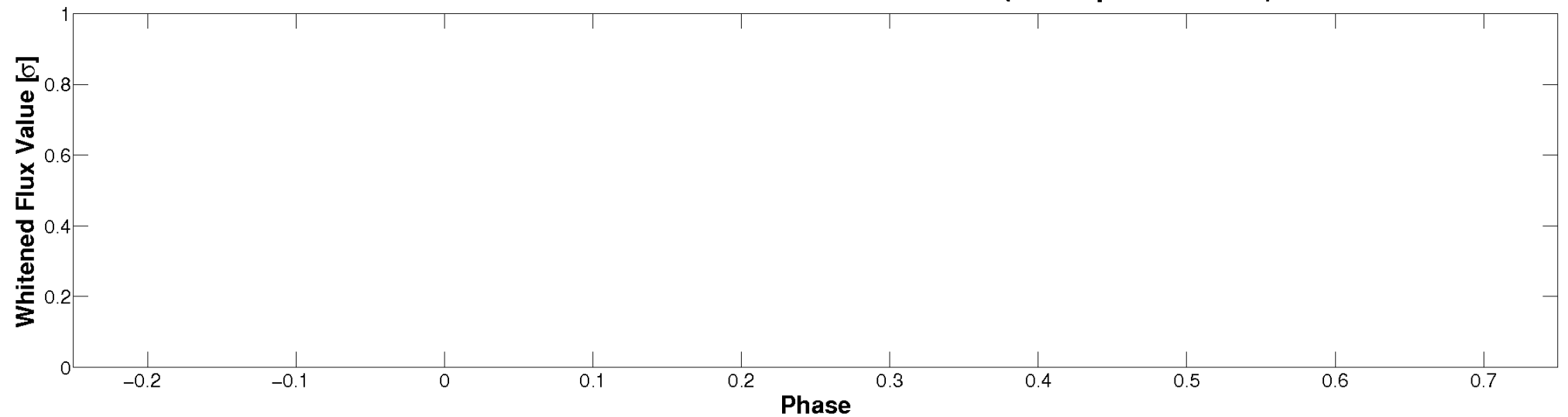


Non-Whitened Vs. Whitened Light Curve

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

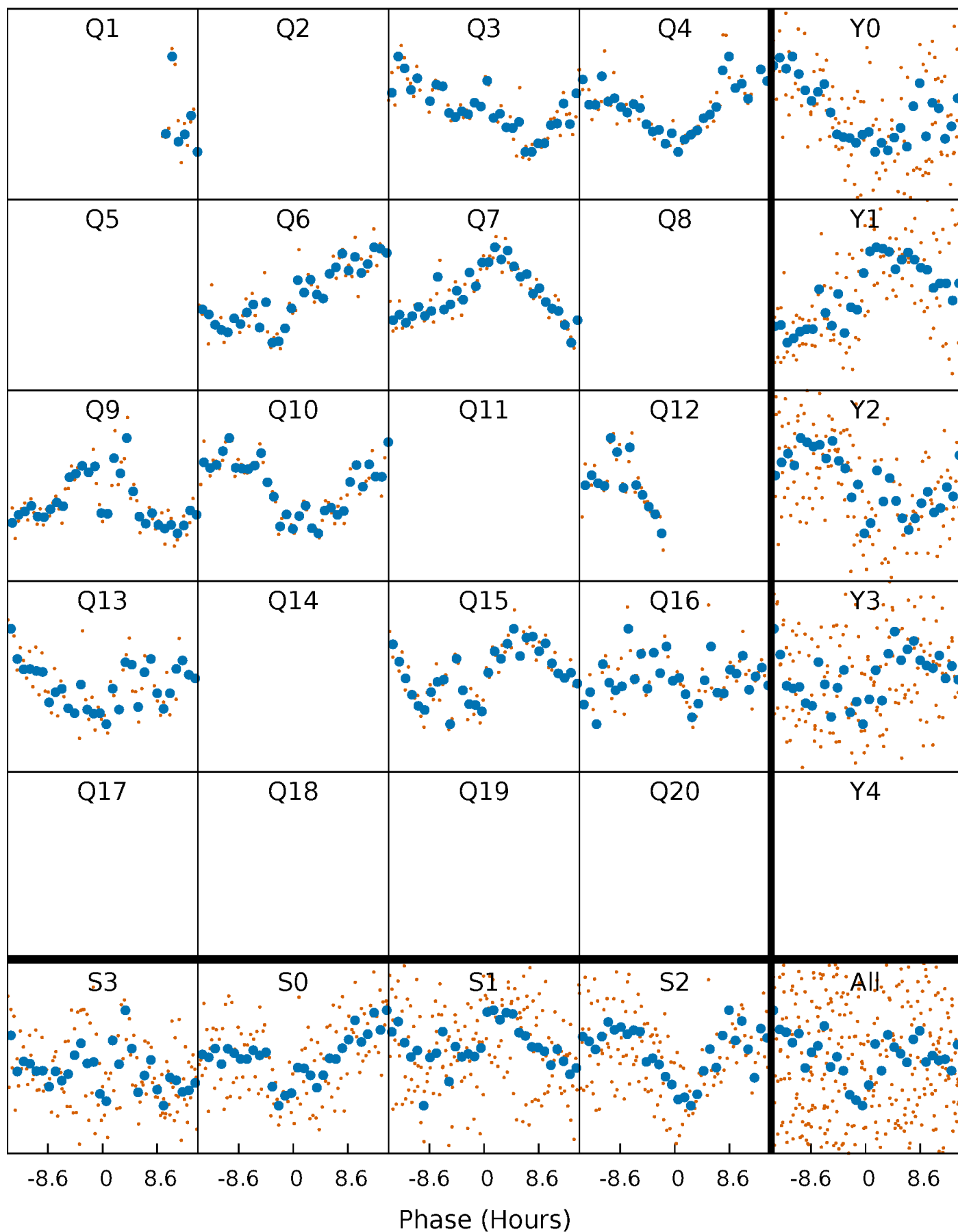


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



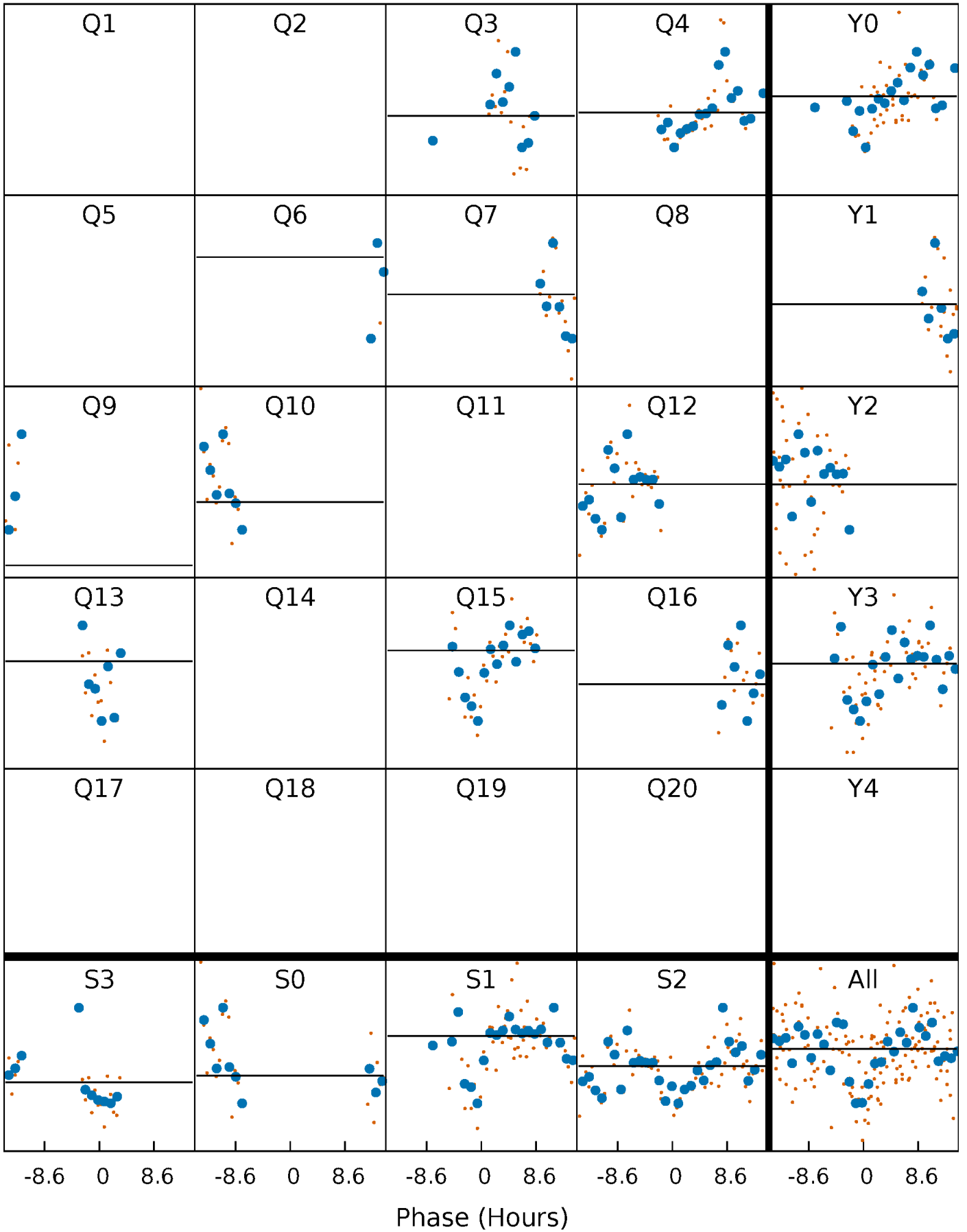
PDC Quarter-Phased Transit Curves

TCE 009268481-04 $P=140.804551$ Days $T_0=271.923607$ (BKJD)



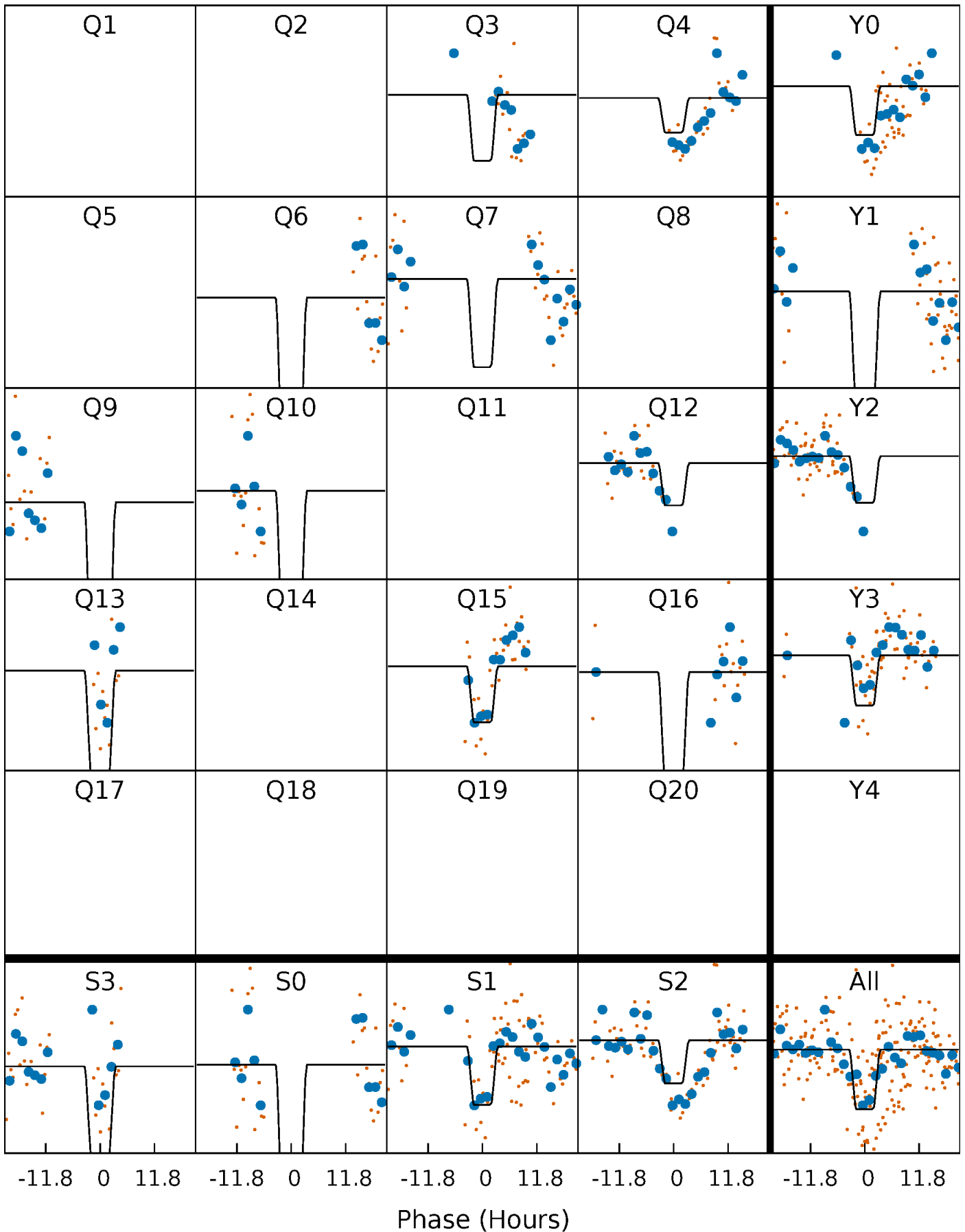
DV Quarter-Phased Transit Curves

TCE 009268481-04 P=140.804551 Days $T_0=271.923607$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

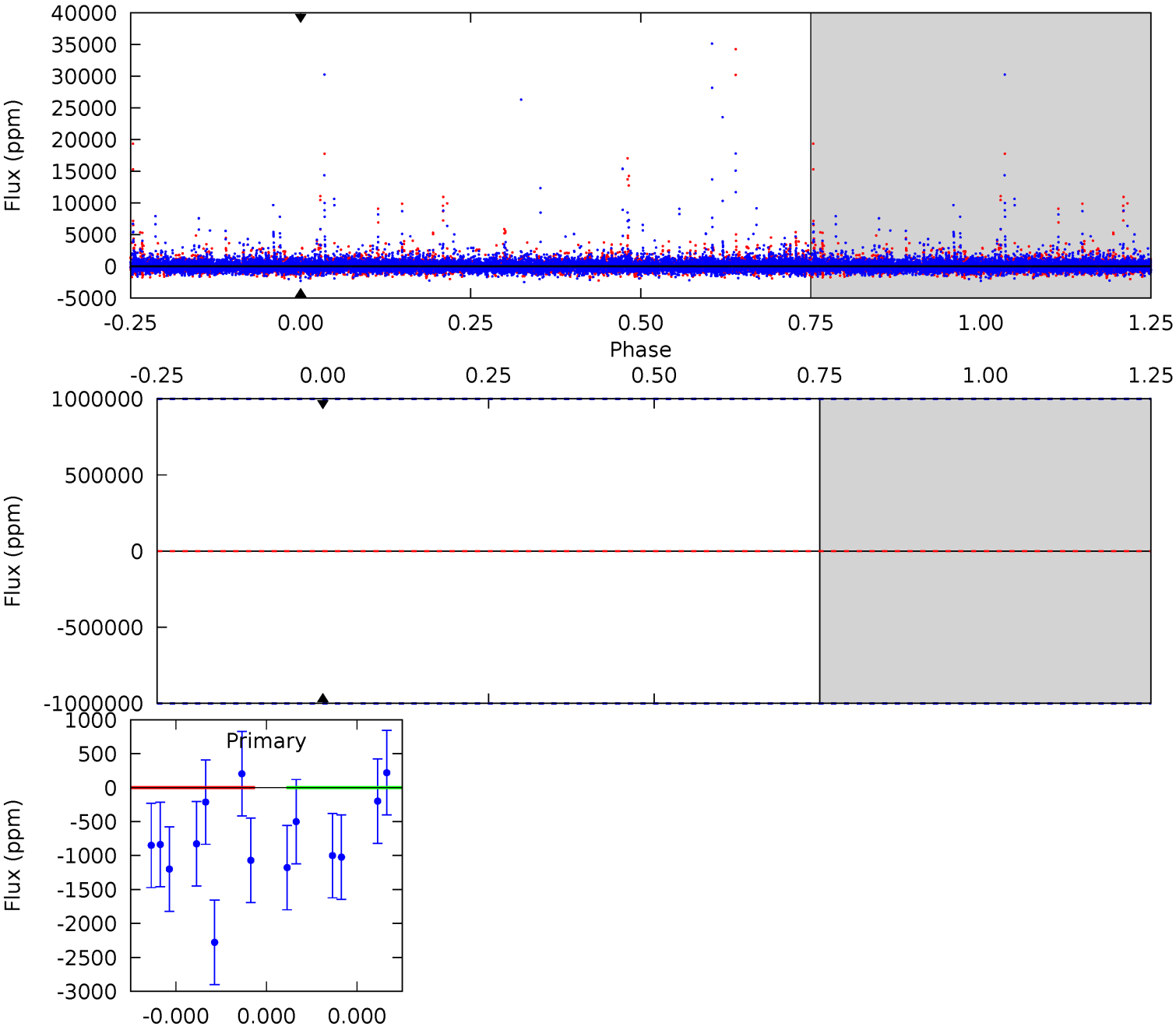
TCE 009268481-04 P=140.804551 Days $T_0=271.871389$ (BKJD)



DV Model-Shift Uniqueness Test

009268481-04, P = 140.804551 Days, E = 131.119056 Days

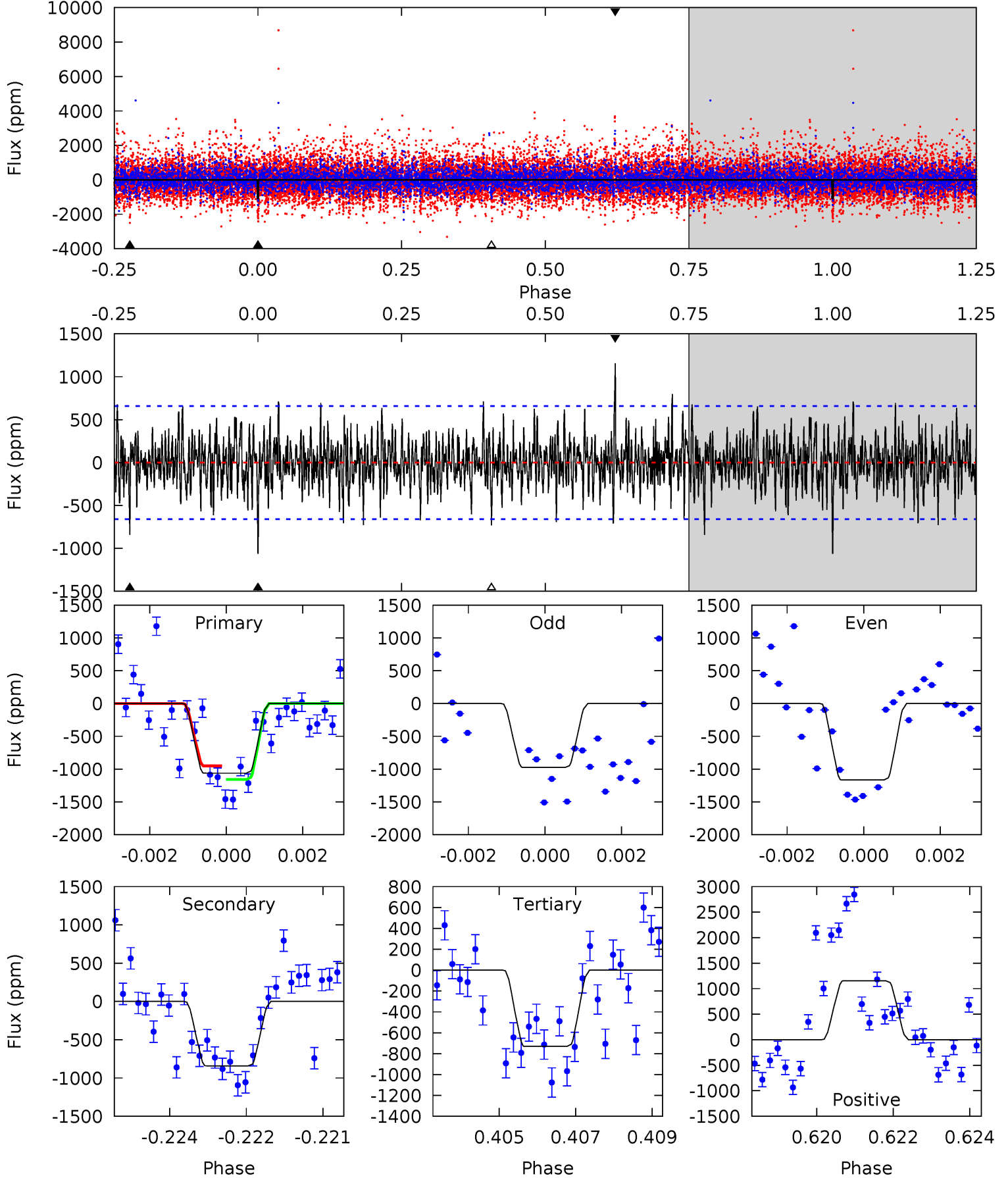
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009268481-04, P = 140.804551 Days, E = 131.066838 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.61	6.82	5.92	9.37	5.34	3.12	1.89	2.69	-0.76	0.90	-2.54	0.76	0.92	0.52	0.84



Stellar Parameters For KIC 009268481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3209^{+35}_{-19}	$5.168^{+0.056}_{-0.084}$	$0.020^{+0.100}_{-0.100}$	$0.161^{+0.042}_{-0.018}$	$0.140^{+0.042}_{-0.015}$	$46.800^{+14.330}_{-15.450}$
	+1%/-1%	+1%/-2%	+500%/-500%	+26%/-11%	+30%/-11%	+31%/-33%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 009268481-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$1.41^{+1.50}_{-0.98}$	152^{+6}_{-4}	-2650^{+8782}_{-3574}	$-33799.675^{+4034977.148}_{-3995410.234}$
Alt.	-841 ± 123	$1.45^{+1.57}_{-1.01}$	153^{+6}_{-4}	2436^{+910}_{-358}	$16476^{+162589}_{-12624}$

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 $A_{obs} \gg 1.0$

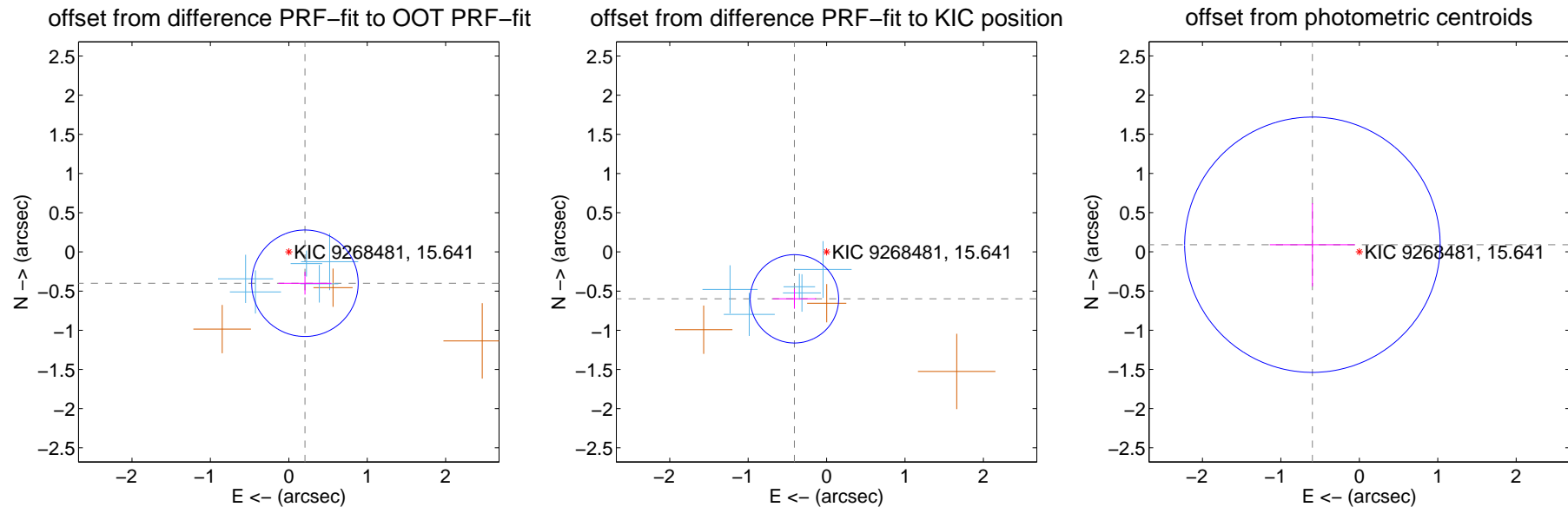
DV Centroid Data

Supplemental centroid analysis for 009268481-04. Kepler magnitude: 15.64. Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

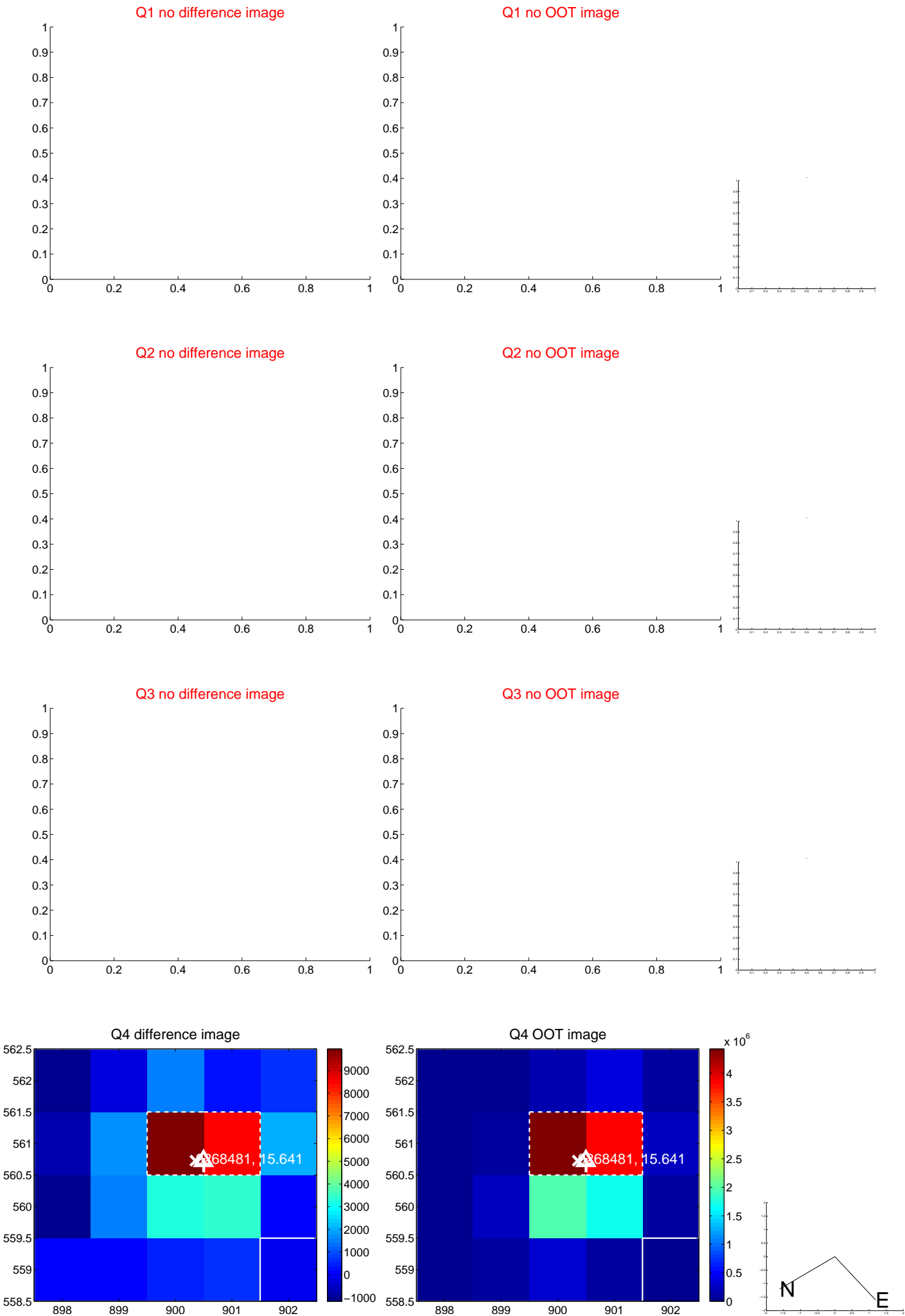
The direct PRF centroid is offset from the target star catalog position by about 0.90 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.450 ± 0.227	1.99	-0.206 ± 0.338	-0.400 ± 0.145
PRF-fit source offset from KIC position	0.726 ± 0.188	3.86	0.410 ± 0.277	-0.599 ± 0.126
photometric centroid source offset	0.61 ± 0.54	1.11	0.60 ± 0.54	0.09 ± 0.53

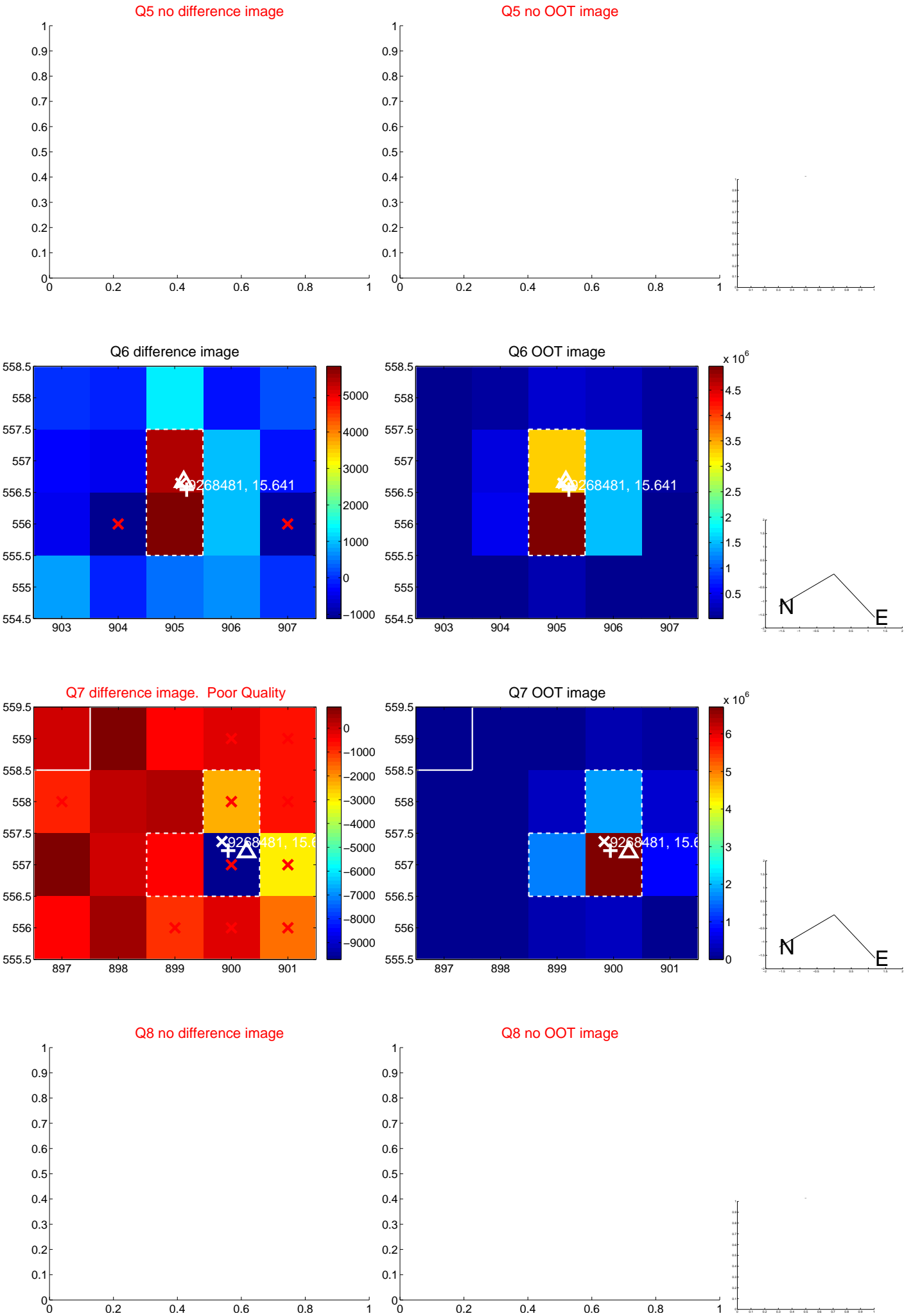


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

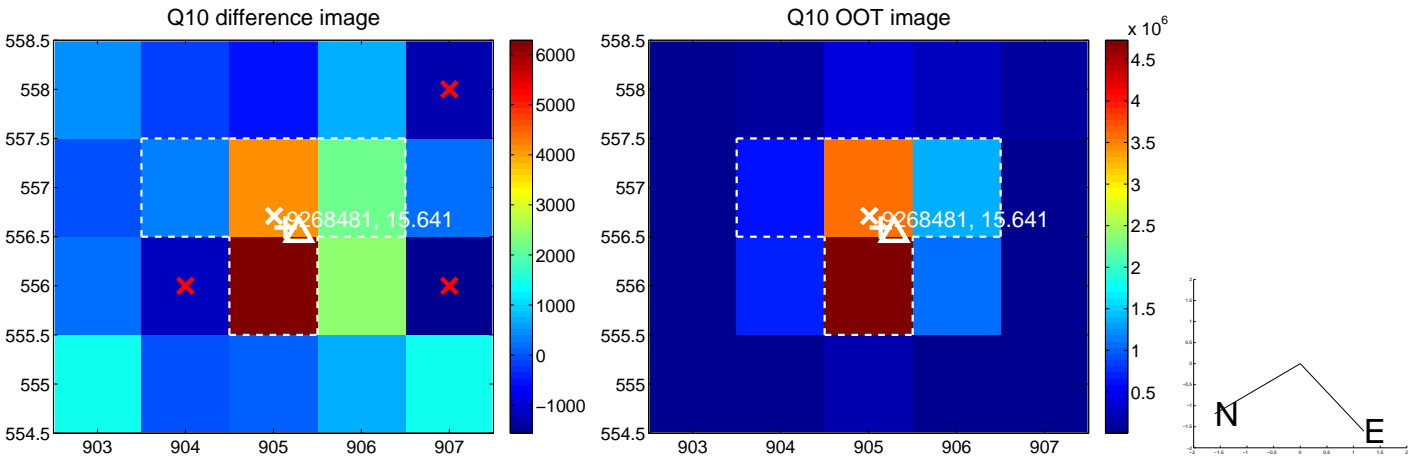
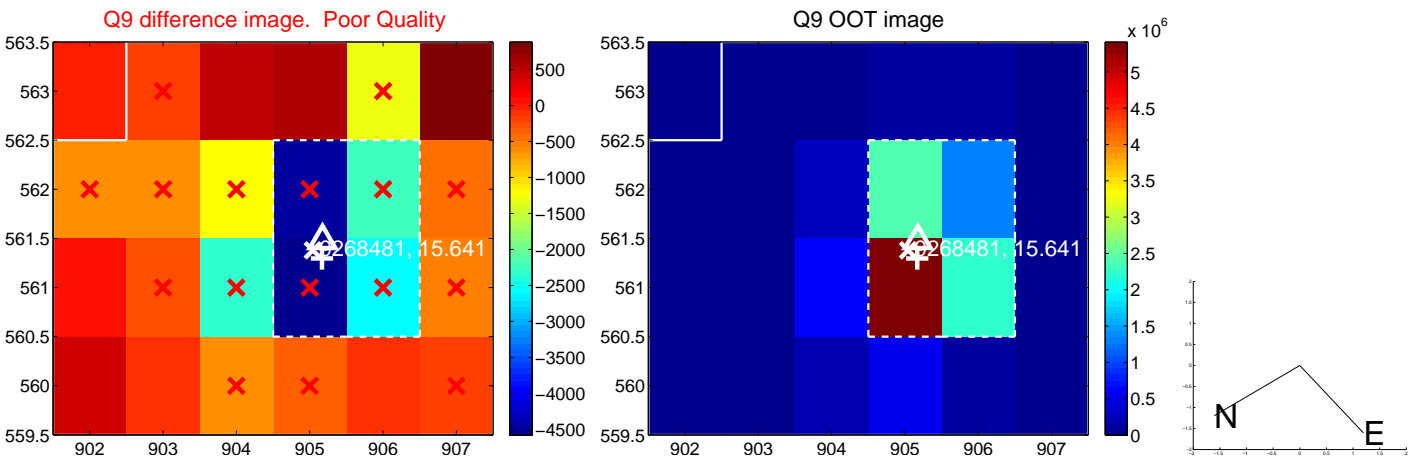
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



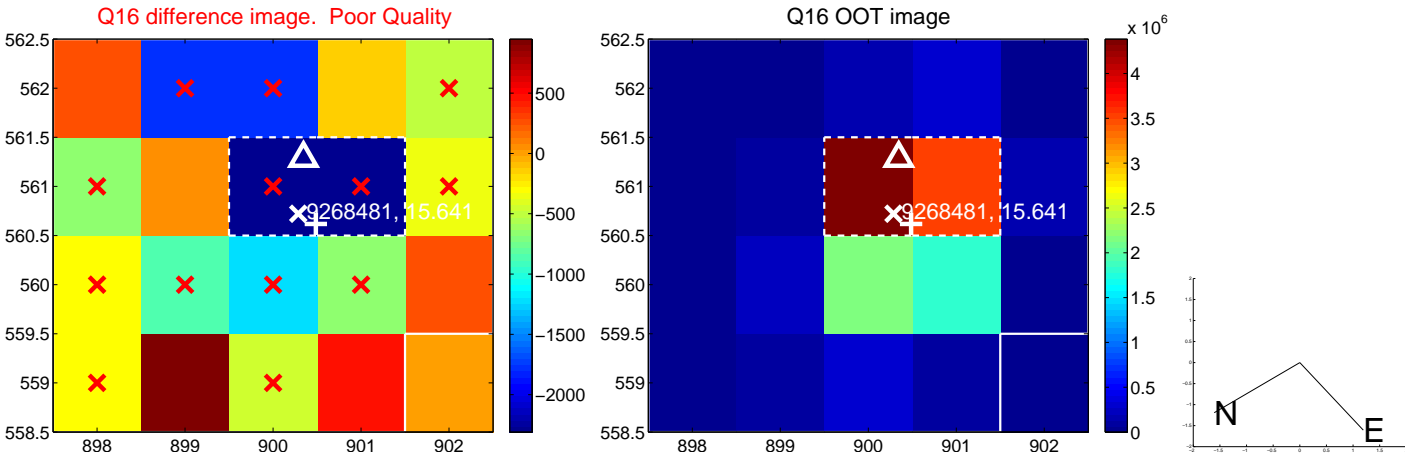
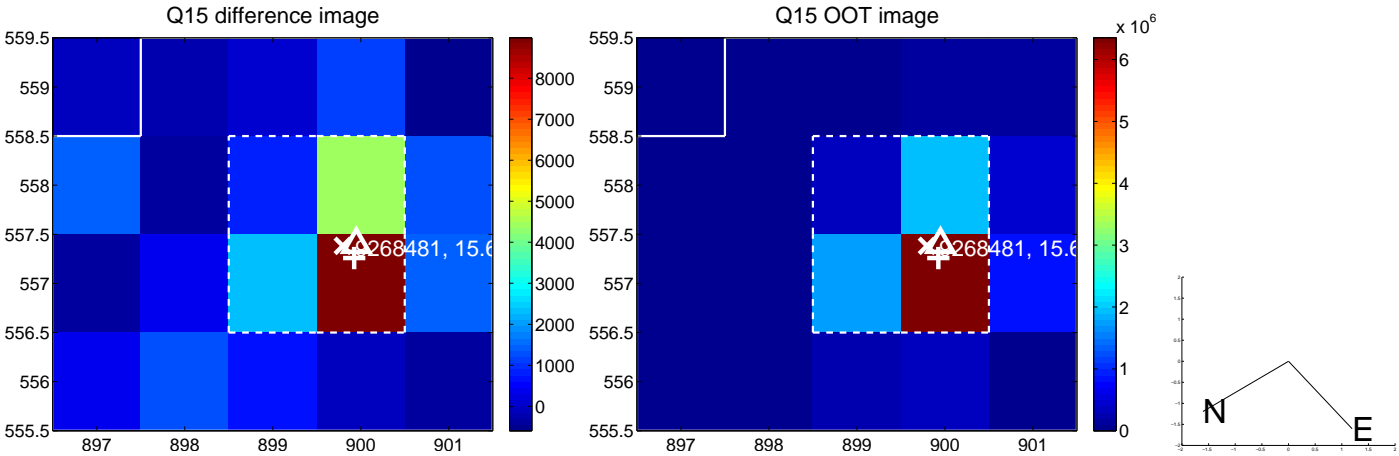
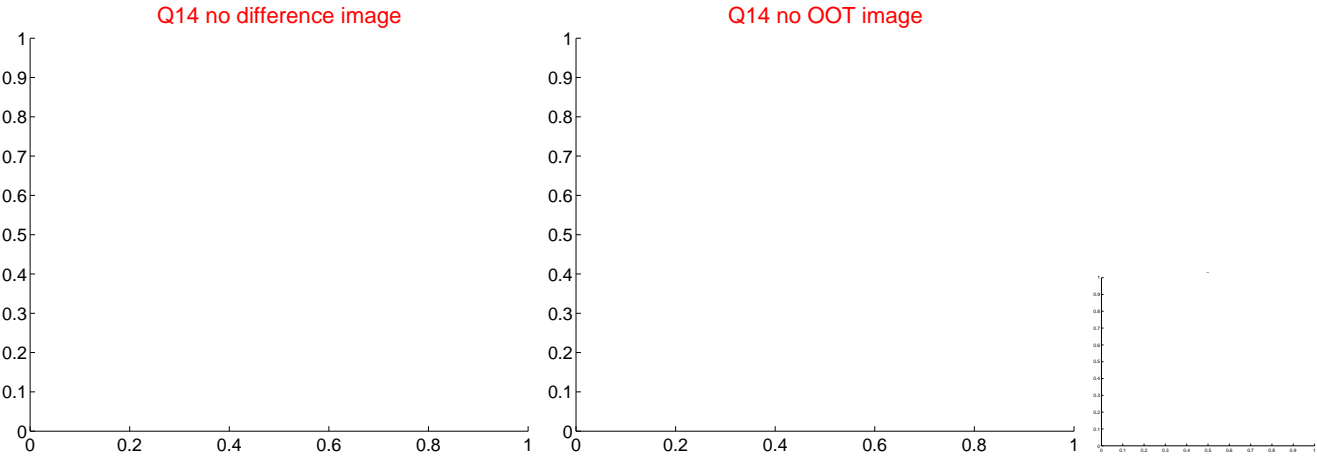
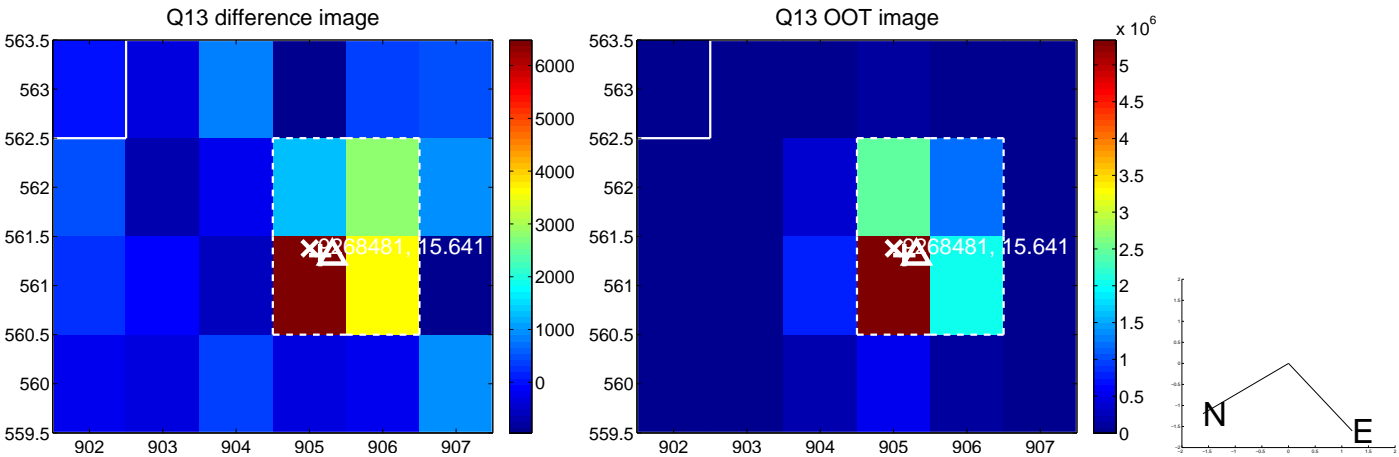
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



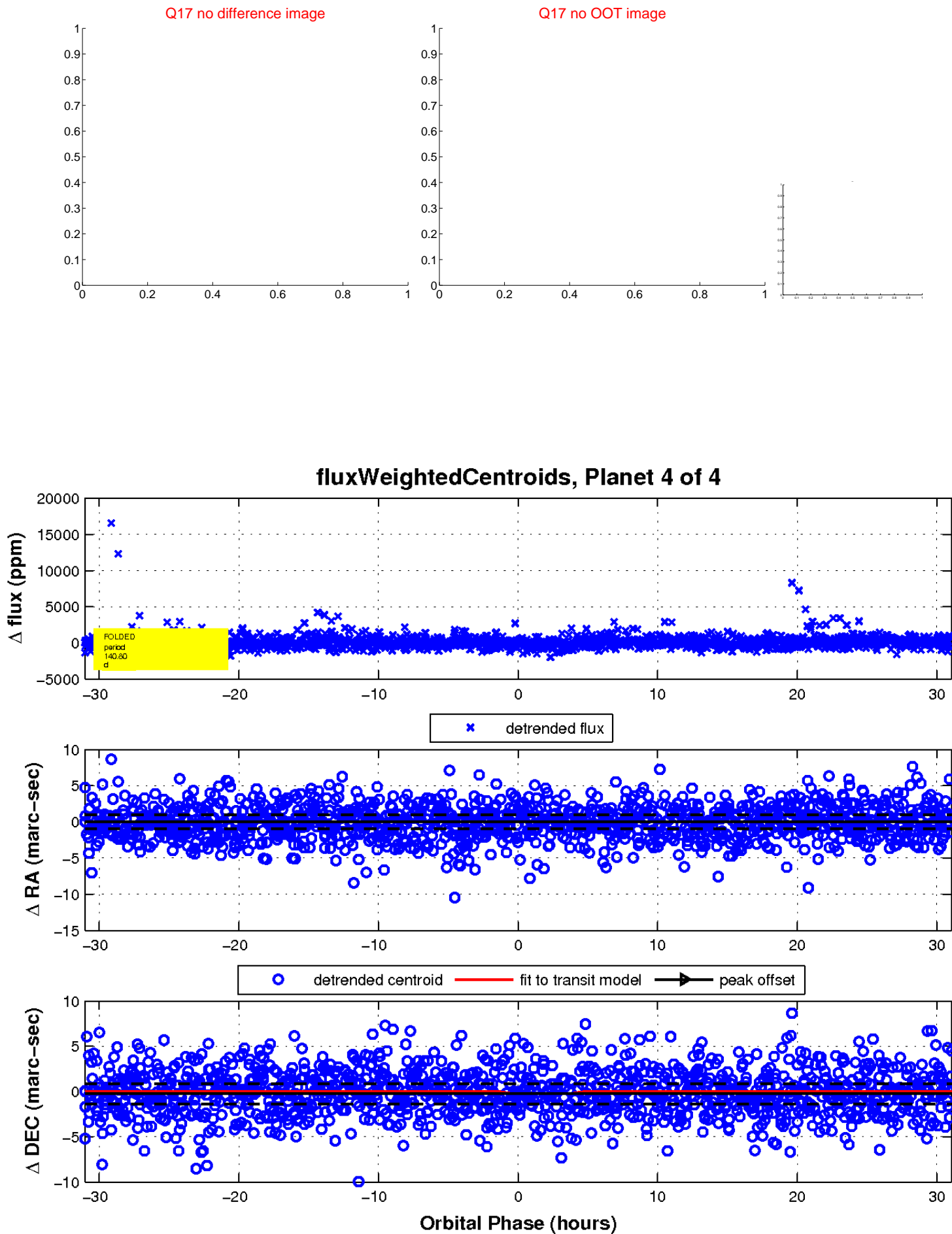
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

