

KIC 006750902

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})
006750902-01	OBS	3980.01	0.938662	131.736548	254.6	0.920	17.4	27.9	1.01	5888	1.92	3288.97
006750902-02	OBS	No	0.938667	132.206876	363.5	0.665	24.8	35.9	1.01	5888	1.98	3288.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006750902-01	OBS	PC	1.00	0	0	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE
006750902-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

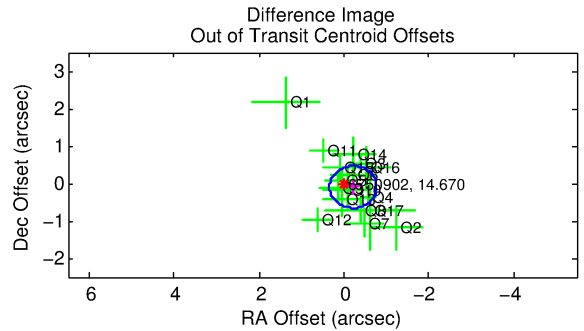
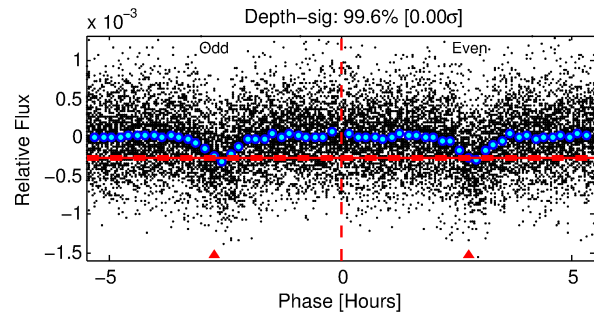
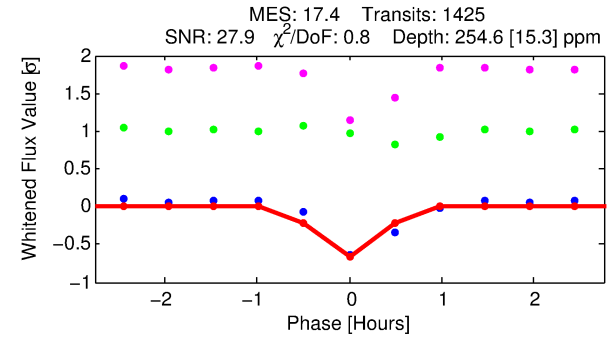
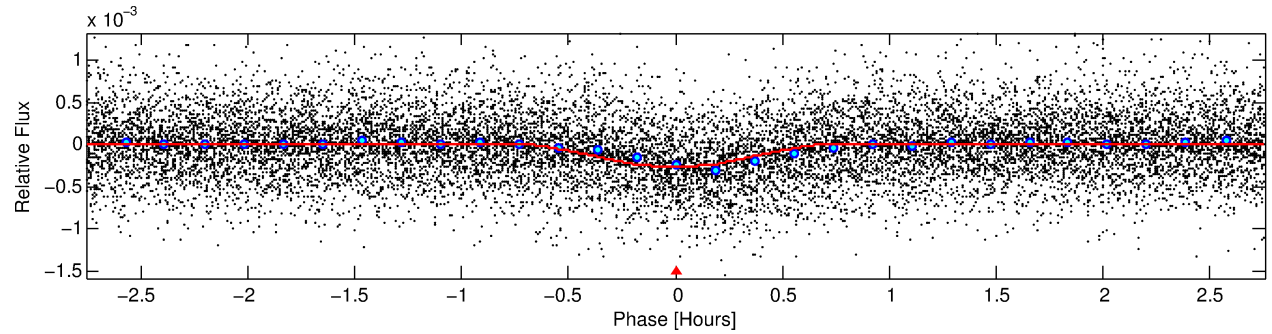
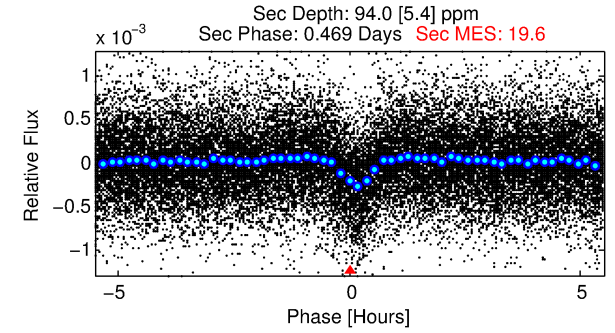
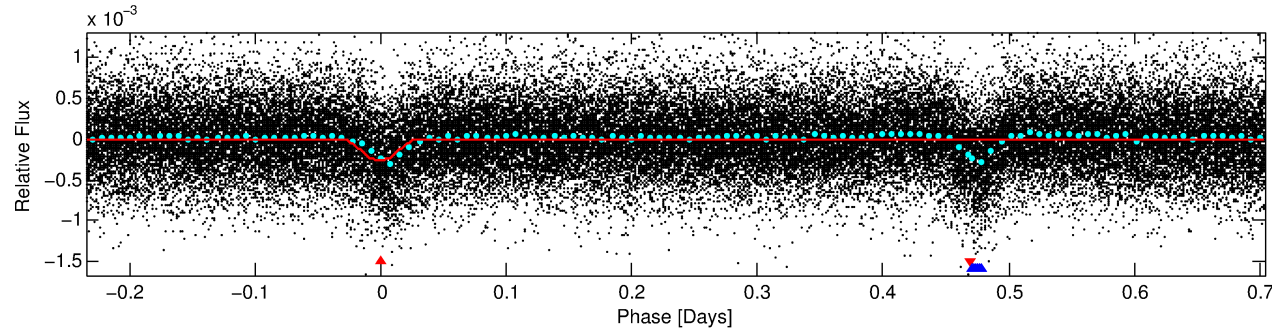
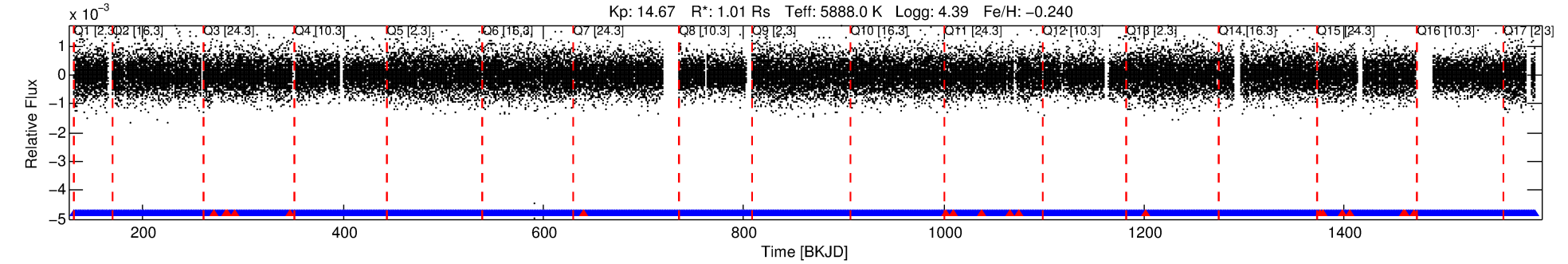
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006750902-01

No Significant Match Found

DV One-Page Summary

KIC: 6750902 Candidate: 1 of 2 Period: 0.939 d
KOI: K03980.01 Corr: 0.840



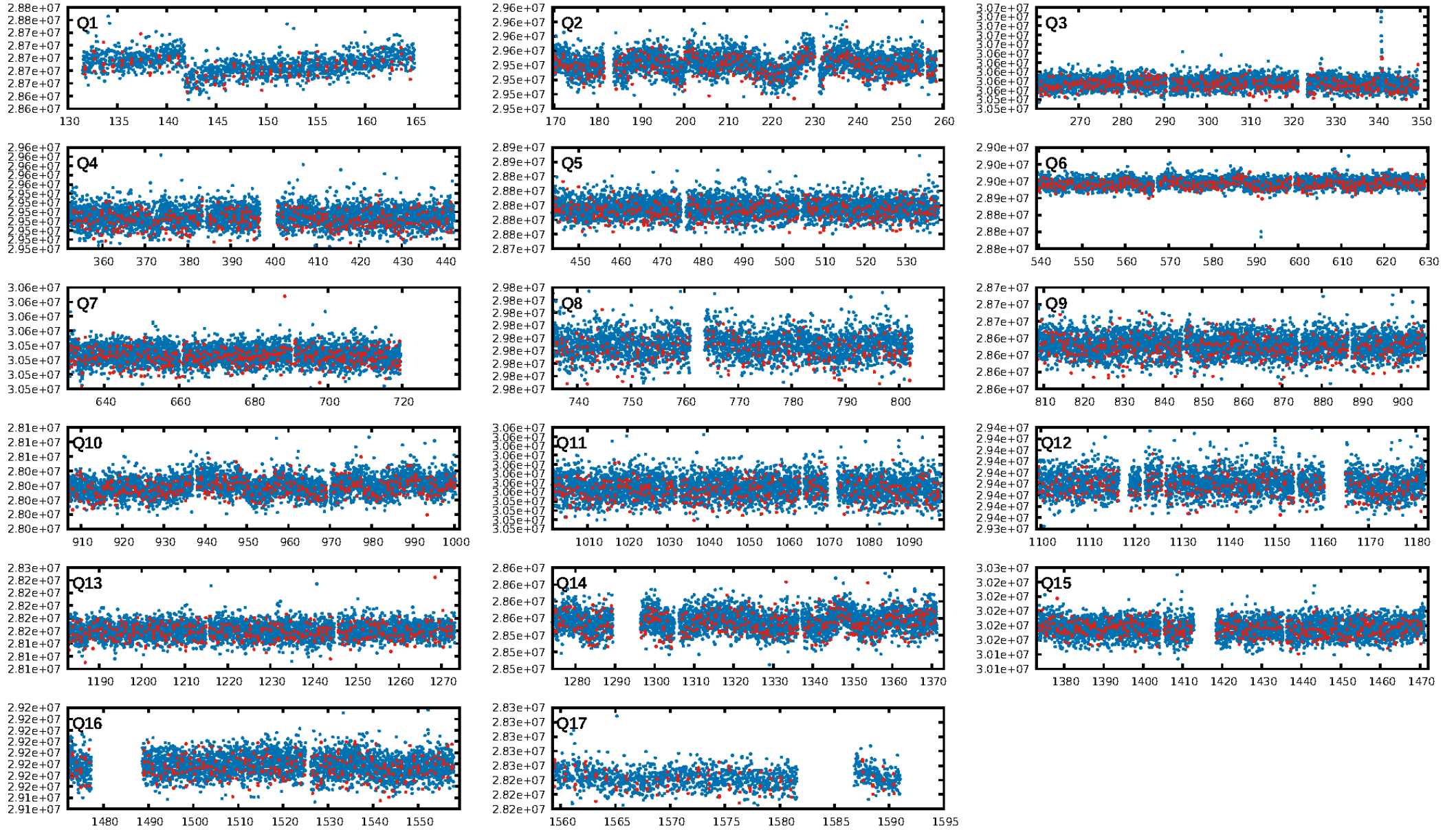
DV Fit Results:

Period = 0.93866 [0.00000] d
Epoch = 131.7365 [0.0006] BKJD
Rp/R* = 0.0175 [0.0051]
a/R* = 3.81 [5.15]
b = 0.90 [0.31]
Seff = 3288.97 [1178.86]
Teq = 1931 [173] K
Rp = 1.92 [0.78] Re
a = 0.0182 [0.0043] AU
Ag = 4.66 [3.15] [1.16σ]
Teffp = 4386 [652] K [3.64σ]

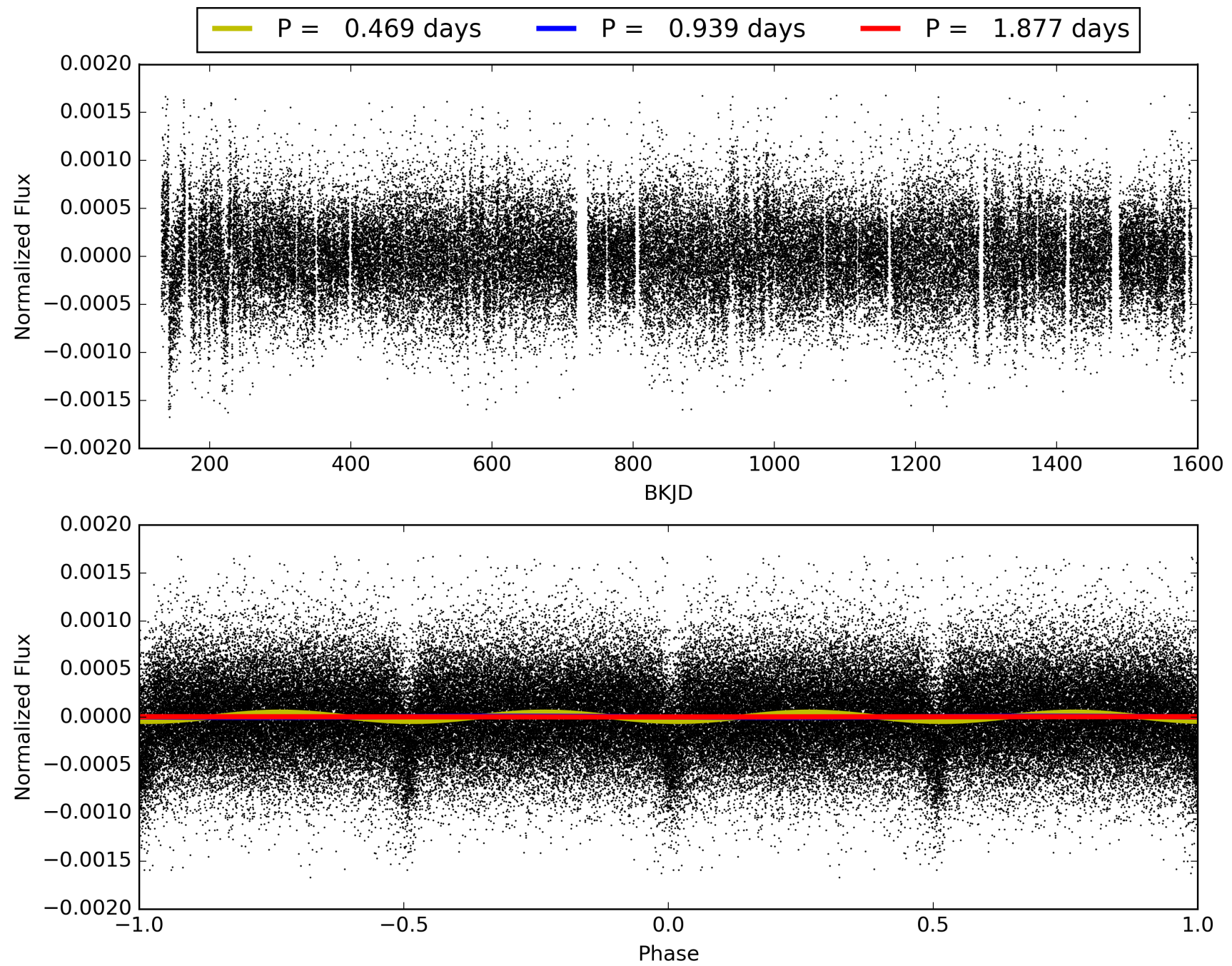
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.49e-73
RollingBand-fgt: 0.99 [1342/1361]
GhostDiagnostic-chr: 6.627
Centroid-sig: 40.4%
Centroid-so: 1.182 arcsec [2.25σ]
OotOffset-rm: 0.239 arcsec [1.28σ]
KicOffset-rm: 0.174 arcsec [0.99σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006750902-01, PDC Light Curves

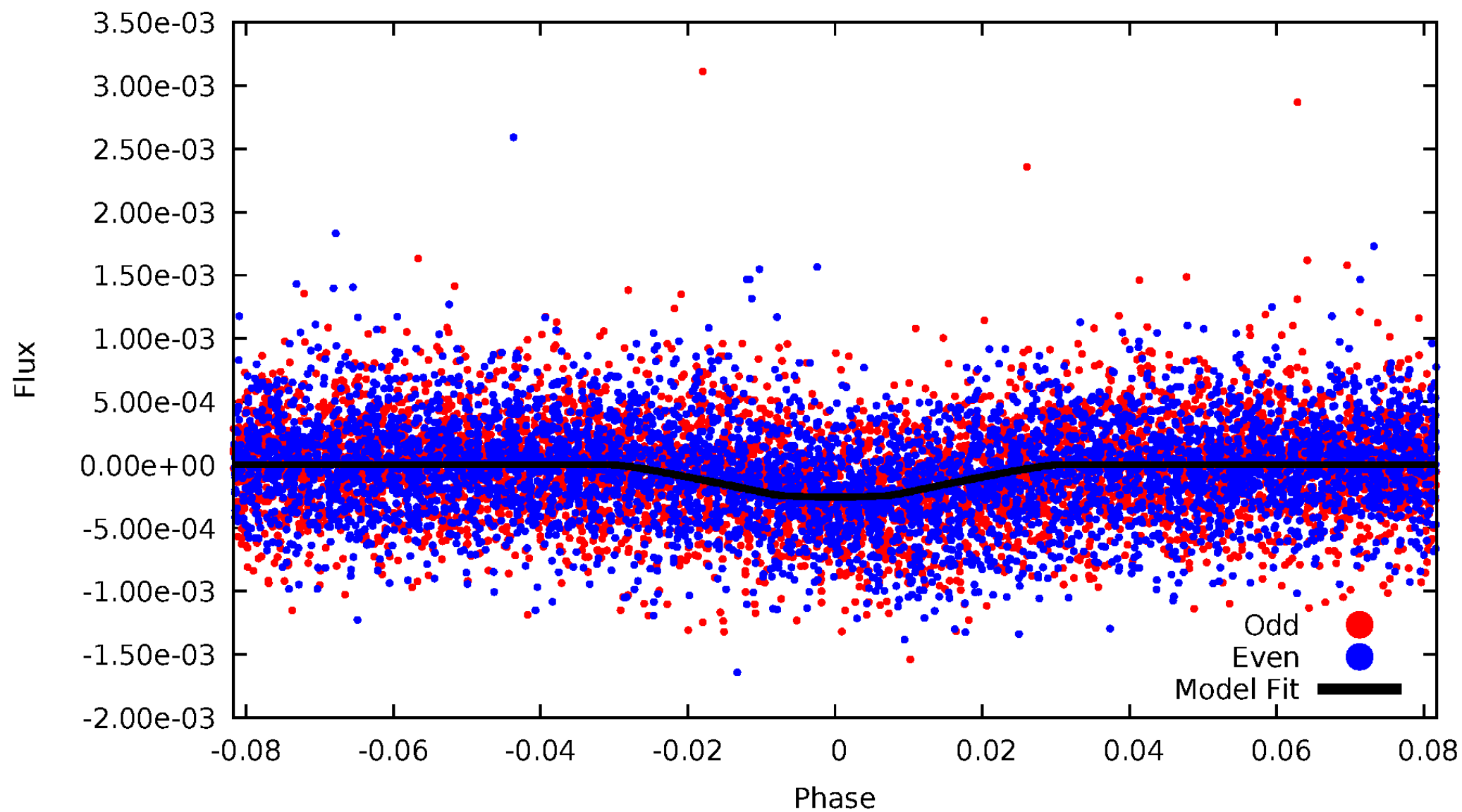


TCE 006750902-01



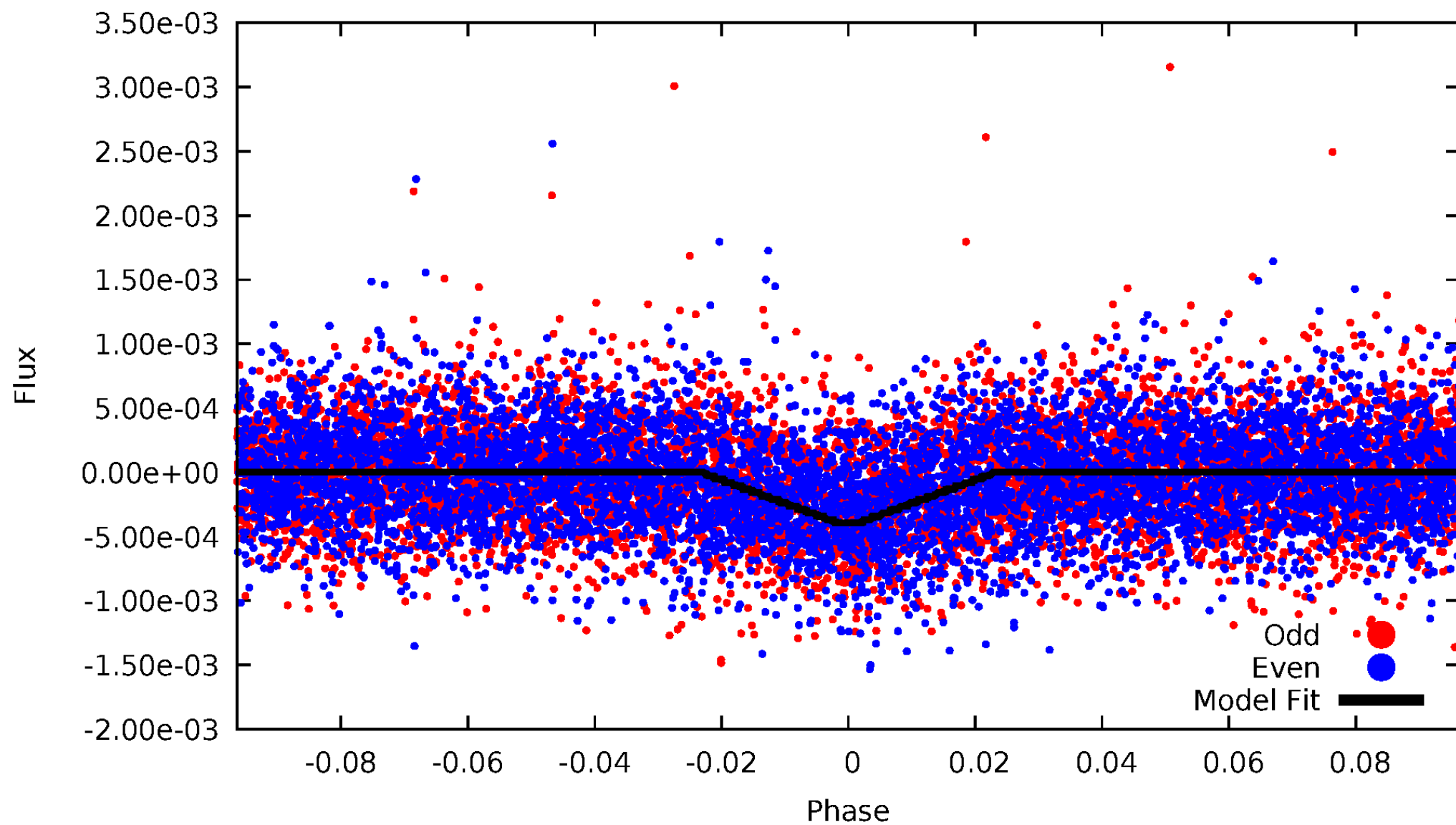
DV Odd/Even

TCE 006750902-01

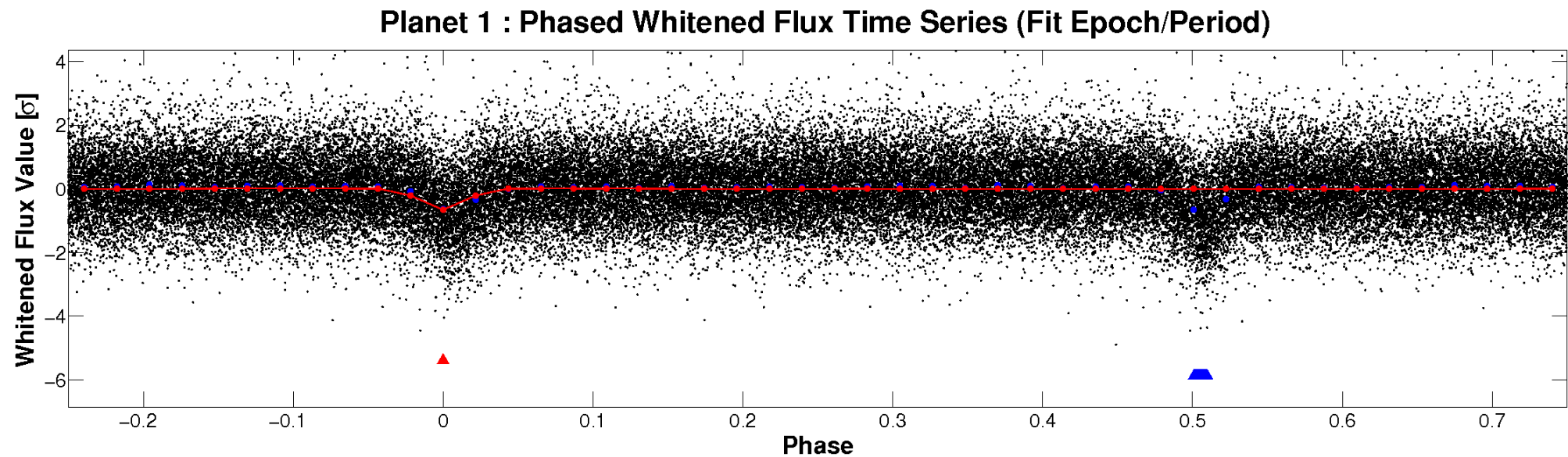
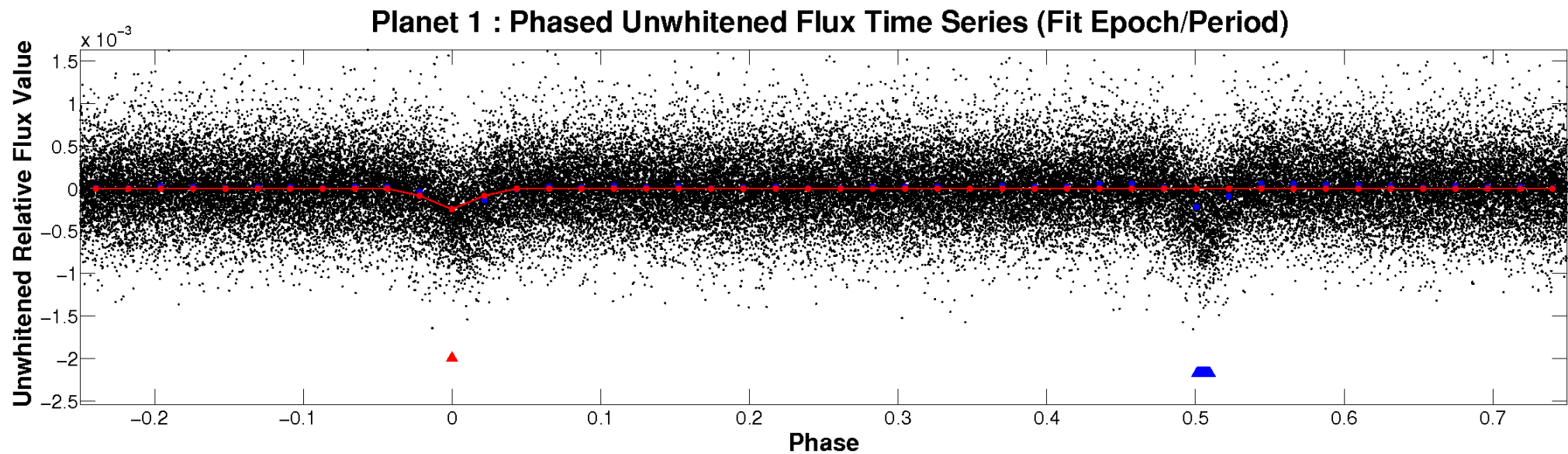


ALT Odd/Even

TCE 006750902-01

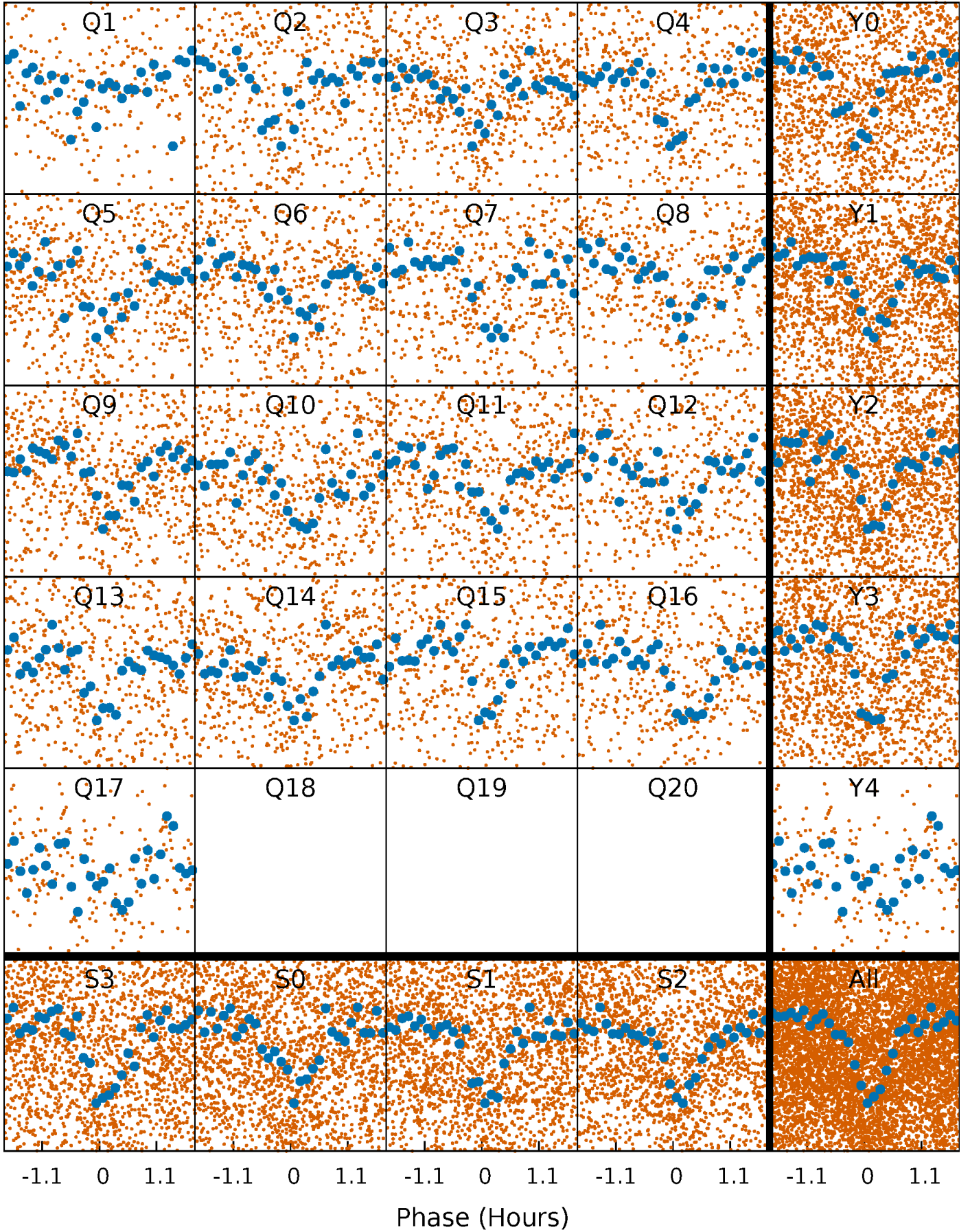


Non-Whitened Vs. Whitened Light Curve



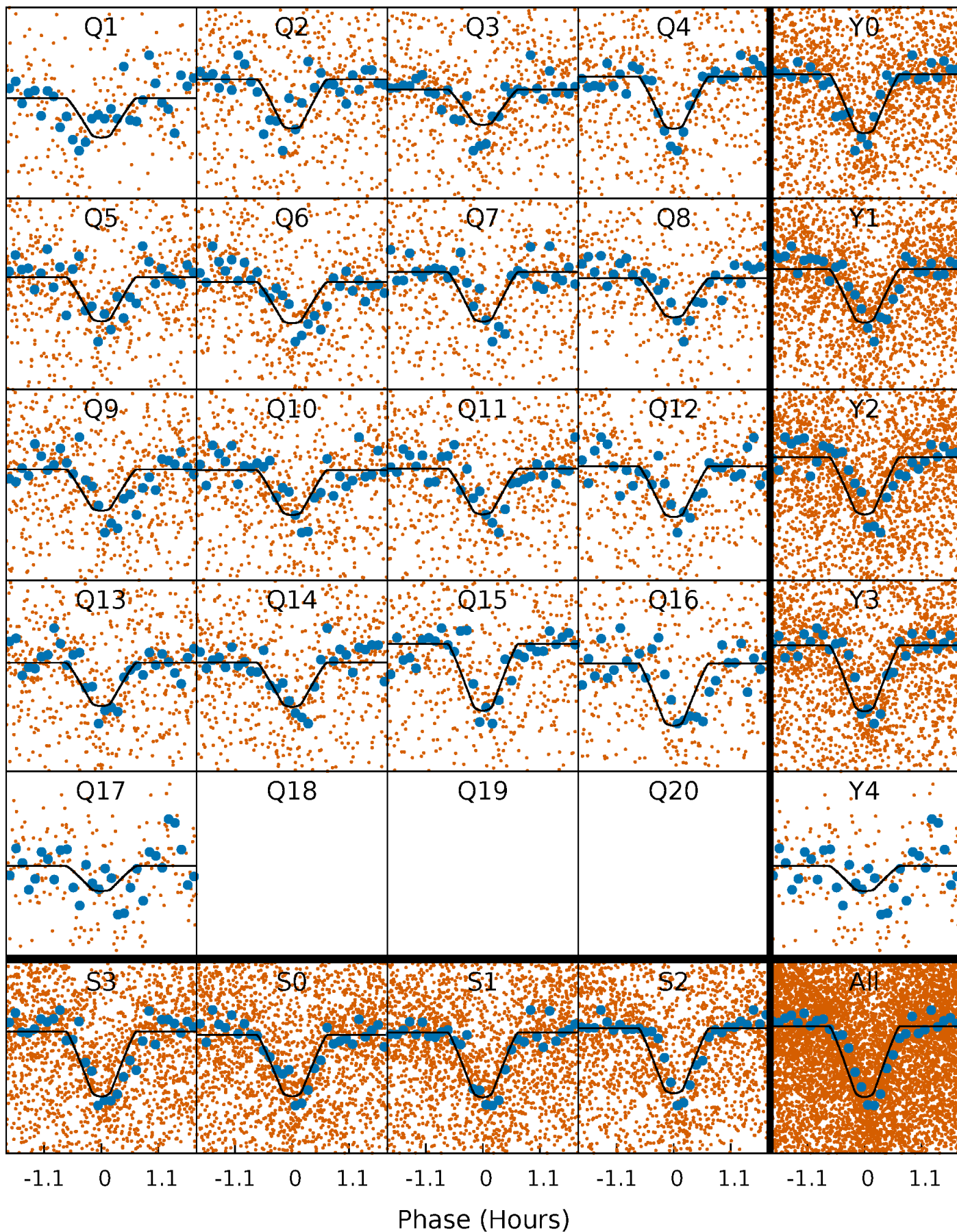
PDC Quarter-Phased Transit Curves

TCE 006750902-01 P= 0.938662 Days $T_0=131.736548$ (BKJD)



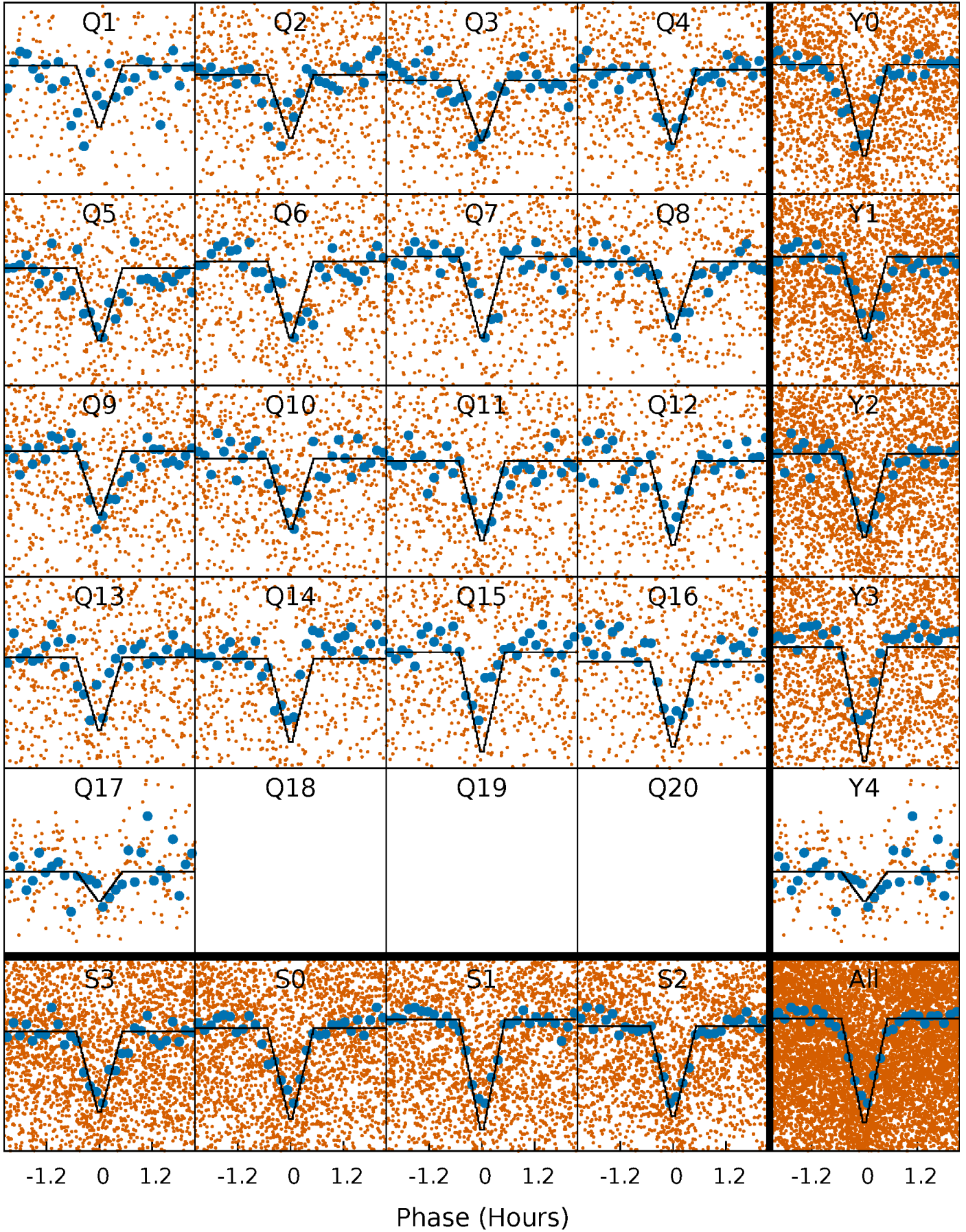
DV Quarter-Phased Transit Curves

TCE 006750902-01 P= 0.938662 Days $T_0=131.736548$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

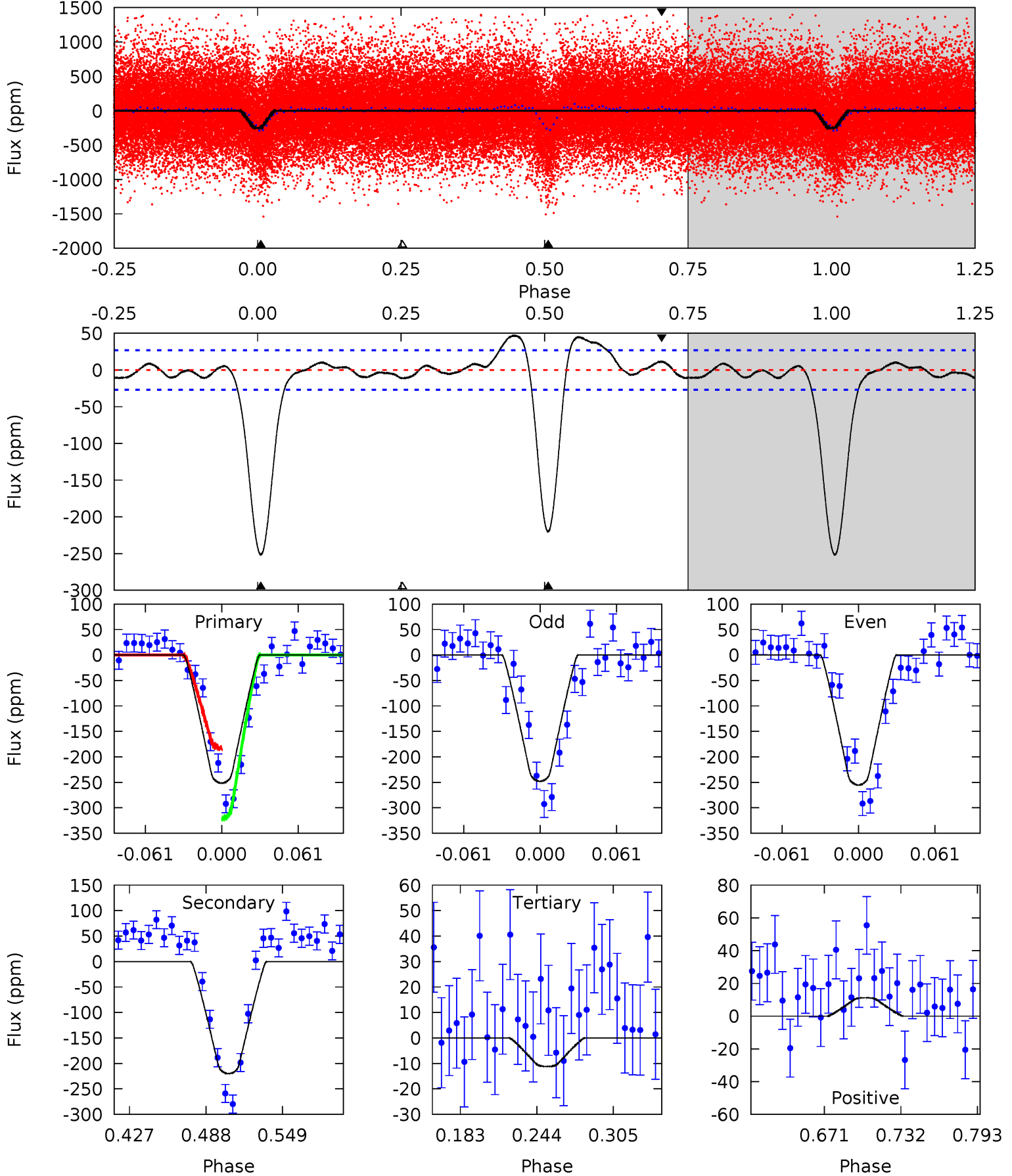
TCE 006750902-01 P= 0.938670 Days $T_0=131.736075$ (BKJD)



DV Model-Shift Uniqueness Test

006750902-01, P = 0.938662 Days, E = 130.797886 Days

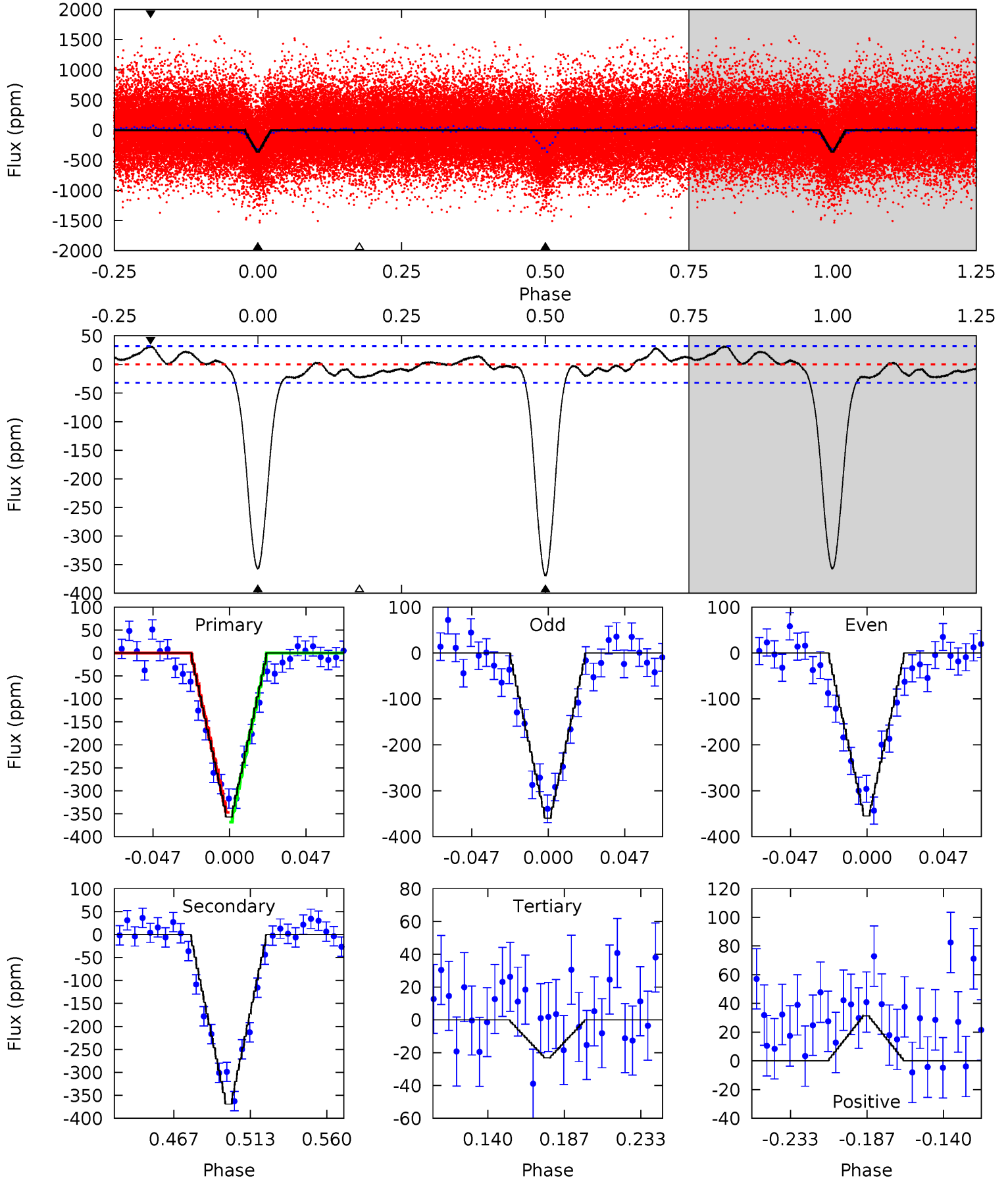
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.5	38.1	1.94	1.95	4.67	1.87	2.22	41.6	41.6	36.2	36.1	0.63	1.01	0.16	12.0



Alt Model-Shift Uniqueness Test

006750902-01, P = 0.938670 Days, E = 130.797405 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.5	54.3	3.40	4.62	4.72	1.99	1.91	49.1	47.9	50.9	49.7	0.35	0.99	0.08	1.56



Stellar Parameters For KIC 006750902

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5888^{+159}_{-159}	$4.394^{+0.124}_{-0.186}$	$-0.240^{+0.300}_{-0.300}$	$1.008^{+0.284}_{-0.153}$	$0.918^{+0.131}_{-0.098}$	$1.262^{+0.716}_{-0.618}$
	+3%/-3%	+3%/-4%	+125%/-125%	+28%/-15%	+14%/-11%	+57%/-49%
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 006750902-01 / KOI 3980.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-220 ± 6	$1.95^{+0.62}_{-0.58}$	2706^{+178}_{-138}	5410^{+1027}_{-543}	11^{+11}_{-5}
Alt.	-369 ± 7	$2.21^{+0.70}_{-0.58}$	2721^{+183}_{-150}	5769^{+982}_{-621}	14^{+11}_{-6}

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 $A_{obs} \gg 1.0$

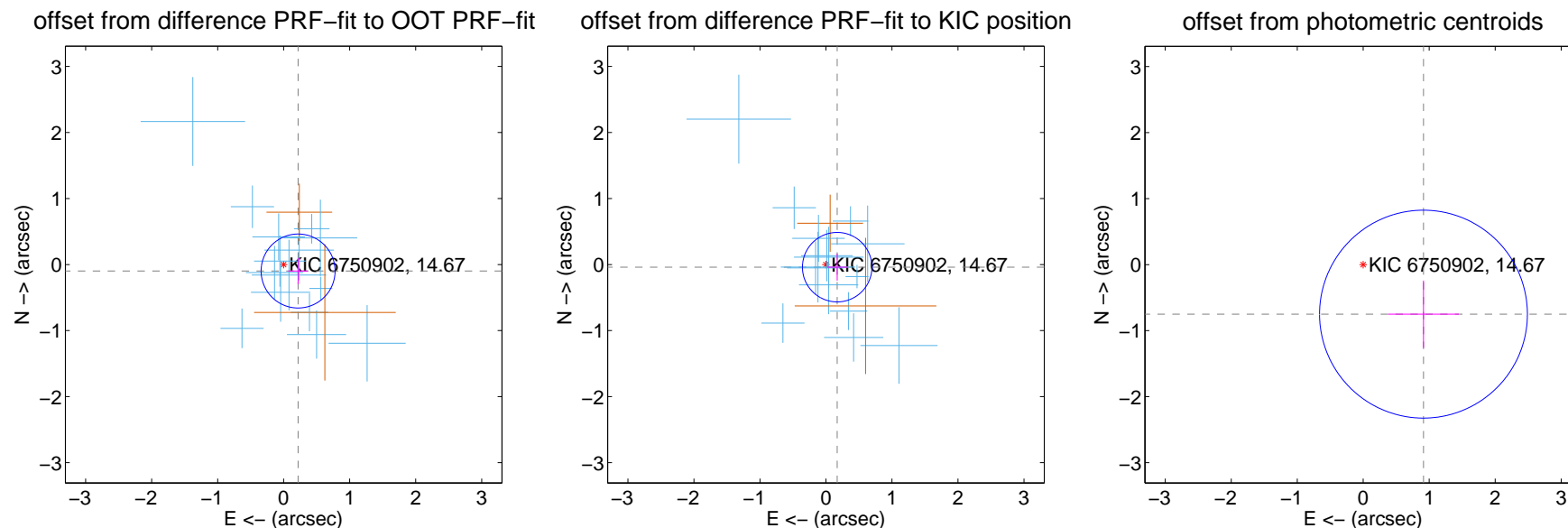
DV Centroid Data

Supplemental centroid analysis for 006750902-01. Kepler magnitude: 14.67. Transit SNR 27.90

There are 15 quarters with good PRF difference image offsets

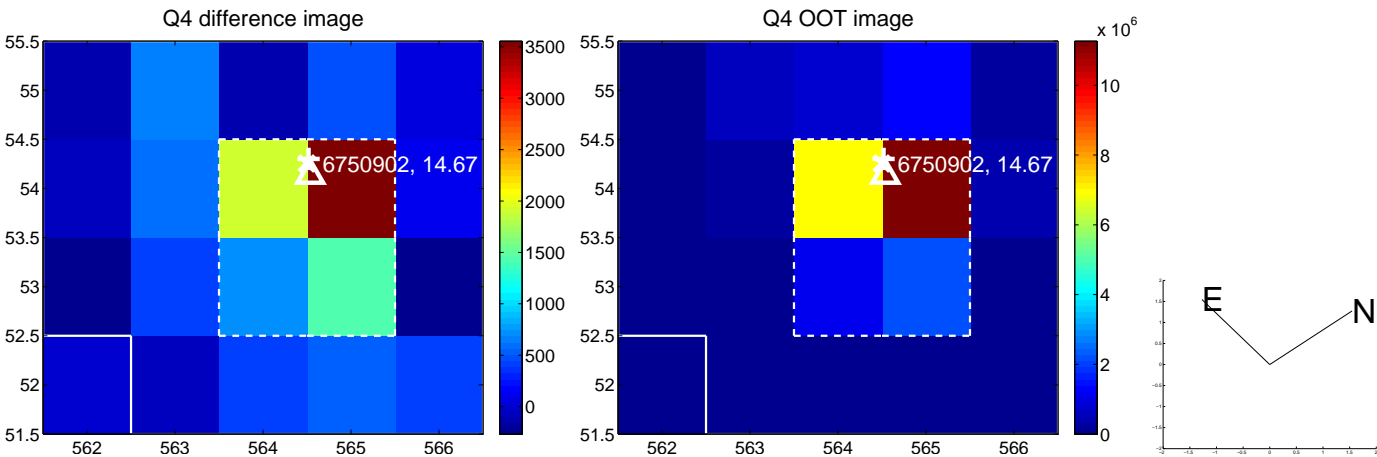
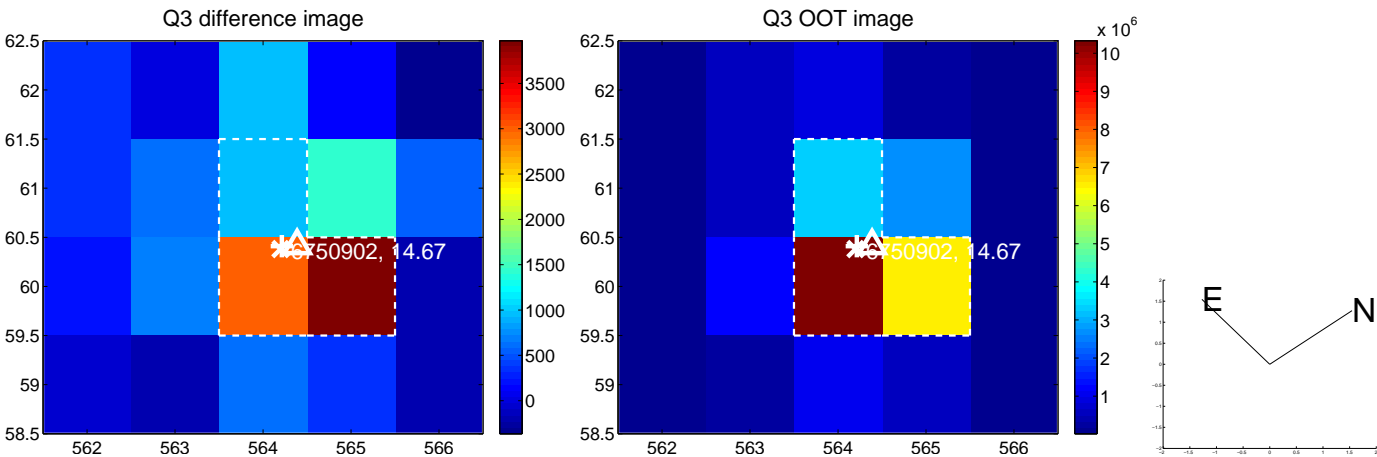
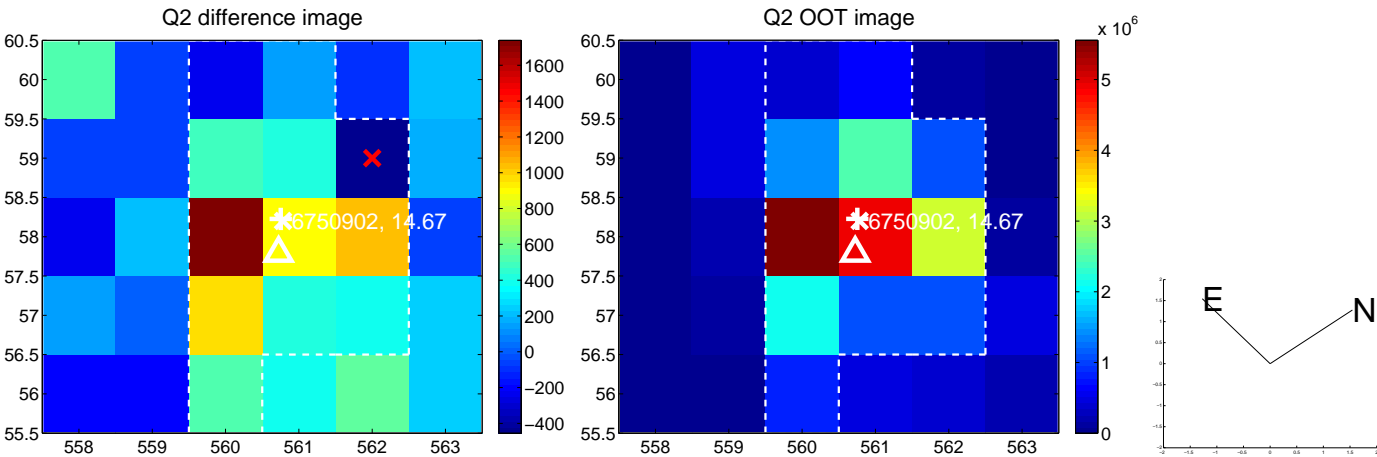
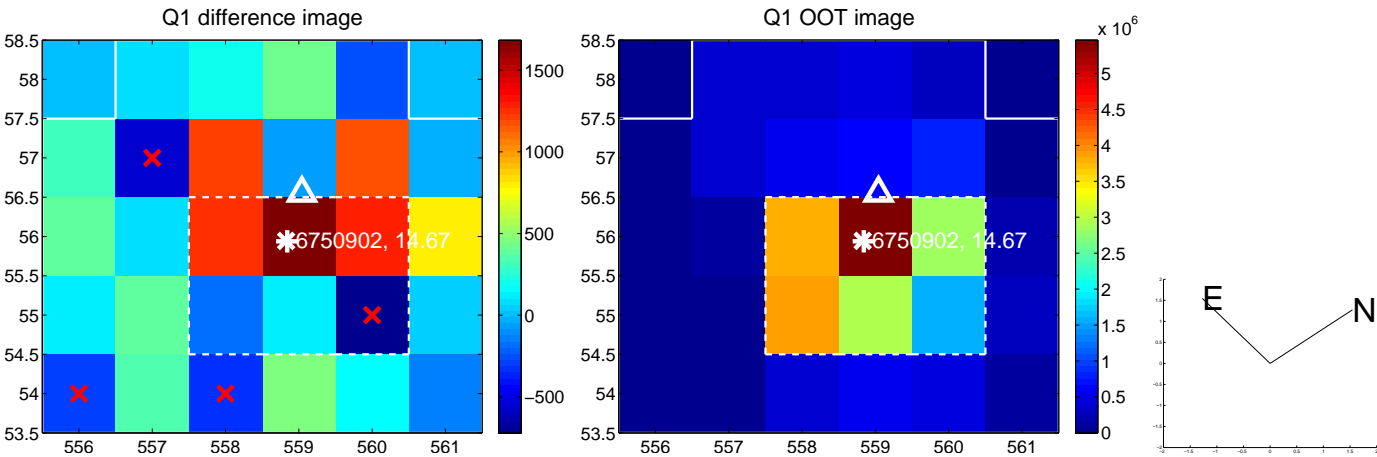
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.239 ± 0.187	1.28	-0.219 ± 0.148	-0.098 ± 0.197
PRF-fit source offset from KIC position	0.174 ± 0.175	0.99	-0.170 ± 0.149	-0.040 ± 0.203
photometric centroid source offset	1.18 ± 0.52	2.25	-0.91 ± 0.54	-0.75 ± 0.51

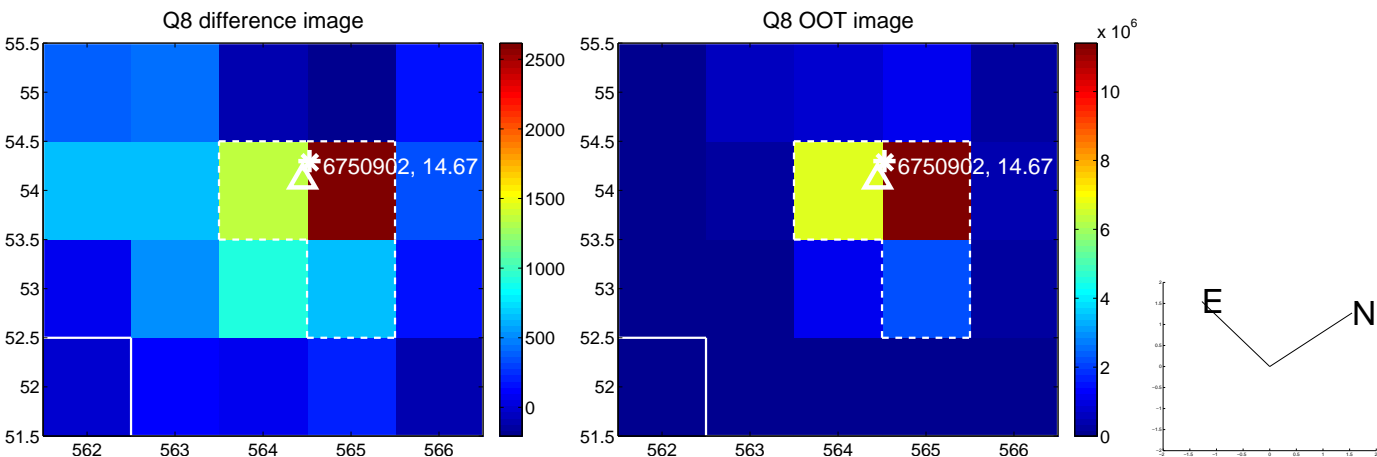
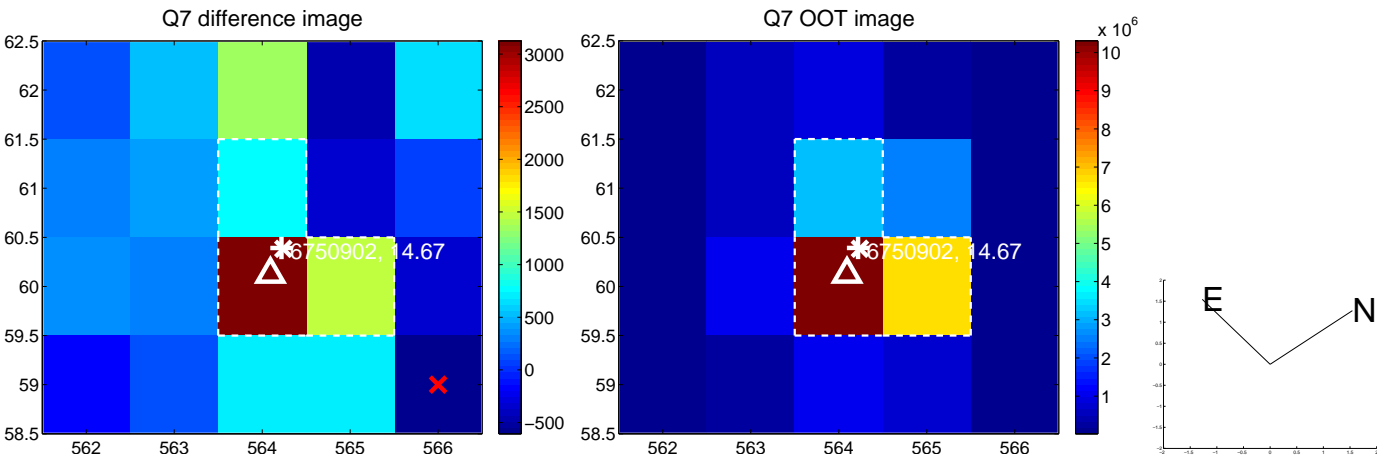
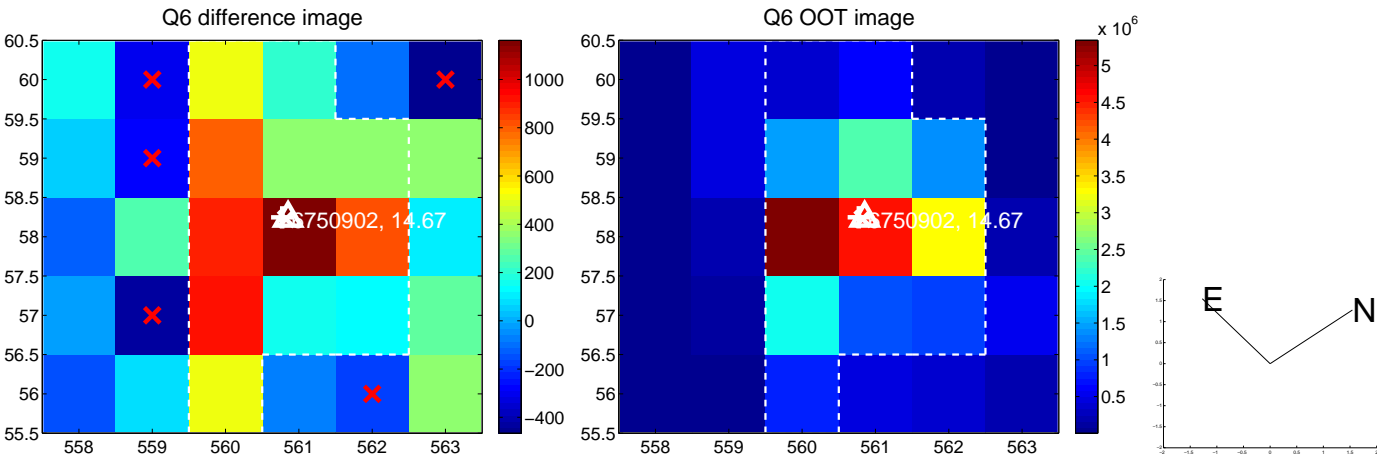
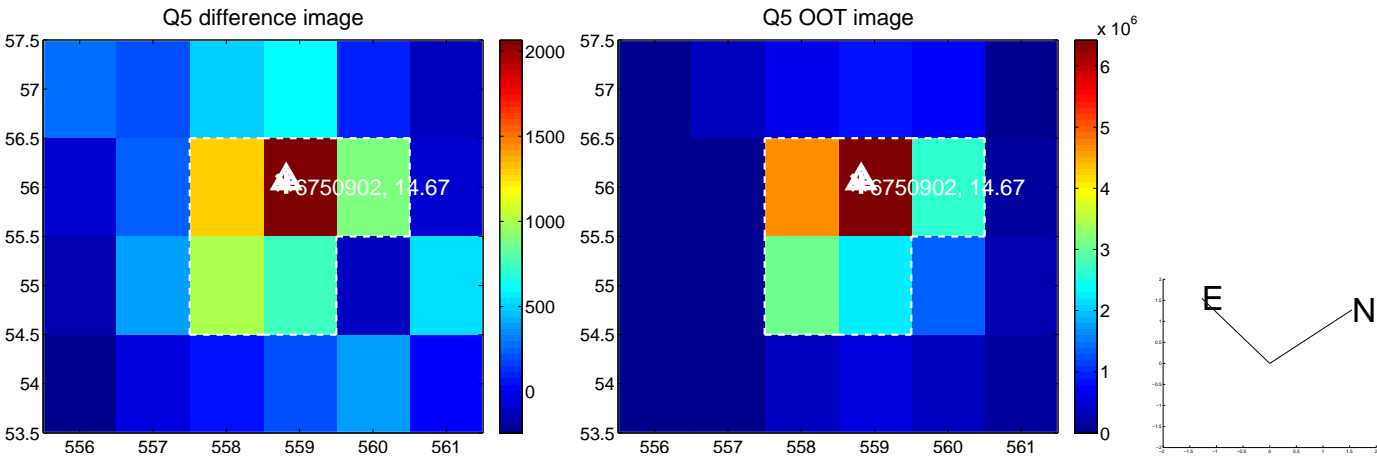


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

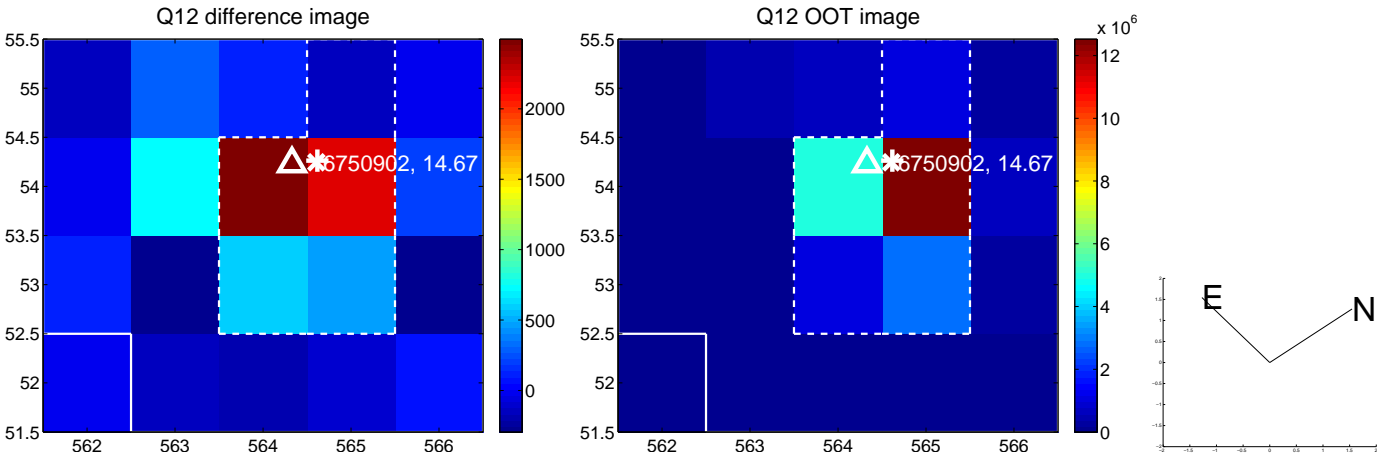
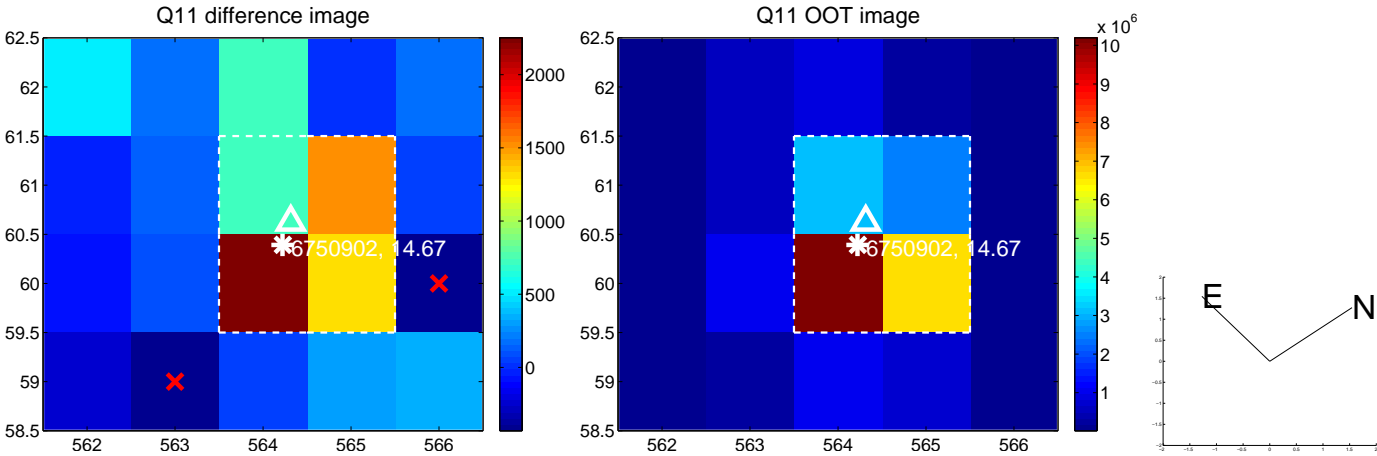
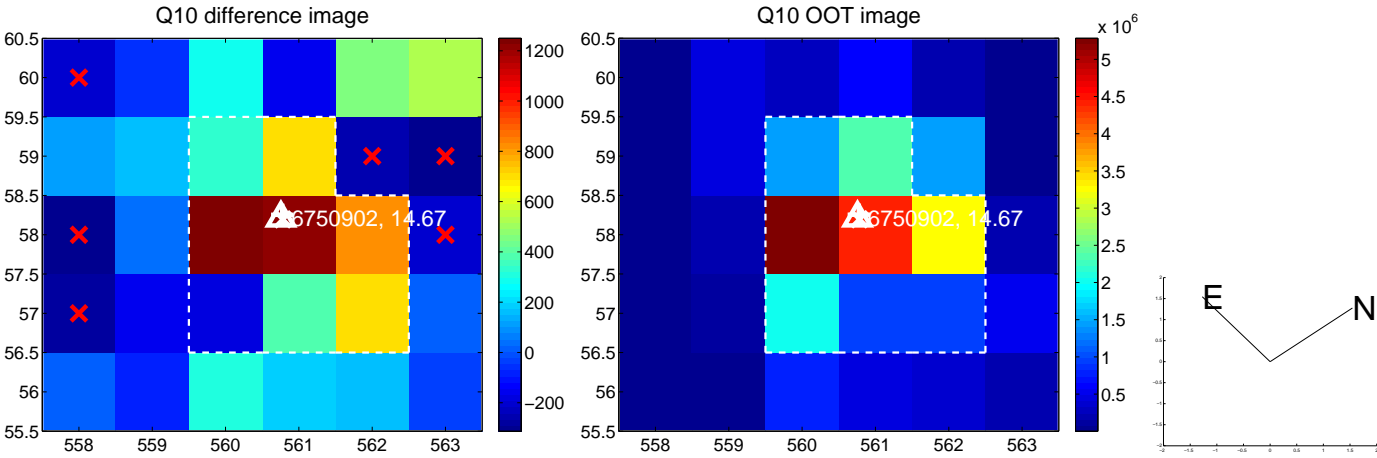
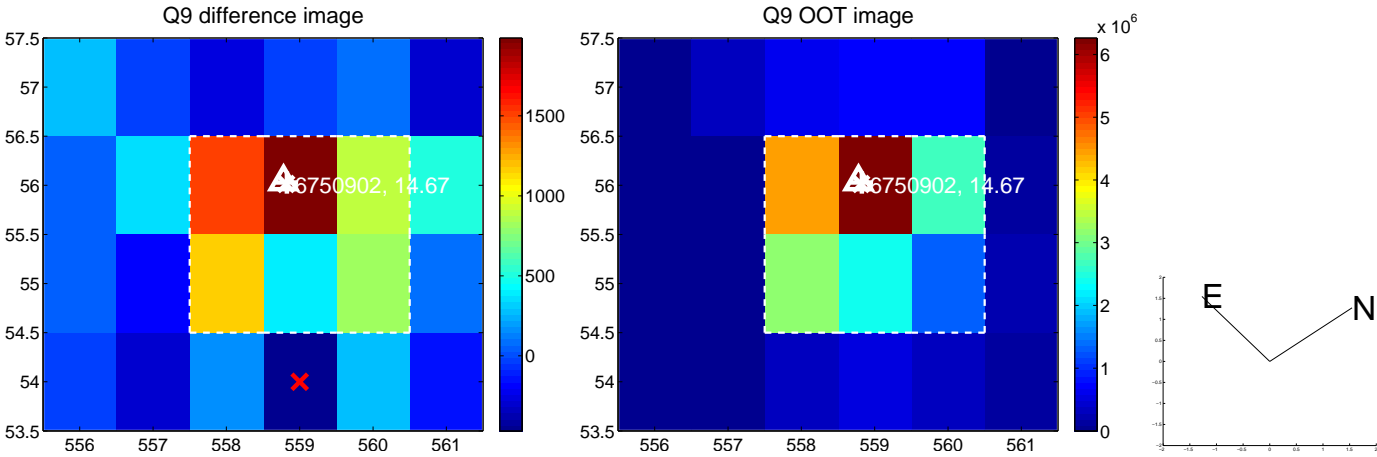
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



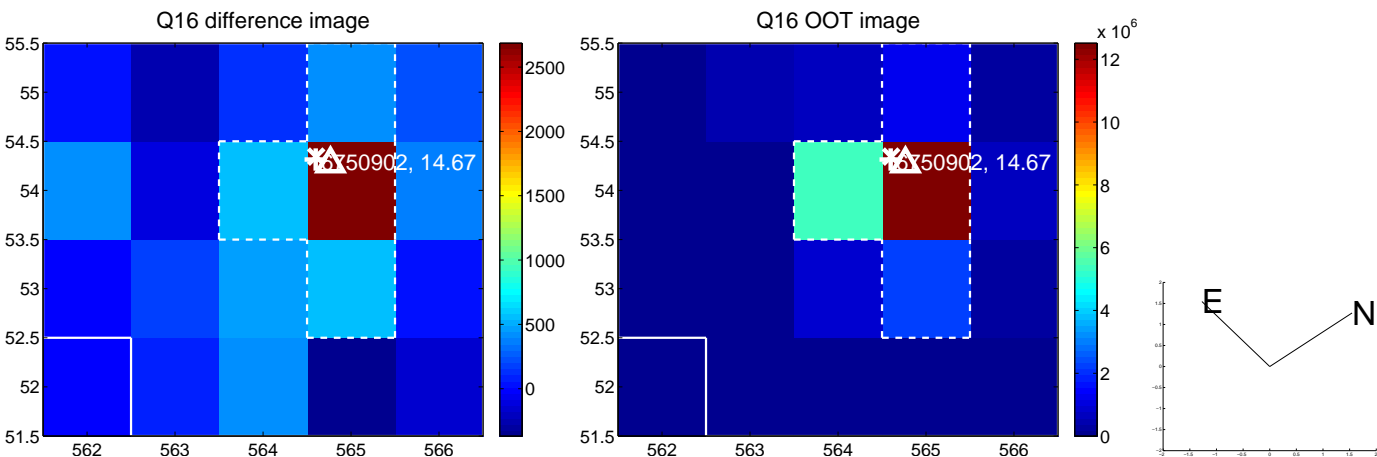
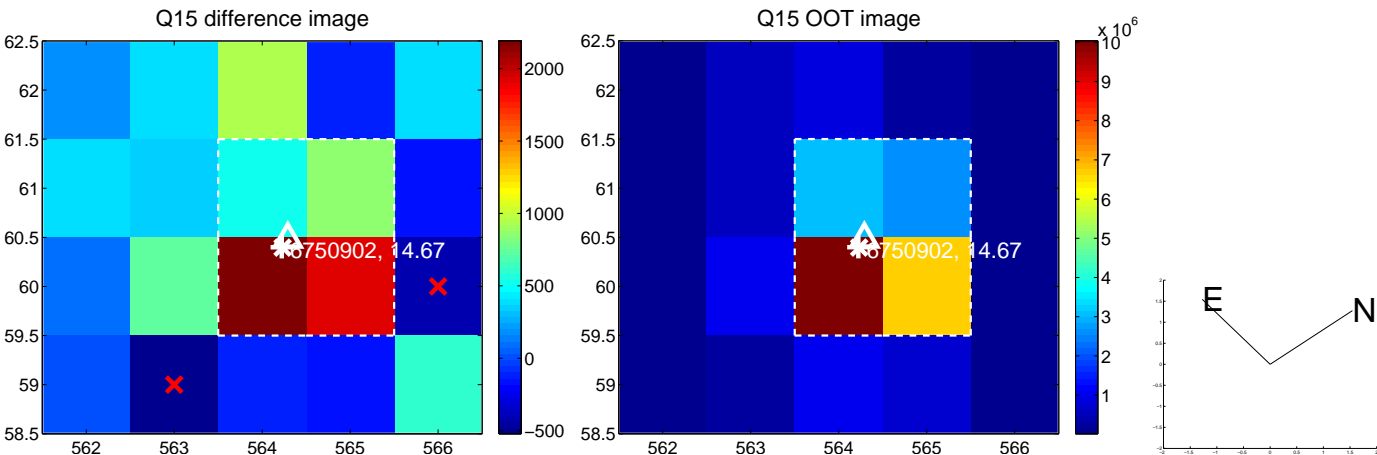
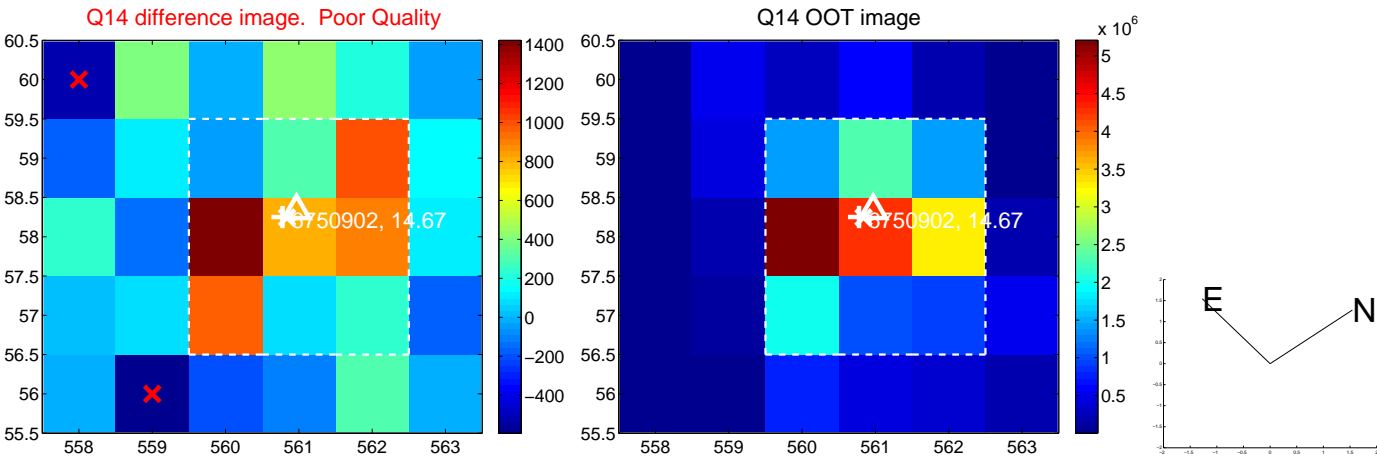
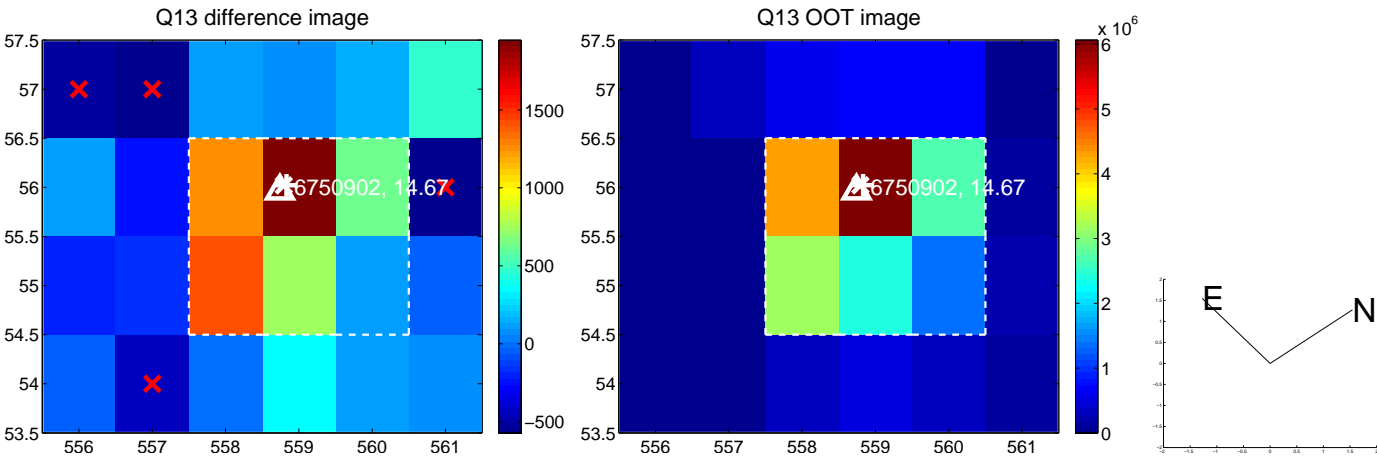
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



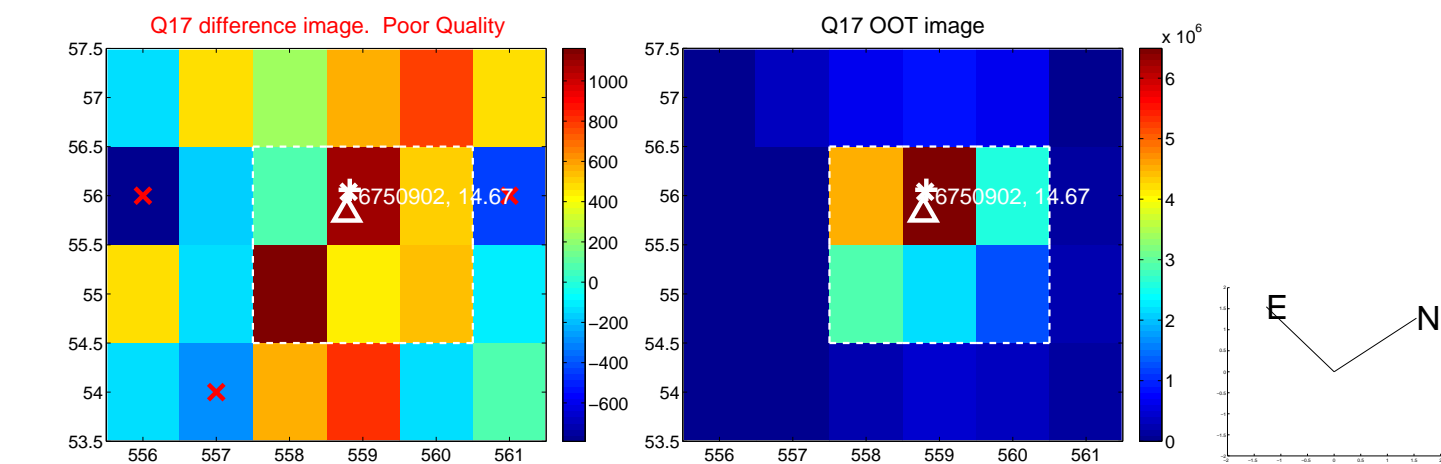
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



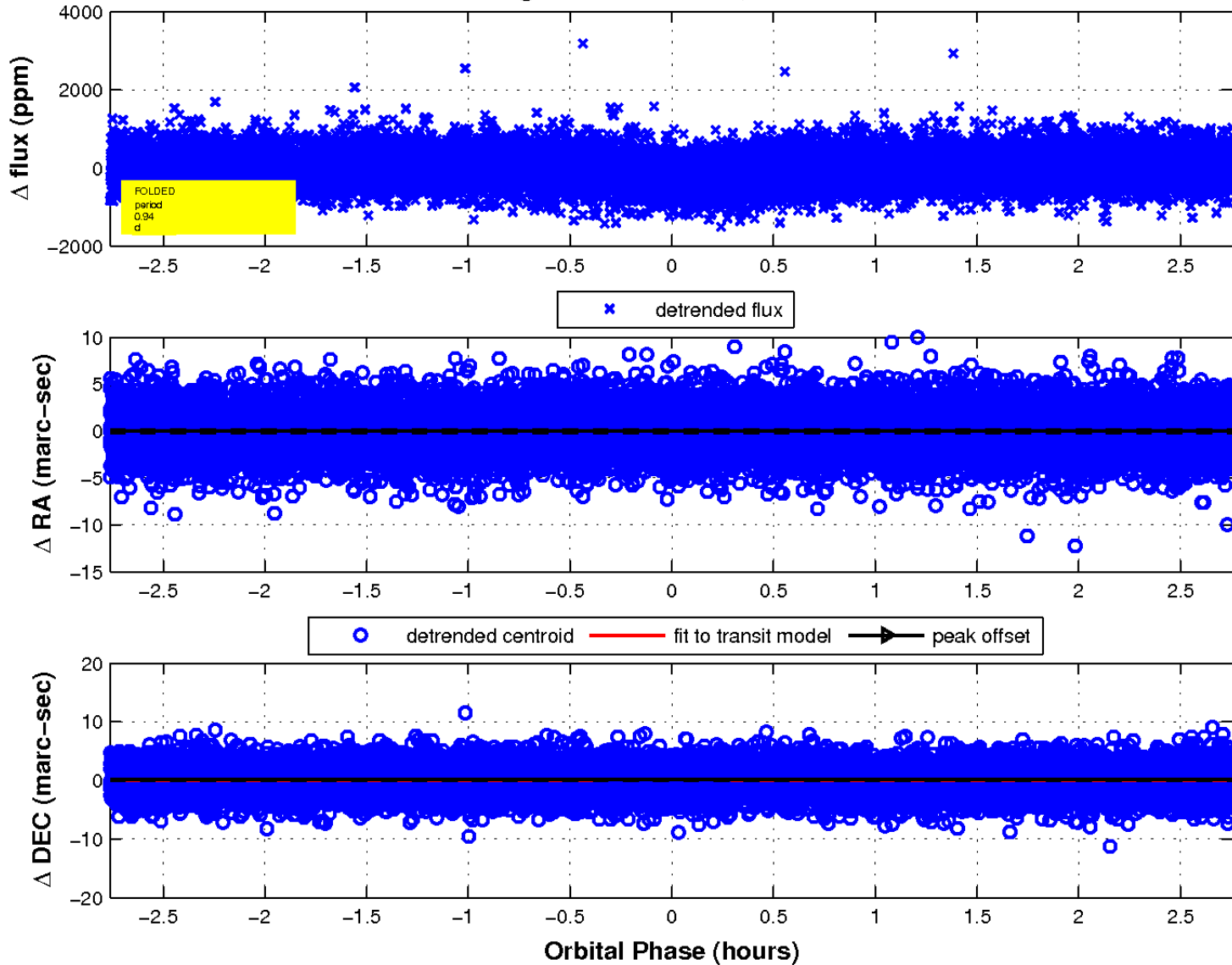
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

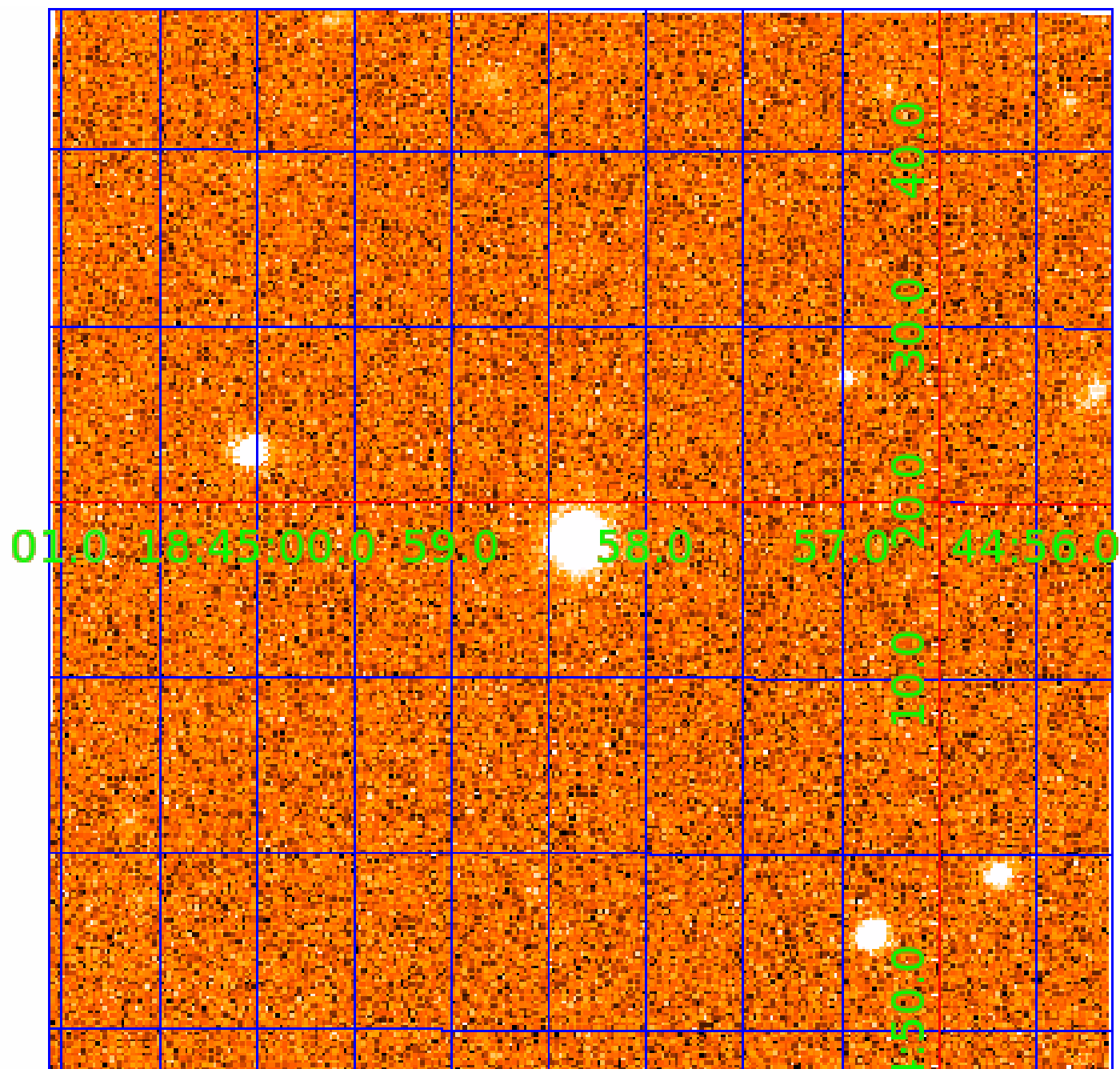


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006750902

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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006750902-02	OBS	No	0.938667	132.206876	363.5	0.665	24.8	35.9	1.01	5888	1.98	3288.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006750902-01	OBS	PC	1.00	0	0	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE
006750902-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

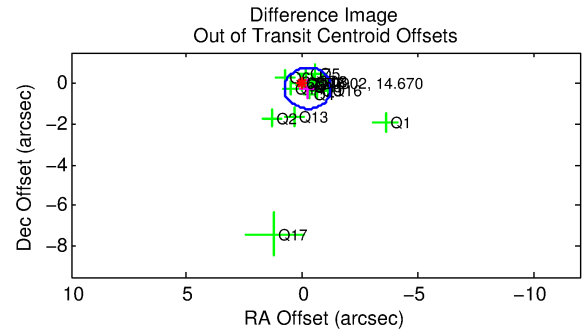
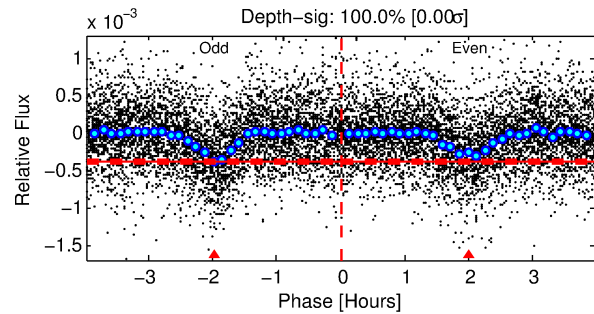
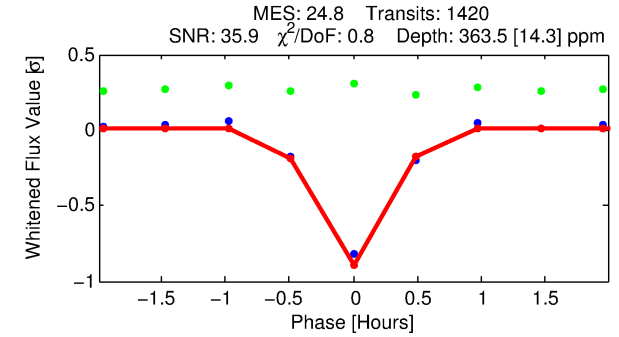
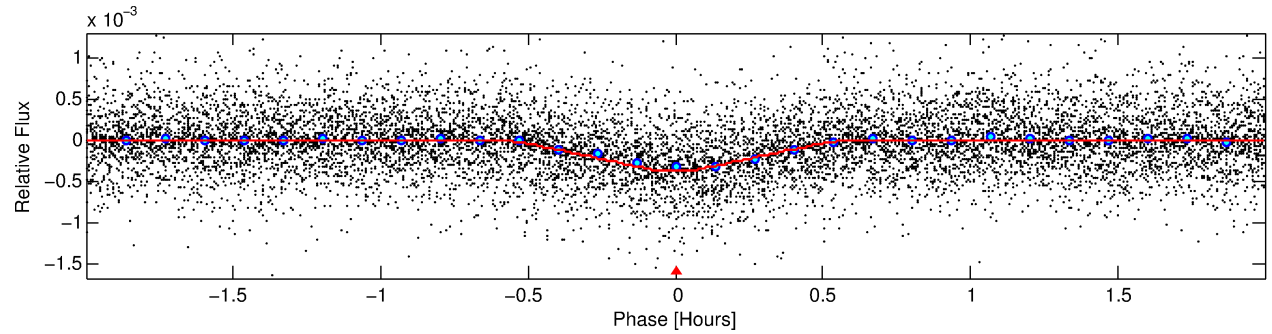
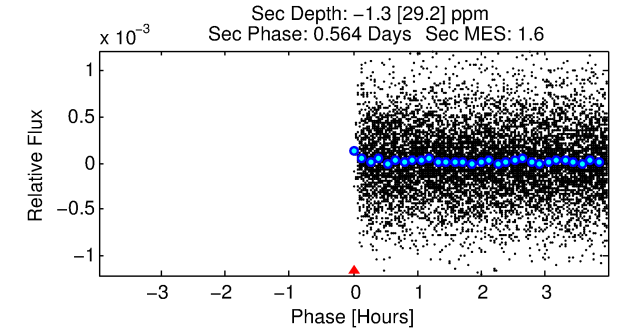
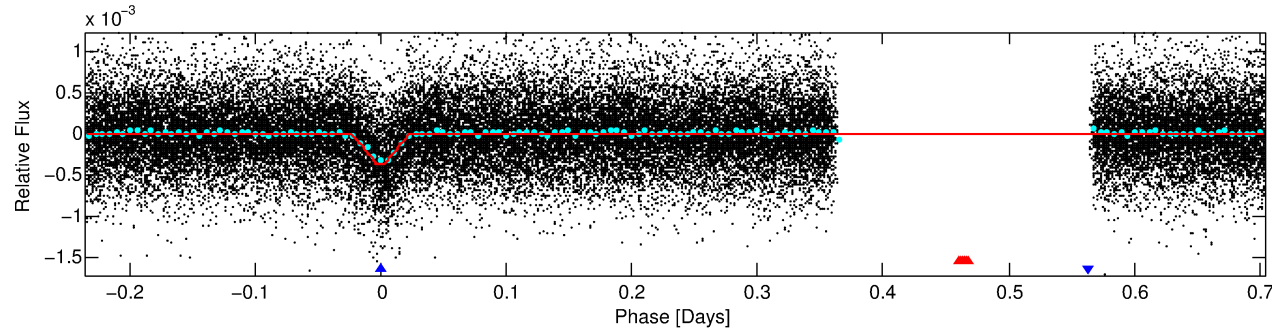
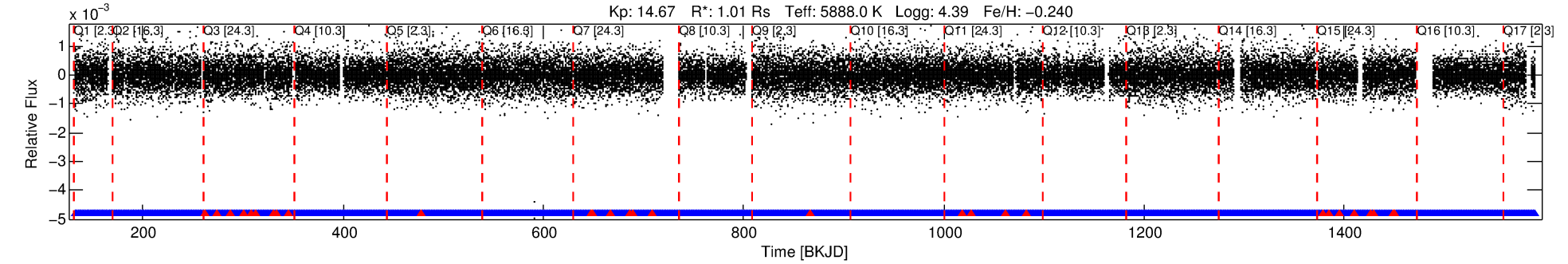
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006750902-02

No Significant Match Found

DV One-Page Summary

KIC: 6750902 Candidate: 2 of 2 Period: 0.939 d
KOI: K03980 Corr: No Ephemeris Match



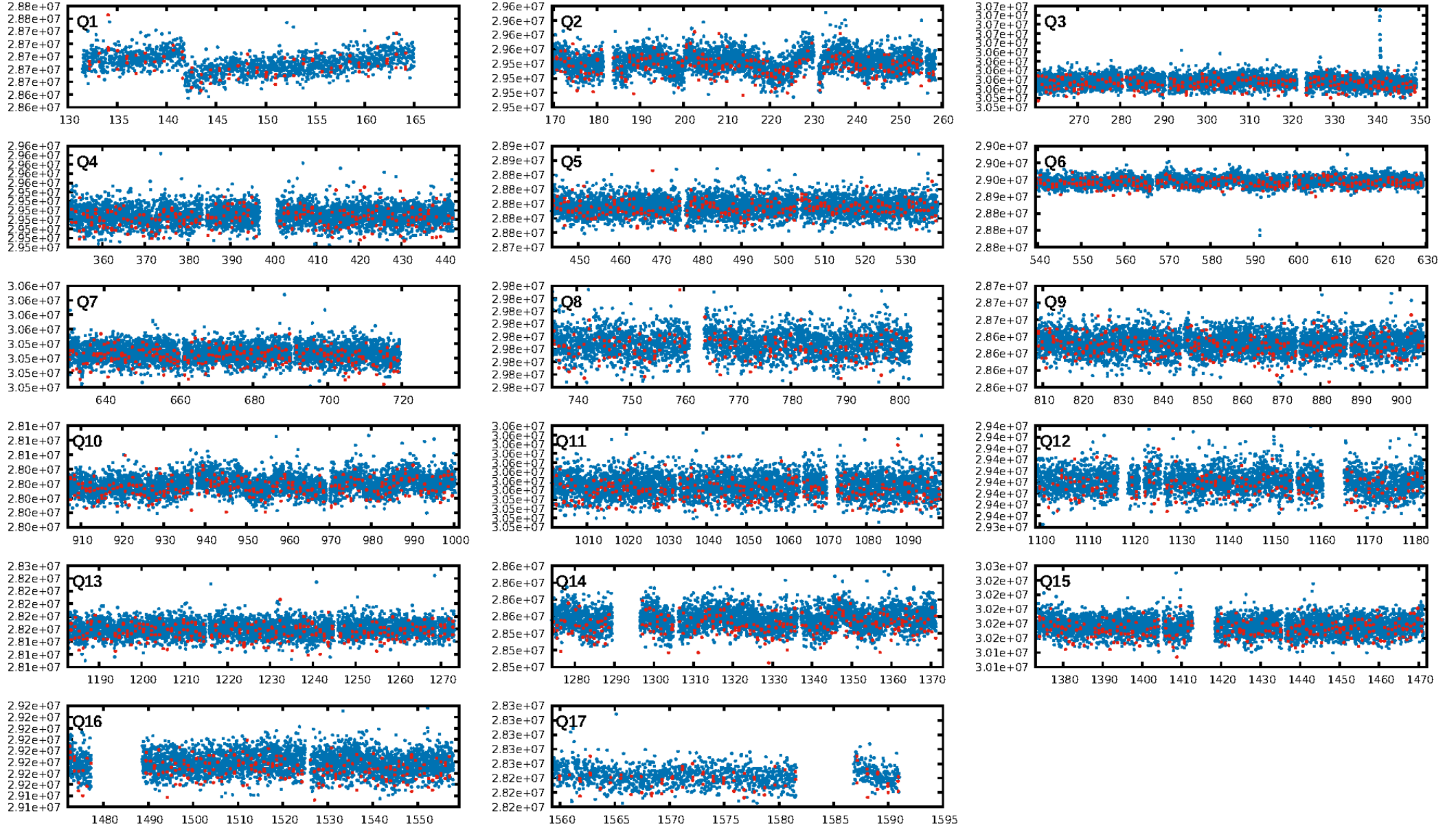
DV Fit Results:

Period = 0.93867 [0.00000] d
Epoch = 132.2069 [0.0004] BKJD
Rp/R* = 0.0180 [0.0053]
a/R* = 10.50 [14.55]
b = 0.30 [4.23]
Seff = 3288.95 [1178.85]
Teff = 1931 [173] K
Rp = 1.98 [0.81] Re
a = 0.0182 [0.0043] AU
Ag = N/A
Teffp = N/A

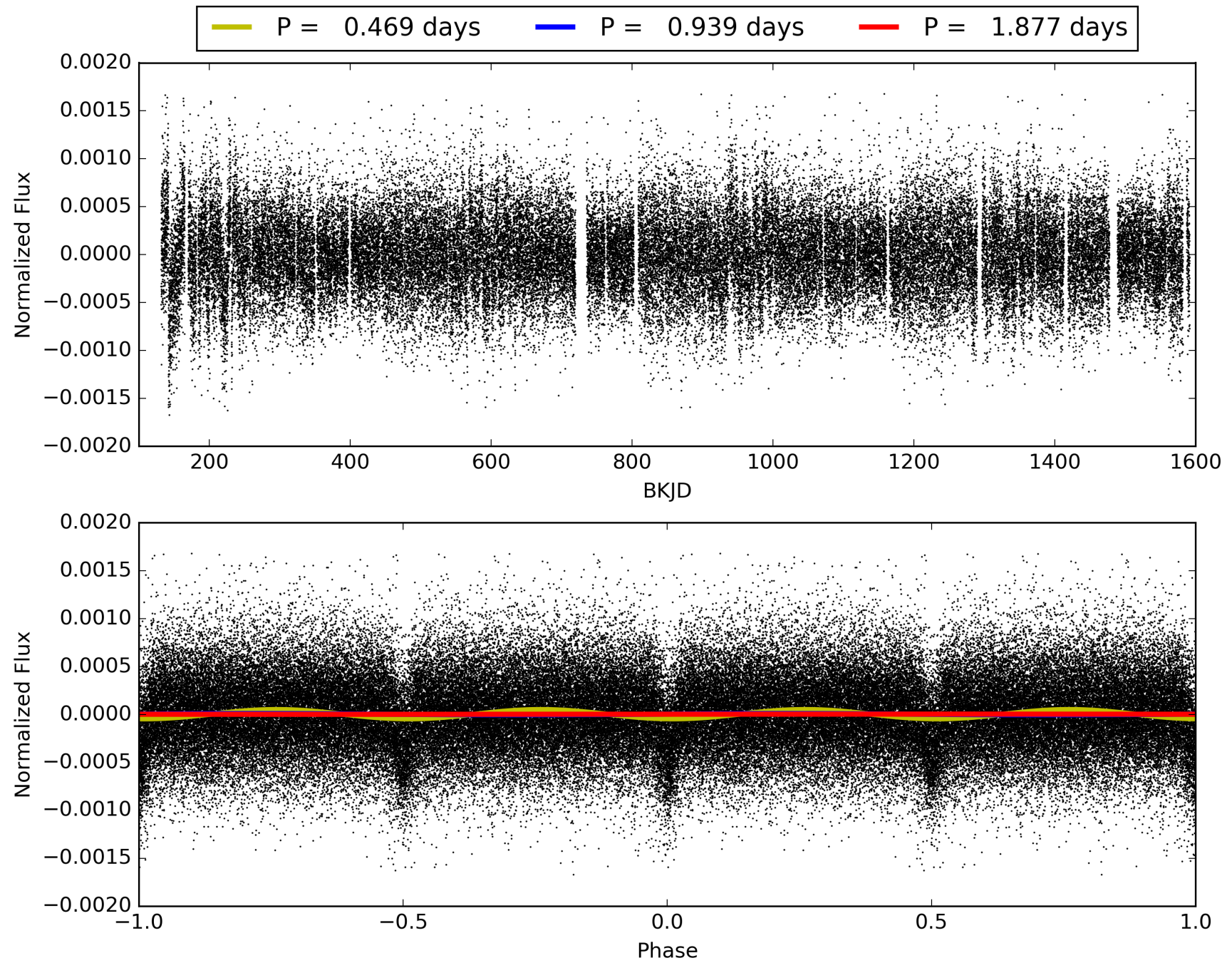
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.70e-134
RollingBand-fgt: 0.98 [1327/1356]
GhostDiagnostic-chr: 1.933
Centroid-sig: 73.6%
Centroid-so: 0.764 arcsec [1.78σ]
OotOffset-rm: 0.341 arcsec [1.01σ]
KicOffset-rm: 0.253 arcsec [0.76σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006750902-02, PDC Light Curves

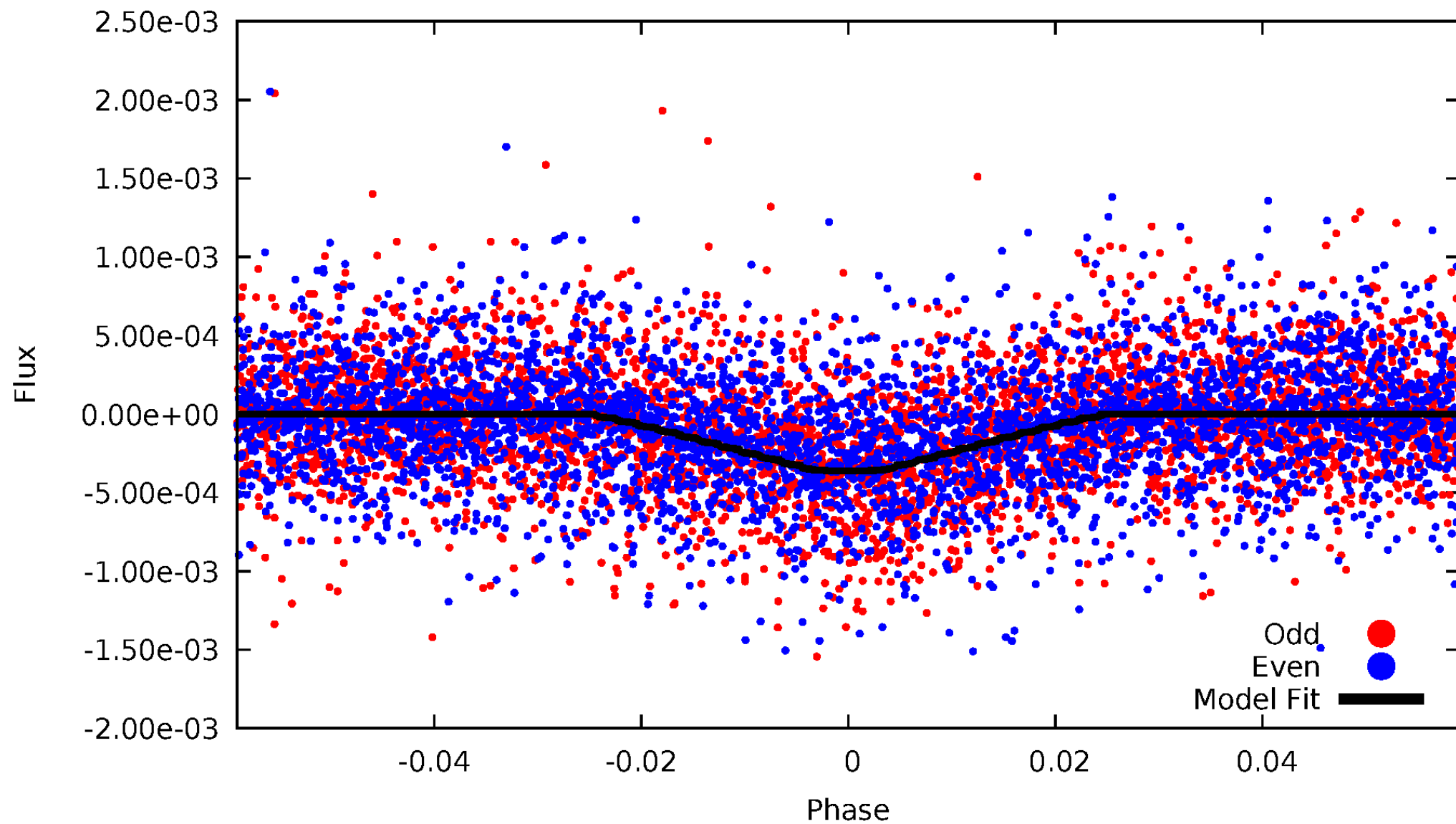


TCE 006750902-02



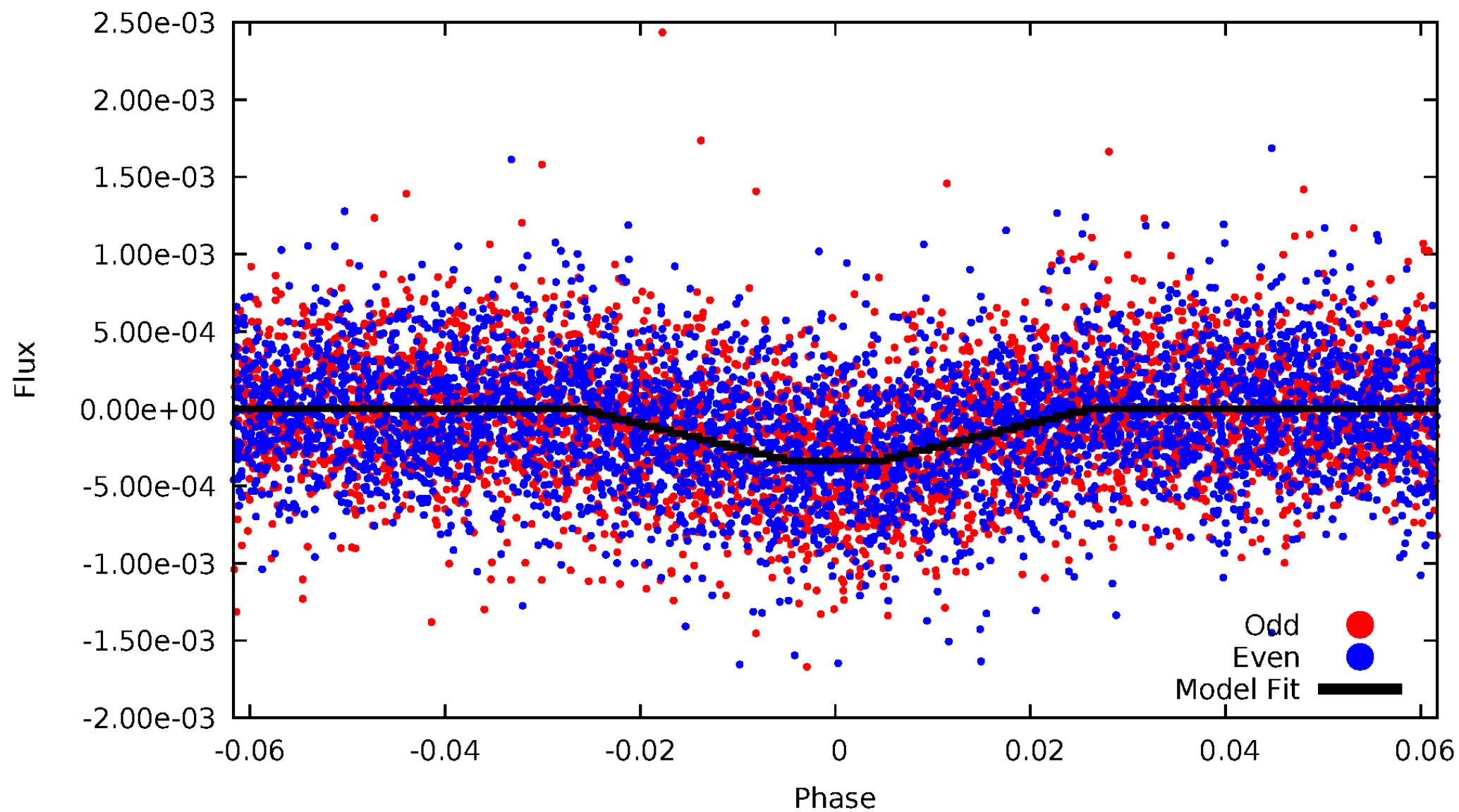
DV Odd/Even

TCE 006750902-02



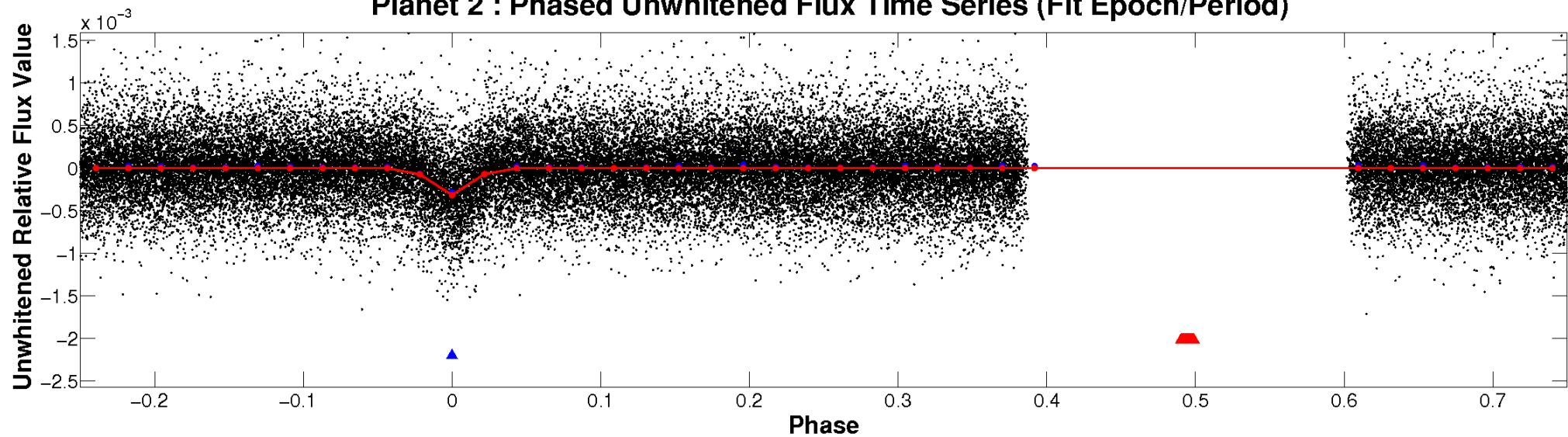
ALT Odd/Even

TCE 006750902-02

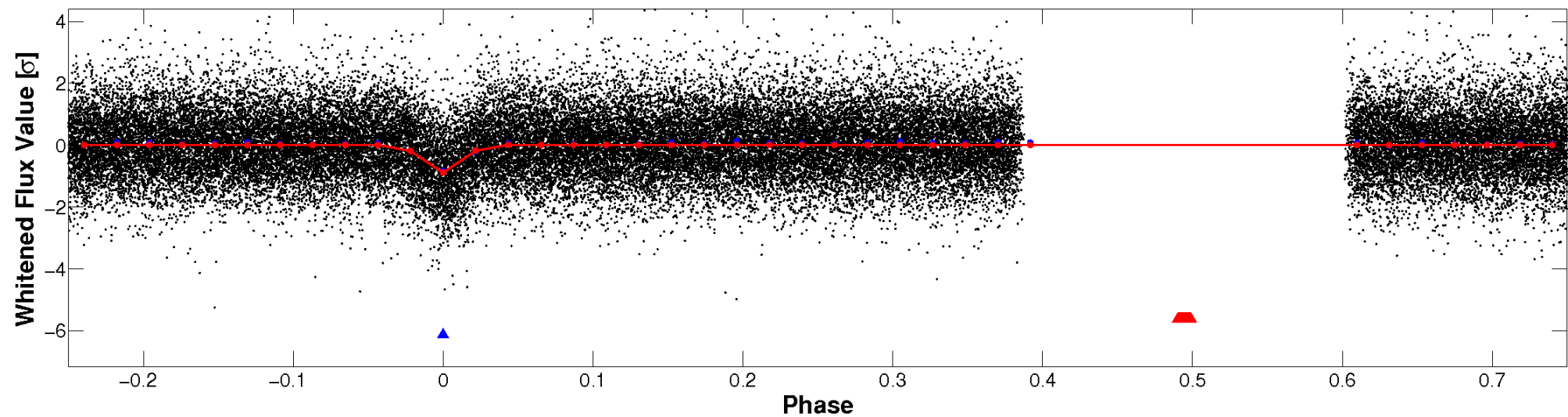


Non-Whitened Vs. Whitened Light Curve

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

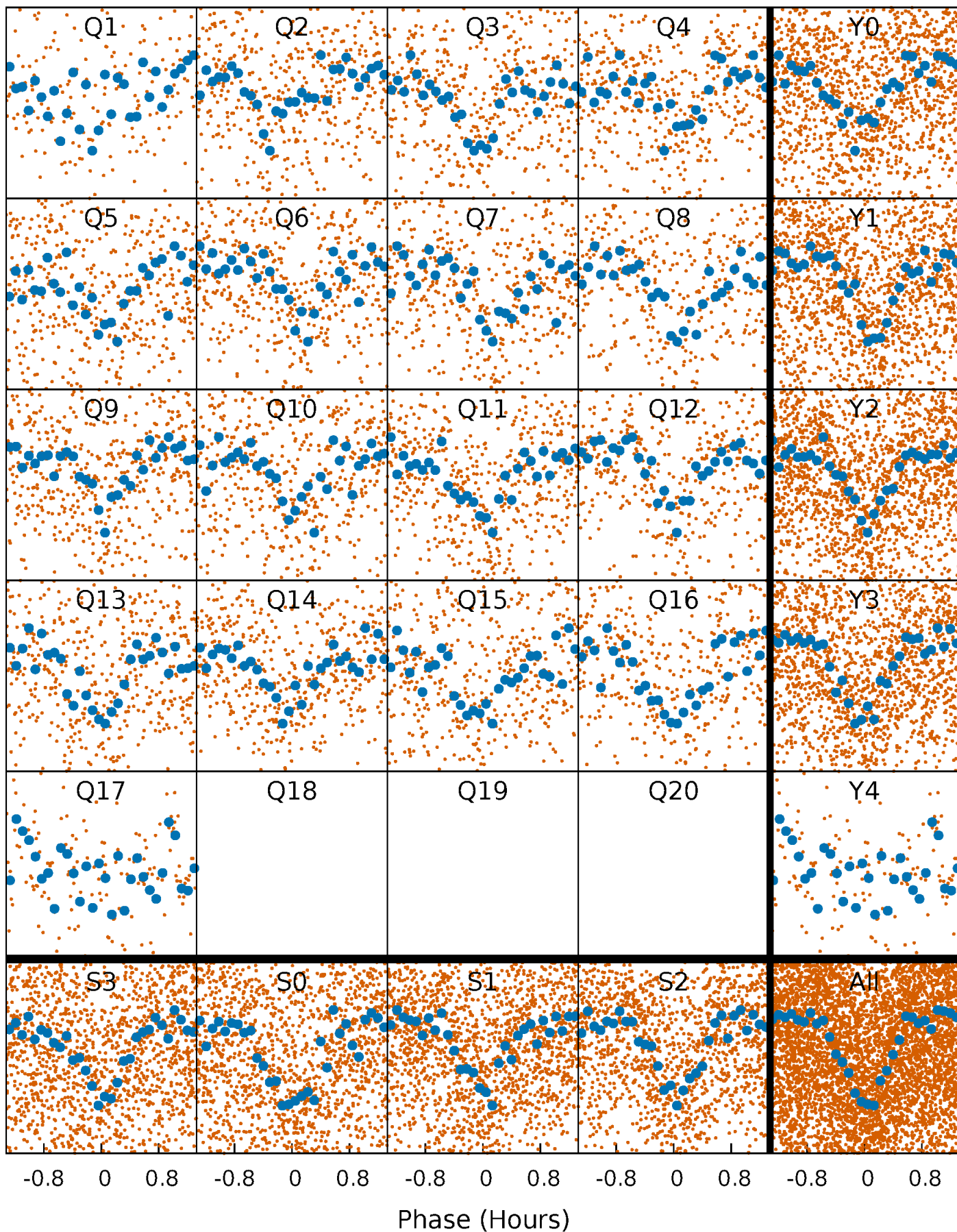


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



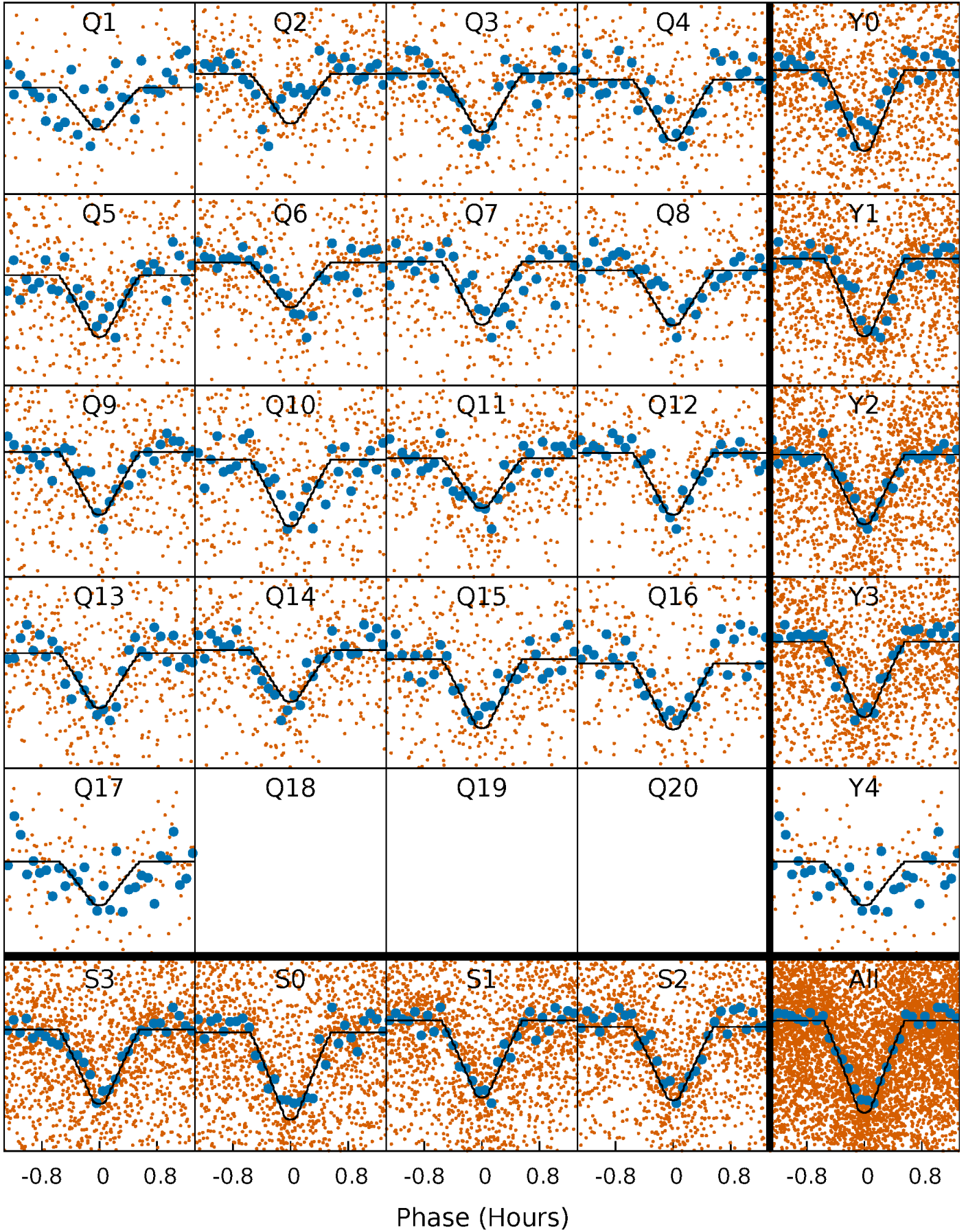
PDC Quarter-Phased Transit Curves

TCE 006750902-02 $P = 0.938667$ Days $T_0 = 132.206876$ (BKJD)



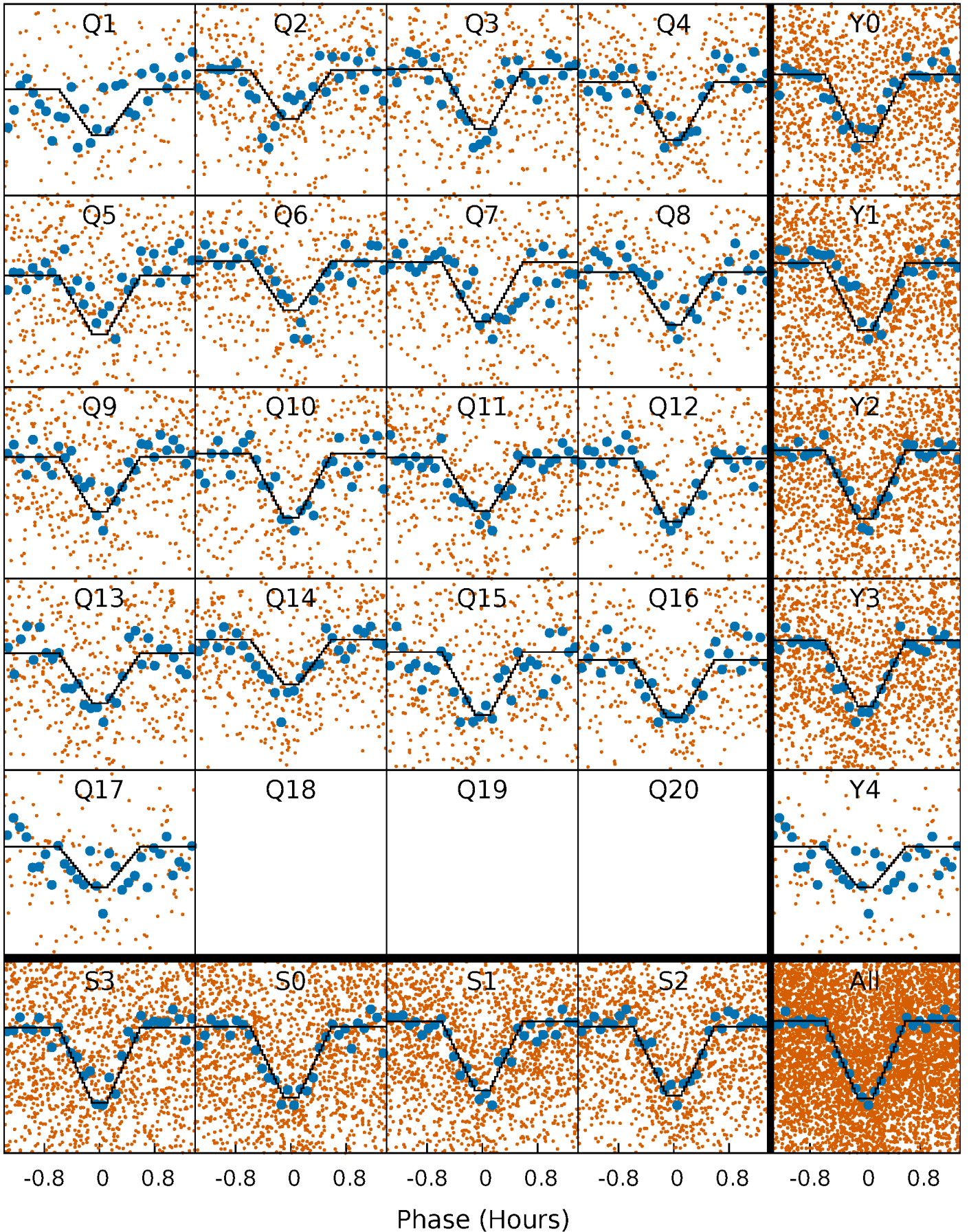
DV Quarter-Phased Transit Curves

TCE 006750902-02 $P = 0.938667$ Days $T_0 = 132.206876$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

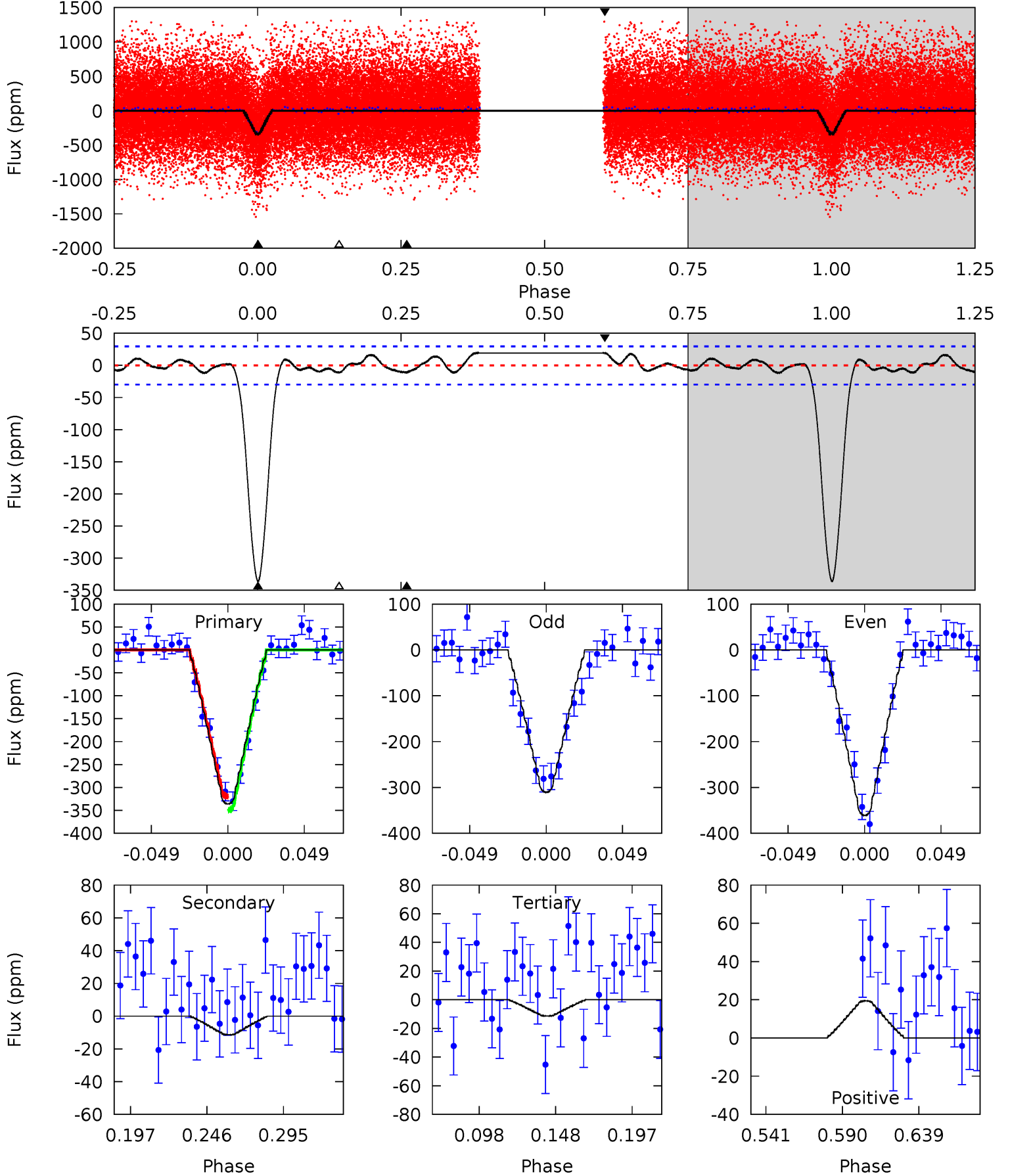
TCE 006750902-02 P= 0.938668 Days $T_0=132.206657$ (BKJD)



DV Model-Shift Uniqueness Test

006750902-02, P = 0.938667 Days, E = 131.268209 Days

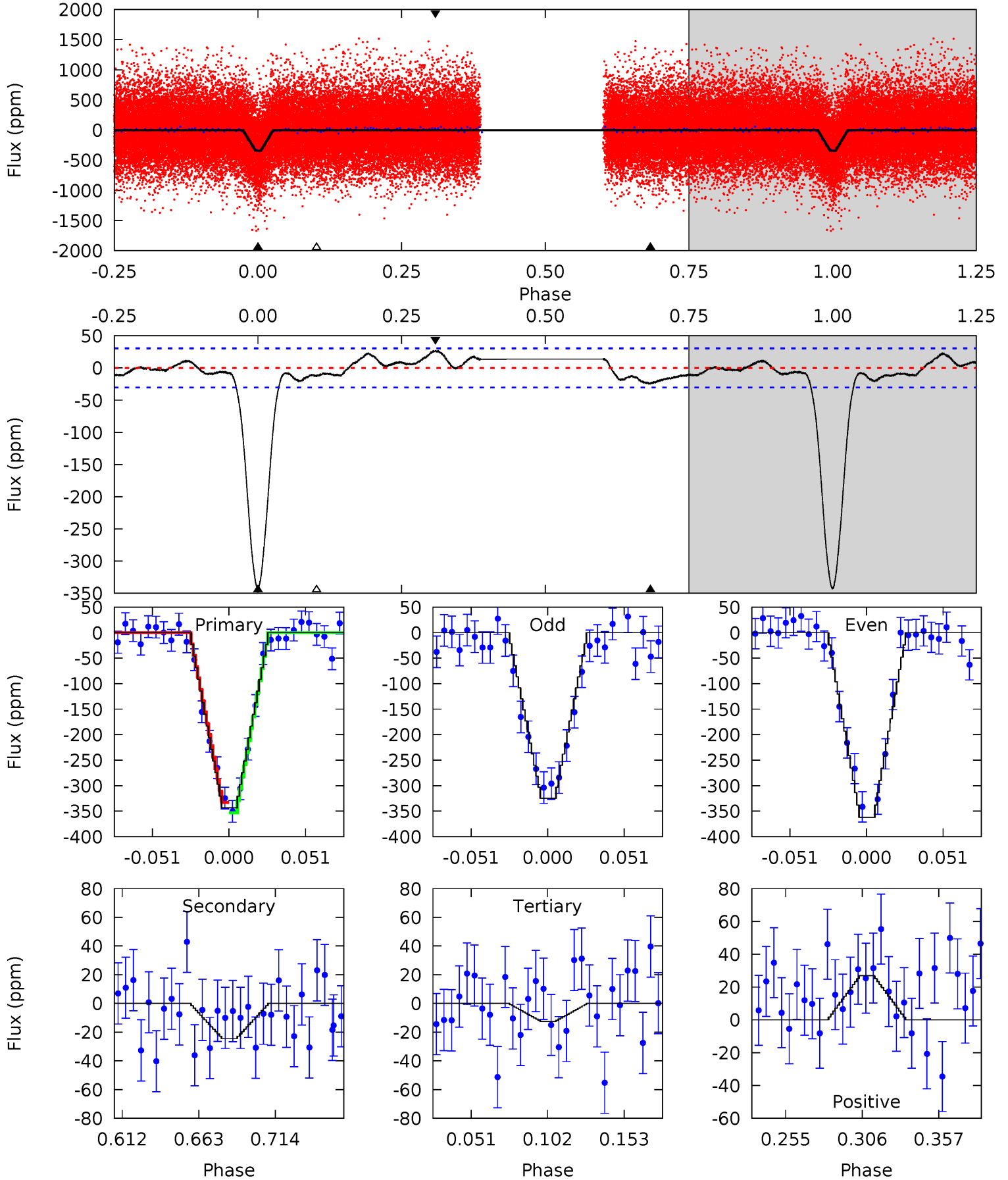
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.2	1.80	1.80	3.08	4.71	1.97	1.25	51.4	50.1	0.00	-1.27	4.04	0.98	0.06	2.39



Alt Model-Shift Uniqueness Test

006750902-02, P = 0.938668 Days, E = 131.267989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.1	3.78	1.95	4.16	4.70	1.95	1.73	51.1	48.9	1.83	-0.38	2.89	0.98	0.07	1.58



Stellar Parameters For KIC 006750902

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5888^{+159}_{-159}	$4.394^{+0.124}_{-0.186}$	$-0.240^{+0.300}_{-0.300}$	$1.008^{+0.284}_{-0.153}$	$0.918^{+0.131}_{-0.098}$	$1.262^{+0.716}_{-0.618}$
	+3%/-3%	+3%/-4%	+125%/-125%	+28%/-15%	+14%/-11%	+57%/-49%
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 006750902-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 6	$1.96^{+0.66}_{-0.56}$	2727^{+182}_{-163}	2777^{+649}_{-5391}	$0.492^{+0.717}_{-0.308}$
Alt.	-24 ± 6	$2.09^{+0.66}_{-0.65}$	2711^{+199}_{-133}	3311^{+515}_{-461}	$1.019^{+1.020}_{-0.493}$

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 $A_{obs} \gg 1.0$

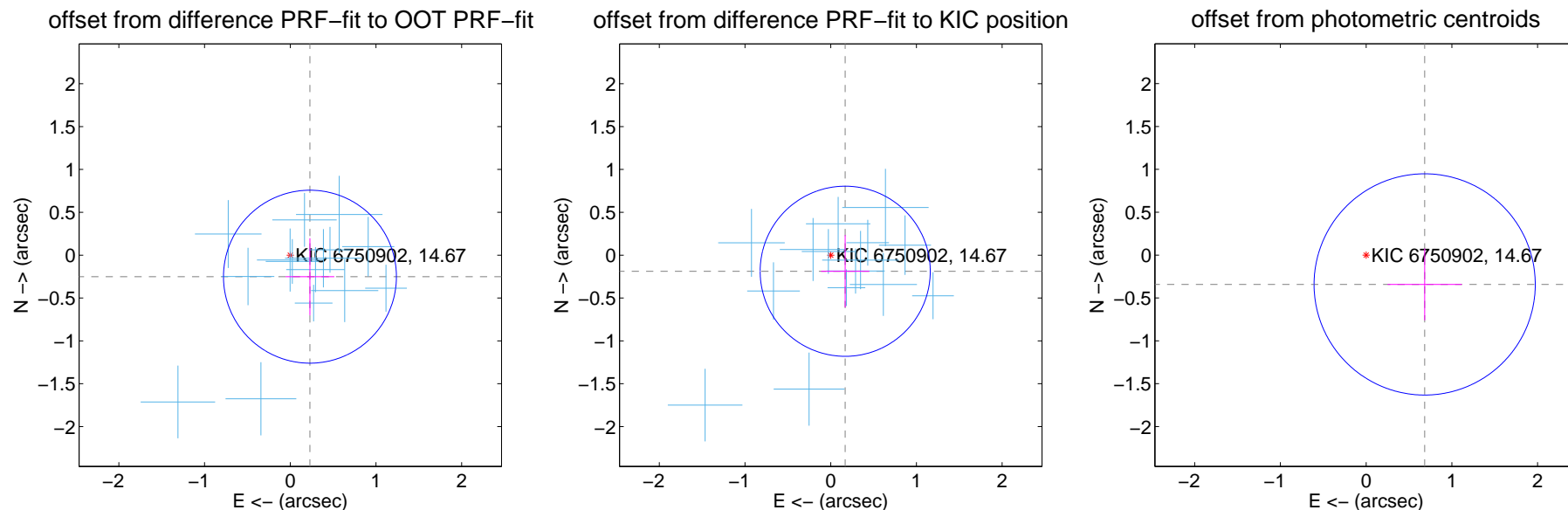
DV Centroid Data

Supplemental centroid analysis for 006750902-02. Kepler magnitude: 14.67. Transit SNR 35.86

There are 15 quarters with good PRF difference image offsets

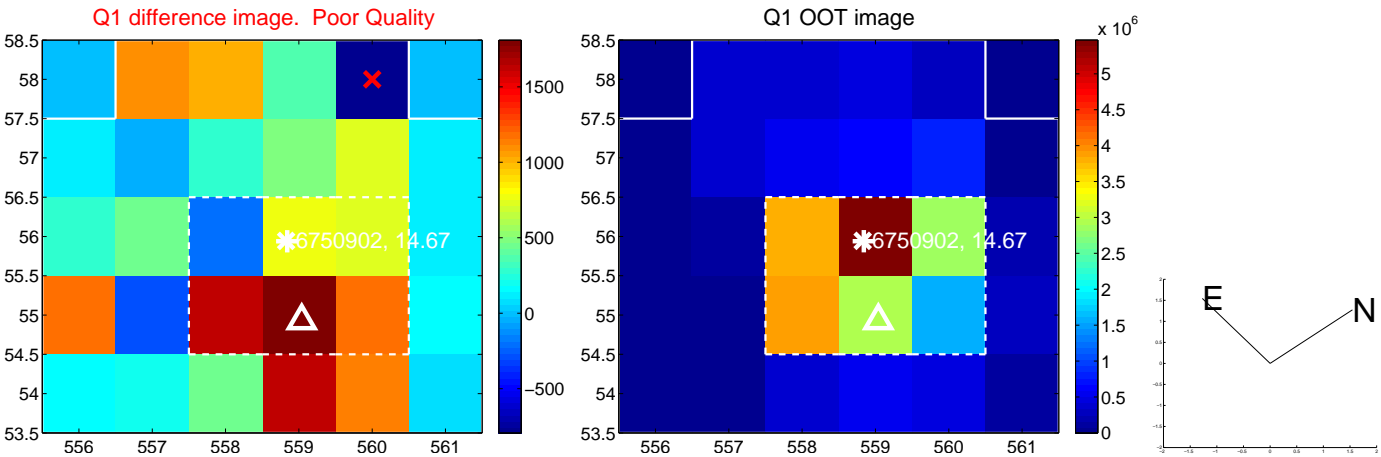
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.341 ± 0.336	1.01	-0.230 ± 0.284	-0.251 ± 0.449
PRF-fit source offset from KIC position	0.253 ± 0.331	0.76	-0.169 ± 0.281	-0.188 ± 0.422
photometric centroid source offset	0.76 ± 0.43	1.78	-0.68 ± 0.43	-0.34 ± 0.42

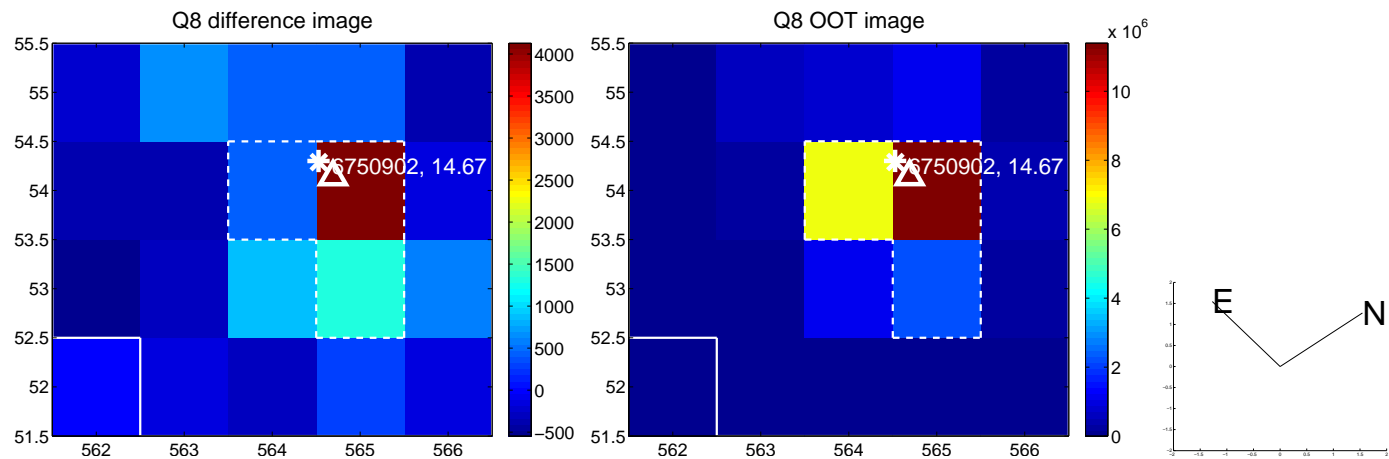
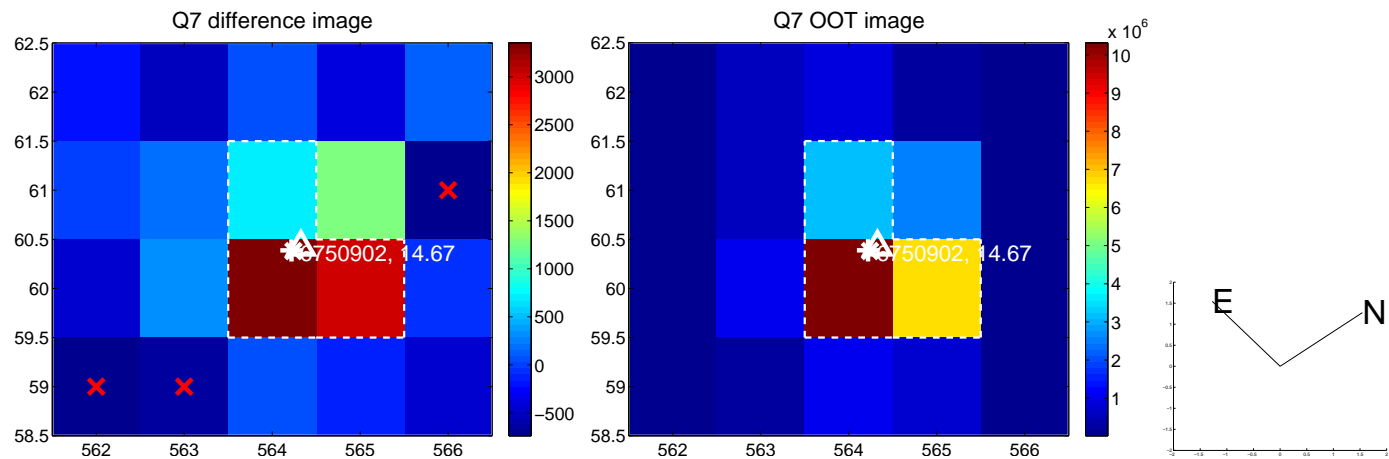
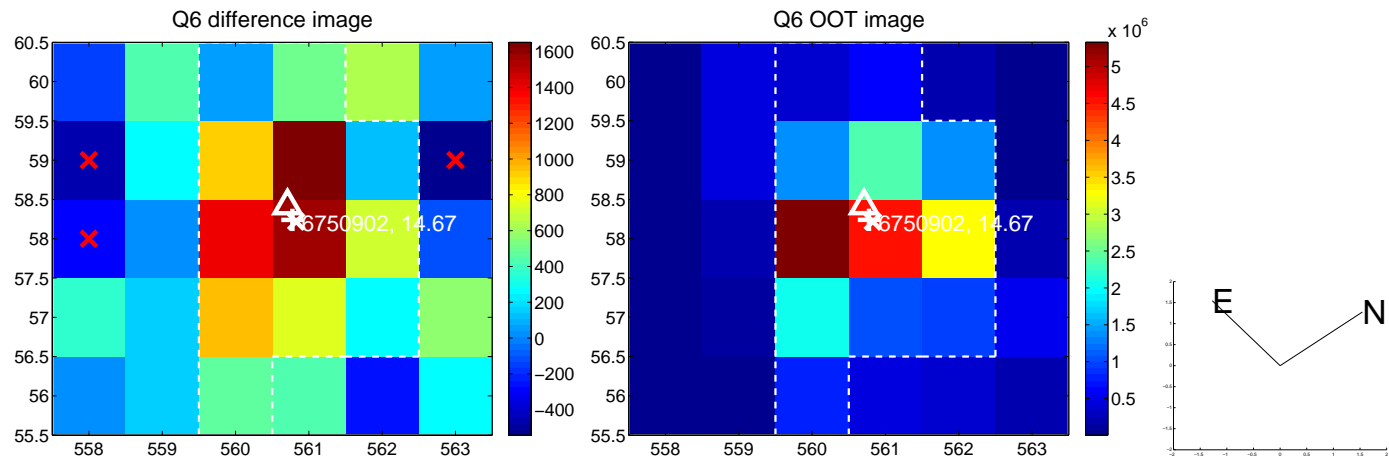
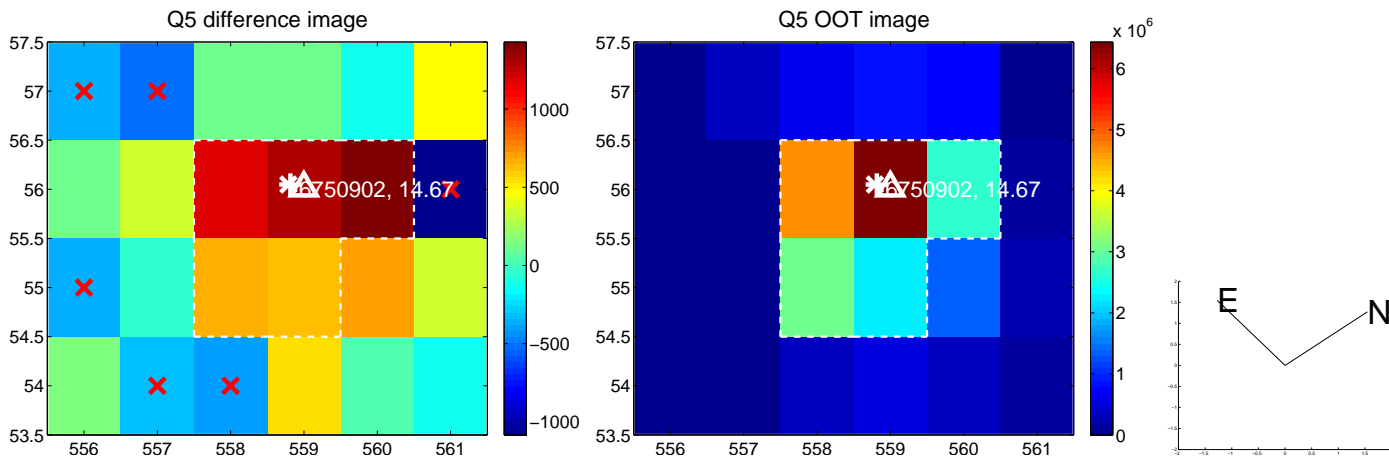


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

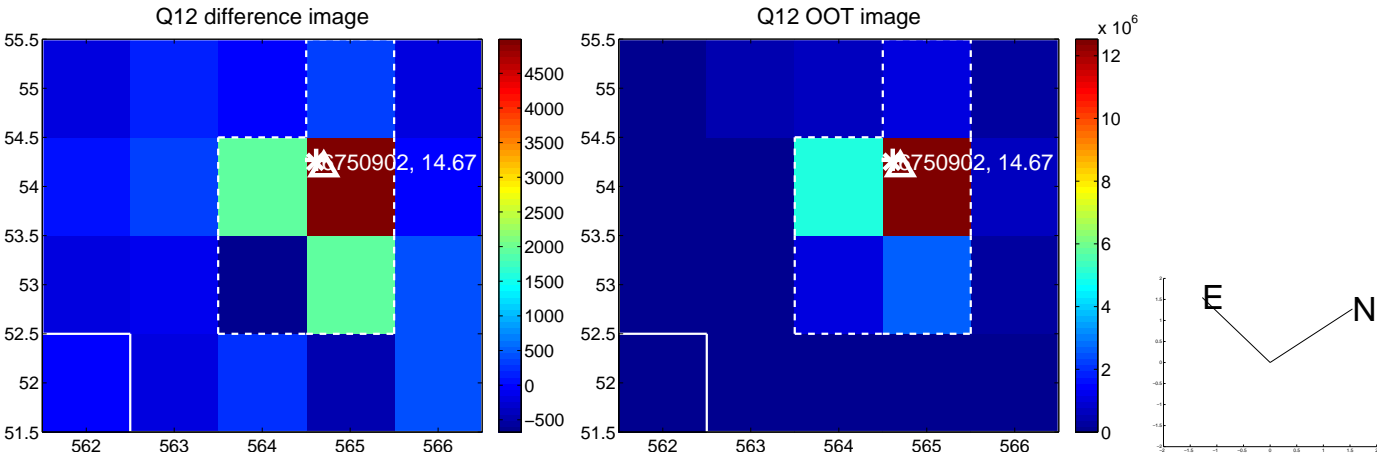
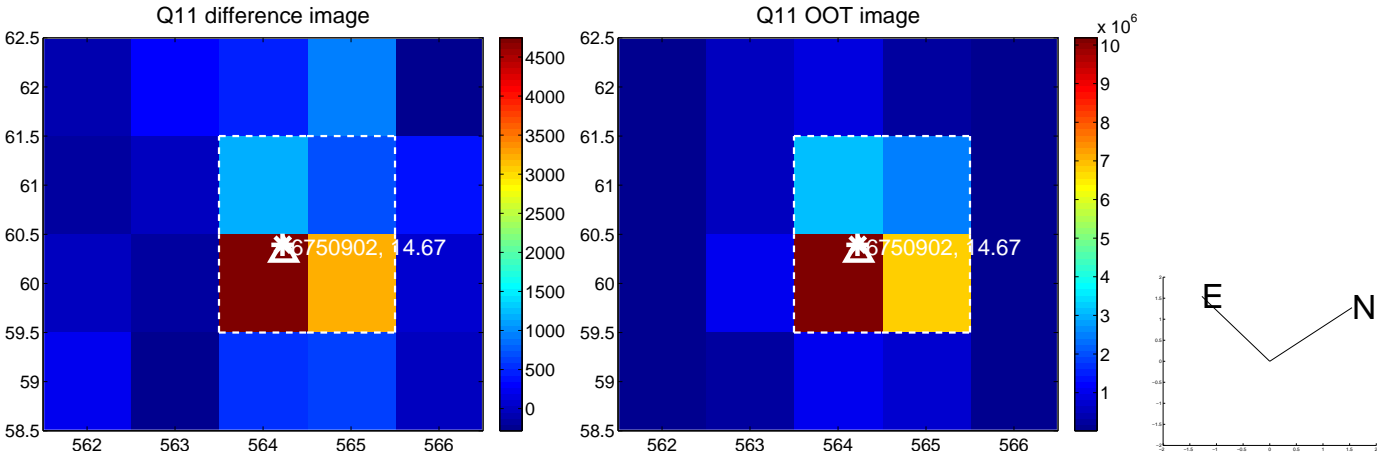
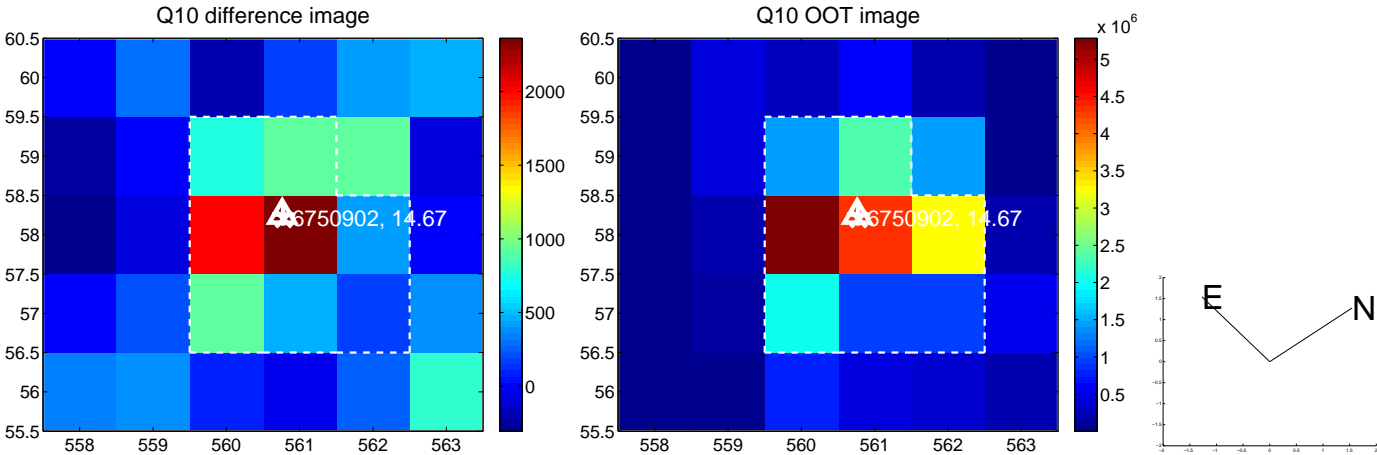
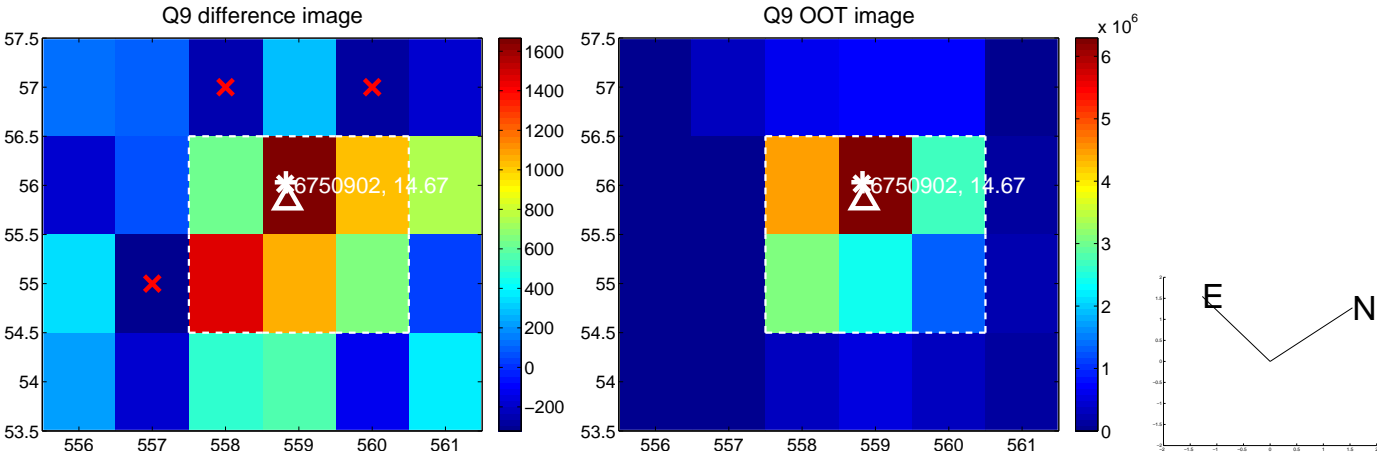
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



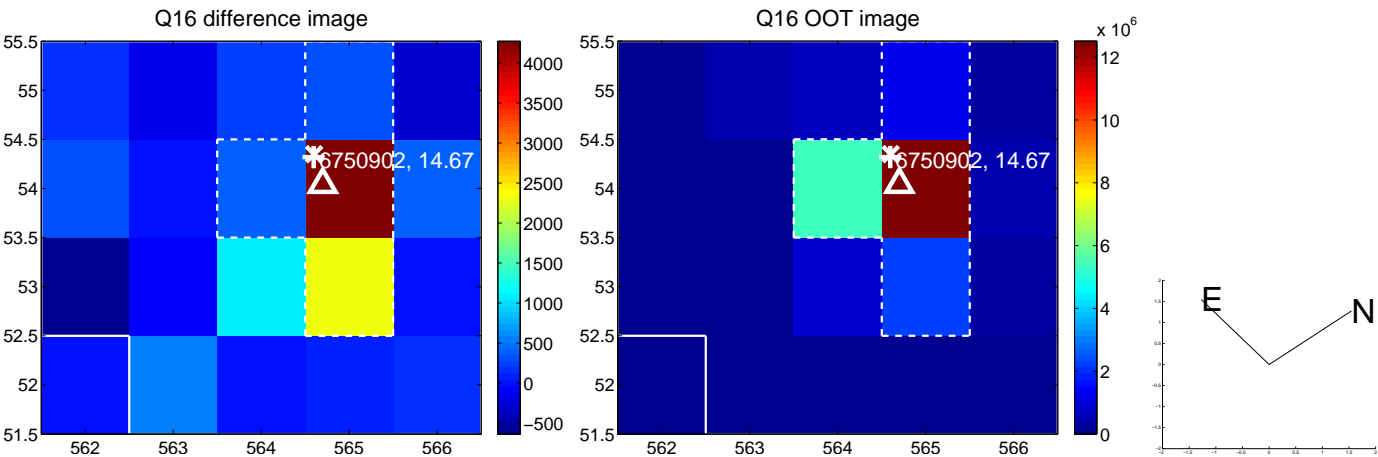
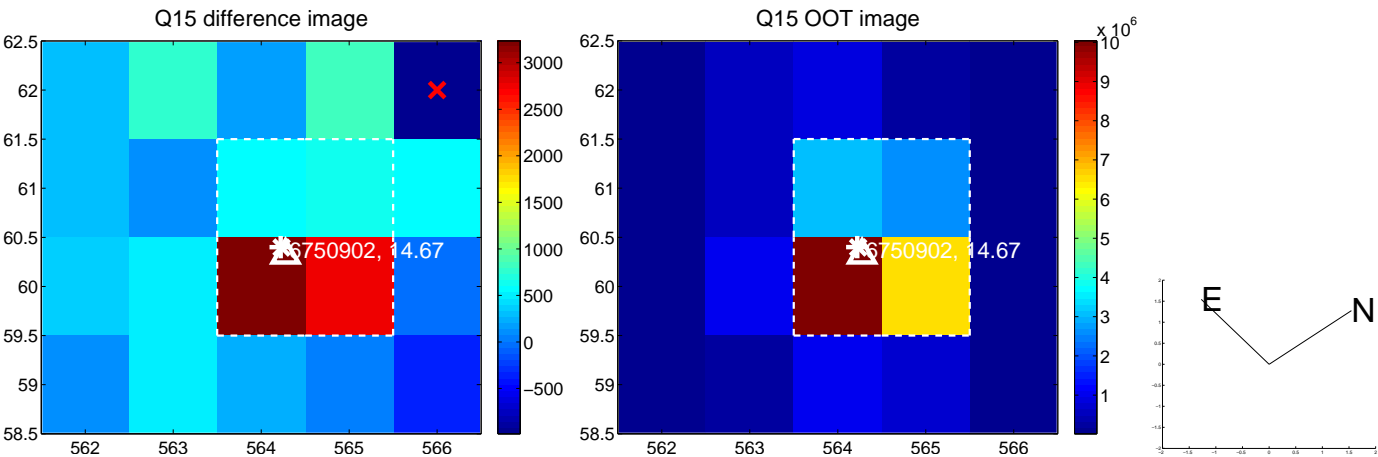
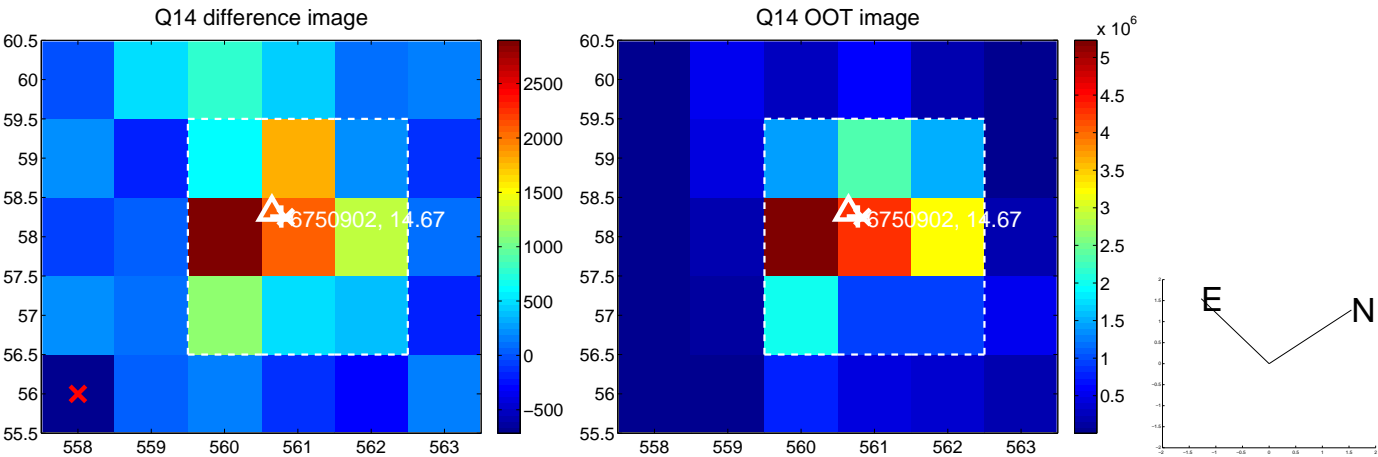
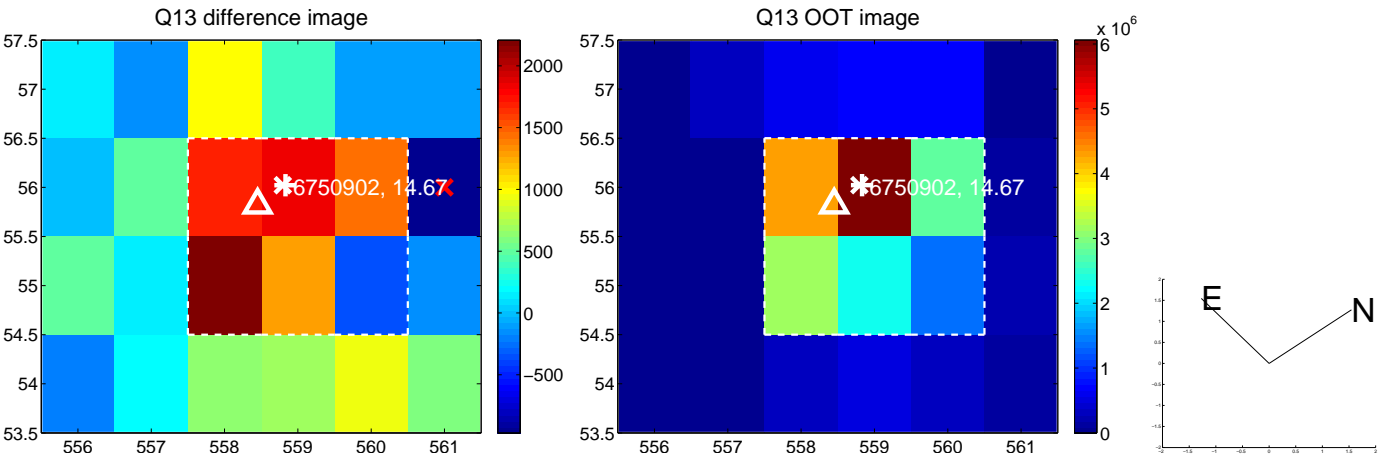
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



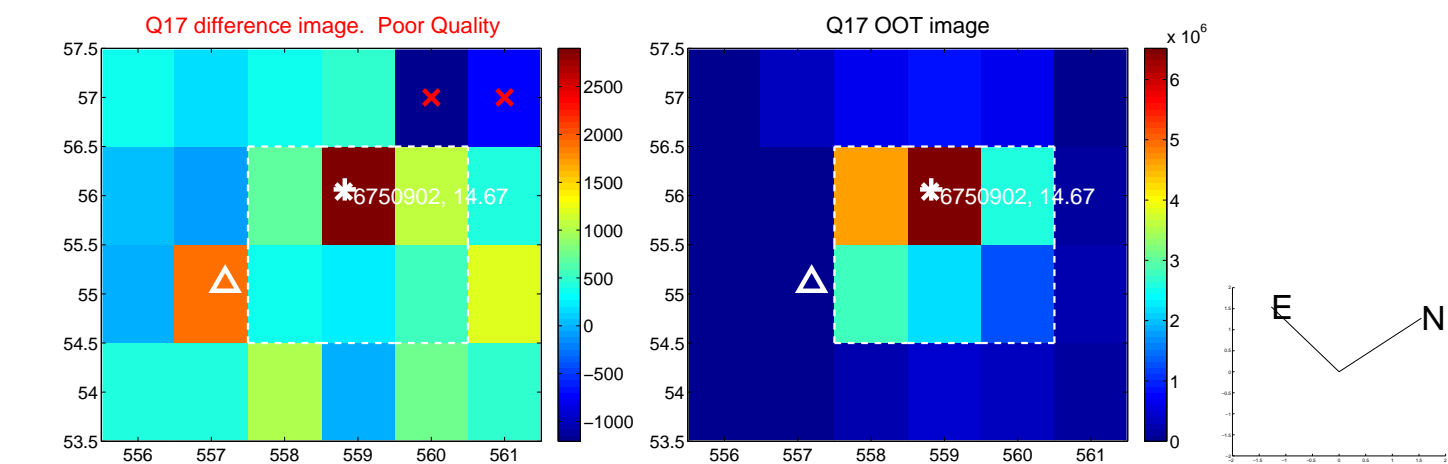
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



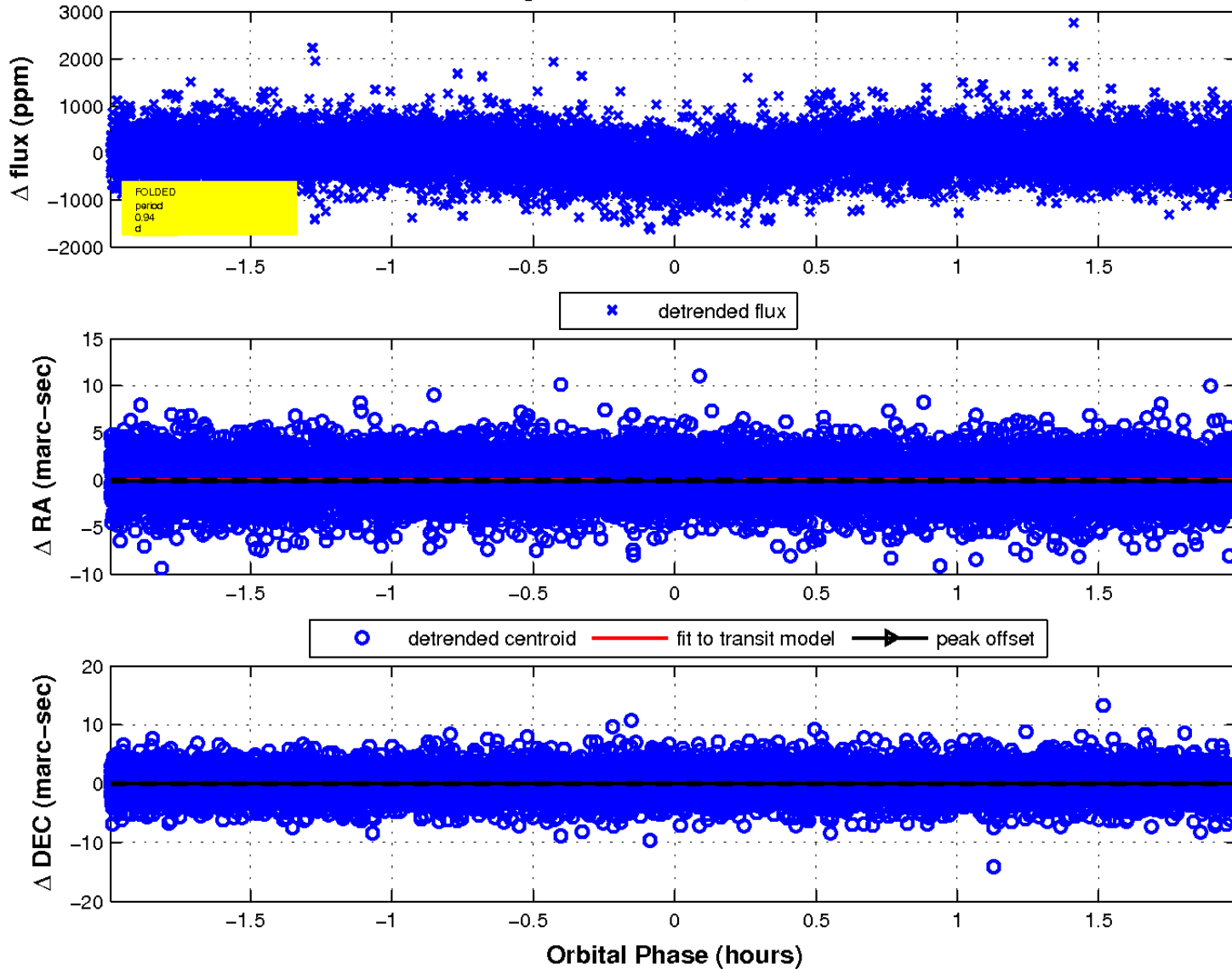
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

