

KIC 011389771

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})
011389771-01	OBS	1436.01	2.508558	132.501957	214.8	2.442	22.0	24.9	0.88	5814	1.53	632.24
011389771-02	OBS	1436.02	13.751288	144.613898	370.0	3.994	20.4	21.6	0.88	5814	1.86	65.41
011389771-03	OBS	1436.03	5.419048	131.646028	220.9	2.433	15.1	16.4	0.88	5814	1.55	226.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011389771-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011389771-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011389771-03	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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

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

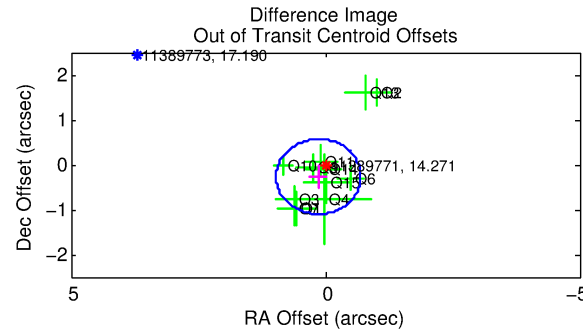
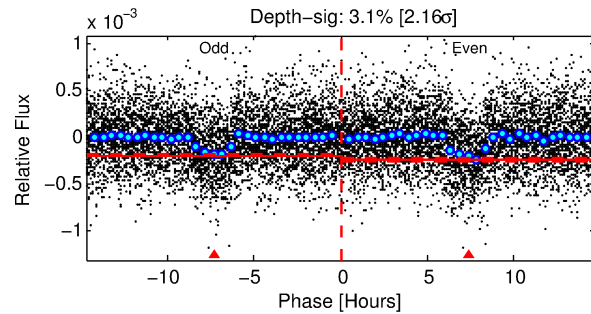
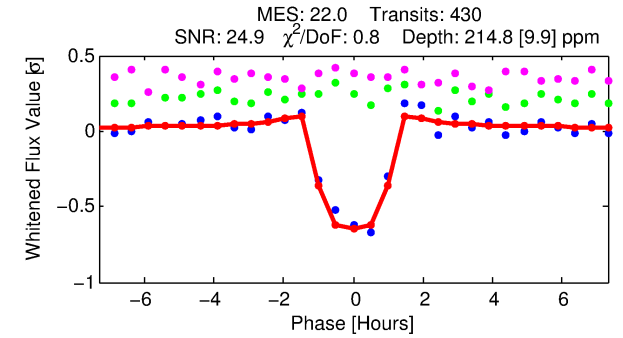
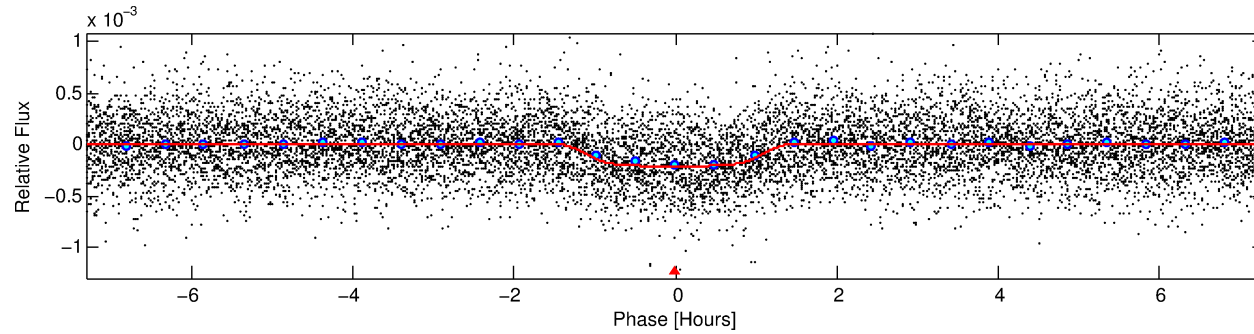
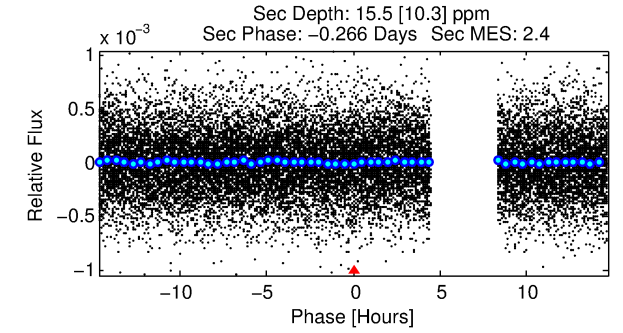
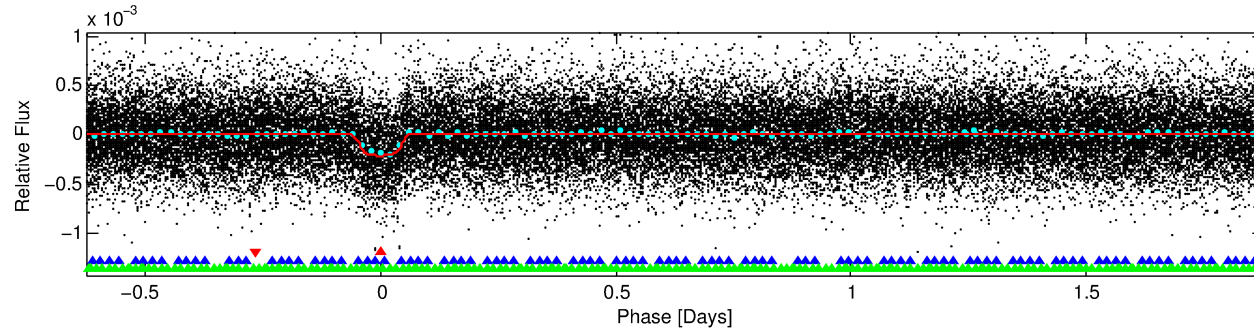
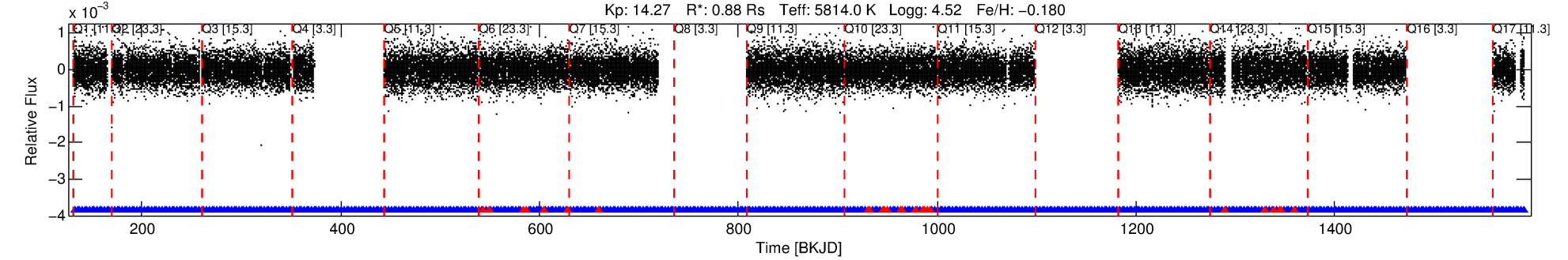
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011389771-01

No Significant Match Found

DV One-Page Summary

KIC: 11389771 Candidate: 1 of 3 Period: 2.509 d
KOI: K01436.01 Name: Kepler-301b Corr: 0.976



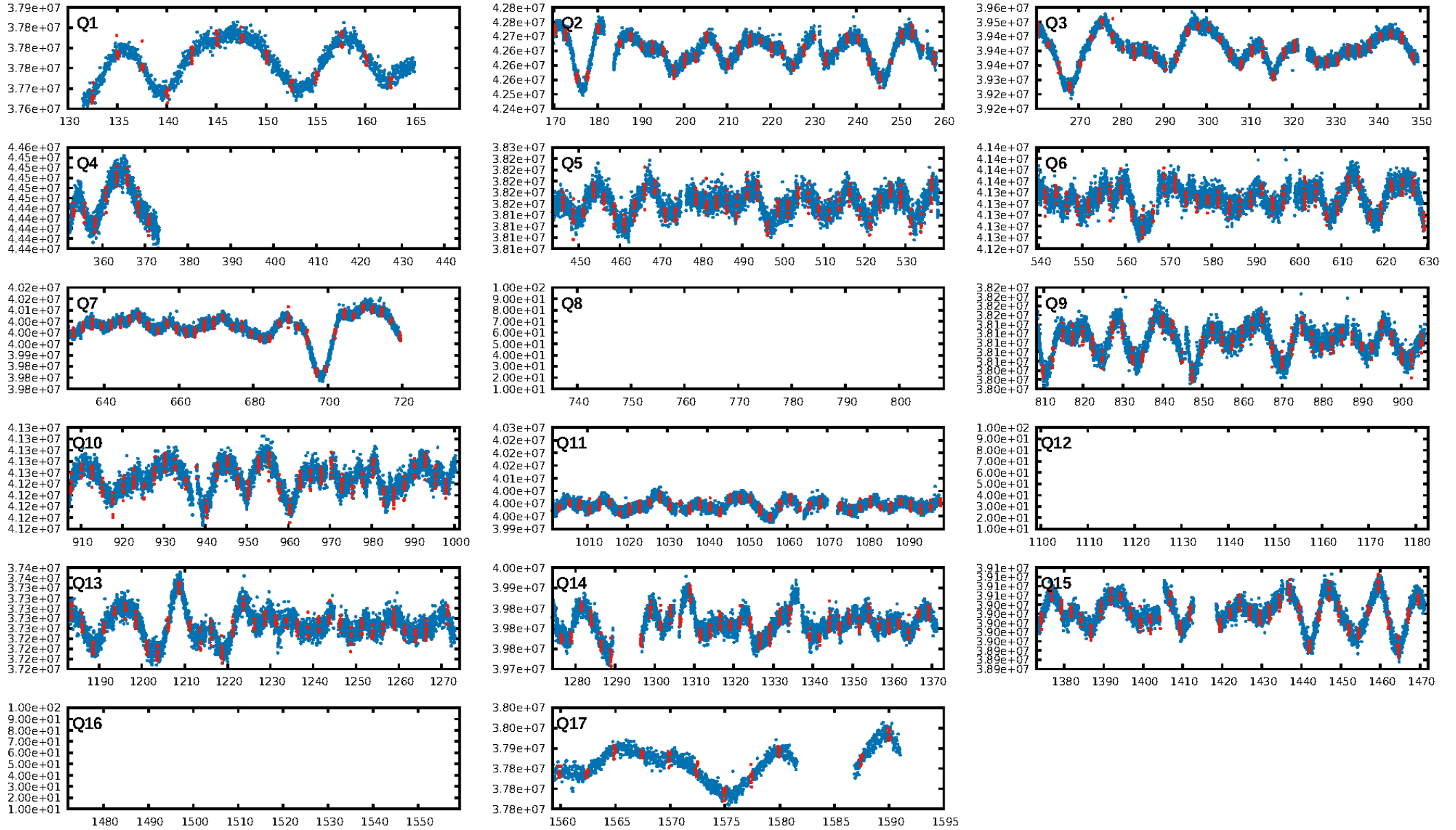
DV Fit Results:

Period = 2.50856 [0.00001] d
Epoch = 132.5020 [0.0013] BKJD
Rp/R* = 0.0159 [0.0034]
a/R* = 3.83 [3.68]
b = 0.90 [0.22]
Seff = 632.24 [238.36]
Teff = 1279 [121] K
Rp = 1.53 [0.54] Re
a = 0.0355 [0.0087] AU
Ag = 4.59 [3.96] [0.91σ]
Teffp = 2893 [573] K [2.76σ]

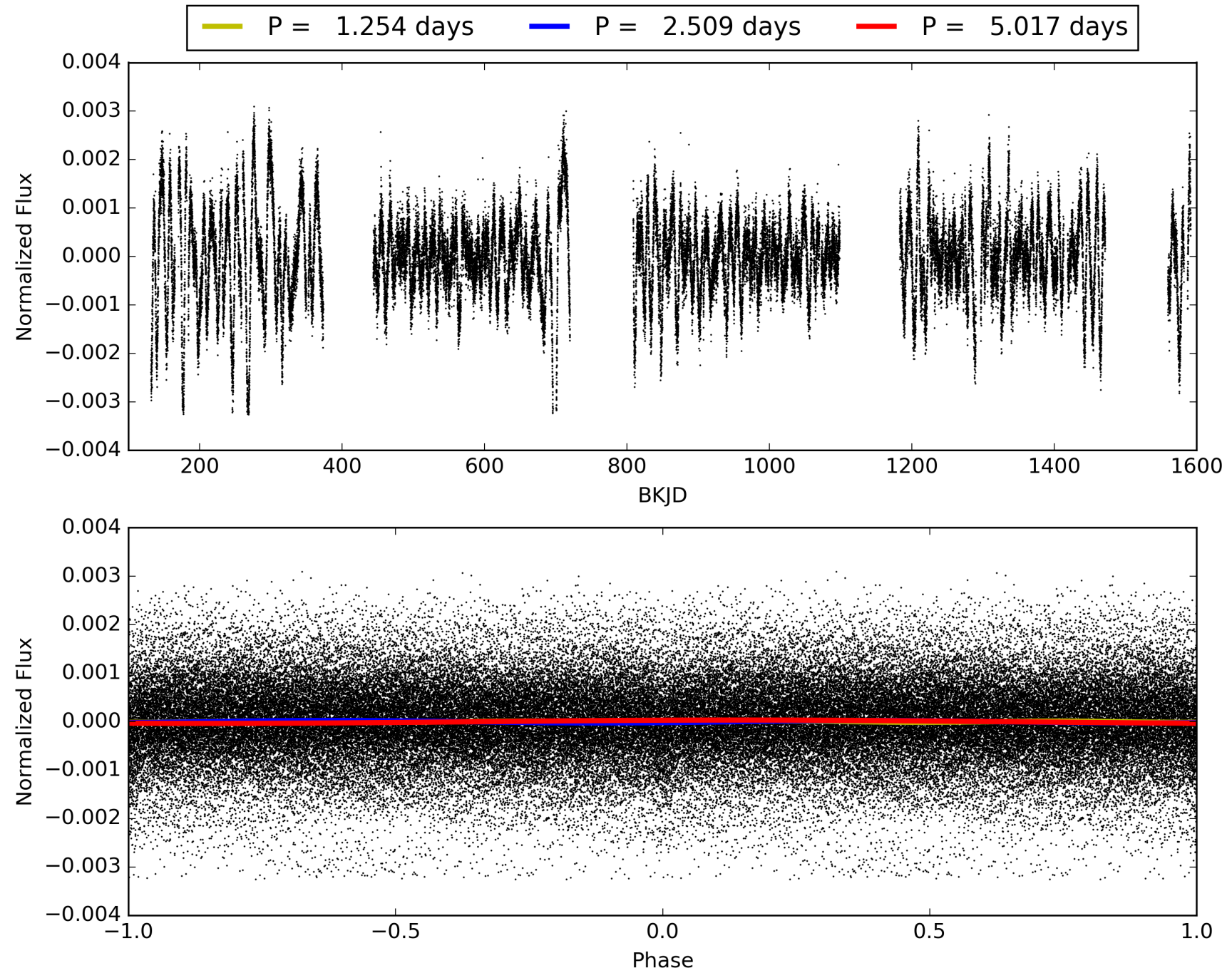
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [20.26σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.17e-98
RollingBand-fgt: 0.94 [373/398]
GhostDiagnostic-chr: 14.96
Centroid-sig: 8.0%
Centroid-so: 0.518 arcsec [1.02σ]
OotOffset-rm: 0.300 arcsec [1.08σ]
KicOffset-rm: 0.343 arcsec [1.39σ]
OotOffset-st: 4/4/1/3 [12]
KicOffset-st: 4/4/1/3 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 011389771-01, PDC Light Curves

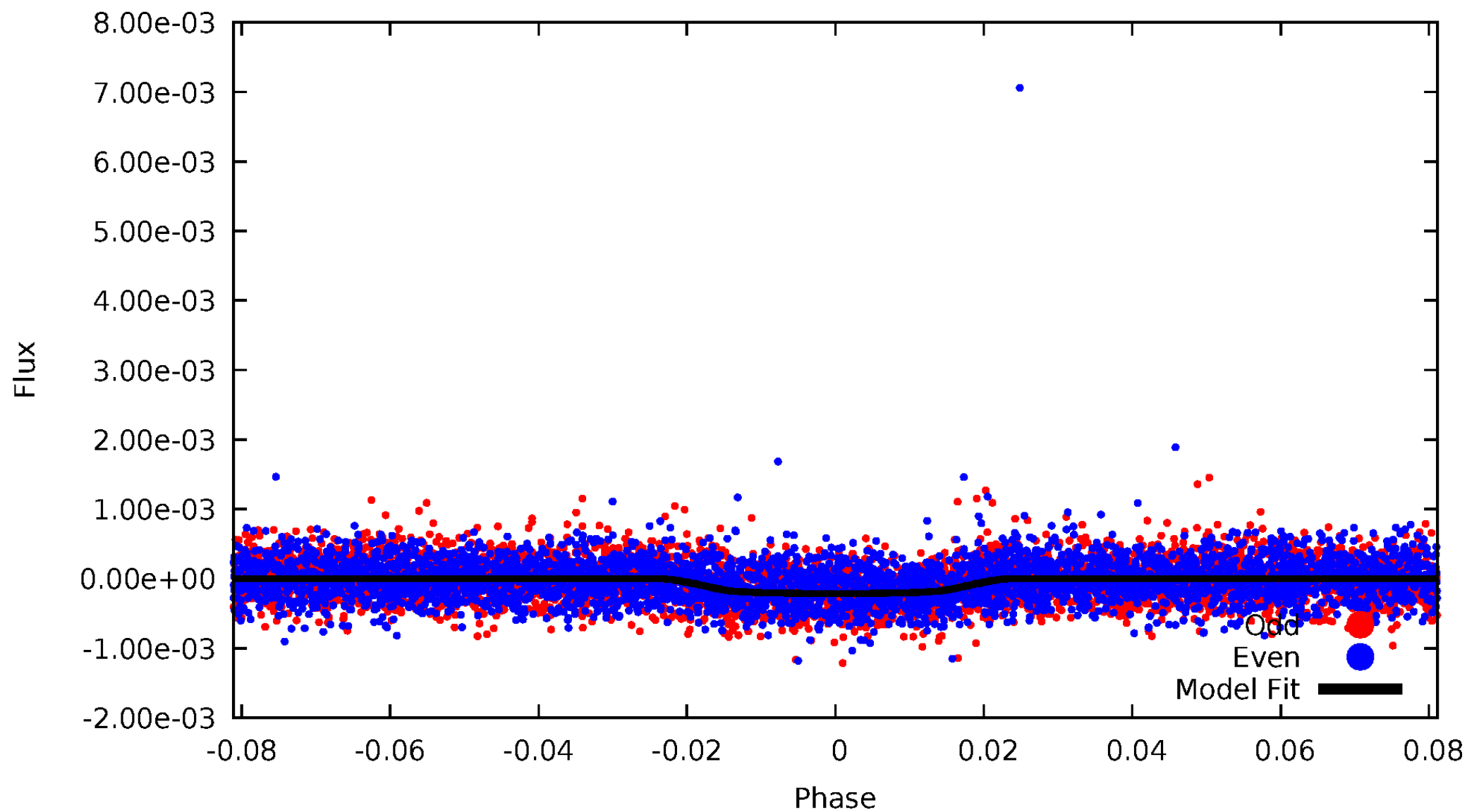


TCE 011389771-01



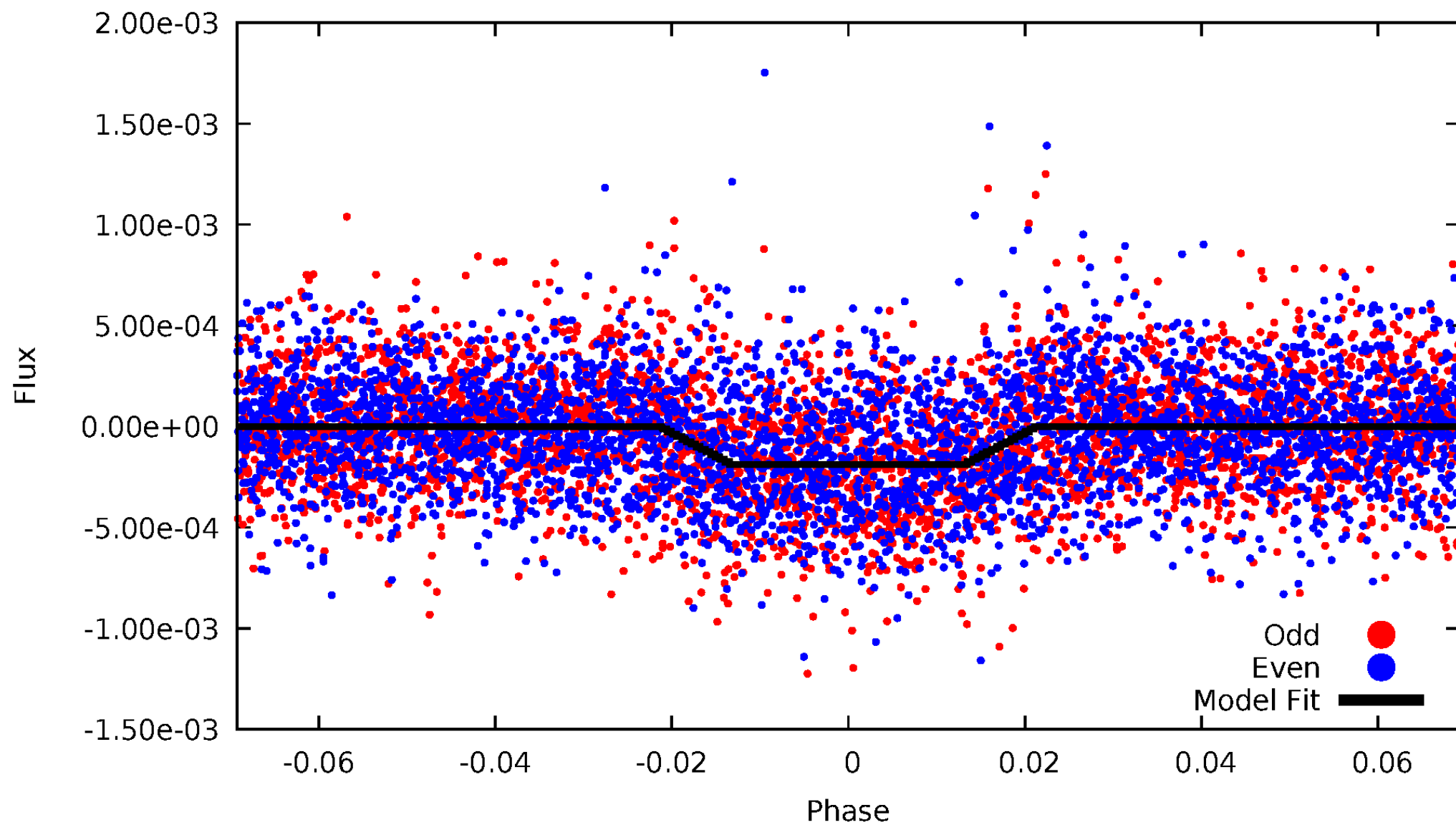
DV Odd/Even

TCE 011389771-01

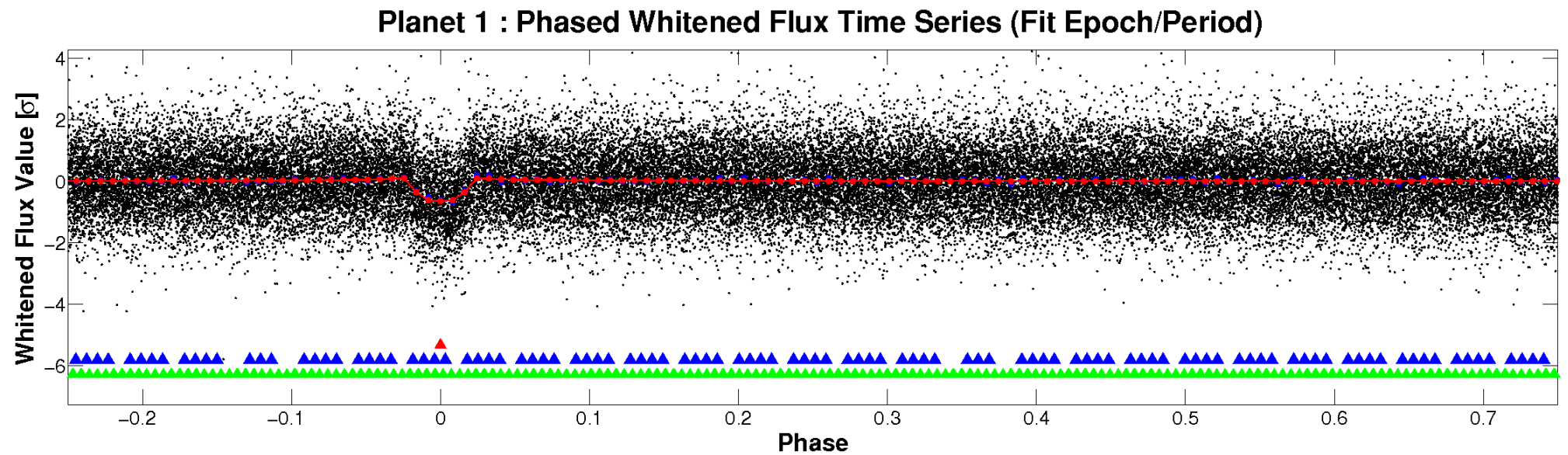
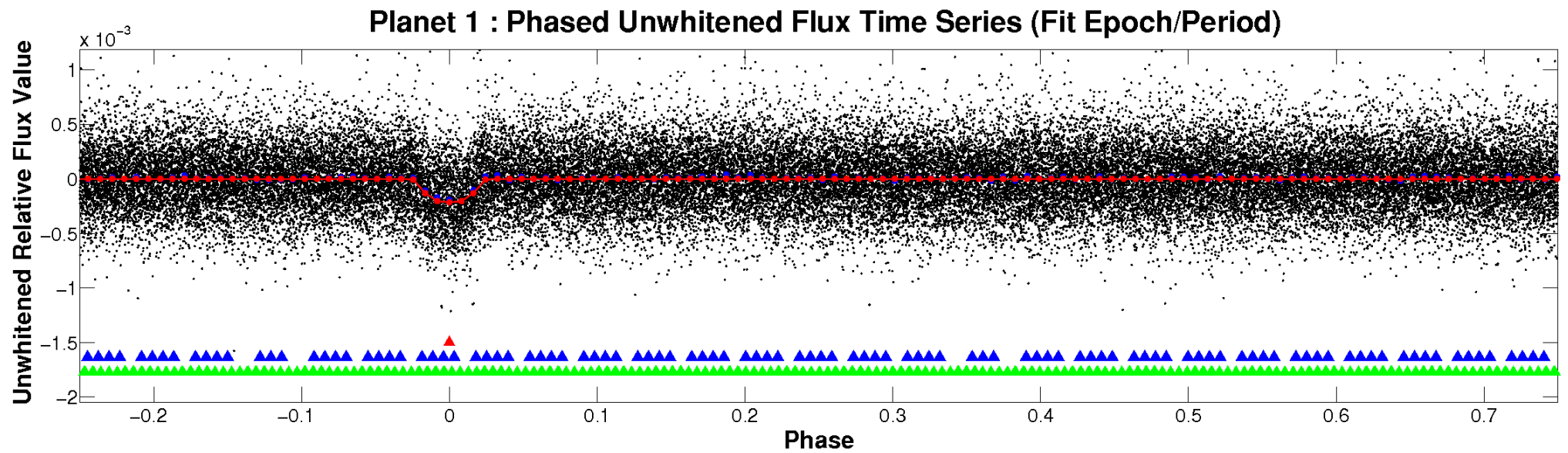


ALT Odd/Even

TCE 011389771-01

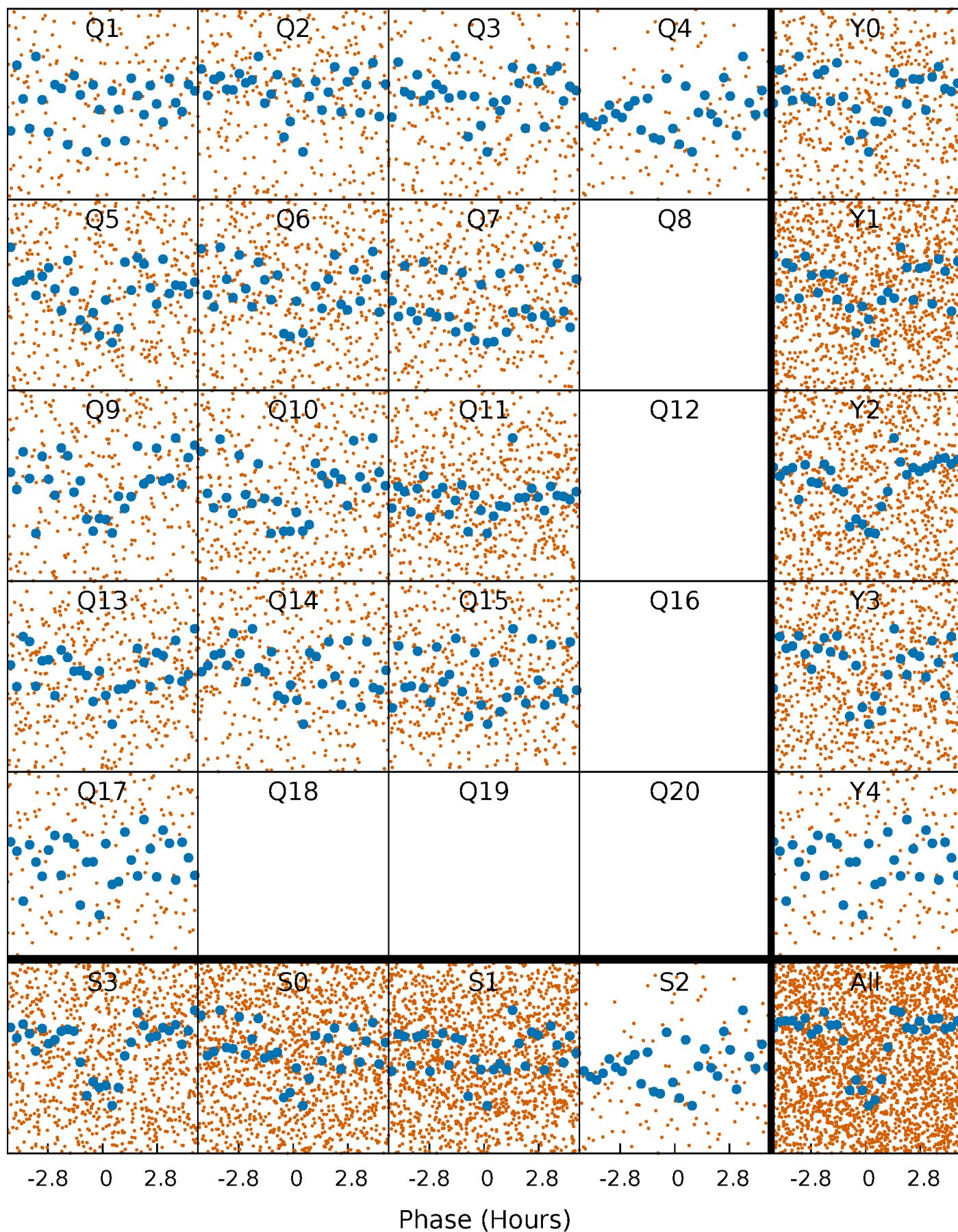


Non-Whitened Vs. Whitened Light Curve



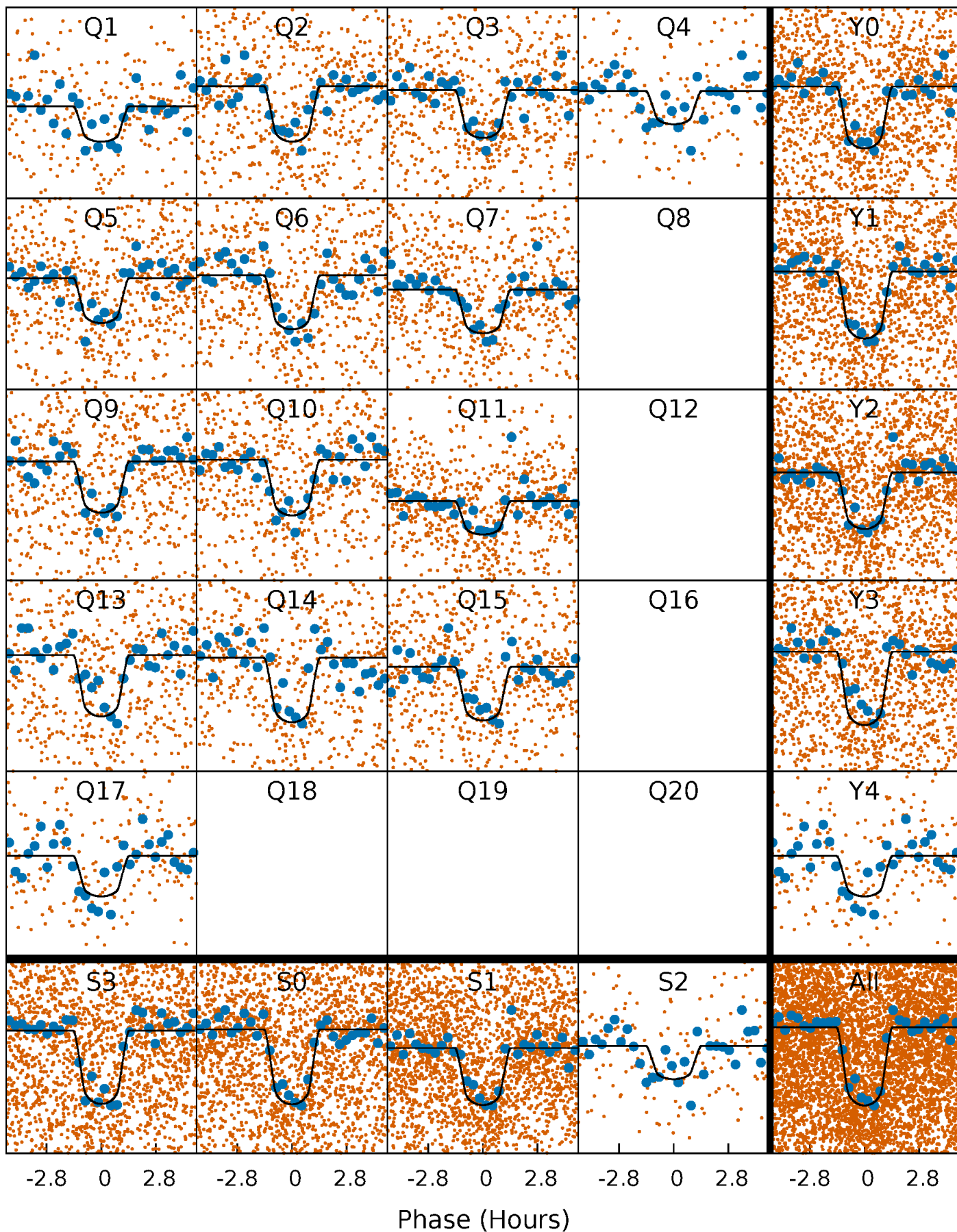
PDC Quarter-Phased Transit Curves

TCE 011389771-01 P= 2.508558 Days $T_0=132.501957$ (BKJD)



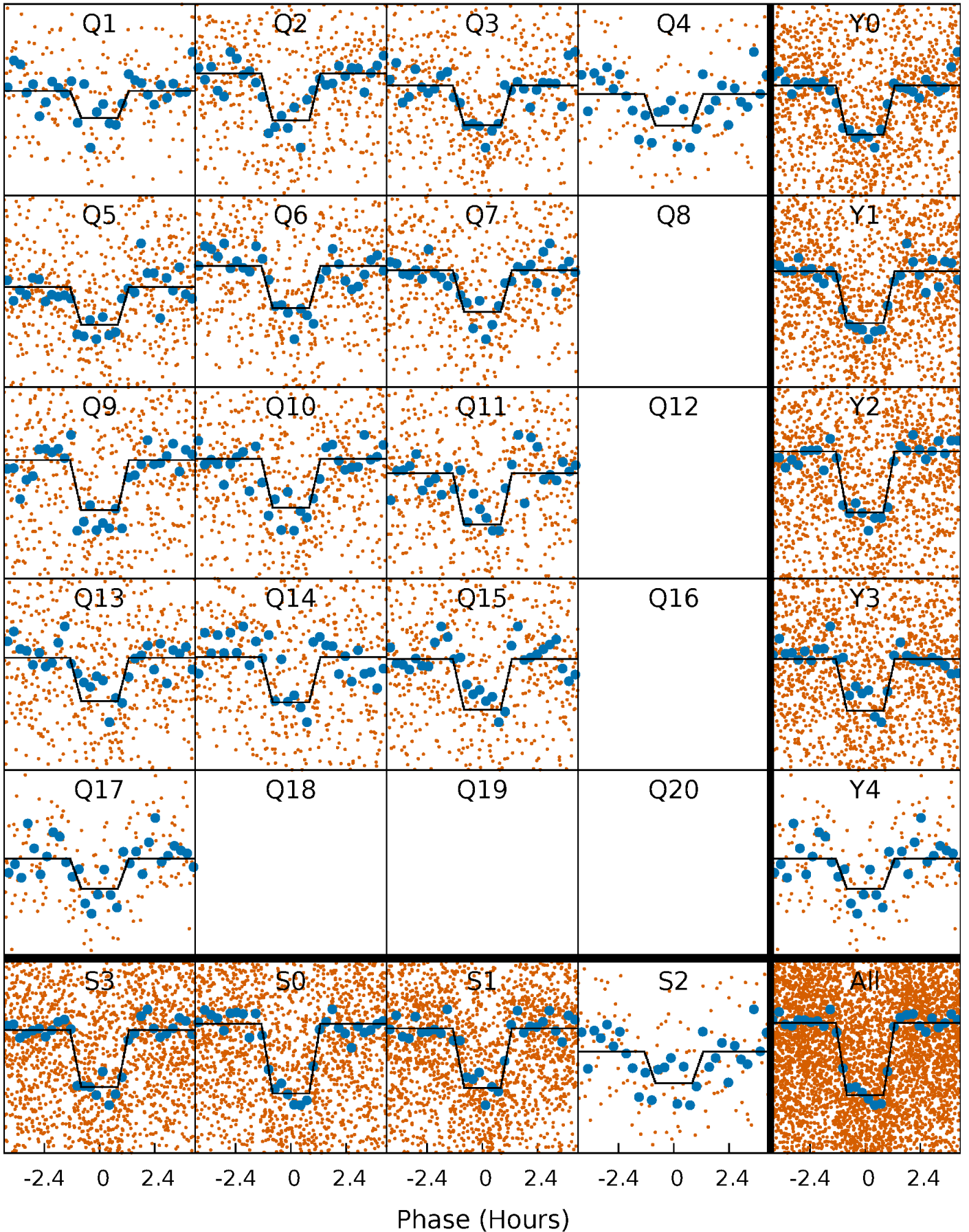
DV Quarter-Phased Transit Curves

TCE 011389771-01 P= 2.508558 Days $T_0=132.501957$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

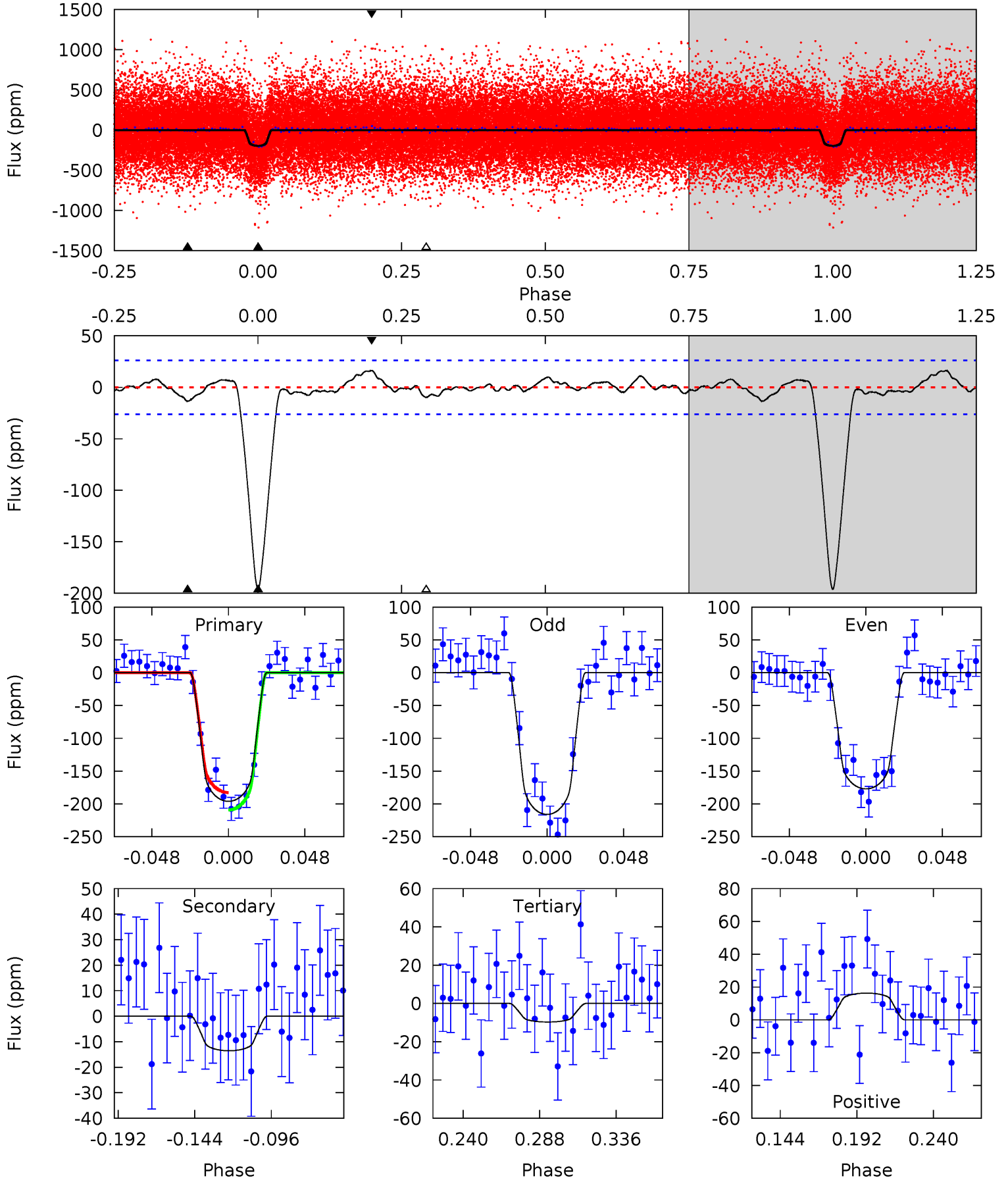
TCE 011389771-01 P= 2.508538 Days $T_0=132.506406$ (BKJD)



DV Model-Shift Uniqueness Test

011389771-01, P = 2.508558 Days, E = 129.993399 Days

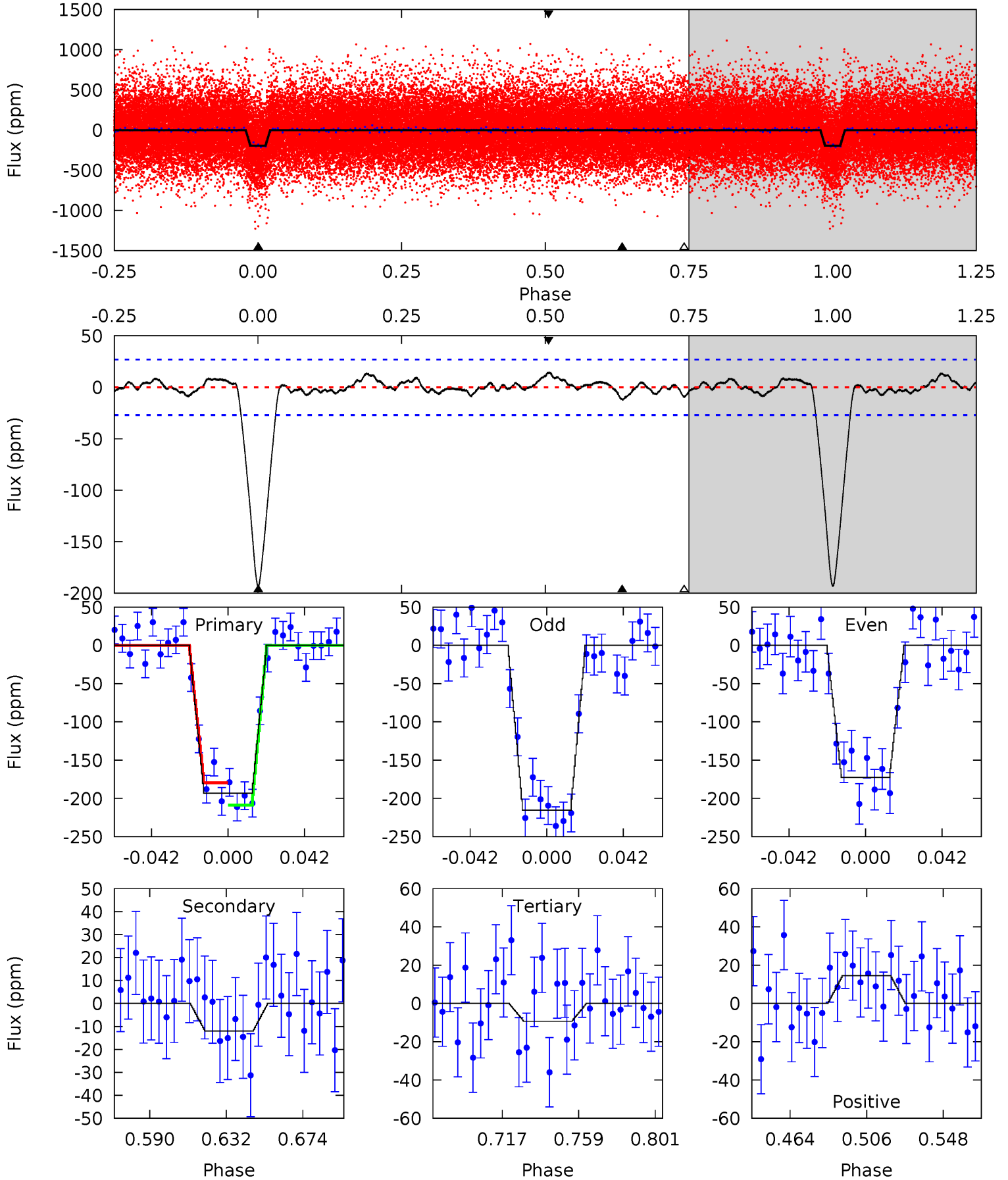
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.3	2.44	1.75	2.94	4.72	1.98	0.93	33.6	32.4	0.69	-0.50	3.52	0.98	0.08	2.40



Alt Model-Shift Uniqueness Test

011389771-01, P = 2.508538 Days, E = 129.997868 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.0	2.11	1.64	2.56	4.74	2.03	0.86	32.3	31.4	0.47	-0.45	3.74	0.95	0.07	2.57



Stellar Parameters For KIC 011389771

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5814^{+139}_{-156}	$4.523^{+0.050}_{-0.200}$	$-0.180^{+0.300}_{-0.300}$	$0.881^{+0.252}_{-0.084}$	$0.944^{+0.110}_{-0.110}$	$1.946^{+0.492}_{-0.948}$
	+2%/-3%	+1%/-4%	+167%/-167%	+29%/-10%	+12%/-12%	+25%/-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 011389771-01 / KOI 1436.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 6	$1.59^{+0.41}_{-0.35}$	1818^{+120}_{-79}	3279^{+352}_{-340}	$3.475^{+3.247}_{-1.671}$
Alt.	-12 ± 6	$1.40^{+0.38}_{-0.39}$	1827^{+115}_{-83}	3359^{+447}_{-390}	$4.027^{+4.111}_{-2.208}$

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

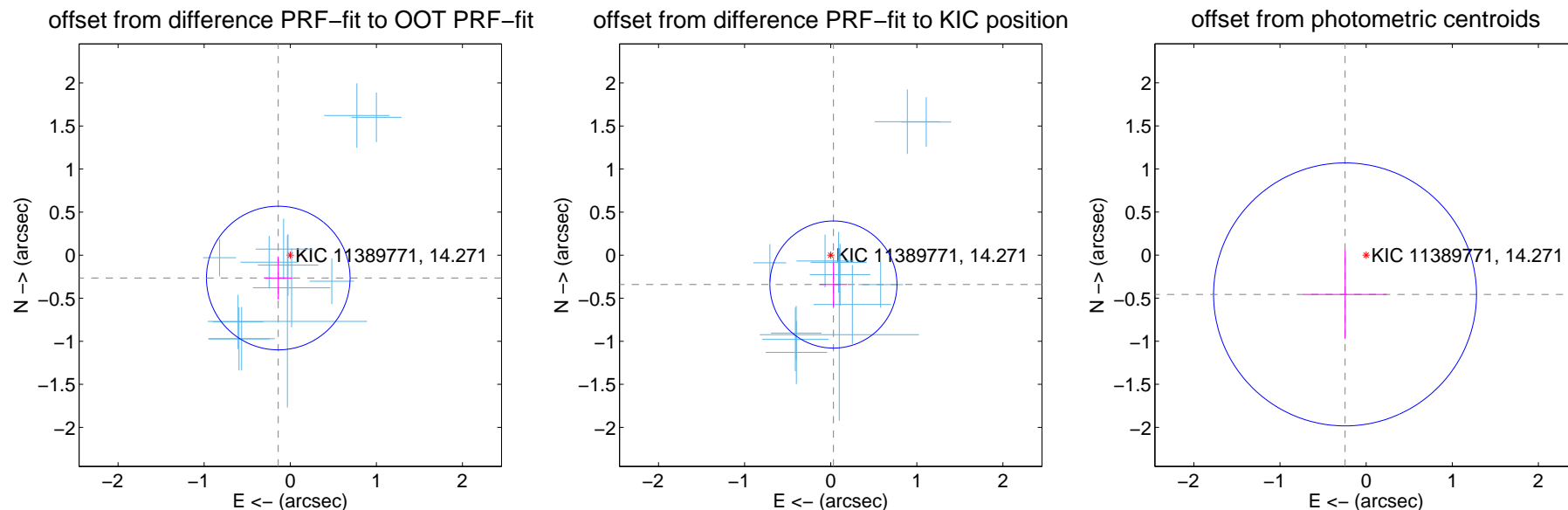
DV Centroid Data

Supplemental centroid analysis for 011389771-01. Kepler magnitude: 14.27. Transit SNR 24.93

There are 12 quarters with good PRF difference image offsets

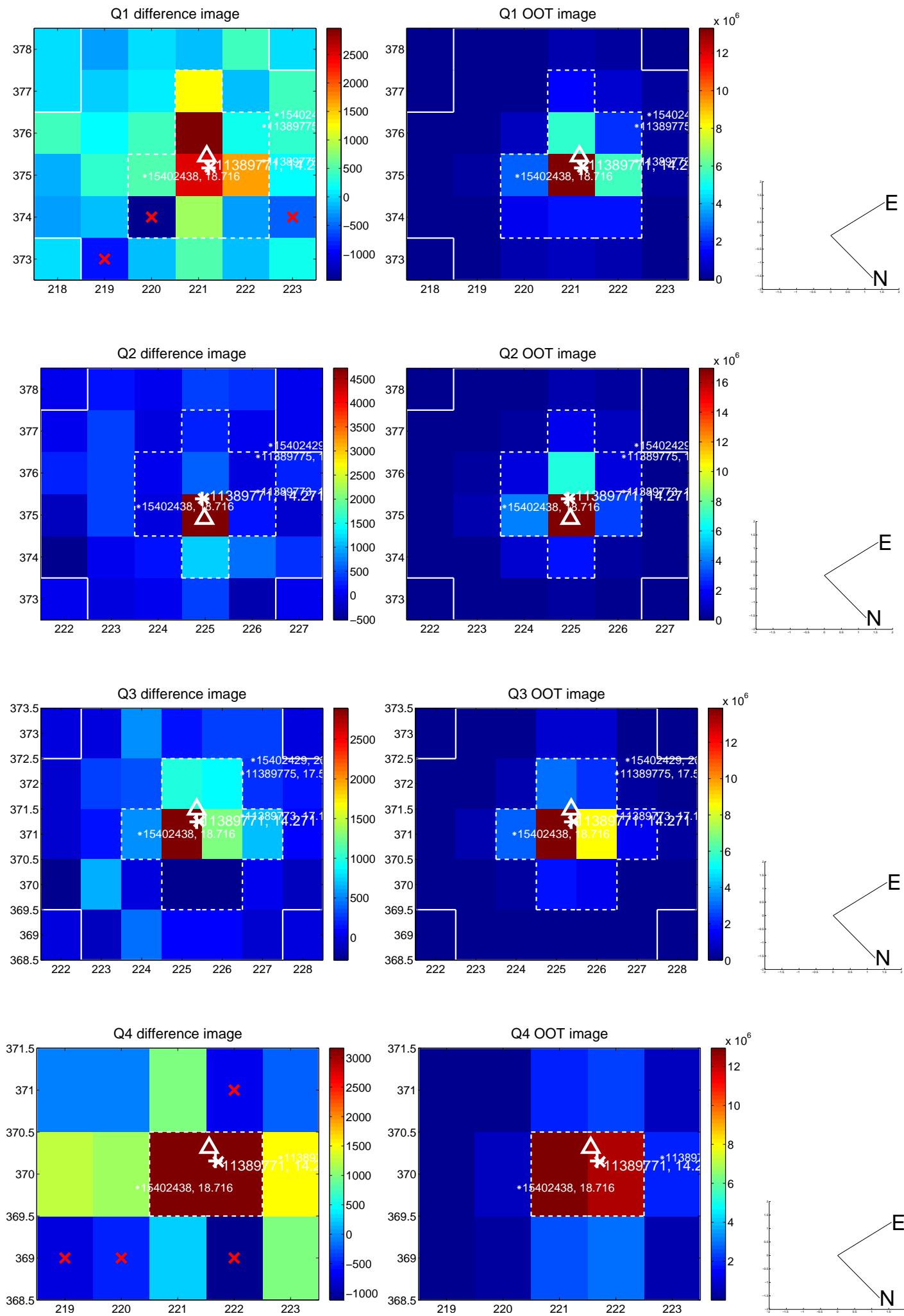
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.300 ± 0.278	1.08	0.139 ± 0.163	-0.266 ± 0.251
PRF-fit source offset from KIC position	0.343 ± 0.246	1.39	-0.031 ± 0.158	-0.341 ± 0.256
photometric centroid source offset	0.52 ± 0.51	1.02	0.24 ± 0.48	-0.46 ± 0.52

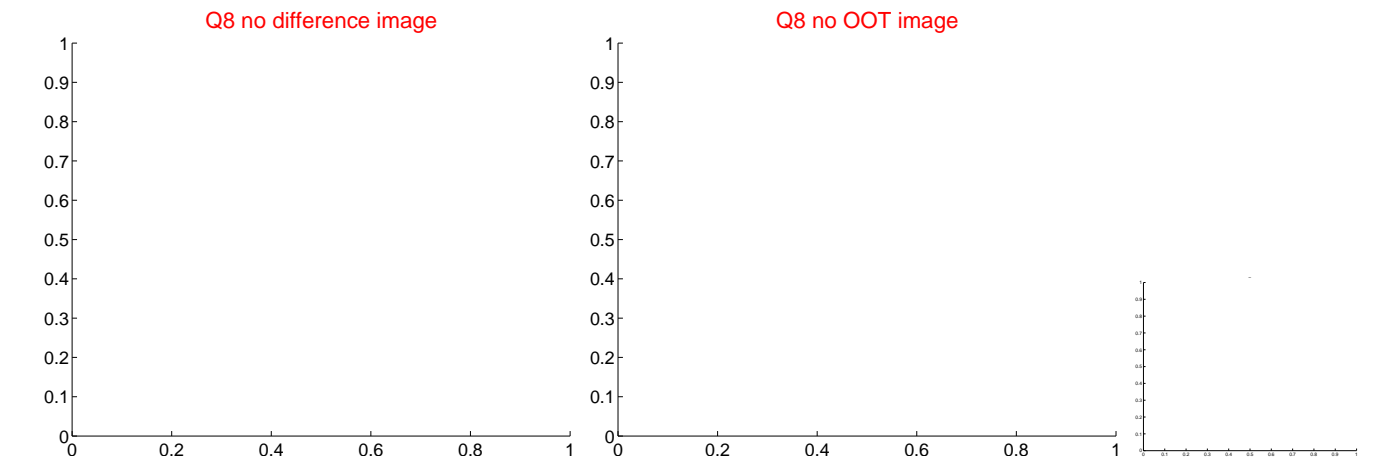
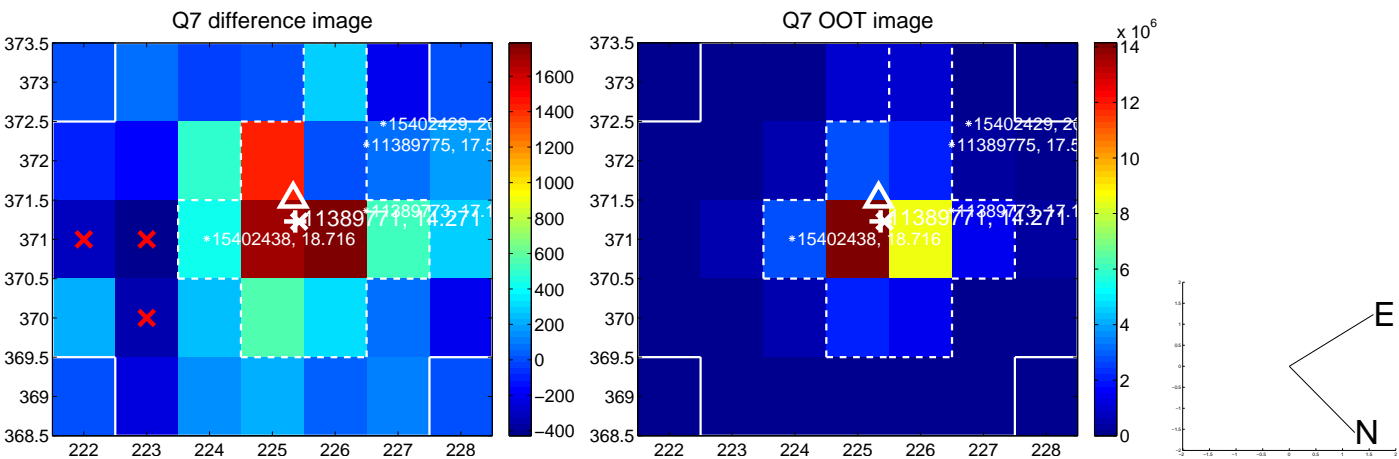
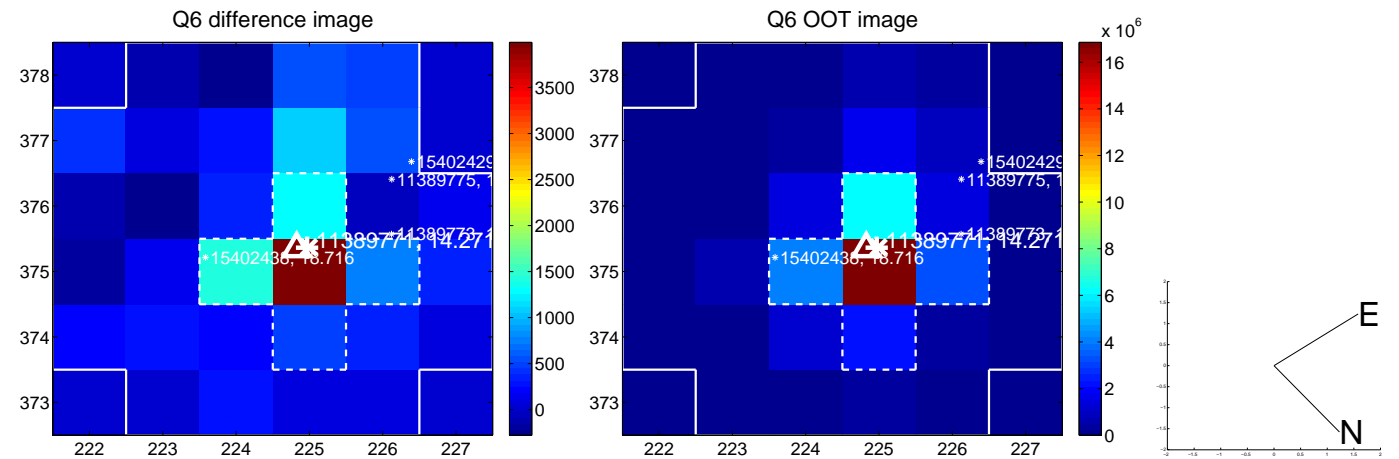
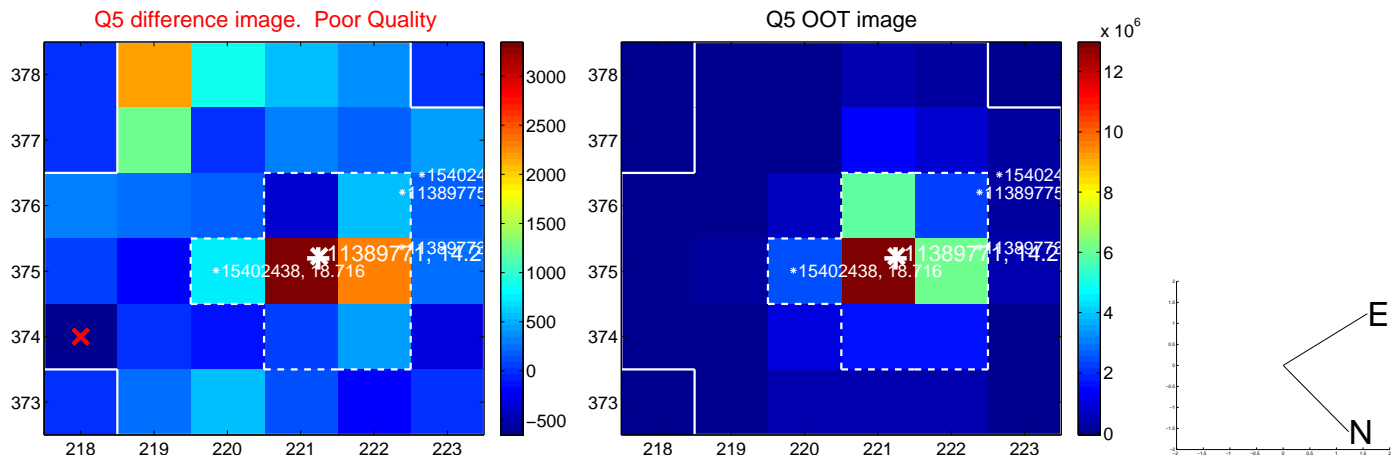


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

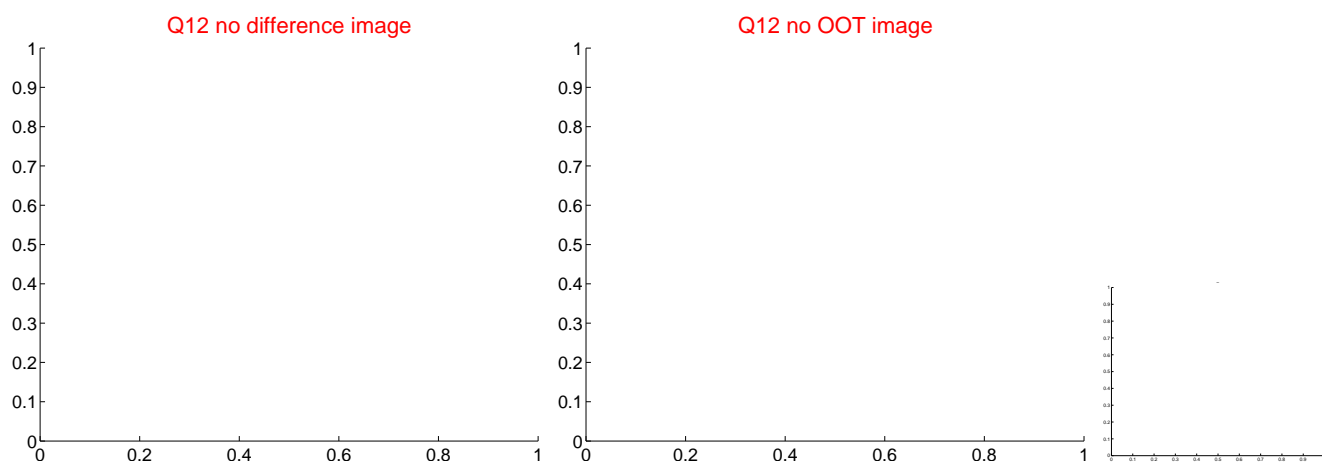
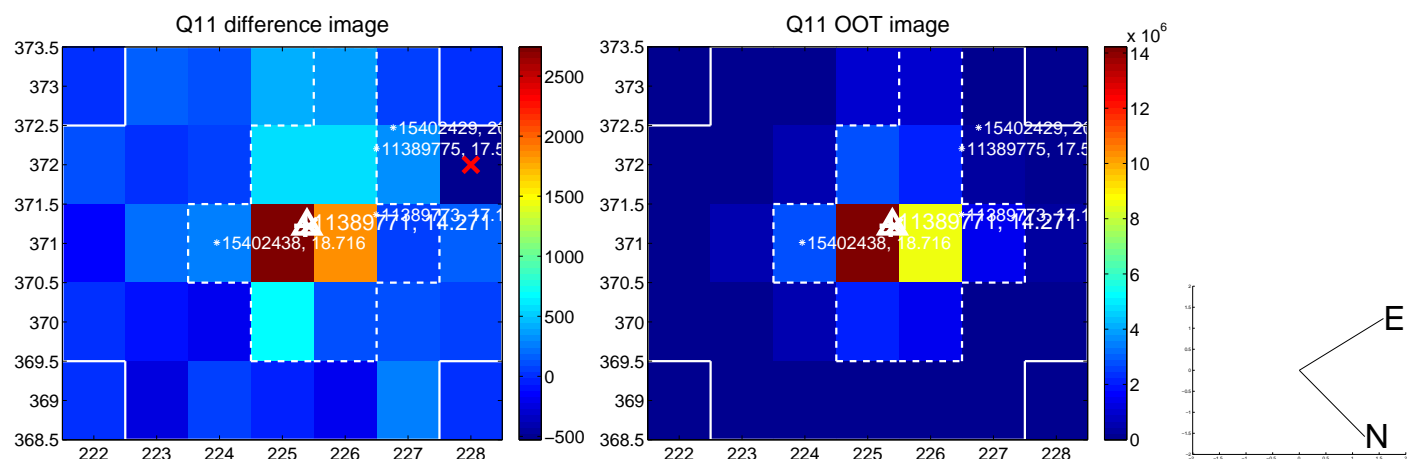
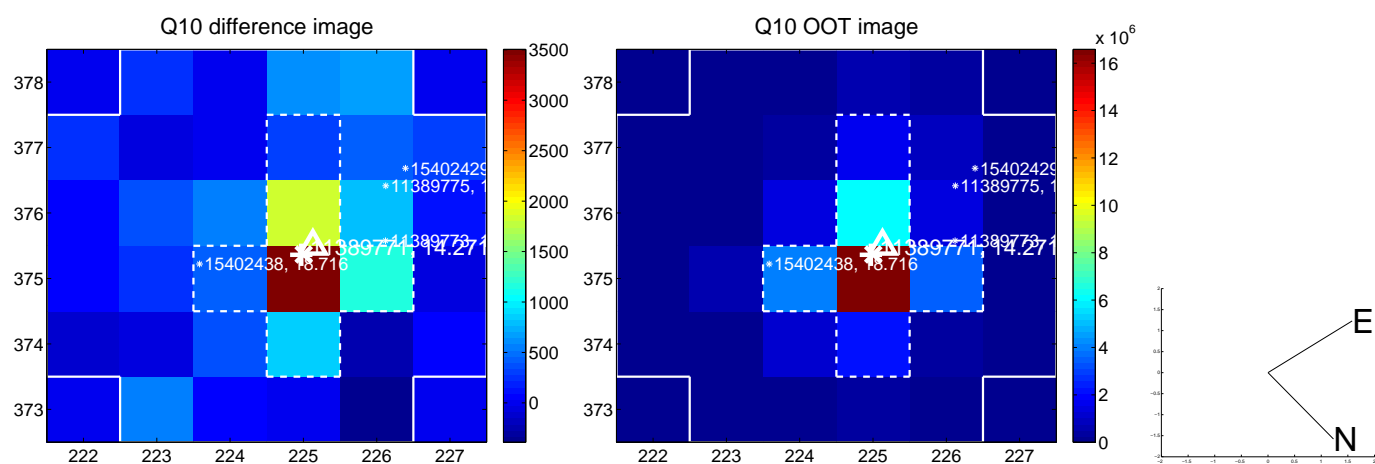
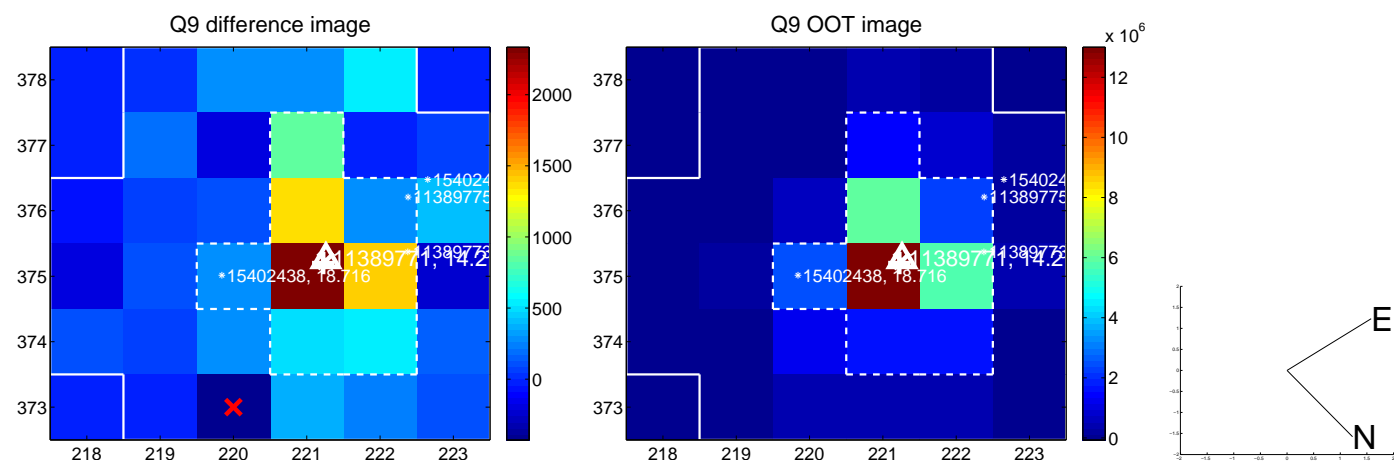
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



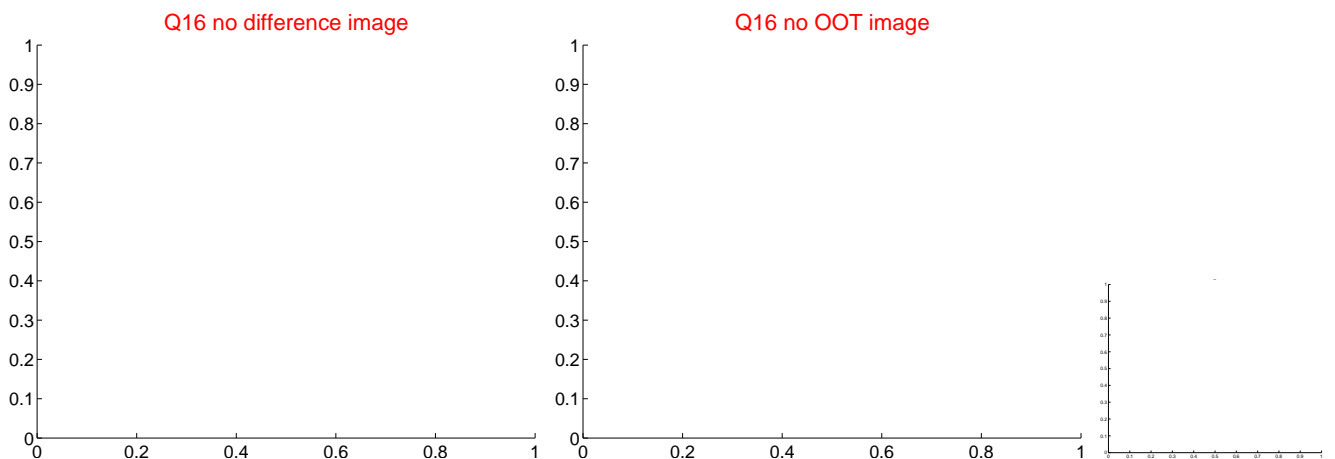
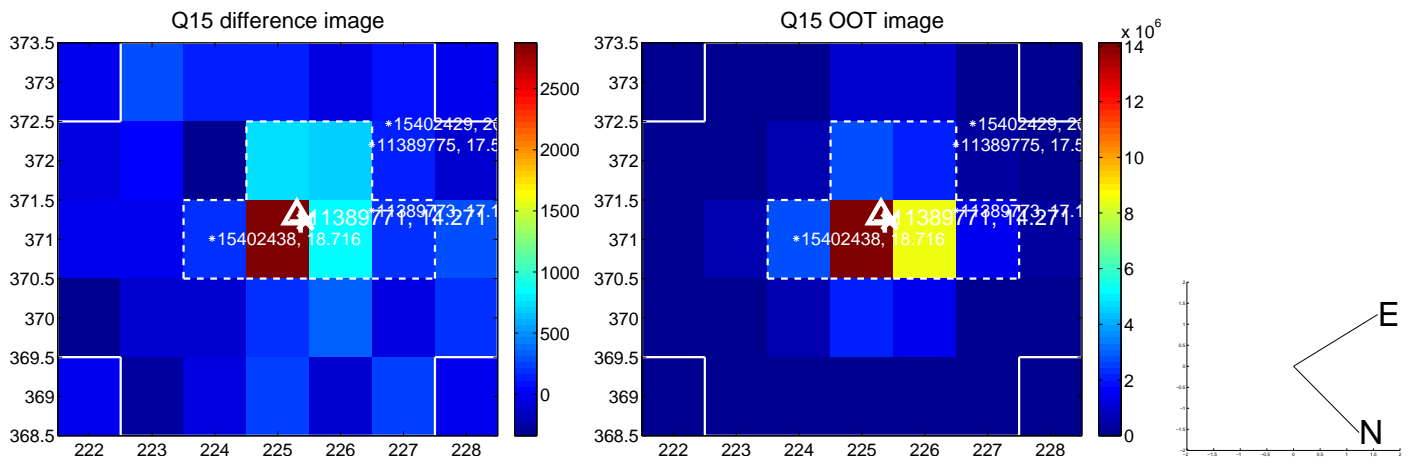
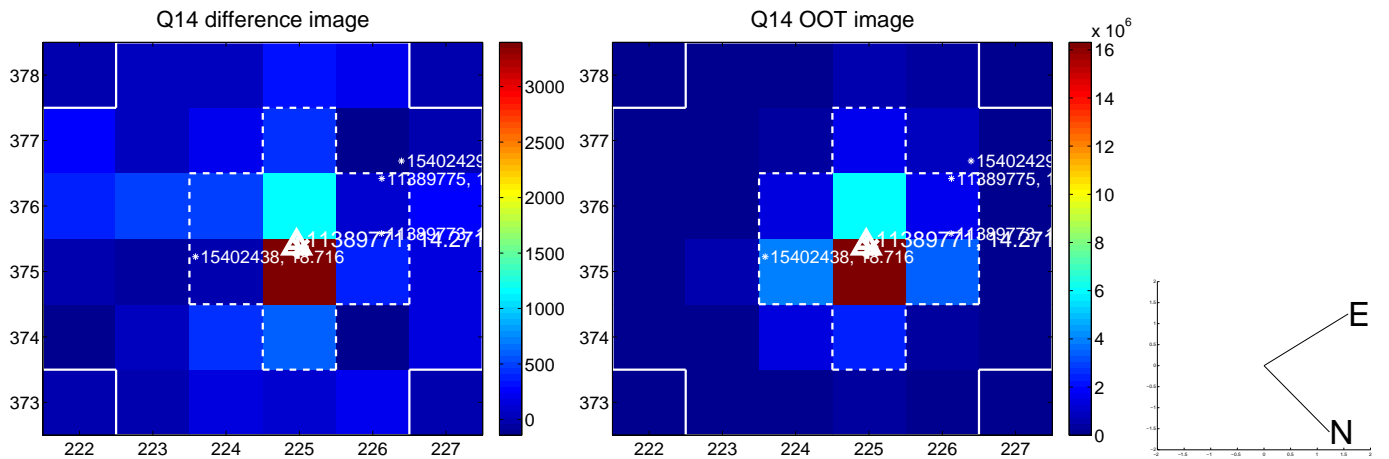
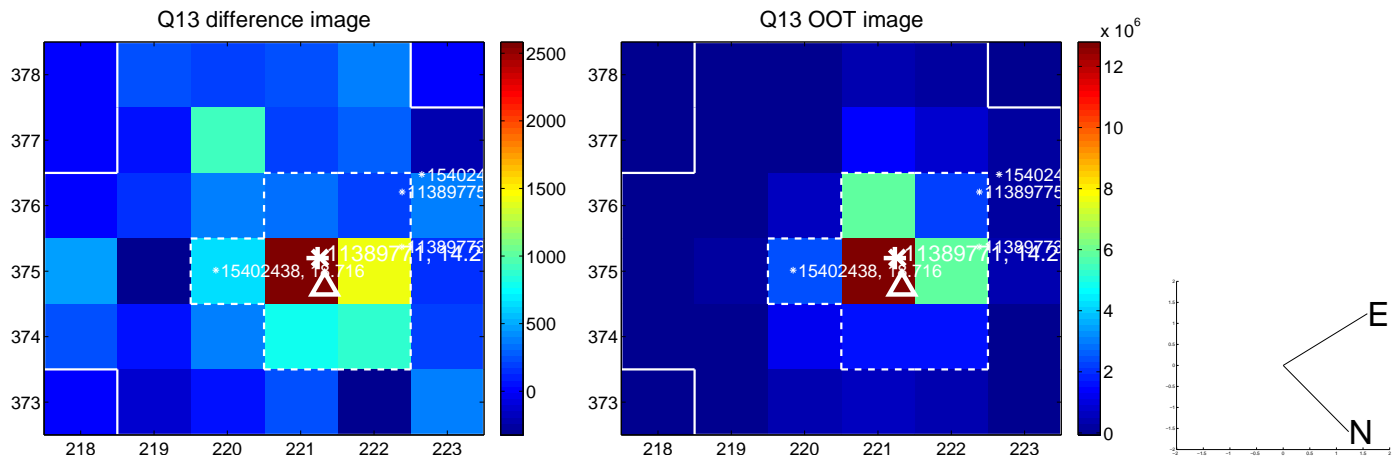
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



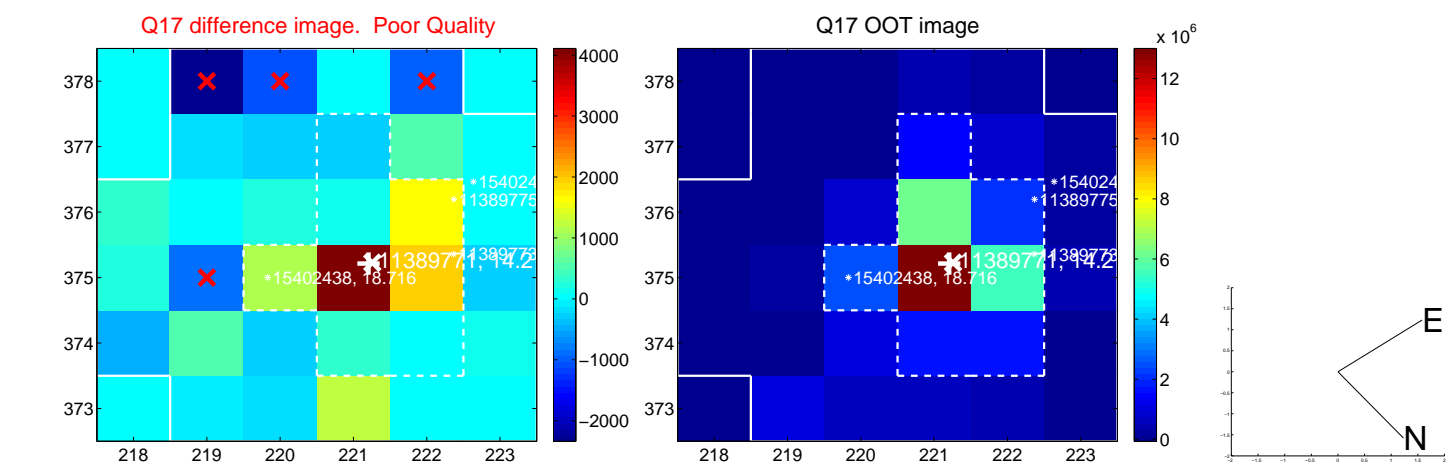
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



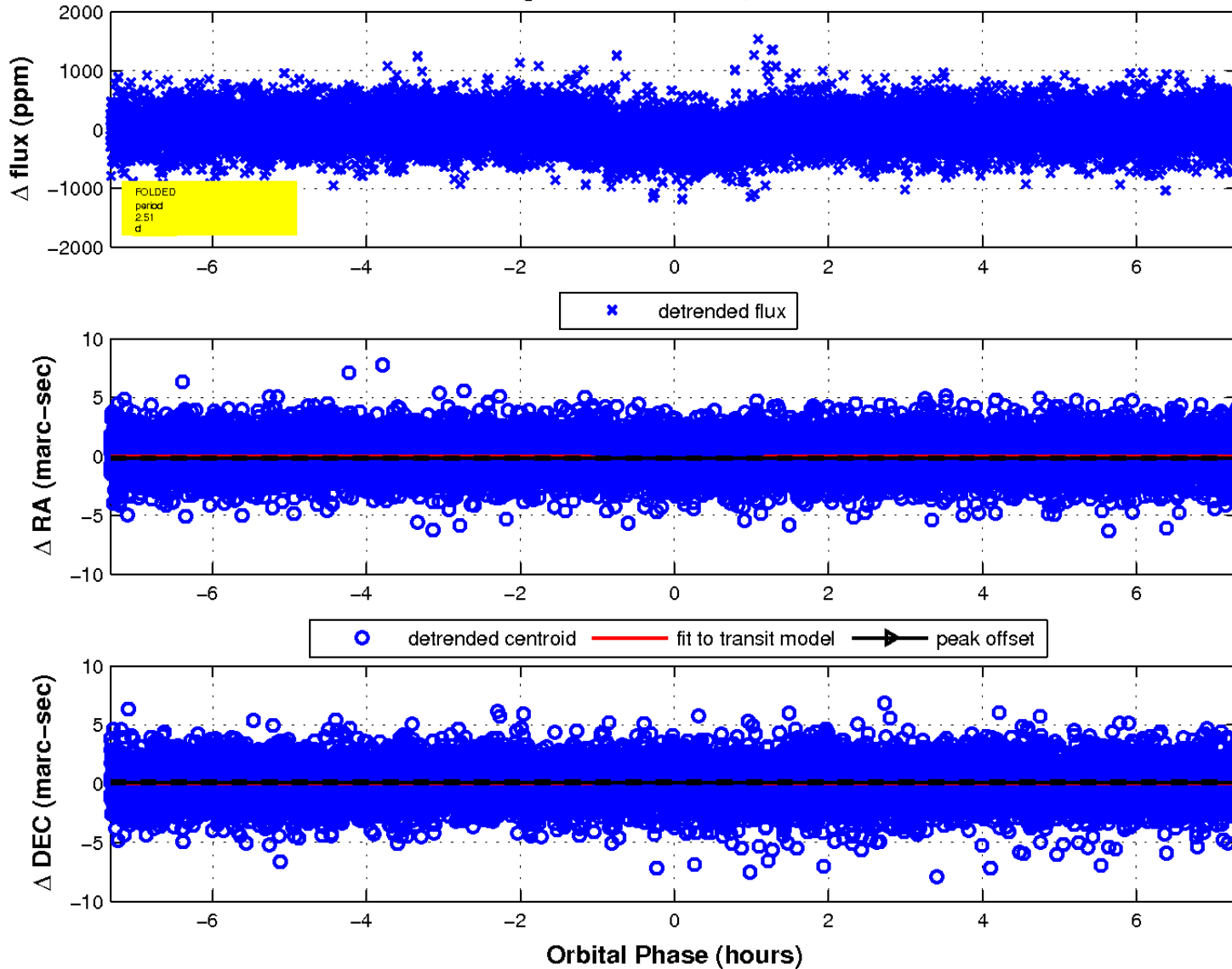
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

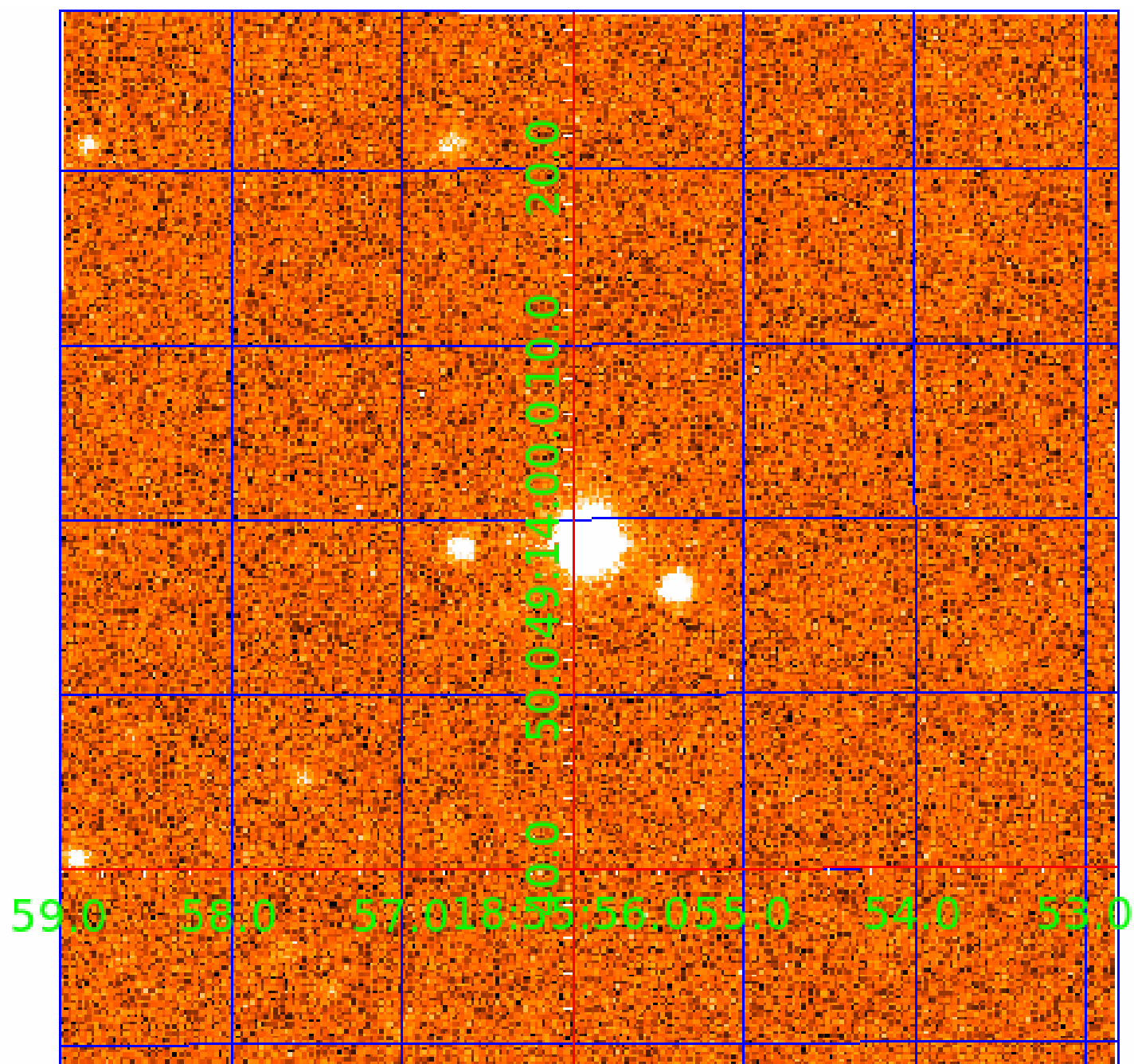


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 011389771

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})
011389771-01	OBS	1436.01	2.508558	132.501957	214.8	2.442	22.0	24.9	0.88	5814	1.53	632.24
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011389771-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011389771-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011389771-03	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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.

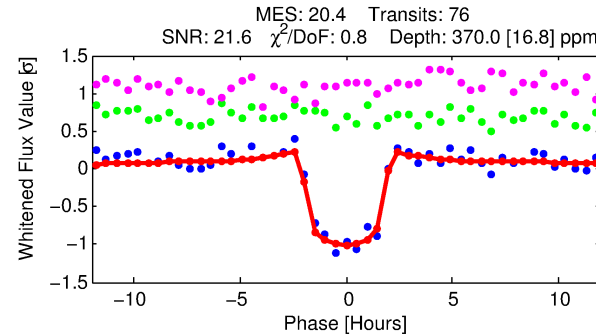
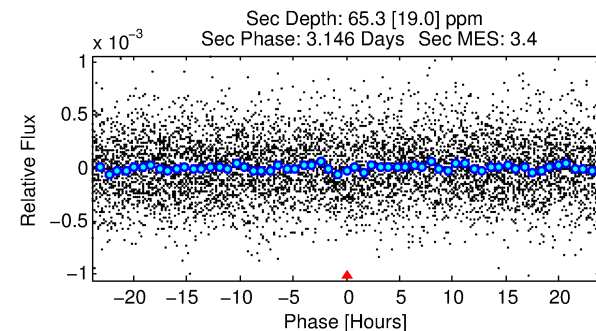
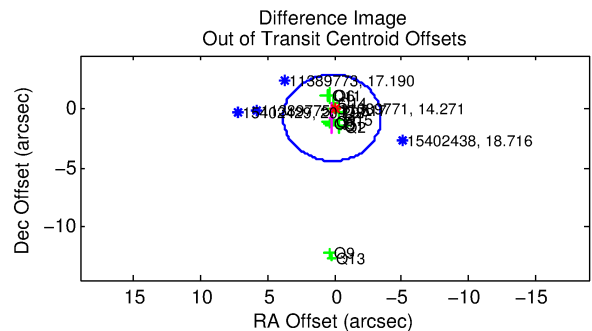
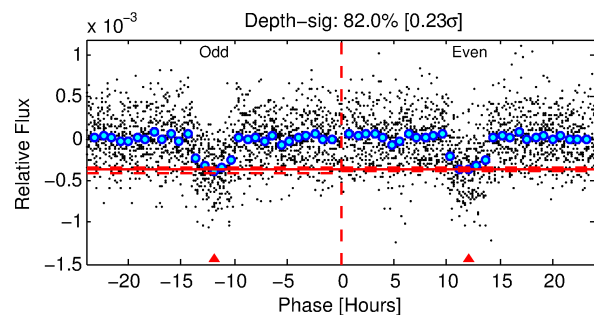
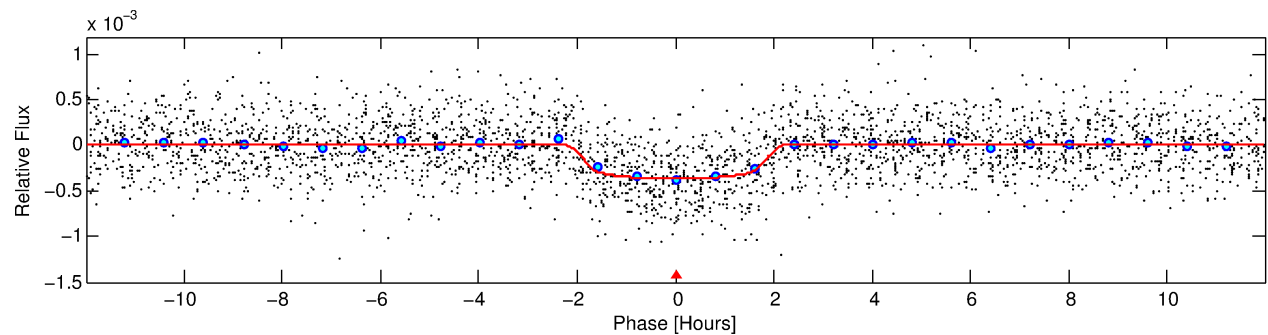
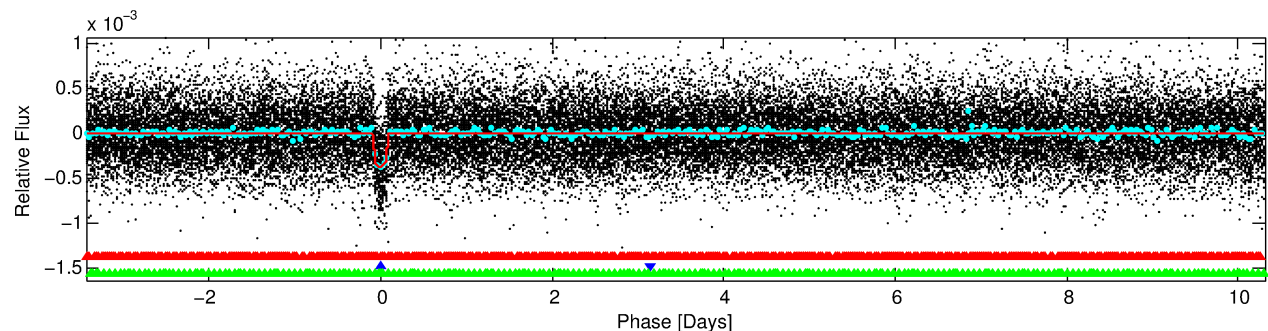
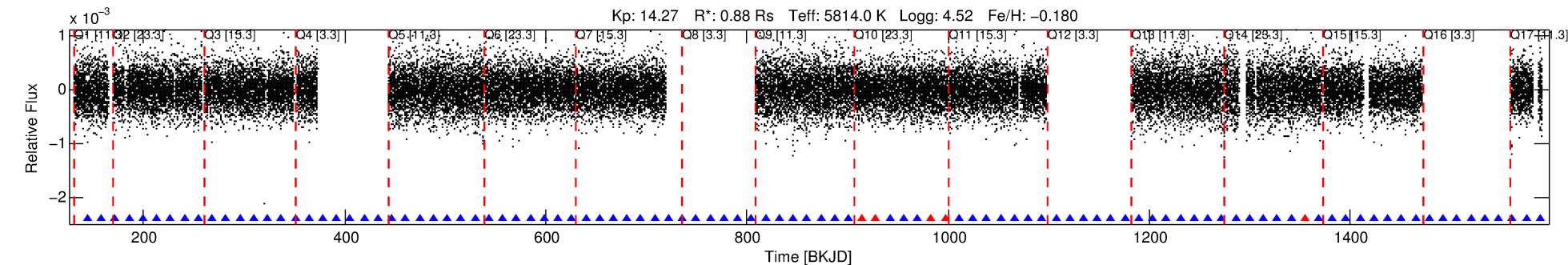
Ephemeris Match Information For 011389771-02

No Significant Match Found

DV One-Page Summary

KIC: 11389771 Candidate: 2 of 3 Period: 13.751 d
KOI: K01436.02 Name: Kepler-301d Corr: 0.989

Kp: 14.27 R*: 0.88 Rs Teff: 5814.0 K Logg: 4.52 Fe/H: -0.180



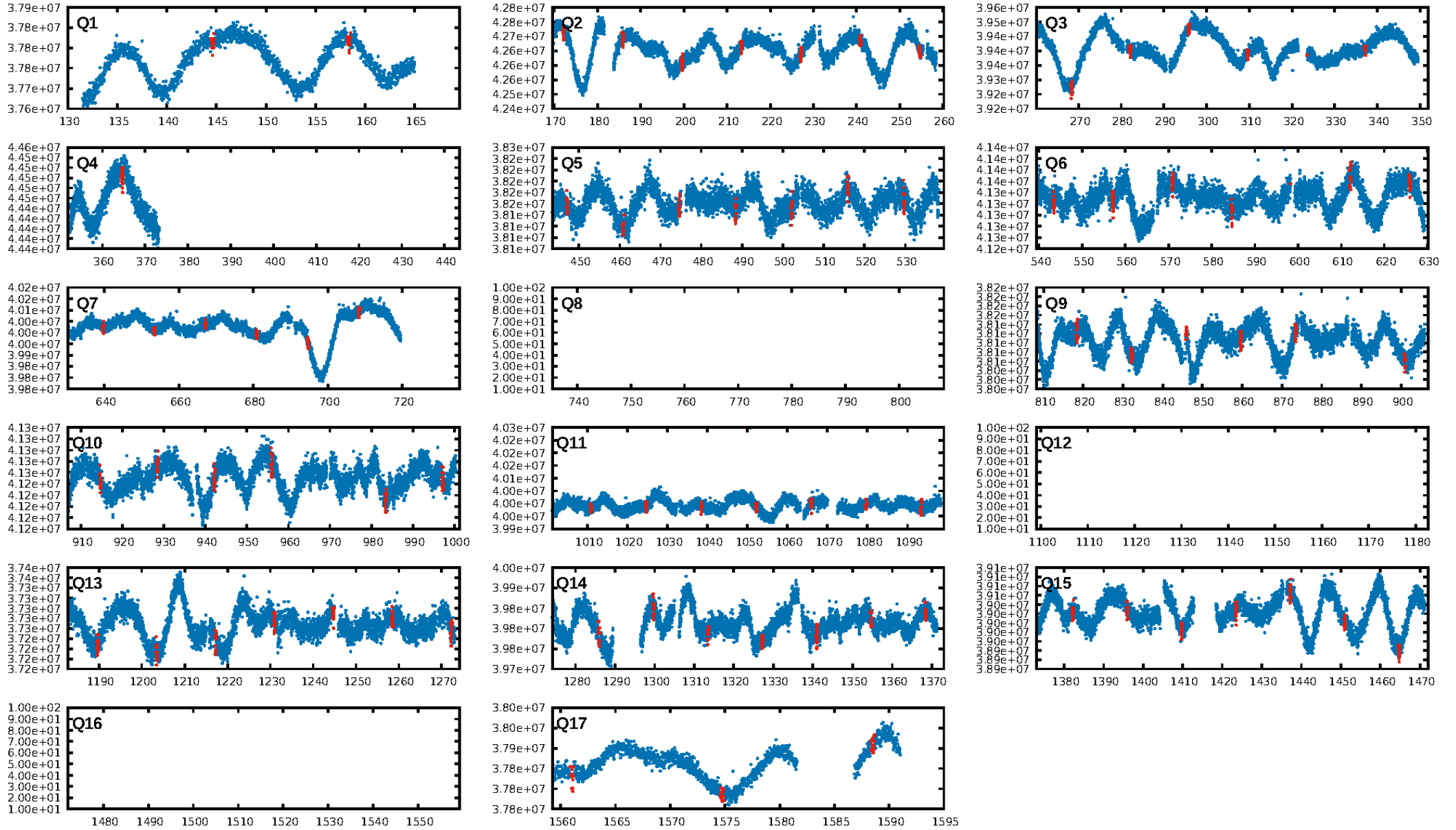
DV Fit Results:

Period = 13.75129 [0.00006] d
Epoch = 144.6139 [0.0031] BKJD
Rp/R* = 0.0193 [0.0073]
a/R* = 17.50 [30.37]
b = 0.77 [0.92]
Seff = 65.41 [24.66]
Teff = 725 [68] K
Rp = 1.86 [0.88] Re
a = 0.1102 [0.0270] AU
Ag = 126.54 [111.84] [1.12σ]
Teffp = 3760 [765] K [3.95σ]

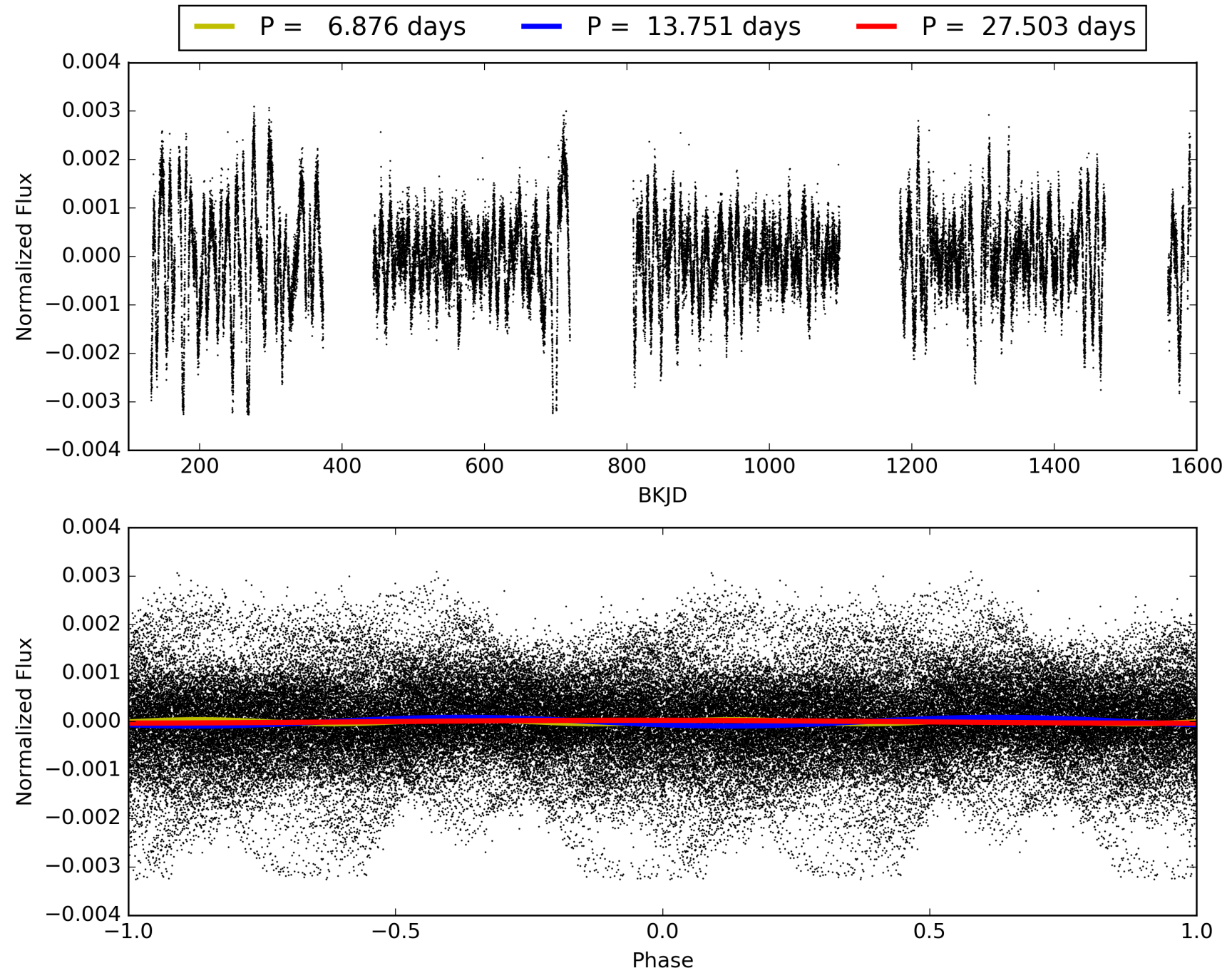
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [42.76σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 55.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.40e-84
RollingBand-fgt: 0.93 [65/70]
GhostDiagnostic-chr: -7.42
Centroid-sig: 2.4%
Centroid-so: 0.836 arcsec [1.49σ]
OotOffset-rm: 0.802 arcsec [0.66σ]
KicOffset-rm: 0.855 arcsec [0.61σ]
OotOffset-st: 4/4/0/4 [12]
KicOffset-st: 4/4/0/4 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 011389771-02, PDC Light Curves

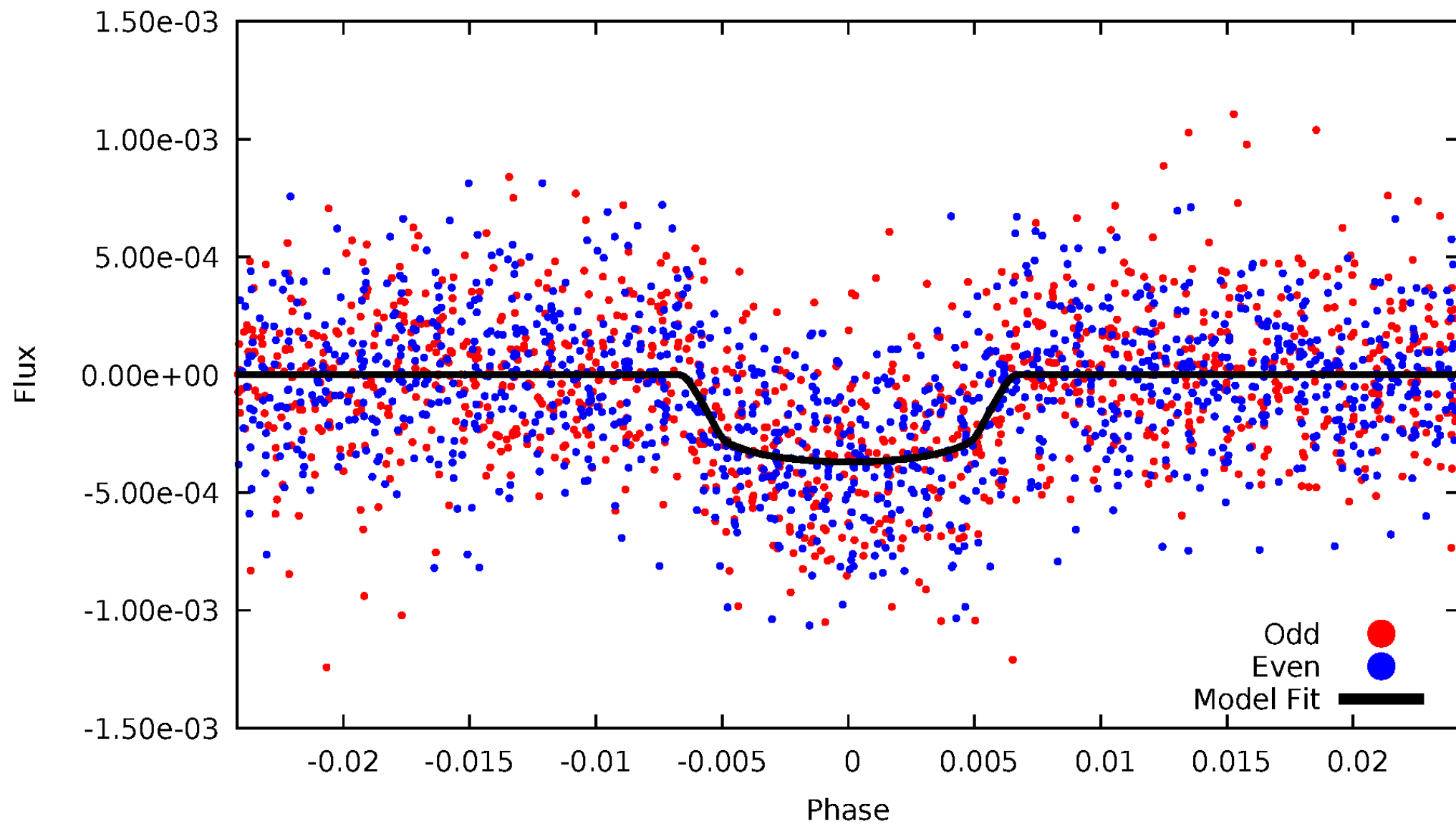


TCE 011389771-02



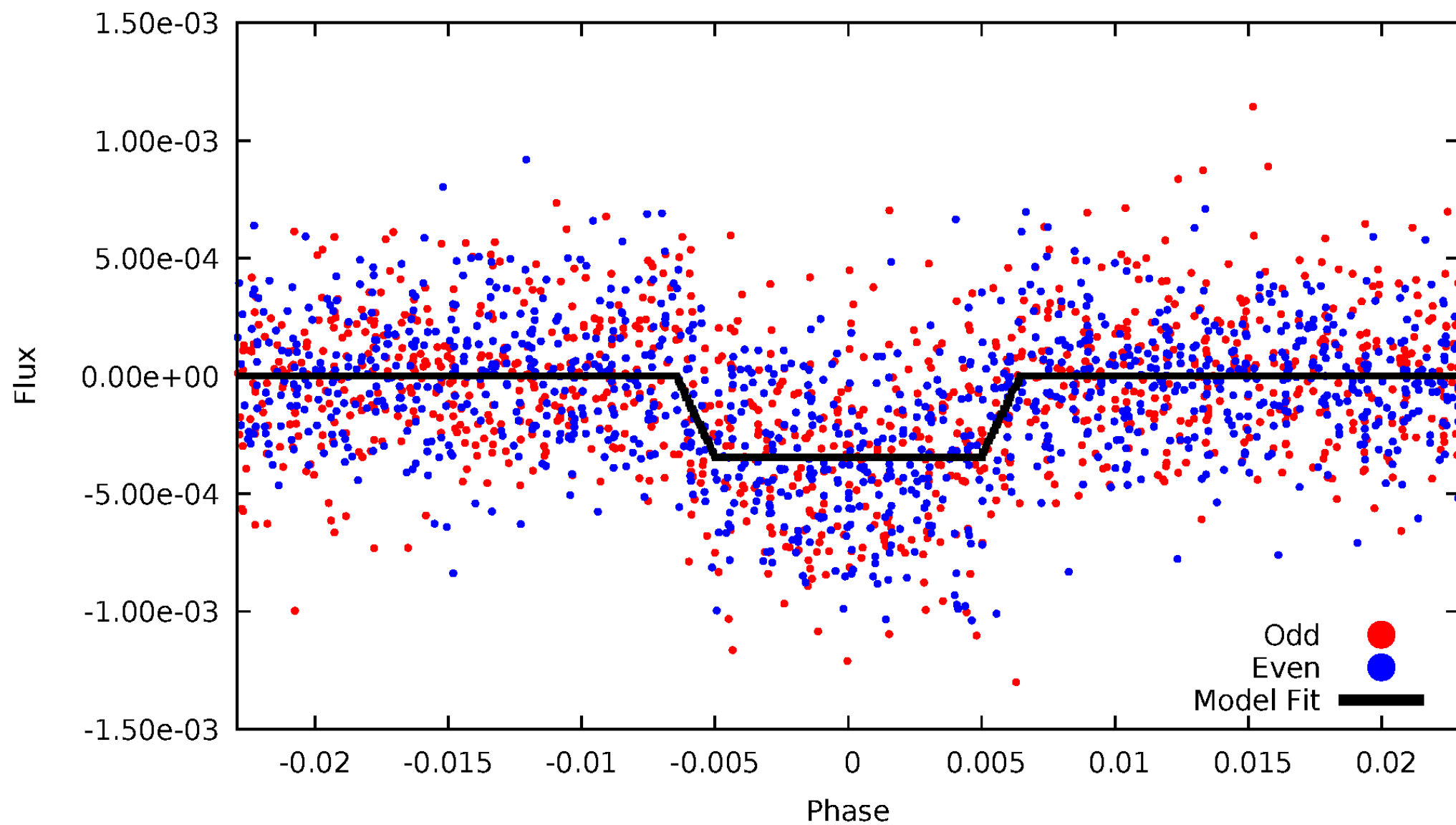
DV Odd/Even

TCE 011389771-02



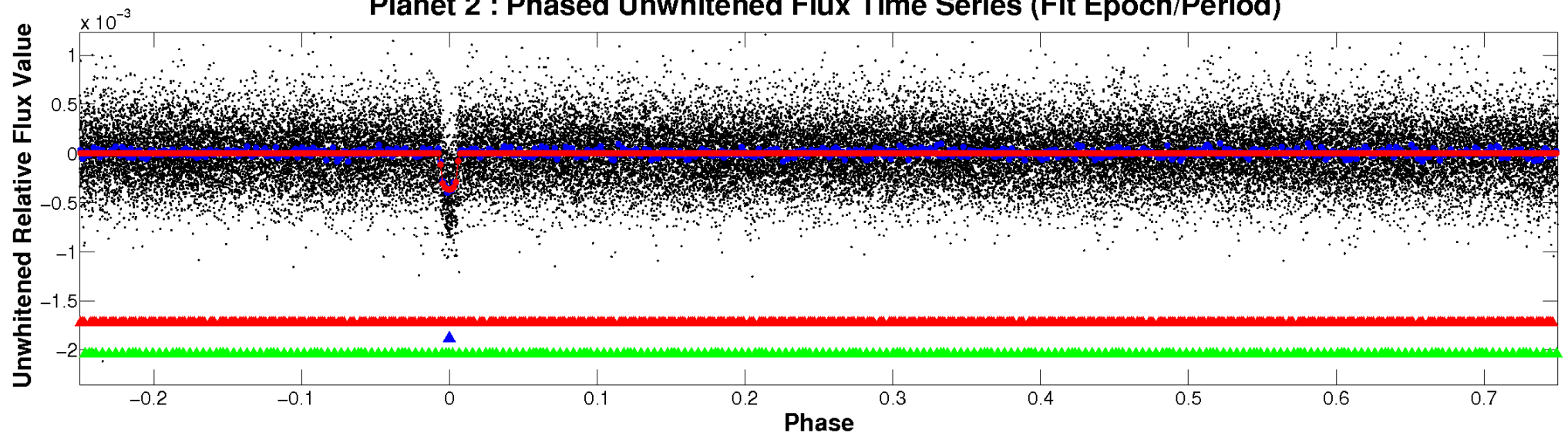
ALT Odd/Even

TCE 011389771-02

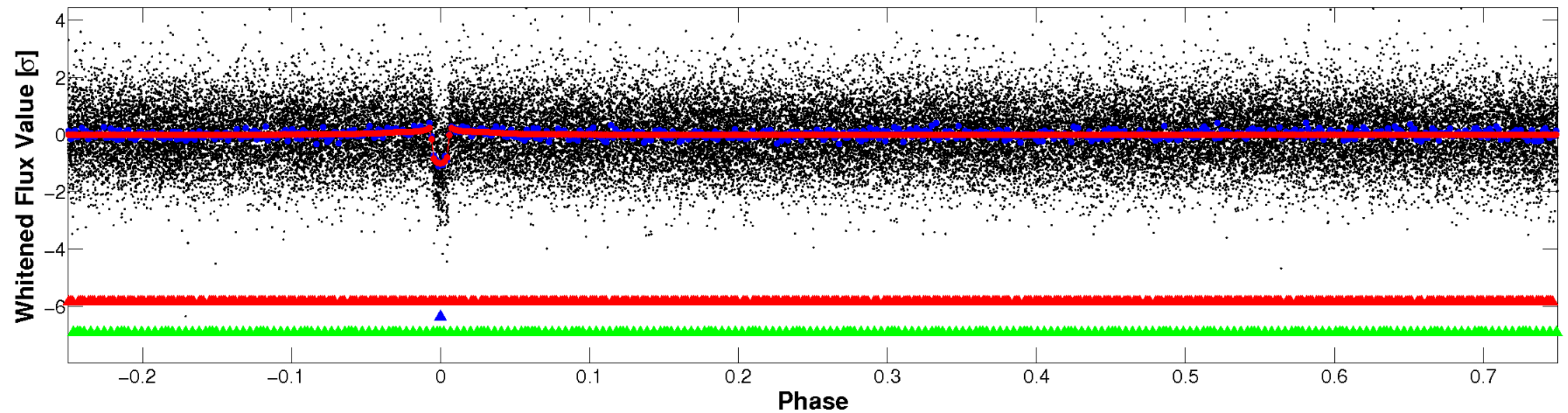


Non-Whitened Vs. Whitened Light Curve

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

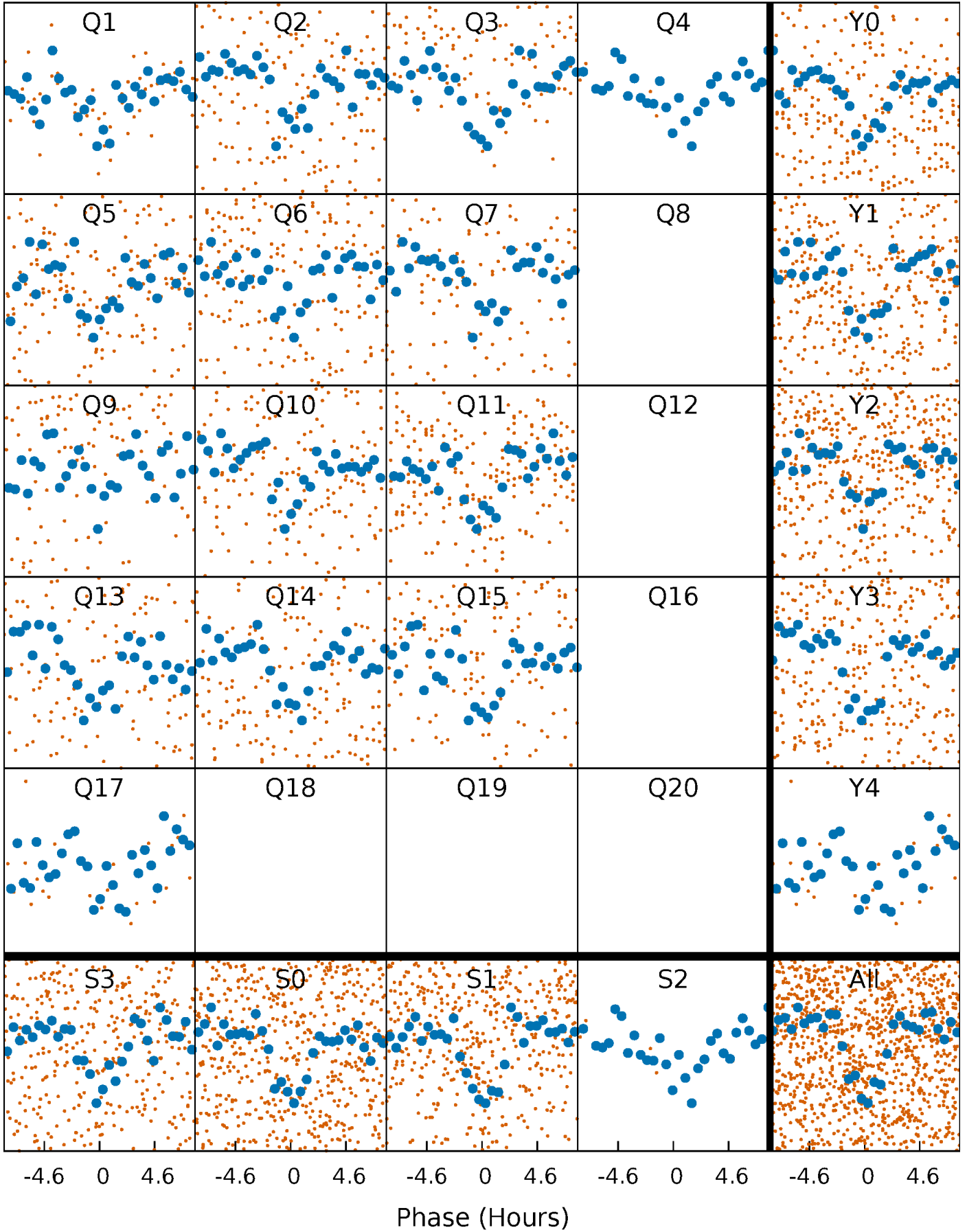


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



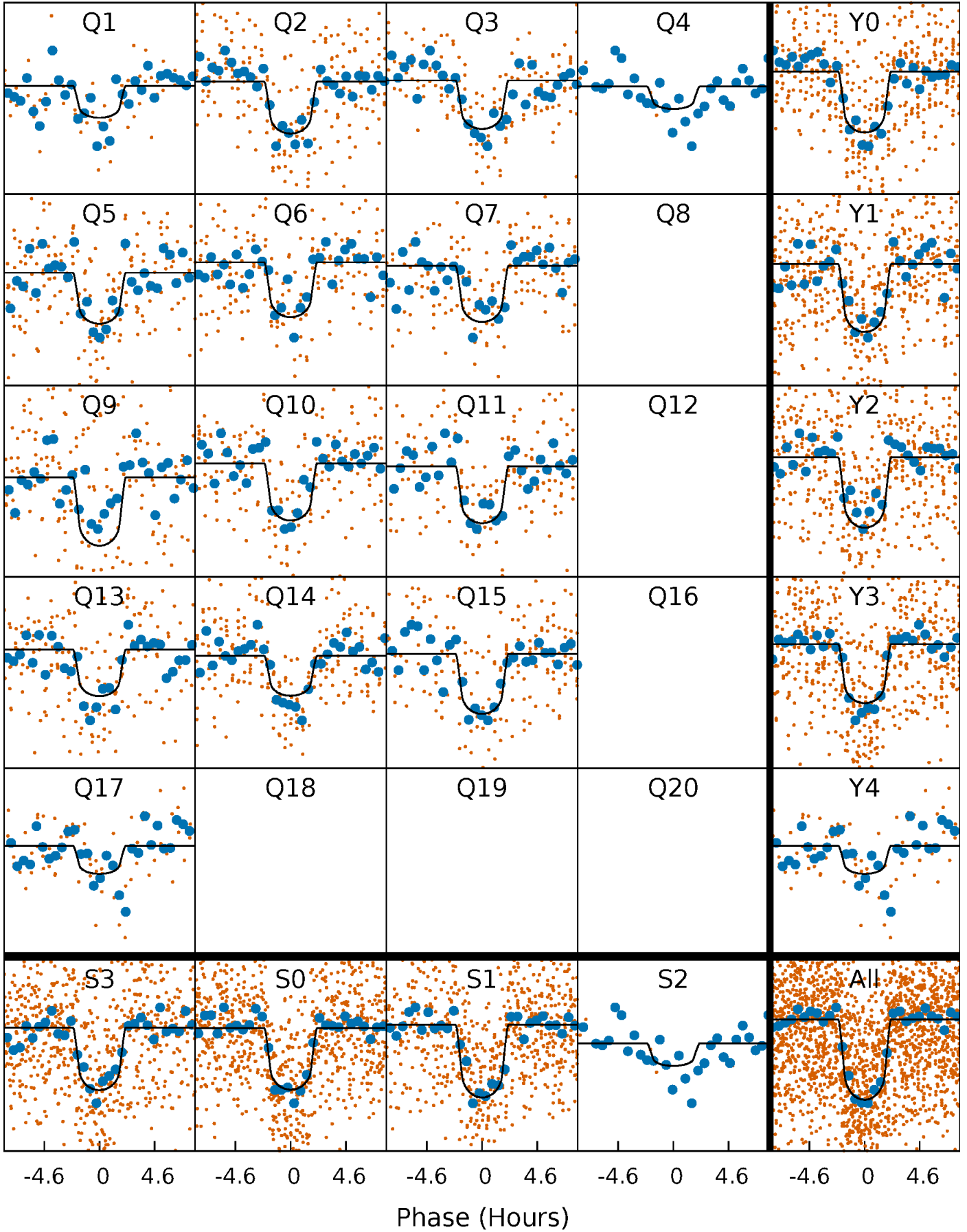
PDC Quarter-Phased Transit Curves

TCE 011389771-02 P= 13.751288 Days $T_0=144.613898$ (BKJD)



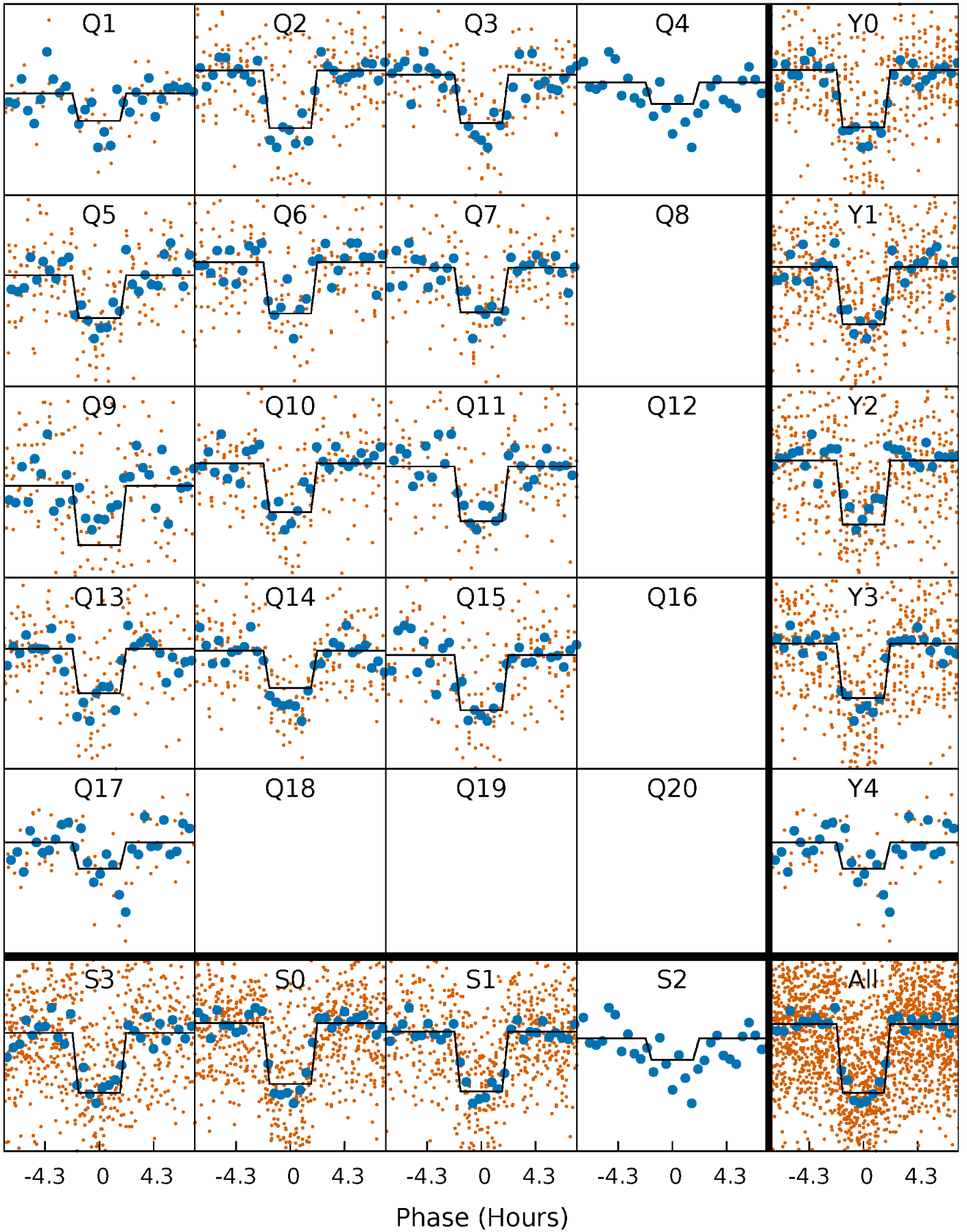
DV Quarter-Phased Transit Curves

TCE 011389771-02 P= 13.751288 Days $T_0=144.613898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

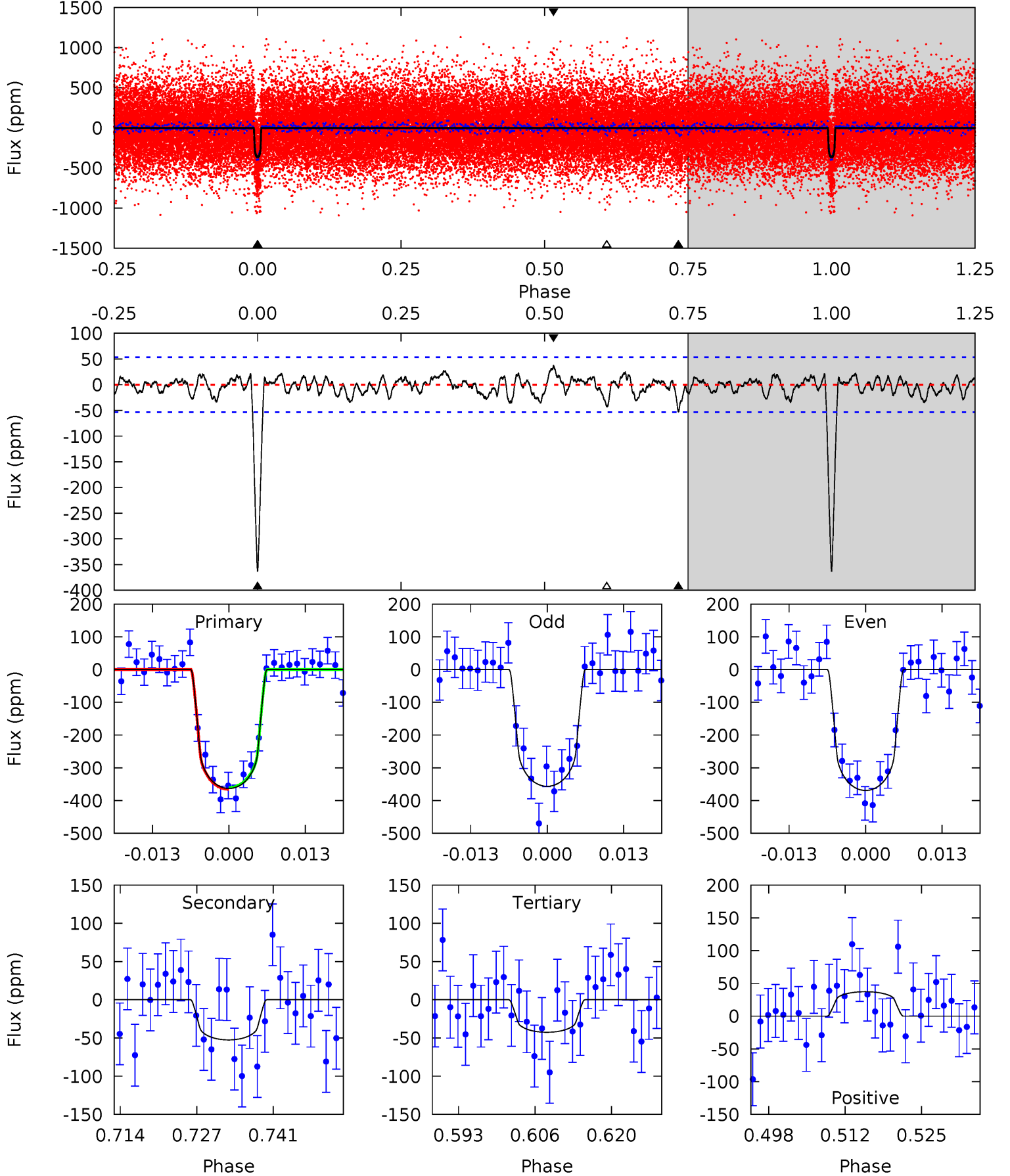
TCE 011389771-02 P= 13.751322 Days $T_0=144.613397$ (BKJD)



DV Model-Shift Uniqueness Test

011389771-02, $P = 13.751288$ Days, $E = 130.862610$ Days

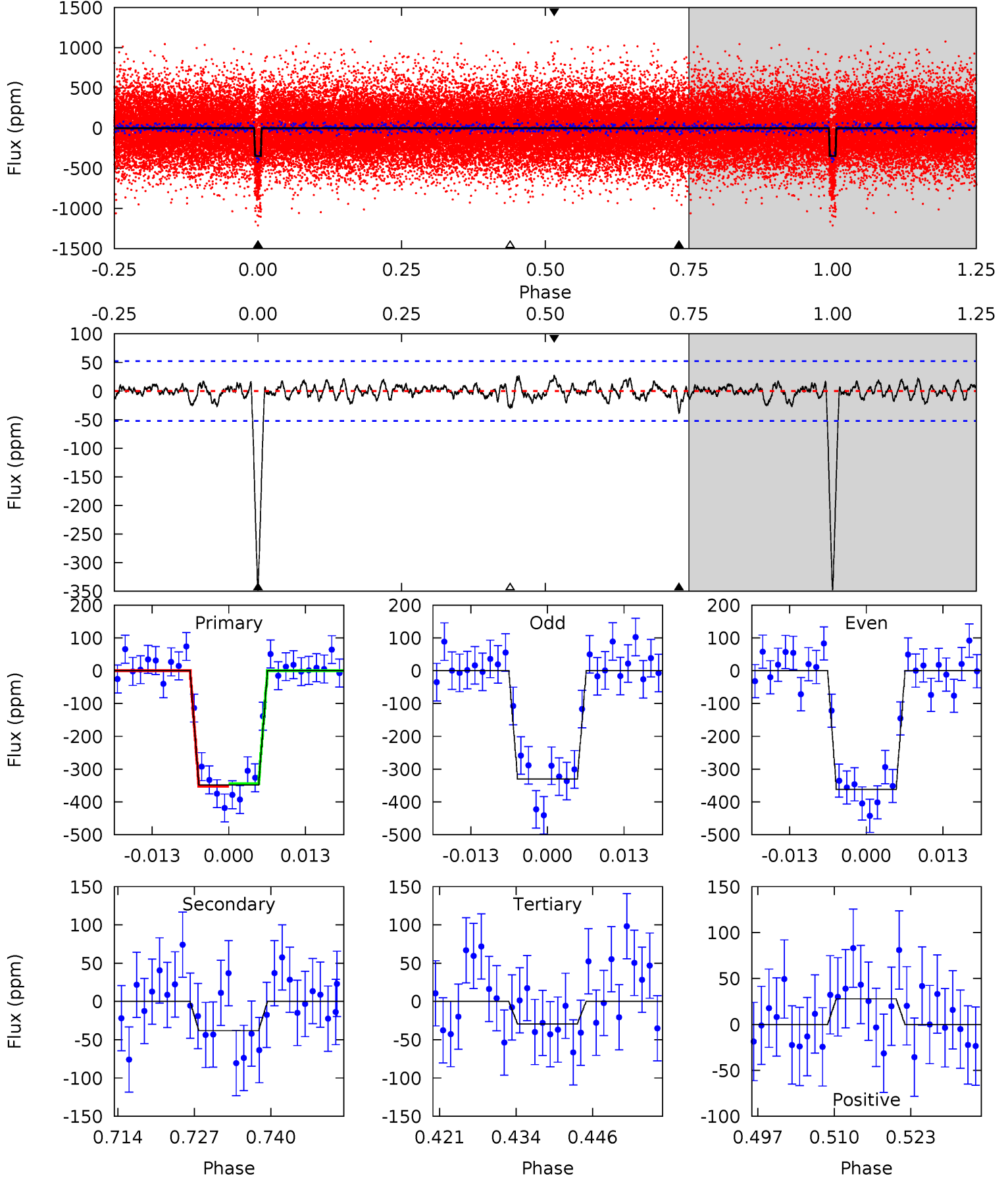
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.7	4.88	3.95	3.46	4.97	2.47	1.27	29.8	30.3	0.93	1.42	0.59	1.02	0.09	0.23



Alt Model-Shift Uniqueness Test

011389771-02, P = 13.751322 Days, E = 130.862075 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.2	3.63	2.78	2.65	4.98	2.49	0.91	30.4	30.5	0.85	0.98	1.52	0.97	0.07	0.38



Stellar Parameters For KIC 011389771

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5814^{+139}_{-156}	$4.523^{+0.050}_{-0.200}$	$-0.180^{+0.300}_{-0.300}$	$0.881^{+0.252}_{-0.084}$	$0.944^{+0.110}_{-0.110}$	$1.946^{+0.492}_{-0.948}$
	+2%/-3%	+1%/-4%	+167%/-167%	+29%/-10%	+12%/-12%	+25%/-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 011389771-02 / KOI 1436.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-53 ± 11	$1.96^{+0.82}_{-0.76}$	1036^{+64}_{-47}	3876^{+760}_{-412}	90^{+145}_{-48}
Alt.	-38 ± 10	$1.91^{+0.78}_{-0.79}$	1034^{+67}_{-43}	3711^{+776}_{-396}	69^{+122}_{-36}

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 $A_{obs} \gg 1.0$

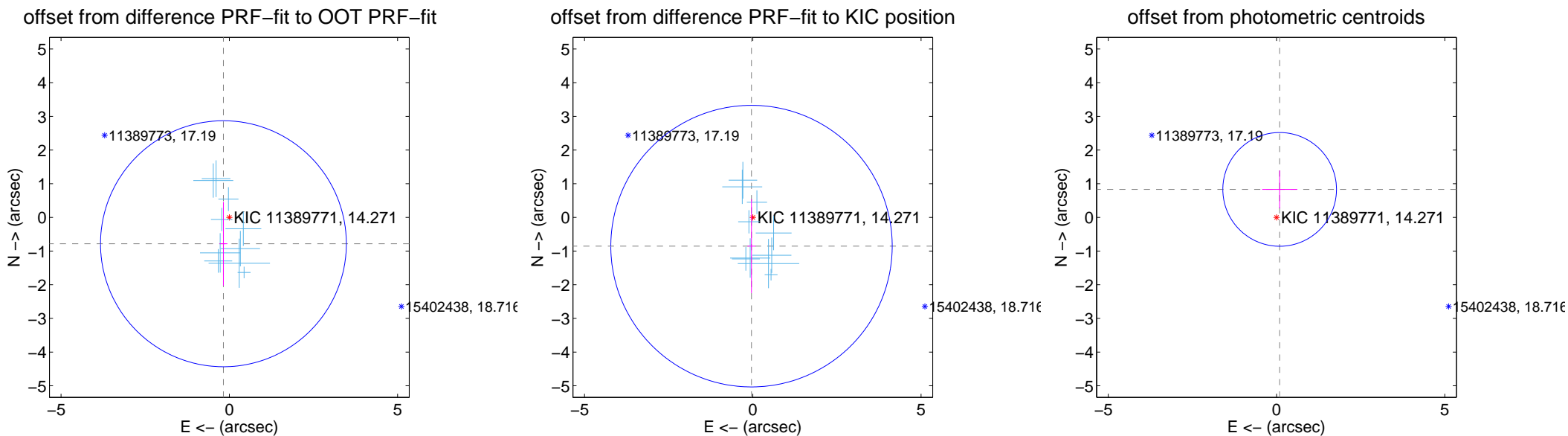
DV Centroid Data

Supplemental centroid analysis for 011389771-02. Kepler magnitude: 14.27. Transit SNR 21.58

There are 10 quarters with good PRF difference image offsets

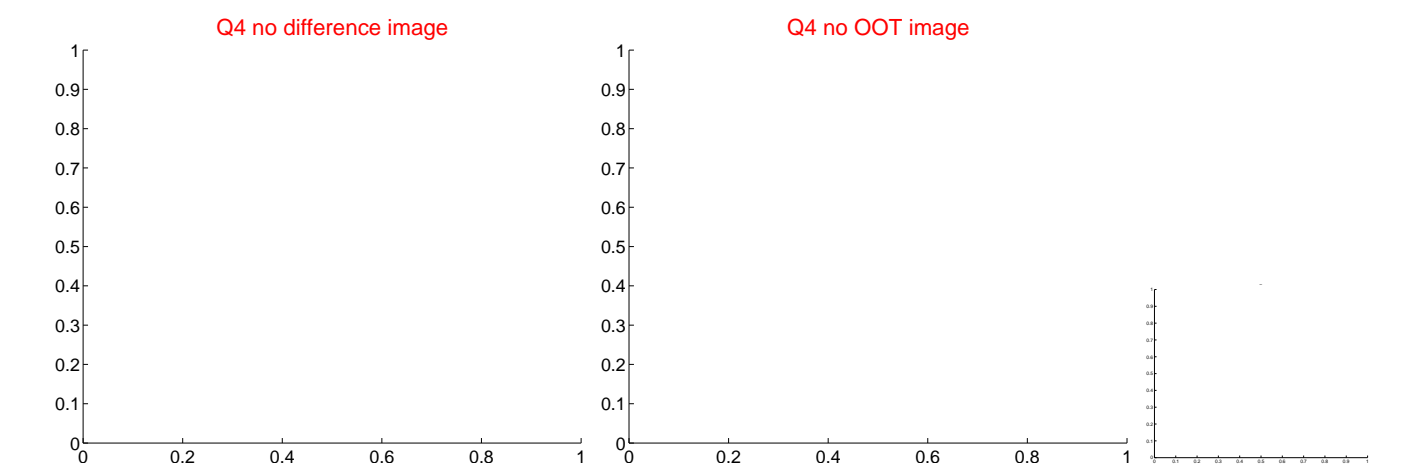
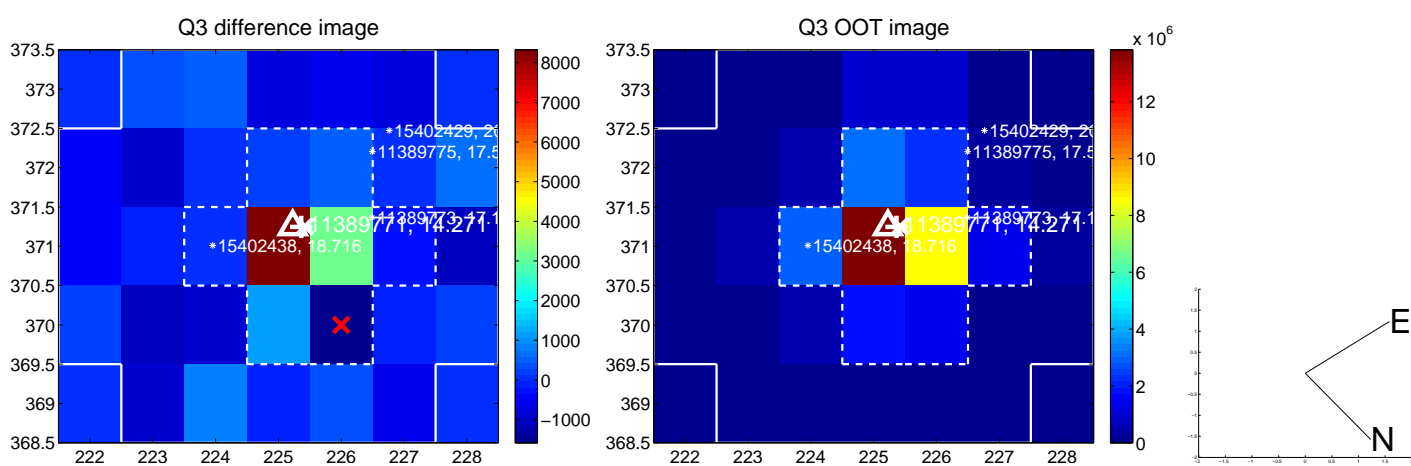
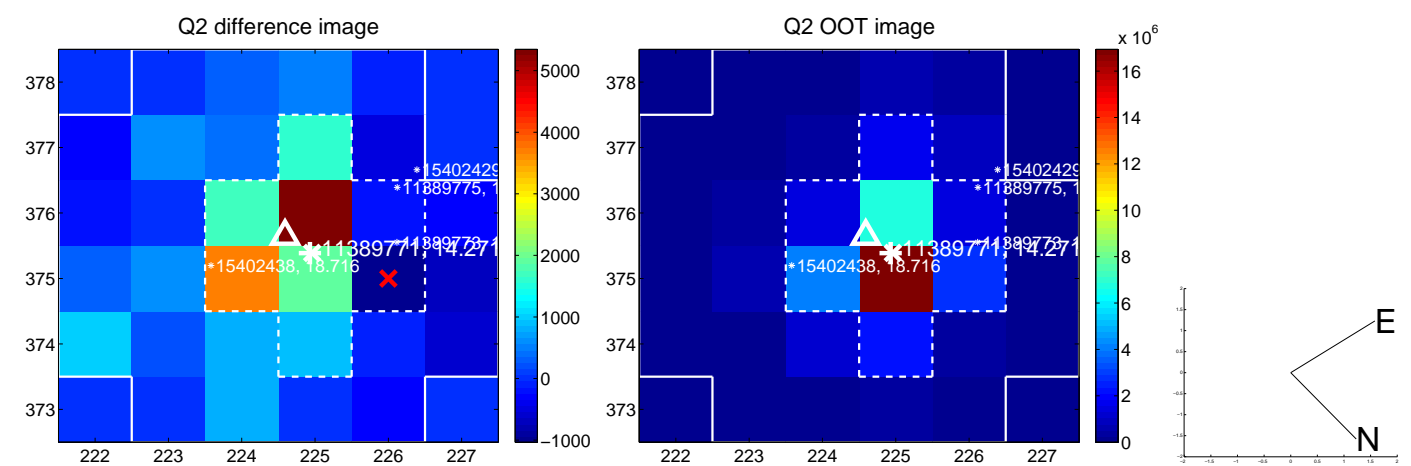
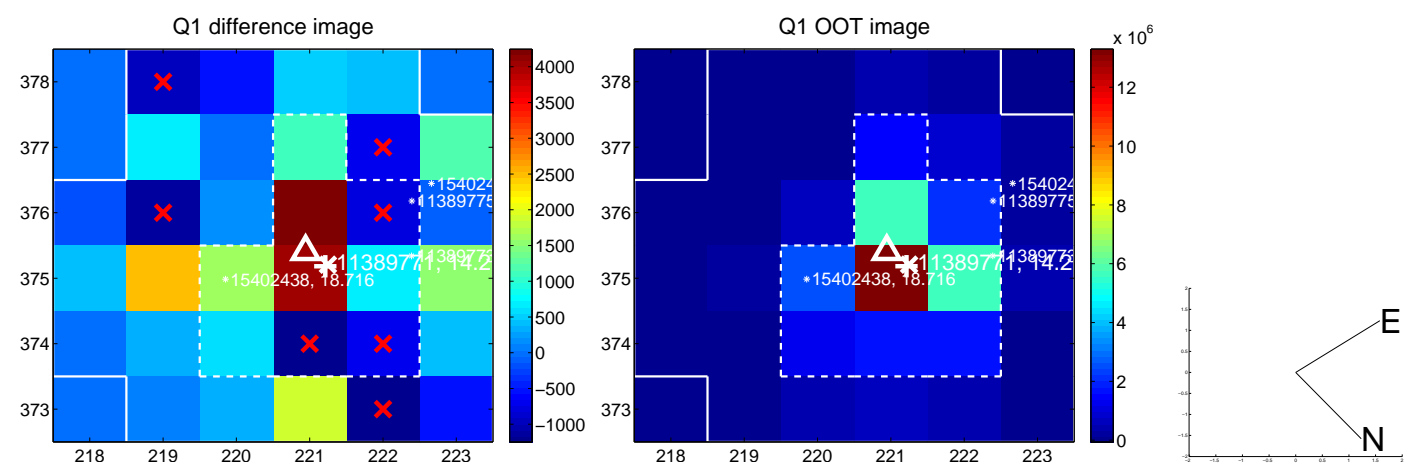
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.802 ± 1.217	0.66	0.175 ± 0.118	-0.783 ± 1.242
PRF-fit source offset from KIC position	0.855 ± 1.394	0.61	0.038 ± 0.119	-0.854 ± 1.394
photometric centroid source offset	0.84 ± 0.56	1.49	-0.09 ± 0.52	0.83 ± 0.56

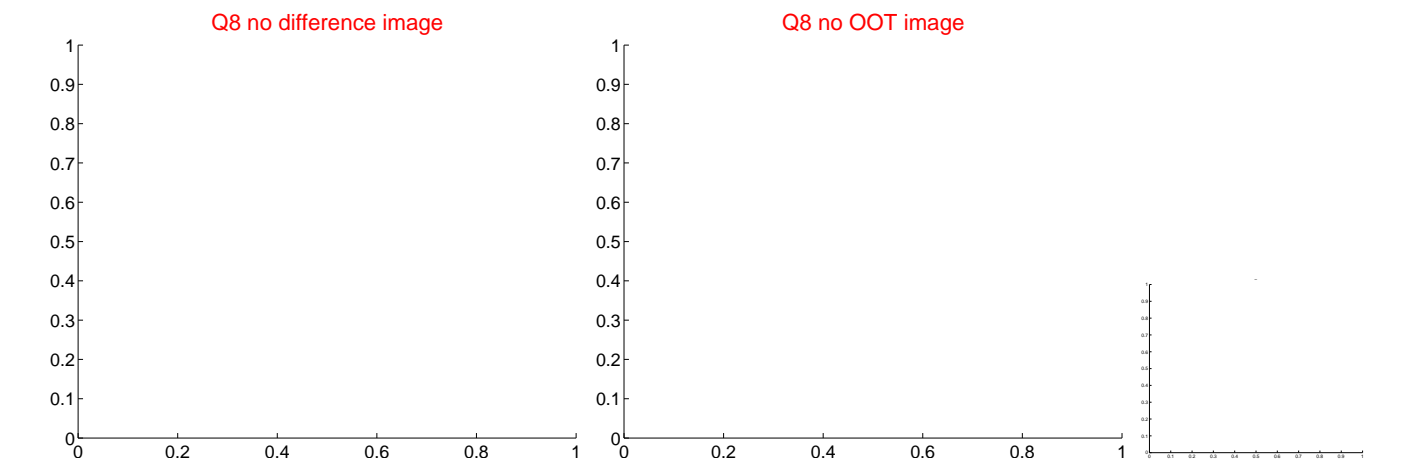
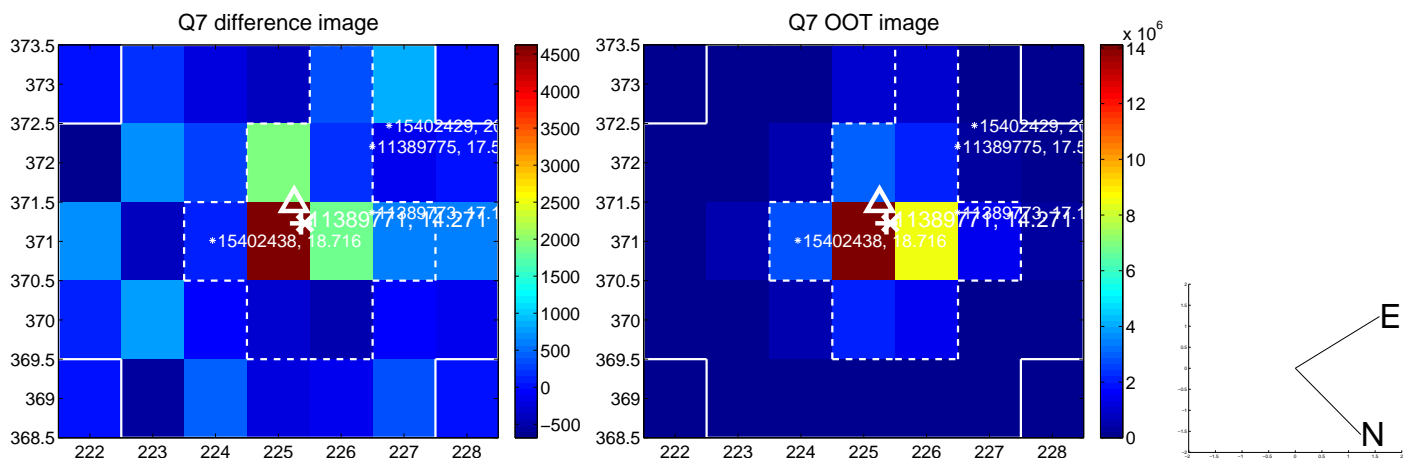
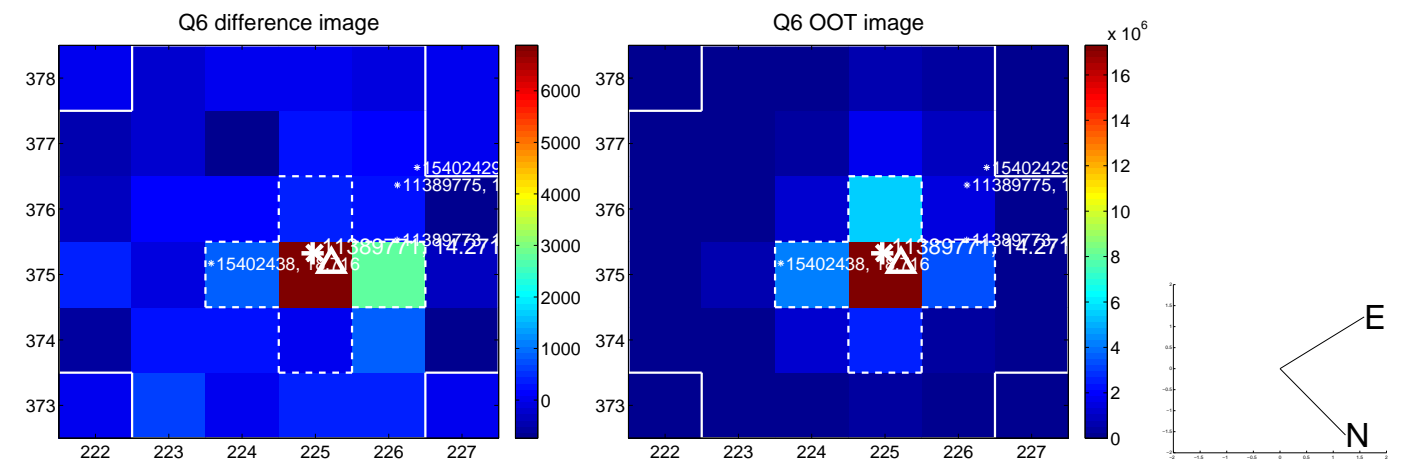
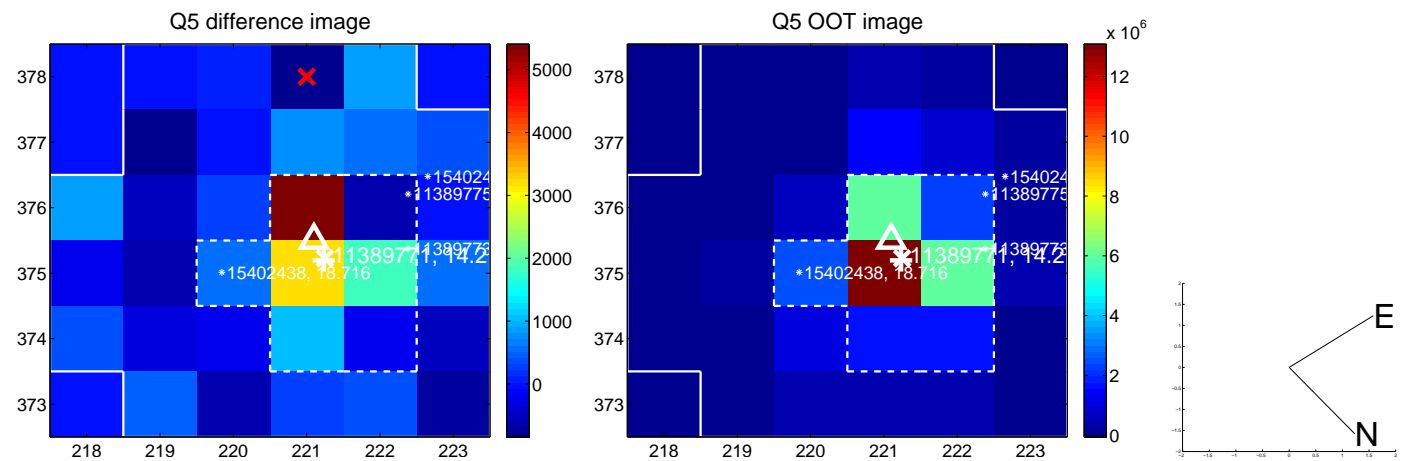


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

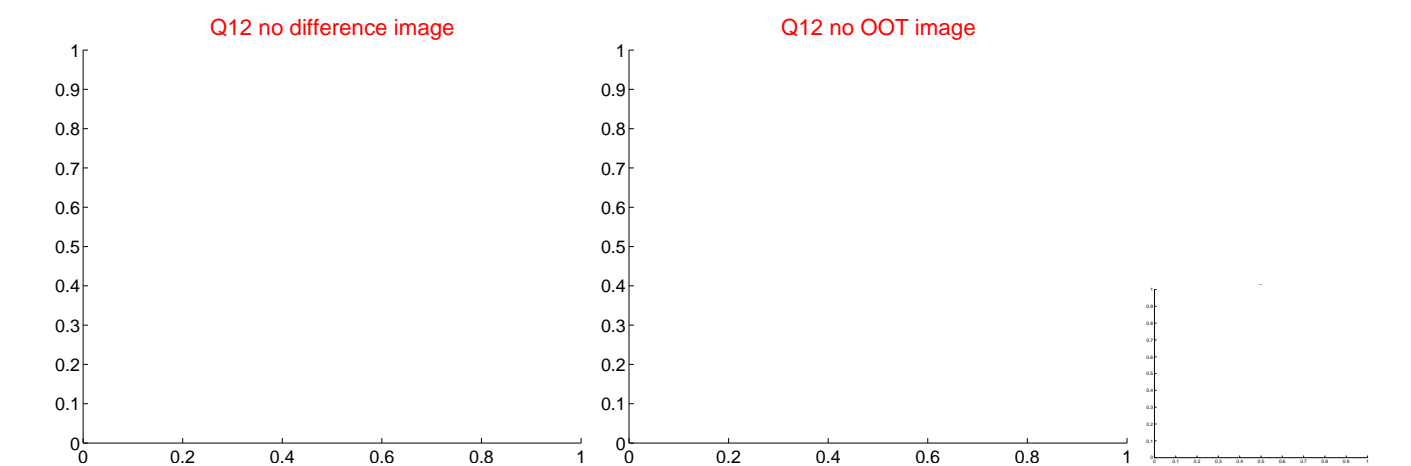
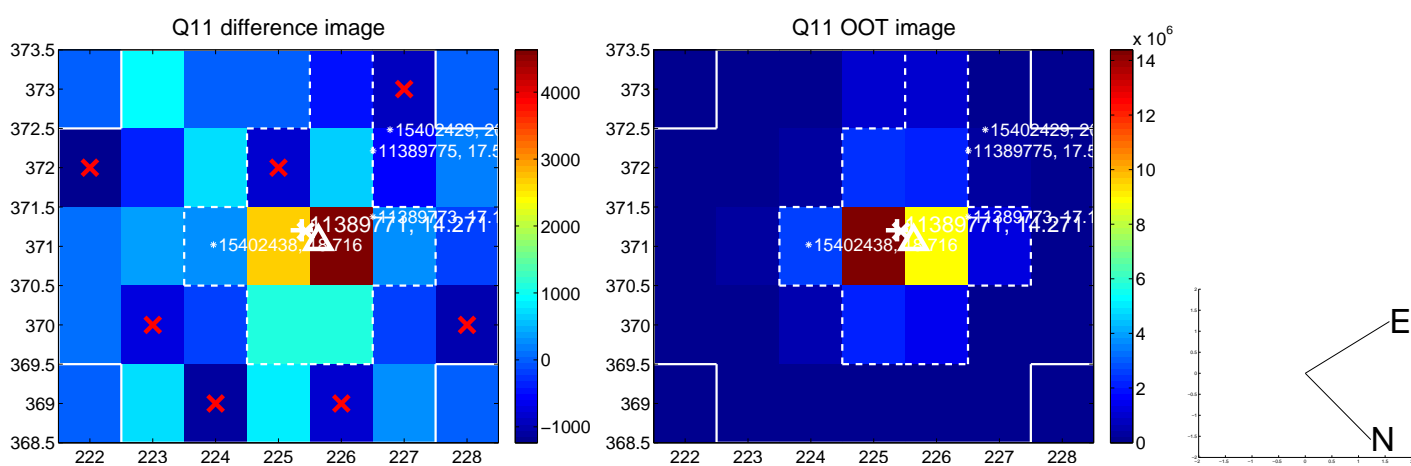
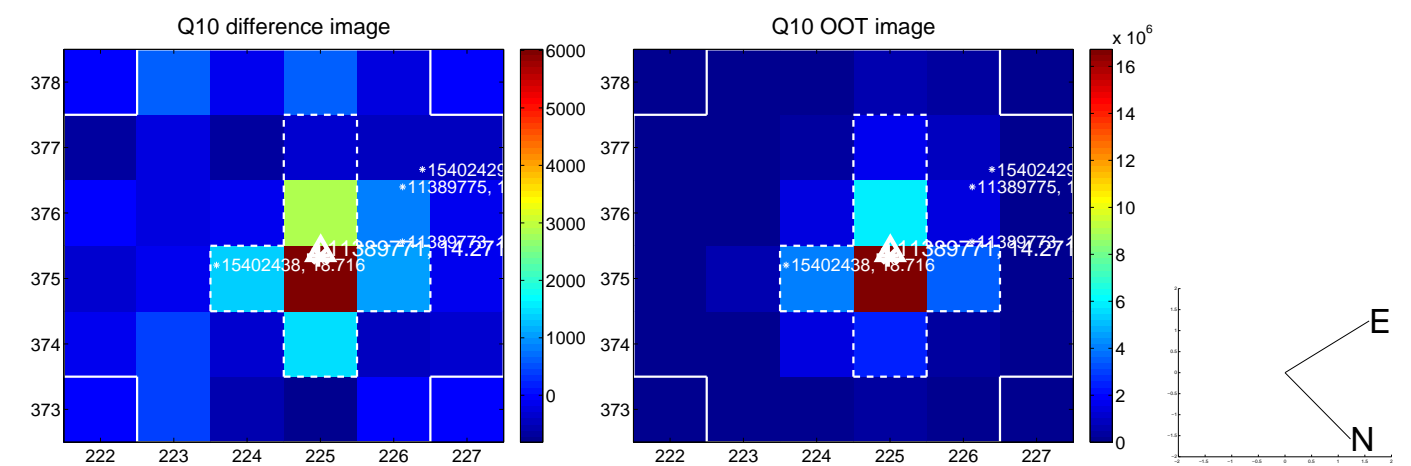
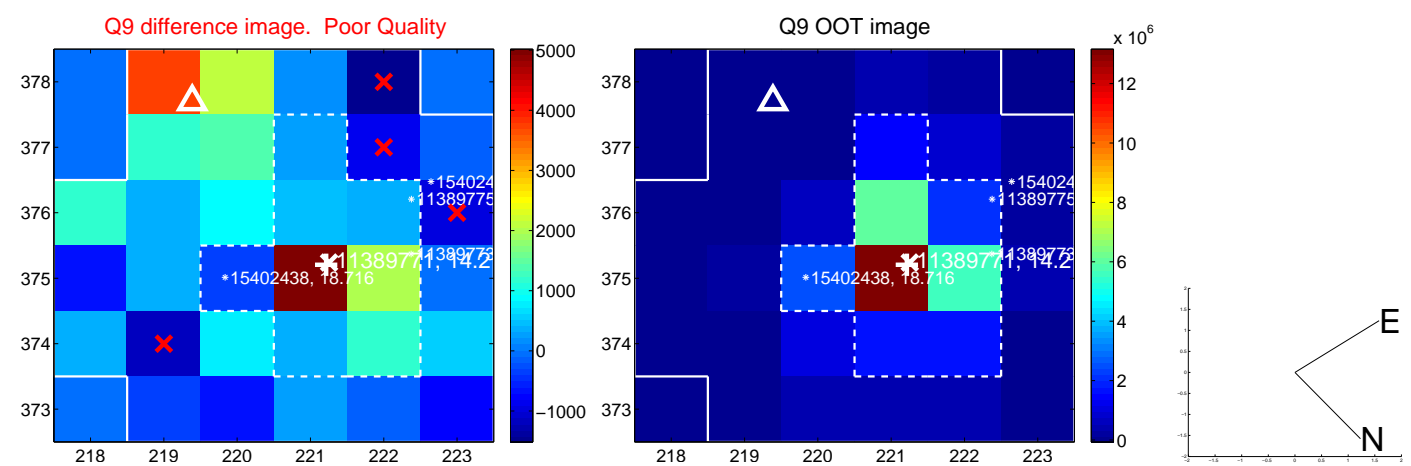
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



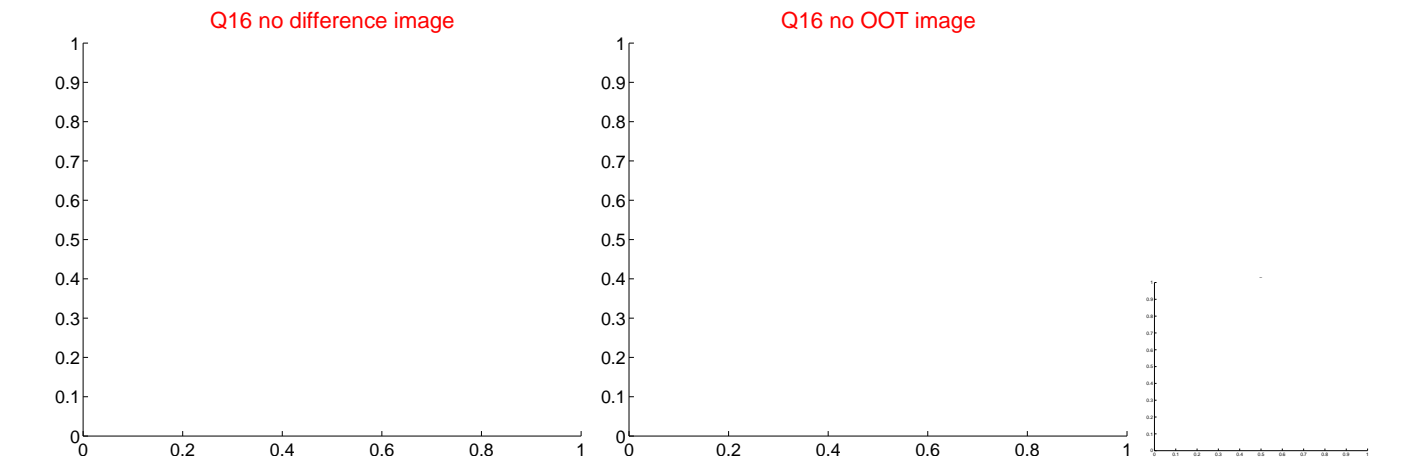
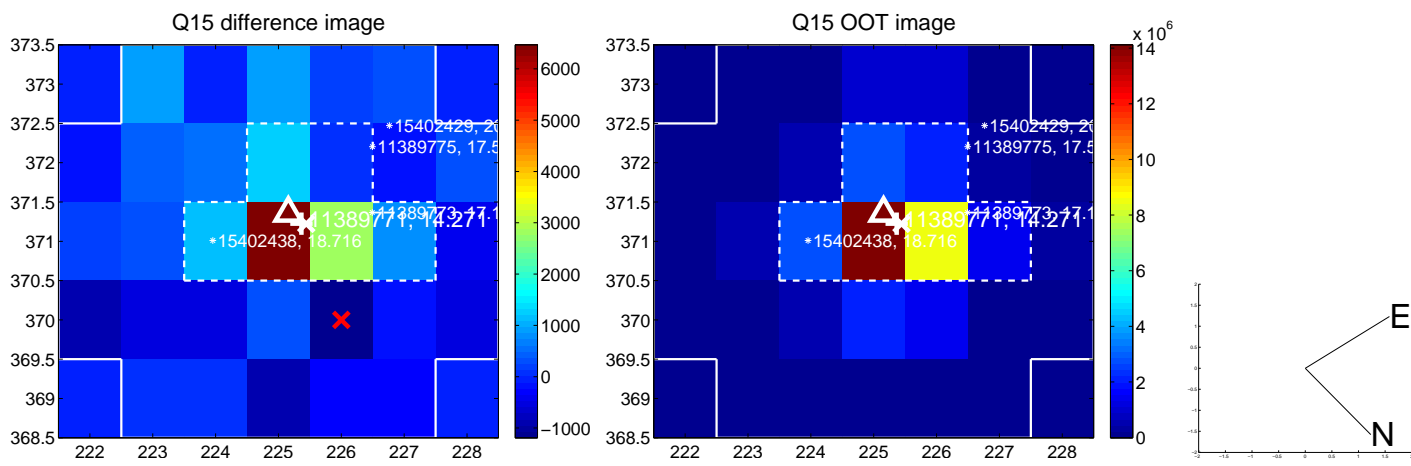
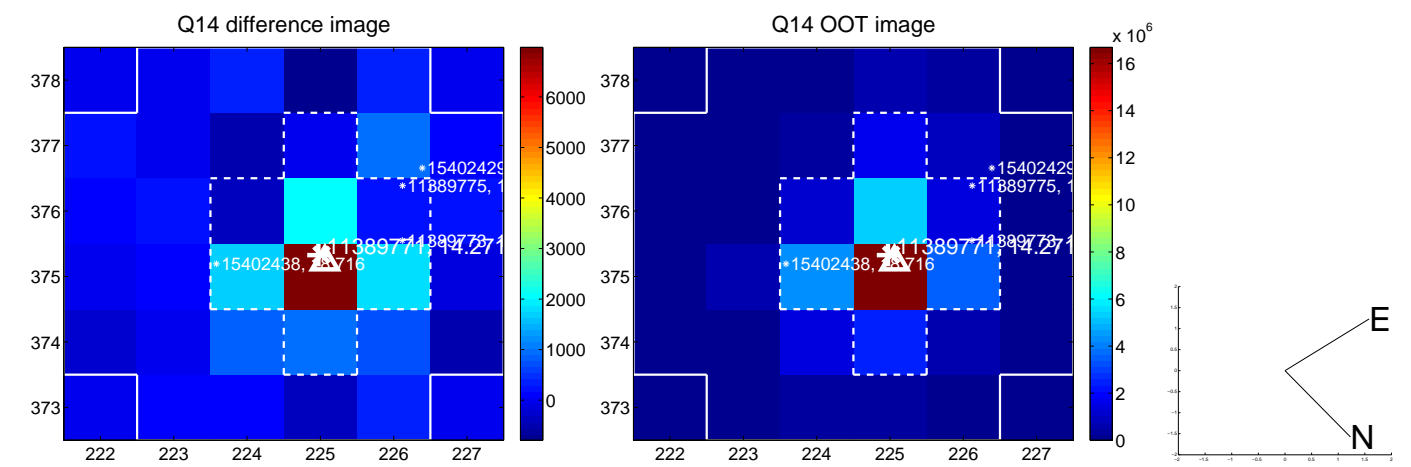
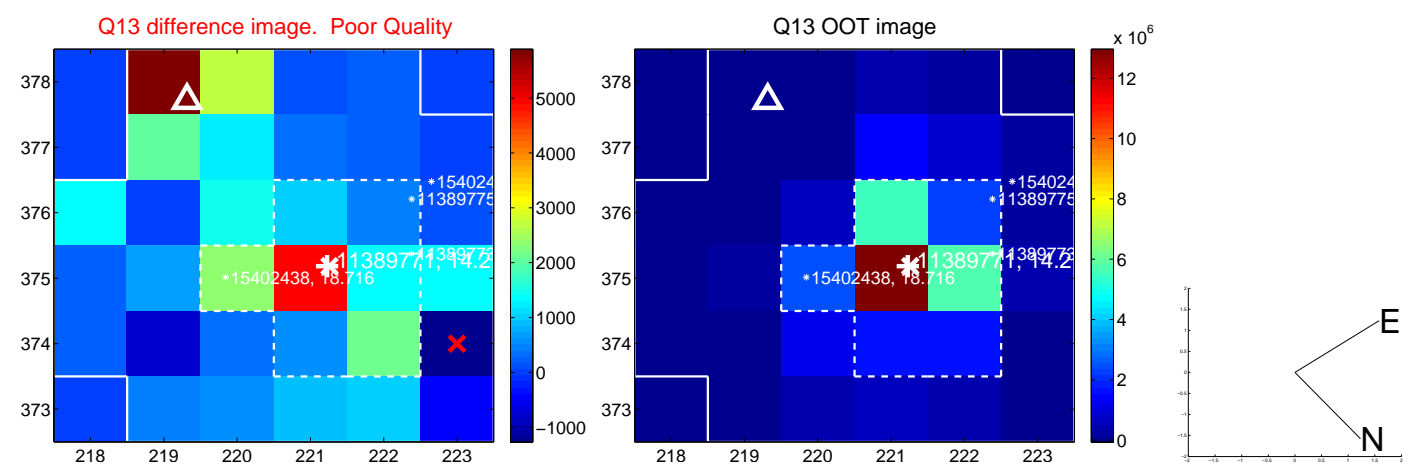
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



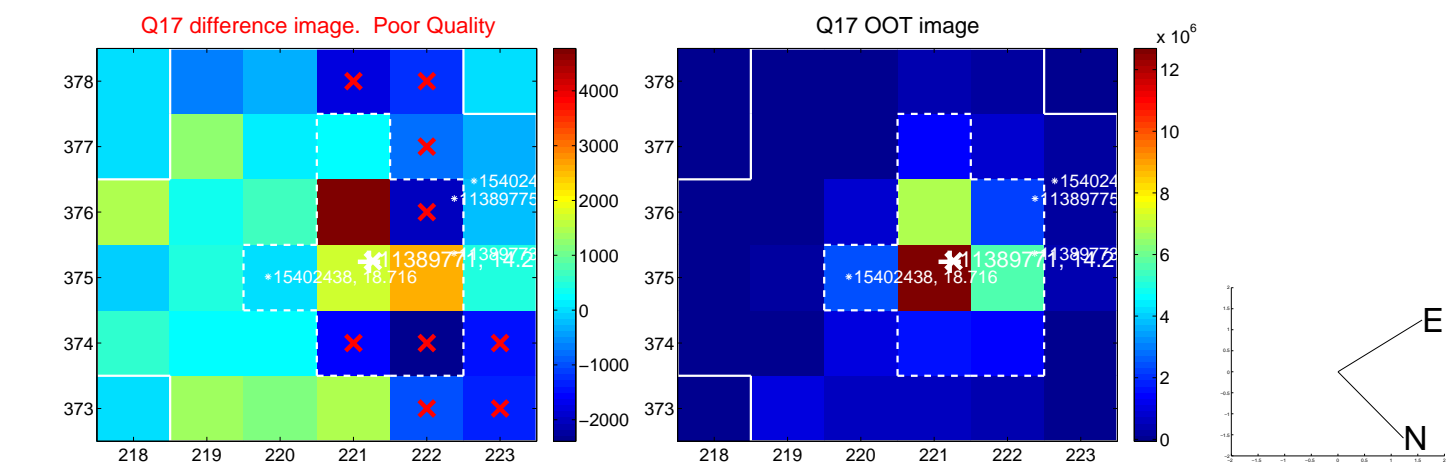
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



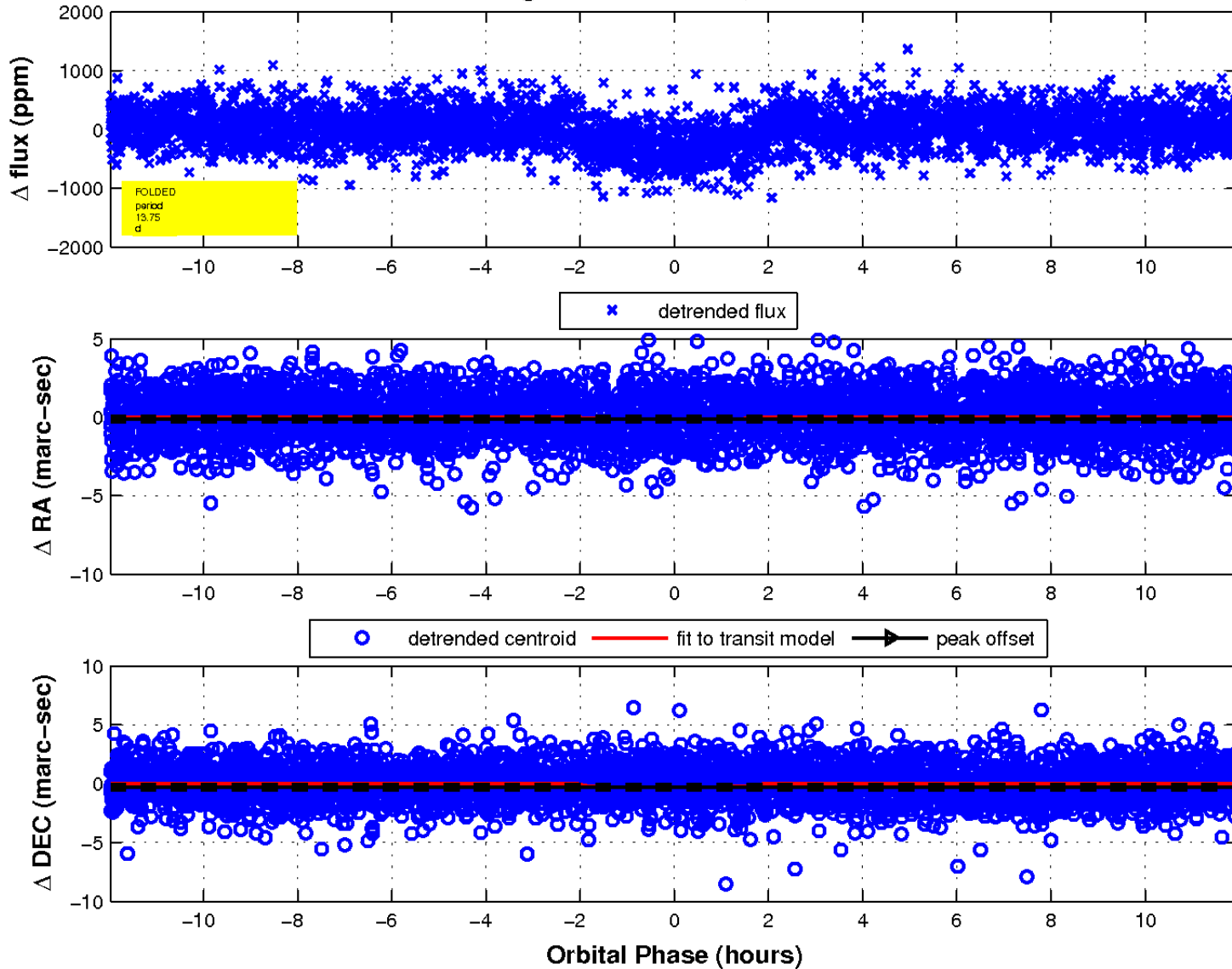
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

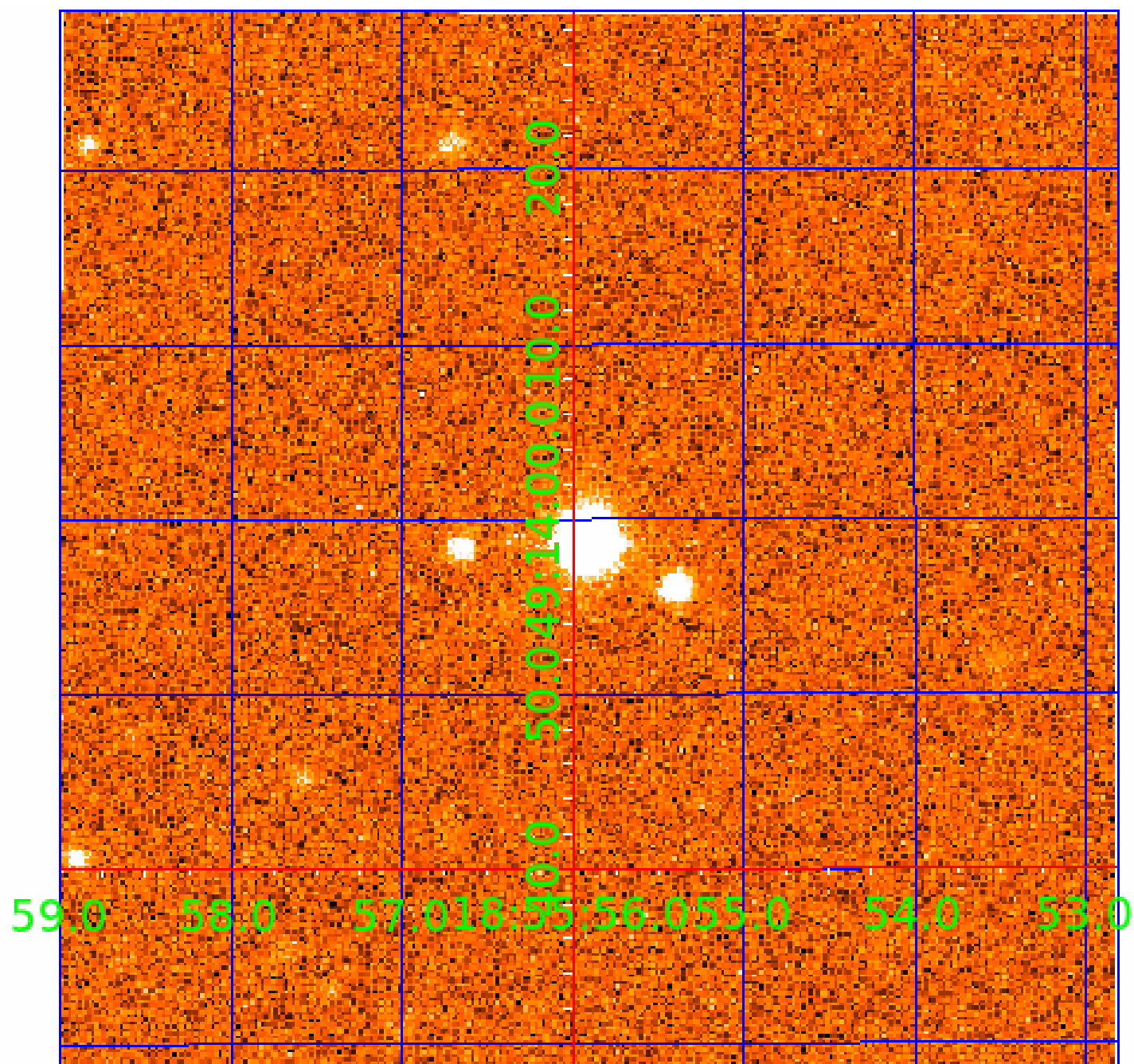


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 011389771

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})
011389771-01	OBS	1436.01	2.508558	132.501957	214.8	2.442	22.0	24.9	0.88	5814	1.53	632.24
011389771-02	OBS	1436.02	13.751288	144.613898	370.0	3.994	20.4	21.6	0.88	5814	1.86	65.41
011389771-03	OBS	1436.03	5.419048	131.646028	220.9	2.433	15.1	16.4	0.88	5814	1.55	226.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011389771-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011389771-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011389771-03	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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

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

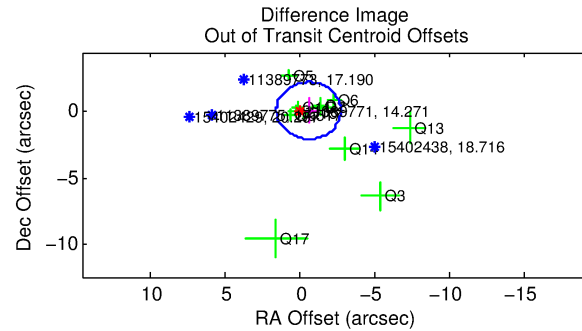
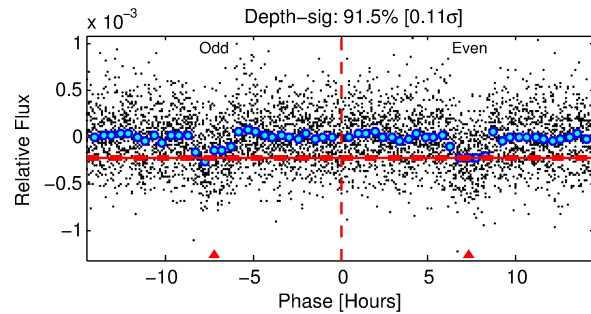
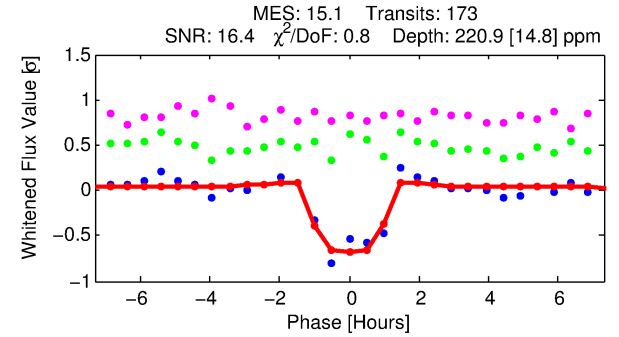
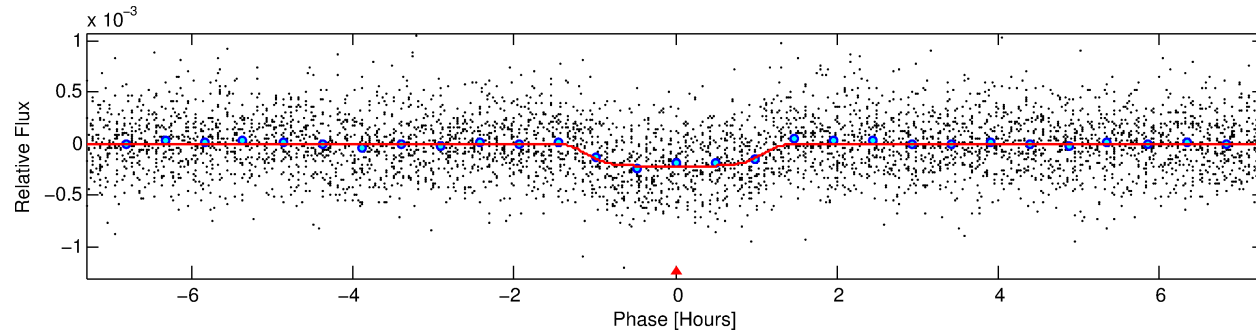
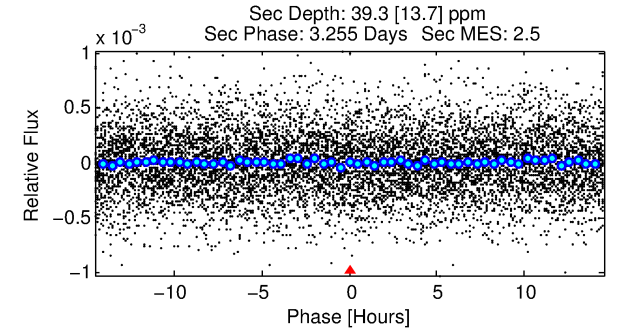
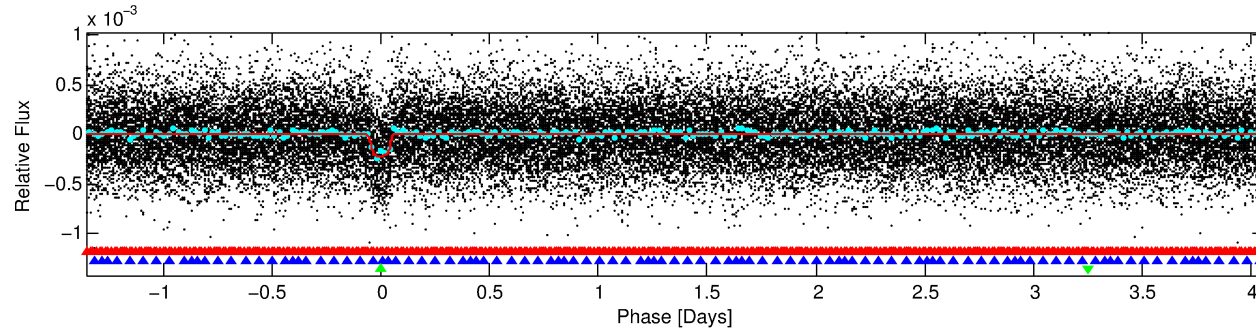
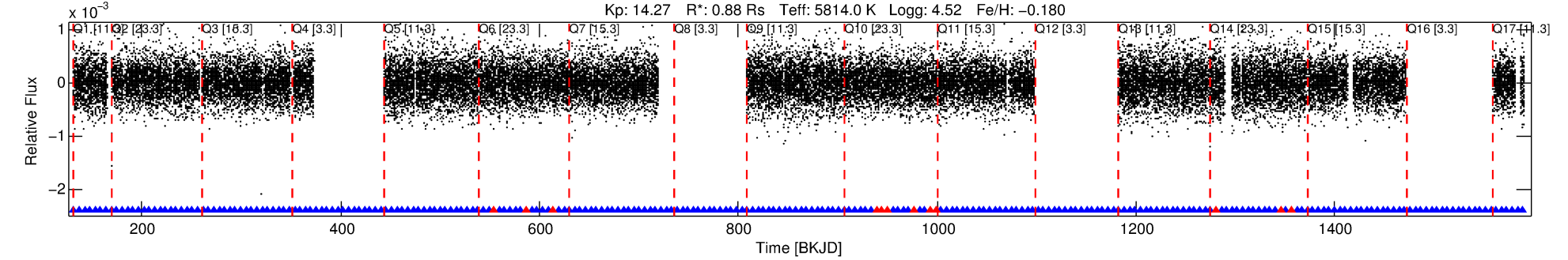
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011389771-03

No Significant Match Found

DV One-Page Summary

KIC: 11389771 Candidate: 3 of 3 Period: 5.419 d
KOI: K01436.03 Name: Kepler-301c Corr: 0.964



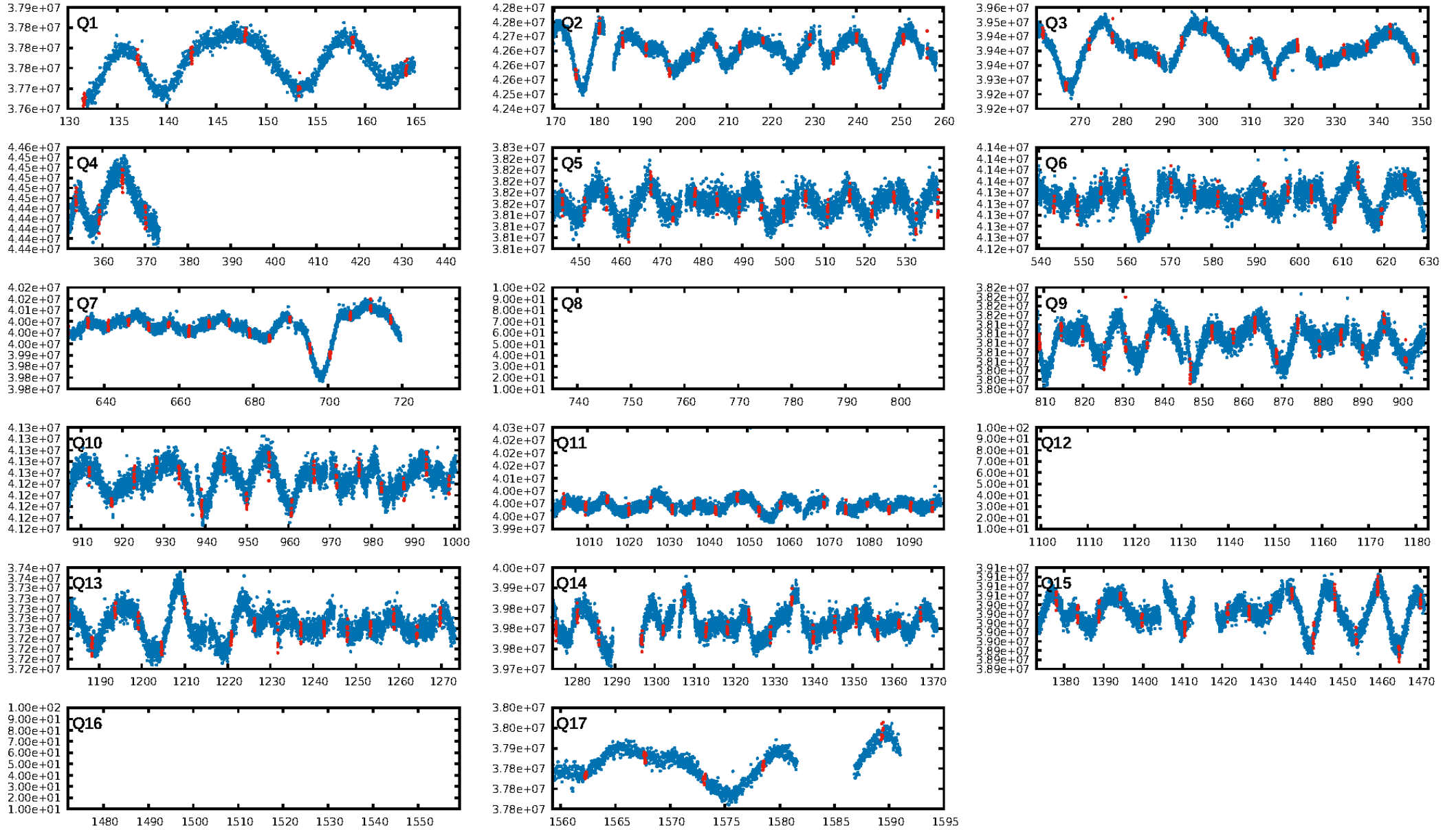
DV Fit Results:

Period = 5.41905 [0.00002] d
Epoch = 131.6460 [0.0026] BKJD
Rp/R* = 0.0161 [0.0057]
a/R* = 8.10 [13.63]
b = 0.90 [0.37]
Seff = 226.40 [85.36]
Teq = 989 [93] K
Rp = 1.55 [0.70] Re
a = 0.0592 [0.0145] AU
Ag = 31.50 [27.12] [1.12σ]
Teffp = 3623 [714] K [3.66σ]

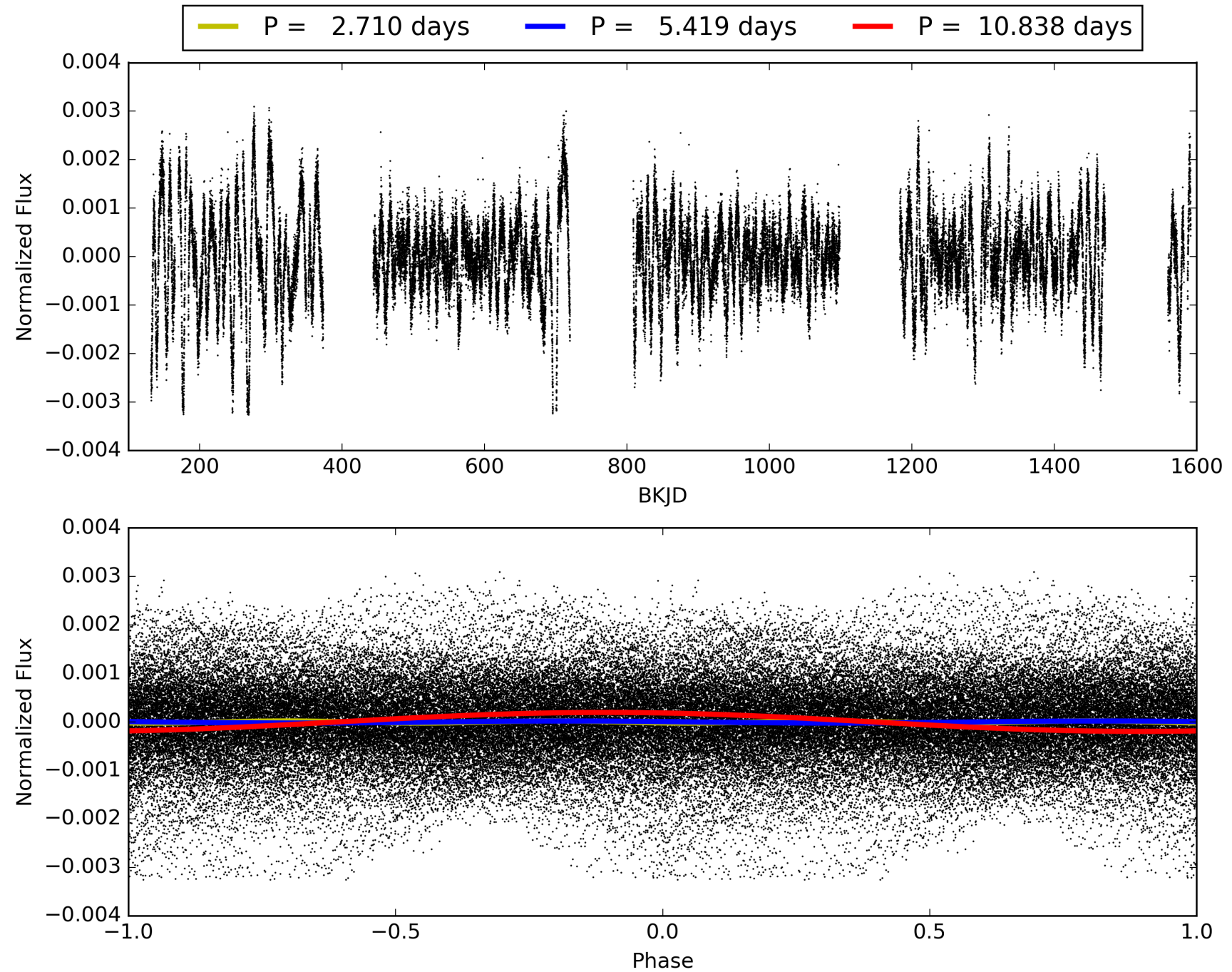
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.26σ]
LongPeriod-sig: 100.0% [42.76σ]
ModelChiSquare2-sig: 96.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.97e-47
RollingBand-fgt: 0.93 [148/160]
GhostDiagnostic-chr: 1.347
Centroid-sig: 53.7%
Centroid-so: 0.817 arcsec [1.15σ]
OotOffset-rm: 0.646 arcsec [0.90σ]
KicOffset-rm: 0.805 arcsec [1.07σ]
OotOffset-st: 4/4/0/4 [12]
KicOffset-st: 4/4/0/4 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 011389771-03, PDC Light Curves

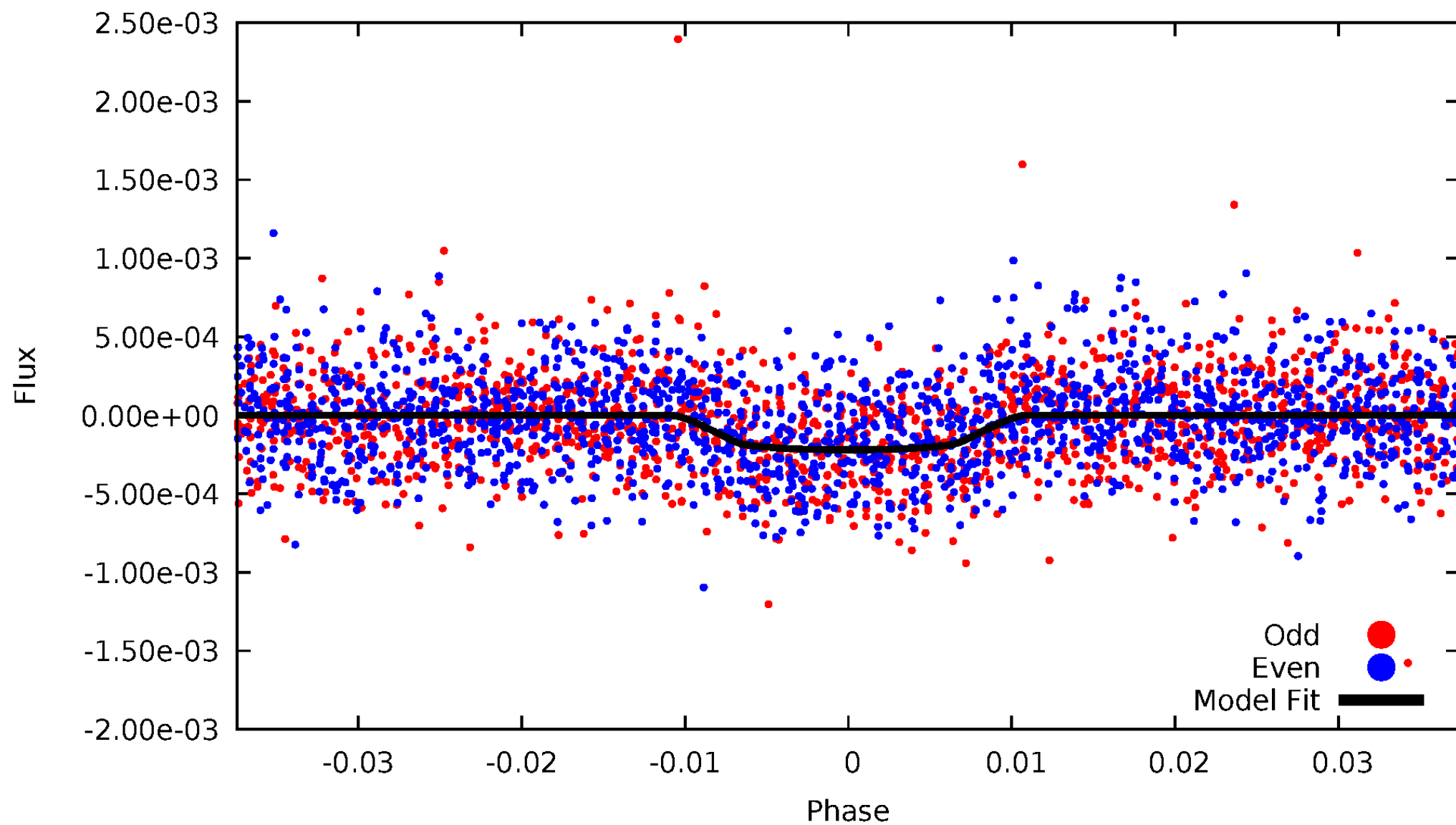


TCE 011389771-03



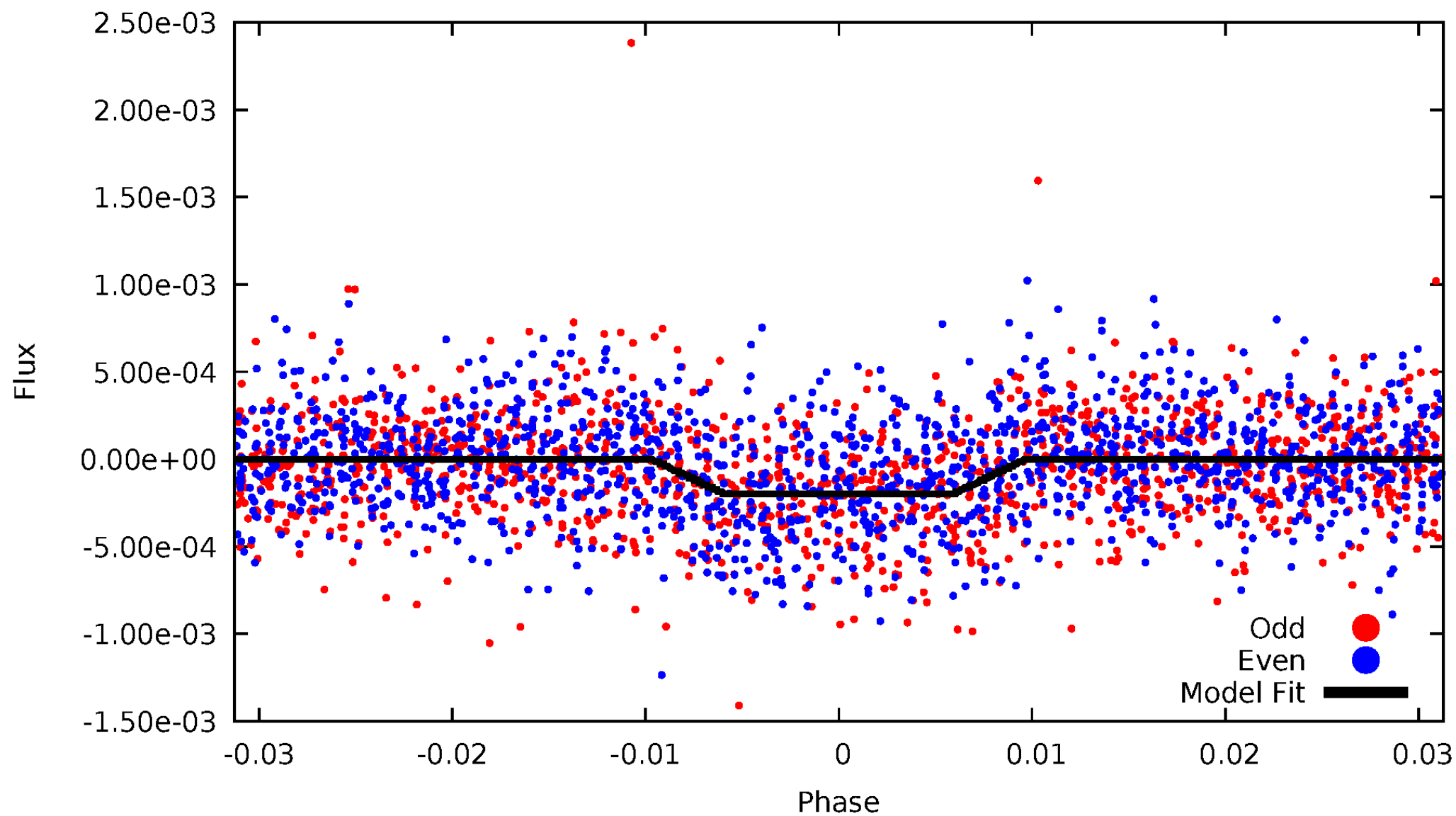
DV Odd/Even

TCE 011389771-03

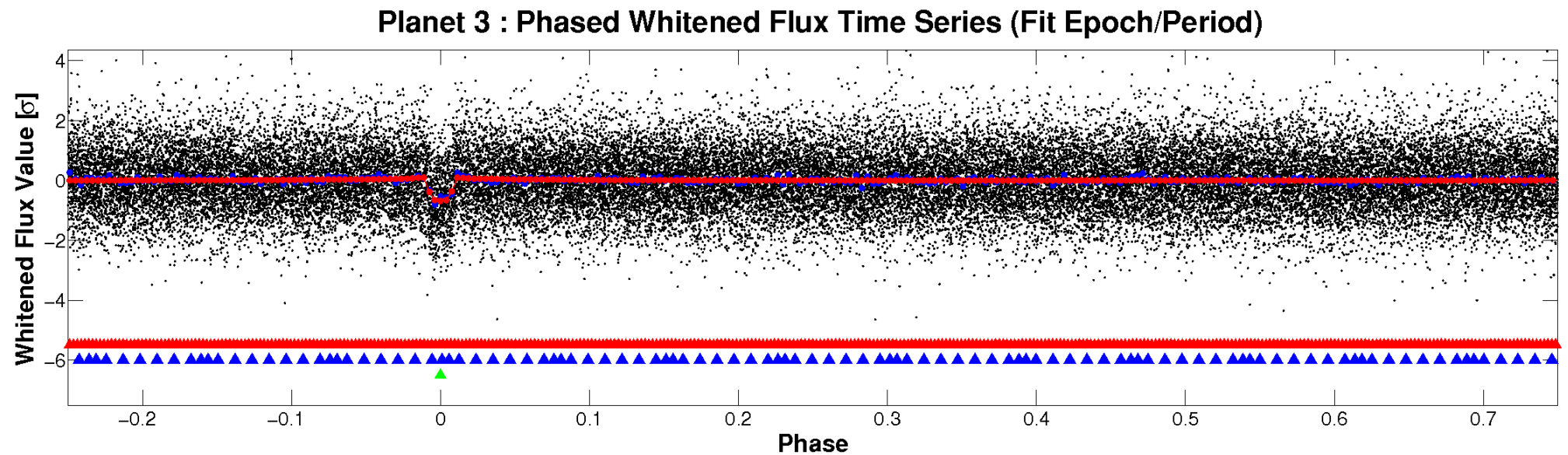
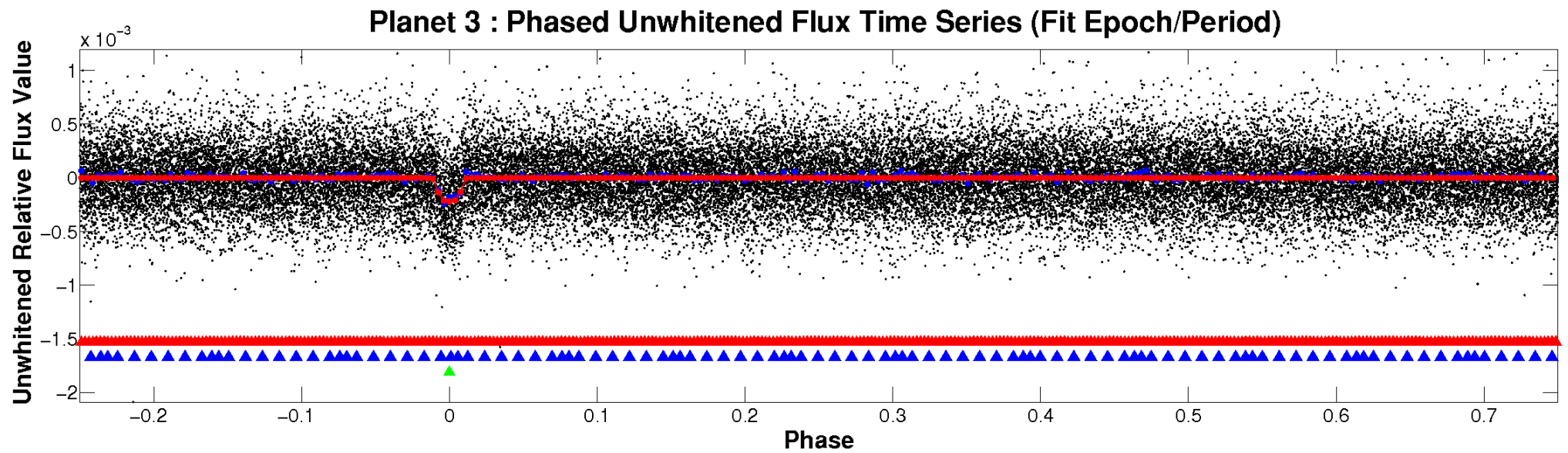


ALT Odd/Even

TCE 011389771-03

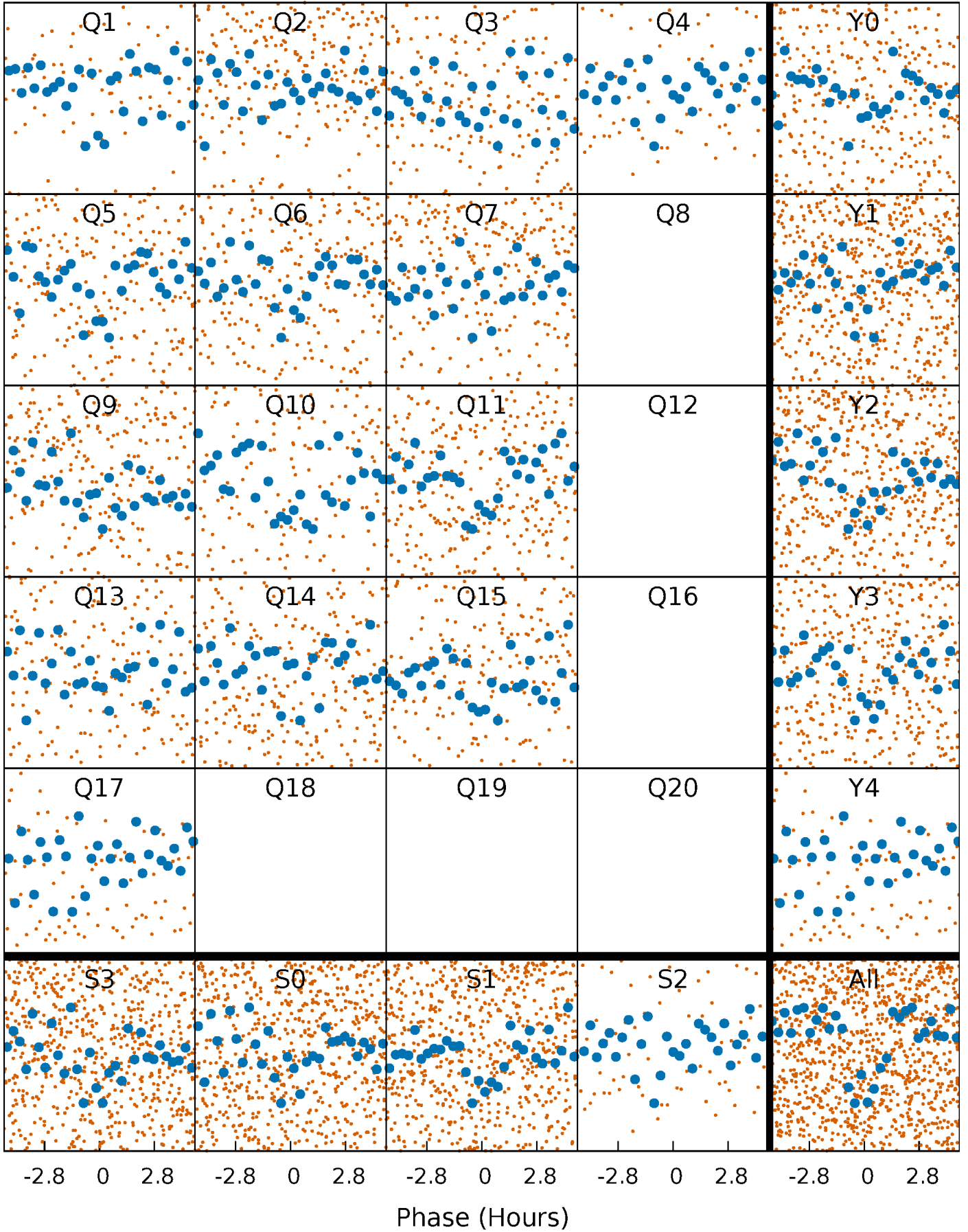


Non-Whitened Vs. Whitened Light Curve



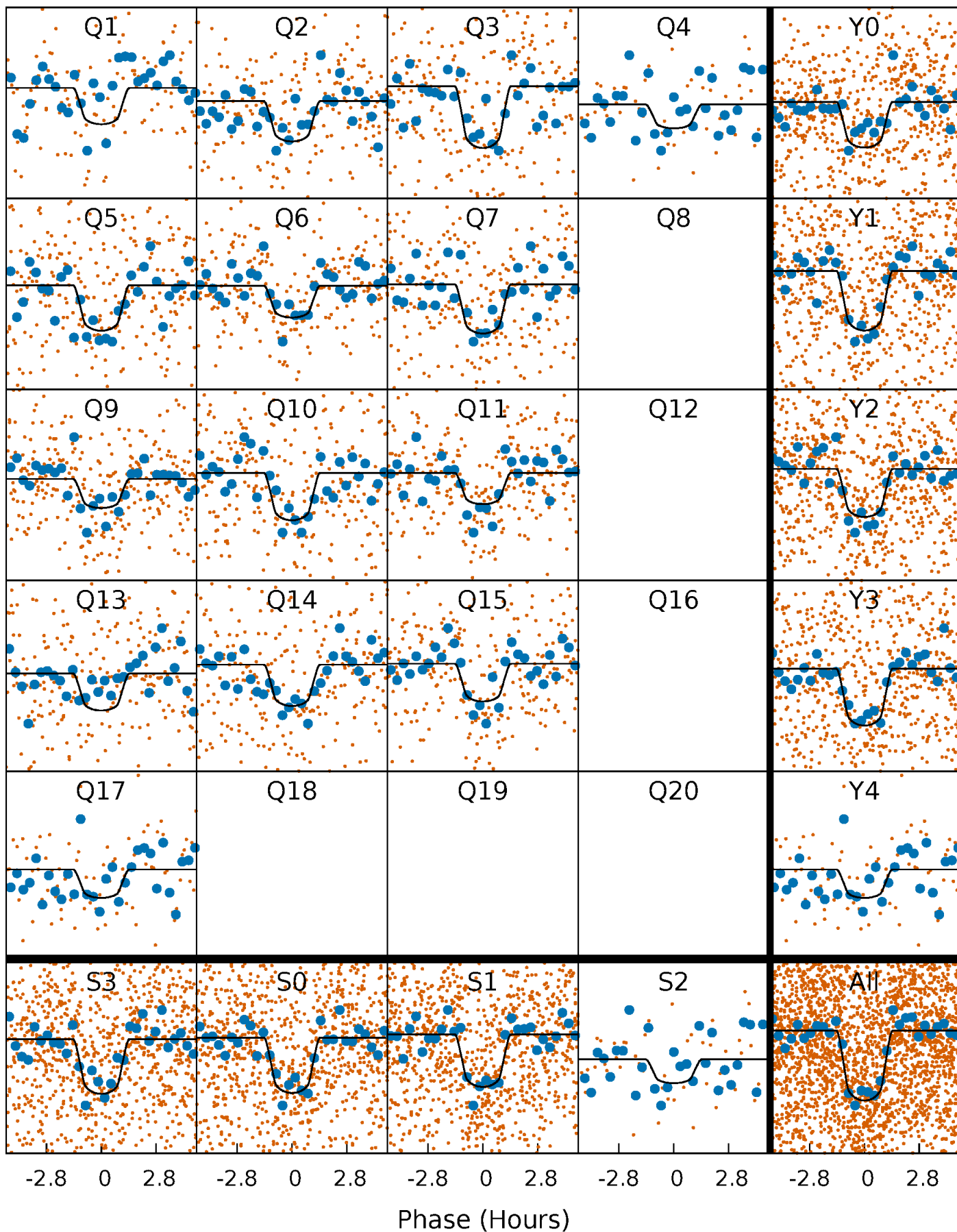
PDC Quarter-Phased Transit Curves

TCE 011389771-03 P= 5.419048 Days $T_0=131.646028$ (BKJD)



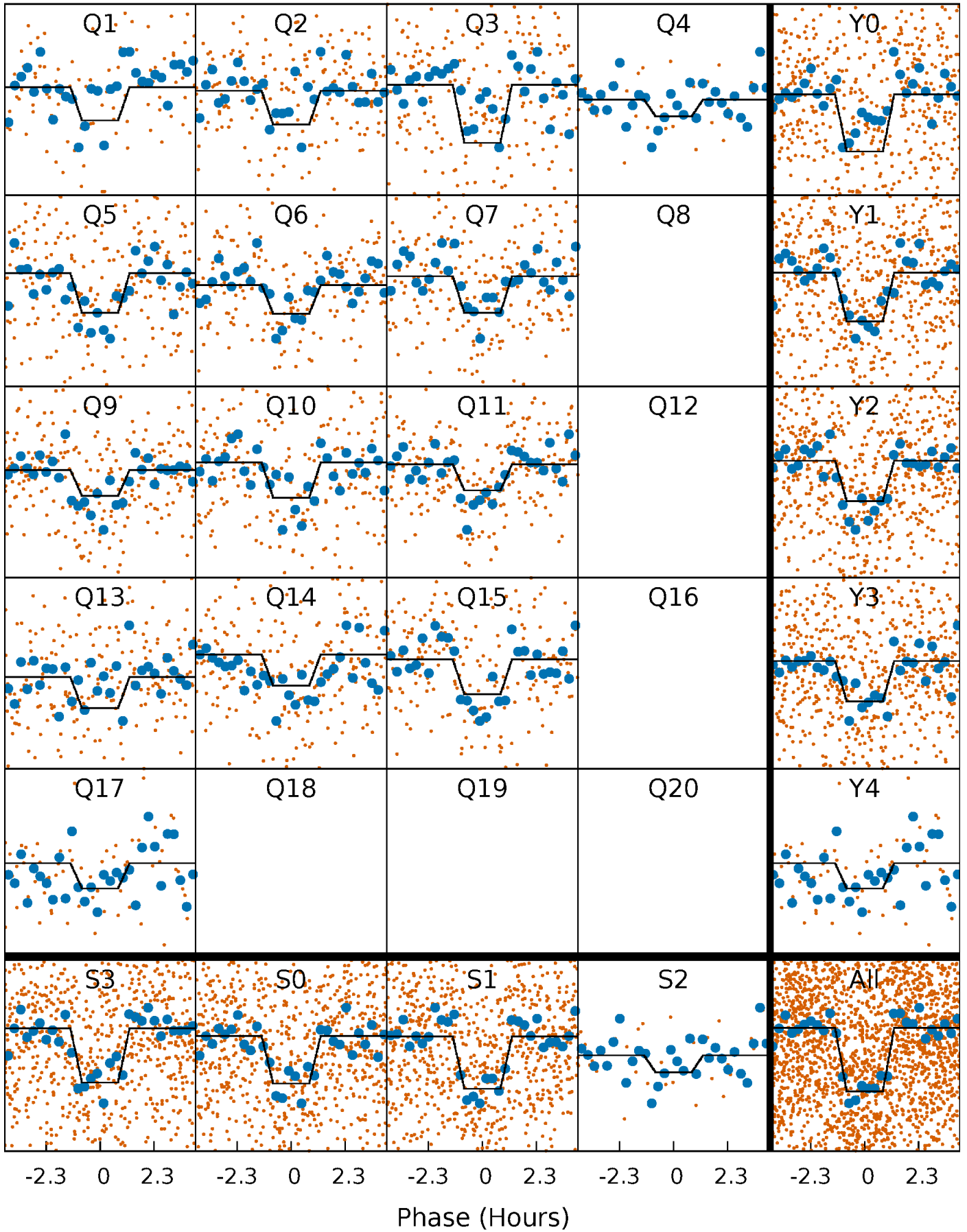
DV Quarter-Phased Transit Curves

TCE 011389771-03 P= 5.419048 Days $T_0=131.646028$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

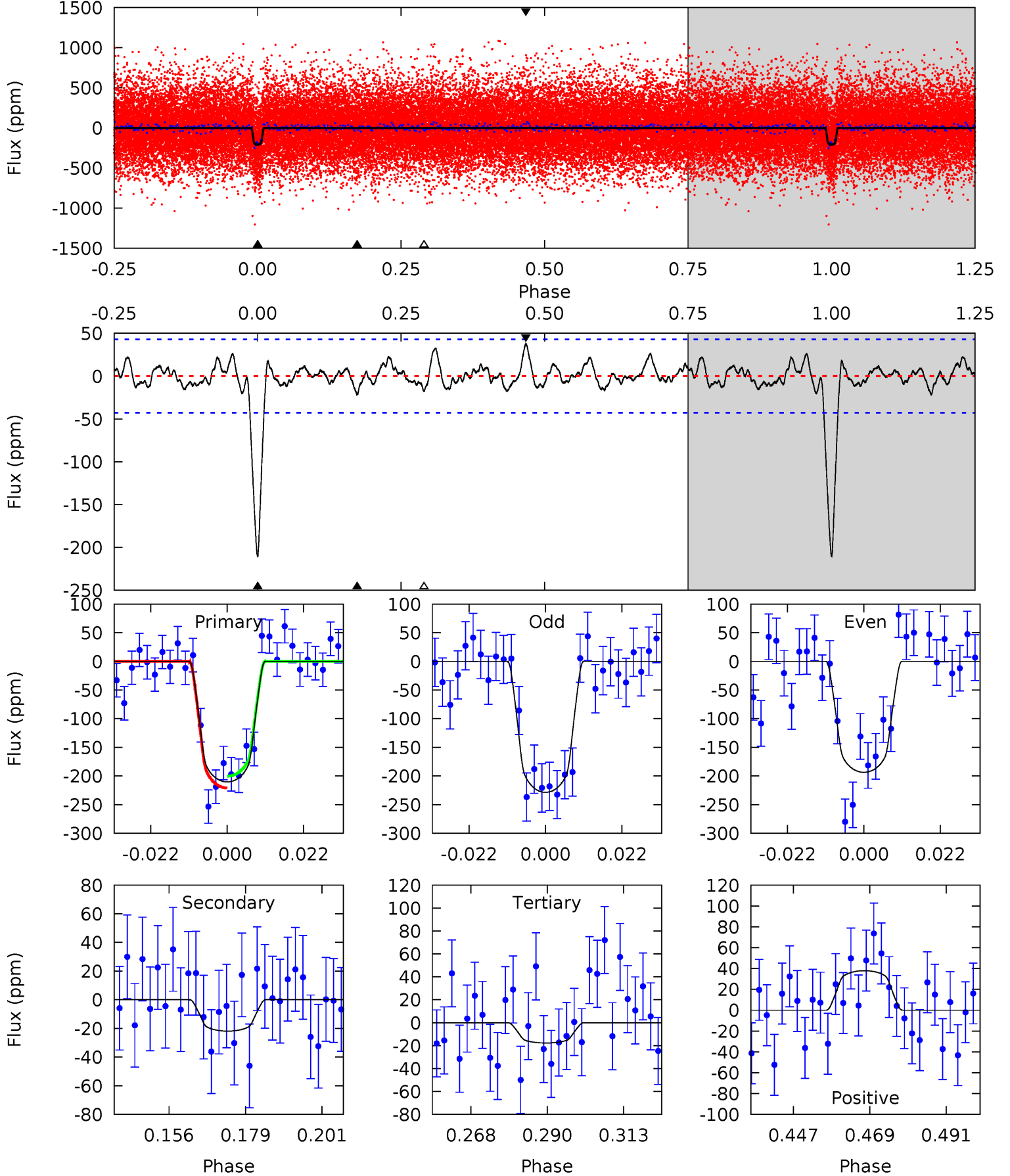
TCE 011389771-03 P= 5.419046 Days $T_0=131.647955$ (BKJD)



DV Model-Shift Uniqueness Test

011389771-03, P = 5.419048 Days, E = 126.226980 Days

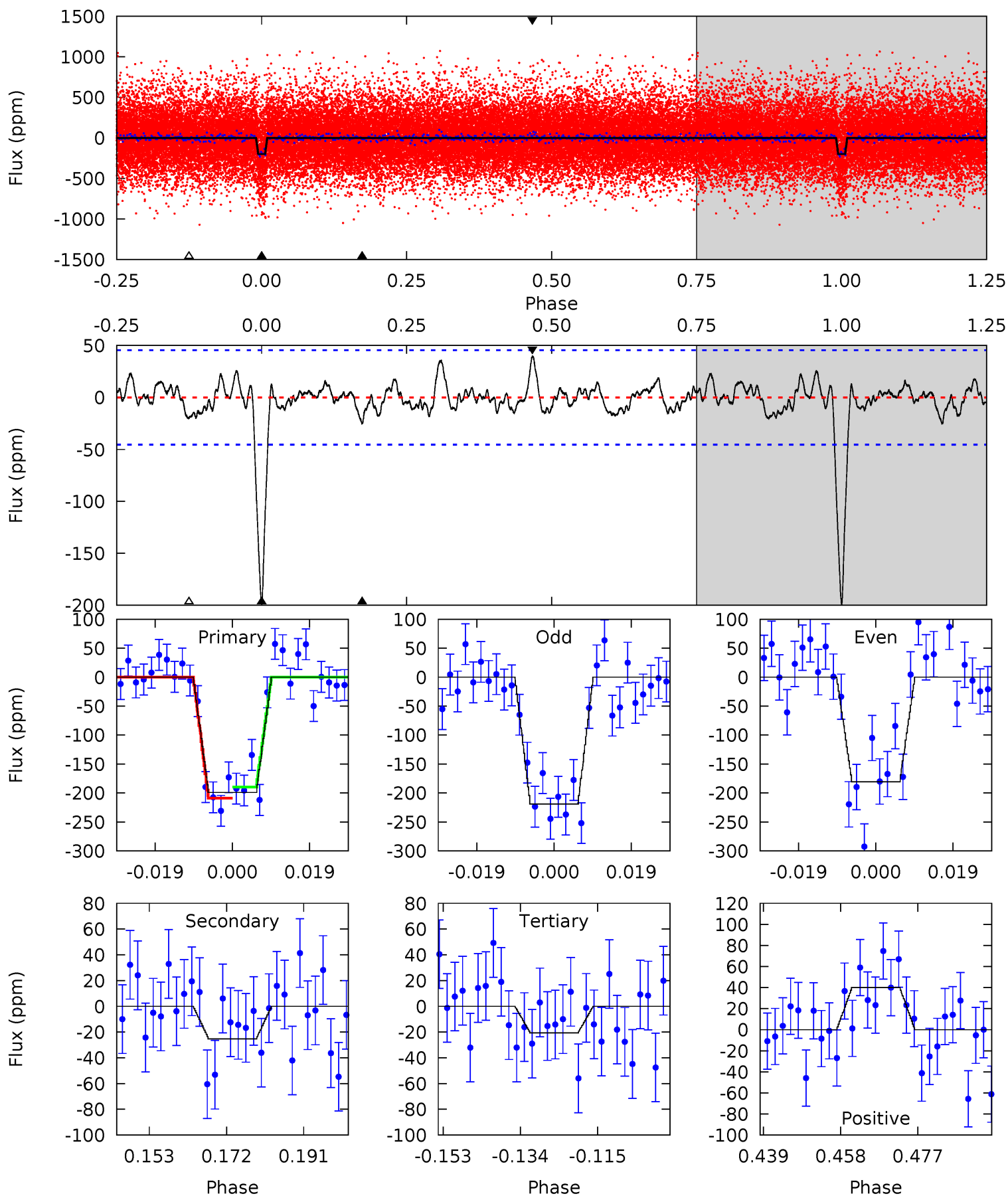
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.9	2.48	2.01	4.31	4.87	2.28	1.18	21.9	19.6	0.48	-1.82	1.99	0.94	0.15	1.17



Alt Model-Shift Uniqueness Test

011389771-03, P = 5.419046 Days, E = 126.228909 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	2.72	2.22	4.32	4.90	2.34	1.13	19.2	17.1	0.49	-1.60	2.06	0.98	0.17	1.03



Stellar Parameters For KIC 011389771

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5814^{+139}_{-156}	$4.523^{+0.050}_{-0.200}$	$-0.180^{+0.300}_{-0.300}$	$0.881^{+0.252}_{-0.084}$	$0.944^{+0.110}_{-0.110}$	$1.946^{+0.492}_{-0.948}$
	+2%/-3%	+1%/-4%	+167%/-167%	+29%/-10%	+12%/-12%	+25%/-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 011389771-03 / KOI 1436.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 9	$1.64^{+0.58}_{-0.60}$	1411^{+91}_{-63}	3552^{+687}_{-410}	15^{+25}_{-9}
Alt.	-25 ± 9	$1.43^{+0.61}_{-0.57}$	1414^{+102}_{-63}	3820^{+897}_{-457}	23^{+51}_{-13}

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 $A_{obs} \gg 1.0$

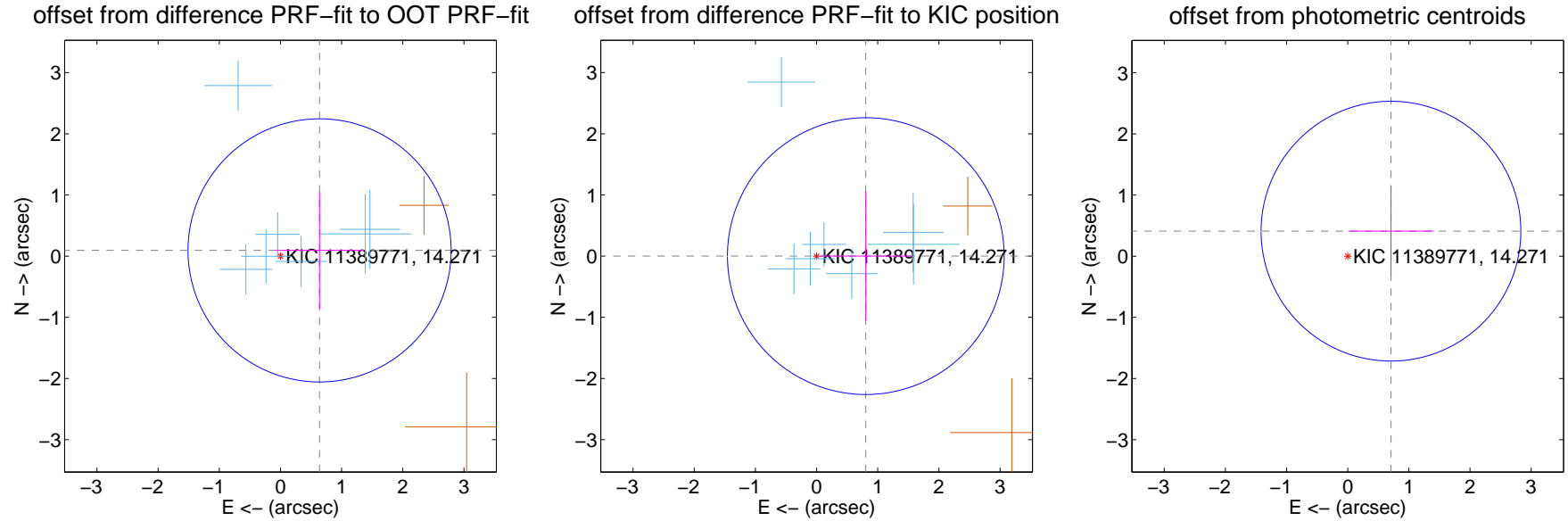
DV Centroid Data

Supplemental centroid analysis for 011389771-03. Kepler magnitude: 14.27. Transit SNR 16.39

There are 7 quarters with good PRF difference image offsets

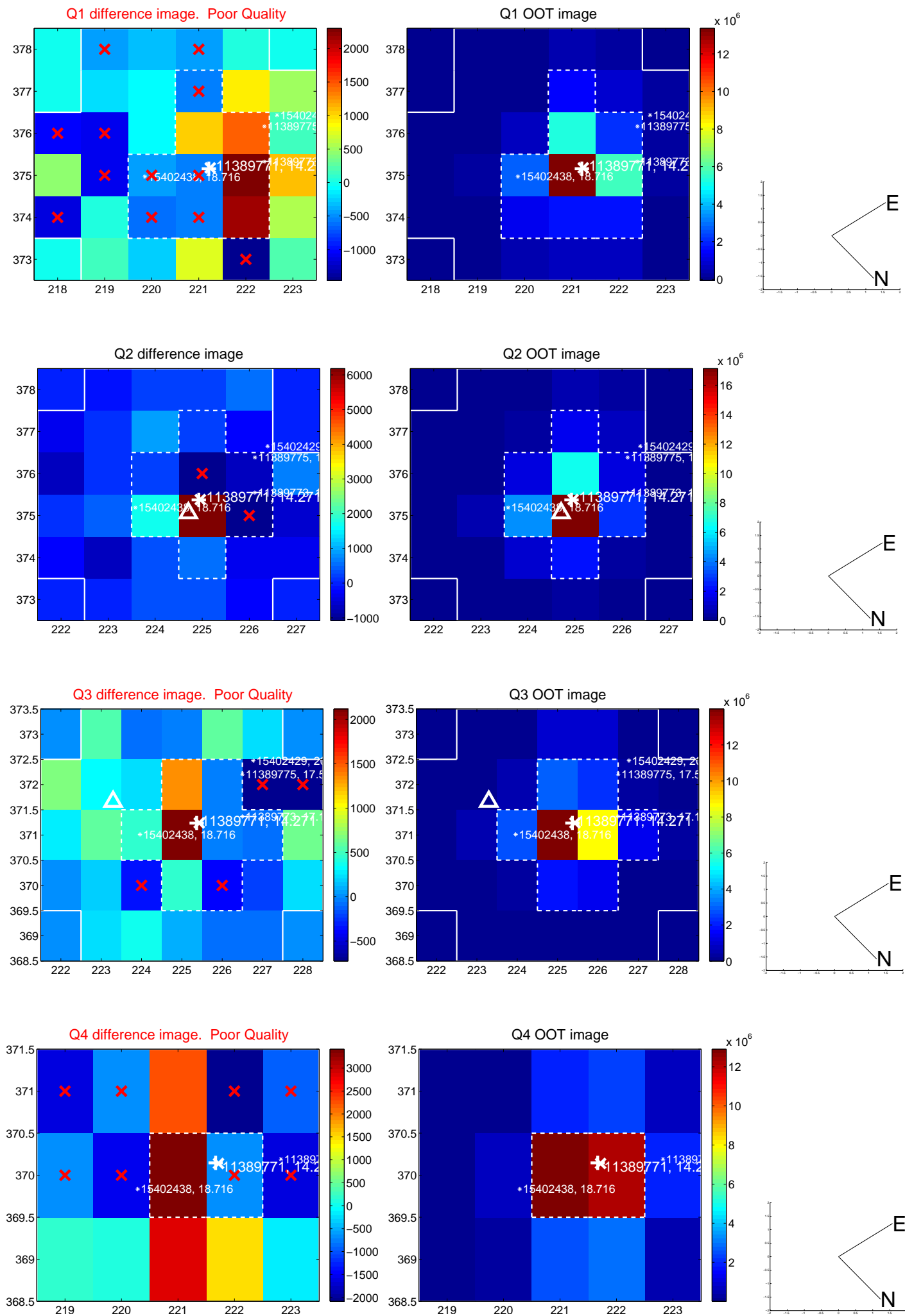
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.646 ± 0.717	0.90	-0.639 ± 0.724	0.094 ± 0.953
PRF-fit source offset from KIC position	0.805 ± 0.754	1.07	-0.805 ± 0.754	0.000 ± 1.055
photometric centroid source offset	0.82 ± 0.71	1.15	-0.71 ± 0.70	0.41 ± 0.74

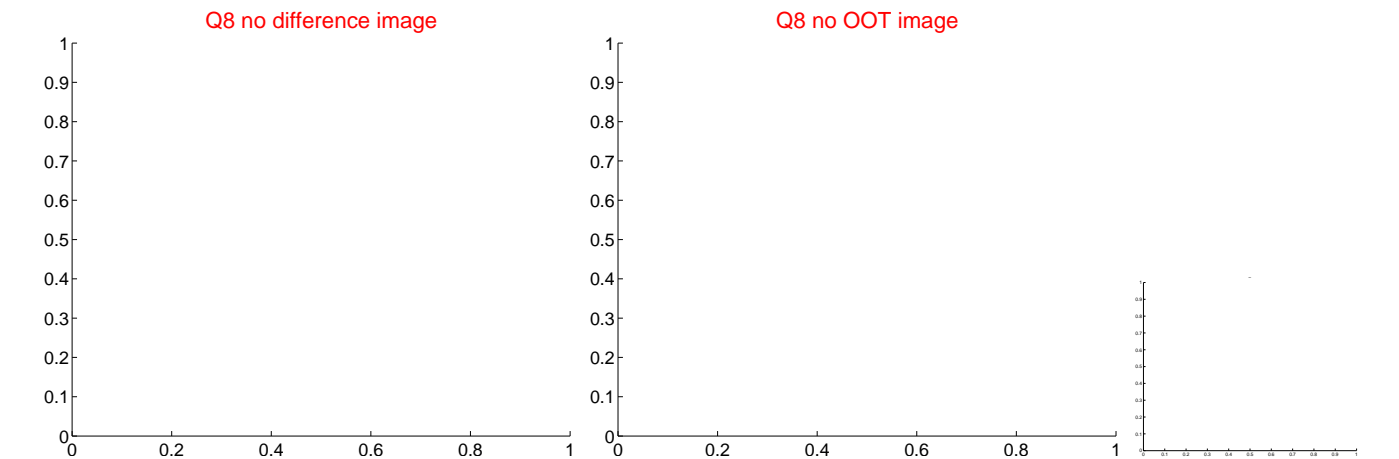
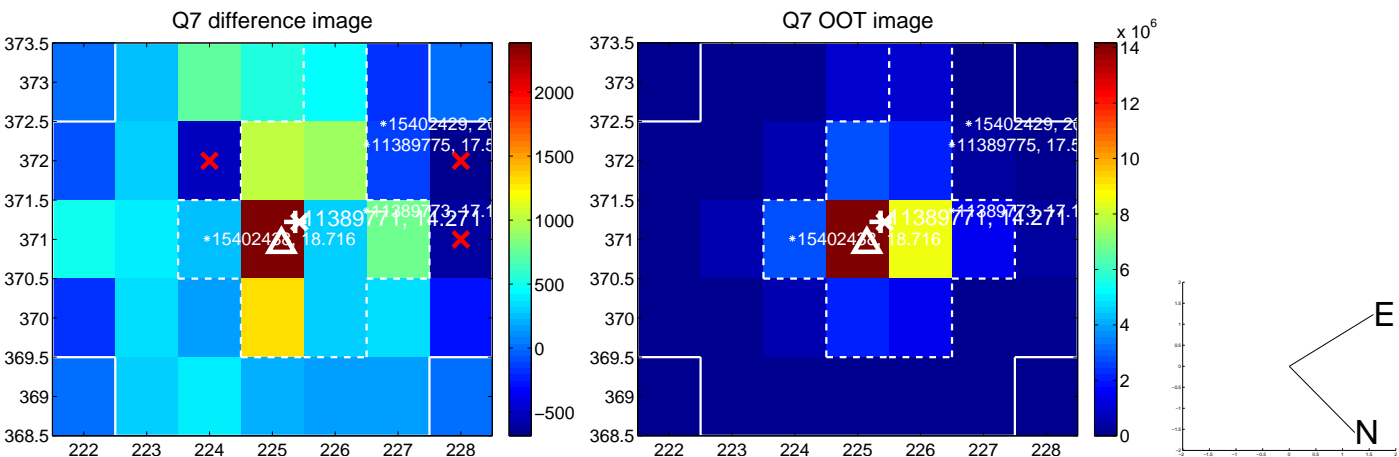
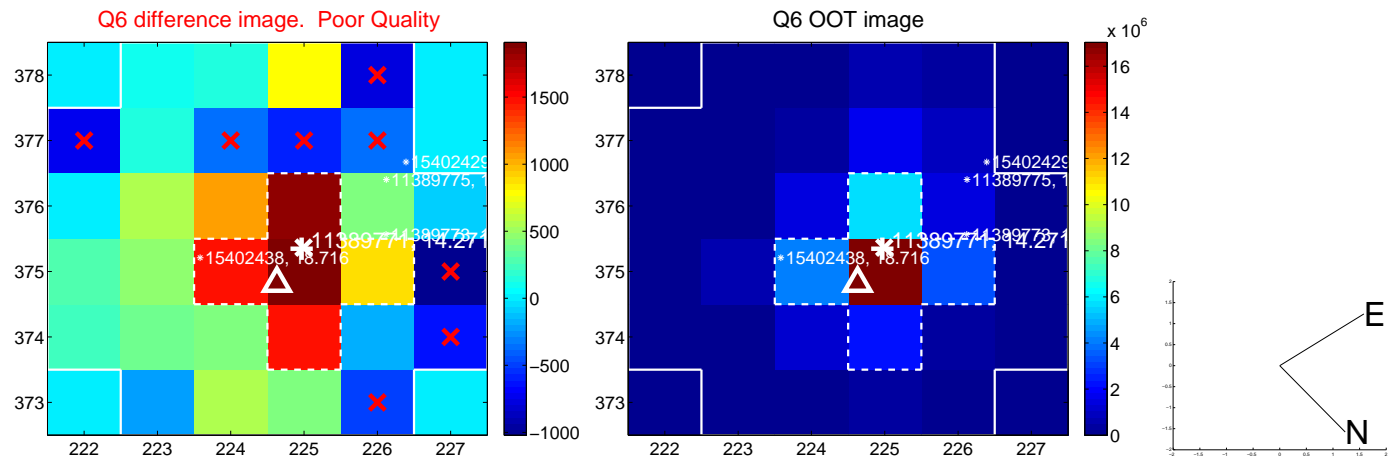
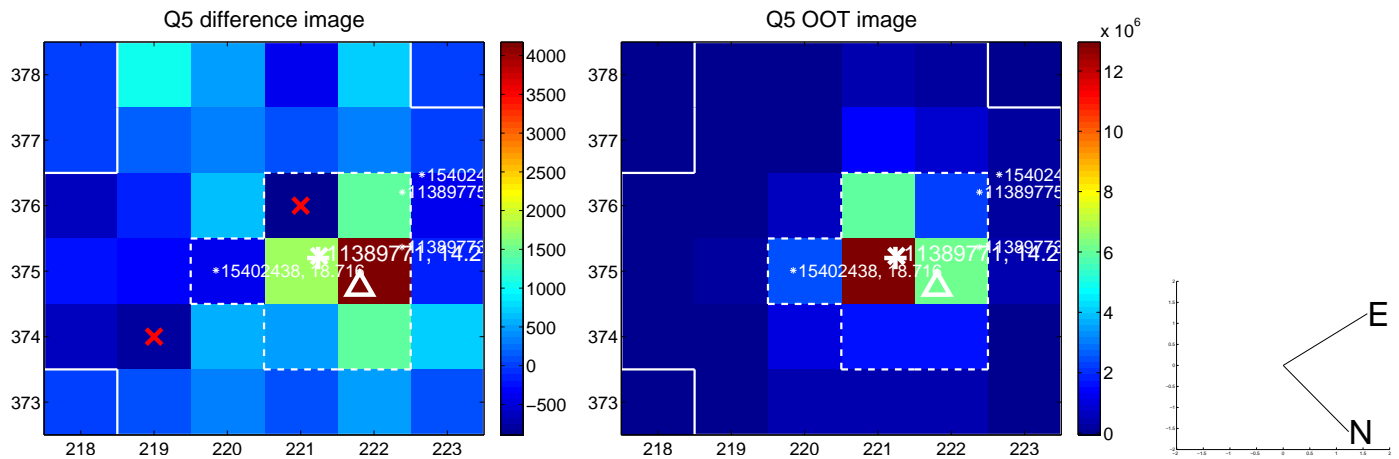


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

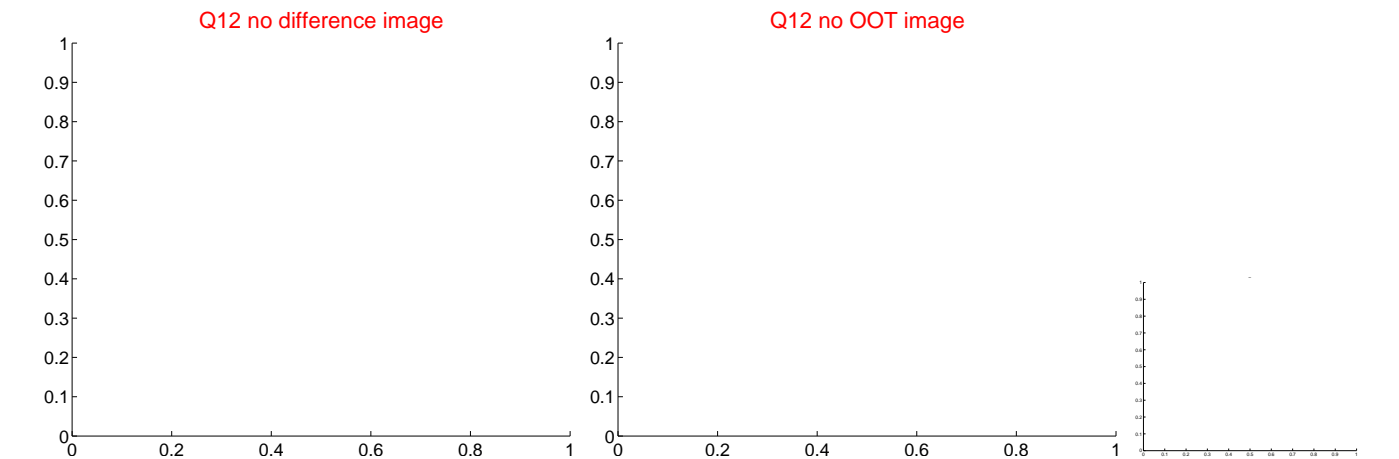
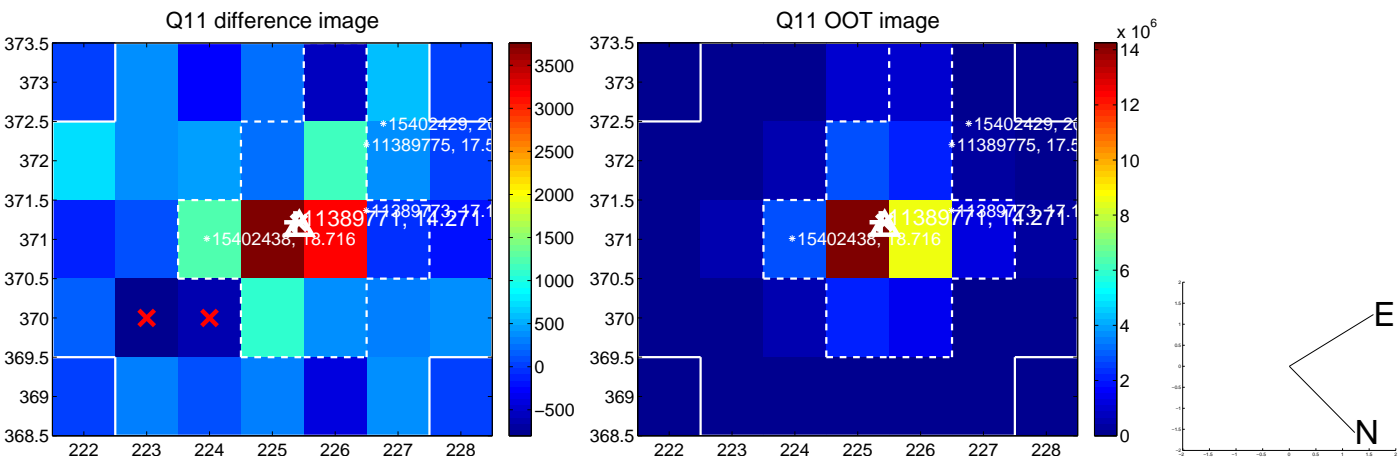
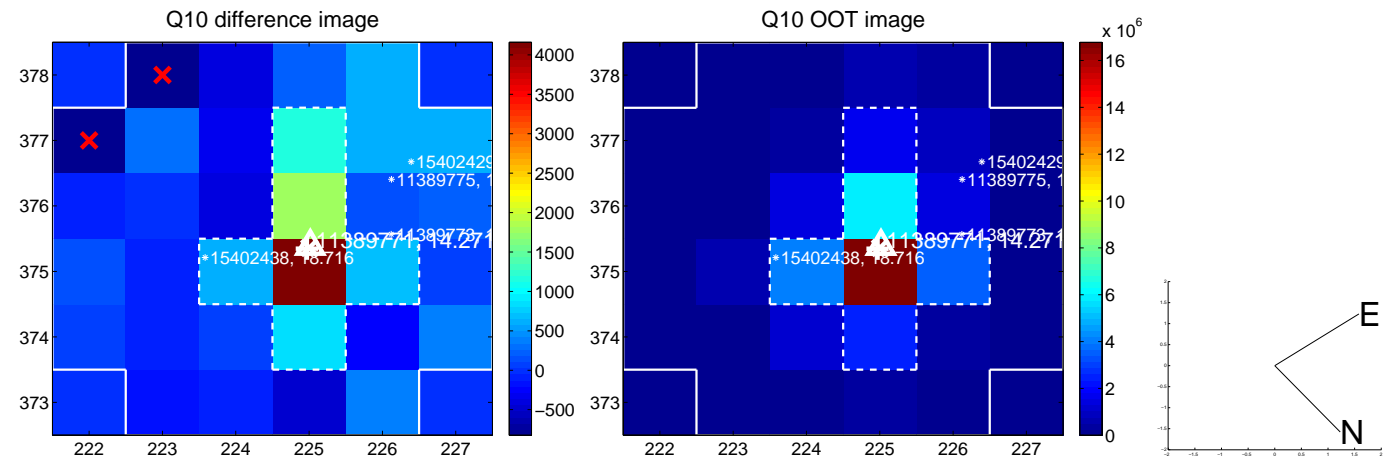
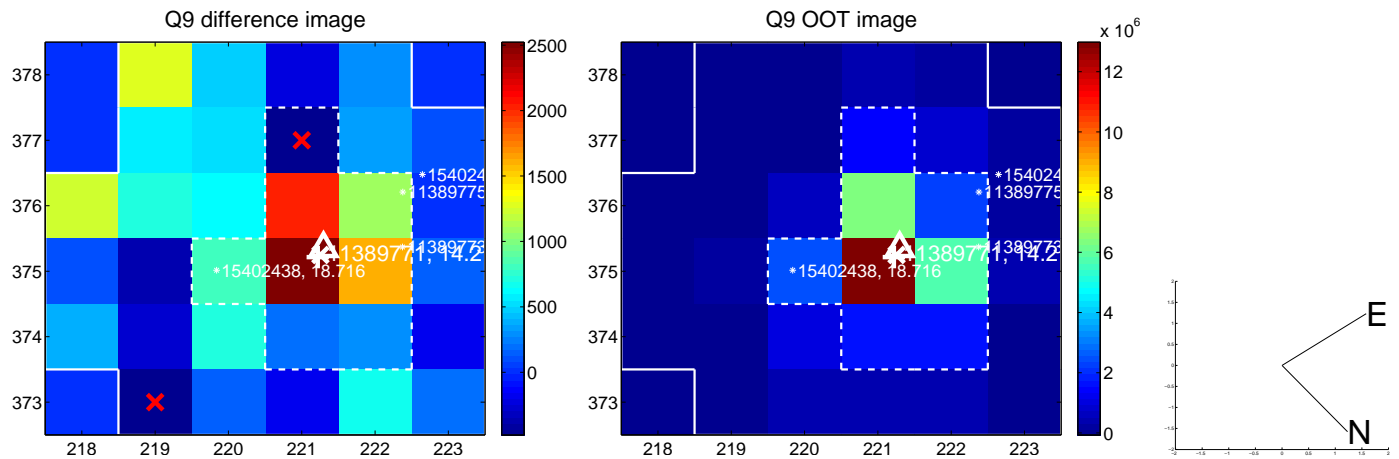
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



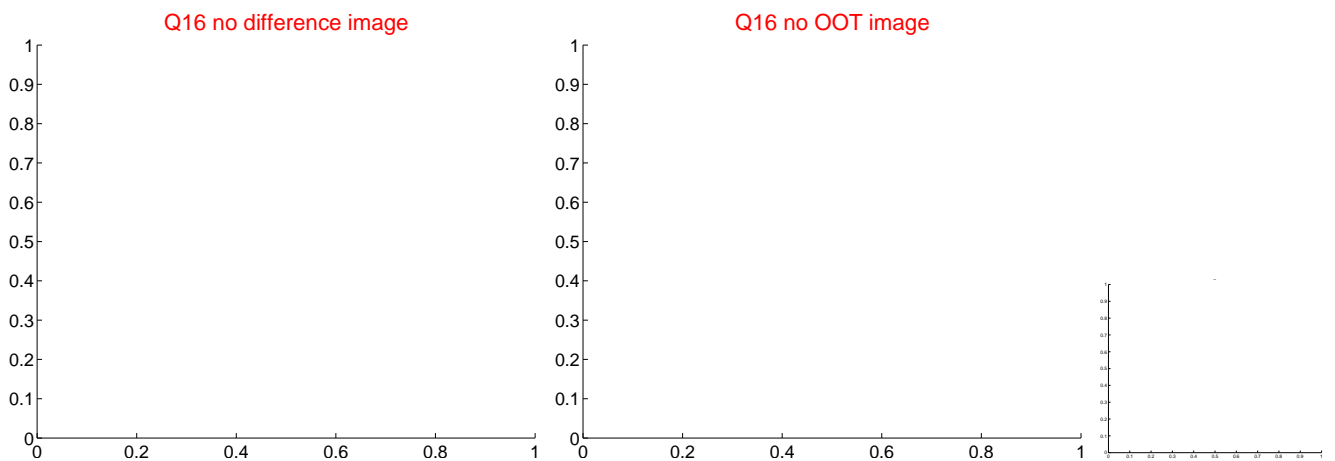
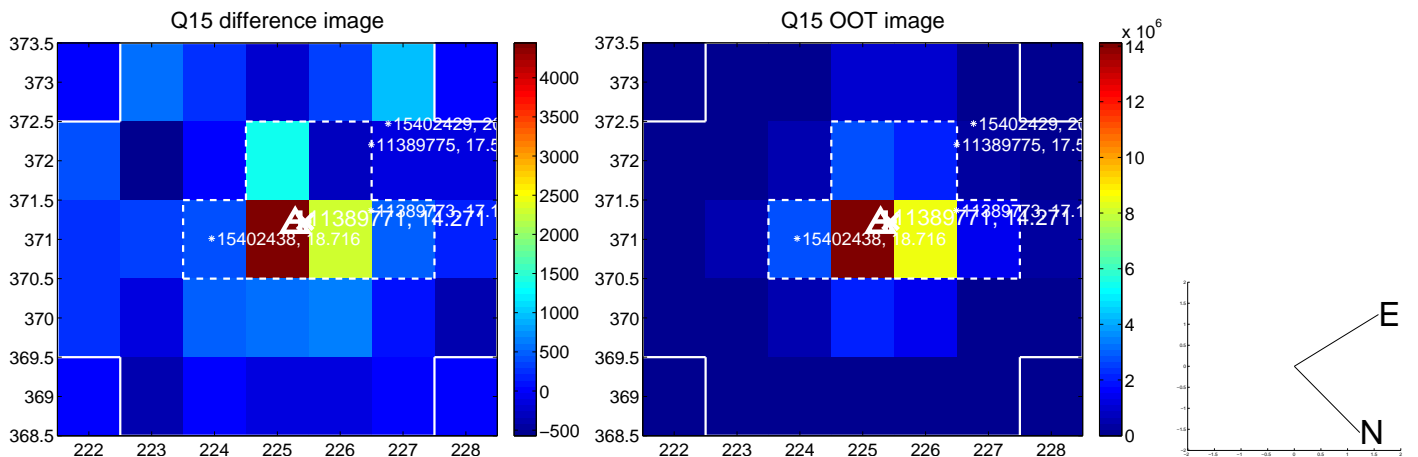
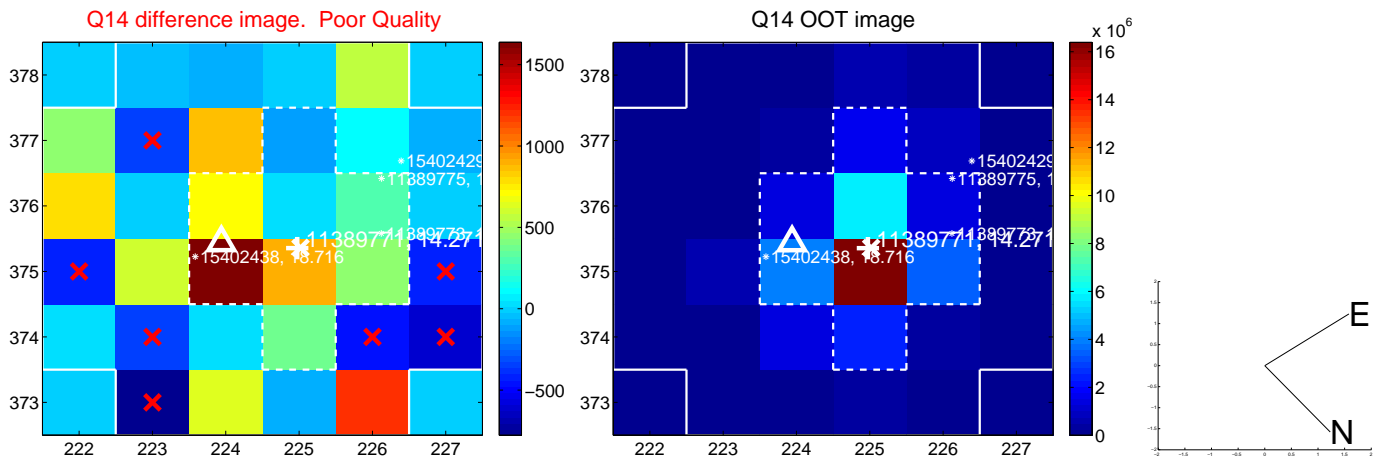
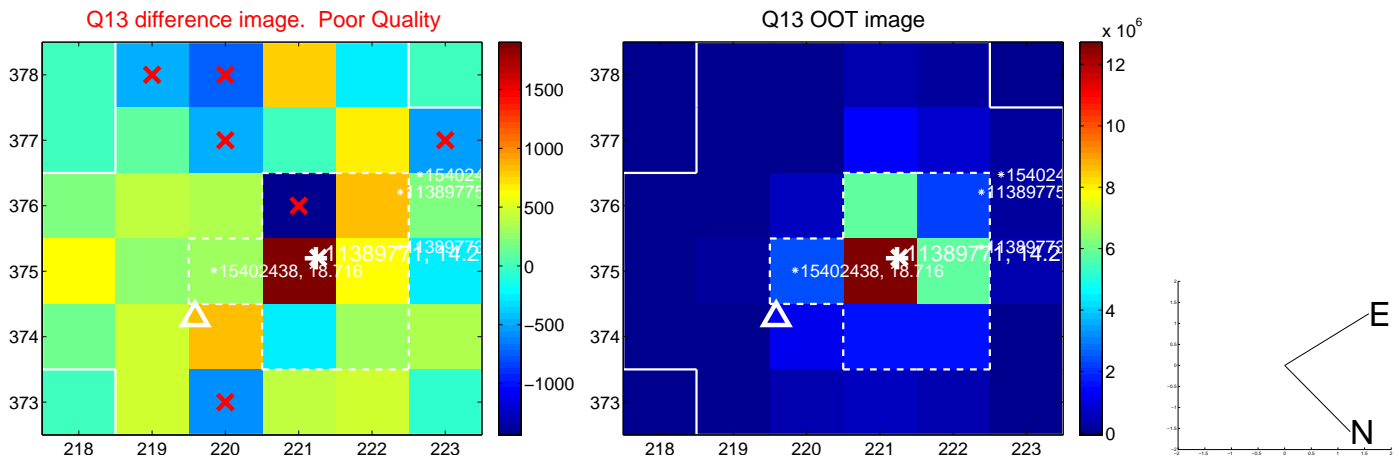
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



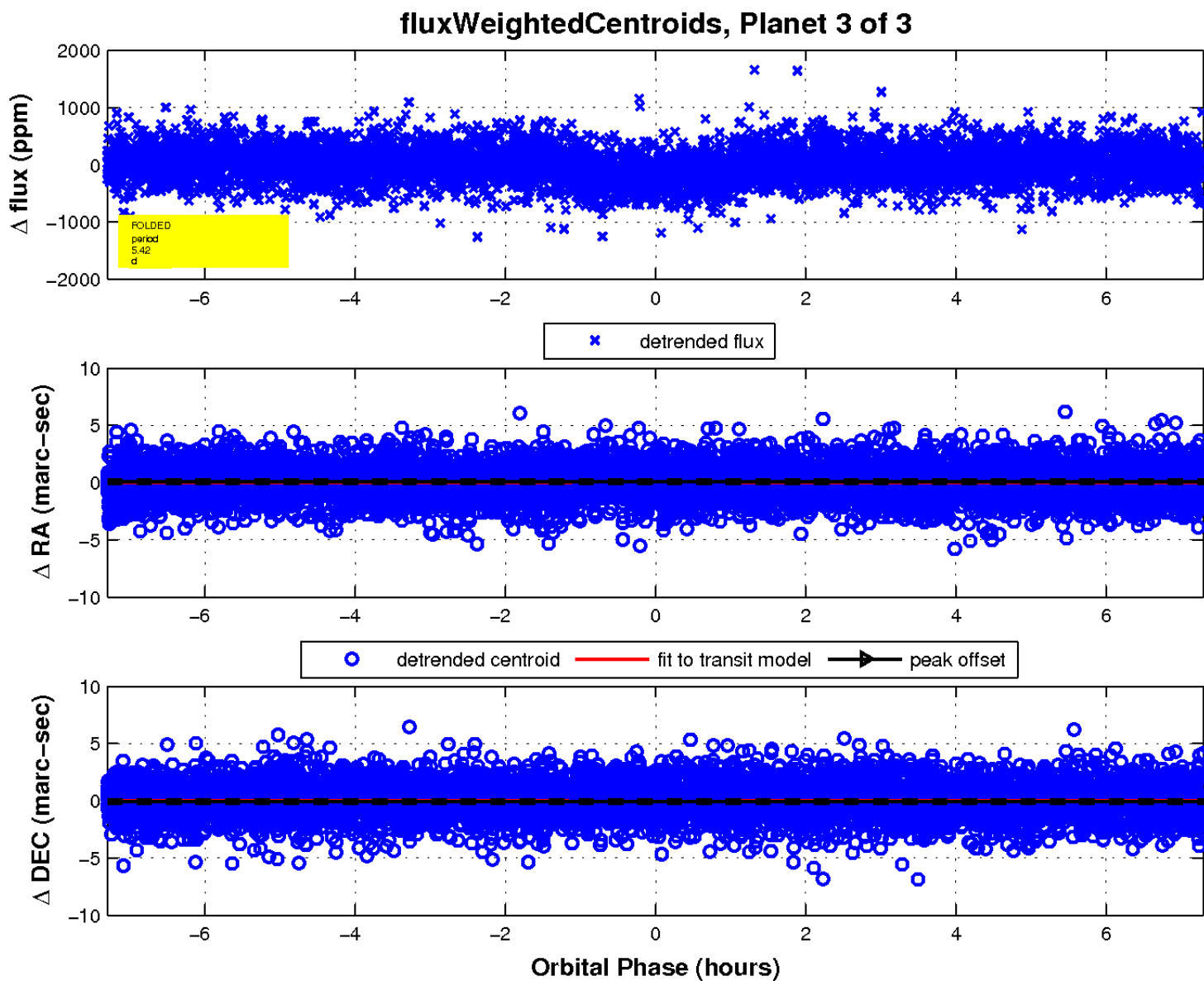
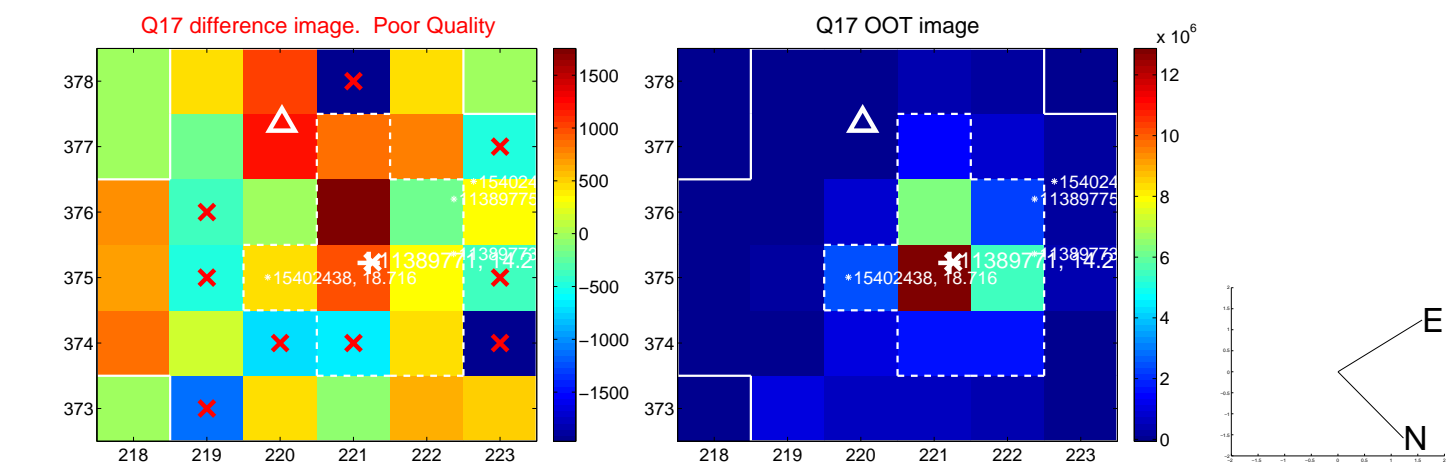
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

