

KIC 011295426

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})
011295426-01	OBS	0246.01	5.398747	136.068198	346.6	3.530	246.8	243.0	1.20	5790	2.49	399.50
011295426-02	OBS	0246.02	9.605077	136.376692	55.2	3.043	26.3	27.5	1.20	5790	1.05	185.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011295426-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
011295426-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED

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

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

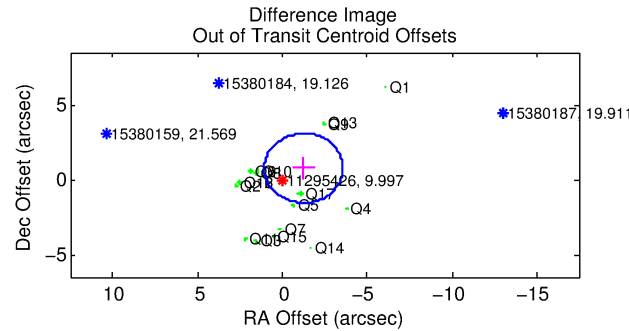
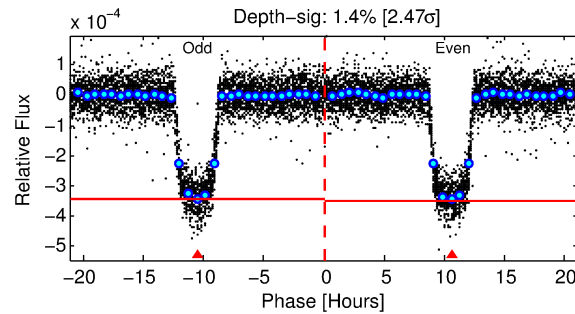
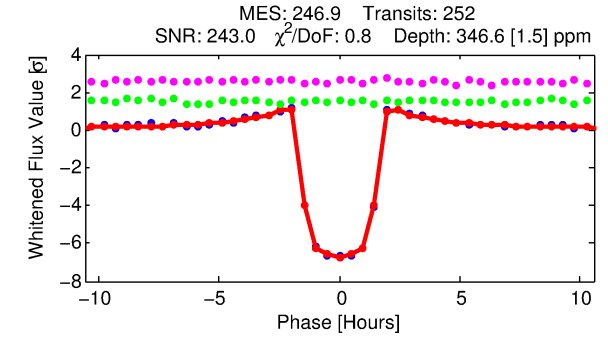
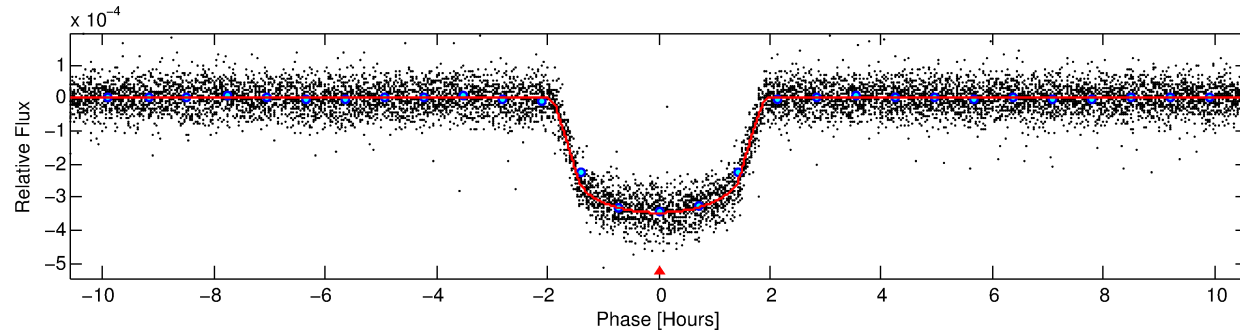
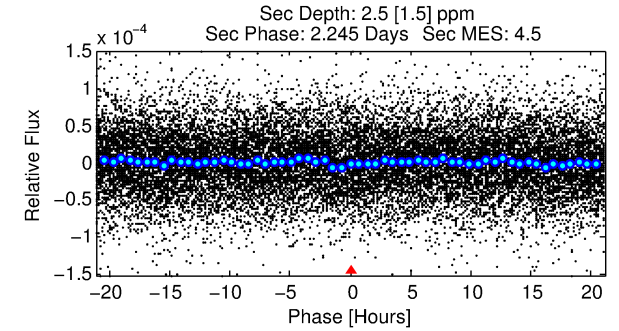
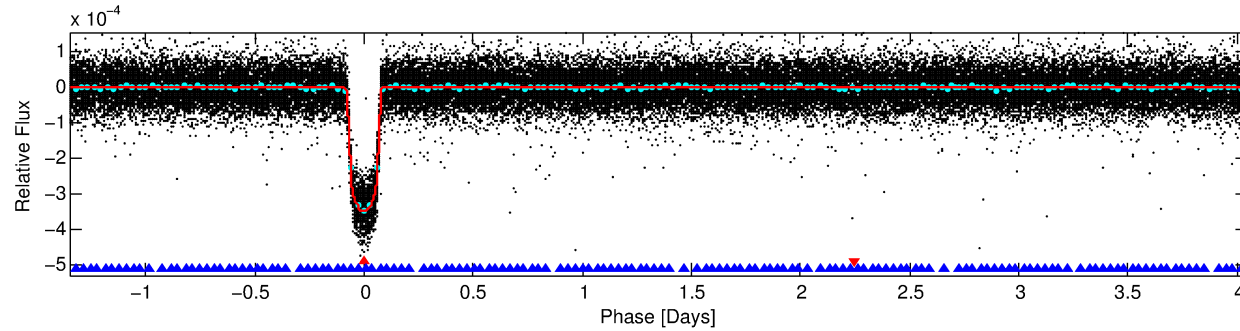
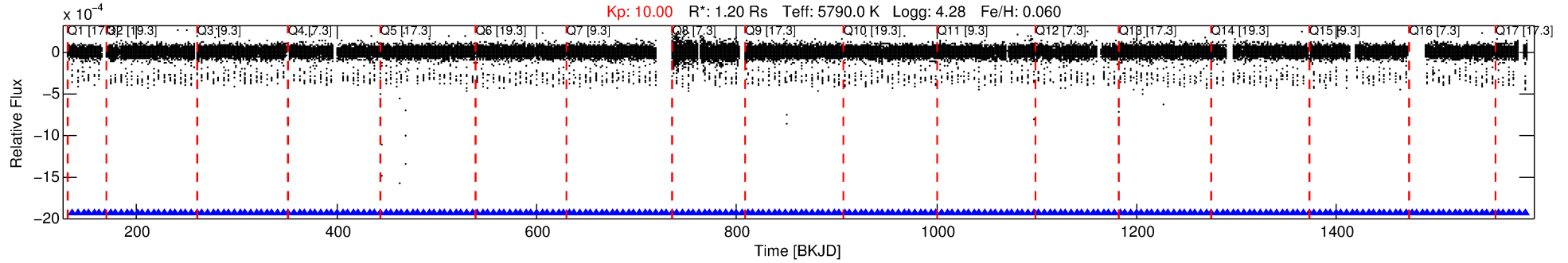
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011295426-01

No Significant Match Found

DV One-Page Summary

KIC: 11295426 Candidate: 1 of 2 Period: 5.399 d
KOI: K00246.01 Name: Kepler-68b Corr: 0.986



DV Fit Results:

Period = 5.39875 [0.00000] d
Epoch = 136.0682 [0.0002] BKJD
Rp/R* = 0.0191 [0.0005]
a/R* = 7.23 [0.91]
b = 0.81 [0.05]
Seff = 399.51 [32.00]
Teff = 1140 [23] K
Rp = 2.49 [0.16] Re
a = 0.0601 [0.0026] AU
Ag = 0.81 [0.47] [-0.40σ]
Teffp = 1674 [242] K [2.19σ]

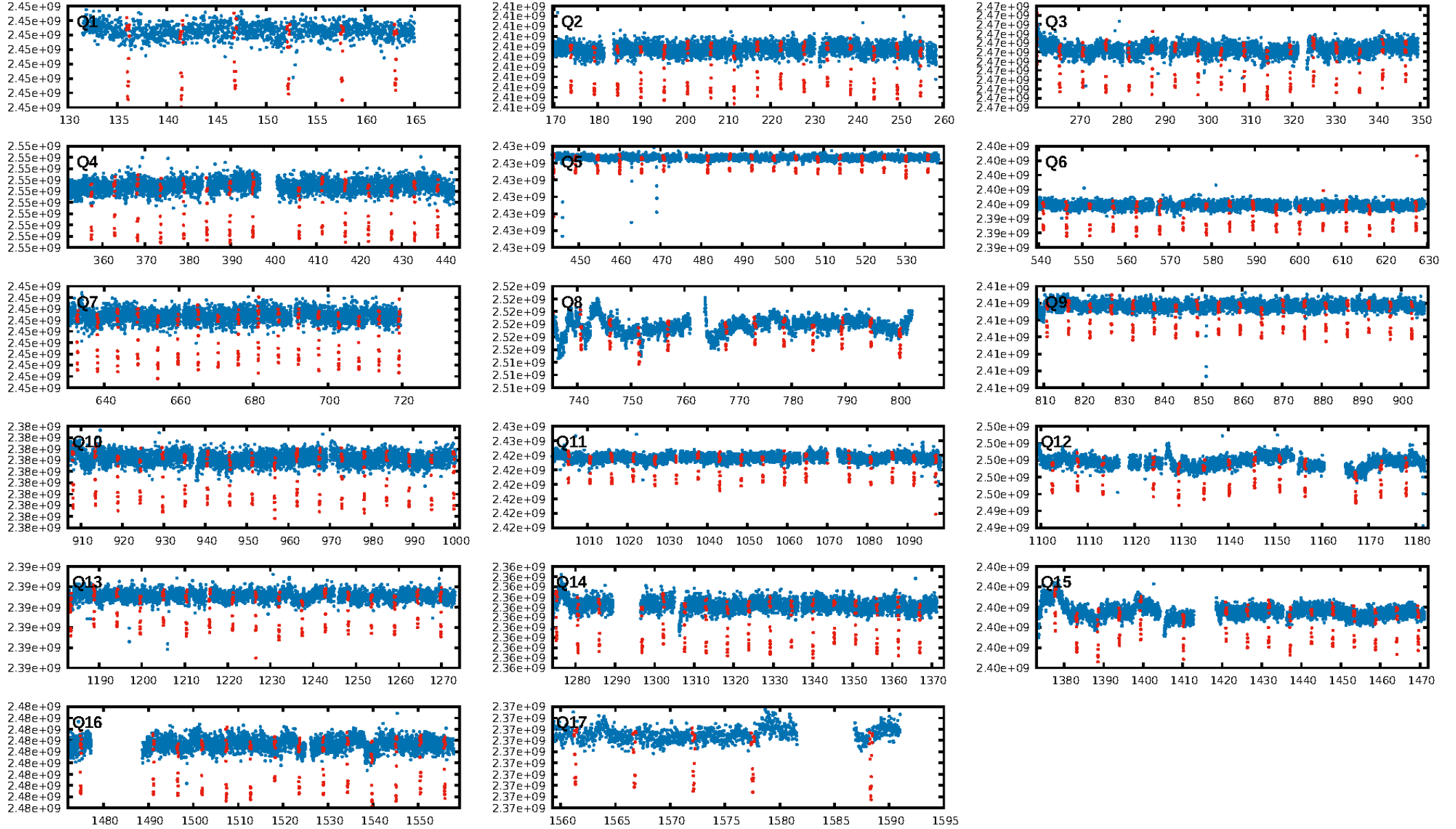
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [21.66σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [241/241]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.539 arcsec [7.56σ]
OotOffset-rm: 1.461 arcsec [1.89σ]
KicOffset-rm: 2.267 arcsec [2.55σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 1.00 [17/17]

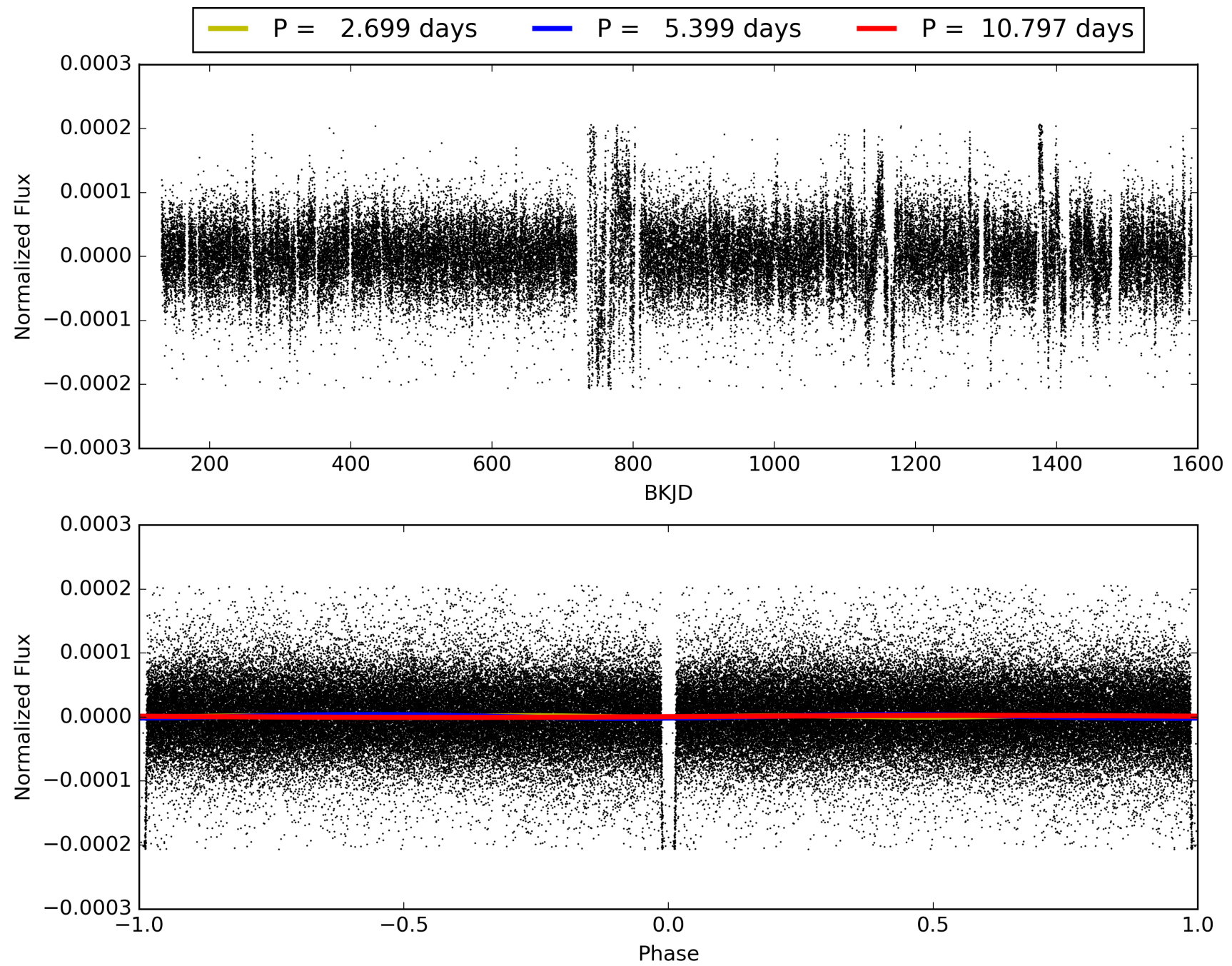
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:35:45 Z

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

TCE 011295426-01, PDC Light Curves

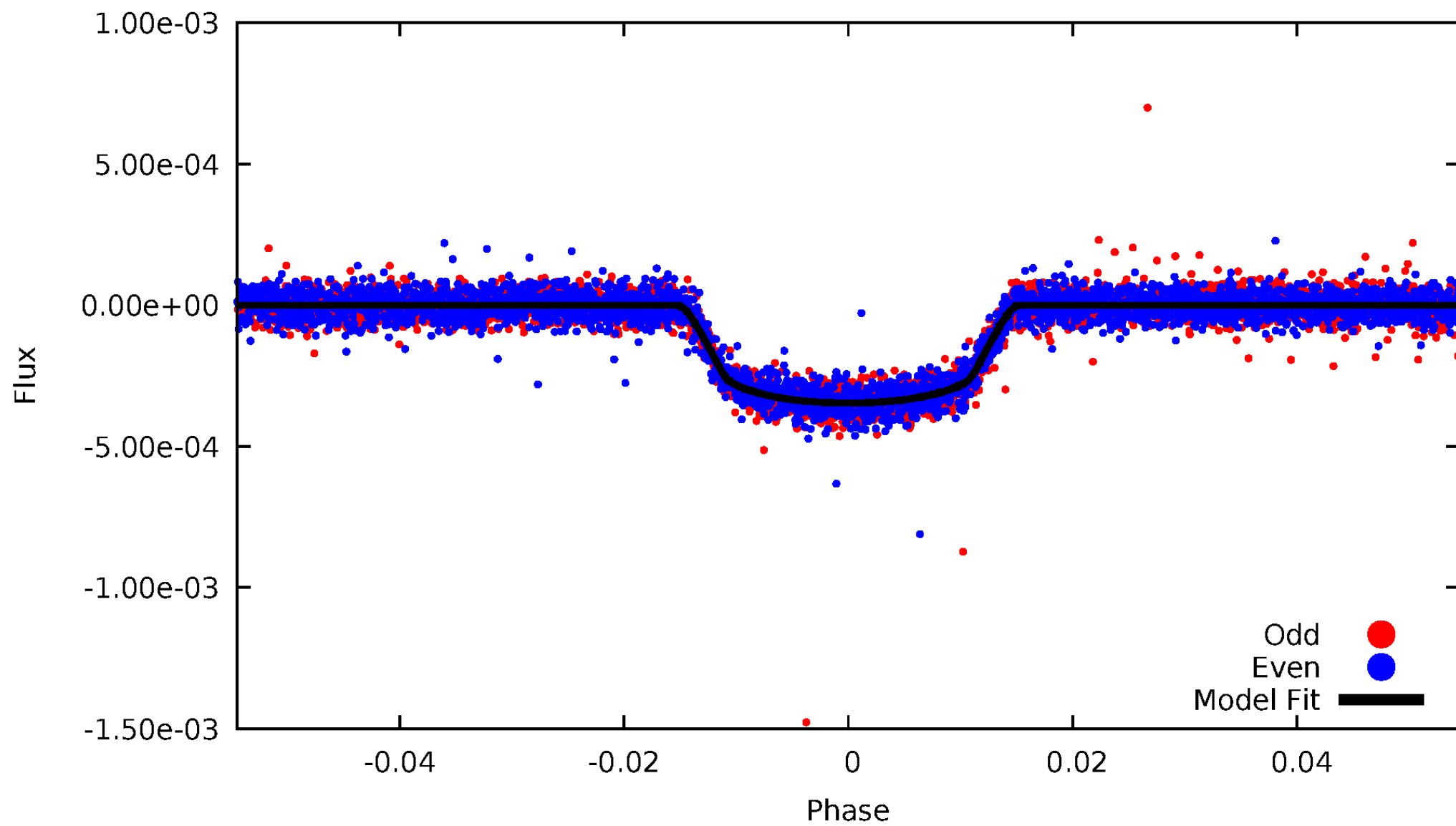


TCE 011295426-01



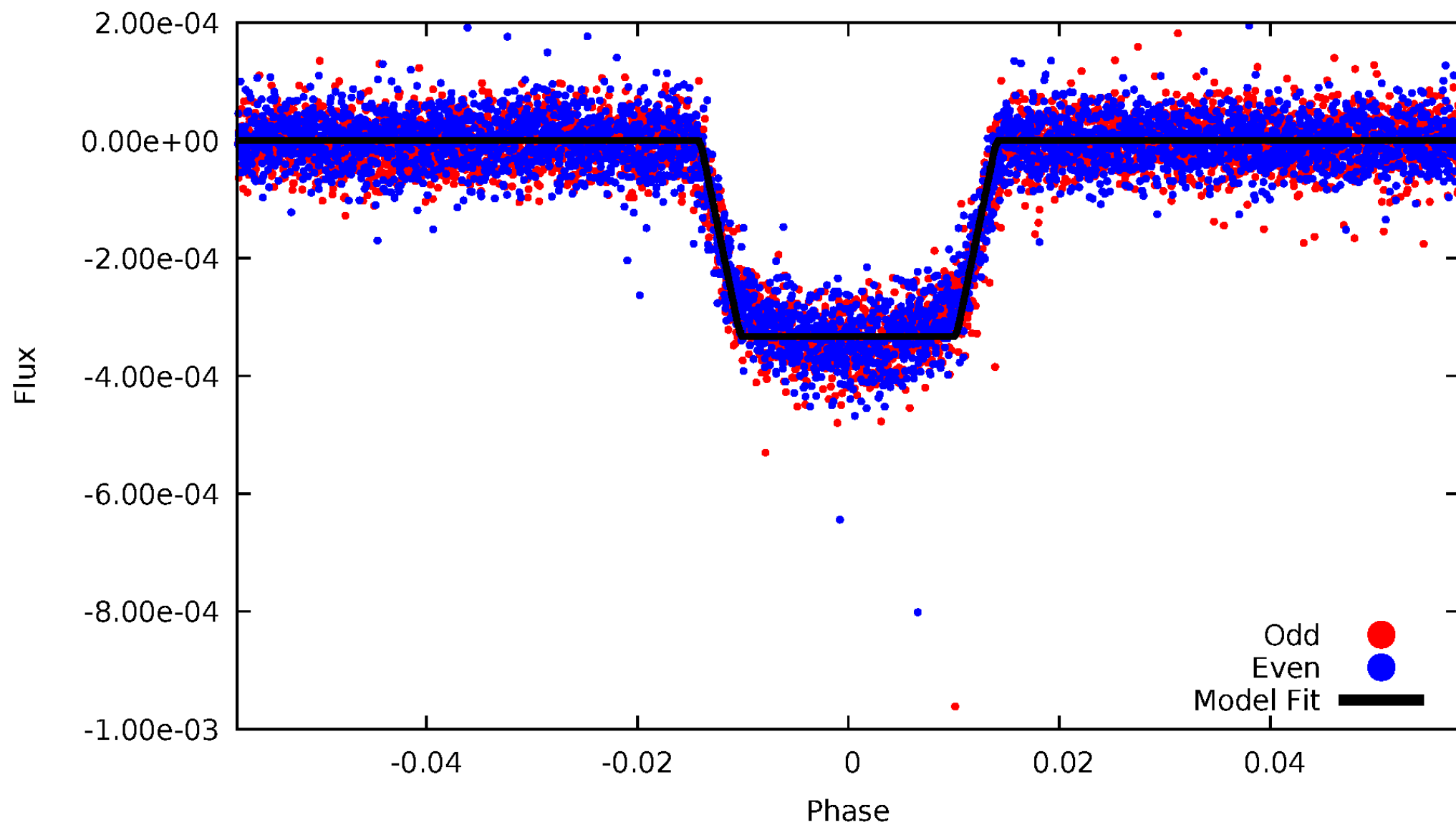
DV Odd/Even

TCE 011295426-01



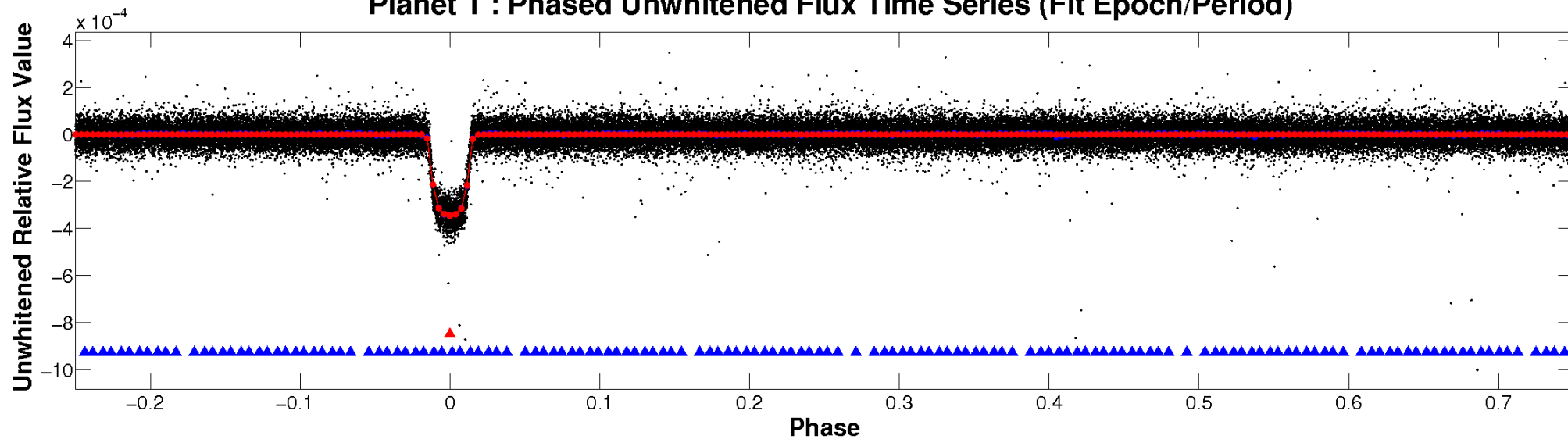
ALT Odd/Even

TCE 011295426-01

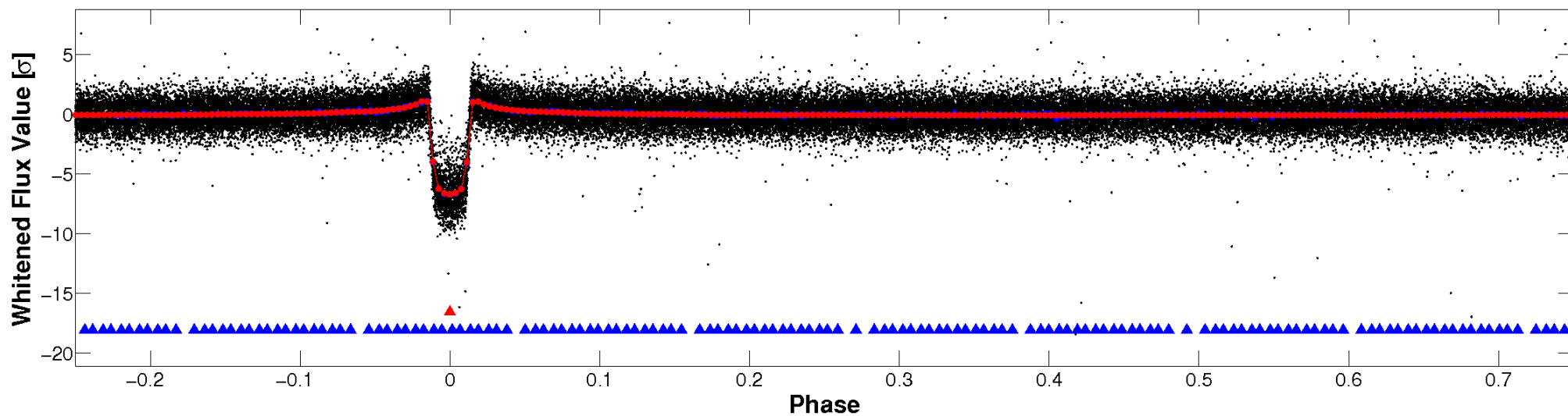


Non-Whitened Vs. Whitened Light Curve

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

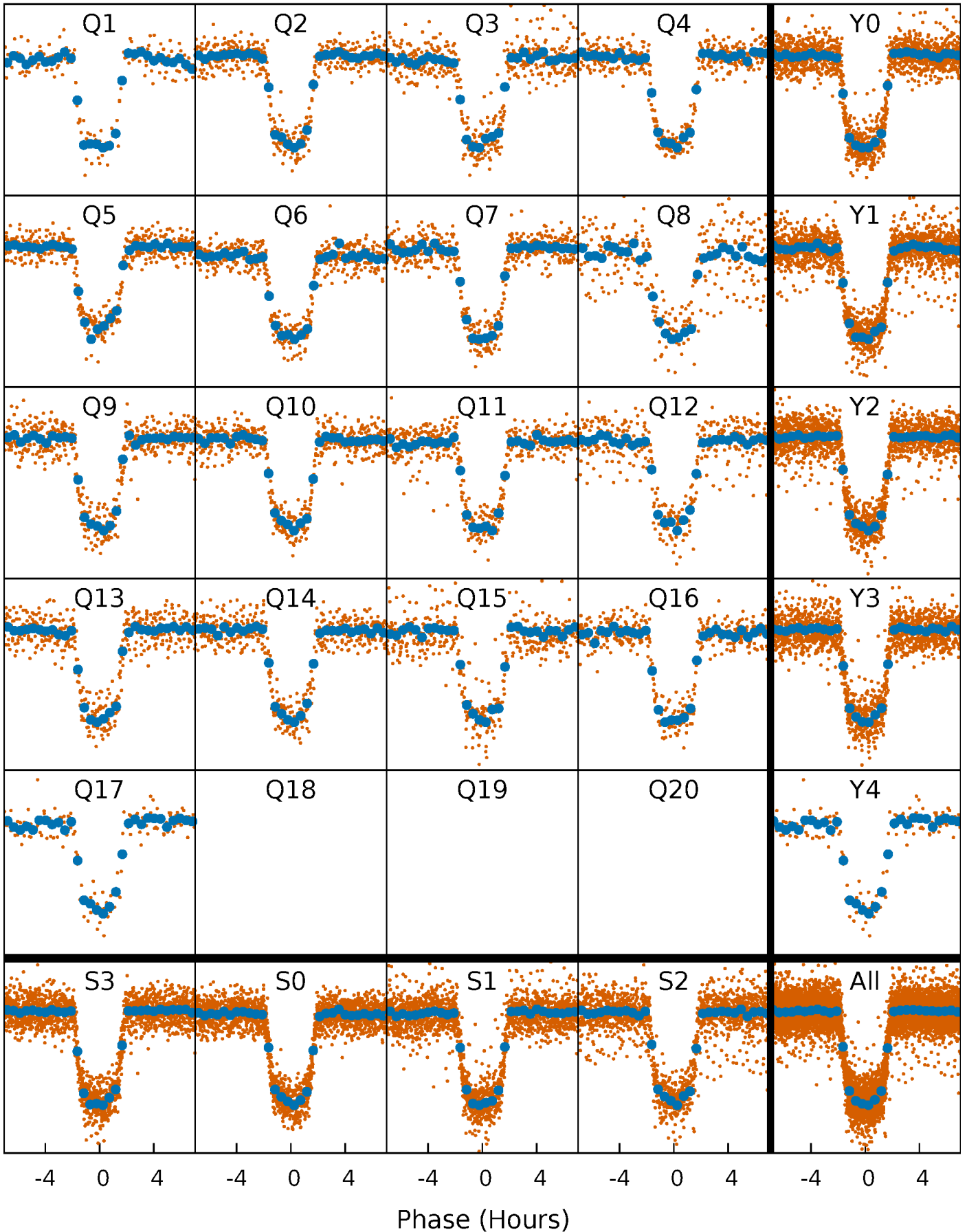


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



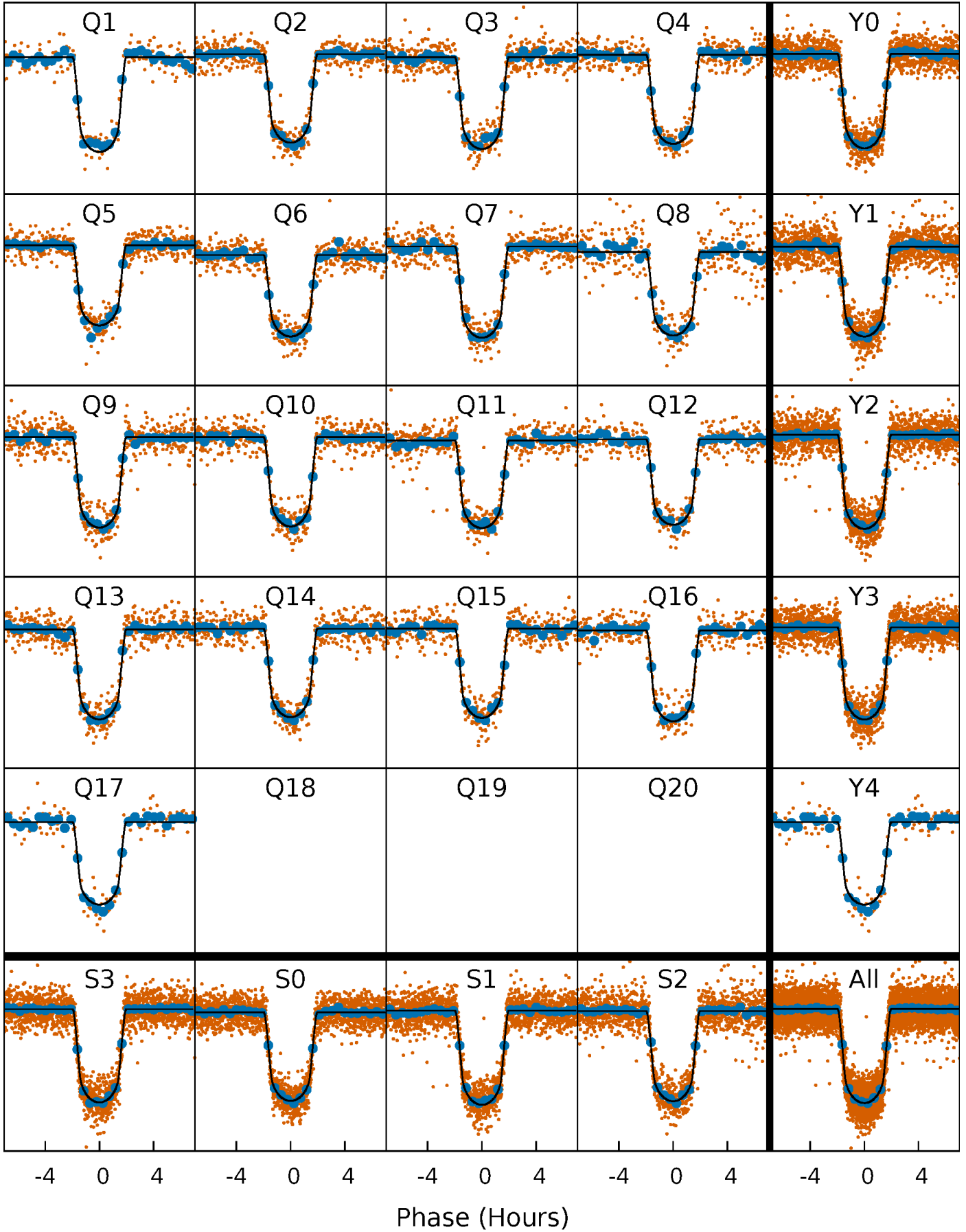
PDC Quarter-Phased Transit Curves

TCE 011295426-01 P= 5.398747 Days $T_0=136.068198$ (BKJD)



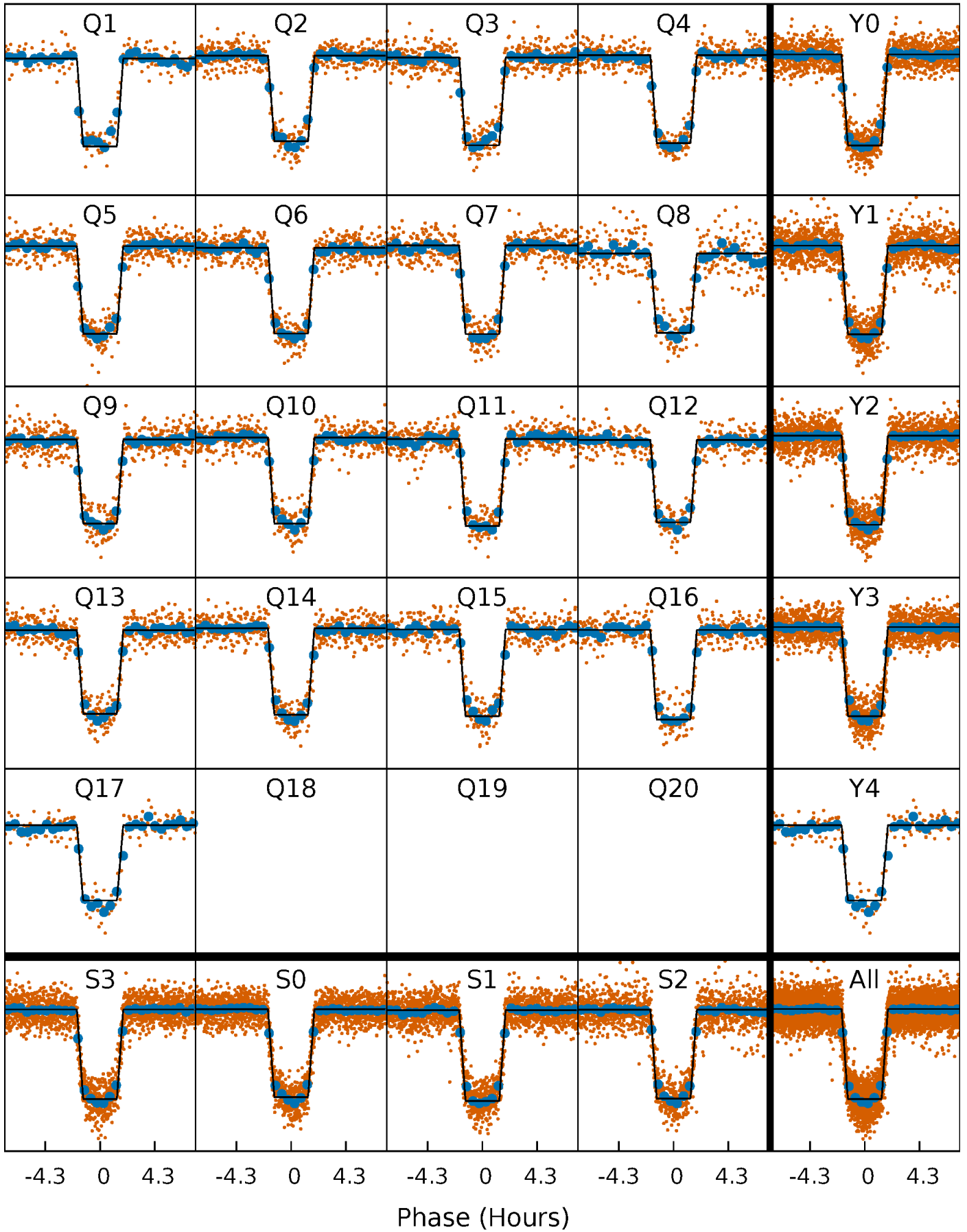
DV Quarter-Phased Transit Curves

TCE 011295426-01 P= 5.398747 Days $T_0=136.068198$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

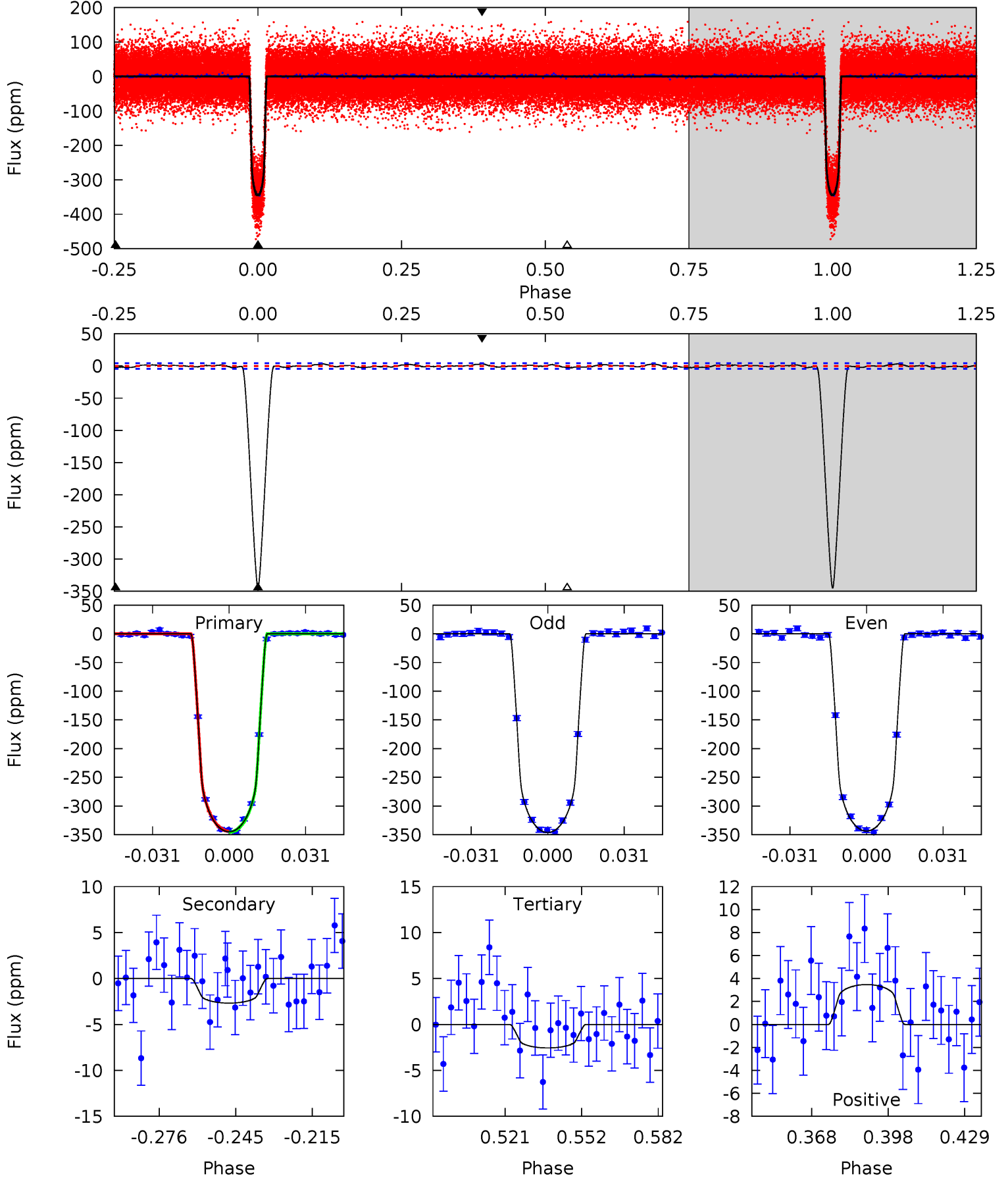
TCE 011295426-01 P= 5.398725 Days $T_0=136.071136$ (BKJD)



DV Model-Shift Uniqueness Test

011295426-01, P = 5.398747 Days, E = 130.669451 Days

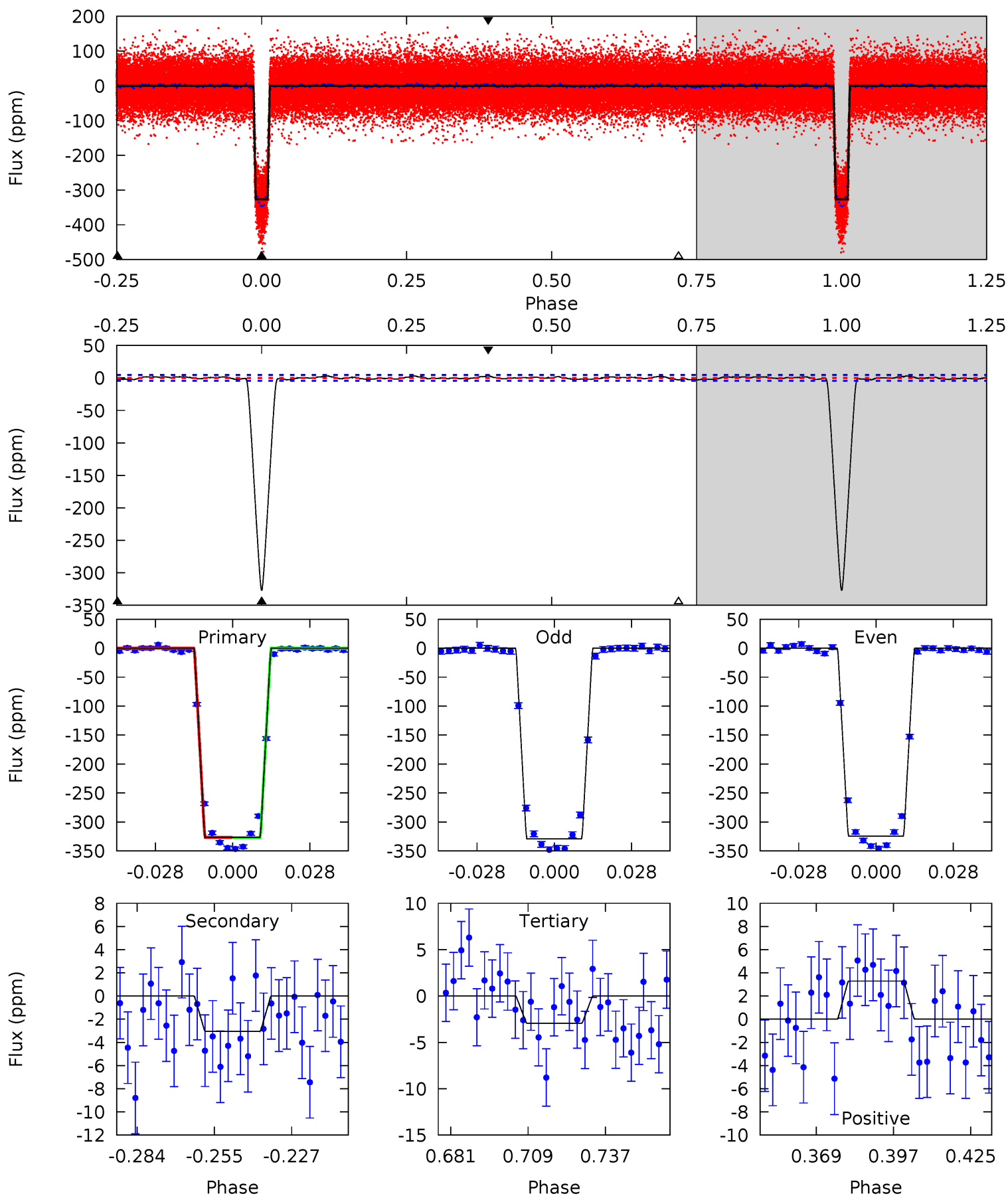
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
388.1	3.01	2.88	3.90	4.81	2.16	1.52	385.2	384.2	0.13	-0.89	1.37	1.01	0.01	1.04



Alt Model-Shift Uniqueness Test

011295426-01, P = 5.398725 Days, E = 130.672411 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
349.7	3.26	3.15	3.52	4.82	2.19	1.46	346.5	346.1	0.11	-0.26	2.53	1.01	0.01	0.13



Stellar Parameters For KIC 011295426

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5790^{+78}_{-78}	$4.279^{+0.030}_{-0.027}$	$0.060^{+0.150}_{-0.150}$	$1.198^{+0.067}_{-0.061}$	$0.997^{+0.080}_{-0.066}$	$0.816^{+0.099}_{-0.080}$
	+1%/-1%	+1%/-1%	+250%/-250%	+6%/-5%	+8%/-7%	+12%/-10%
Source	SPE72	AST69	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 011295426-01 / KOI 0246.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3 ± 1	$2.50^{+0.11}_{-0.12}$	1593^{+29}_{-28}	2413^{+121}_{-193}	$0.859^{+0.286}_{-0.278}$
Alt.	-3 ± 1	$2.39^{+0.11}_{-0.10}$	1593^{+29}_{-29}	2510^{+115}_{-163}	$1.079^{+0.363}_{-0.337}$

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

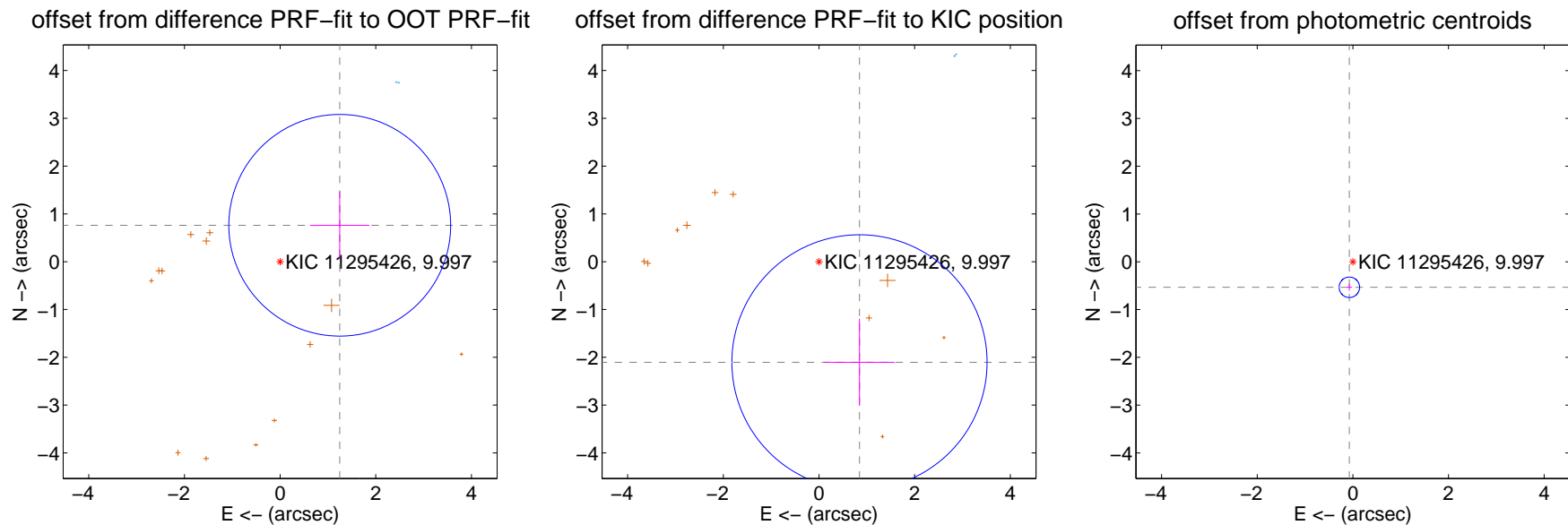
DV Centroid Data

Supplemental centroid analysis for 011295426-01. **Kepler magnitude: 10.00.** Transit SNR 242.99

There are 2 quarters with good PRF difference image offsets

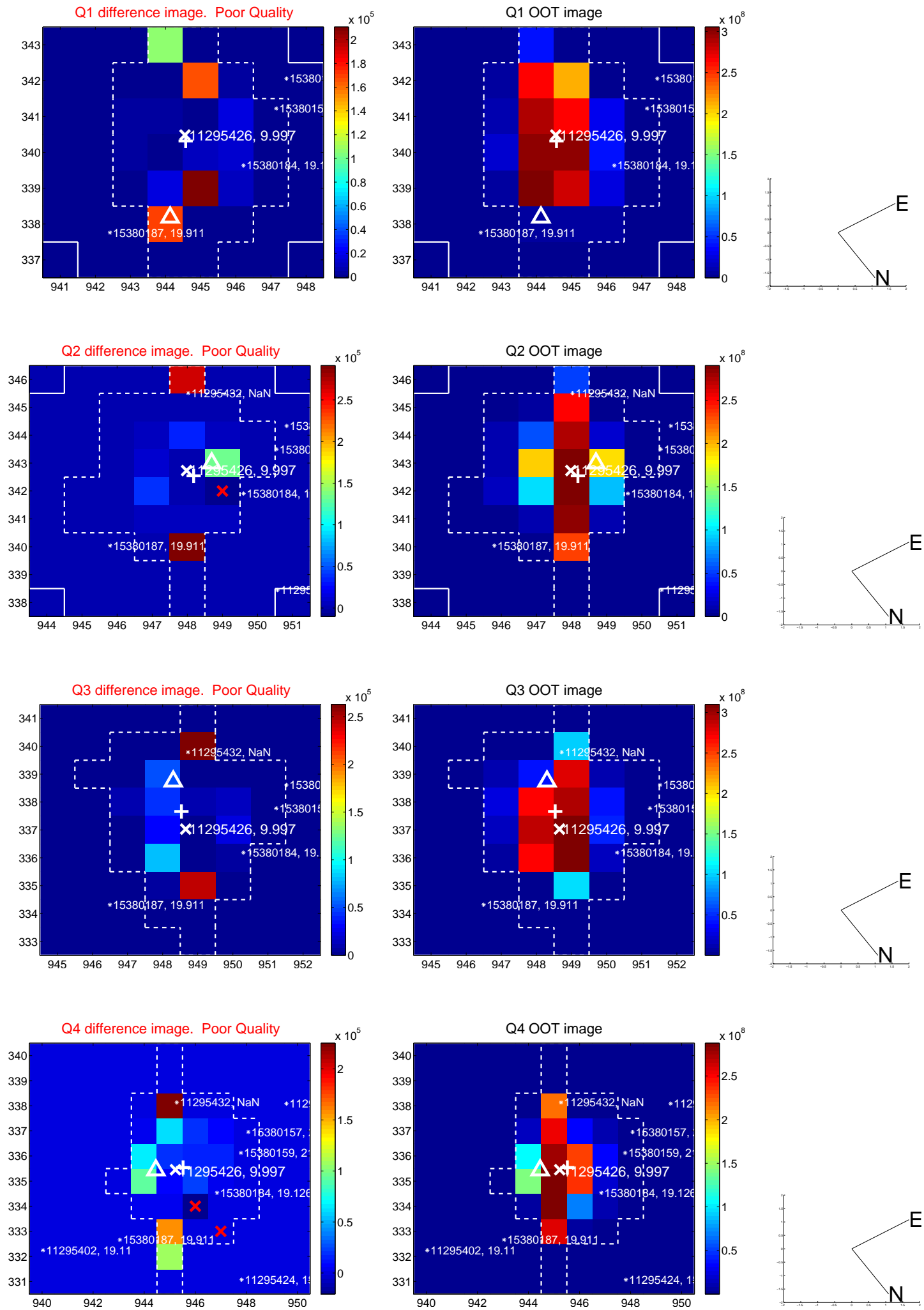
The direct PRF centroid is offset from the target star catalog position by about 0.63 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.461 ± 0.773	1.89	-1.247 ± 0.619	0.762 ± 0.710
PRF-fit source offset from KIC position	2.267 ± 0.889	2.55	-0.846 ± 0.734	-2.103 ± 0.911
photometric centroid source offset	0.54 ± 0.07	7.56	0.07 ± 0.05	-0.53 ± 0.07

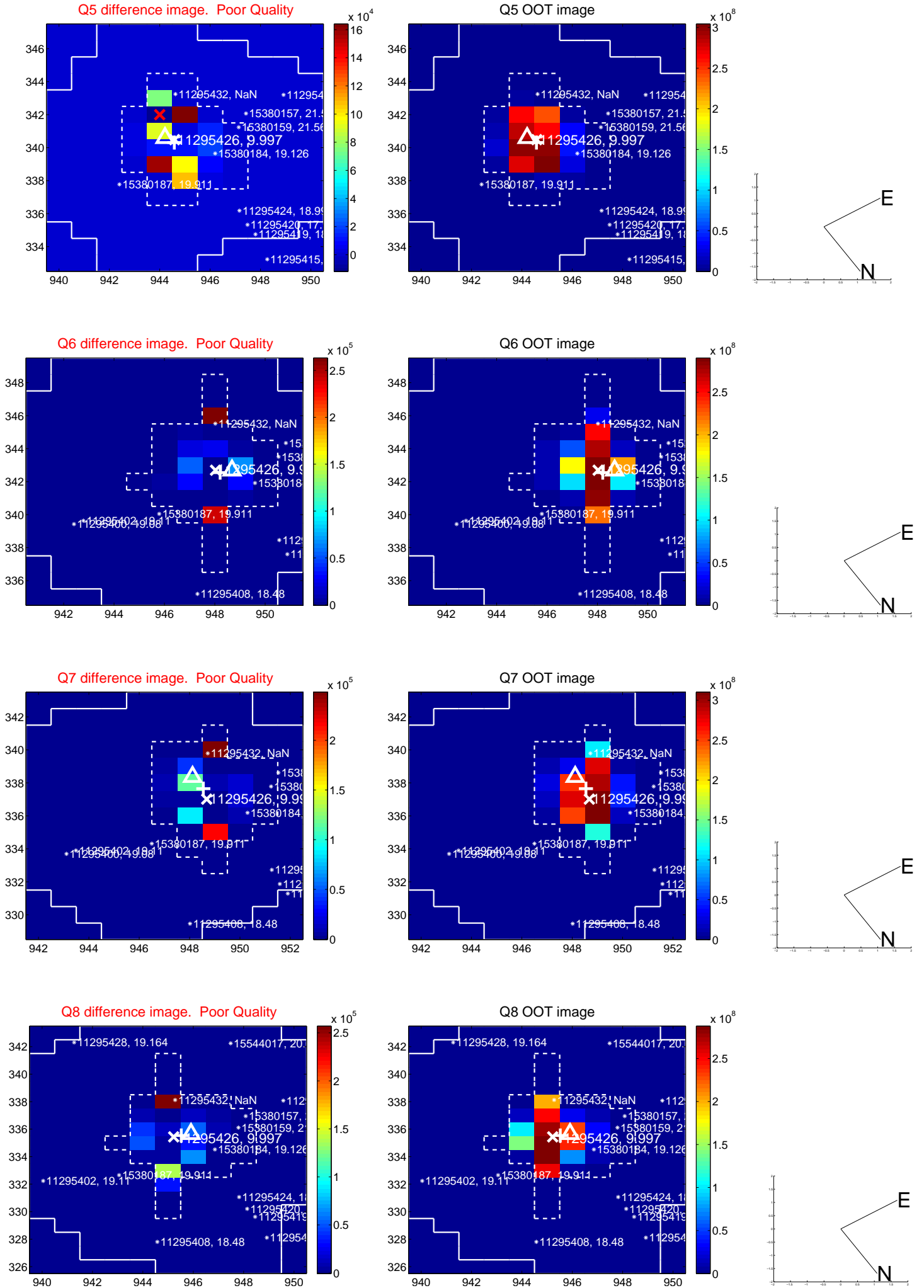


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

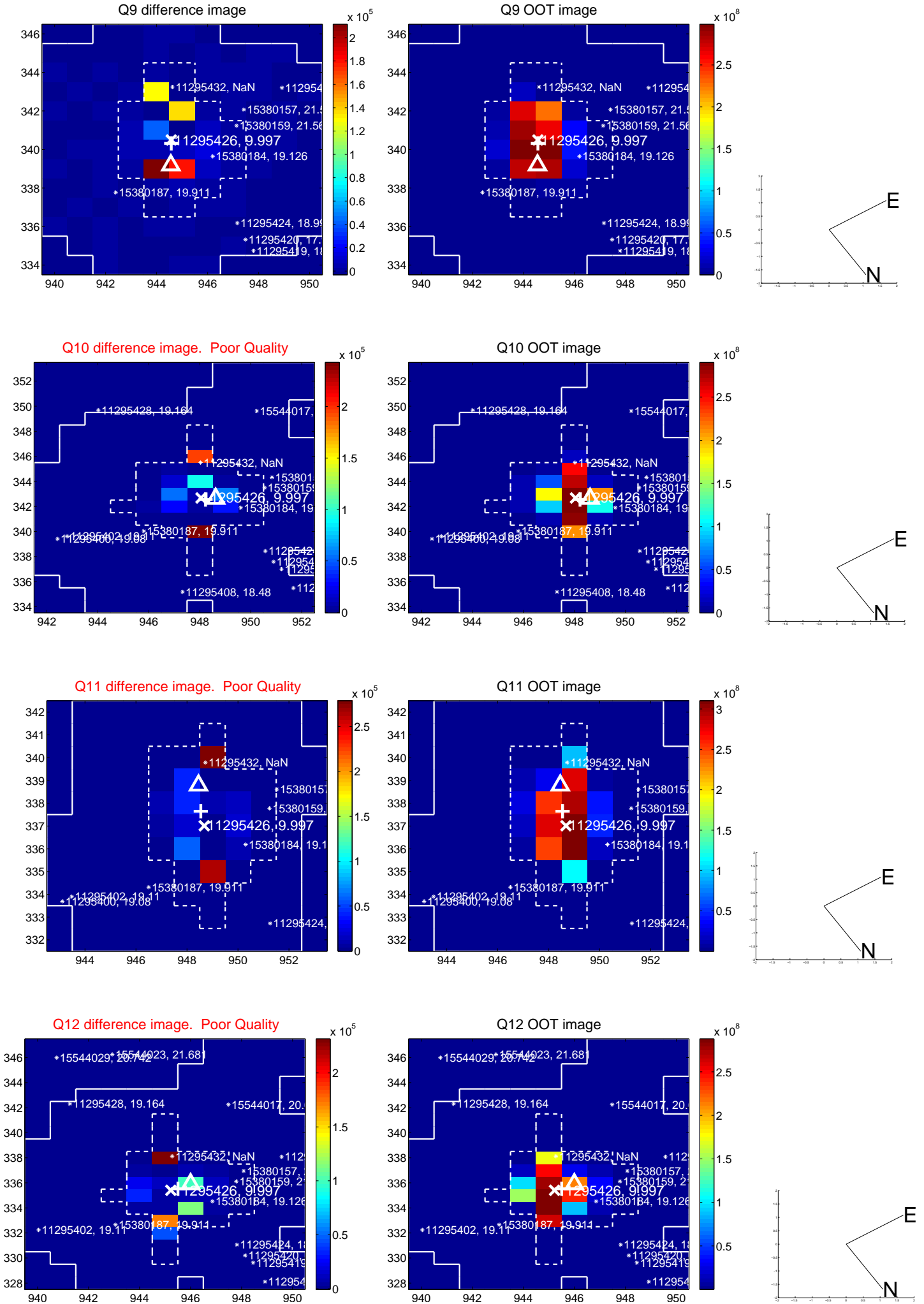
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



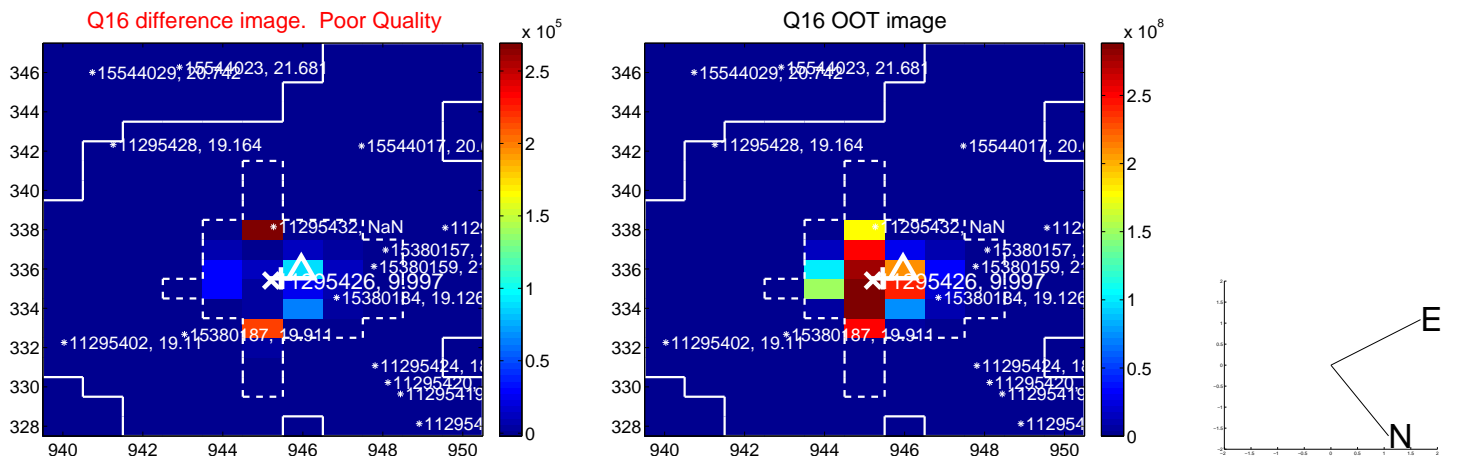
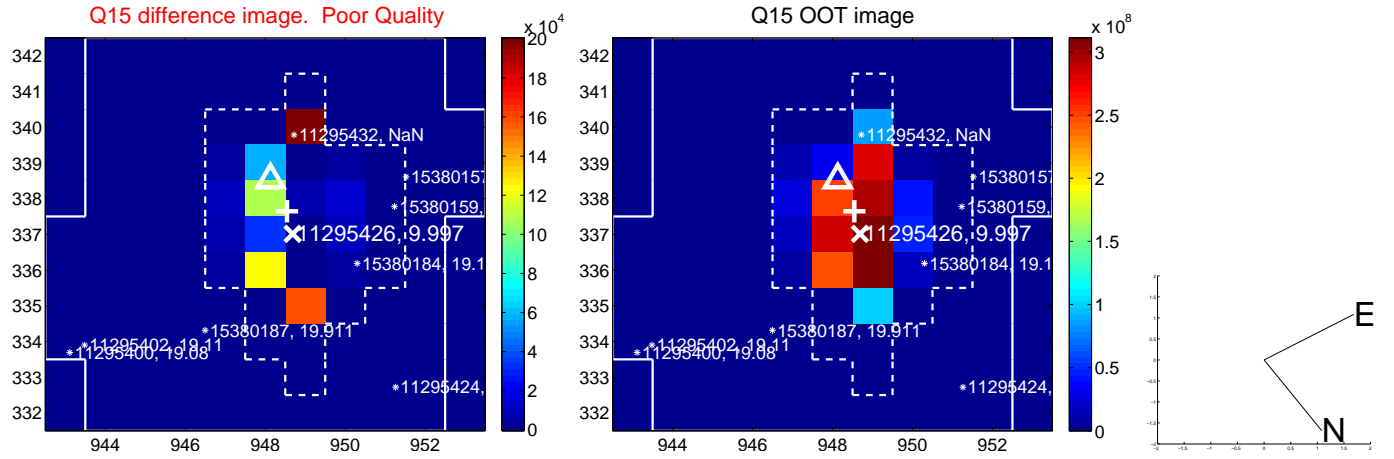
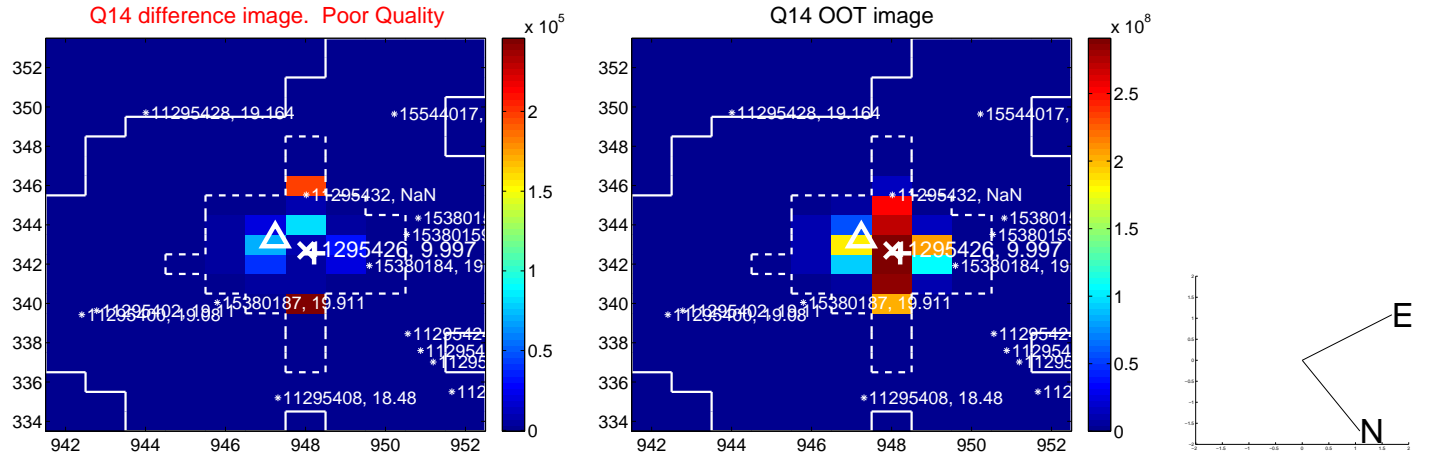
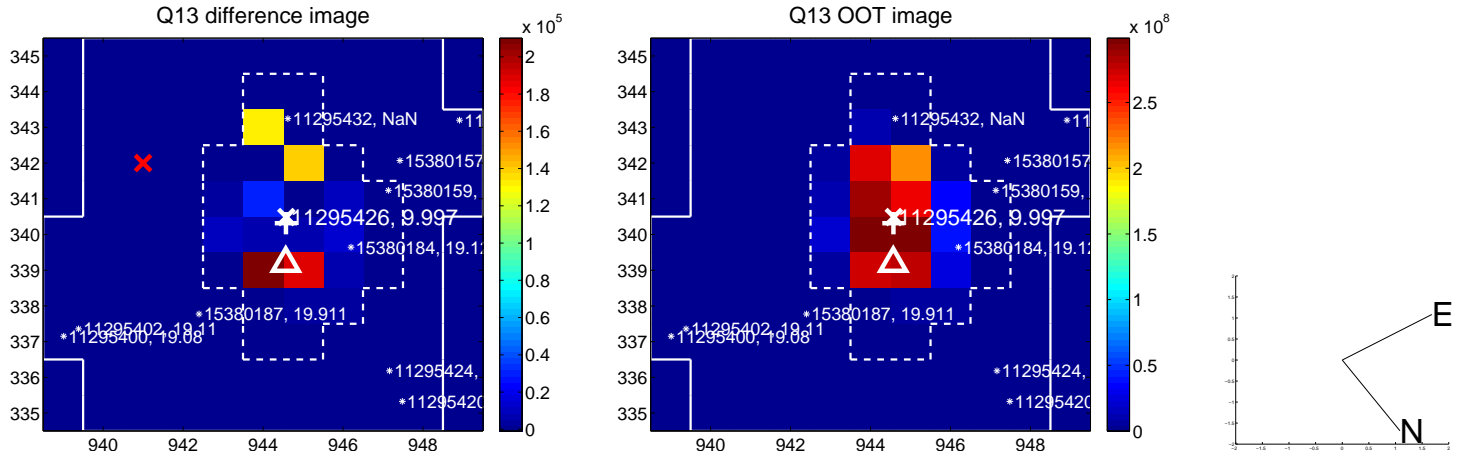
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



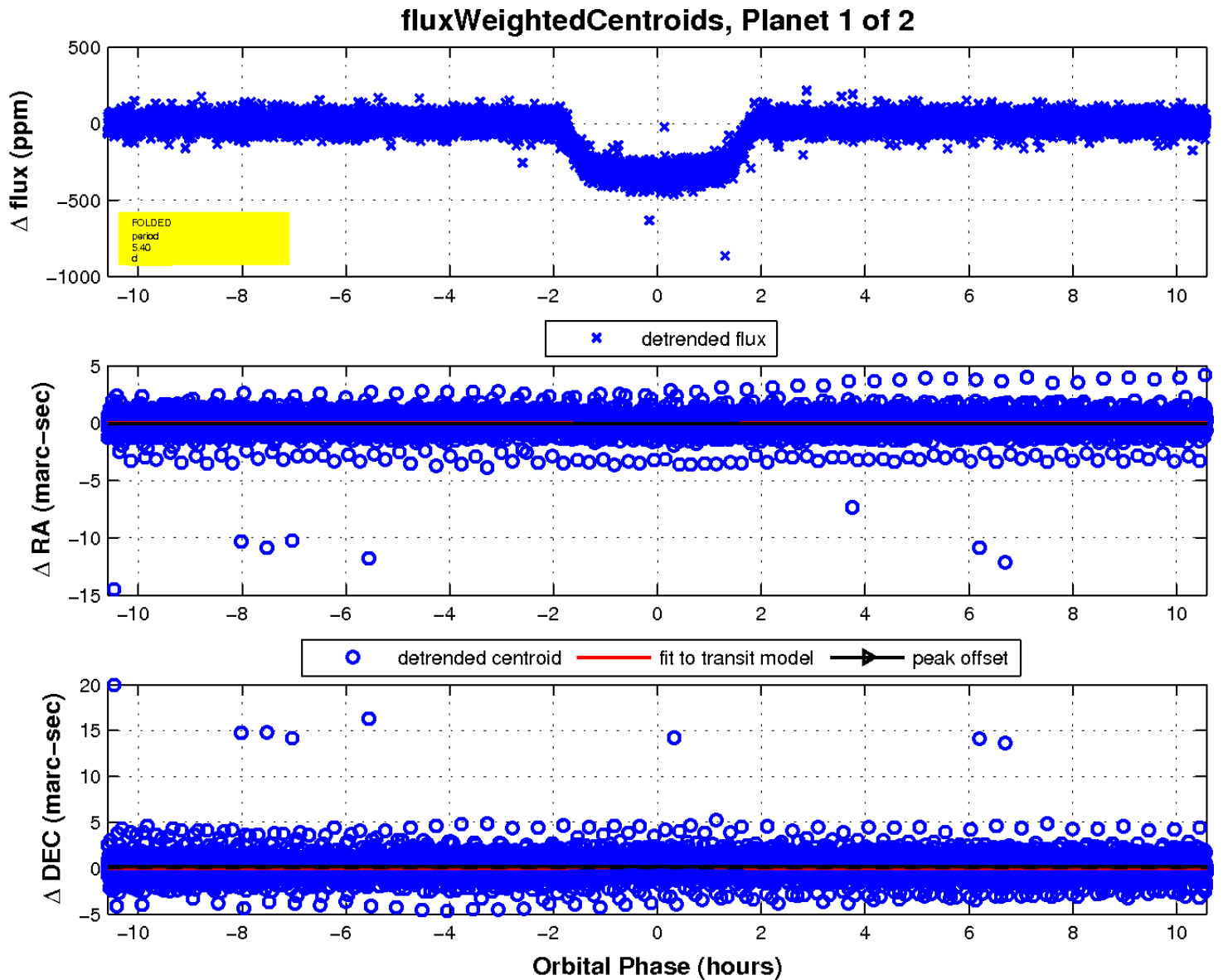
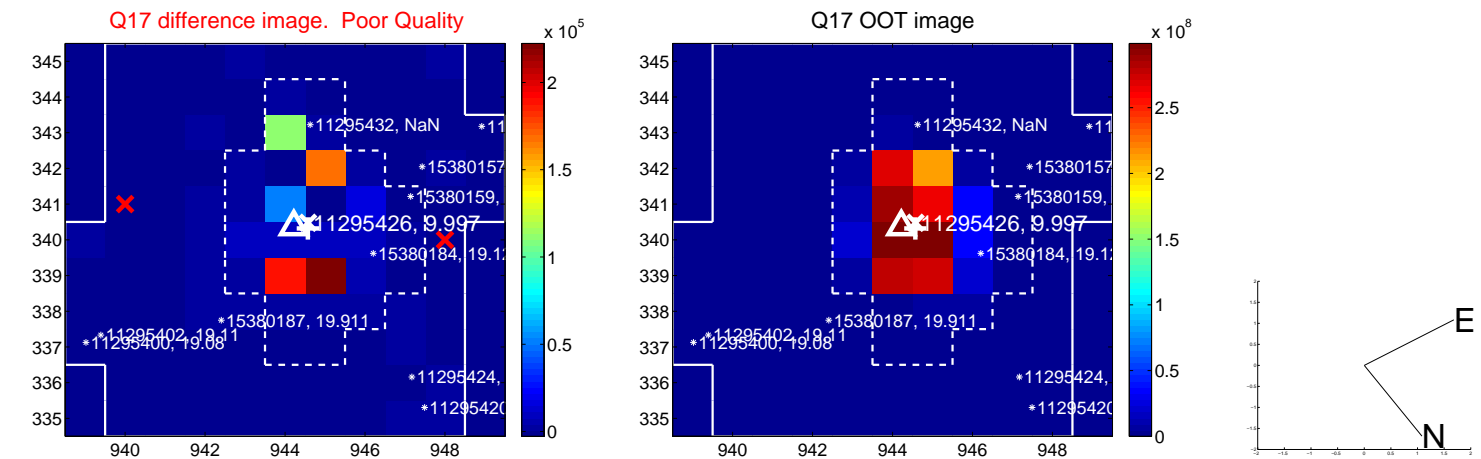
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



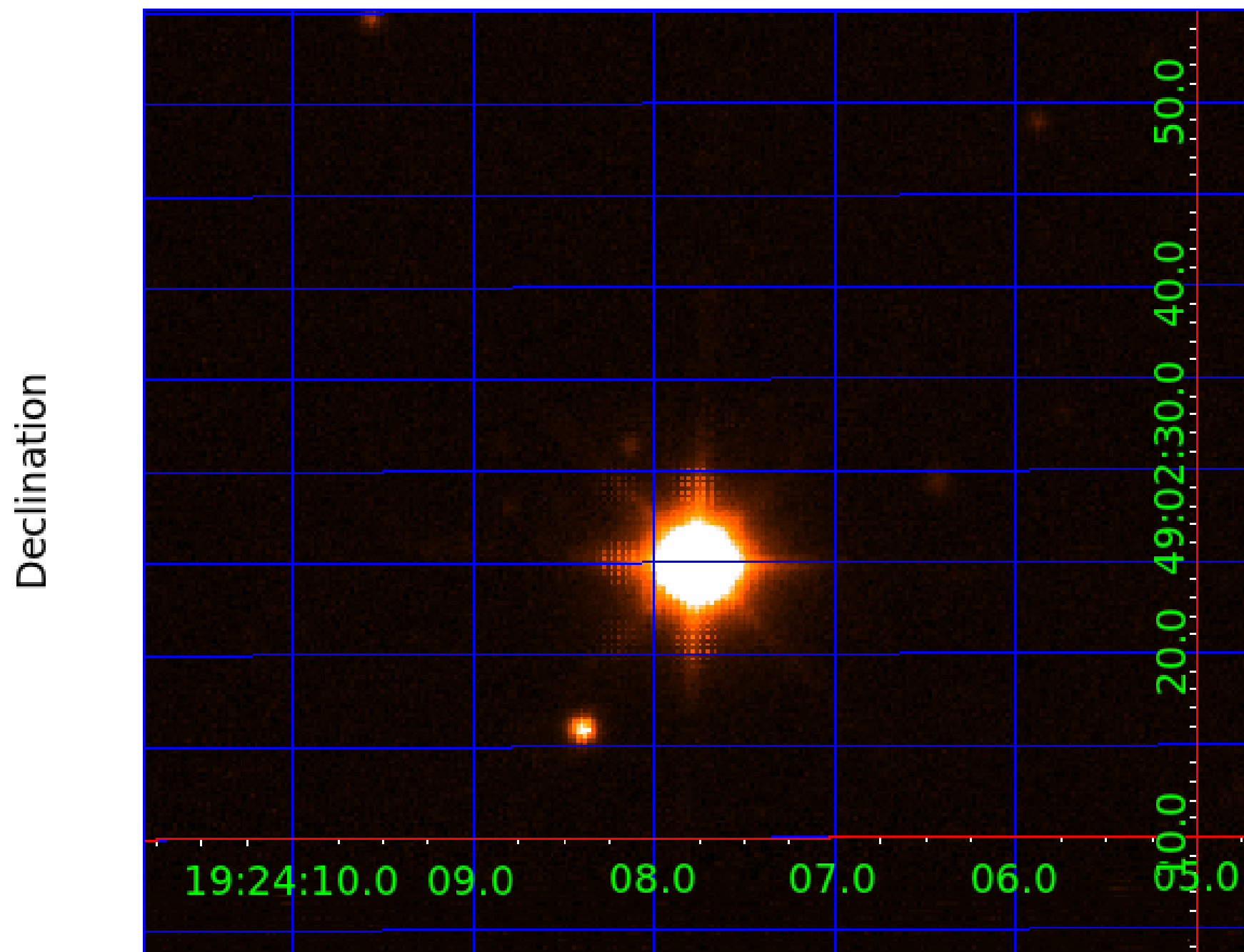
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011295426

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})
011295426-01	OBS	0246.01	5.398747	136.068198	346.6	3.530	246.8	243.0	1.20	5790	2.49	399.50
011295426-02	OBS	0246.02	9.605077	136.376692	55.2	3.043	26.3	27.5	1.20	5790	1.05	185.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011295426-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
011295426-02	OBS	PC	1.00	0	0	0	0	CENT_SATURATED

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

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

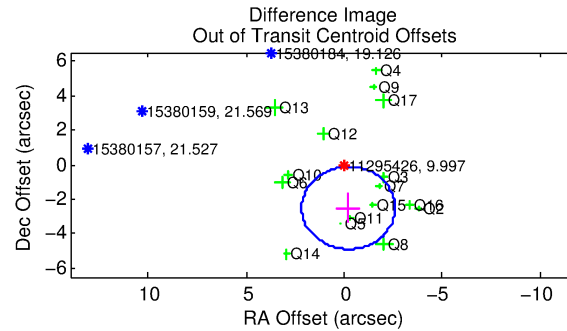
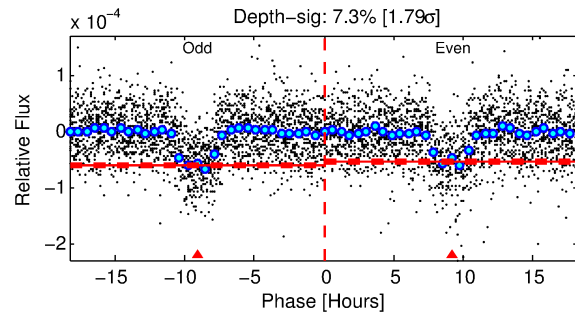
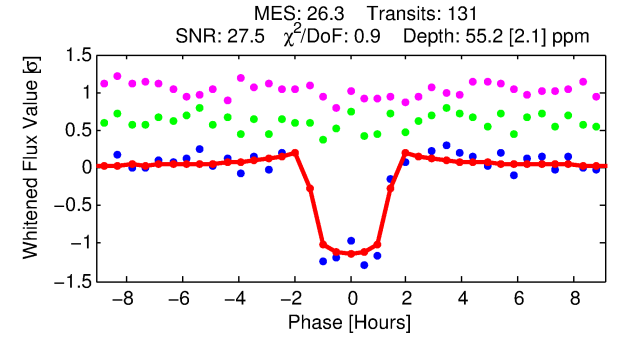
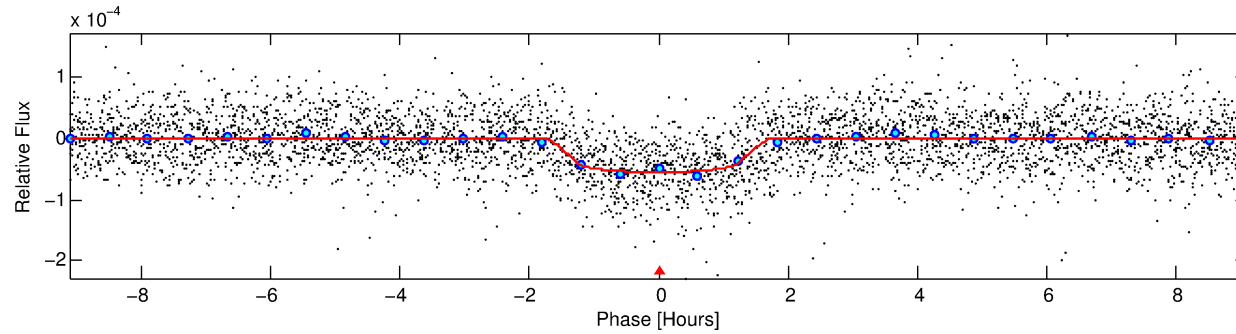
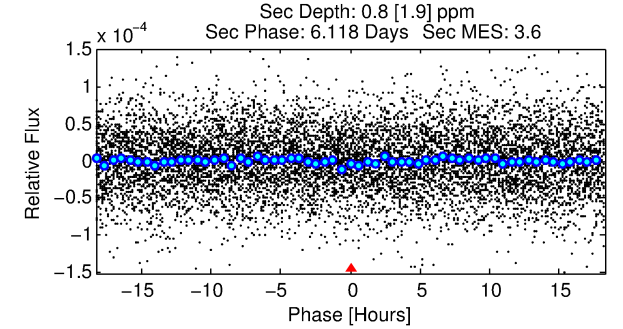
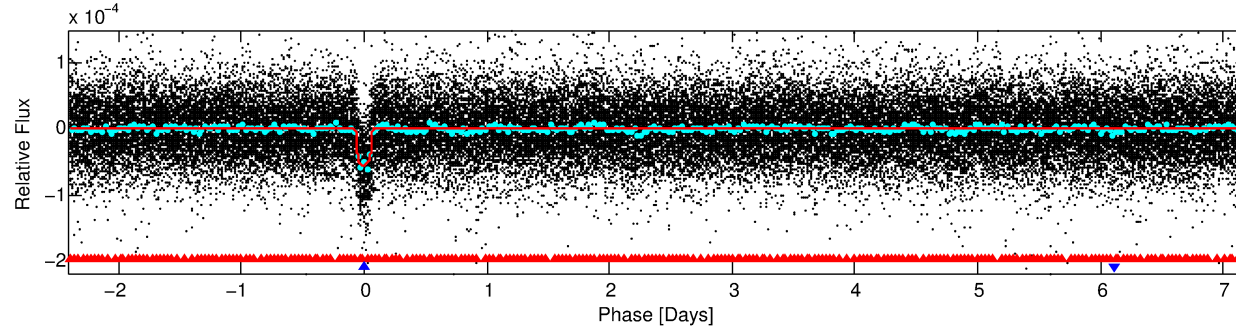
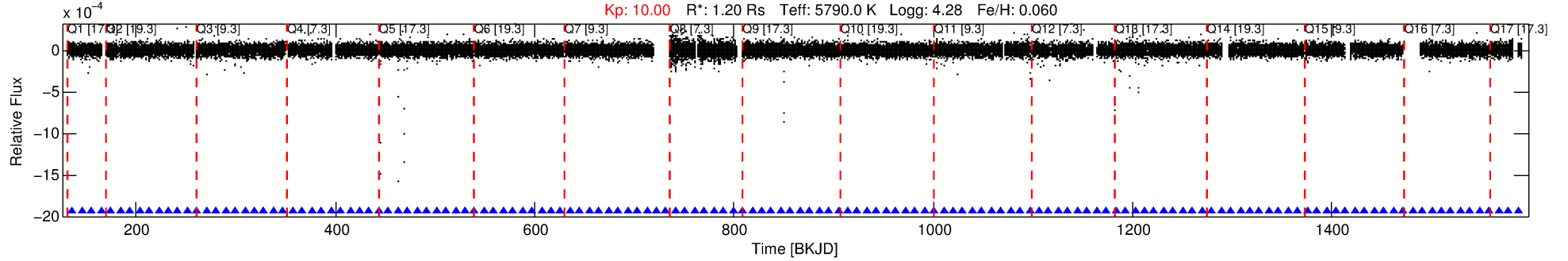
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011295426-02

No Significant Match Found

DV One-Page Summary

KIC: 11295426 Candidate: 2 of 2 Period: 9.605 d
KOI: K00246.02 Name: Kepler-68c Corr: 0.985



DV Fit Results:

Period = 9.60508 [0.00002] d
Epoch = 136.3767 [0.0020] BKJD
Rp/R* = 0.0080 [0.0016]
a/R* = 11.39 [10.61]
b = 0.89 [0.22]
Seff = 185.32 [14.84]
Teq = 941 [19] K
Rp = 1.05 [0.21] Re
a = 0.0883 [0.0039] AU
Ag = 3.24 [7.47] [0.30σ]
Teffp = 1952 [1125] K [0.90σ]

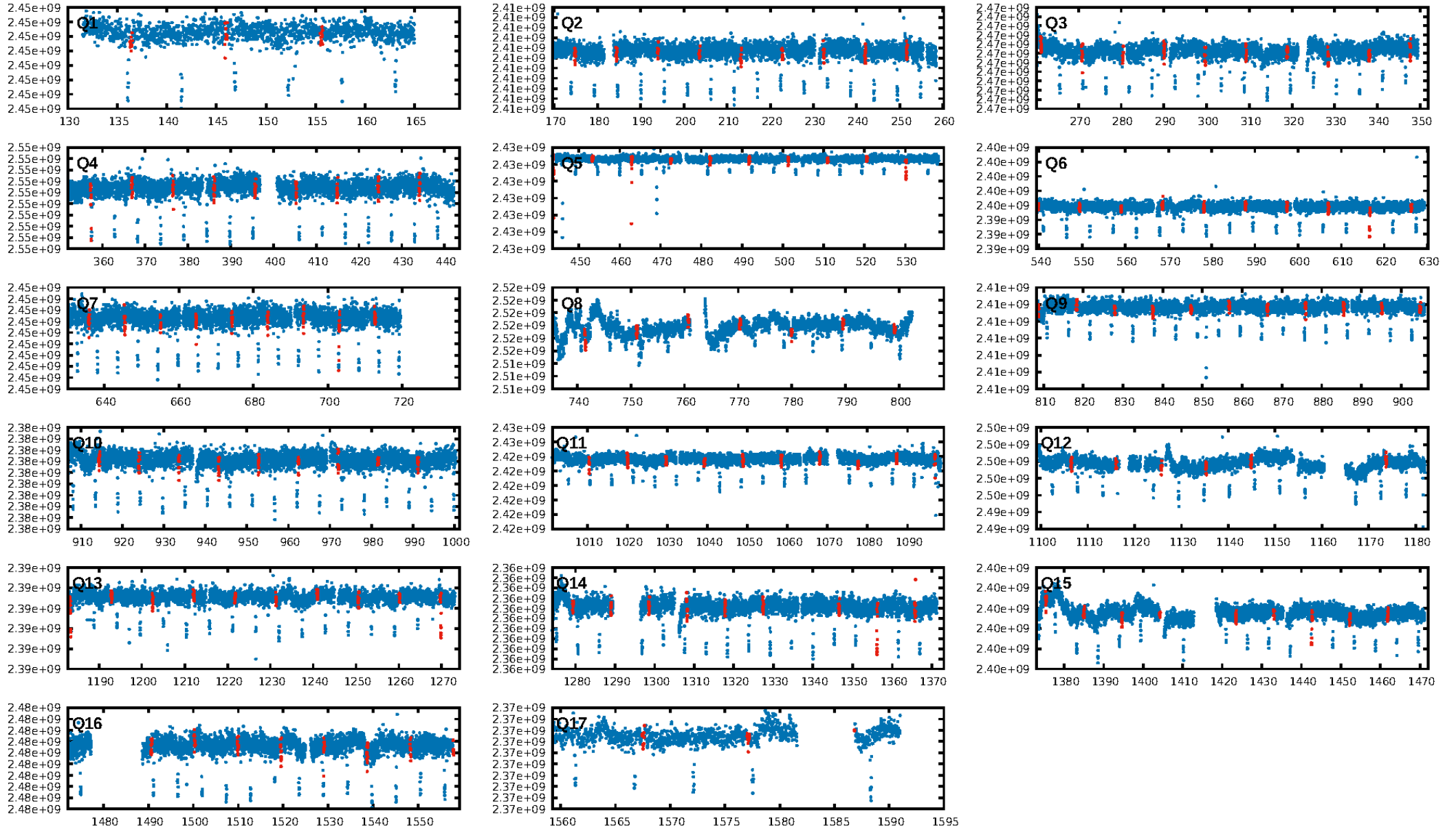
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [21.66σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.09e-136
RollingBand-fgt: 1.00 [126/126]
GhostDiagnostic-chr: N/A
Centroid-sig: 2.7%
Centroid-so: 1.082 arcsec [2.19σ]
OotOffset-rm: 2.511 arcsec [3.15σ]
KicOffset-rm: 2.690 arcsec [2.79σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.25 [4/16]
DiffImageOverlap-fno: 1.00 [17/17]

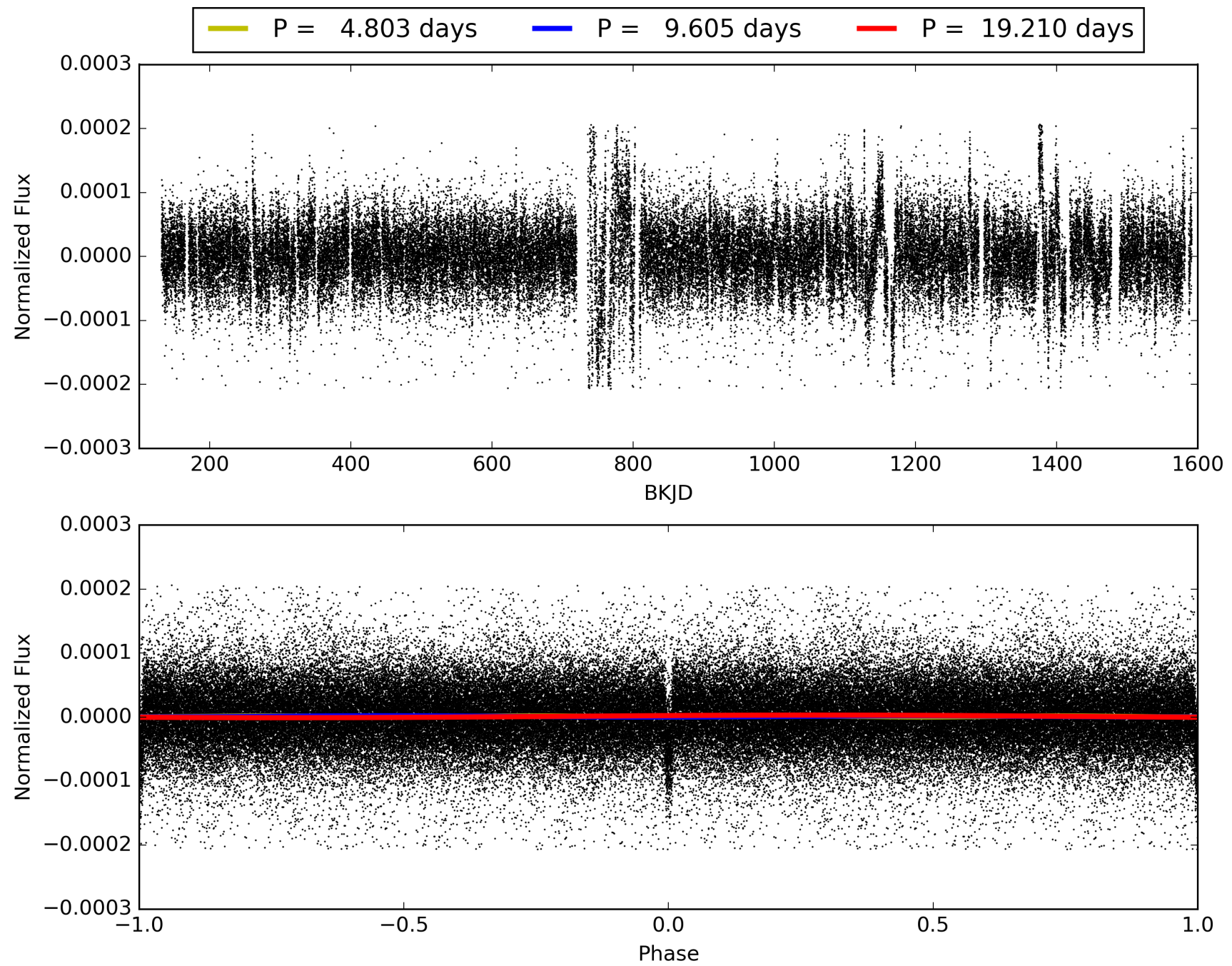
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:35:55 Z

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

TCE 011295426-02, PDC Light Curves

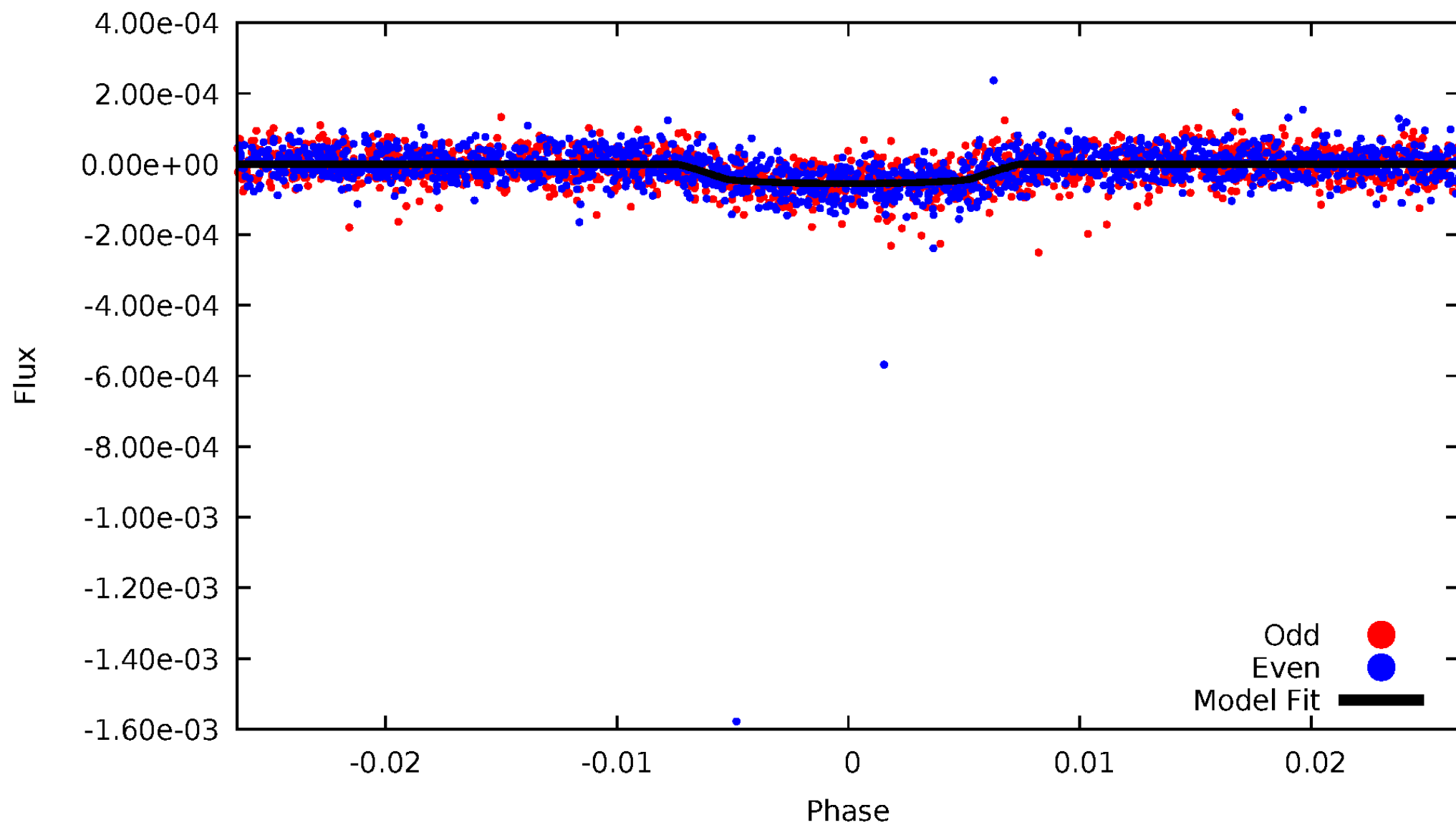


TCE 011295426-02



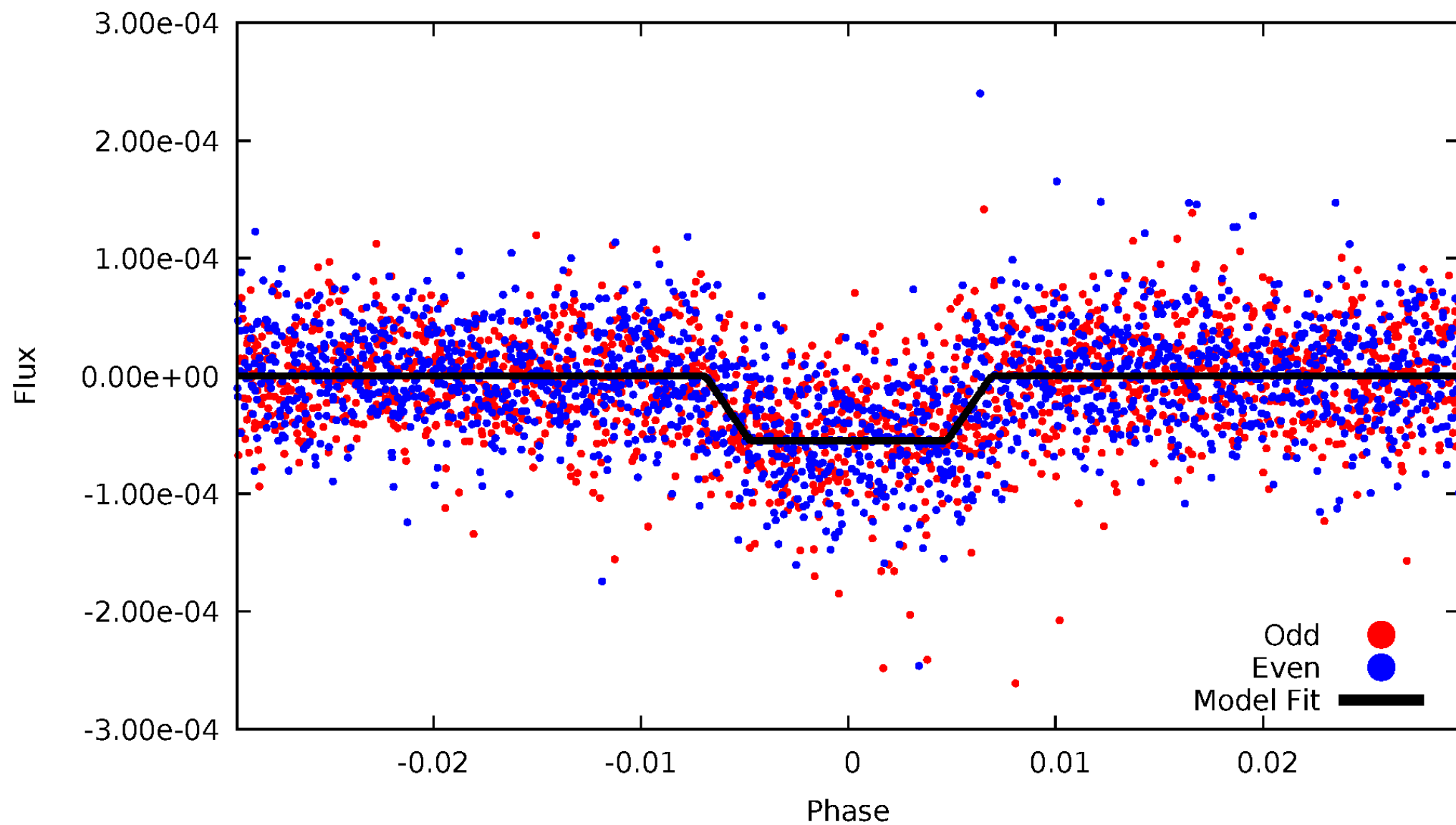
DV Odd/Even

TCE 011295426-02



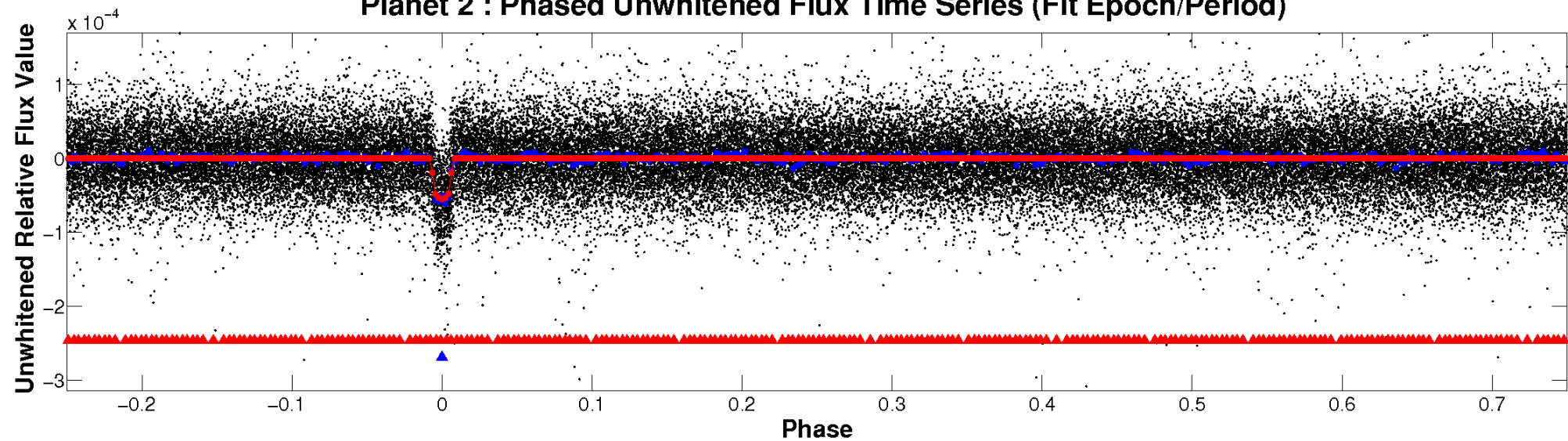
ALT Odd/Even

TCE 011295426-02

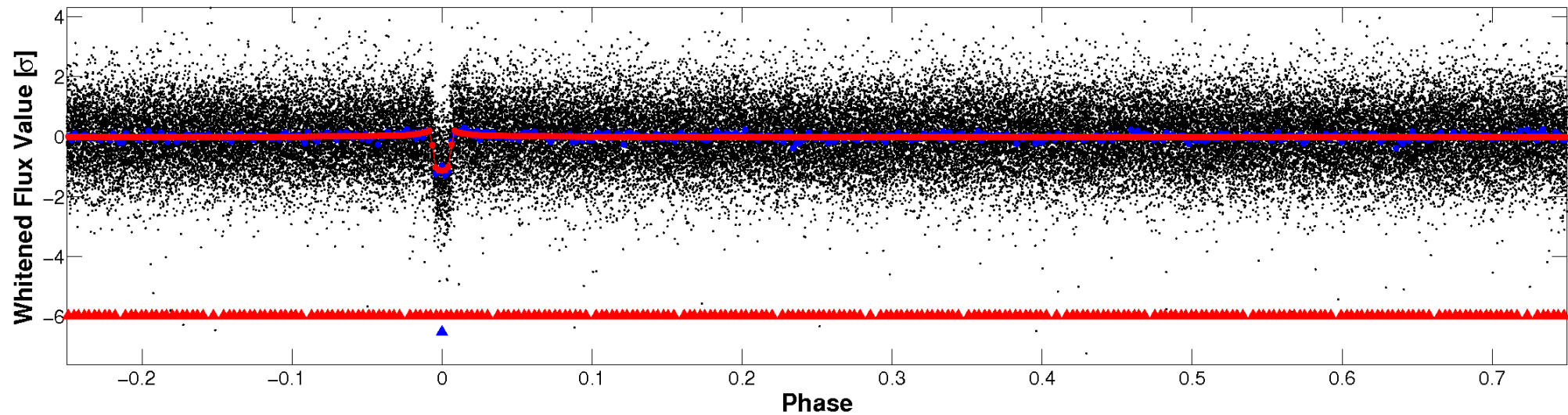


Non-Whitened Vs. Whitened Light Curve

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

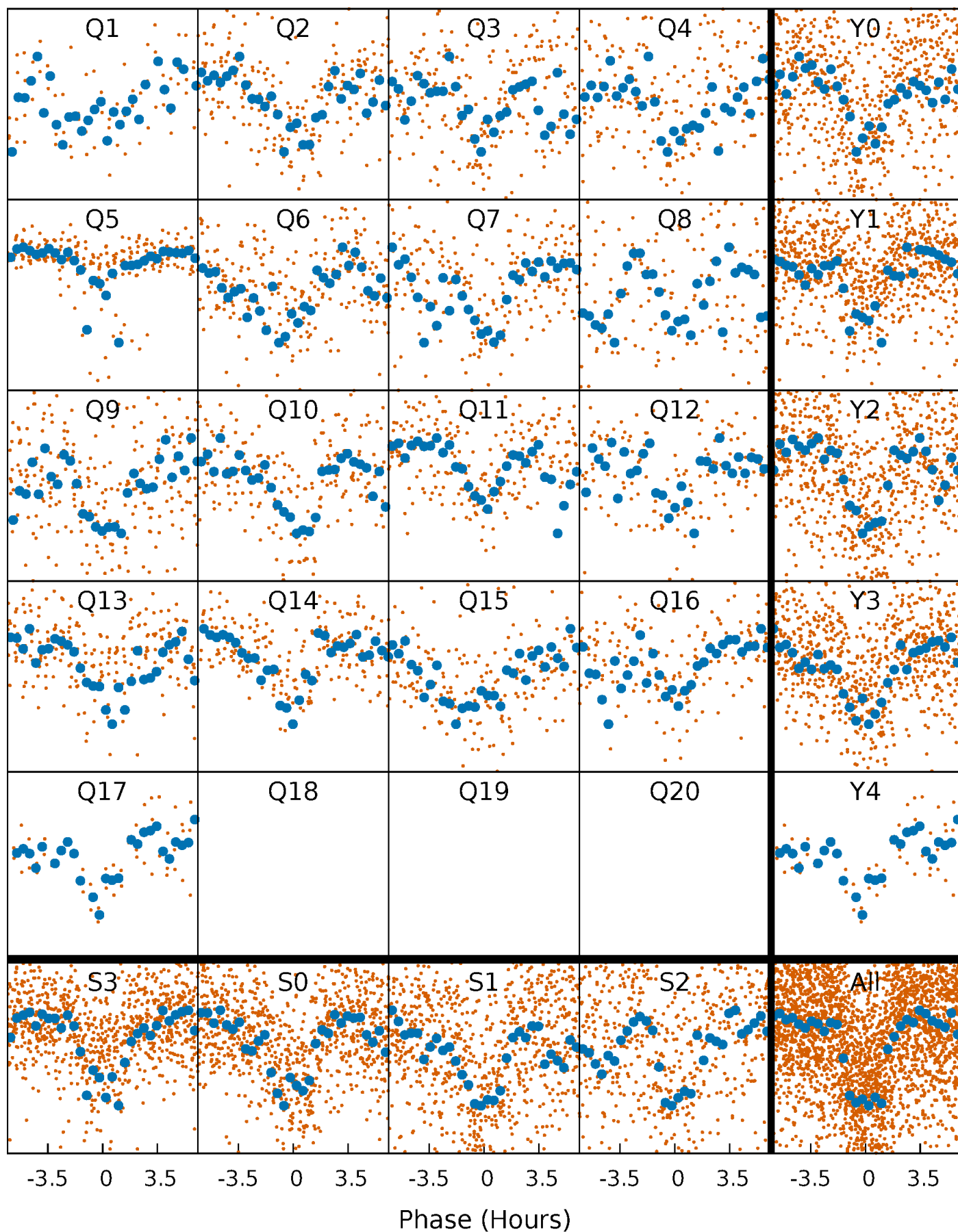


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



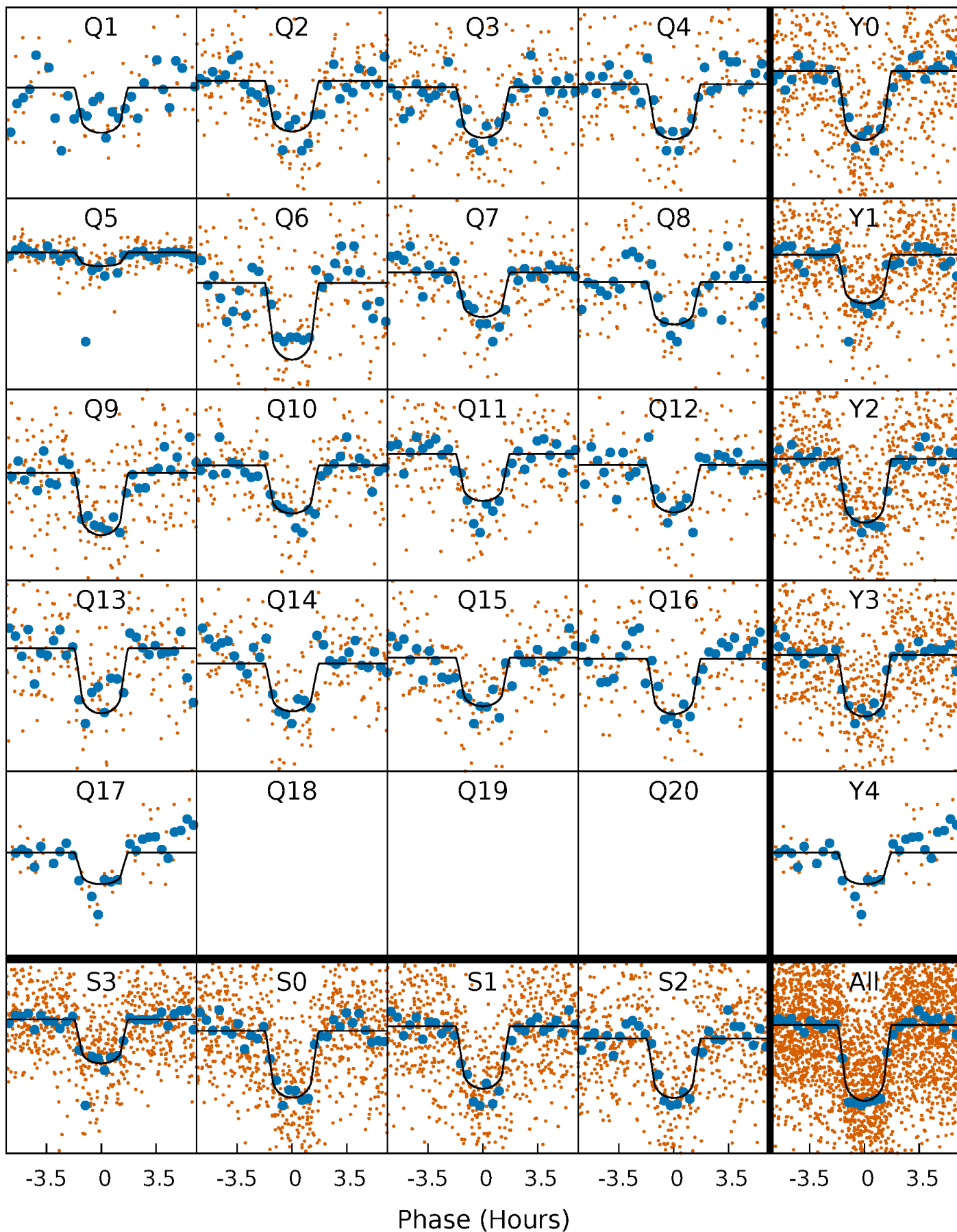
PDC Quarter-Phased Transit Curves

TCE 011295426-02 P= 9.605077 Days $T_0=136.376692$ (BKJD)



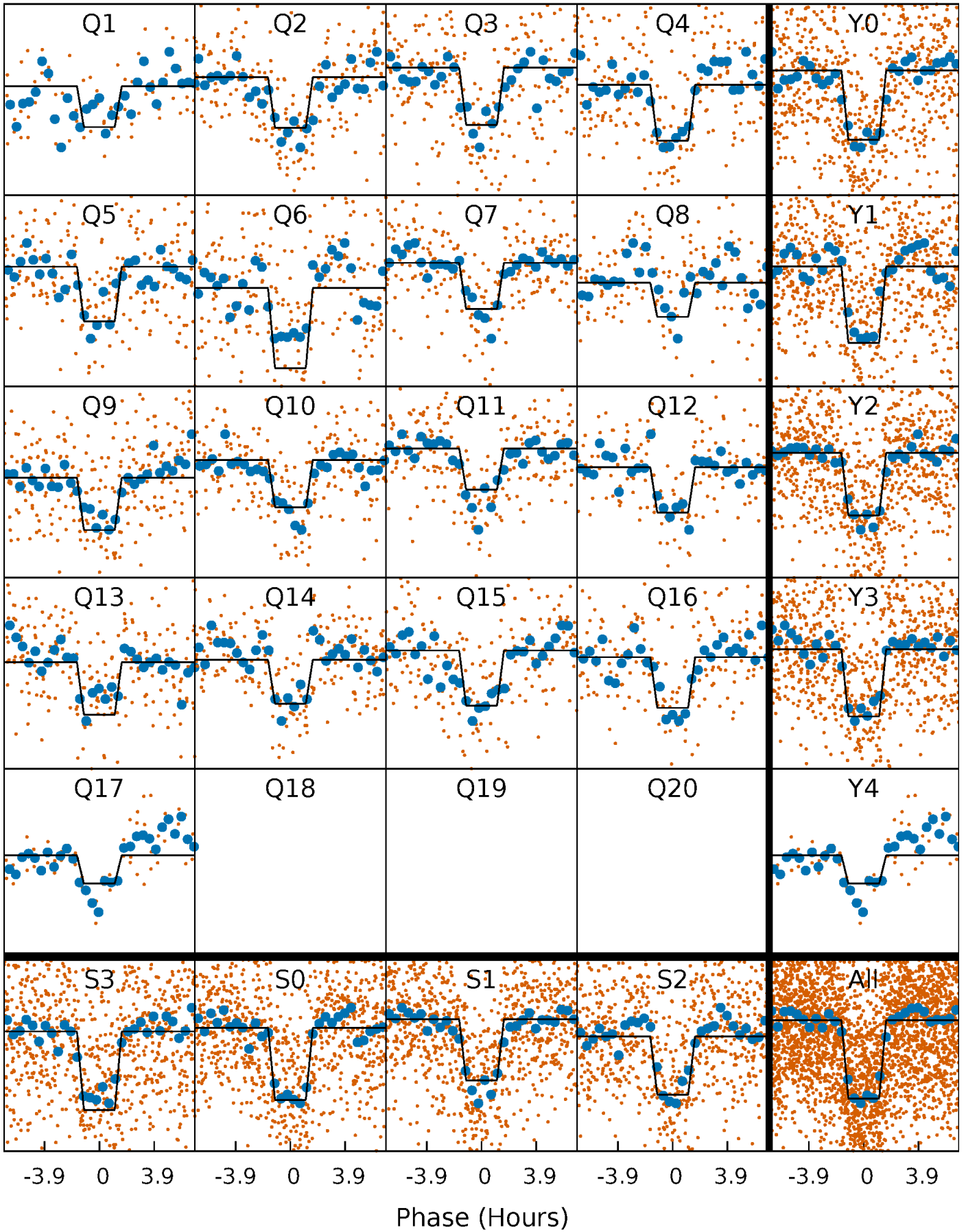
DV Quarter-Phased Transit Curves

TCE 011295426-02 P= 9.605077 Days $T_0=136.376692$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

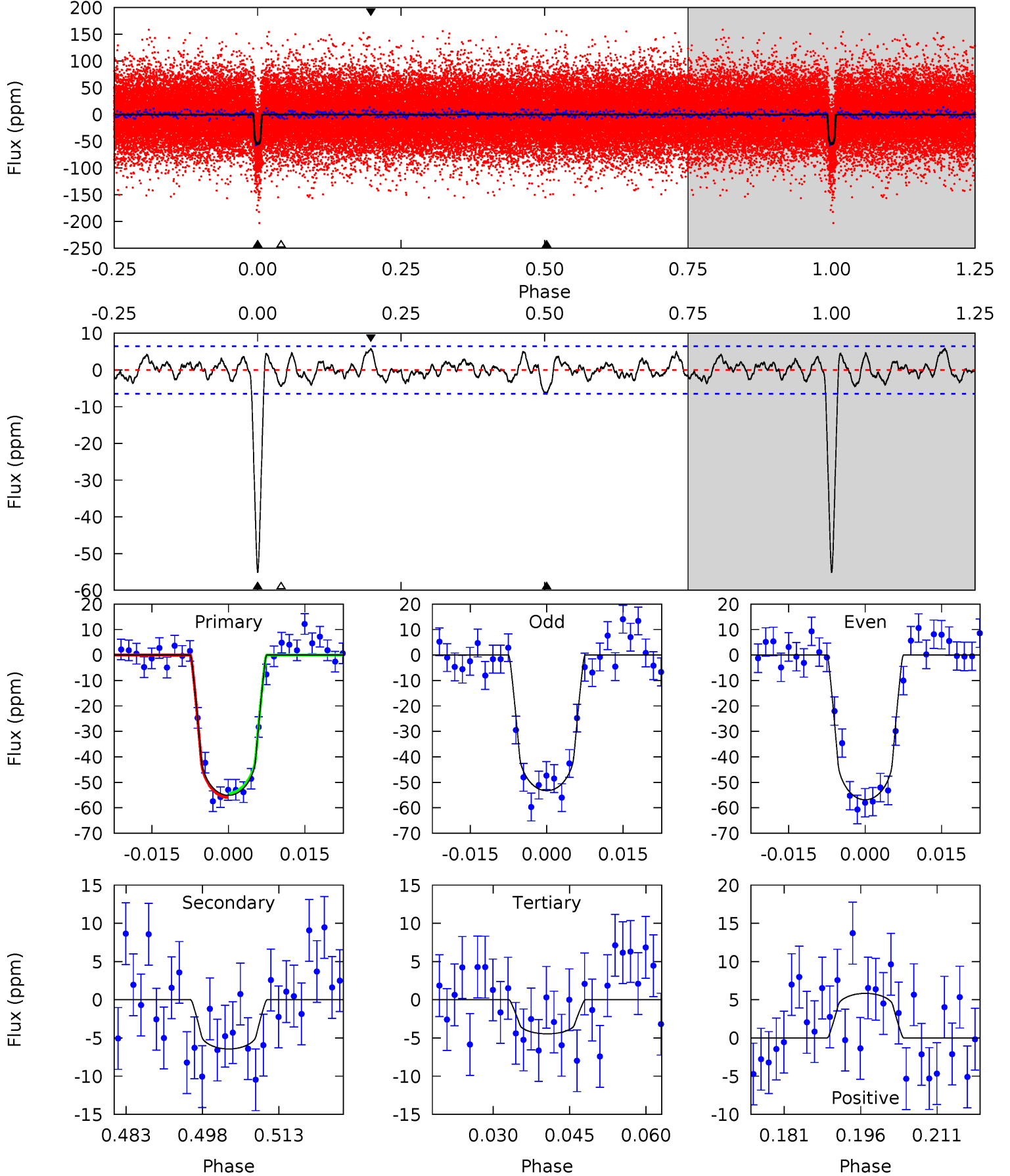
TCE 011295426-02 $P = 9.605042$ Days $T_0 = 136.380480$ (BKJD)



DV Model-Shift Uniqueness Test

011295426-02, P = 9.605077 Days, E = 126.771615 Days

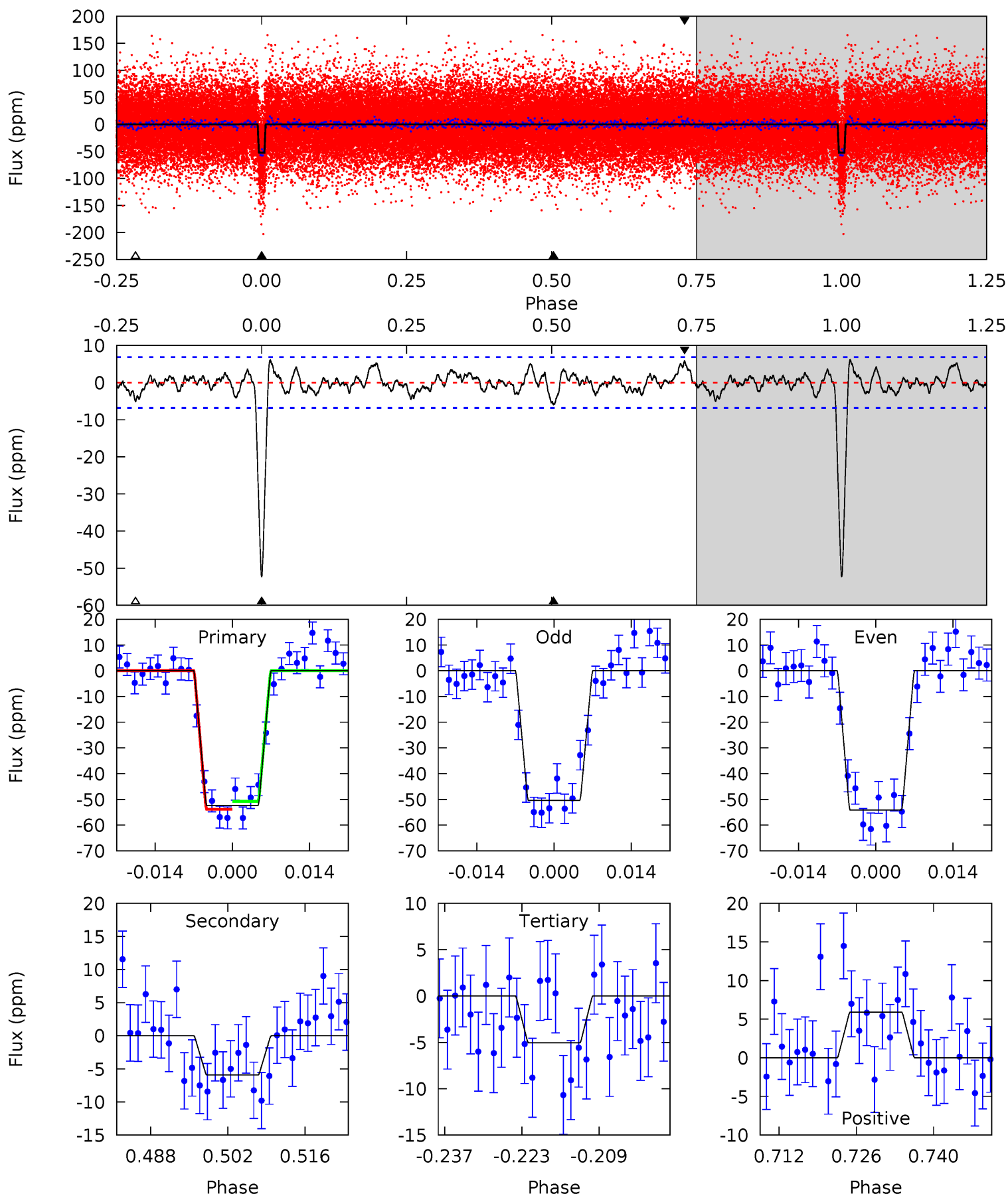
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.1	4.92	3.41	4.46	4.95	2.43	1.47	38.7	37.7	1.51	0.46	1.37	1.10	0.10	0.64



Alt Model-Shift Uniqueness Test

011295426-02, P = 9.605042 Days, E = 126.775438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.9	4.30	3.66	4.29	4.96	2.46	1.42	34.3	33.6	0.64	0.01	1.36	1.02	0.10	1.13



Stellar Parameters For KIC 011295426

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5790^{+78}_{-78}	$4.279^{+0.030}_{-0.027}$	$0.060^{+0.150}_{-0.150}$	$1.198^{+0.067}_{-0.061}$	$0.997^{+0.080}_{-0.066}$	$0.816^{+0.099}_{-0.080}$
	+1%/-1%	+1%/-1%	+250%/-250%	+6%/-5%	+8%/-7%	+12%/-10%
Source	SPE72	AST69	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 011295426-02 / KOI 0246.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 1	$1.06^{+0.21}_{-0.21}$	1314^{+23}_{-24}	3659^{+295}_{-248}	25^{+14}_{-9}
Alt.	-6 ± 1	$0.98^{+0.20}_{-0.21}$	1315^{+21}_{-23}	3705^{+346}_{-261}	27^{+18}_{-10}

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 $A_{obs} \gg 1.0$

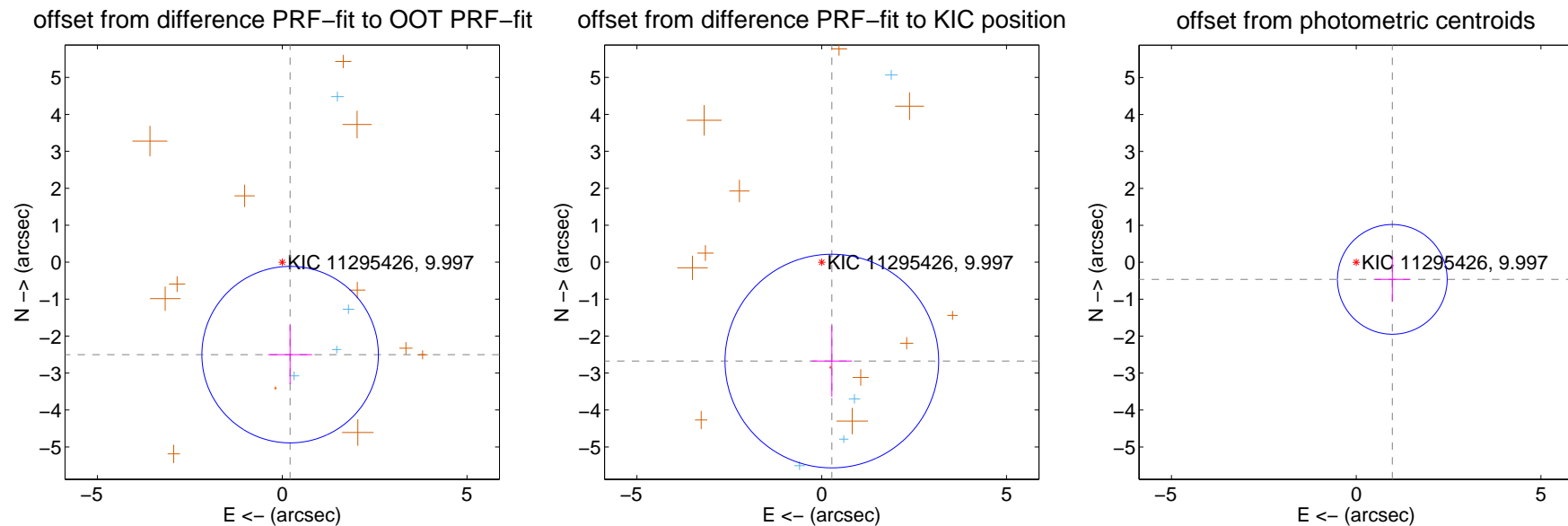
DV Centroid Data

Supplemental centroid analysis for 011295426-02. **Kepler magnitude: 10.00.** Transit SNR 27.54

There are 4 quarters with good PRF difference image offsets

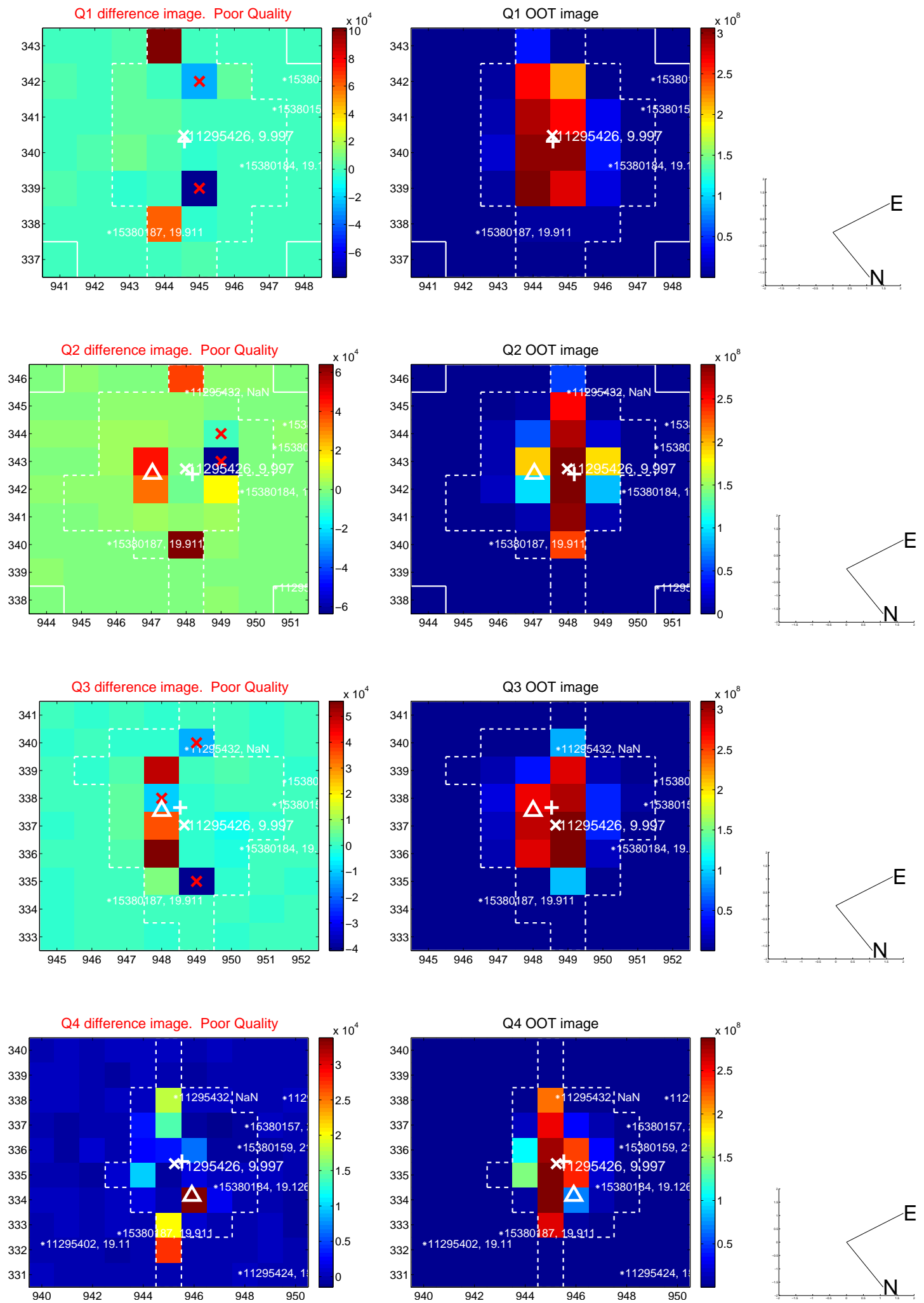
The direct PRF centroid is offset from the target star catalog position by about 0.61 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.511 ± 0.796	3.15	-0.214 ± 0.594	-2.502 ± 0.800
PRF-fit source offset from KIC position	2.690 ± 0.964	2.79	-0.274 ± 0.547	-2.676 ± 0.962
photometric centroid source offset	1.08 ± 0.50	2.19	-0.98 ± 0.47	-0.46 ± 0.60

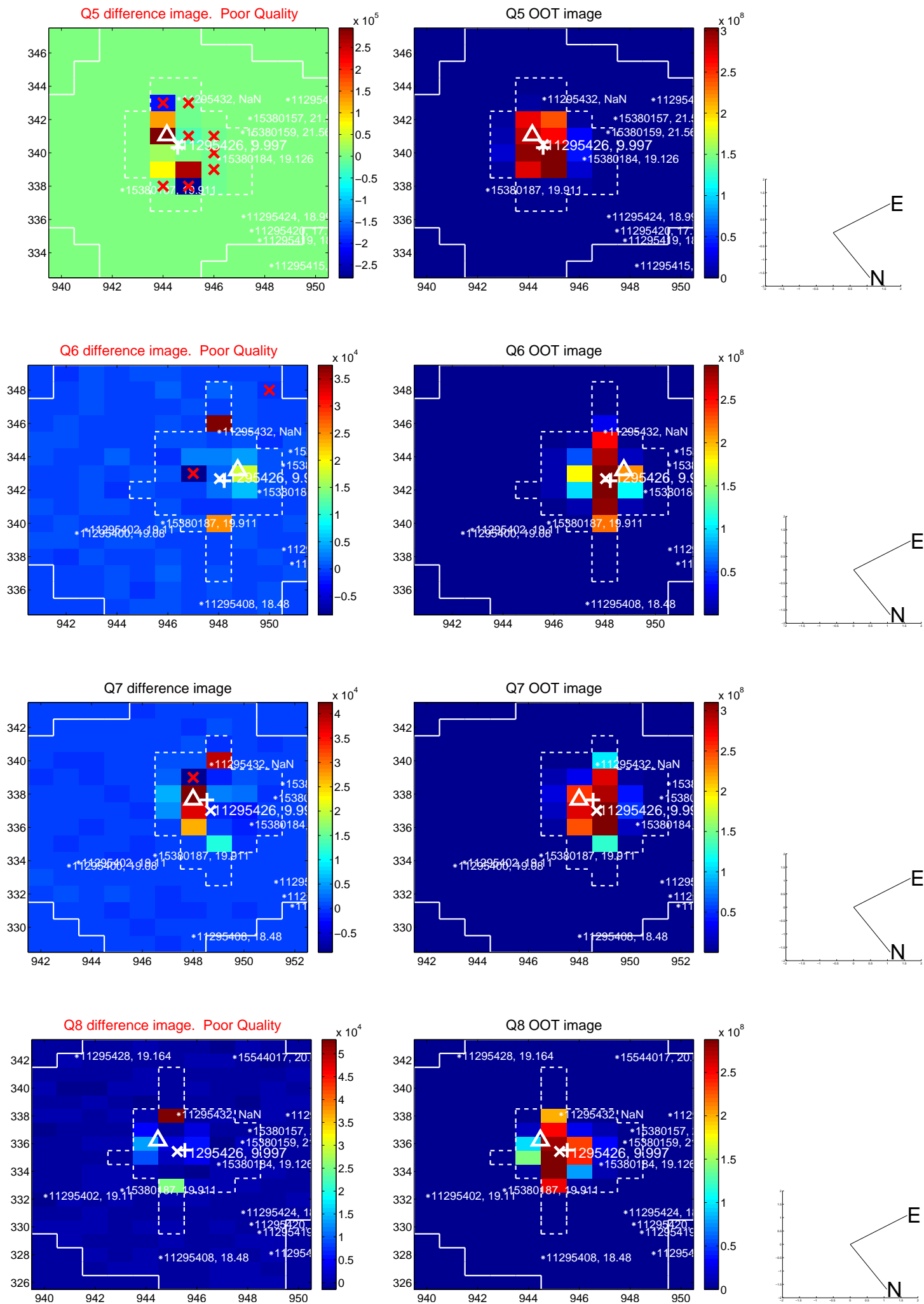


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

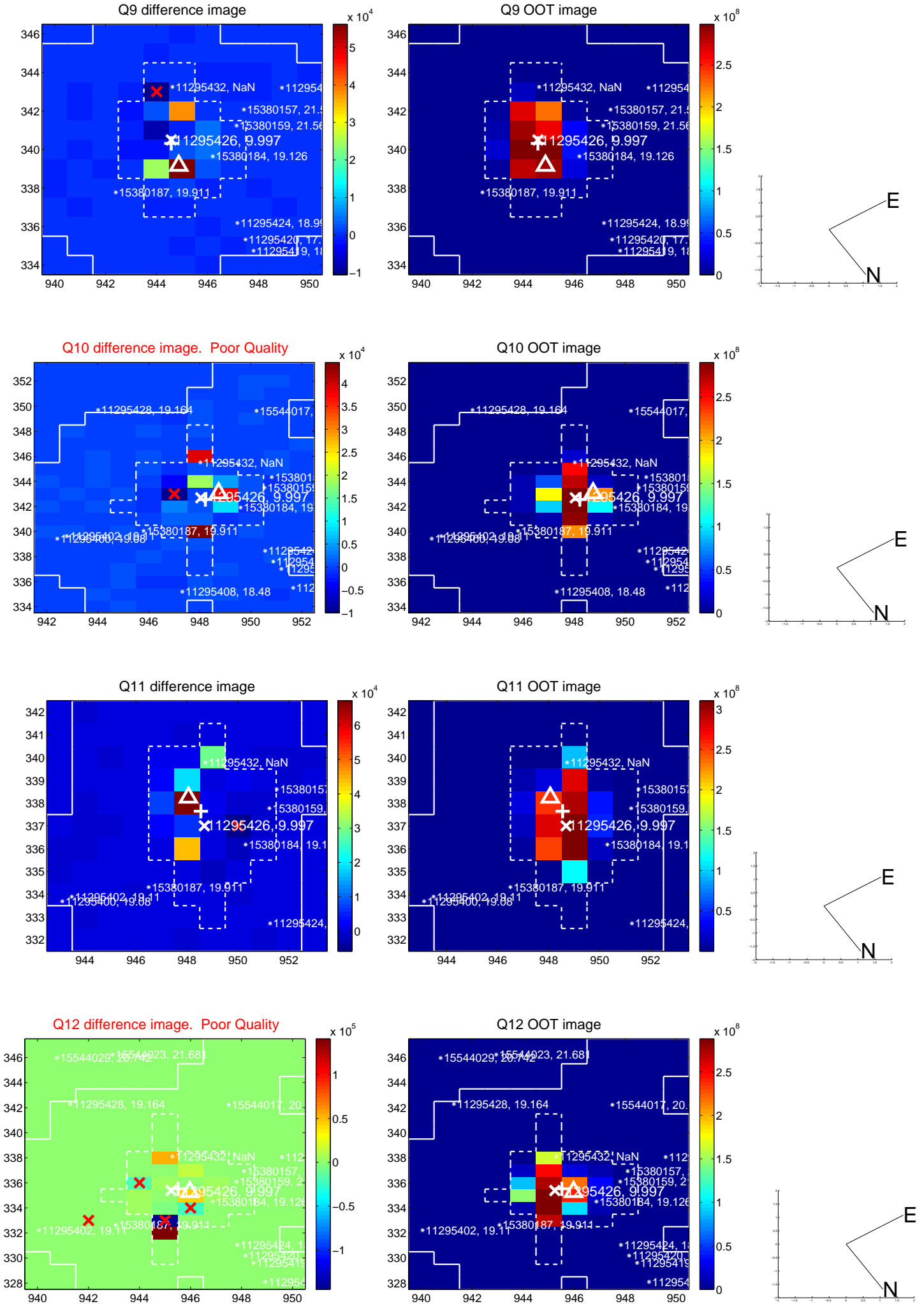
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



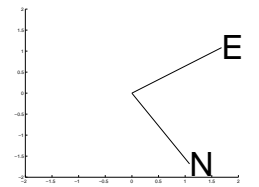
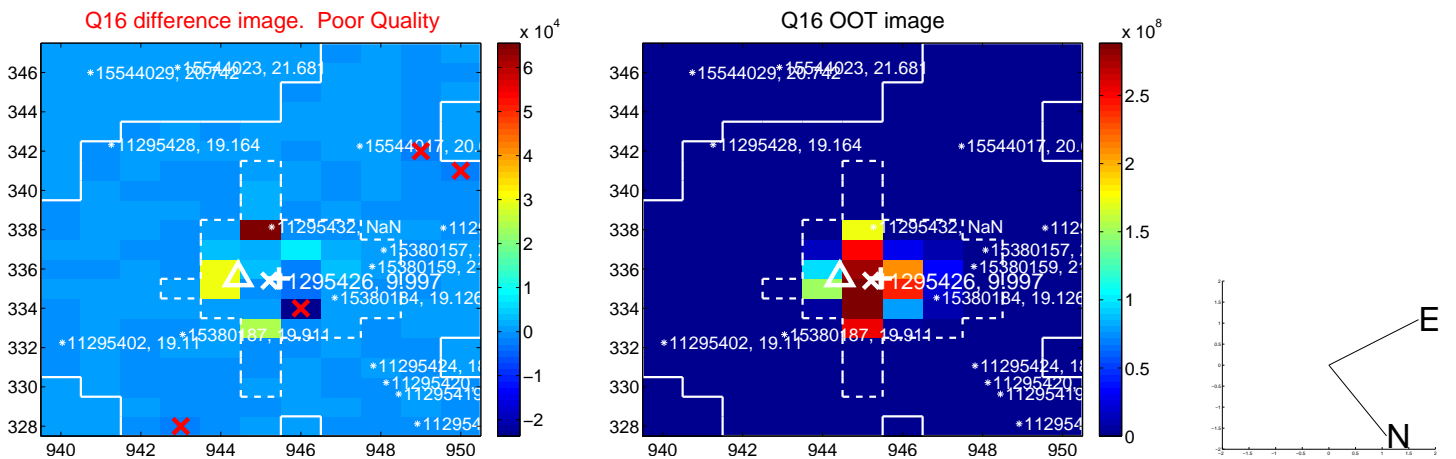
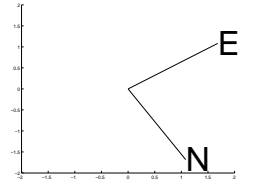
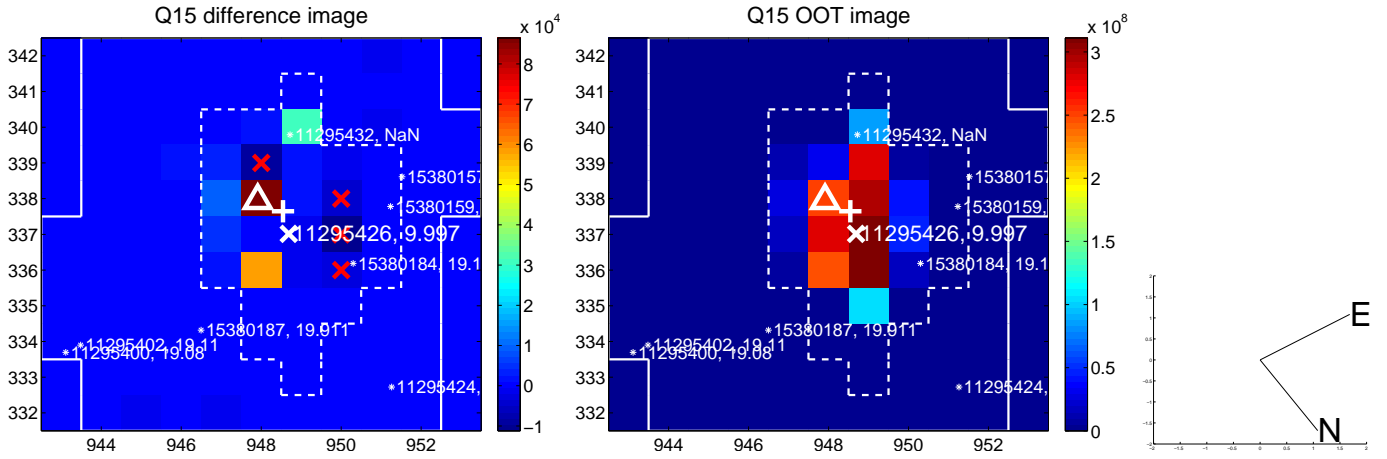
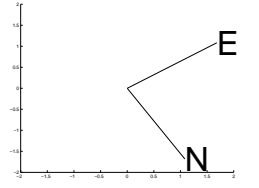
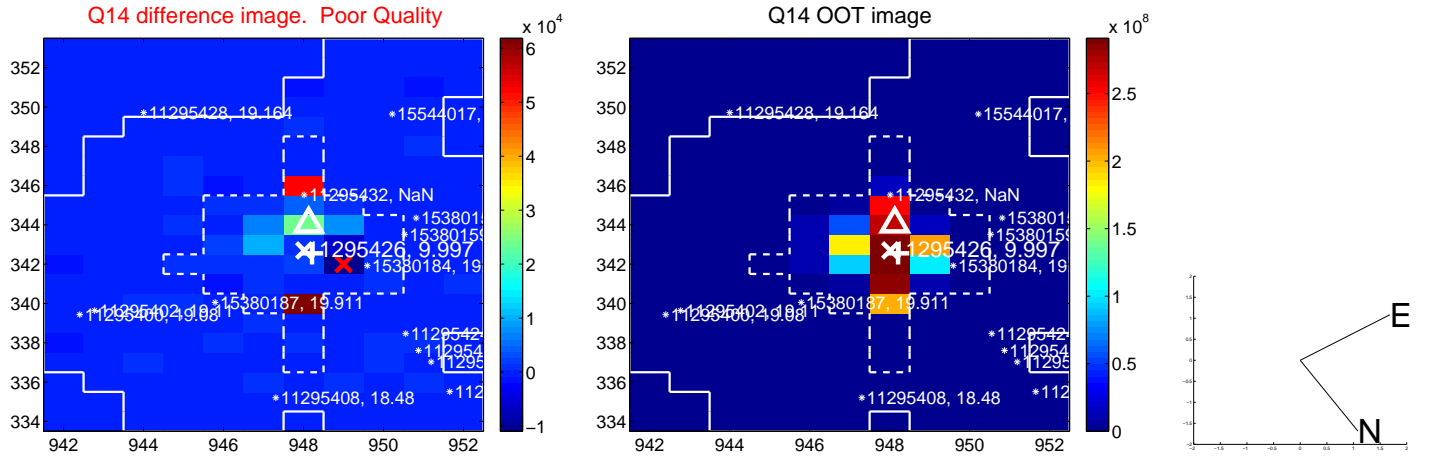
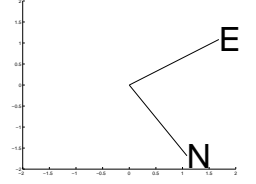
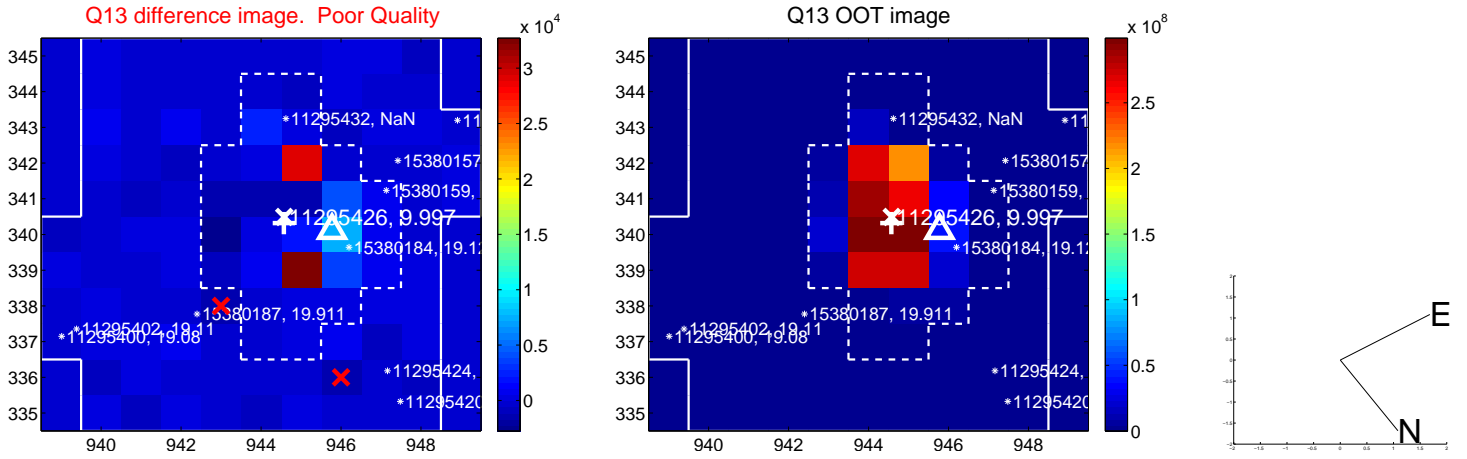
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



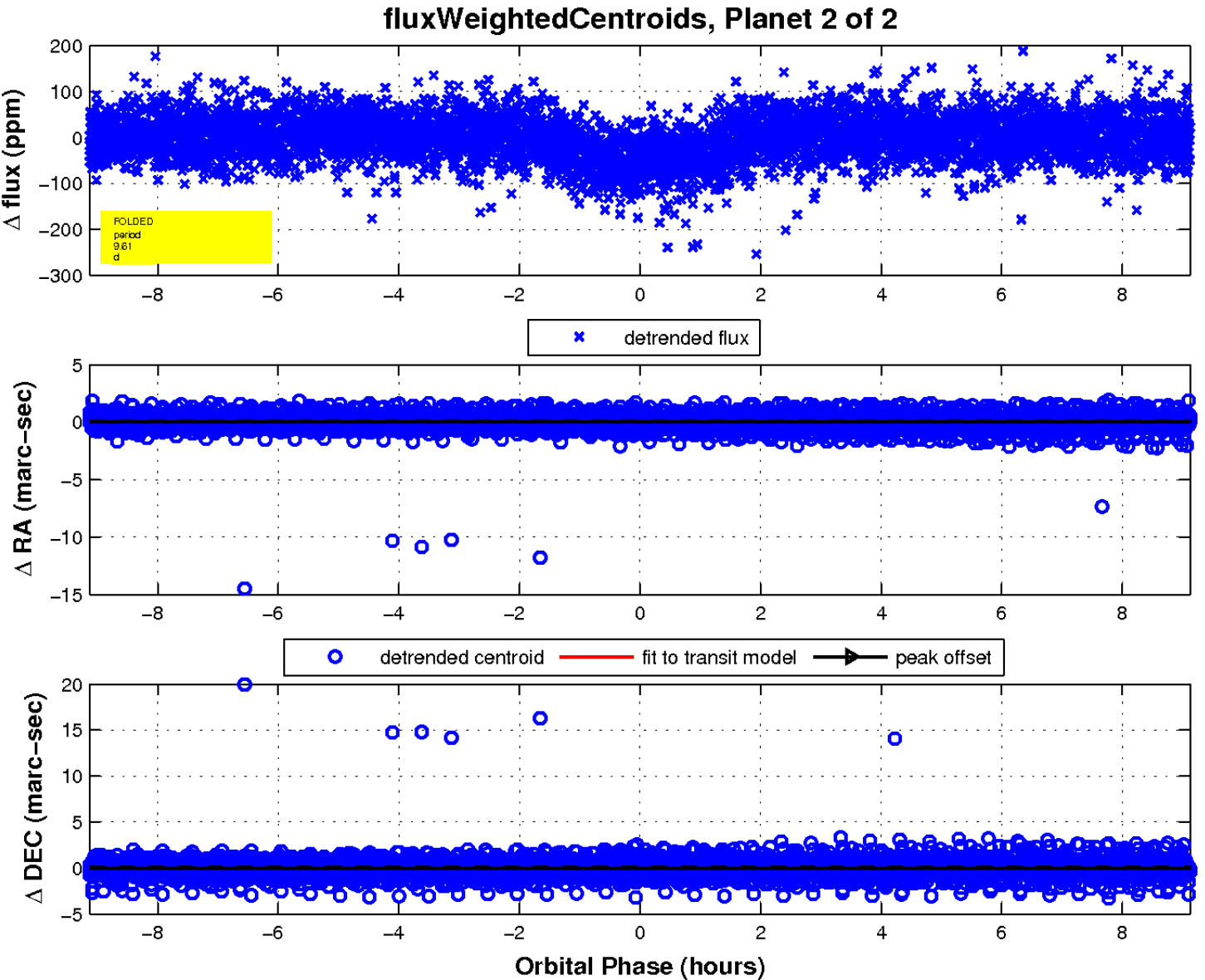
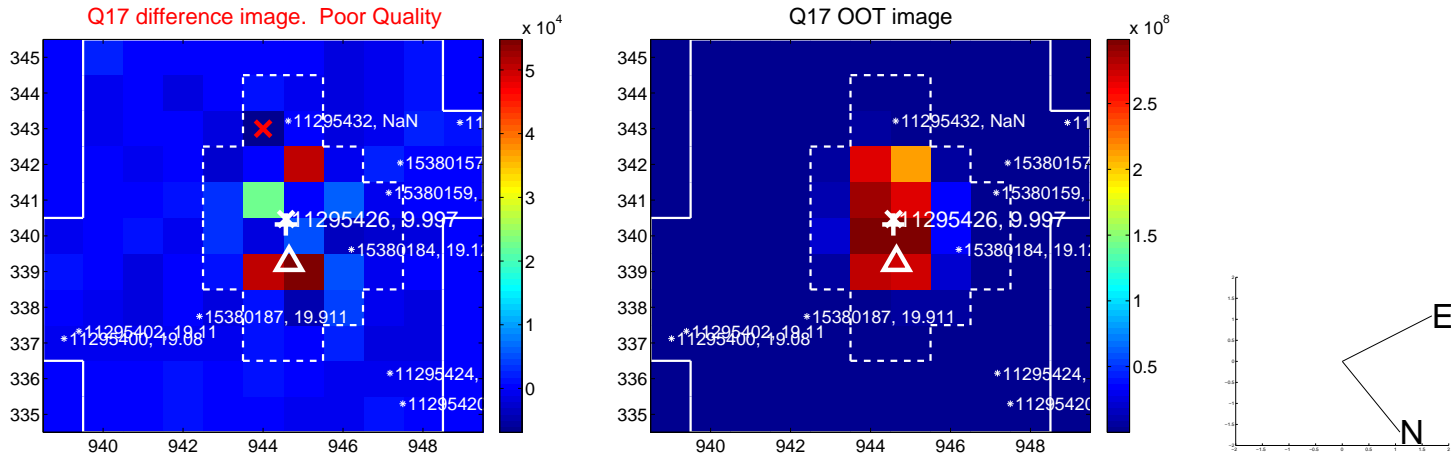
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UKIRT Image

