

KIC 011653381

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})
011653381-01	OBS	No	0.828798	131.912789	53.1	3.486	9.6	9.5	6.93	5033	6.12	0.00
011653381-02	OBS	No	40.704516	134.380170	286.3	5.474	7.6	6.8	6.93	5033	12.65	333.97
011653381-05	OBS	No	196.912351	273.395123	338.9	15.152	7.2	6.2	6.93	5033	13.80	40.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011653381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
011653381-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
011653381-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

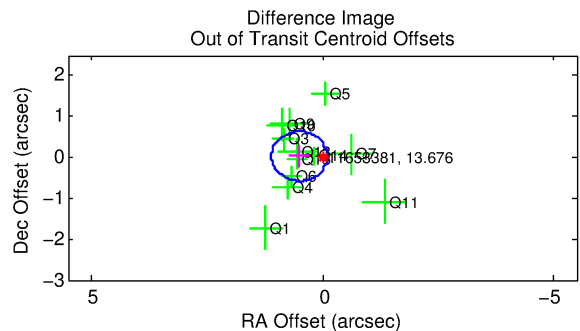
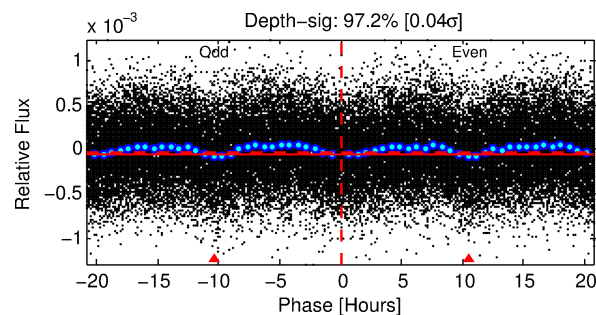
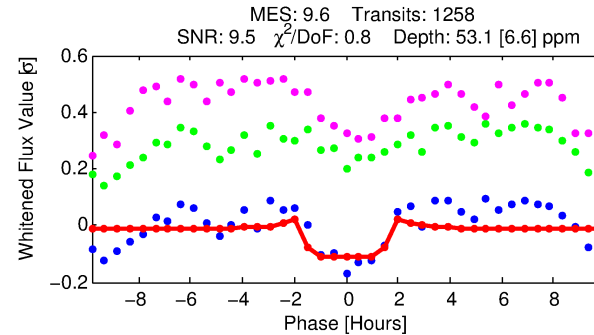
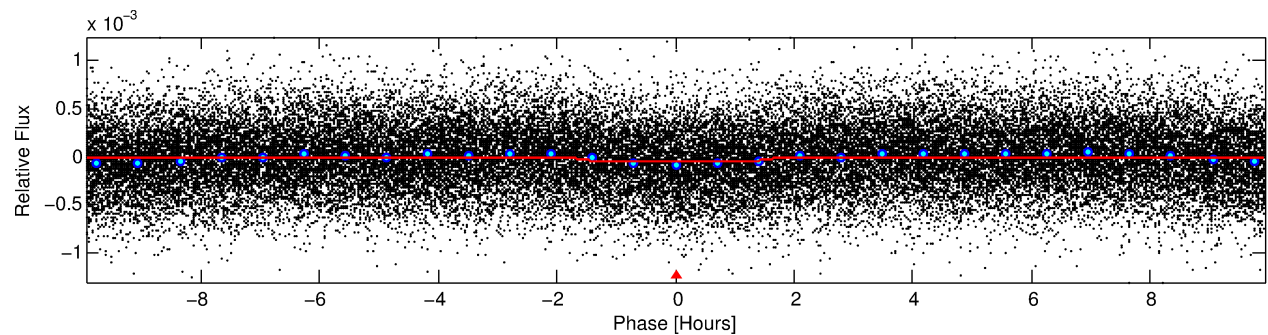
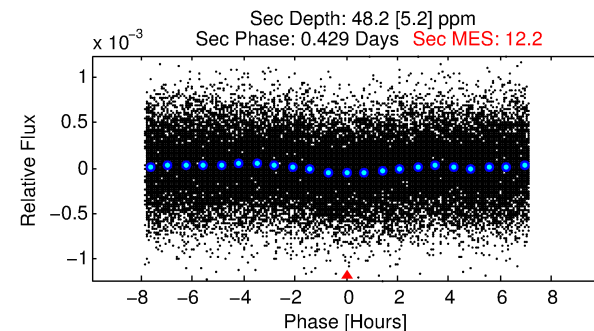
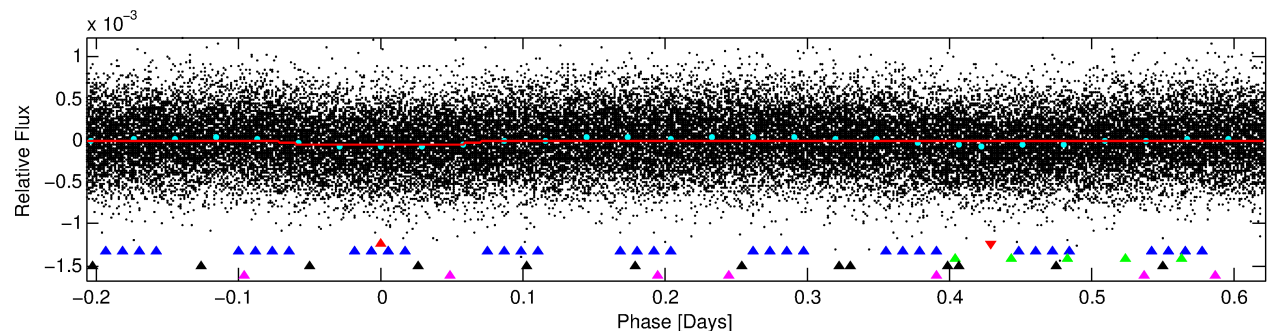
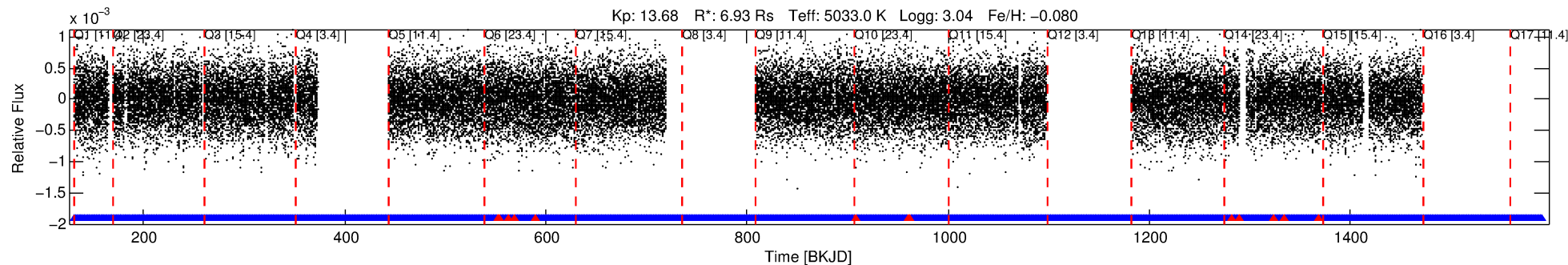
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011653381-01

No Significant Match Found

DV One-Page Summary

KIC: 11653381 Candidate: 1 of 5 Period: 0.829 d



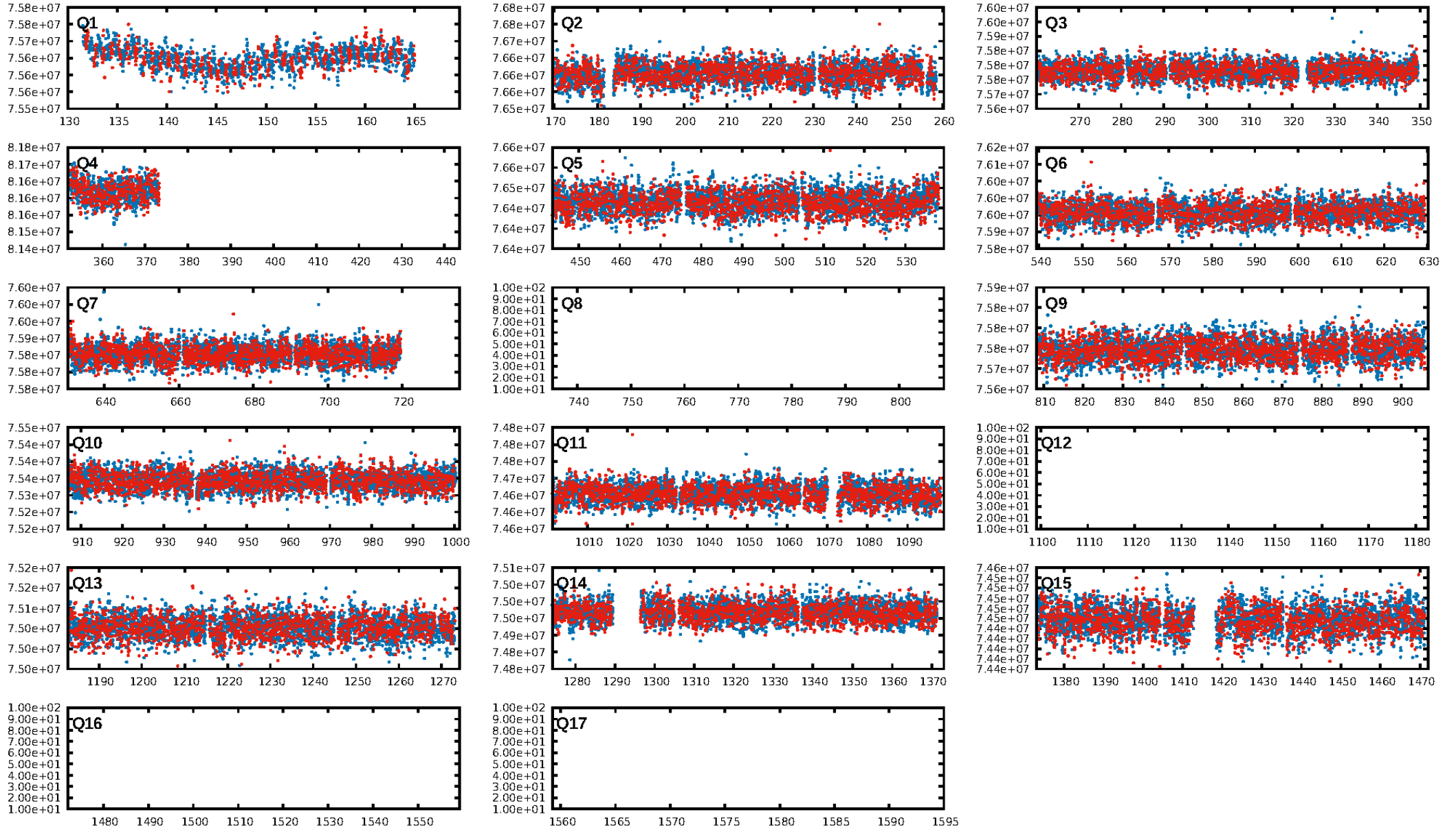
DV Fit Results:

Period = 0.82880 [0.00001] d
Epoch = 131.9128 [0.0031] BKJD
Rp/R* = 0.0081 [0.0041]
a/R* = 1.25 [0.95]
b = 0.90 [0.46]
Seff = N/A
Teq = N/A
Rp = 6.13 [3.46] Re
a = N/A
Ag = N/A
Teffp = N/A

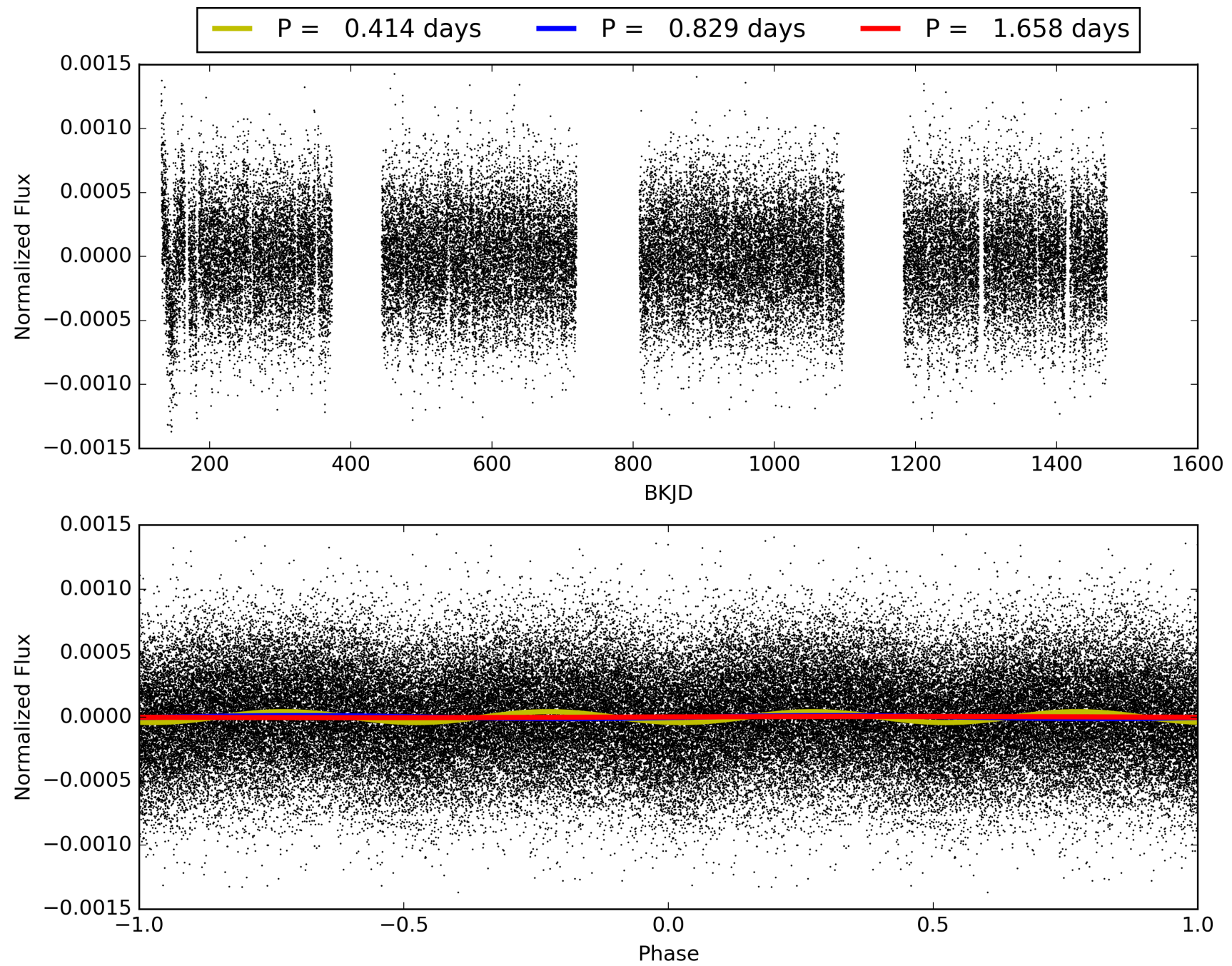
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [147.47σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.30e-15
RollingBand-fgt: 0.99 [1178/1191]
GhostDiagnostic-chr: 0.8893
Centroid-sig: 24.5%
Centroid-so: 0.334 arcsec [0.54σ]
OotOffset-rm: 0.501 arcsec [2.49σ]
KicOffset-rm: 0.562 arcsec [2.33σ]
OotOffset-st: 3/4/1/4 [12]
KicOffset-st: 3/4/1/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 011653381-01, PDC Light Curves

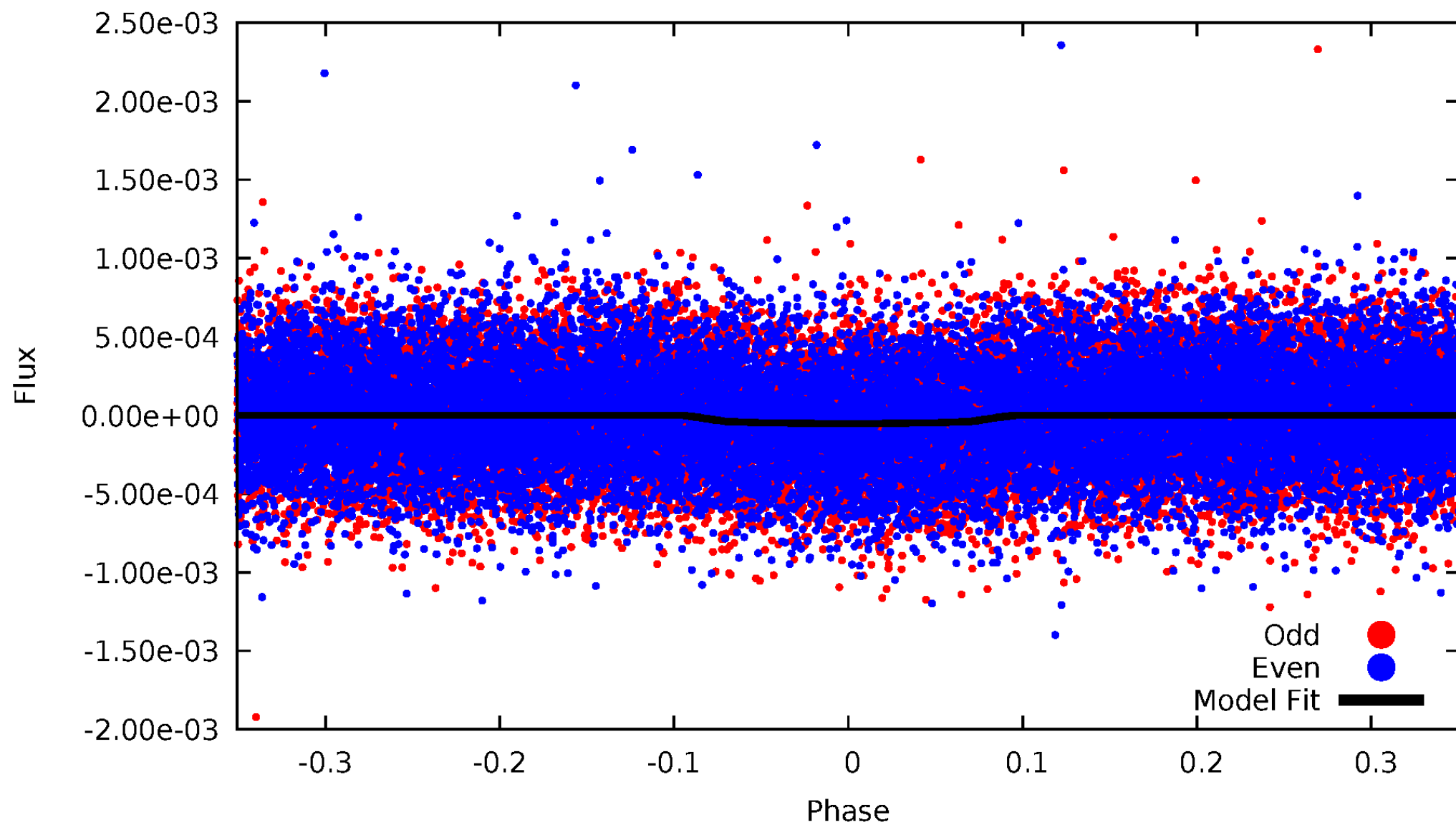


TCE 011653381-01



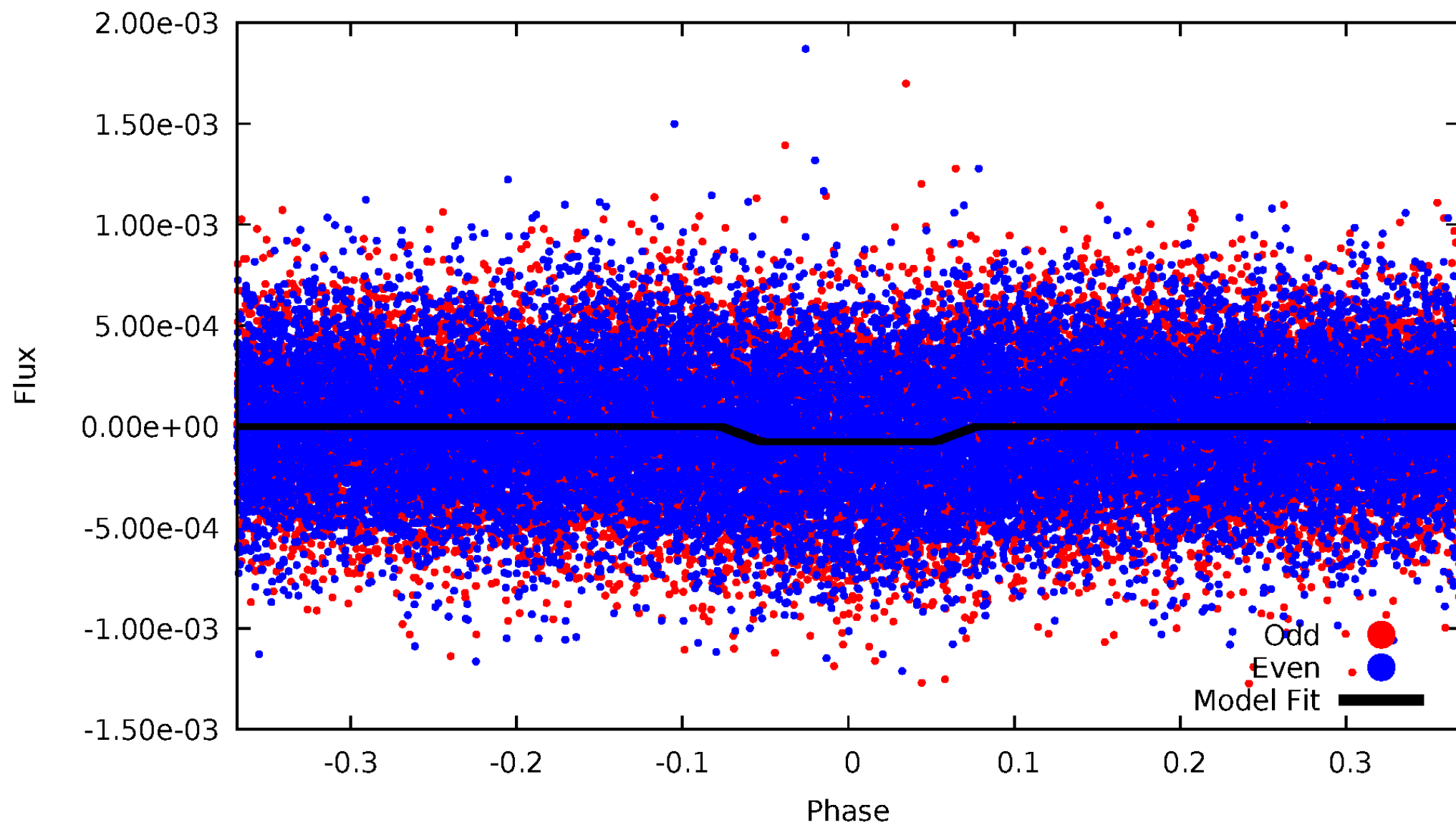
DV Odd/Even

TCE 011653381-01

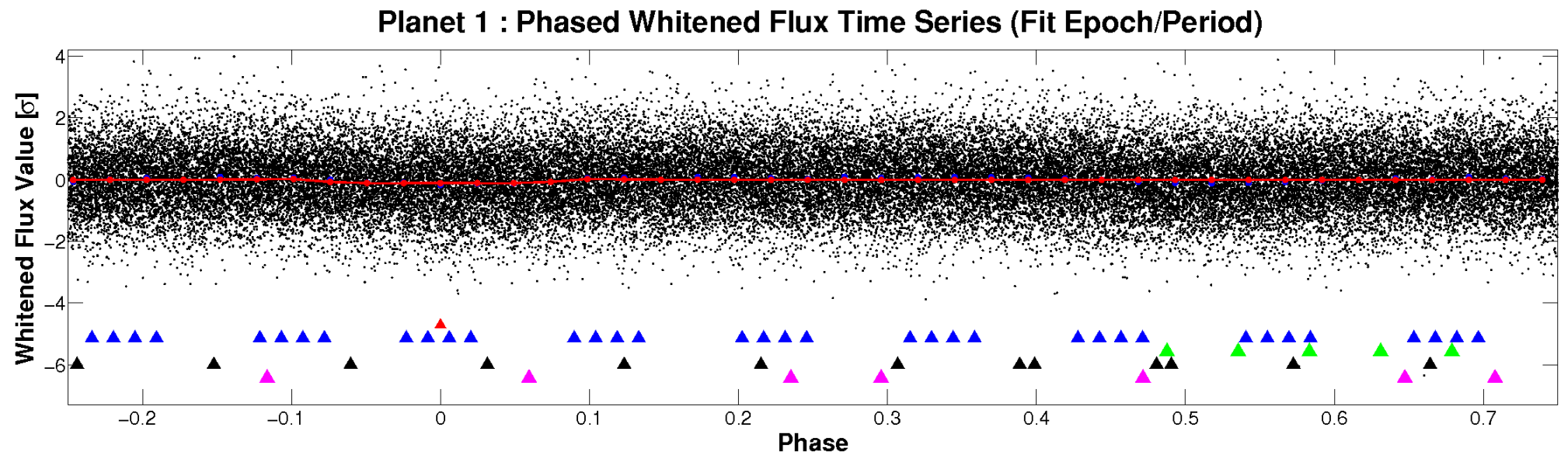
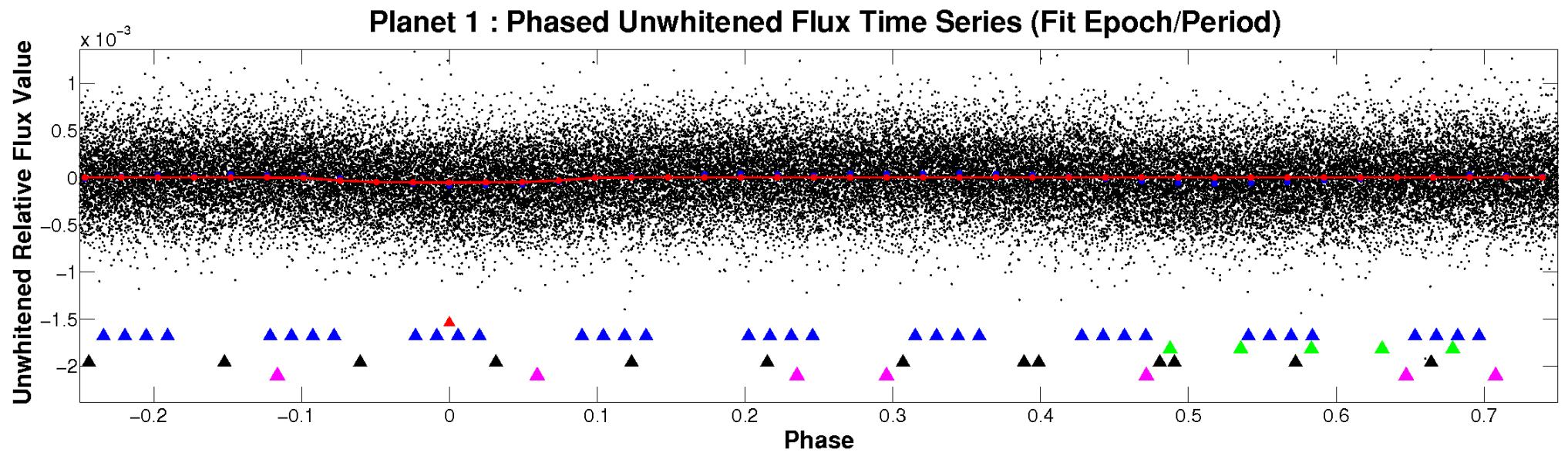


ALT Odd/Even

TCE 011653381-01

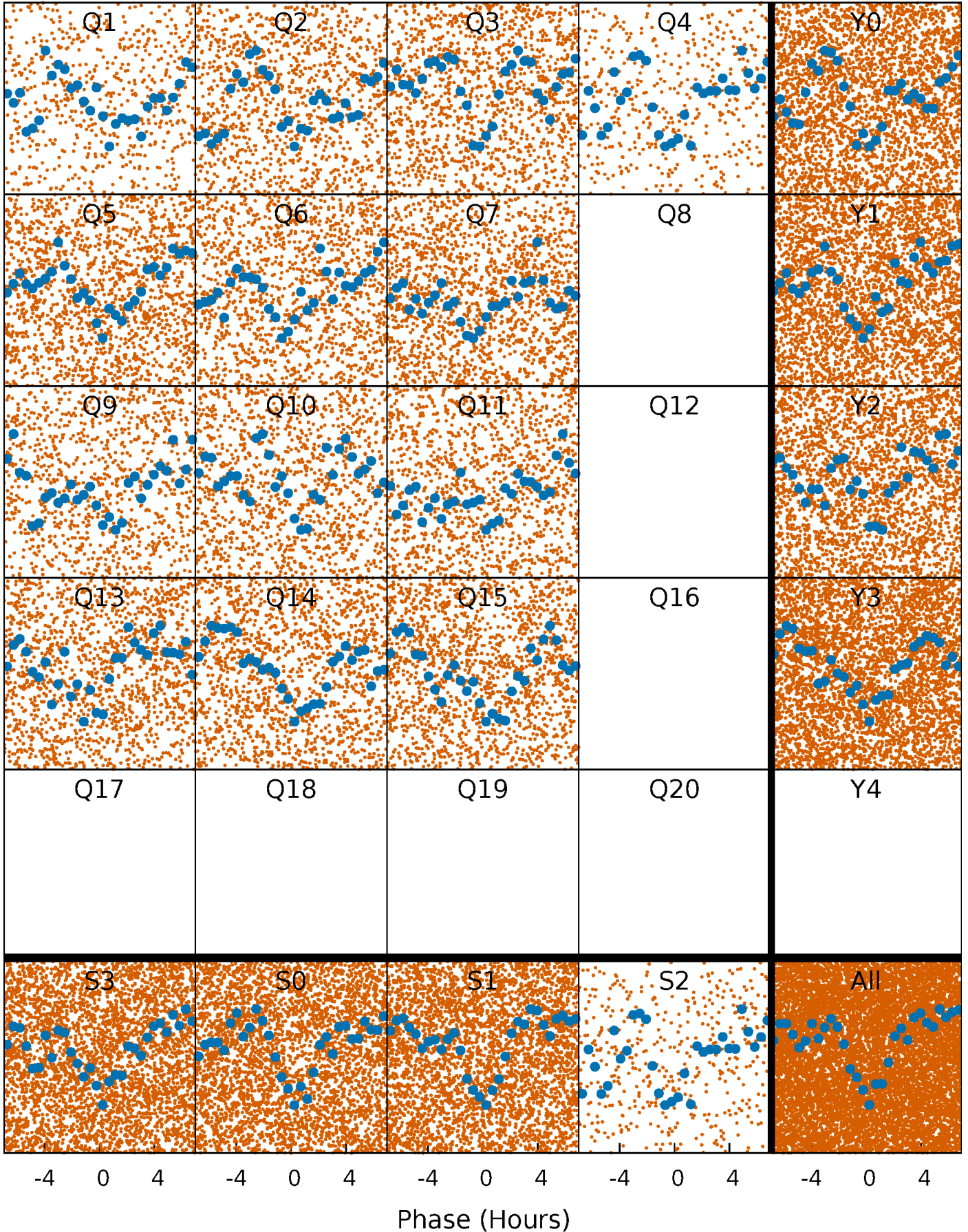


Non-Whitened Vs. Whitened Light Curve



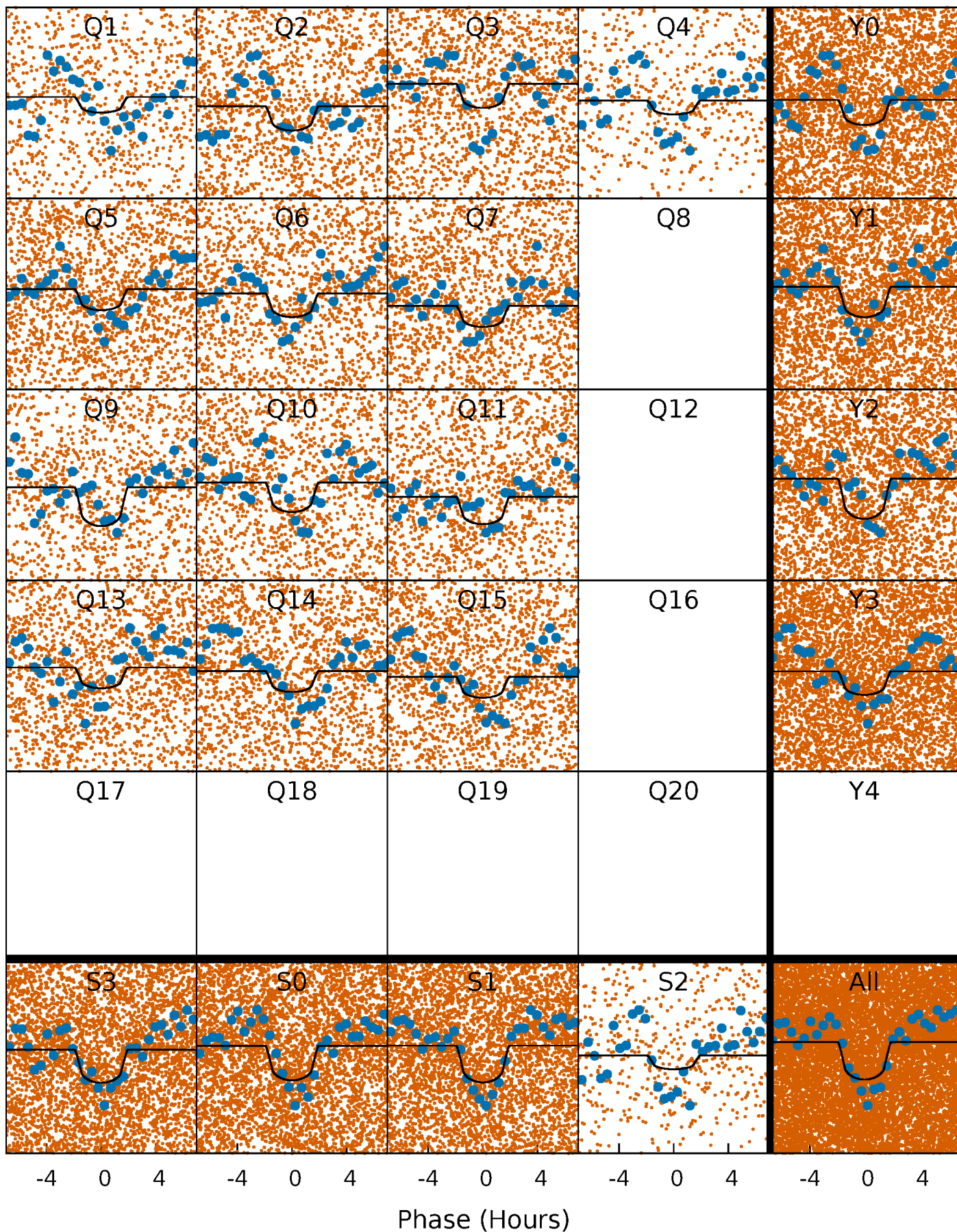
PDC Quarter-Phased Transit Curves

TCE 011653381-01 P= 0.828798 Days $T_0=131.912789$ (BKJD)



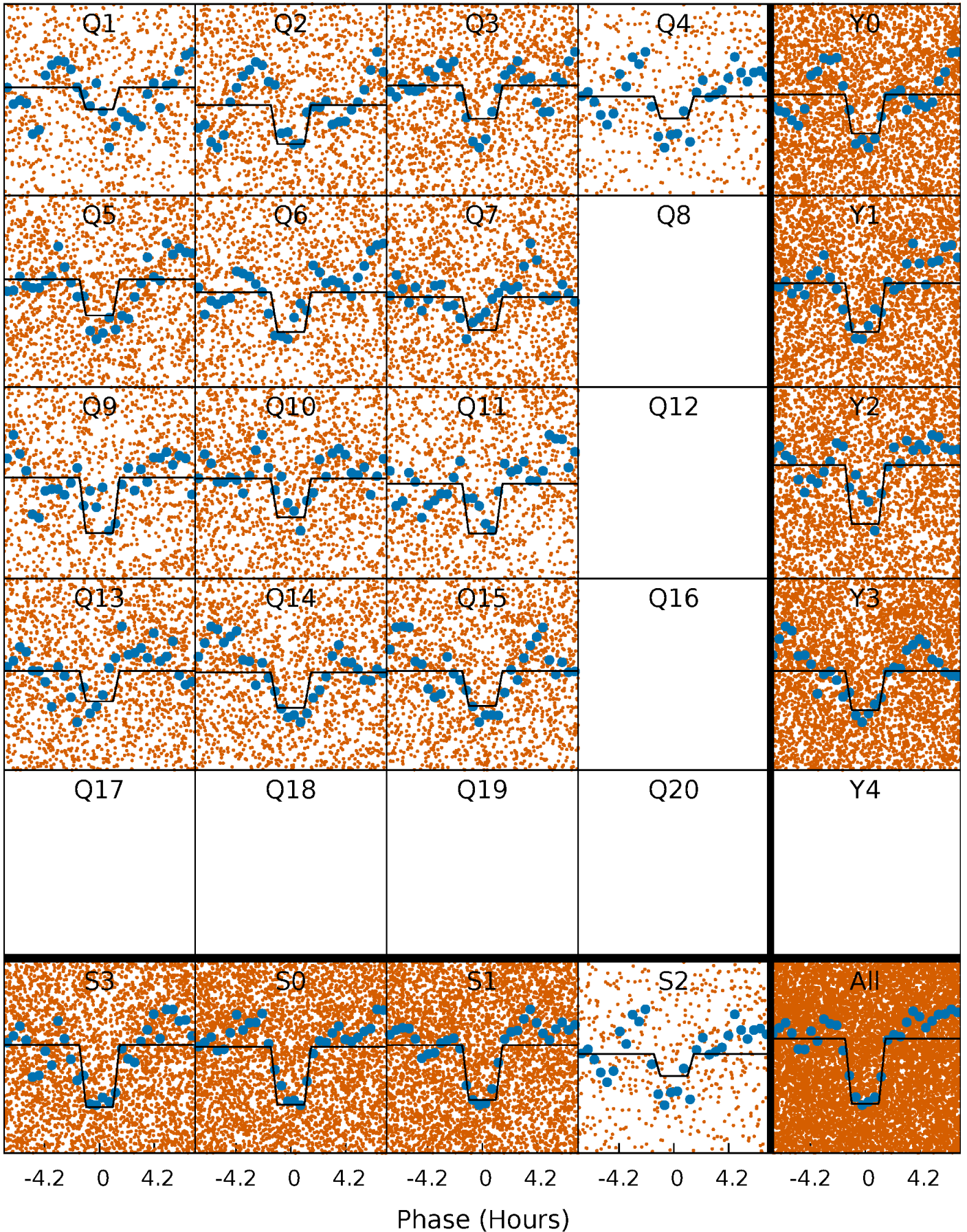
DV Quarter-Phased Transit Curves

TCE 011653381-01 P= 0.828798 Days $T_0=131.912789$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

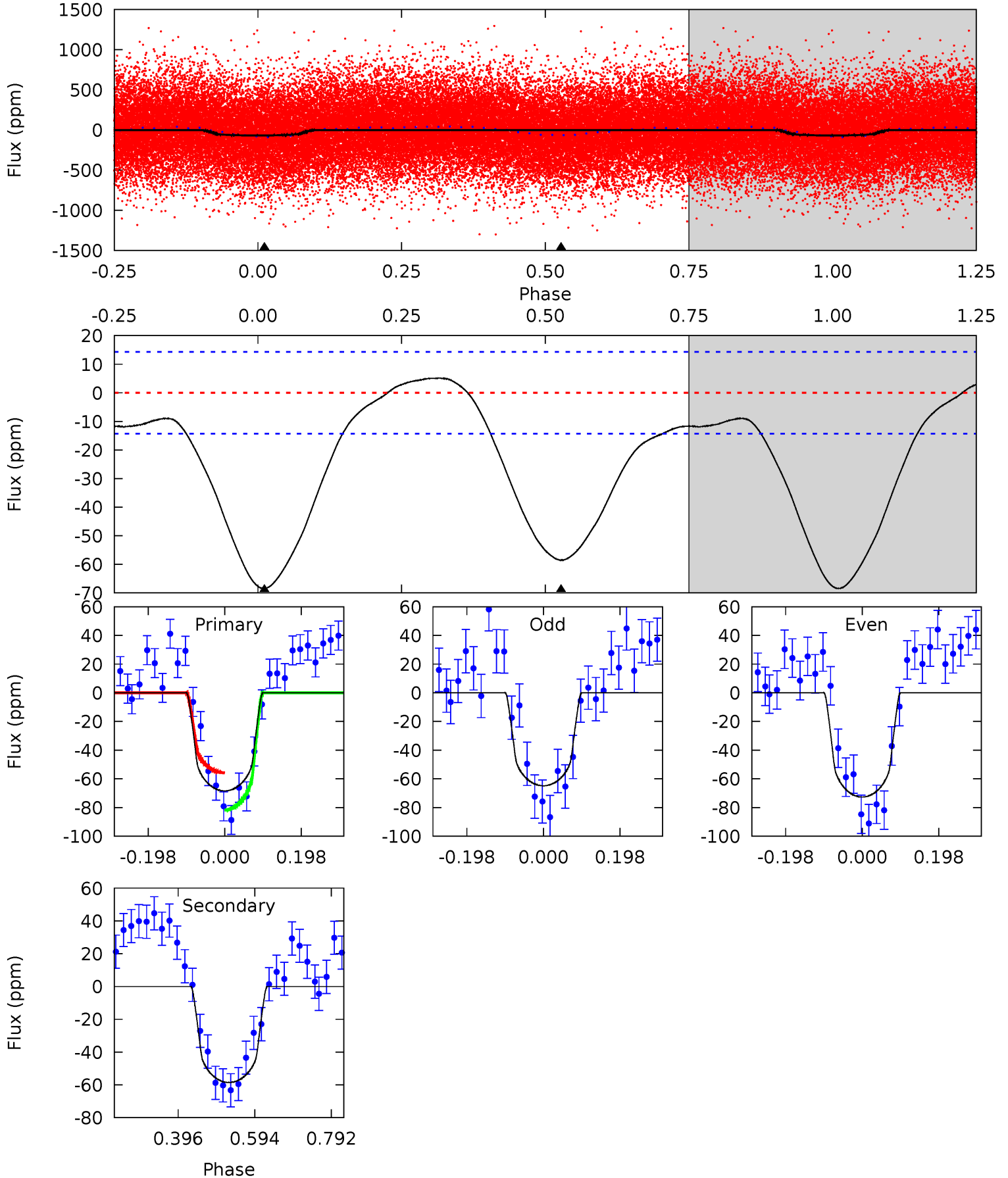
TCE 011653381-01 P= 0.828810 Days $T_0=131.912930$ (BKJD)



DV Model-Shift Uniqueness Test

011653381-01, P = 0.828798 Days, E = 131.083991 Days

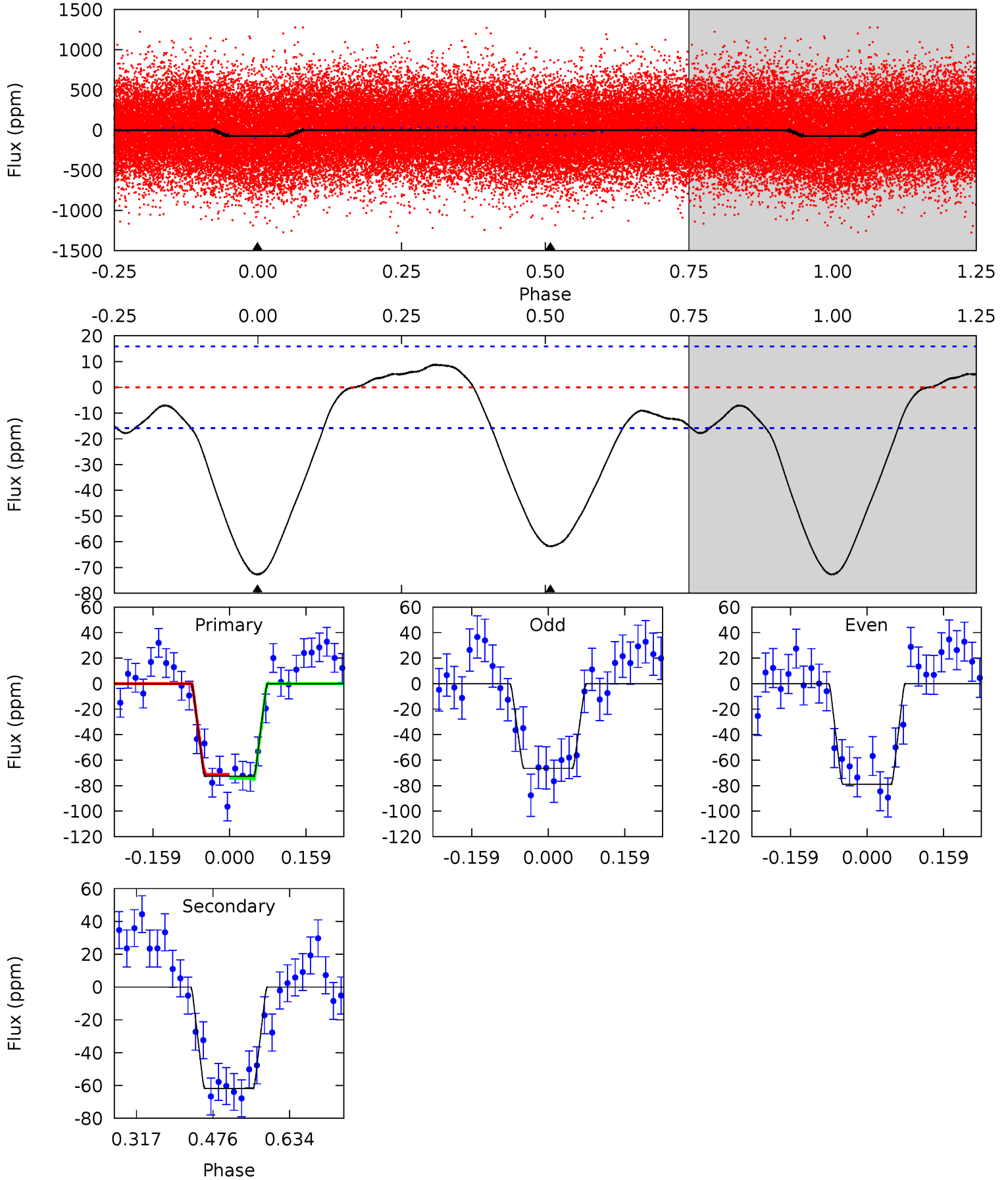
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	18.1	0	0	4.42	1.29	2.30	21.1	21.1	18.1	18.1	1.21	0.96	0.07	4.02



Alt Model-Shift Uniqueness Test

011653381-01, P = 0.828810 Days, E = 131.084120 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	17.4	0	0	4.47	1.41	2.60	20.5	20.5	17.4	17.4	1.77	1.02	0.11	0.44



Stellar Parameters For KIC 011653381

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5033^{+86}_{-136}	$3.038^{+0.035}_{-0.028}$	$-0.080^{+0.150}_{-0.350}$	$6.927^{+0.318}_{-1.800}$	$1.910^{+0.146}_{-0.829}$	$0.008^{+0.003}_{-0.001}$
	+2%/-3%	+1%/-1%	+188%/-438%	+5%/-26%	+8%/-43%	+42%/-8%
Source	PHO1	AST9	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 011653381-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-59 ± 3	$6.12^{+3.26}_{-3.05}$	5583^{+127}_{-166}	3739^{+2640}_{-7676}	$0.398^{+1.153}_{-0.224}$
Alt.	-62 ± 4	$6.71^{+3.20}_{-3.05}$	5573^{+127}_{-186}	3315^{+2456}_{-7307}	$0.345^{+0.782}_{-0.186}$

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

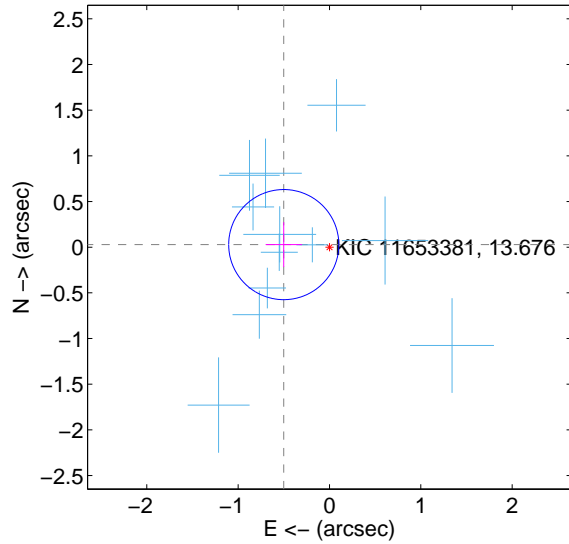
Supplemental centroid analysis for 011653381-01. Kepler magnitude: 13.68. Transit SNR 9.51

There are 12 quarters with good PRF difference image offsets

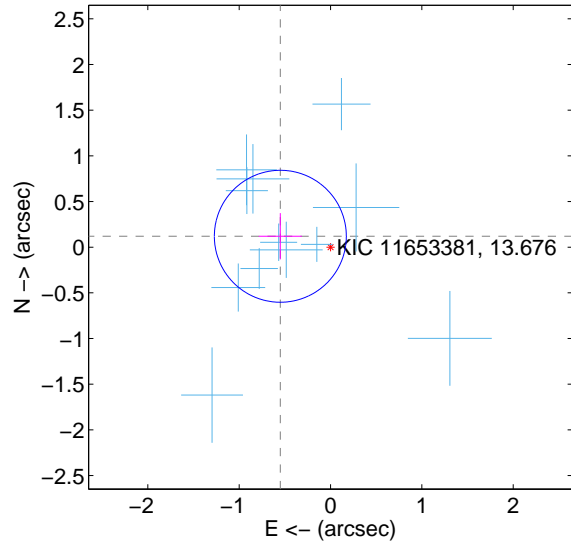
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.501 ± 0.201	2.49	0.500 ± 0.199	0.028 ± 0.246
PRF-fit source offset from KIC position	0.562 ± 0.241	2.33	0.549 ± 0.236	0.119 ± 0.253
photometric centroid source offset	0.33 ± 0.62	0.54	0.22 ± 0.63	-0.25 ± 0.62

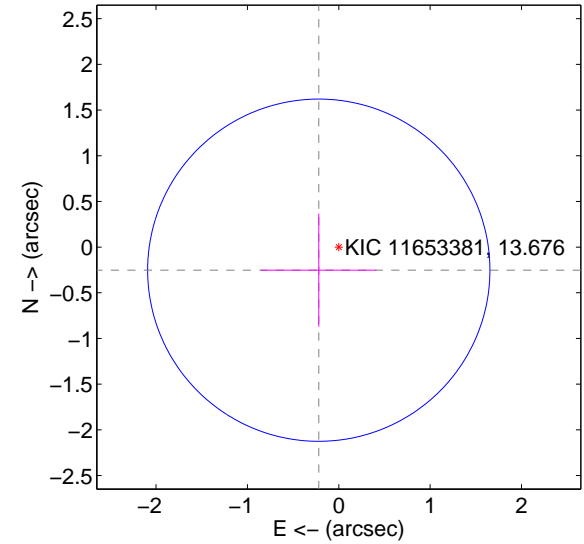
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

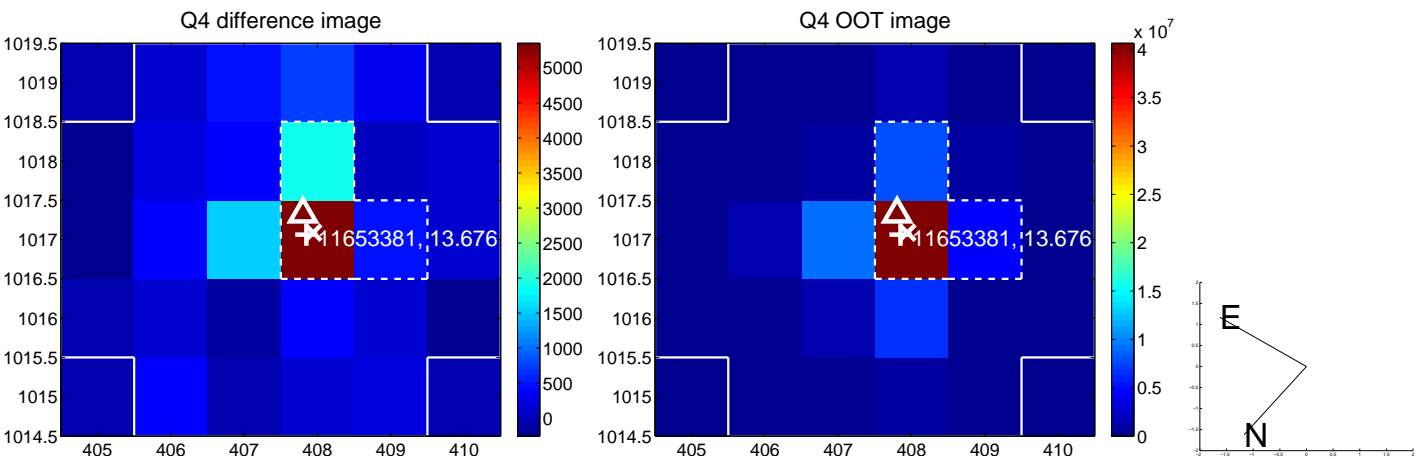
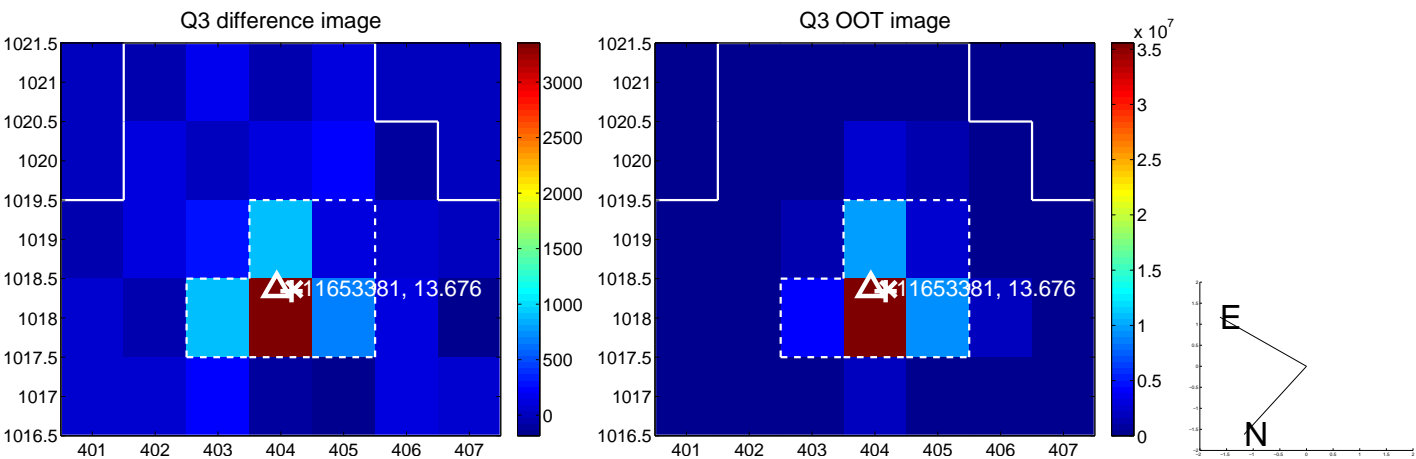
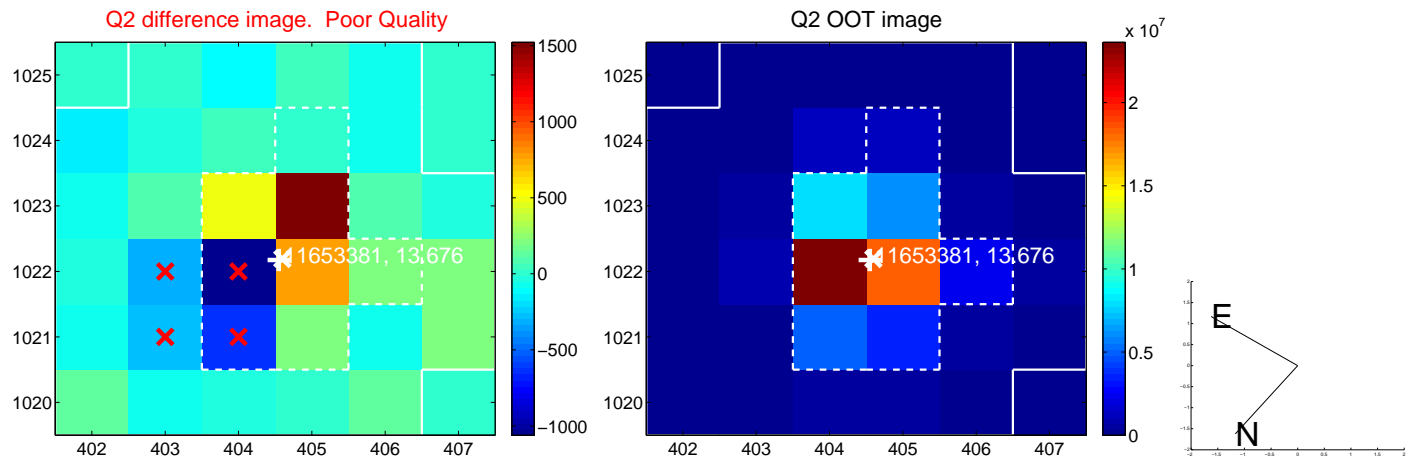
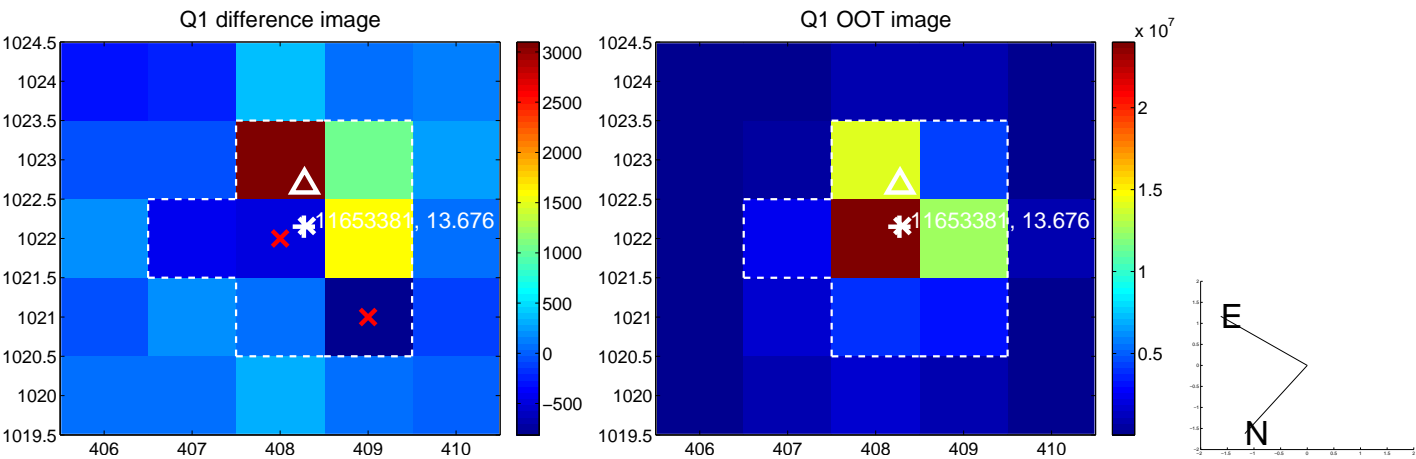


offset from photometric centroids

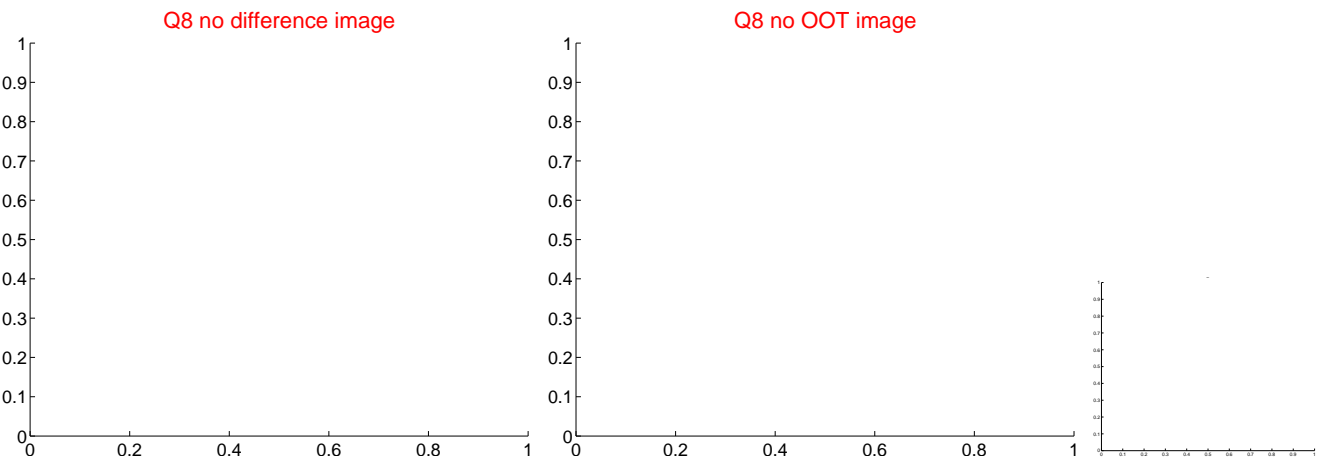
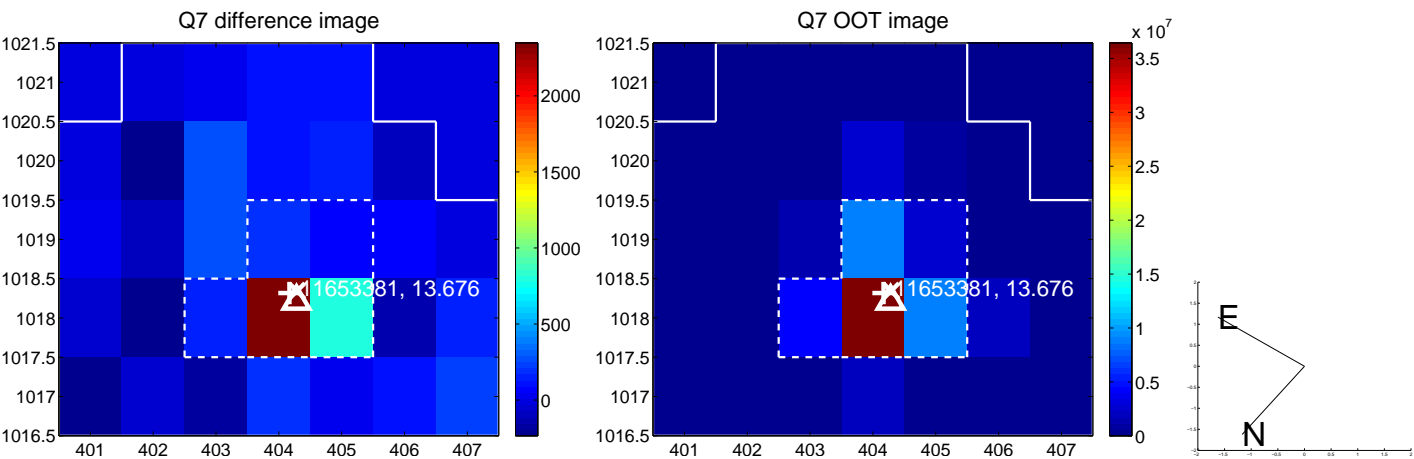
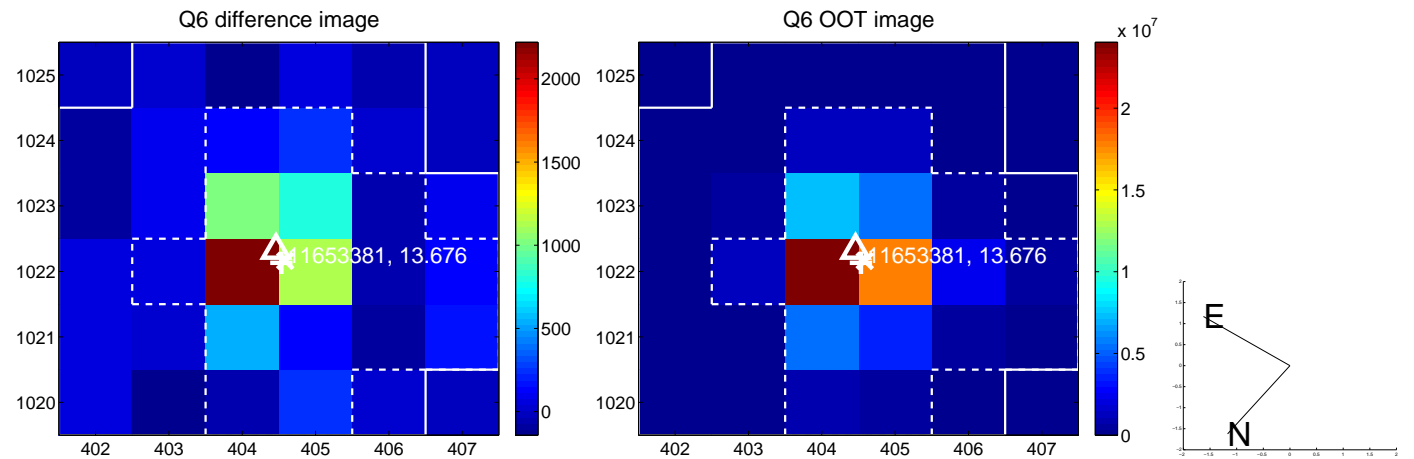
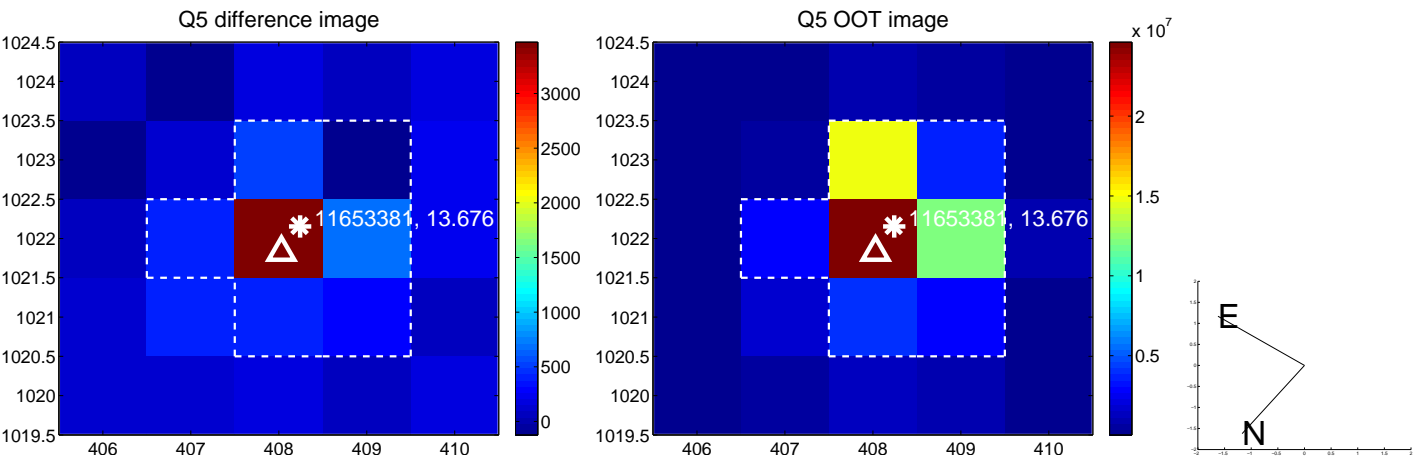


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

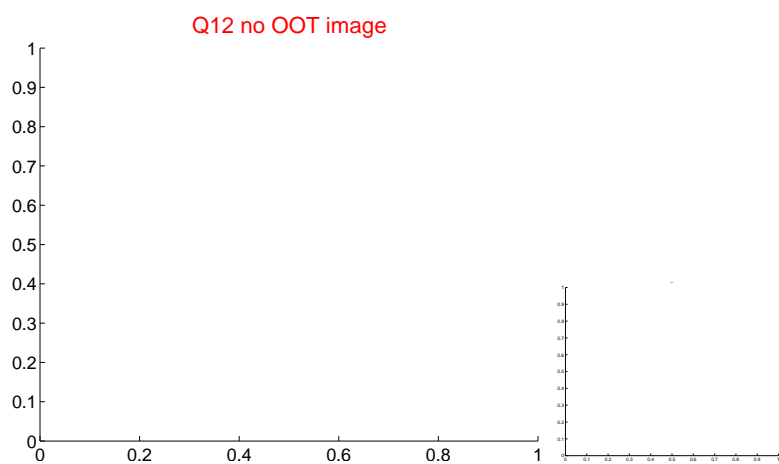
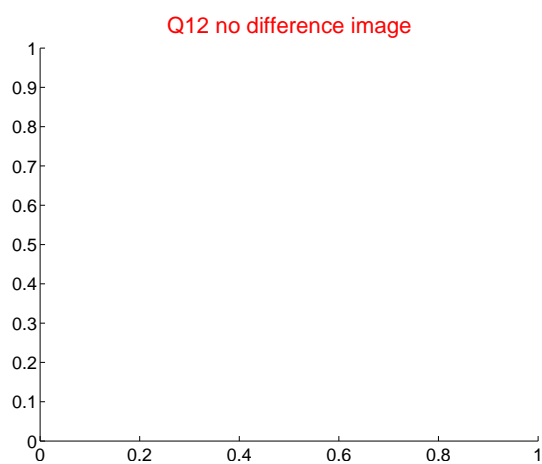
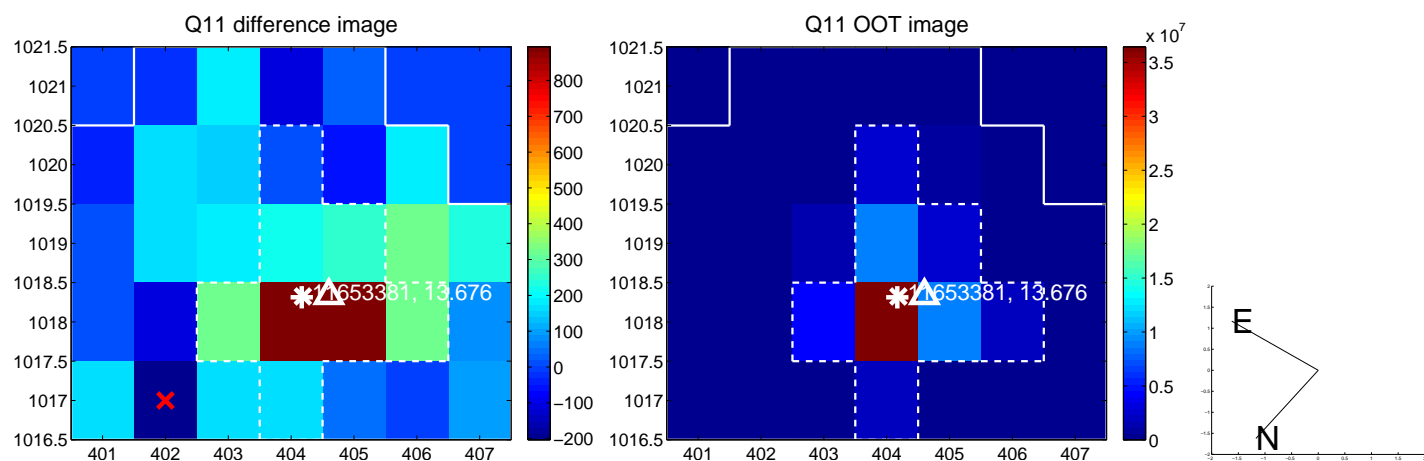
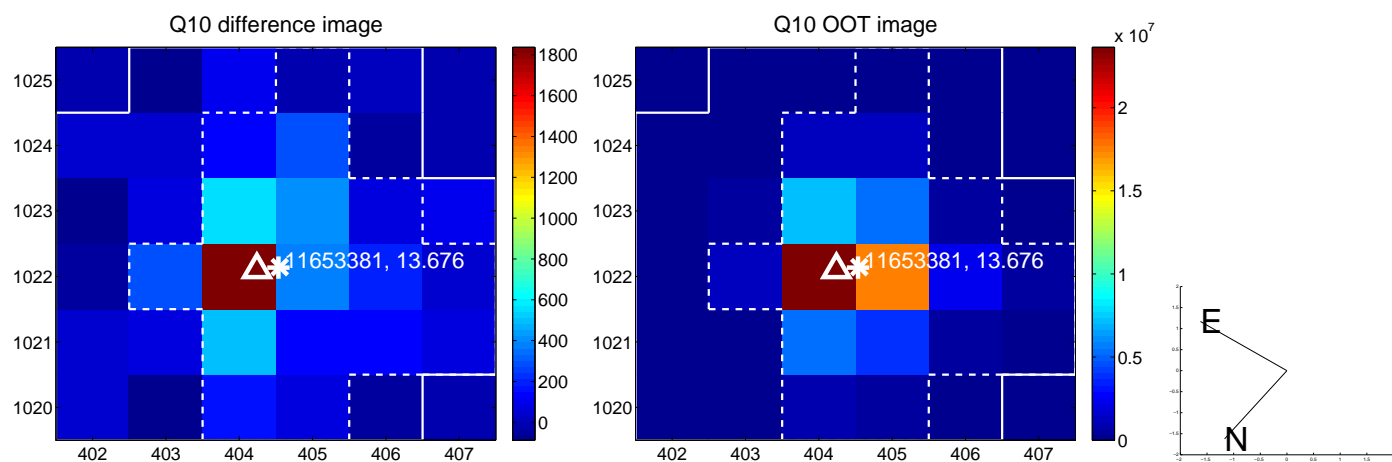
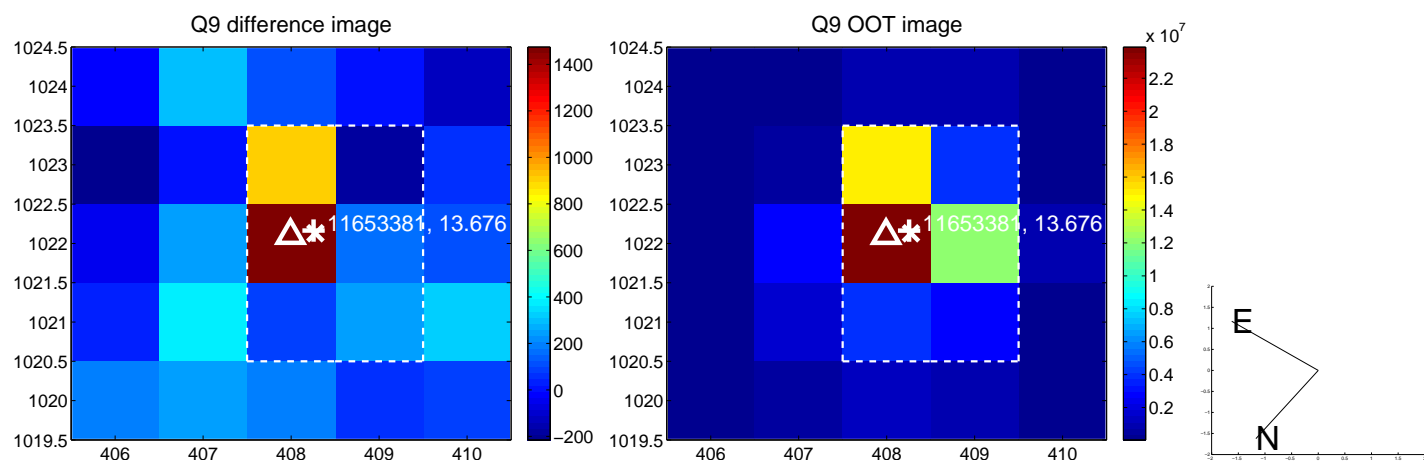
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



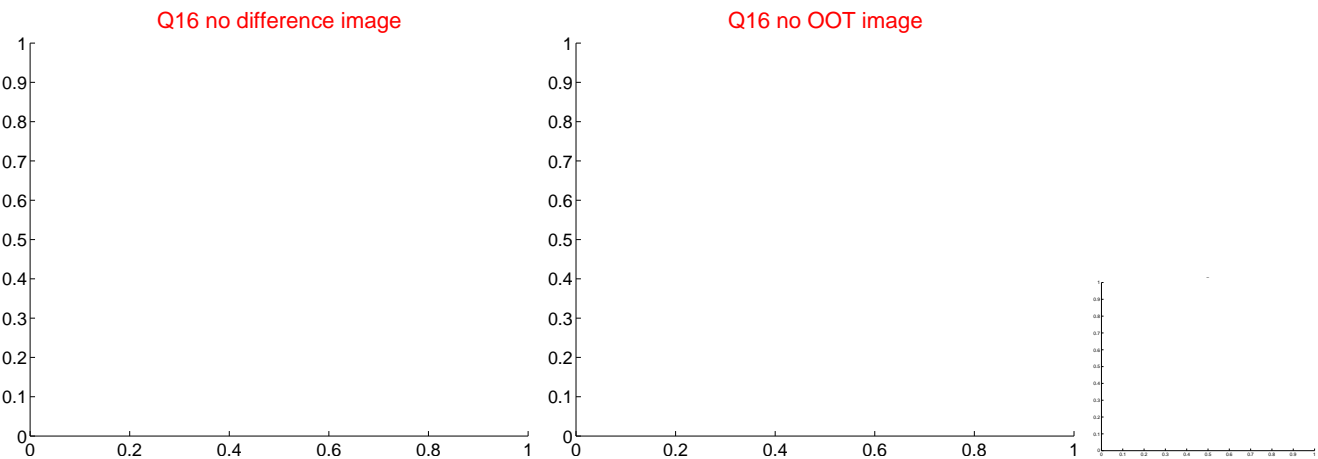
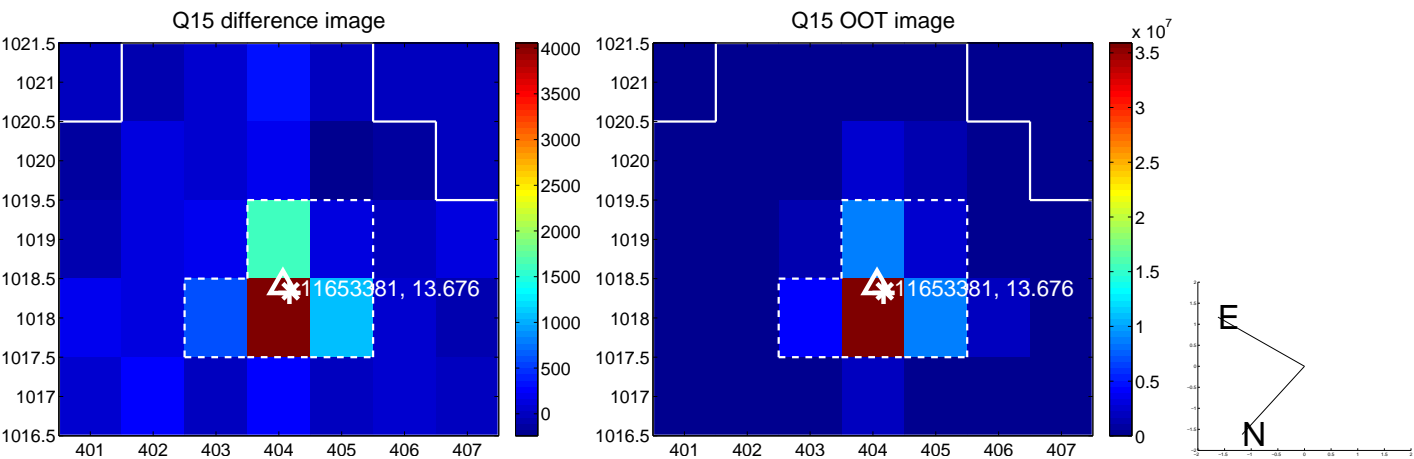
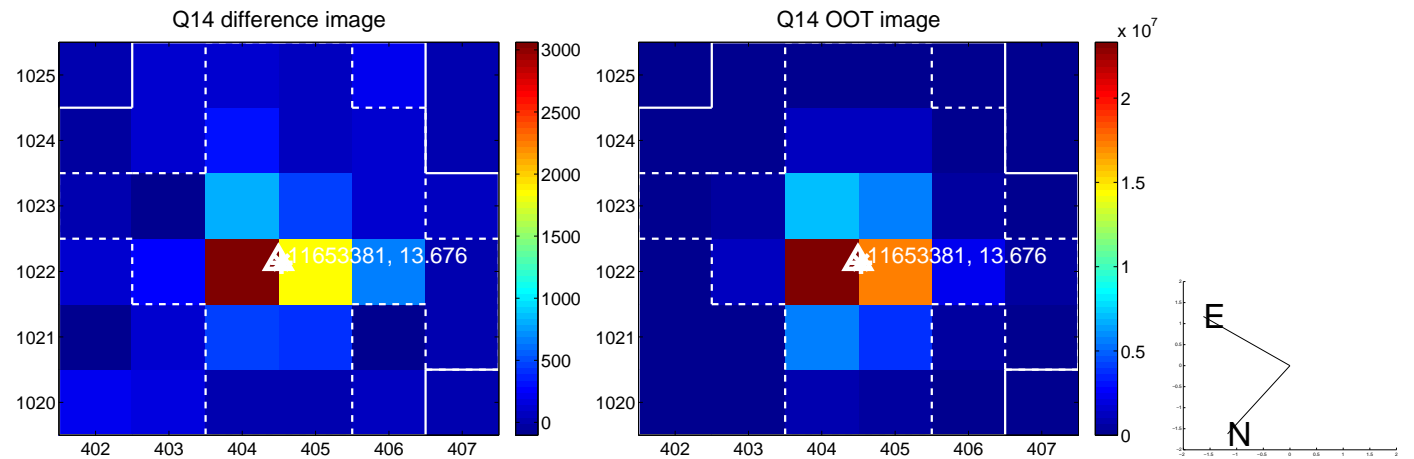
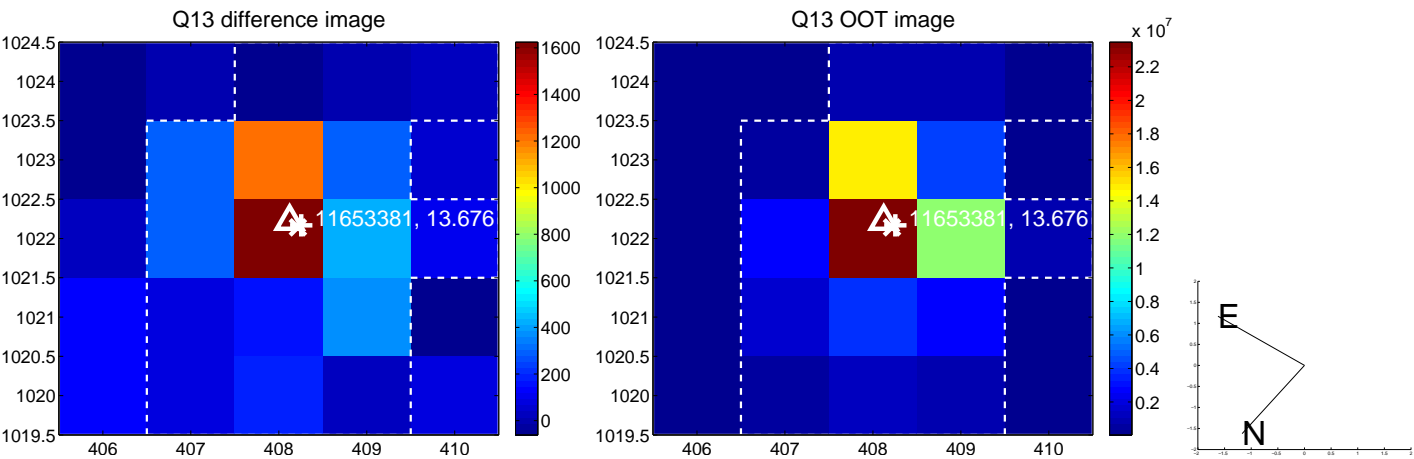
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



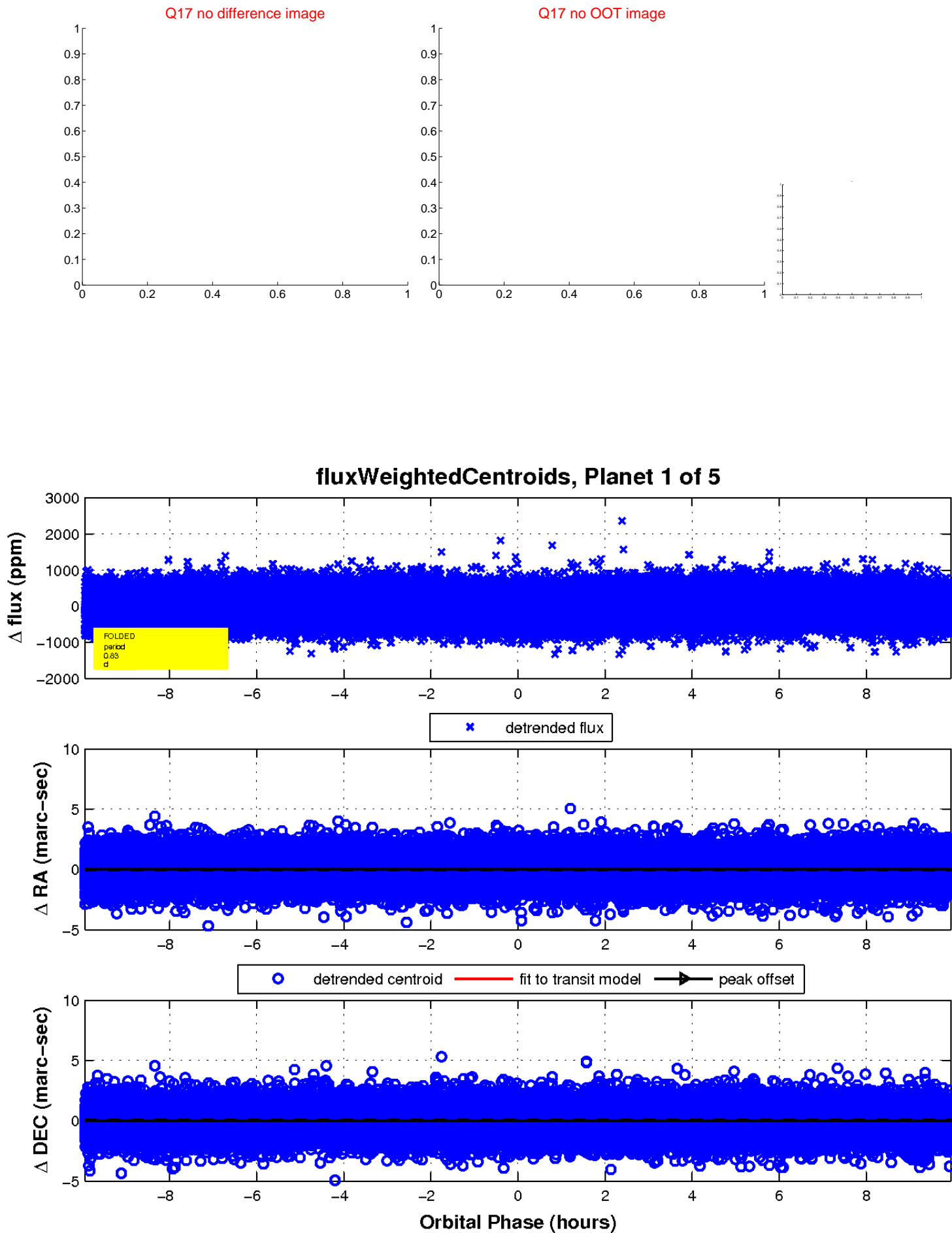
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

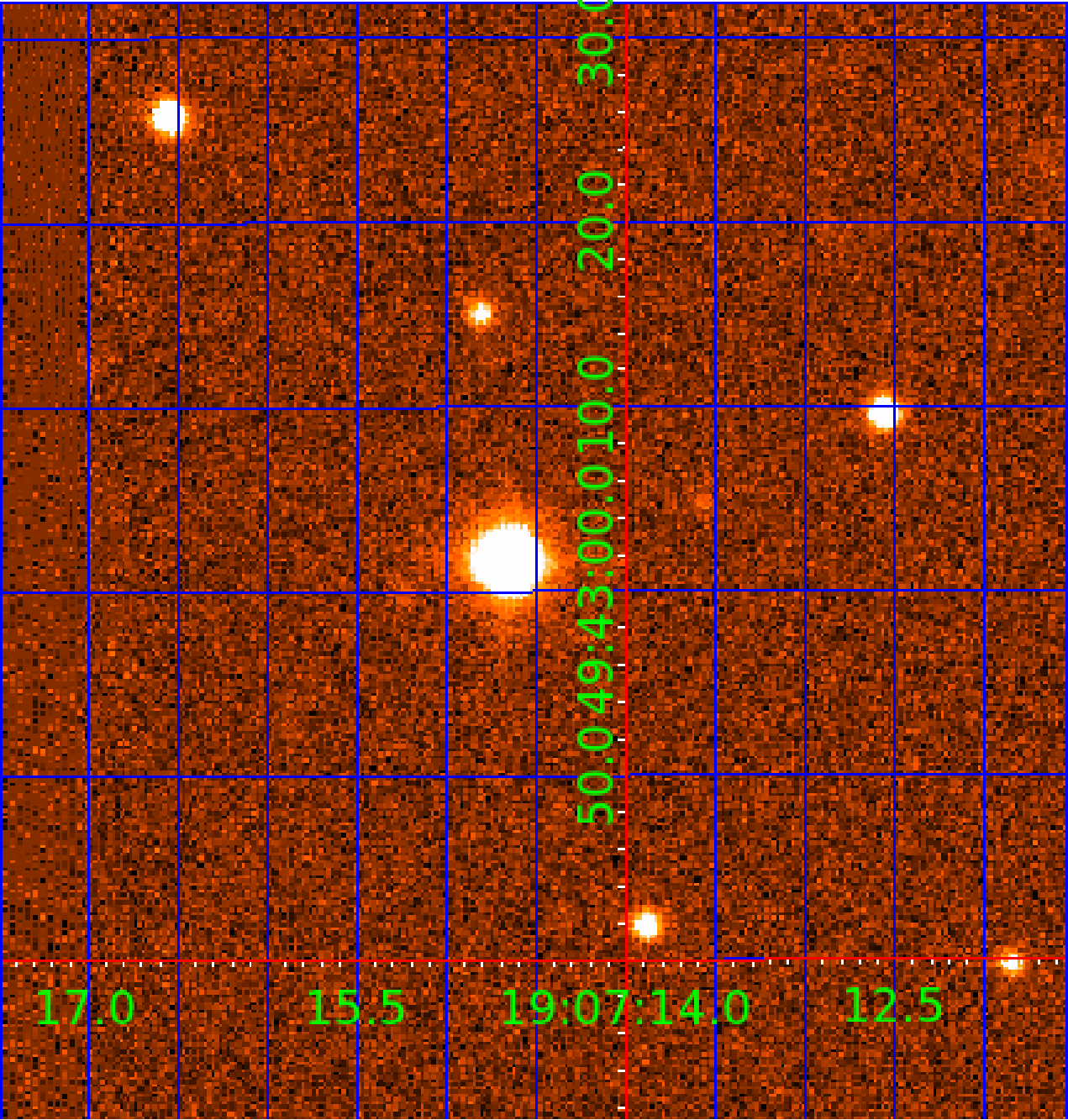


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011653381

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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011653381-02	OBS	No	40.704516	134.380170	286.3	5.474	7.6	6.8	6.93	5033	12.65	333.97
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011653381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
011653381-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
011653381-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

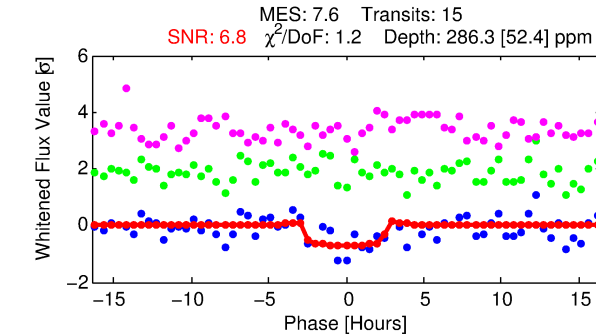
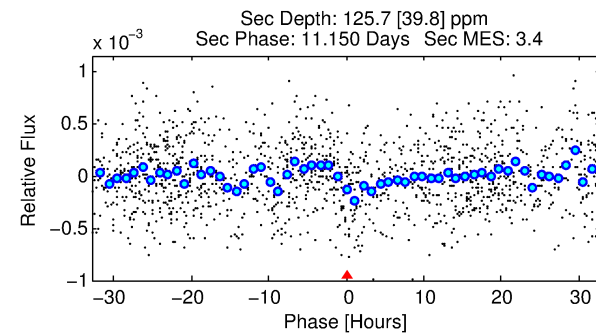
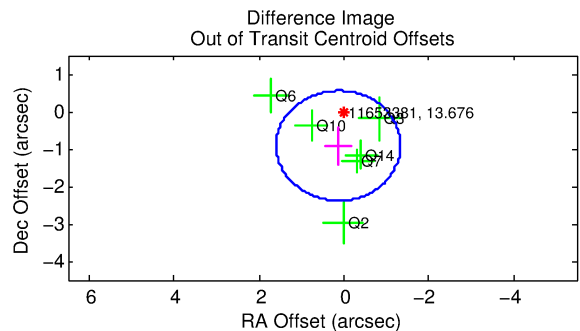
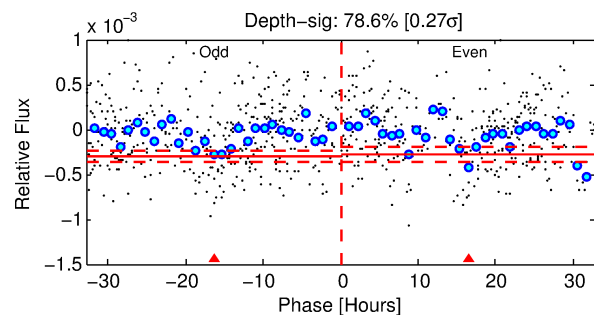
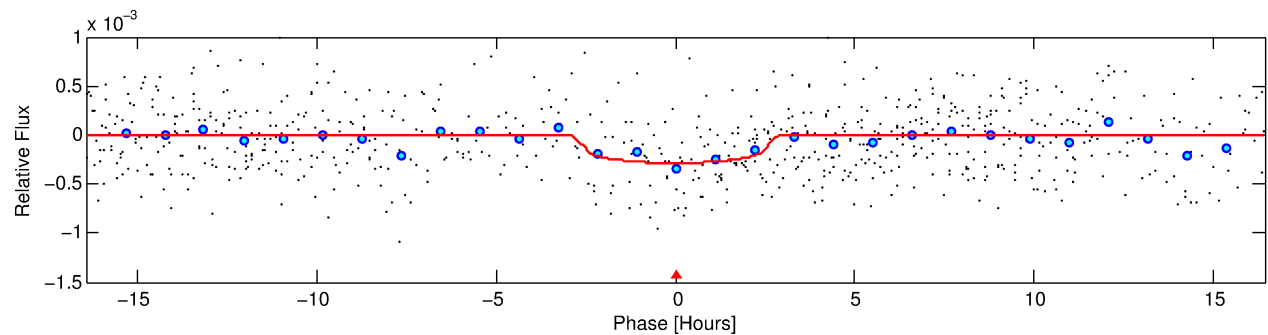
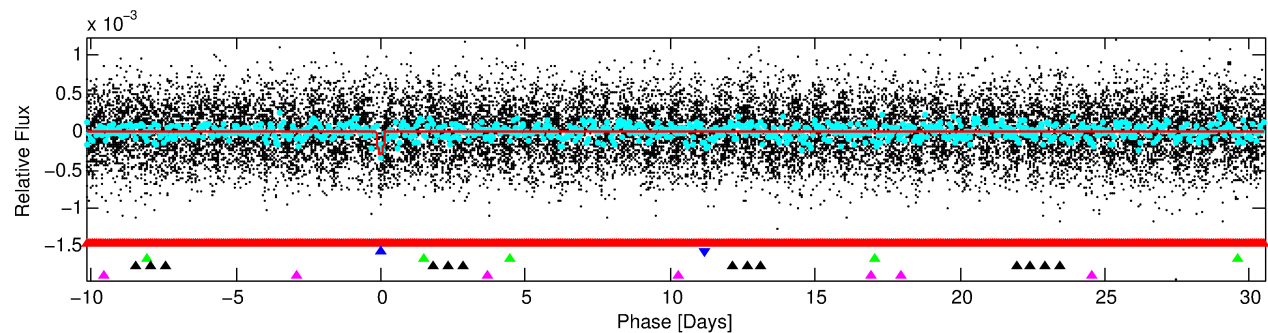
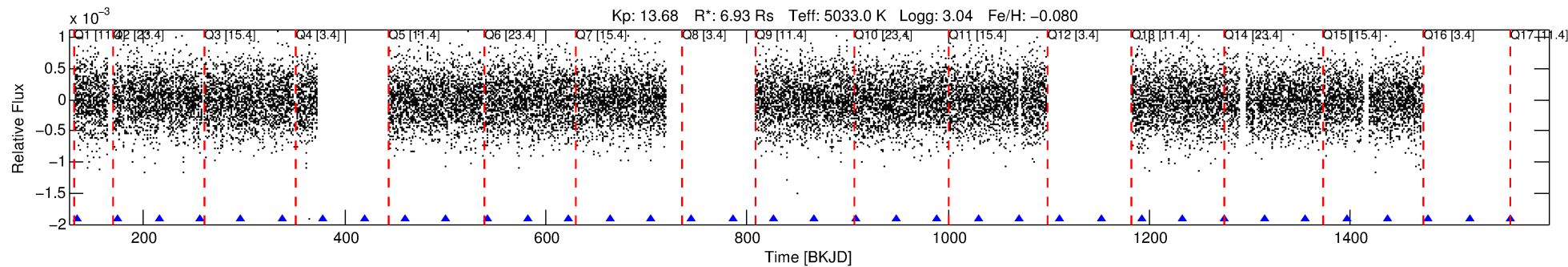
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011653381-02

No Significant Match Found

DV One-Page Summary

KIC: 11653381 Candidate: 2 of 5 Period: 40.705 d



DV Fit Results:

Period = 40.70452 [0.00069] d
Epoch = 134.3802 [0.0140] BKJD
Rp/R* = 0.0167 [0.0219]
a/R* = 40.19 [194.90]
b = 0.73 [3.15]
Seff = 333.97 [70.51]
Teff = 1090 [58] K
Rp = 12.65 [16.90] Re
a = 0.2874 [0.0504] AU
Ag = 35.70 [94.46] [0.37 σ]
Teffp = 4120 [2721] K [1.11 σ]

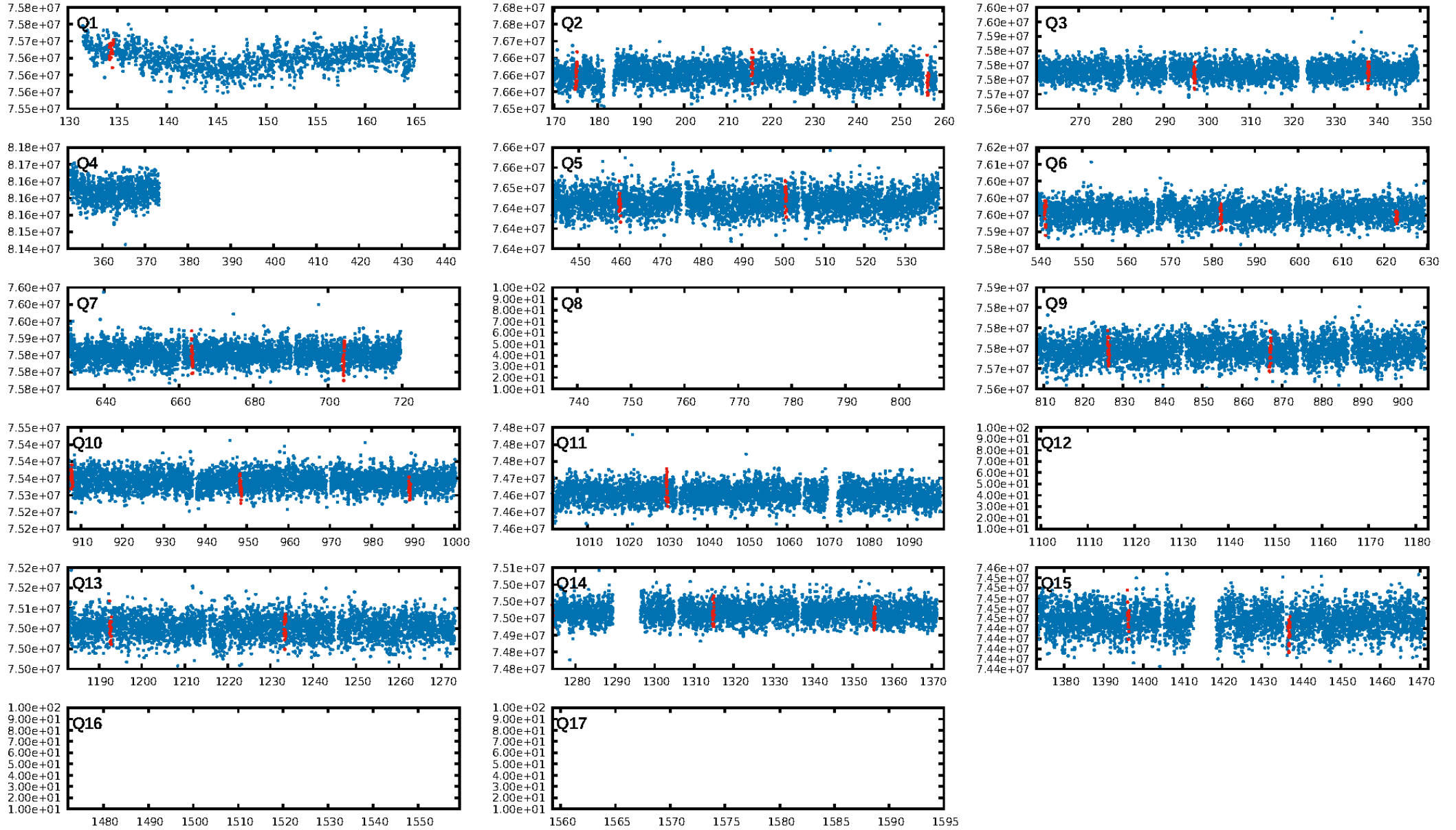
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [147.47 σ]
LongPeriod-sig: 100.0% [262.10 σ]
ModelChiSquare2-sig: 41.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.56e-10
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 0.1717
Centroid-sig: 27.3%
Centroid-so: 1.007 arcsec [1.46 σ]
OotOffset-rm: 0.922 arcsec [1.89 σ]
KicOffset-rm: 0.759 arcsec [1.55 σ]
OotOffset-st: 4/2/0/0 [6]
KicOffset-st: 4/2/0/0 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.00 [0/10]

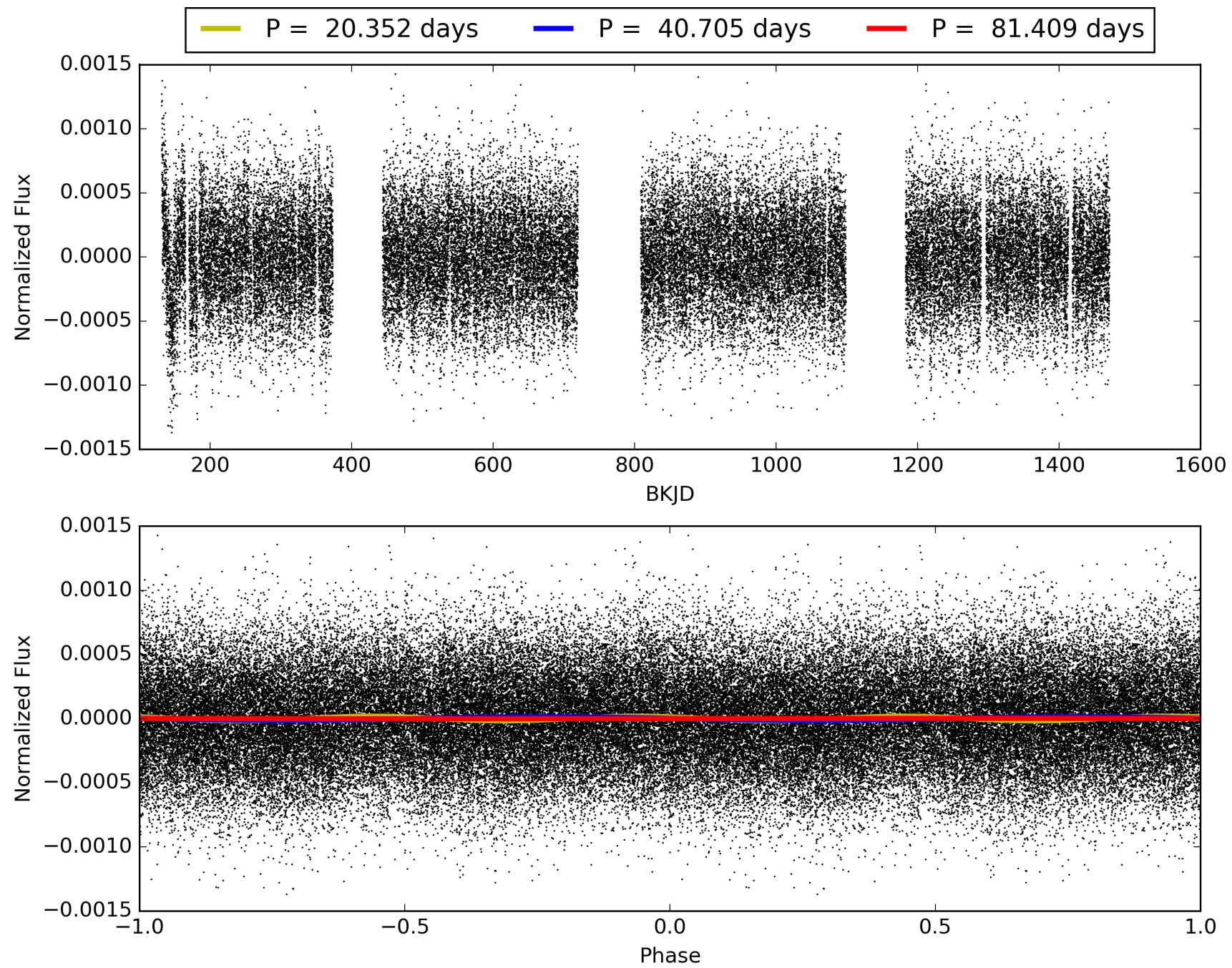
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:16:02 Z

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

TCE 011653381-02, PDC Light Curves

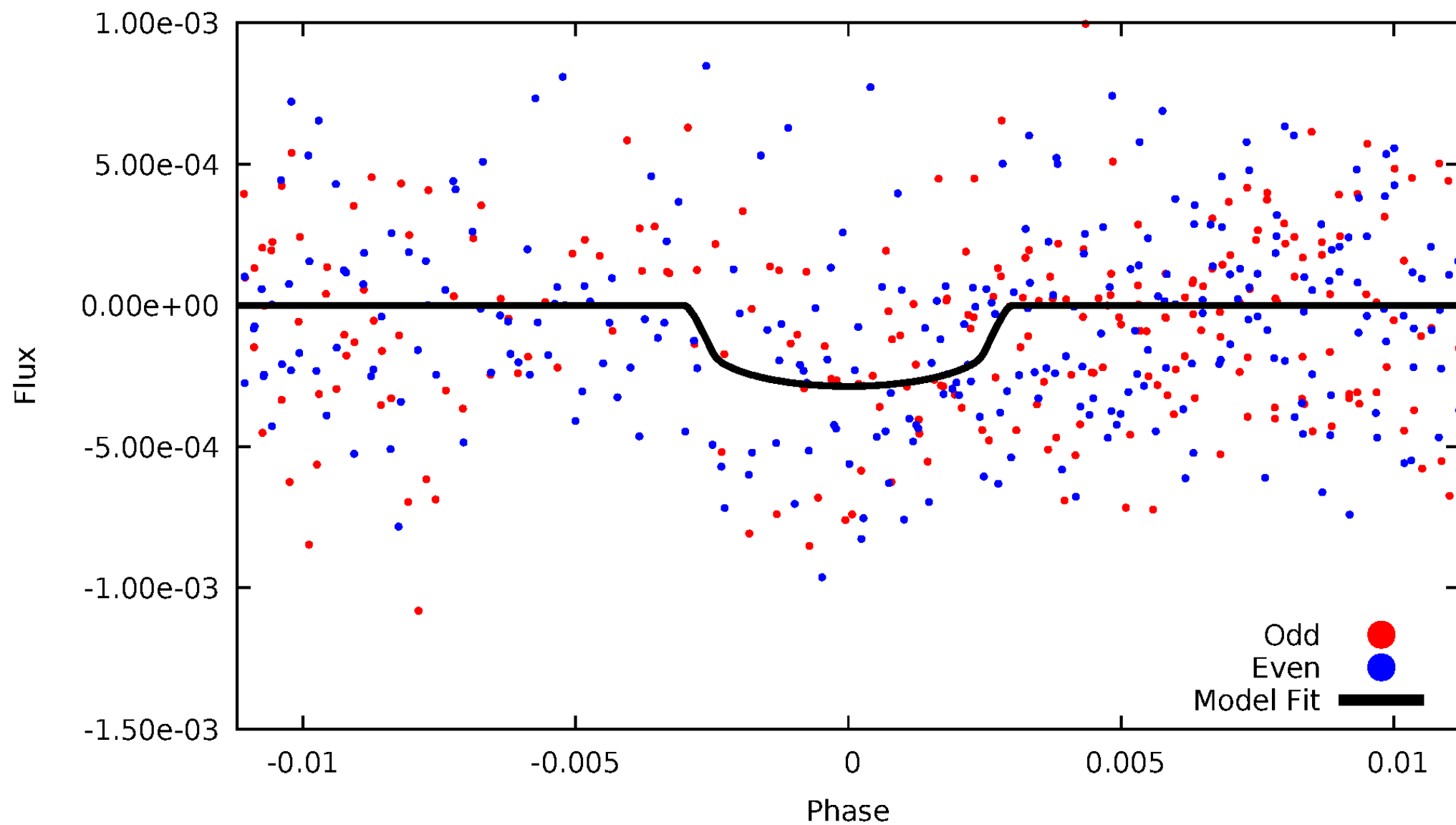


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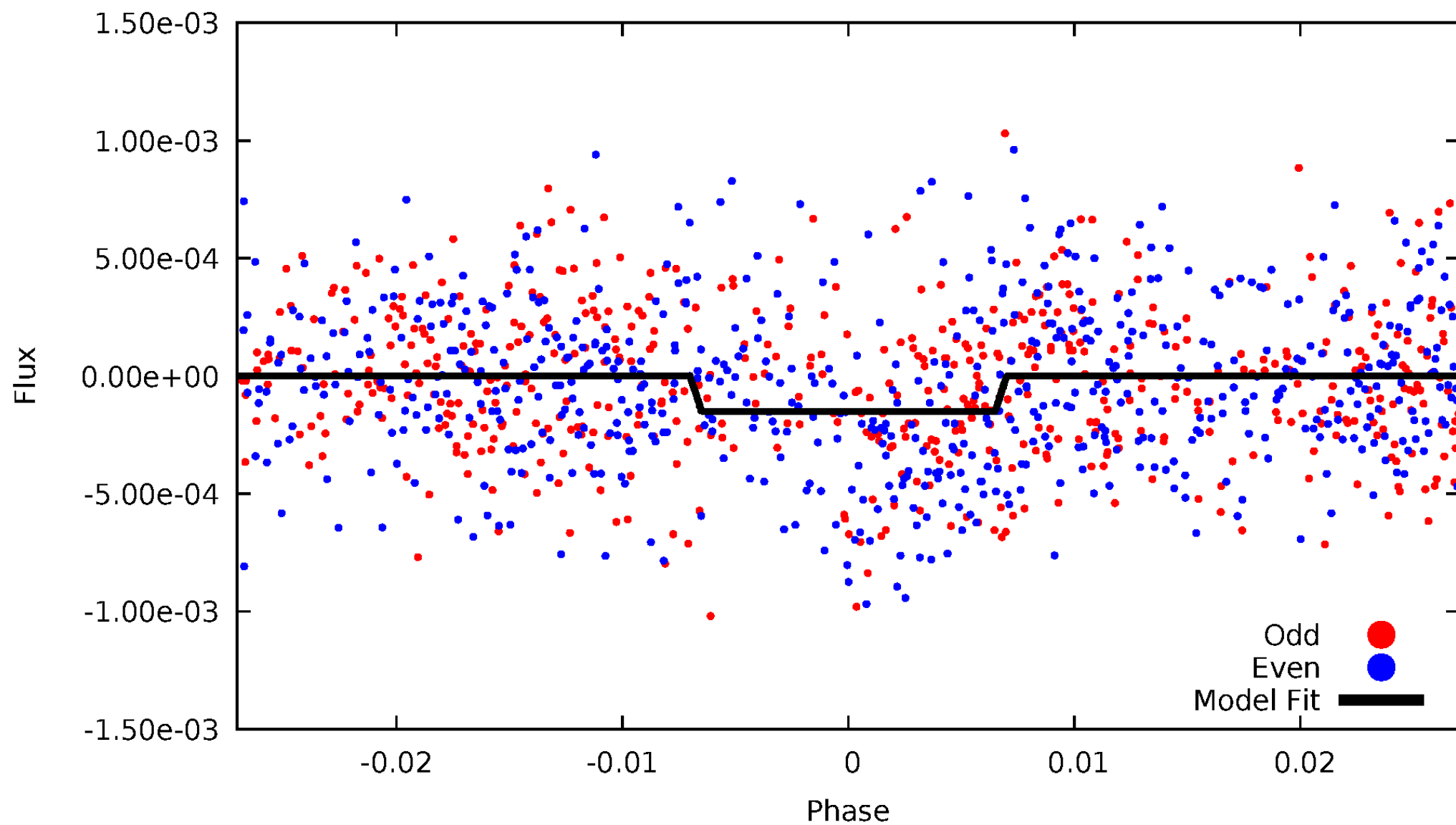
DV Odd/Even

TCE 011653381-02



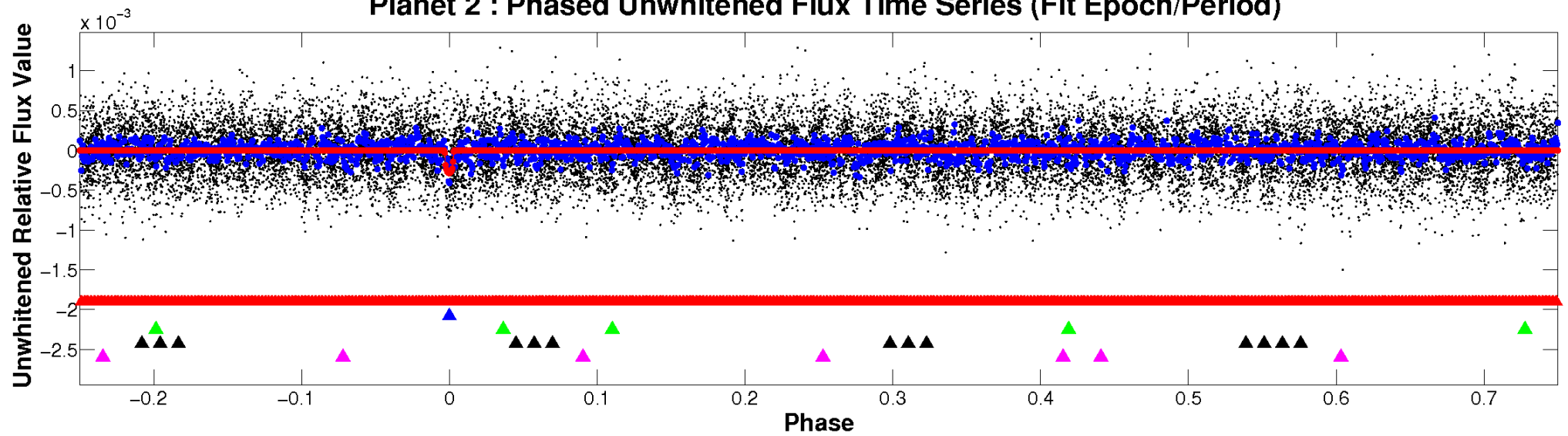
ALT Odd/Even

TCE 011653381-02

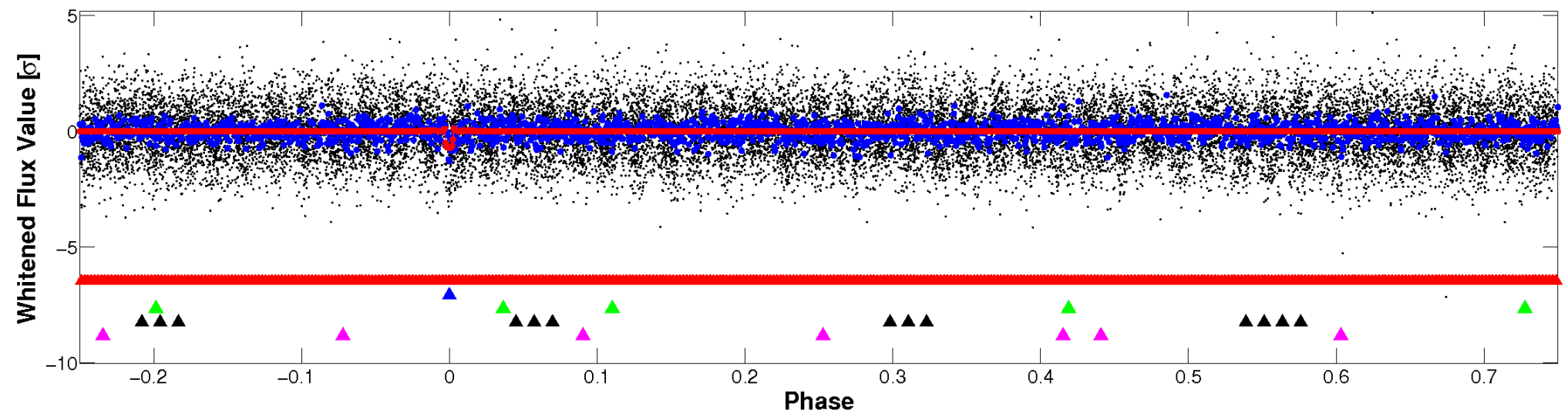


Non-Whitened Vs. Whitened Light Curve

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

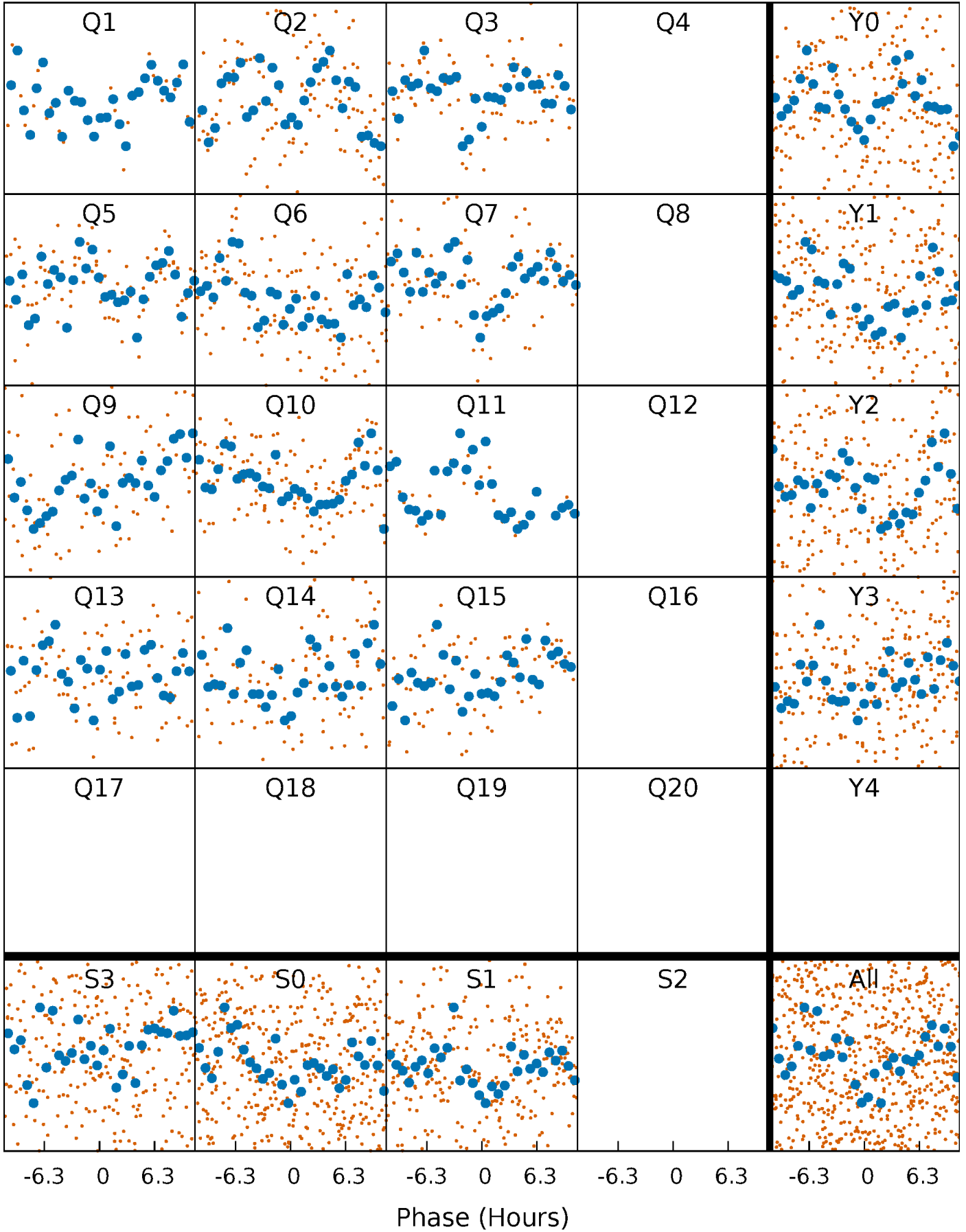


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



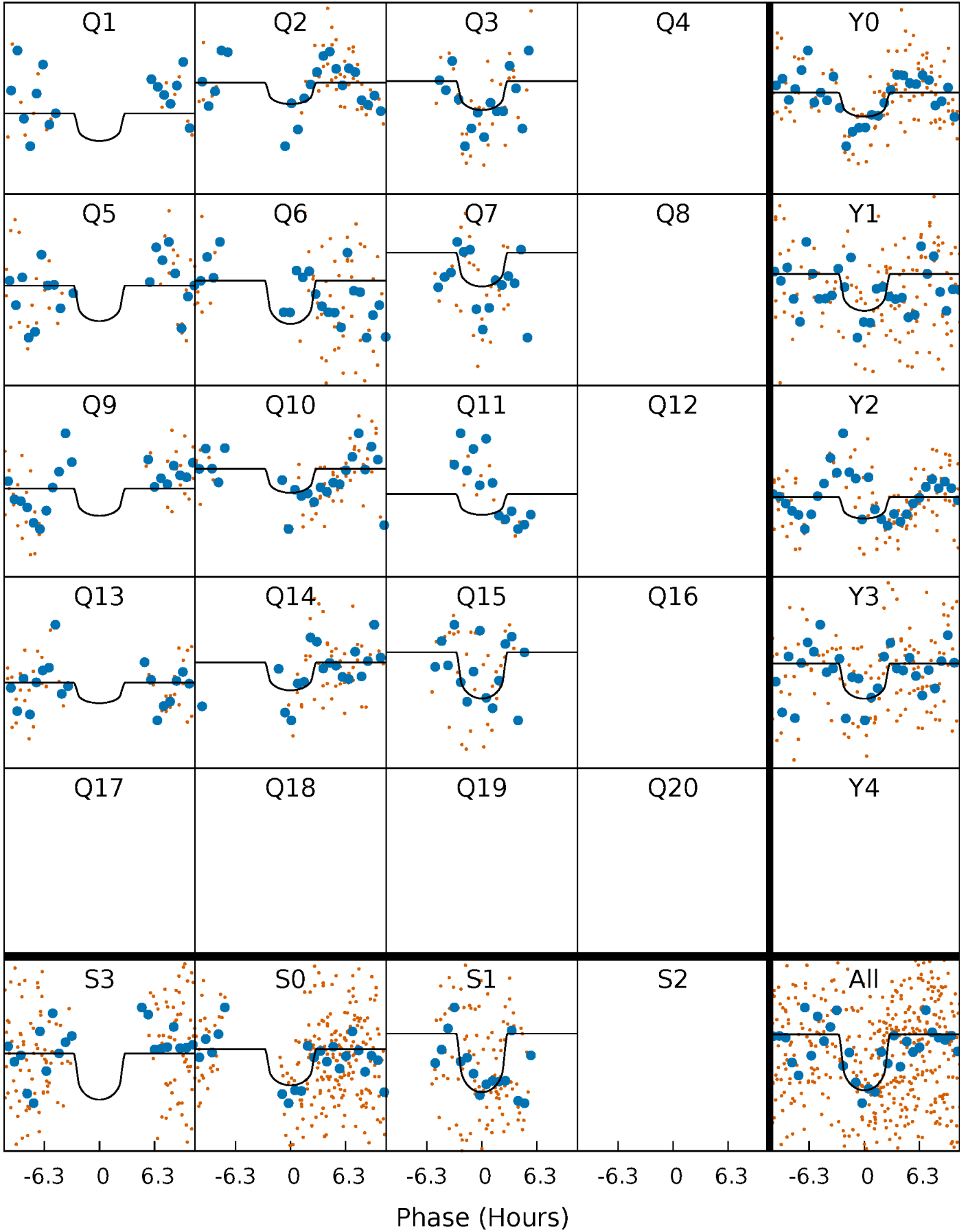
PDC Quarter-Phased Transit Curves

TCE 011653381-02 $P = 40.704516$ Days $T_0 = 134.380170$ (BKJD)



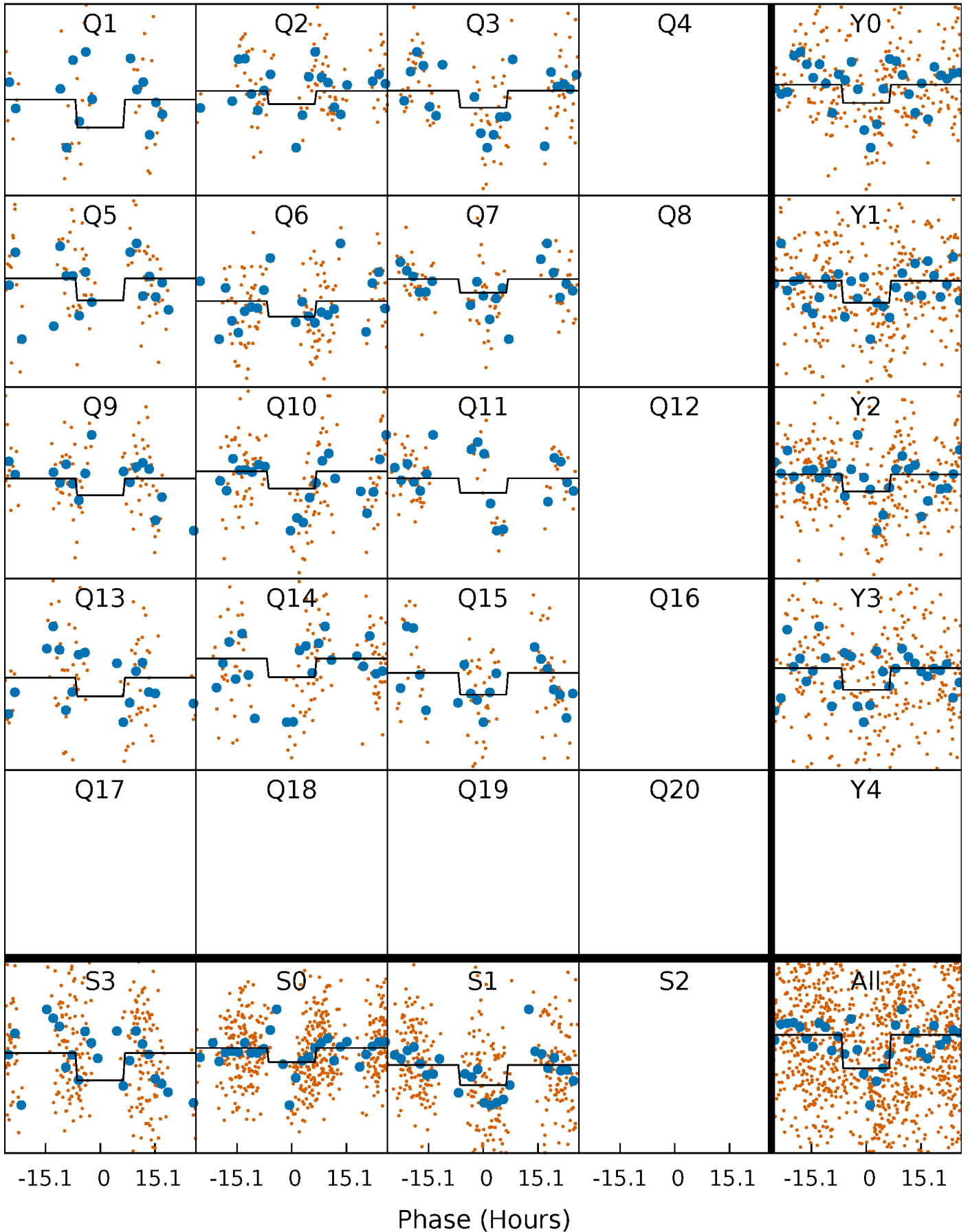
DV Quarter-Phased Transit Curves

TCE 011653381-02 P= 40.704516 Days $T_0=134.380170$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

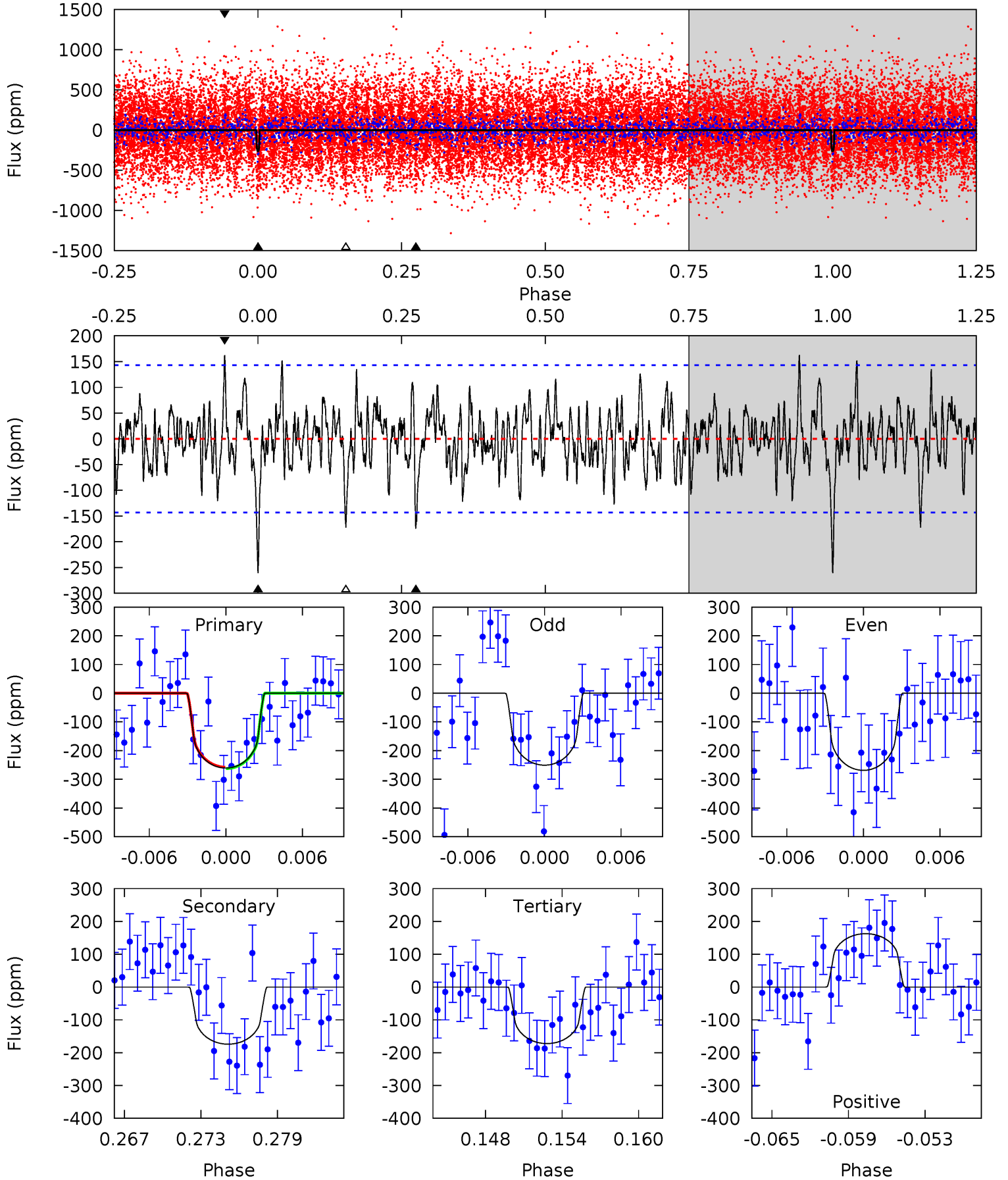
TCE 011653381-02 $P = 40.708595$ Days $T_0 = 134.270940$ (BKJD)



DV Model-Shift Uniqueness Test

011653381-02, P = 40.704516 Days, E = 93.675654 Days

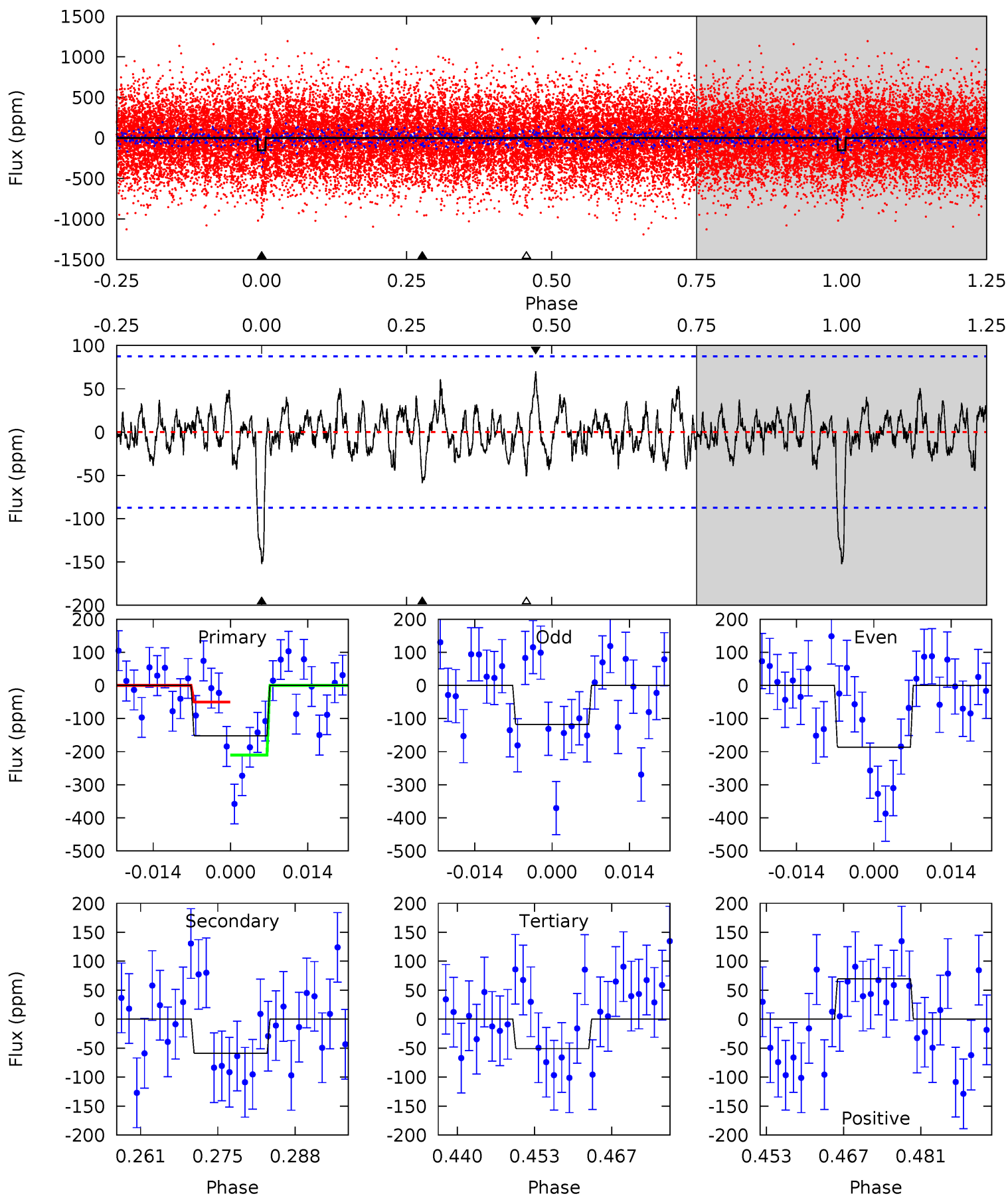
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.34	6.24	6.17	5.83	5.13	2.75	1.72	3.17	3.52	0.06	0.41	0.32	0.67	0.38	0.08



Alt Model-Shift Uniqueness Test

011653381-02, P = 40.708595 Days, E = 93.562345 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.66	3.36	2.89	3.97	4.97	2.46	1.13	5.77	4.69	0.47	-0.61	1.95	1.00	0.31	4.38



Stellar Parameters For KIC 011653381

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5033^{+86}_{-136}	$3.038^{+0.035}_{-0.028}$	$-0.080^{+0.150}_{-0.350}$	$6.927^{+0.318}_{-1.800}$	$1.910^{+0.146}_{-0.829}$	$0.008^{+0.003}_{-0.001}$
	+2%/-3%	+1%/-1%	+188%/-438%	+5%/-26%	+8%/-43%	+42%/-8%
Source	PHO1	AST9	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 011653381-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-174 ± 28	$17.67^{+14.87}_{-11.82}$	1523^{+33}_{-45}	4011^{+2426}_{-733}	25^{+206}_{-18}
Alt.	-59 ± 18	$14.76^{+14.32}_{-9.87}$	1523^{+35}_{-49}	3505^{+1835}_{-645}	12^{+90}_{-8}

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

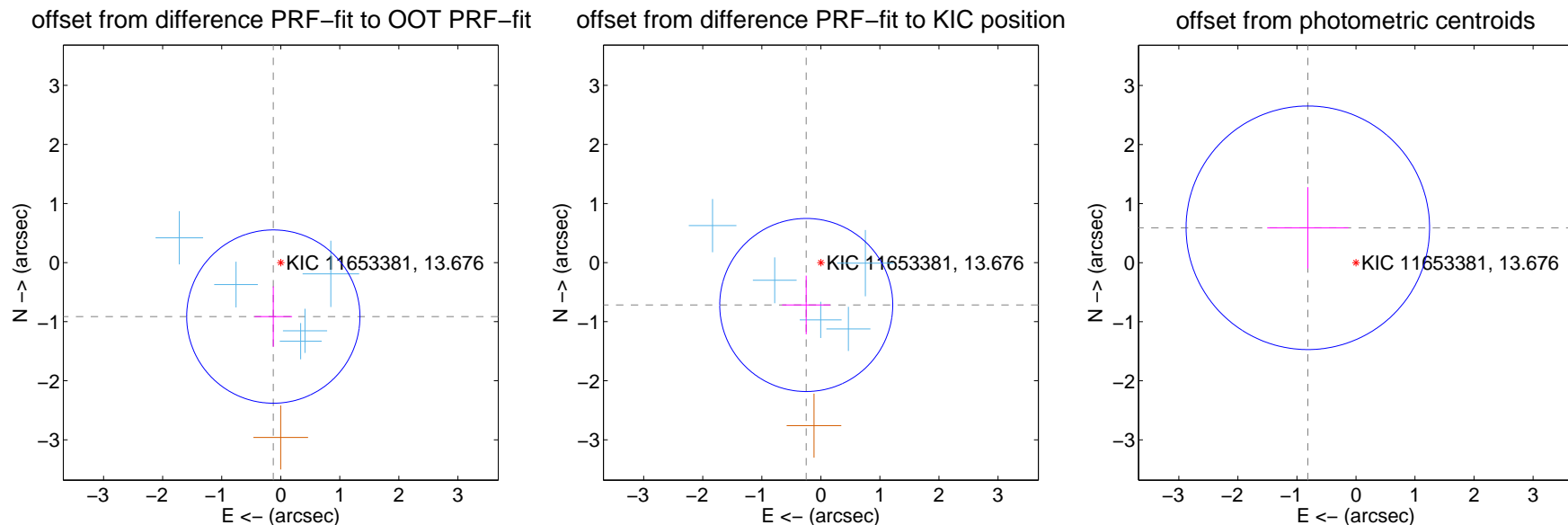
DV Centroid Data

Supplemental centroid analysis for 011653381-02. Kepler magnitude: 13.68. Transit SNR 6.75

There are 5 quarters with good PRF difference image offsets

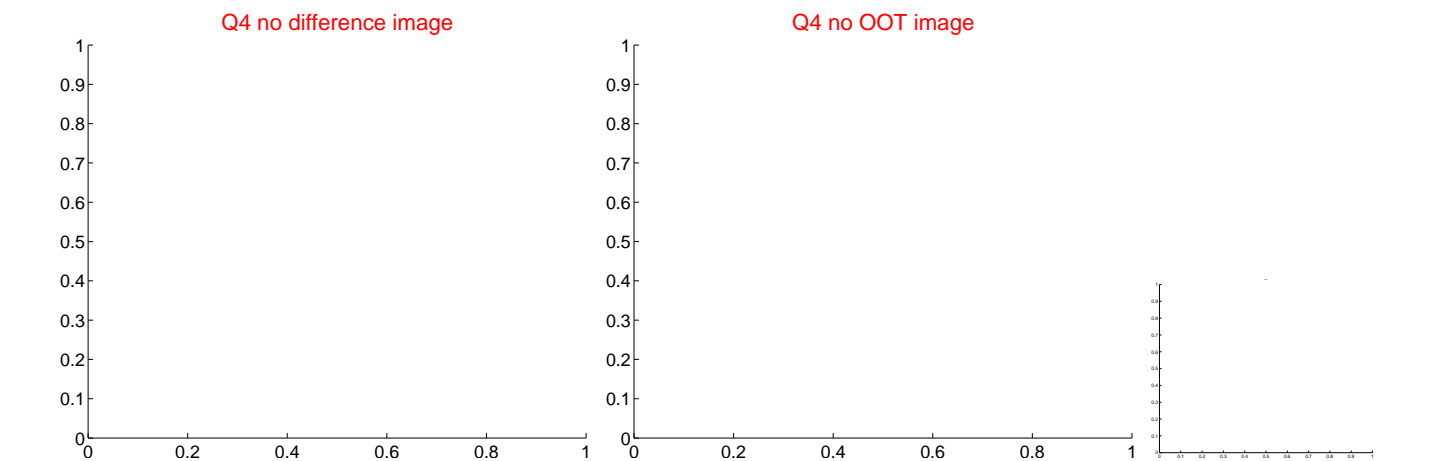
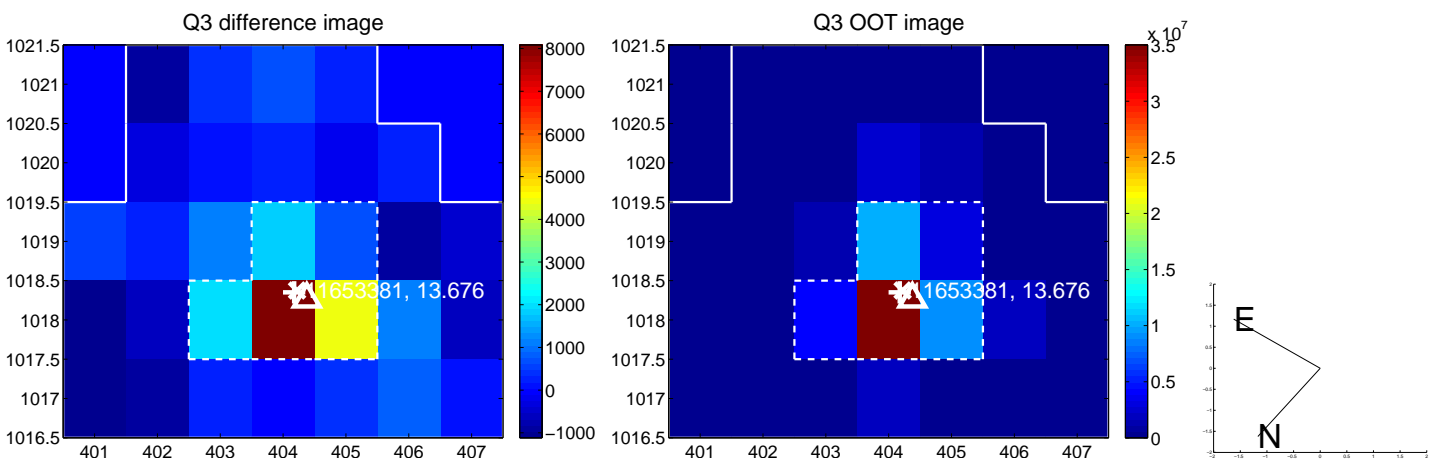
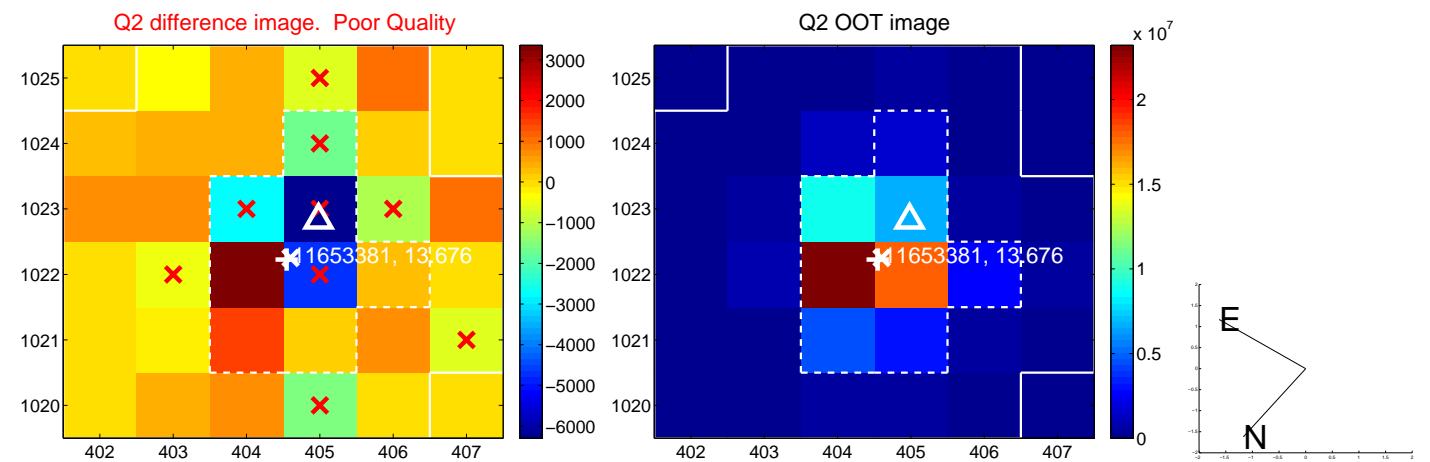
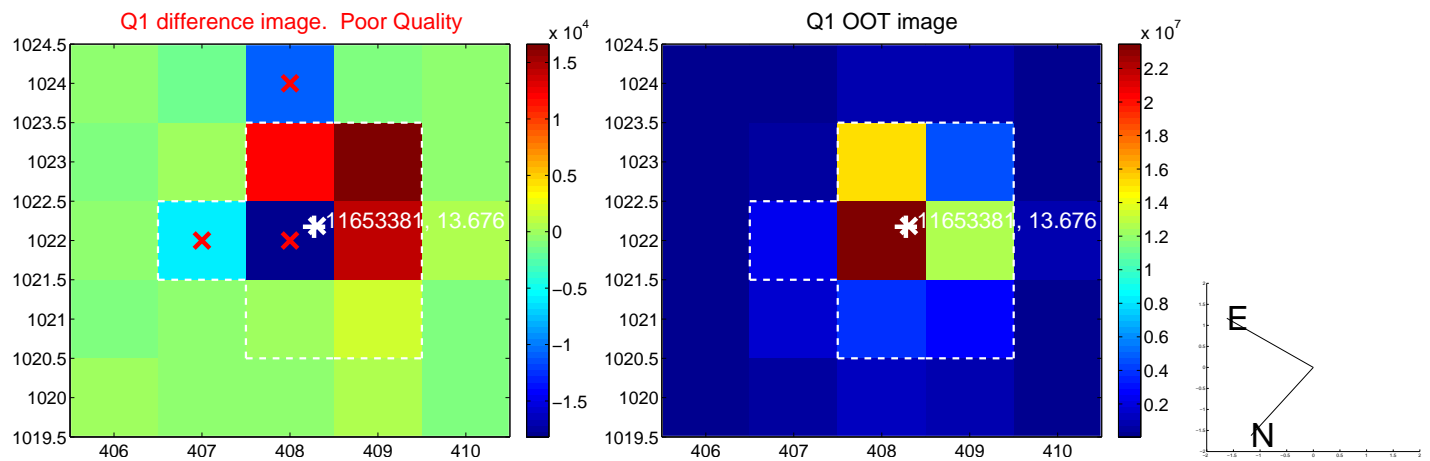
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.922 ± 0.489	1.89	0.126 ± 0.318	-0.914 ± 0.510
PRF-fit source offset from KIC position	0.759 ± 0.488	1.55	0.248 ± 0.408	-0.718 ± 0.497
photometric centroid source offset	1.01 ± 0.69	1.46	0.82 ± 0.69	0.59 ± 0.69

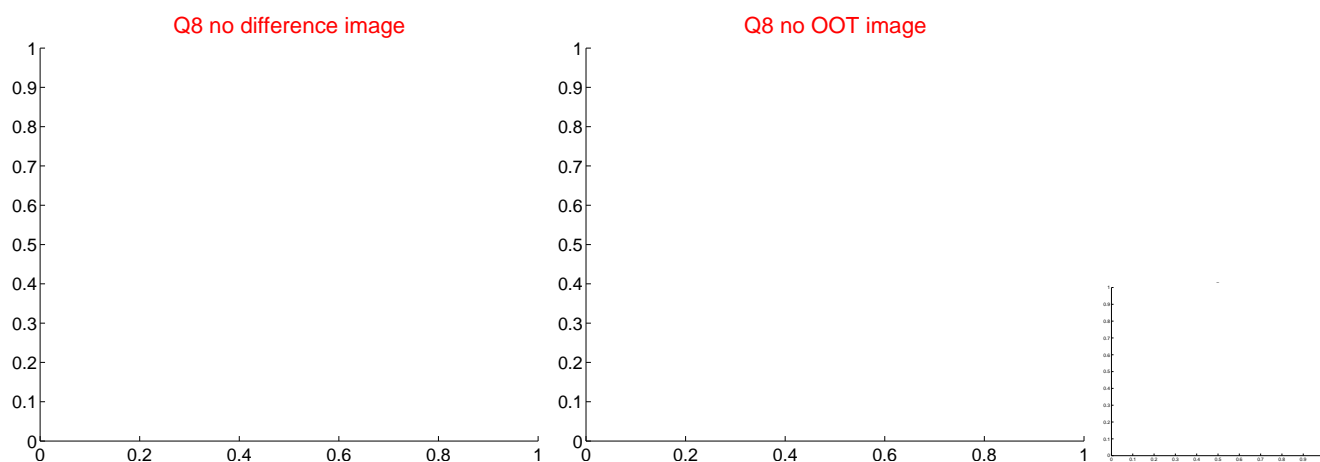
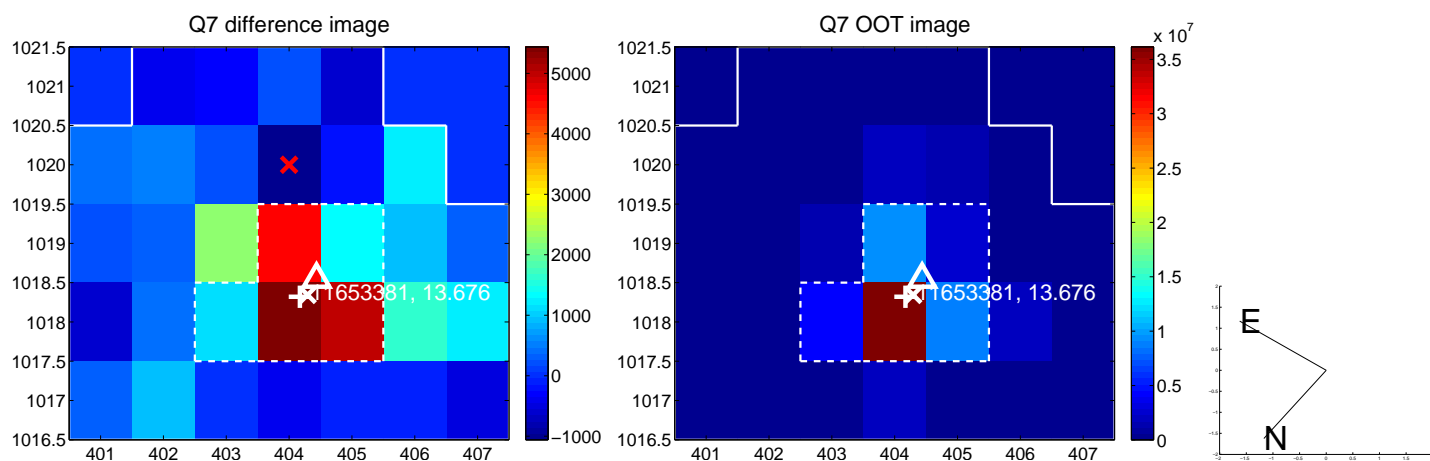
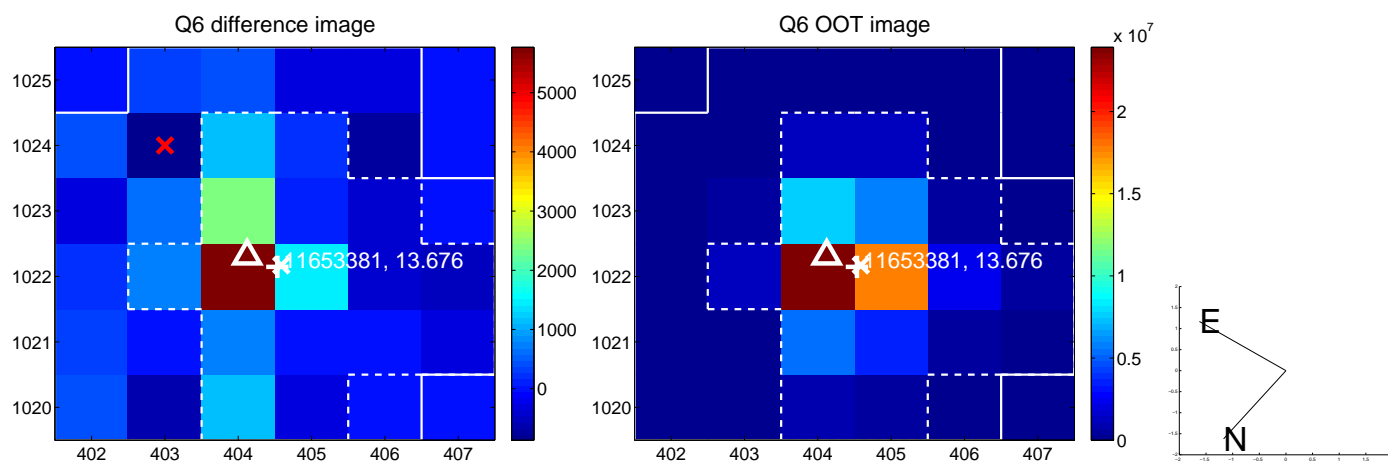
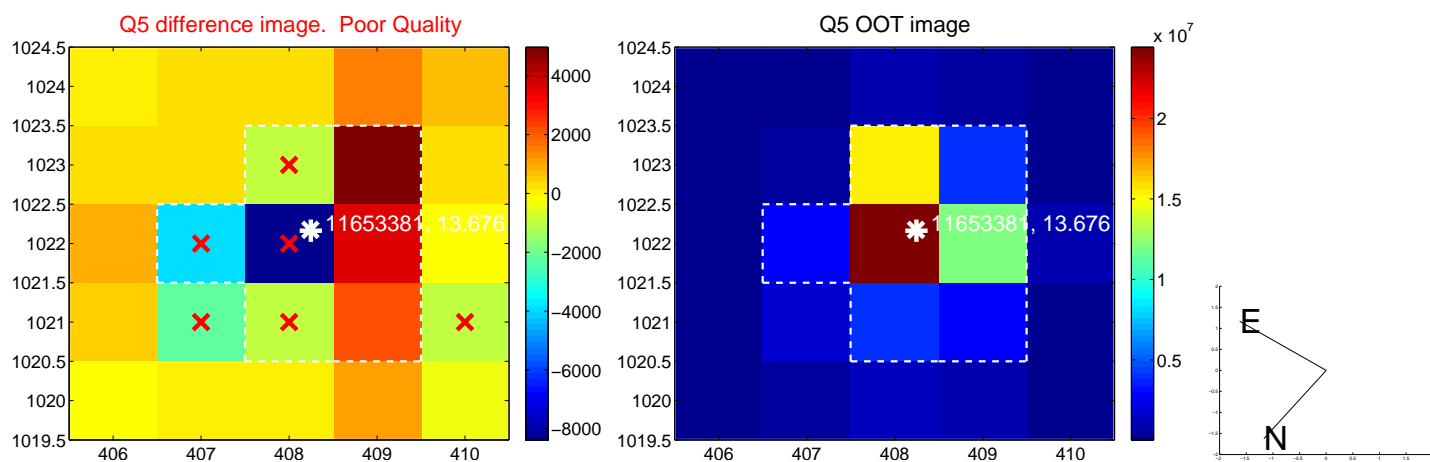


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

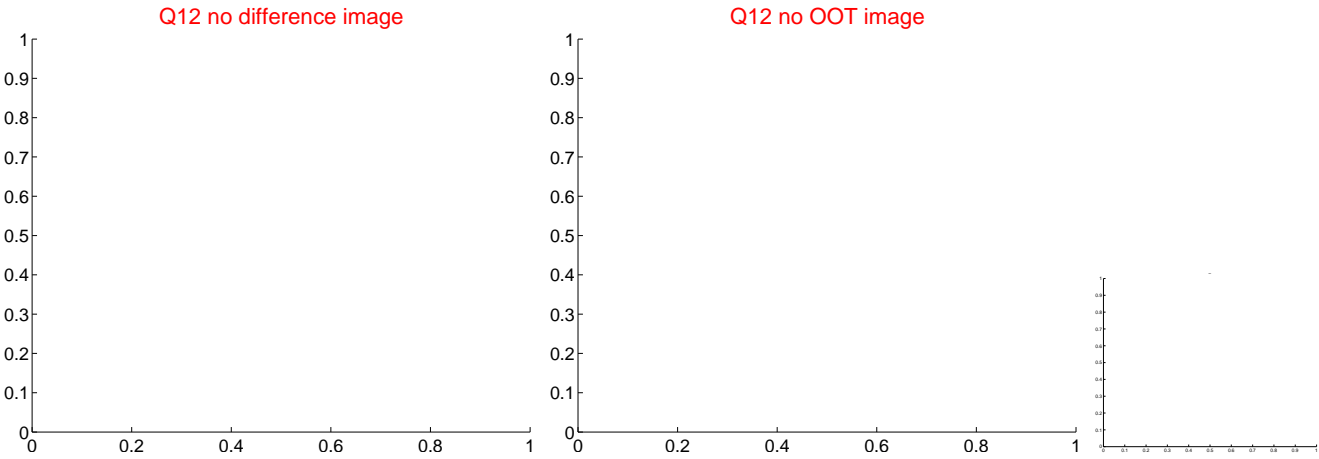
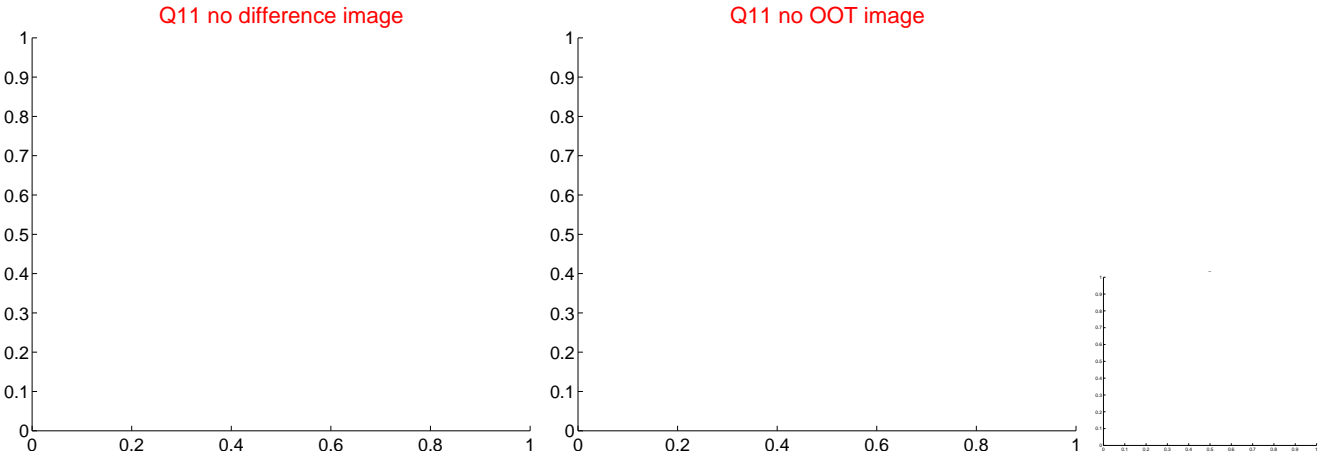
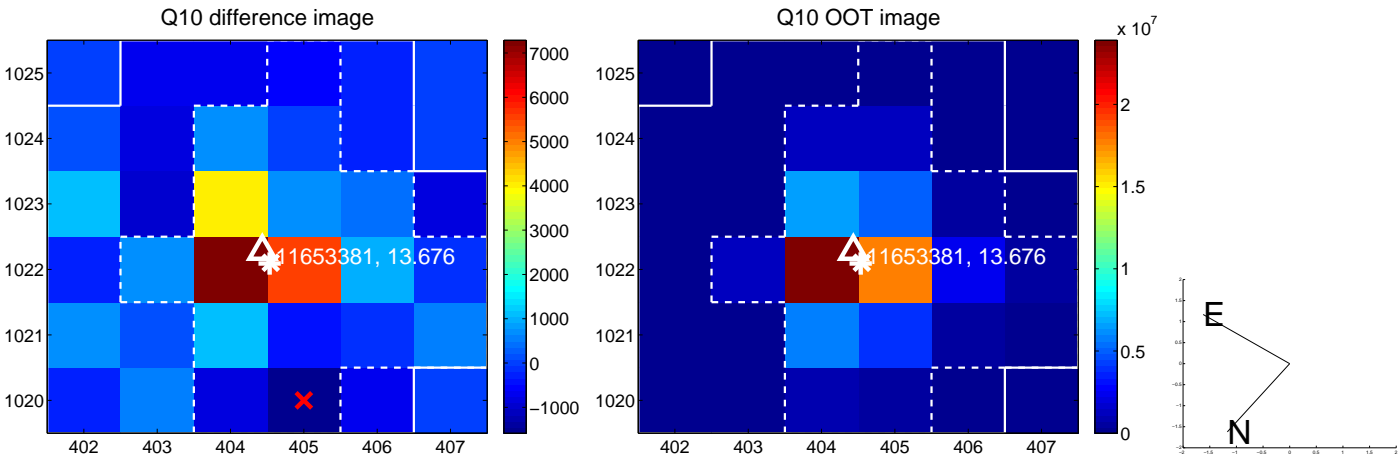
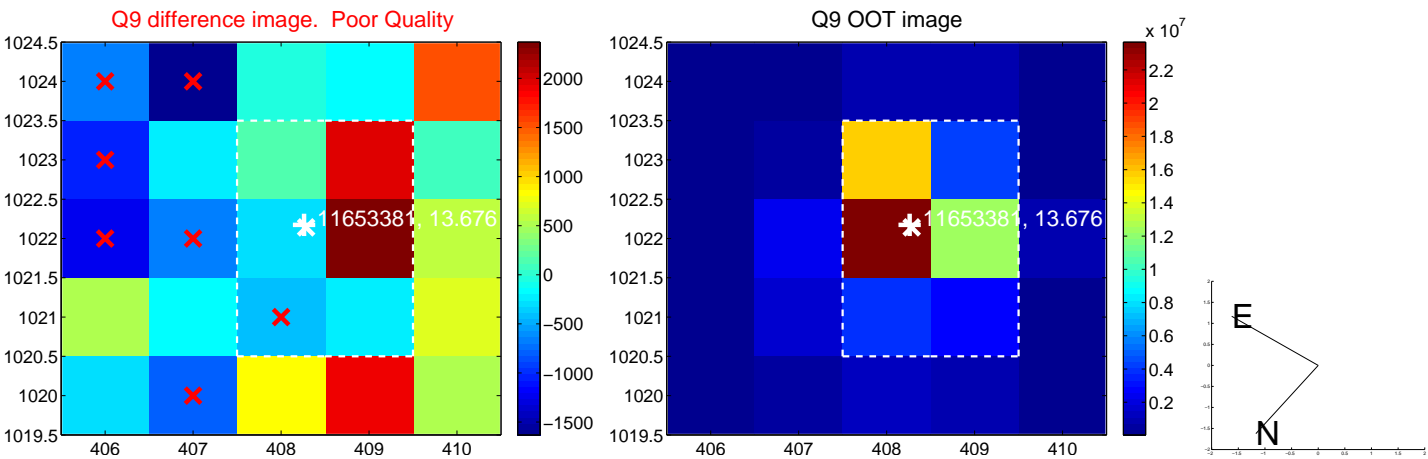
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



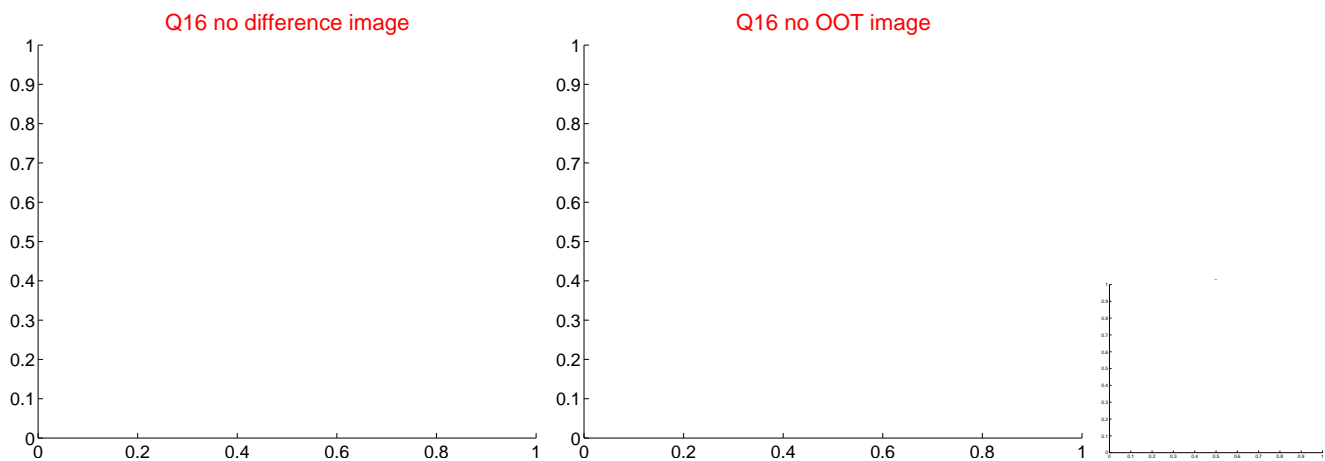
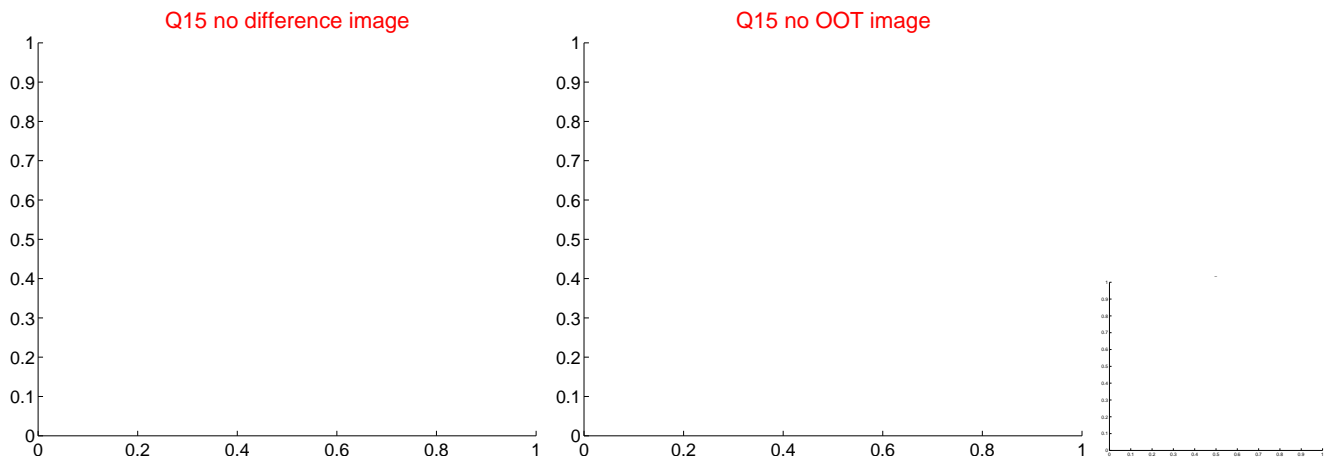
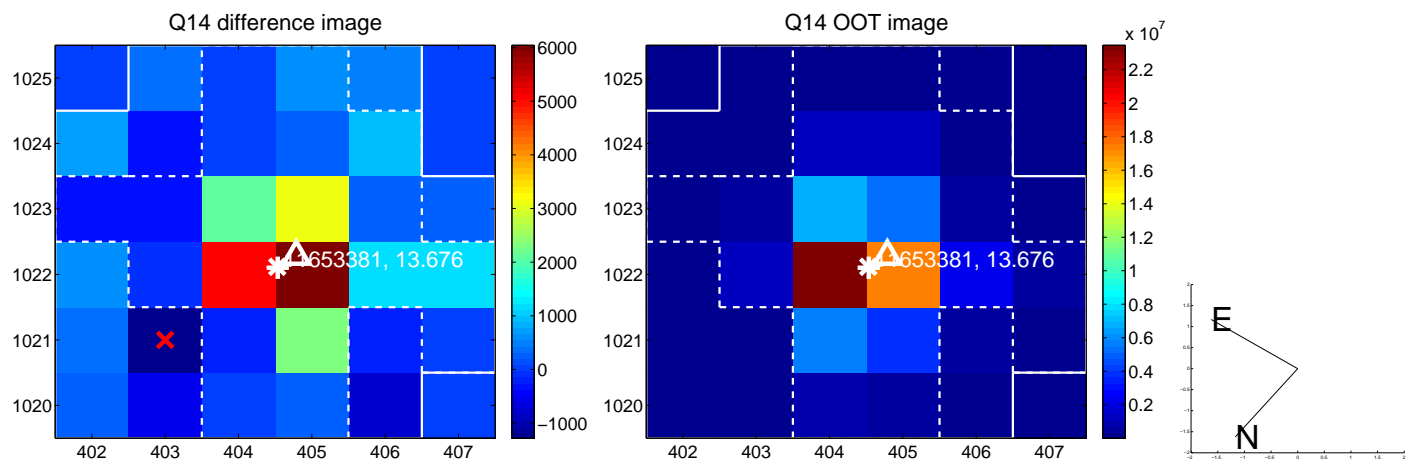
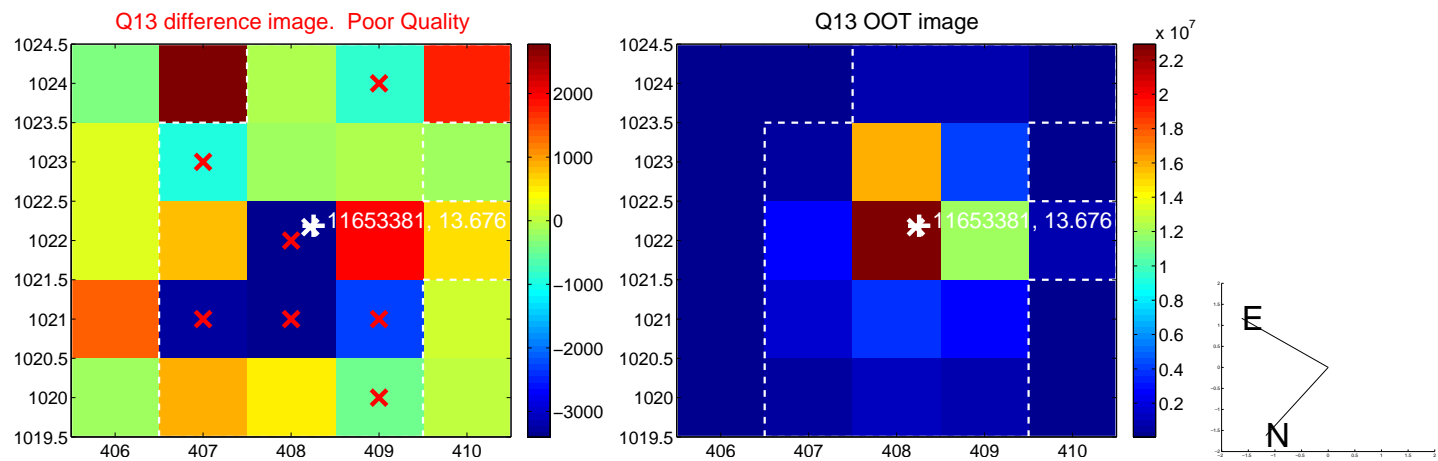
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



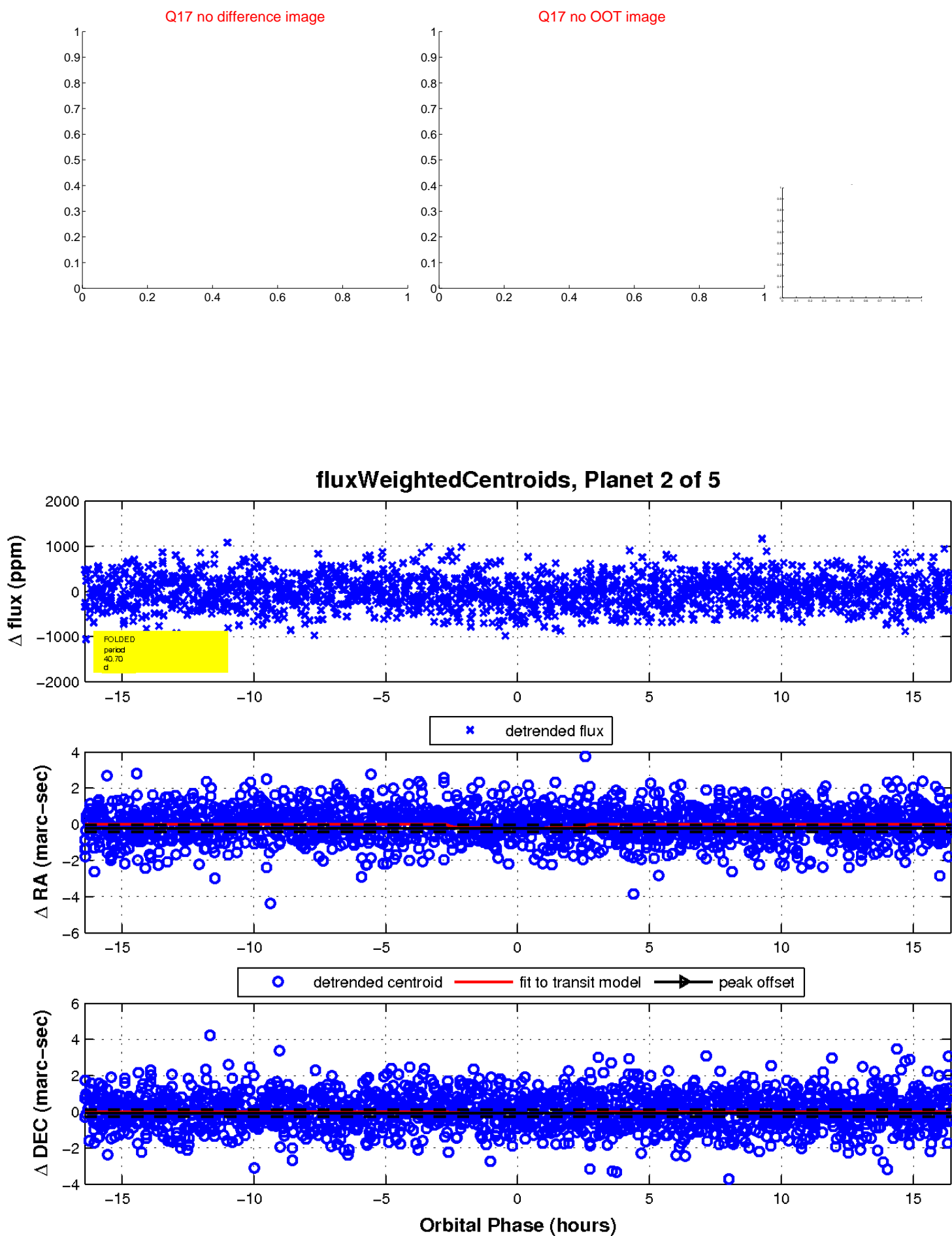
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

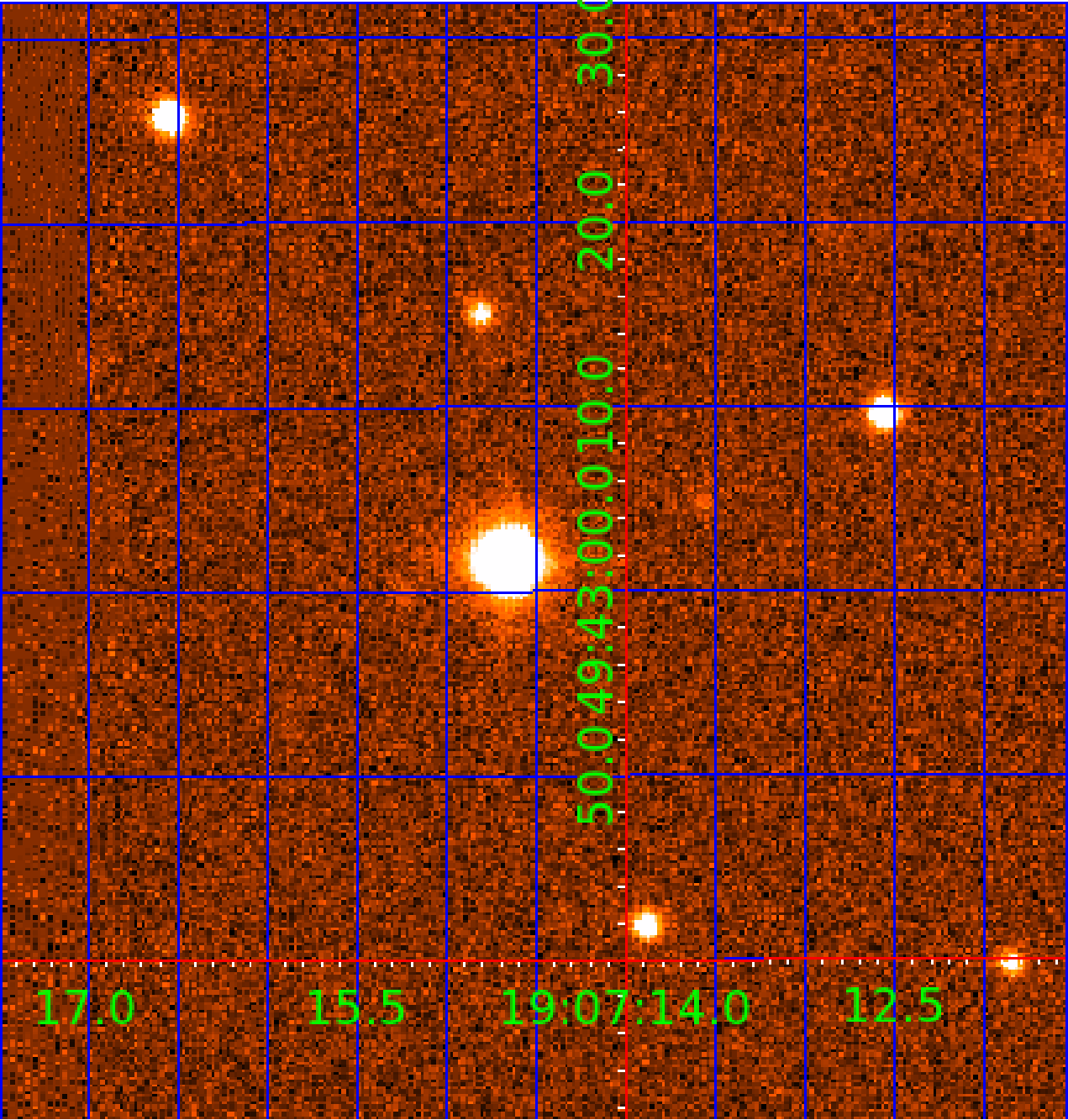


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011653381

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})
011653381-01	OBS	No	0.828798	131.912789	53.1	3.486	9.6	9.5	6.93	5033	6.12	0.00
011653381-02	OBS	No	40.704516	134.380170	286.3	5.474	7.6	6.8	6.93	5033	12.65	333.97
011653381-05	OBS	No	196.912351	273.395123	338.9	15.152	7.2	6.2	6.93	5033	13.80	40.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011653381-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
011653381-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
011653381-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

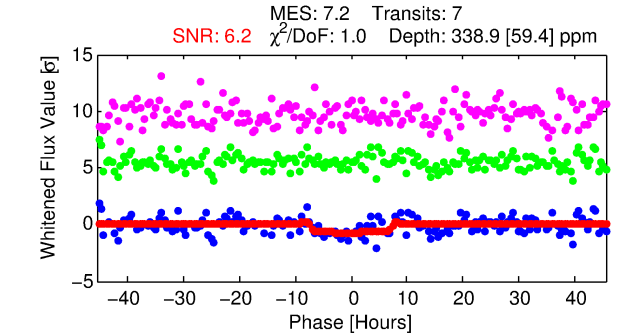
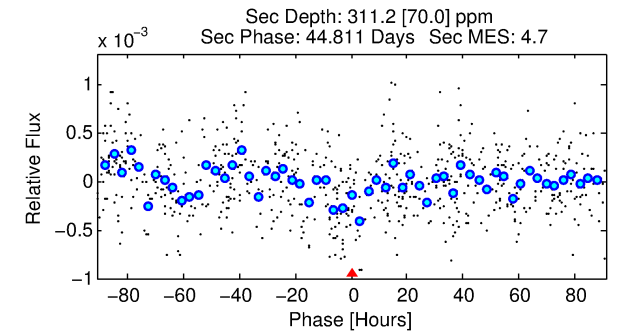
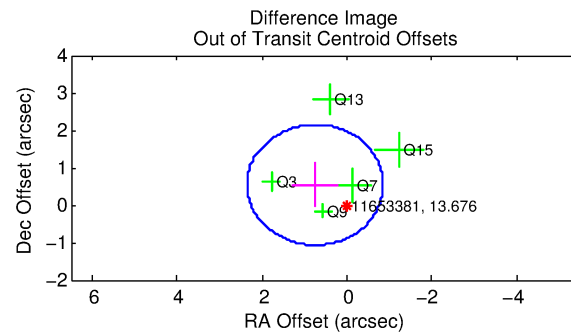
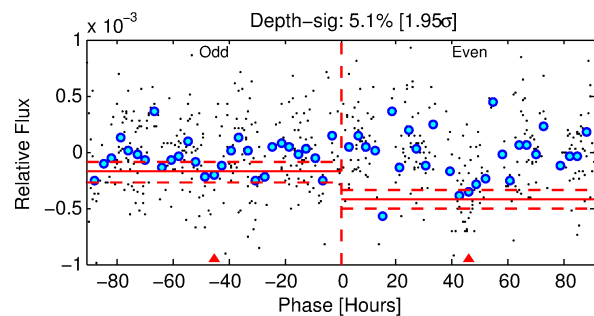
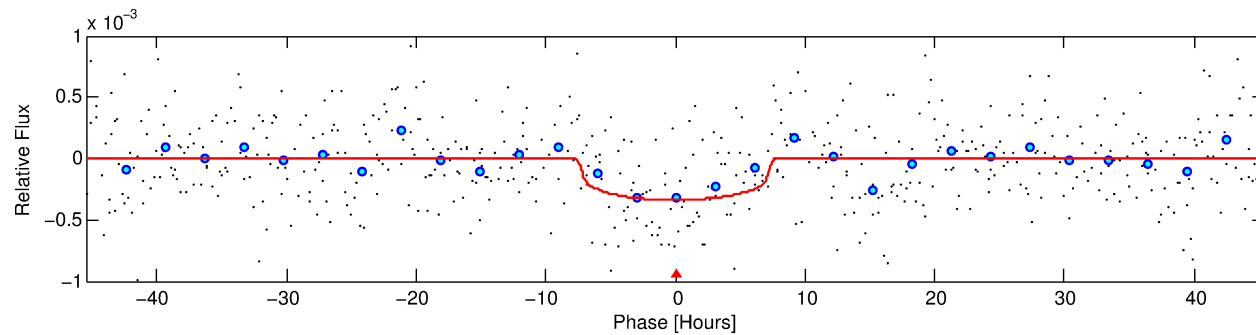
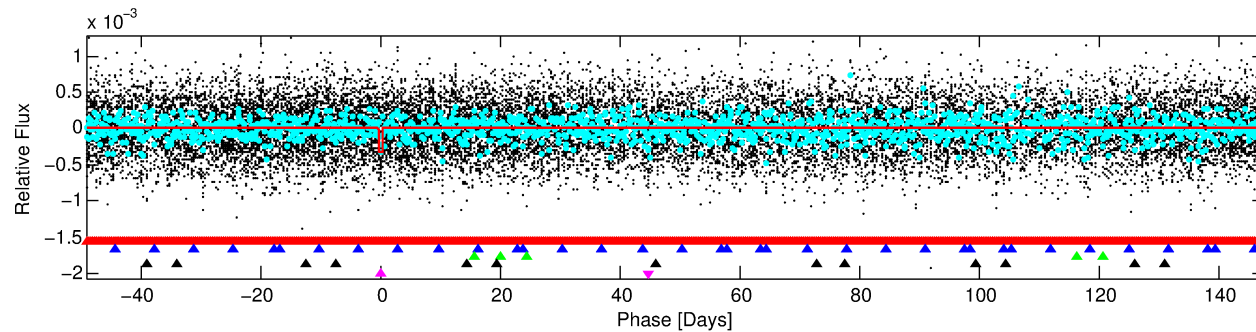
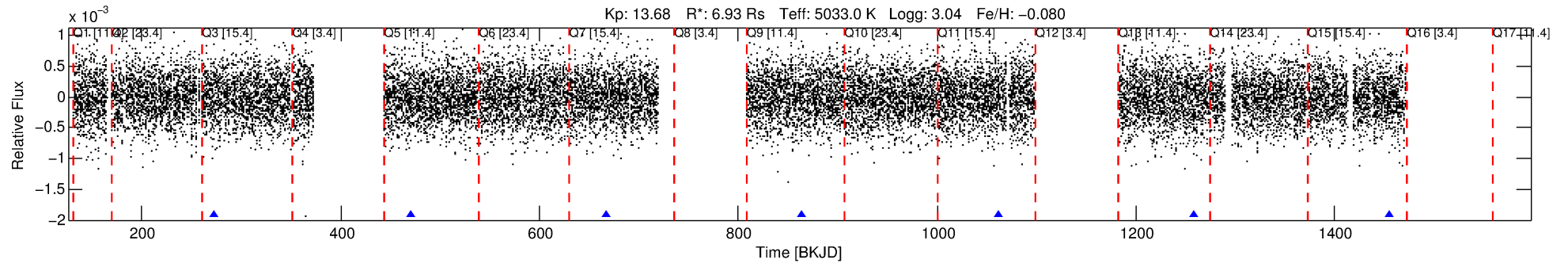
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011653381-05

No Significant Match Found

DV One-Page Summary

KIC: 11653381 Candidate: 5 of 5 Period: 196.912 d



DV Fit Results:

Period = 196.91235 [0.00747] d
Epoch = 273.3951 [0.0263] BKJD
Rp/R* = 0.0183 [0.0078]
a/R* = 69.69 [108.21]
b = 0.74 [0.97]
Seff = 40.82 [8.62]
Teff = 645 [34] K
Rp = 13.81 [6.93] Re
a = 0.8221 [0.1441] AU
Ag = 607.00 [550.02] [1.10σ]
Teffp = 4946 [1106] K [3.89σ]

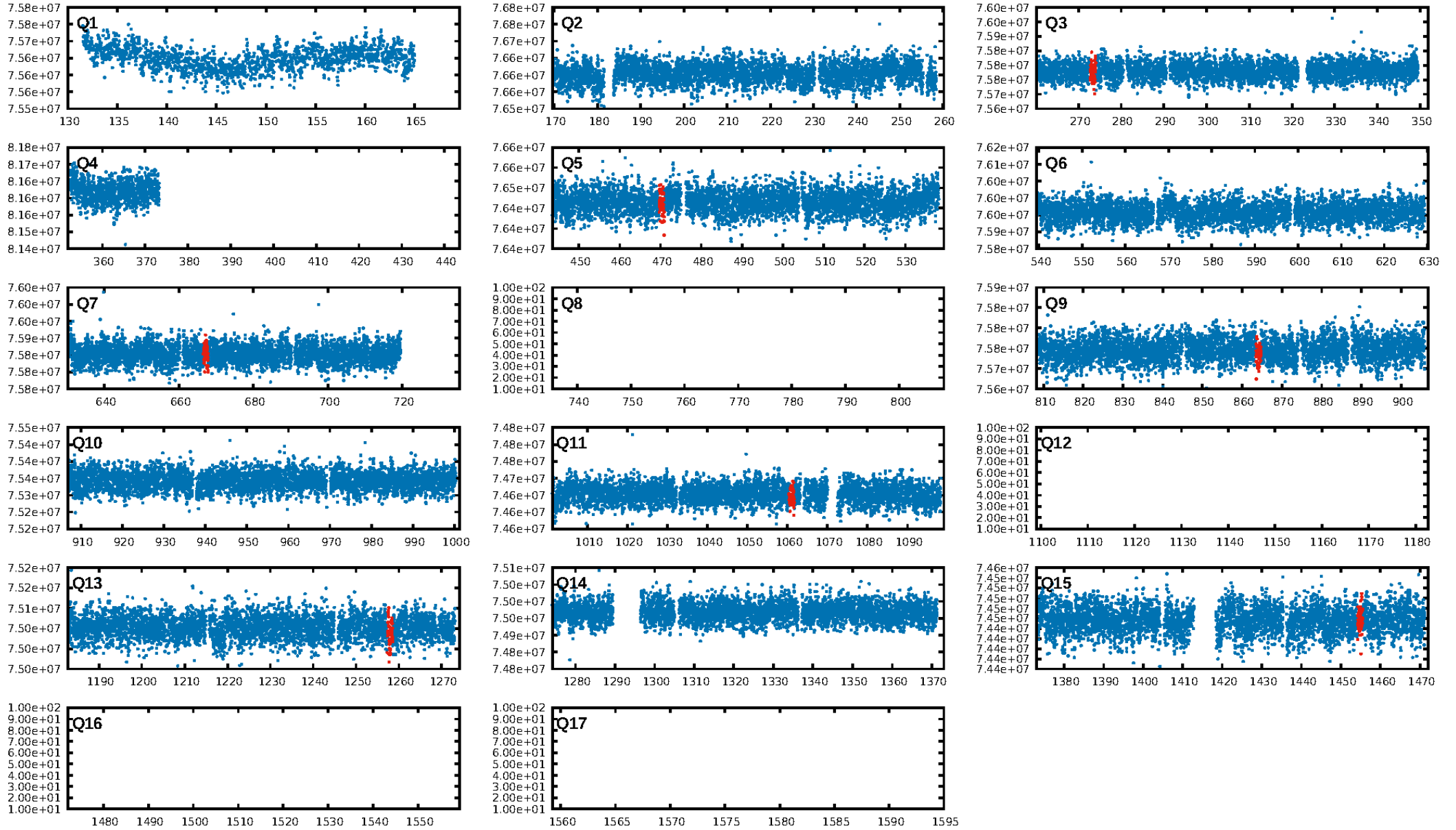
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [131.29σ]
LongPeriod-sig: 100.0% [151.41σ]
ModelChiSquare2-sig: 4.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.79e-10
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.192
Centroid-sig: 3.2%
Centroid-so: 1.289 arcsec [1.83σ]
OotOffset-rm: 0.919 arcsec [1.72σ]
KicOffset-rm: 1.260 arcsec [2.28σ]
OotOffset-st: 0/3/0/2 [5]
KicOffset-st: 0/3/0/2 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.00 [0/7]

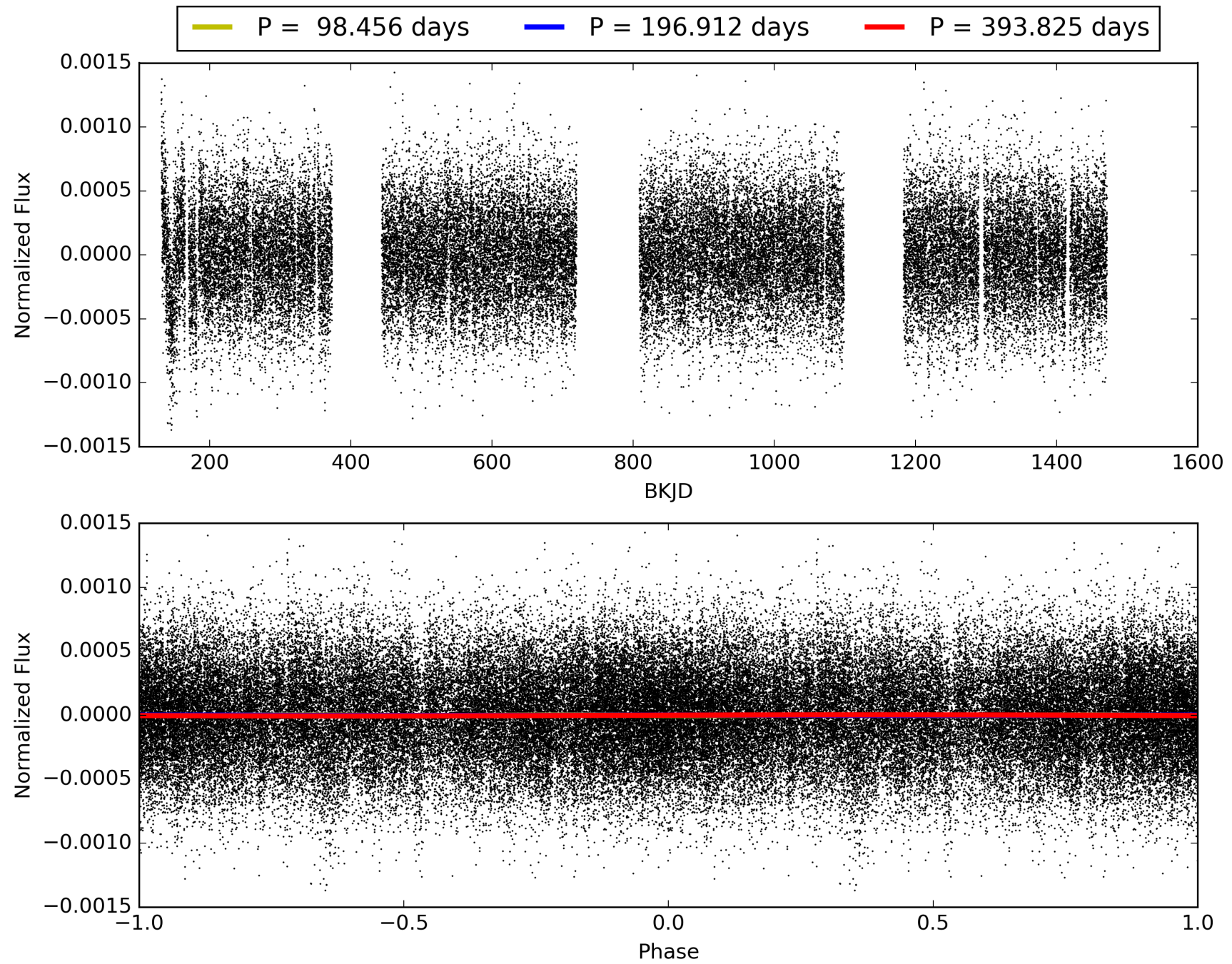
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 10:16:19 Z

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

TCE 011653381-05, PDC Light Curves

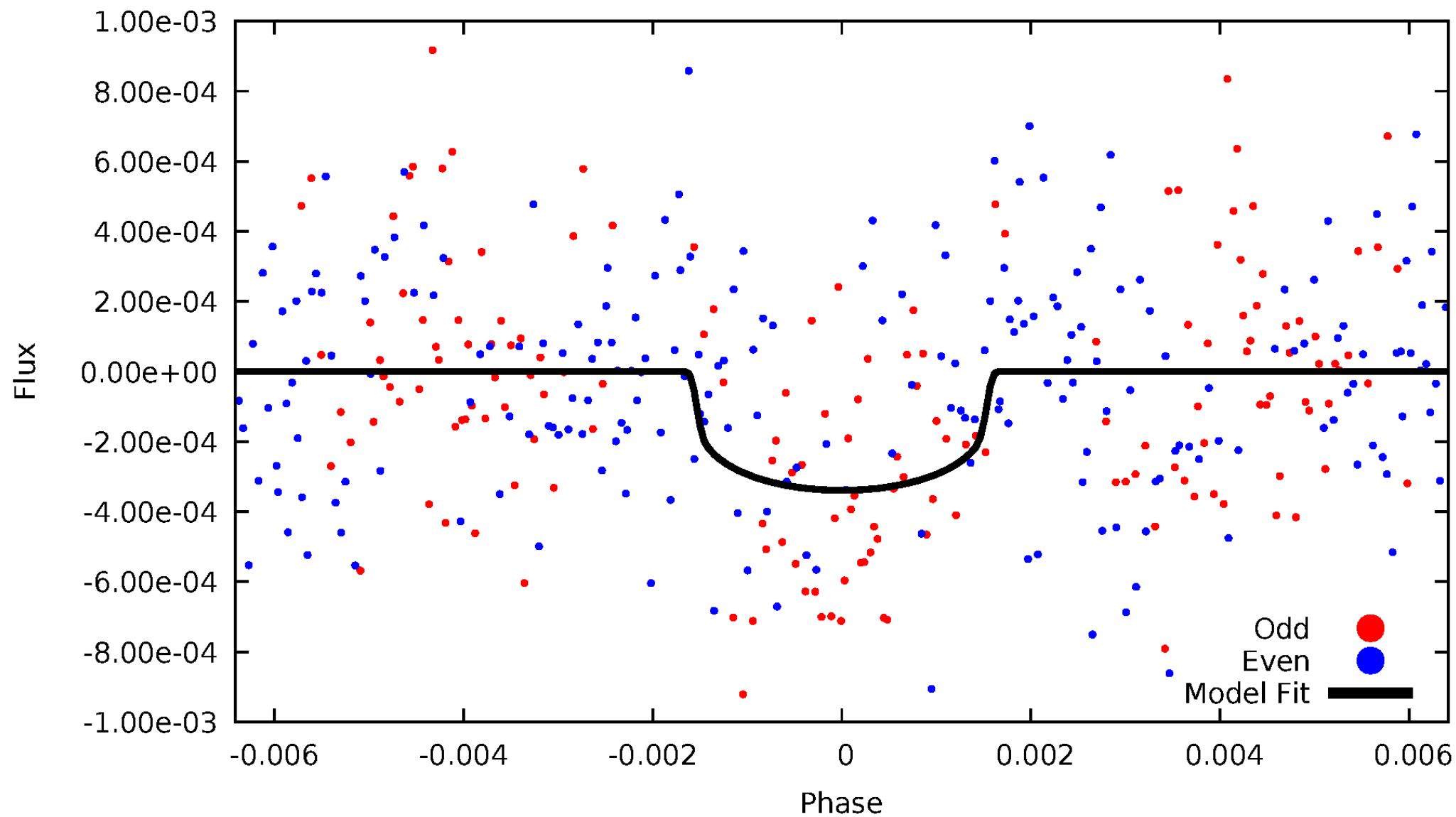


TCE 011653381-05



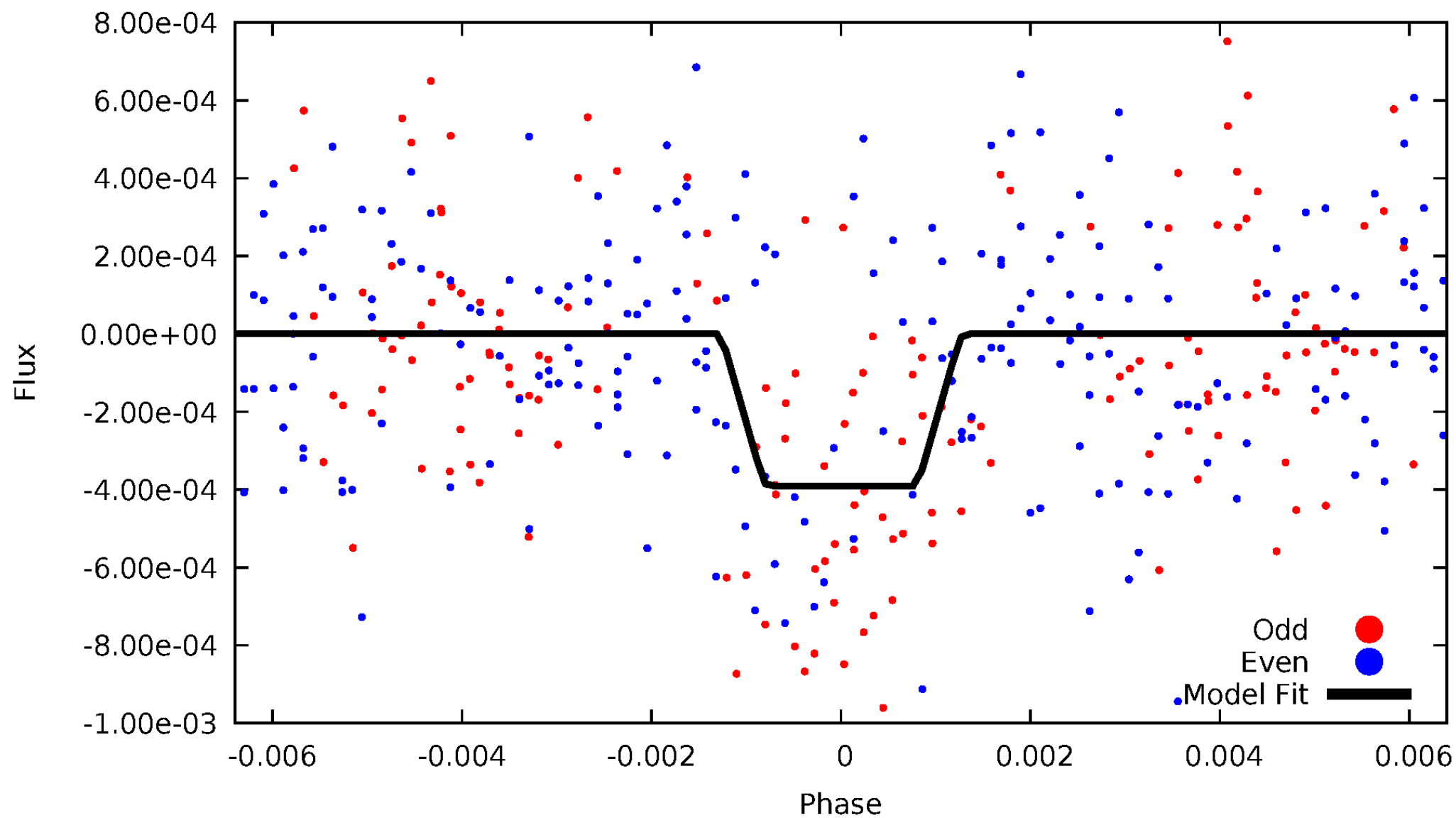
DV Odd/Even

TCE 011653381-05



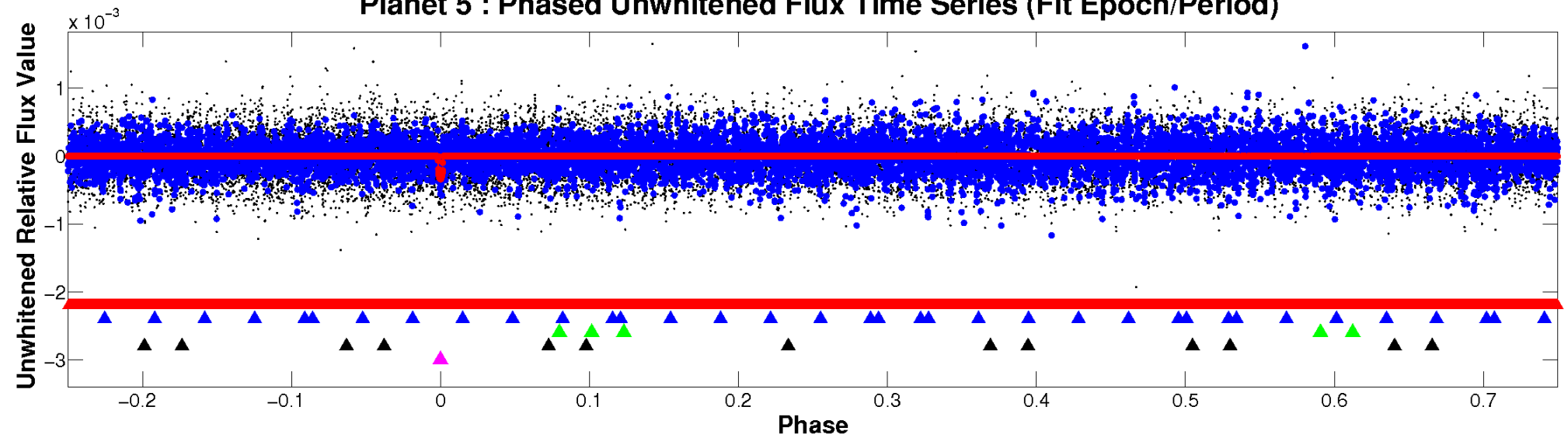
ALT Odd/Even

TCE 011653381-05

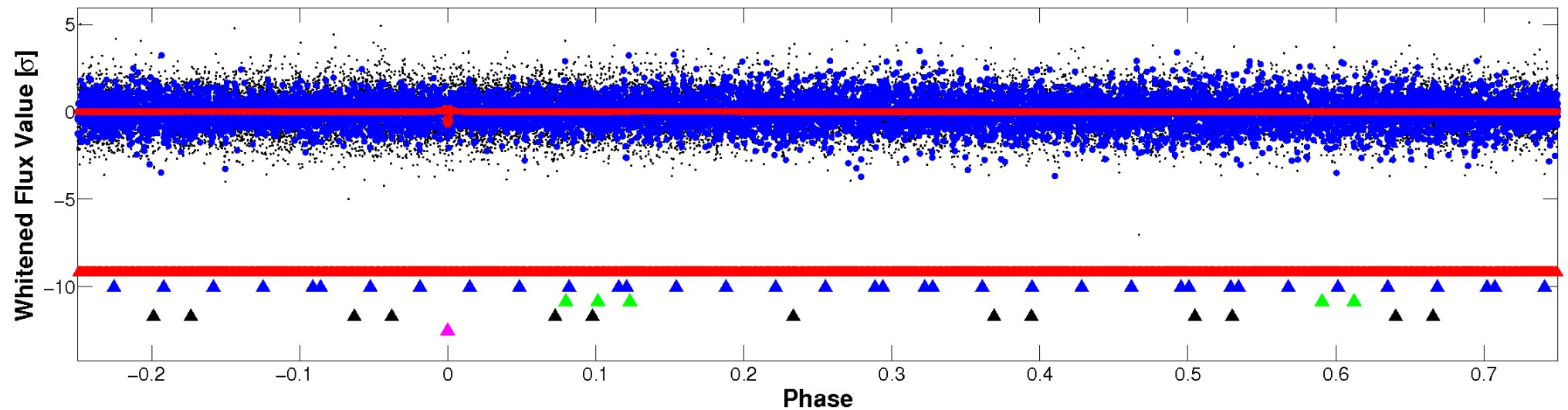


Non-Whitened Vs. Whitened Light Curve

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

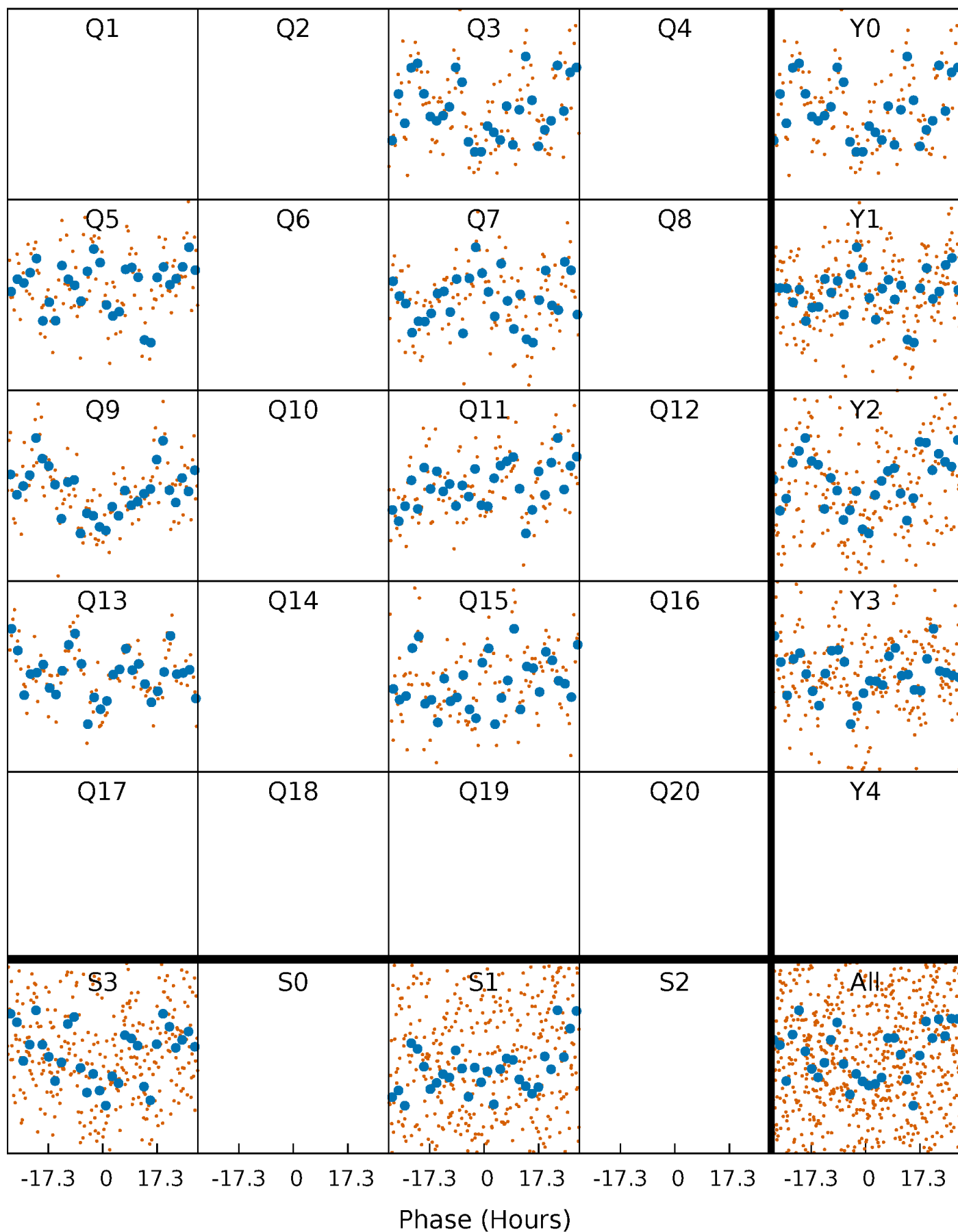


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



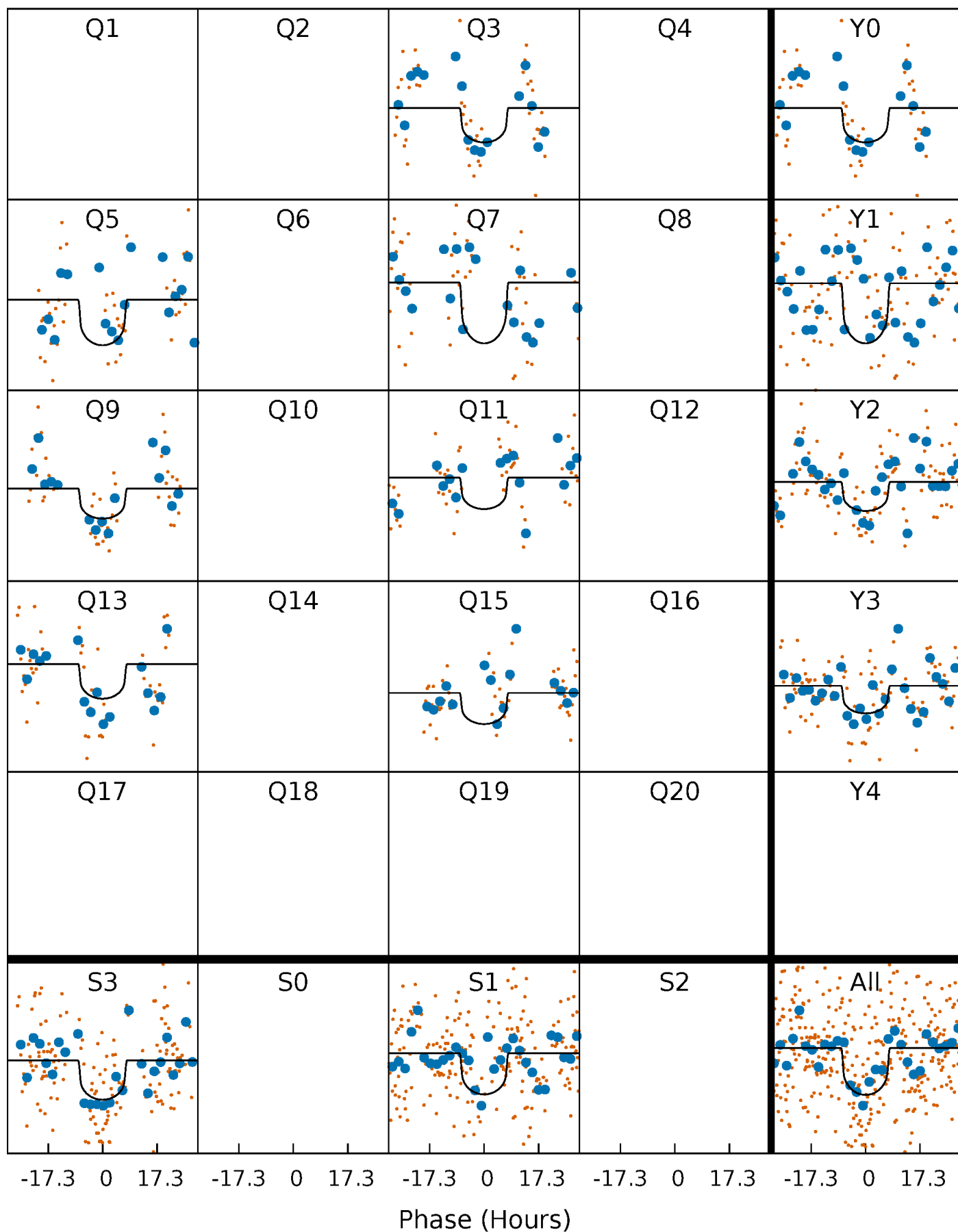
PDC Quarter-Phased Transit Curves

TCE 011653381-05 $P=196.912351$ Days $T_0=273.395123$ (BKJD)



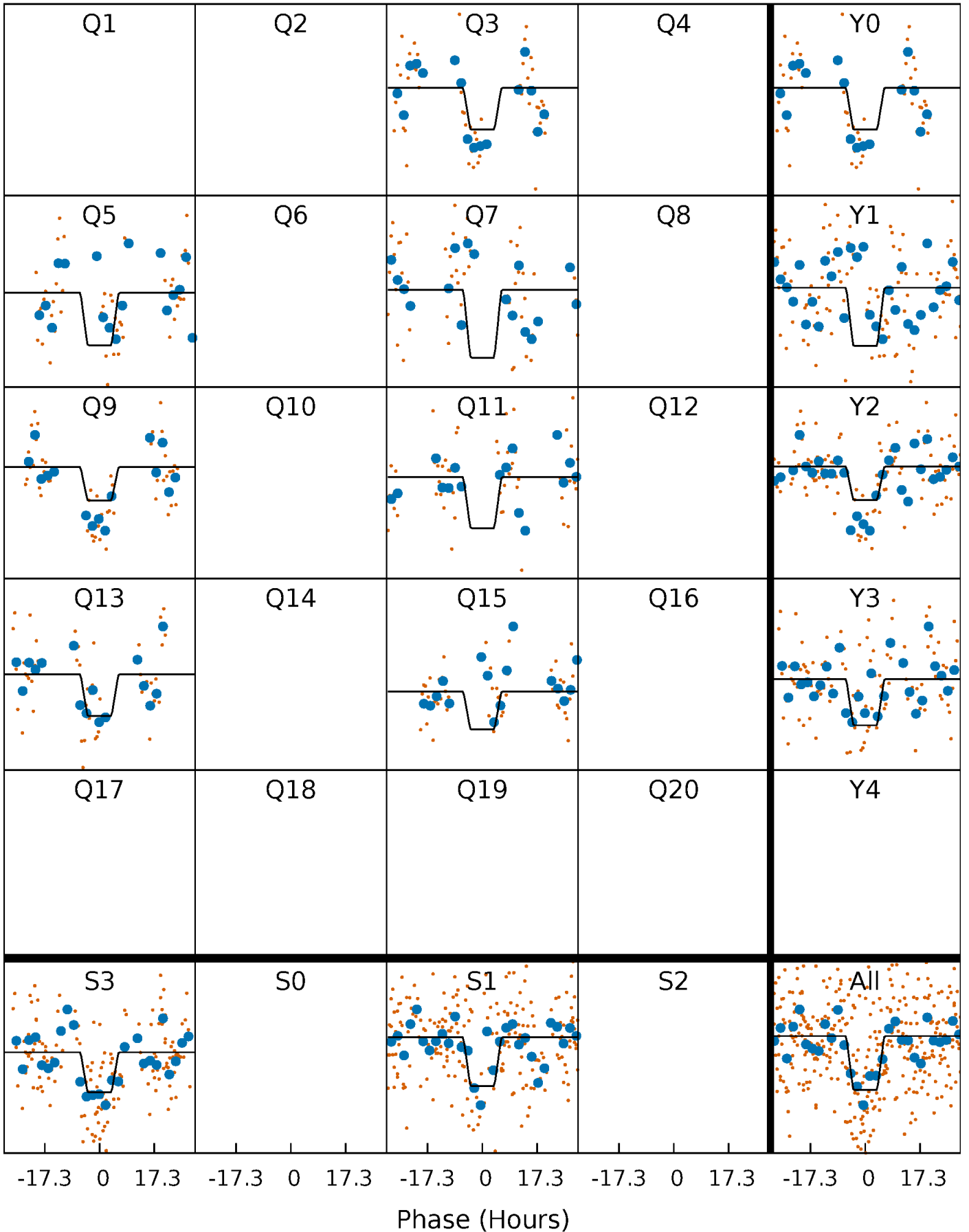
DV Quarter-Phased Transit Curves

TCE 011653381-05 $P=196.912351$ Days $T_0=273.395123$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

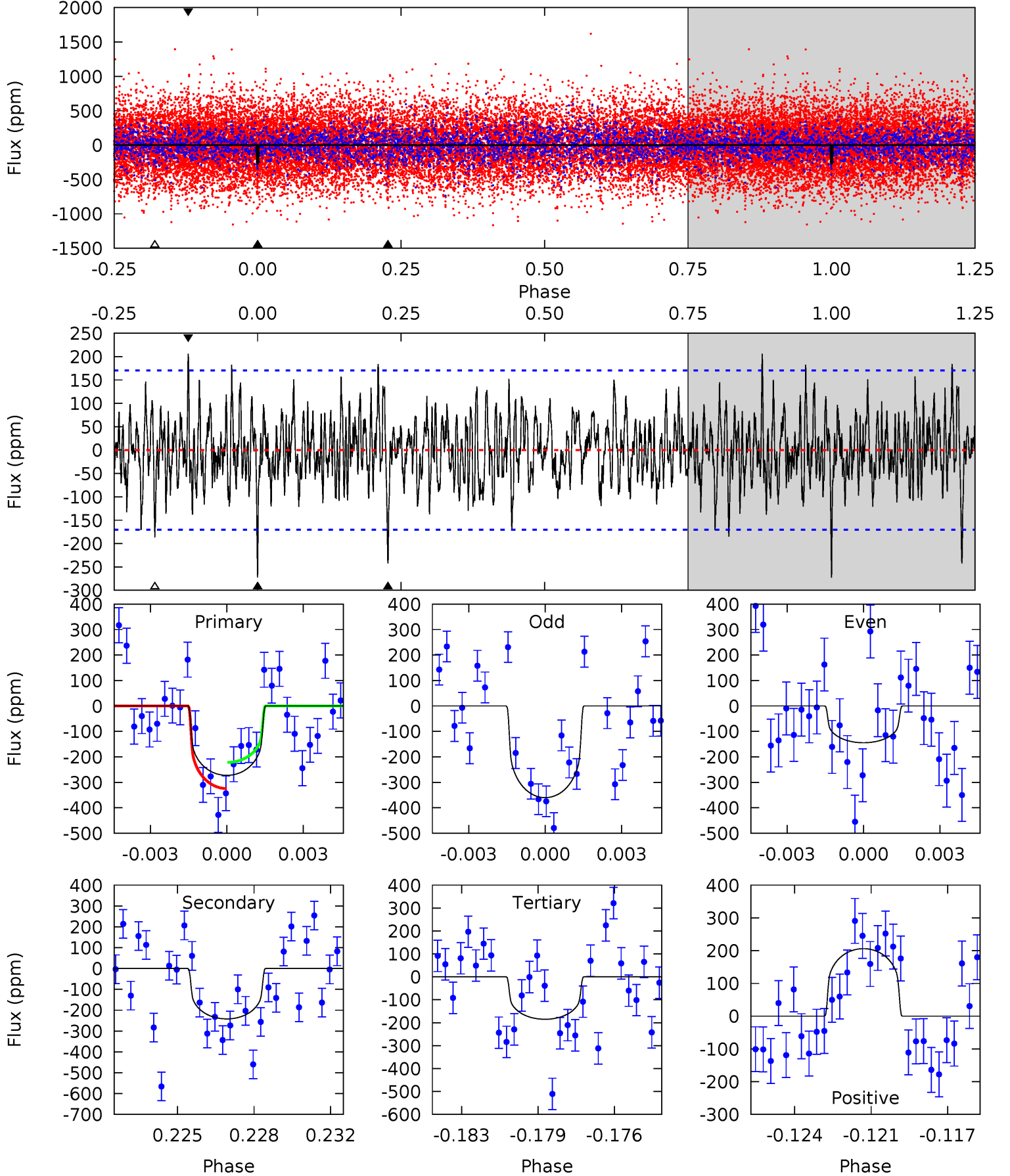
TCE 011653381-05 $P=196.918218$ Days $T_0=273.377281$ (BKJD)



DV Model-Shift Uniqueness Test

011653381-05, P = 196.912351 Days, E = 76.482772 Days

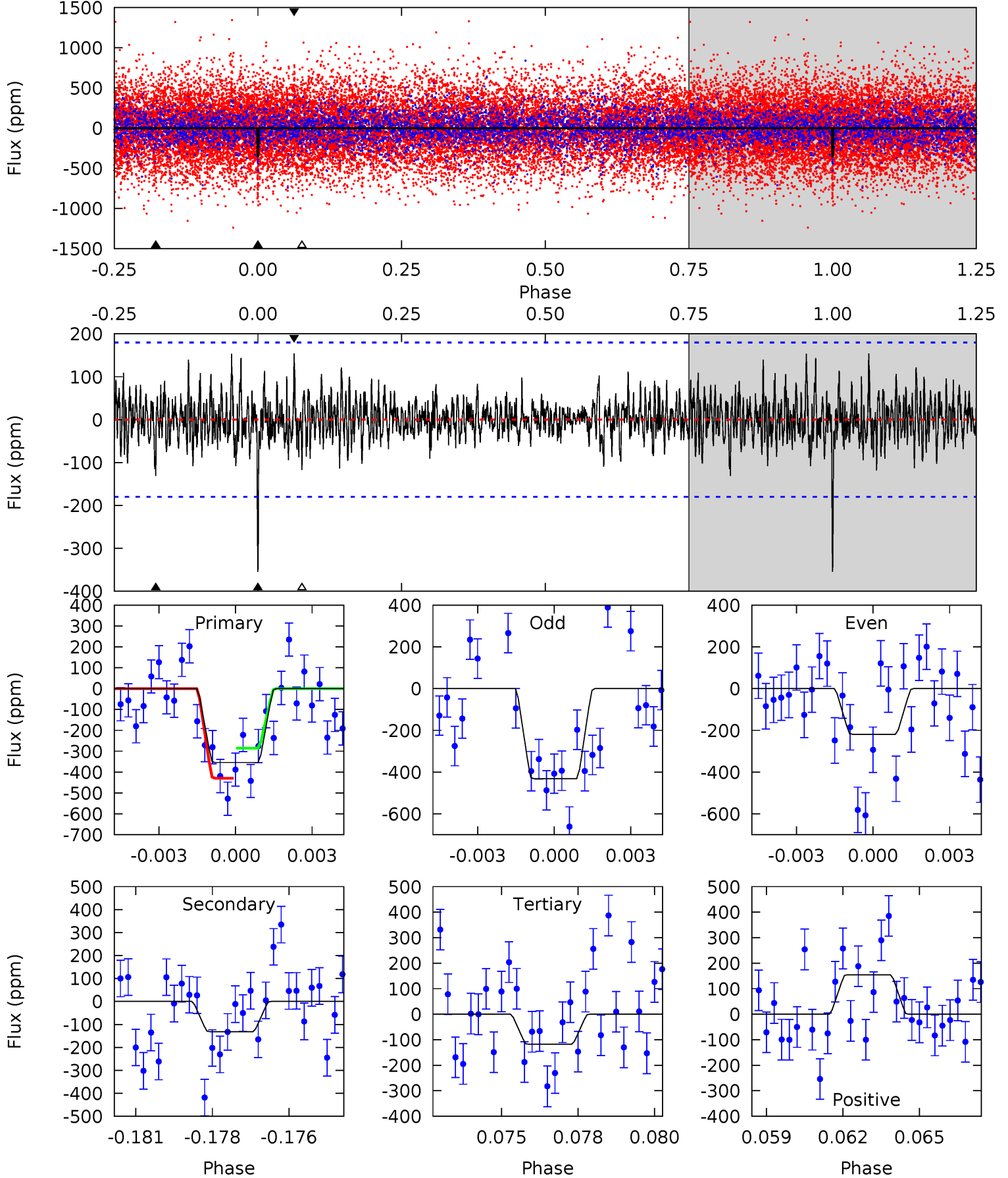
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.37	7.43	5.68	6.32	5.24	2.94	1.82	2.69	2.04	1.75	1.10	3.31	0.86	0.43	1.57



Alt Model-Shift Uniqueness Test

011653381-05, P = 196.918218 Days, E = 76.459063 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	3.85	3.45	4.53	5.28	3.01	1.14	6.95	5.87	0.41	-0.68	3.09	0.79	0.30	2.12



Stellar Parameters For KIC 011653381

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5033^{+86}_{-136}	$3.038^{+0.035}_{-0.028}$	$-0.080^{+0.150}_{-0.350}$	$6.927^{+0.318}_{-1.800}$	$1.910^{+0.146}_{-0.829}$	$0.008^{+0.003}_{-0.001}$
	+2%/-3%	+1%/-1%	+188%/-438%	+5%/-26%	+8%/-43%	+42%/-8%
Source	PHO1	AST9	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 011653381-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-242 ± 33	$14.23^{+6.01}_{-6.28}$	900^{+19}_{-28}	4656^{+1259}_{-601}	445^{+925}_{-229}
Alt.	-131 ± 34	$14.84^{+6.47}_{-5.94}$	900^{+21}_{-29}	4056^{+883}_{-505}	223^{+383}_{-122}

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 $A_{obs} \gg 1.0$

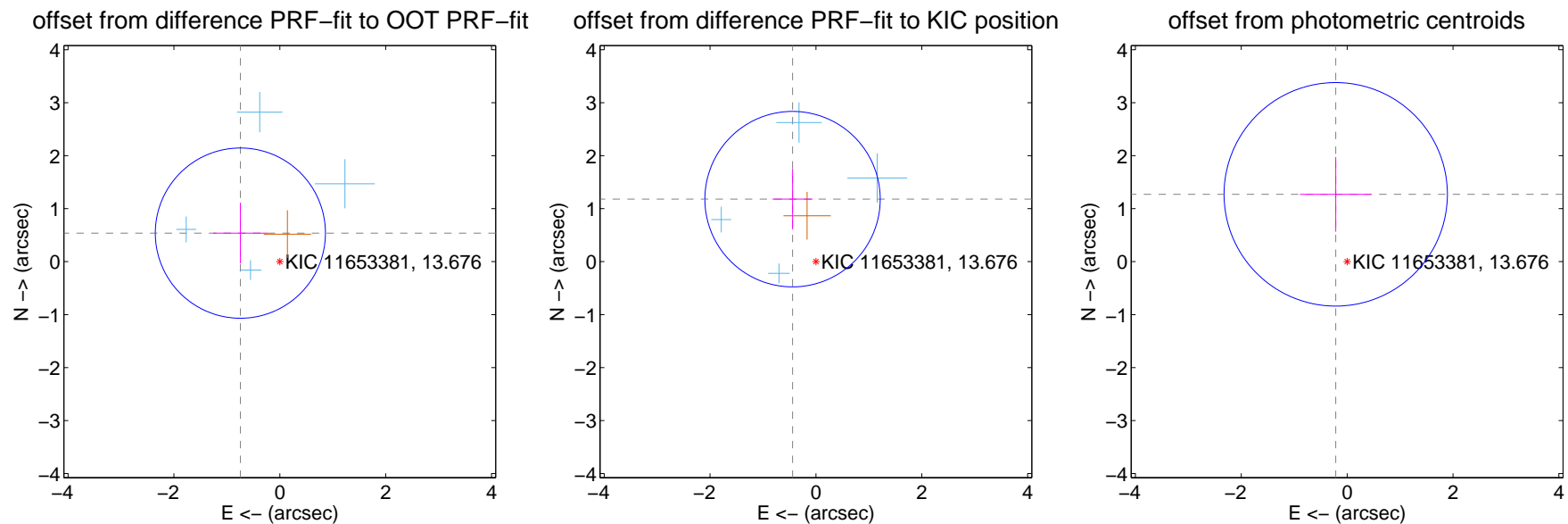
DV Centroid Data

Supplemental centroid analysis for 011653381-05. Kepler magnitude: 13.68. Transit SNR 6.18

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

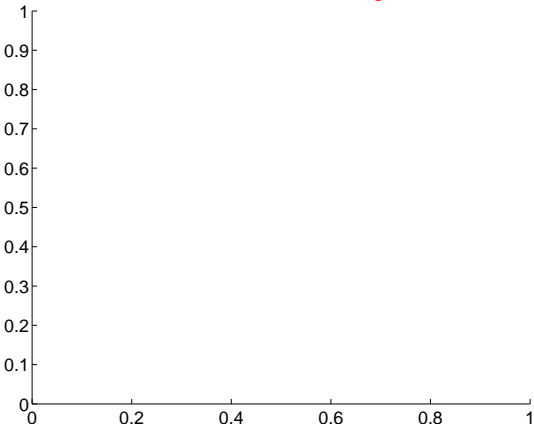
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.919 ± 0.536	1.72	0.745 ± 0.514	0.539 ± 0.574
PRF-fit source offset from KIC position	1.260 ± 0.552	2.28	0.442 ± 0.379	1.180 ± 0.572
photometric centroid source offset	1.29 ± 0.70	1.83	0.22 ± 0.67	1.27 ± 0.70



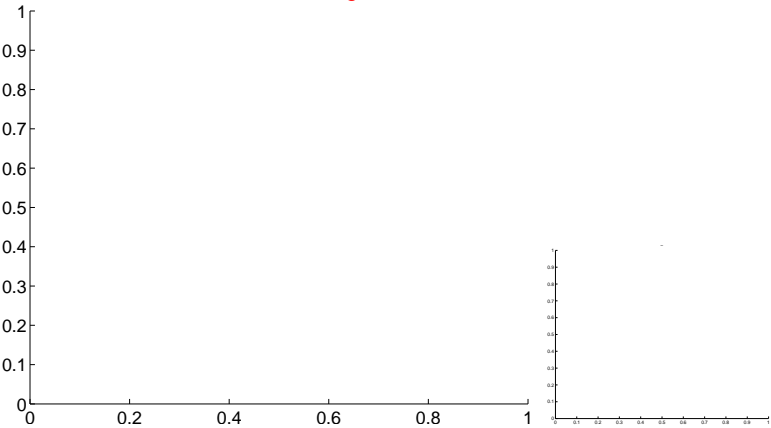
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

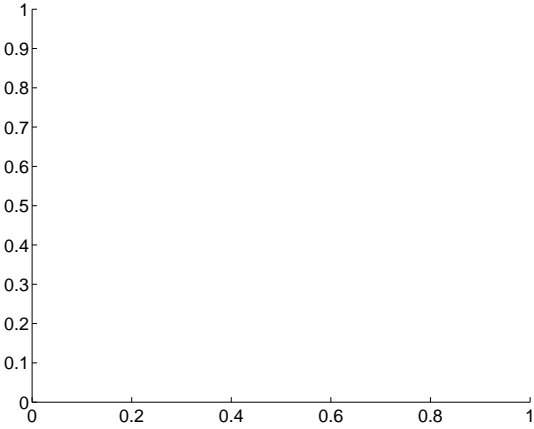
Q1 no difference image



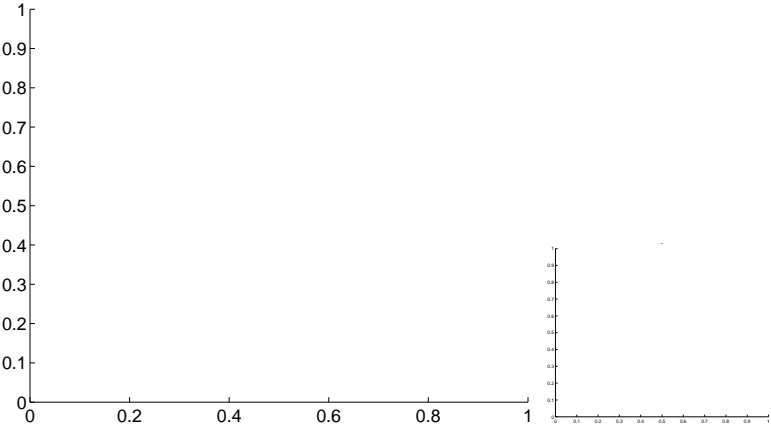
Q1 no OOT image



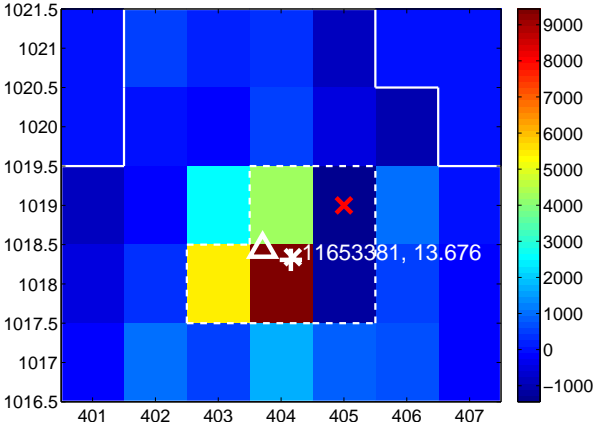
Q2 no difference image



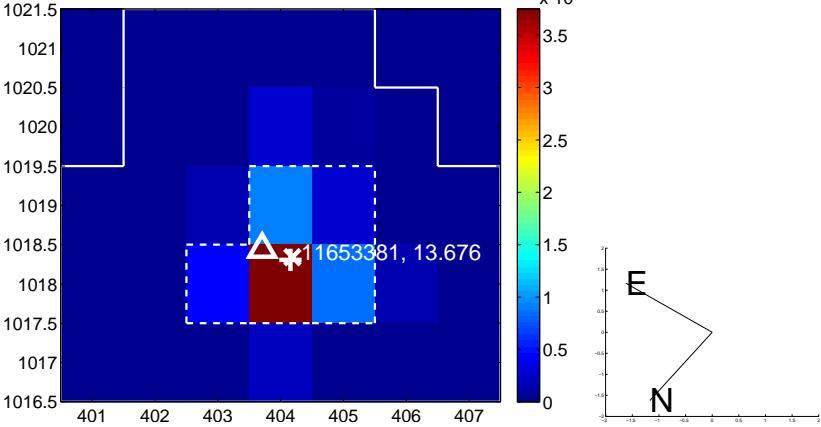
Q2 no OOT image



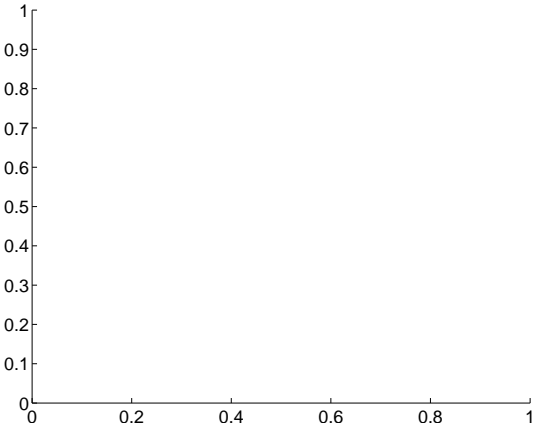
Q3 difference image



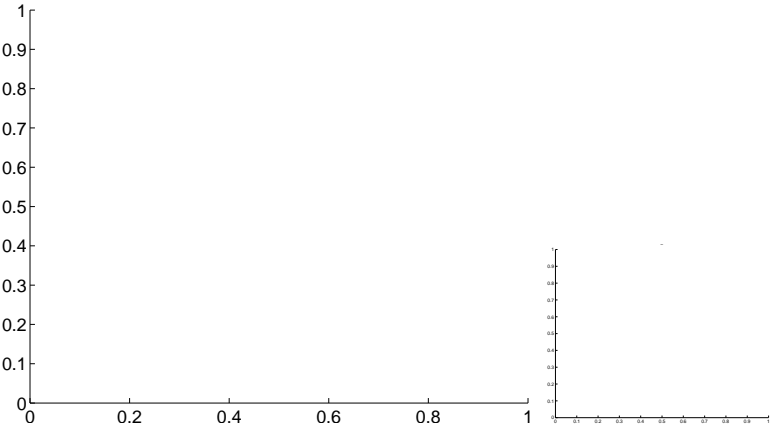
Q3 OOT image



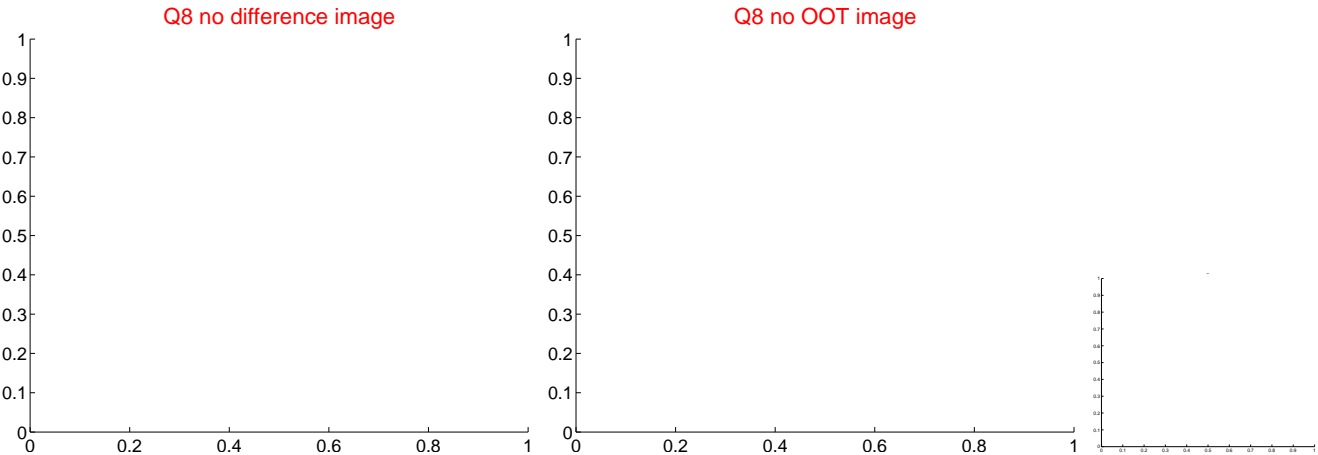
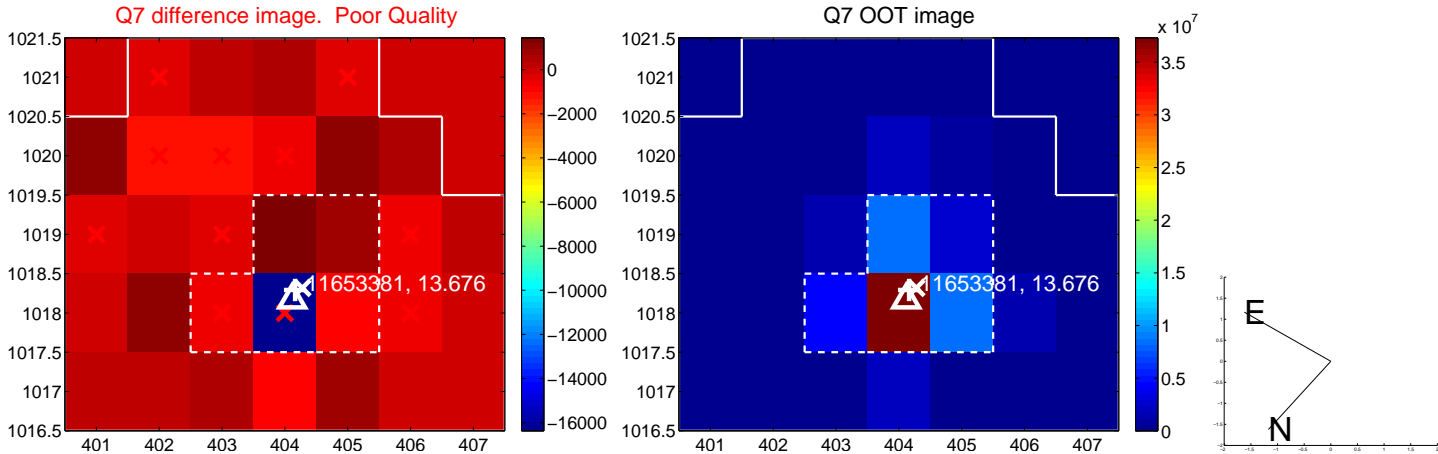
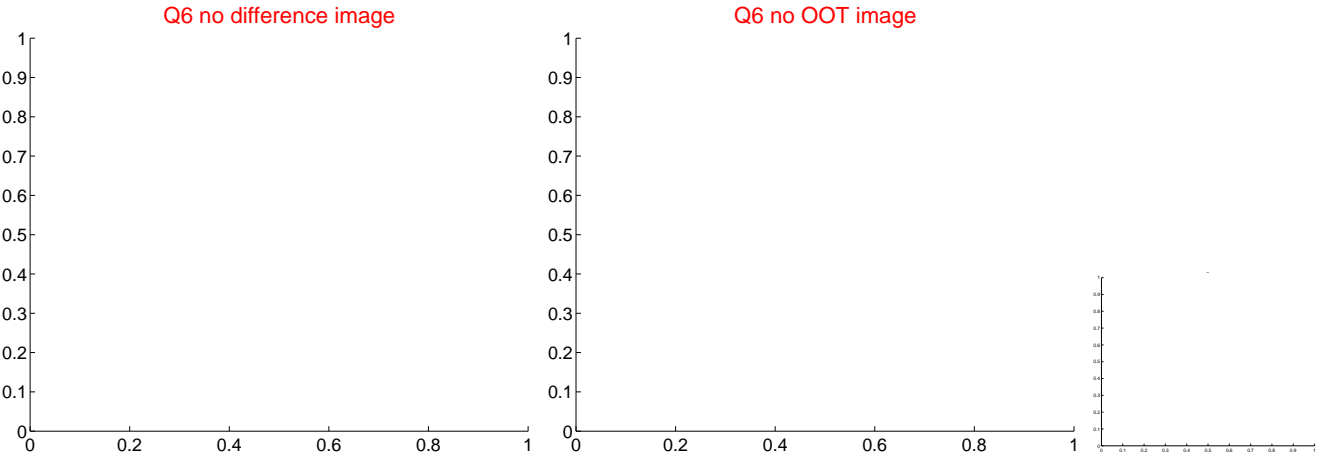
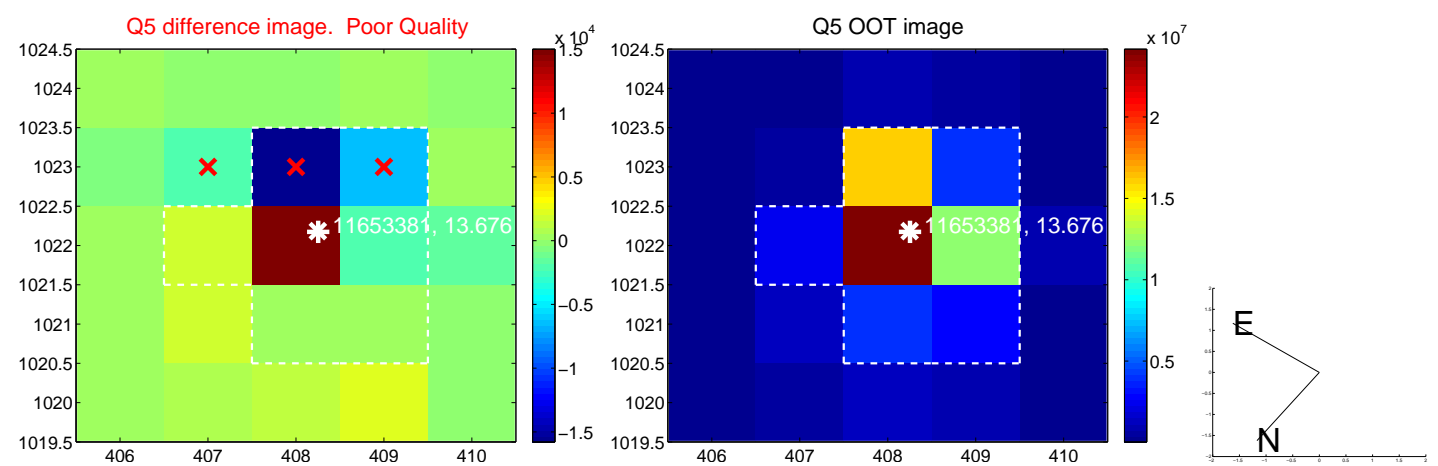
Q4 no difference image



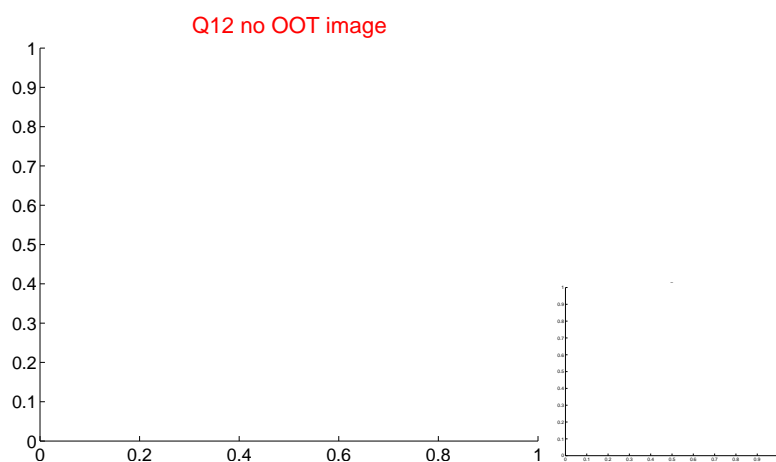
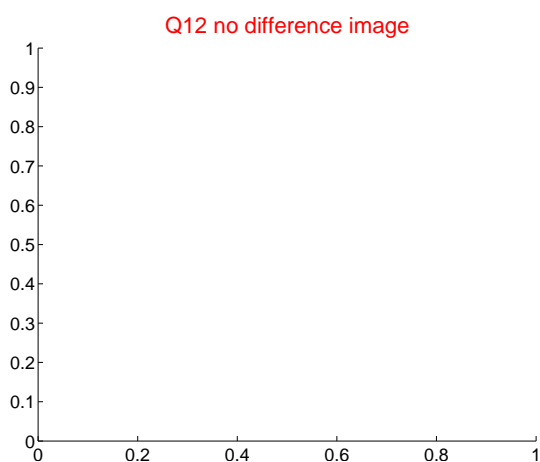
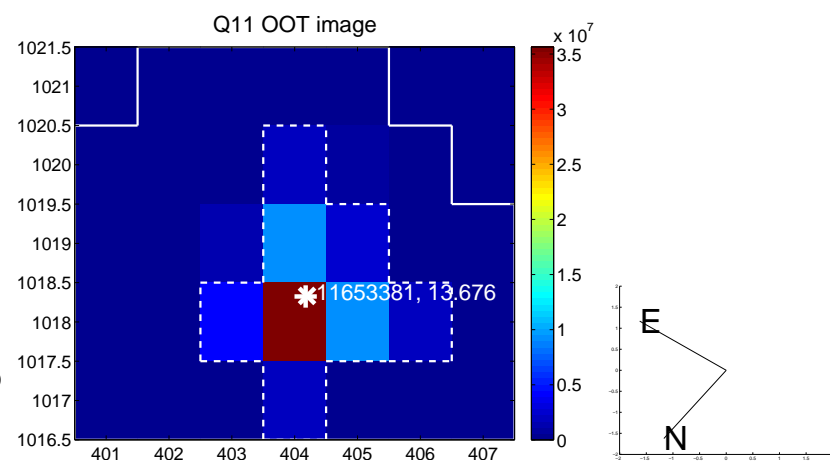
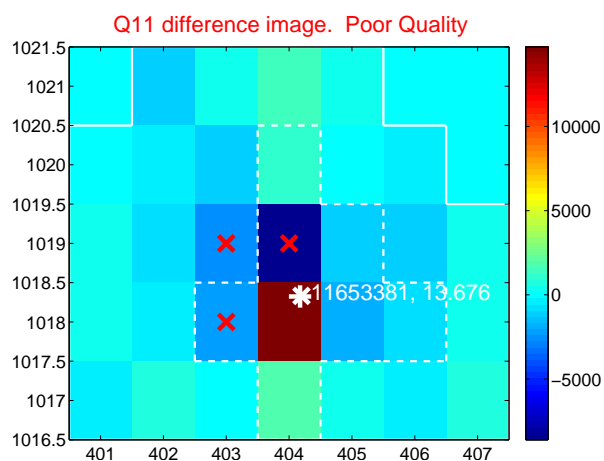
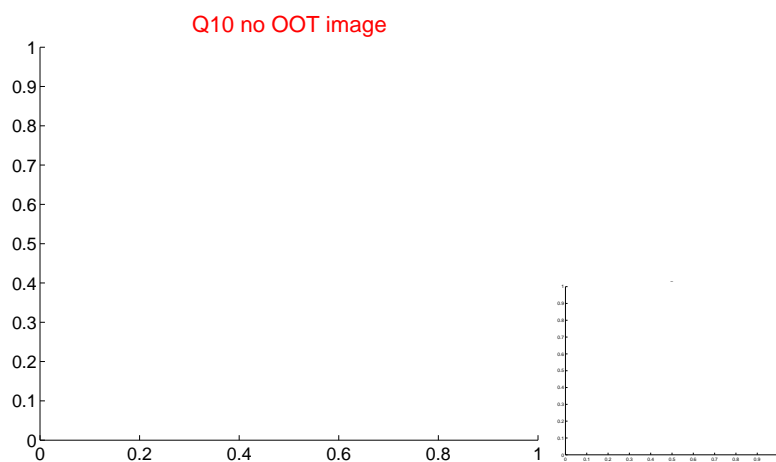
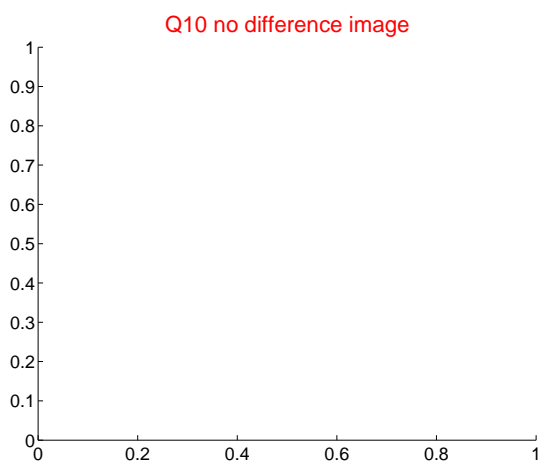
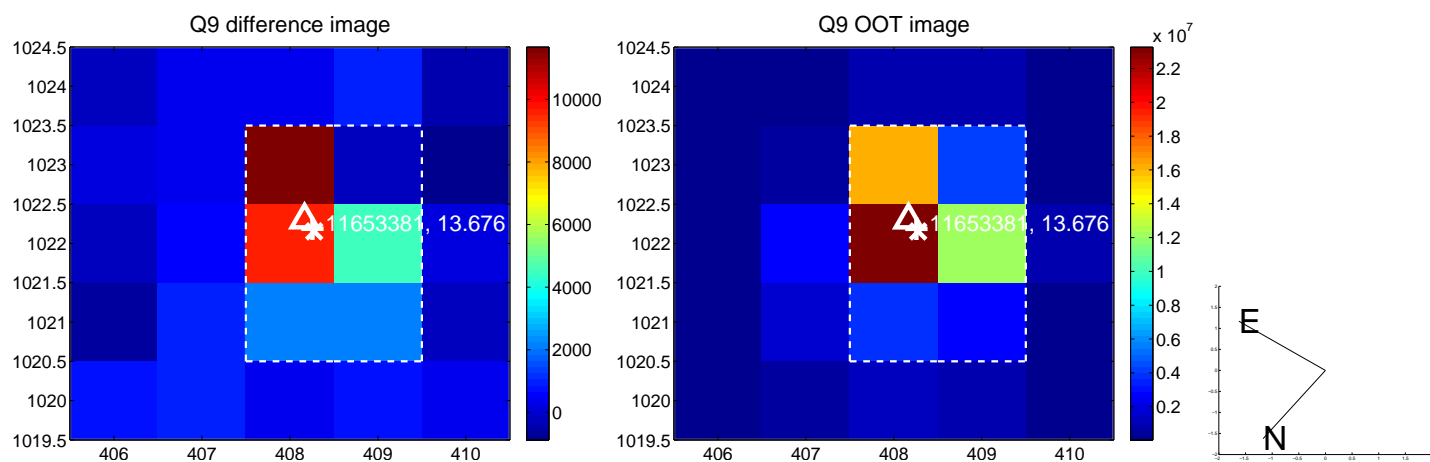
Q4 no OOT image



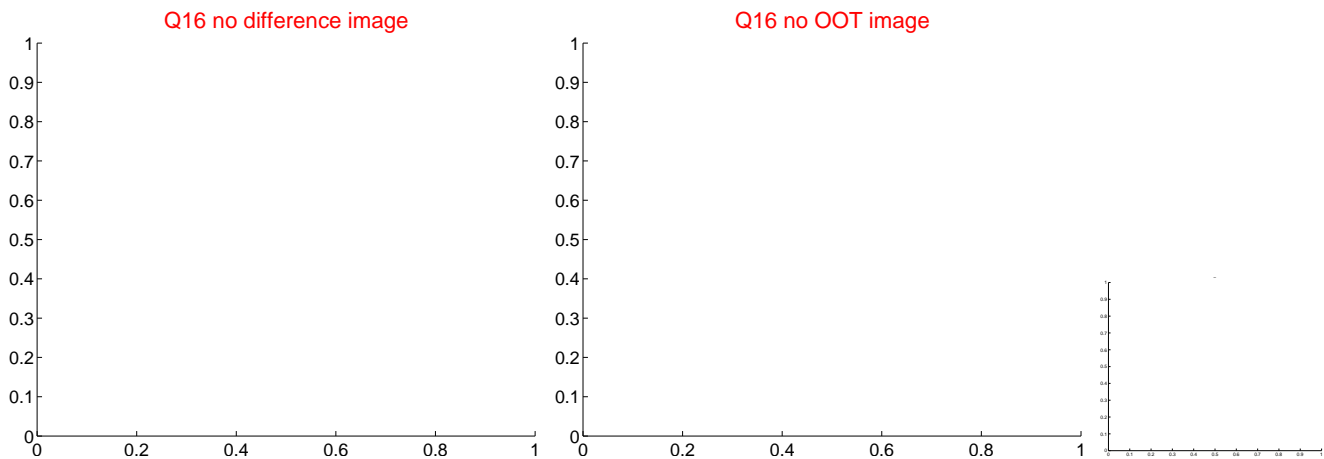
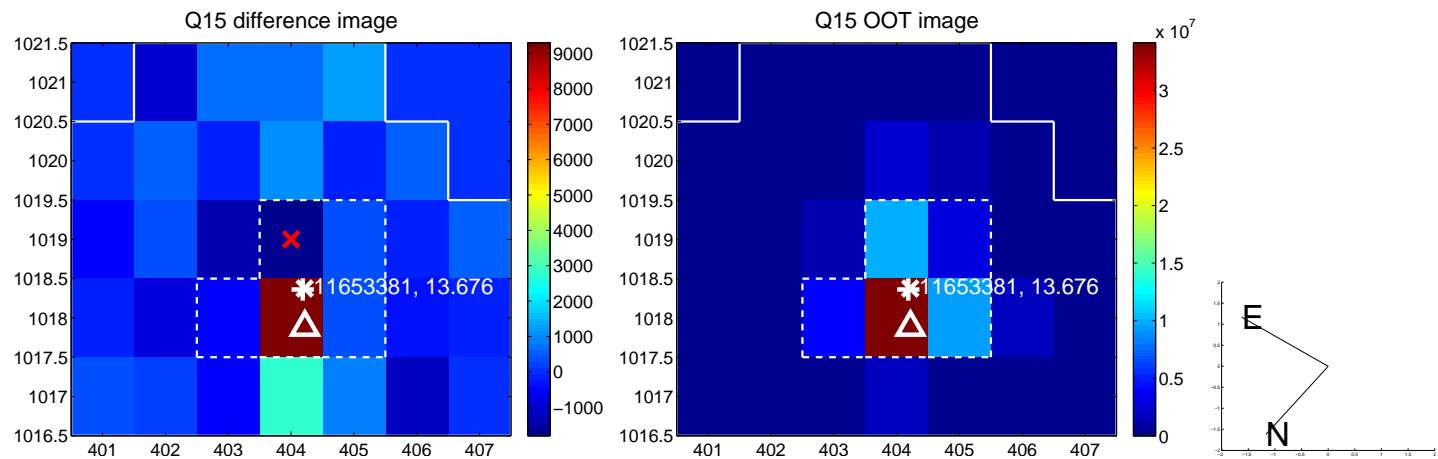
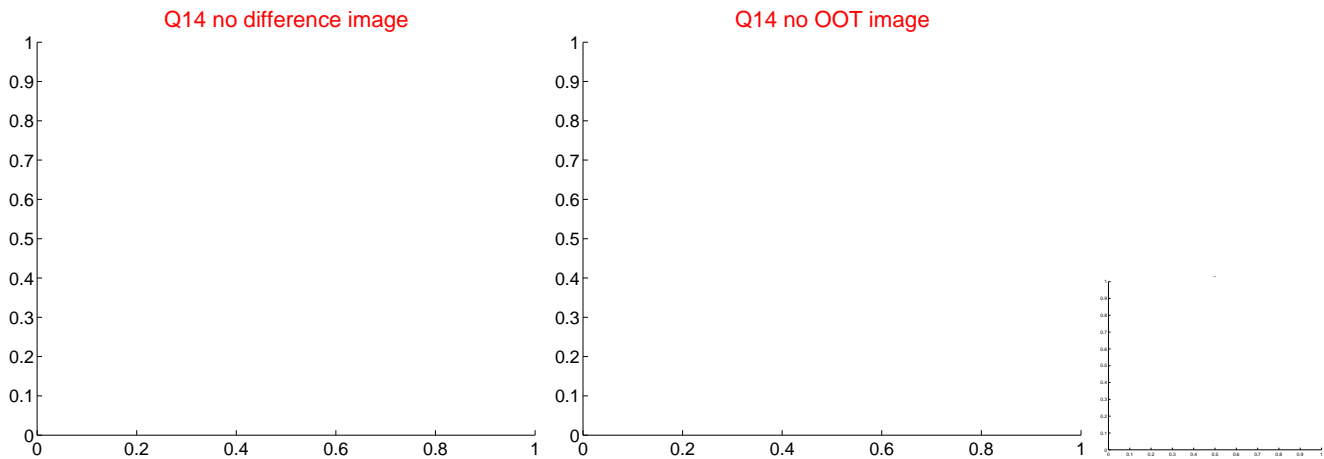
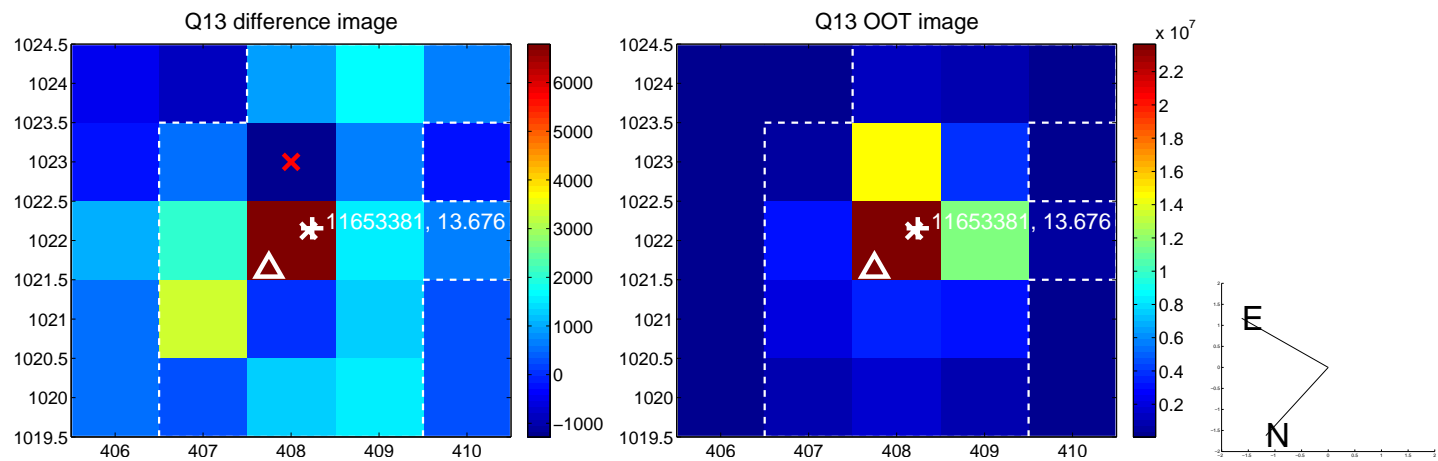
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



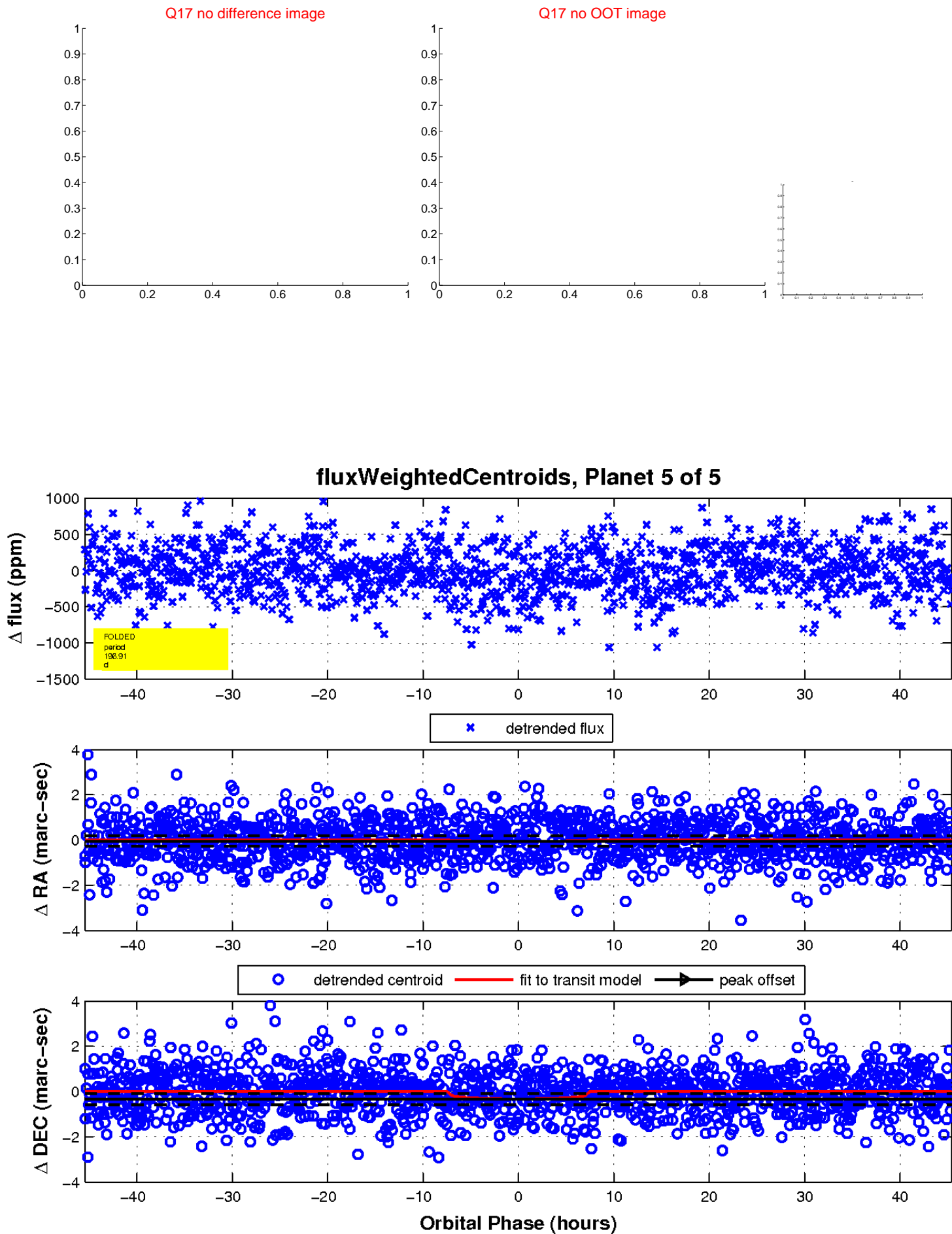
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

