

KIC 011520274

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})
011520274-01	OBS	No	1.358758	131.757677	38.2	4.359	9.2	8.8	1.68	6850	1.19	7313.81
011520274-02	OBS	No	0.679363	132.099348	33.1	4.612	9.2	9.4	1.68	6850	1.00	18430.23
011520274-03	OBS	No	17.642801	132.769527	927.9	3.000	14.8	-1.0	1.68	6850	5.15	239.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011520274-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
011520274-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011520274-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—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.

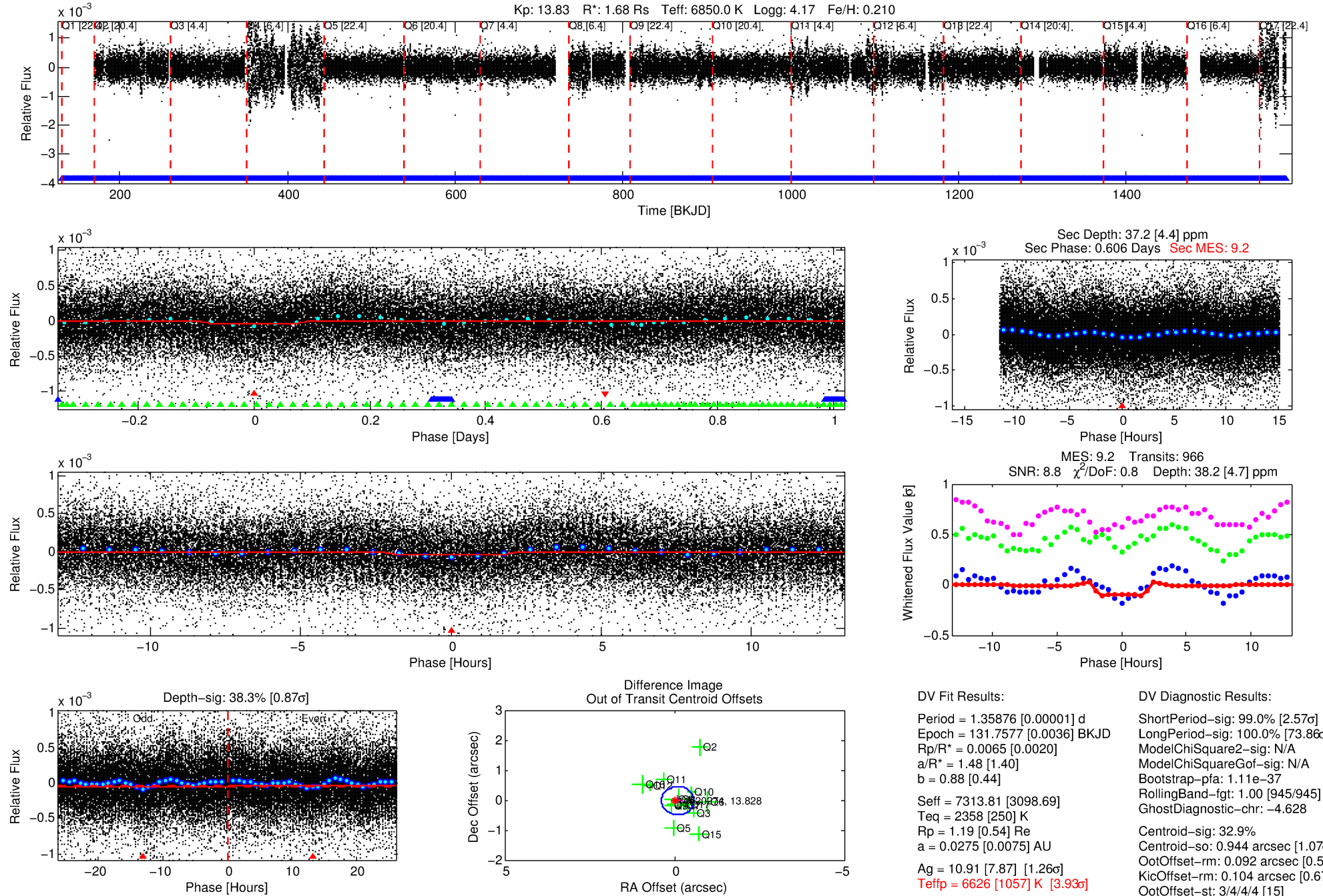
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011520274-01

No Significant Match Found

DV One-Page Summary

KIC: 11520274 Candidate: 1 of 3 Period: 1.359 d



DV Fit Results:

Period = 1.35876 [0.00001] d
Epoch = 131.7577 [0.0036] BKJD
Rp/R* = 0.0065 [0.0020]
a/R* = 1.48 [1.40]
b = 0.88 [0.44]
Seff = 7313.81 [3098.69]
Teq = 2358 [250] K
Rp = 1.19 [0.54] Re
a = 0.0275 [0.0075] AU
Ag = 10.91 [7.87] [1.26 σ]
Teffp = 6626 [1057] K [3.93 σ]

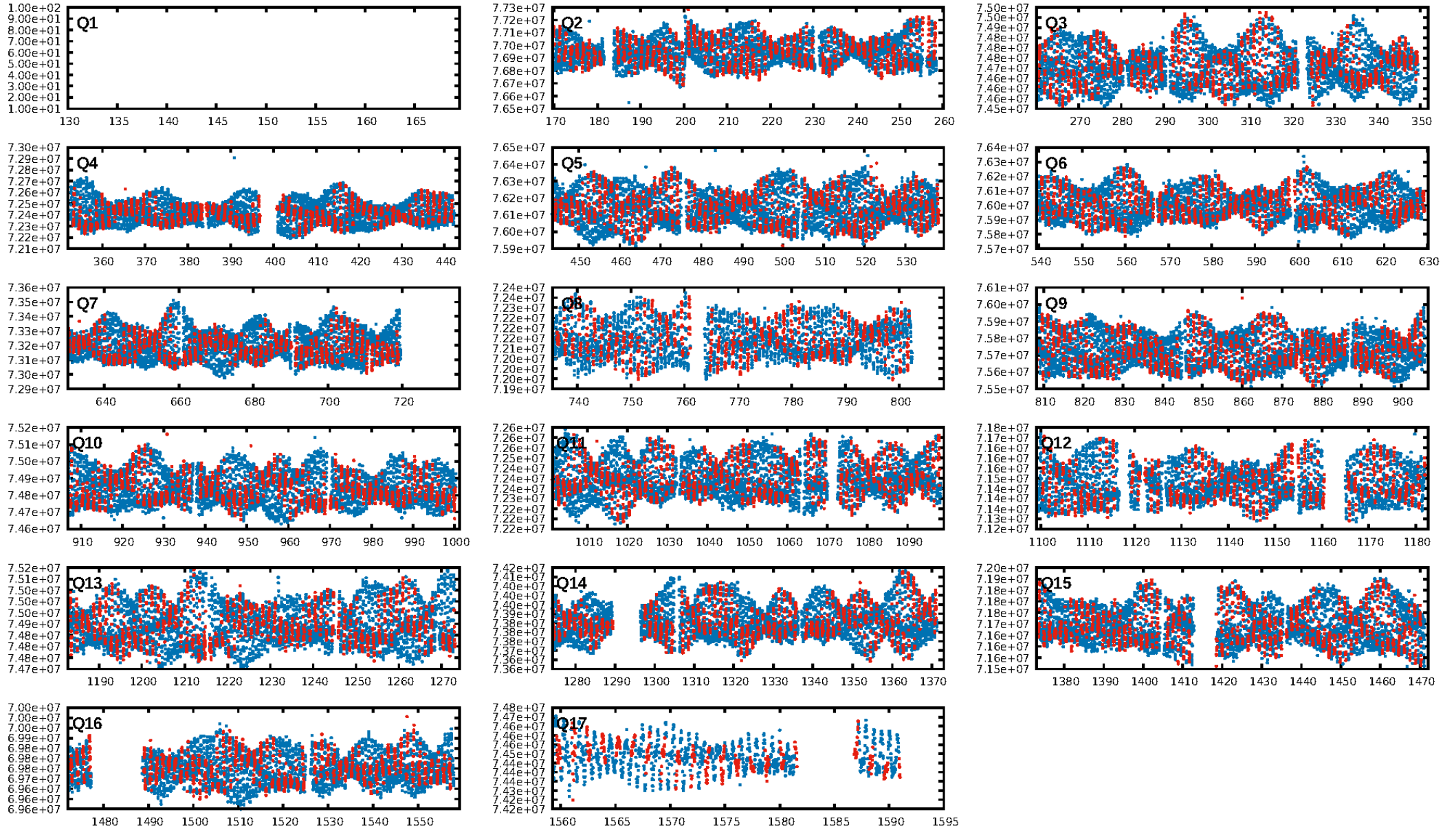
DV Diagnostic Results:

ShortPeriod-sig: 99.0% [2.57 σ]
LongPeriod-sig: 100.0% [73.86 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.11e-37
RollingBand-fgt: 1.00 [945/945]
GhostDiagnostic-chr: -4.628
Centroid-sig: 32.9%
Centroid-so: 0.944 arcsec [1.07 σ]
OotOffset-rm: 0.092 arcsec [0.58 σ]
KicOffset-rm: 0.104 arcsec [0.67 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.00 [0/16]

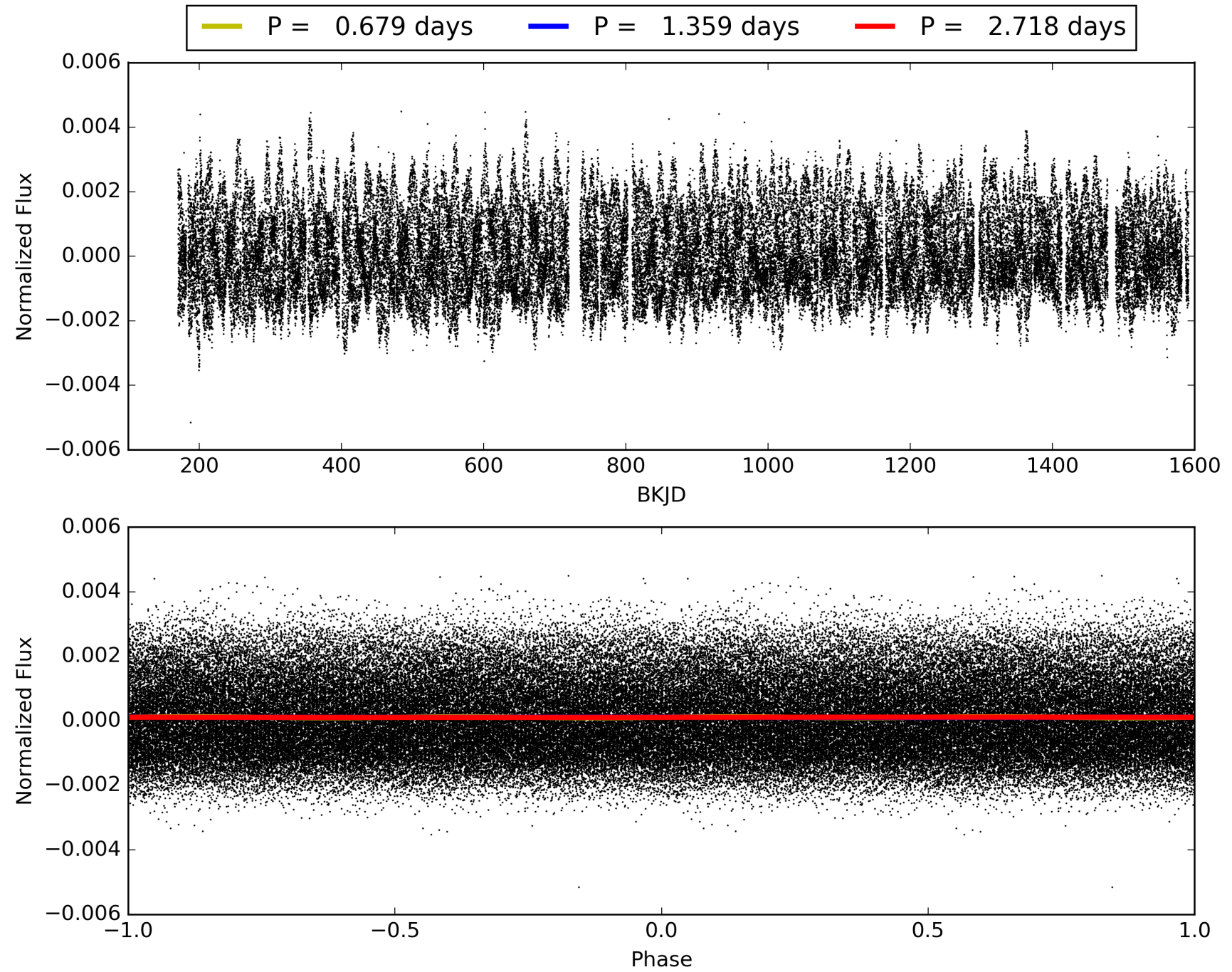
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:31:07 Z

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

TCE 011520274-01, PDC Light Curves

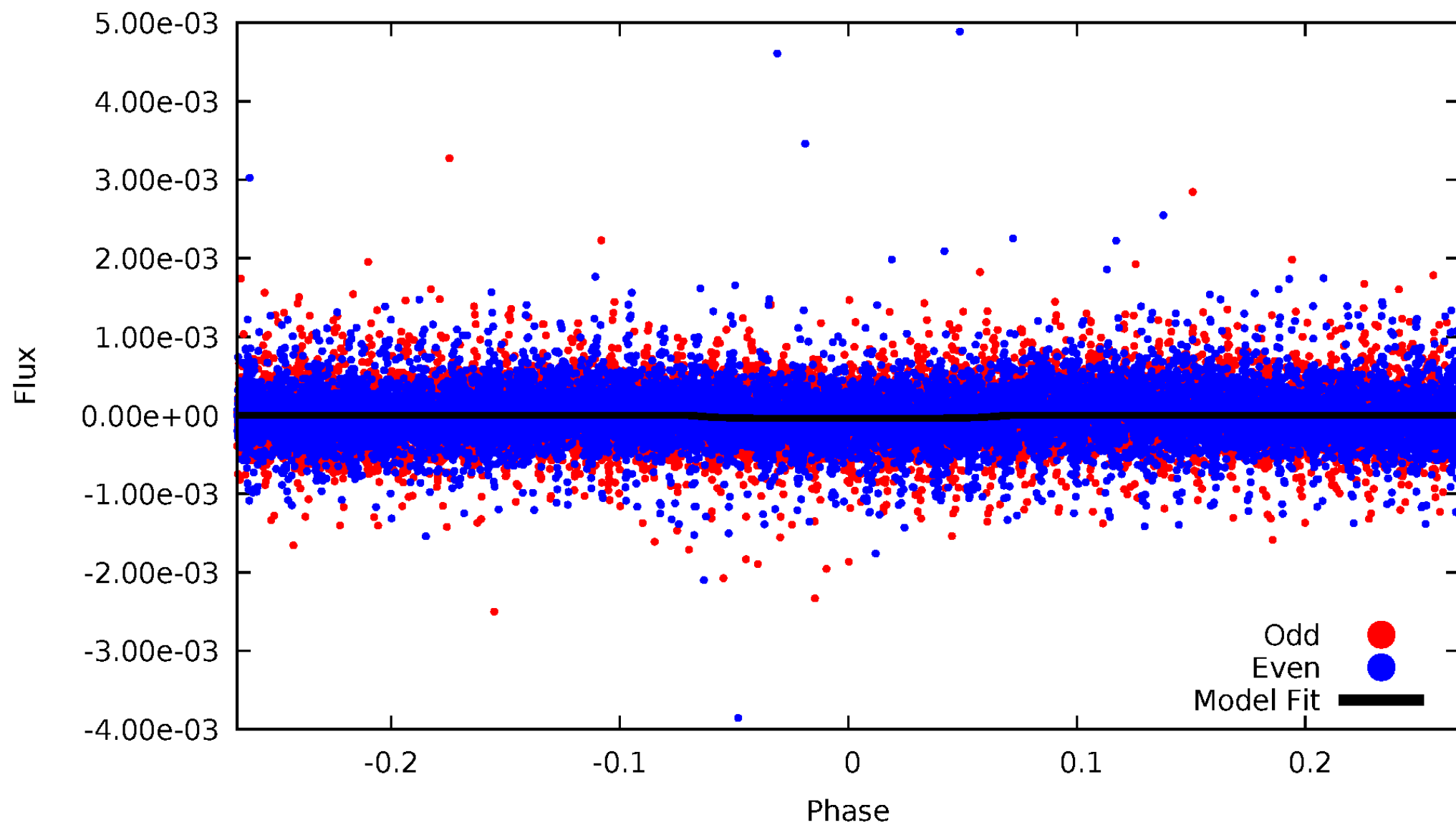


TCE 011520274-01



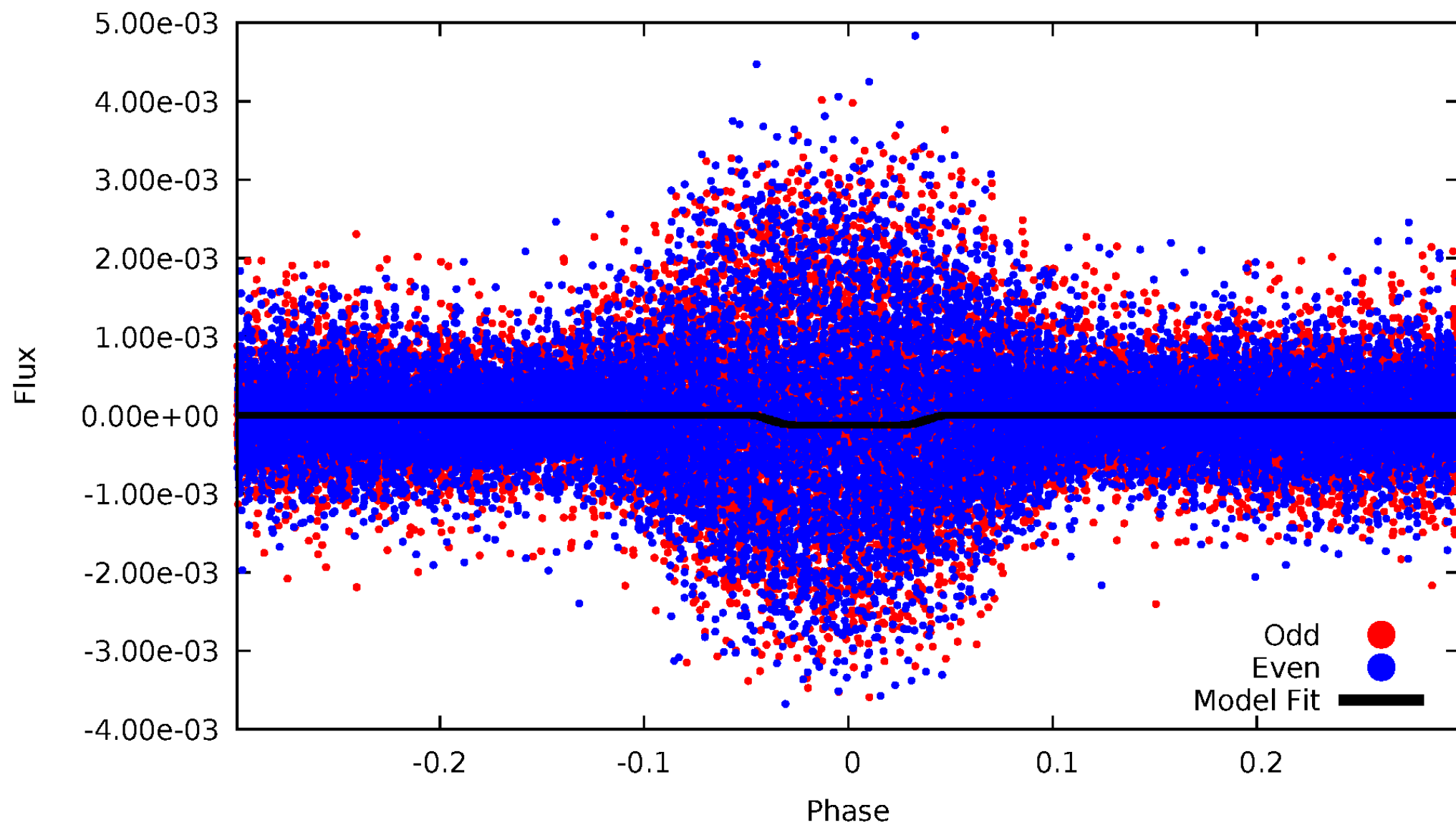
DV Odd/Even

TCE 011520274-01



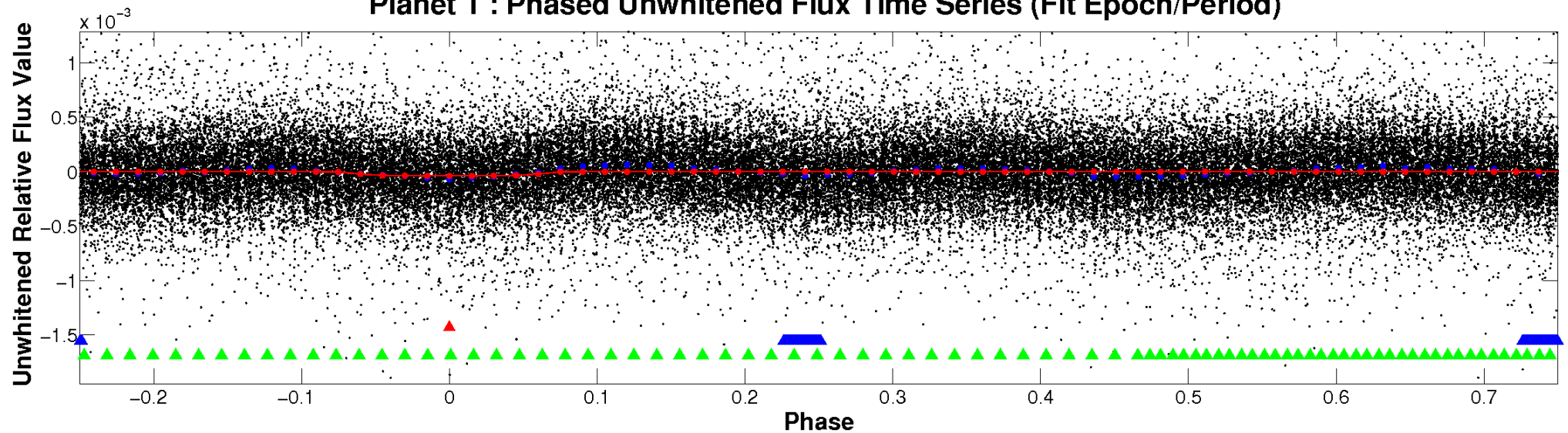
ALT Odd/Even

TCE 011520274-01

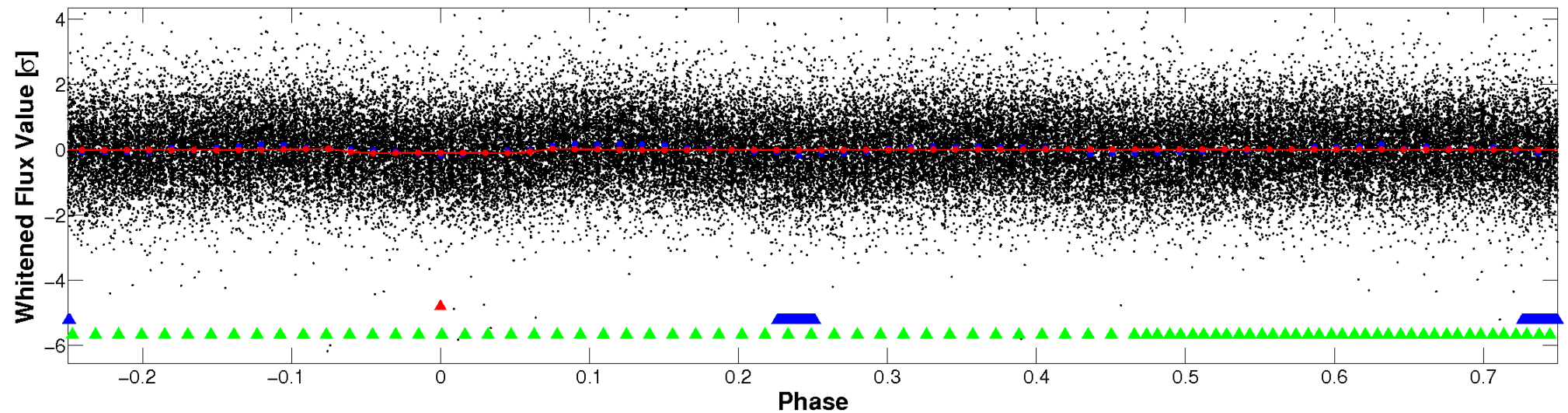


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

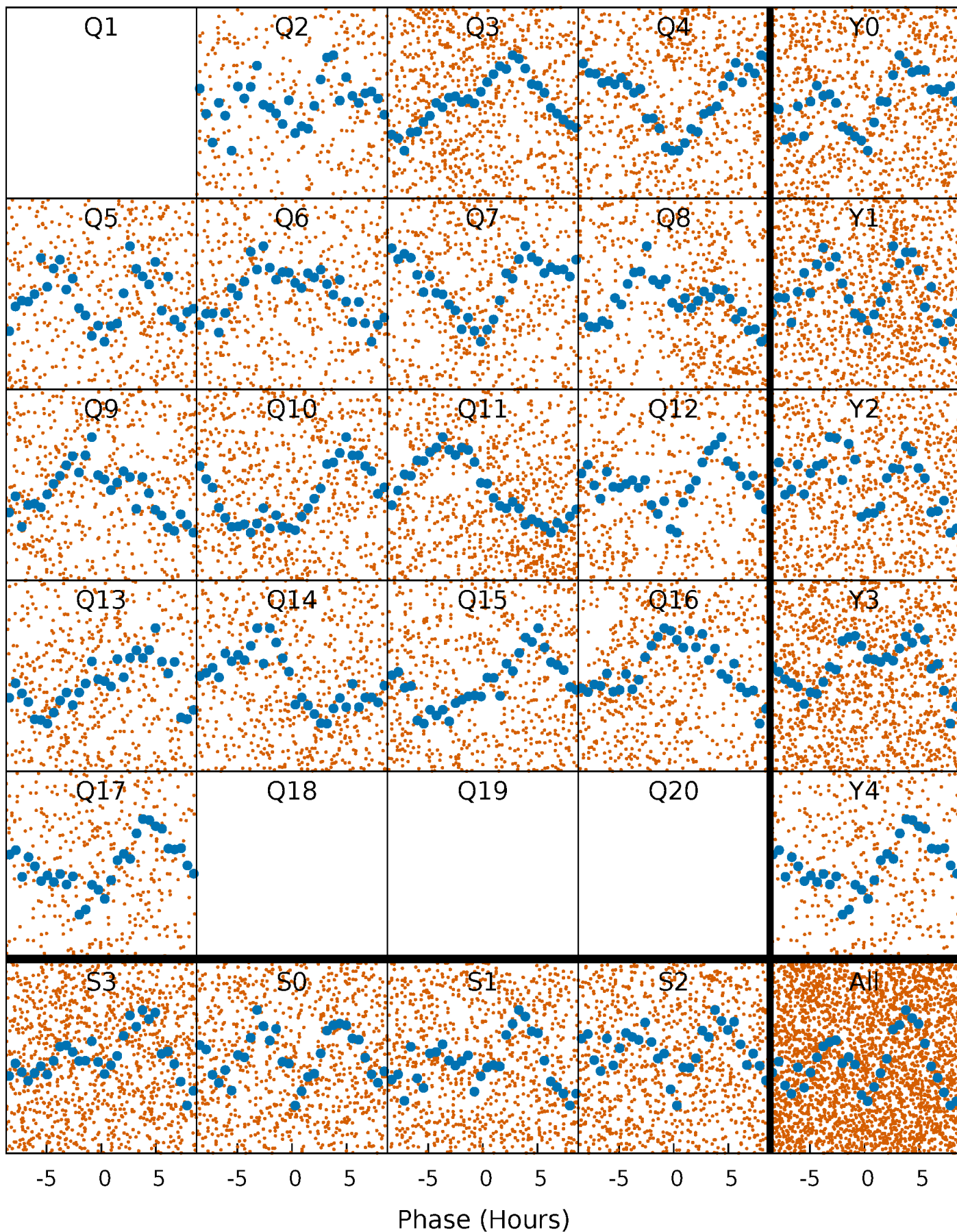


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



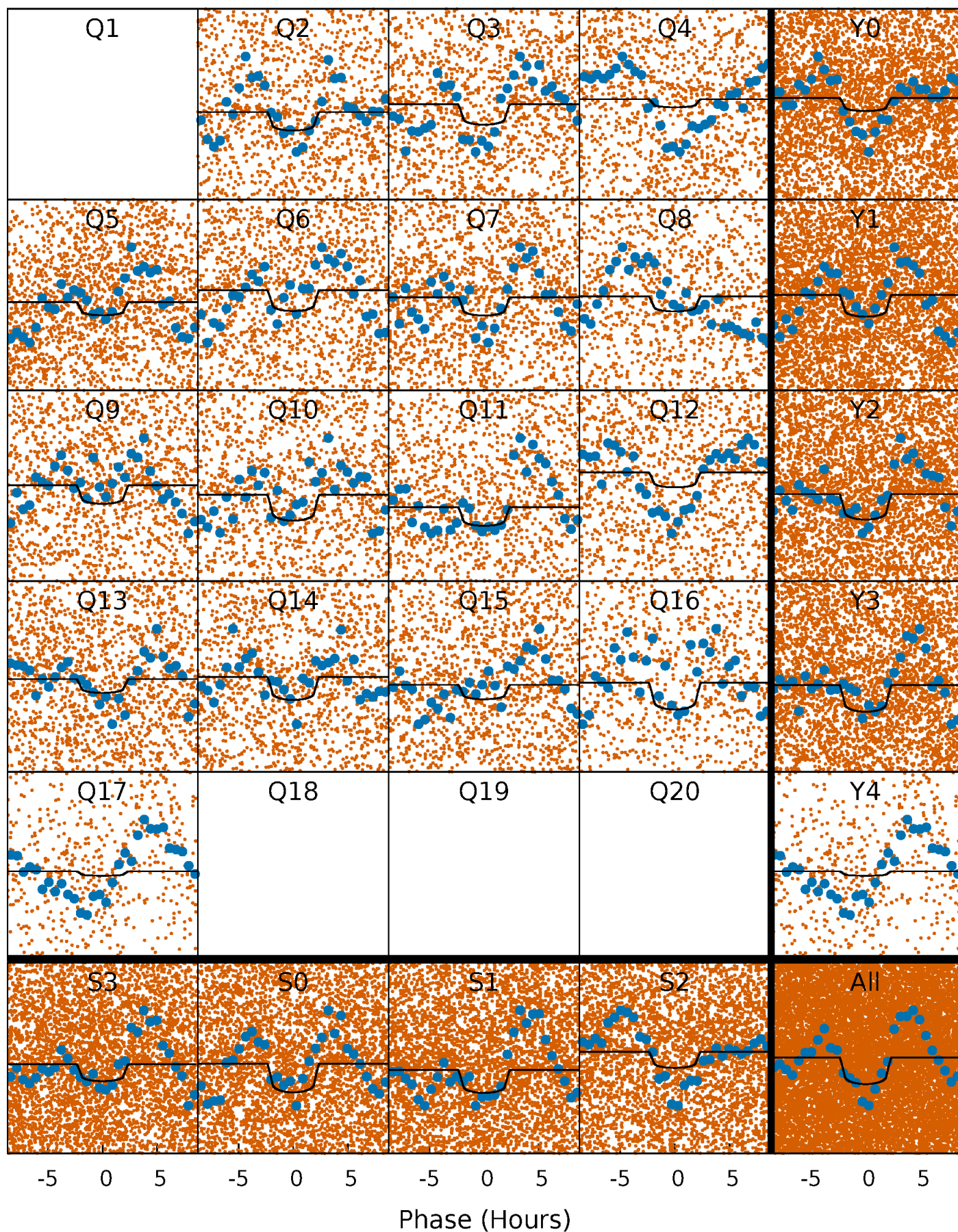
PDC Quarter-Phased Transit Curves

TCE 011520274-01 P= 1.358758 Days $T_0=131.757677$ (BKJD)



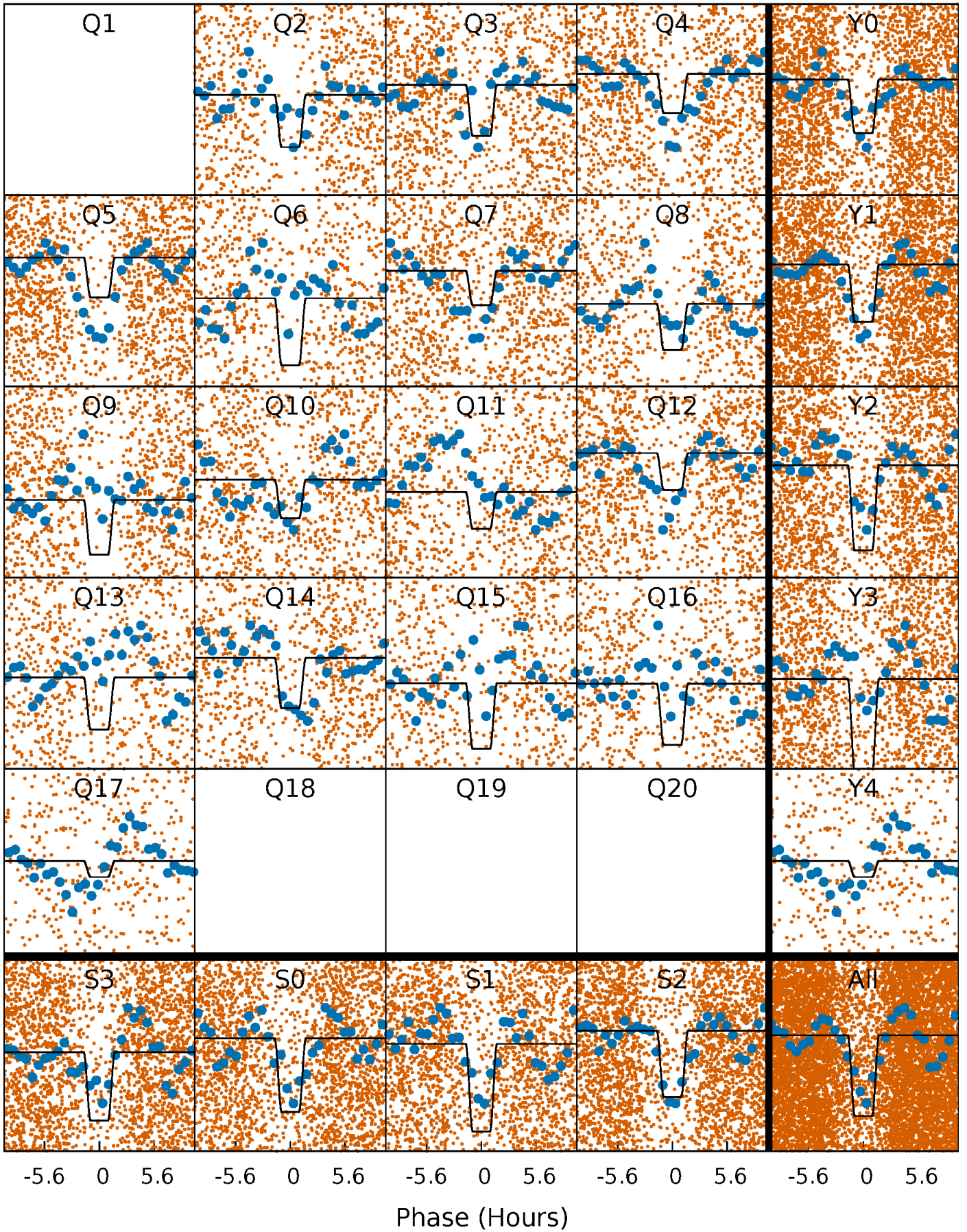
DV Quarter-Phased Transit Curves

TCE 011520274-01 P= 1.358758 Days $T_0=131.757677$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

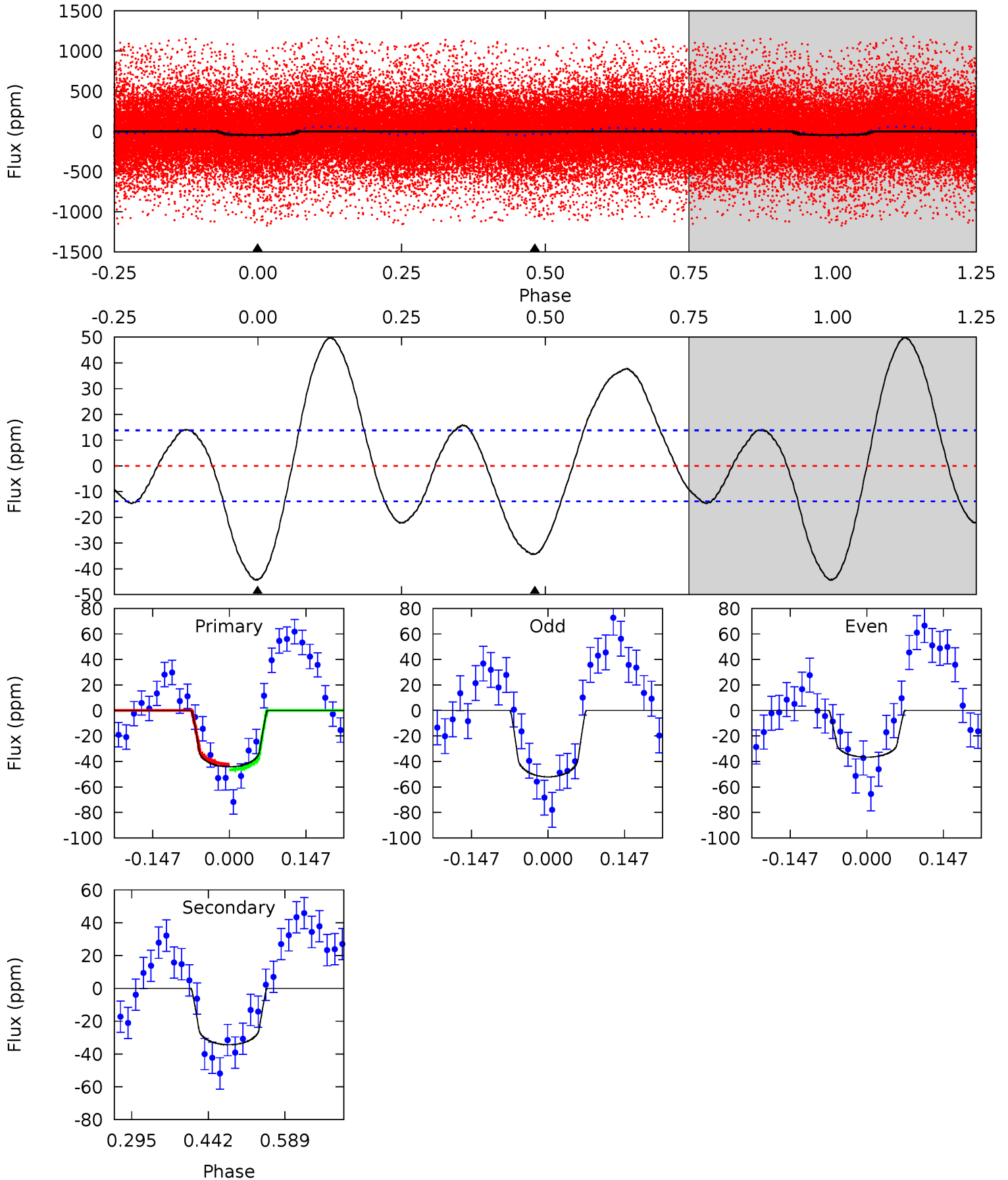
TCE 011520274-01 P= 1.358813 Days $T_0=131.747029$ (BKJD)



DV Model-Shift Uniqueness Test

011520274-01, P = 1.358758 Days, E = 131.757677 Days

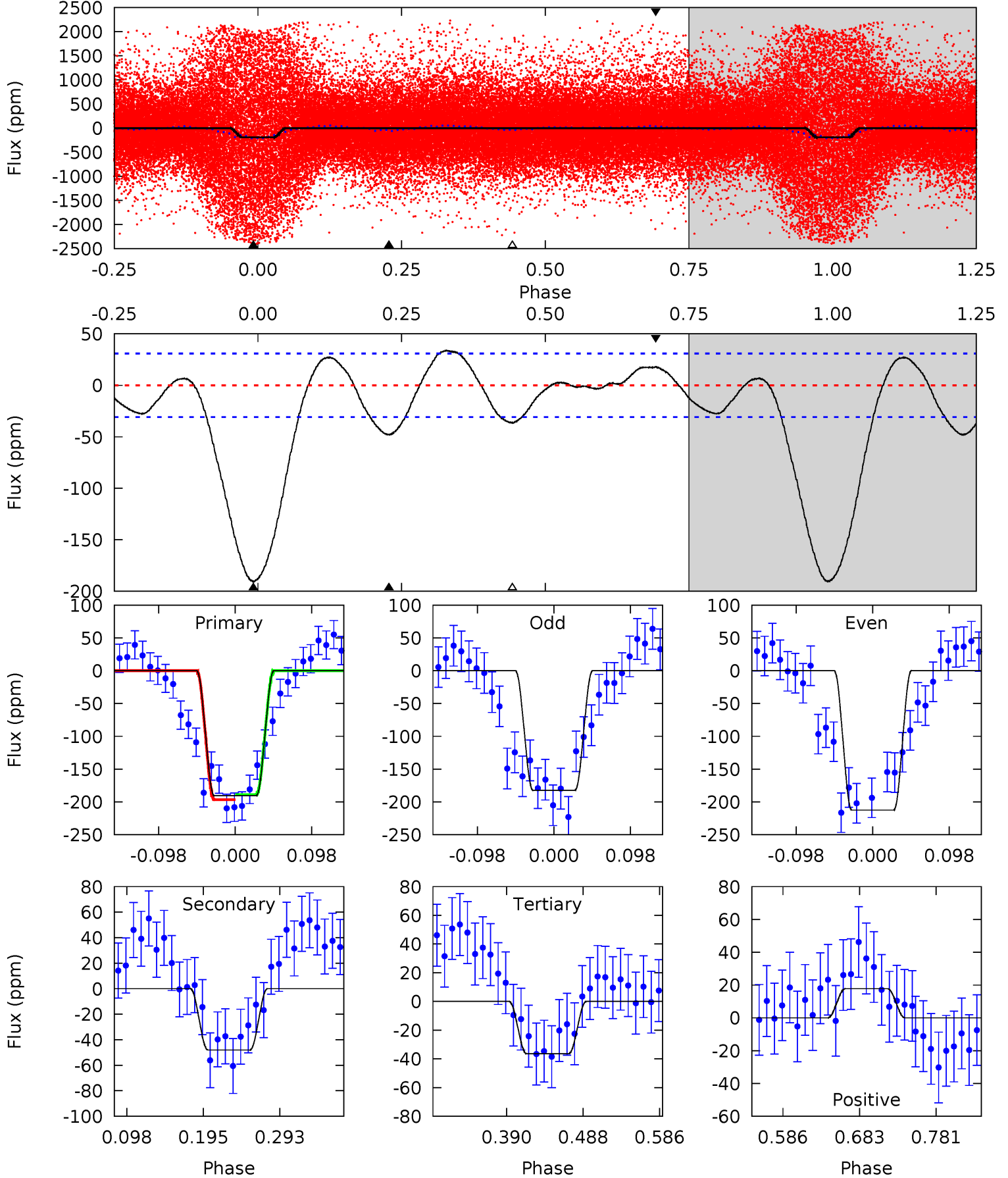
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	11.2	0	0	4.48	1.45	6.06	14.4	14.4	11.2	11.2	2.54	1.29	0.53	0.74



Alt Model-Shift Uniqueness Test

011520274-01, P = 1.358813 Days, E = 131.747029 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.3	7.12	5.41	2.64	4.57	1.66	2.61	22.9	25.6	1.71	4.48	2.23	0.48	0.15	0.58



Stellar Parameters For KIC 011520274

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6850^{+192}_{-312}	$4.167^{+0.108}_{-0.201}$	$0.210^{+0.150}_{-0.350}$	$1.675^{+0.568}_{-0.306}$	$1.503^{+0.208}_{-0.231}$	$0.451^{+0.288}_{-0.238}$
	+3%/-5%	+3%/-5%	+71%/-167%	+34%/-18%	+14%/-15%	+64%/-53%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011520274-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-34 ± 3	$1.21^{+0.44}_{-0.37}$	3328^{+261}_{-219}	6436^{+1346}_{-937}	$9.508^{+9.969}_{-4.455}$
Alt.	-48 ± 7	$2.09^{+0.46}_{-0.43}$	3316^{+245}_{-203}	5299^{+563}_{-433}	$4.539^{+2.510}_{-1.472}$

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 $A_{obs} \gg 1.0$

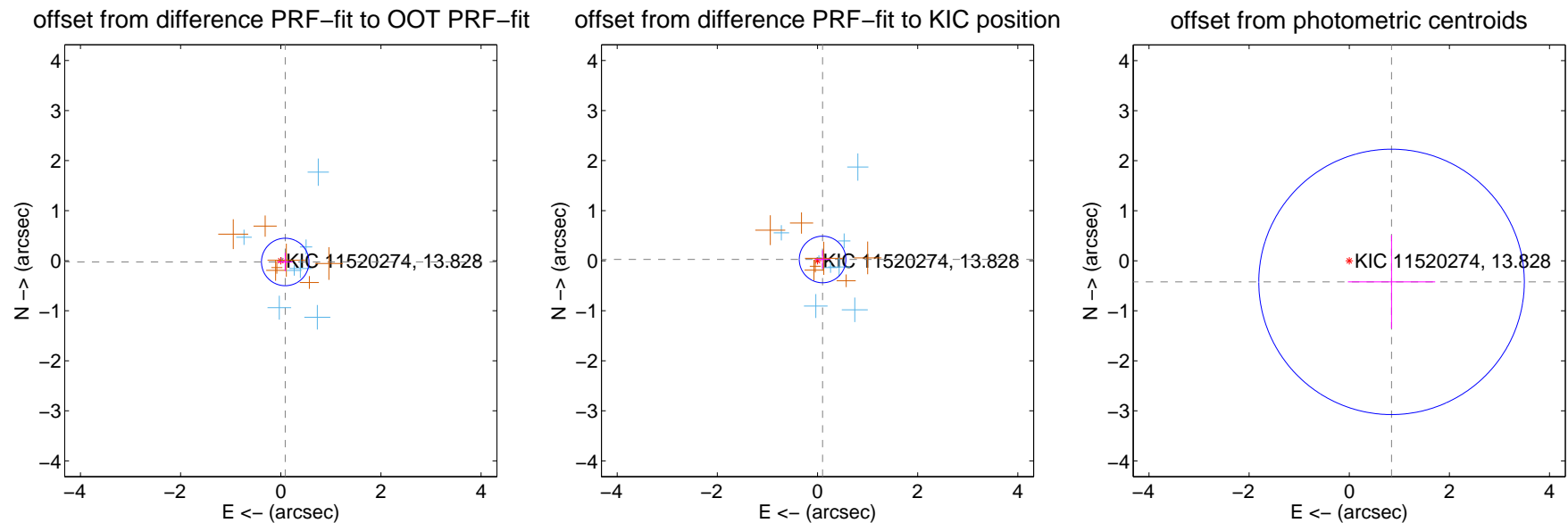
DV Centroid Data

Supplemental centroid analysis for 011520274-01. Kepler magnitude: 13.83. Transit SNR 8.84

There are 8 quarters with good PRF difference image offsets

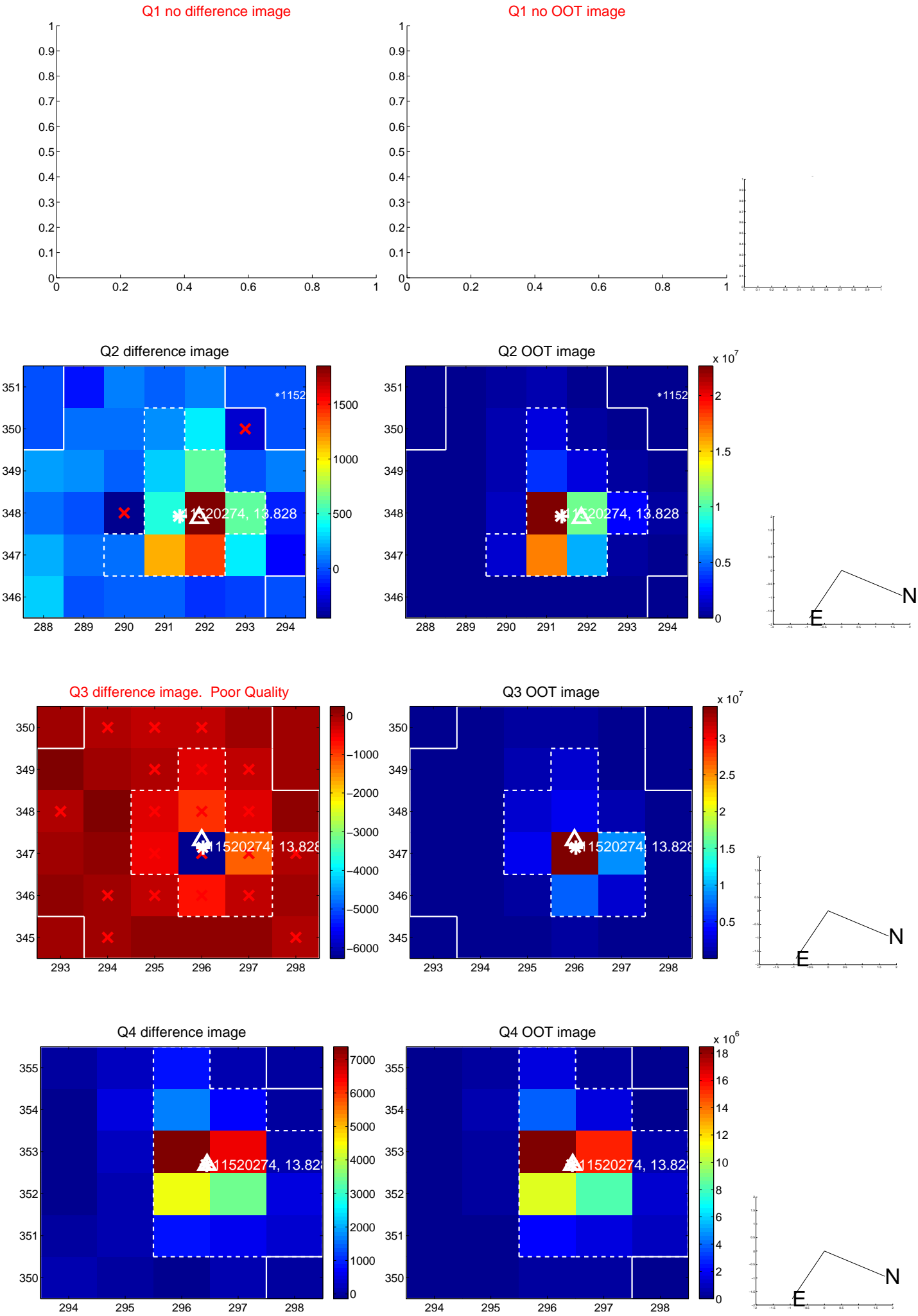
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.092 ± 0.158	0.58	-0.089 ± 0.146	-0.025 ± 0.184
PRF-fit source offset from KIC position	0.104 ± 0.155	0.67	-0.101 ± 0.157	0.025 ± 0.183
photometric centroid source offset	0.94 ± 0.88	1.07	-0.84 ± 0.87	-0.42 ± 0.93

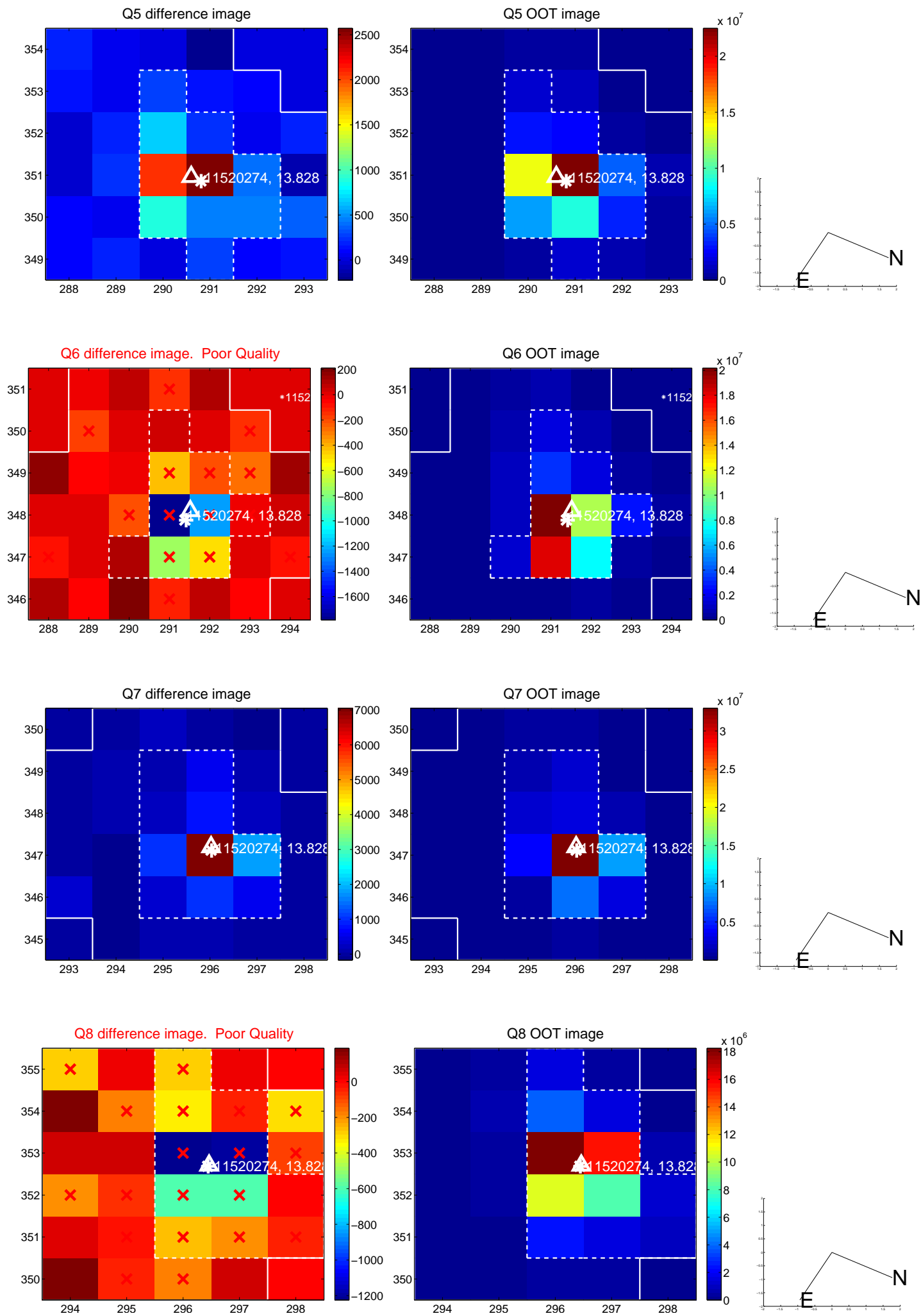


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

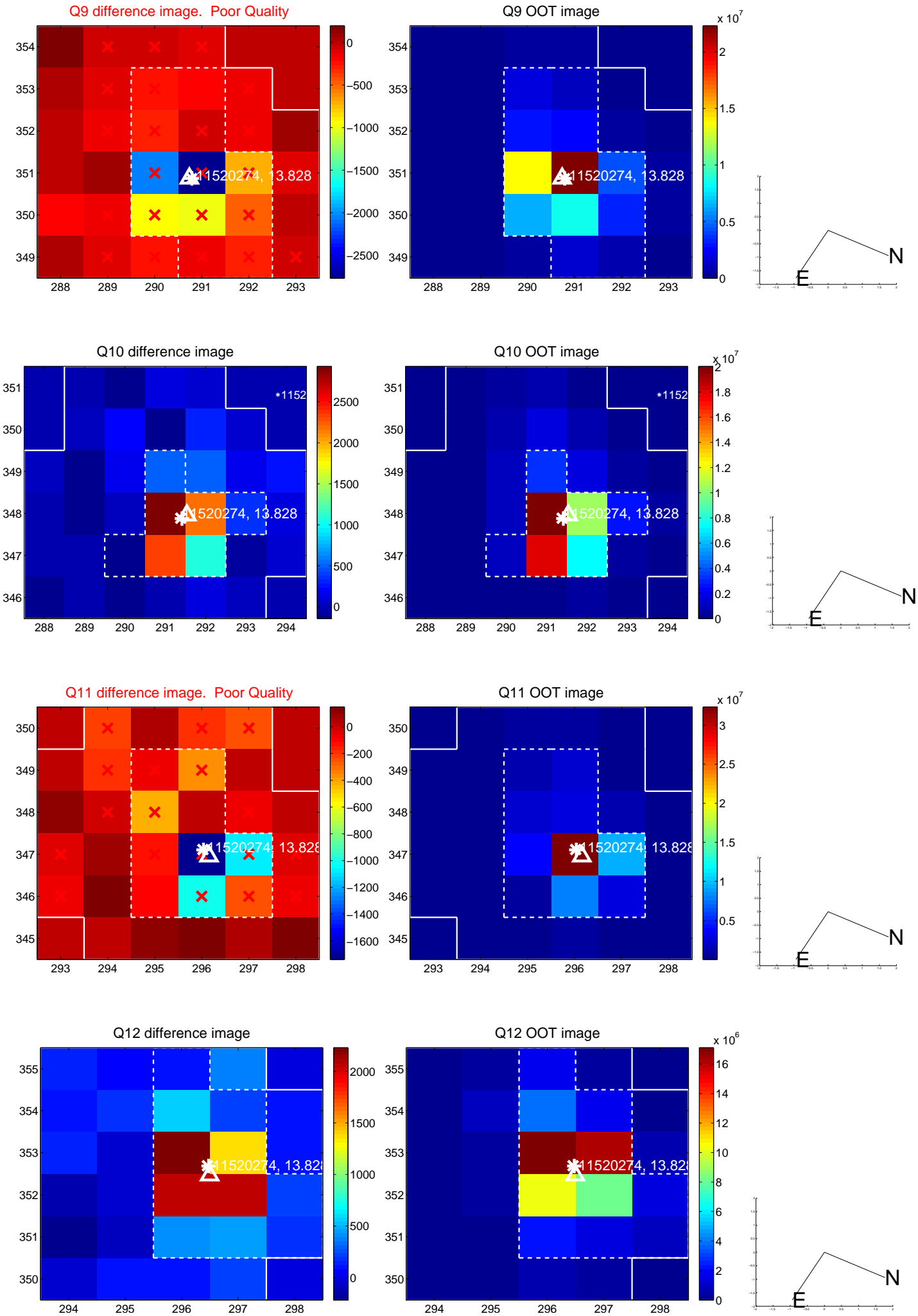
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



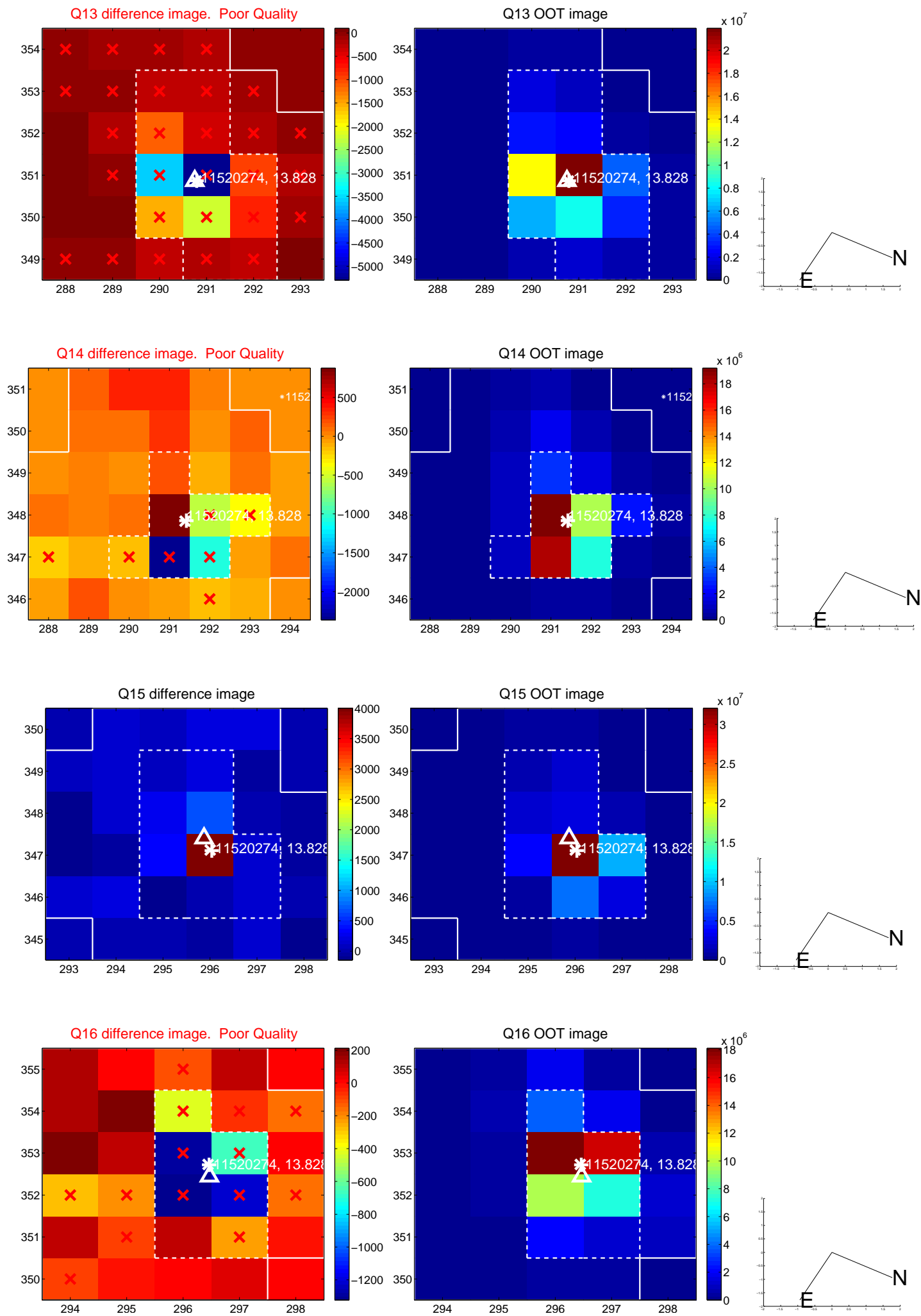
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



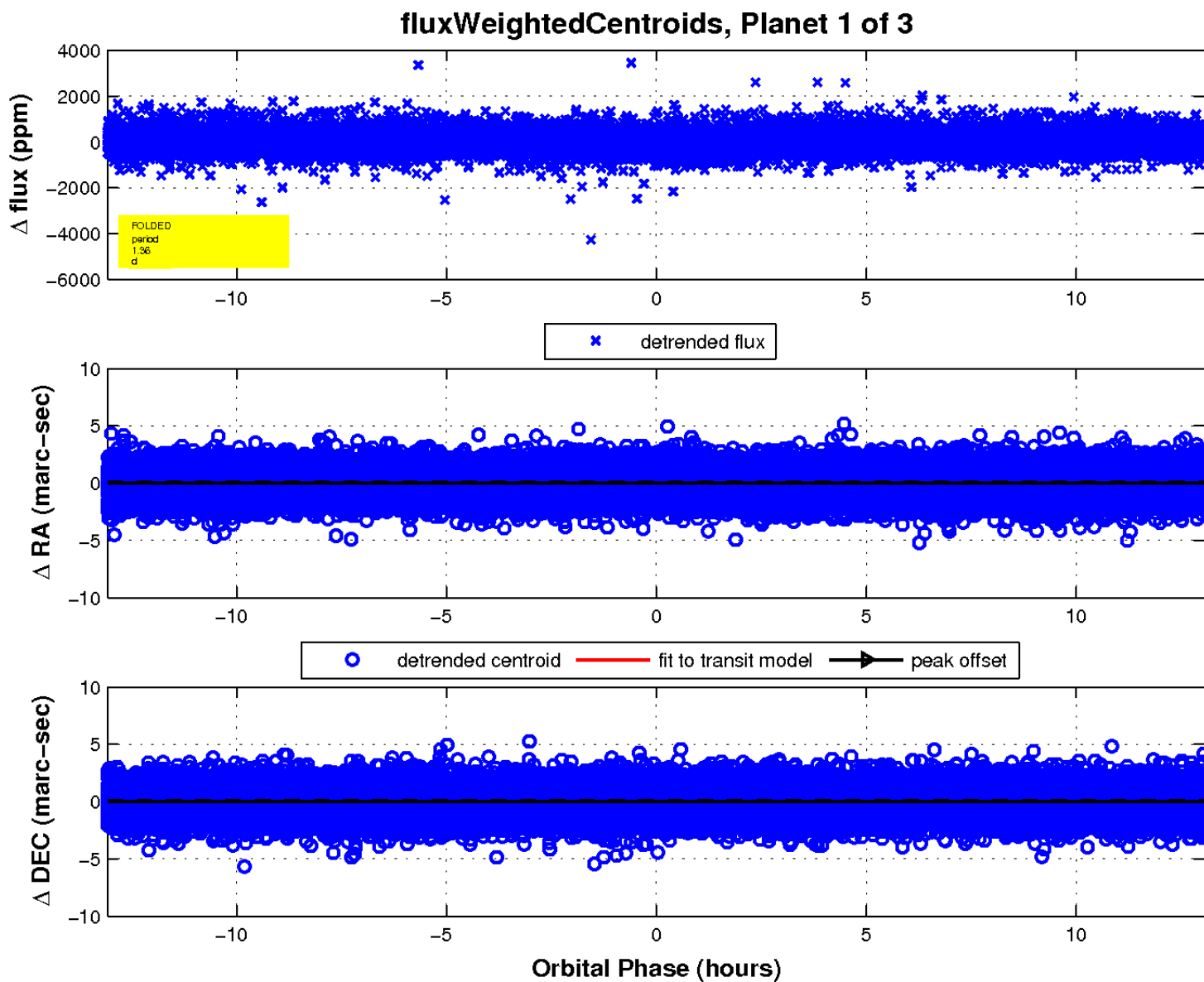
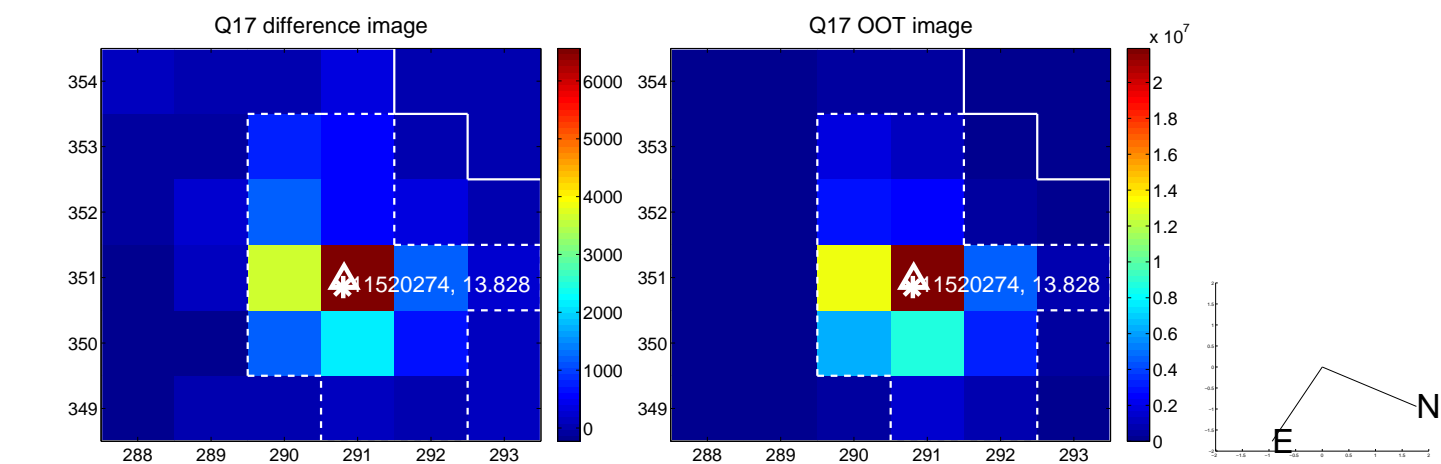
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

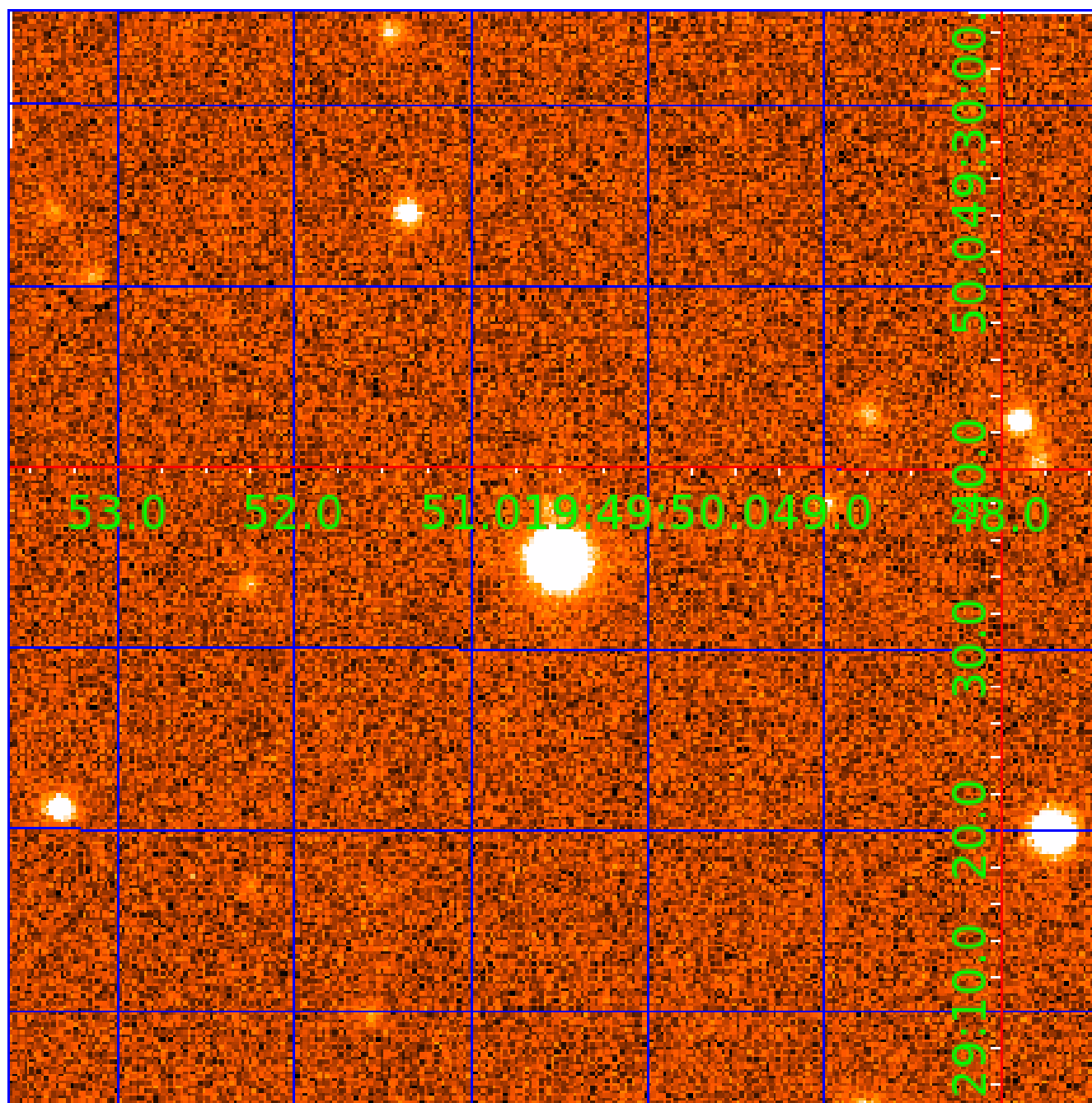


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011520274

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})
011520274-01	OBS	No	1.358758	131.757677	38.2	4.359	9.2	8.8	1.68	6850	1.19	7313.81
011520274-02	OBS	No	0.679363	132.099348	33.1	4.612	9.2	9.4	1.68	6850	1.00	18430.23
011520274-03	OBS	No	17.642801	132.769527	927.9	3.000	14.8	-1.0	1.68	6850	5.15	239.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011520274-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
011520274-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011520274-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—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.

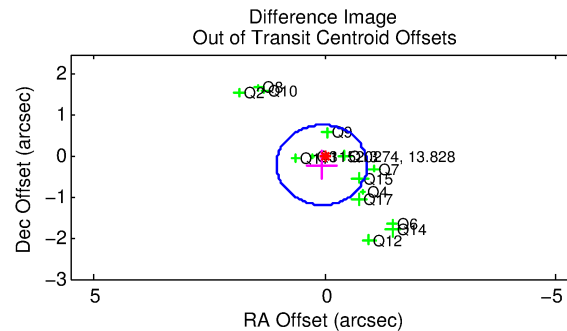
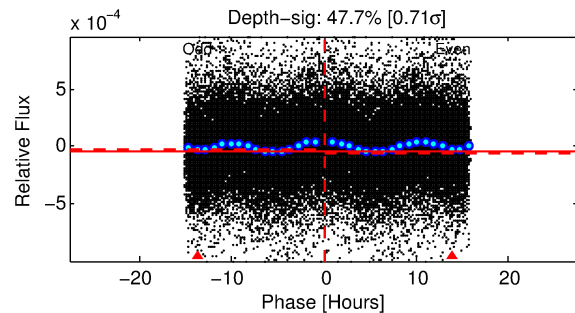
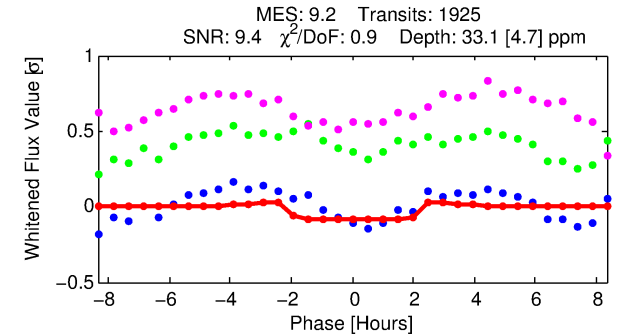
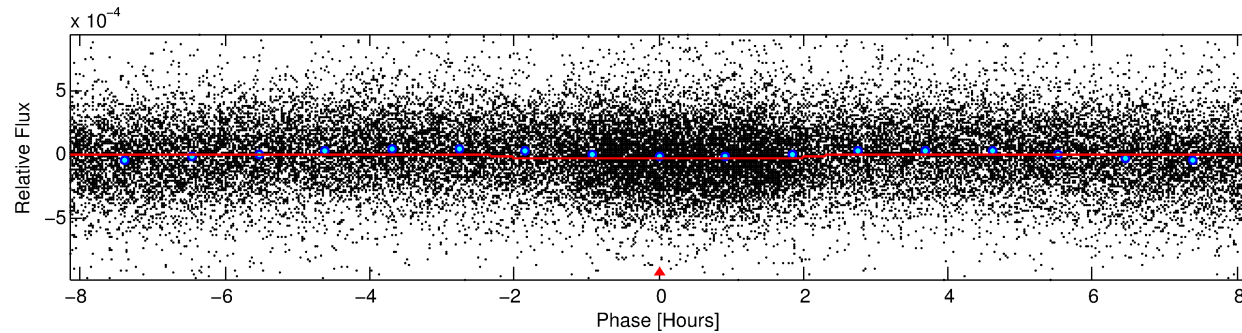
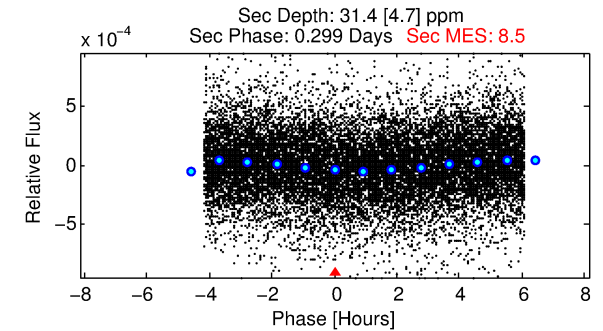
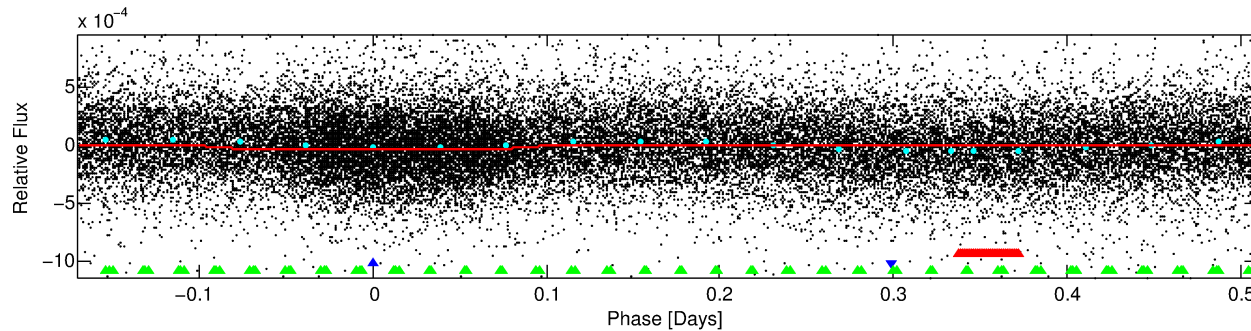
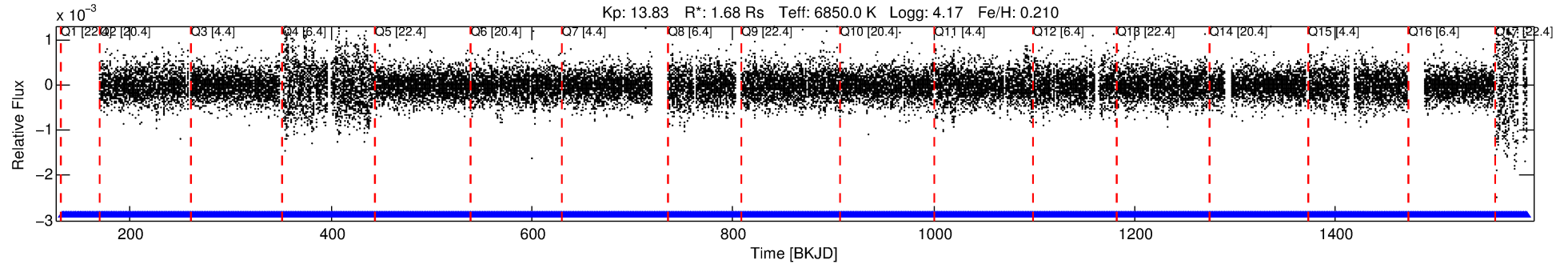
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011520274-02

No Significant Match Found

DV One-Page Summary

KIC: 11520274 Candidate: 2 of 3 Period: 0.679 d



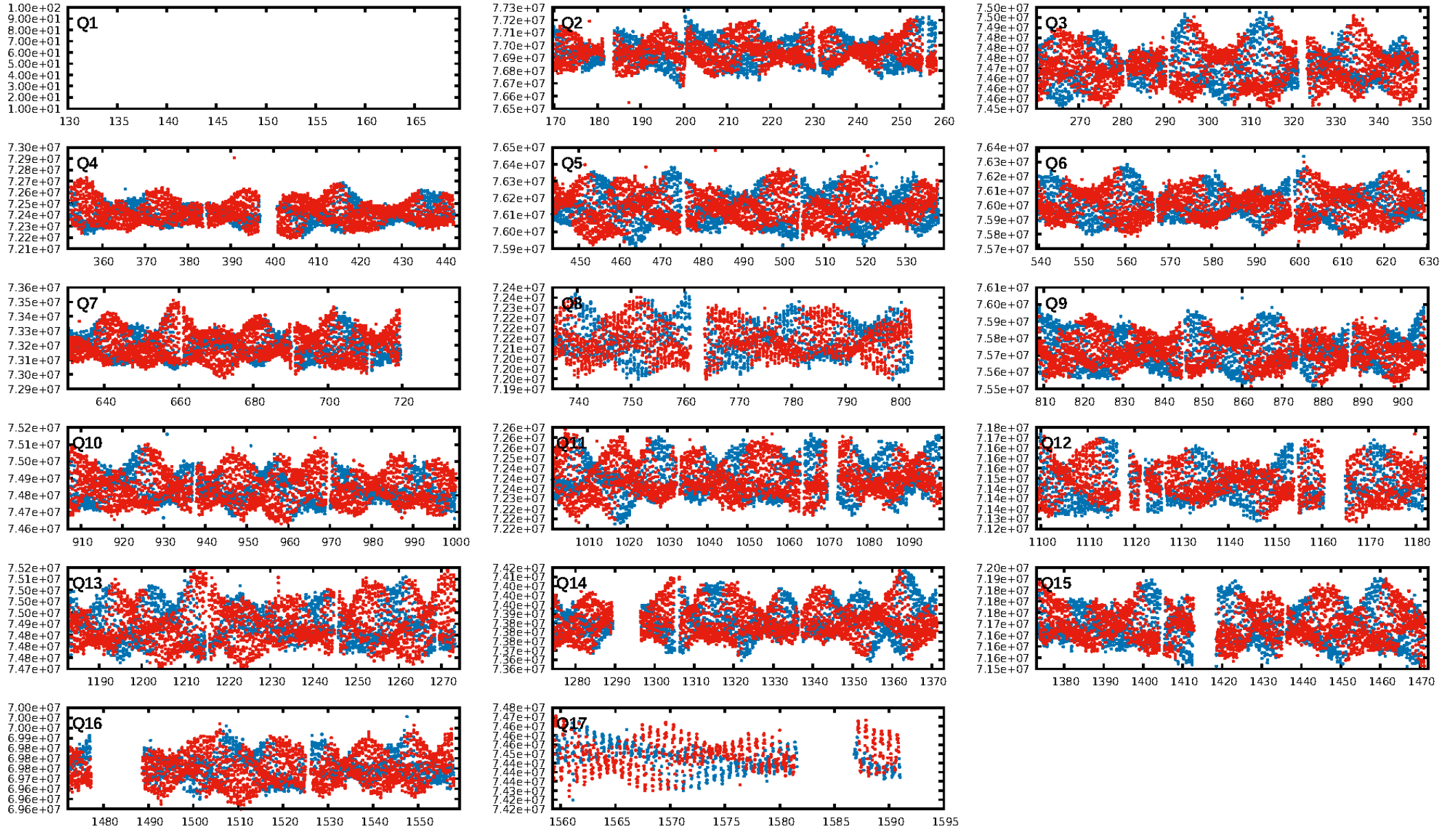
DV Fit Results:

Period = 0.67936 [0.00001] d
Epoch = 132.0993 [0.0042] BKJD
Rp/R* = 0.0055 [0.0037]
a/R* = 1.23 [1.56]
b = 0.50 [5.65]
Seff = 18430.23 [7808.45]
Teq = 2971 [315] K
Rp = 1.00 [0.75] Re
a = 0.0173 [0.0047] AU
Ag = 5.22 [7.33] [0.57σ]
Teffp = 6942 [2369] K [1.66σ]

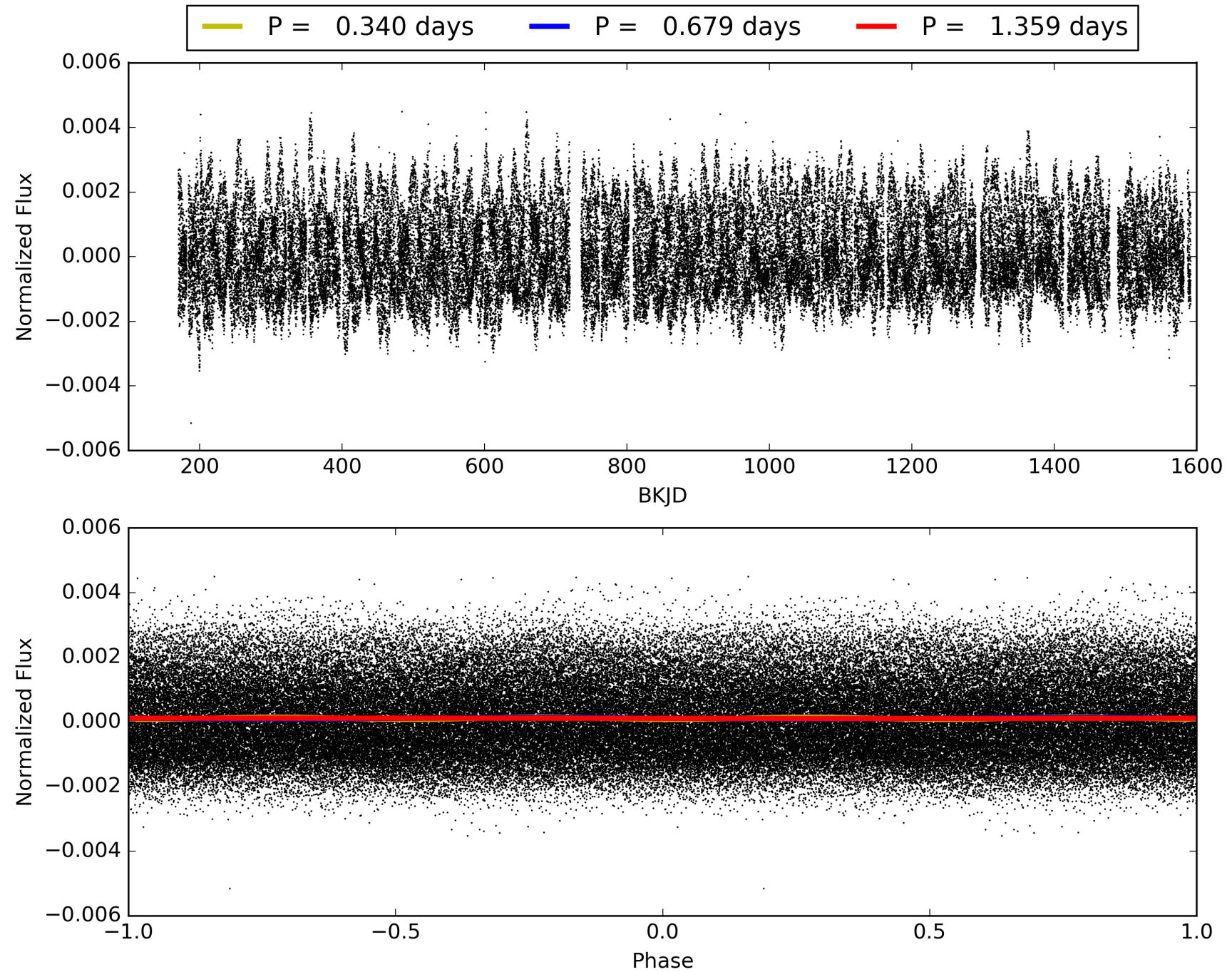
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.0% [2.57σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.22e-20
RollingBand-fgt: 1.00 [1886/1886]
GhostDiagnostic-chr: 1.488
Centroid-sig: 5.2%
Centroid-so: 0.954 arcsec [1.28σ]
OotOffset-rm: 0.217 arcsec [0.66σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-rm: 0.202 arcsec [0.63σ]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/16]

TCE 011520274-02, PDC Light Curves

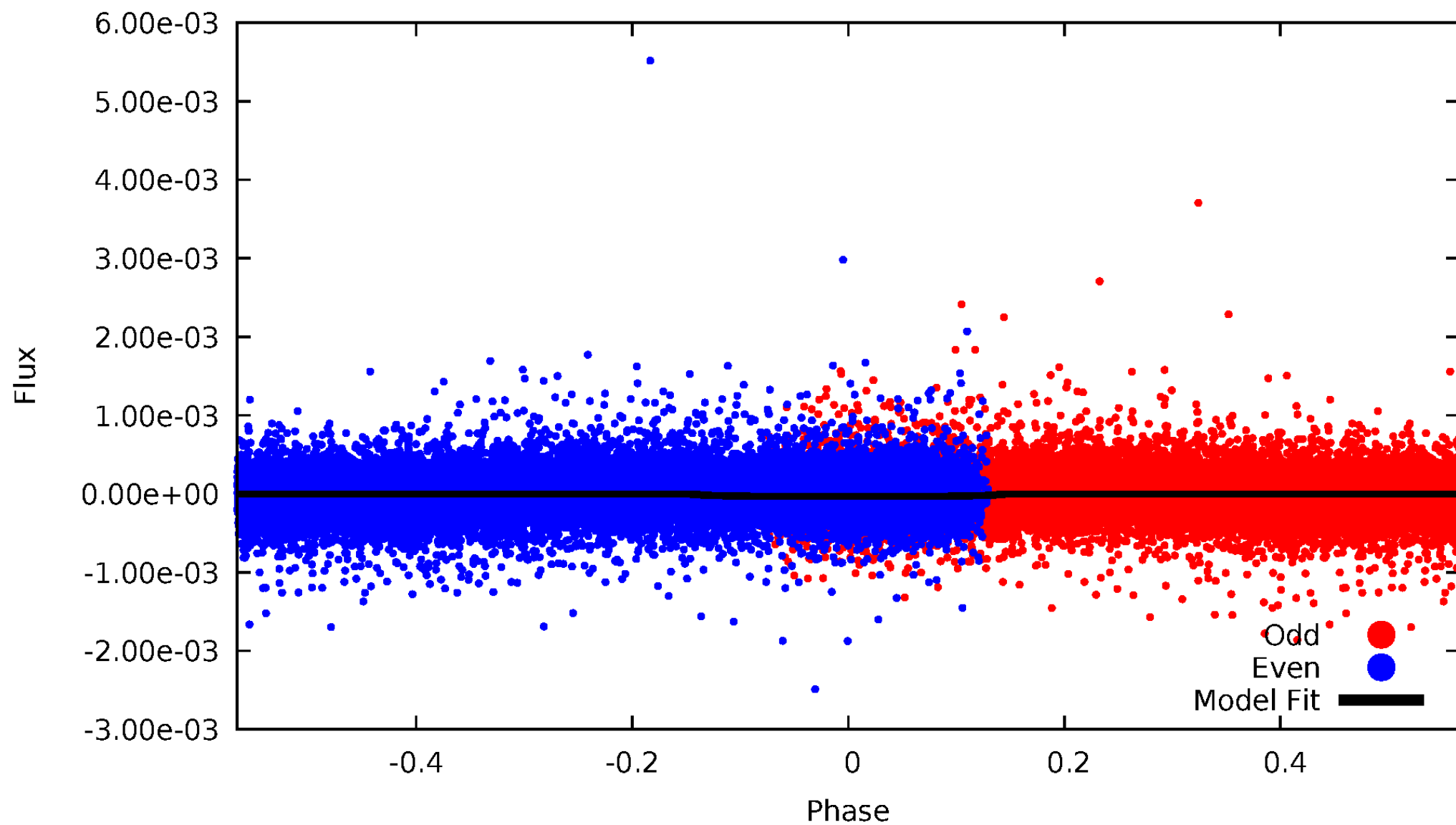


TCE 011520274-02



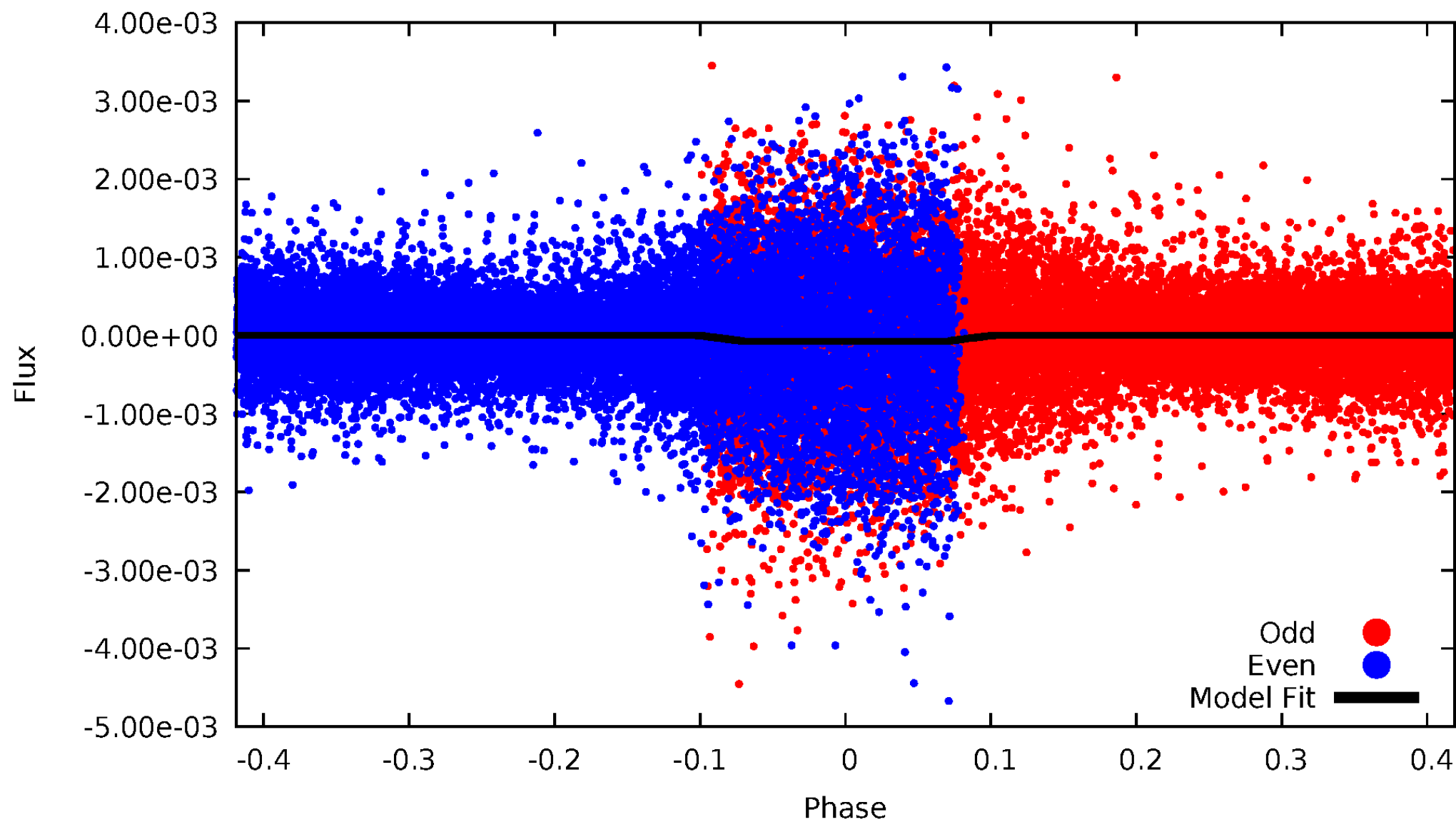
DV Odd/Even

TCE 011520274-02



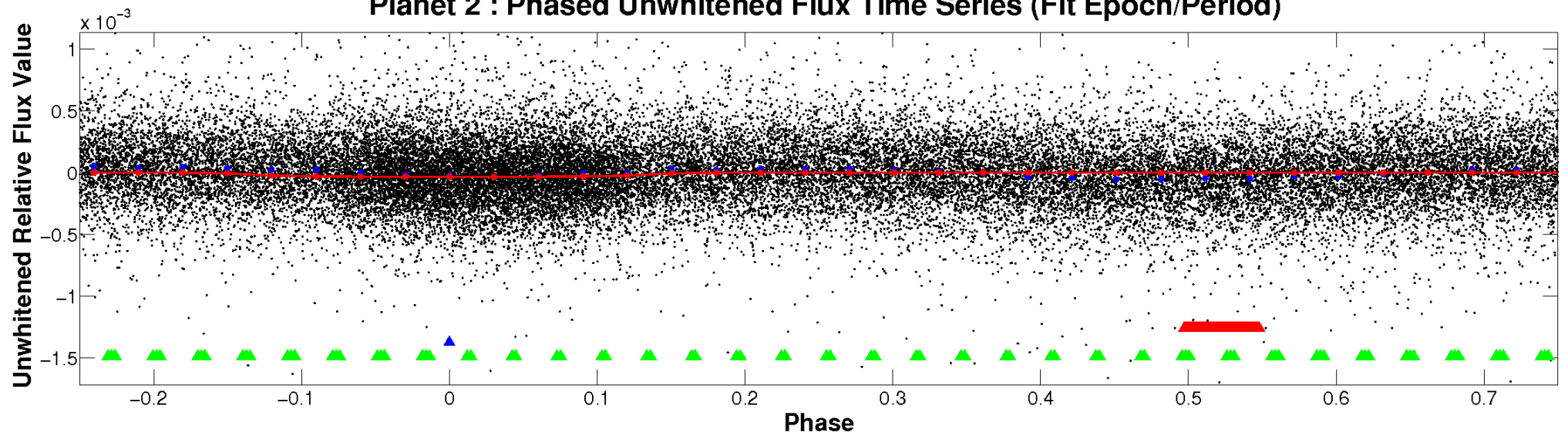
ALT Odd/Even

TCE 011520274-02

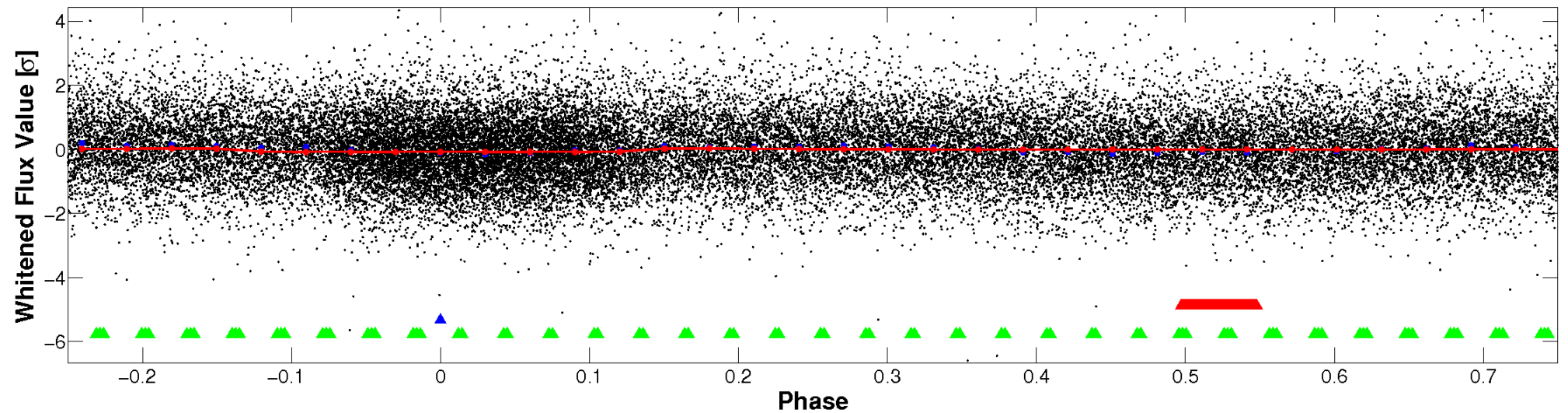


Non-Whitened Vs. Whitened Light Curve

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

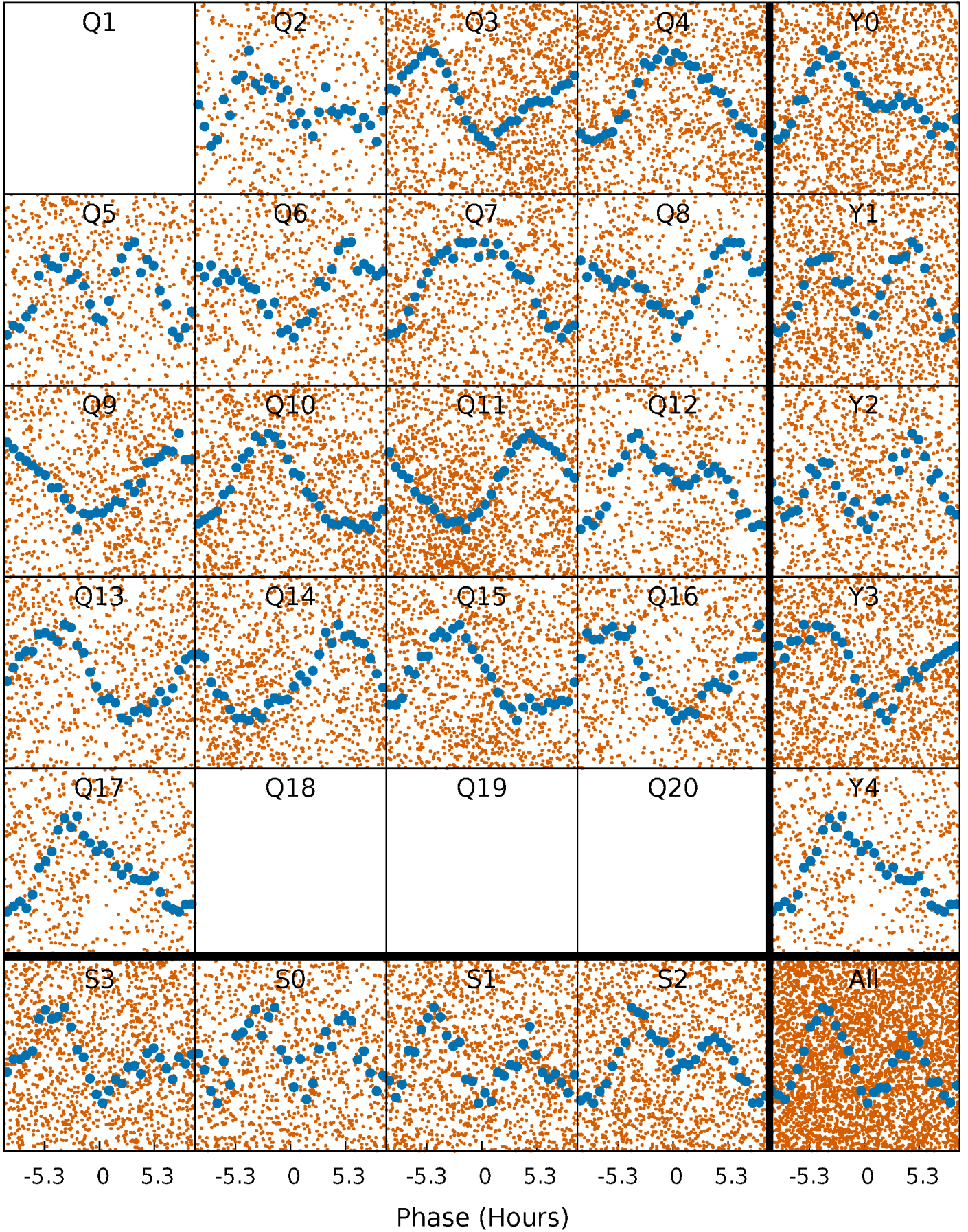


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



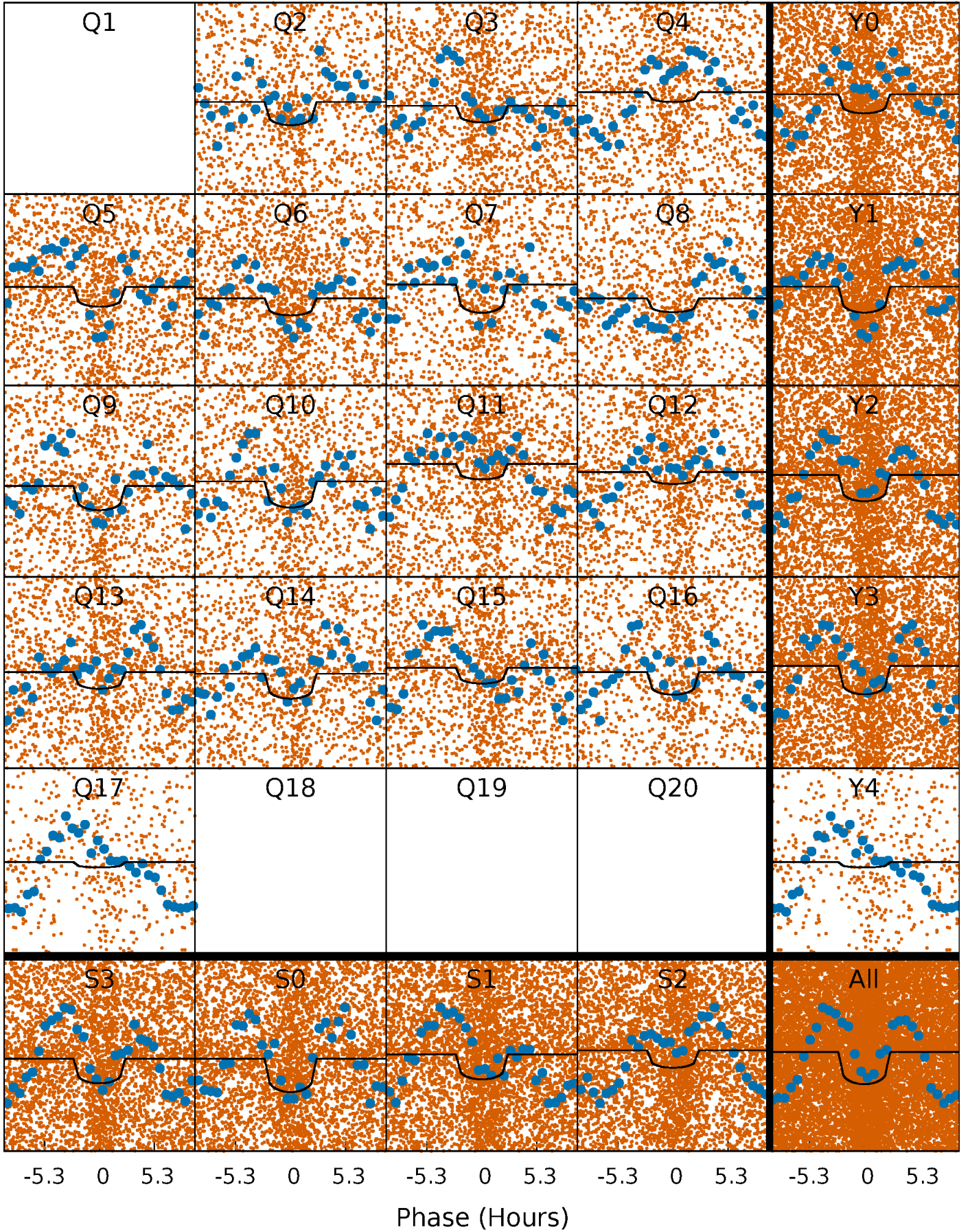
PDC Quarter-Phased Transit Curves

TCE 011520274-02 P= 0.679363 Days $T_0=132.099348$ (BKJD)



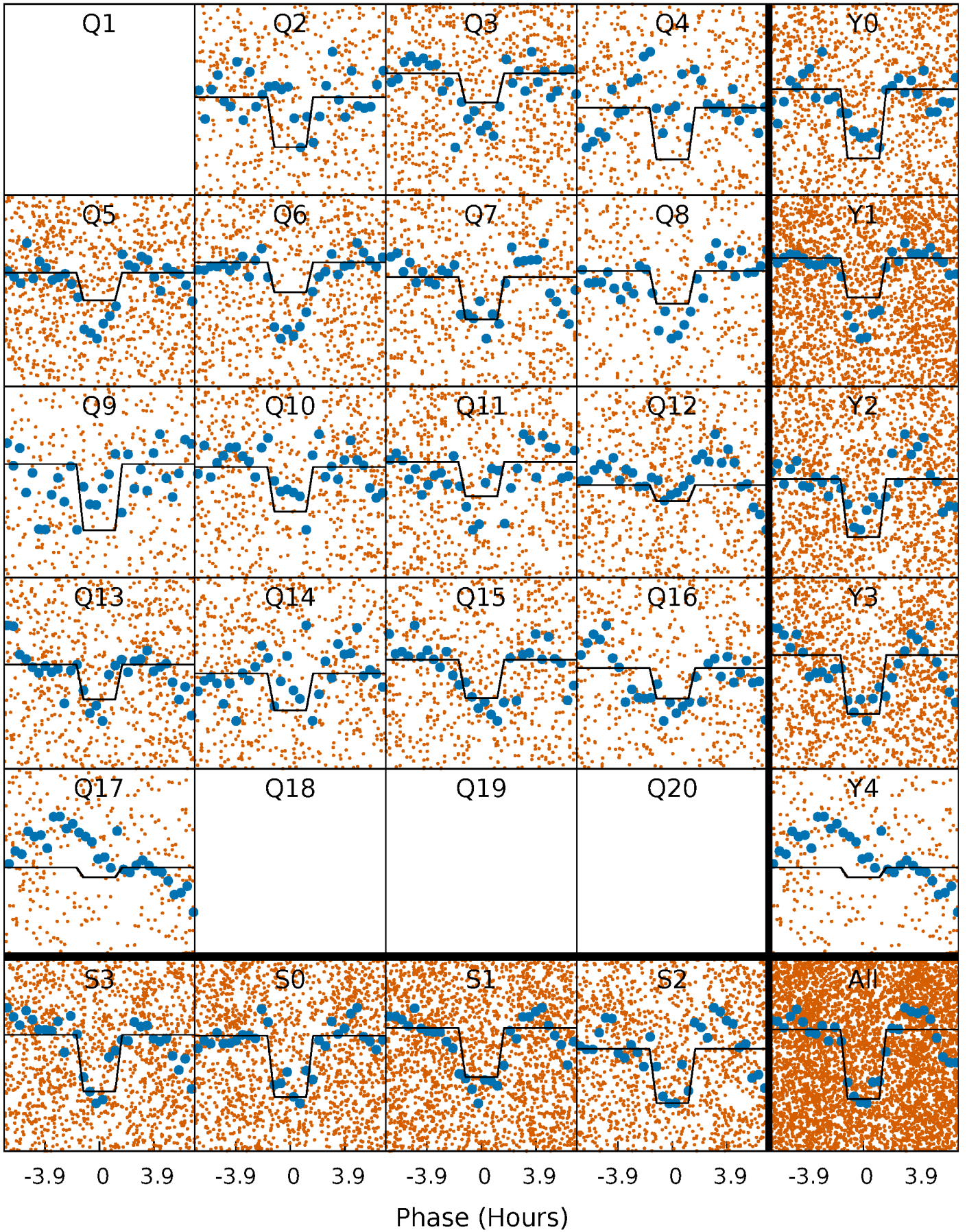
DV Quarter-Phased Transit Curves

TCE 011520274-02 $P = 0.679363$ Days $T_0 = 132.099348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

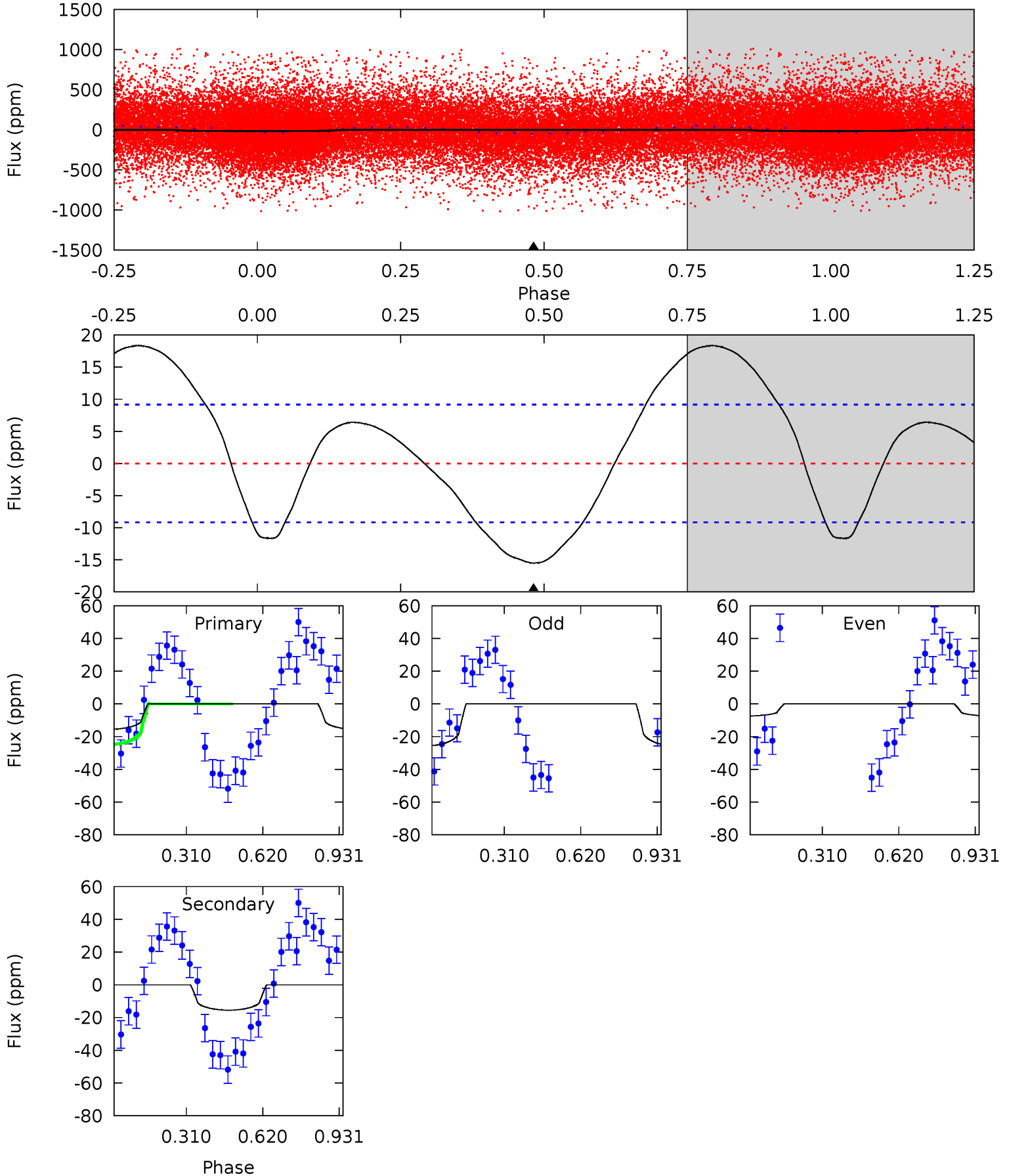
TCE 011520274-02 P= 0.679384 Days $T_0=132.098408$ (BKJD)



DV Model-Shift Uniqueness Test

011520274-02, P = 0.679363 Days, E = 132.099348 Days

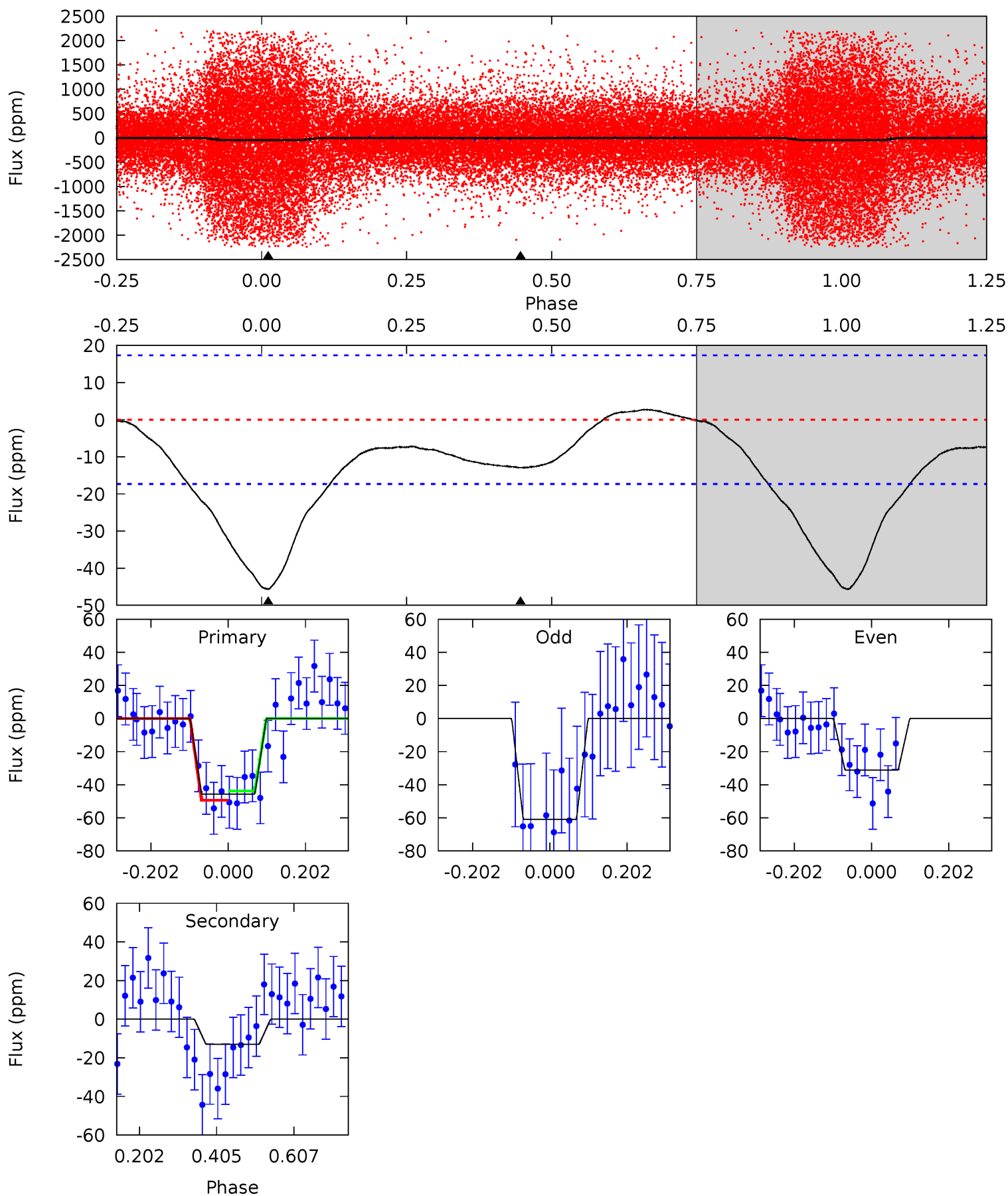
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.31	7.31	0	0	4.32	1.01	4.52	7.31	7.31	7.31	7.31	4.29	0.57	0.54	4.62



Alt Model-Shift Uniqueness Test

011520274-02, P = 0.679384 Days, E = 132.098408 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	3.30	0	0	4.41	1.27	0.88	11.6	11.6	3.30	3.30	3.87	2.82	0.06	0.73



Stellar Parameters For KIC 011520274

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6850^{+192}_{-312}	$4.167^{+0.108}_{-0.201}$	$0.210^{+0.150}_{-0.350}$	$1.675^{+0.568}_{-0.306}$	$1.503^{+0.208}_{-0.231}$	$0.451^{+0.288}_{-0.238}$
	+3%/-5%	+3%/-5%	+71%/-167%	+34%/-18%	+14%/-15%	+64%/-53%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011520274-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 2	$1.07^{+0.67}_{-0.62}$	4188^{+338}_{-279}	5394^{+3727}_{-1190}	$2.146^{+10.520}_{-1.301}$
Alt.	-13 ± 4	$1.60^{+0.73}_{-0.68}$	4191^{+336}_{-283}	4165^{+1438}_{-1232}	$0.815^{+1.781}_{-0.463}$

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

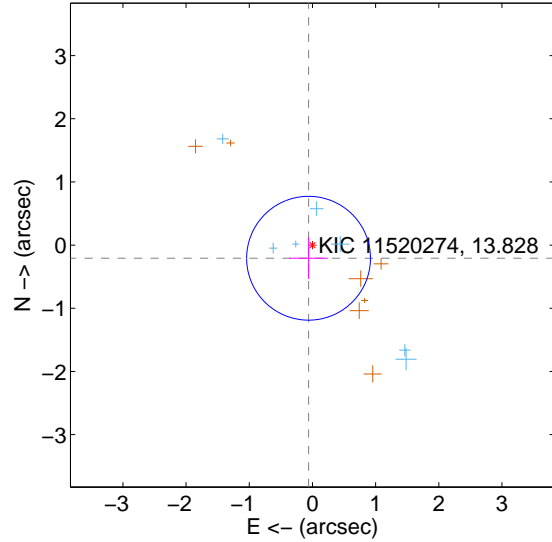
Supplemental centroid analysis for 011520274-02. Kepler magnitude: 13.83. Transit SNR 9.39

There are 7 quarters with good PRF difference image offsets

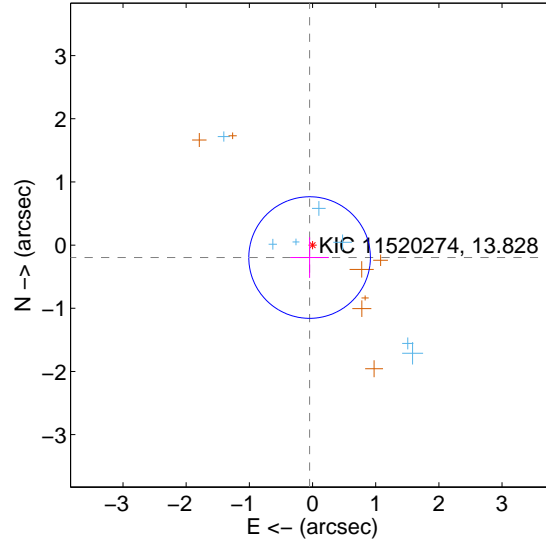
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.217 ± 0.327	0.66	0.061 ± 0.307	-0.208 ± 0.328
PRF-fit source offset from KIC position	0.202 ± 0.321	0.63	0.046 ± 0.305	-0.197 ± 0.322
photometric centroid source offset	0.95 ± 0.75	1.28	0.25 ± 0.70	-0.92 ± 0.75

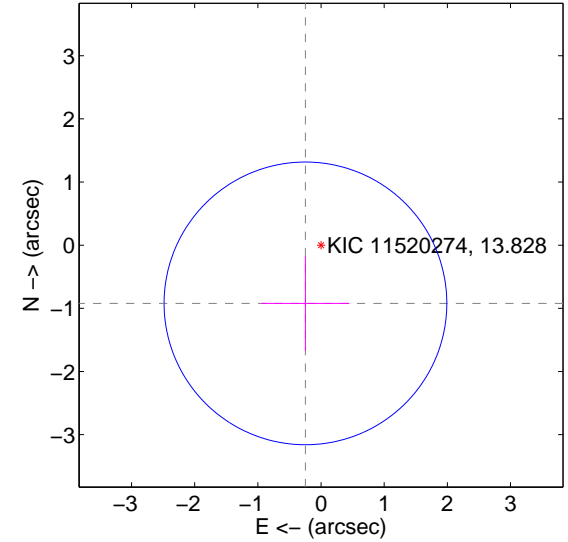
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

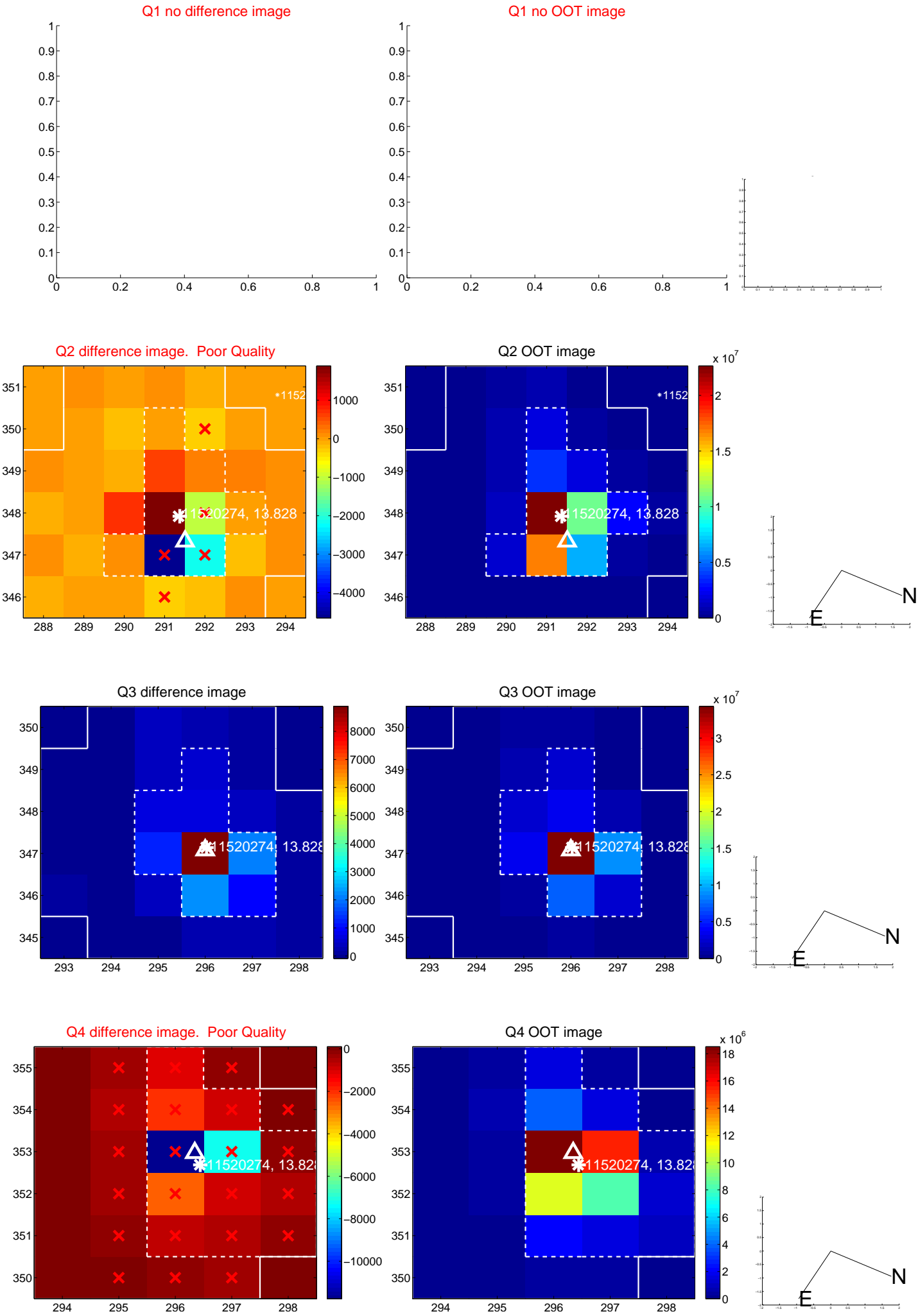


offset from photometric centroids

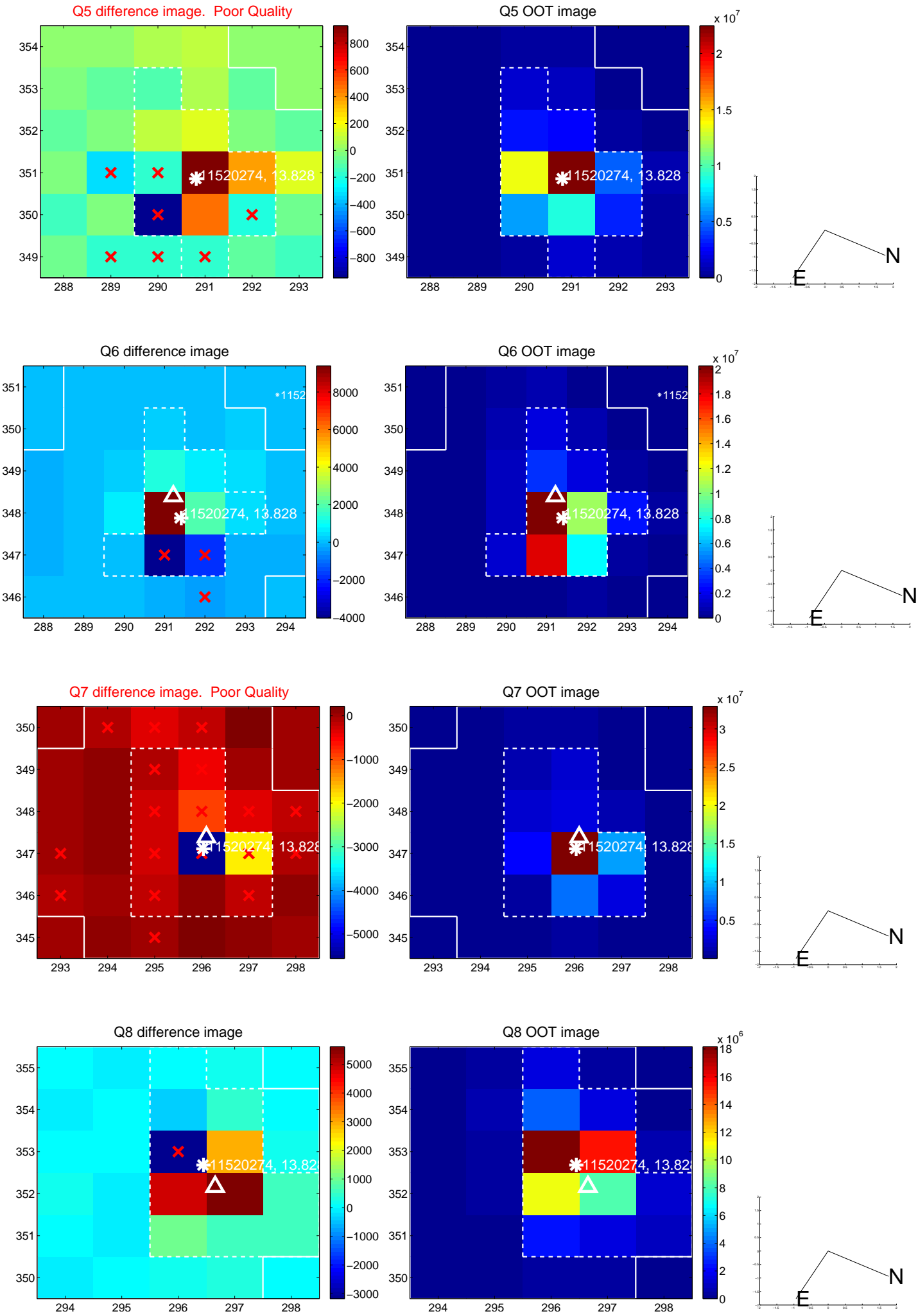


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

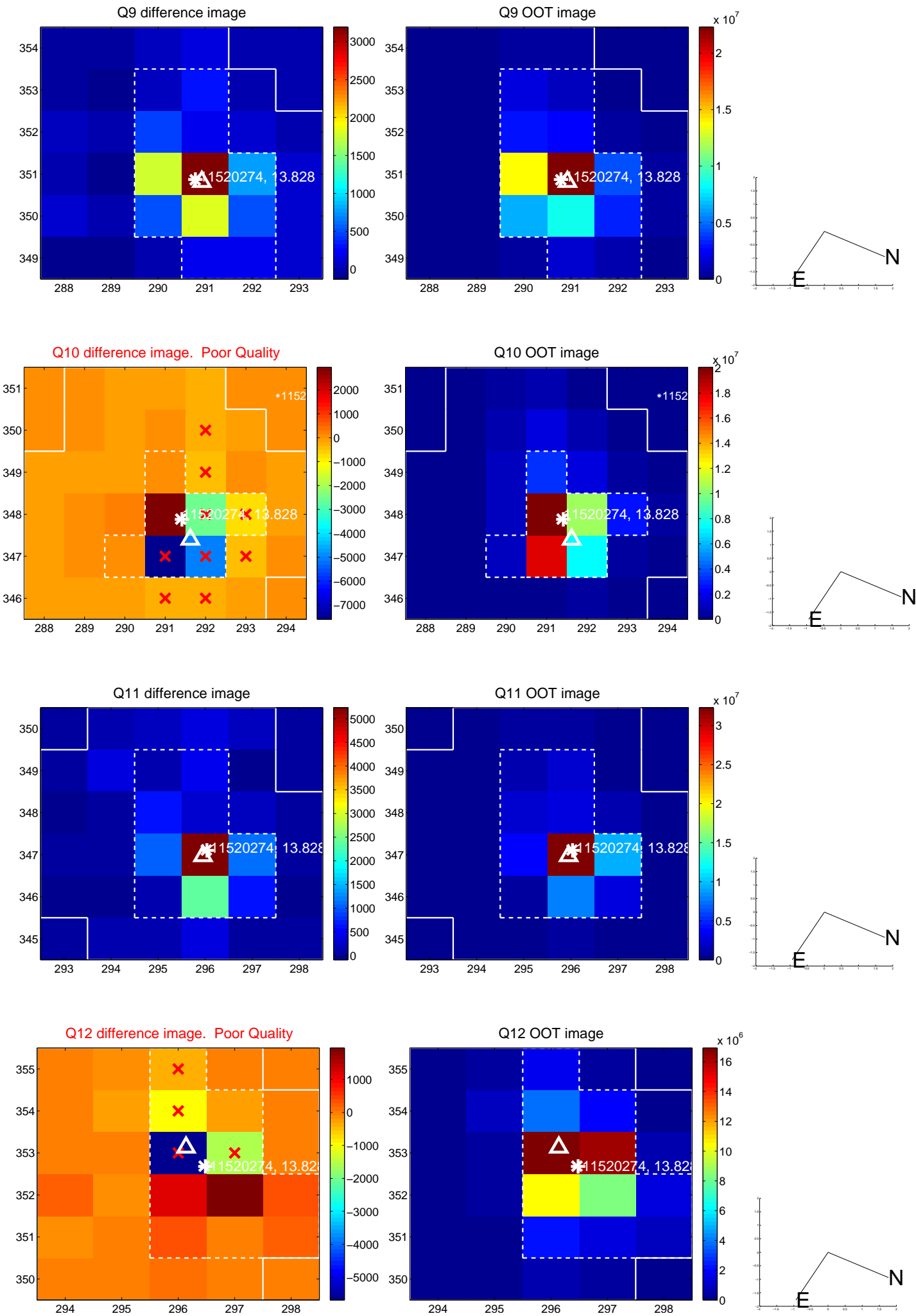
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



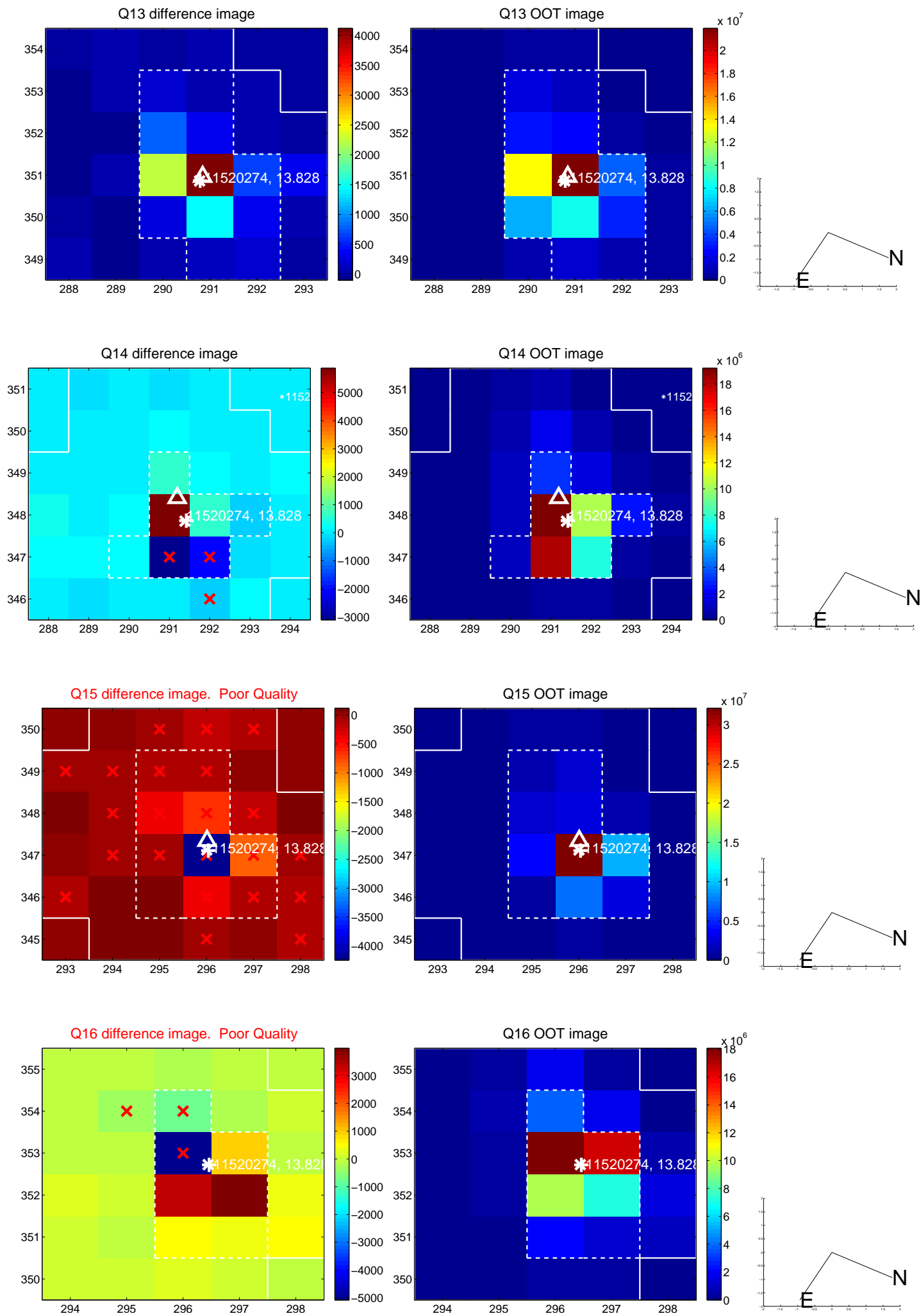
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



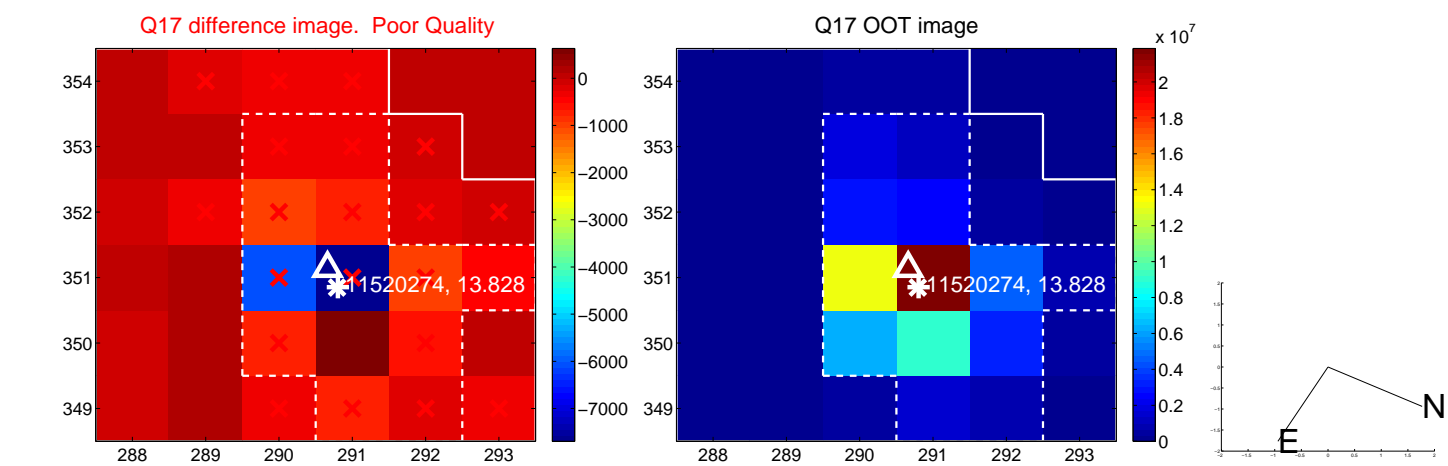
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



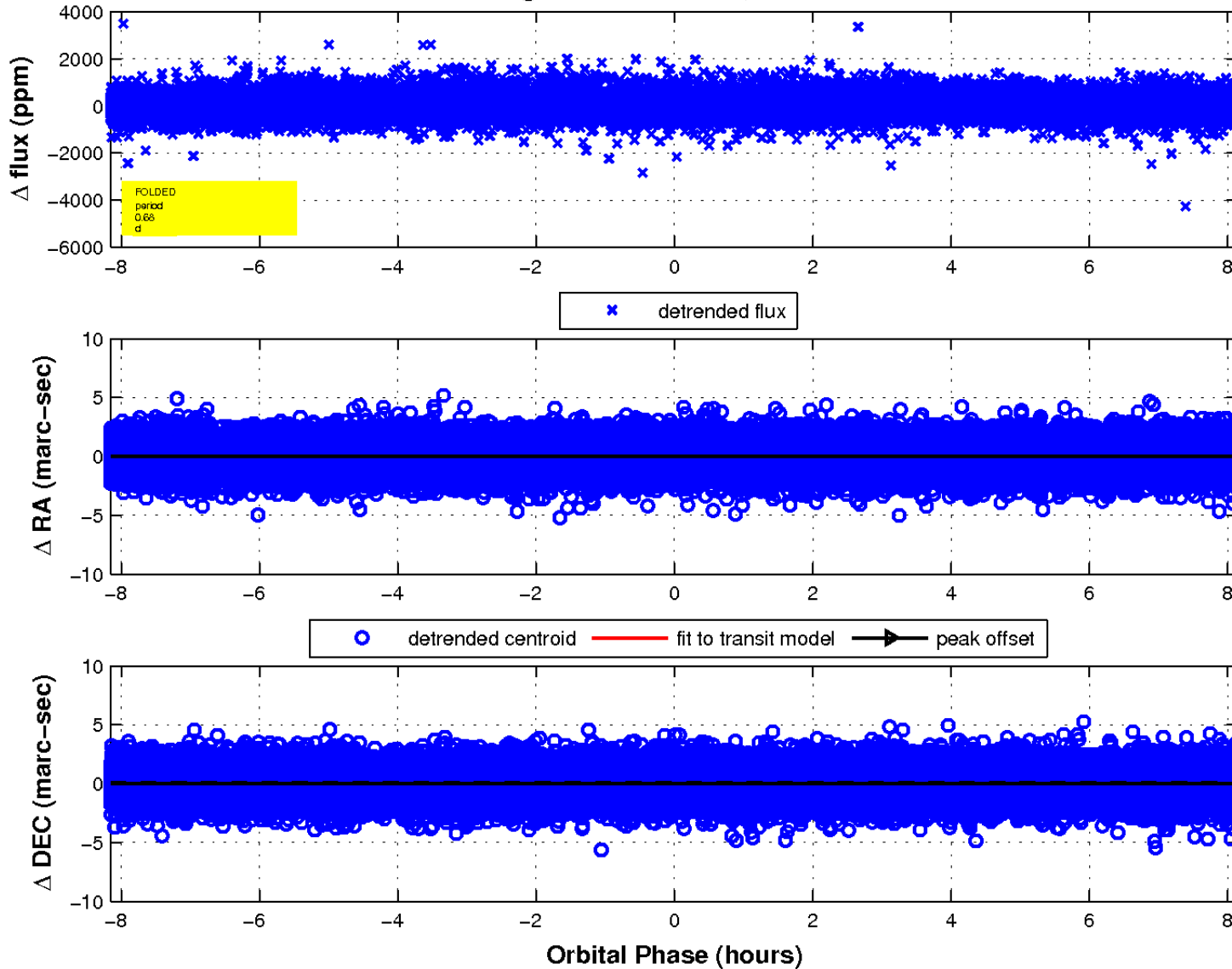
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

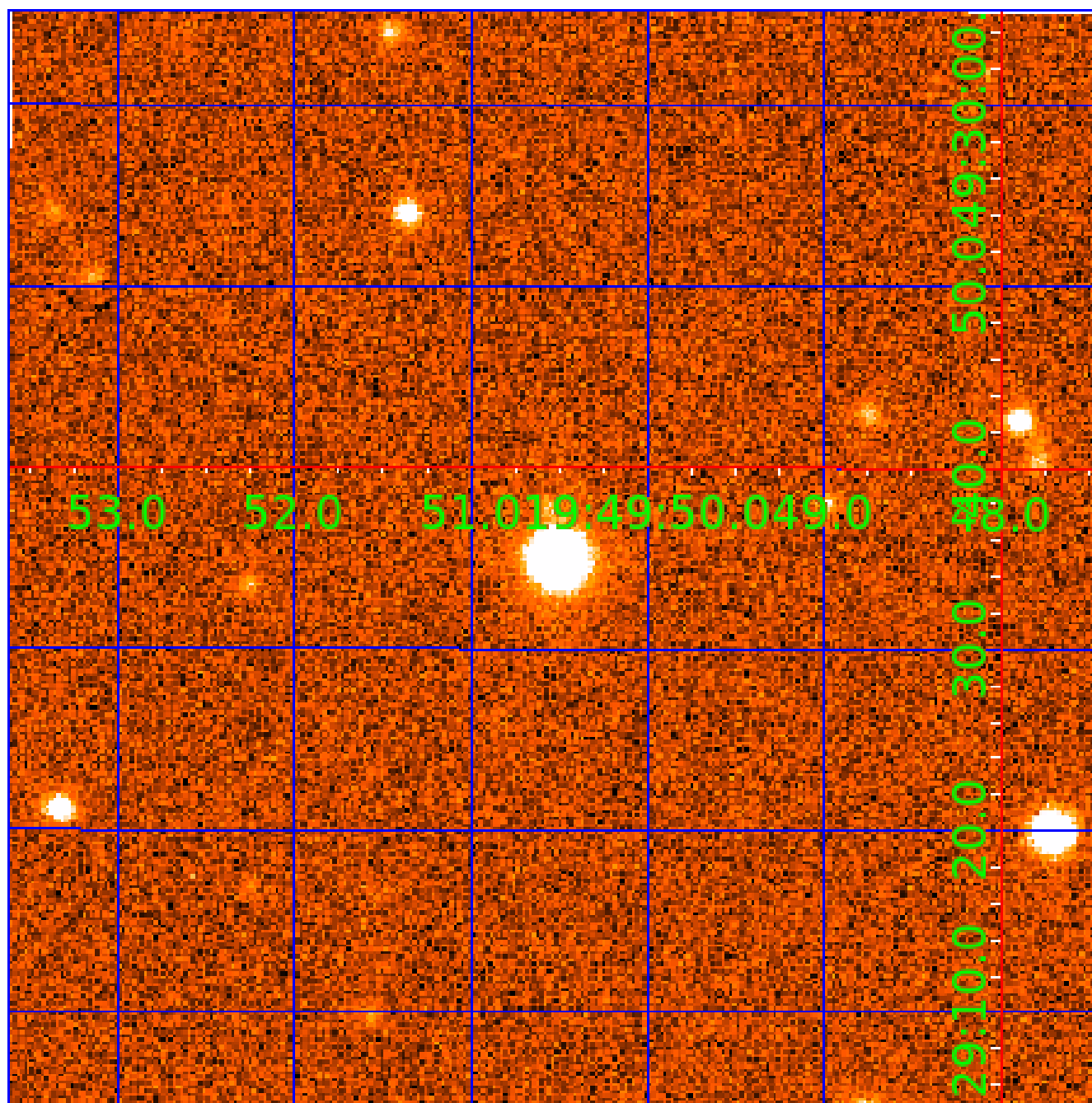


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 011520274

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})
011520274-01	OBS	No	1.358758	131.757677	38.2	4.359	9.2	8.8	1.68	6850	1.19	7313.81
011520274-02	OBS	No	0.679363	132.099348	33.1	4.612	9.2	9.4	1.68	6850	1.00	18430.23
011520274-03	OBS	No	17.642801	132.769527	927.9	3.000	14.8	-1.0	1.68	6850	5.15	239.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011520274-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
011520274-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011520274-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—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.

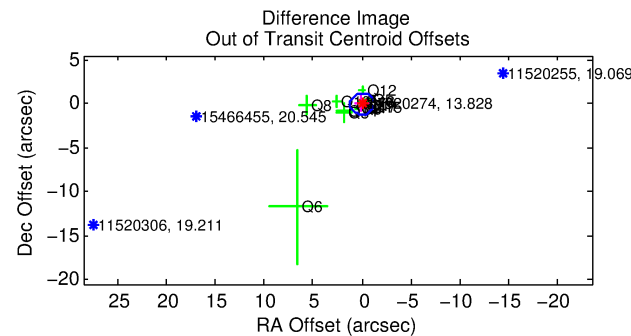
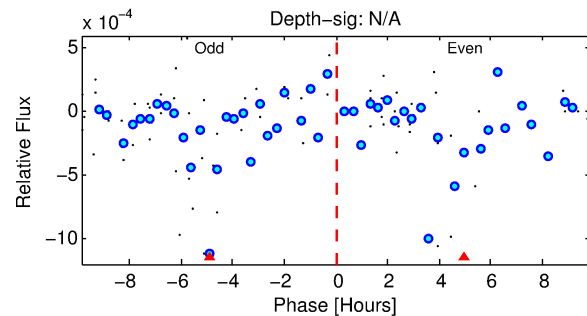
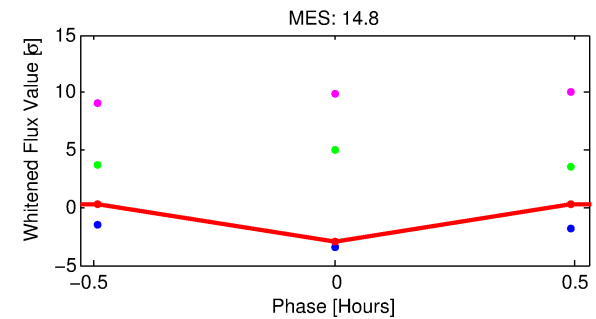
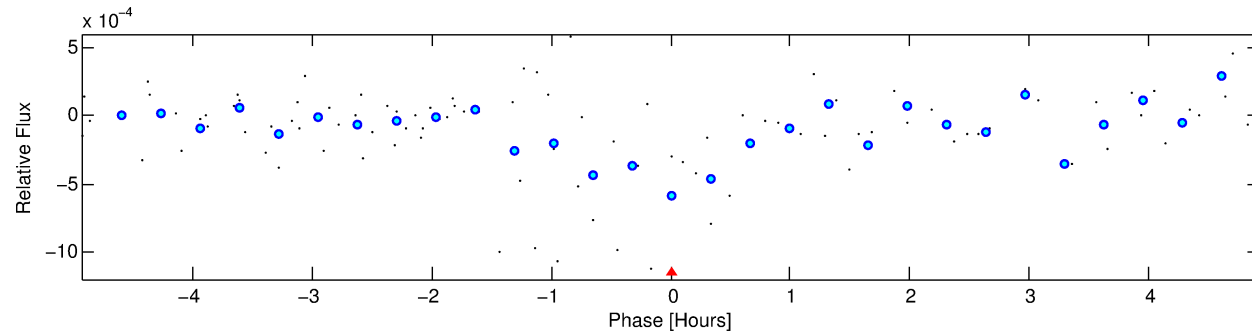
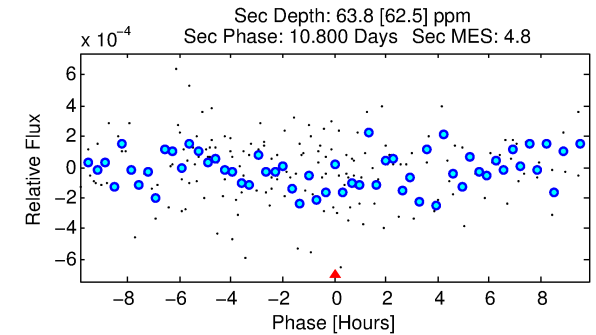
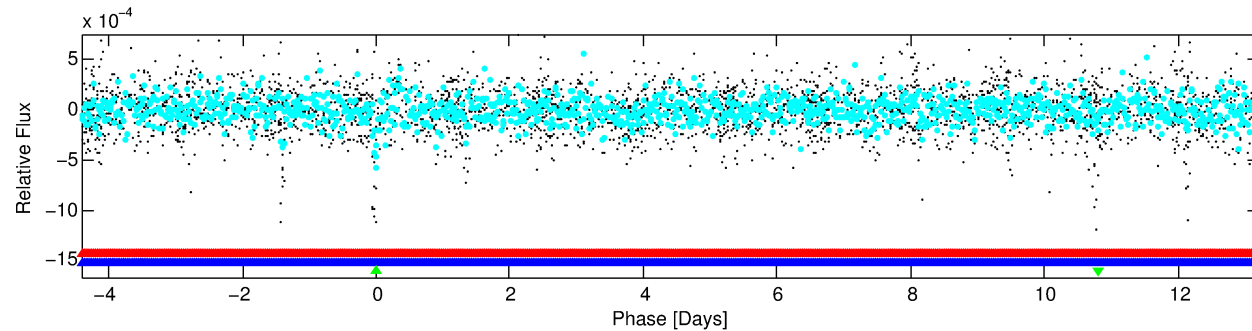
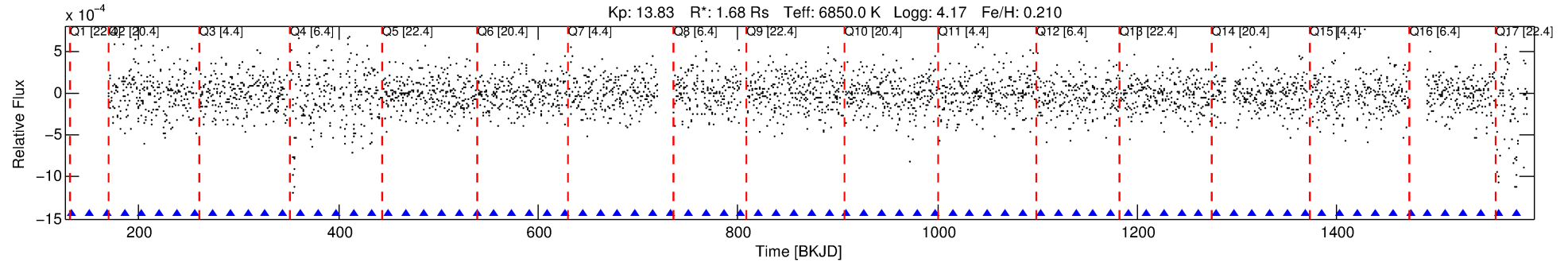
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011520274-03

No Significant Match Found

DV One-Page Summary

KIC: 11520274 Candidate: 3 of 3 Period: 17.643 d



TPS TCE Results:

Period = 17.64280 d
Epoch = 132.7695 BKJD

DV fit results are unavailable

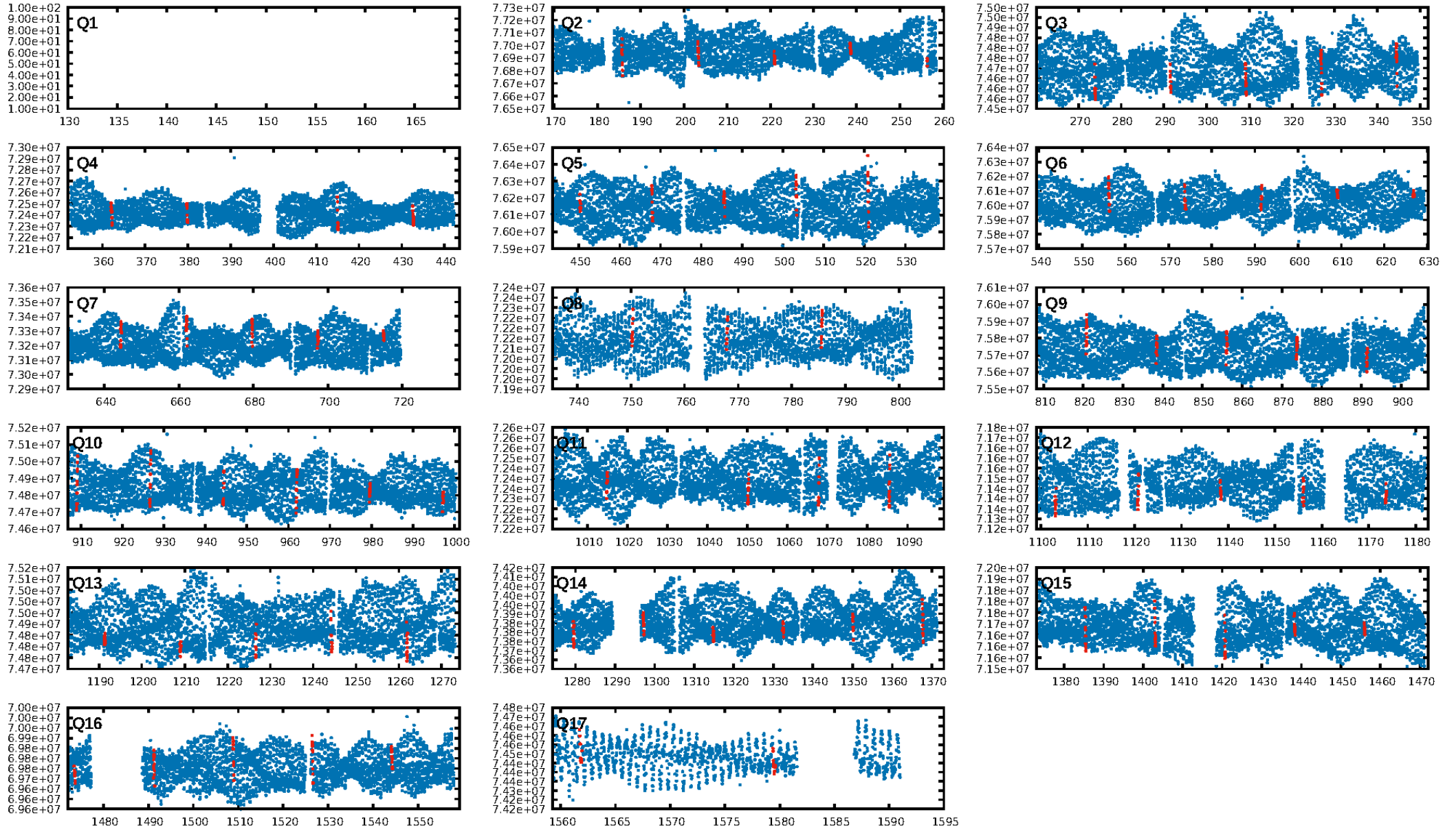
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [73.86]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.41e-56
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 2.924
Centroid-sig: 50.8%
Centroid-so: 0.145 arcsec [0.69]
OotOffset-rm: 0.052 arcsec [0.13]
KicOffset-rm: 0.084 arcsec [0.13]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.06 [1/16]

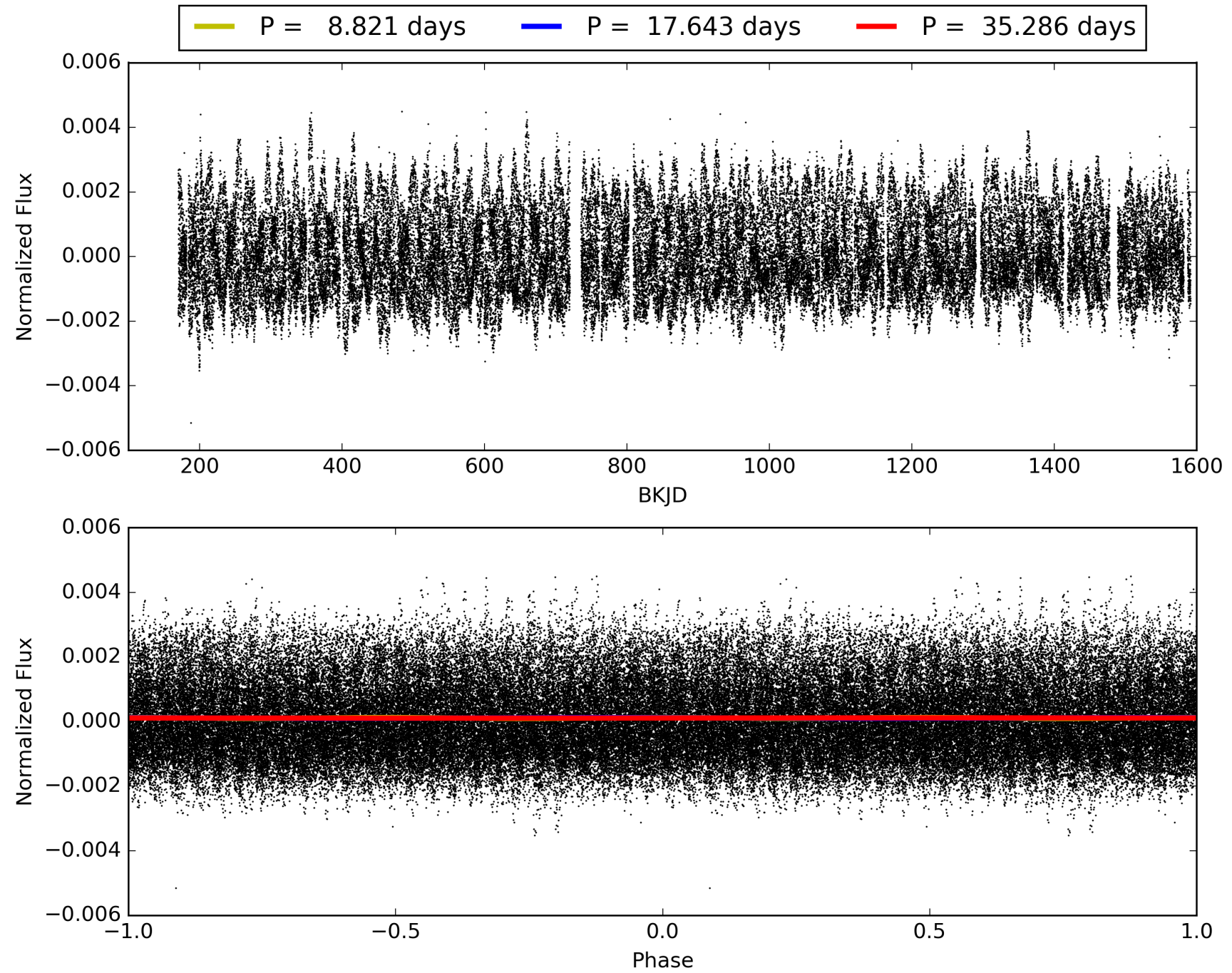
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:31:28 Z

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

TCE 011520274-03, PDC Light Curves

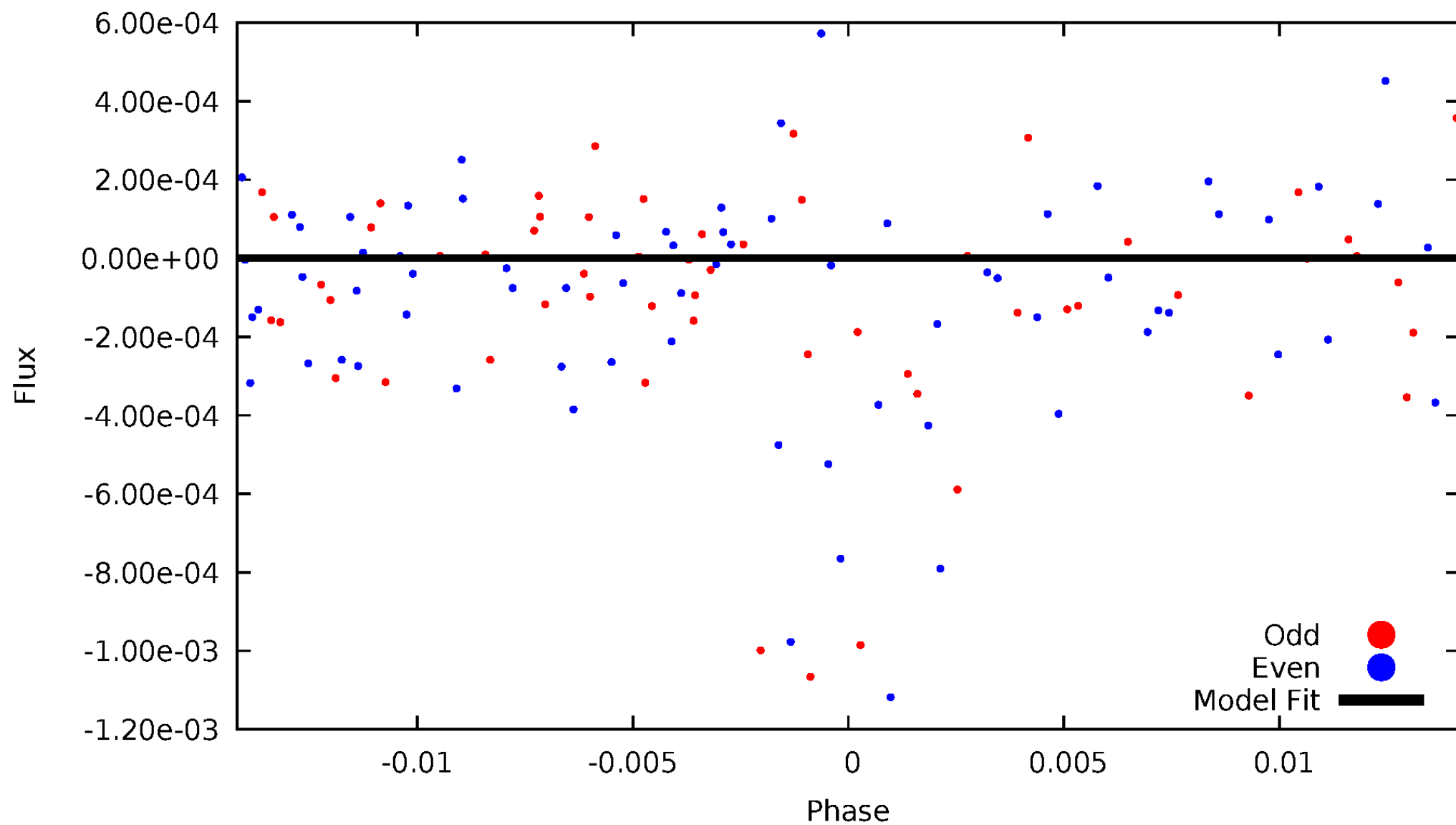


TCE 011520274-03



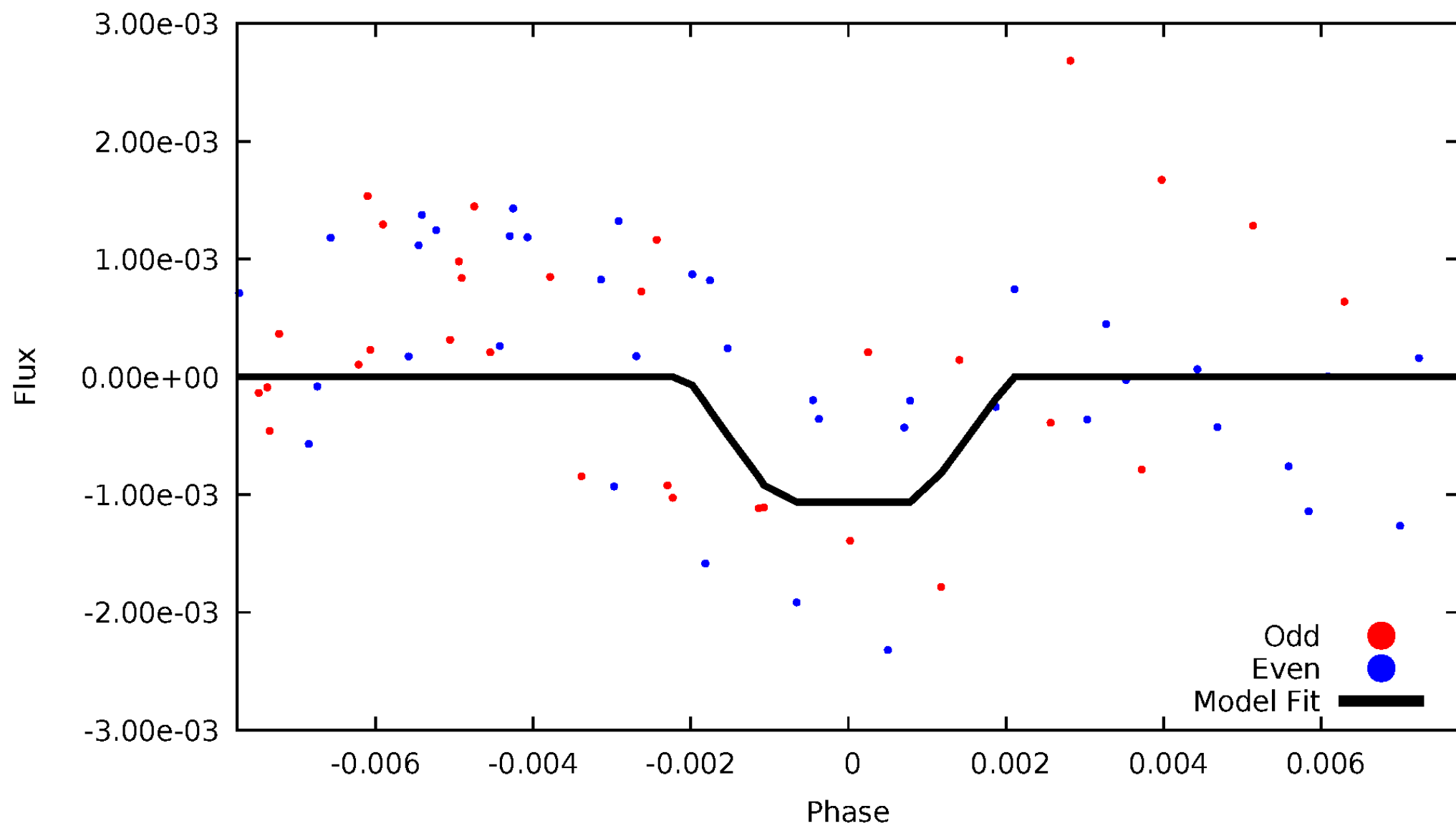
DV Odd/Even

TCE 011520274-03

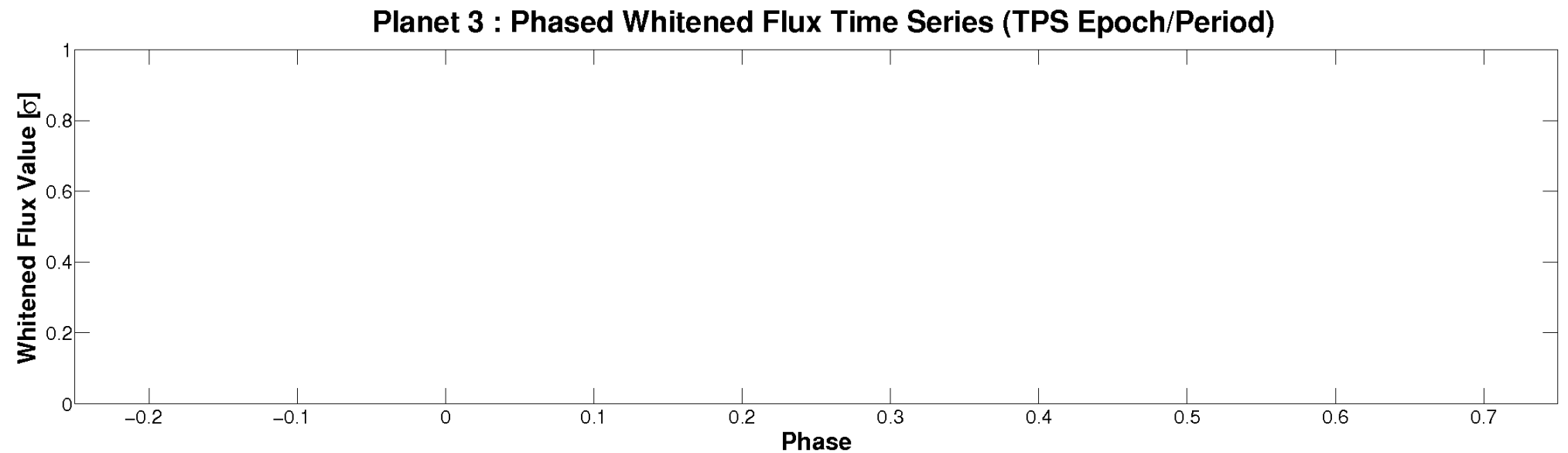
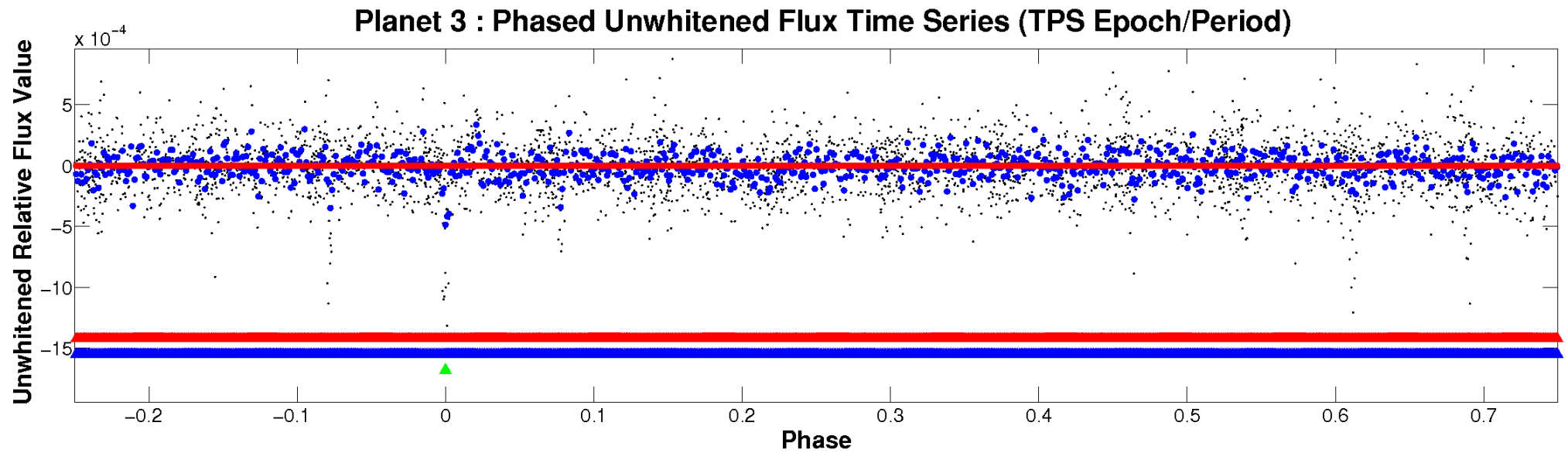


ALT Odd/Even

TCE 011520274-03

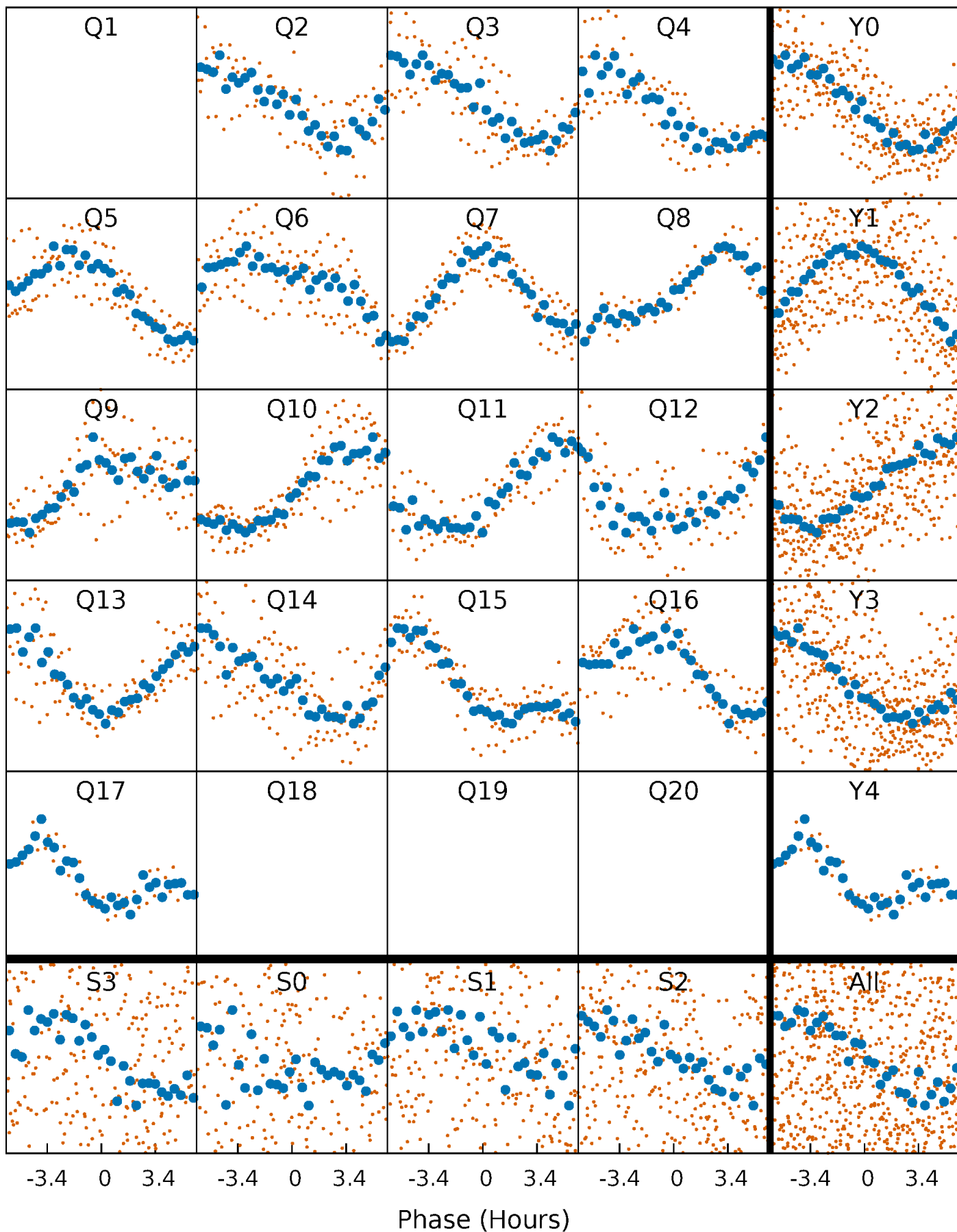


Non-Whitened Vs. Whitened Light Curve



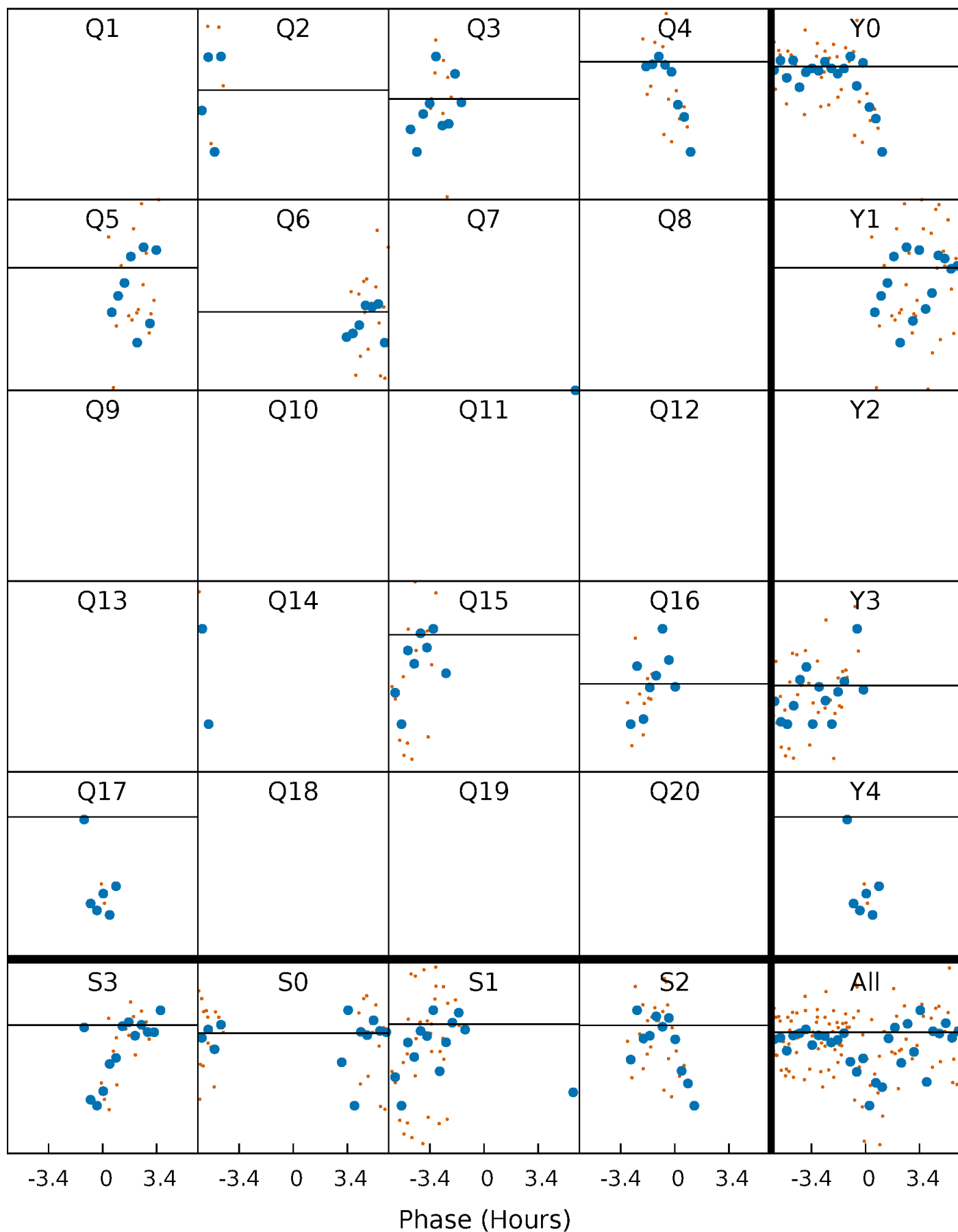
PDC Quarter-Phased Transit Curves

TCE 011520274-03 P= 17.642801 Days $T_0=132.769527$ (BKJD)



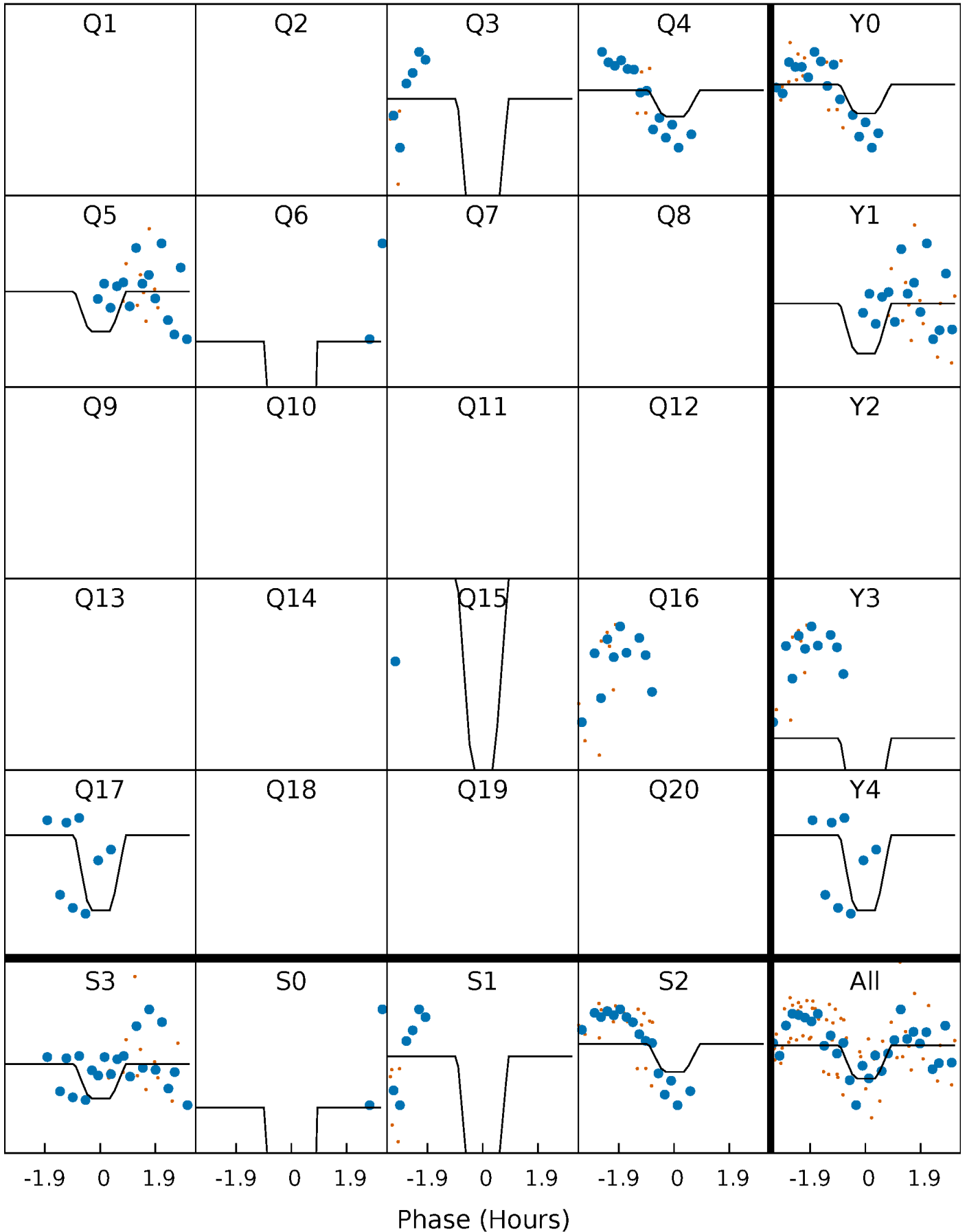
DV Quarter-Phased Transit Curves

TCE 011520274-03 P= 17.642801 Days $T_0=132.769527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

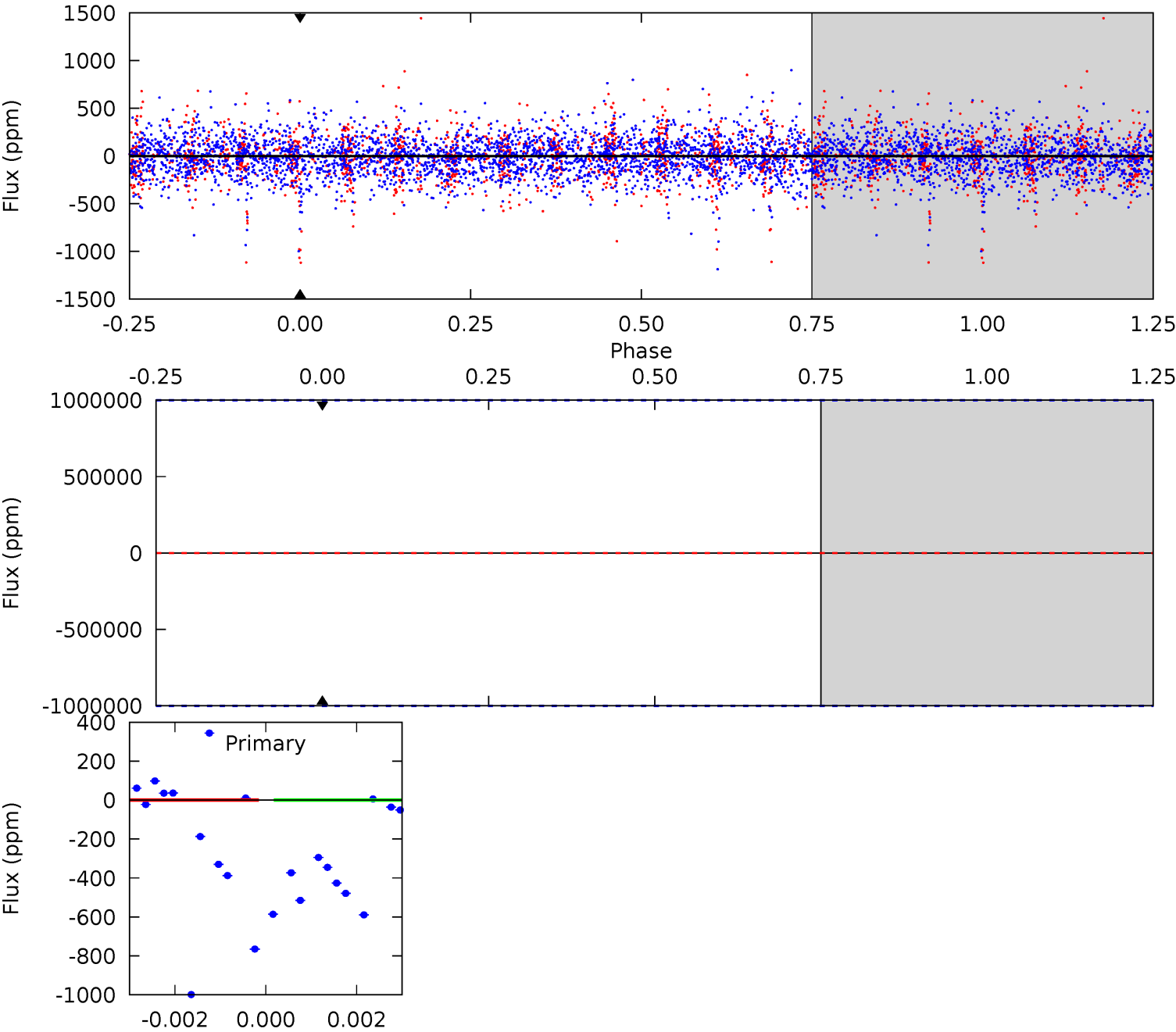
TCE 011520274-03 P= 17.642801 Days $T_0=132.793380$ (BKJD)



DV Model-Shift Uniqueness Test

011520274-03, P = 17.642801 Days, E = 132.769527 Days

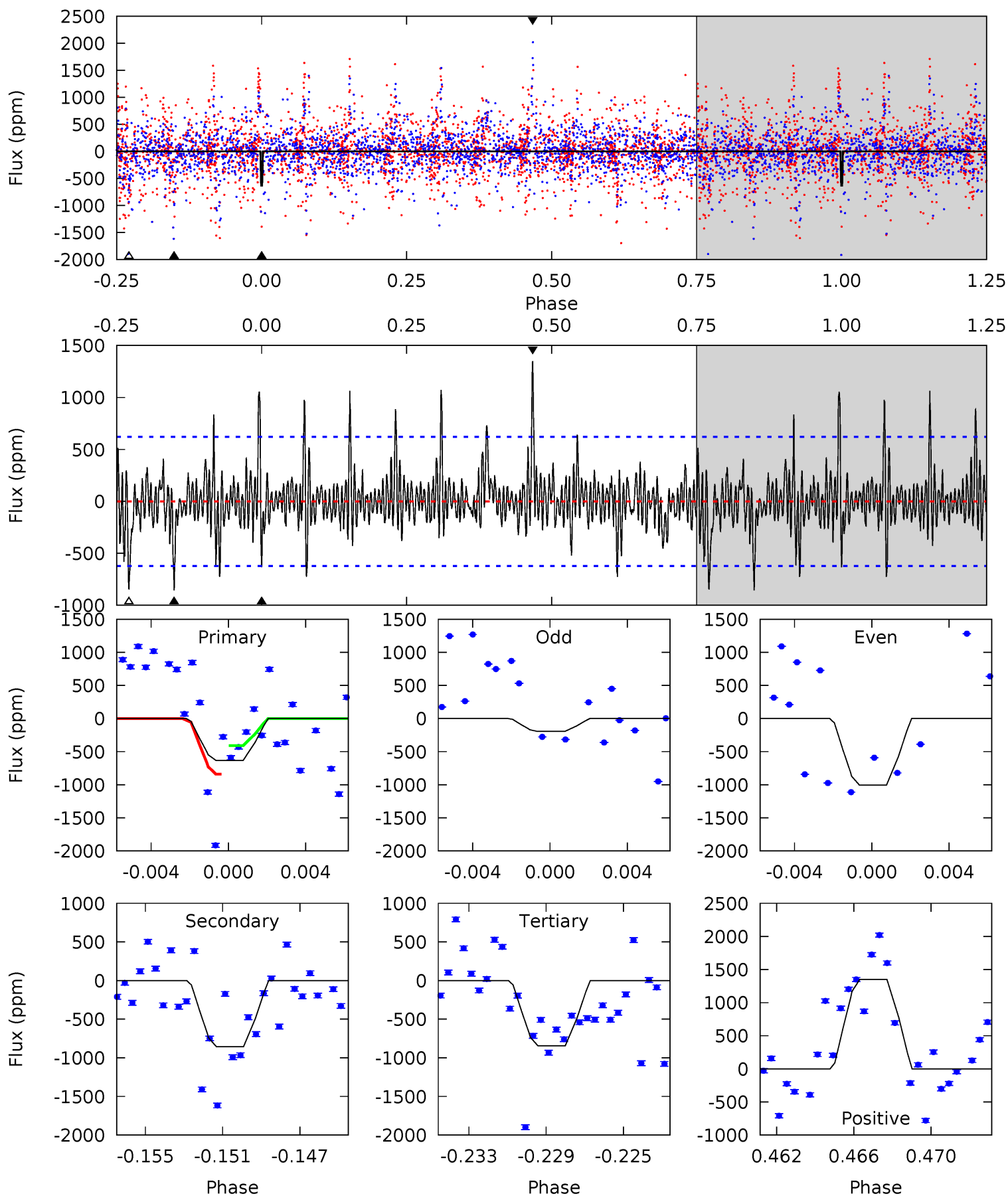
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011520274-03, P = 17.642801 Days, E = 132.793380 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.29	7.16	7.08	11.3	5.20	2.87	2.00	-1.78	-6.00	0.08	-4.13	3.41	2.52	0.61	1.86



Stellar Parameters For KIC 011520274

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6850^{+192}_{-312}	$4.167^{+0.108}_{-0.201}$	$0.210^{+0.150}_{-0.350}$	$1.675^{+0.568}_{-0.306}$	$1.503^{+0.208}_{-0.231}$	$0.451^{+0.288}_{-0.238}$
	+3%/-5%	+3%/-5%	+71%/-167%	+34%/-18%	+14%/-15%	+64%/-53%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011520274-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$14.73^{+13.76}_{-9.66}$	1410^{+112}_{-86}	-4605^{+33914}_{-21936}	$-54.269^{+10524.403}_{-9242.572}$
Alt.	-855 ± 119	$15.73^{+14.28}_{-10.24}$	1416^{+100}_{-98}	4236^{+2501}_{-879}	42^{+296}_{-31}

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 $A_{obs} \gg 1.0$

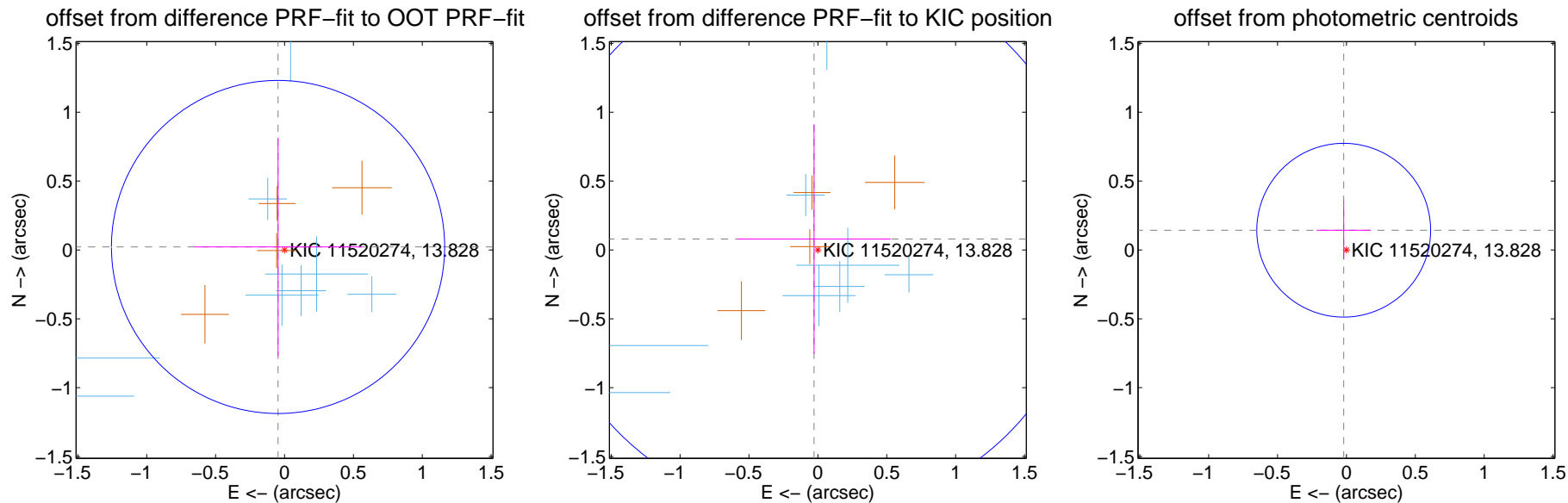
DV Centroid Data

Supplemental centroid analysis for 011520274-03. Kepler magnitude: 13.83. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

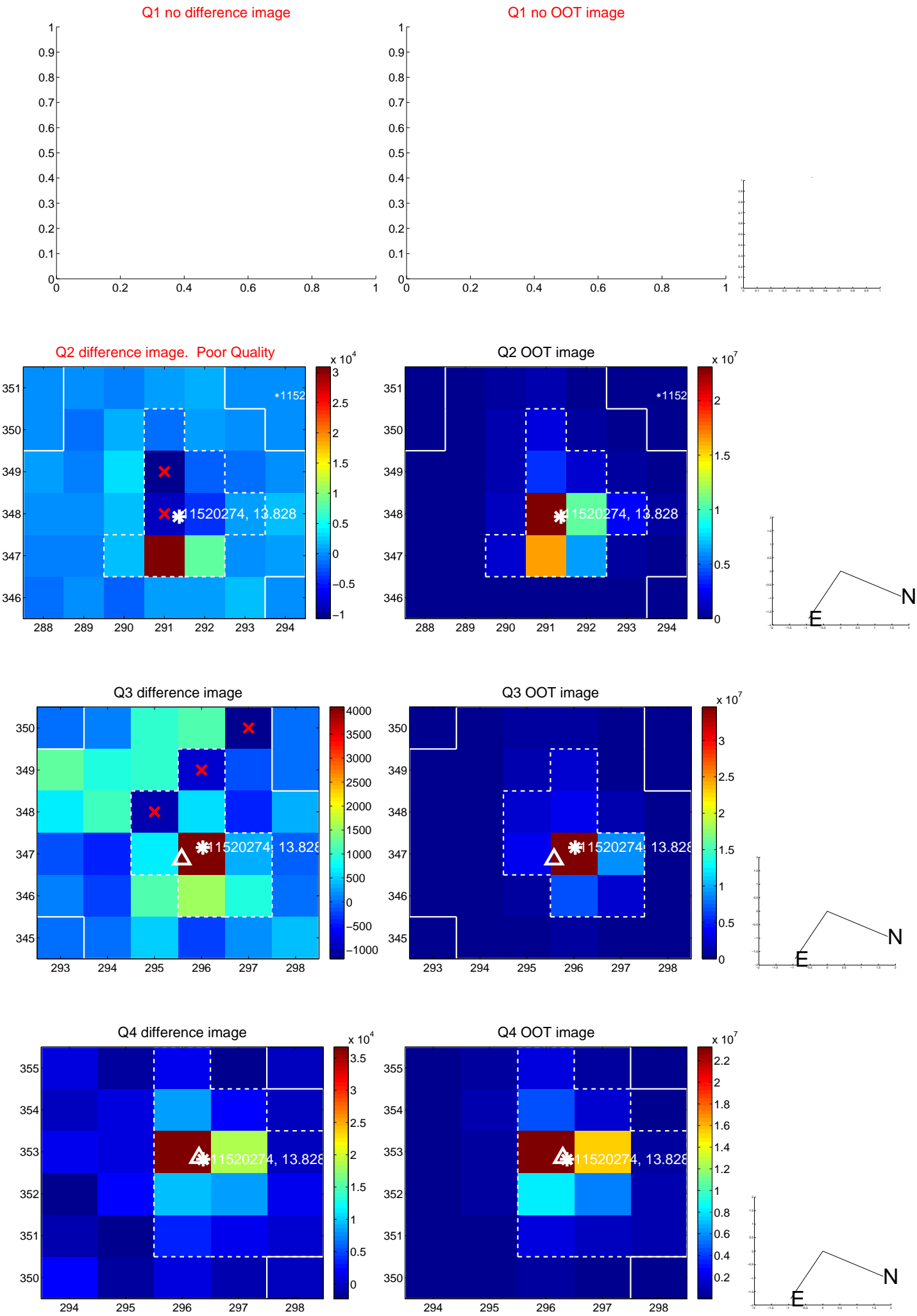
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.403	0.13	0.047 ± 0.607	0.022 ± 0.793
PRF-fit source offset from KIC position	0.084 ± 0.665	0.13	0.028 ± 0.557	0.079 ± 0.832
photometric centroid source offset	0.14 ± 0.21	0.69	0.02 ± 0.20	0.14 ± 0.21

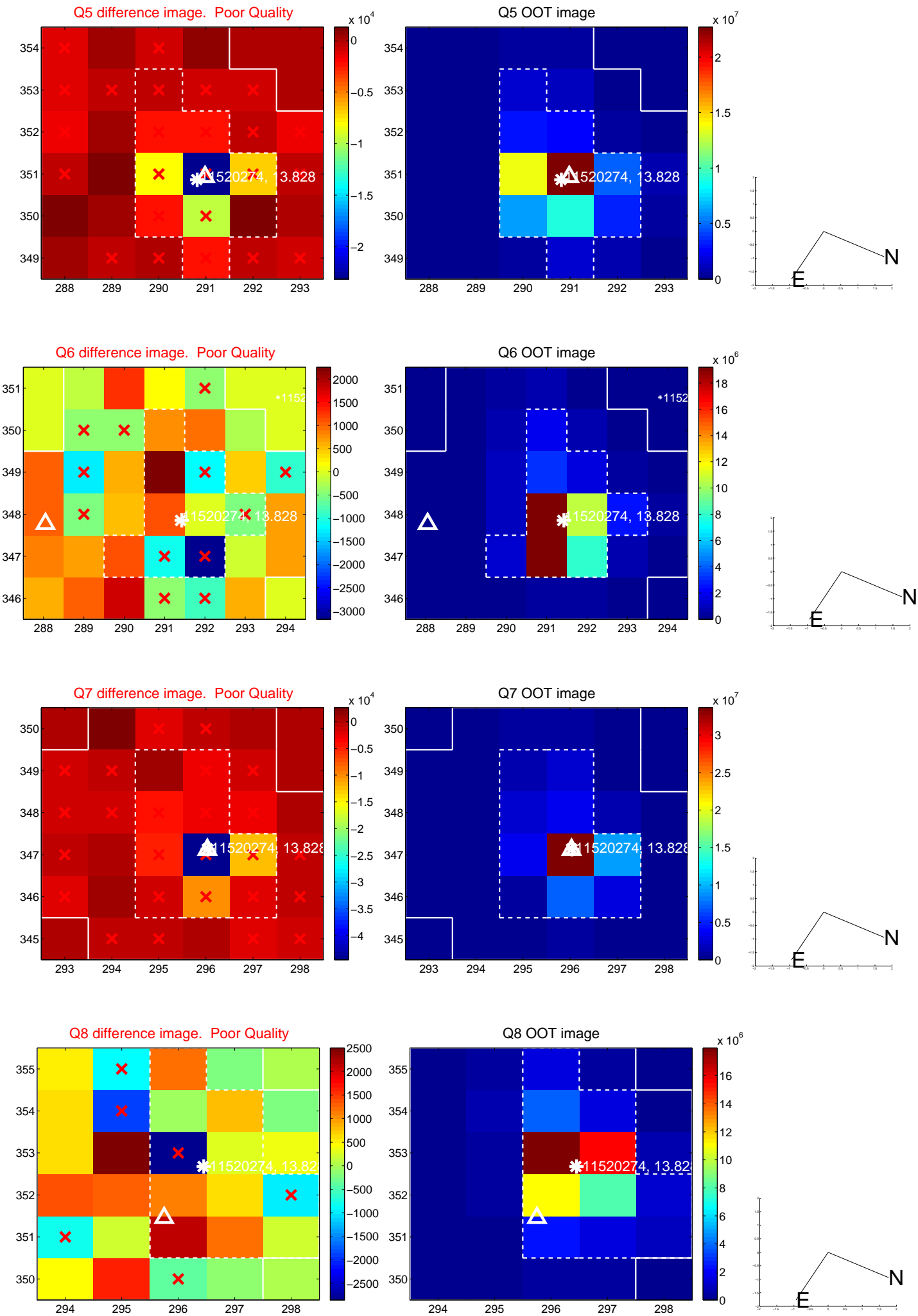


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

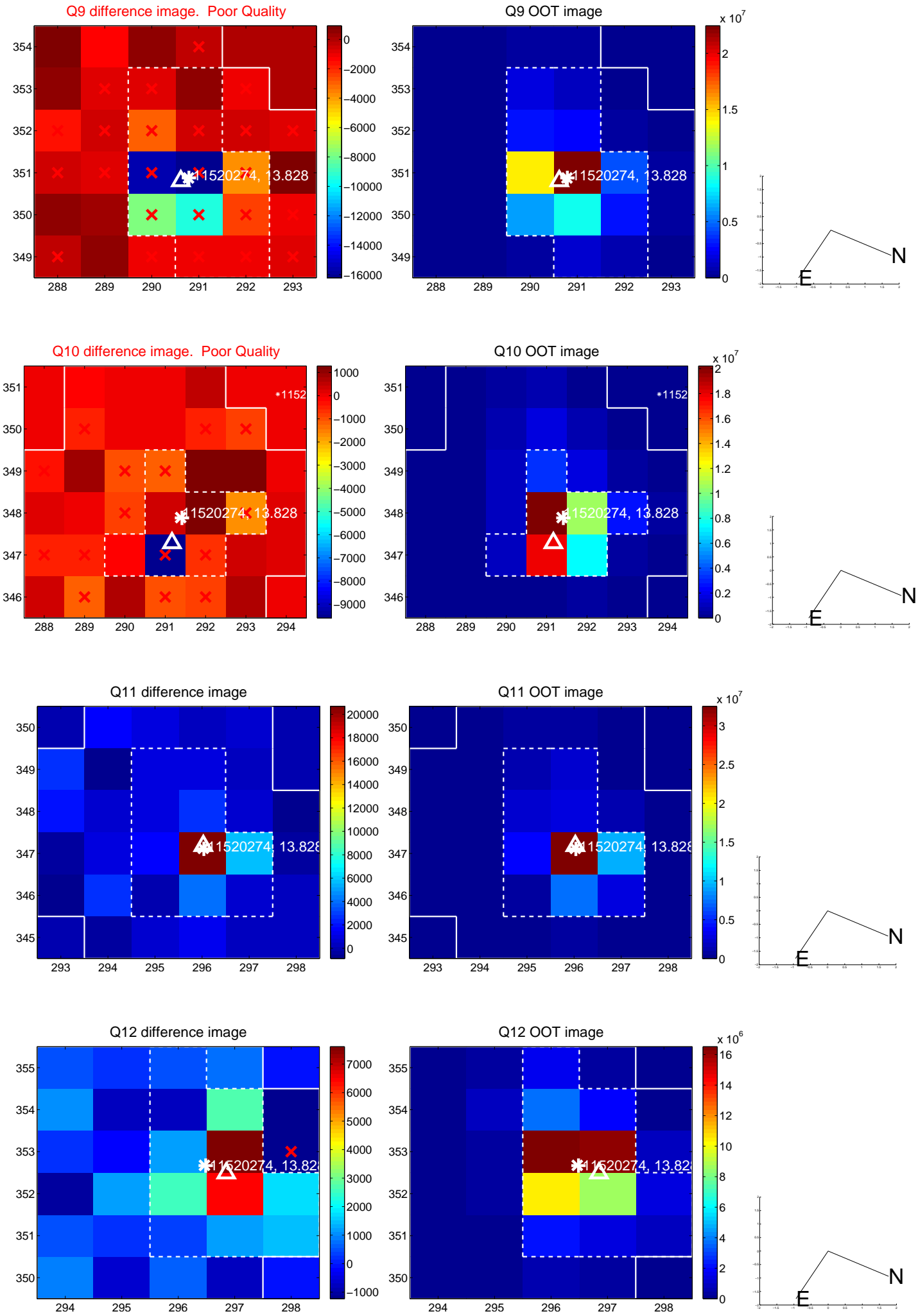
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



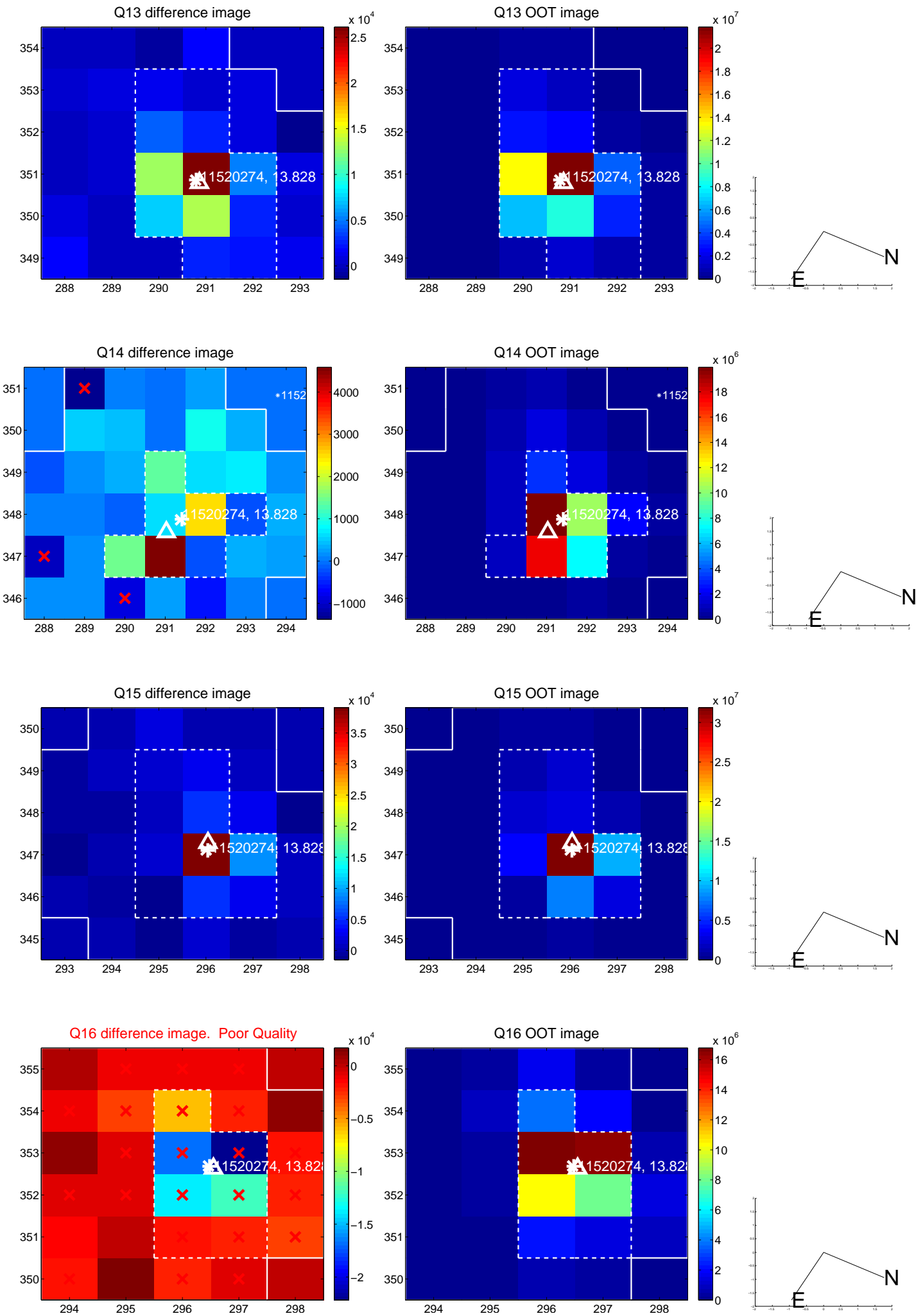
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



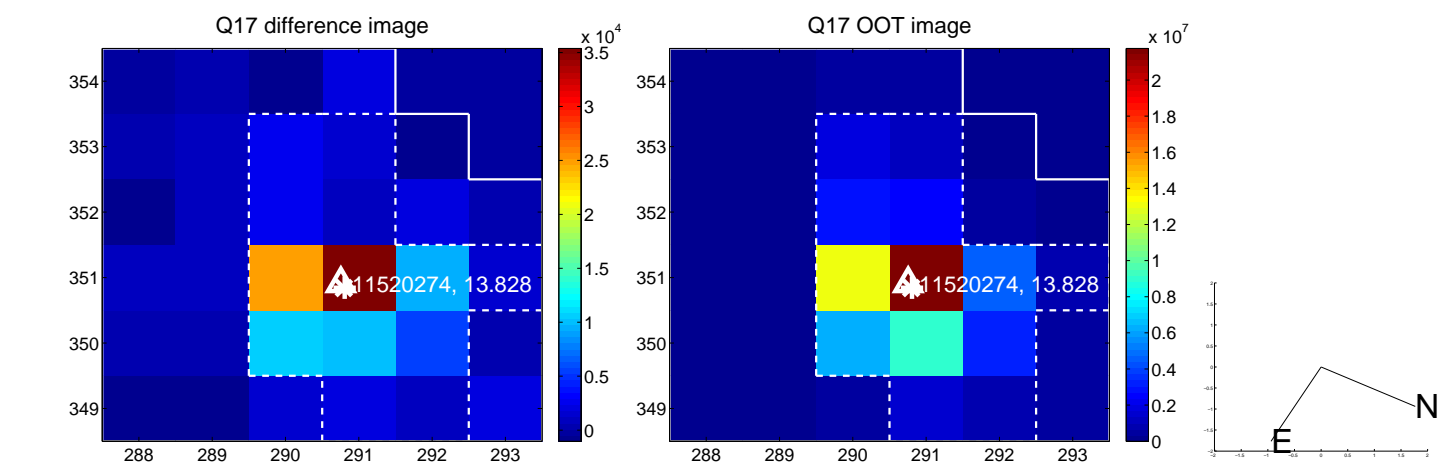
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



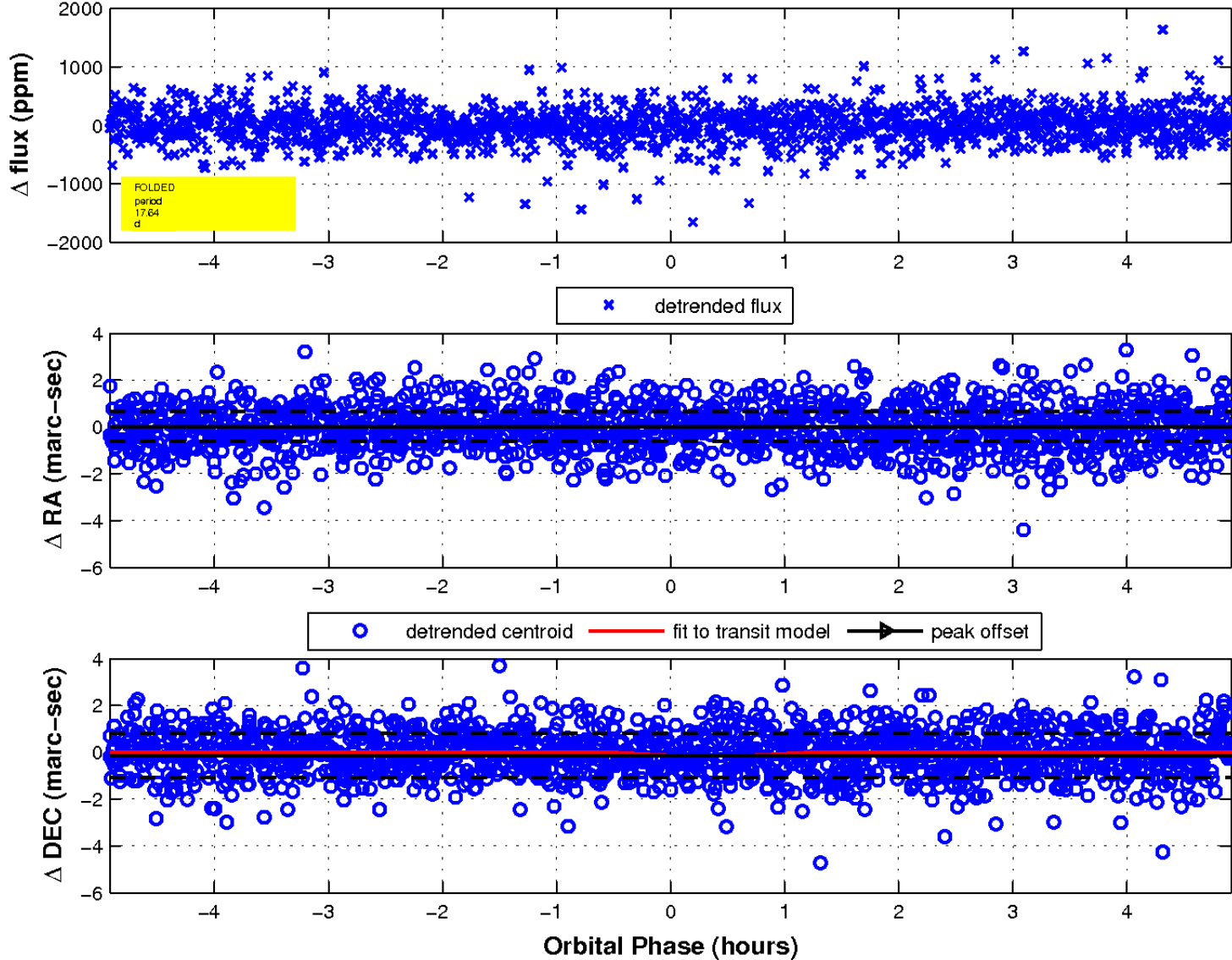
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

