

KIC 011519180

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})
011519180-01	OBS	No	0.744992	131.964278	66.3	2.535	11.2	8.2	1.94	8063	1.86	36802.70
011519180-02	OBS	No	0.745013	132.234688	12.5	3.951	11.9	2.0	1.94	8063	0.71	36801.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011519180-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
011519180-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

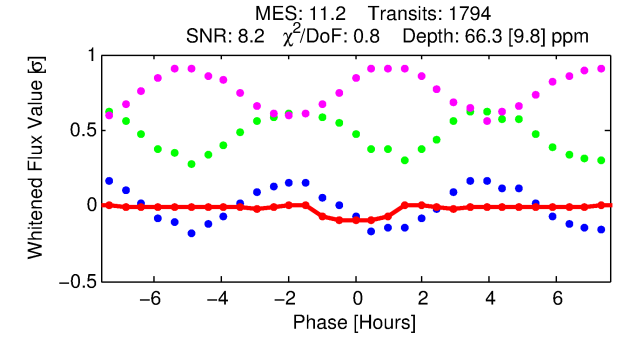
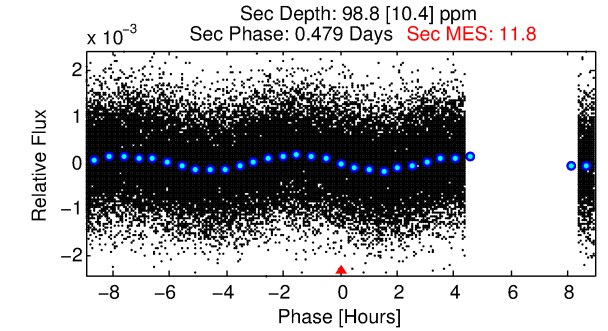
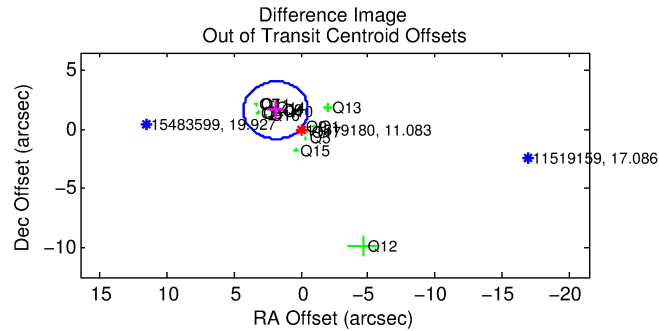
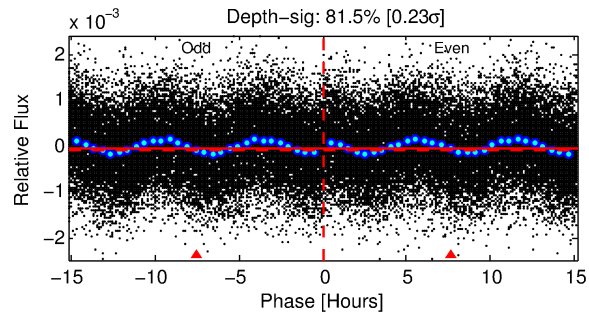
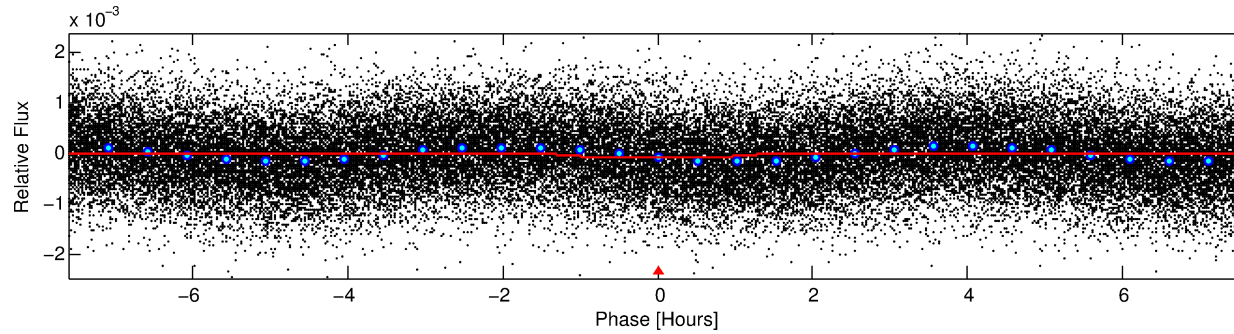
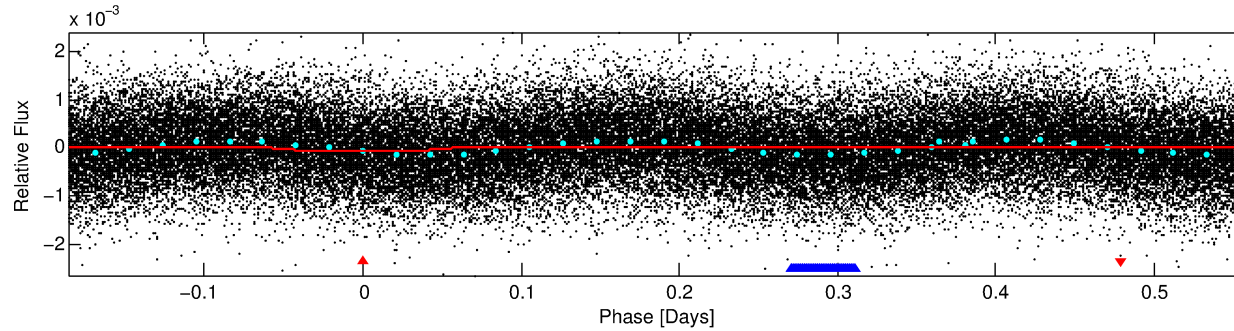
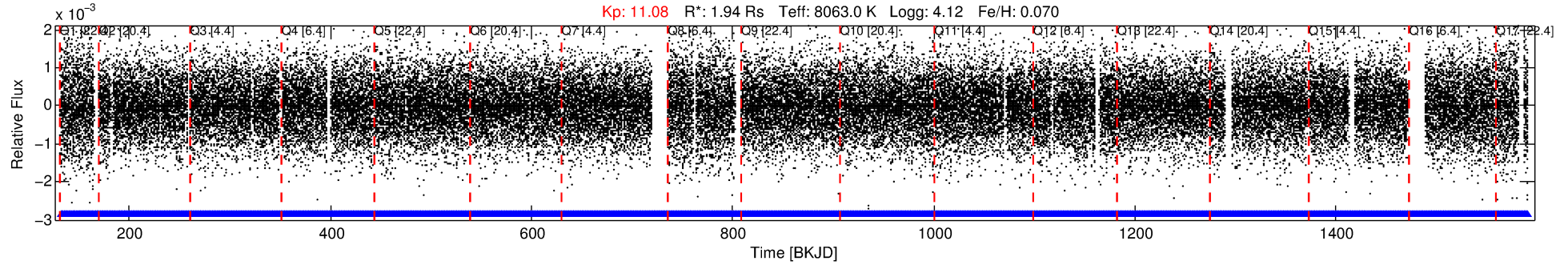
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011519180-01

No Significant Match Found

DV One-Page Summary

KIC: 11519180 Candidate: 1 of 2 Period: 0.745 d



DV Fit Results:

Period = 0.74499 [0.00001] d
Epoch = 131.9643 [0.0036] BKJD
Rp/R* = 0.0088 [0.0048]
a/R* = 1.33 [2.01]
b = 0.92 [0.59]
Seff = 36802.70 [13246.22]
Teq = 3532 [318] K
Rp = 1.86 [1.12] Re
a = 0.0197 [0.0043] AU
Ag = 6.06 [6.86] [0.74σ]
Teffp = 8568 [2361] K [2.11σ]

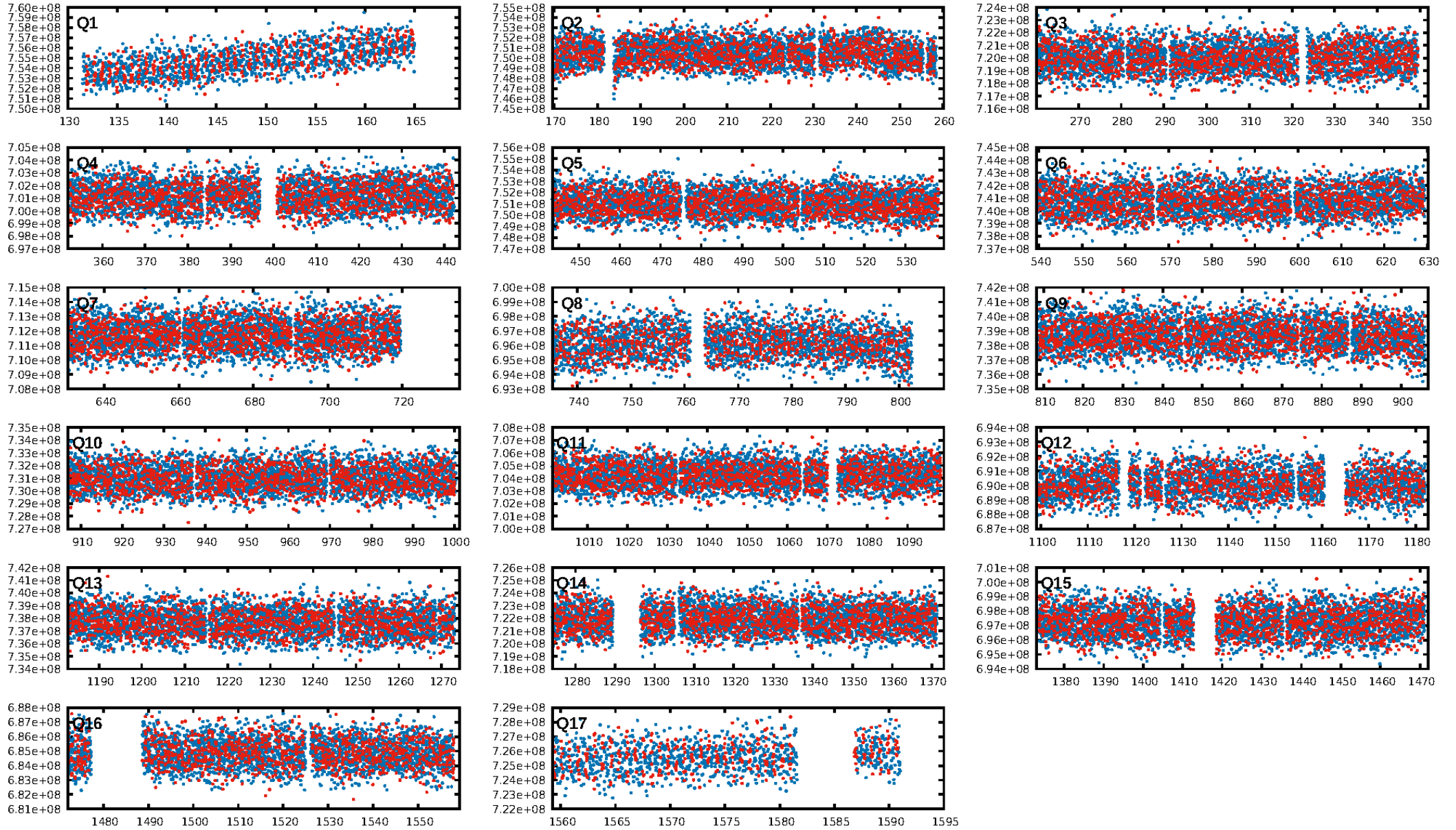
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.84e-30
RollingBand-fgt: 1.00 [1713/1713]
GhostDiagnostic-chr: 0.6454
Centroid-sig: 0.6%
Centroid-so: 0.652 arcsec [2.42σ]
OotOffset-rm: 2.482 arcsec [3.06σ]
KicOffset-rm: 2.547 arcsec [3.21σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.65 [11/17]
DiffImageOverlap-fno: 0.00 [0/17]

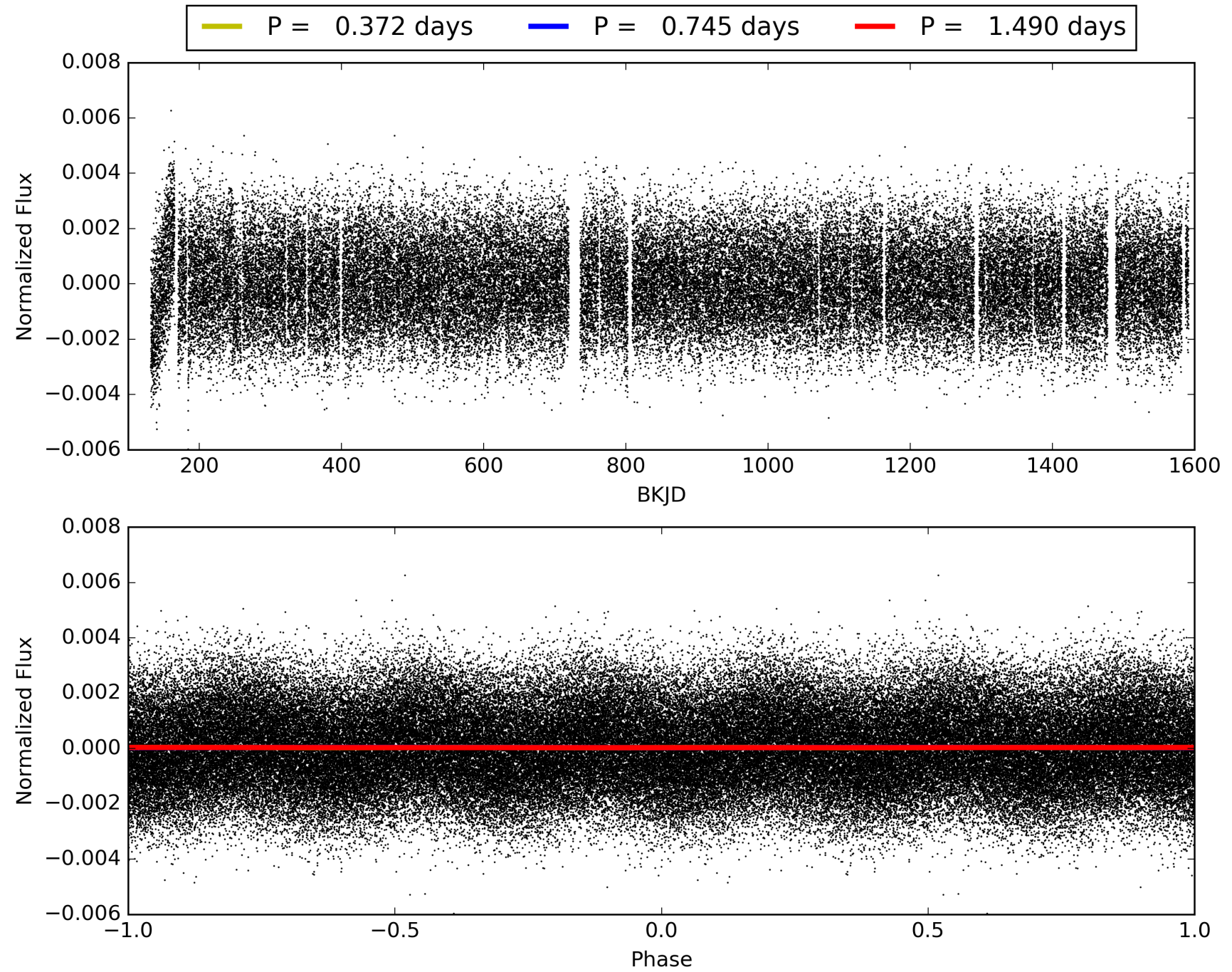
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:26:10 Z

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

TCE 011519180-01, PDC Light Curves

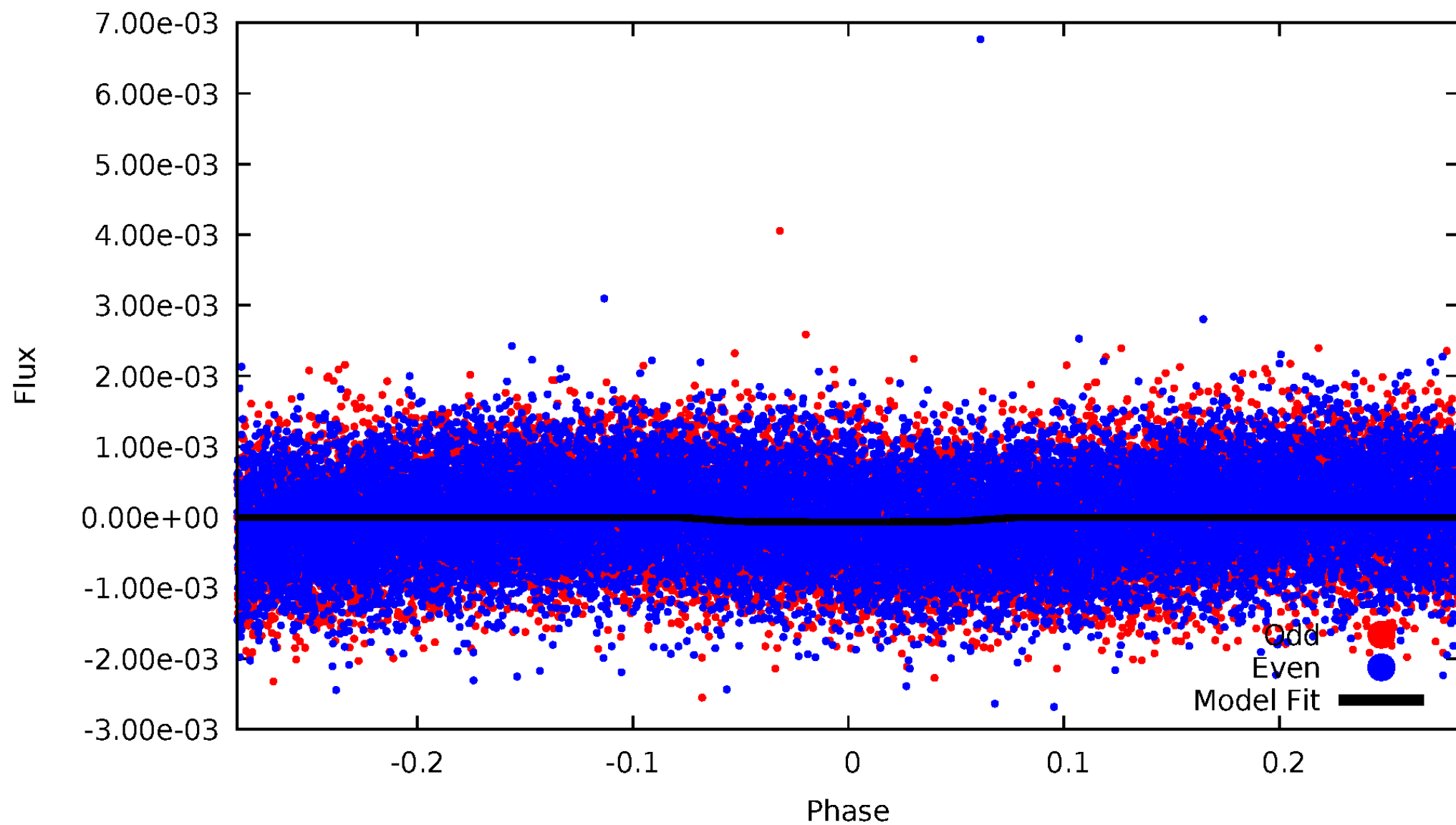


TCE 011519180-01



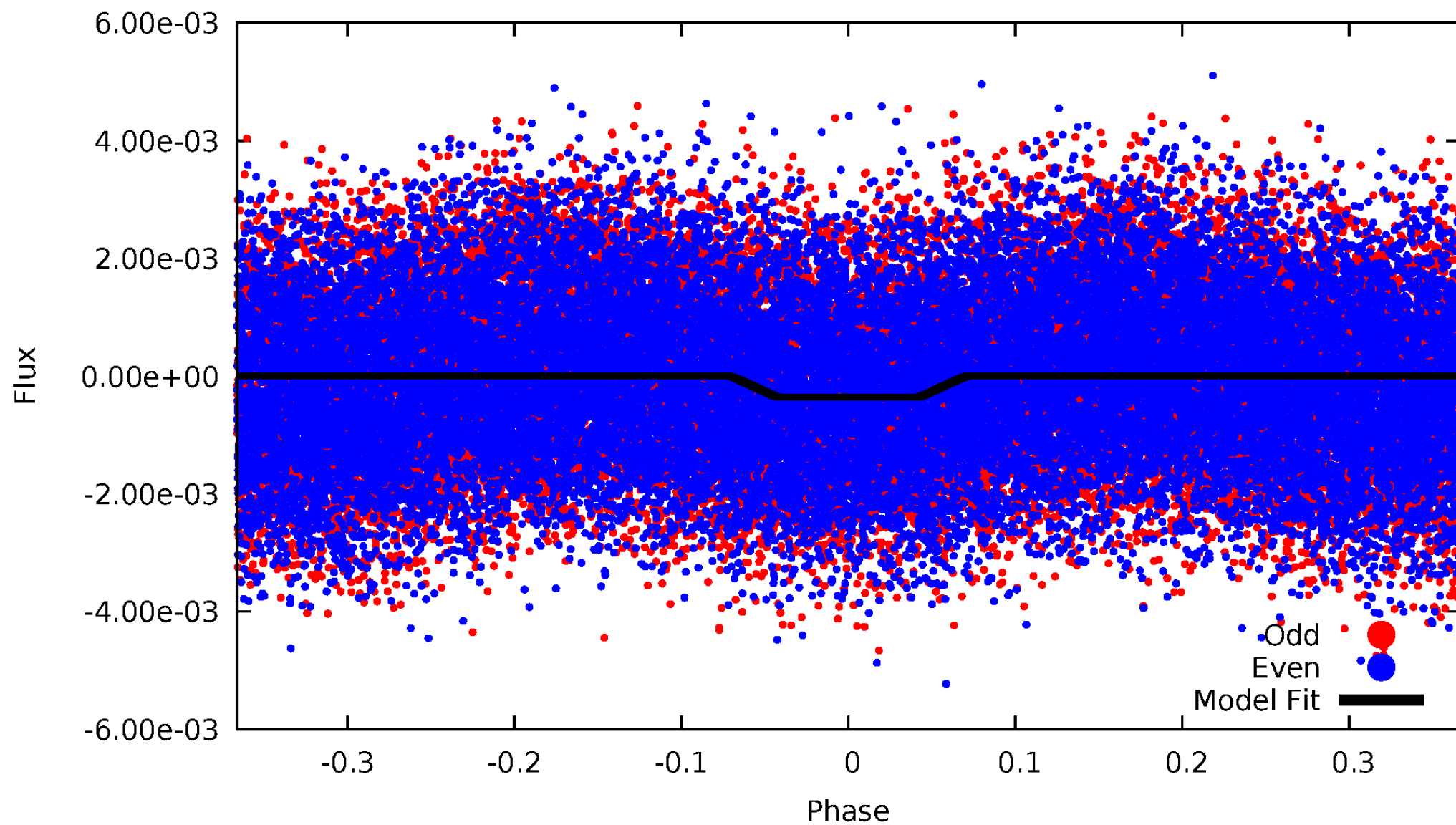
DV Odd/Even

TCE 011519180-01



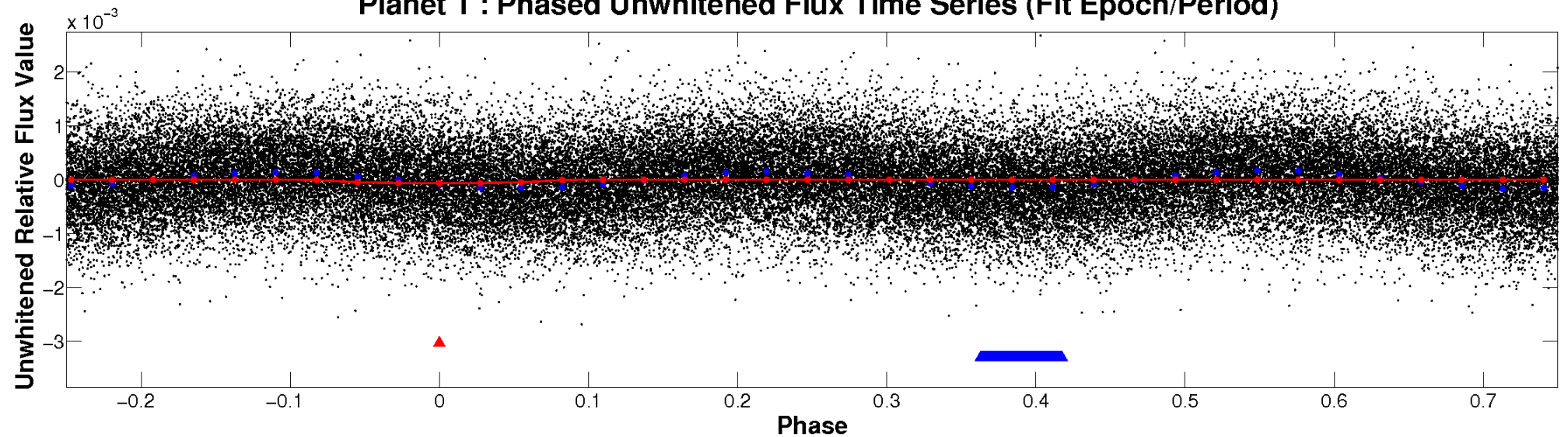
ALT Odd/Even

TCE 011519180-01

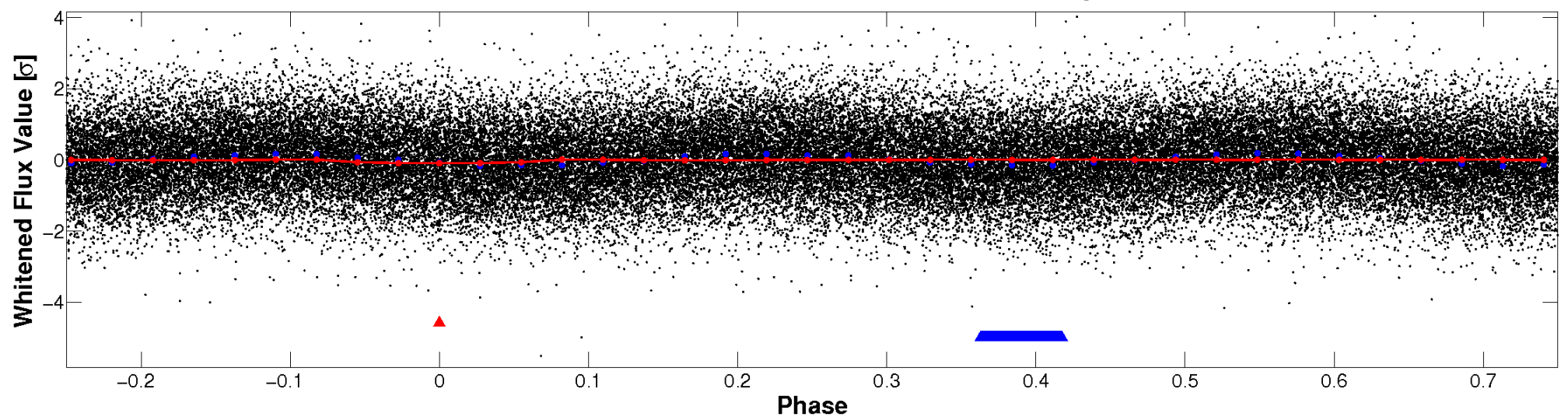


Non-Whitened Vs. Whitened Light Curve

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

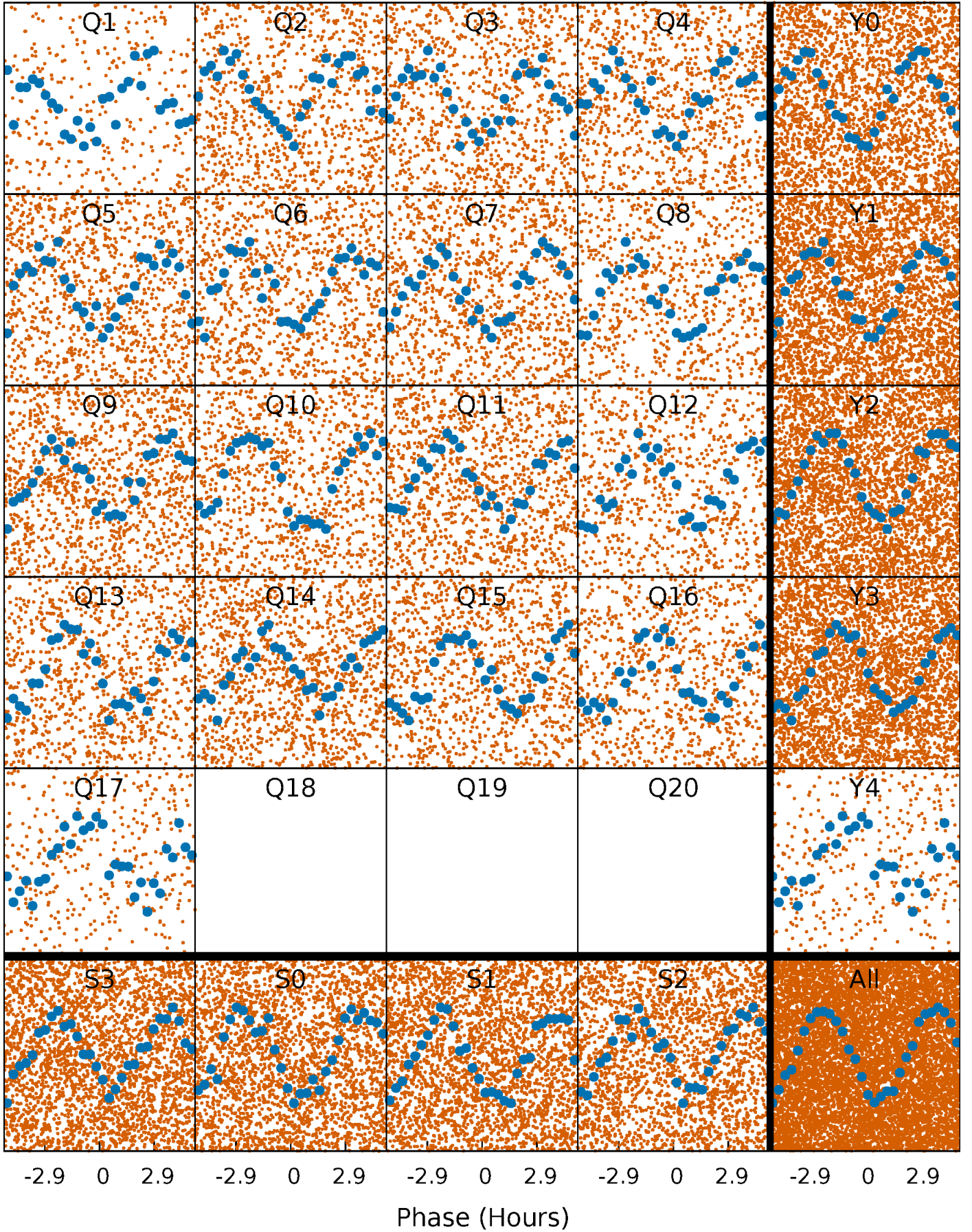


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



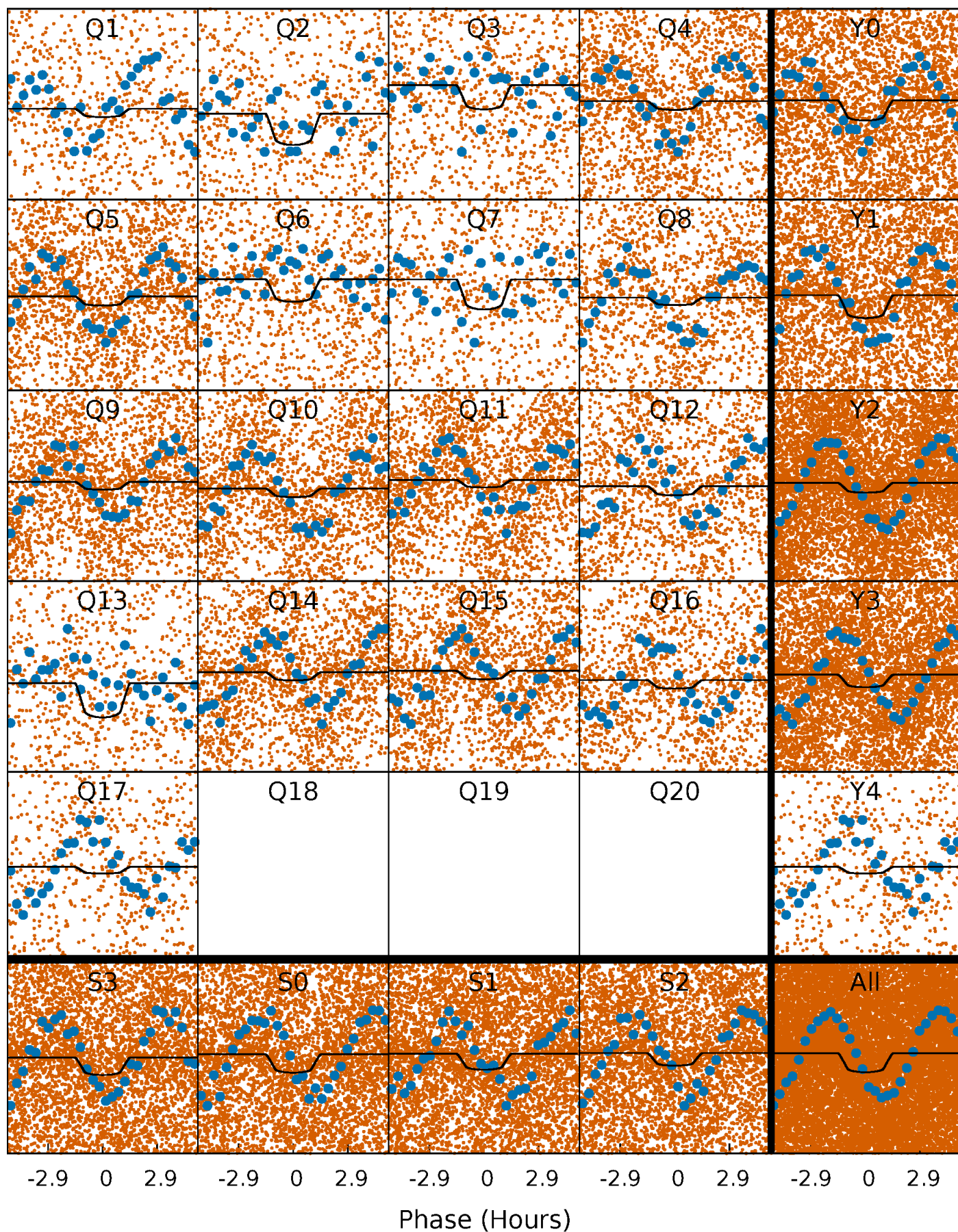
PDC Quarter-Phased Transit Curves

TCE 011519180-01 P= 0.744992 Days $T_0=131.964278$ (BKJD)



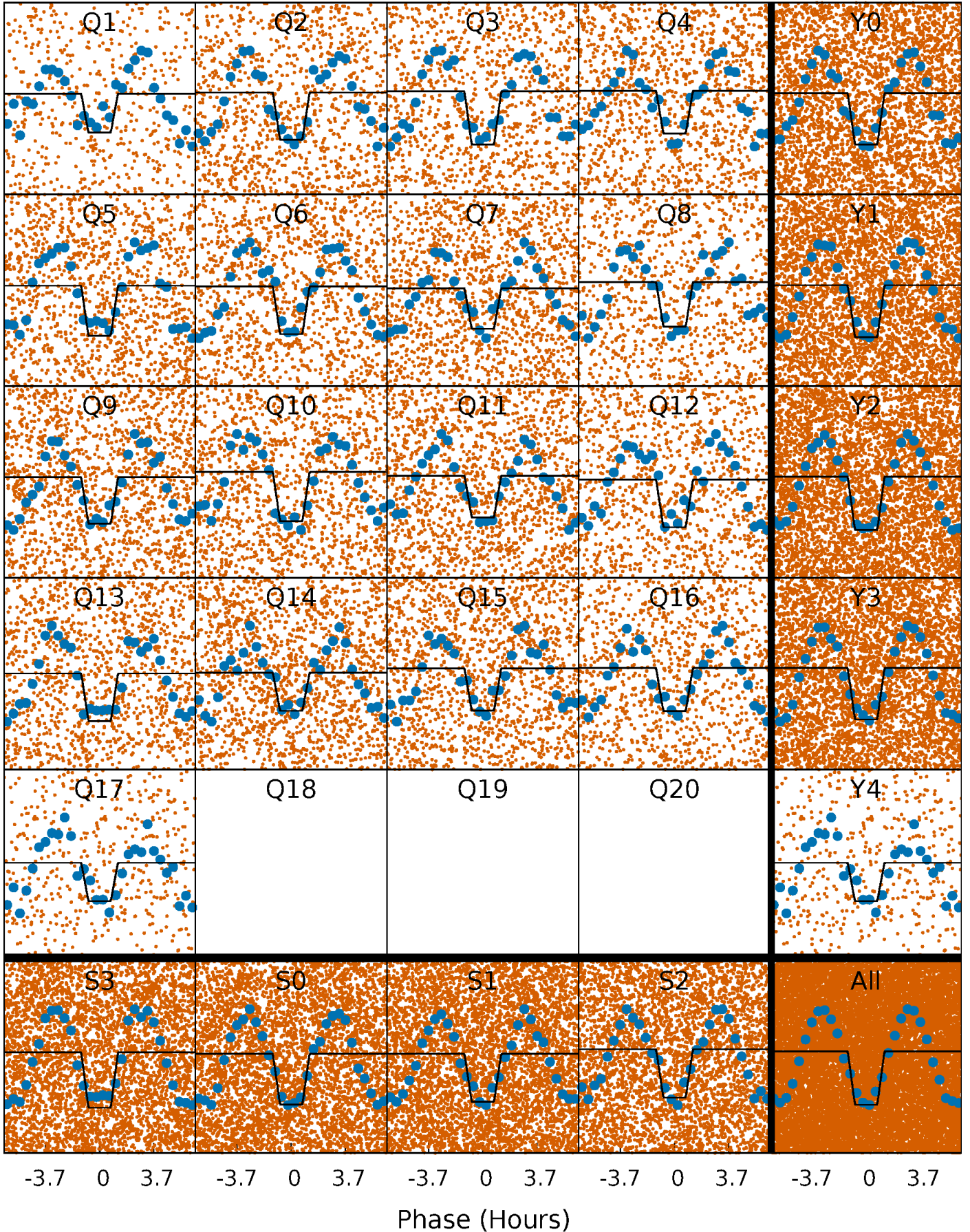
DV Quarter-Phased Transit Curves

TCE 011519180-01 P= 0.744992 Days $T_0=131.964278$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

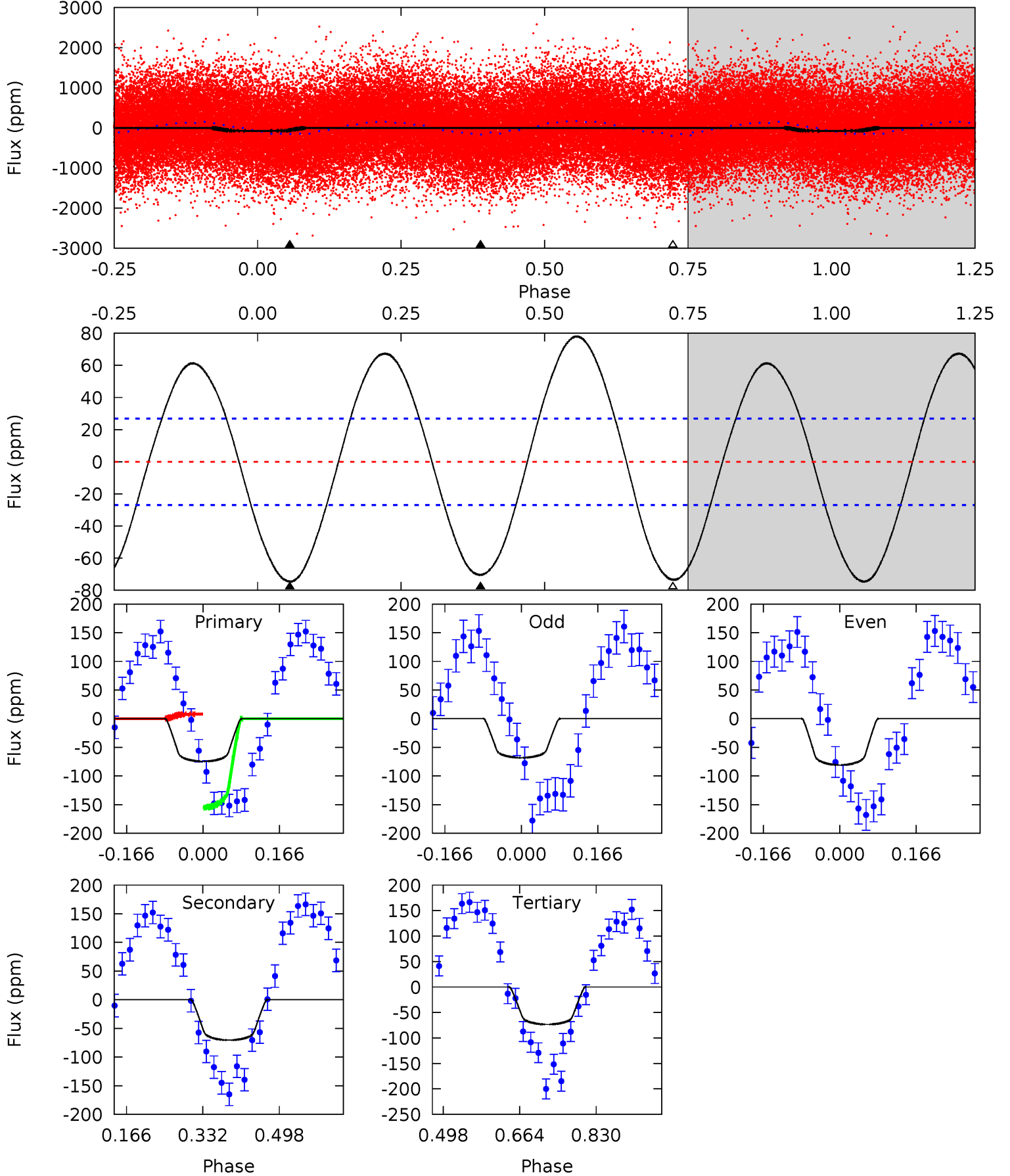
TCE 011519180-01 P= 0.745046 Days $T_0=131.944169$ (BKJD)



DV Model-Shift Uniqueness Test

011519180-01, P = 0.744992 Days, E = 131.219286 Days

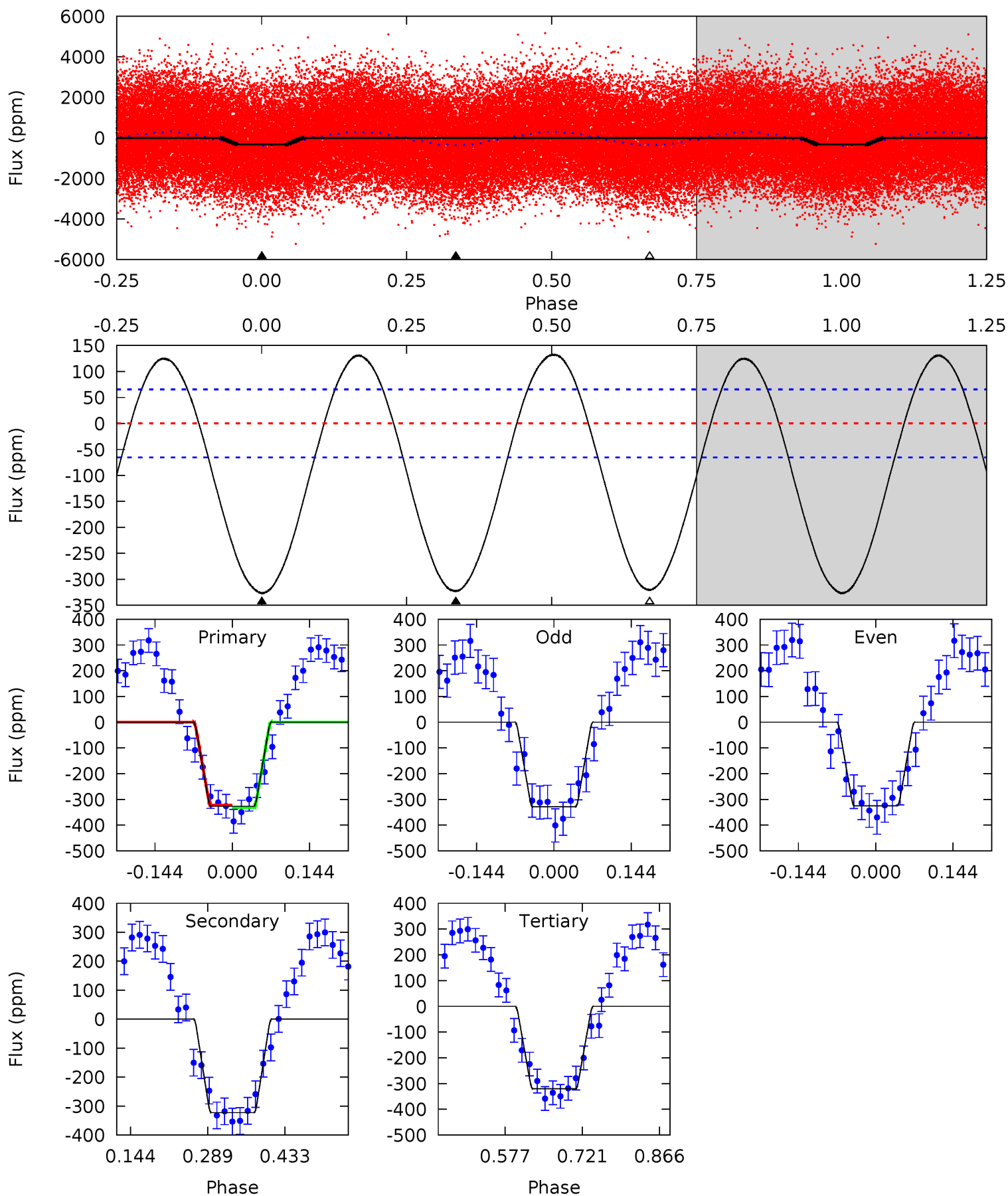
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	11.7	12.2	0	4.46	1.39	8.46	0.20	12.4	-0.49	11.7	1.05	1.18	0.51	12.1



Alt Model-Shift Uniqueness Test

011519180-01, P = 0.745046 Days, E = 131.199123 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	22.1	22.0	0	4.49	1.46	11.4	0.42	22.4	0.14	22.1	0.13	1.01	0.29	0.32



Stellar Parameters For KIC 011519180

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8063^{+221}_{-359}	$4.125^{+0.112}_{-0.168}$	$0.070^{+0.250}_{-0.450}$	$1.940^{+0.515}_{-0.343}$	$1.829^{+0.195}_{-0.316}$	$0.353^{+0.216}_{-0.156}$
	+3%/-4%	+3%/-4%	+357%/-643%	+27%/-18%	+11%/-17%	+61%/-44%
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 011519180-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-70 ± 6	$1.88^{+1.10}_{-0.94}$	4935^{+338}_{-295}	7575^{+5155}_{-1734}	$4.129^{+12.404}_{-2.478}$
Alt.	-323 ± 15	$4.00^{+1.18}_{-0.97}$	4934^{+348}_{-284}	7594^{+1556}_{-985}	$4.199^{+3.088}_{-1.696}$

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 $A_{obs} \gg 1.0$

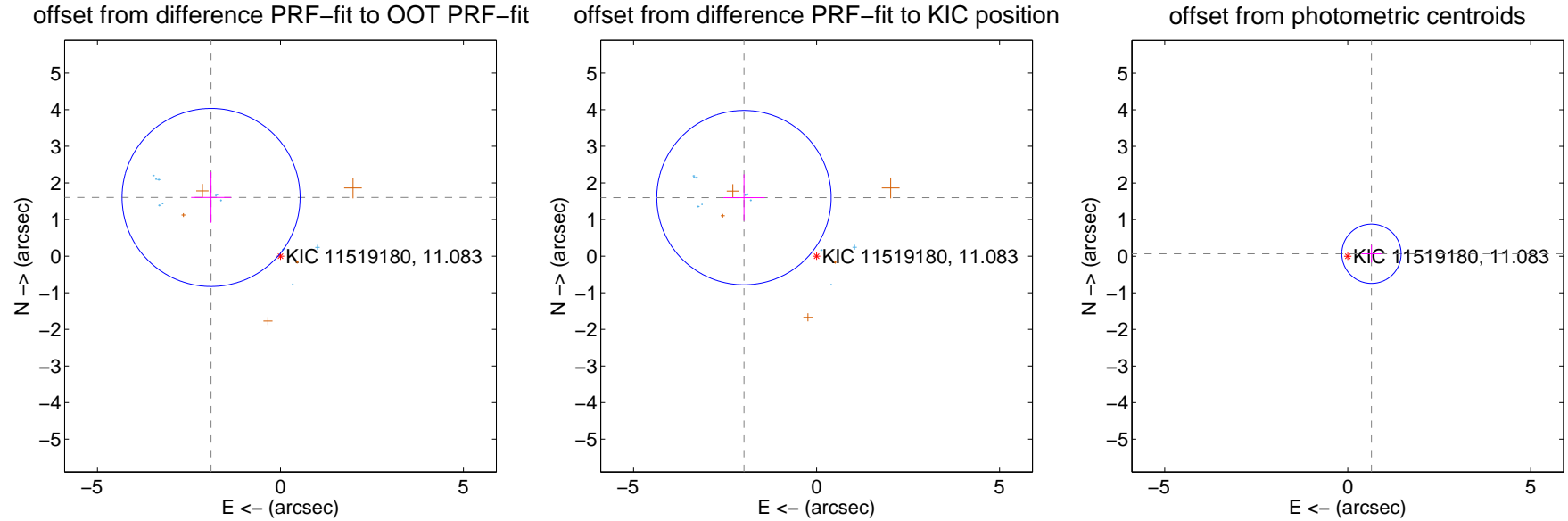
DV Centroid Data

Supplemental centroid analysis for 011519180-01. **Kepler magnitude: 11.08.** Transit SNR 8.19

There are 11 quarters with good PRF difference image offsets

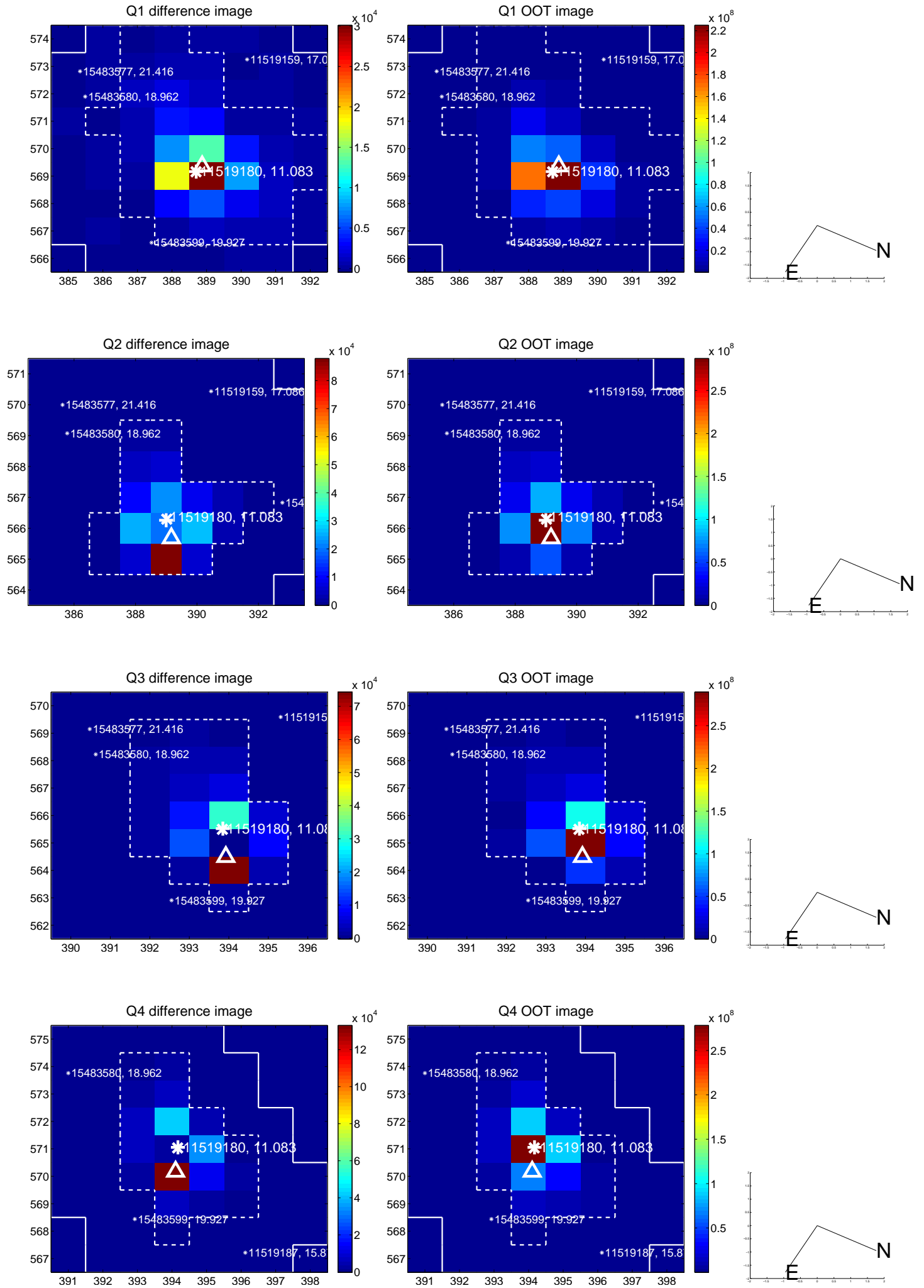
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.482 ± 0.810	3.06	1.895 ± 0.545	1.602 ± 0.692
PRF-fit source offset from KIC position	2.547 ± 0.794	3.21	1.983 ± 0.566	1.598 ± 0.634
photometric centroid source offset	0.65 ± 0.27	2.42	-0.65 ± 0.27	0.07 ± 0.24

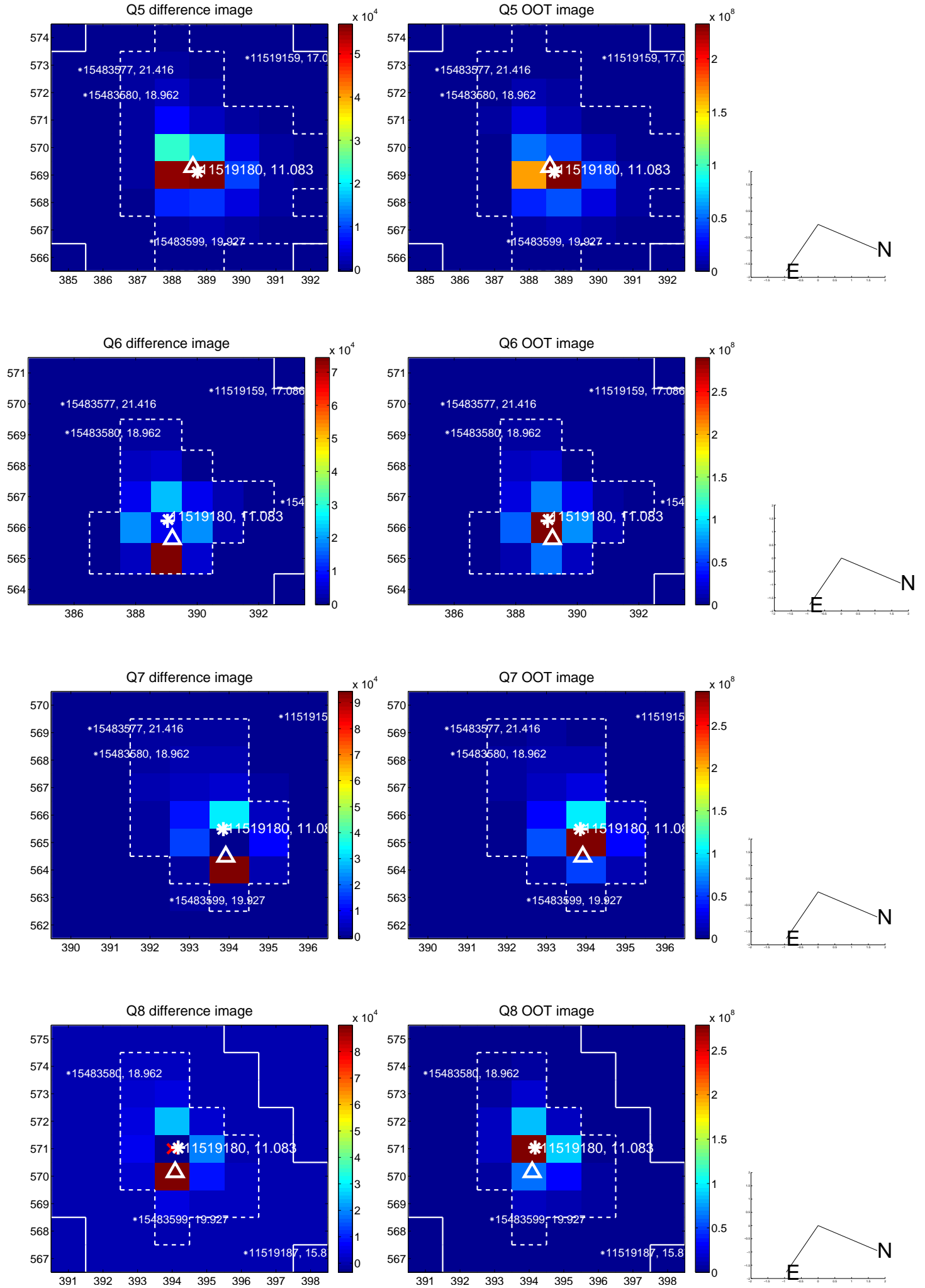


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

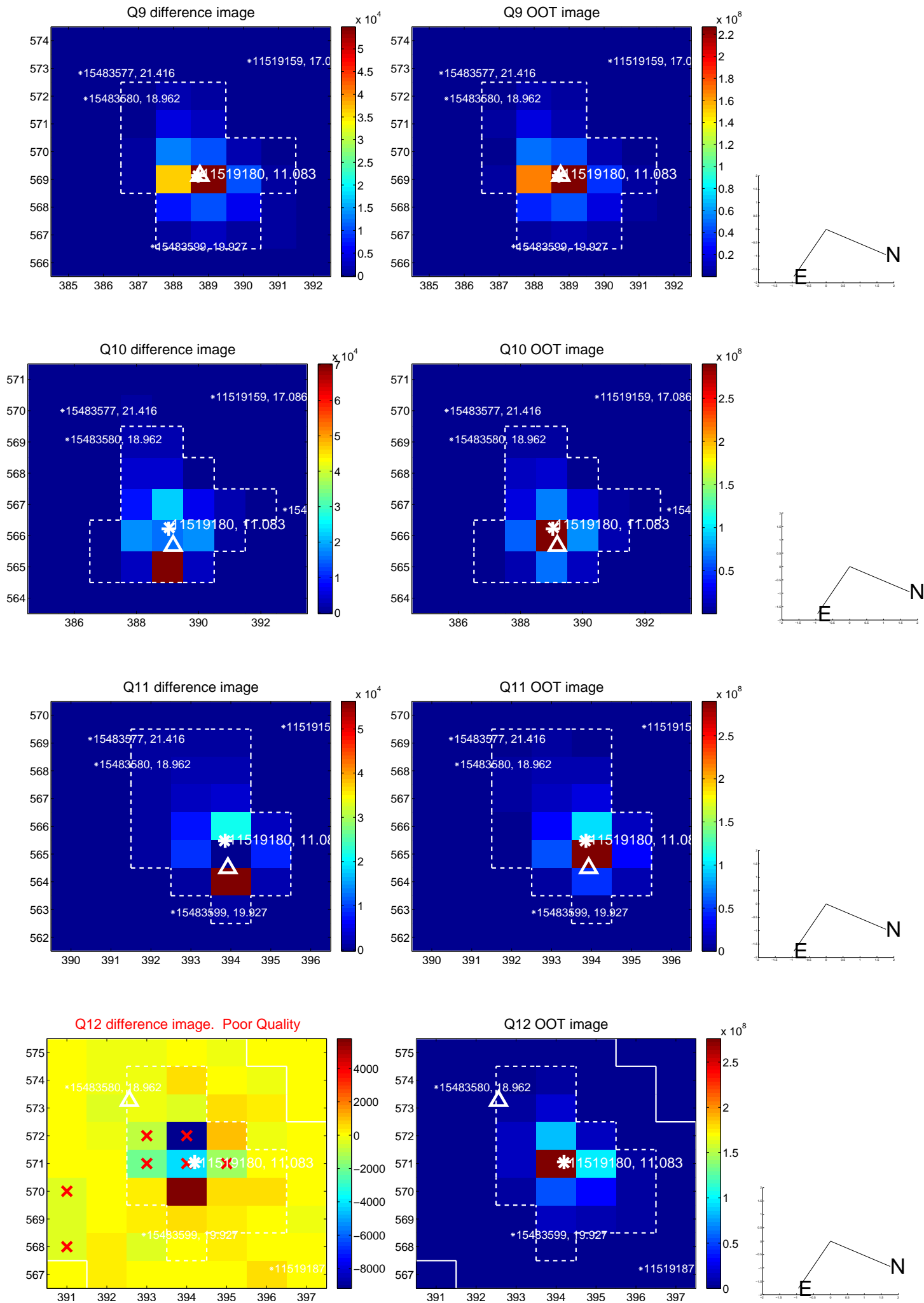
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



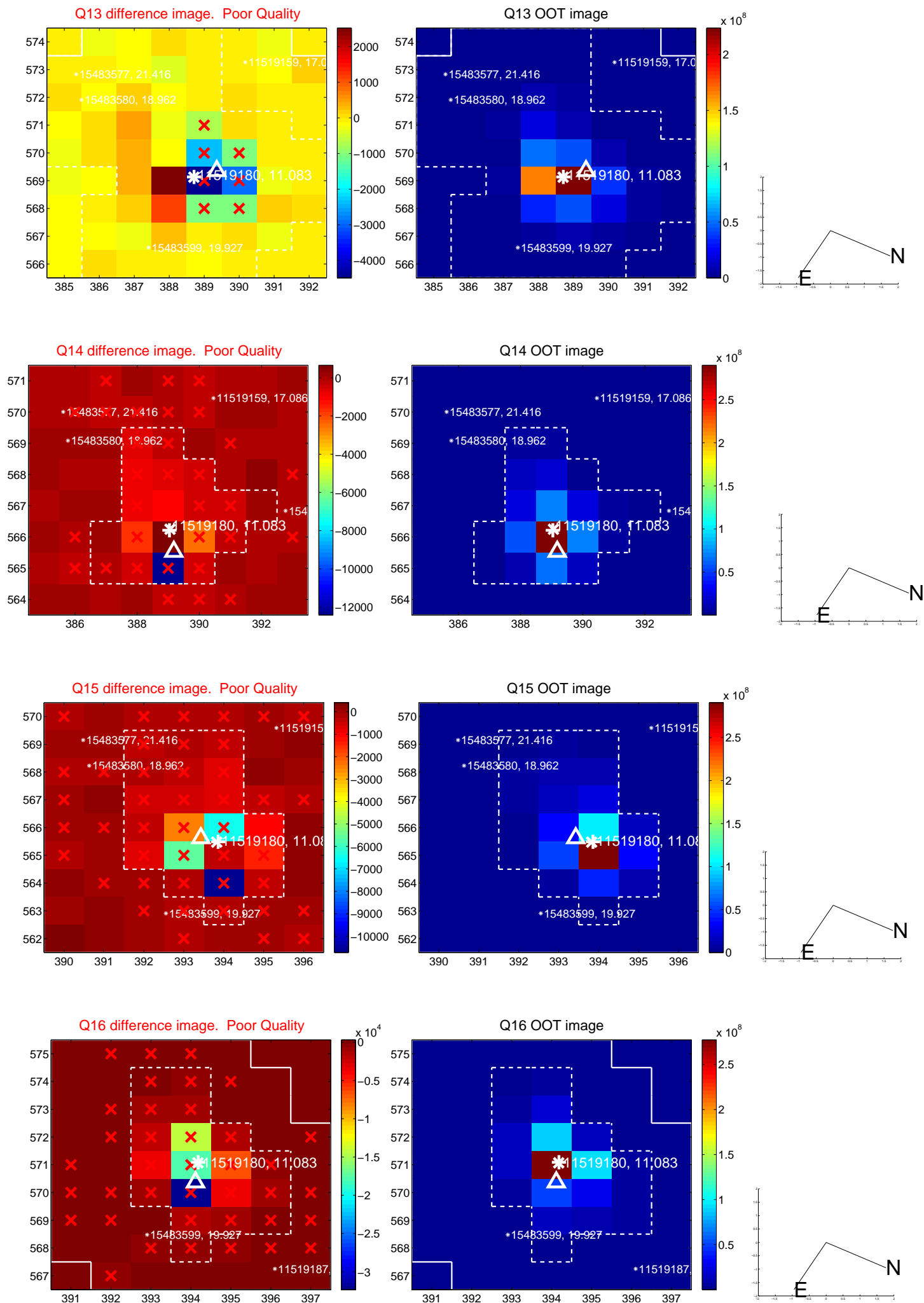
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



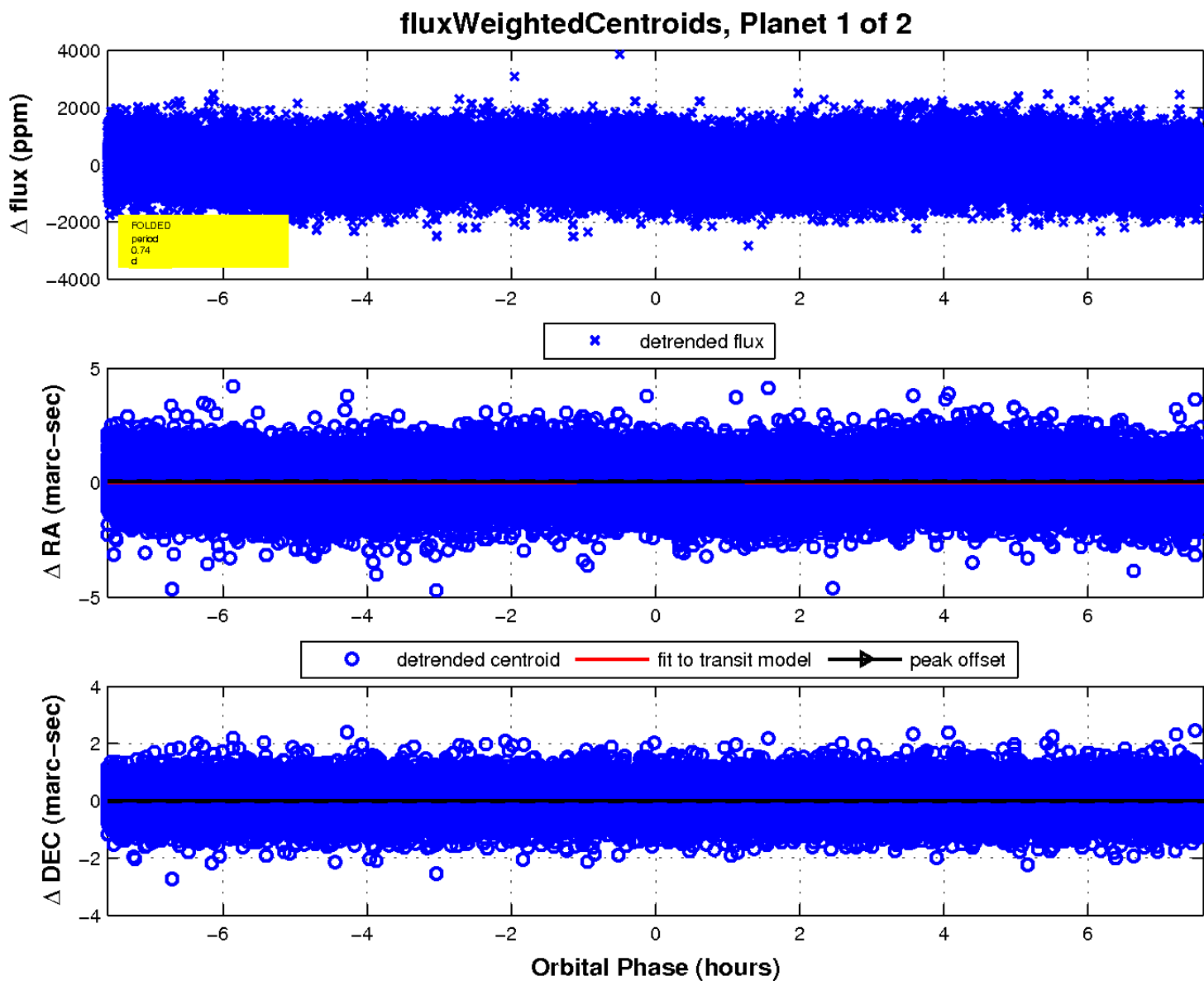
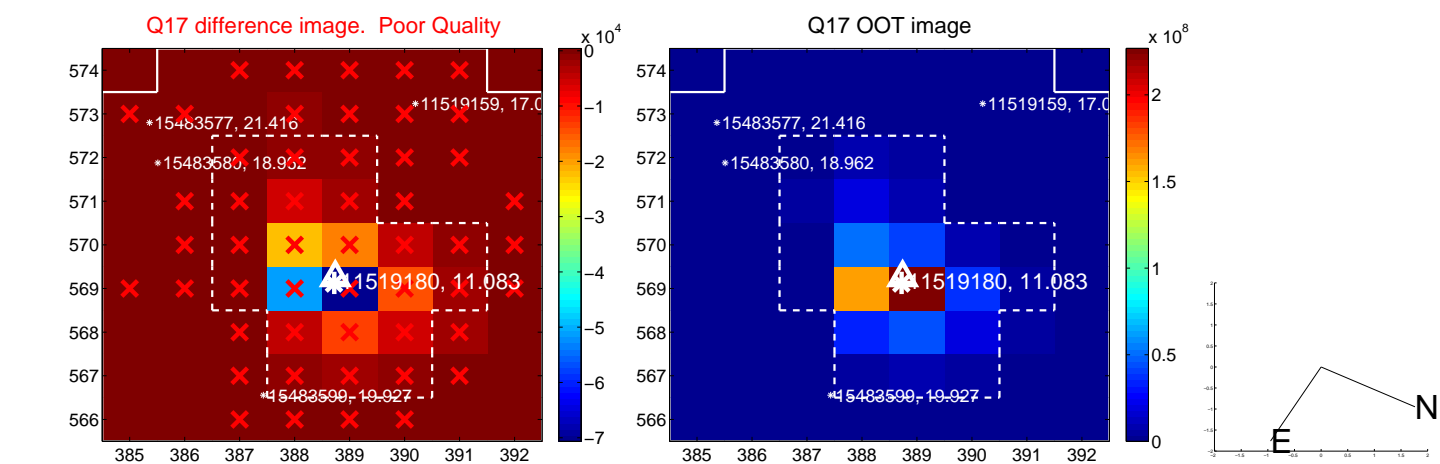
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

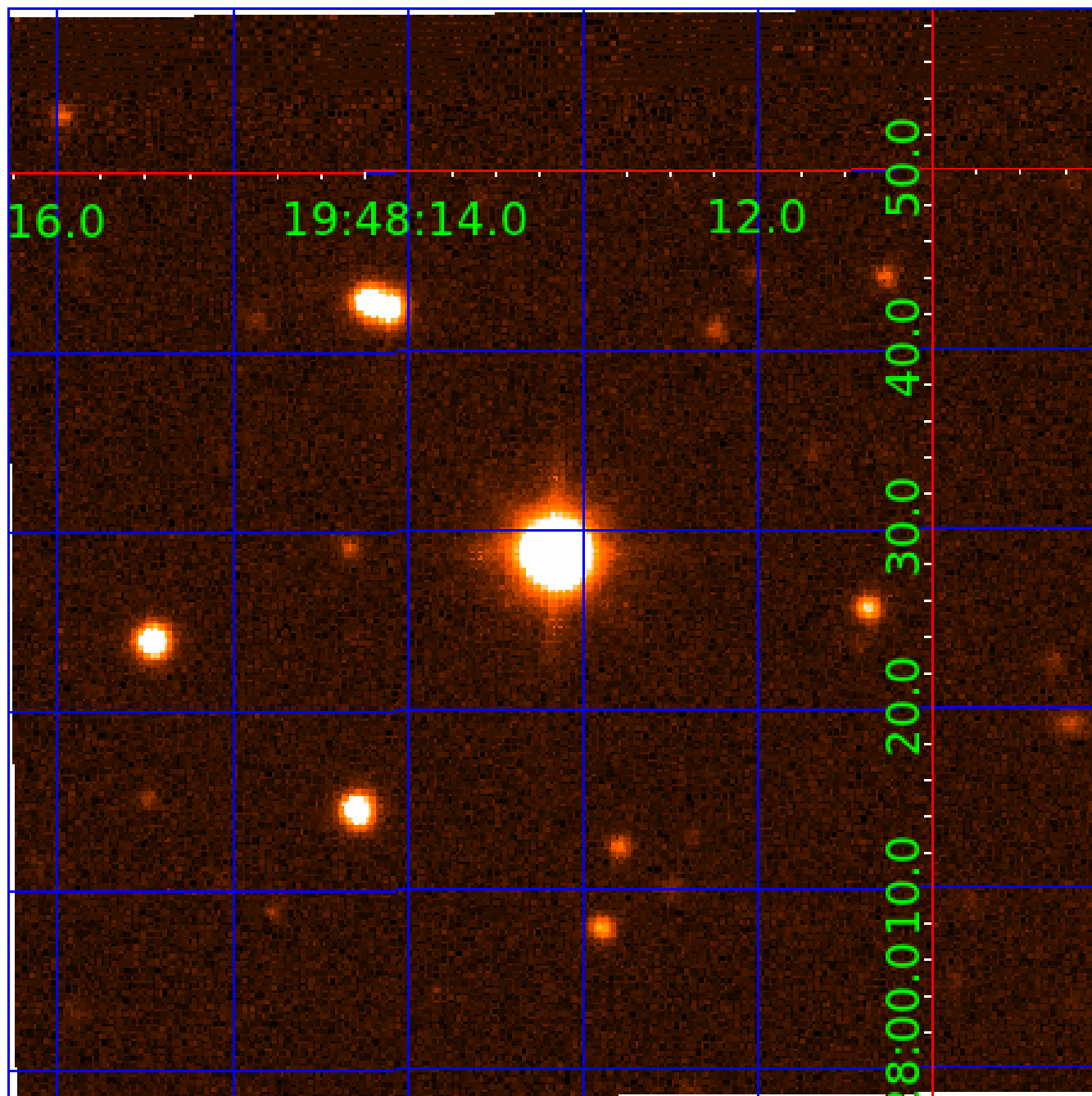


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011519180

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})
011519180-01	OBS	No	0.744992	131.964278	66.3	2.535	11.2	8.2	1.94	8063	1.86	36802.70
011519180-02	OBS	No	0.745013	132.234688	12.5	3.951	11.9	2.0	1.94	8063	0.71	36801.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011519180-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
011519180-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

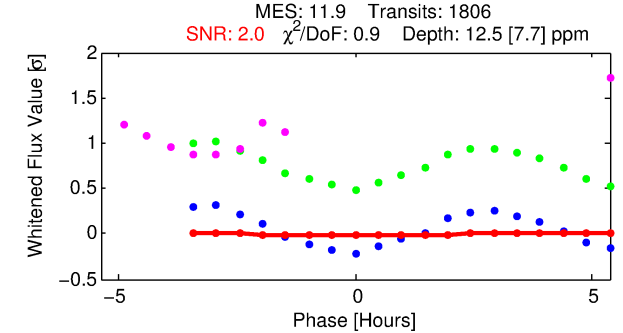
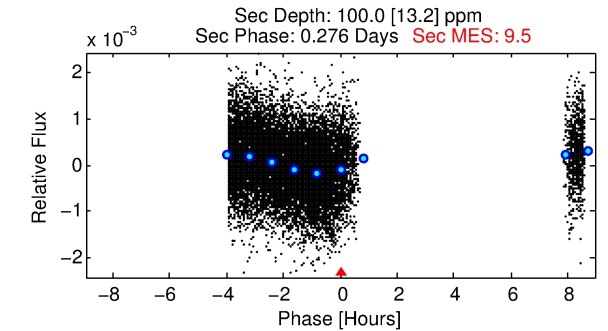
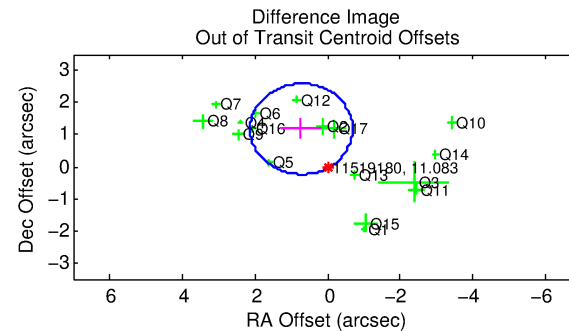
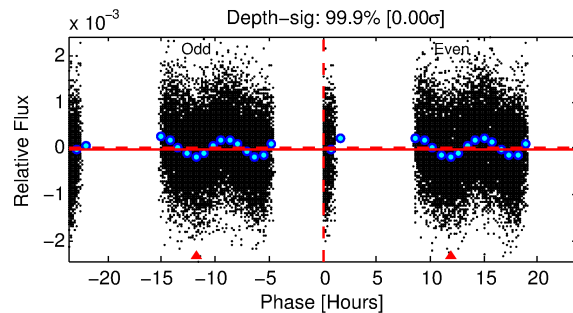
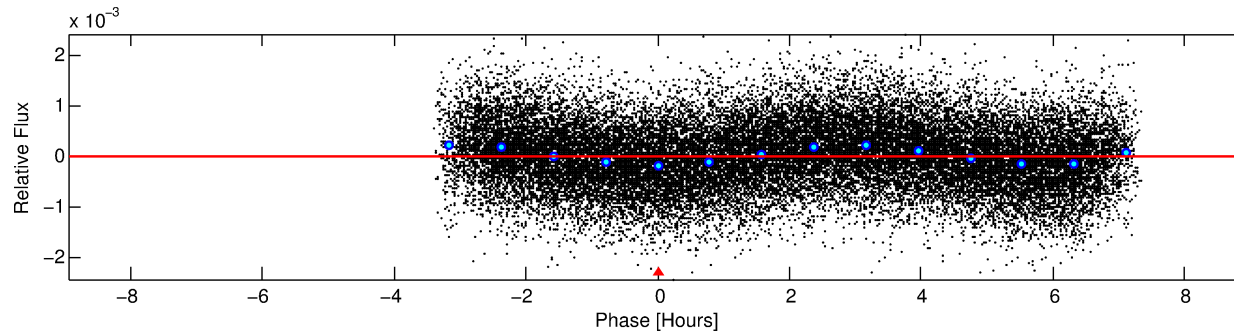
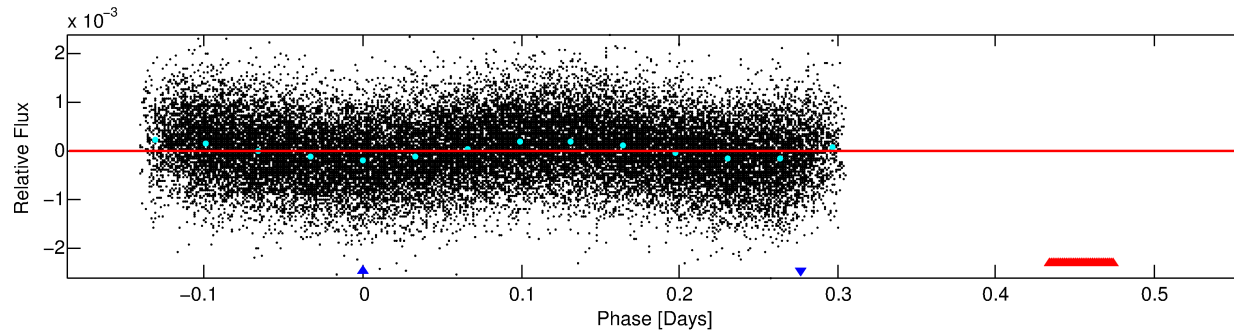
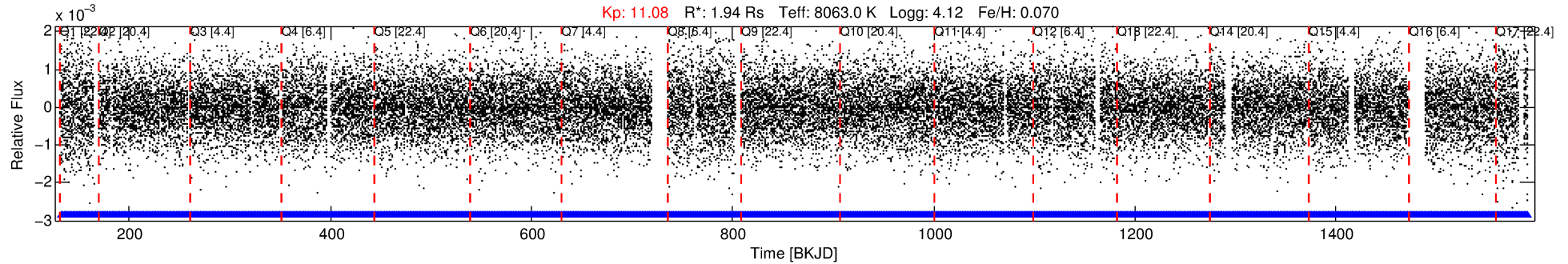
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011519180-02

No Significant Match Found

DV One-Page Summary

KIC: 11519180 Candidate: 2 of 2 Period: 0.745 d



DV Fit Results:

Period = 0.74501 [0.00006] d
Epoch = 132.2347 [0.0214] BKJD
Rp/R* = 0.0034 [0.0052]
a/R* = 1.45 [6.88]
b = 0.50 [13.57]
Seff = 36801.33 [13245.73]
Teq = 3532 [318] K
Rp = 0.71 [1.12] Re
a = 0.0197 [0.0043] AU
Ag = 41.86 [129.95] [0.31σ]
Teffp = 13889 [10743] K [0.96σ]

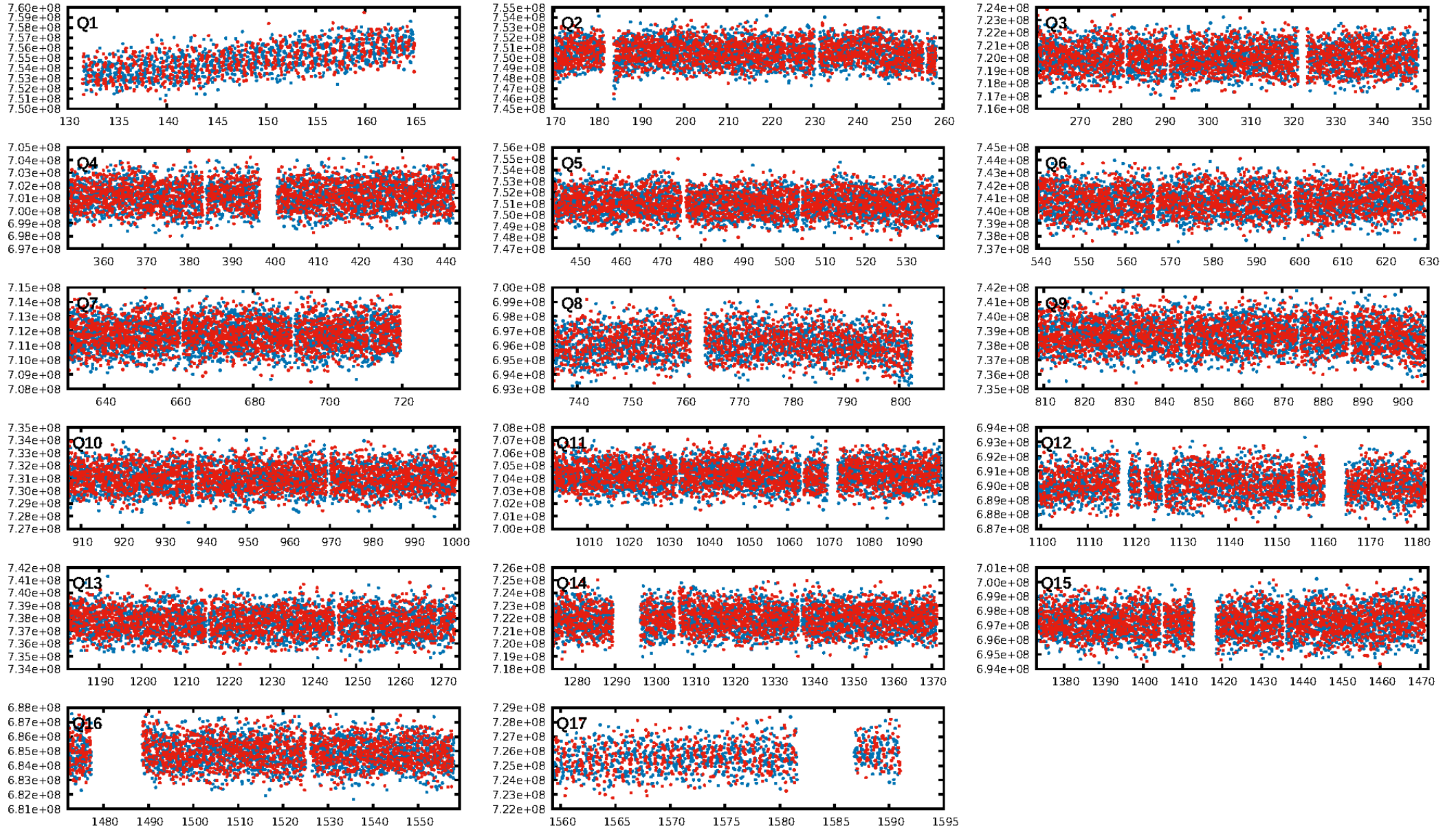
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.48e-34
RollingBand-fgt: 1.00 [1724/1724]
GhostDiagnostic-chr: 0.25
Centroid-sig: 2.0%
Centroid-so: 1.768 arcsec [1.63σ]
OotOffset-rm: 1.379 arcsec [2.93σ]
KicOffset-rm: 1.373 arcsec [2.99σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 0.00 [0/17]

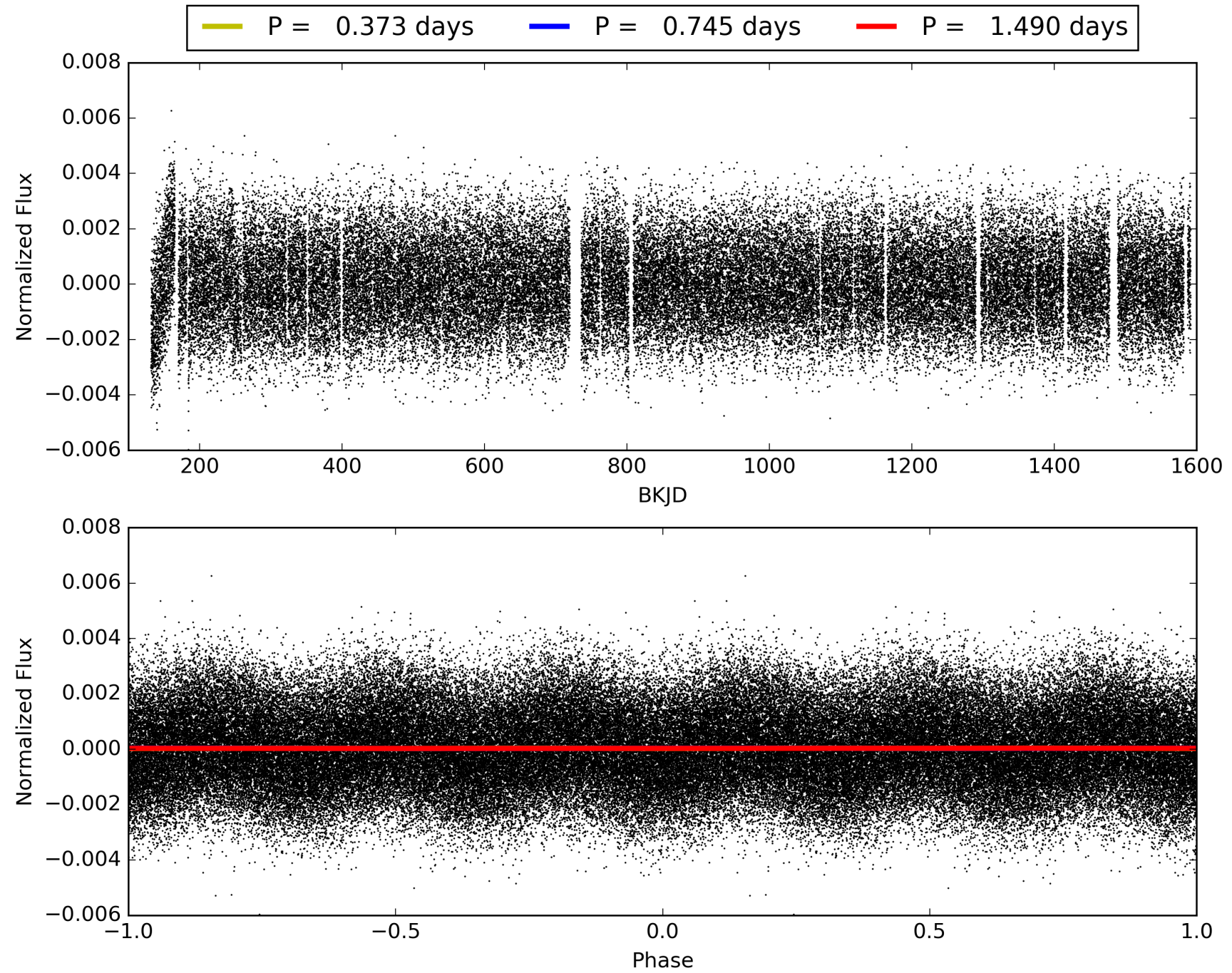
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:26:24 Z

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

TCE 011519180-02, PDC Light Curves

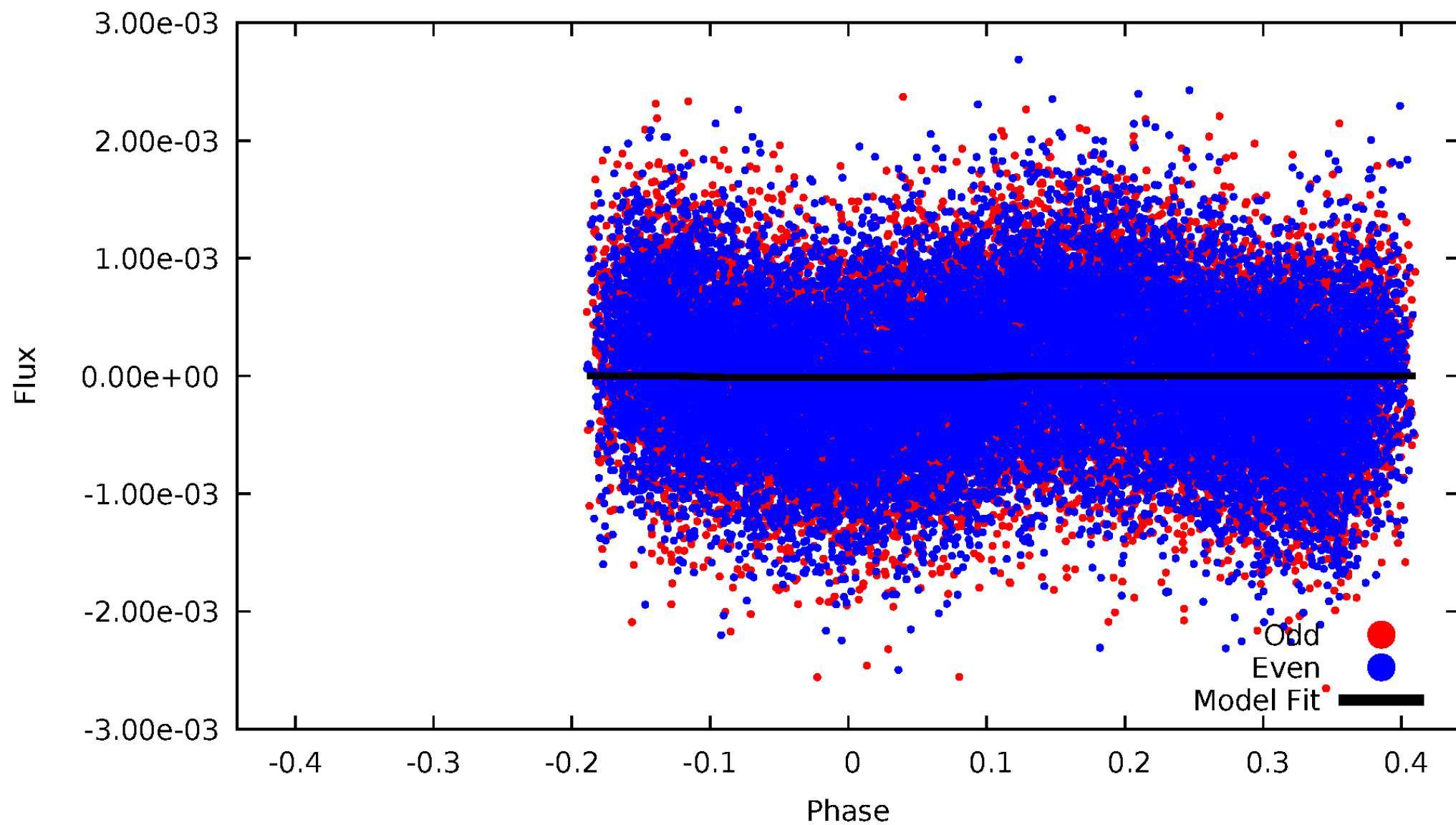


TCE 011519180-02



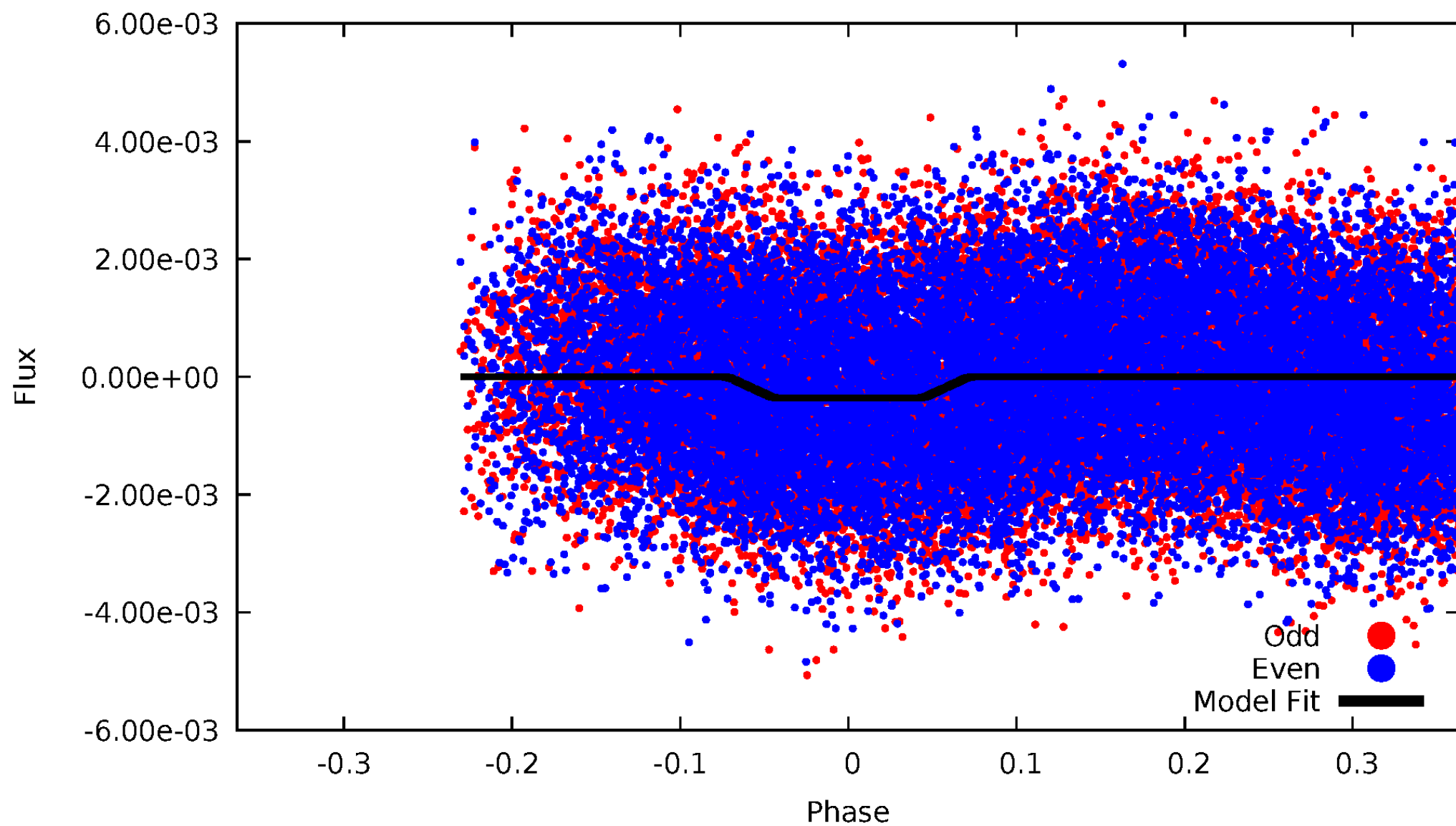
DV Odd/Even

TCE 011519180-02



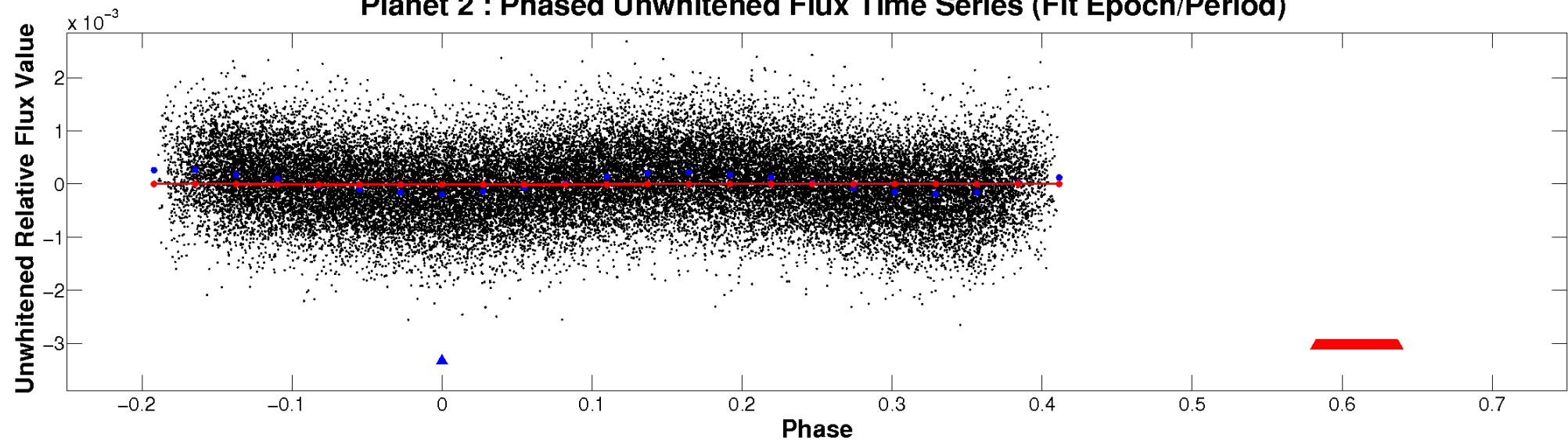
ALT Odd/Even

TCE 011519180-02

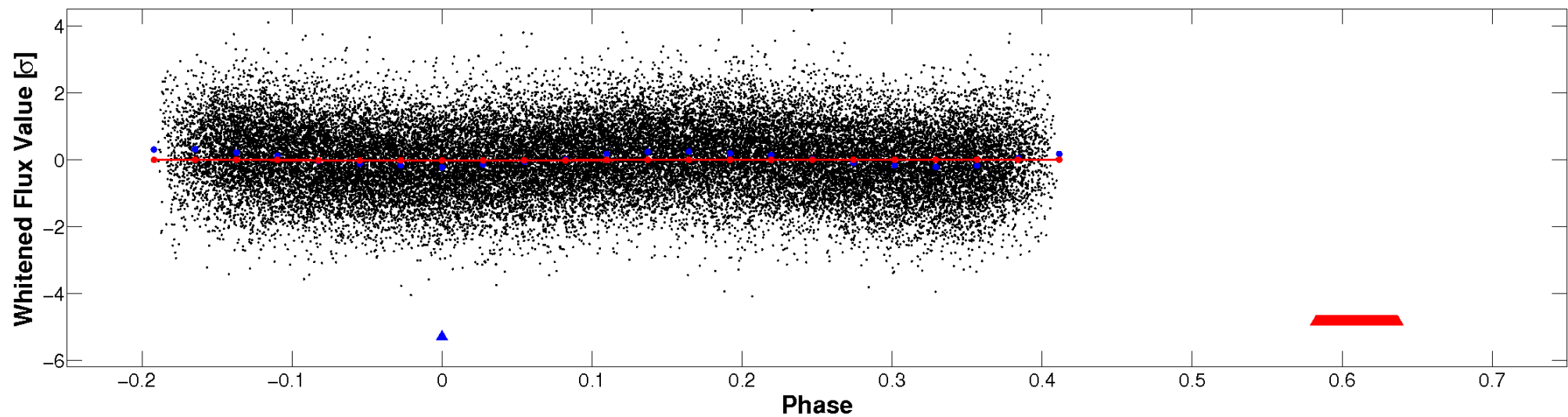


Non-Whitened Vs. Whitened Light Curve

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

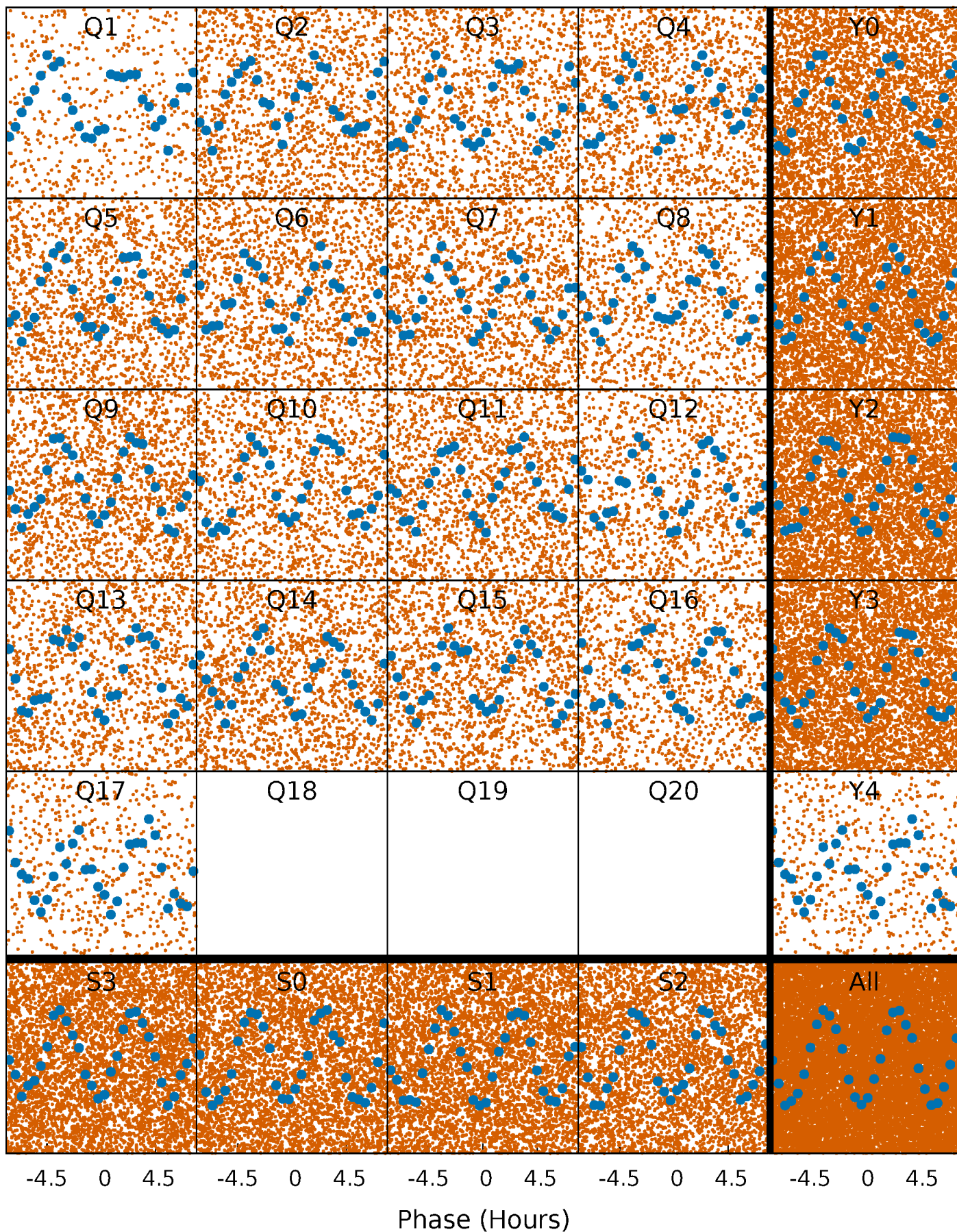


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



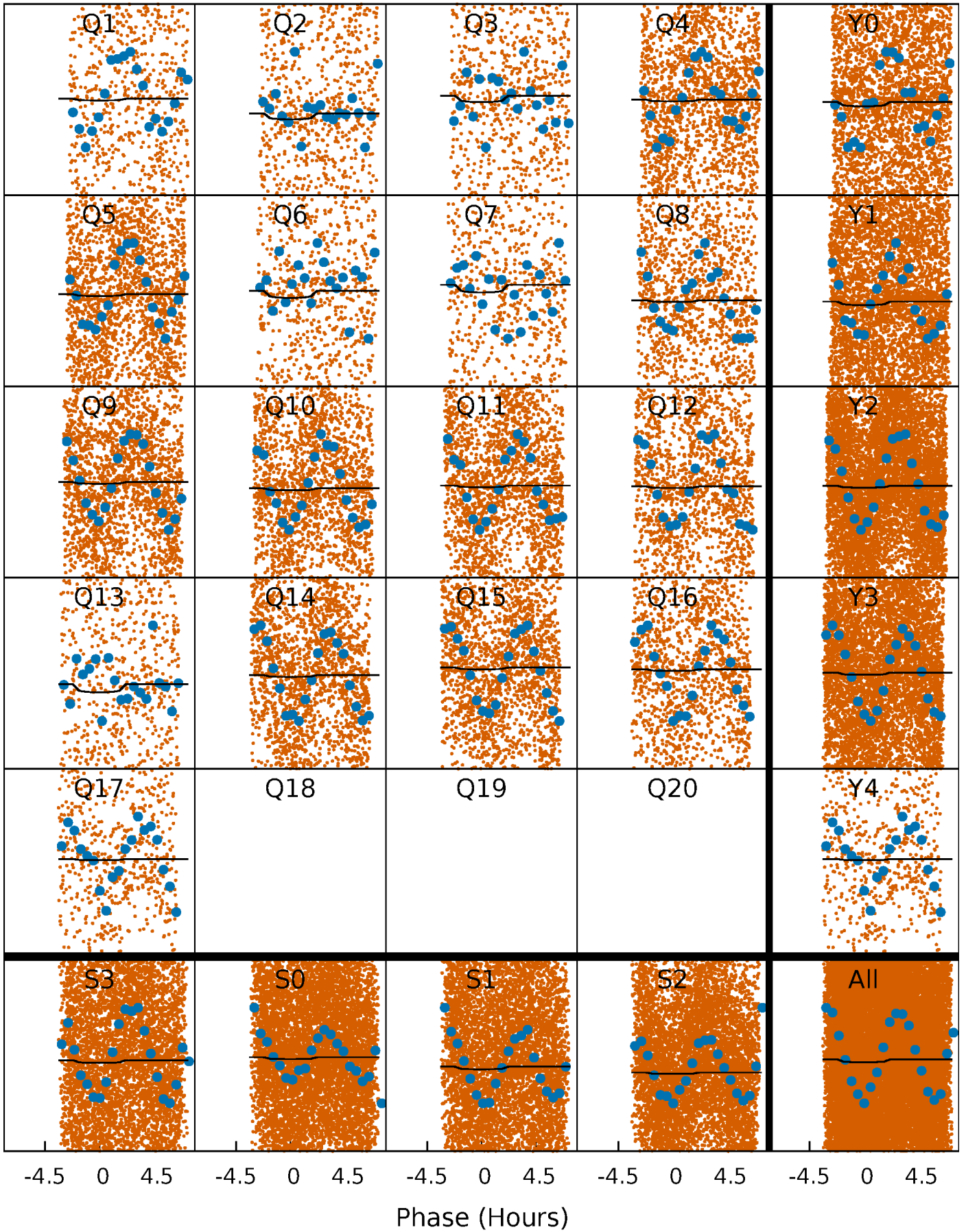
PDC Quarter-Phased Transit Curves

TCE 011519180-02 P= 0.745013 Days $T_0=132.234688$ (BKJD)



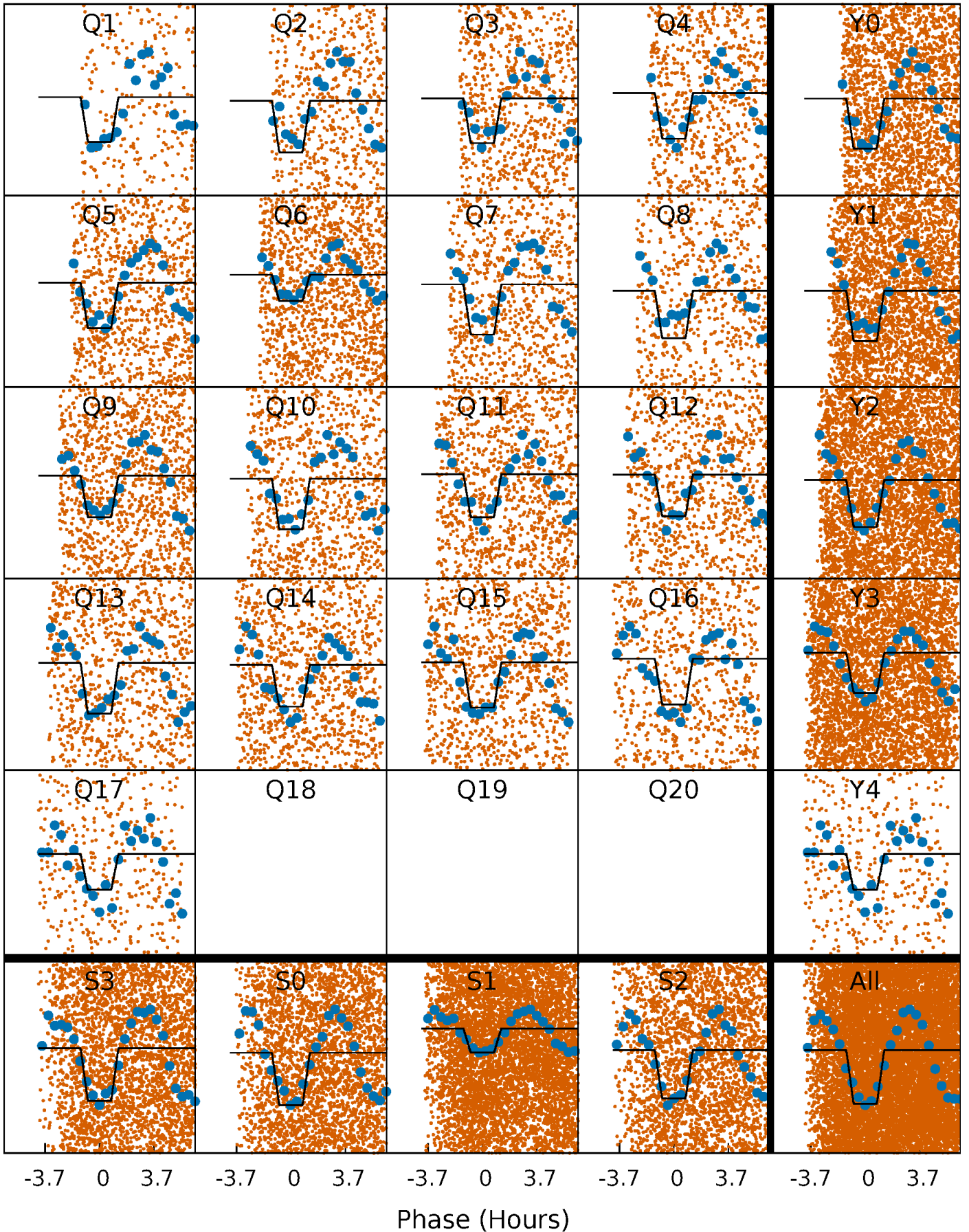
DV Quarter-Phased Transit Curves

TCE 011519180-02 P= 0.745013 Days $T_0=132.234688$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

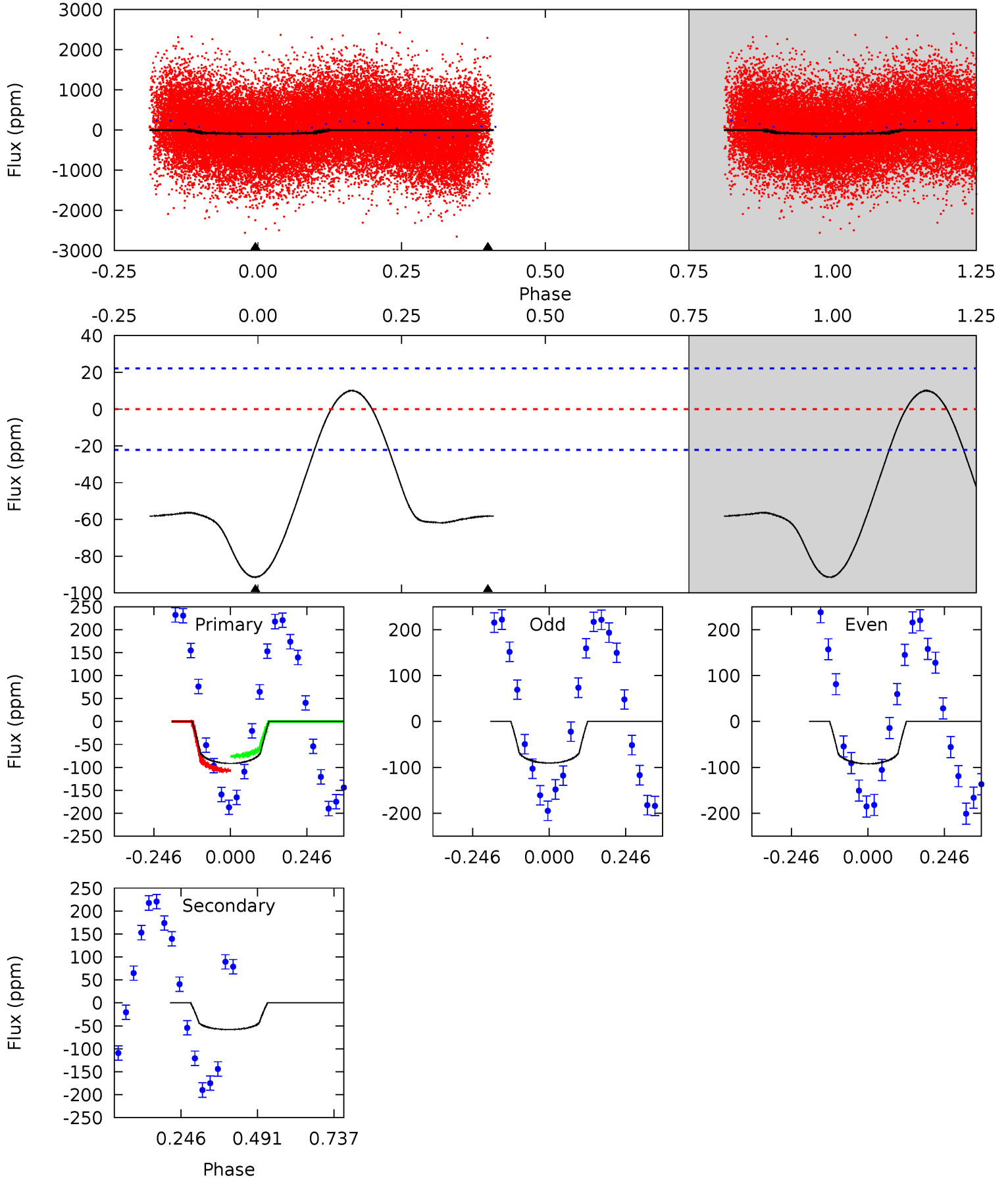
TCE 011519180-02 P= 0.745057 Days $T_0=132.181737$ (BKJD)



DV Model-Shift Uniqueness Test

011519180-02, P = 0.745013 Days, E = 131.489675 Days

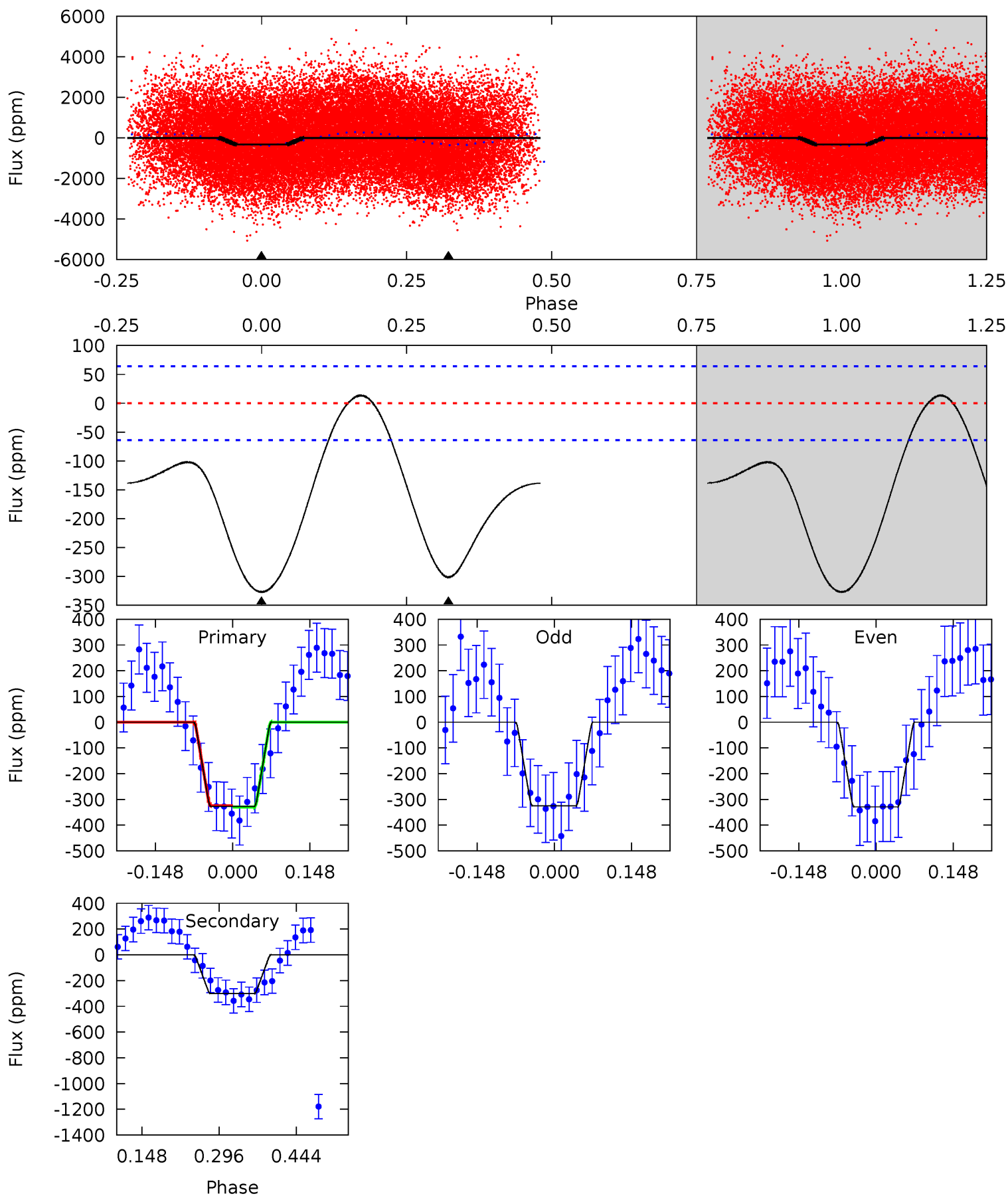
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	11.5	0	0	4.37	1.16	2.38	18.0	18.0	11.5	11.5	0.16	1.00	0.10	3.17



Alt Model-Shift Uniqueness Test

011519180-02, P = 0.745057 Days, E = 131.436680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.9	21.1	0	0	4.48	1.45	4.49	22.9	22.9	21.1	21.1	0.15	1.06	0.04	0.18



Stellar Parameters For KIC 011519180

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8063^{+221}_{-359}	$4.125^{+0.112}_{-0.168}$	$0.070^{+0.250}_{-0.450}$	$1.940^{+0.515}_{-0.343}$	$1.829^{+0.195}_{-0.316}$	$0.353^{+0.216}_{-0.156}$
	+3%/-4%	+3%/-4%	+357%/-643%	+27%/-18%	+11%/-17%	+61%/-44%
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 011519180-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-58 ± 5	$1.09^{+0.96}_{-0.74}$	4951^{+336}_{-288}	10622^{+23035}_{-3757}	10^{+80}_{-8}
Alt.	-301 ± 14	$4.03^{+1.25}_{-1.18}$	4948^{+343}_{-317}	7476^{+1799}_{-1124}	$3.865^{+3.638}_{-1.581}$

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

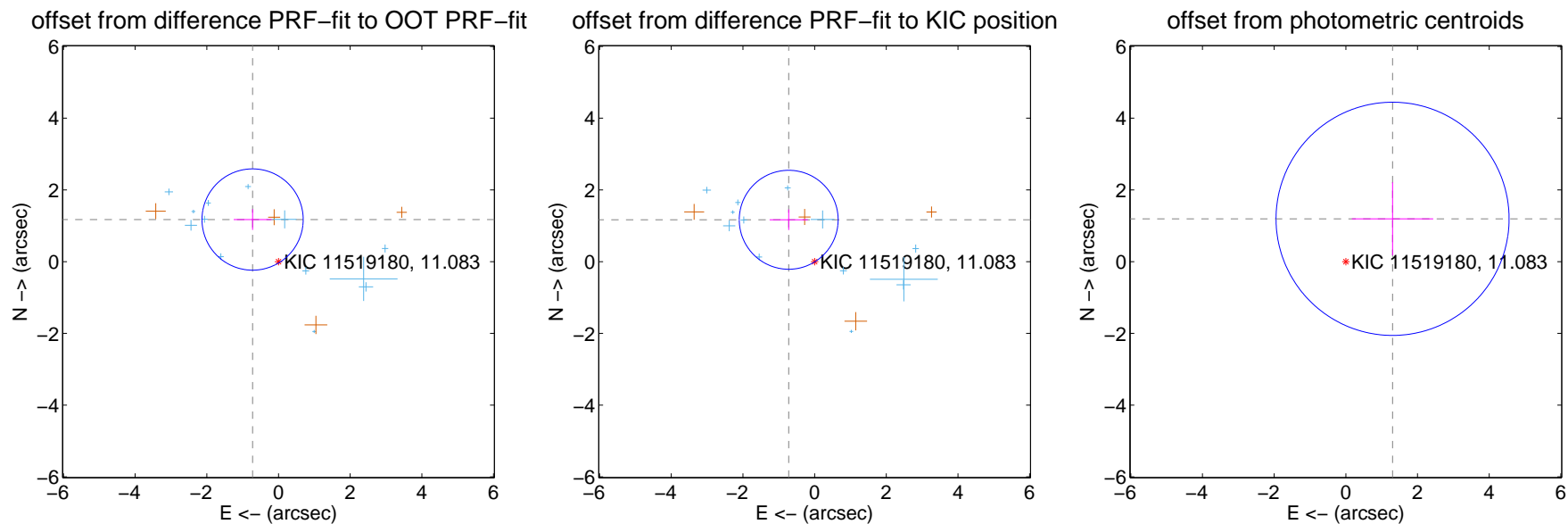
DV Centroid Data

Supplemental centroid analysis for 011519180-02. **Kepler magnitude: 11.08.** Transit SNR 1.99

There are 13 quarters with good PRF difference image offsets

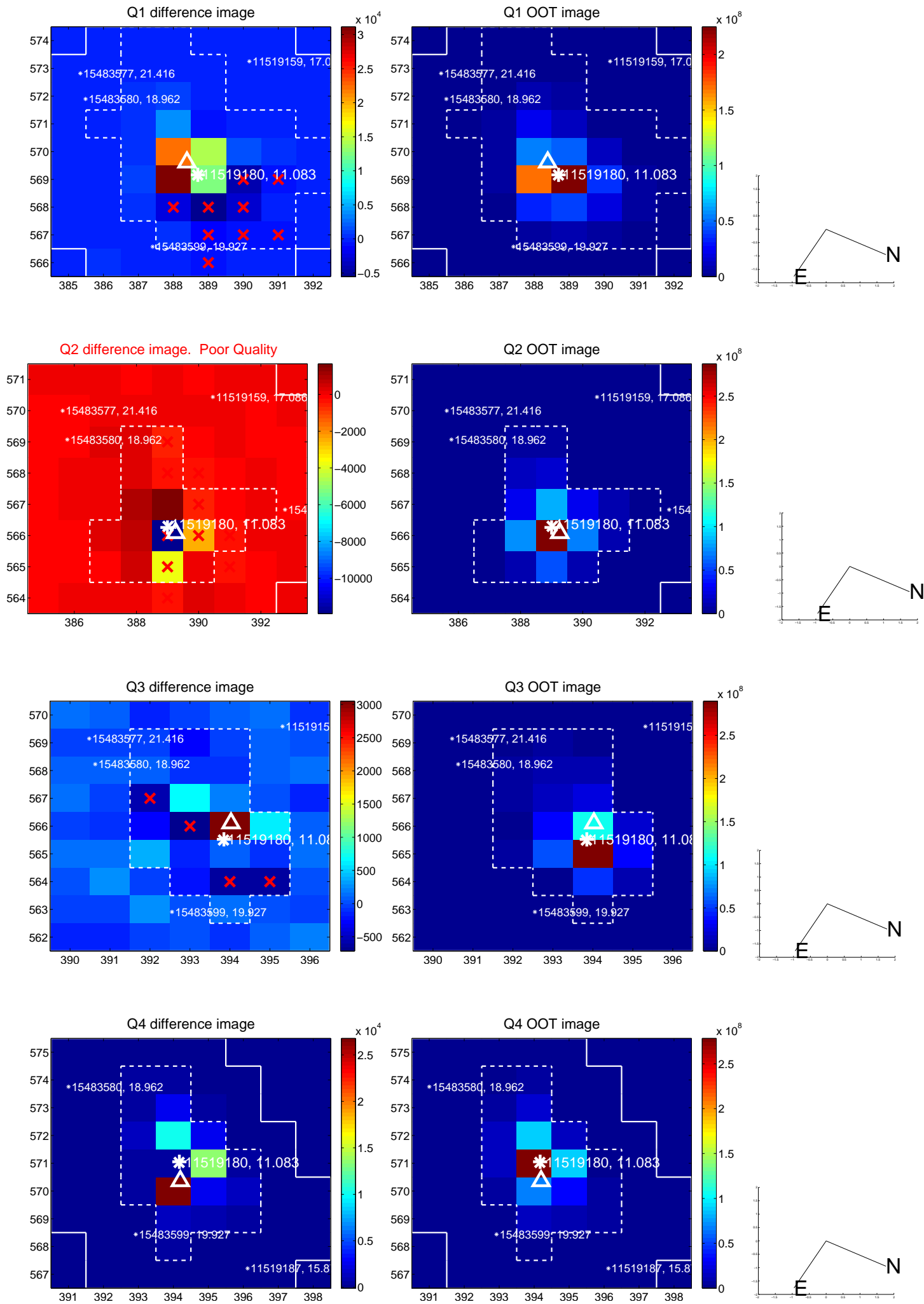
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.379 ± 0.471	2.93	0.723 ± 0.527	1.174 ± 0.290
PRF-fit source offset from KIC position	1.373 ± 0.460	2.99	0.723 ± 0.534	1.167 ± 0.286
photometric centroid source offset	1.77 ± 1.08	1.63	-1.30 ± 1.14	1.19 ± 1.02

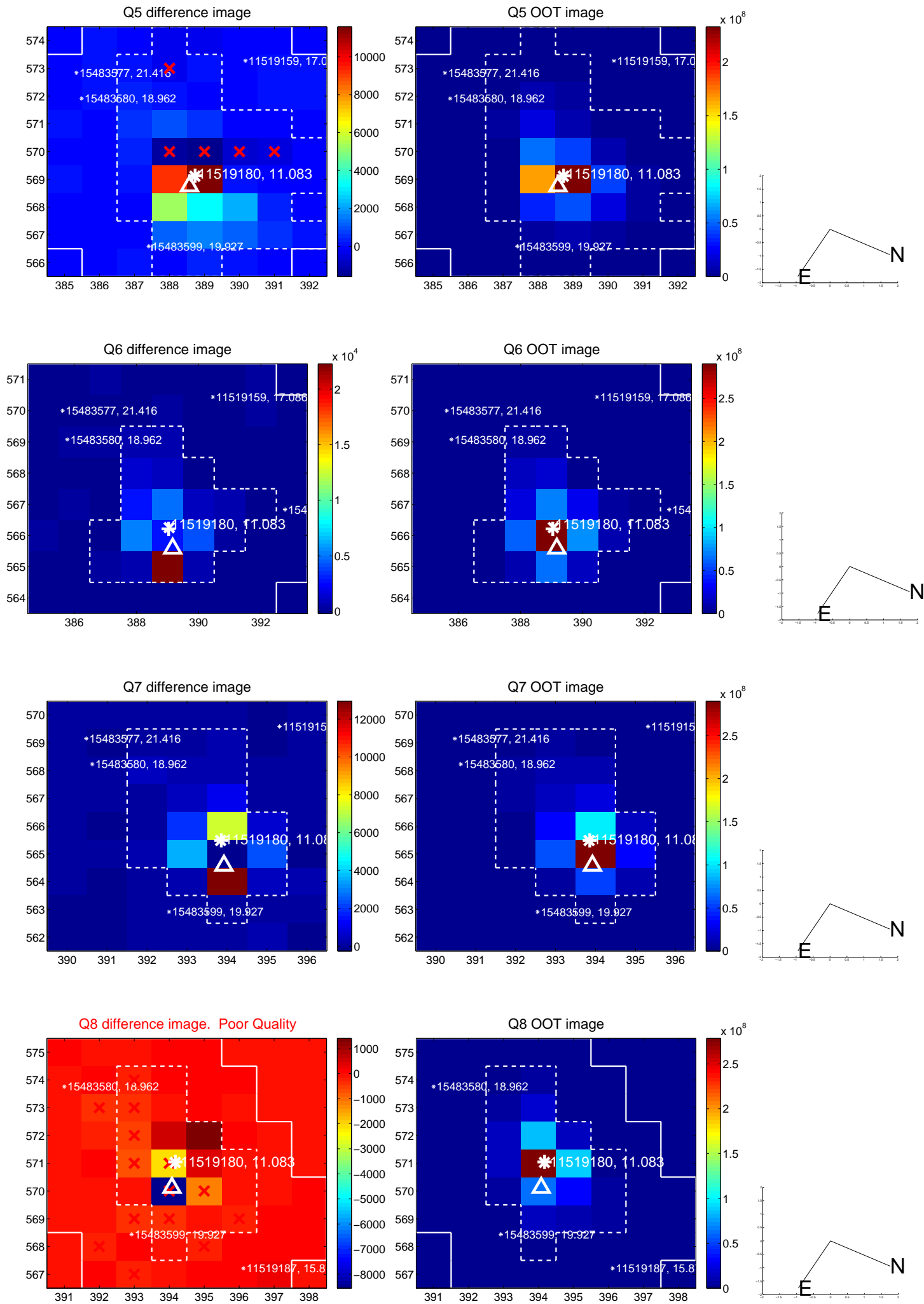


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

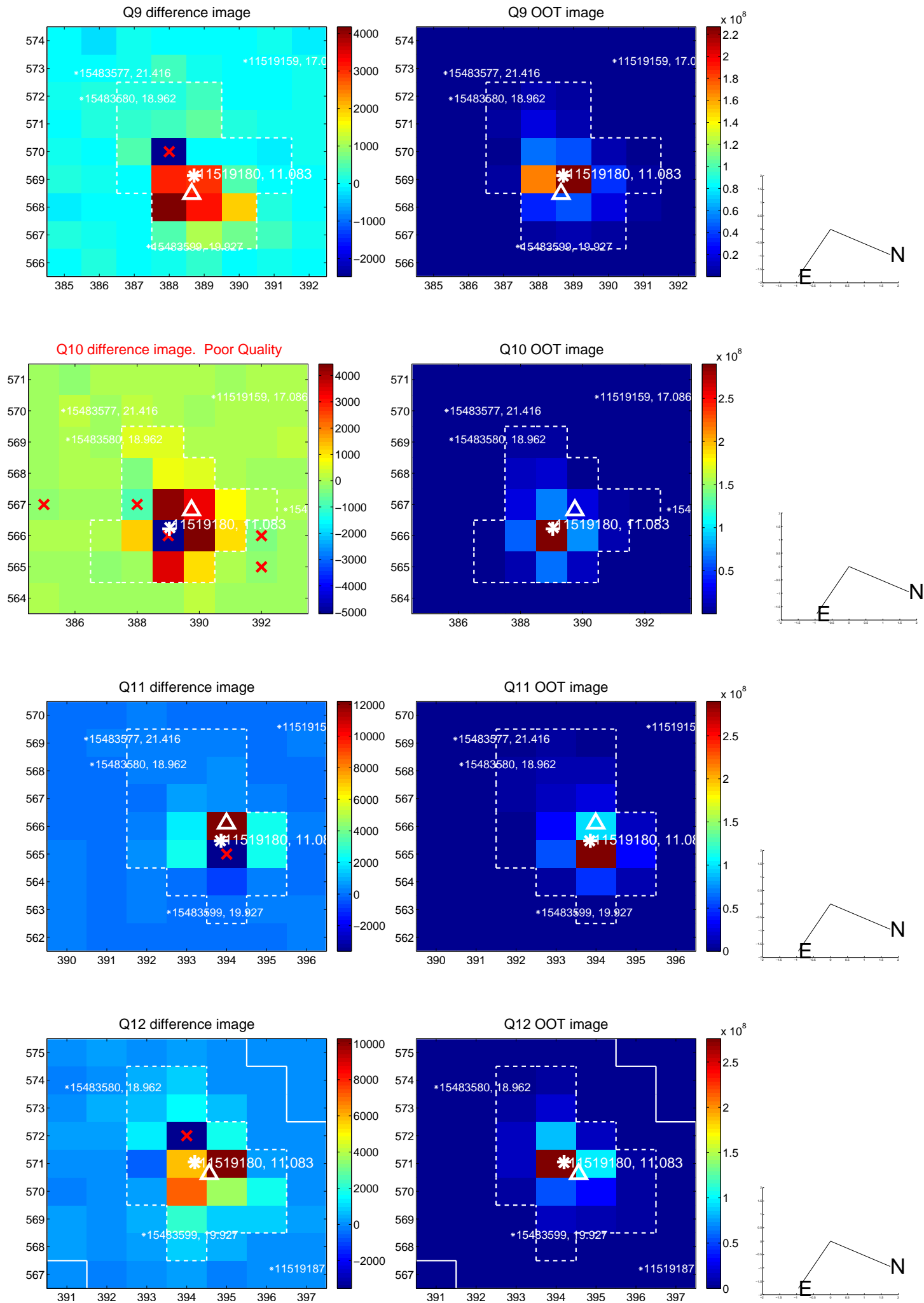
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



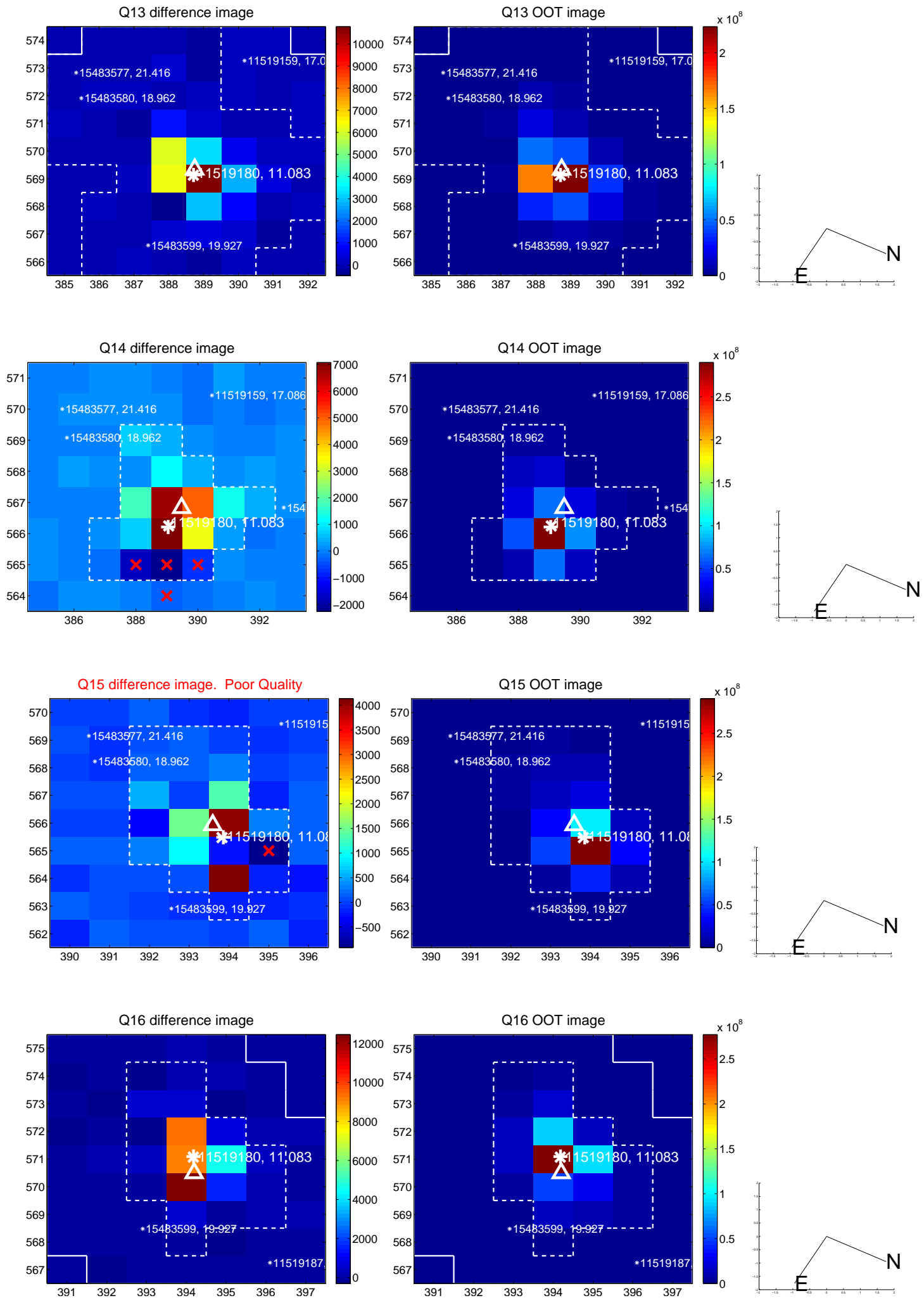
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



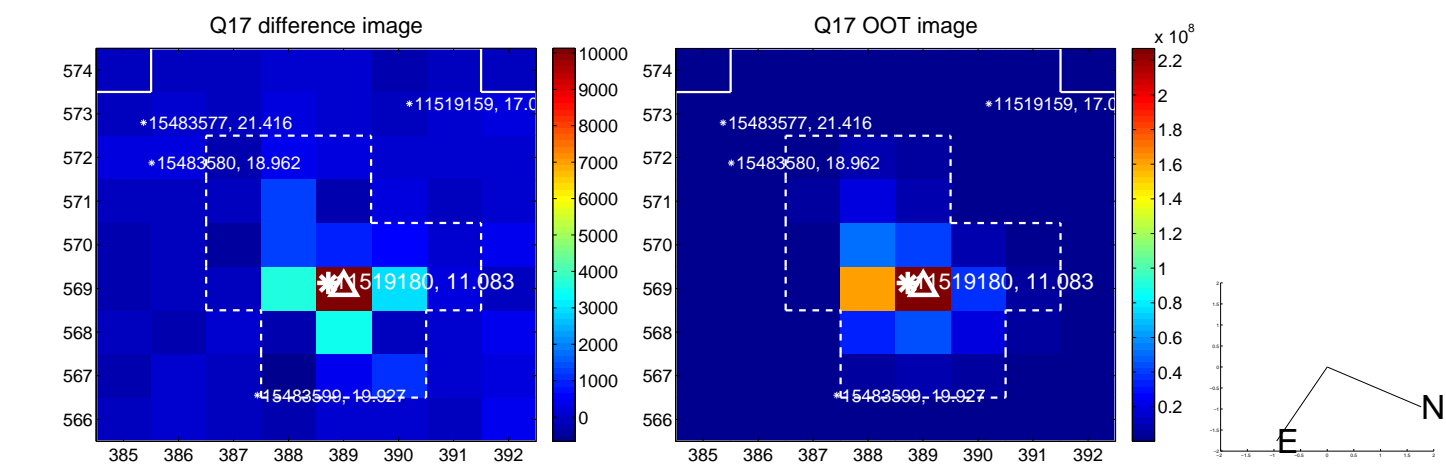
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



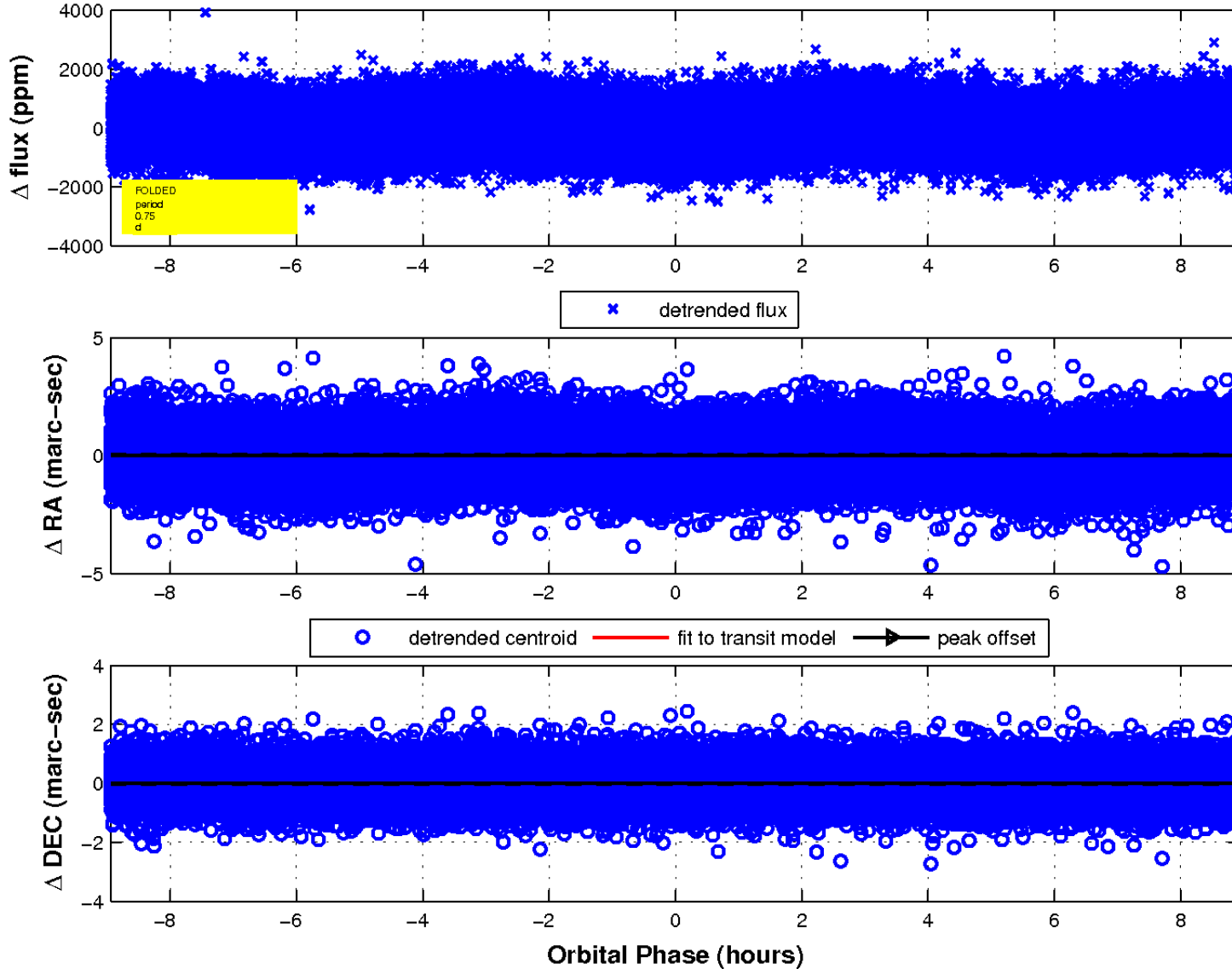
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

