

KIC 006579643

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})
006579643-01	OBS	No	1.465483	131.872299	363.4	3.356	10.9	11.3	2.87	7025	6.36	21592.10
006579643-02	OBS	No	0.736798	131.552166	225.0	5.340	9.5	9.6	2.87	7025	4.62	54009.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006579643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006579643-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

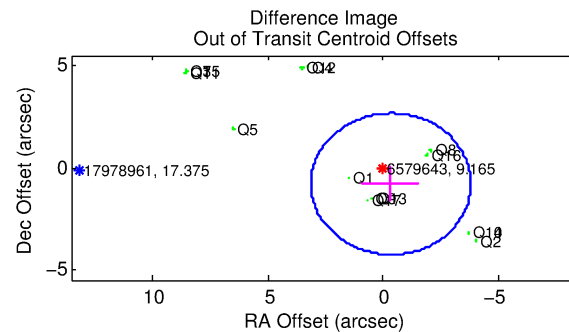
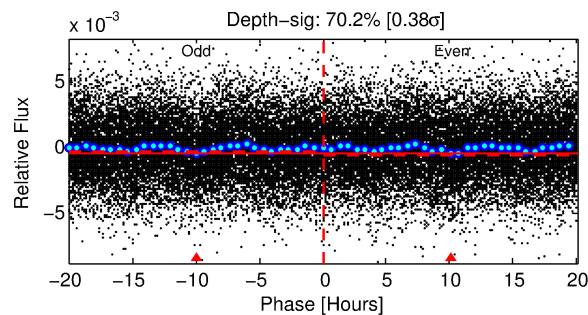
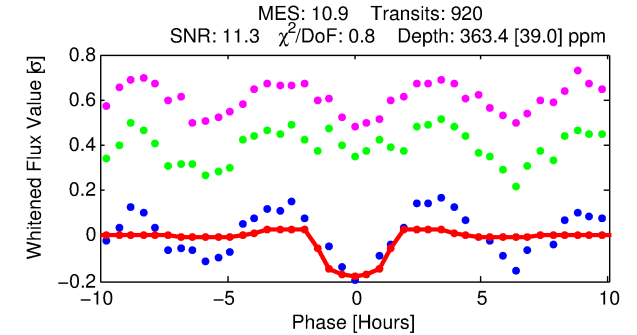
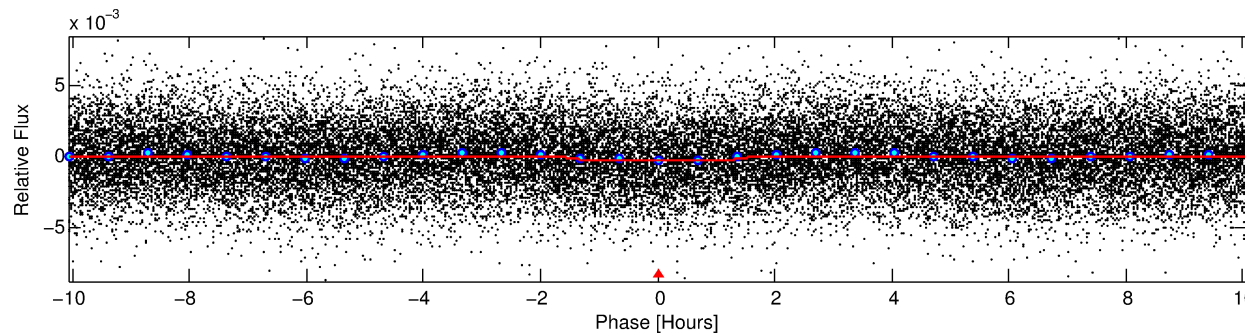
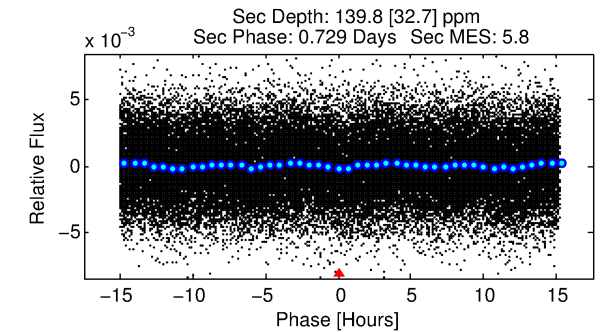
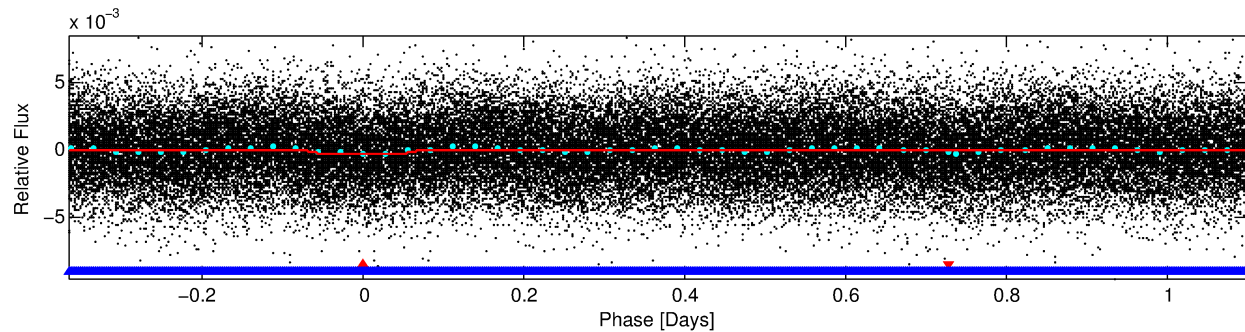
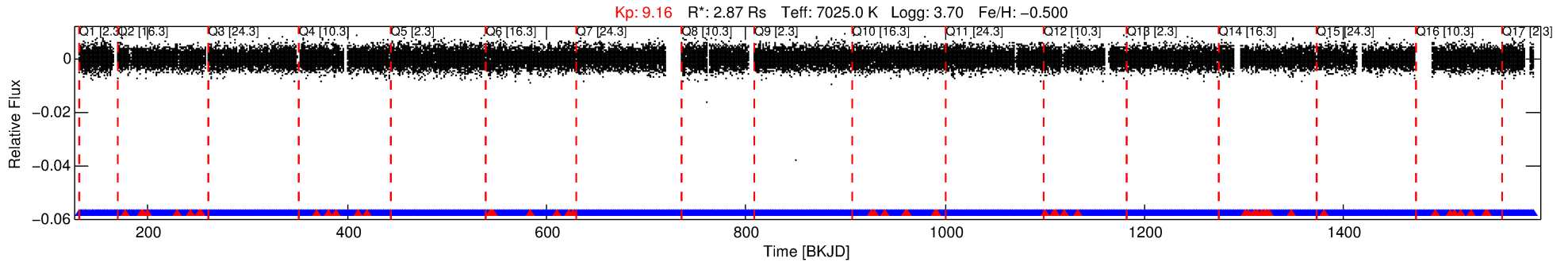
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006579643-01

No Significant Match Found

DV One-Page Summary

KIC: 6579643 Candidate: 1 of 2 Period: 1.465 d



DV Fit Results:

Period = 1.46548 [0.00001] d
Epoch = 131.8723 [0.0036] BKJD
Rp/R* = 0.0203 [0.0043]
a/R* = 1.86 [1.63]
b = 0.90 [0.26]
Seff = 21592.10 [20987.52]
Teff = 3091 [751] K
Rp = 6.36 [3.75] Re
a = 0.0289 [0.0166] AU
Ag = 1.59 [1.70] [0.34σ]
Teffp = 5363 [690] K [2.23σ]

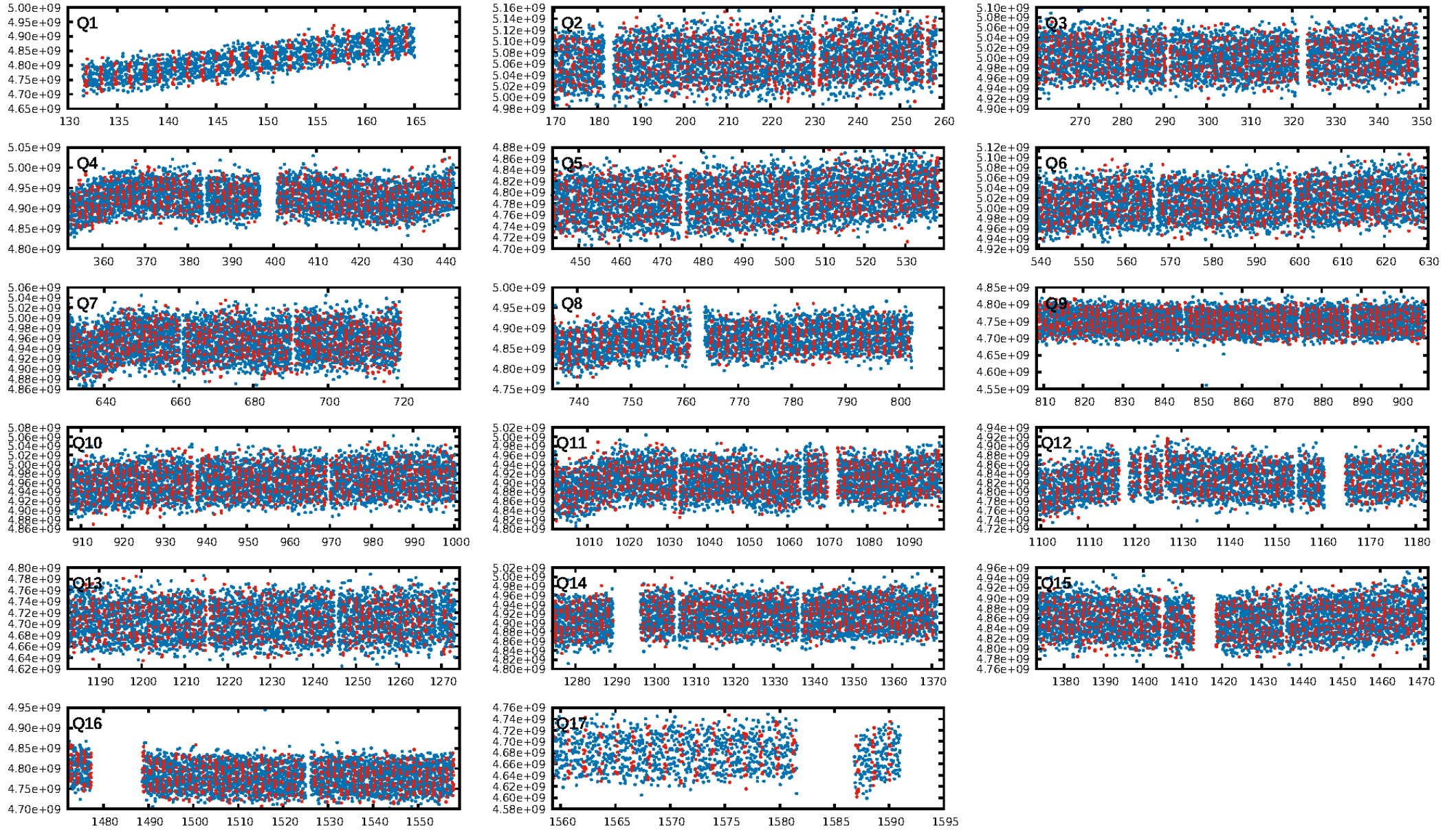
DV Diagnostic Results:

ShortPeriod-sig: 99.4% [2.77σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.37e-14
RollingBand-fgt: 0.94 [829/878]
GhostDiagnostic-chr: N/A
Centroid-sig: 6.8%
Centroid-so: 0.025 arcsec [0.16σ]
OotOffset-rm: 0.862 arcsec [0.75σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-rm: 1.262 arcsec [1.23σ]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 0.00 [0/17]

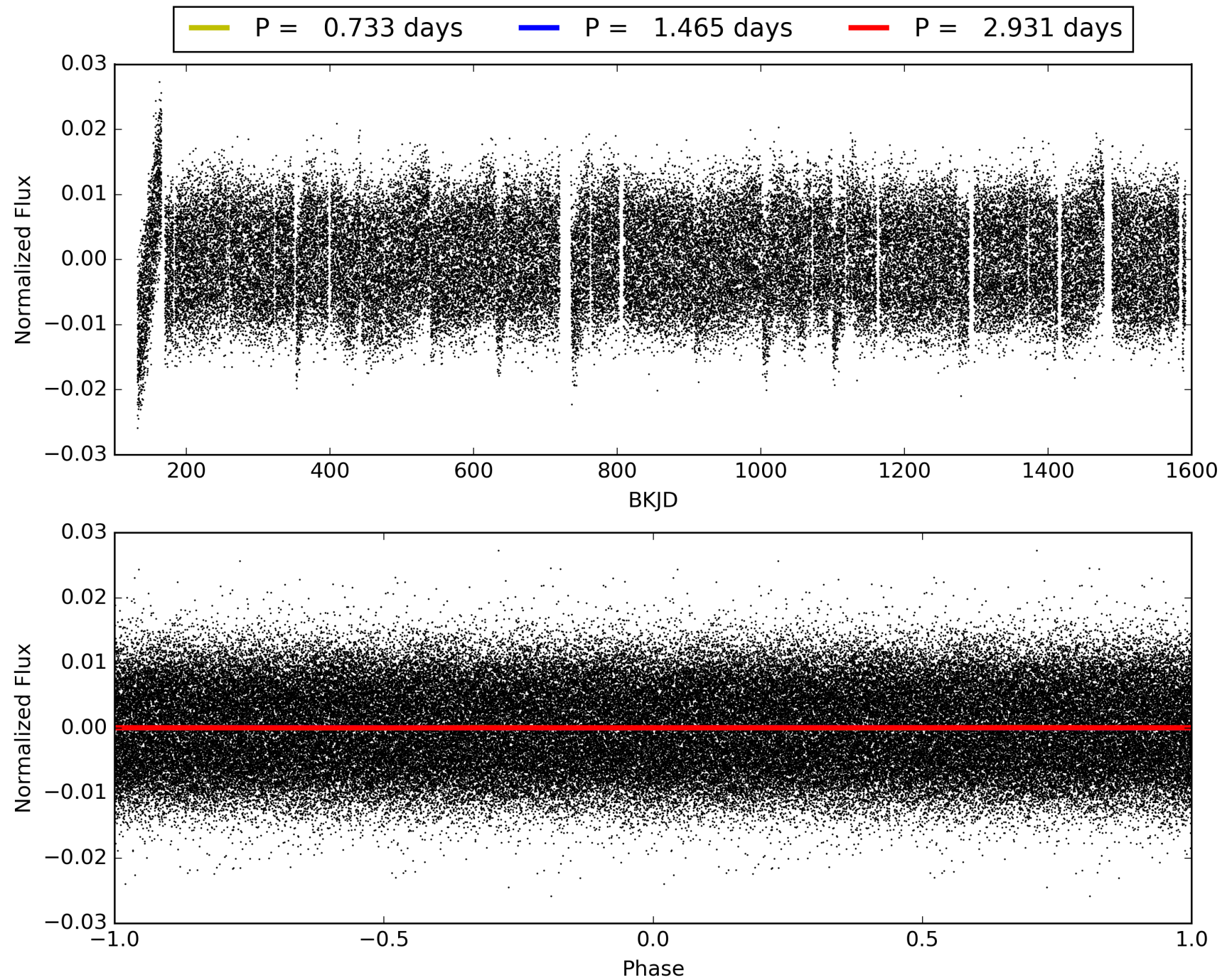
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:31:01 Z

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

TCE 006579643-01, PDC Light Curves

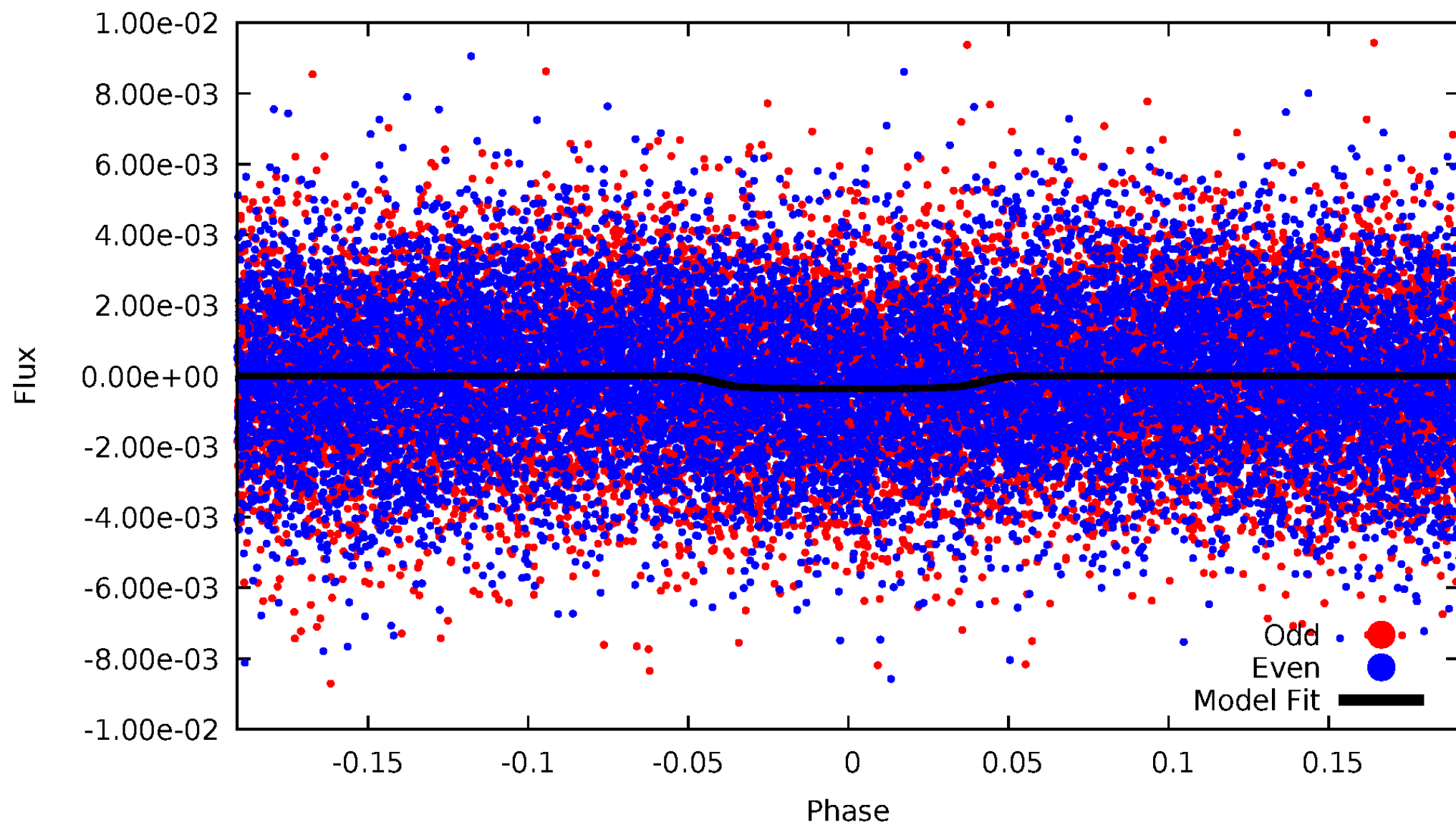


TCE 006579643-01



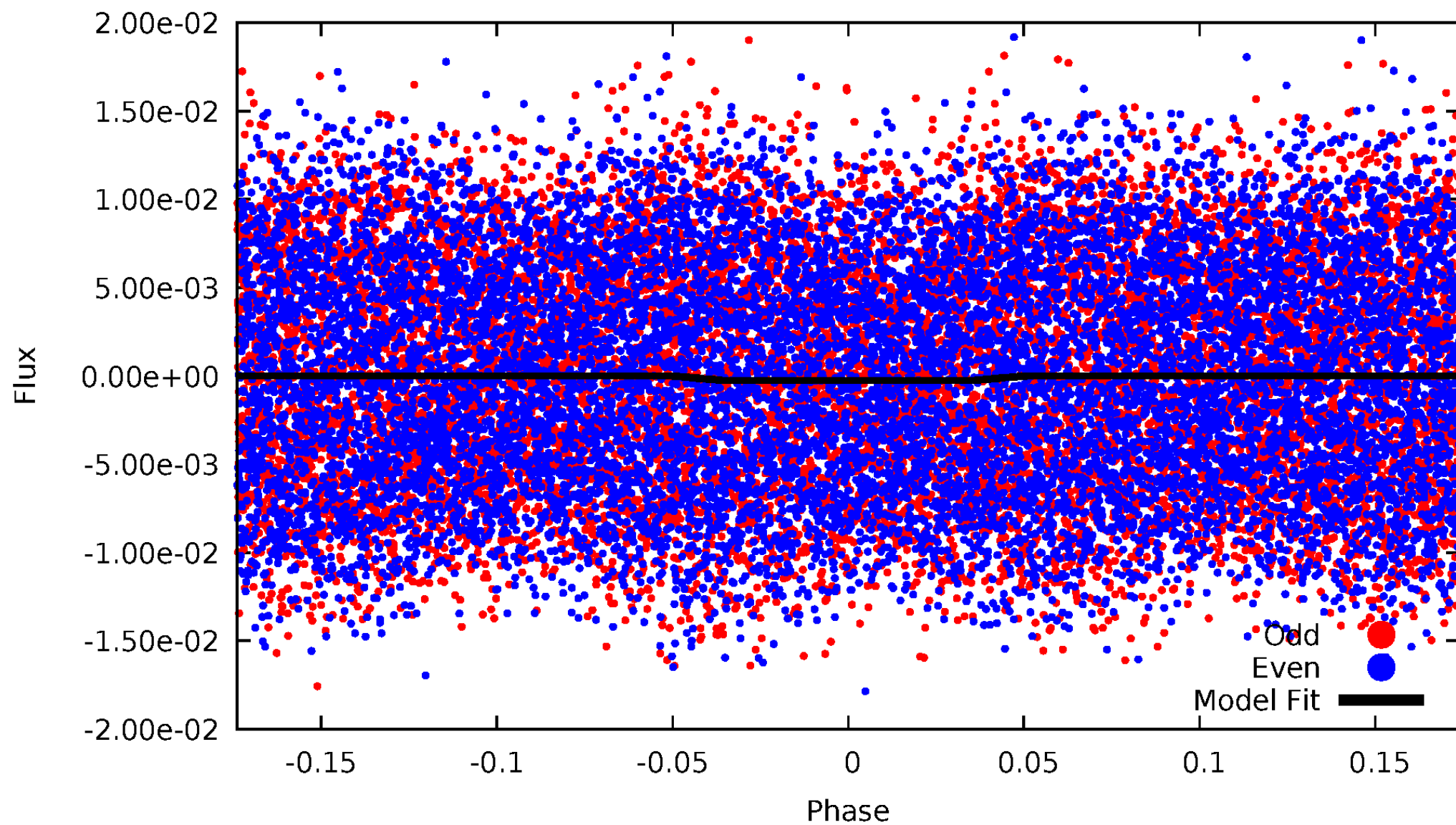
DV Odd/Even

TCE 006579643-01

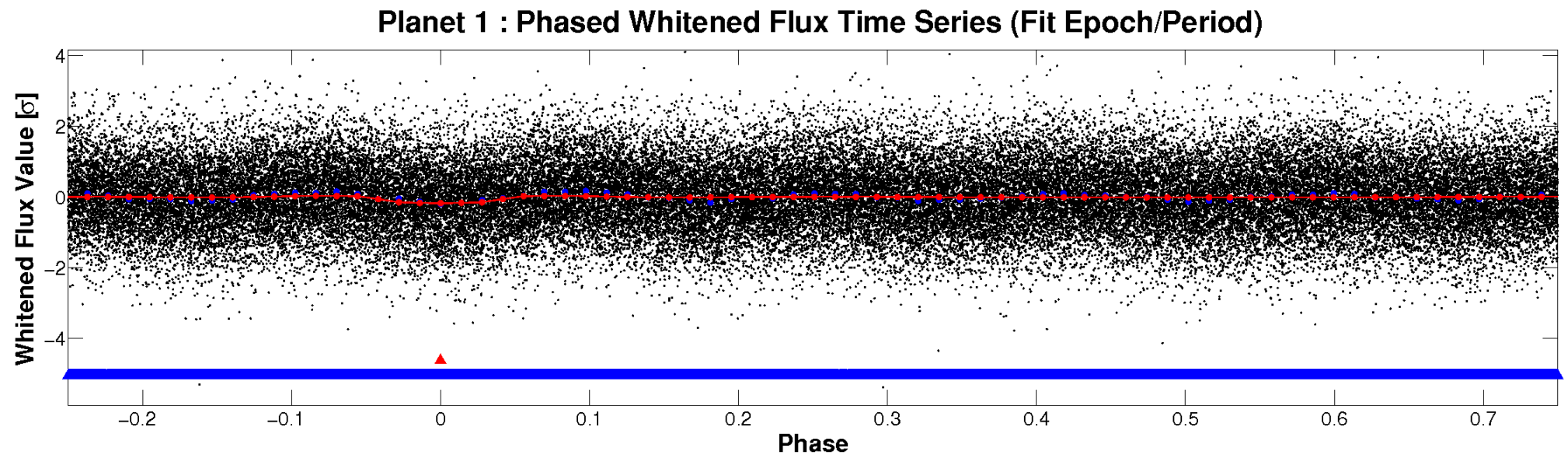
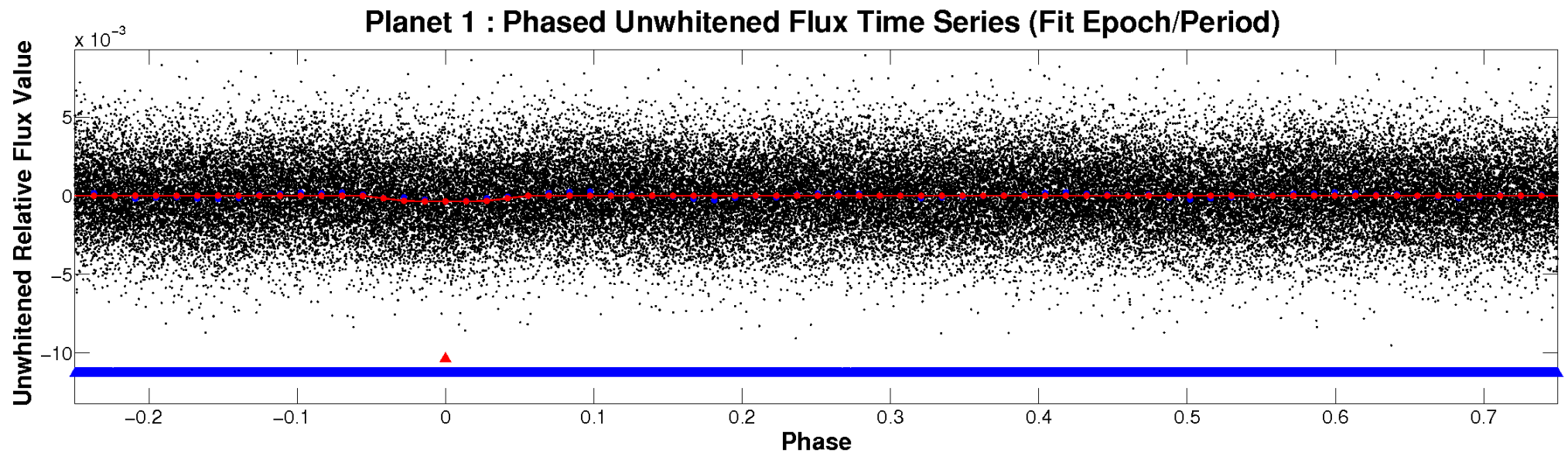


ALT Odd/Even

TCE 006579643-01

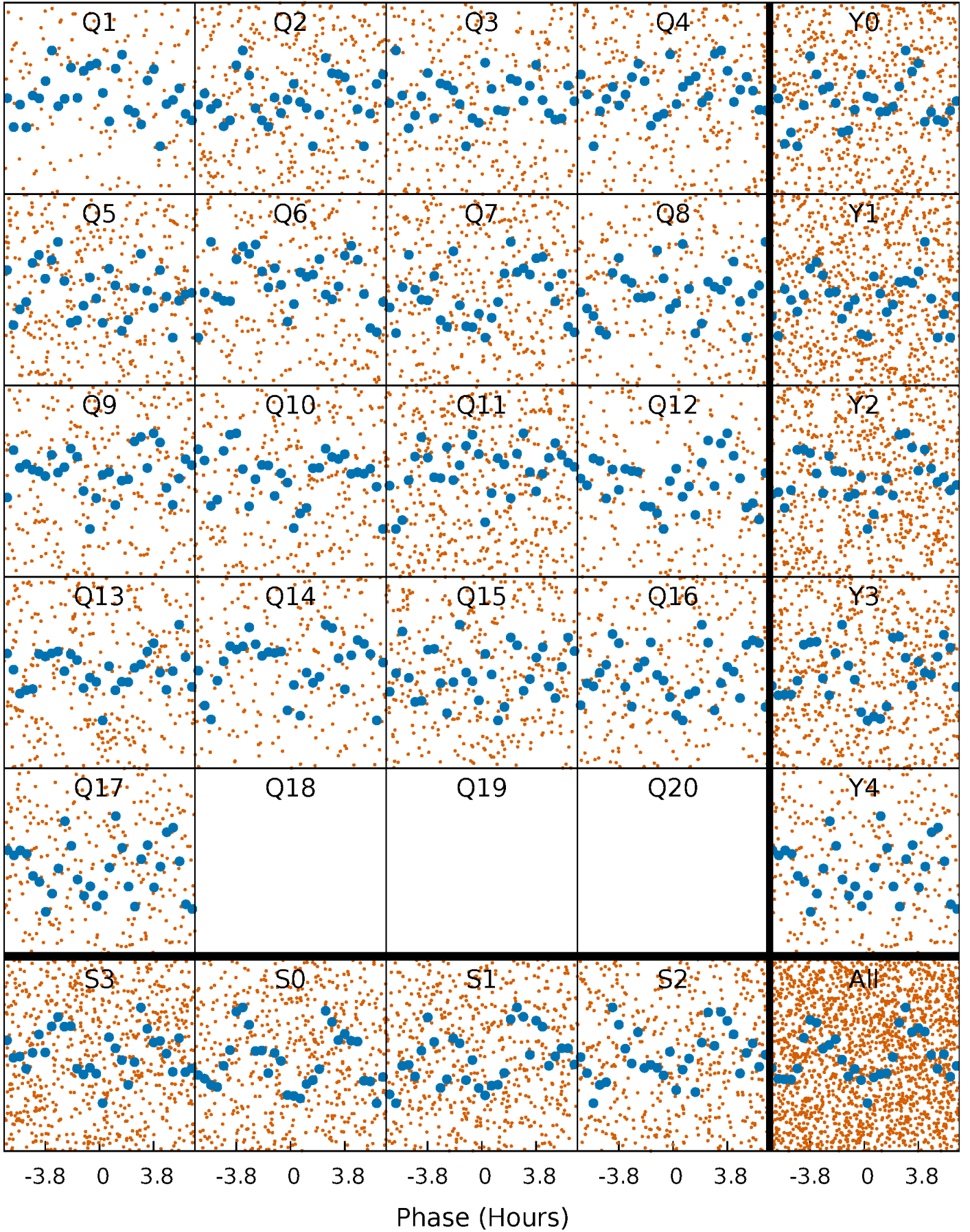


Non-Whitened Vs. Whitened Light Curve



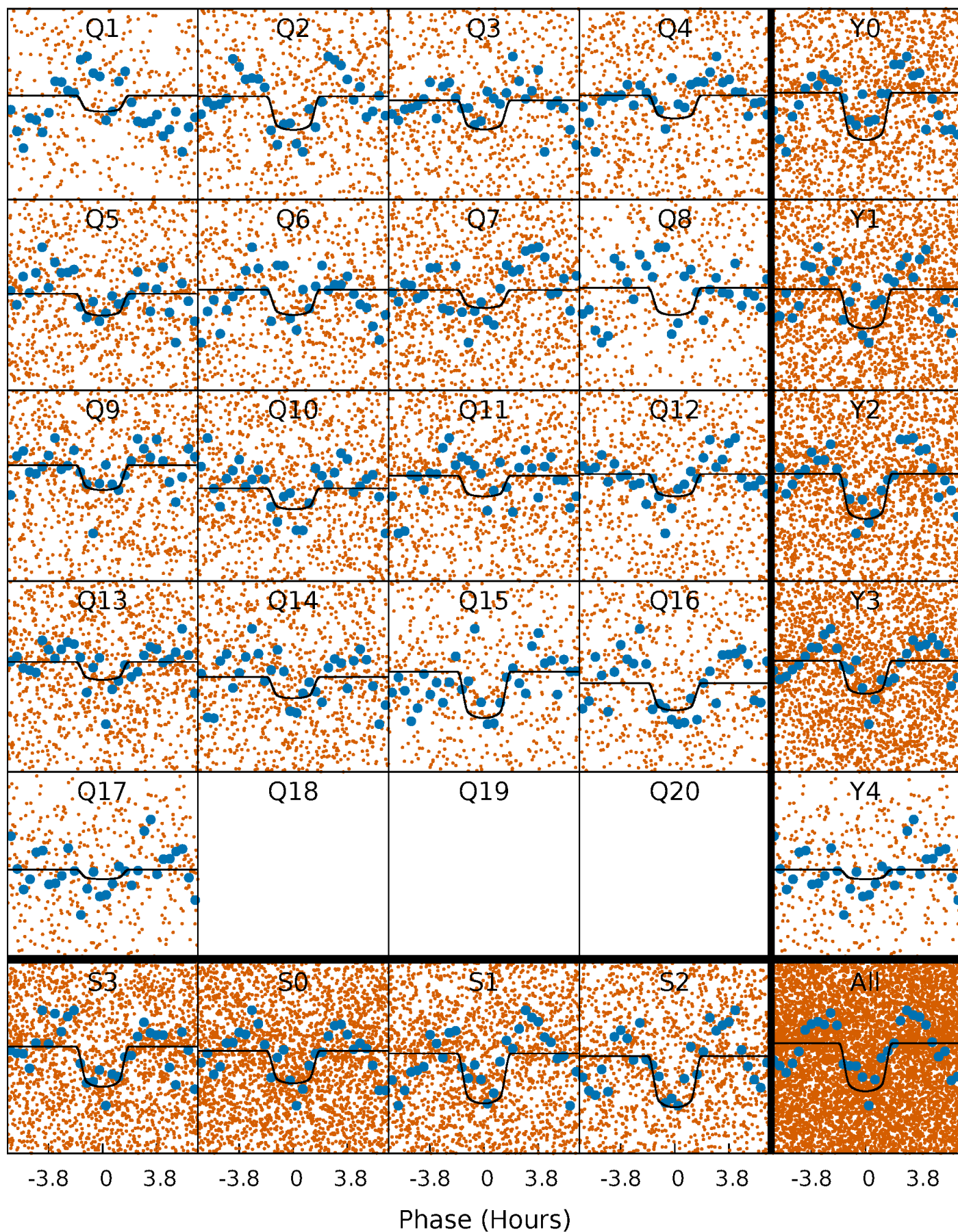
PDC Quarter-Phased Transit Curves

TCE 006579643-01 P= 1.465483 Days $T_0=131.872299$ (BKJD)



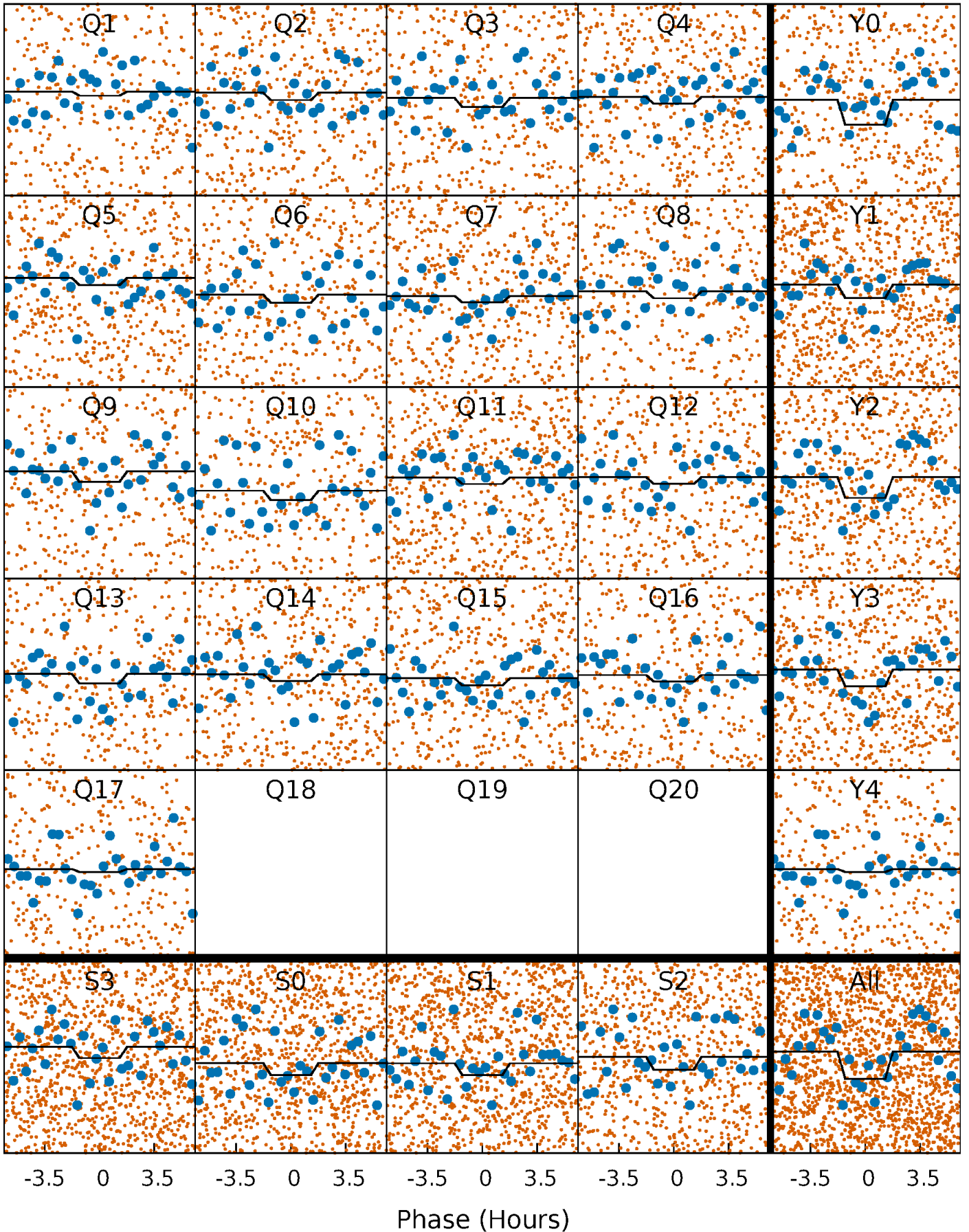
DV Quarter-Phased Transit Curves

TCE 006579643-01 P= 1.465483 Days $T_0=131.872299$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

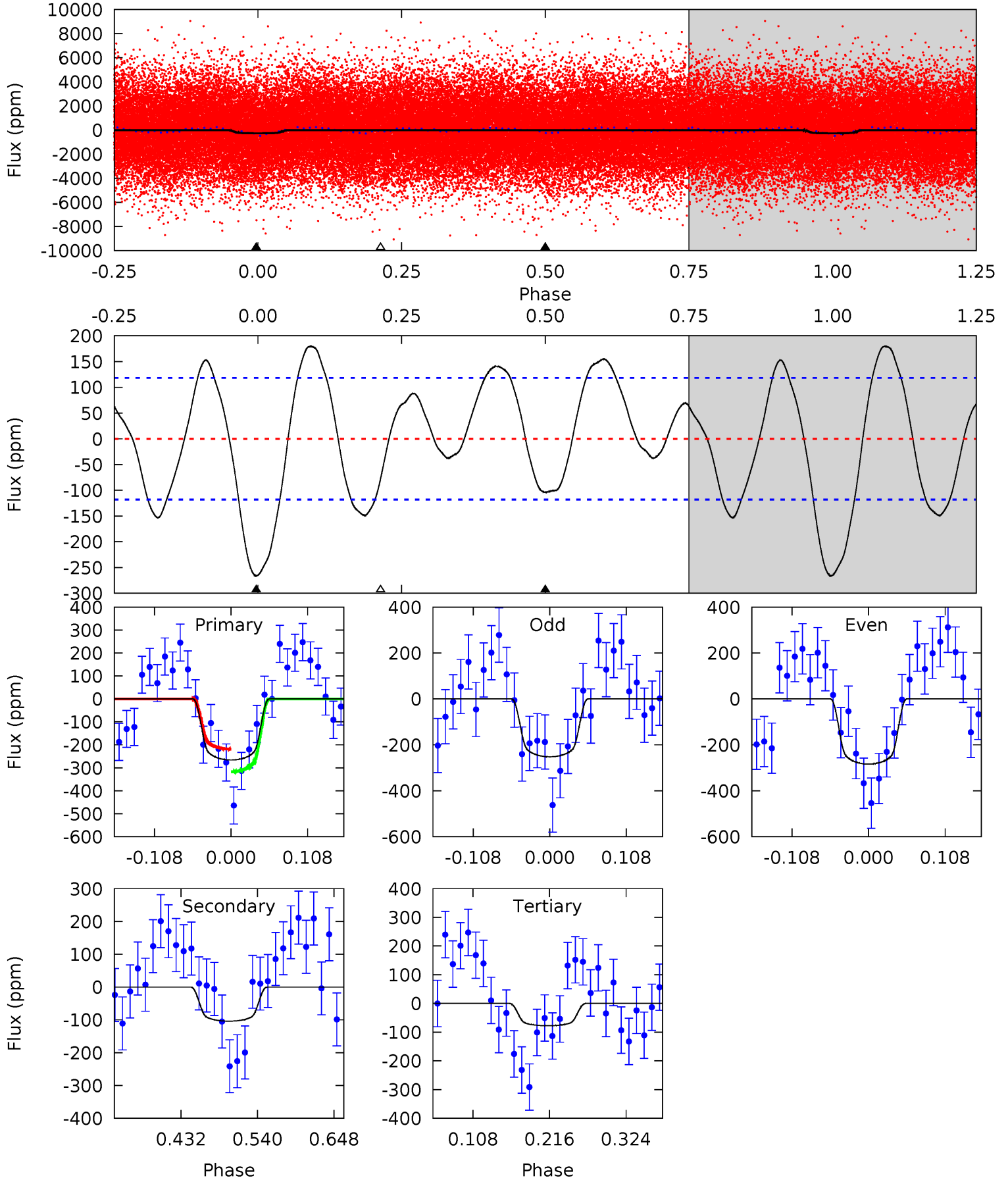
TCE 006579643-01 P= 1.465525 Days $T_0=131.850123$ (BKJD)



DV Model-Shift Uniqueness Test

006579643-01, P = 1.465483 Days, E = 130.406816 Days

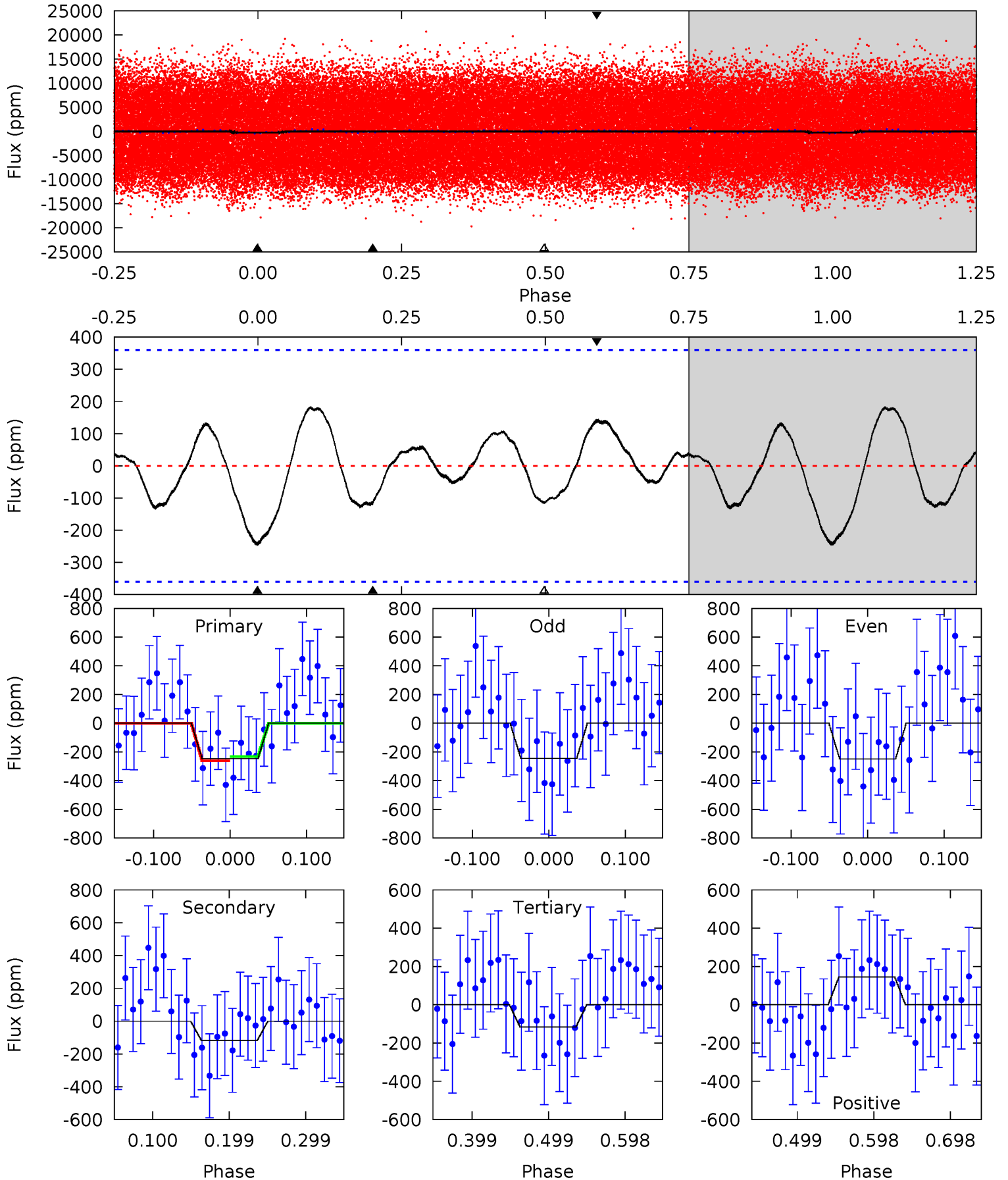
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	4.01	2.99	0	4.55	1.61	3.03	7.26	10.3	1.01	4.01	0.62	1.06	0.40	1.90



Alt Model-Shift Uniqueness Test

006579643-01, P = 1.465525 Days, E = 130.384598 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.13	1.49	1.47	1.84	4.57	1.65	0.91	1.66	1.29	0.02	-0.35	0.03	1.15	0.43	0.19



Stellar Parameters For KIC 006579643

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7025^{+190}_{-299}	$3.696^{+0.576}_{-0.096}$	$-0.500^{+0.300}_{-0.300}$	$2.872^{+0.394}_{-1.577}$	$1.495^{+0.199}_{-0.397}$	$0.089^{+0.569}_{-0.026}$
	+3%/-4%	+16%/-3%	+60%/-60%	+14%/-55%	+13%/-27%	+640%/-29%
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 006579643-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-104 ± 26	$5.80^{+1.82}_{-1.92}$	4171^{+313}_{-630}	4712^{+720}_{-557}	$1.436^{+1.561}_{-0.672}$
Alt.	-117 ± 79	$4.42^{+1.80}_{-1.67}$	4192^{+289}_{-556}	5619^{+1455}_{-1448}	$2.586^{+4.466}_{-1.756}$

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 $A_{obs} \gg 1.0$

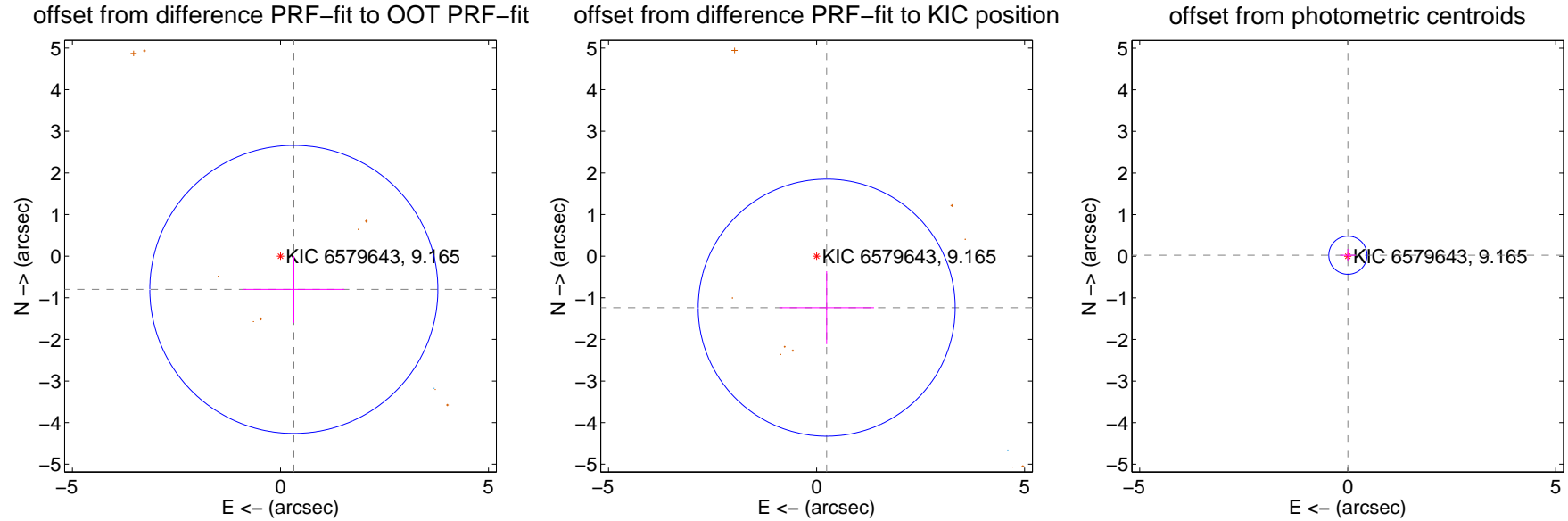
DV Centroid Data

Supplemental centroid analysis for 006579643-01. **Kepler magnitude: 9.16.** Transit SNR 11.27

There are 1 quarters with good PRF difference image offsets

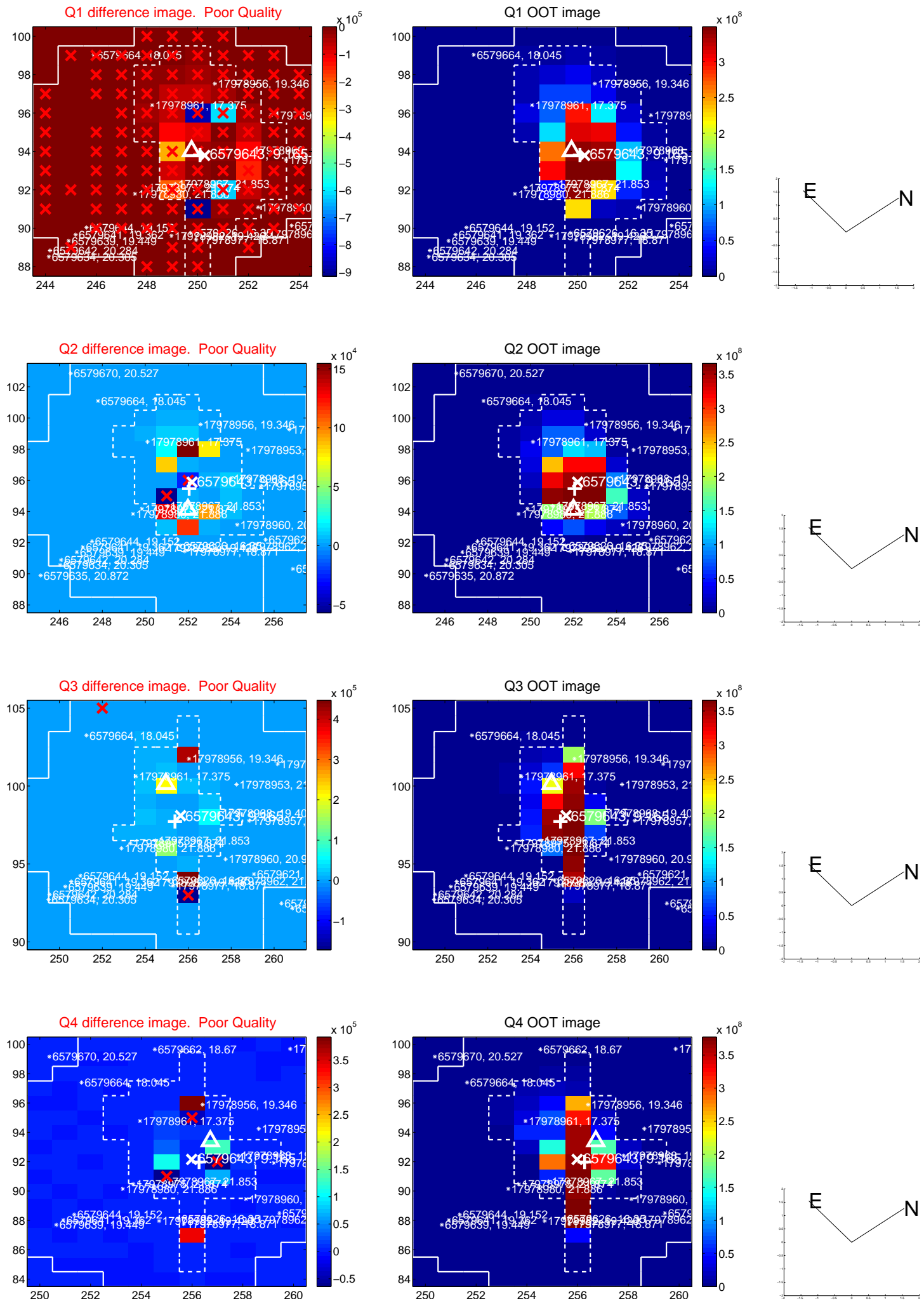
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.862 ± 1.154	0.75	-0.322 ± 1.214	-0.800 ± 0.802
PRF-fit source offset from KIC position	1.262 ± 1.029	1.23	-0.243 ± 1.139	-1.238 ± 0.876
photometric centroid source offset	0.02 ± 0.15	0.16	-0.00 ± 0.19	0.02 ± 0.15

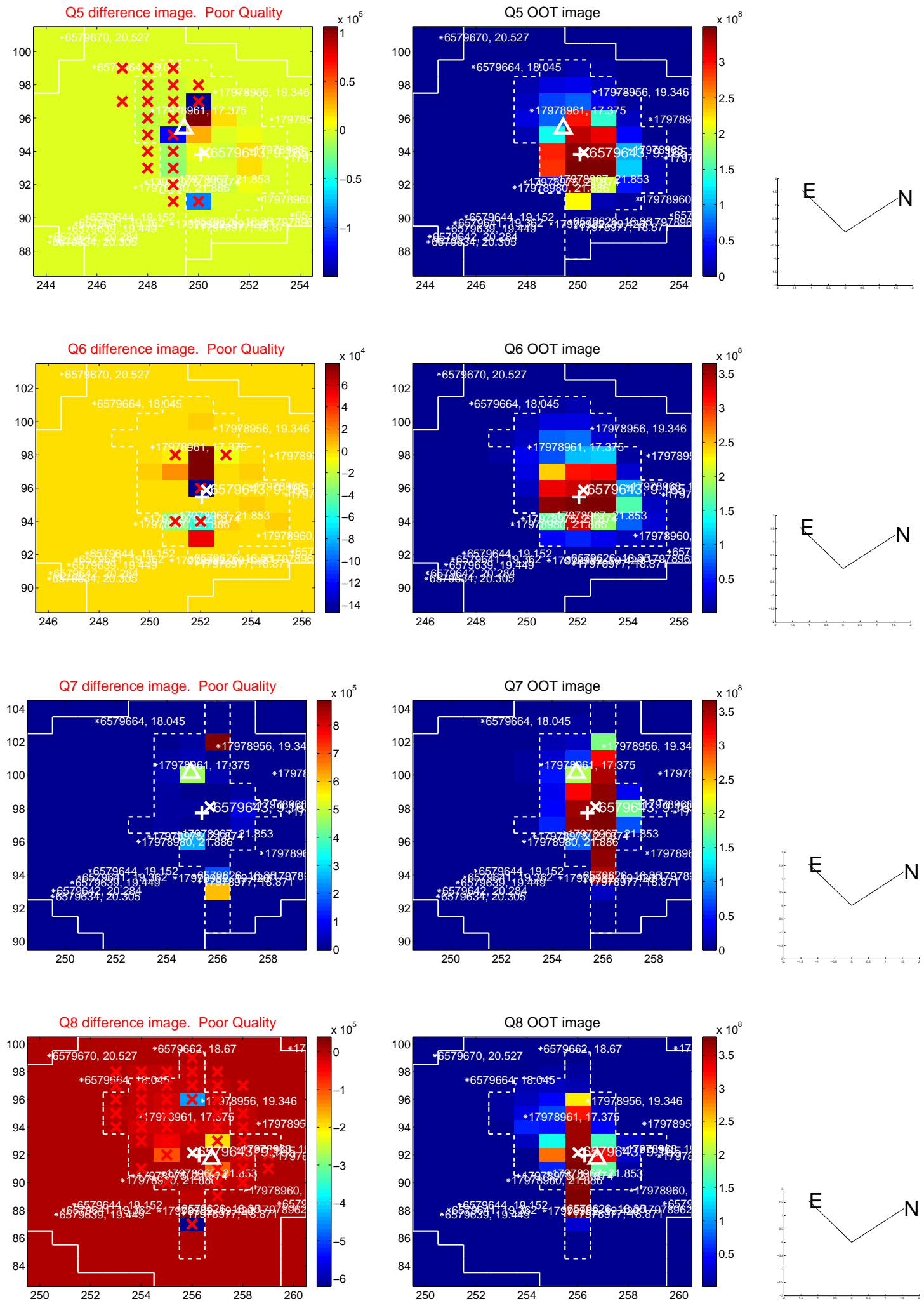


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

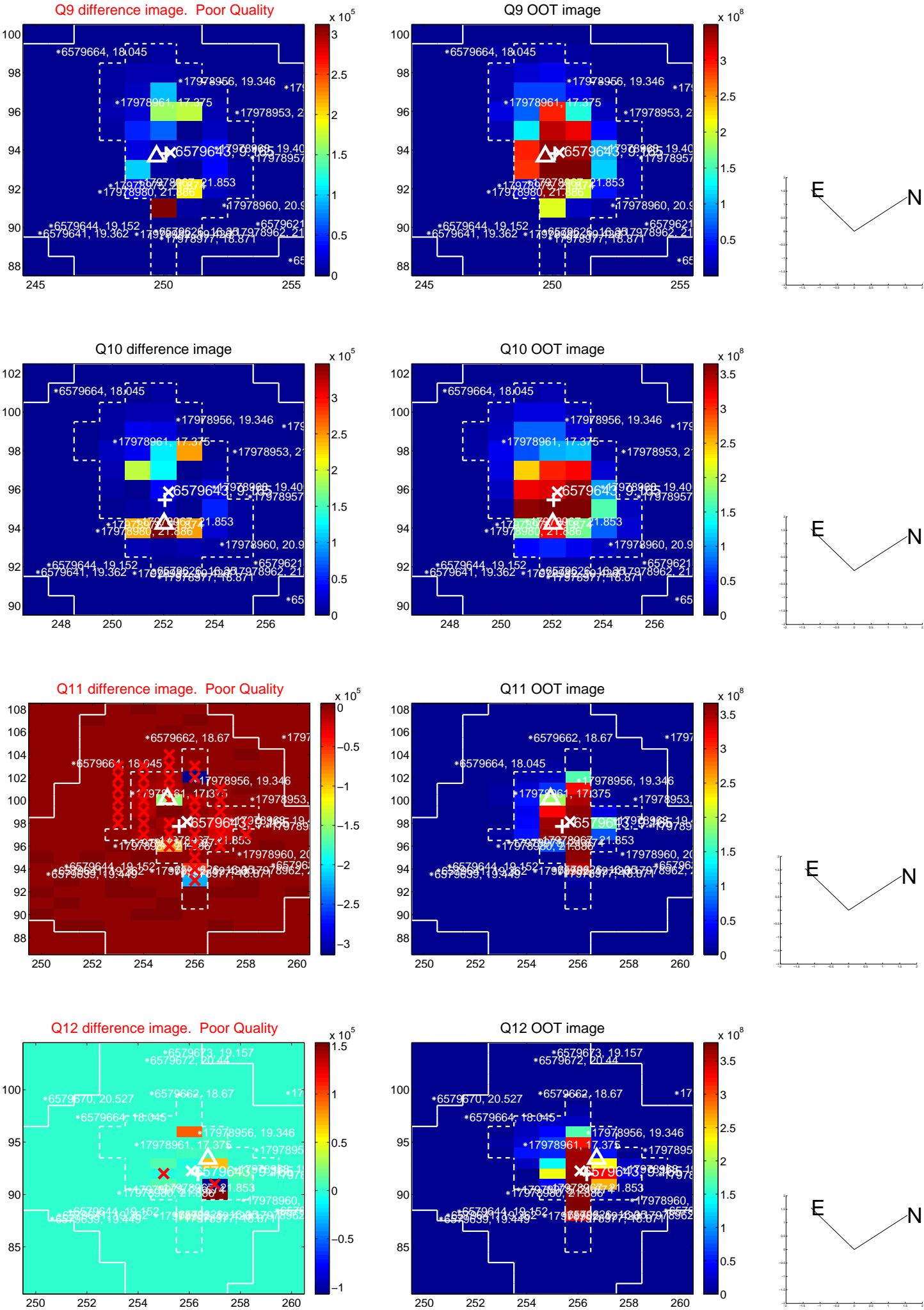
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



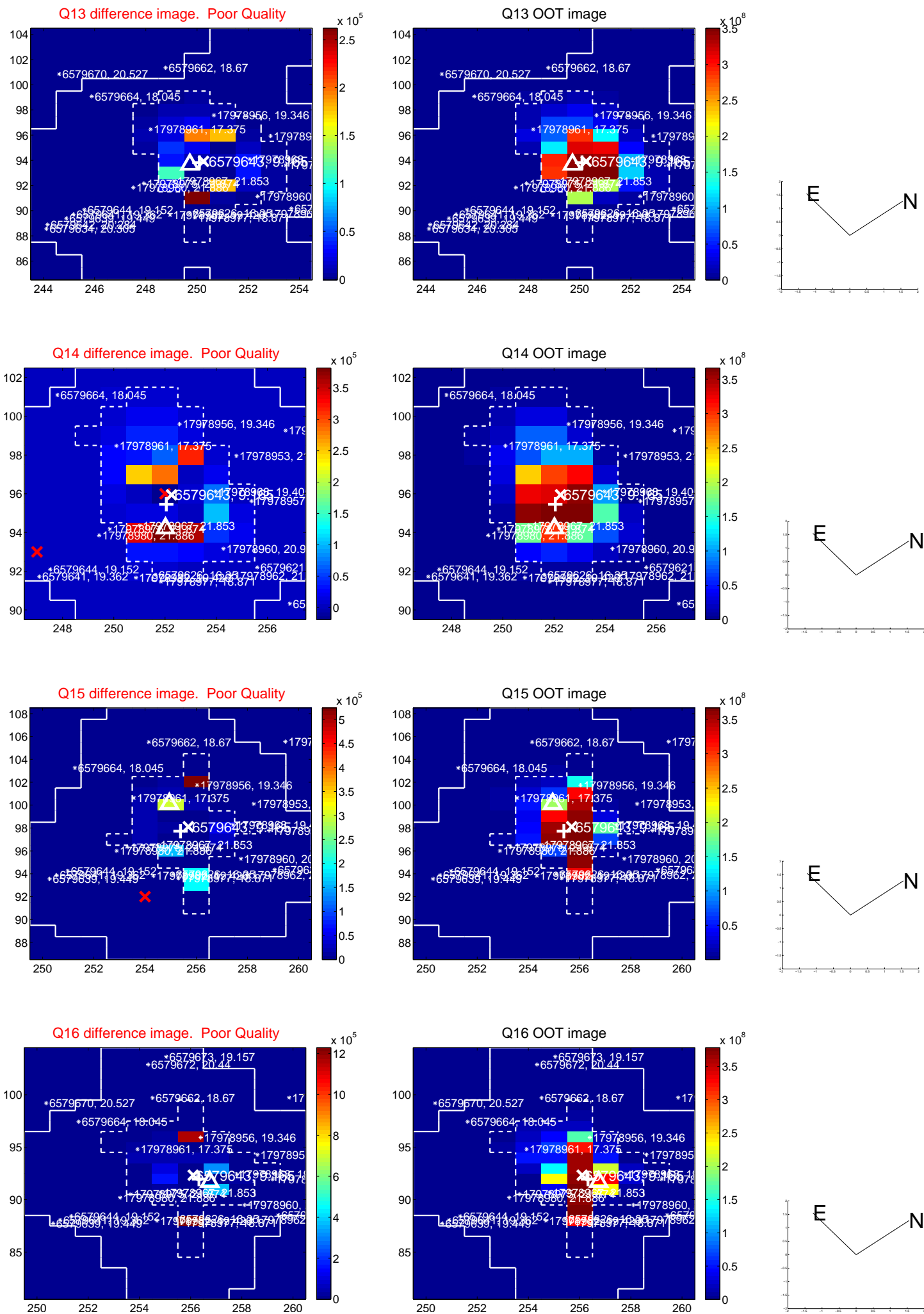
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



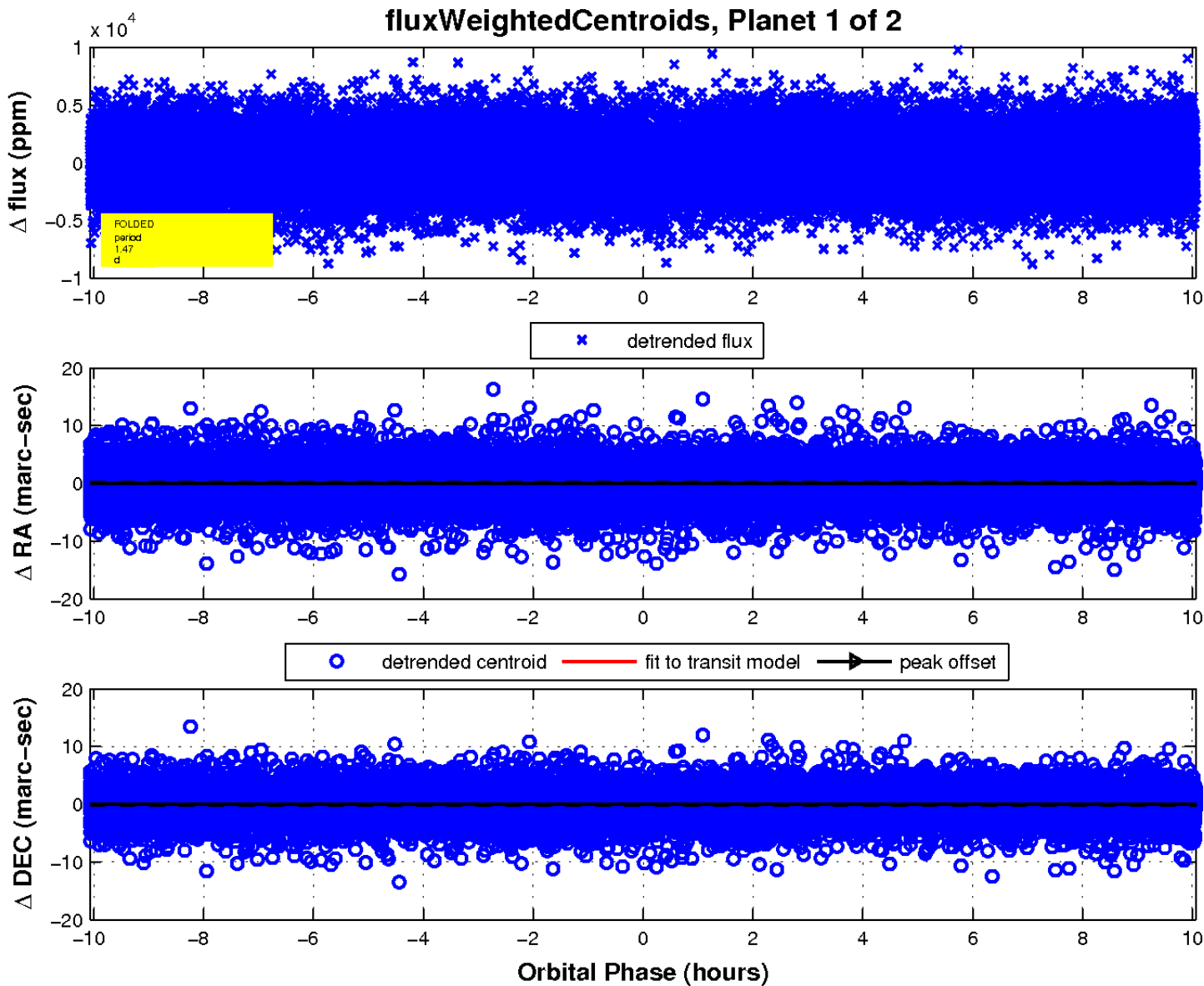
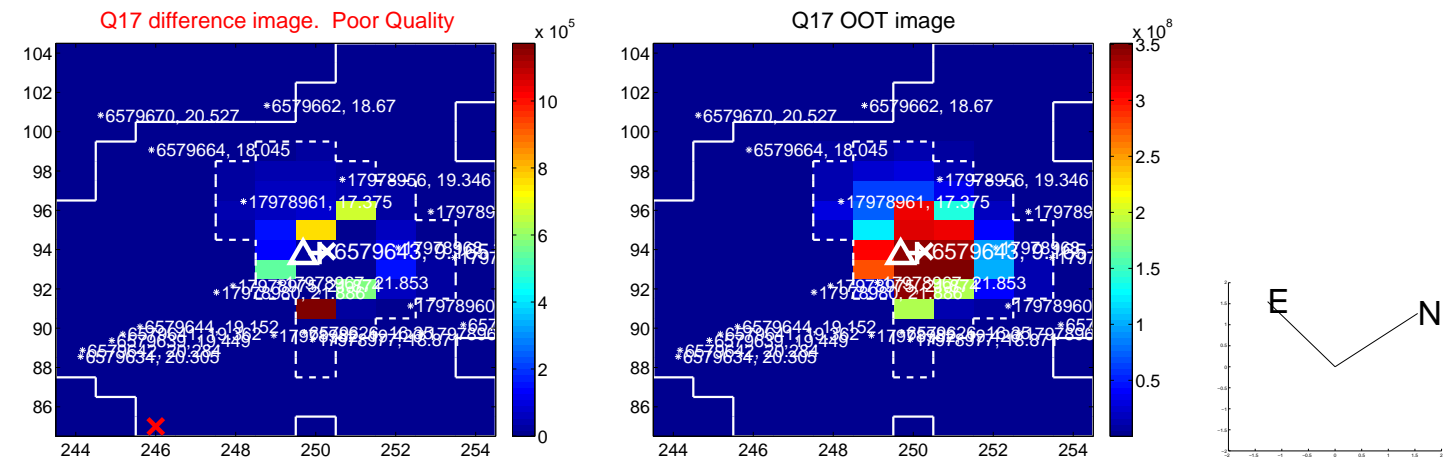
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

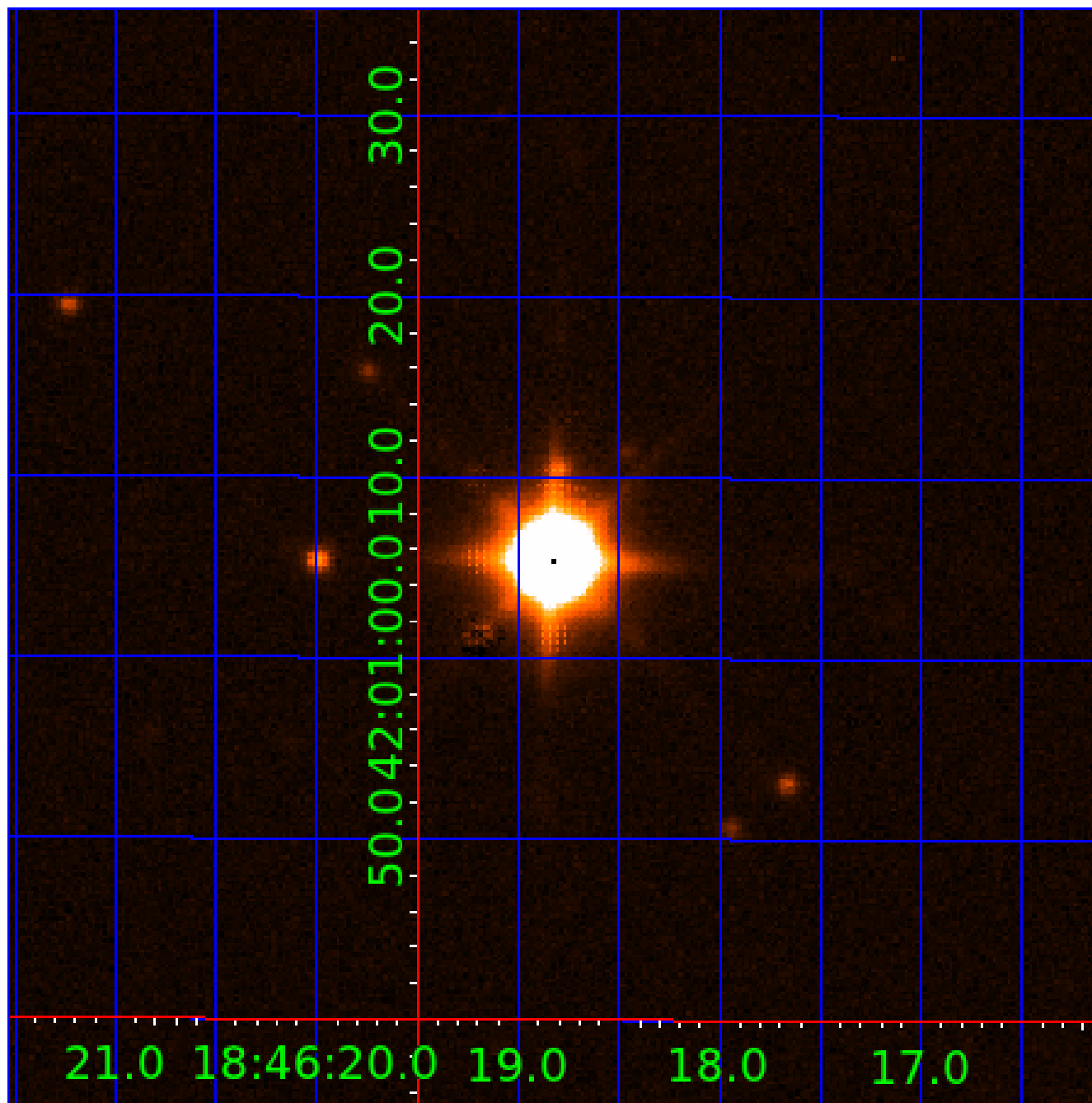


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006579643

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})
006579643-01	OBS	No	1.465483	131.872299	363.4	3.356	10.9	11.3	2.87	7025	6.36	21592.10
006579643-02	OBS	No	0.736798	131.552166	225.0	5.340	9.5	9.6	2.87	7025	4.62	54009.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006579643-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006579643-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

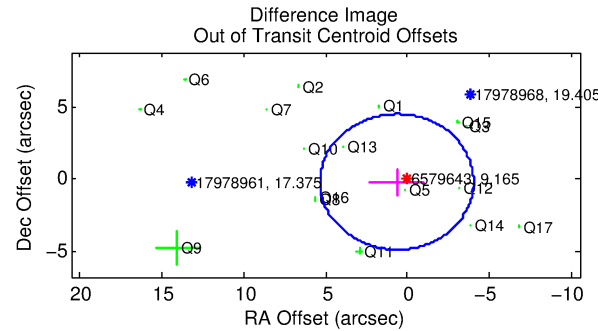
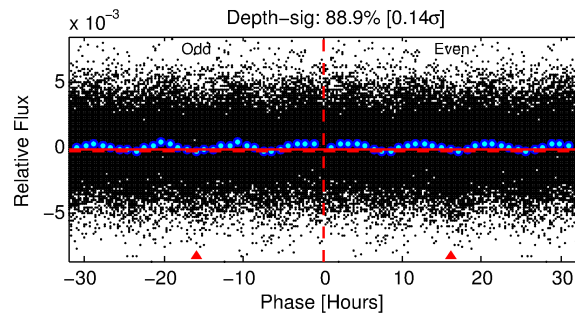
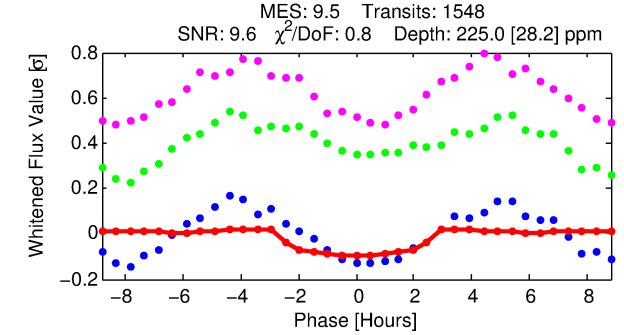
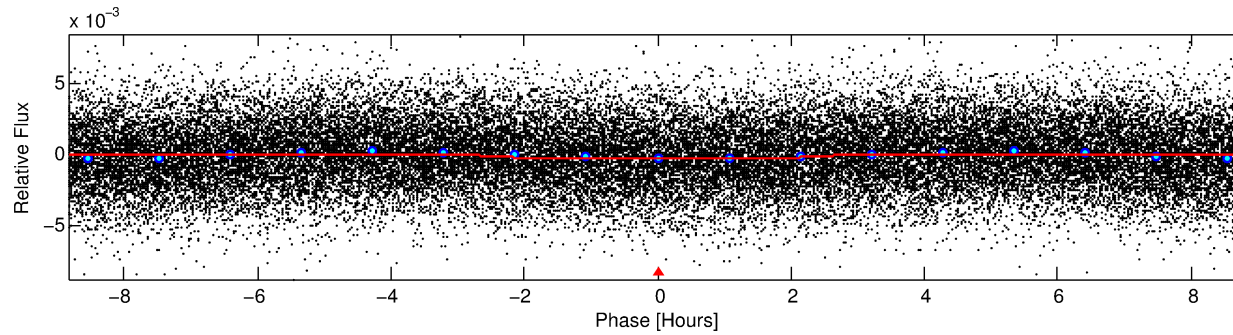
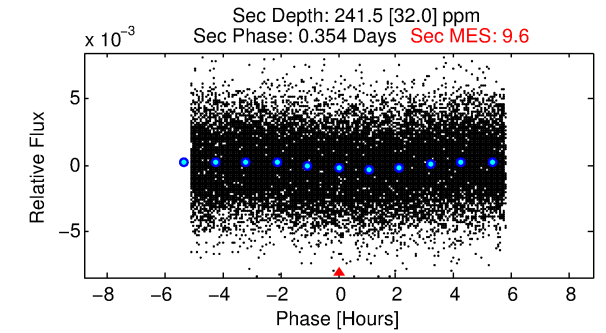
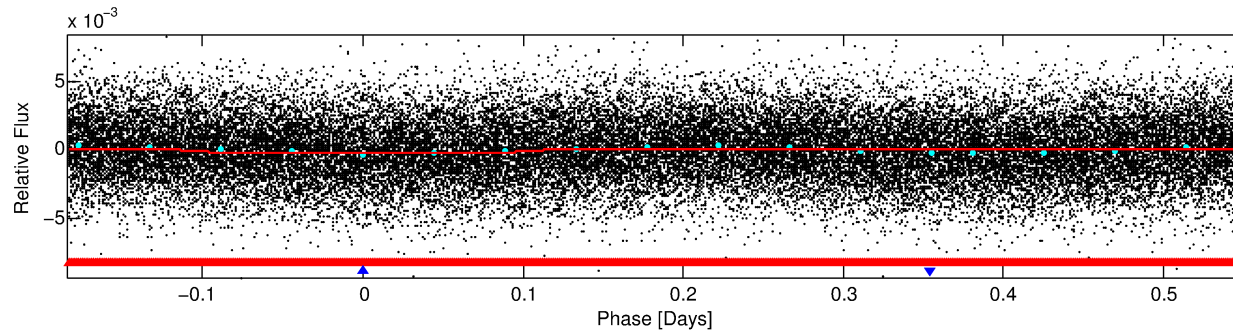
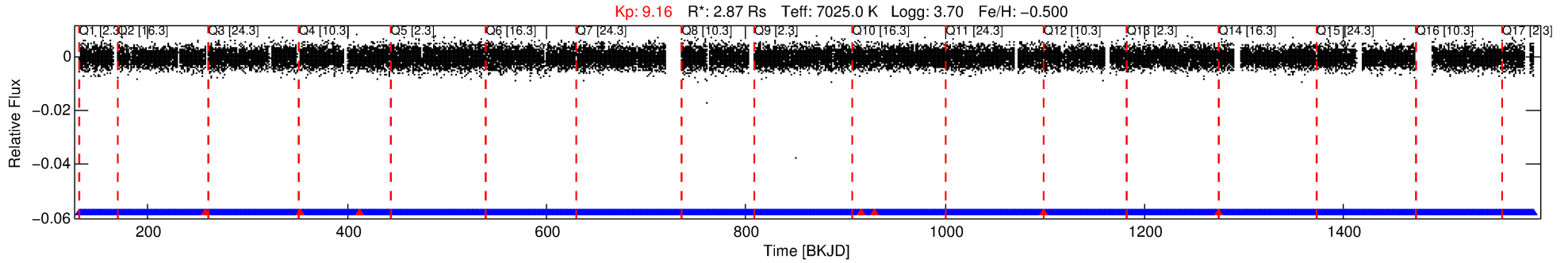
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006579643-02

No Significant Match Found

DV One-Page Summary

KIC: 6579643 Candidate: 2 of 2 Period: 0.737 d



DV Fit Results:

Period = 0.73680 [0.00001] d
Epoch = 131.5522 [0.0054] BKJD
Rp/R* = 0.0147 [0.0110]
a/R* = 1.14 [1.18]
b = 0.70 [3.24]
Seff = 54009.67 [52497.39]
Teq = 3887 [945] K
Rp = 4.62 [4.28] Re
a = 0.0183 [0.0105] AU
Ag = 2.08 [3.69] [0.29σ]
Teffp = 7214 [2723] K [1.15σ]

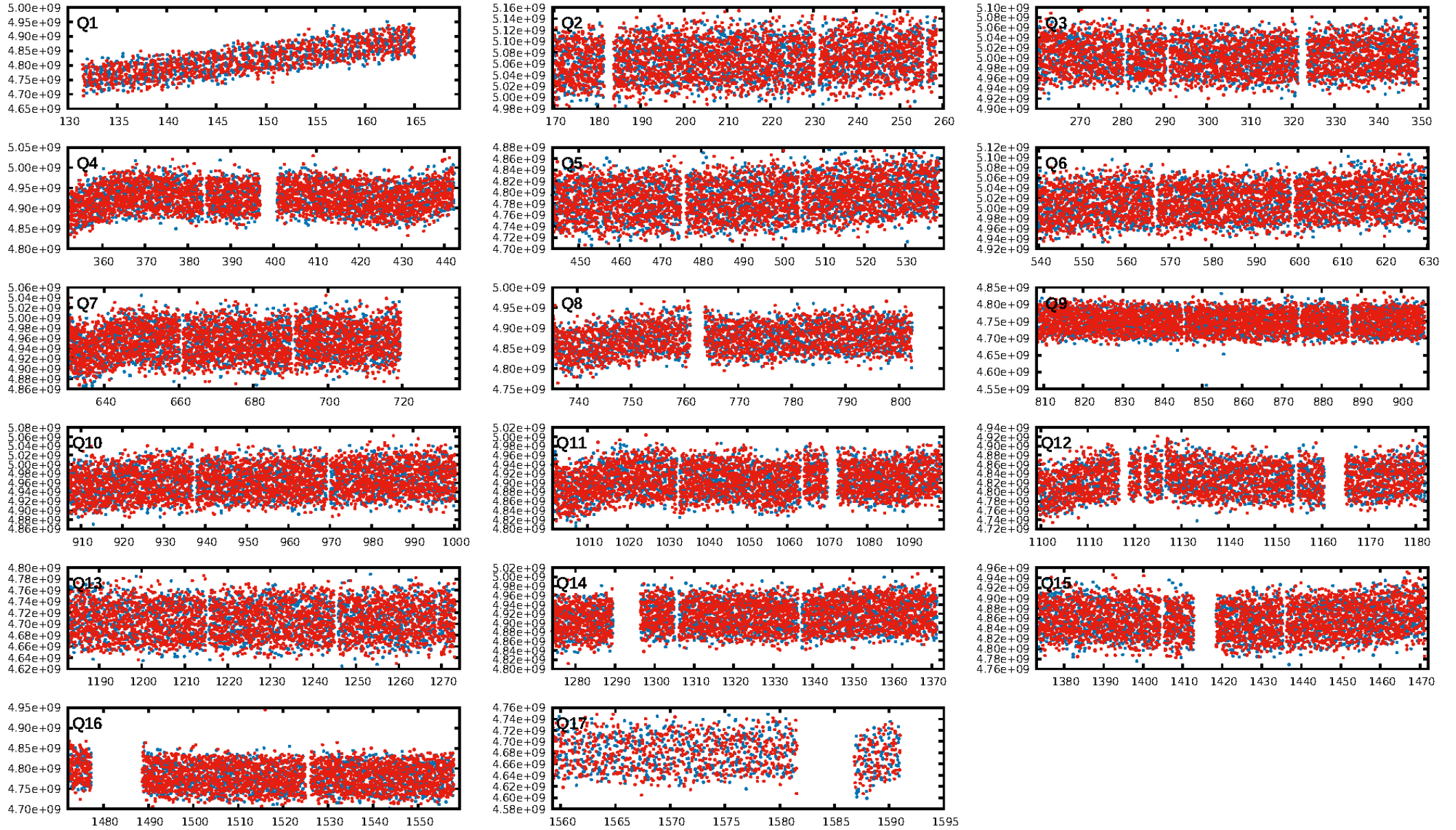
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.4% [2.77σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.73e-06
RollingBand-fgt: 1.00 [1458/1465]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.526 arcsec [3.67σ]
OotOffset-rm: 0.687 arcsec [0.44σ]
KicOffset-rm: 2.508 arcsec [1.77σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 1.00 [17/17]

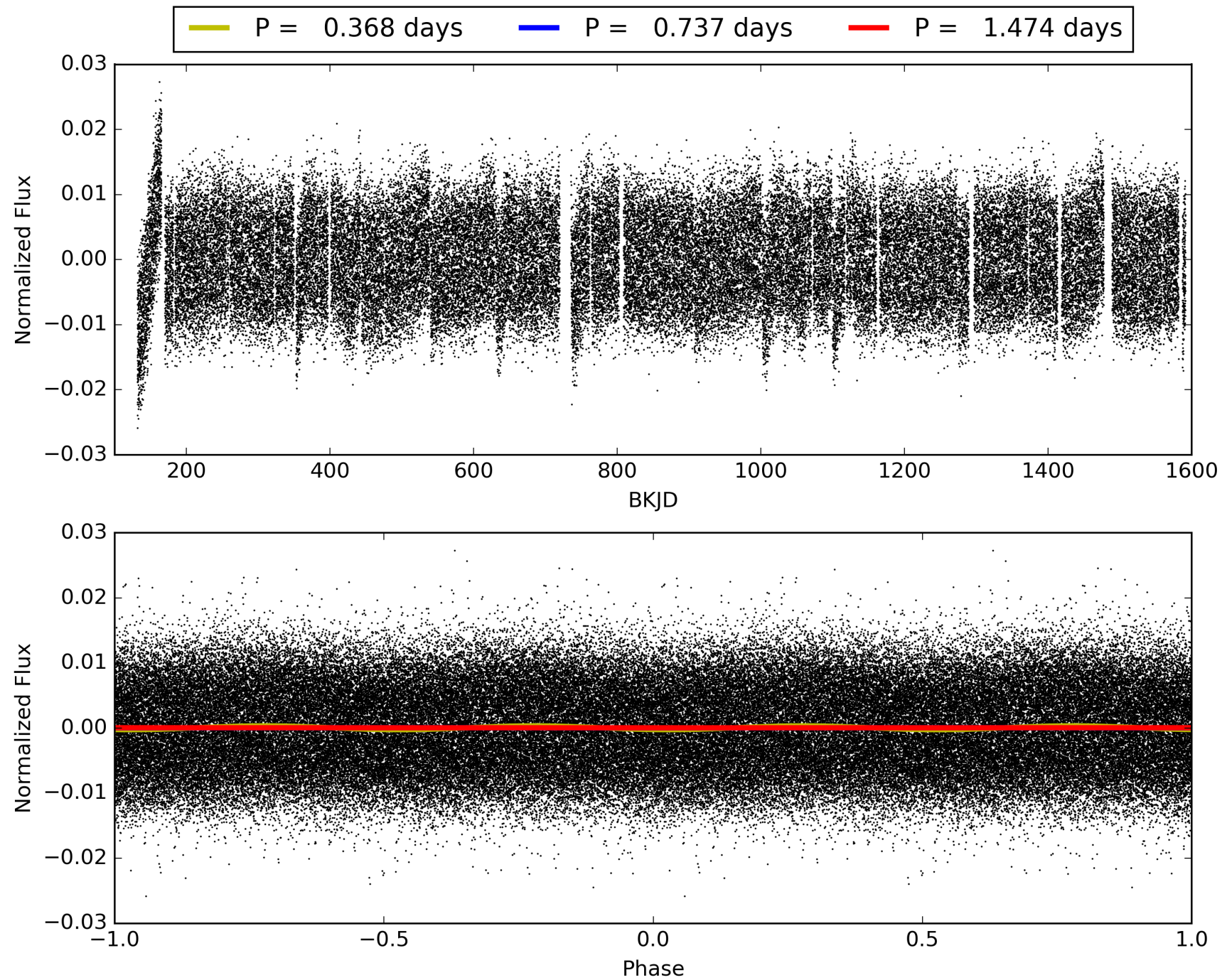
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 05:31:14 Z

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

TCE 006579643-02, PDC Light Curves

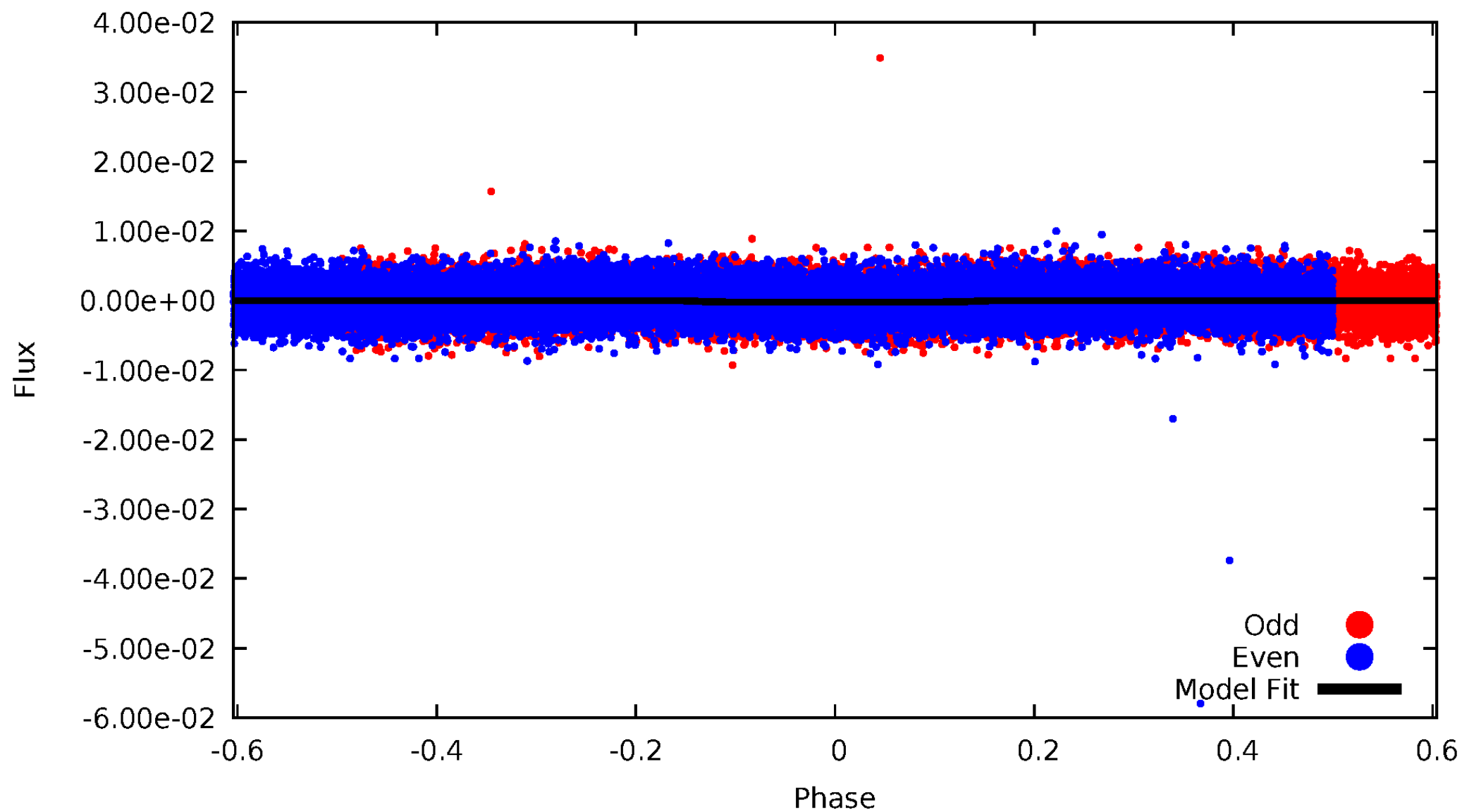


TCE 006579643-02



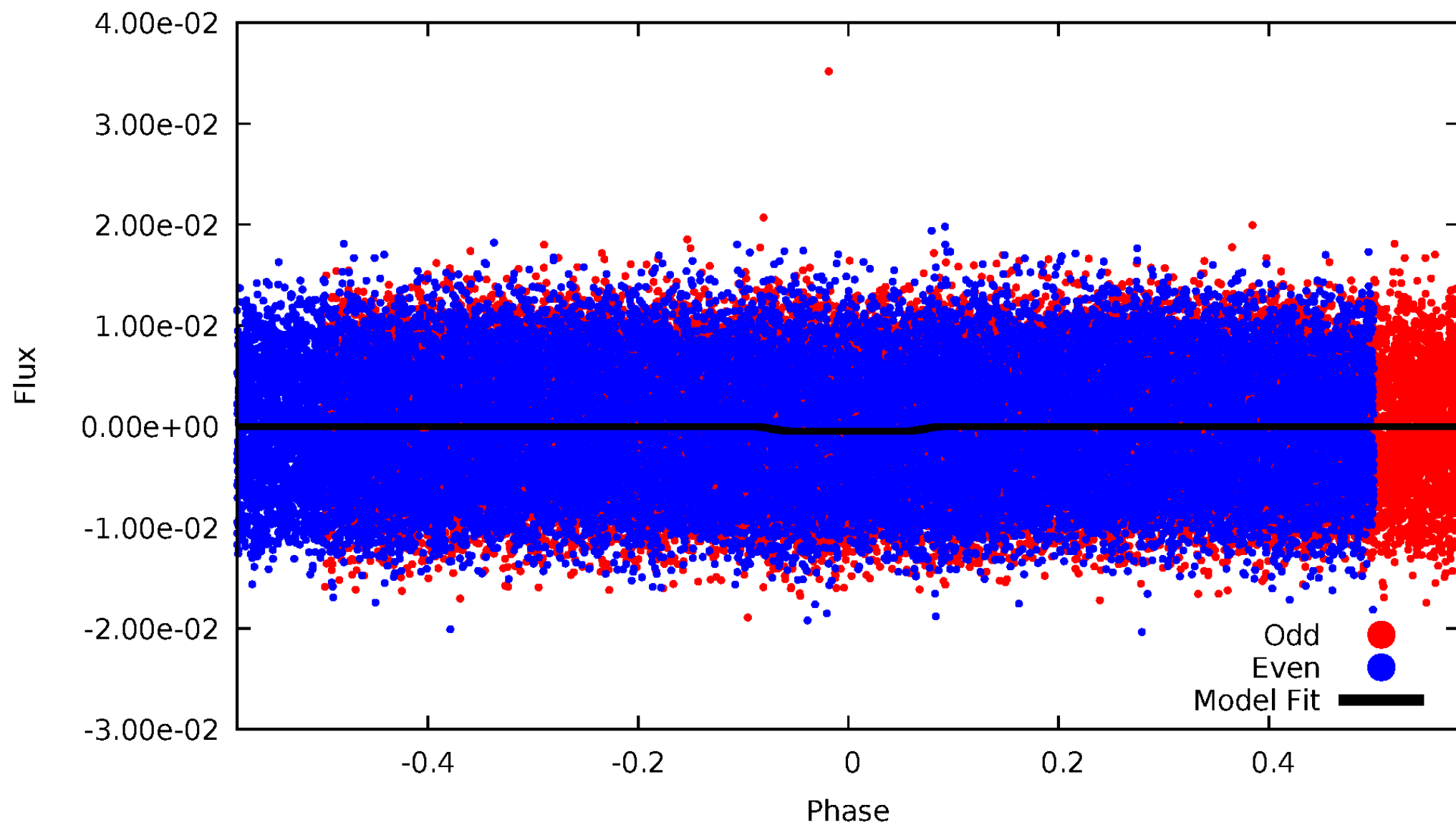
DV Odd/Even

TCE 006579643-02



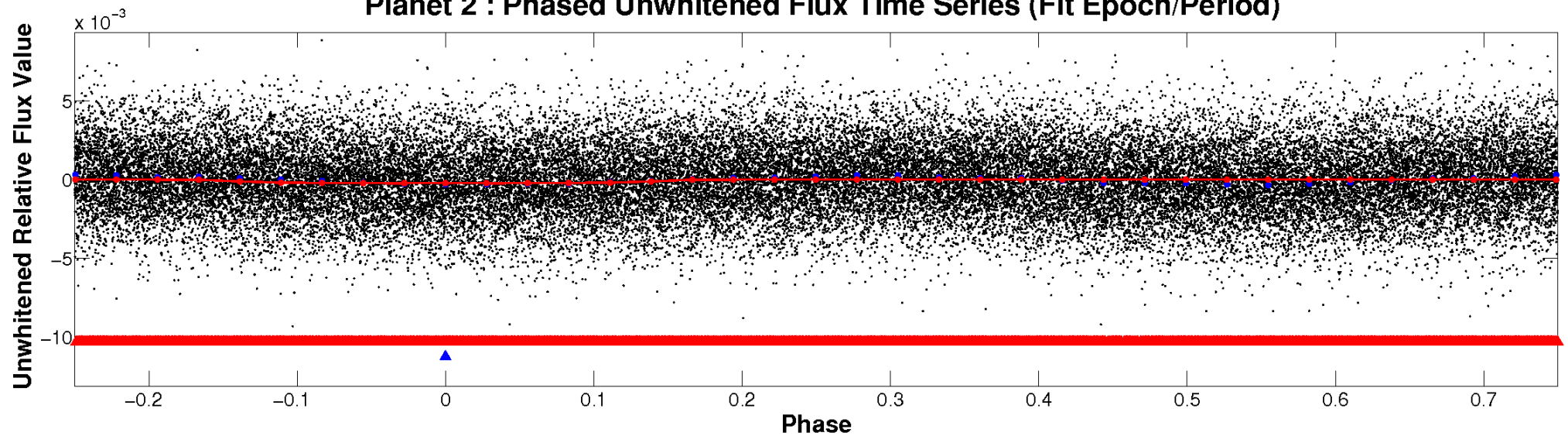
ALT Odd/Even

TCE 006579643-02

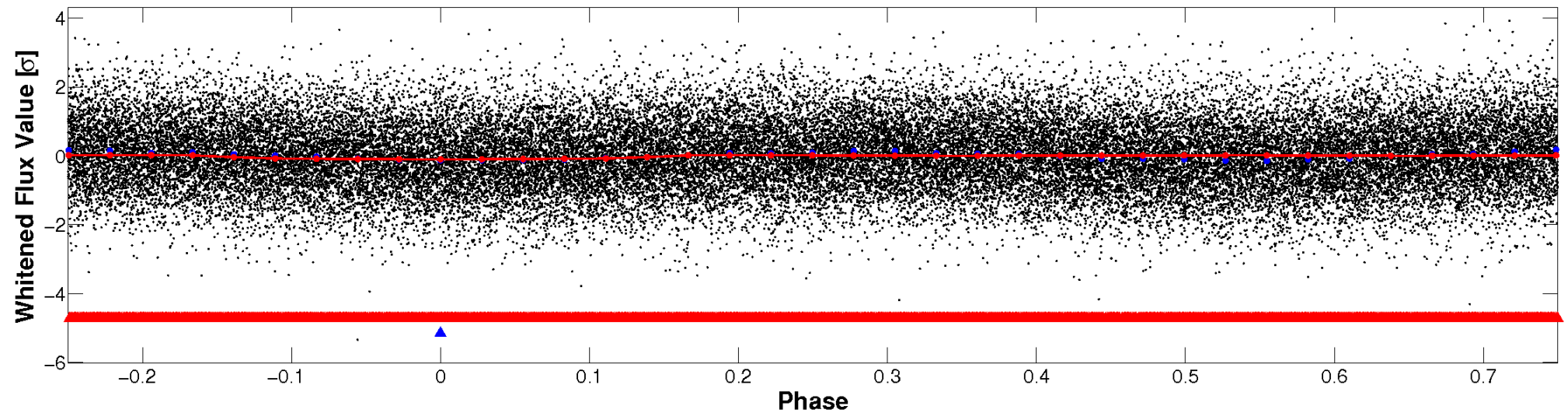


Non-Whitened Vs. Whitened Light Curve

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

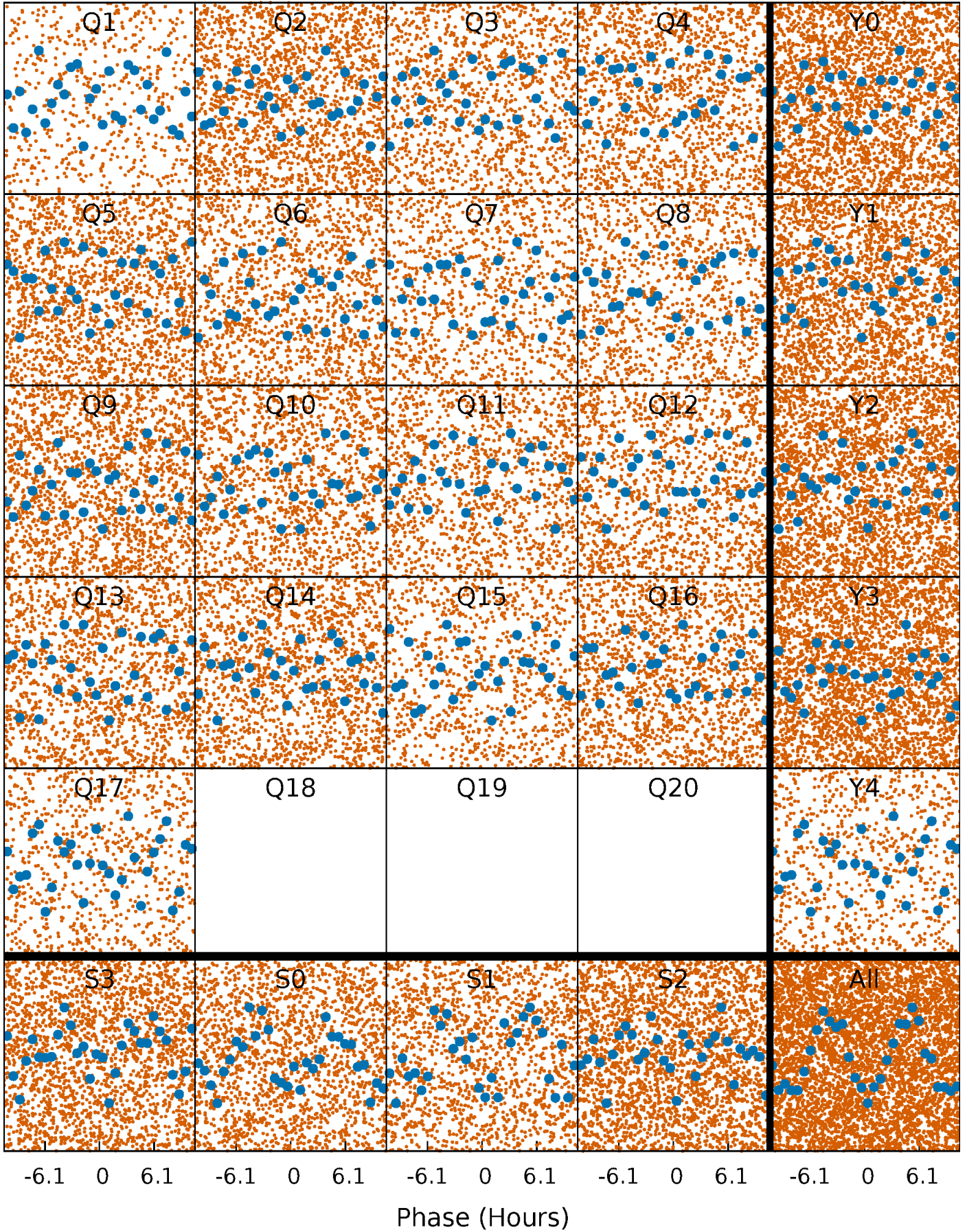


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



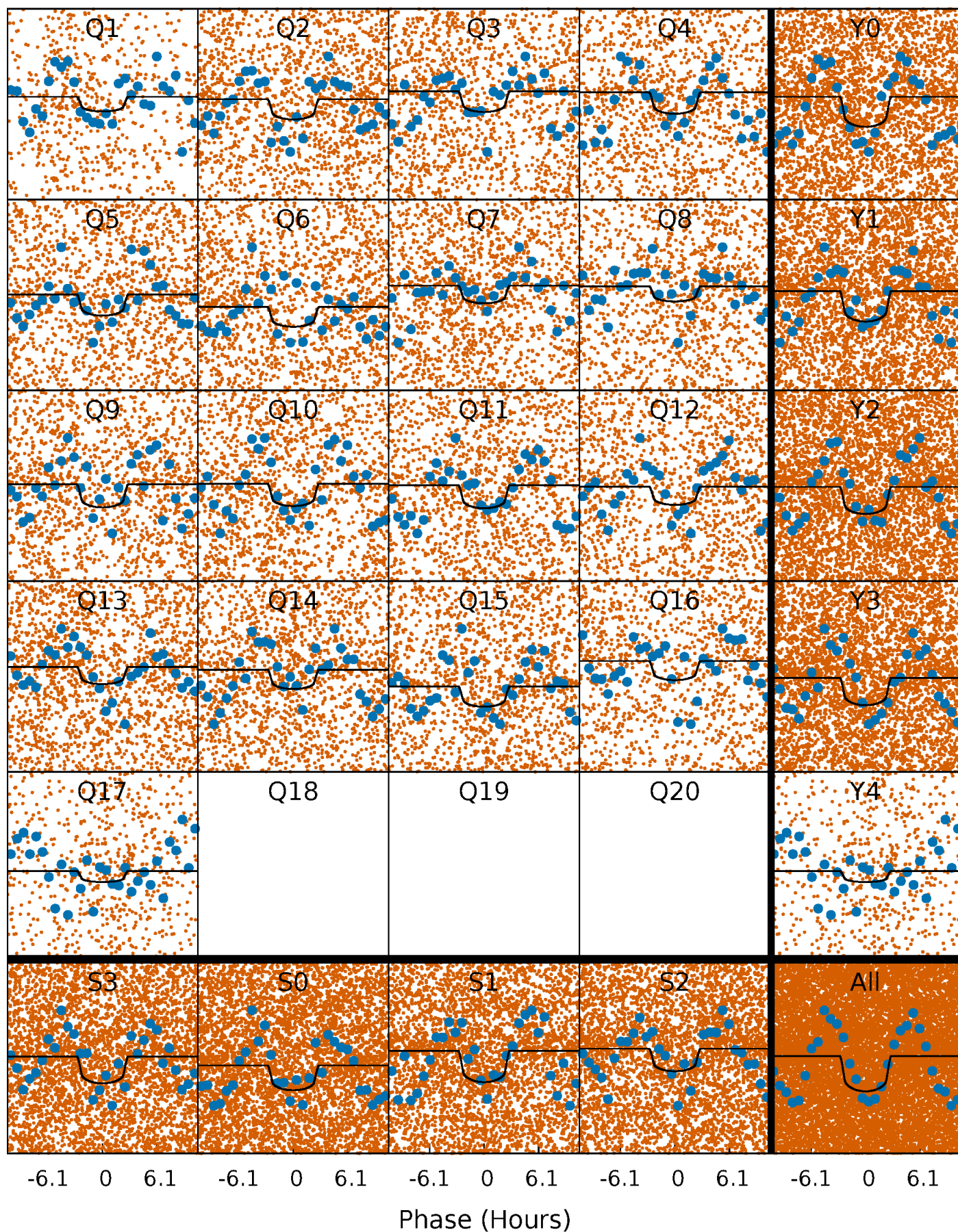
PDC Quarter-Phased Transit Curves

TCE 006579643-02 P= 0.736798 Days $T_0=131.552166$ (BKJD)



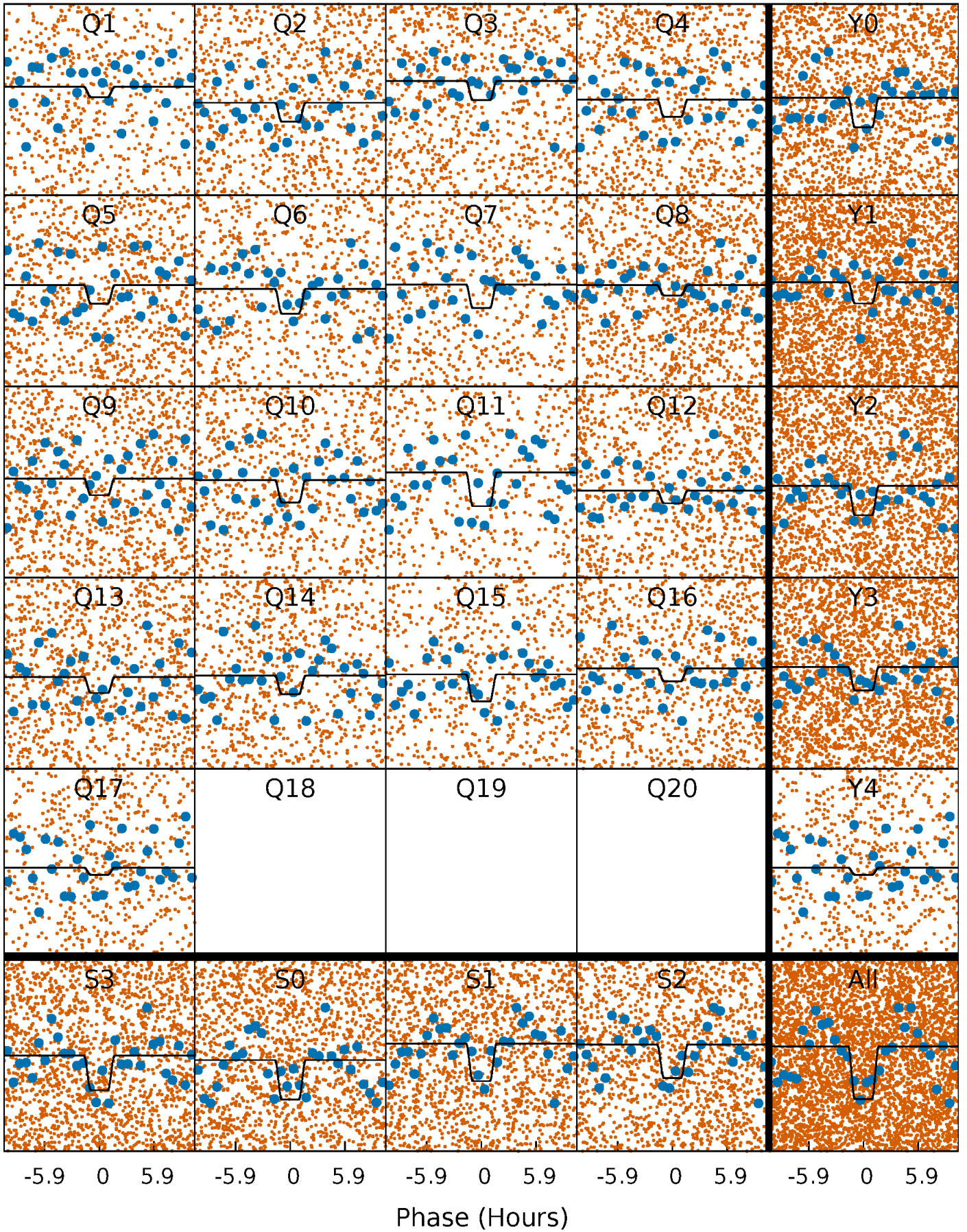
DV Quarter-Phased Transit Curves

TCE 006579643-02 P= 0.736798 Days $T_0=131.552166$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

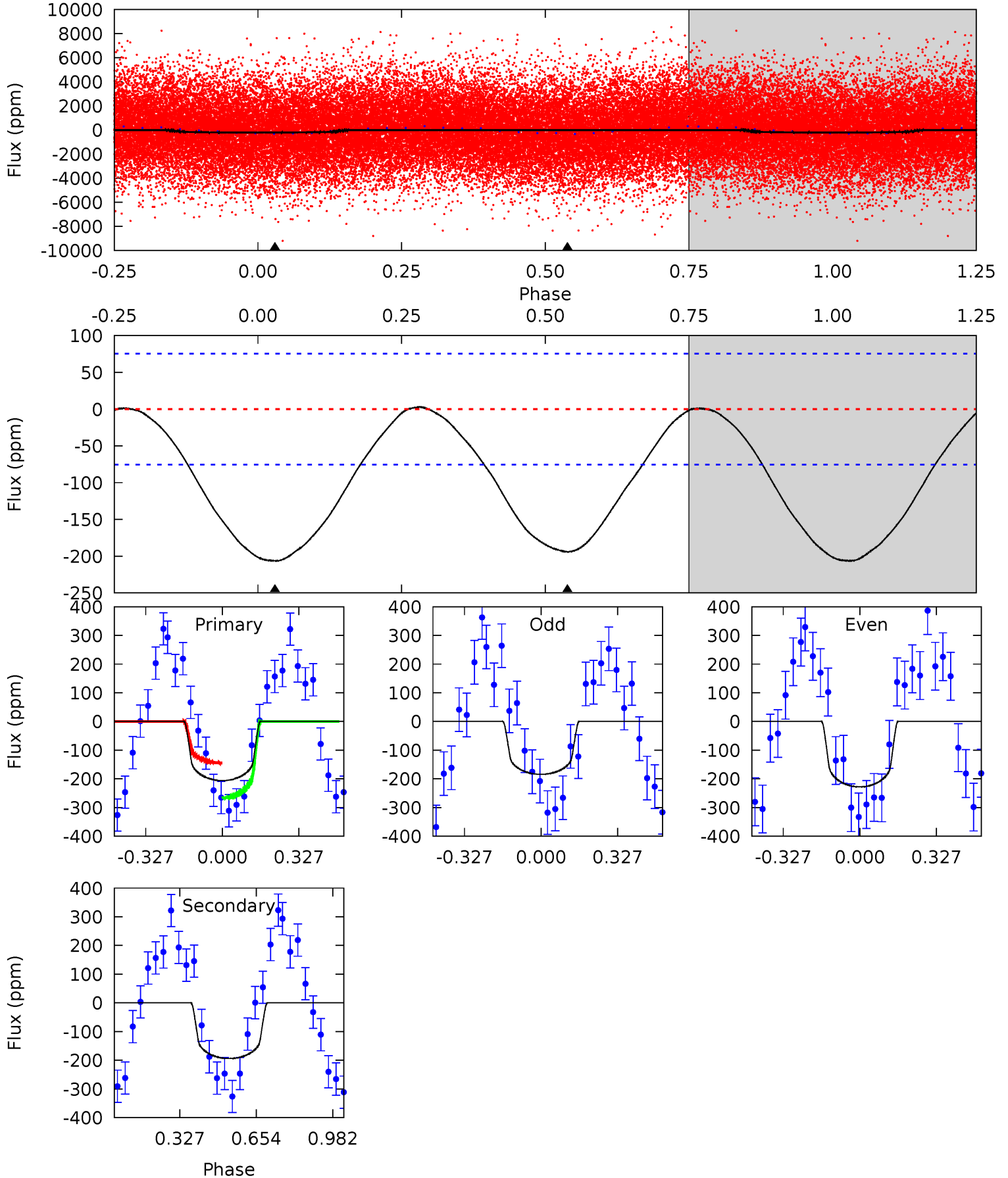
TCE 006579643-02 P= 0.736831 Days $T_0=131.537770$ (BKJD)



DV Model-Shift Uniqueness Test

006579643-02, P = 0.736798 Days, E = 130.815368 Days

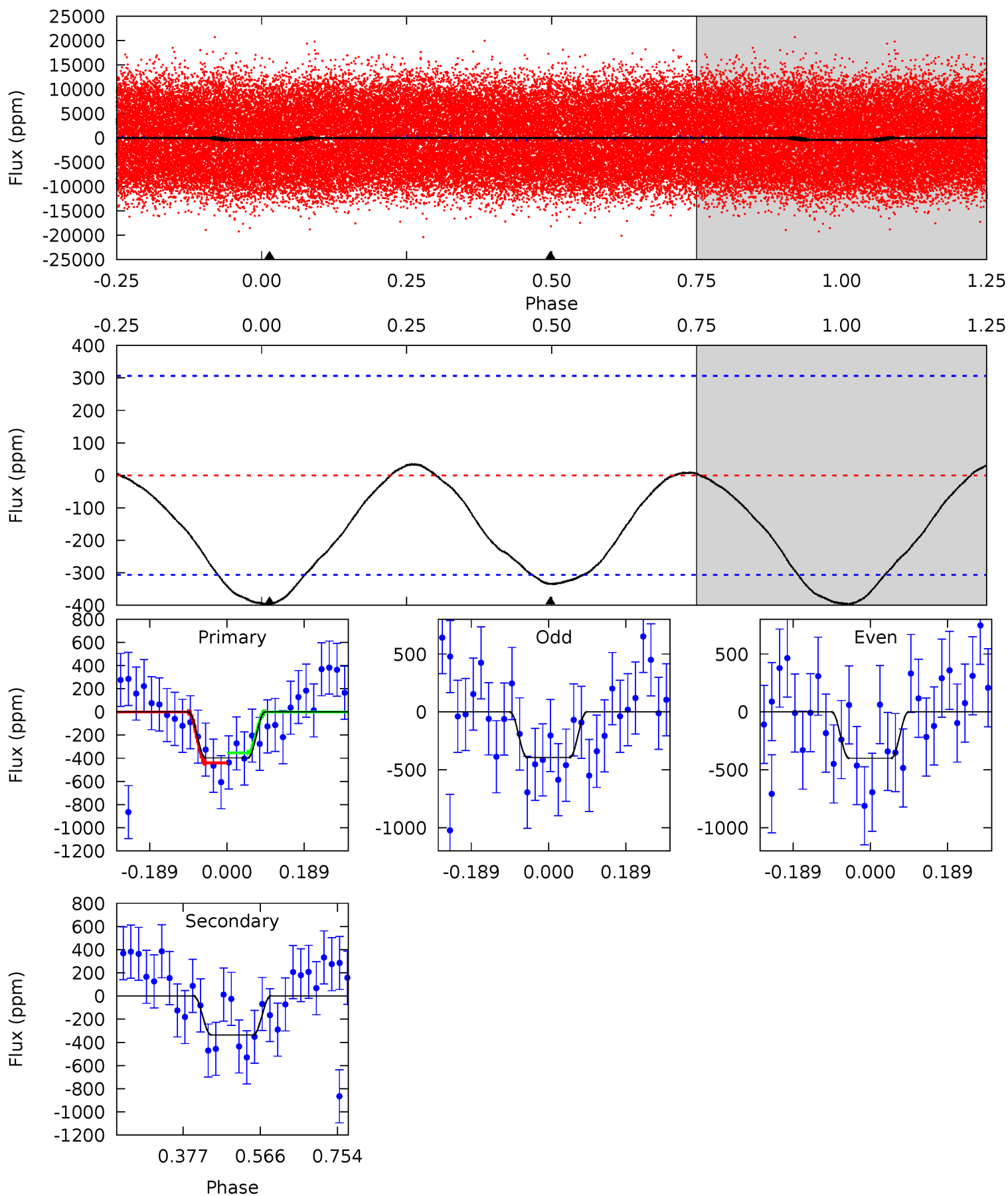
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	11.1	0	0	4.31	0.98	0.16	11.8	11.8	11.1	11.1	1.24	0.94	0.01	3.40



Alt Model-Shift Uniqueness Test

006579643-02, P = 0.736831 Days, E = 130.800939 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.75	4.85	0	0	4.43	1.31	0.41	5.75	5.75	4.85	4.85	0.04	1.08	0.08	0.63



Stellar Parameters For KIC 006579643

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7025^{+190}_{-299}	$3.696^{+0.576}_{-0.096}$	$-0.500^{+0.300}_{-0.300}$	$2.872^{+0.394}_{-1.577}$	$1.495^{+0.199}_{-0.397}$	$0.089^{+0.569}_{-0.026}$
	+3%/-4%	+16%/-3%	+60%/-60%	+14%/-55%	+13%/-27%	+640%/-29%
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 006579643-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-194 ± 17	$4.26^{+3.51}_{-2.62}$	5239^{+390}_{-838}	6272^{+4862}_{-1844}	$1.960^{+10.713}_{-1.376}$
Alt.	-335 ± 69	$5.97^{+3.82}_{-2.95}$	5188^{+397}_{-734}	5878^{+3067}_{-1405}	$1.684^{+5.335}_{-1.066}$

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 $A_{obs} \gg 1.0$

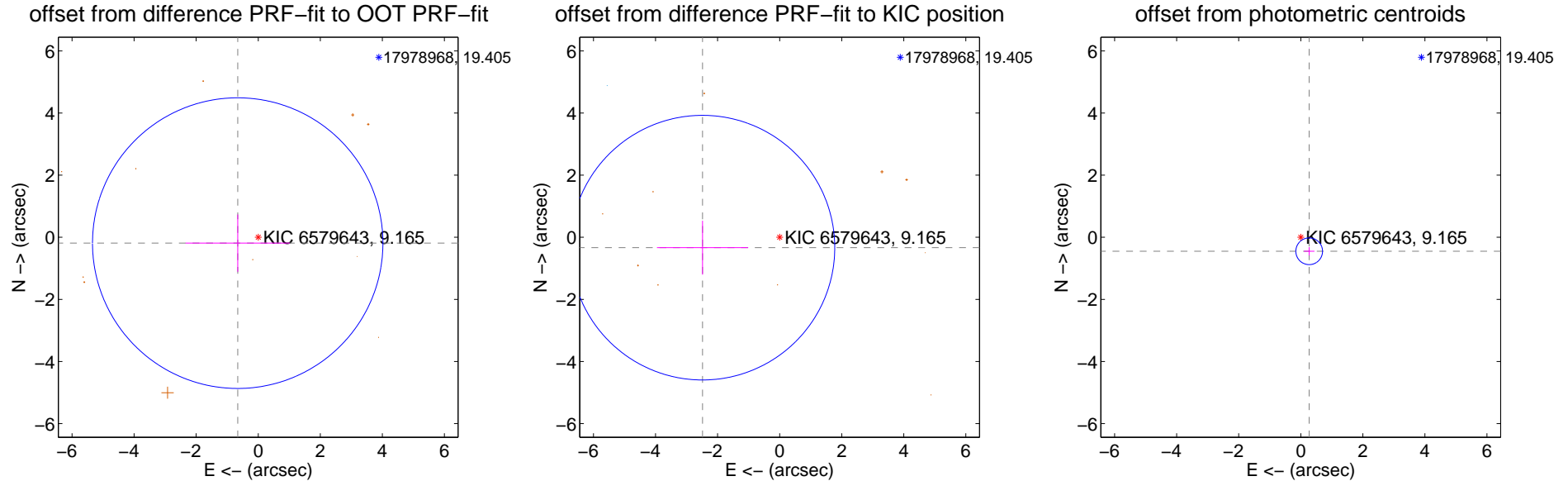
DV Centroid Data

Supplemental centroid analysis for 006579643-02. **Kepler magnitude: 9.16.** Transit SNR 9.62

There are 1 quarters with good PRF difference image offsets

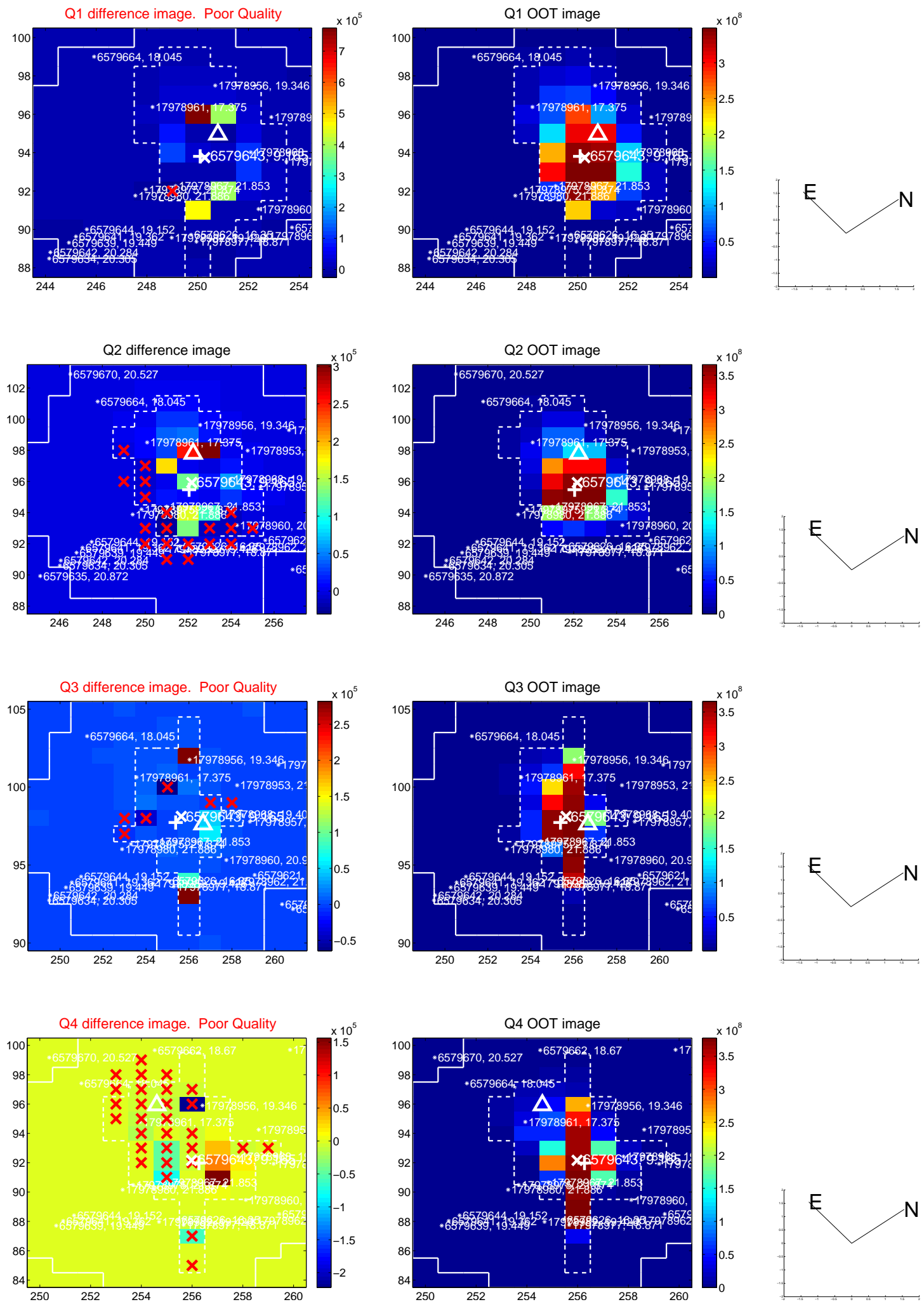
The direct PRF centroid is offset from the target star catalog position by about 0.81 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.687 ± 1.560	0.44	0.661 ± 1.682	-0.189 ± 0.921
PRF-fit source offset from KIC position	2.508 ± 1.420	1.77	2.485 ± 1.471	-0.334 ± 0.867
photometric centroid source offset	0.53 ± 0.14	3.67	-0.27 ± 0.17	-0.45 ± 0.13

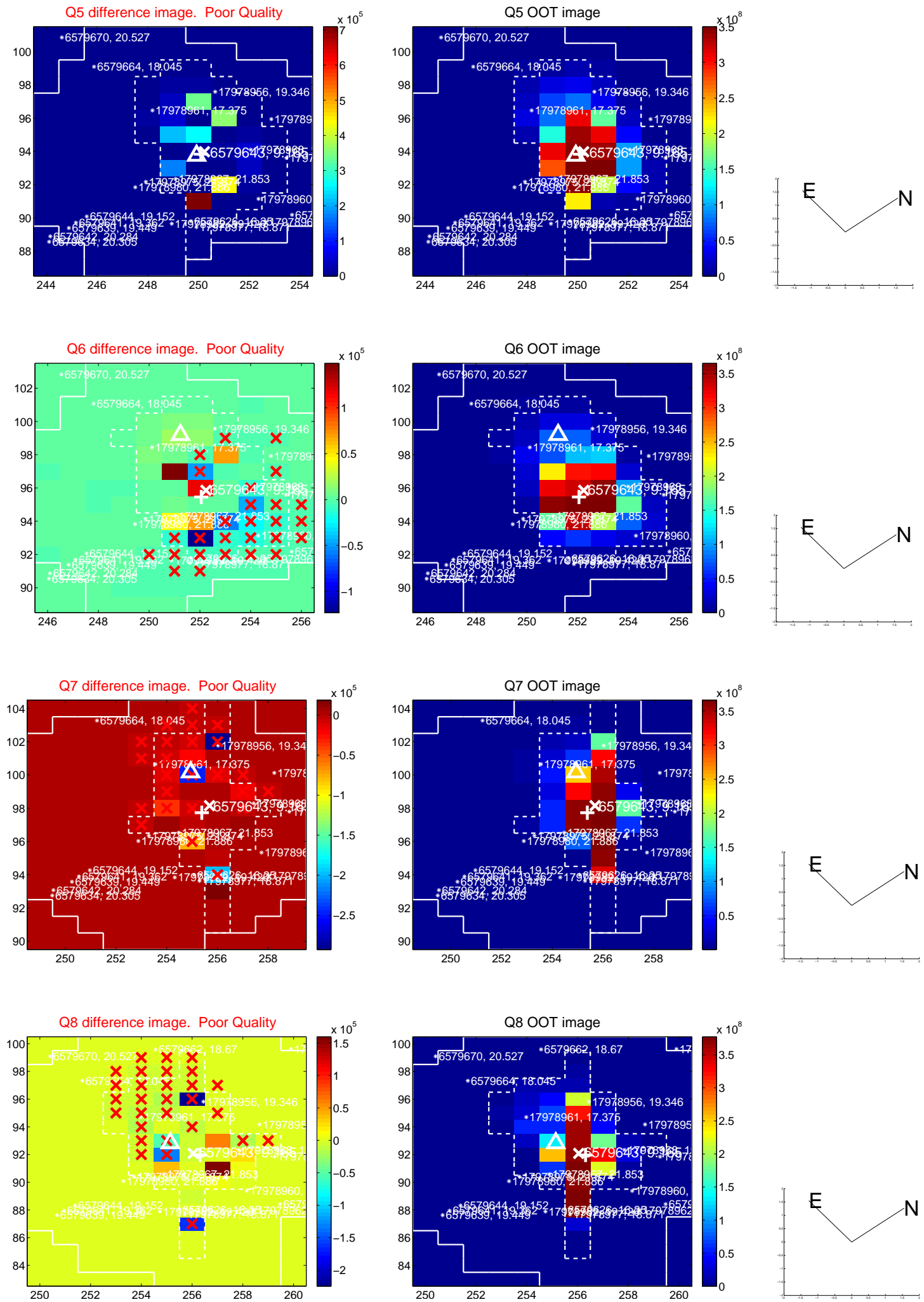


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

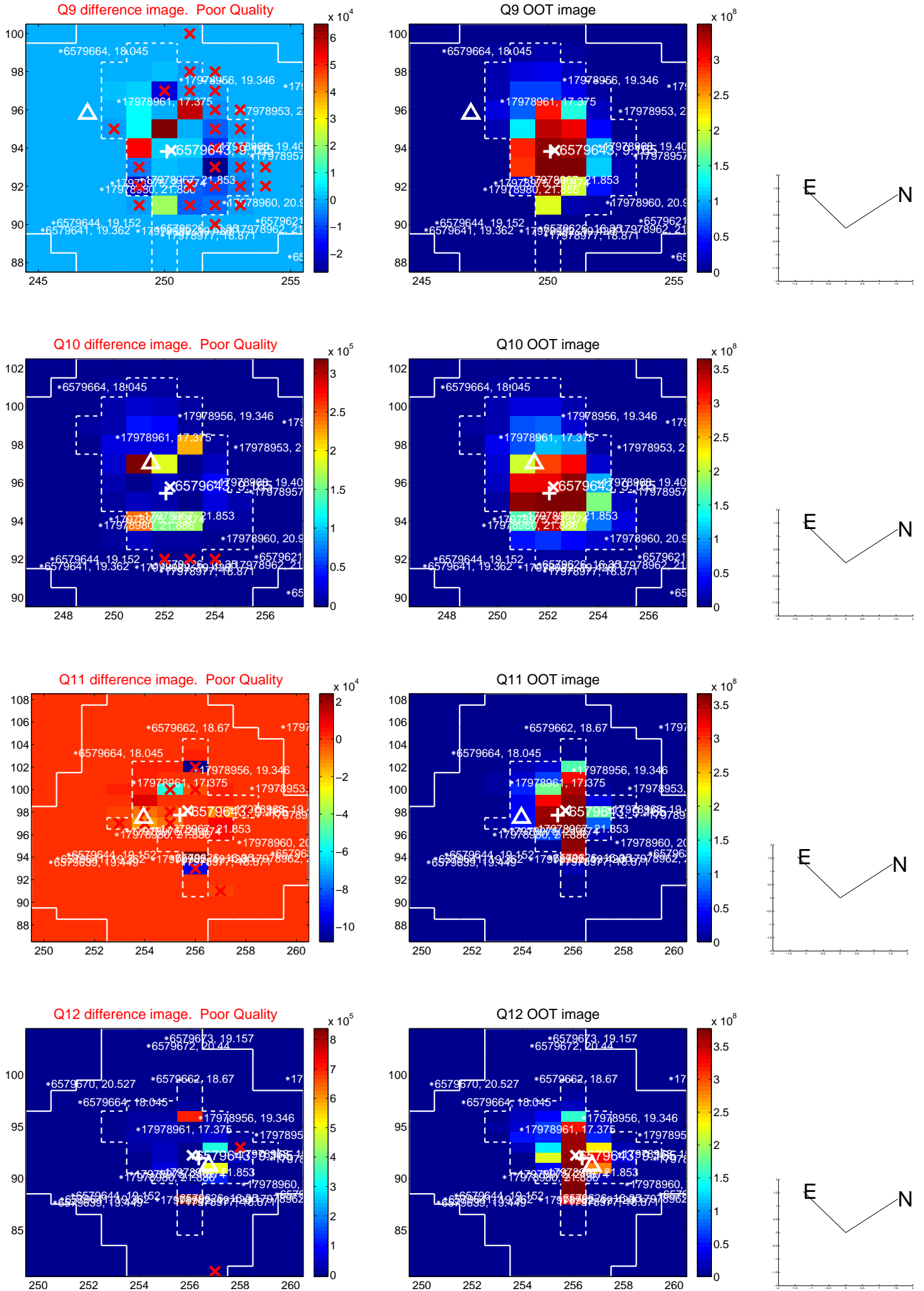
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



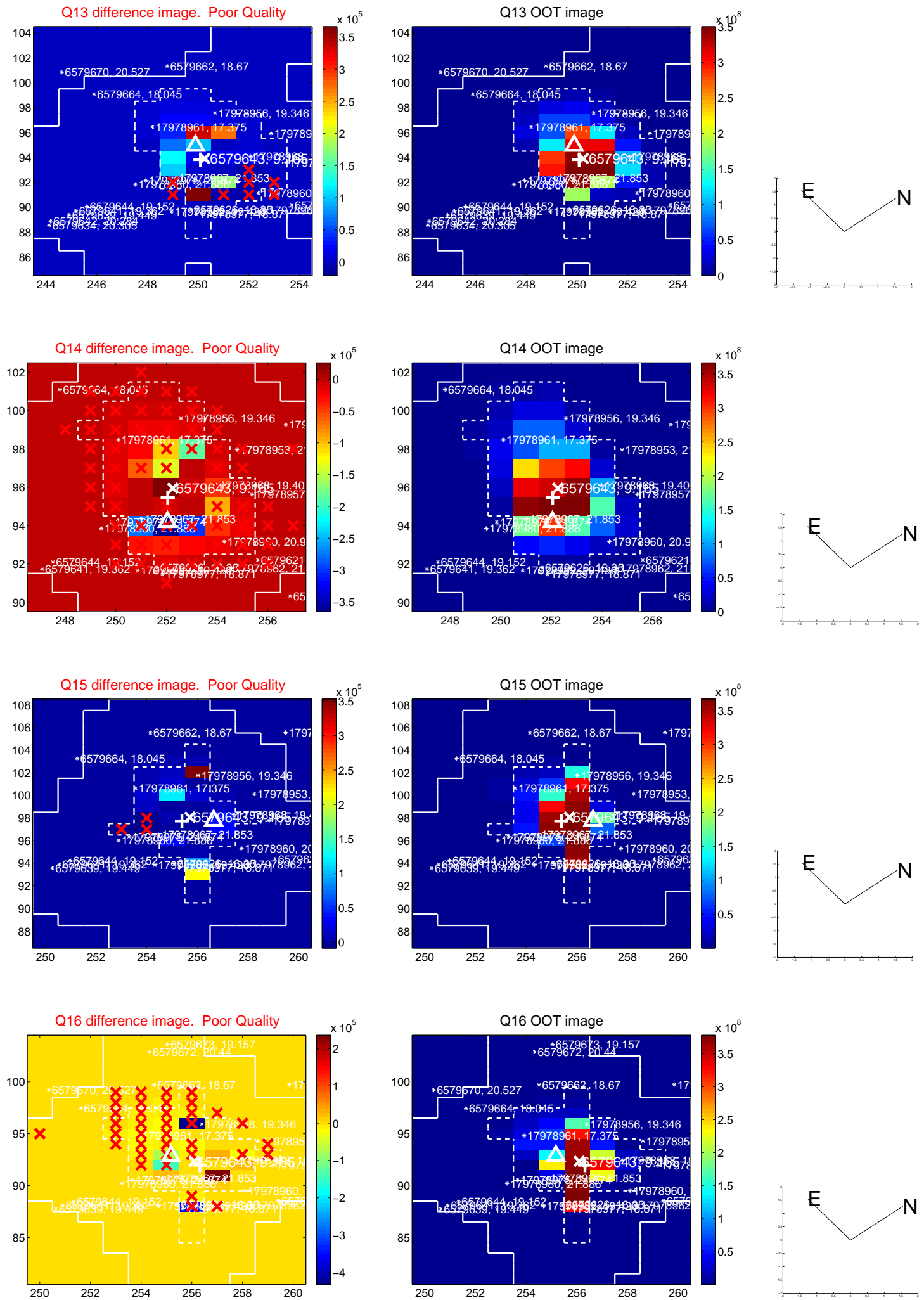
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

