

KIC 006140122

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})
006140122-01	OBS	No	0.654944	131.692943	5.2	3.979	7.9	2.6	3.15	6915	0.73	67236.75
006140122-02	OBS	No	36.576303	168.073912	234.5	2.581	9.8	9.7	3.15	6915	5.42	314.98
006140122-03	OBS	No	161.071490	185.022447	354.5	11.105	8.1	9.3	3.15	6915	7.51	43.64
006140122-04	OBS	No	59.699052	134.877360	321.8	1.856	8.0	9.6	3.15	6915	6.34	163.90
006140122-05	OBS	No	86.207392	162.567090	251.2	5.380	8.4	8.7	3.15	6915	5.80	100.42
006140122-06	OBS	No	84.674039	200.429652	452.5	1.663	8.7	8.9	3.15	6915	7.77	102.85
006140122-07	OBS	No	59.513631	133.486066	195.6	3.071	7.5	7.4	3.15	6915	4.88	164.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140122-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006140122-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

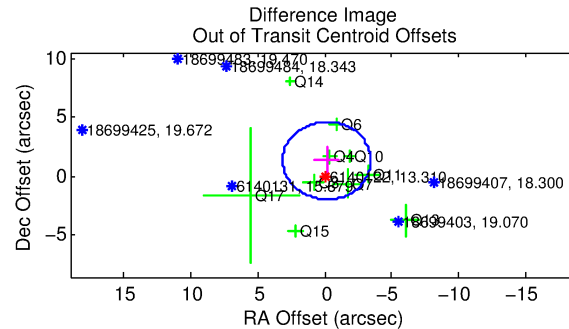
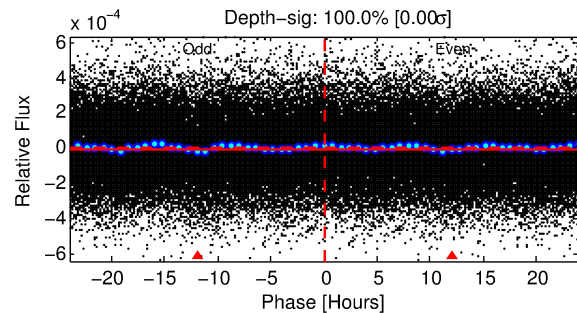
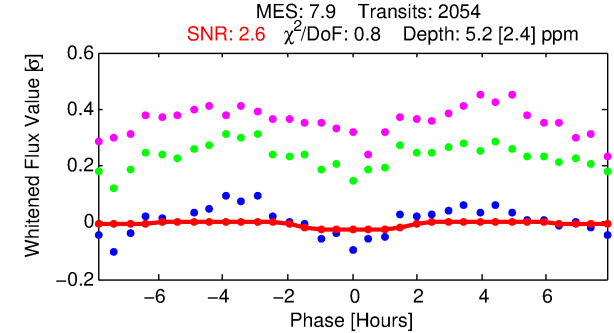
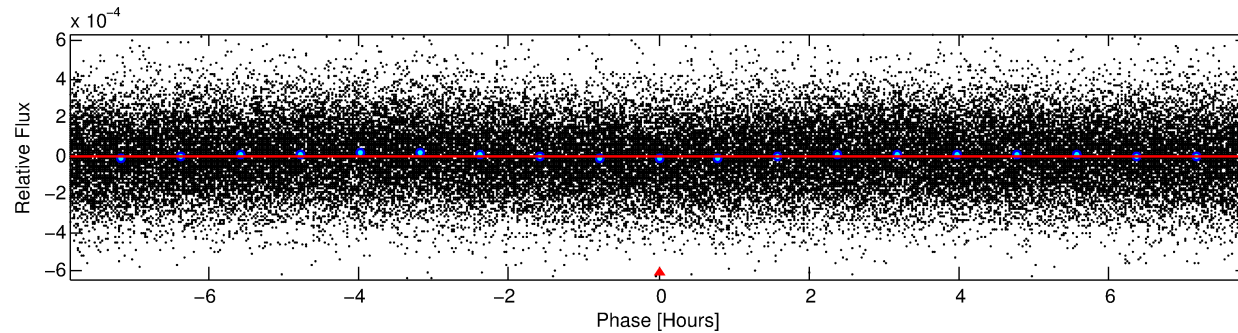
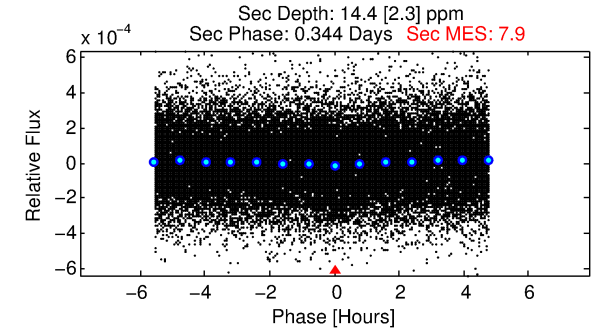
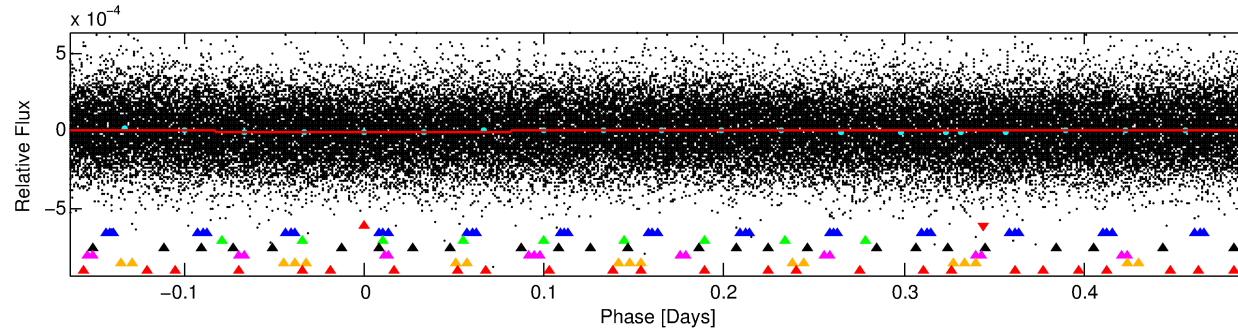
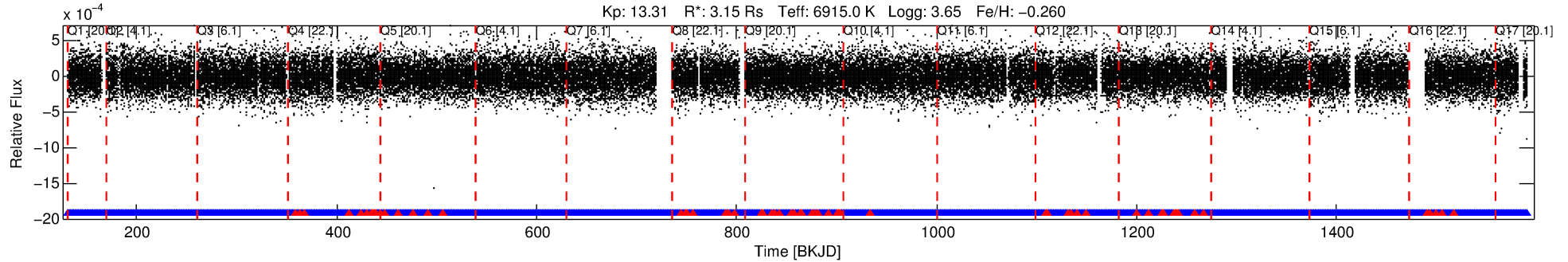
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140122-01

No Significant Match Found

DV One-Page Summary

KIC: 6140122 Candidate: 1 of 7 Period: 0.655 d



DV Fit Results:

Period = 0.65494 [0.00004] d
Epoch = 131.6929 [0.0134] BKJD
Rp/R* = 0.0021 [0.0037]
a/R* = 1.37 [6.30]
b = 0.30 [29.99]
Seff = 67236.75 [38321.85]
Teq = 4106 [585] K
Rp = 0.73 [1.29] Re
a = 0.0174 [0.0061] AU
Ag = 4.46 [15.54] [0.22σ]
Teffp = 9223 [7946] K [0.64σ]

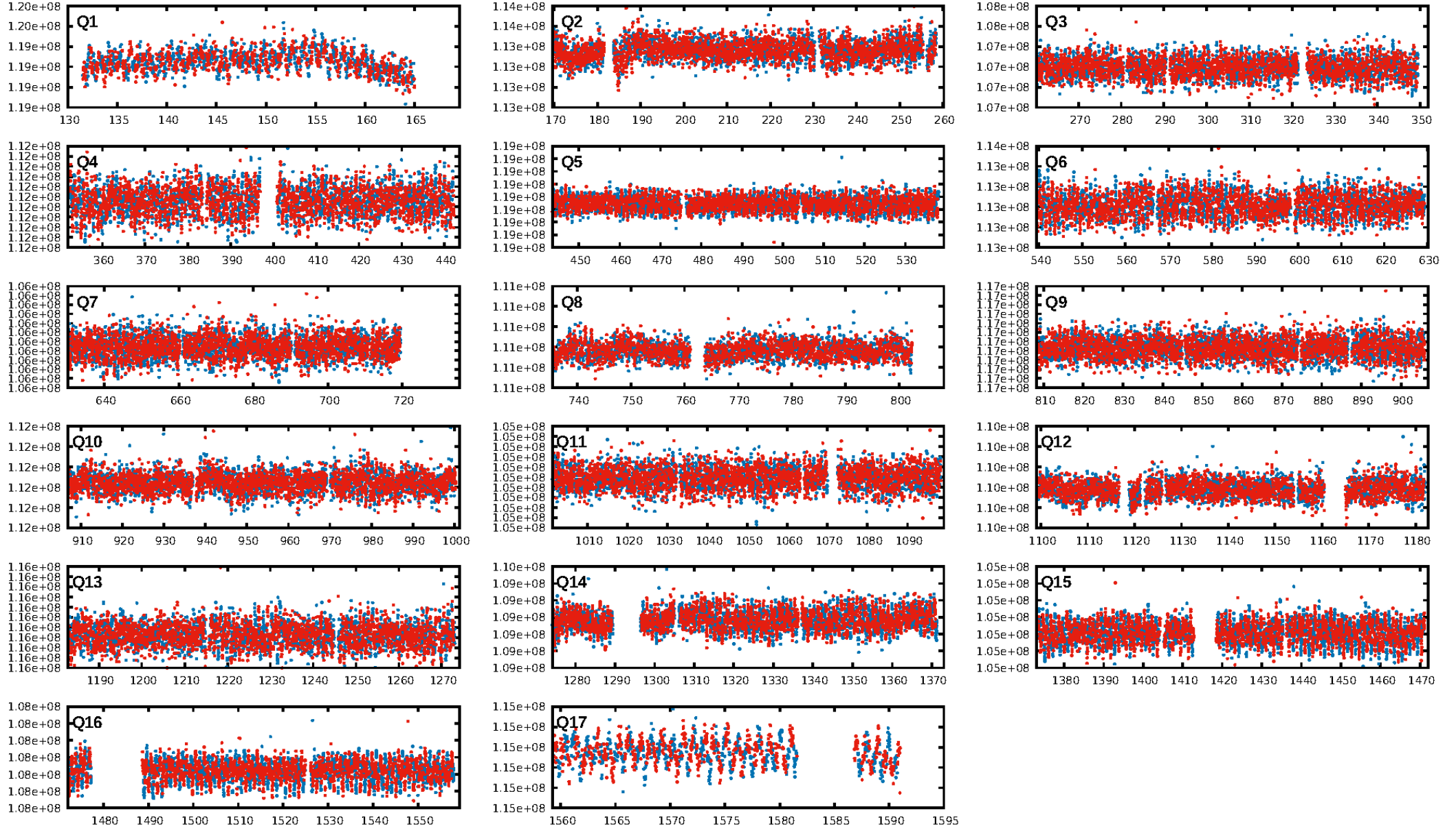
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [181.76σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.89e-10
RollingBand-fgt: 0.97 [1897/1962]
GhostDiagnostic-chr: -7.365
Centroid-sig: 0.0%
Centroid-so: 21.124 arcsec [3.76σ]
OotOffset-rm: 1.345 arcsec [1.23σ]
OotOffset-st: 3/4/1/2 [10]
KicOffset-rm: 1.434 arcsec [1.20σ]
KicOffset-st: 3/4/1/2 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 1.00 [17/17]

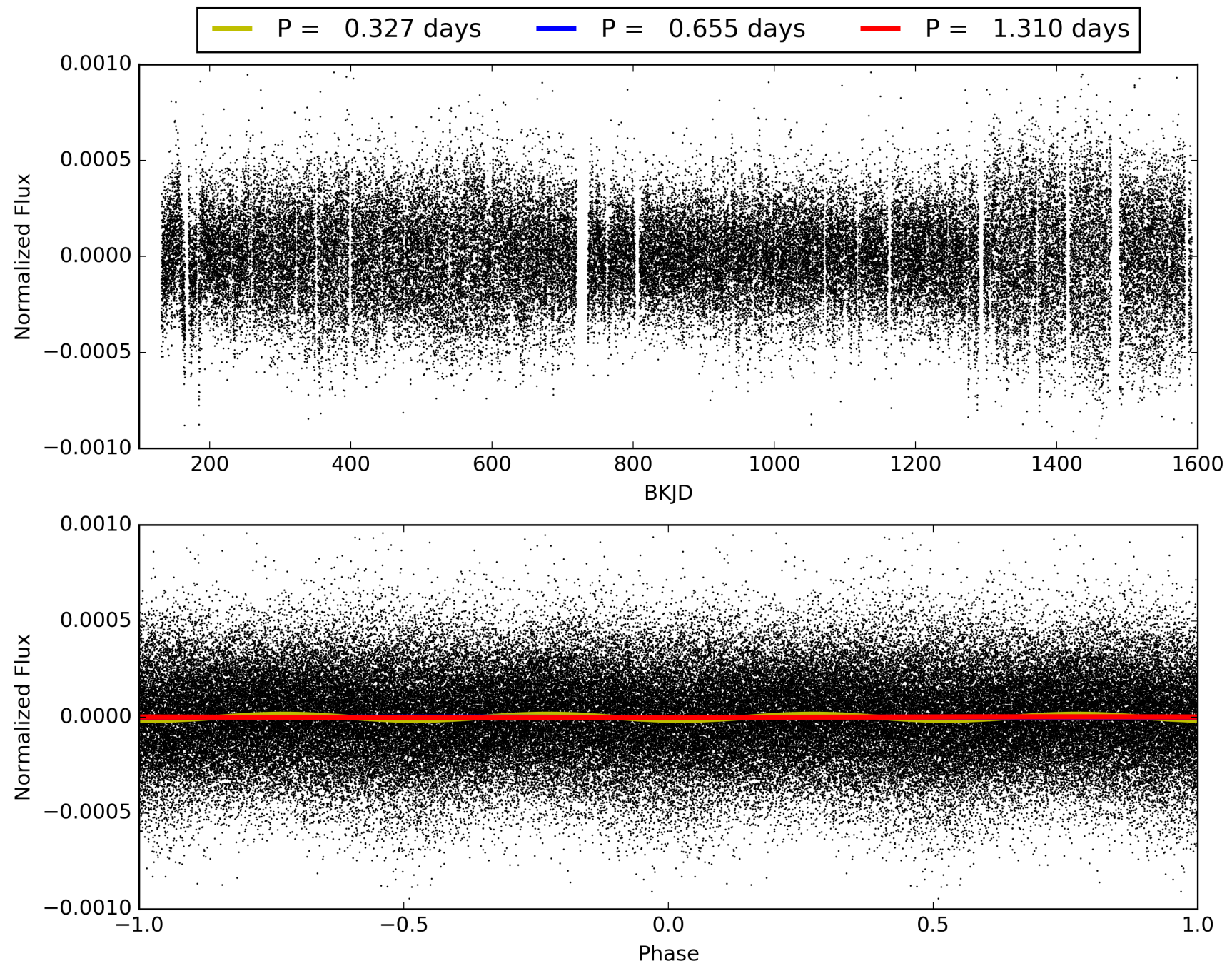
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:58:57 Z

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

TCE 006140122-01, PDC Light Curves

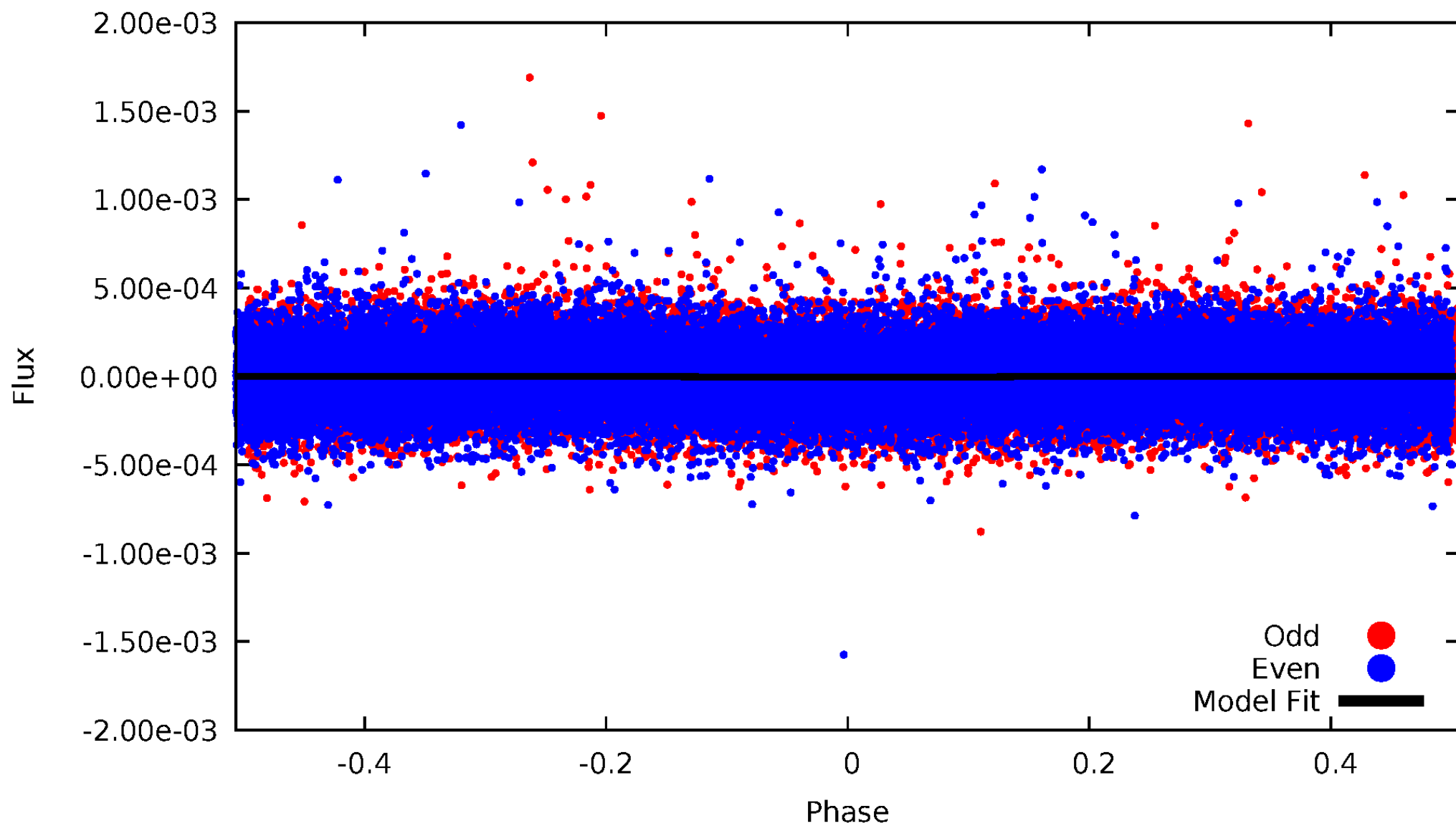


TCE 006140122-01



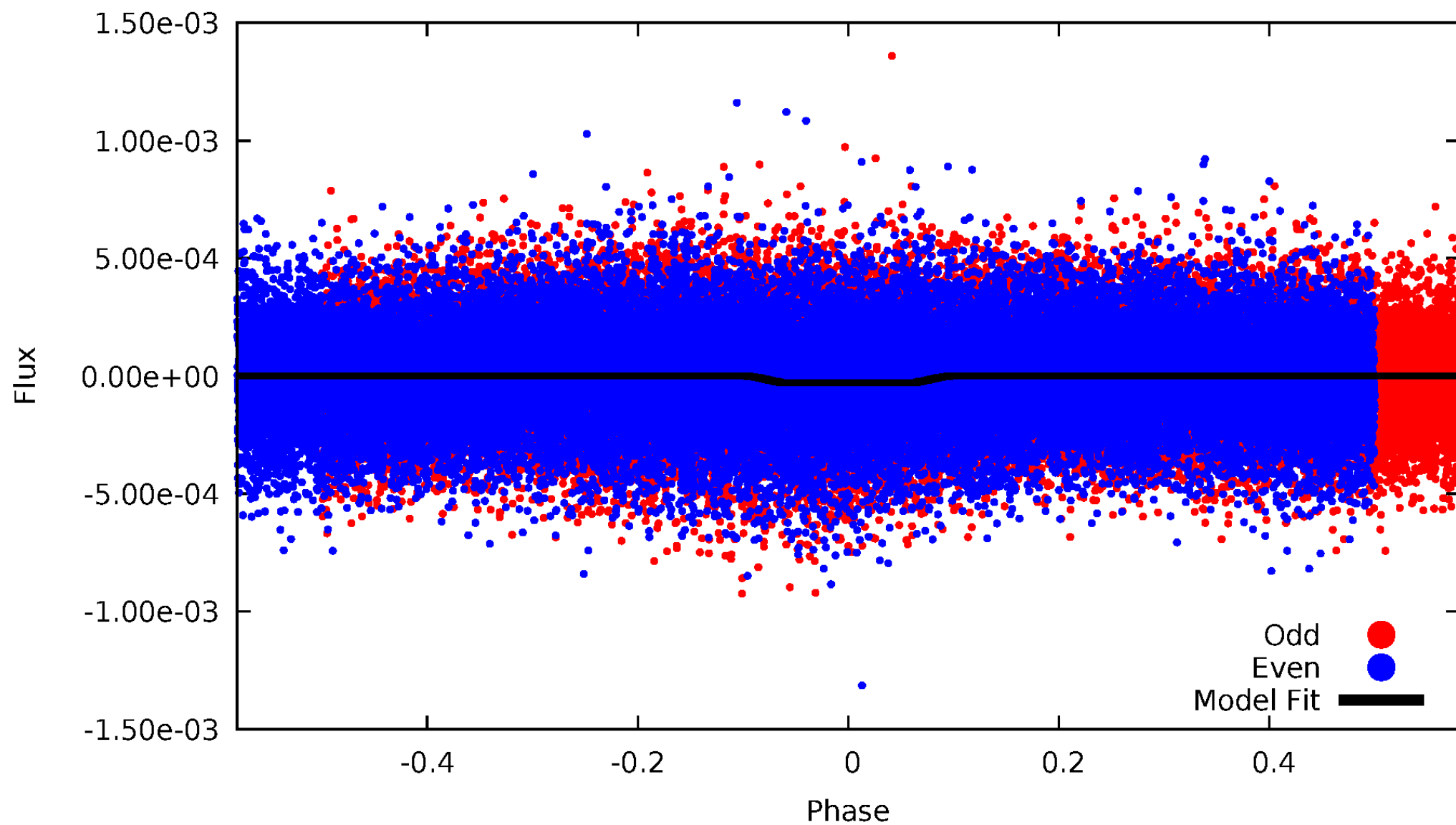
DV Odd/Even

TCE 006140122-01

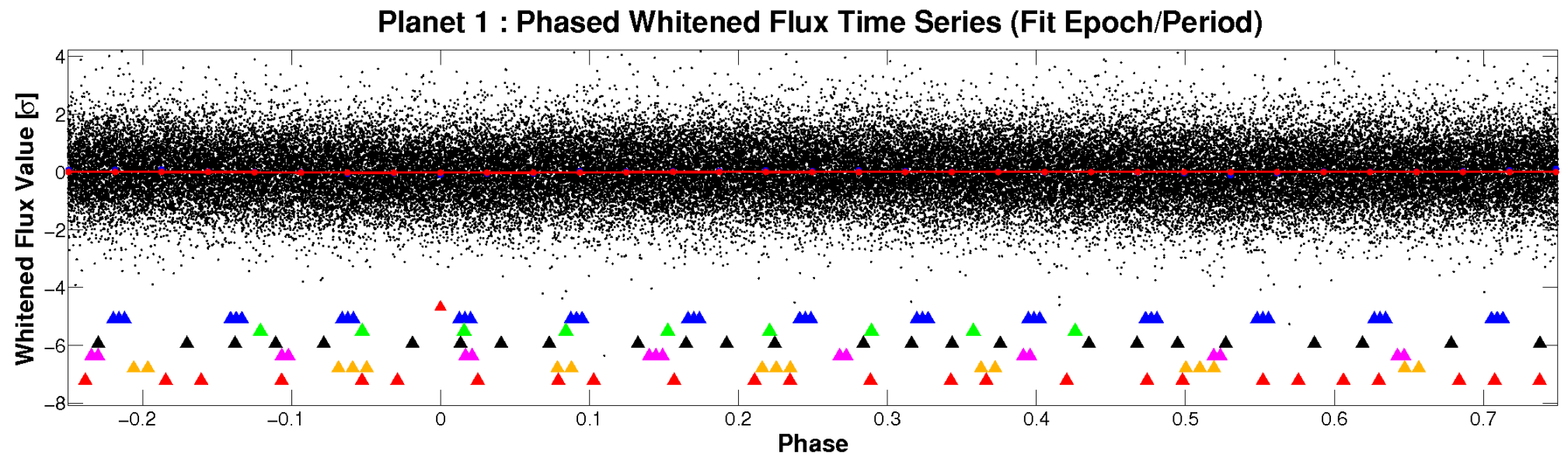
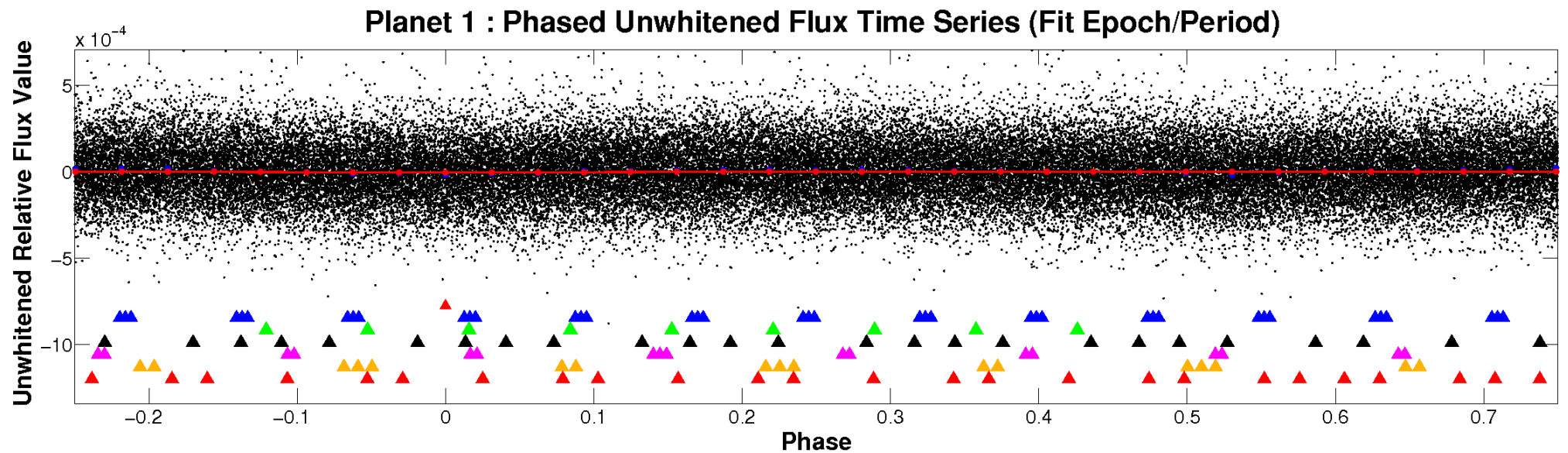


ALT Odd/Even

TCE 006140122-01

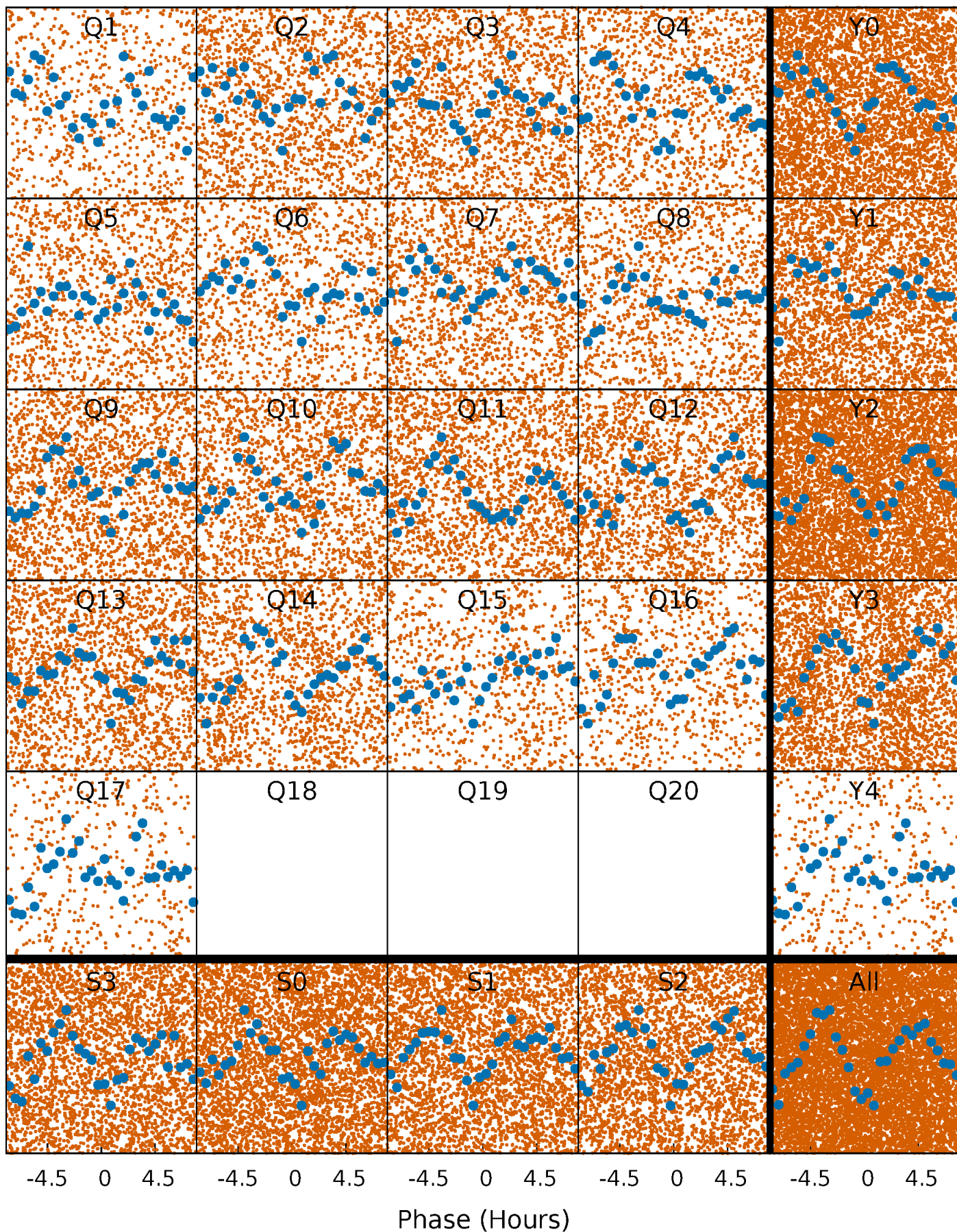


Non-Whitened Vs. Whitened Light Curve



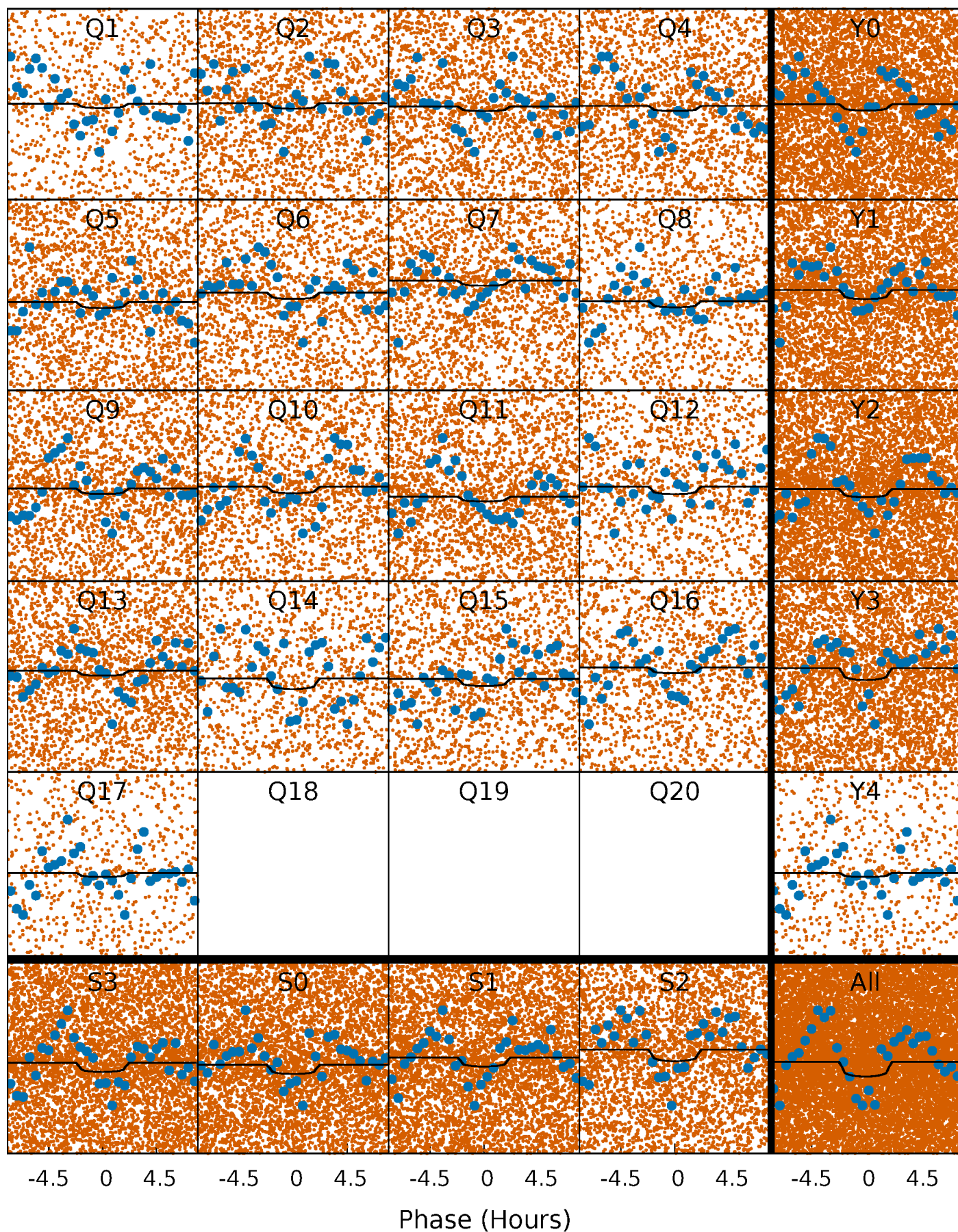
PDC Quarter-Phased Transit Curves

TCE 006140122-01 P= 0.654944 Days $T_0=131.692943$ (BKJD)



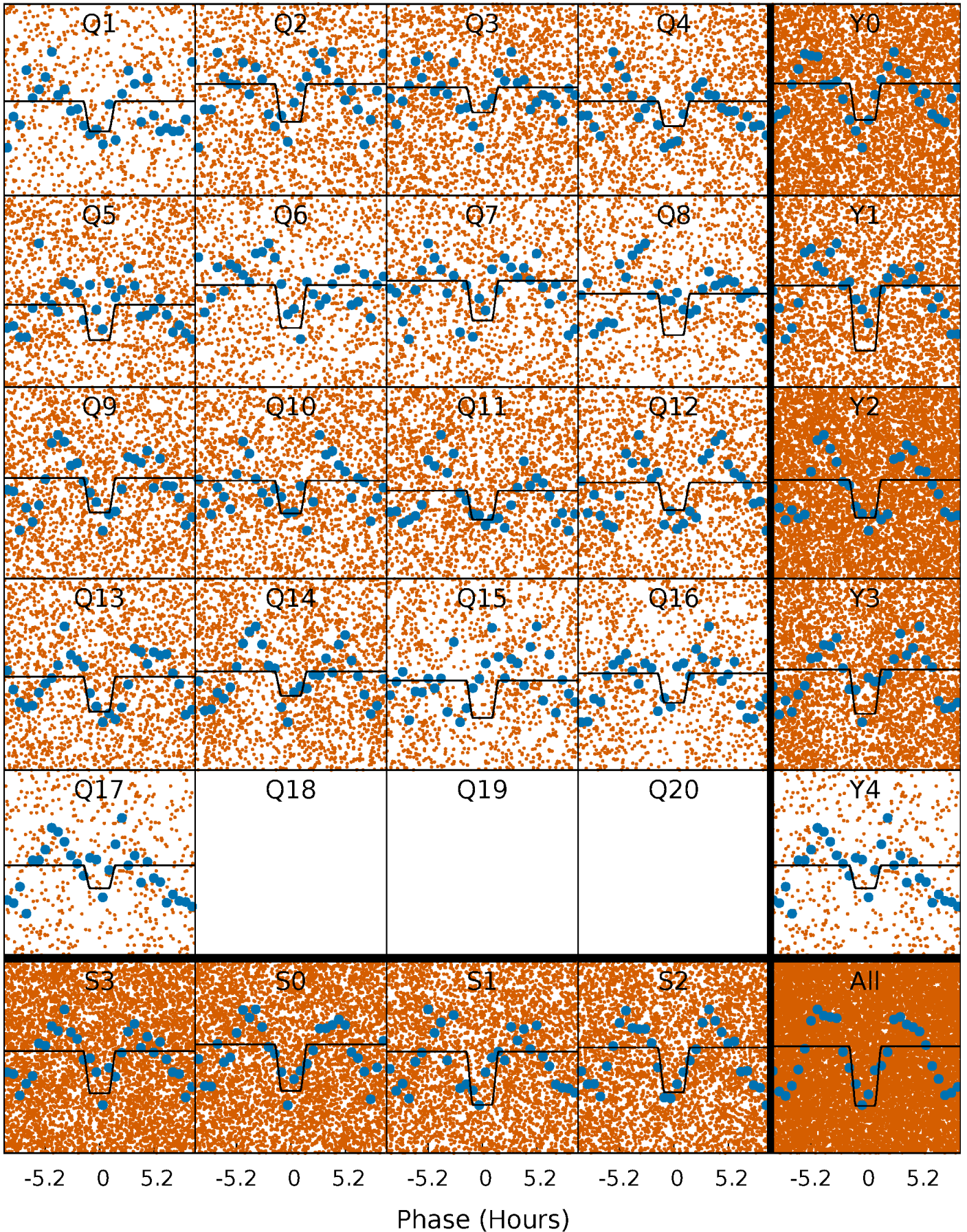
DV Quarter-Phased Transit Curves

TCE 006140122-01 P= 0.654944 Days $T_0=131.692943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

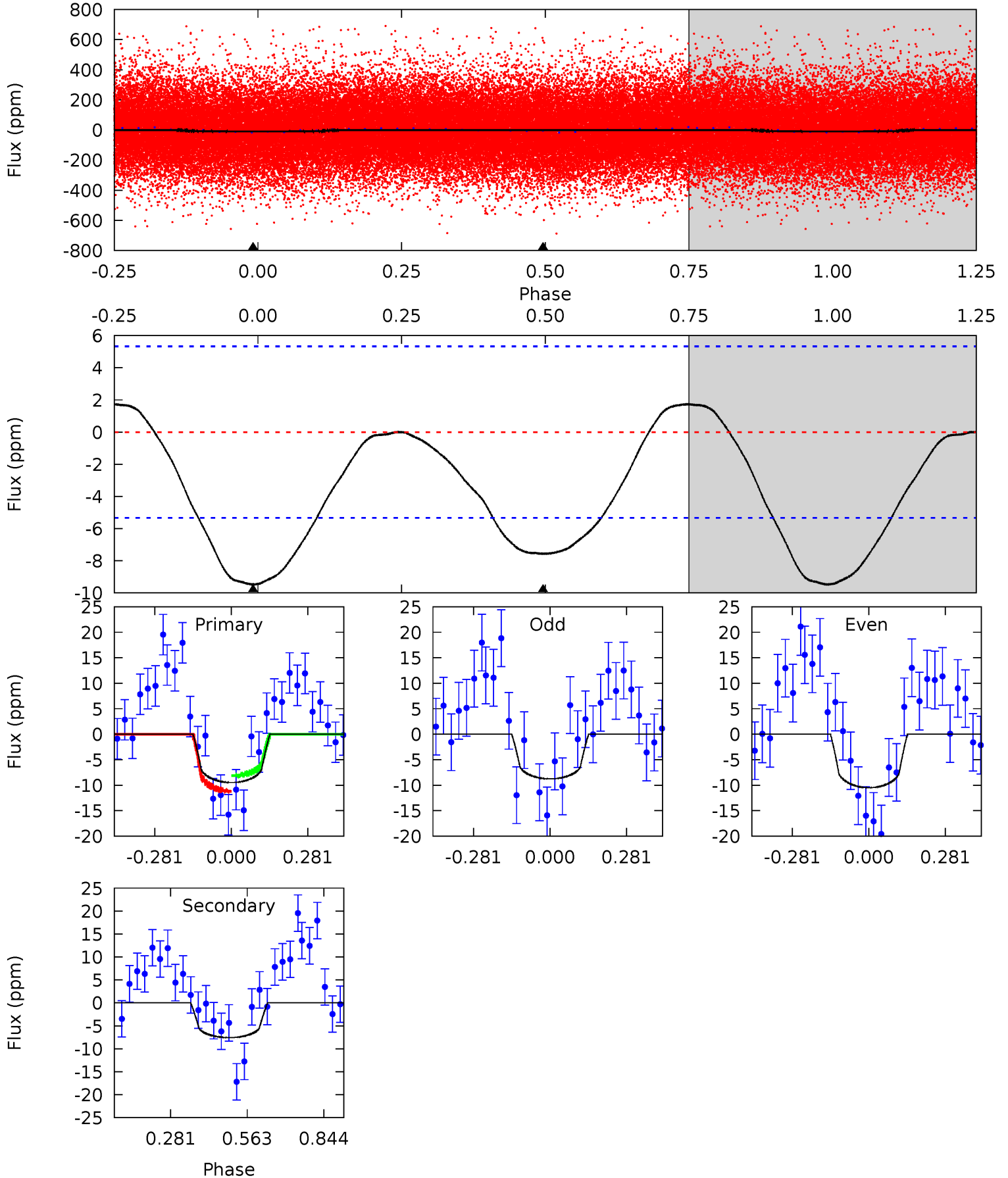
TCE 006140122-01 P= 0.654984 Days $T_0=131.660256$ (BKJD)



DV Model-Shift Uniqueness Test

006140122-01, P = 0.654944 Days, E = 131.037999 Days

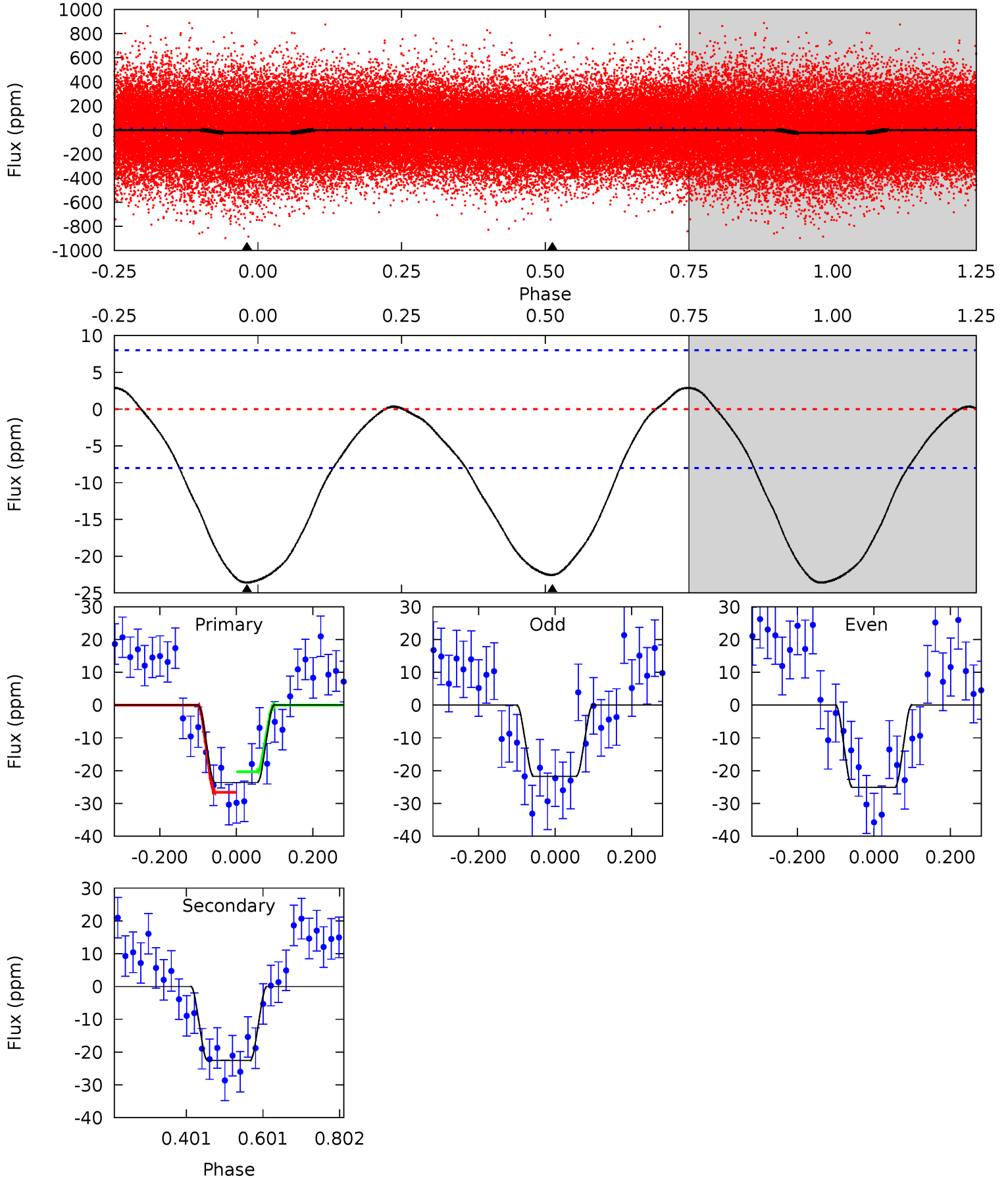
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.72	6.17	0	0	4.34	1.08	0.72	7.72	7.72	6.17	6.17	0.71	1.07	0.16	1.25



Alt Model-Shift Uniqueness Test

006140122-01, P = 0.654984 Days, E = 131.005272 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	12.4	0	0	4.42	1.28	1.00	13.0	13.0	12.4	12.4	0.93	1.07	0.11	1.69



Stellar Parameters For KIC 006140122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6915^{+190}_{-238}	$3.655^{+0.323}_{-0.076}$	$-0.260^{+0.300}_{-0.250}$	$3.153^{+0.386}_{-1.159}$	$1.638^{+0.216}_{-0.324}$	$0.074^{+0.158}_{-0.018}$
	+3%/-3%	+9%/-2%	+115%/-96%	+12%/-37%	+13%/-20%	+215%/-25%
Source	PHO1	FLK73	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 006140122-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 1	$1.12^{+1.04}_{-0.77}$	5622^{+319}_{-528}	5609^{+6612}_{-8862}	$1.032^{+8.710}_{-0.770}$
Alt.	-23 ± 2	$1.77^{+1.15}_{-0.99}$	5610^{+336}_{-517}	5903^{+4152}_{-1794}	$1.232^{+5.040}_{-0.778}$

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 $A_{obs} \gg 1.0$

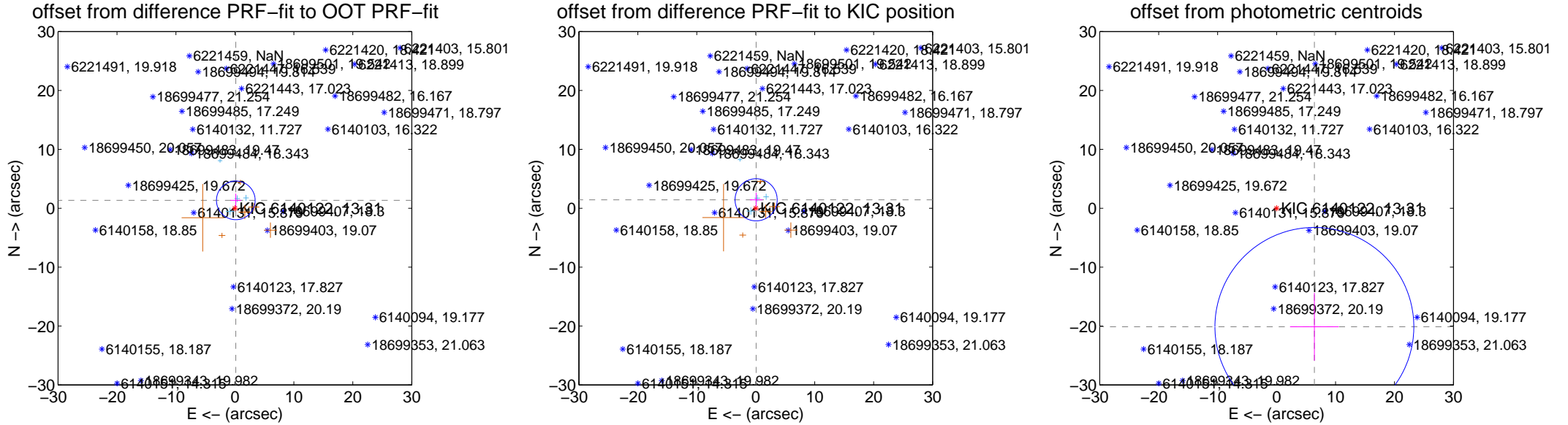
DV Centroid Data

Supplemental centroid analysis for 006140122-01. Kepler magnitude: 13.31. Transit SNR 2.65

There are 4 quarters with good PRF difference image offsets

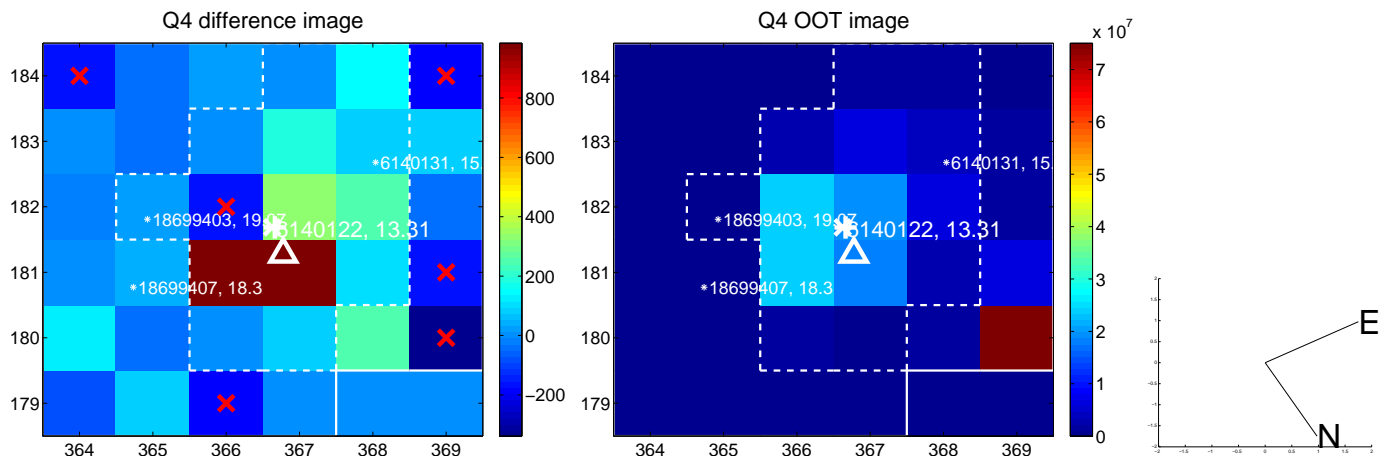
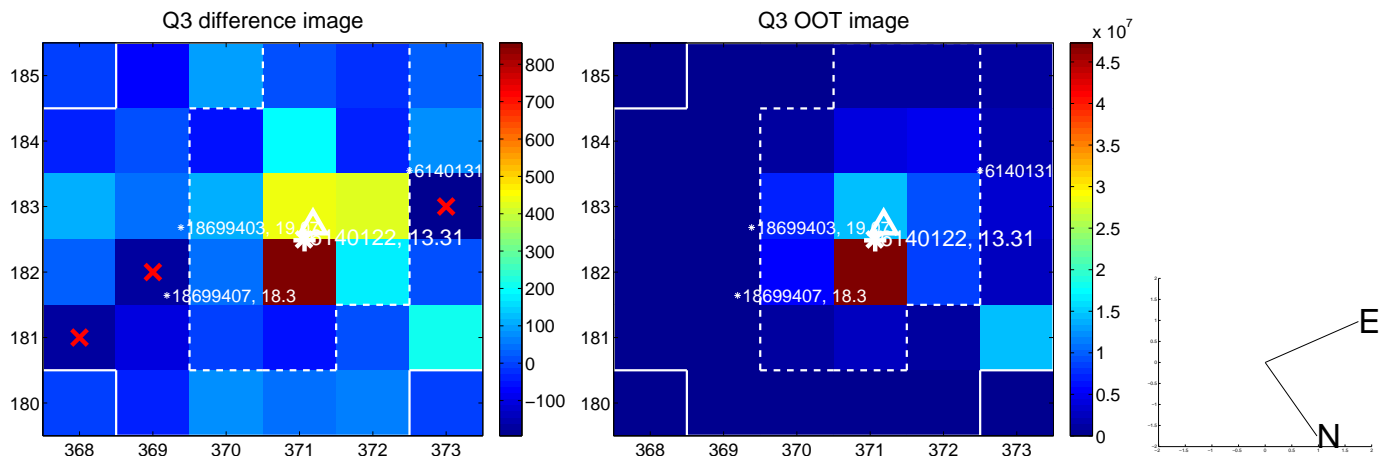
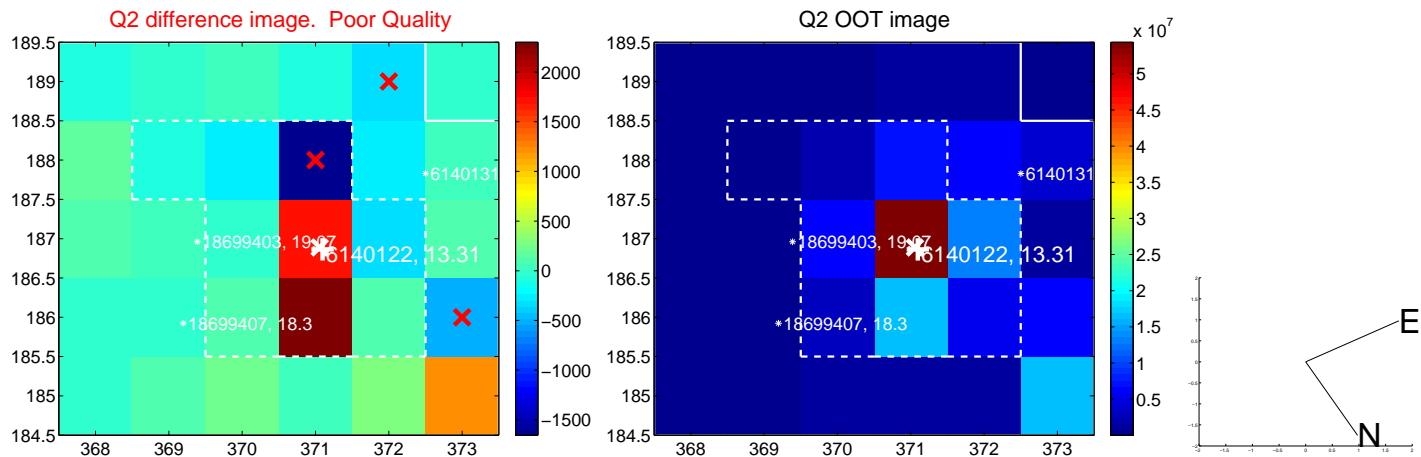
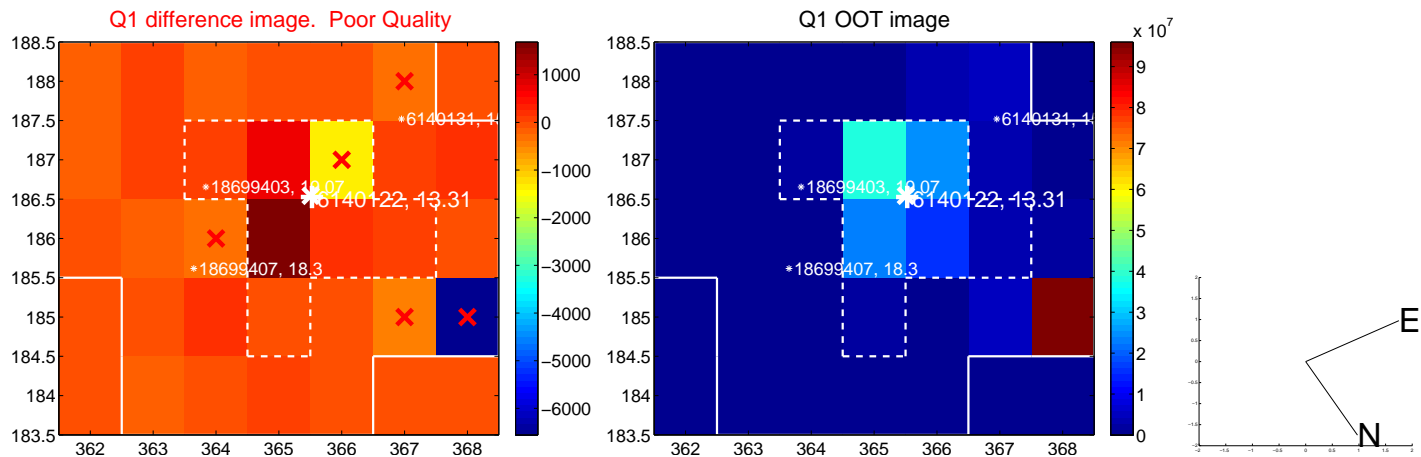
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.345 ± 1.094	1.23	-0.153 ± 0.901	1.336 ± 1.135
PRF-fit source offset from KIC position	1.434 ± 1.192	1.20	-0.065 ± 1.057	1.433 ± 1.200
photometric centroid source offset	21.12 ± 5.62	3.76	-6.41 ± 4.13	-20.13 ± 5.75

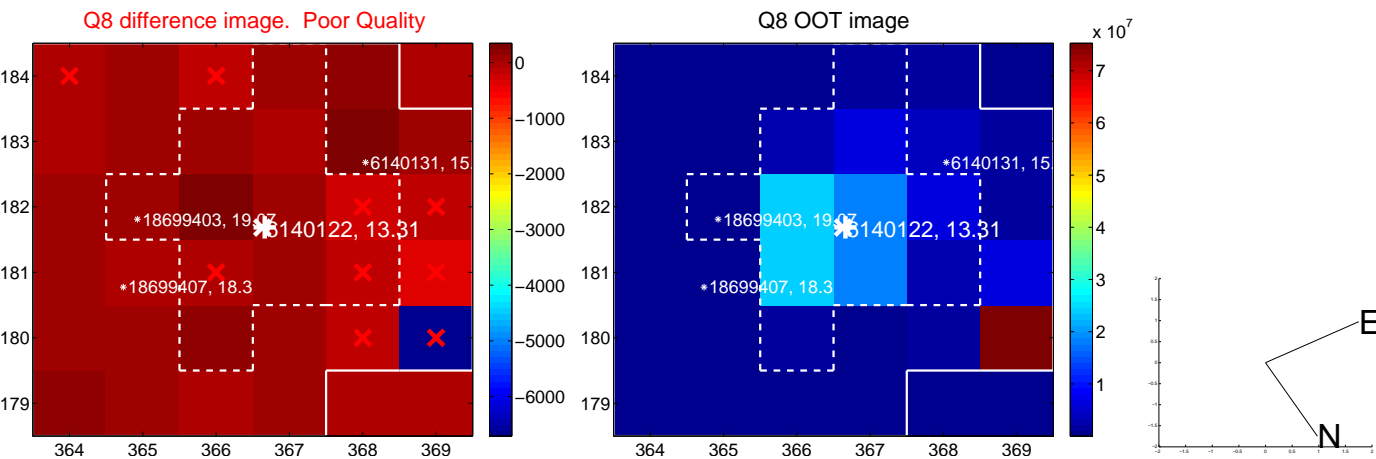
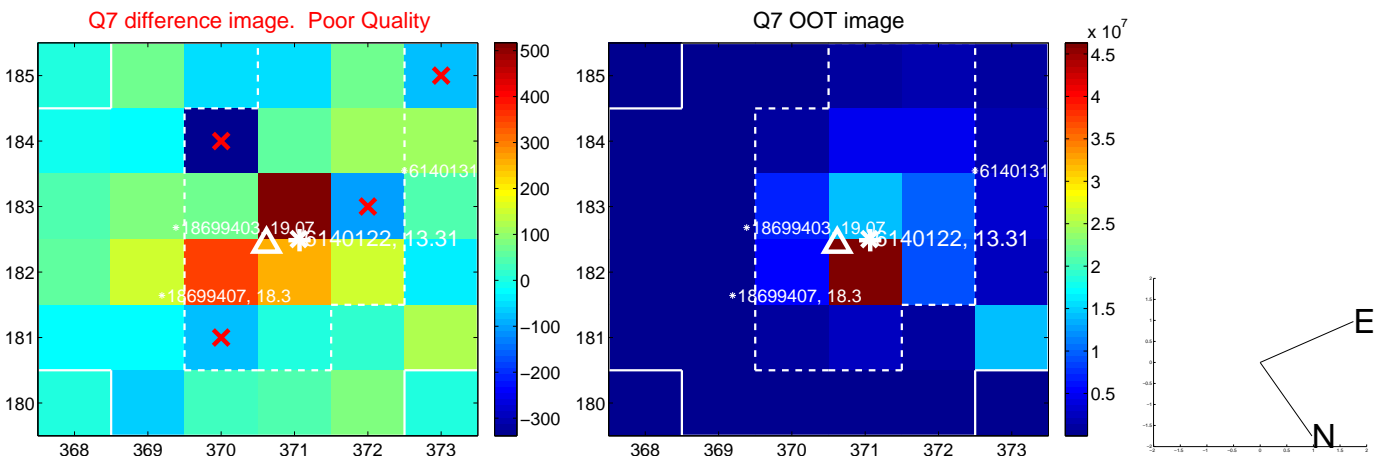
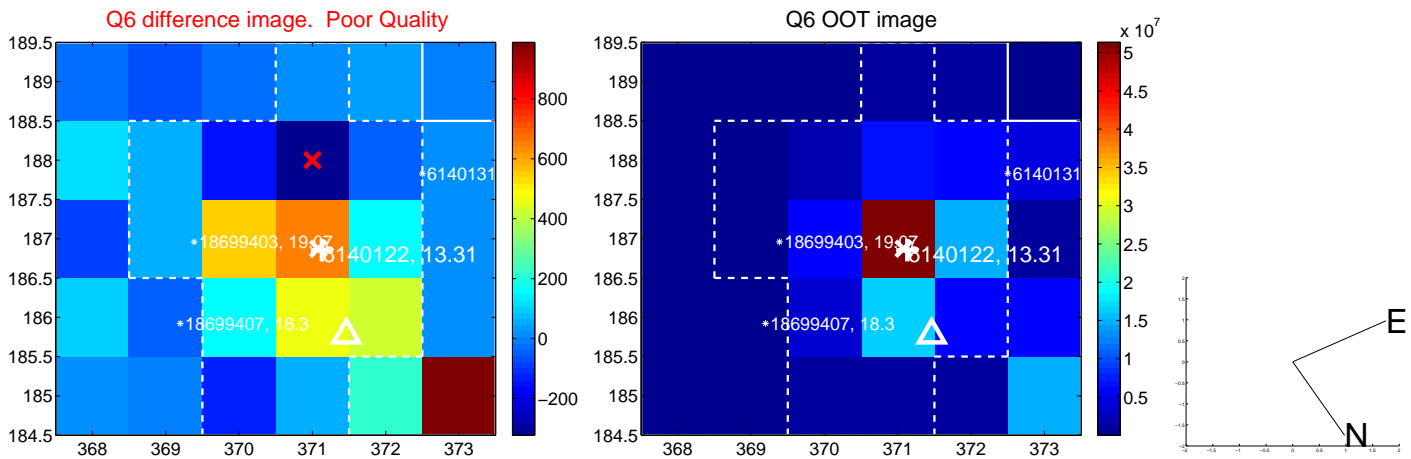
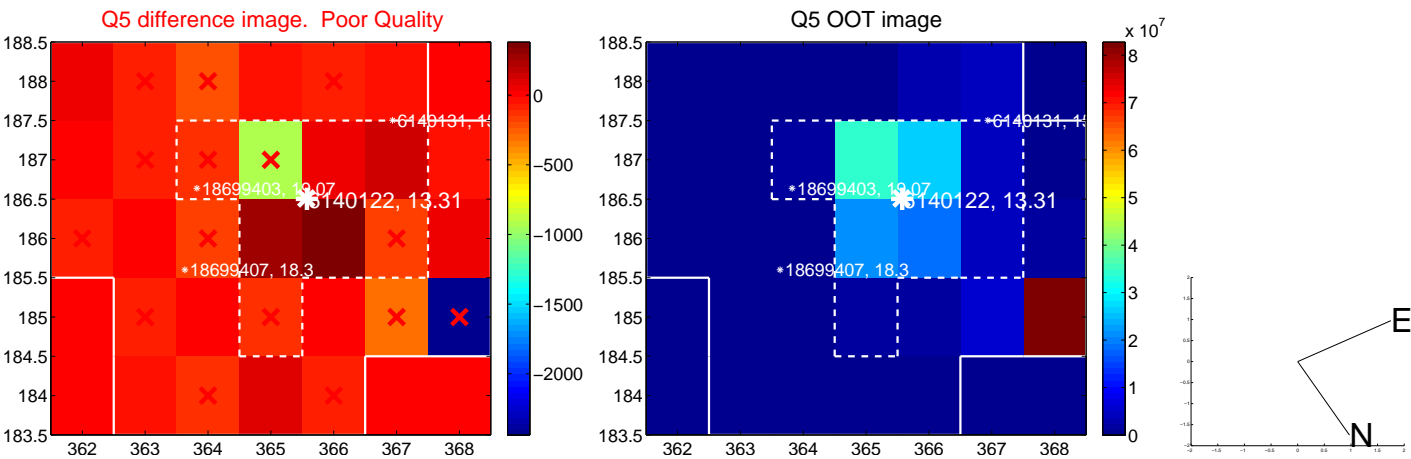


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

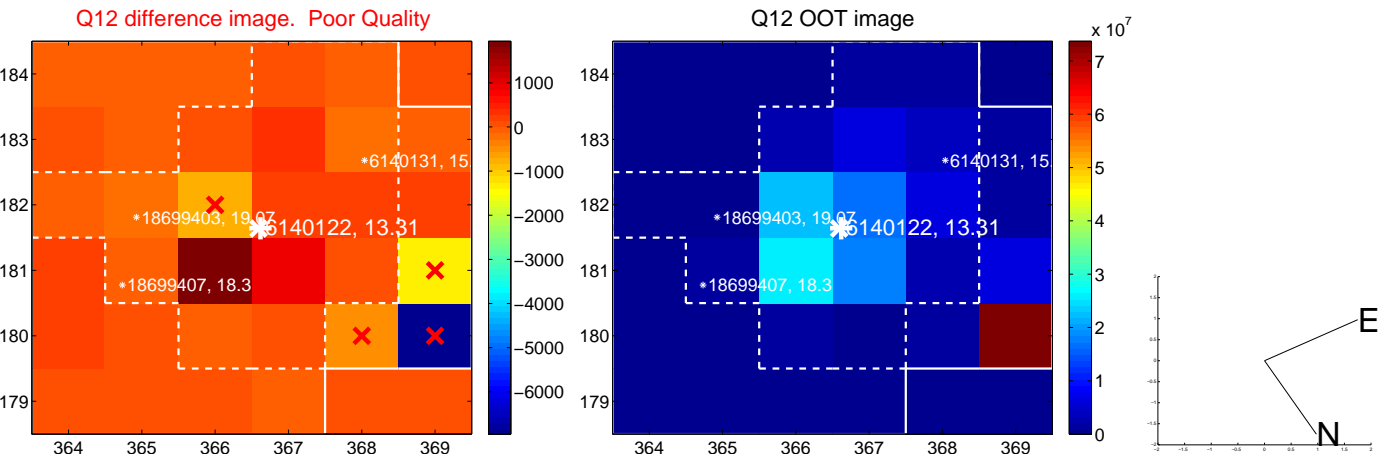
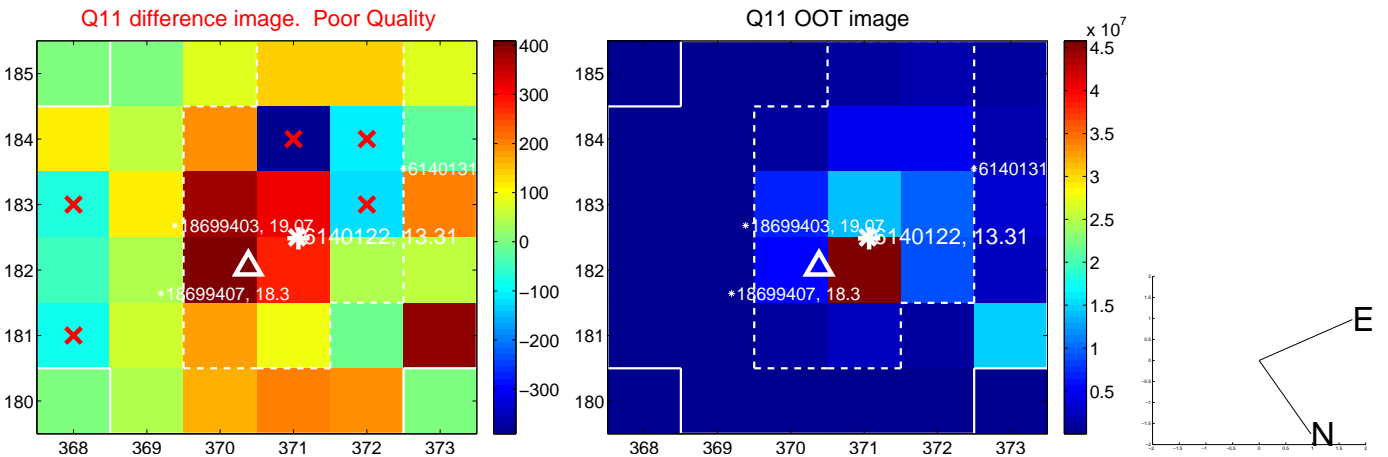
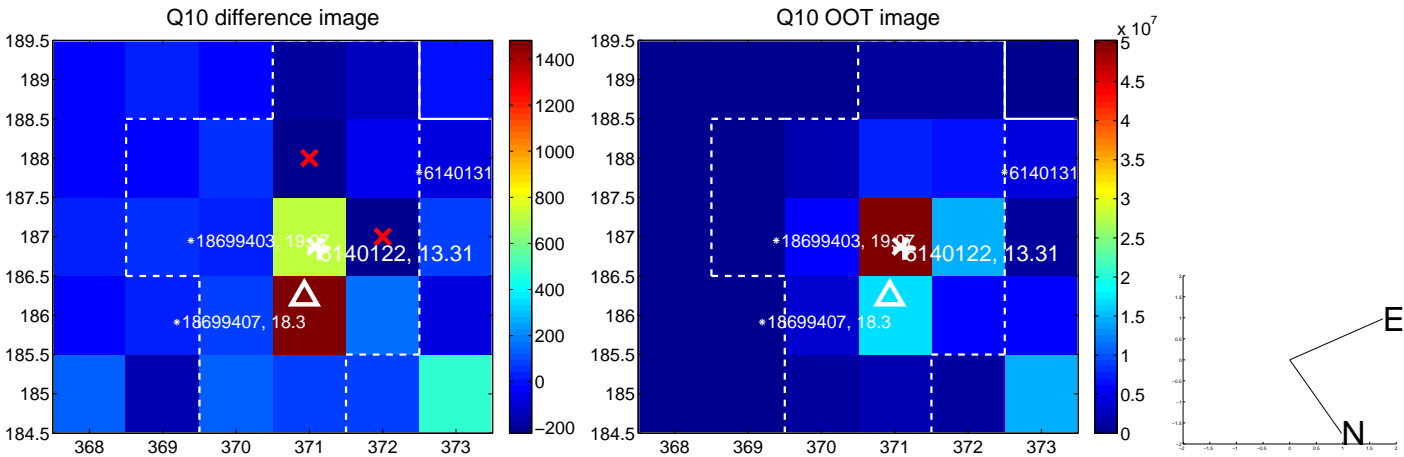
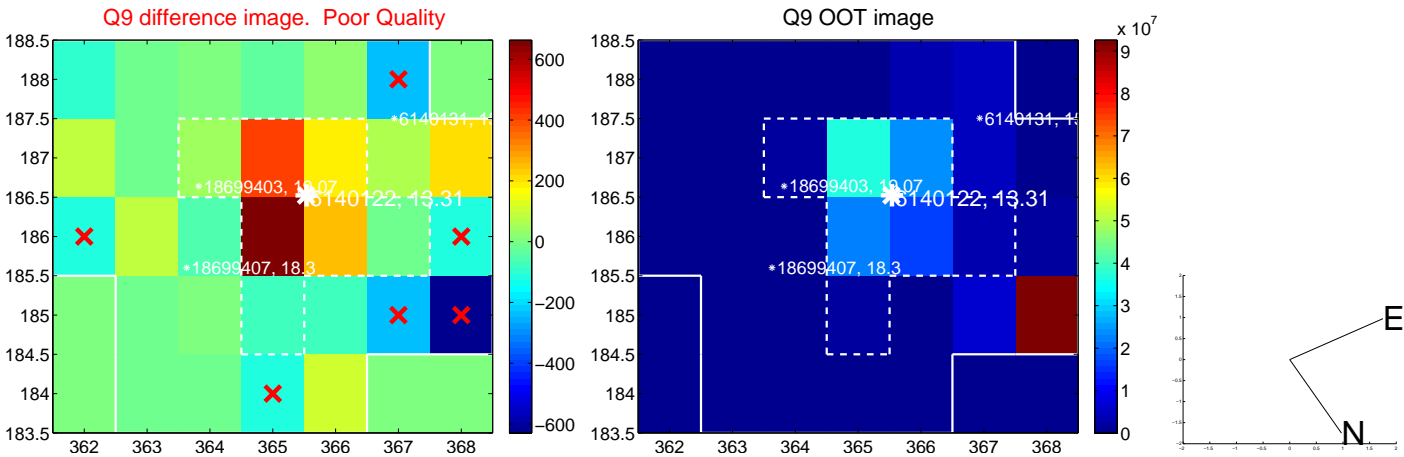
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



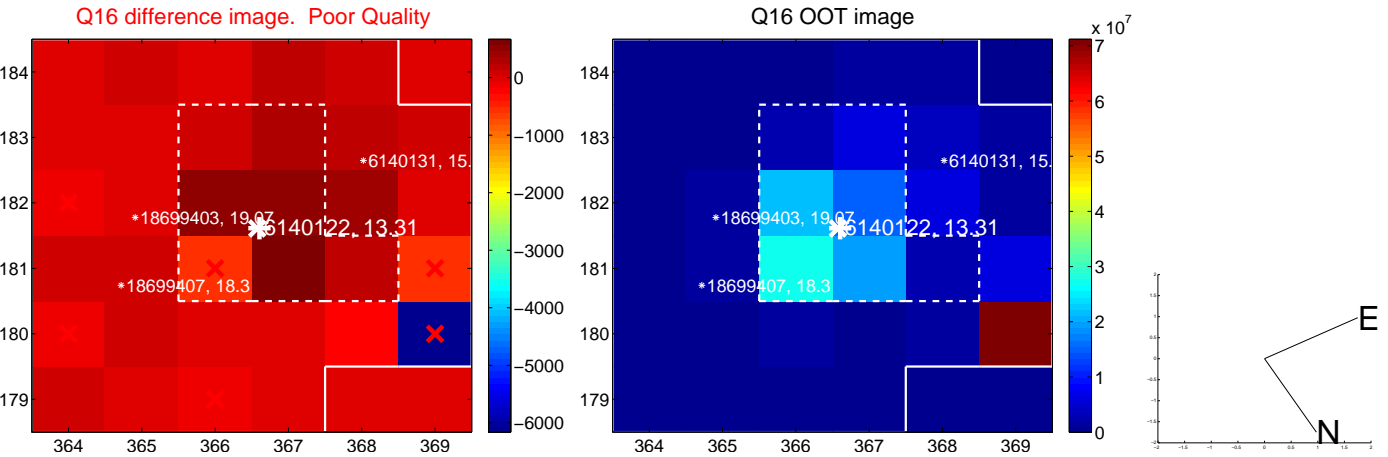
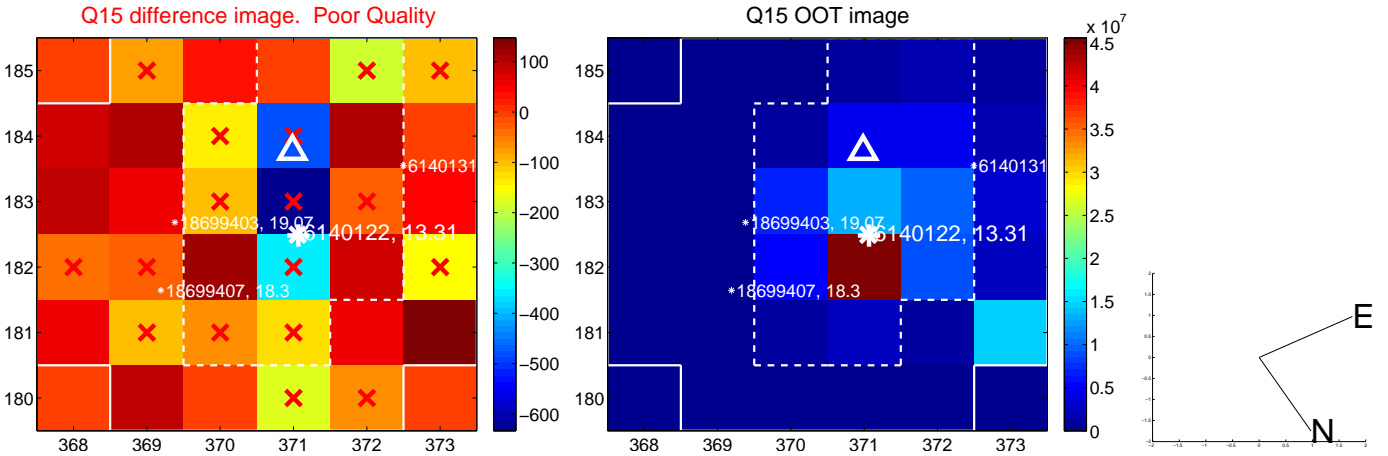
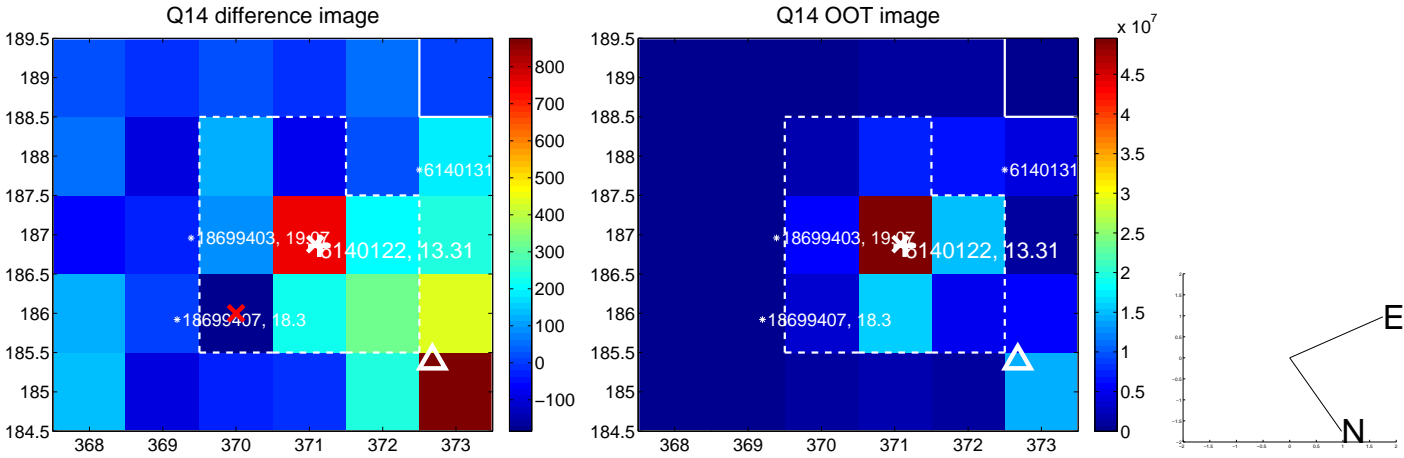
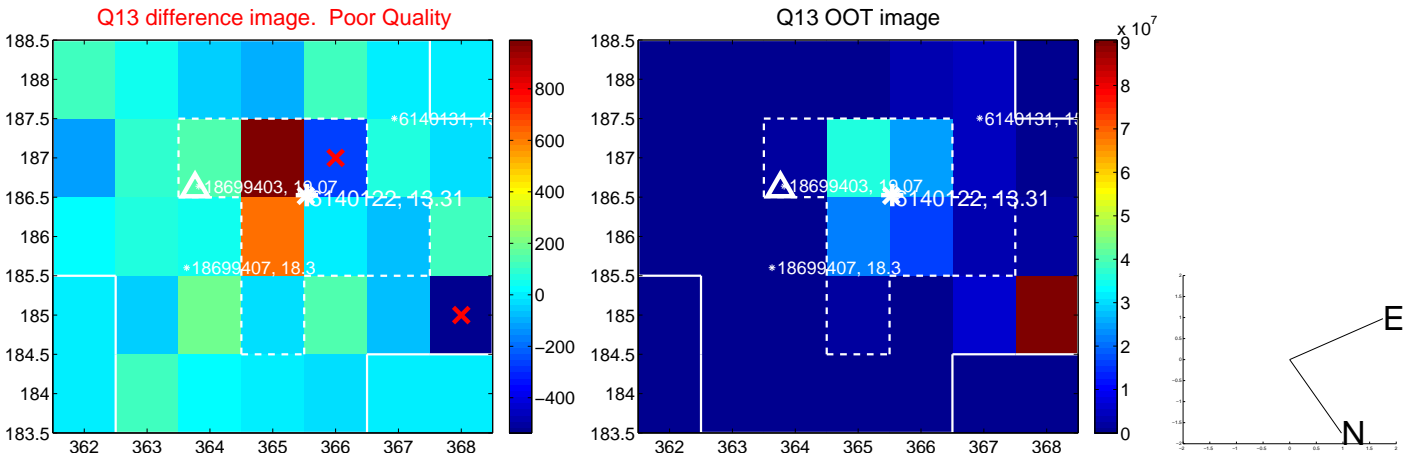
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



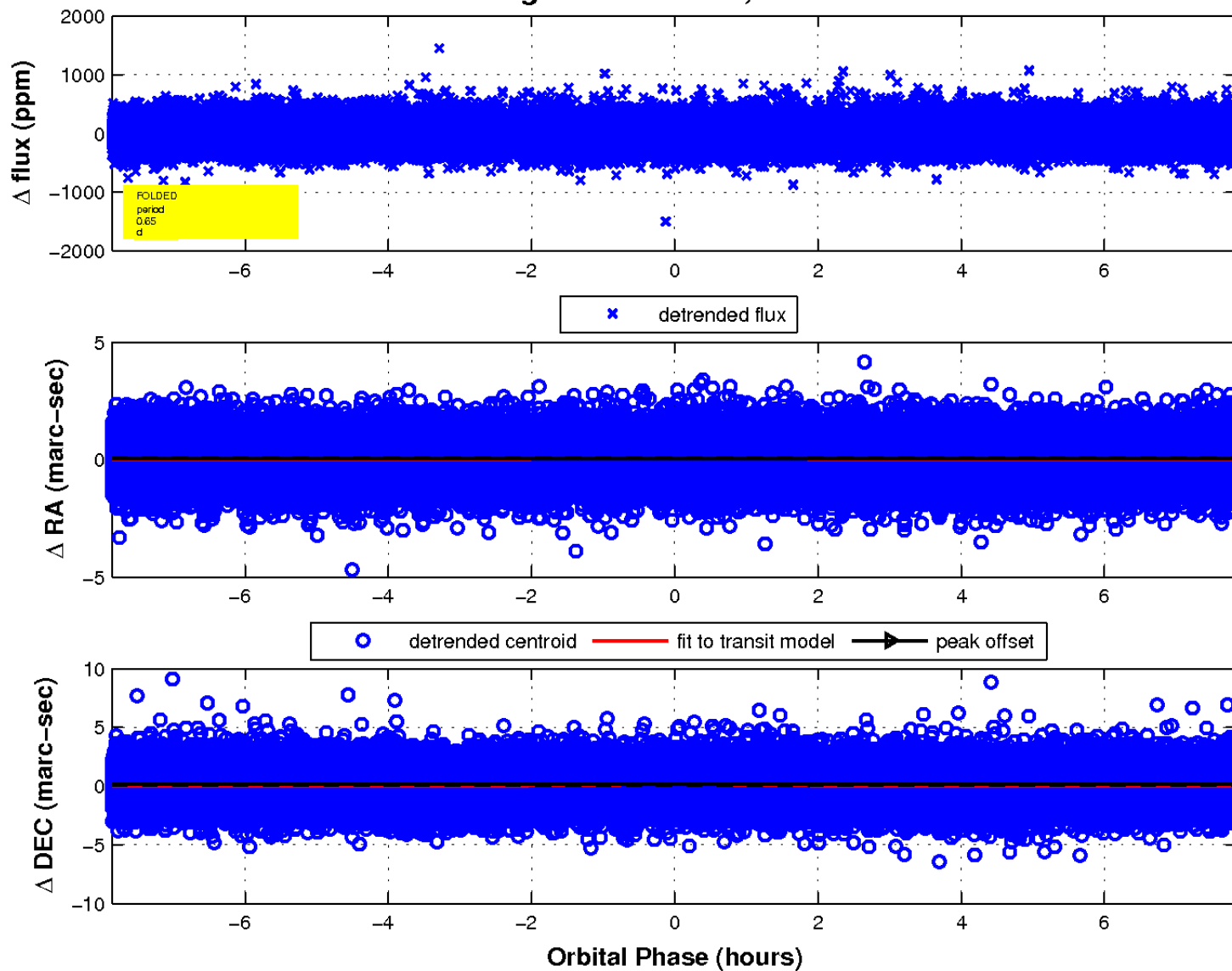
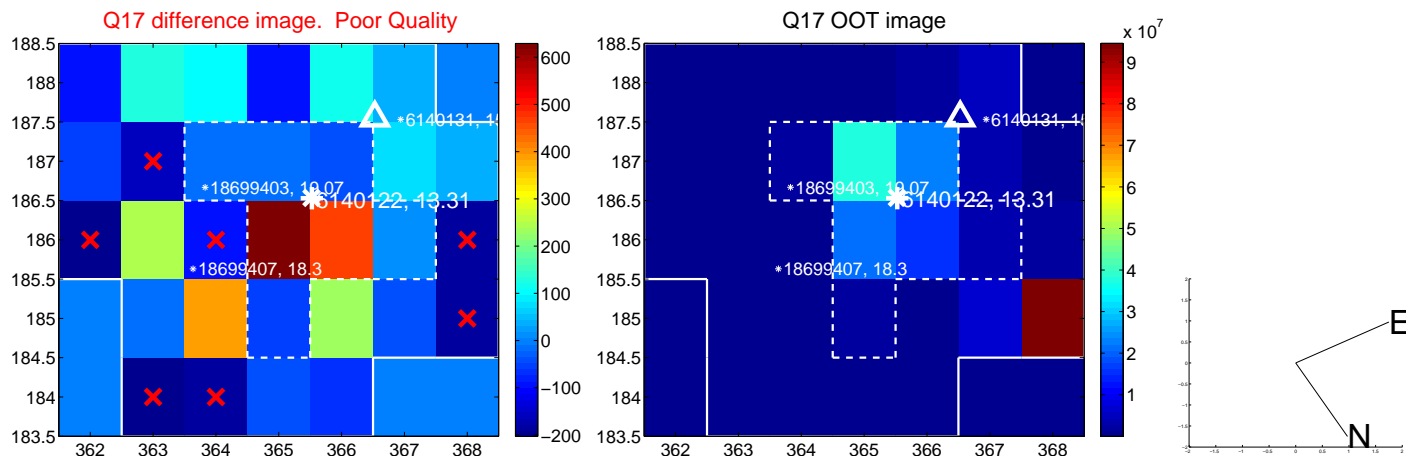
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

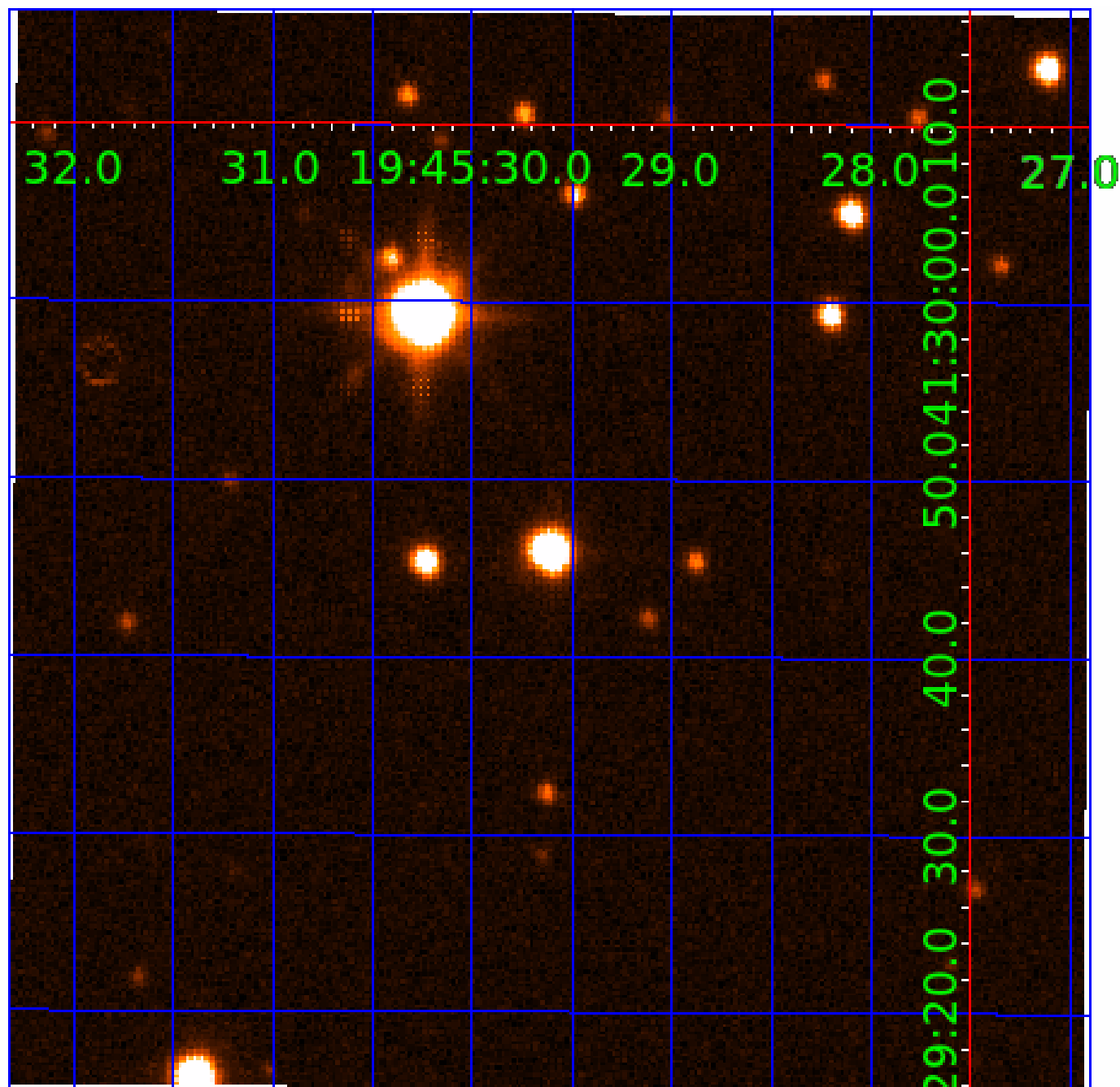


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006140122

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})
006140122-01	OBS	No	0.654944	131.692943	5.2	3.979	7.9	2.6	3.15	6915	0.73	67236.75
006140122-02	OBS	No	36.576303	168.073912	234.5	2.581	9.8	9.7	3.15	6915	5.42	314.98
006140122-03	OBS	No	161.071490	185.022447	354.5	11.105	8.1	9.3	3.15	6915	7.51	43.64
006140122-04	OBS	No	59.699052	134.877360	321.8	1.856	8.0	9.6	3.15	6915	6.34	163.90
006140122-05	OBS	No	86.207392	162.567090	251.2	5.380	8.4	8.7	3.15	6915	5.80	100.42
006140122-06	OBS	No	84.674039	200.429652	452.5	1.663	8.7	8.9	3.15	6915	7.77	102.85
006140122-07	OBS	No	59.513631	133.486066	195.6	3.071	7.5	7.4	3.15	6915	4.88	164.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140122-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006140122-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

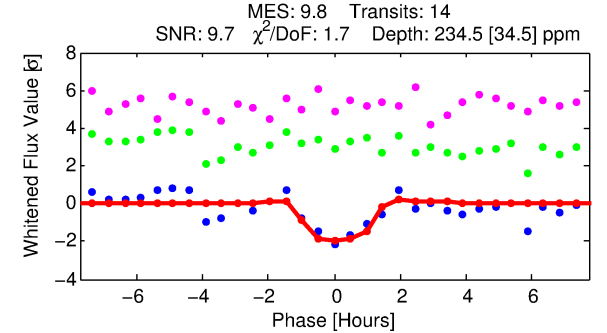
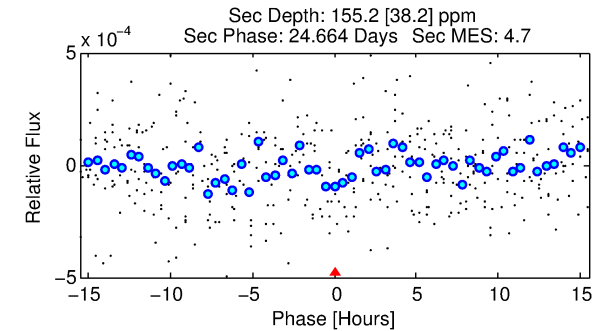
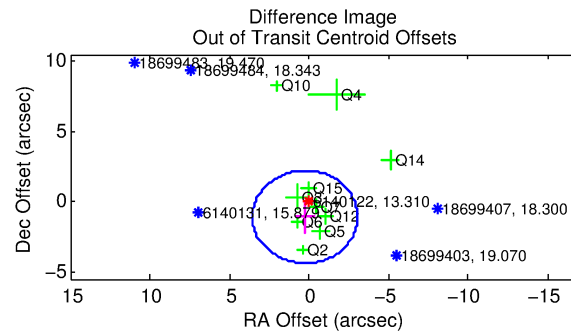
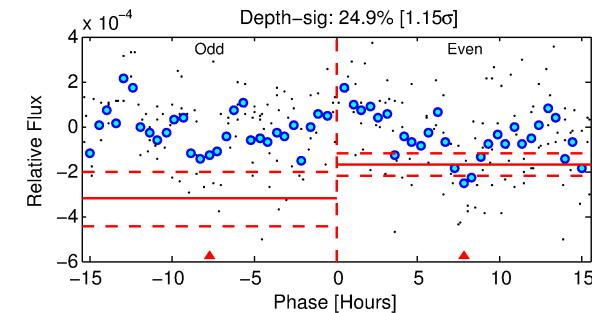
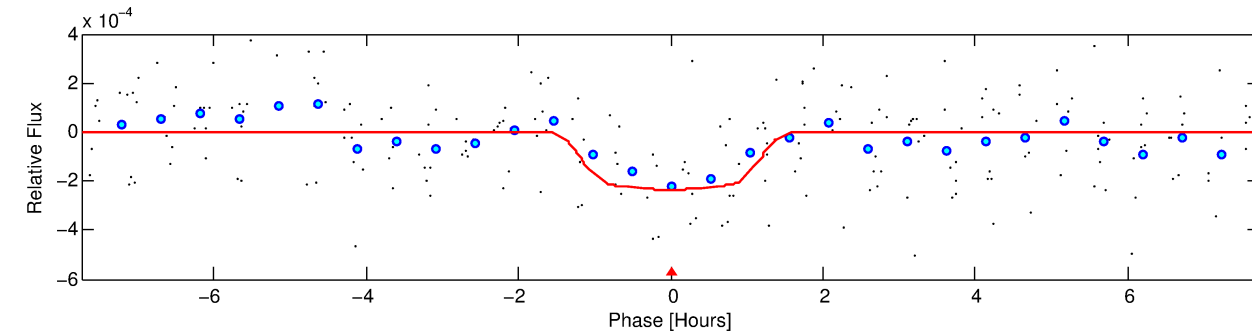
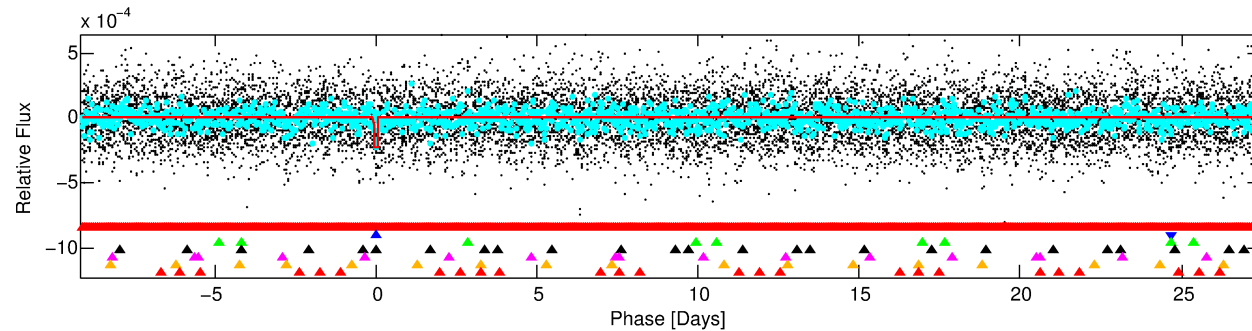
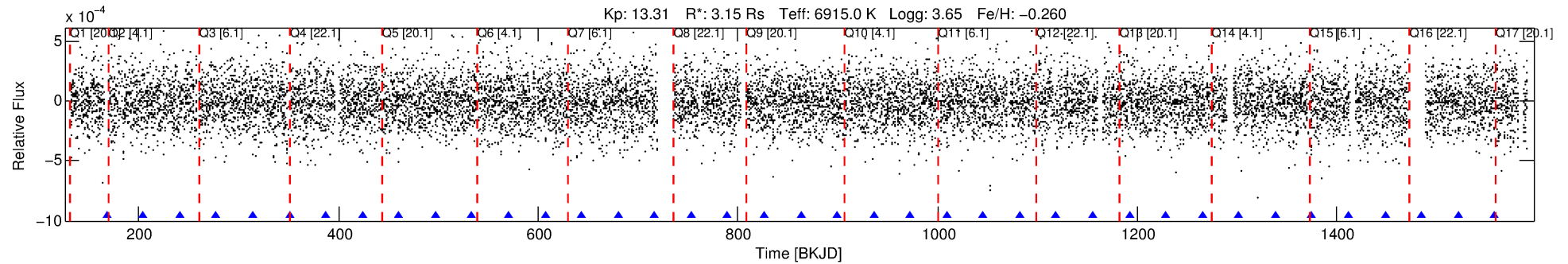
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140122-02

No Significant Match Found

DV One-Page Summary

KIC: 6140122 Candidate: 2 of 7 Period: 36.576 d



DV Fit Results:

Period = 36.57630 [0.00043] d
Epoch = 168.0739 [0.0094] BKJD
Rp/R* = 0.0157 [0.0160]
a/R* = 62.24 [382.03]
b = 0.84 [2.21]
Seff = 314.98 [179.52]
Teq = 1074 [153] K
Rp = 5.42 [5.86] Re
a = 0.2543 [0.0886] AU
Ag = 188.23 [399.44] [0.47 σ]
Teffp = 6152 [3158] K [1.61 σ]

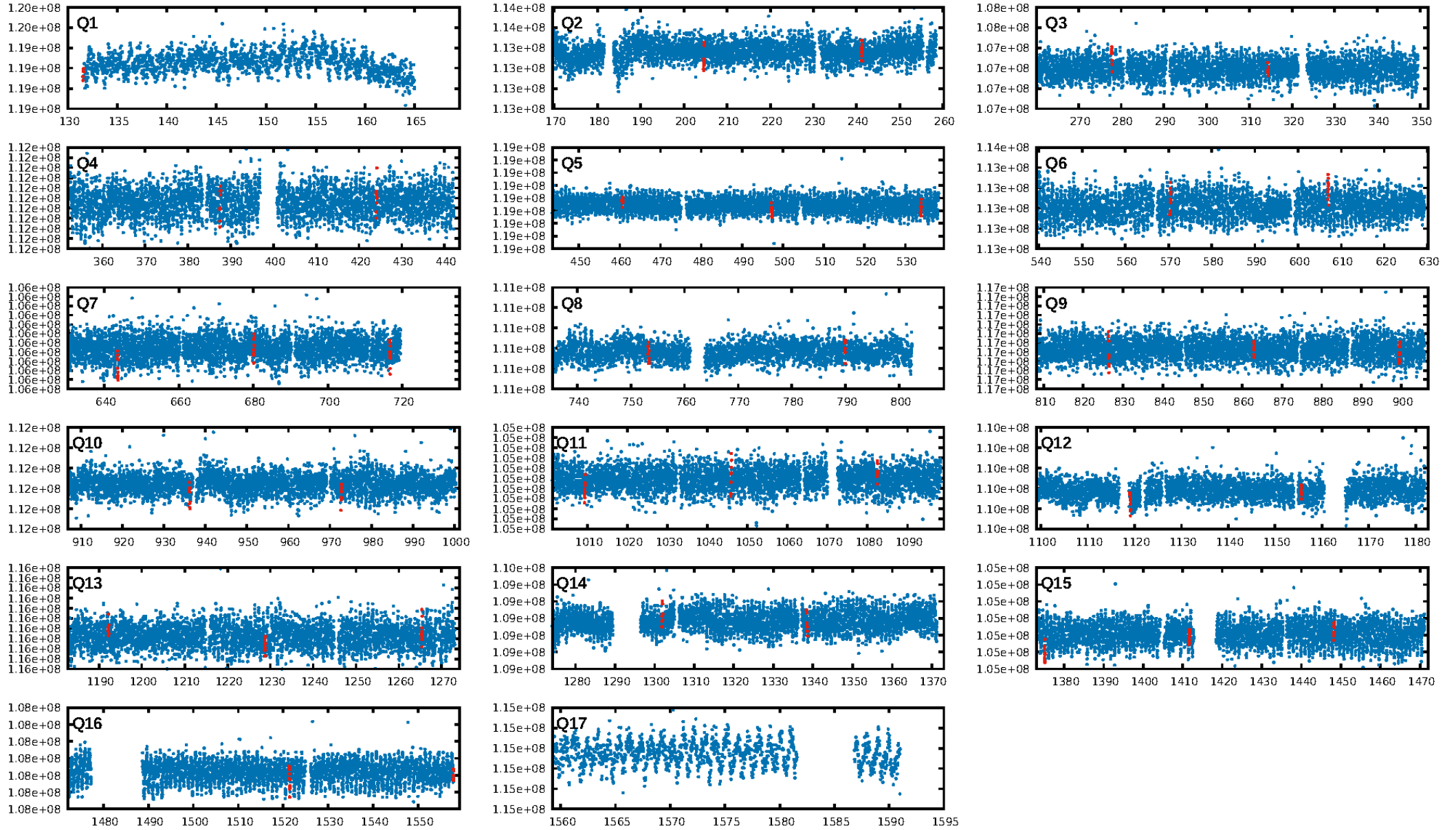
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [181.76 σ]
LongPeriod-sig: 100.0% [137.23 σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 98.0%
Bootstrap-pfa: 3.28e-11
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: 2.007
Centroid-sig: 14.3%
Centroid-so: 2.017 arcsec [1.83 σ]
OotOffset-rm: 1.107 arcsec [1.01 σ]
KicOffset-rm: 1.026 arcsec [0.82 σ]
OotOffset-st: 4/3/2/1 [10]
KicOffset-st: 4/3/2/1 [10]
DiffImageQuality-fgm: 0.20 [2/10]
DiffImageOverlap-fno: 0.00 [0/15]

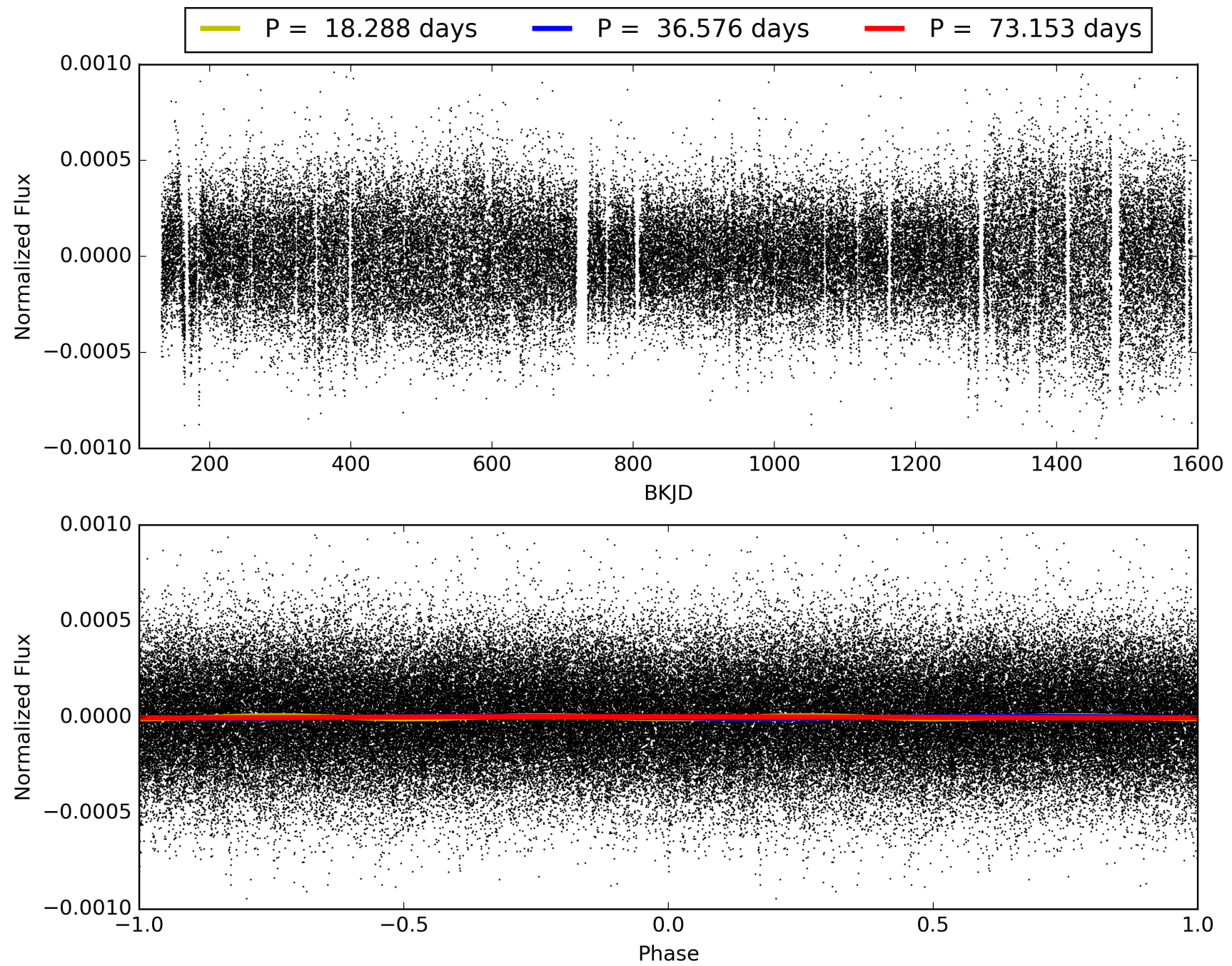
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:59:08 Z

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

TCE 006140122-02, PDC Light Curves

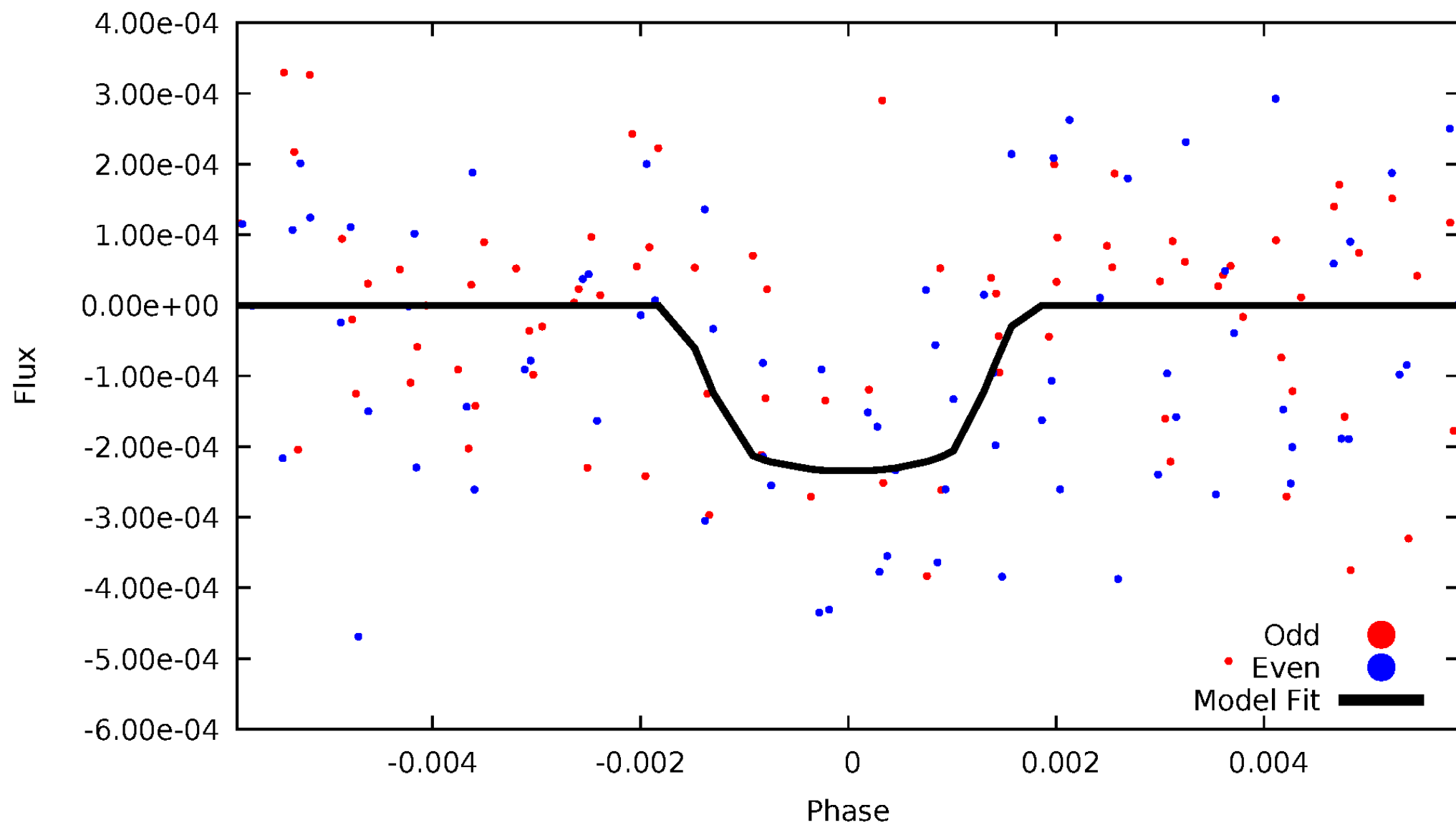


TCE 006140122-02



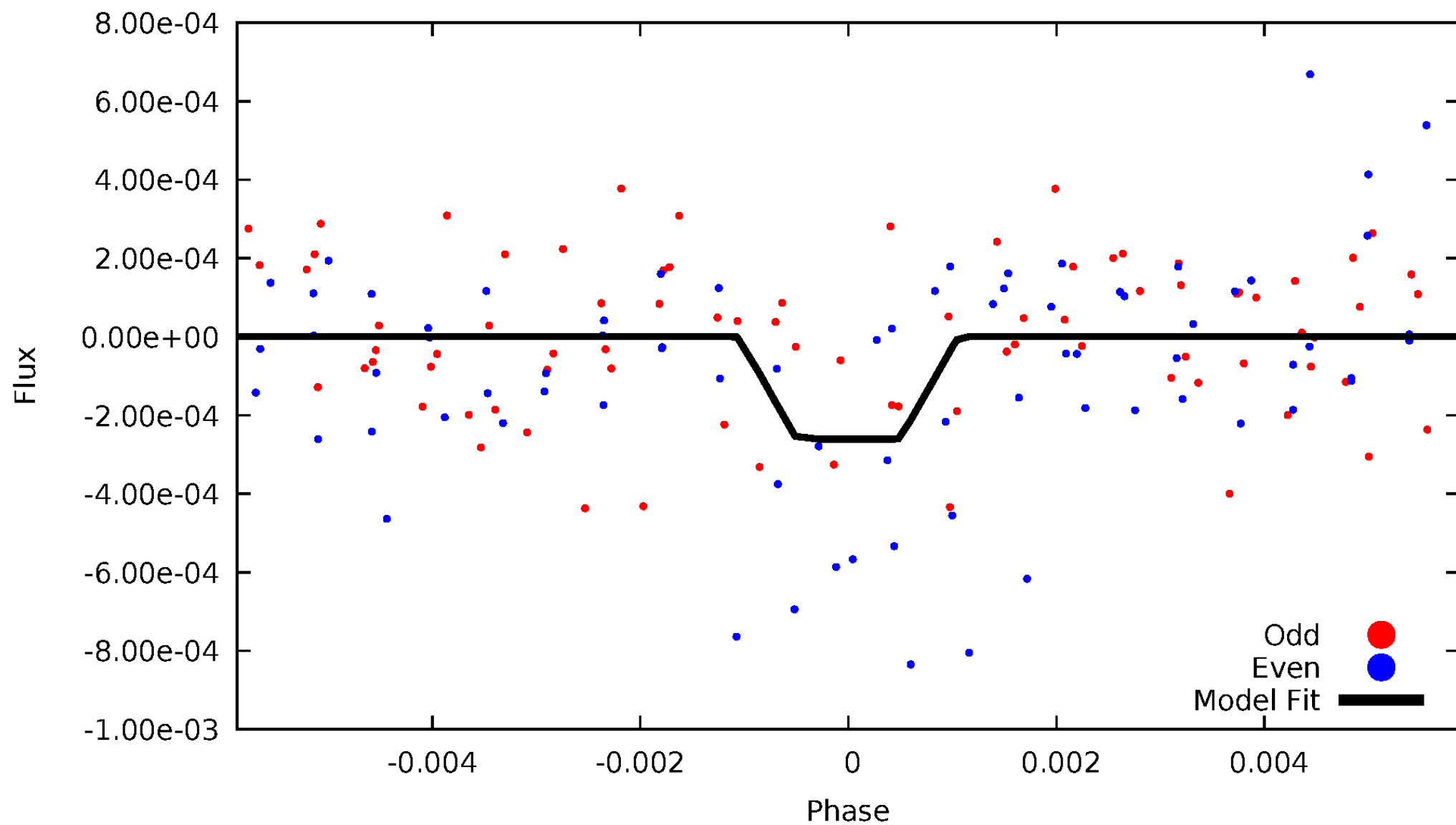
DV Odd/Even

TCE 006140122-02



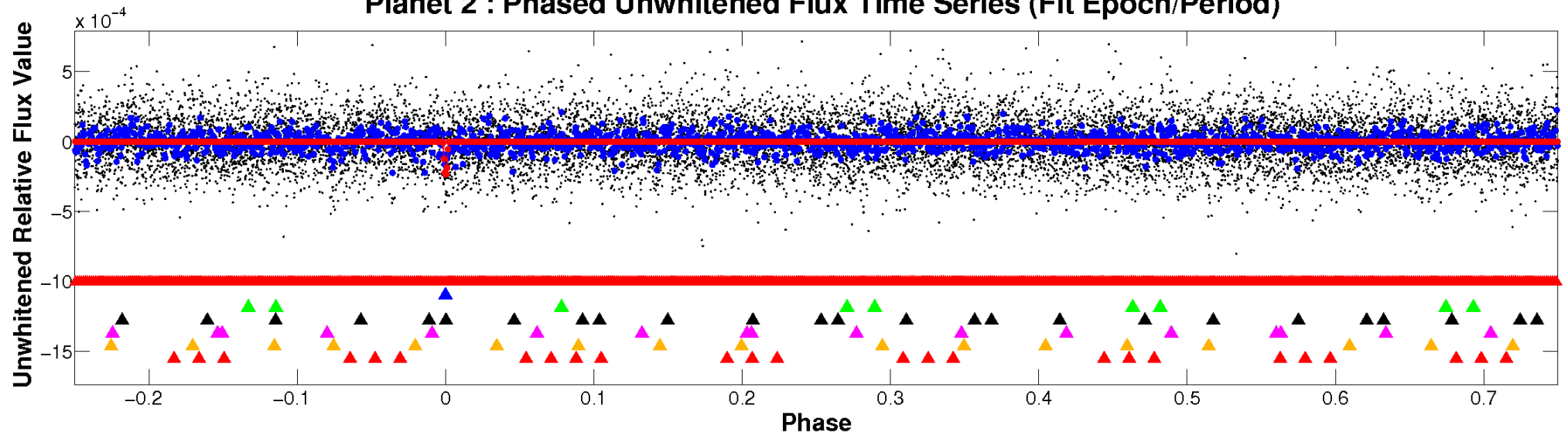
ALT Odd/Even

TCE 006140122-02

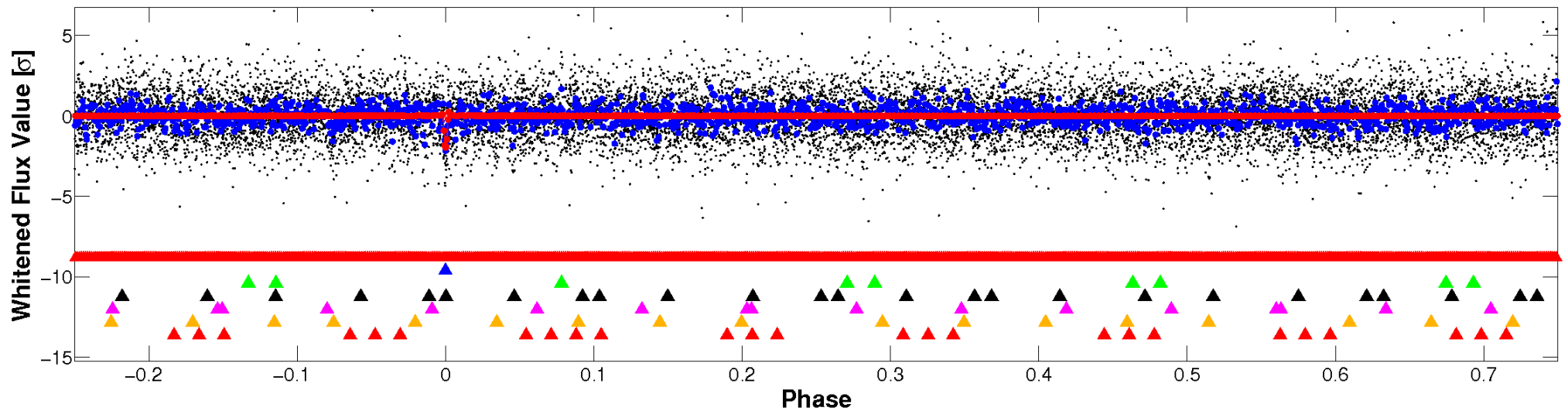


Non-Whitened Vs. Whitened Light Curve

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

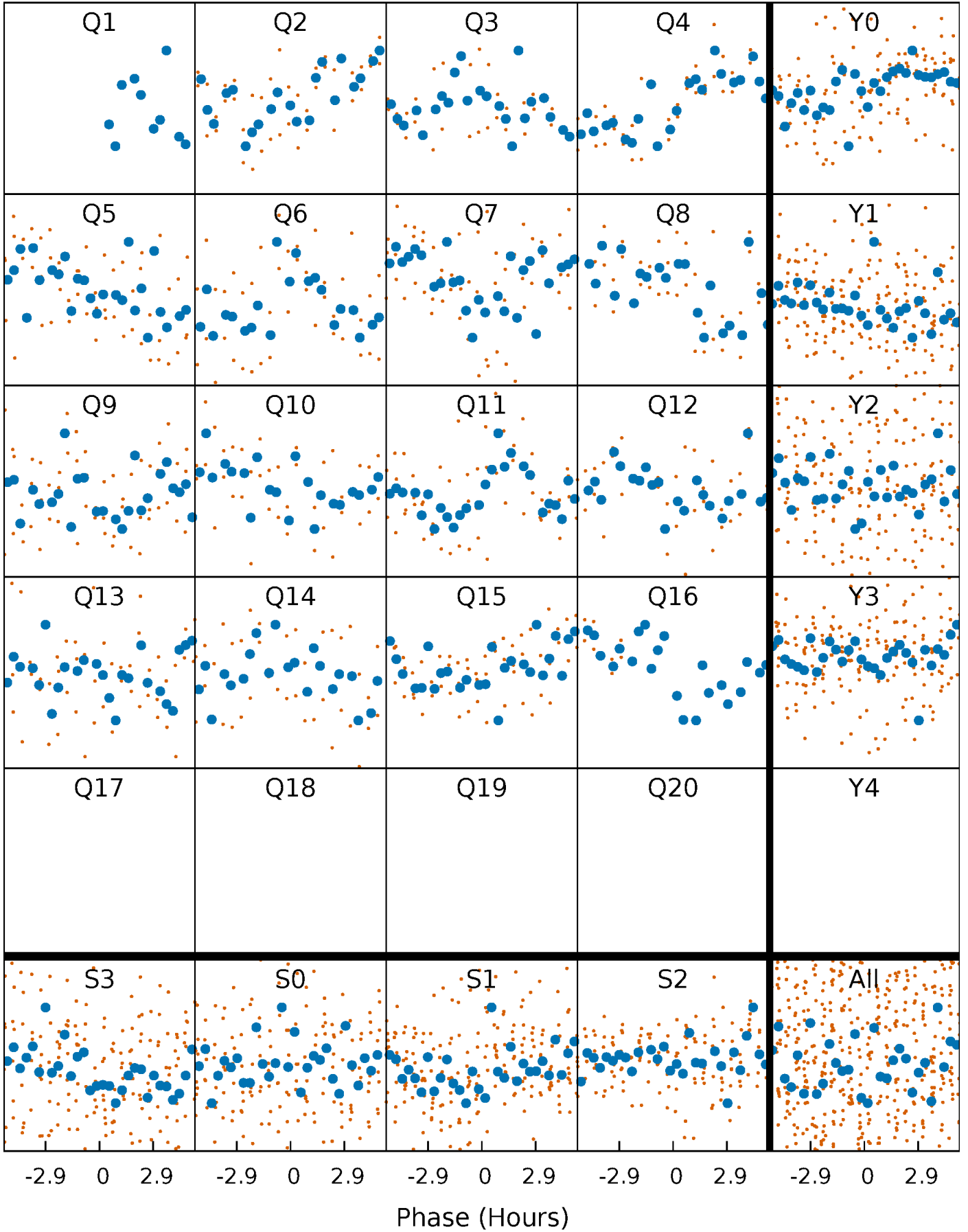


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



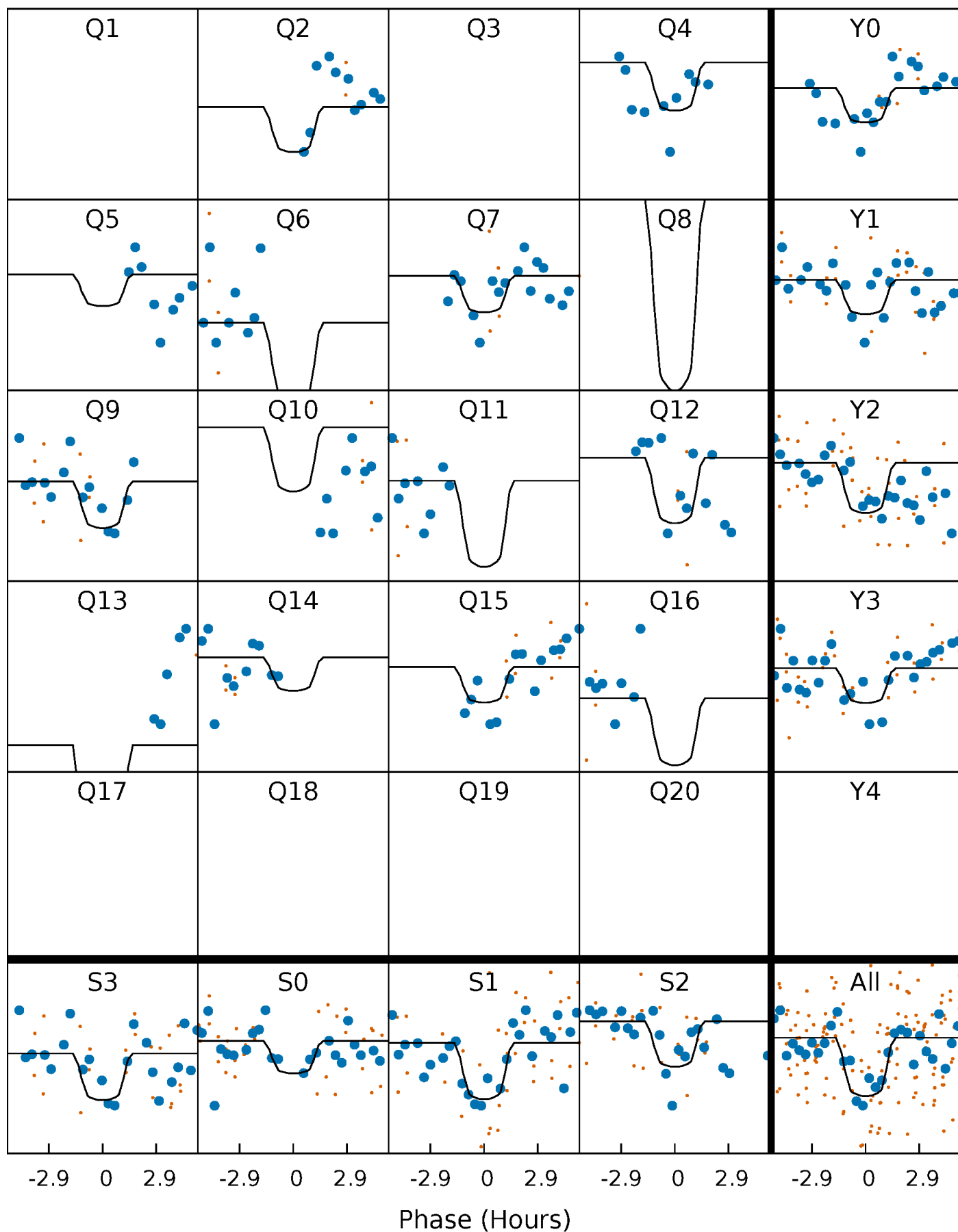
PDC Quarter-Phased Transit Curves

TCE 006140122-02 P= 36.576303 Days $T_0=168.073912$ (BKJD)



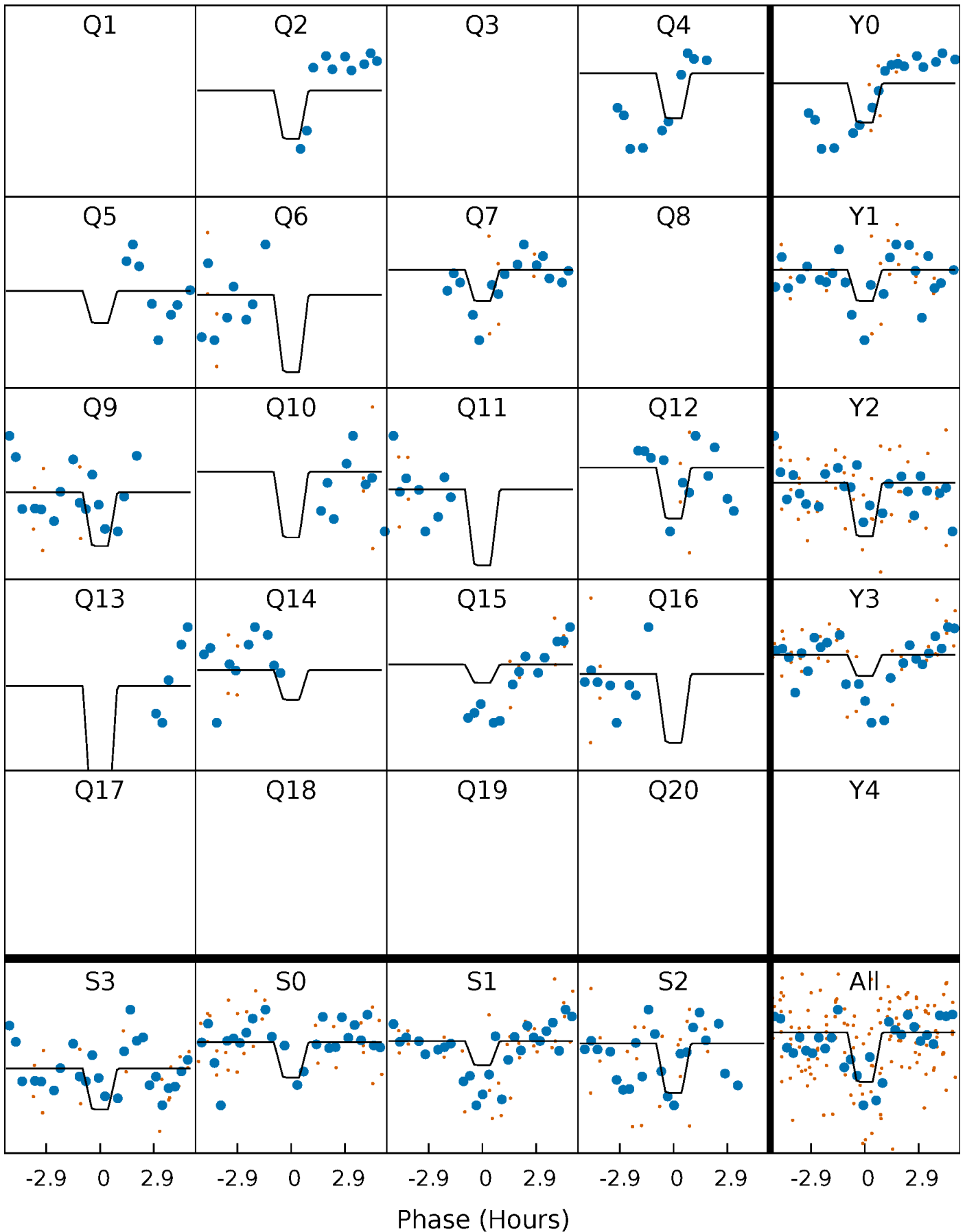
DV Quarter-Phased Transit Curves

TCE 006140122-02 P= 36.576303 Days $T_0=168.073912$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

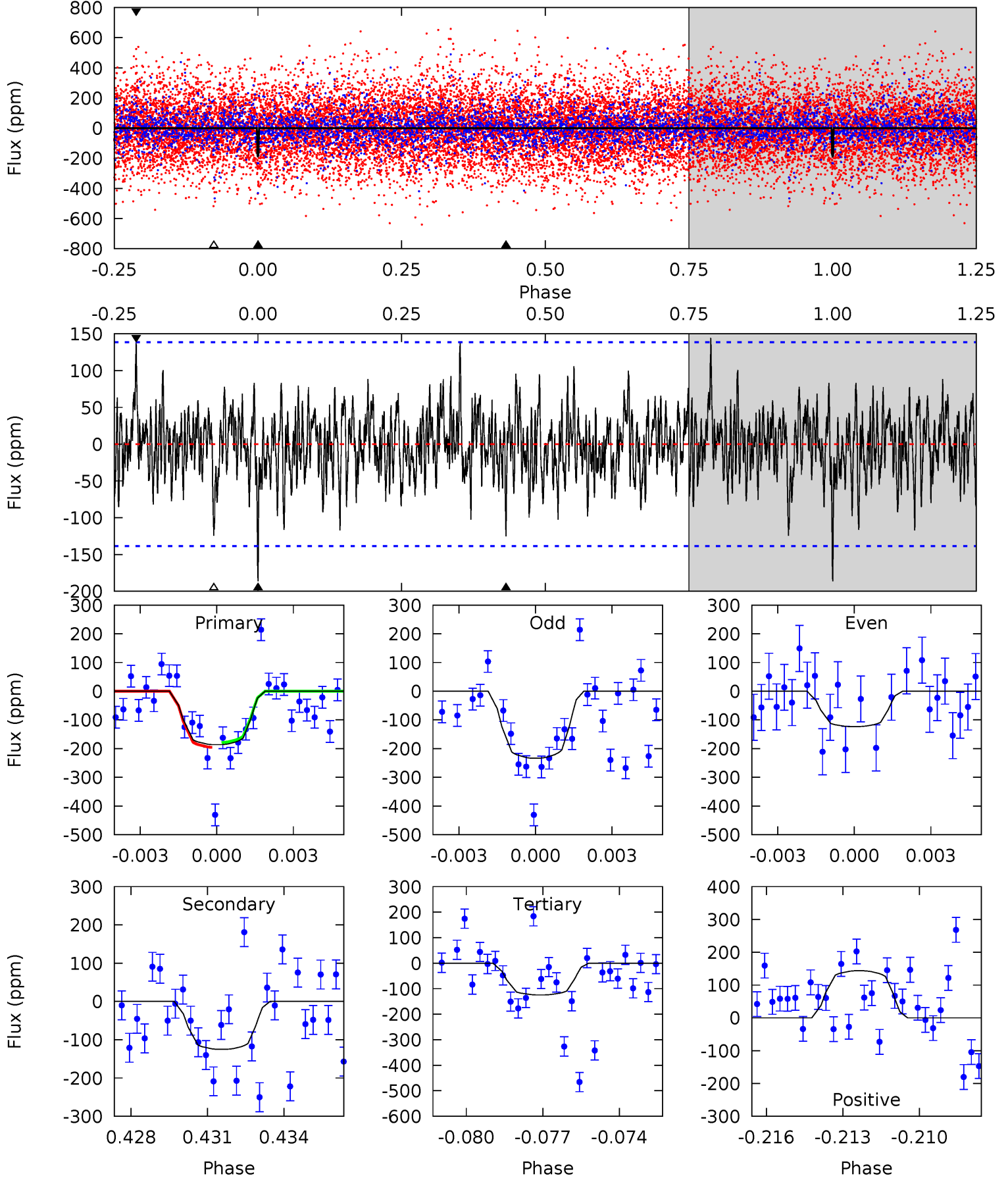
TCE 006140122-02 P= 36.575870 Days $T_0=168.077159$ (BKJD)



DV Model-Shift Uniqueness Test

006140122-02, P = 36.576303 Days, E = 131.497609 Days

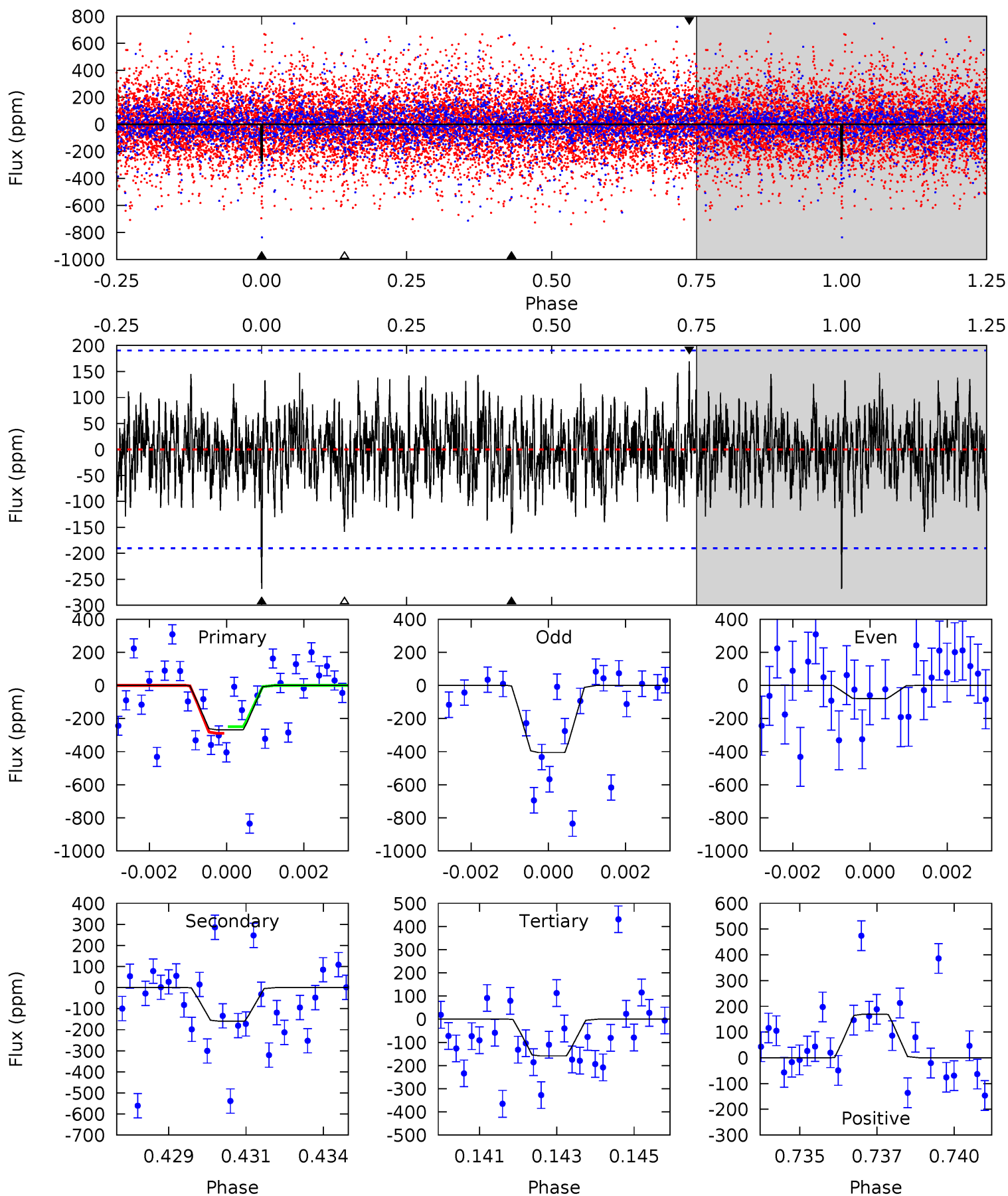
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.06	4.74	4.71	5.44	5.26	2.97	1.43	2.35	1.63	0.03	-0.70	2.07	0.82	0.43	0.31



Alt Model-Shift Uniqueness Test

006140122-02, P = 36.575870 Days, E = 131.501289 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.48	4.44	4.42	4.71	5.31	3.06	1.40	3.06	2.77	0.02	-0.27	4.54	1.76	0.39	0.56



Stellar Parameters For KIC 006140122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6915^{+190}_{-238}	$3.655^{+0.323}_{-0.076}$	$-0.260^{+0.300}_{-0.250}$	$3.153^{+0.386}_{-1.159}$	$1.638^{+0.216}_{-0.324}$	$0.074^{+0.158}_{-0.018}$
	+3%/-3%	+9%/-2%	+115%/-96%	+12%/-37%	+13%/-20%	+215%/-25%
Source	PHO1	FLK73	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 006140122-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-125 ± 26	$6.22^{+4.62}_{-3.89}$	1466^{+87}_{-129}	5276^{+3878}_{-1097}	119^{+688}_{-82}
Alt.	-159 ± 36	$6.01^{+4.87}_{-3.81}$	1466^{+80}_{-137}	5558^{+4141}_{-1128}	163^{+933}_{-116}

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

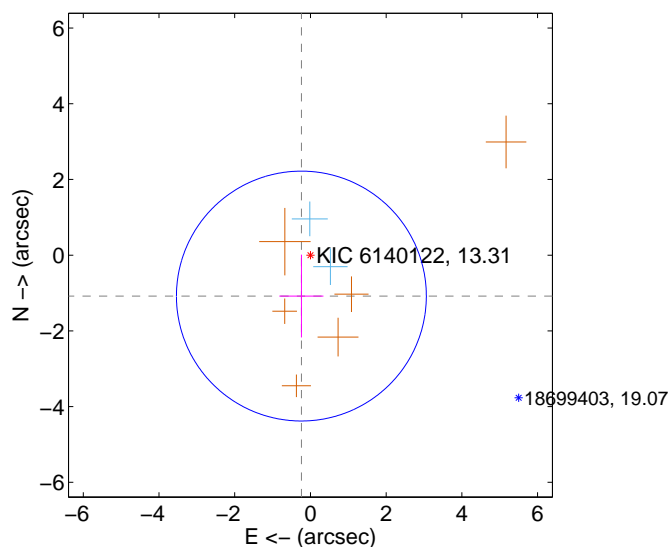
Supplemental centroid analysis for 006140122-02. Kepler magnitude: 13.31. Transit SNR 9.75

There are 2 quarters with good PRF difference image offsets

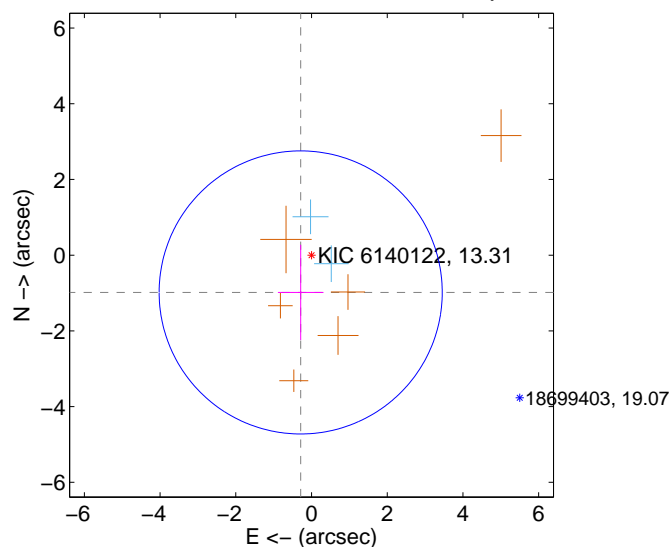
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.107 ± 1.100	1.01	0.239 ± 0.582	-1.081 ± 1.094
PRF-fit source offset from KIC position	1.026 ± 1.247	0.82	0.286 ± 0.602	-0.985 ± 1.259
photometric centroid source offset	2.02 ± 1.10	1.83	1.32 ± 0.87	1.52 ± 1.25

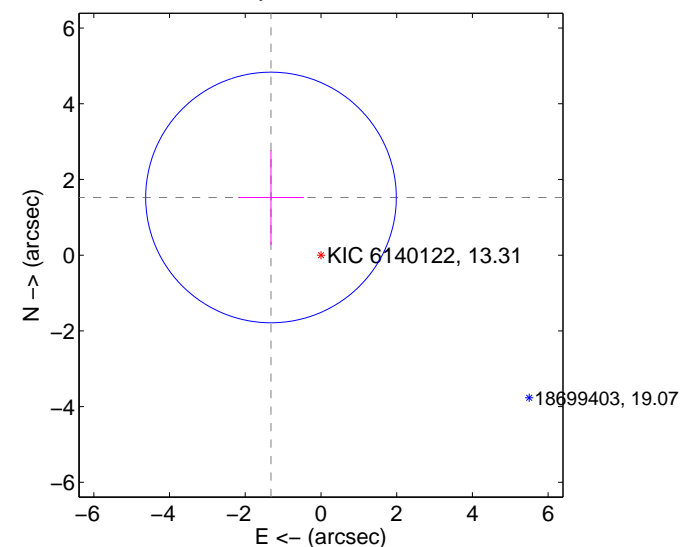
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

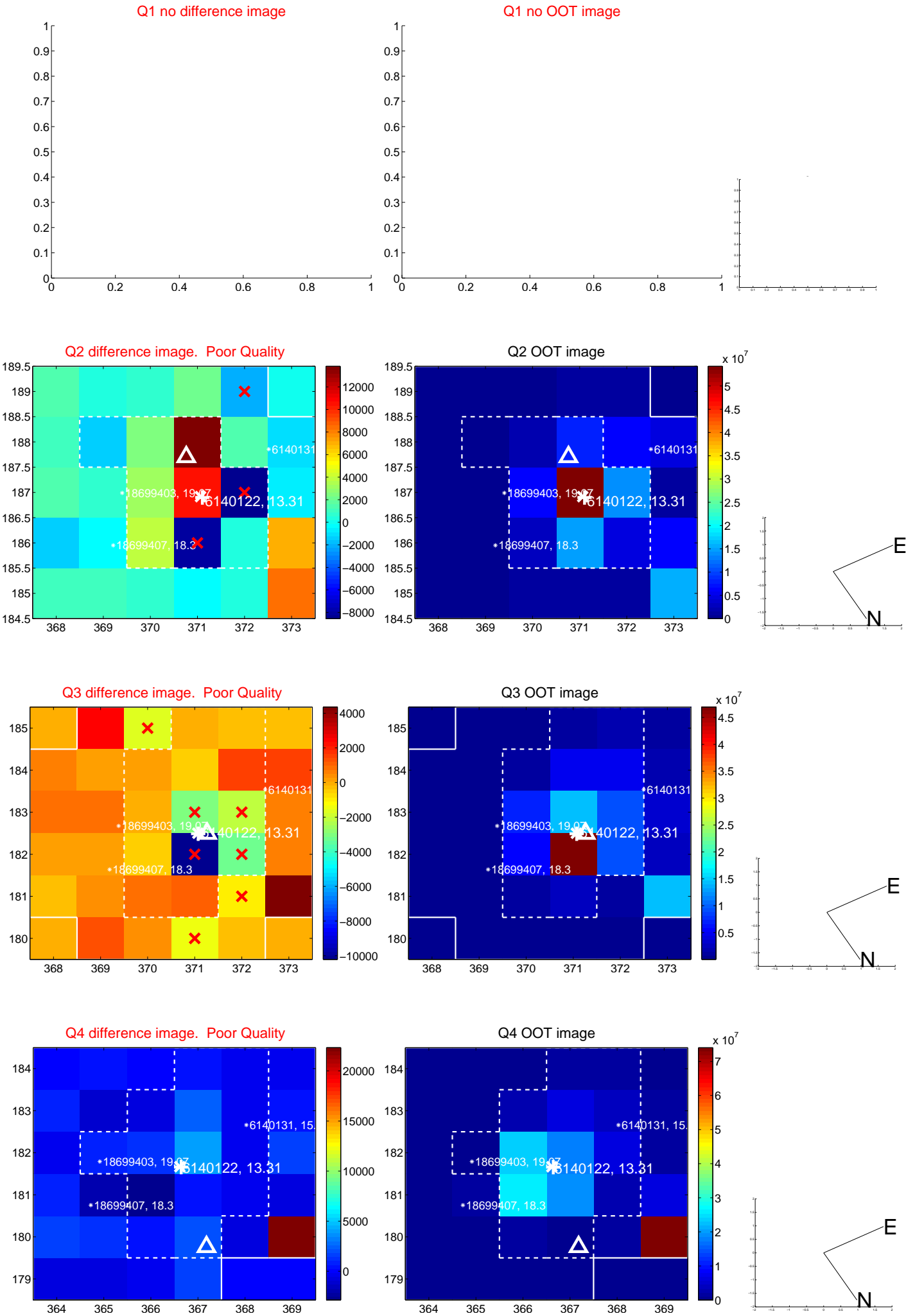


offset from photometric centroids

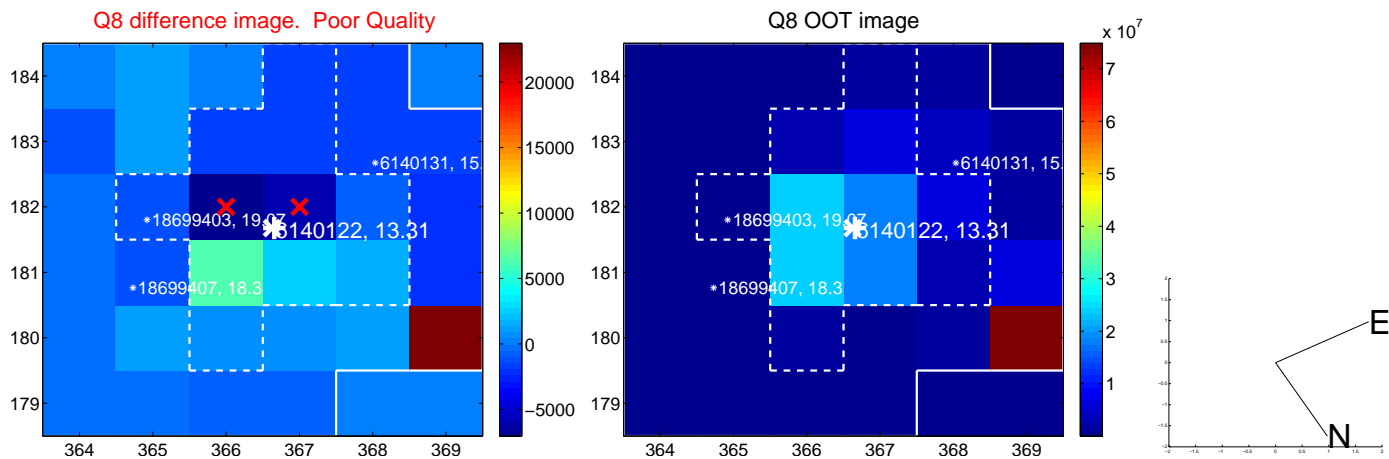
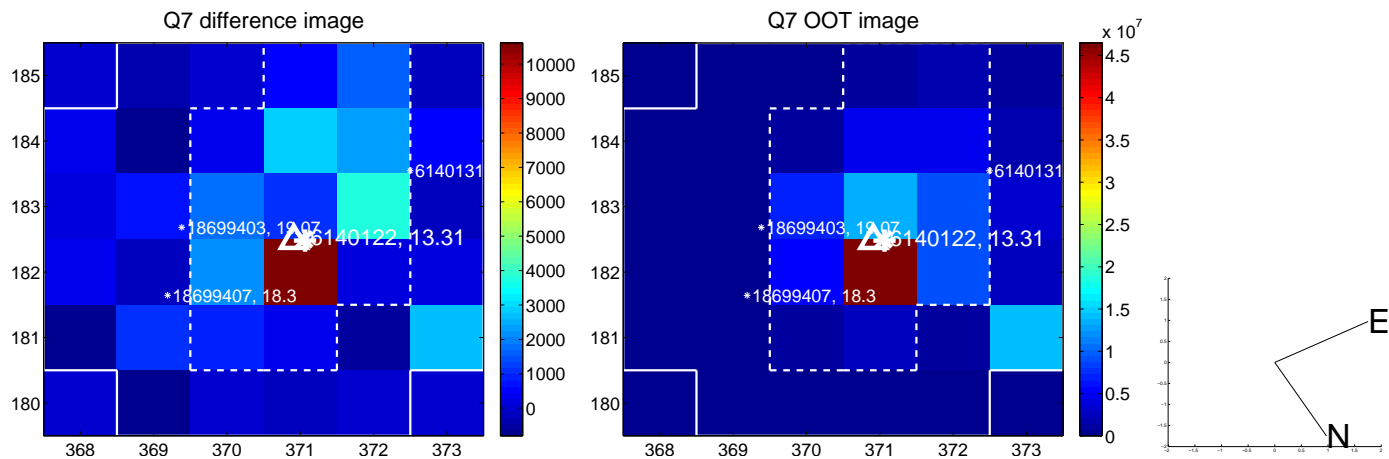
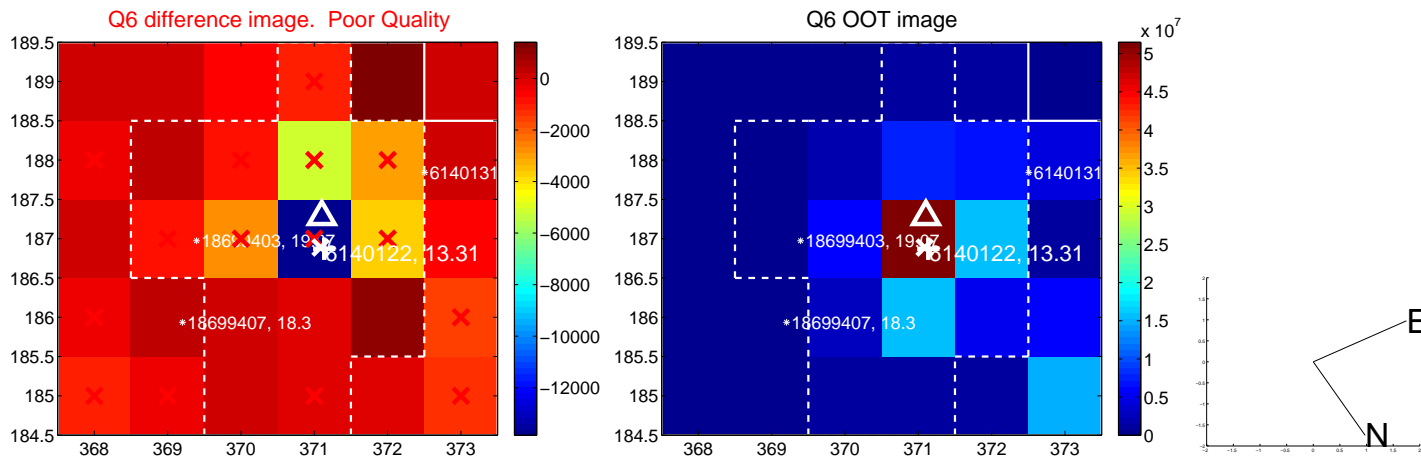
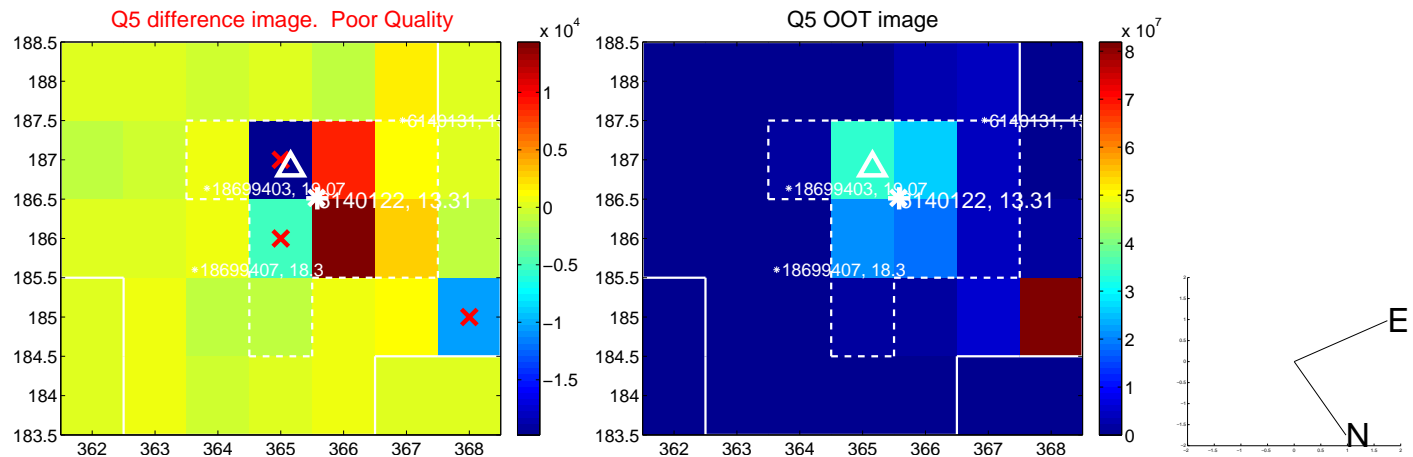


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

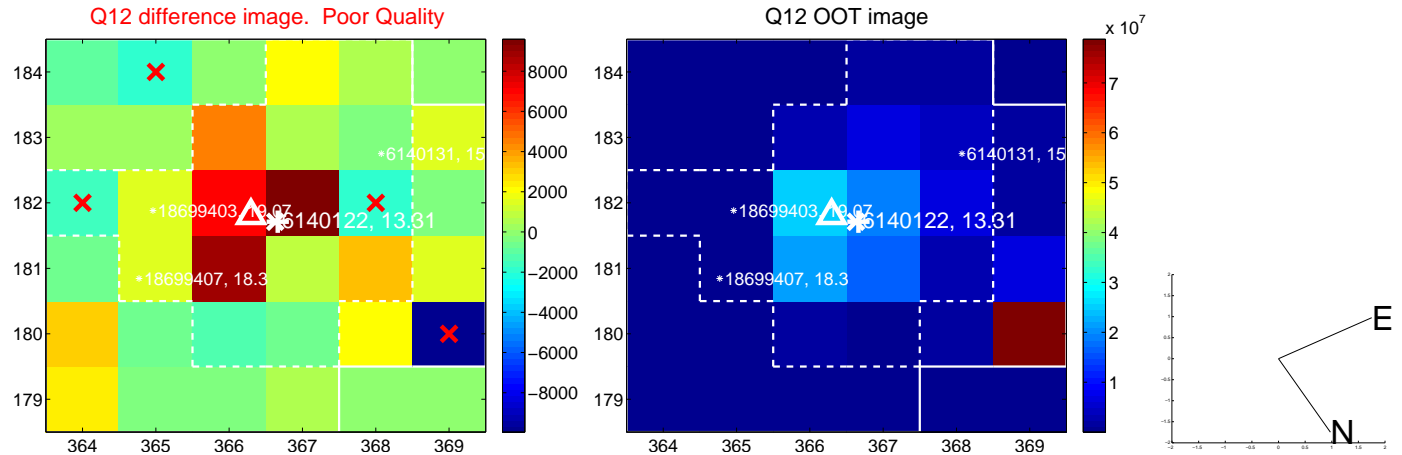
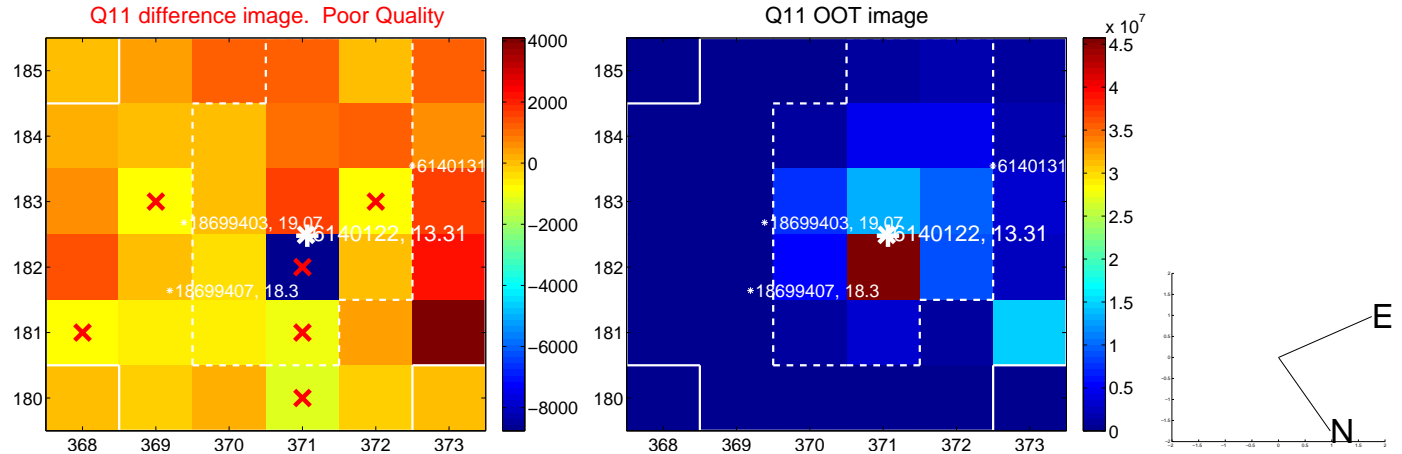
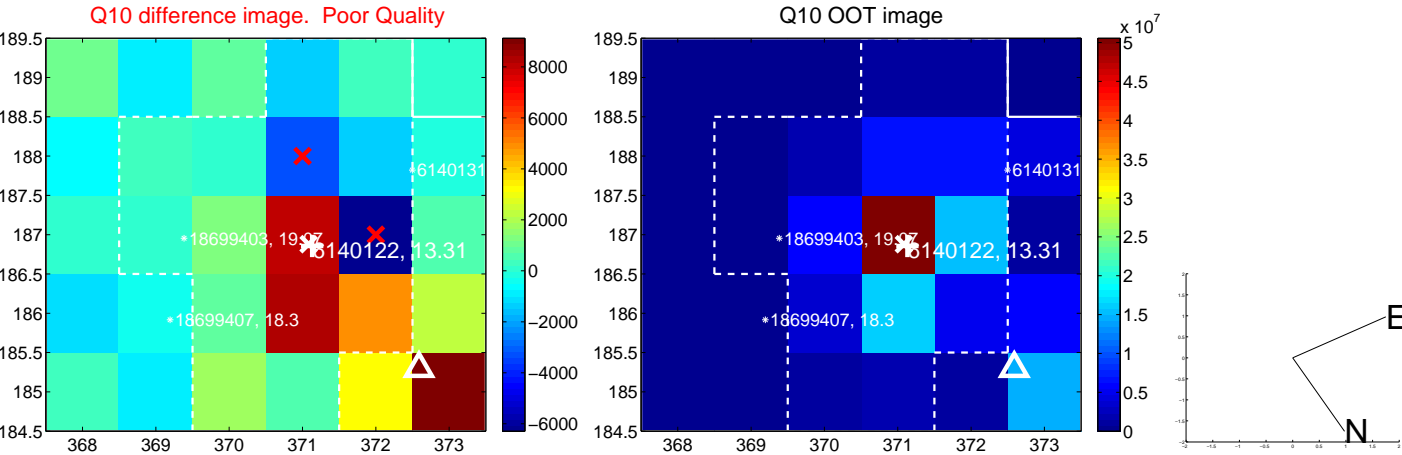
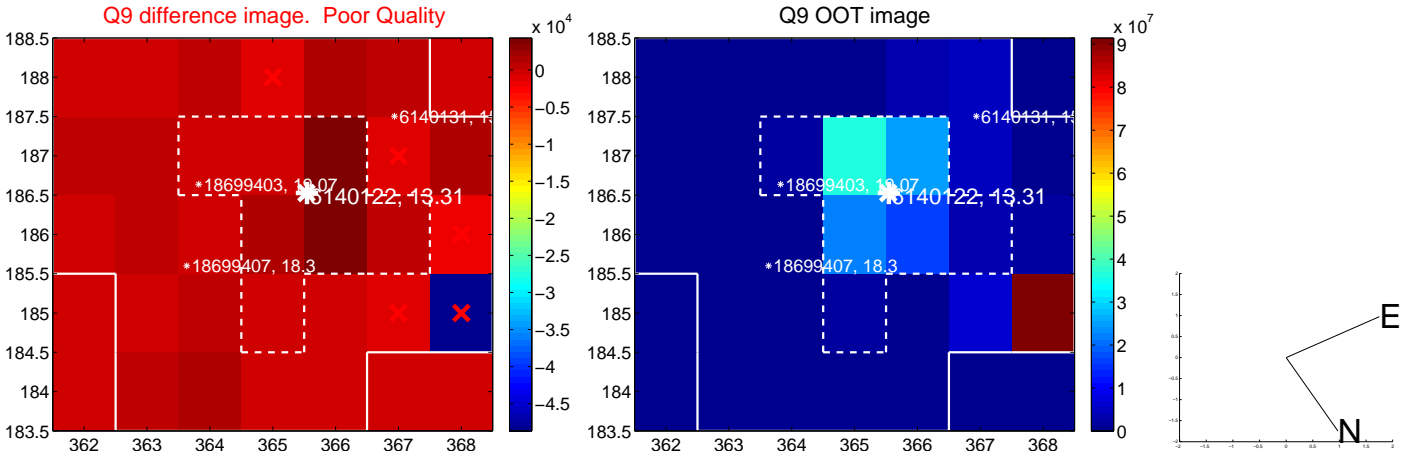
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



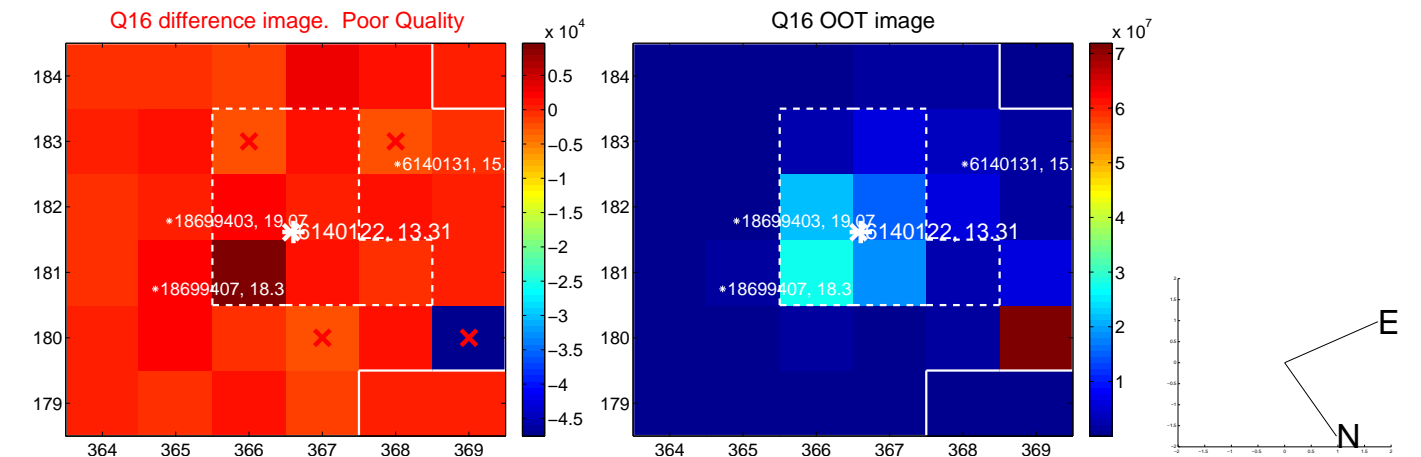
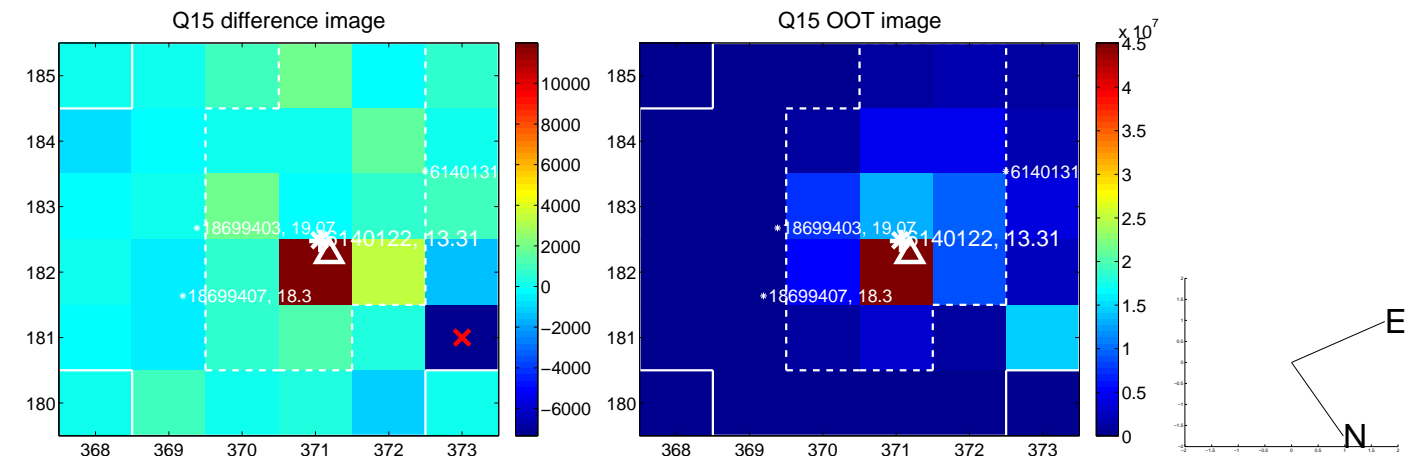
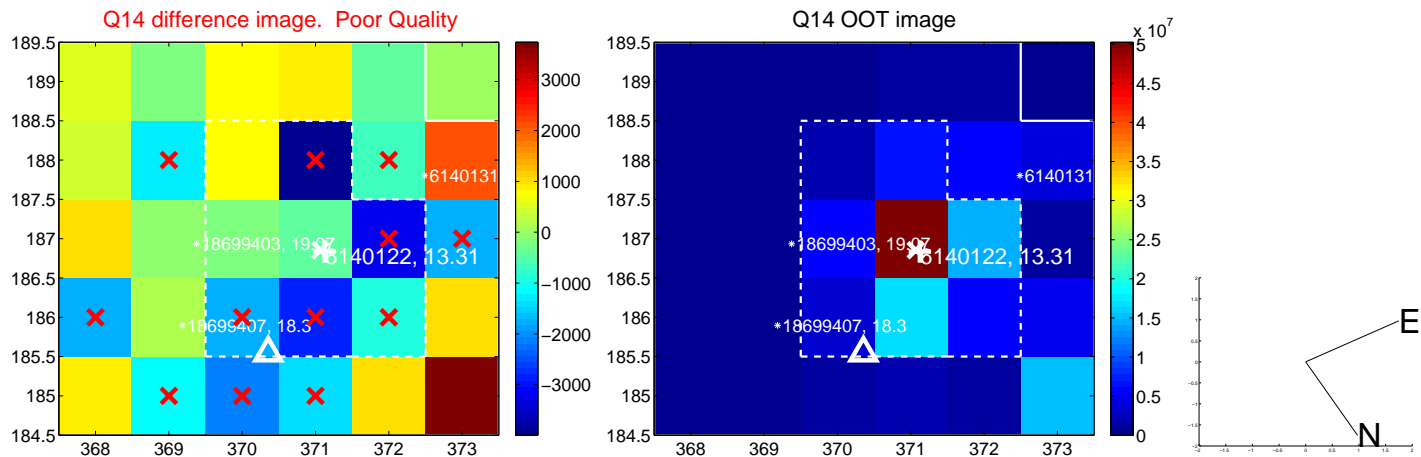
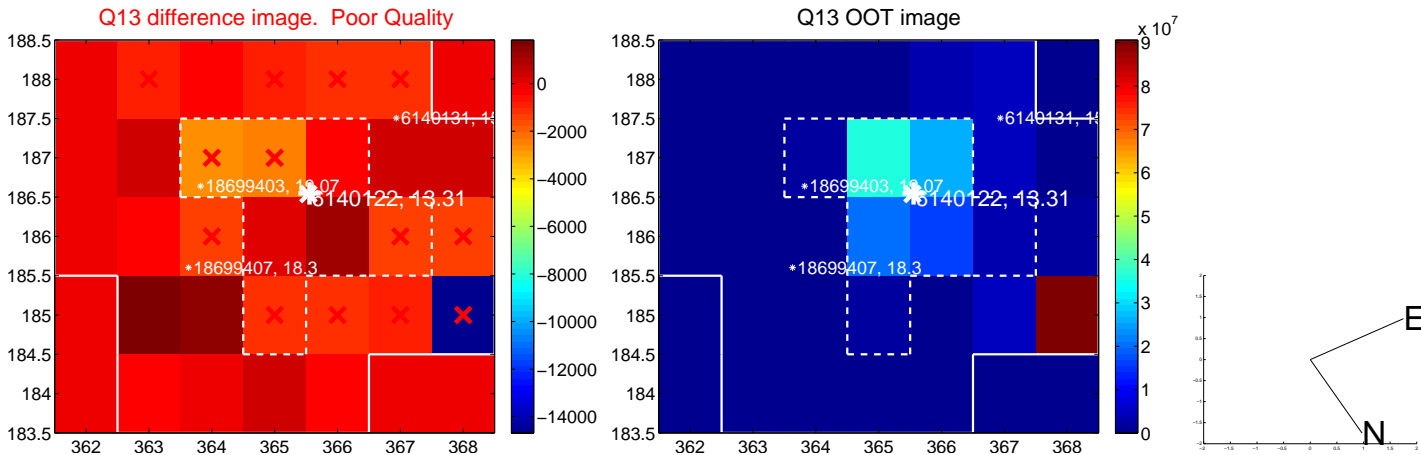
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



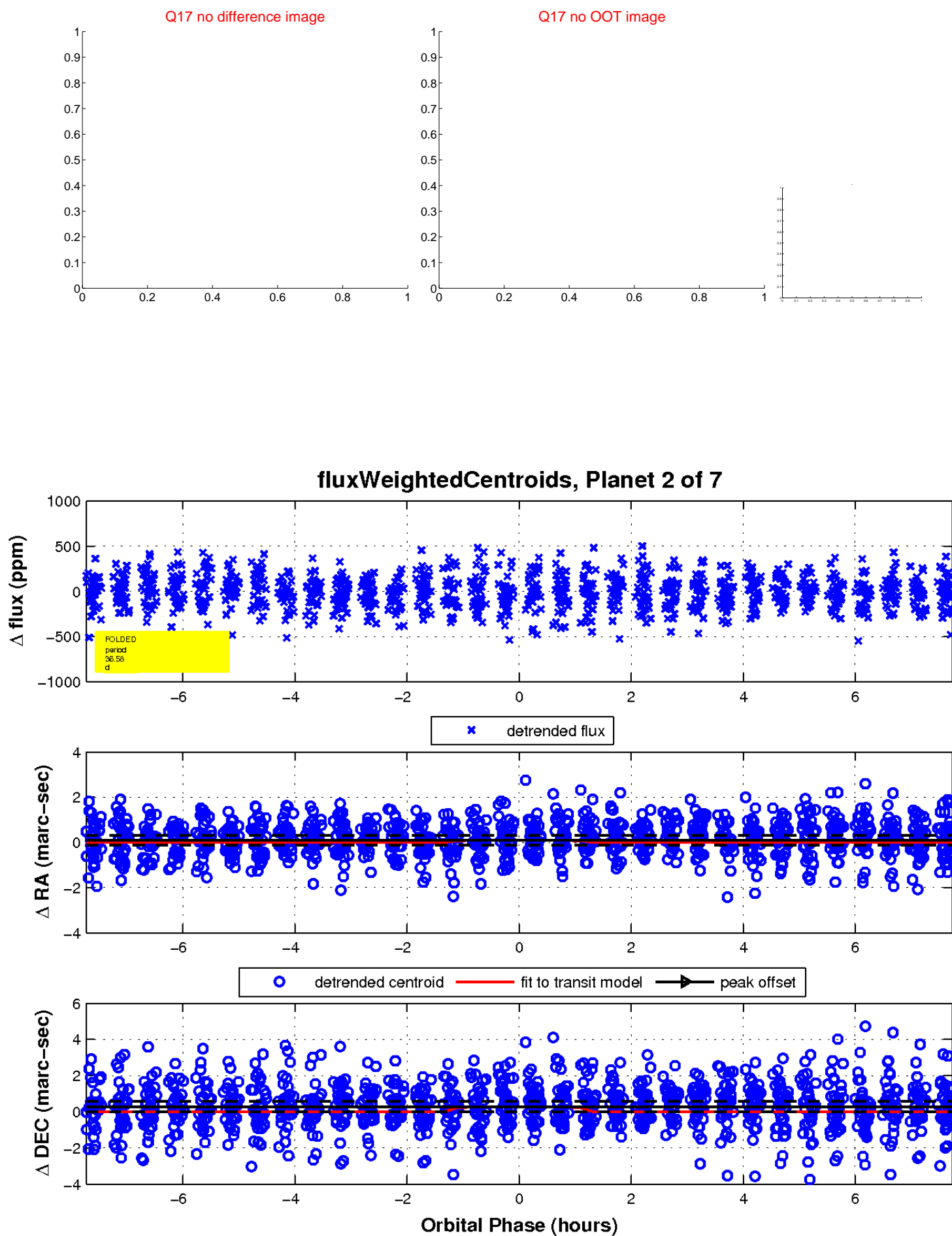
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

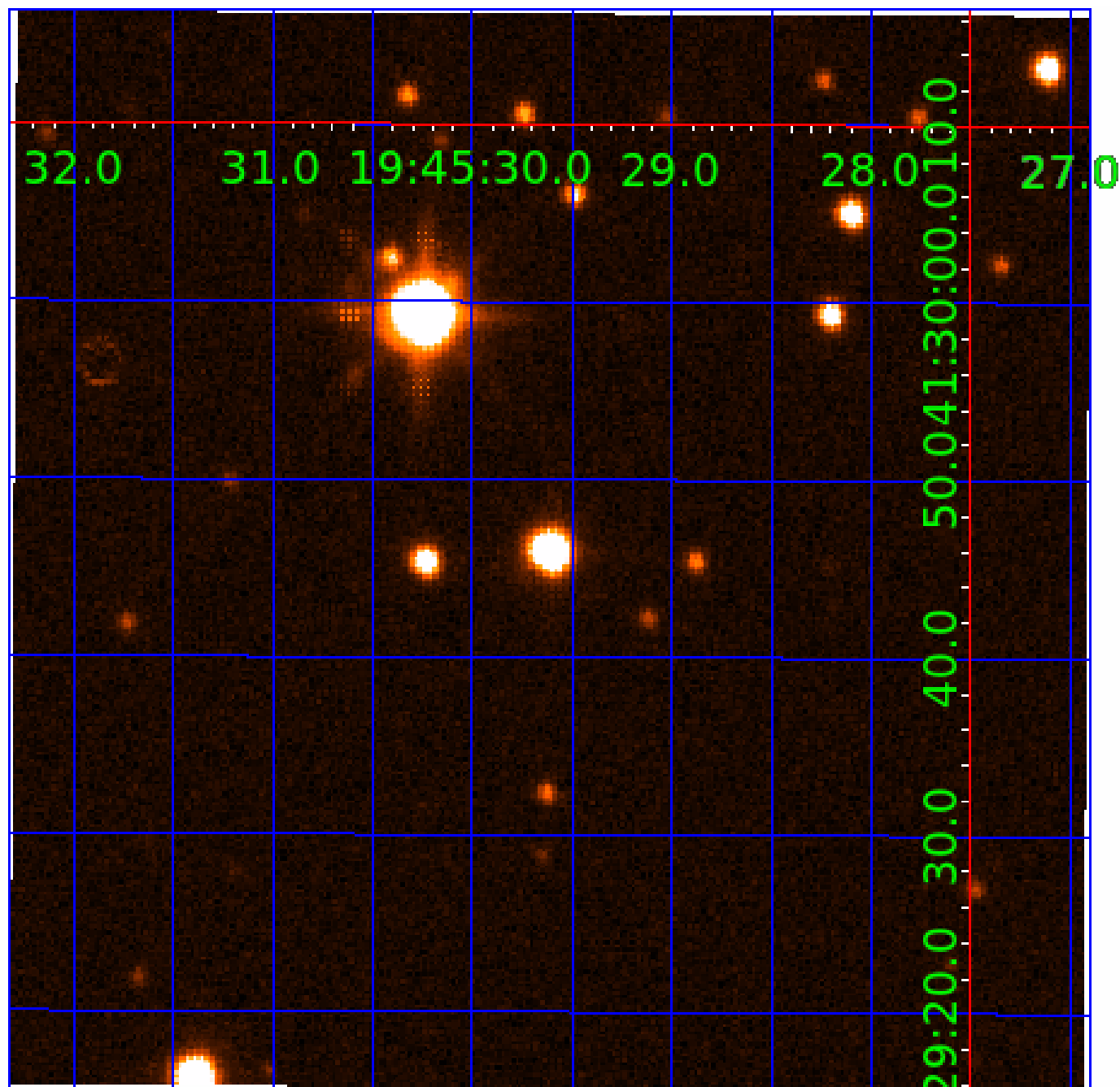


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006140122

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})
006140122-01	OBS	No	0.654944	131.692943	5.2	3.979	7.9	2.6	3.15	6915	0.73	67236.75
006140122-02	OBS	No	36.576303	168.073912	234.5	2.581	9.8	9.7	3.15	6915	5.42	314.98
006140122-03	OBS	No	161.071490	185.022447	354.5	11.105	8.1	9.3	3.15	6915	7.51	43.64
006140122-04	OBS	No	59.699052	134.877360	321.8	1.856	8.0	9.6	3.15	6915	6.34	163.90
006140122-05	OBS	No	86.207392	162.567090	251.2	5.380	8.4	8.7	3.15	6915	5.80	100.42
006140122-06	OBS	No	84.674039	200.429652	452.5	1.663	8.7	8.9	3.15	6915	7.77	102.85
006140122-07	OBS	No	59.513631	133.486066	195.6	3.071	7.5	7.4	3.15	6915	4.88	164.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140122-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006140122-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

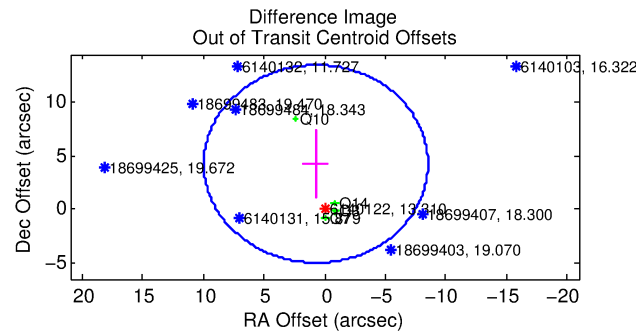
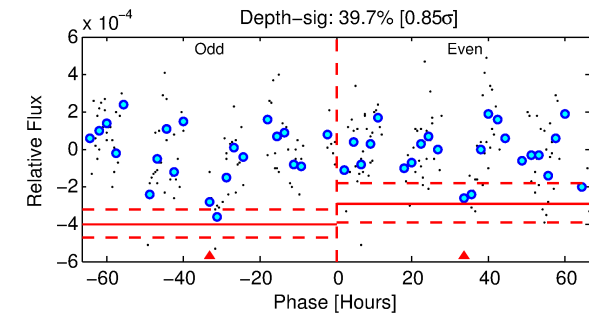
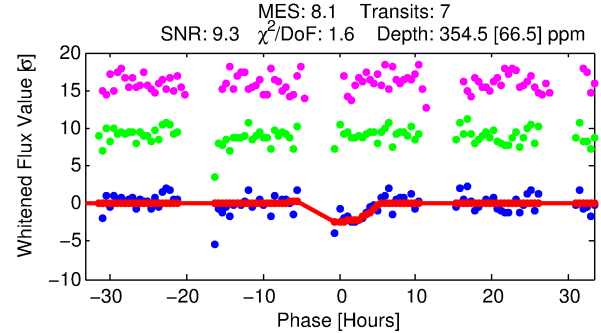
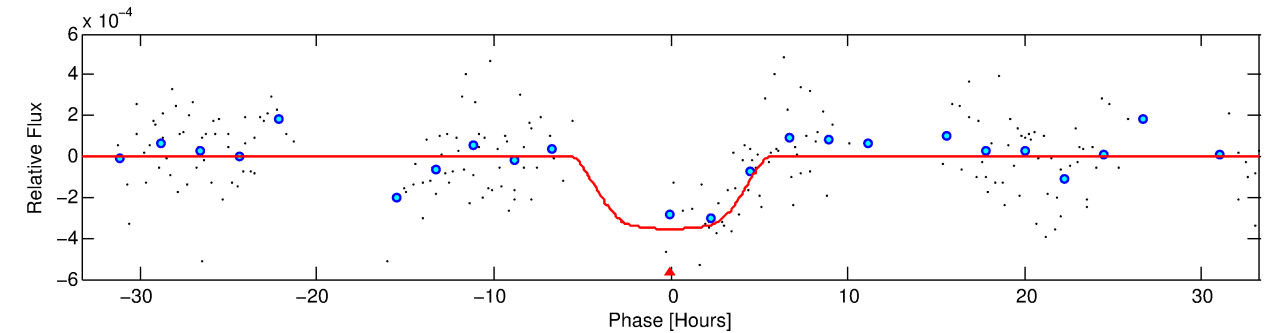
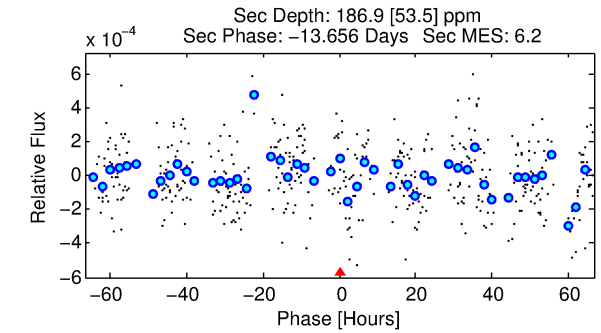
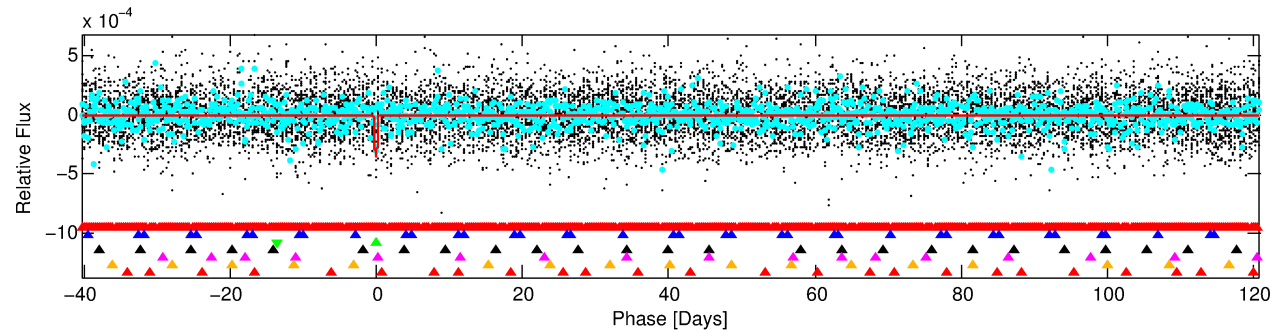
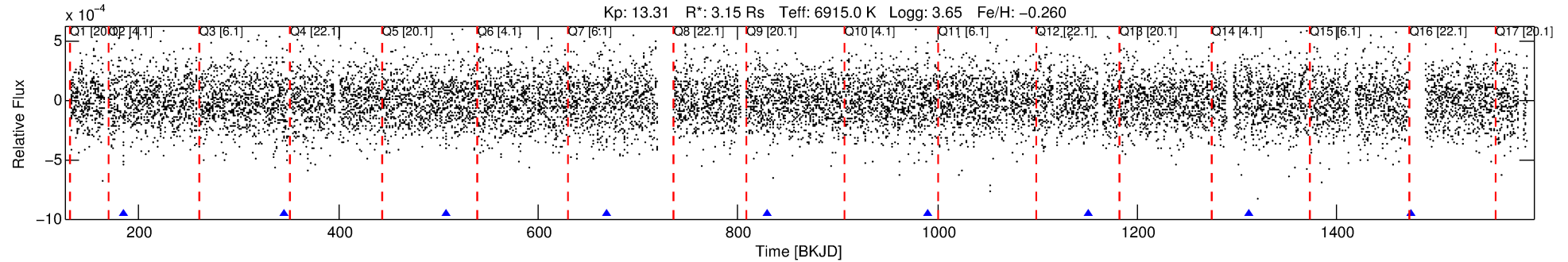
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140122-03

No Significant Match Found

DV One-Page Summary

KIC: 6140122 Candidate: 3 of 7 Period: 161.071 d



DV Fit Results:

Period = 161.07149 [0.01604] d
Epoch = 185.0224 [0.0931] BKJD
Rp/R* = 0.0218 [0.0028]
a/R* = 36.65 [14.01]
b = 0.97 [0.03]
Seff = 43.64 [24.87]
Teq = 655 [93] K
Rp = 7.51 [2.92] Re
a = 0.6832 [0.2381] AU
Ag = 850.56 [572.53] [1.48 σ]
Teffp = 5472 [558] K [8.52 σ]

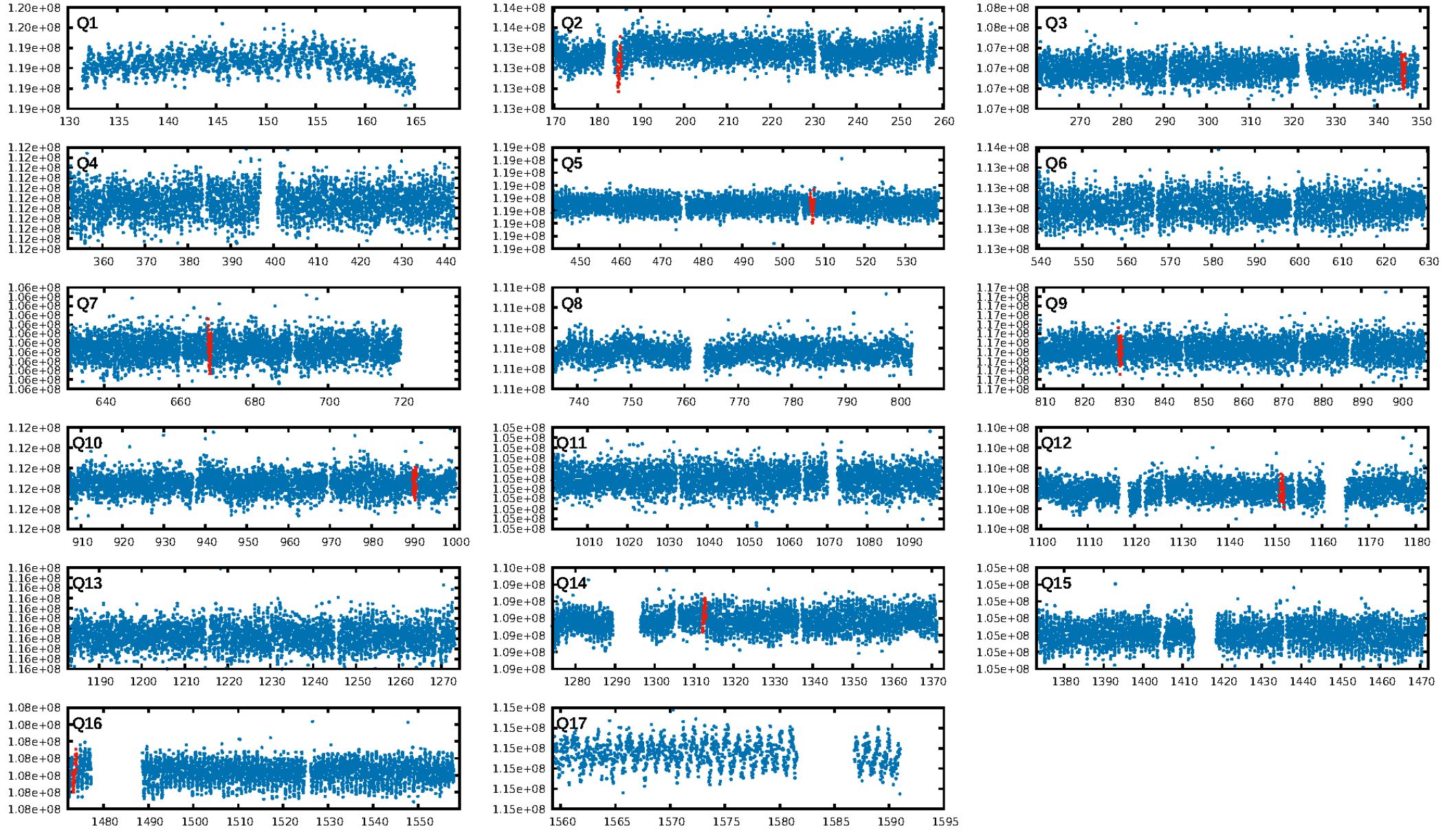
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [145.61 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.60e-08
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 1.321
Centroid-sig: 91.7%
Centroid-so: 3.005 arcsec [2.30 σ]
OotOffset-rm: 4.315 arcsec [1.40 σ]
KicOffset-rm: 4.398 arcsec [1.44 σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/7]

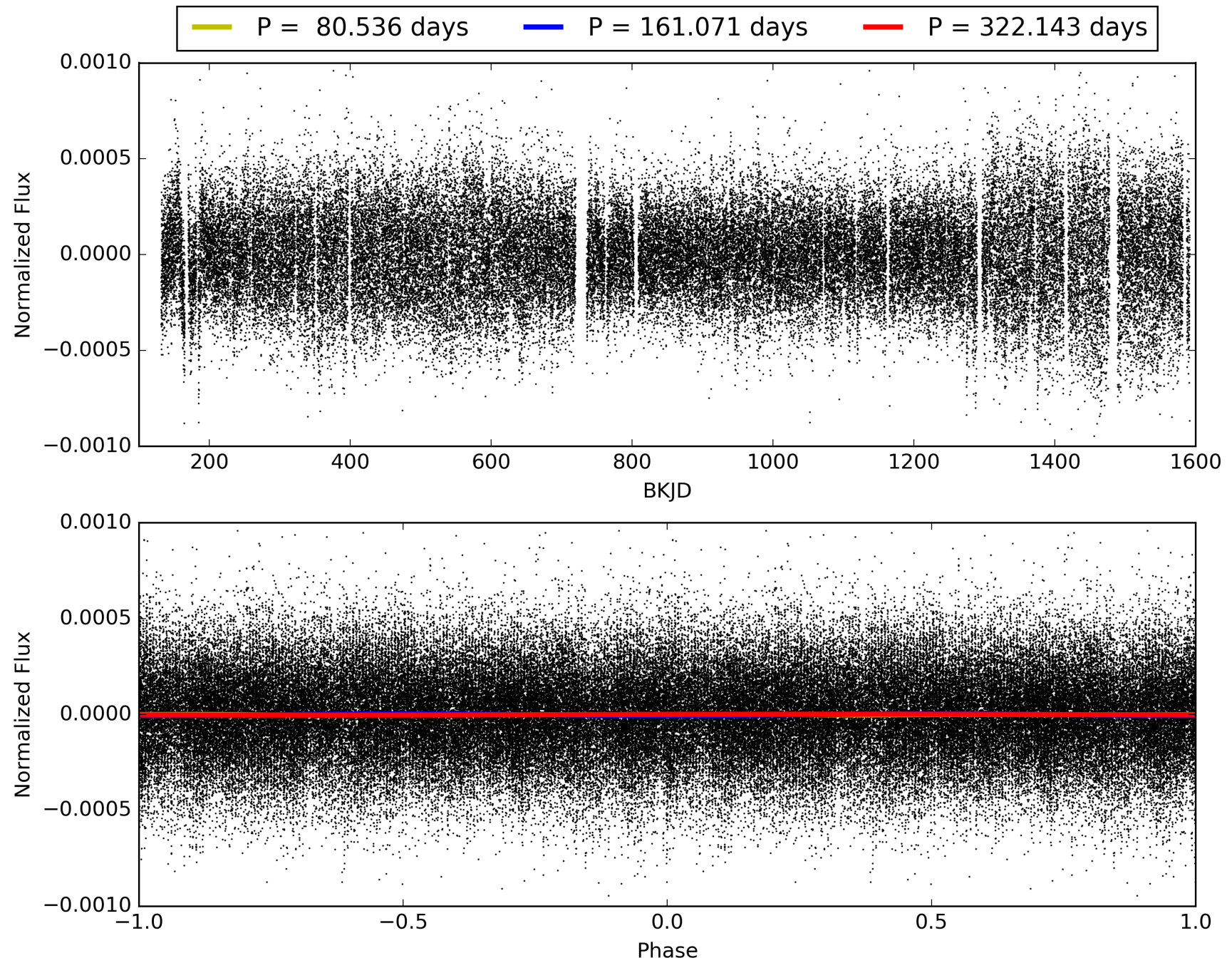
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:59:12 Z

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

TCE 006140122-03, PDC Light Curves

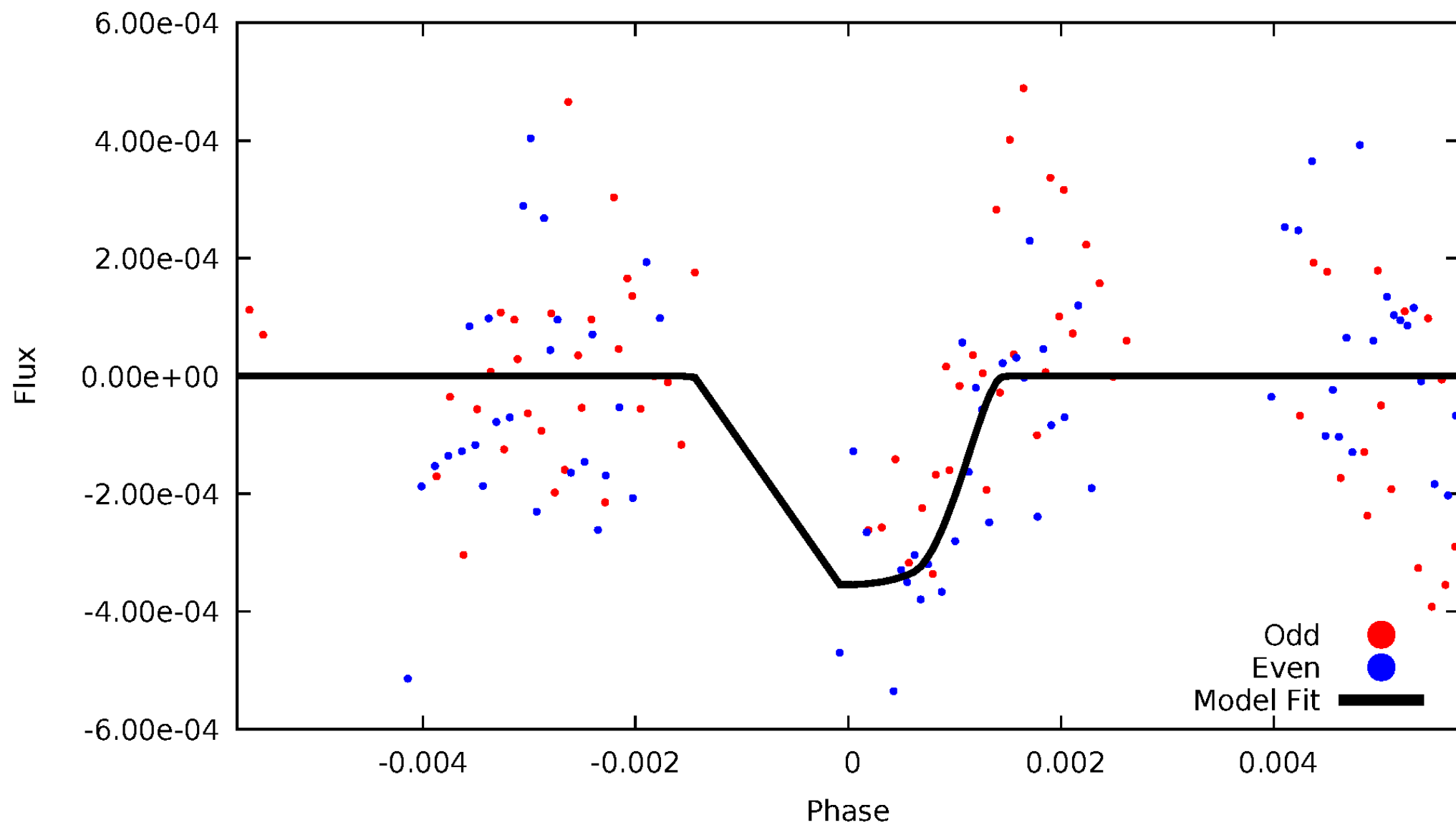


TCE 006140122-03



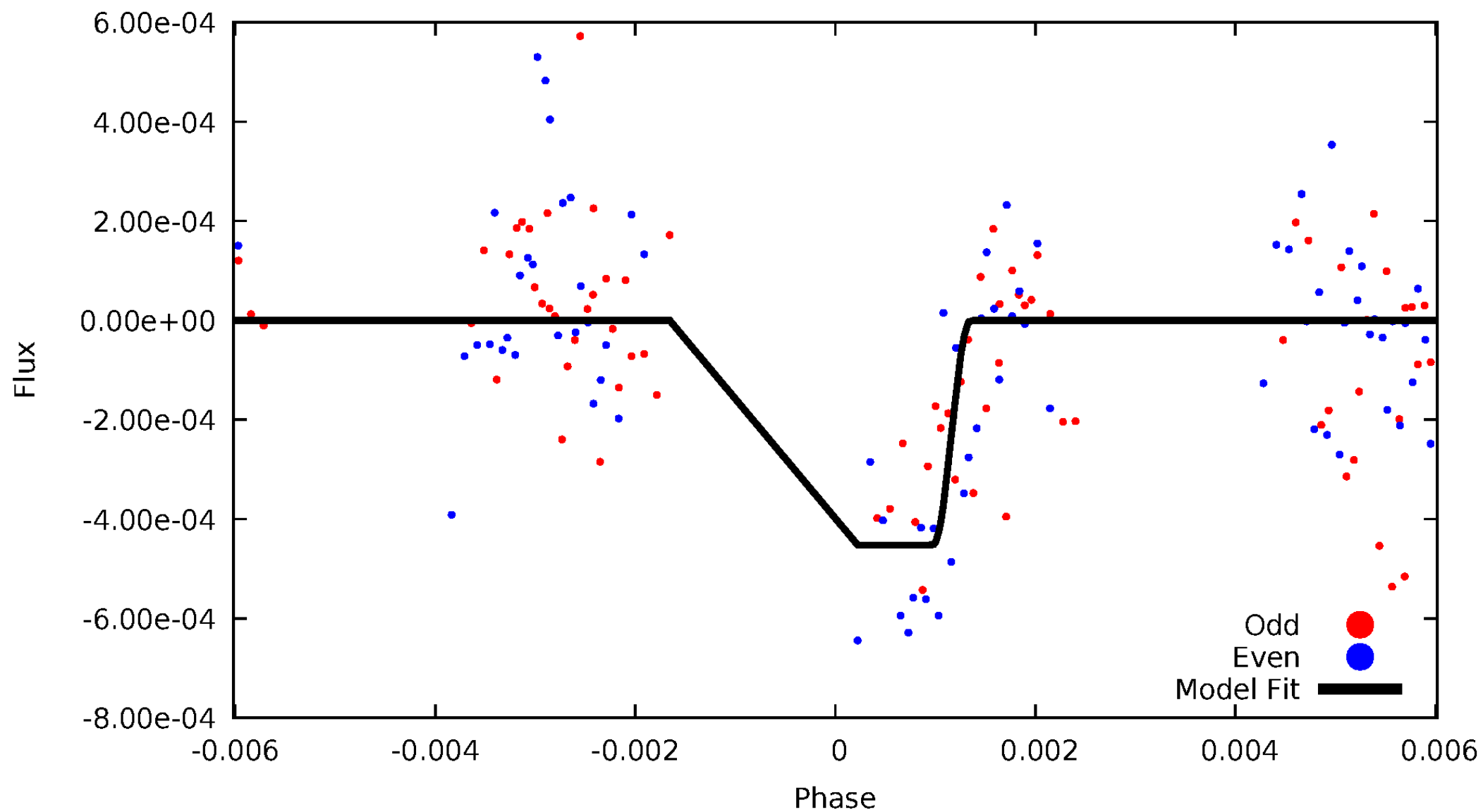
DV Odd/Even

TCE 006140122-03



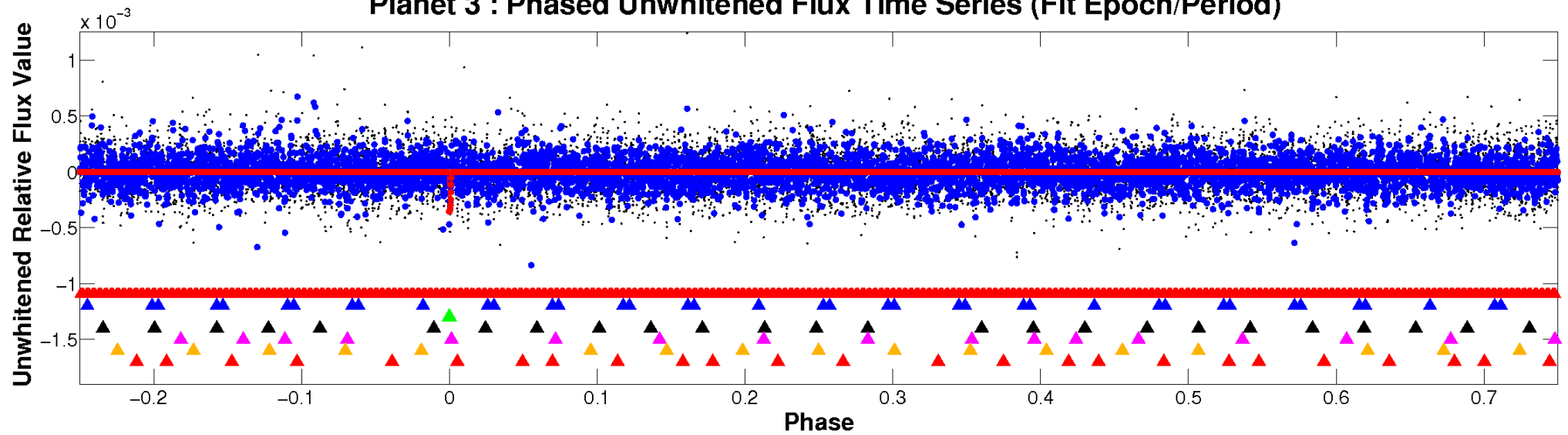
ALT Odd/Even

TCE 006140122-03

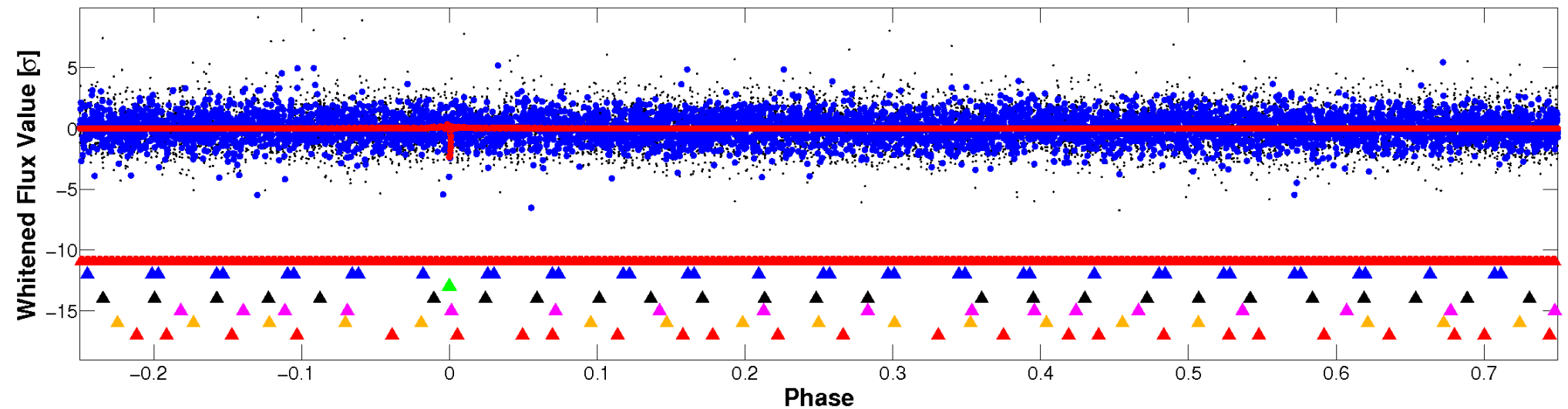


Non-Whitened Vs. Whitened Light Curve

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

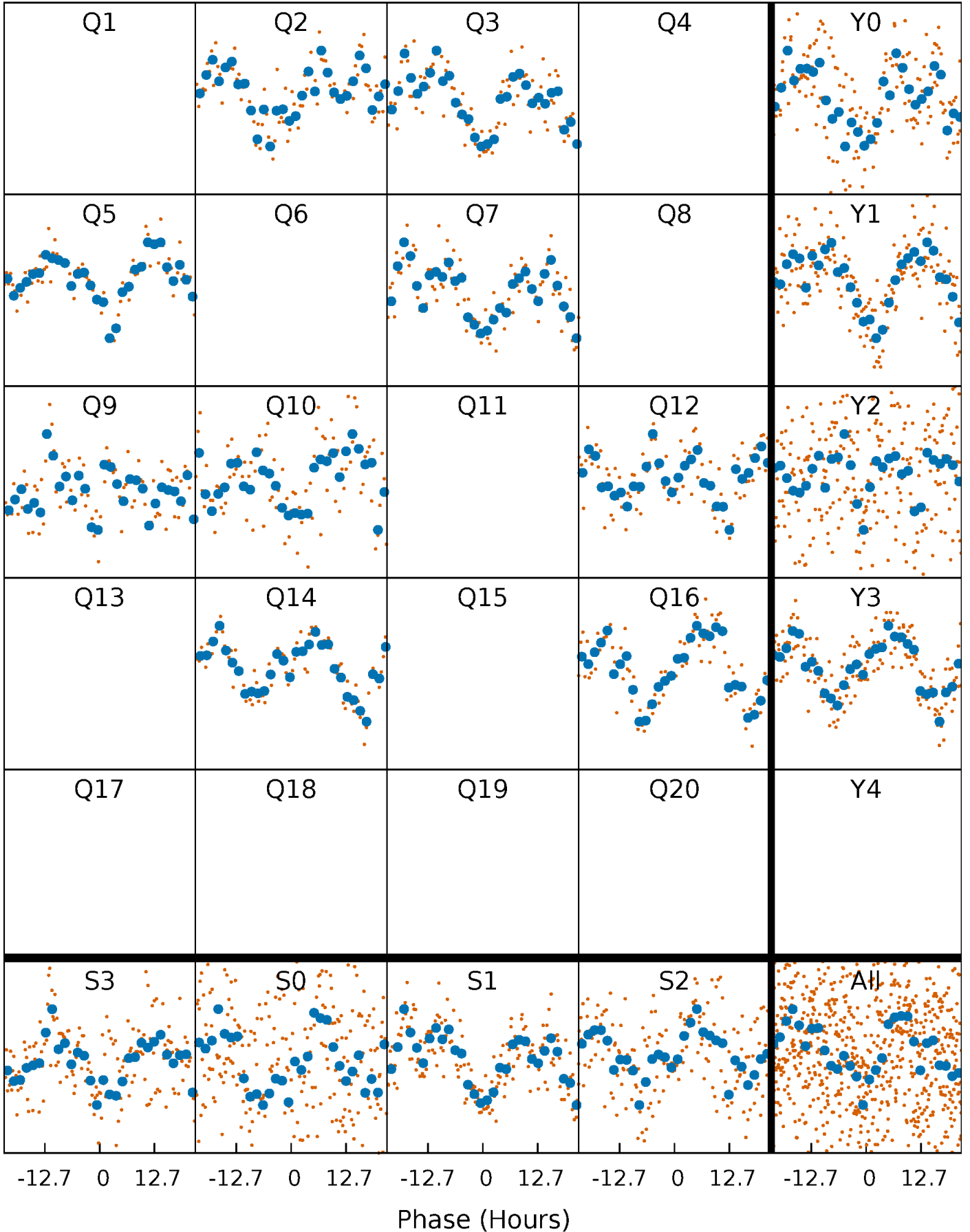


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



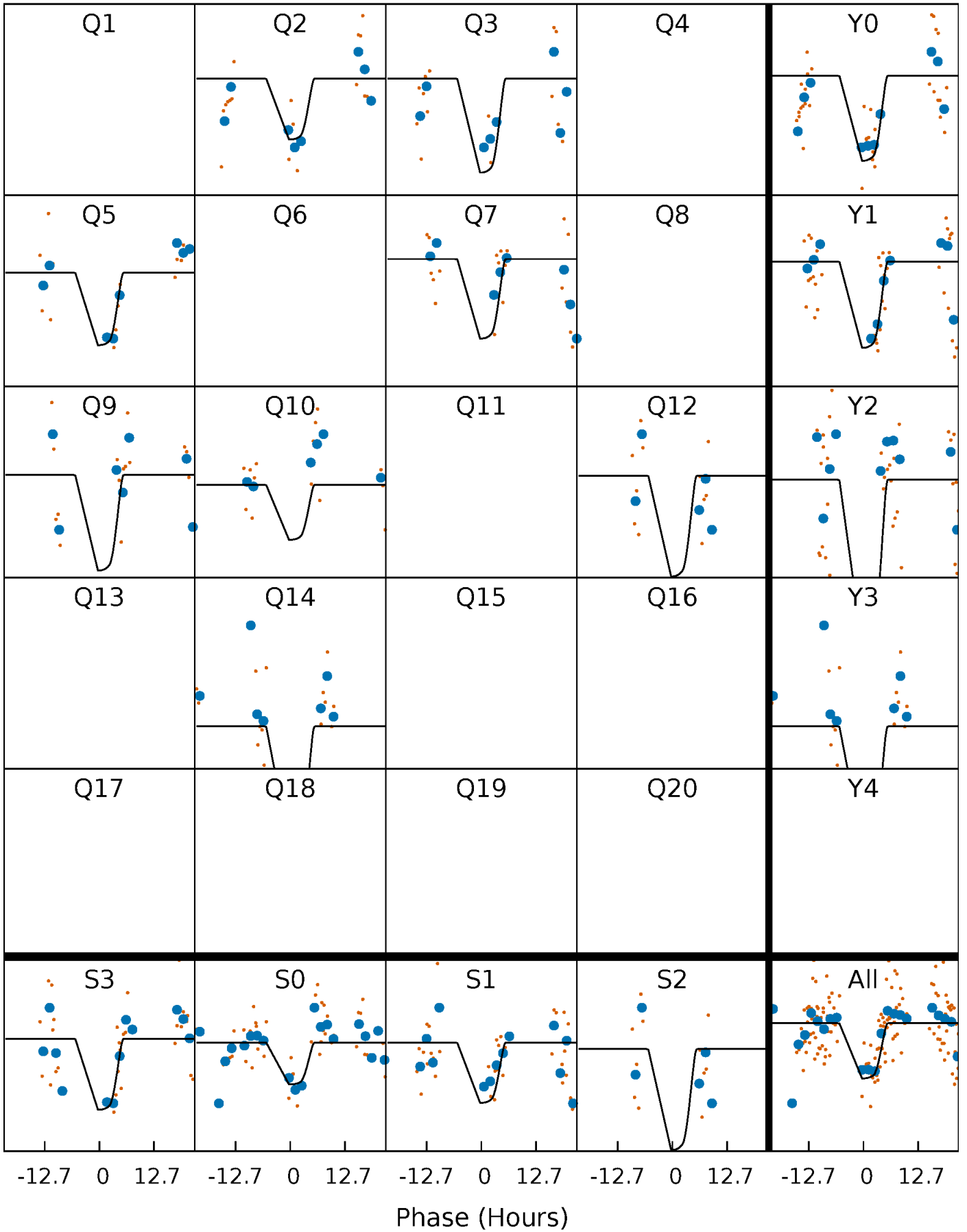
PDC Quarter-Phased Transit Curves

TCE 006140122-03 P=161.071490 Days $T_0=185.022447$ (BKJD)



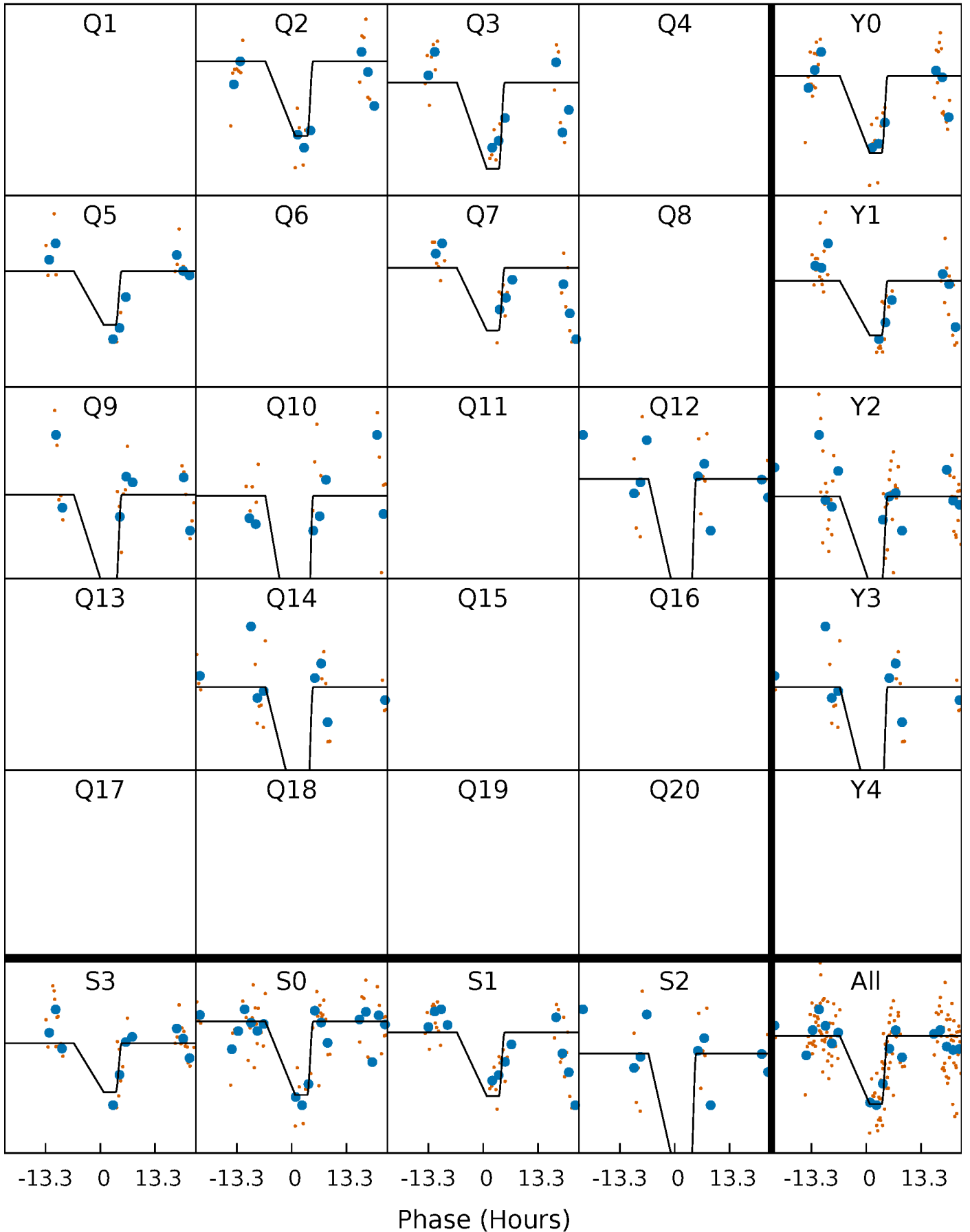
DV Quarter-Phased Transit Curves

TCE 006140122-03 P=161.071490 Days $T_0=185.022447$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

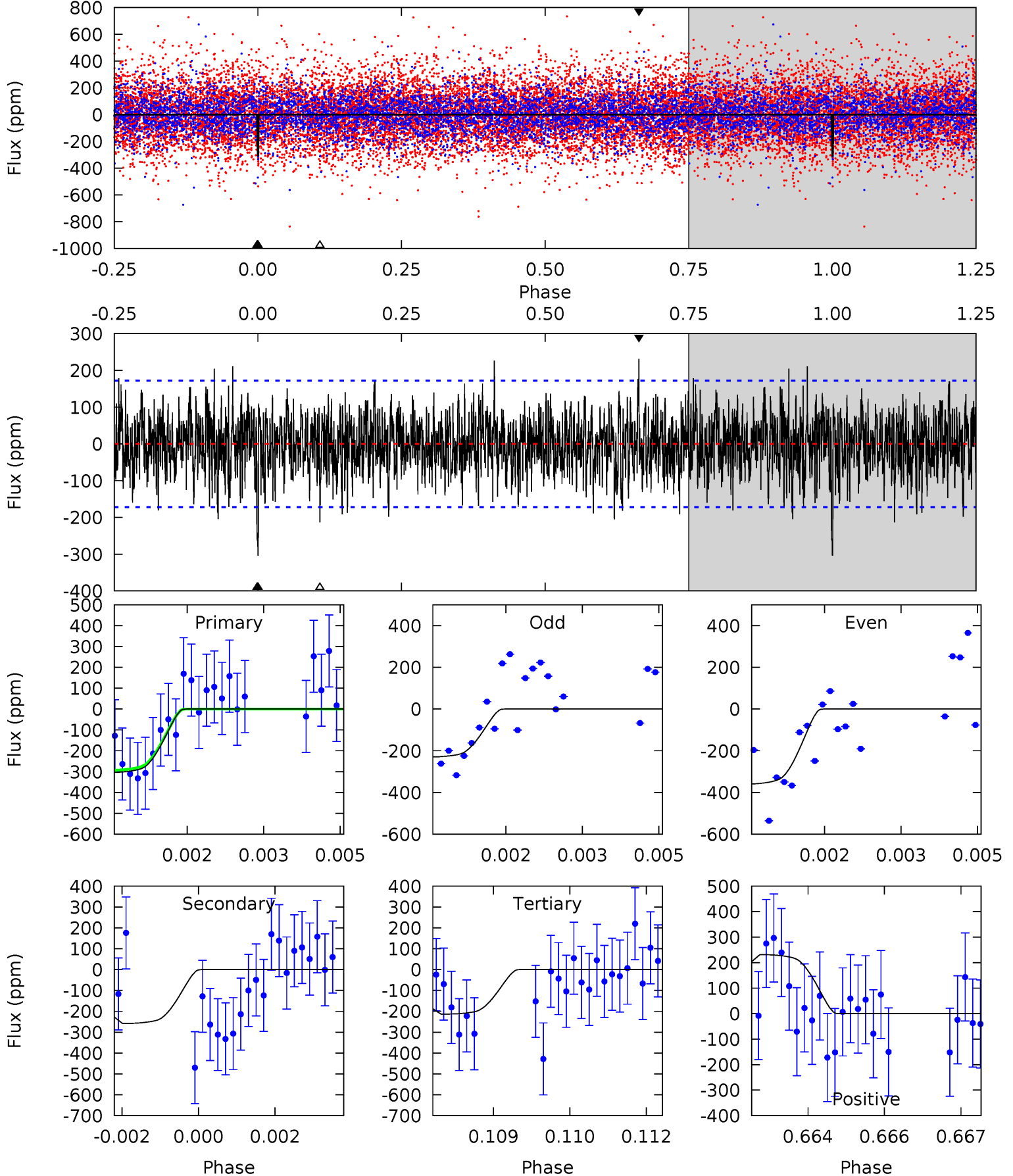
TCE 006140122-03 P=161.083416 Days $T_0=184.973363$ (BKJD)



DV Model-Shift Uniqueness Test

006140122-03, P = 161.071490 Days, E = 23.950957 Days

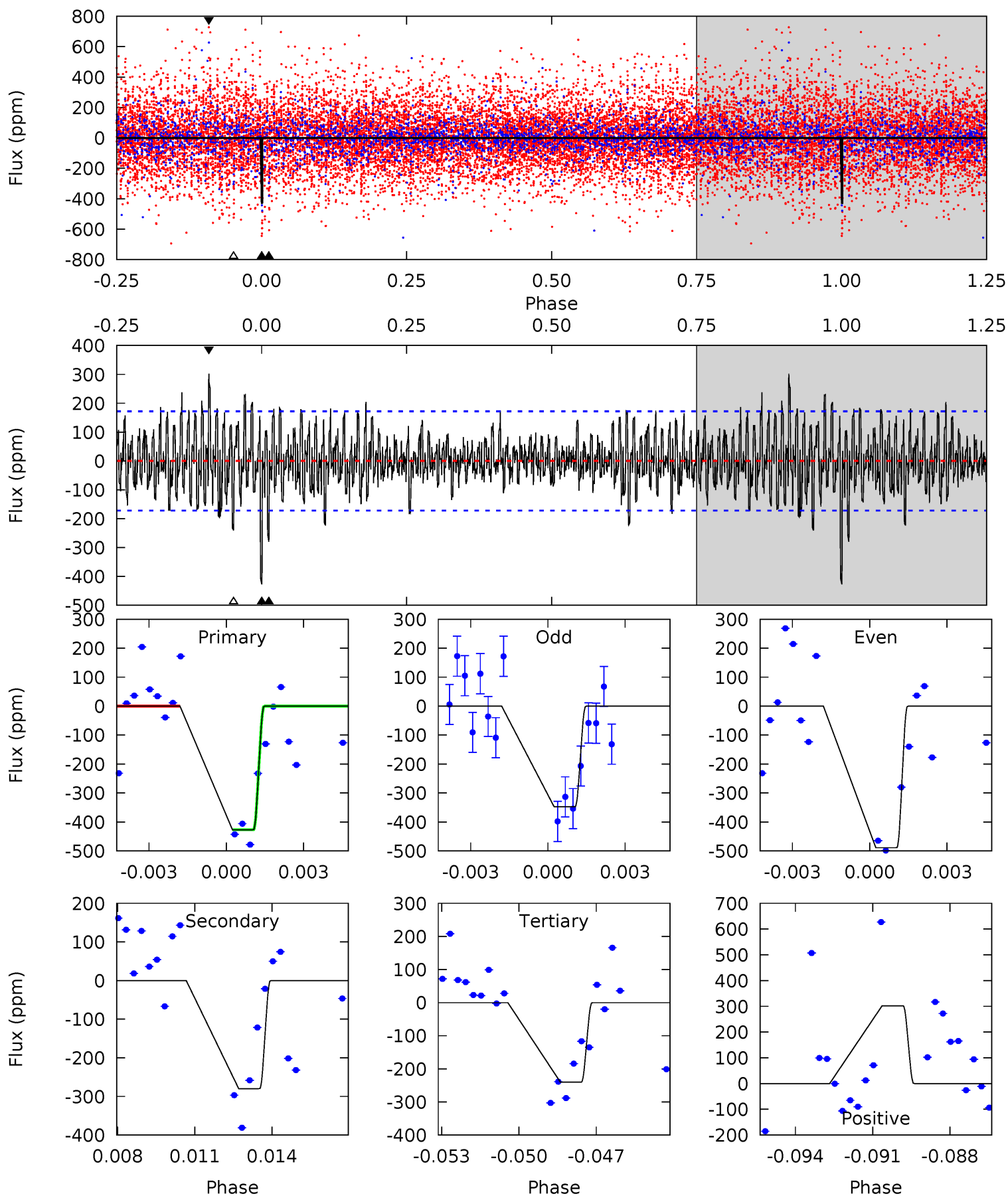
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.50	8.07	6.67	7.22	5.37	3.17	1.86	2.83	2.28	1.39	0.84	2.06	0.69	0.43	0.00



Alt Model-Shift Uniqueness Test

006140122-03, P = 161.083416 Days, E = 23.889947 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	8.57	7.36	9.26	5.27	2.99	1.87	5.73	3.83	1.22	-0.69	2.17	1.09	0.41	0



Stellar Parameters For KIC 006140122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6915^{+190}_{-238}	$3.655^{+0.323}_{-0.076}$	$-0.260^{+0.300}_{-0.250}$	$3.153^{+0.386}_{-1.159}$	$1.638^{+0.216}_{-0.324}$	$0.074^{+0.158}_{-0.018}$
	+3%/-3%	+9%/-2%	+115%/-96%	+12%/-37%	+13%/-20%	+215%/-25%
Source	PHO1	FLK73	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 006140122-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-258 ± 32	$7.06^{+1.38}_{-1.61}$	892^{+55}_{-83}	5916^{+464}_{-398}	1345^{+800}_{-416}
Alt.	-280 ± 33	$7.04^{+1.32}_{-1.50}$	899^{+52}_{-80}	6085^{+517}_{-415}	1476^{+866}_{-459}

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 $A_{obs} \gg 1.0$

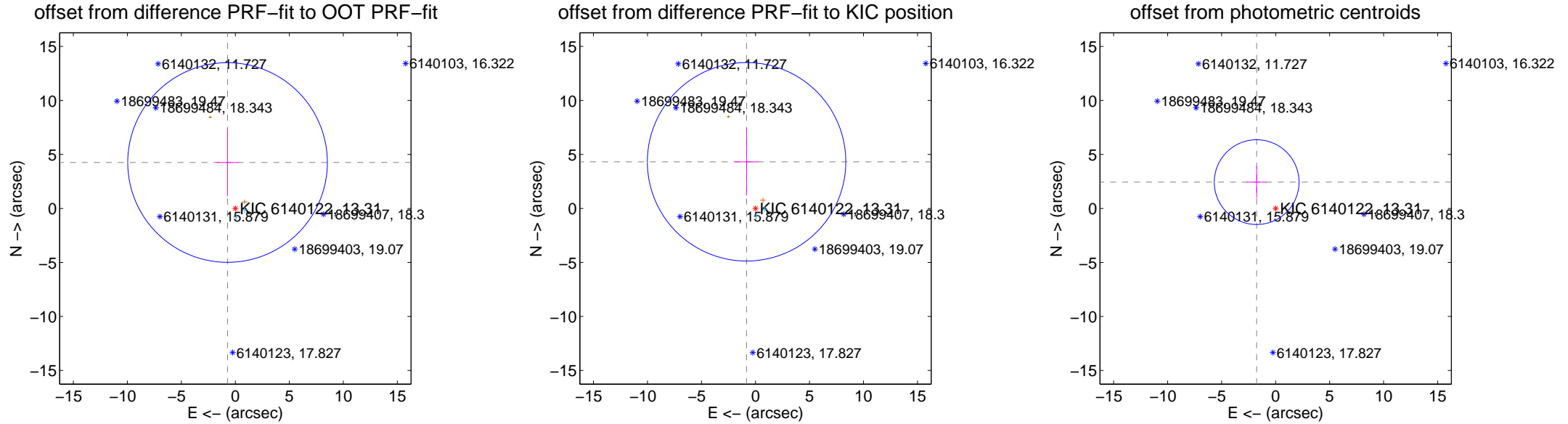
DV Centroid Data

Supplemental centroid analysis for 006140122-03. Kepler magnitude: 13.31. Transit SNR 9.28

There are 2 quarters with good PRF difference image offsets

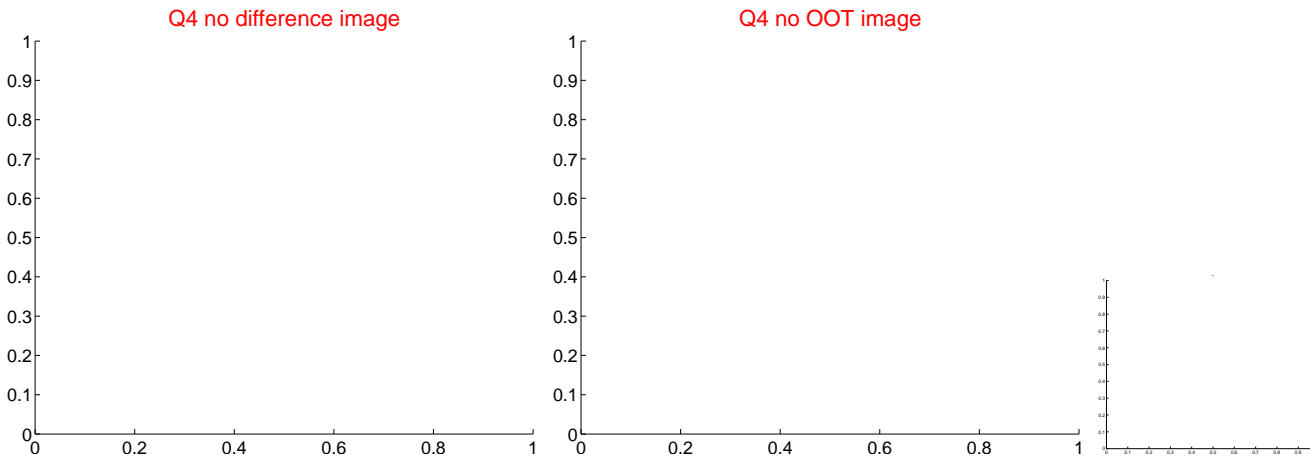
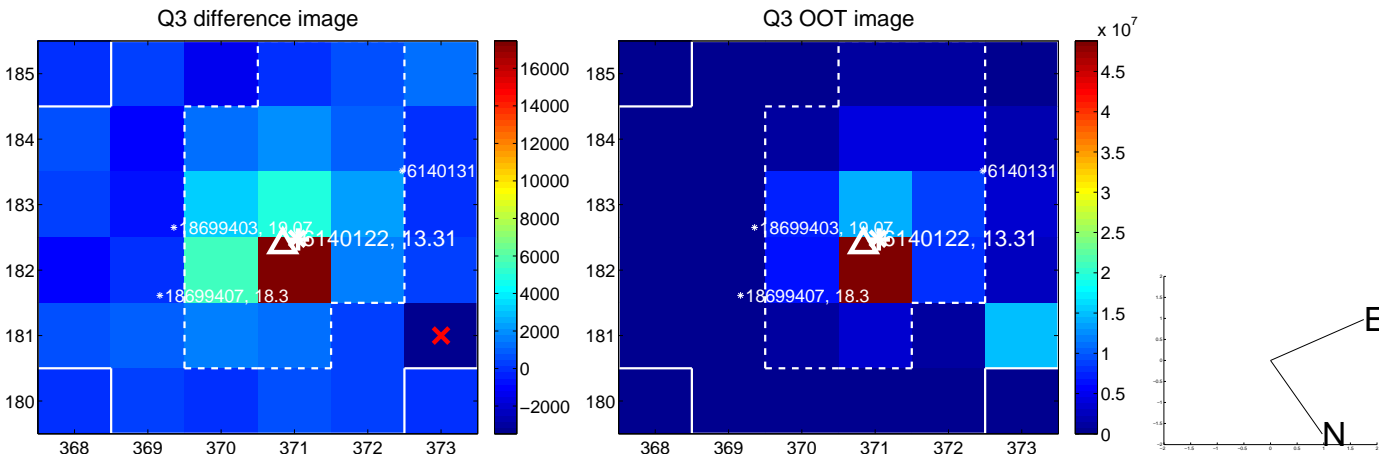
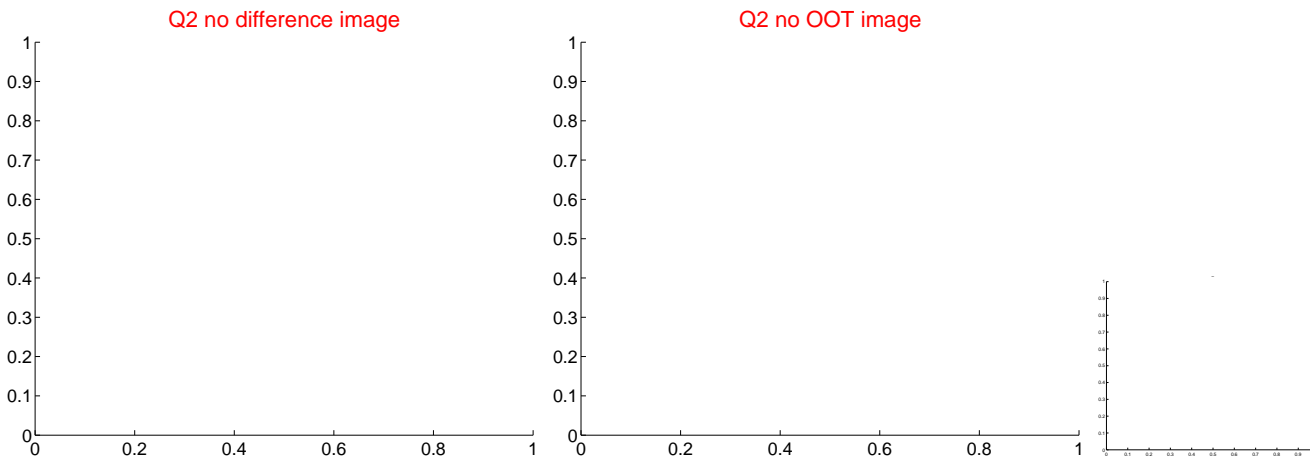
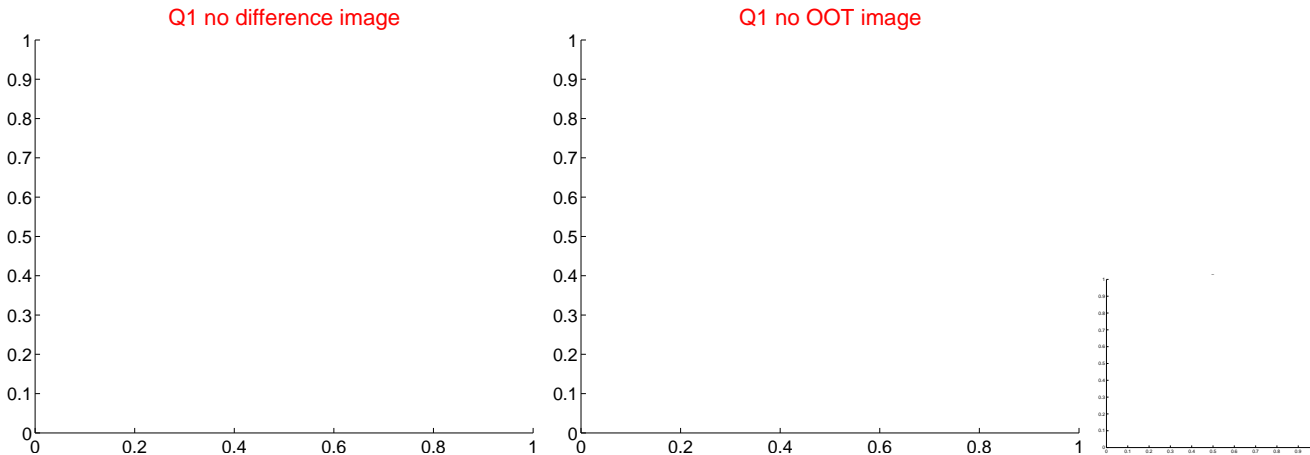
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.315 ± 3.081	1.40	0.721 ± 1.028	4.254 ± 3.120
PRF-fit source offset from KIC position	4.398 ± 3.063	1.44	0.826 ± 1.079	4.320 ± 3.111
photometric centroid source offset	3.01 ± 1.31	2.30	1.76 ± 0.93	2.44 ± 1.47

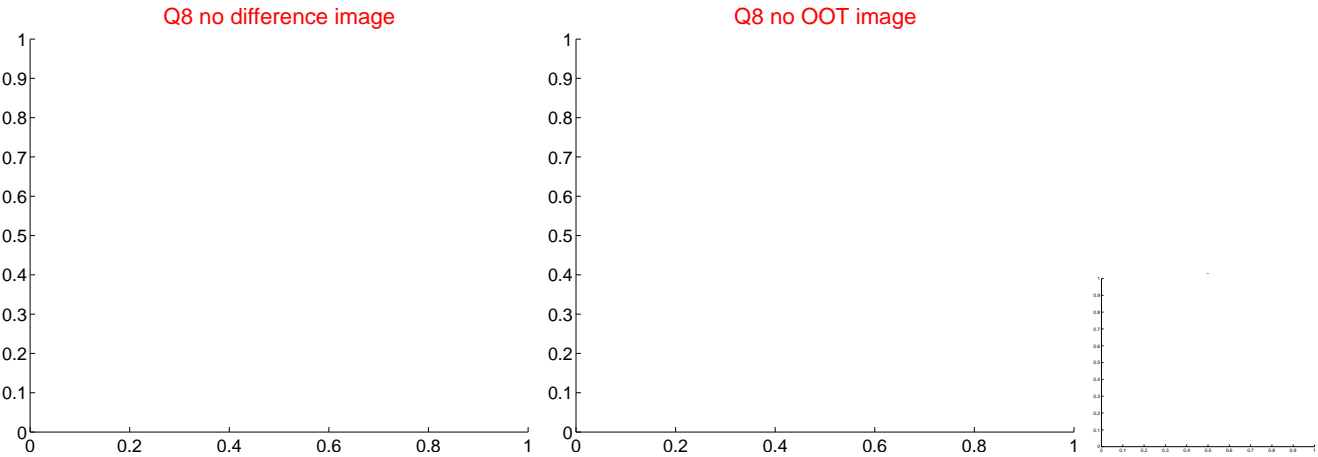
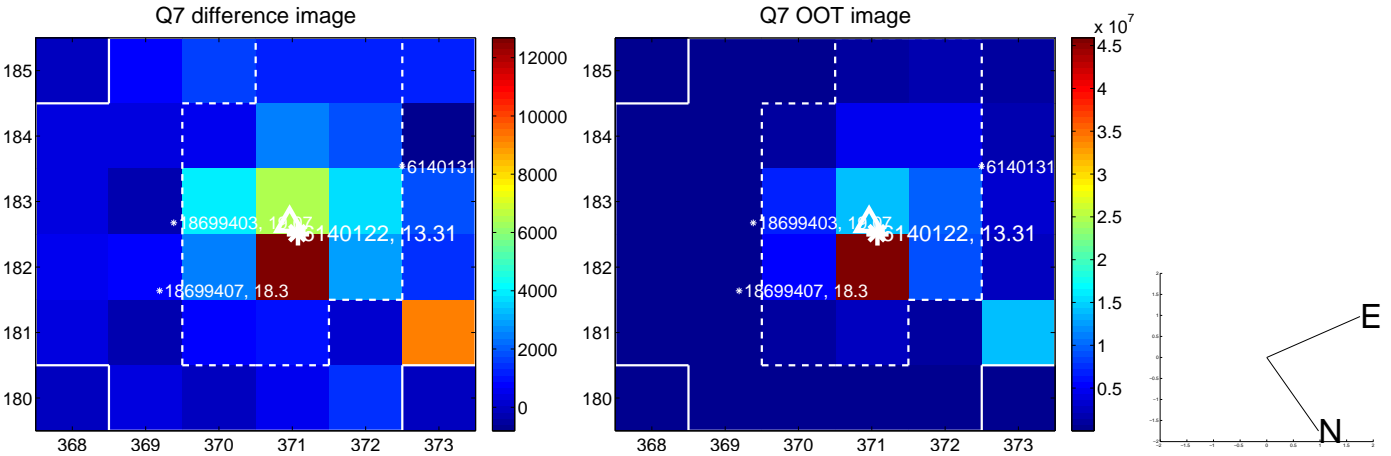
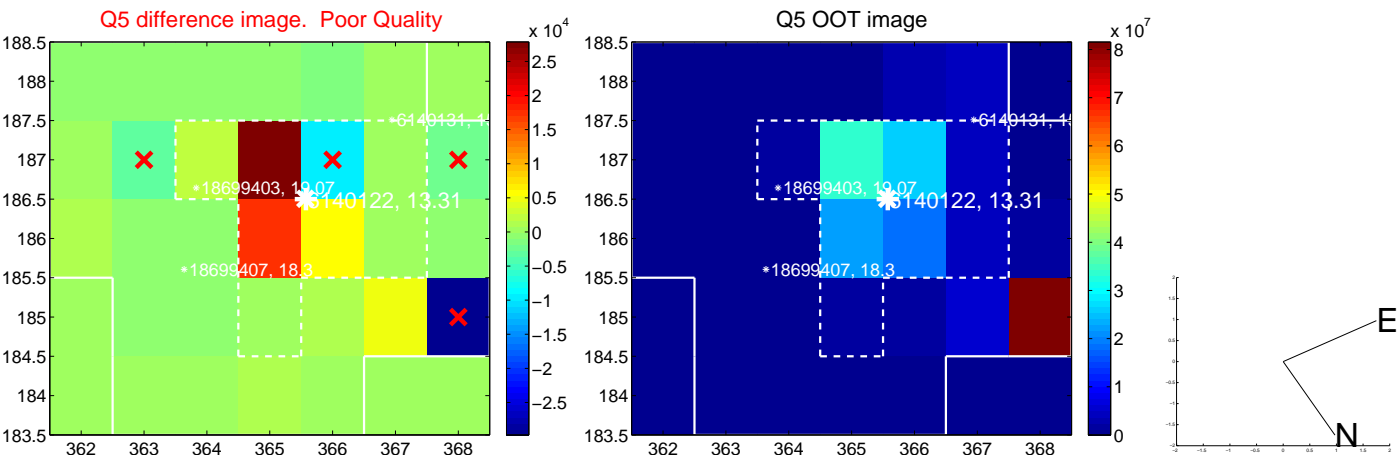


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

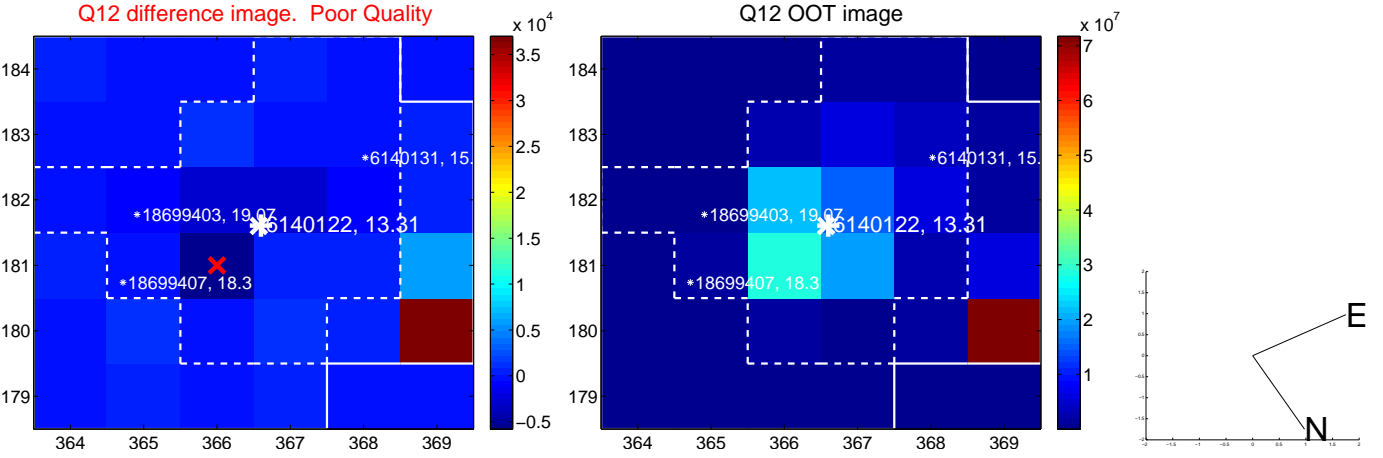
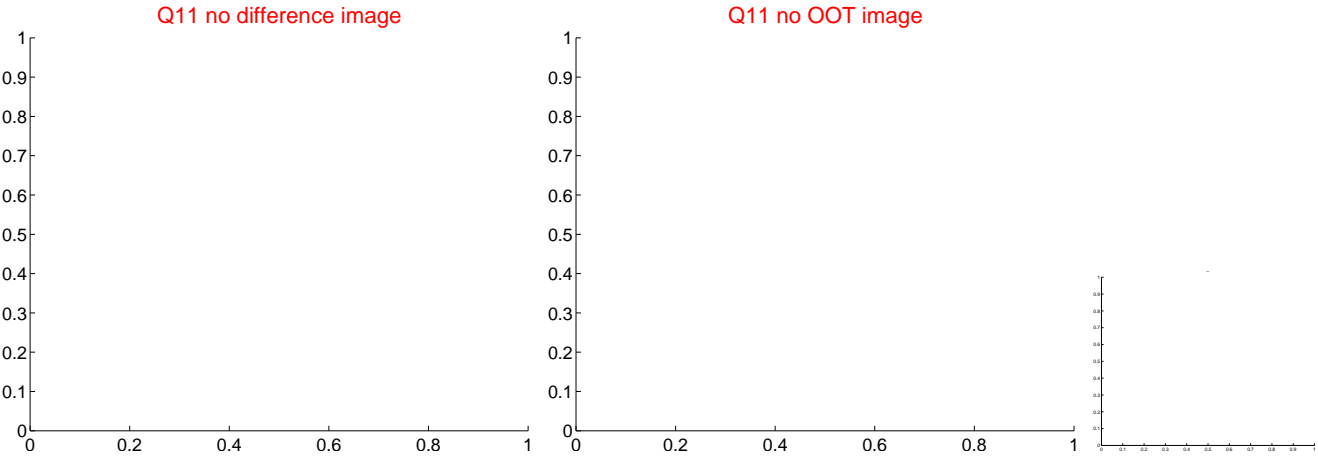
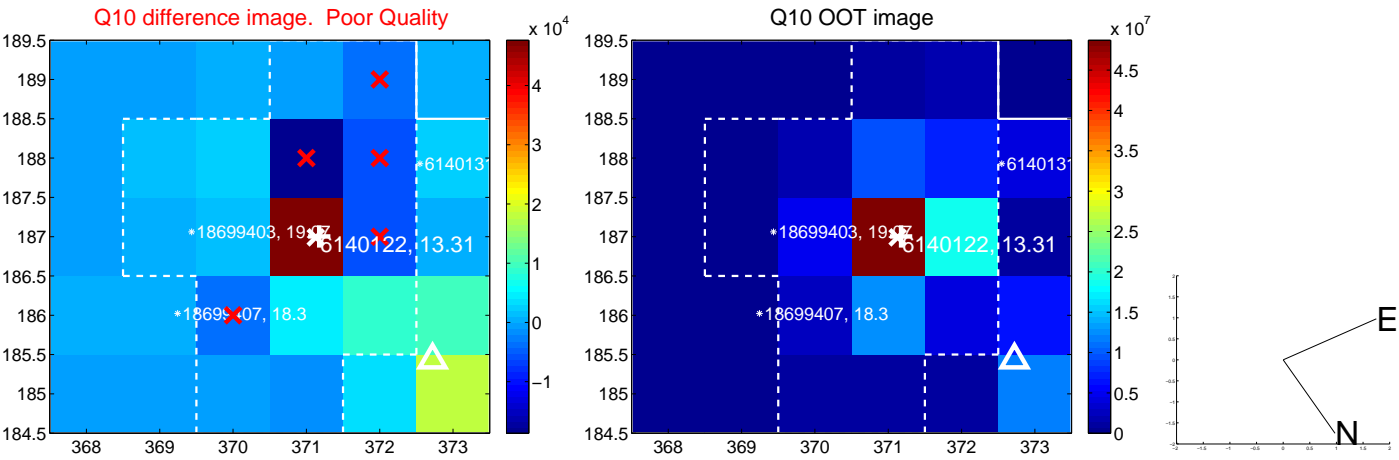
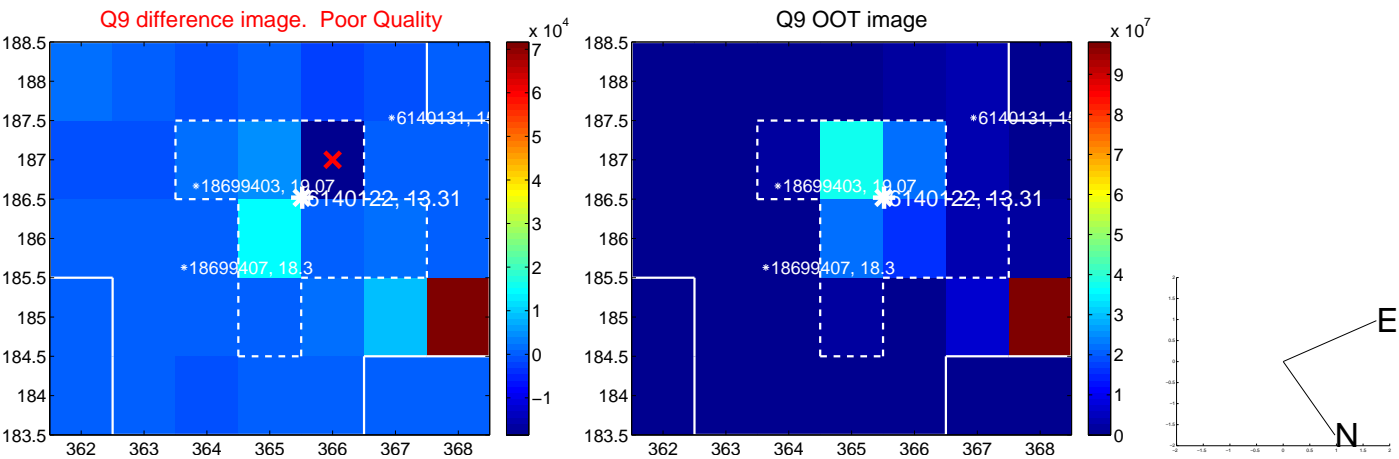
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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.

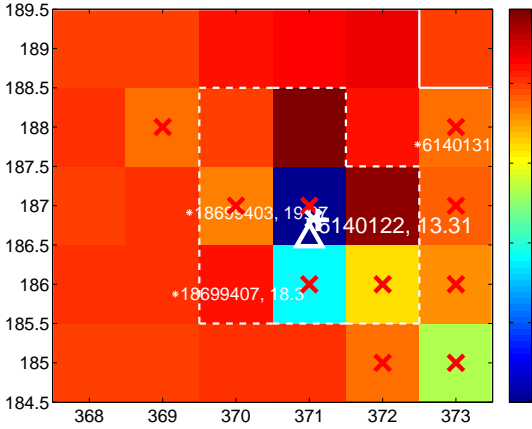
Q13 no difference image



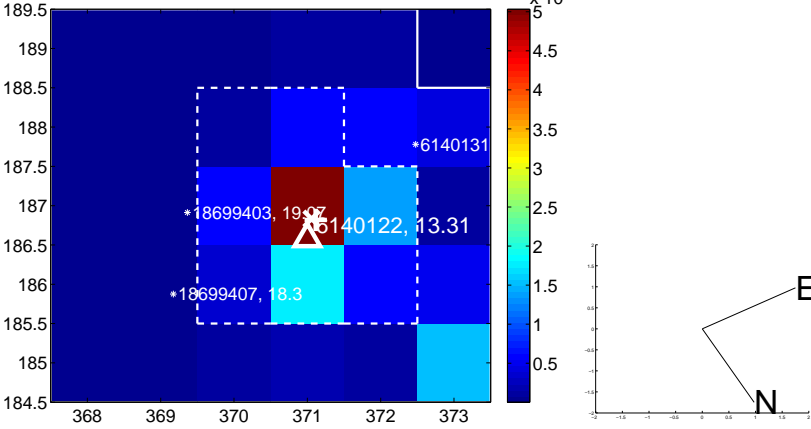
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



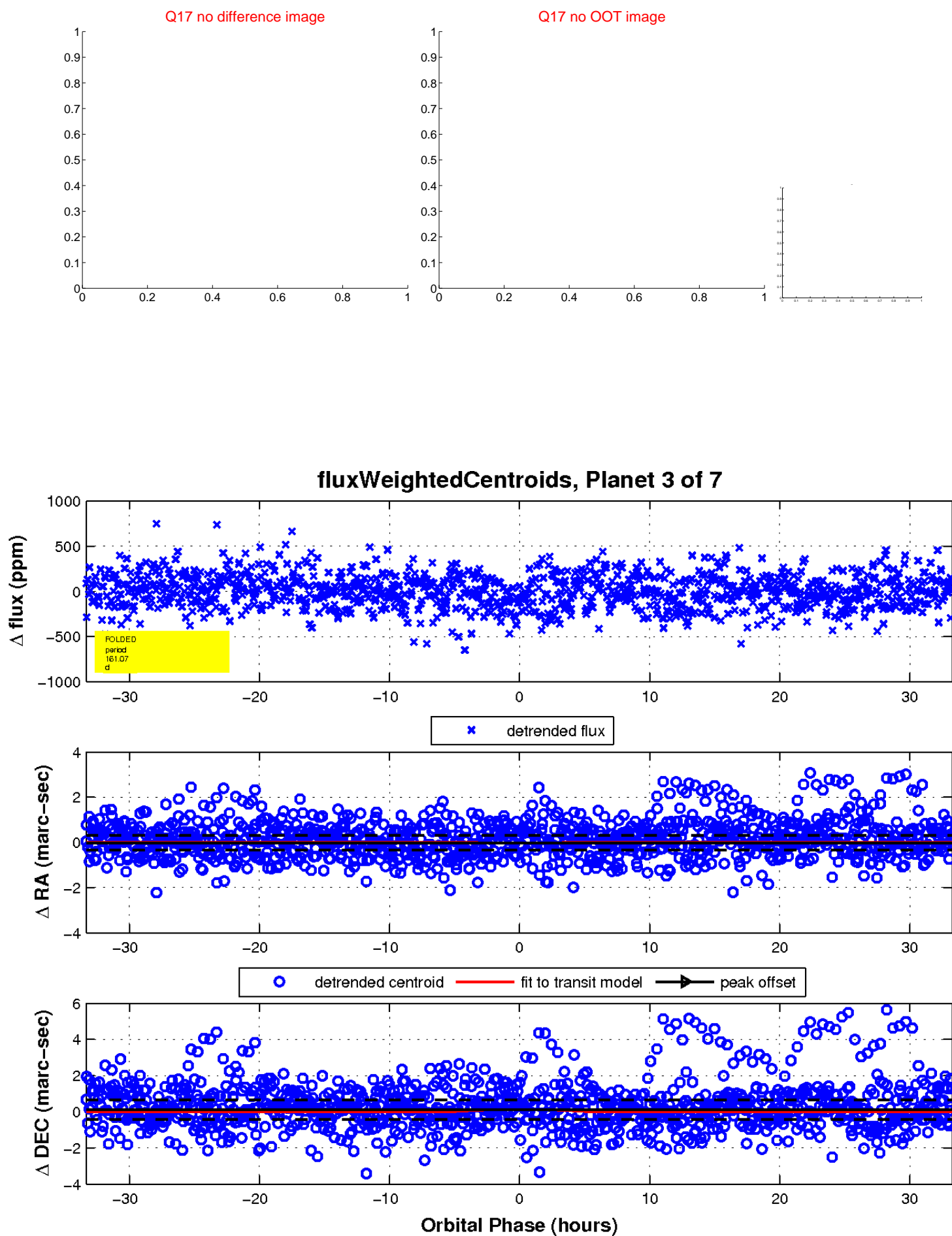
Q16 no difference image



Q16 no OOT image

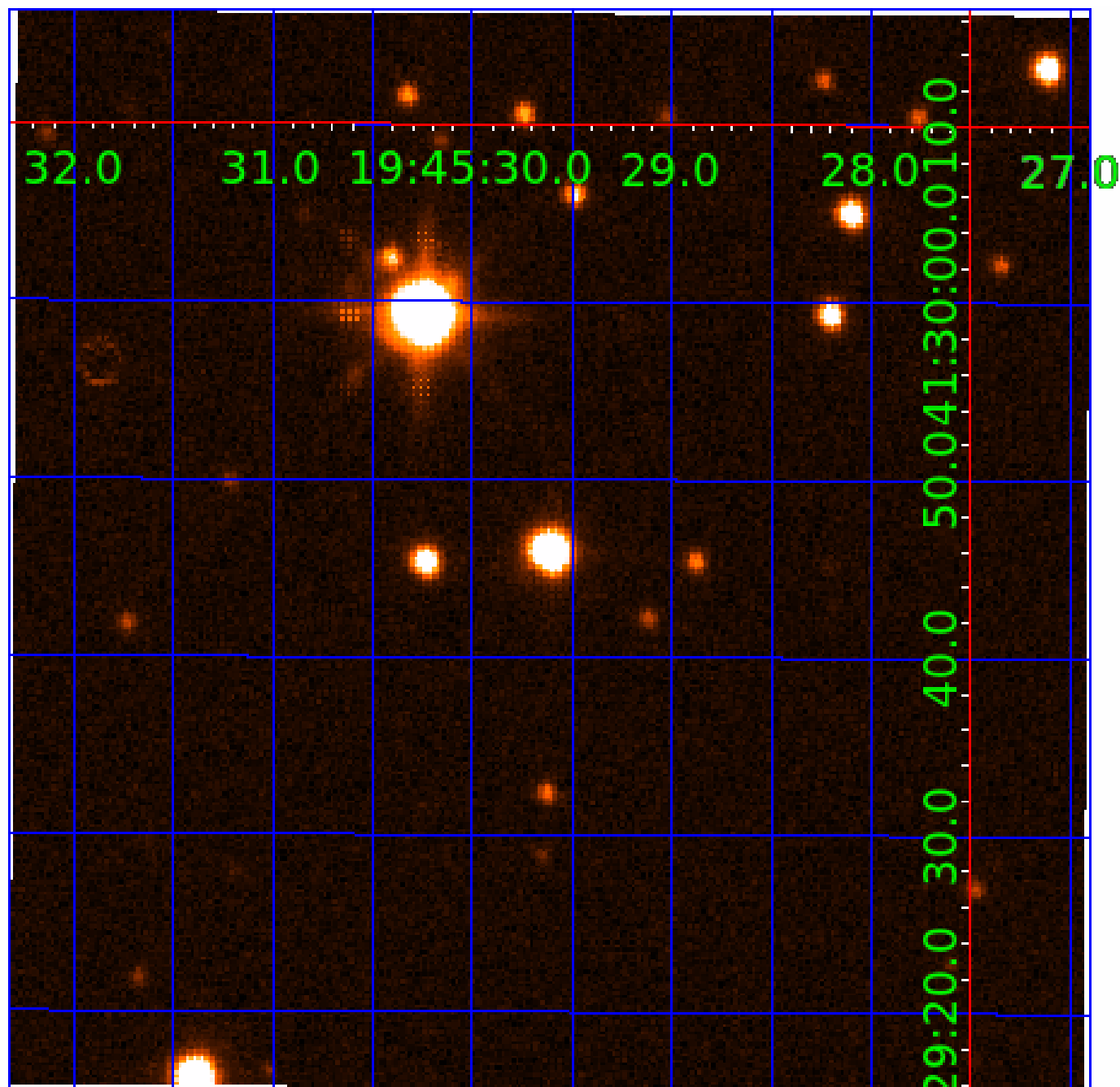


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006140122

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})
006140122-01	OBS	No	0.654944	131.692943	5.2	3.979	7.9	2.6	3.15	6915	0.73	67236.75
006140122-02	OBS	No	36.576303	168.073912	234.5	2.581	9.8	9.7	3.15	6915	5.42	314.98
006140122-03	OBS	No	161.071490	185.022447	354.5	11.105	8.1	9.3	3.15	6915	7.51	43.64
006140122-04	OBS	No	59.699052	134.877360	321.8	1.856	8.0	9.6	3.15	6915	6.34	163.90
006140122-05	OBS	No	86.207392	162.567090	251.2	5.380	8.4	8.7	3.15	6915	5.80	100.42
006140122-06	OBS	No	84.674039	200.429652	452.5	1.663	8.7	8.9	3.15	6915	7.77	102.85
006140122-07	OBS	No	59.513631	133.486066	195.6	3.071	7.5	7.4	3.15	6915	4.88	164.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140122-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006140122-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

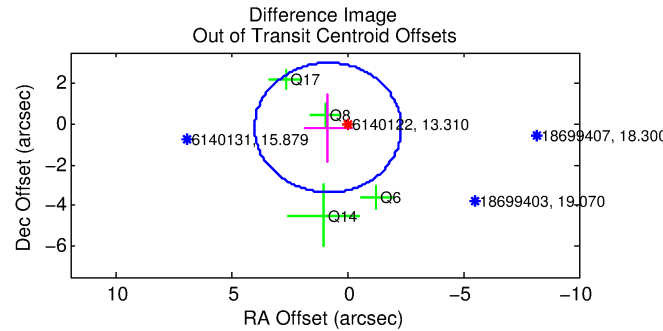
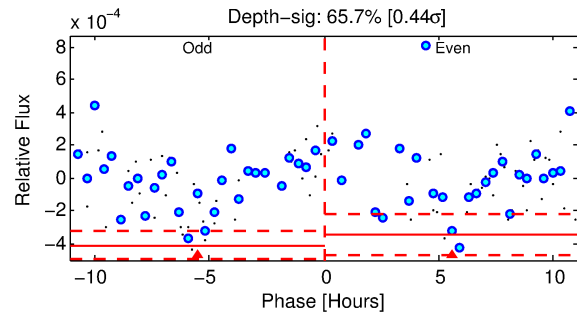
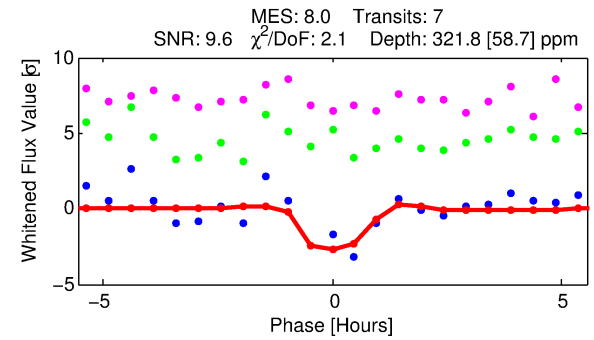
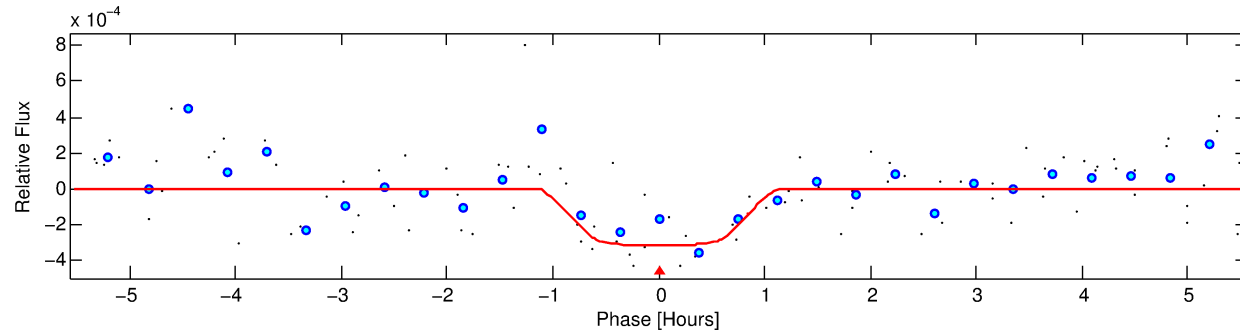
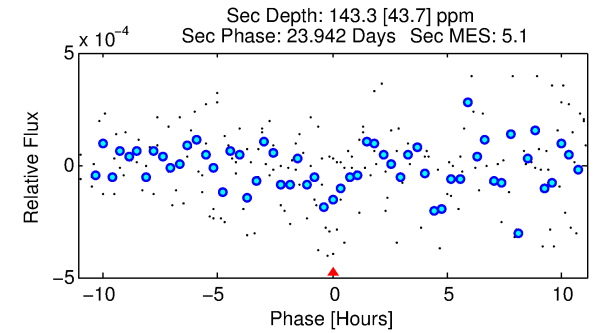
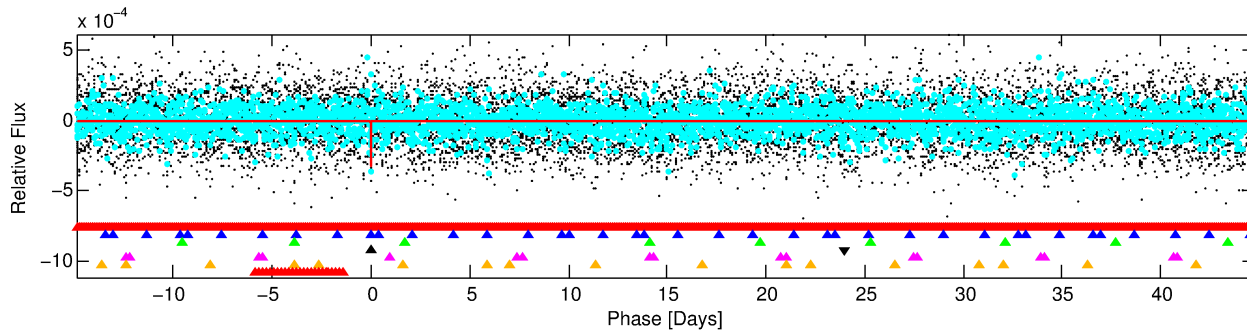
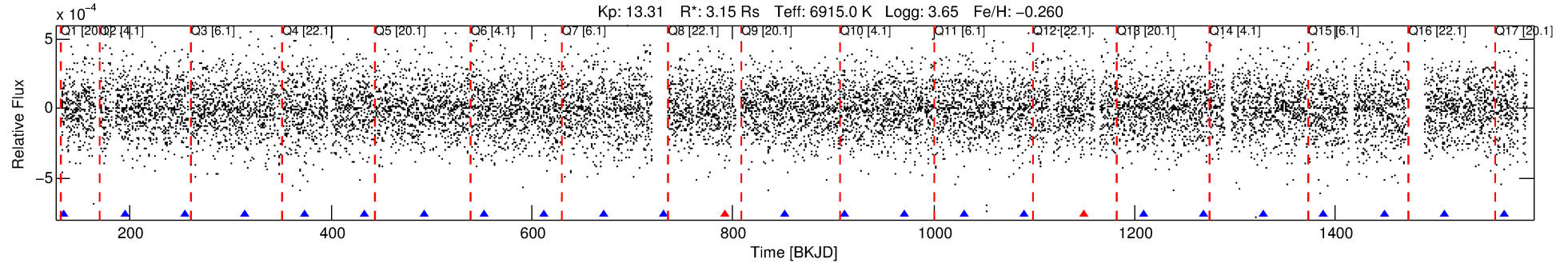
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140122-04

No Significant Match Found

DV One-Page Summary

KIC: 6140122 Candidate: 4 of 7 Period: 59.699 d



DV Fit Results:

Period = 59.69905 [0.00042] d
Epoch = 134.8774 [0.0060] BKJD
Rp/R* = 0.0184 [0.0152]
a/R* = 143.06 [695.82]
b = 0.84 [1.77]
Seff = 163.90 [93.42]
Teff = 912 [130] K
Rp = 6.34 [5.72] Re
a = 0.3525 [0.1229] AU
Ag = 243.42 [429.18] [0.56σ]
Teffp = 5572 [2340] K [1.99σ]

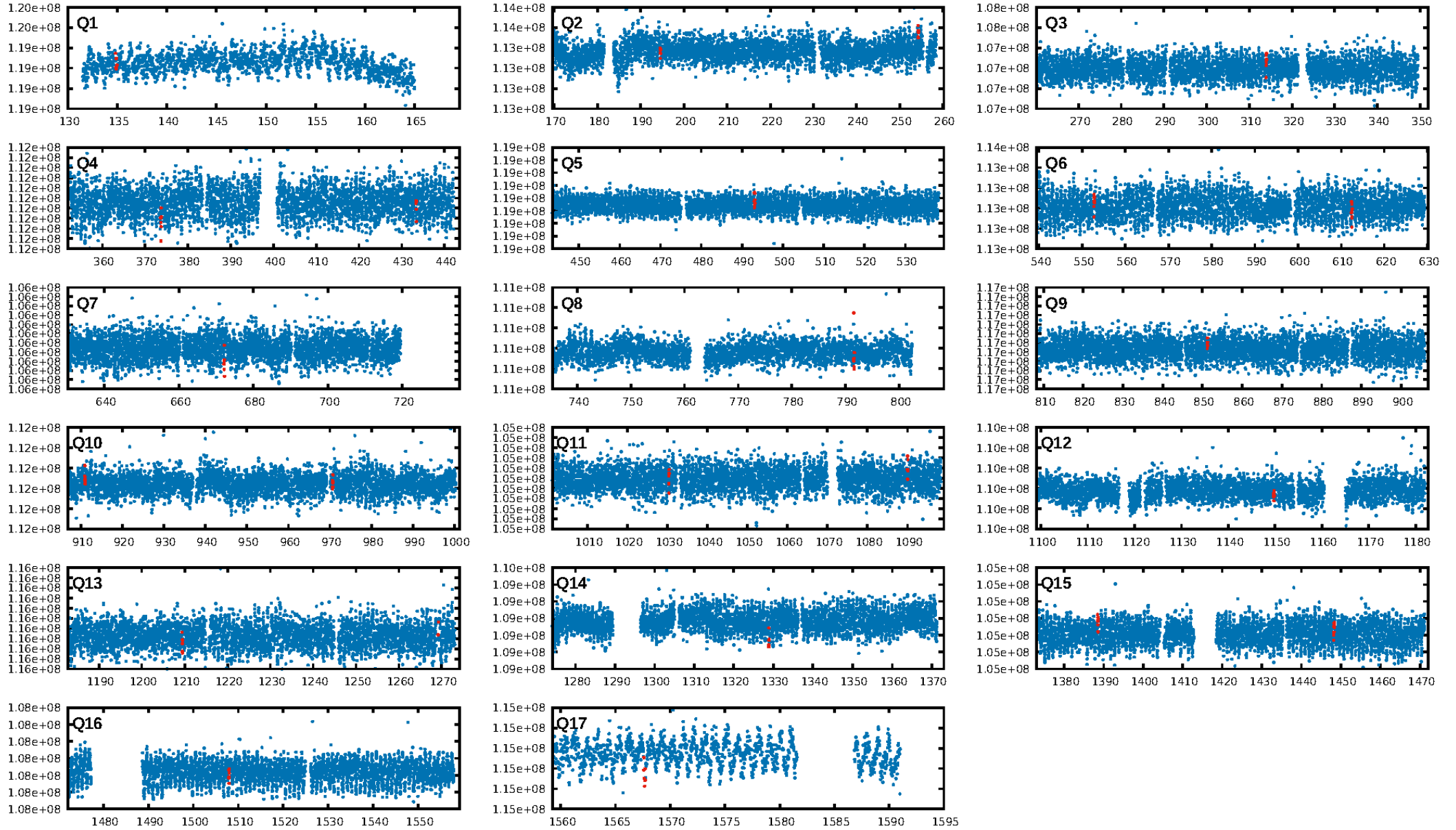
DV Diagnostic Results:

ShortPeriod-sig: 78.5% [1.24σ]
LongPeriod-sig: 100.0% [240.56σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 68.0%
Bootstrap-pfa: 5.49e-08
RollingBand-fgt: 0.67 [4/6]
GhostDiagnostic-chr: -2.164
Centroid-sig: 61.9%
Centroid-so: 2.701 arcsec [2.49σ]
OotOffset-rm: 0.877 arcsec [0.83σ]
KicOffset-rm: 0.974 arcsec [0.99σ]
OotOffset-st: 2/0/1/1 [4]
KicOffset-st: 2/0/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/17]

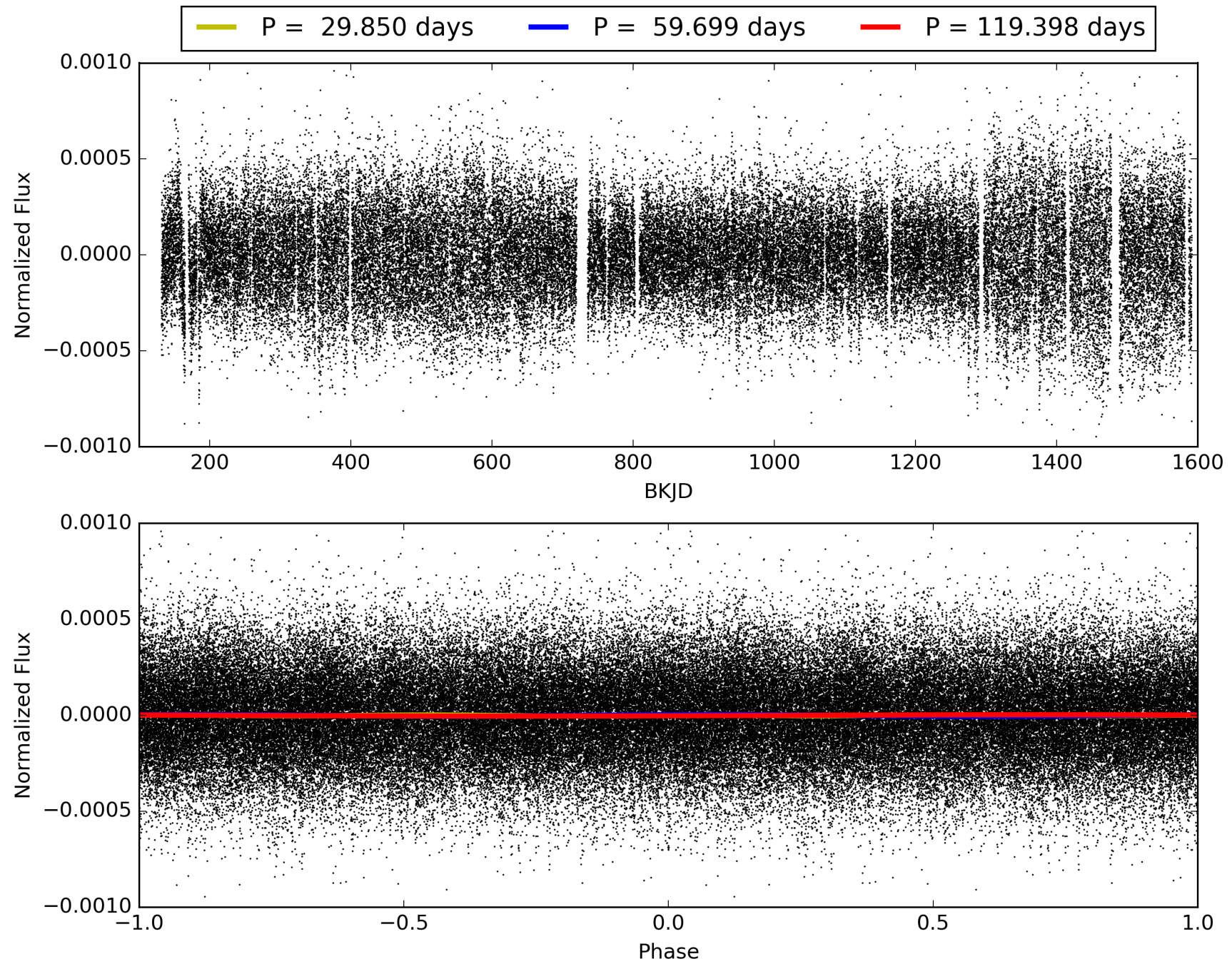
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:59:16 Z

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

TCE 006140122-04, PDC Light Curves

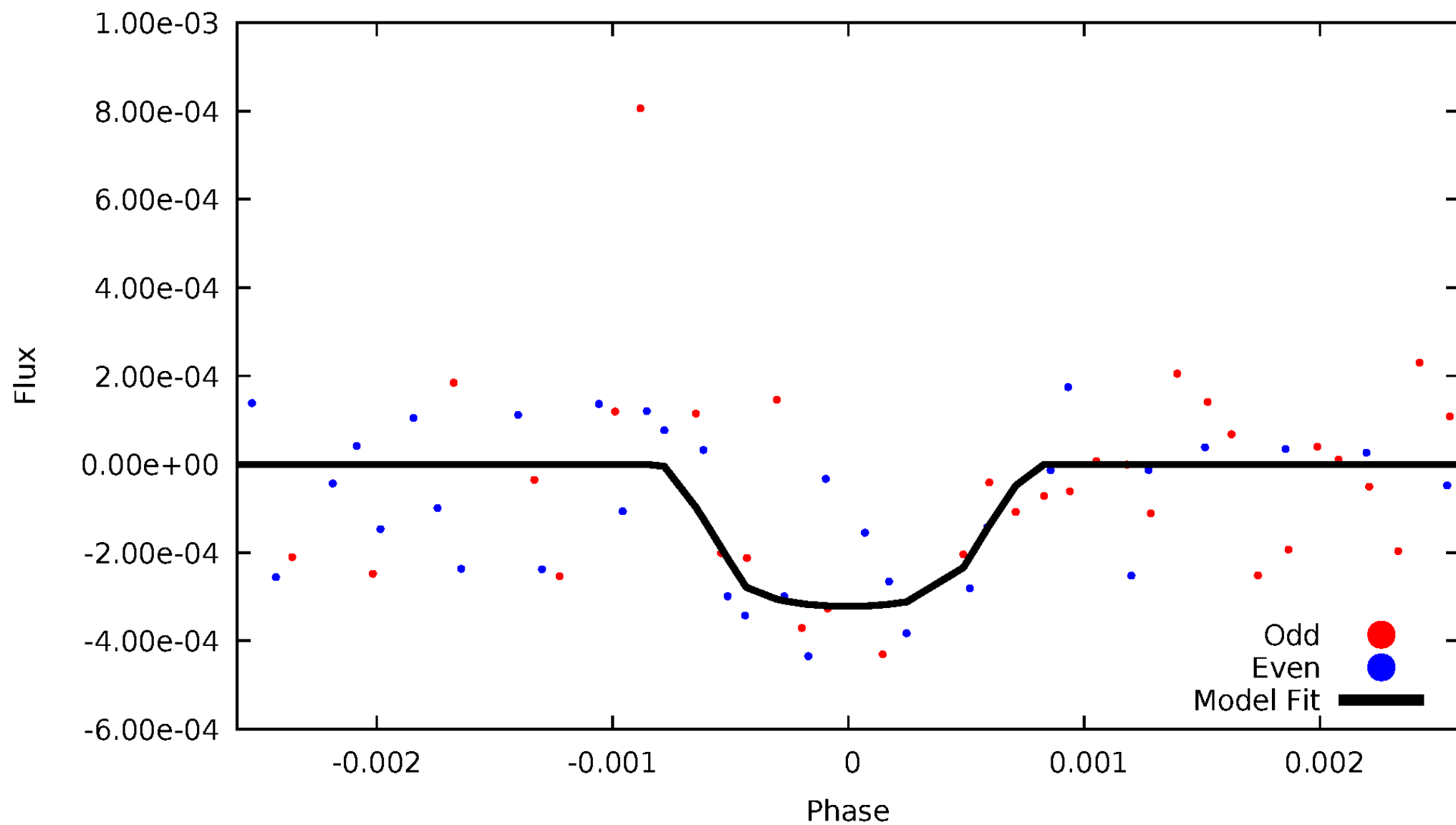


TCE 006140122-04



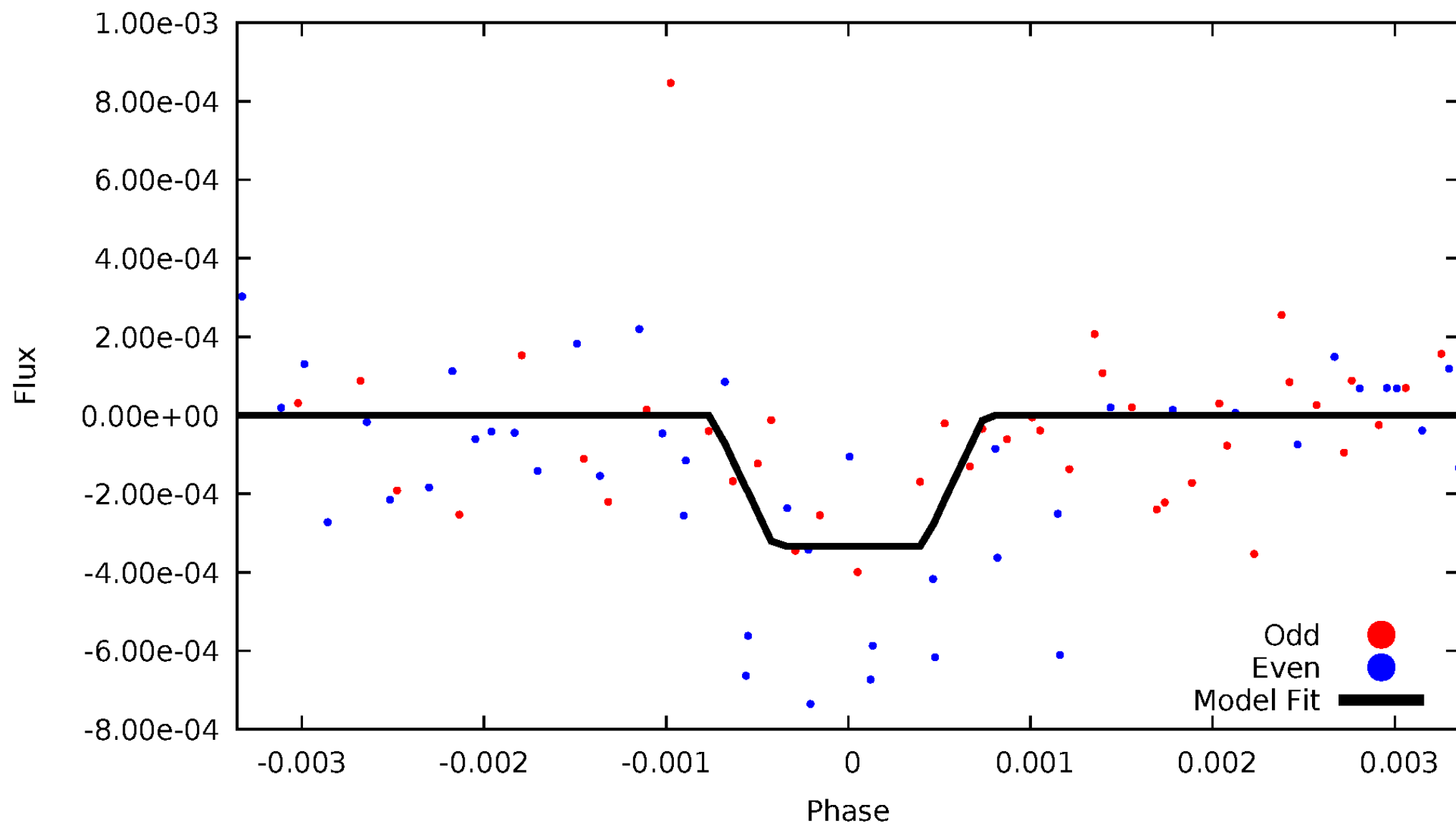
DV Odd/Even

TCE 006140122-04



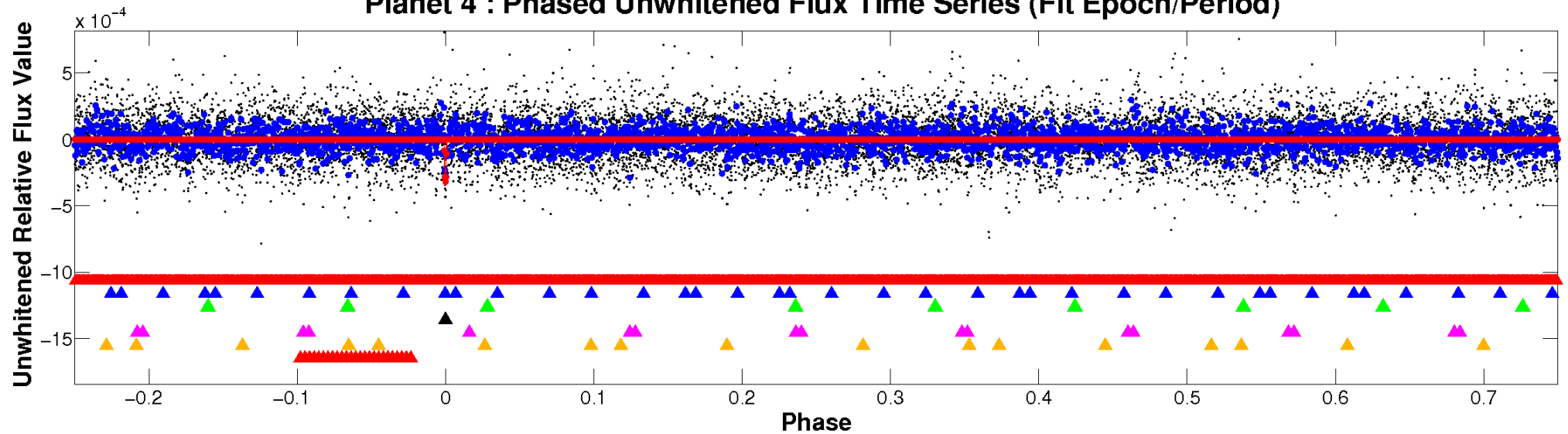
ALT Odd/Even

TCE 006140122-04

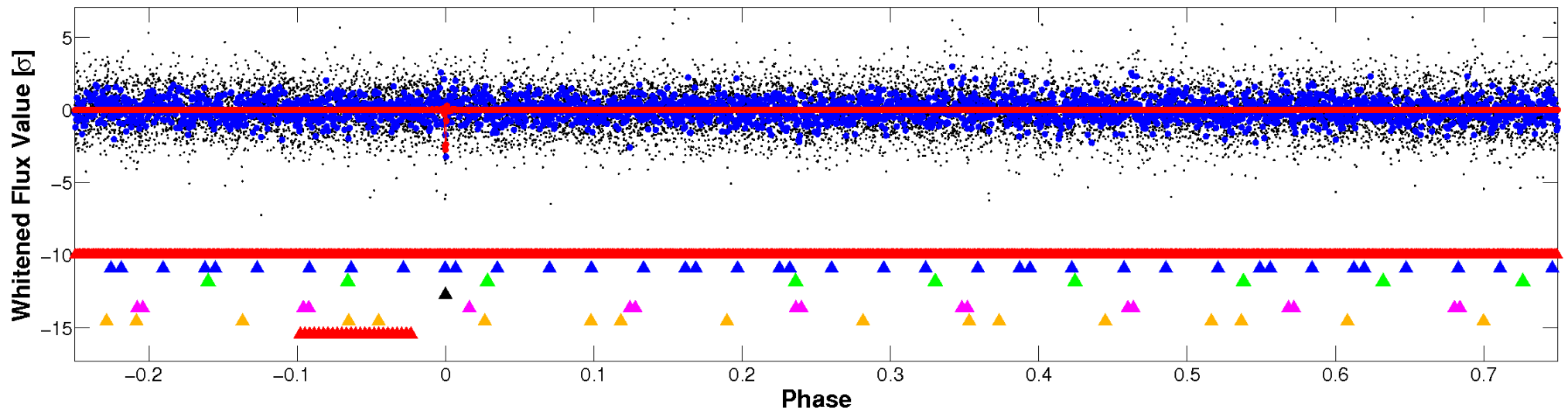


Non-Whitened Vs. Whitened Light Curve

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

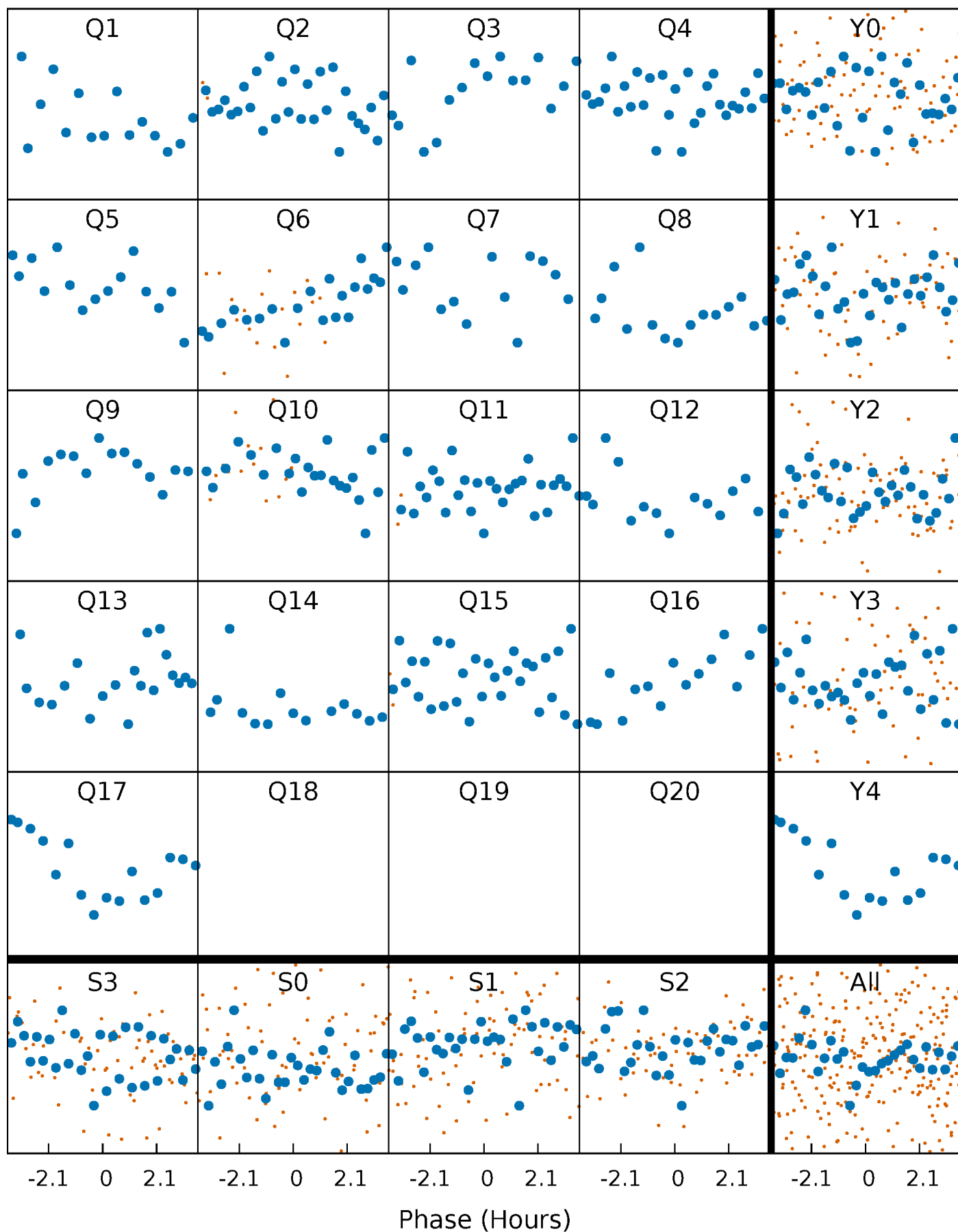


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



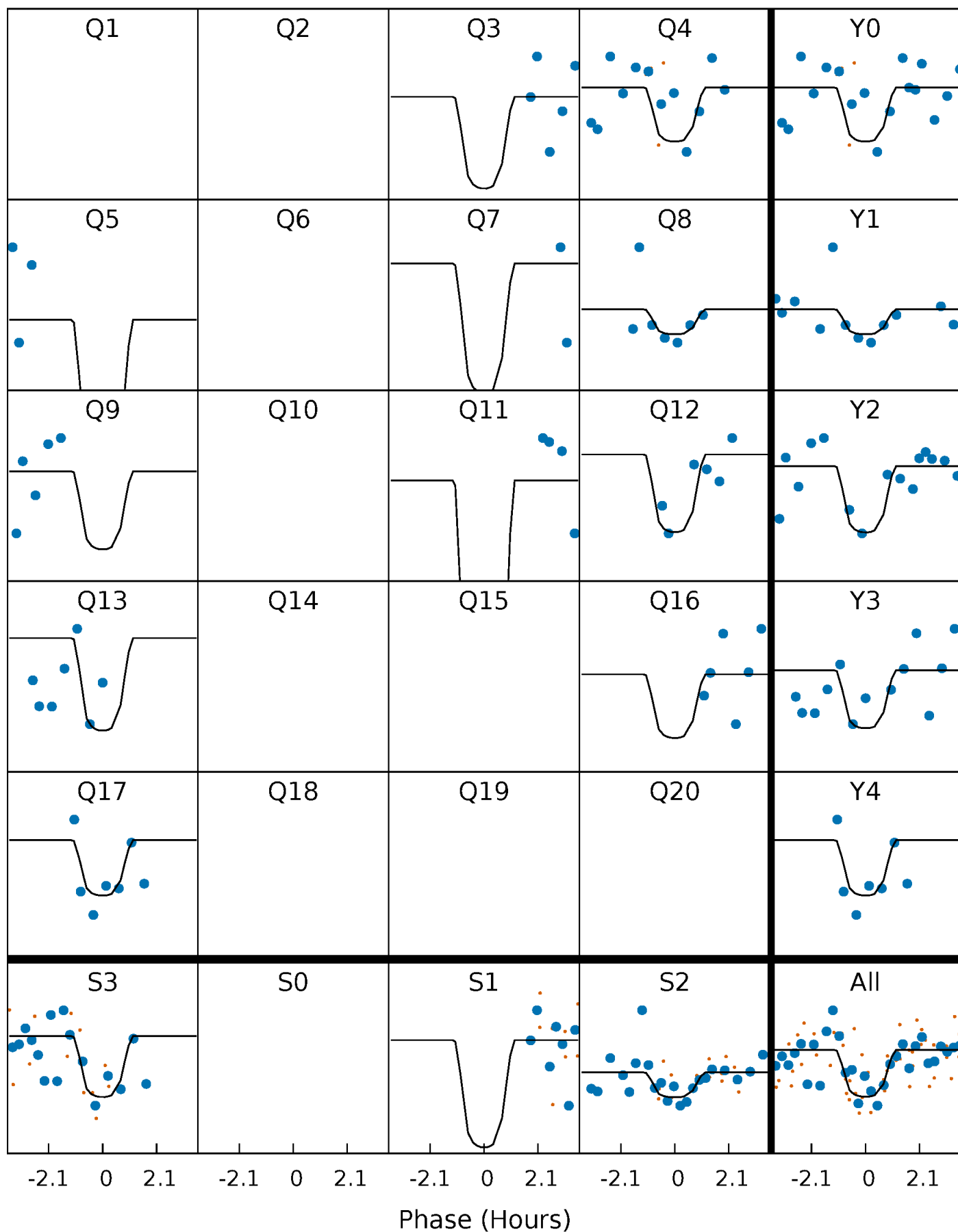
PDC Quarter-Phased Transit Curves

TCE 006140122-04 P= 59.699052 Days $T_0=134.877360$ (BKJD)



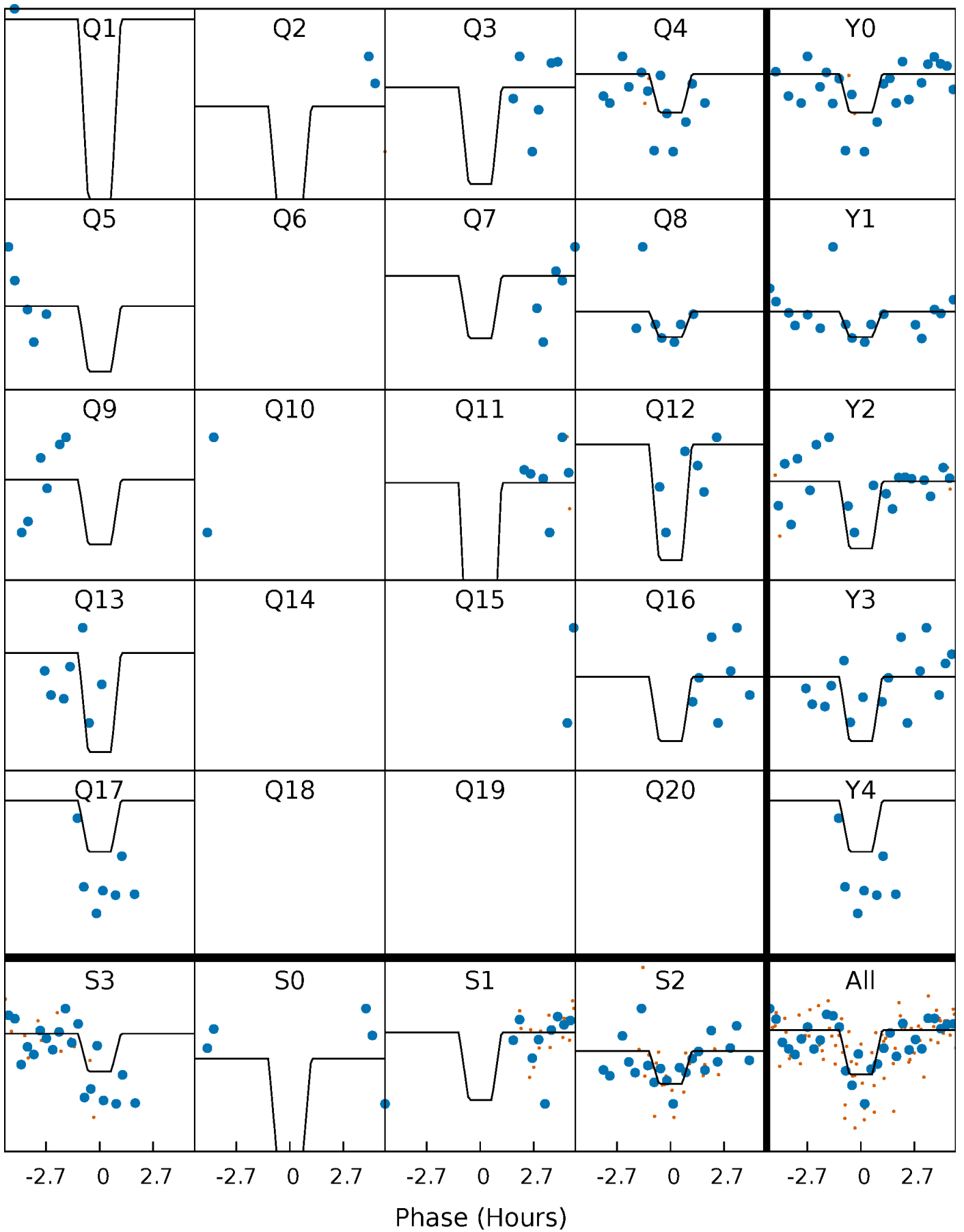
DV Quarter-Phased Transit Curves

TCE 006140122-04 P= 59.699052 Days $T_0=134.877360$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

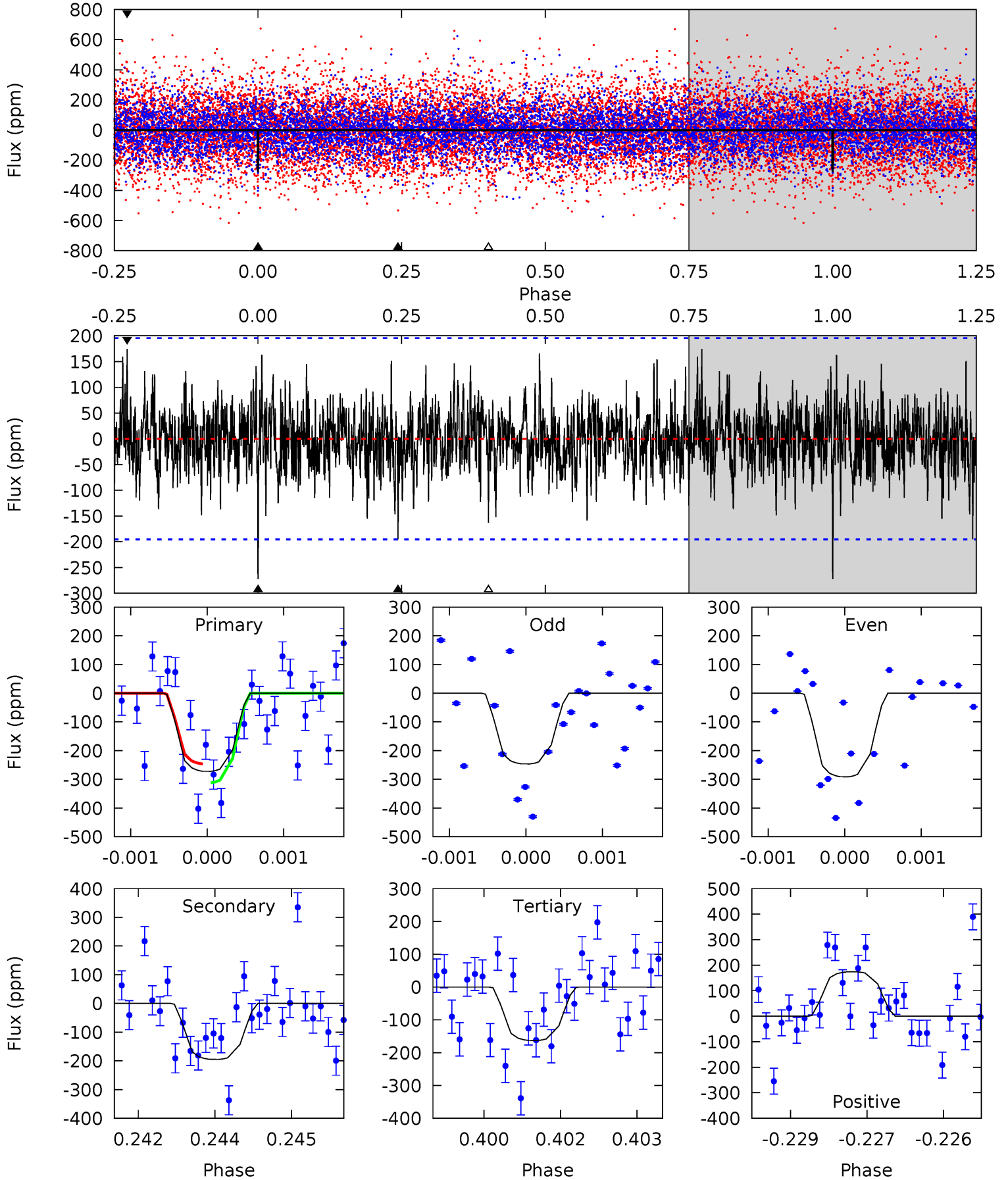
TCE 006140122-04 P= 59.698796 Days $T_0=134.885790$ (BKJD)



DV Model-Shift Uniqueness Test

006140122-04, P = 59.699052 Days, E = 75.178308 Days

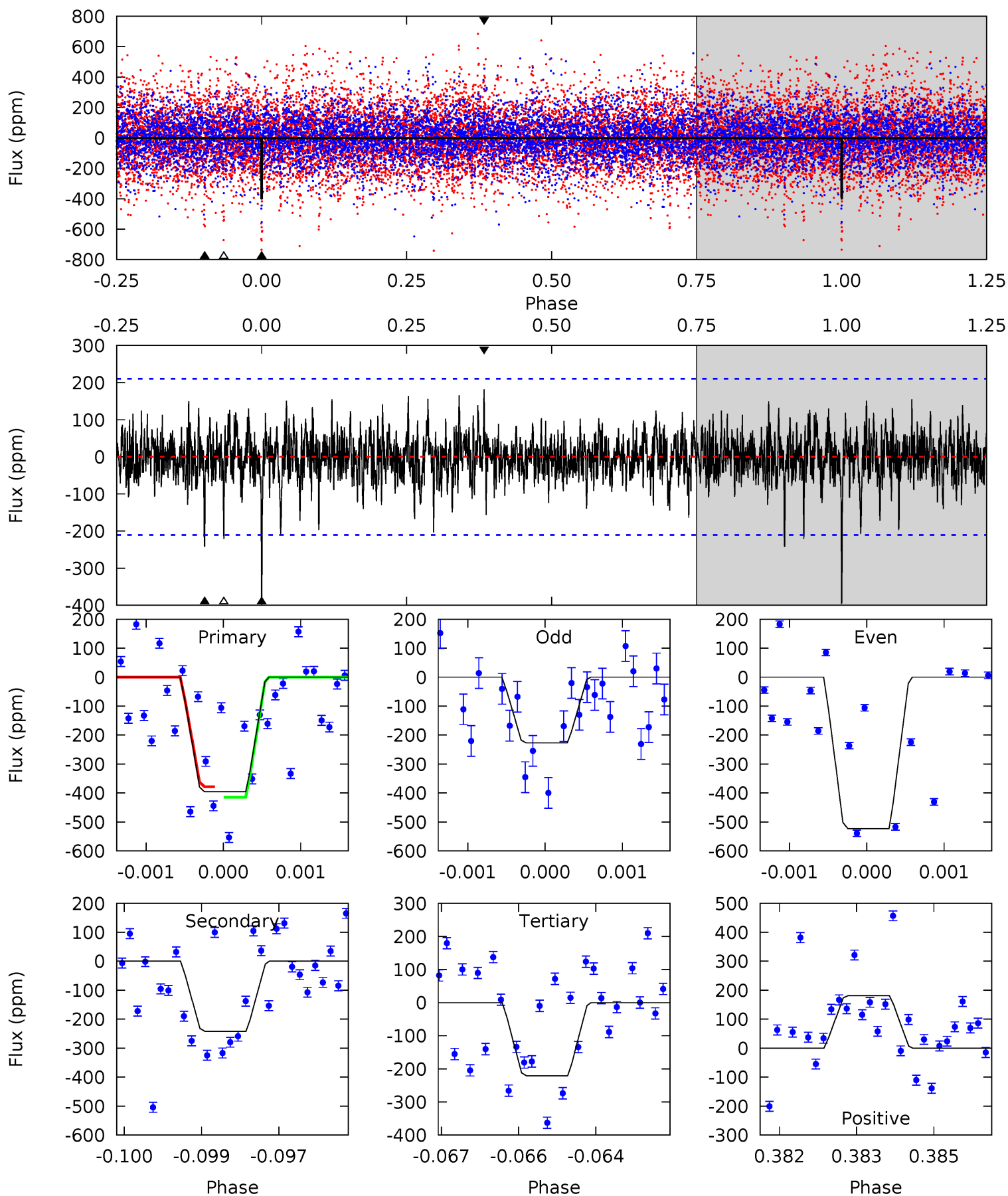
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.49	5.37	4.48	4.79	5.38	3.18	1.37	3.01	2.70	0.88	0.57	0.62	0.82	0.39	0.90



Alt Model-Shift Uniqueness Test

006140122-04, P = 59.698796 Days, E = 75.186994 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	6.21	5.67	4.65	5.40	3.20	1.28	4.48	5.50	0.54	1.56	3.79	1.25	0.31	0.47



Stellar Parameters For KIC 006140122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6915^{+190}_{-238}	$3.655^{+0.323}_{-0.076}$	$-0.260^{+0.300}_{-0.250}$	$3.153^{+0.386}_{-1.159}$	$1.638^{+0.216}_{-0.324}$	$0.074^{+0.158}_{-0.018}$
	+3%/-3%	+9%/-2%	+115%/-96%	+12%/-37%	+13%/-20%	+215%/-25%
Source	PHO1	FLK73	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 006140122-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-195 ± 36	$6.84^{+4.67}_{-4.14}$	1244^{+73}_{-108}	5582^{+3538}_{-1115}	283^{+1426}_{-185}
Alt.	-242 ± 39	$6.56^{+4.71}_{-3.93}$	1248^{+68}_{-111}	5919^{+4026}_{-1223}	369^{+2006}_{-241}

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

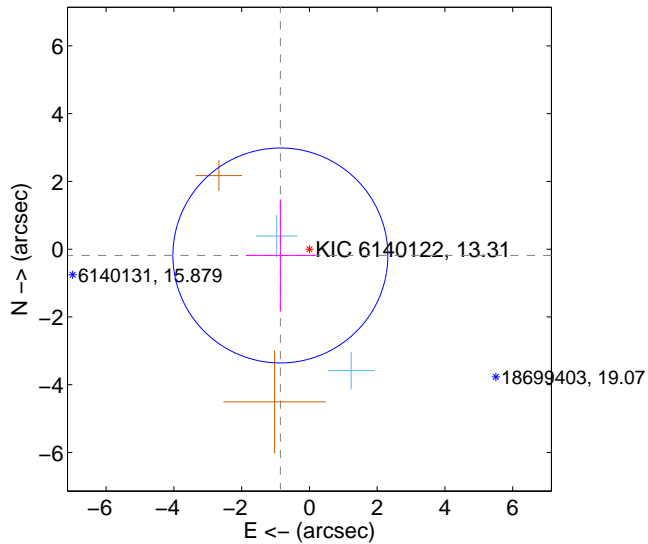
Supplemental centroid analysis for 006140122-04. Kepler magnitude: 13.31. Transit SNR 9.58

There are 2 quarters with good PRF difference image offsets

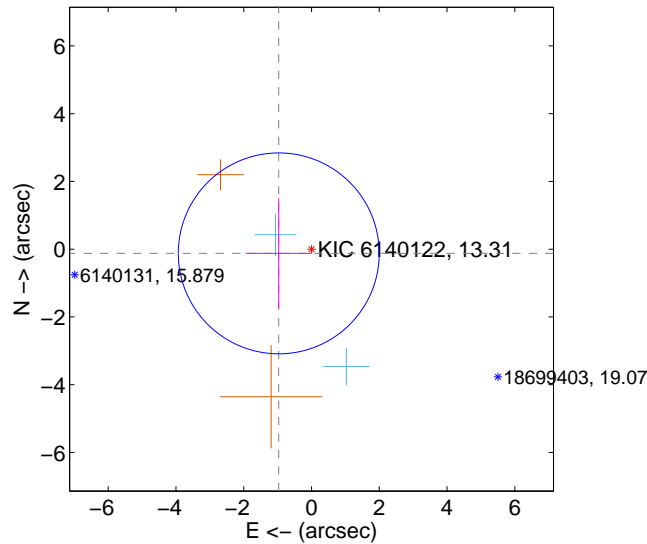
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.877 ± 1.057	0.83	0.857 ± 1.020	-0.186 ± 1.658
PRF-fit source offset from KIC position	0.974 ± 0.988	0.99	0.966 ± 0.974	-0.124 ± 1.629
photometric centroid source offset	2.70 ± 1.08	2.49	1.69 ± 0.86	2.11 ± 1.20

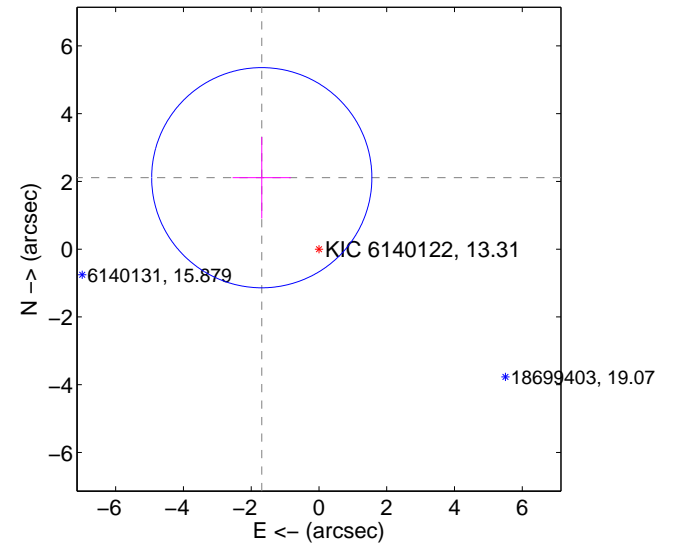
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

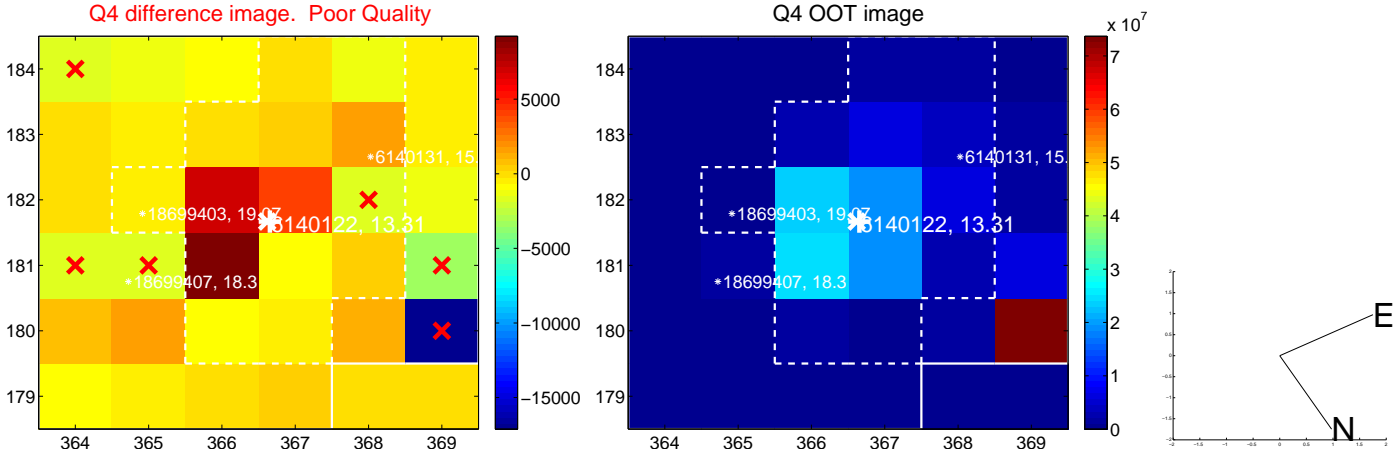
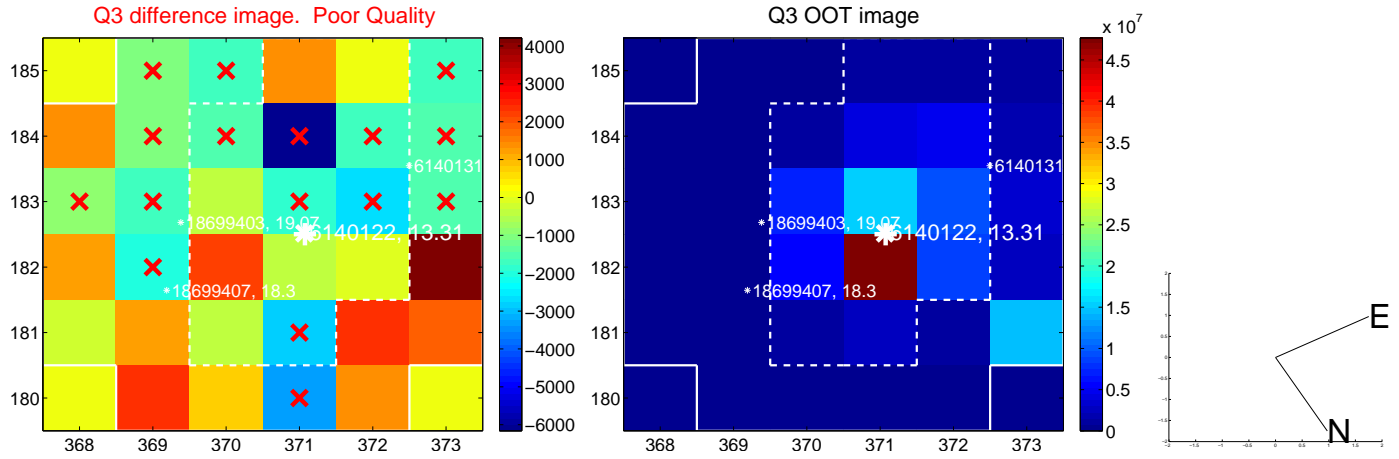
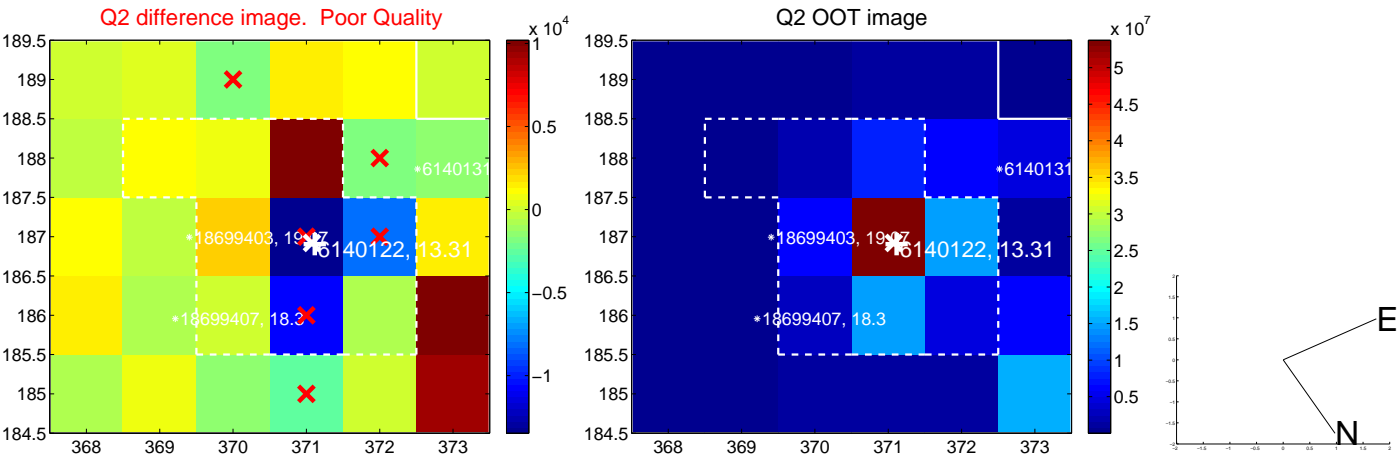
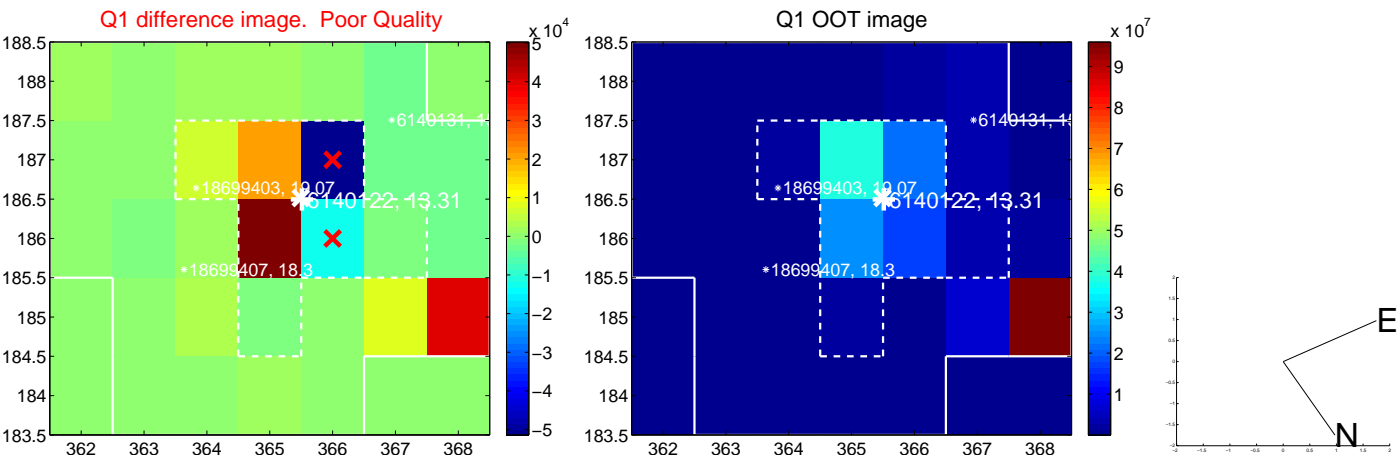


offset from photometric centroids

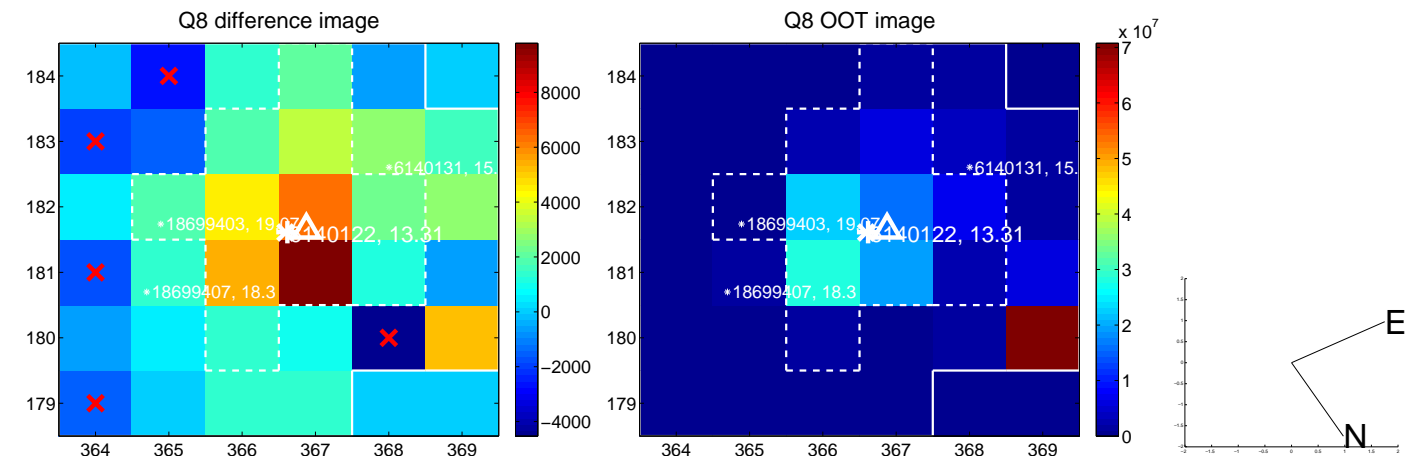
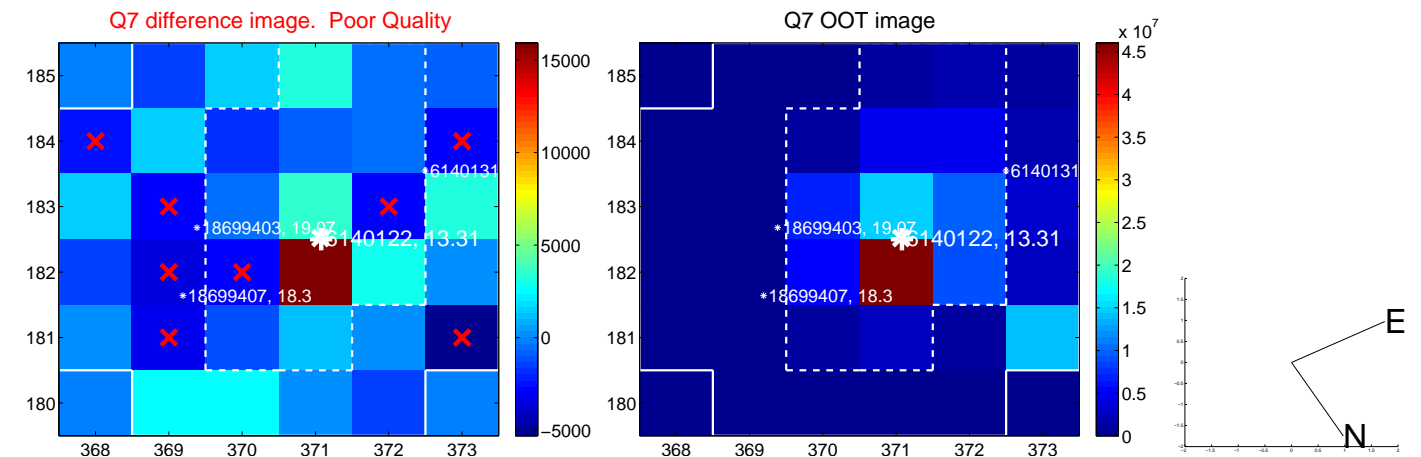
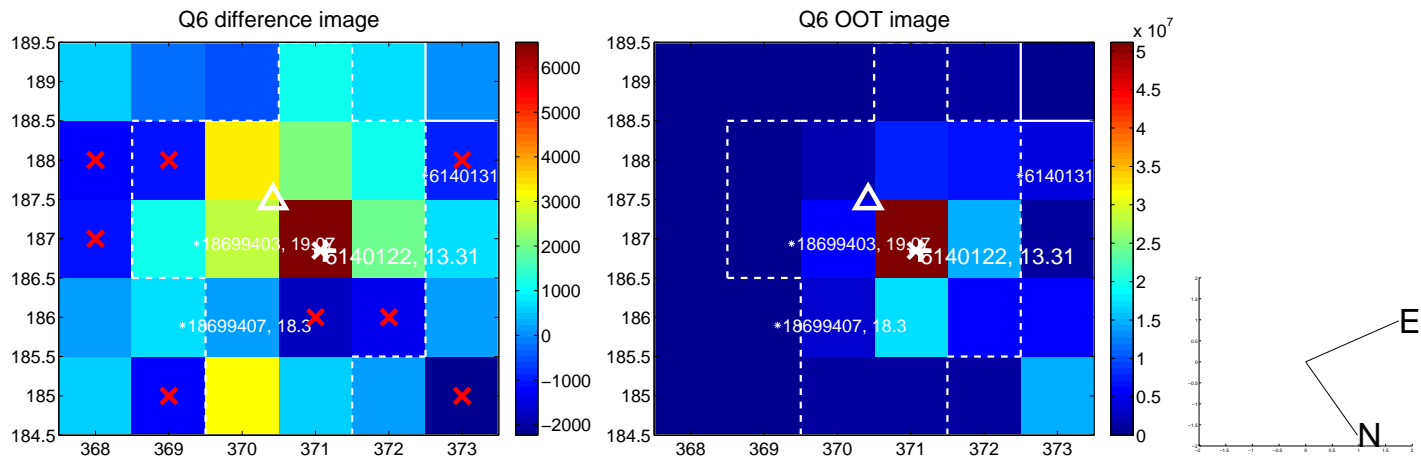
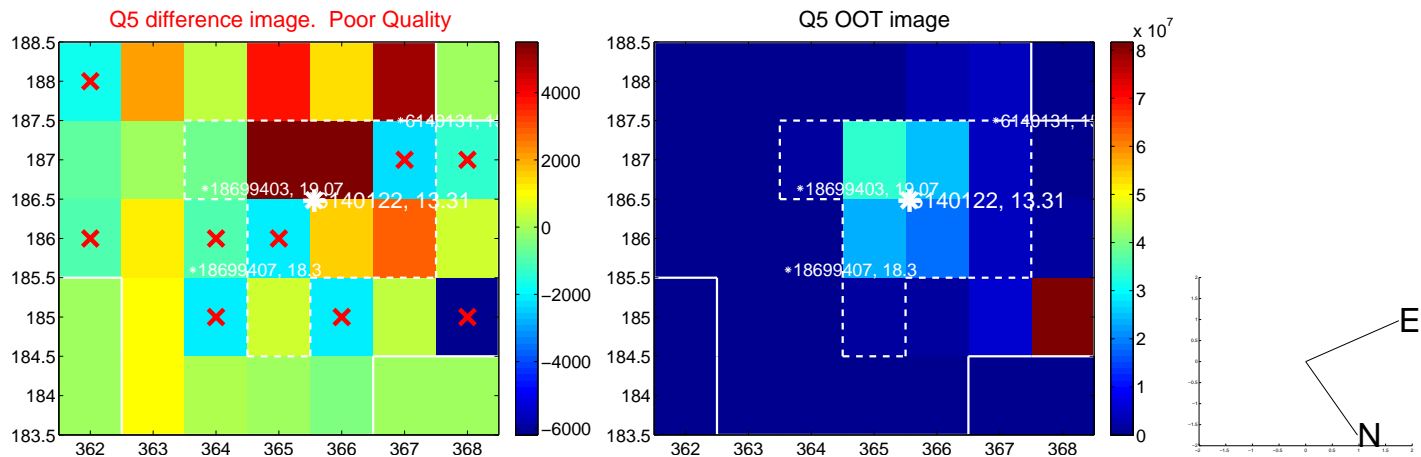


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

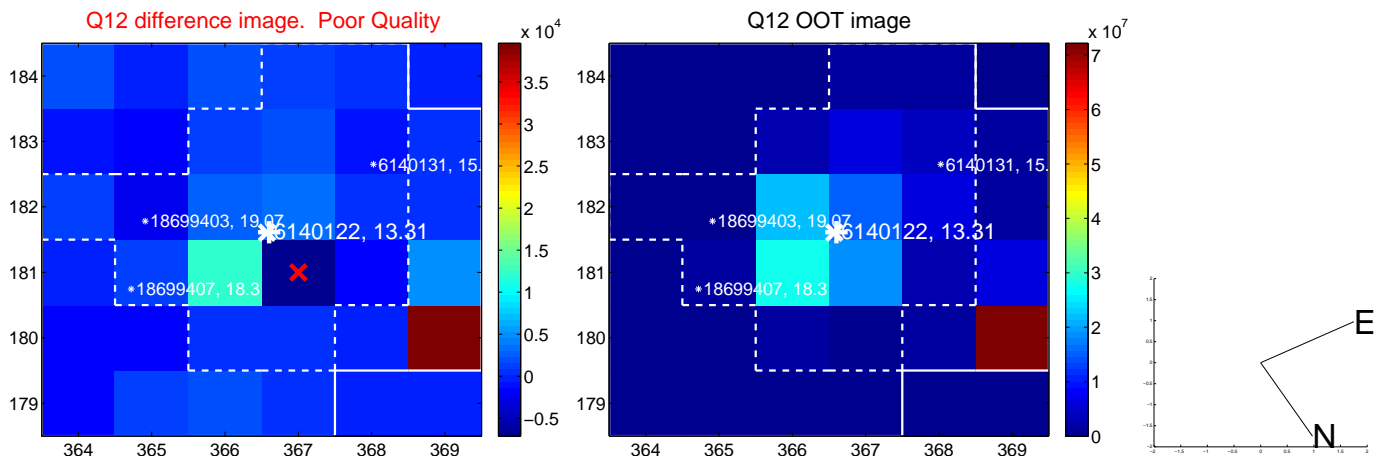
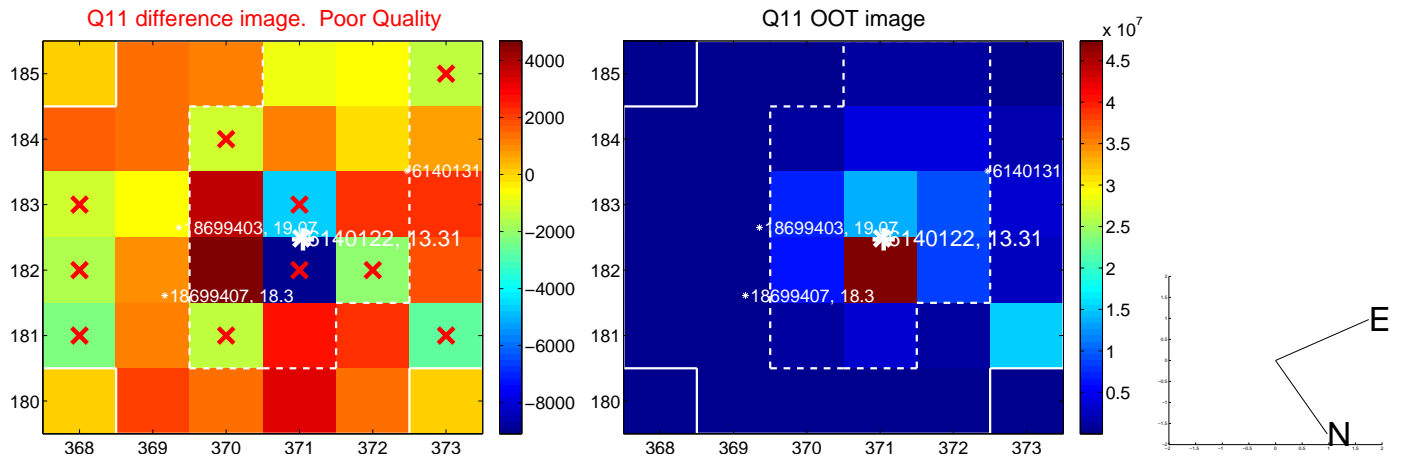
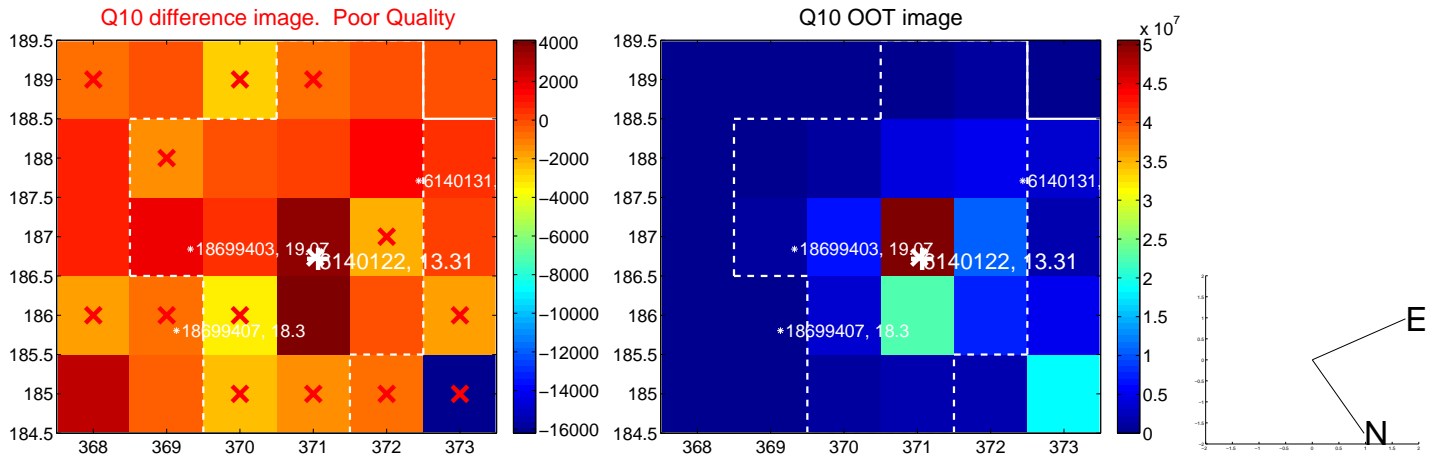
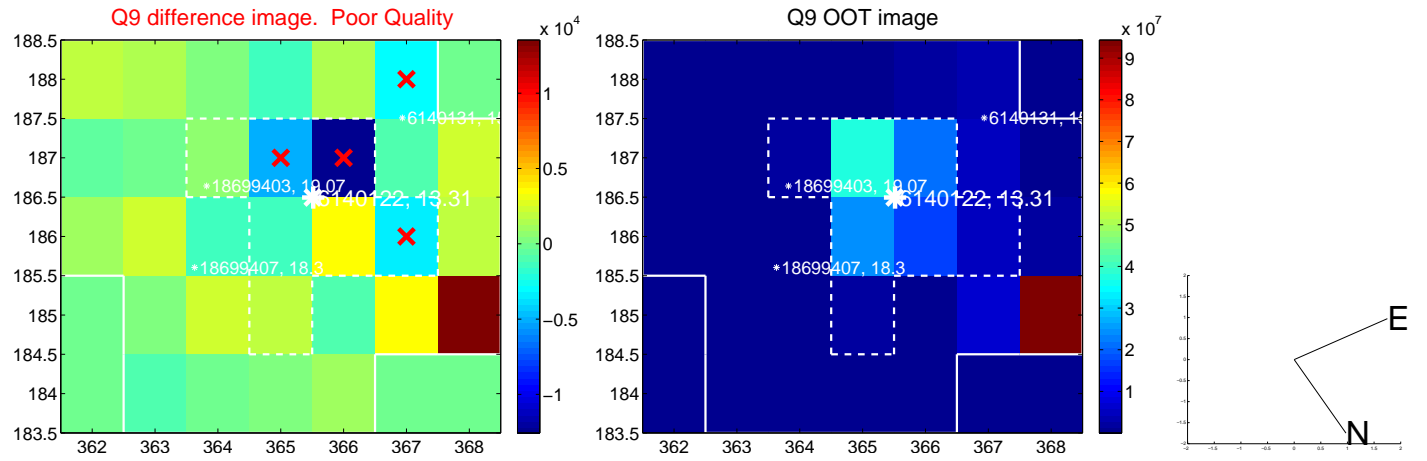
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



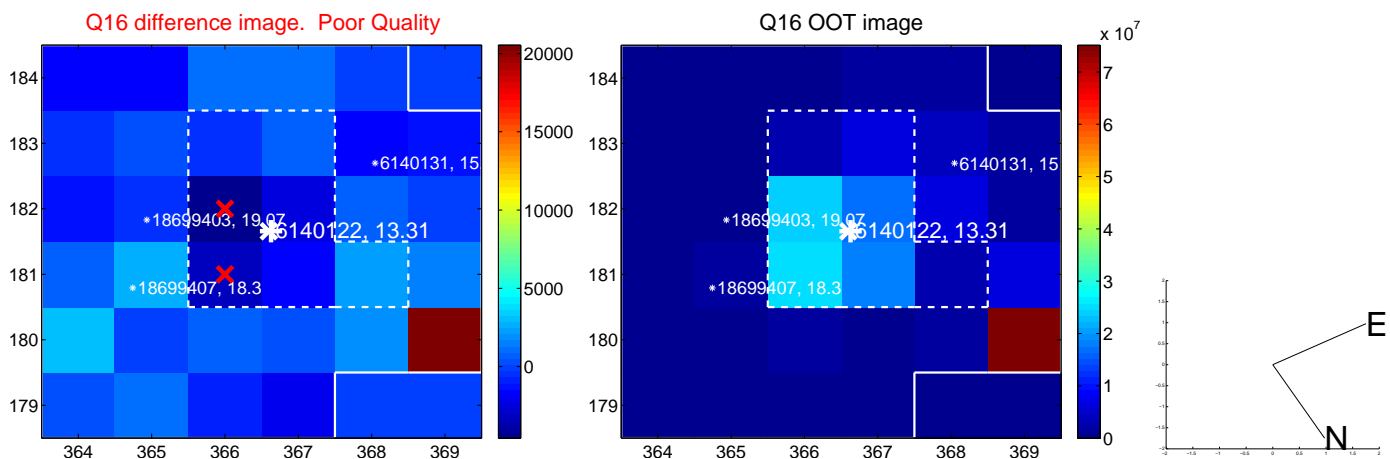
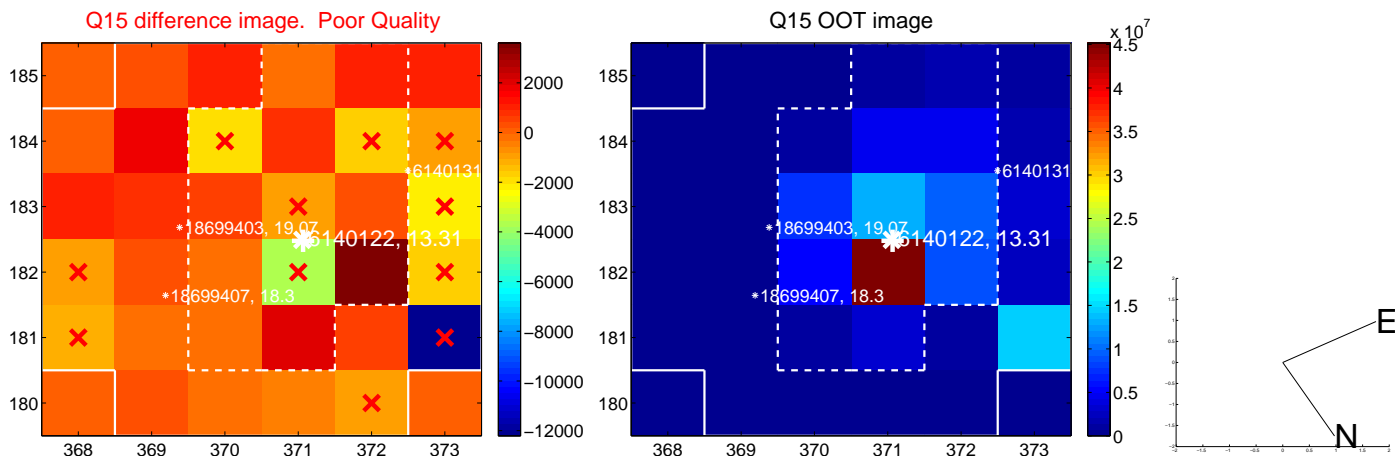
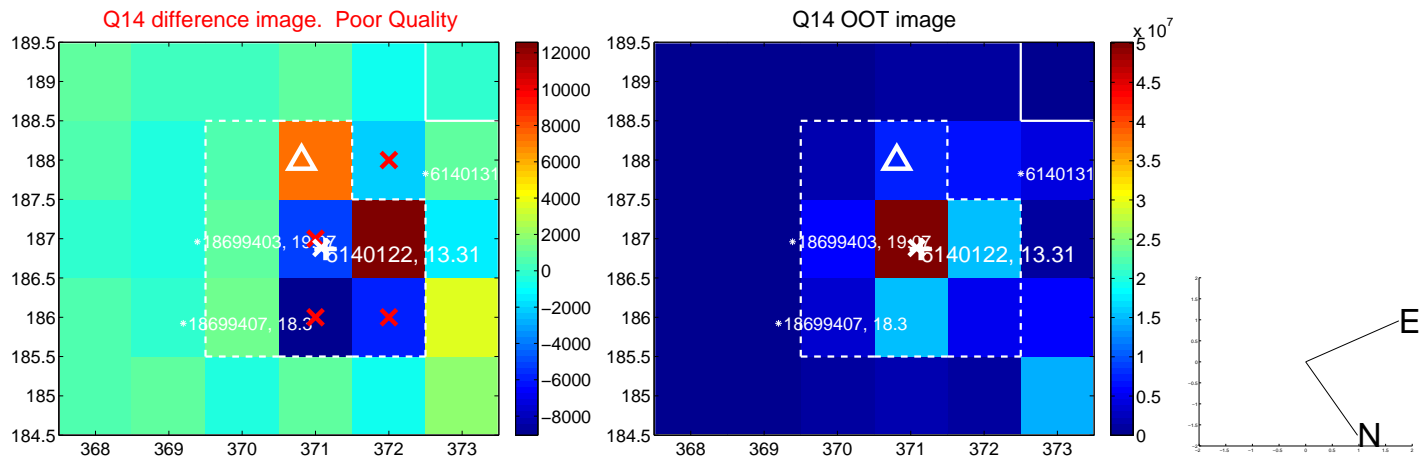
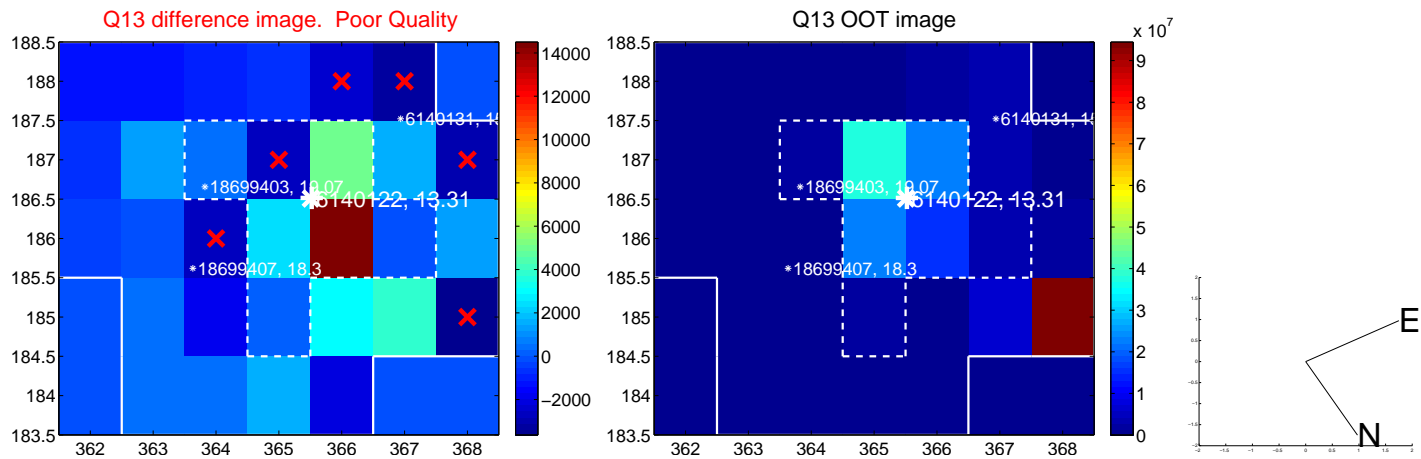
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



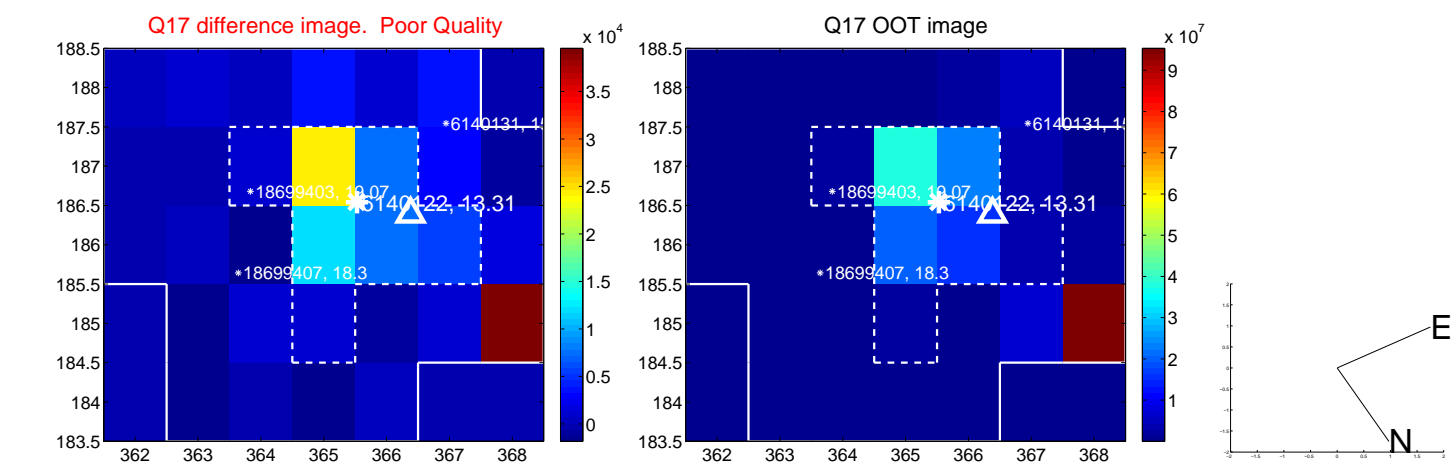
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



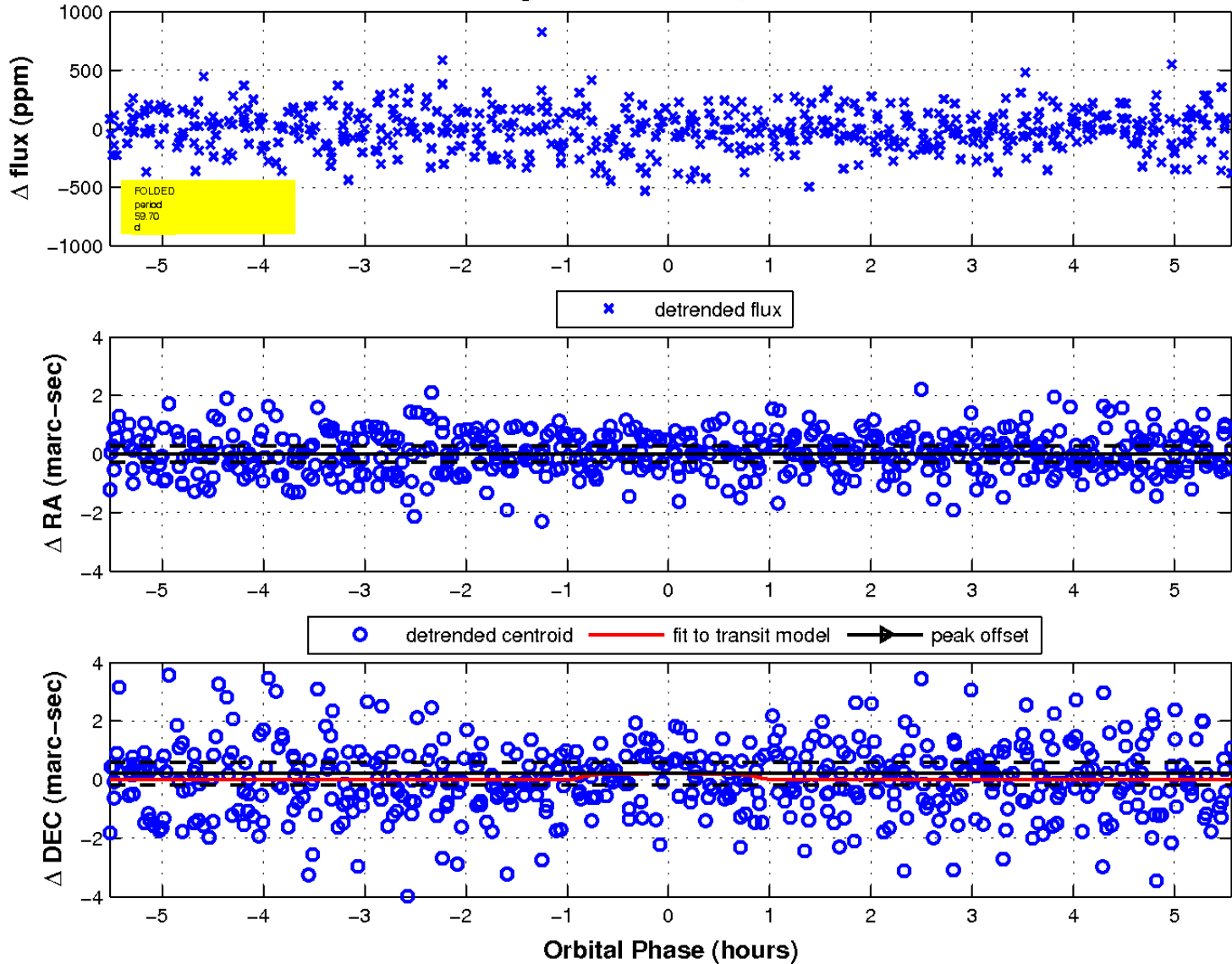
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

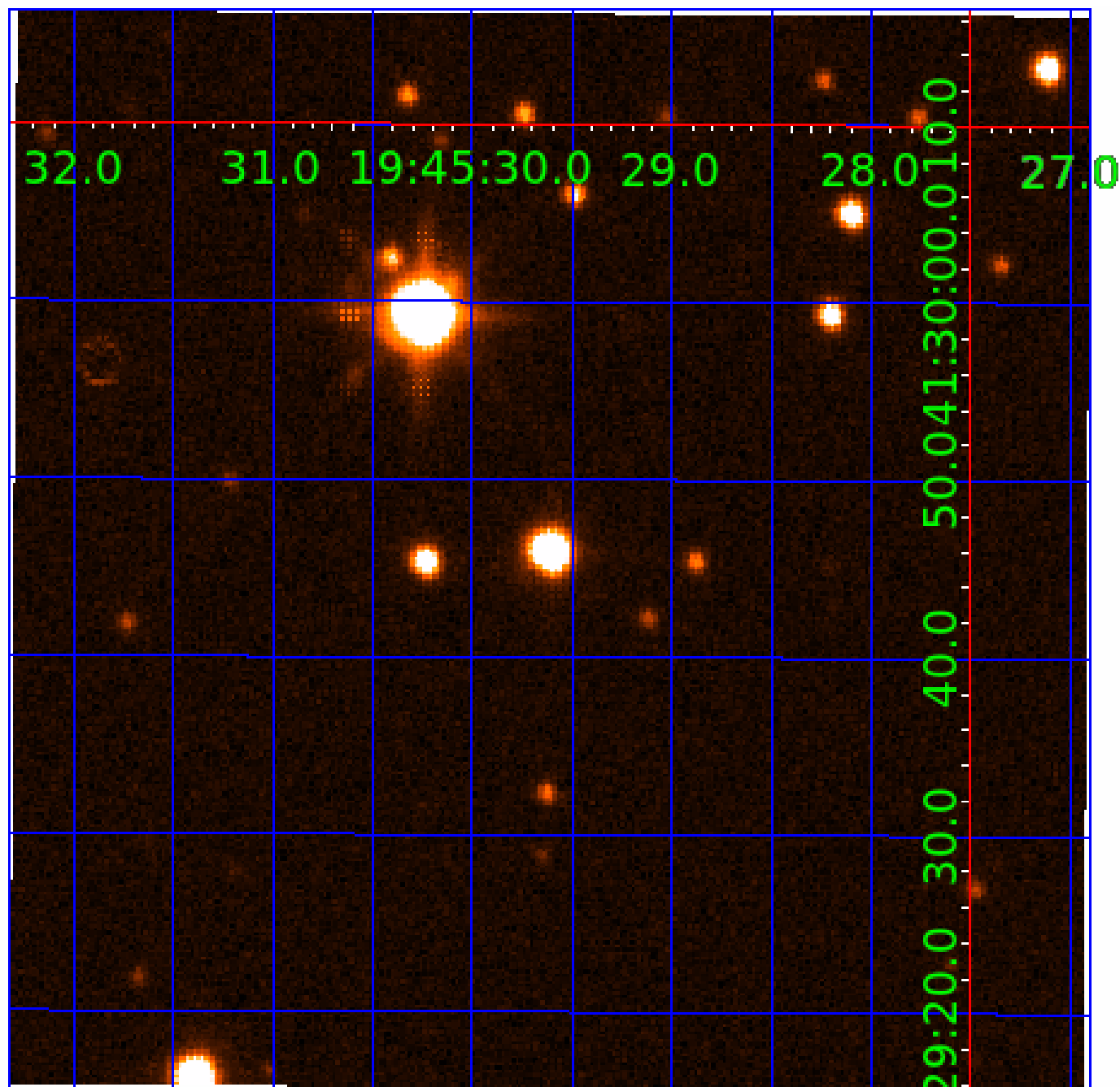


fluxWeightedCentroids, Planet 4 of 7



UKIRT Image

Declination



KIC 006140122

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})
006140122-01	OBS	No	0.654944	131.692943	5.2	3.979	7.9	2.6	3.15	6915	0.73	67236.75
006140122-02	OBS	No	36.576303	168.073912	234.5	2.581	9.8	9.7	3.15	6915	5.42	314.98
006140122-03	OBS	No	161.071490	185.022447	354.5	11.105	8.1	9.3	3.15	6915	7.51	43.64
006140122-04	OBS	No	59.699052	134.877360	321.8	1.856	8.0	9.6	3.15	6915	6.34	163.90
006140122-05	OBS	No	86.207392	162.567090	251.2	5.380	8.4	8.7	3.15	6915	5.80	100.42
006140122-06	OBS	No	84.674039	200.429652	452.5	1.663	8.7	8.9	3.15	6915	7.77	102.85
006140122-07	OBS	No	59.513631	133.486066	195.6	3.071	7.5	7.4	3.15	6915	4.88	164.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140122-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006140122-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

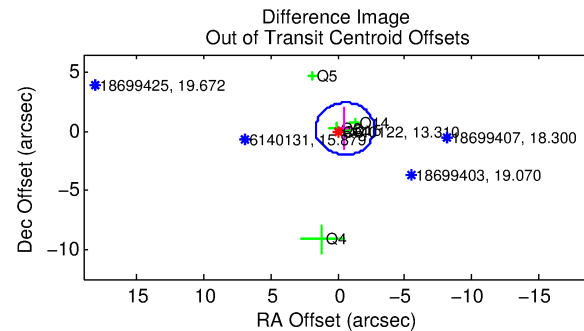
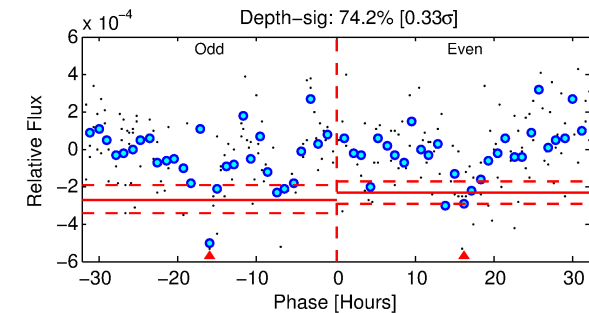
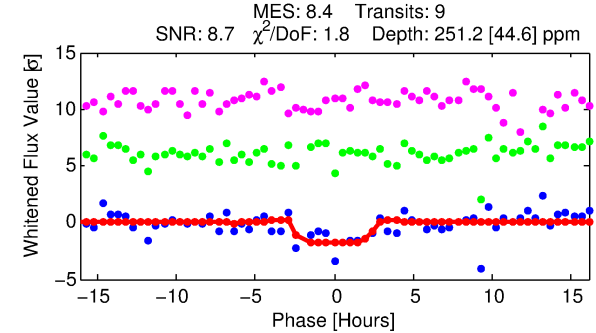
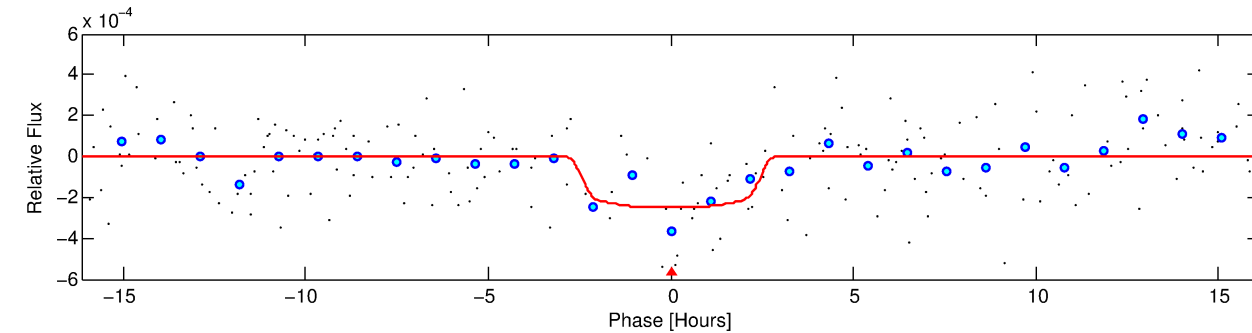
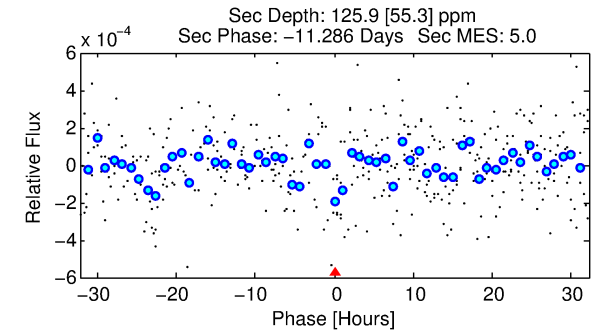
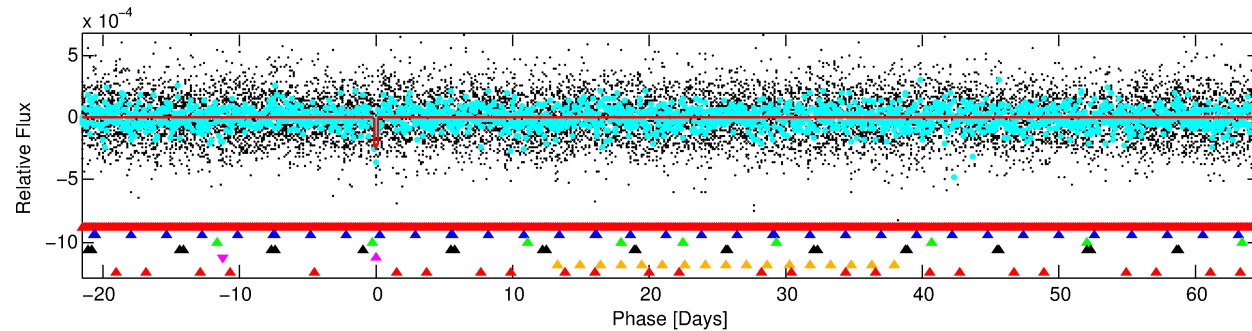
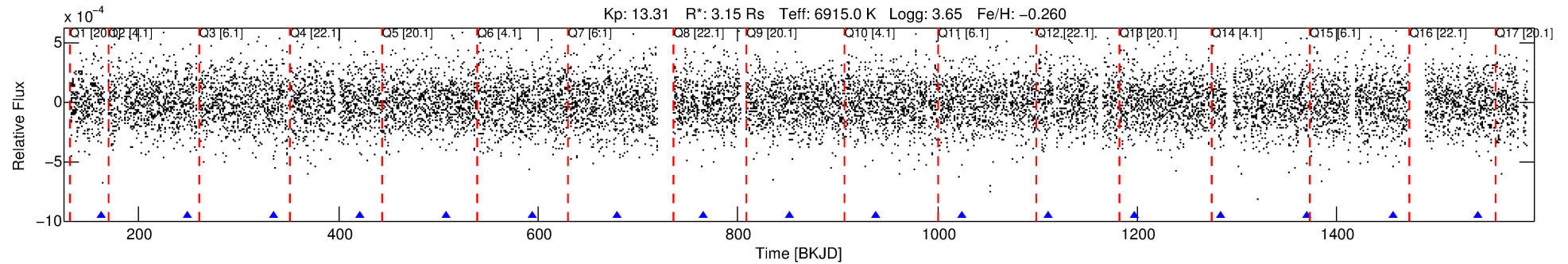
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140122-05

No Significant Match Found

DV One-Page Summary

KIC: 6140122 Candidate: 5 of 7 Period: 86.207 d



DV Fit Results:

Period = 86.20739 [0.00277] d
Epoch = 162.5671 [0.0269] BKJD
Rp/R* = 0.0169 [0.0059]
a/R* = 58.44 [121.16]
b = 0.90 [0.44]
Seff = 100.42 [57.23]
Teff = 807 [115] K
Rp = 5.80 [2.94] Re
a = 0.4503 [0.1570] AU
Ag = 417.96 [414.62] [1.01σ]
Teffp = 5643 [1178] K [4.09σ]

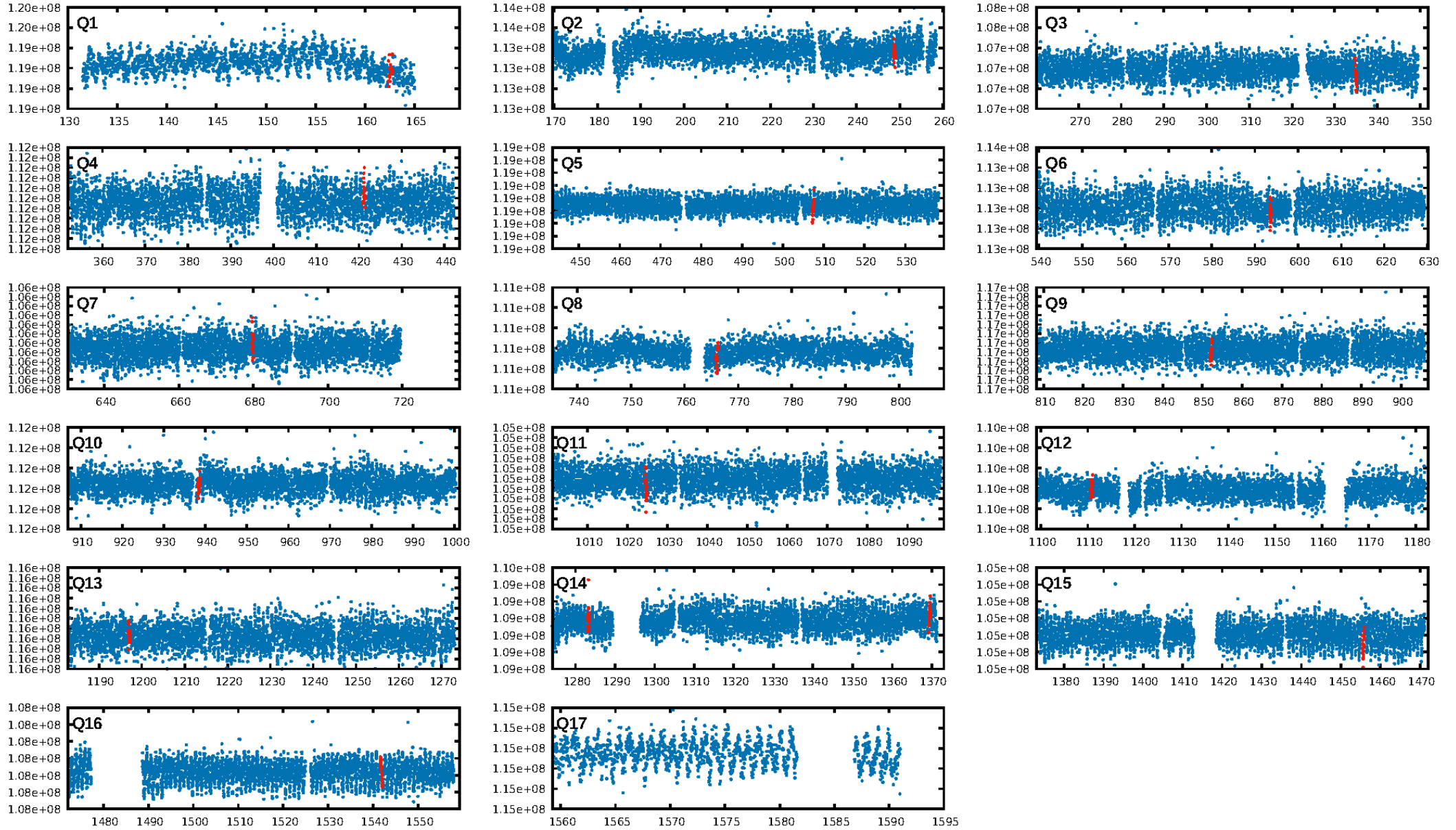
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.54σ]
LongPeriod-sig: 100.0% [145.61σ]
ModelChiSquare2-sig: 44.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.47e-09
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 0.3459
Centroid-sig: 76.6%
Centroid-so: 3.008 arcsec [2.27σ]
OotOffset-rm: 0.577 arcsec [0.79σ]
KicOffset-rm: 0.559 arcsec [0.71σ]
OotOffset-st: 2/2/1/1 [6]
KicOffset-st: 2/2/1/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.00 [0/14]

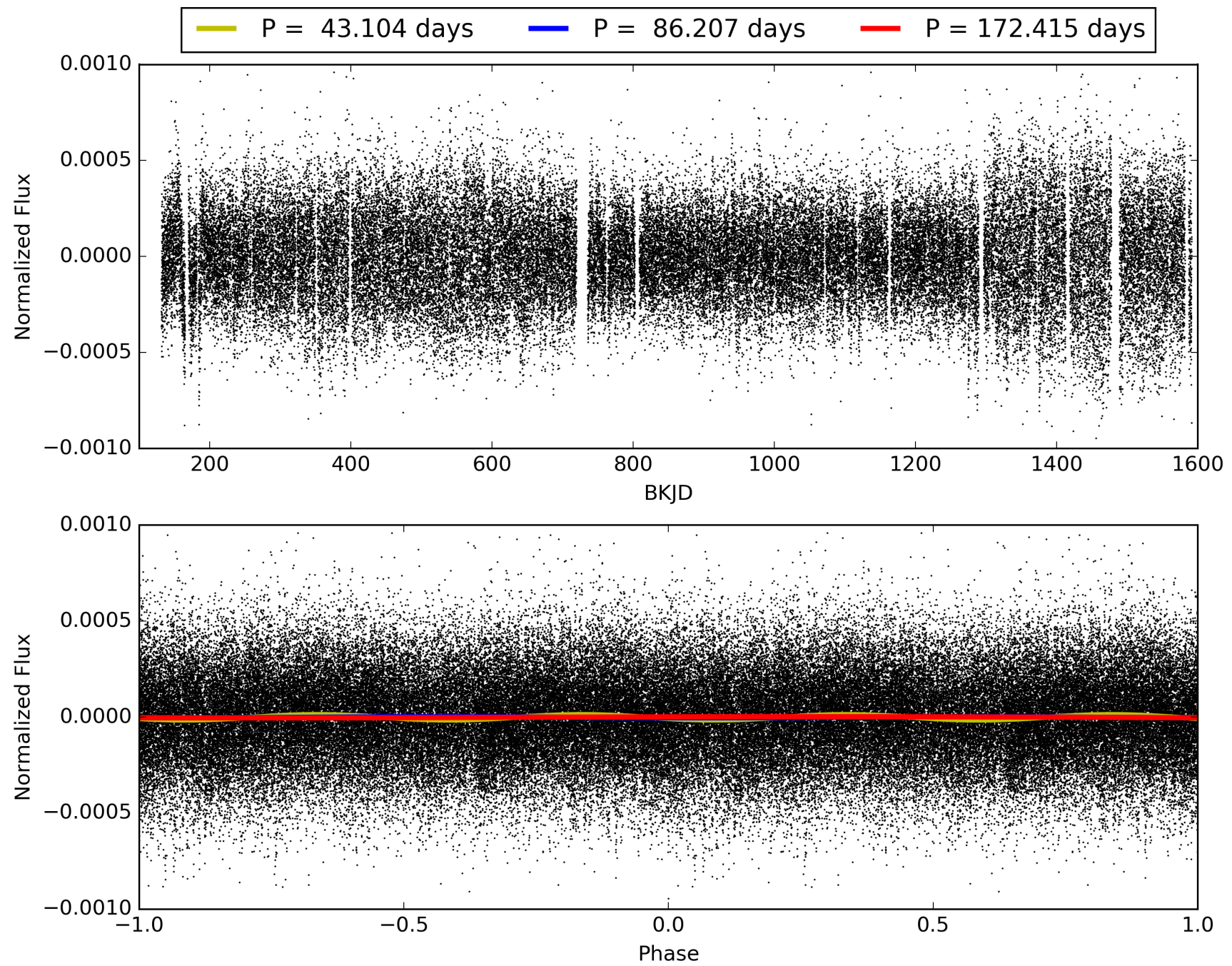
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:59:20 Z

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

TCE 006140122-05, PDC Light Curves

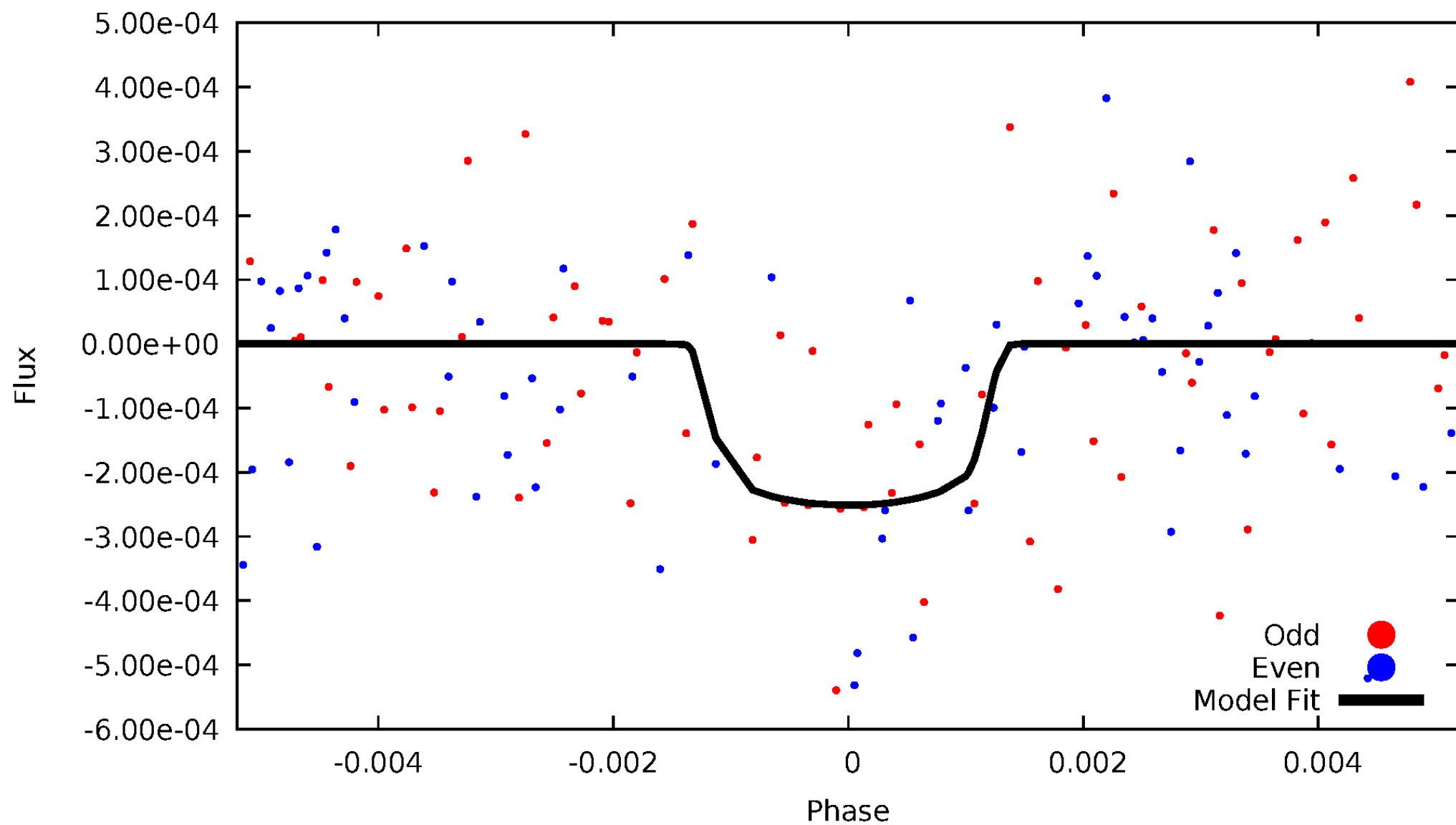


TCE 006140122-05



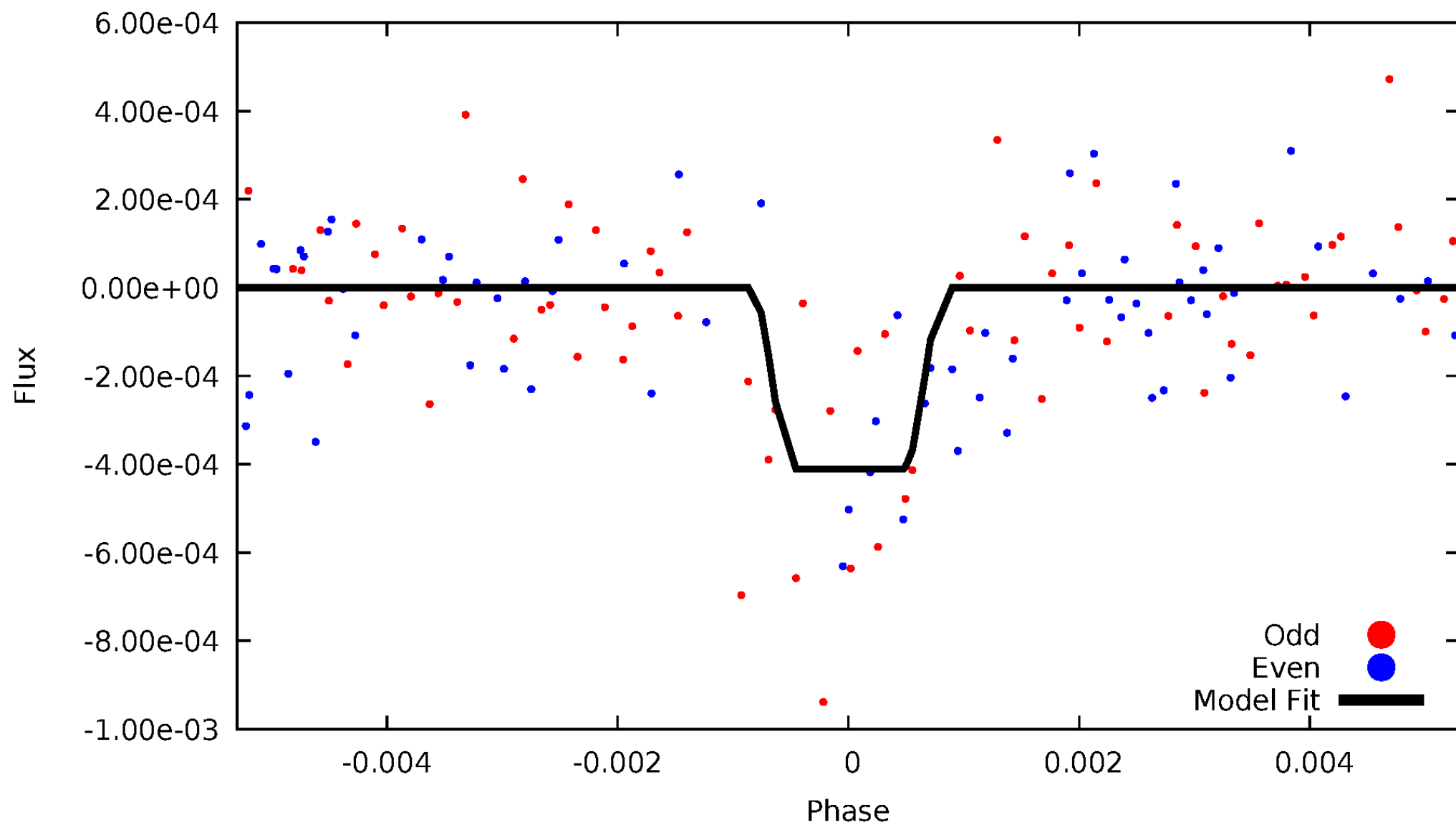
DV Odd/Even

TCE 006140122-05



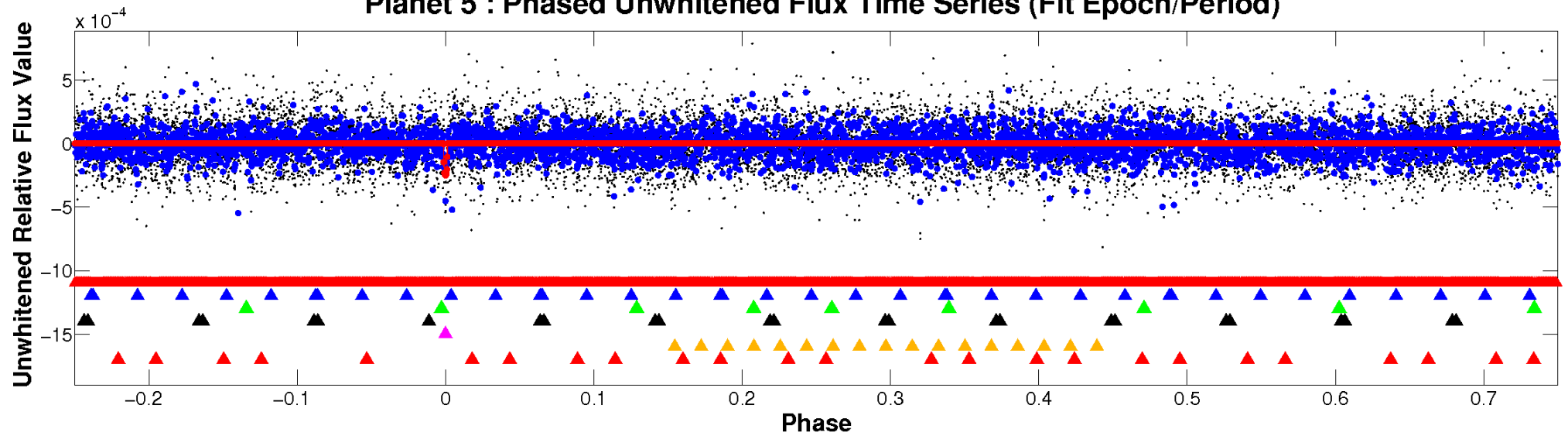
ALT Odd/Even

TCE 006140122-05

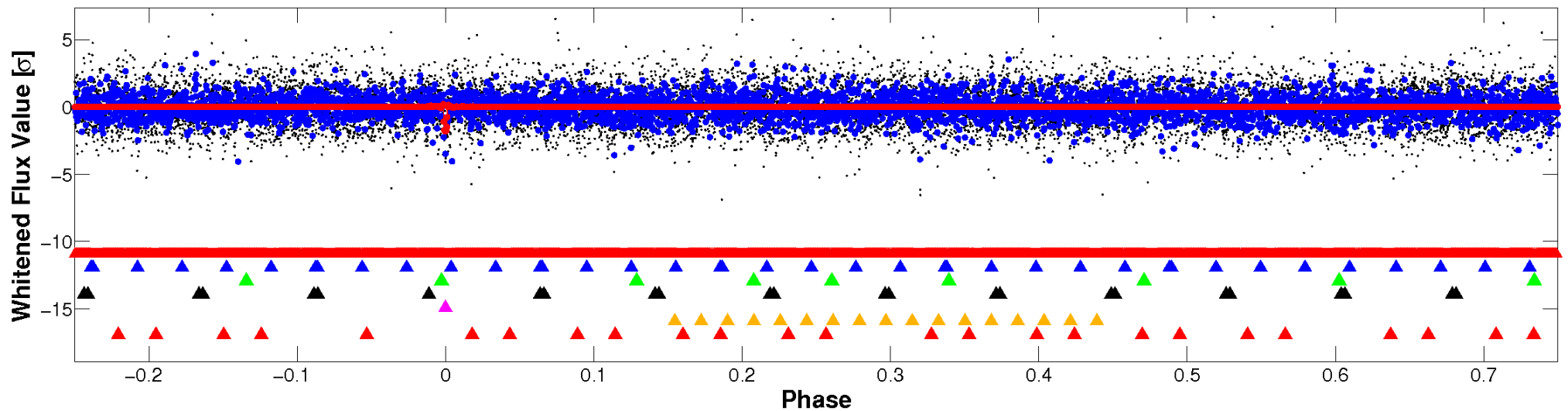


Non-Whitened Vs. Whitened Light Curve

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

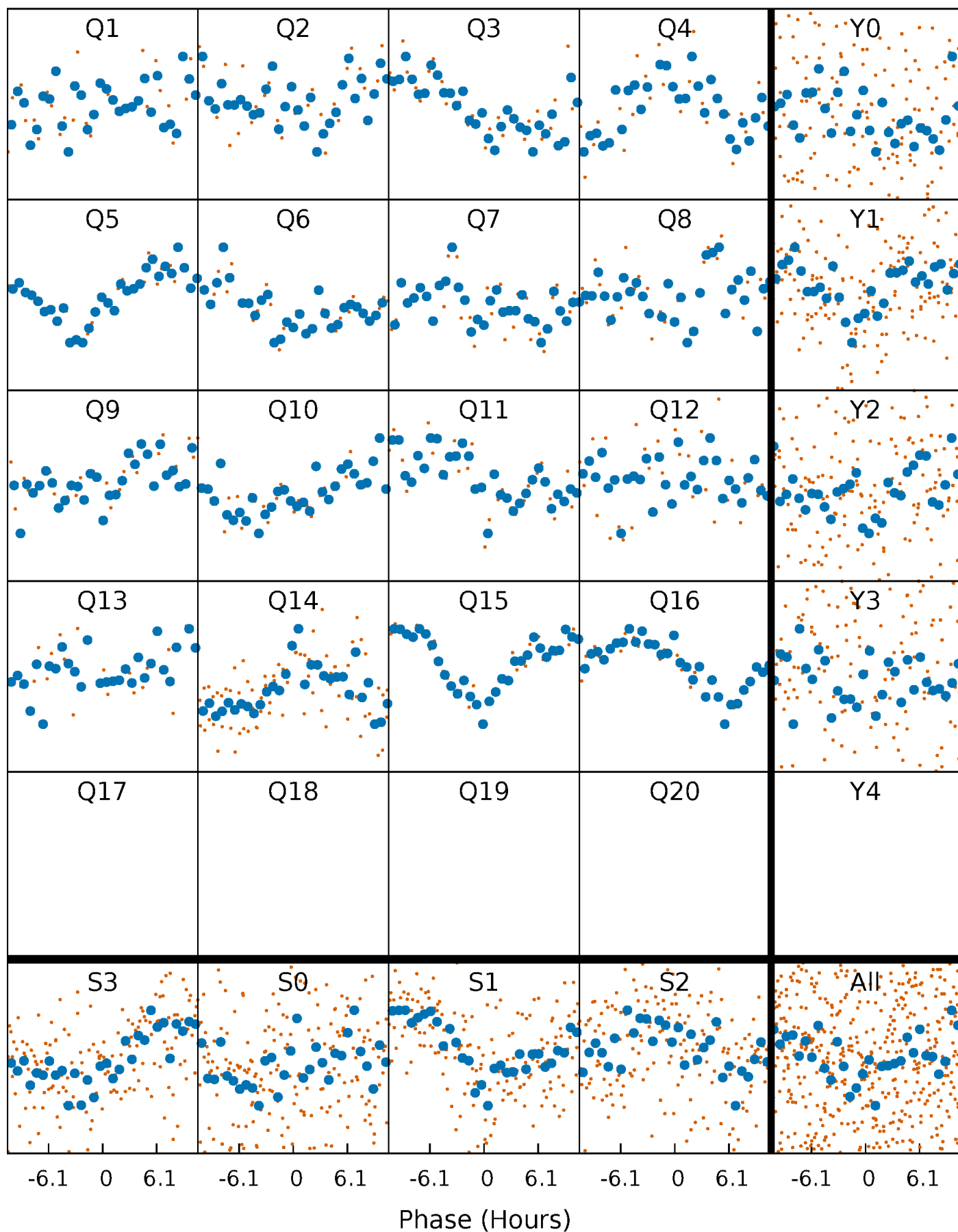


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



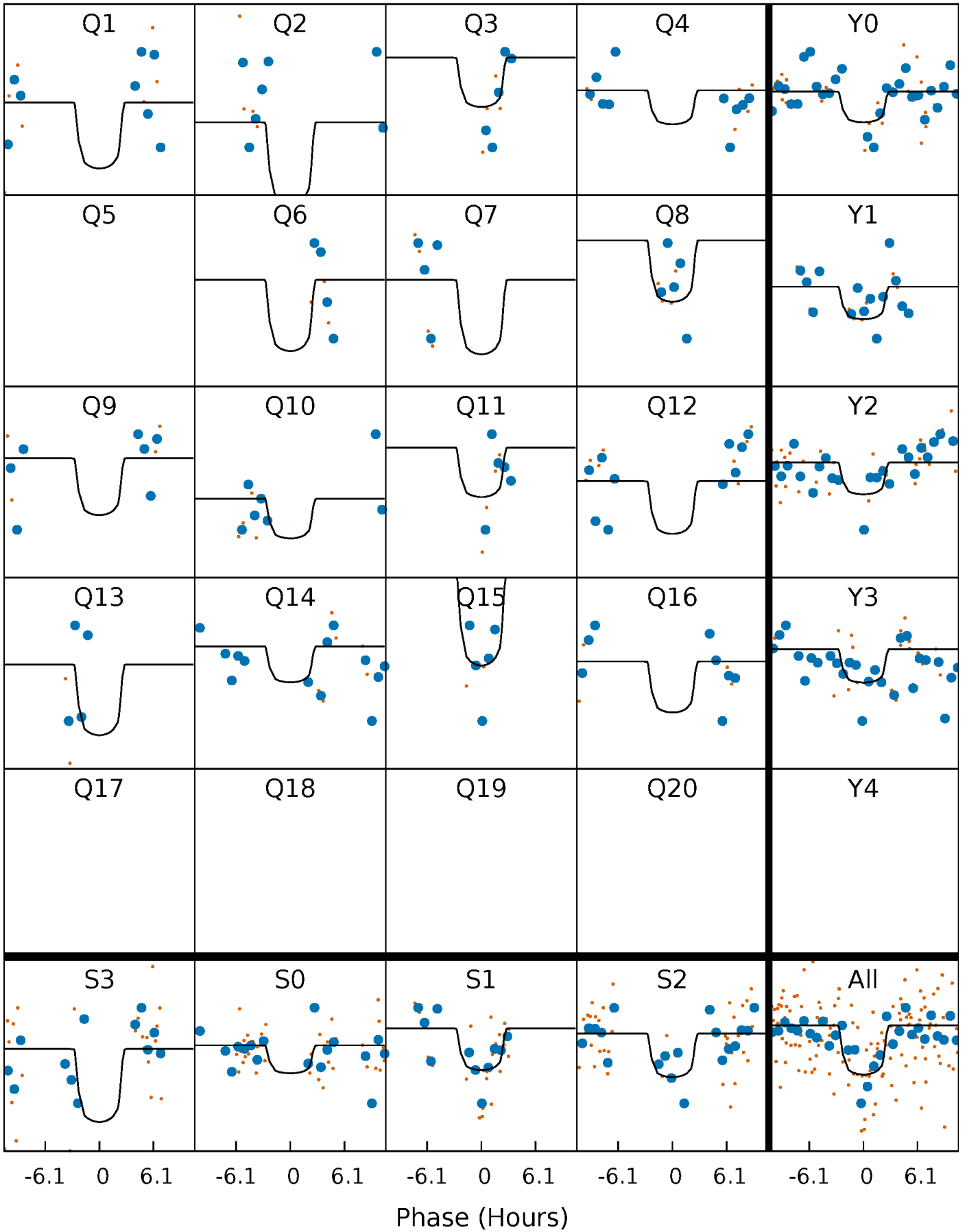
PDC Quarter-Phased Transit Curves

TCE 006140122-05 P= 86.207392 Days $T_0=162.567090$ (BKJD)



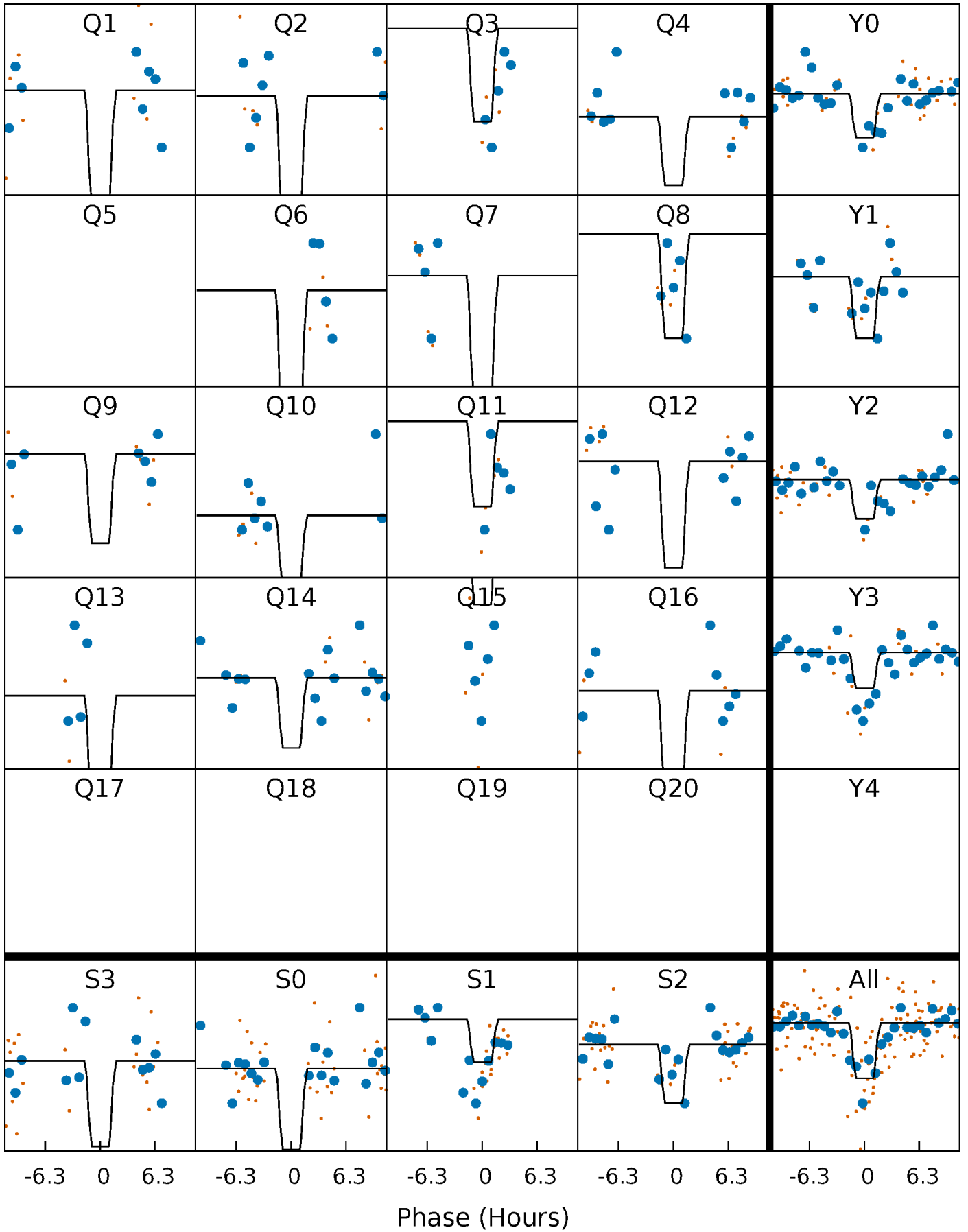
DV Quarter-Phased Transit Curves

TCE 006140122-05 $P = 86.207392$ Days $T_0 = 162.567090$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

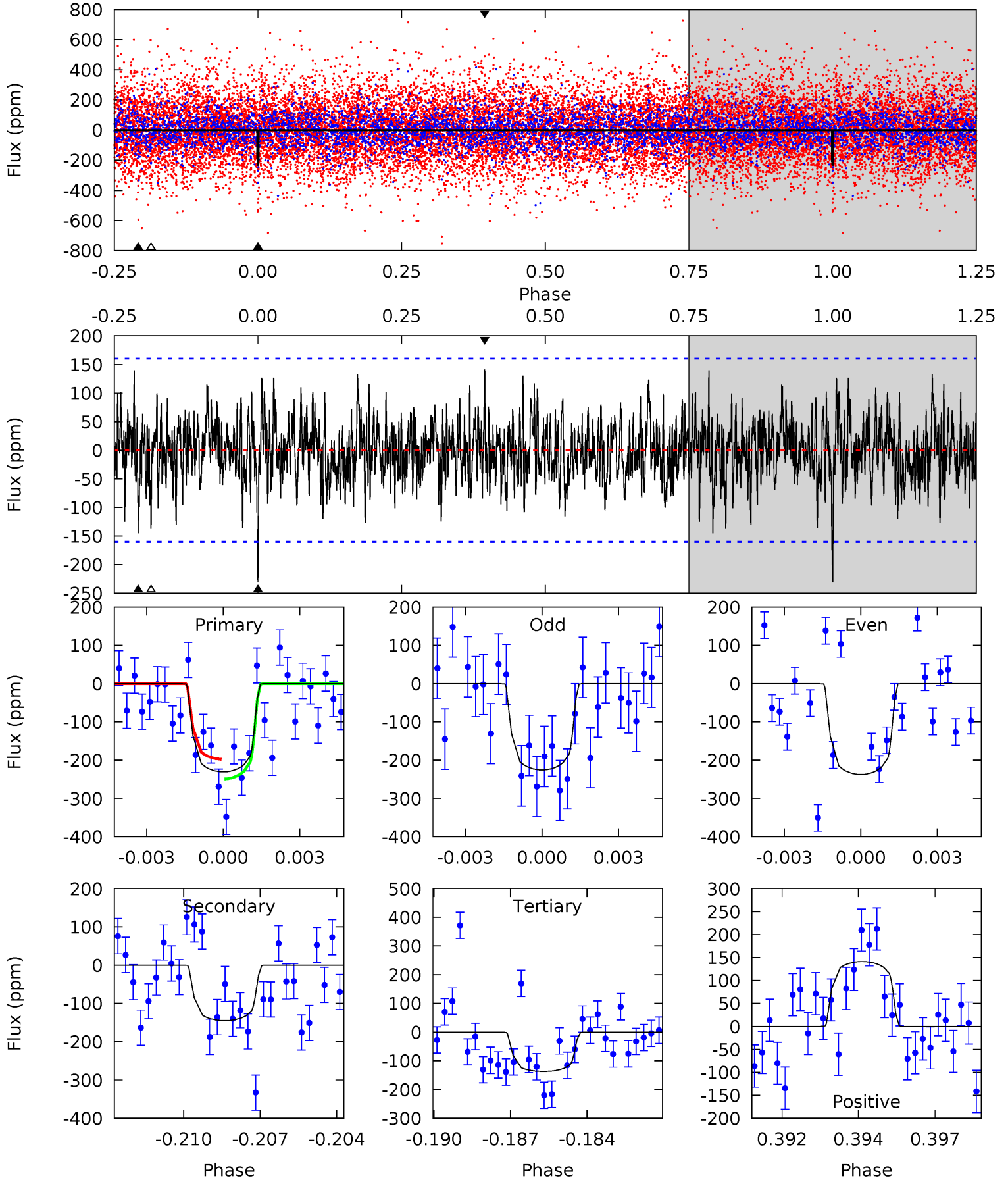
TCE 006140122-05 $P = 86.207646$ Days $T_0 = 162.573016$ (BKJD)



DV Model-Shift Uniqueness Test

006140122-05, P = 86.207392 Days, E = 76.359698 Days

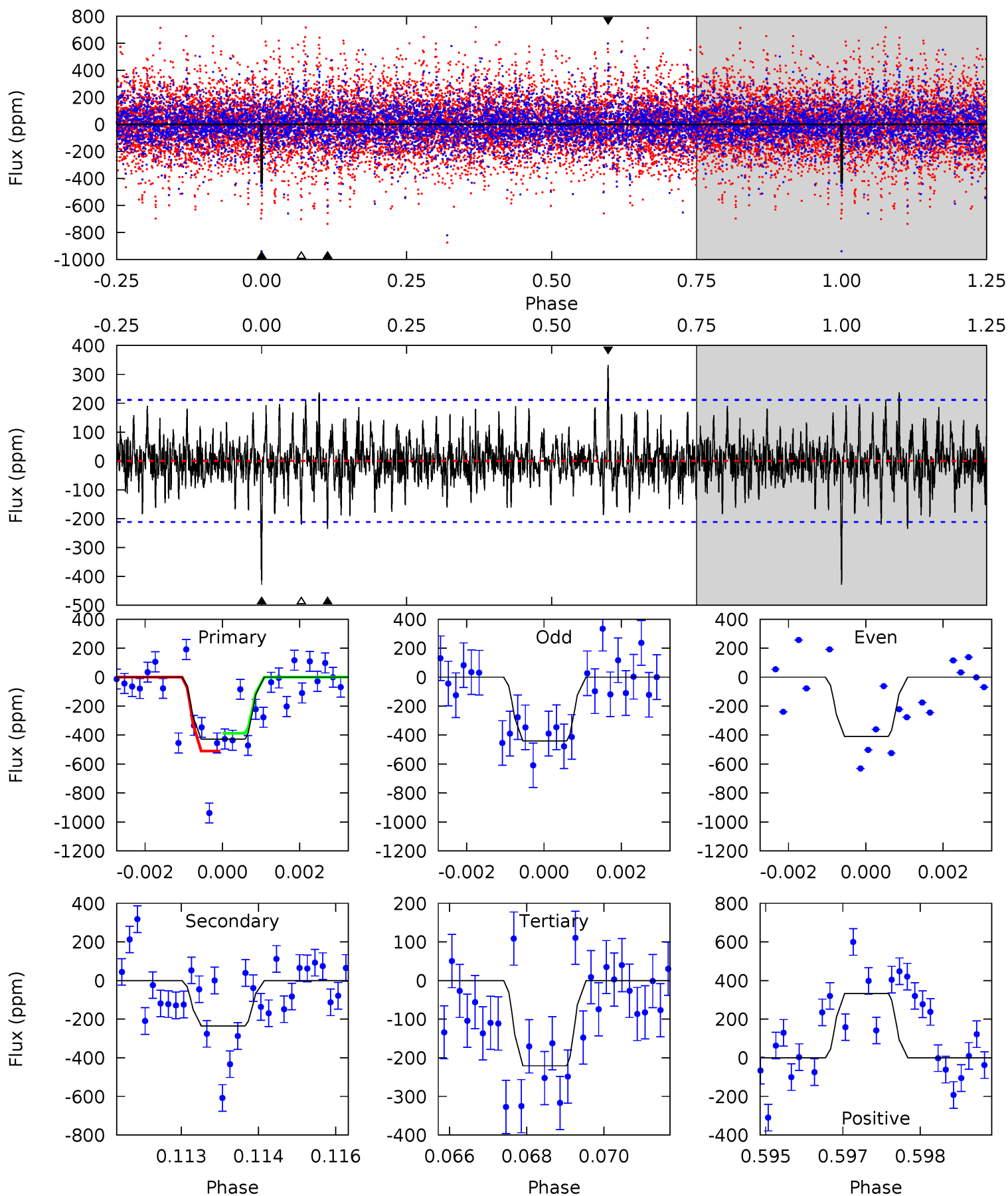
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	4.76	4.50	4.64	5.26	2.98	1.44	3.08	2.94	0.26	0.12	0.19	0.94	0.38	0.81



Alt Model-Shift Uniqueness Test

006140122-05, P = 86.207646 Days, E = 76.365370 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	5.95	5.59	8.43	5.36	3.15	1.52	5.27	2.43	0.36	-2.47	0.39	1.03	0.44	1.50



Stellar Parameters For KIC 006140122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6915^{+190}_{-238}	$3.655^{+0.323}_{-0.076}$	$-0.260^{+0.300}_{-0.250}$	$3.153^{+0.386}_{-1.159}$	$1.638^{+0.216}_{-0.324}$	$0.074^{+0.158}_{-0.018}$
	+3%/-3%	+9%/-2%	+115%/-96%	+12%/-37%	+13%/-20%	+215%/-25%
Source	PHO1	FLK73	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 006140122-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-145 ± 30	$5.33^{+2.15}_{-1.86}$	1104^{+61}_{-109}	5794^{+1528}_{-803}	559^{+810}_{-288}
Alt.	-235 ± 39	$6.48^{+2.38}_{-2.17}$	1103^{+65}_{-104}	5944^{+1290}_{-693}	621^{+784}_{-291}

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 $A_{obs} \gg 1.0$

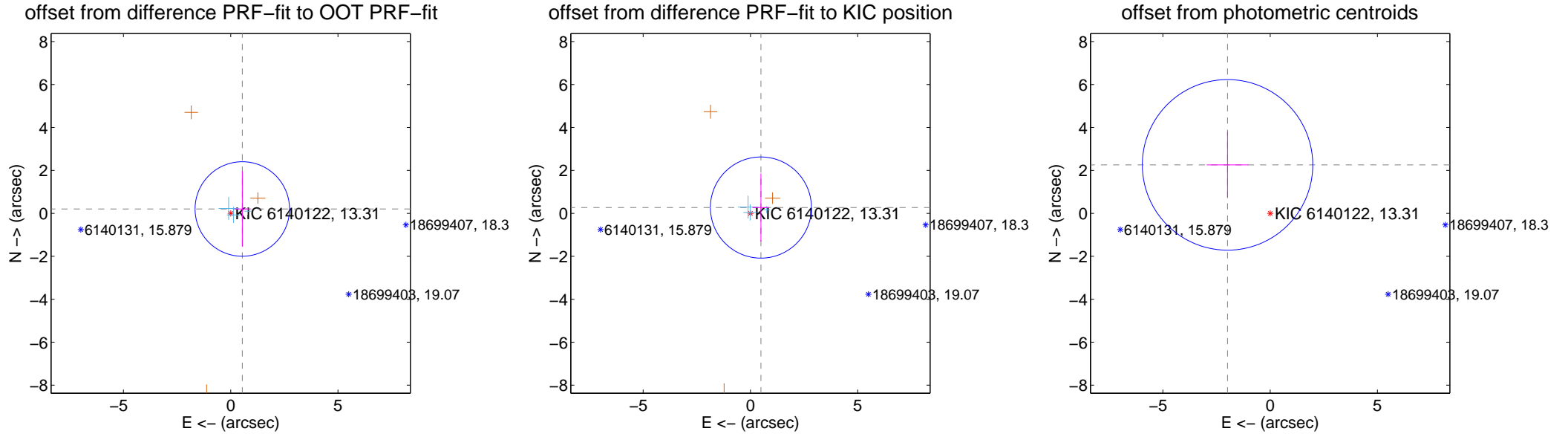
DV Centroid Data

Supplemental centroid analysis for 006140122-05. Kepler magnitude: 13.31. Transit SNR 8.68

There are 3 quarters with good PRF difference image offsets

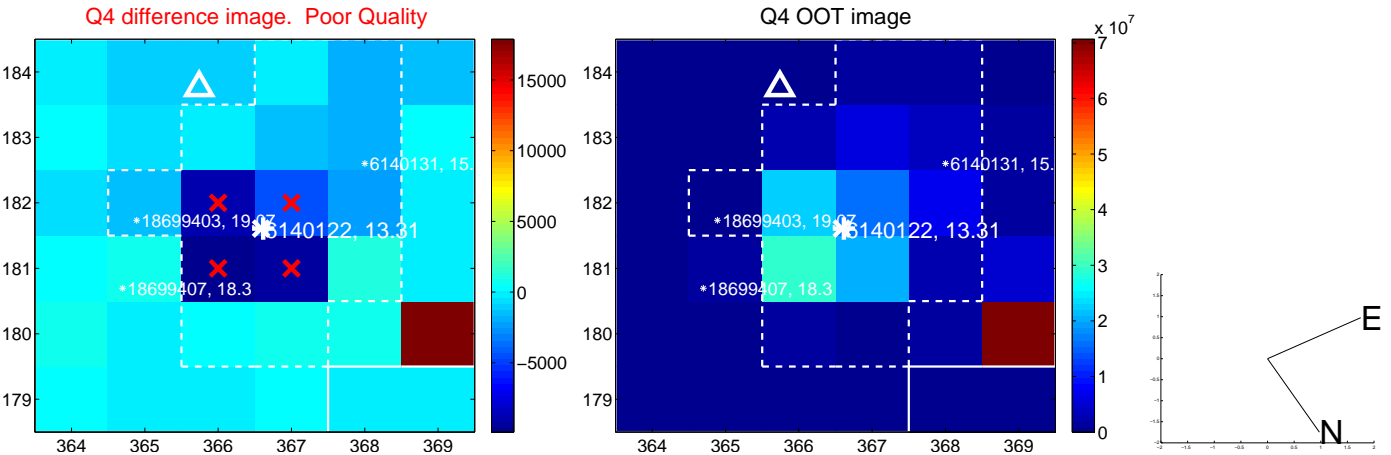
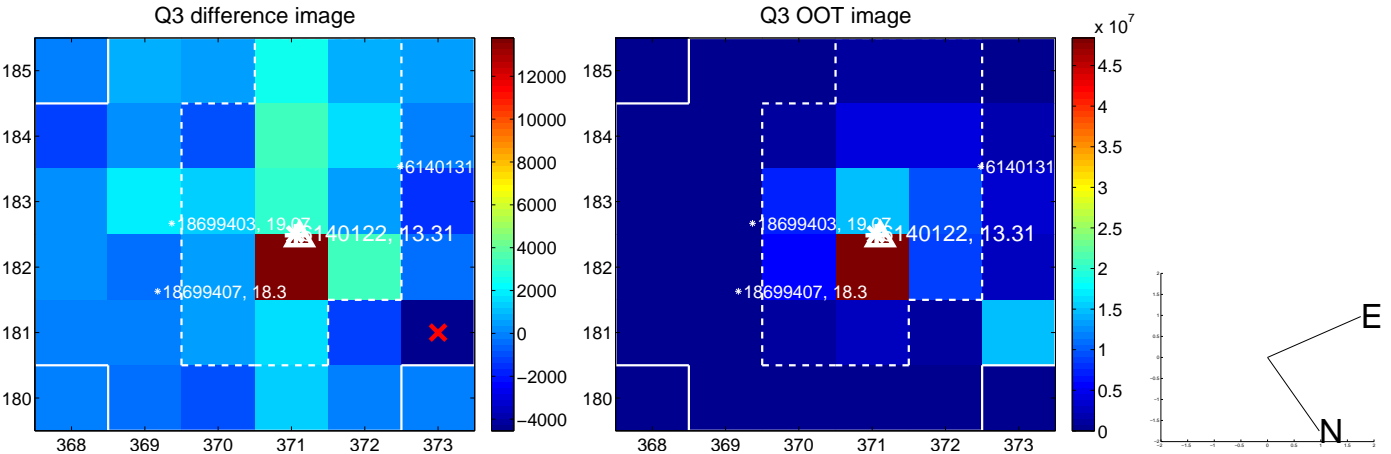
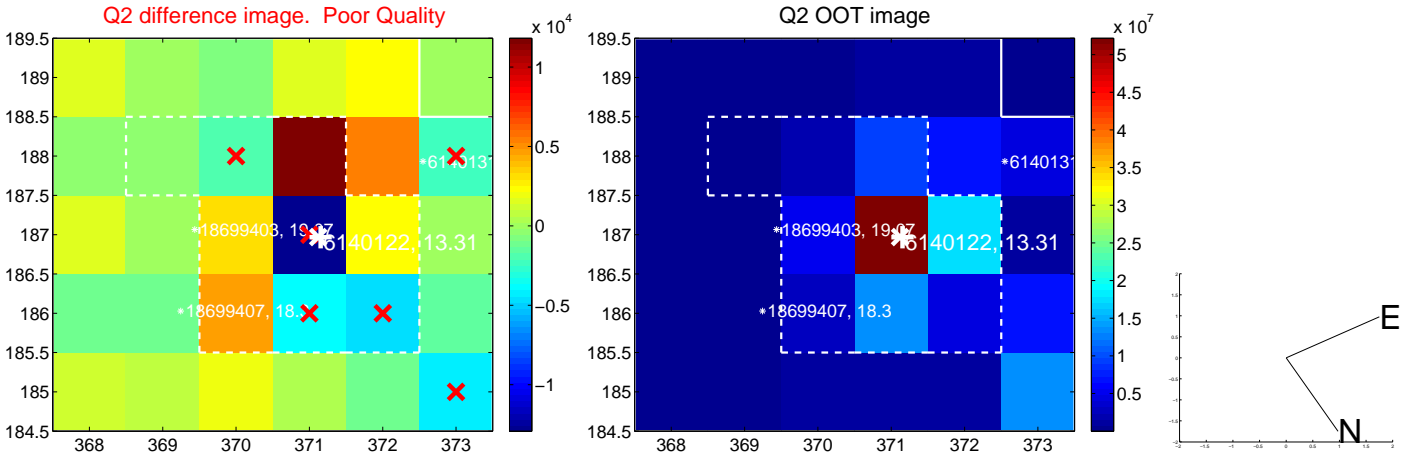
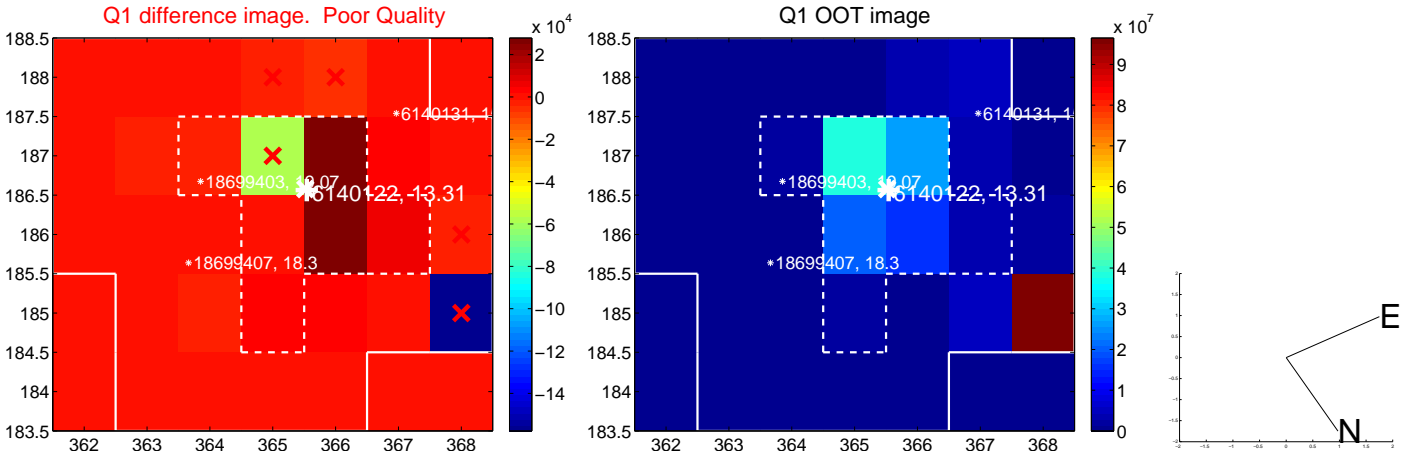
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.577 ± 0.734	0.79	-0.540 ± 0.346	0.204 ± 1.756
PRF-fit source offset from KIC position	0.559 ± 0.785	0.71	-0.489 ± 0.384	0.271 ± 1.583
photometric centroid source offset	3.01 ± 1.32	2.27	1.99 ± 0.97	2.26 ± 1.54

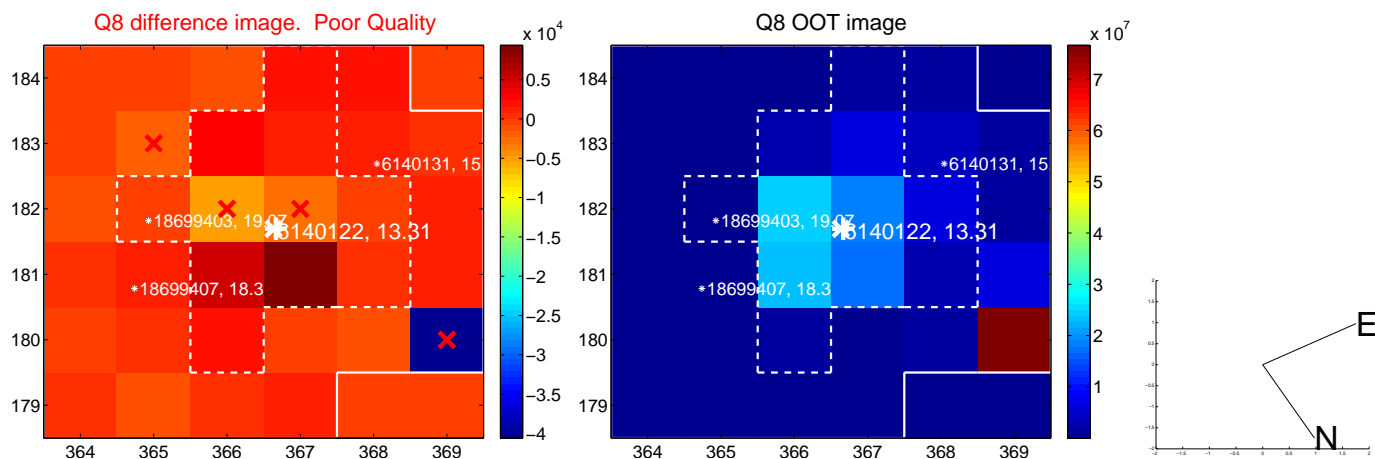
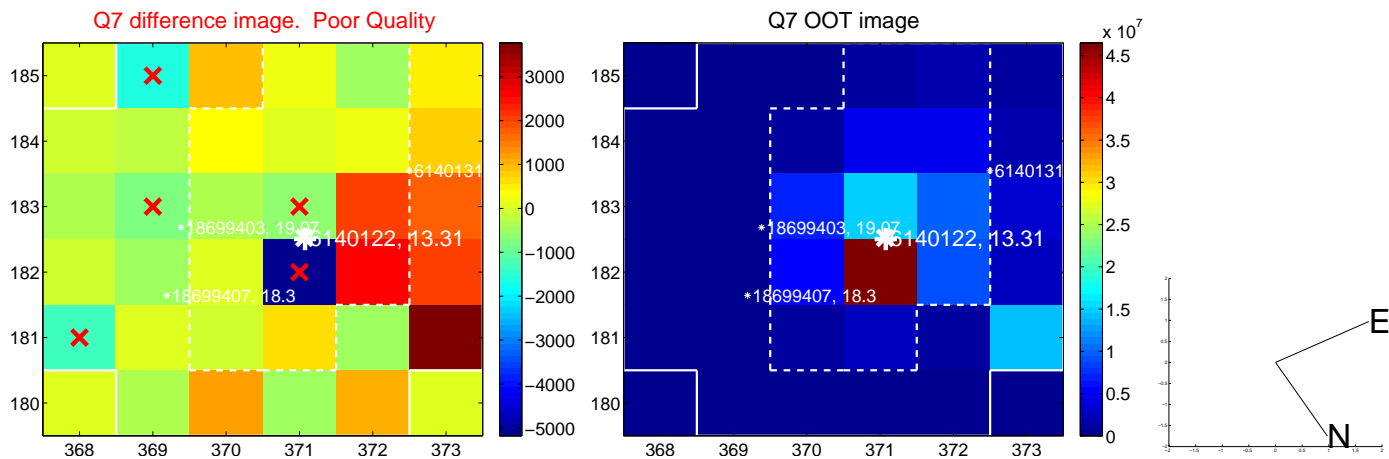
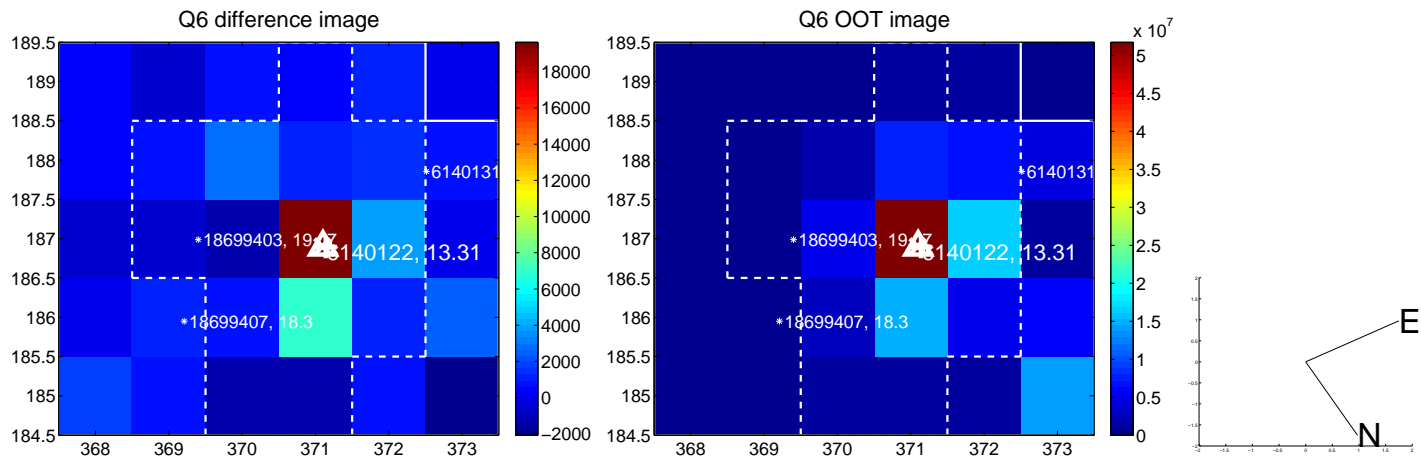
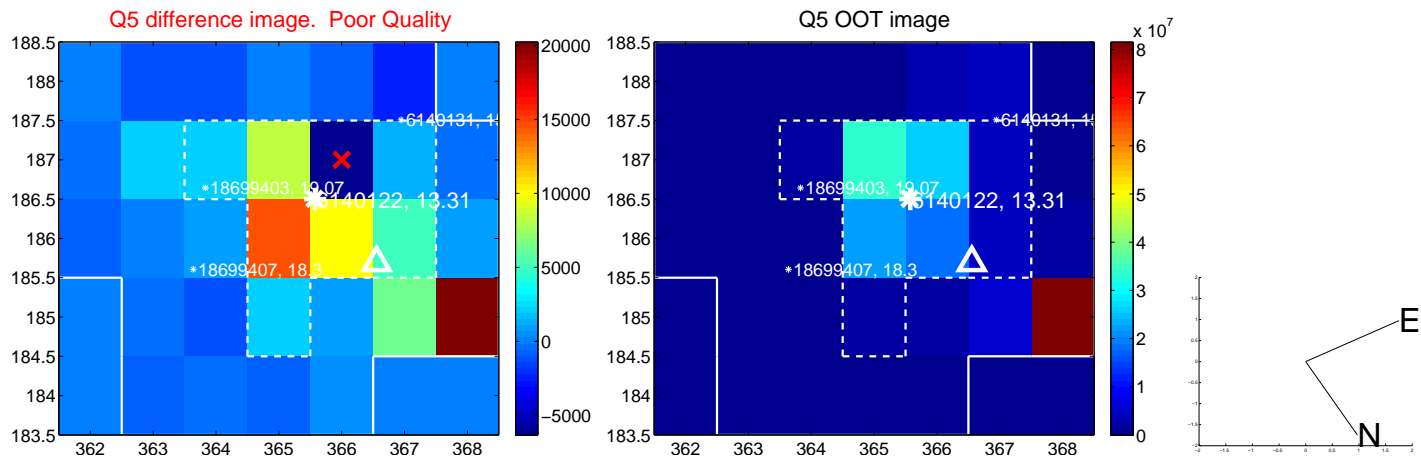


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

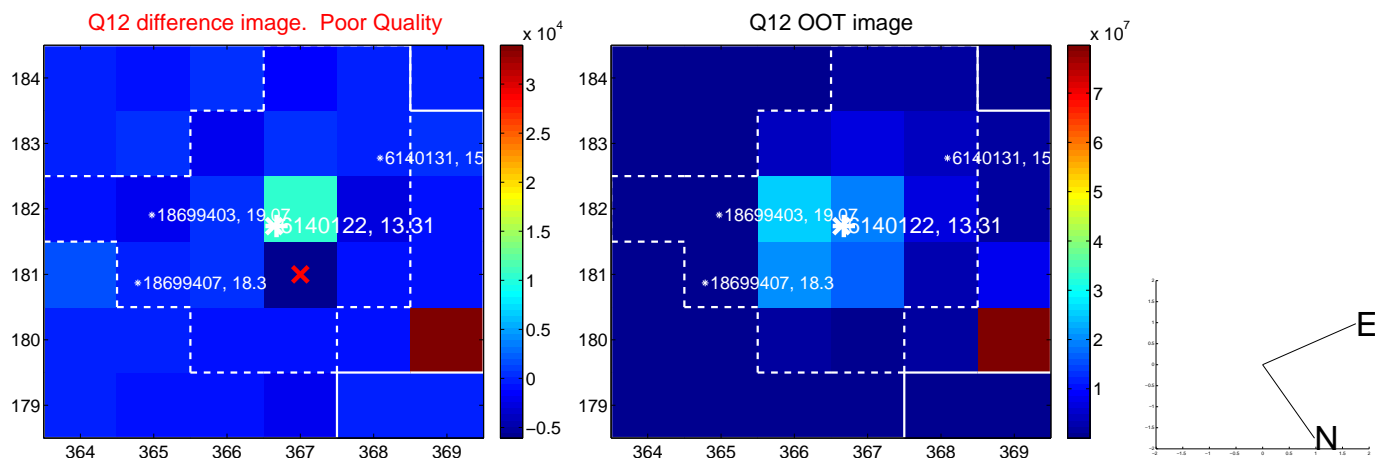
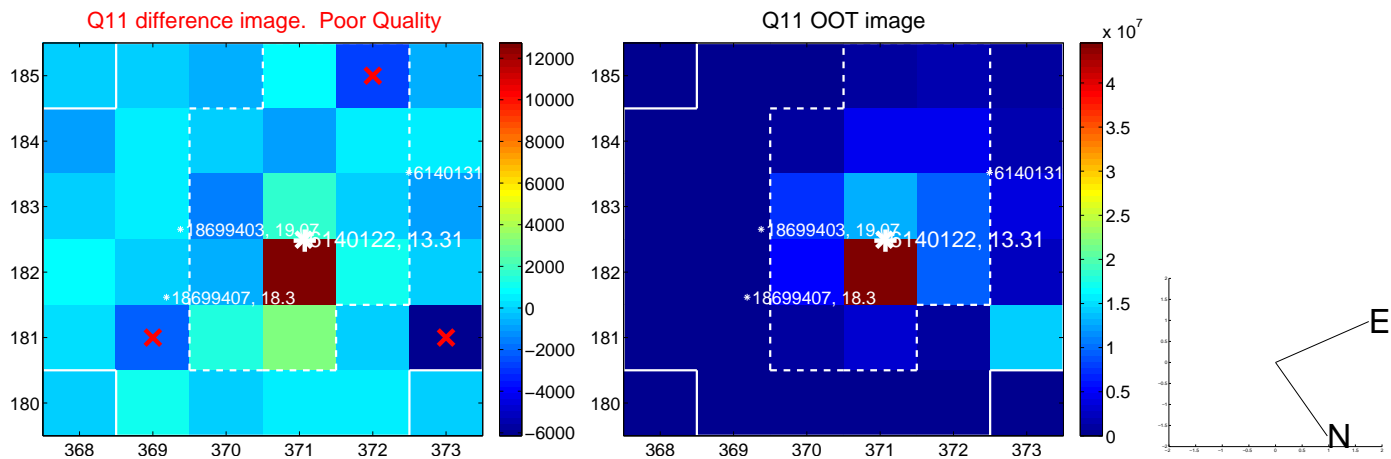
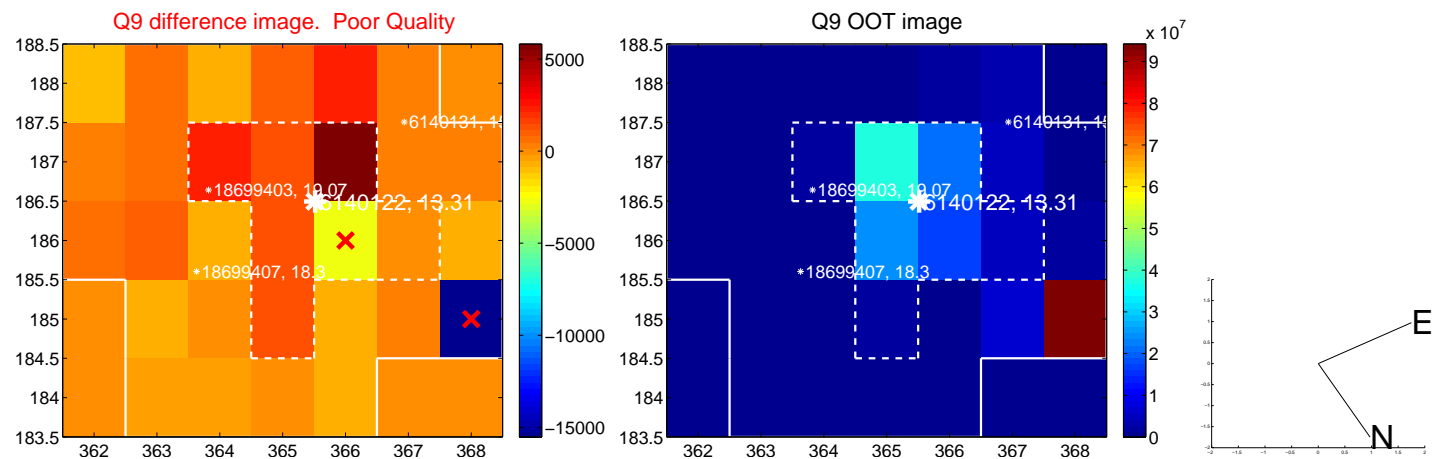
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

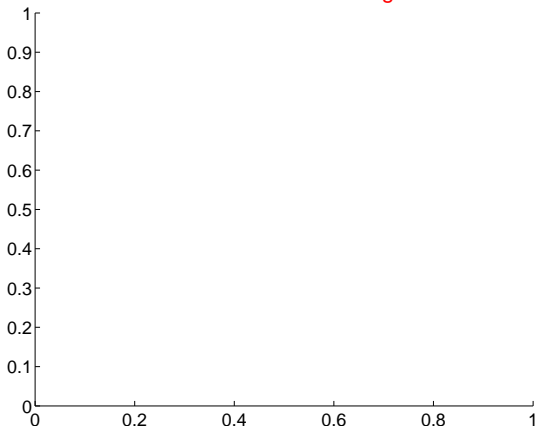


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

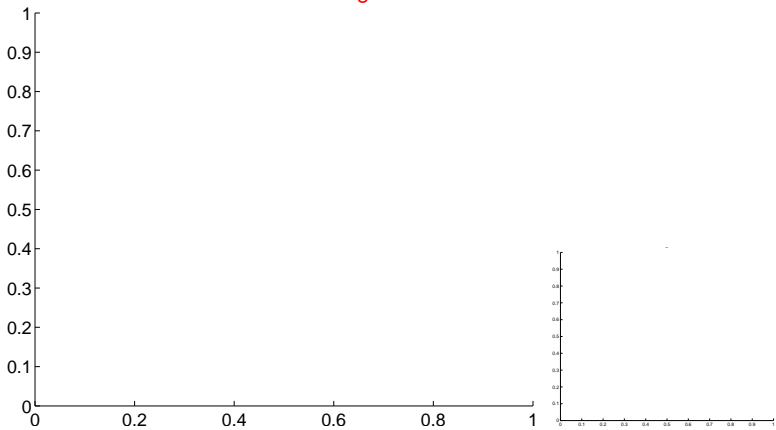


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

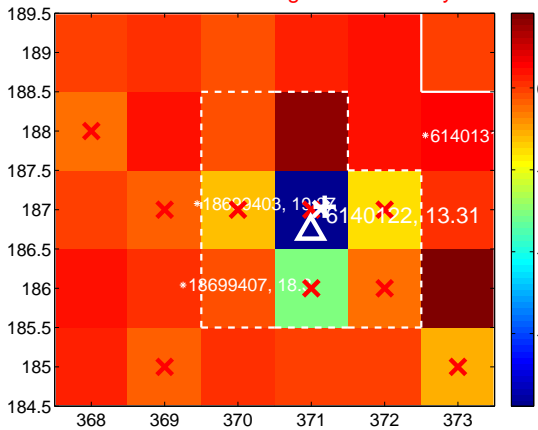
Q13 no difference image



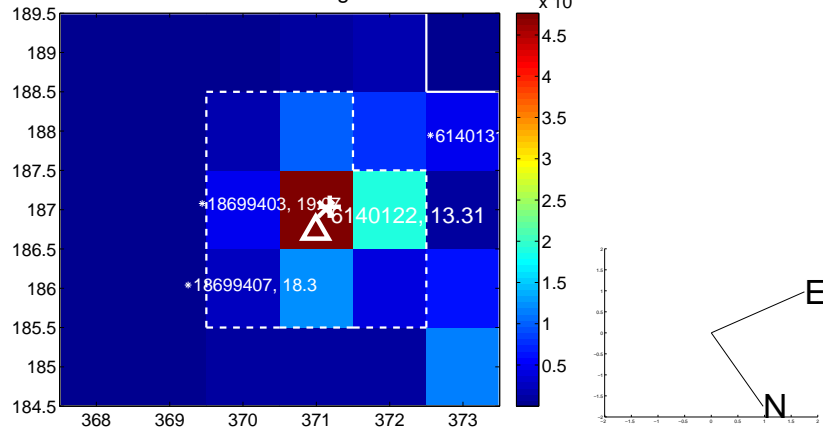
Q13 no OOT image



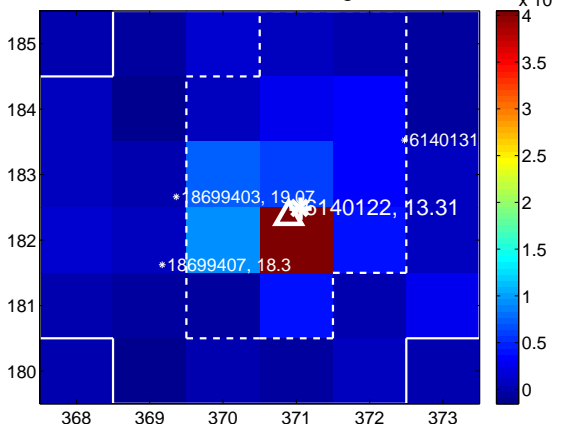
Q14 difference image. Poor Quality



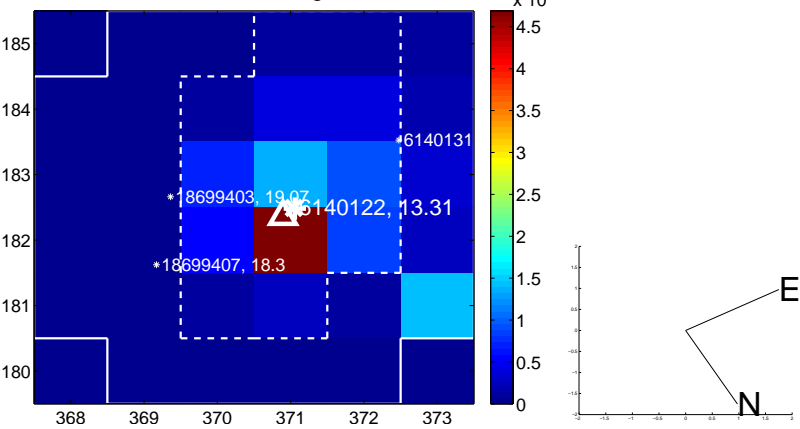
Q14 OOT image



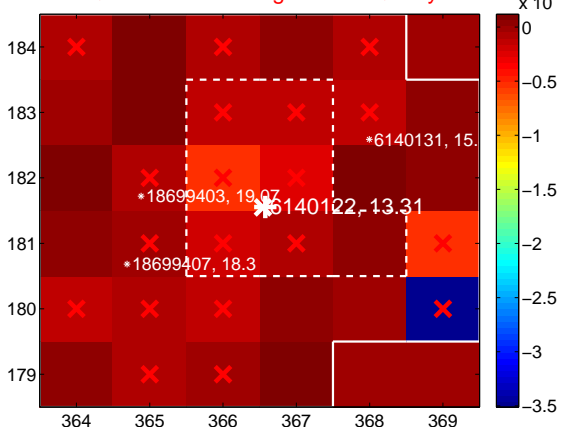
Q15 difference image



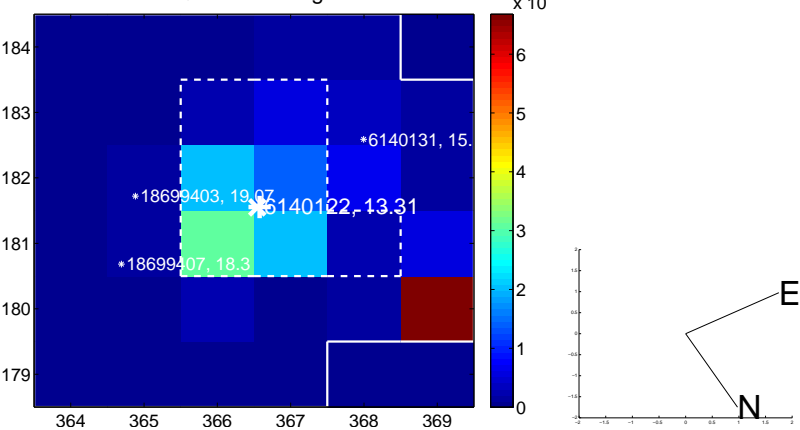
Q15 OOT image



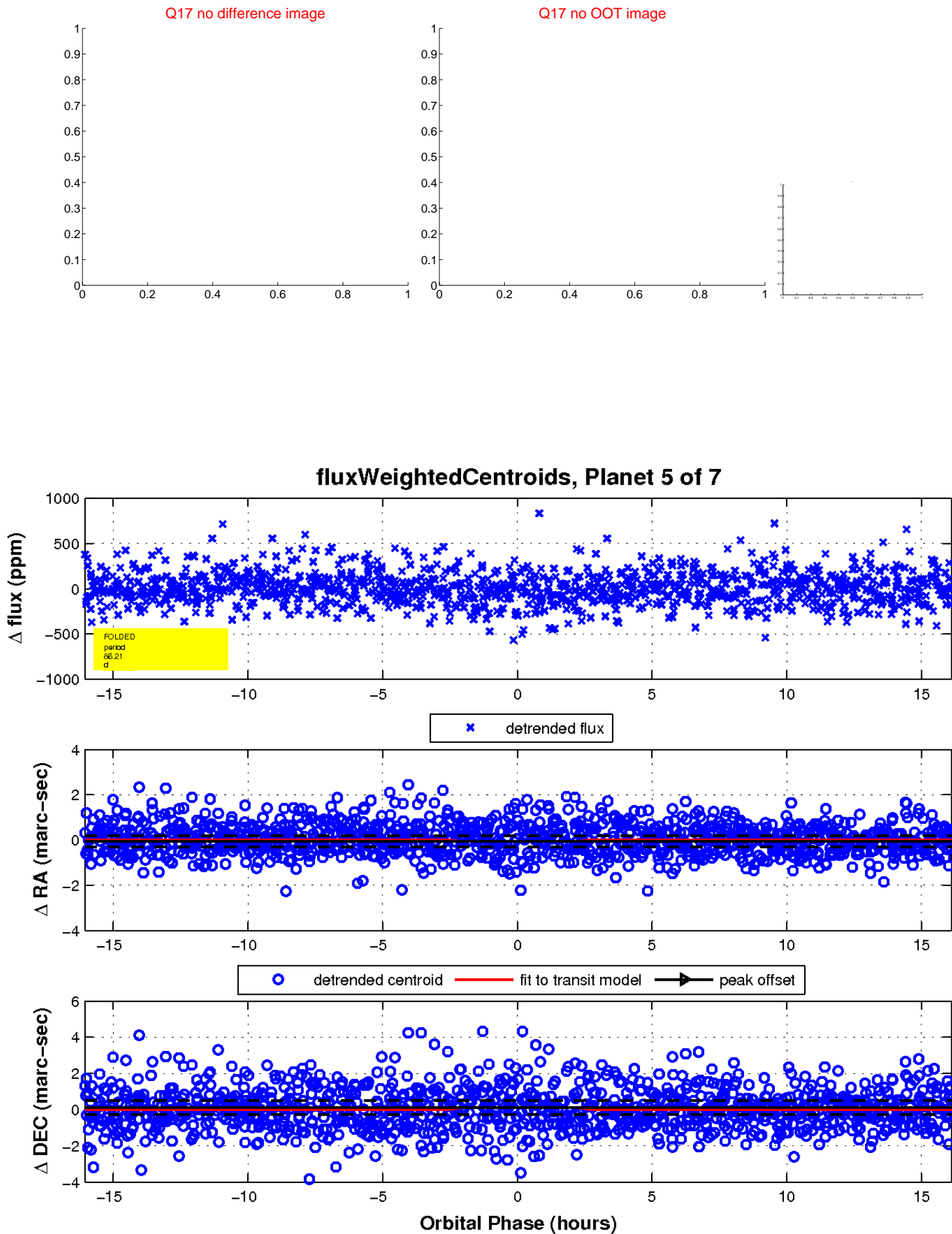
Q16 difference image. Poor Quality



Q16 OOT image

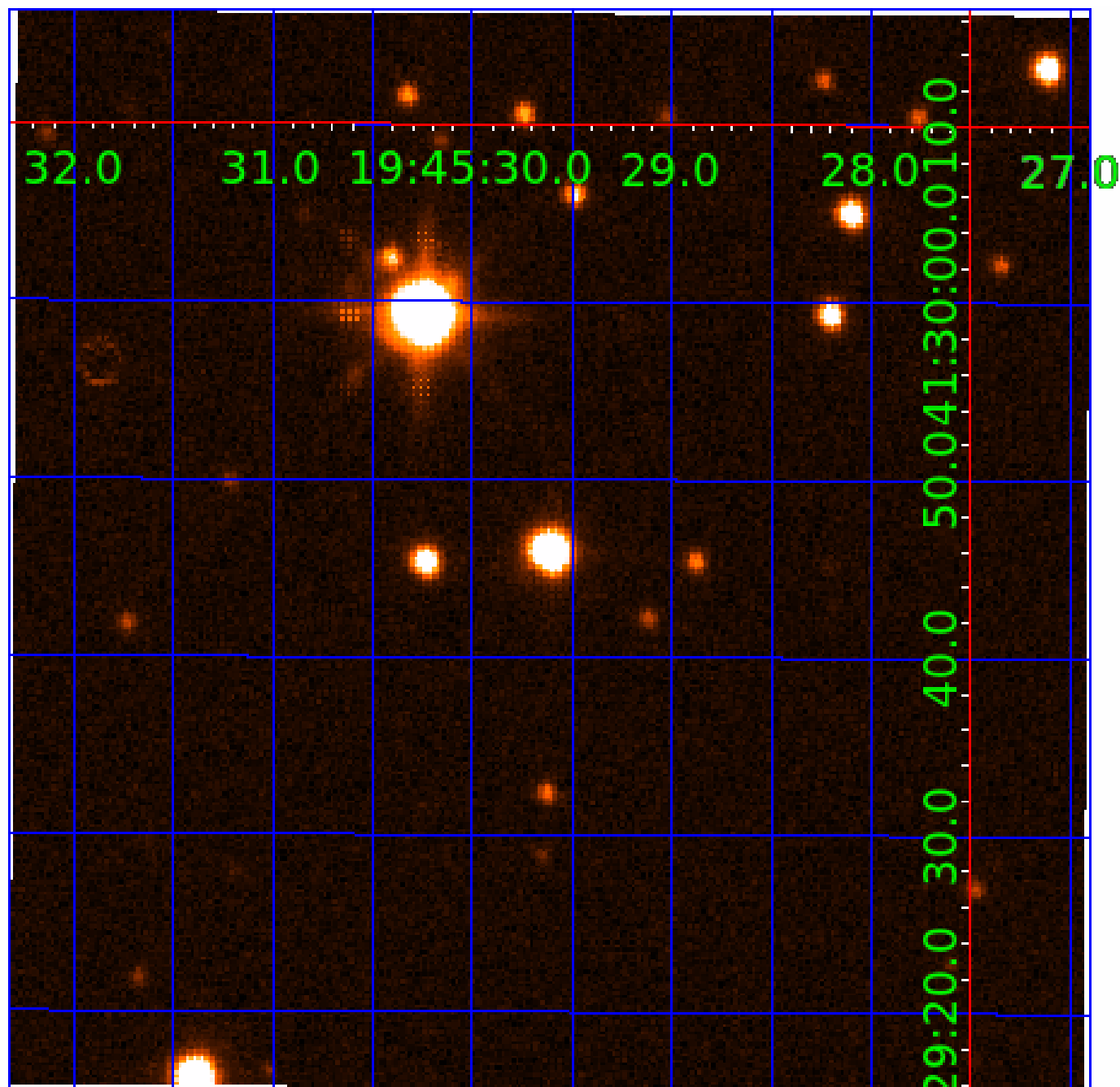


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006140122

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})
006140122-01	OBS	No	0.654944	131.692943	5.2	3.979	7.9	2.6	3.15	6915	0.73	67236.75
006140122-02	OBS	No	36.576303	168.073912	234.5	2.581	9.8	9.7	3.15	6915	5.42	314.98
006140122-03	OBS	No	161.071490	185.022447	354.5	11.105	8.1	9.3	3.15	6915	7.51	43.64
006140122-04	OBS	No	59.699052	134.877360	321.8	1.856	8.0	9.6	3.15	6915	6.34	163.90
006140122-05	OBS	No	86.207392	162.567090	251.2	5.380	8.4	8.7	3.15	6915	5.80	100.42
006140122-06	OBS	No	84.674039	200.429652	452.5	1.663	8.7	8.9	3.15	6915	7.77	102.85
006140122-07	OBS	No	59.513631	133.486066	195.6	3.071	7.5	7.4	3.15	6915	4.88	164.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140122-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006140122-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

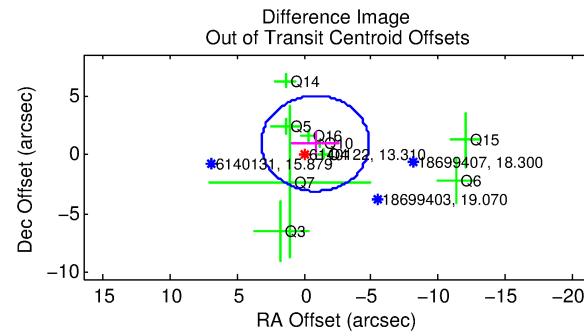
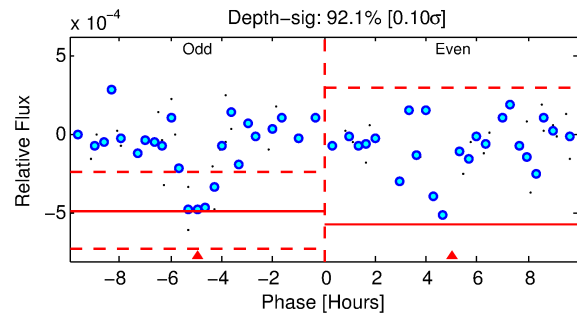
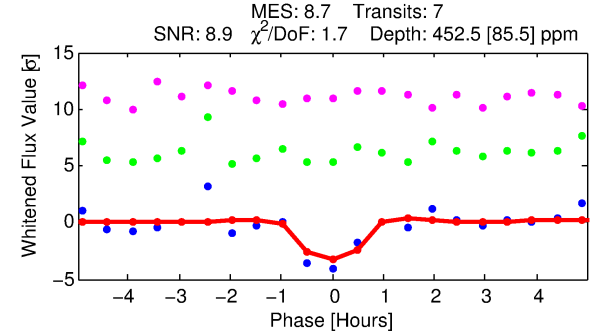
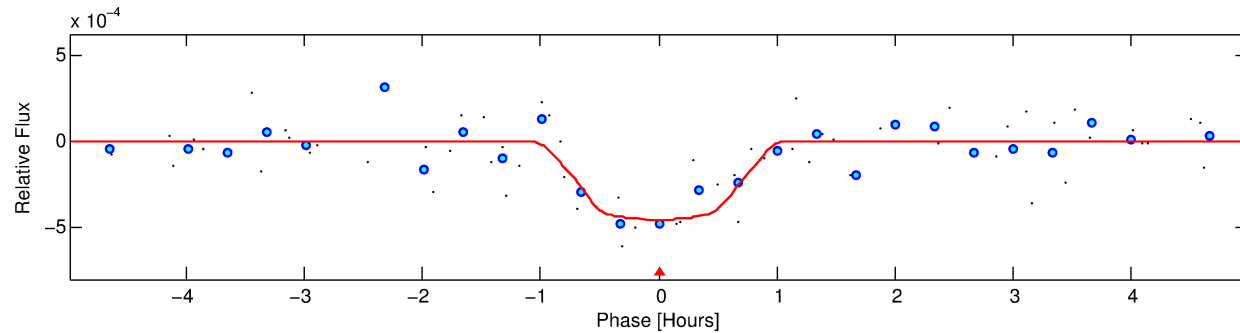
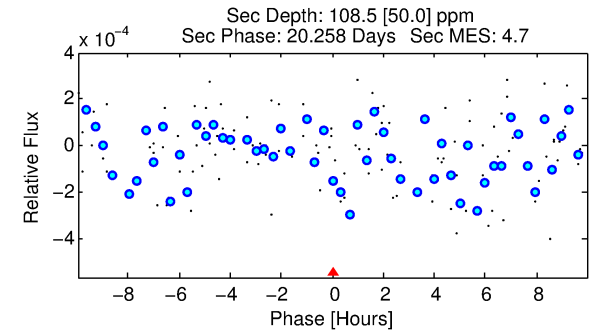
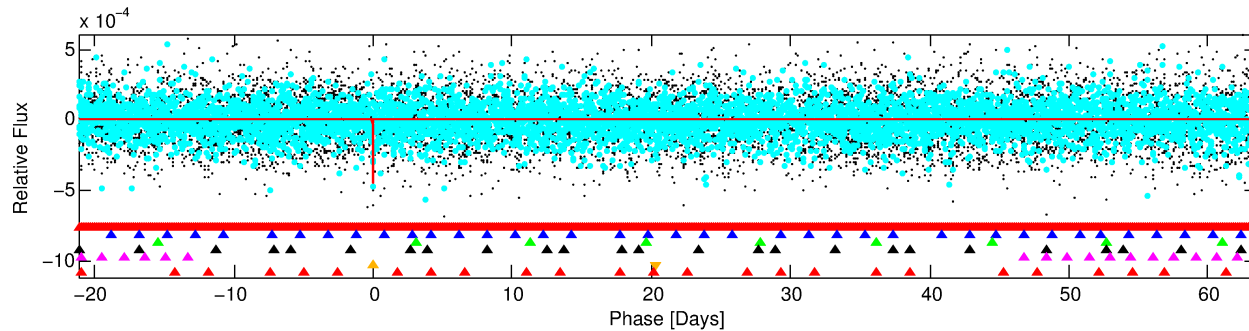
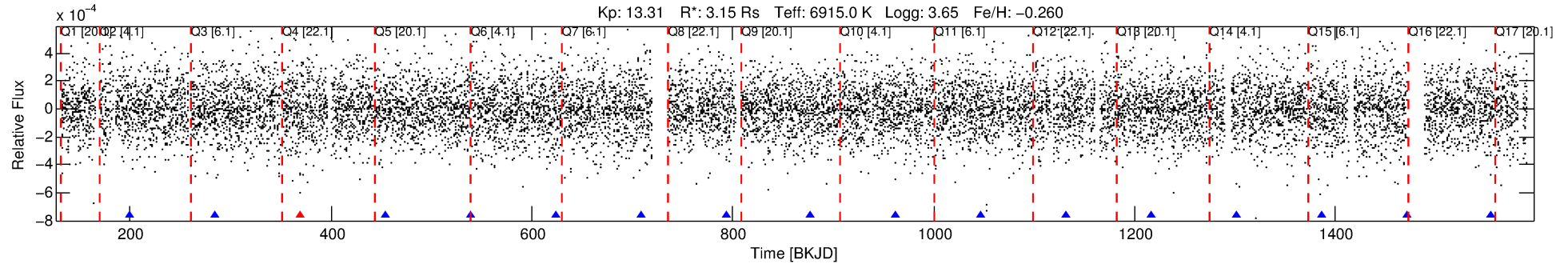
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140122-06

No Significant Match Found

DV One-Page Summary

KIC: 6140122 Candidate: 6 of 7 Period: 84.674 d



DV Fit Results:

Period = 84.67404 [0.00059] d
Epoch = 200.4297 [0.0069] BKJD
Rp/R* = 0.0226 [0.0149]
a/R* = 195.03 [755.92]
b = 0.89 [0.91]
Seff = 102.85 [58.62]
Teff = 812 [116] K
Rp = 7.77 [5.88] Re
a = 0.4450 [0.1551] AU
Ag = 195.96 [295.04] [0.66 σ]
Teffp = 4697 [1652] K [2.35 σ]

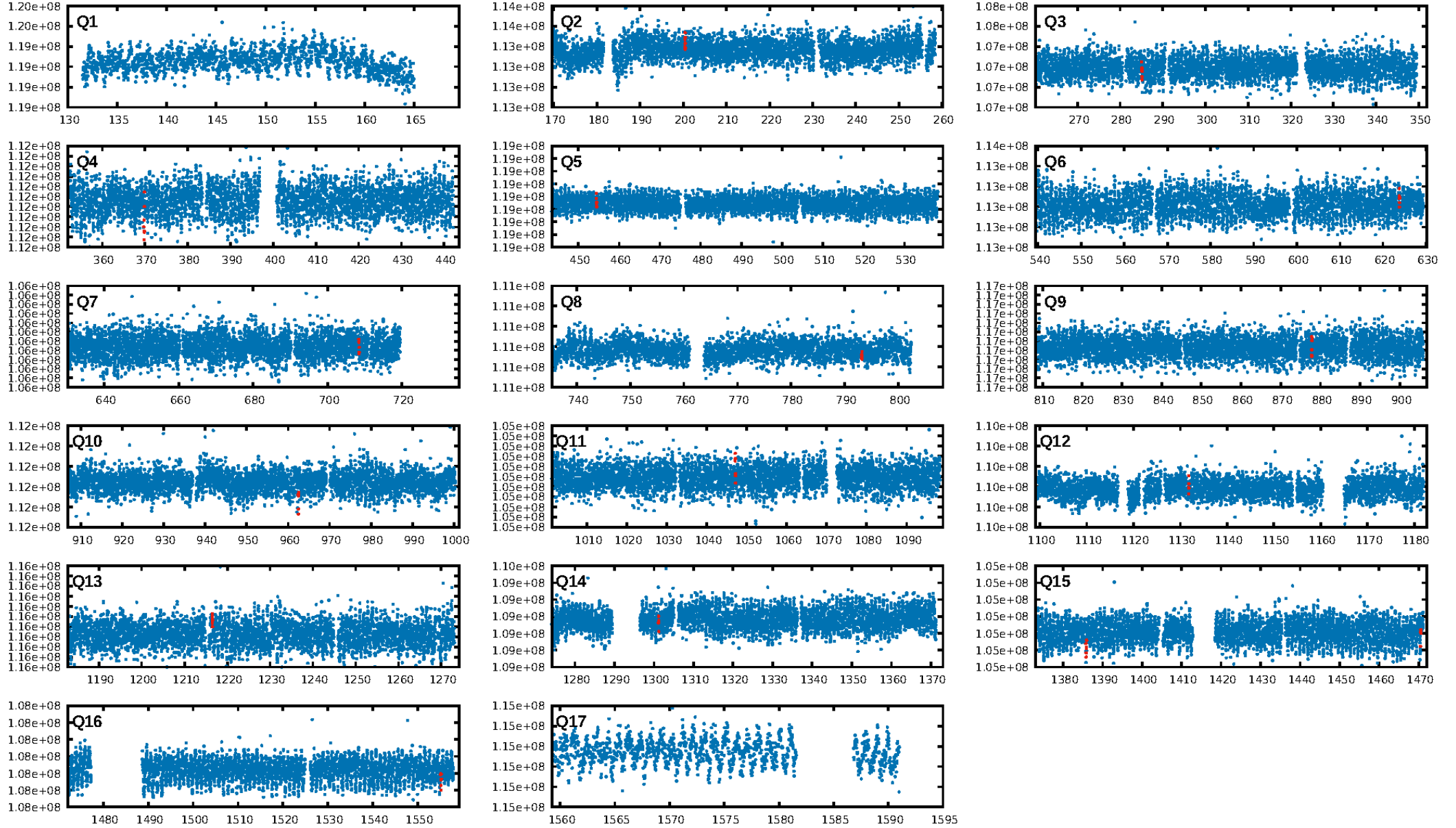
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [240.56 σ]
LongPeriod-sig: 100.0% [6.54 σ]
ModelChiSquare2-sig: 43.9%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 4.00e-09
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: -2.441
Centroid-sig: 49.8%
Centroid-so: 2.630 arcsec [2.74 σ]
OotOffset-rm: 1.265 arcsec [0.94 σ]
KicOffset-rm: 1.297 arcsec [1.01 σ]
OotOffset-st: 3/3/2/1 [9]
KicOffset-st: 3/3/2/1 [9]
DiffImageQuality-fgm: 0.33 [3/9]
DiffImageOverlap-fno: 0.15 [2/13]

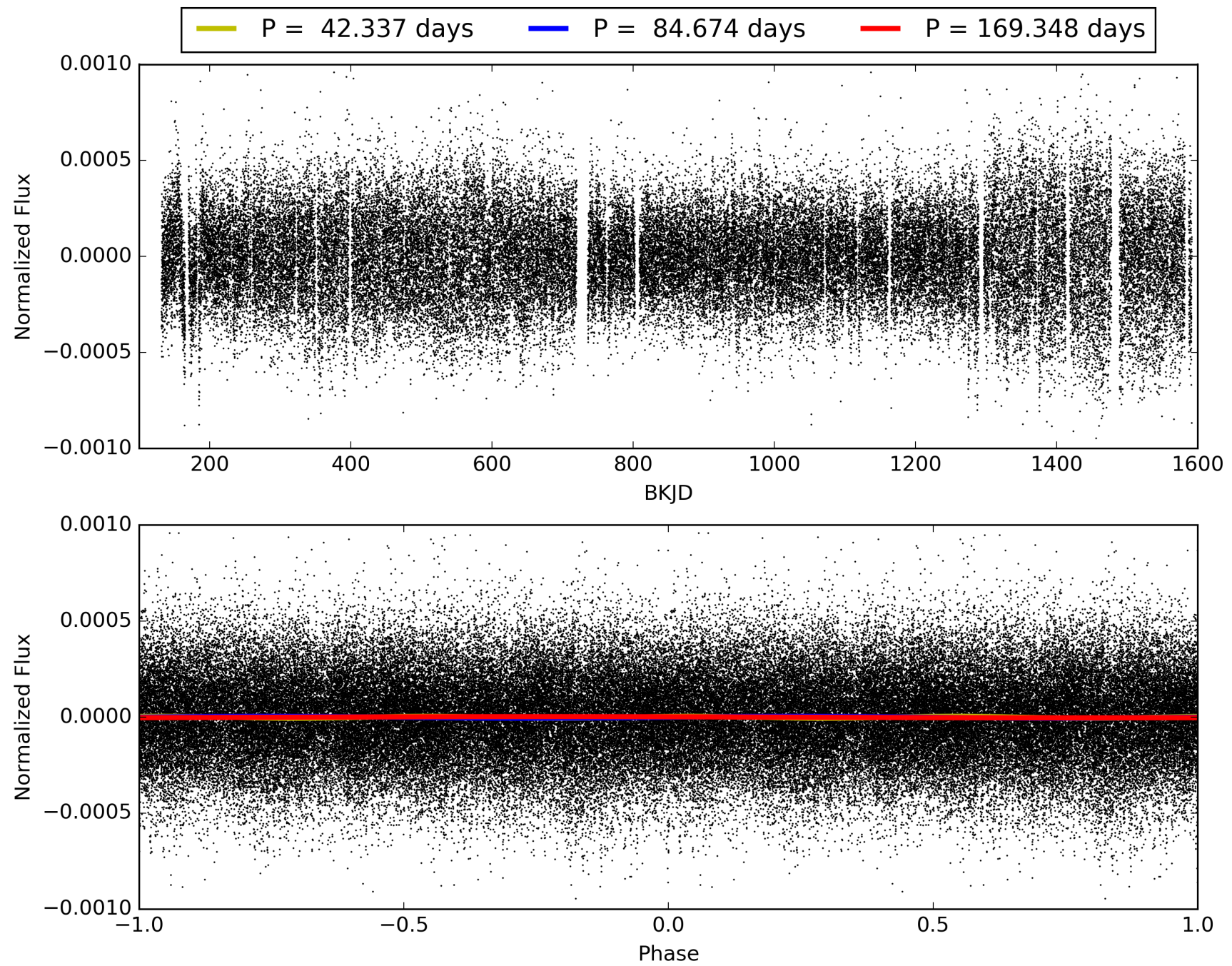
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:59:24 Z

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

TCE 006140122-06, PDC Light Curves

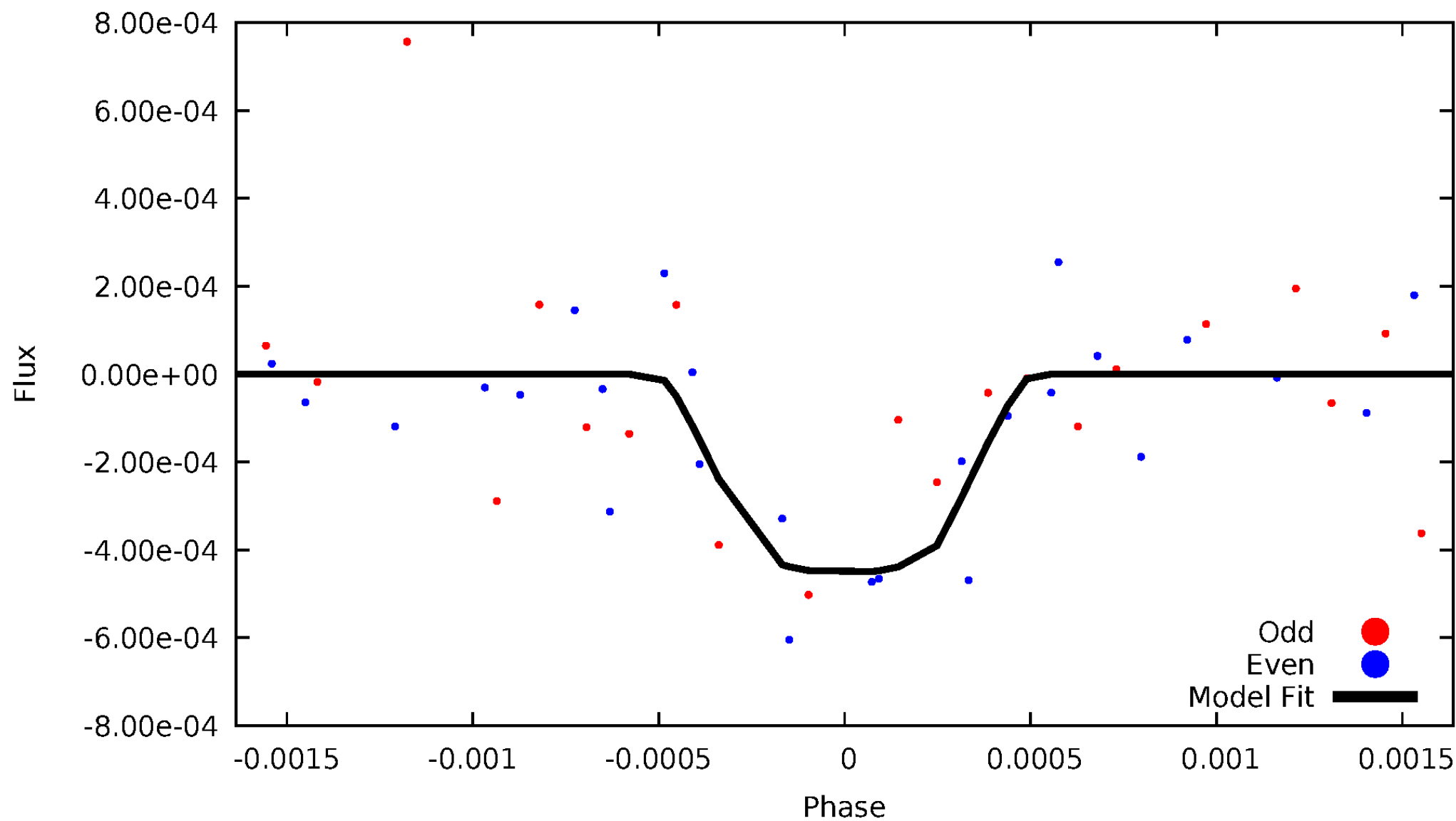


TCE 006140122-06



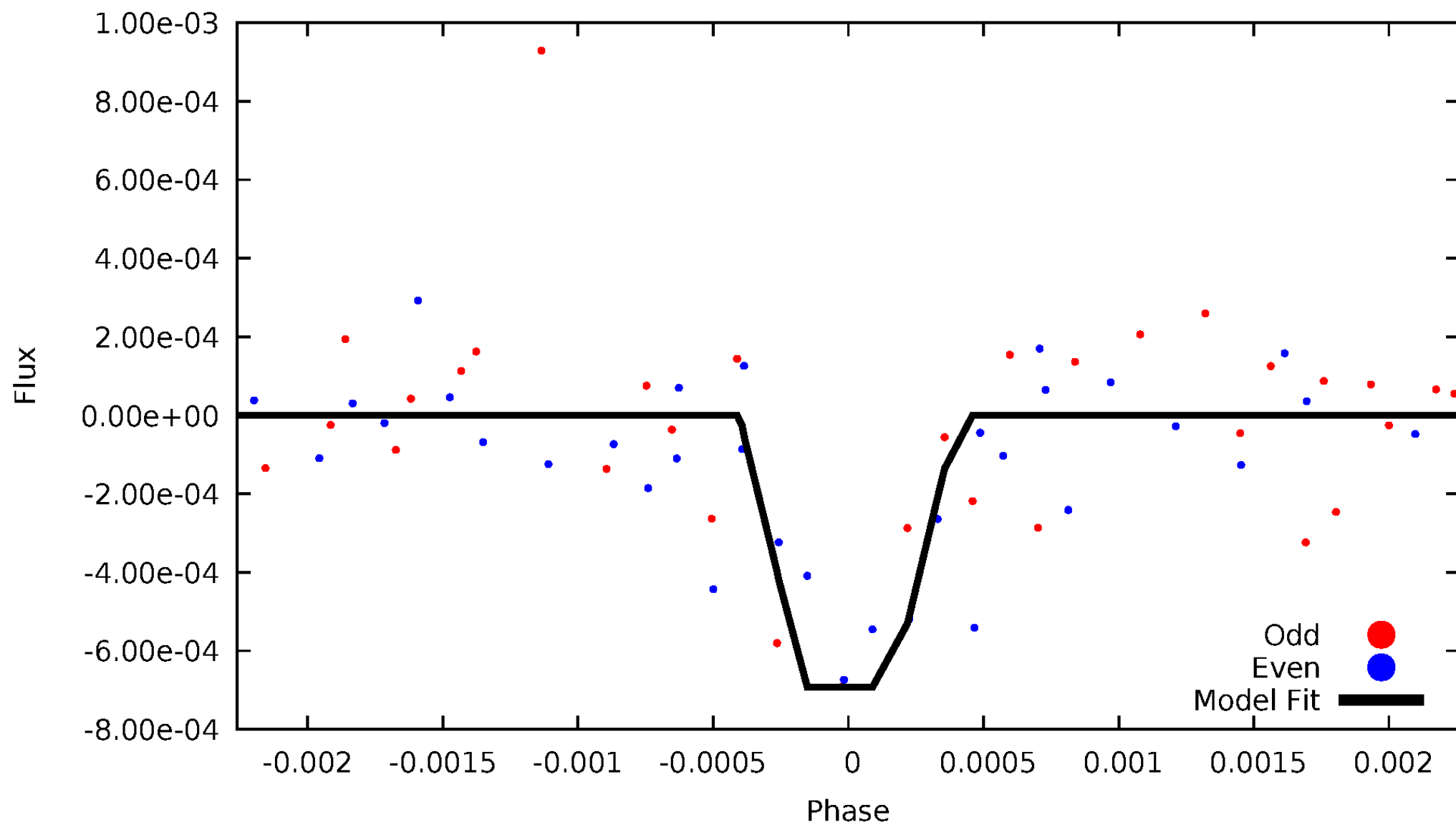
DV Odd/Even

TCE 006140122-06



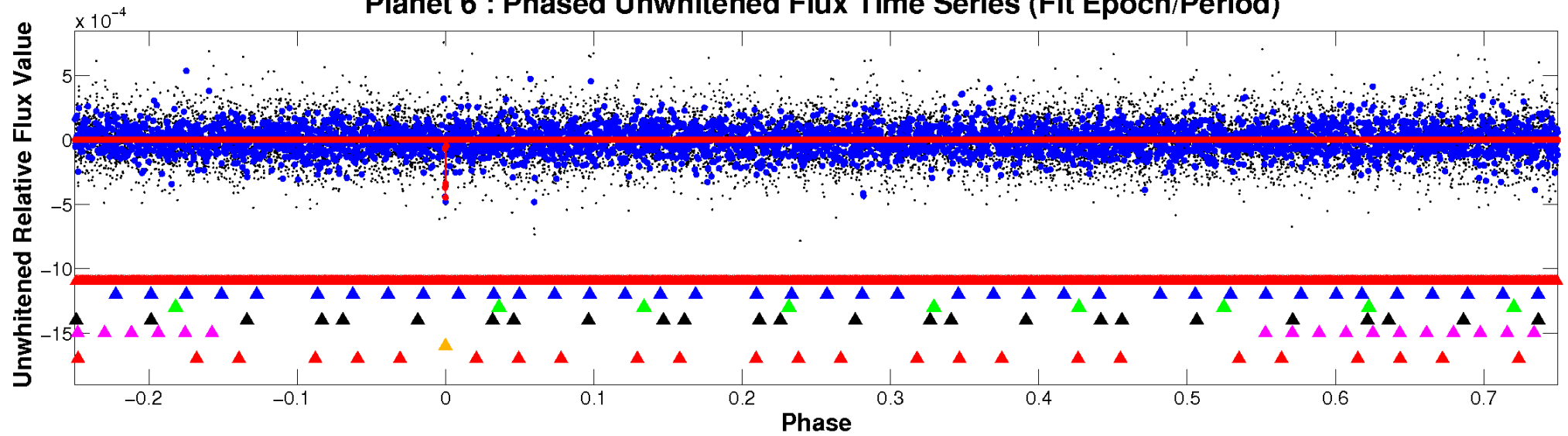
ALT Odd/Even

TCE 006140122-06

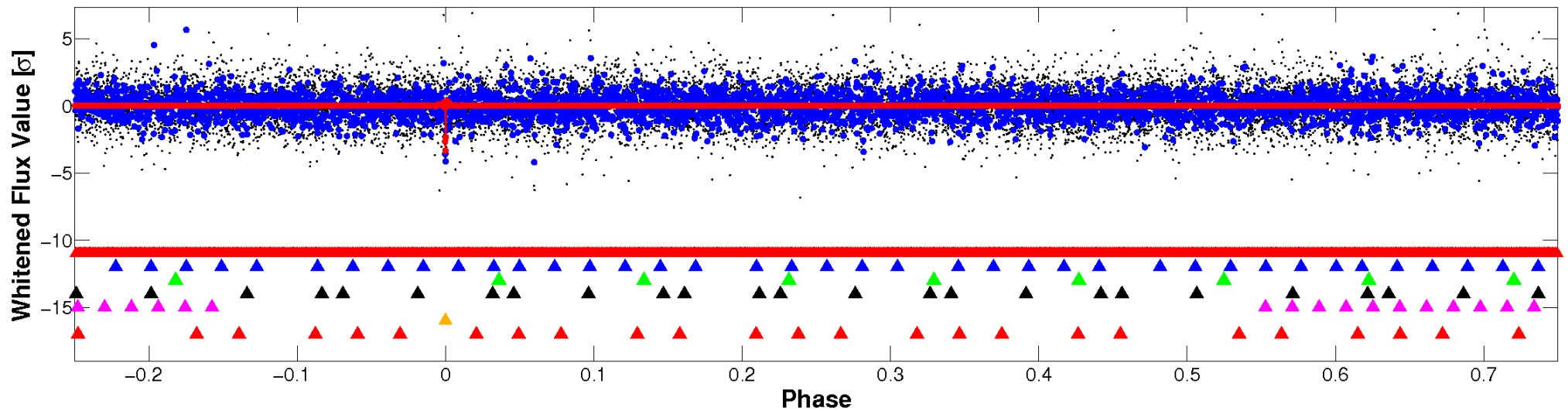


Non-Whitened Vs. Whitened Light Curve

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

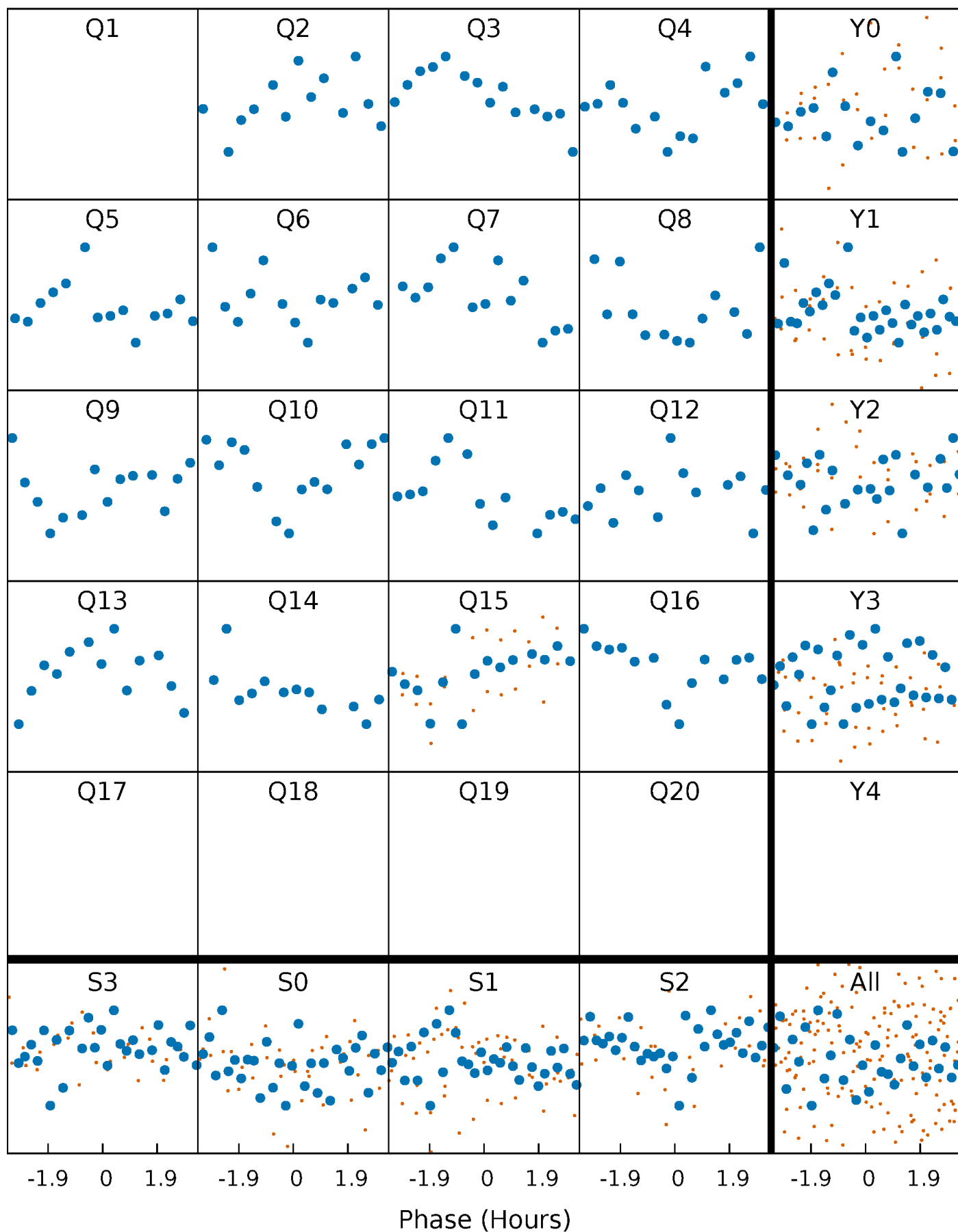


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



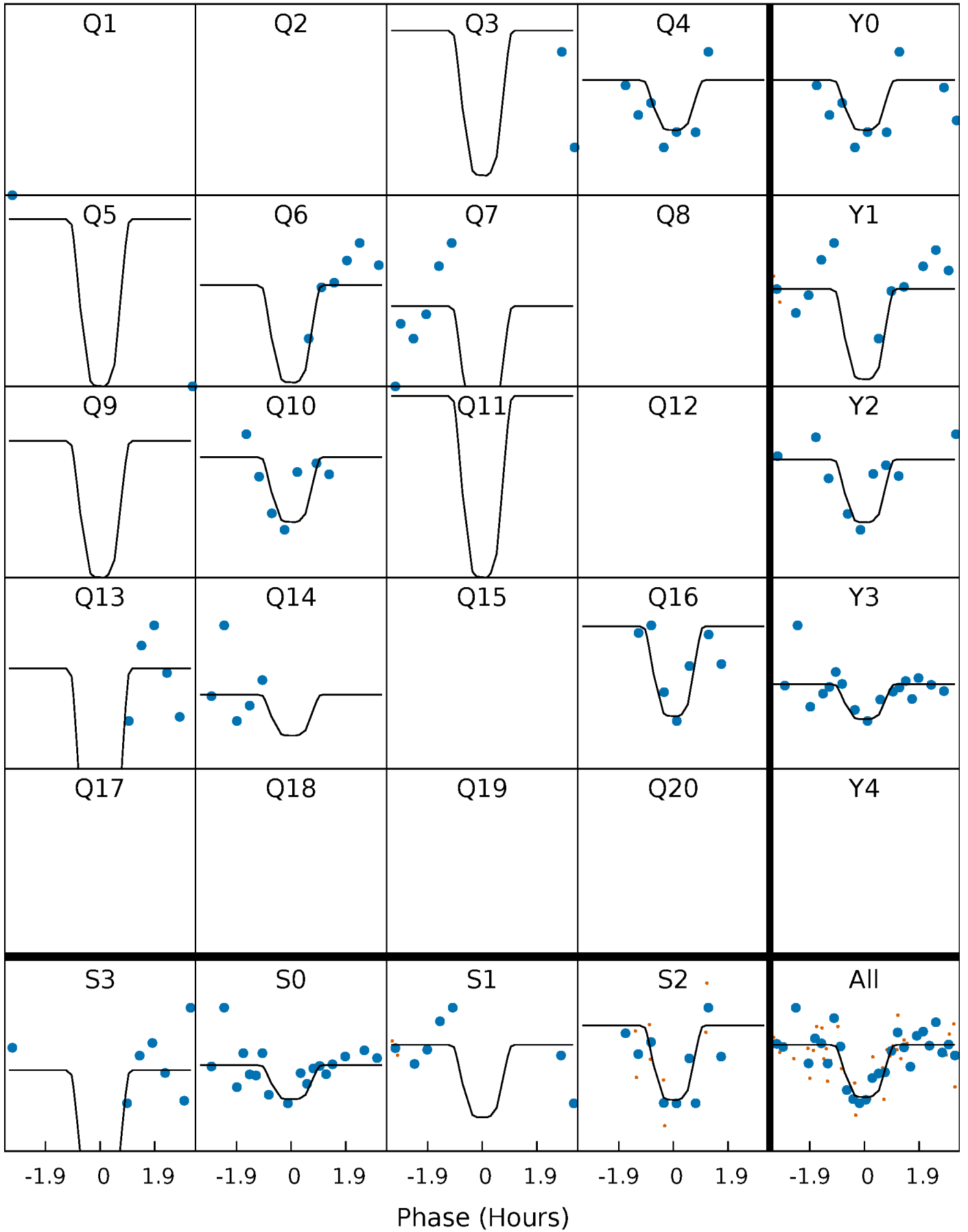
PDC Quarter-Phased Transit Curves

TCE 006140122-06 P= 84.674039 Days $T_0=200.429652$ (BKJD)



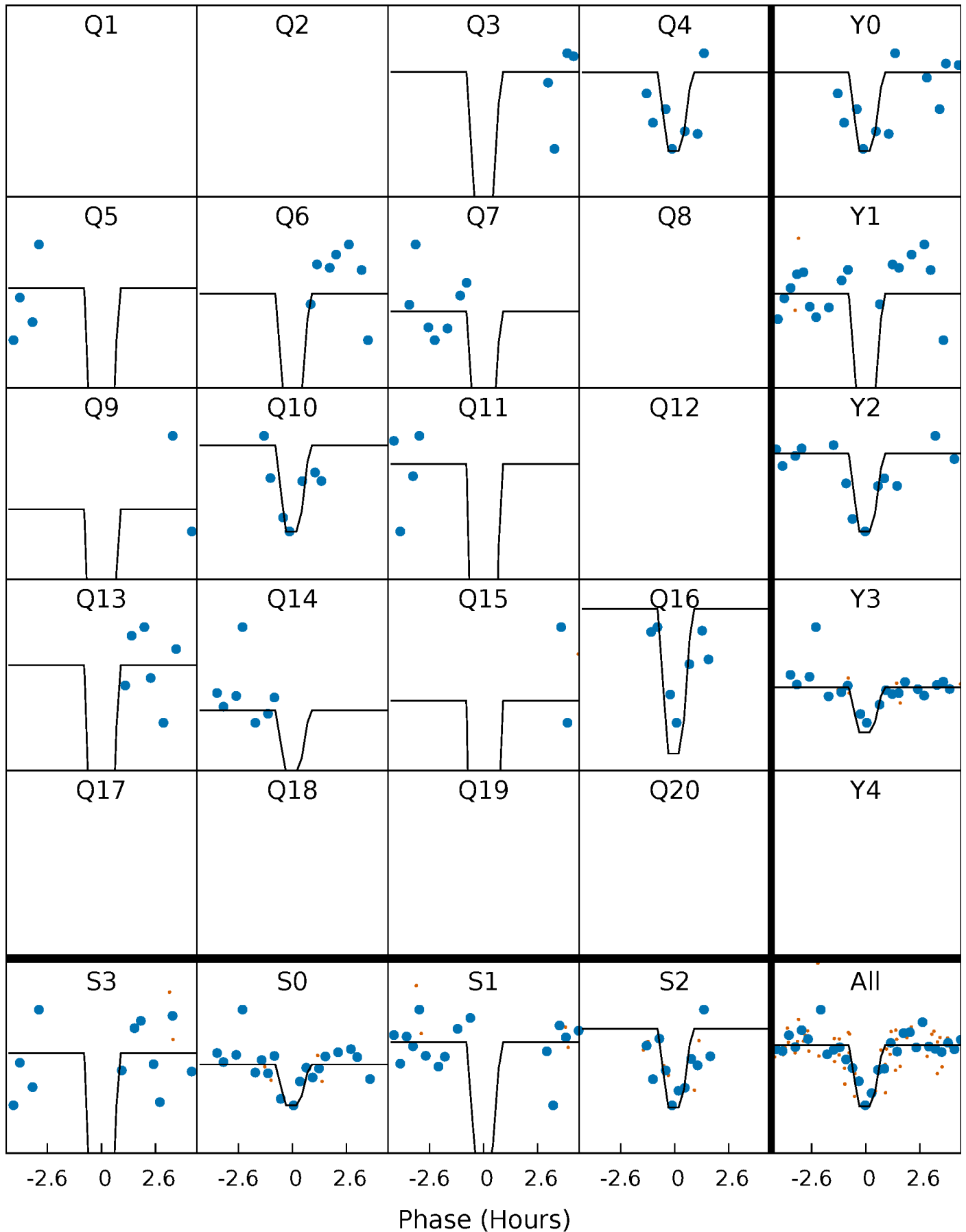
DV Quarter-Phased Transit Curves

TCE 006140122-06 P= 84.674039 Days $T_0=200.429652$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

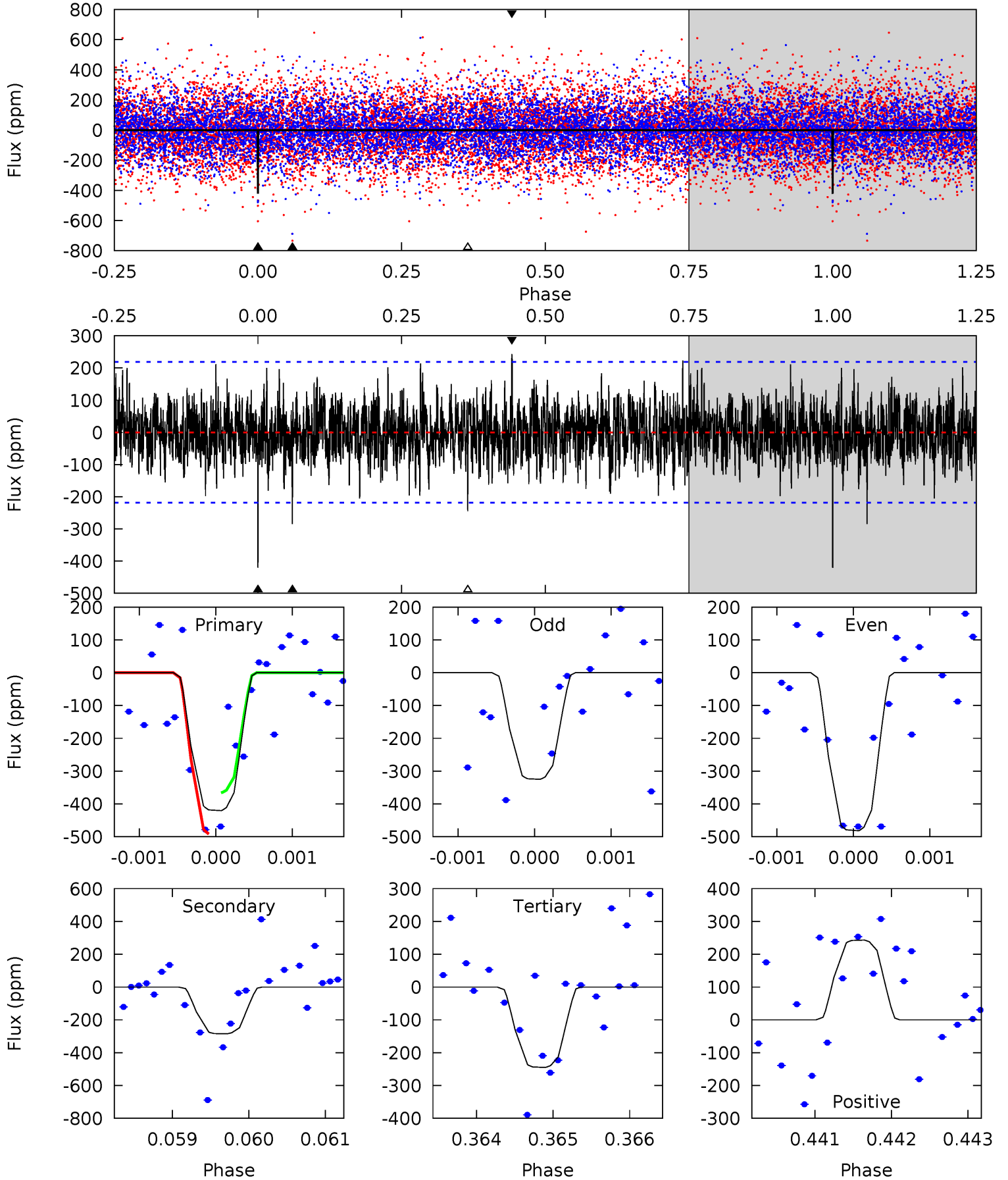
TCE 006140122-06 P= 84.674741 Days $T_0=200.417047$ (BKJD)



DV Model-Shift Uniqueness Test

006140122-06, P = 84.674039 Days, E = 115.755613 Days

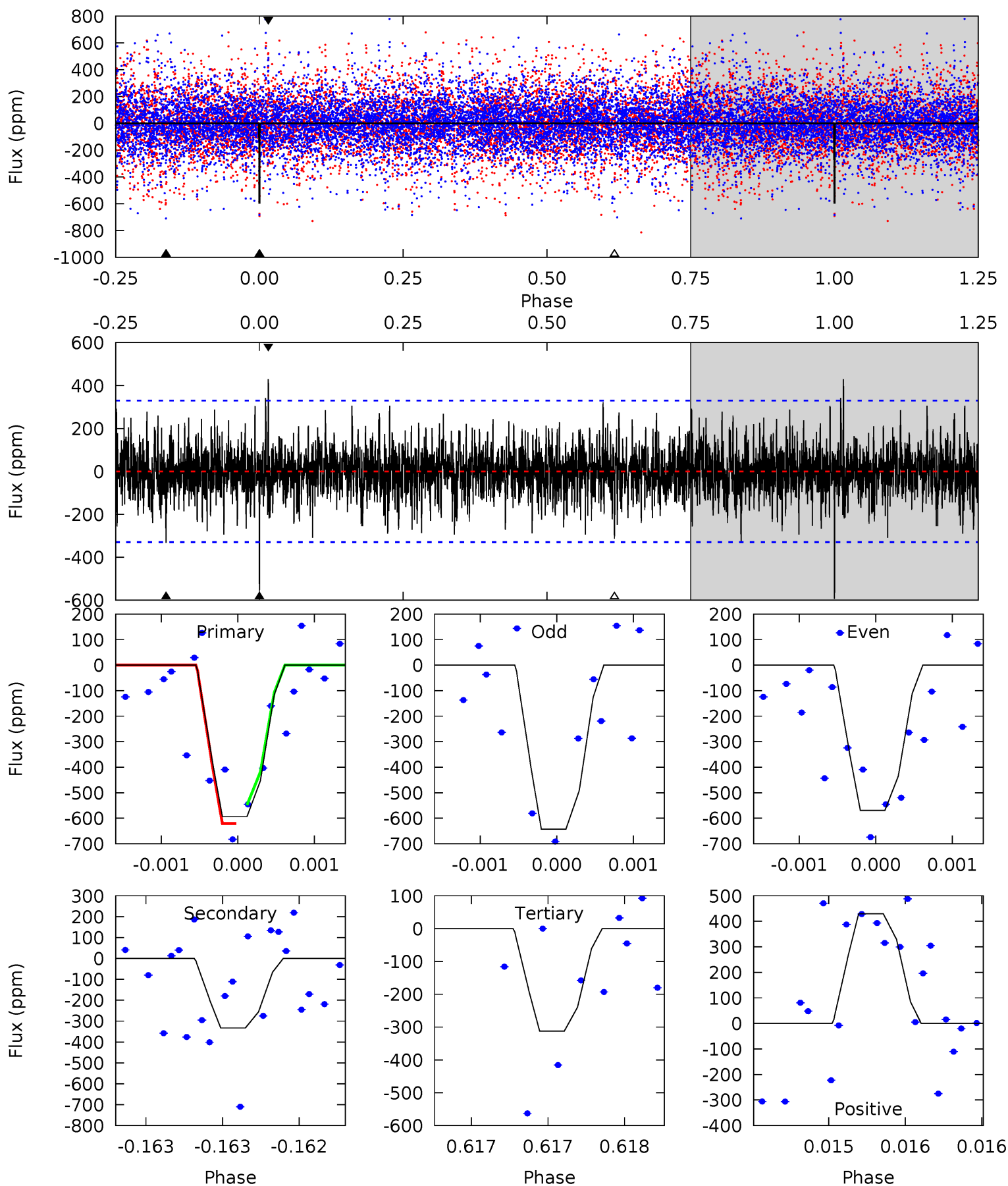
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	7.09	6.10	6.06	5.44	3.28	1.60	4.37	4.41	1.00	1.04	1.93	1.09	0.37	1.55



Alt Model-Shift Uniqueness Test

006140122-06, P = 84.674741 Days, E = 115.742306 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.89	5.55	5.21	7.16	5.50	3.37	1.50	4.68	2.73	0.34	-1.61	0.56	0.92	0.42	0.60



Stellar Parameters For KIC 006140122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6915^{+190}_{-238}	$3.655^{+0.323}_{-0.076}$	$-0.260^{+0.300}_{-0.250}$	$3.153^{+0.386}_{-1.159}$	$1.638^{+0.216}_{-0.324}$	$0.074^{+0.158}_{-0.018}$
	+3%/-3%	+9%/-2%	+115%/-96%	+12%/-37%	+13%/-20%	+215%/-25%
Source	PHO1	FLK73	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 006140122-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-285 ± 40	$7.62^{+4.77}_{-4.26}$	1105^{+69}_{-96}	5758^{+3227}_{-1099}	547^{+2127}_{-349}
Alt.	-333 ± 60	$8.68^{+5.08}_{-4.28}$	1110^{+62}_{-101}	5625^{+2436}_{-964}	489^{+1500}_{-302}

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

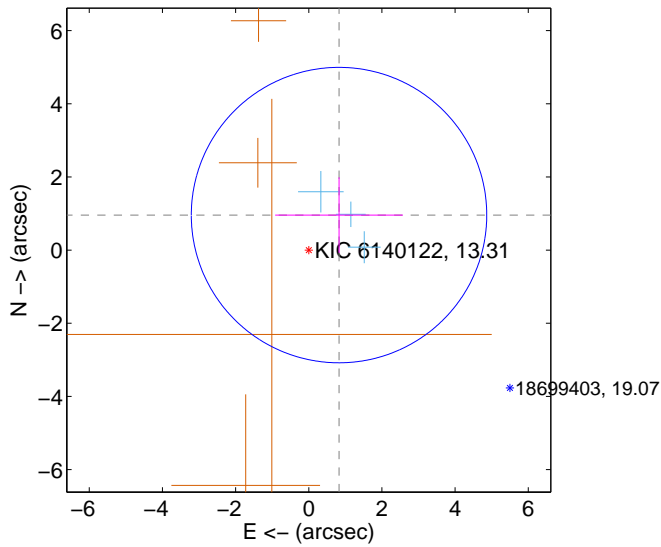
Supplemental centroid analysis for 006140122-06. Kepler magnitude: 13.31. Transit SNR 8.86

There are 3 quarters with good PRF difference image offsets

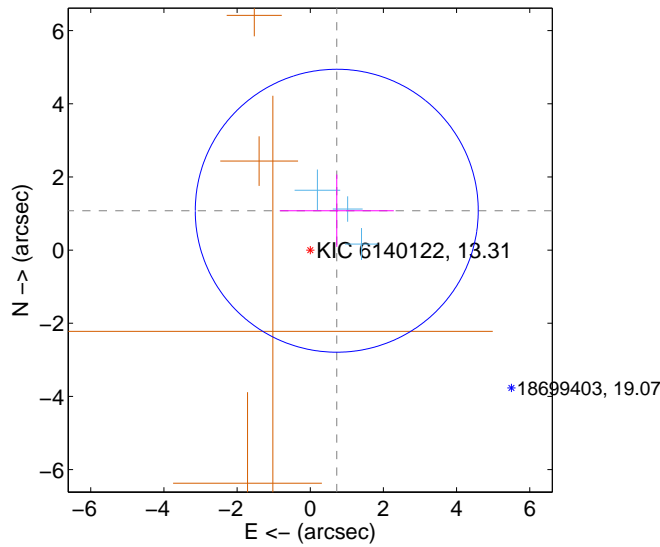
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.265 ± 1.346	0.94	-0.827 ± 1.745	0.957 ± 1.033
PRF-fit source offset from KIC position	1.297 ± 1.289	1.01	-0.724 ± 1.560	1.076 ± 0.988
photometric centroid source offset	2.63 ± 0.96	2.74	1.42 ± 0.76	2.22 ± 1.03

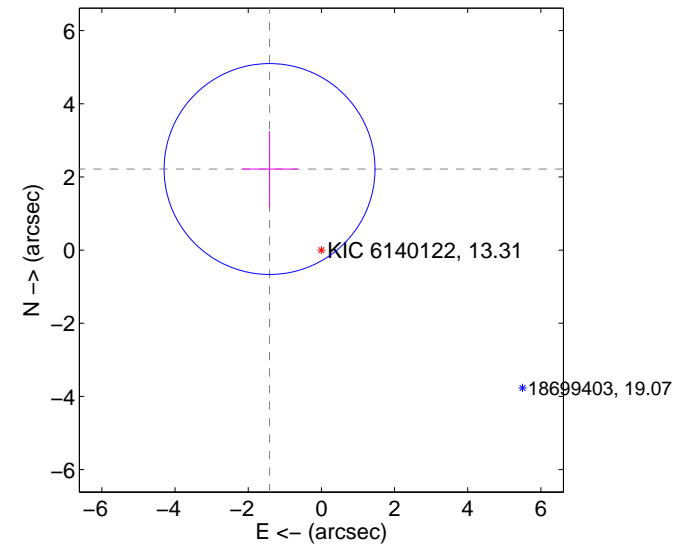
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

Q1 no difference image



Q1 no OOT image



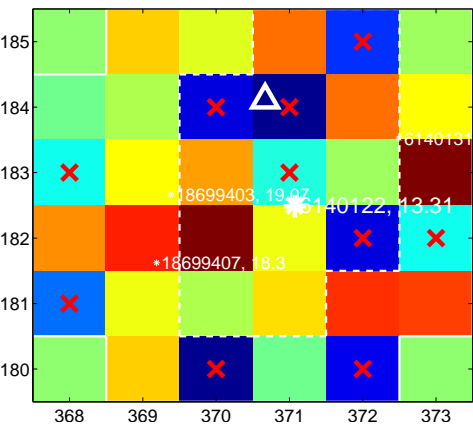
Q2 no difference image



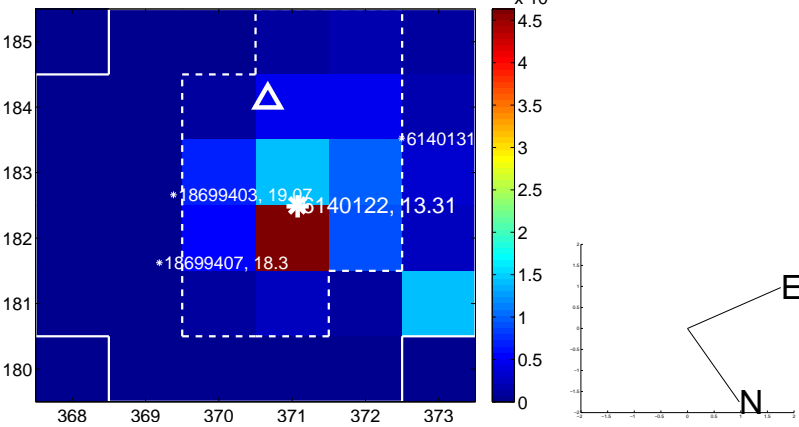
Q2 no OOT image



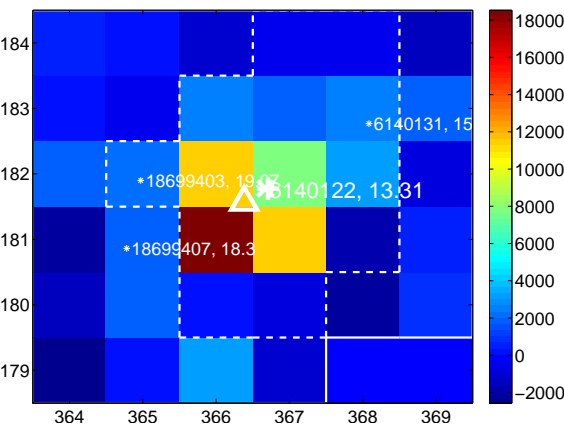
Q3 difference image. Poor Quality



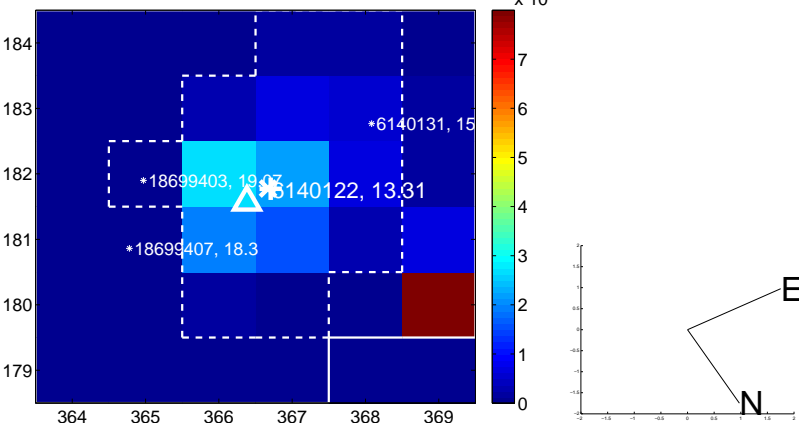
Q3 OOT image



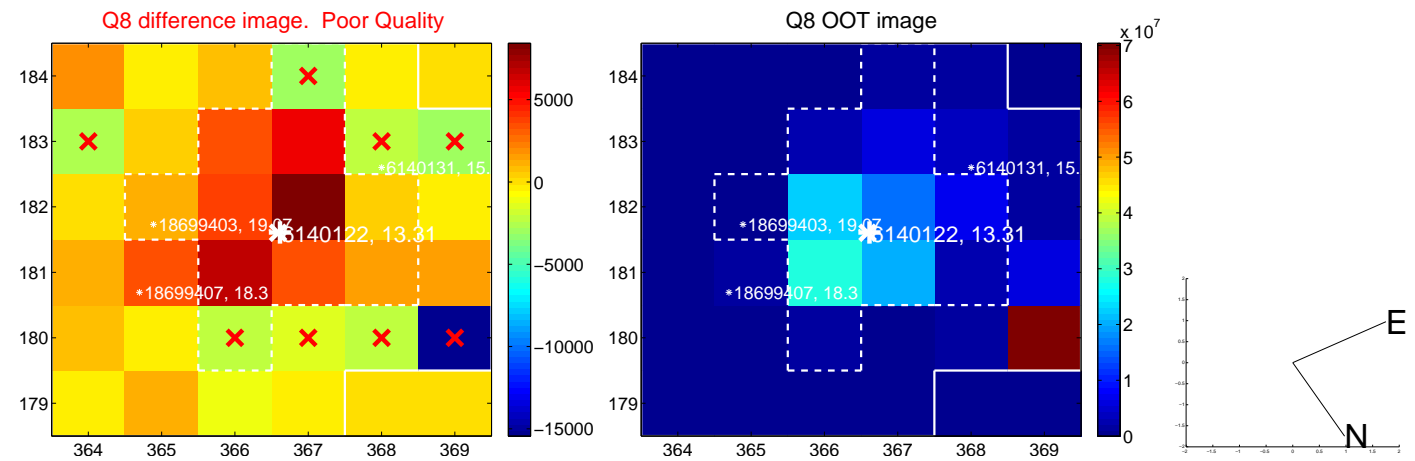
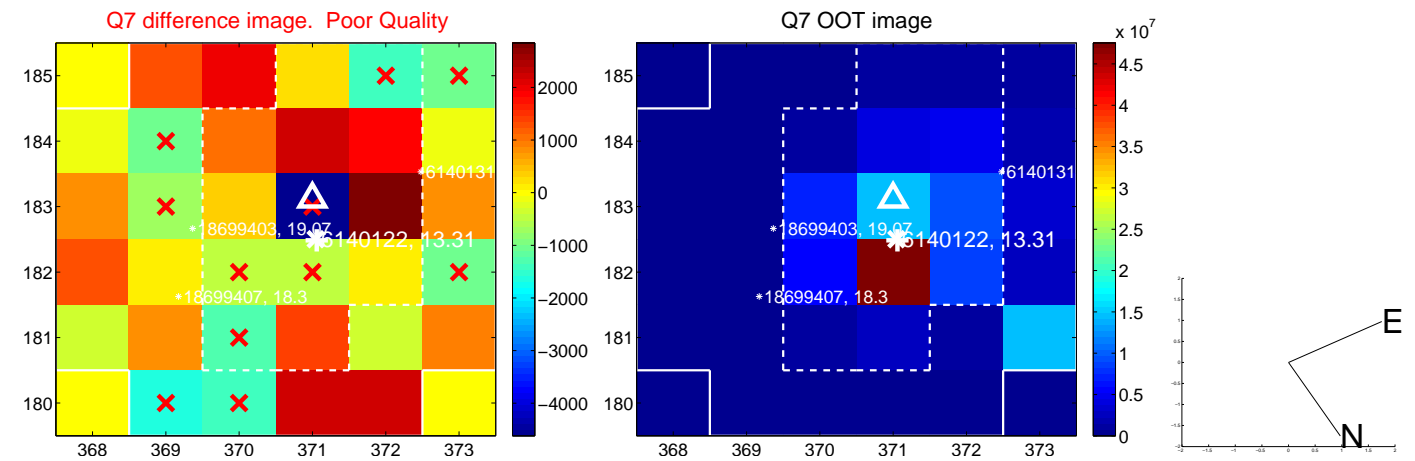
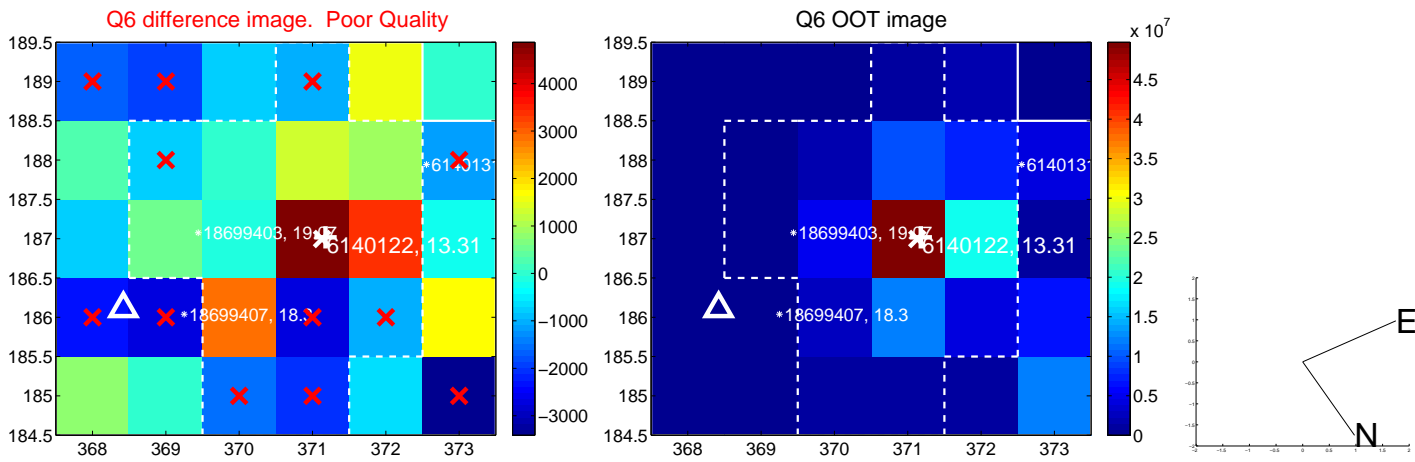
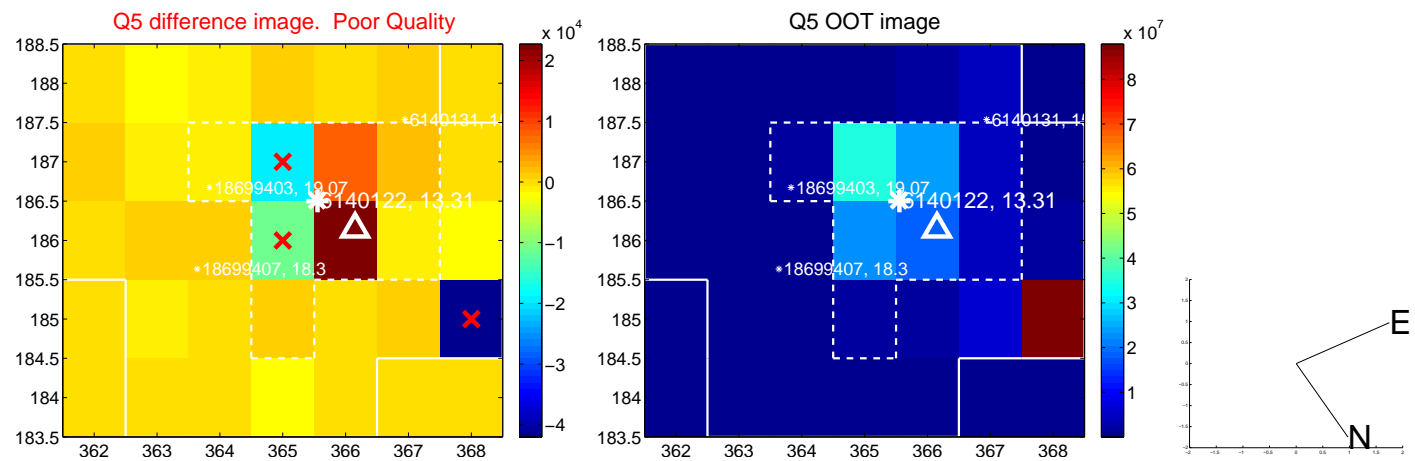
Q4 difference image



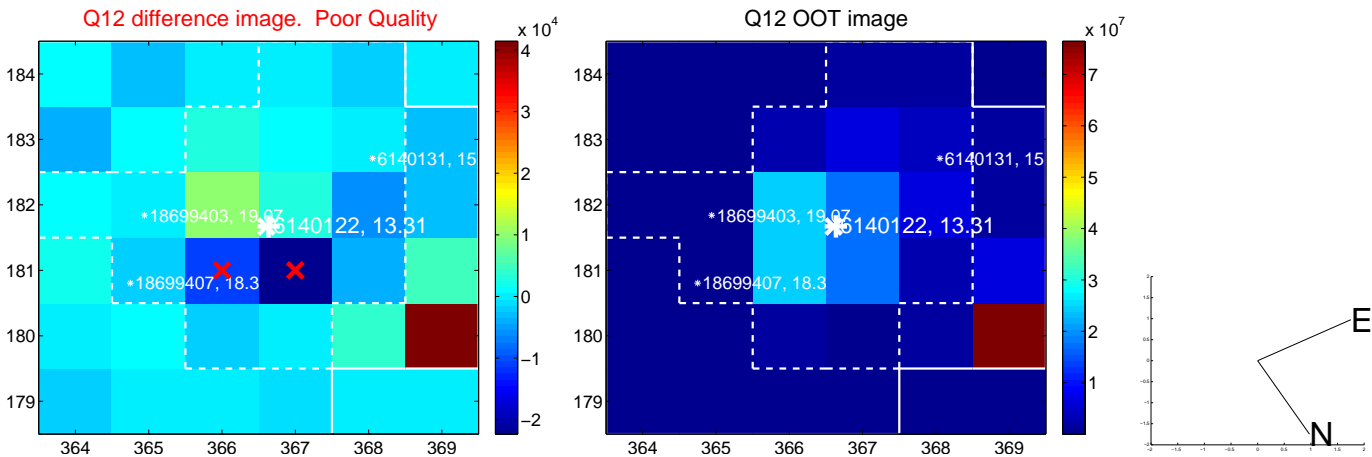
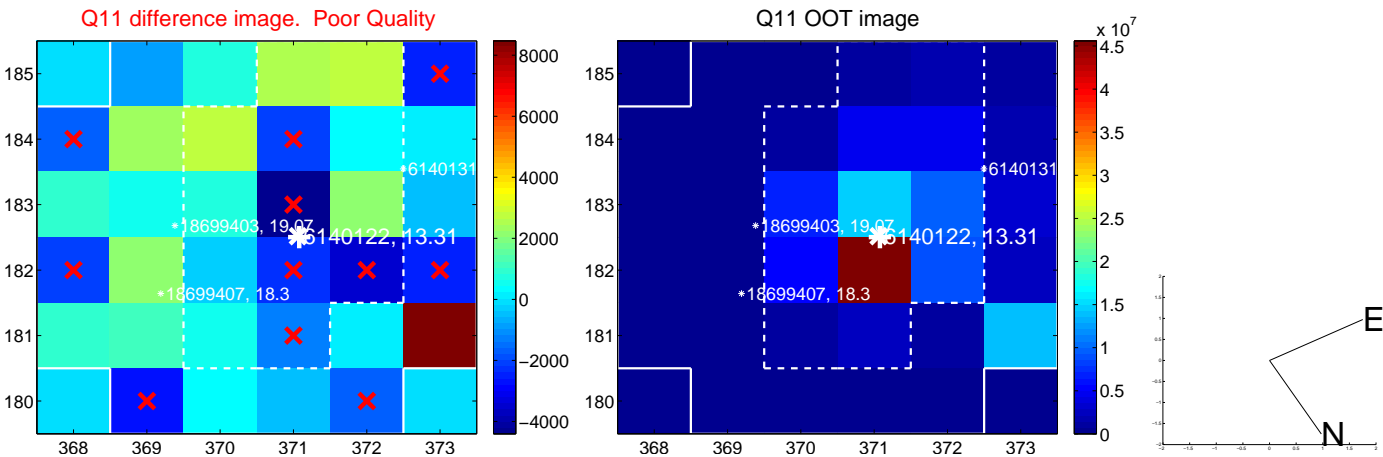
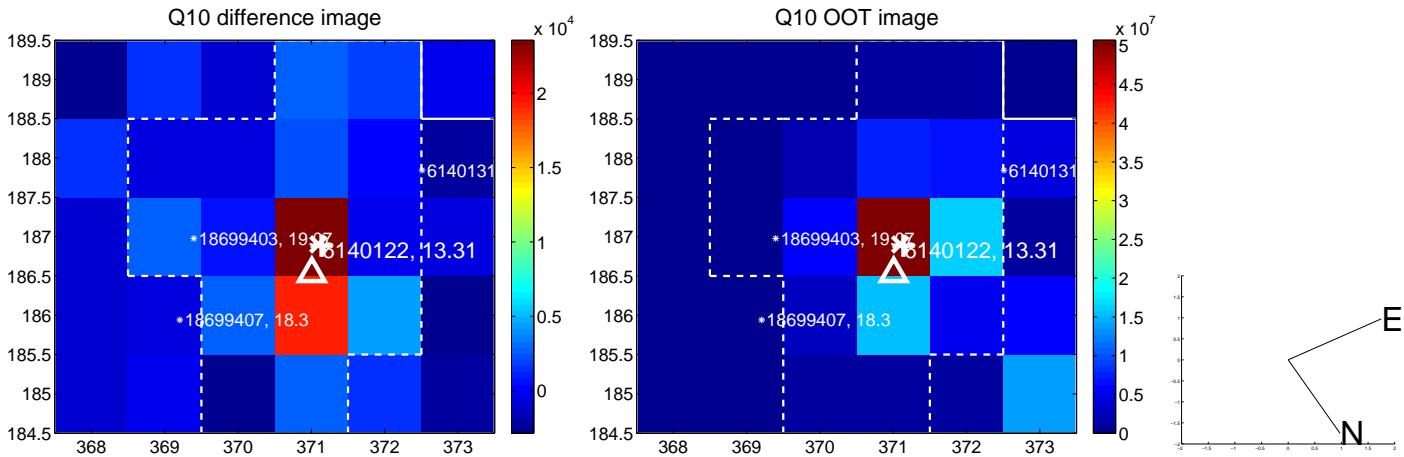
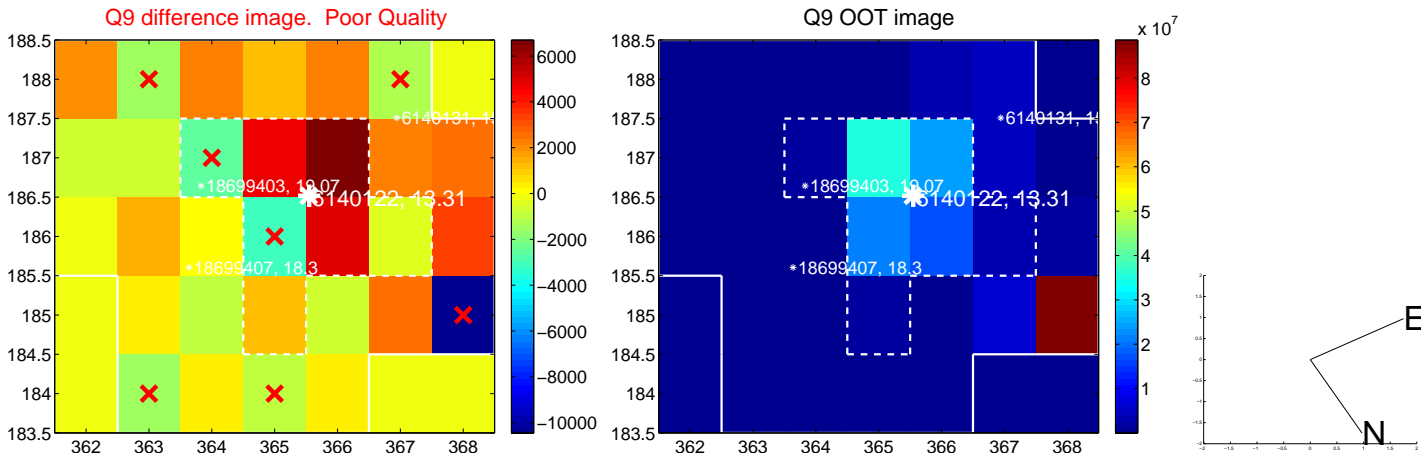
Q4 OOT image



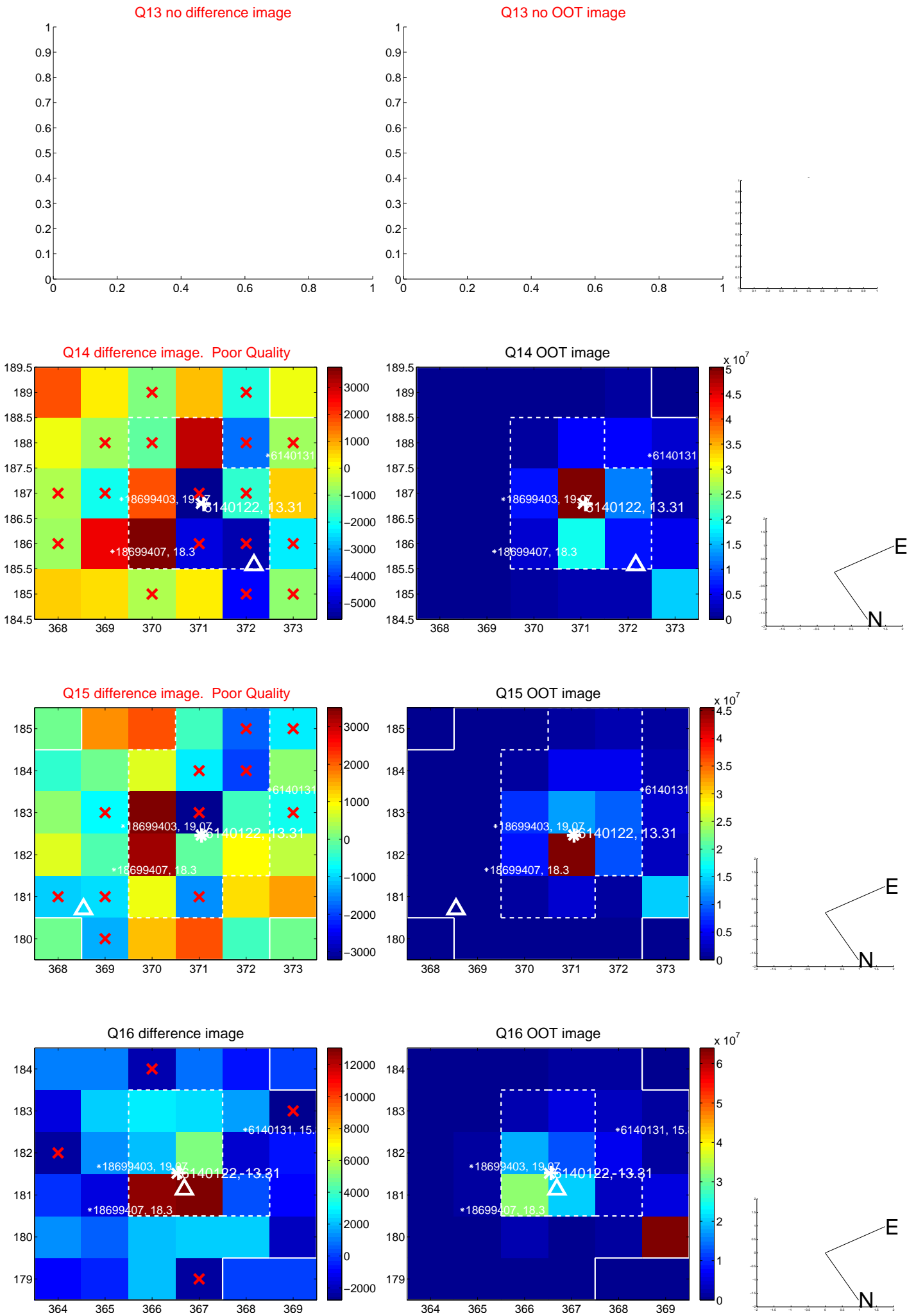
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



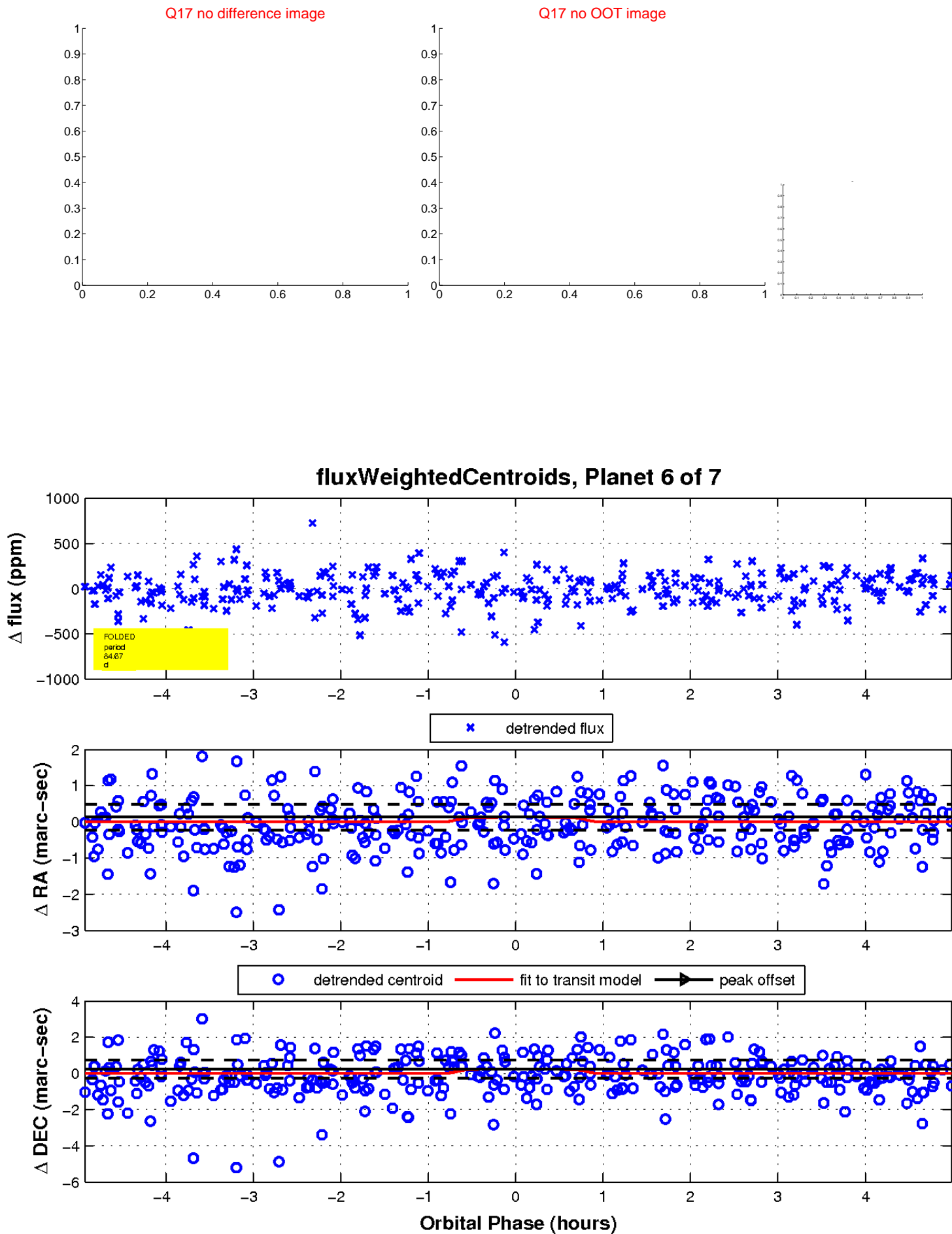
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

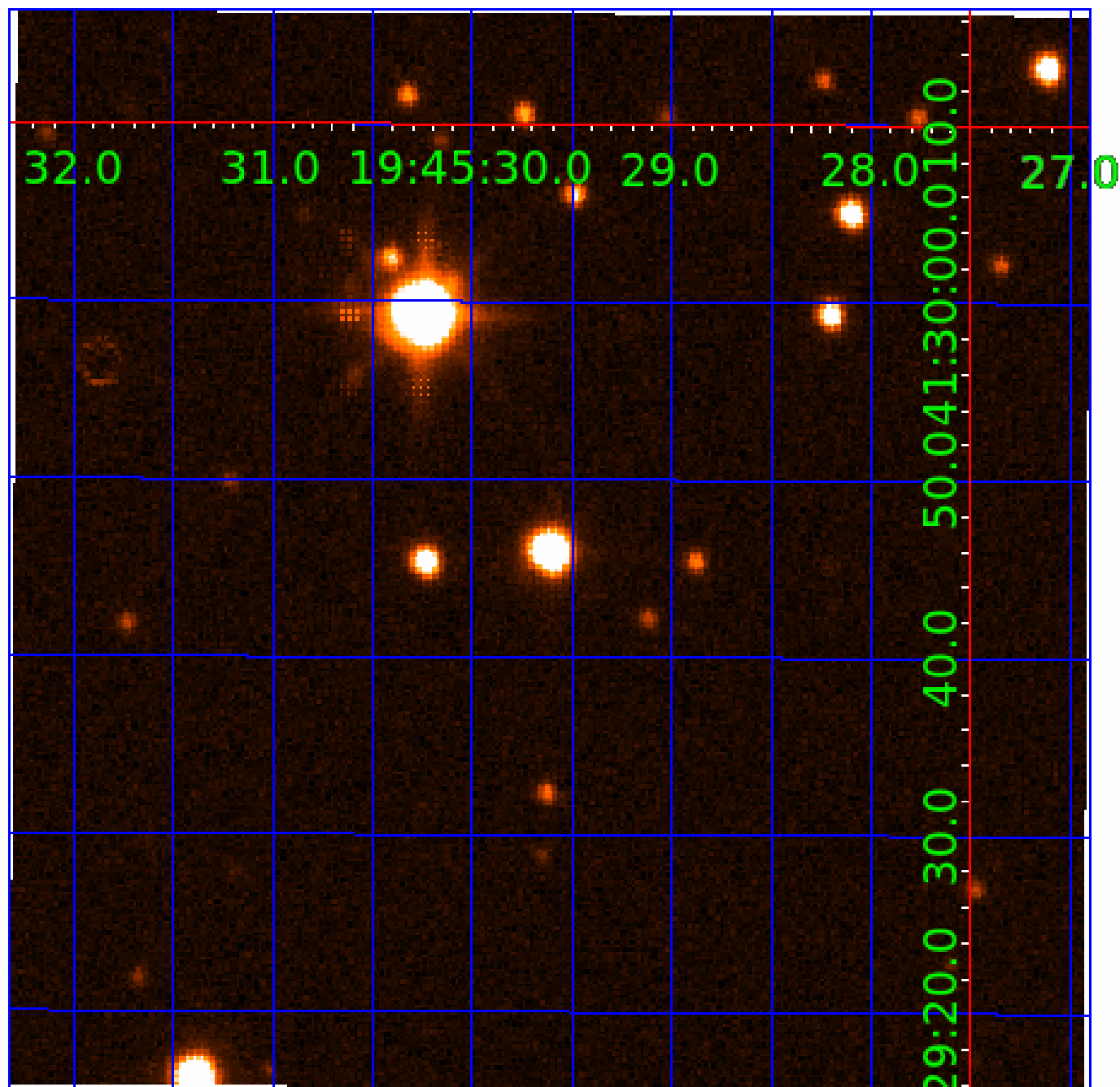


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006140122

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})
006140122-01	OBS	No	0.654944	131.692943	5.2	3.979	7.9	2.6	3.15	6915	0.73	67236.75
006140122-02	OBS	No	36.576303	168.073912	234.5	2.581	9.8	9.7	3.15	6915	5.42	314.98
006140122-03	OBS	No	161.071490	185.022447	354.5	11.105	8.1	9.3	3.15	6915	7.51	43.64
006140122-04	OBS	No	59.699052	134.877360	321.8	1.856	8.0	9.6	3.15	6915	6.34	163.90
006140122-05	OBS	No	86.207392	162.567090	251.2	5.380	8.4	8.7	3.15	6915	5.80	100.42
006140122-06	OBS	No	84.674039	200.429652	452.5	1.663	8.7	8.9	3.15	6915	7.77	102.85
006140122-07	OBS	No	59.513631	133.486066	195.6	3.071	7.5	7.4	3.15	6915	4.88	164.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140122-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006140122-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006140122-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

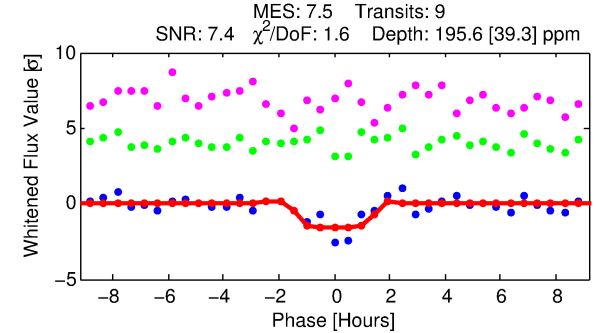
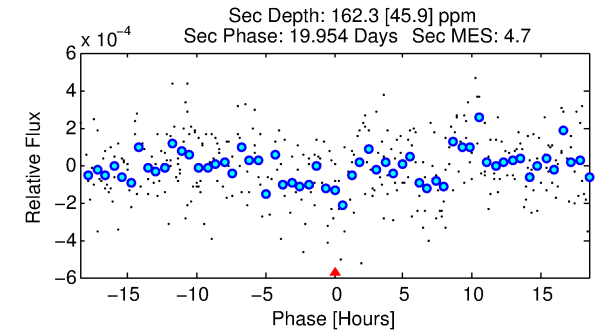
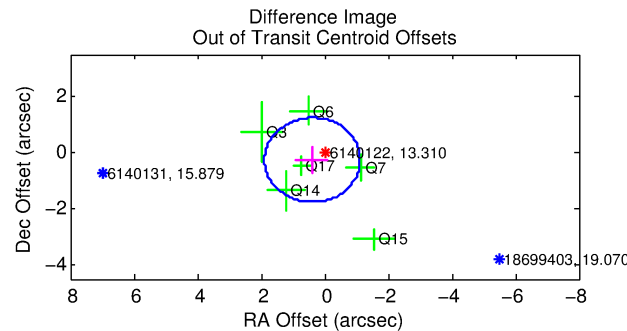
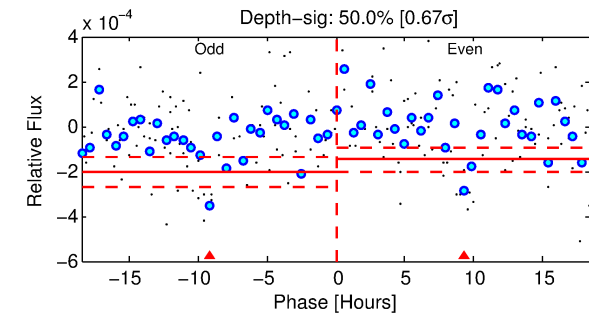
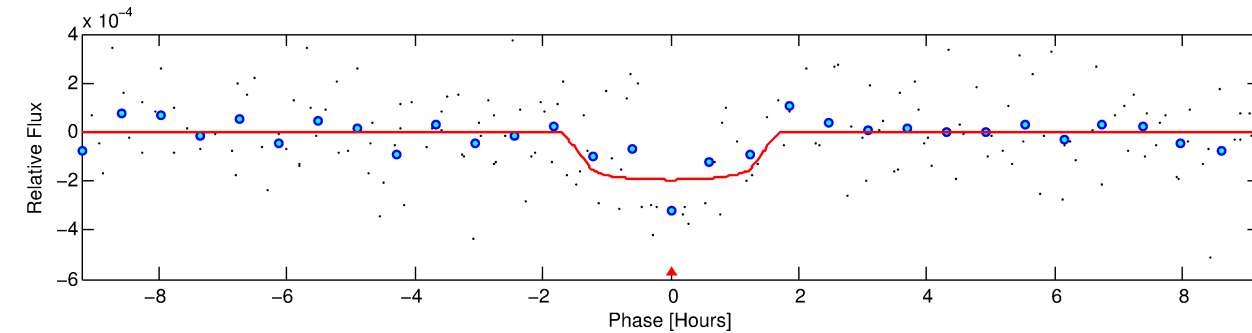
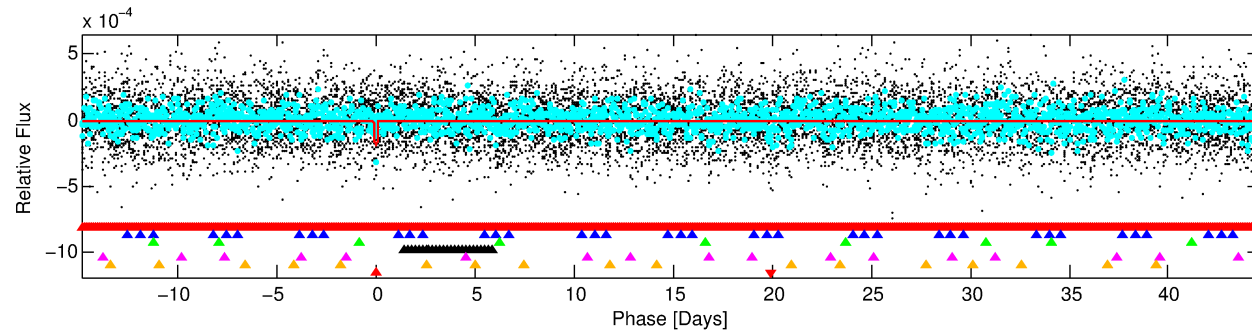
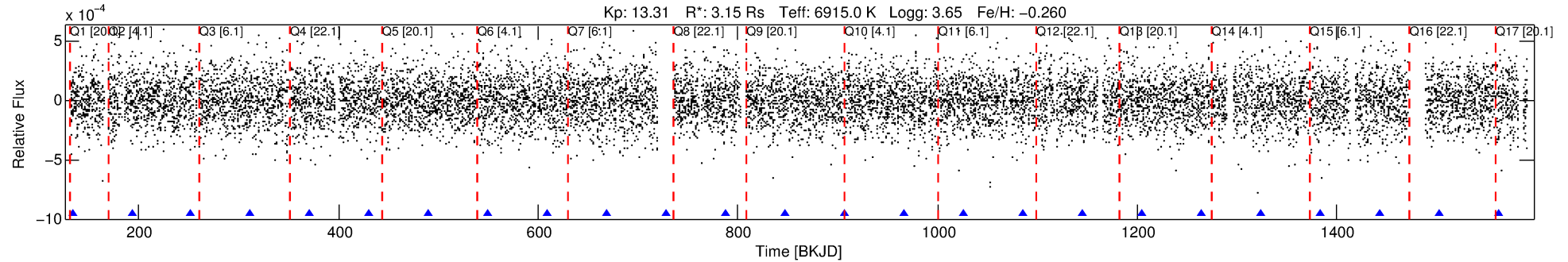
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140122-07

No Significant Match Found

DV One-Page Summary

KIC: 6140122 Candidate: 7 of 7 Period: 59.514 d



DV Fit Results:

Period = 59.51363 [0.00079] d
Epoch = 133.4861 [0.0121] BKJD
Rp/R* = 0.0142 [0.0340]
a/R* = 90.65 [1303.13]
b = 0.81 [6.20]
Seff = 164.59 [93.81]
Teq = 913 [130] K
Rp = 4.88 [11.83] Re
a = 0.3518 [0.1226] AU
Ag = 463.49 [2239.30] [0.21 σ]
Teffp = 6552 [7865] K [0.72 σ]

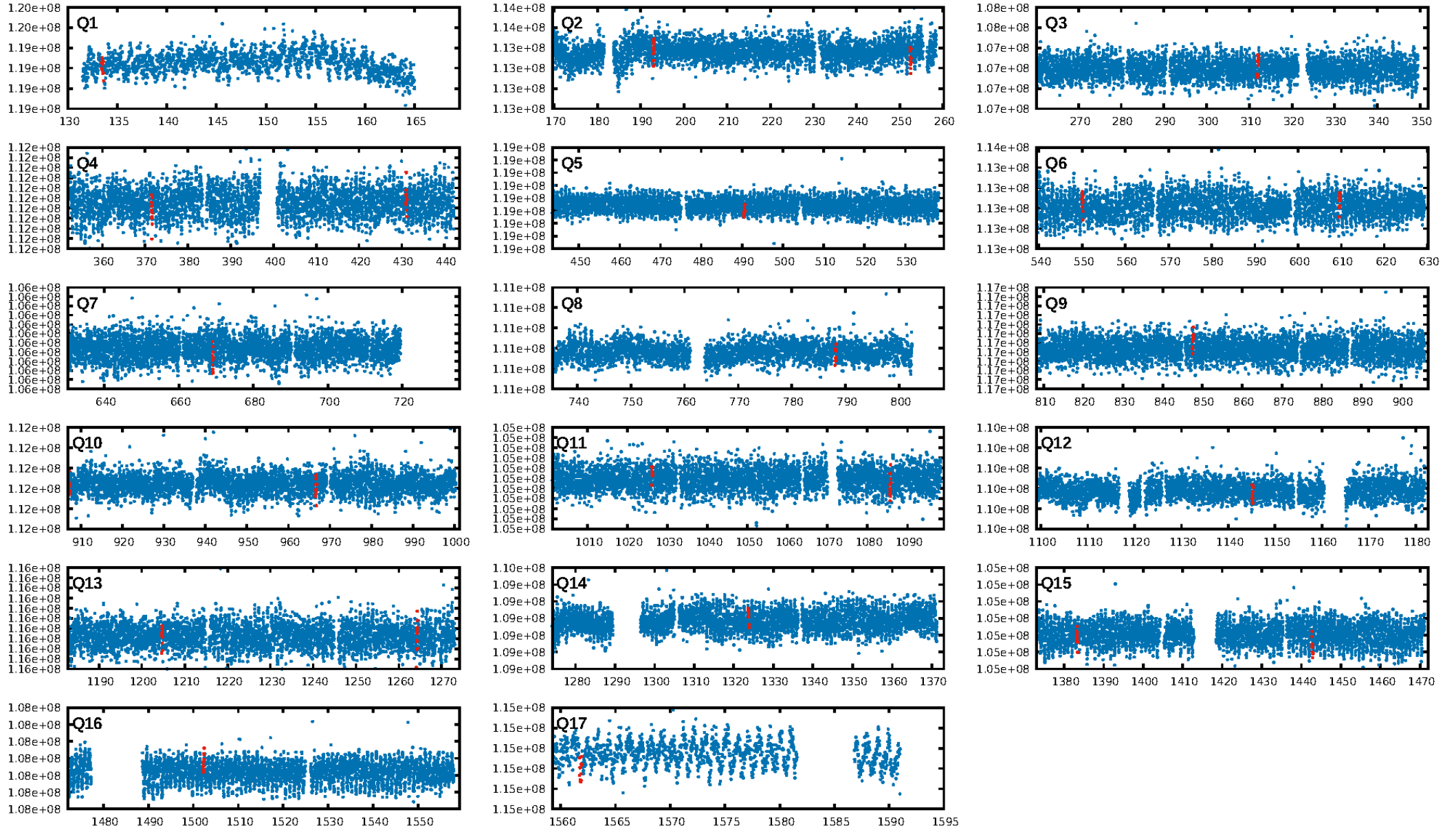
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [137.23 σ]
LongPeriod-sig: 78.5% [1.24 σ]
ModelChiSquare2-sig: 1.4%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 2.86e-07
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -16.12
Centroid-sig: 2.6%
Centroid-so: 0.839 arcsec [0.47 σ]
OotOffset-rm: 0.470 arcsec [0.94 σ]
KicOffset-rm: 0.481 arcsec [0.94 σ]
OotOffset-st: 2/3/0/1 [6]
KicOffset-st: 2/3/0/1 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.00 [0/16]

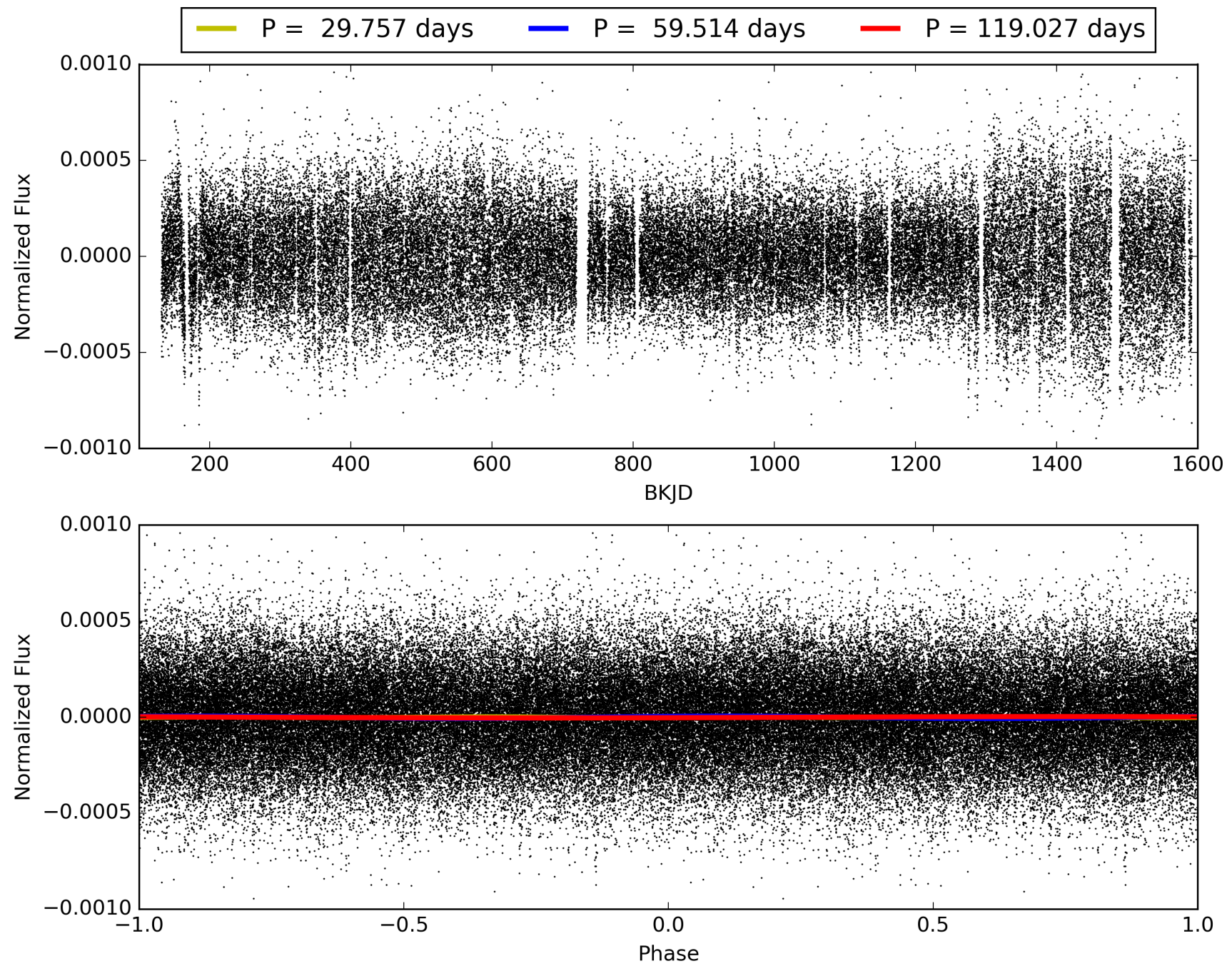
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:59:28 Z

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

TCE 006140122-07, PDC Light Curves

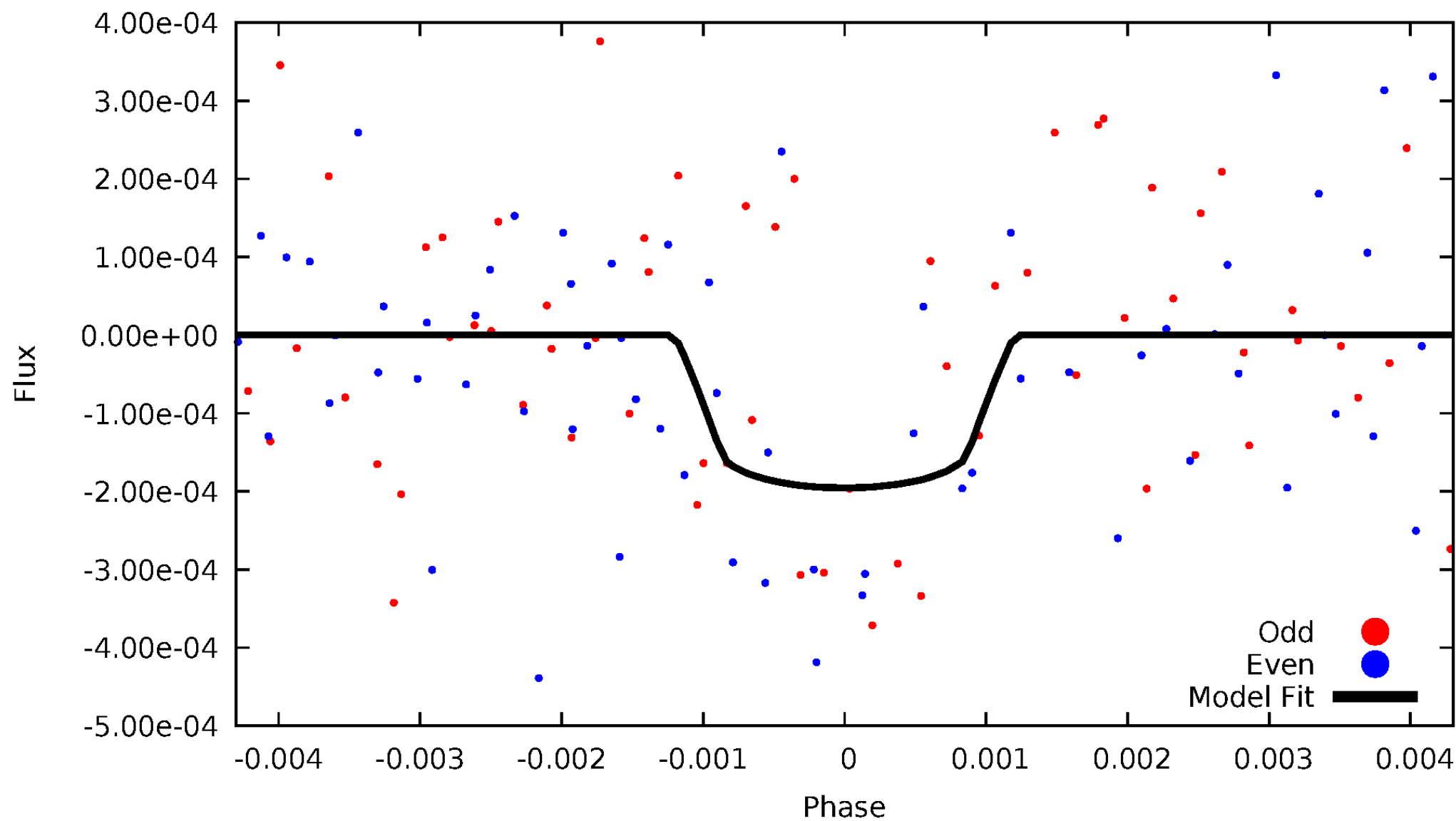


TCE 006140122-07



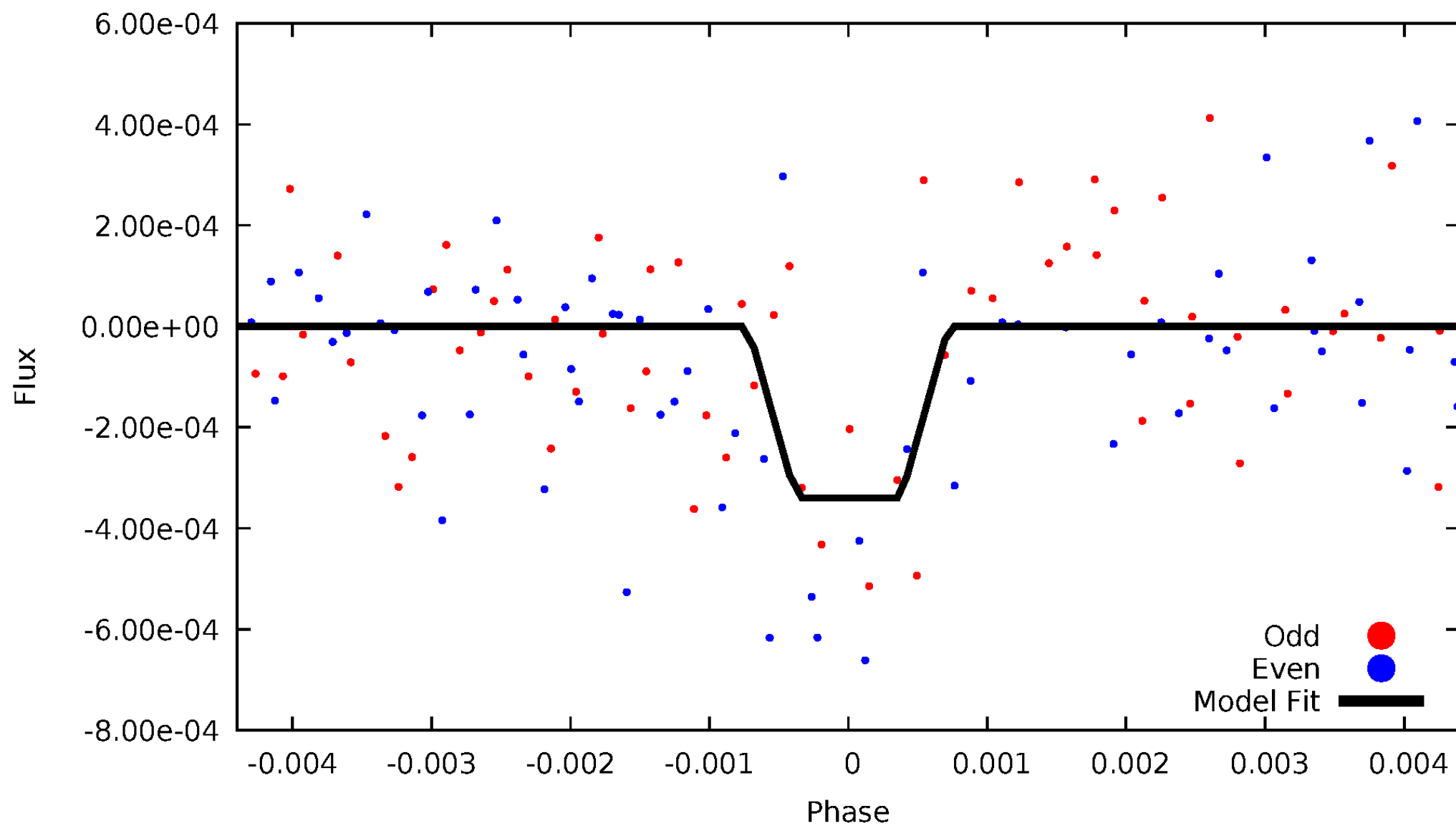
DV Odd/Even

TCE 006140122-07



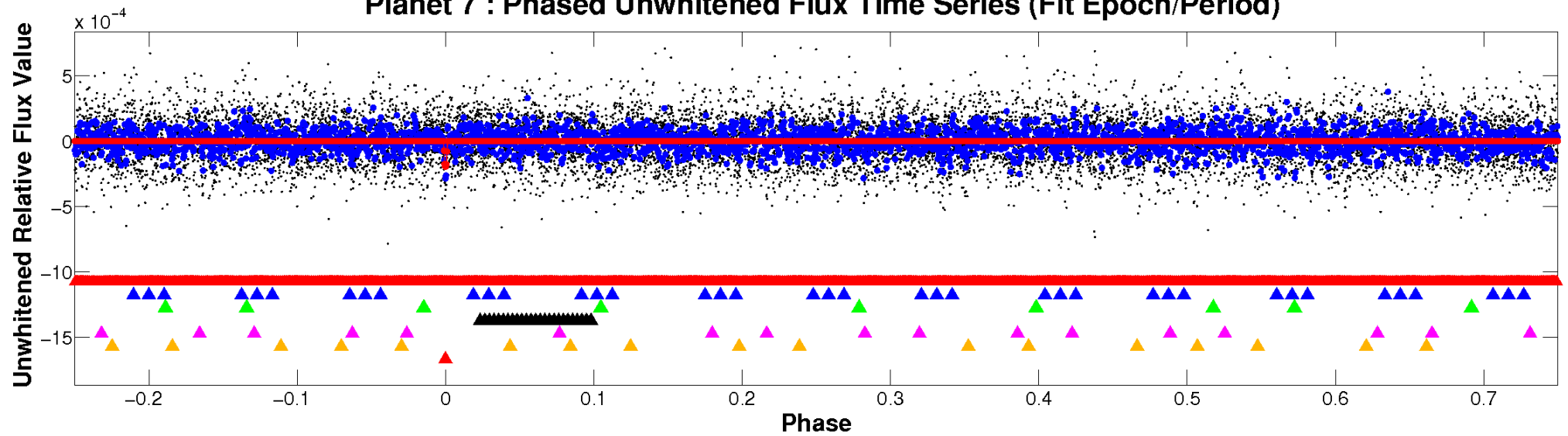
ALT Odd/Even

TCE 006140122-07

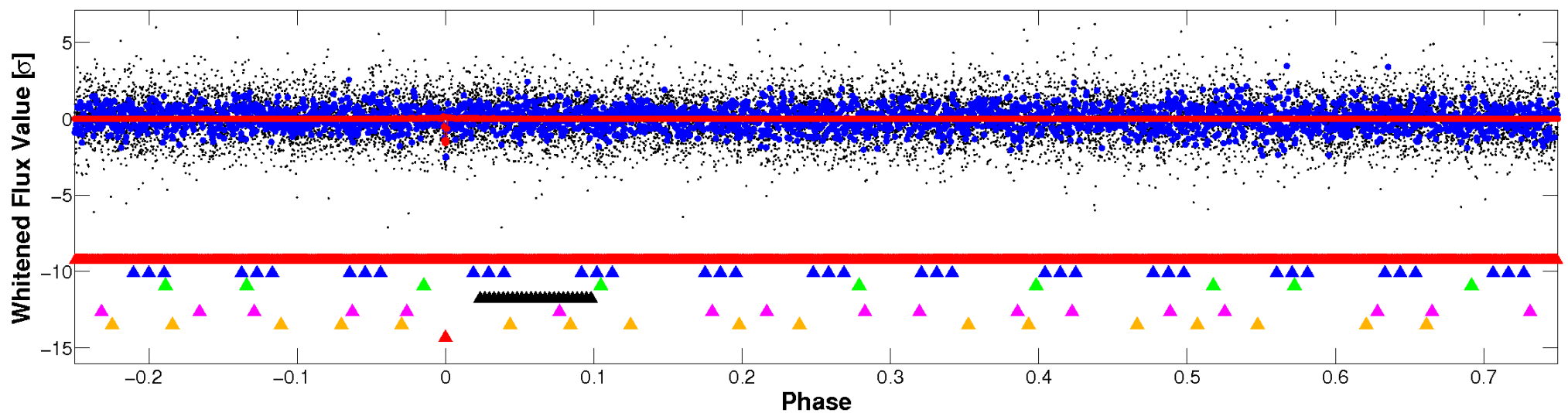


Non-Whitened Vs. Whitened Light Curve

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

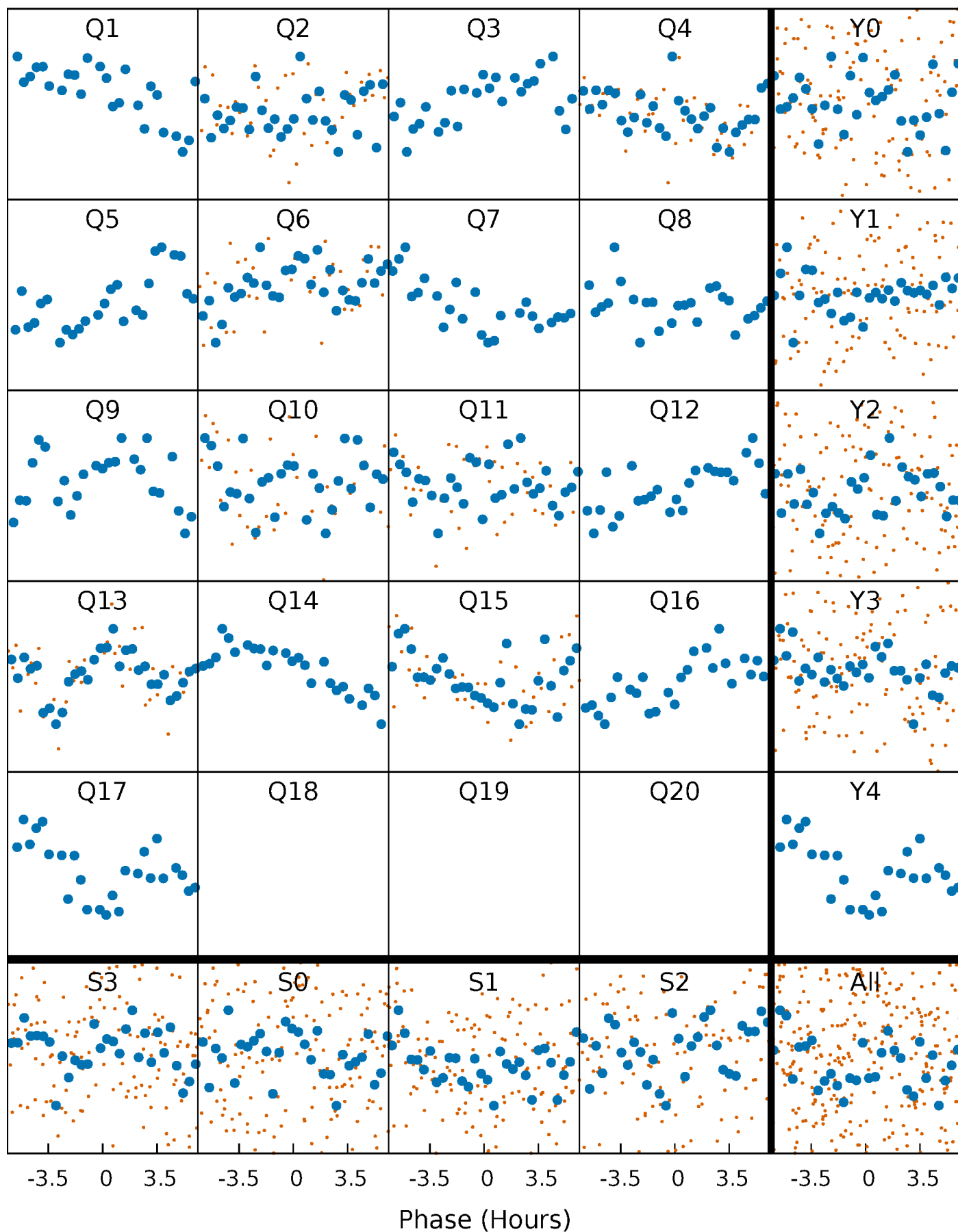


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



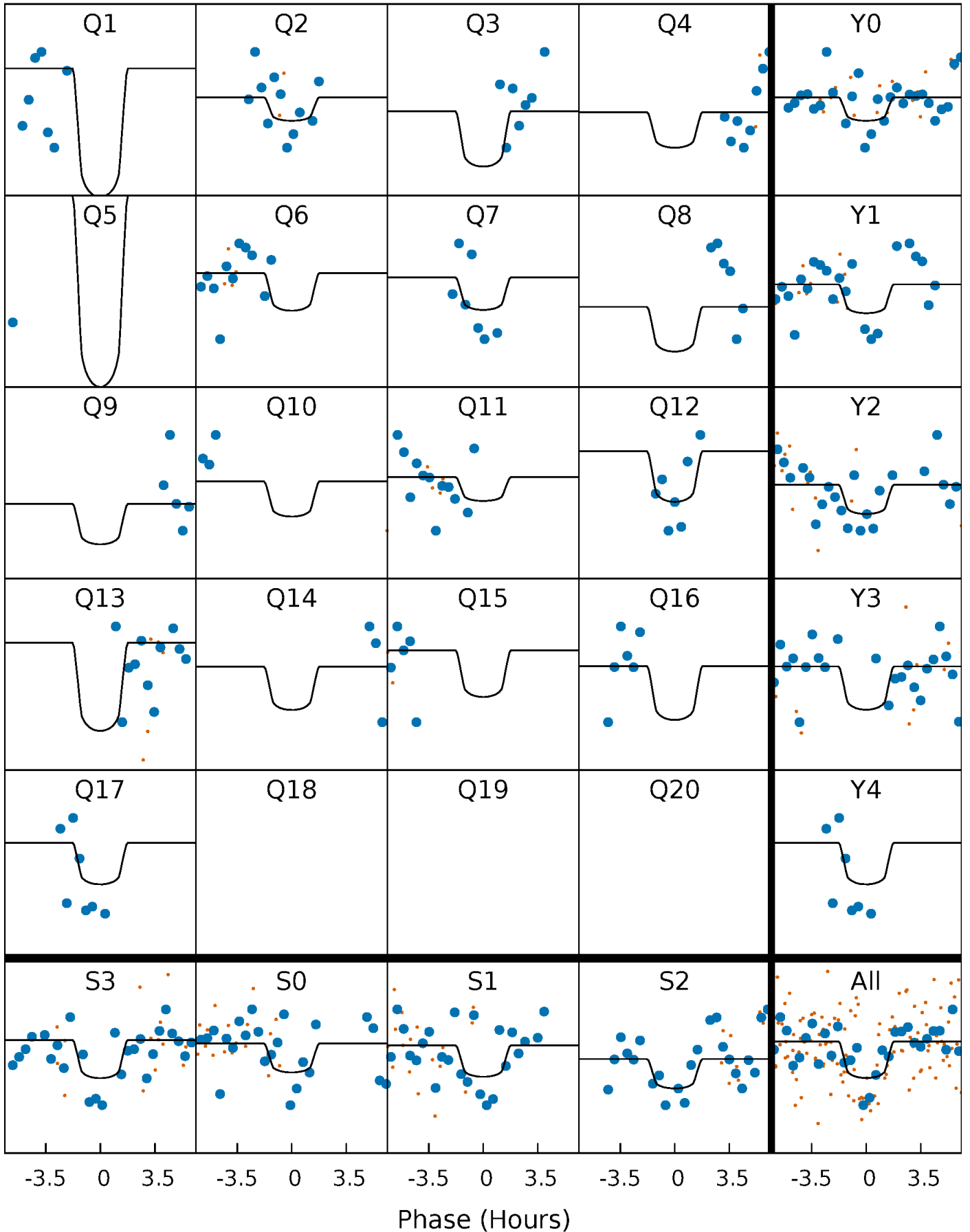
PDC Quarter-Phased Transit Curves

TCE 006140122-07 P= 59.513631 Days $T_0=133.486066$ (BKJD)



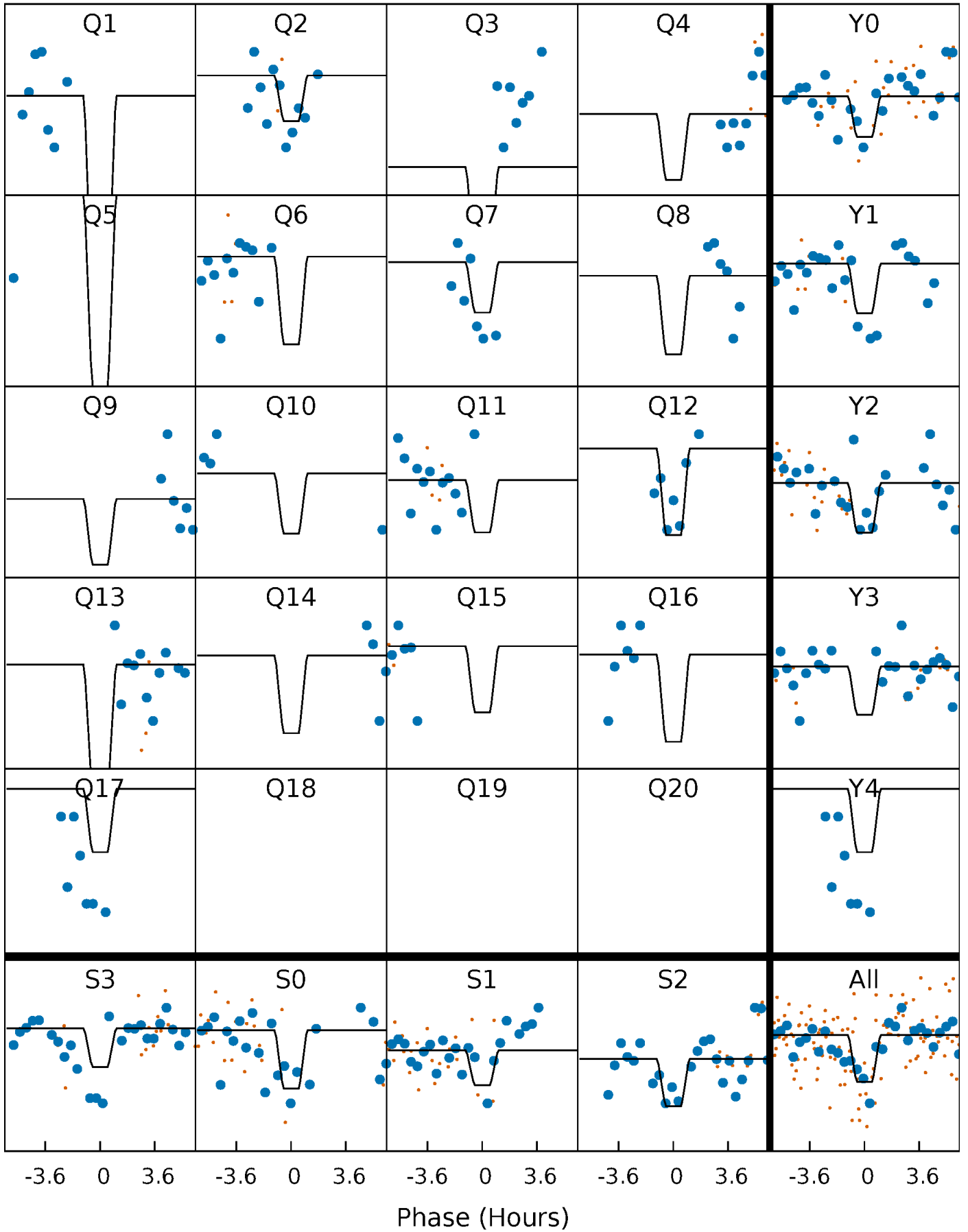
DV Quarter-Phased Transit Curves

TCE 006140122-07 P= 59.513631 Days $T_0=133.486066$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

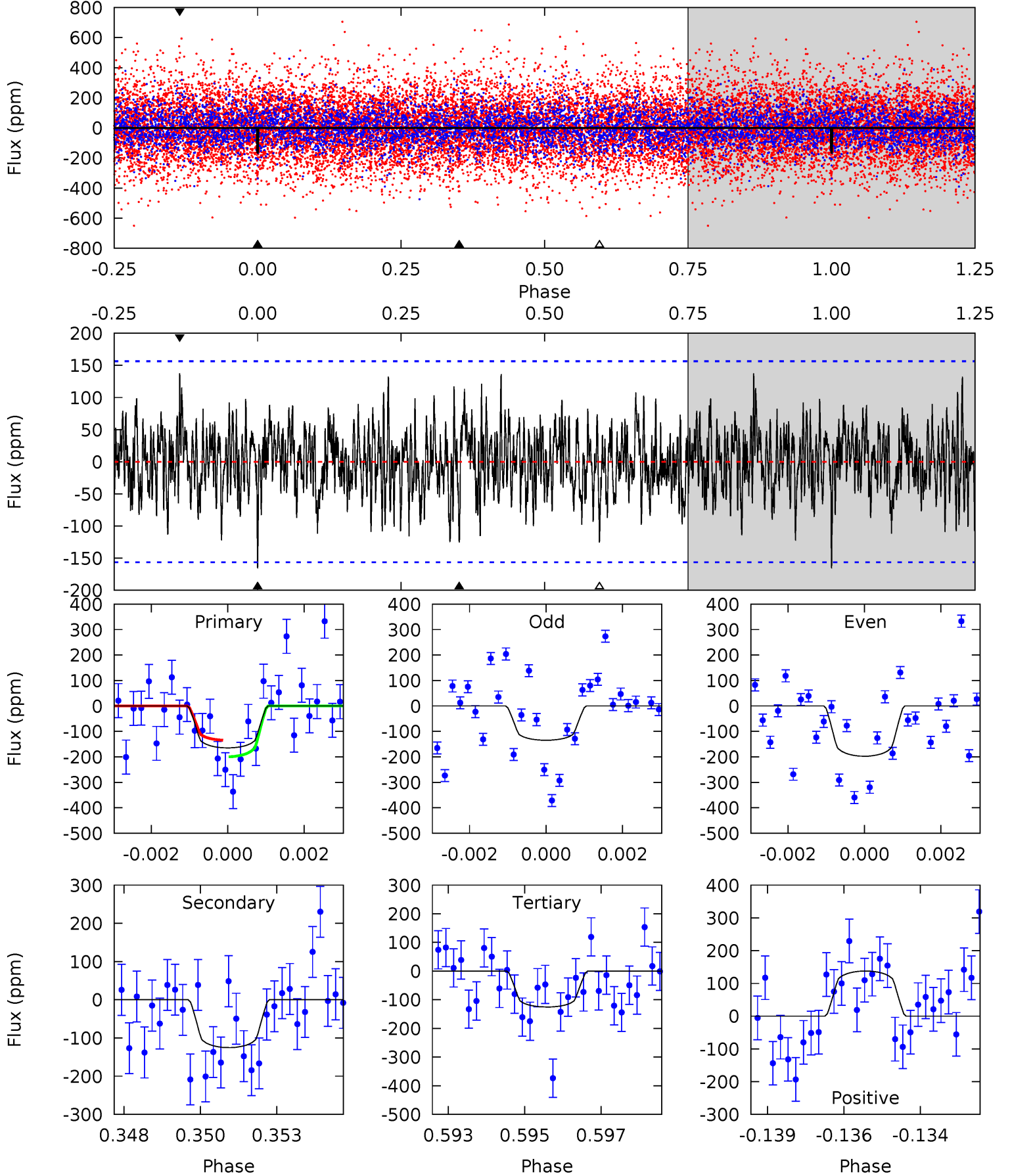
TCE 006140122-07 P= 59.513463 Days $T_0=133.490382$ (BKJD)



DV Model-Shift Uniqueness Test

006140122-07, P = 59.513631 Days, E = 73.972435 Days

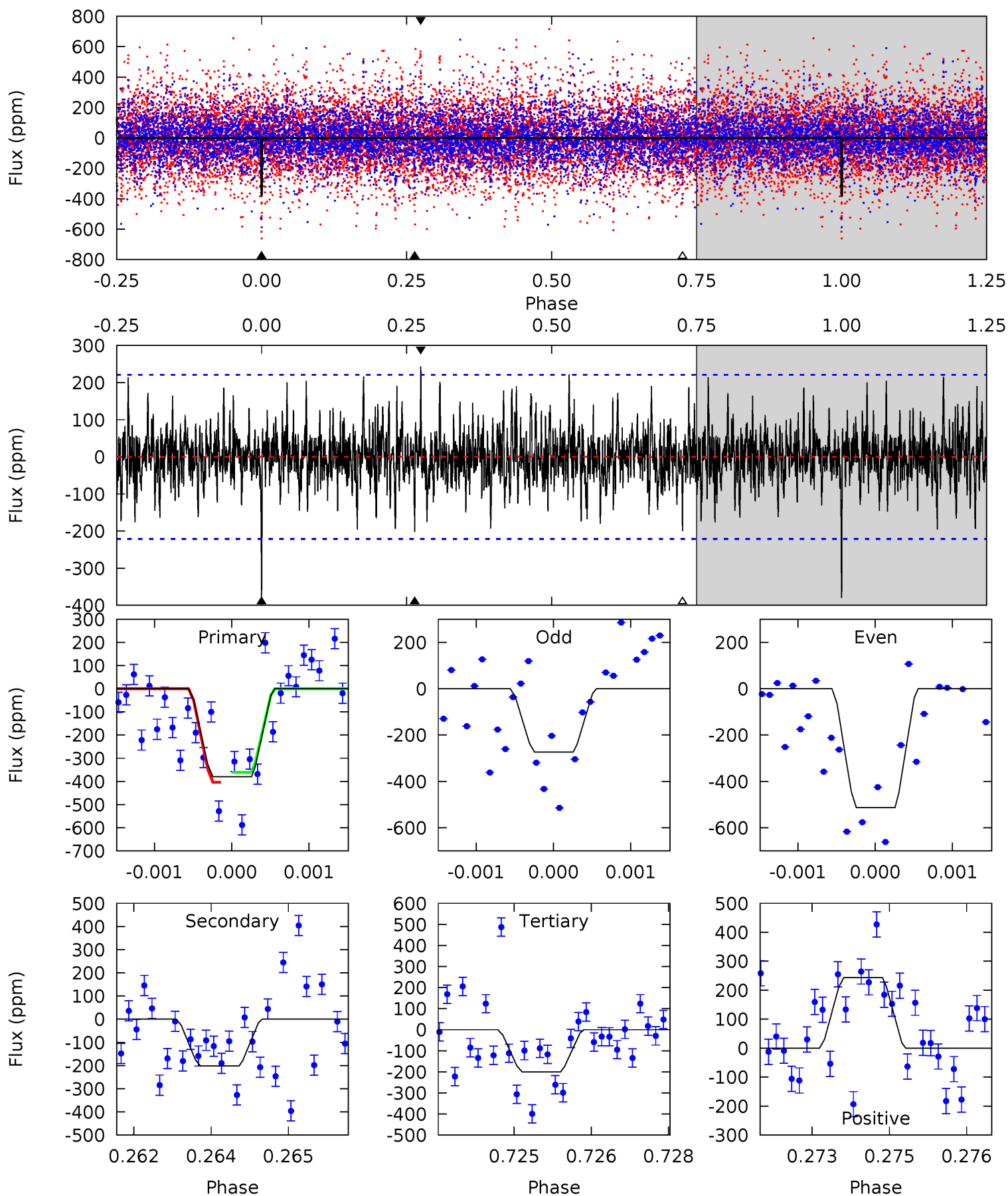
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.58	4.25	4.25	4.67	5.30	3.04	1.46	1.34	0.92	0.00	-0.42	1.06	0.85	0.46	1.09



Alt Model-Shift Uniqueness Test

006140122-07, P = 59.513463 Days, E = 73.976919 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.27	4.93	4.88	5.94	5.39	3.20	1.45	4.39	3.32	0.05	-1.02	2.99	1.05	0.39	0.52



Stellar Parameters For KIC 006140122

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6915^{+190}_{-238}	$3.655^{+0.323}_{-0.076}$	$-0.260^{+0.300}_{-0.250}$	$3.153^{+0.386}_{-1.159}$	$1.638^{+0.216}_{-0.324}$	$0.074^{+0.158}_{-0.018}$
	+3%/-3%	+9%/-2%	+115%/-96%	+12%/-37%	+13%/-20%	+215%/-25%
Source	PHO1	FLK73	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 006140122-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-125 ± 30	$9.27^{+9.06}_{-6.77}$	1248^{+64}_{-117}	4478^{+3710}_{-967}	103^{+1148}_{-78}
Alt.	-202 ± 41	$9.77^{+10.41}_{-6.68}$	1249^{+76}_{-117}	4742^{+3995}_{-1041}	137^{+1326}_{-104}

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 $A_{obs} \gg 1.0$

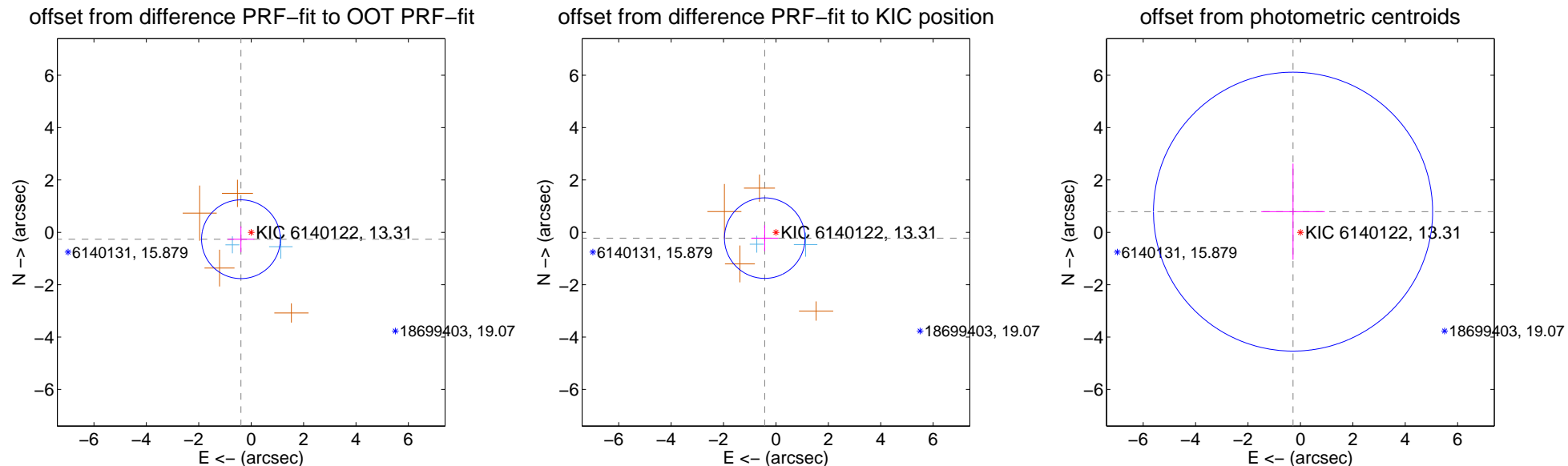
DV Centroid Data

Supplemental centroid analysis for 006140122-07. Kepler magnitude: 13.31. Transit SNR 7.38

There are 2 quarters with good PRF difference image offsets

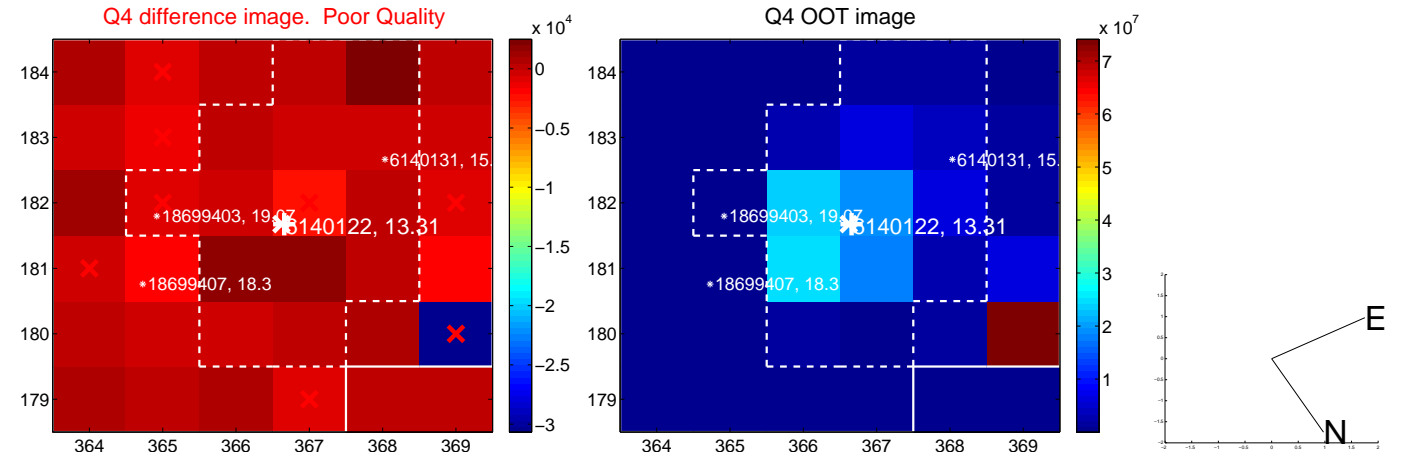
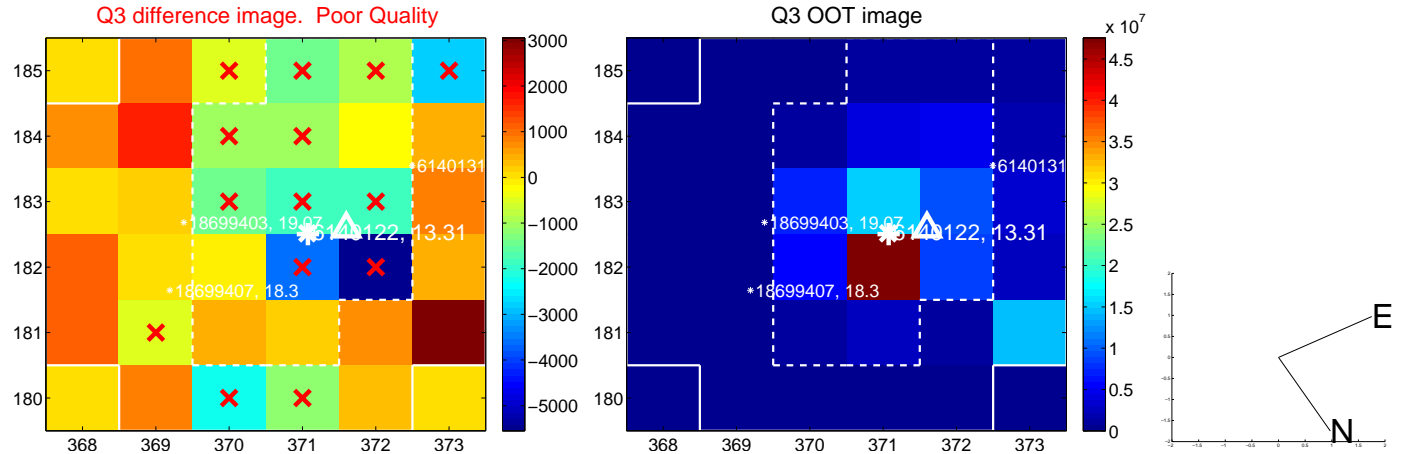
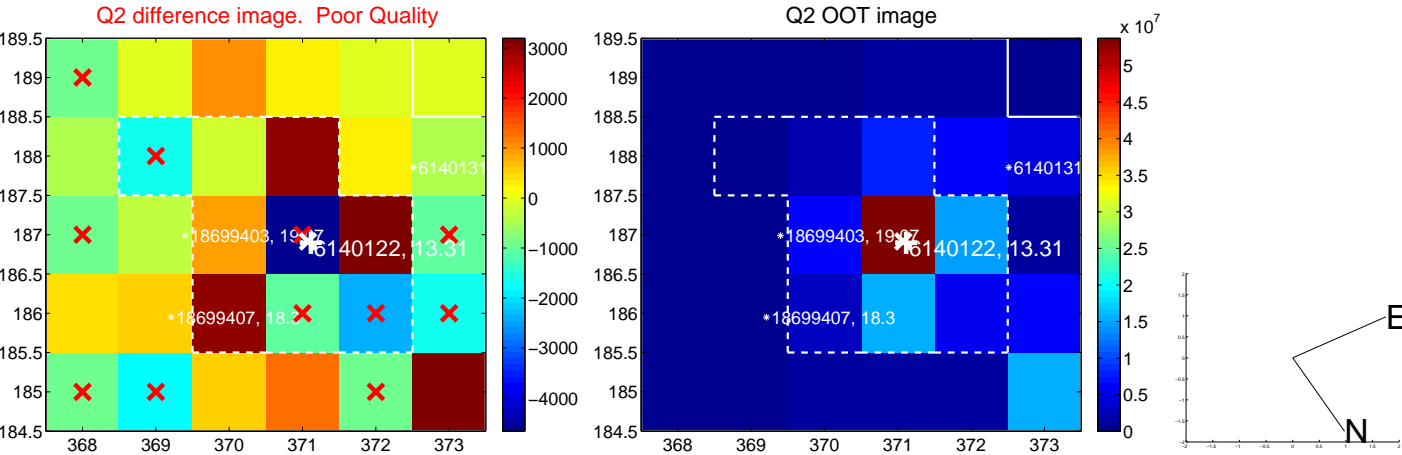
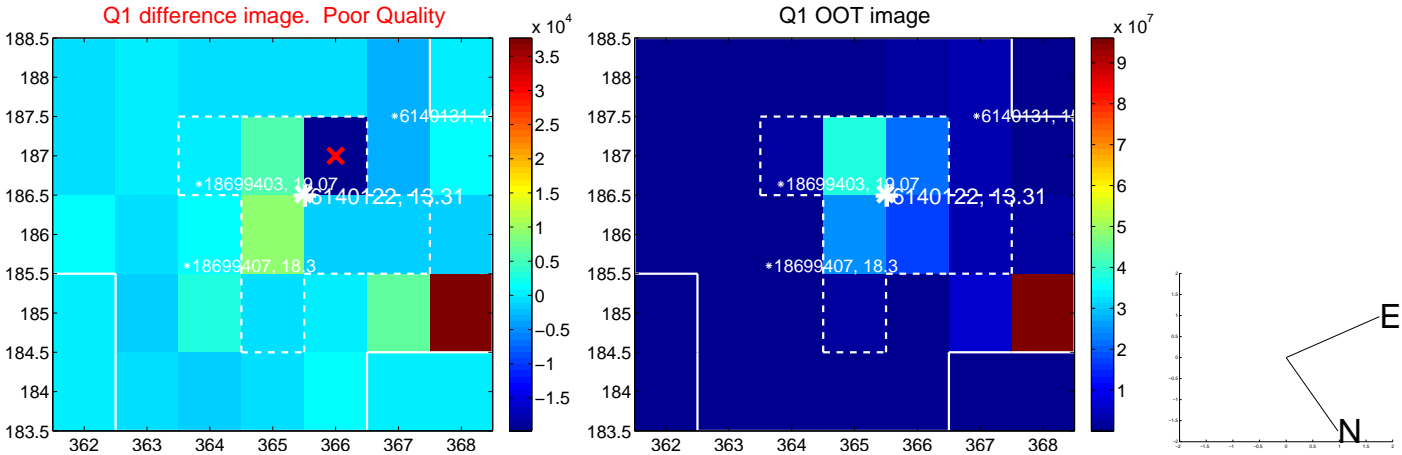
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.470 ± 0.501	0.94	0.389 ± 0.505	-0.263 ± 0.492
PRF-fit source offset from KIC position	0.481 ± 0.512	0.94	0.428 ± 0.517	-0.221 ± 0.495
photometric centroid source offset	0.84 ± 1.78	0.47	0.28 ± 1.21	0.79 ± 1.83

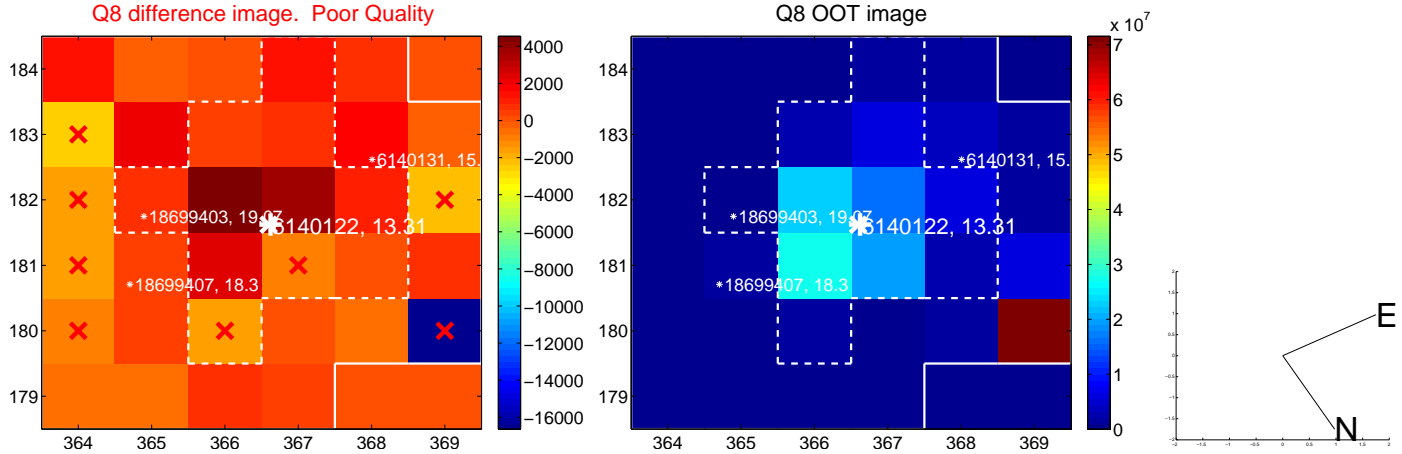
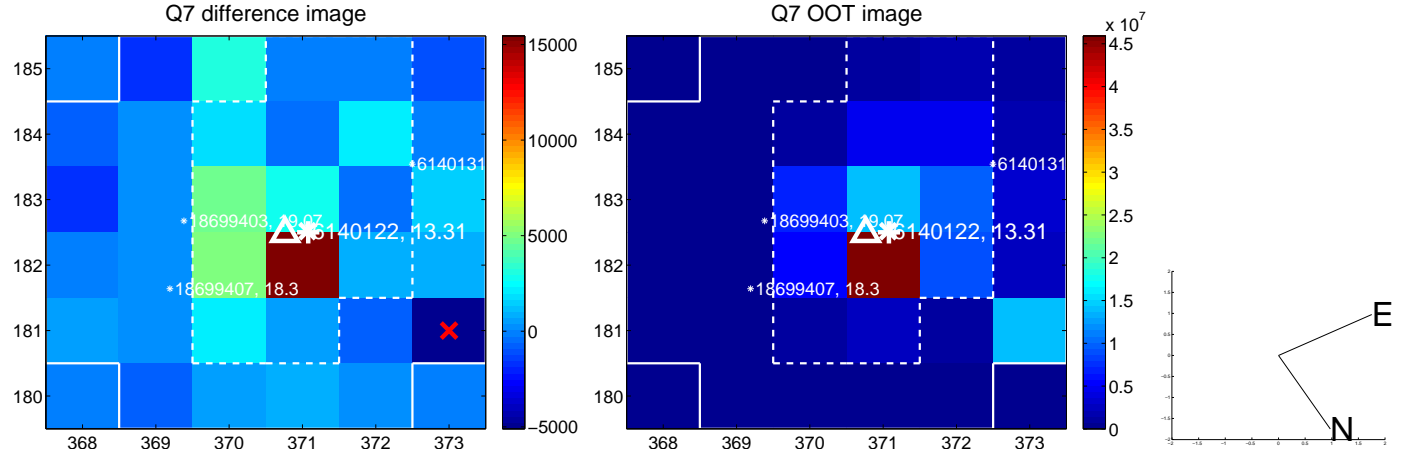
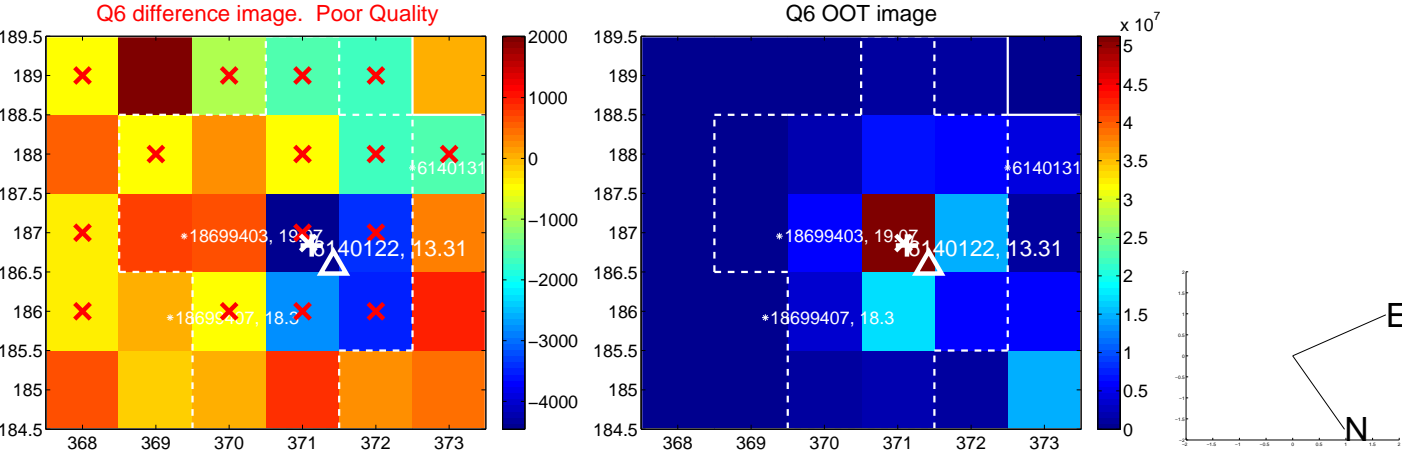
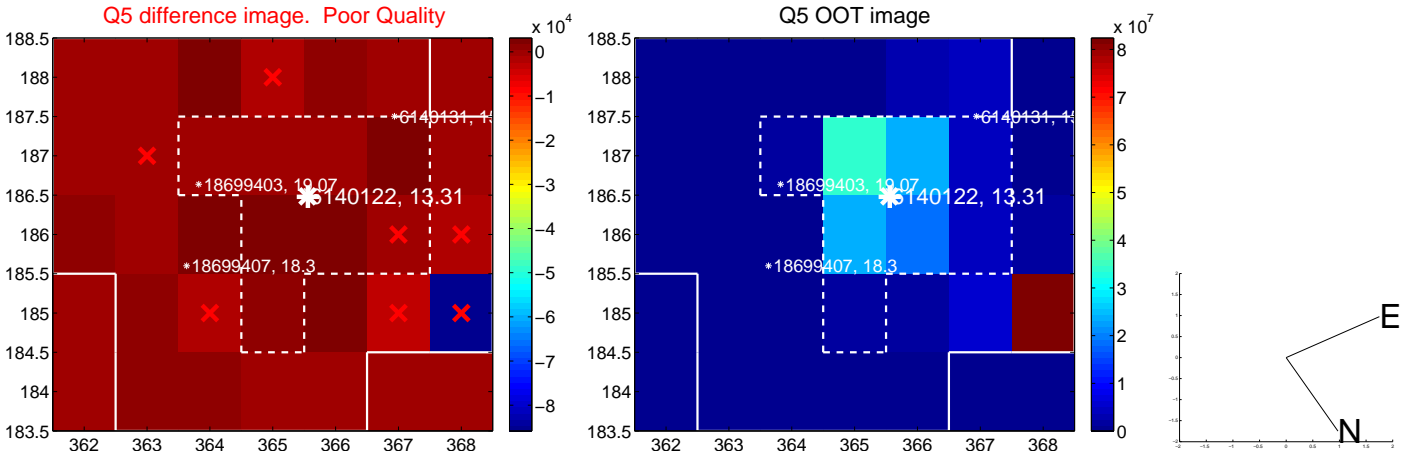


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

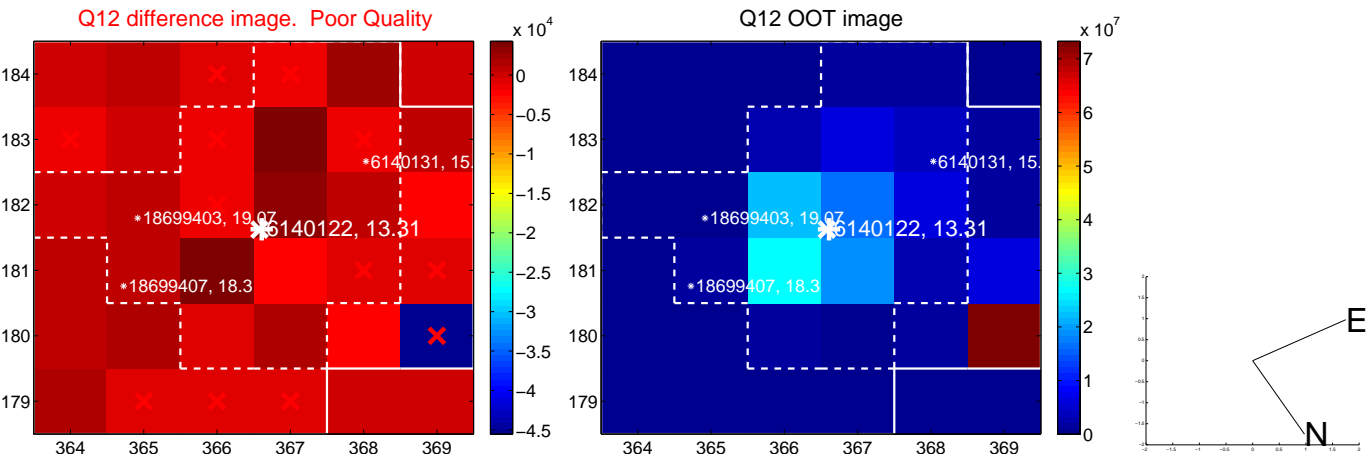
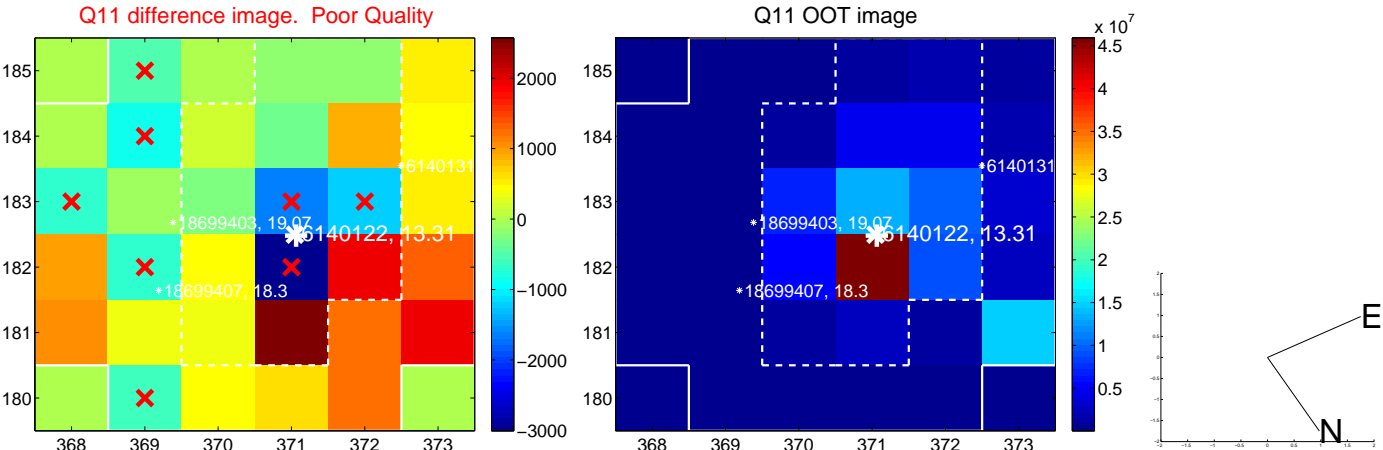
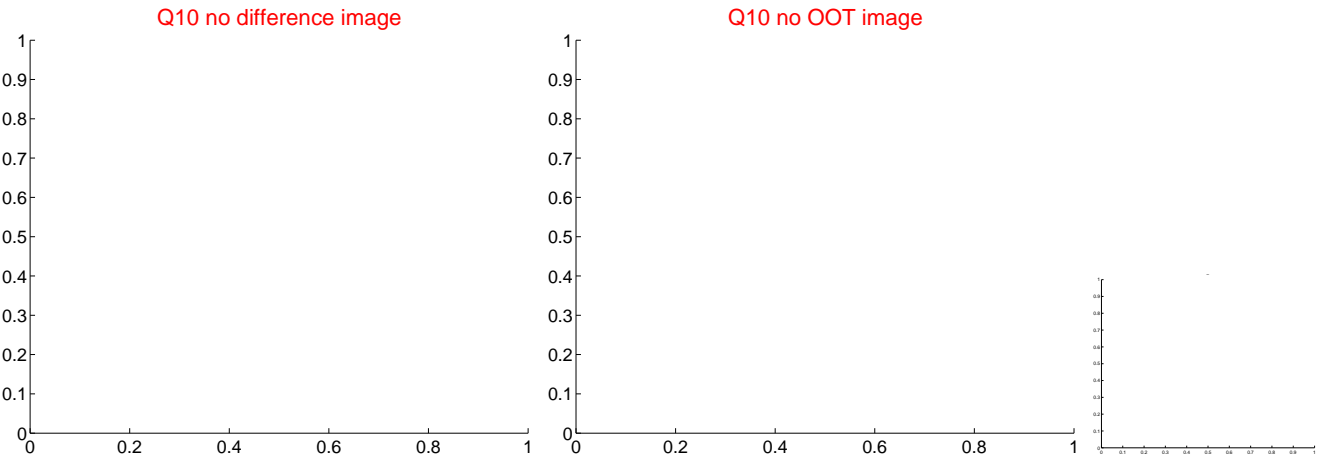
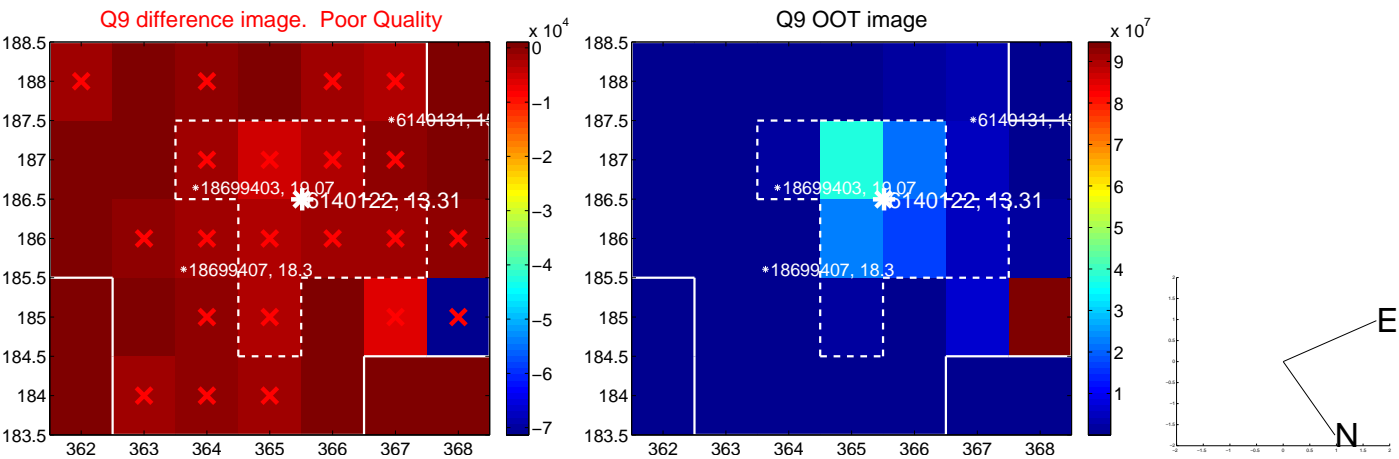
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



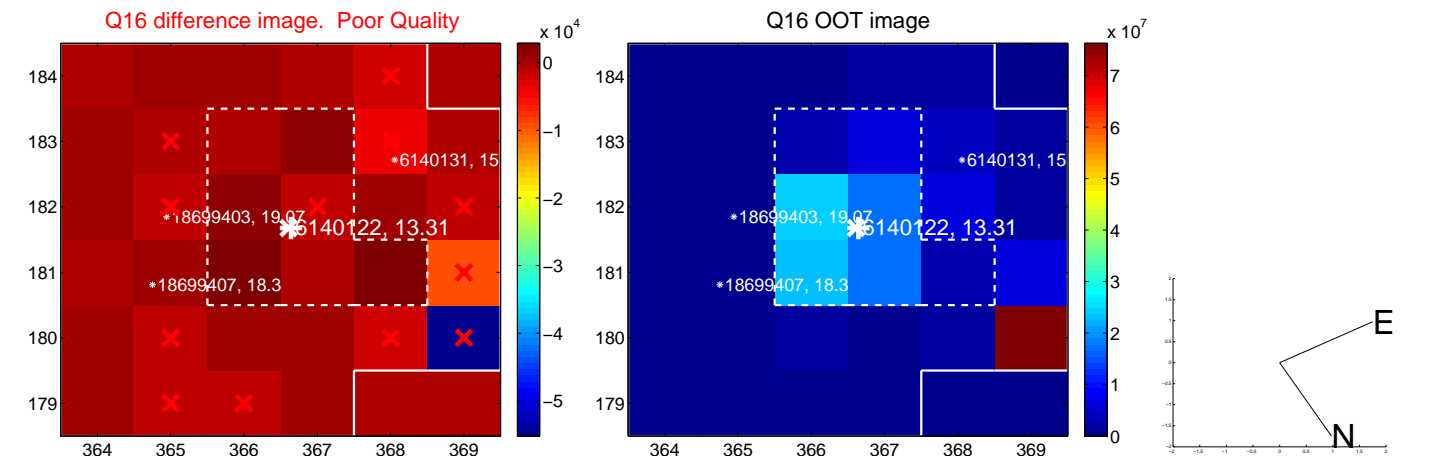
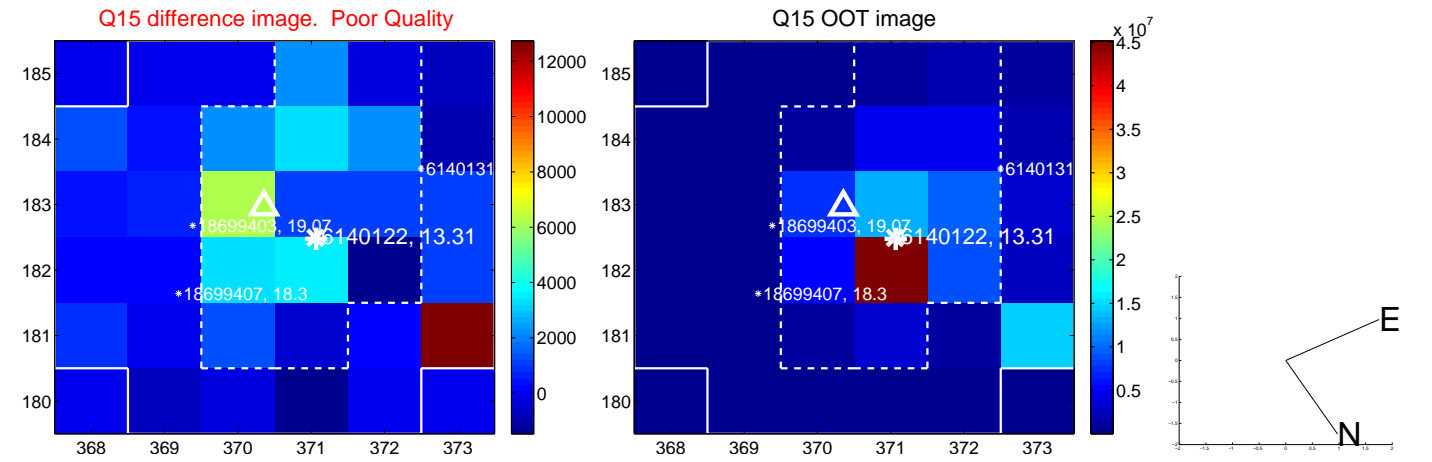
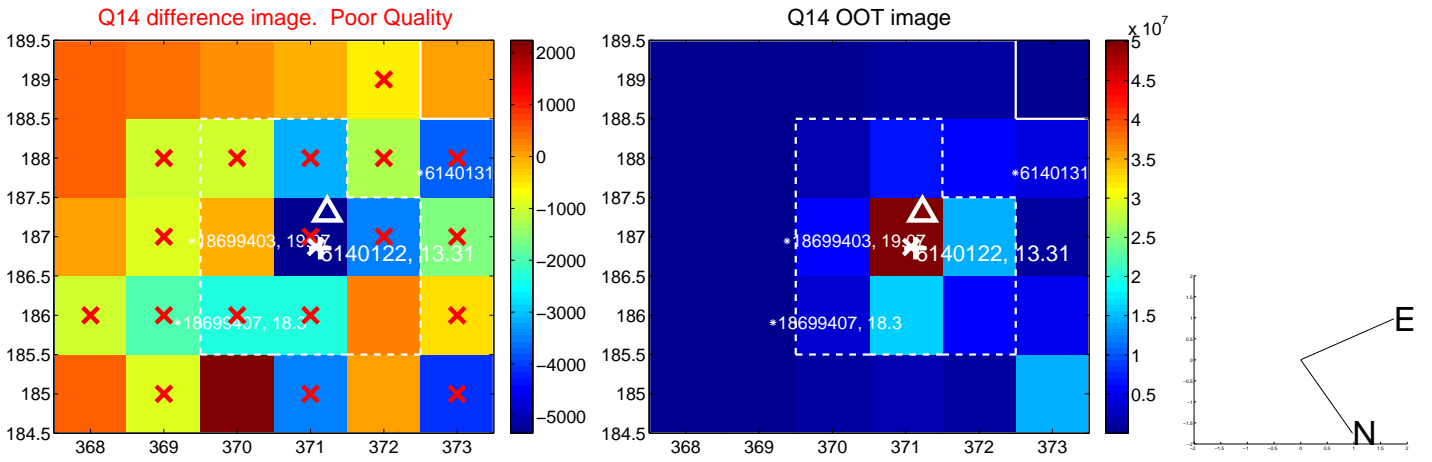
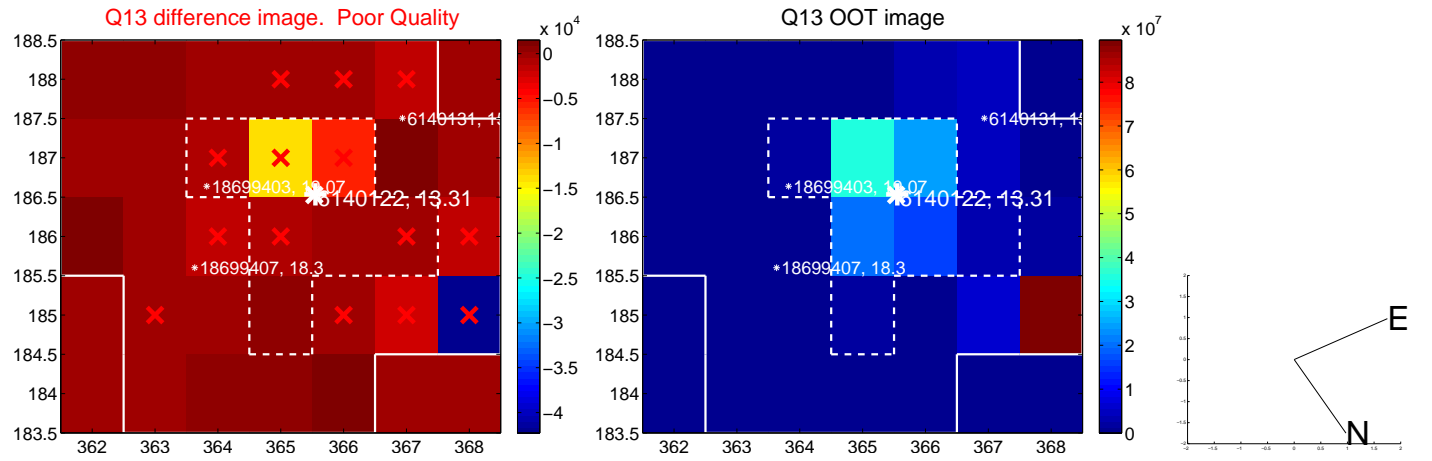
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



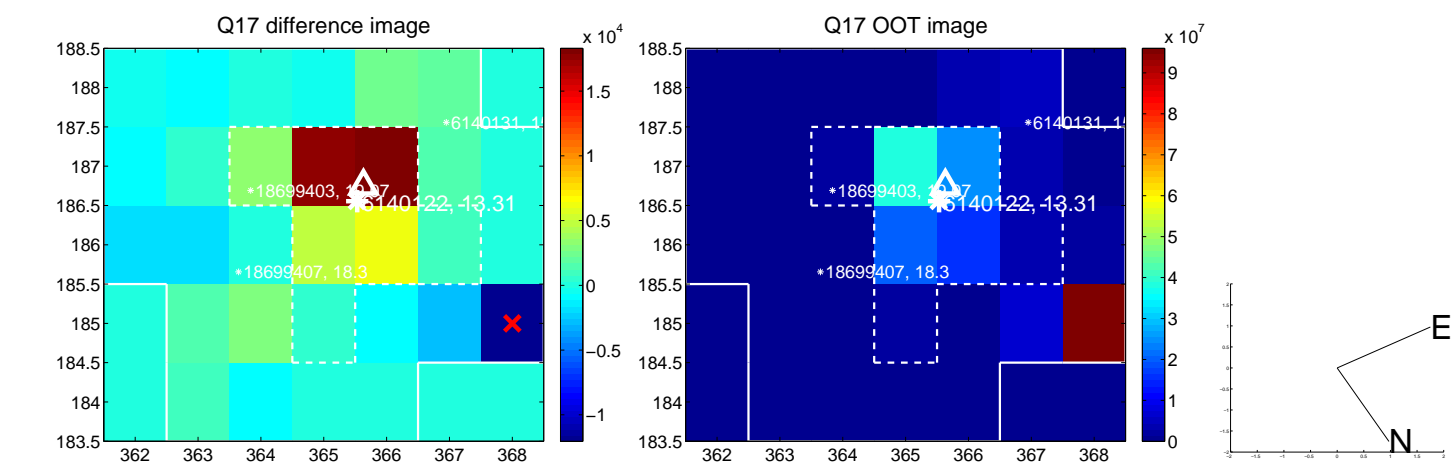
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



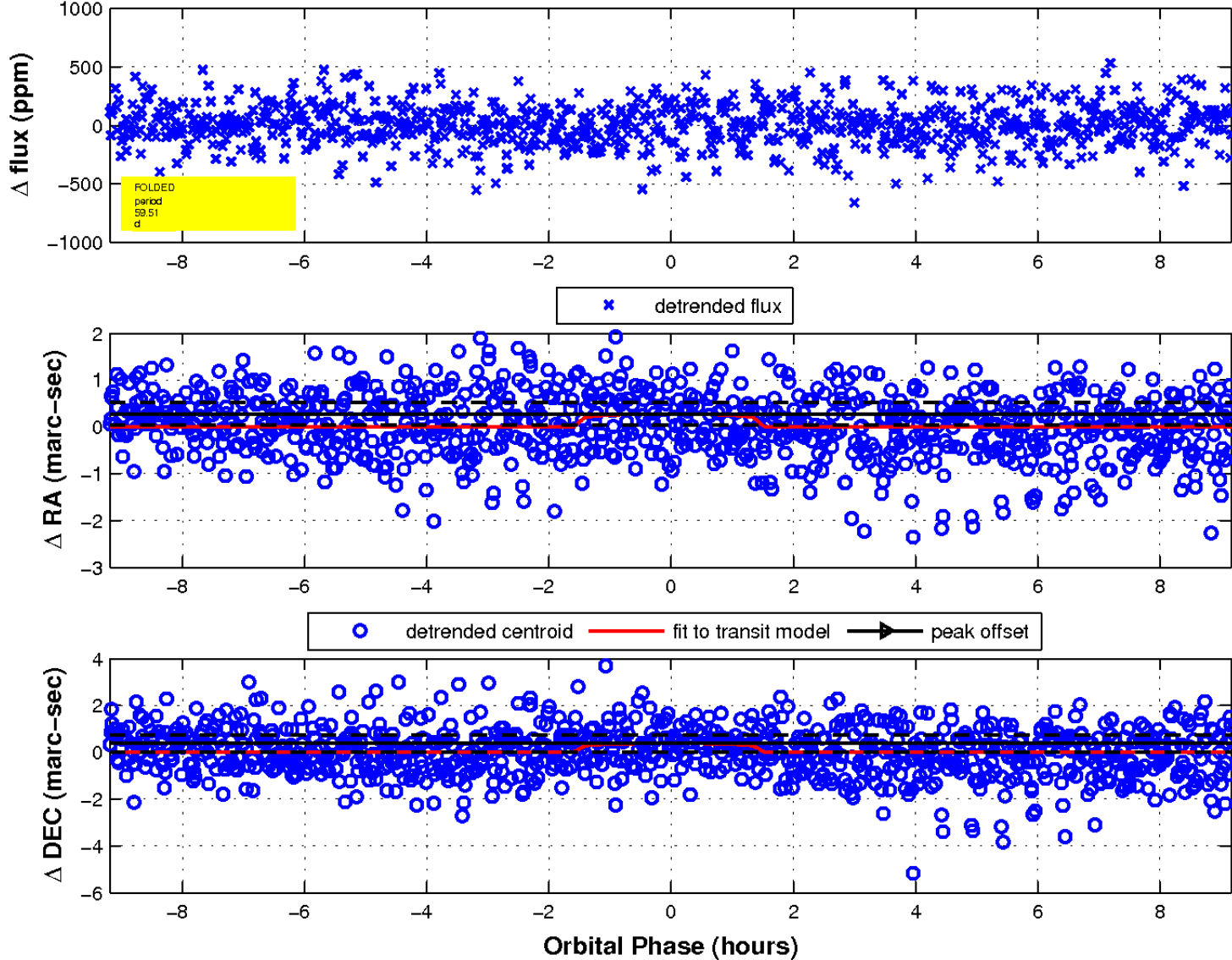
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 7 of 7



UKIRT Image

Declination

