

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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
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010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
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010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

Ephemeris Match Information For 010414727-01

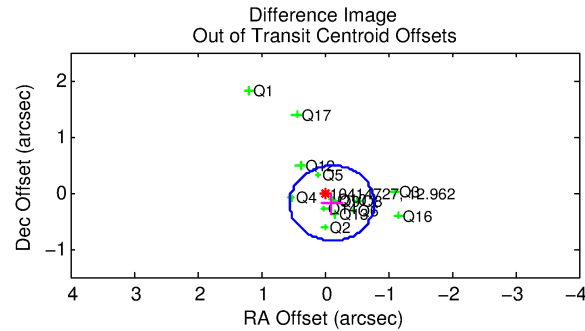
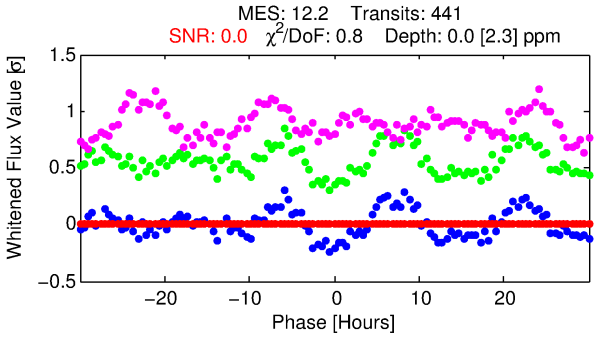
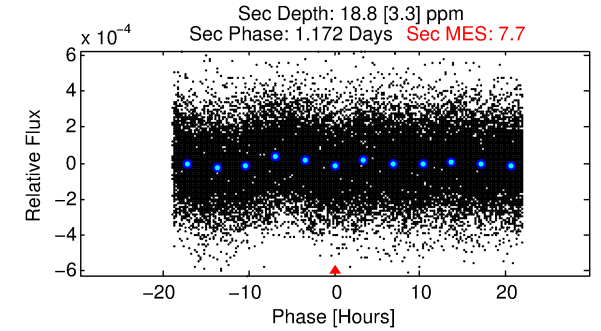
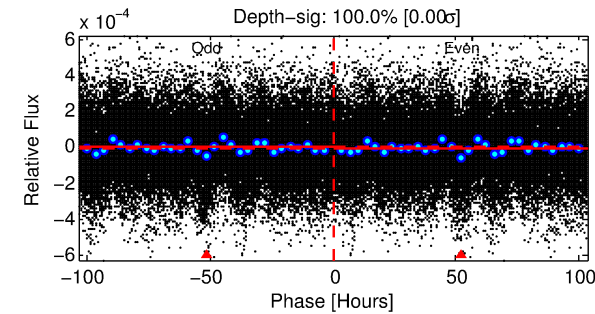
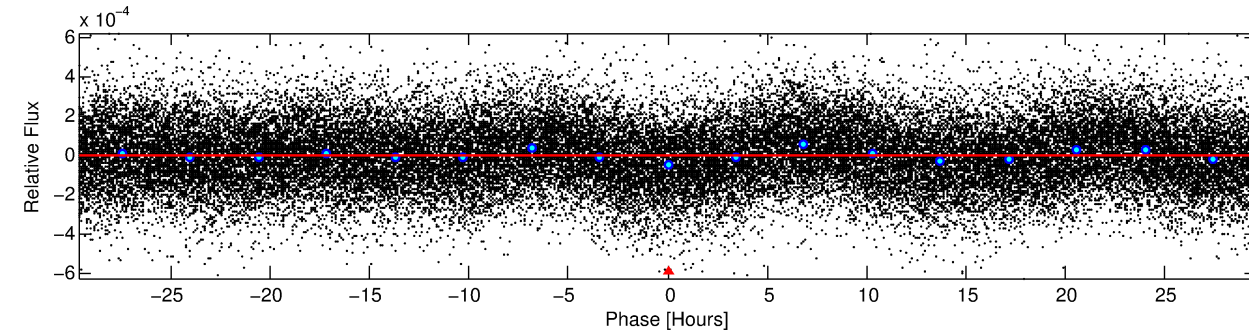
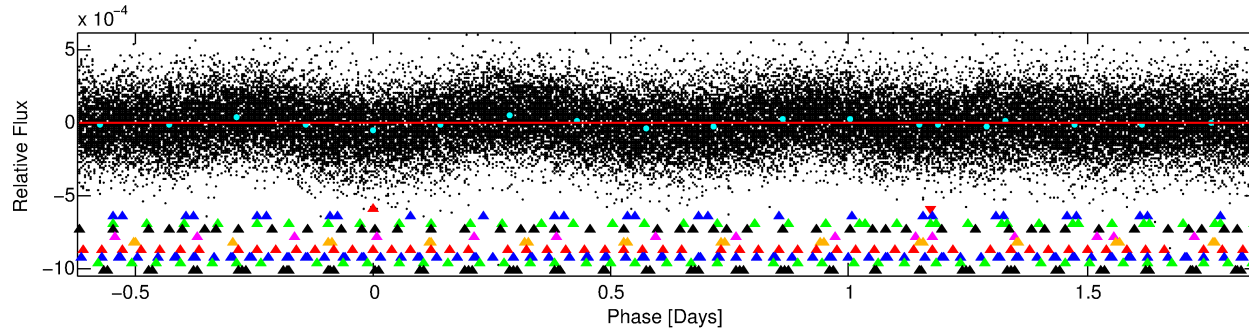
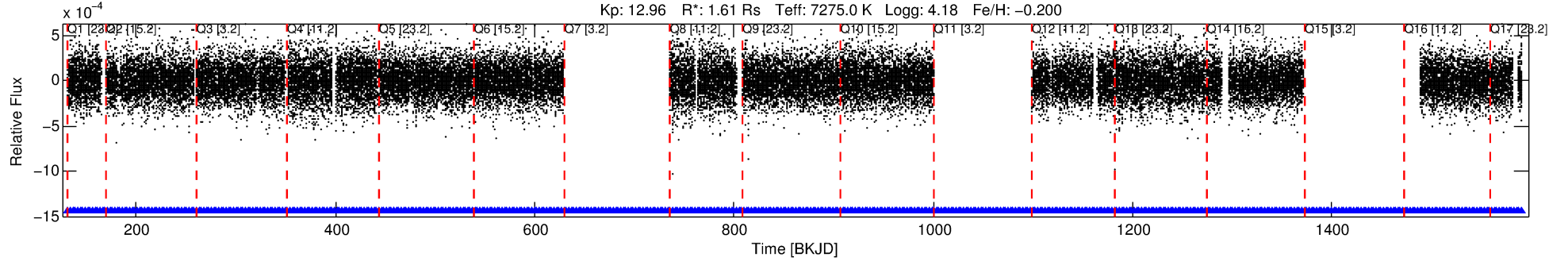
No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 1 of 10 Period: 2.476 d

KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



DV Fit Results:

Period = 2.47617 [10.17242] d
Epoch = 131.8217 [1956.8928] BKJD
Rp/R* = 0.0000 [0.1185]
a/R* = 1.13 [337.80]
b = 0.74 [2181.73]
Seff = 3987.59 [21899.49]
Teq = 2026 [2782] K
Rp = 0.00 [20.79] Re
a = 0.0403 [0.1110] AU
Ag = 5965019.13 [147651635920.11] [0.000]
Teffp = 154827 [958136028] K [0.000]

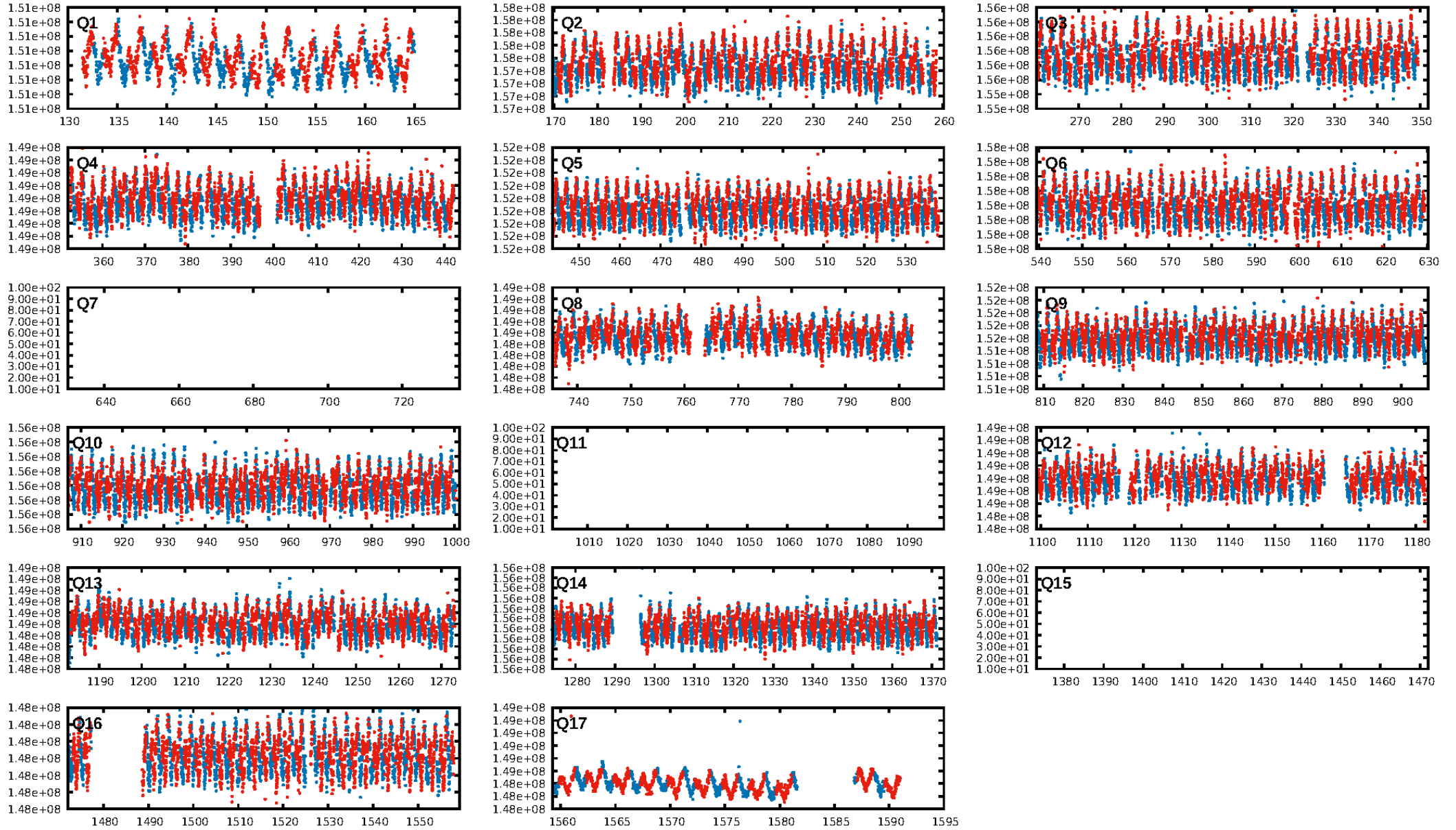
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [12.04σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [416/416]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
QotOffset-rm: 0.221 arcsec [0.99σ]
KicOffset-rm: 0.476 arcsec [2.05σ]
QotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

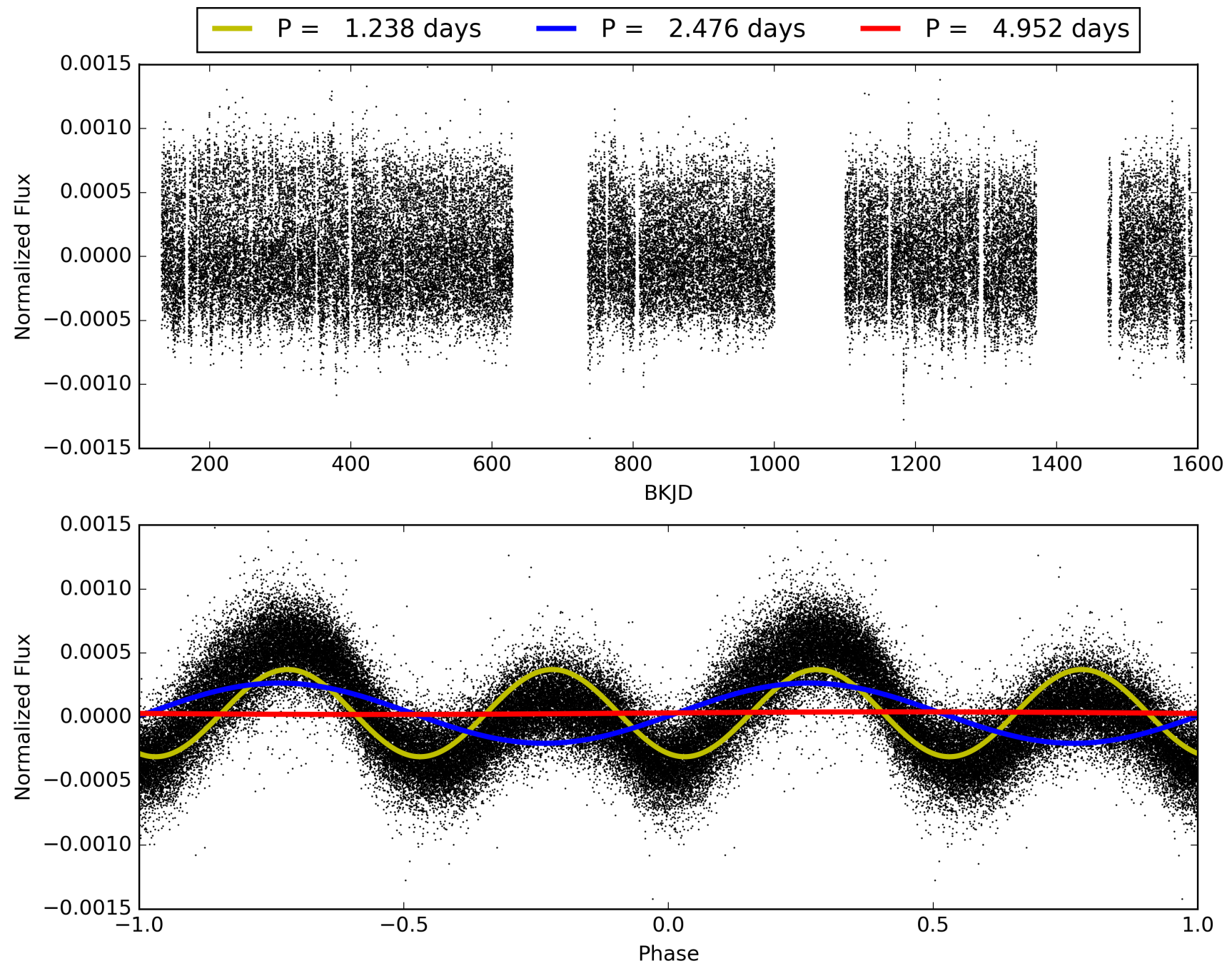
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:51:06 Z

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

TCE 010414727-01, PDC Light Curves

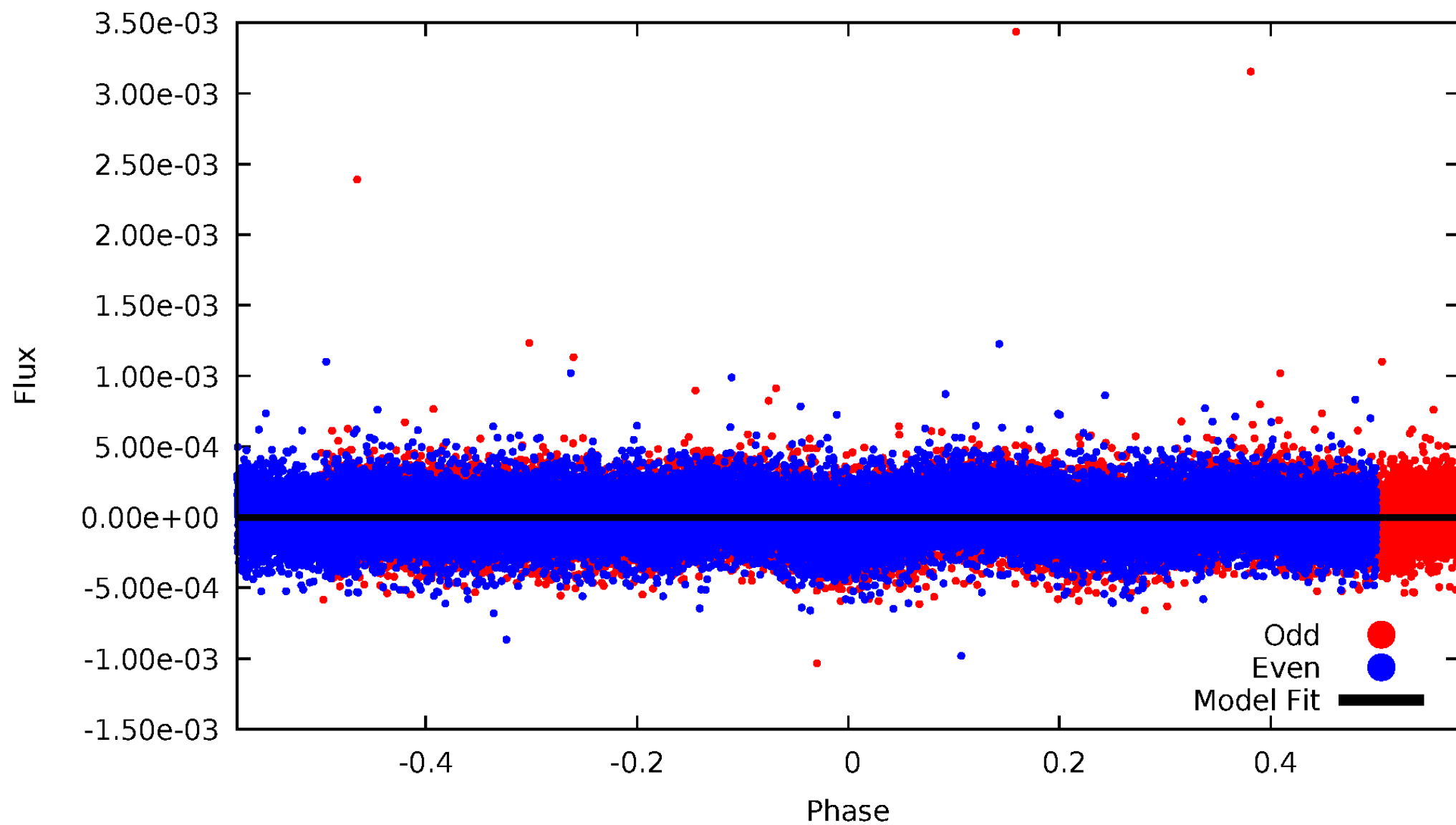


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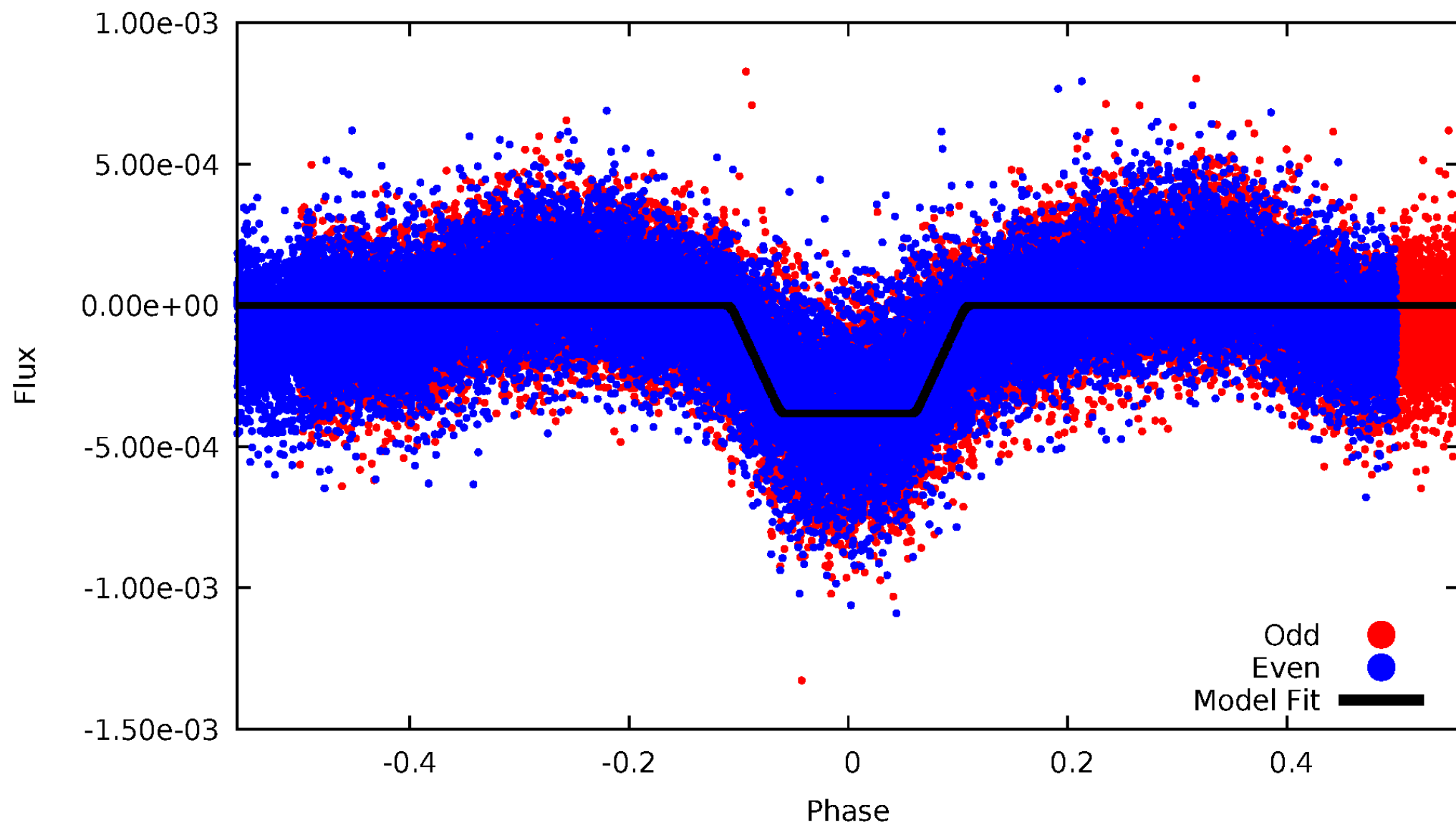
DV Odd/Even

TCE 010414727-01

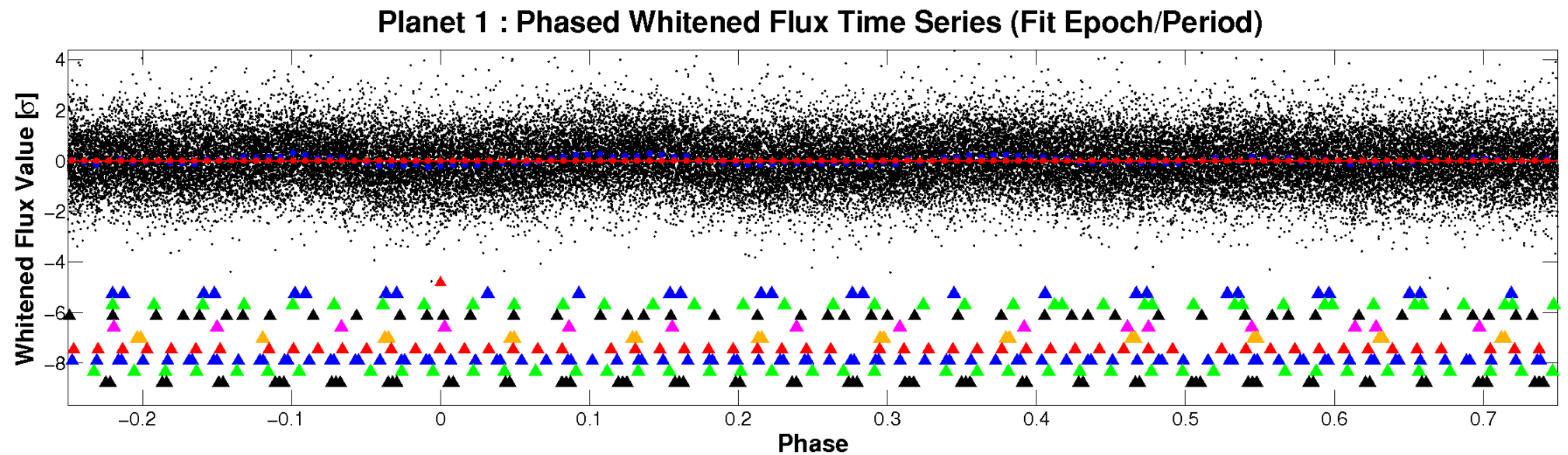
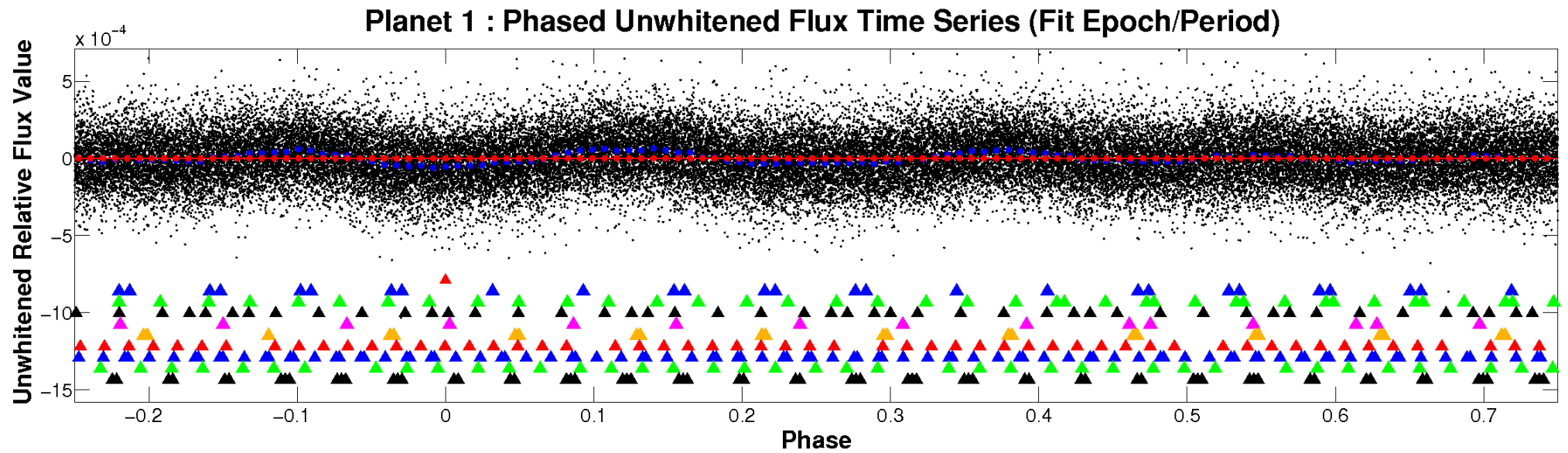


ALT Odd/Even

TCE 010414727-01

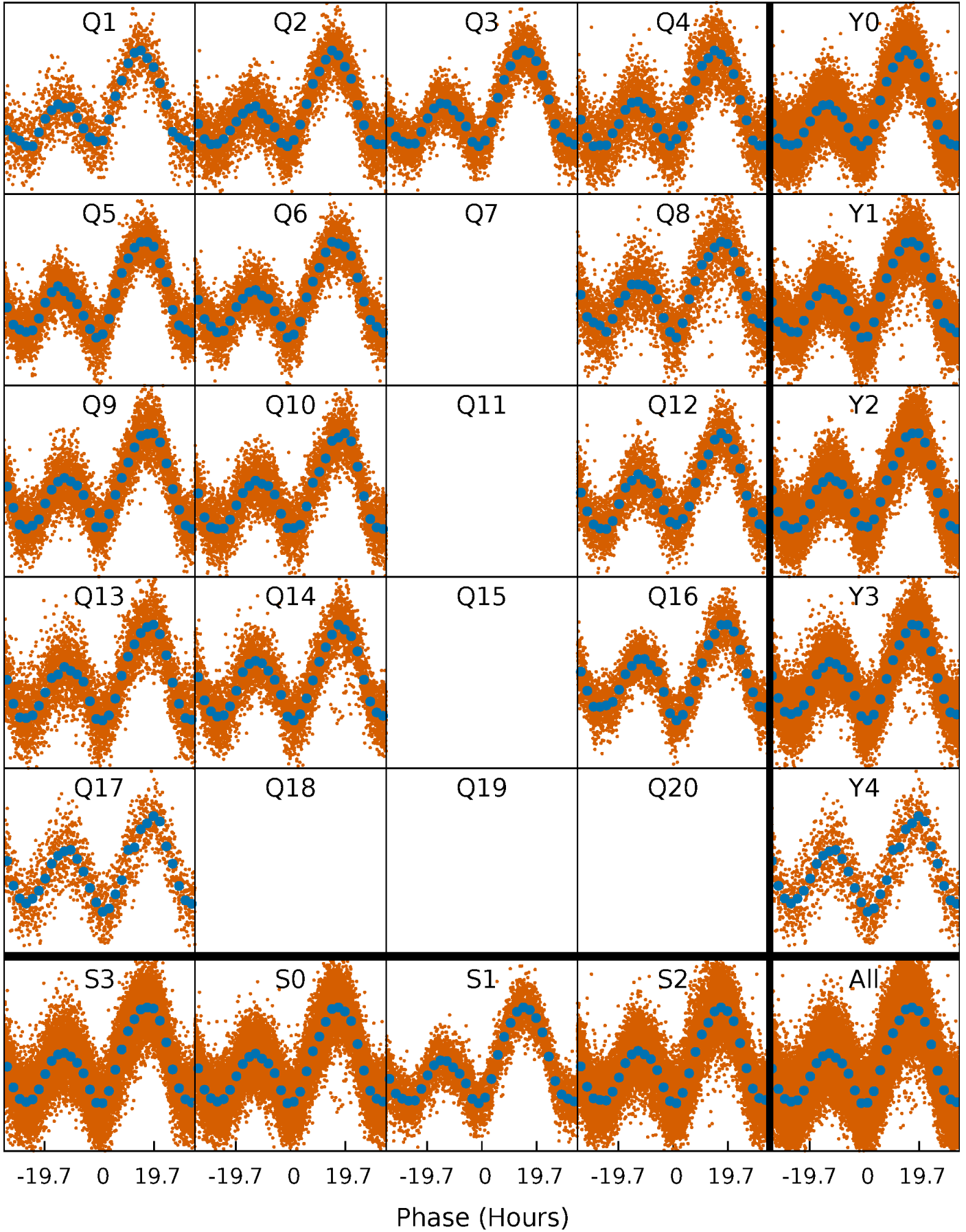


Non-Whitened Vs. Whitened Light Curve



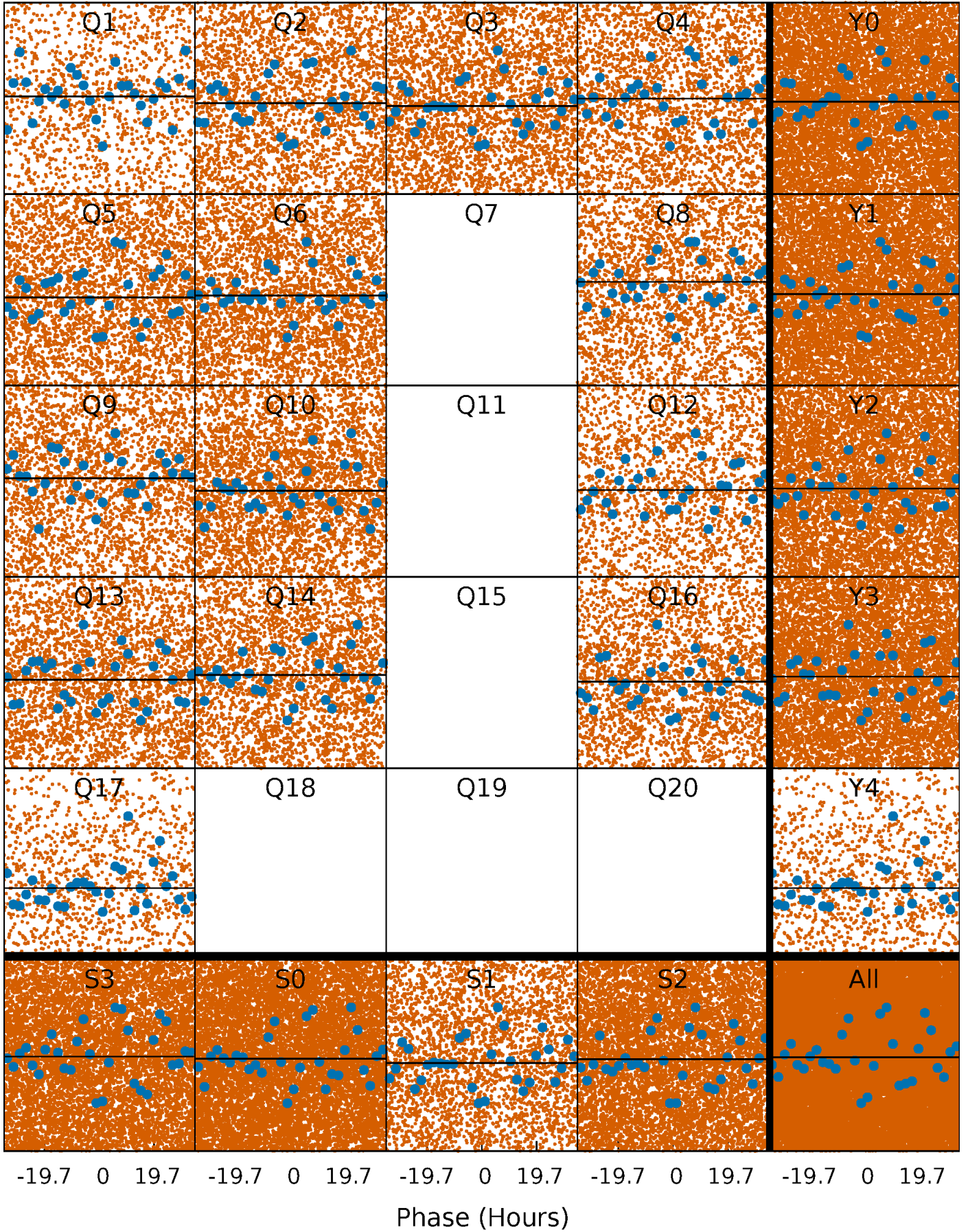
PDC Quarter-Phased Transit Curves

TCE 010414727-01 P= 2.476166 Days $T_0=131.821705$ (BKJD)



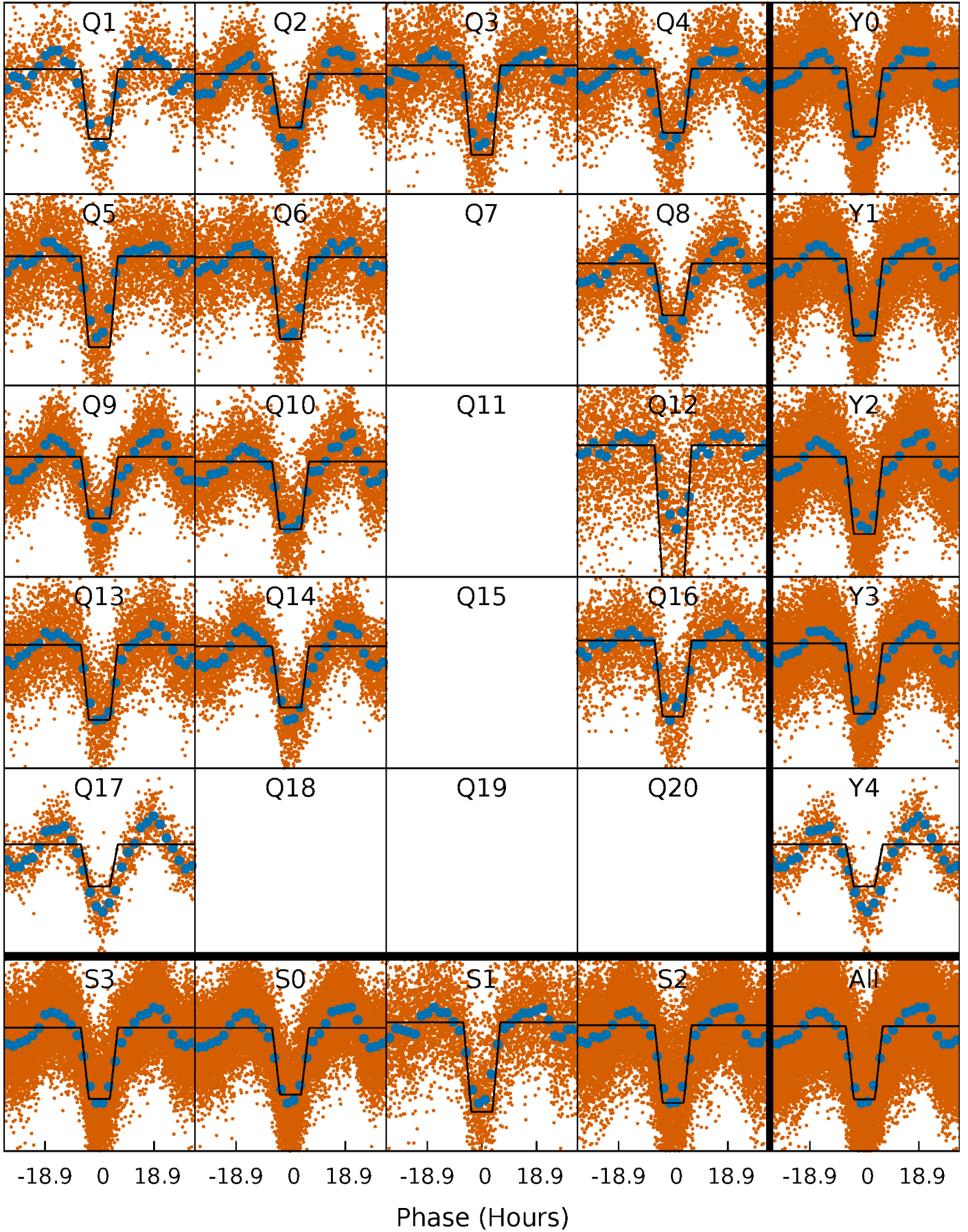
DV Quarter-Phased Transit Curves

TCE 010414727-01 P= 2.476166 Days $T_0=131.821705$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

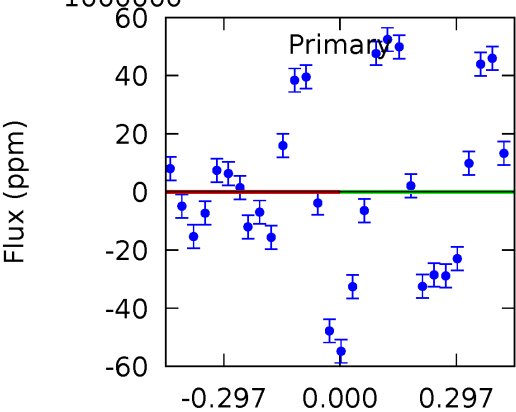
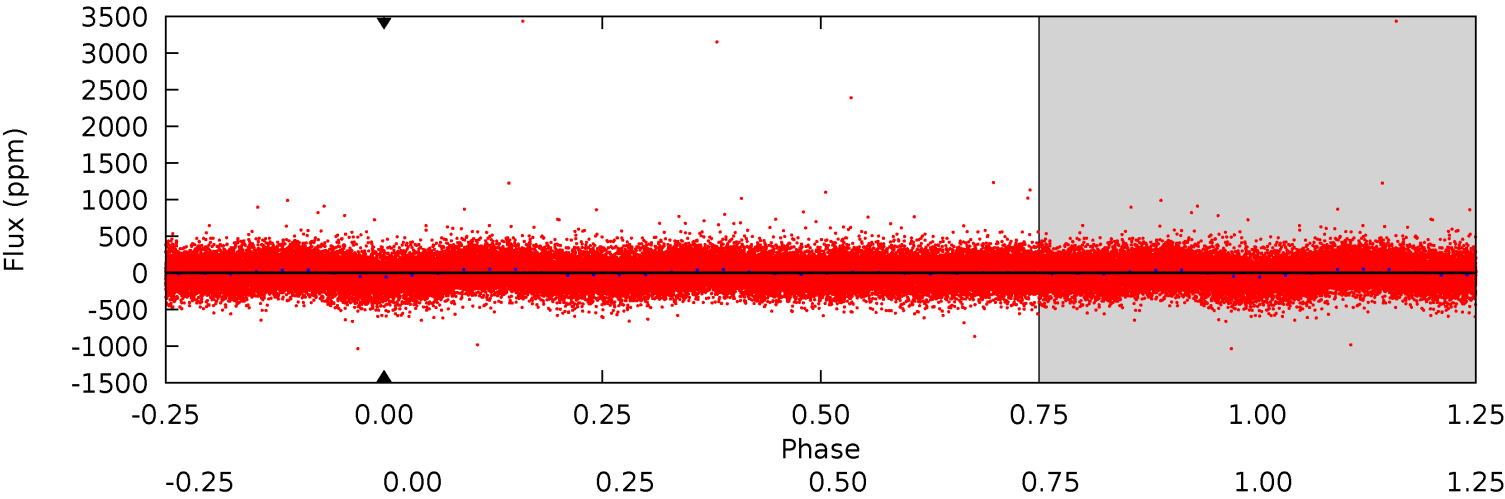
TCE 010414727-01 P= 2.476239 Days $T_0=131.835105$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-01, P = 2.476166 Days, E = 129.345539 Days

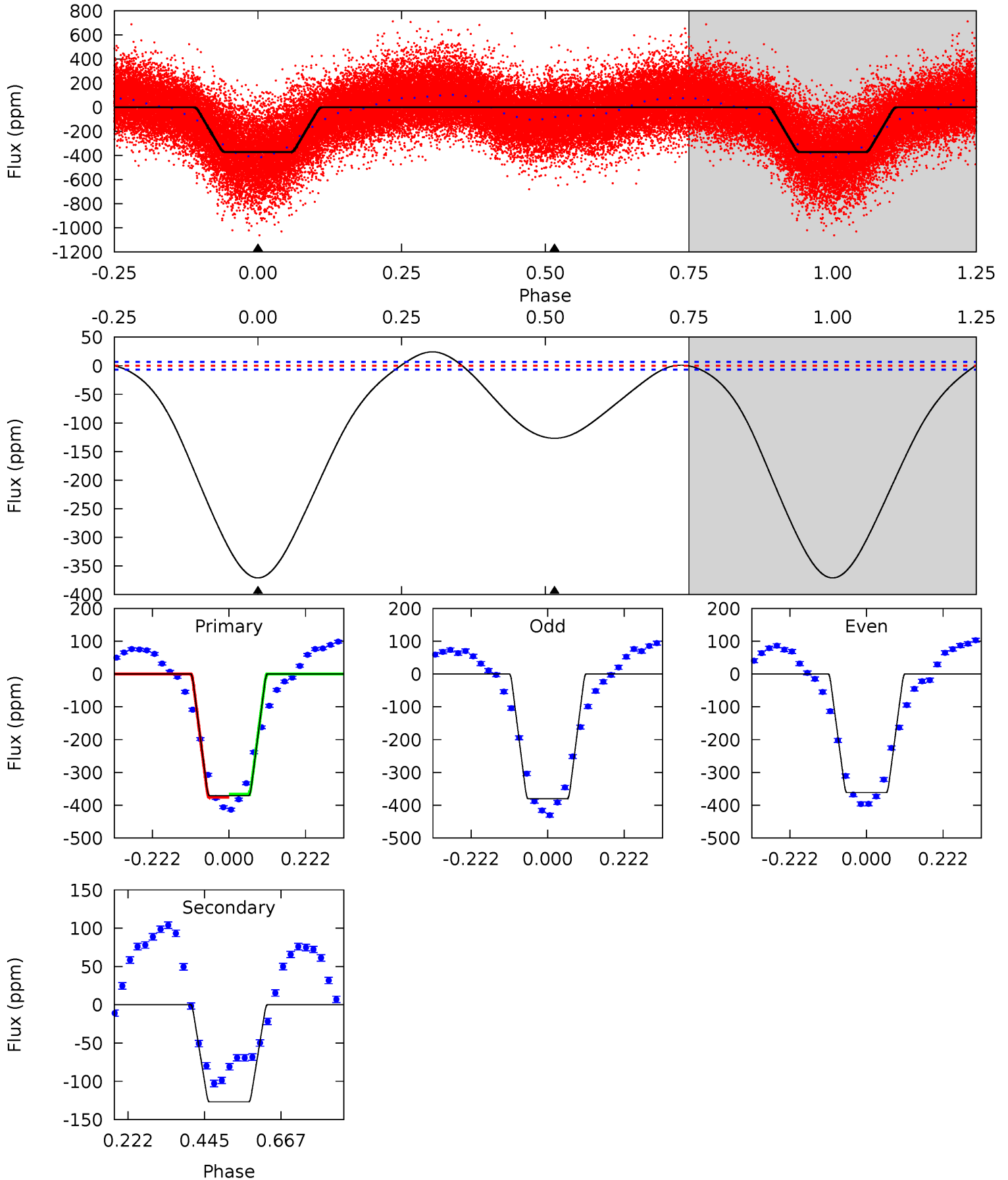
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010414727-01, P = 2.476239 Days, E = 129.358866 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
240.3	82.2	0	0	4.39	1.22	7.28	240.3	240.3	82.2	82.2	5.95	1.04	0.06	3.13



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$14.83^{+15.59}_{-10.57}$	1982^{+1004}_{-432}	-5144^{+34851}_{-30840}	$-6.737^{+2929.253}_{-3694.177}$
Alt.	-127 ± 2	$15.62^{+16.45}_{-10.55}$	1932^{+941}_{-430}	3010^{+1539}_{-5024}	$1.963^{+22.085}_{-1.694}$

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 $A_{obs} \gg 1.0$

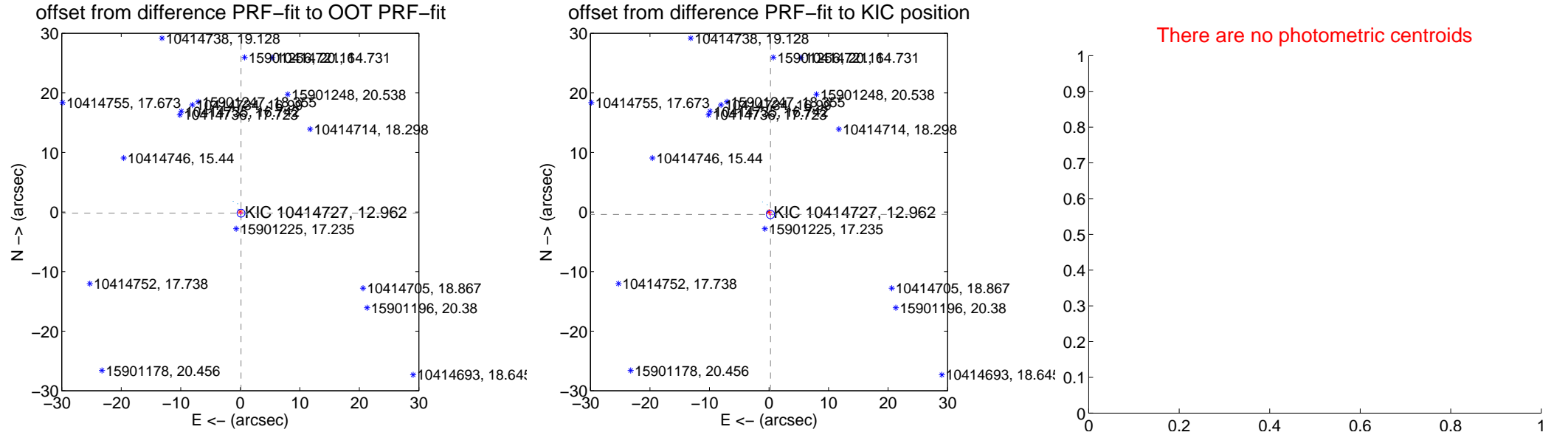
DV Centroid Data

Supplemental centroid analysis for 010414727-01. Kepler magnitude: 12.96. Transit SNR 0.00

There are 14 quarters with good PRF difference image offsets

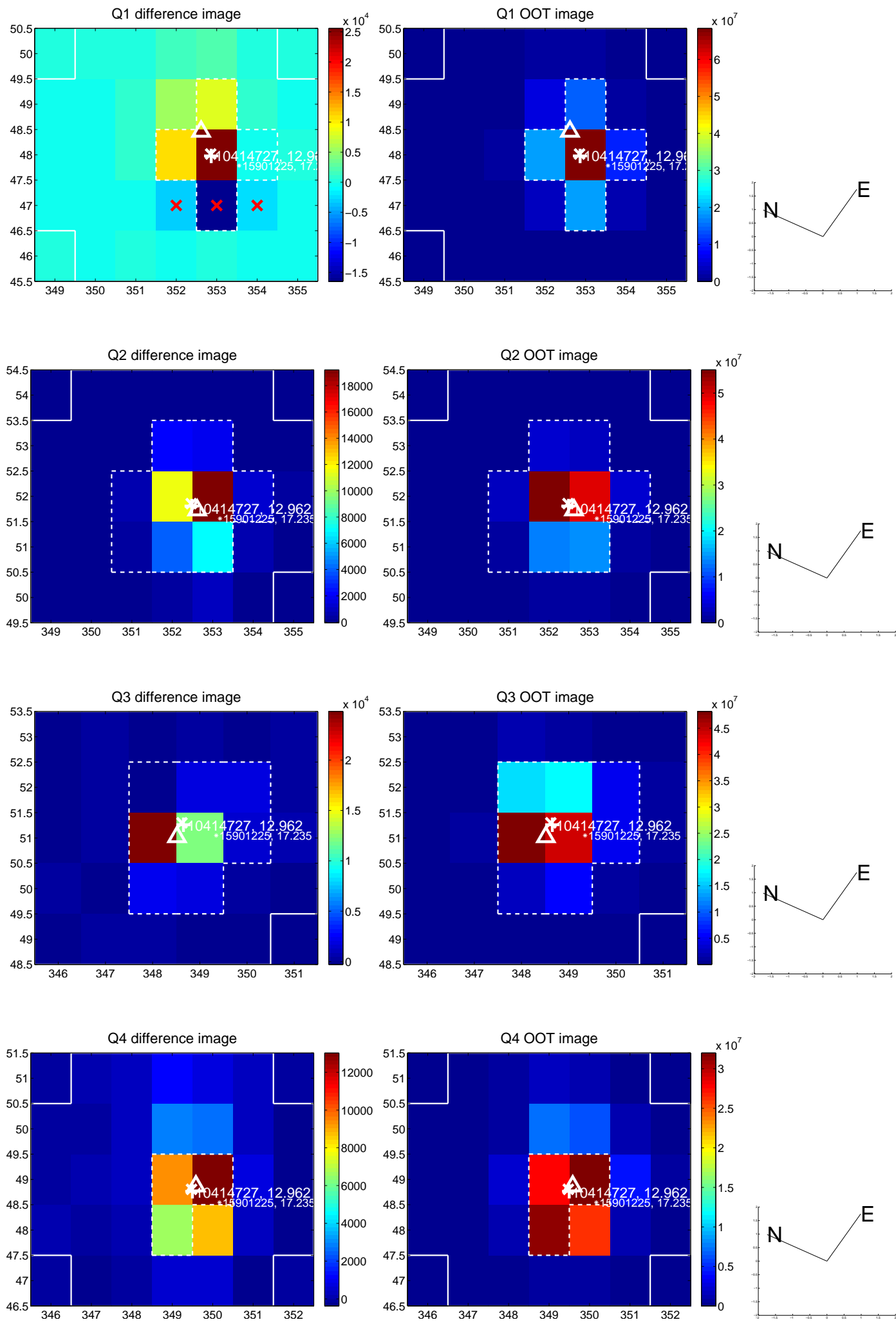
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.221 ± 0.222	0.99	-0.116 ± 0.167	-0.188 ± 0.186
PRF-fit source offset from KIC position	0.476 ± 0.232	2.05	-0.243 ± 0.167	-0.408 ± 0.197
photometric centroid source offset	—	—	—	—

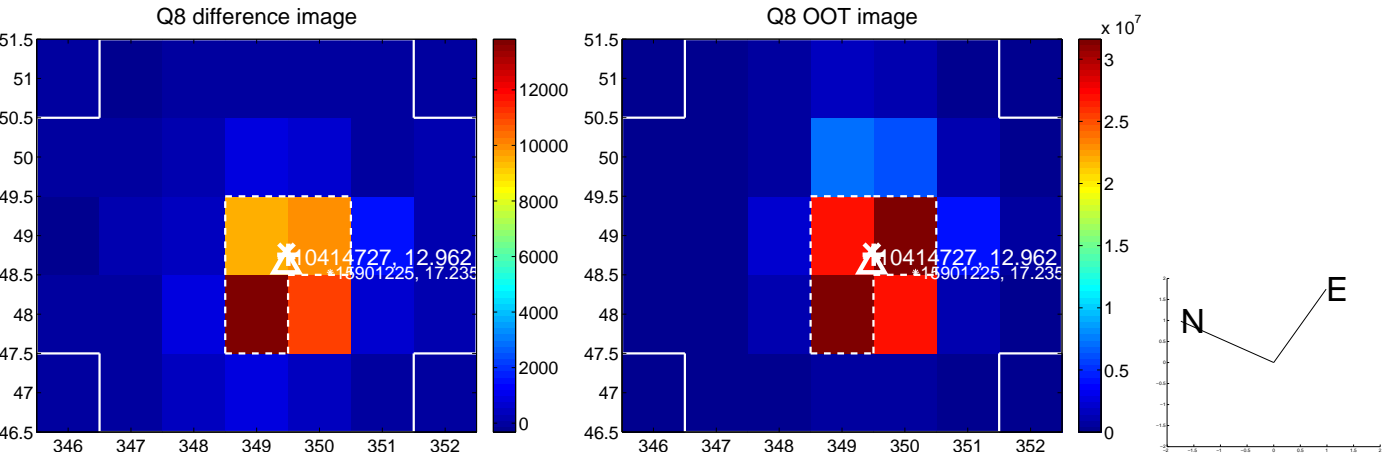
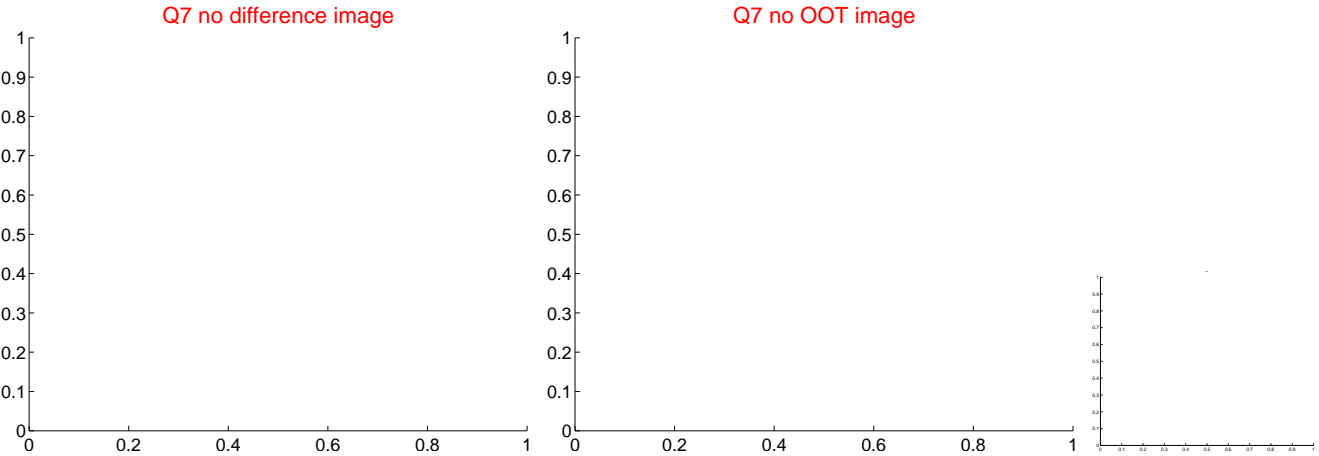
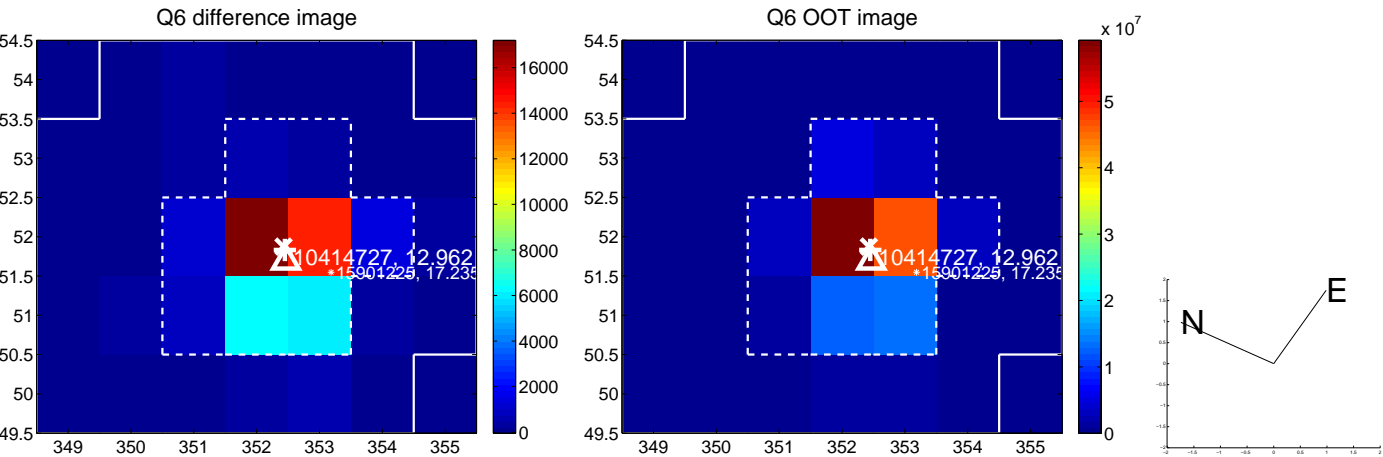
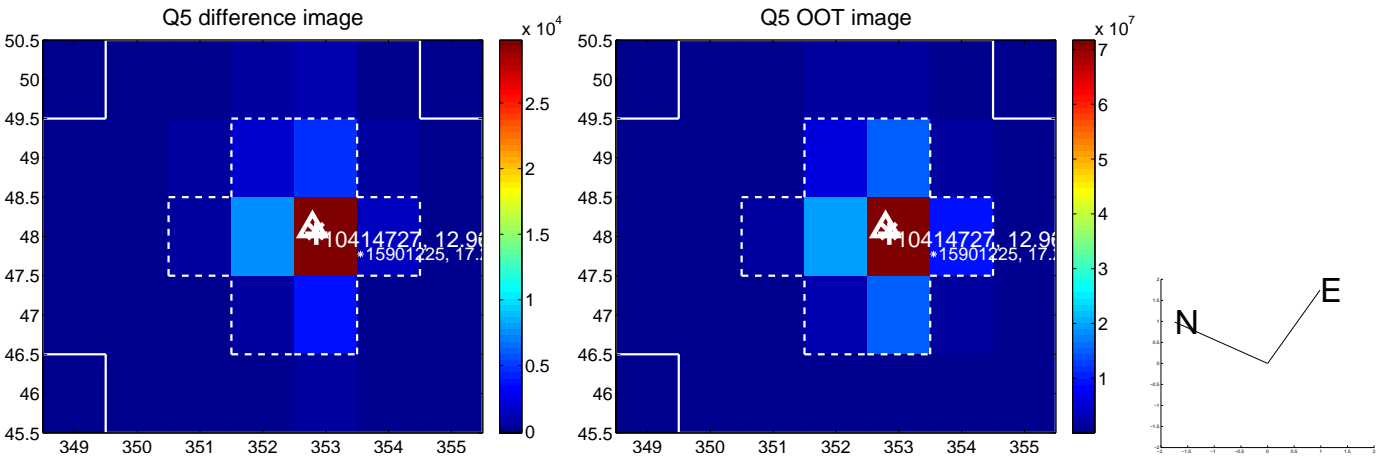


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

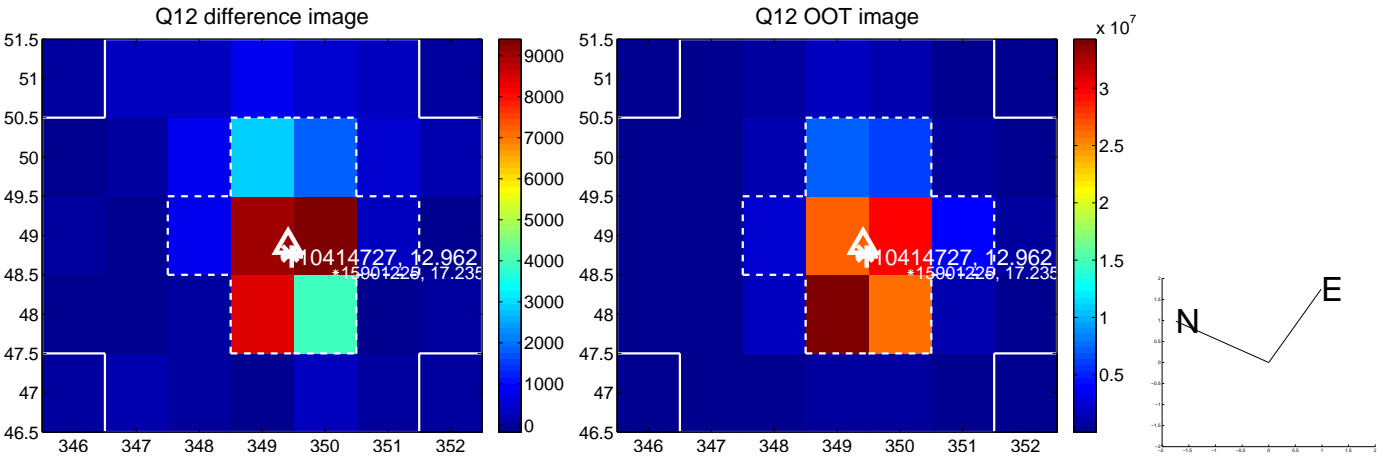
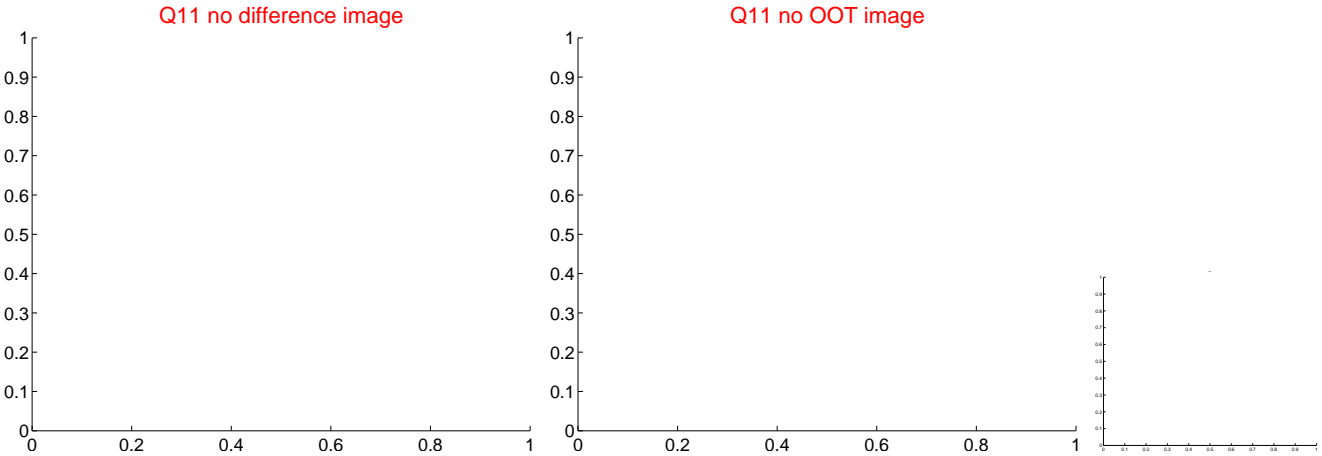
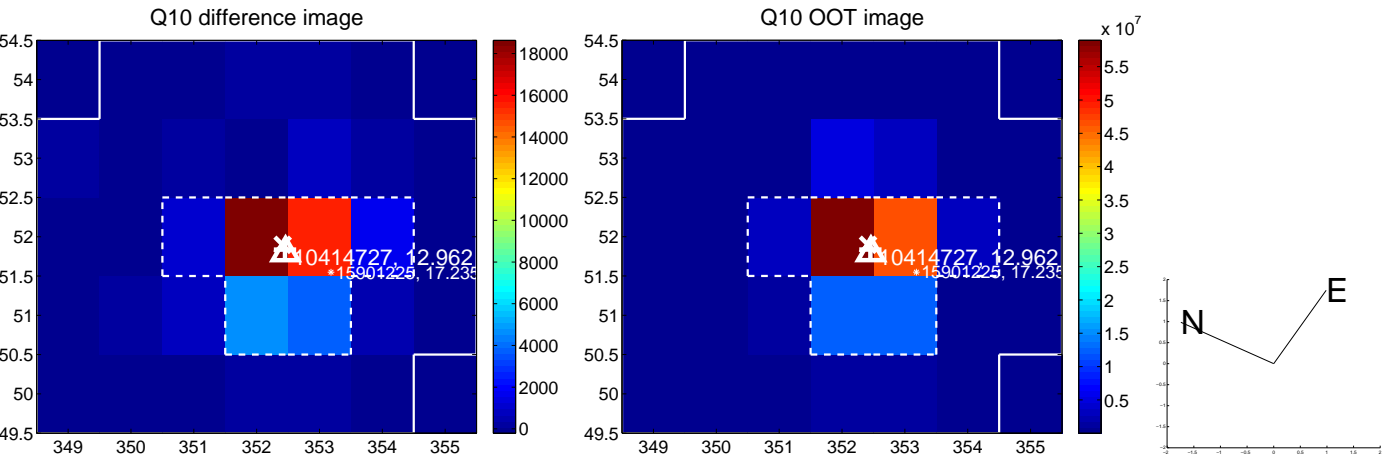
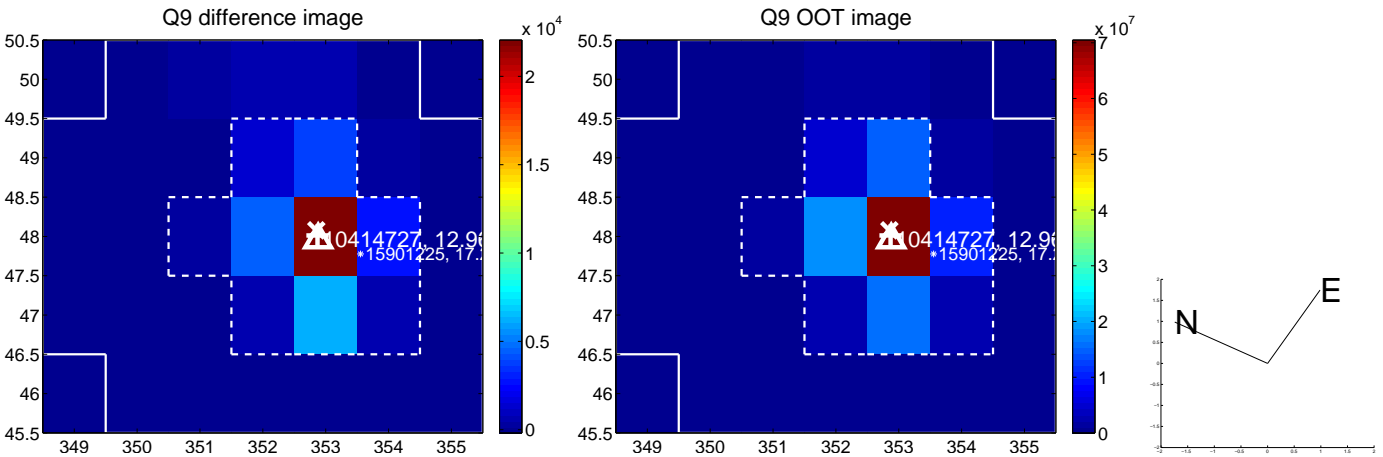
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



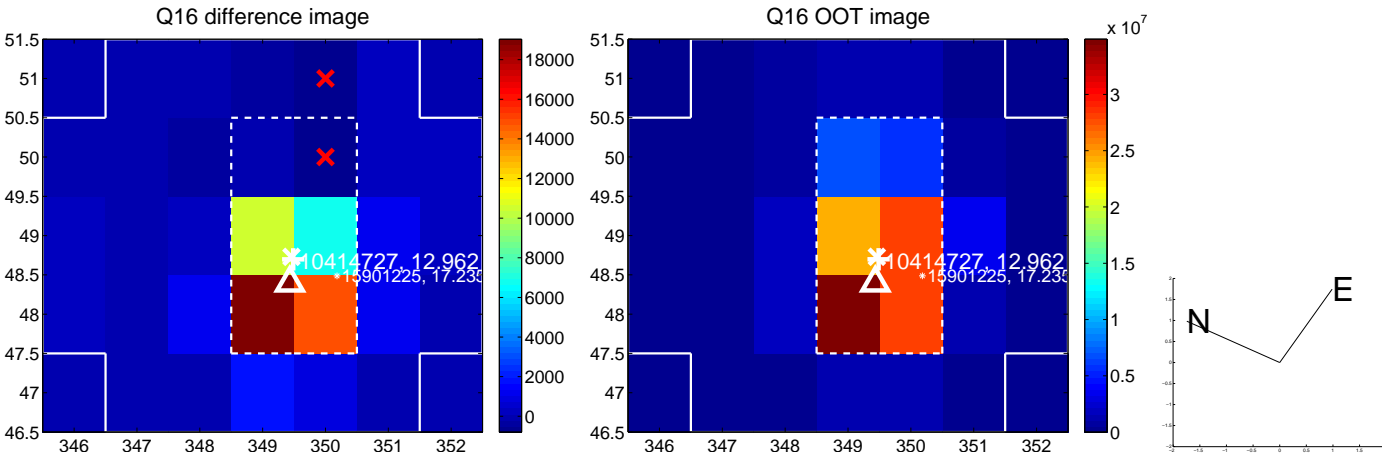
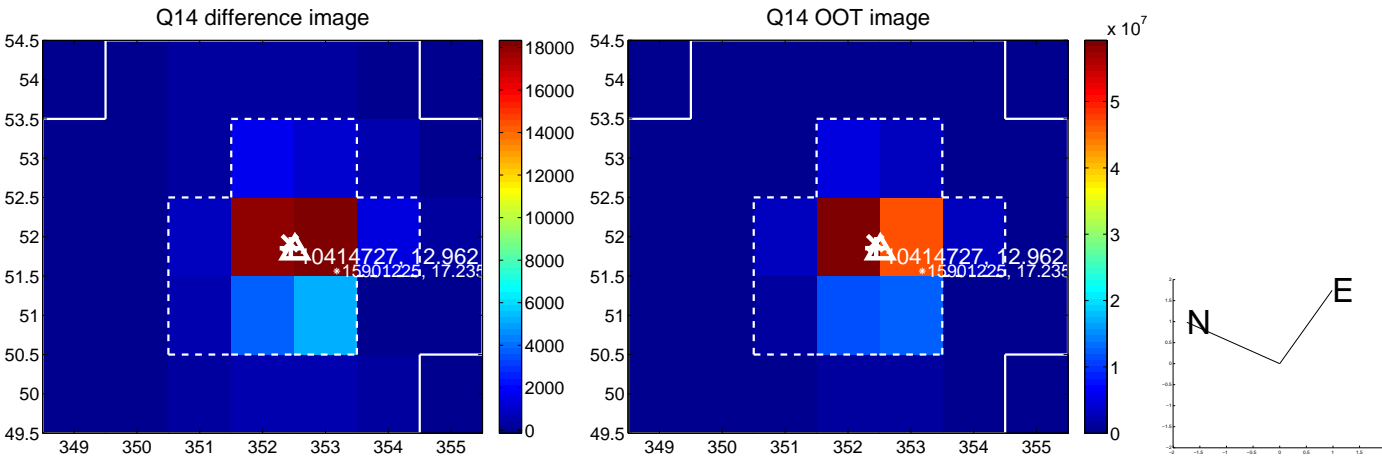
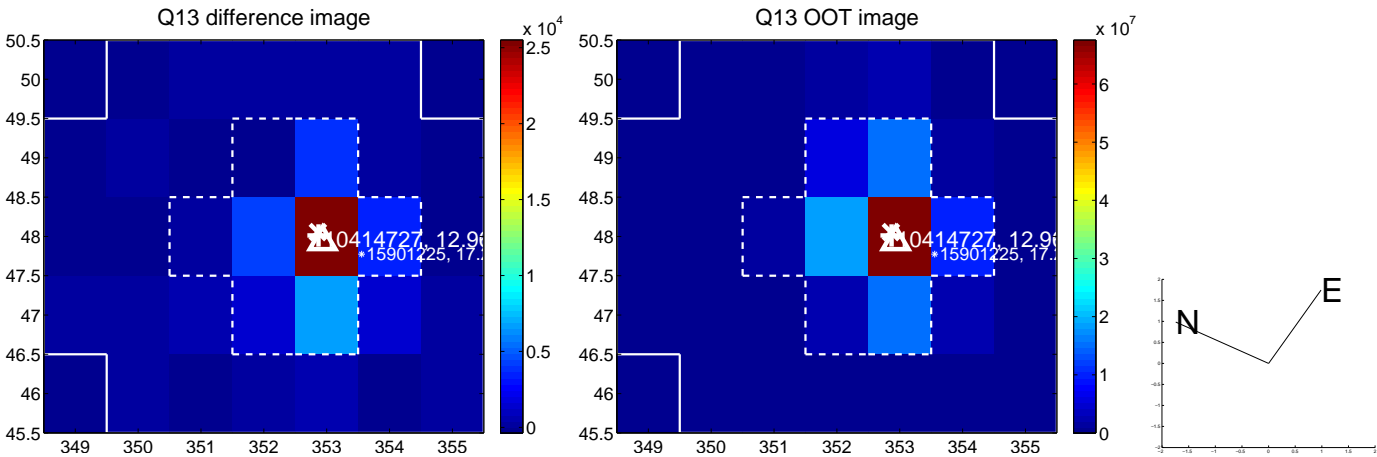
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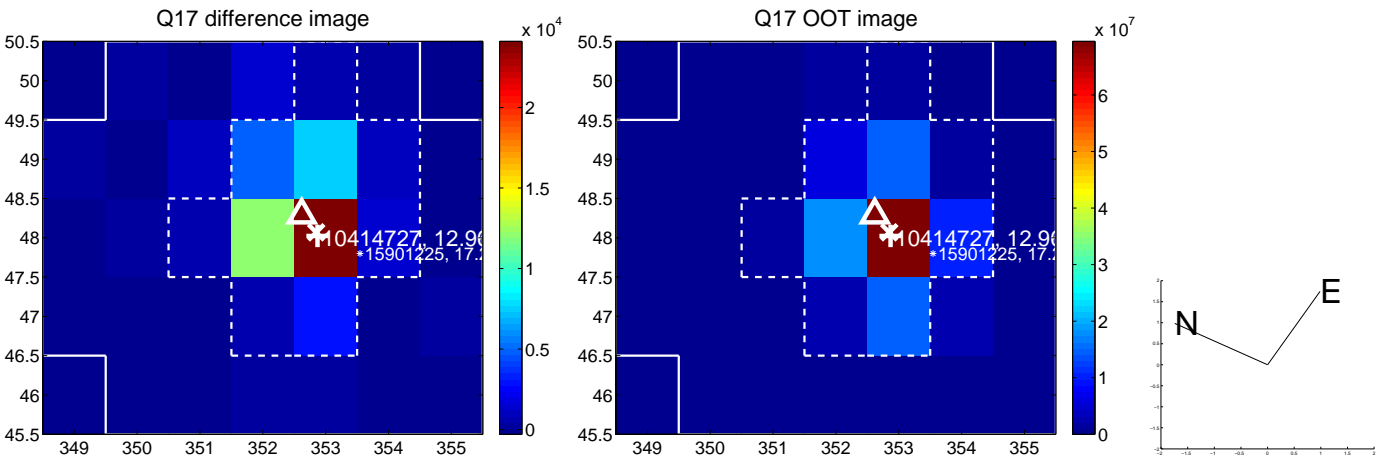
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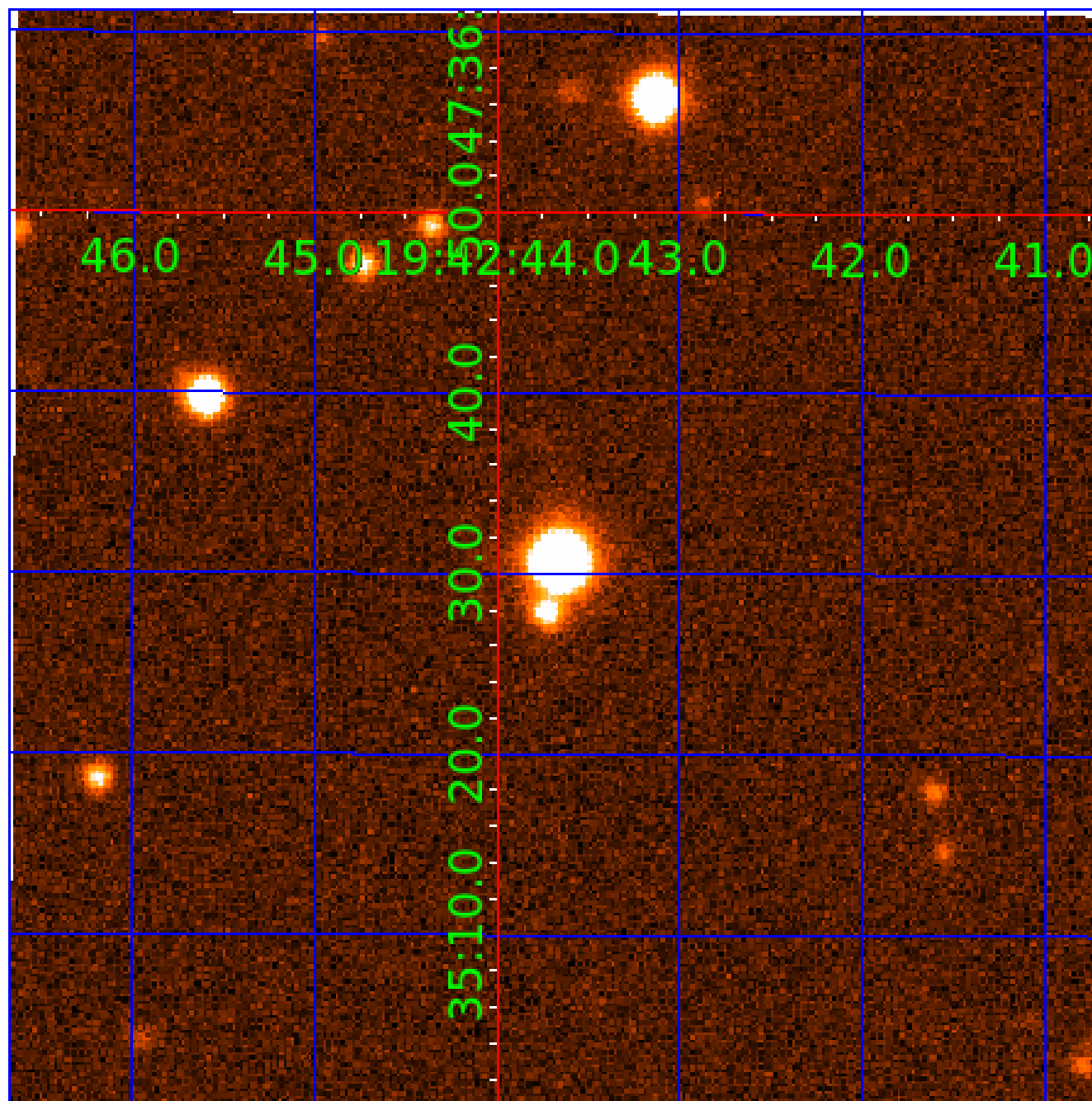
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folded centroid time series figure for this object.

UKIRT Image

Declination



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010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
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010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
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See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

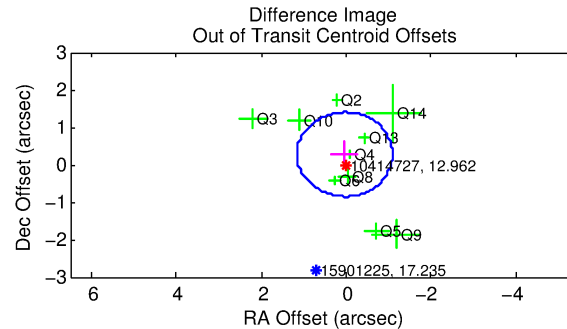
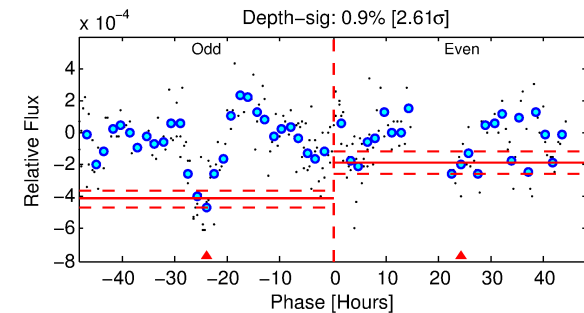
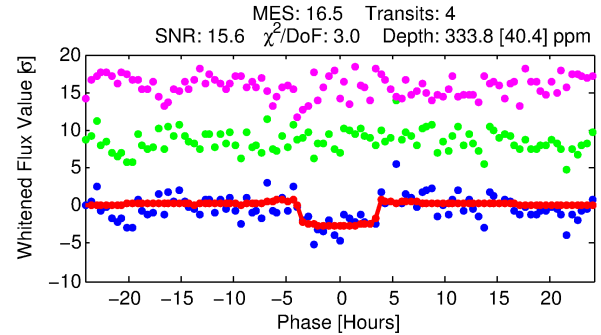
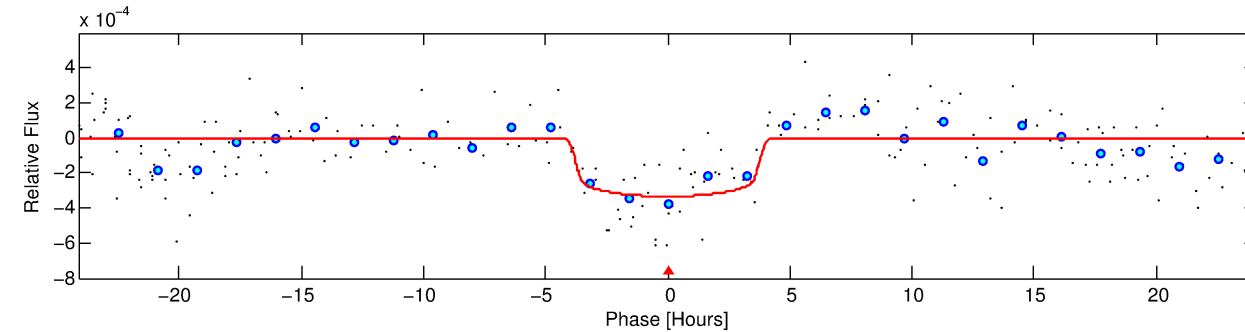
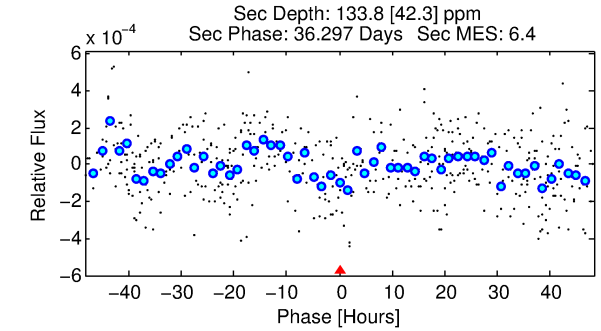
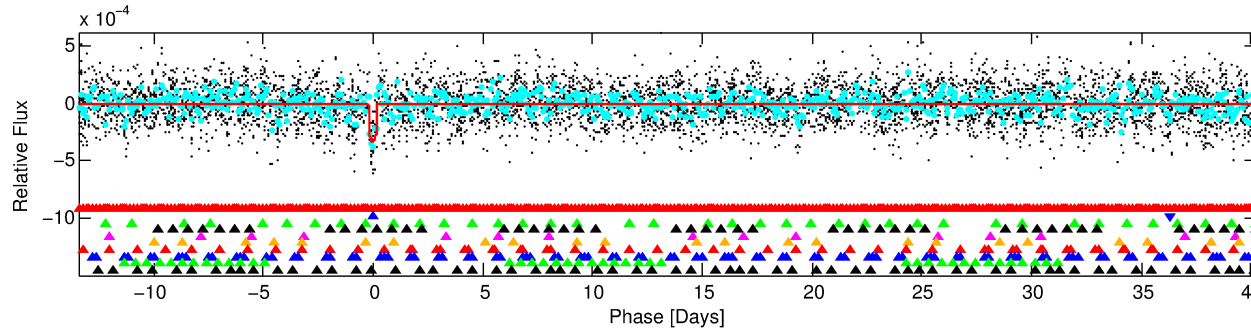
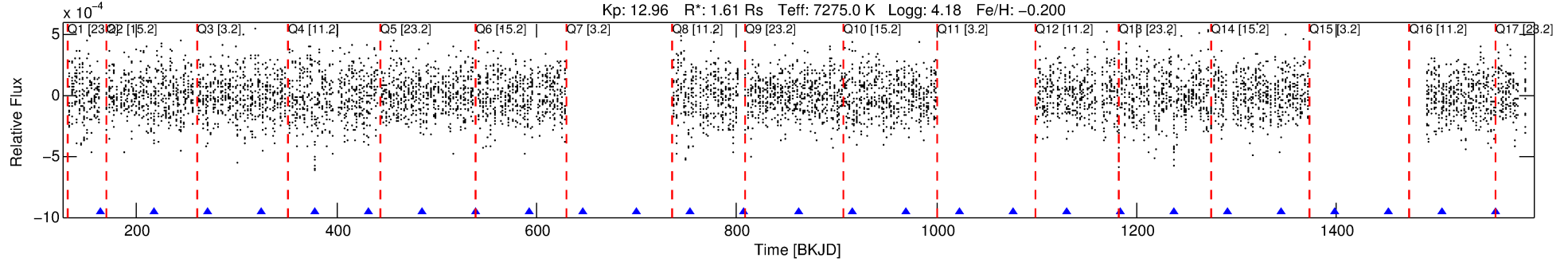
Ephemeris Match Information For 010414727-02

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 2 of 10 Period: 53.701 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



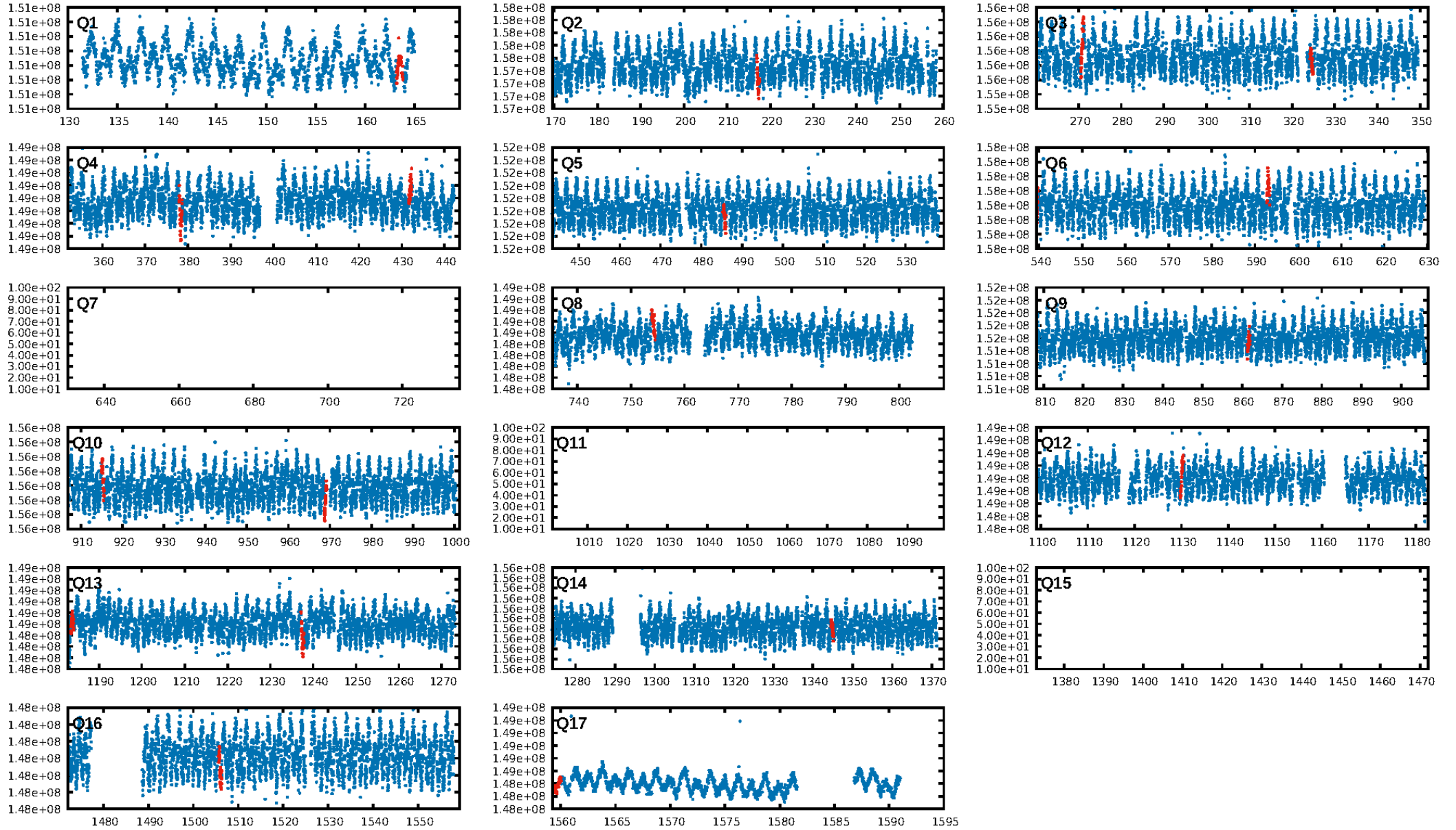
DV Fit Results:

Period = 53.70075 [0.00112] d
Epoch = 163.4846 [0.0153] BKJD
Rp/R* = 0.0185 [0.0052]
a/R* = 31.87 [53.58]
b = 0.80 [0.74]
Seff = 65.93 [26.20]
Teq = 727 [72] K
Rp = 3.24 [1.41] Re
a = 0.3137 [0.0823] AU
Ag = 688.93 [510.19] [1.35 sigma]
Teffp = 5756 [961] K [5.22 sigma]

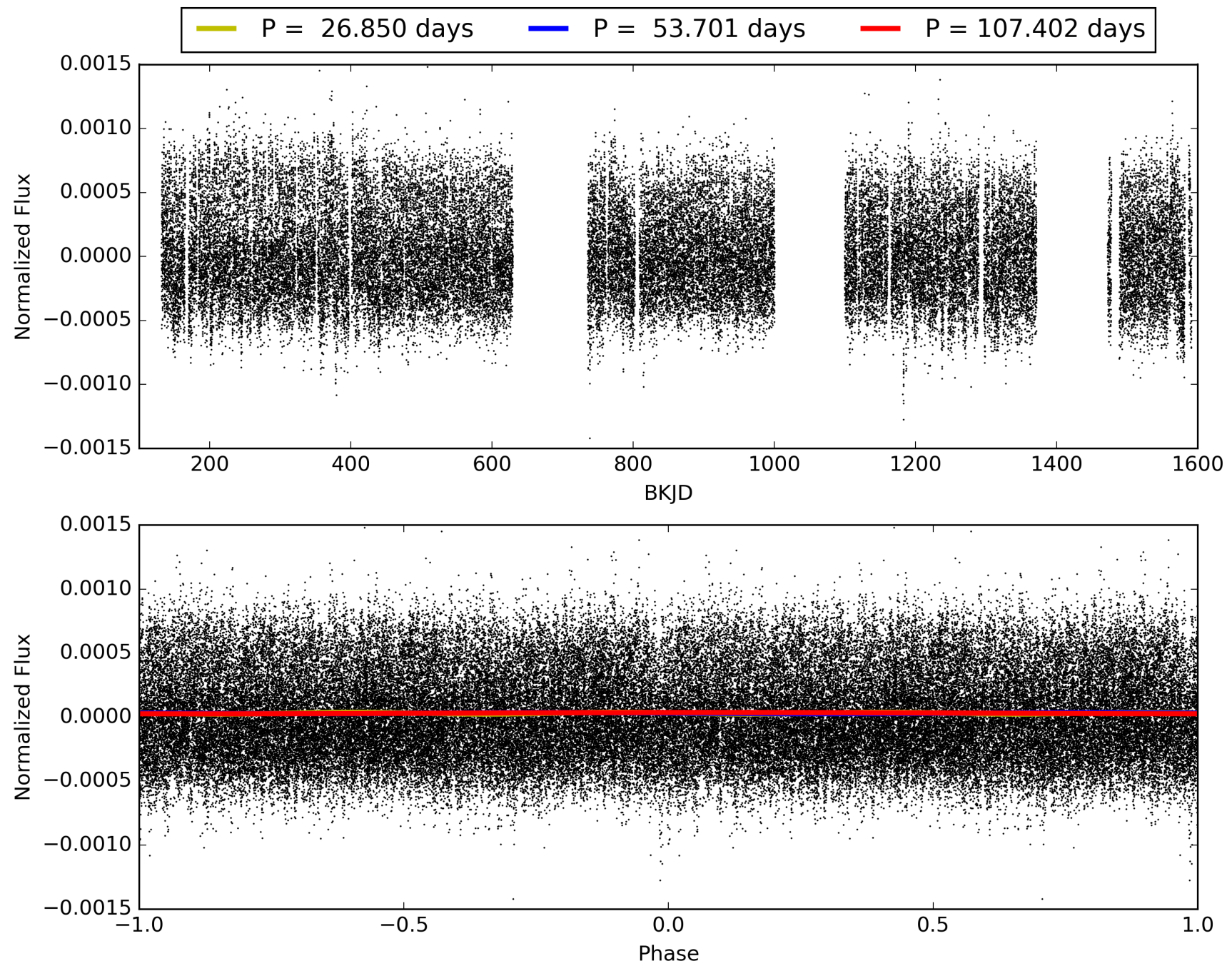
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [45.57 sigma]
LongPeriod-sig: 100.0% [15.59 sigma]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGoF-sig: 6.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.1501
Centroid-sig: 68.9%
Centroid-so: 0.346 arcsec [1.30 sigma]
OotOffset-rm: 0.276 arcsec [0.74 sigma]
KicOffset-rm: 0.145 arcsec [0.46 sigma]
OotOffset-st: 4/1/2/3 [10]
KicOffset-st: 4/1/2/3 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 0.18 [2/11]

TCE 010414727-02, PDC Light Curves

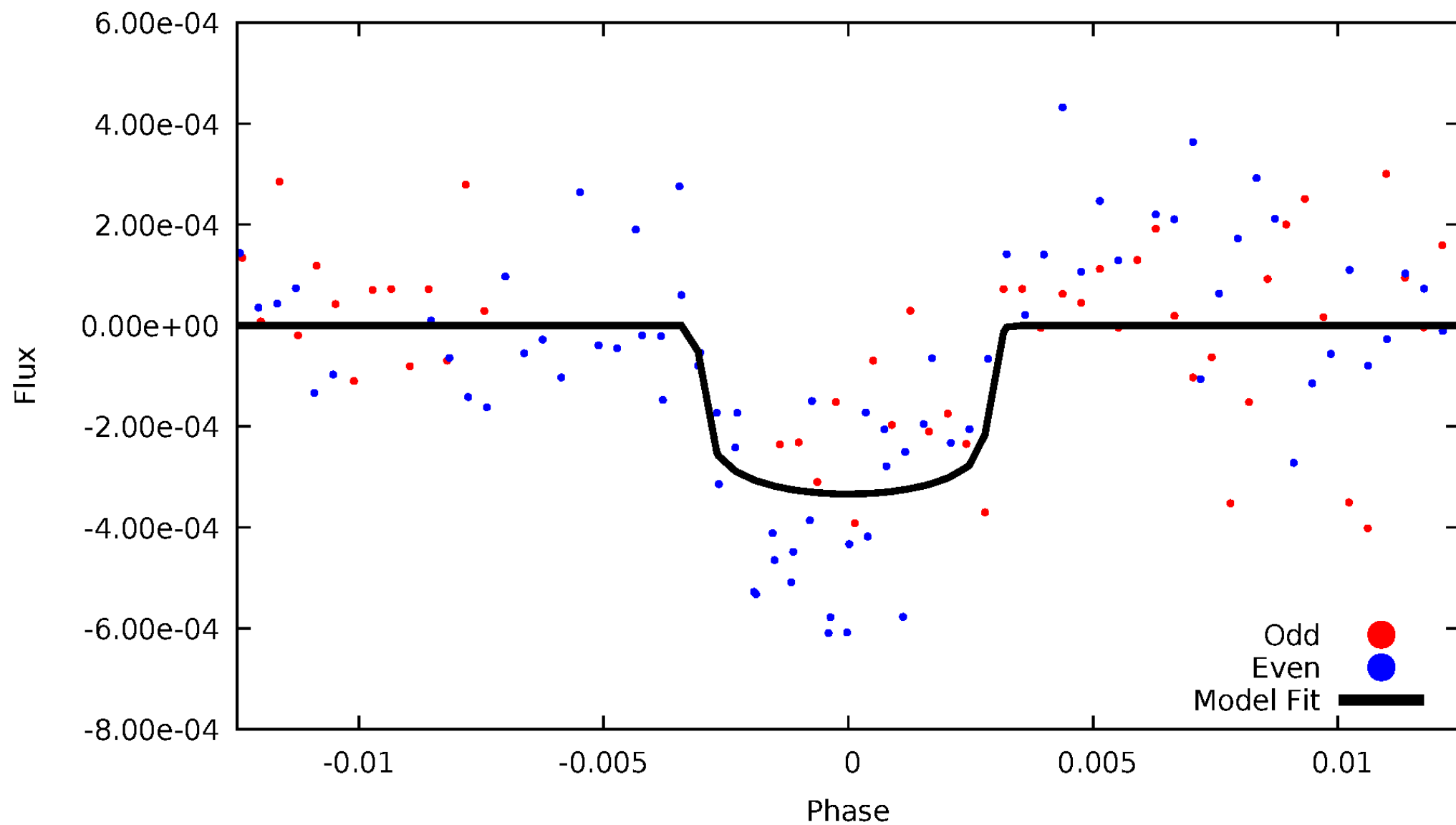


TCE 010414727-02



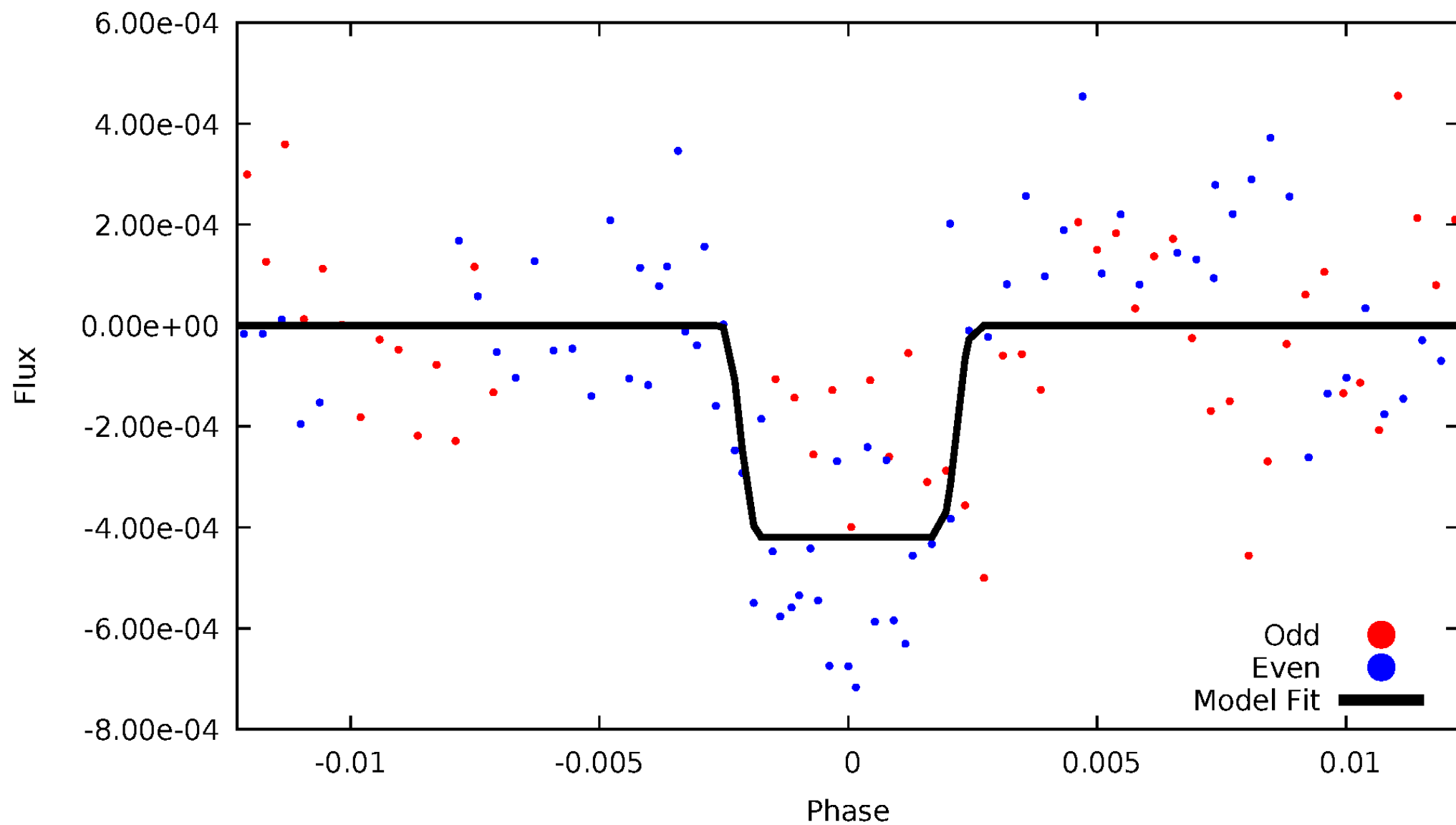
DV Odd/Even

TCE 010414727-02



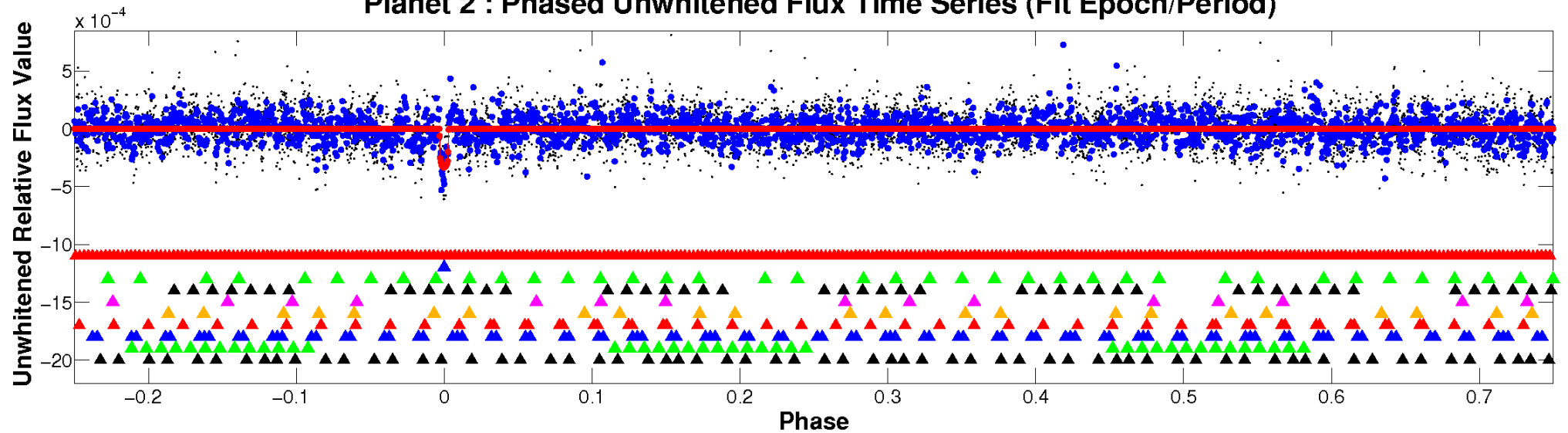
ALT Odd/Even

TCE 010414727-02

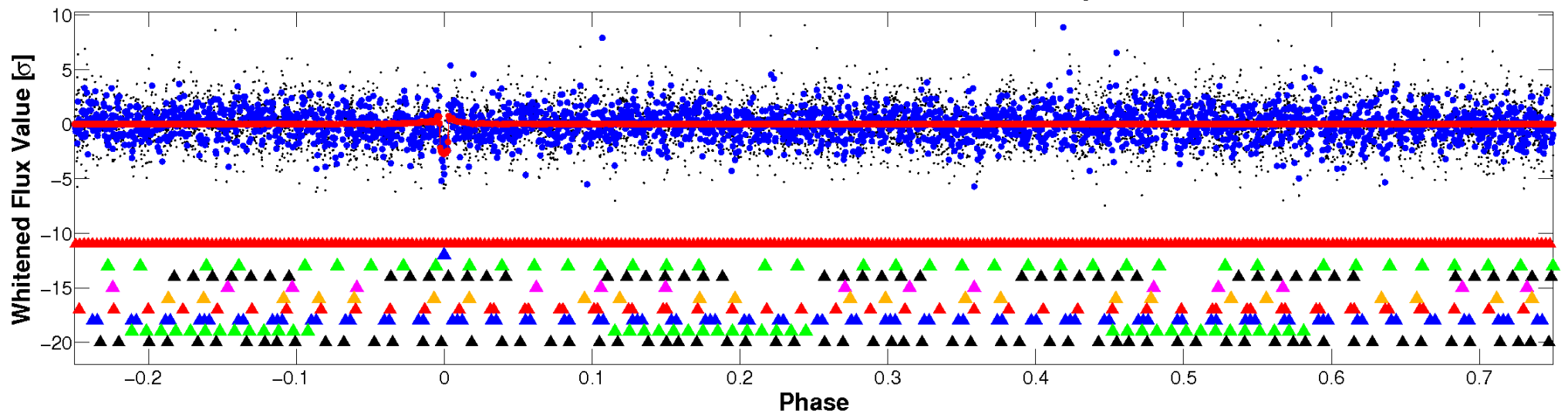


Non-Whitened Vs. Whitened Light Curve

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

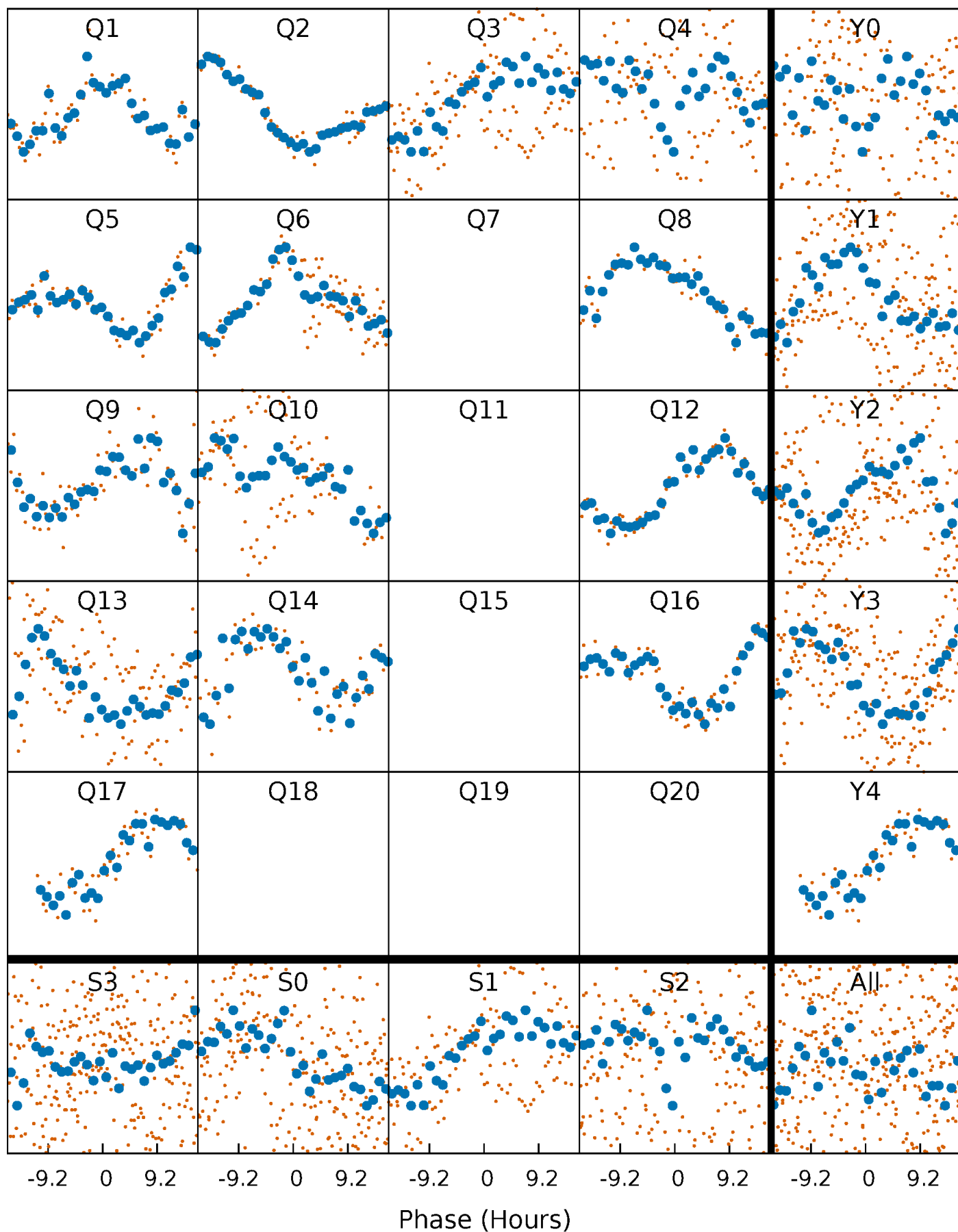


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



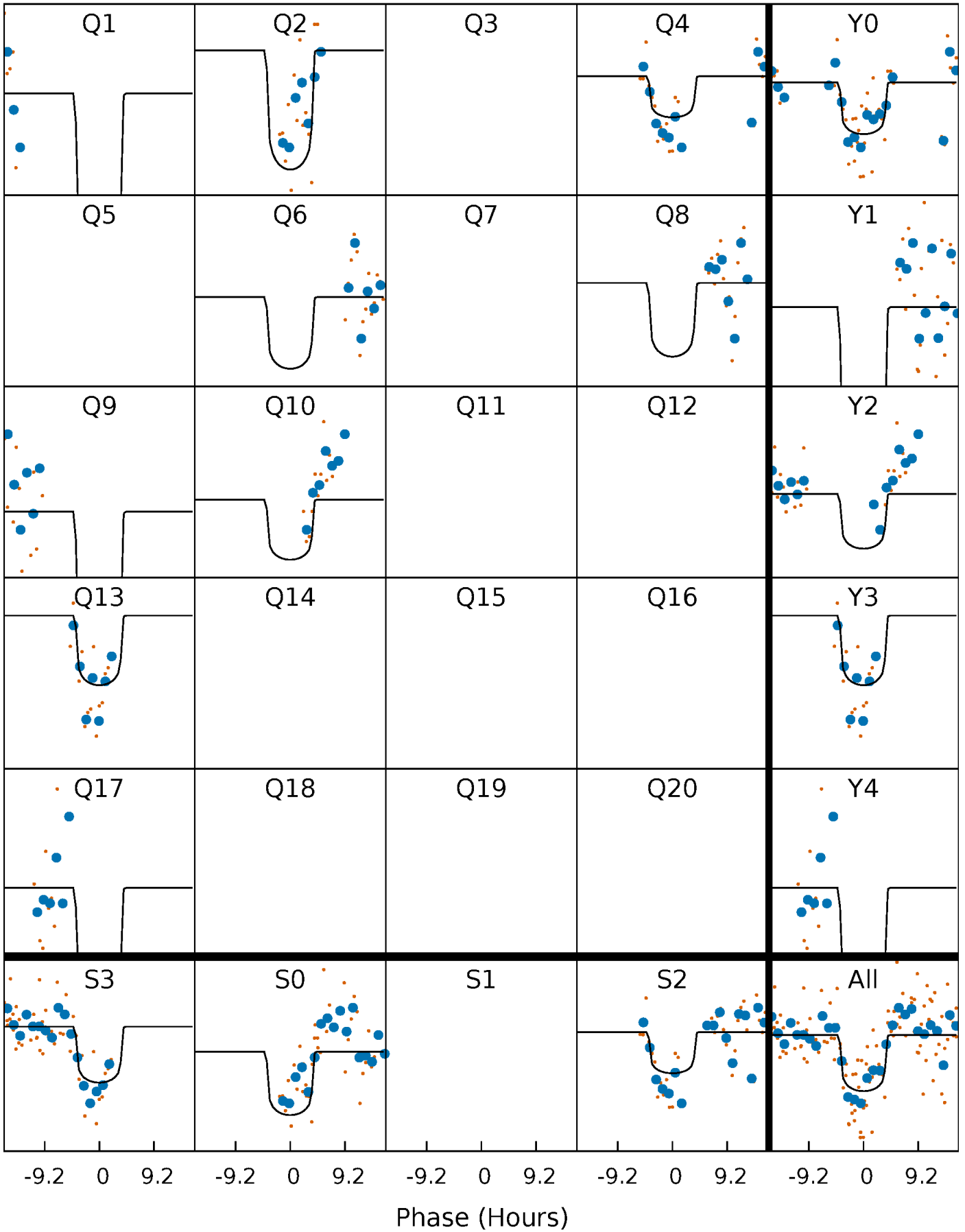
PDC Quarter-Phased Transit Curves

TCE 010414727-02 P= 53.700754 Days $T_0=163.484562$ (BKJD)



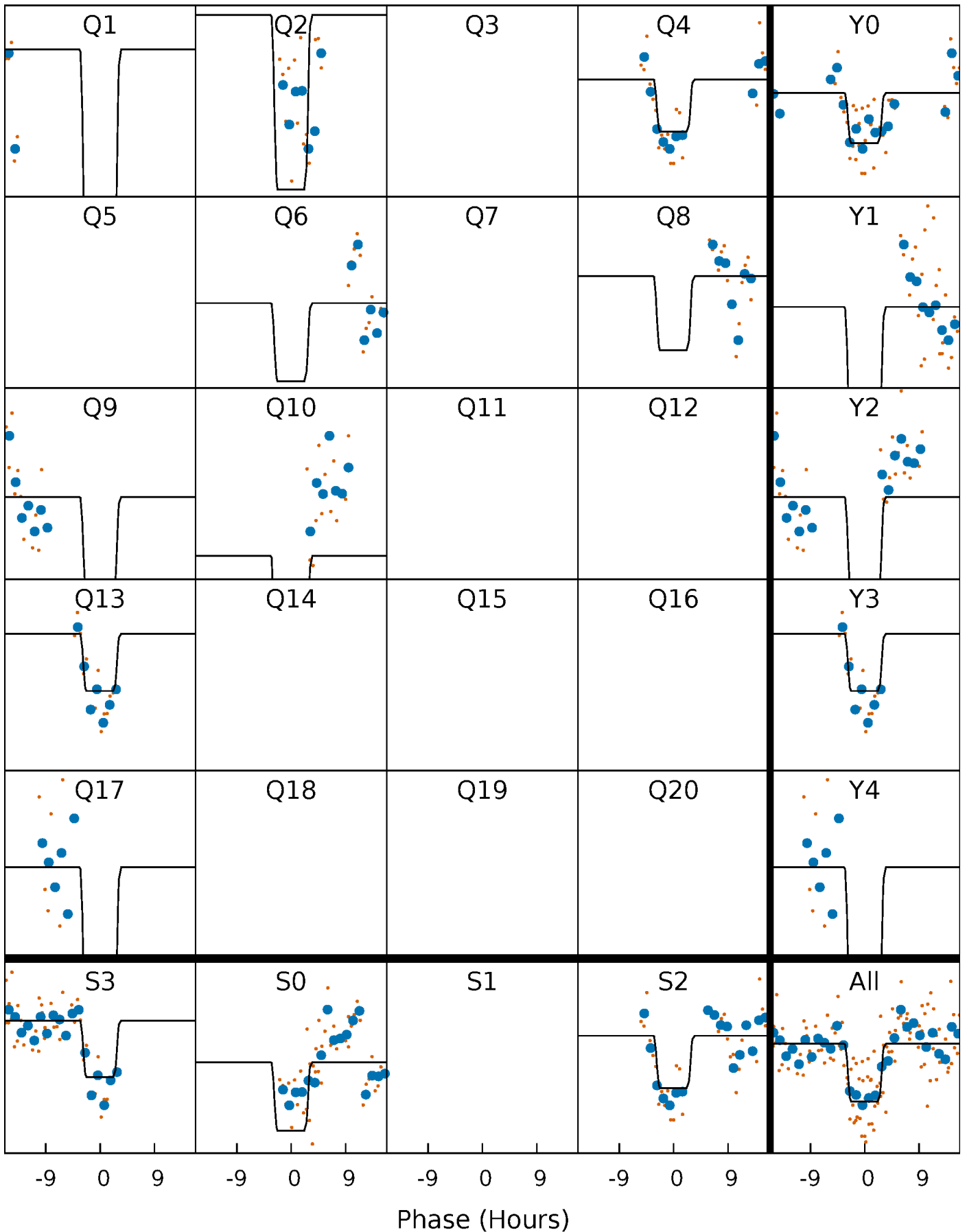
DV Quarter-Phased Transit Curves

TCE 010414727-02 P= 53.700754 Days $T_0=163.484562$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

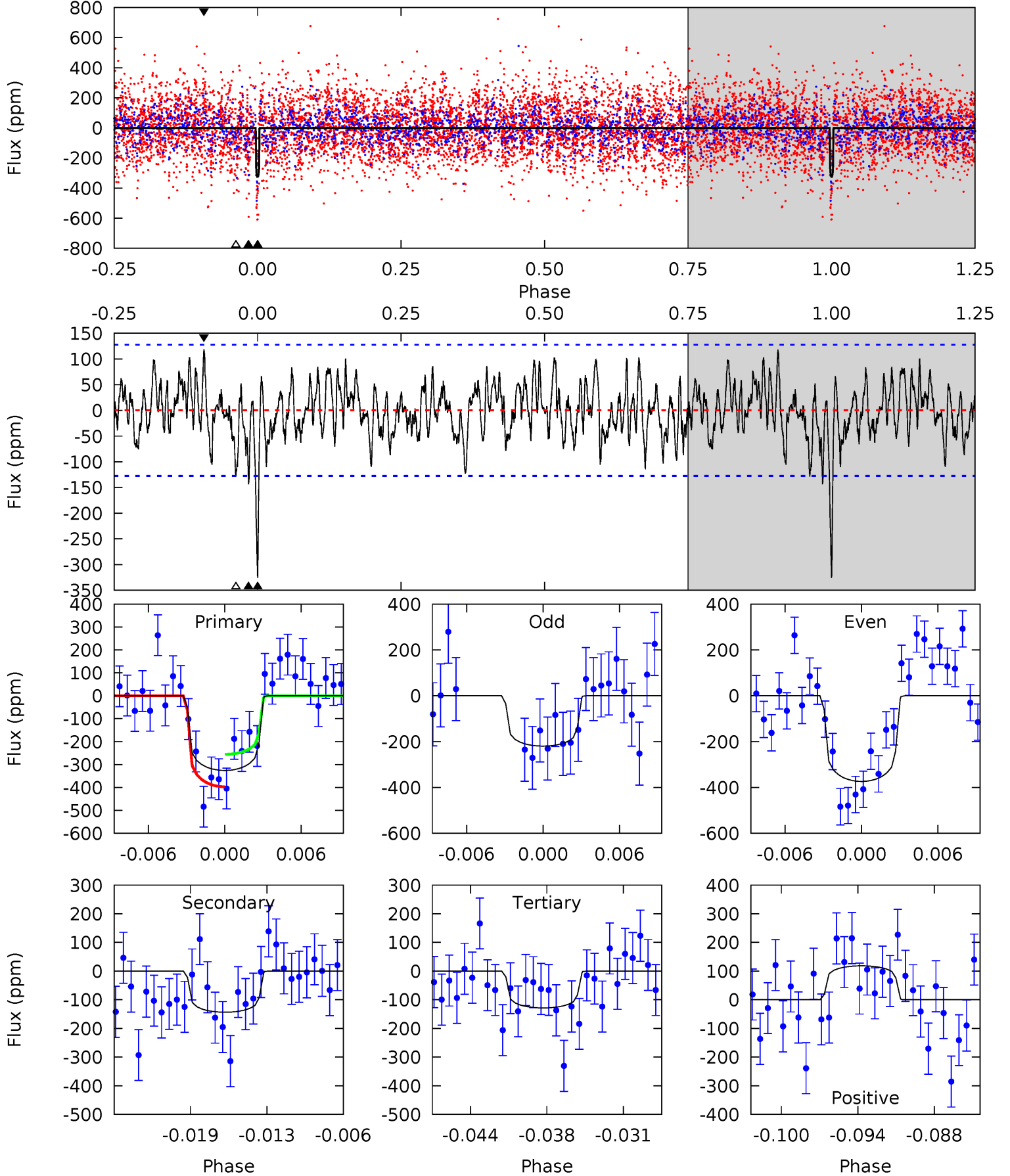
TCE 010414727-02 P= 53.699104 Days $T_0=163.489778$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-02, P = 53.700754 Days, E = 109.783808 Days

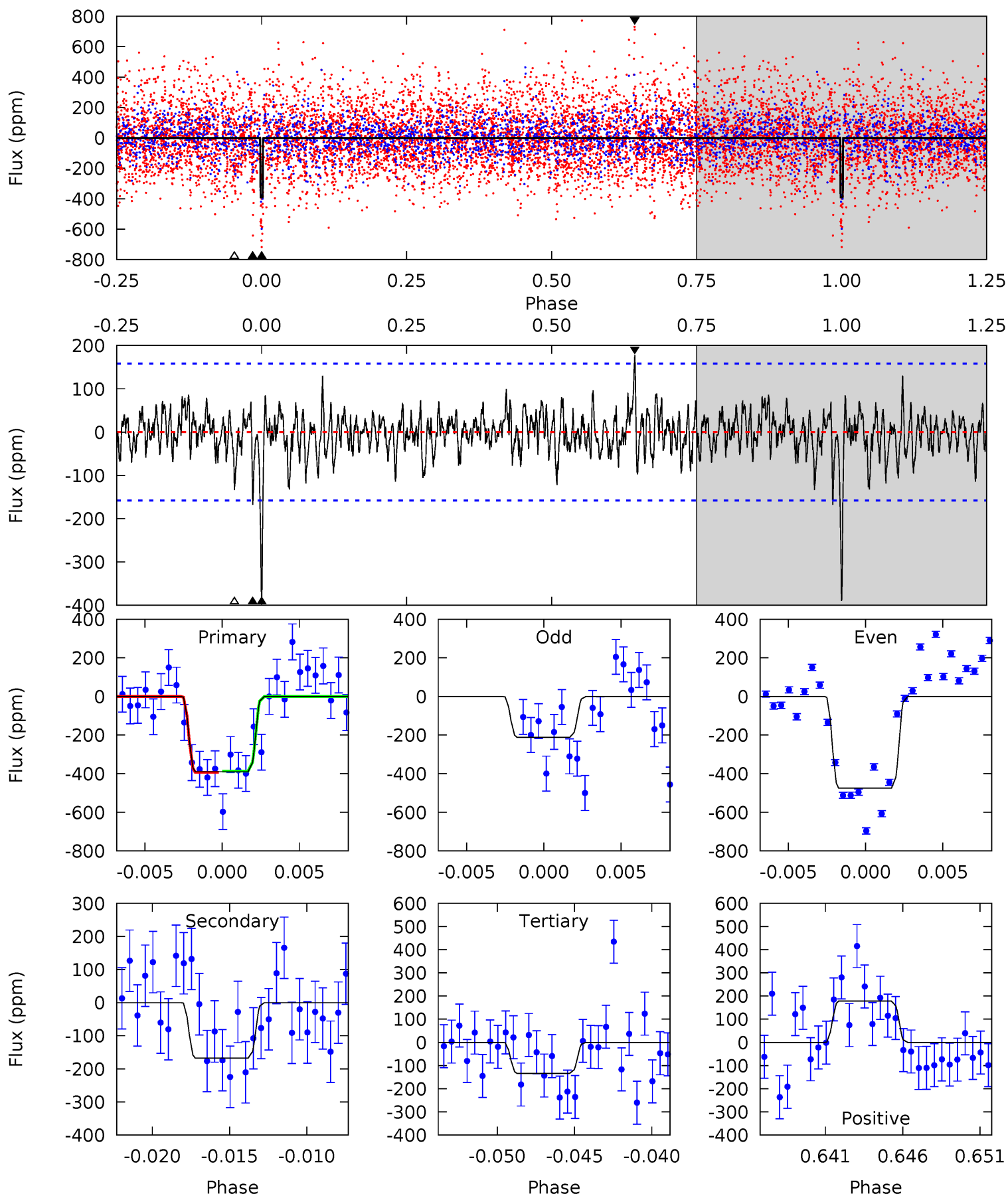
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	5.76	5.16	4.75	5.12	2.73	1.77	7.92	8.33	0.60	1.01	2.89	1.01	0.27	2.83



Alt Model-Shift Uniqueness Test

010414727-02, P = 53.699104 Days, E = 109.790674 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	5.47	4.36	5.80	5.16	2.81	1.33	8.35	6.92	1.11	-0.33	3.99	0.67	0.31	0.10



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-143 ± 25	$3.23^{+1.12}_{-0.97}$	1018^{+72}_{-66}	5803^{+1175}_{-694}	748^{+756}_{-358}
Alt.	-168 ± 31	$3.63^{+1.19}_{-1.04}$	1020^{+78}_{-65}	5777^{+932}_{-656}	692^{+636}_{-304}

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

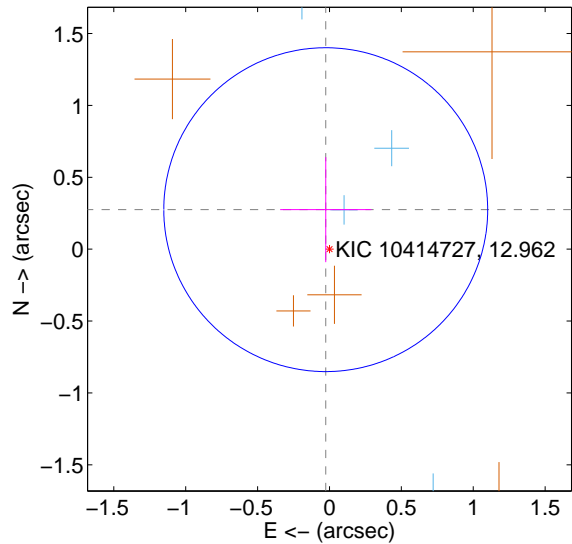
Supplemental centroid analysis for 010414727-02. Kepler magnitude: 12.96. Transit SNR 15.64

There are 4 quarters with good PRF difference image offsets

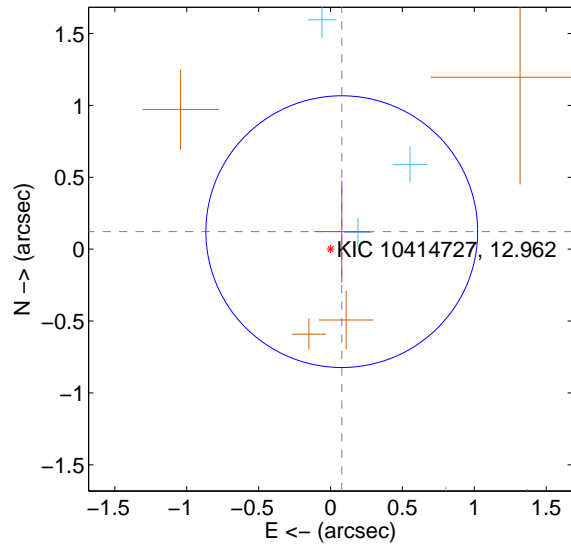
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.276 ± 0.375	0.74	0.026 ± 0.317	0.275 ± 0.365
PRF-fit source offset from KIC position	0.145 ± 0.315	0.46	-0.078 ± 0.192	0.122 ± 0.354
photometric centroid source offset	0.35 ± 0.27	1.30	-0.30 ± 0.27	-0.18 ± 0.26

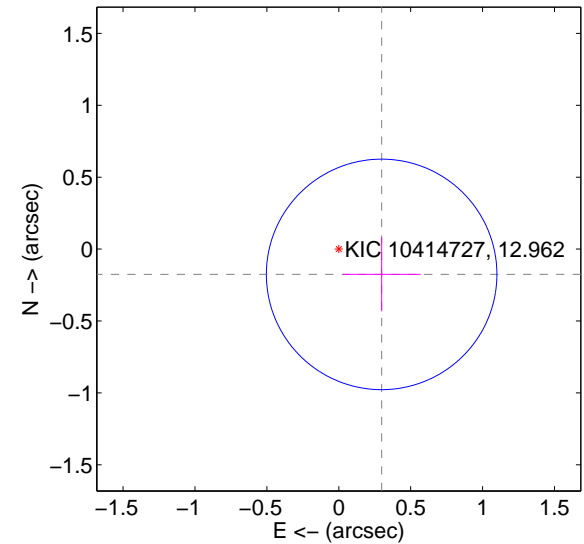
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

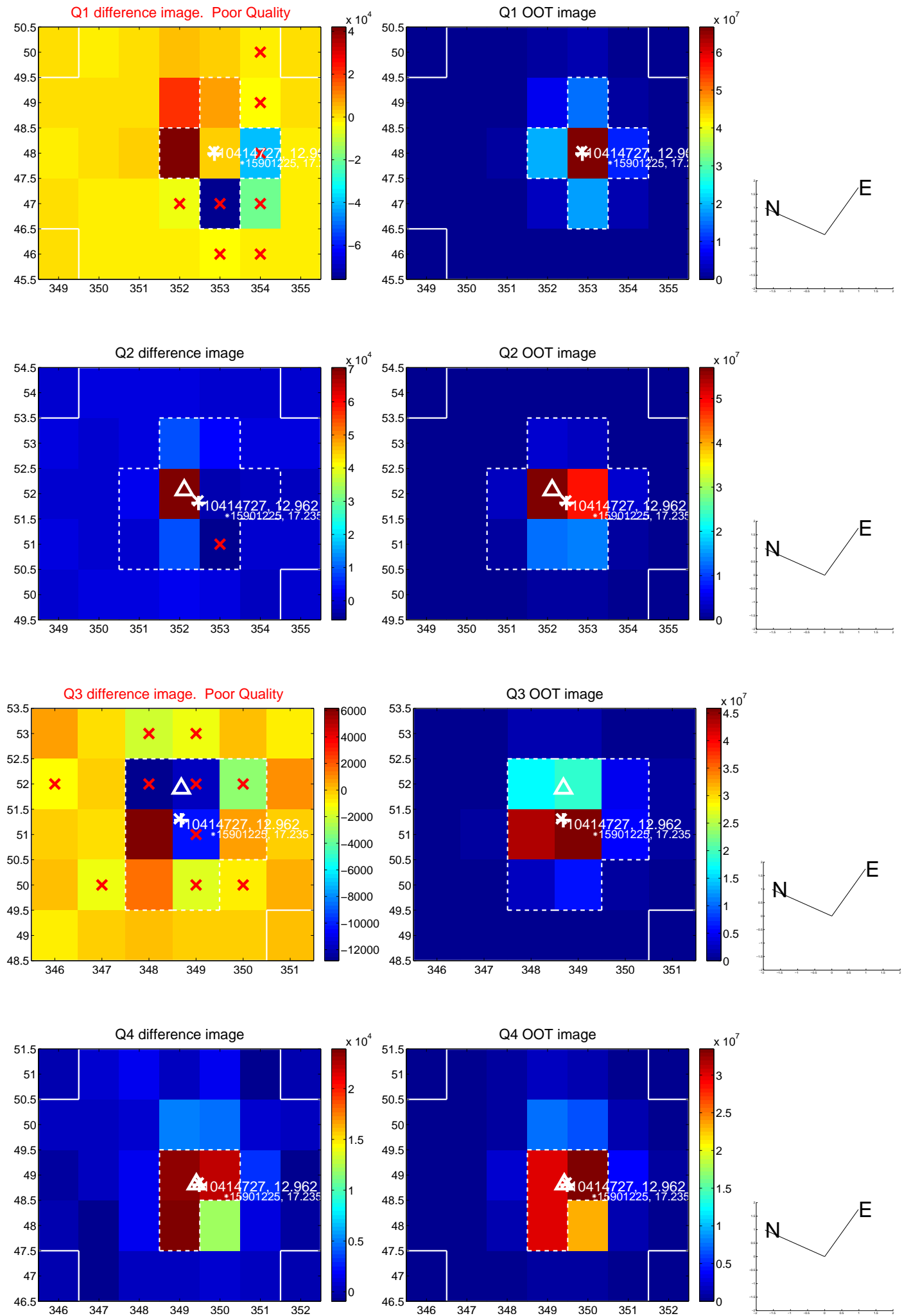


offset from photometric centroids

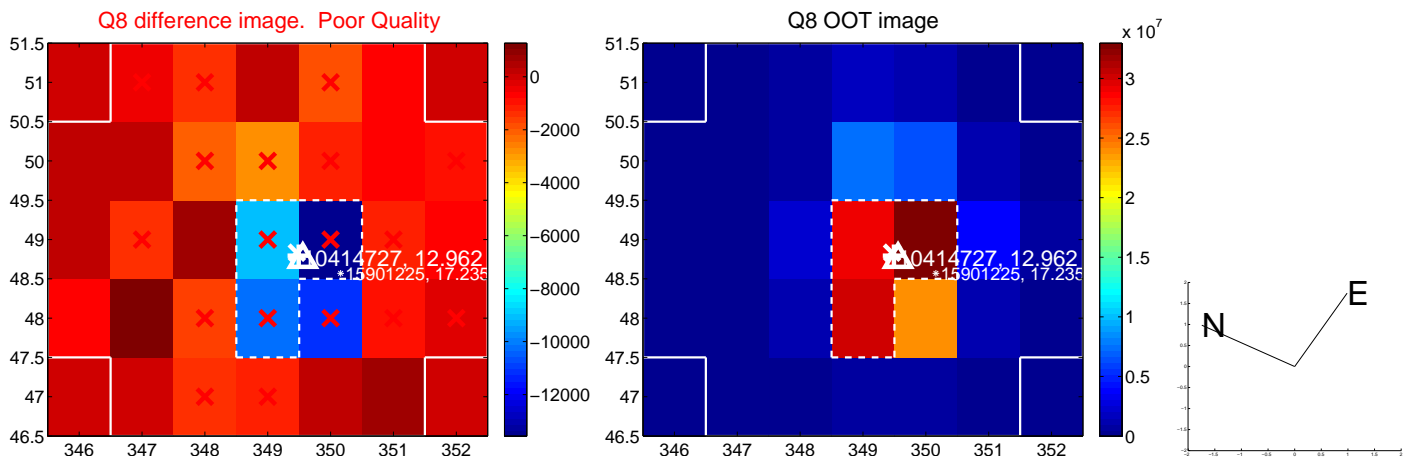
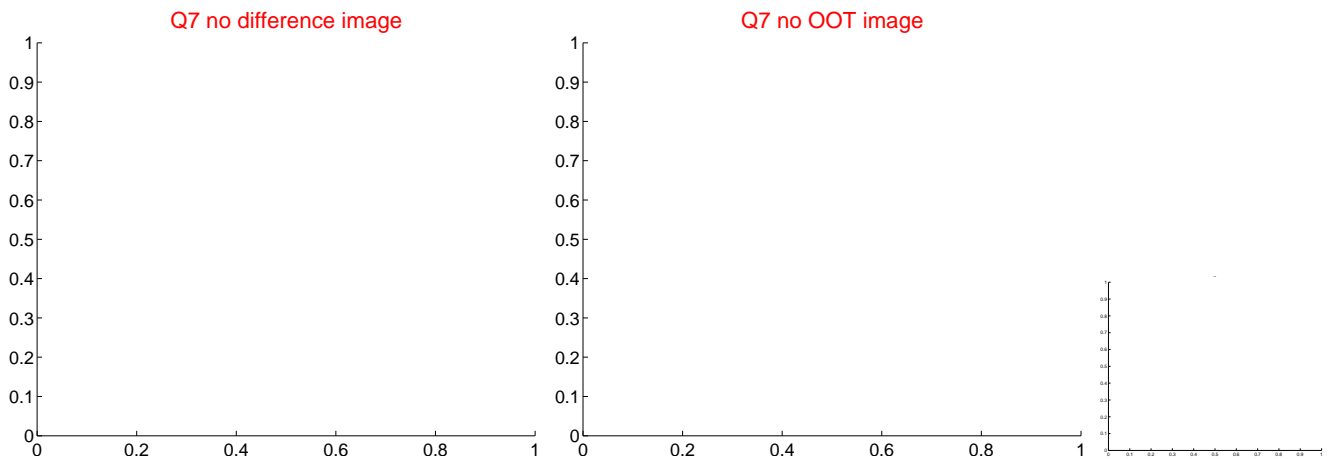
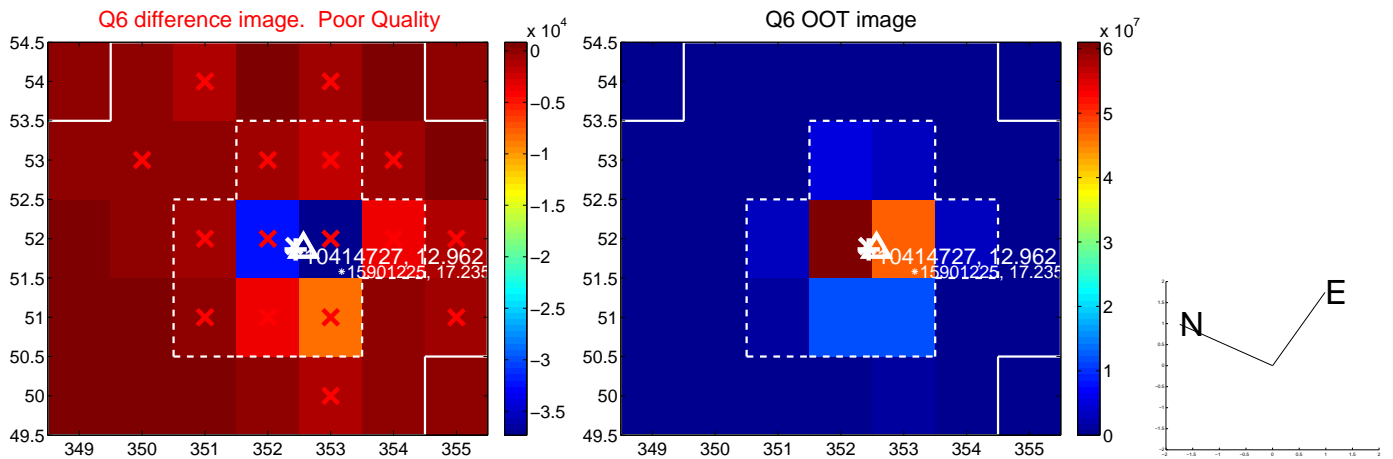
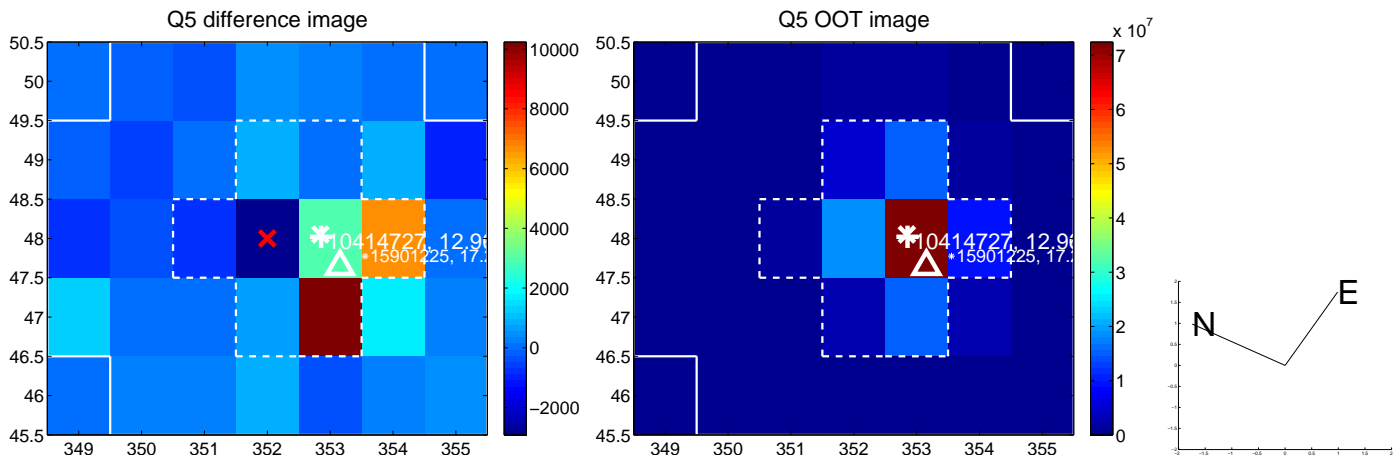


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

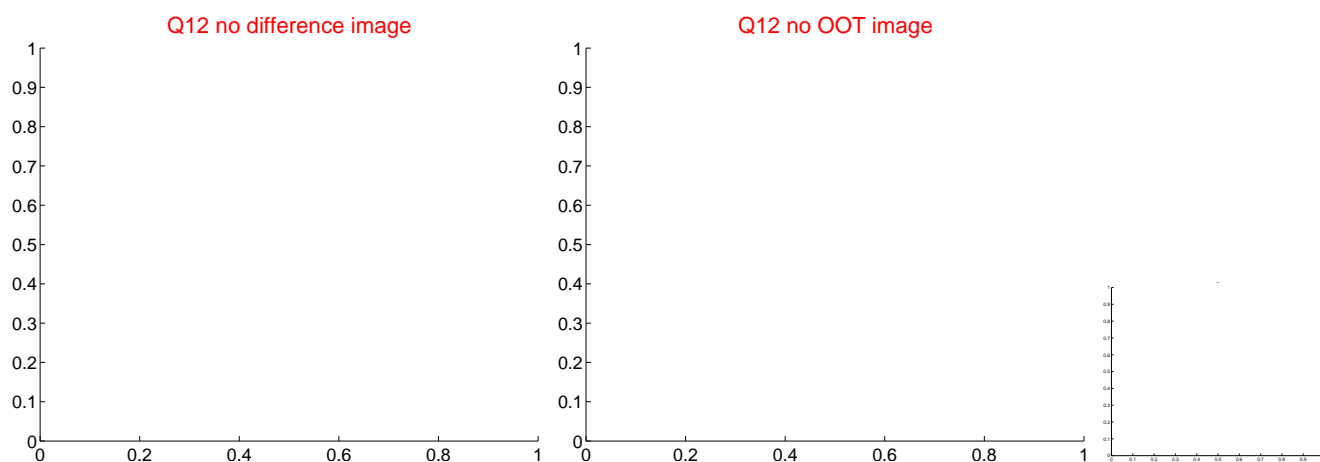
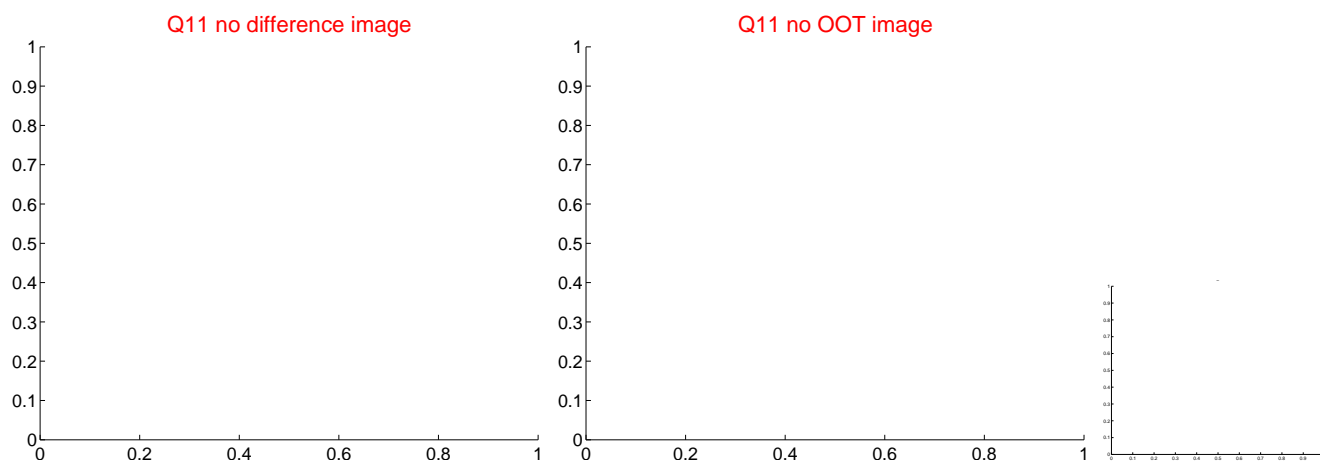
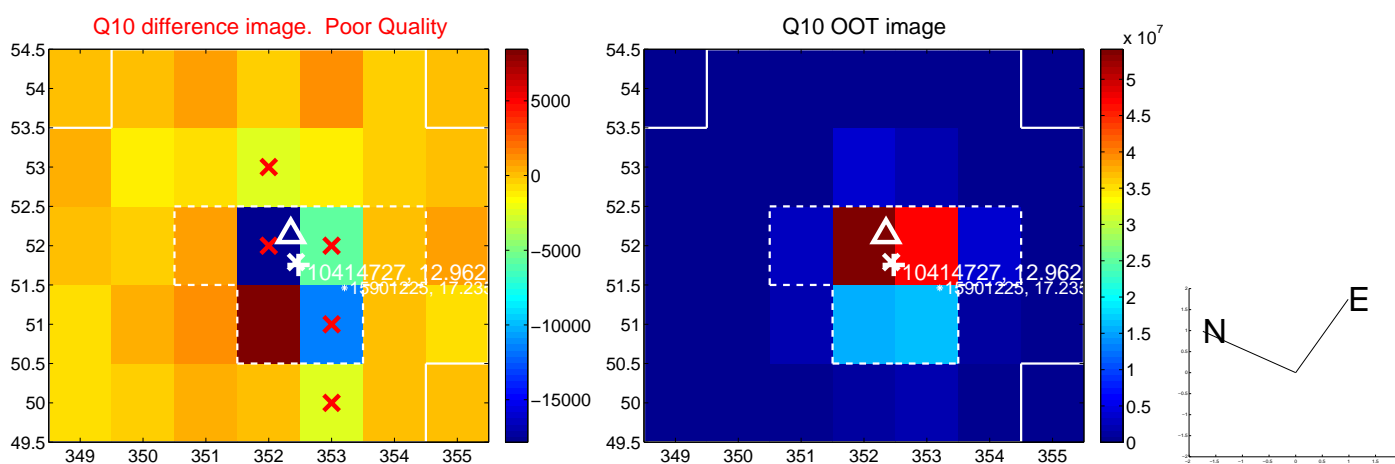
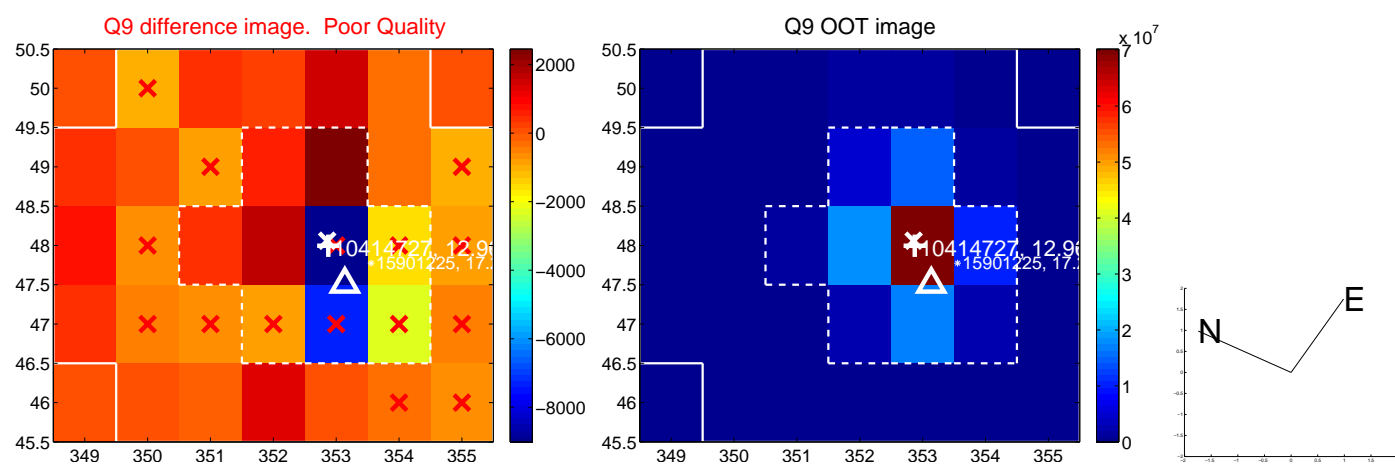
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



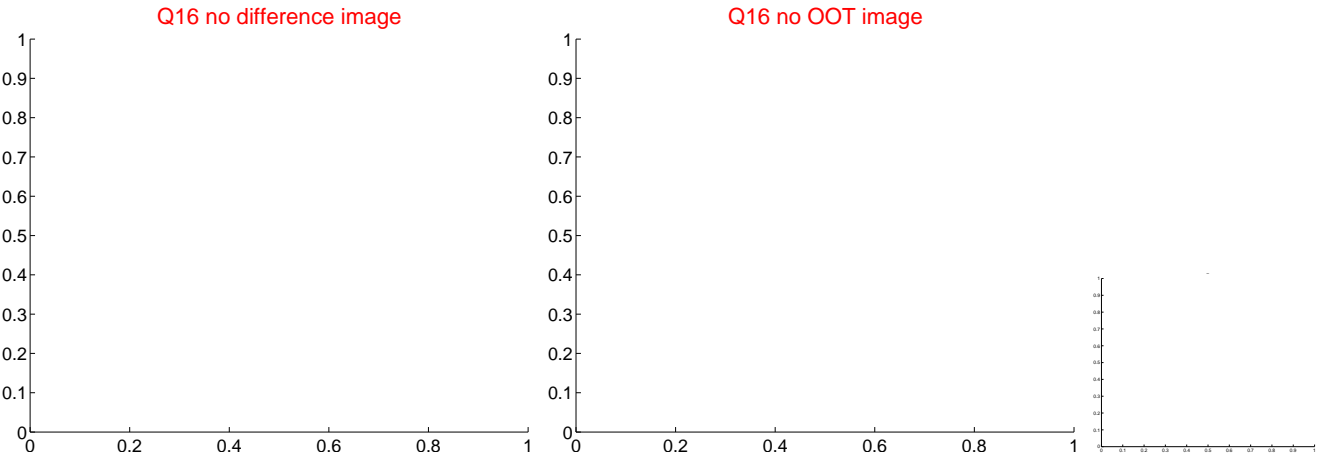
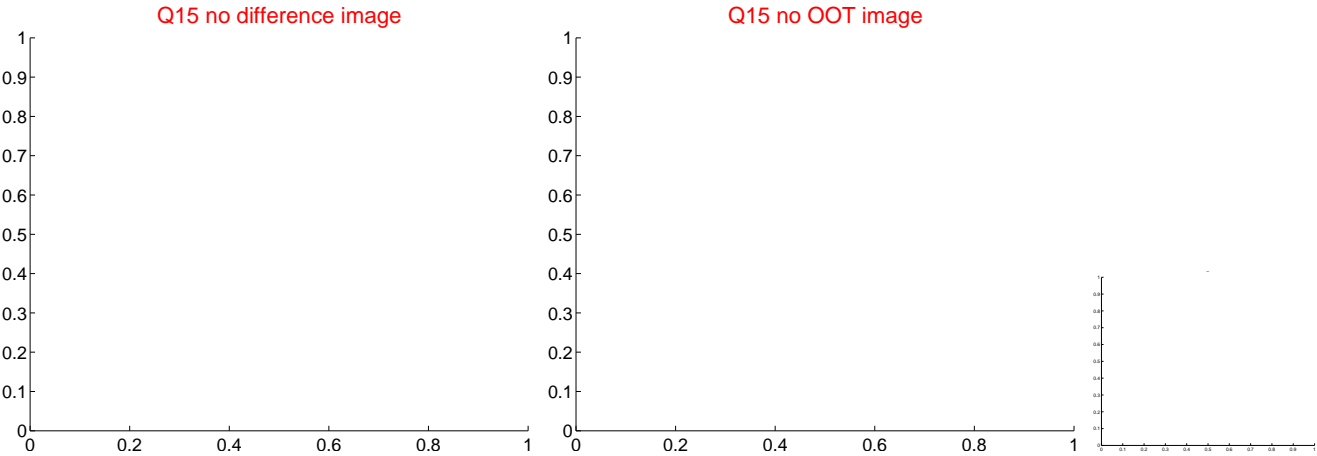
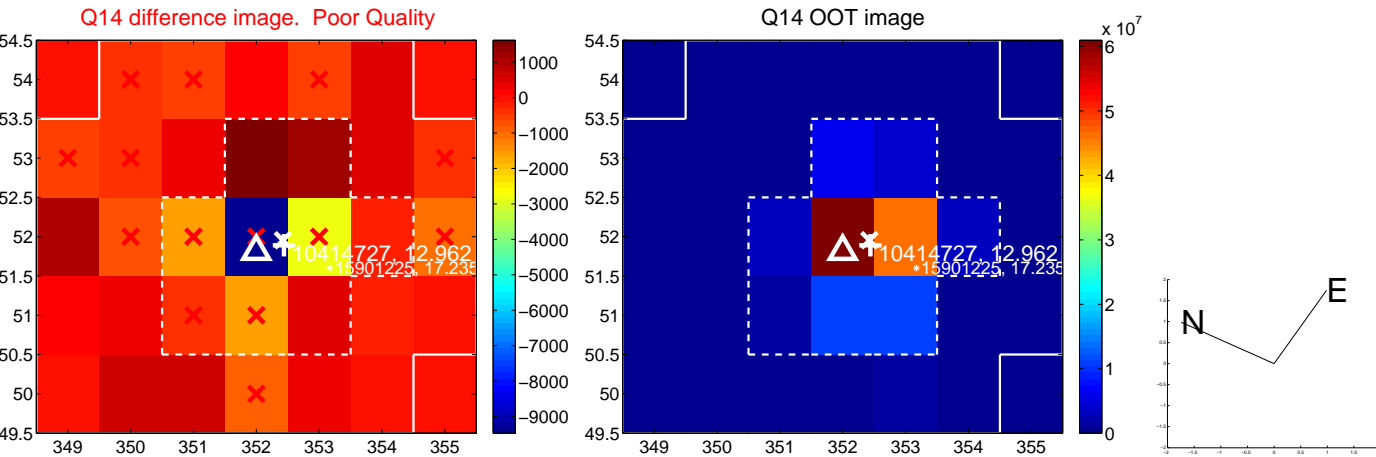
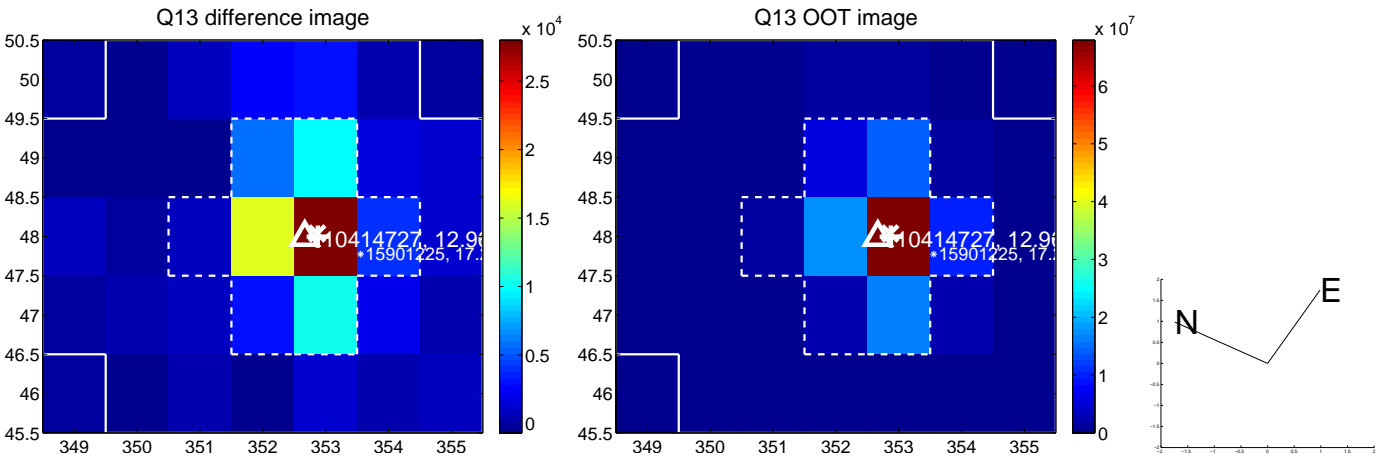
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



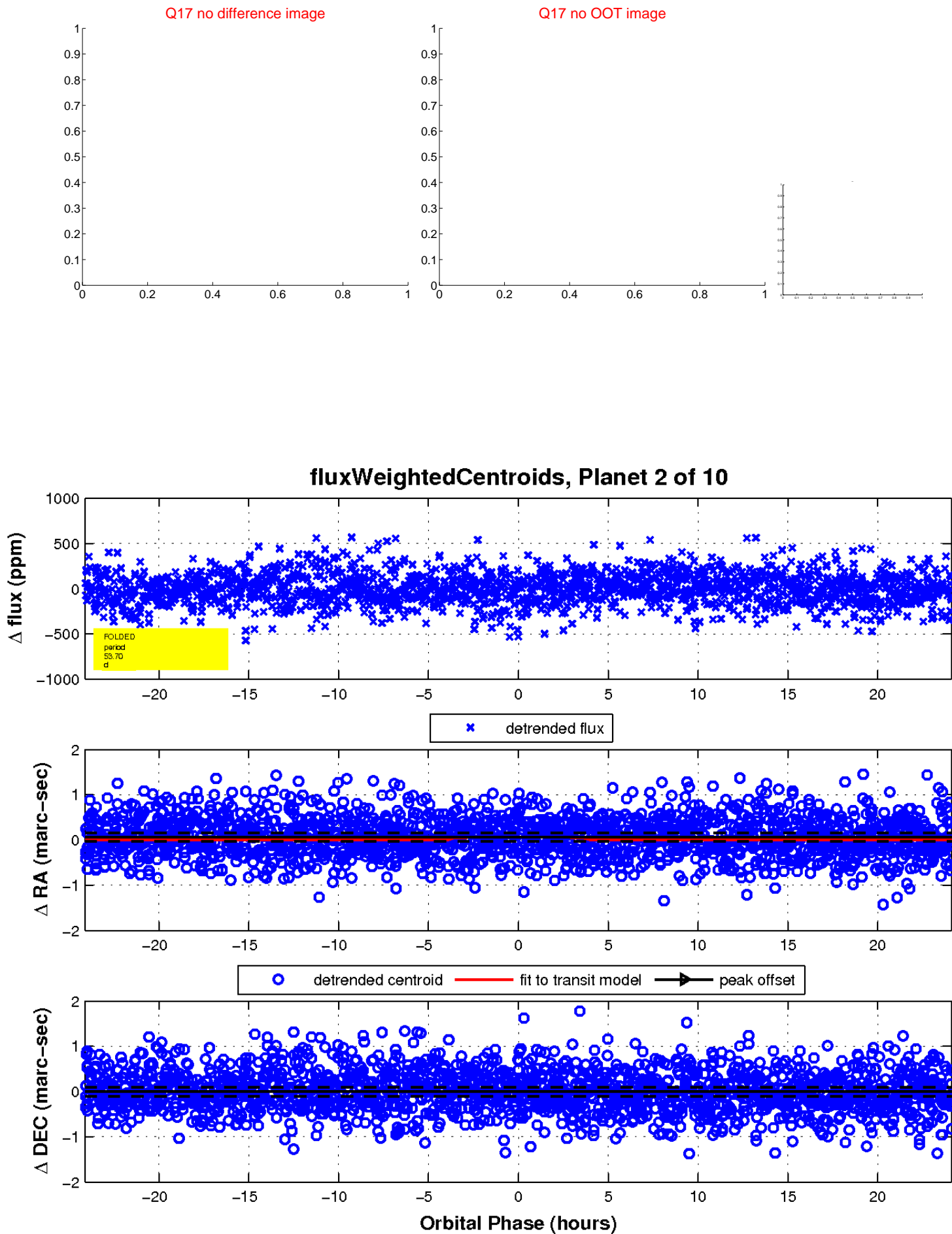
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

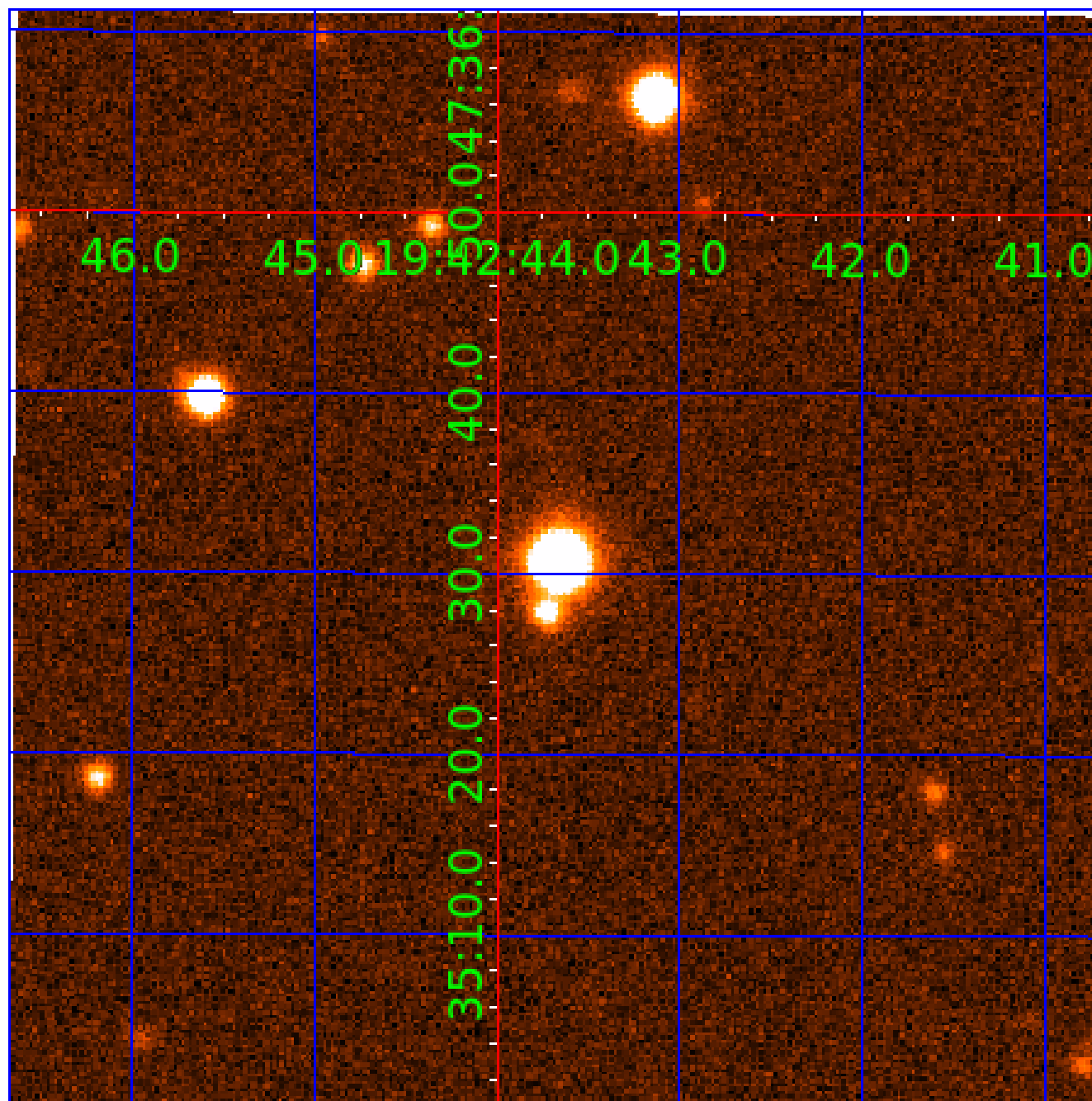


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010414727-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

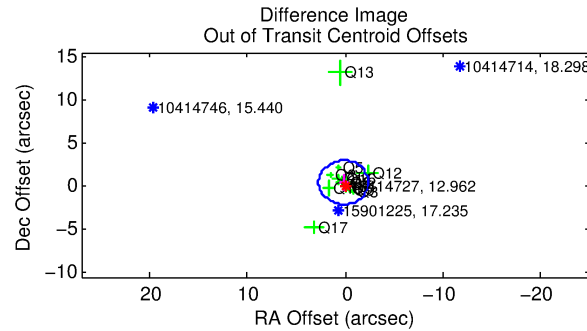
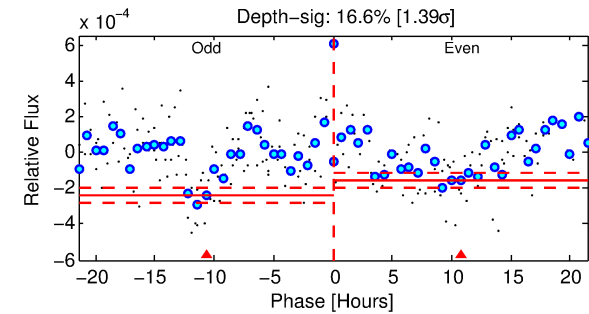
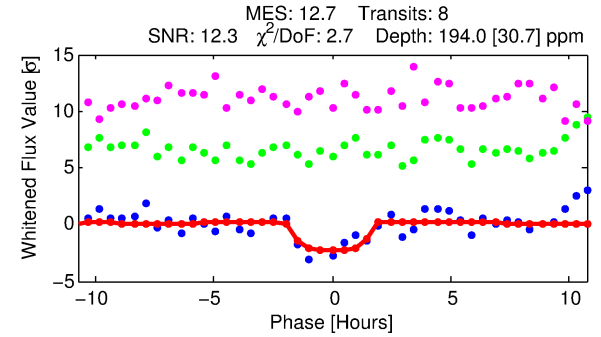
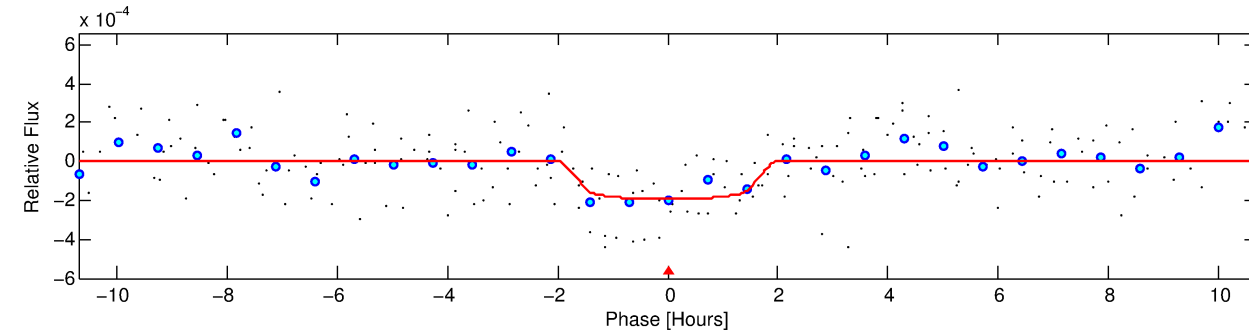
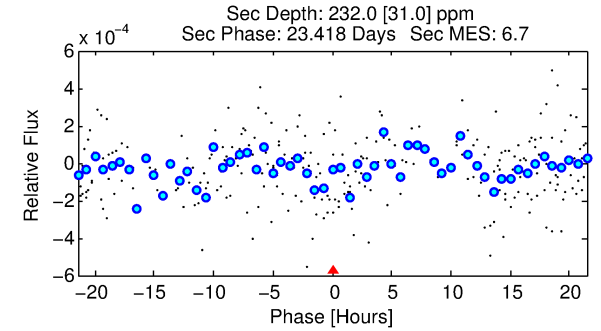
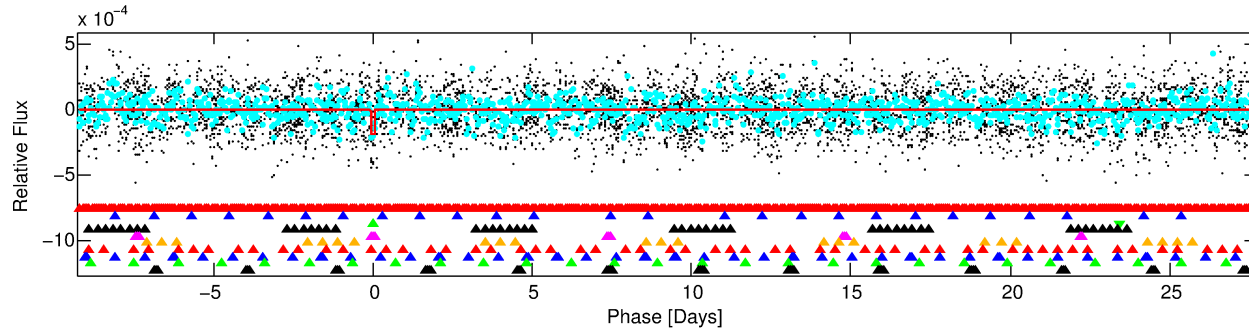
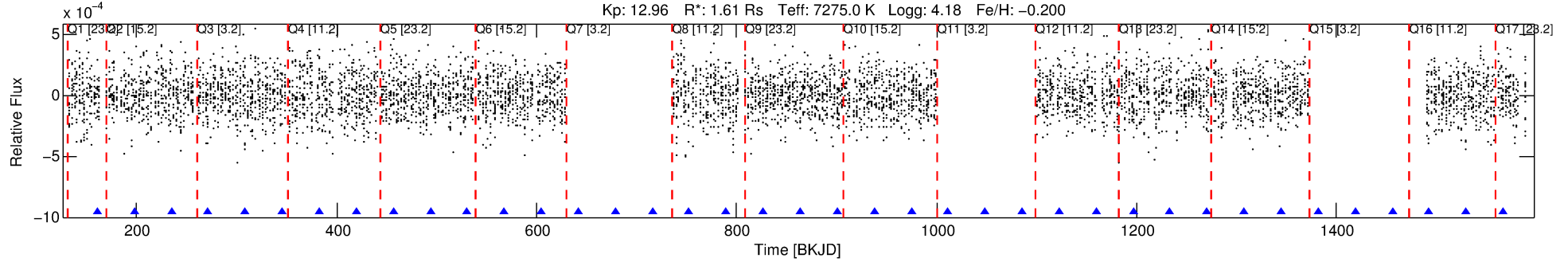
Ephemeris Match Information For 010414727-03

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 3 of 10 Period: 36.993 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



DV Fit Results:

Period = 36.99279 [0.00036] d
Epoch = 160.8288 [0.0086] BKJD
Rp/R* = 0.0144 [0.0153]
a/R* = 42.54 [281.89]
b = 0.86 [2.03]
Seff = 108.37 [43.07]
Teq = 823 [82] K
Rp = 2.53 [2.81] Re
a = 0.2447 [0.0642] AU
Ag = 1190.72 [2565.63] [0.46σ]
Teffp = 7472 [3981] K [1.67σ]

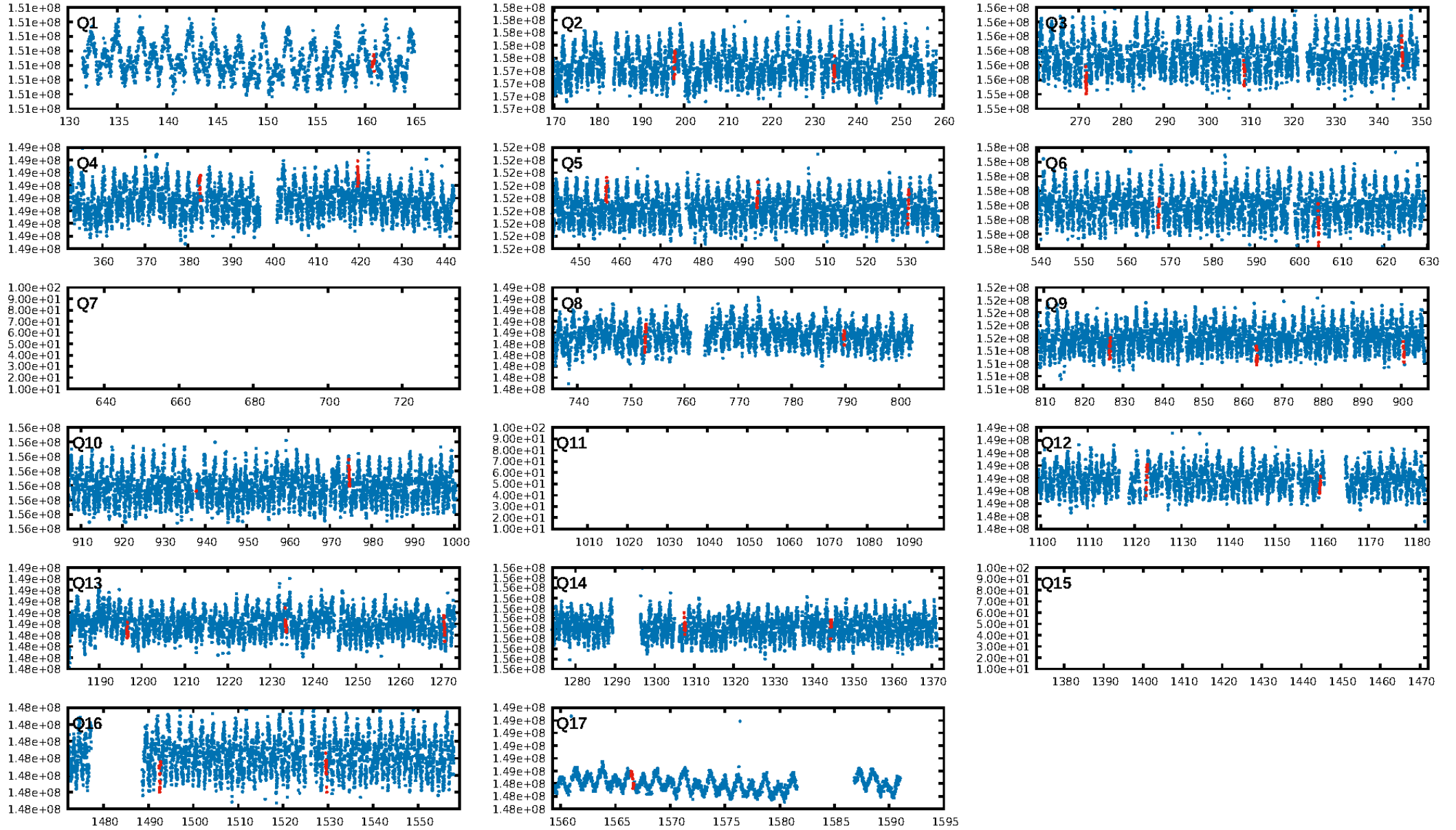
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.69σ]
LongPeriod-sig: 100.0% [45.57σ]
ModelChiSquare2-sig: 33.2%
ModelChiSquareGof-sig: 13.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -1.252
Centroid-sig: 65.7%
Centroid-so: 0.305 arcsec [0.59σ]
OotOffset-rm: 0.486 arcsec [0.57σ]
KicOffset-rm: 0.303 arcsec [0.29σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 0.31 [4/13]
DiffImageOverlap-fno: 0.50 [7/14]

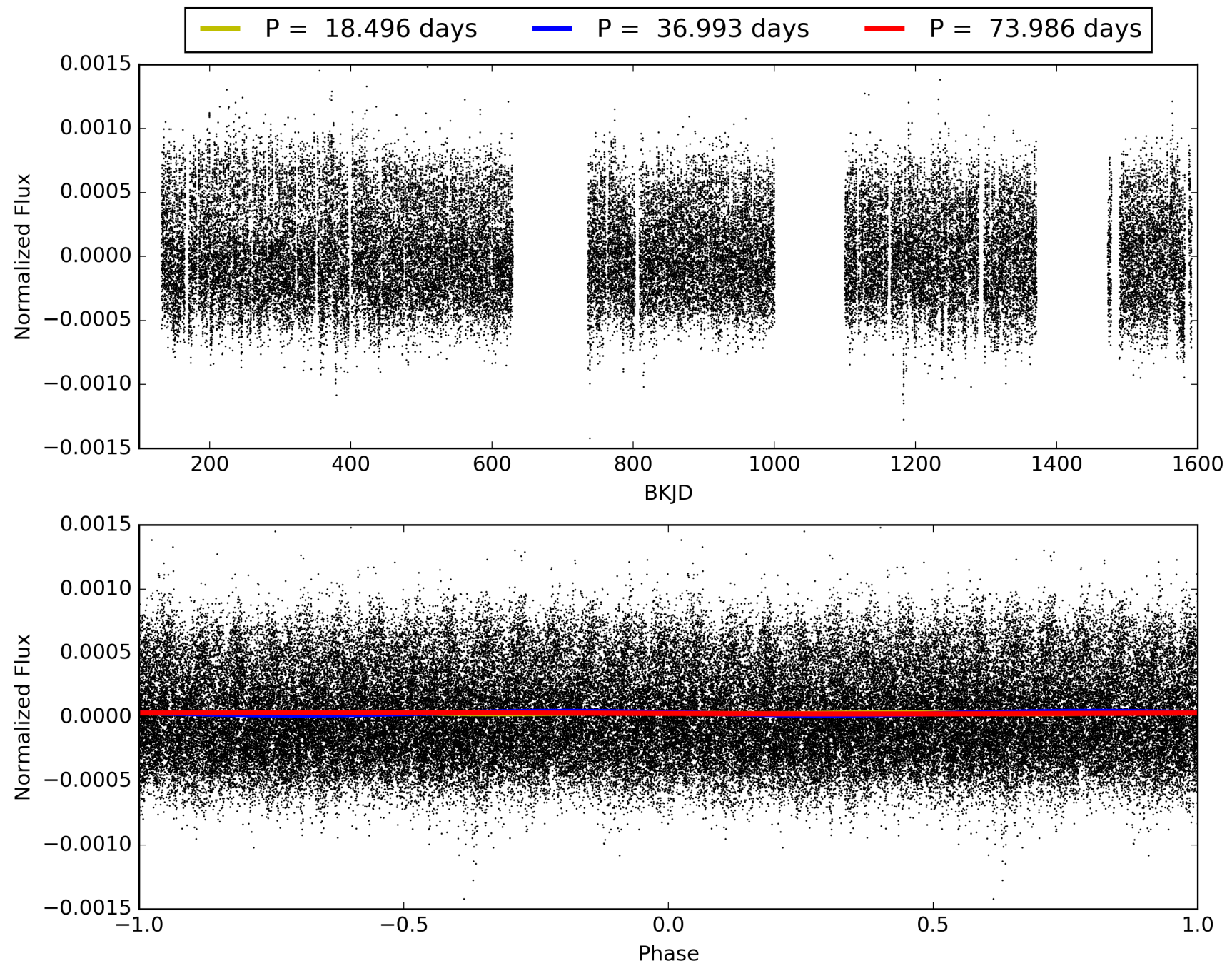
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:51:19 Z

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

TCE 010414727-03, PDC Light Curves

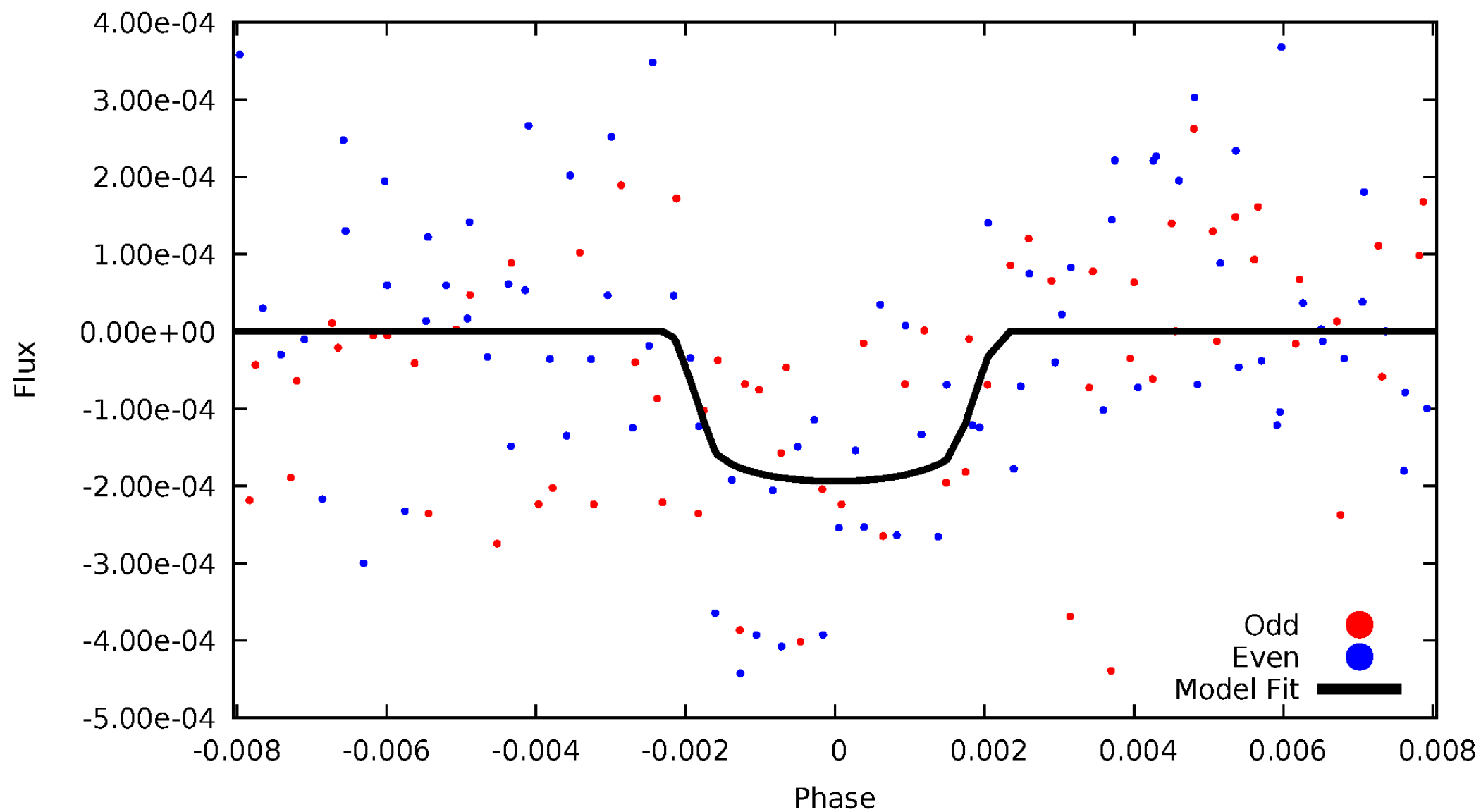


TCE 010414727-03



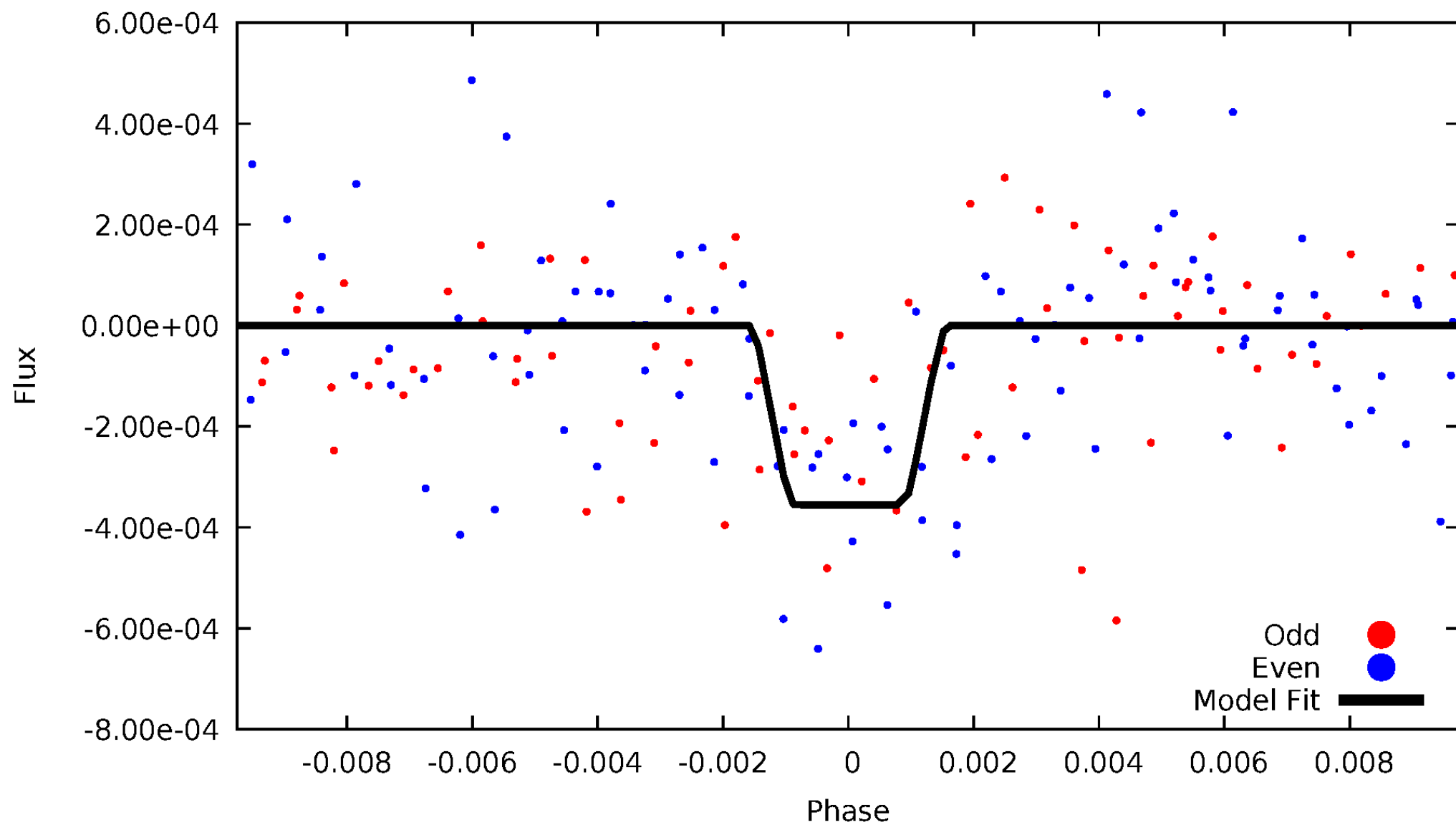
DV Odd/Even

TCE 010414727-03

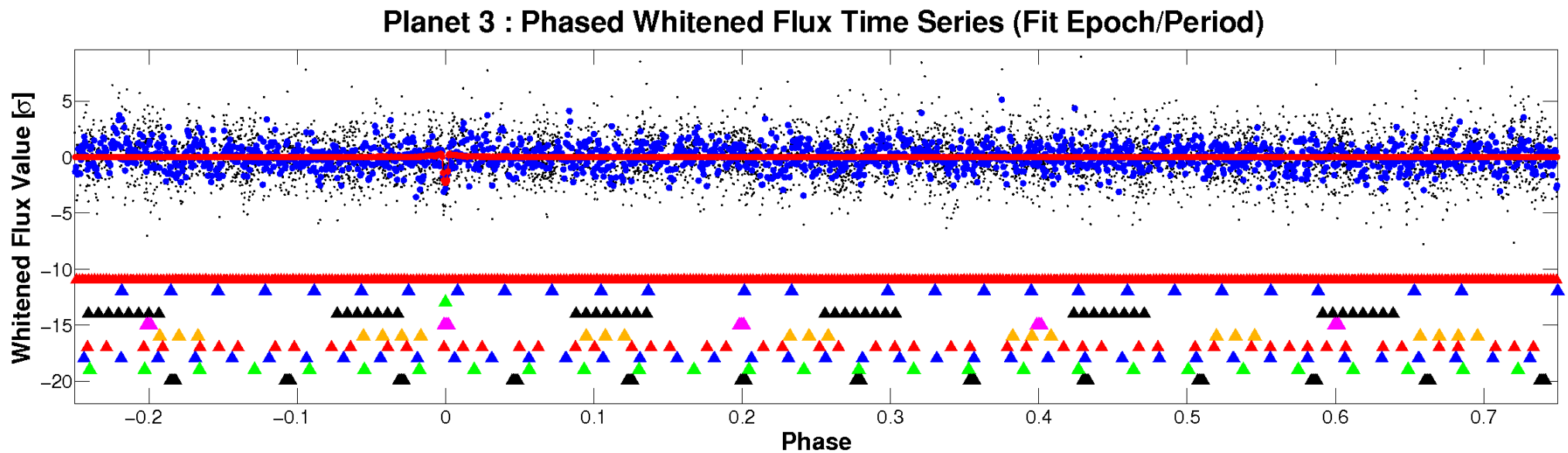
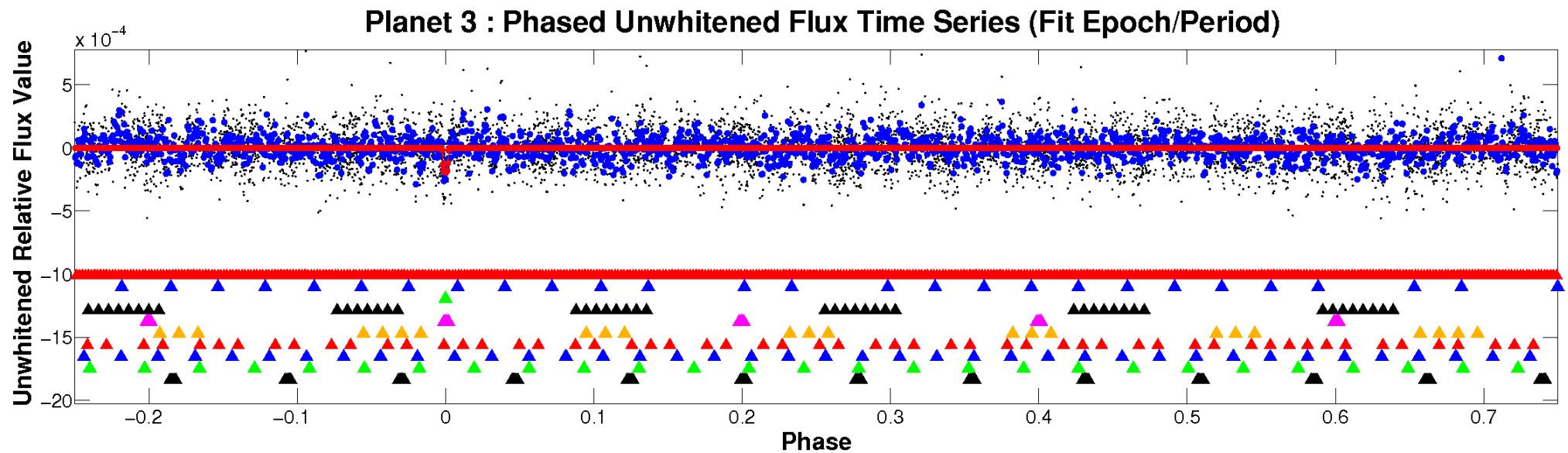


ALT Odd/Even

TCE 010414727-03

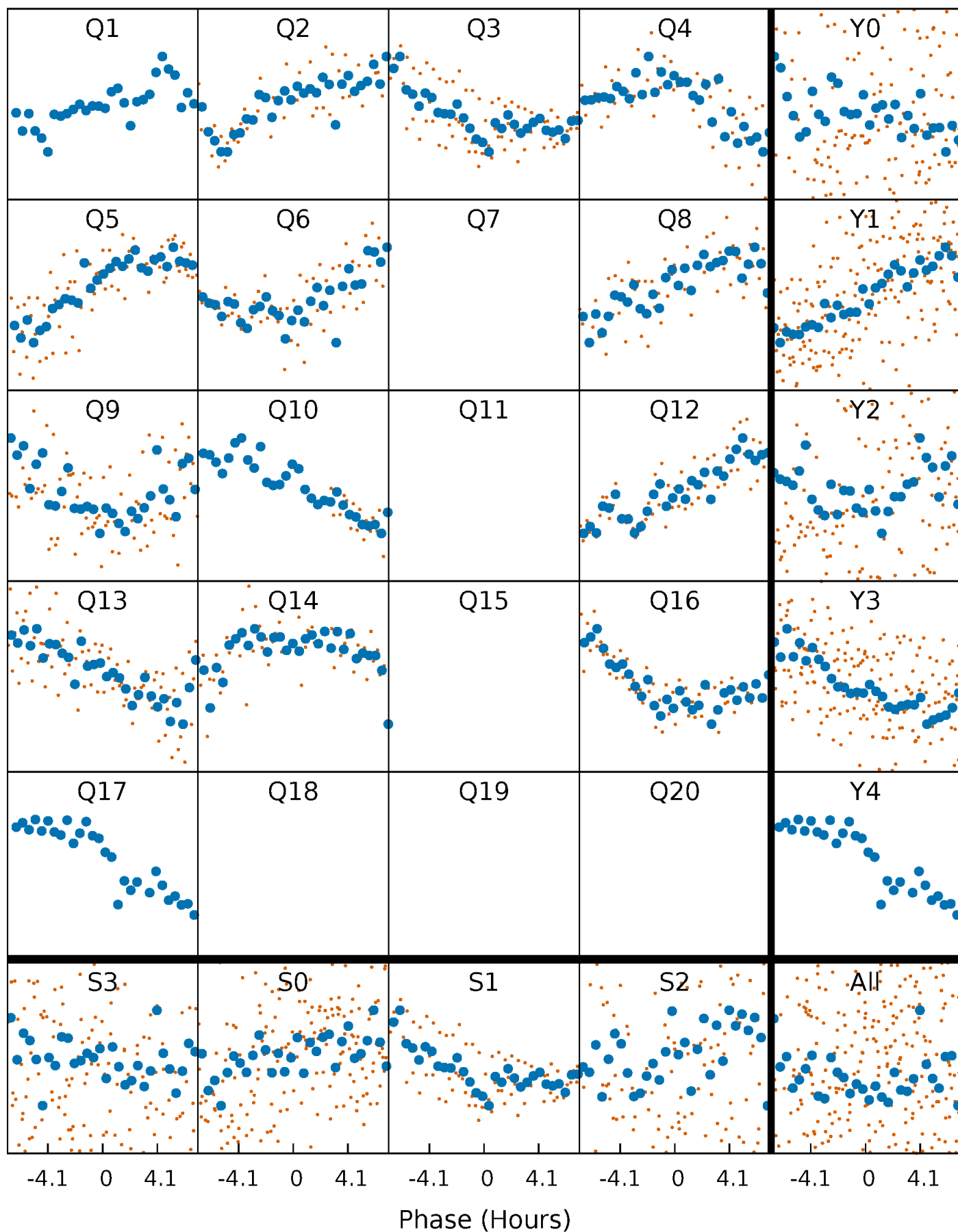


Non-Whitened Vs. Whitened Light Curve



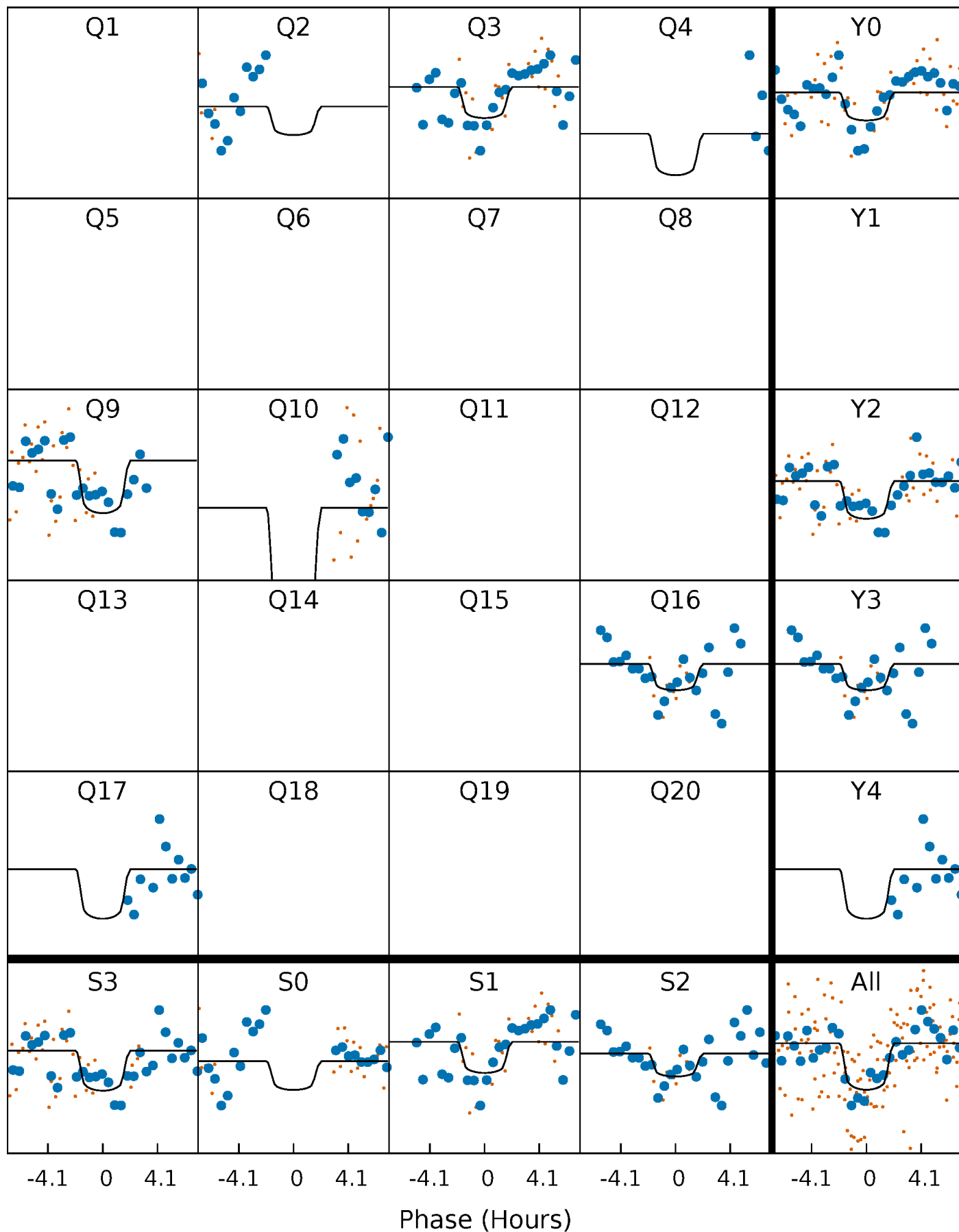
PDC Quarter-Phased Transit Curves

TCE 010414727-03 P= 36.992794 Days $T_0=160.828767$ (BKJD)



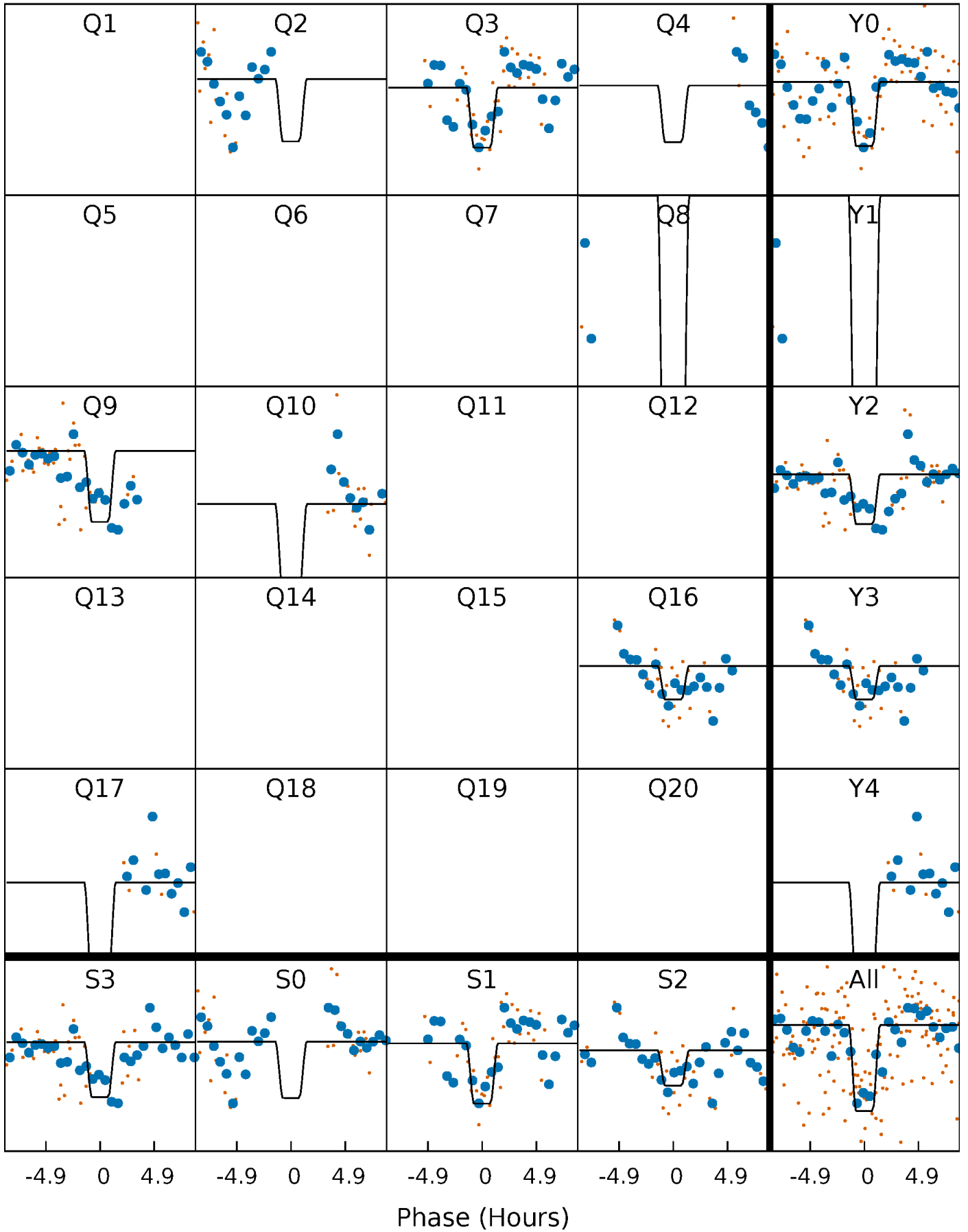
DV Quarter-Phased Transit Curves

TCE 010414727-03 P= 36.992794 Days $T_0=160.828767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

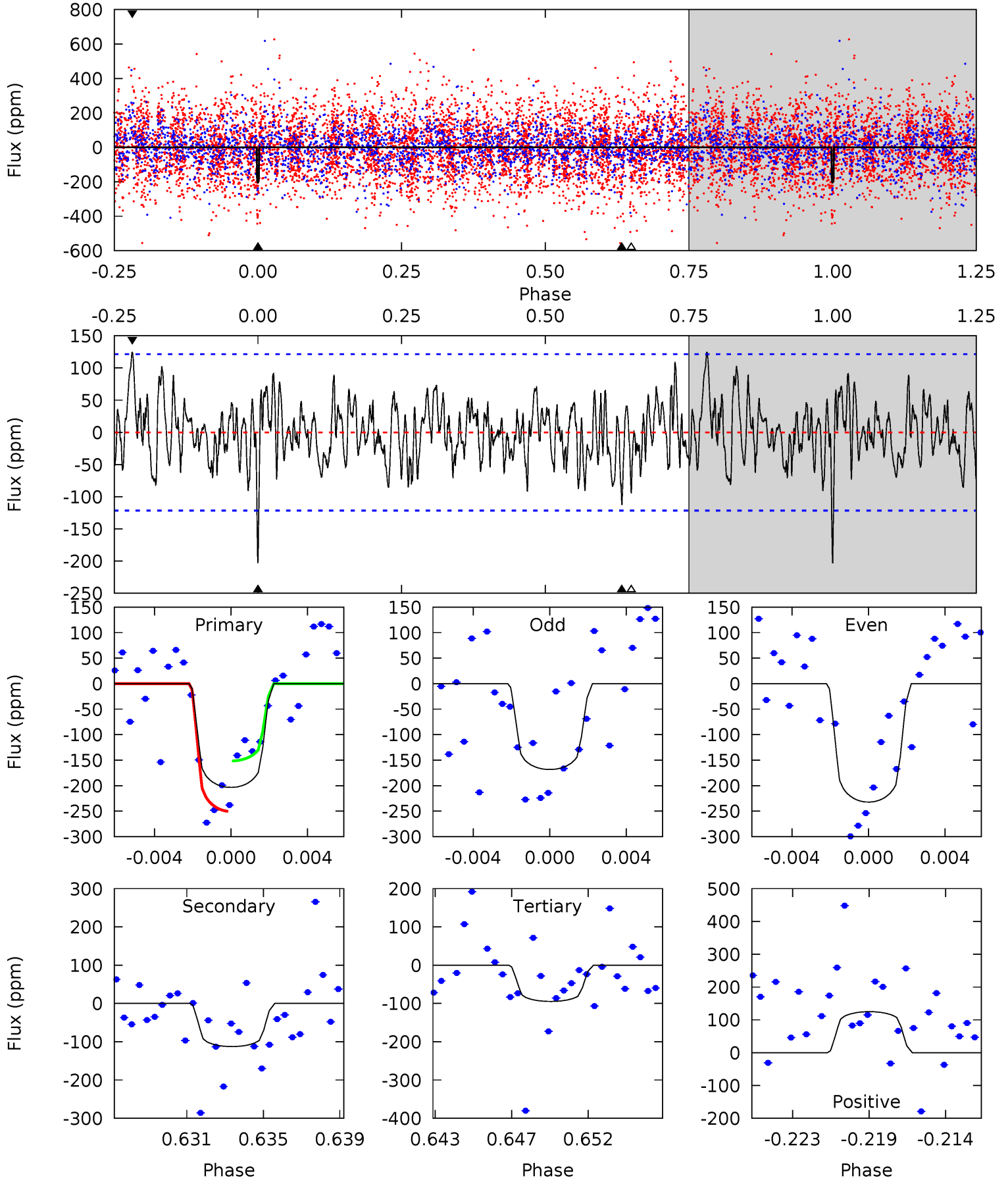
TCE 010414727-03 $P = 36.992299$ Days $T_0 = 160.825624$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-03, P = 36.992794 Days, E = 123.835973 Days

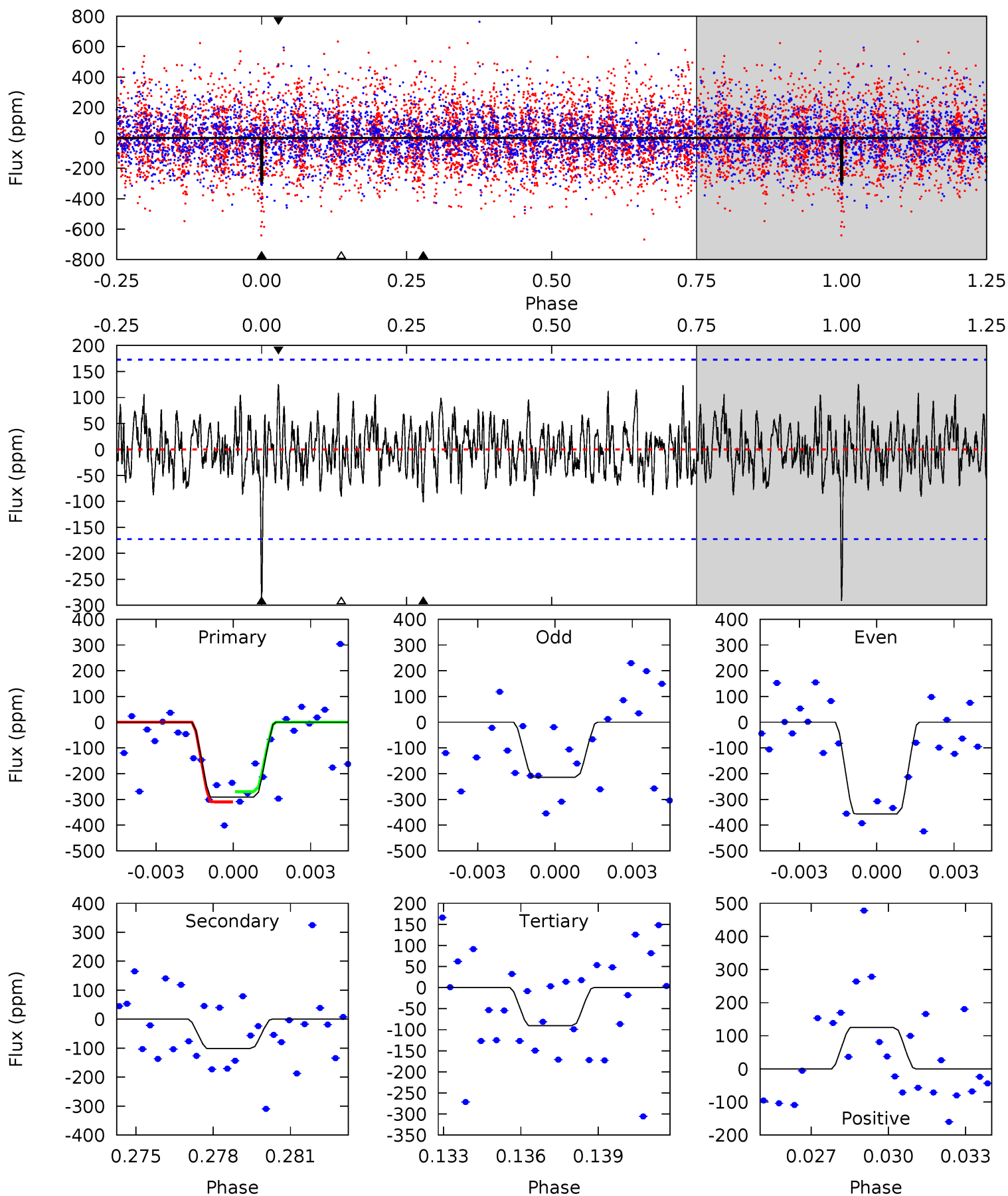
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.69	4.81	4.04	5.34	5.19	2.86	1.65	4.64	3.35	0.77	-0.52	1.36	0.96	0.38	2.10



Alt Model-Shift Uniqueness Test

010414727-03, P = 36.992299 Days, E = 123.833325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.87	3.09	2.76	3.82	5.26	2.97	1.19	6.11	5.05	0.33	-0.73	2.18	1.09	0.30	0.60



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-113 ± 23	$3.27^{+2.50}_{-1.98}$	1159^{+83}_{-75}	5498^{+3658}_{-1152}	348^{+1924}_{-240}
Alt.	-101 ± 33	$3.71^{+2.67}_{-2.14}$	1154^{+93}_{-71}	5036^{+2673}_{-972}	237^{+1052}_{-158}

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 $A_{obs} \gg 1.0$

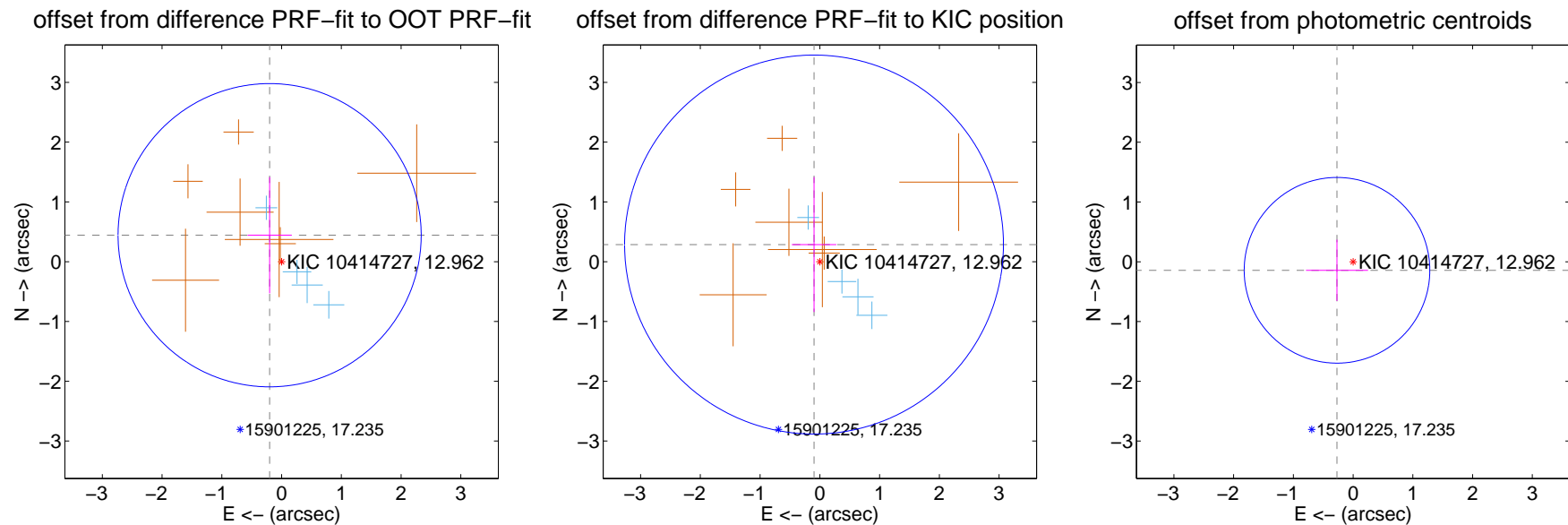
DV Centroid Data

Supplemental centroid analysis for 010414727-03. Kepler magnitude: 12.96. Transit SNR 12.30

There are 4 quarters with good PRF difference image offsets

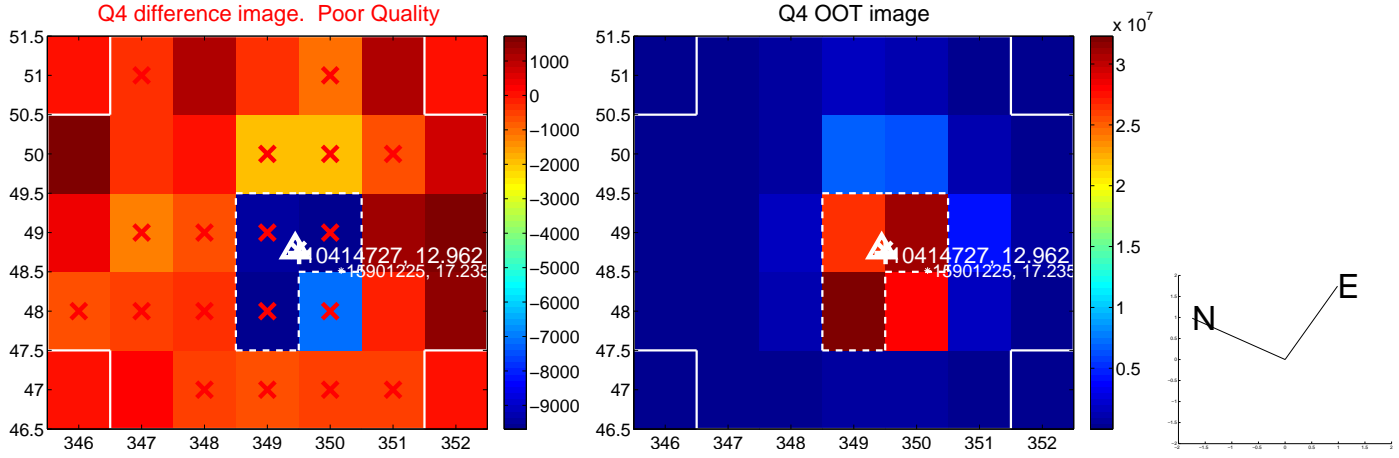
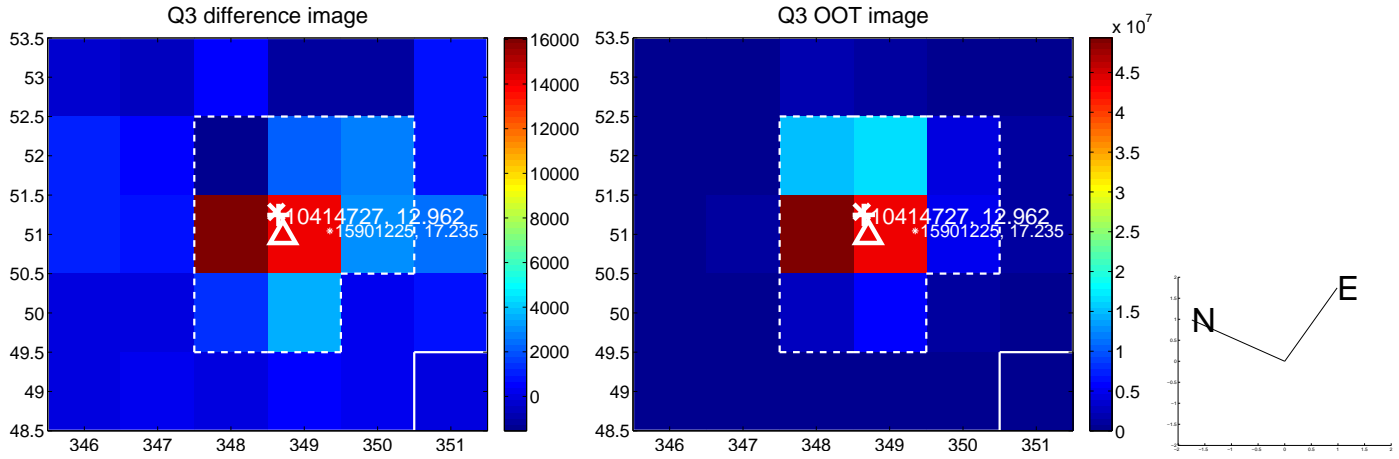
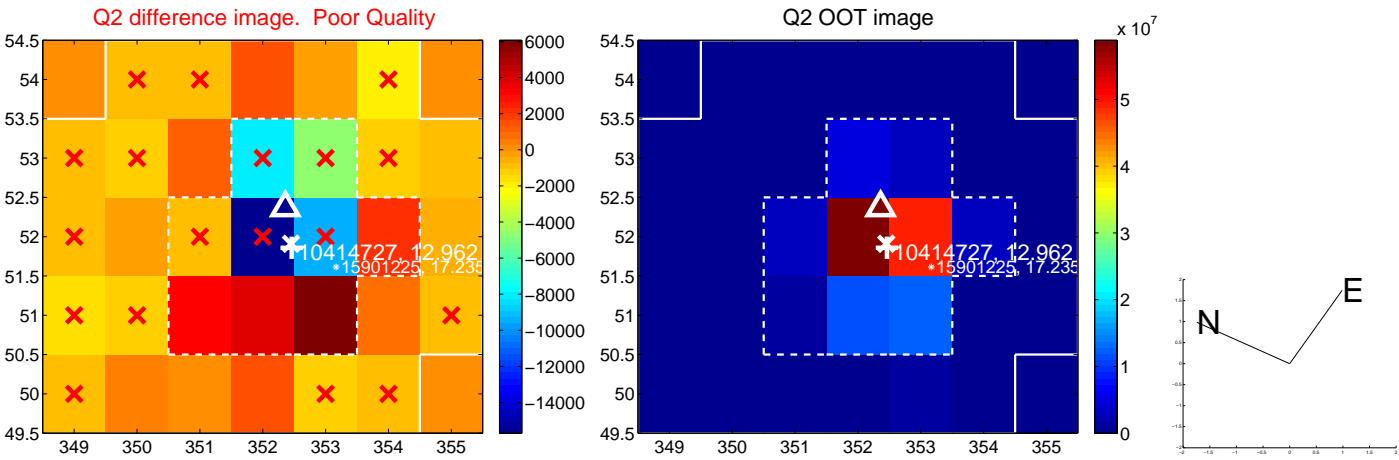
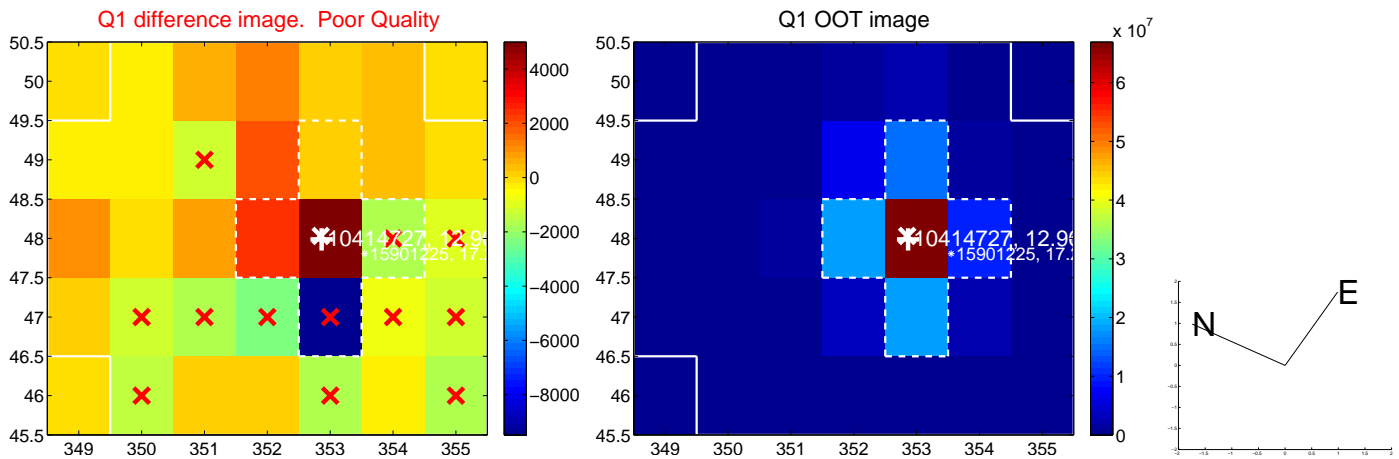
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.486 ± 0.845	0.57	0.200 ± 0.370	0.443 ± 0.972
PRF-fit source offset from KIC position	0.303 ± 1.056	0.29	0.097 ± 0.372	0.286 ± 1.128
photometric centroid source offset	0.31 ± 0.52	0.59	0.27 ± 0.52	-0.14 ± 0.51

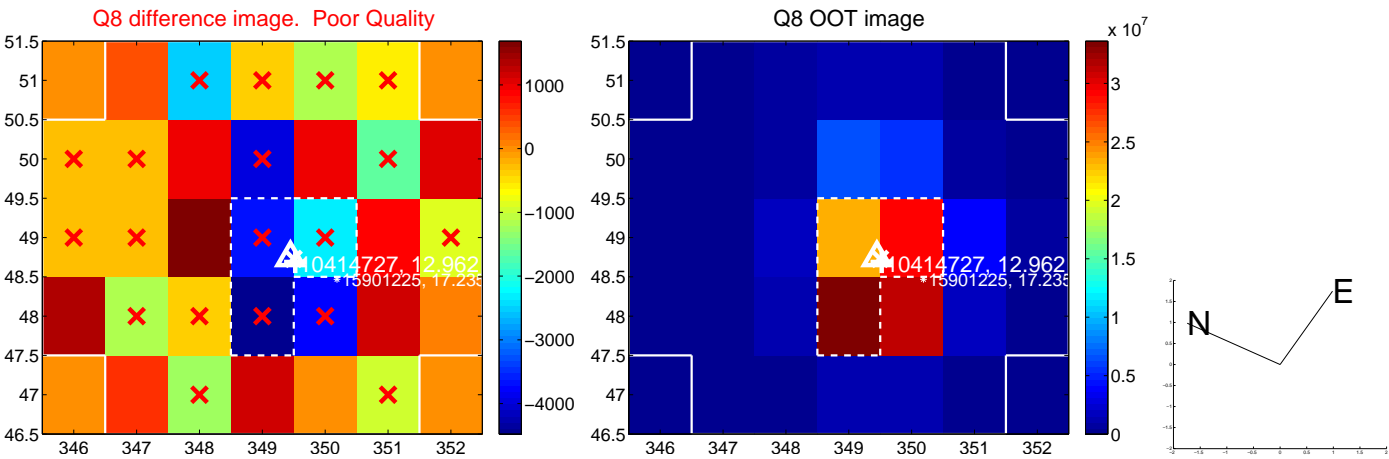
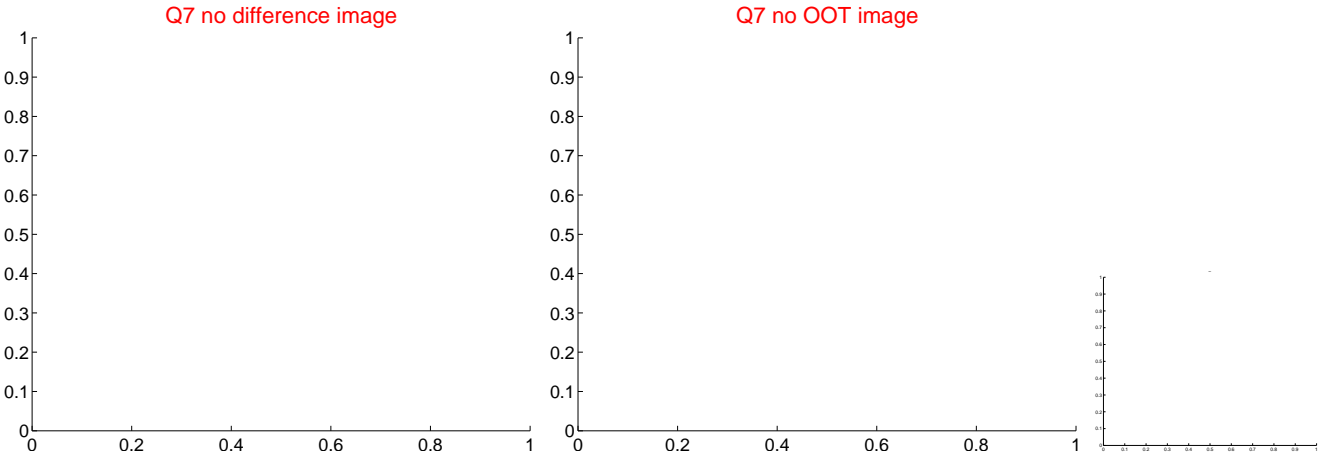
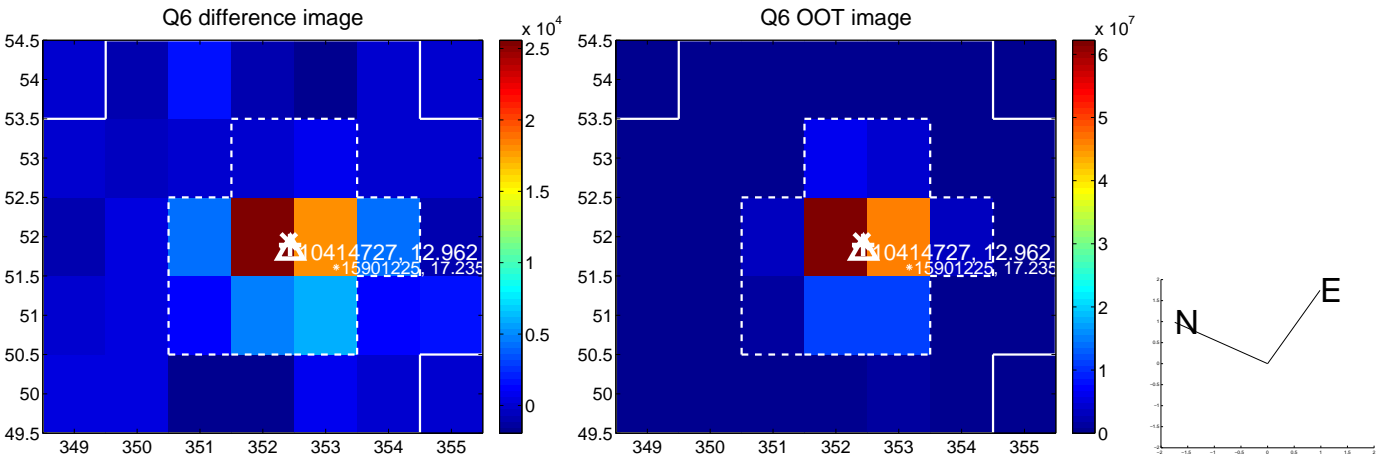
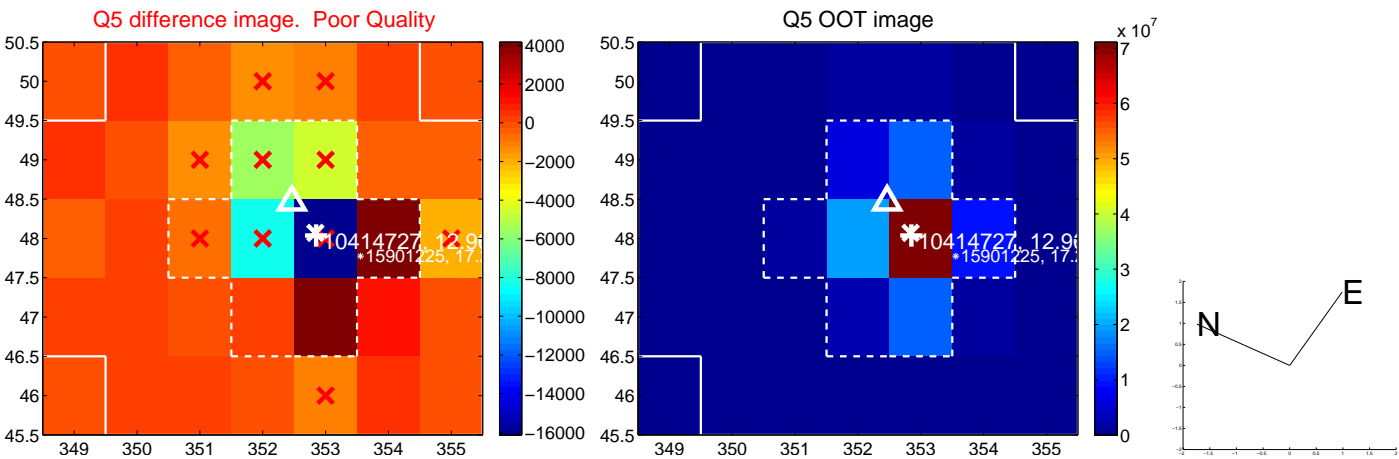


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

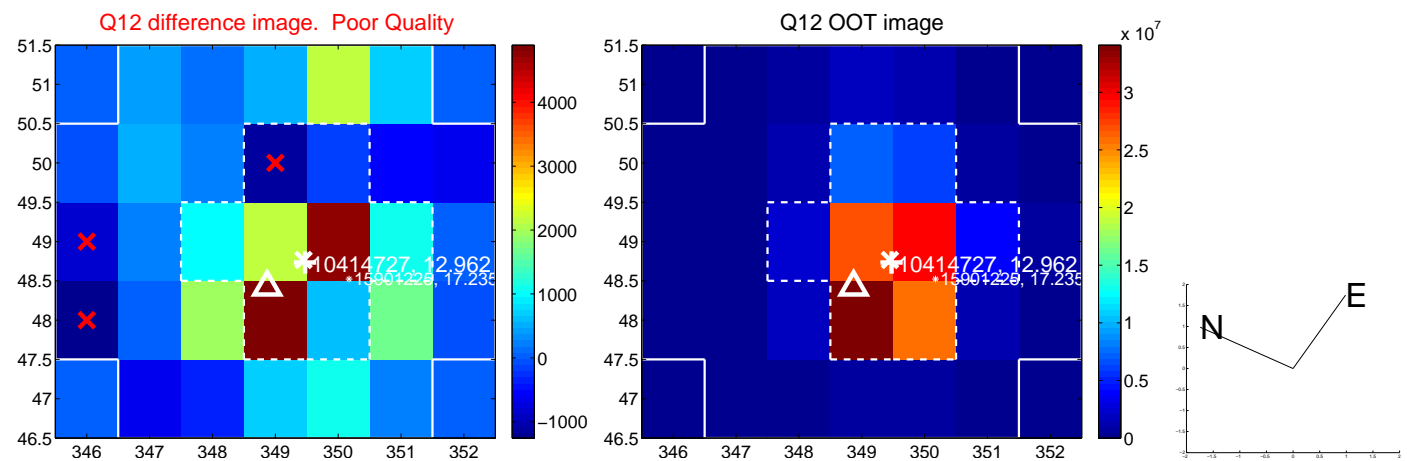
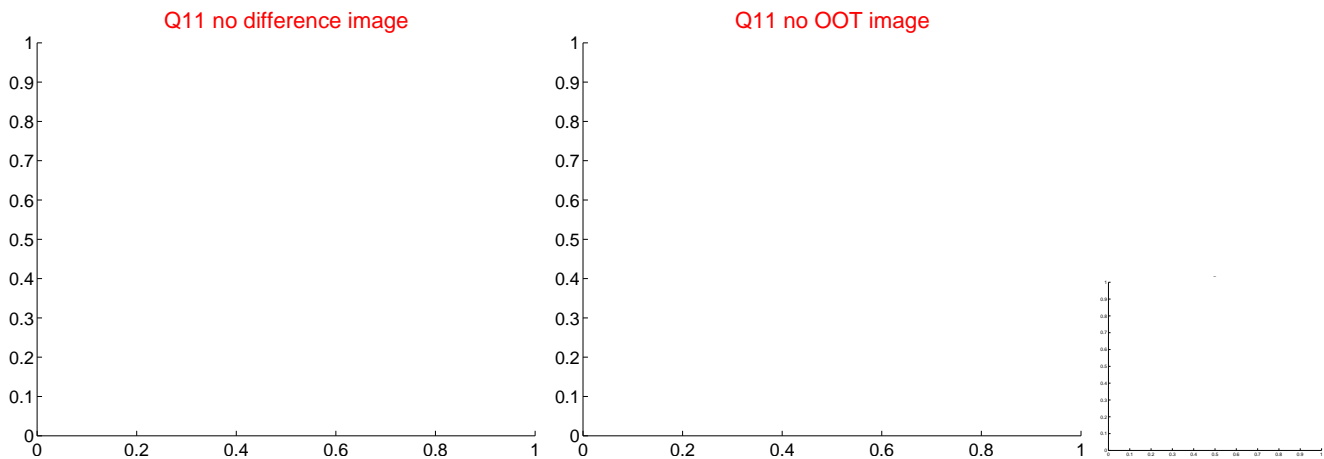
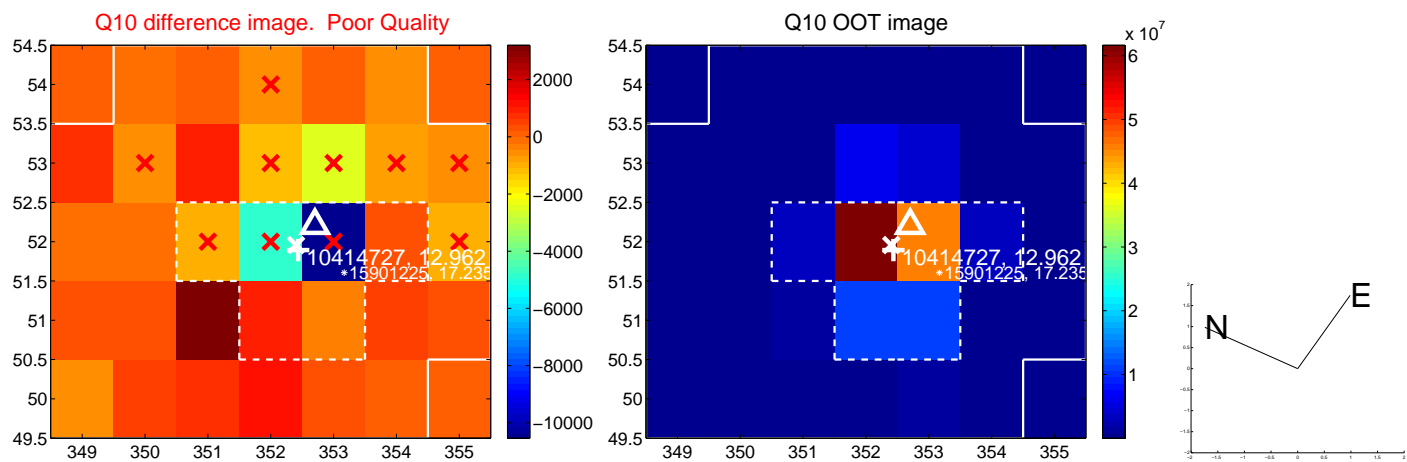
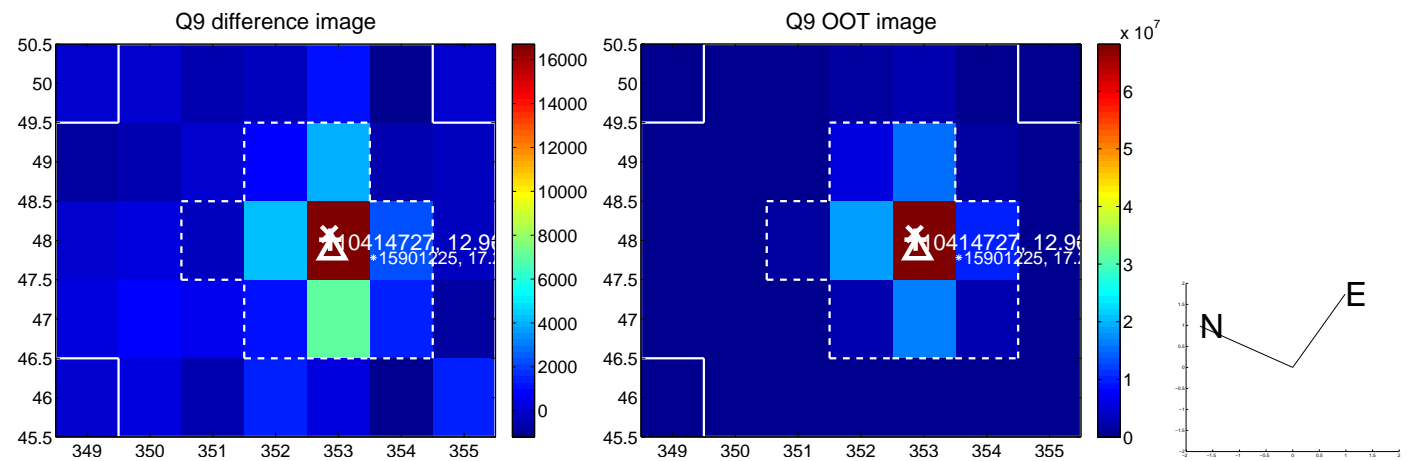
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



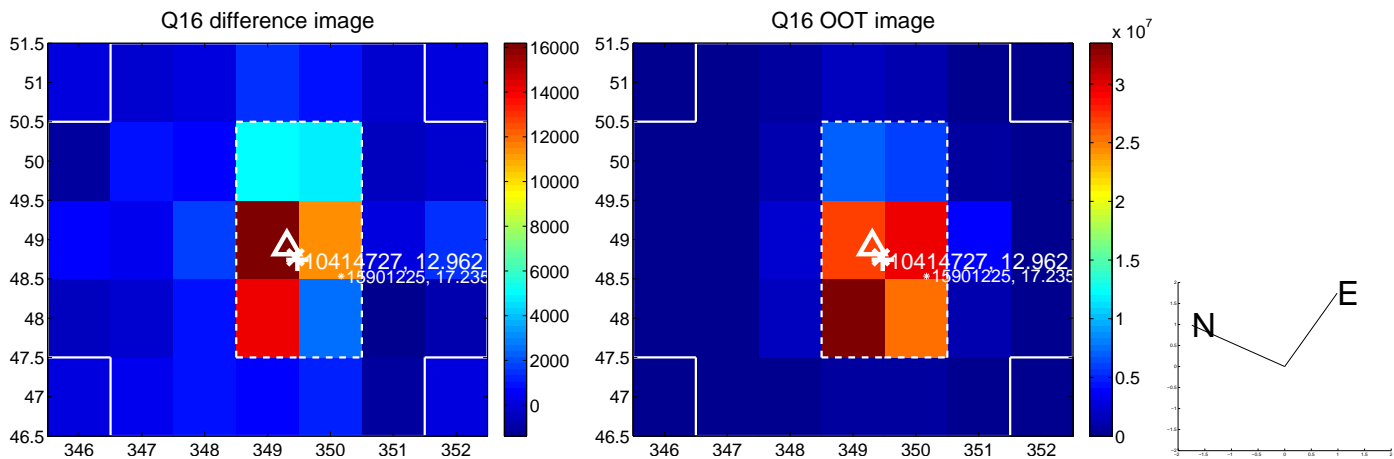
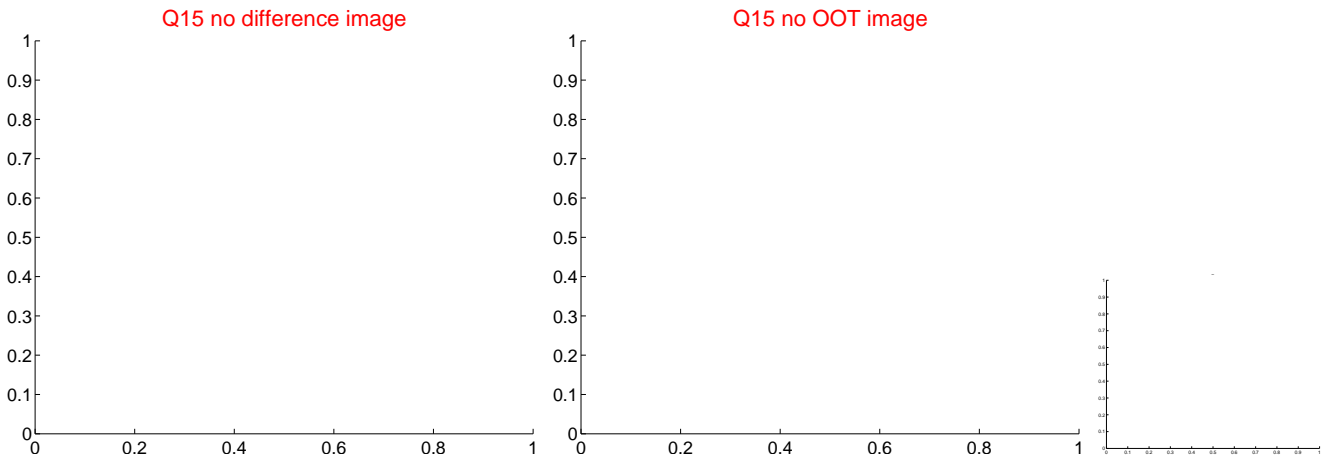
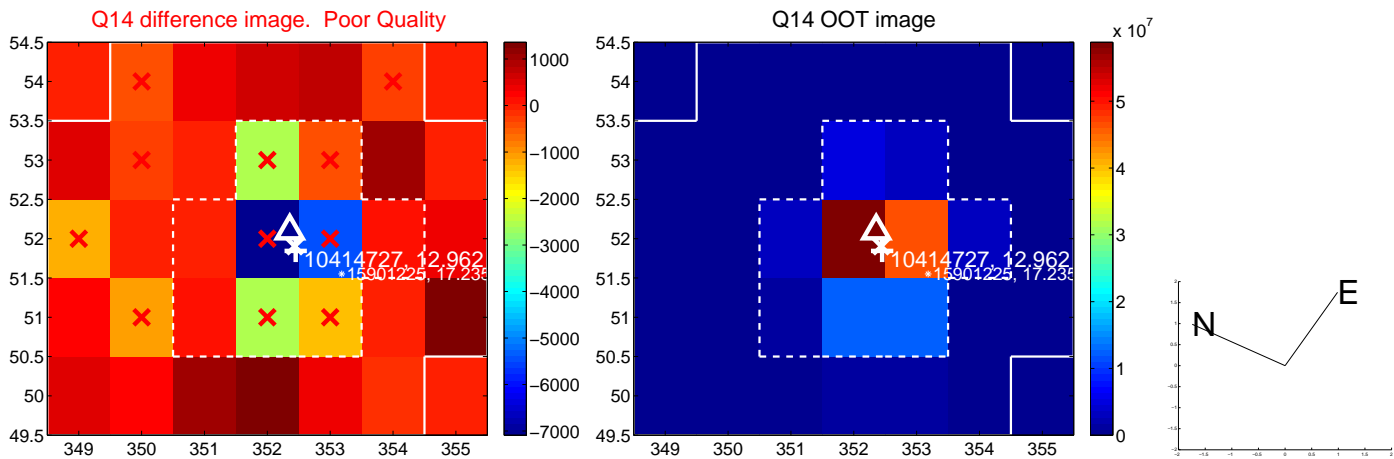
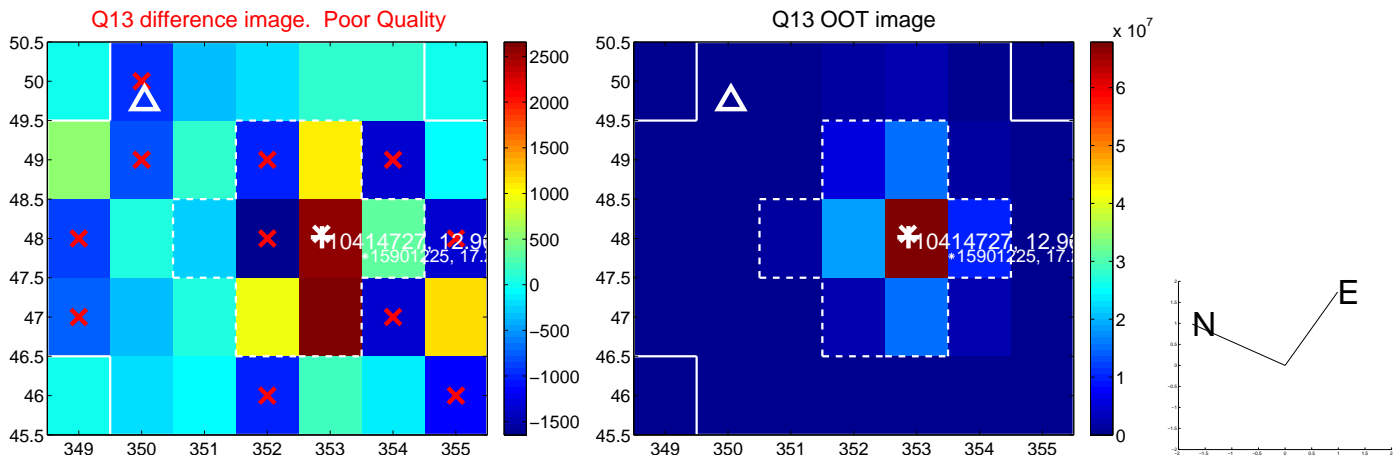
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



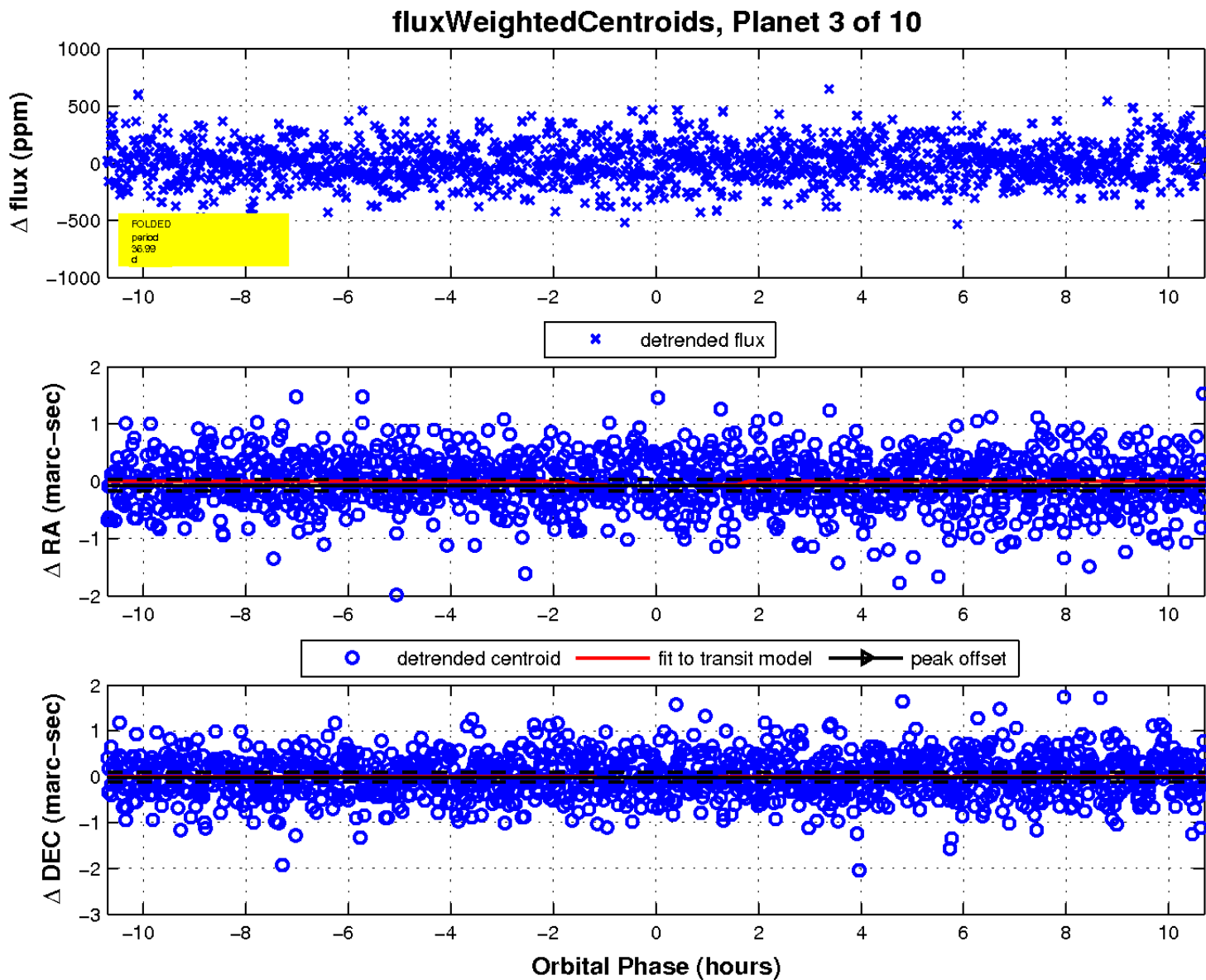
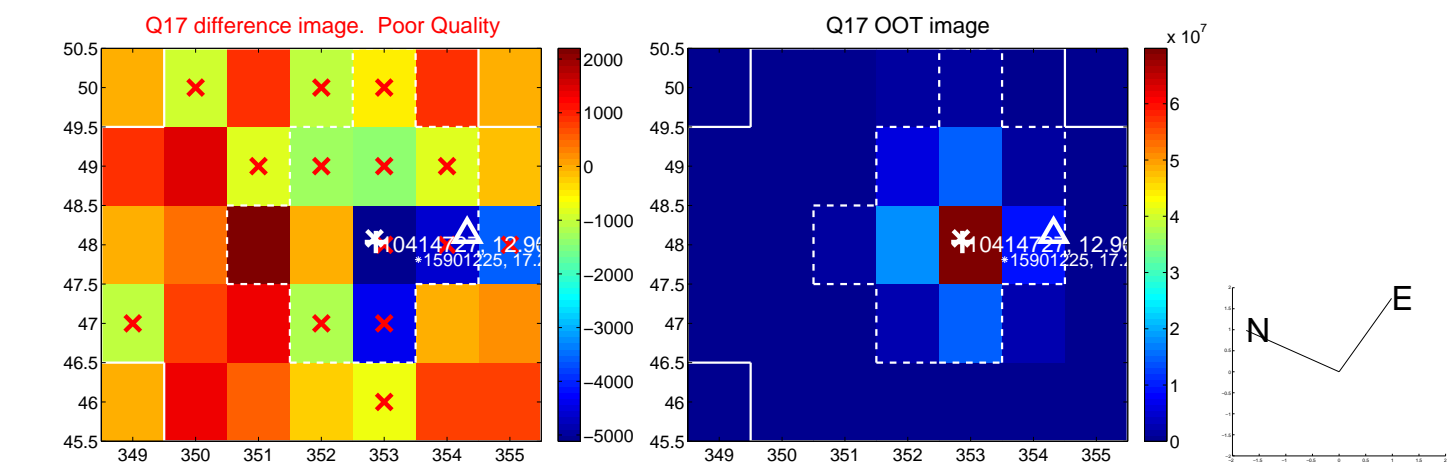
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

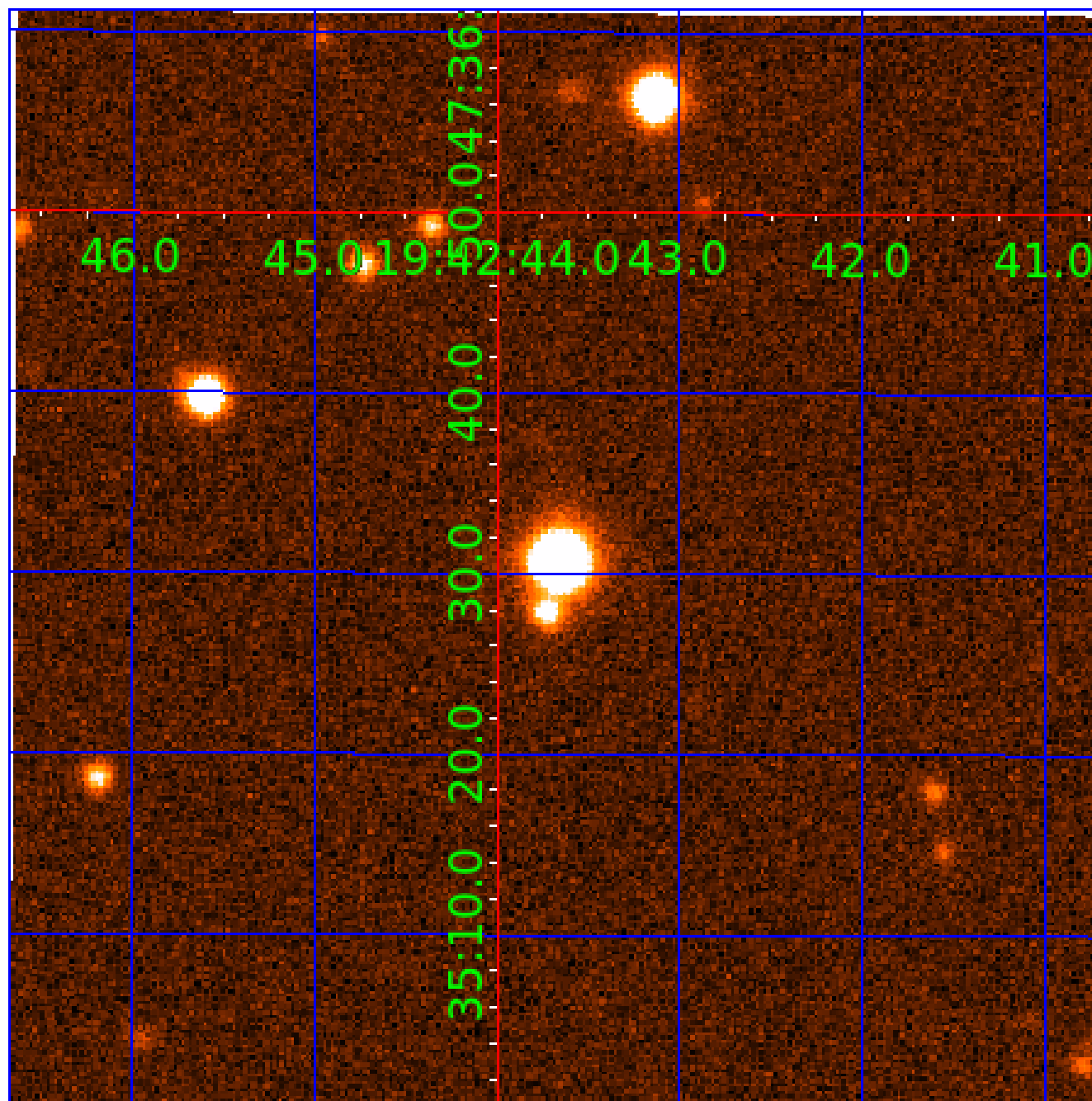


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010414727-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

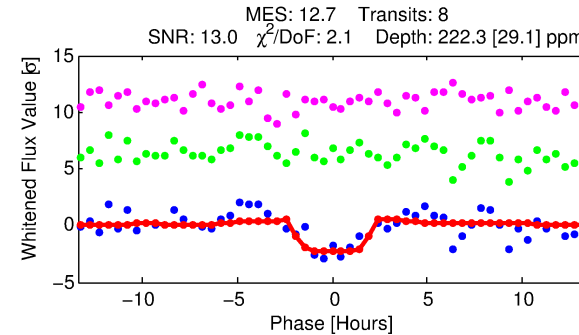
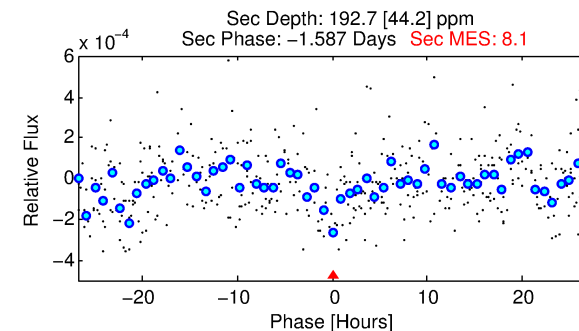
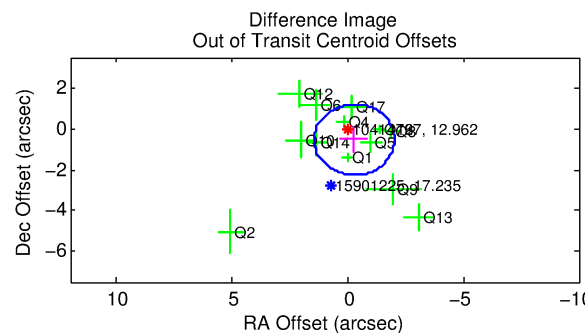
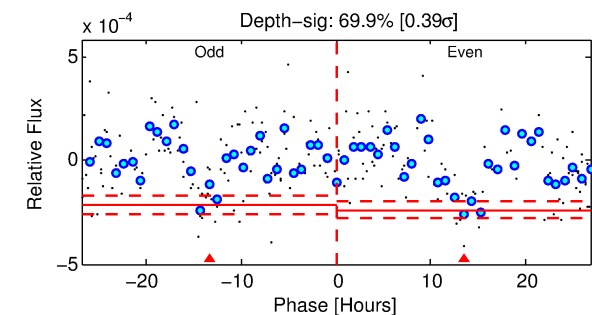
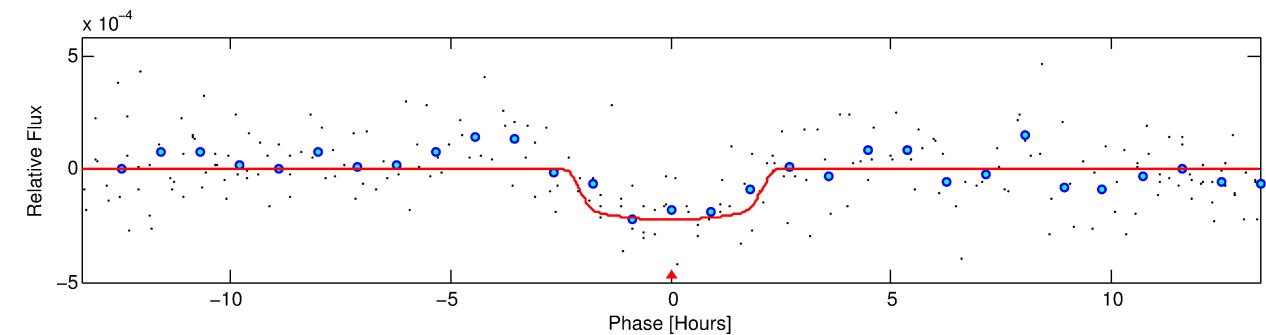
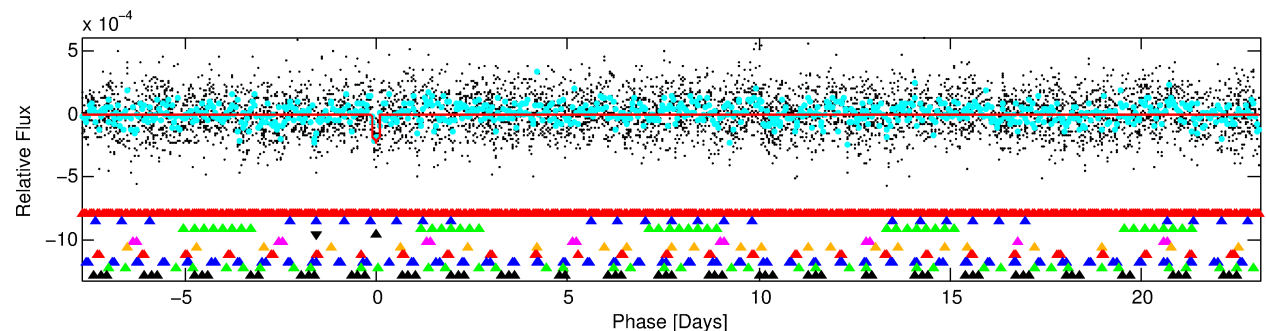
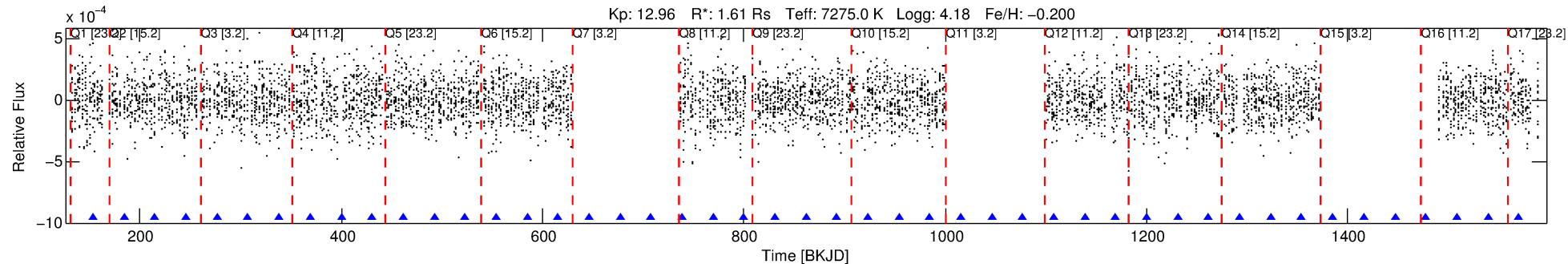
Ephemeris Match Information For 010414727-04

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 4 of 10 Period: 30.785 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



DV Fit Results:

Period = 30.78550 [0.00048] d
Epoch = 153.6797 [0.0110] BKJD
Rp/R* = 0.0156 [0.0049]
a/R* = 27.15 [50.93]
b = 0.88 [0.50]
Seff = 138.45 [55.02]
Teq = 875 [87] K
Rp = 2.74 [1.25] Re
a = 0.2165 [0.0568] AU
Ag = 664.18 [503.87] [1.32σ]
Teffp = 6865 [1181] K [5.06σ]

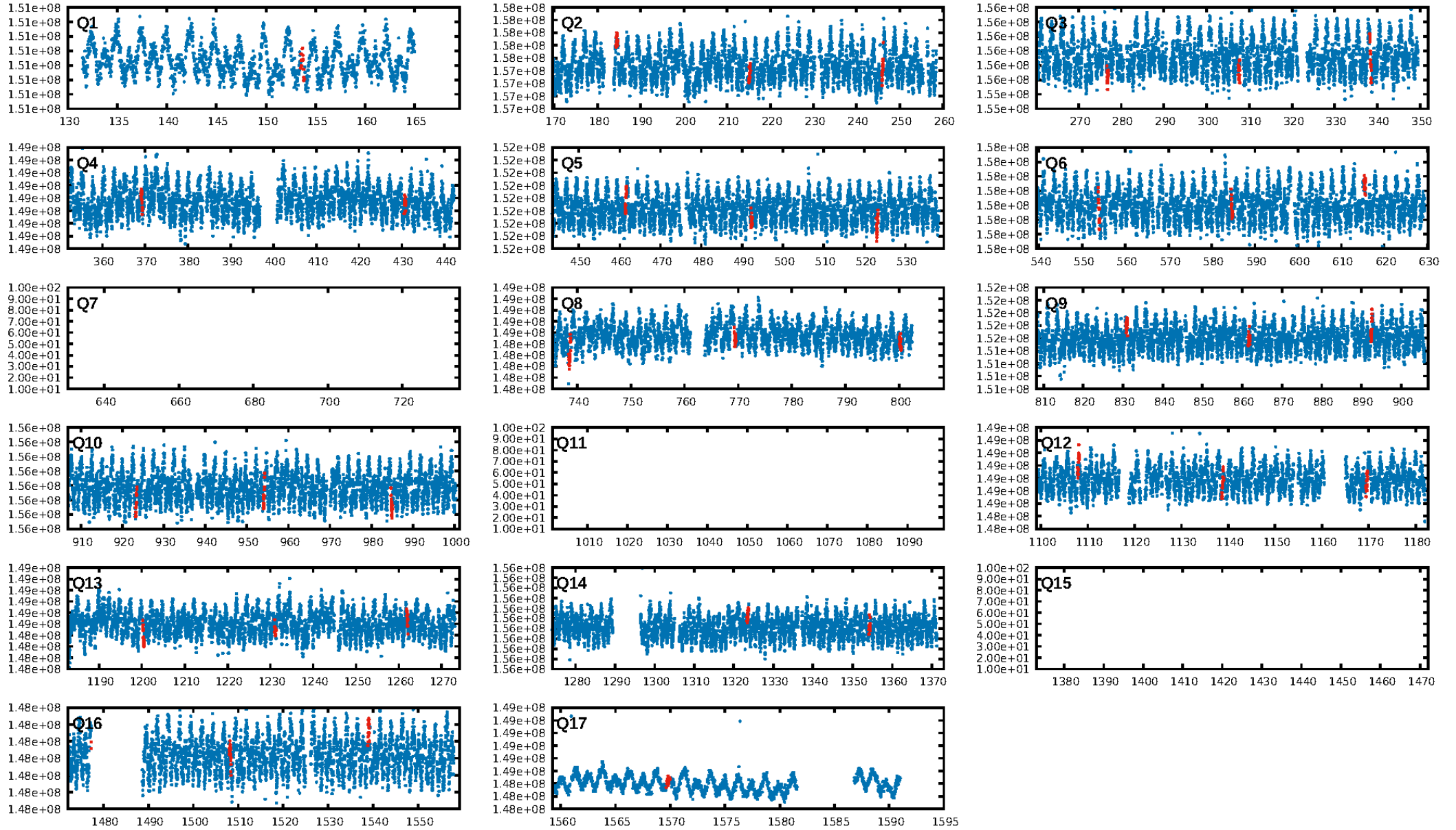
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.88σ]
LongPeriod-sig: 100.0% [23.05σ]
ModelChiSquare2-sig: 19.7%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -2.167
Centroid-sig: 25.1%
Centroid-so: 0.151 arcsec [0.41σ]
OotOffset-rm: 0.598 arcsec [1.03σ]
OotOffset-st: 4/0/4/5 [13]
KicOffset-rm: 0.772 arcsec [1.50σ]
KicOffset-st: 4/0/4/5 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 0.43 [6/14]

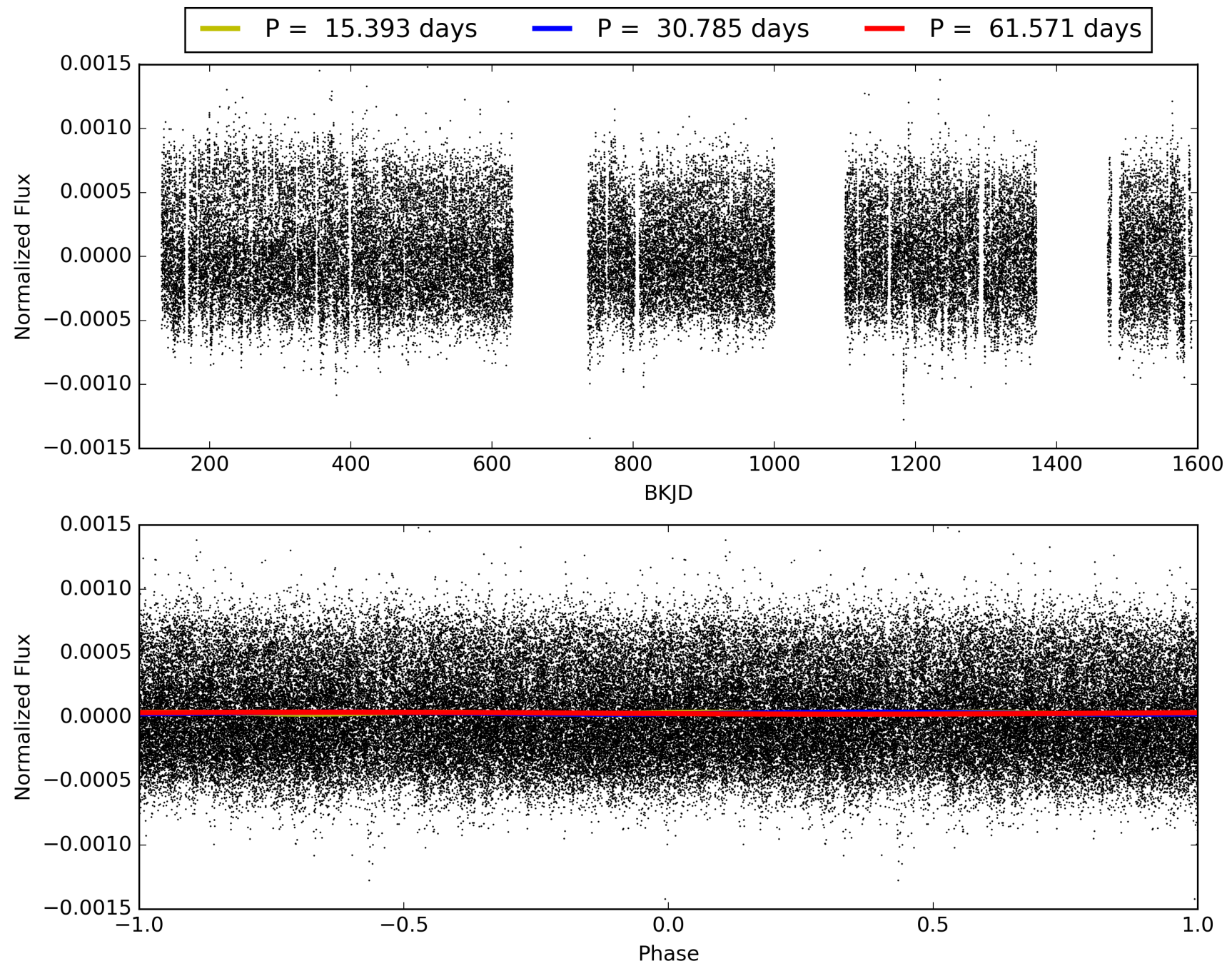
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:51:22 Z

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

TCE 010414727-04, PDC Light Curves

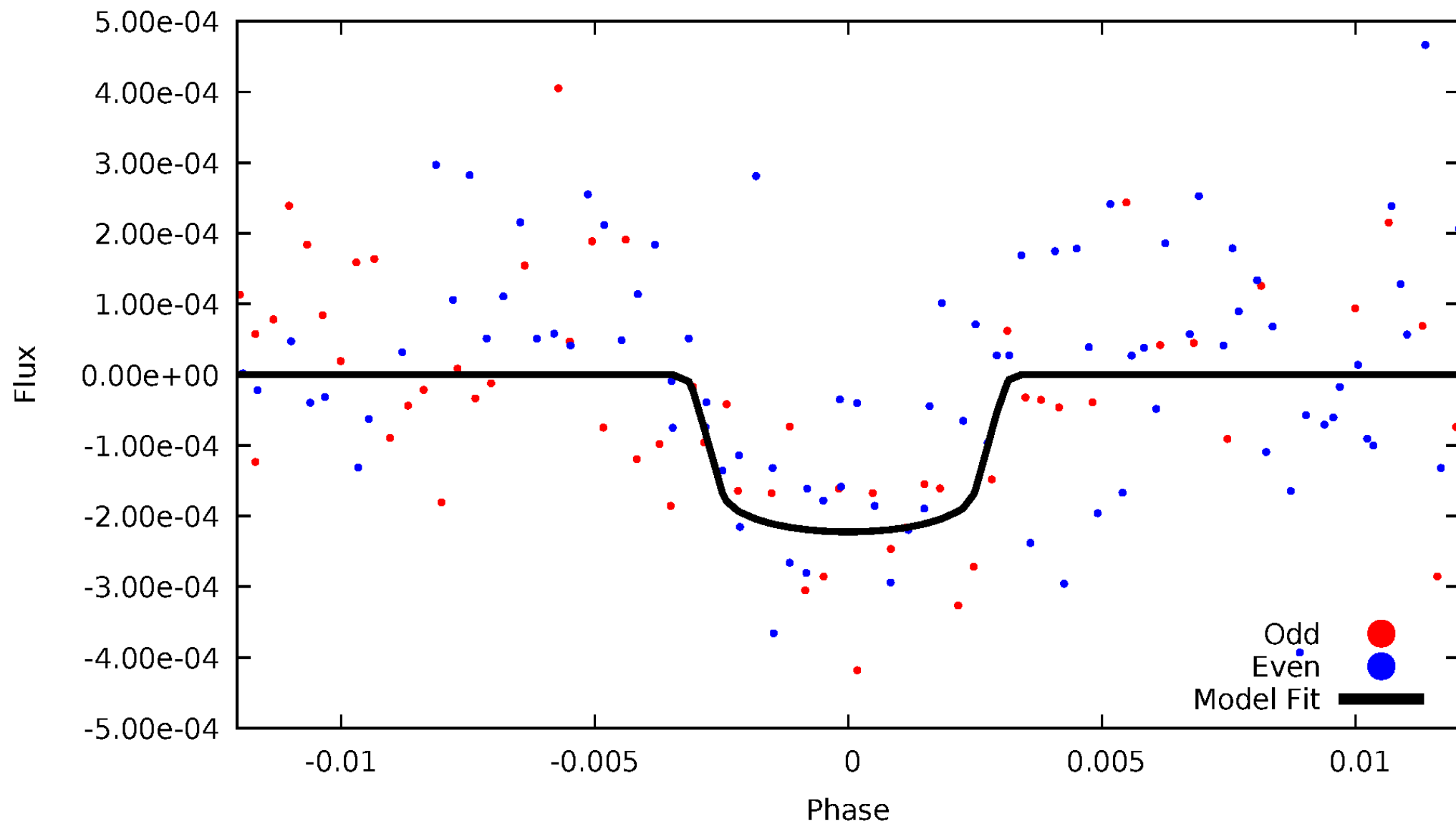


TCE 010414727-04



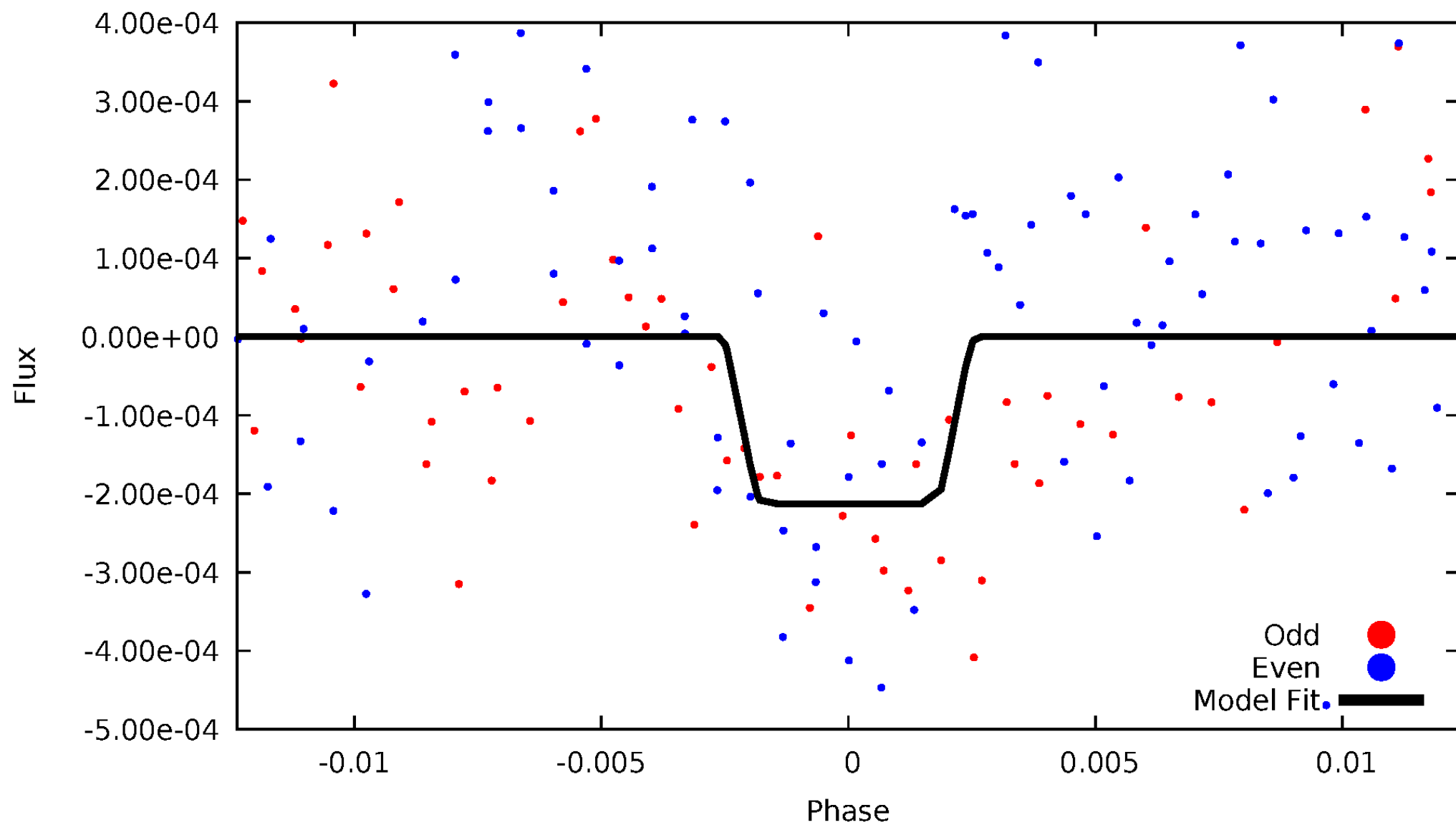
DV Odd/Even

TCE 010414727-04



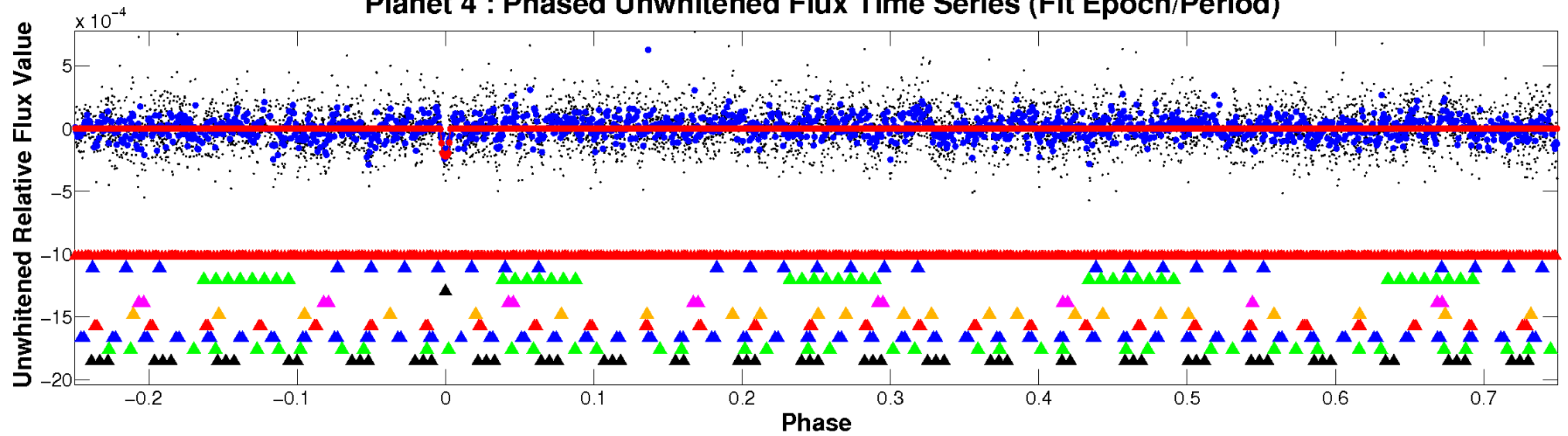
ALT Odd/Even

TCE 010414727-04

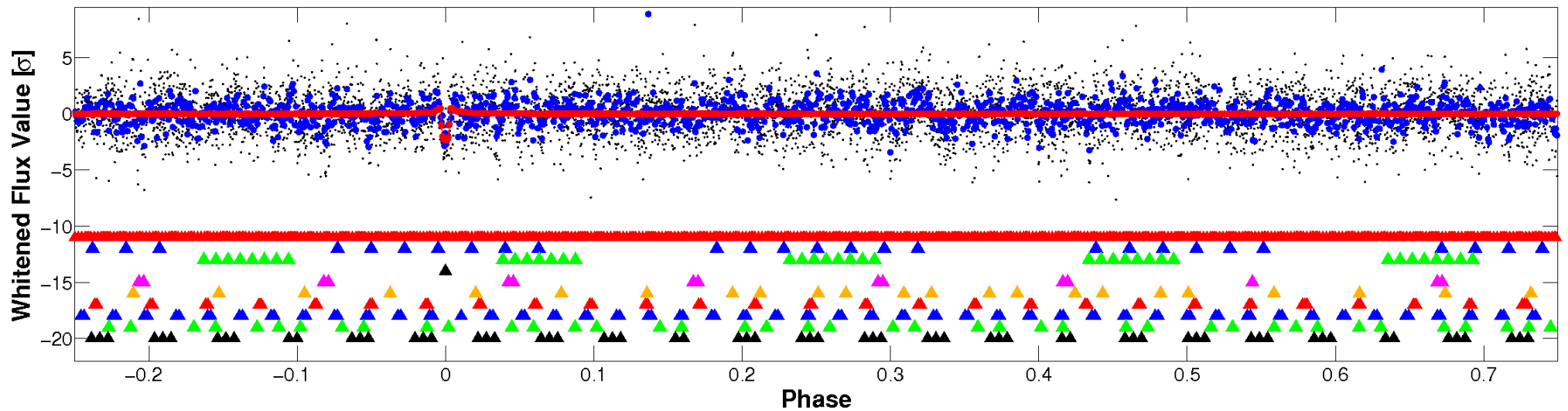


Non-Whitened Vs. Whitened Light Curve

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

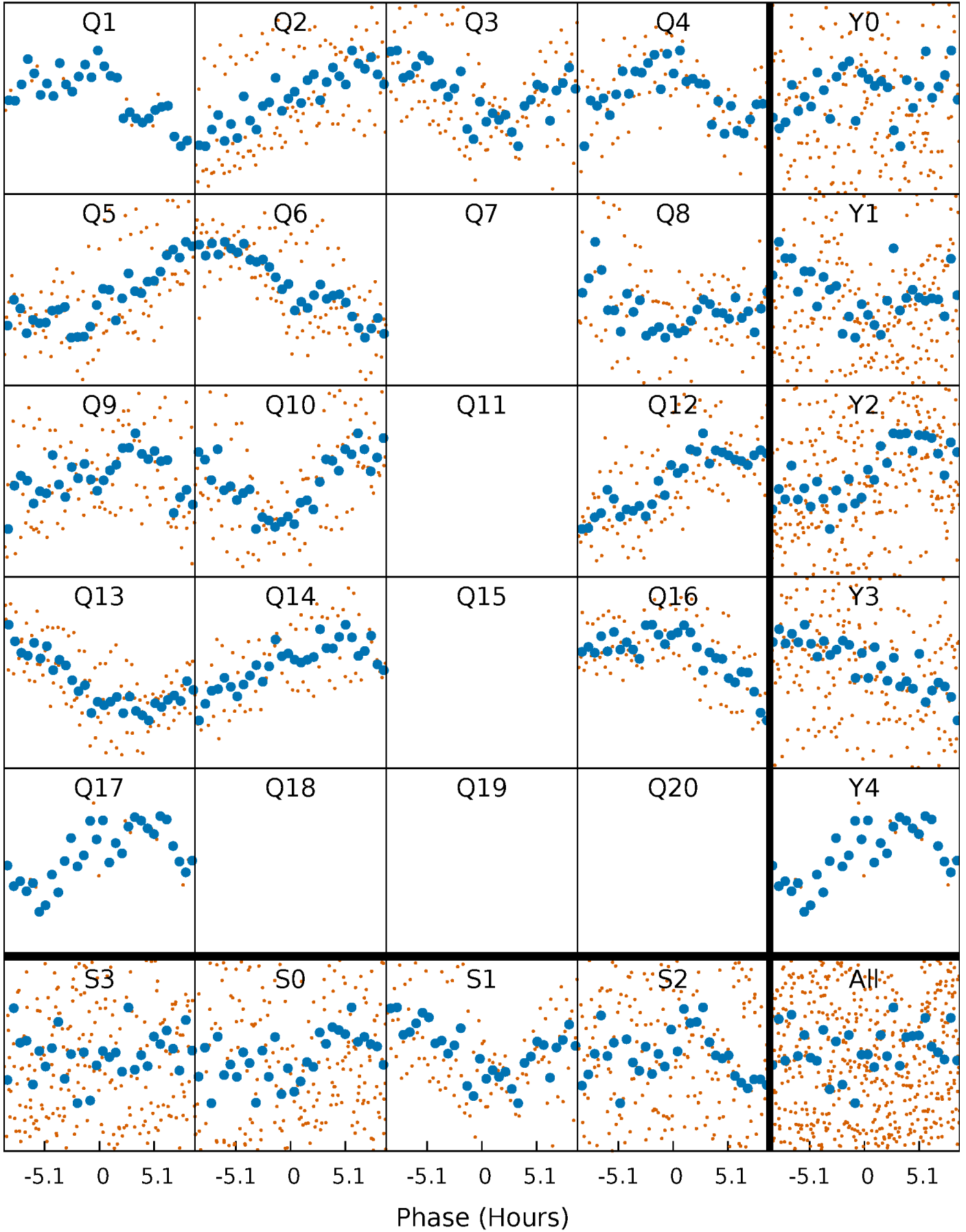


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



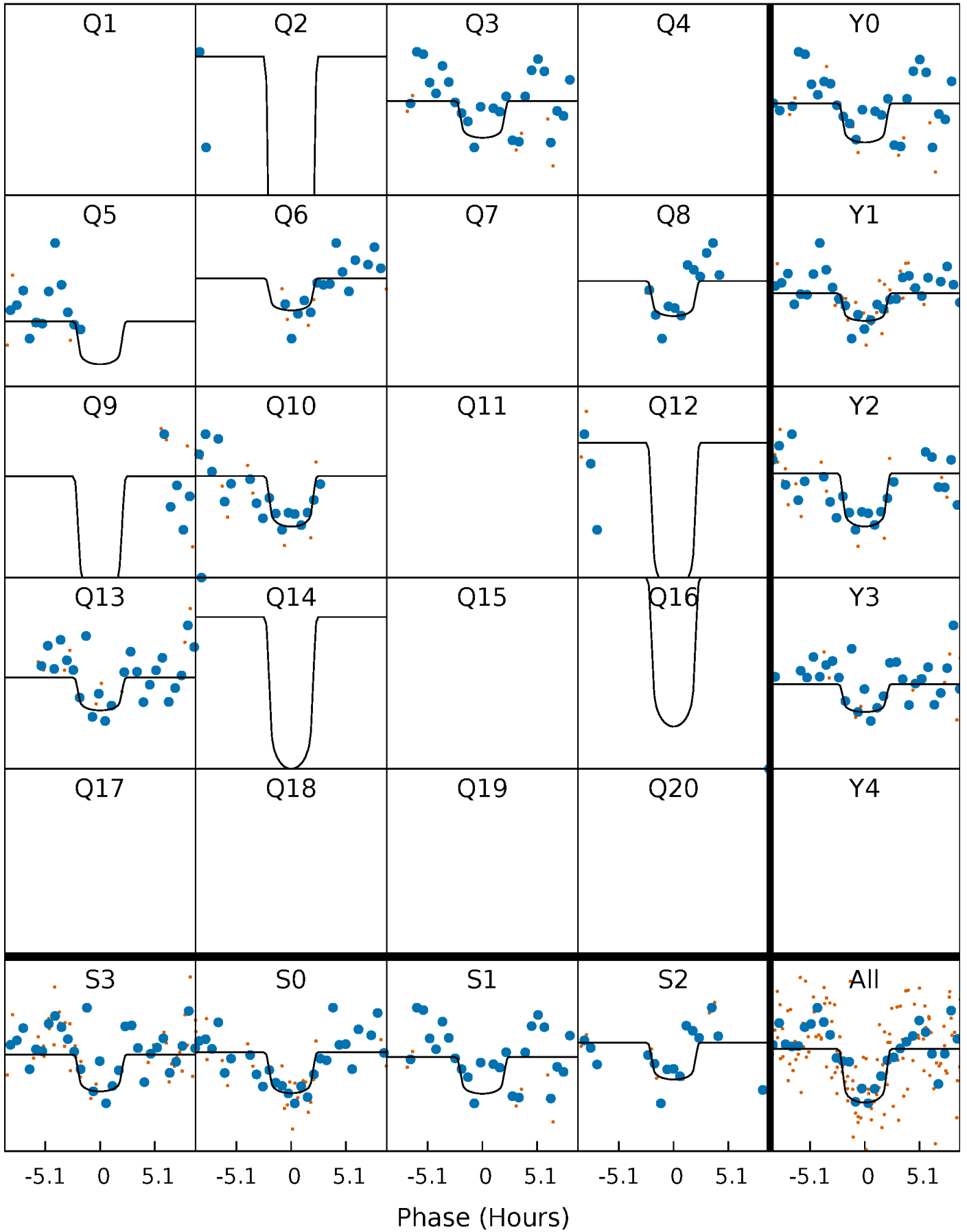
PDC Quarter-Phased Transit Curves

TCE 010414727-04 P= 30.785495 Days $T_0=153.679687$ (BKJD)



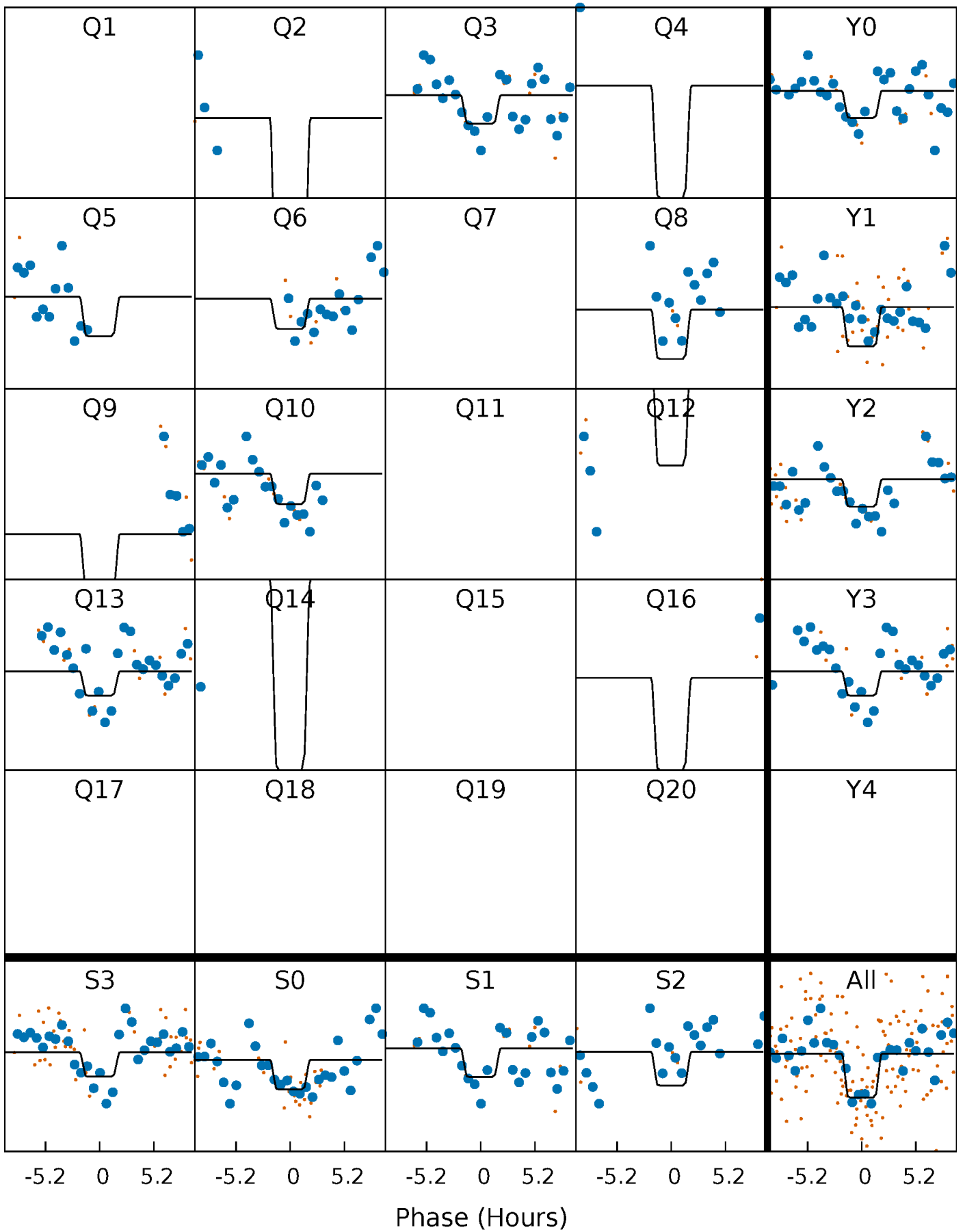
DV Quarter-Phased Transit Curves

TCE 010414727-04 $P = 30.785495$ Days $T_0 = 153.679687$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

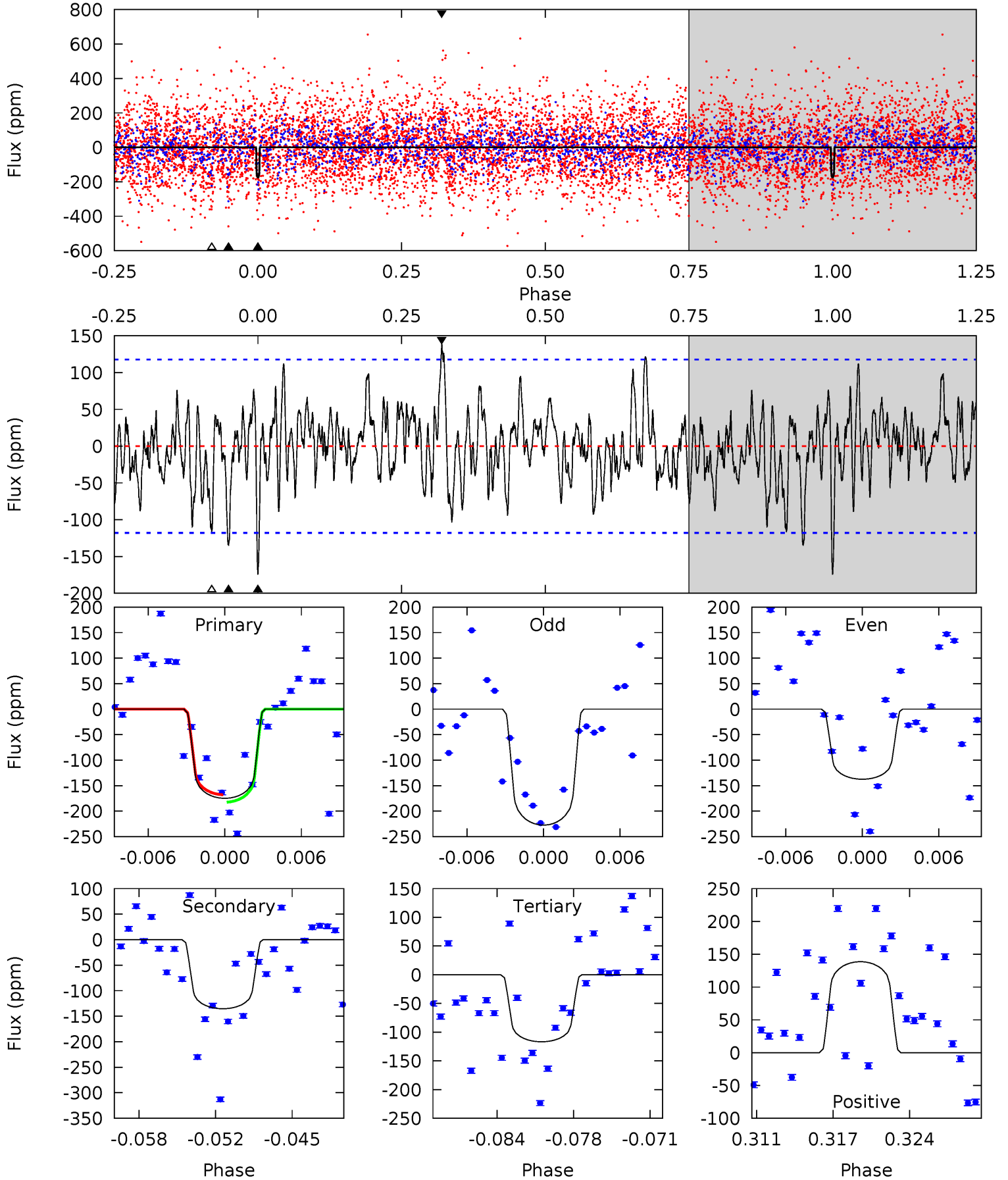
TCE 010414727-04 P= 30.786530 Days $T_0=153.649621$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-04, P = 30.785495 Days, E = 122.894192 Days

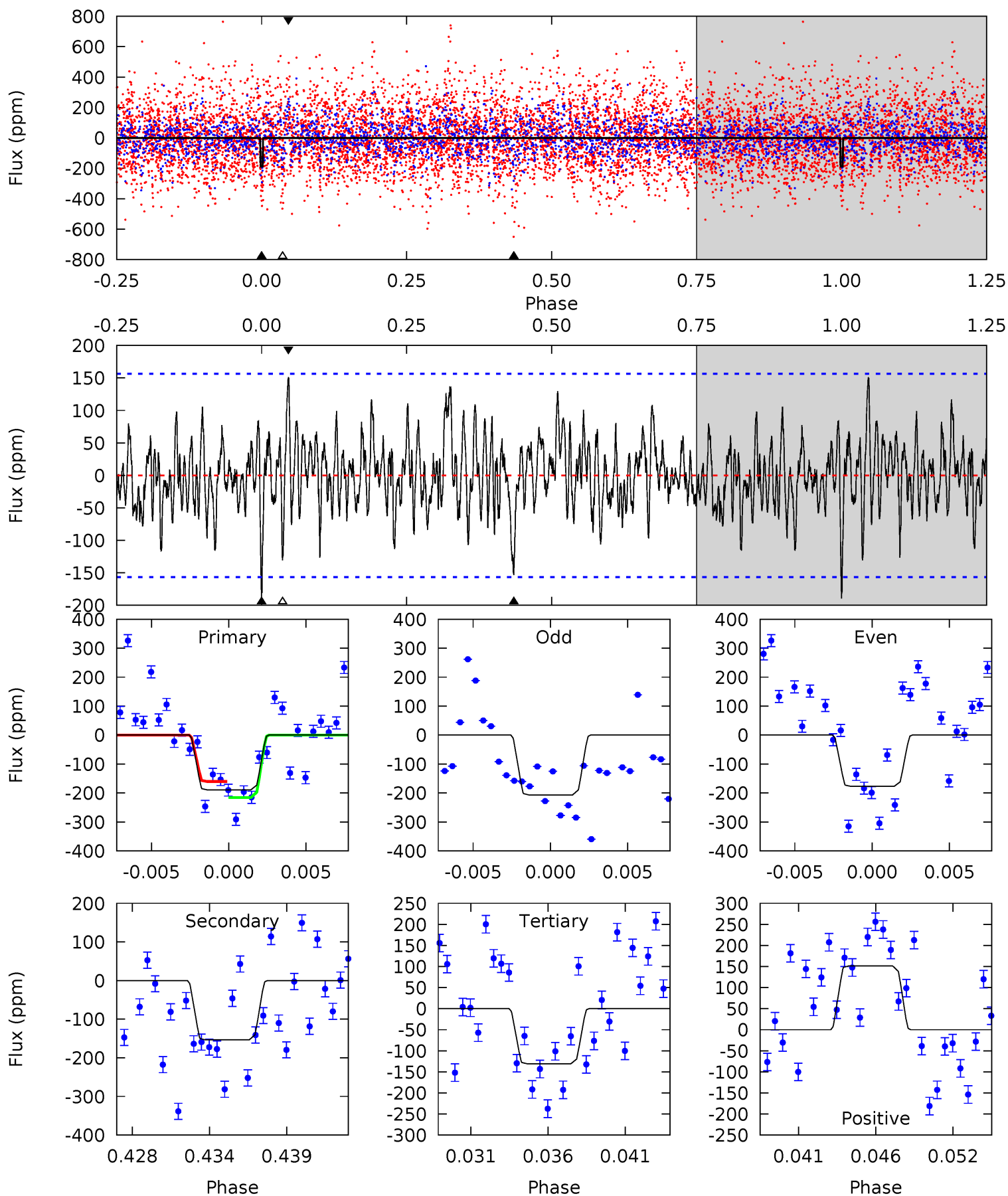
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.57	5.87	5.06	6.01	5.11	2.72	1.79	2.51	1.57	0.81	-0.14	1.91	0.97	0.44	0.31



Alt Model-Shift Uniqueness Test

010414727-04, P = 30.786530 Days, E = 122.863091 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.23	5.05	4.30	4.98	5.15	2.80	1.50	1.92	1.24	0.75	0.07	0.49	0.83	0.44	0.90



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-135 ± 23	$2.78^{+1.02}_{-0.92}$	1226^{+93}_{-78}	6212^{+1426}_{-850}	458^{+565}_{-219}
Alt.	-154 ± 30	$2.63^{+0.96}_{-0.92}$	1228^{+93}_{-80}	6567^{+1867}_{-958}	557^{+799}_{-269}

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 $A_{obs} \gg 1.0$

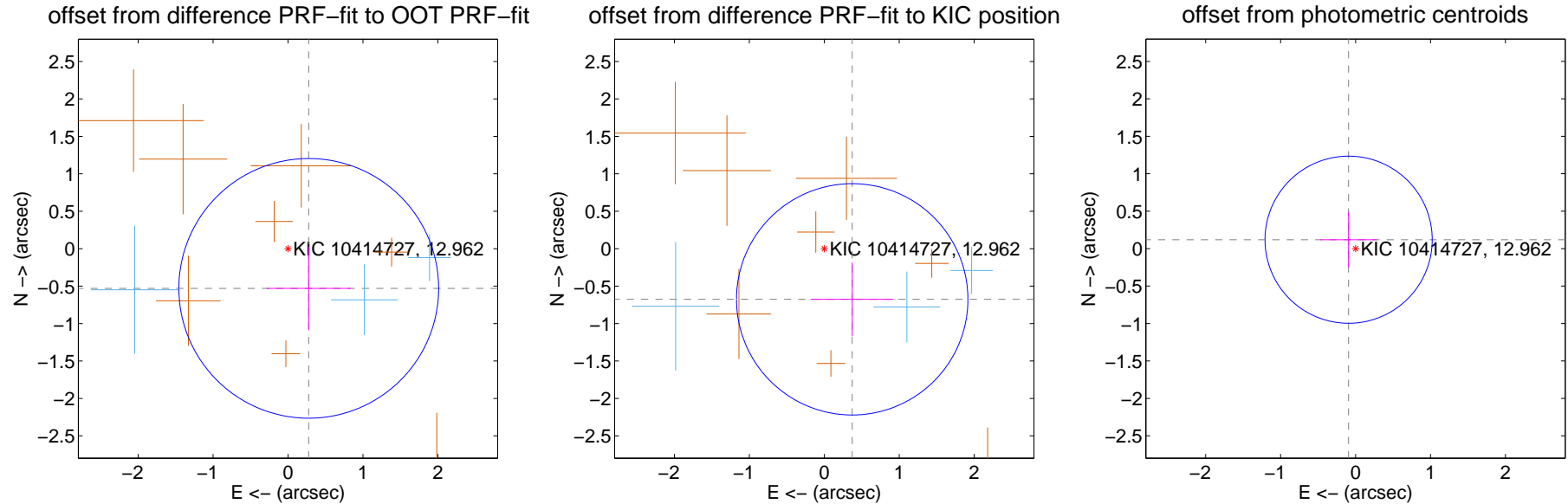
DV Centroid Data

Supplemental centroid analysis for 010414727-04. Kepler magnitude: 12.96. Transit SNR 12.97

There are 3 quarters with good PRF difference image offsets

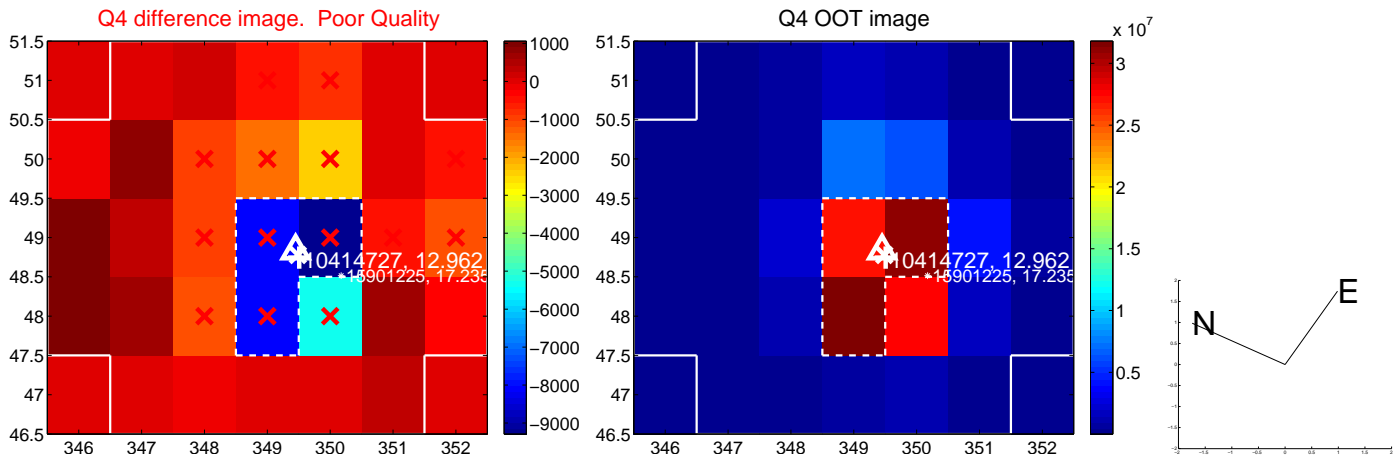
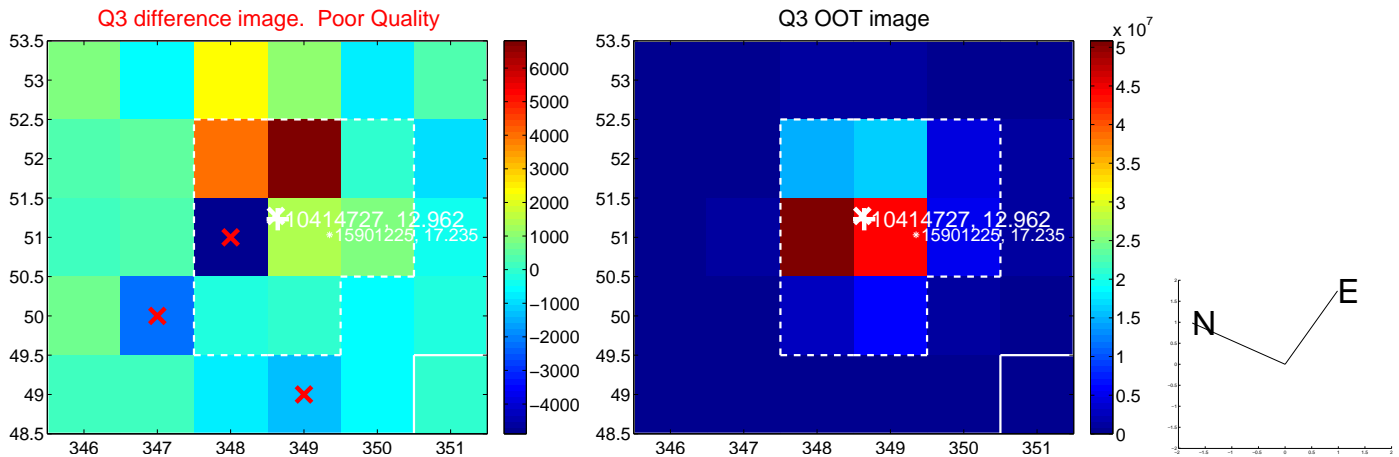
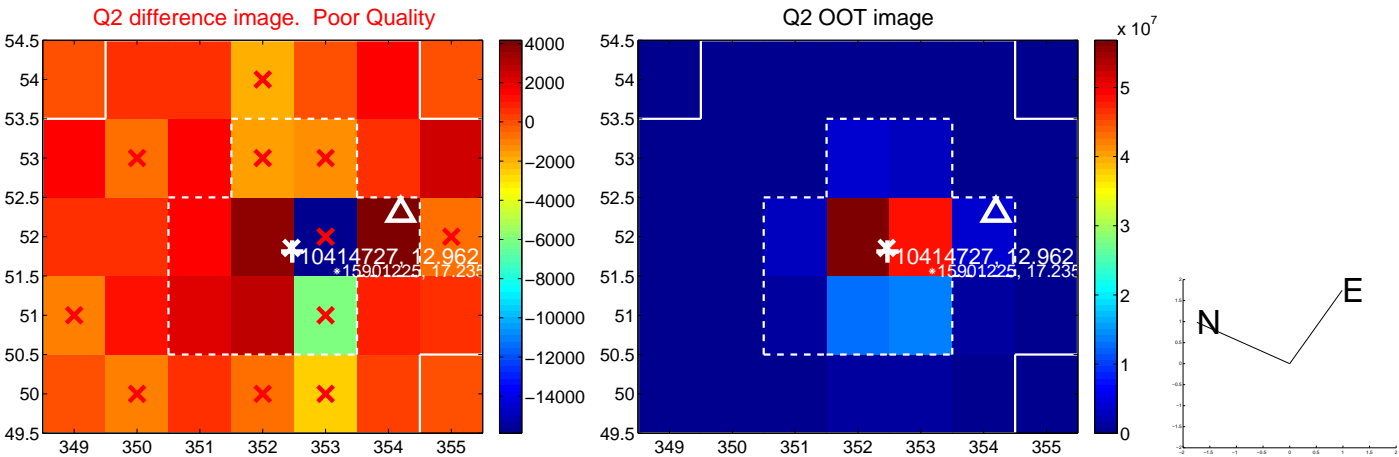
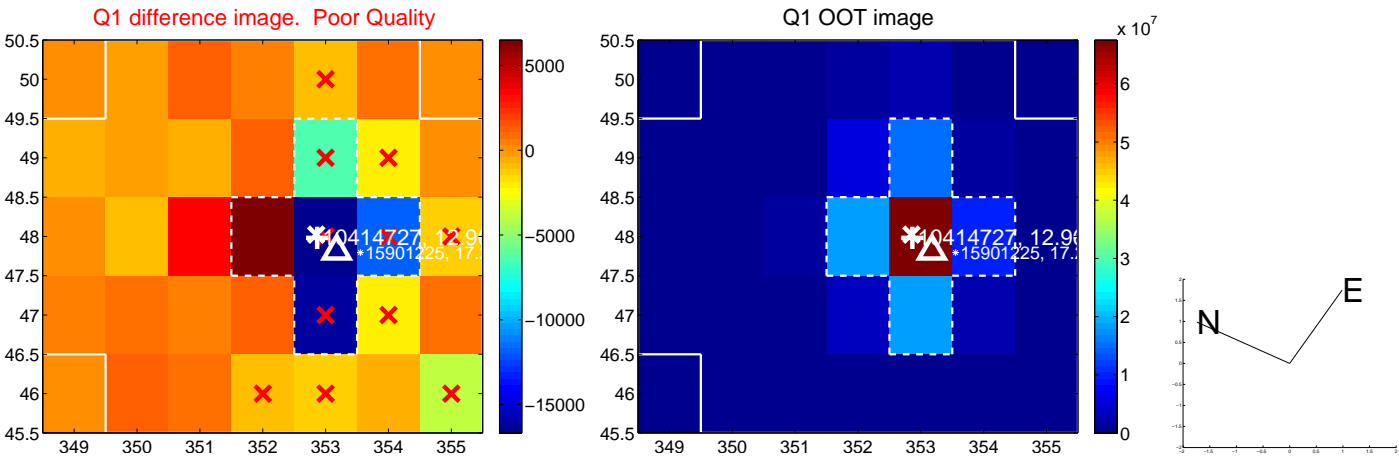
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.598 ± 0.578	1.03	-0.277 ± 0.562	-0.530 ± 0.558
PRF-fit source offset from KIC position	0.772 ± 0.515	1.50	-0.373 ± 0.553	-0.676 ± 0.492
photometric centroid source offset	0.15 ± 0.37	0.41	0.09 ± 0.38	0.12 ± 0.37

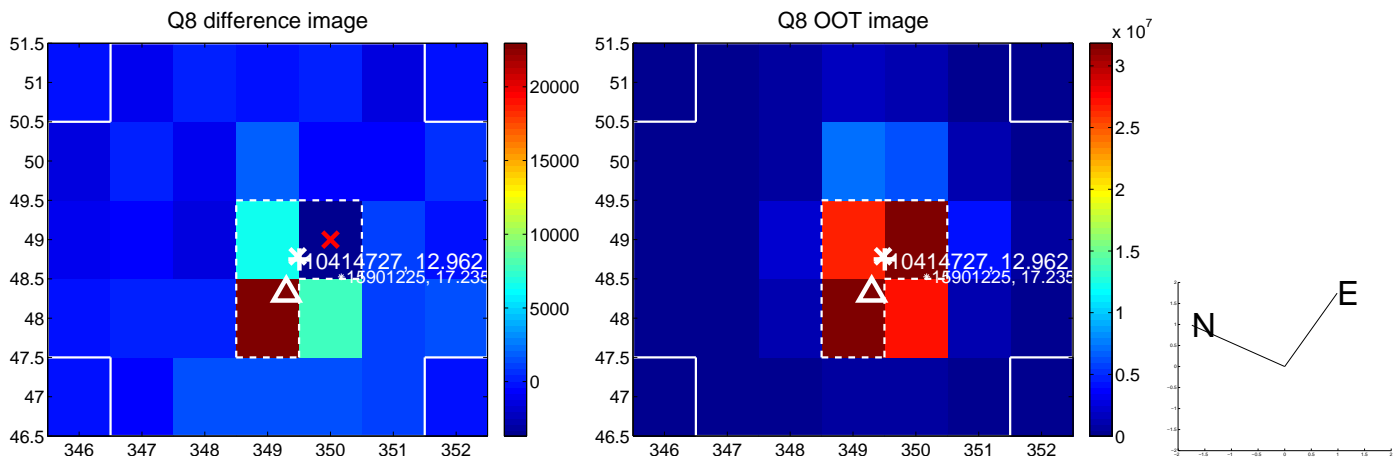
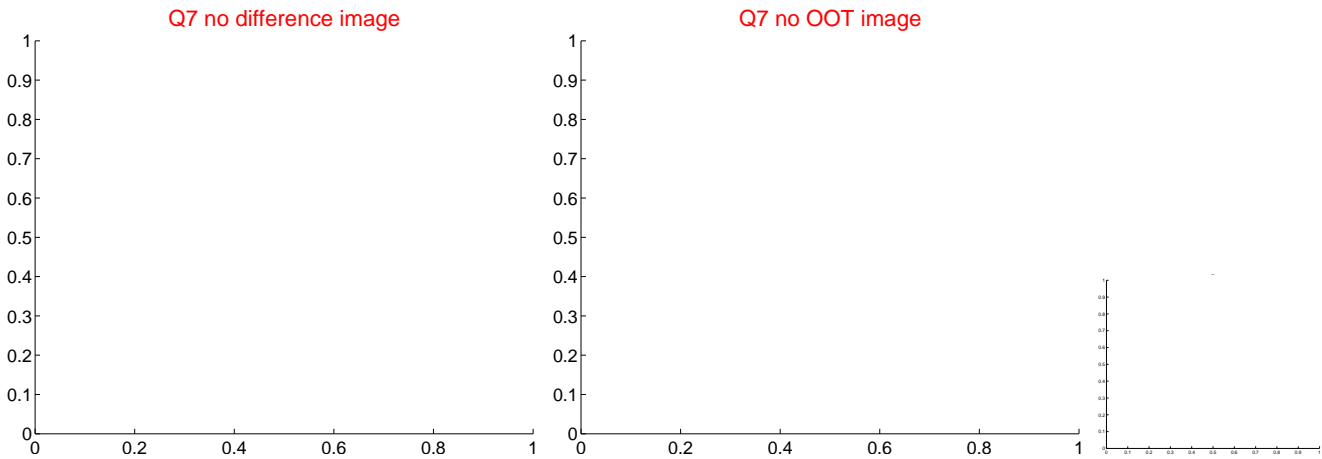
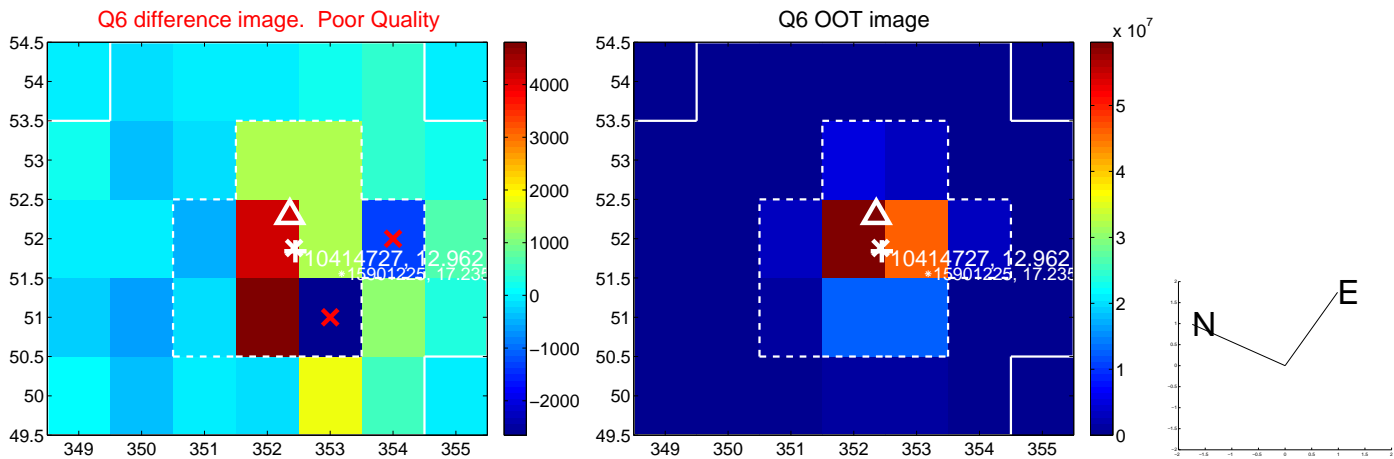
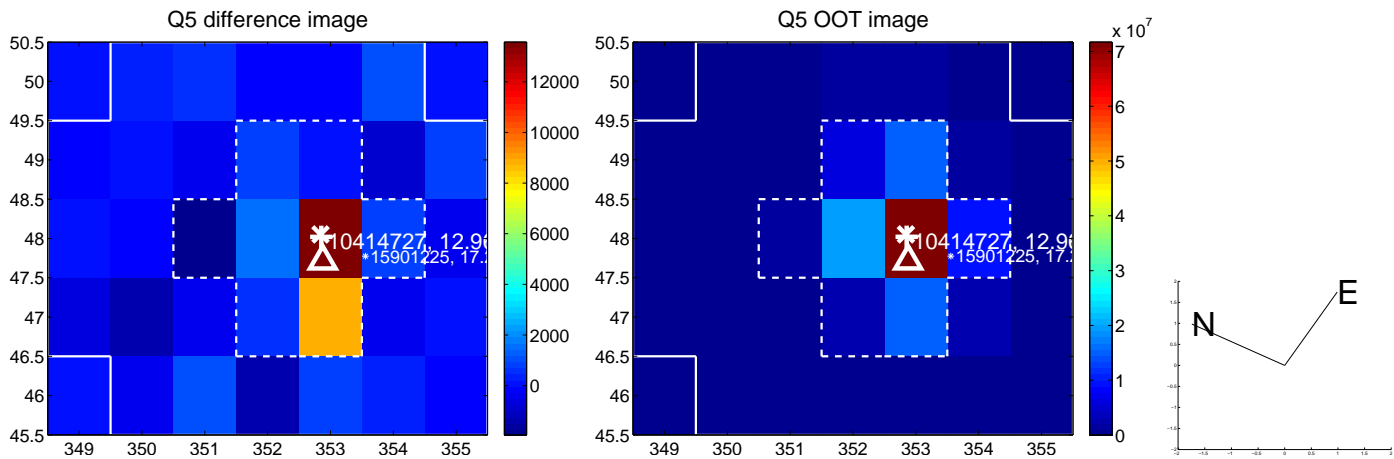


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

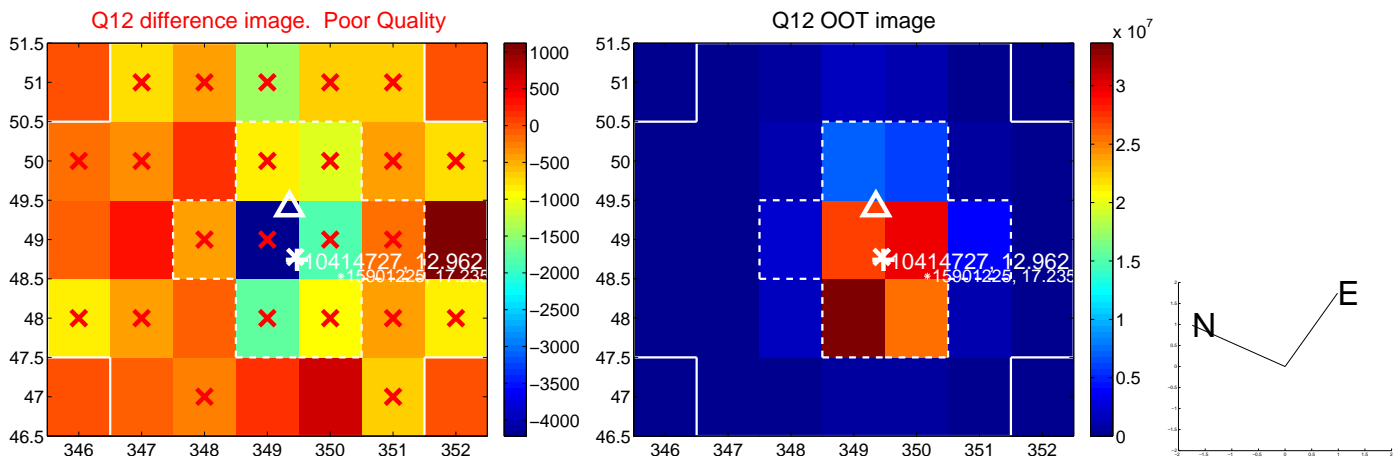
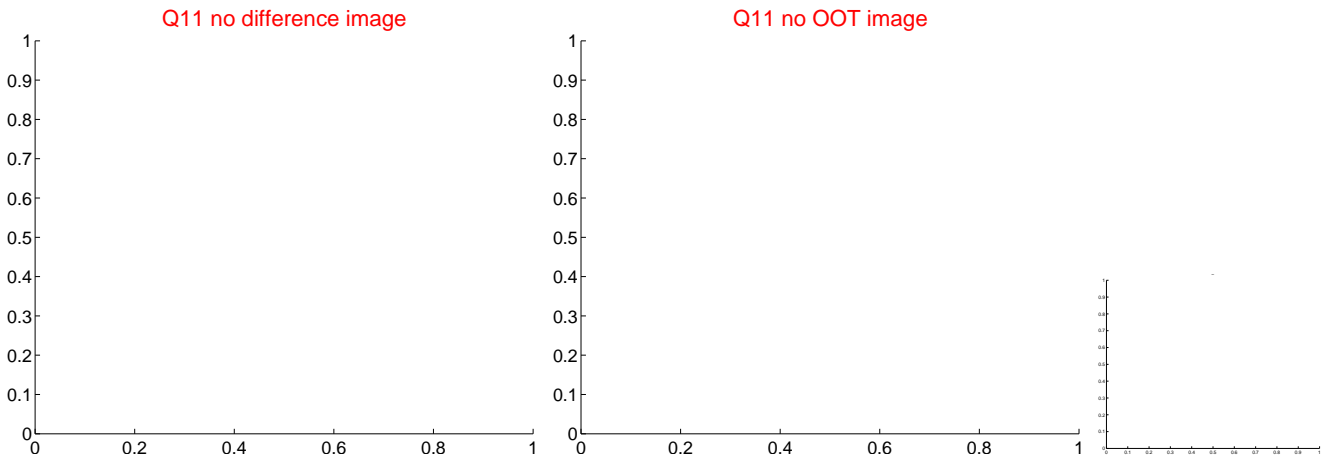
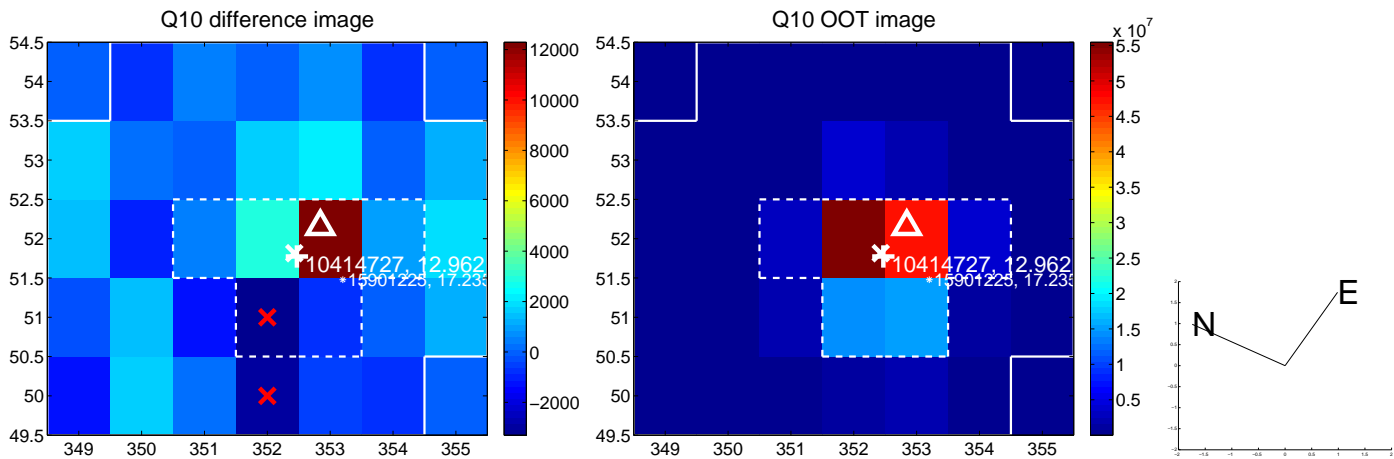
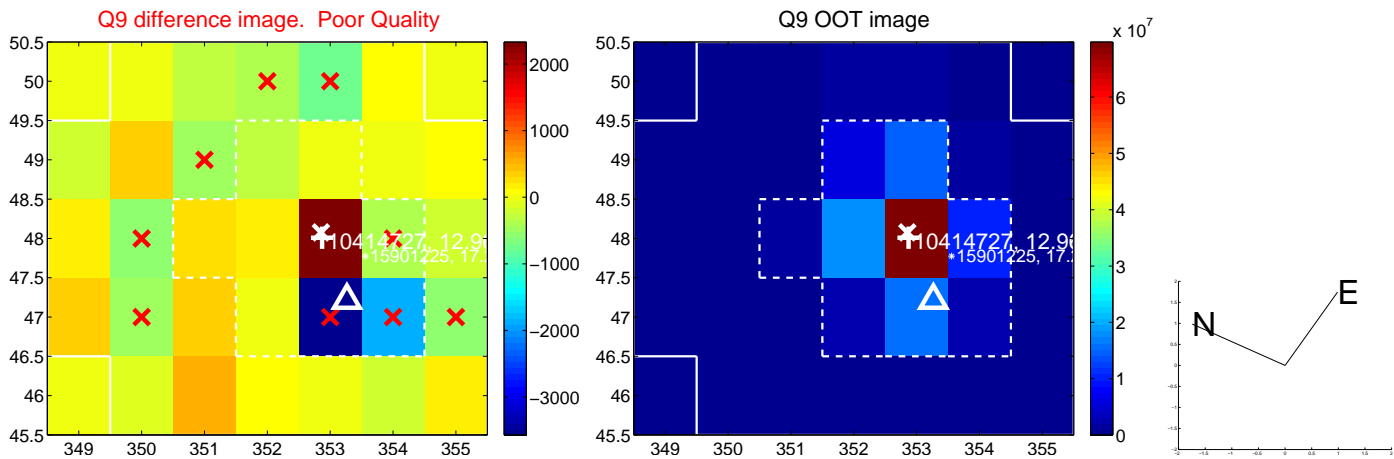
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



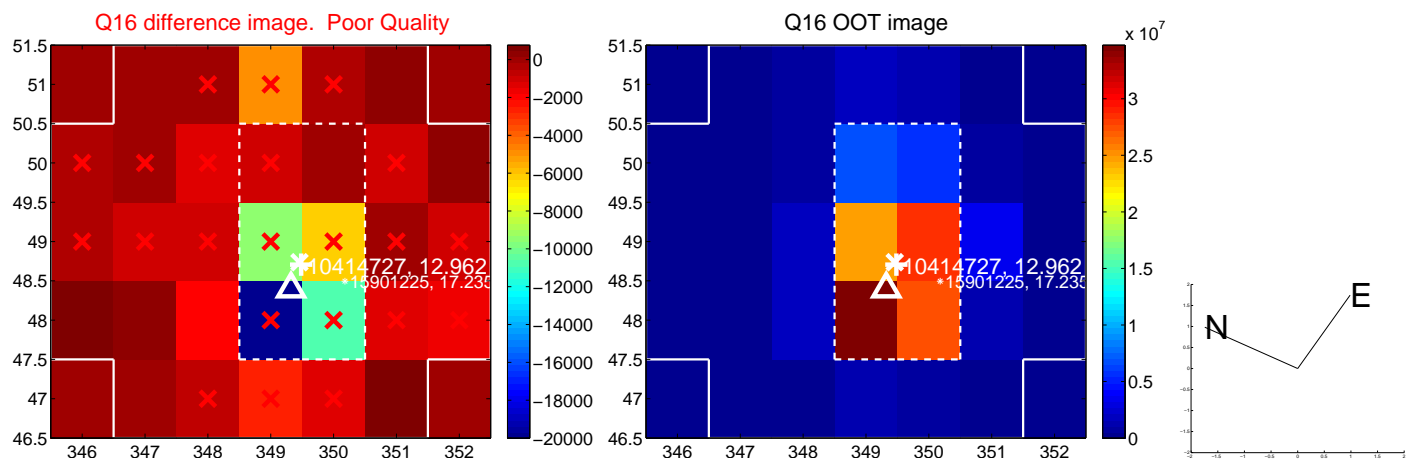
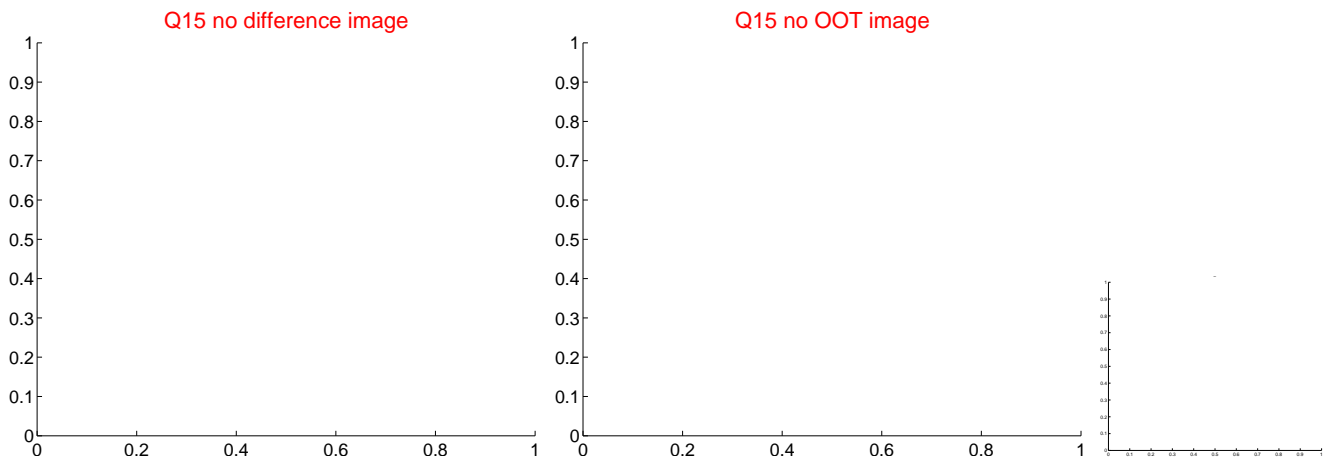
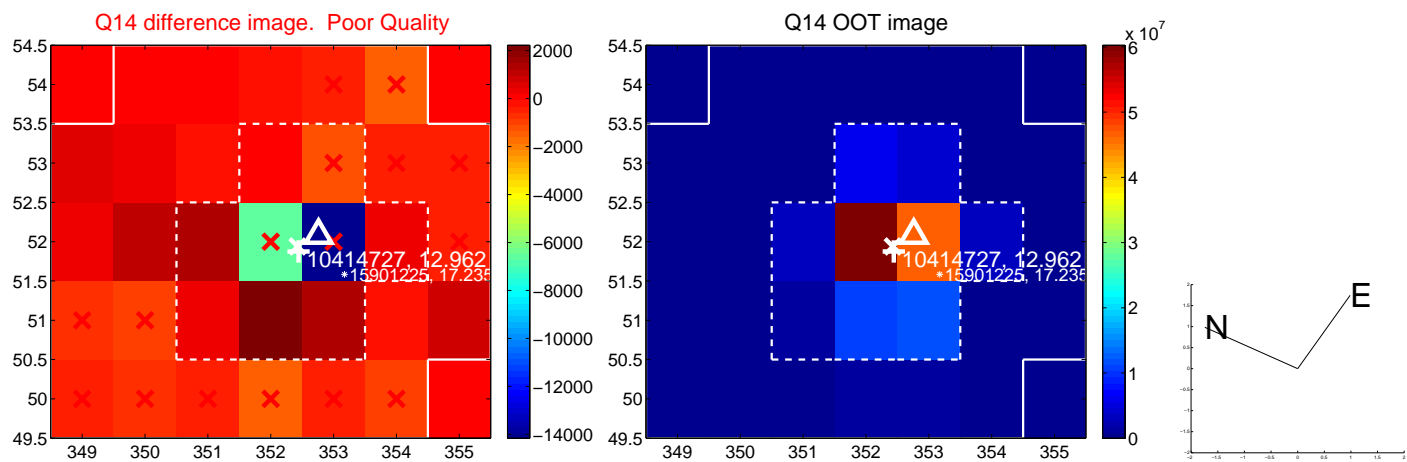
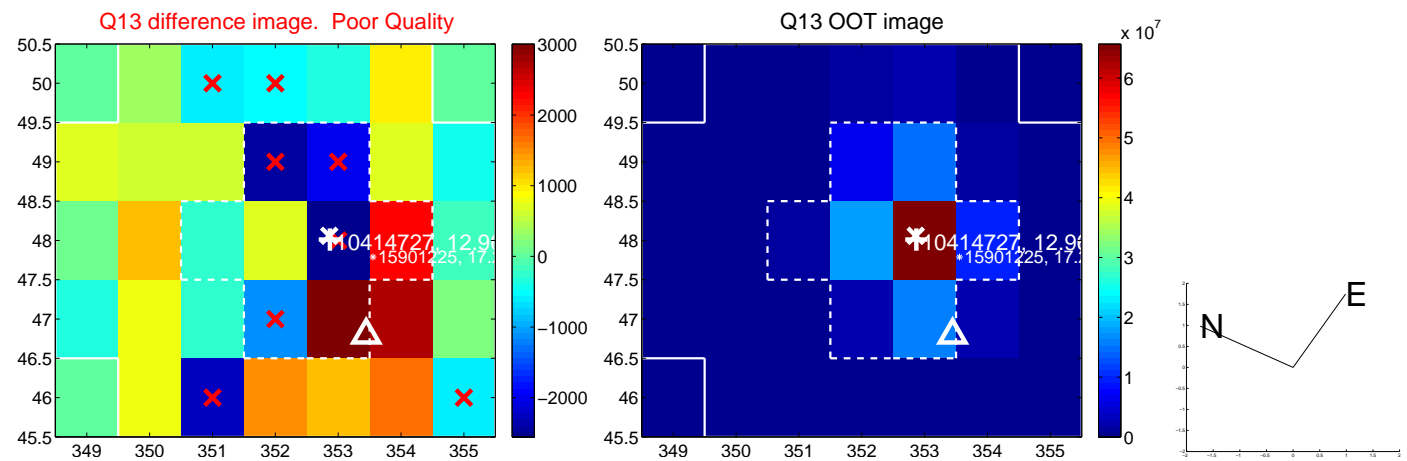
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



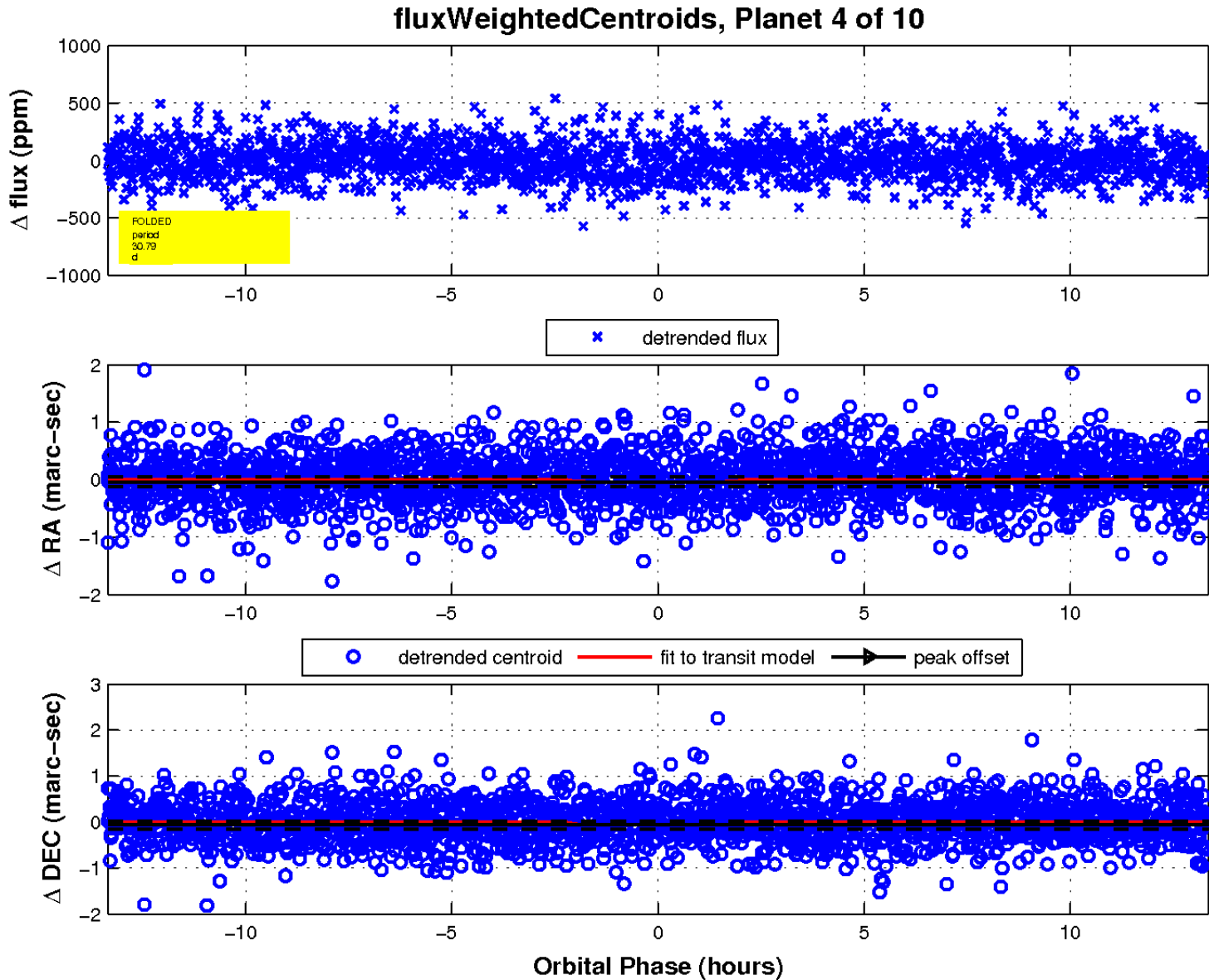
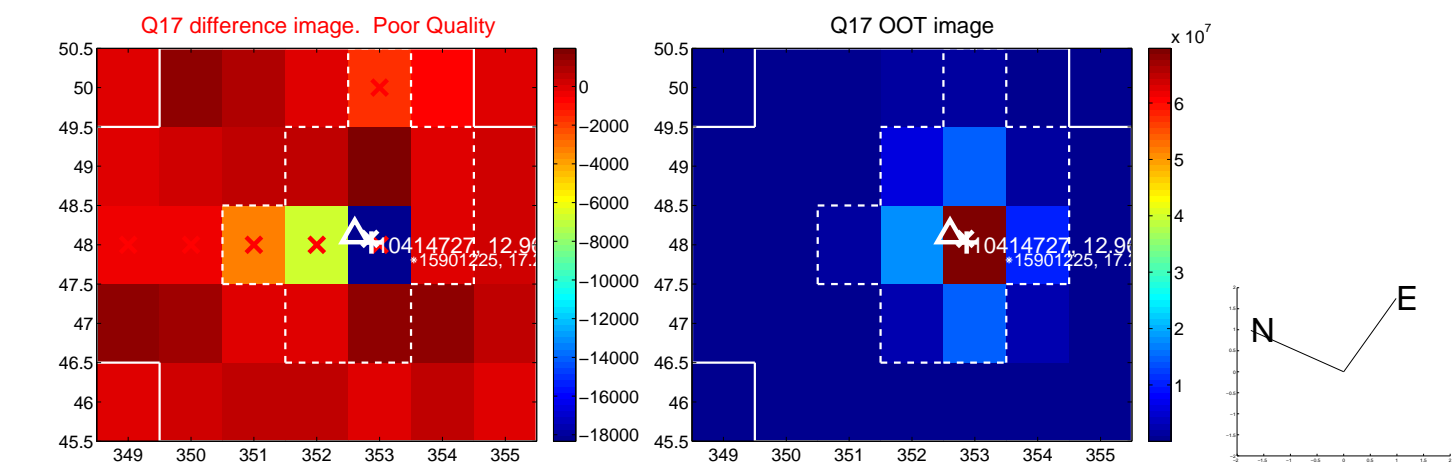
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

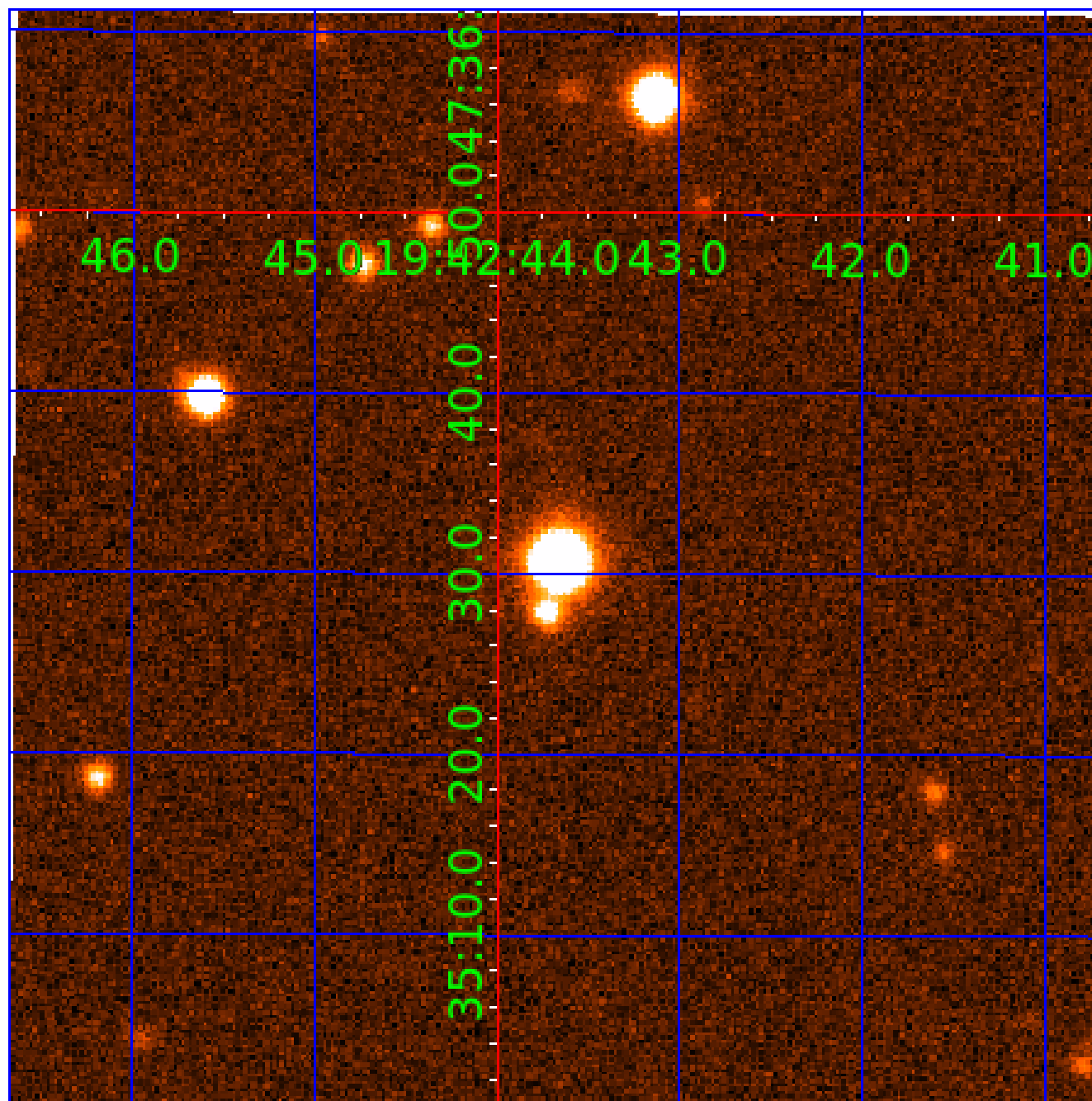


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010414727-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

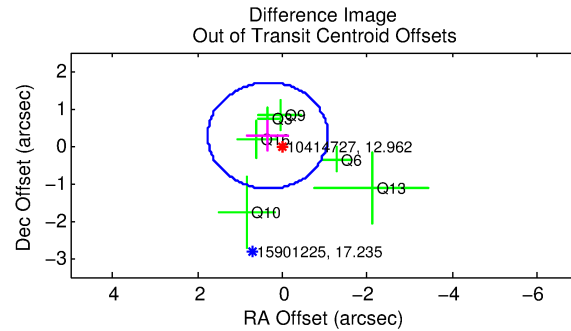
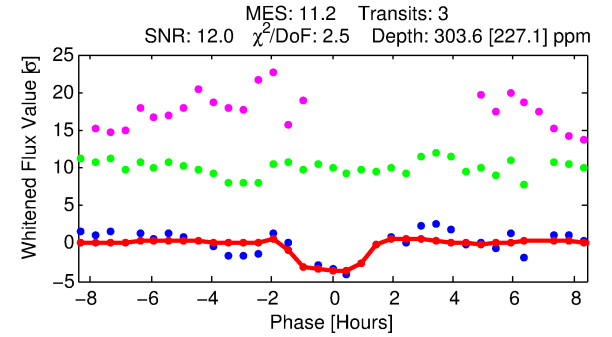
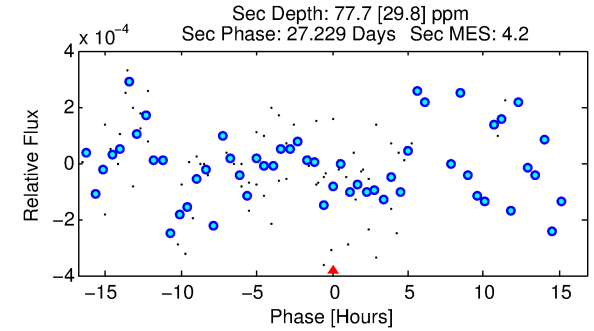
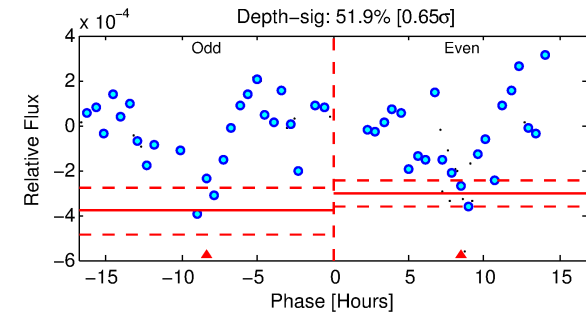
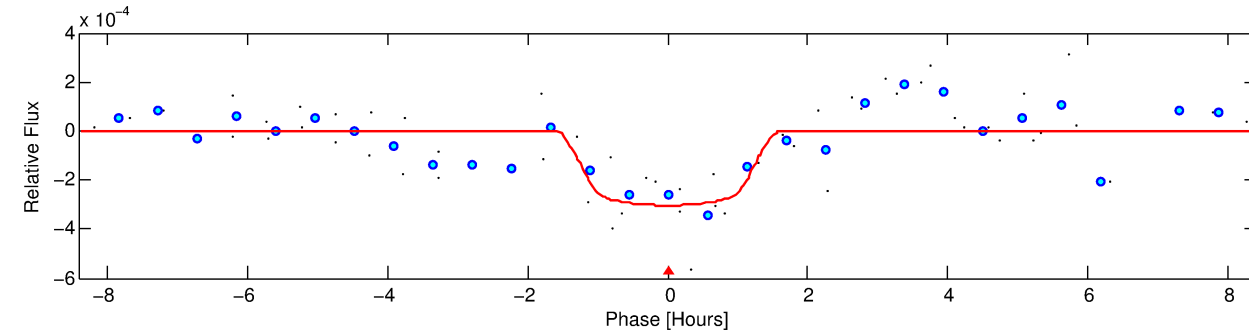
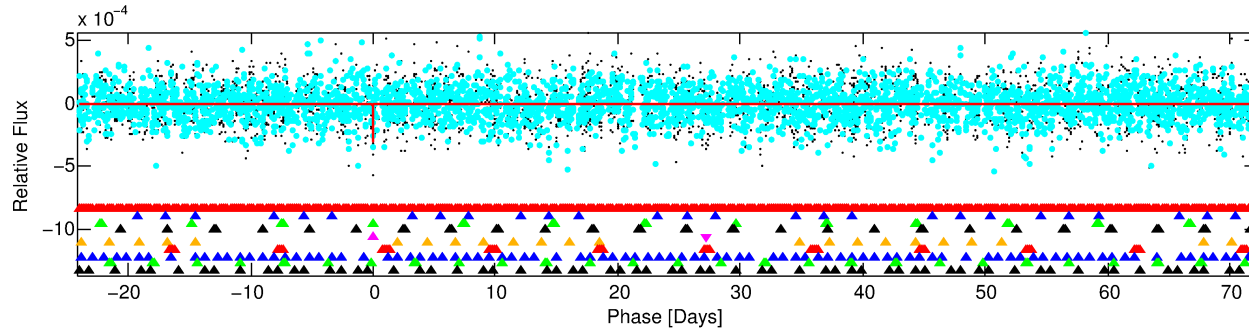
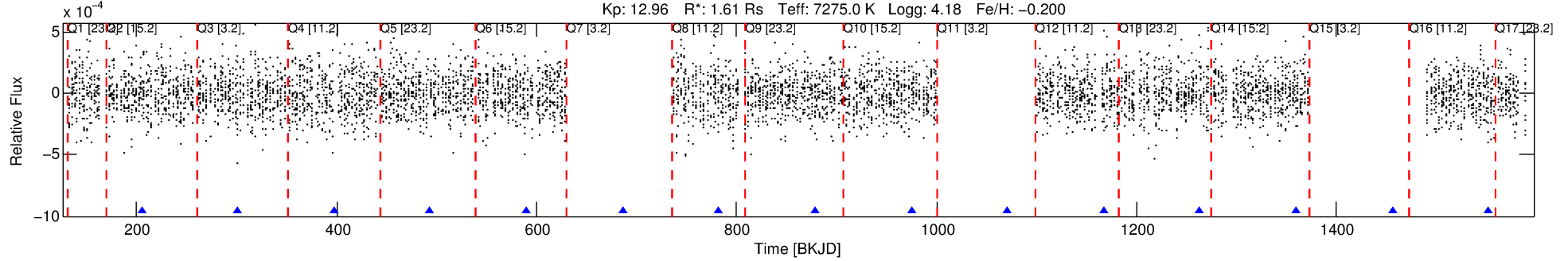
Ephemeris Match Information For 010414727-05

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 5 of 10 Period: 96.192 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



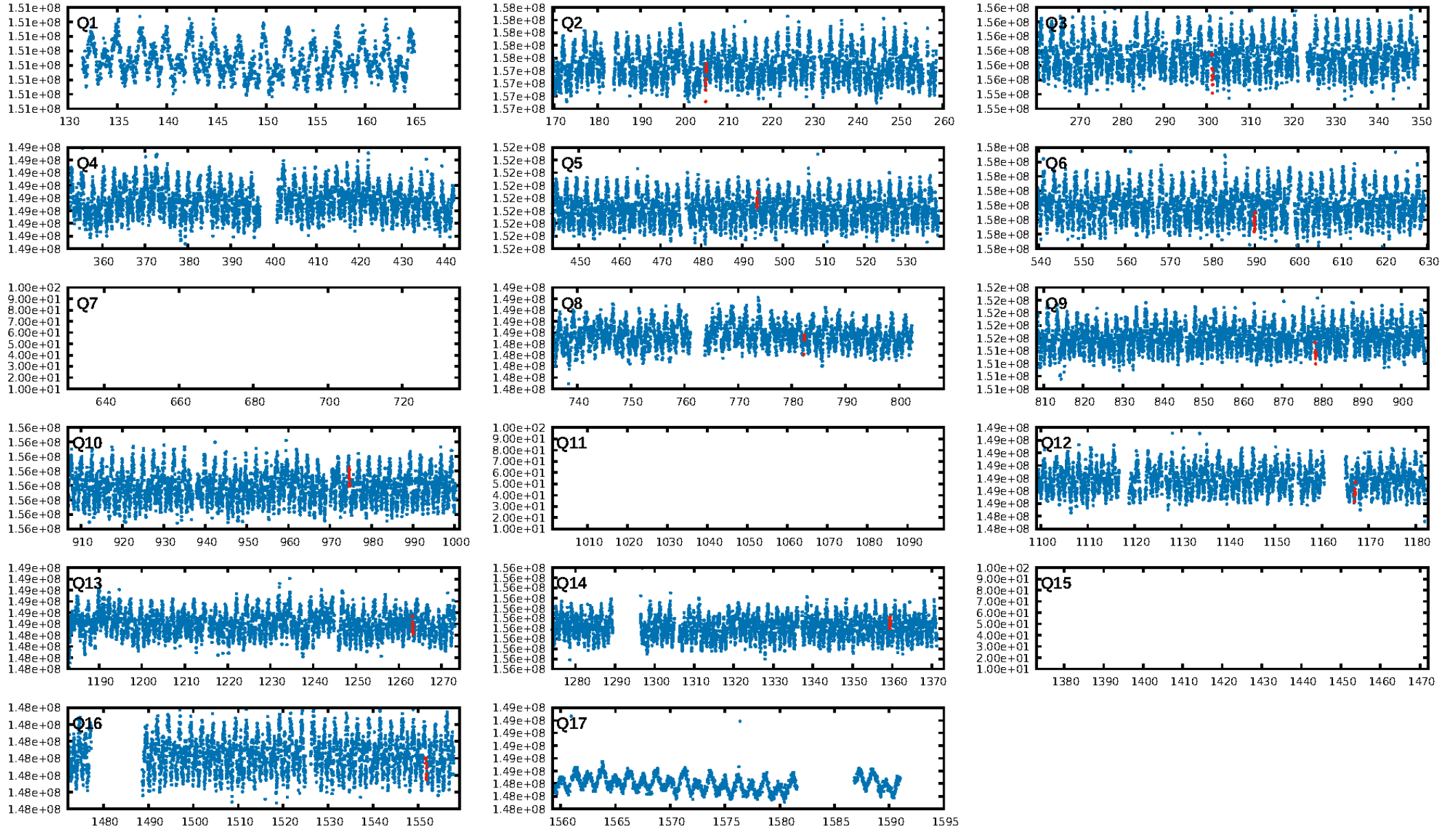
DV Fit Results:

Period = 96.19222 [0.00185] d
Epoch = 205.1505 [0.0161] BKJD
Rp/R* = 0.0185 [0.2330]
a/R* = 125.07 [10061.77]
b = 0.90 [17.29]
Seff = 30.31 [12.04]
Teq = 598 [59] K
Rp = 3.25 [40.91] Re
a = 0.4627 [0.1214] AU
Ag = 867.49 [21848.62] [0.04σ]
Teffp = 5020 [31607] K [0.14σ]

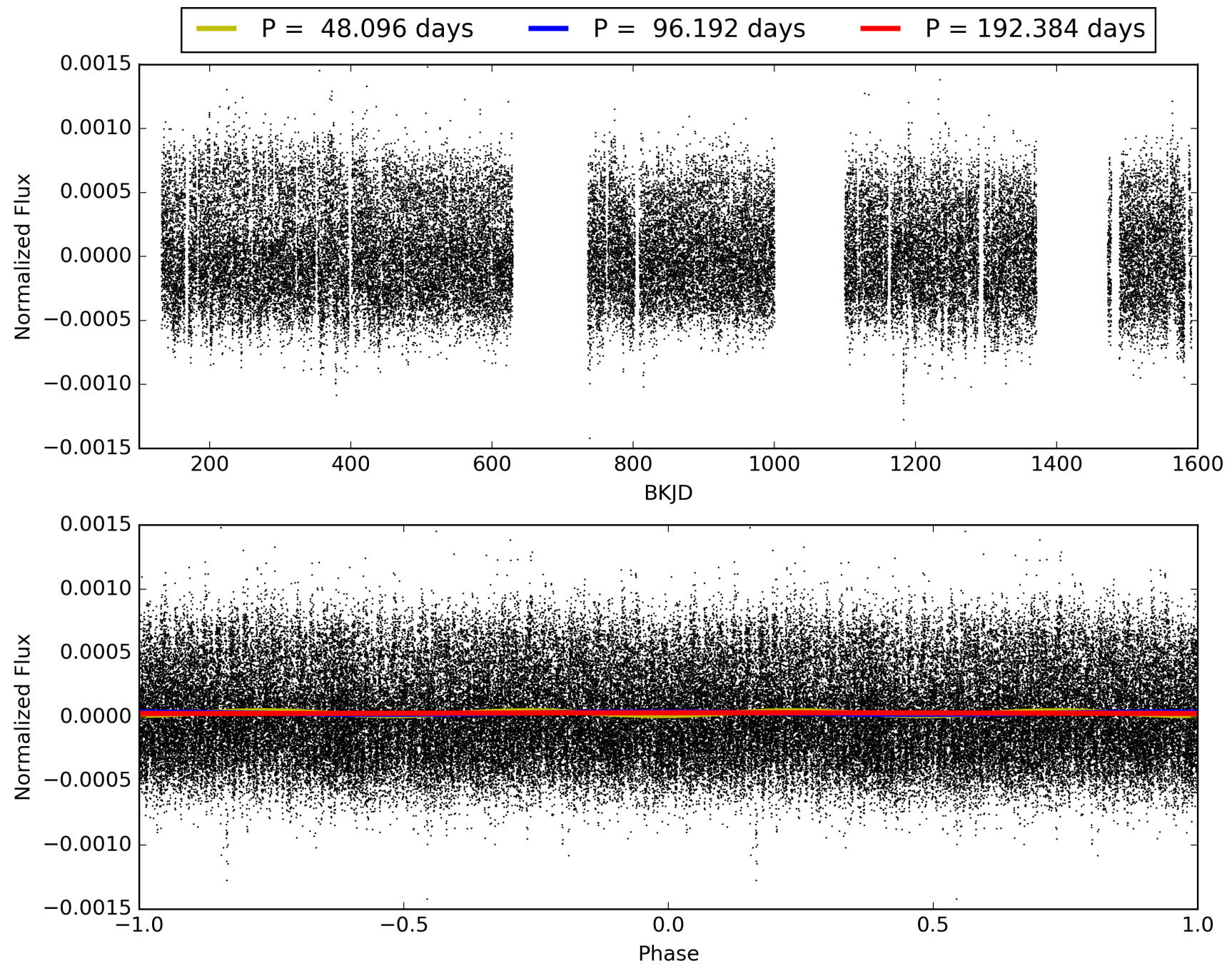
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [61.62σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.8%
ModelChiSquareGof-sig: 21.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6573
Centroid-sig: 26.0%
Centroid-so: 0.414 arcsec [0.65σ]
OotOffset-rm: 0.438 arcsec [0.93σ]
KicOffset-rm: 0.098 arcsec [0.30σ]
OotOffset-st: 2/1/1/2 [6]
KicOffset-st: 2/1/1/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.27 [3/11]

TCE 010414727-05, PDC Light Curves

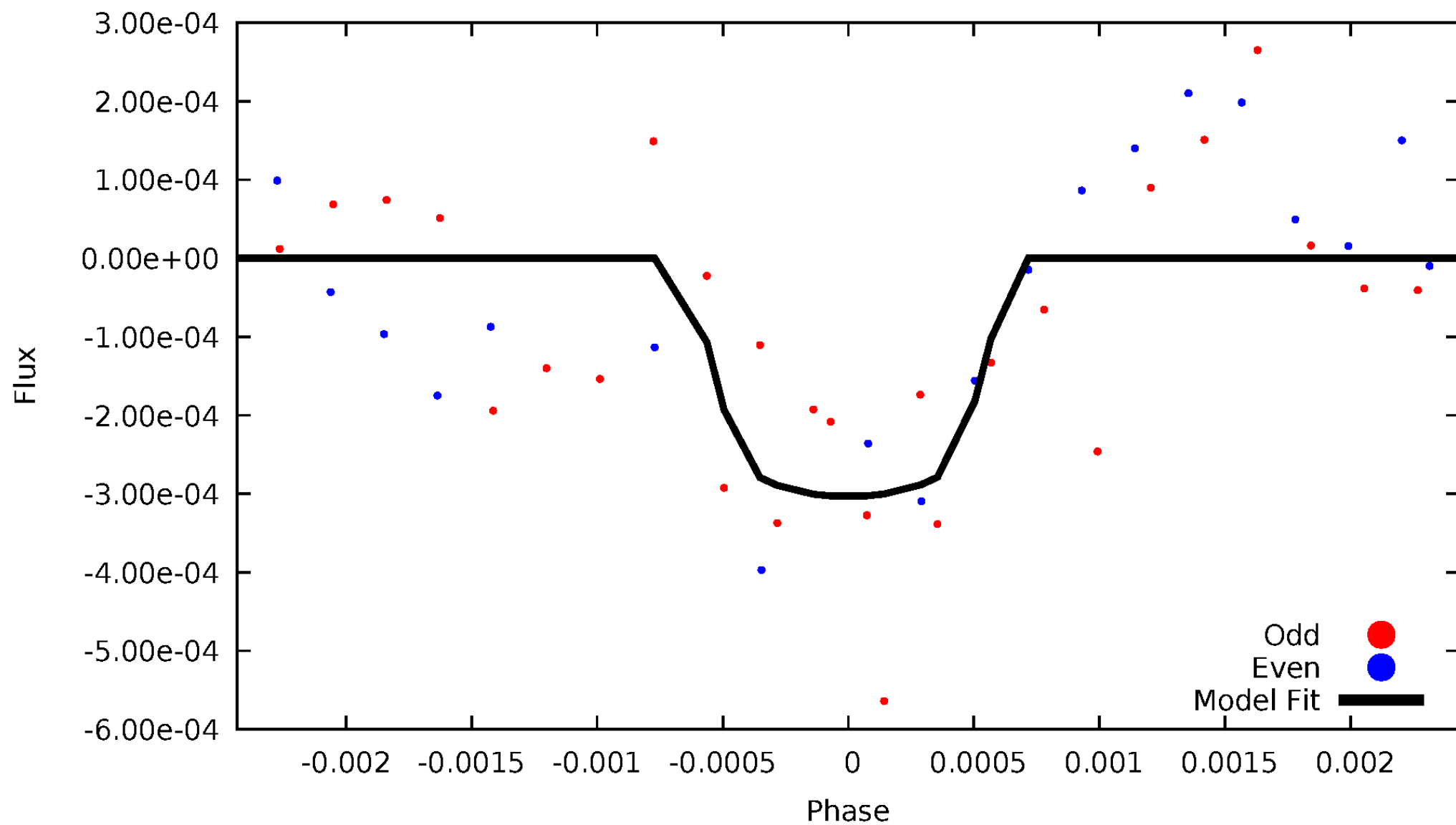


TCE 010414727-05



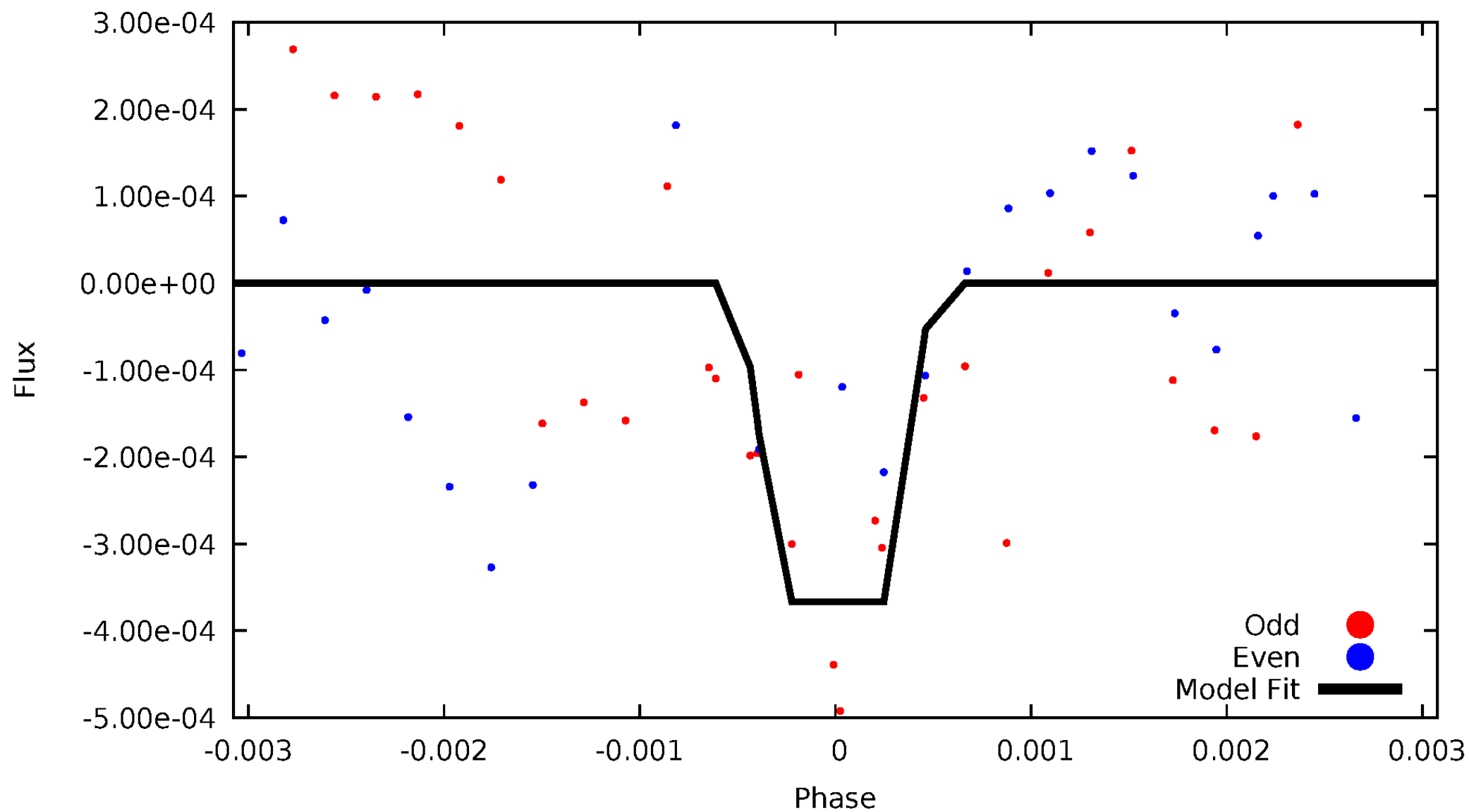
DV Odd/Even

TCE 010414727-05

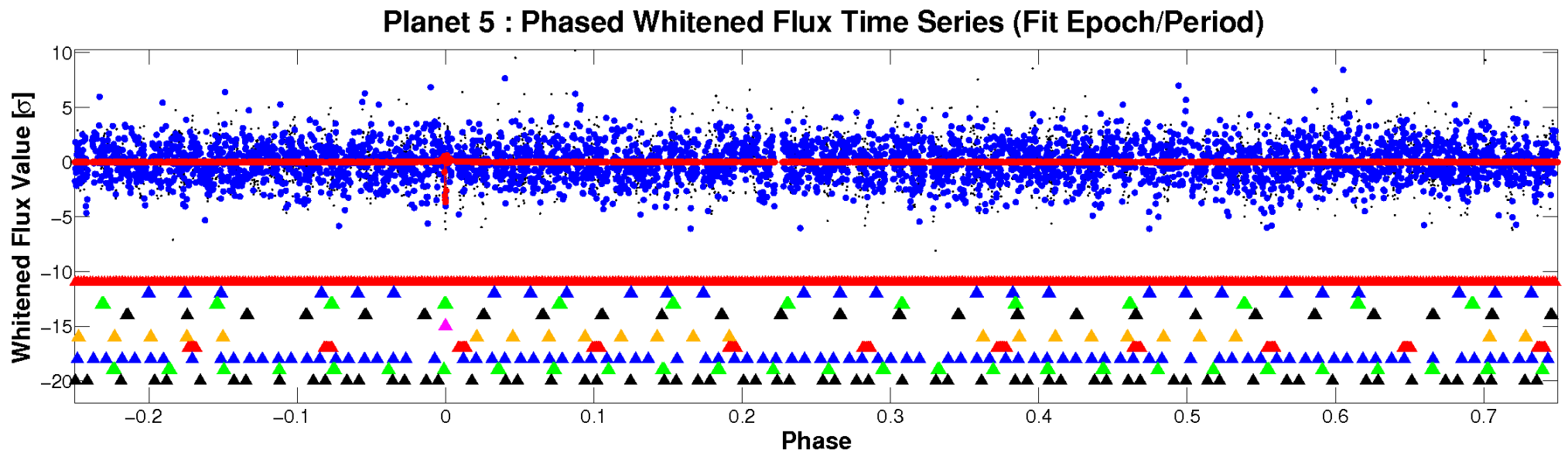
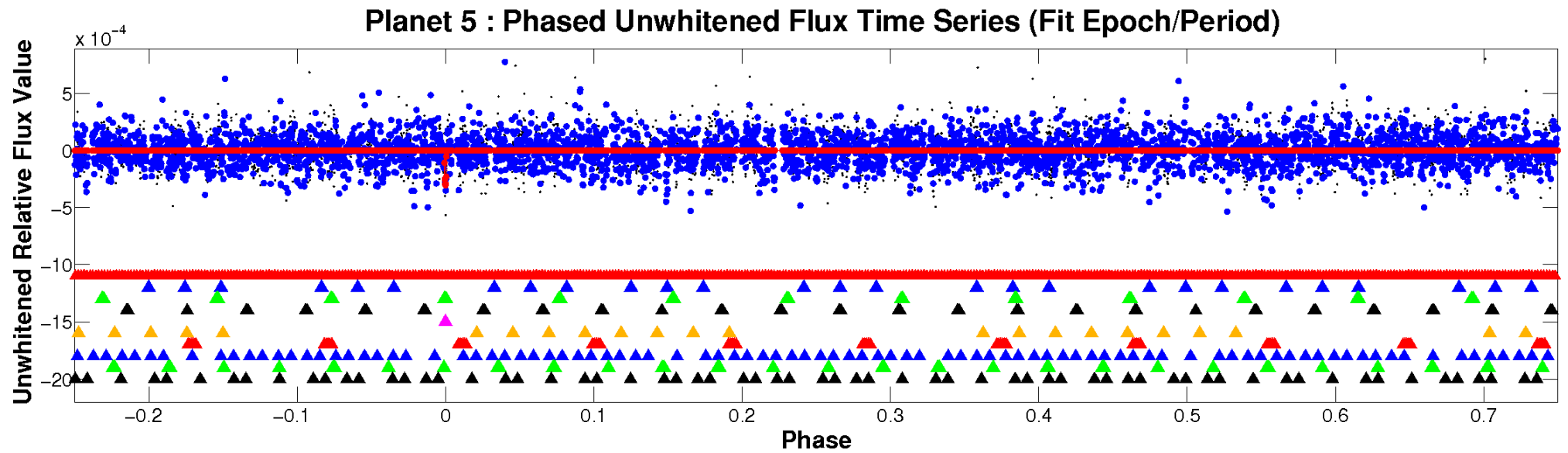


ALT Odd/Even

TCE 010414727-05

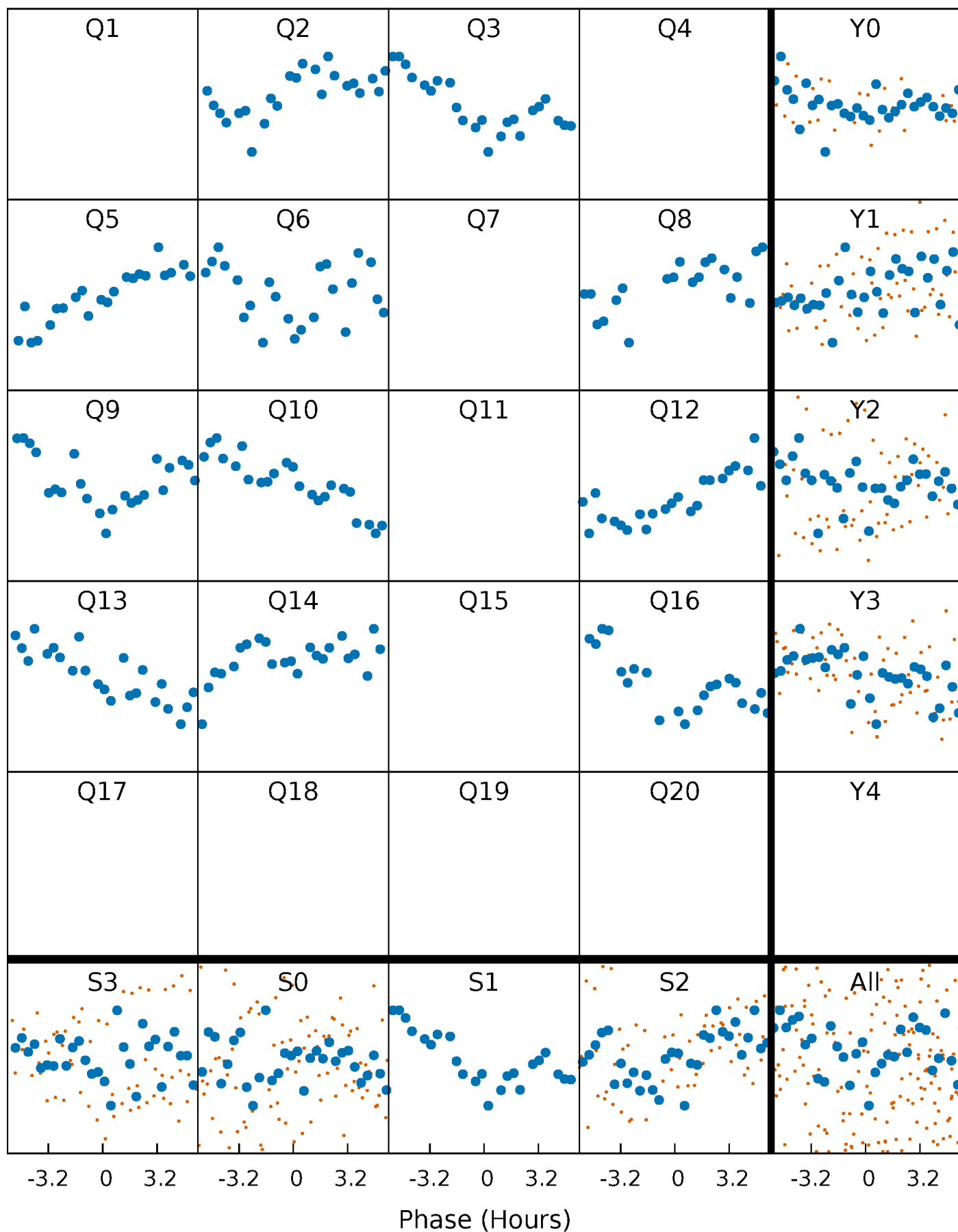


Non-Whitened Vs. Whitened Light Curve



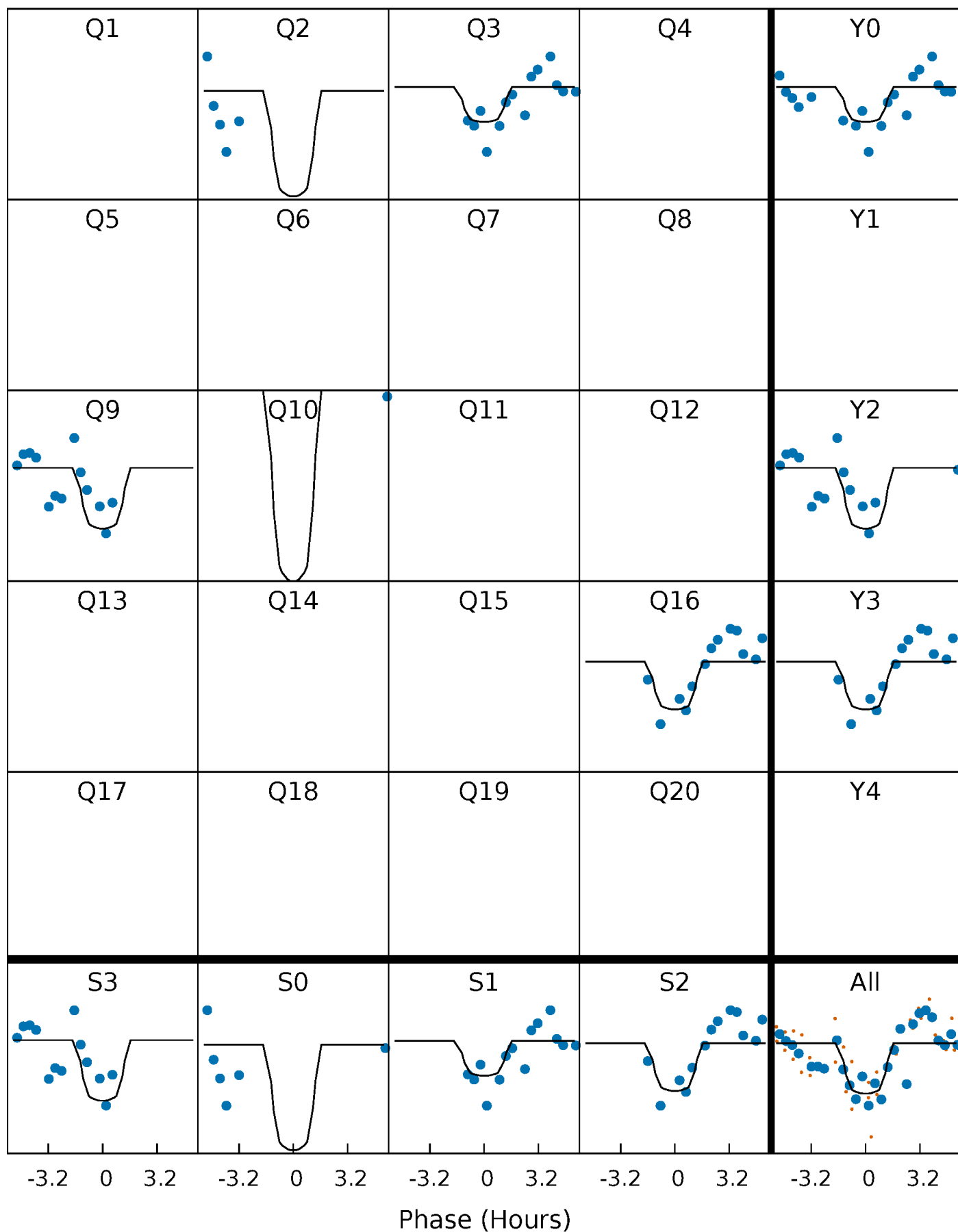
PDC Quarter-Phased Transit Curves

TCE 010414727-05 $P = 96.192220$ Days $T_0 = 205.150520$ (BKJD)



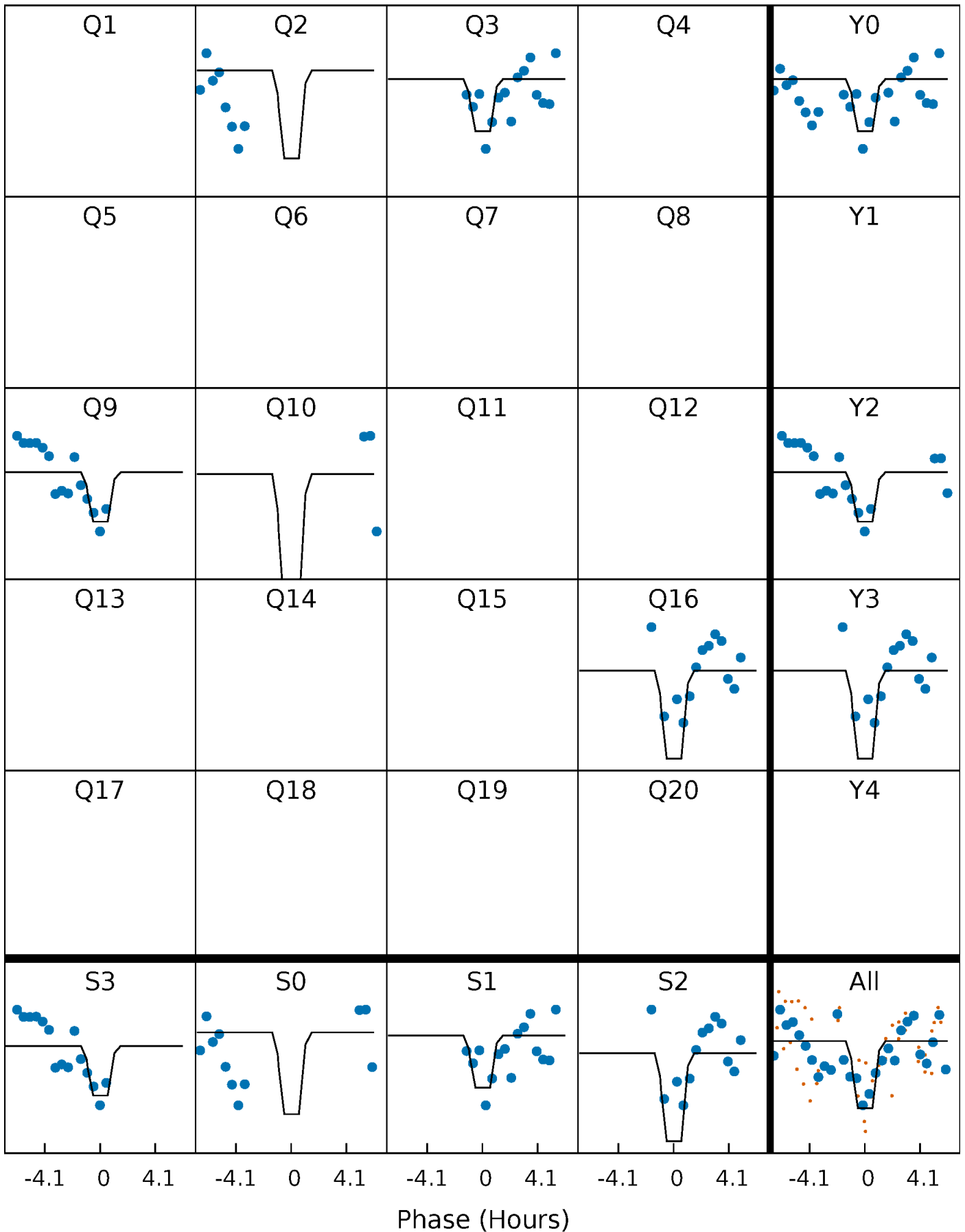
DV Quarter-Phased Transit Curves

TCE 010414727-05 $P = 96.192220$ Days $T_0 = 205.150520$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

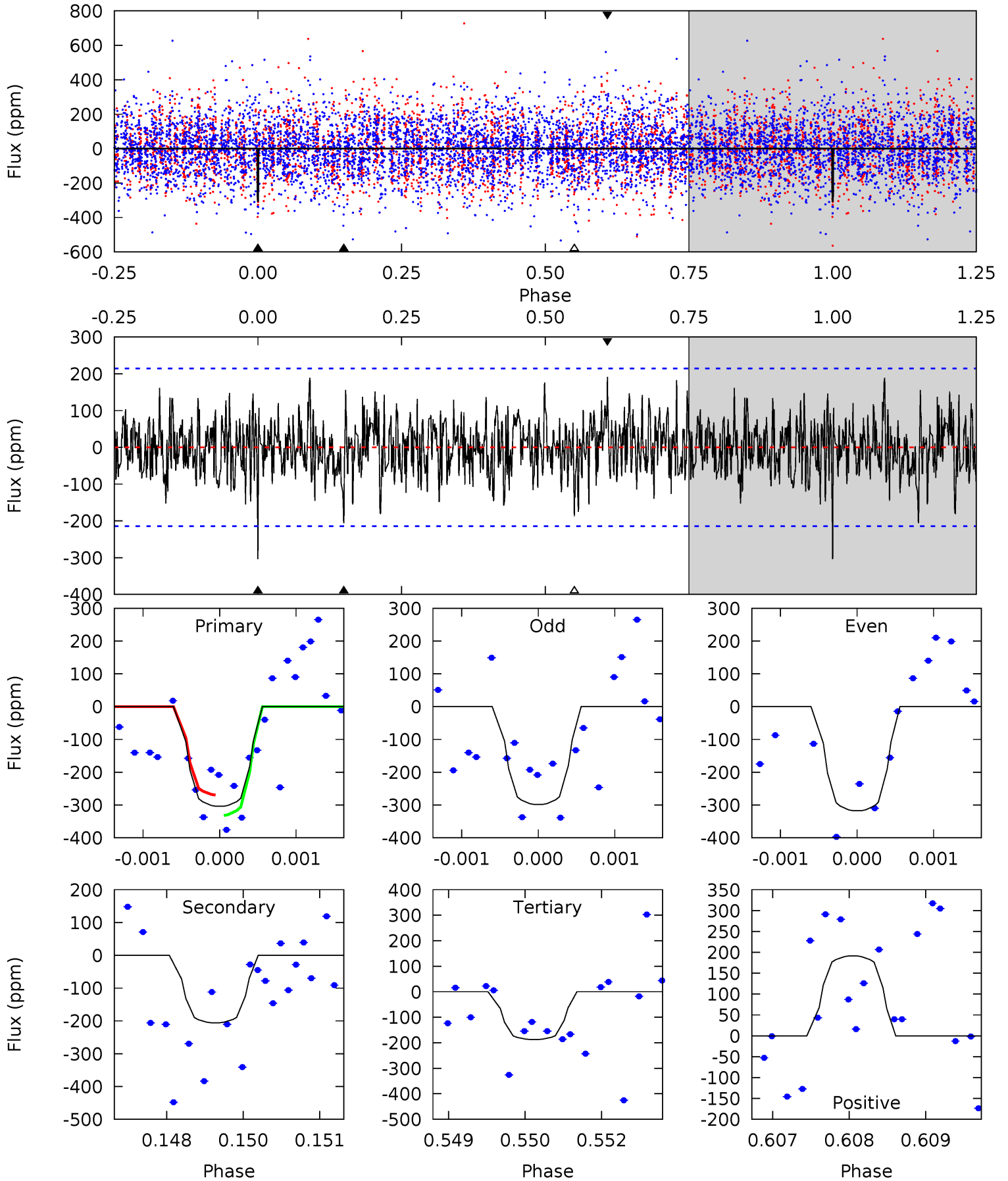
TCE 010414727-05 P= 96.191682 Days $T_0=205.162293$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-05, P = 96.192220 Days, E = 108.958300 Days

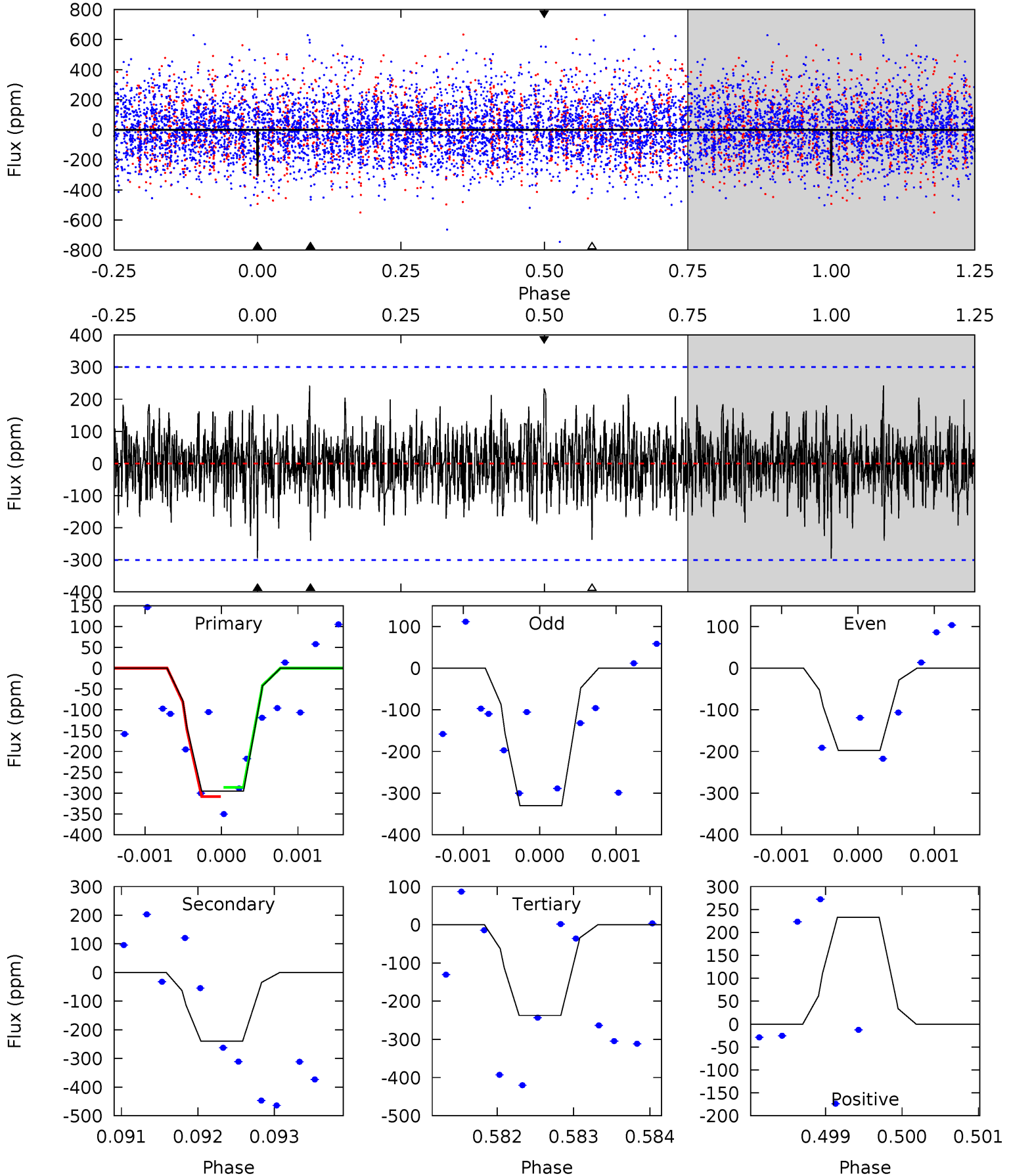
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.65	5.18	4.72	4.82	5.41	3.22	1.47	2.94	2.83	0.47	0.36	0.23	0.95	0.39	0.78



Alt Model-Shift Uniqueness Test

010414727-05, P = 96.191682 Days, E = 108.970611 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.38	4.37	4.33	4.25	5.48	3.33	1.26	1.05	1.13	0.04	0.12	1.22	0.91	0.45	0.20



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-206 ± 40	$27.13^{+32.32}_{-19.87}$	837^{+62}_{-53}	2871^{+1507}_{-517}	32^{+386}_{-25}
Alt.	-240 ± 55	$29.07^{+30.51}_{-20.59}$	836^{+66}_{-52}	2887^{+1458}_{-487}	32^{+381}_{-25}

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 $A_{obs} \gg 1.0$

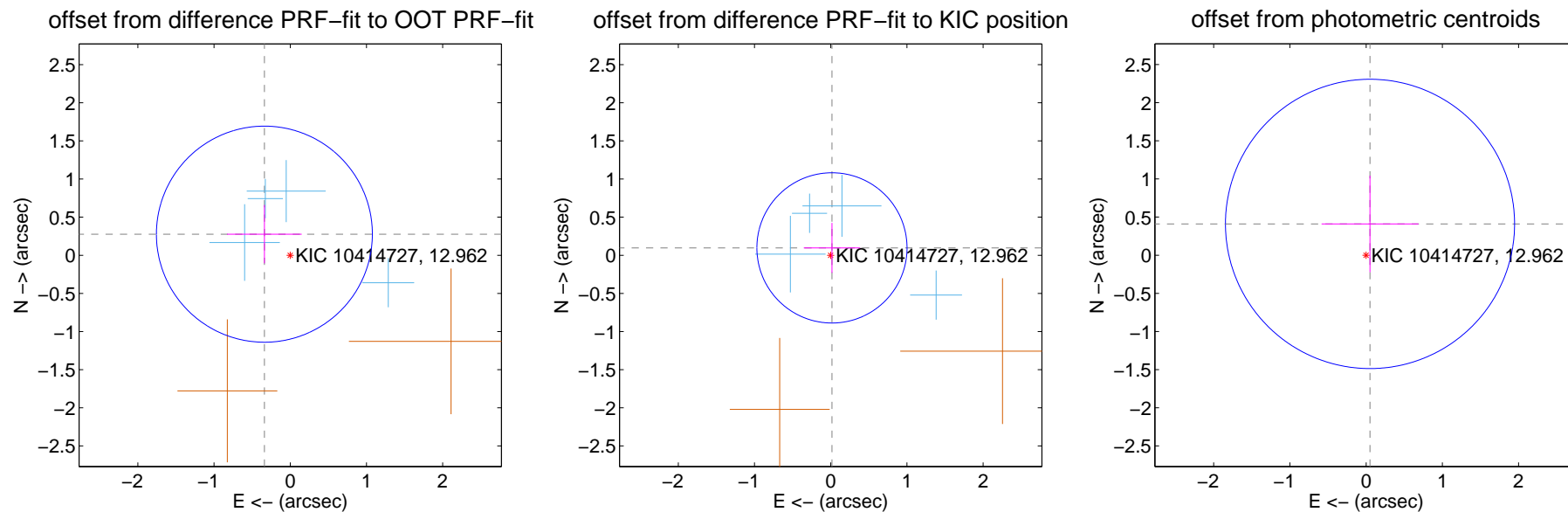
DV Centroid Data

Supplemental centroid analysis for 010414727-05. Kepler magnitude: 12.96. Transit SNR 11.95

There are 4 quarters with good PRF difference image offsets

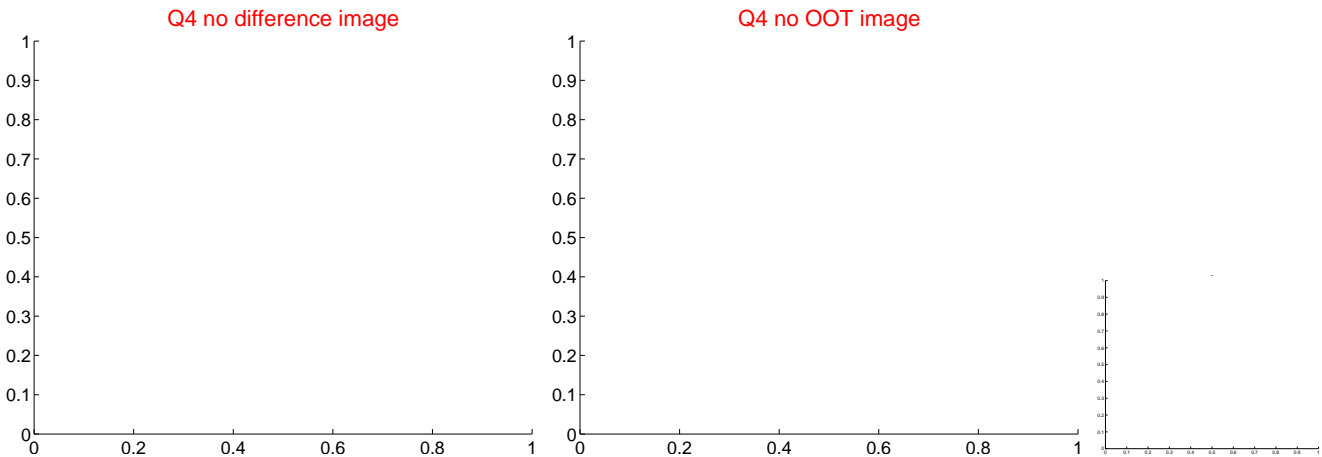
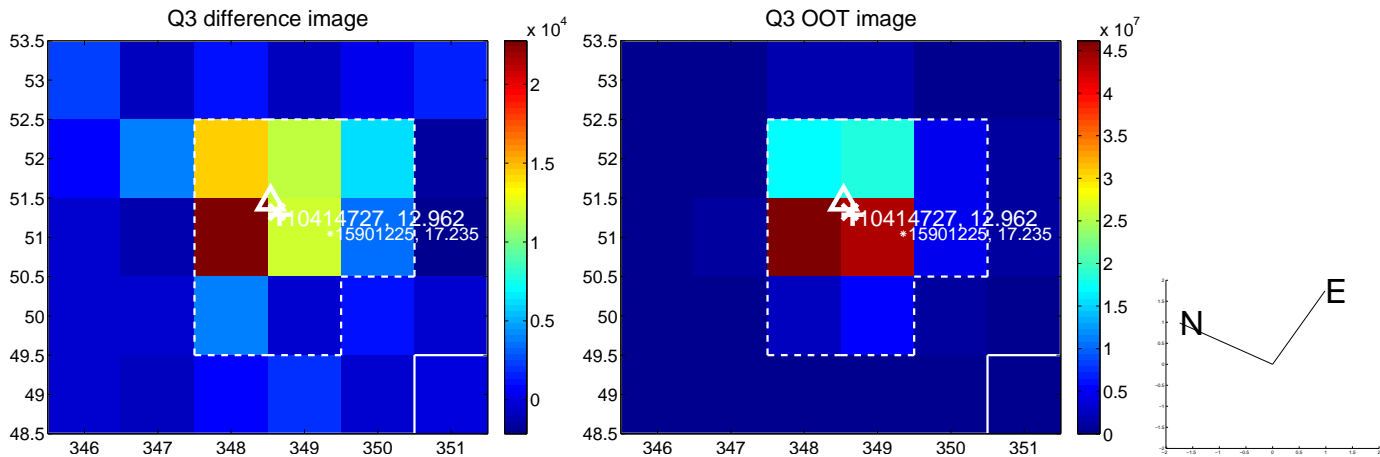
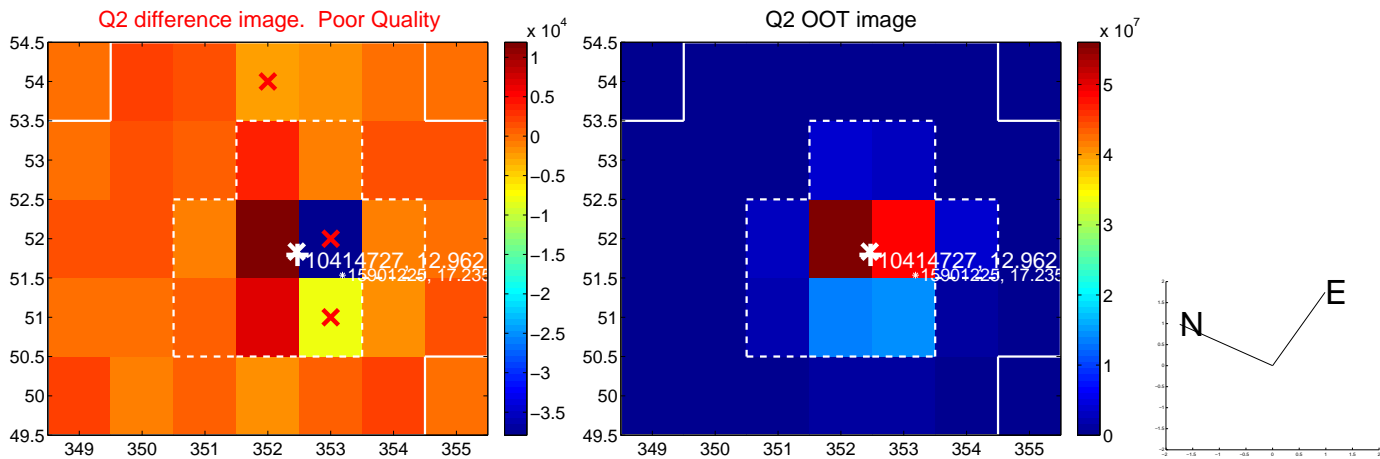
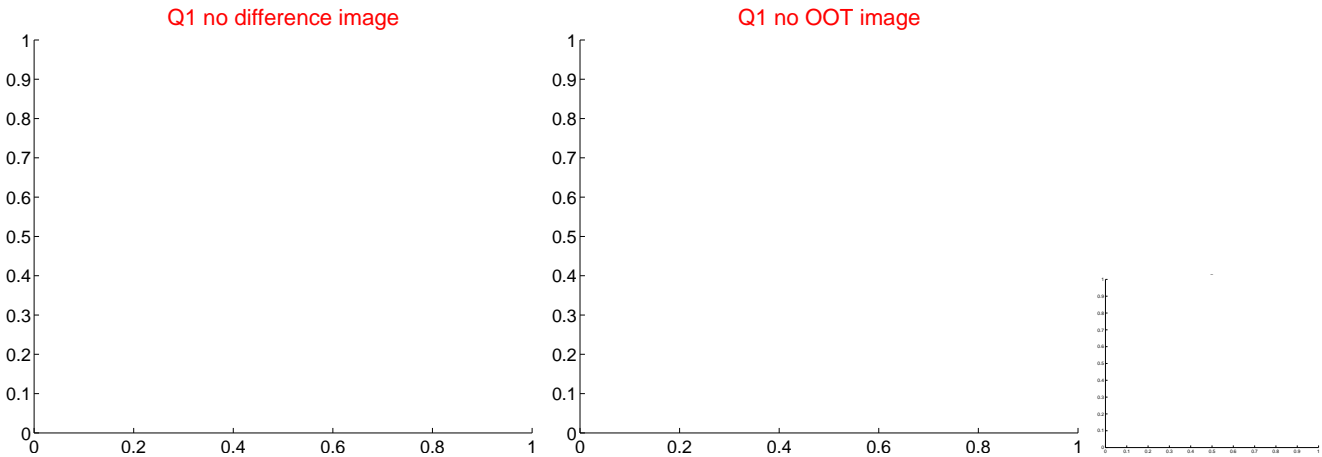
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.438 ± 0.472	0.93	0.340 ± 0.490	0.277 ± 0.382
PRF-fit source offset from KIC position	0.098 ± 0.328	0.30	-0.016 ± 0.370	0.097 ± 0.327
photometric centroid source offset	0.41 ± 0.63	0.65	-0.05 ± 0.64	0.41 ± 0.63

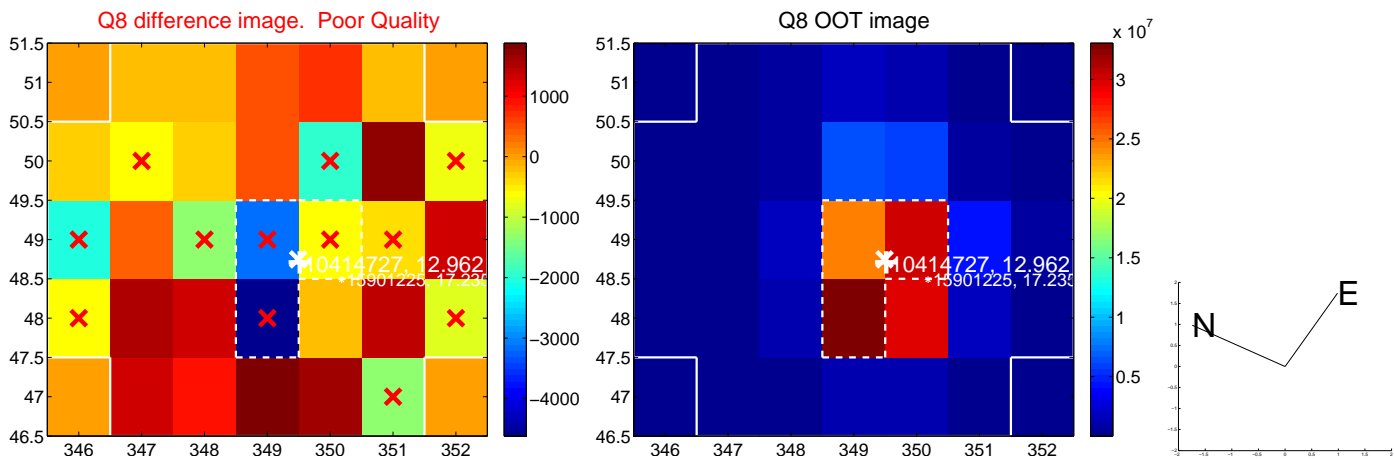
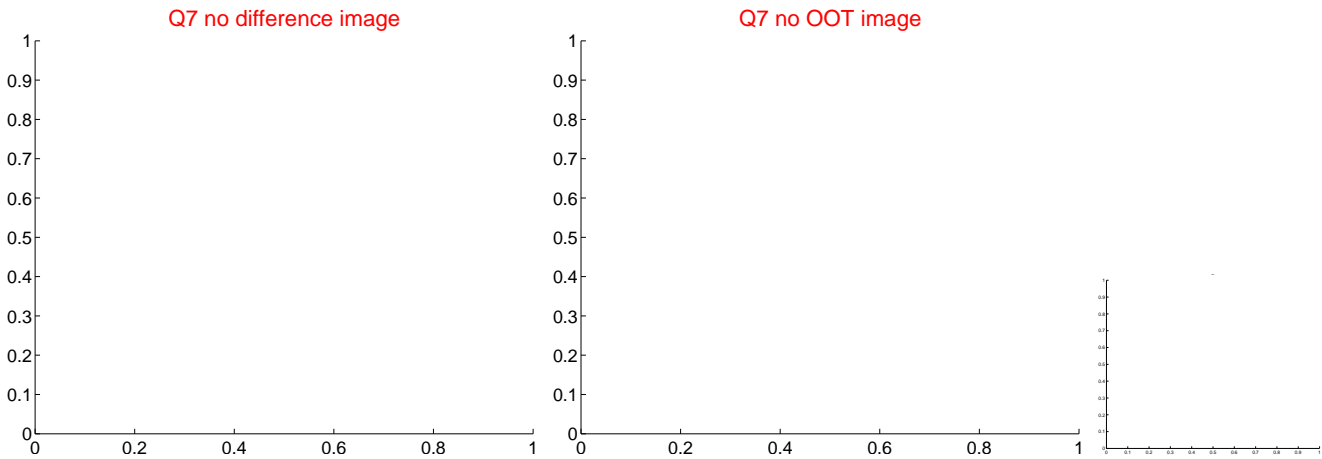
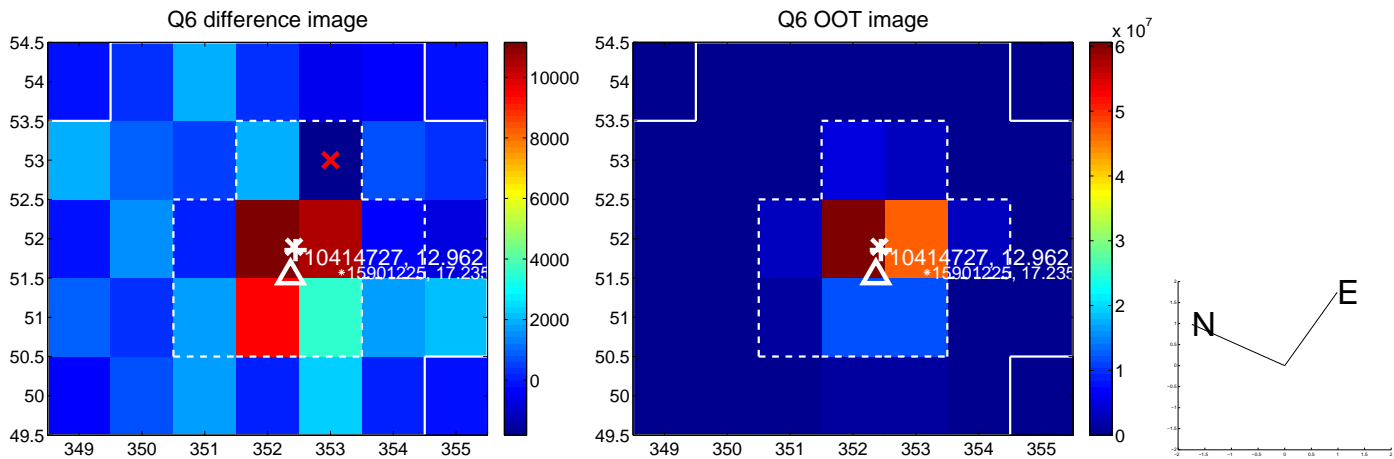
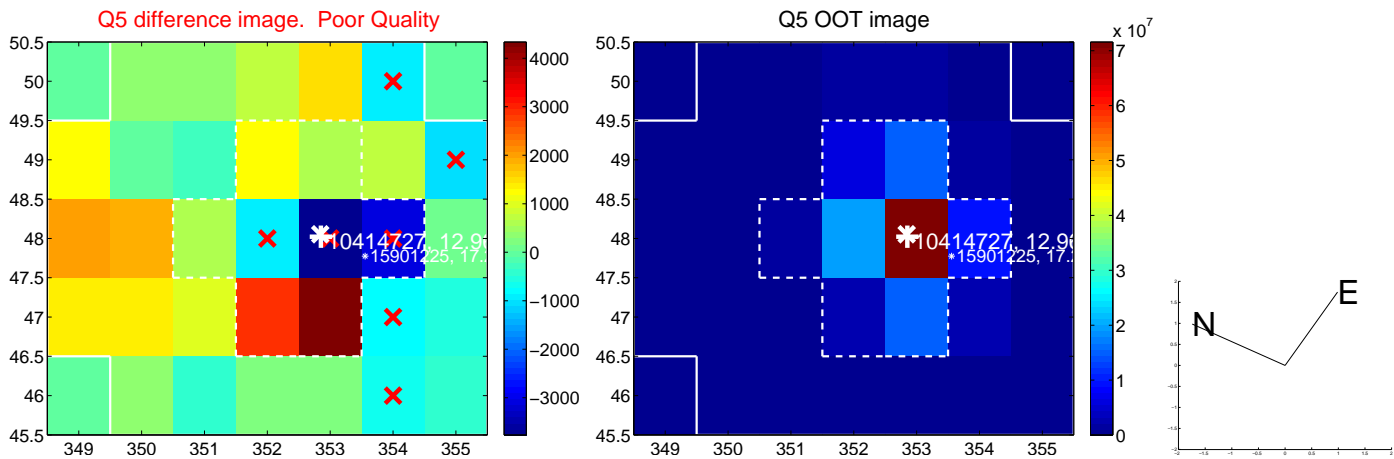


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

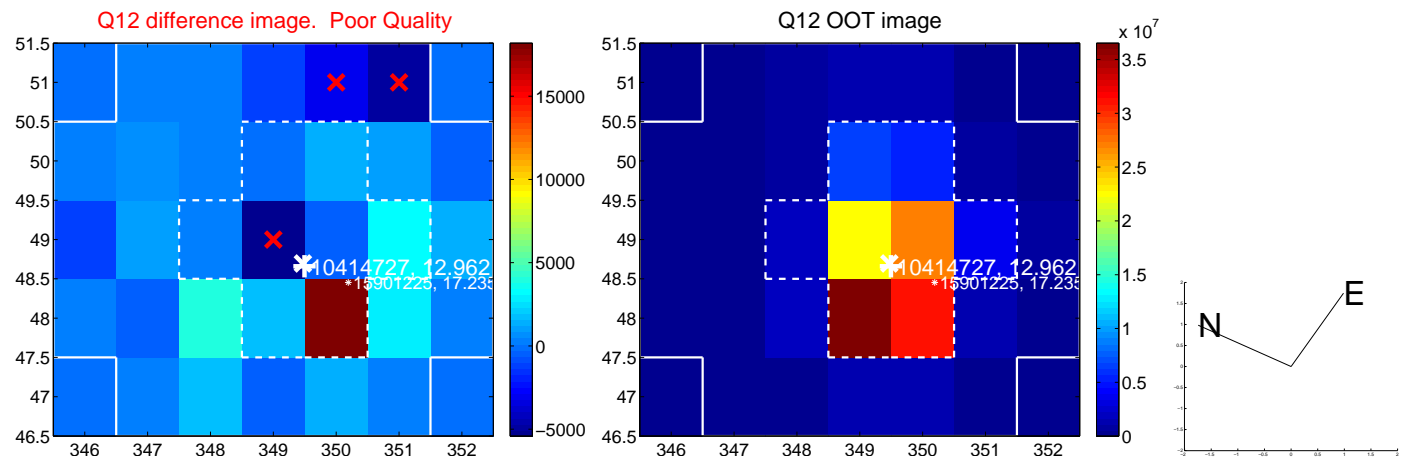
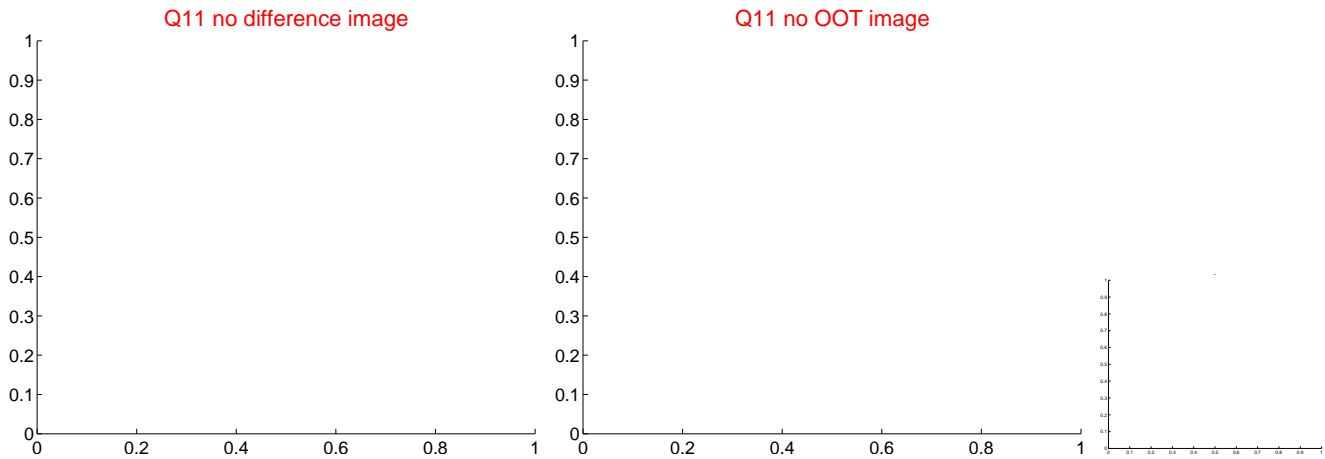
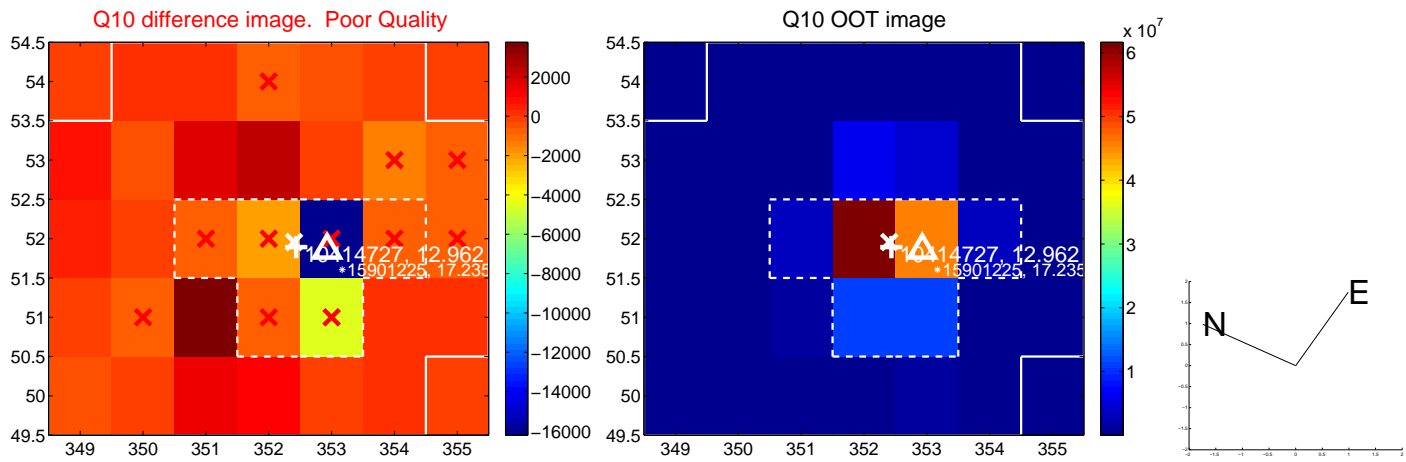
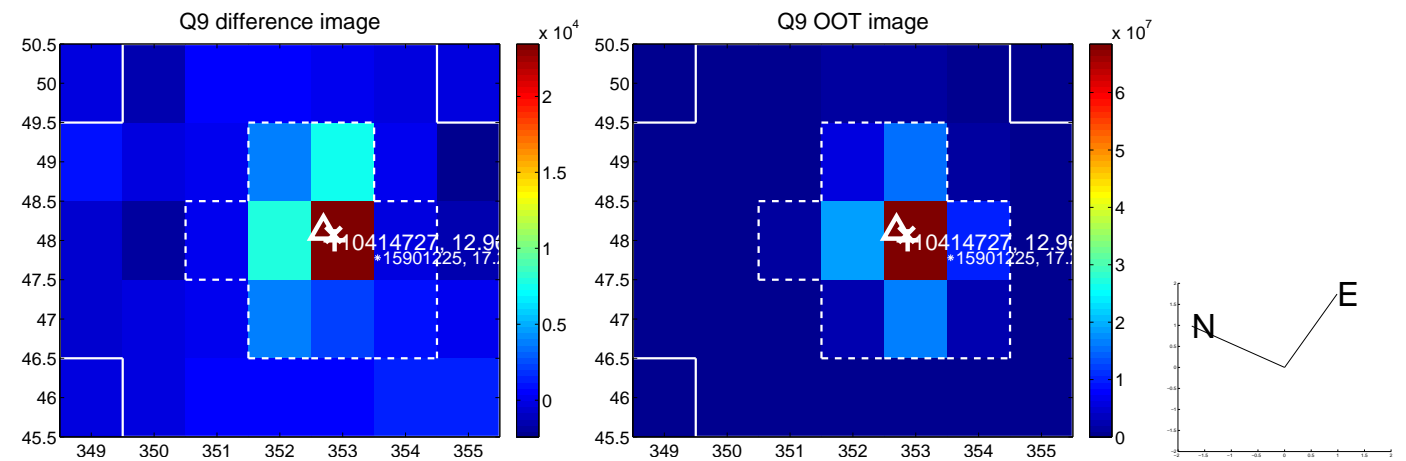
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



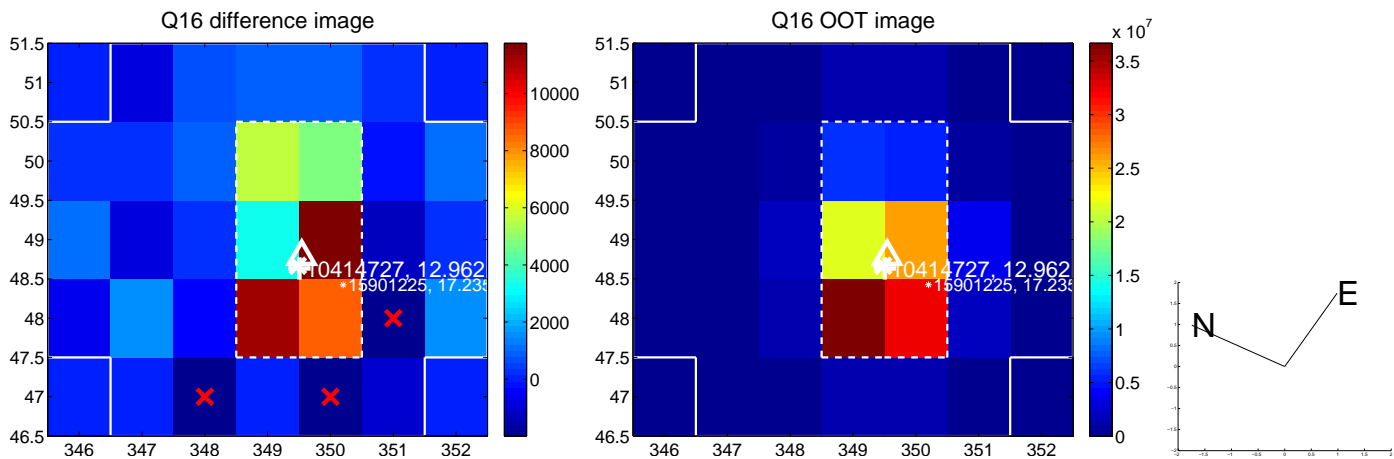
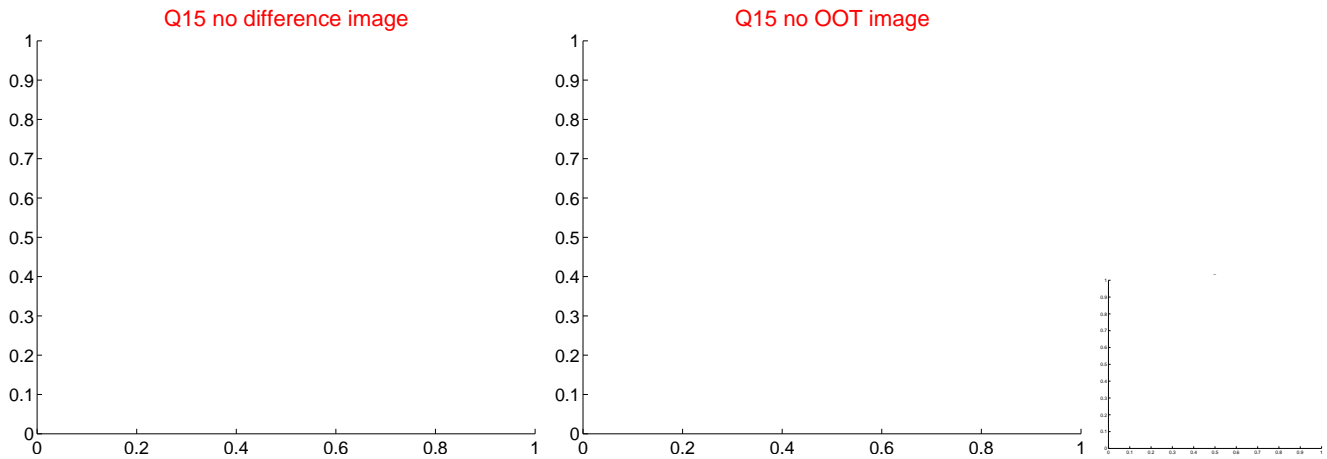
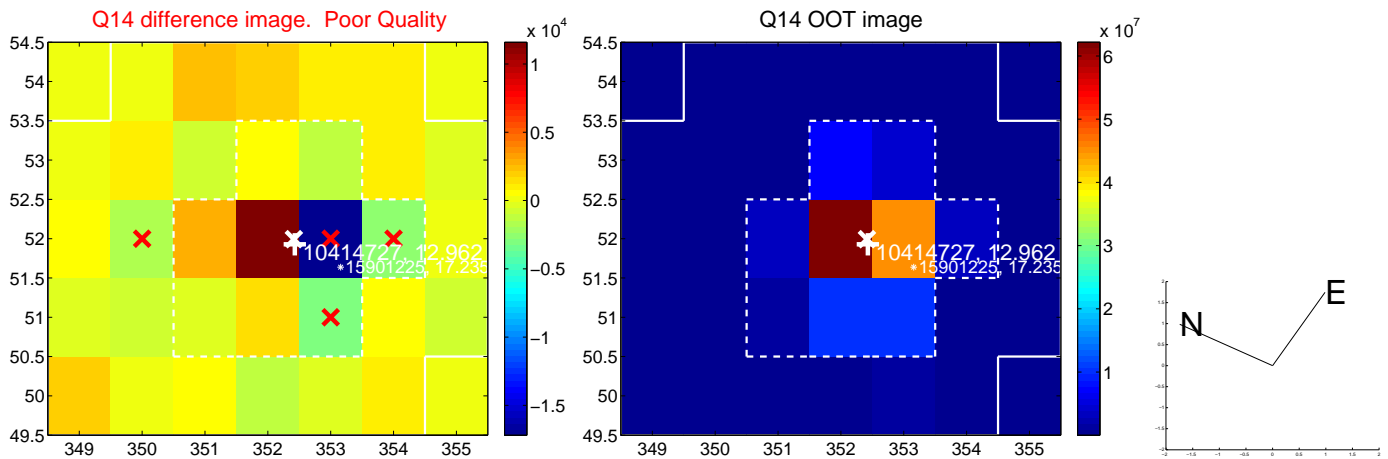
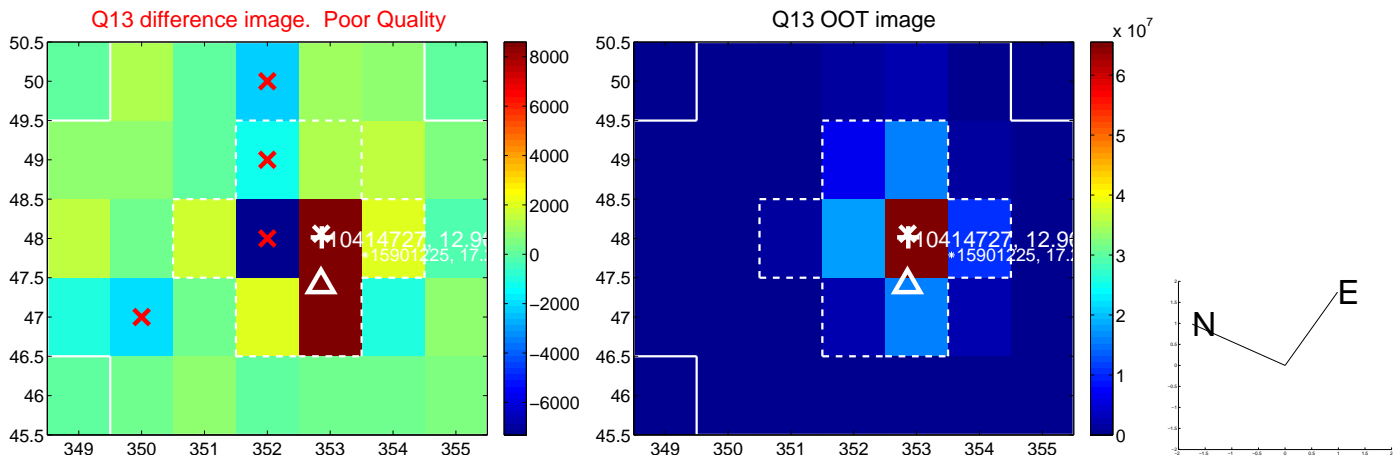
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



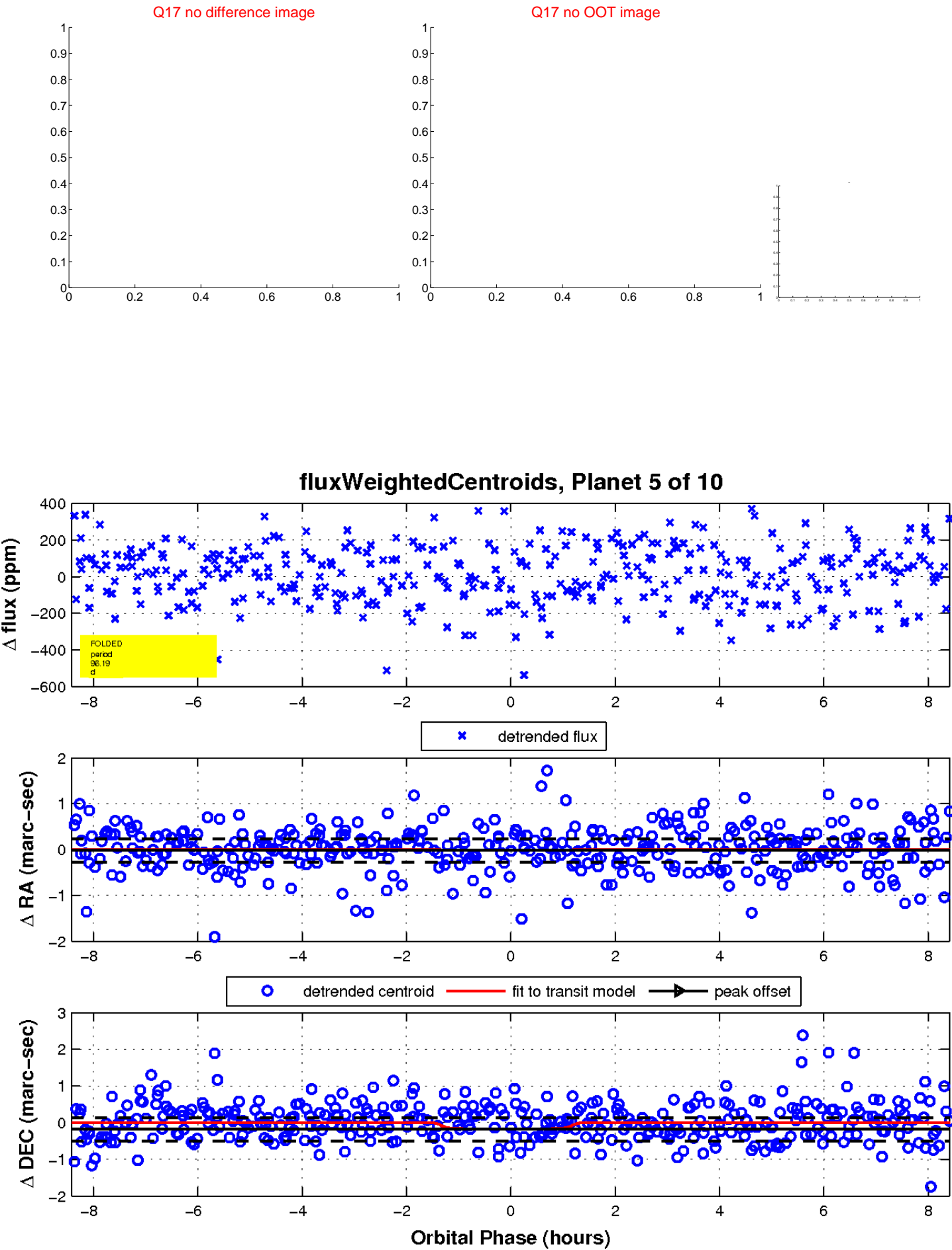
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

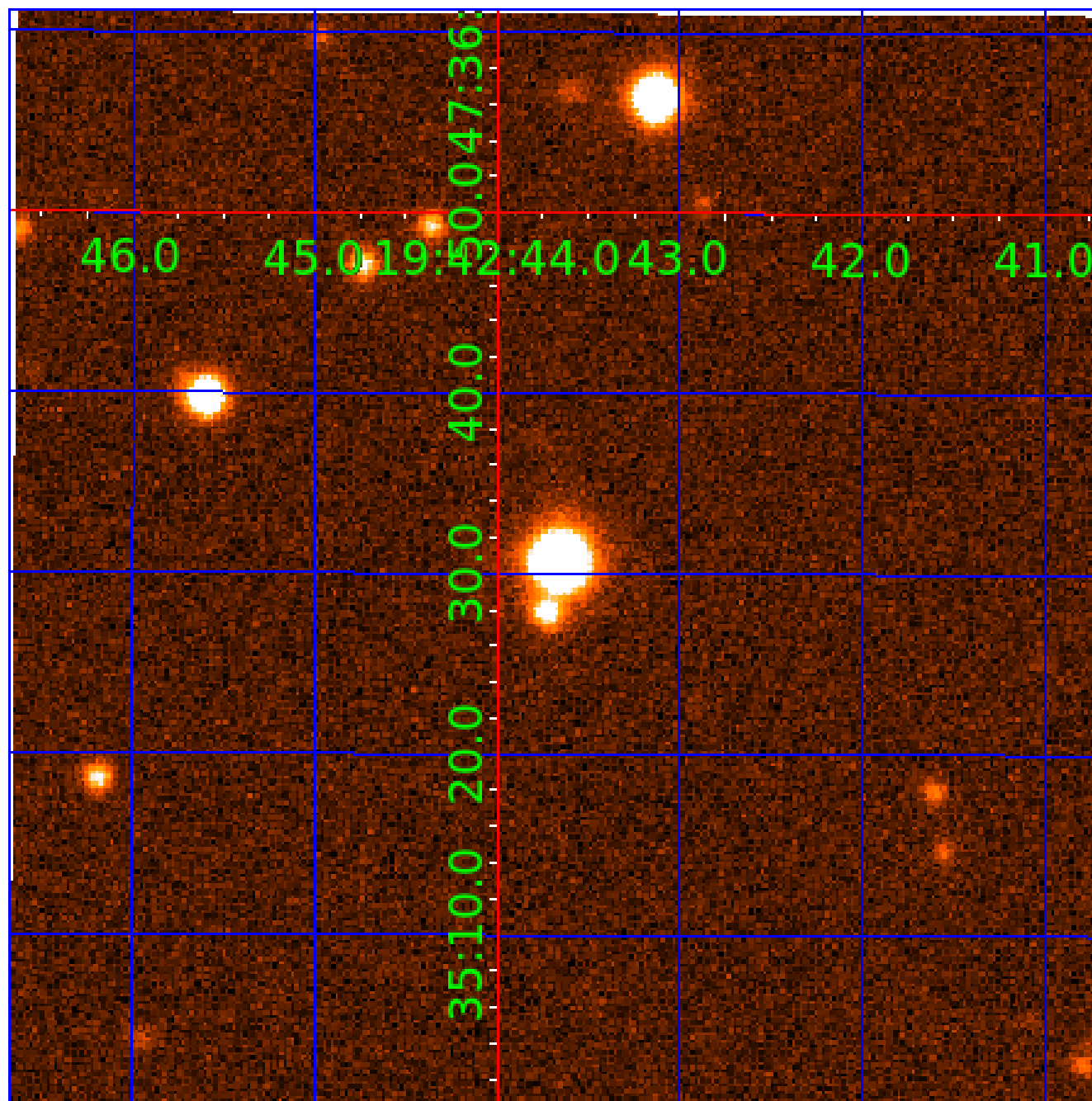


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
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010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010414727-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

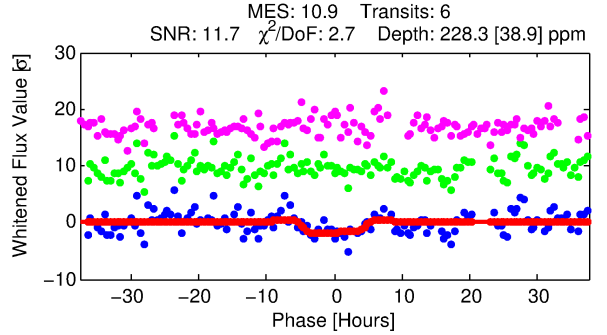
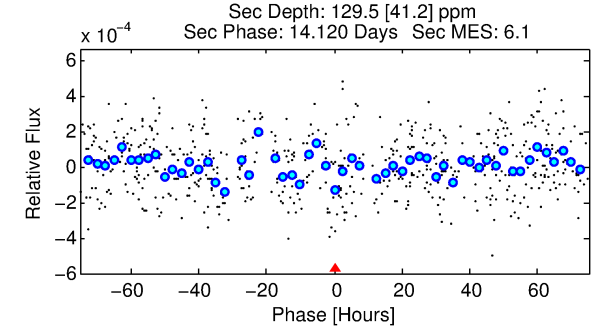
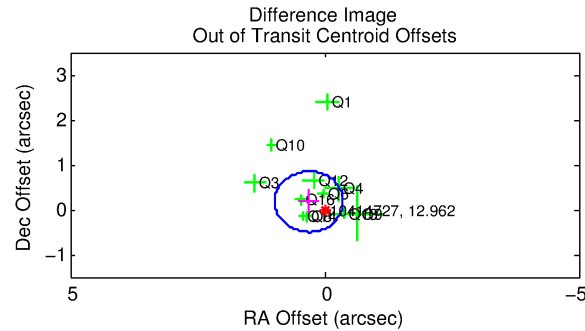
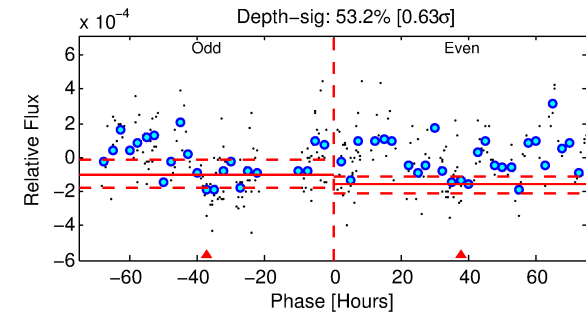
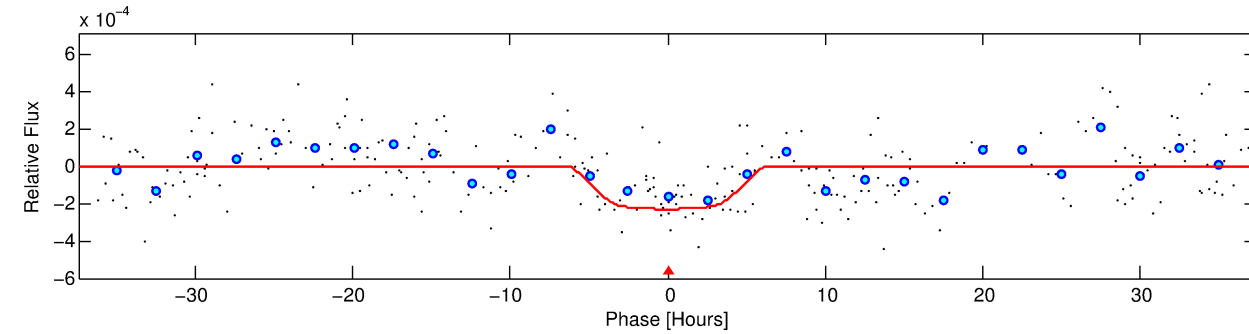
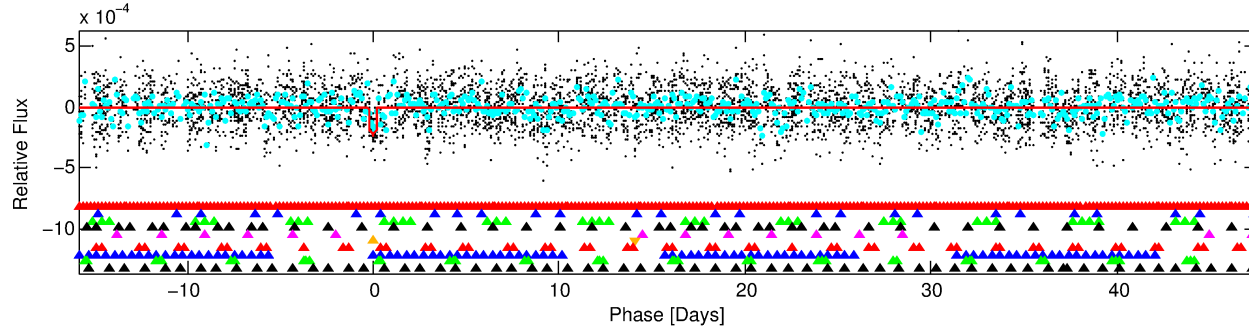
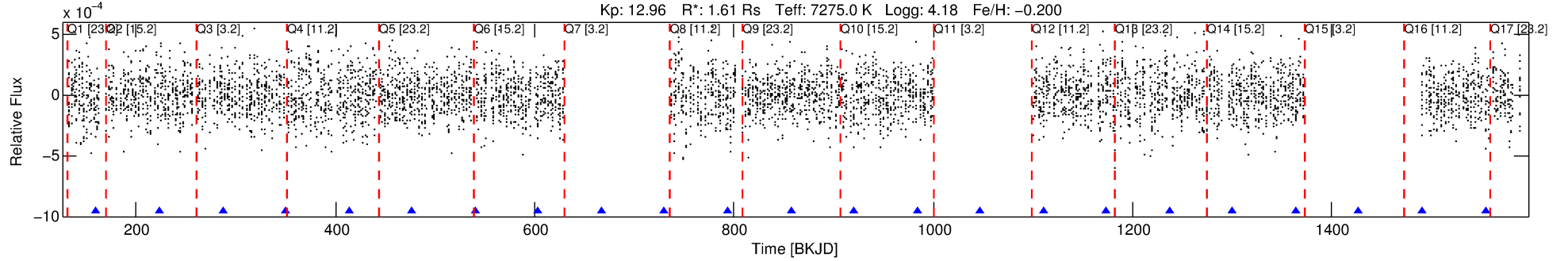
Ephemeris Match Information For 010414727-06

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 6 of 10 Period: 63.348 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



DV Fit Results:

Period = 63.34808 [0.00282] d
Epoch = 160.2142 [0.0274] BKJD
Rp/R* = 0.0176 [0.0019]
a/R* = 11.83 [3.35]
b = 0.97 [0.02]
Seff = 52.90 [21.02]
Teq = 688 [68] K
Rp = 3.08 [1.07] Re
a = 0.3502 [0.0919] AU
Ag = 919.50 [482.67] [1.90σ]
Teffp = 5855 [610] K [8.42σ]

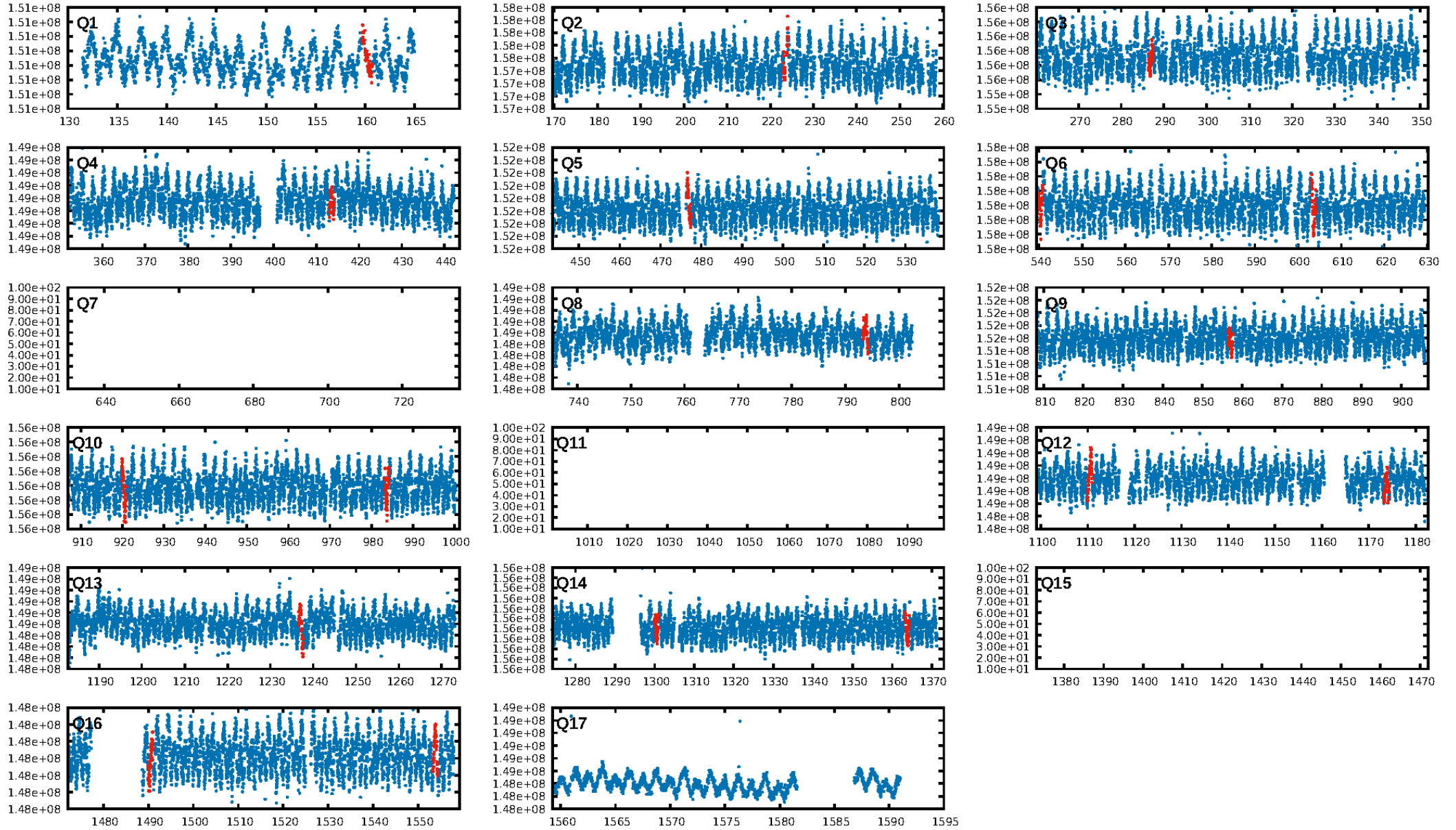
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.59σ]
LongPeriod-sig: 100.0% [61.62σ]
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.9785
Centroid-sig: 9.7%
Centroid-so: 0.835 arcsec [2.10σ]
OotOffset-rm: 0.357 arcsec [1.58σ]
OotOffset-st: 3/1/4/3 [11]
KicOffset-rm: 0.204 arcsec [1.14σ]
KicOffset-st: 3/1/4/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/11]

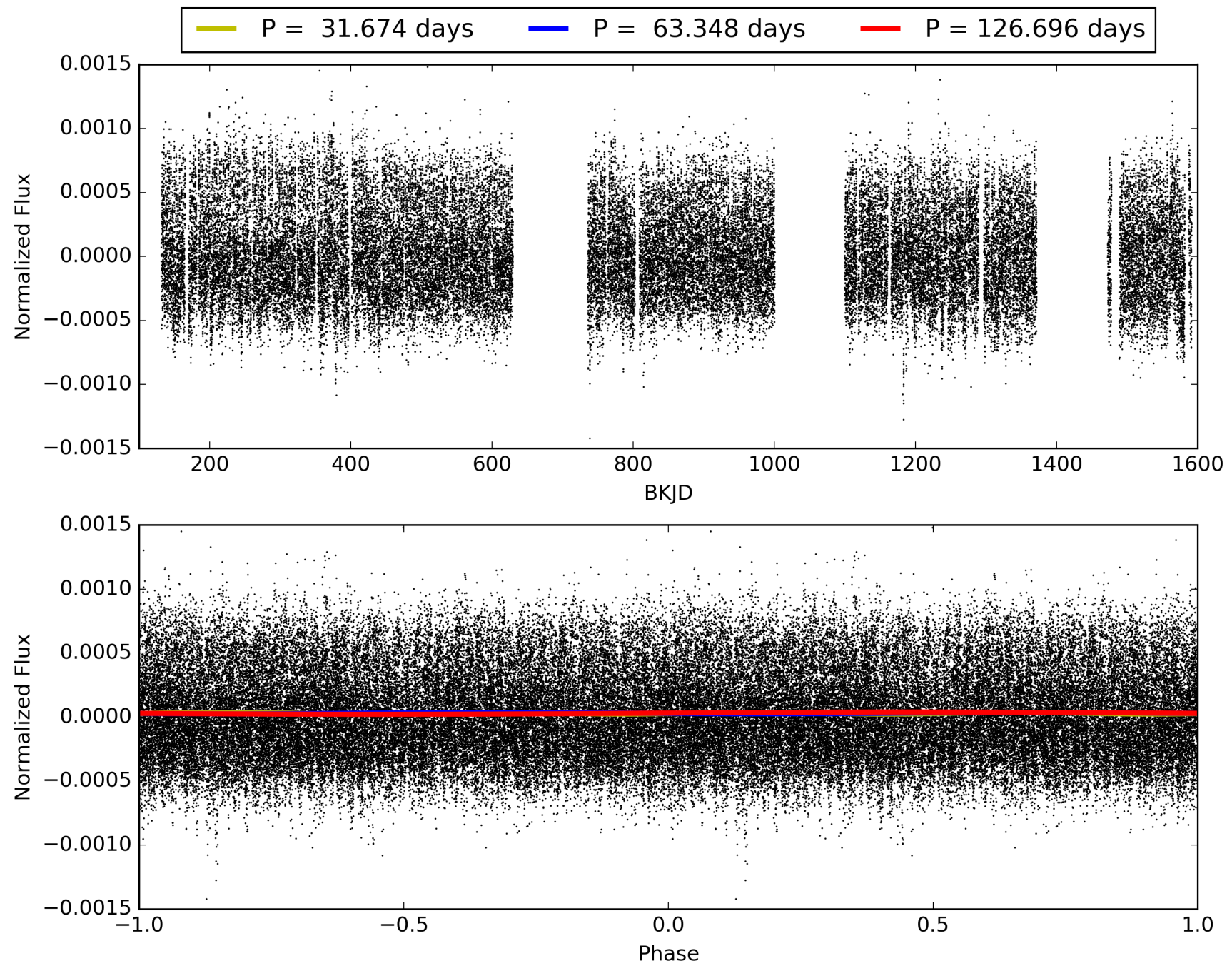
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:51:29 Z

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

TCE 010414727-06, PDC Light Curves

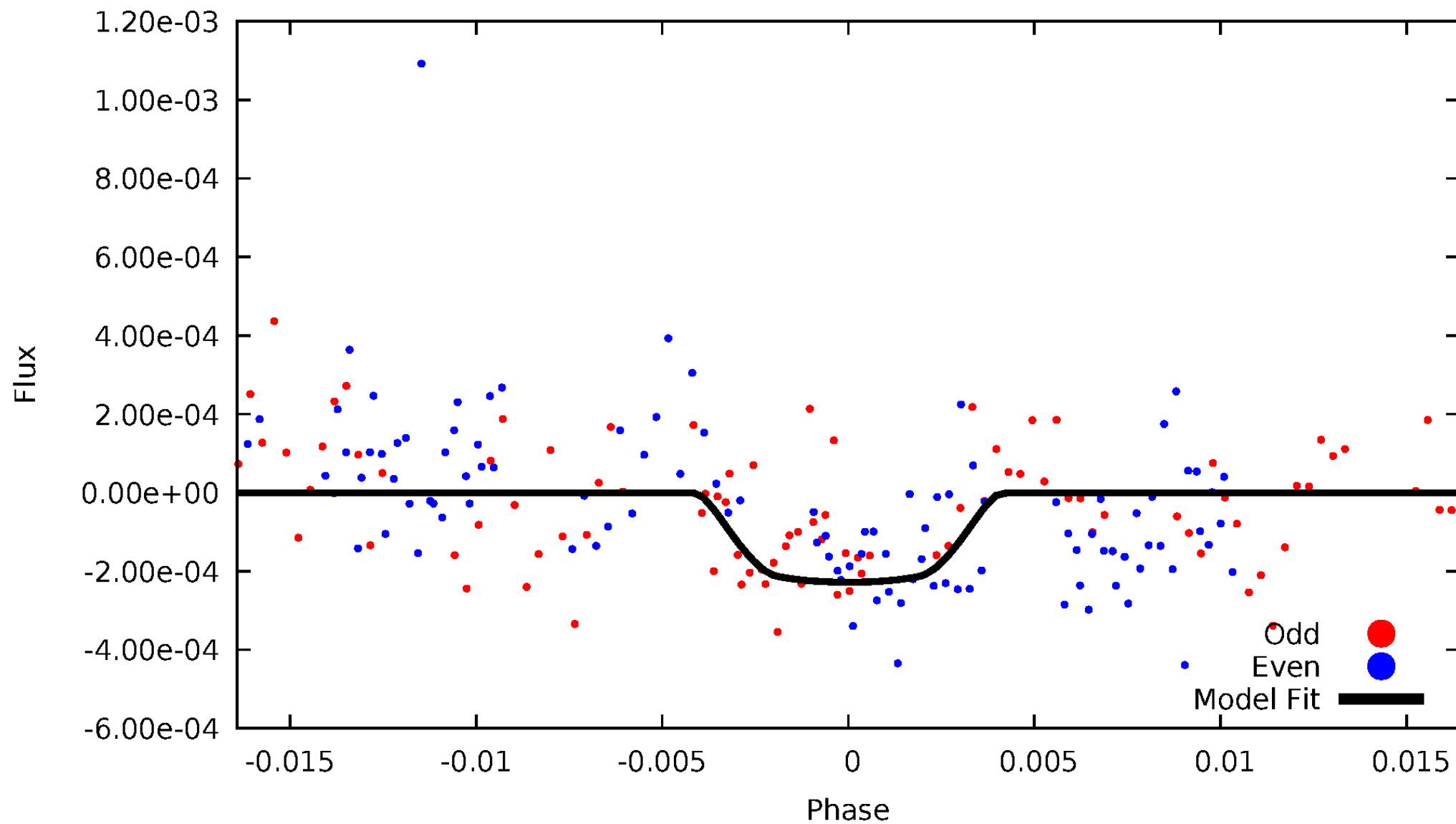


TCE 010414727-06



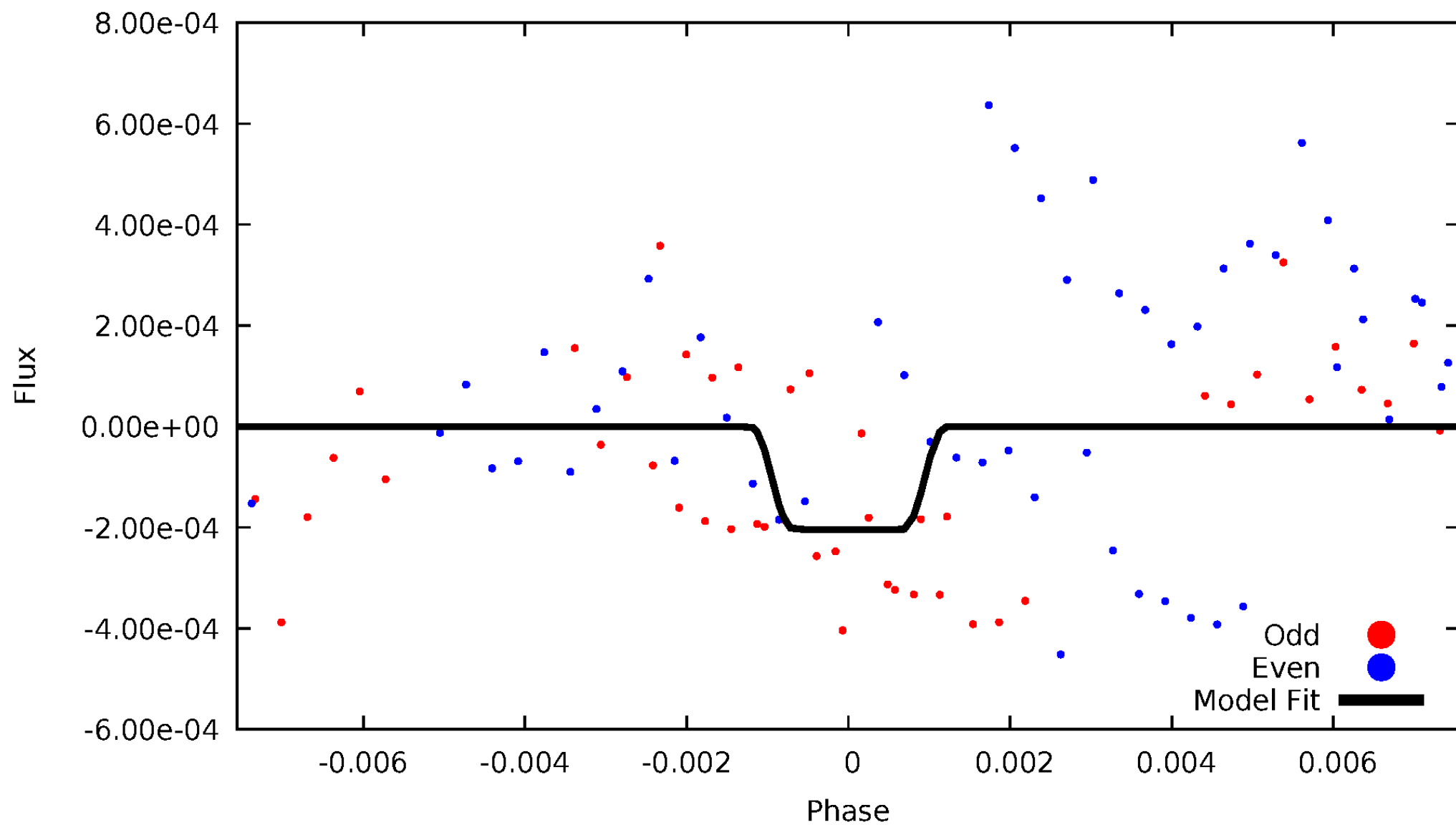
DV Odd/Even

TCE 010414727-06



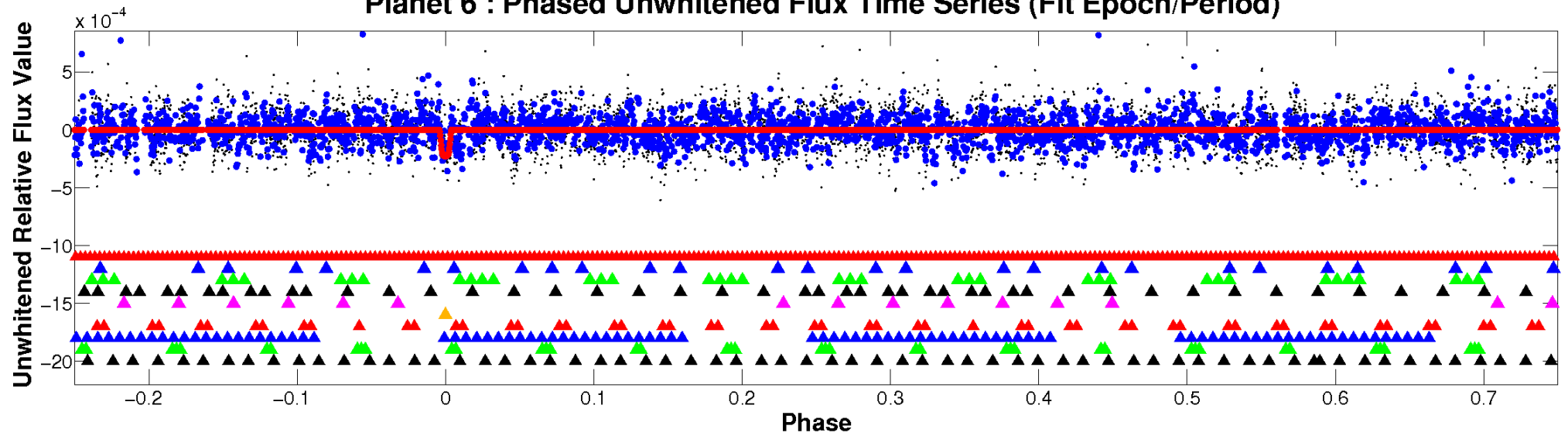
ALT Odd/Even

TCE 010414727-06

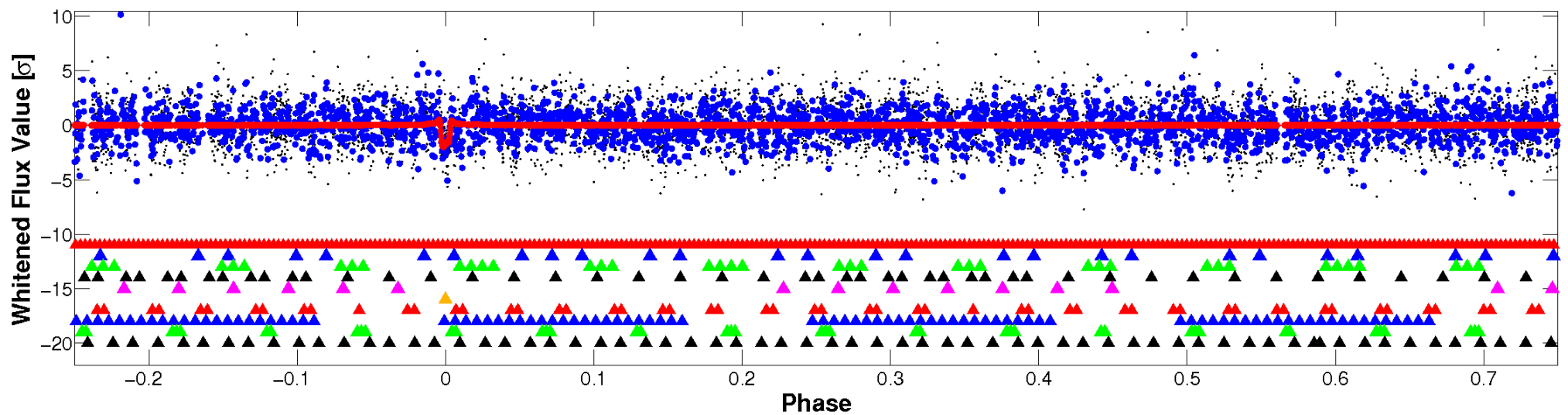


Non-Whitened Vs. Whitened Light Curve

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

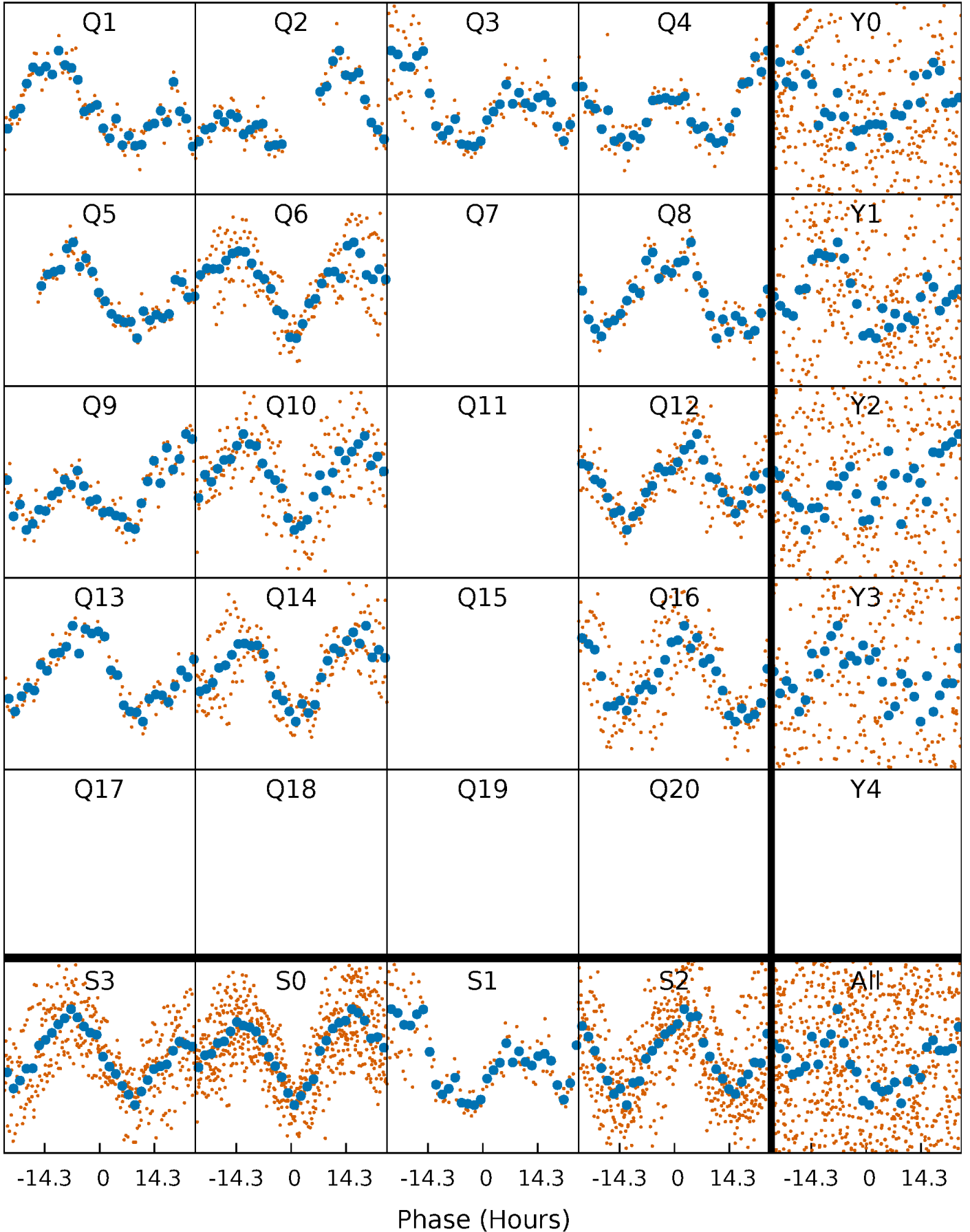


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



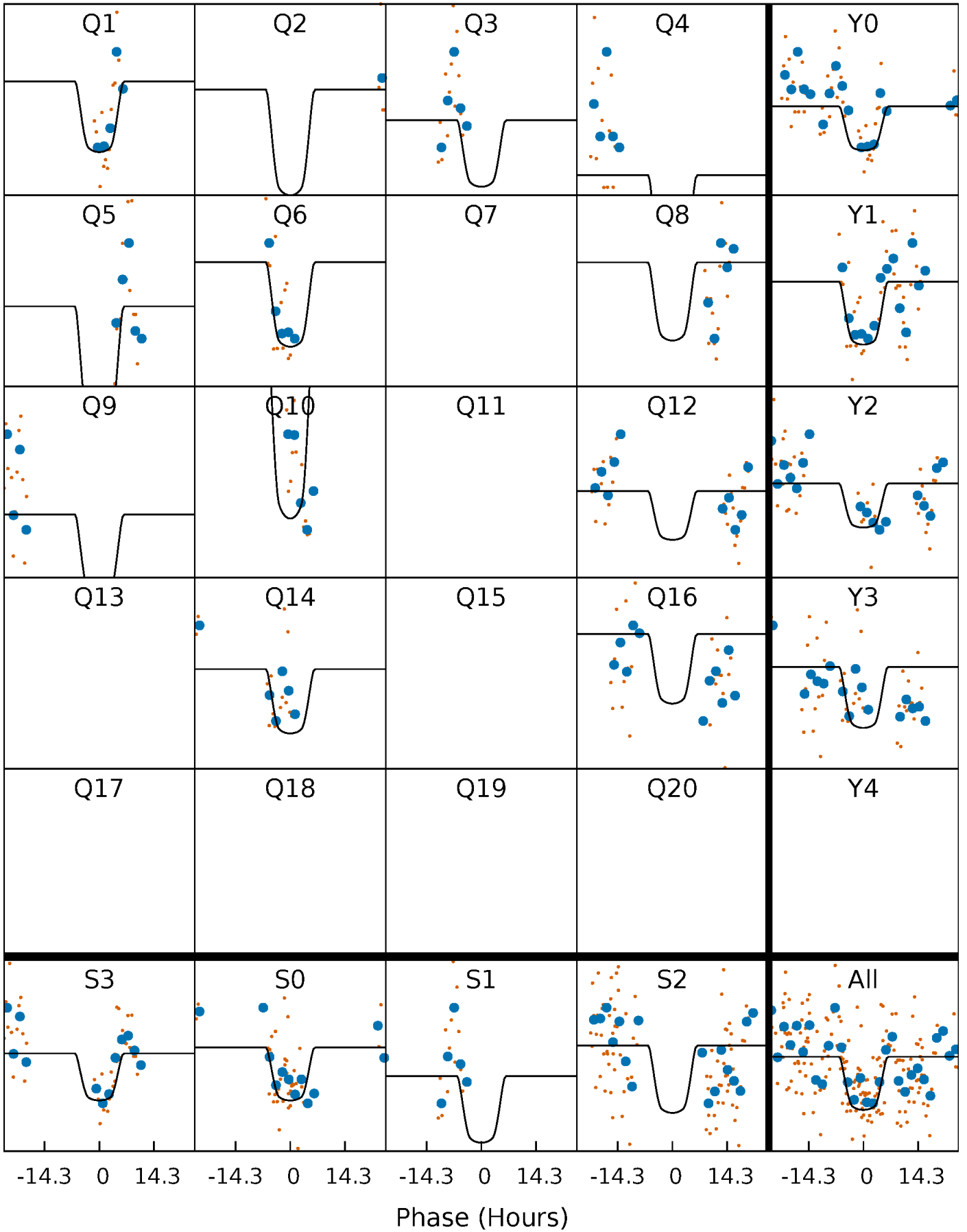
PDC Quarter-Phased Transit Curves

TCE 010414727-06 P= 63.348075 Days $T_0=160.214226$ (BKJD)



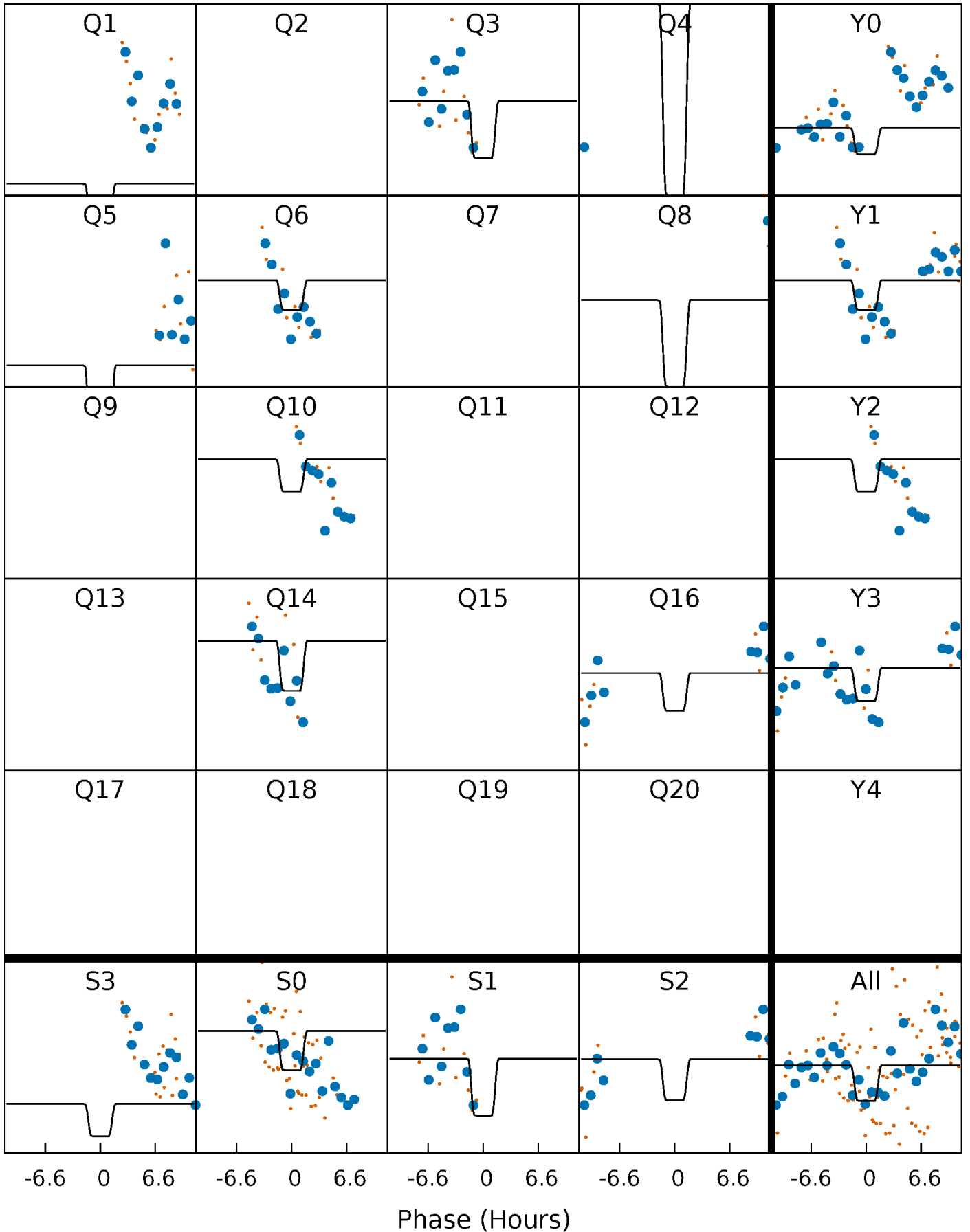
DV Quarter-Phased Transit Curves

TCE 010414727-06 P= 63.348075 Days $T_0=160.214226$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

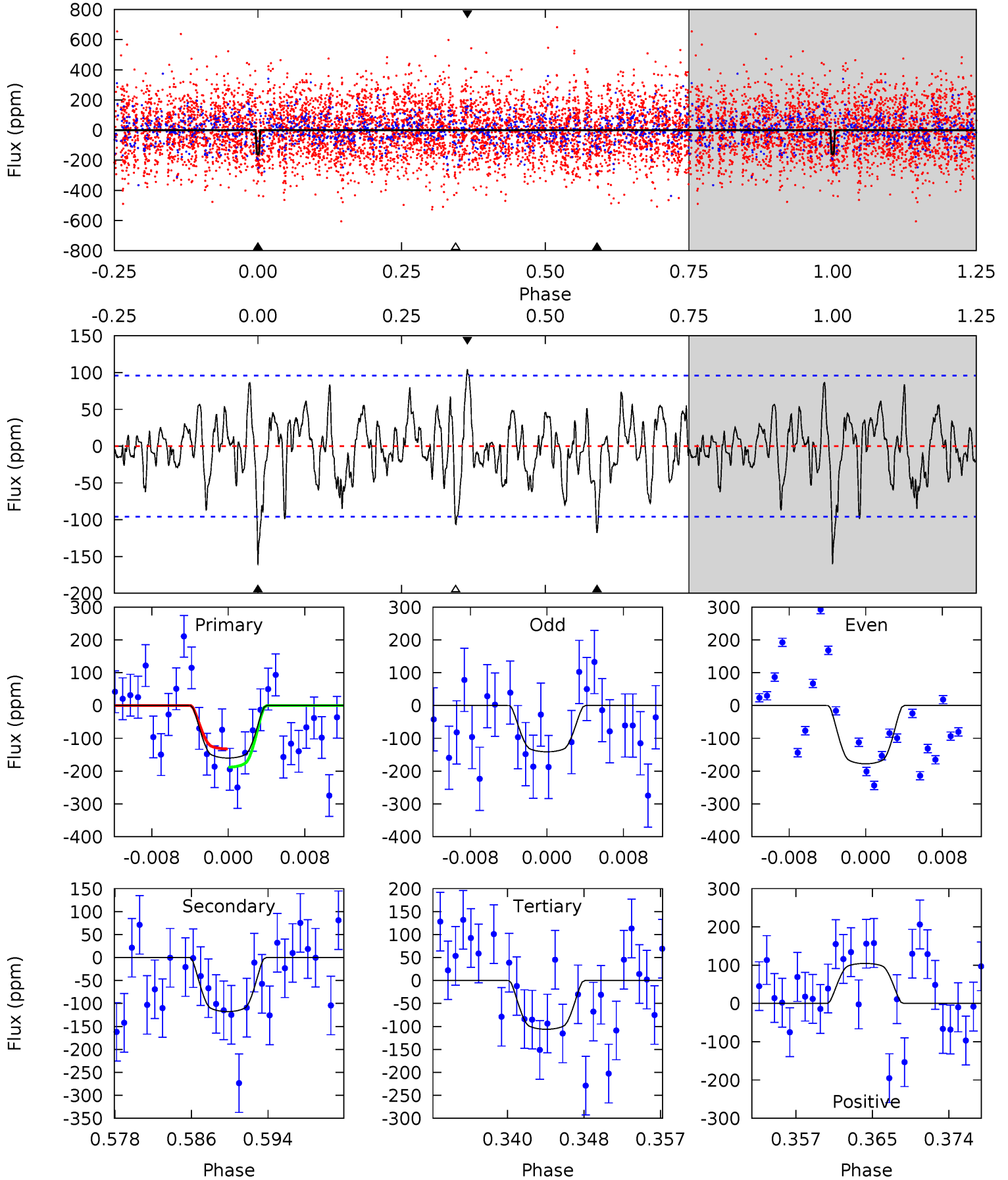
TCE 010414727-06 P= 63.354835 Days $T_0=160.050731$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-06, P = 63.348075 Days, E = 96.866151 Days

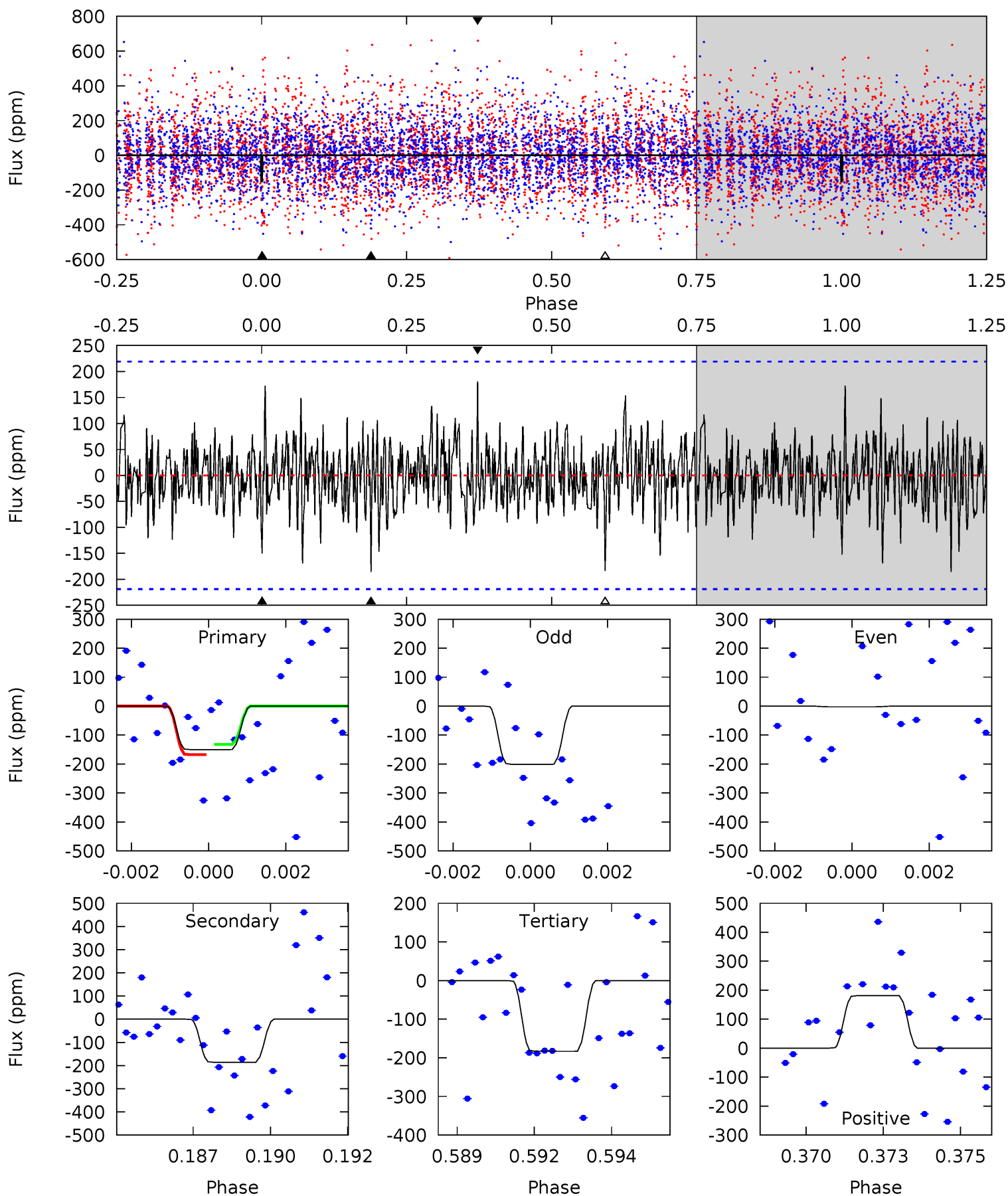
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.44	6.21	5.60	5.52	5.06	2.63	1.83	2.84	2.92	0.61	0.69	0.96	0.95	0.40	1.47



Alt Model-Shift Uniqueness Test

010414727-06, P = 63.354835 Days, E = 96.695896 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.64	4.51	4.44	4.39	5.30	3.05	1.16	-0.80	-0.75	0.07	0.12	2.13	0.62	0.49	0.43



Stellar Parameters For KIC 010414727

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-118 ± 19	$3.15^{+0.58}_{-0.48}$	966^{+76}_{-66}	5640^{+420}_{-380}	801^{+353}_{-255}
Alt.	-186 ± 41	$2.54^{+0.50}_{-0.44}$	966^{+68}_{-65}	7018^{+757}_{-671}	1920^{+915}_{-694}

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 $A_{obs} \gg 1.0$

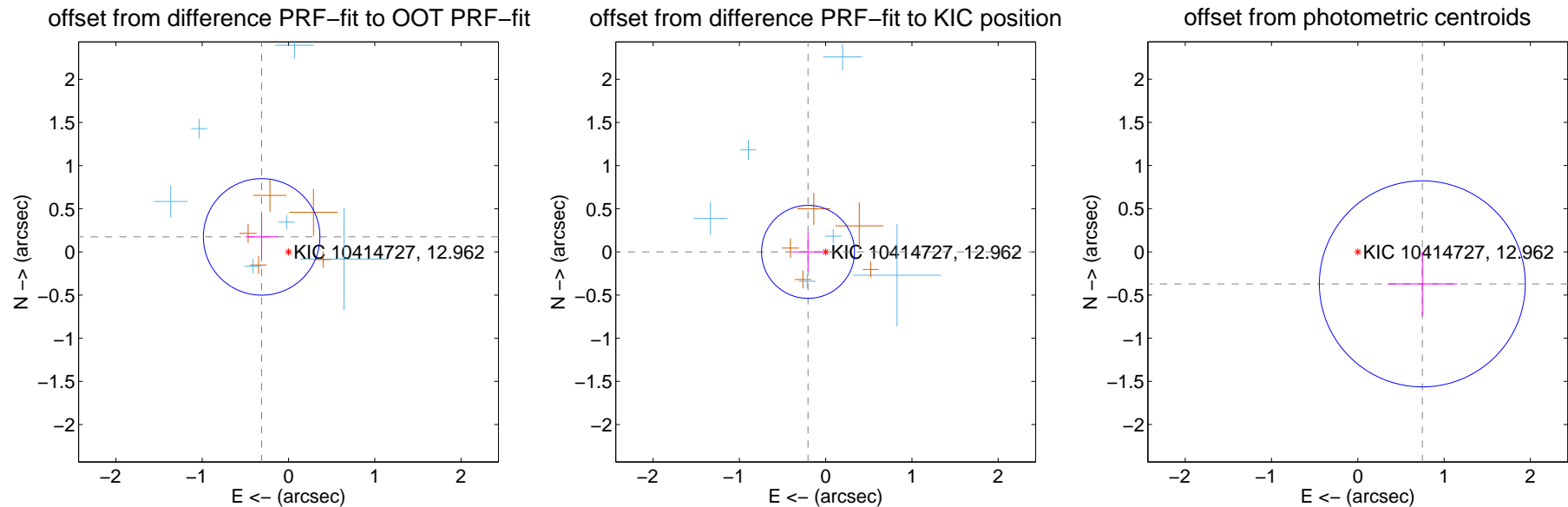
DV Centroid Data

Supplemental centroid analysis for 010414727-06. Kepler magnitude: 12.96. Transit SNR 11.66

There are 6 quarters with good PRF difference image offsets

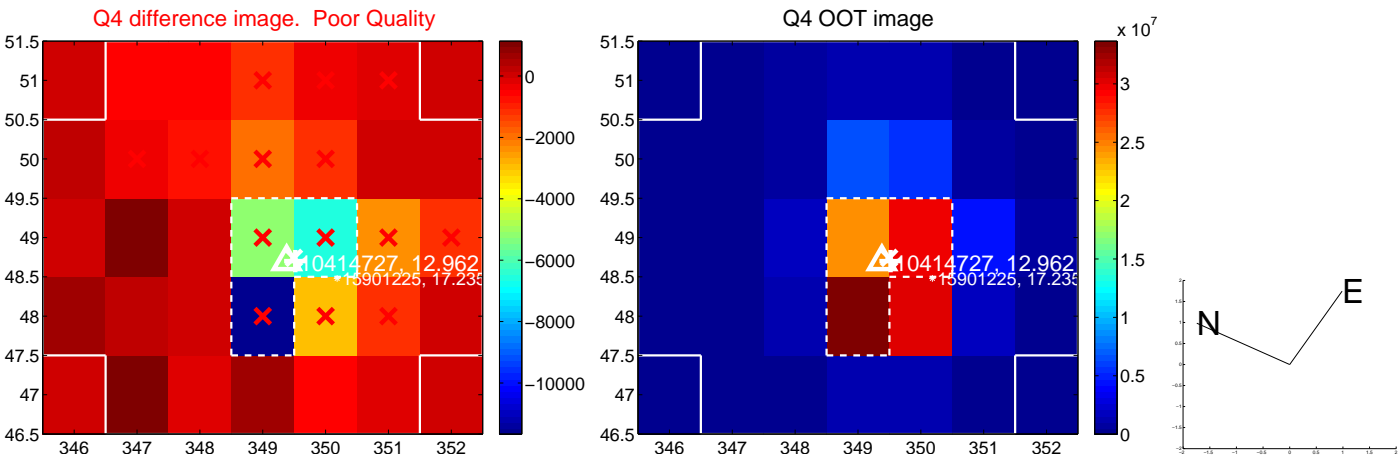
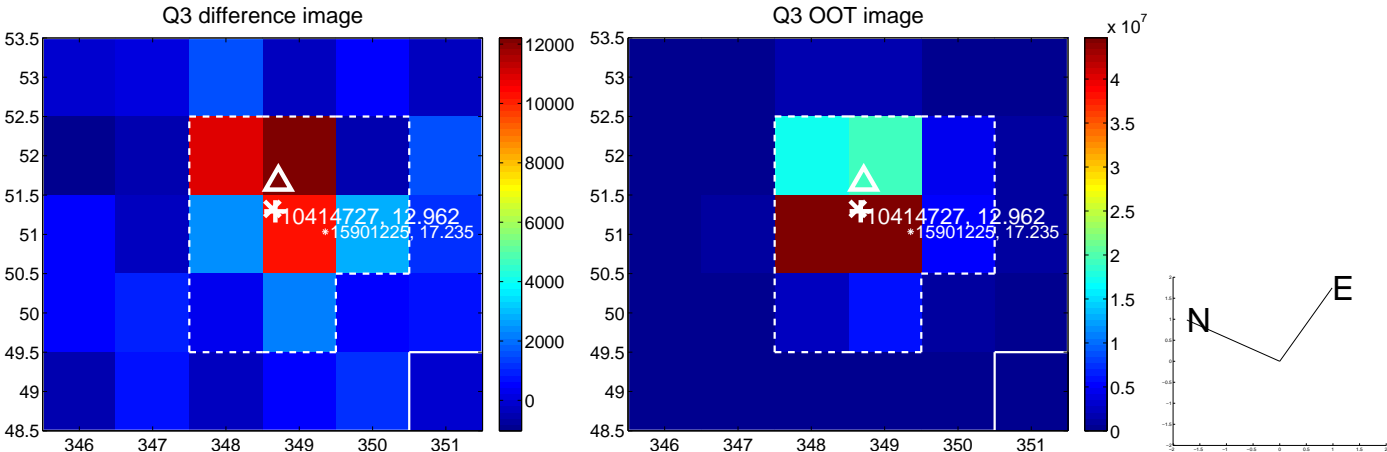
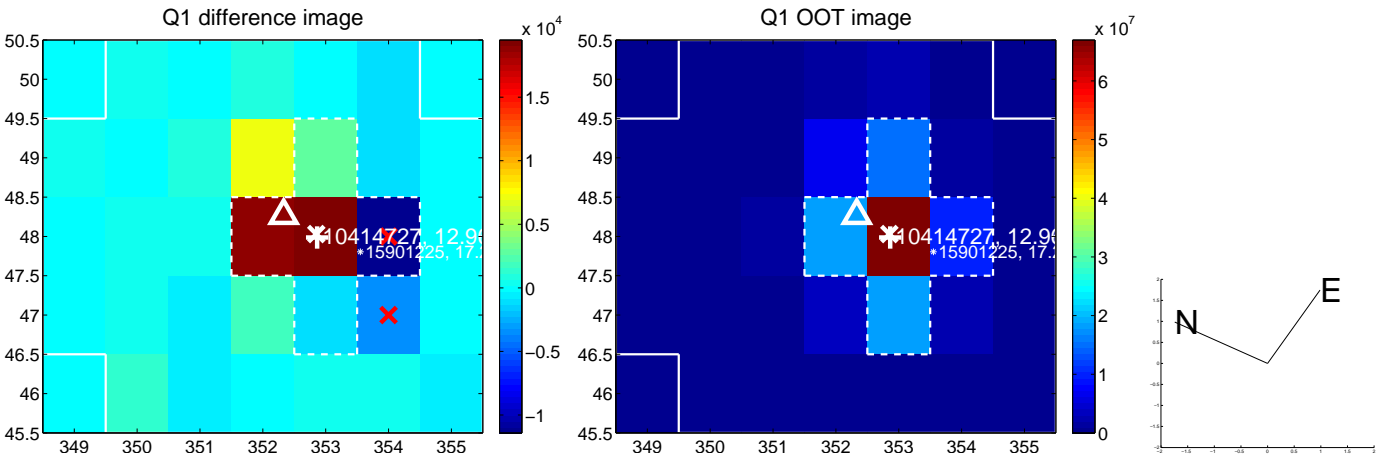
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.357 ± 0.225	1.58	0.311 ± 0.188	0.174 ± 0.245
PRF-fit source offset from KIC position	0.204 ± 0.180	1.14	0.204 ± 0.179	0.001 ± 0.224
photometric centroid source offset	0.83 ± 0.40	2.10	-0.75 ± 0.40	-0.37 ± 0.37

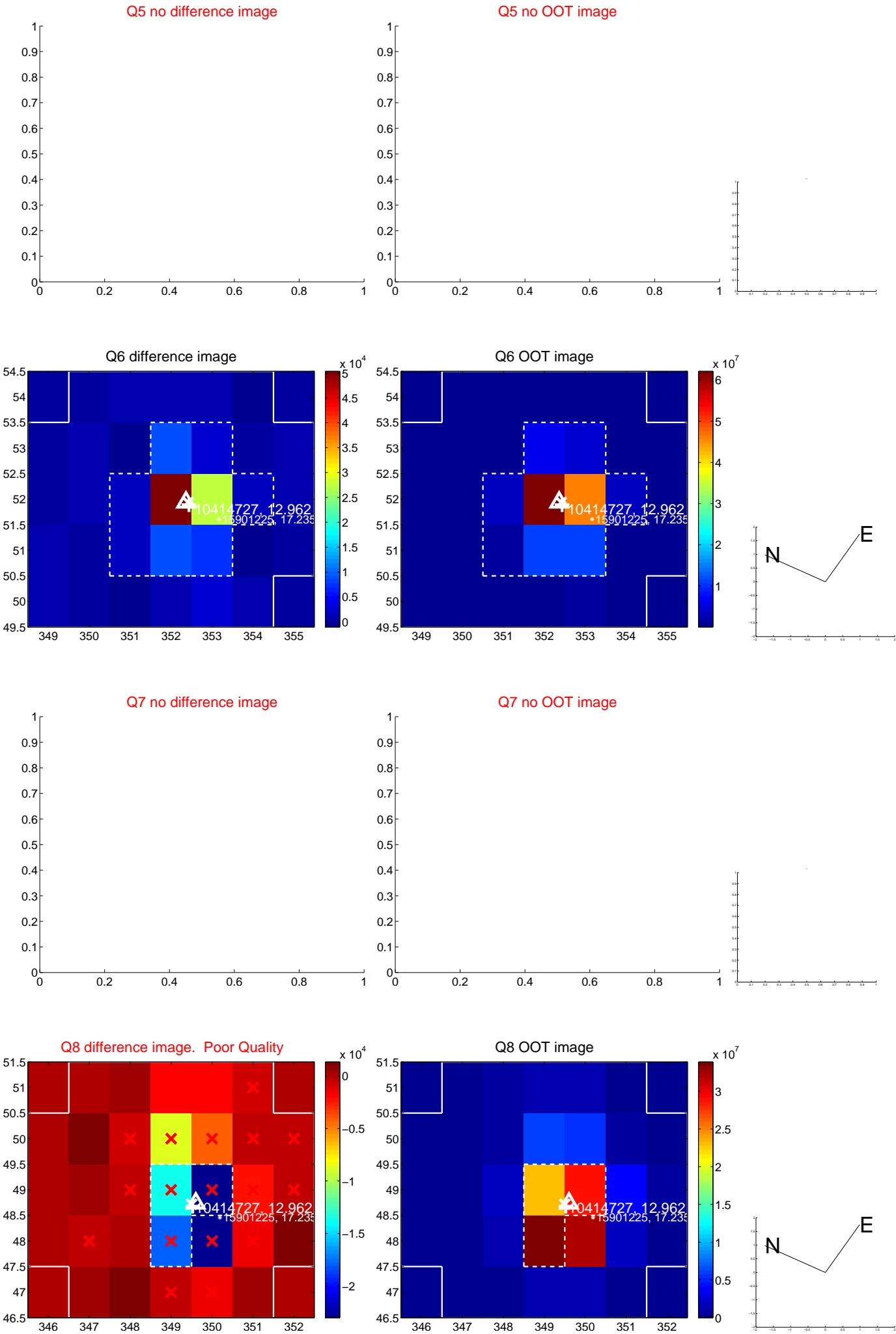


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

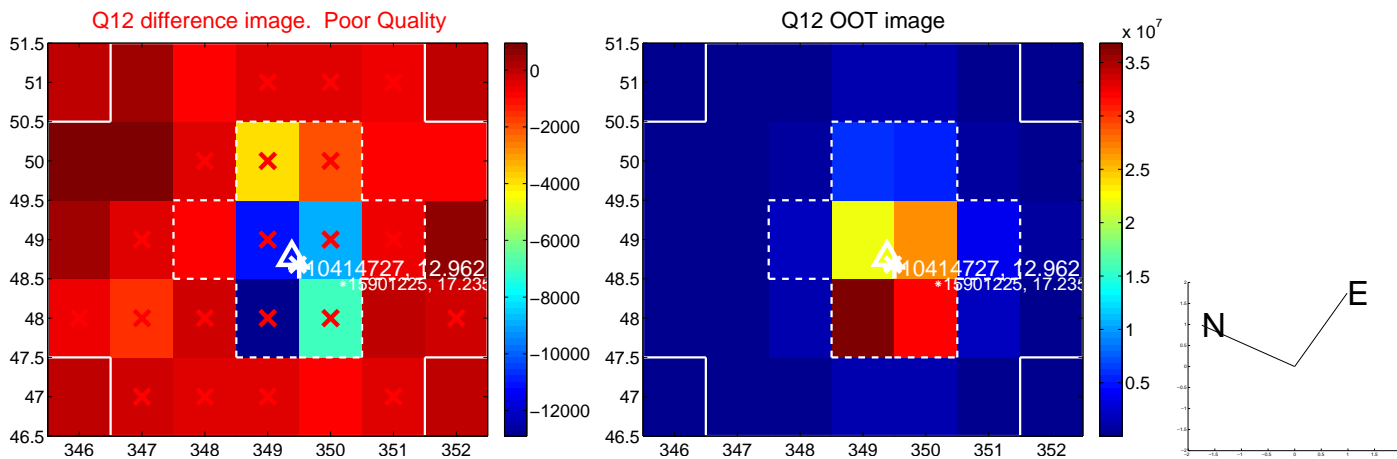
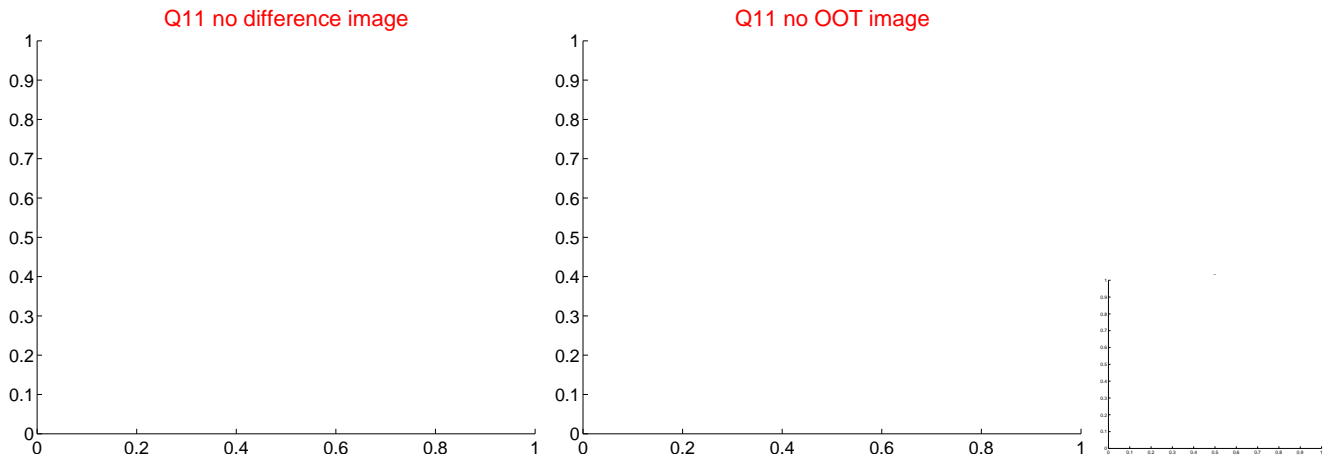
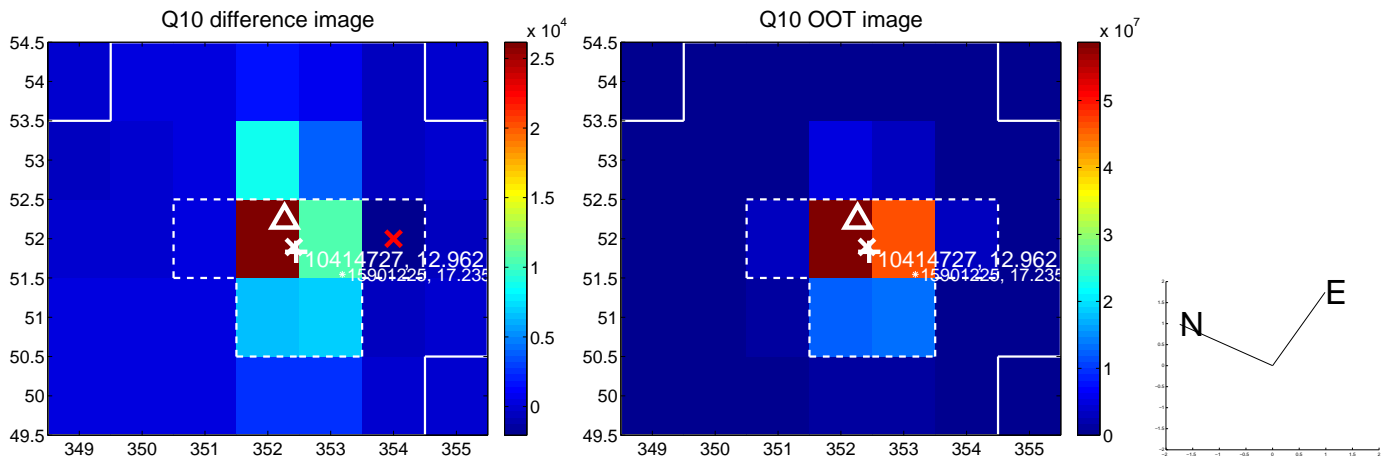
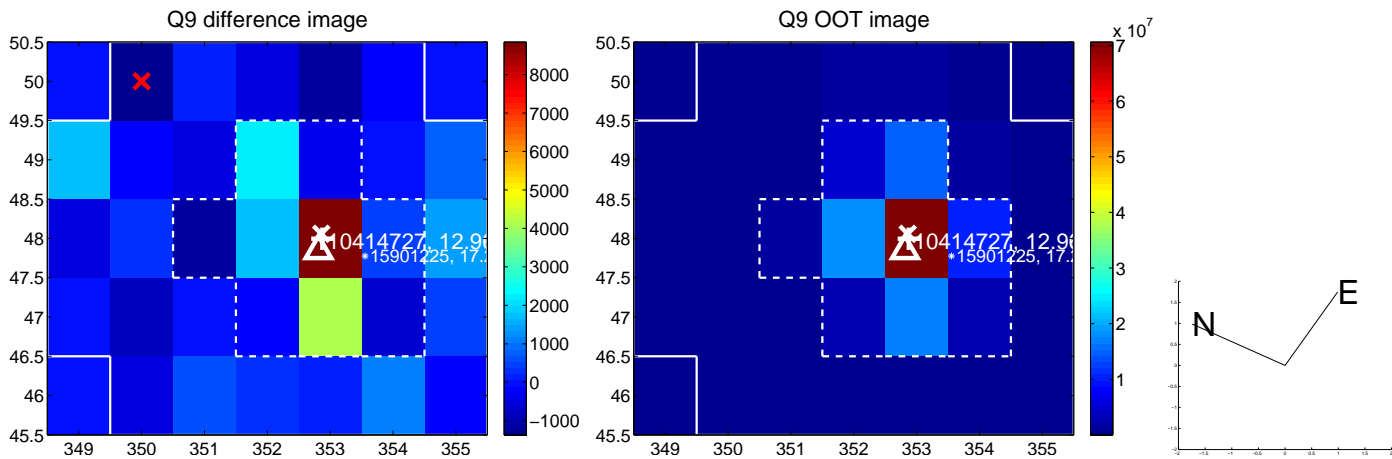
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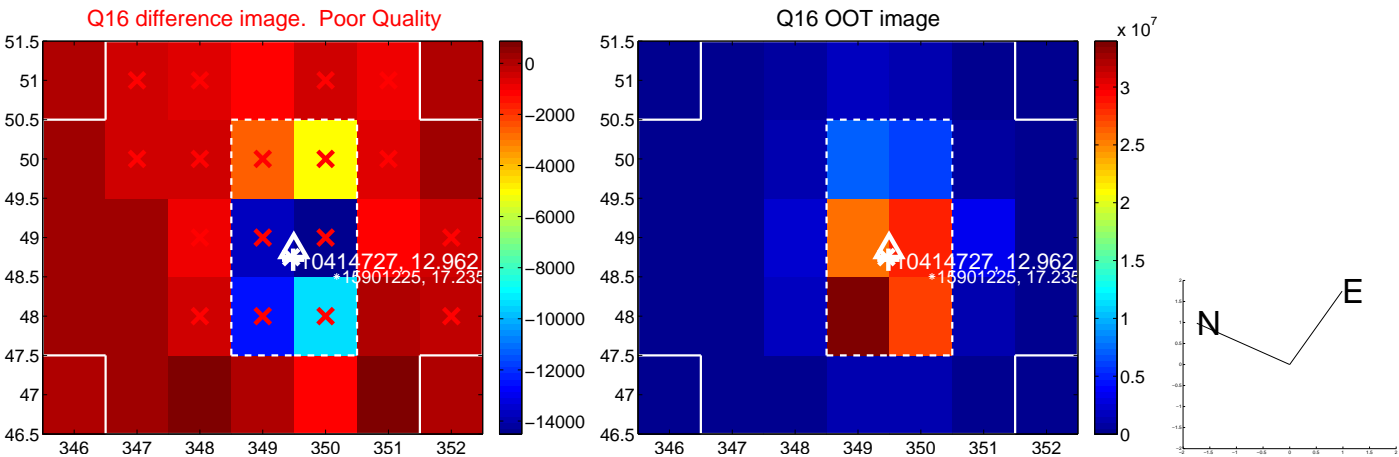
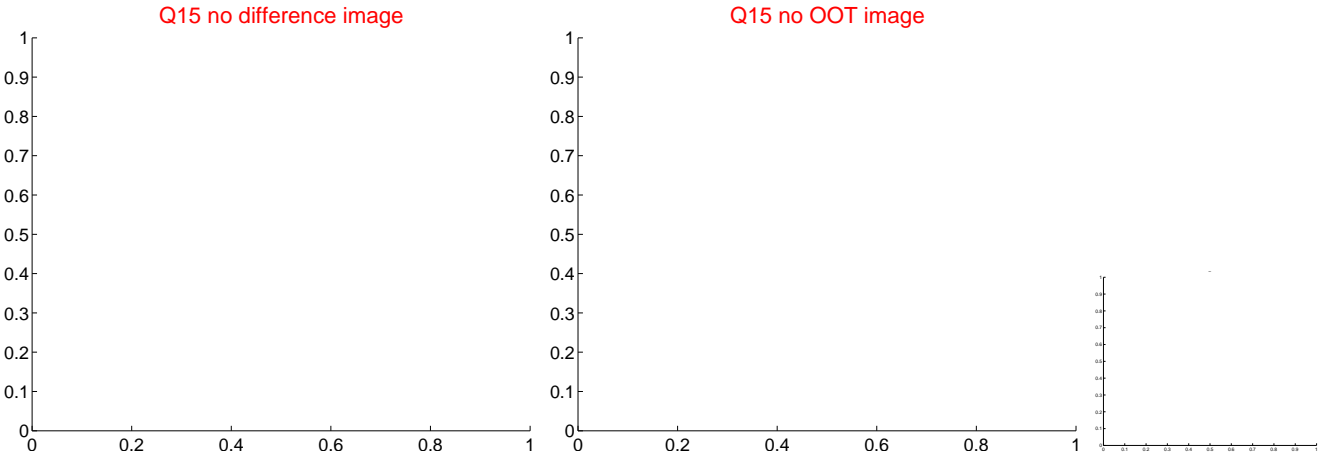
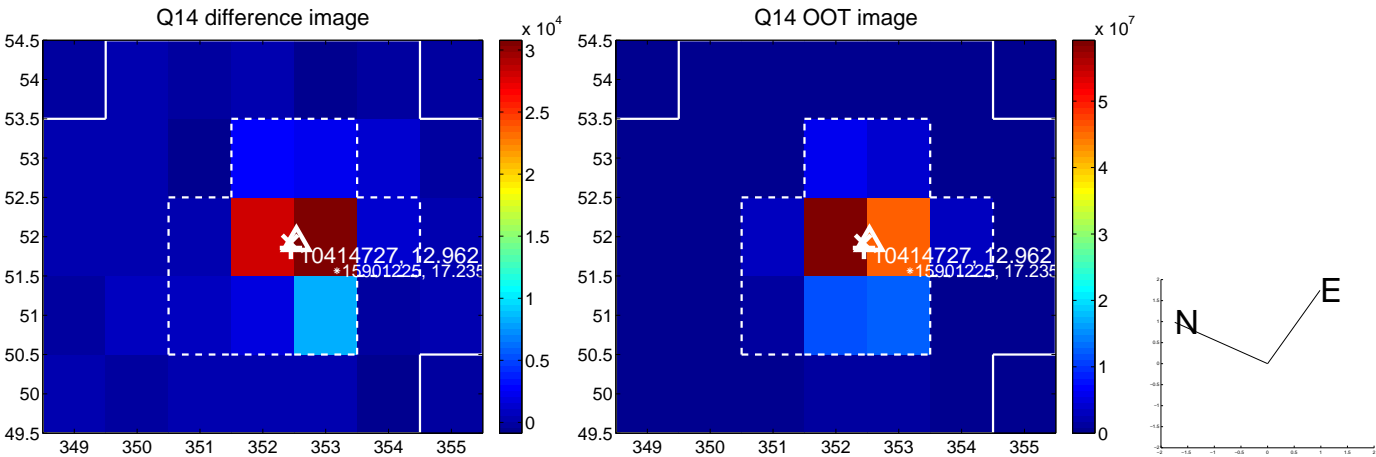
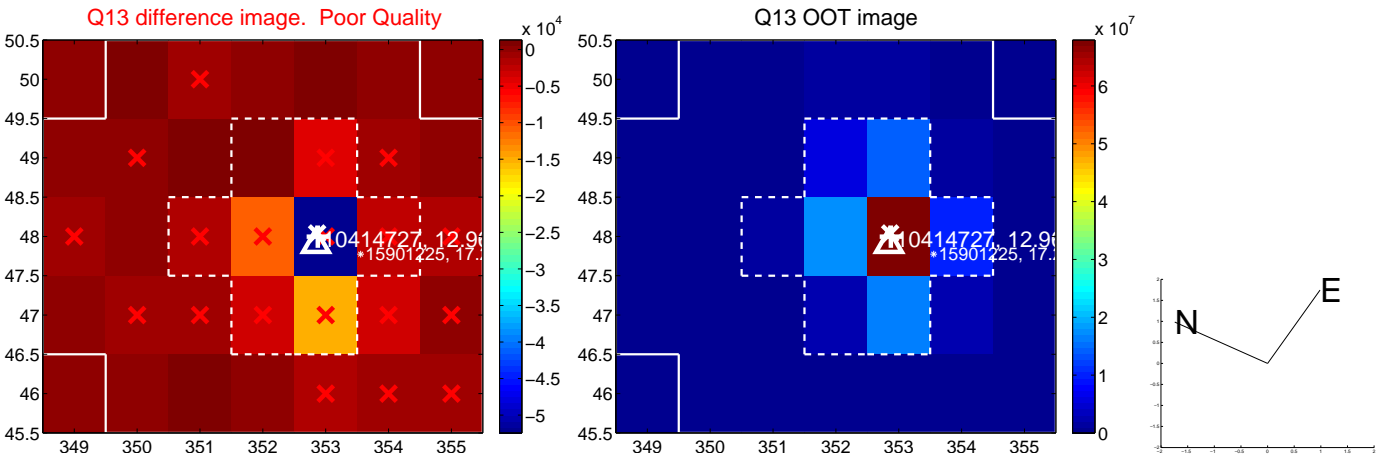
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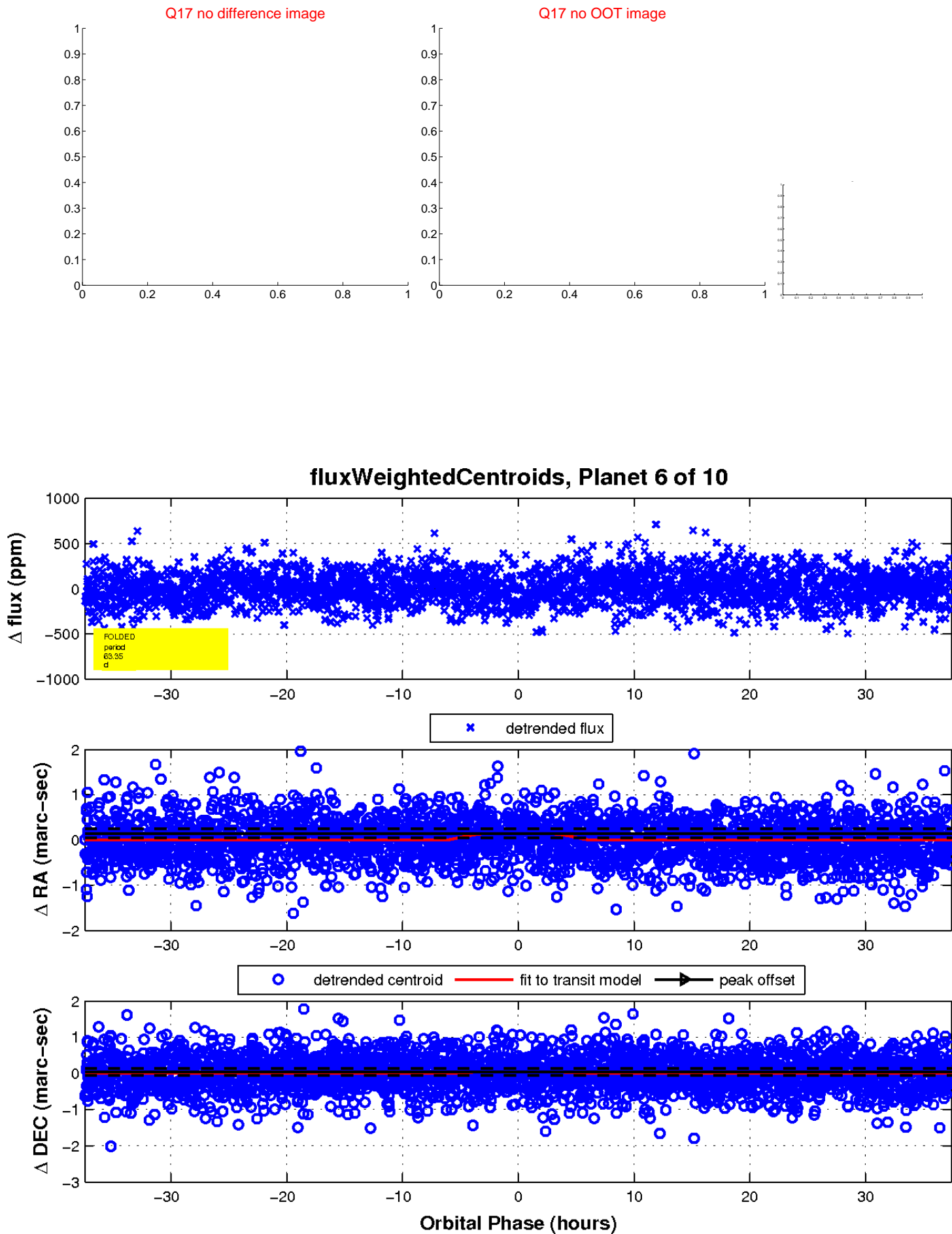
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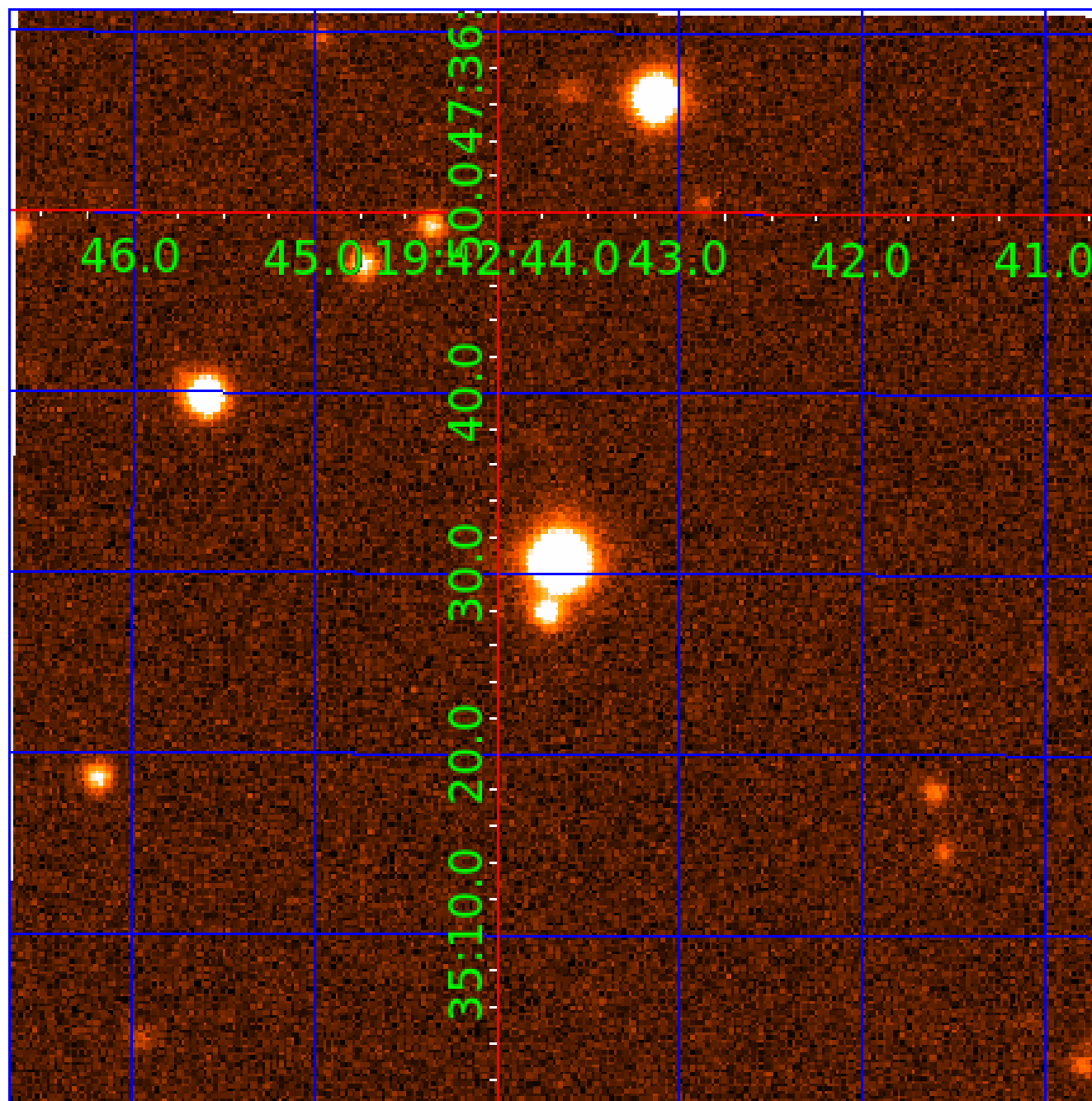


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UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

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010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

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010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

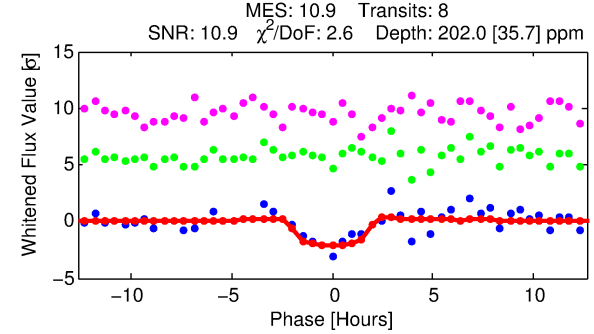
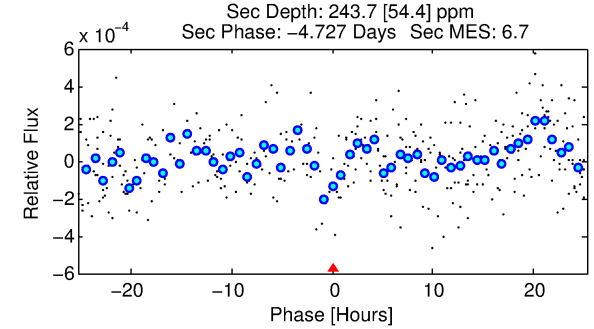
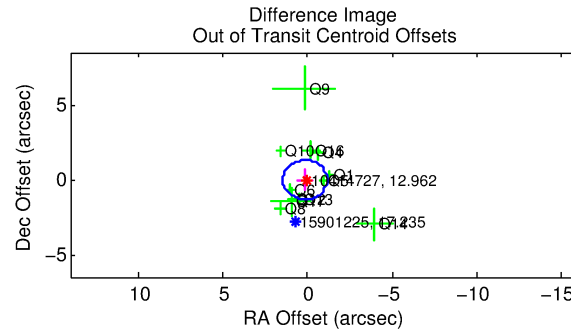
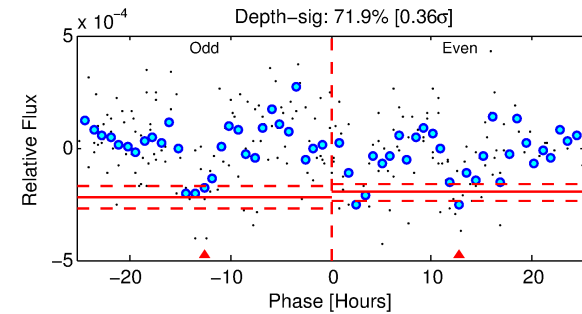
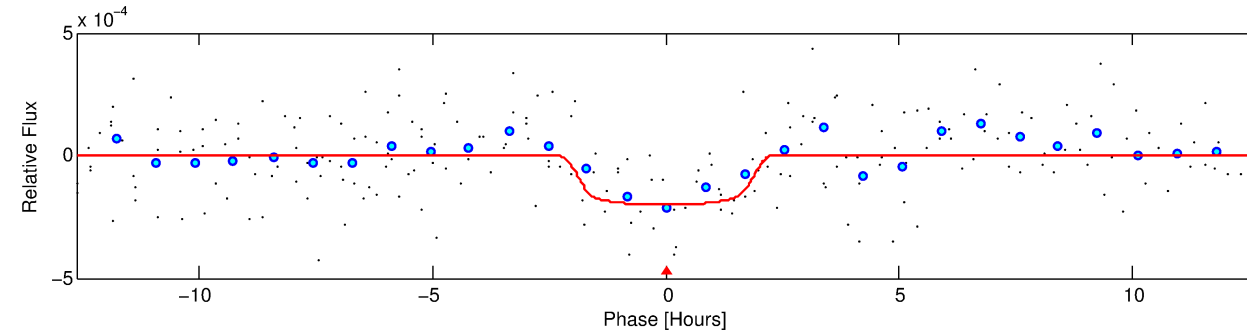
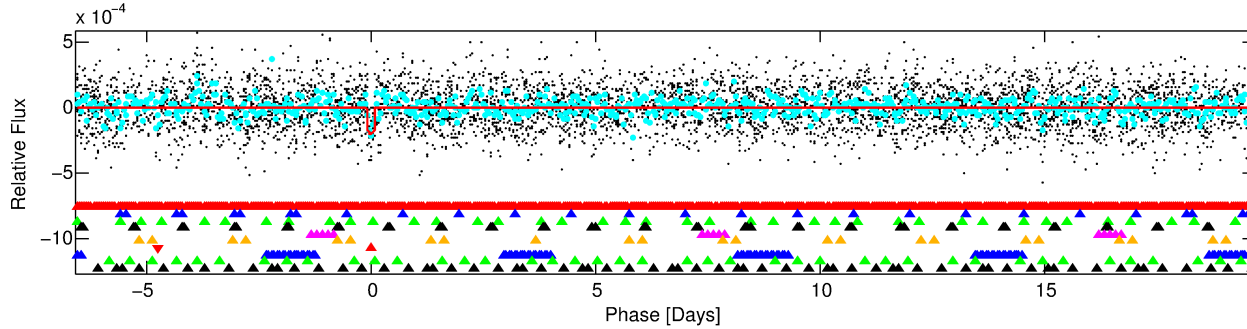
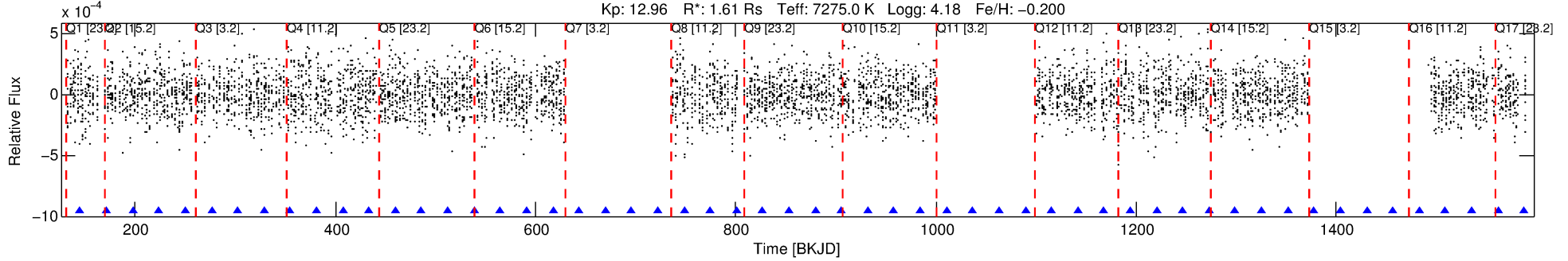
Ephemeris Match Information For 010414727-07

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 7 of 10 Period: 26.223 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



DV Fit Results:

Period = 26.22301 [0.00043] d
Epoch = 145.3382 [0.0112] BKJD
Rp/R* = 0.0154 [0.0052]
a/R* = 19.93 [39.73]
b = 0.93 [0.31]
Seff = 171.46 [68.14]
Teq = 923 [92] K
Rp = 2.71 [1.28] Re
a = 0.1945 [0.0510] AU
Ag = 692.99 [553.29] [1.25σ]
Teffp = 7320 [1339] K [4.77σ]

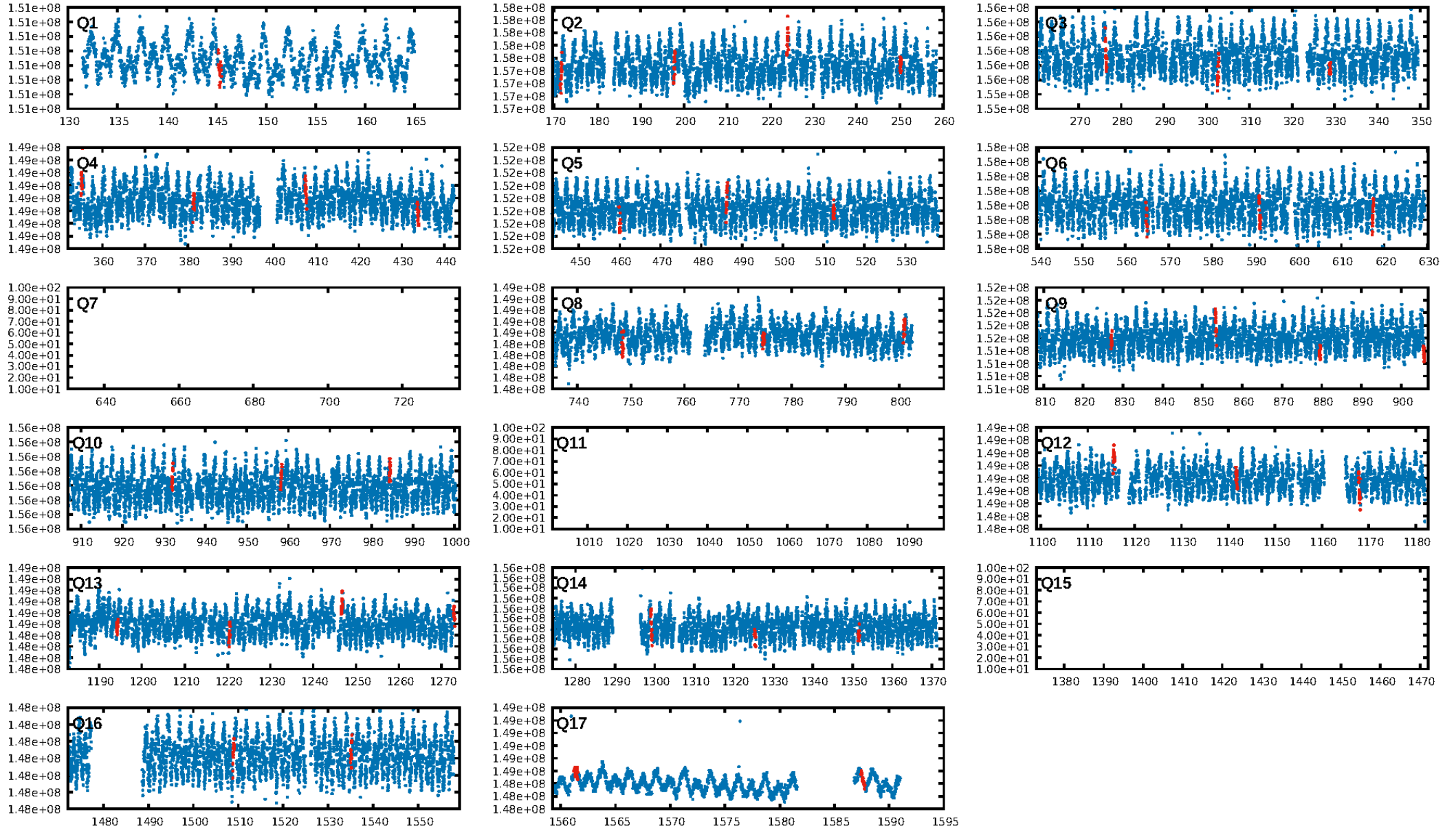
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.60σ]
LongPeriod-sig: 100.0% [17.88σ]
ModelChiSquare2-sig: 4.3%
ModelChiSquareGof-sig: 96.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -1.391
Centroid-sig: 15.3%
Centroid-so: 0.654 arcsec [1.70σ]
OotOffset-rm: 0.170 arcsec [0.39σ]
KicOffset-rm: 0.171 arcsec [0.28σ]
OotOffset-st: 3/0/4/5 [12]
KicOffset-st: 3/0/4/5 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 0.57 [8/14]

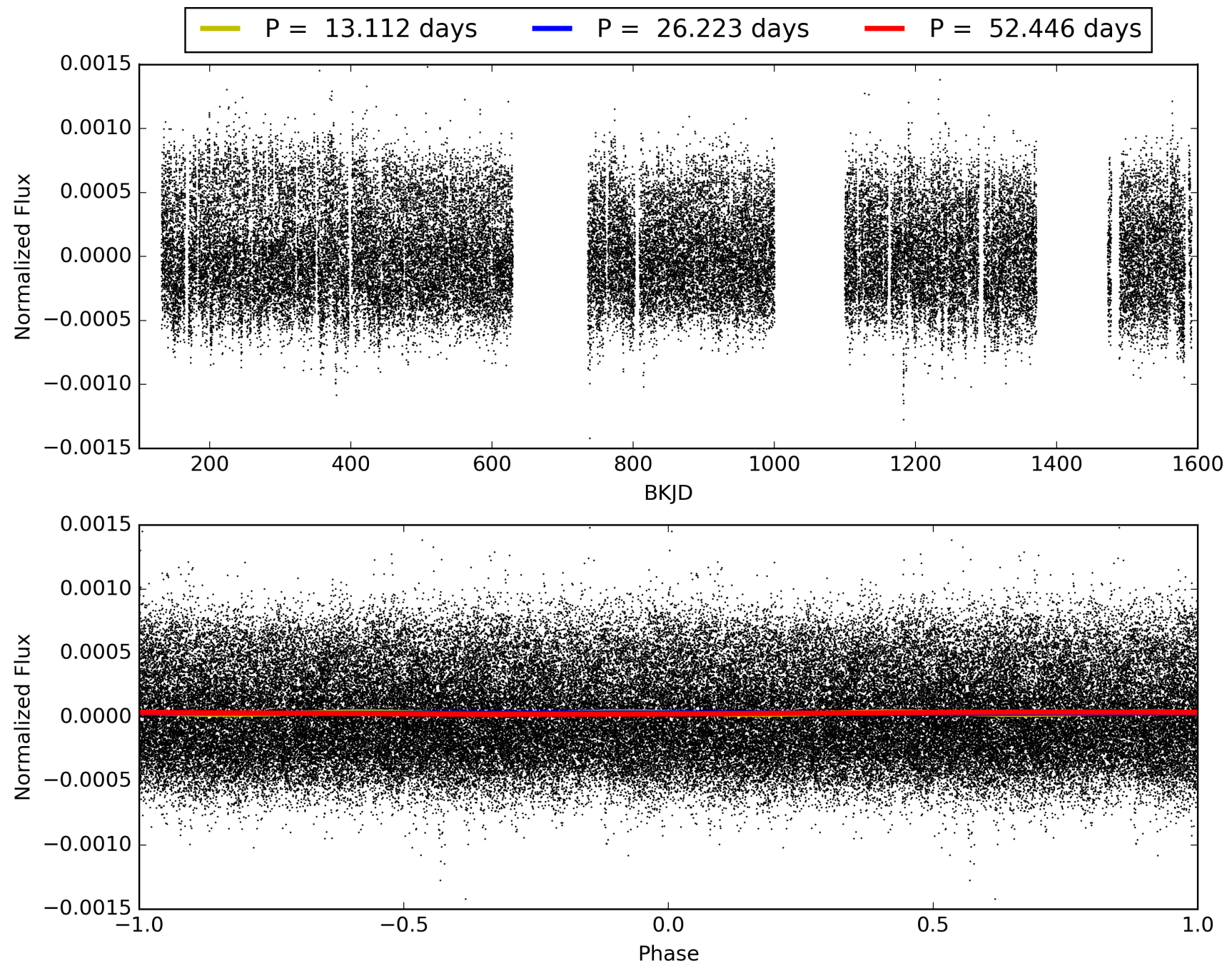
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010414727-07, PDC Light Curves

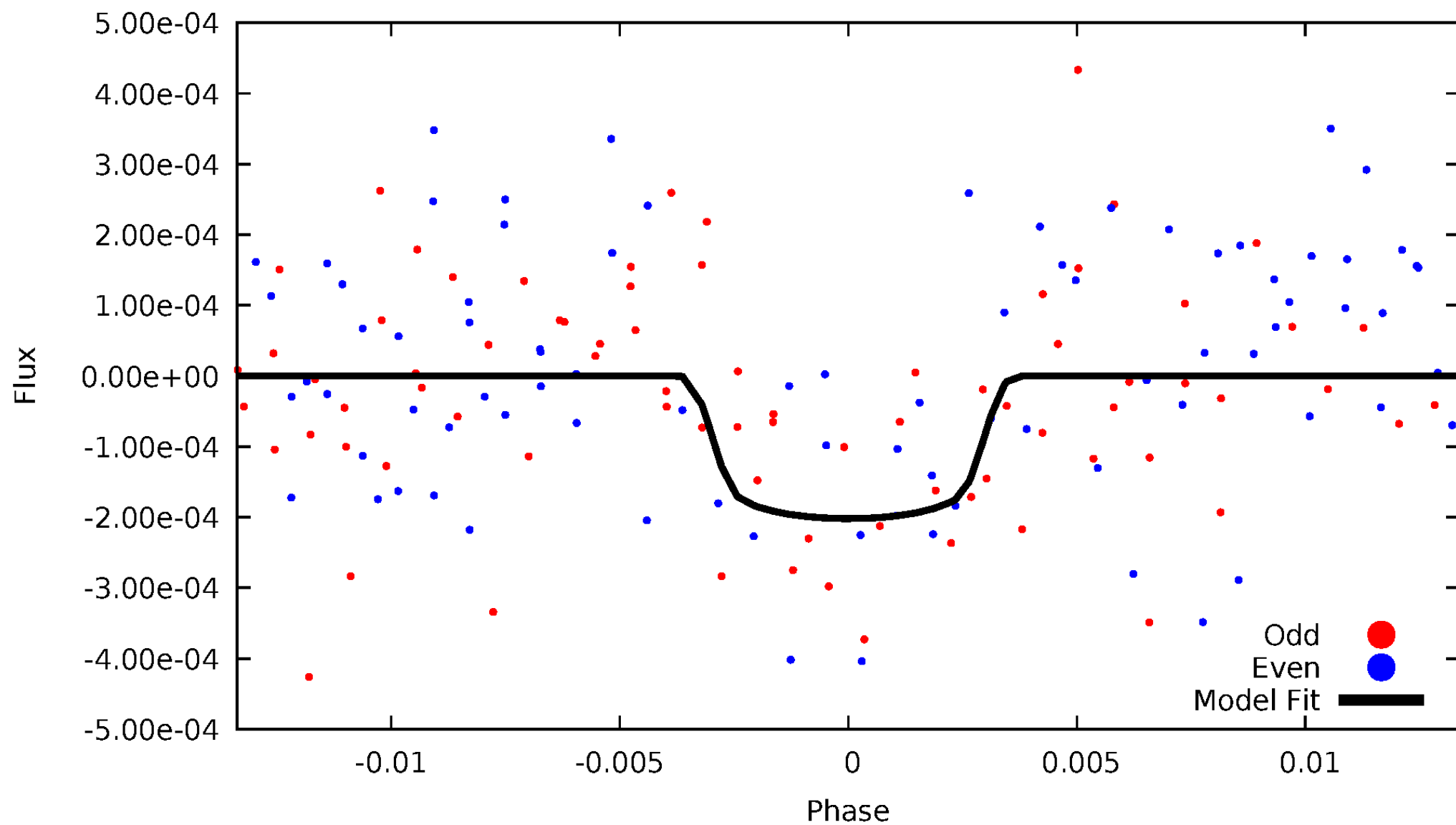


TCE 010414727-07



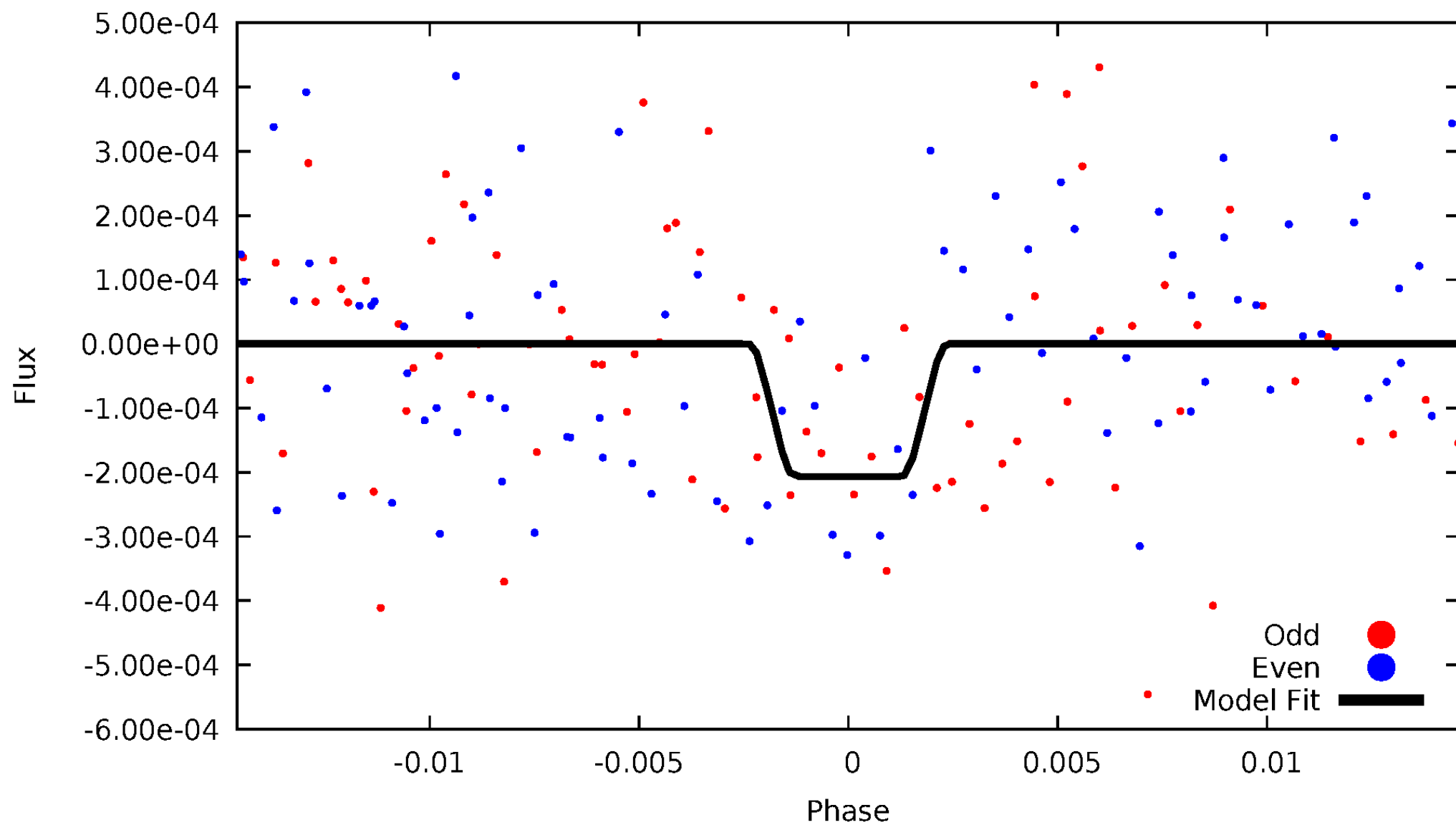
DV Odd/Even

TCE 010414727-07

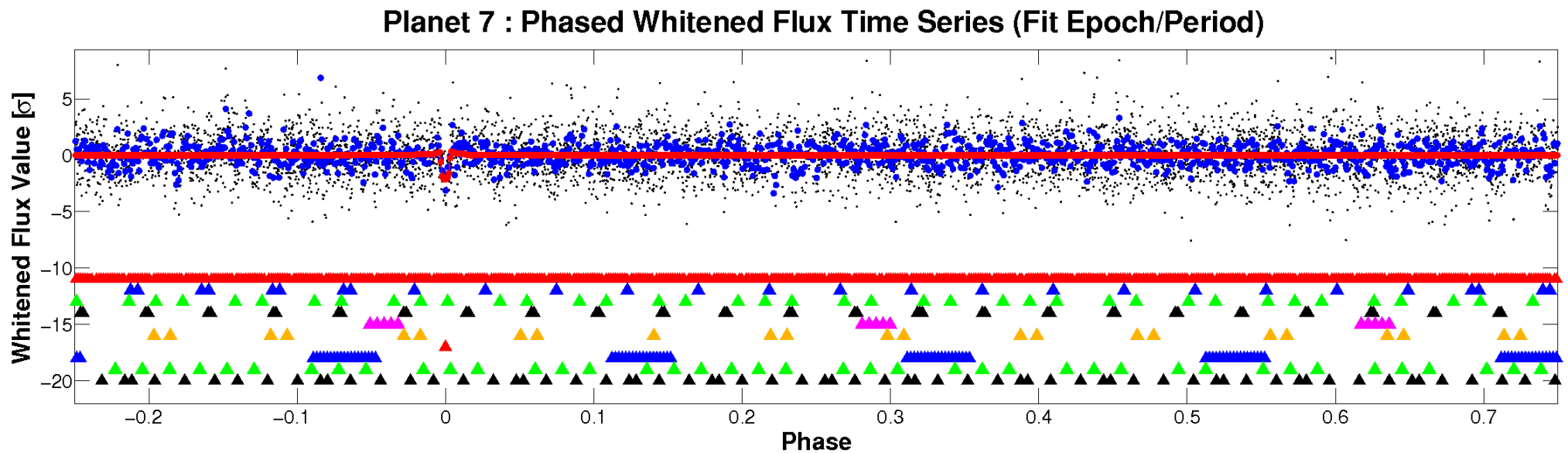
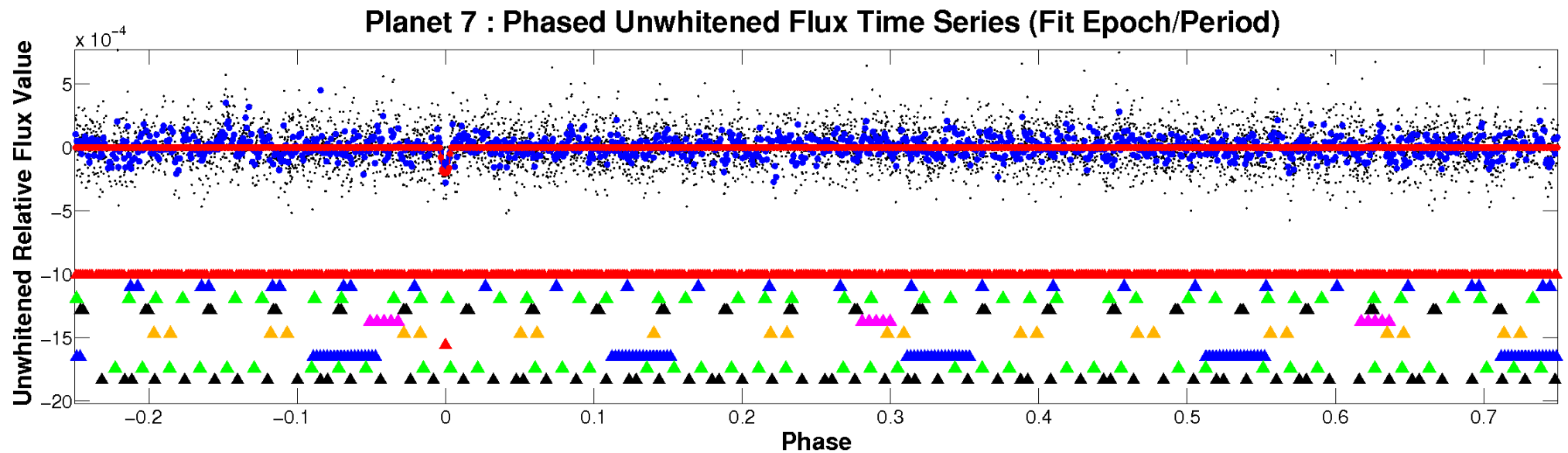


ALT Odd/Even

TCE 010414727-07

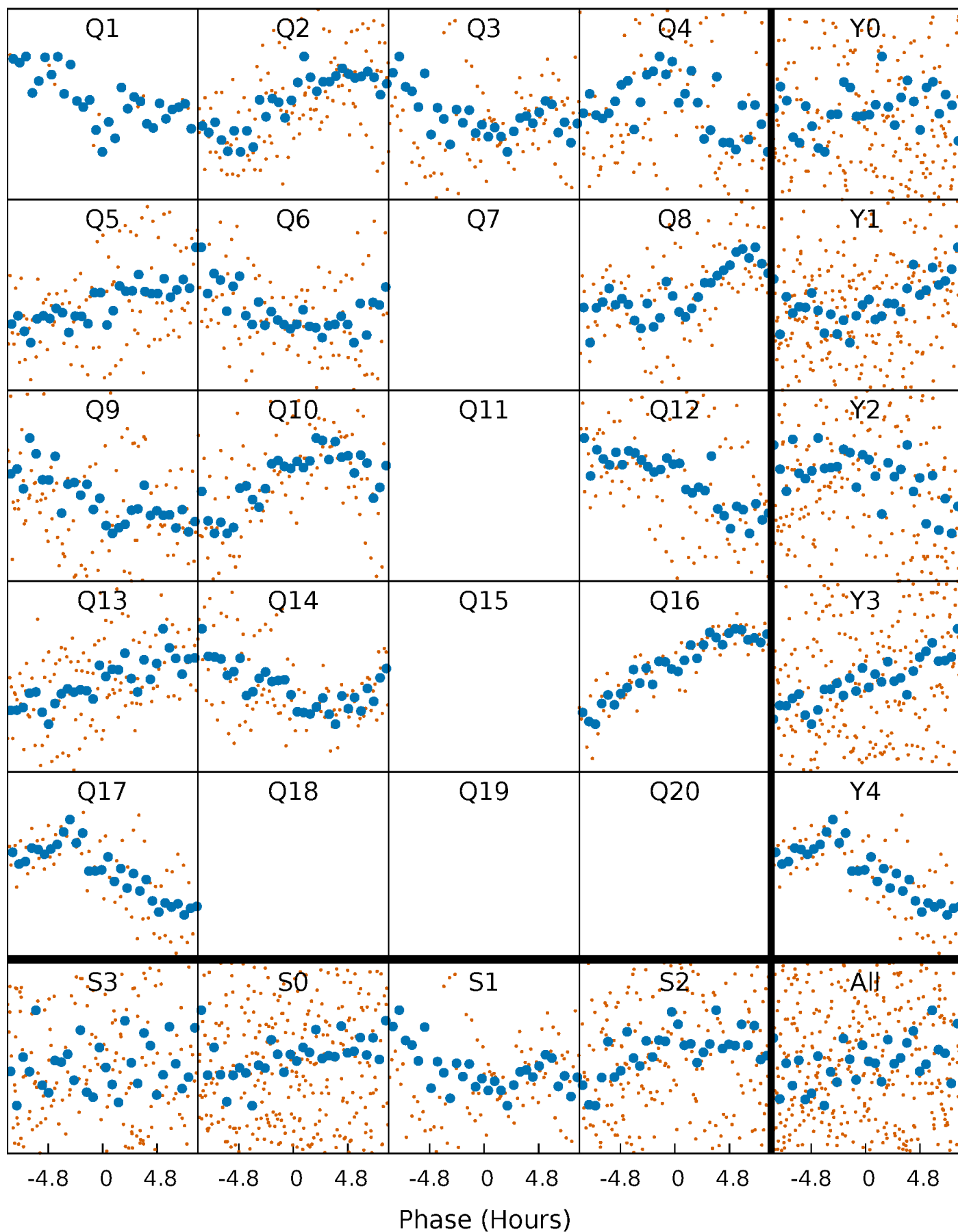


Non-Whitened Vs. Whitened Light Curve



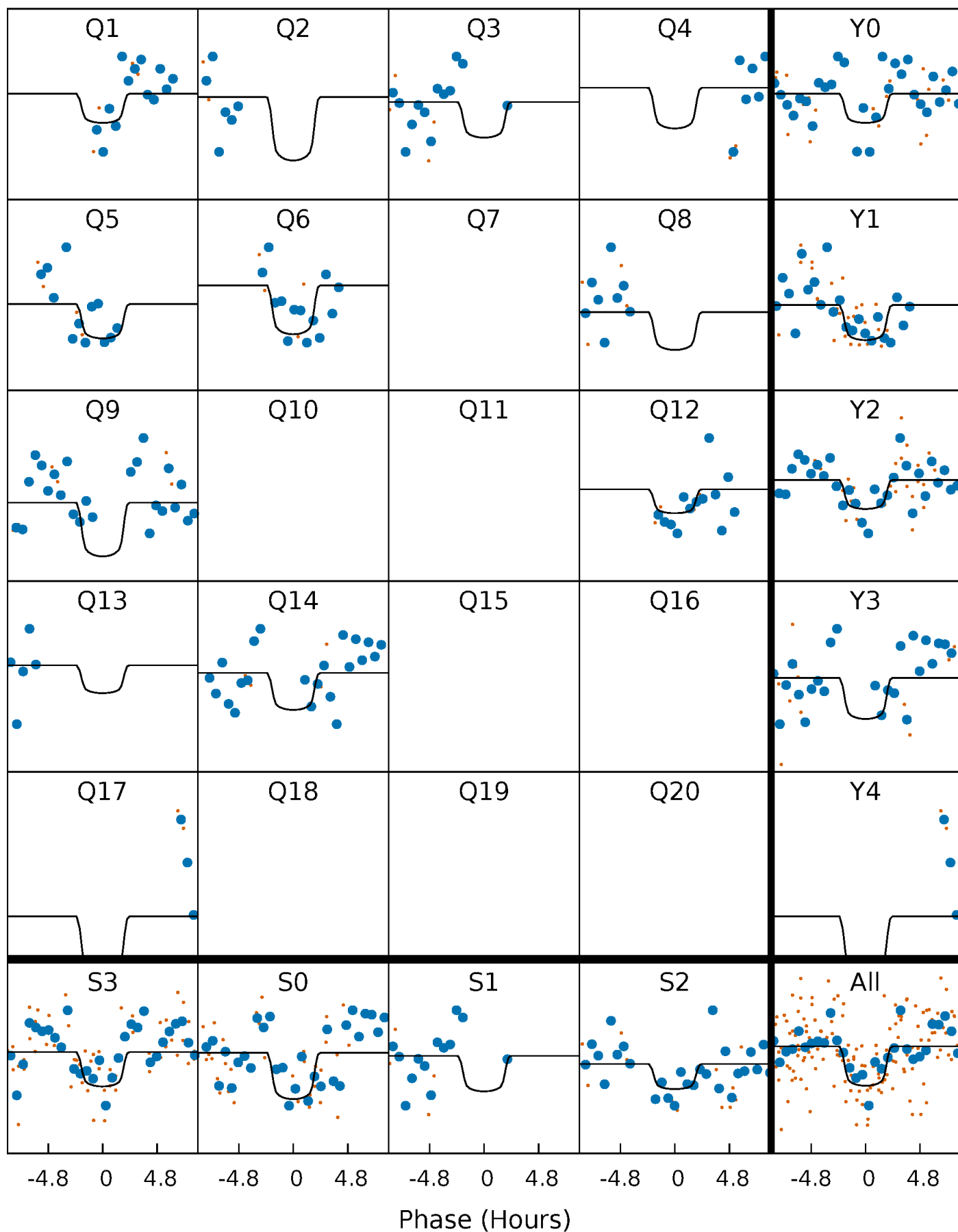
PDC Quarter-Phased Transit Curves

TCE 010414727-07 $P = 26.223010$ Days $T_0 = 145.338186$ (BKJD)



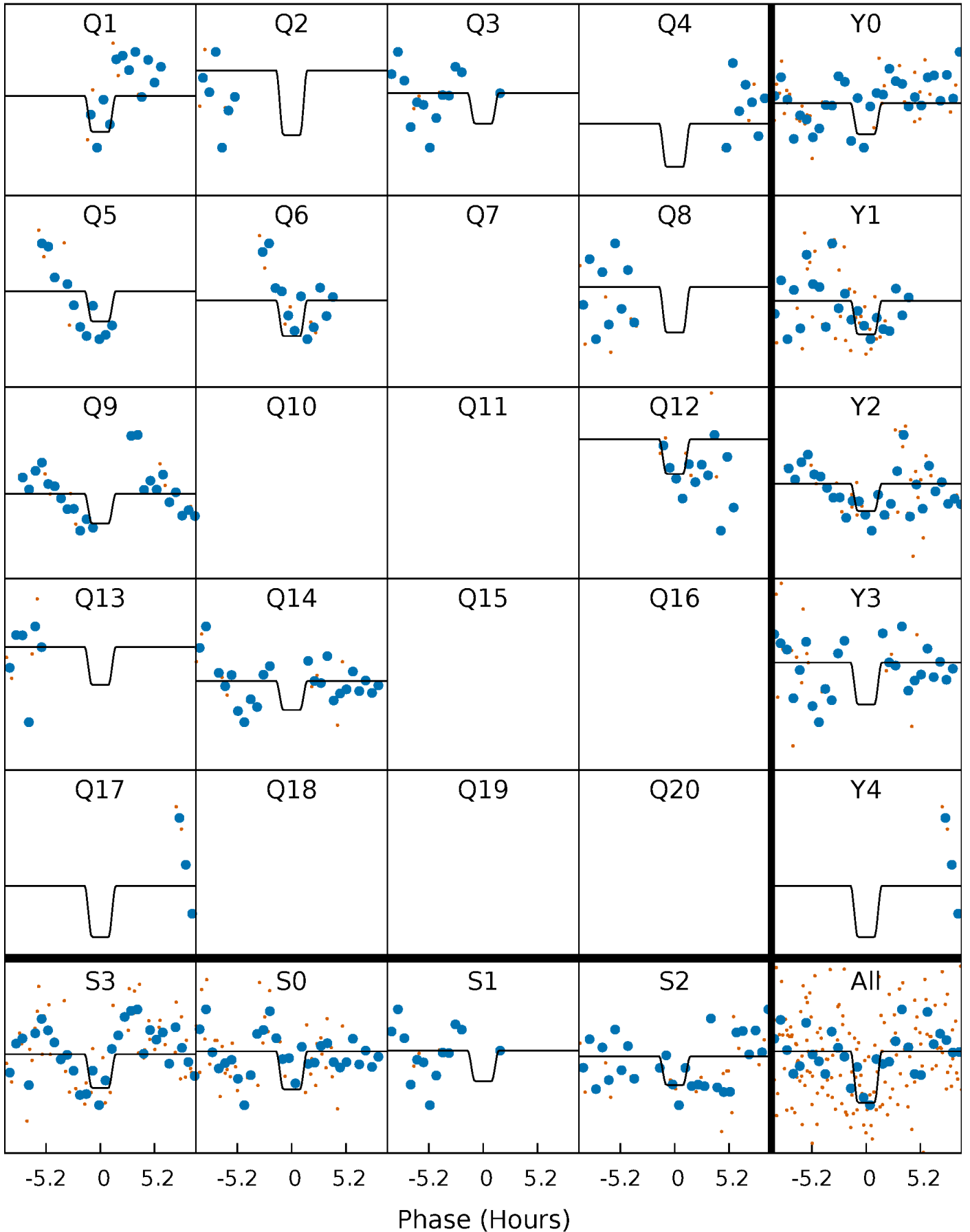
DV Quarter-Phased Transit Curves

TCE 010414727-07 P= 26.223010 Days $T_0=145.338186$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

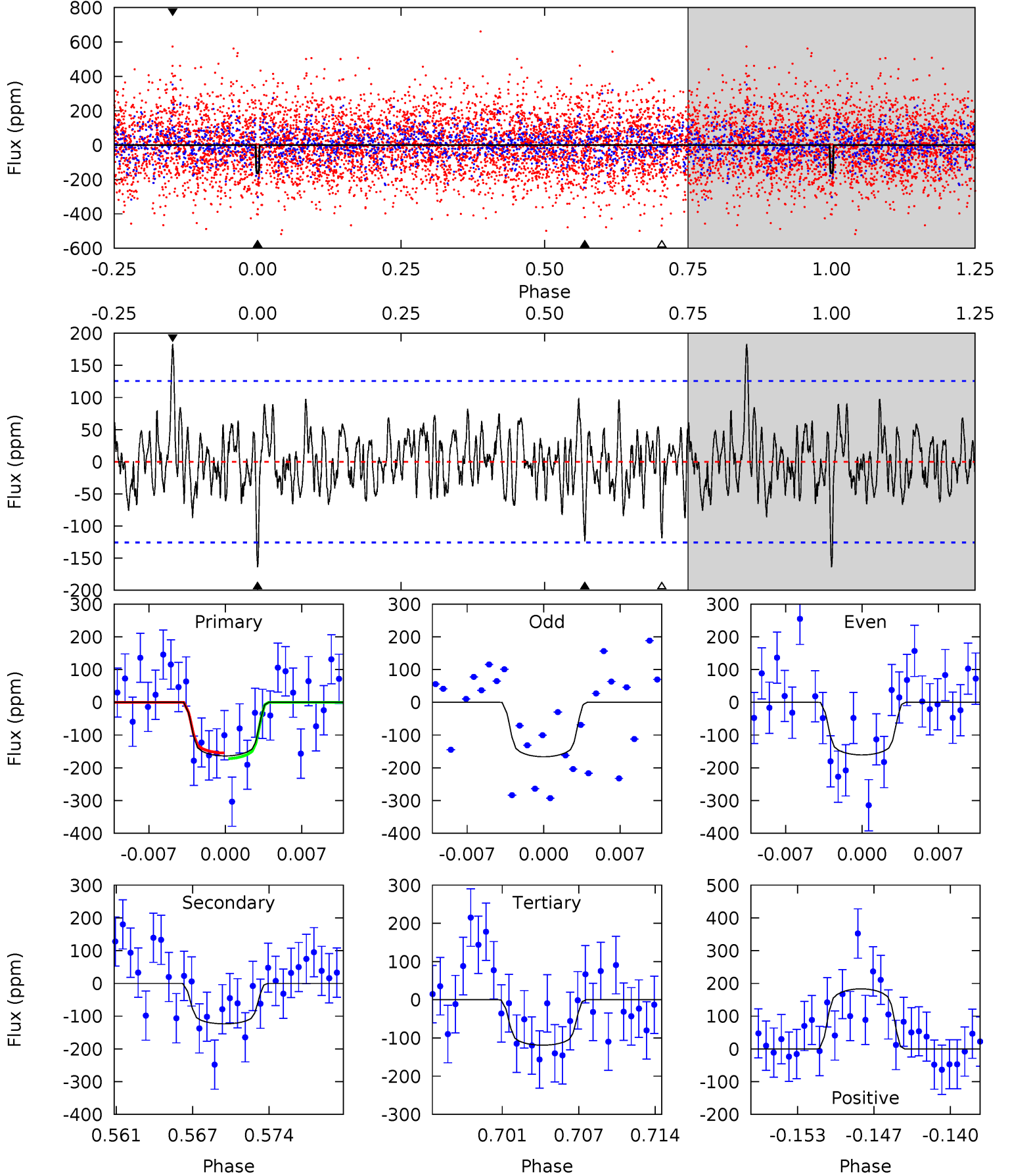
TCE 010414727-07 $P = 26.222177$ Days $T_0 = 145.355809$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-07, P = 26.223010 Days, E = 119.115176 Days

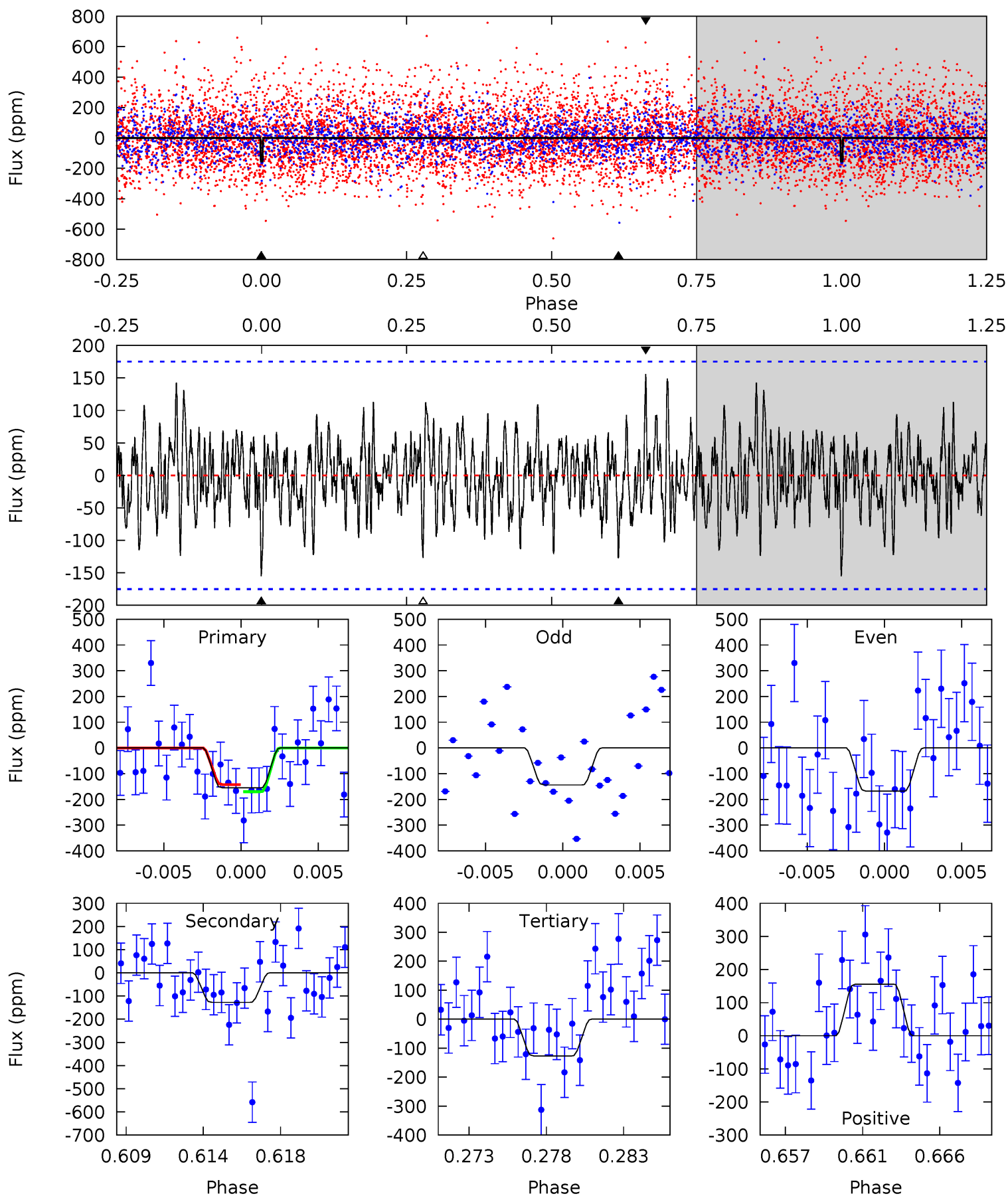
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.66	5.02	4.83	7.45	5.10	2.71	1.55	1.83	-0.79	0.19	-2.43	0.11	1.03	0.53	0.35



Alt Model-Shift Uniqueness Test

010414727-07, P = 26.222177 Days, E = 119.133632 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.58	3.76	3.75	4.60	5.17	2.82	1.34	0.83	-0.02	0.02	-0.84	0.36	0.92	0.50	0.41



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-124 ± 25	$2.79^{+1.04}_{-0.99}$	1294^{+104}_{-88}	6036^{+1554}_{-852}	330^{+443}_{-163}
Alt.	-128 ± 34	$2.55^{+1.03}_{-0.90}$	1294^{+103}_{-83}	6290^{+1826}_{-909}	390^{+590}_{-195}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

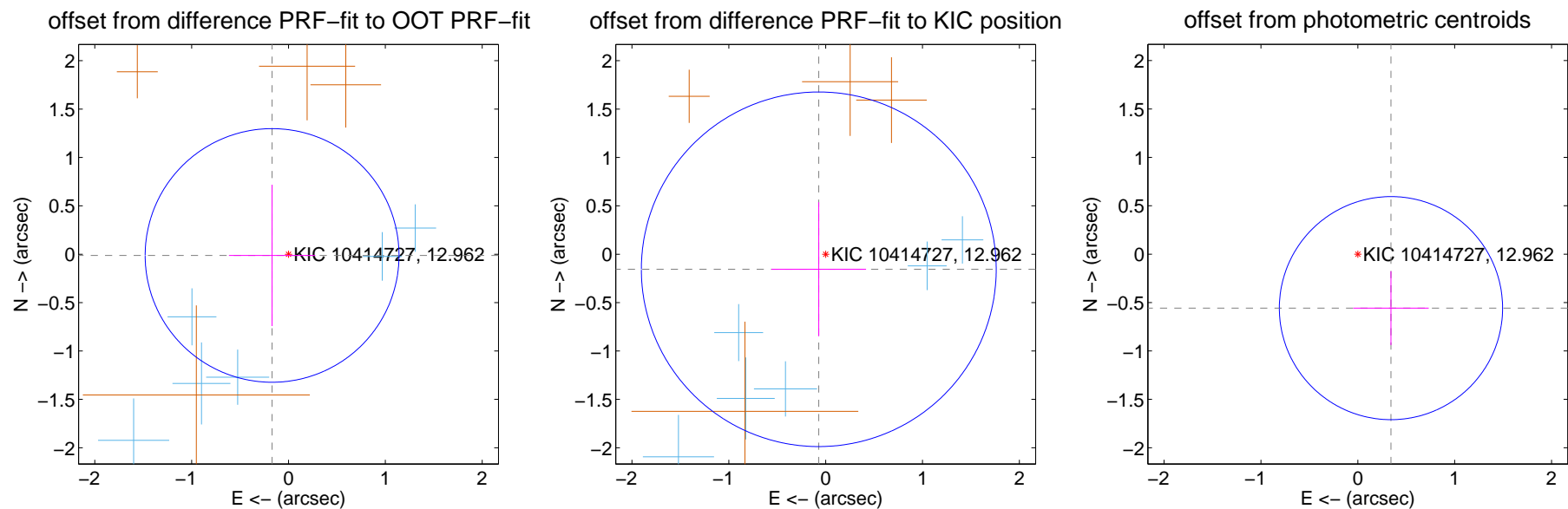
DV Centroid Data

Supplemental centroid analysis for 010414727-07. Kepler magnitude: 12.96. Transit SNR 10.91

There are 6 quarters with good PRF difference image offsets

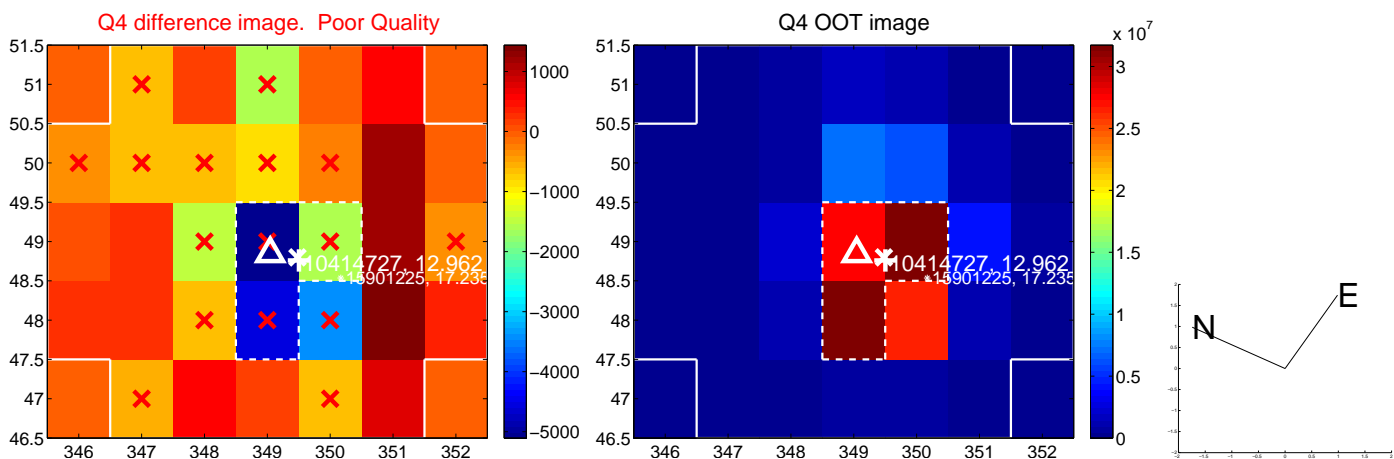
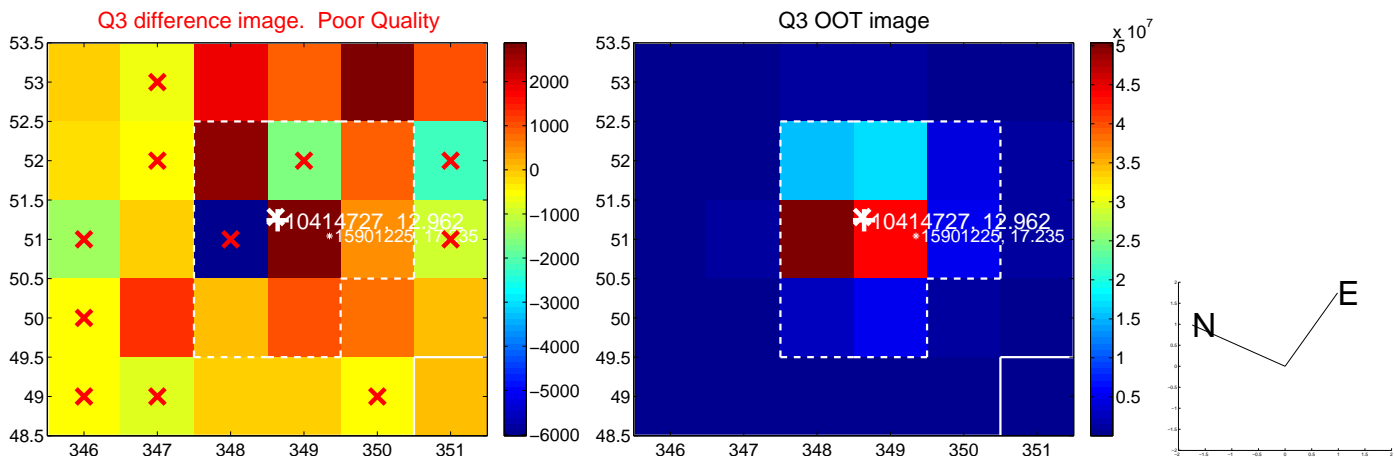
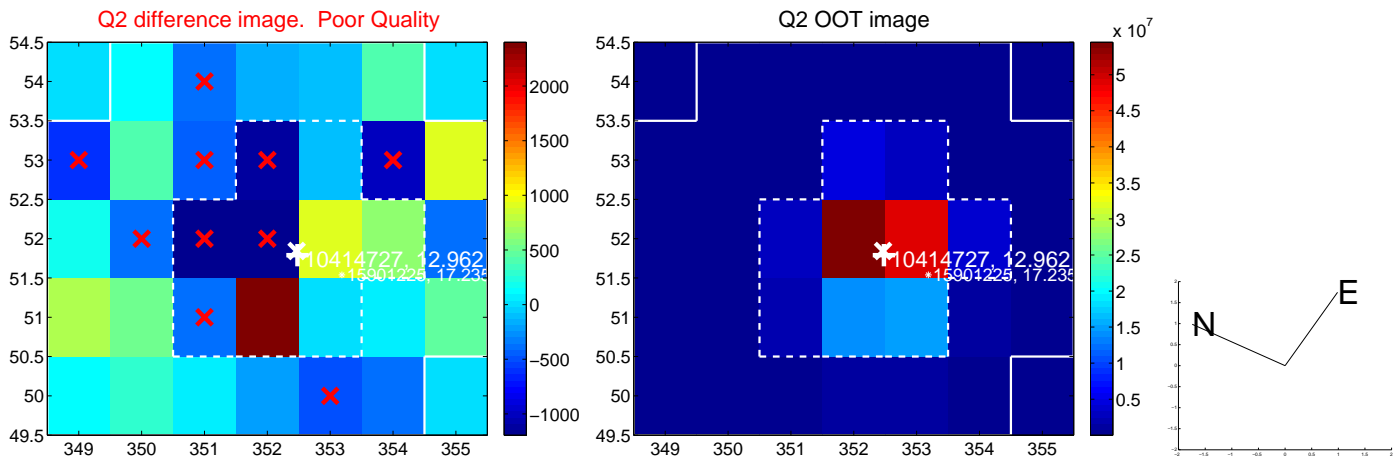
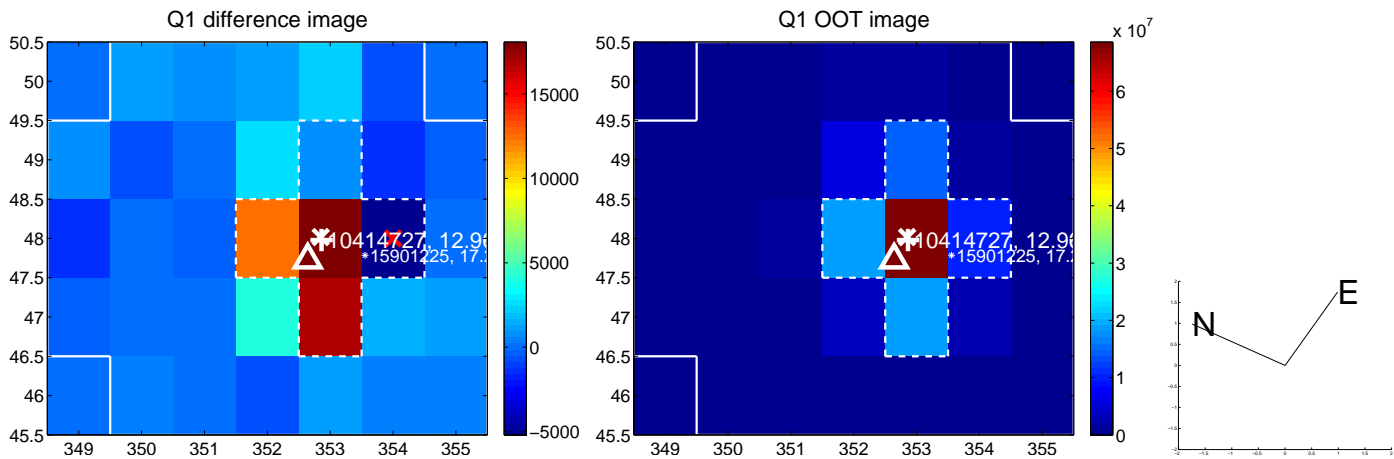
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.170 ± 0.437	0.39	0.169 ± 0.446	-0.013 ± 0.730
PRF-fit source offset from KIC position	0.171 ± 0.611	0.28	0.071 ± 0.488	-0.156 ± 0.692
photometric centroid source offset	0.65 ± 0.38	1.70	-0.34 ± 0.39	-0.56 ± 0.38

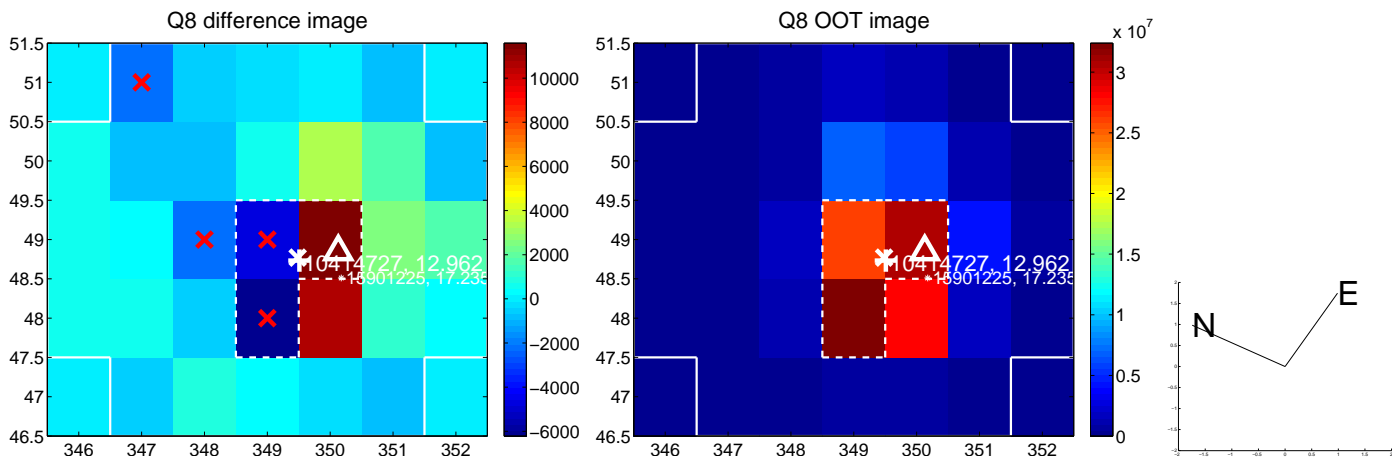
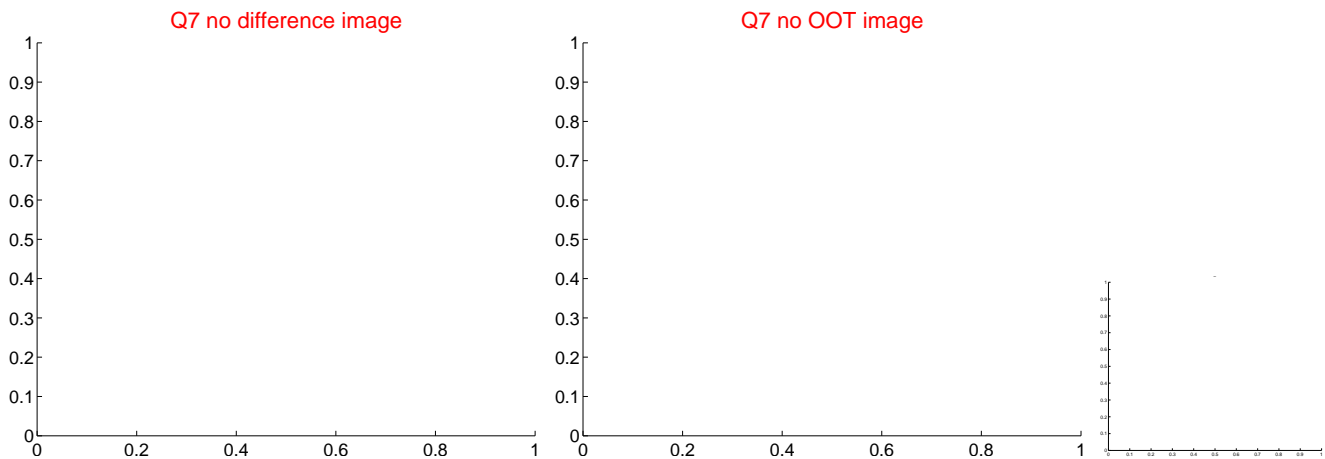
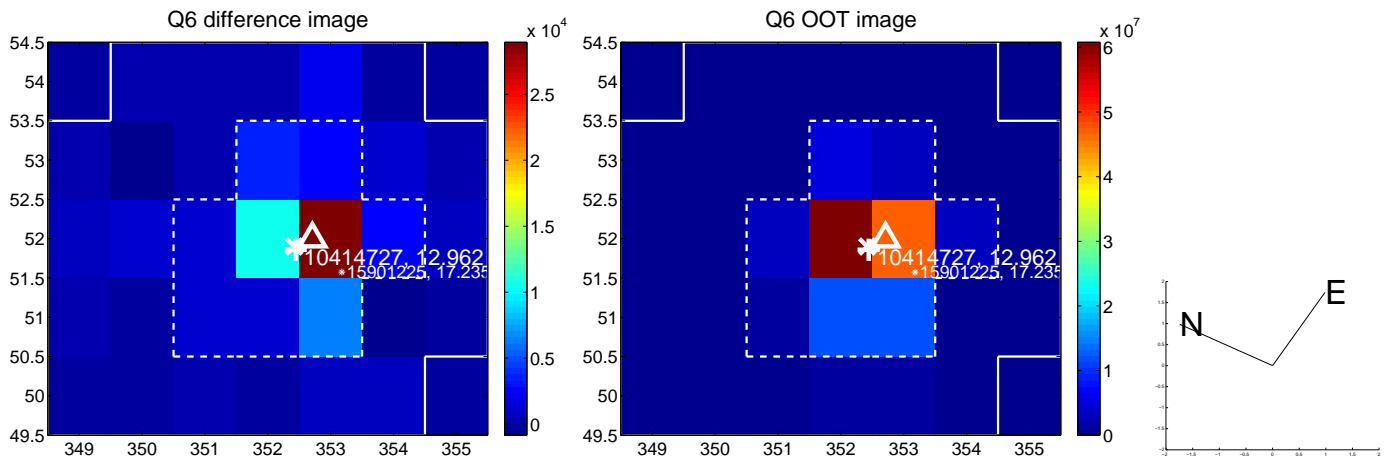
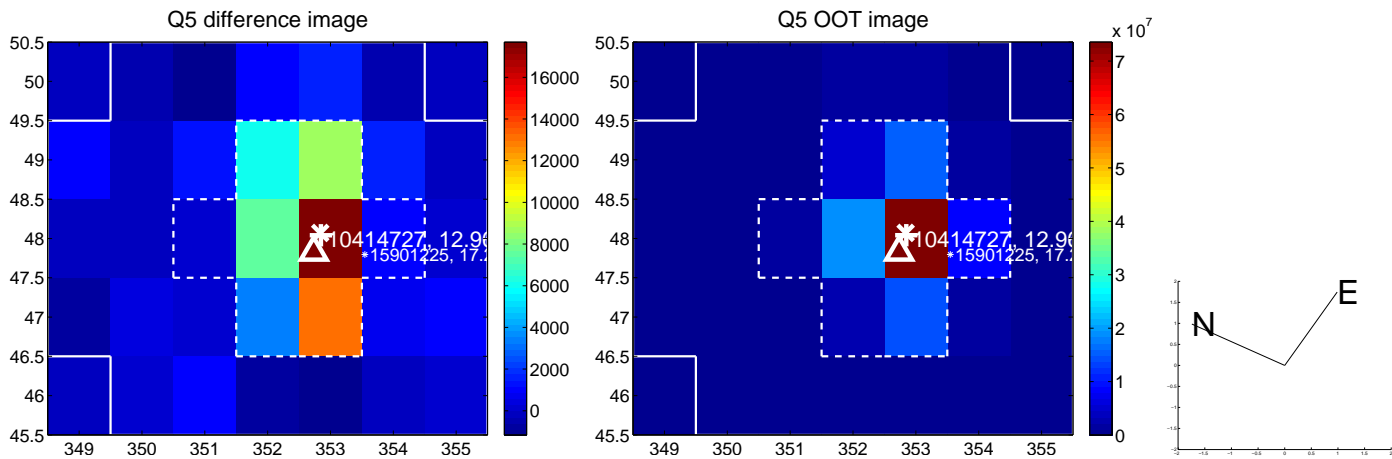


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

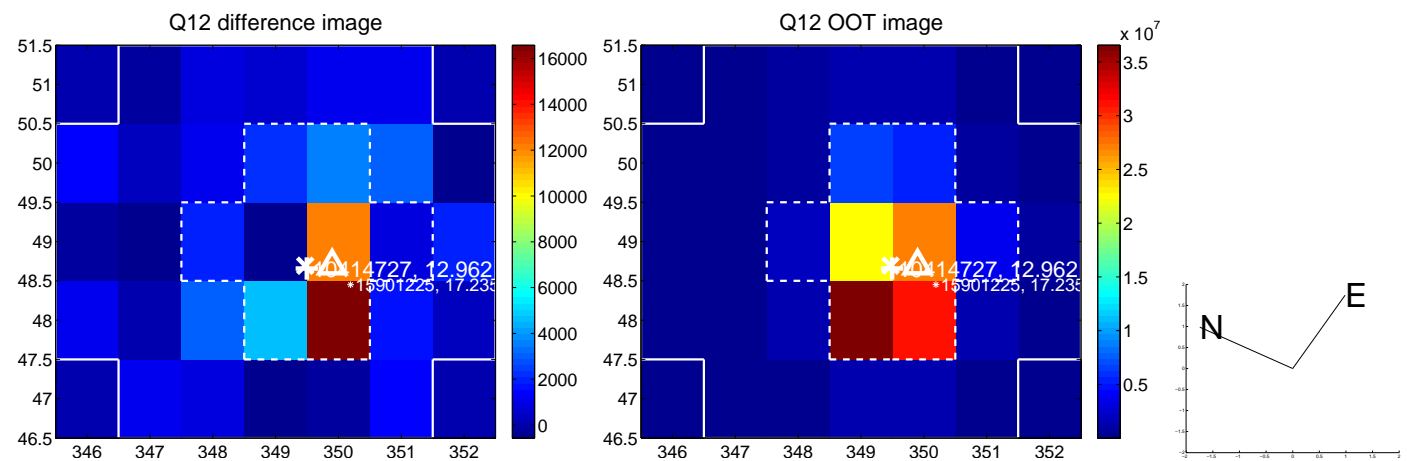
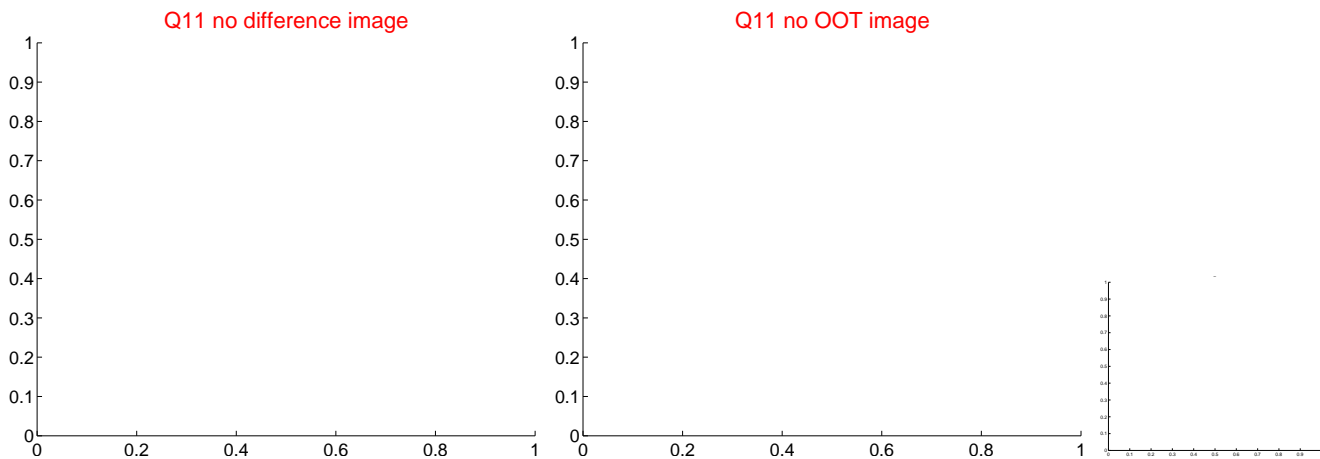
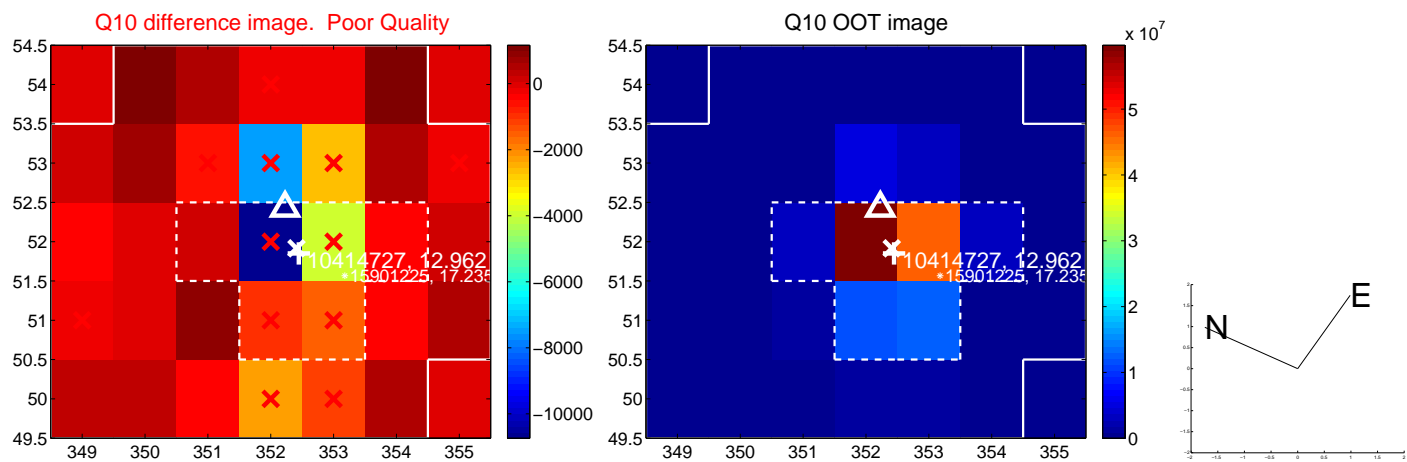
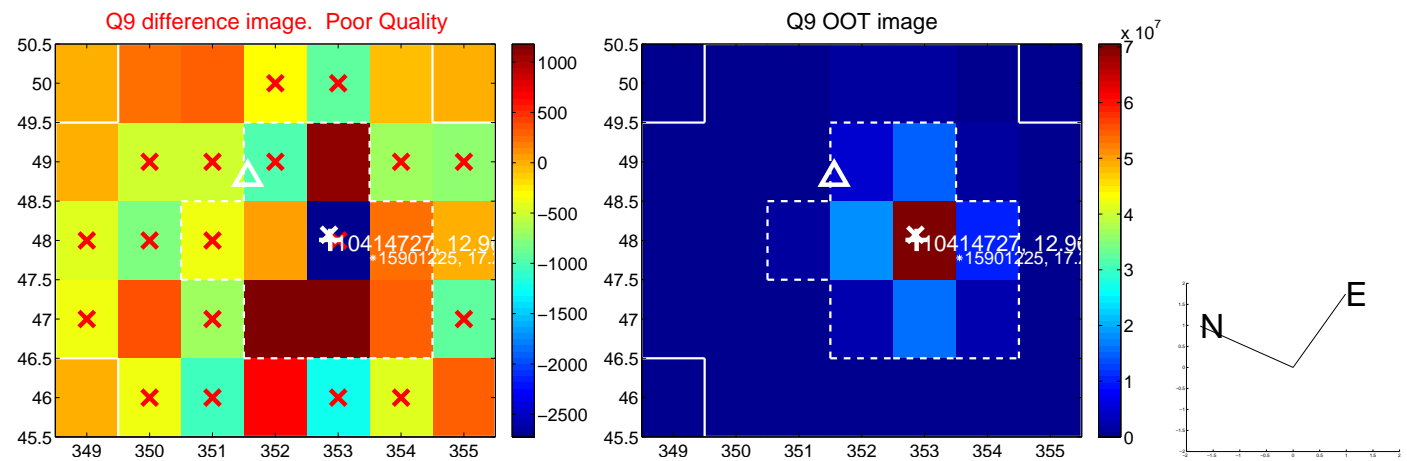
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



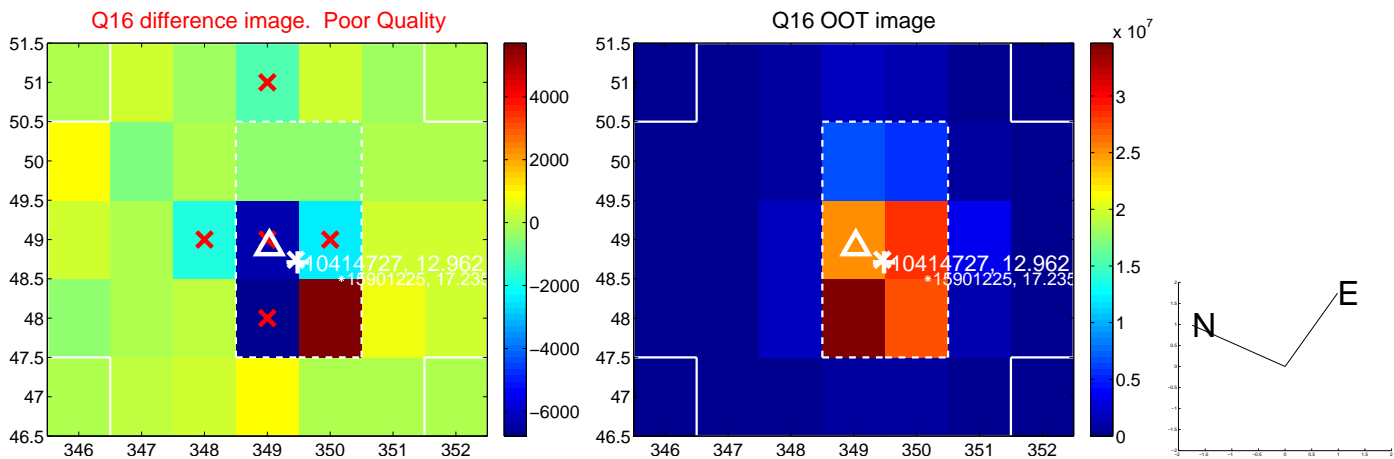
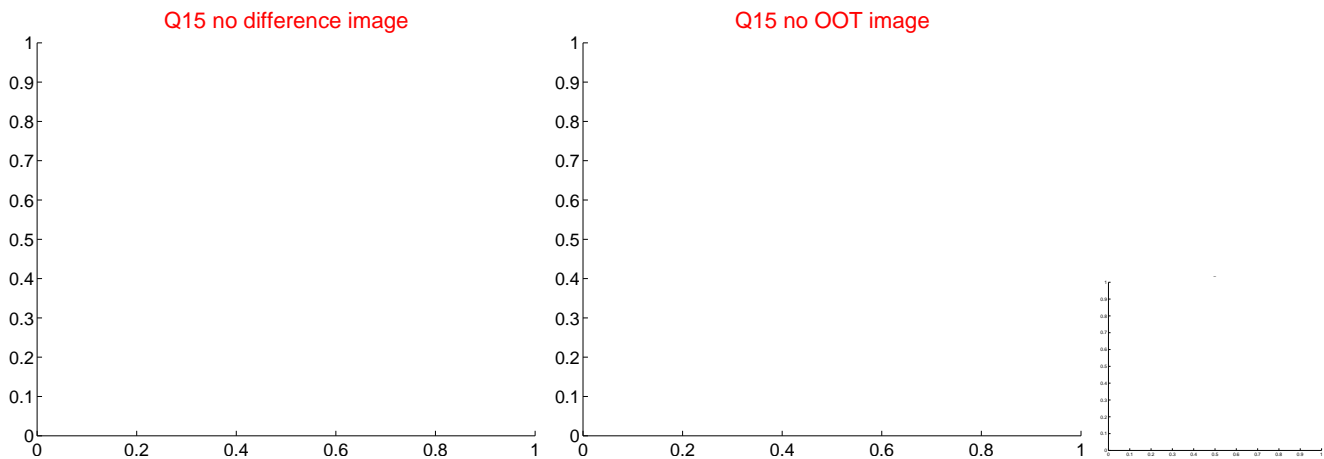
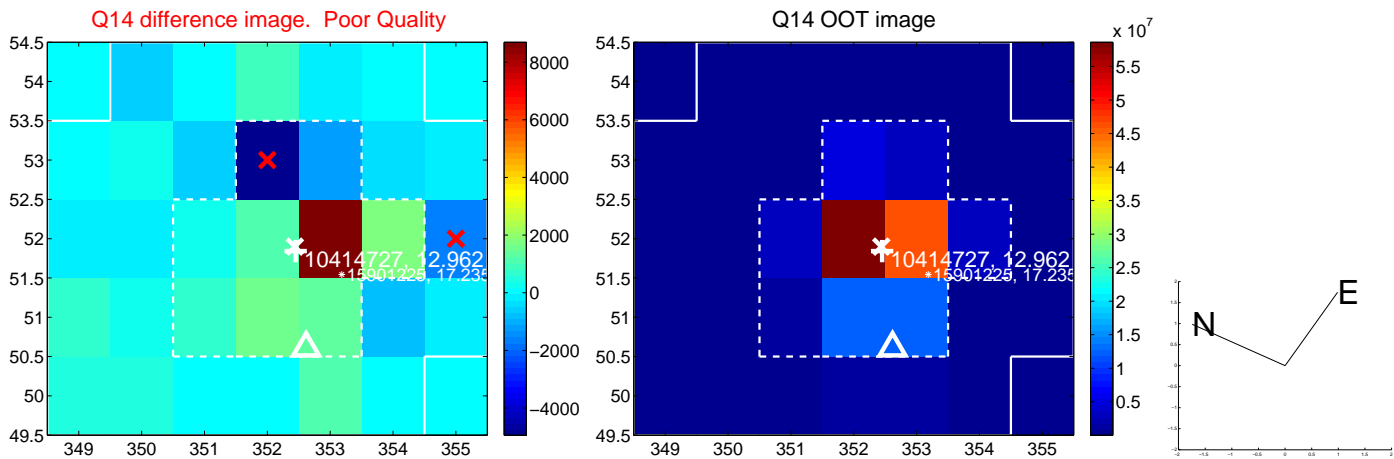
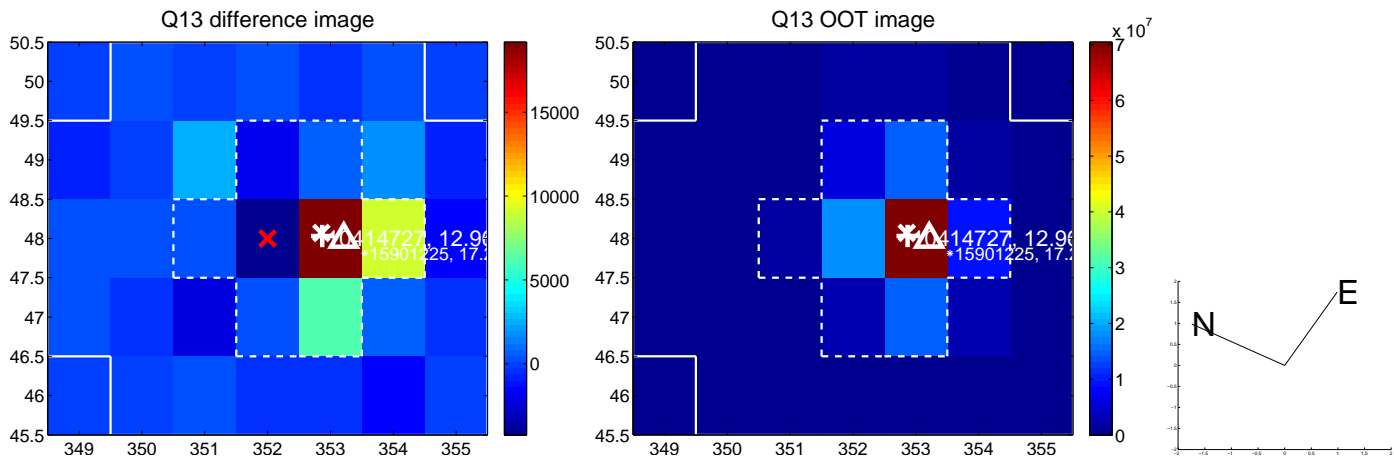
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



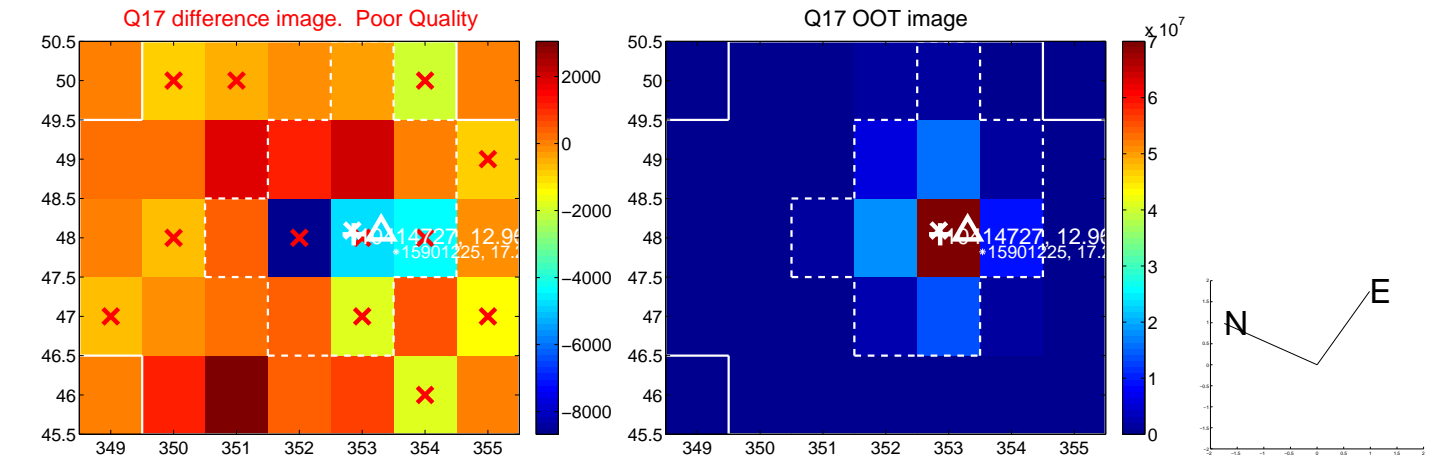
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



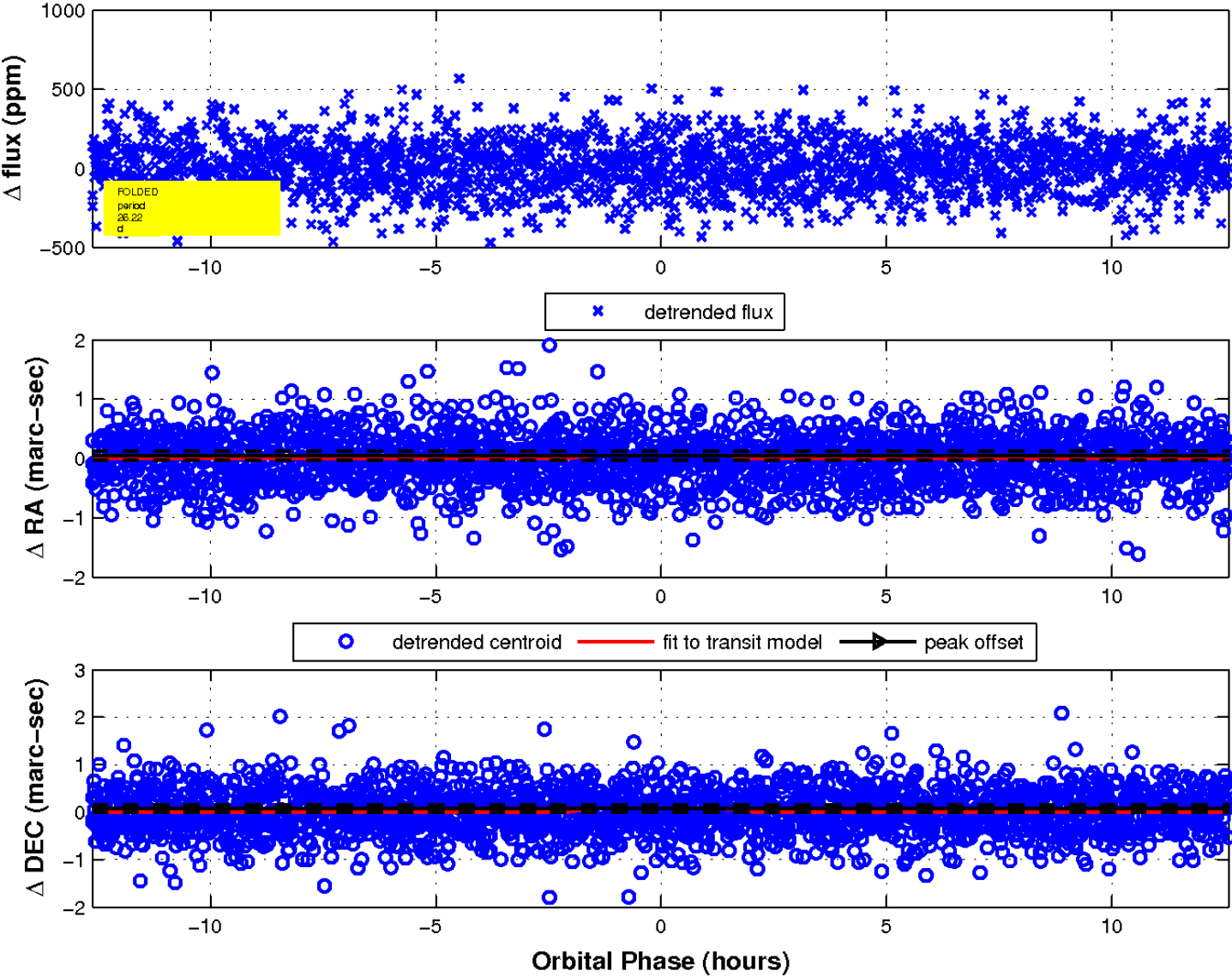
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

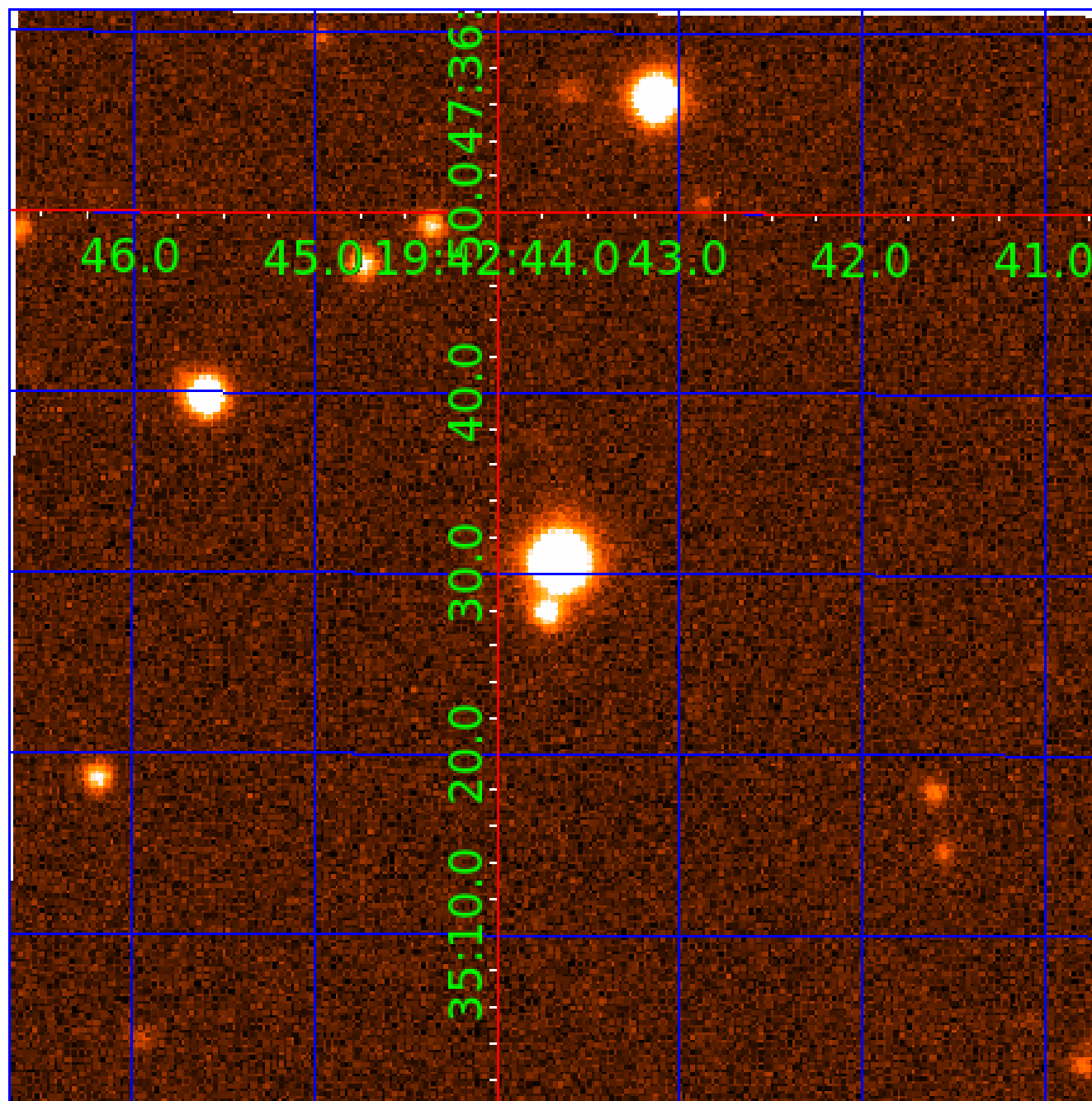


fluxWeightedCentroids, Planet 7 of 10



UKIRT Image

Declination



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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010414727-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

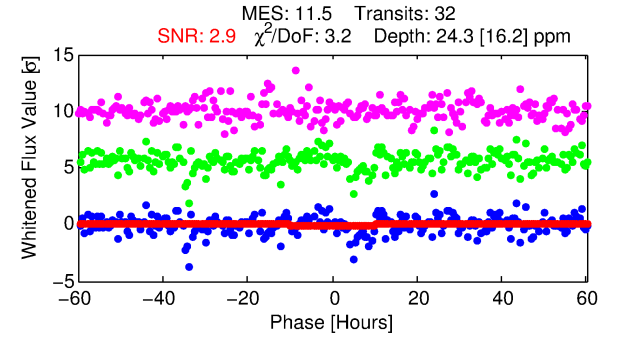
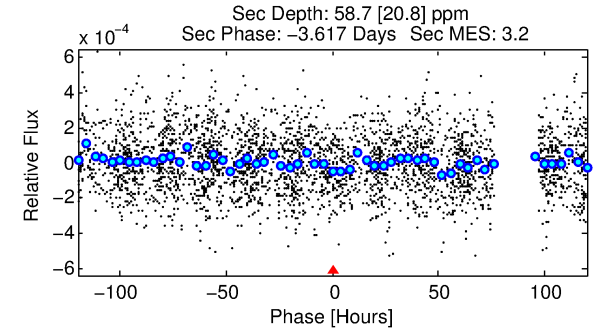
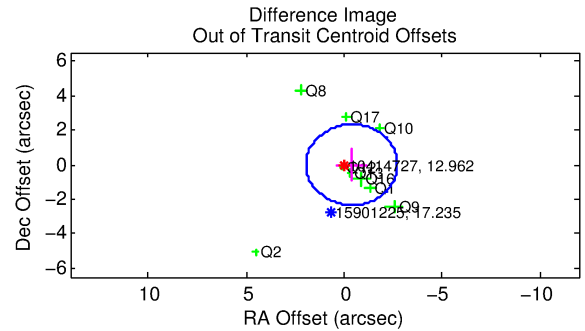
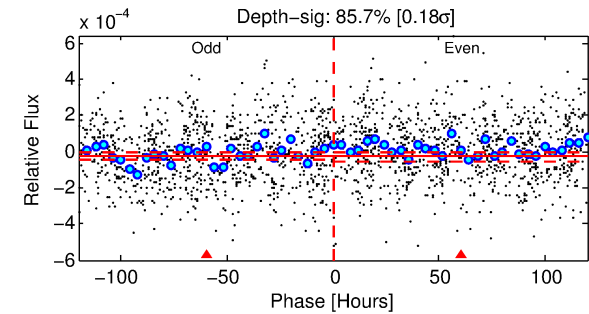
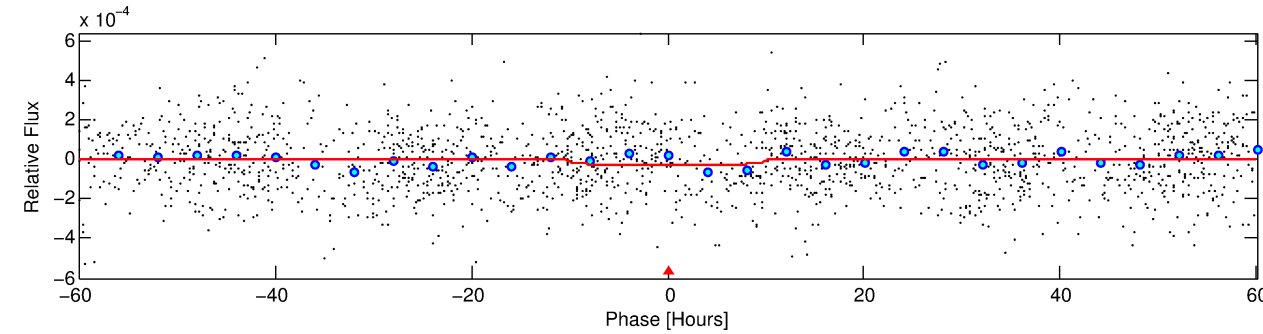
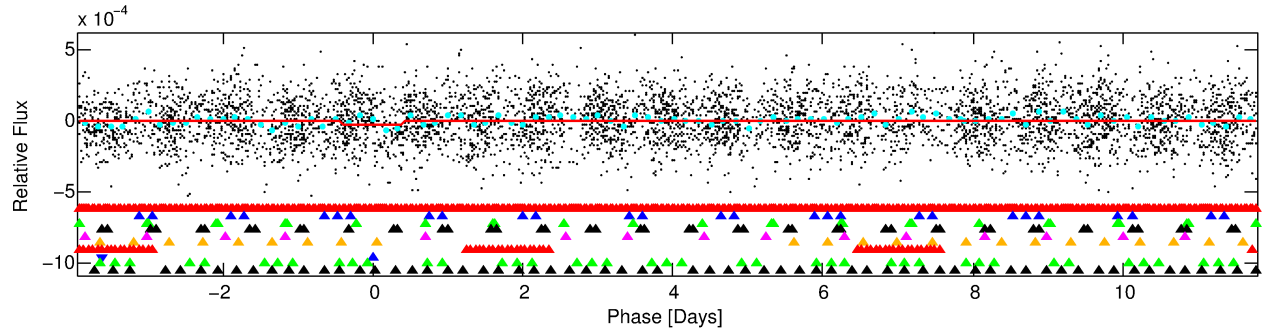
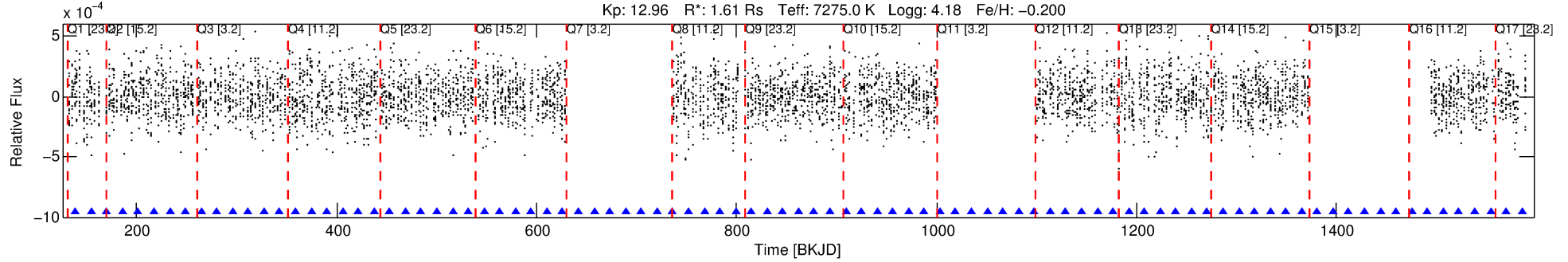
Ephemeris Match Information For 010414727-08

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 8 of 10 Period: 15.722 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



DV Fit Results:

Period = 15.72160 [0.00174] d
Epoch = 138.8787 [0.0944] BKJD
Rp/R* = 0.0048 [0.0042]
a/R* = 4.42 [20.03]
b = 0.70 [3.56]
Seff = 339.17 [134.79]
Teq = 1094 [109] K
Rp = 0.85 [0.79] Re
a = 0.1383 [0.0363] AU
Ag = 856.77 [1543.93] [0.55σ]
Teffp = 9154 [4058] K [1.99σ]

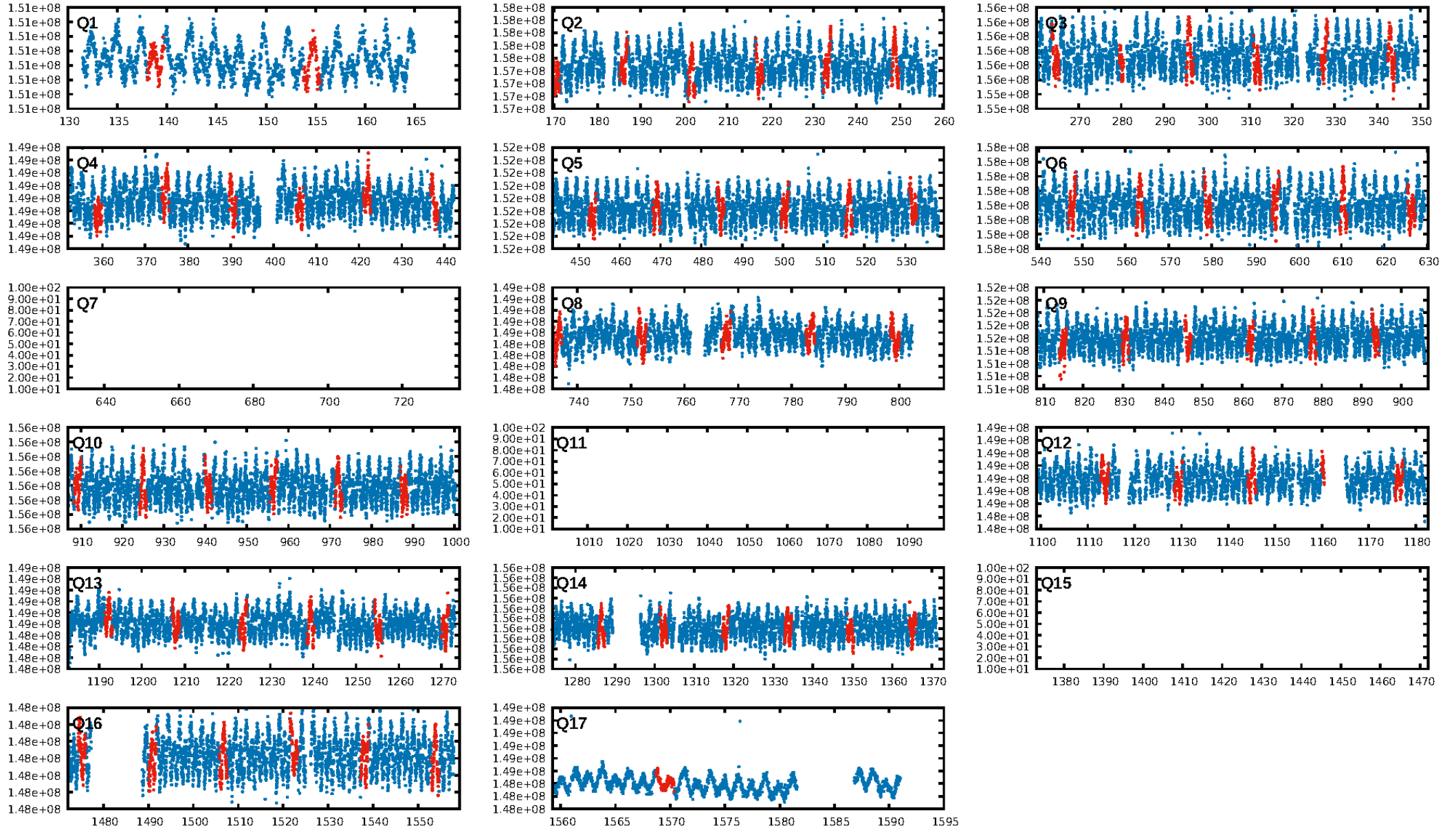
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.04σ]
LongPeriod-sig: 100.0% [8.41σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [31/31]
GhostDiagnostic-chr: -0.8573
Centroid-sig: 40.8%
Centroid-so: 1.258 arcsec [0.88σ]
OotOffset-rm: 0.384 arcsec [0.49σ]
KicOffset-rm: 0.517 arcsec [0.81σ]
OotOffset-st: 2/0/3/4 [9]
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DiffImageOverlap-fno: 0.00 [0/14]

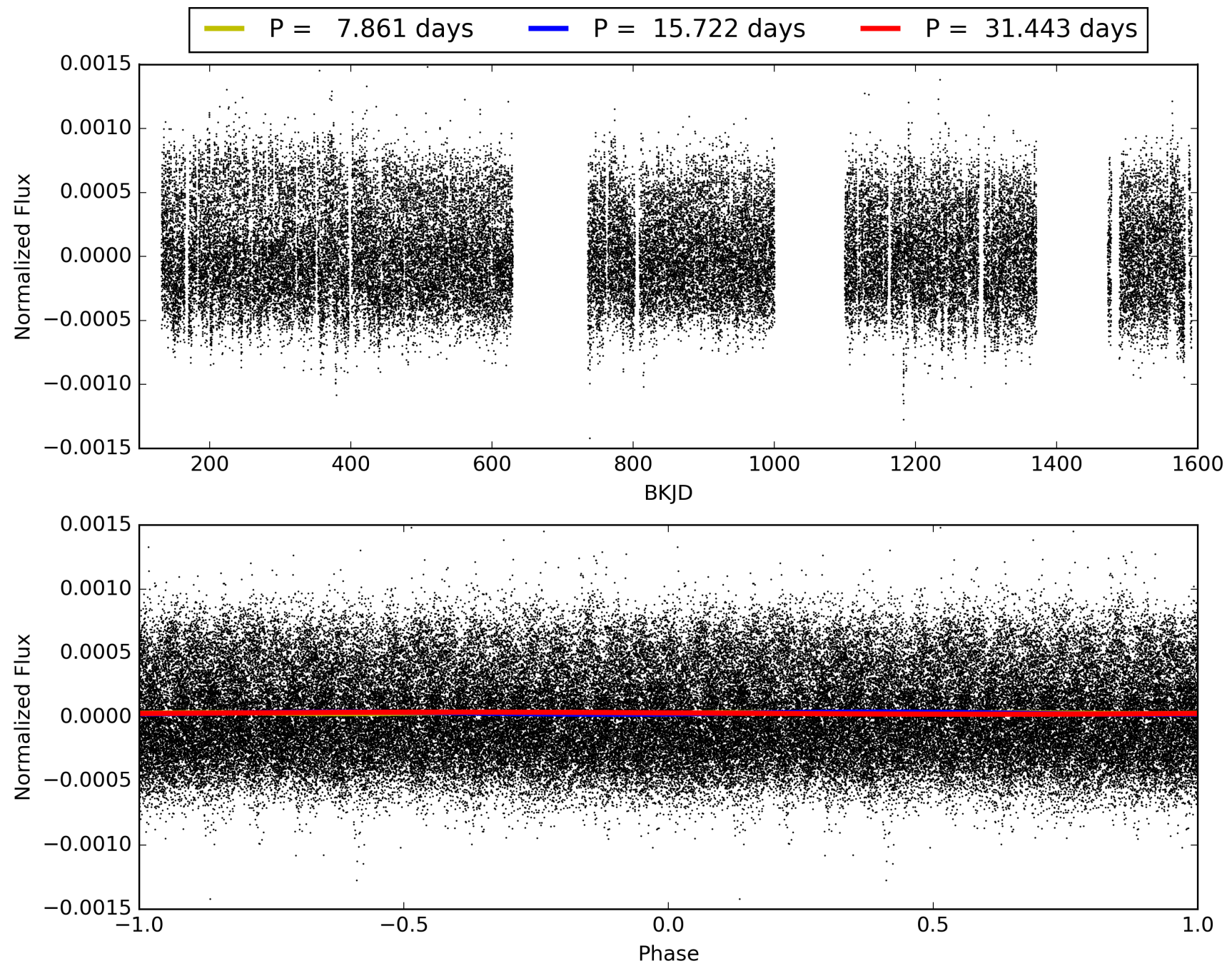
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010414727-08, PDC Light Curves

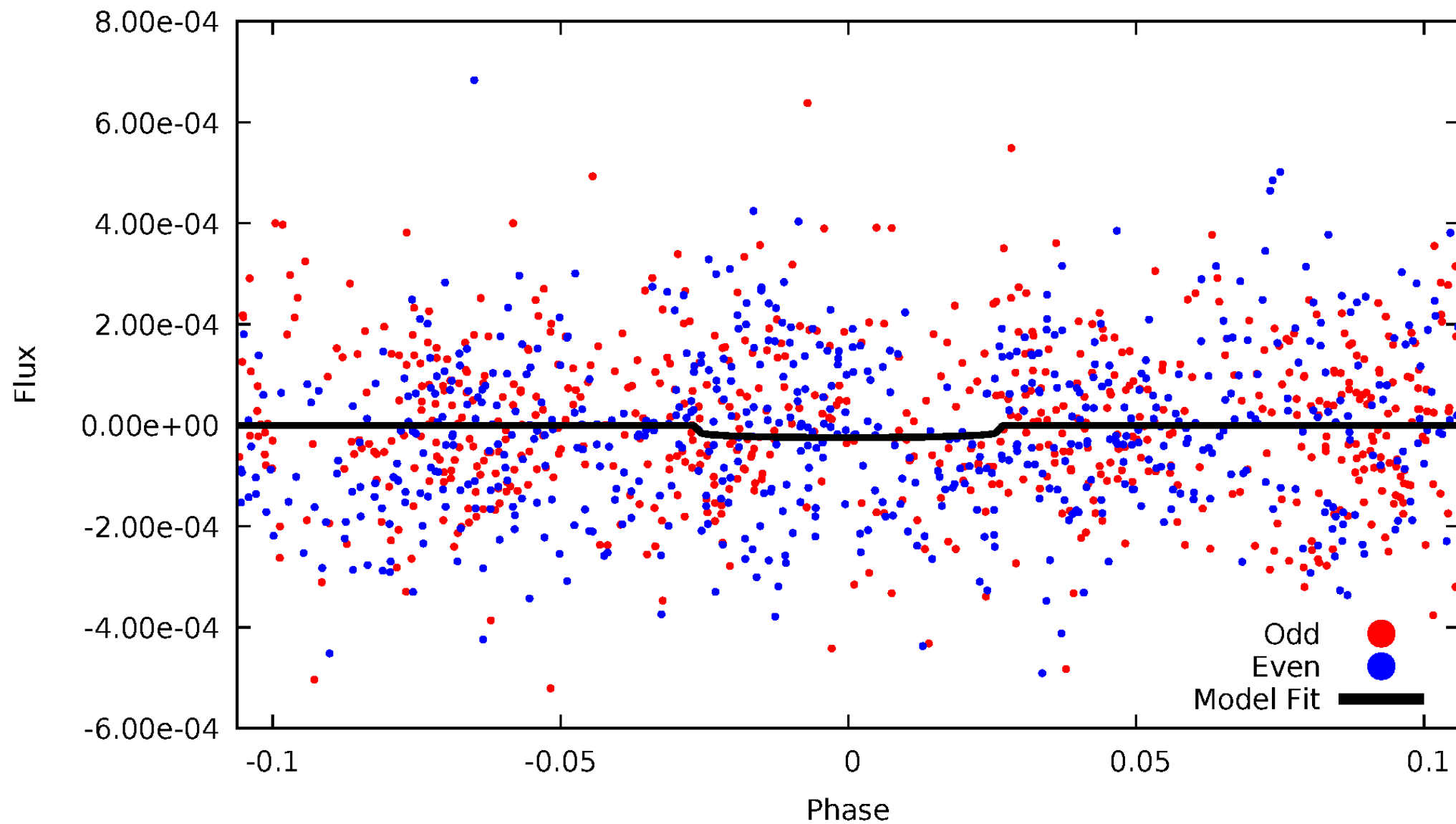


TCE 010414727-08



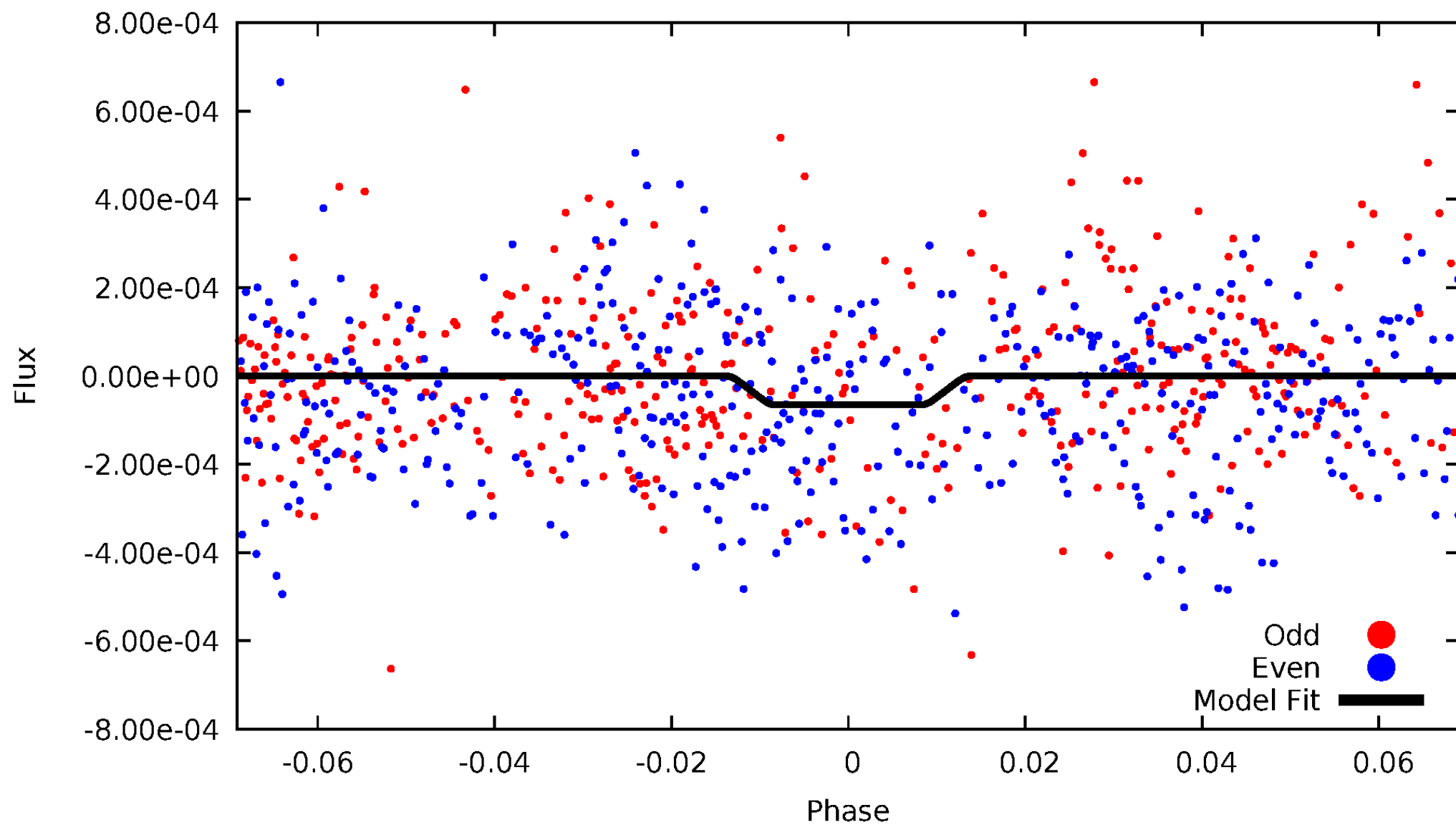
DV Odd/Even

TCE 010414727-08



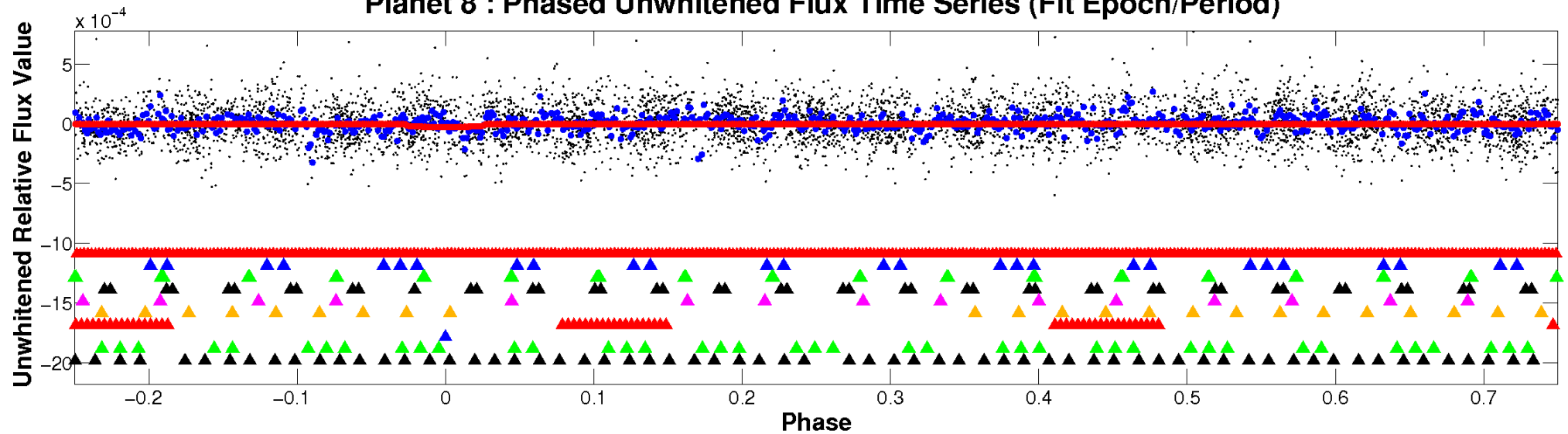
ALT Odd/Even

TCE 010414727-08

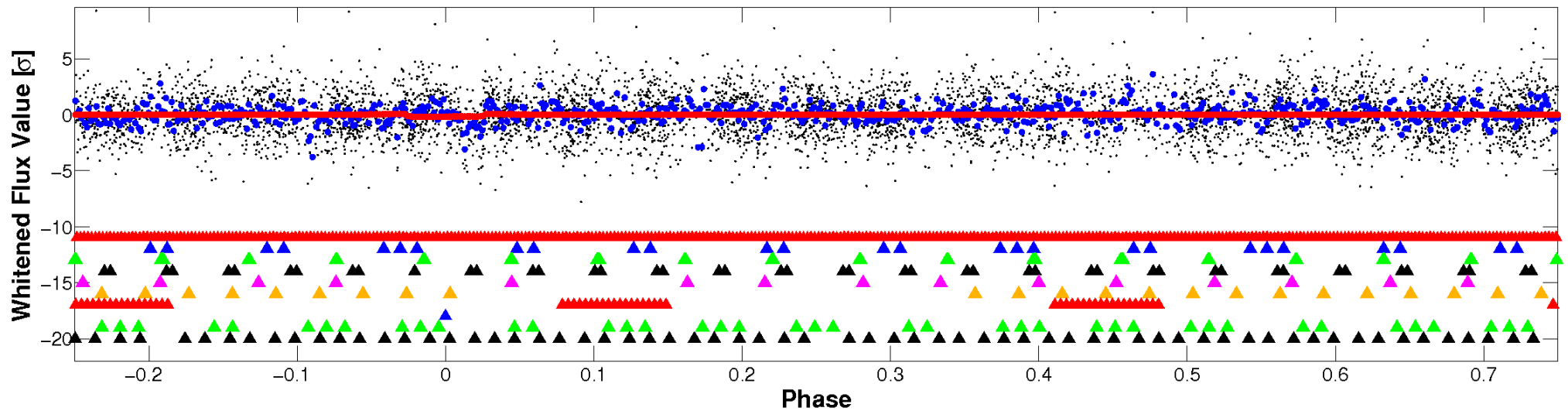


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

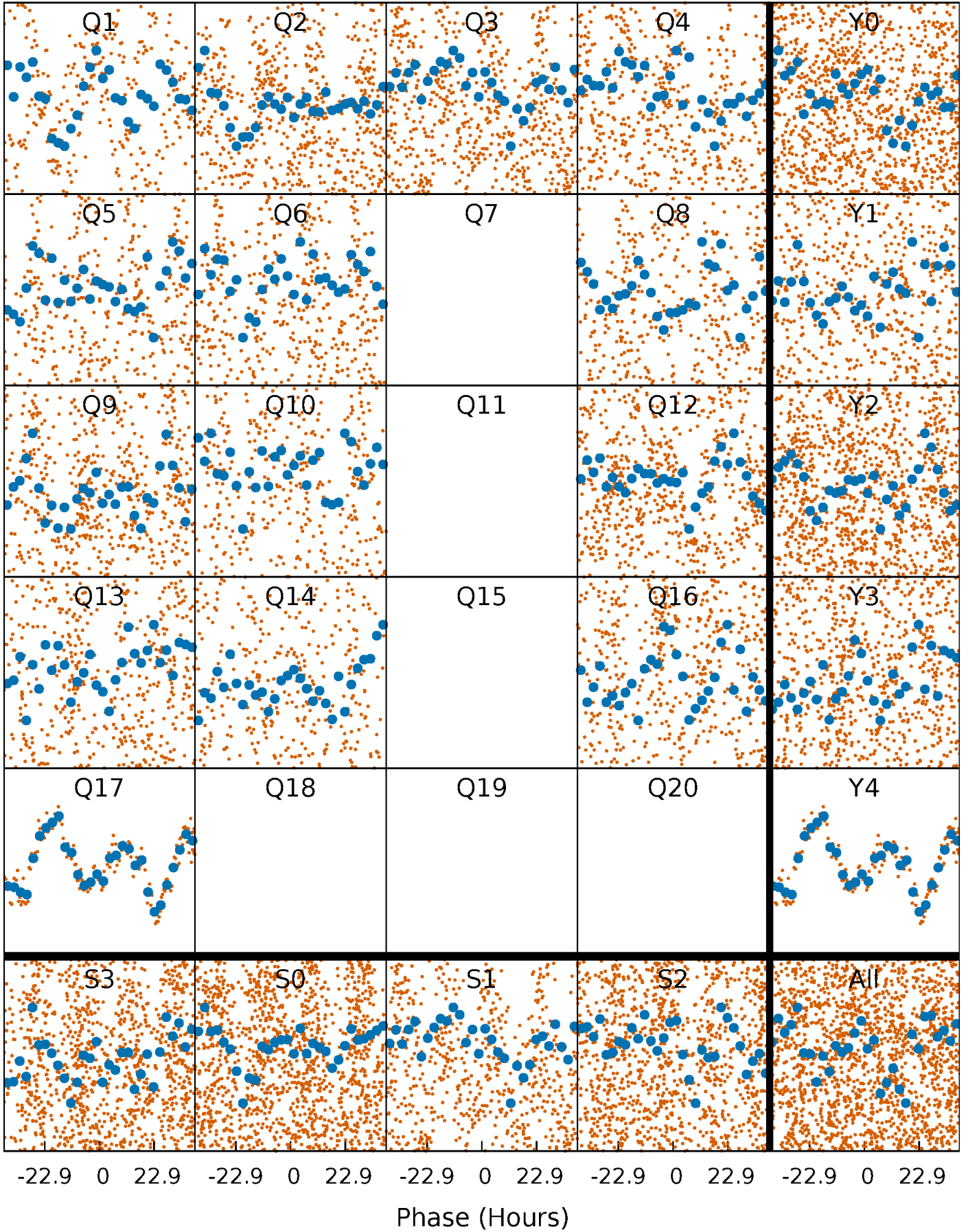


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



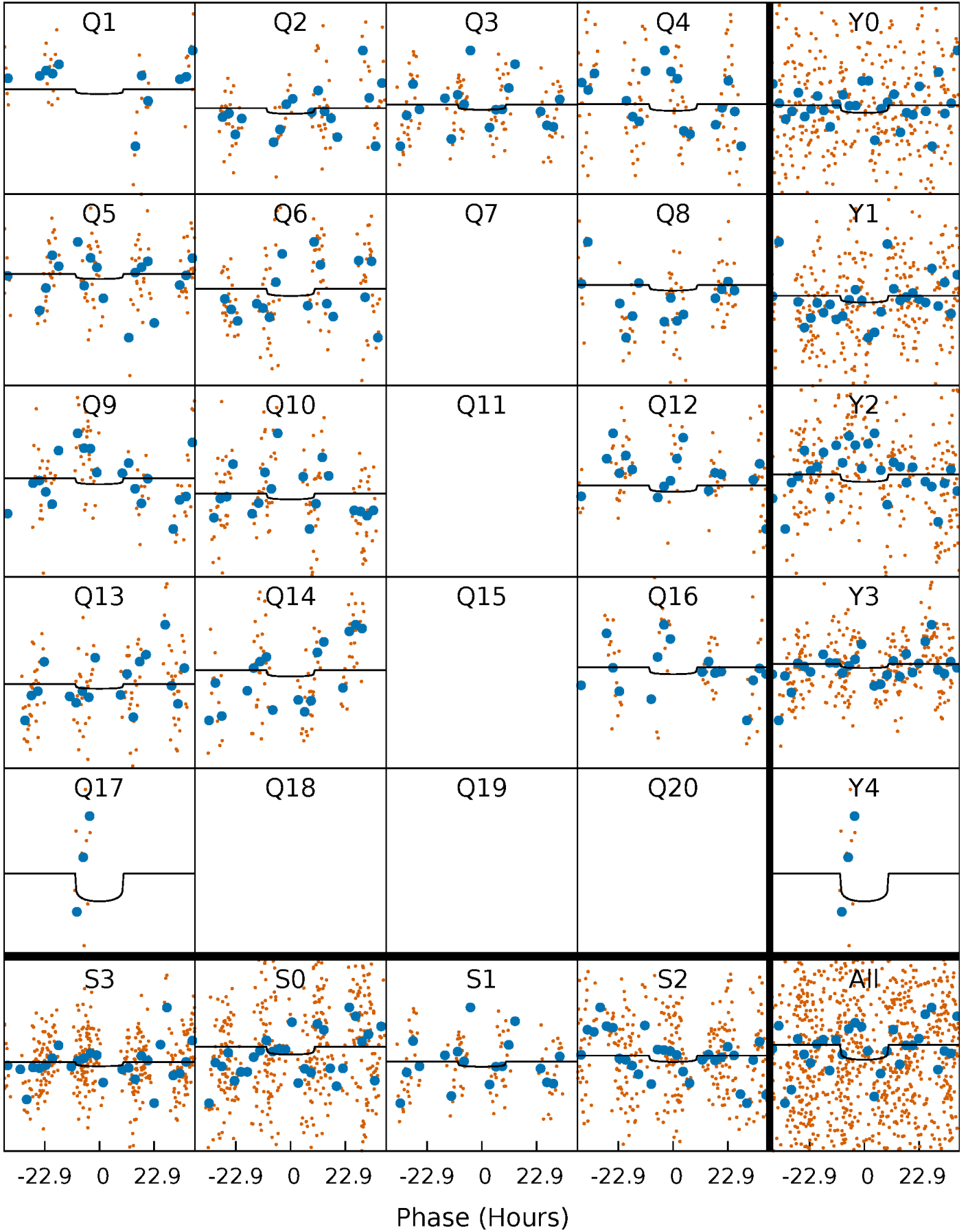
PDC Quarter-Phased Transit Curves

TCE 010414727-08 P= 15.721604 Days $T_0=138.878713$ (BKJD)



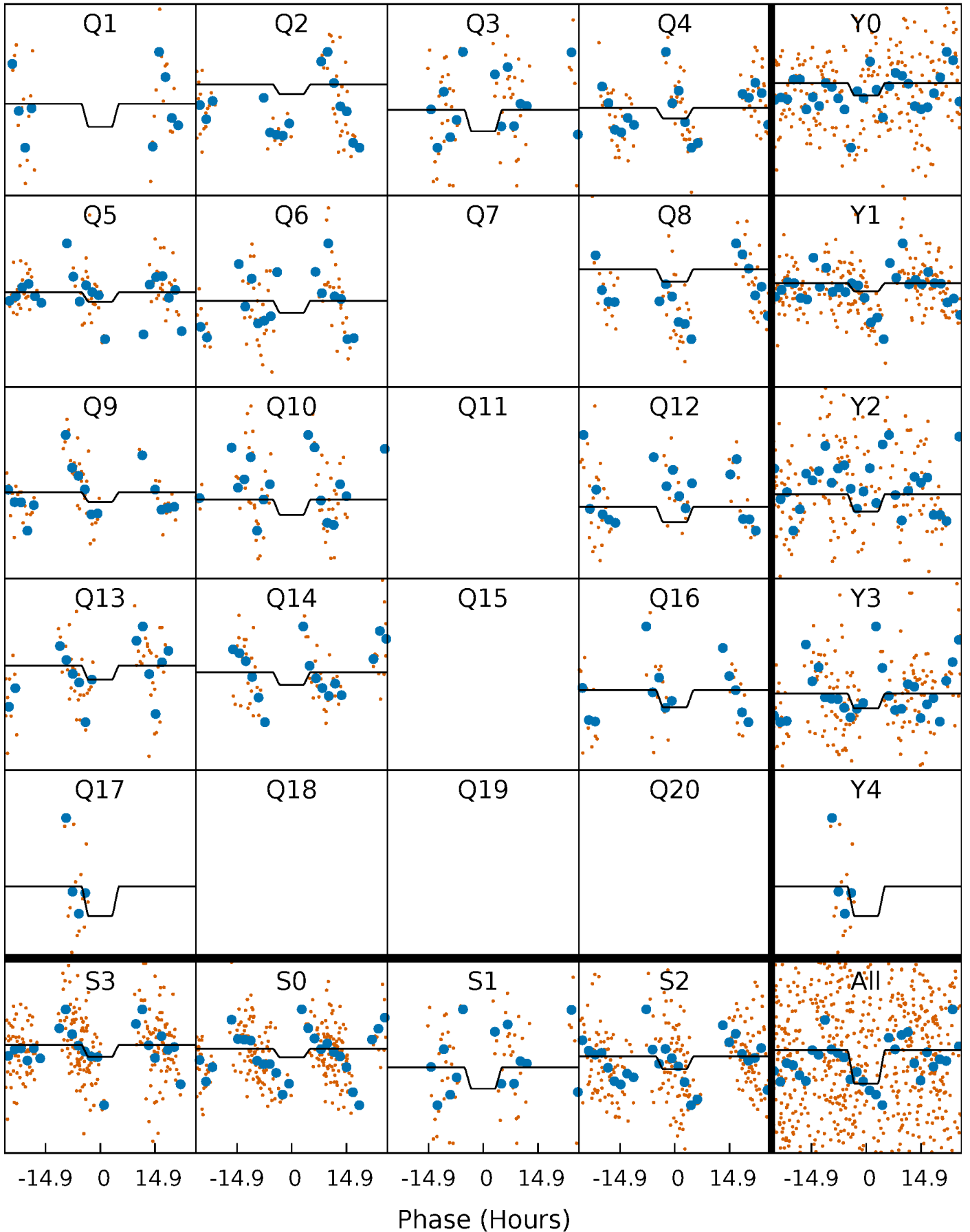
DV Quarter-Phased Transit Curves

TCE 010414727-08 $P = 15.721604$ Days $T_0 = 138.878713$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

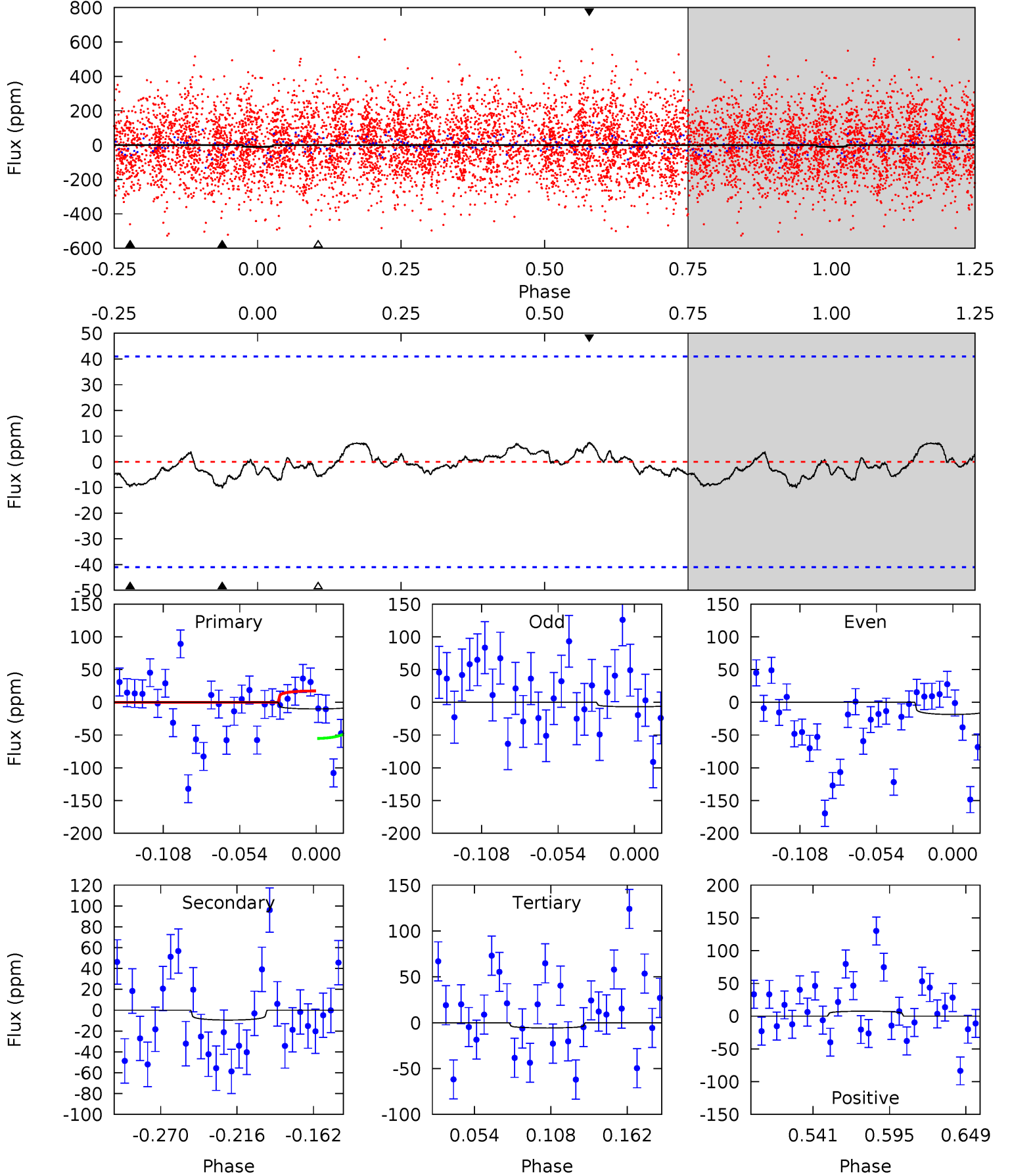
TCE 010414727-08 P= 15.721086 Days $T_0=138.900586$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-08, P = 15.721604 Days, E = 123.157109 Days

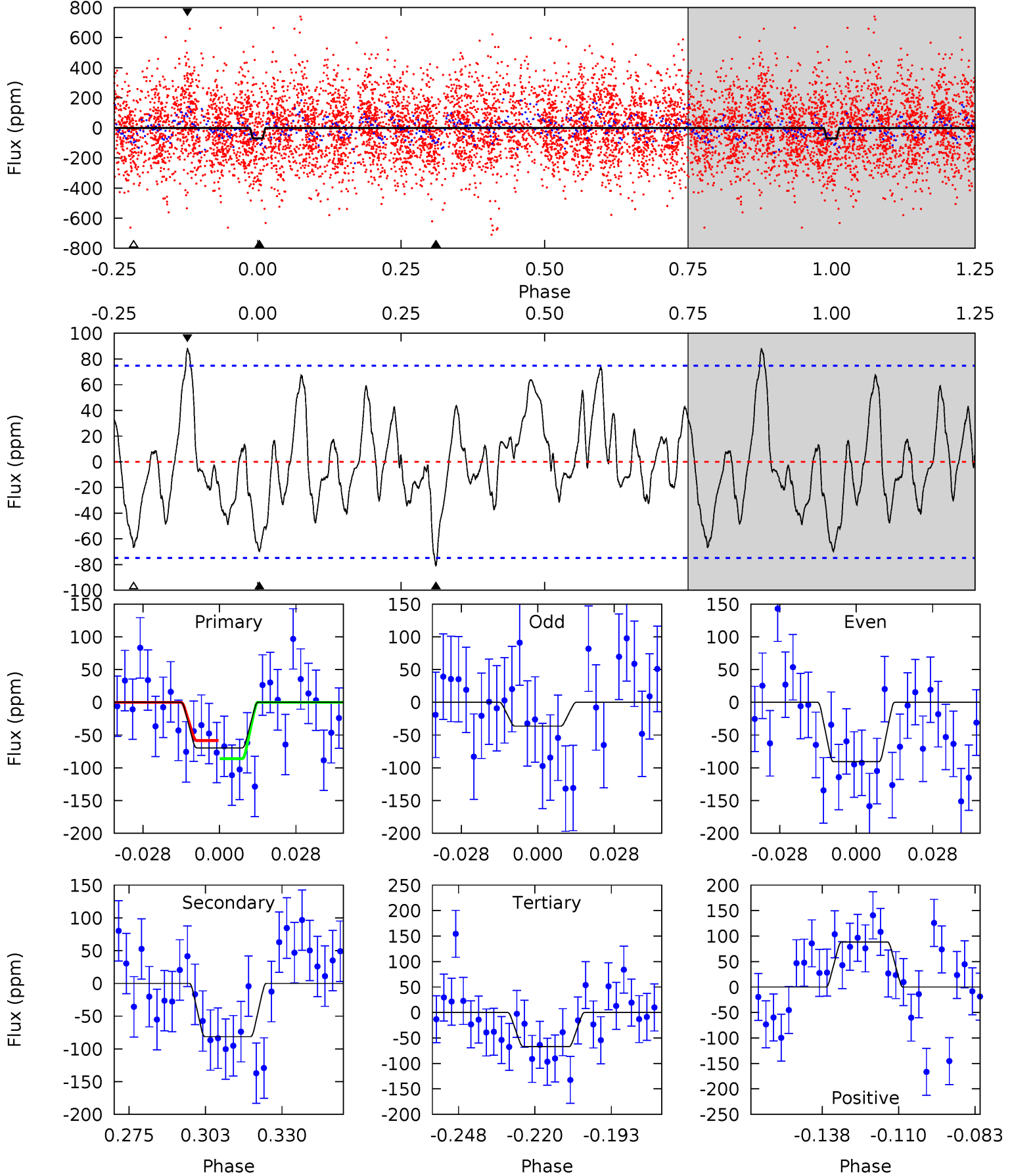
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.15	1.08	0.66	0.86	4.69	1.93	0.38	0.50	0.29	0.43	0.23	0.68	0.48	0.43	2.15



Alt Model-Shift Uniqueness Test

010414727-08, P = 15.721086 Days, E = 123.179500 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.49	5.25	4.32	5.71	4.83	2.20	1.93	0.16	-1.22	0.92	-0.46	1.72	0.80	0.52	0.86



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 9	$0.96^{+0.76}_{-0.55}$	1528^{+124}_{-91}	5129^{+3456}_{-2000}	82^{+499}_{-78}
Alt.	-81 ± 16	$1.45^{+0.79}_{-0.69}$	1537^{+121}_{-97}	7643^{+4443}_{-1532}	409^{+1071}_{-247}

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 $A_{obs} \gg 1.0$

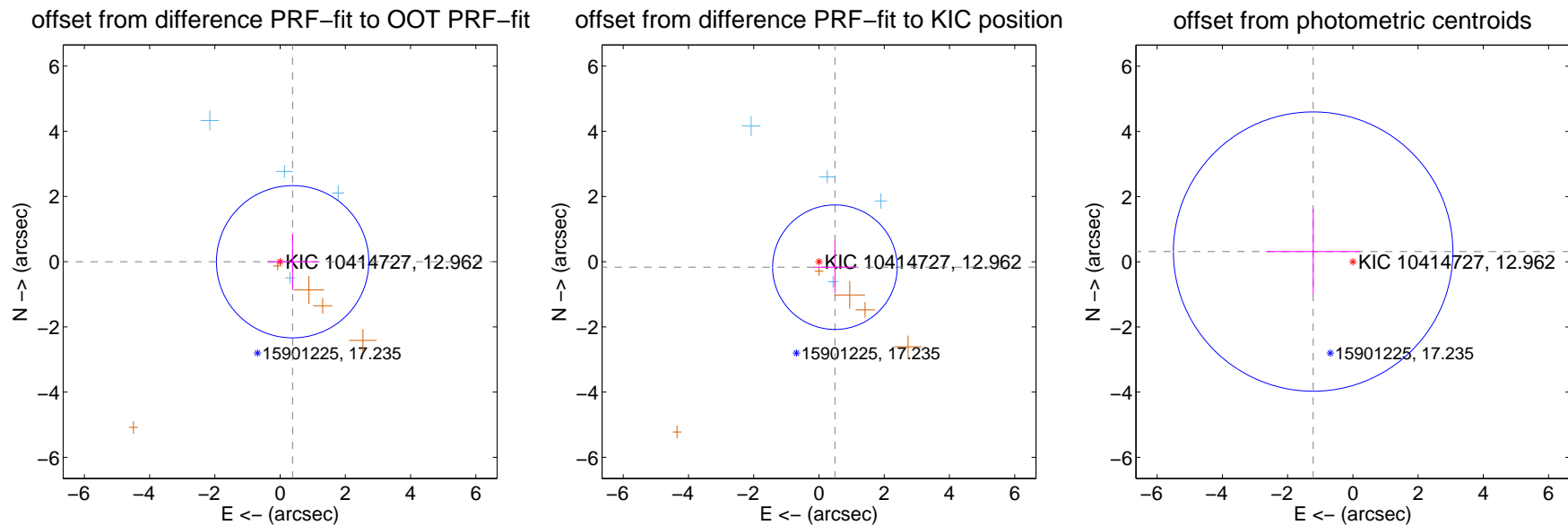
DV Centroid Data

Supplemental centroid analysis for 010414727-08. Kepler magnitude: 12.96. Transit SNR 2.87

There are 4 quarters with good PRF difference image offsets

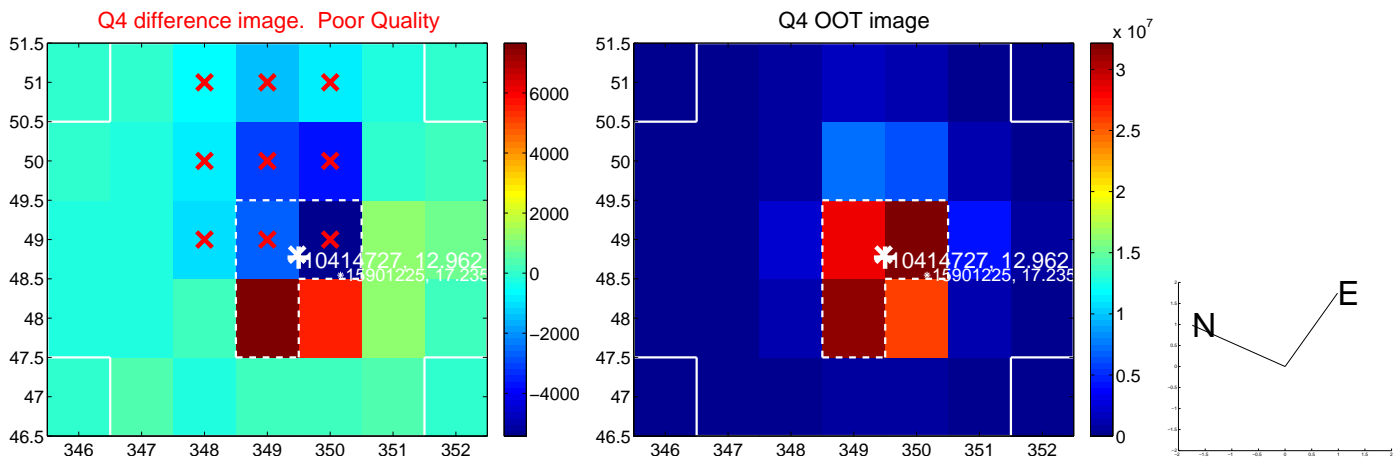
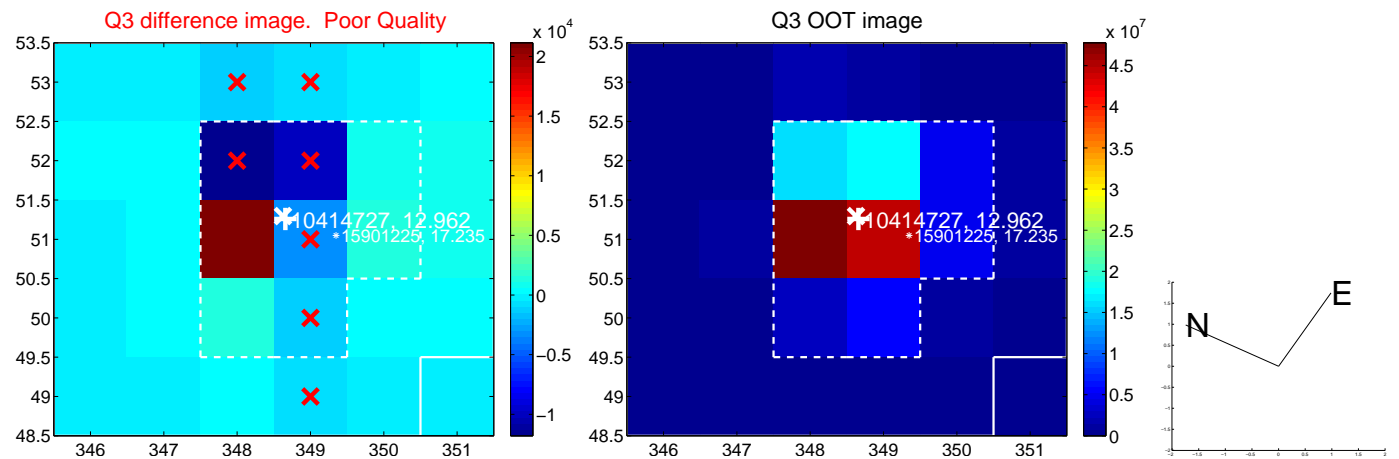
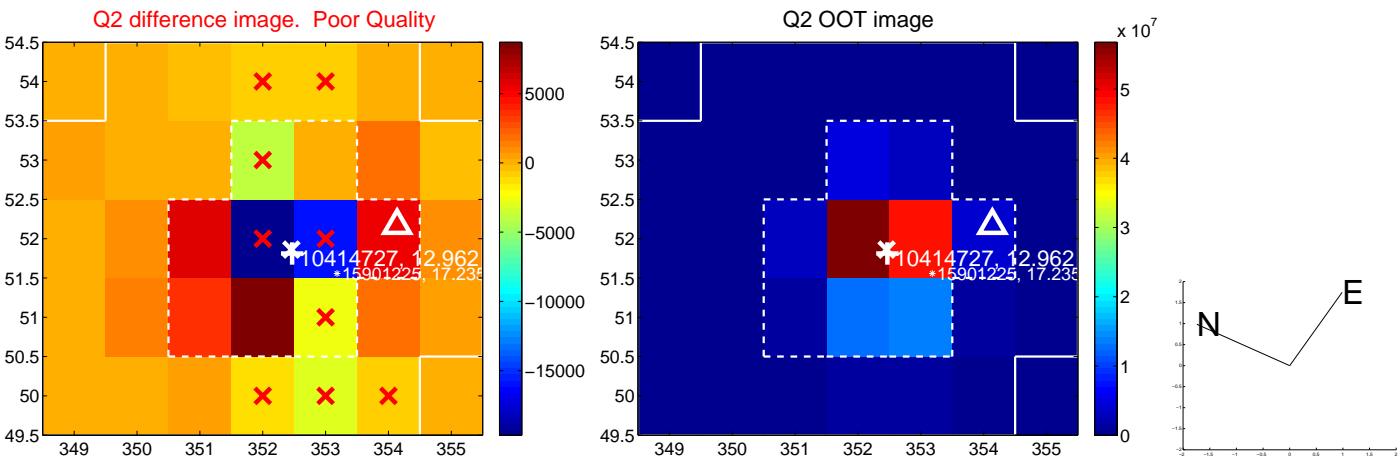
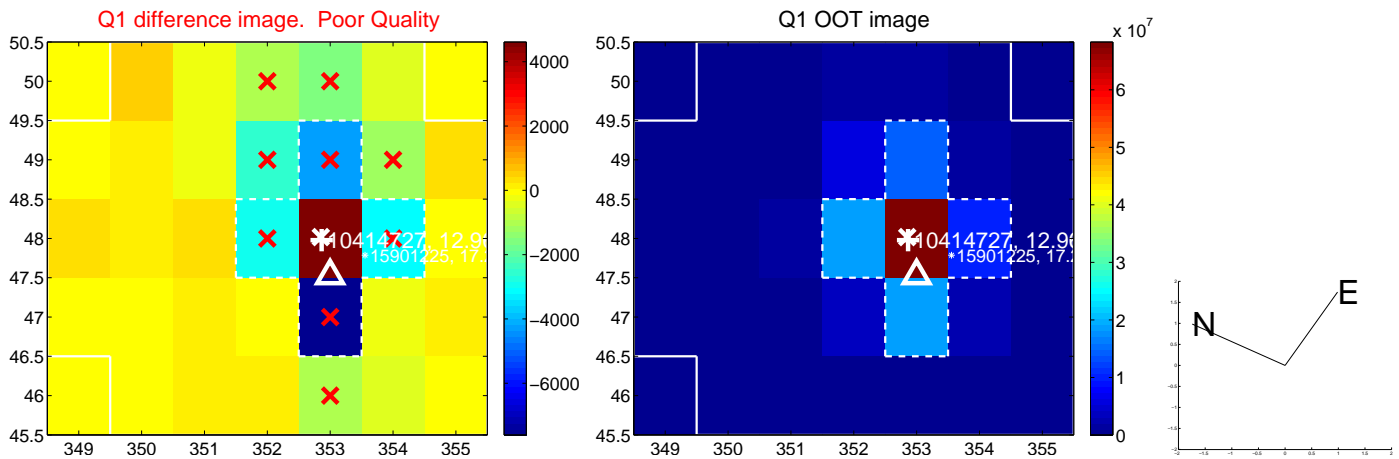
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.384 ± 0.778	0.49	-0.384 ± 0.780	-0.001 ± 0.869
PRF-fit source offset from KIC position	0.517 ± 0.637	0.81	-0.489 ± 0.657	-0.169 ± 0.800
photometric centroid source offset	1.26 ± 1.43	0.88	1.22 ± 1.44	0.31 ± 1.31

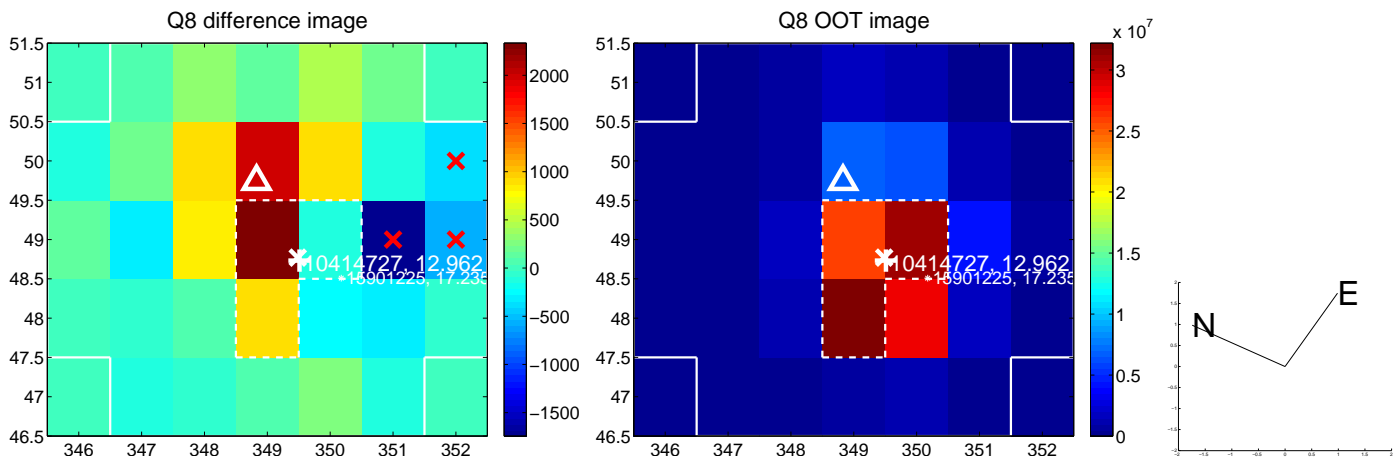
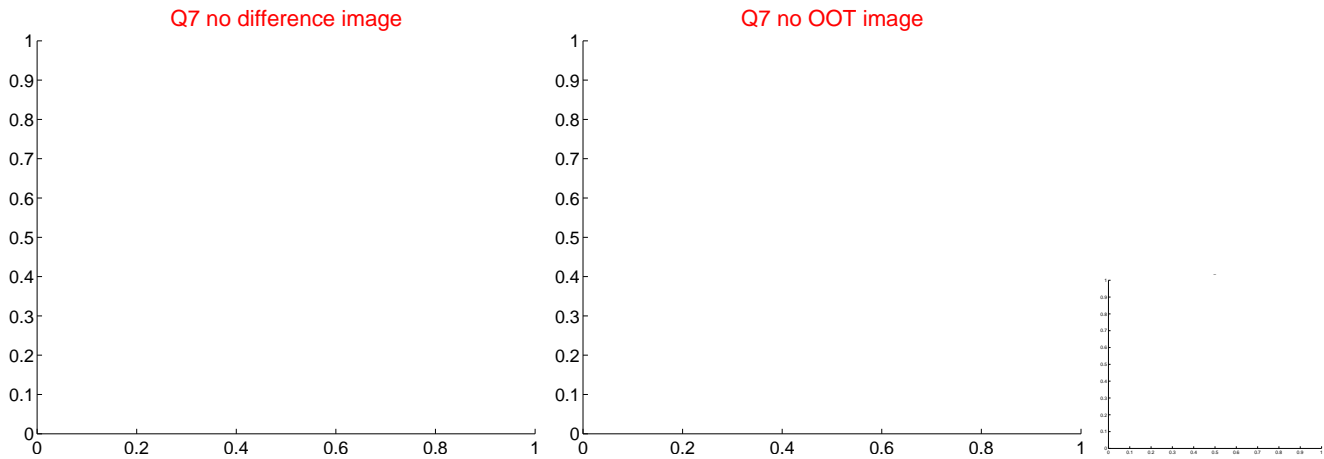
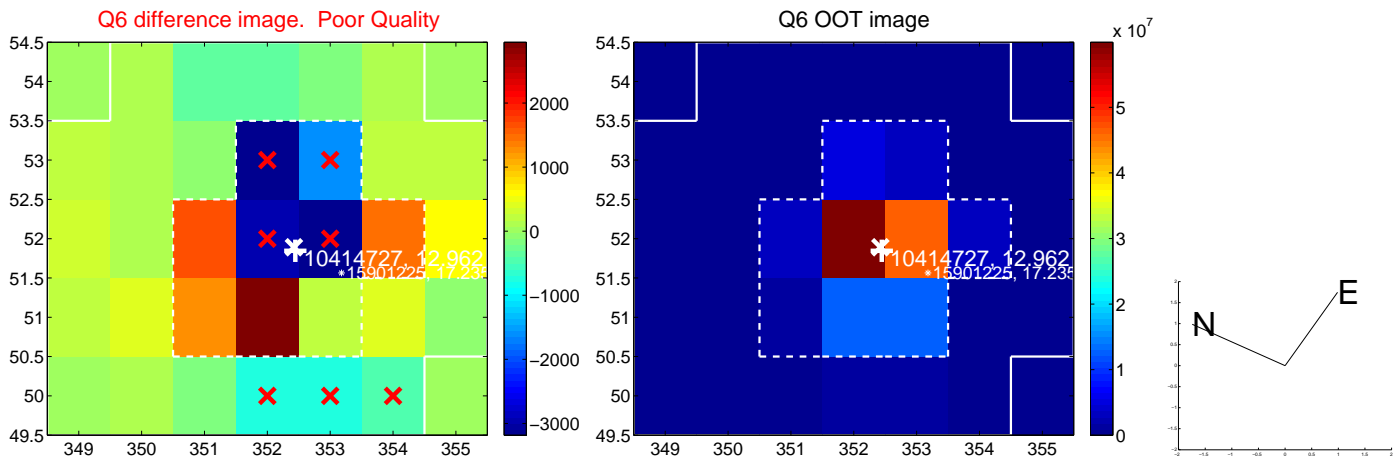
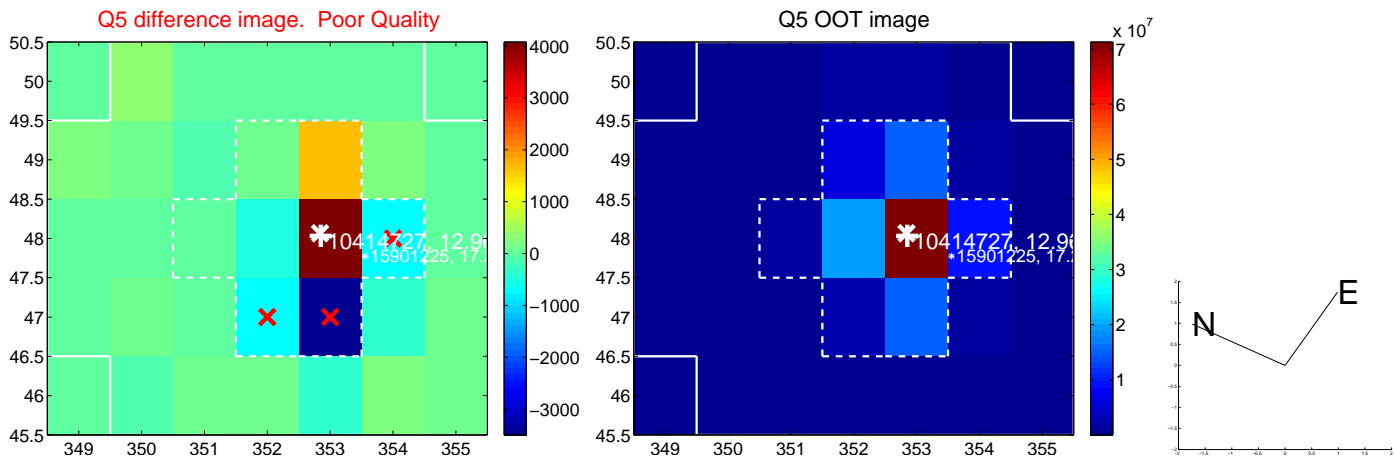


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

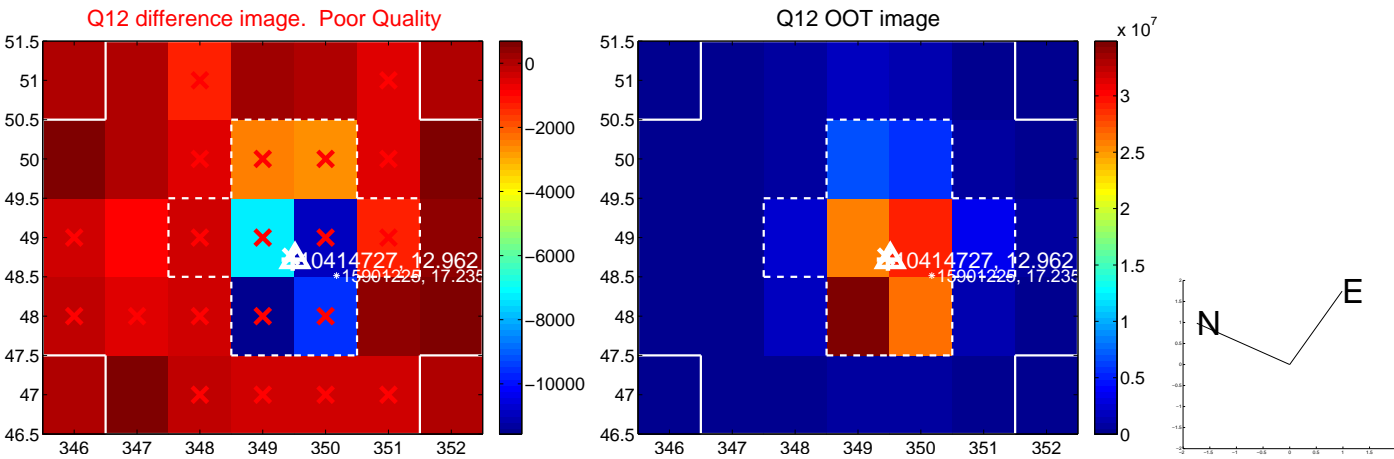
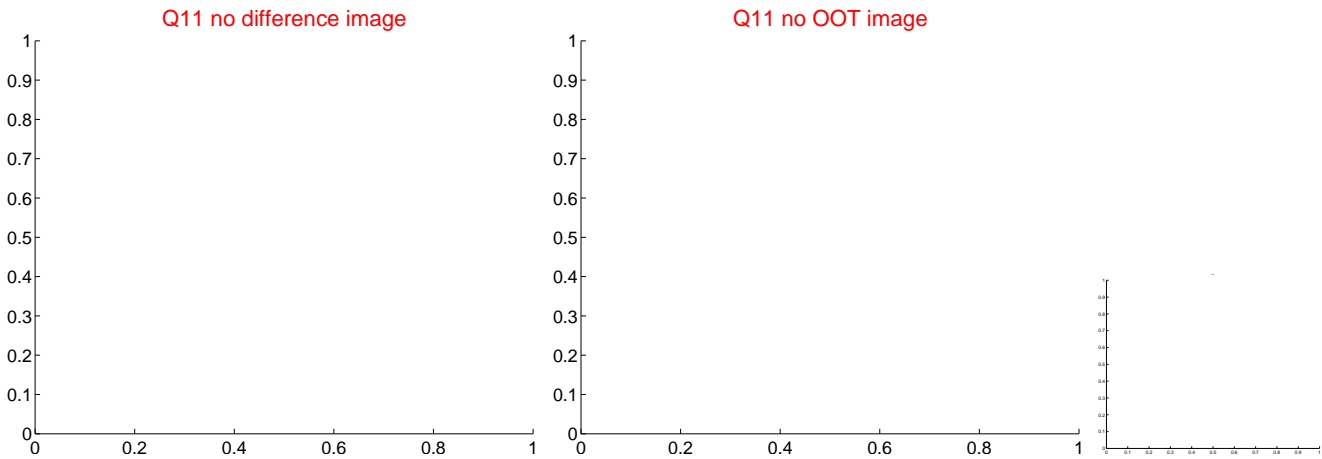
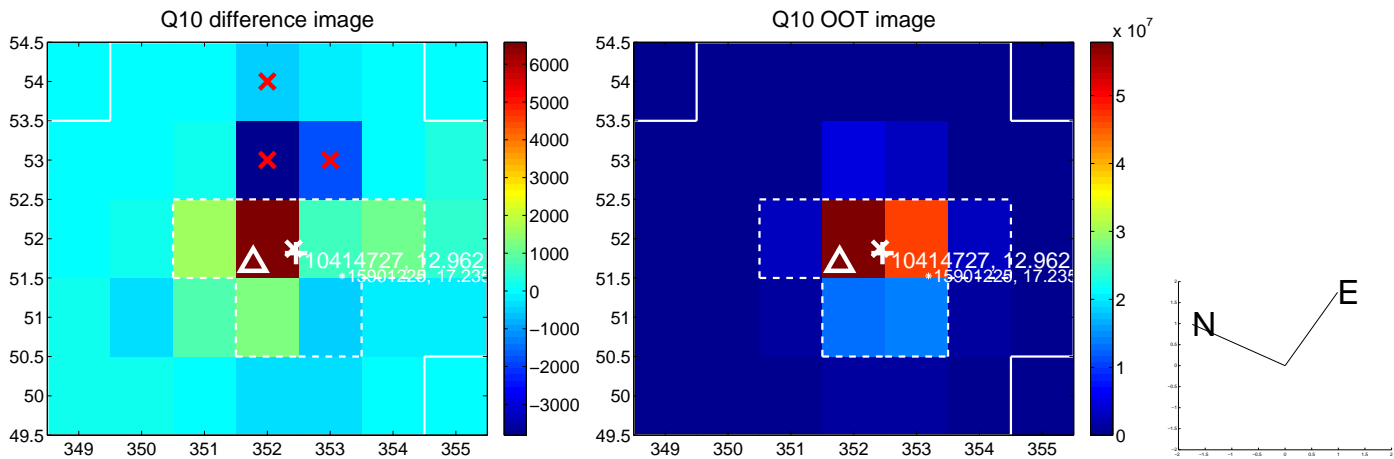
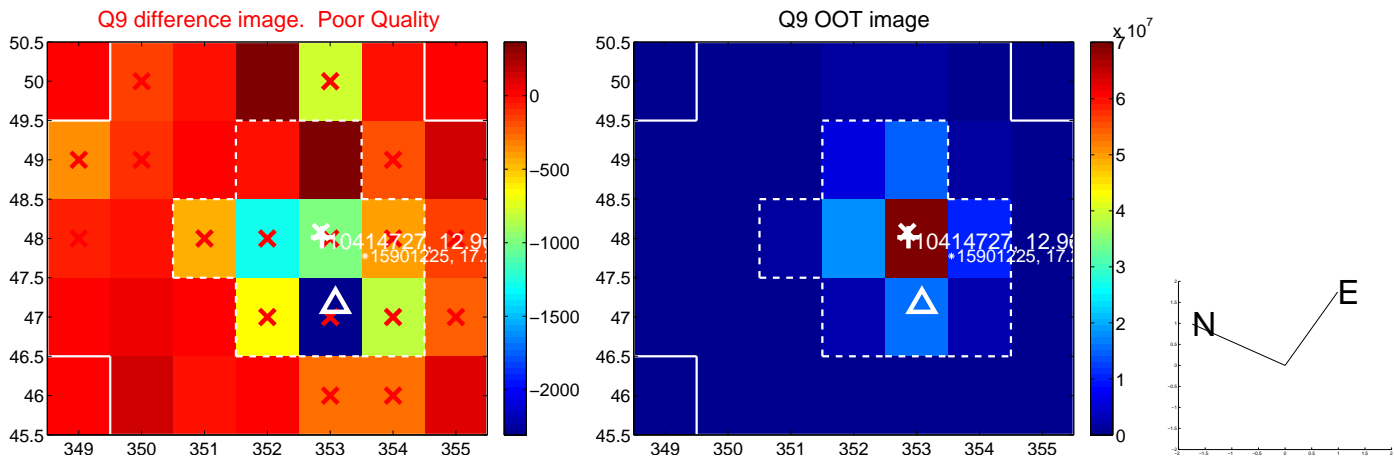
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



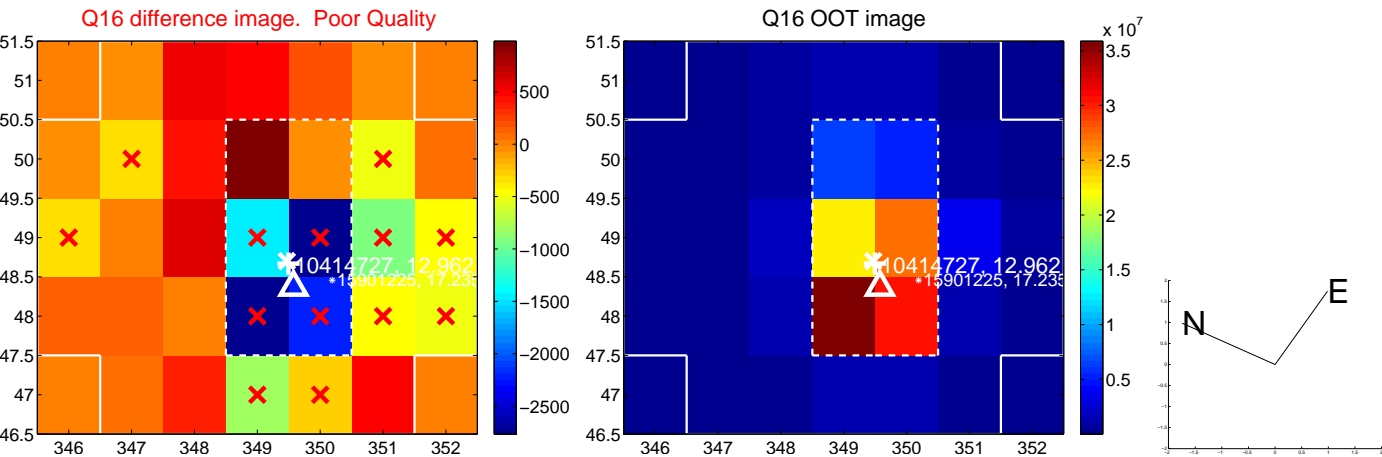
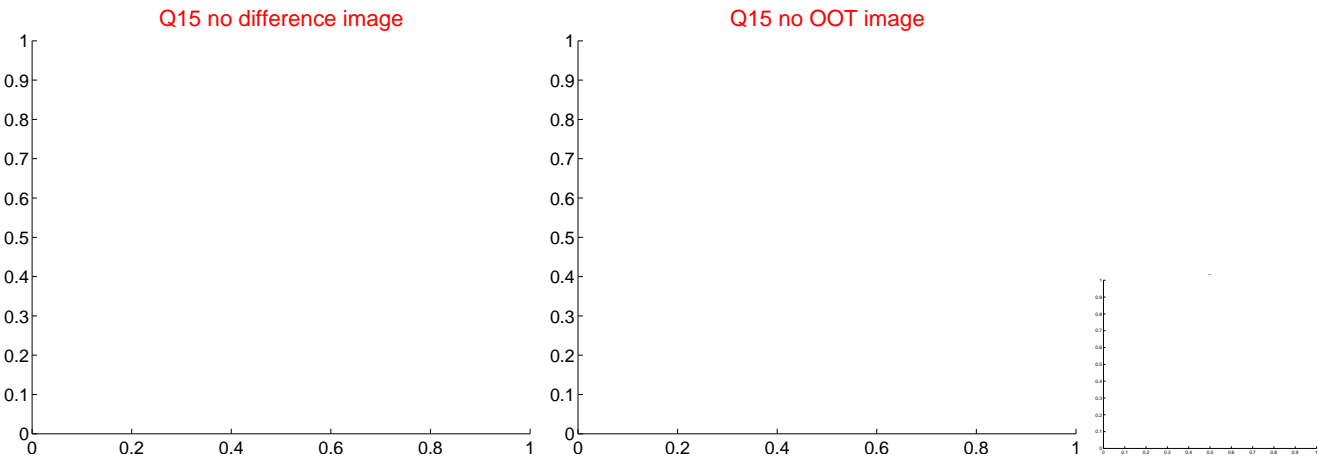
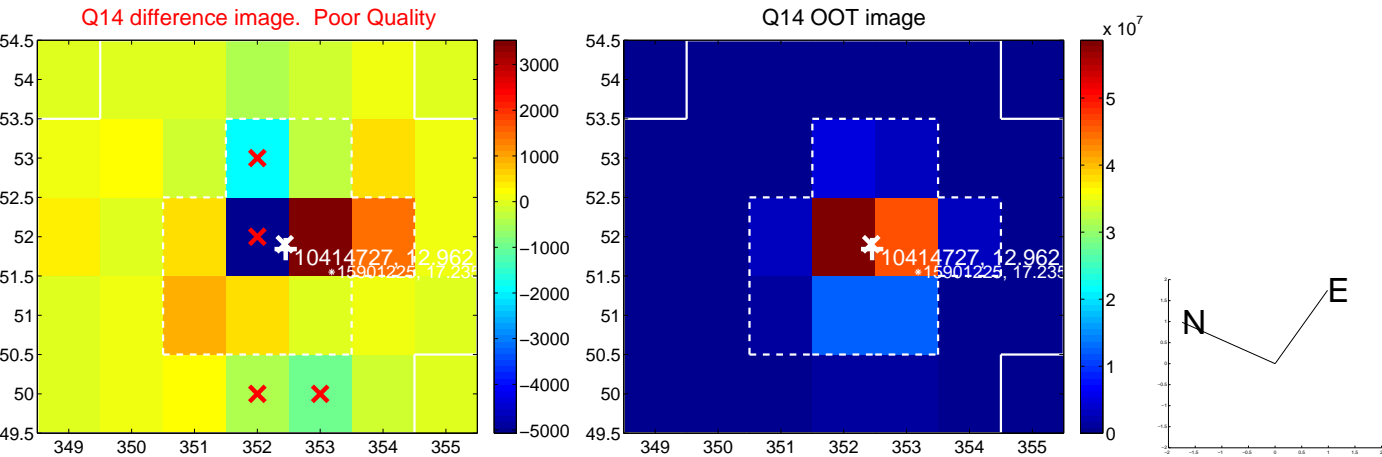
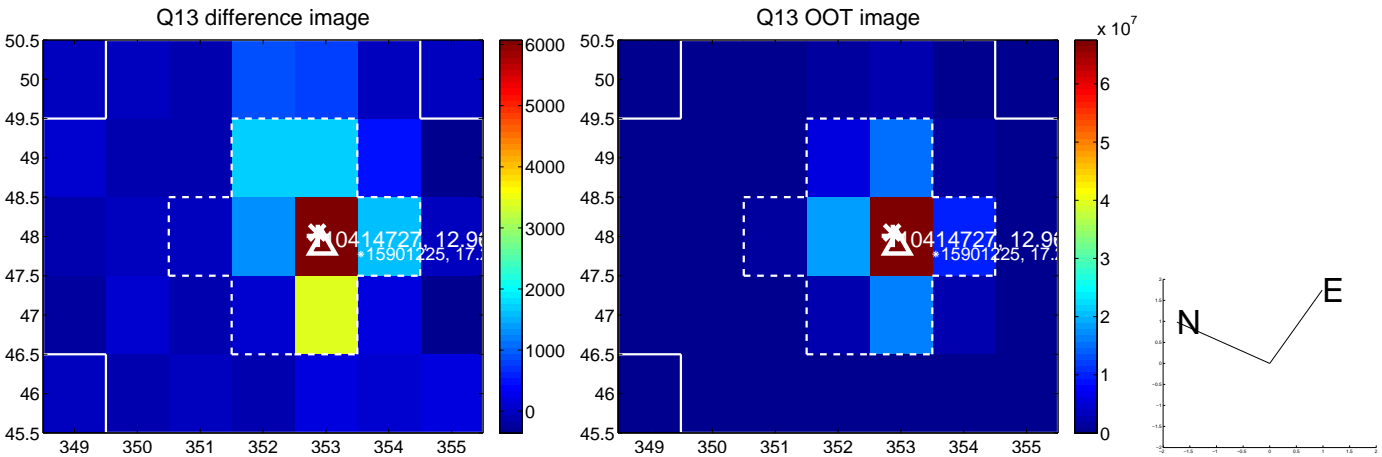
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



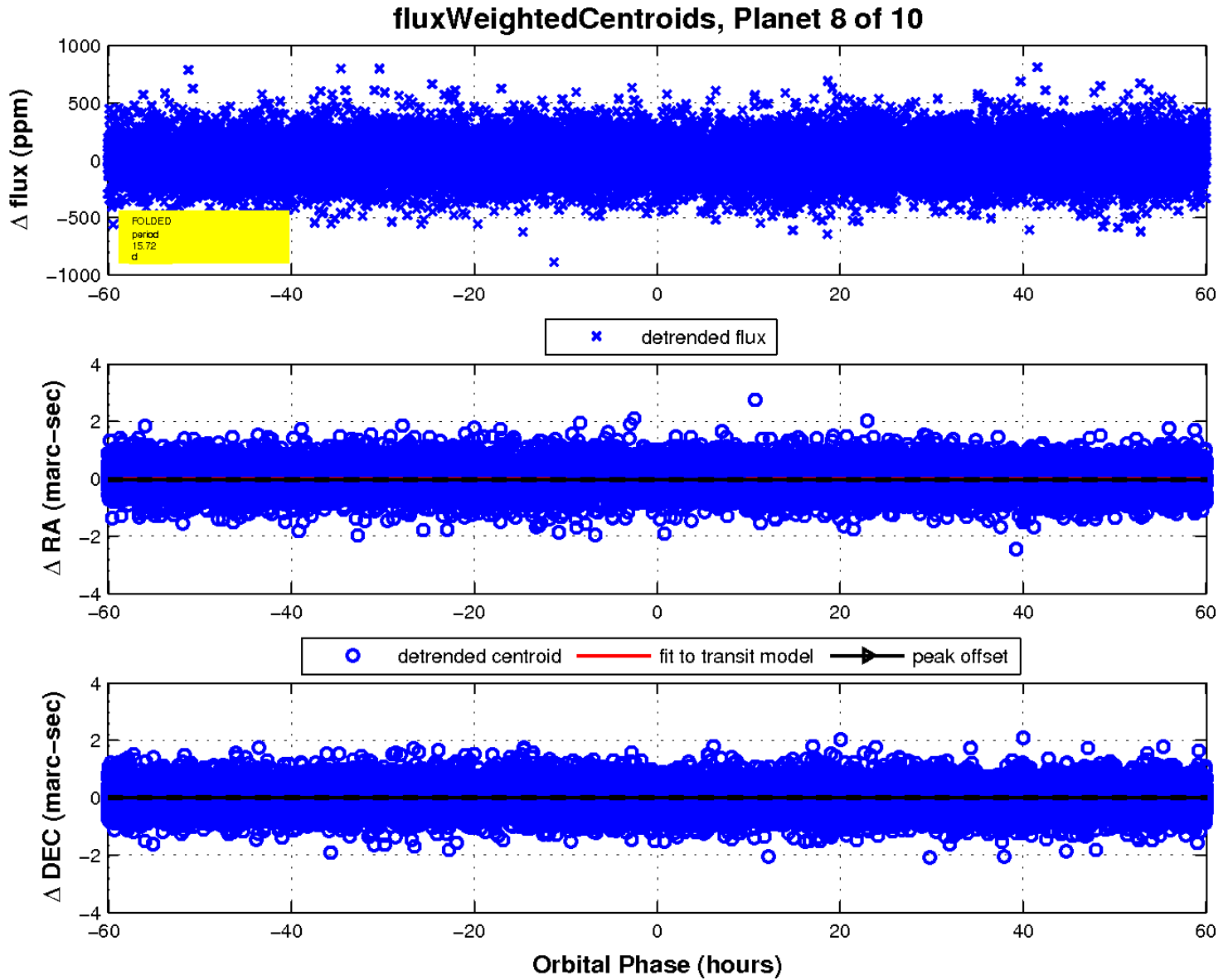
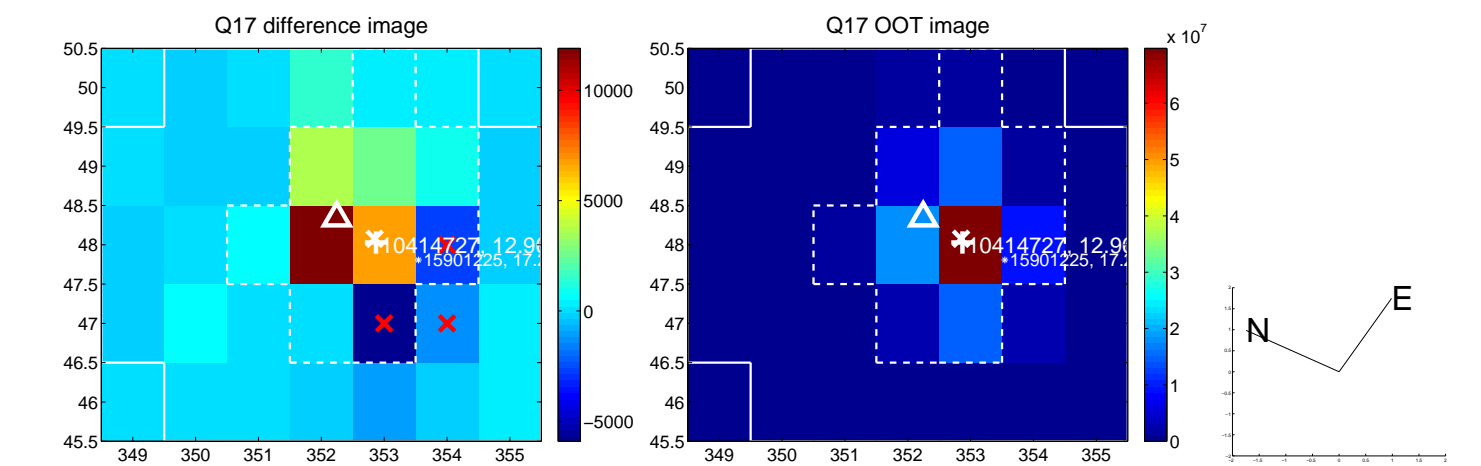
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

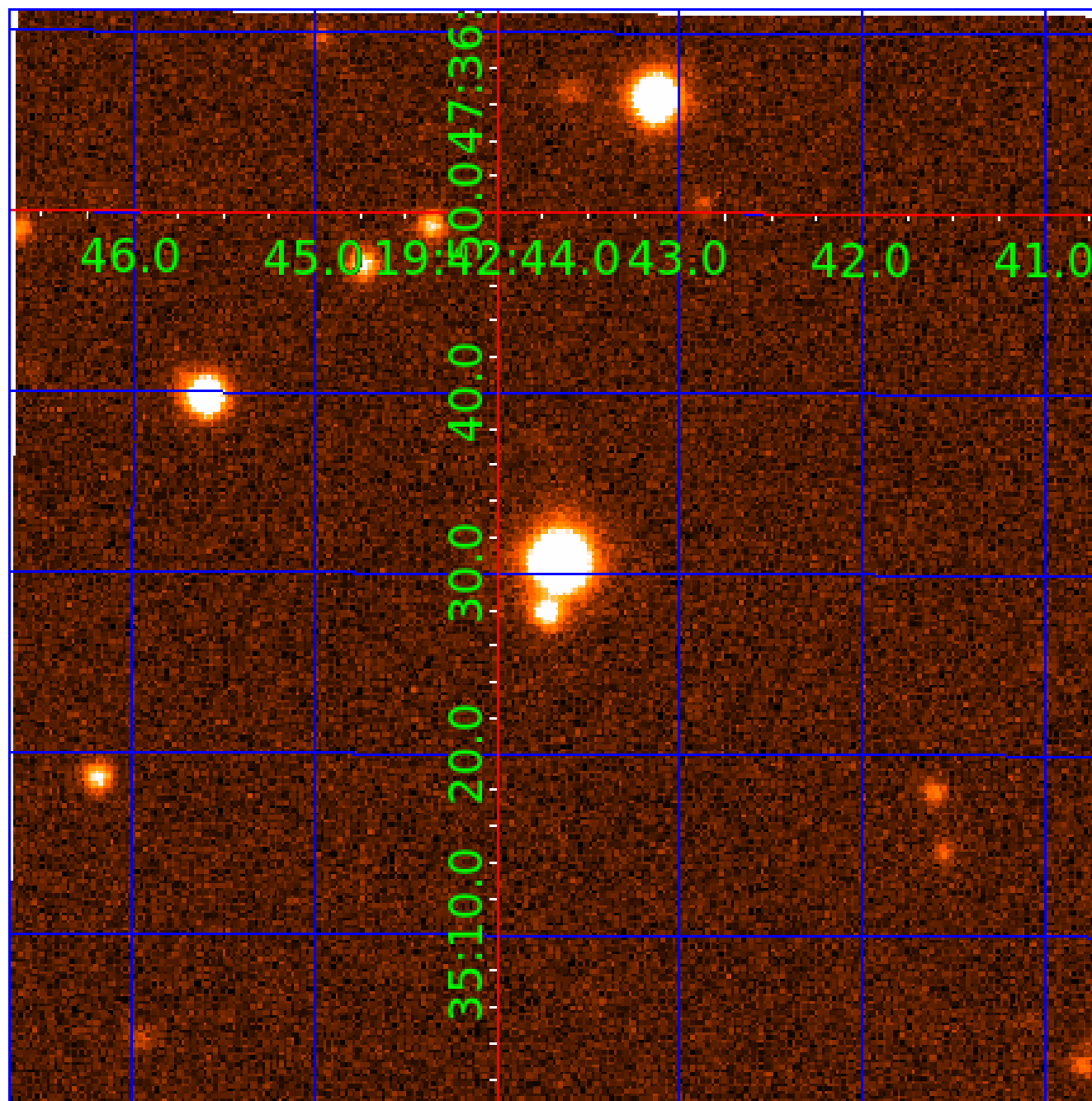


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010414727-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

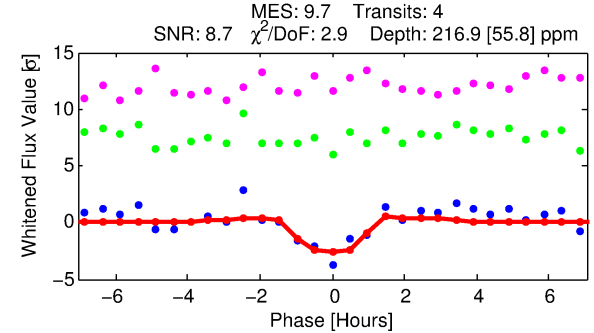
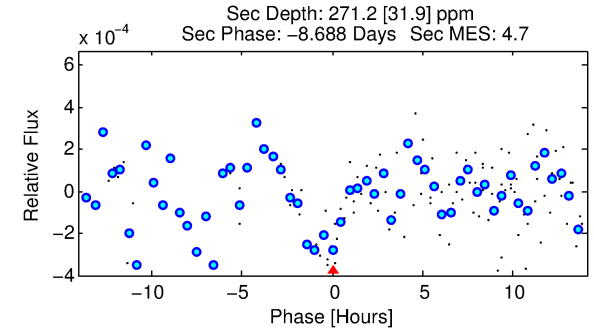
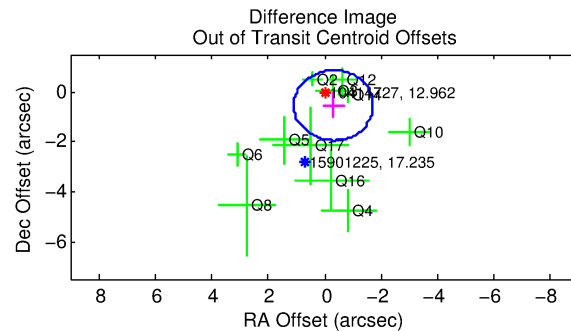
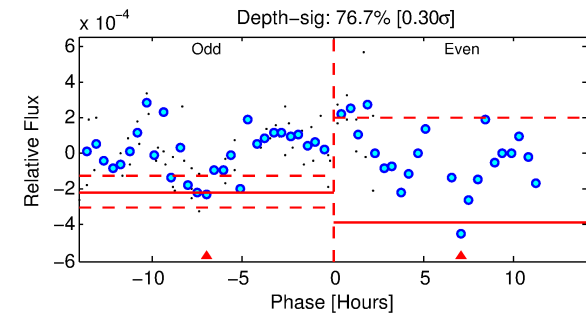
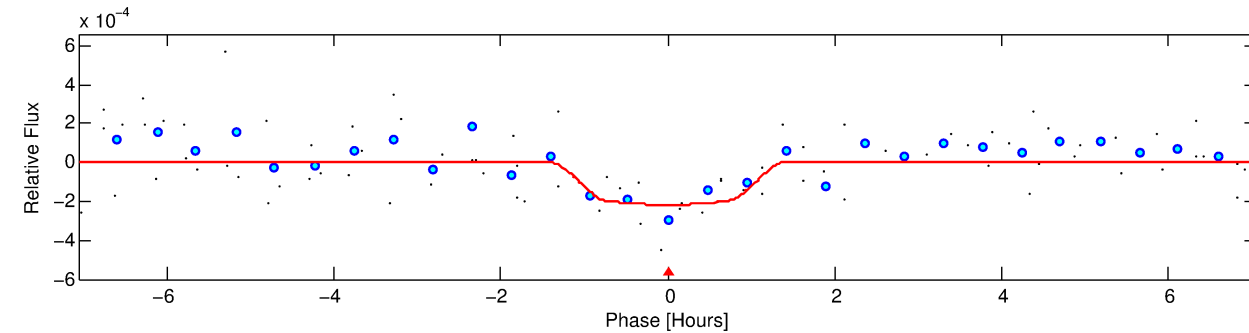
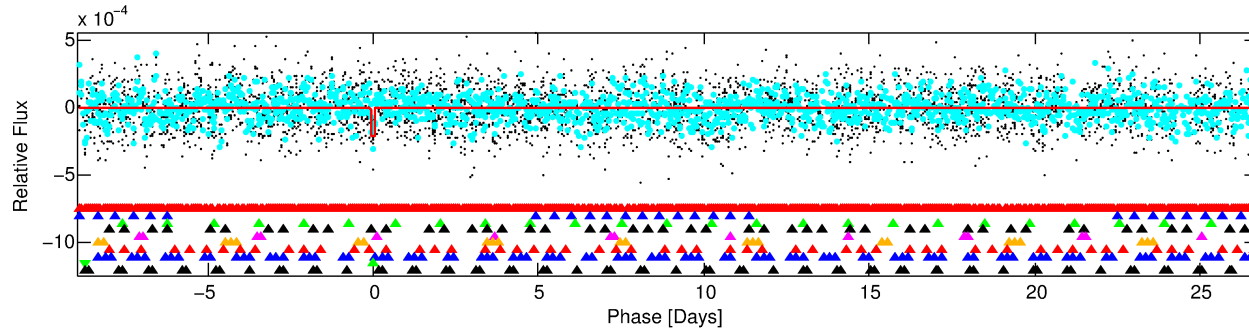
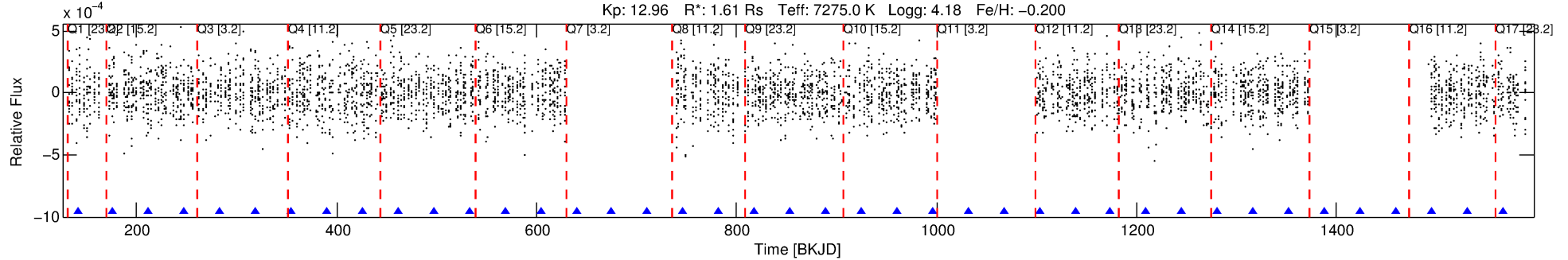
Ephemeris Match Information For 010414727-09

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 9 of 10 Period: 35.623 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



DV Fit Results:

Period = 35.62267 [0.00057] d
Epoch = 140.9952 [0.0124] BKJD
Rp/R* = 0.0155 [0.0182]
a/R* = 56.46 [411.86]
b = 0.89 [1.71]
Seff = 113.97 [45.29]
Teq = 833 [83] K
Rp = 2.73 [3.32] Re
a = 0.2386 [0.0626] AU
Ag = 1140.98 [2705.04] [0.42σ]
Teffp = 7487 [4397] K [1.51σ]

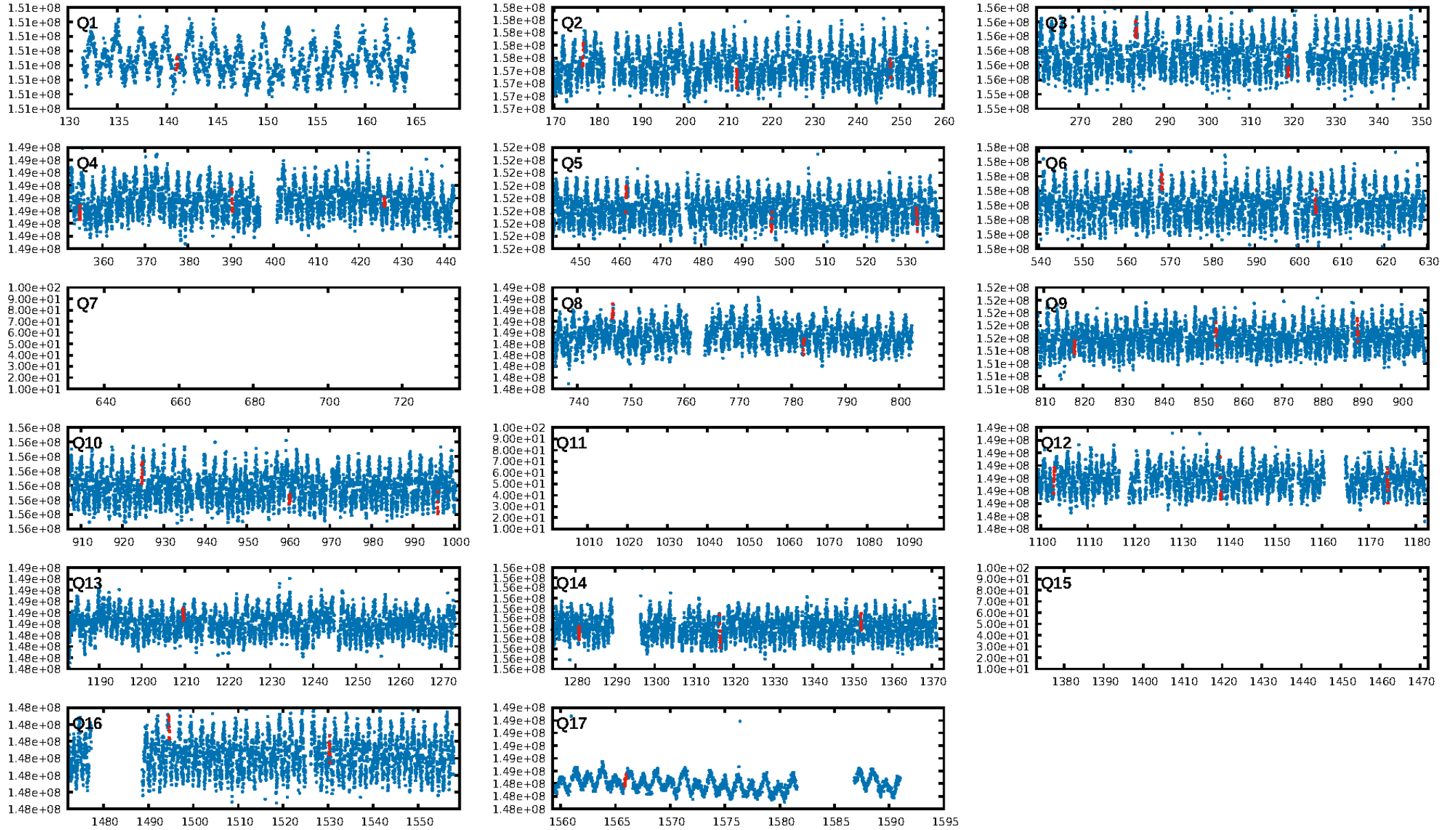
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.05σ]
LongPeriod-sig: 100.0% [7.69σ]
ModelChiSquare2-sig: 5.3%
ModelChiSquareGof-sig: 15.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.535
Centroid-sig: 38.4%
Centroid-so: 0.229 arcsec [0.42σ]
OotOffset-rm: 0.626 arcsec [1.34σ]
KicOffset-rm: 0.834 arcsec [1.69σ]
OotOffset-st: 4/1/4/2 [11]
KicOffset-st: 4/1/4/2 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 0.71 [10/14]

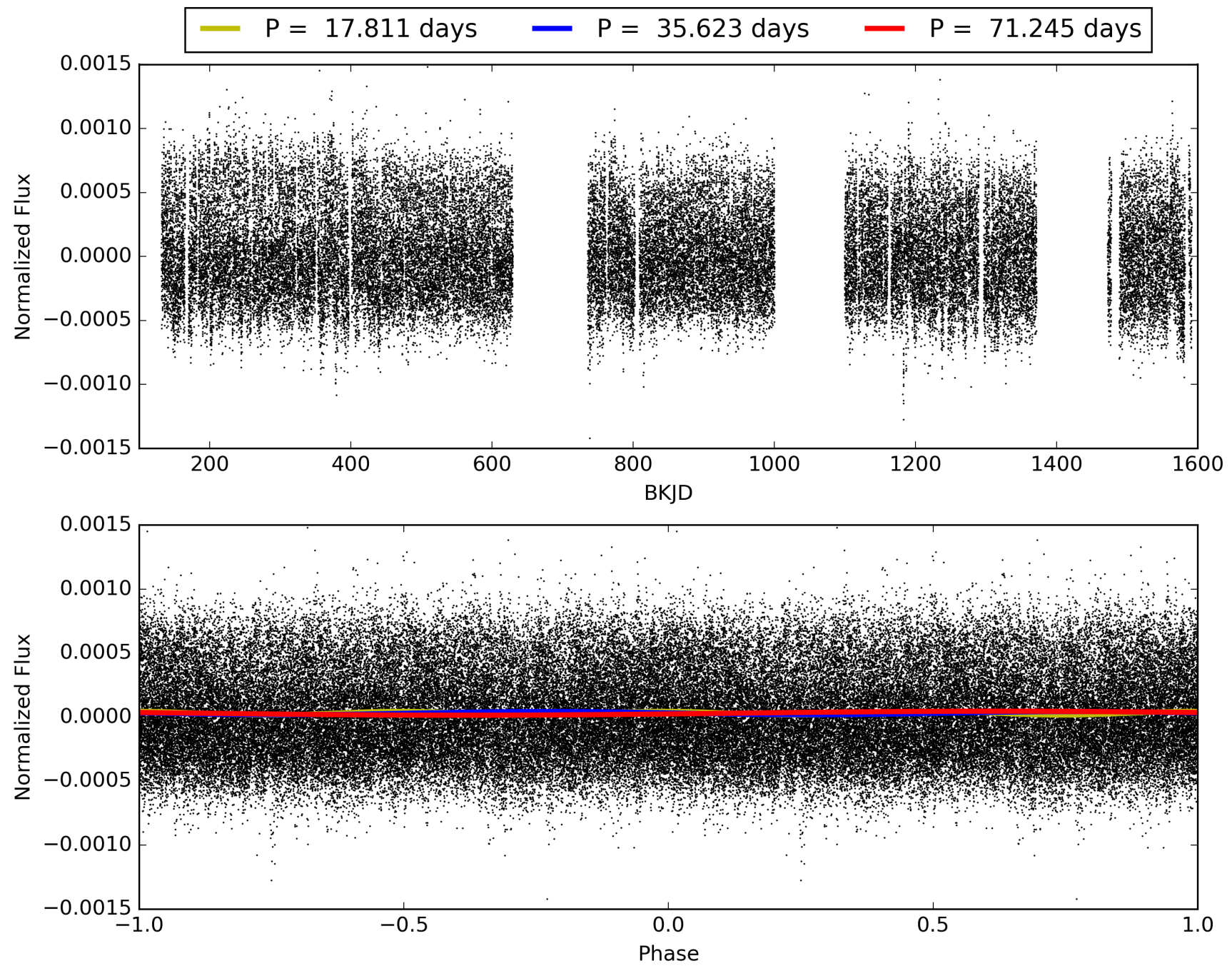
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:51:40 Z

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

TCE 010414727-09, PDC Light Curves

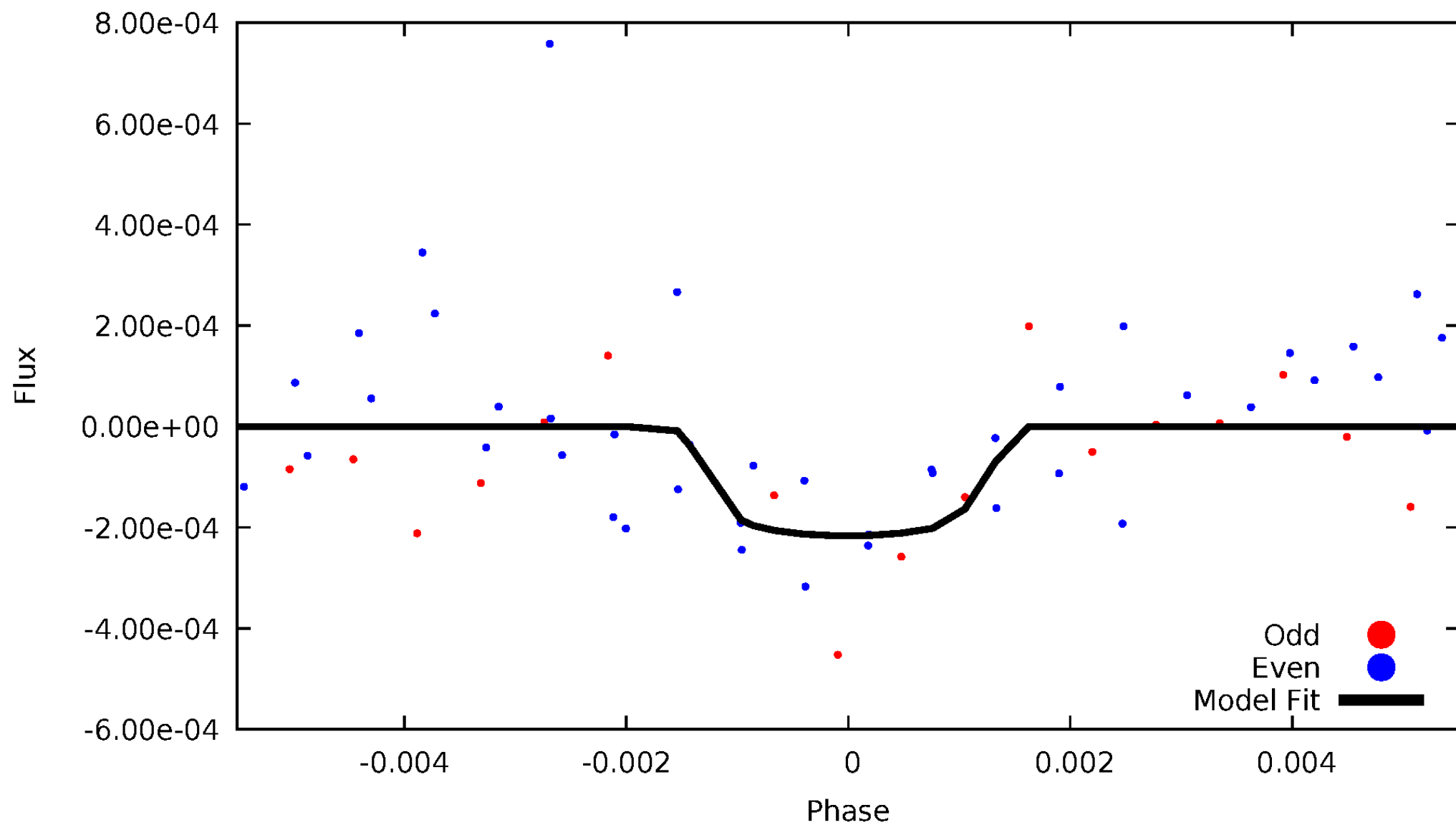


TCE 010414727-09



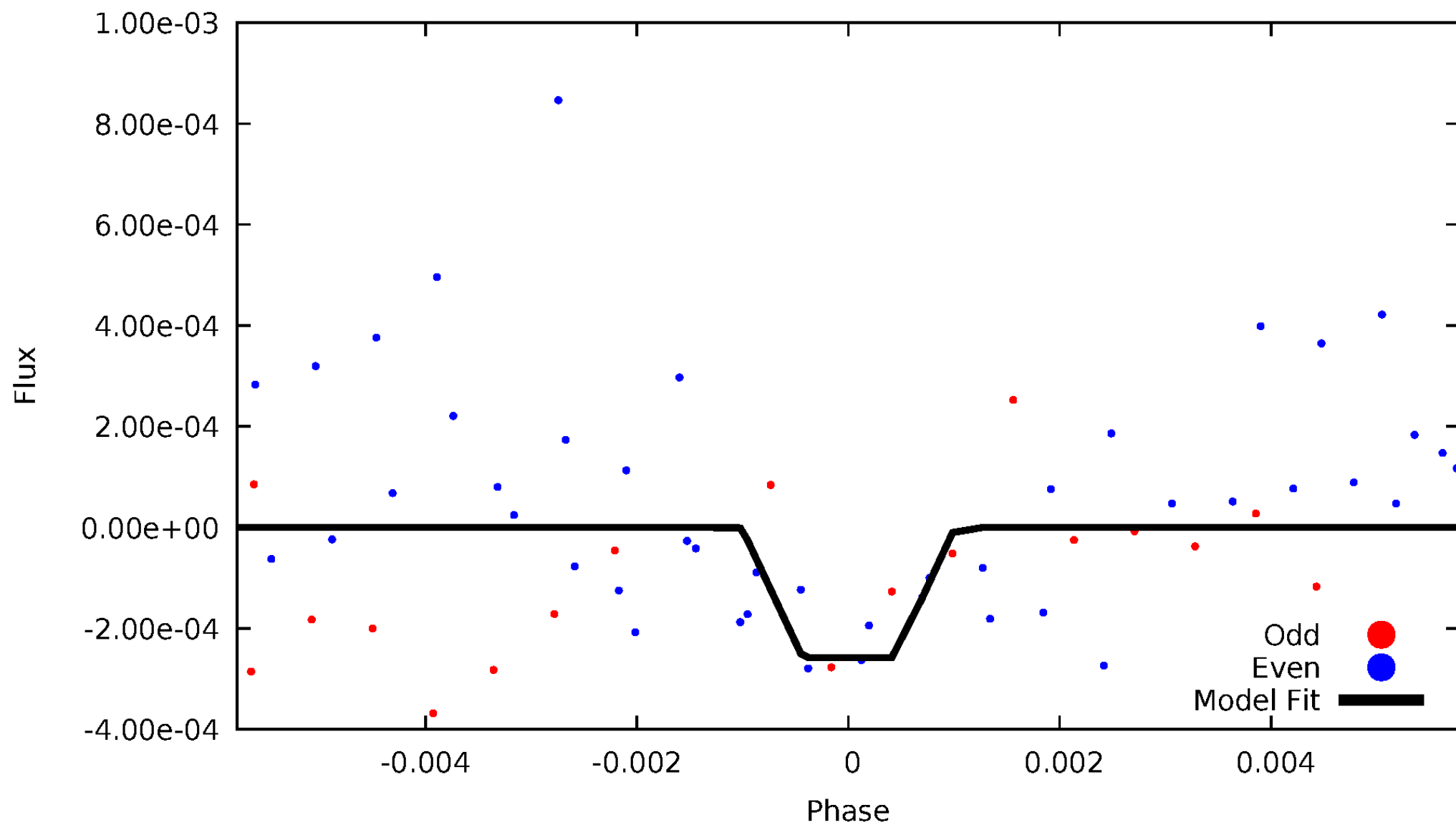
DV Odd/Even

TCE 010414727-09



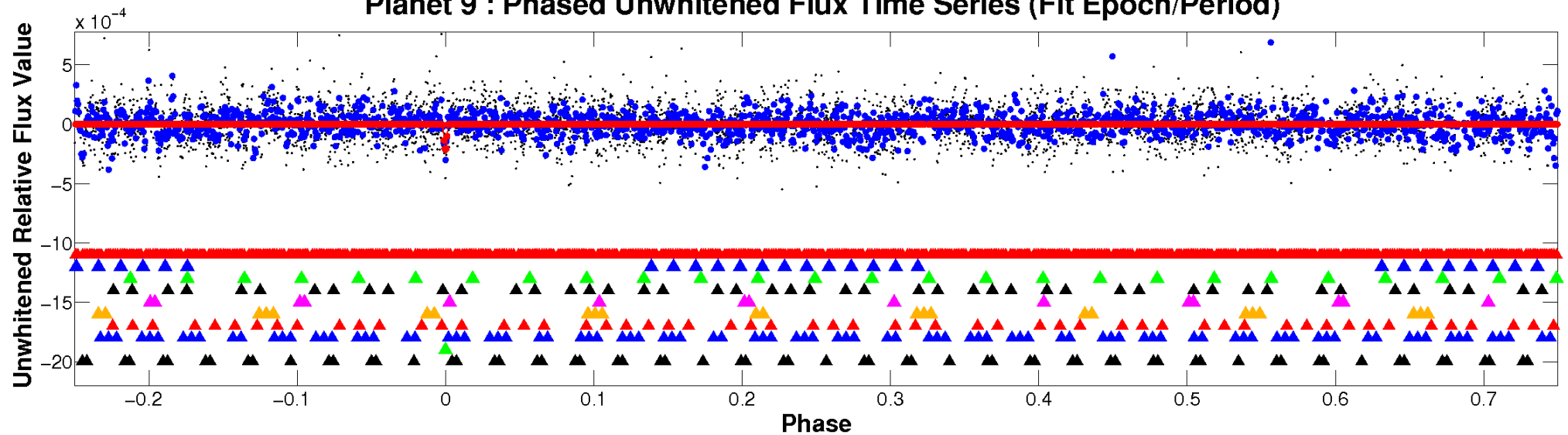
ALT Odd/Even

TCE 010414727-09

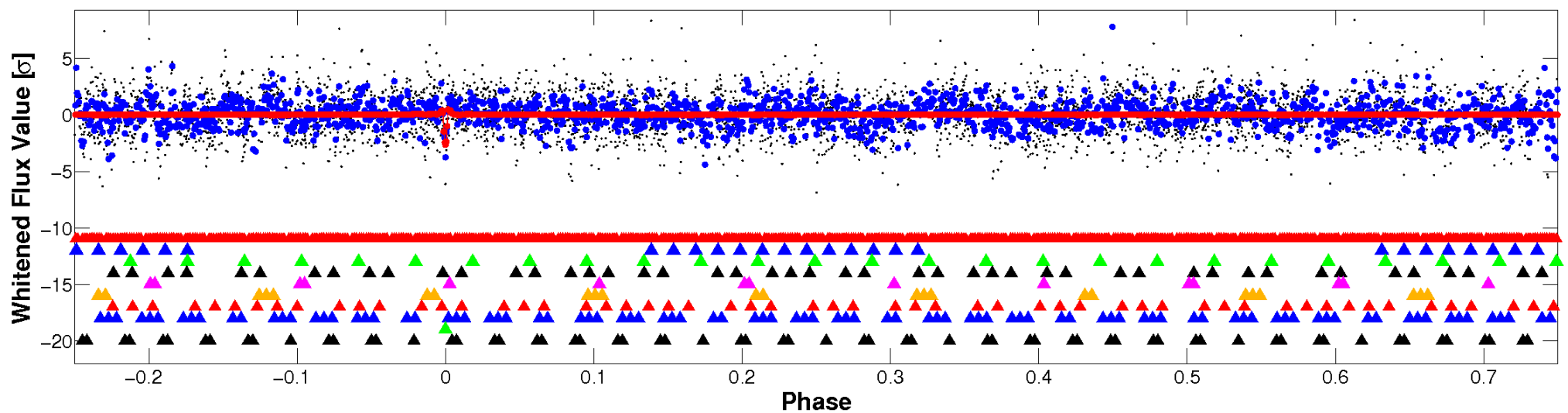


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

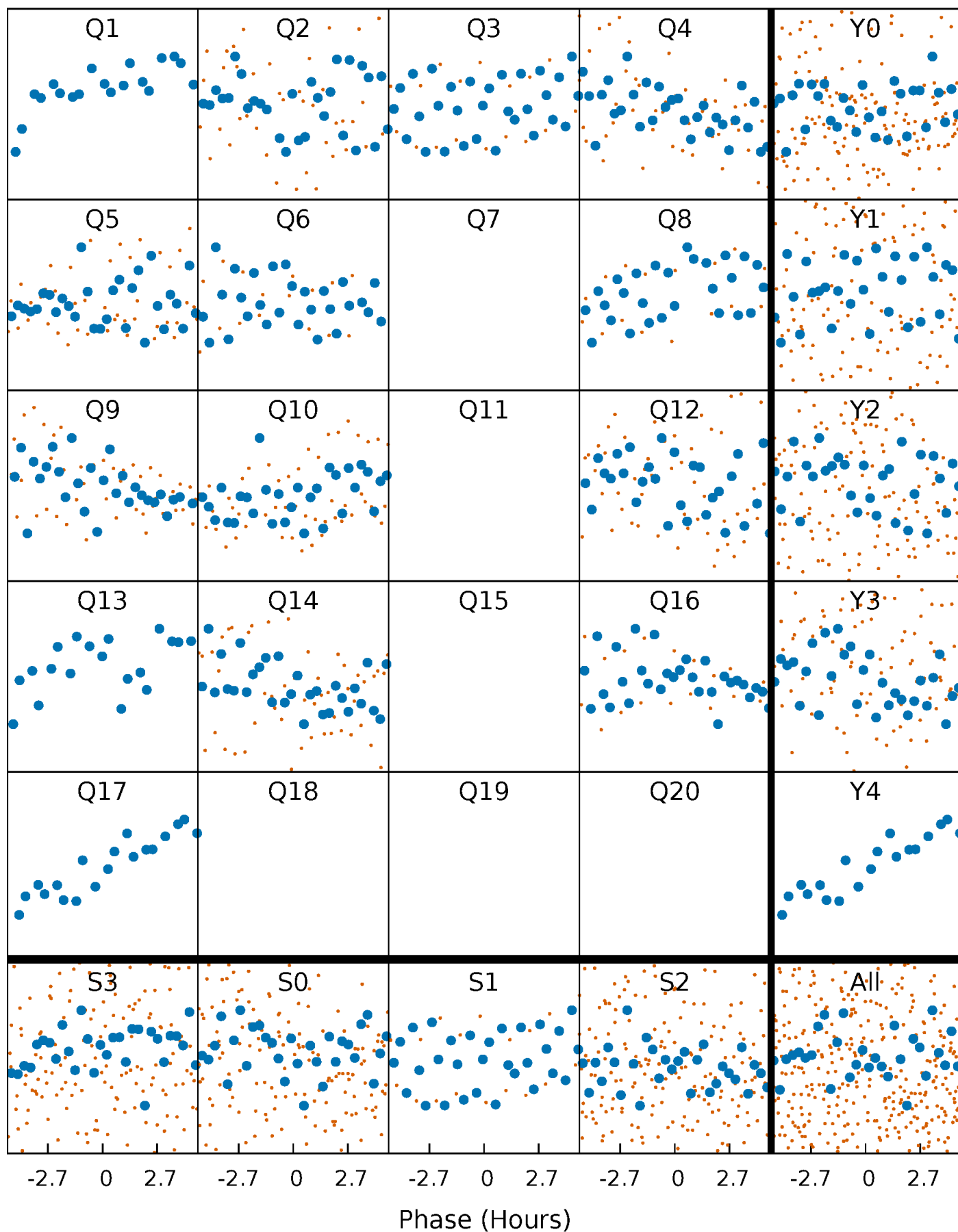


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



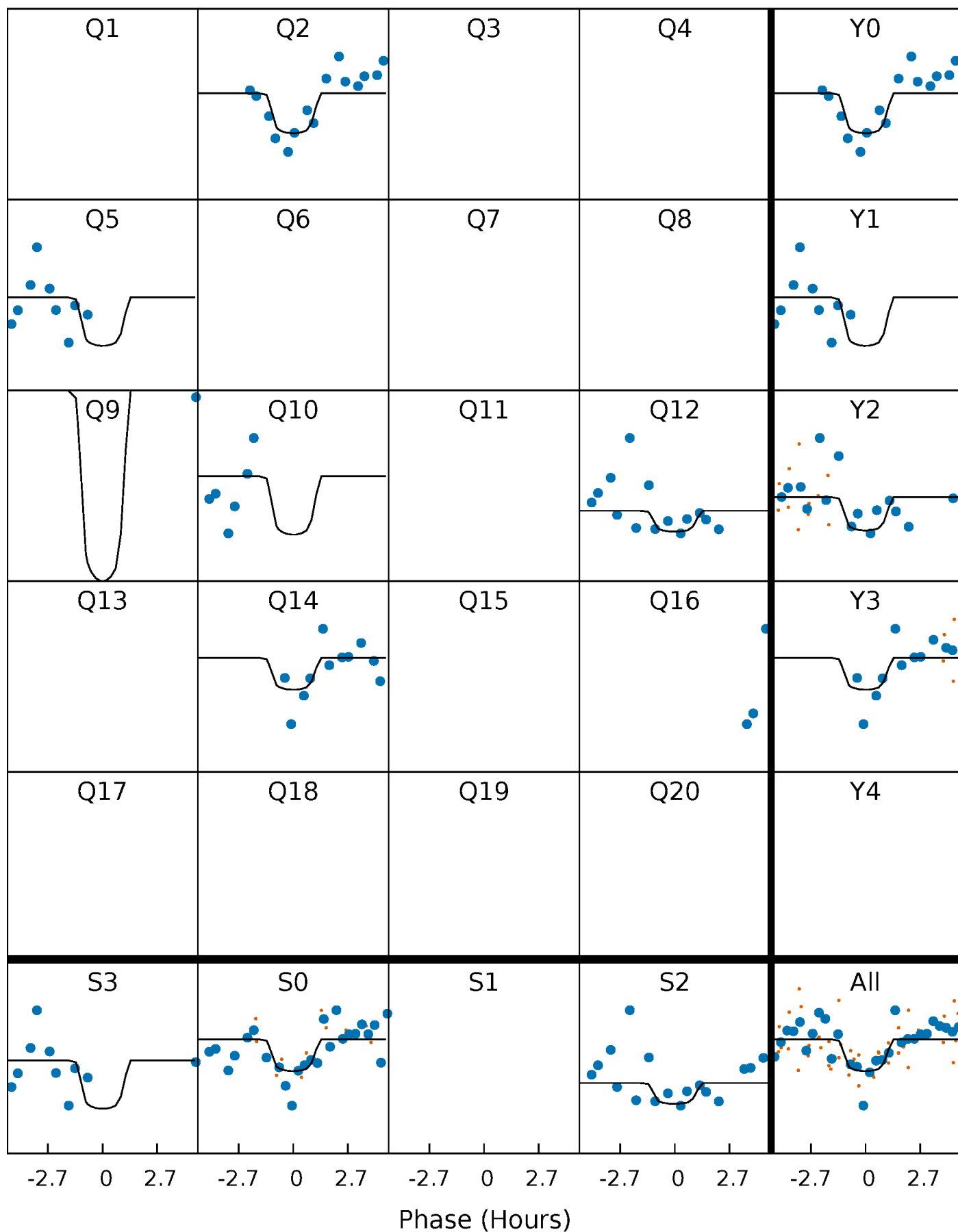
PDC Quarter-Phased Transit Curves

TCE 010414727-09 $P = 35.622675$ Days $T_0 = 140.995168$ (BKJD)



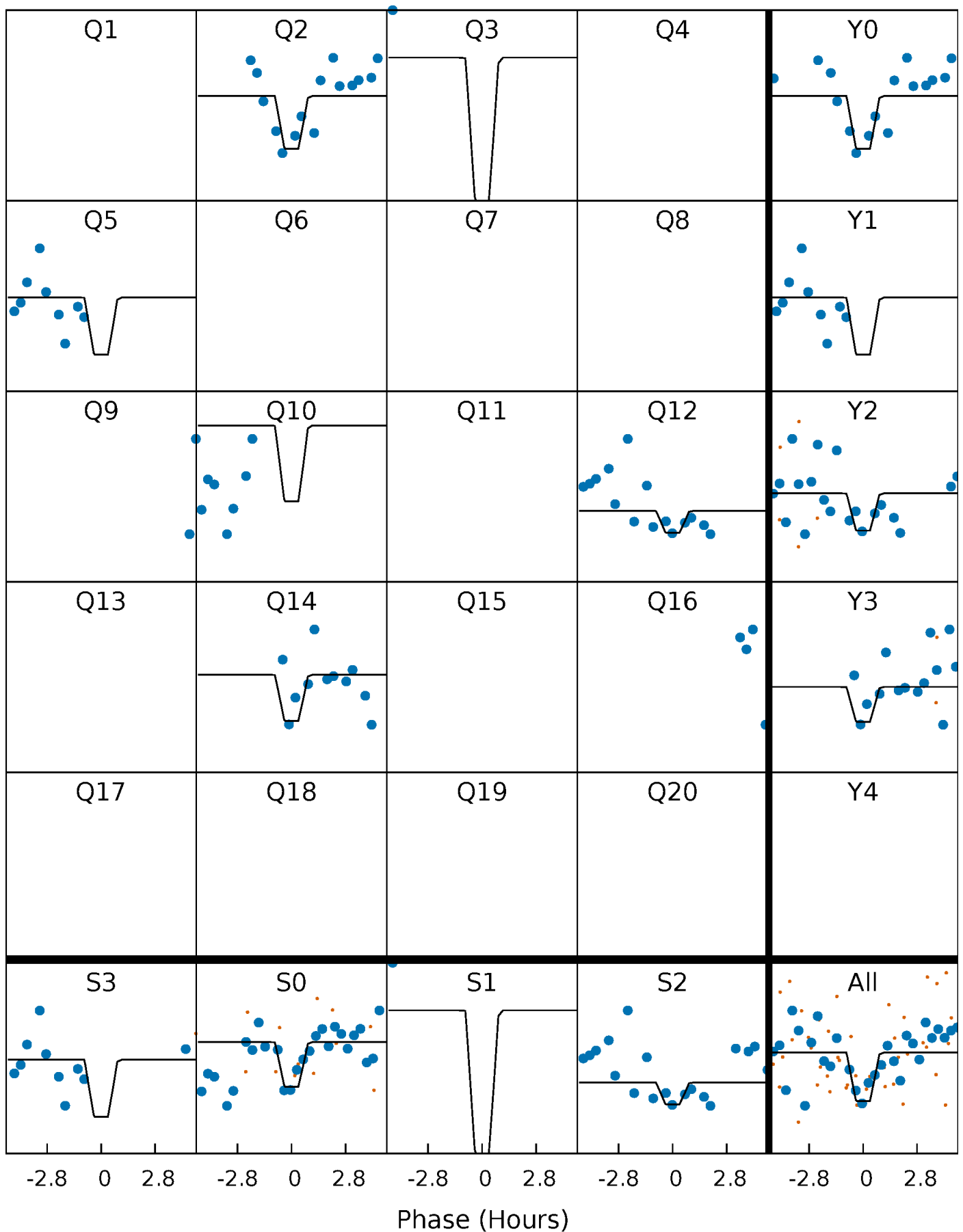
DV Quarter-Phased Transit Curves

TCE 010414727-09 P= 35.622675 Days $T_0=140.995168$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

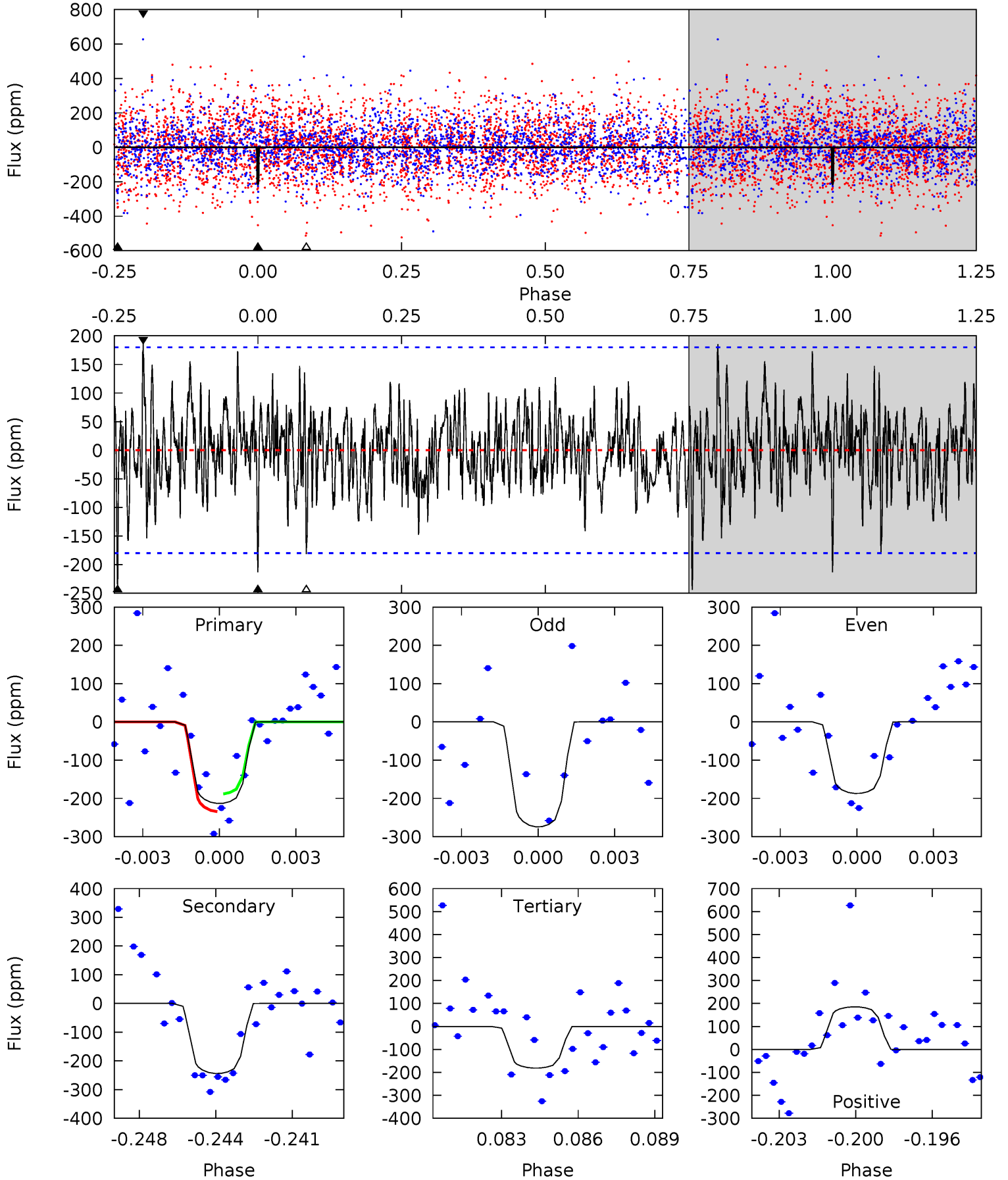
TCE 010414727-09 $P = 35.622759$ Days $T_0 = 140.994732$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-09, P = 35.622675 Days, E = 105.372493 Days

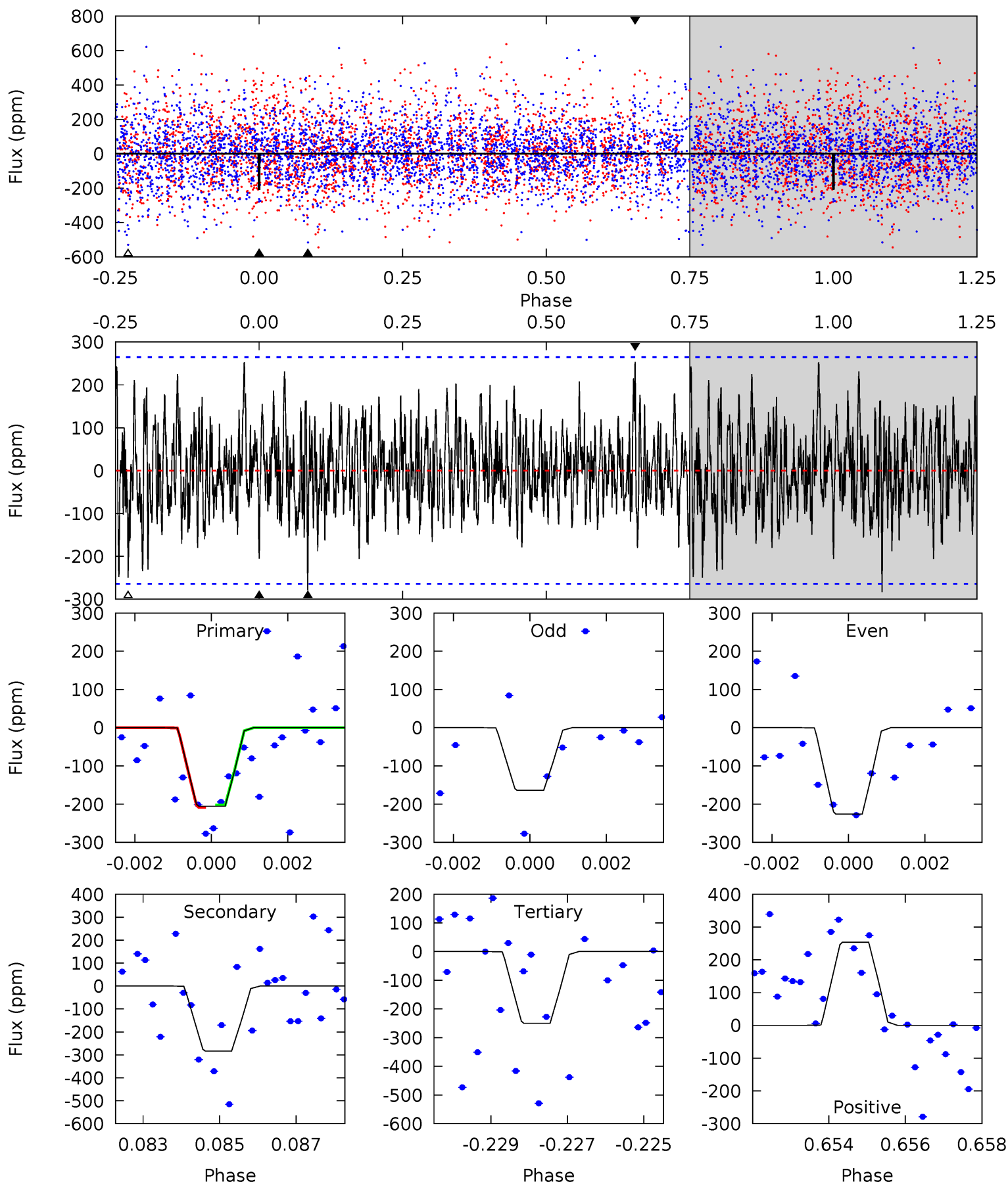
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.20	7.09	5.28	5.39	5.23	2.93	1.53	0.92	0.81	1.81	1.70	1.14	0.96	0.43	0.67



Alt Model-Shift Uniqueness Test

010414727-09, P = 35.622759 Days, E = 105.371973 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.12	5.69	5.01	5.08	5.30	3.05	1.58	-0.89	-0.97	0.68	0.60	0.59	1.00	0.47	0.06



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-244 ± 34	$3.67^{+3.13}_{-2.46}$	1172^{+89}_{-79}	6174^{+6608}_{-1393}	556^{+4620}_{-394}
Alt.	-284 ± 50	$3.55^{+2.91}_{-2.40}$	1164^{+86}_{-68}	6670^{+7541}_{-1701}	719^{+6146}_{-513}

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 $A_{obs} \gg 1.0$

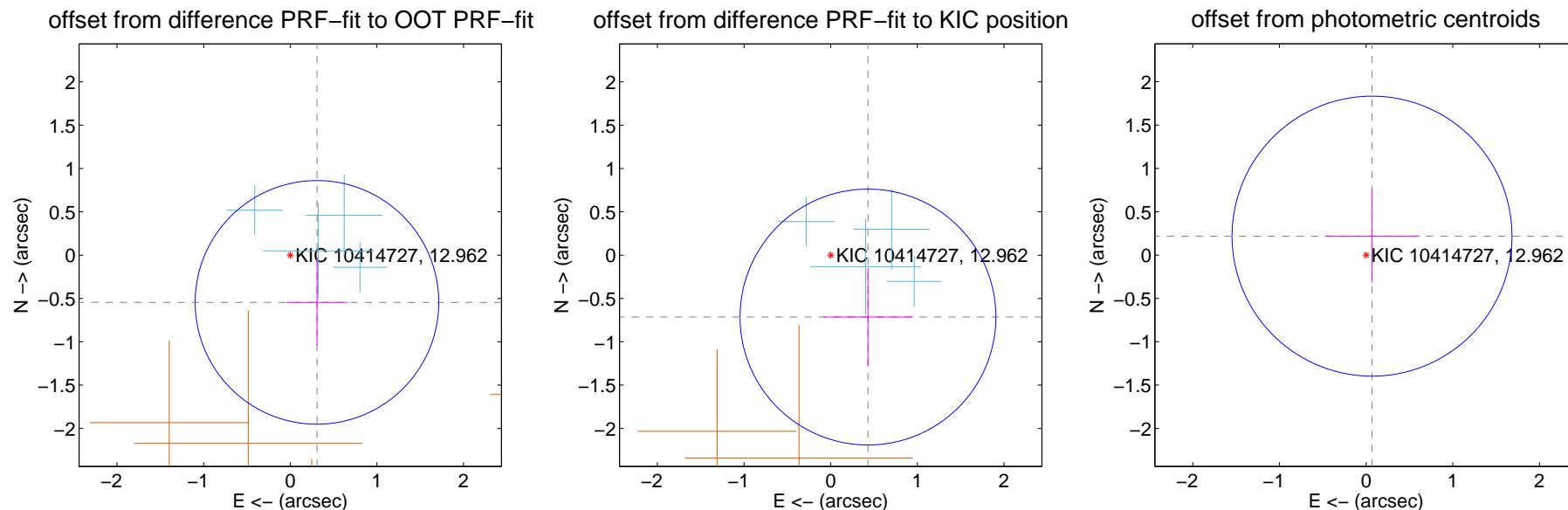
DV Centroid Data

Supplemental centroid analysis for 010414727-09. Kepler magnitude: 12.96. Transit SNR 8.71

There are 4 quarters with good PRF difference image offsets

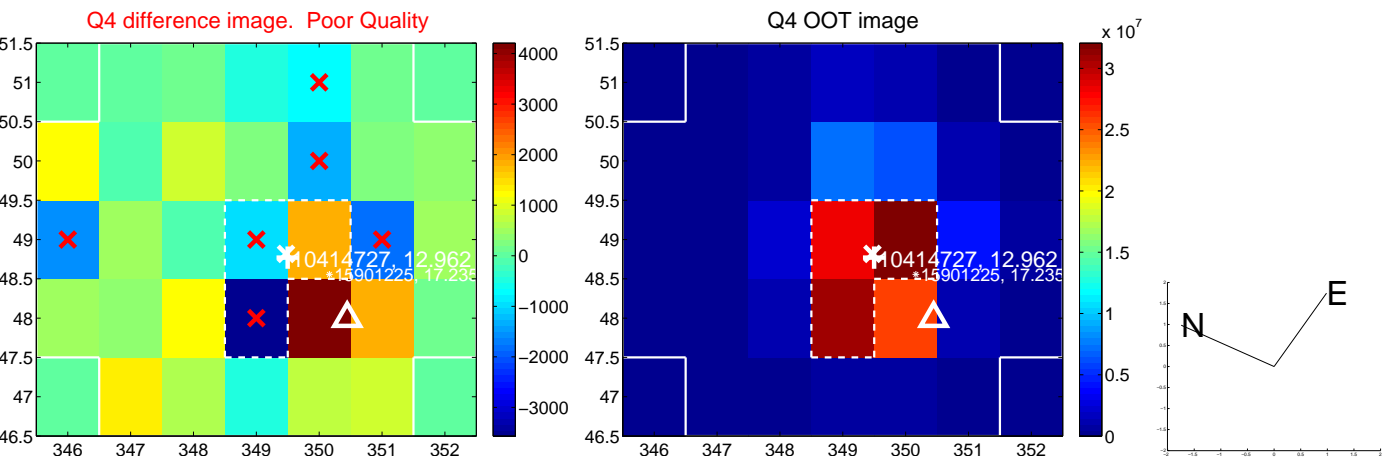
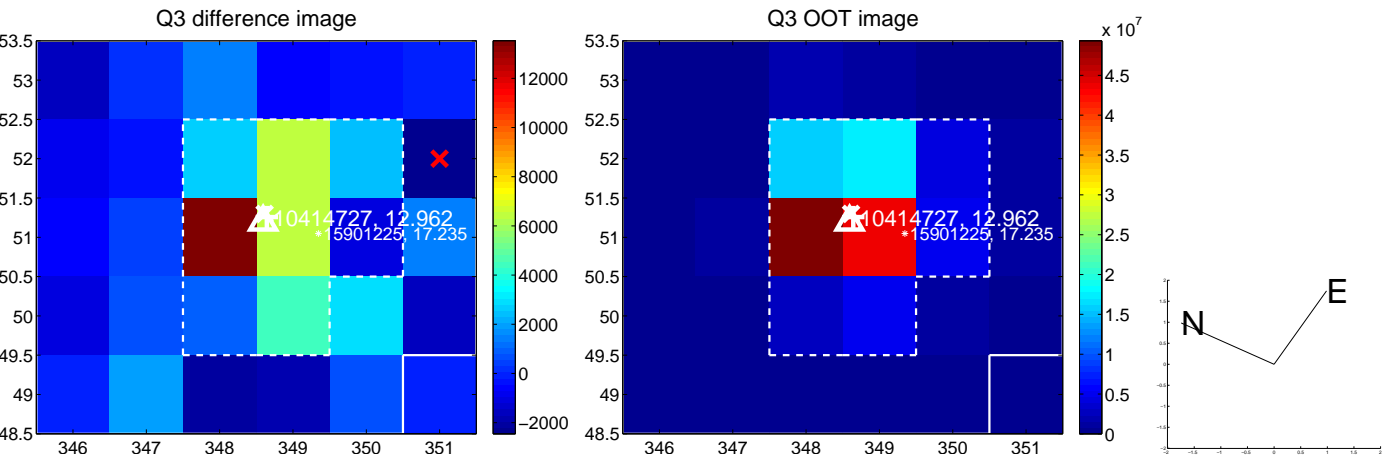
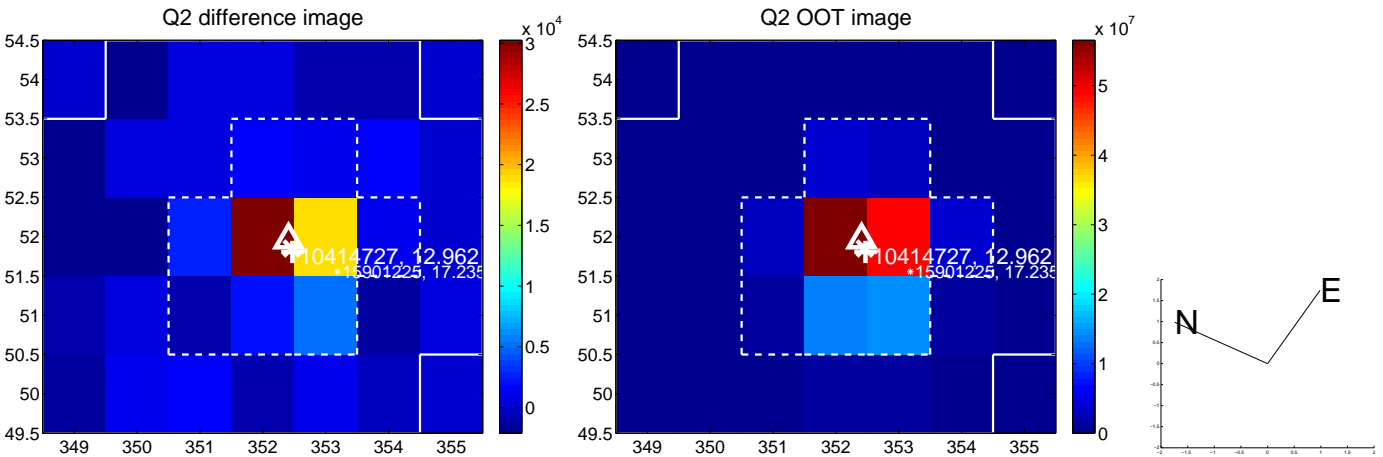
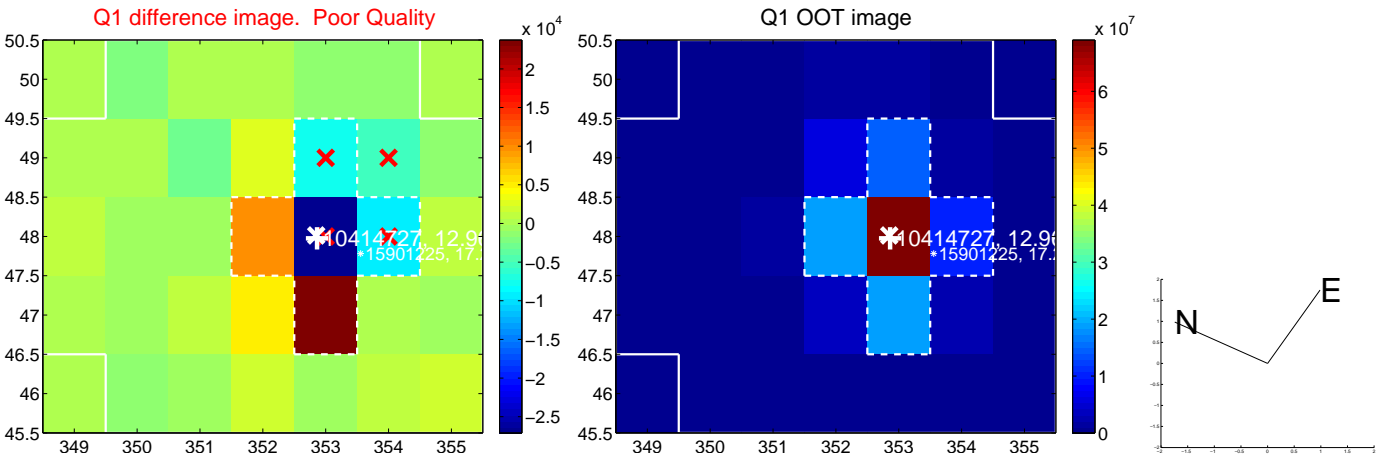
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.626 ± 0.469	1.34	-0.308 ± 0.355	-0.545 ± 0.500
PRF-fit source offset from KIC position	0.834 ± 0.492	1.69	-0.430 ± 0.514	-0.714 ± 0.570
photometric centroid source offset	0.23 ± 0.54	0.42	-0.07 ± 0.54	0.22 ± 0.54

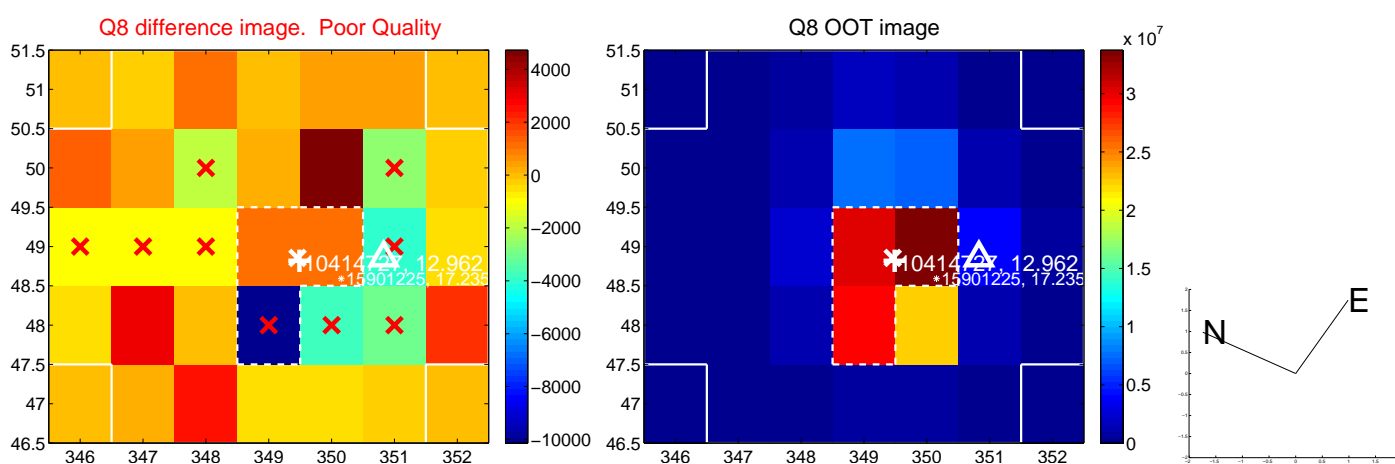
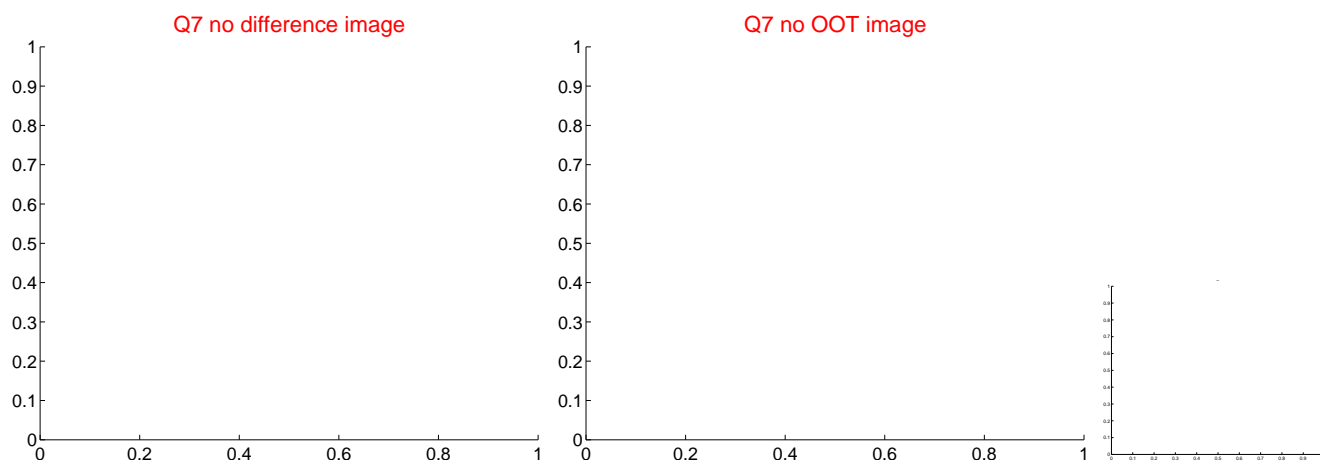
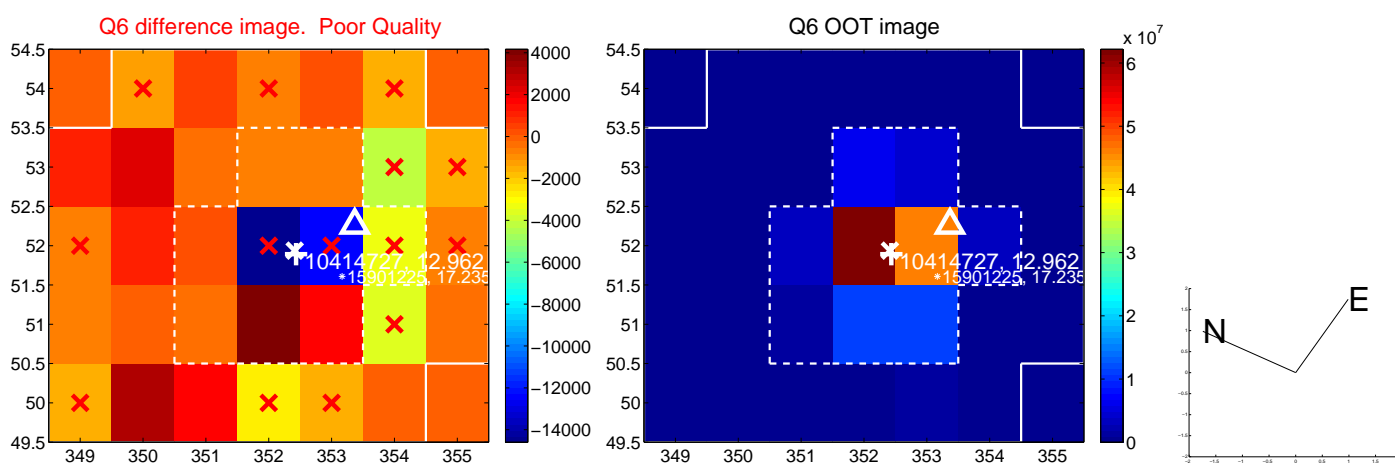
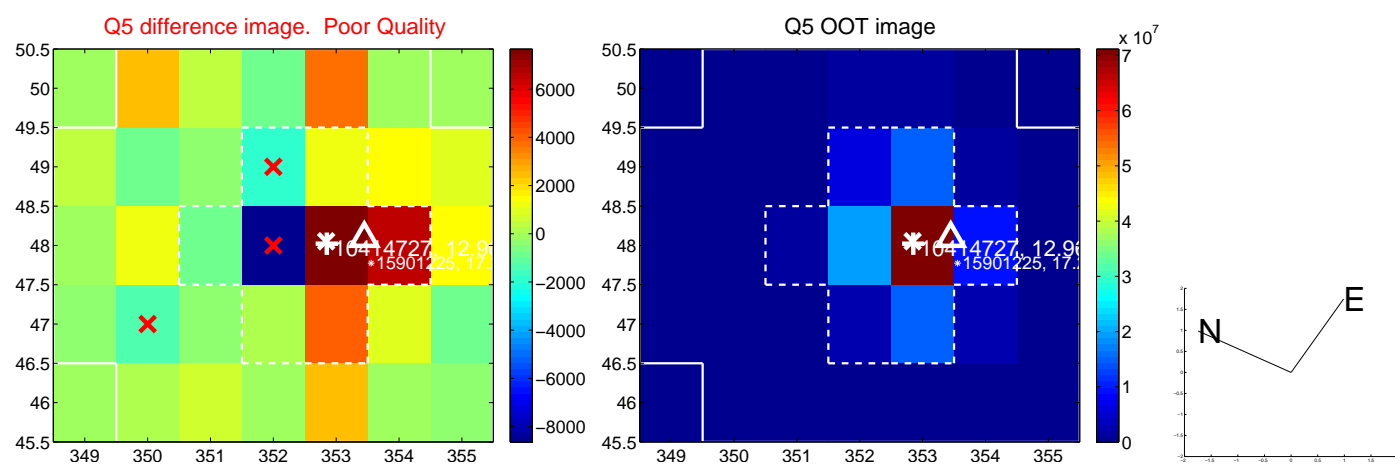


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

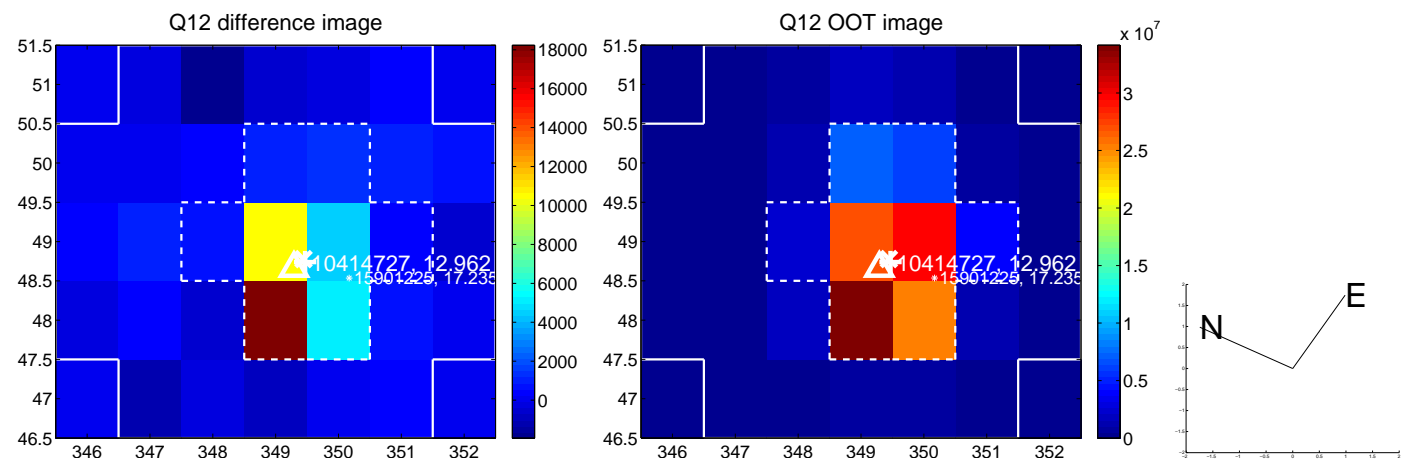
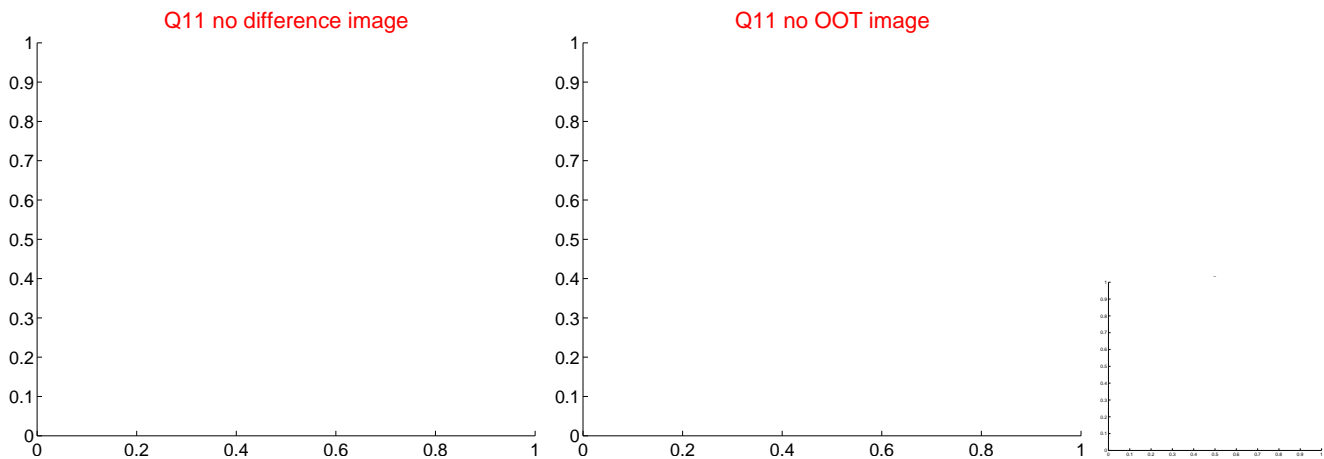
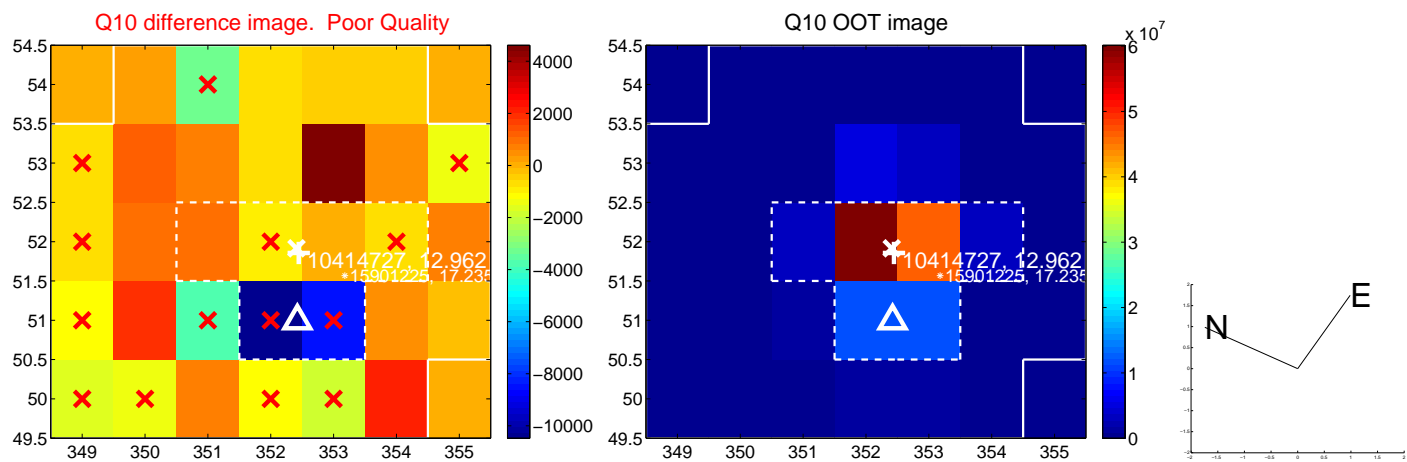
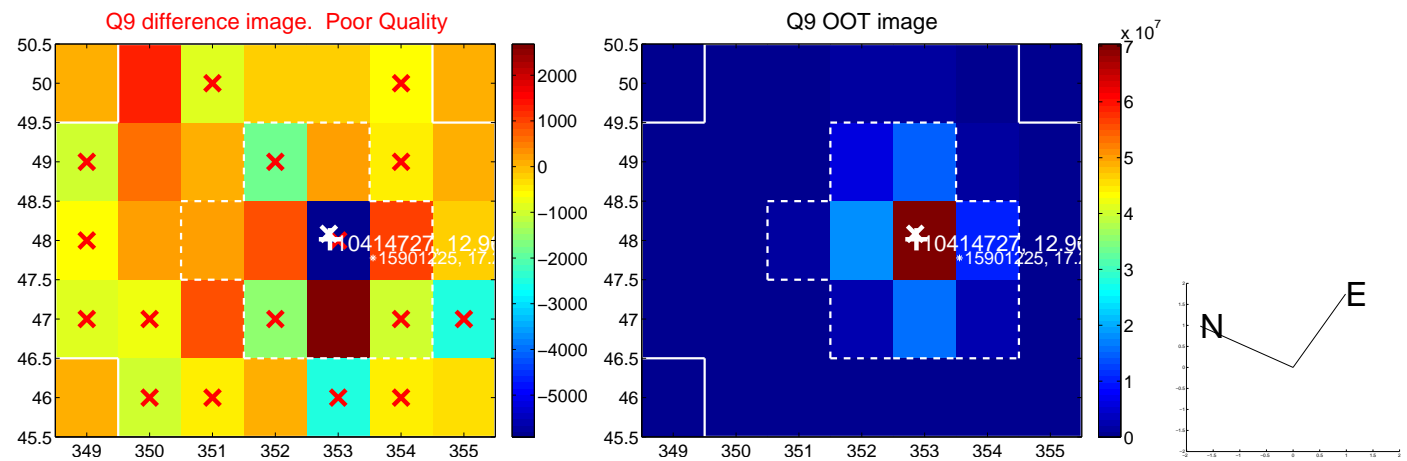
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



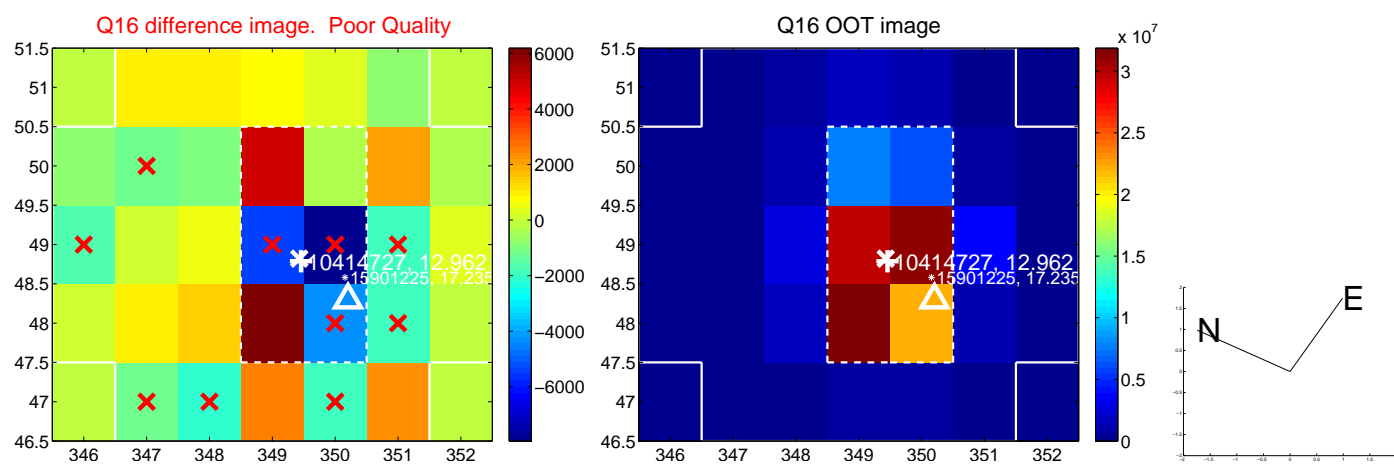
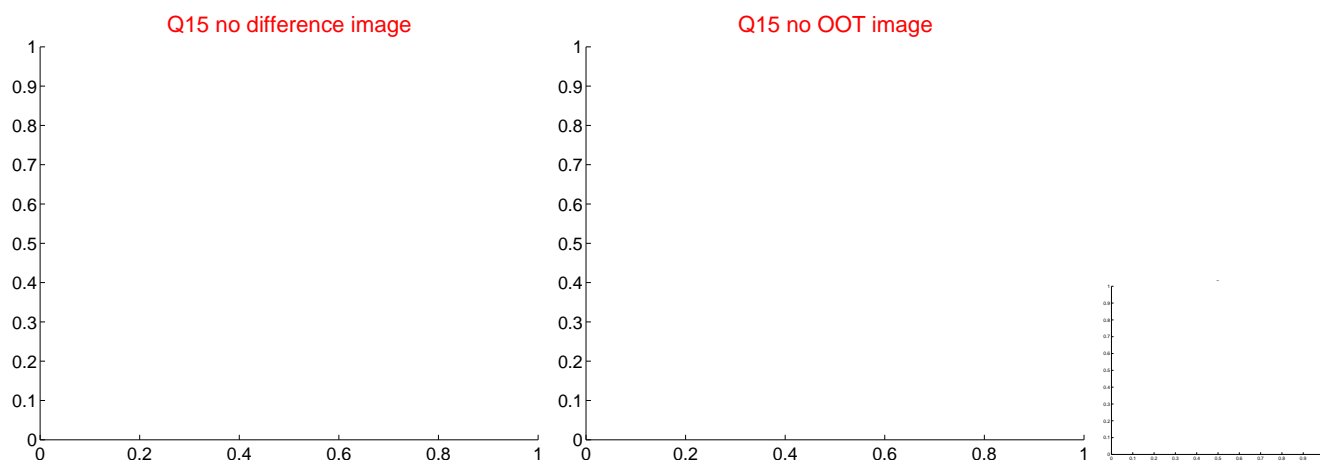
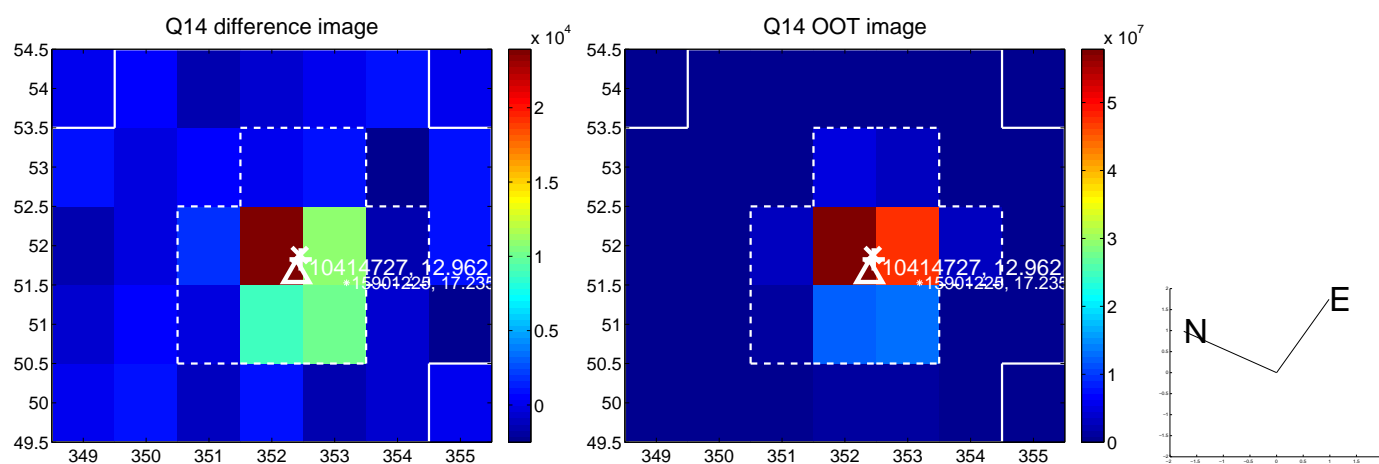
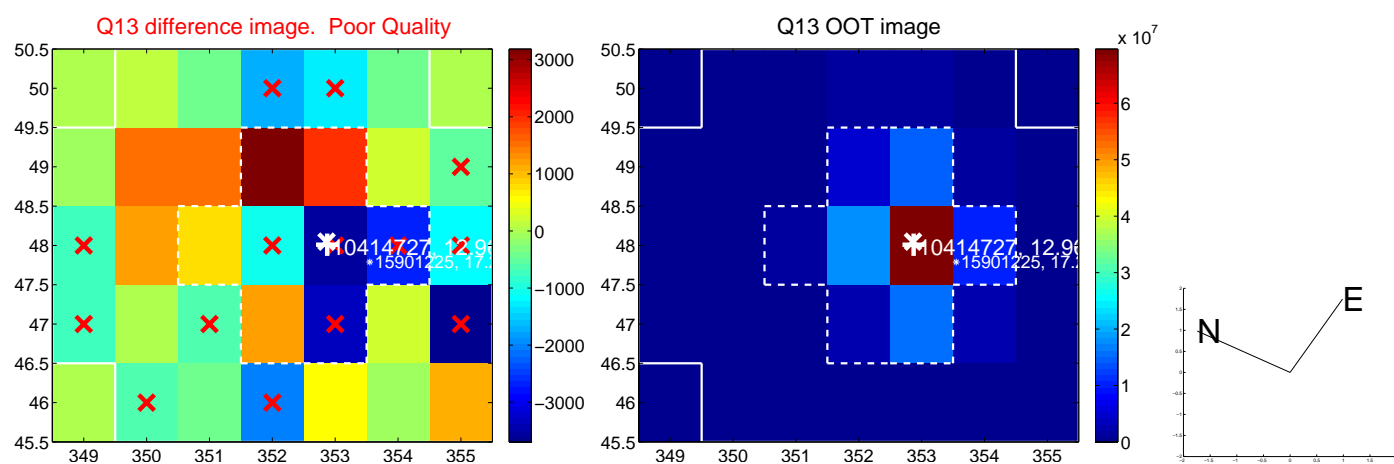
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



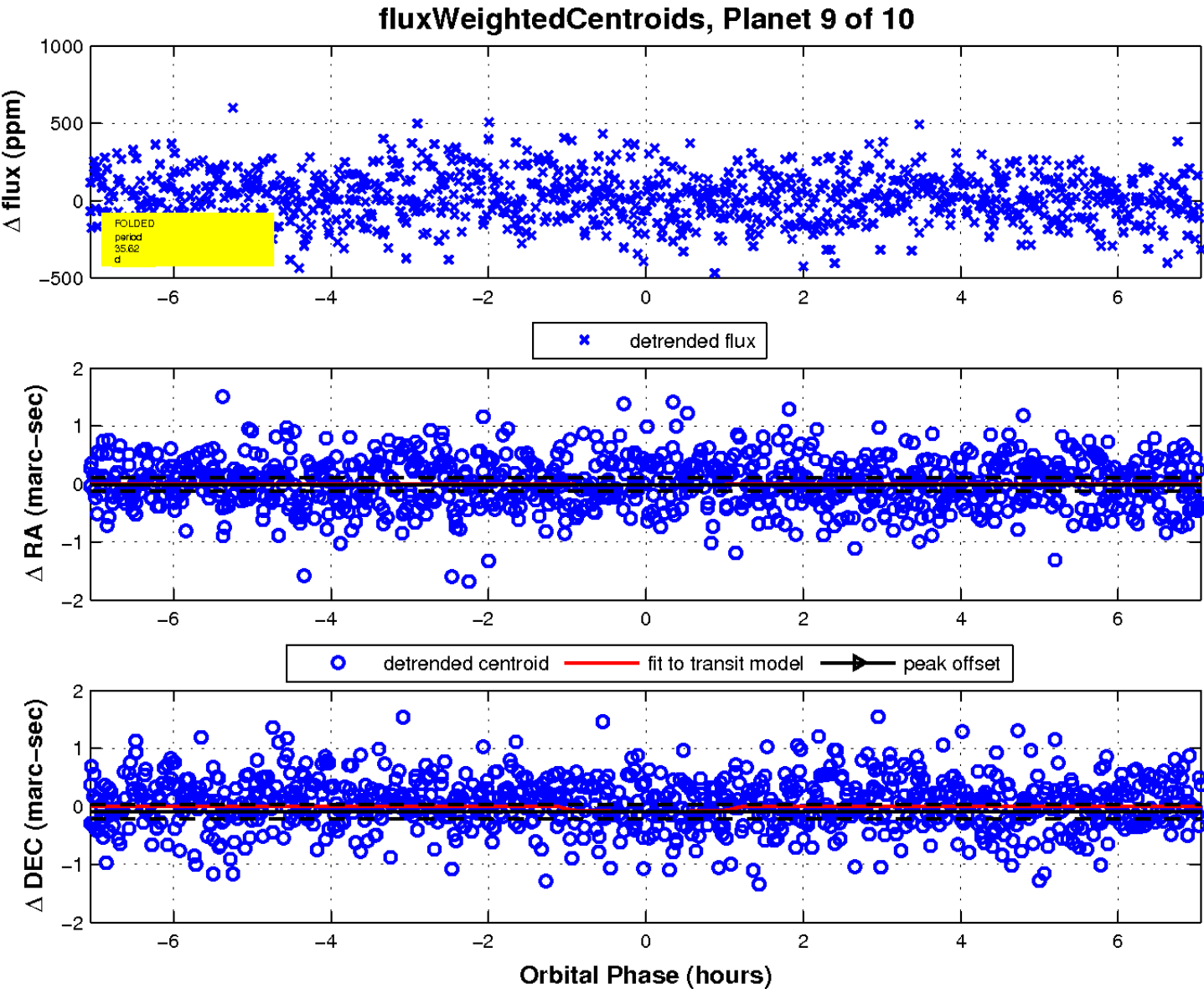
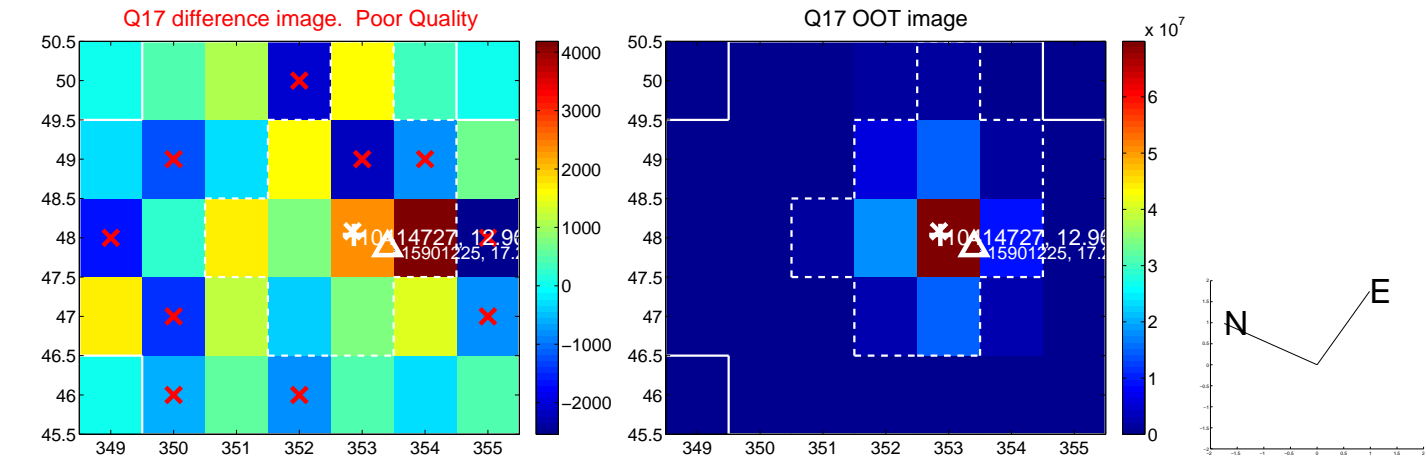
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

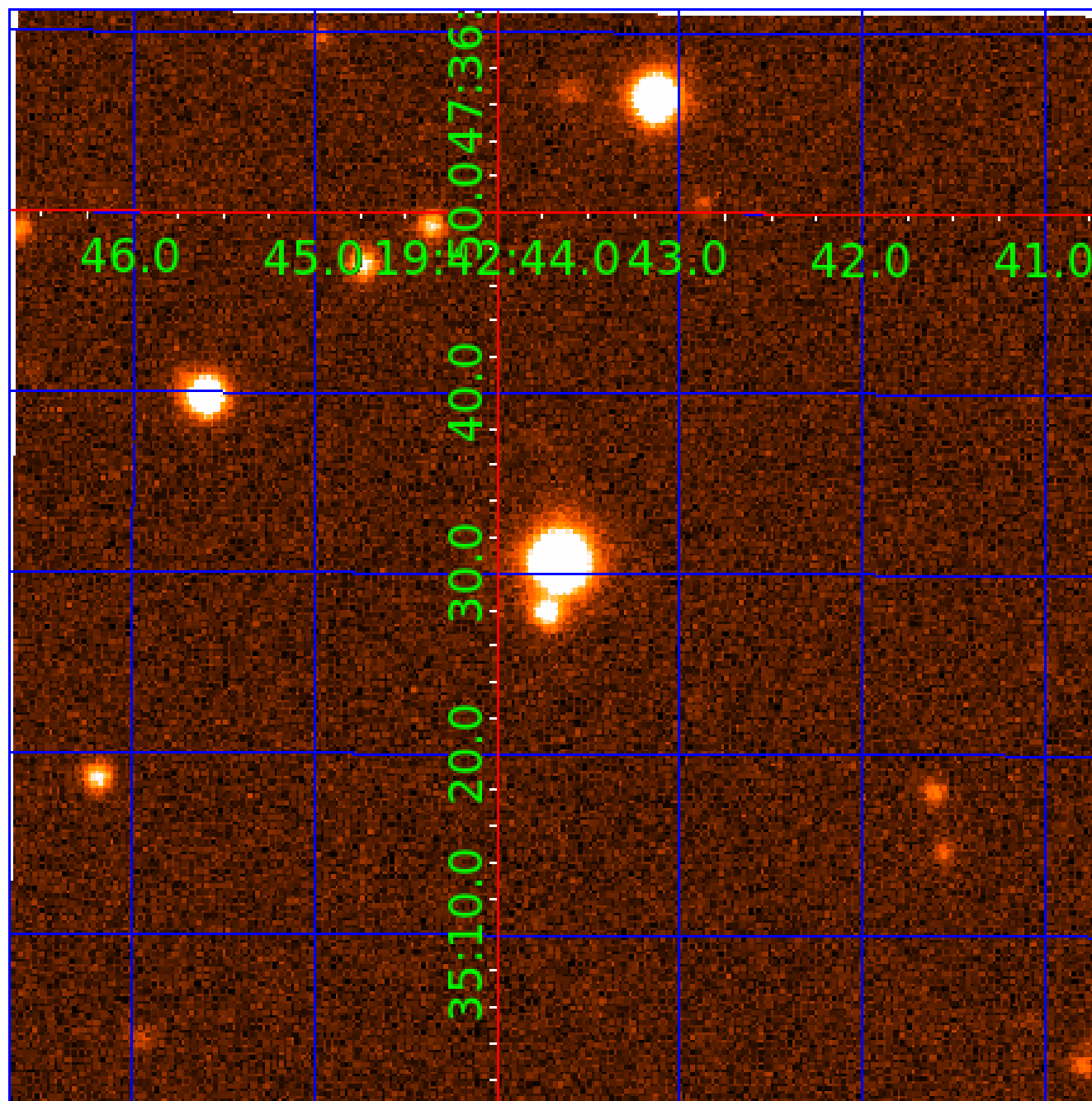


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010414727

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})
010414727-01	OBS	No	2.476166	131.821705	0.0	17.197	12.2	0.0	1.61	7275	0.00	3987.59
010414727-02	OBS	No	53.700754	163.484562	333.8	8.043	16.5	15.6	1.61	7275	3.24	65.93
010414727-03	OBS	No	36.992794	160.828767	194.0	3.571	12.7	12.3	1.61	7275	2.53	108.38
010414727-04	OBS	No	30.785495	153.679687	222.3	4.451	12.7	13.0	1.61	7275	2.73	138.45
010414727-05	OBS	No	96.192220	205.150520	303.6	2.808	11.2	12.0	1.61	7275	3.25	30.31
010414727-06	OBS	No	63.348075	160.214226	228.3	12.480	10.9	11.7	1.61	7275	3.08	52.90
010414727-07	OBS	No	26.223010	145.338186	202.0	4.207	10.9	10.9	1.61	7275	2.71	171.46
010414727-08	OBS	No	15.721604	138.878713	24.3	20.034	11.5	2.9	1.61	7275	0.85	339.17
010414727-09	OBS	No	35.622675	140.995168	216.9	2.354	9.7	8.7	1.61	7275	2.73	113.97
010414727-10	OBS	No	22.761953	134.210994	446.5	1.500	9.6	-1.0	1.61	7275	3.46	207.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010414727-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010414727-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010414727-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010414727-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
010414727-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010414727-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

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

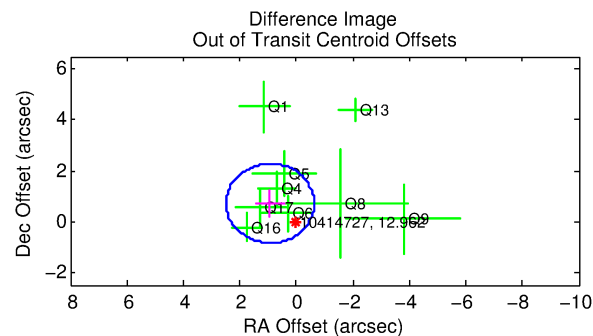
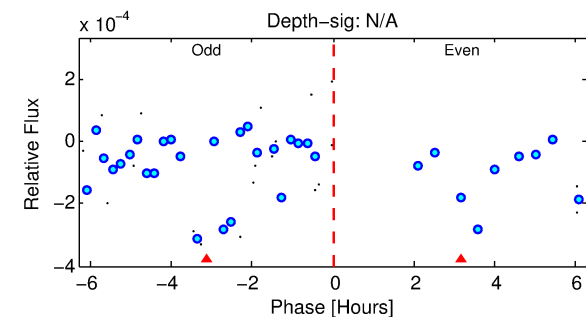
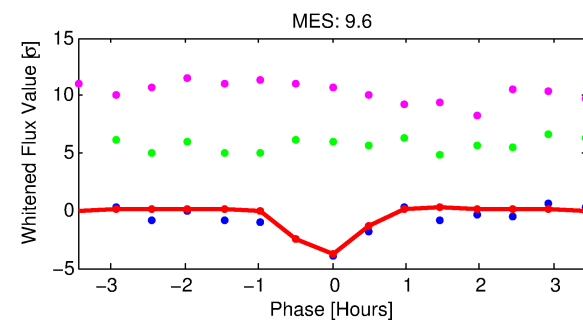
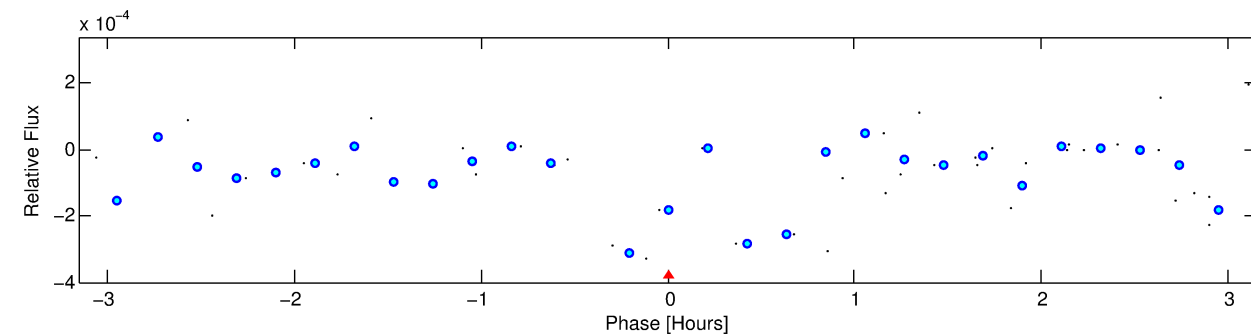
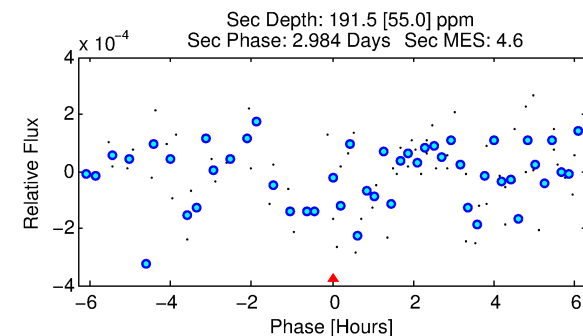
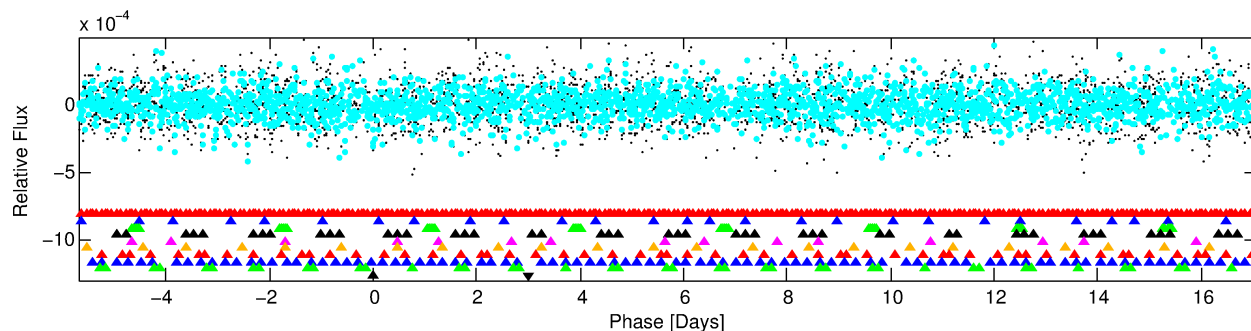
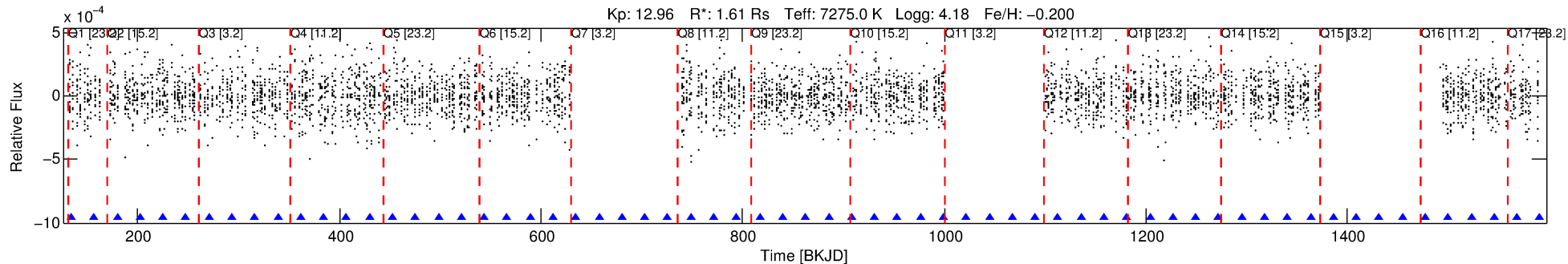
Ephemeris Match Information For 010414727-10

No Significant Match Found

DV One-Page Summary

KIC: 10414727 Candidate: 10 of 10 Period: 22.762 d
KOI: K06224 Corr: No Ephemeris Match

Kp: 12.96 R*: 1.61 Rs Teff: 7275.0 K Logg: 4.18 Fe/H: -0.200



TPS TCE Results:

Period = 22.76195 d
Epoch = 134.2110 BKJD

DV fit results are unavailable

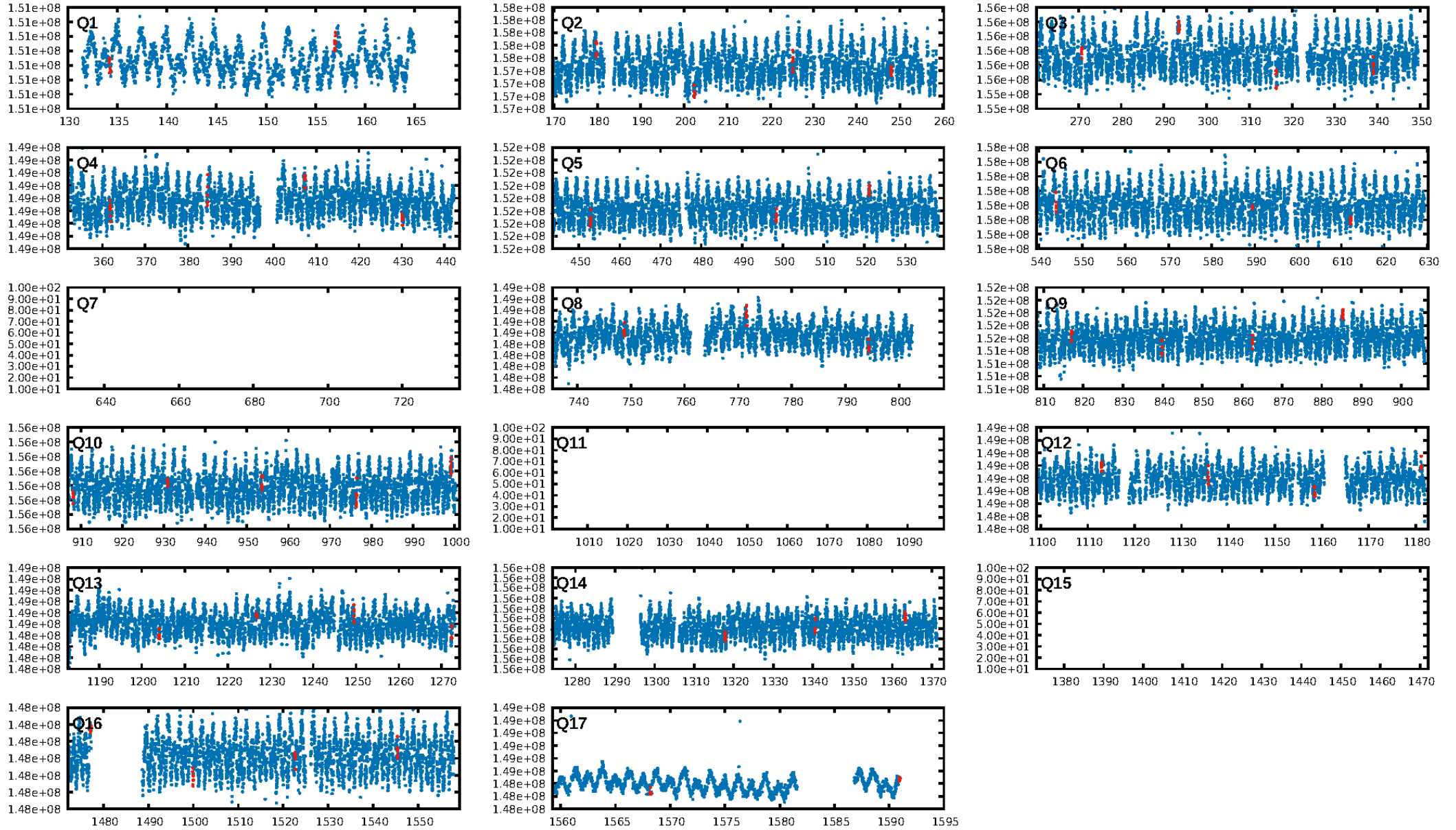
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.41 σ]
LongPeriod-sig: 100.0% [18.60 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.092
Centroid-sig: 49.7%
Centroid-so: 0.428 arcsec [1.14 σ]
OotOffset-rm: 1.173 arcsec [2.25 σ]
KicOffset-rm: 1.003 arcsec [1.82 σ]
OotOffset-st: 1/0/3/5 [9]
KicOffset-st: 1/0/3/5 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 0.71 [10/14]

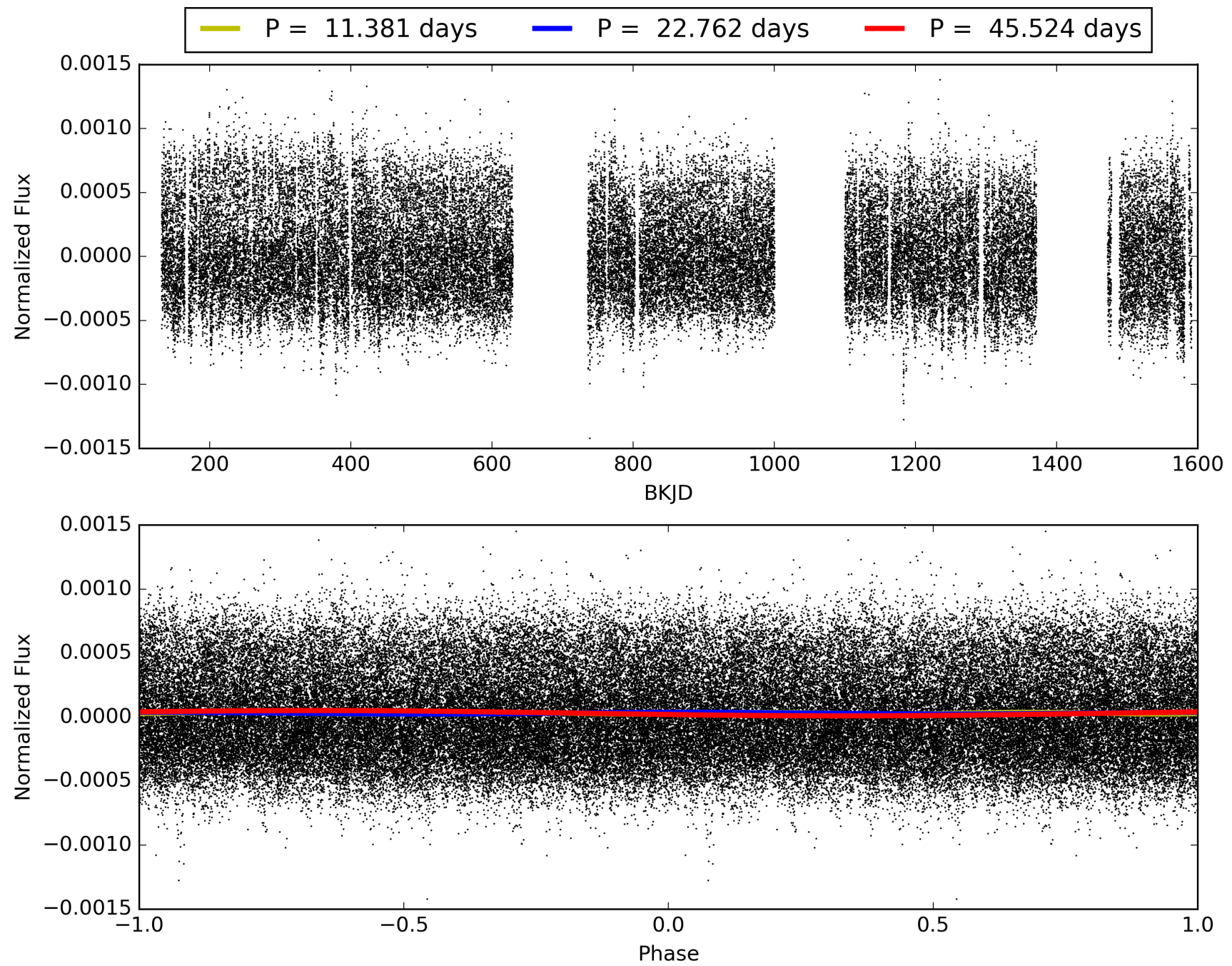
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:51:43 Z

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

TCE 010414727-10, PDC Light Curves

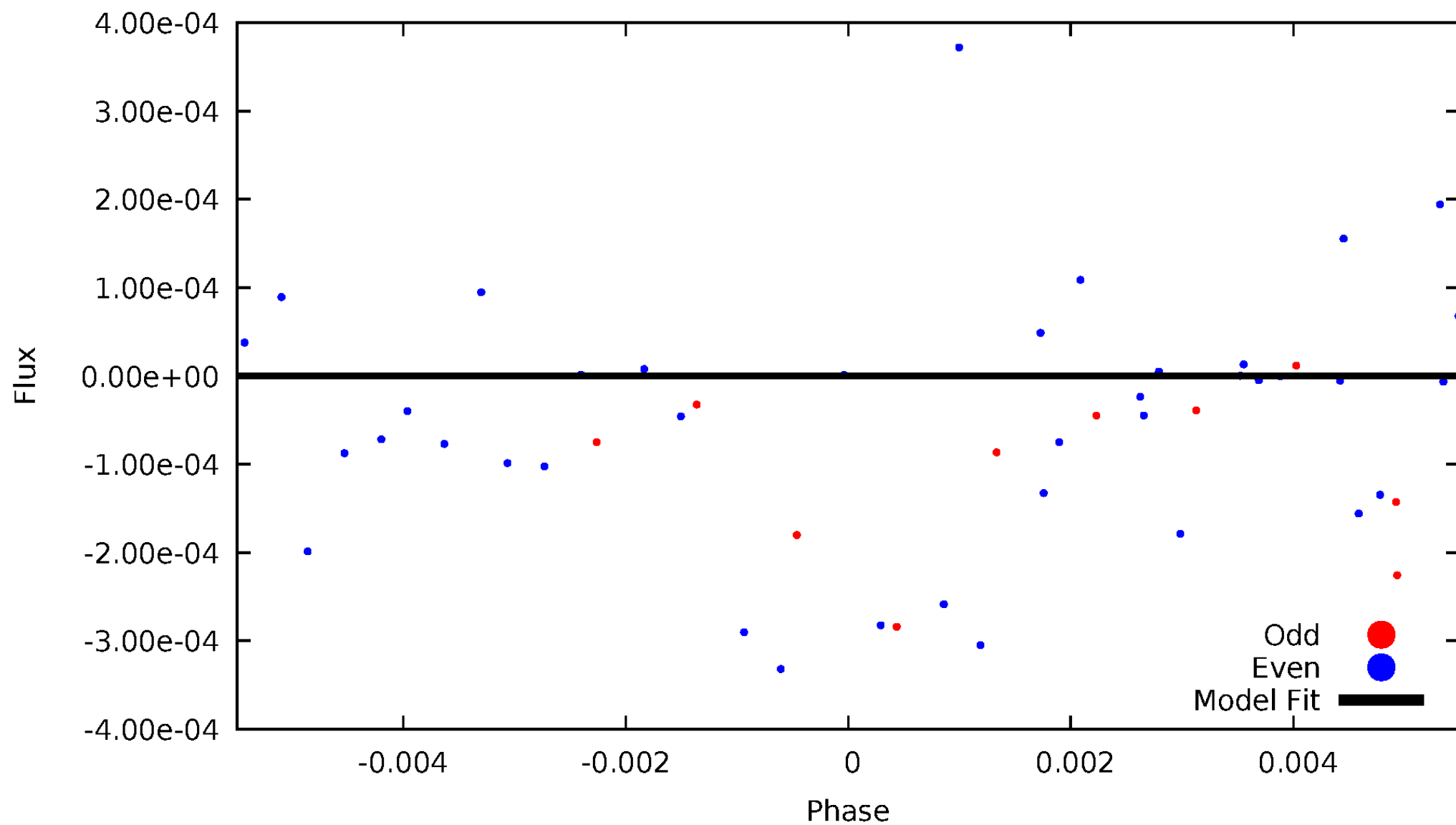


TCE 010414727-10



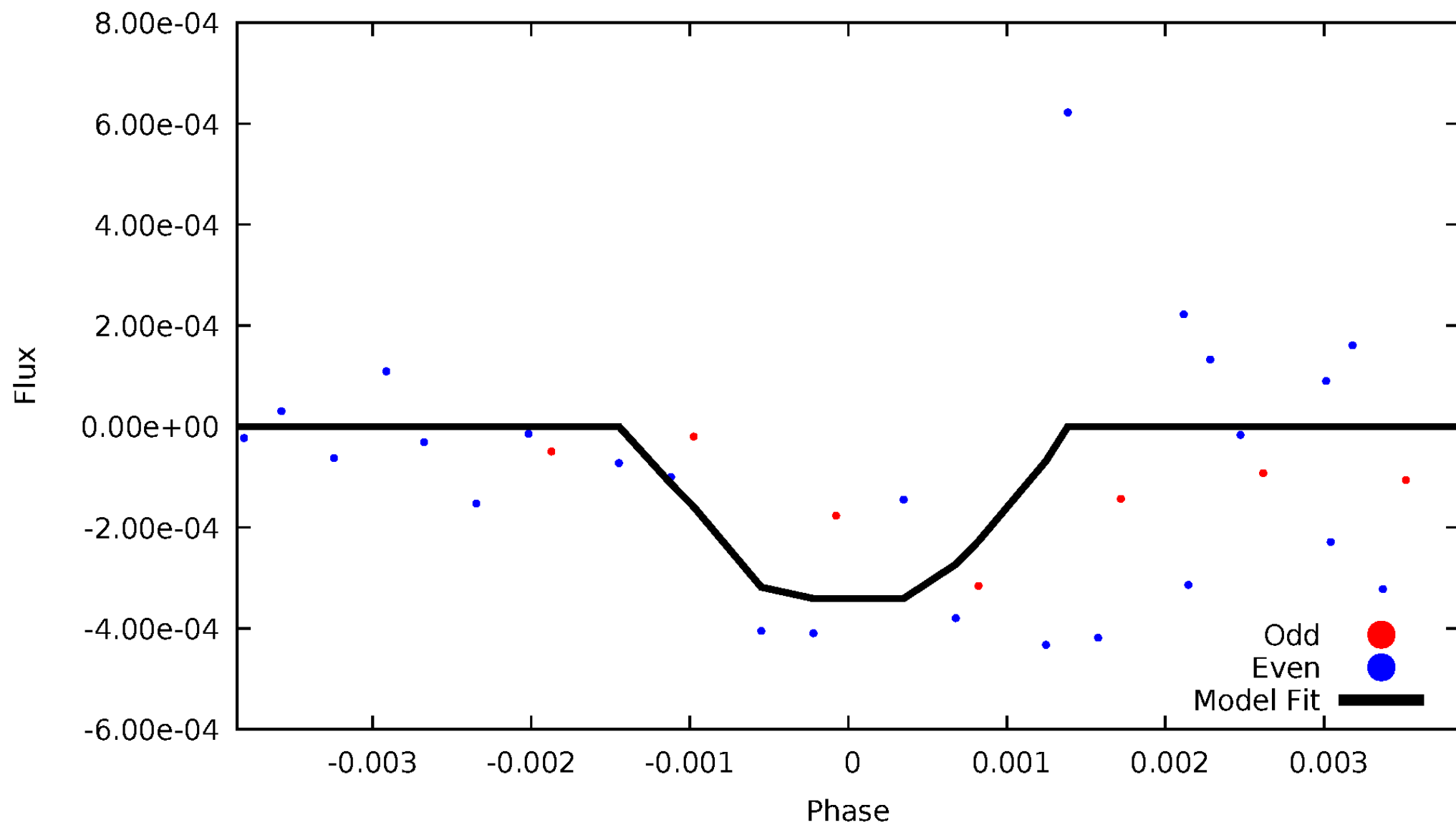
DV Odd/Even

TCE 010414727-10



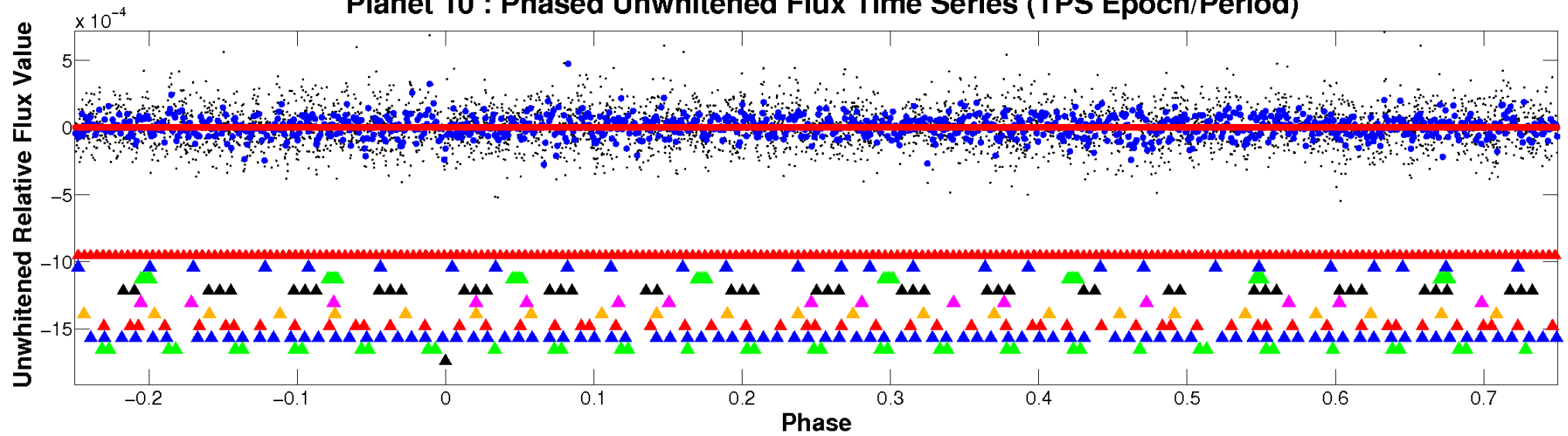
ALT Odd/Even

TCE 010414727-10

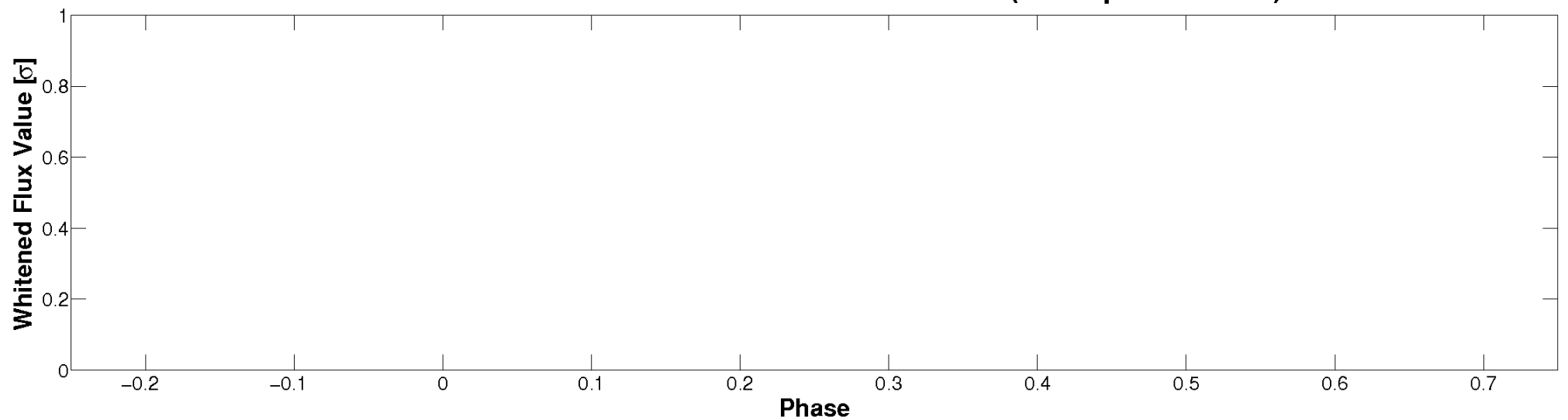


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

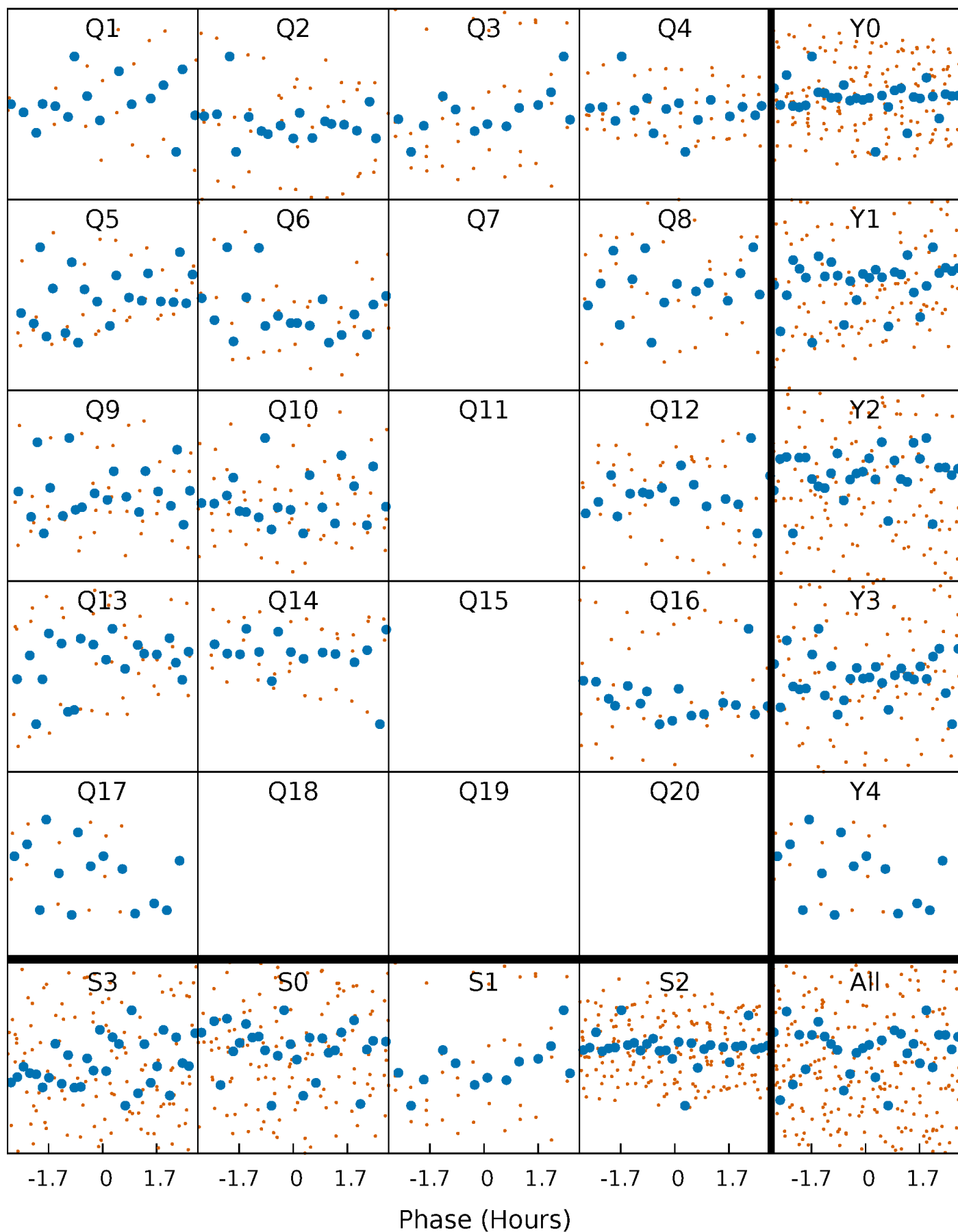


Planet 10 : Phased Whitened Flux Time Series (TPS Epoch/Period)



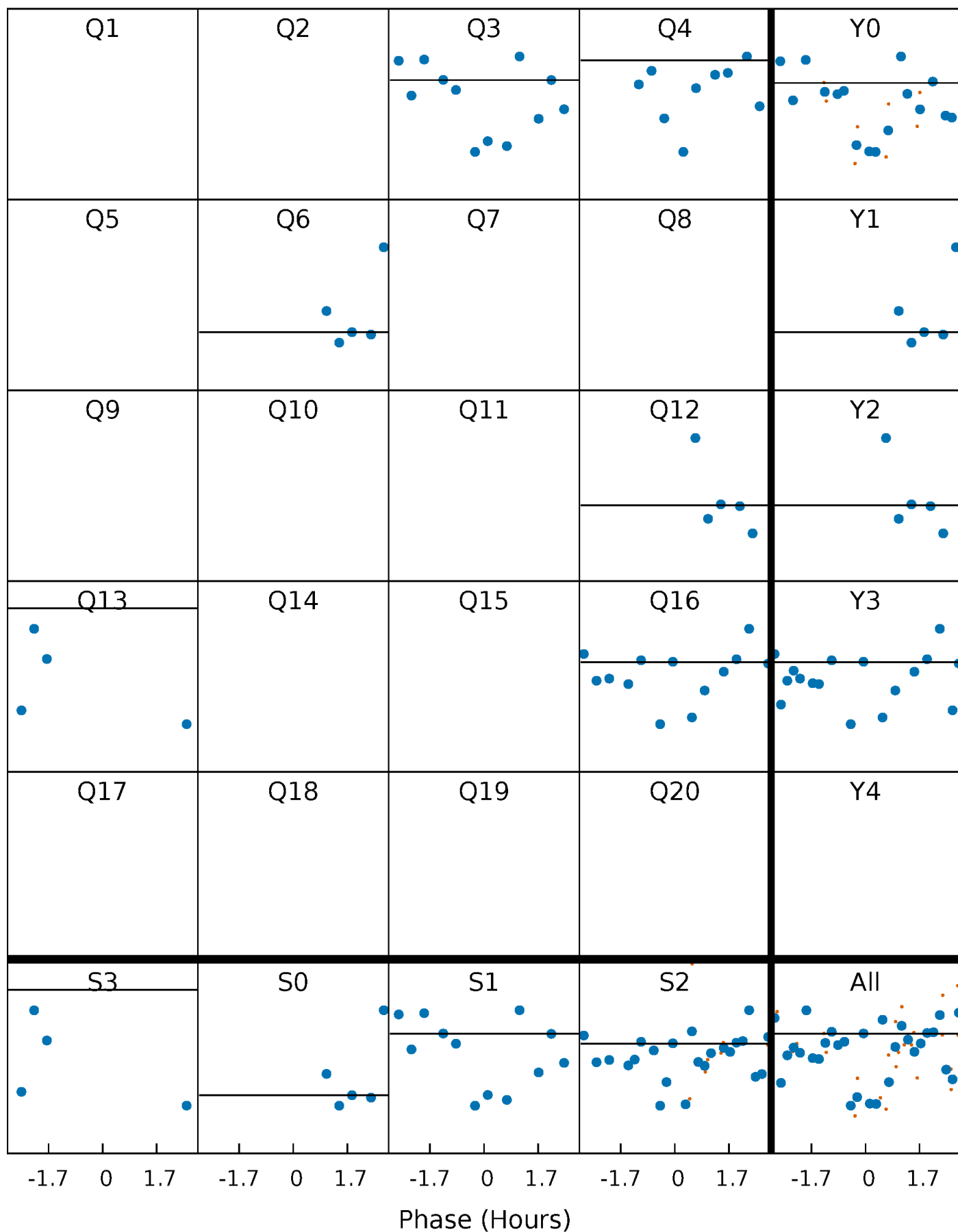
PDC Quarter-Phased Transit Curves

TCE 010414727-10 P= 22.761953 Days $T_0=134.210994$ (BKJD)



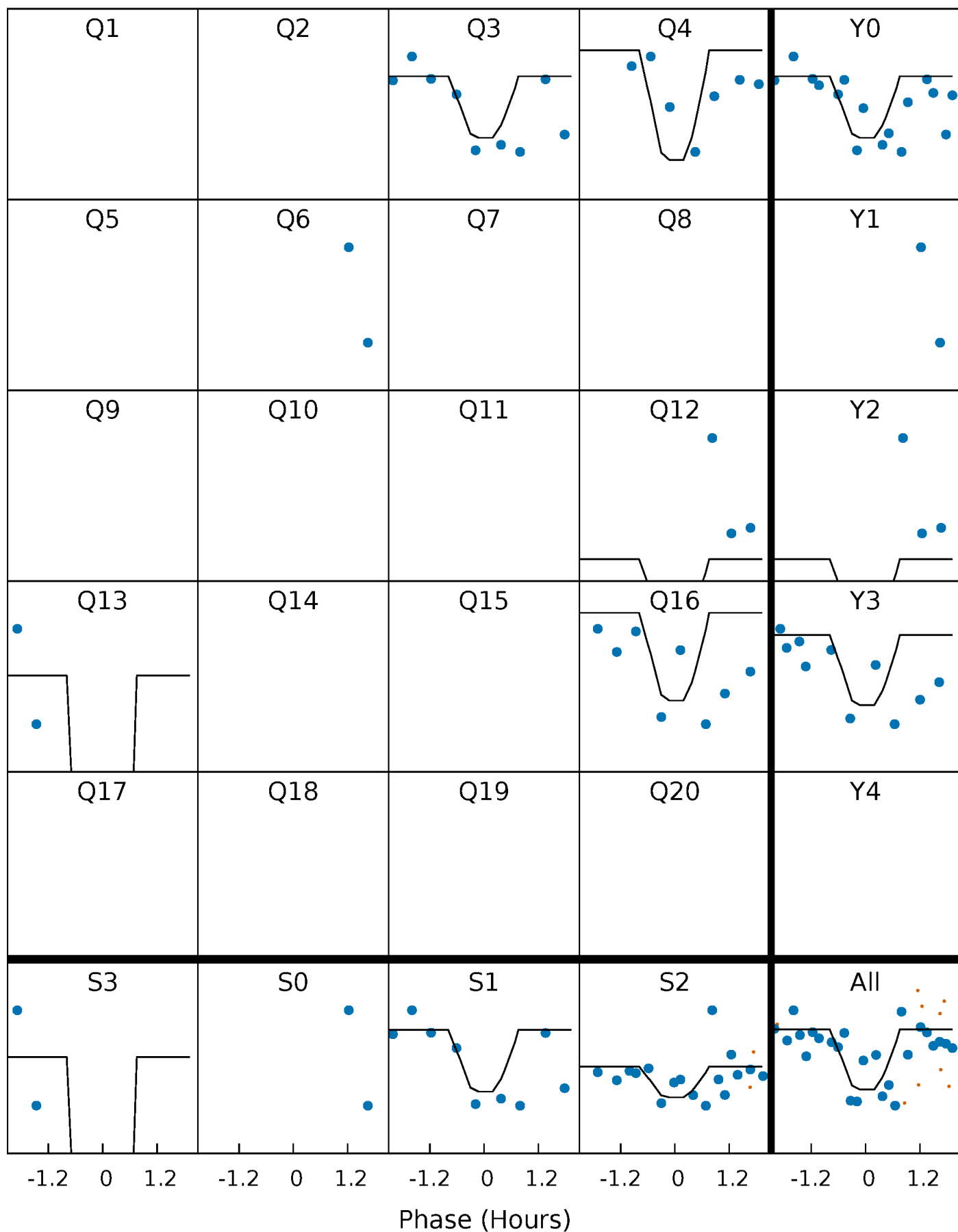
DV Quarter-Phased Transit Curves

TCE 010414727-10 $P = 22.761953$ Days $T_0 = 134.210994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

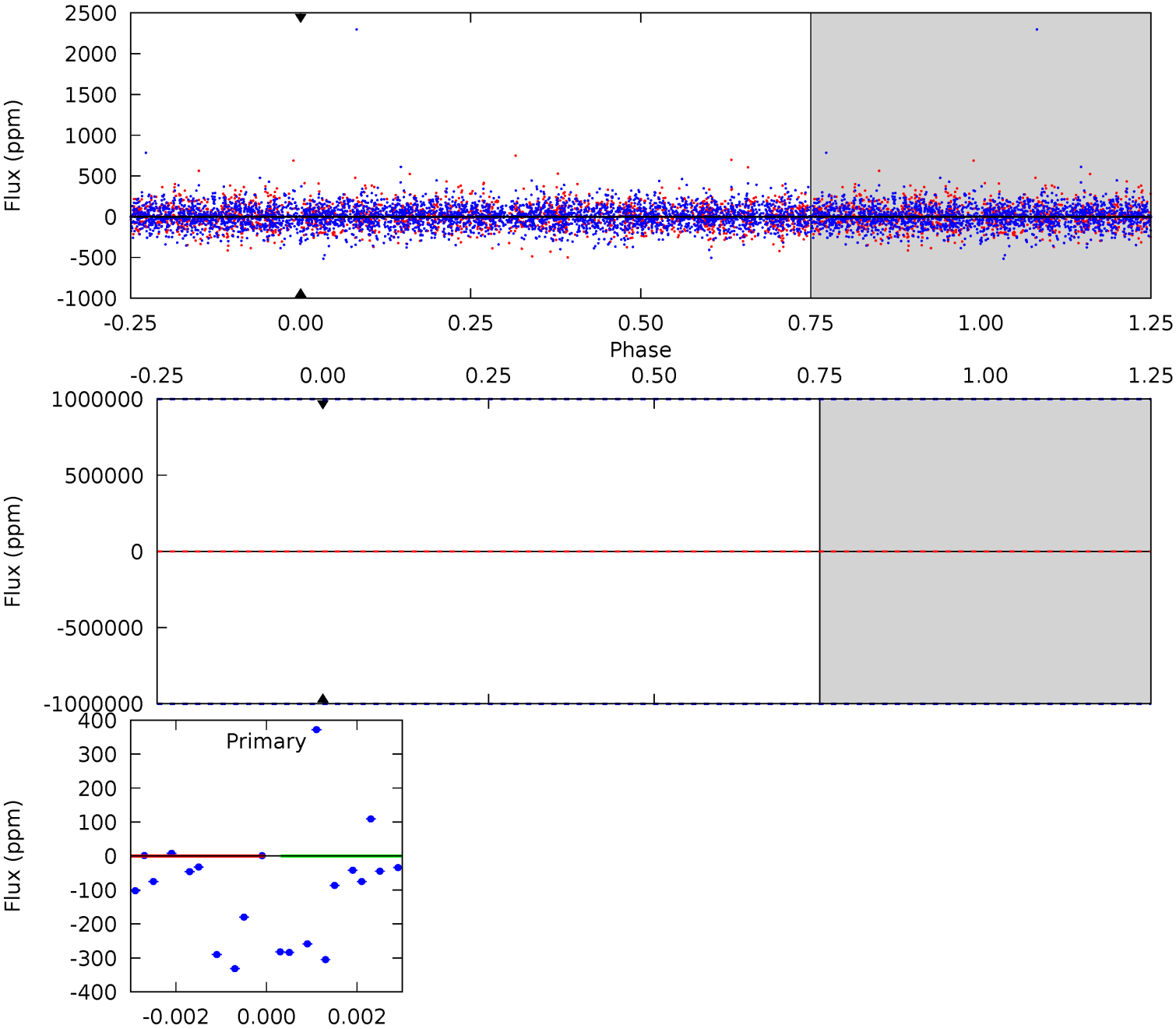
TCE 010414727-10 P= 22.761953 Days $T_0=134.202181$ (BKJD)



DV Model-Shift Uniqueness Test

010414727-10, P = 22.761953 Days, E = 111.449041 Days

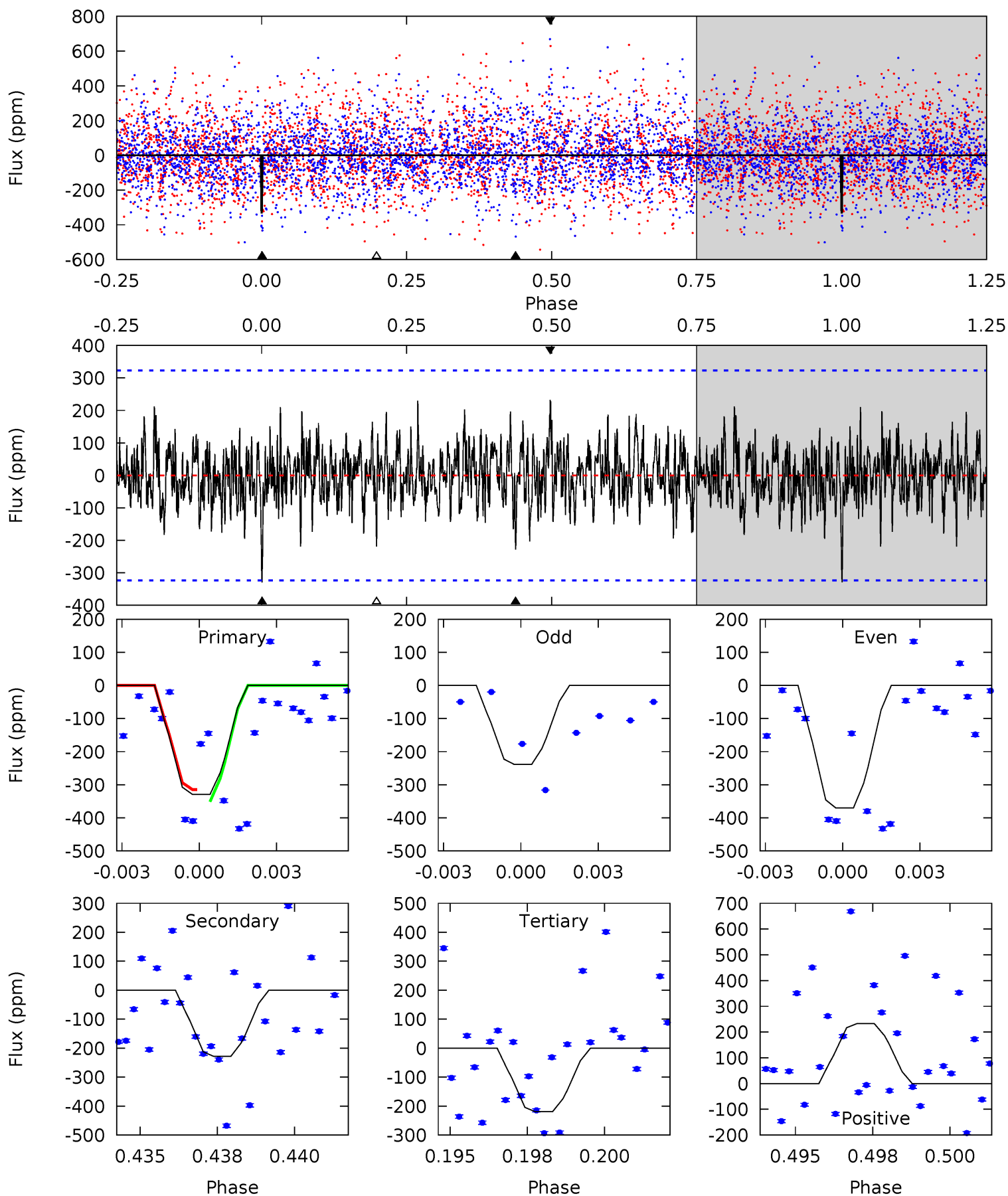
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010414727-10, P = 22.761953 Days, E = 111.440228 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.39	3.72	3.58	3.80	5.29	3.02	1.17	1.80	1.59	0.14	-0.08	1.05	1.03	0.41	0.30



Stellar Parameters For KIC 010414727

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7275^{+228}_{-304}	$4.180^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.350}$	$1.608^{+0.531}_{-0.286}$	$1.429^{+0.219}_{-0.219}$	$0.484^{+0.304}_{-0.251}$
	+3%/-4%	+3%/-4%	+125%/-175%	+33%/-18%	+15%/-15%	+63%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010414727-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.75^{+14.02}_{-9.47}$	1353^{+107}_{-77}	-4094^{+37539}_{-32902}	$-46.625^{+13929.945}_{-17919.528}$
Alt.	-228 ± 61	$13.73^{+14.06}_{-9.79}$	1358^{+114}_{-85}	3610^{+2185}_{-730}	21^{+198}_{-16}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

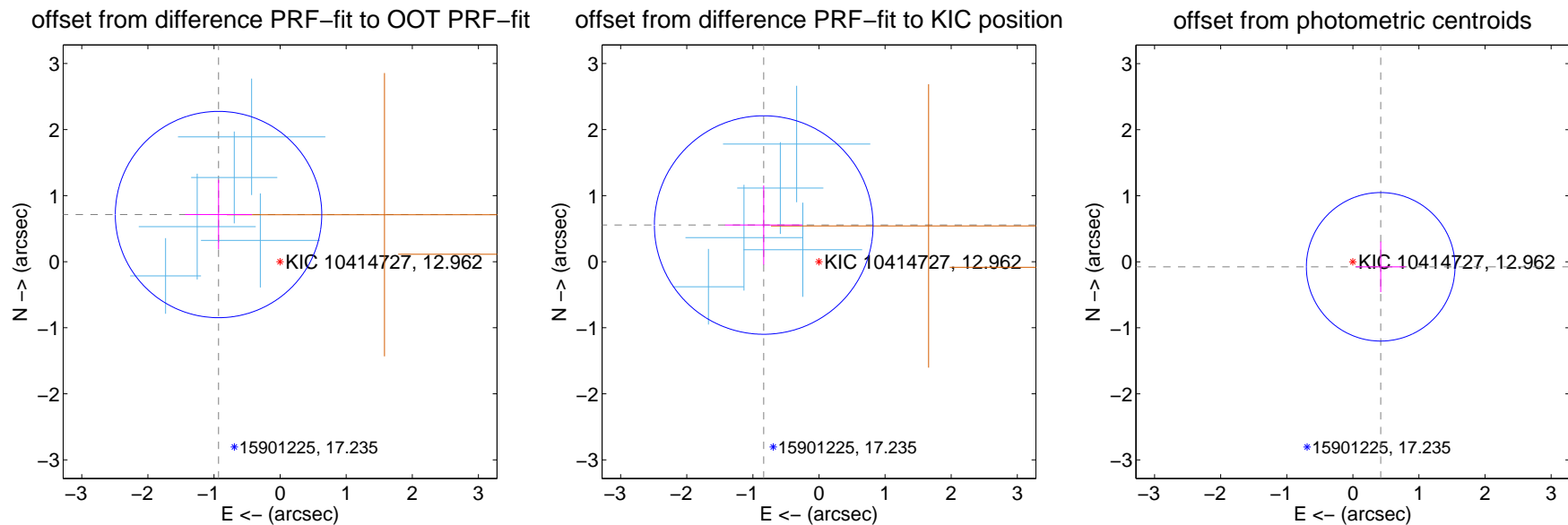
DV Centroid Data

Supplemental centroid analysis for 010414727-10. Kepler magnitude: 12.96. Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

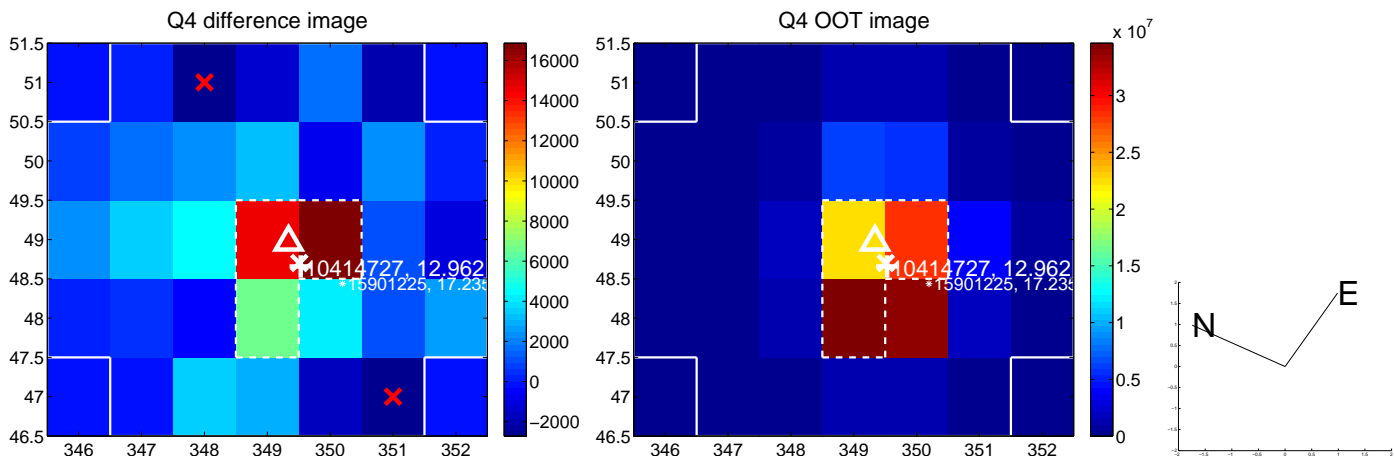
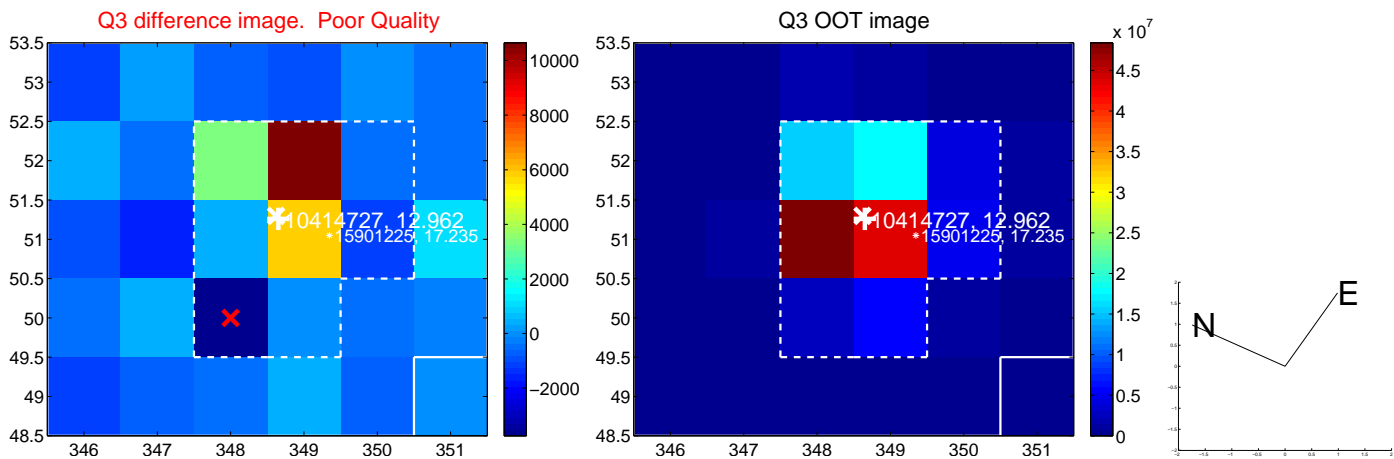
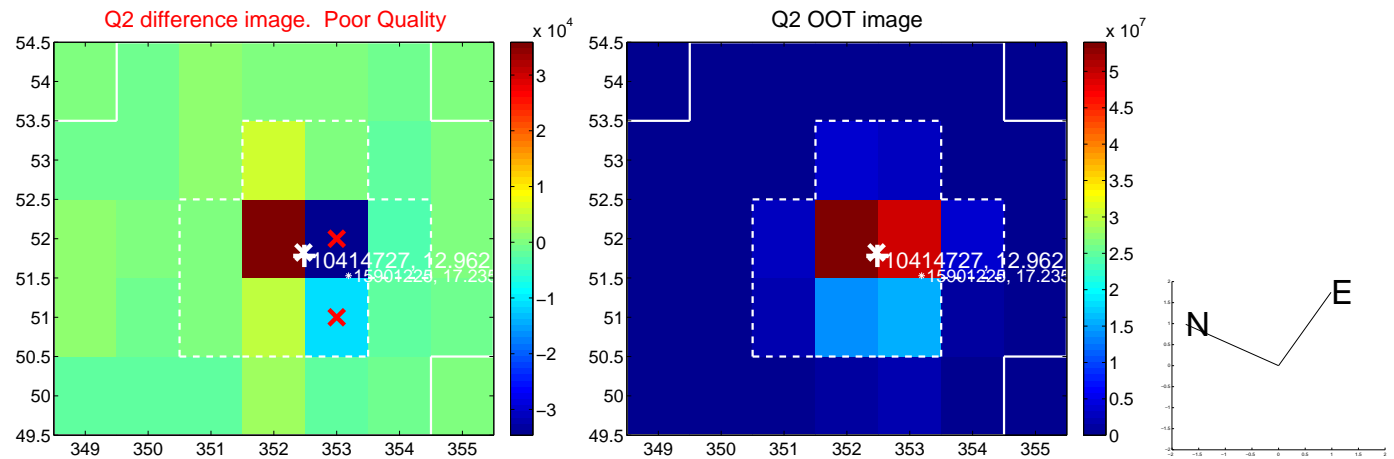
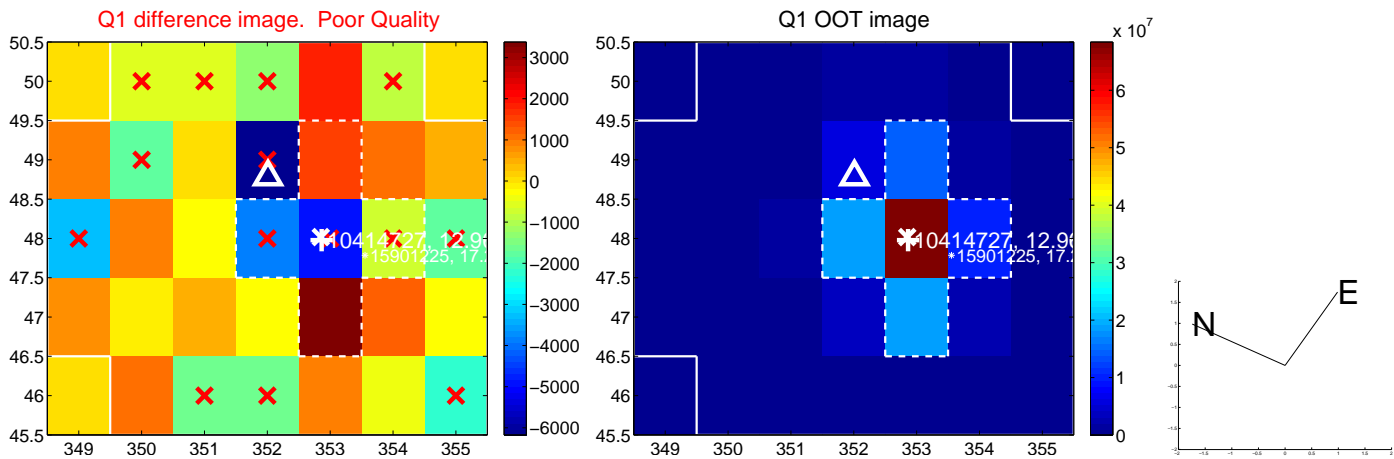
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.173 ± 0.520	2.25	0.931 ± 0.506	0.714 ± 0.524
PRF-fit source offset from KIC position	1.003 ± 0.551	1.82	0.836 ± 0.584	0.555 ± 0.600
photometric centroid source offset	0.43 ± 0.37	1.14	-0.42 ± 0.37	-0.08 ± 0.38

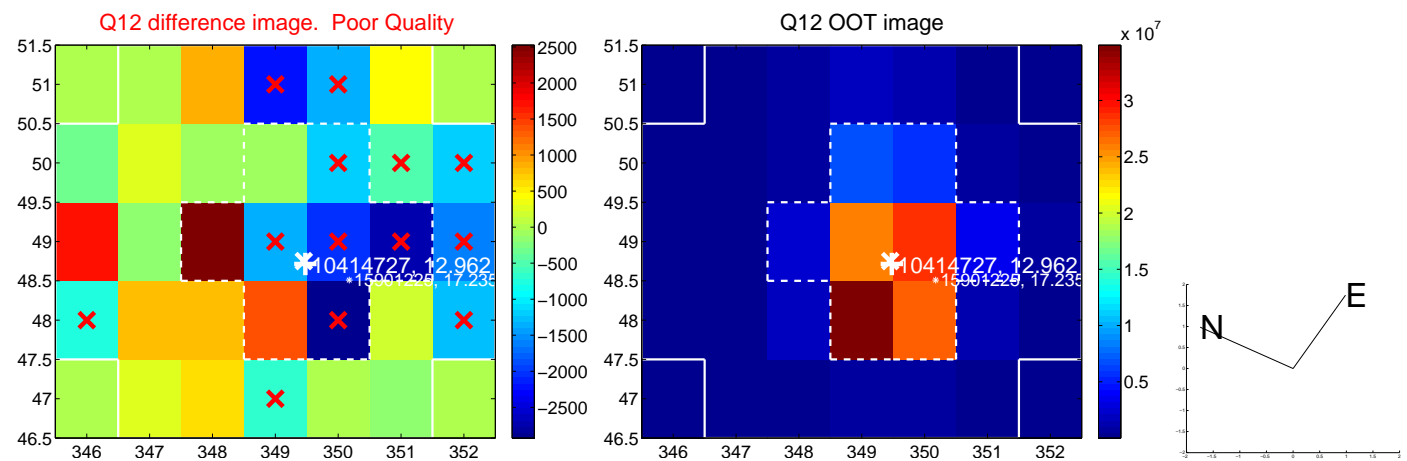
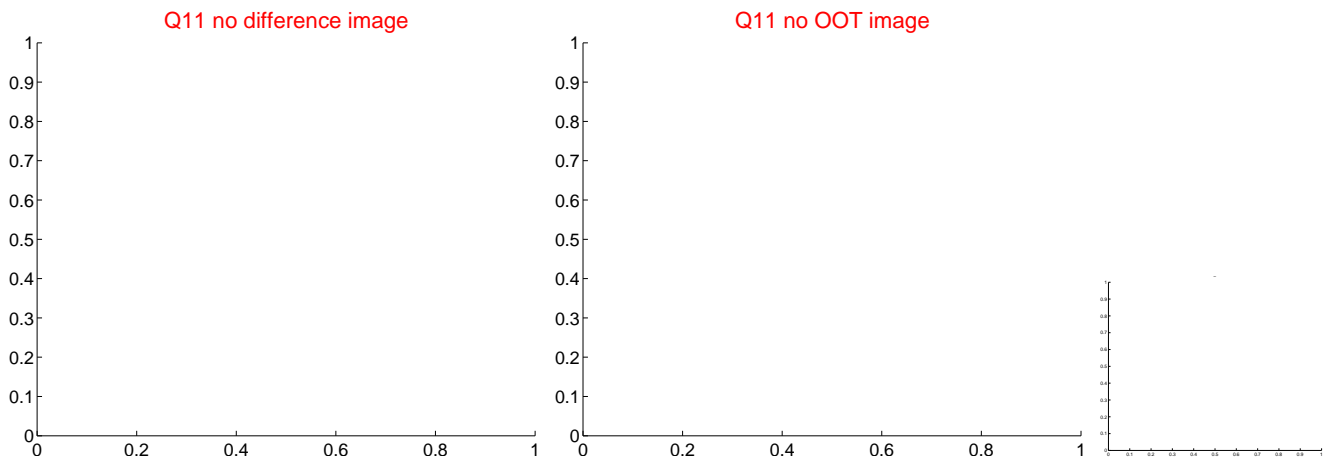
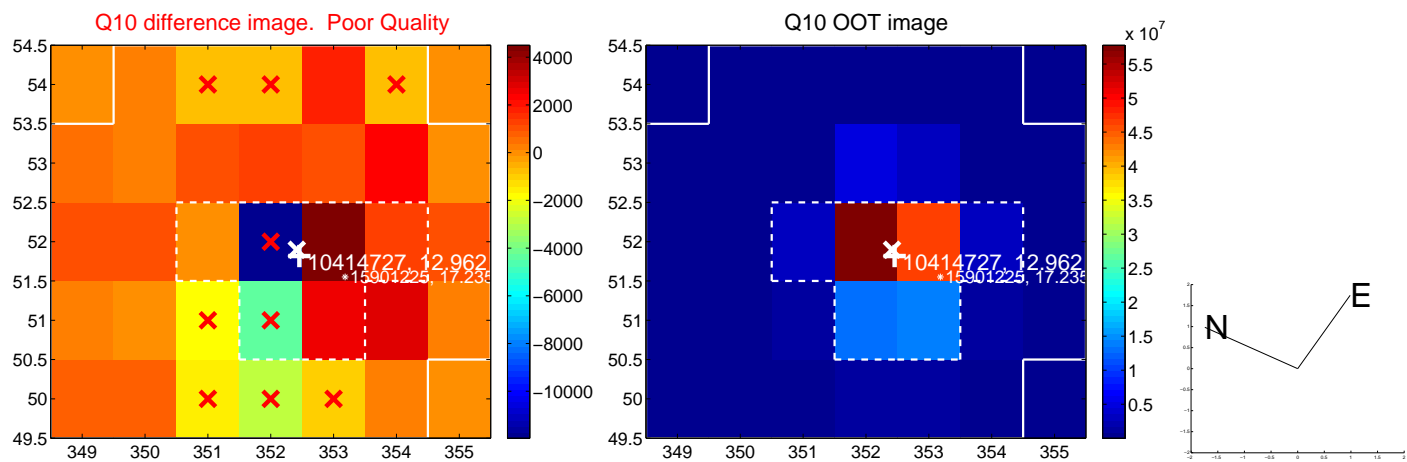
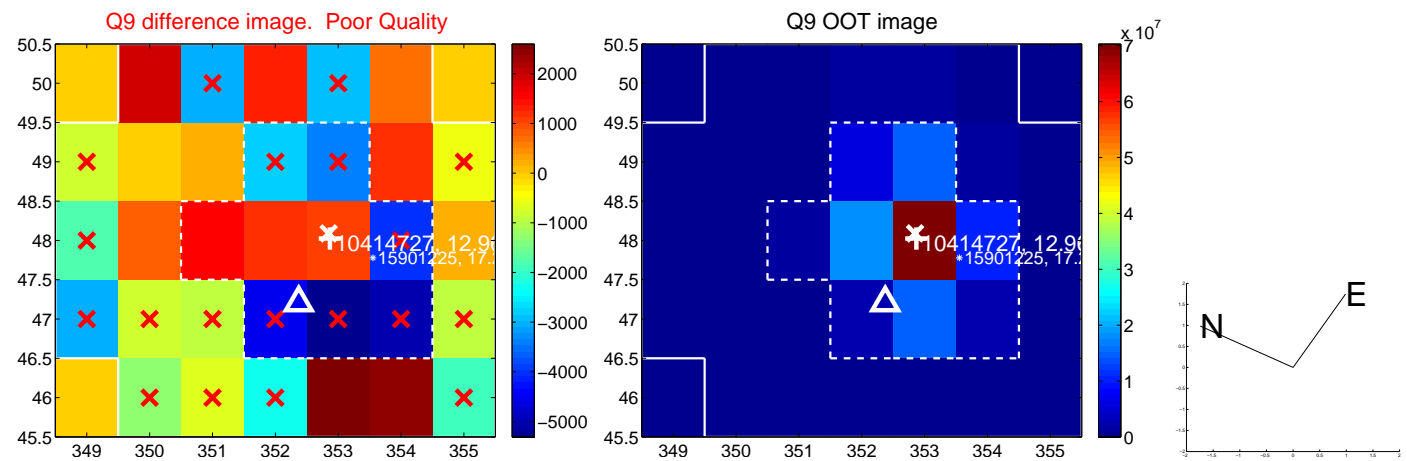


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

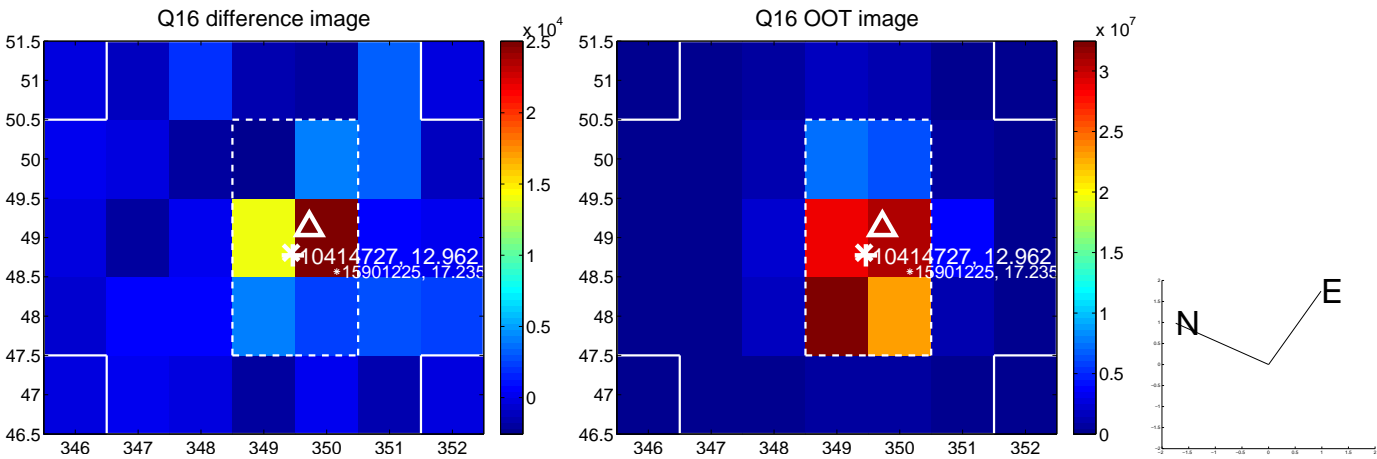
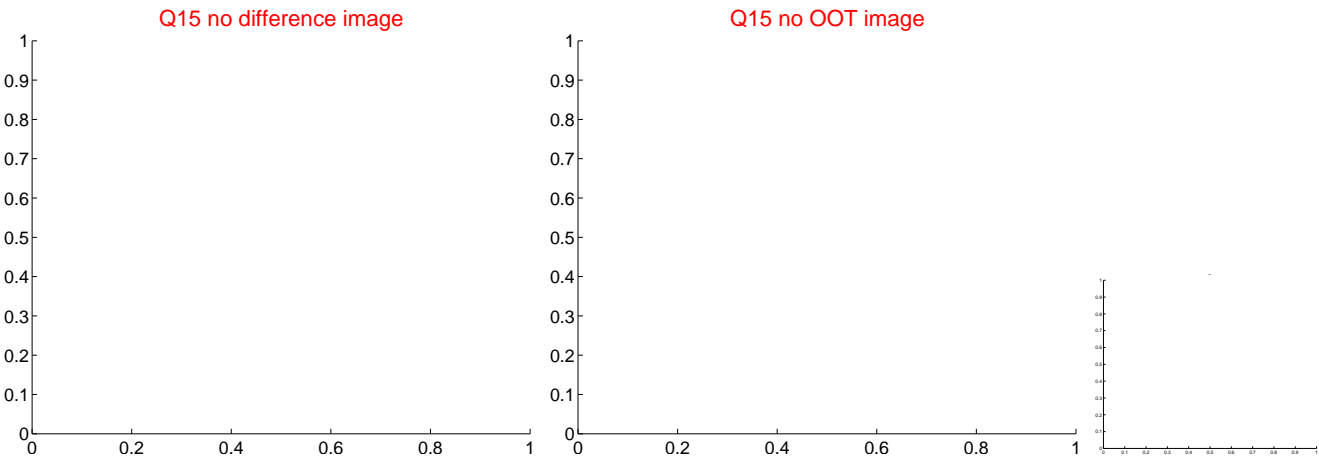
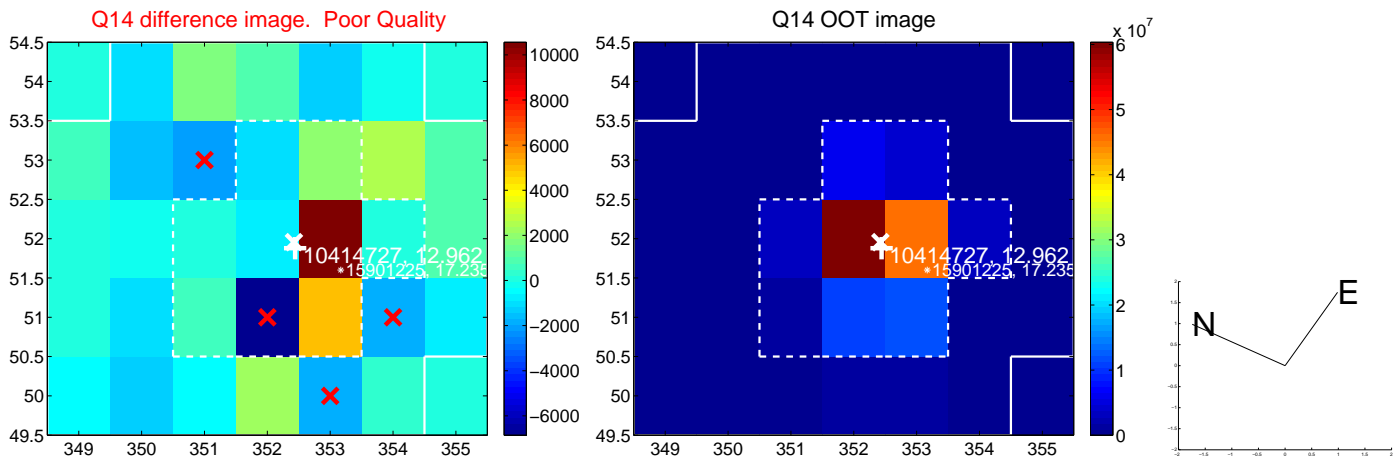
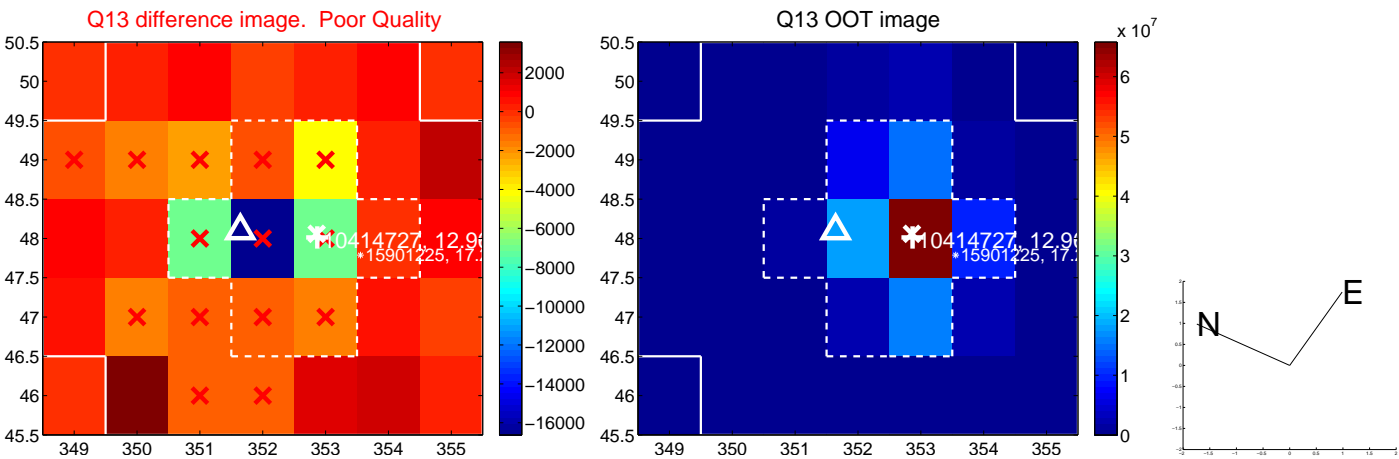
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



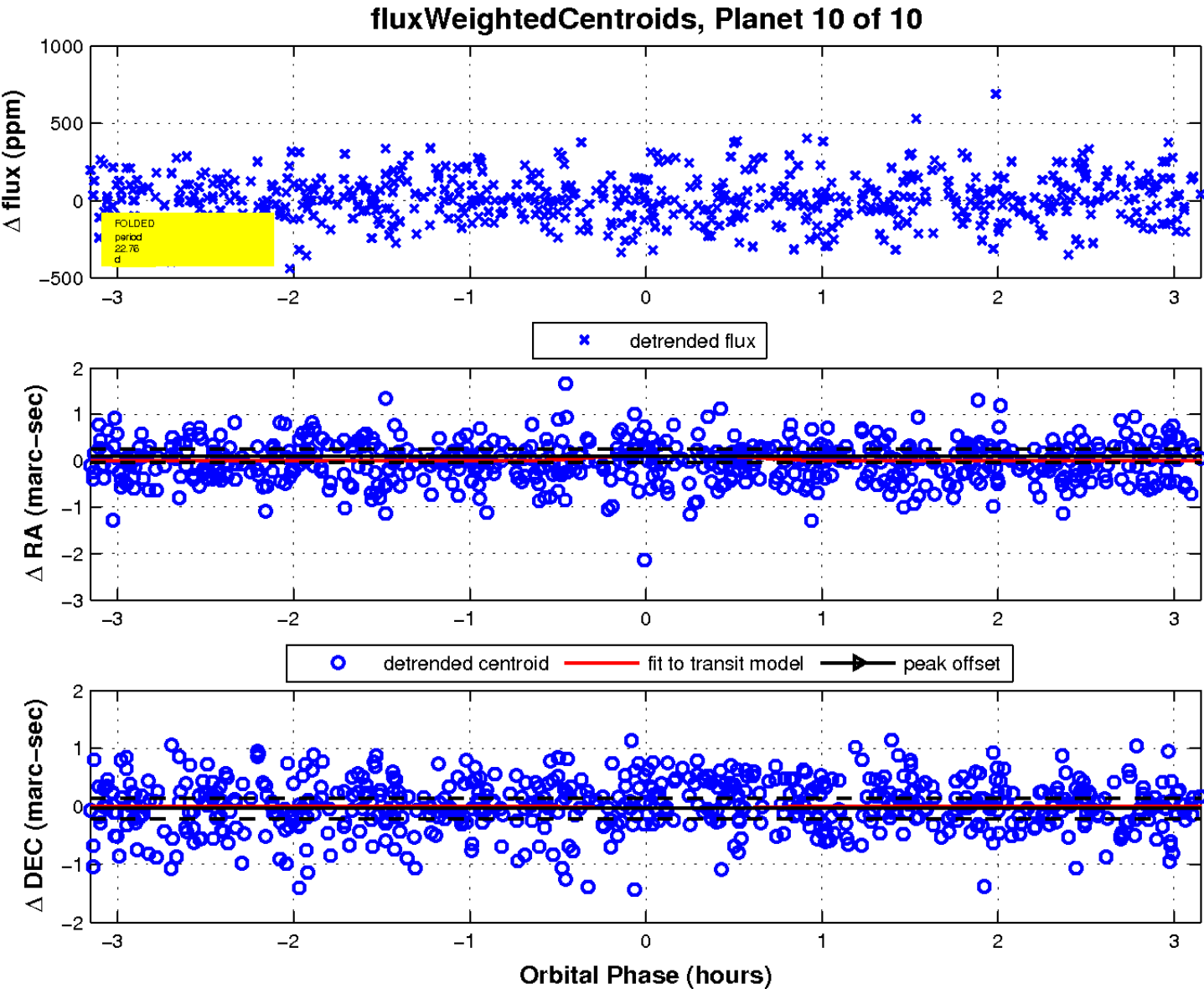
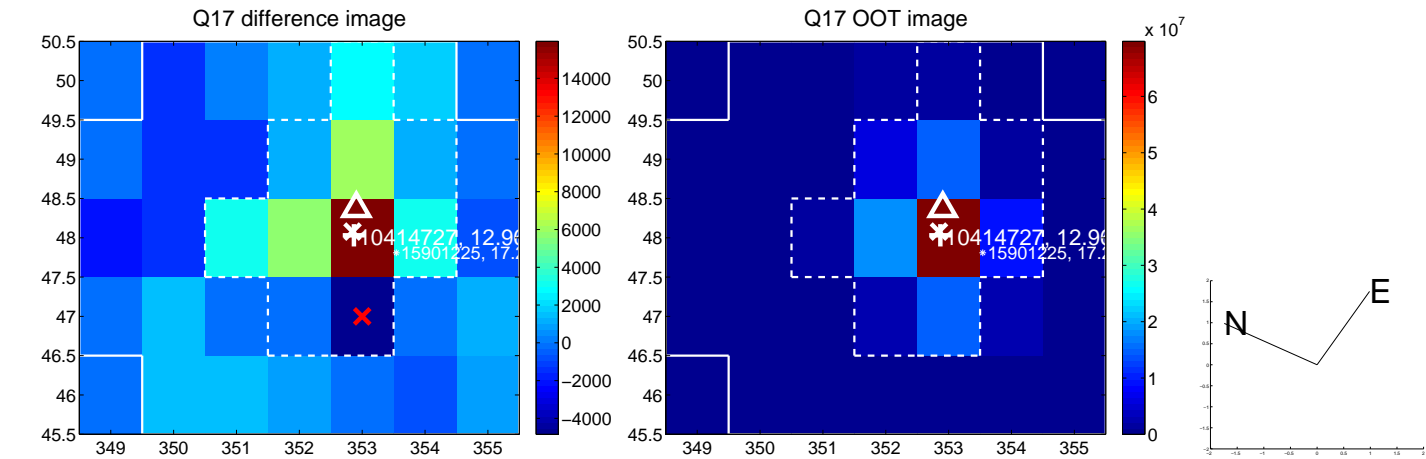
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

