

KIC 005647638

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})
005647638-01	OBS	6611.01	1.215918	132.518589	31.5	4.659	11.6	10.2	2.50	6234	1.84	14612.21
005647638-02	OBS	No	7.294996	131.914837	38.2	11.296	8.8	7.7	2.50	6234	1.80	1340.36
005647638-03	OBS	No	83.370668	151.860623	151.5	17.384	8.4	6.4	2.50	6234	3.32	52.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005647638-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005647638-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005647638-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

Ephemeris Match Information For 005647638-01

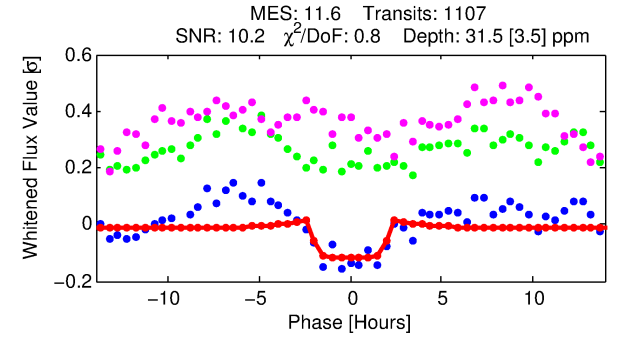
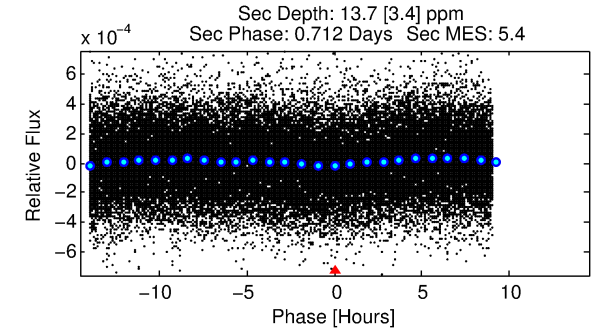
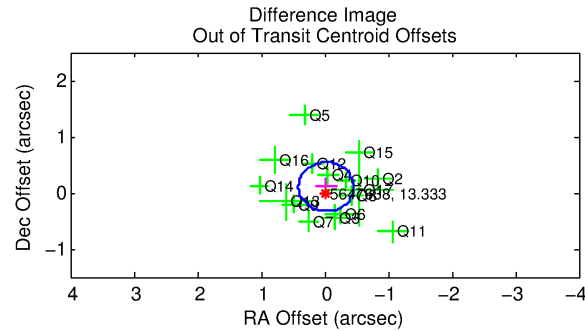
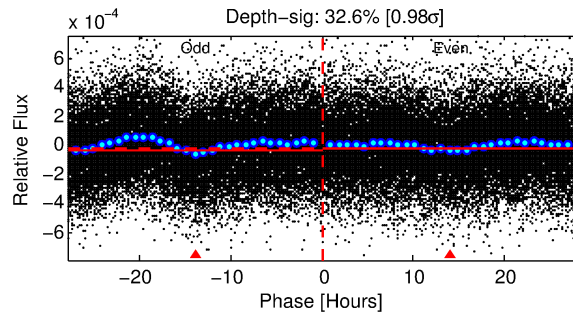
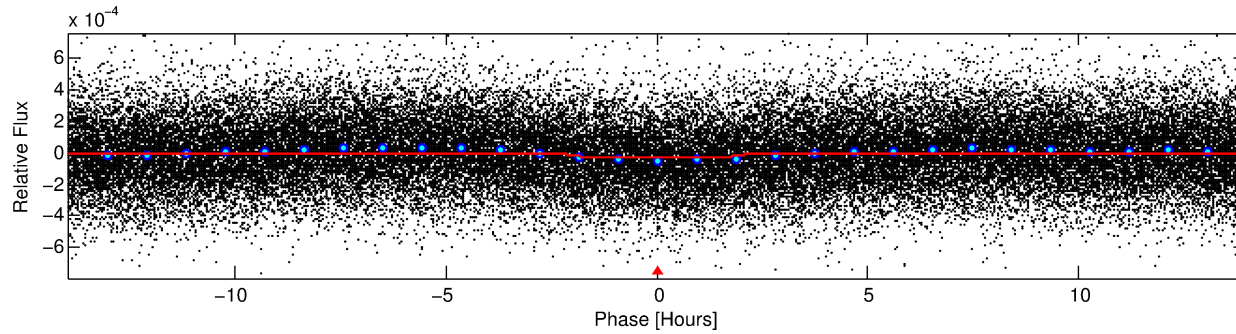
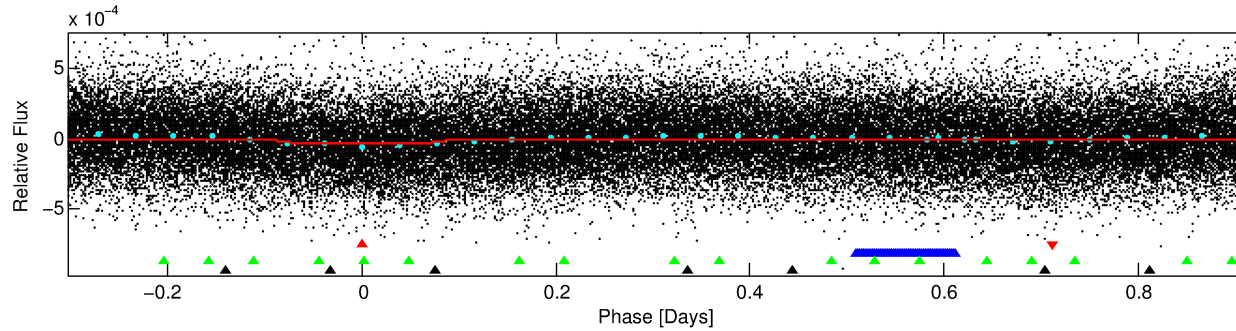
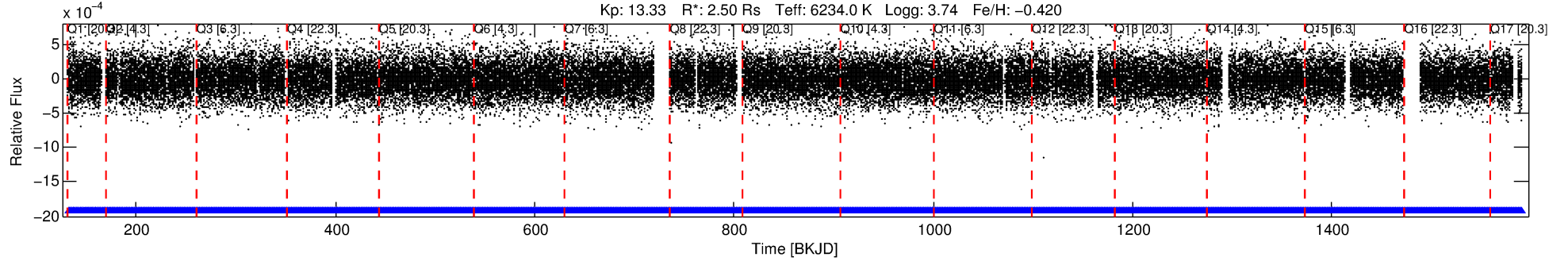
No Significant Match Found

DV One-Page Summary

KIC: 5647638 Candidate: 1 of 4 Period: 1.216 d

KOI: K06611 Corr: No Ephemeris Match

Kp: 13.33 R*: 2.50 Rs Teff: 6234.0 K Logg: 3.74 Fe/H: -0.420



DV Fit Results:

Period = 1.21592 [0.00001] d
Epoch = 132.5186 [0.0044] BKJD
Rp/R* = 0.0067 [0.0007]
a/R* = 1.10 [0.10]
b = 0.98 [0.02]
Seff = 14612.21 [14809.83]
Teq = 2804 [710] K
Rp = 1.84 [0.99] Re
a = 0.0241 [0.0142] AU
Ag = 1.29 [1.36] [0.22σ]
Teffp = 4622 [399] K [2.23σ]

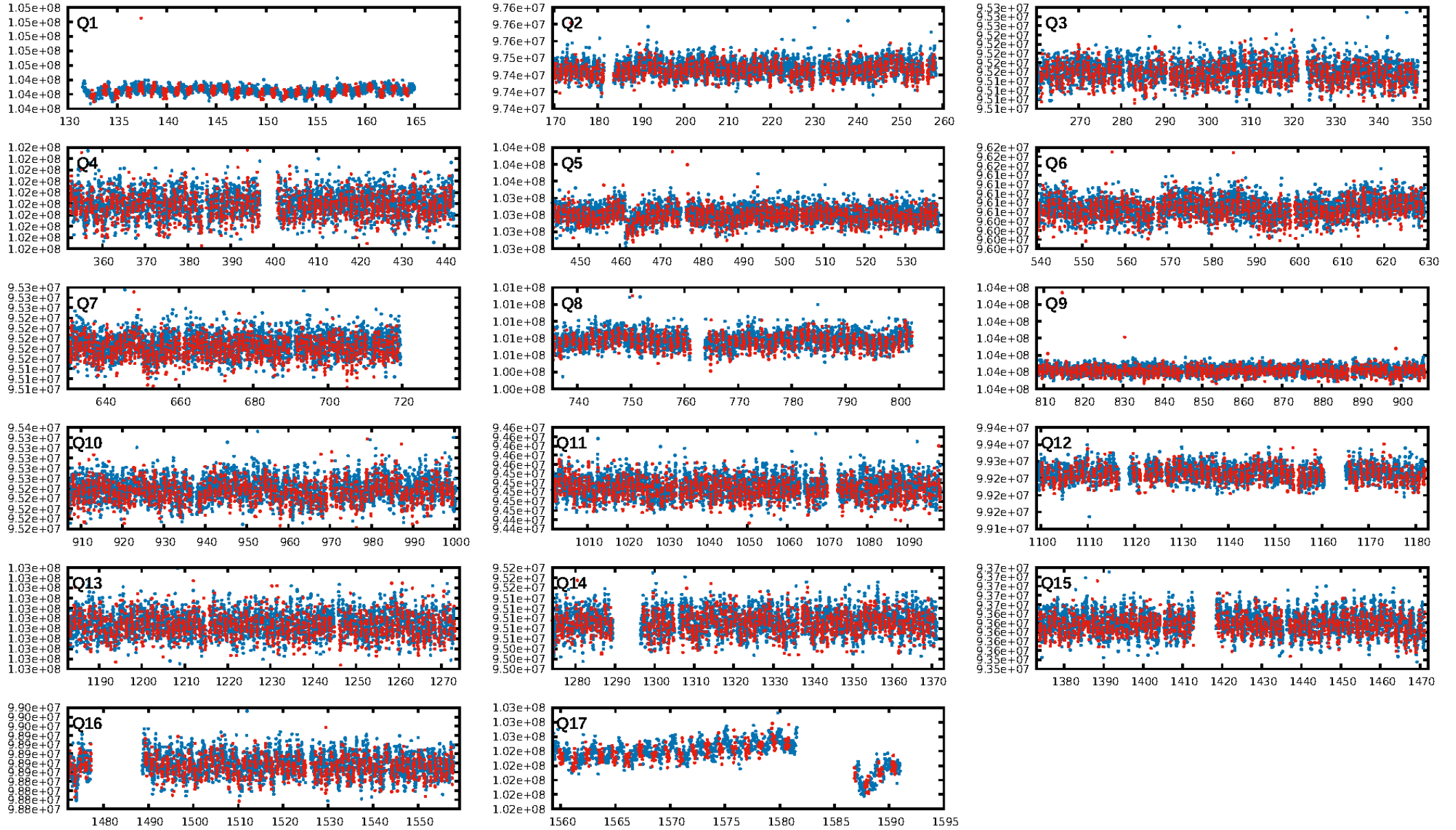
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [11.94σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.03e-22
RollingBand-fgt: 1.00 [1058/1058]
GhostDiagnostic-chr: 1.338
Centroid-sig: 21.2%
Centroid-so: 0.721 arcsec [0.88σ]
OotOffset-rm: 0.108 arcsec [0.74σ]
KicOffset-rm: 0.160 arcsec [1.06σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

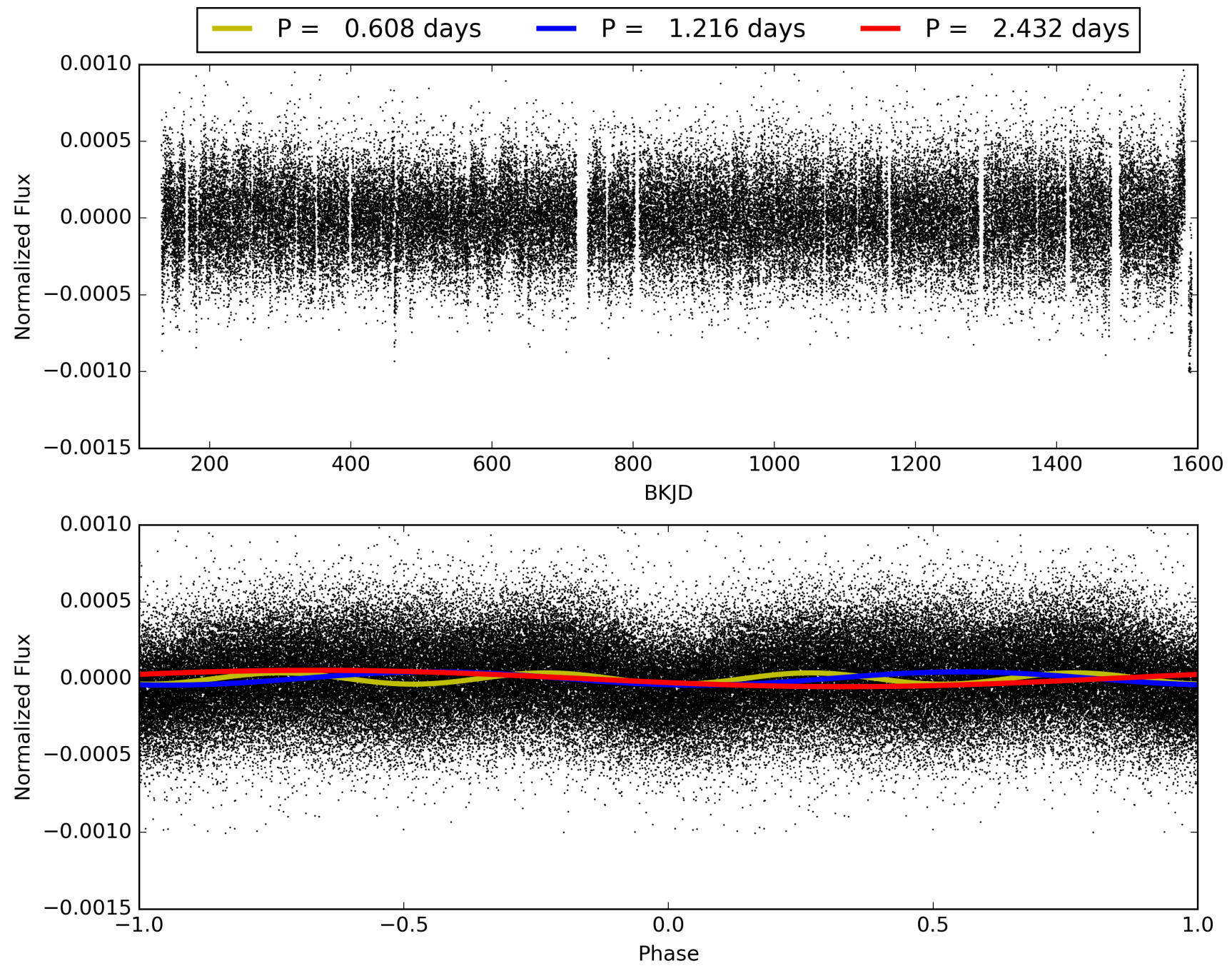
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:59:22 Z

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

TCE 005647638-01, PDC Light Curves

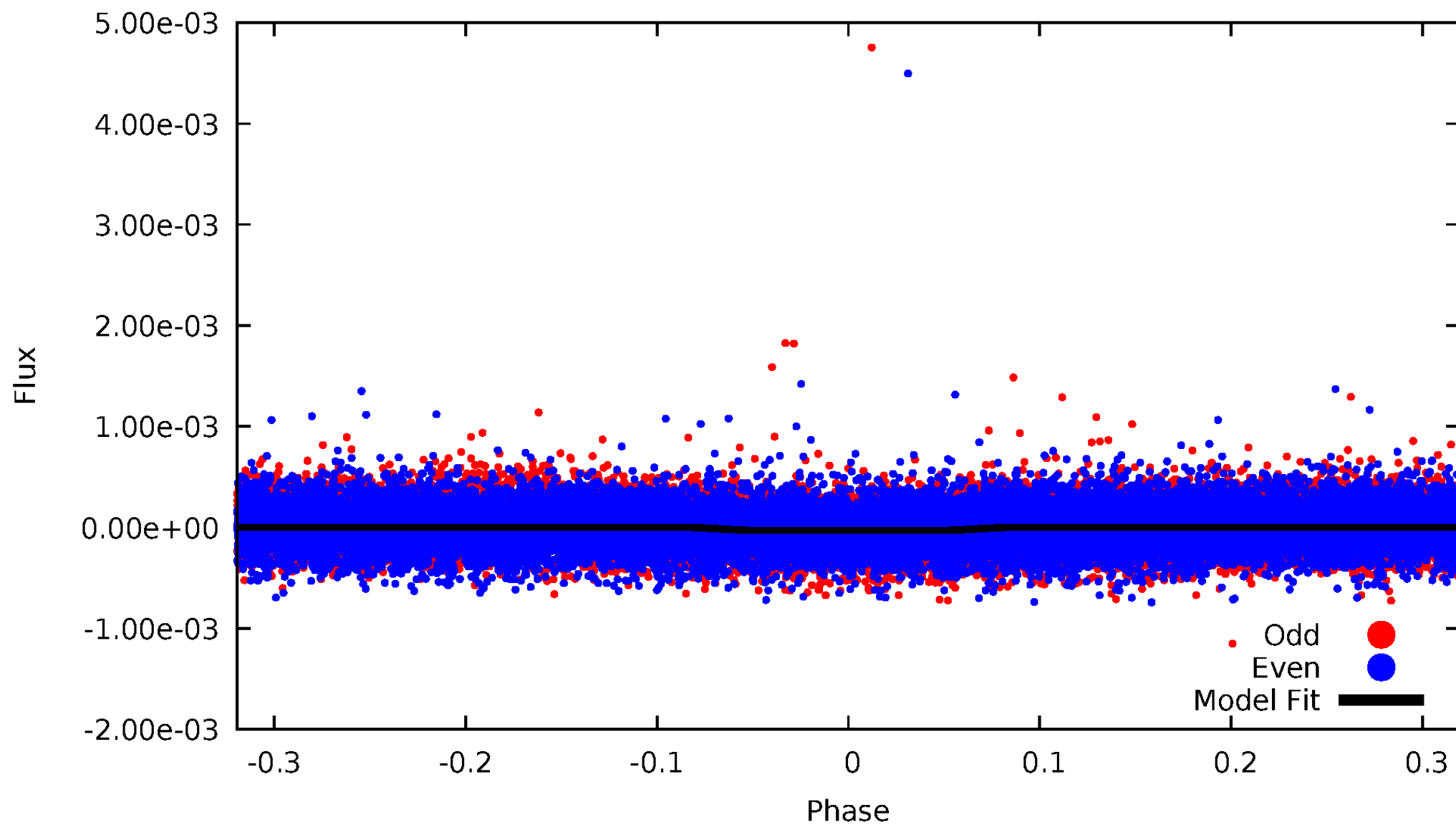


TCE 005647638-01



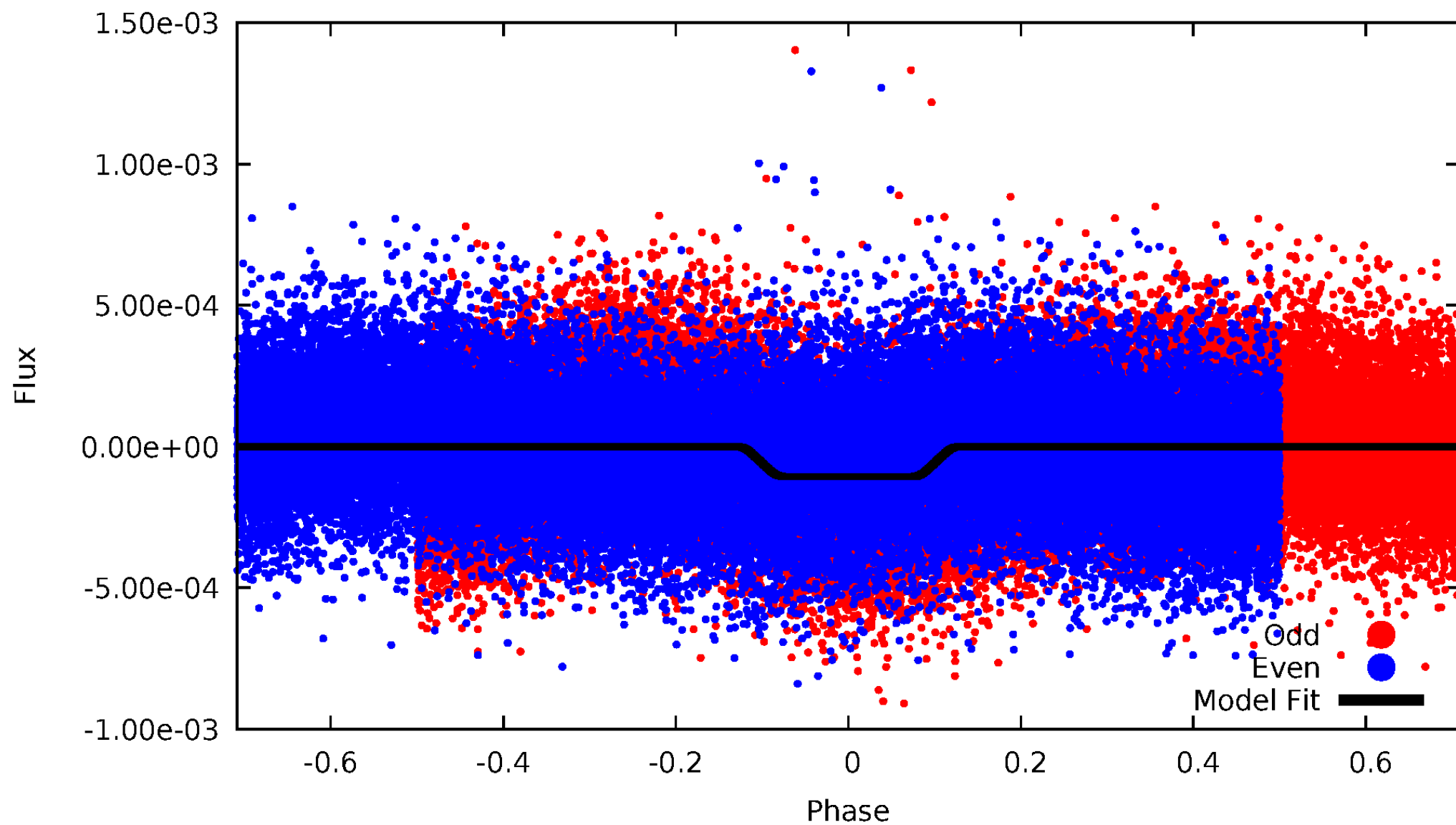
DV Odd/Even

TCE 005647638-01

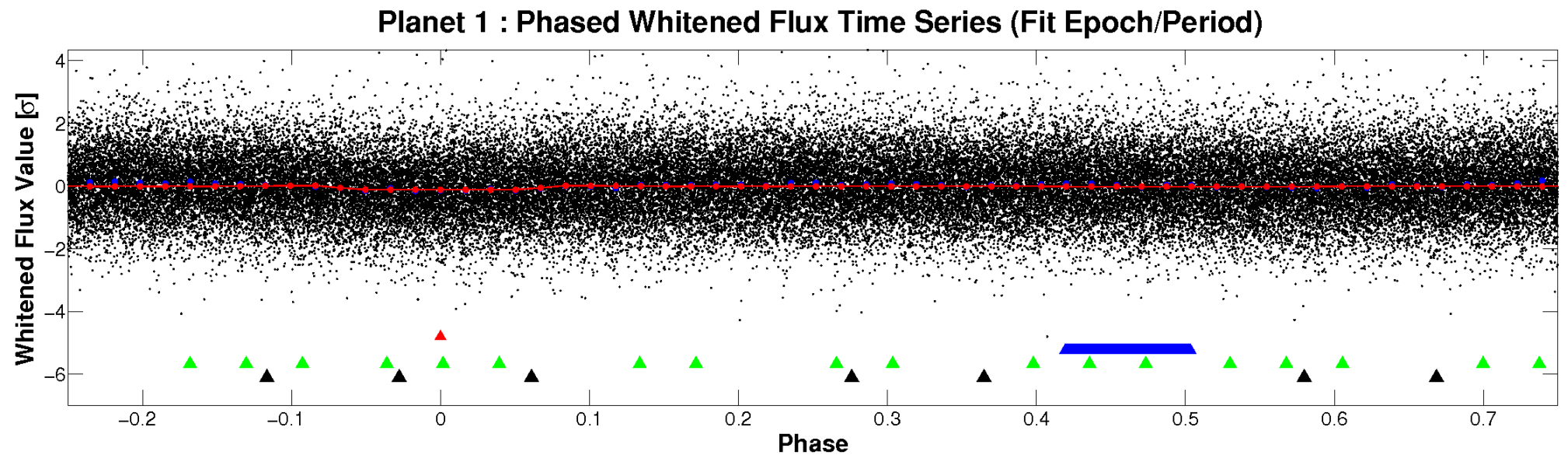
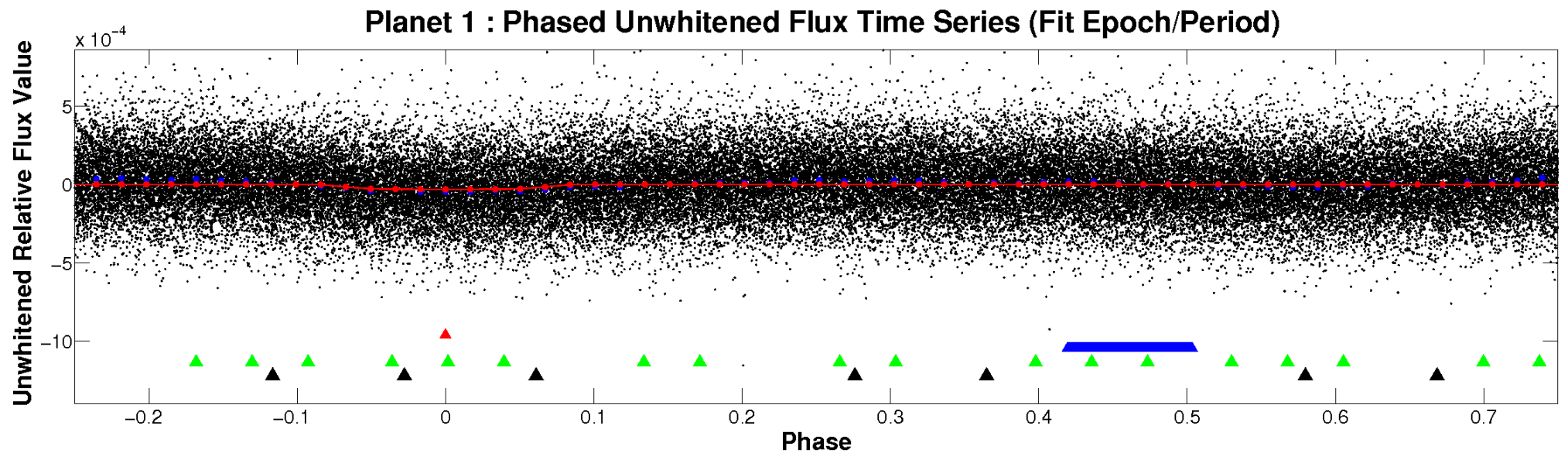


ALT Odd/Even

TCE 005647638-01

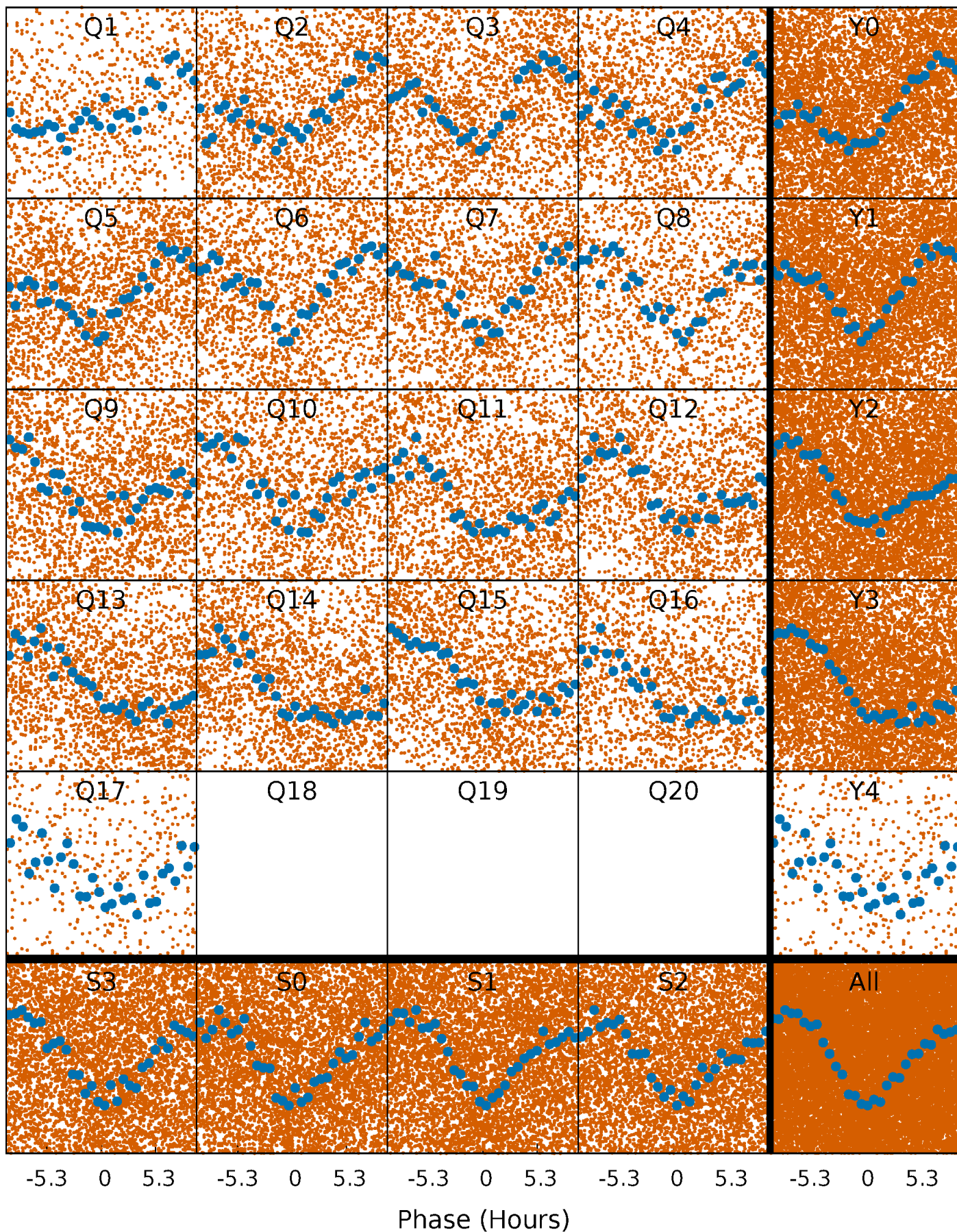


Non-Whitened Vs. Whitened Light Curve



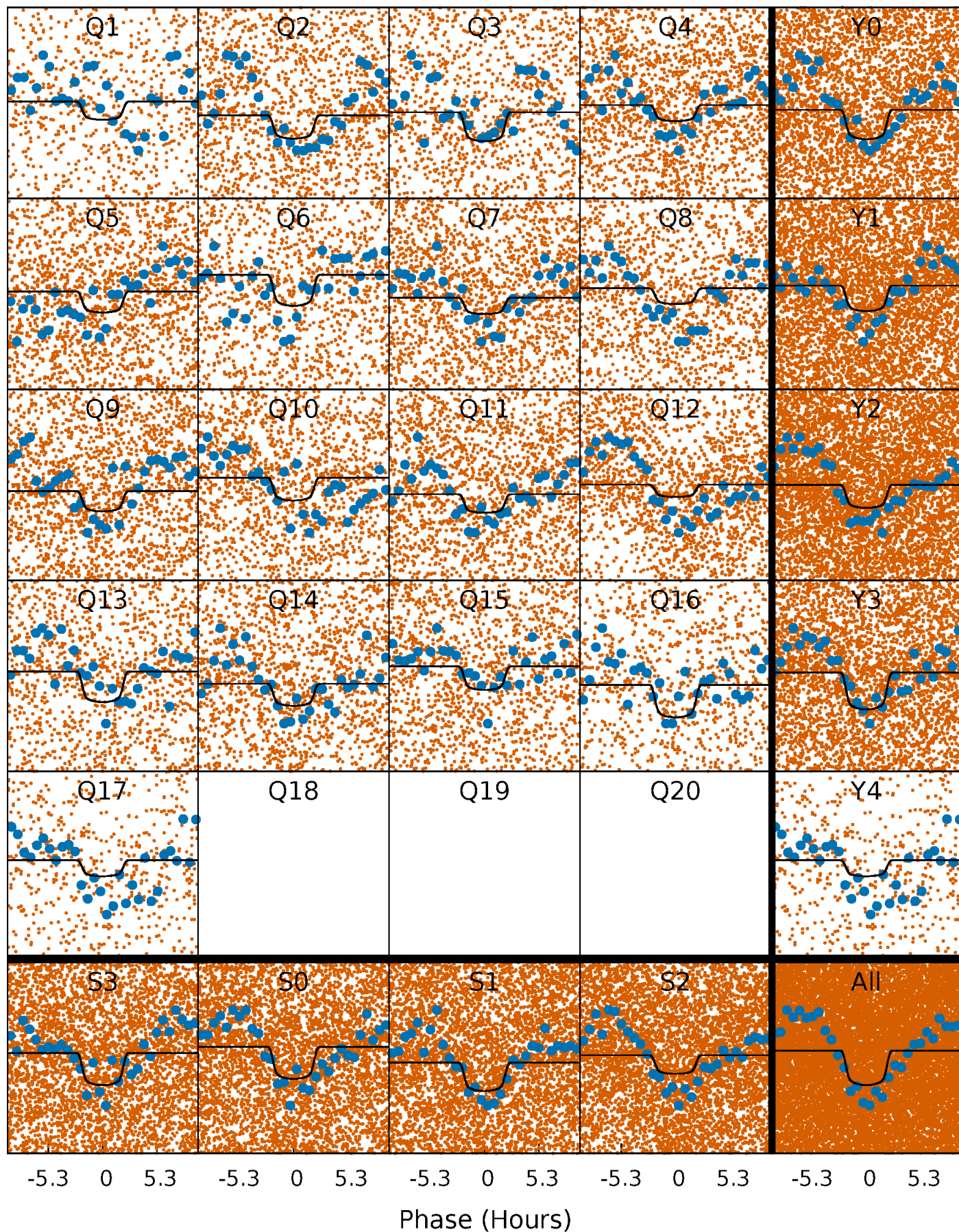
PDC Quarter-Phased Transit Curves

TCE 005647638-01 P= 1.215918 Days $T_0=132.518589$ (BKJD)



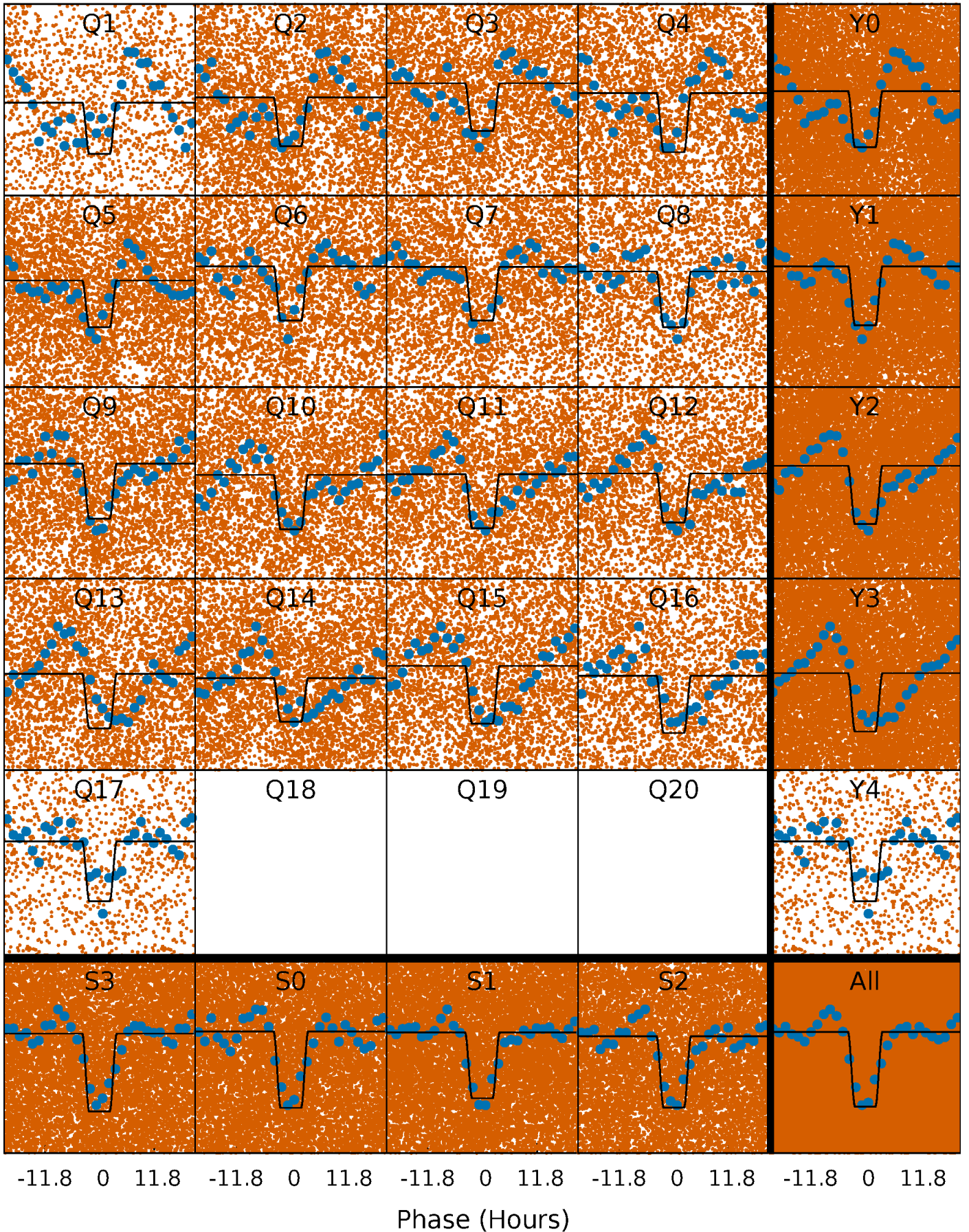
DV Quarter-Phased Transit Curves

TCE 005647638-01 P= 1.215918 Days $T_0=132.518589$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

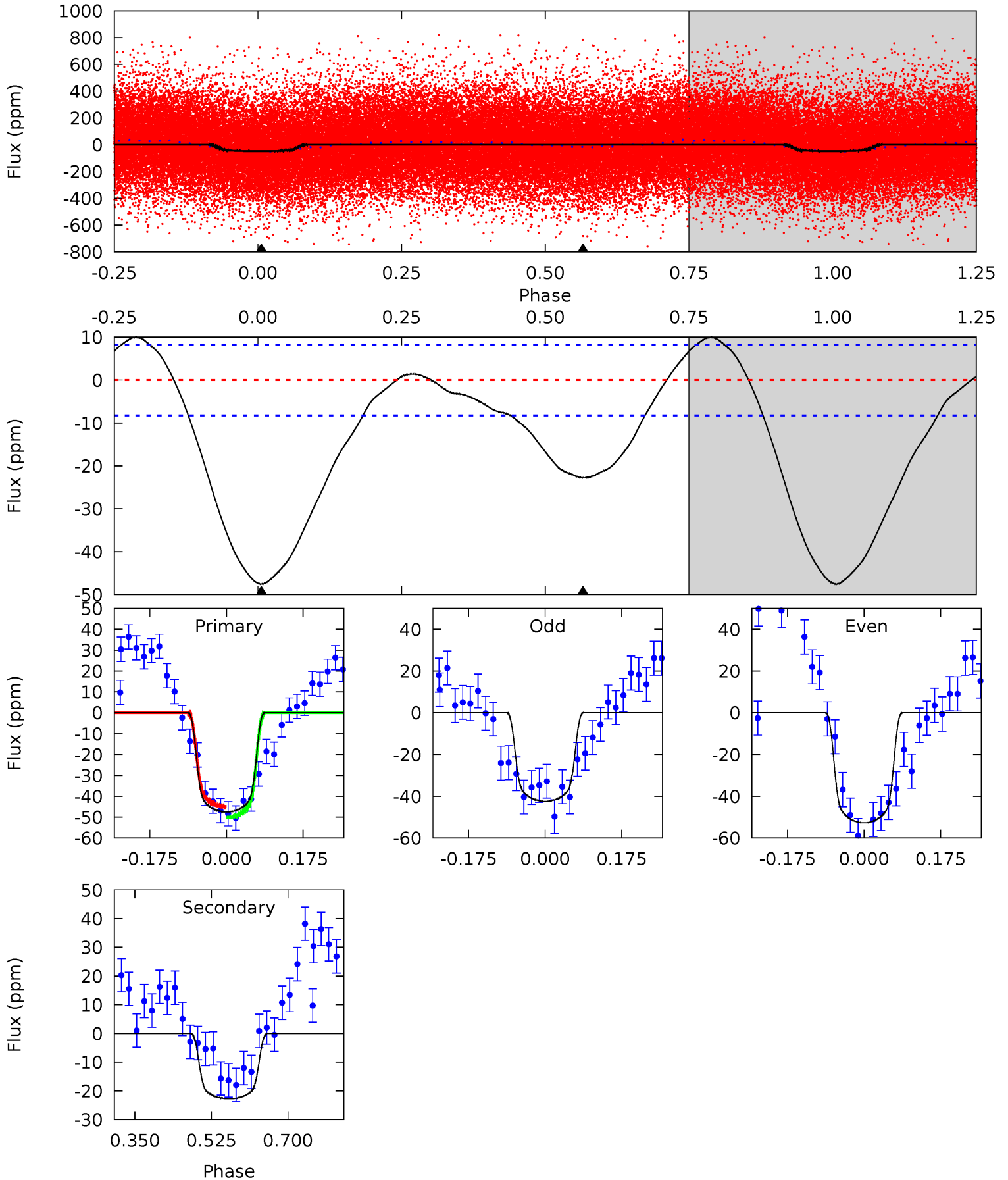
TCE 005647638-01 P= 1.215901 Days $T_0=132.545580$ (BKJD)



DV Model-Shift Uniqueness Test

005647638-01, P = 1.215918 Days, E = 131.302671 Days

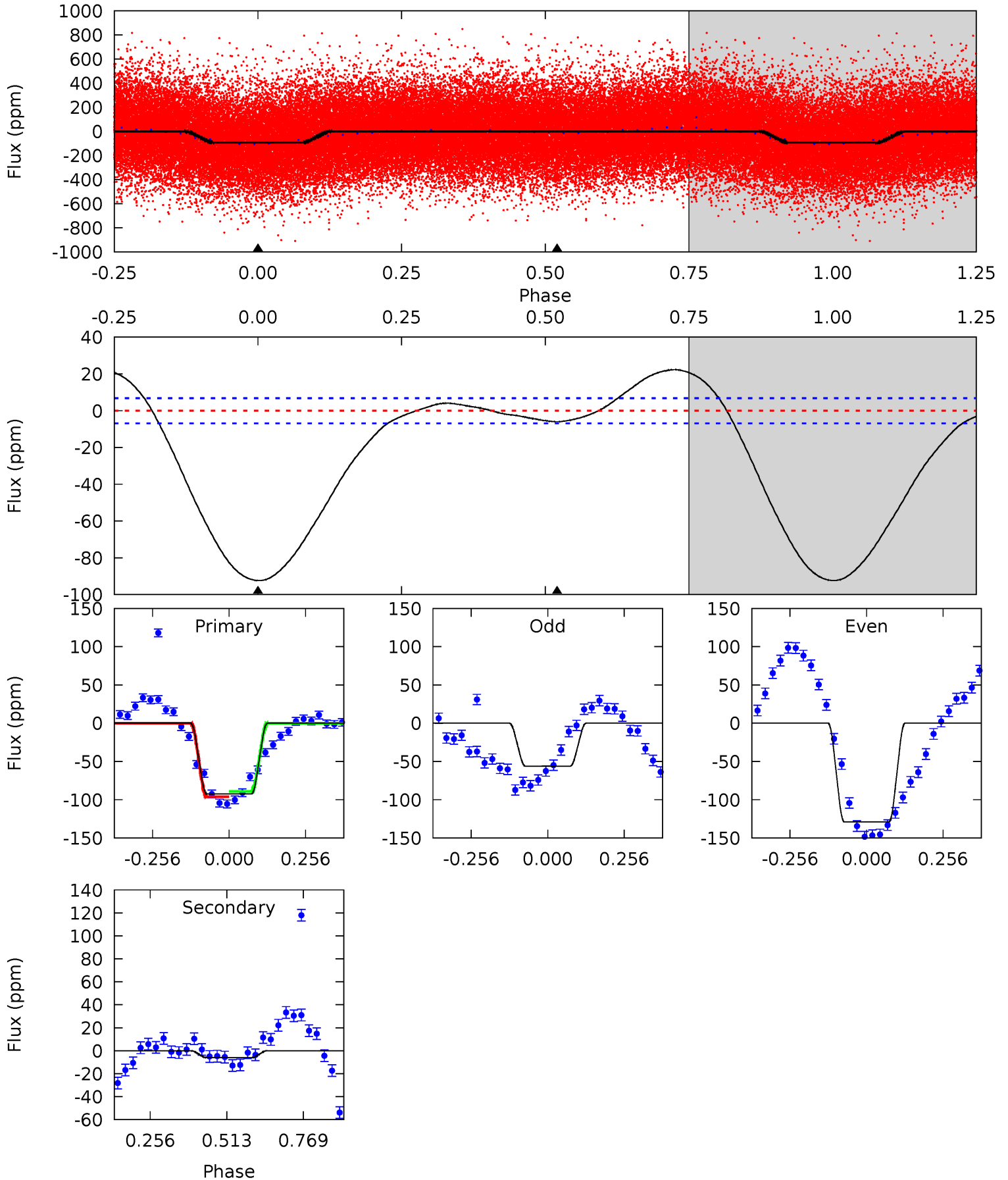
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.7	12.3	0	0	4.45	1.36	2.79	25.7	25.7	12.3	12.3	2.79	0.92	0.17	1.46



Alt Model-Shift Uniqueness Test

005647638-01, P = 1.215901 Days, E = 131.329679 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.9	3.83	0	0	4.36	1.13	6.35	58.9	58.9	3.83	3.83	24.1	1.03	0.19	2.19



Stellar Parameters For KIC 005647638

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6234^{+194}_{-213}	$3.741^{+0.612}_{-0.108}$	$-0.420^{+0.350}_{-0.300}$	$2.500^{+0.475}_{-1.331}$	$1.255^{+0.180}_{-0.334}$	$0.113^{+0.937}_{-0.036}$
	+3%/-3%	+16%/-3%	+83%/-71%	+19%/-53%	+14%/-27%	+828%/-31%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005647638-01 / KOI 6611.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 2	$1.67^{+0.39}_{-0.49}$	3764^{+321}_{-546}	5155^{+315}_{-303}	$2.609^{+2.313}_{-0.873}$
Alt.	-6 ± 2	$2.58^{+0.52}_{-0.75}$	3761^{+310}_{-522}	-2233^{+5386}_{-944}	$0.291^{+0.250}_{-0.110}$

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

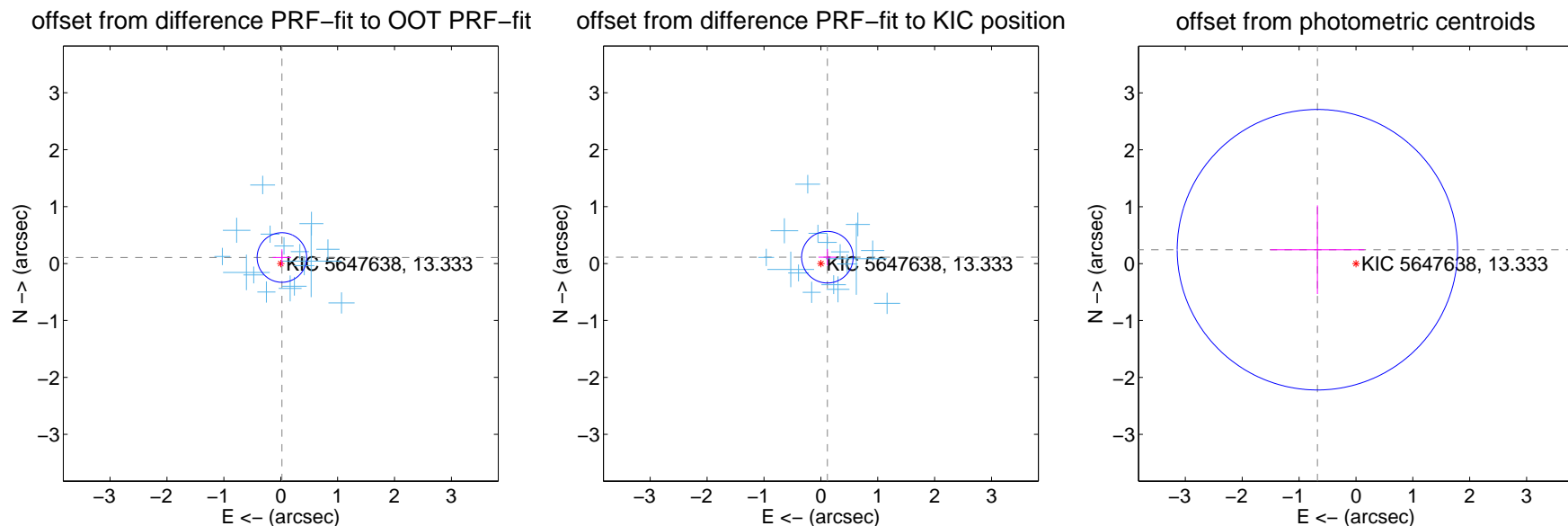
DV Centroid Data

Supplemental centroid analysis for 005647638-01. Kepler magnitude: 13.33. Transit SNR 10.22

There are 16 quarters with good PRF difference image offsets

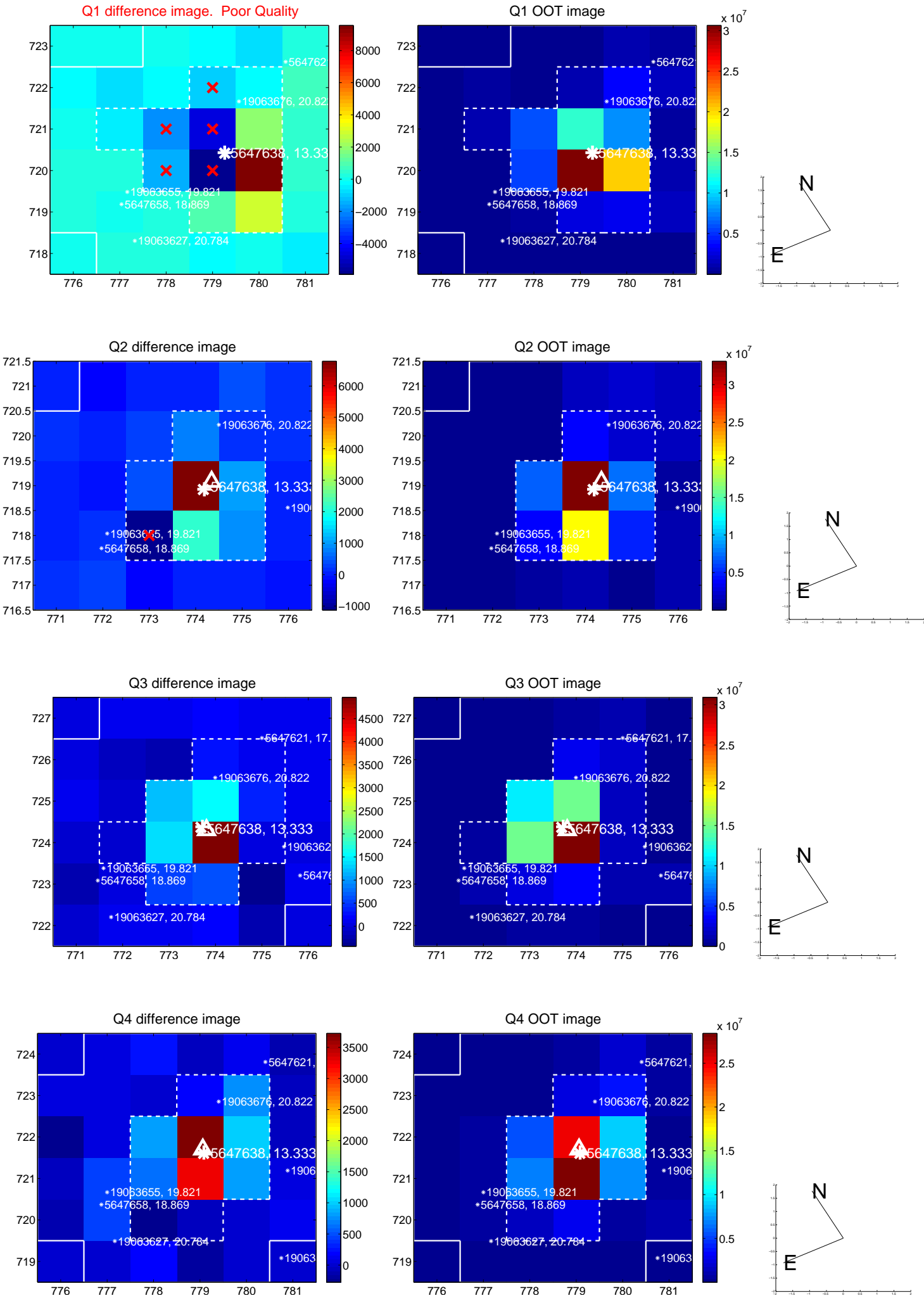
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.108 ± 0.145	0.74	-0.020 ± 0.161	0.106 ± 0.145
PRF-fit source offset from KIC position	0.160 ± 0.151	1.06	-0.115 ± 0.157	0.111 ± 0.144
photometric centroid source offset	0.72 ± 0.82	0.88	0.68 ± 0.83	0.24 ± 0.78

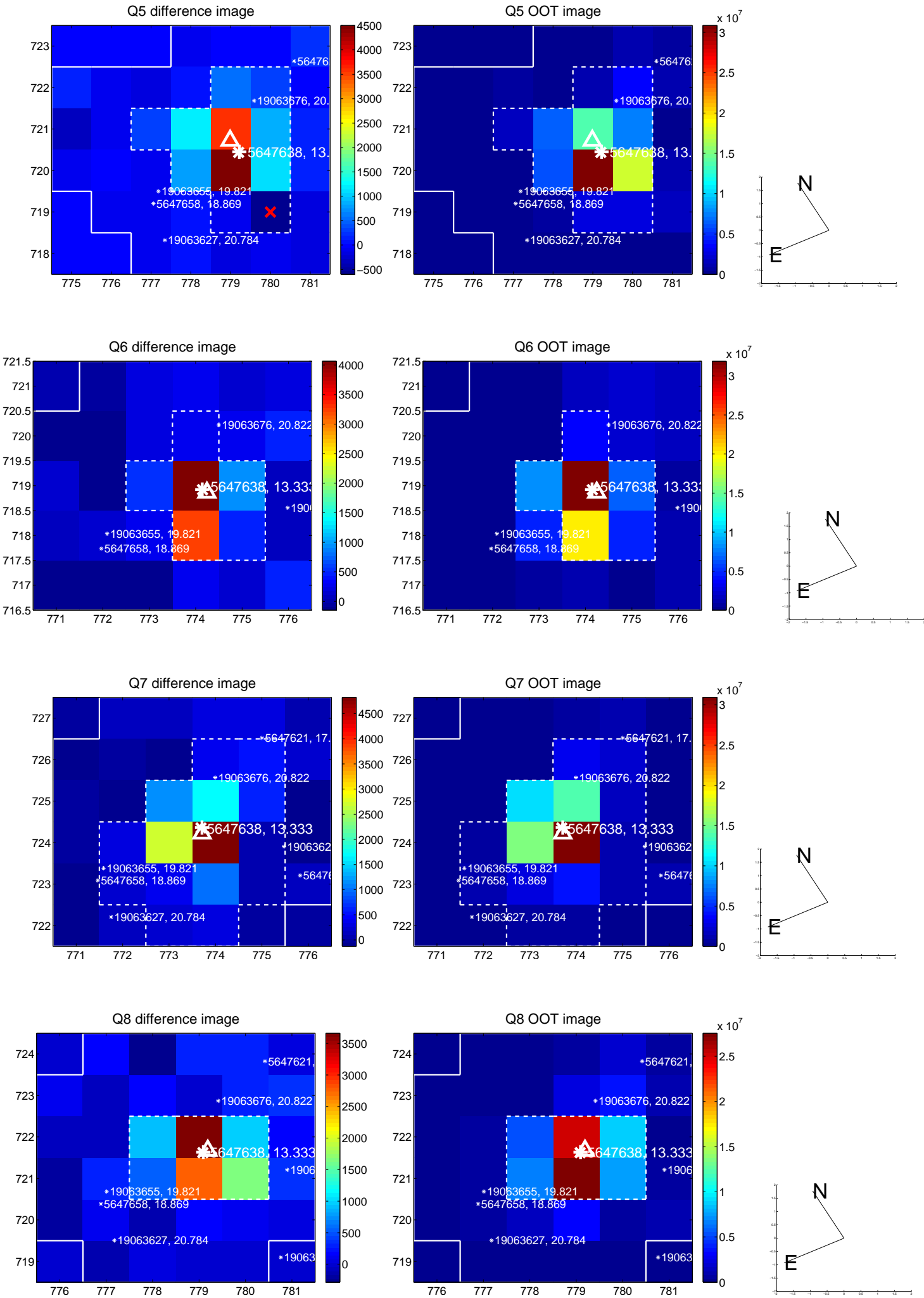


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

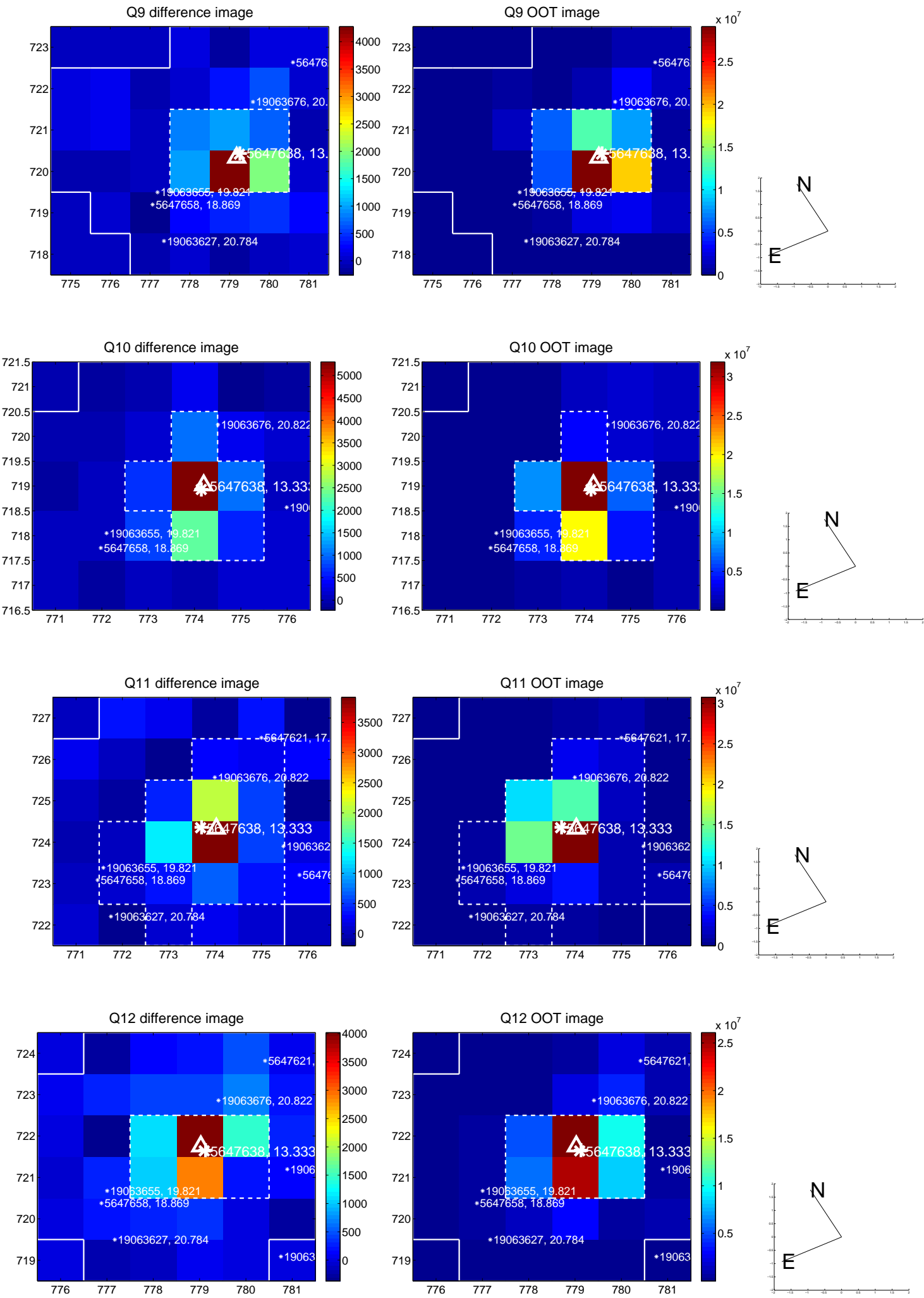
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



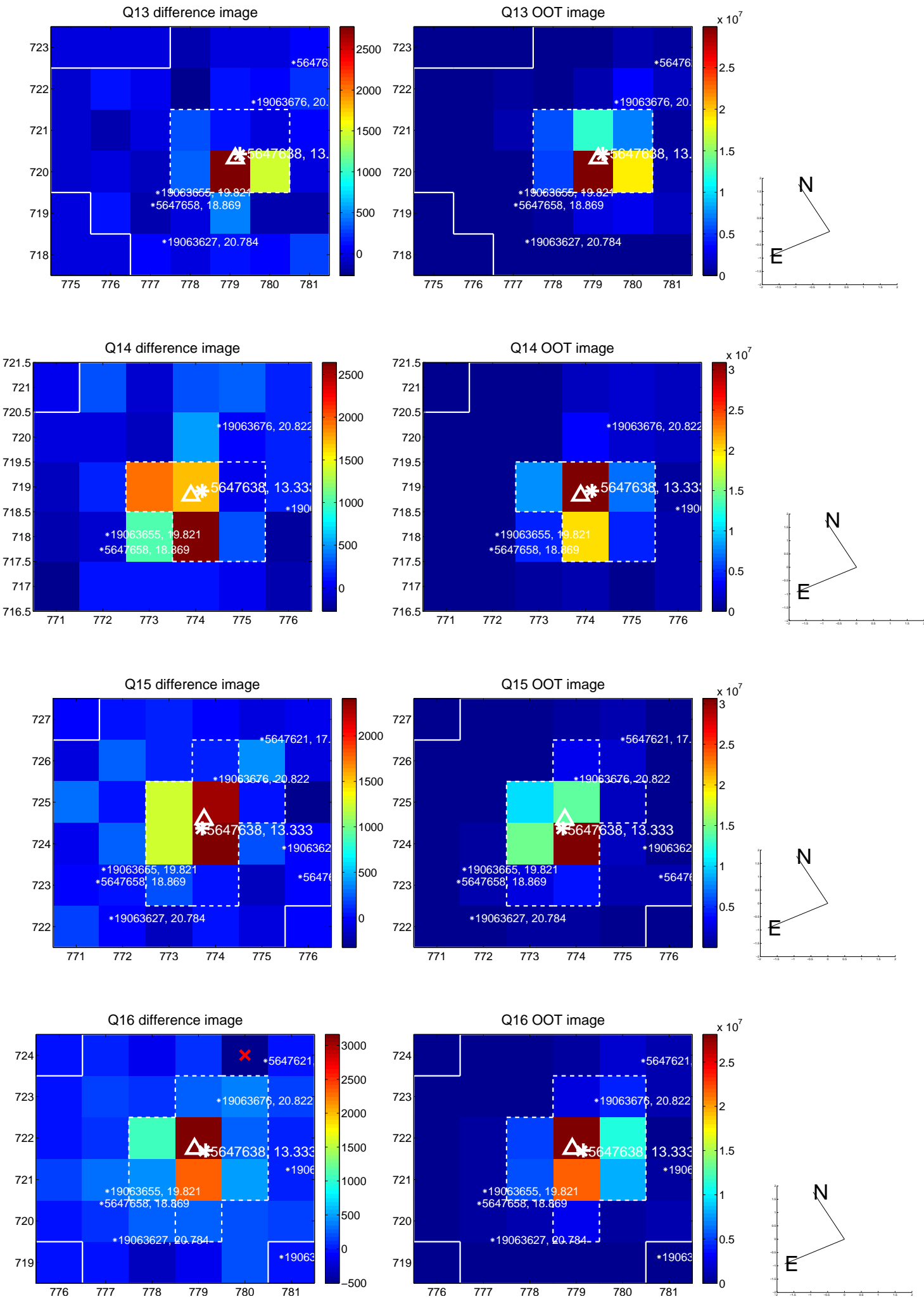
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



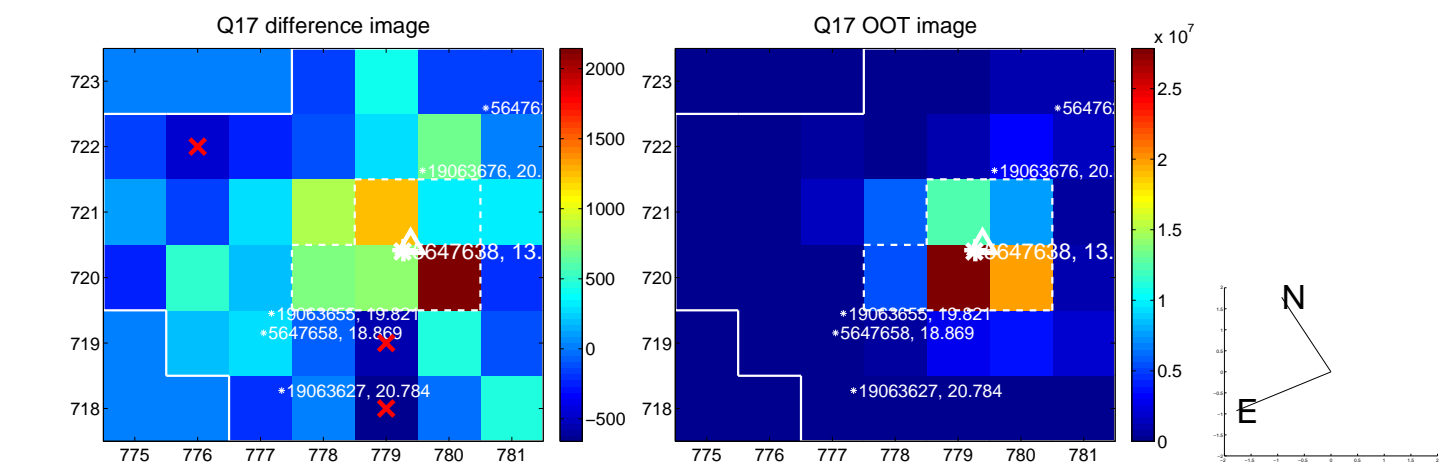
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



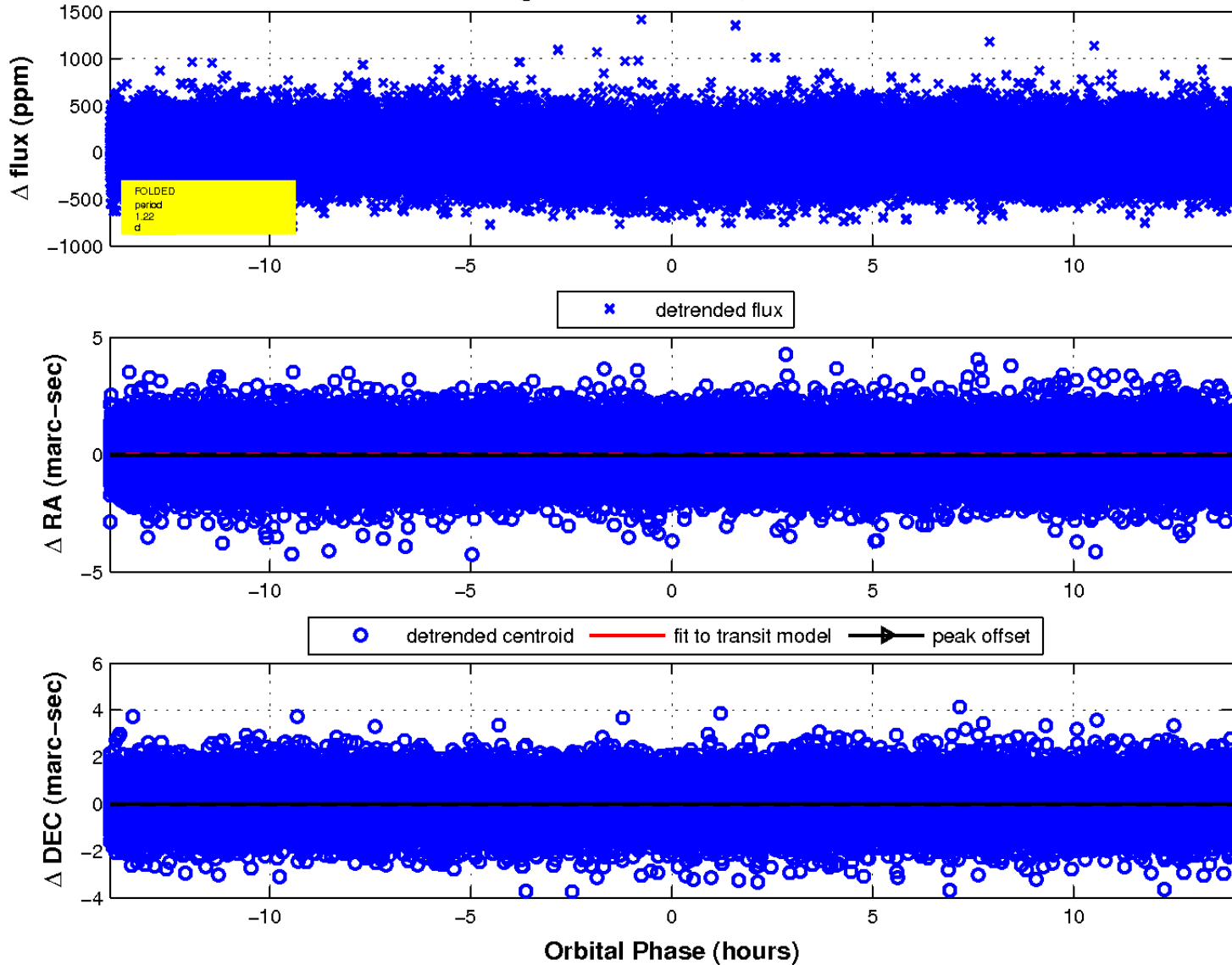
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



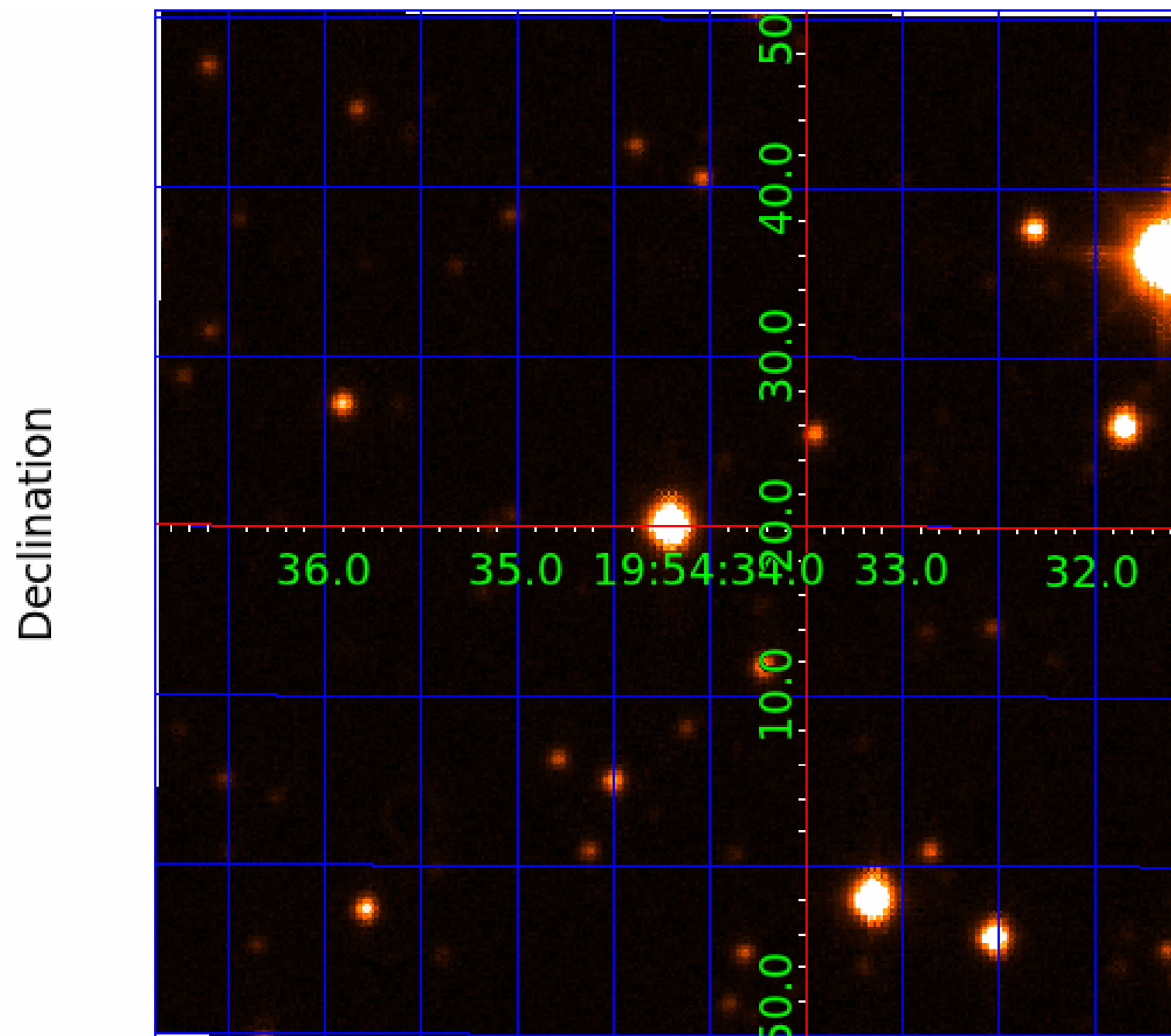
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 4



UKIRT Image



KIC 005647638

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})
005647638-01	OBS	6611.01	1.215918	132.518589	31.5	4.659	11.6	10.2	2.50	6234	1.84	14612.21
005647638-02	OBS	No	7.294996	131.914837	38.2	11.296	8.8	7.7	2.50	6234	1.80	1340.36
005647638-03	OBS	No	83.370668	151.860623	151.5	17.384	8.4	6.4	2.50	6234	3.32	52.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005647638-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005647638-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005647638-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

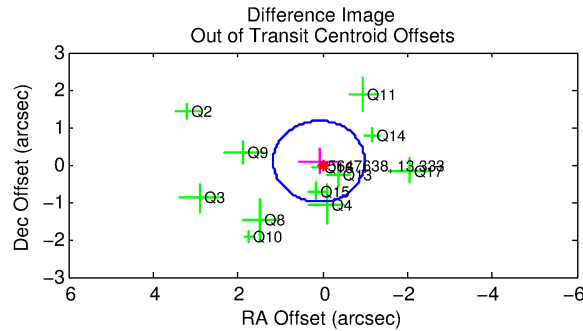
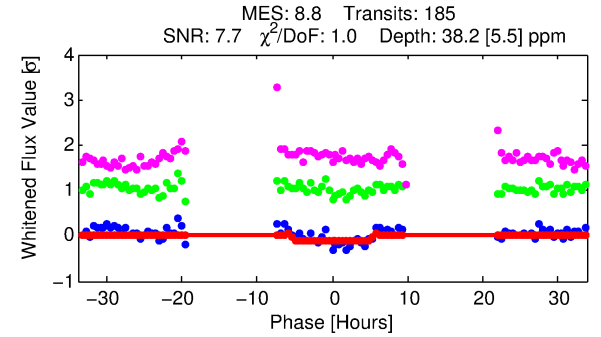
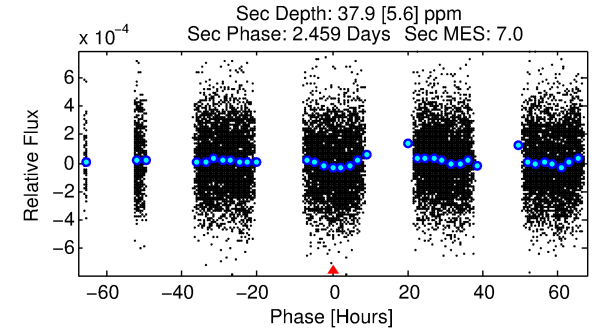
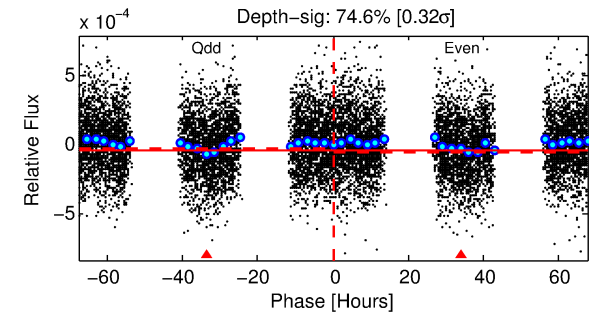
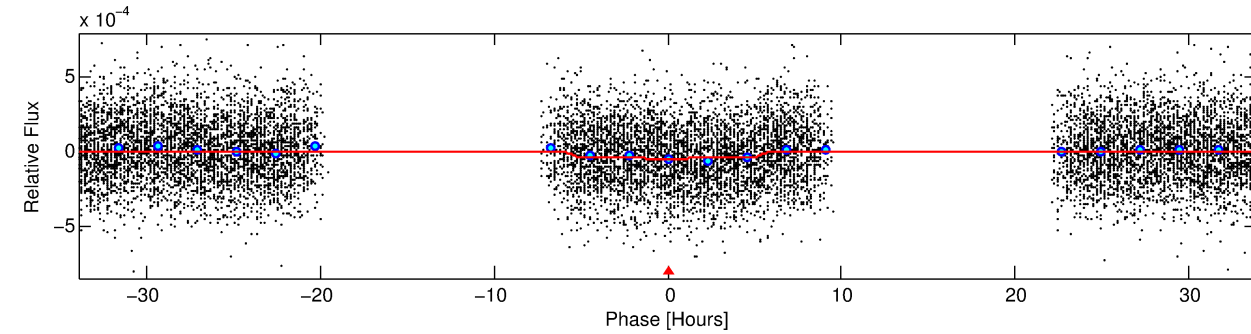
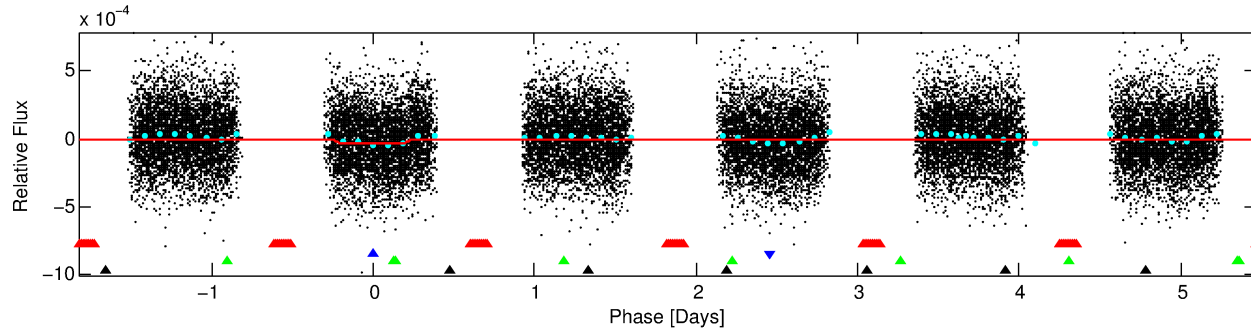
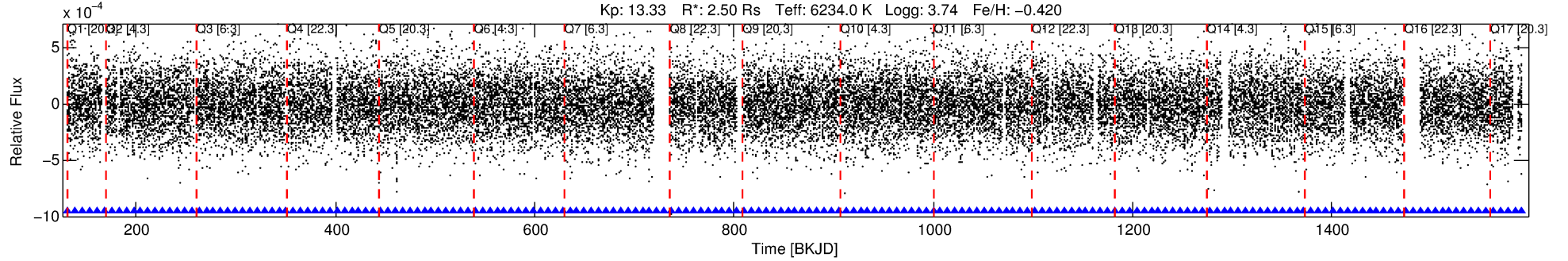
Ephemeris Match Information For 005647638-02

No Significant Match Found

DV One-Page Summary

KIC: 5647638 Candidate: 2 of 4 Period: 7.295 d

KOI: K06611 Corr: No Ephemeris Match



DV Fit Results:

Period = 7.29500 [0.00015] d
Epoch = 131.9148 [0.0151] BKJD
Rp/R* = 0.0066 [0.0016]
a/R* = 2.45 [2.69]
b = 0.90 [0.29]
Seff = 1340.36 [1358.49]
Teq = 1543 [391] K
Rp = 1.80 [1.06] Re
a = 0.0794 [0.0468] AU
Ag = 40.53 [45.64] [0.87 σ]
Teffp = 6019 [793] K [5.06 σ]

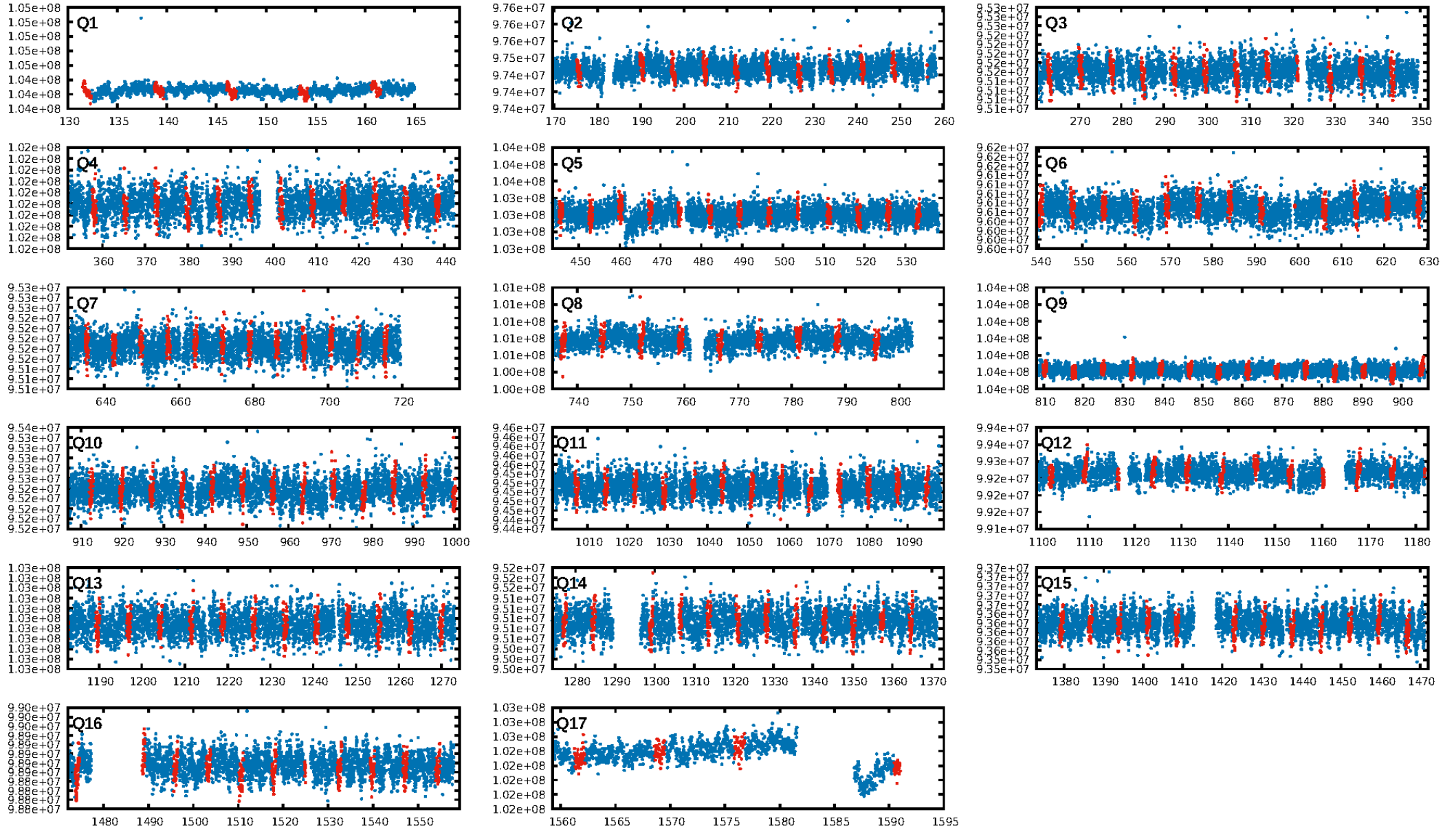
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.94 σ]
LongPeriod-sig: 100.0% [88.07 σ]
ModelChiSquare2-sig: 44.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.89e-13
RollingBand-fgt: 1.00 [176/176]
GhostDiagnostic-chr: 1.052
Centroid-sig: 54.9%
Centroid-so: 1.000 arcsec [0.90 σ]
OotOffset-rm: 0.122 arcsec [0.34 σ]
KicOffset-rm: 0.093 arcsec [0.24 σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 0.00 [0/17]

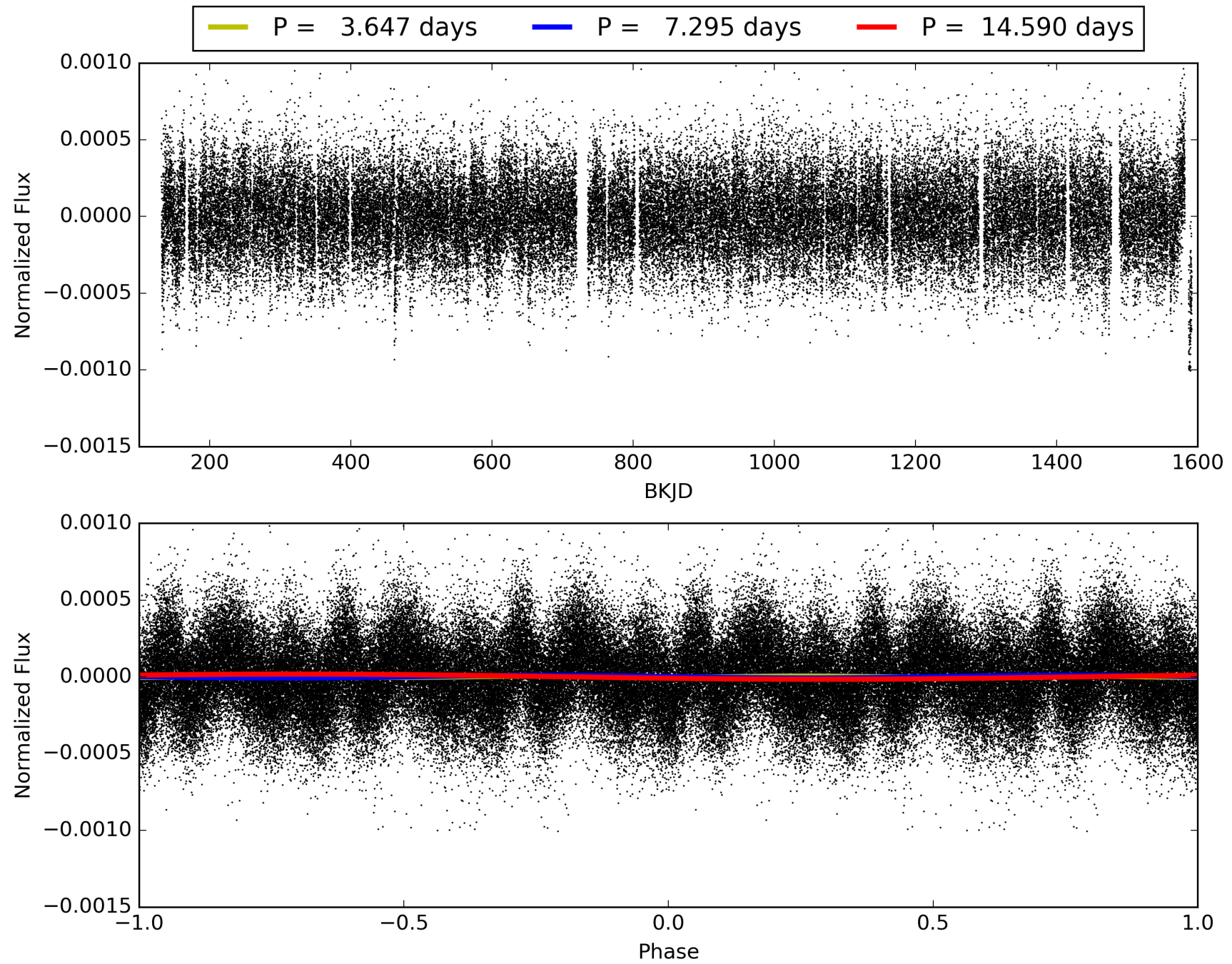
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:59:33 Z

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

TCE 005647638-02, PDC Light Curves

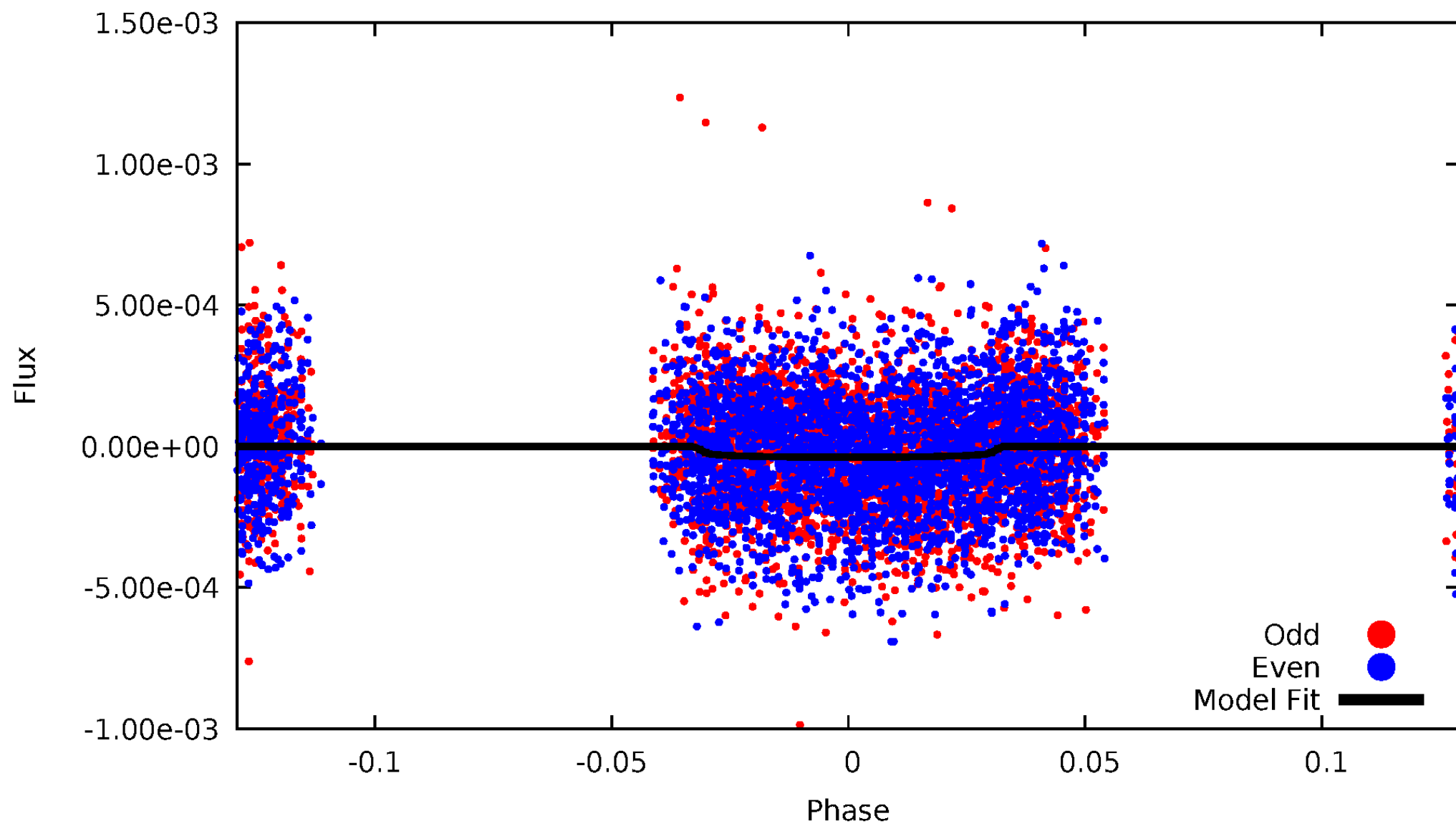


TCE 005647638-02



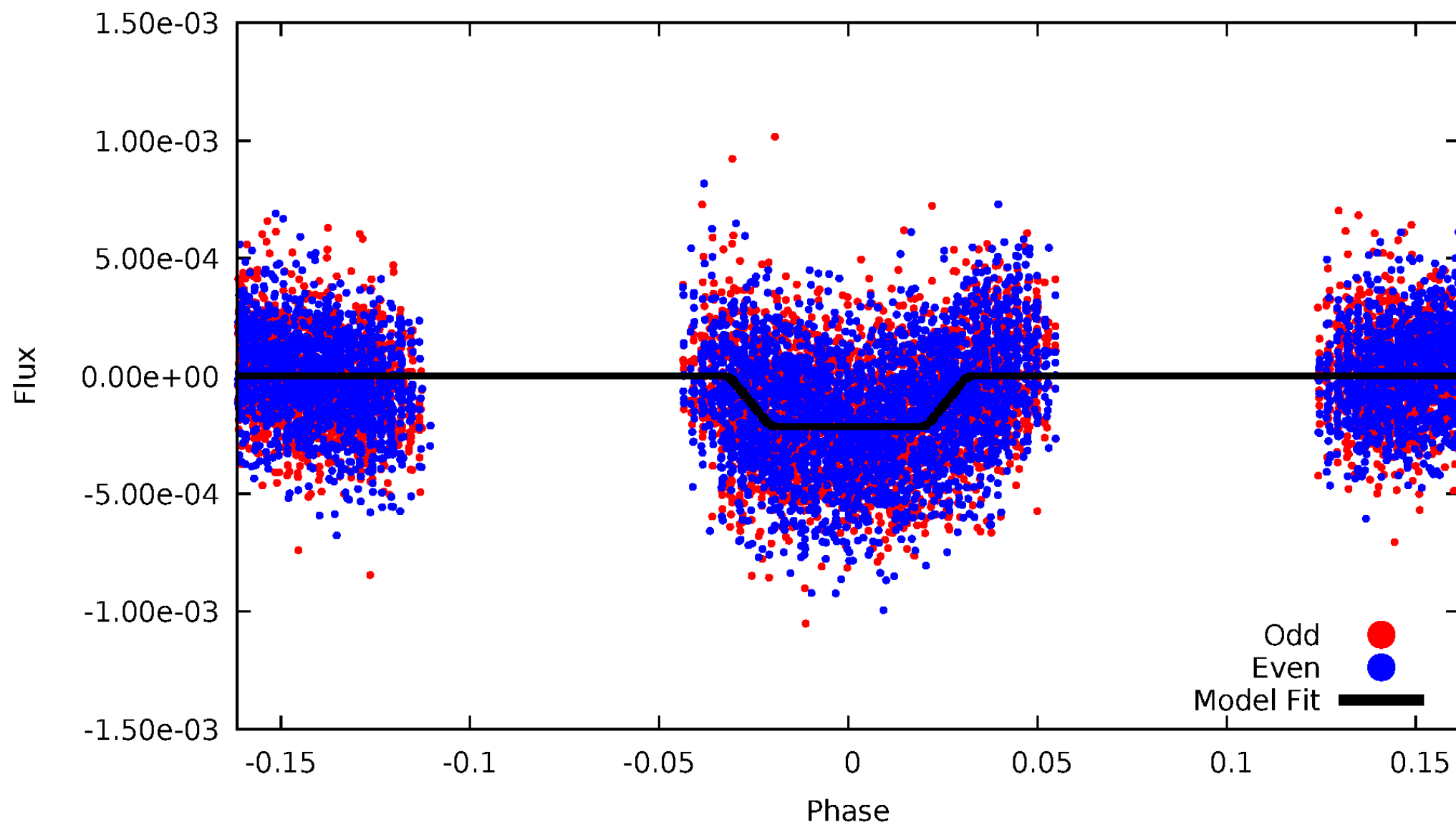
DV Odd/Even

TCE 005647638-02



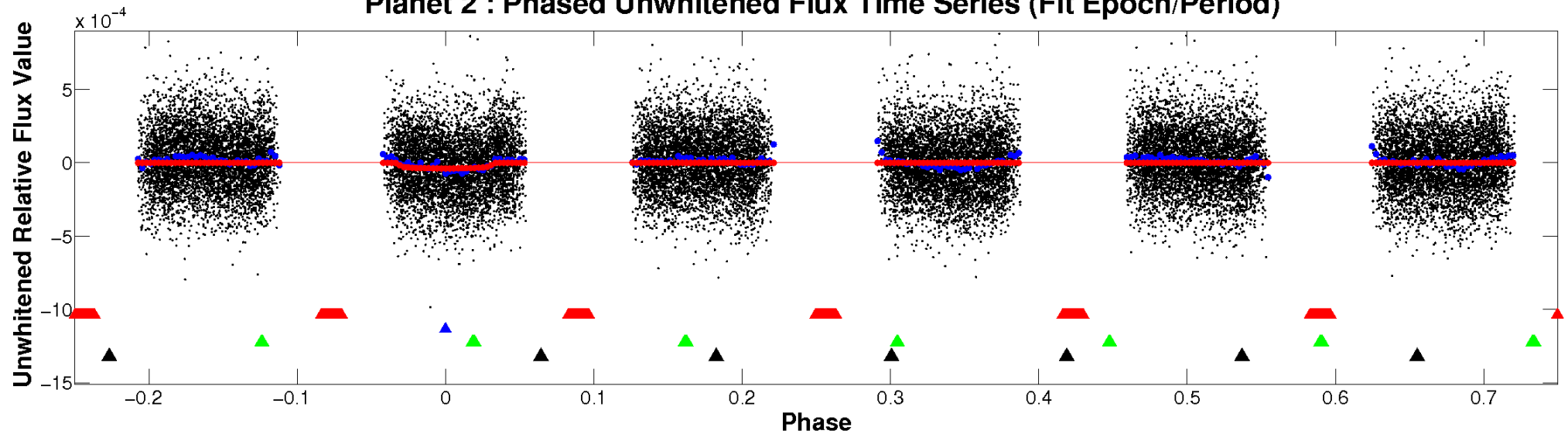
ALT Odd/Even

TCE 005647638-02

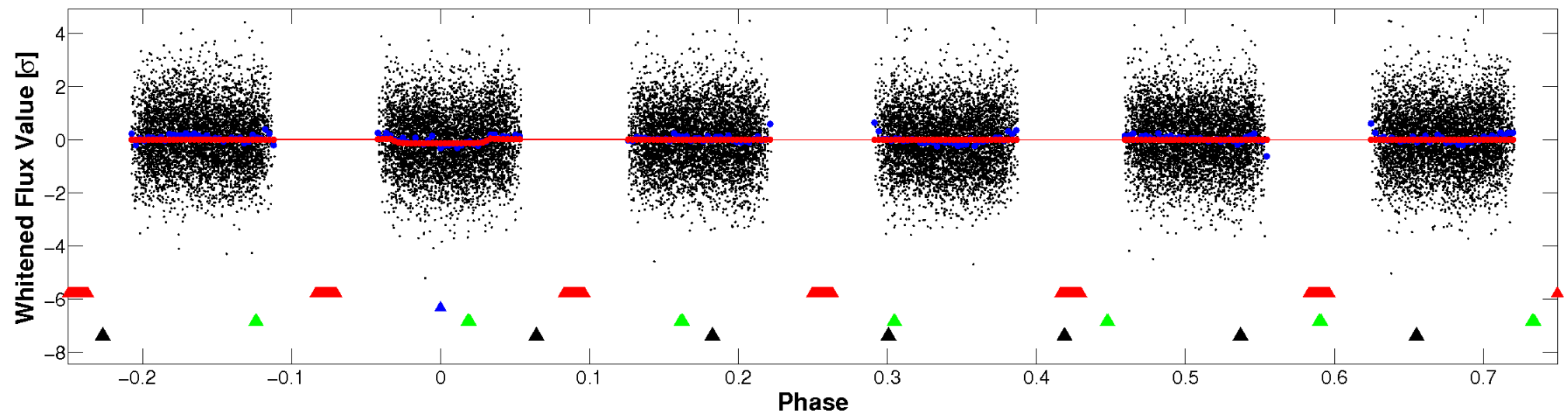


Non-Whitened Vs. Whitened Light Curve

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

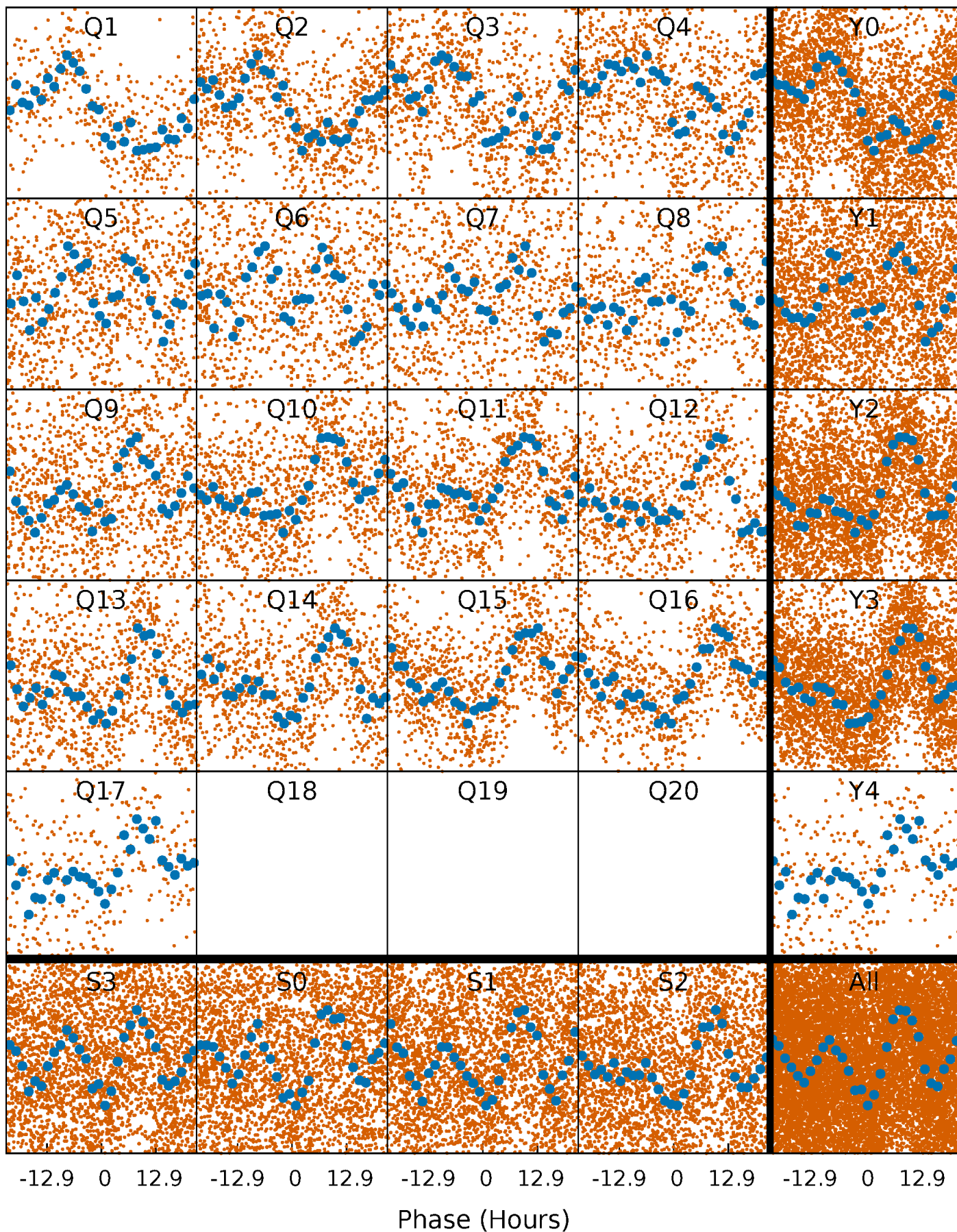


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



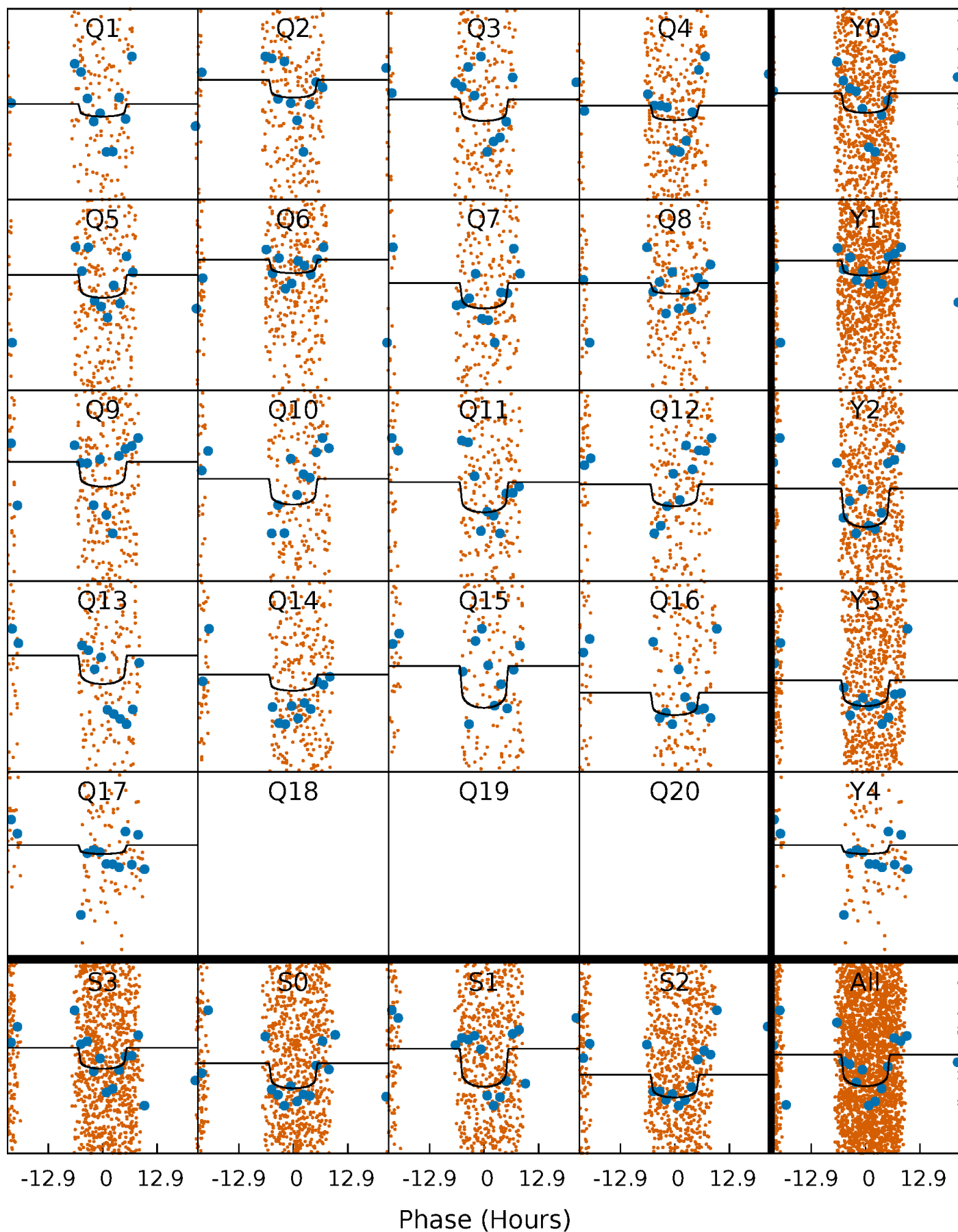
PDC Quarter-Phased Transit Curves

TCE 005647638-02 $P = 7.294996$ Days $T_0 = 131.914837$ (BKJD)



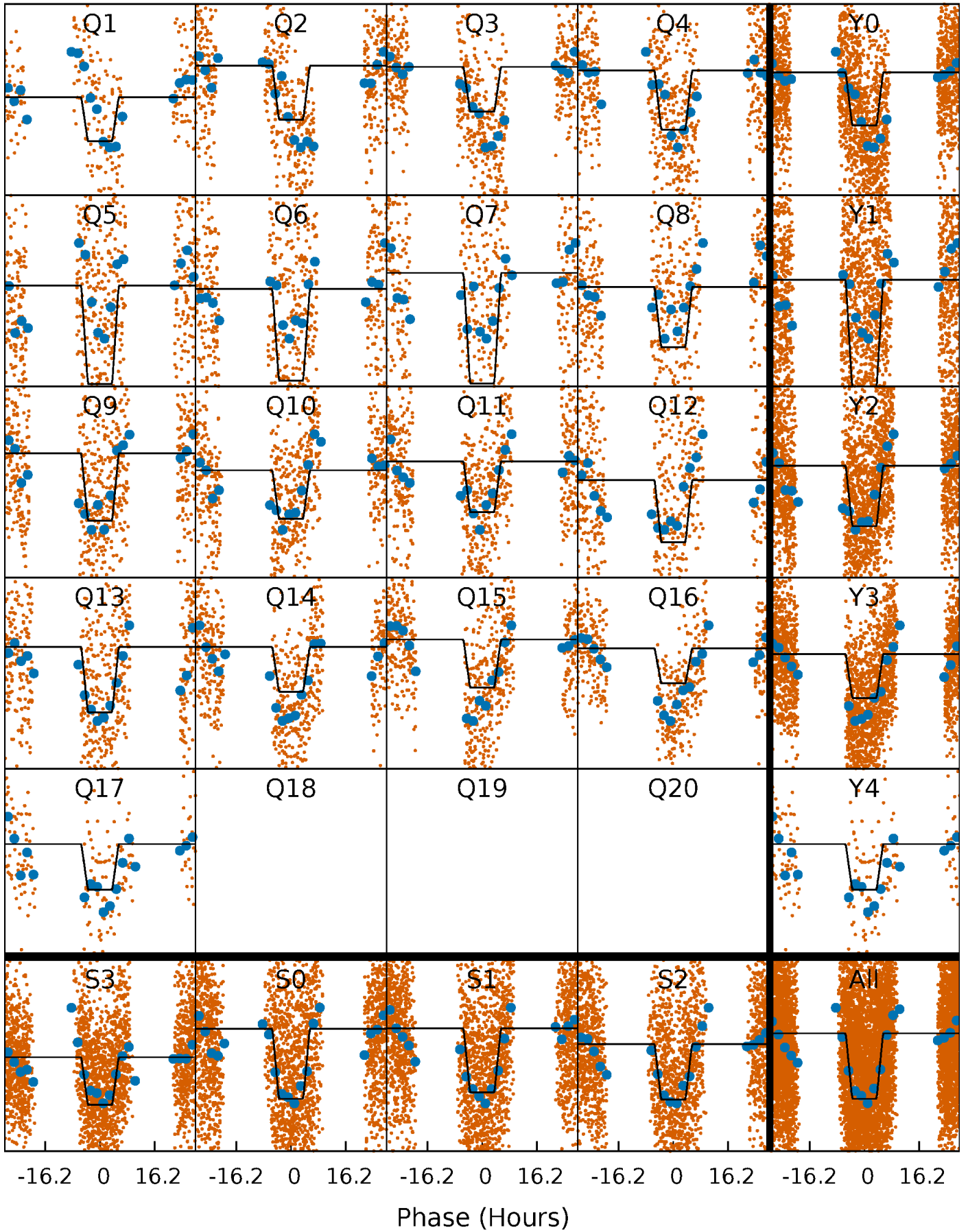
DV Quarter-Phased Transit Curves

TCE 005647638-02 P= 7.294996 Days $T_0=131.914837$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

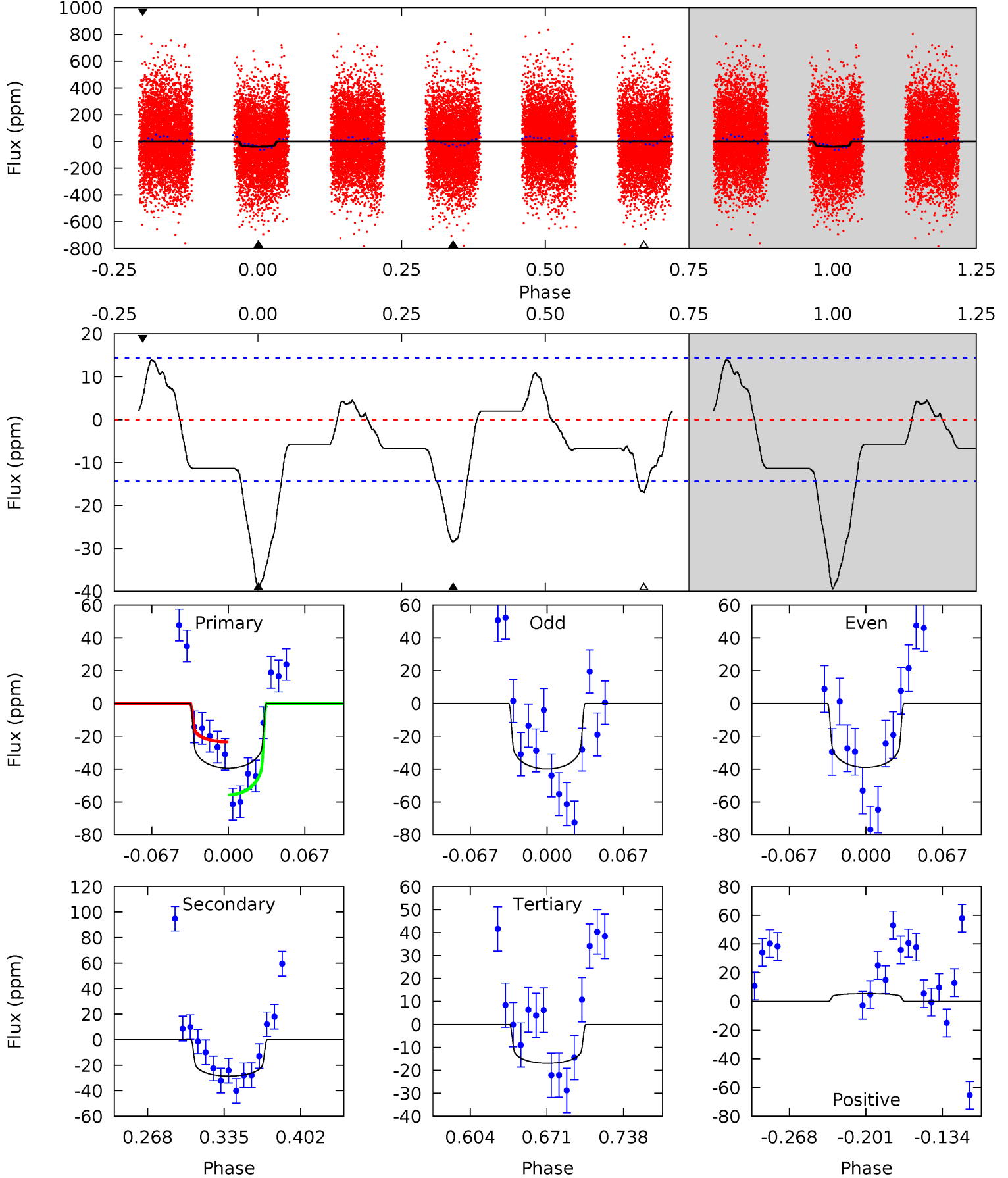
TCE 005647638-02 P= 7.294871 Days $T_0=131.933008$ (BKJD)



DV Model-Shift Uniqueness Test

005647638-02, P = 7.294996 Days, E = 124.619841 Days

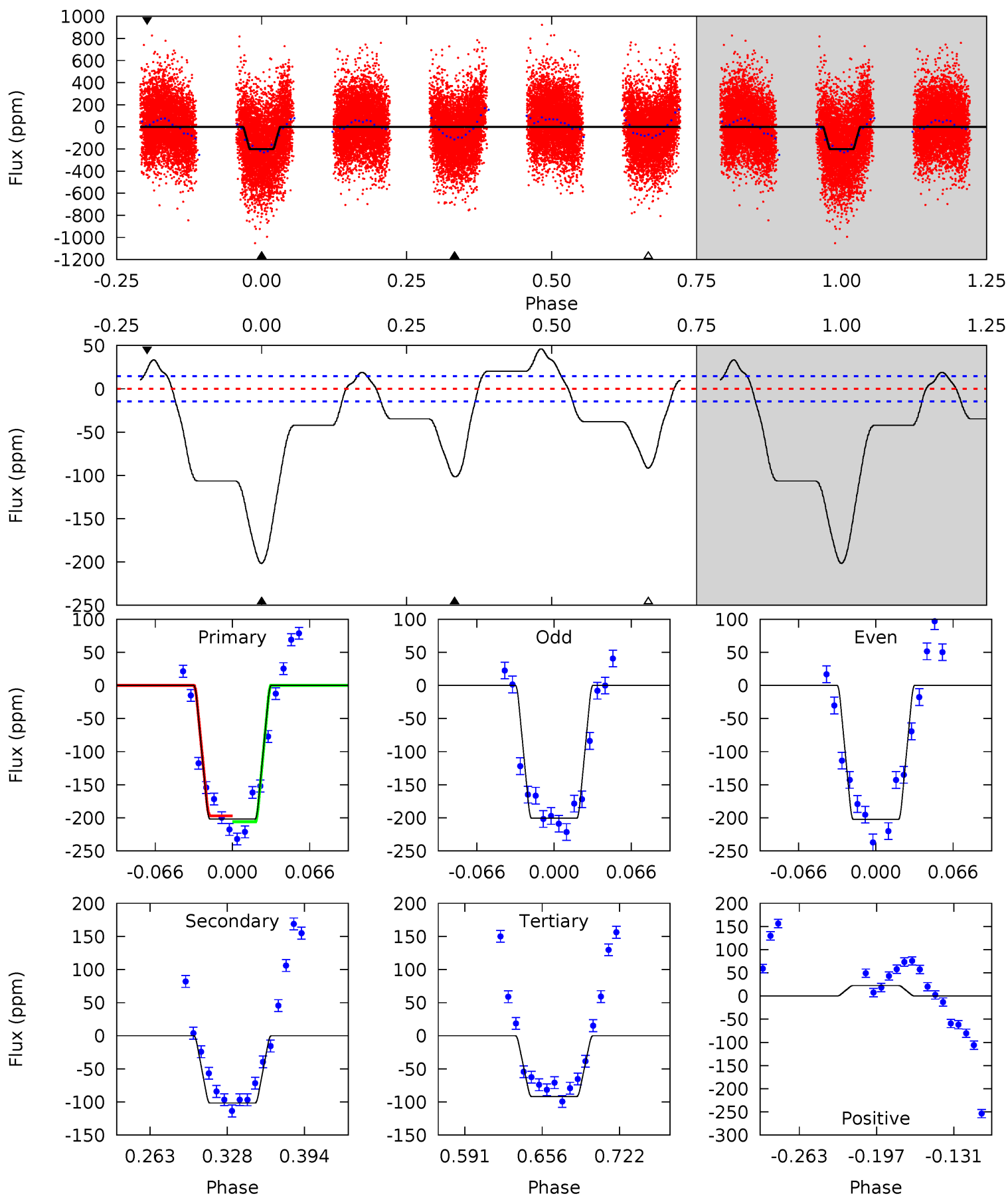
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	9.22	5.47	1.76	4.65	1.83	2.56	7.27	11.0	3.75	7.46	0.15	1.04	0.26	5.22



Alt Model-Shift Uniqueness Test

005647638-02, P = 7.294871 Days, E = 124.638137 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.9	32.2	29.1	7.14	4.65	1.84	12.5	34.8	56.8	3.14	25.1	0.26	0.98	0.19	1.41



Stellar Parameters For KIC 005647638

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6234^{+194}_{-213}	$3.741^{+0.612}_{-0.108}$	$-0.420^{+0.350}_{-0.300}$	$2.500^{+0.475}_{-1.331}$	$1.255^{+0.180}_{-0.334}$	$0.113^{+0.937}_{-0.036}$
	+3%/-3%	+16%/-3%	+83%/-71%	+19%/-53%	+14%/-27%	+828%/-31%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005647638-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-29 ± 3	$1.57^{+0.59}_{-0.56}$	2074^{+169}_{-303}	5607^{+884}_{-555}	39^{+53}_{-18}
Alt.	-102 ± 3	$3.59^{+0.86}_{-1.04}$	2063^{+179}_{-310}	5217^{+343}_{-301}	28^{+23}_{-10}

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 $A_{obs} \gg 1.0$

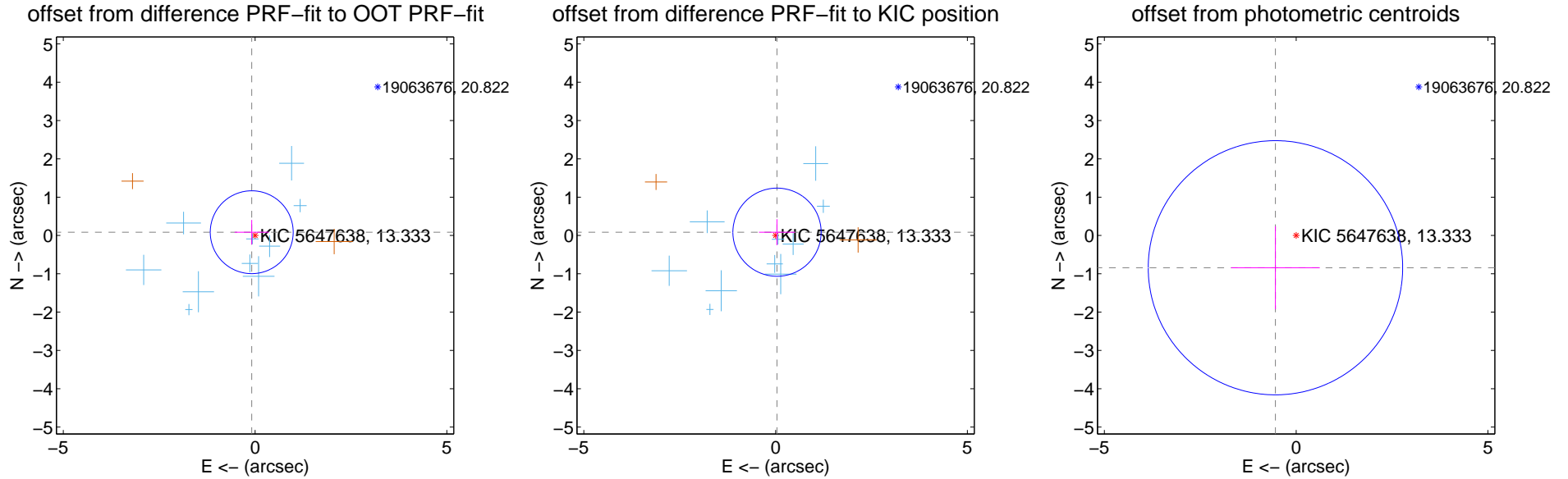
DV Centroid Data

Supplemental centroid analysis for 005647638-02. Kepler magnitude: 13.33. Transit SNR 7.70

There are 10 quarters with good PRF difference image offsets

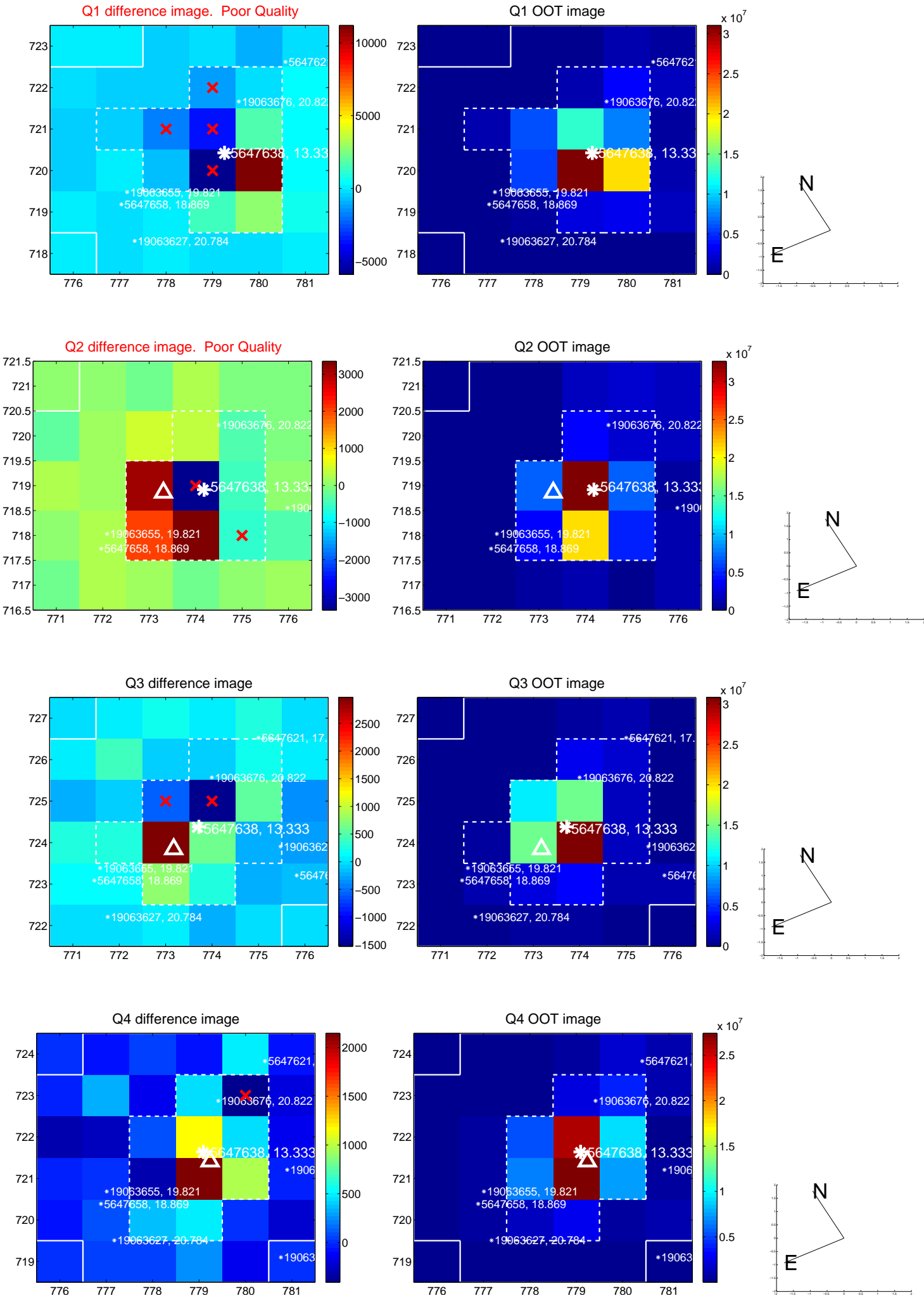
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.122 ± 0.360	0.34	0.087 ± 0.447	0.085 ± 0.321
PRF-fit source offset from KIC position	0.093 ± 0.383	0.24	-0.037 ± 0.472	0.086 ± 0.339
photometric centroid source offset	1.00 ± 1.11	0.90	0.54 ± 1.16	-0.84 ± 1.08

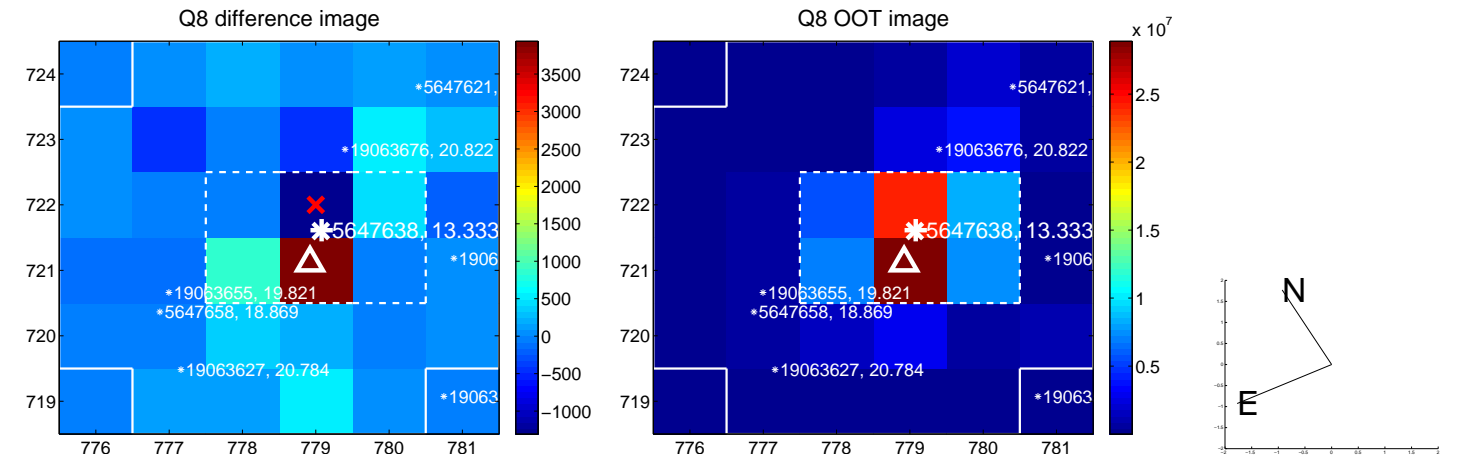
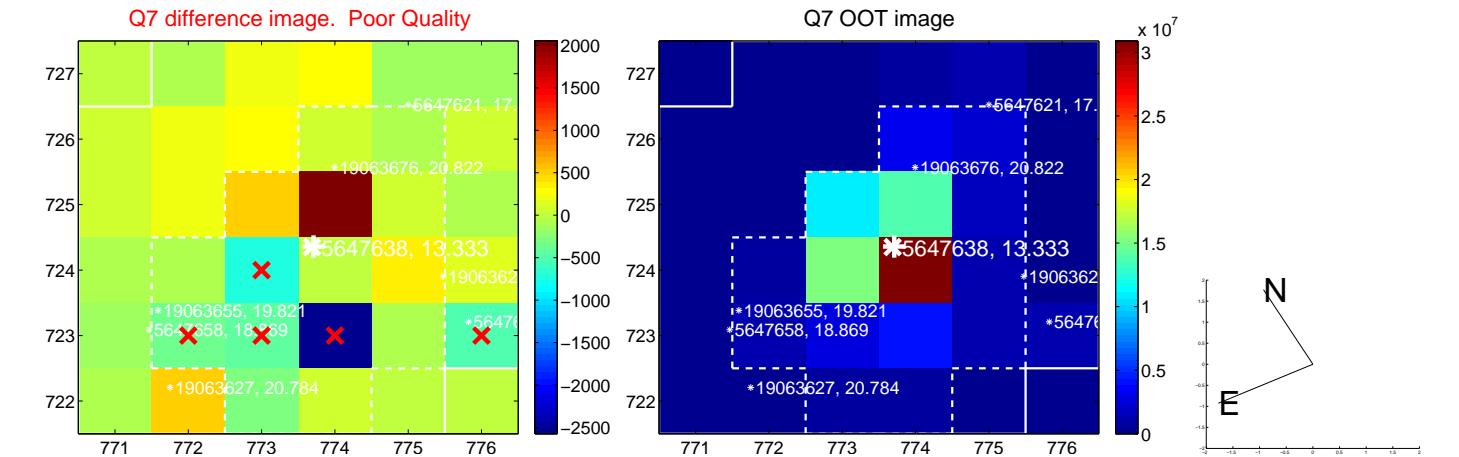
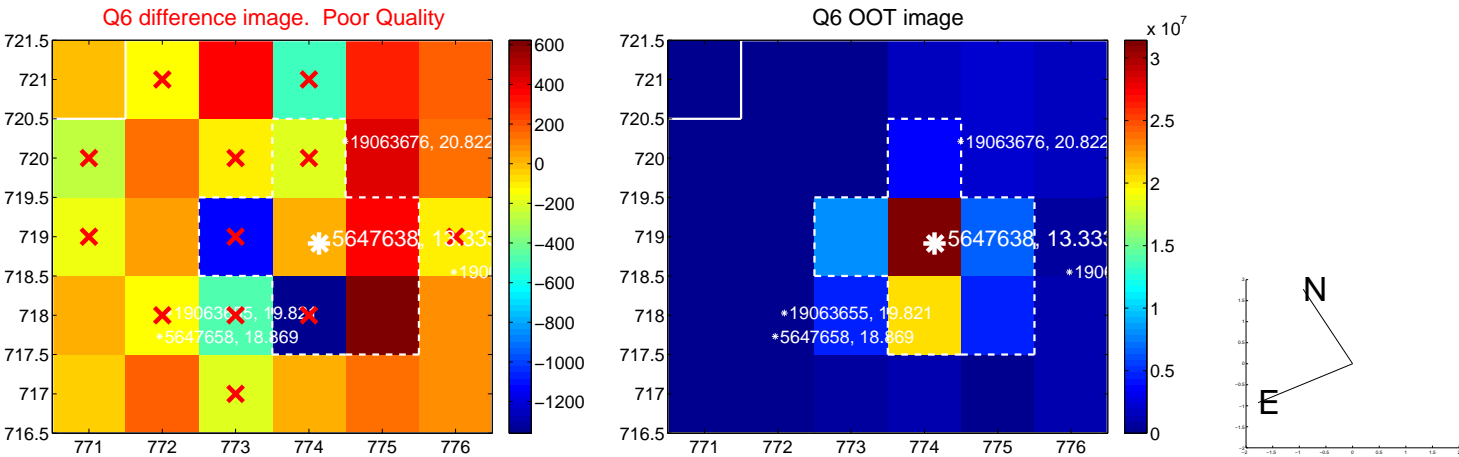
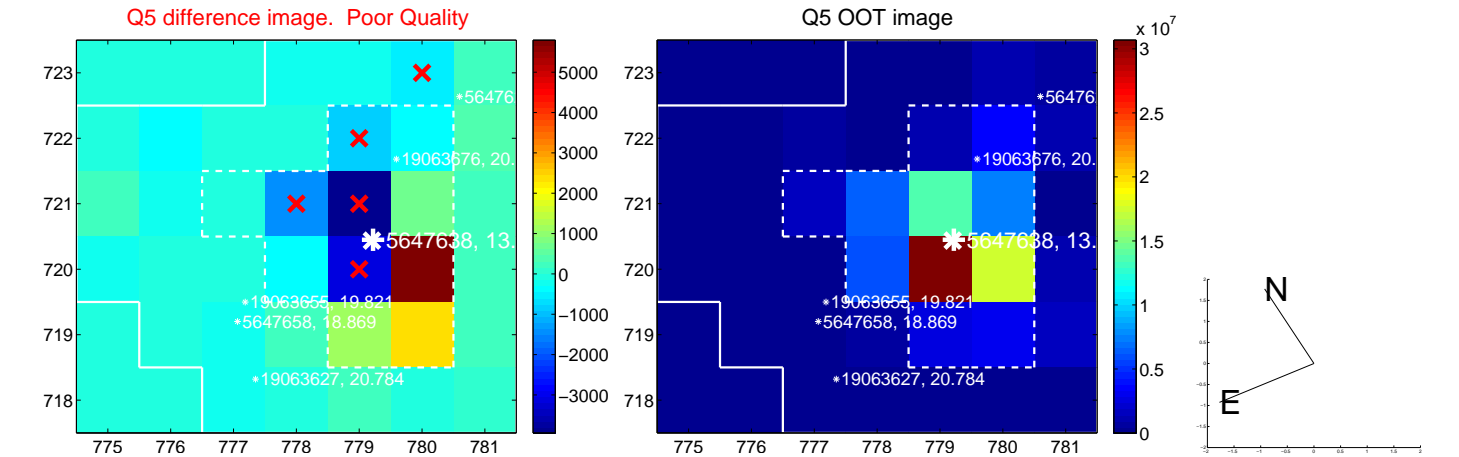


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

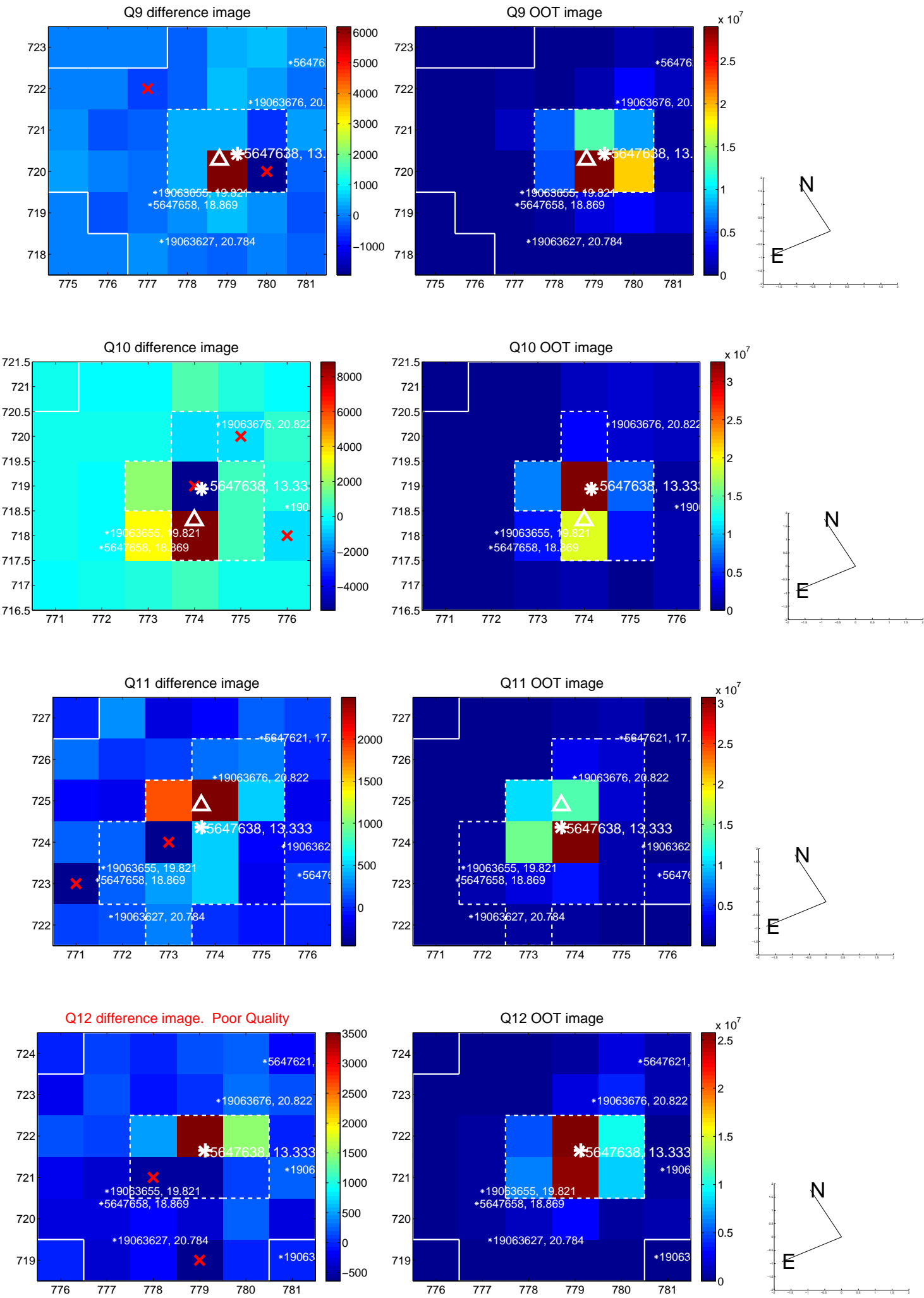
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



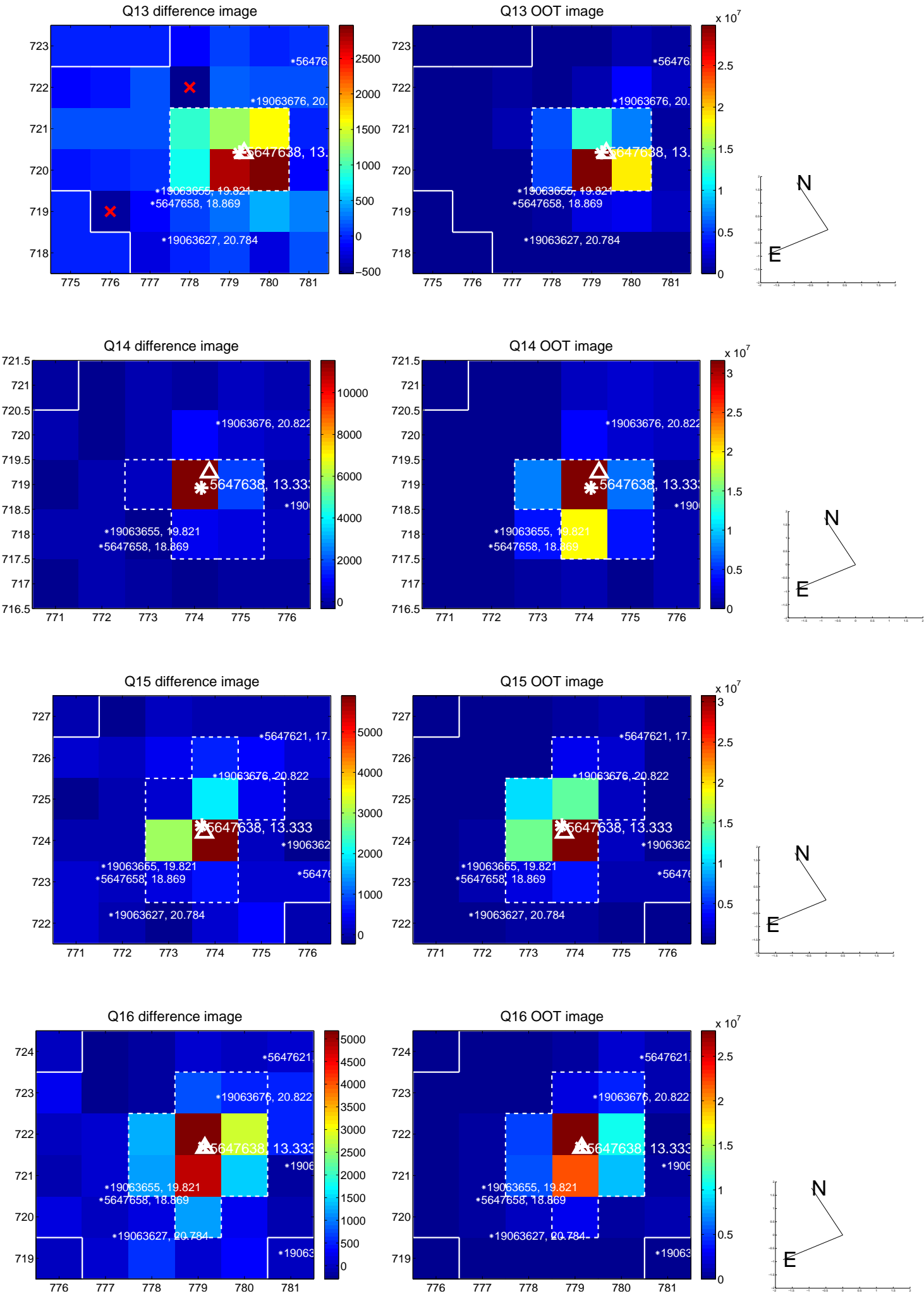
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



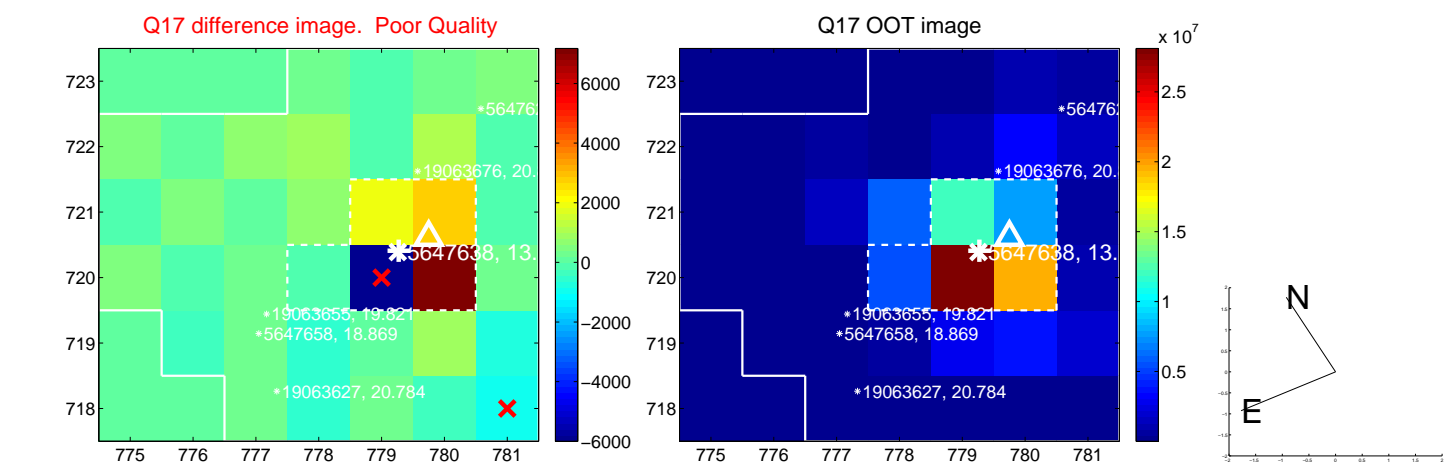
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



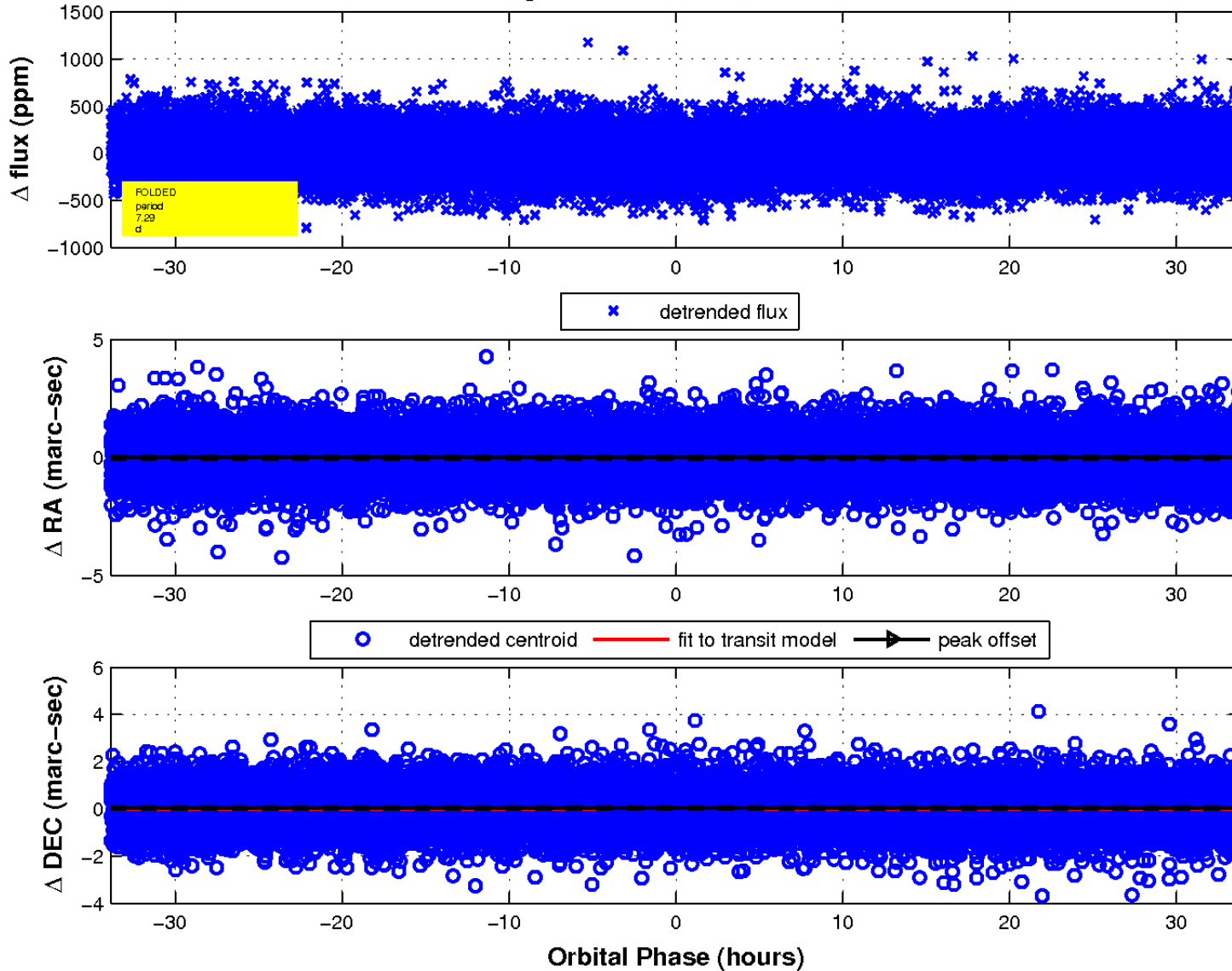
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



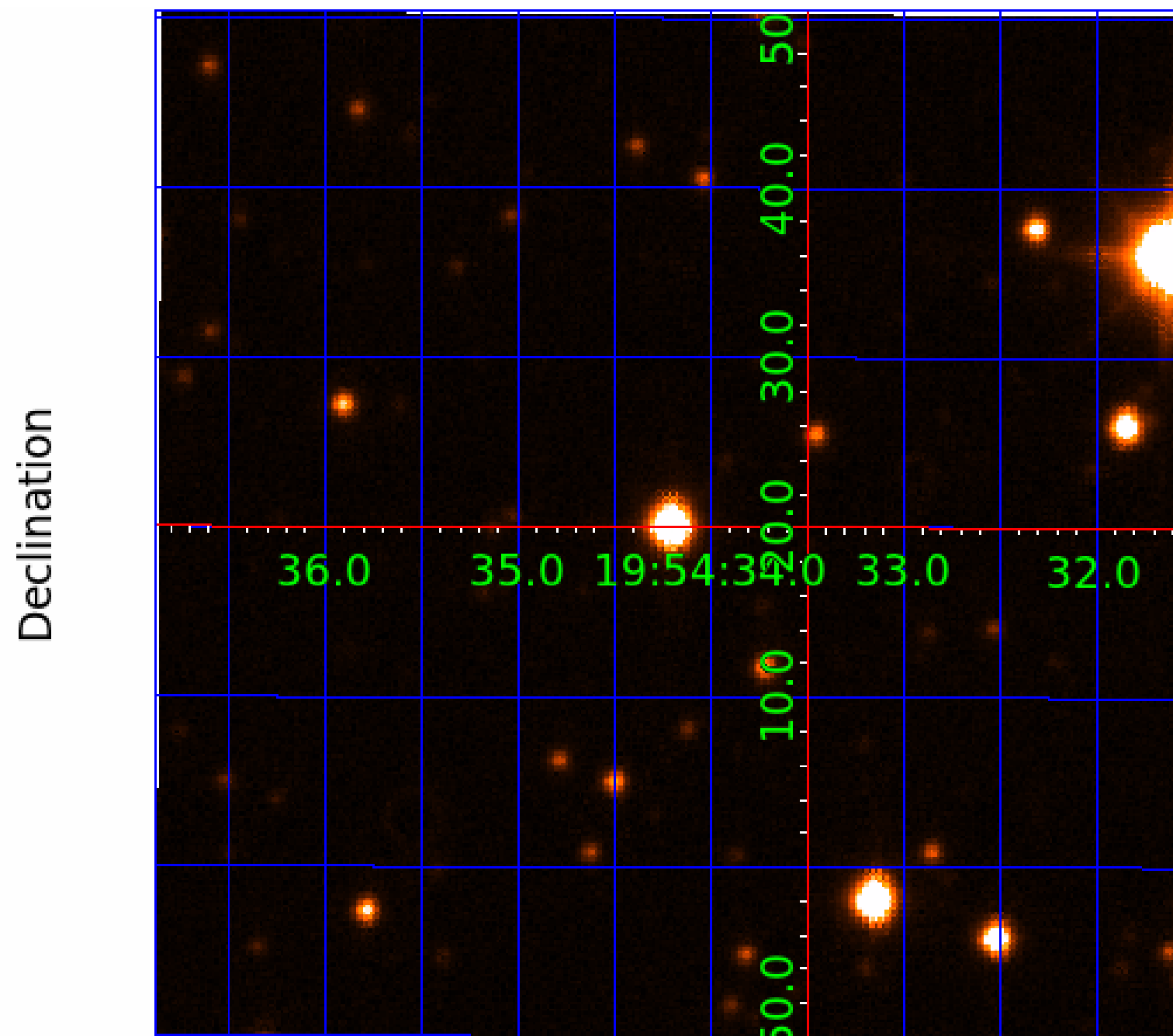
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 4



UKIRT Image



KIC 005647638

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})
005647638-01	OBS	6611.01	1.215918	132.518589	31.5	4.659	11.6	10.2	2.50	6234	1.84	14612.21
005647638-02	OBS	No	7.294996	131.914837	38.2	11.296	8.8	7.7	2.50	6234	1.80	1340.36
005647638-03	OBS	No	83.370668	151.860623	151.5	17.384	8.4	6.4	2.50	6234	3.32	52.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005647638-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005647638-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005647638-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

Ephemeris Match Information For 005647638-03

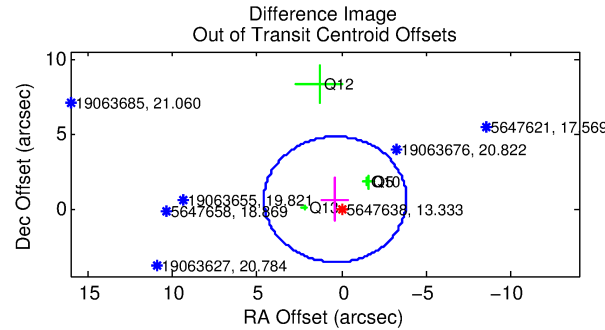
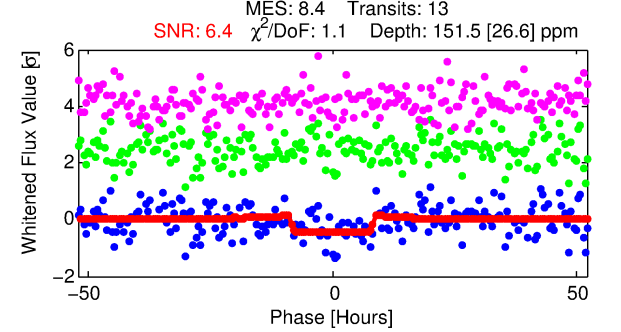
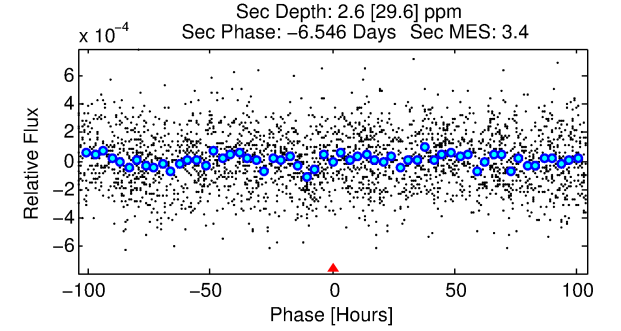
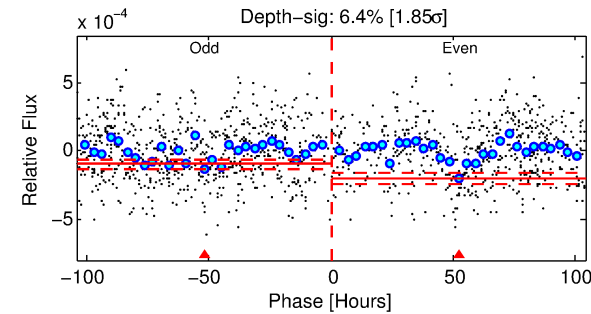
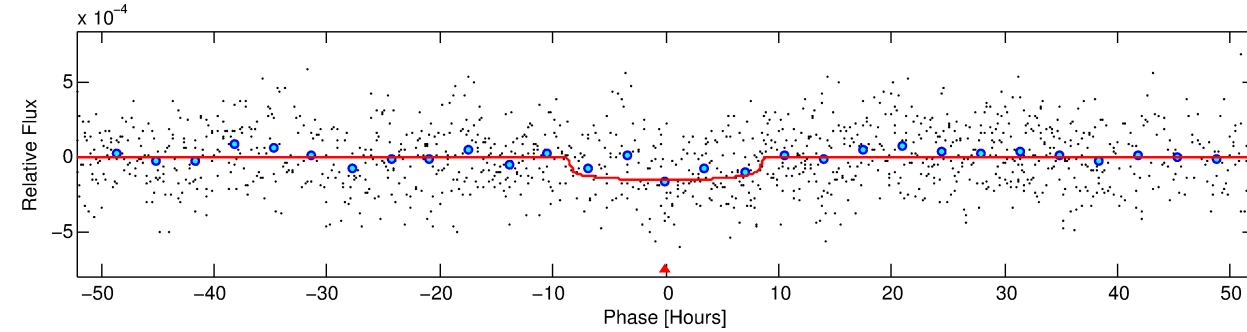
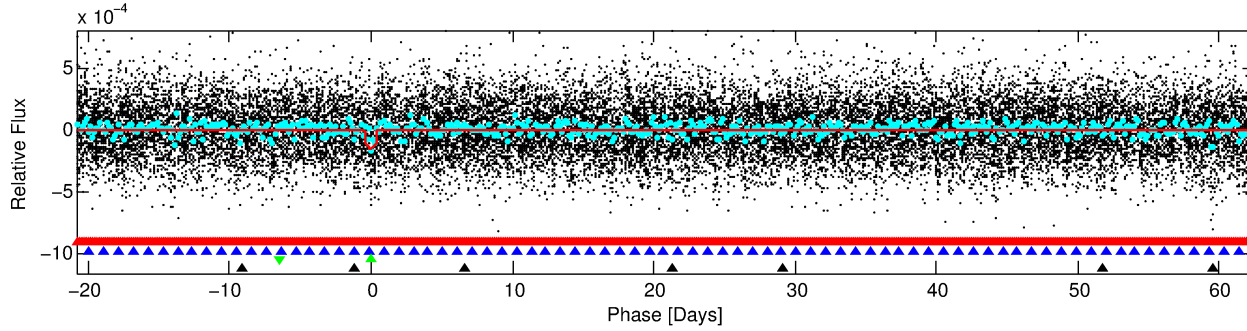
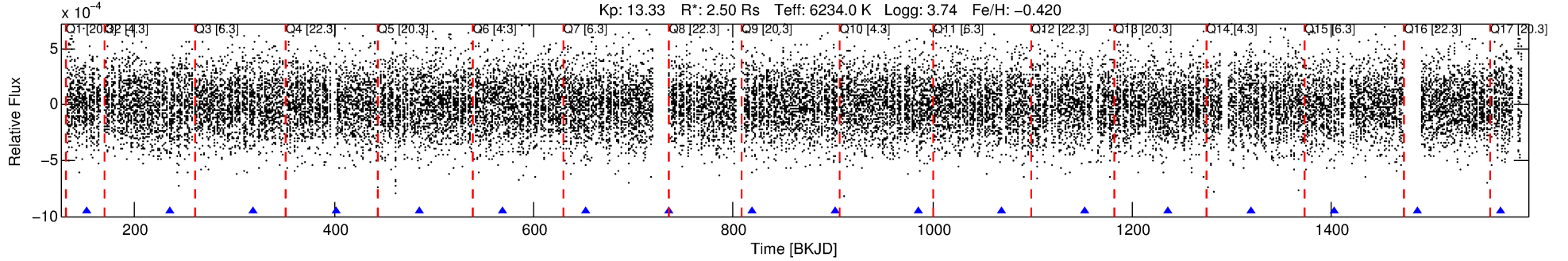
No Significant Match Found

DV One-Page Summary

KIC: 5647638 Candidate: 3 of 4 Period: 83.371 d

KOI: K06611 Corr: No Ephemeris Match

Kp: 13.33 R*: 2.50 Rs Teff: 6234.0 K Logg: 3.74 Fe/H: -0.420



DV Fit Results:

Period = 83.37067 [0.00309] d
Epoch = 151.8606 [0.0298] BKJD
Rp/R* = 0.0122 [0.0039]
a/R* = 25.55 [42.00]
b = 0.73 [1.04]
Seff = 52.07 [52.77]
Teff = 685 [174] K
Rp = 3.32 [2.07] Re
a = 0.4030 [0.2373] AU
Ag = 20.82 [240.73] [0.08σ]
Teffp = 2262 [6515] K [0.24σ]

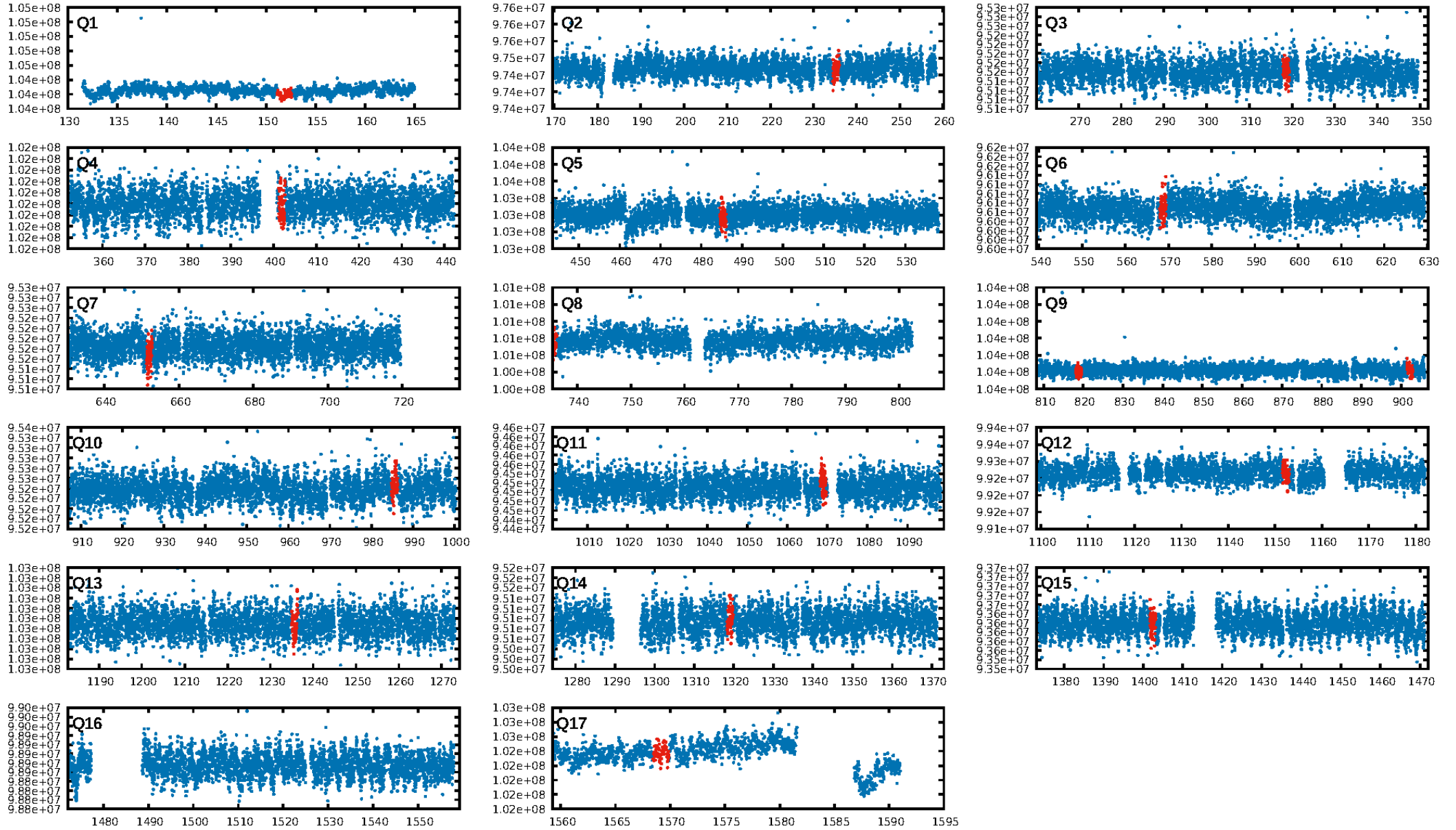
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [88.07σ]
LongPeriod-sig: 100.0% [170.00σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.00e-12
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -3.235
Centroid-sig: 0.0%
Centroid-so: 2.534 arcsec [3.15σ]
OotOffset-rm: 0.721 arcsec [0.52σ]
KicOffset-rm: 0.718 arcsec [0.67σ]
OotOffset-st: 1/0/1/2 [4]
KicOffset-st: 1/0/1/2 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.00 [0/12]

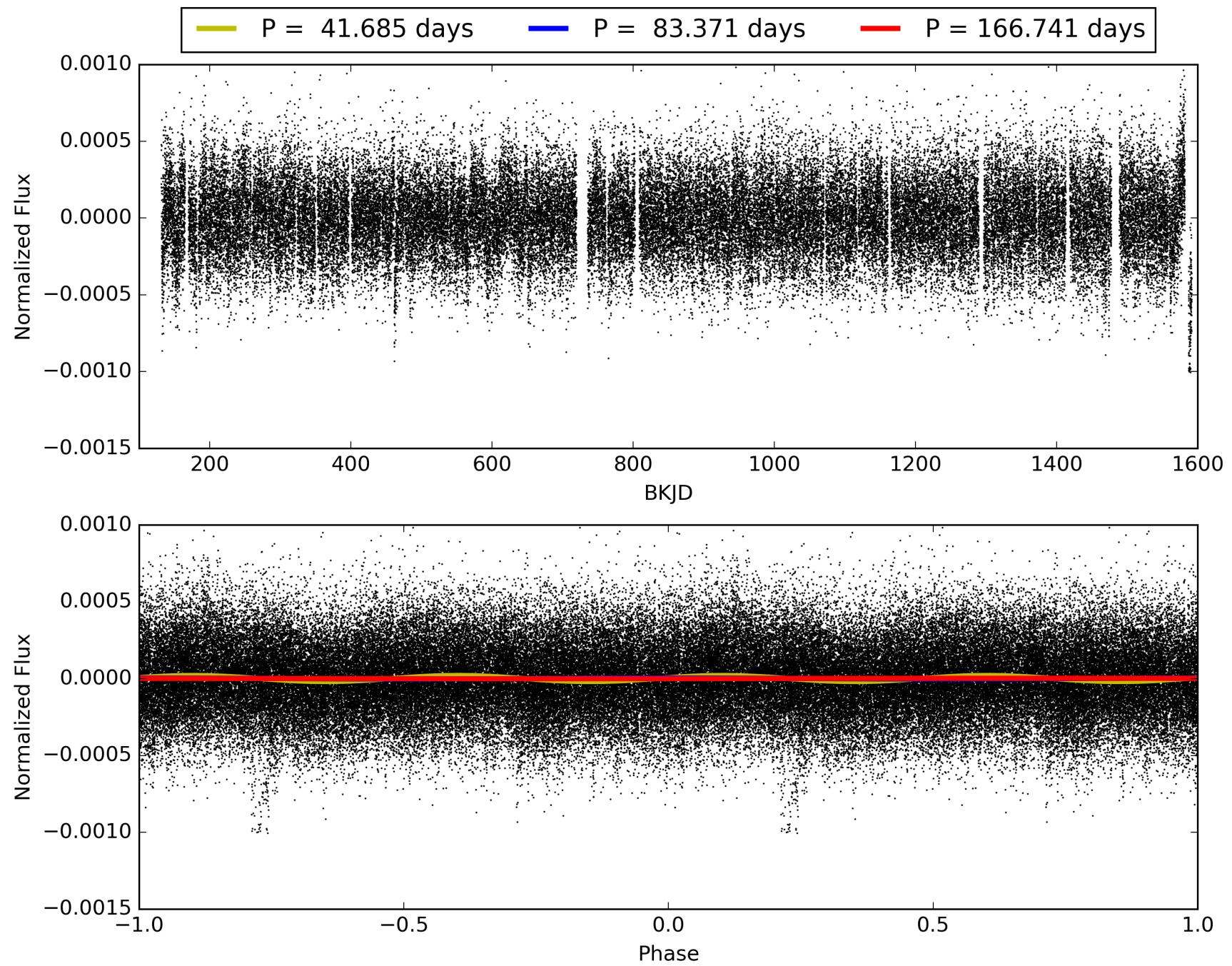
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:59:39 Z

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

TCE 005647638-03, PDC Light Curves

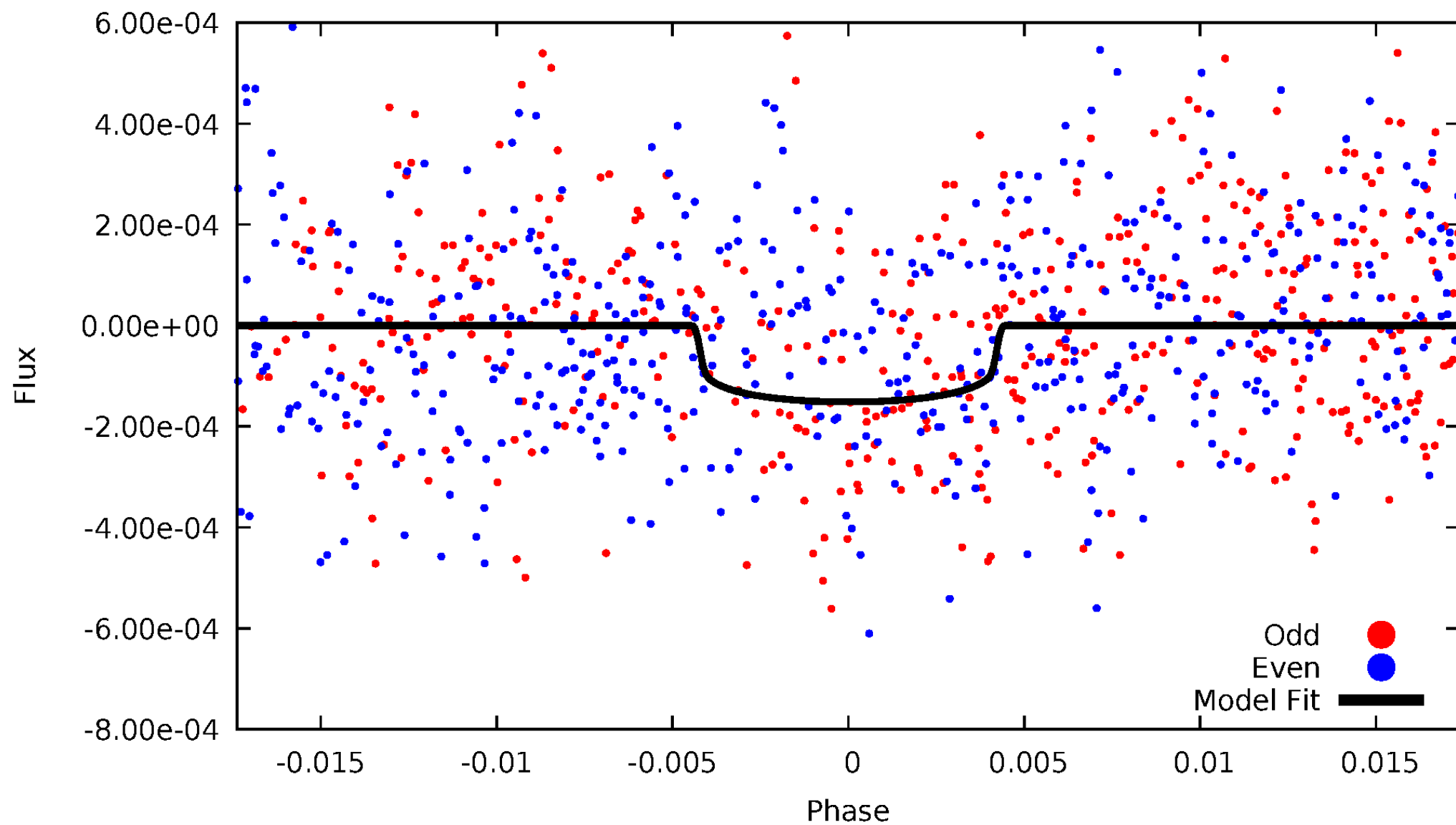


TCE 005647638-03



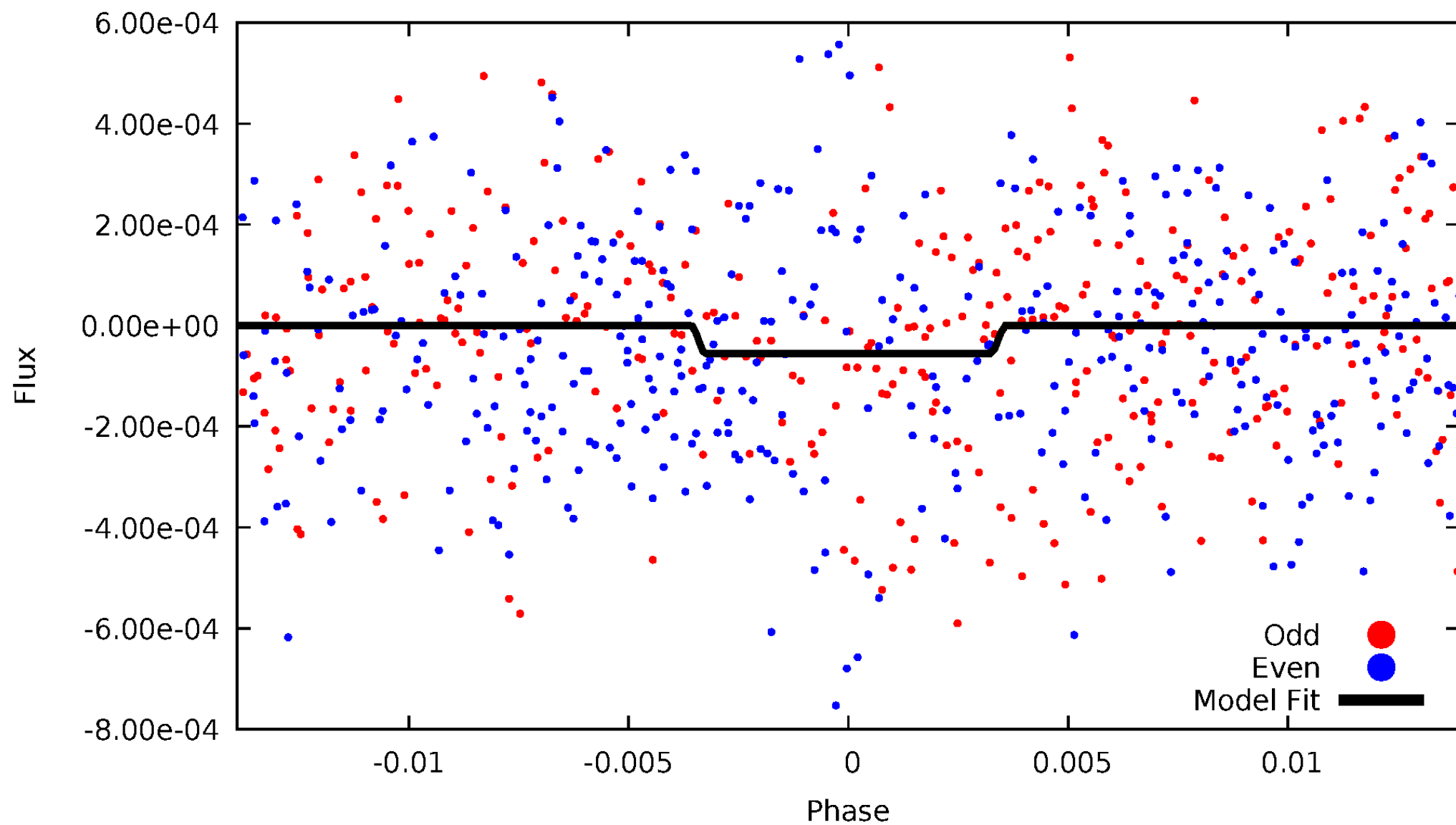
DV Odd/Even

TCE 005647638-03



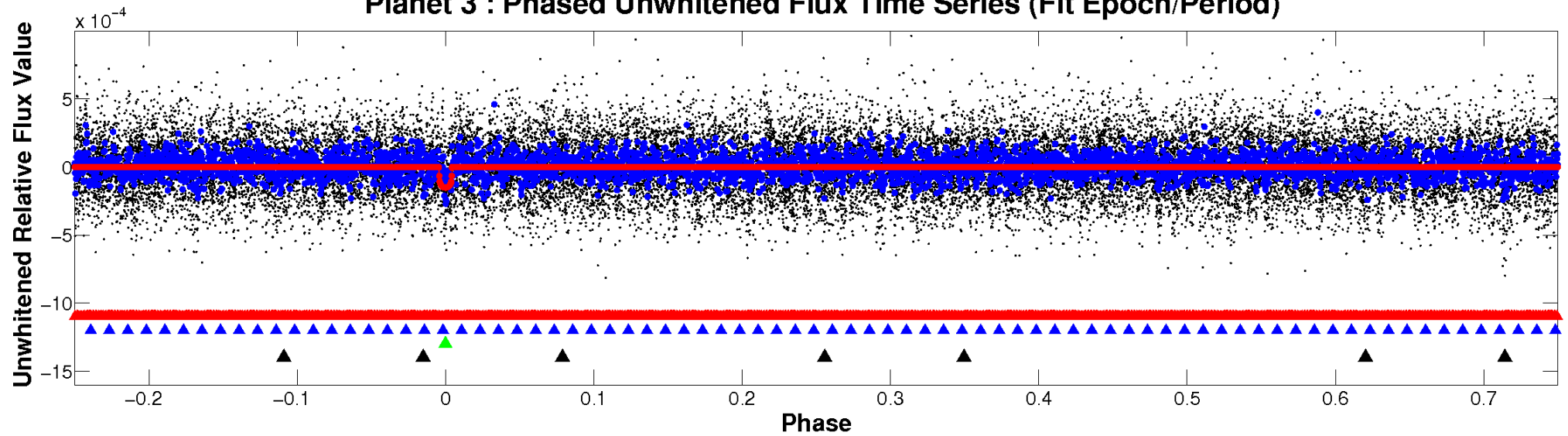
ALT Odd/Even

TCE 005647638-03

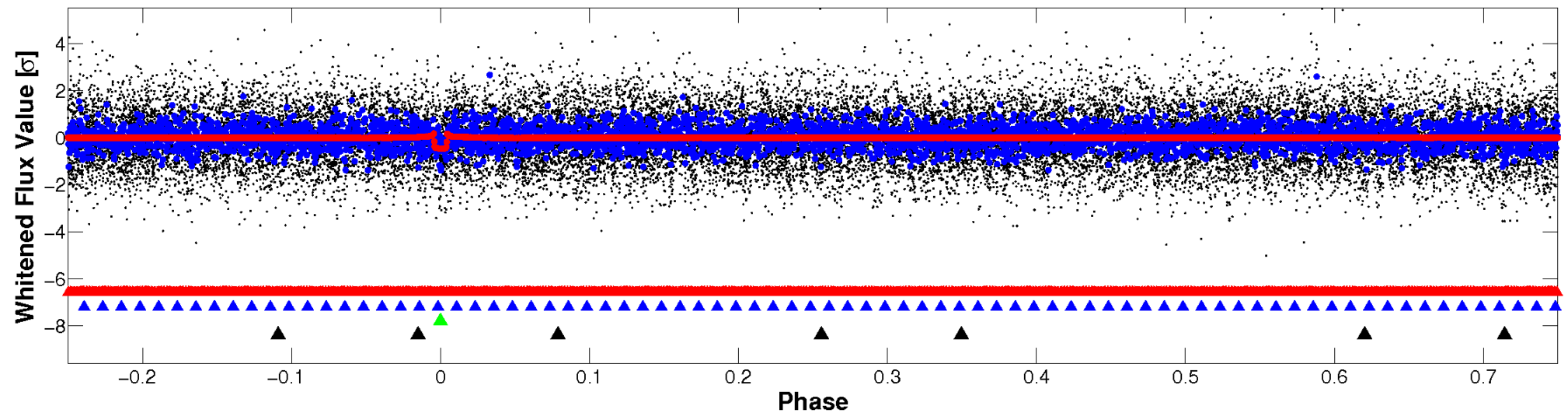


Non-Whitened Vs. Whitened Light Curve

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

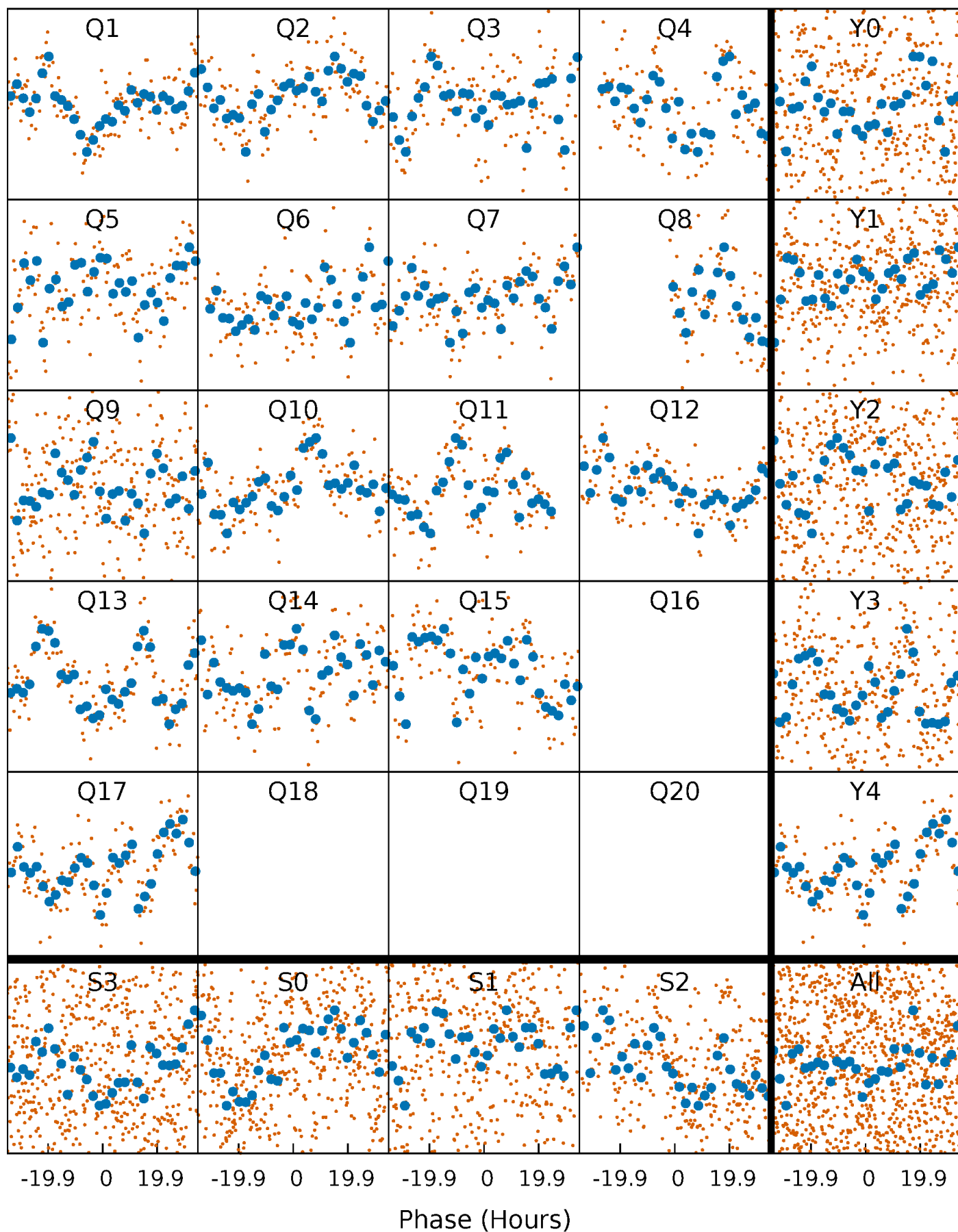


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



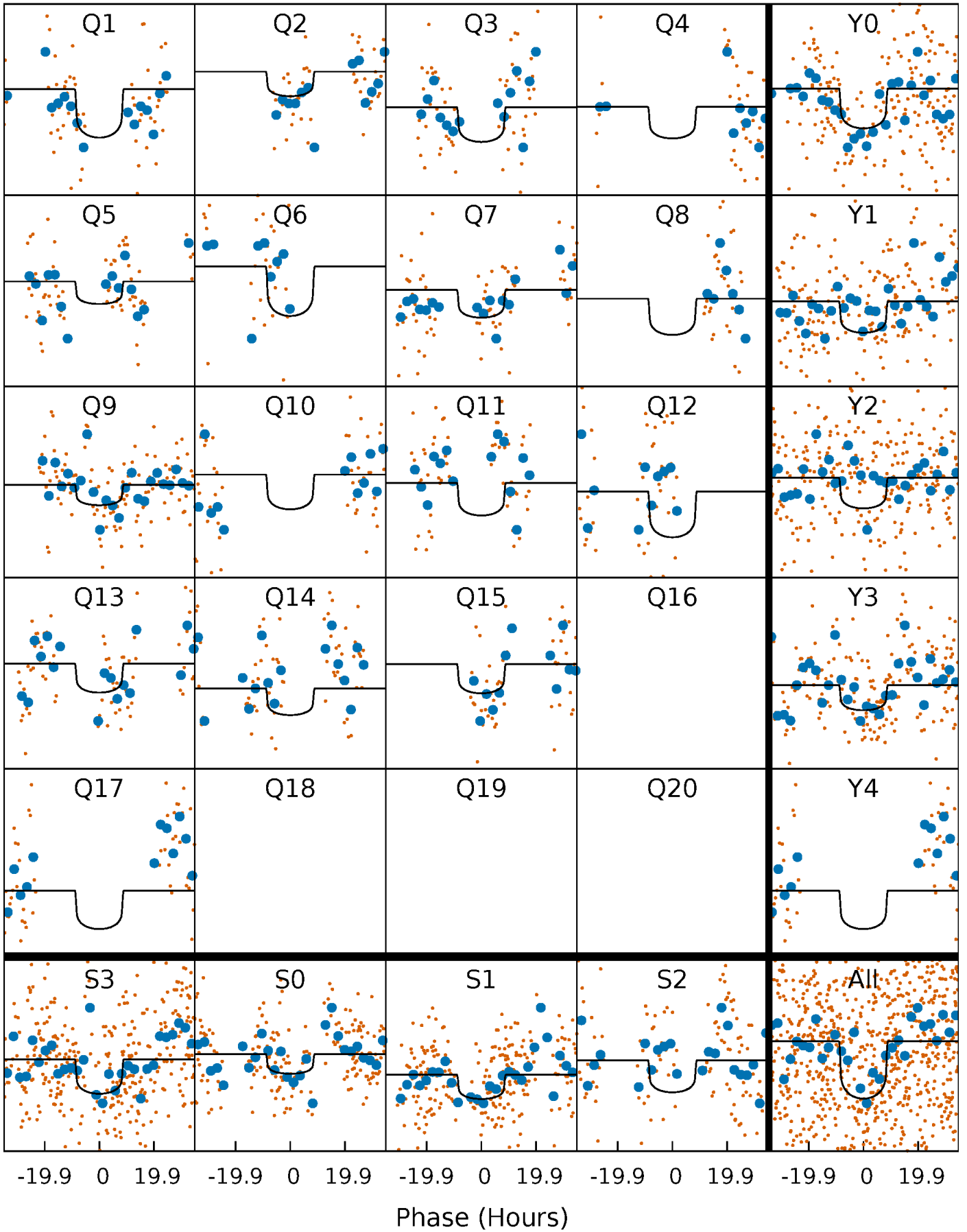
PDC Quarter-Phased Transit Curves

TCE 005647638-03 P= 83.370668 Days $T_0=151.860623$ (BKJD)



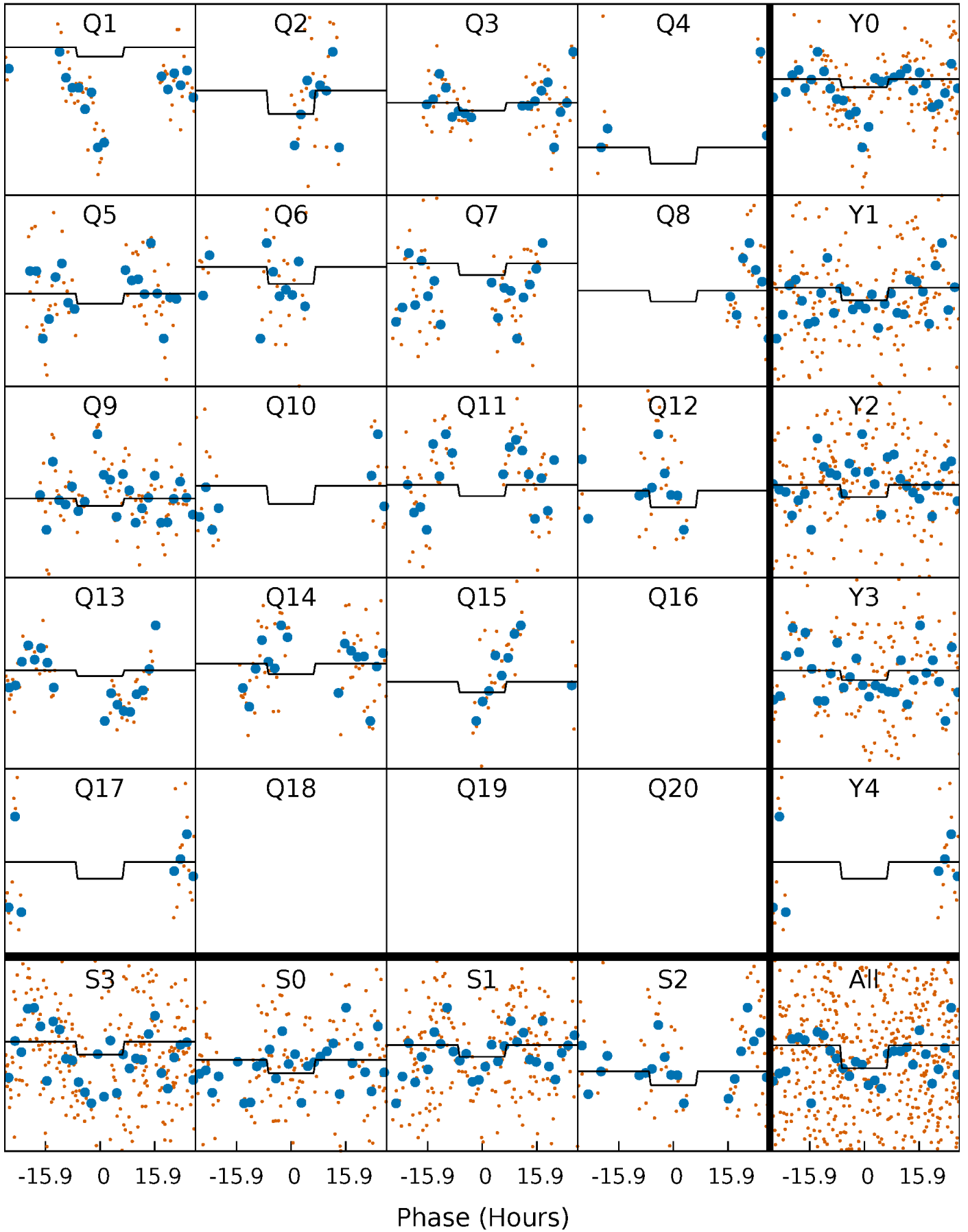
DV Quarter-Phased Transit Curves

TCE 005647638-03 P= 83.370668 Days $T_0=151.860623$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

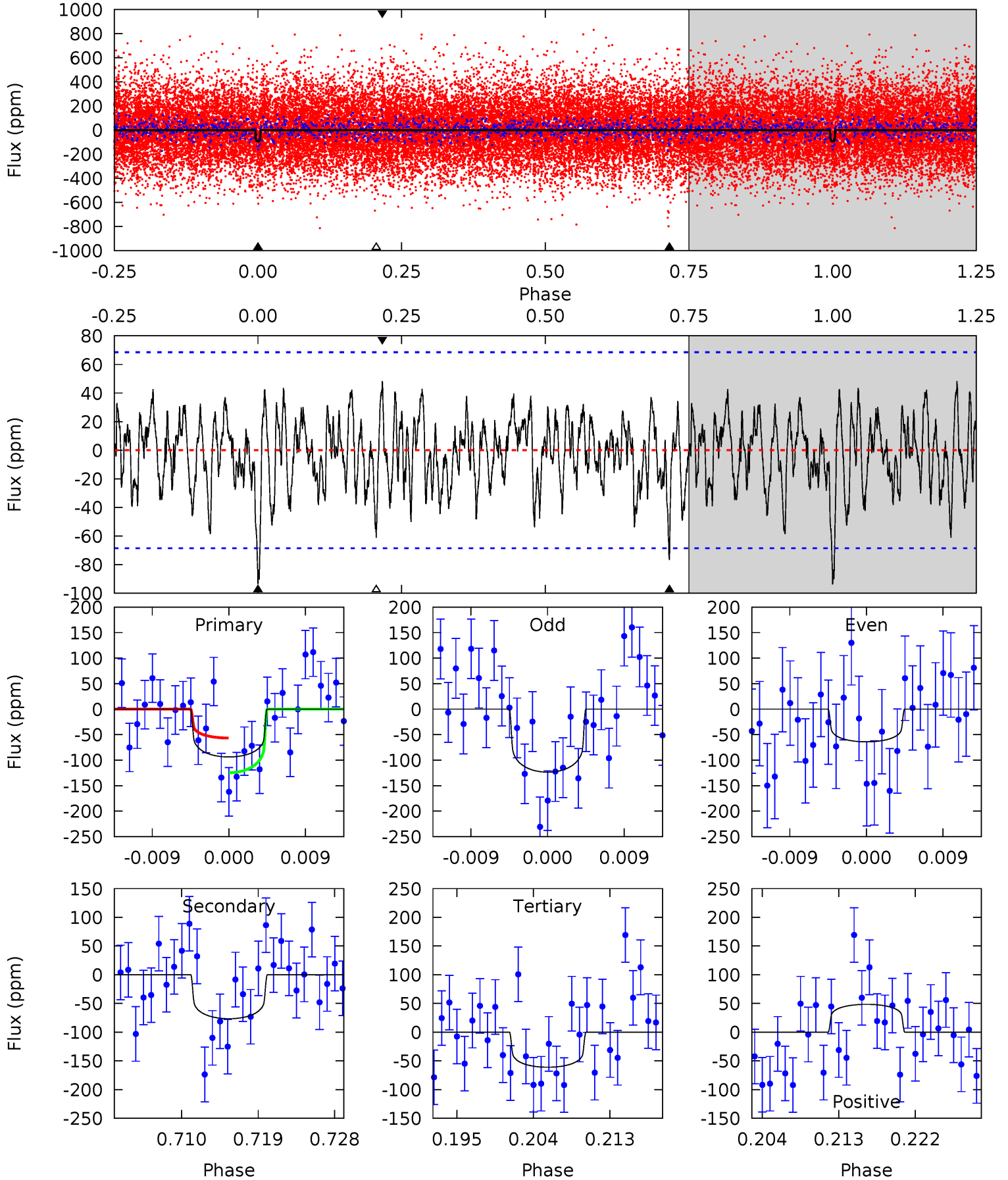
TCE 005647638-03 P= 83.385808 Days $T_0=151.581683$ (BKJD)



DV Model-Shift Uniqueness Test

005647638-03, P = 83.370668 Days, E = 68.489955 Days

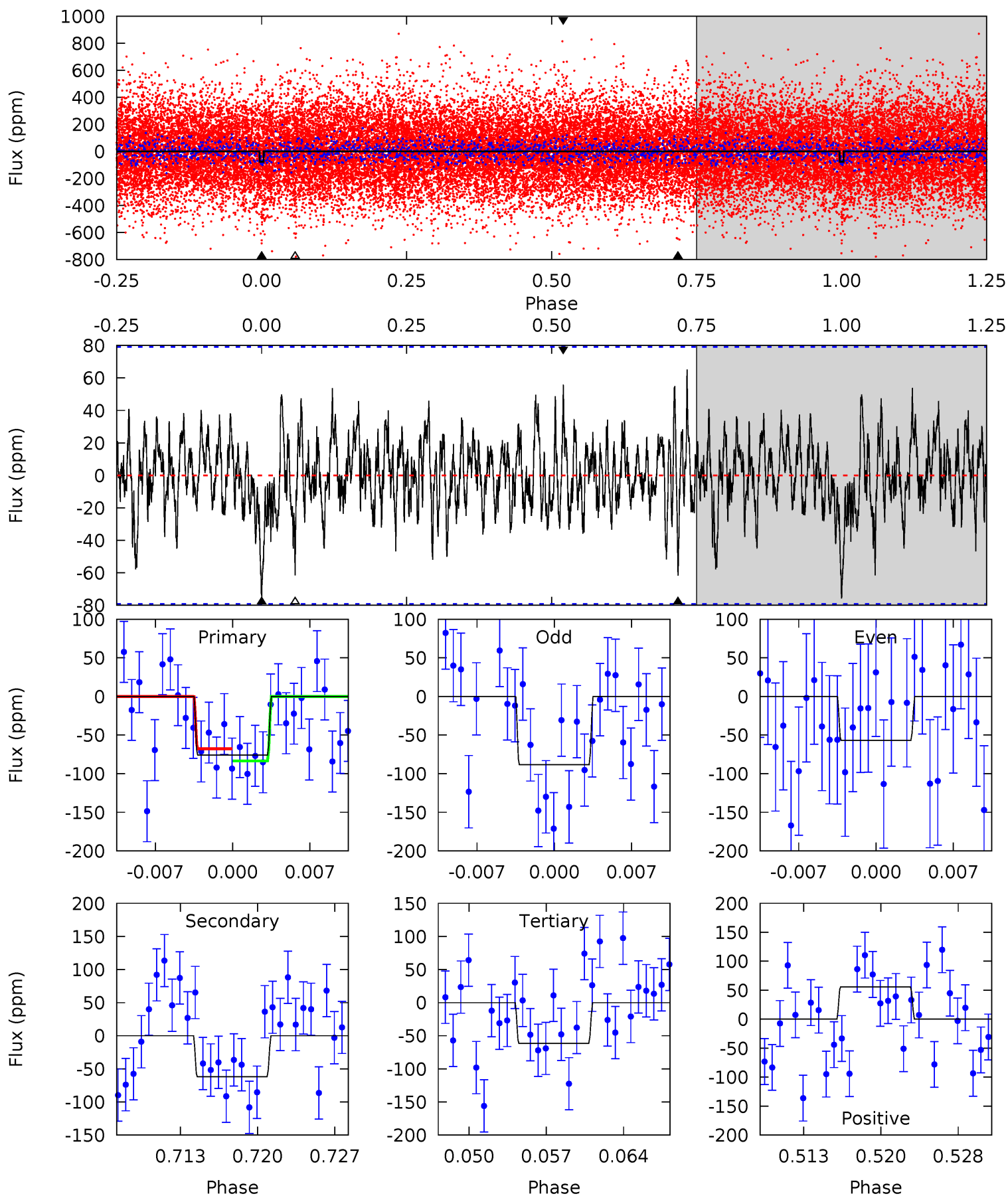
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.91	5.65	4.50	3.57	5.05	2.62	1.55	2.41	3.34	1.14	2.07	2.19	0.92	0.34	2.49



Alt Model-Shift Uniqueness Test

005647638-03, P = 83.385808 Days, E = 68.195875 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.87	3.97	3.95	3.59	5.09	2.69	1.21	0.92	1.28	0.02	0.38	1.00	1.60	0.46	0.50



Stellar Parameters For KIC 005647638

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6234^{+194}_{-213}	$3.741^{+0.612}_{-0.108}$	$-0.420^{+0.350}_{-0.300}$	$2.500^{+0.475}_{-1.331}$	$1.255^{+0.180}_{-0.334}$	$0.113^{+0.937}_{-0.036}$
	+3%/-3%	+16%/-3%	+83%/-71%	+19%/-53%	+14%/-27%	+828%/-31%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005647638-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-77 ± 14	$2.96^{+1.28}_{-1.18}$	923^{+75}_{-135}	5330^{+1014}_{-673}	790^{+1238}_{-408}
Alt.	-62 ± 16	$1.77^{+1.21}_{-0.87}$	916^{+79}_{-130}	6235^{+3147}_{-1169}	1689^{+5293}_{-1085}

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 $A_{obs} \gg 1.0$

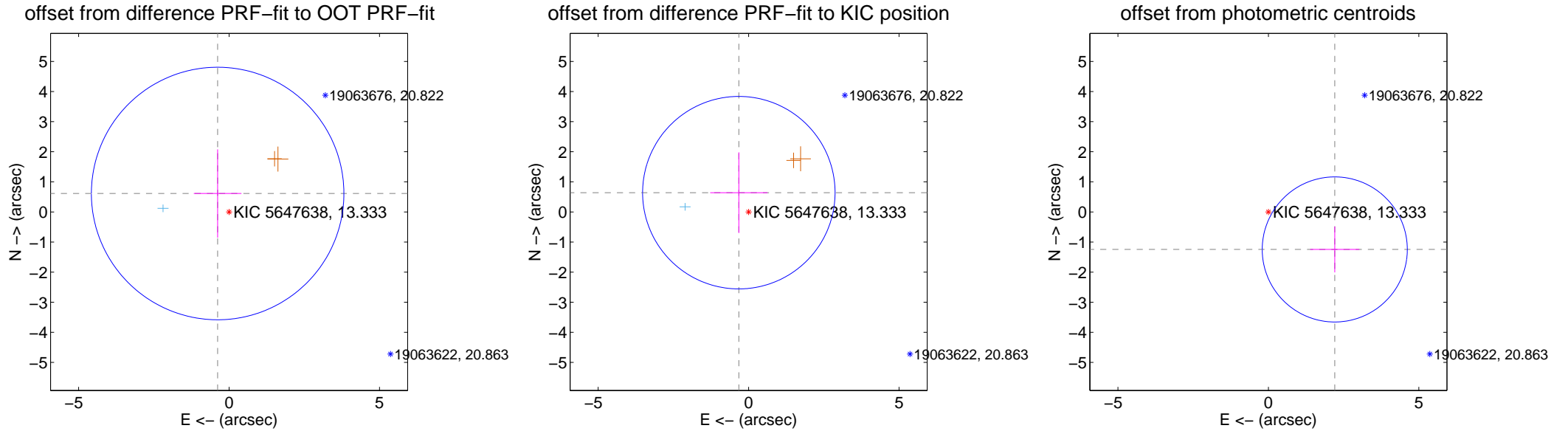
DV Centroid Data

Supplemental centroid analysis for 005647638-03. Kepler magnitude: 13.33. Transit SNR 6.38

There are 1 quarters with good PRF difference image offsets

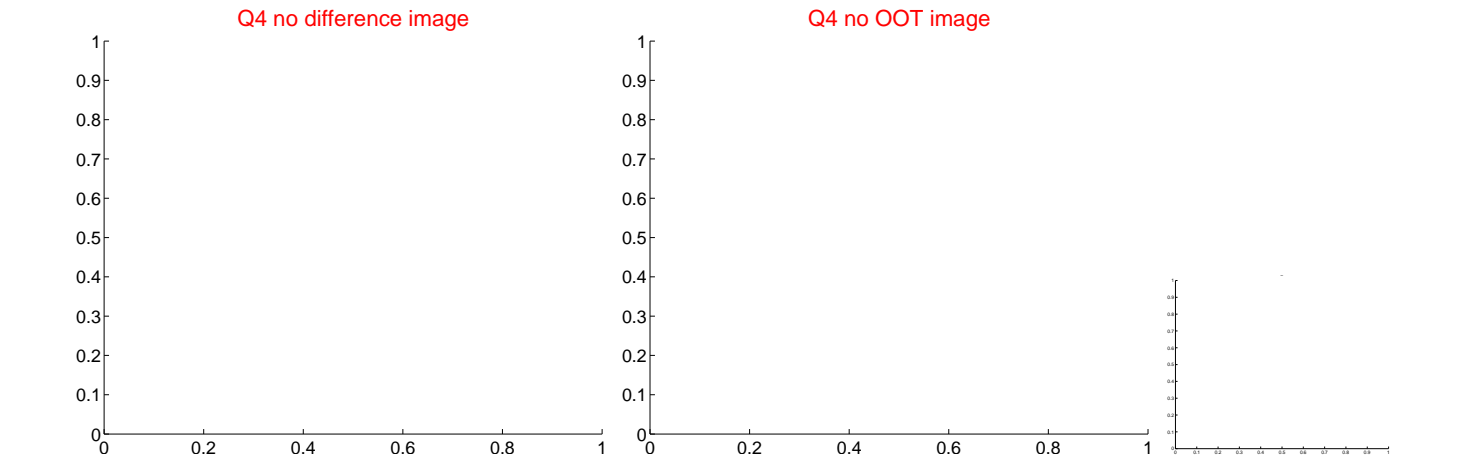
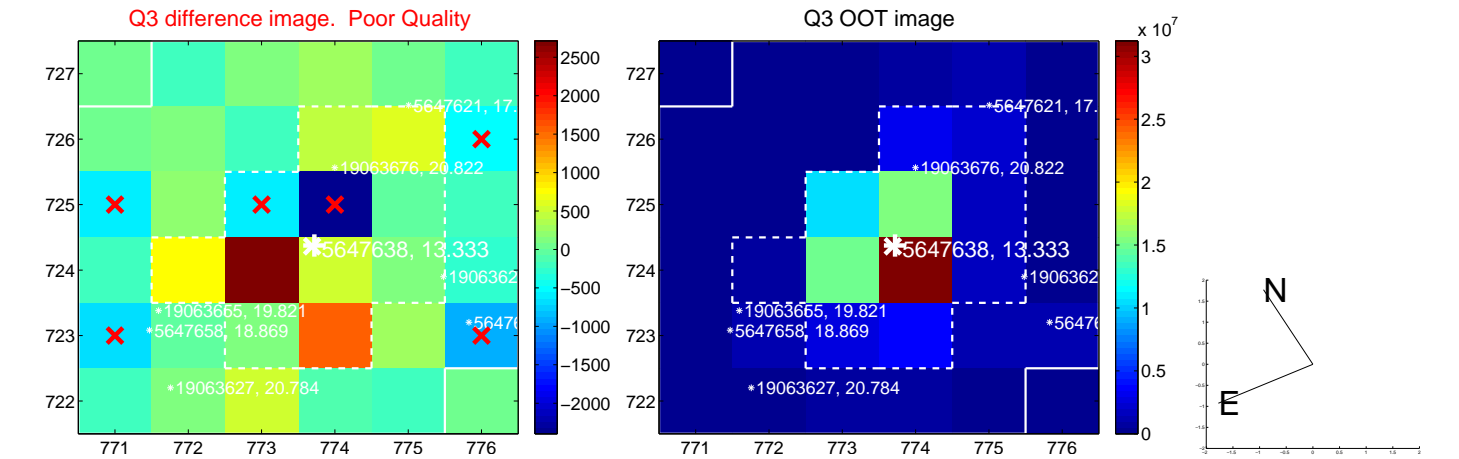
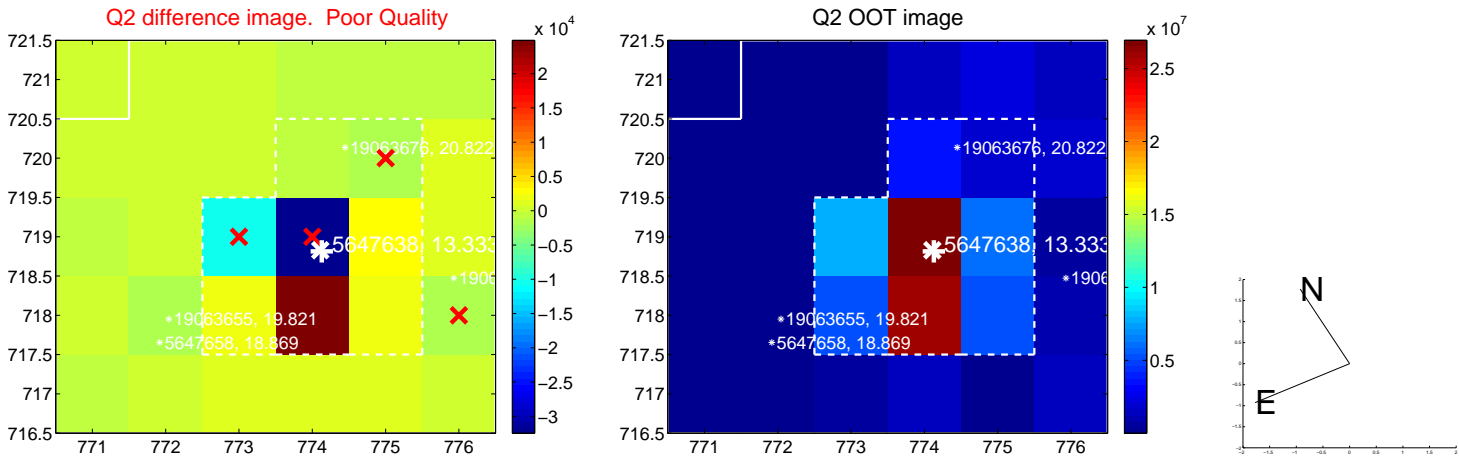
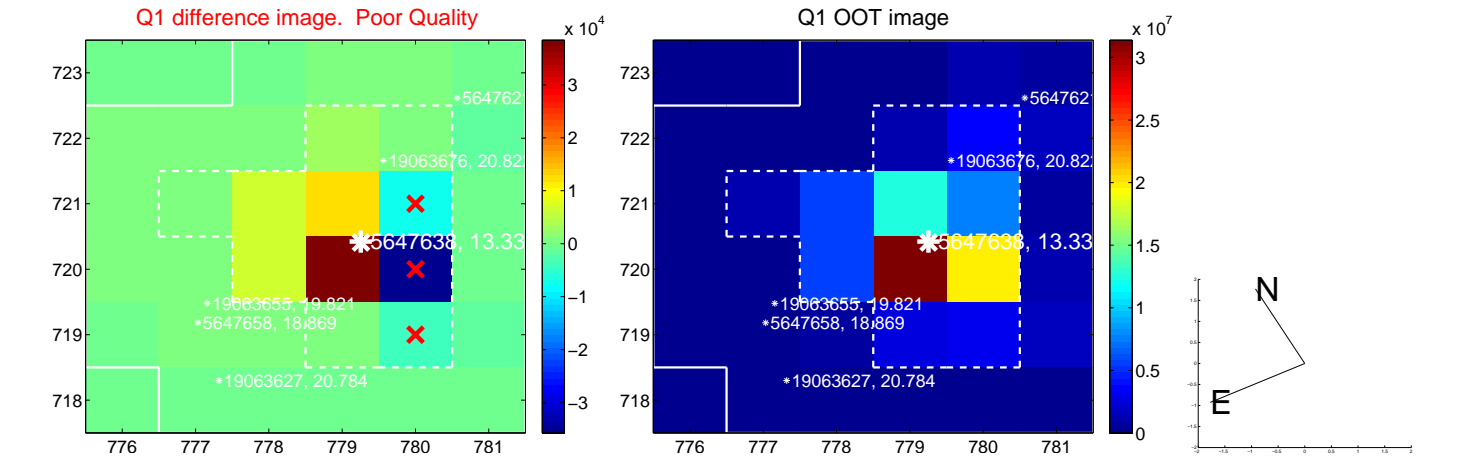
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.721 ± 1.399	0.52	0.380 ± 0.792	0.612 ± 1.468
PRF-fit source offset from KIC position	0.718 ± 1.066	0.67	0.324 ± 0.951	0.640 ± 1.340
photometric centroid source offset	2.53 ± 0.80	3.15	-2.21 ± 0.82	-1.25 ± 0.76

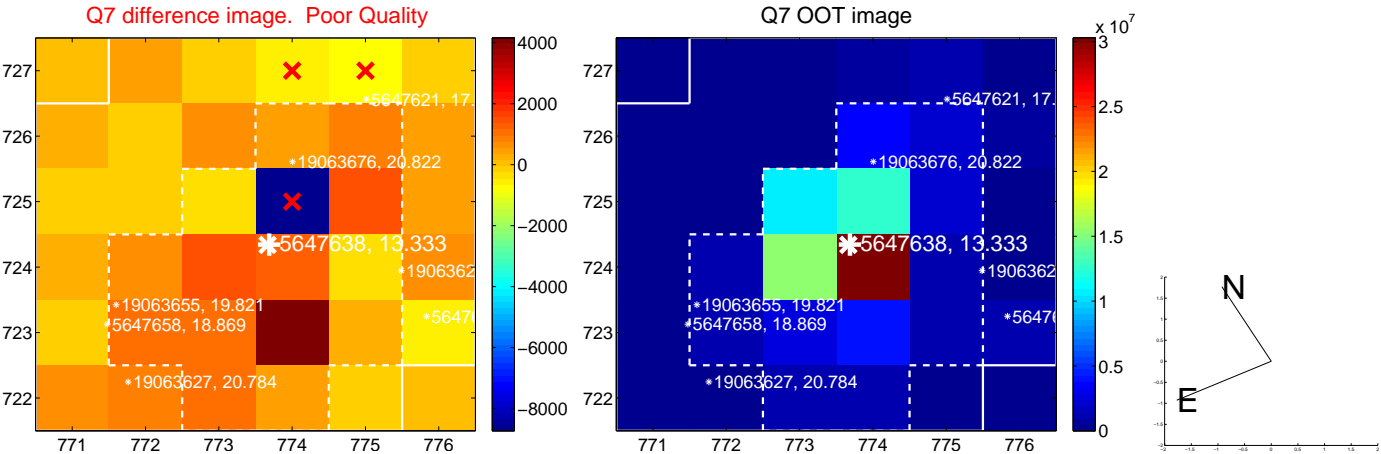
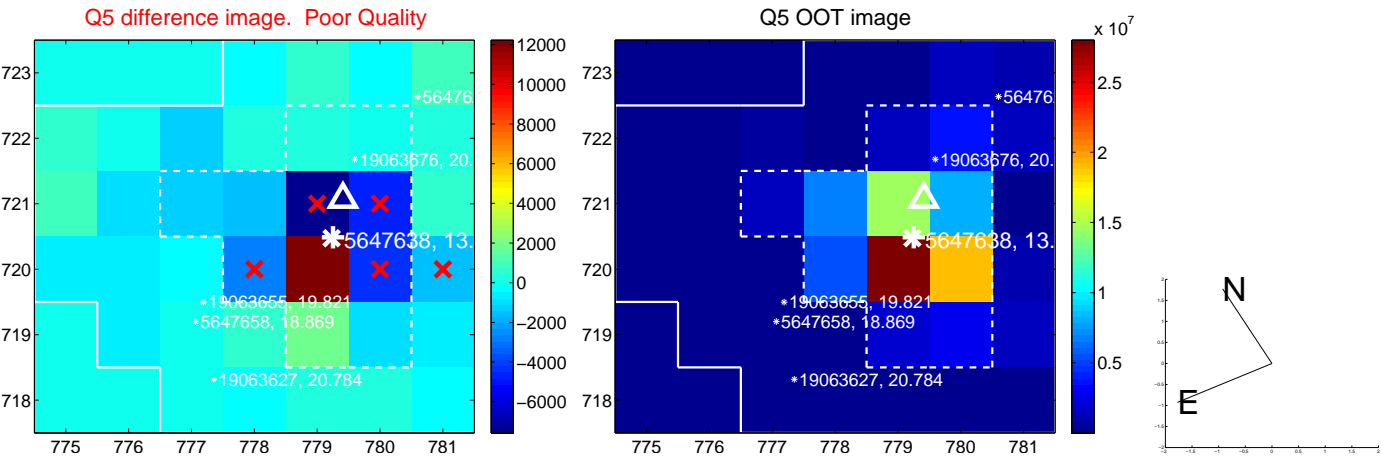


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

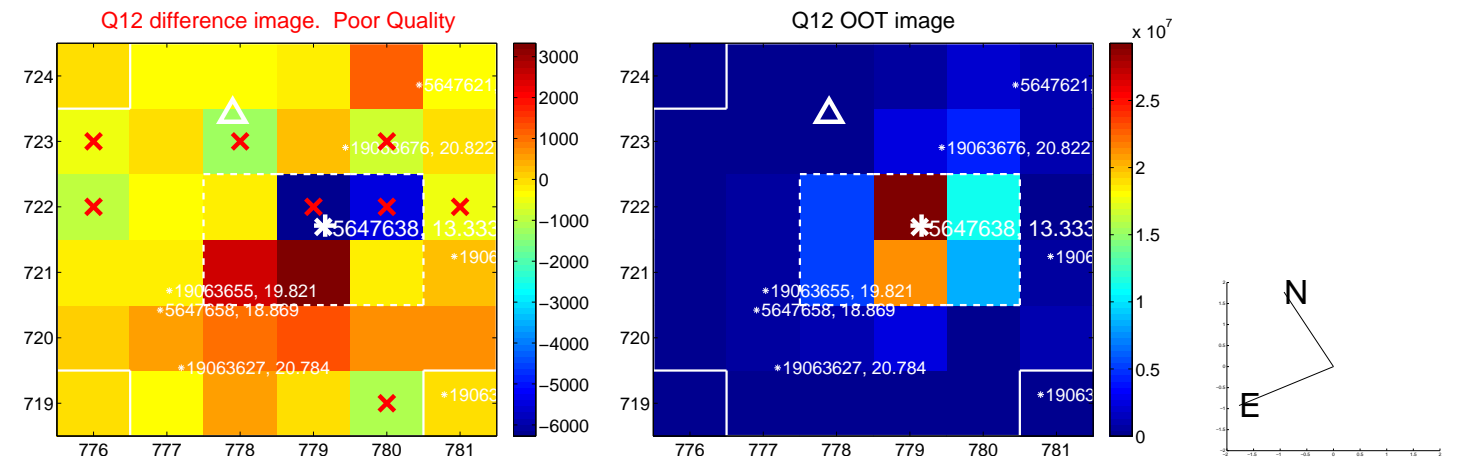
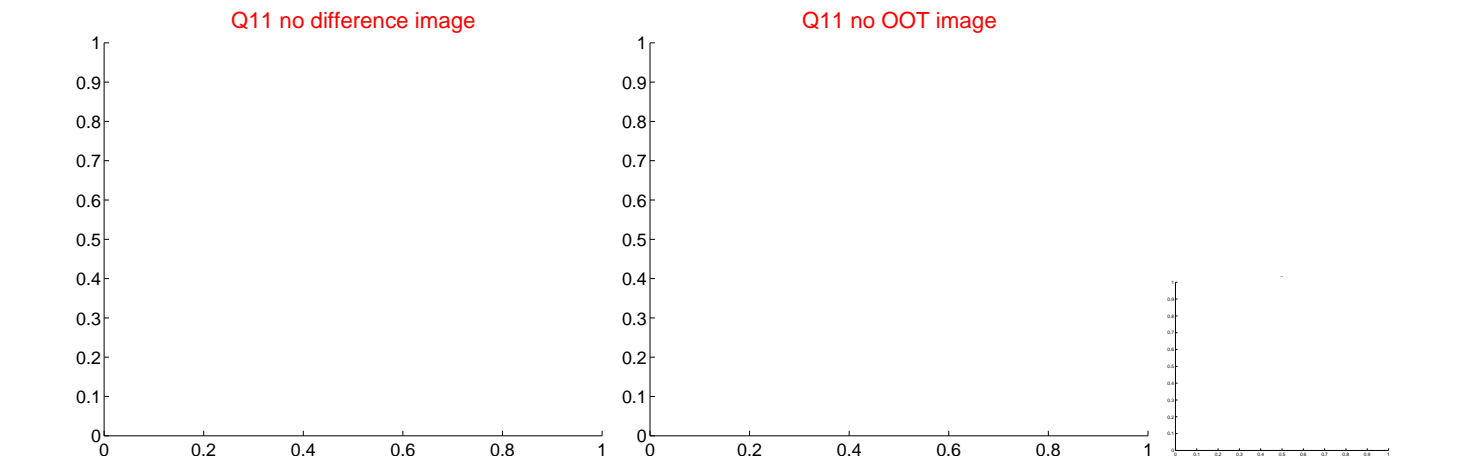
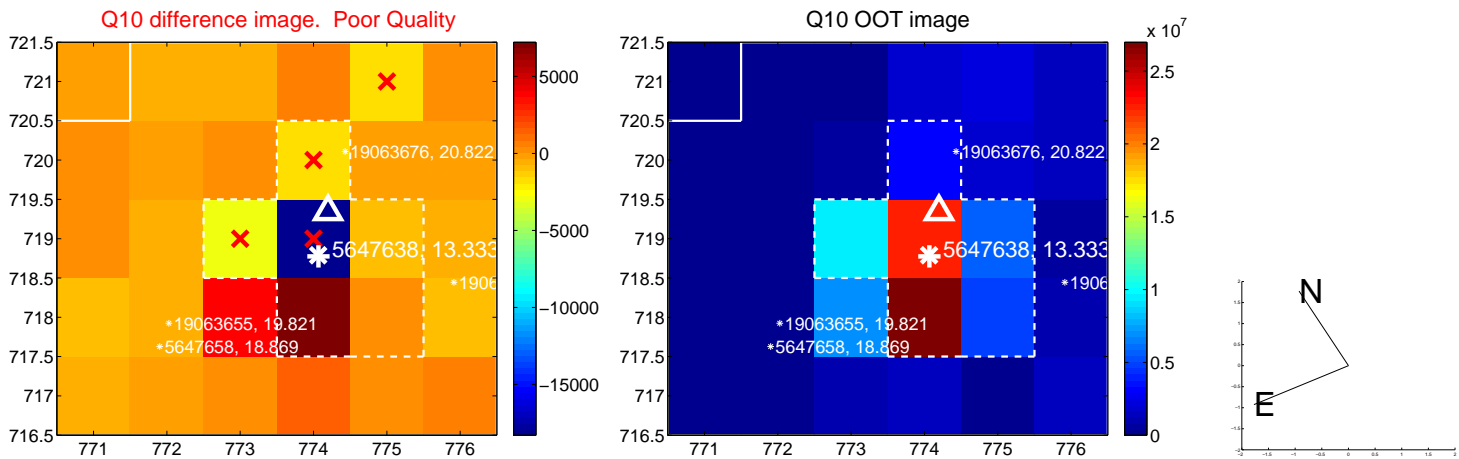
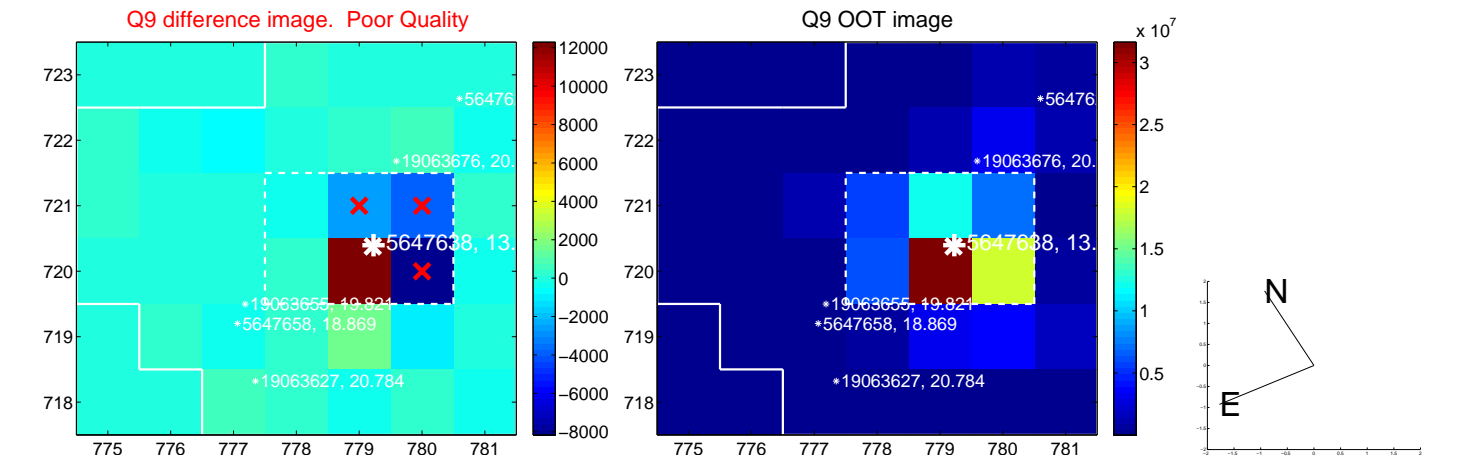
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



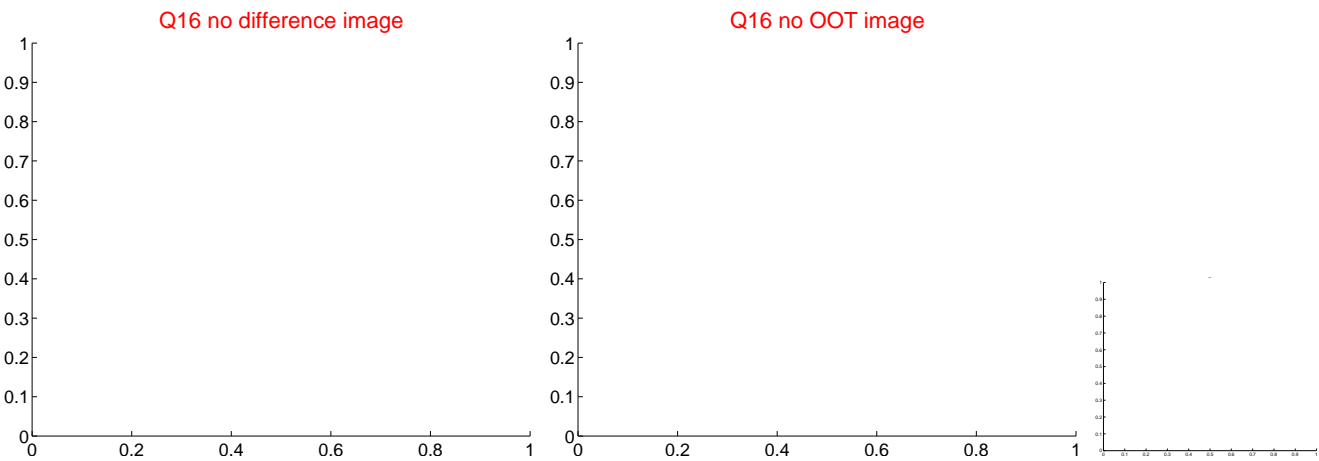
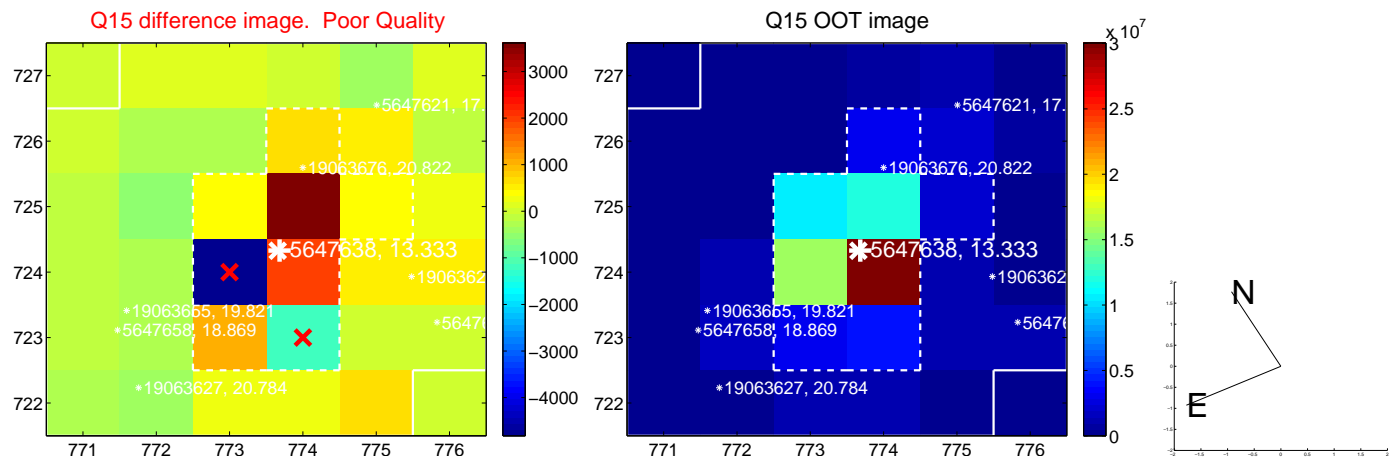
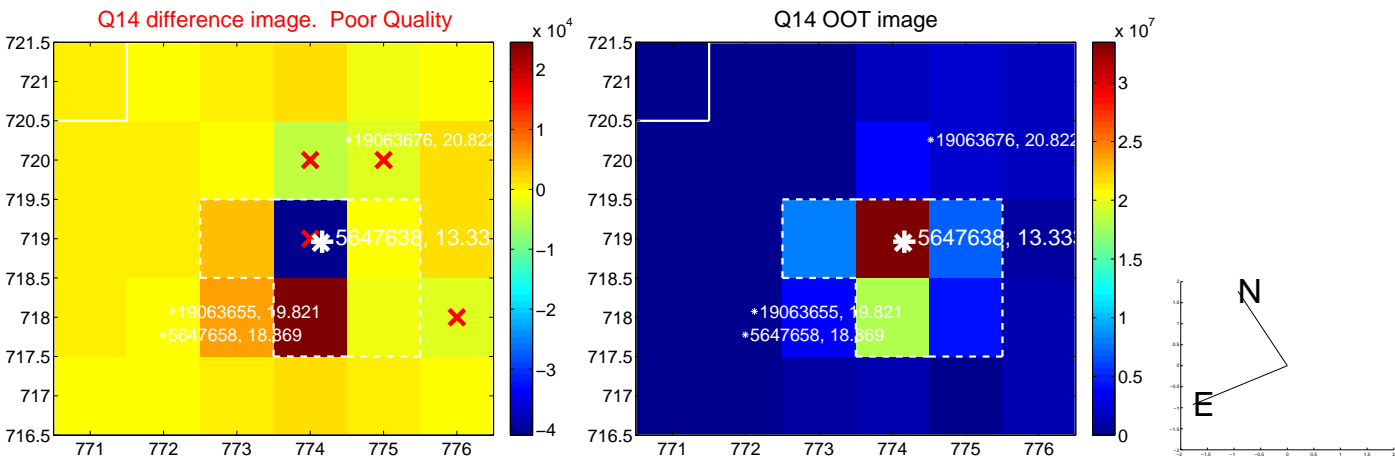
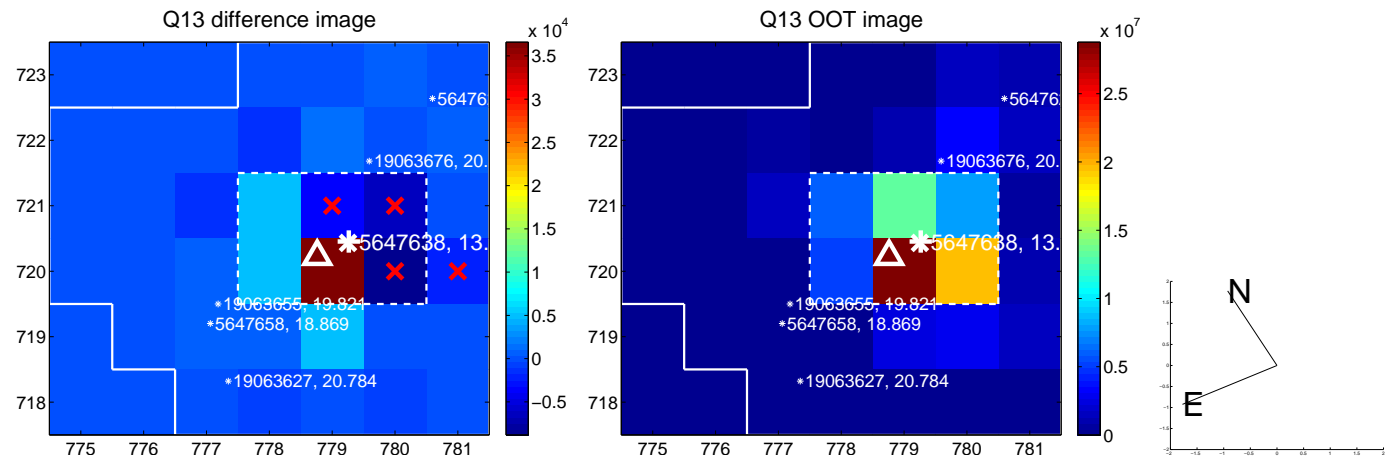
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



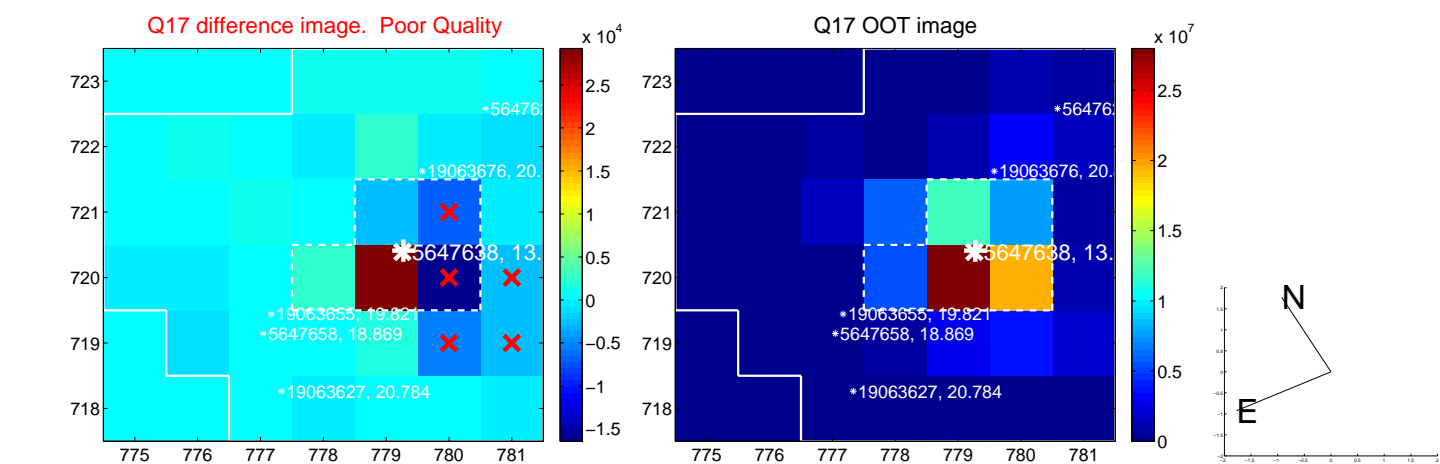
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



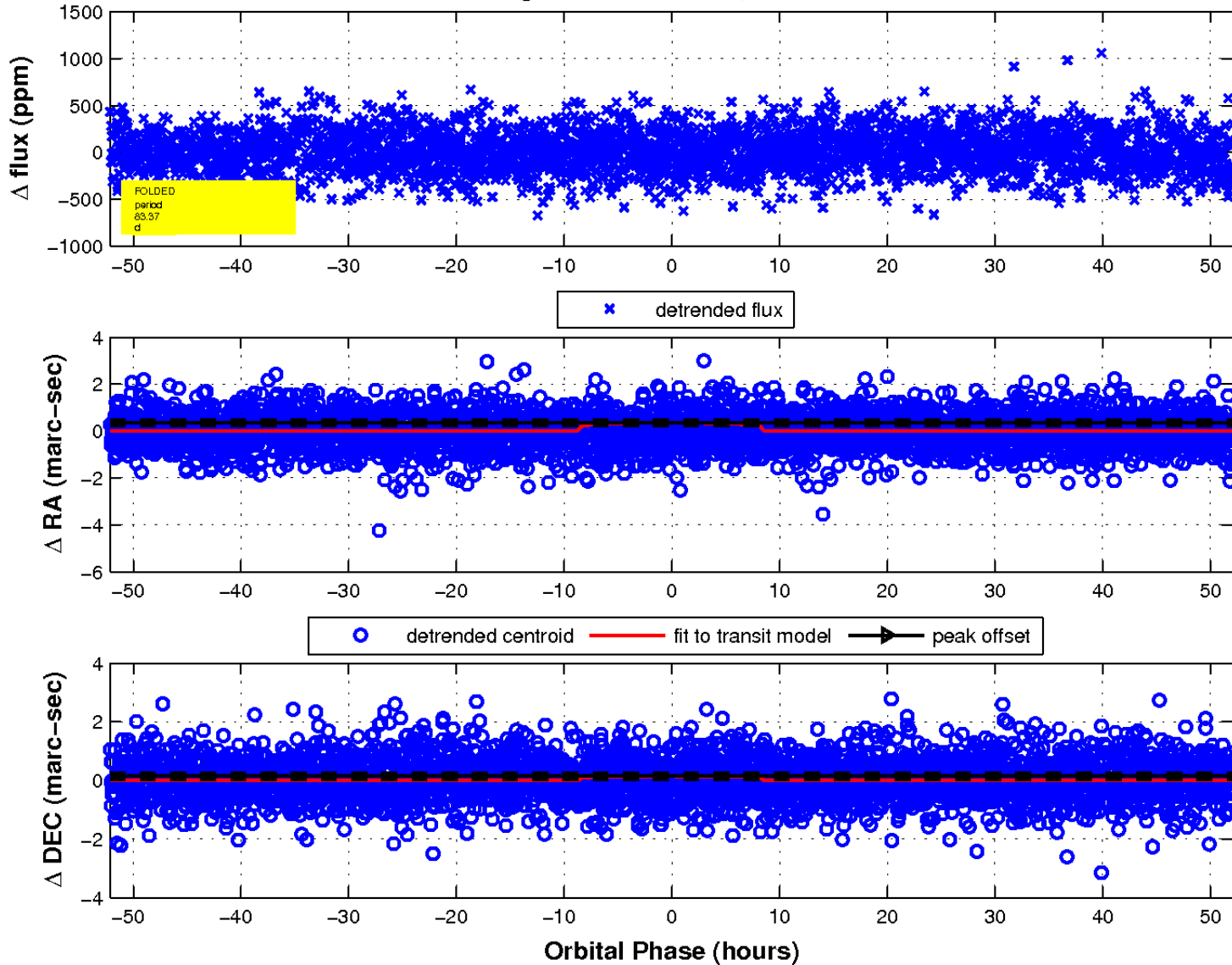
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 4



UKIRT Image

