

KIC 011044547

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})
011044547-01	OBS	No	0.904914	132.218806	12.7	4.123	9.2	8.5	2.93	9143	1.19	88183.65
011044547-02	OBS	No	1.206499	131.967964	17.5	14.478	9.6	10.2	2.93	9143	1.28	60093.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011044547-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
011044547-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

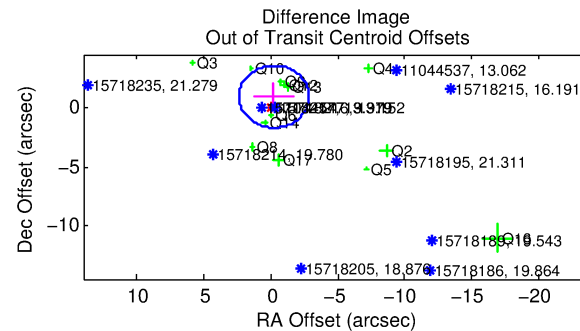
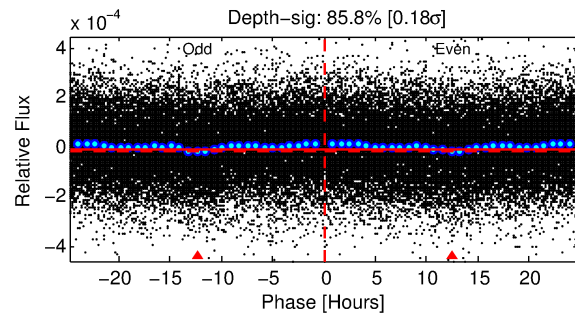
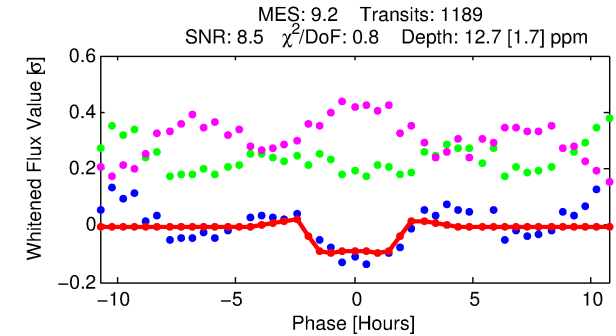
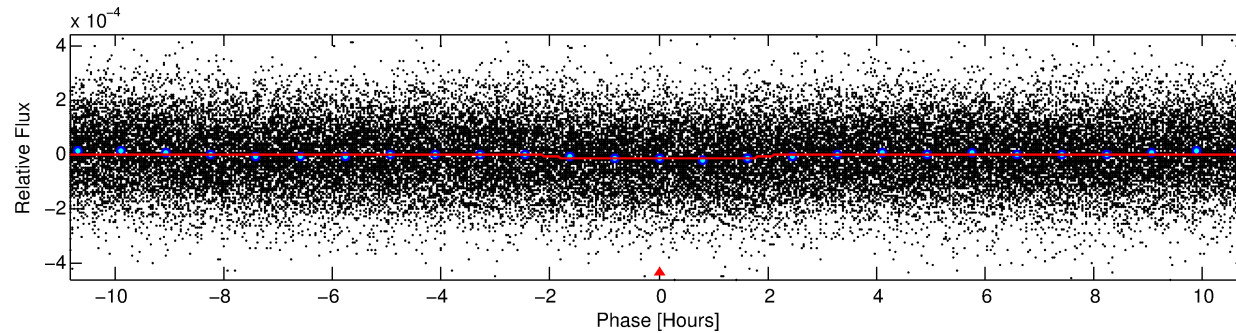
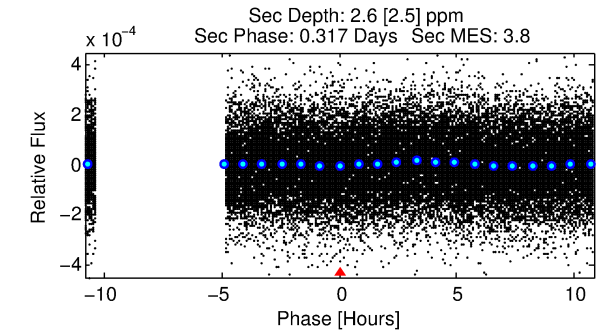
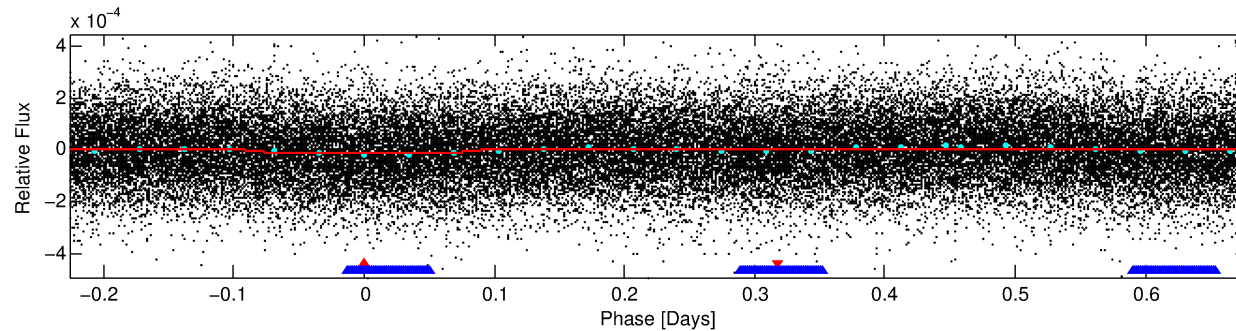
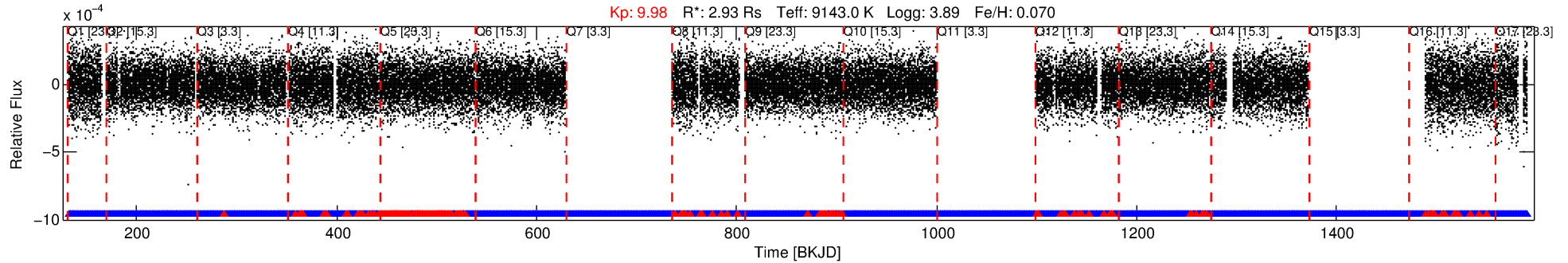
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011044547-01

No Significant Match Found

DV One-Page Summary

KIC: 11044547 Candidate: 1 of 2 Period: 0.905 d



DV Fit Results:

Period = 0.90491 [0.00001] d
Epoch = 132.2188 [0.0045] BKJD
Rp/R* = 0.0037 [0.0009]
a/R* = 1.24 [0.74]
b = 0.87 [0.47]
Seff = 88183.65 [51517.09]
Teq = 4394 [642] K
Rp = 1.19 [0.55] Re
a = 0.0247 [0.0088] AU
Ag = 0.61 [0.74] [-0.53σ]
Teffp = 6007 [1642] K [0.92σ]

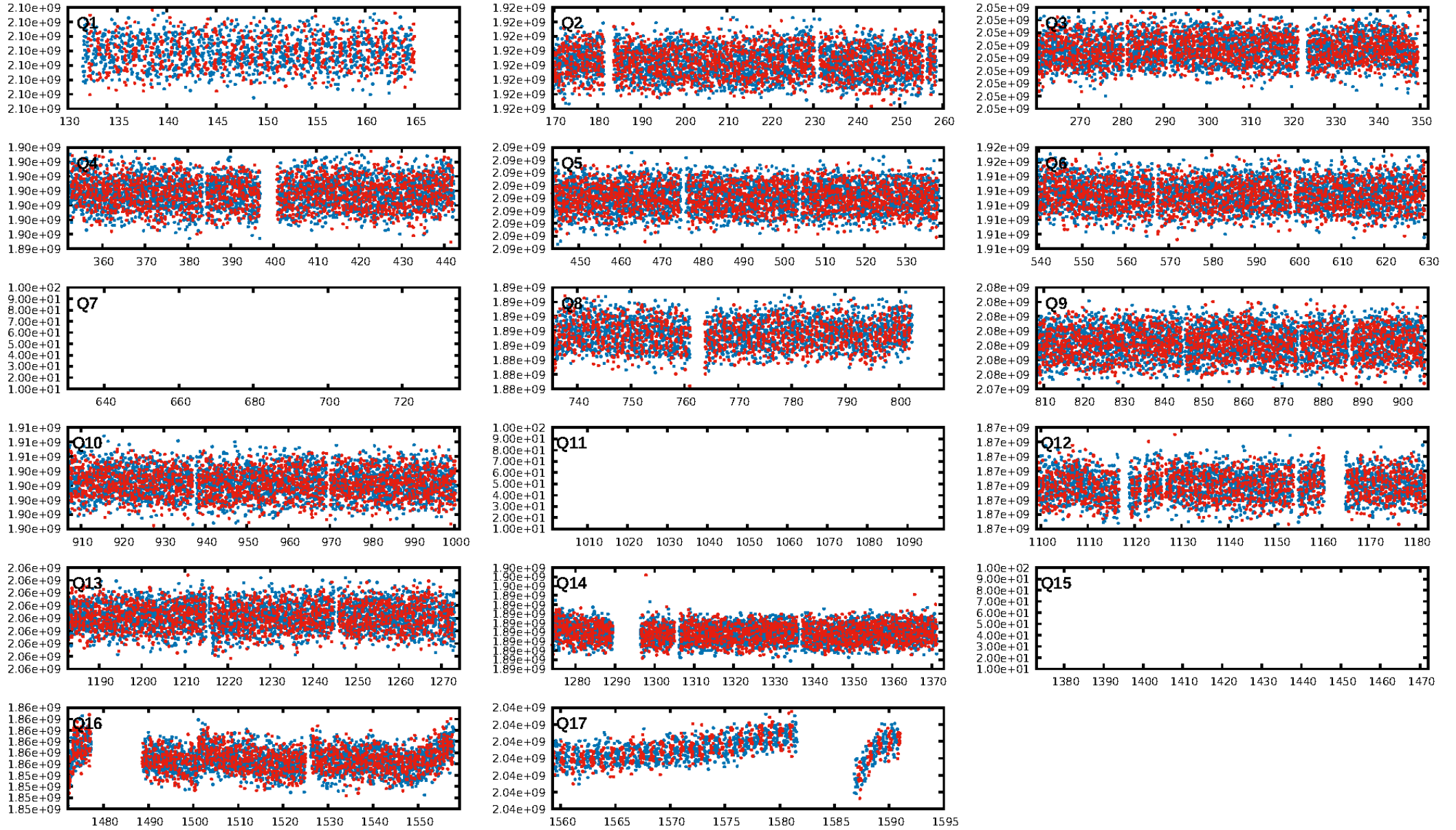
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 36.9% [0.48σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.85 [955/1122]
GhostDiagnostic-chr: N/A
Centroid-sig: 12.4%
Centroid-so: 1.293 arcsec [1.36σ]
OotOffset-rm: 0.947 arcsec [1.08σ]
KicOffset-rm: 0.336 arcsec [0.19σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 0.08 [1/13]
DiffImageOverlap-fno: 0.00 [0/14]

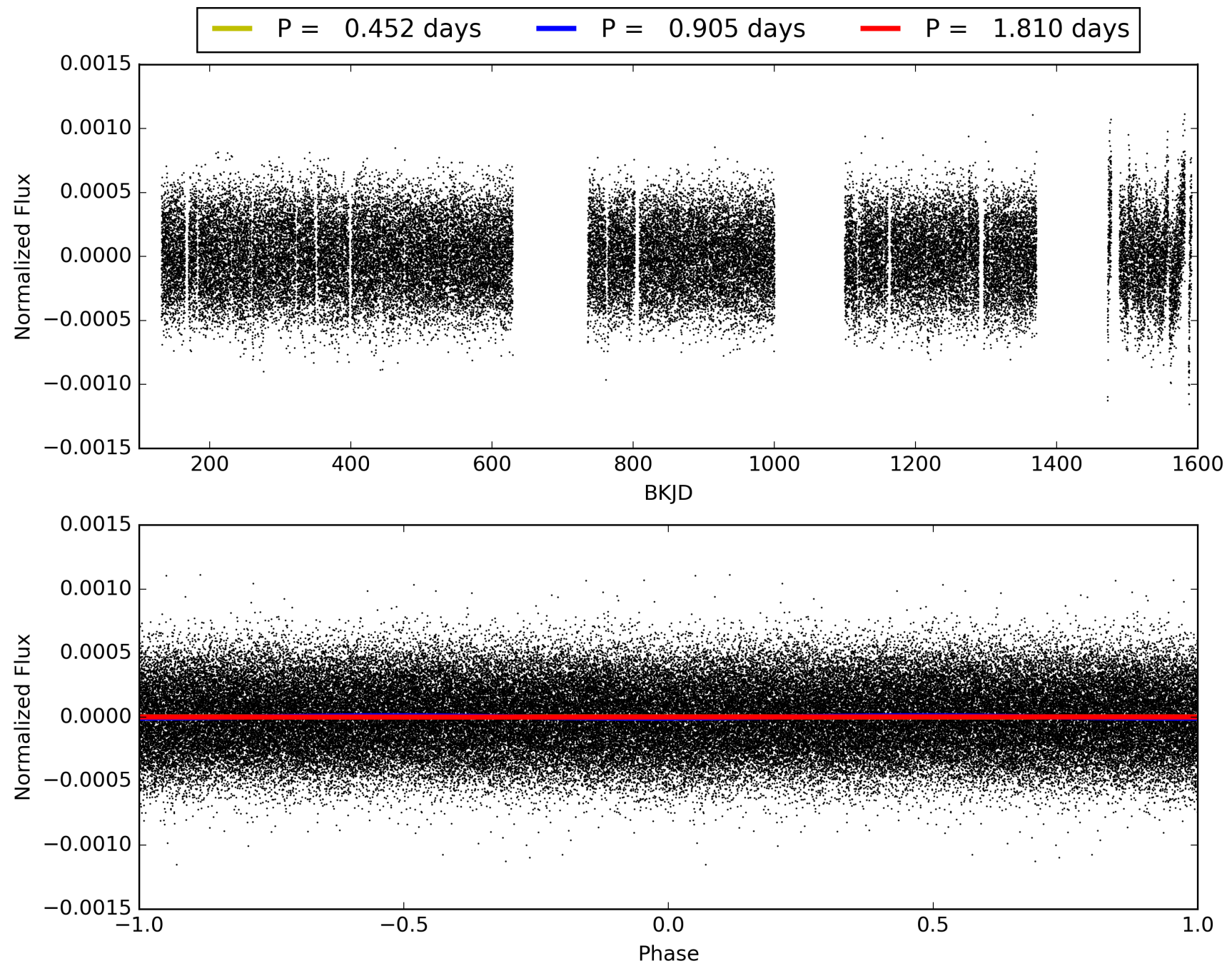
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:59:38 Z

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

TCE 011044547-01, PDC Light Curves

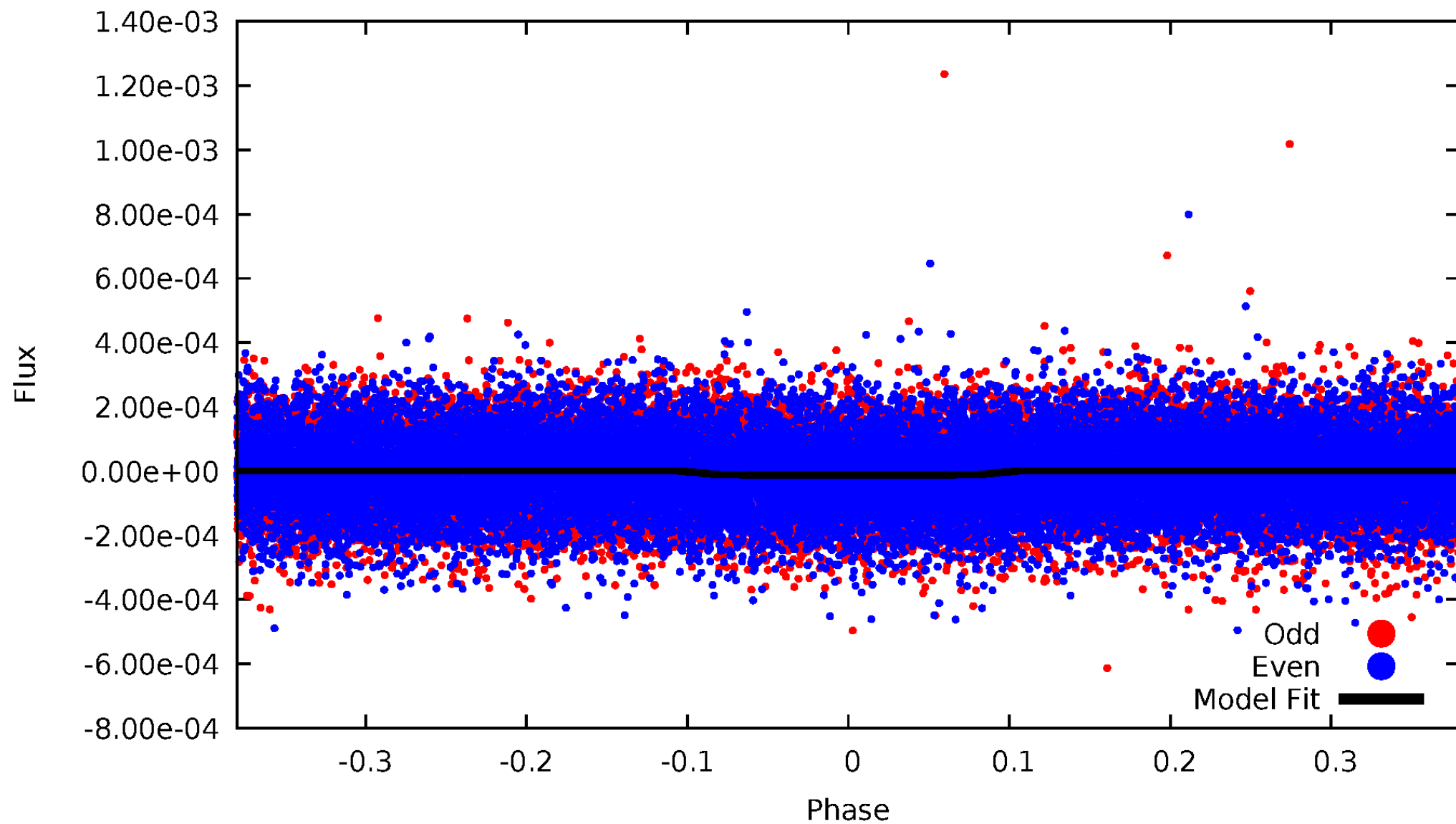


TCE 011044547-01



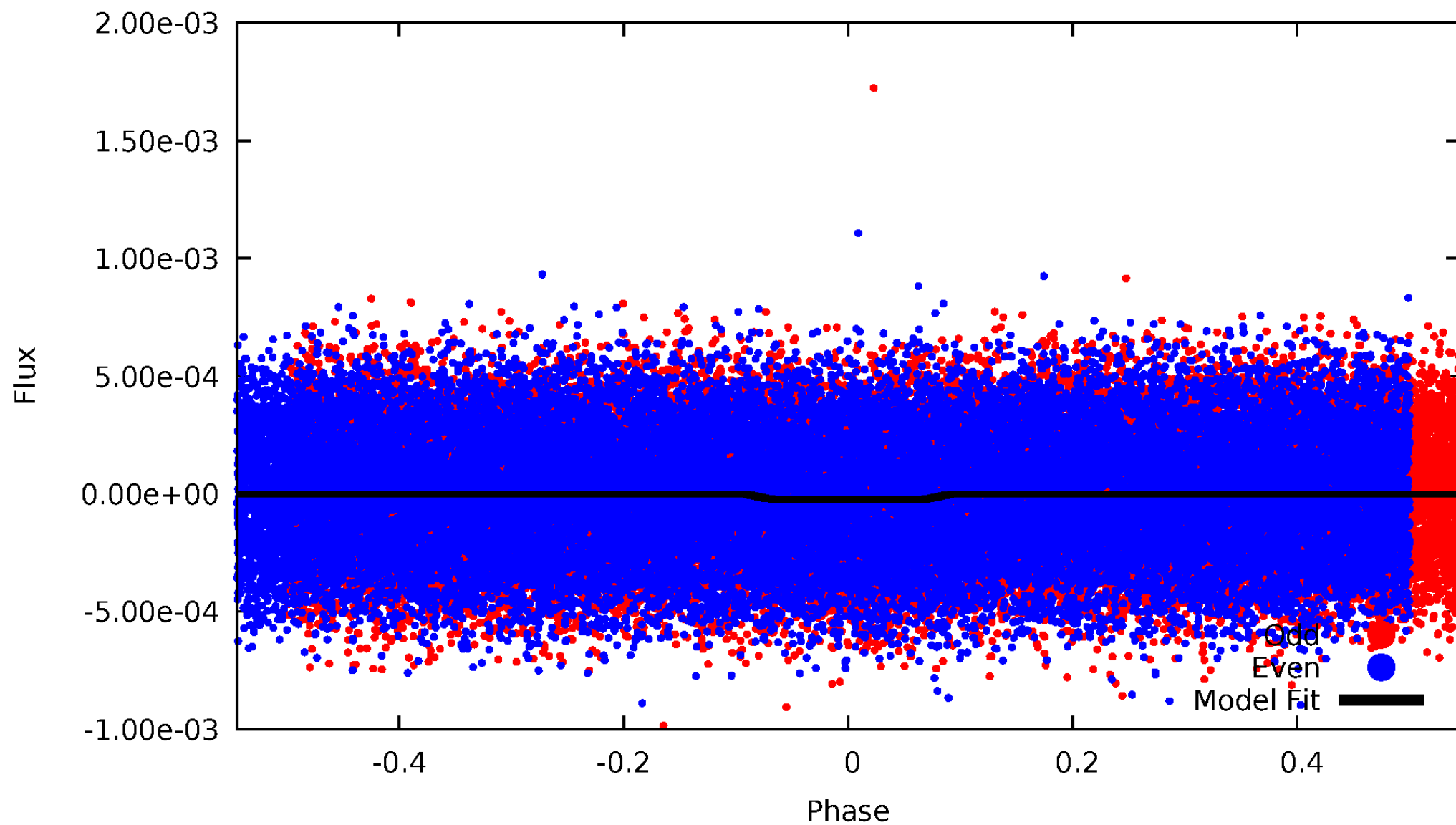
DV Odd/Even

TCE 011044547-01

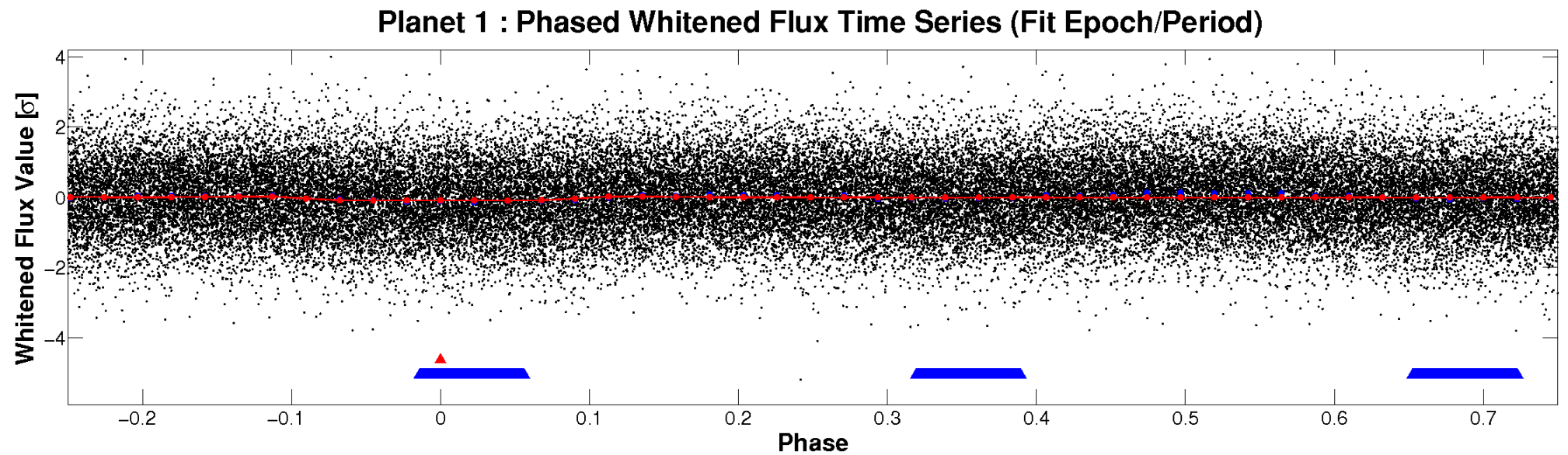
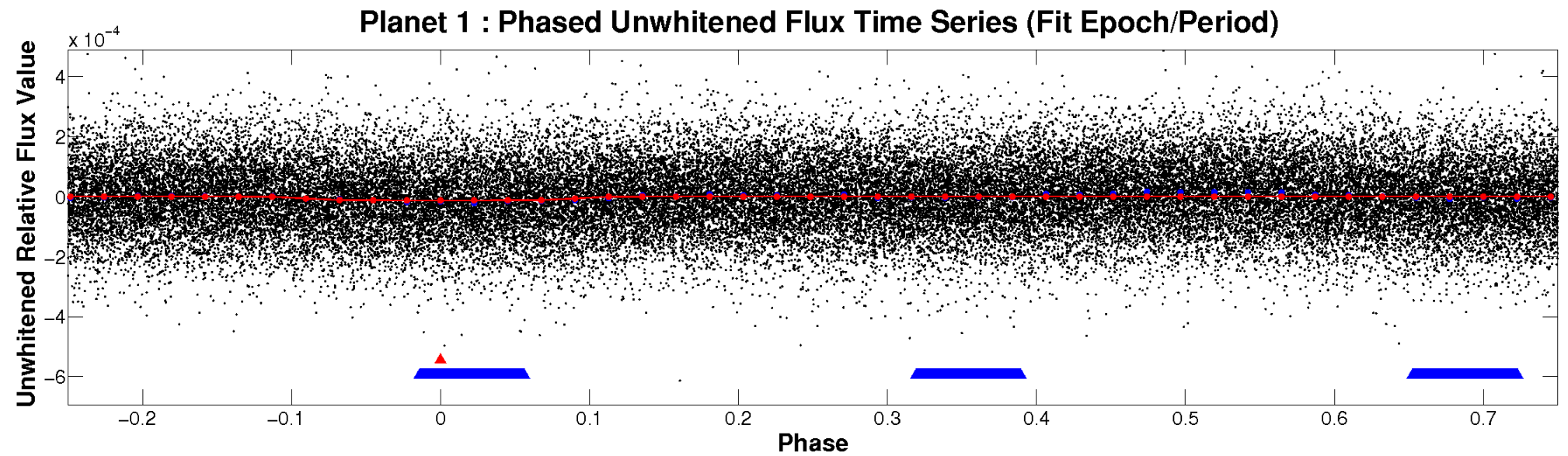


ALT Odd/Even

TCE 011044547-01

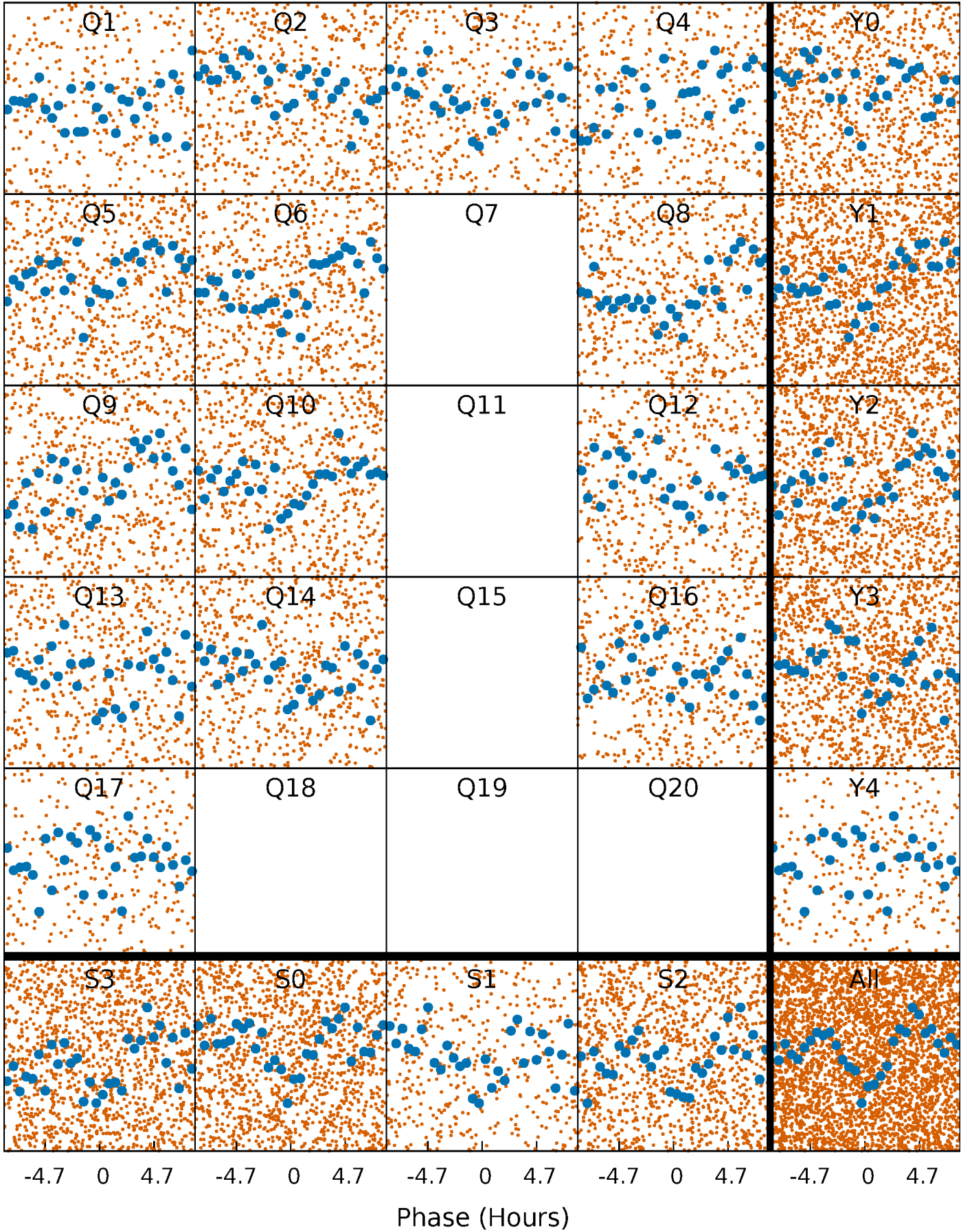


Non-Whitened Vs. Whitened Light Curve



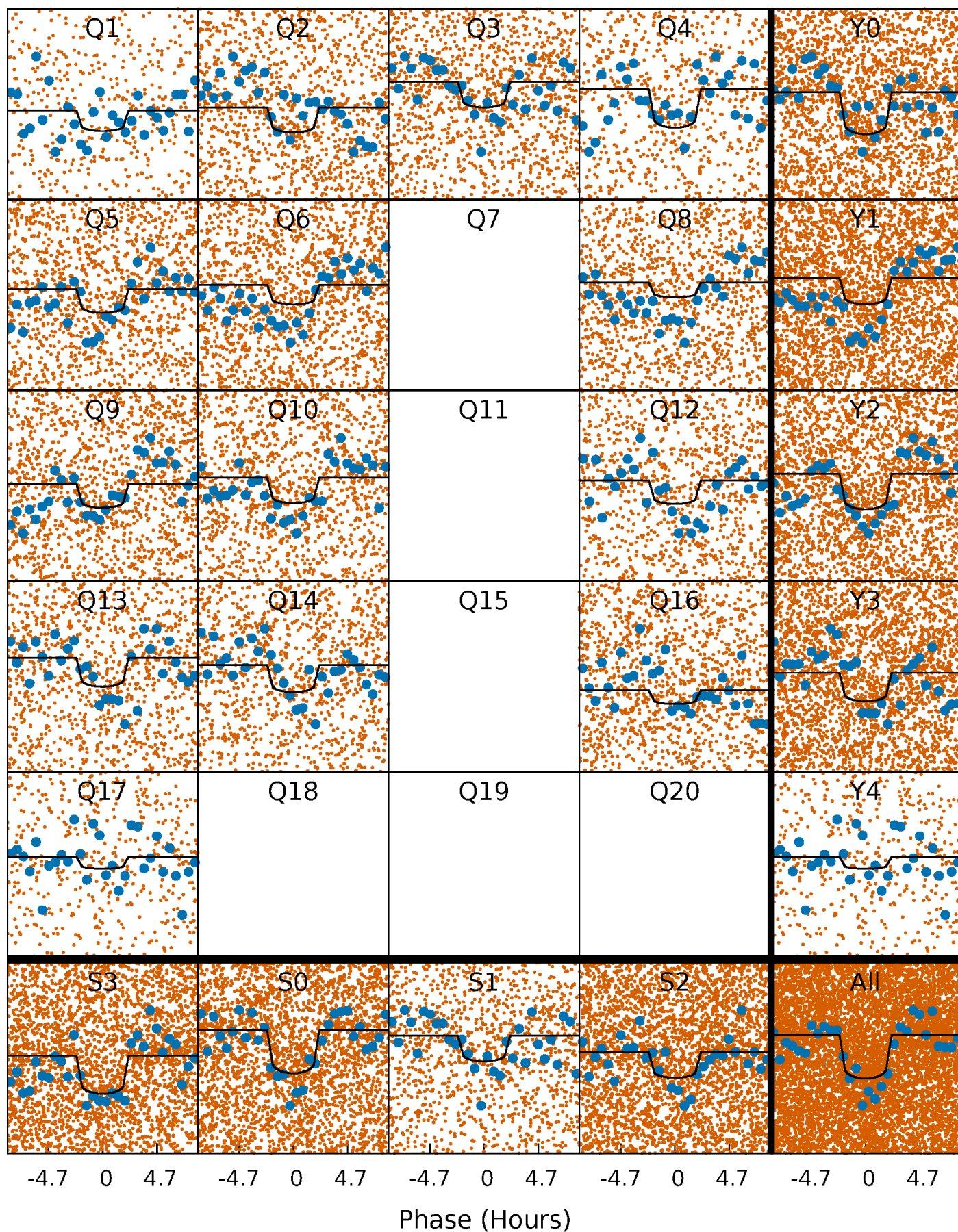
PDC Quarter-Phased Transit Curves

TCE 011044547-01 P= 0.904914 Days $T_0=132.218806$ (BKJD)



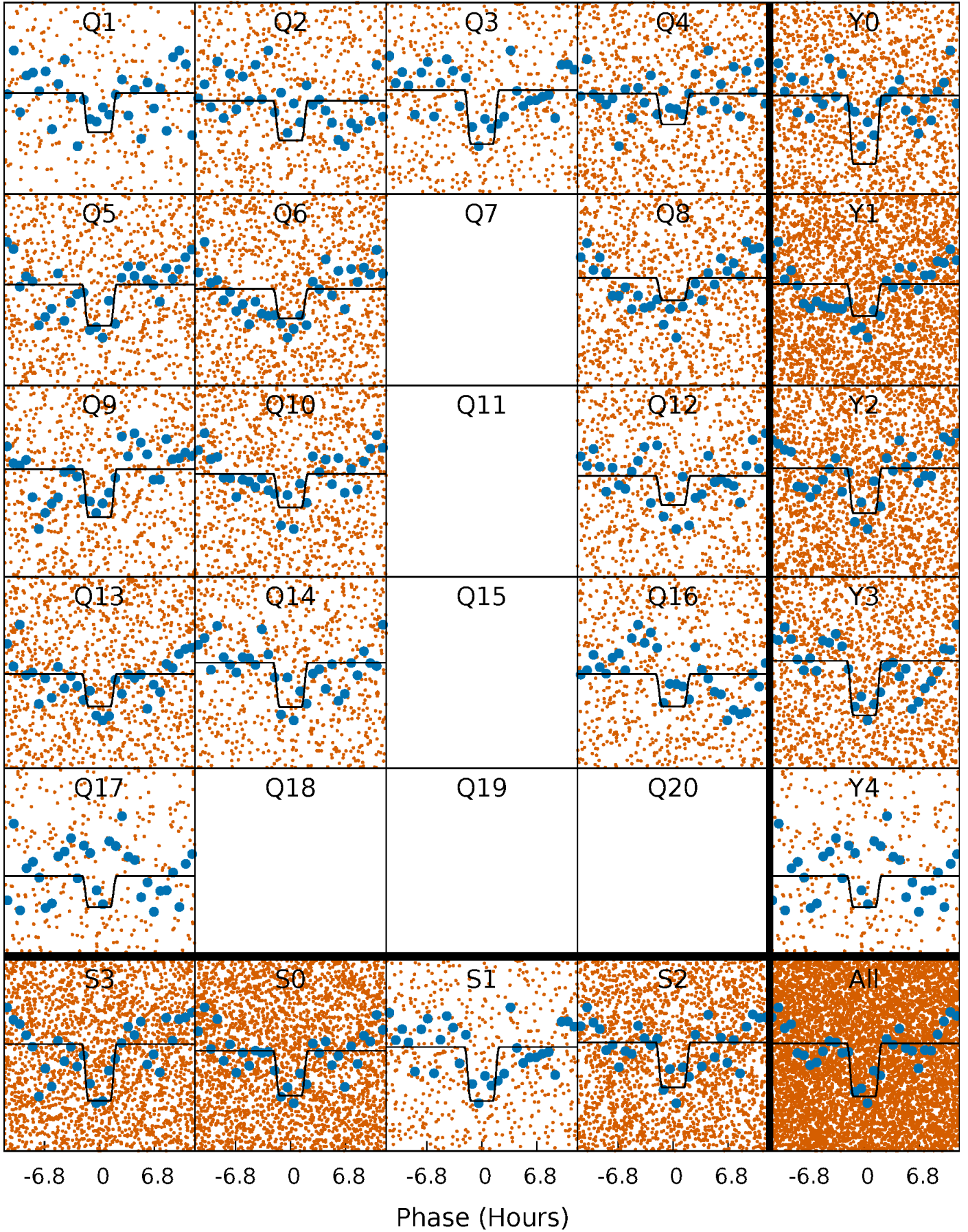
DV Quarter-Phased Transit Curves

TCE 011044547-01 P= 0.904914 Days $T_0=132.218806$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

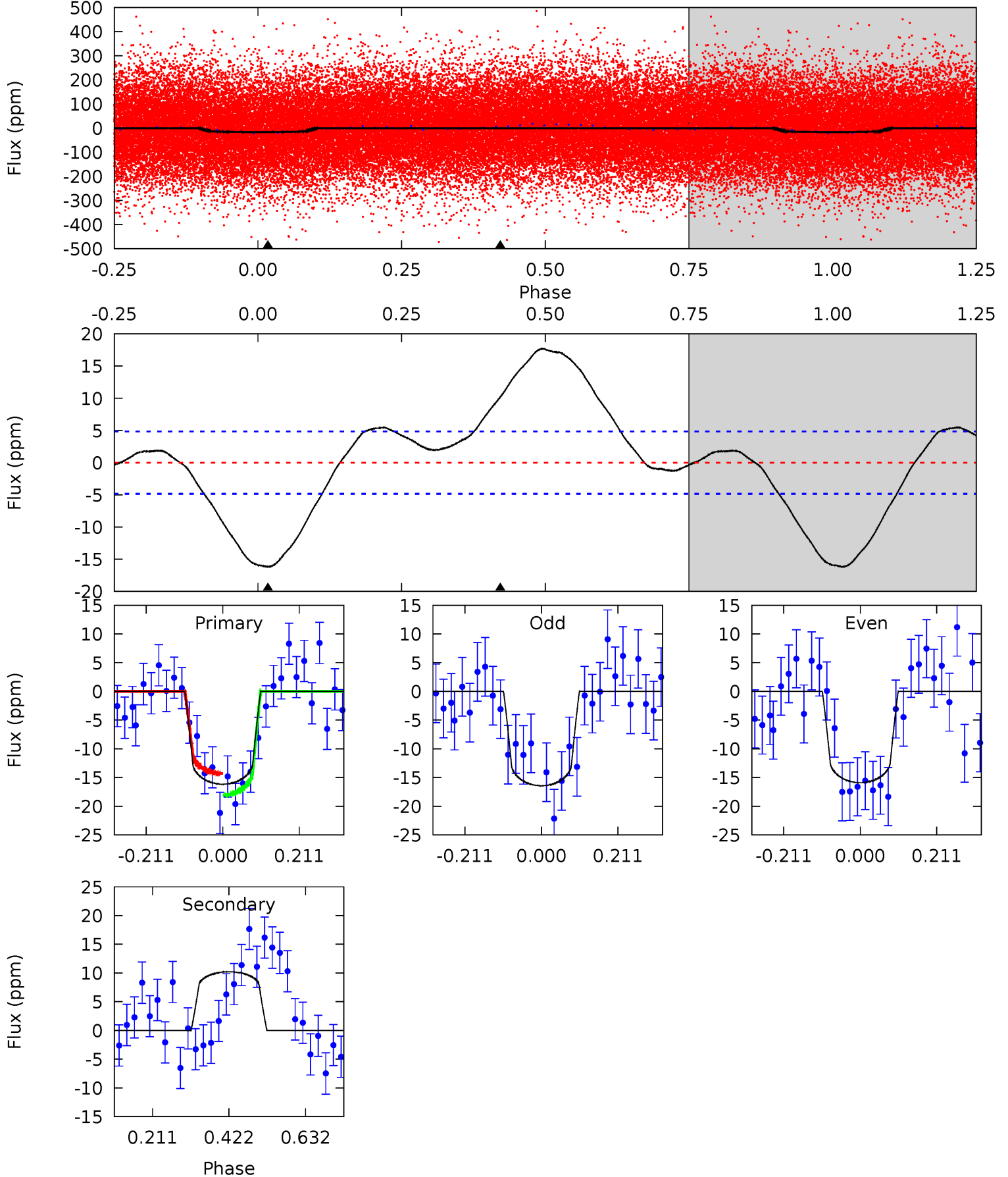
TCE 011044547-01 P= 0.904973 Days $T_0=132.176787$ (BKJD)



DV Model-Shift Uniqueness Test

011044547-01, P = 0.904914 Days, E = 131.313892 Days

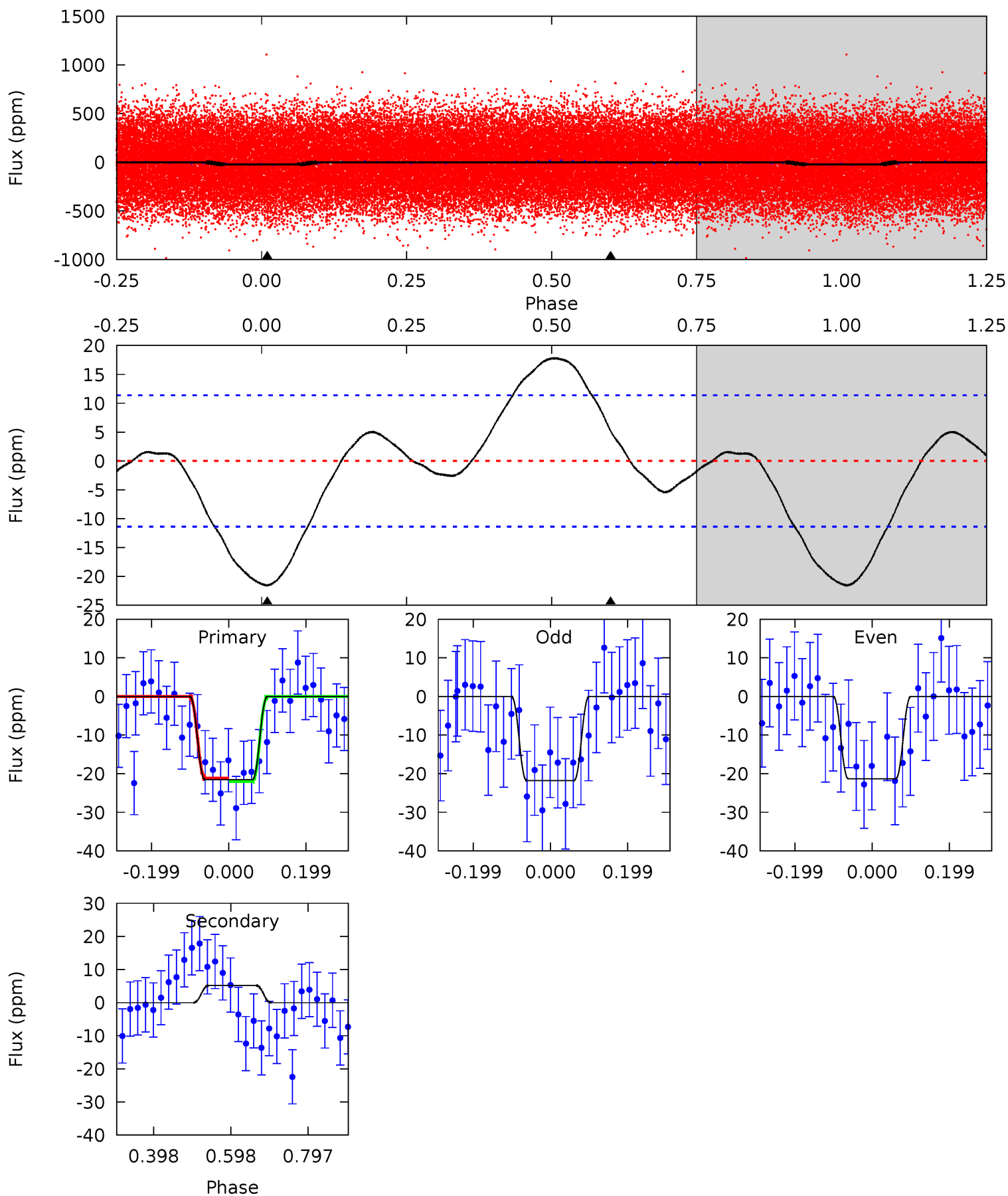
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	-9.29	0	0	4.41	1.25	1.34	14.7	14.7	-9.29	-9.29	0.25	0.98	0.52	1.71



Alt Model-Shift Uniqueness Test

011044547-01, P = 0.904973 Days, E = 131.271814 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.37	-2.02	0	0	4.42	1.28	0.92	8.37	8.37	-2.02	-2.02	0.08	1.15	0.45	0.18



Stellar Parameters For KIC 011044547

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	9143^{+255}_{-475}	$3.893^{+0.312}_{-0.168}$	$0.070^{+0.150}_{-0.700}$	$2.927^{+0.941}_{-1.151}$	$2.441^{+0.336}_{-0.783}$	$0.137^{+0.332}_{-0.067}$
	+3%/-5%	+8%/-4%	+214%/-1000%	+32%/-39%	+14%/-32%	+242%/-49%
Source	KIC0	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 011044547-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	10 ± 1	$1.10^{+0.38}_{-0.34}$	5996^{+524}_{-625}	-8568^{+1039}_{-1841}	$-2.708^{+1.184}_{-2.766}$
Alt.	5 ± 3	$1.51^{+0.43}_{-0.37}$	5973^{+532}_{-620}	-6249^{+710}_{-849}	$-0.706^{+0.398}_{-0.685}$

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 $A_{obs} \gg 1.0$

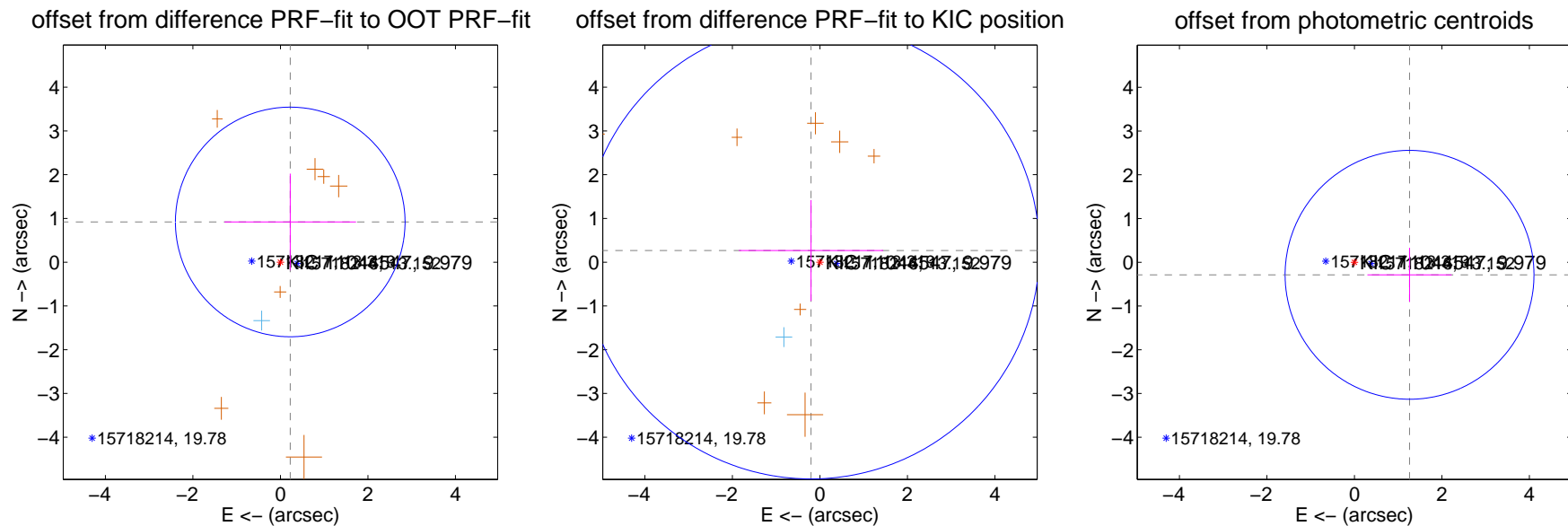
DV Centroid Data

Supplemental centroid analysis for 011044547-01. **Kepler magnitude: 9.98.** Transit SNR 8.49

There are 1 quarters with good PRF difference image offsets

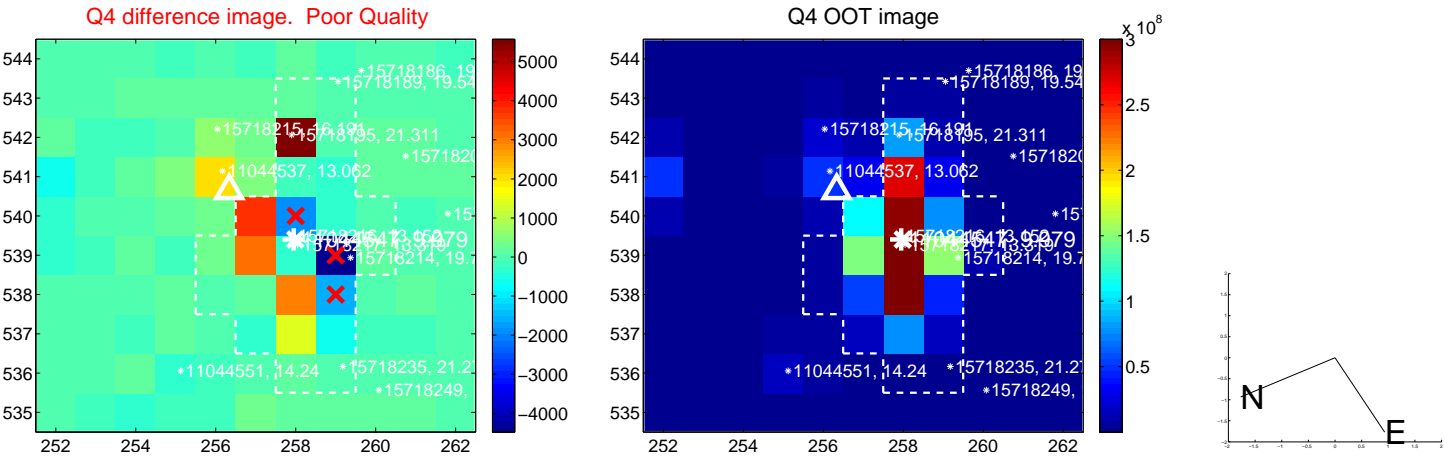
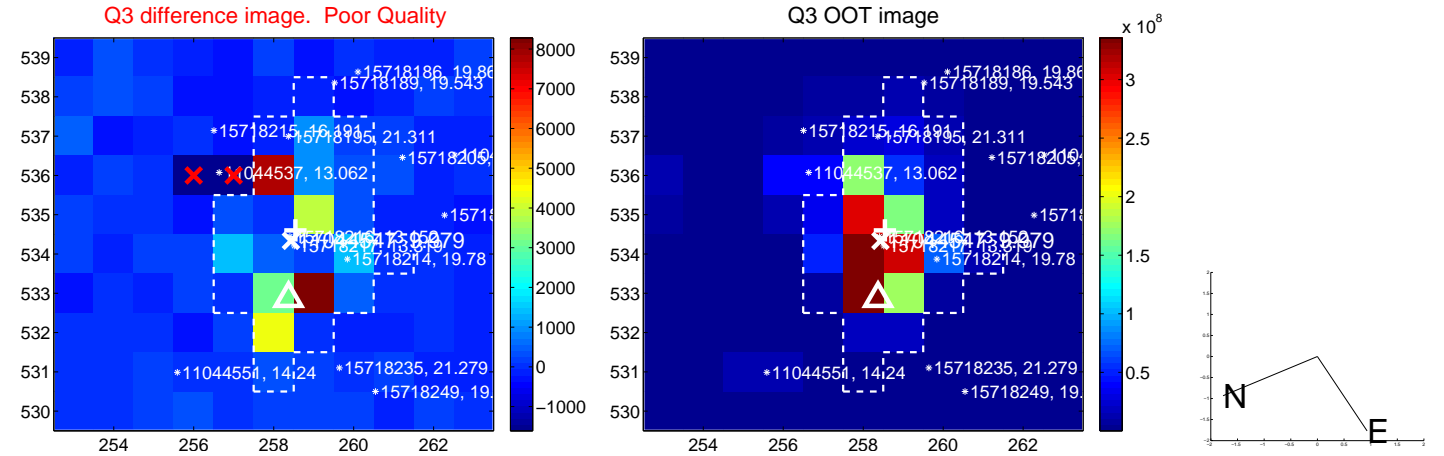
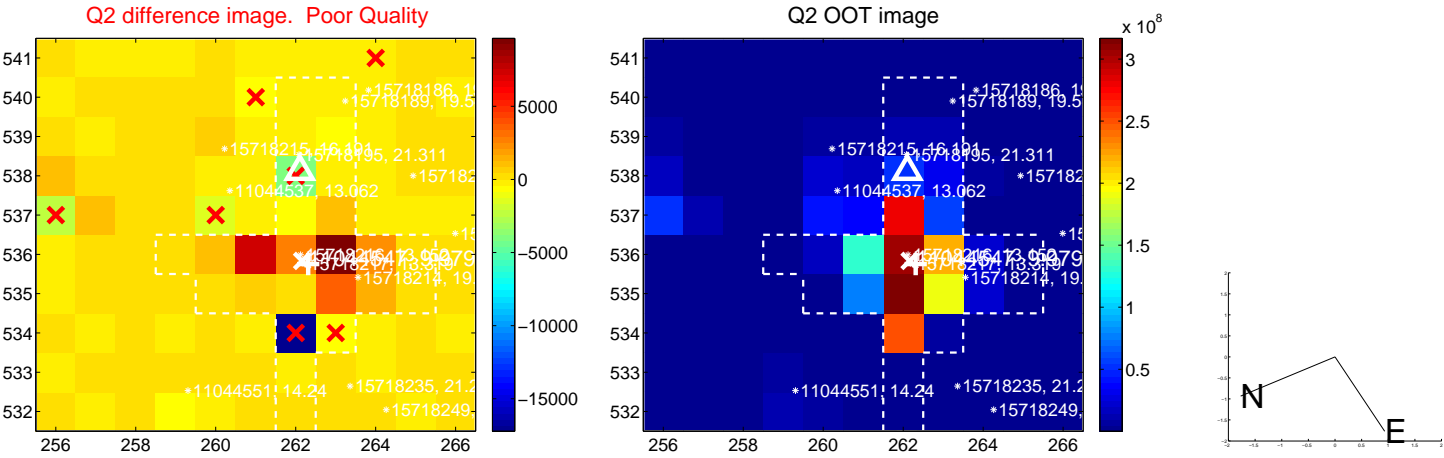
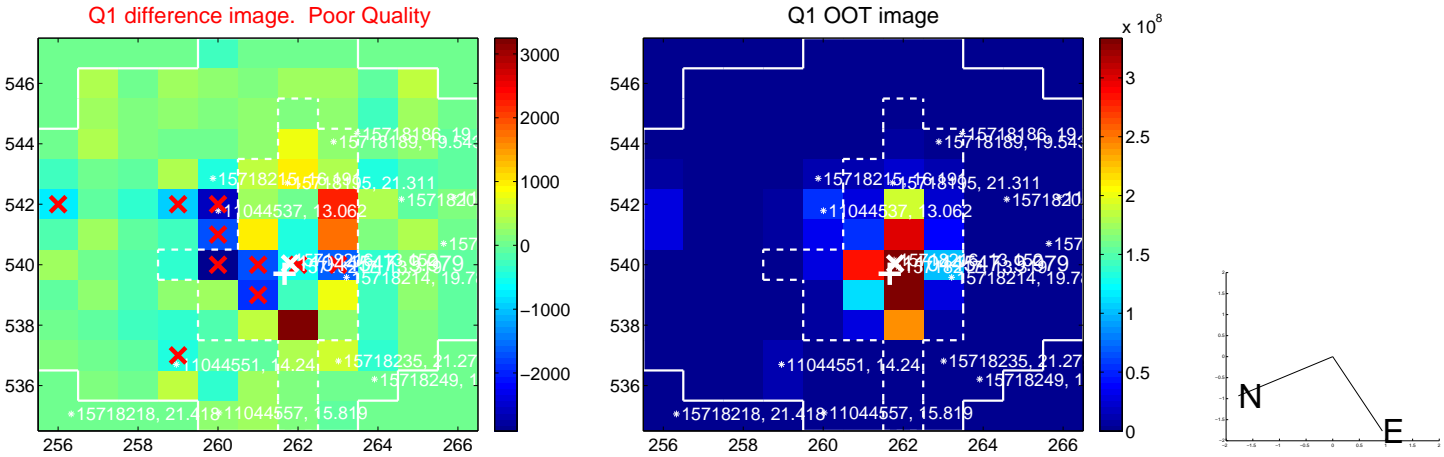
The direct PRF centroid is offset from the target star catalog position by about 1.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.947 ± 0.875	1.08	-0.224 ± 1.505	0.920 ± 1.104
PRF-fit source offset from KIC position	0.336 ± 1.741	0.19	0.203 ± 1.649	0.267 ± 1.153
photometric centroid source offset	1.29 ± 0.95	1.36	-1.26 ± 0.96	-0.29 ± 0.62

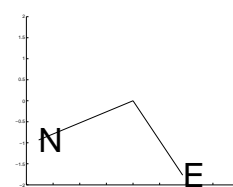
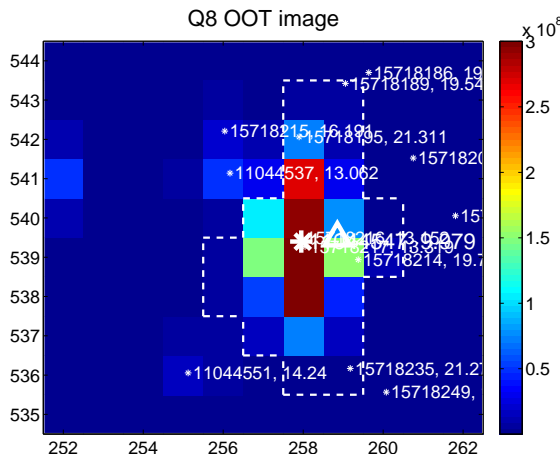
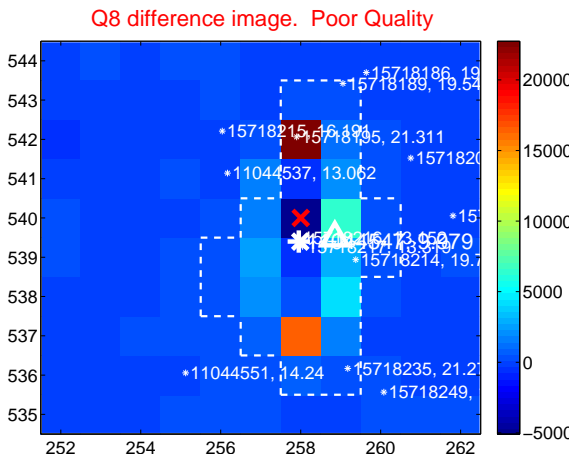
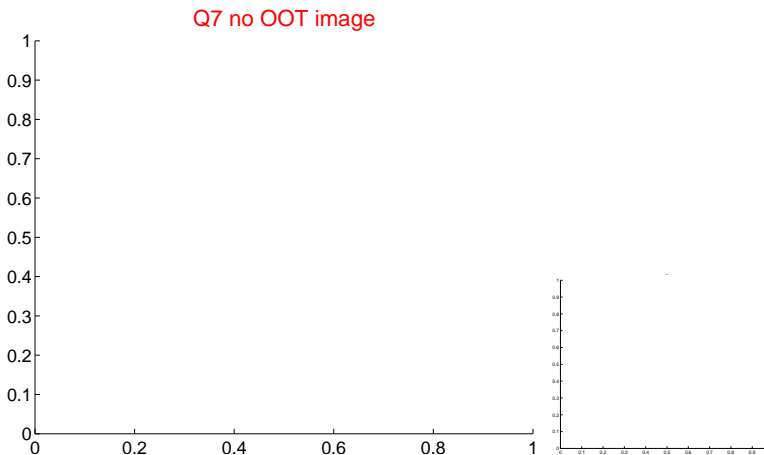
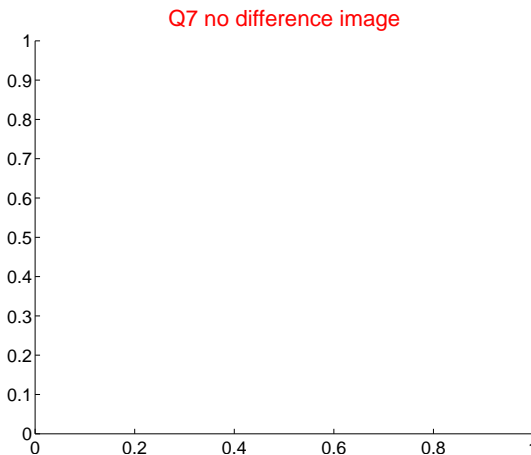
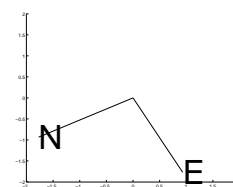
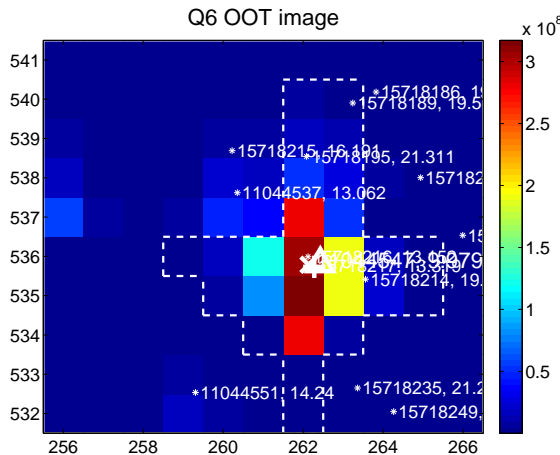
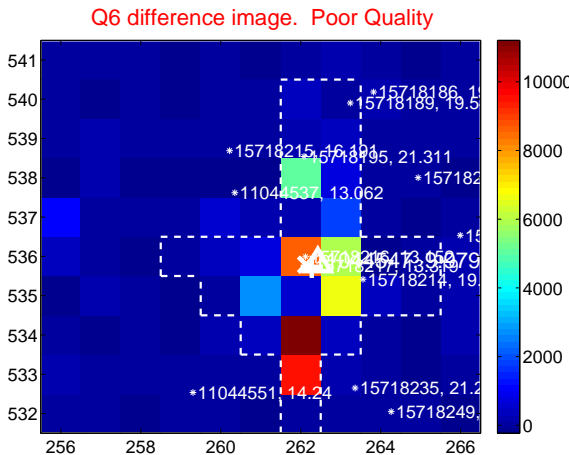
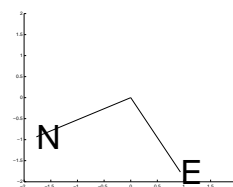
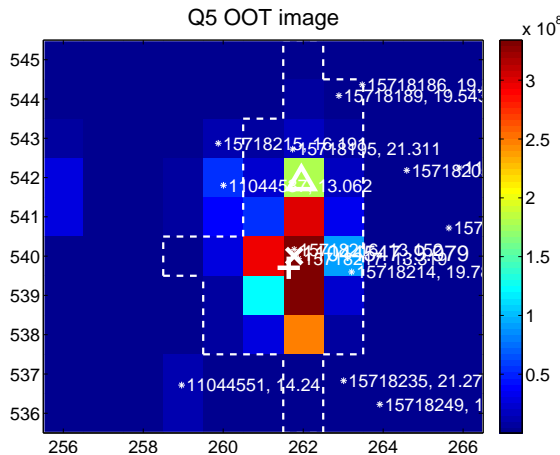
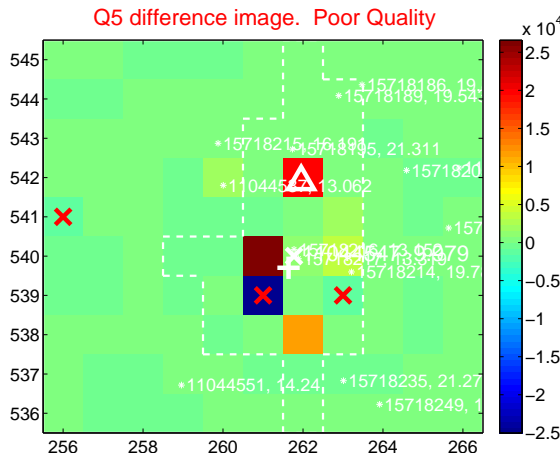


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

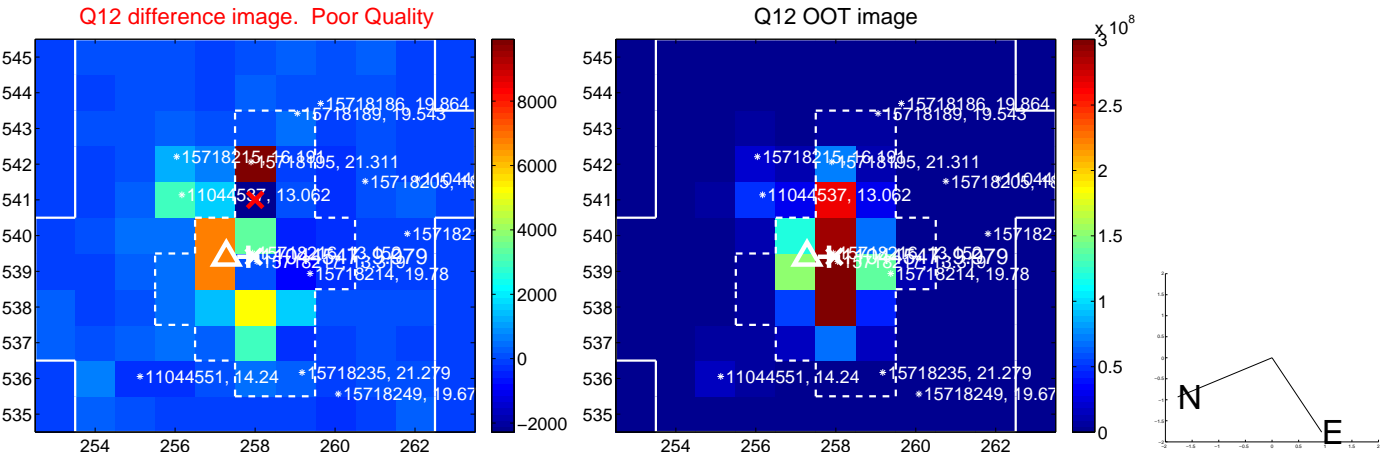
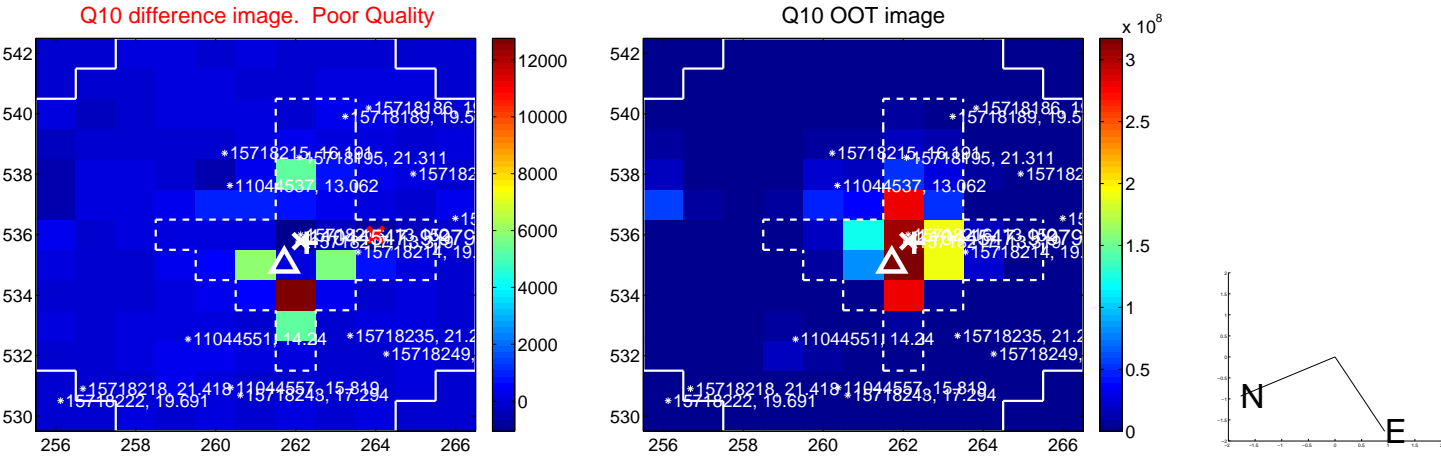
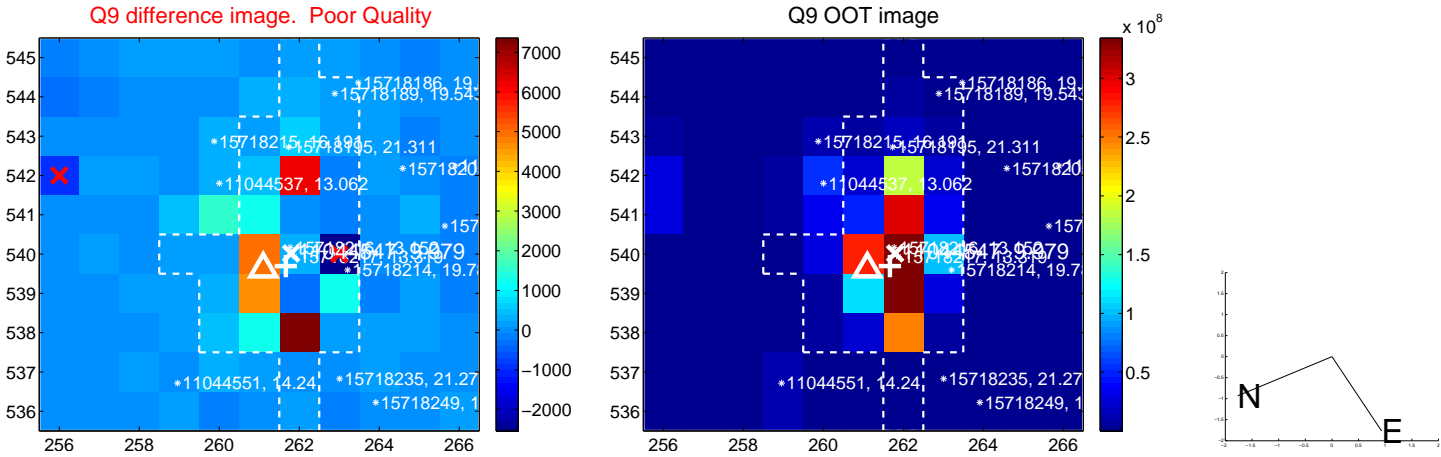
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



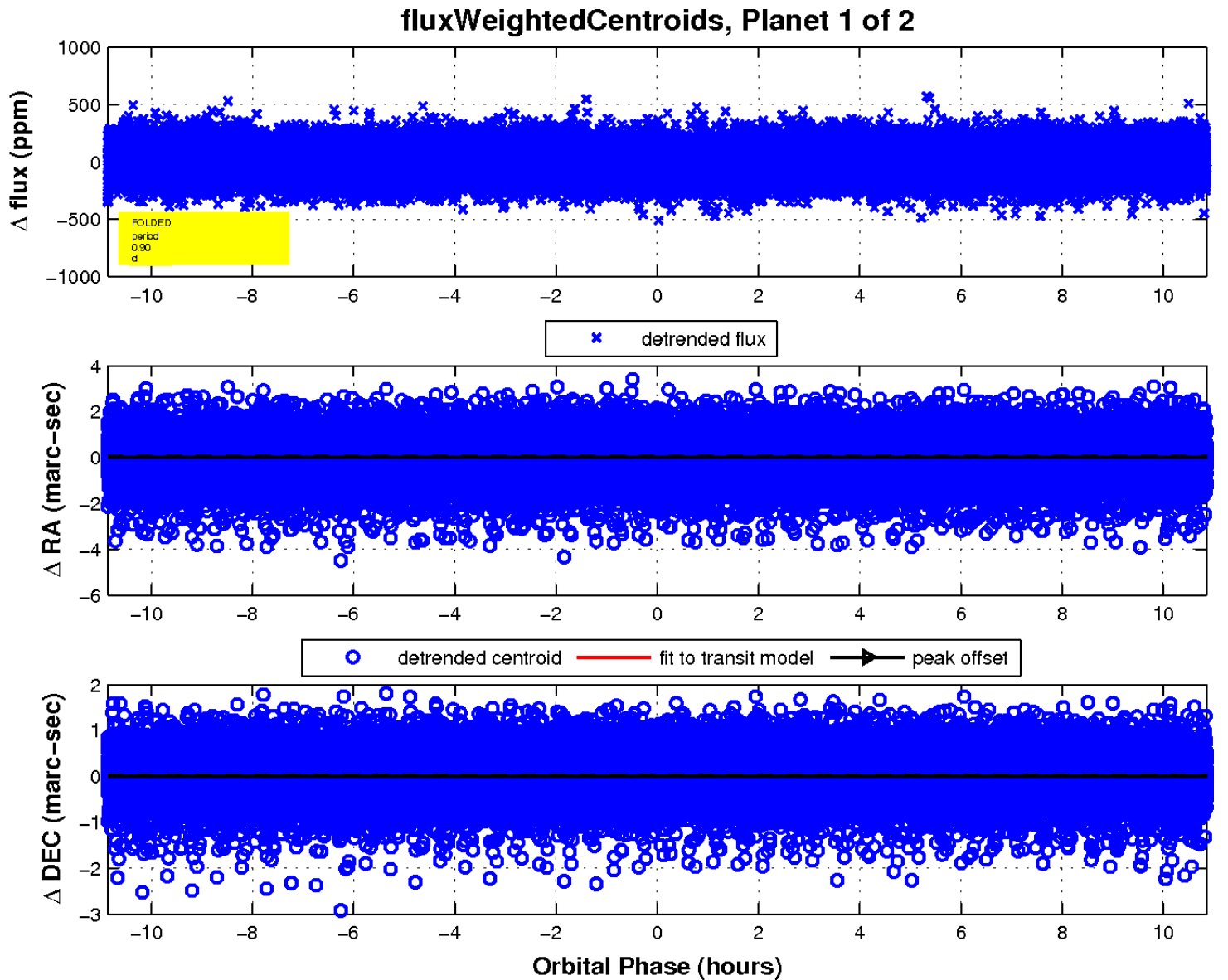
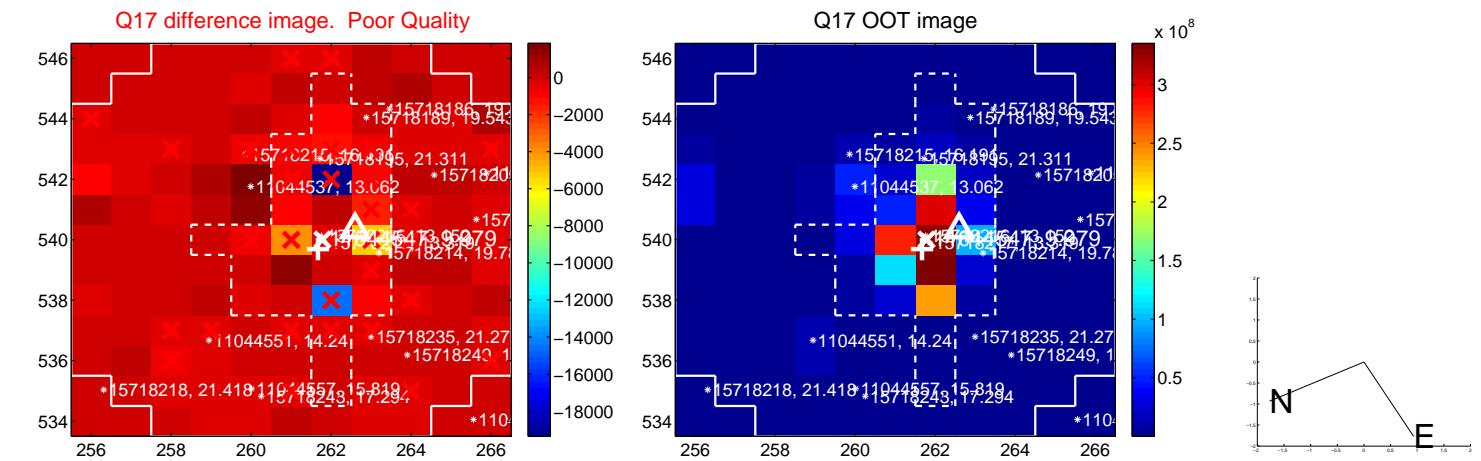
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

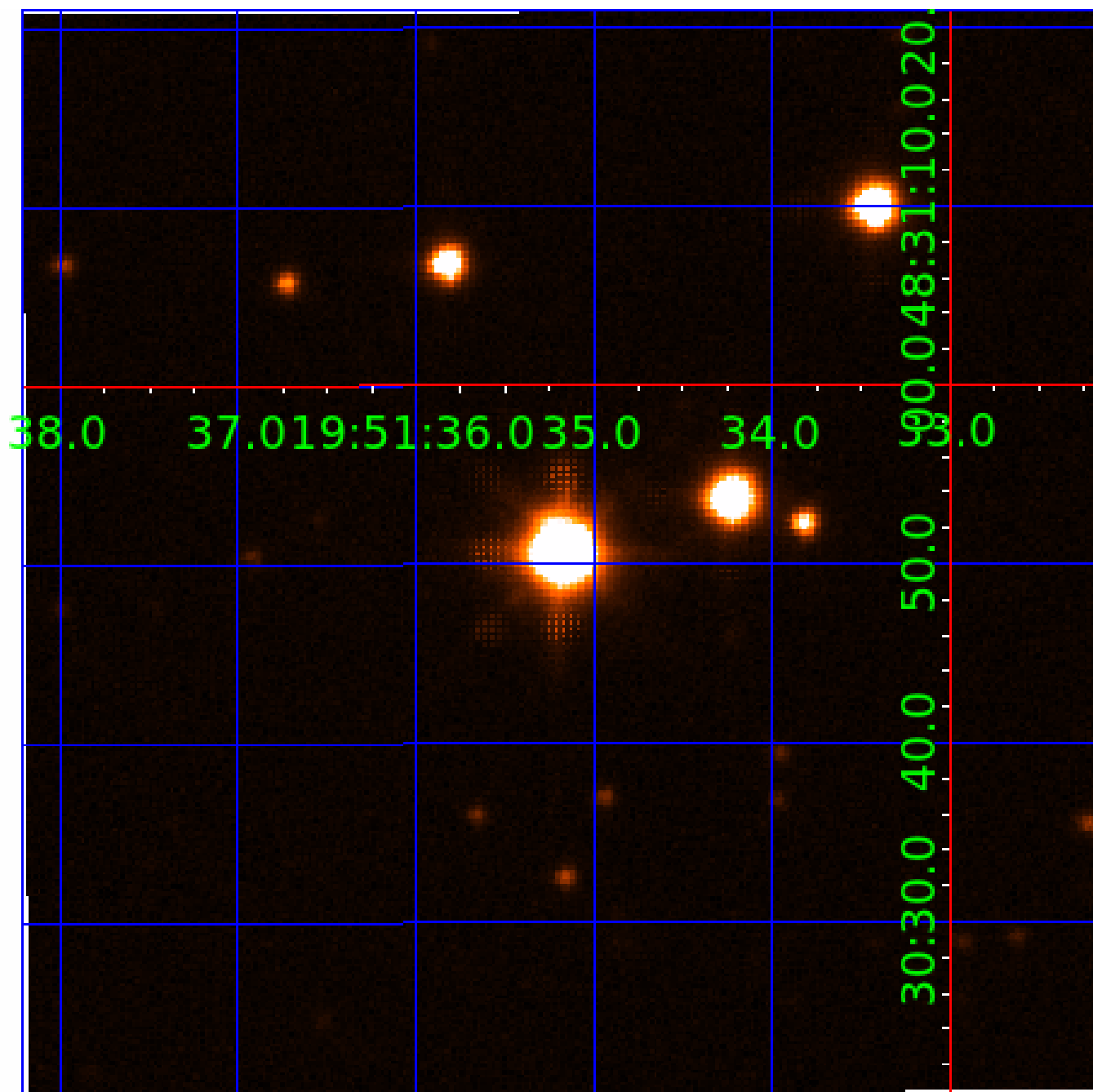


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011044547

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})
011044547-01	OBS	No	0.904914	132.218806	12.7	4.123	9.2	8.5	2.93	9143	1.19	88183.65
011044547-02	OBS	No	1.206499	131.967964	17.5	14.478	9.6	10.2	2.93	9143	1.28	60093.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011044547-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
011044547-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

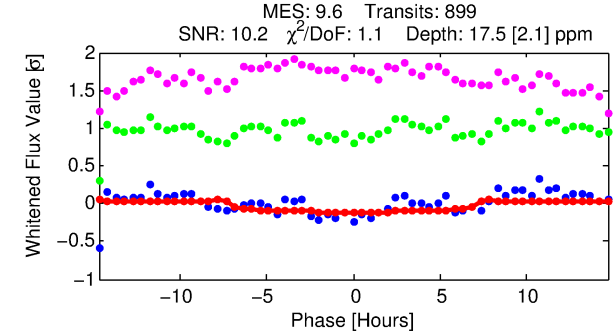
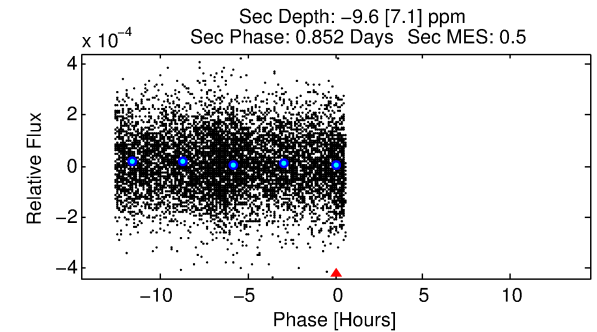
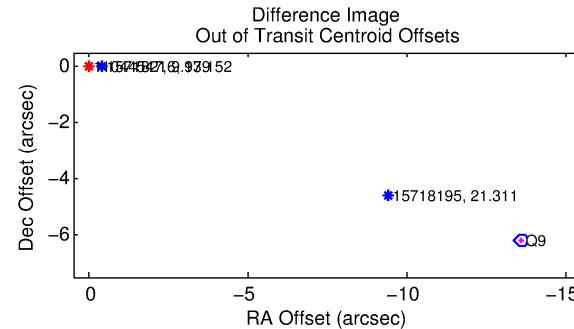
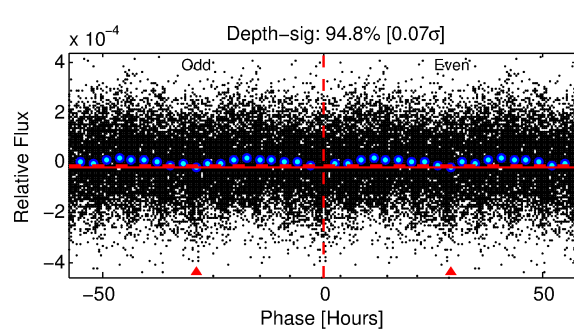
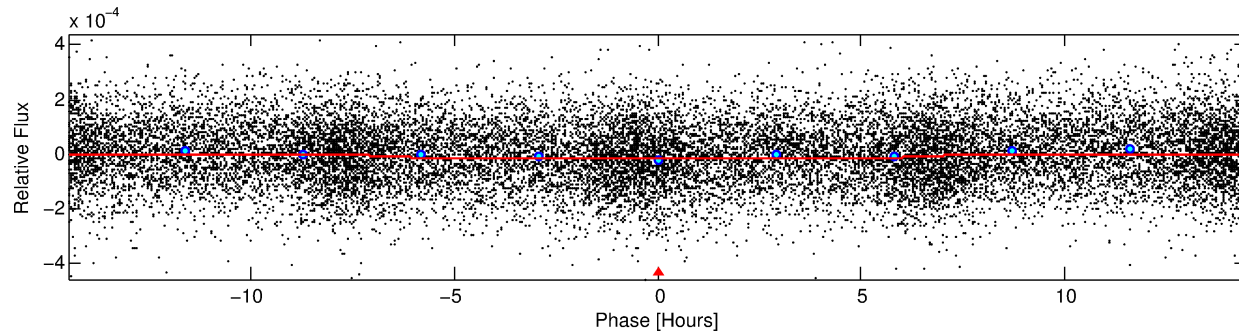
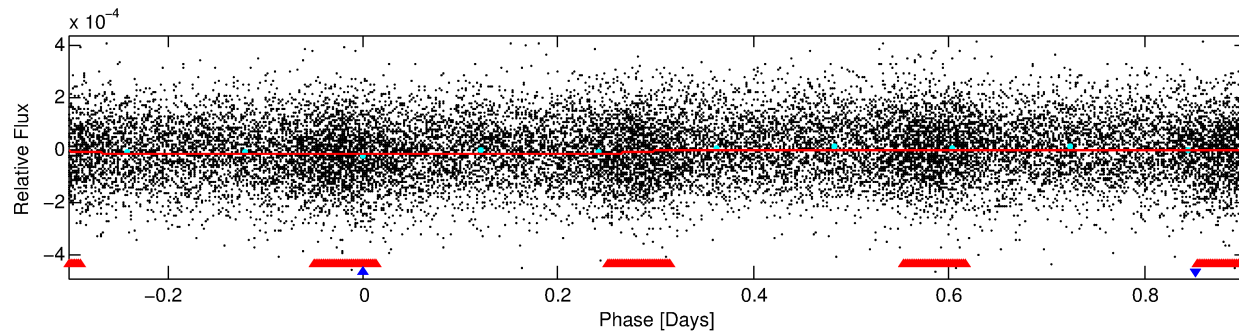
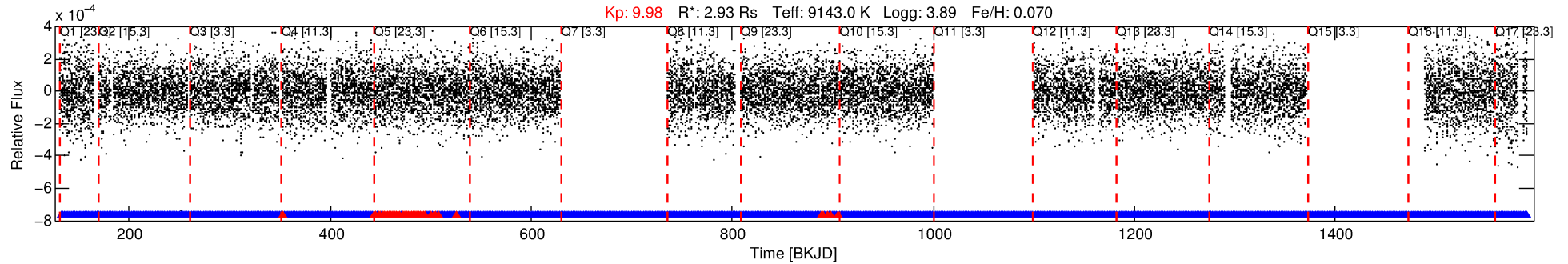
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011044547-02

No Significant Match Found

DV One-Page Summary

KIC: 11044547 Candidate: 2 of 2 Period: 1.206 d



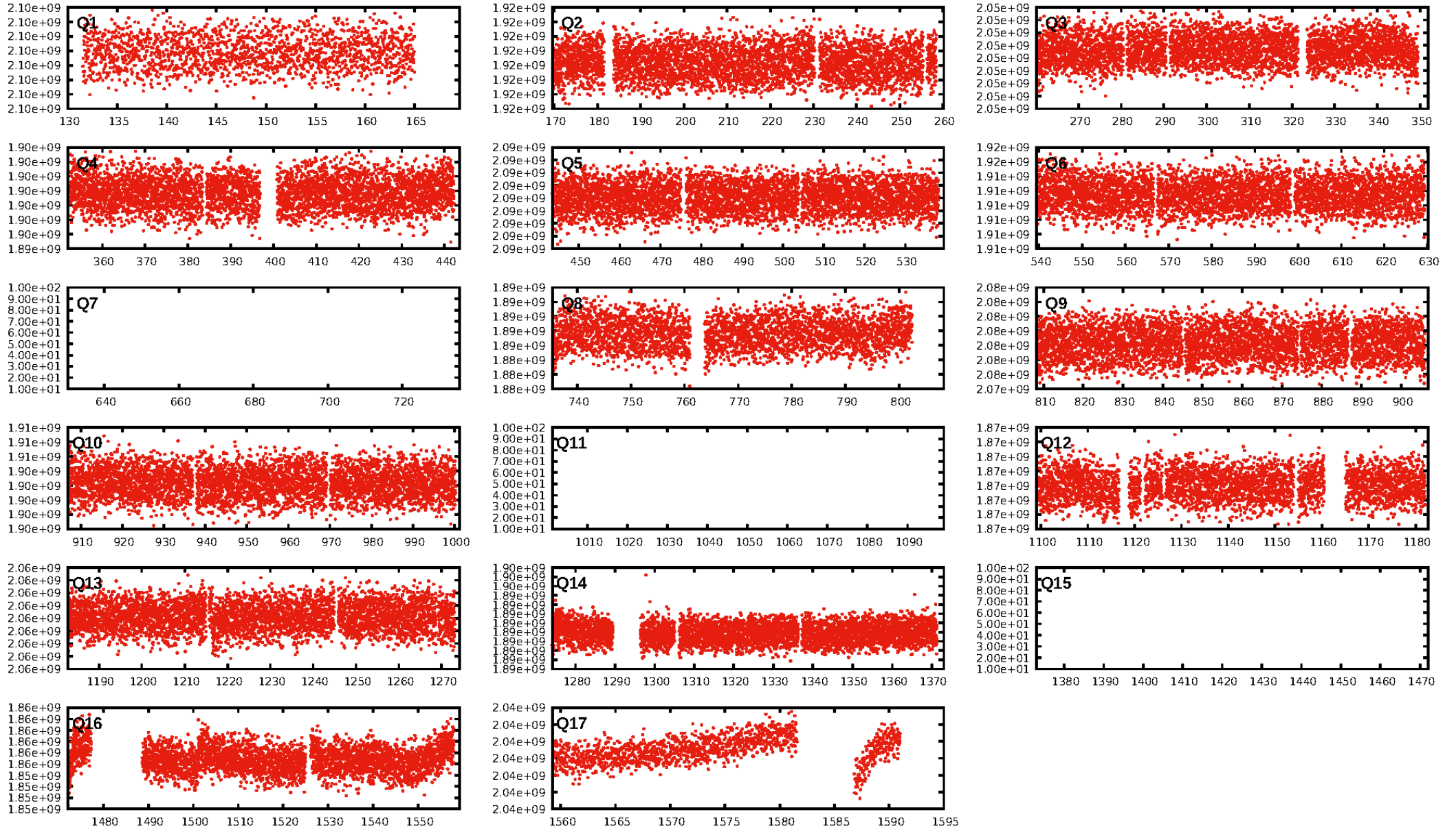
DV Fit Results:

Period = 1.20650 [0.00003] d
Epoch = 131.9680 [0.0103] BKJD
Rp/R* = 0.0040 [0.0015]
a/R* = 1.00 [0.00]
b = 0.50 [3.76]
Seff = 60093.61 [35106.82]
Teff = 3992 [583] K
Rp = 1.28 [0.69] Re
a = 0.0299 [0.0106] AU
Ag = N/A
Teffp = N/A

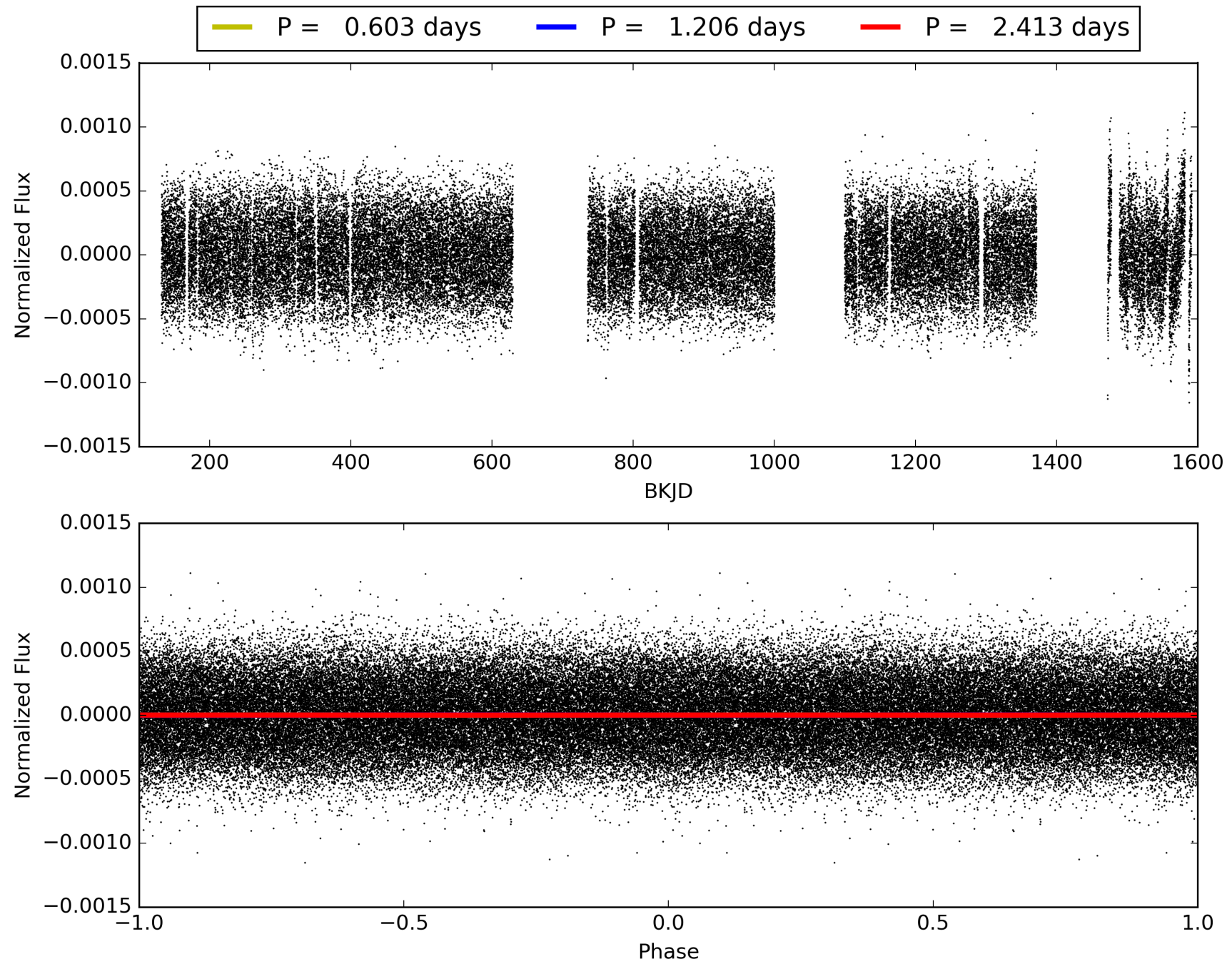
DV Diagnostic Results:

ShortPeriod-sig: 36.9% [0.48σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [798/848]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.277 arcsec [2.85σ]
OotOffset-rm: 14.942 arcsec [213.33σ]
KicOffset-rm: 13.709 arcsec [195.76σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 011044547-02, PDC Light Curves

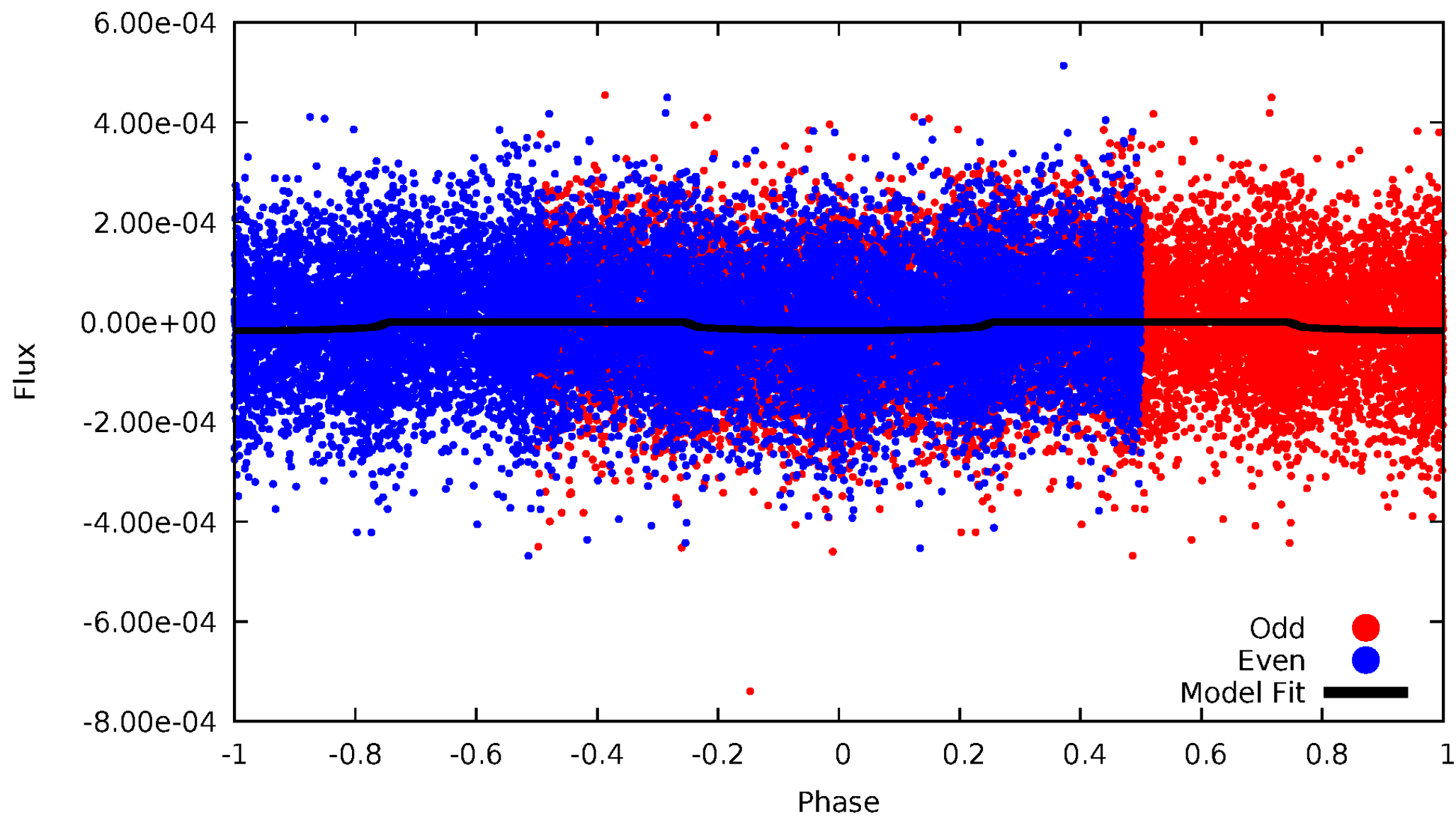


TCE 011044547-02



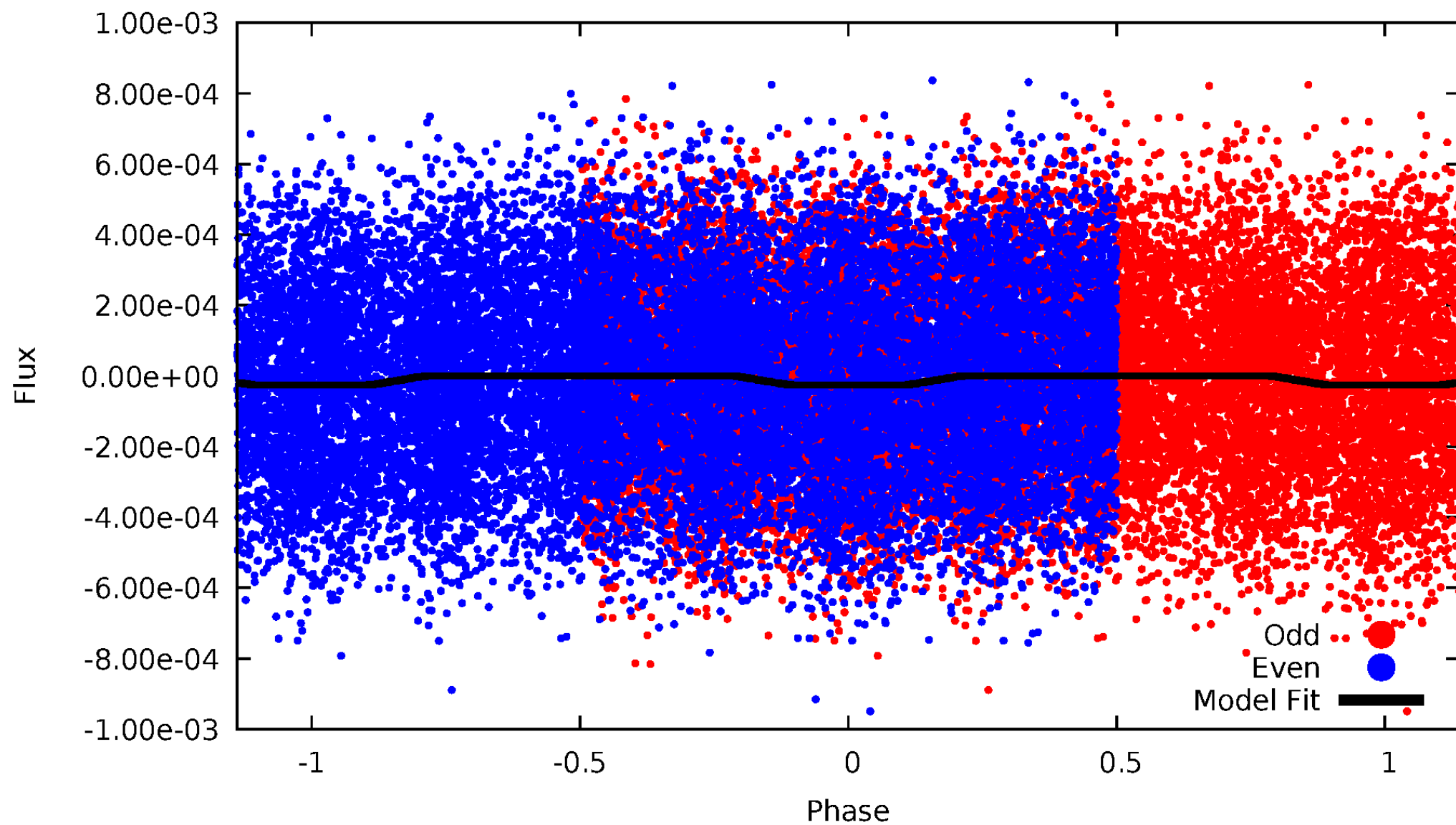
DV Odd/Even

TCE 011044547-02



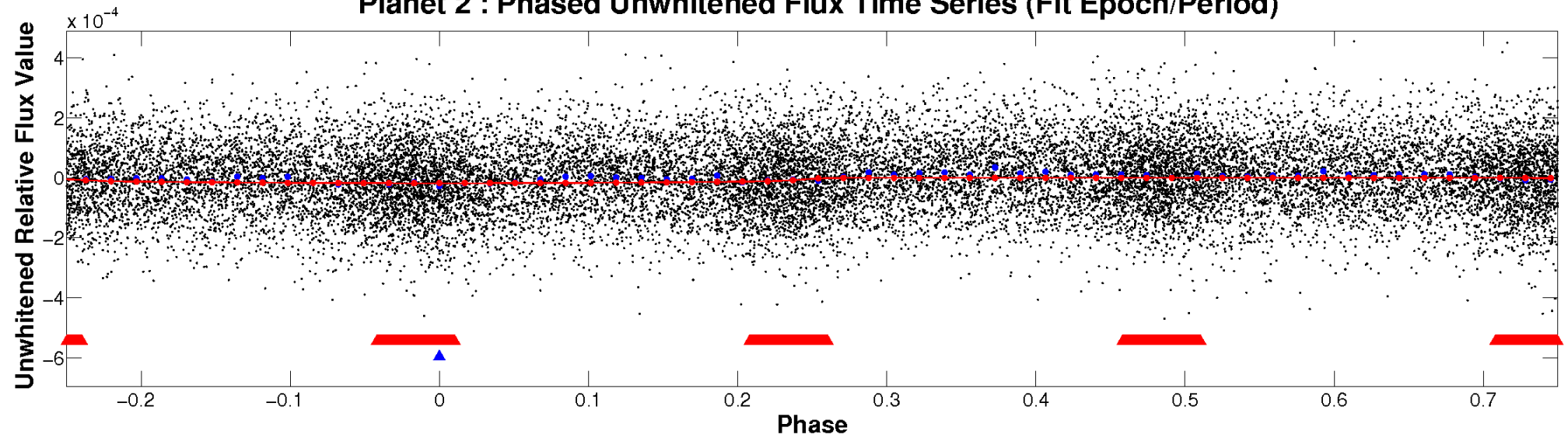
ALT Odd/Even

TCE 011044547-02

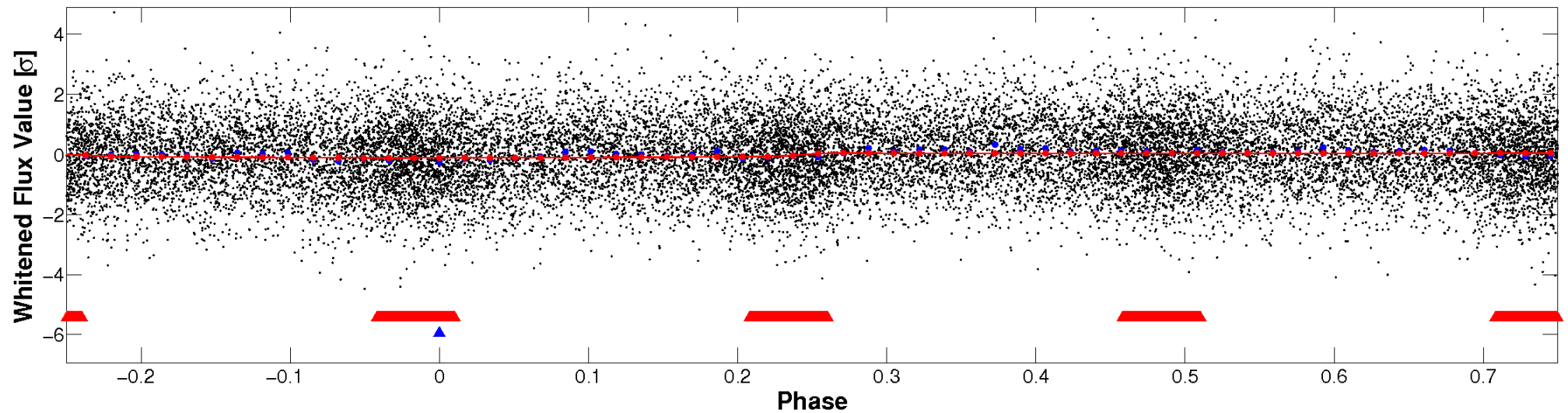


Non-Whitened Vs. Whitened Light Curve

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

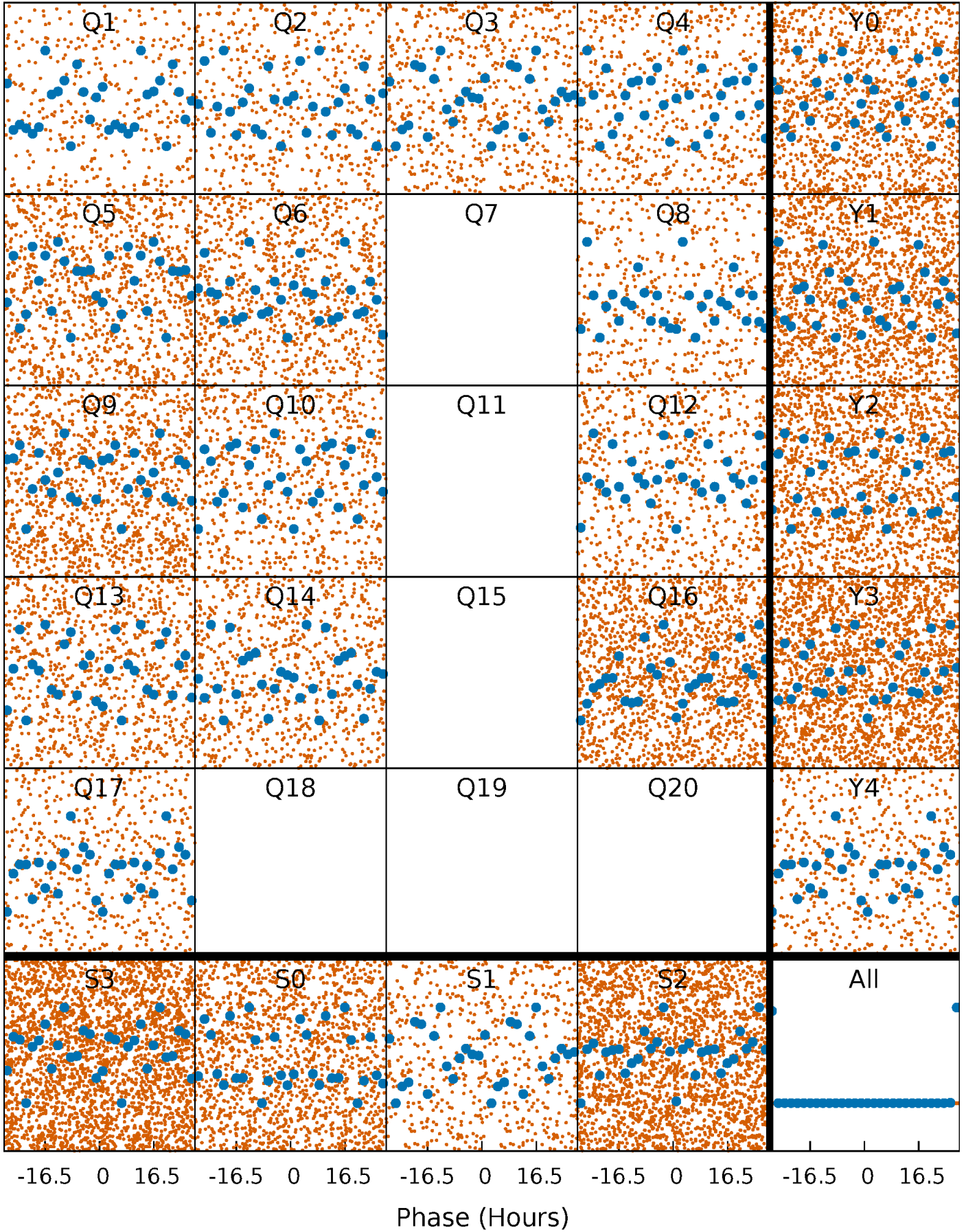


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



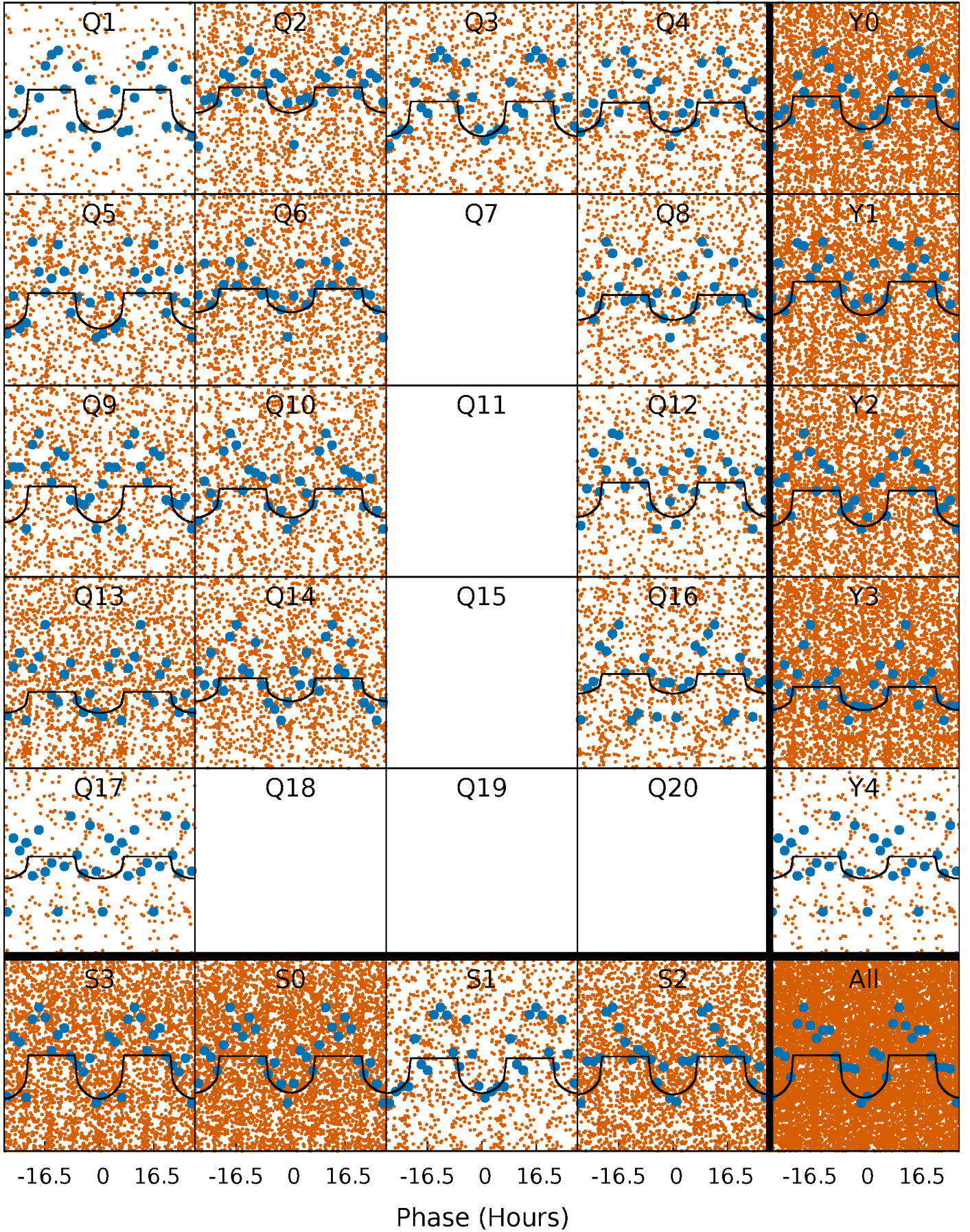
PDC Quarter-Phased Transit Curves

TCE 011044547-02 P= 1.206499 Days $T_0=131.967964$ (BKJD)



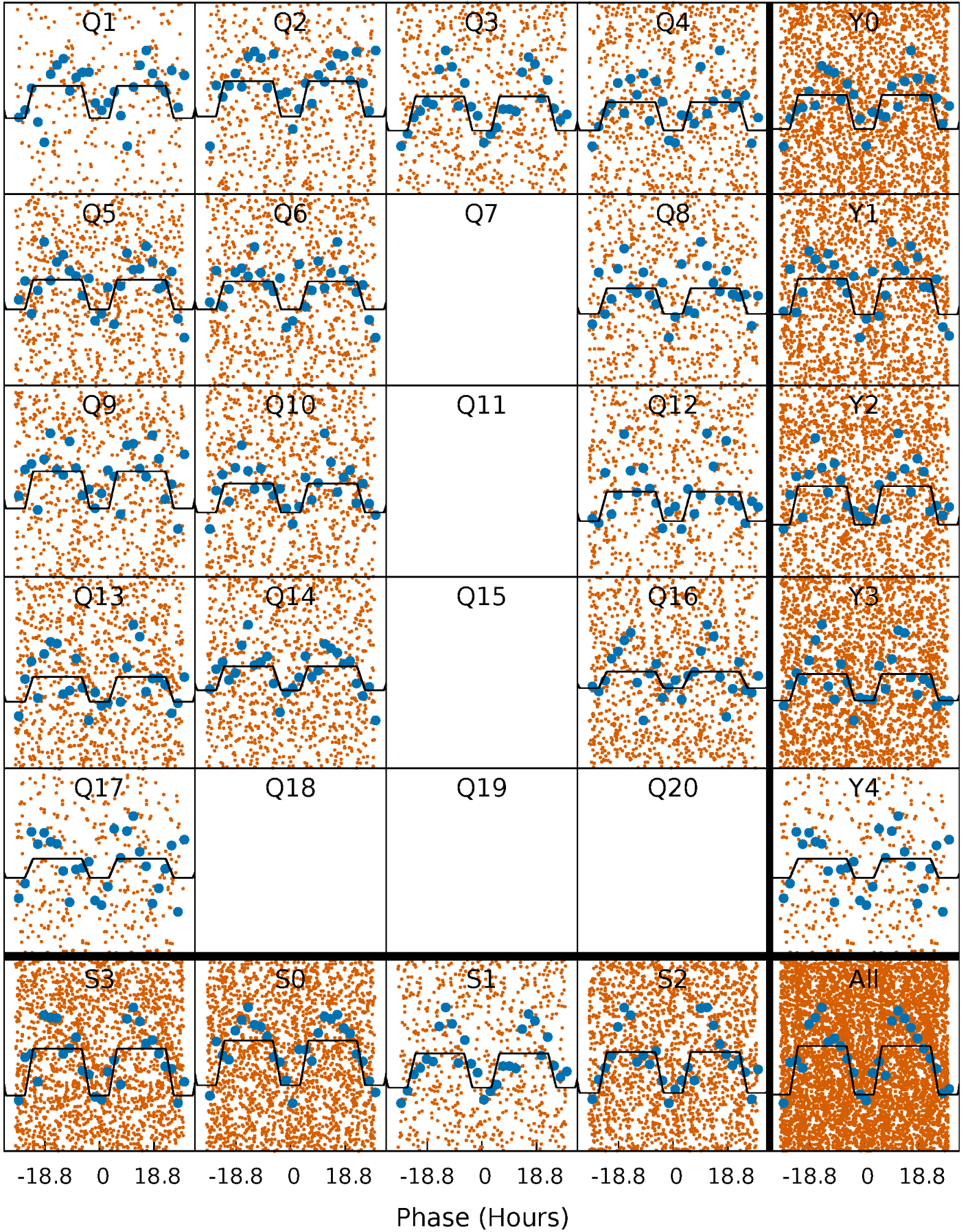
DV Quarter-Phased Transit Curves

TCE 011044547-02 P= 1.206499 Days $T_0=131.967964$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

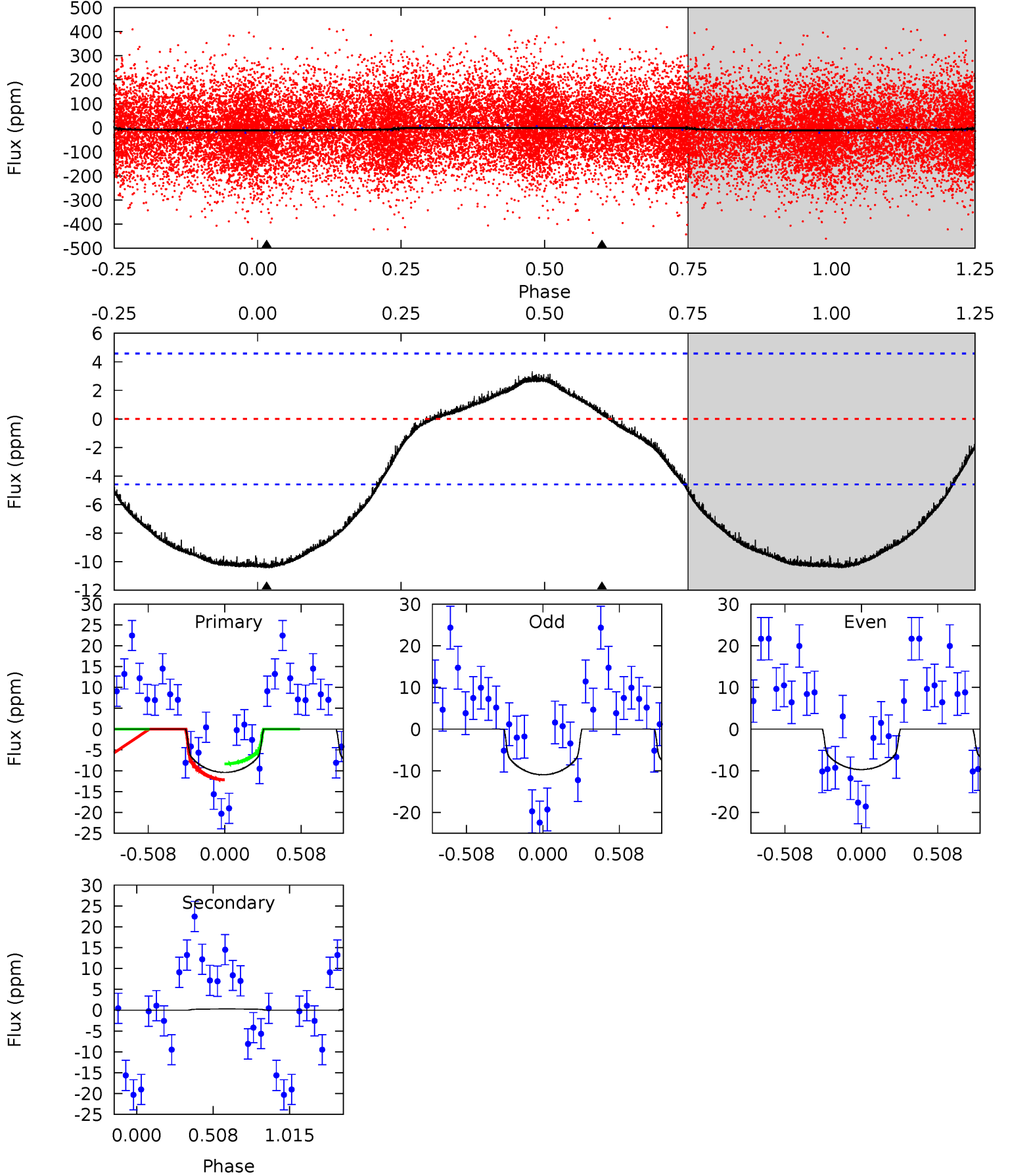
TCE 011044547-02 P= 1.206424 Days $T_0=131.978121$ (BKJD)



DV Model-Shift Uniqueness Test

011044547-02, P = 1.206499 Days, E = 130.761465 Days

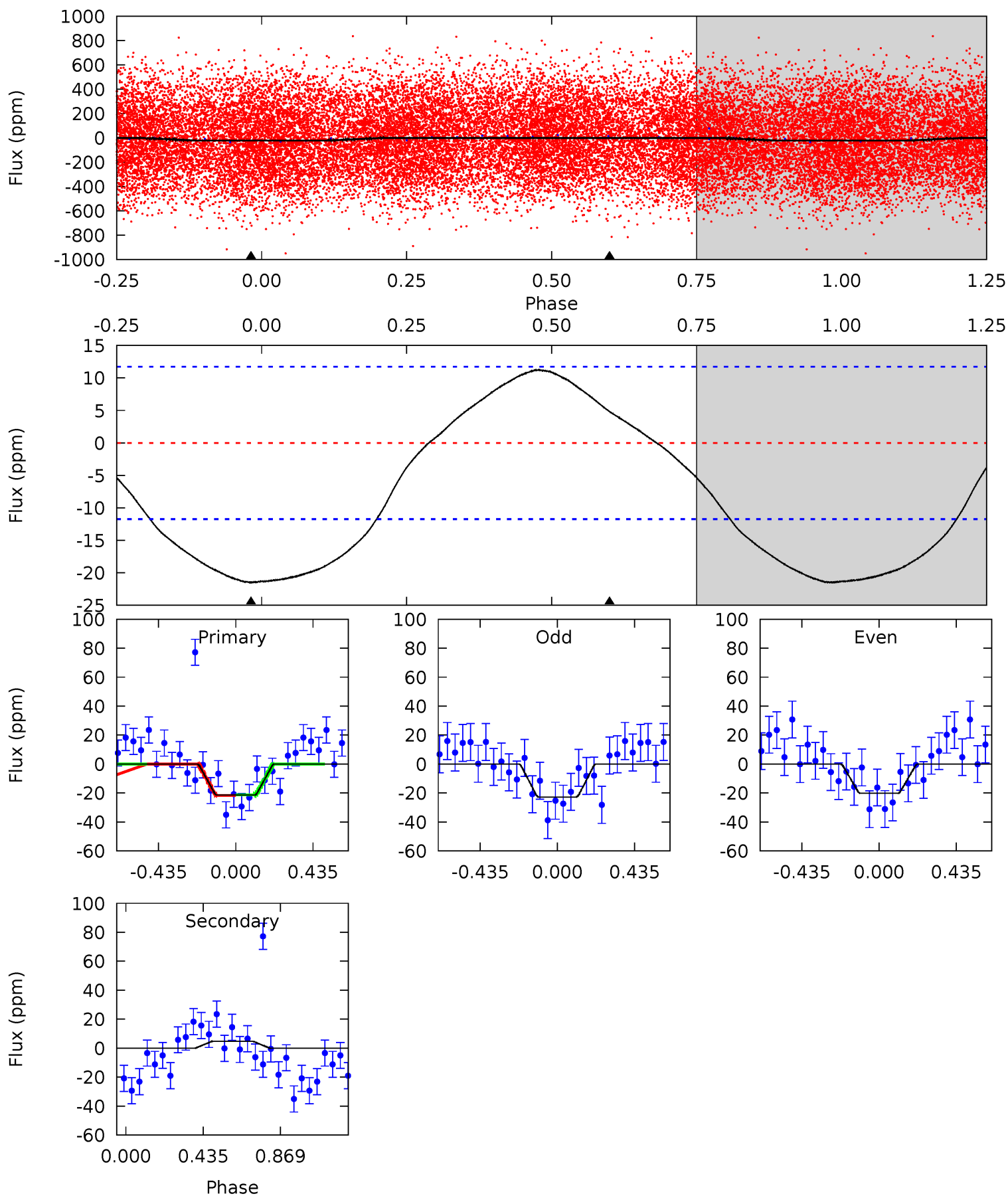
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.56	-0.27	0	0	4.21	0.66	0.69	9.56	9.56	-0.27	-0.27	0.57	0.49	0.24	1.72



Alt Model-Shift Uniqueness Test

011044547-02, P = 1.206424 Days, E = 130.771697 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	-1.74	0	0	4.25	0.78	0.82	7.77	7.77	-1.74	-1.74	0.46	-0.03	0.34	0.08



Stellar Parameters For KIC 011044547

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9143^{+255}_{-475}	$3.893^{+0.312}_{-0.168}$	$0.070^{+0.150}_{-0.700}$	$2.927^{+0.941}_{-1.151}$	$2.441^{+0.336}_{-0.783}$	$0.137^{+0.332}_{-0.067}$
	+3%/-5%	+8%/-4%	+214%/-1000%	+32%/-39%	+14%/-32%	+242%/-49%
Source	KIC0	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 011044547-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1	$1.18^{+0.54}_{-0.46}$	5461^{+480}_{-559}	-4676^{+7549}_{-775}	$-0.076^{+0.394}_{-0.466}$
Alt.	5 ± 3	$1.48^{+0.59}_{-0.47}$	5428^{+485}_{-534}	-6053^{+899}_{-1289}	$-0.993^{+0.671}_{-1.534}$

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 $A_{obs} \gg 1.0$

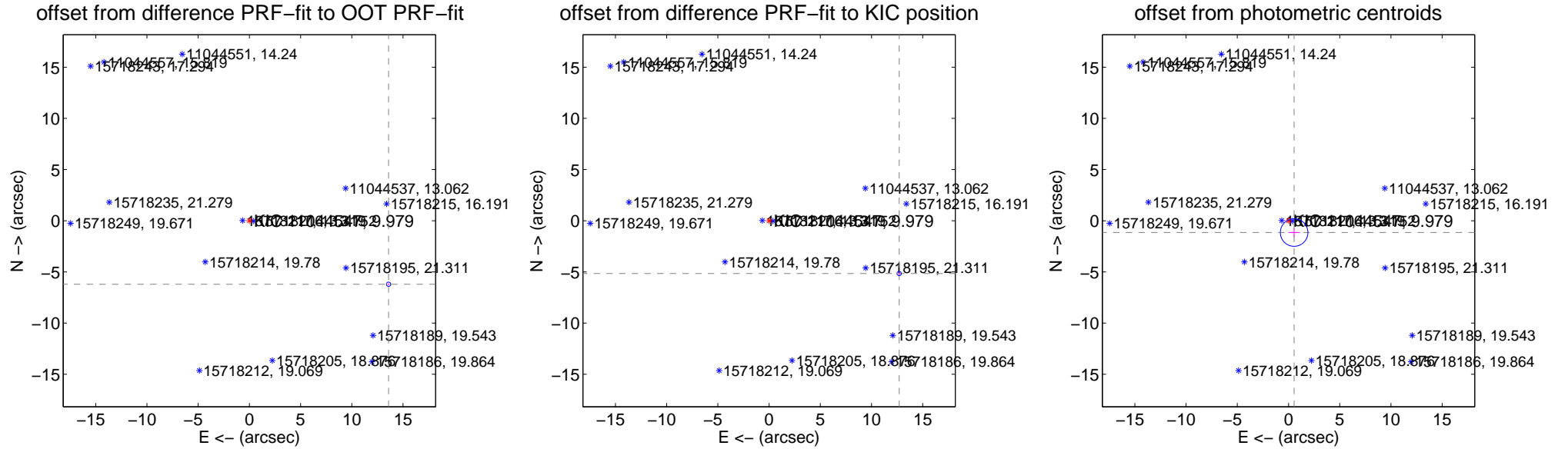
DV Centroid Data

Supplemental centroid analysis for 011044547-02. **Kepler magnitude: 9.98.** Transit SNR 10.21

There are 0 quarters with good PRF difference image offsets

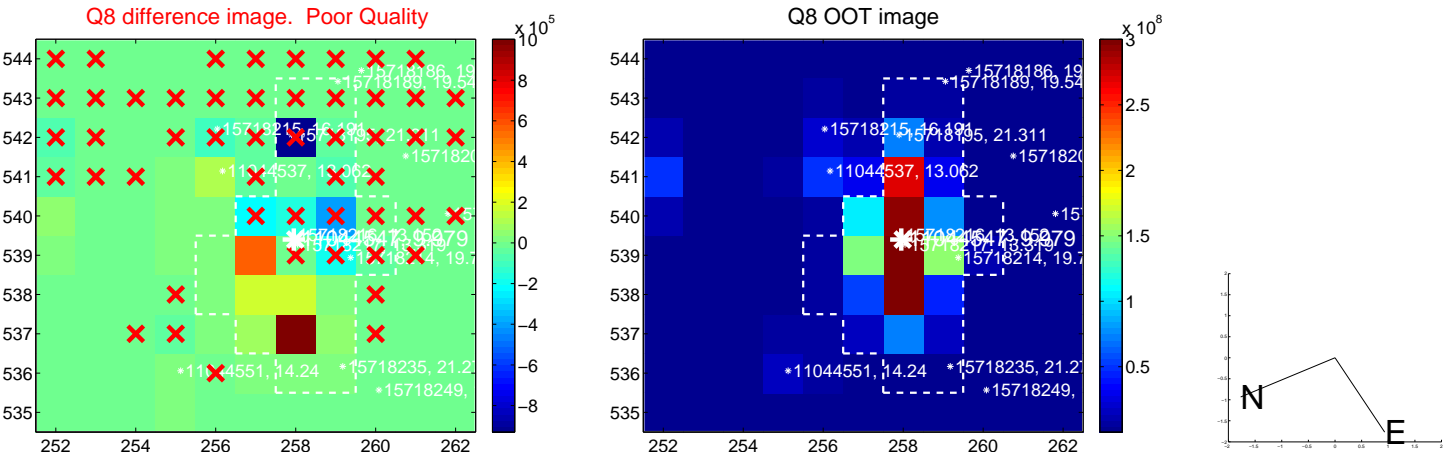
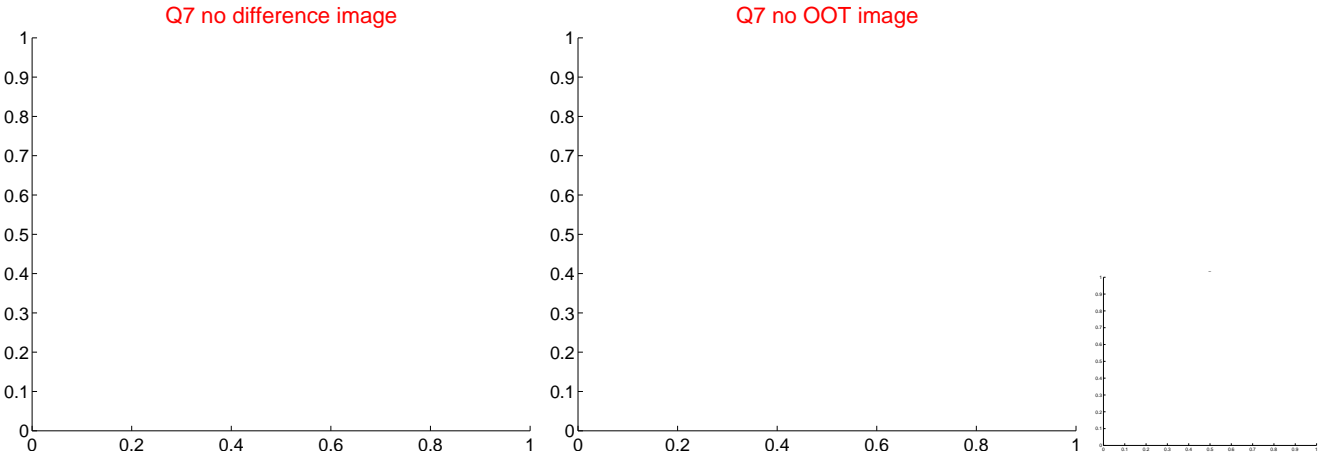
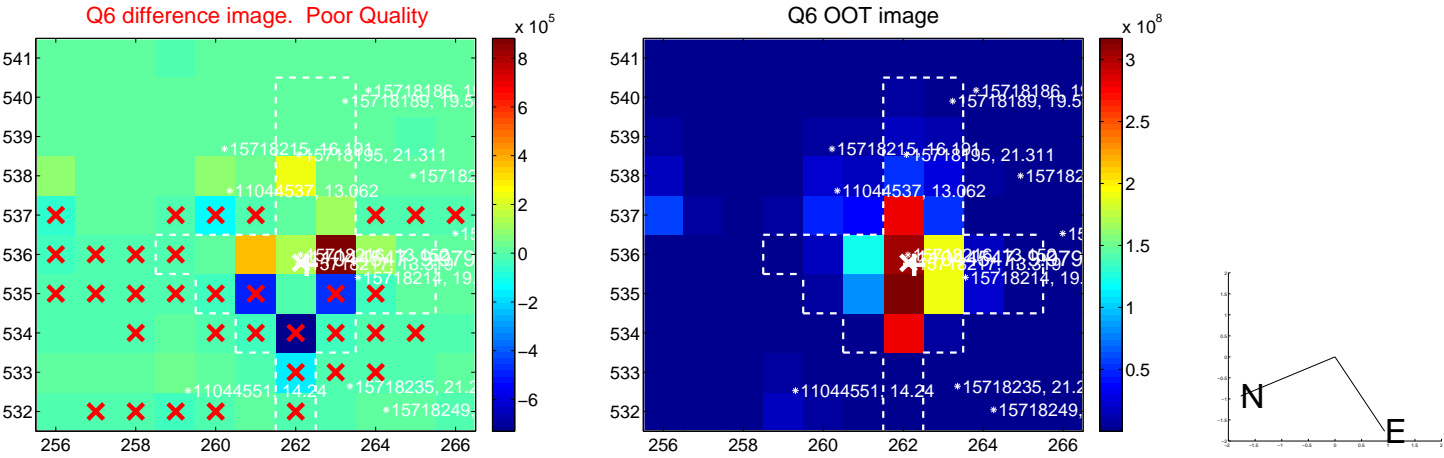
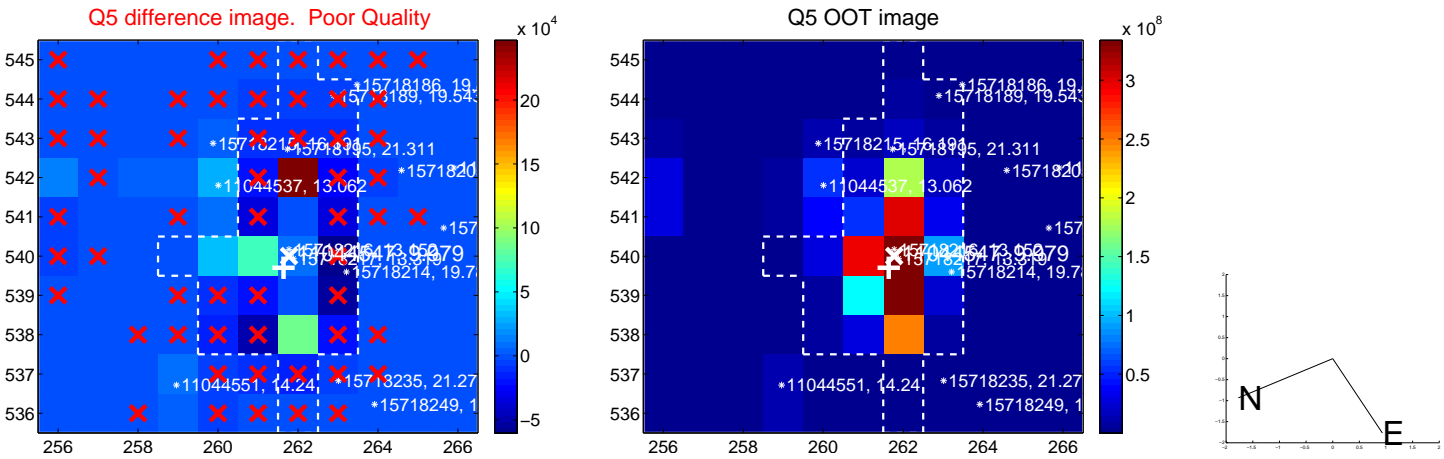
The direct PRF centroid is offset from the target star catalog position by about 1.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	14.942 \pm 0.070	213.33	-13.592 \pm 0.070	-6.206 \pm 0.070
PRF-fit source offset from KIC position	13.709 \pm 0.070	195.76	-12.702 \pm 0.070	-5.158 \pm 0.070
photometric centroid source offset	1.28 \pm 0.45	2.85	-0.55 \pm 0.57	-1.15 \pm 0.42

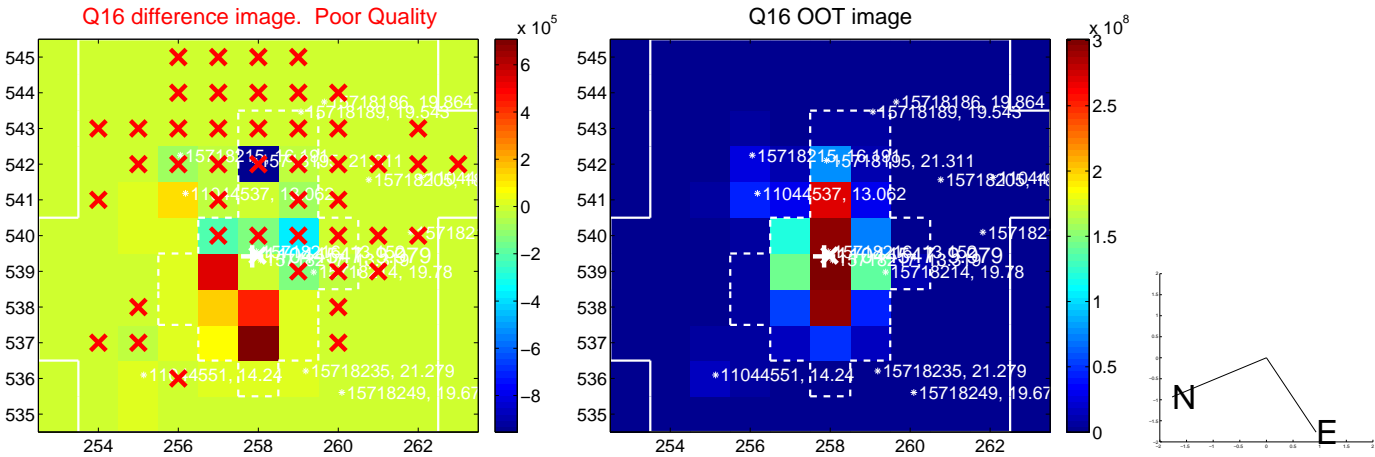
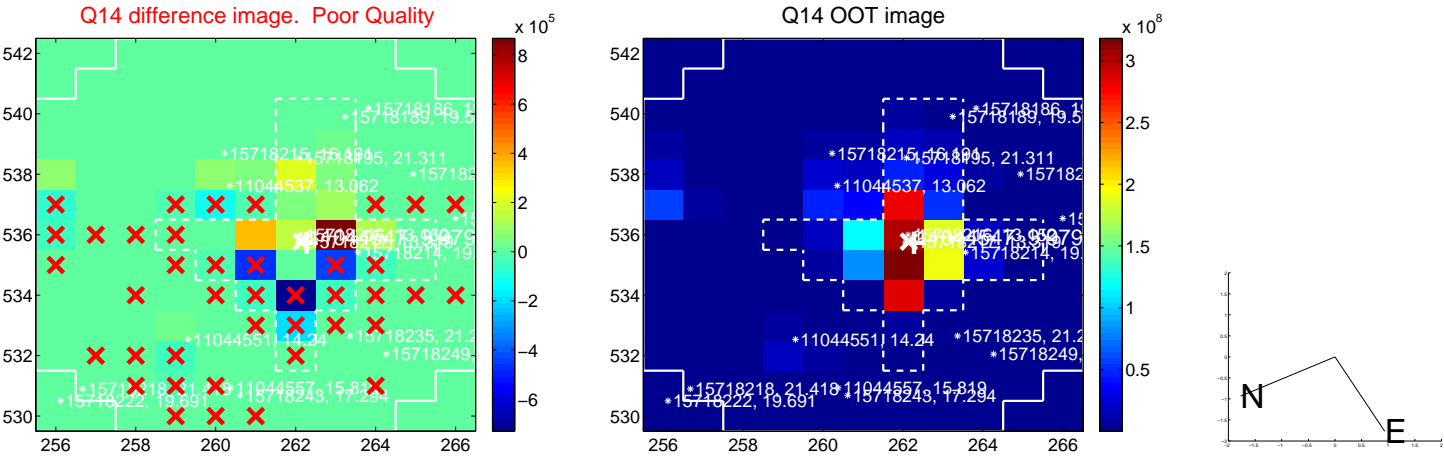
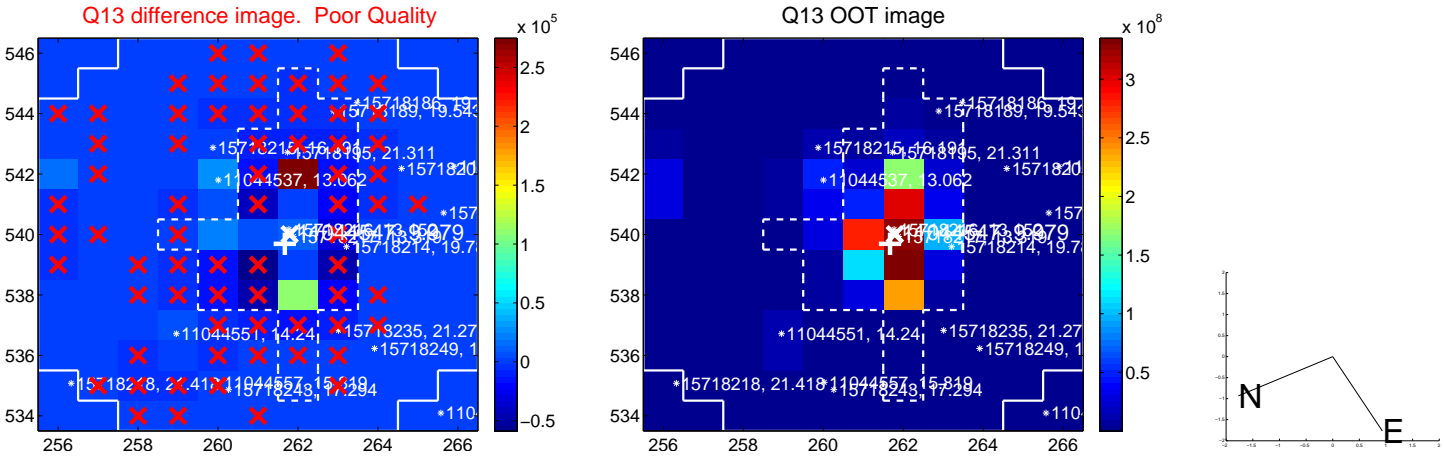


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

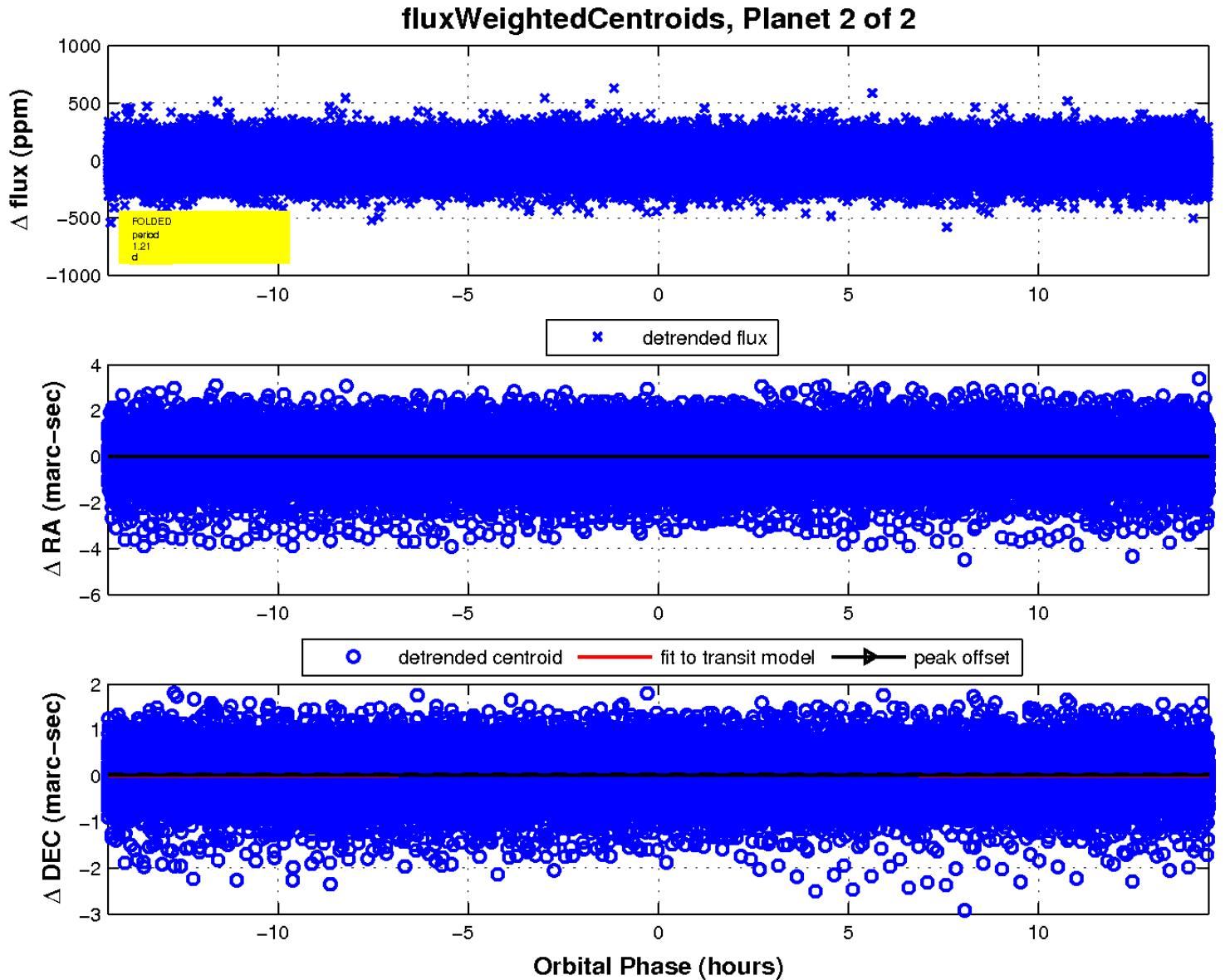
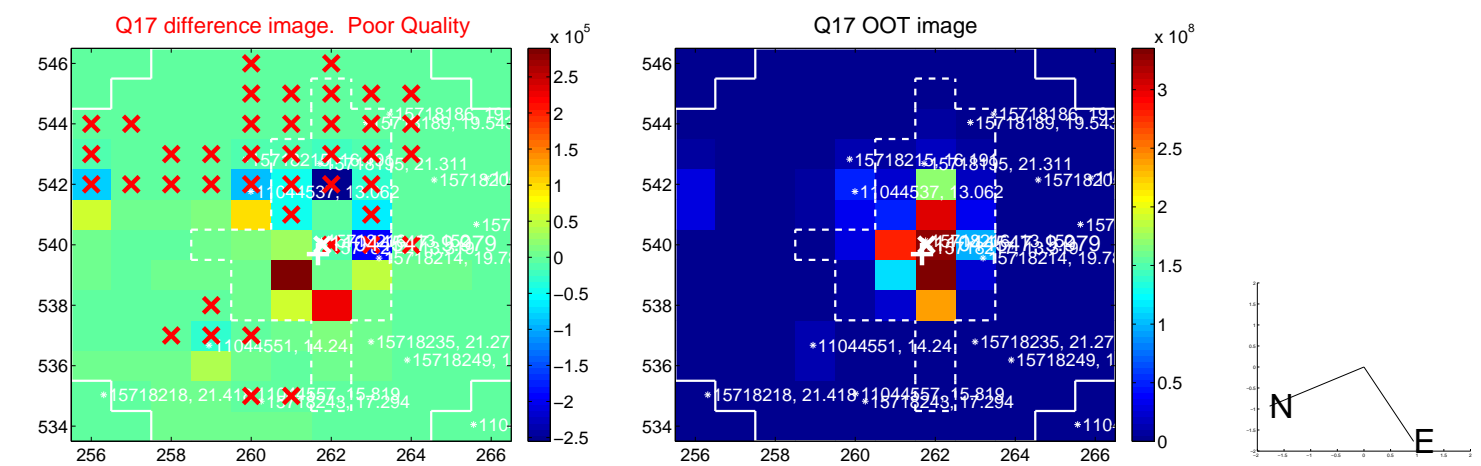
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

