

KIC 006065351

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})
006065351-01	OBS	No	2.731649	133.653404	167.0	10.998	10.2	12.5	2.24	6526	4.91	4454.74
006065351-02	OBS	No	0.654801	132.087702	66.8	5.614	9.9	9.6	2.24	6526	1.89	29916.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006065351-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
006065351-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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 006065351-01

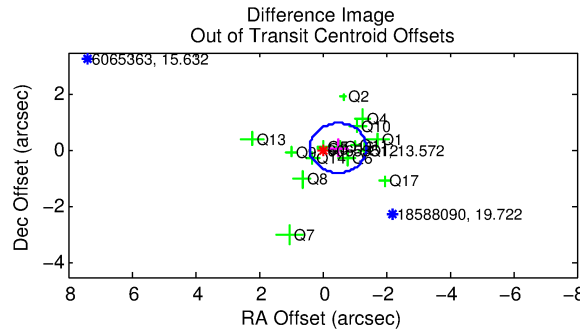
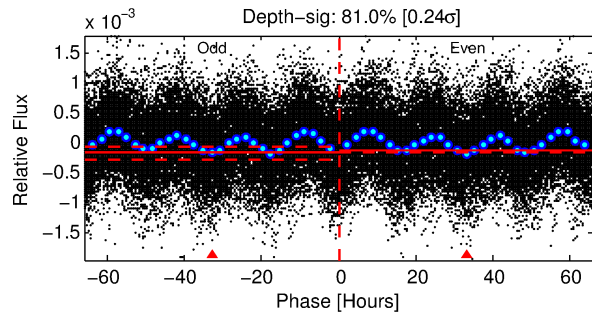
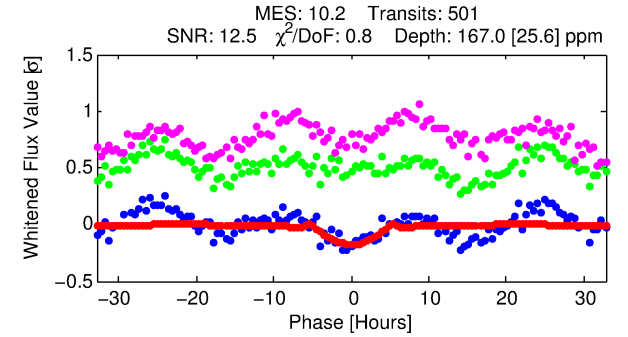
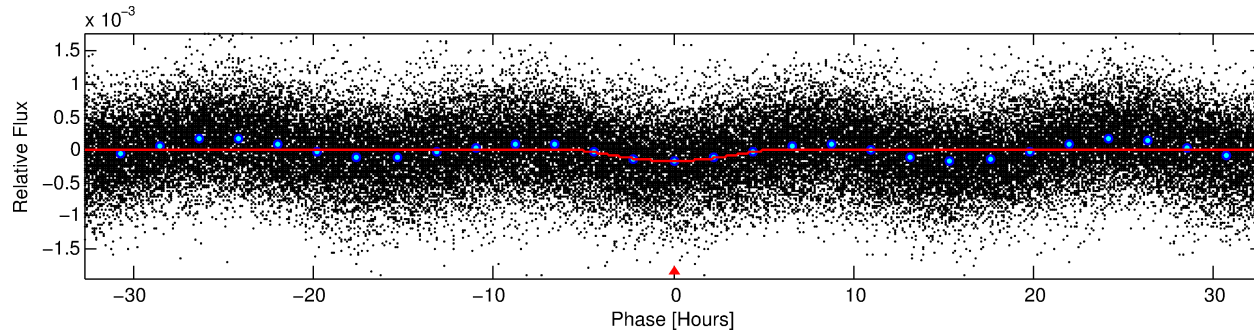
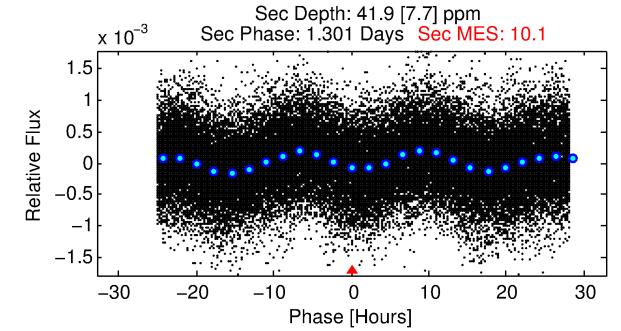
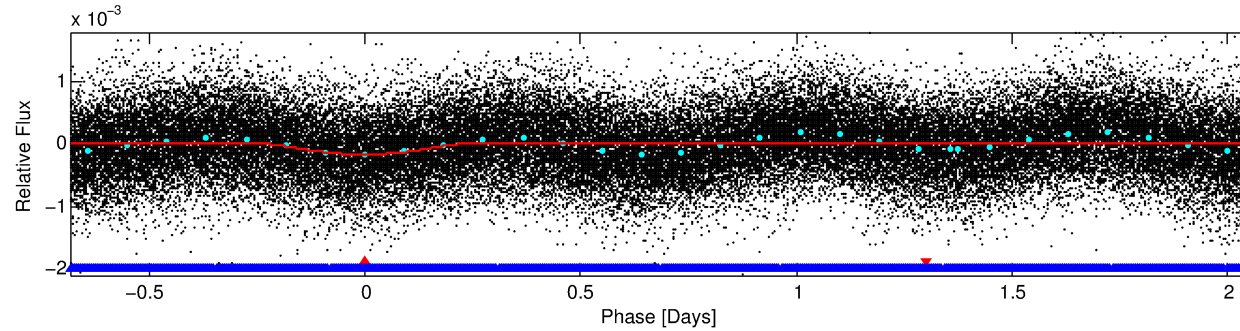
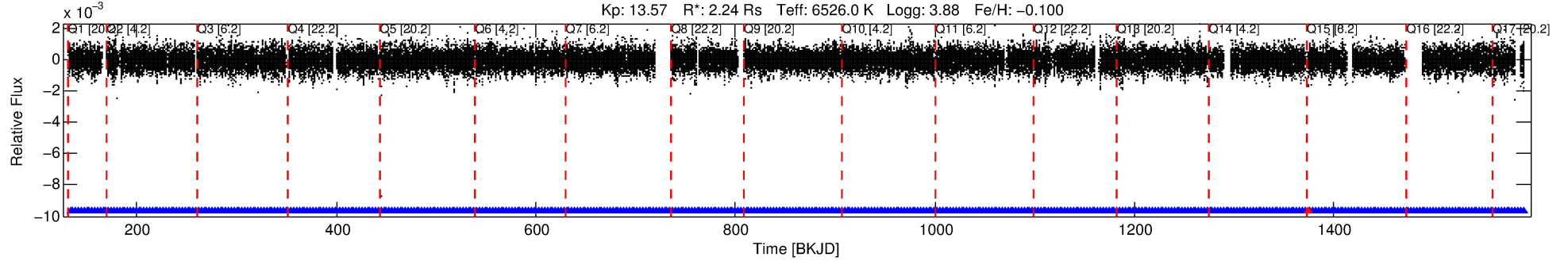
No Significant Match Found

DV One-Page Summary

KIC: 6065351 Candidate: 1 of 2 Period: 2.732 d

KOI: K04569 Corr: No Ephemeris Match

Kp: 13.57 R*: 2.24 Rs Teff: 6526.0 K Logg: 3.88 Fe/H: -0.100



DV Fit Results:

Period = 2.73165 [0.00006] d
Epoch = 133.6534 [0.0168] BKJD
Rp/R* = 0.0201 [0.0160]
a/R* = 1.09 [0.02]
b = 0.99 [0.03]
Seff = 4454.74 [3070.55]
Teff = 2083 [359] K
Rp = 4.91 [4.45] Re
a = 0.0427 [0.0180] AU
Ag = 1.74 [3.03] [0.25 sigma]
Teffp = 3702 [1484] K [1.06 sigma]

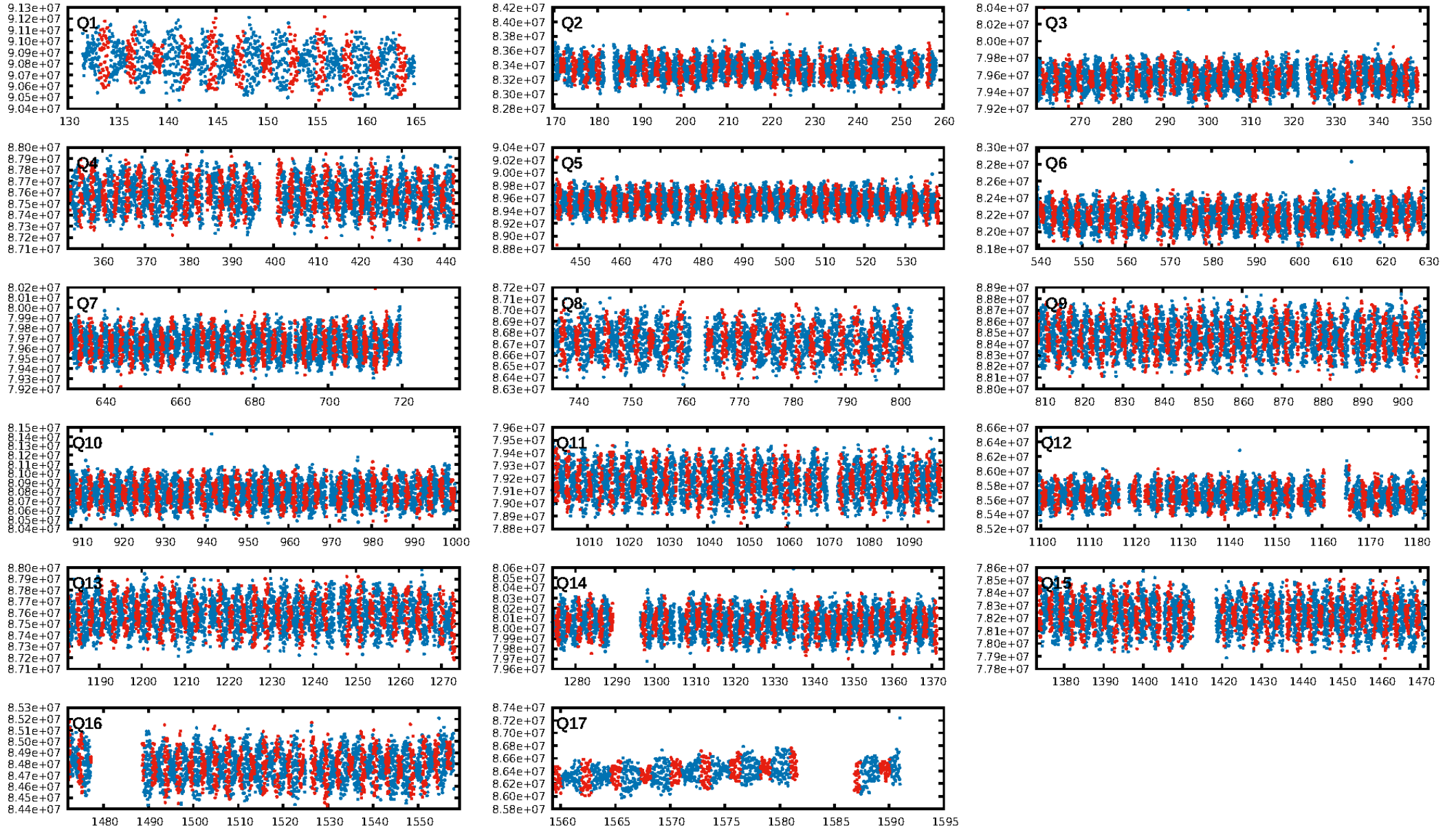
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.04 sigma]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [477/478]
GhostDiagnostic-chr: -0.1418
Centroid-sig: 3.9%
Centroid-so: 0.345 arcsec [1.14 sigma]
OotOffset-rm: 0.498 arcsec [1.69 sigma]
KicOffset-rm: 0.425 arcsec [1.41 sigma]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.00 [0/17]

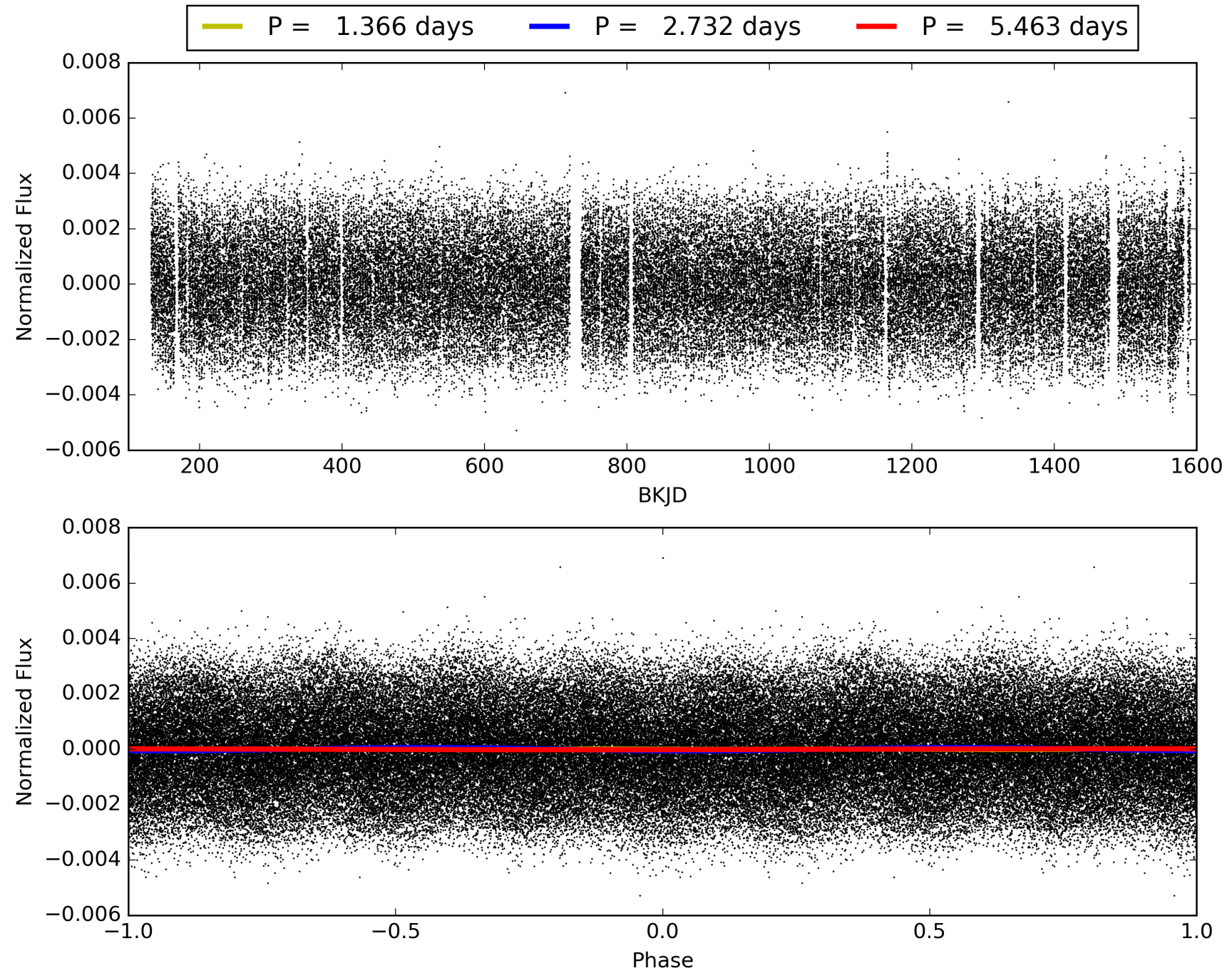
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:48:43 Z

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

TCE 006065351-01, PDC Light Curves

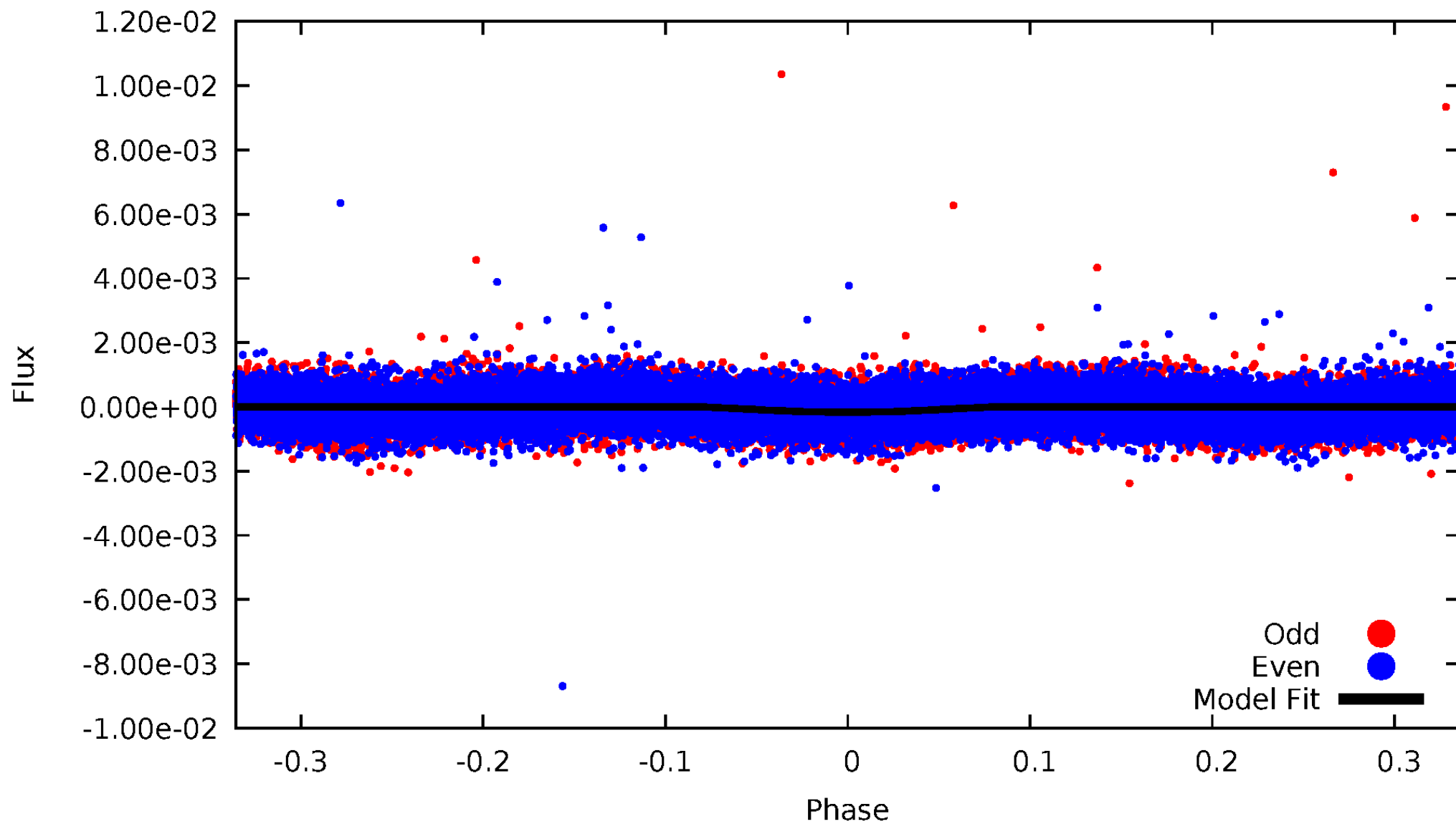


TCE 006065351-01



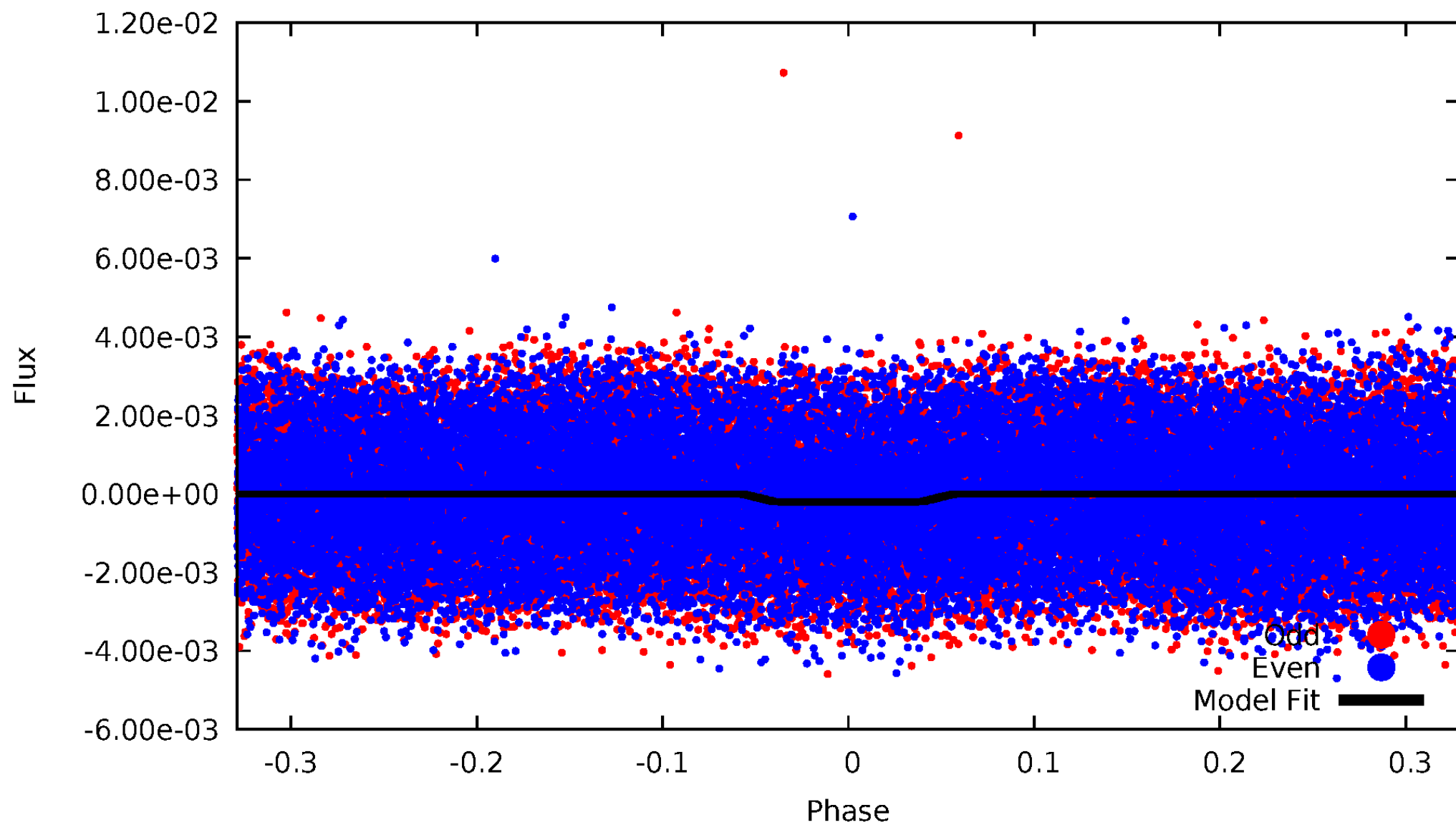
DV Odd/Even

TCE 006065351-01



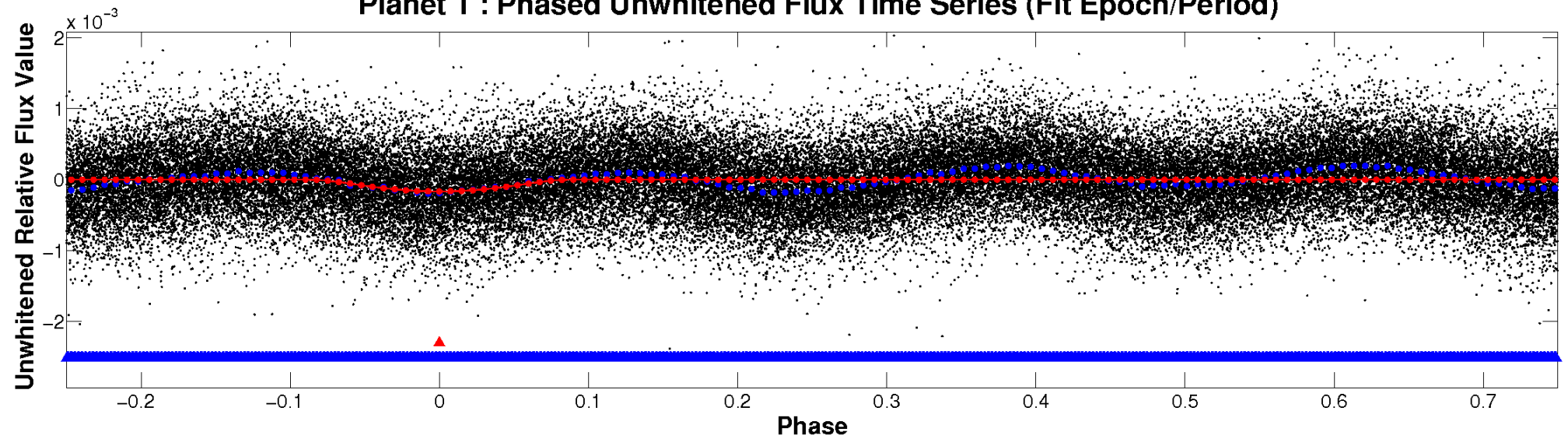
ALT Odd/Even

TCE 006065351-01

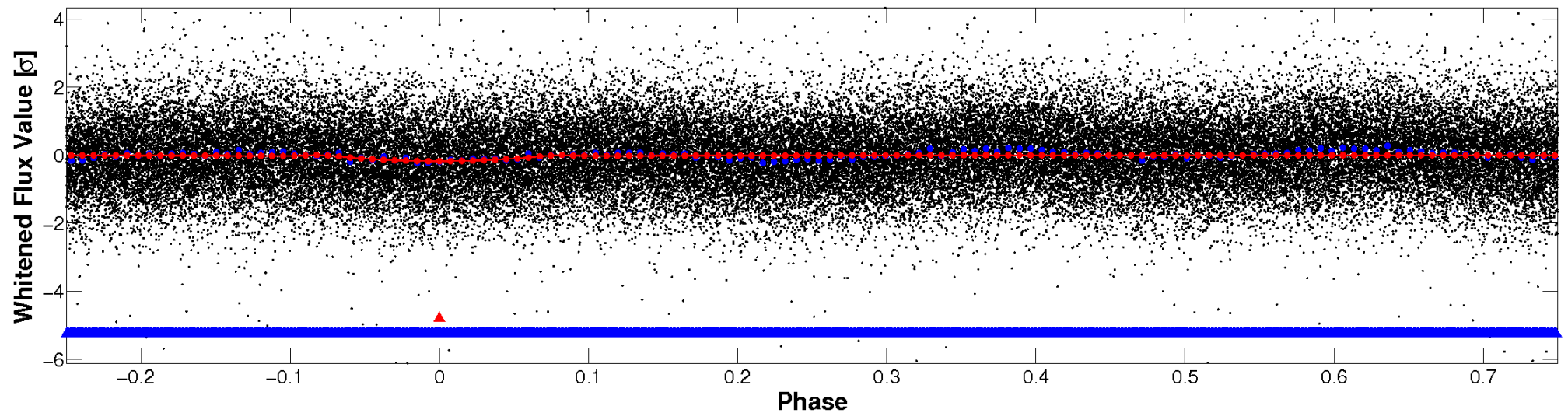


Non-Whitened Vs. Whitened Light Curve

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

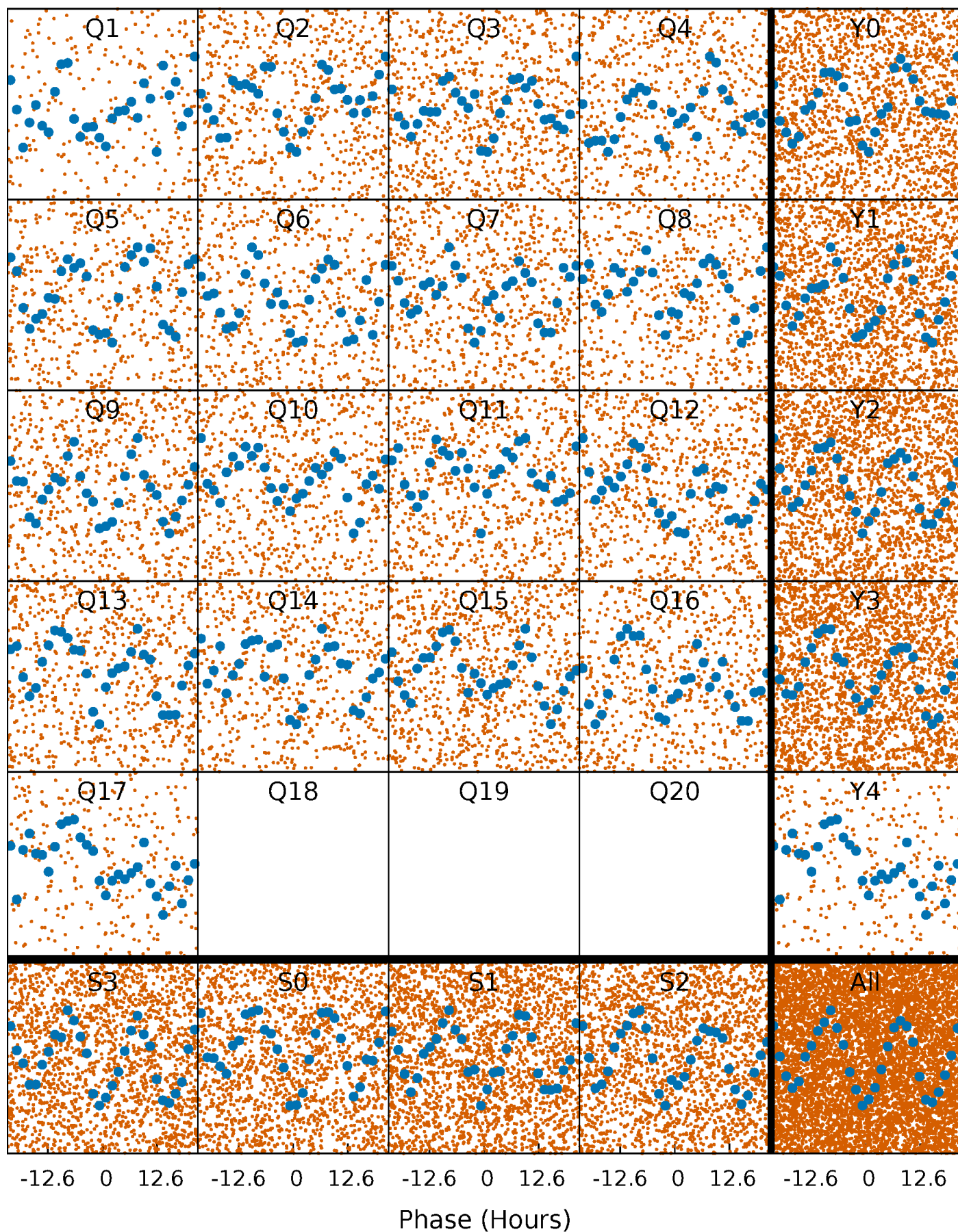


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



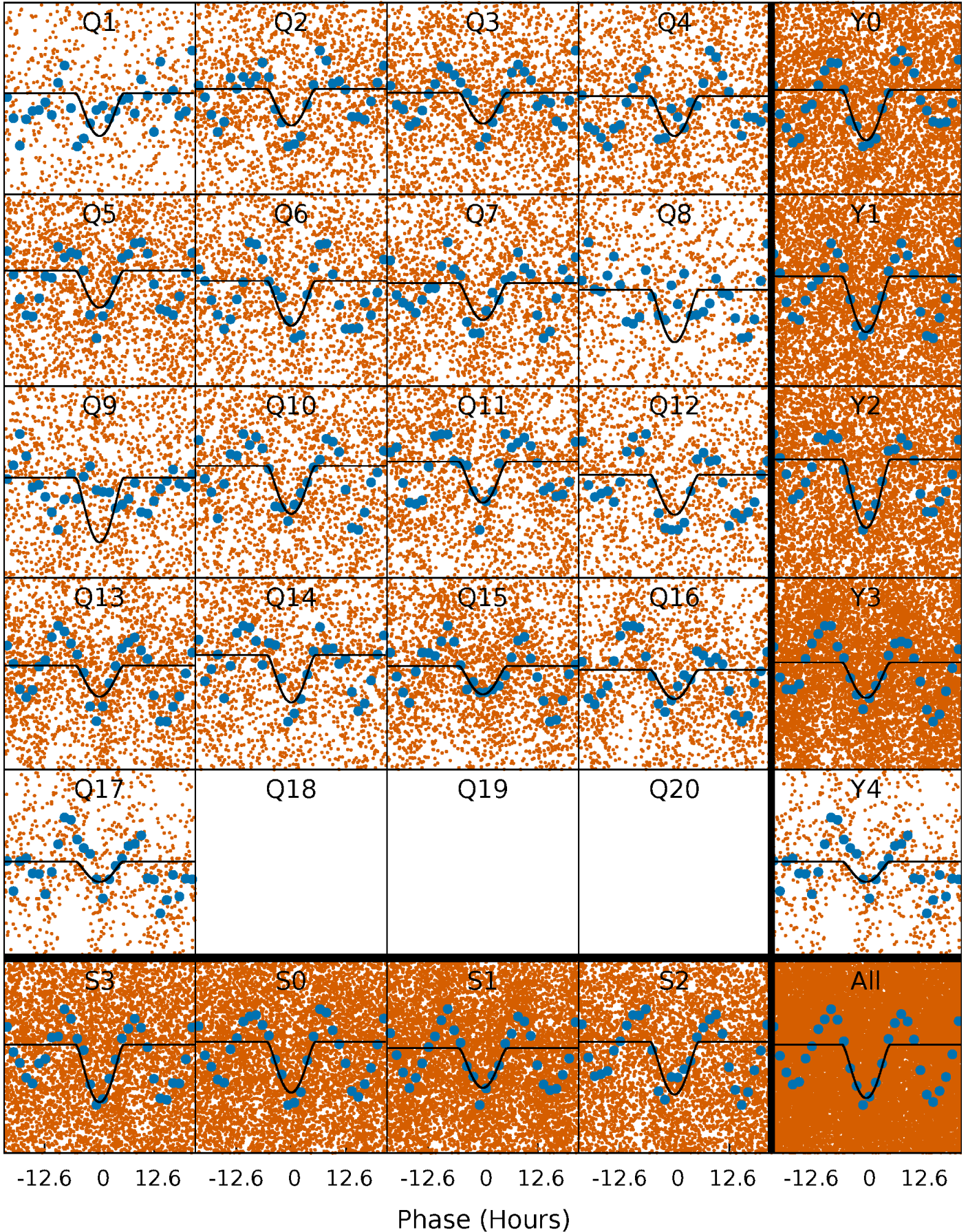
PDC Quarter-Phased Transit Curves

TCE 006065351-01 P= 2.731649 Days $T_0=133.653404$ (BKJD)



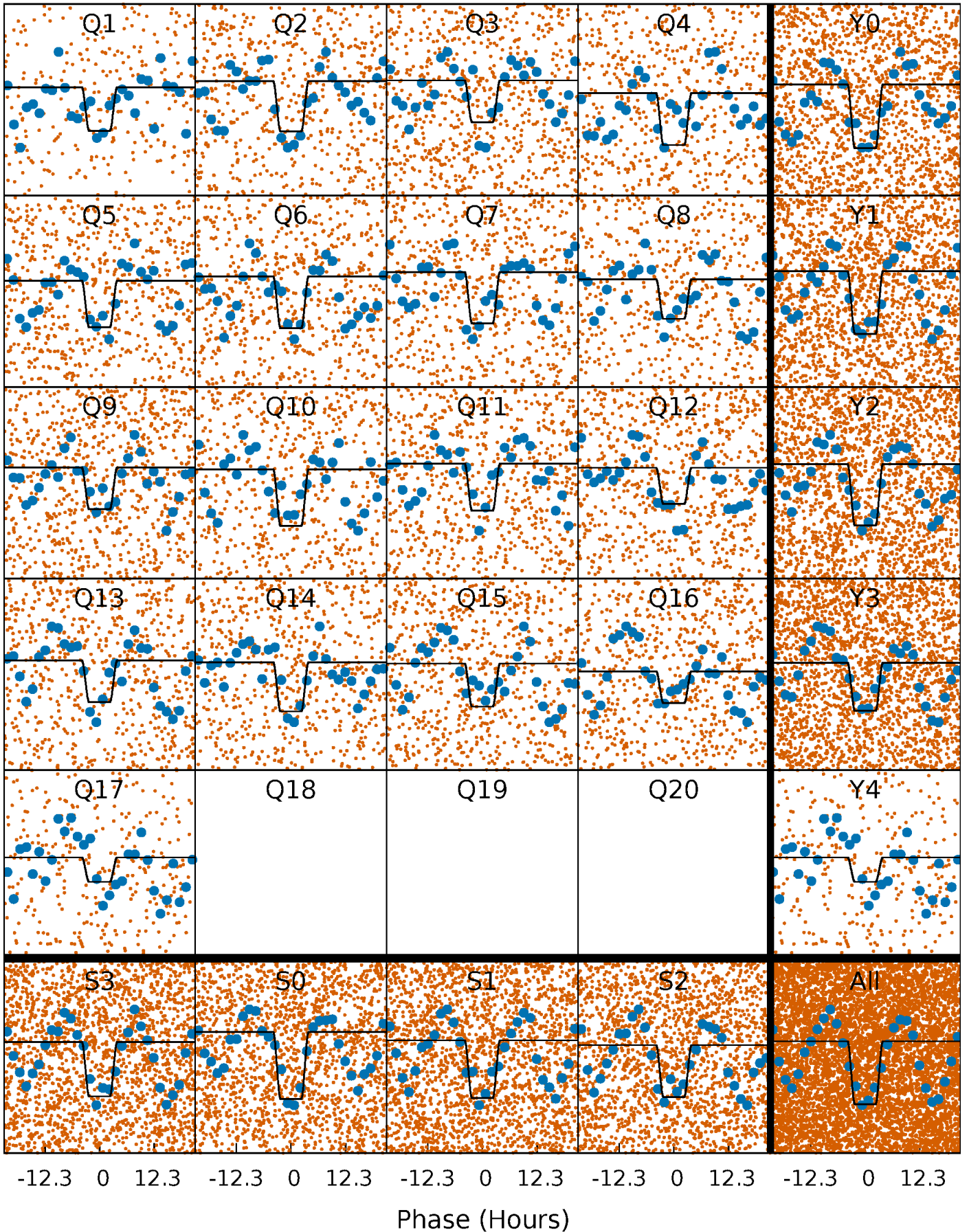
DV Quarter-Phased Transit Curves

TCE 006065351-01 P= 2.731649 Days $T_0=133.653404$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

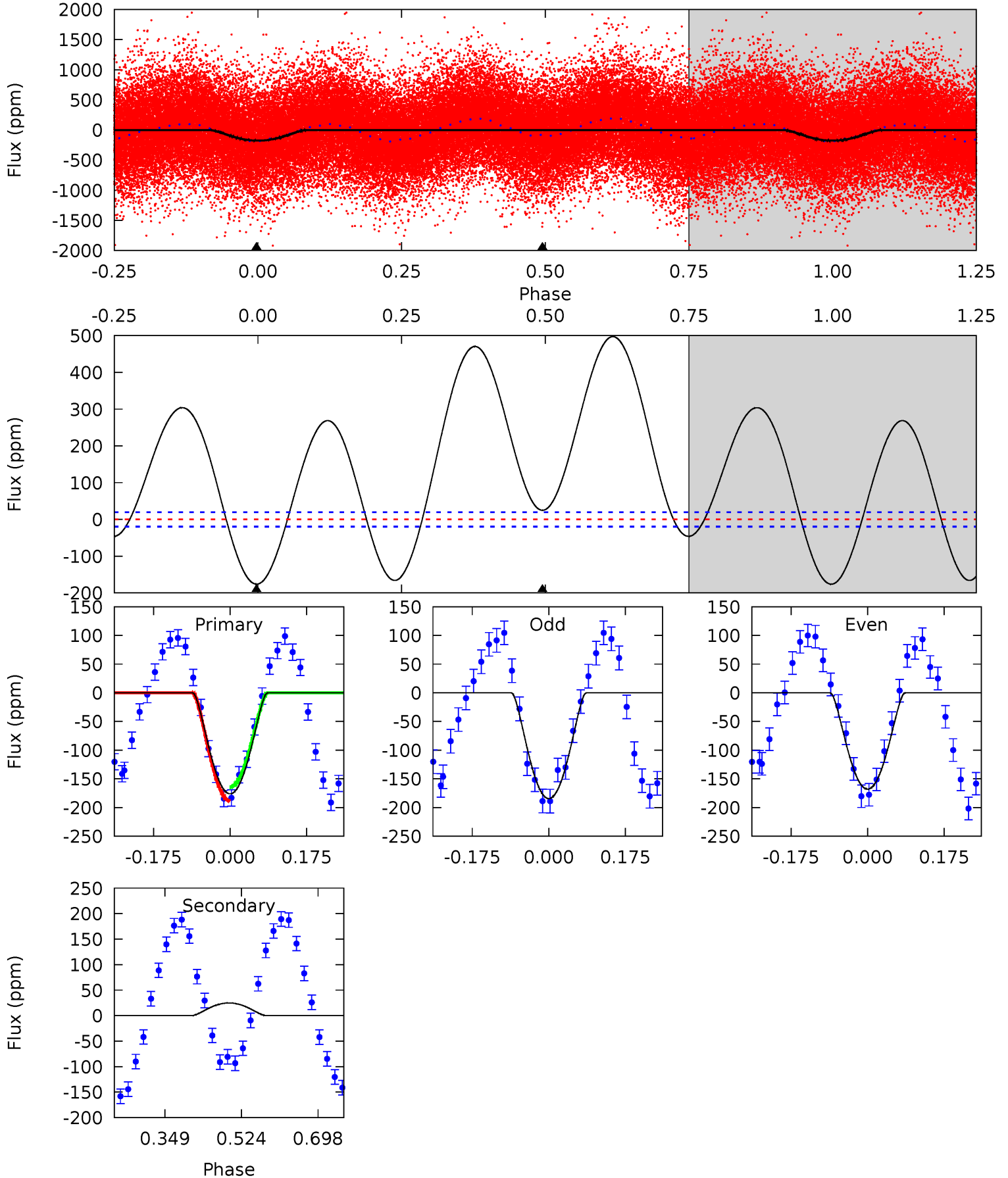
TCE 006065351-01 P= 2.731643 Days $T_0=133.649855$ (BKJD)



DV Model-Shift Uniqueness Test

006065351-01, P = 2.731649 Days, E = 130.921755 Days

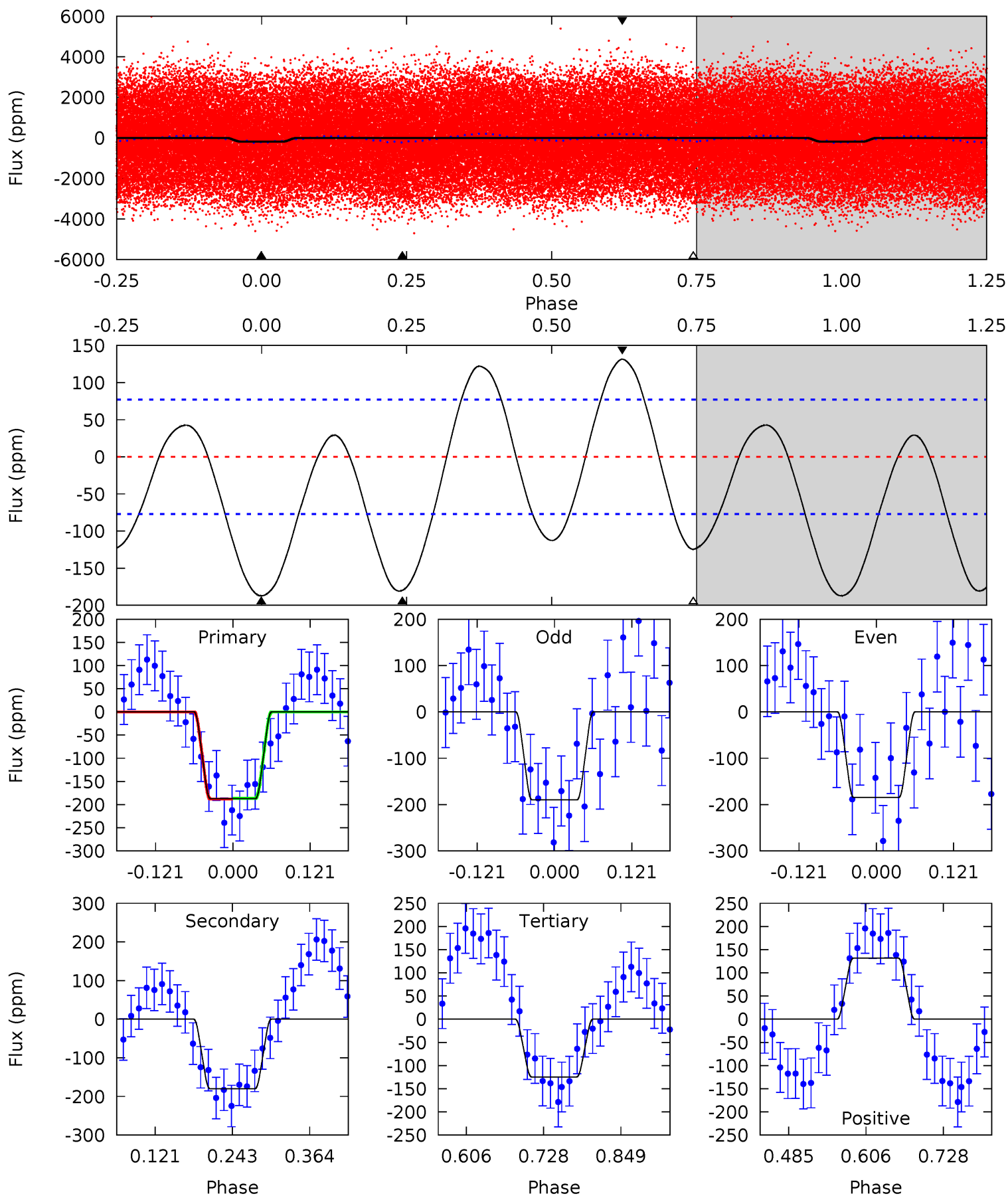
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.1	-5.66	0	0	4.45	1.36	26.5	40.1	40.1	-5.66	-5.66	1.88	1.06	0.74	2.81



Alt Model-Shift Uniqueness Test

006065351-01, P = 2.731643 Days, E = 130.918212 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	10.5	7.29	7.71	4.52	1.55	4.91	3.68	3.26	3.24	2.83	0.14	0.93	0.41	0.05



Stellar Parameters For KIC 006065351

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6526^{+181}_{-227}	$3.883^{+0.397}_{-0.132}$	$-0.100^{+0.250}_{-0.300}$	$2.238^{+0.525}_{-0.975}$	$1.398^{+0.204}_{-0.306}$	$0.175^{+0.624}_{-0.070}$
	+3%/-3%	+10%/-3%	+250%/-300%	+23%/-44%	+15%/-22%	+355%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006065351-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	25 ± 4	$4.78^{+3.40}_{-2.86}$	2856^{+197}_{-312}	-3738^{+364}_{-1451}	$-1.108^{+0.755}_{-5.742}$
Alt.	-180 ± 17	$4.01^{+3.56}_{-2.51}$	2861^{+216}_{-327}	5606^{+4276}_{-1304}	12^{+64}_{-8}

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 $A_{obs} \gg 1.0$

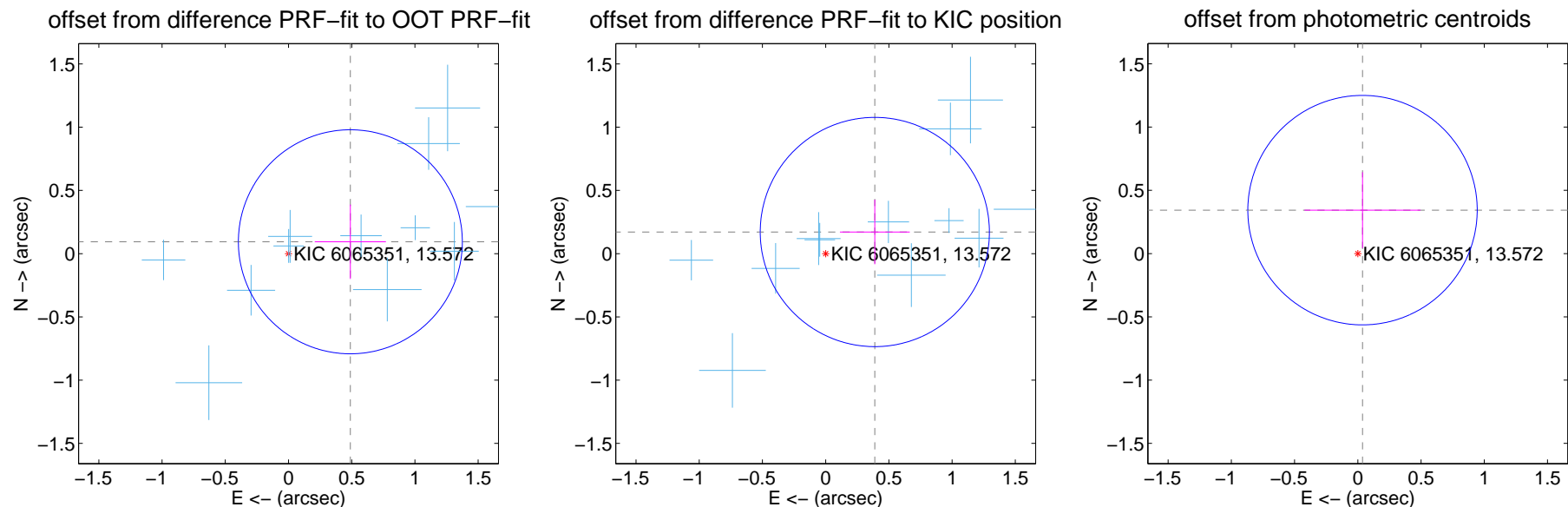
DV Centroid Data

Supplemental centroid analysis for 006065351-01. Kepler magnitude: 13.57. Transit SNR 12.53

There are 16 quarters with good PRF difference image offsets

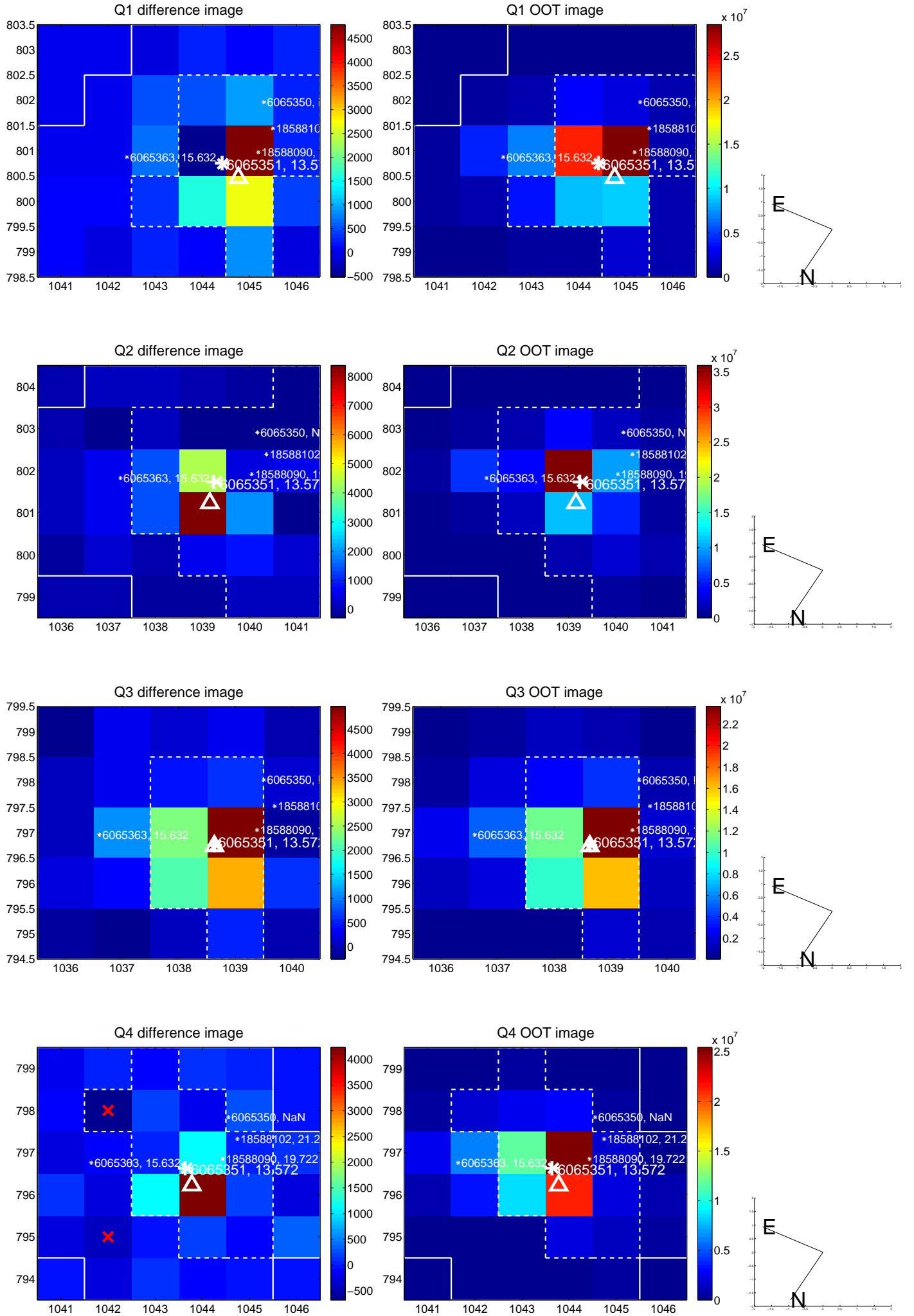
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.498 ± 0.295	1.69	-0.489 ± 0.281	0.094 ± 0.294
PRF-fit source offset from KIC position	0.425 ± 0.302	1.41	-0.389 ± 0.276	0.171 ± 0.255
photometric centroid source offset	0.35 ± 0.30	1.14	-0.04 ± 0.46	0.34 ± 0.30

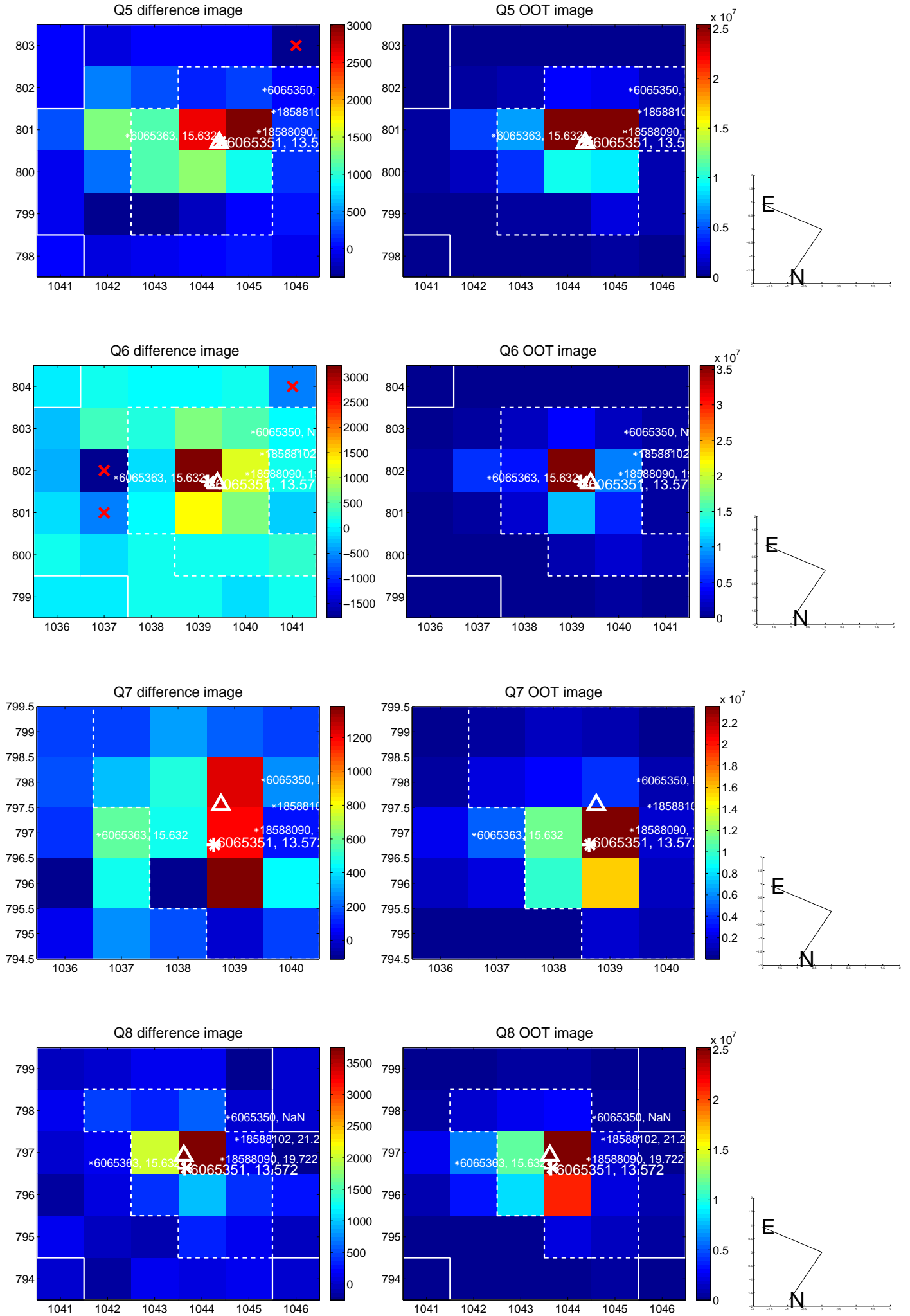


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

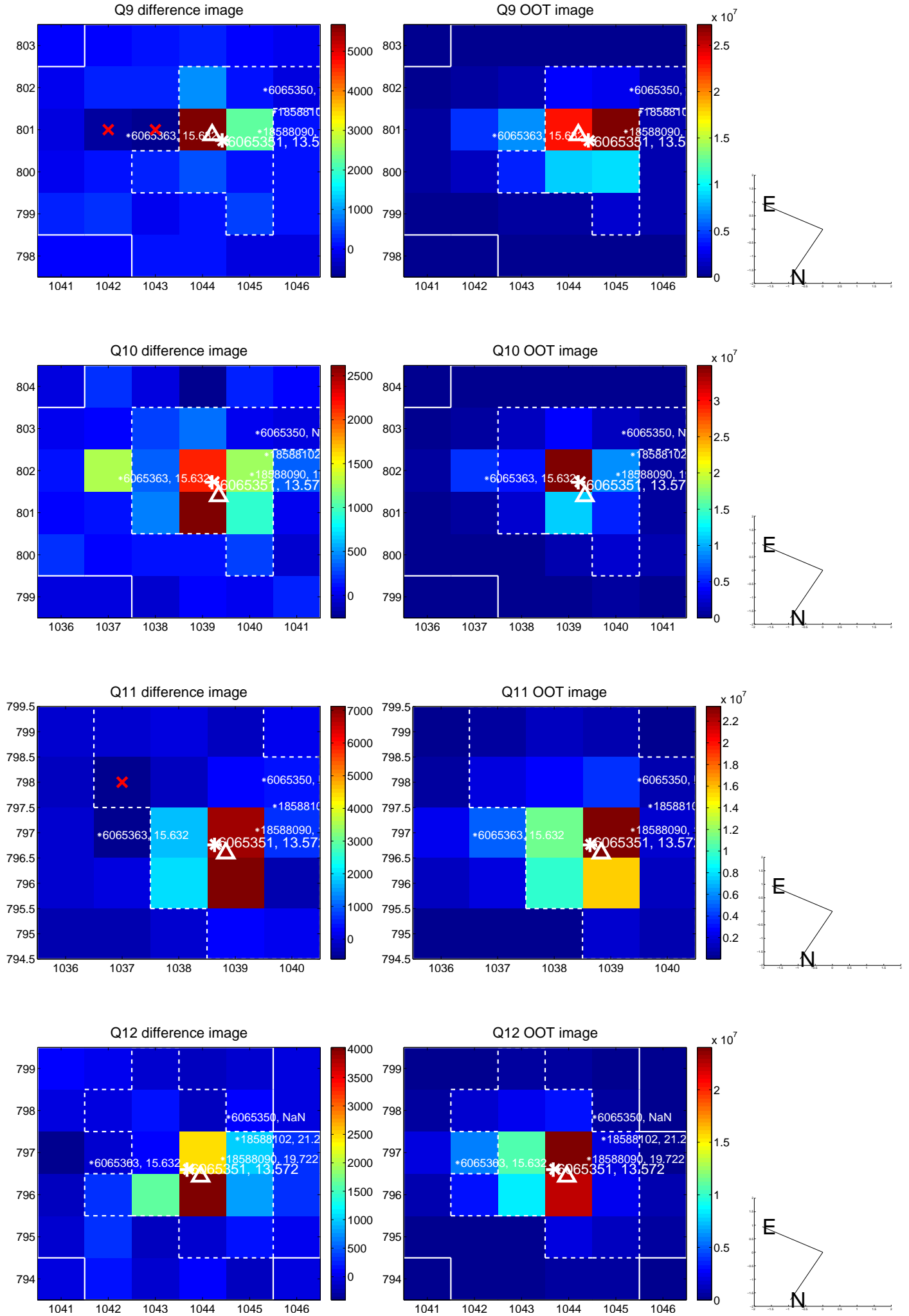
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



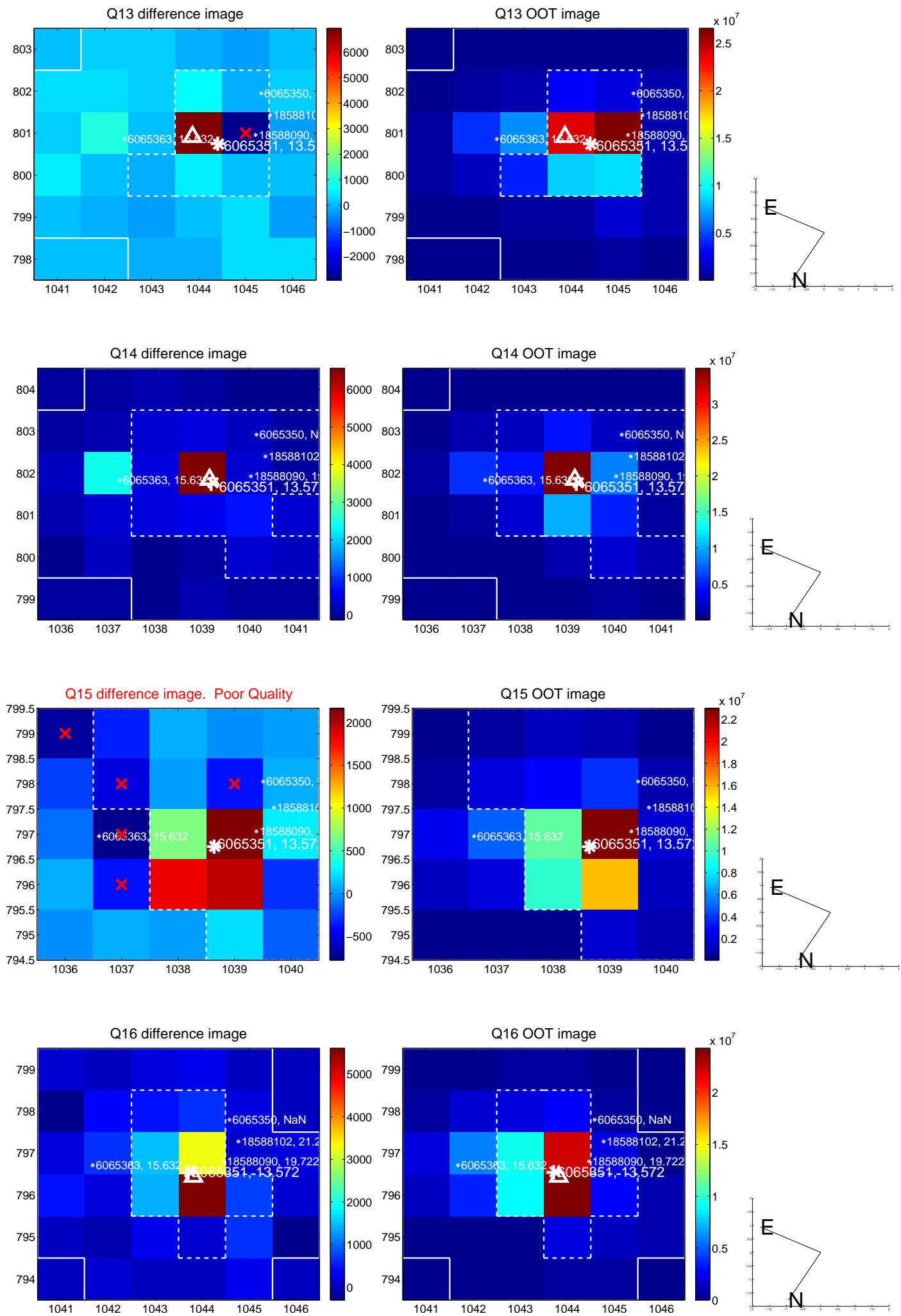
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



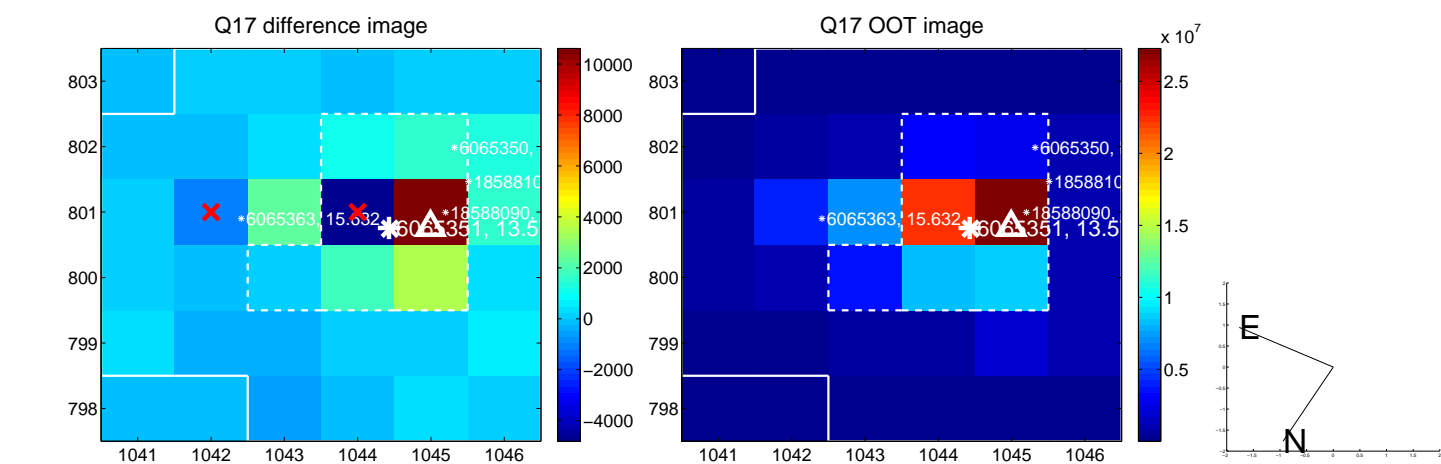
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



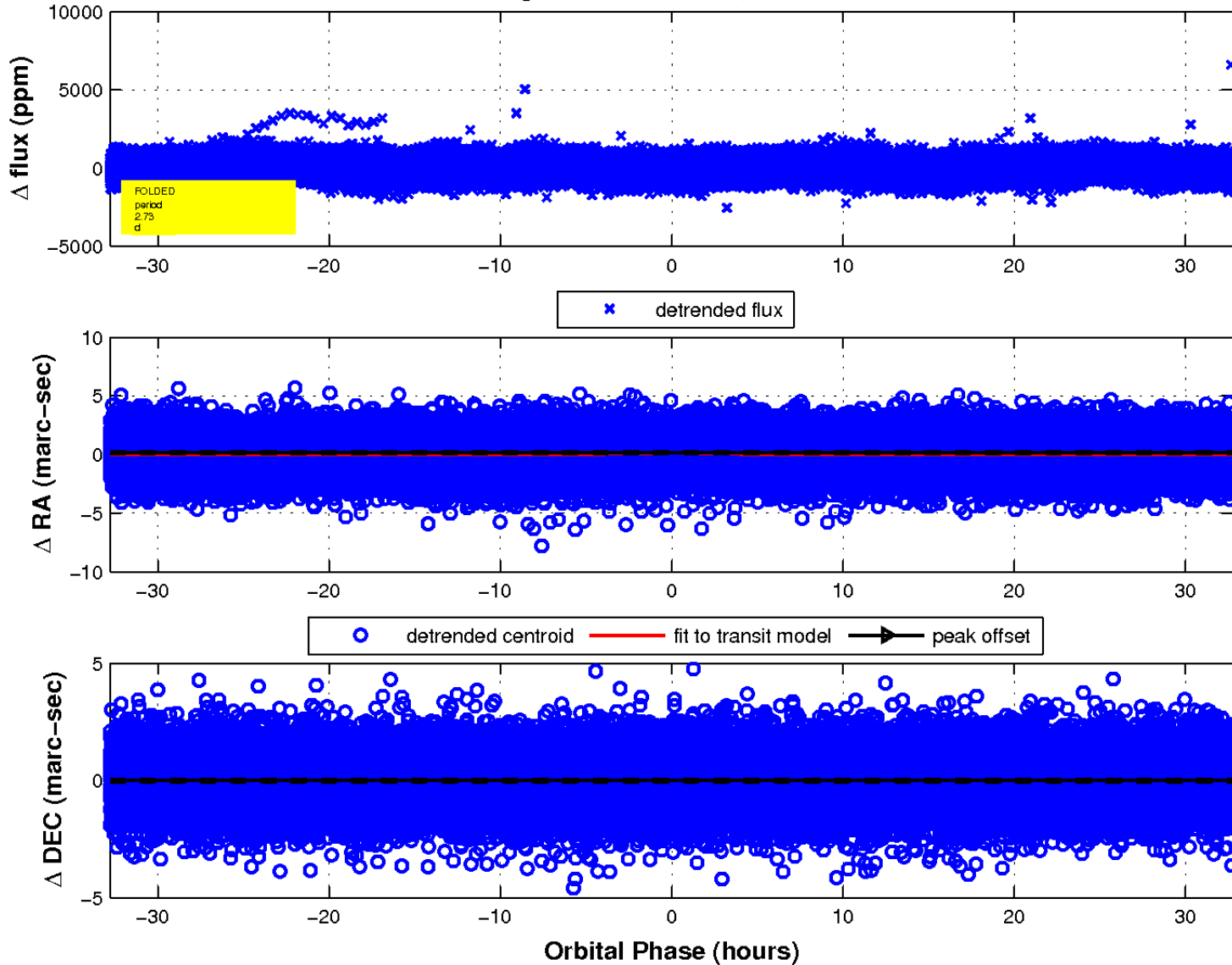
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



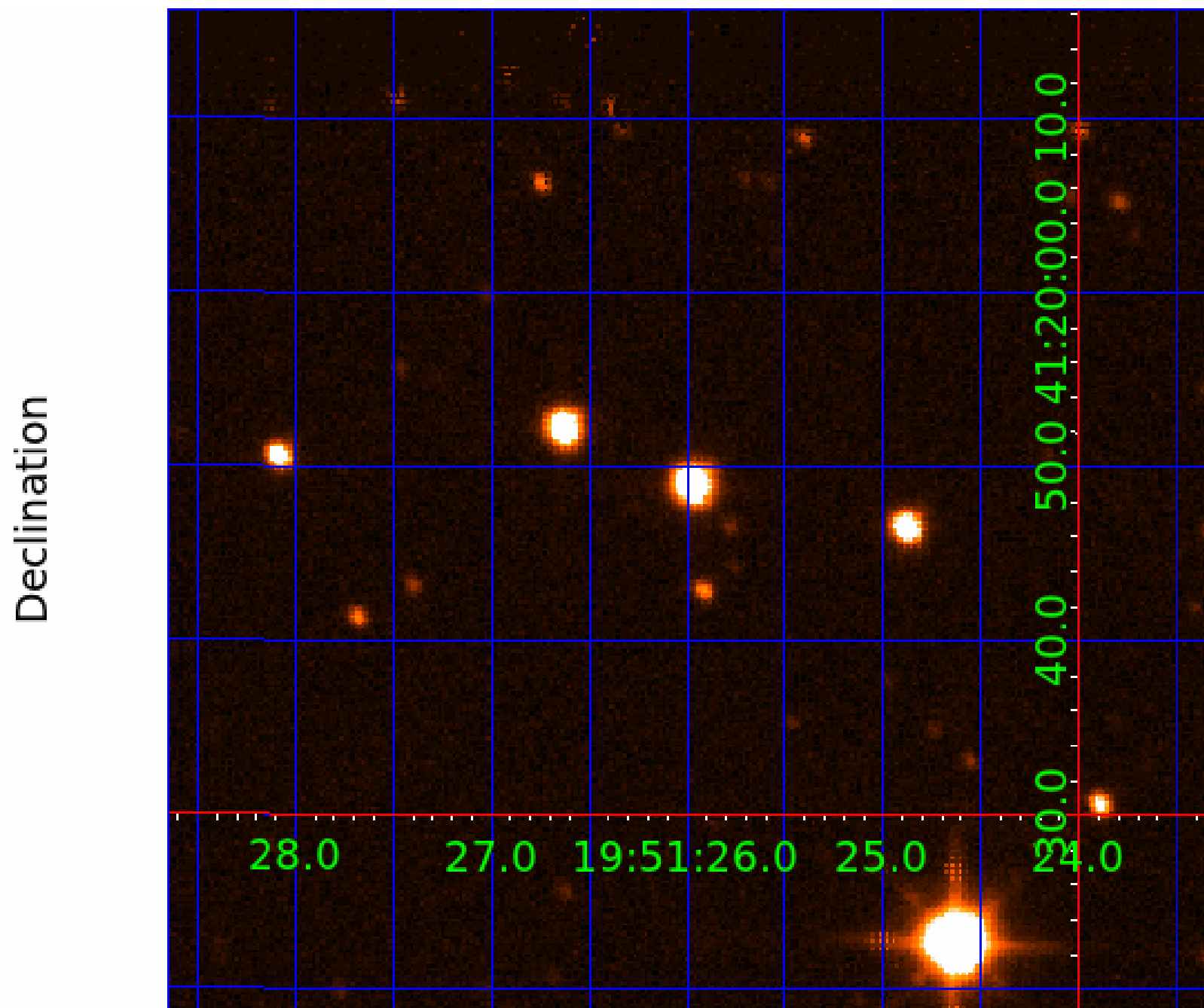
white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 006065351

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})
006065351-01	OBS	No	2.731649	133.653404	167.0	10.998	10.2	12.5	2.24	6526	4.91	4454.74
006065351-02	OBS	No	0.654801	132.087702	66.8	5.614	9.9	9.6	2.24	6526	1.89	29916.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006065351-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
006065351-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

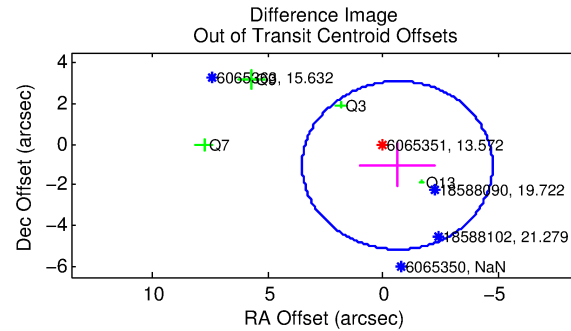
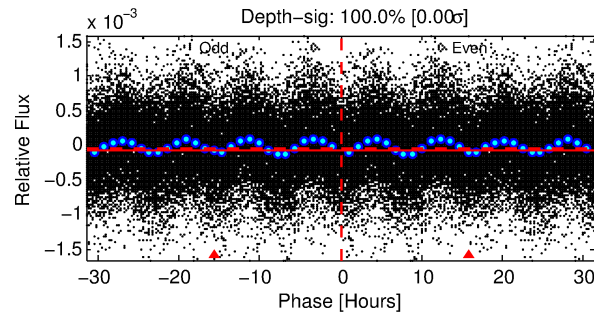
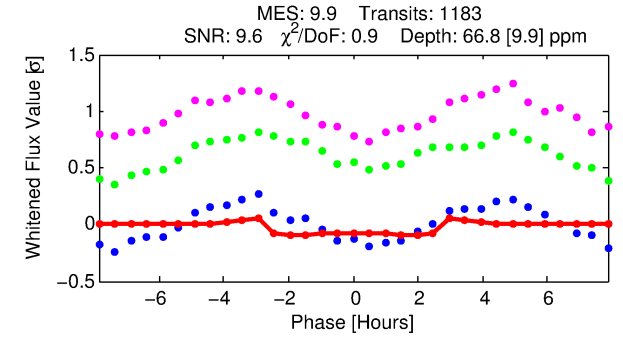
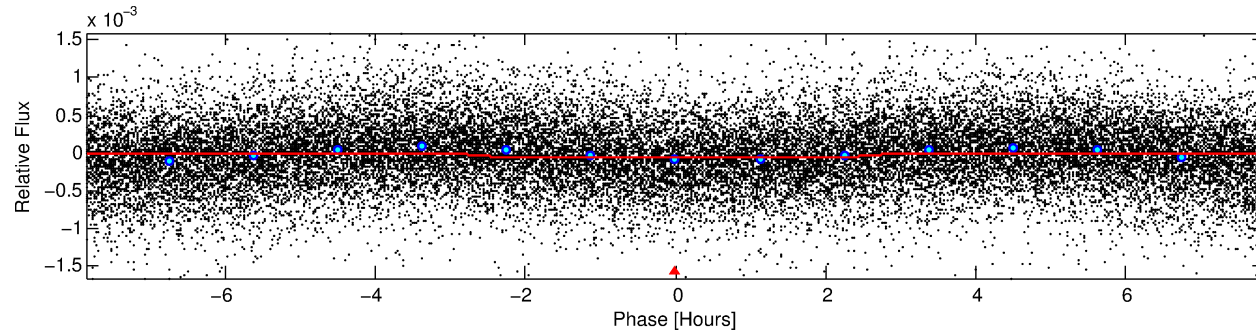
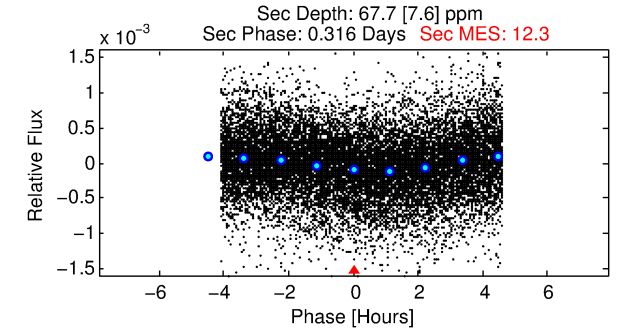
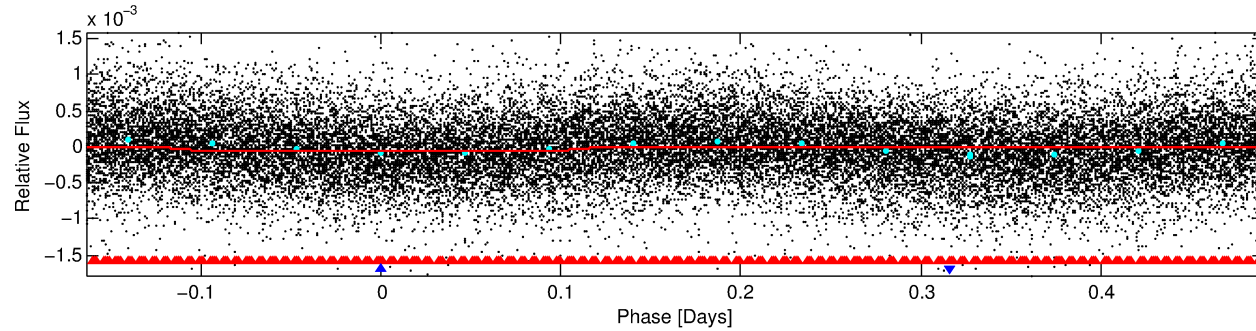
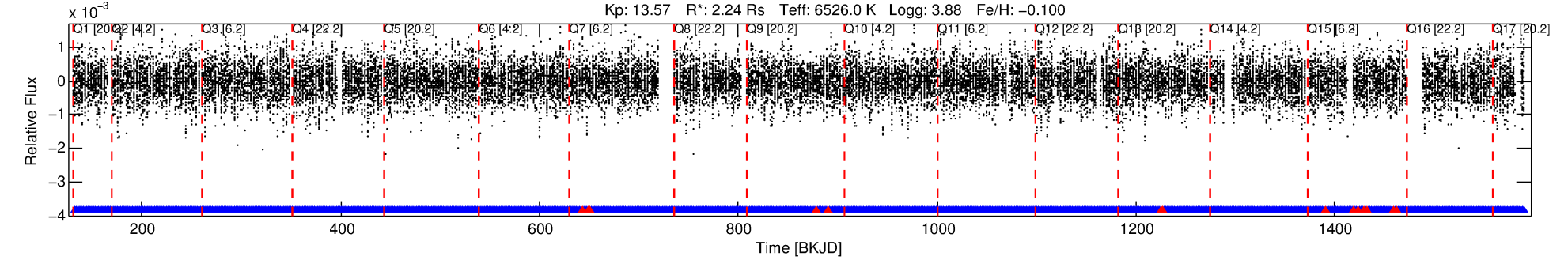
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006065351-02

No Significant Match Found

DV One-Page Summary

KIC: 6065351 Candidate: 2 of 2 Period: 0.655 d
KOI: K04569 Corr: No Ephemeris Match



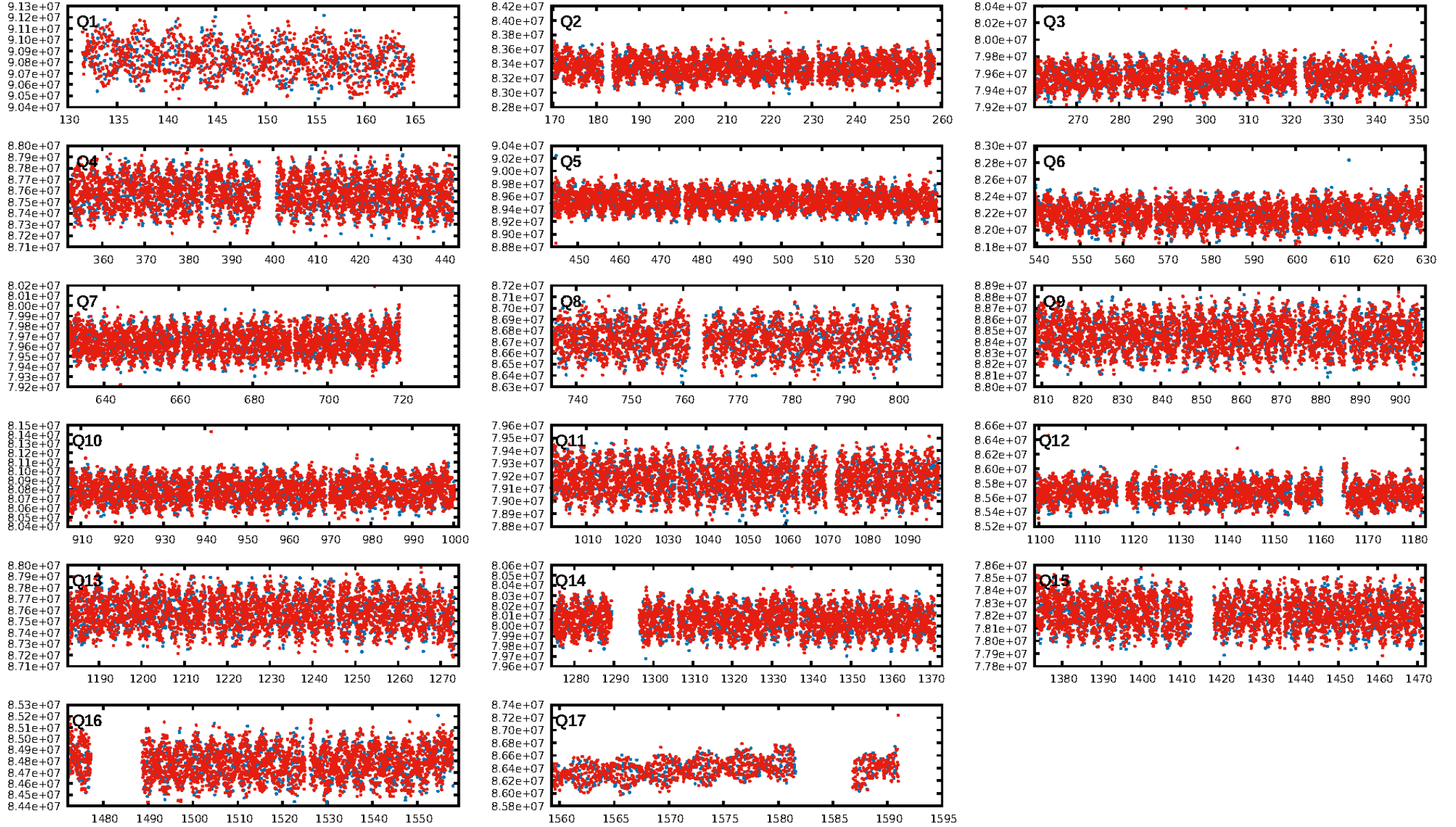
DV Fit Results:

Period = 0.65480 [0.00001] d
Epoch = 132.0877 [0.0030] BKJD
Rp/R* = 0.0077 [0.0050]
a/R* = 1.09 [0.62]
b = 0.50 [5.40]
Seff = 29916.47 [20620.73]
Teq = 3354 [578] K
Rp = 1.89 [1.48] Re
a = 0.0165 [0.0069] AU
Ag = 2.84 [4.18] [0.44σ]
Teffp = 6731 [2211] K [1.48σ]

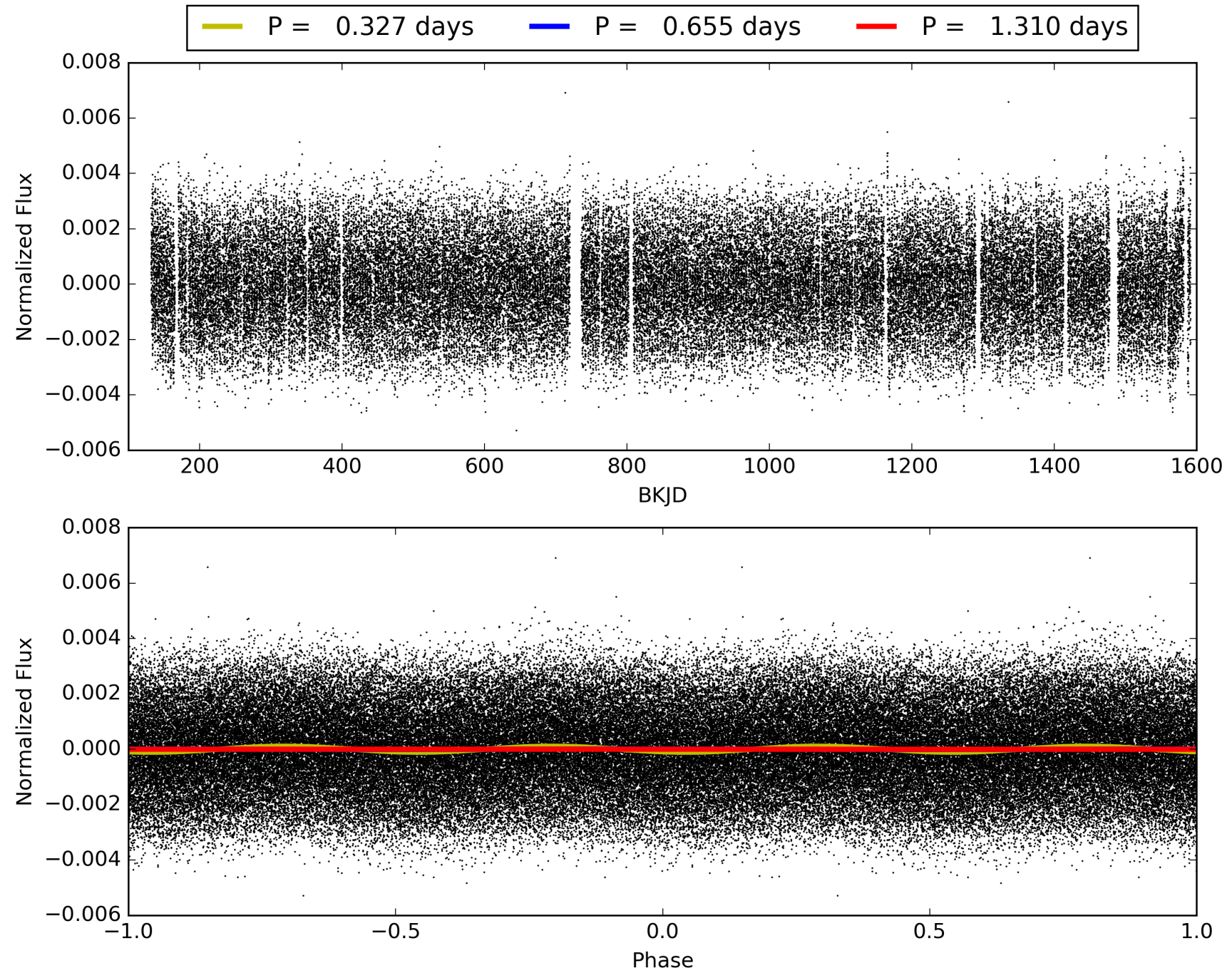
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.04σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1113/1127]
GhostDiagnostic-chr: 0.7191
Centroid-sig: 0.0%
Centroid-so: 1.776 arcsec [4.26σ]
OotOffset-rm: 1.203 arcsec [0.88σ]
KicOffset-rm: 1.165 arcsec [0.65σ]
OotOffset-st: 0/2/0/2 [4]
KicOffset-st: 0/2/0/2 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006065351-02, PDC Light Curves

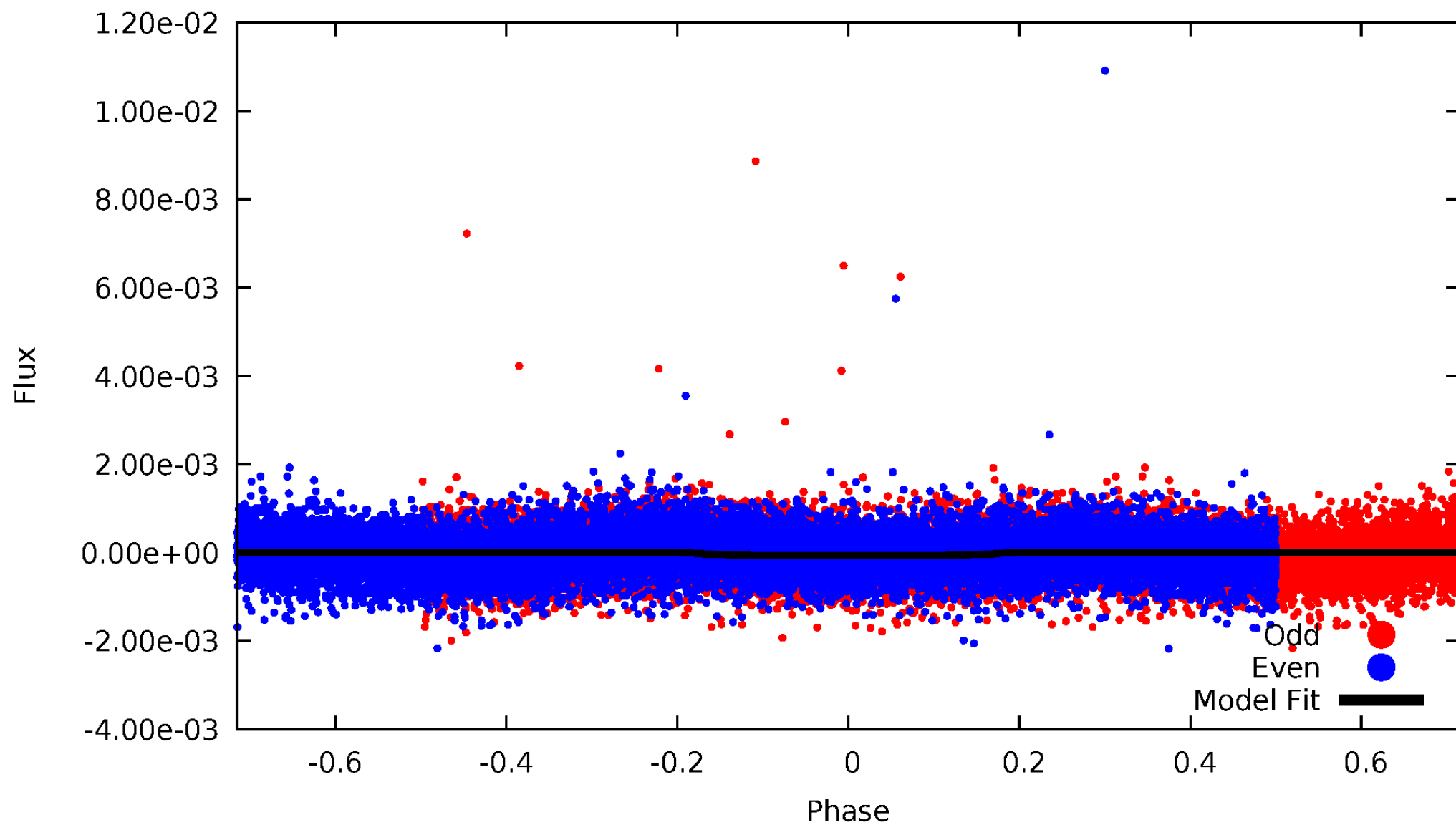


TCE 006065351-02



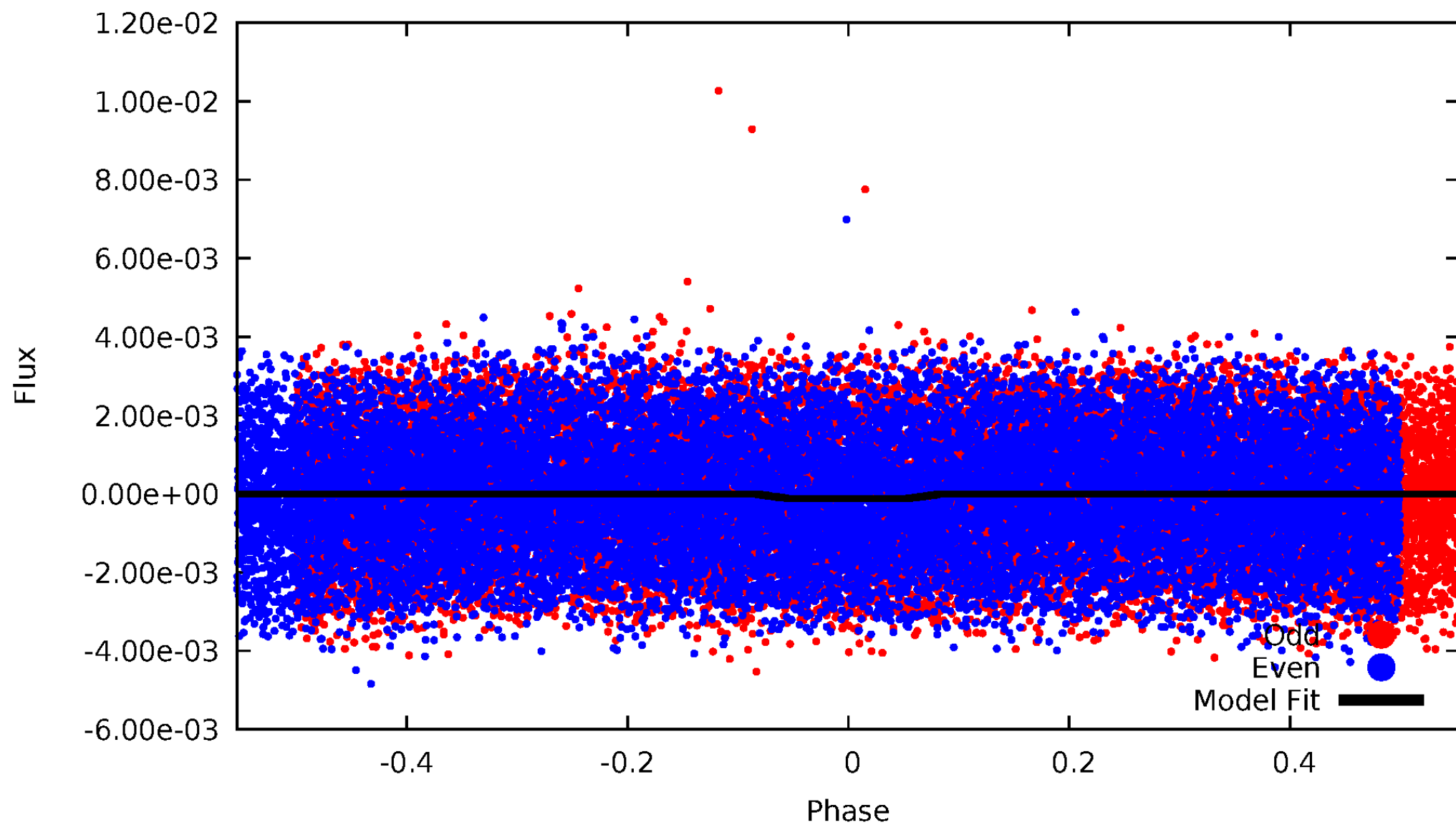
DV Odd/Even

TCE 006065351-02



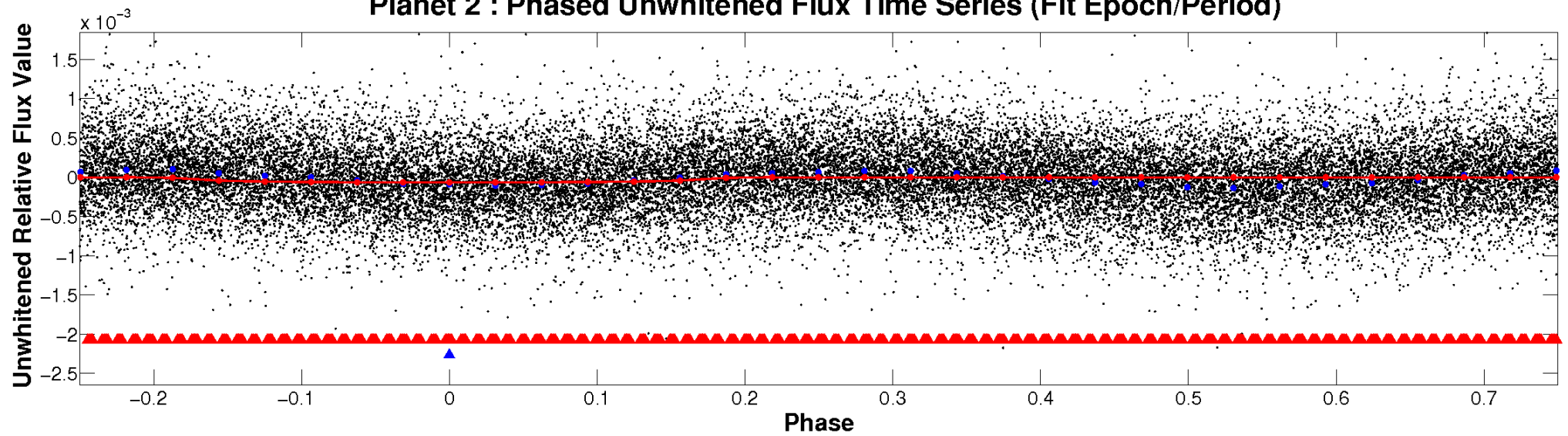
ALT Odd/Even

TCE 006065351-02

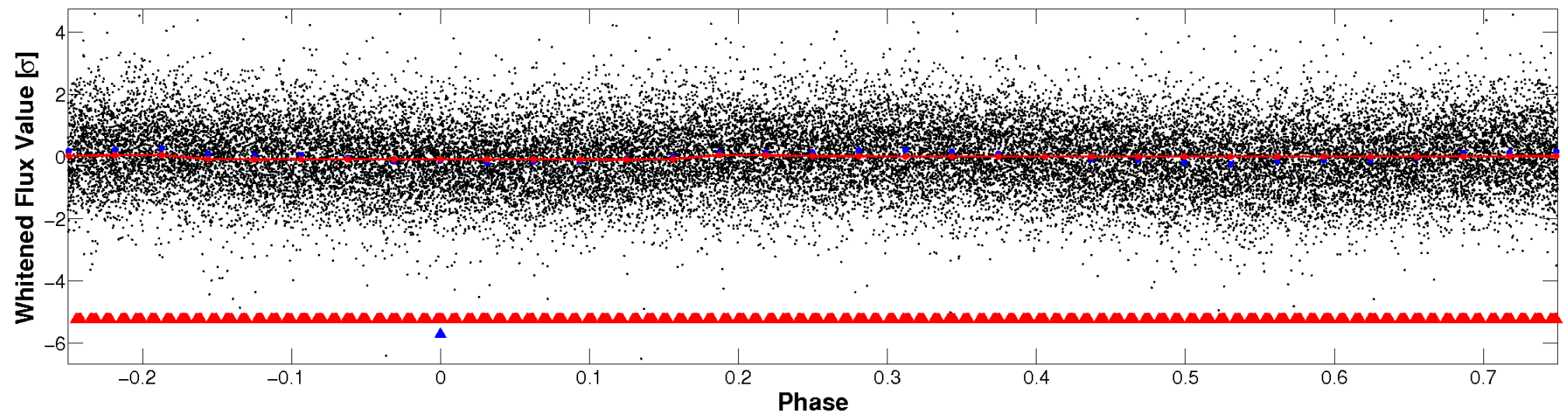


Non-Whitened Vs. Whitened Light Curve

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

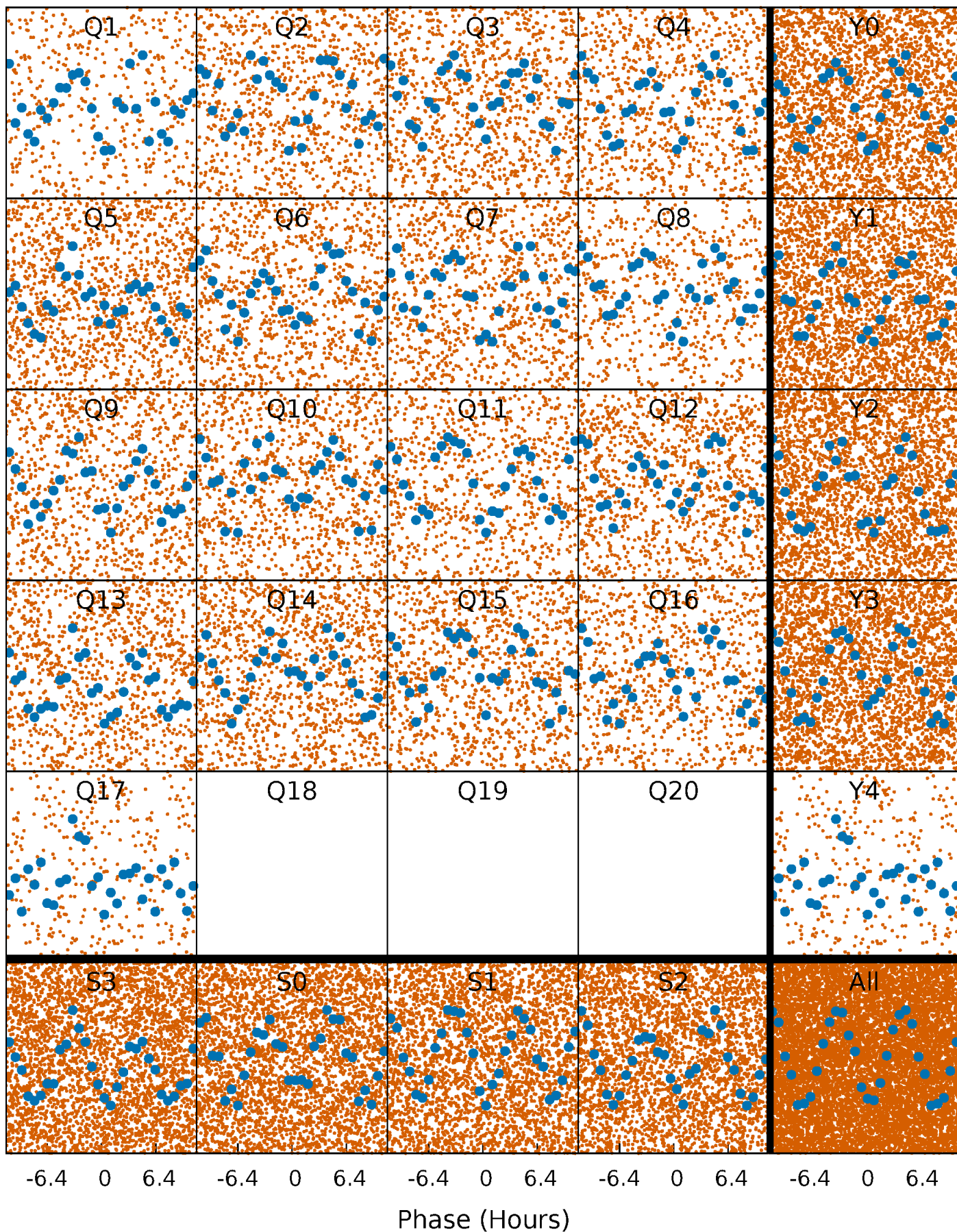


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



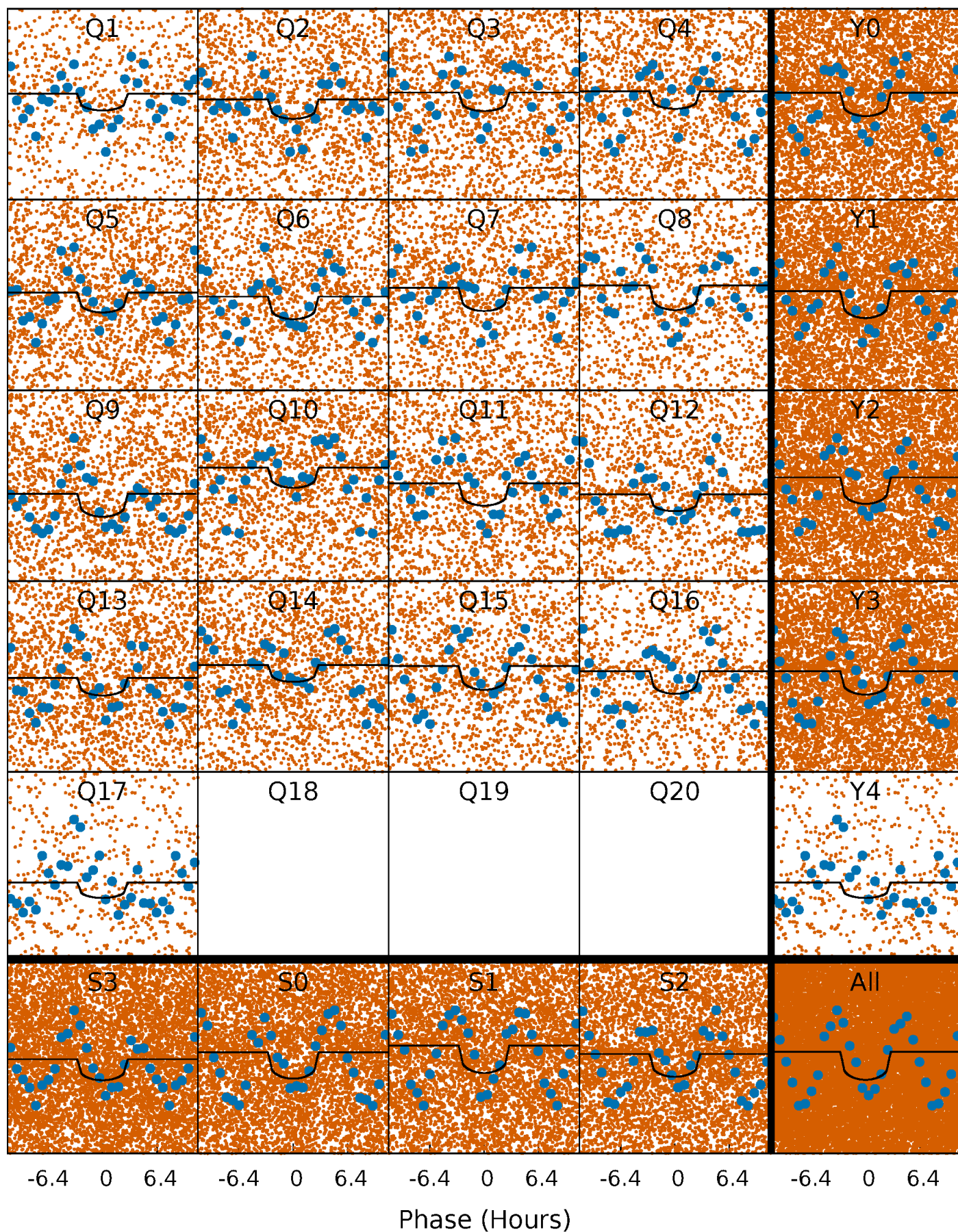
PDC Quarter-Phased Transit Curves

TCE 006065351-02 P= 0.654801 Days $T_0=132.087702$ (BKJD)



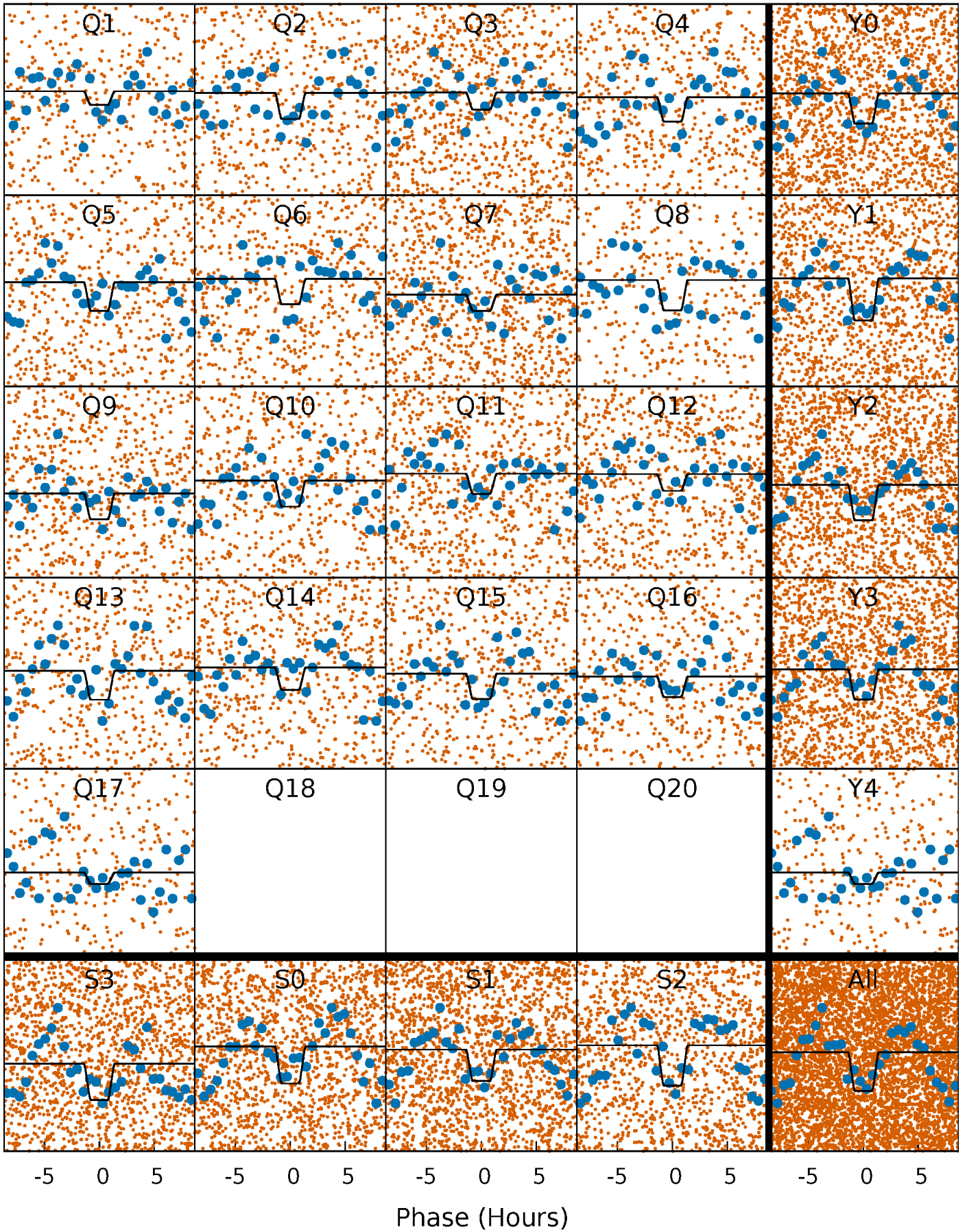
DV Quarter-Phased Transit Curves

TCE 006065351-02 P= 0.654801 Days $T_0=132.087702$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

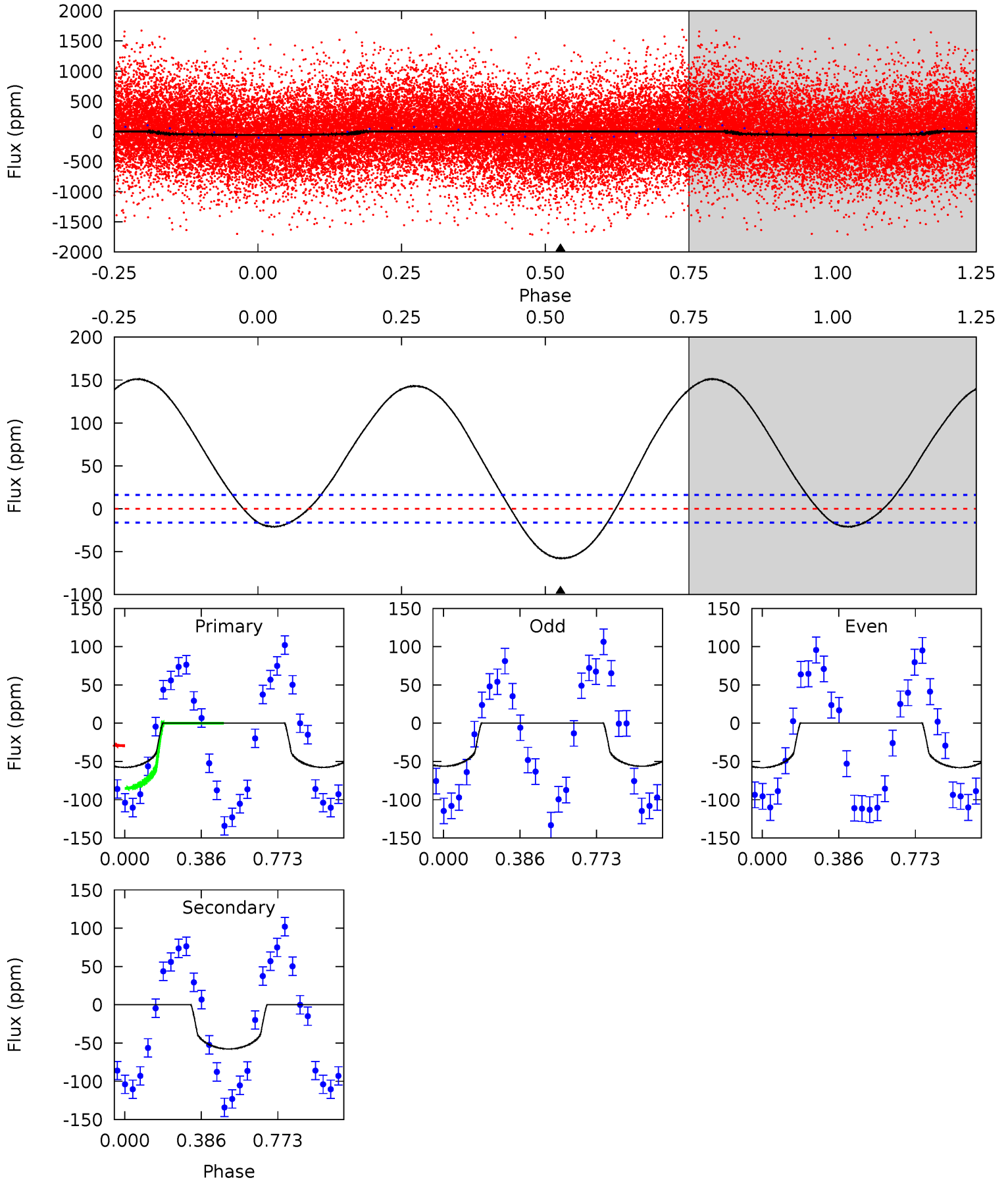
TCE 006065351-02 P= 0.654825 Days $T_0=132.088061$ (BKJD)



DV Model-Shift Uniqueness Test

006065351-02, P = 0.654801 Days, E = 131.432901 Days

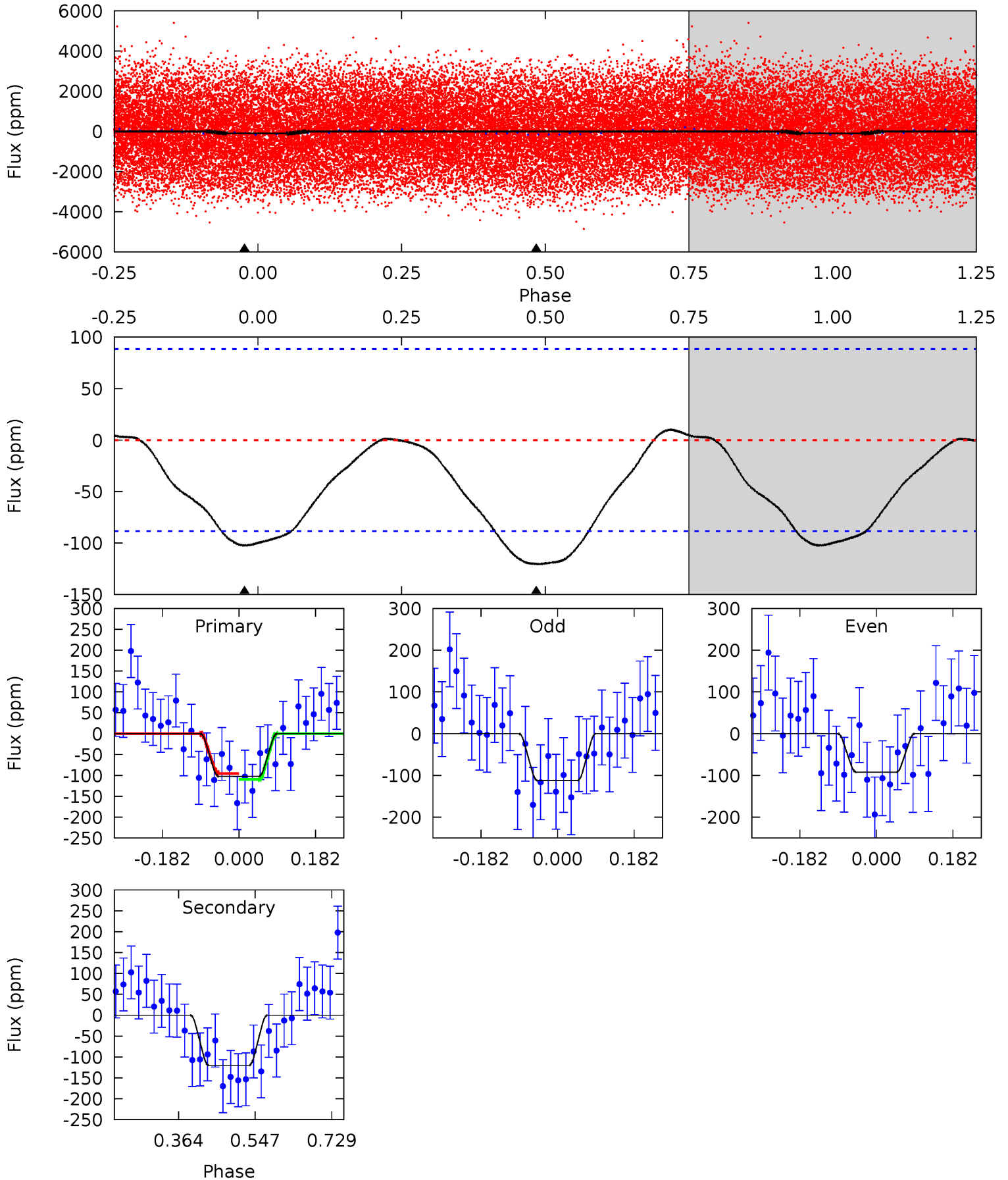
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	15.2	0	0	4.27	0.87	6.04	15.2	15.2	15.2	15.2	0.23	1.21	0.72	7.50



Alt Model-Shift Uniqueness Test

006065351-02, P = 0.654825 Days, E = 131.433236 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.14	6.05	0	0	4.44	1.33	0.40	5.14	5.14	6.05	6.05	0.50	1.25	0.08	0.35



Stellar Parameters For KIC 006065351

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6526^{+181}_{-227}	$3.883^{+0.397}_{-0.132}$	$-0.100^{+0.250}_{-0.300}$	$2.238^{+0.525}_{-0.975}$	$1.398^{+0.204}_{-0.306}$	$0.175^{+0.624}_{-0.070}$
	+3%/-3%	+10%/-3%	+250%/-300%	+23%/-44%	+15%/-22%	+355%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006065351-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-58 ± 4	$1.89^{+1.12}_{-1.01}$	4595^{+358}_{-470}	5993^{+3426}_{-1313}	$2.385^{+8.823}_{-1.456}$
Alt.	-121 ± 20	$2.52^{+1.32}_{-1.25}$	4592^{+327}_{-495}	6352^{+2881}_{-1289}	$2.879^{+8.066}_{-1.690}$

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 $A_{obs} \gg 1.0$

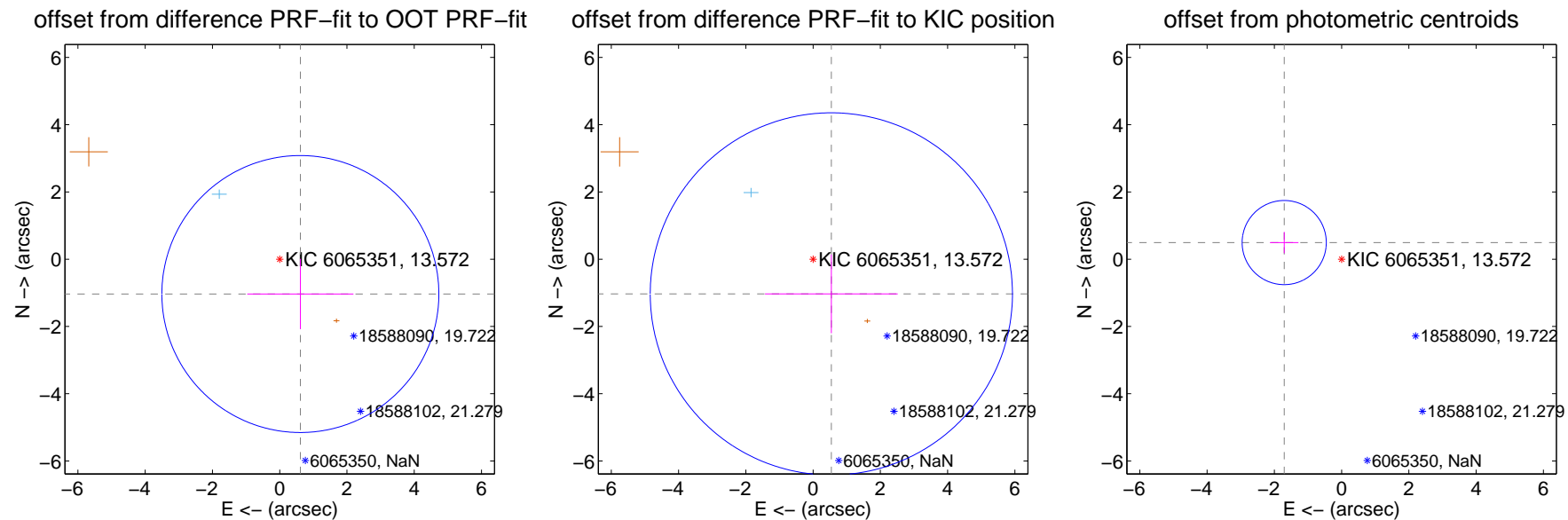
DV Centroid Data

Supplemental centroid analysis for 006065351-02. Kepler magnitude: 13.57. Transit SNR 9.55

There are 1 quarters with good PRF difference image offsets

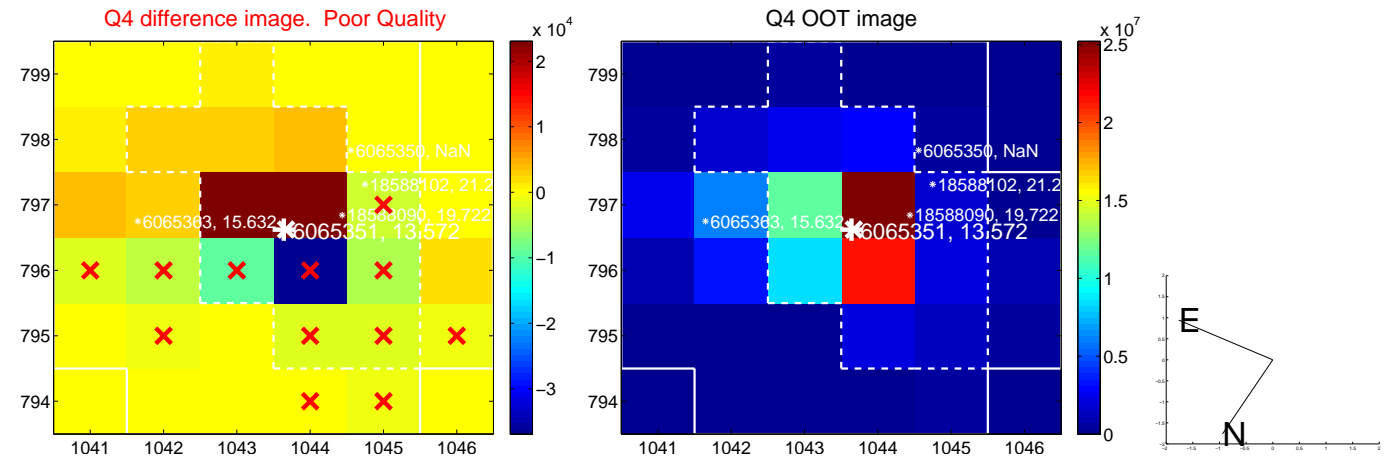
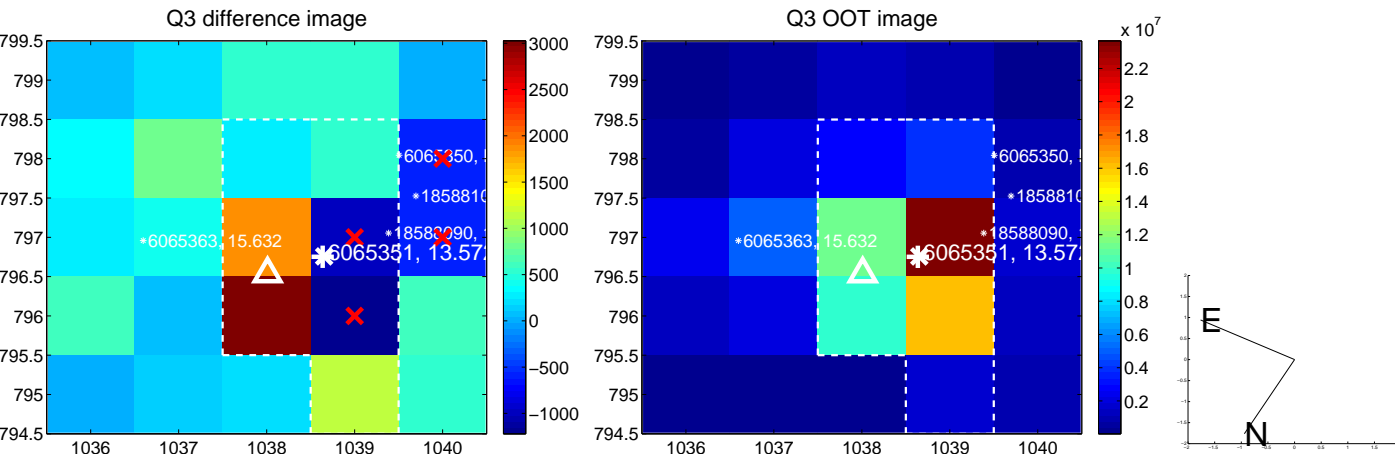
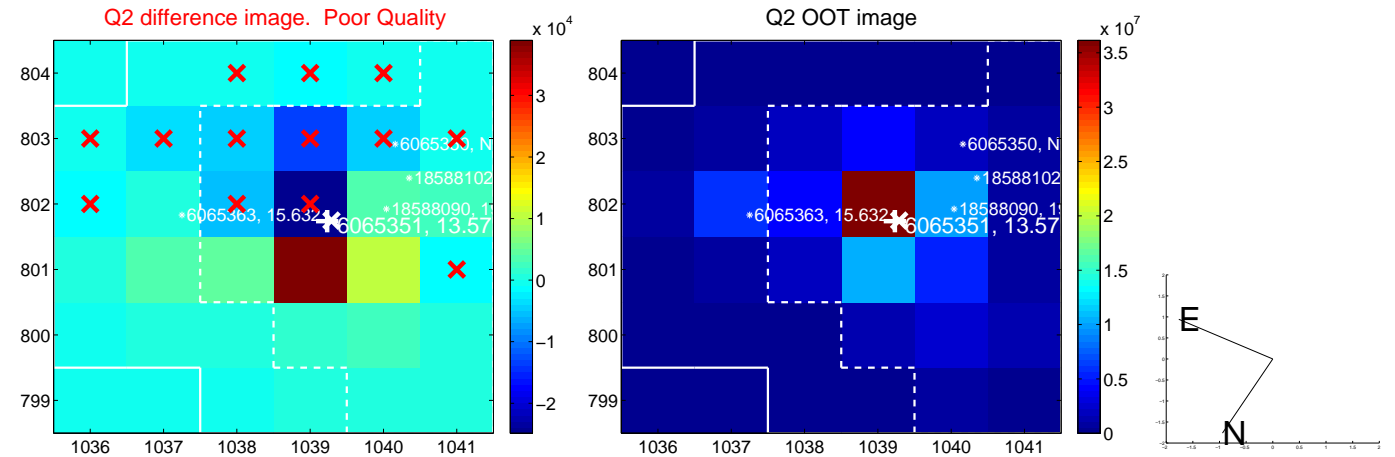
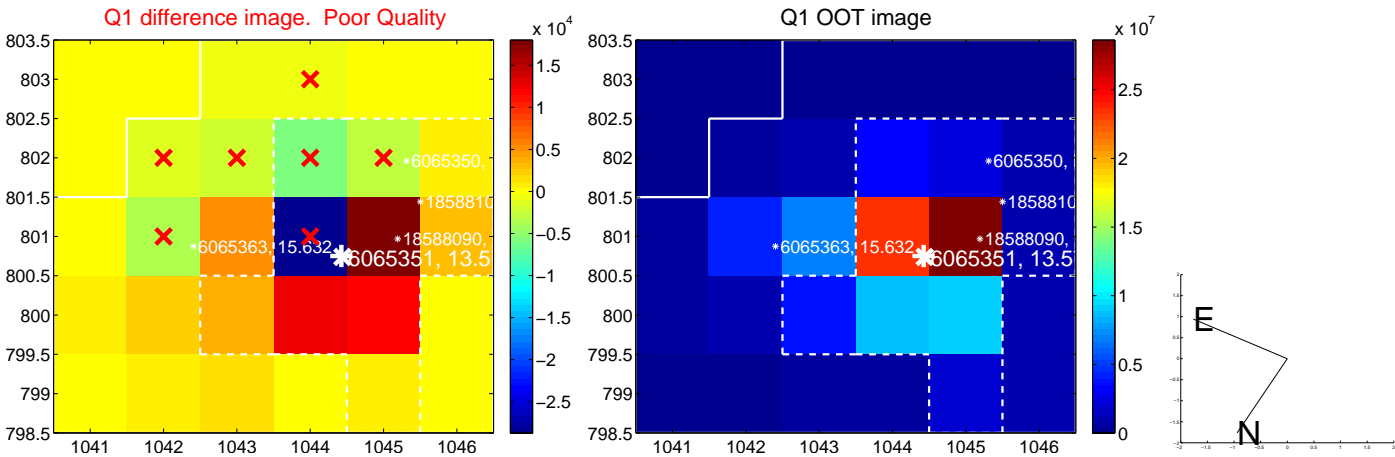
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.203 ± 1.372	0.88	-0.614 ± 1.578	-1.035 ± 1.046
PRF-fit source offset from KIC position	1.165 ± 1.794	0.65	-0.542 ± 1.973	-1.031 ± 1.168
photometric centroid source offset	1.78 ± 0.42	4.26	1.71 ± 0.42	0.49 ± 0.32

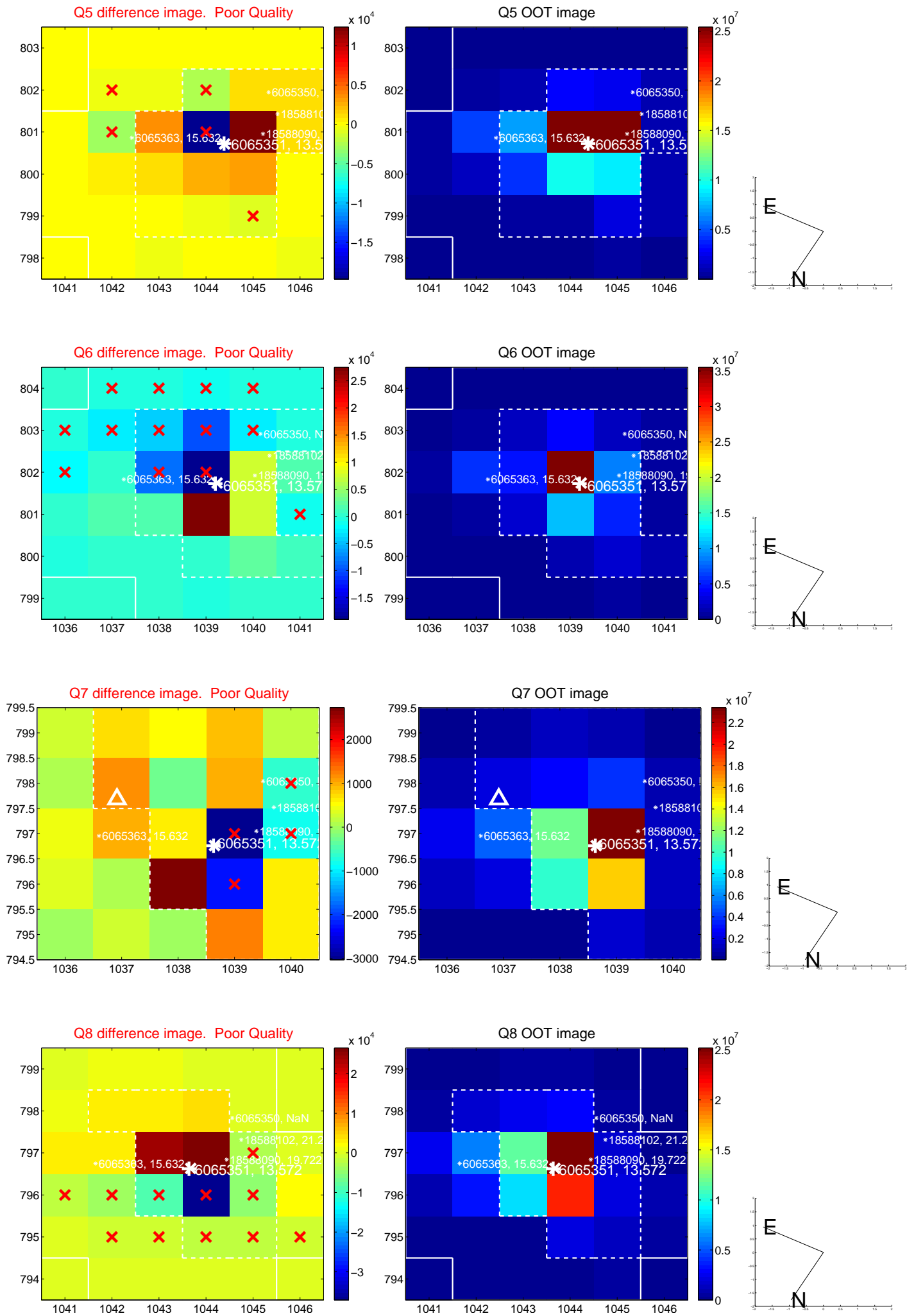


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

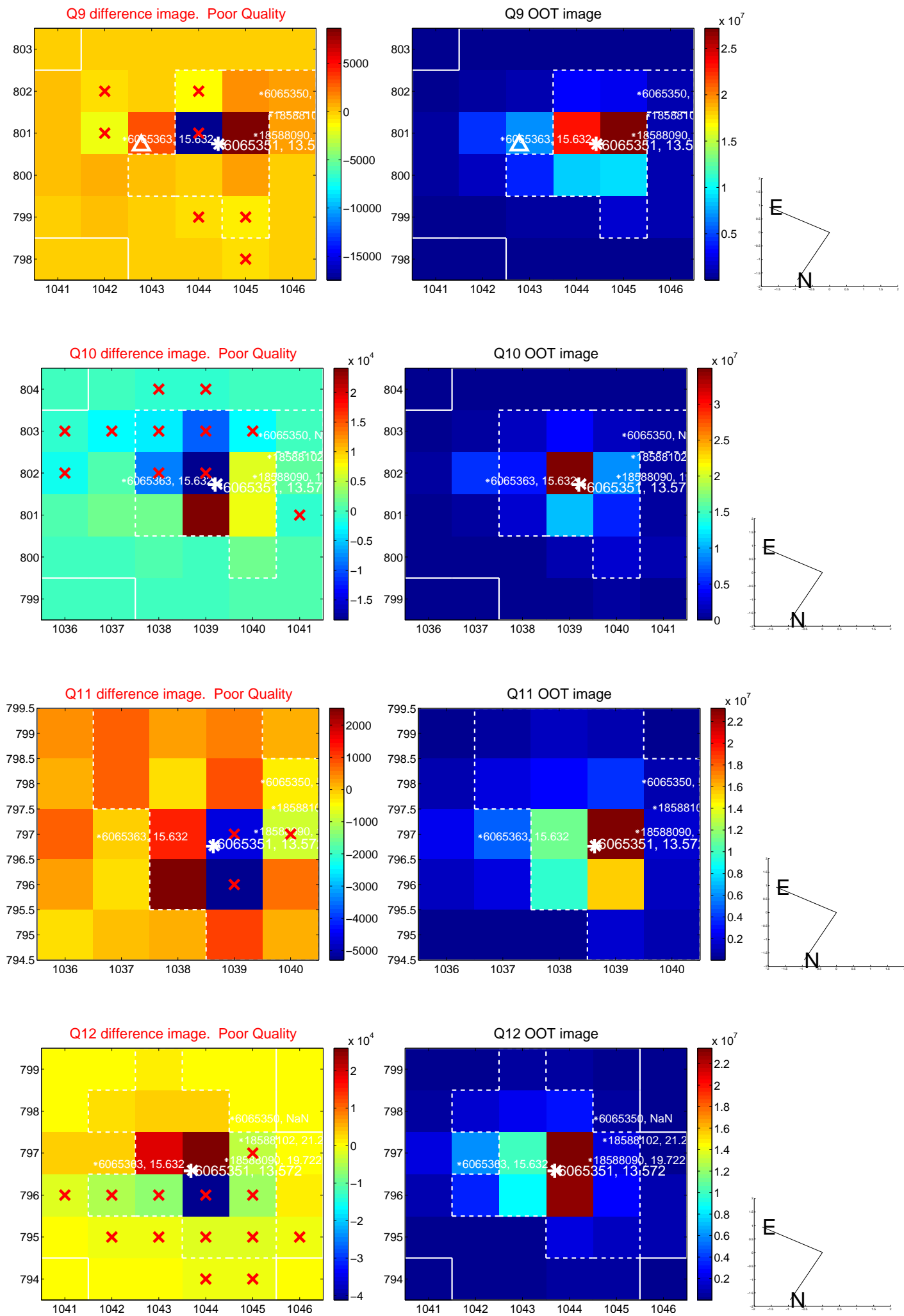
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



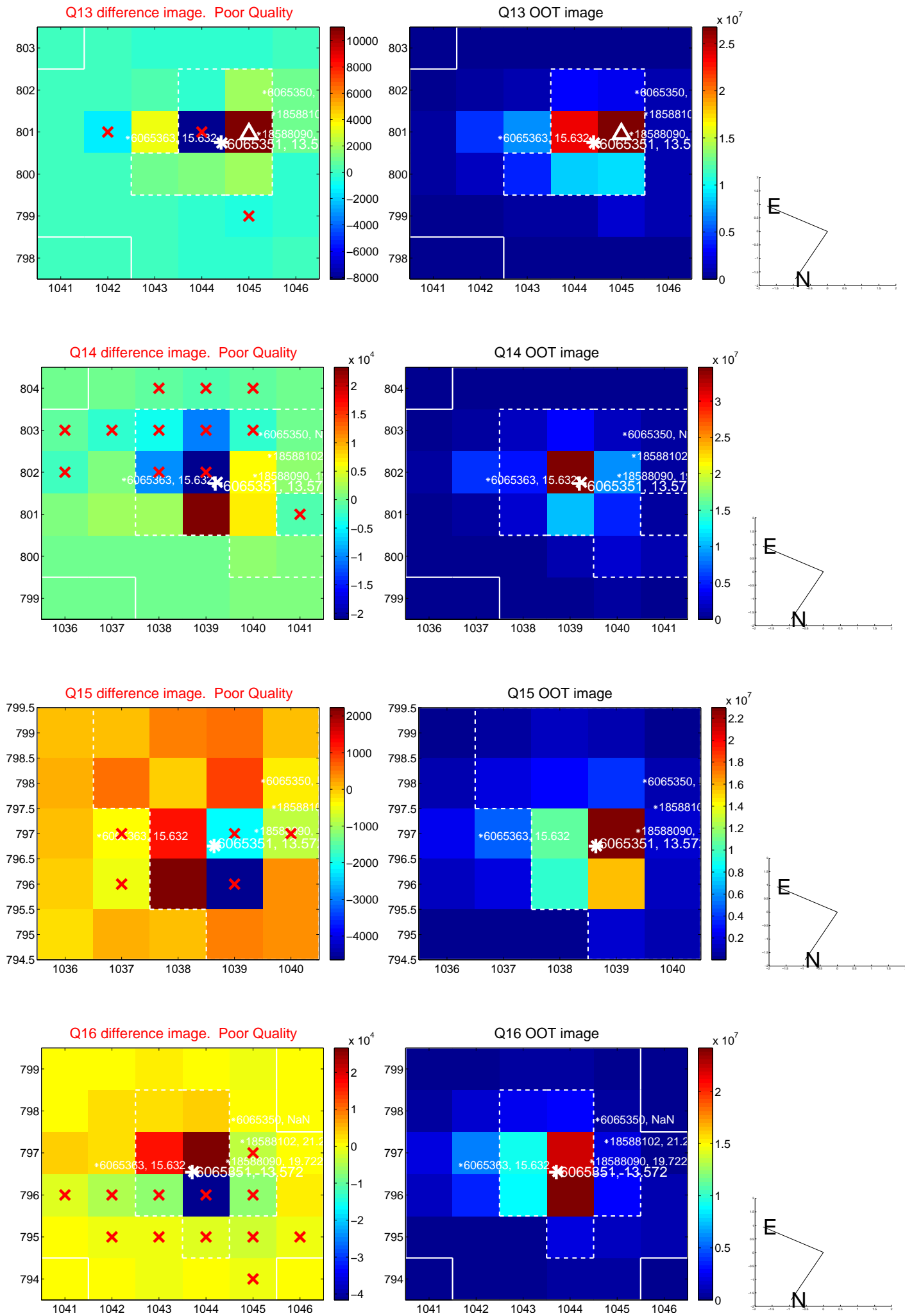
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



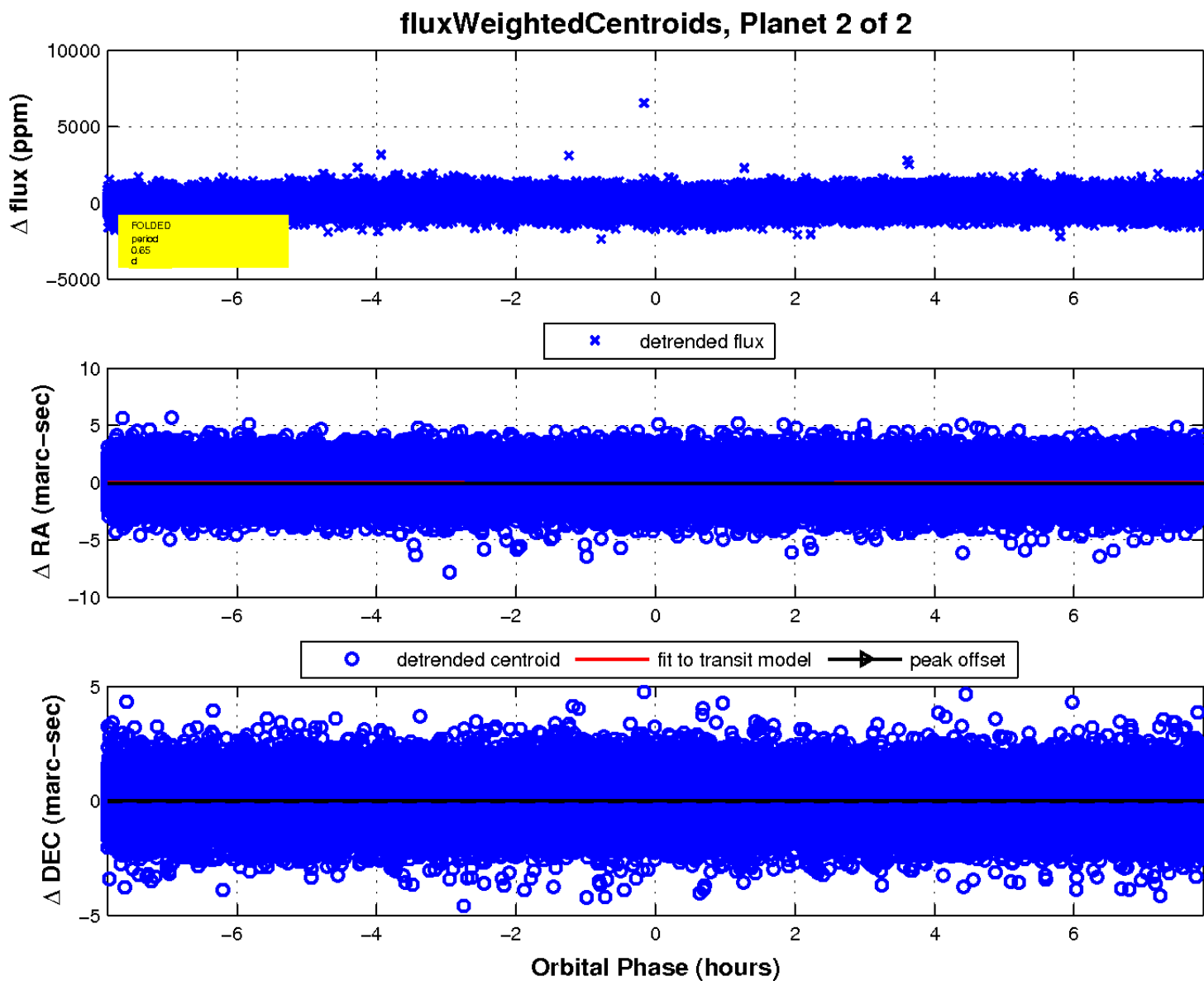
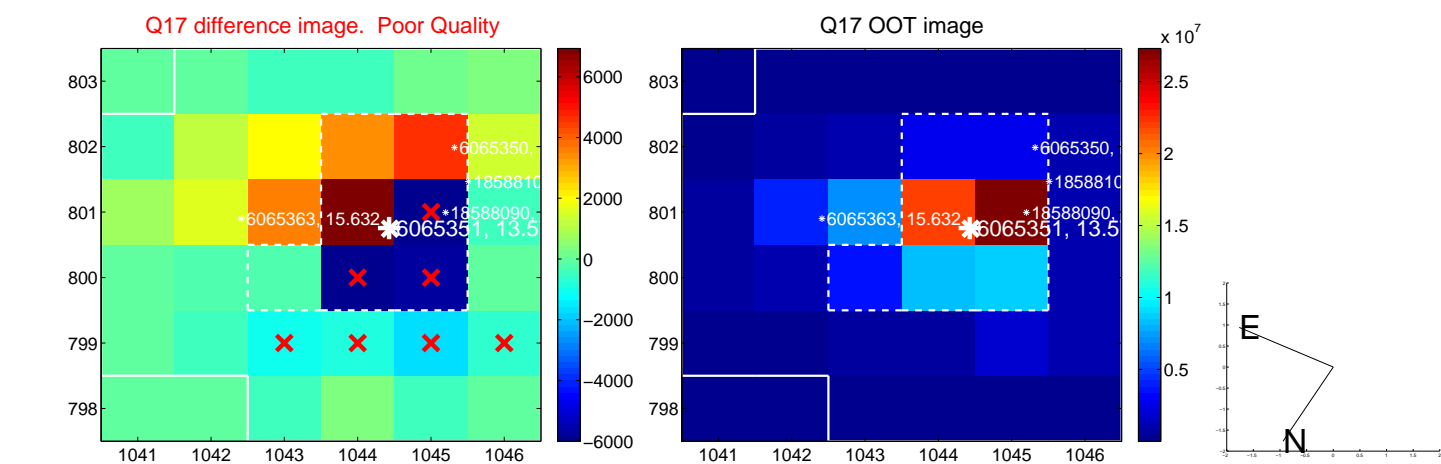
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

