

KIC 004253413

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})
004253413-01	OBS	No	2.528432	134.098421	378.7	5.949	8.8	8.1	3.98	7502	9.09	21692.87
004253413-02	OBS	No	0.830769	132.497092	306.4	1.018	10.5	10.8	3.98	7502	8.25	95677.93
004253413-03	OBS	No	1.661516	132.022050	242.2	6.748	9.4	6.0	3.98	7502	6.89	37970.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004253413-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
004253413-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004253413-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

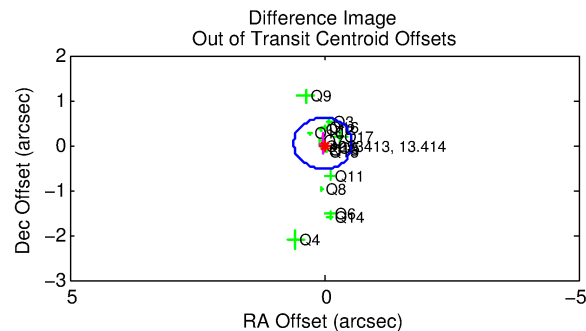
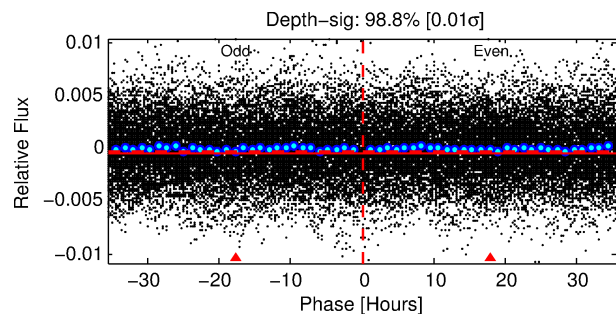
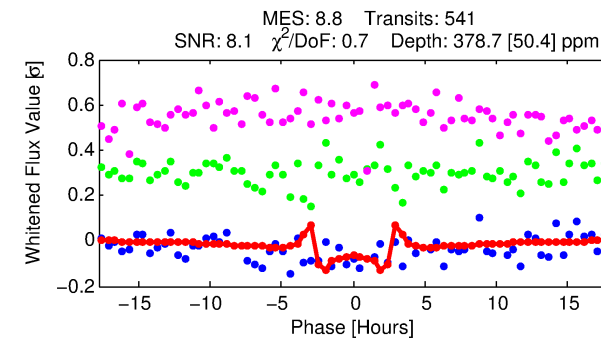
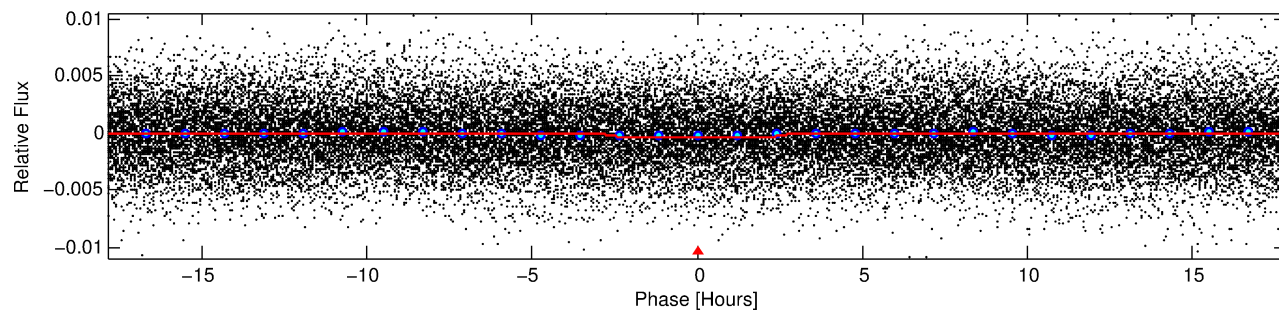
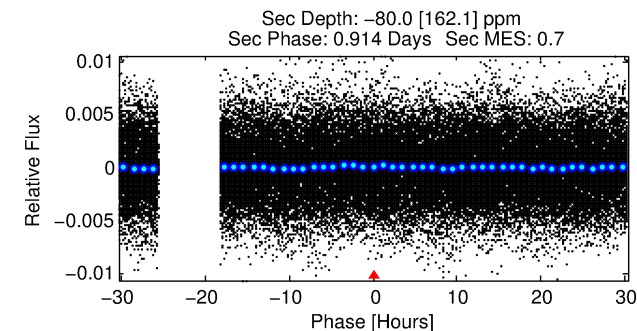
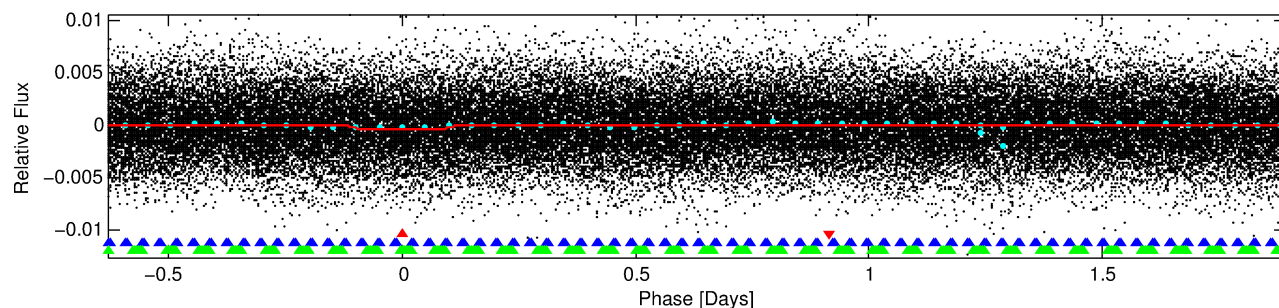
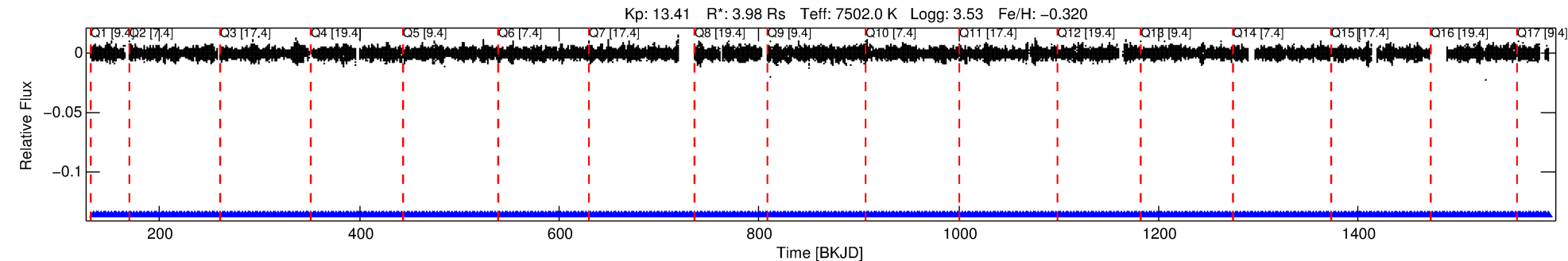
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004253413-01

No Significant Match Found

DV One-Page Summary

KIC: 4253413 Candidate: 1 of 3 Period: 2.528 d



DV Fit Results:

Period = 2.52843 [0.00002] d
Epoch = 134.0984 [0.0025] BKJD
Rp/R* = 0.0209 [0.0018]
a/R* = 1.83 [0.31]
b = 0.90 [0.05]
Seff = 21692.87 [22353.43]
Teq = 3095 [797] K
Rp = 9.09 [5.36] Re
a = 0.0455 [0.0278] AU
Ag = N/A
Teffp = N/A

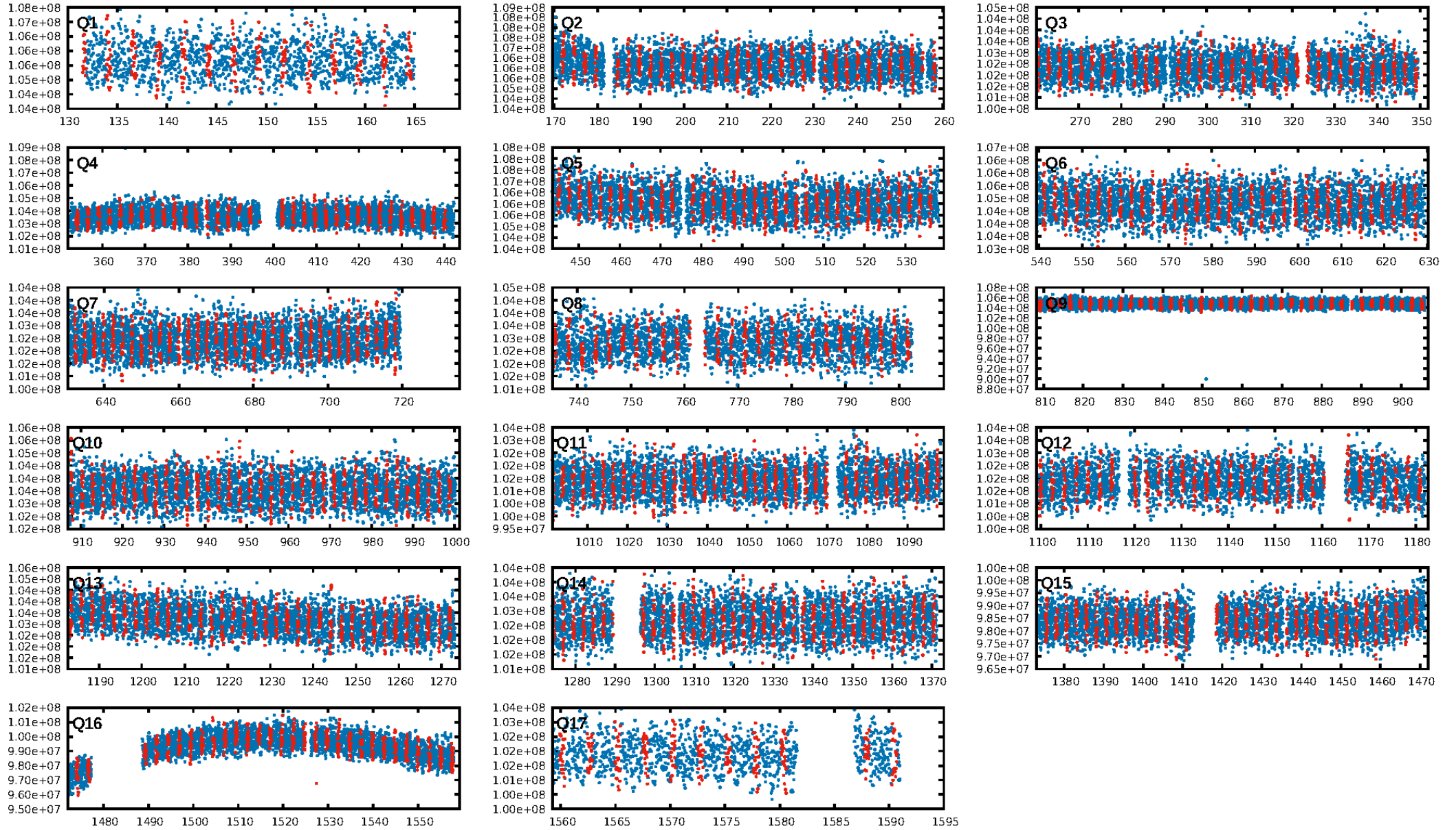
DV Diagnostic Results:

ShortPeriod-sig: 97.9% [2.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.05e-32
RollingBand-fgt: 1.00 [516/516]
GhostDiagnostic-chr: 0.4571
Centroid-sig: 21.8%
Centroid-so: 0.111 arcsec [1.66σ]
OotOffset-rm: 0.047 arcsec [0.24σ]
KicOffset-rm: 0.067 arcsec [0.78σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 0.00 [0/17]

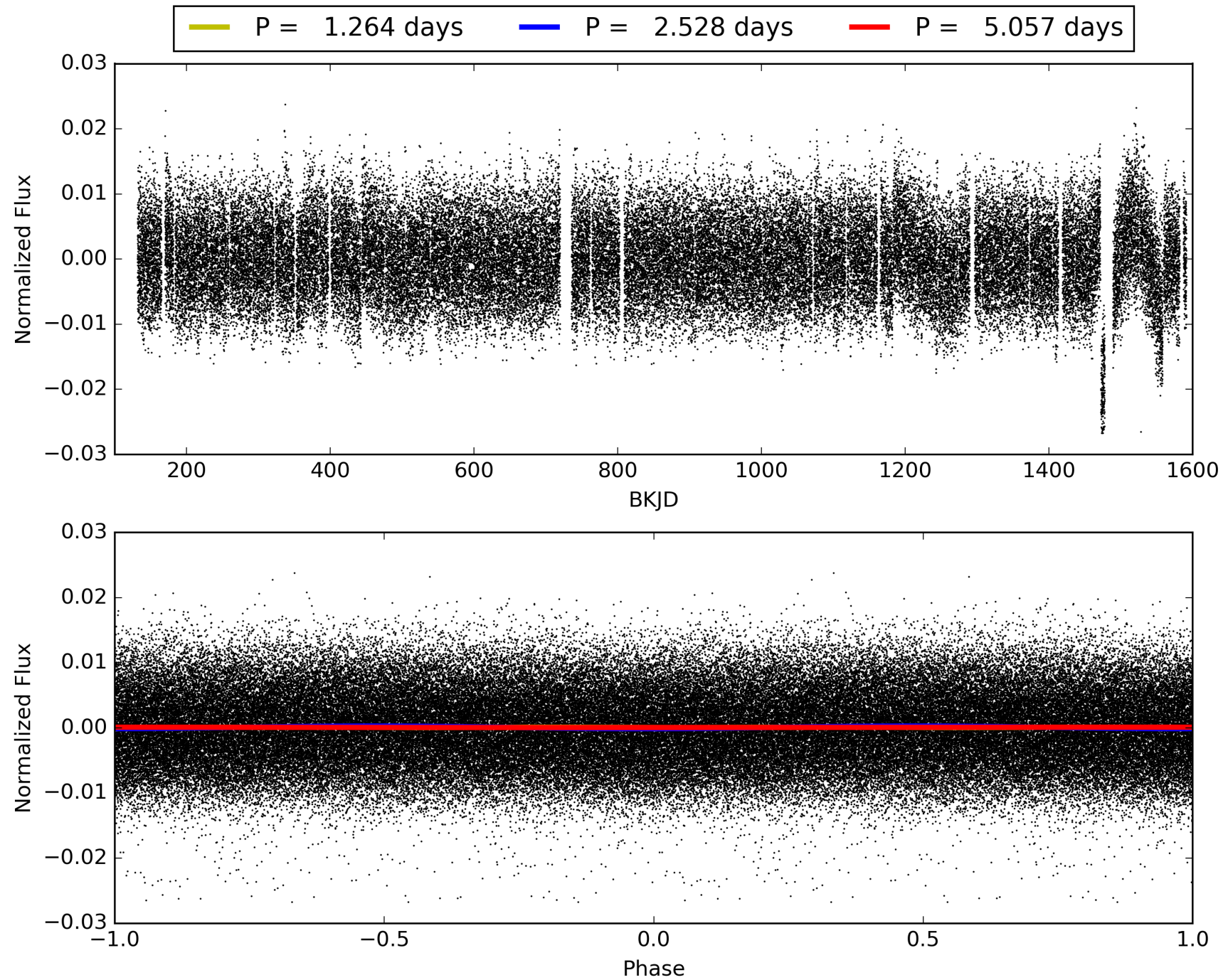
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 21:29:38 Z

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

TCE 004253413-01, PDC Light Curves

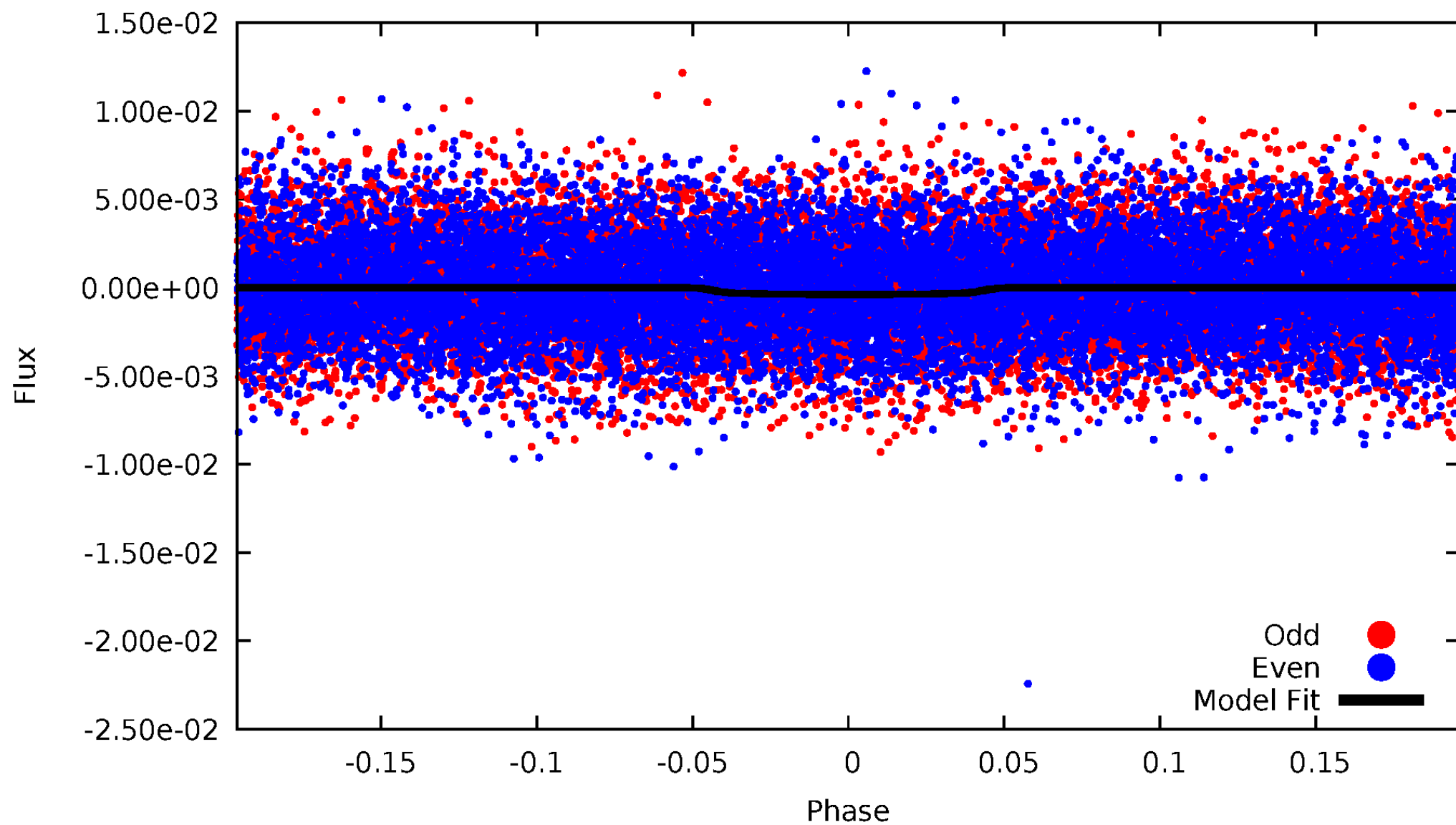


TCE 004253413-01



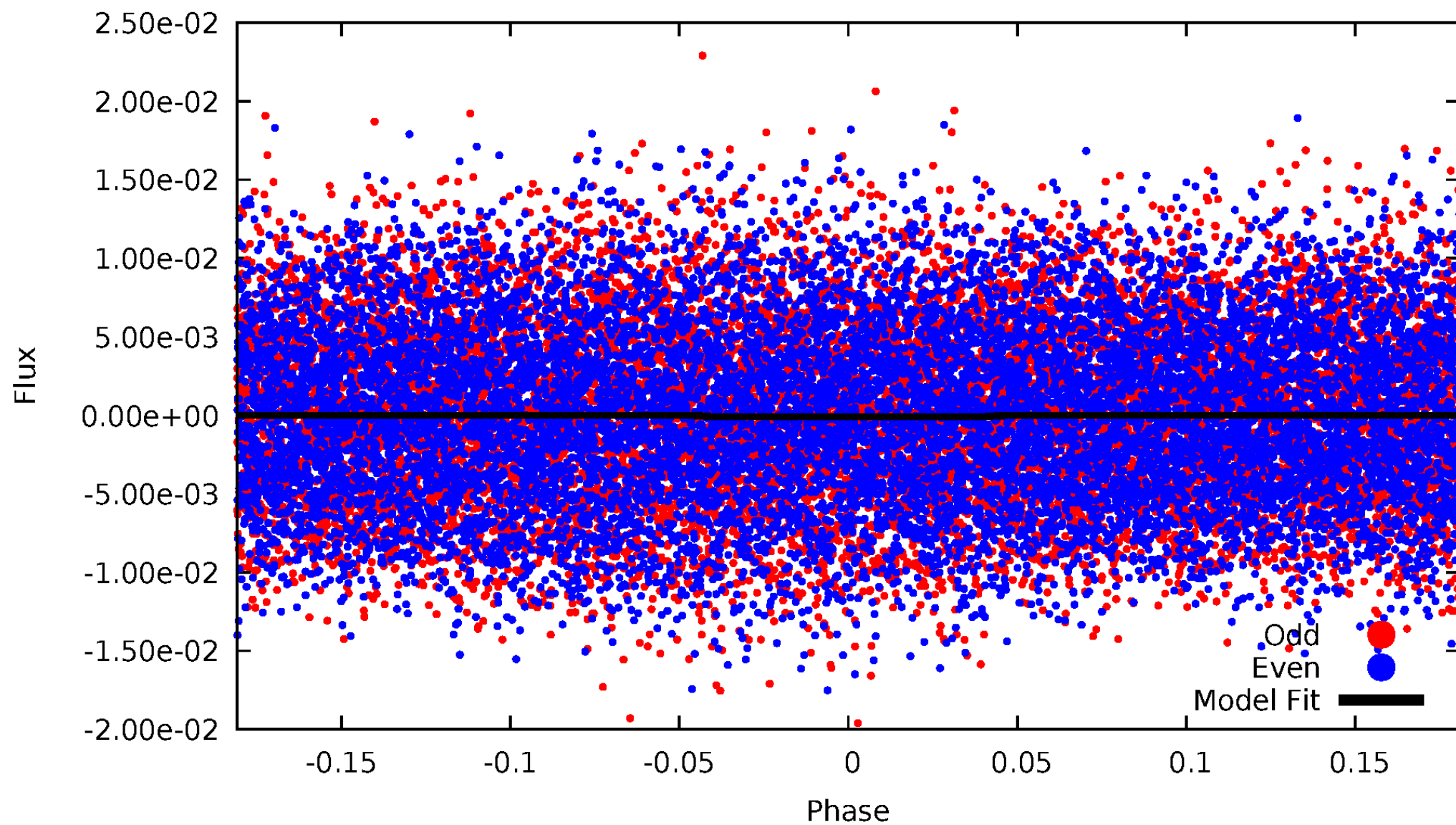
DV Odd/Even

TCE 004253413-01



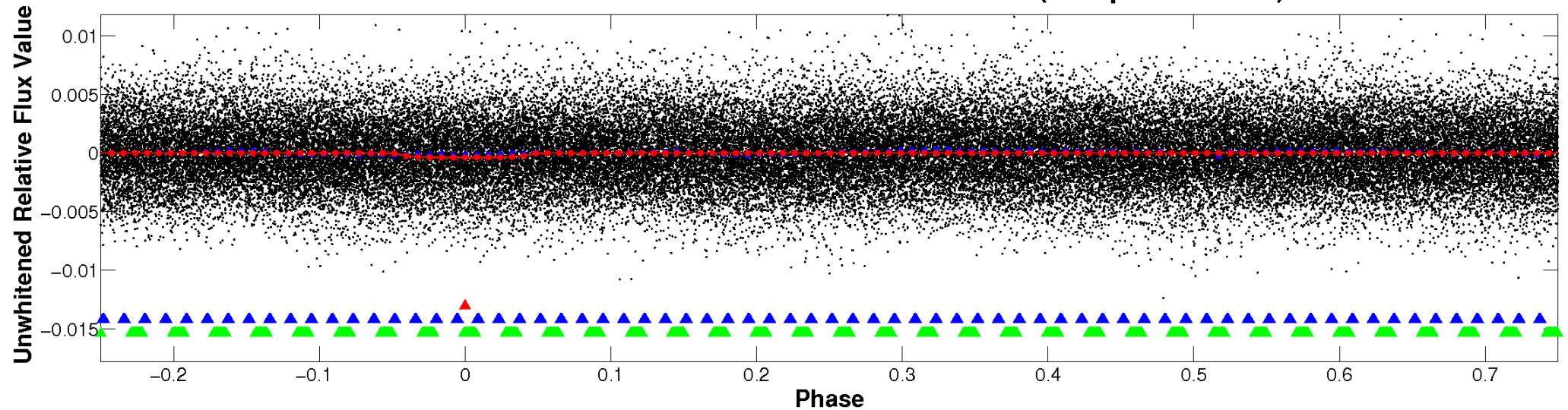
ALT Odd/Even

TCE 004253413-01

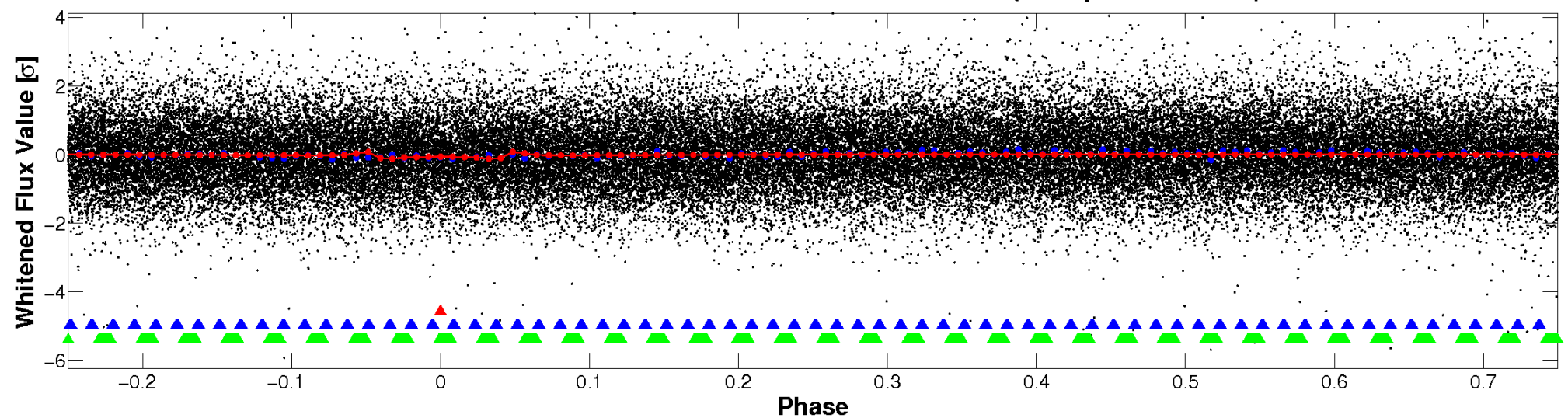


Non-Whitened Vs. Whitened Light Curve

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

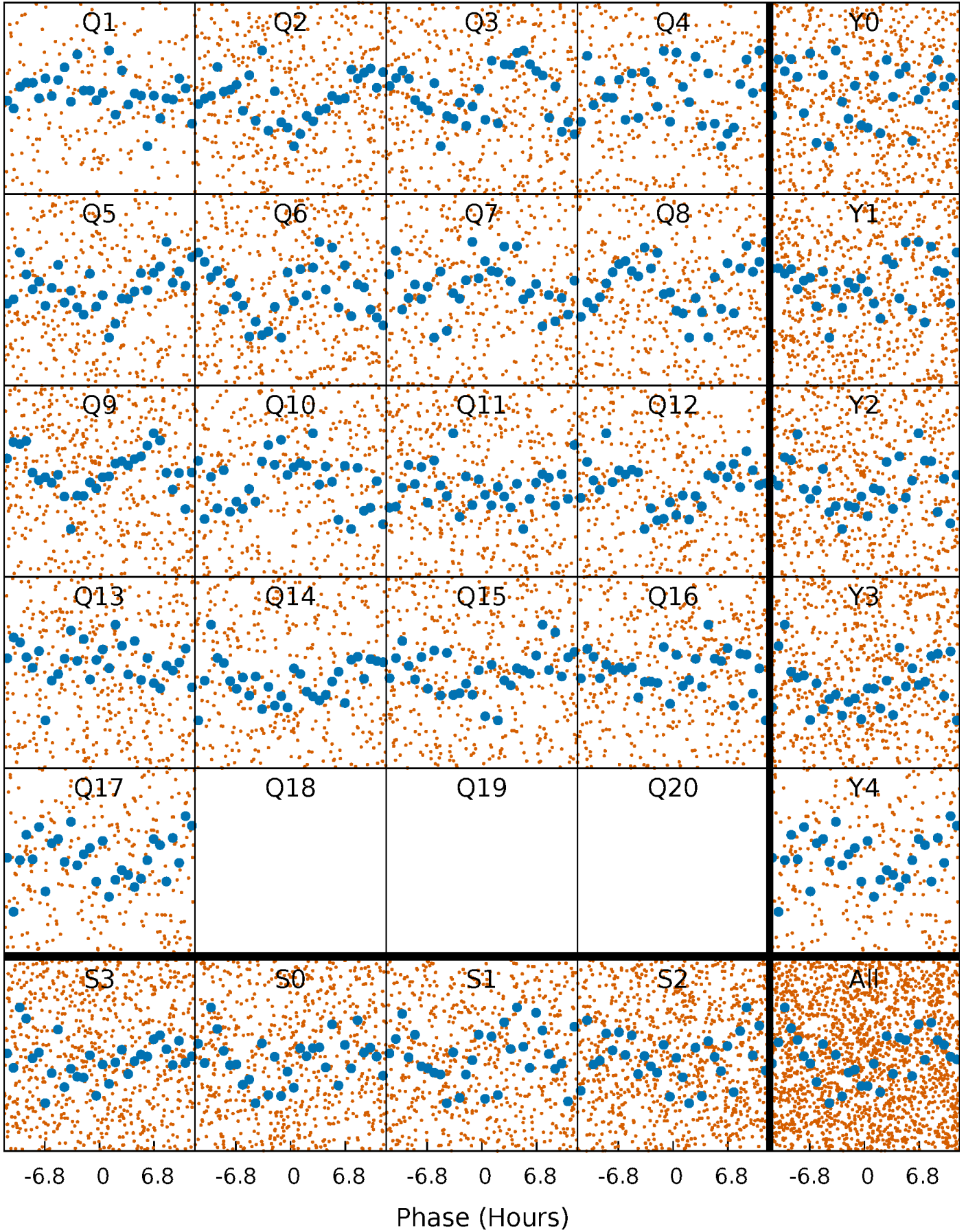


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



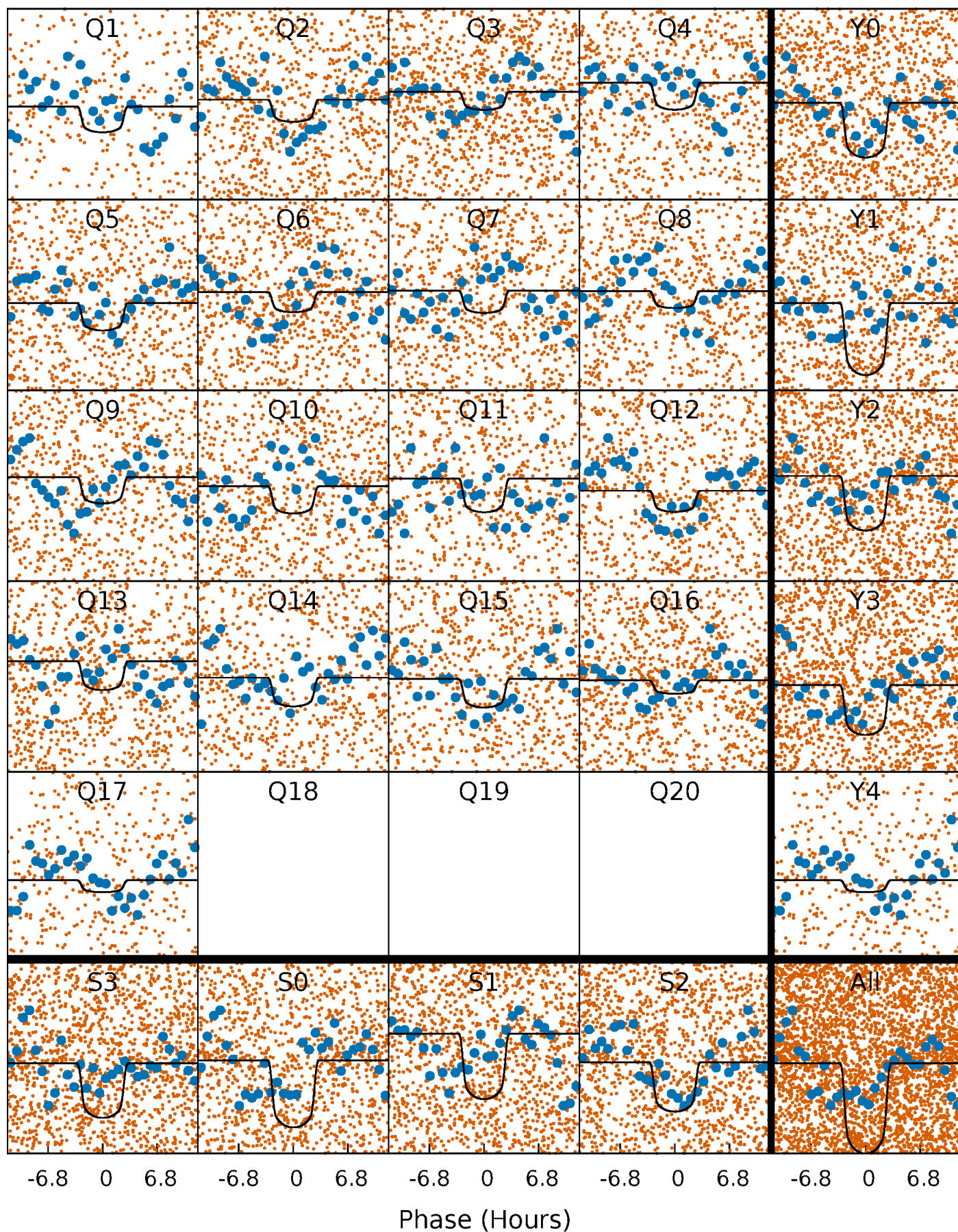
PDC Quarter-Phased Transit Curves

TCE 004253413-01 P= 2.528432 Days $T_0=134.098421$ (BKJD)



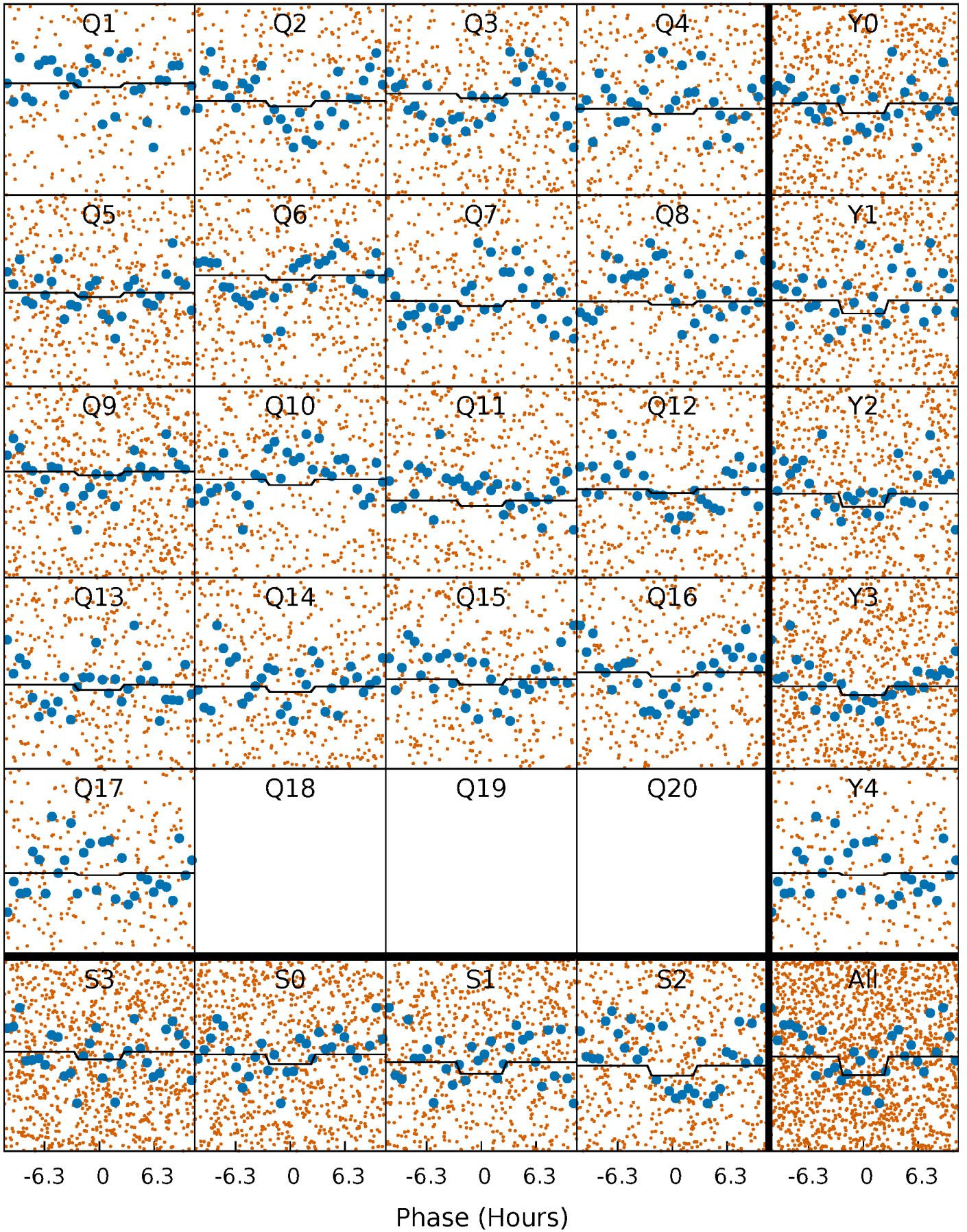
DV Quarter-Phased Transit Curves

TCE 004253413-01 P= 2.528432 Days $T_0=134.098421$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

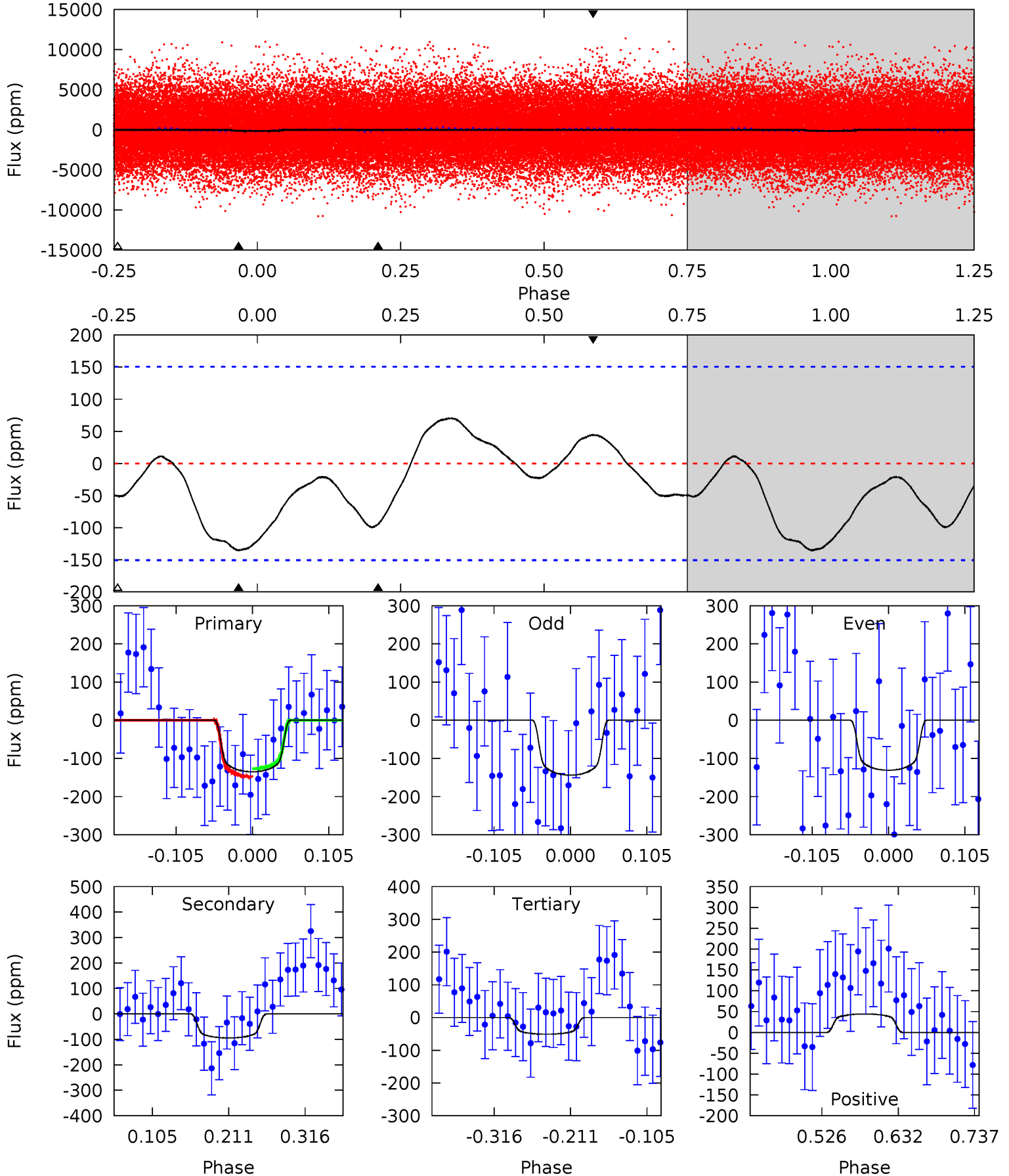
TCE 004253413-01 P= 2.528268 Days $T_0=134.102497$ (BKJD)



DV Model-Shift Uniqueness Test

004253413-01, P = 2.528432 Days, E = 129.041557 Days

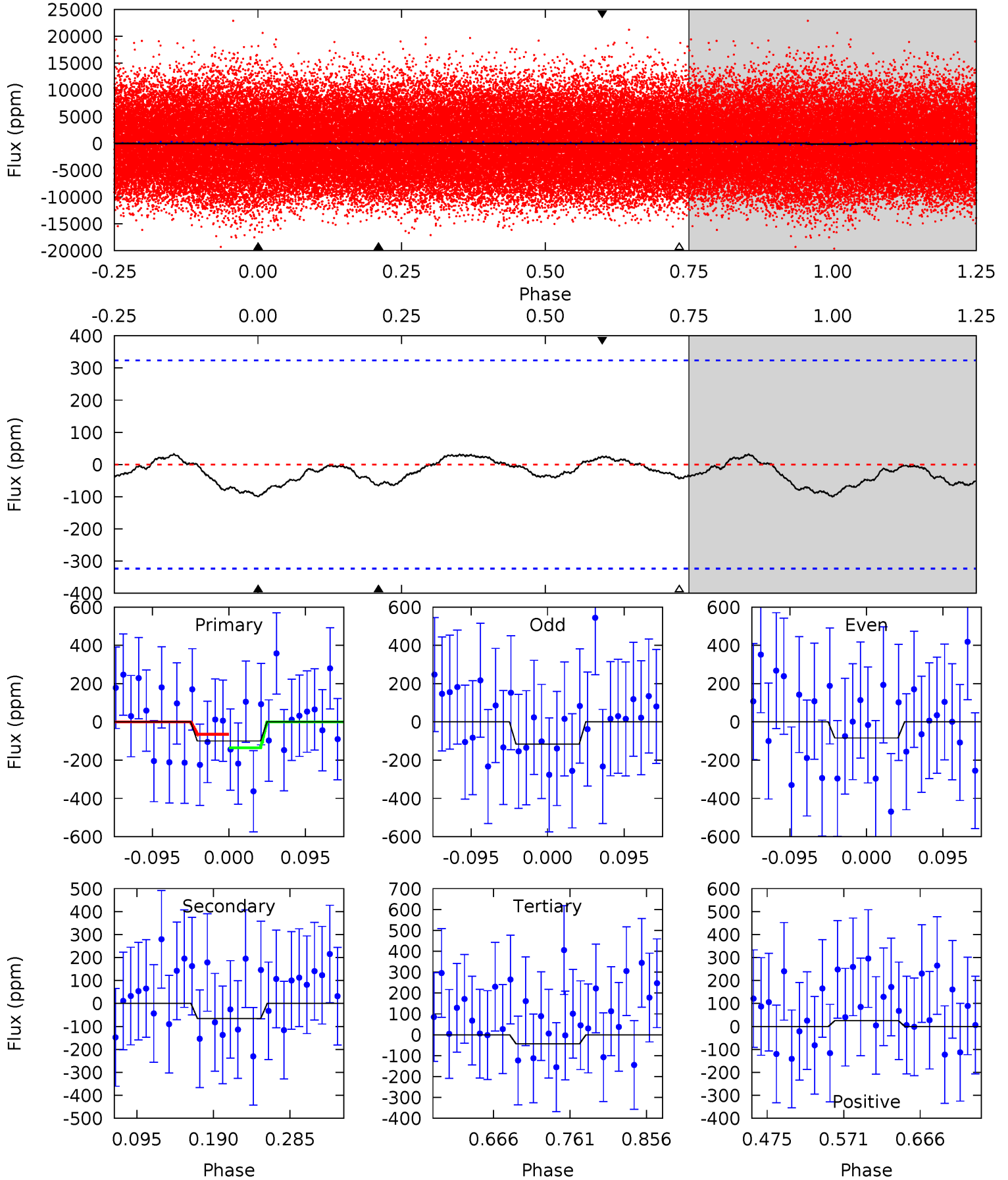
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.08	2.86	1.54	1.34	4.55	1.62	1.07	2.55	2.75	1.32	1.52	0.19	3.93	0.34	0.32



Alt Model-Shift Uniqueness Test

004253413-01, P = 2.528268 Days, E = 129.045961 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.41	0.92	0.62	0.36	4.58	1.67	0.31	0.79	1.05	0.30	0.56	0.23	-2.77	0.24	0.50



Stellar Parameters For KIC 004253413

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7502^{+235}_{-314}	$3.532^{+0.612}_{-0.068}$	$-0.320^{+0.250}_{-0.300}$	$3.979^{+0.410}_{-2.321}$	$1.966^{+0.066}_{-0.597}$	$0.044^{+0.423}_{-0.010}$
	+3%/-4%	+17%/-2%	+78%/-94%	+10%/-58%	+3%/-30%	+963%/-22%
Source	KIC0	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 004253413-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-95 ± 33	$8.28^{+1.41}_{-2.47}$	4148^{+305}_{-619}	4865^{+486}_{-543}	$1.562^{+1.449}_{-0.627}$
Alt.	-65 ± 71	$3.94^{+1.04}_{-1.23}$	4157^{+304}_{-573}	6443^{+1973}_{-10587}	$4.471^{+7.961}_{-4.736}$

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

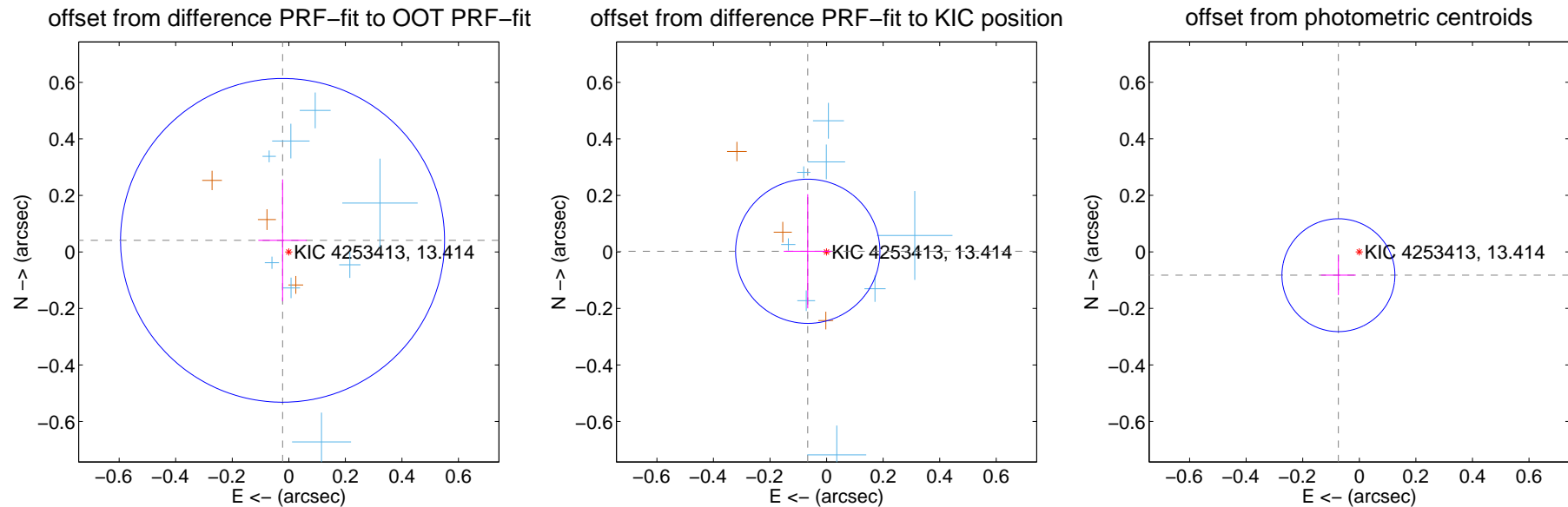
DV Centroid Data

Supplemental centroid analysis for 004253413-01. Kepler magnitude: 13.41. Transit SNR 8.08

There are 11 quarters with good PRF difference image offsets

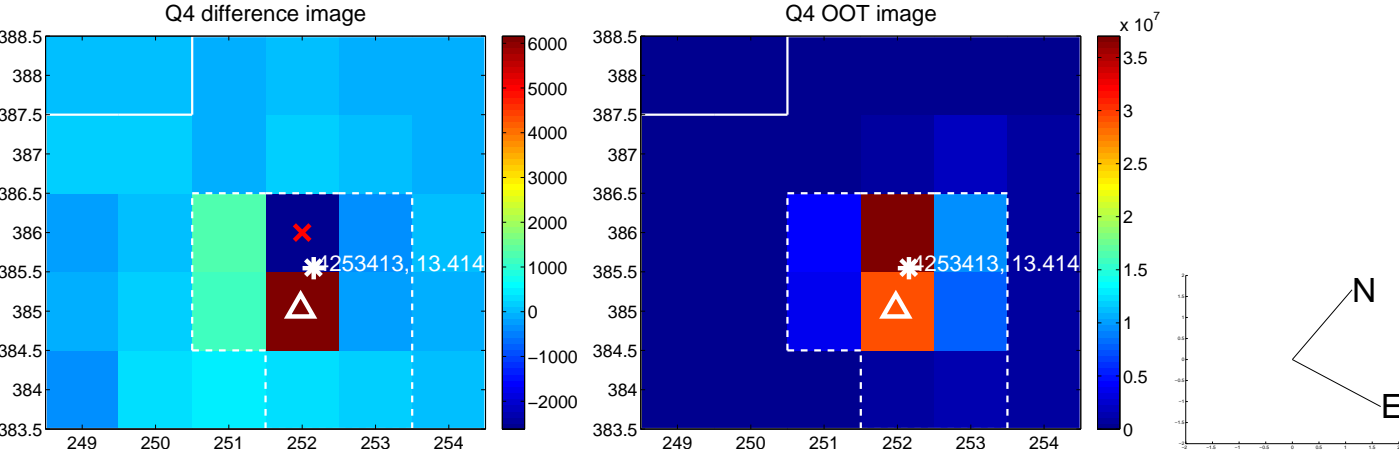
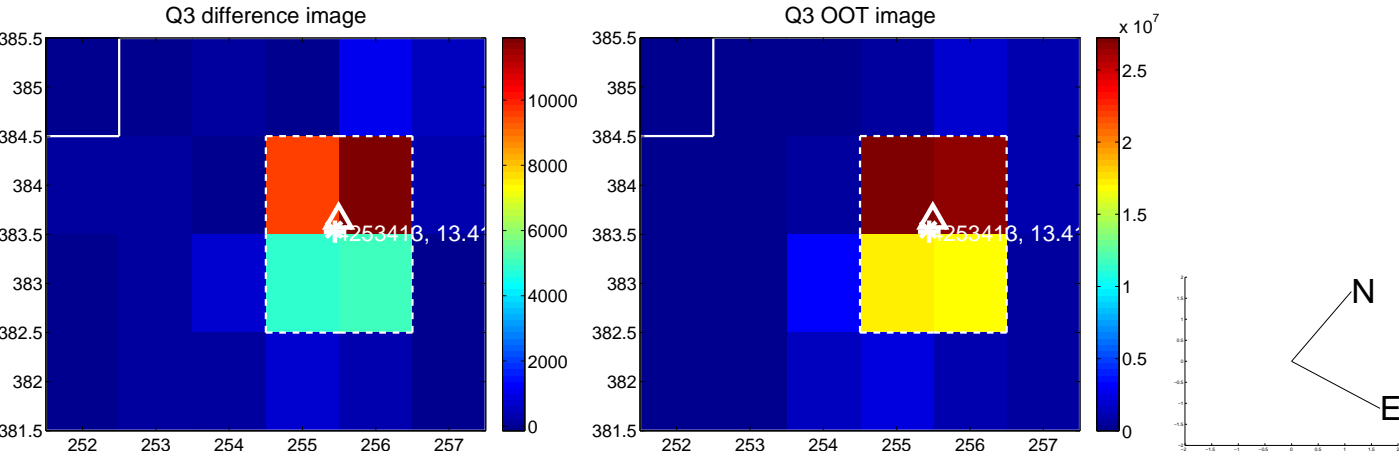
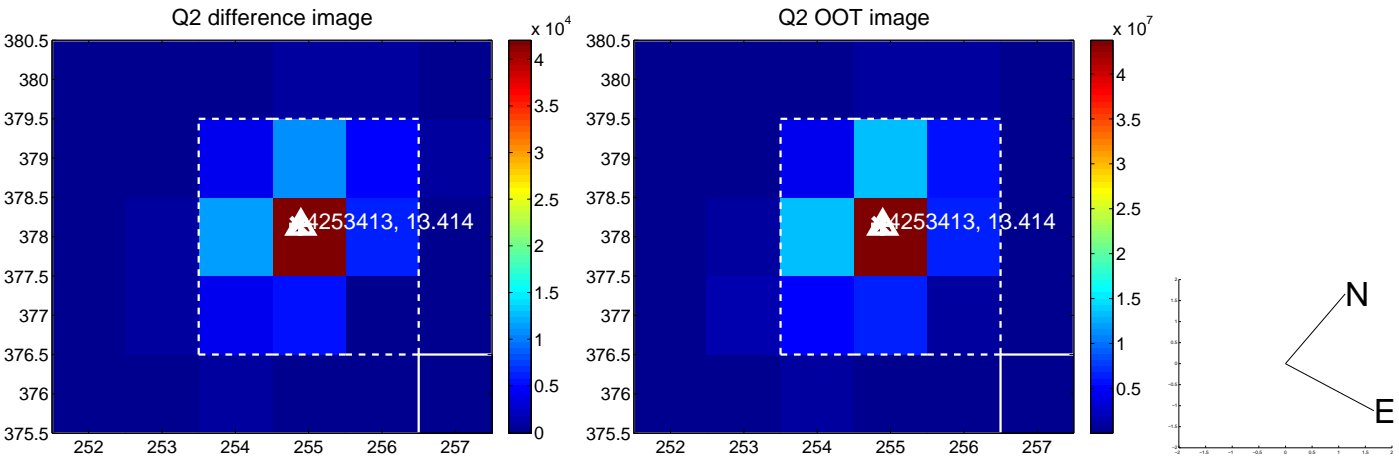
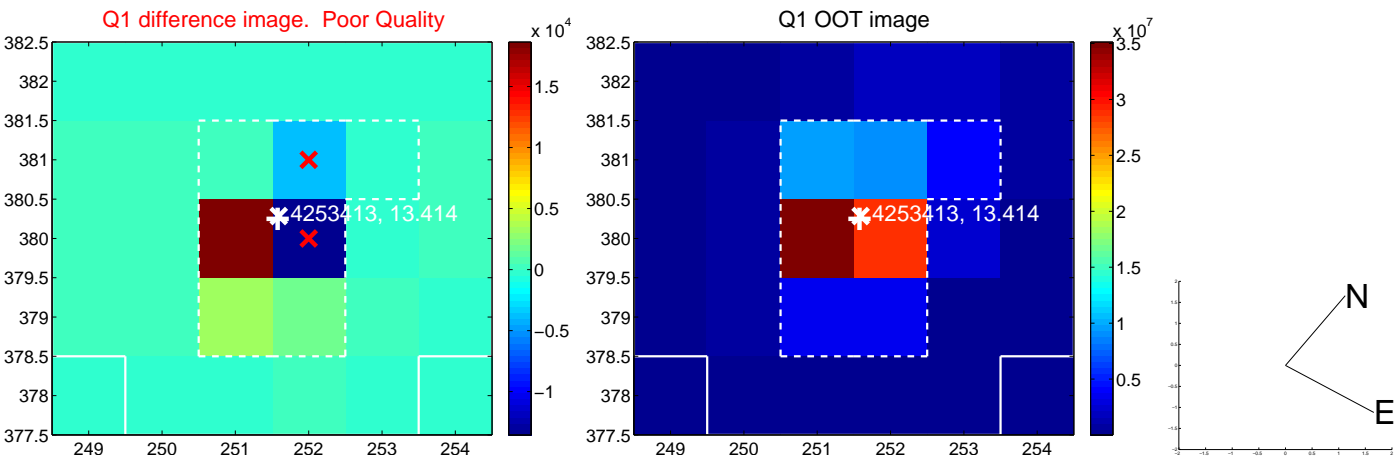
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.047 ± 0.191	0.24	0.022 ± 0.086	0.041 ± 0.216
PRF-fit source offset from KIC position	0.067 ± 0.085	0.78	0.067 ± 0.085	0.002 ± 0.202
photometric centroid source offset	0.11 ± 0.07	1.66	0.07 ± 0.06	-0.08 ± 0.07

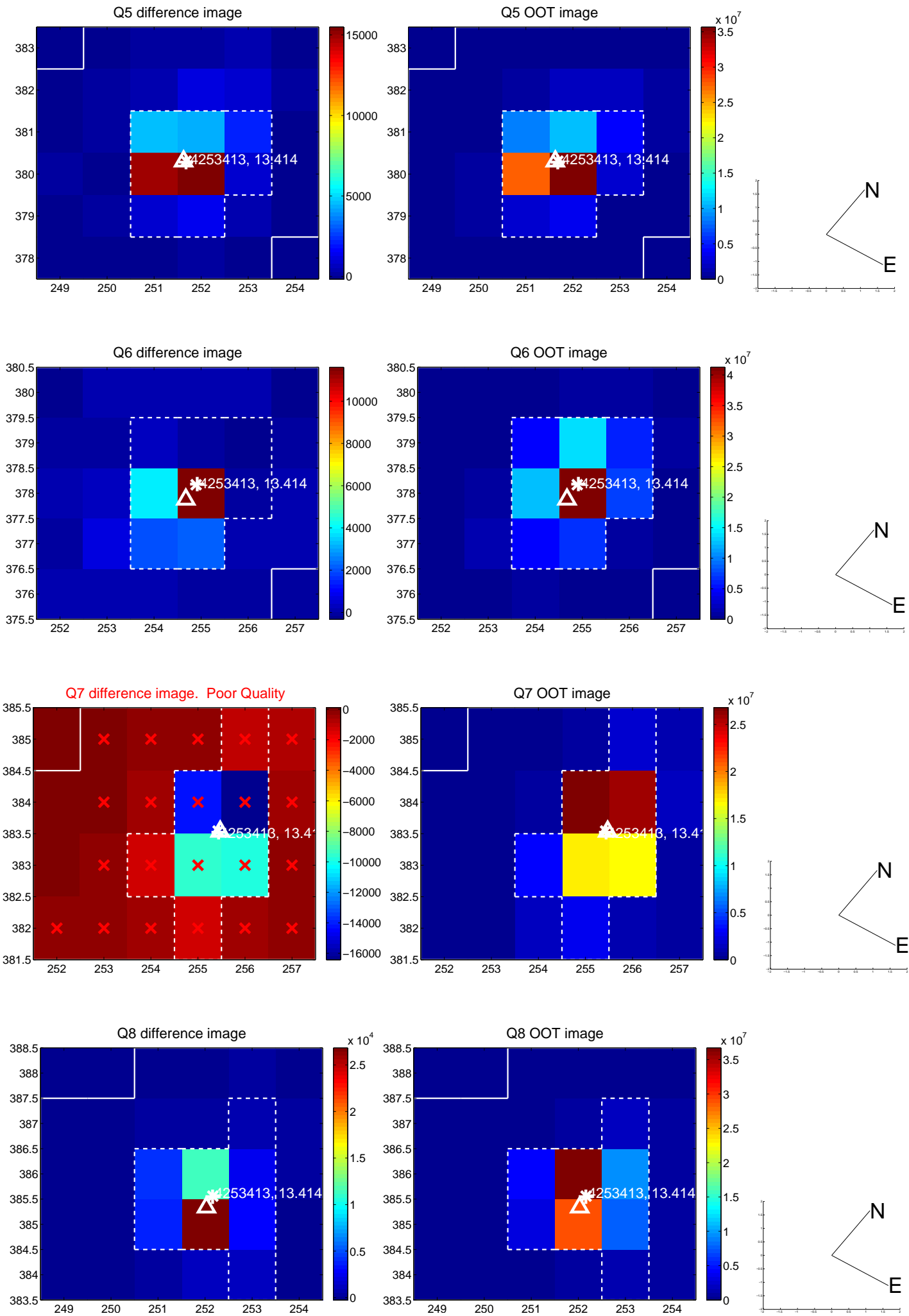


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

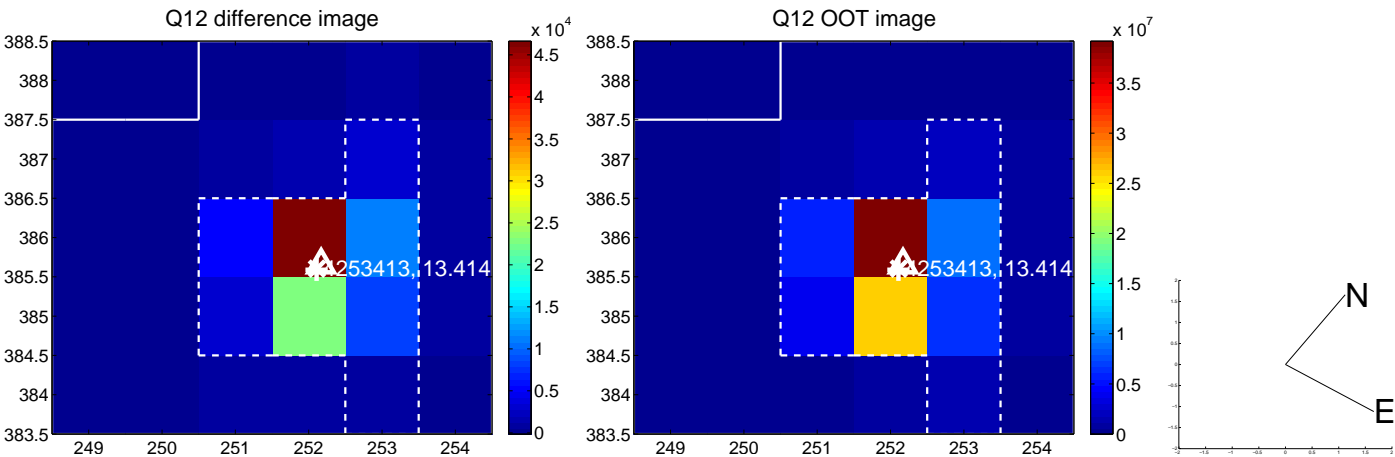
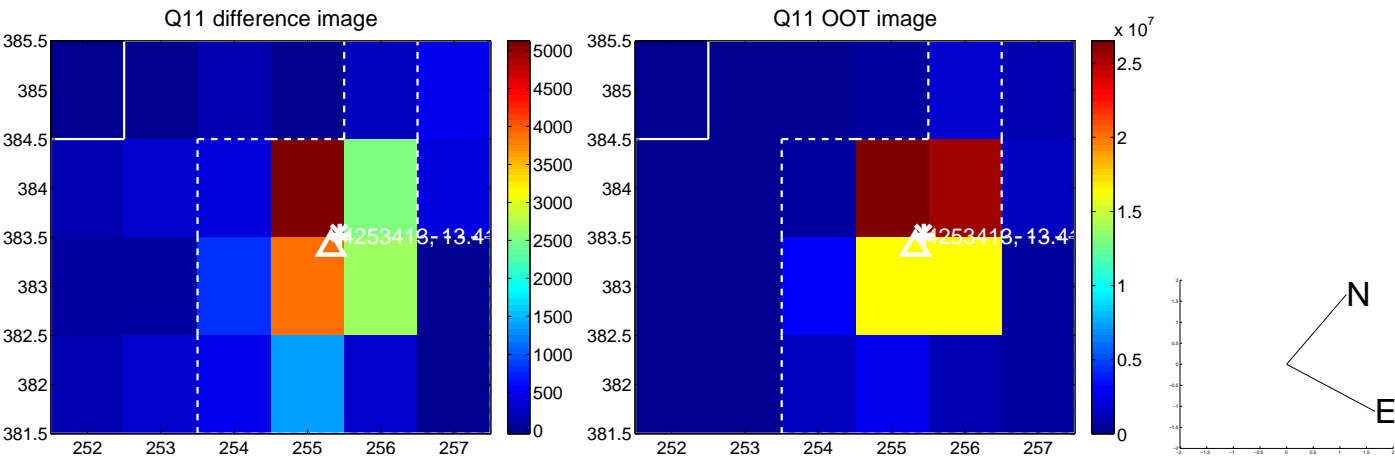
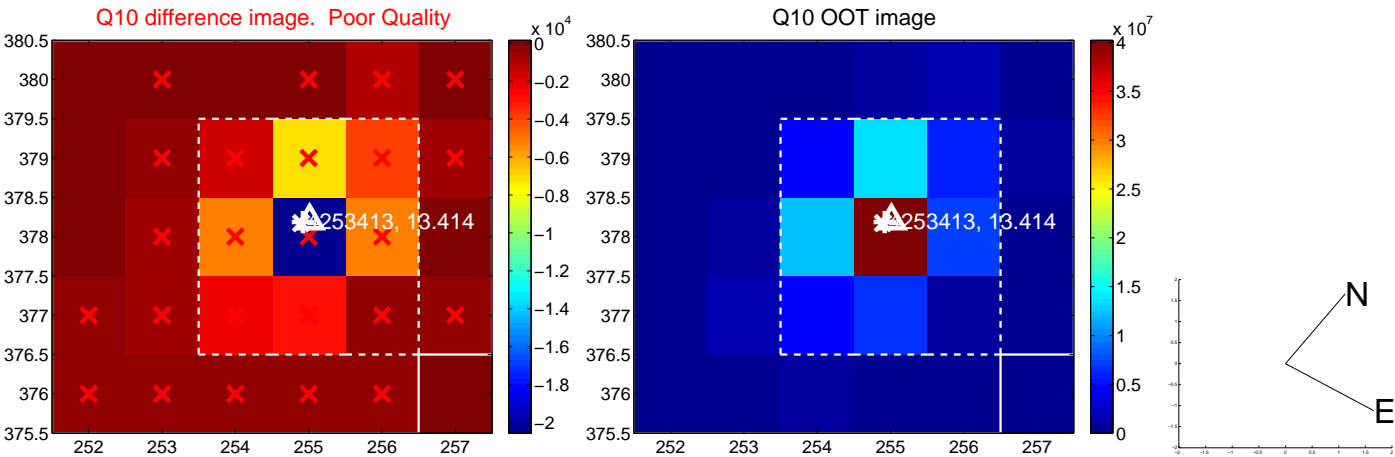
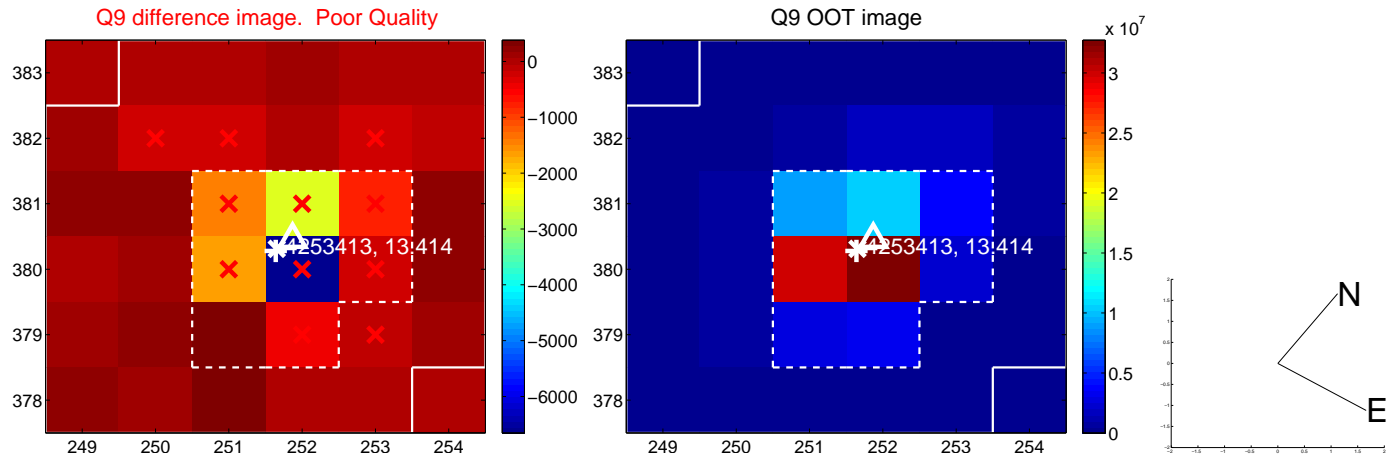
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



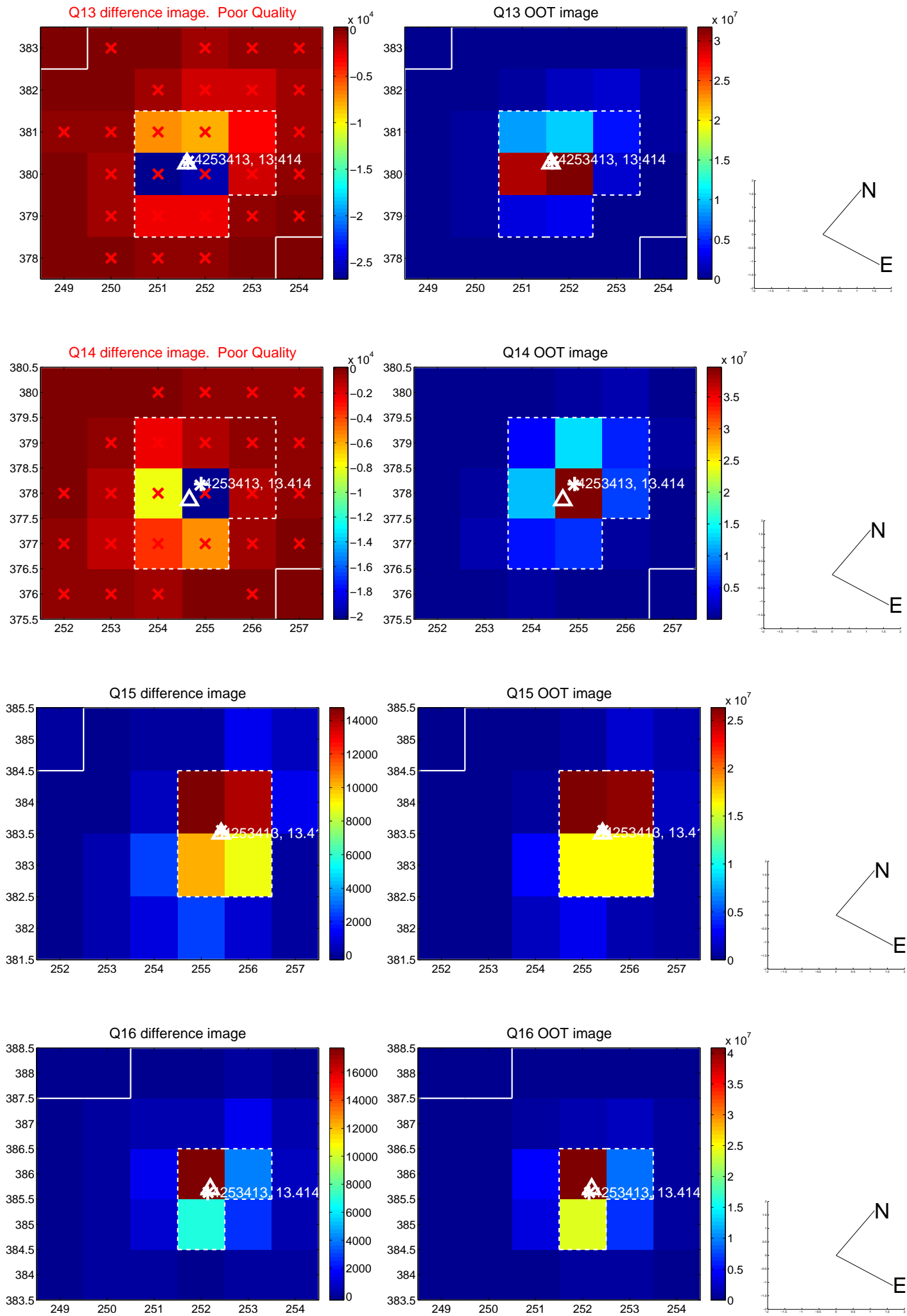
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



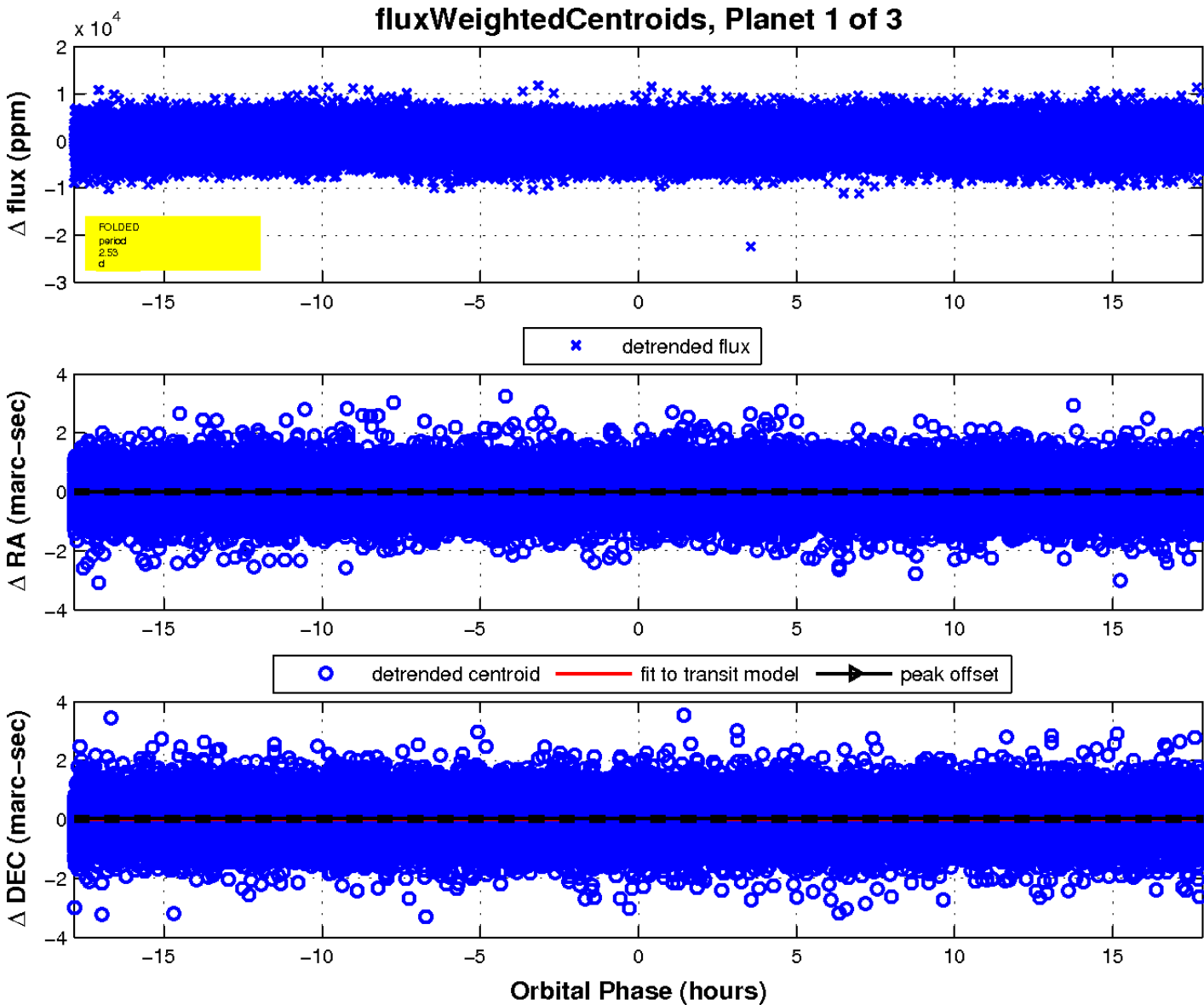
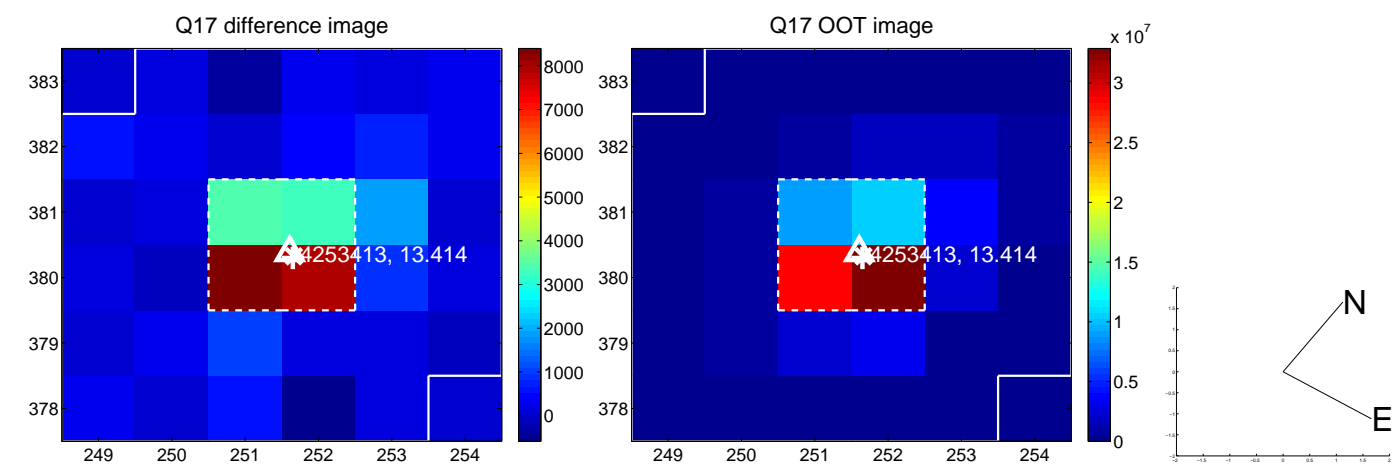
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

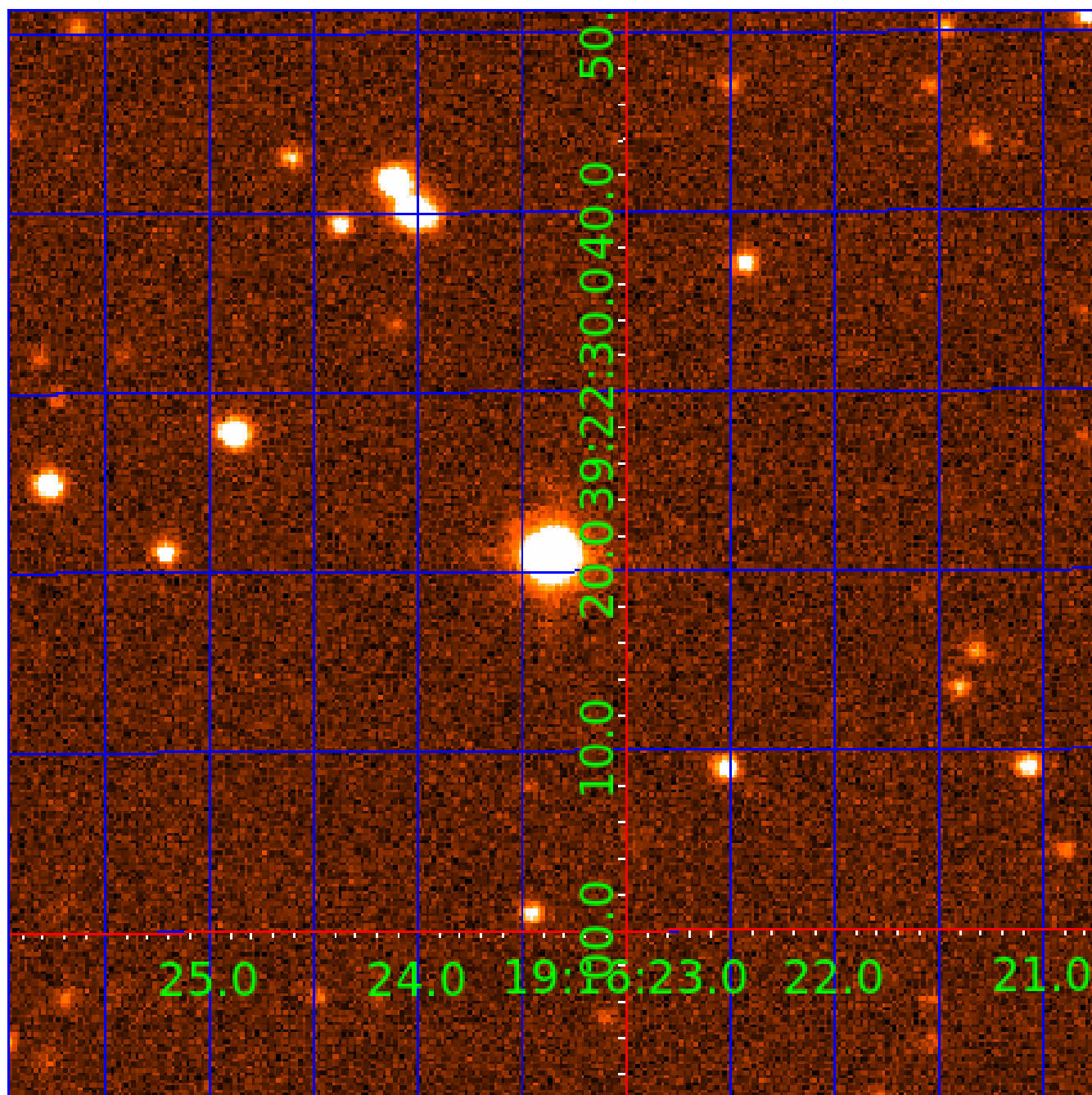


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004253413

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})
004253413-01	OBS	No	2.528432	134.098421	378.7	5.949	8.8	8.1	3.98	7502	9.09	21692.87
004253413-02	OBS	No	0.830769	132.497092	306.4	1.018	10.5	10.8	3.98	7502	8.25	95677.93
004253413-03	OBS	No	1.661516	132.022050	242.2	6.748	9.4	6.0	3.98	7502	6.89	37970.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004253413-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
004253413-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004253413-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

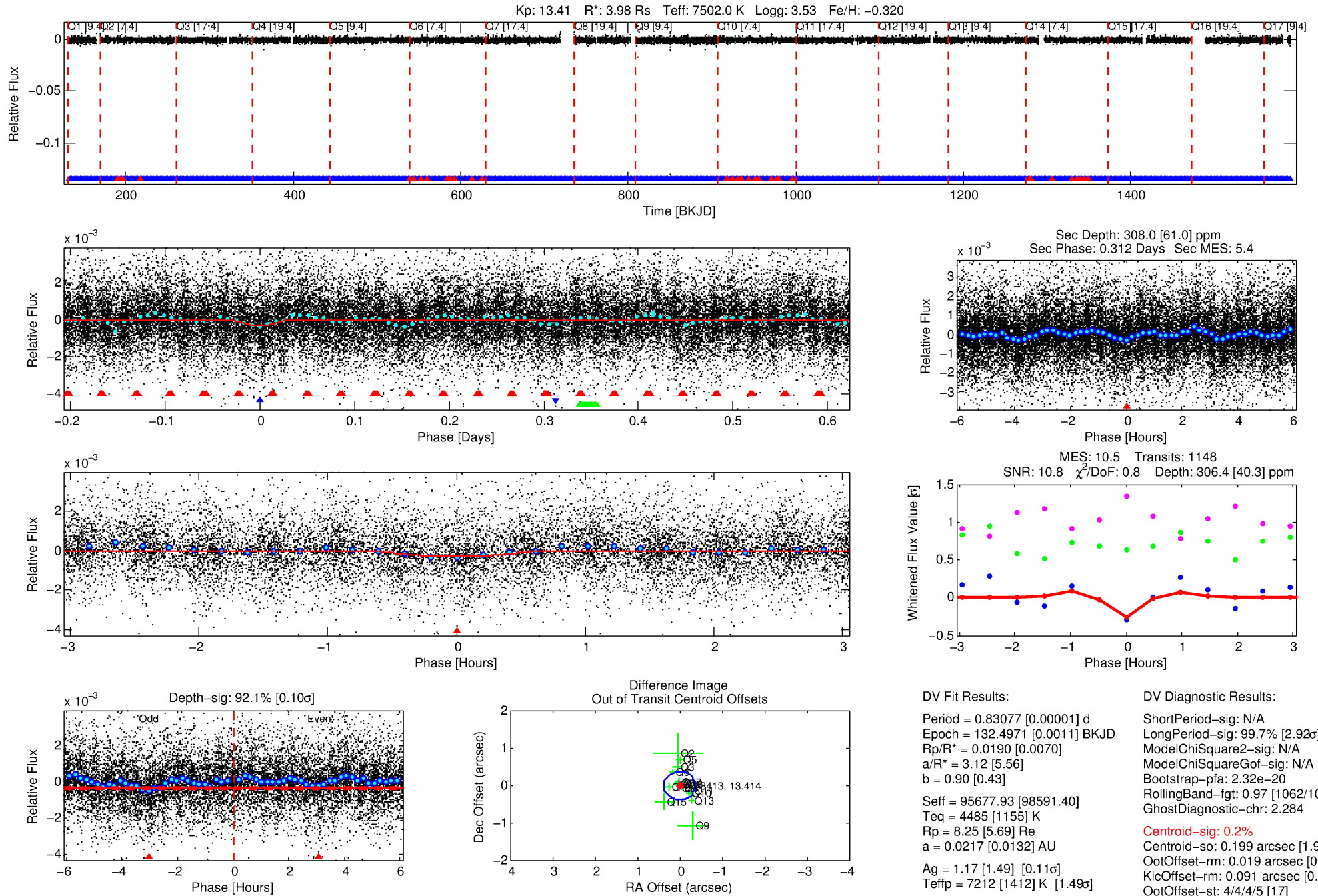
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004253413-02

No Significant Match Found

DV One-Page Summary

KIC: 4253413 Candidate: 2 of 3 Period: 0.831 d



DV Fit Results:

Period = 0.83077 [0.00001] d
Epoch = 132.4971 [0.0011] BKJD
Rp/R* = 0.0190 [0.0070]
a/R* = 3.12 [5.56]
b = 0.90 [0.43]
Seff = 95677.93 [98591.40]
Teff = 4485 [1155] K
Rp = 8.25 [5.69] Re
a = 0.0217 [0.0132] AU
Ag = 1.17 [1.49] [0.11σ]
Teffp = 7212 [1412] K [1.49σ]

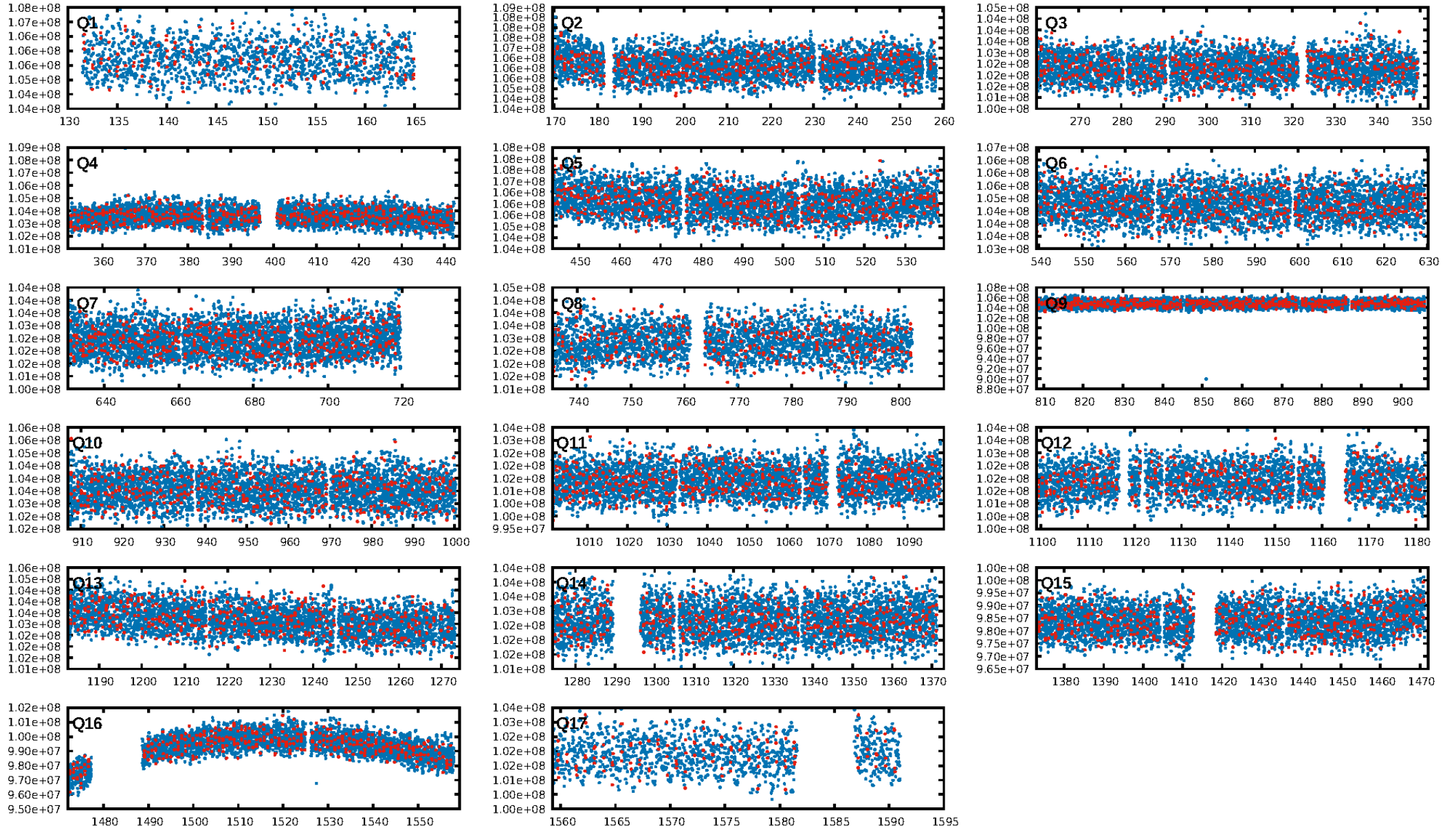
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.7% [2.92σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.32e-20
RollingBand-fgt: 0.97 [1062/1096]
GhostDiagnostic-chr: 2.284
Centroid-sig: 0.2%
Centroid-so: 0.199 arcsec [1.94σ]
OotOffset-rm: 0.019 arcsec [0.15σ]
KicOffset-rm: 0.091 arcsec [0.71σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

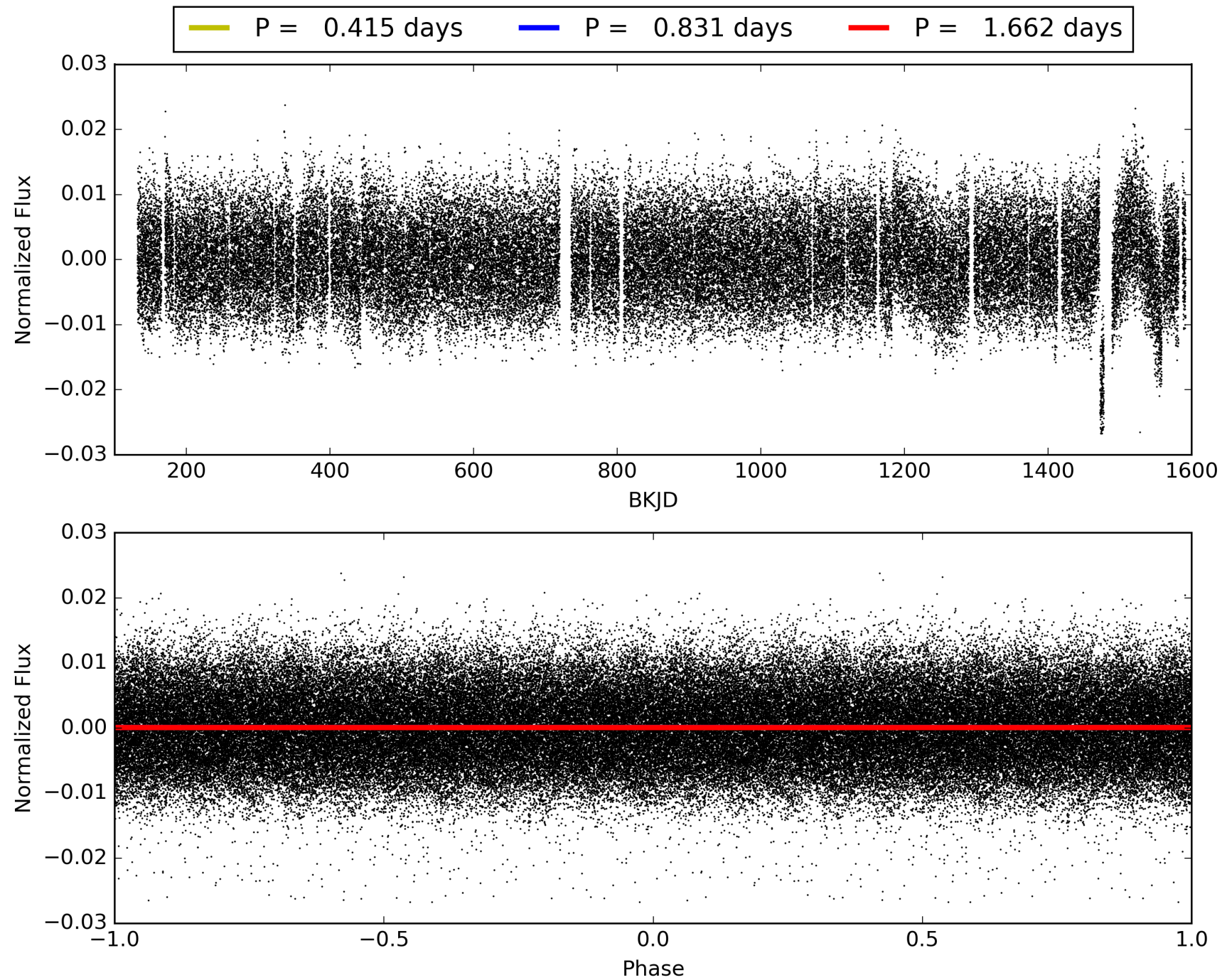
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 21:29:48 Z

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

TCE 004253413-02, PDC Light Curves

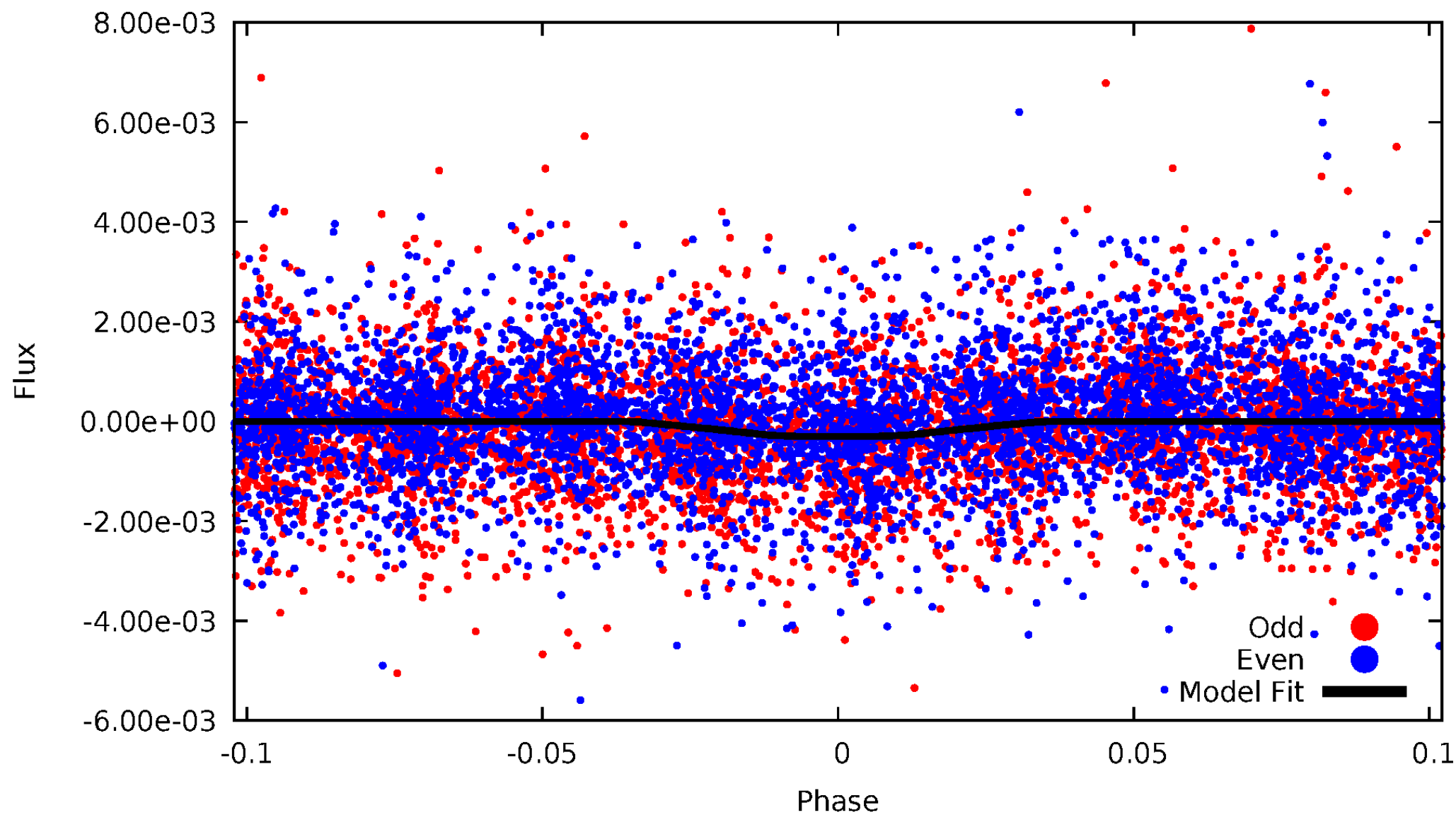


TCE 004253413-02



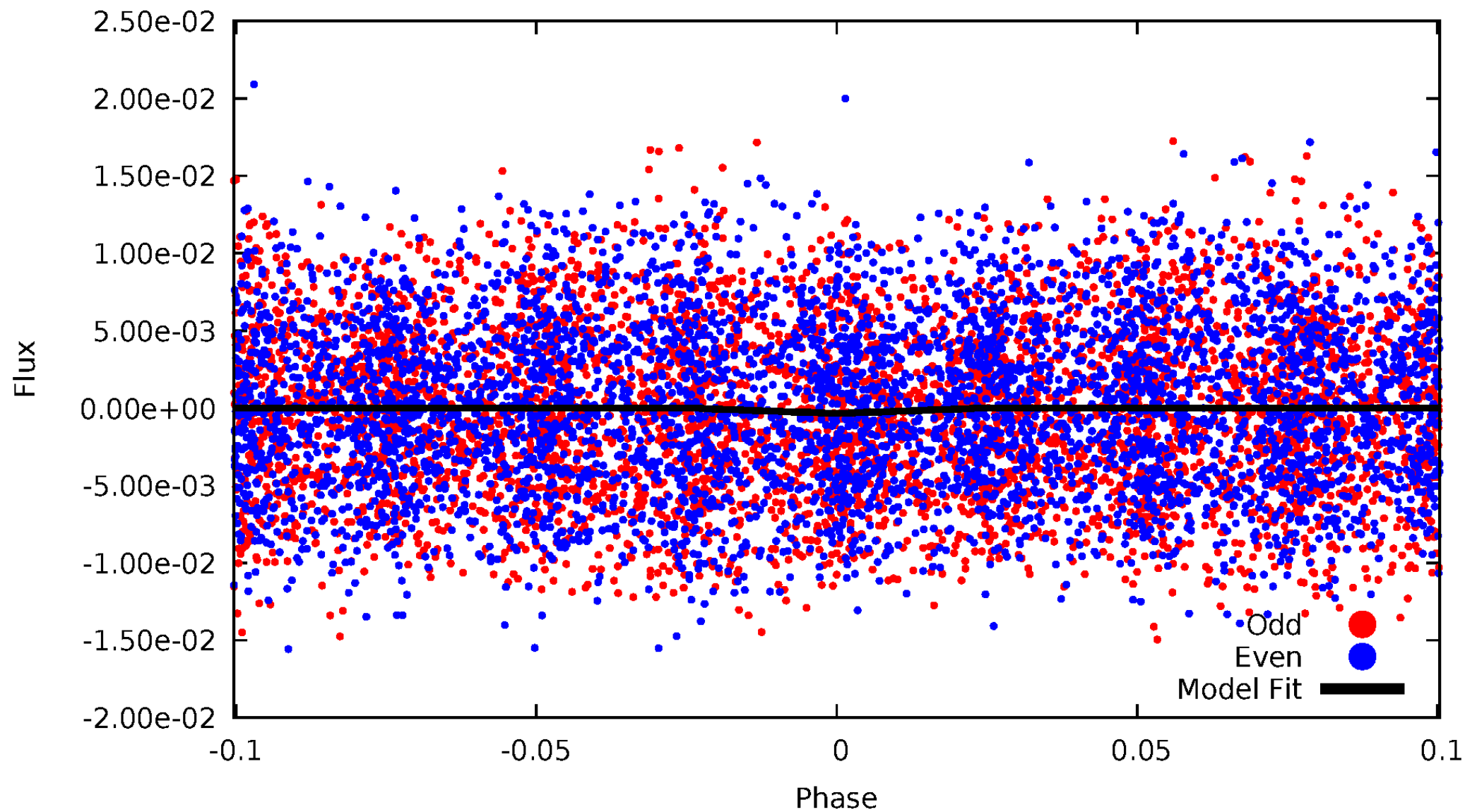
DV Odd/Even

TCE 004253413-02



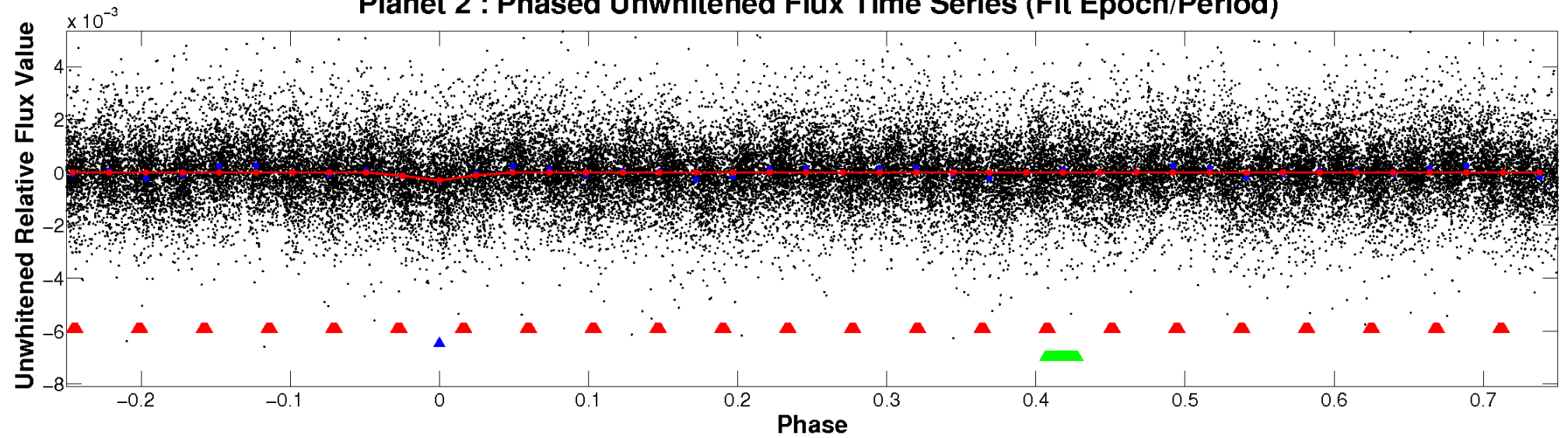
ALT Odd/Even

TCE 004253413-02

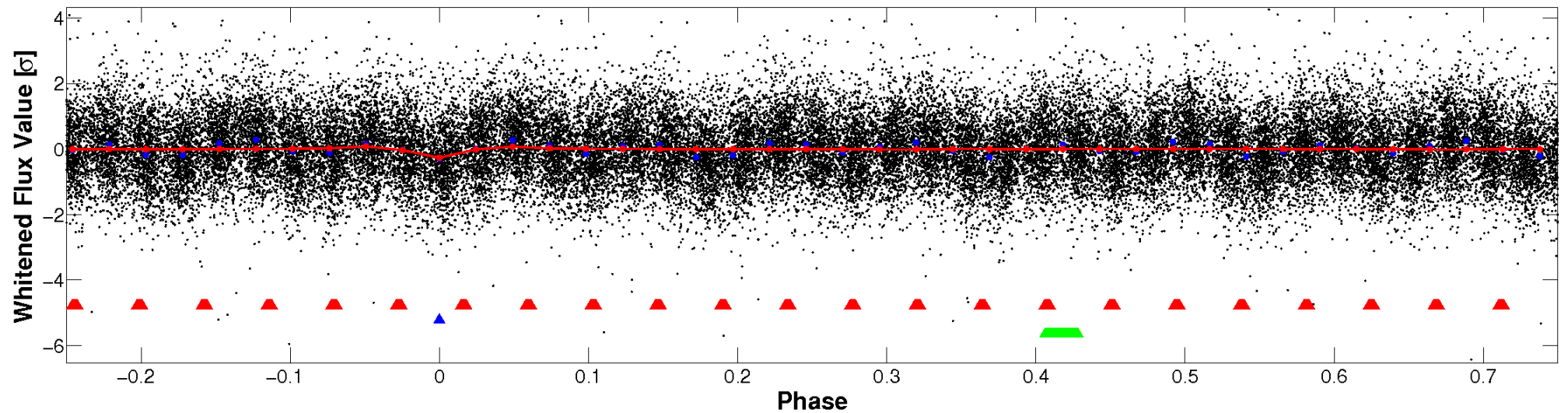


Non-Whitened Vs. Whitened Light Curve

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

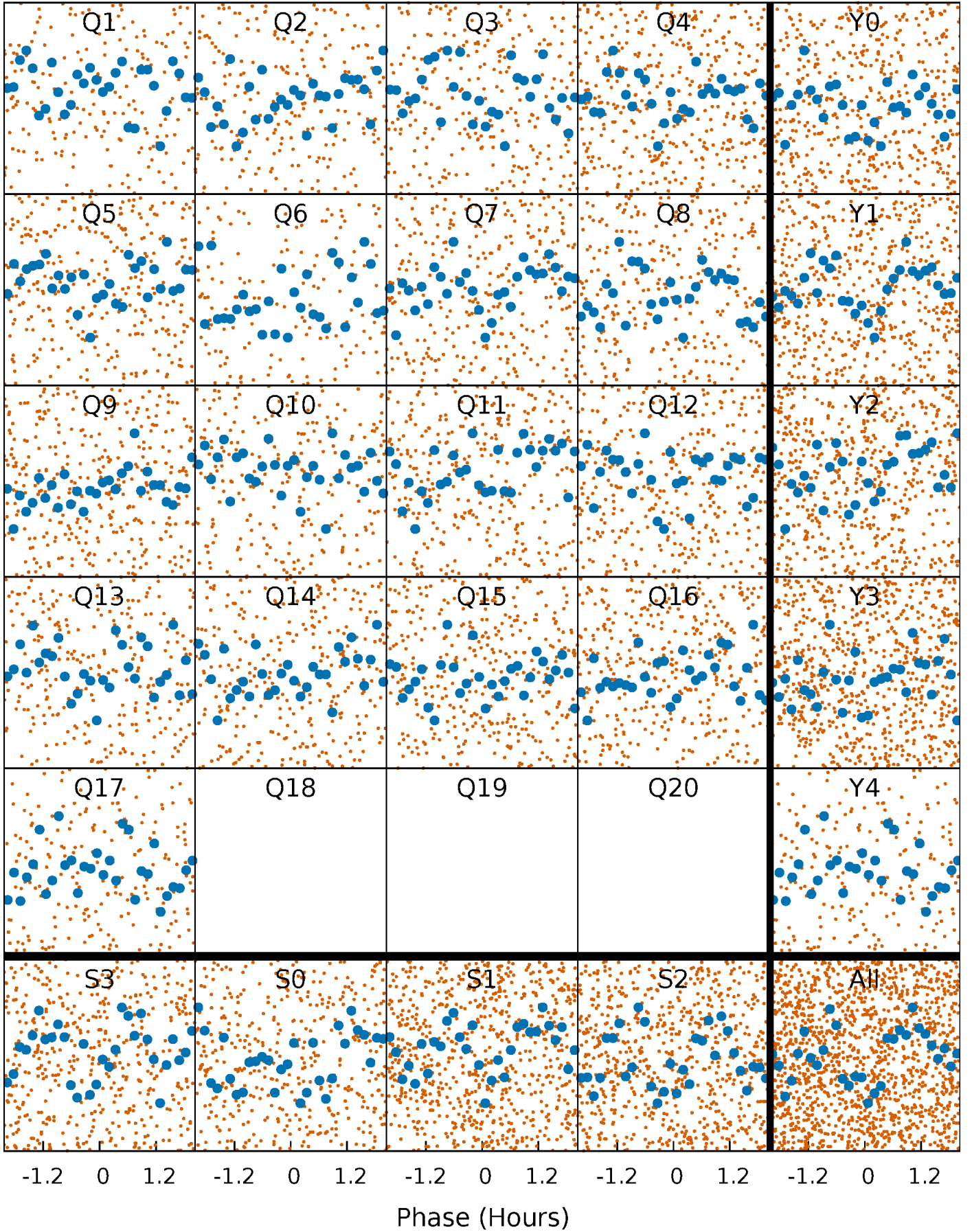


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



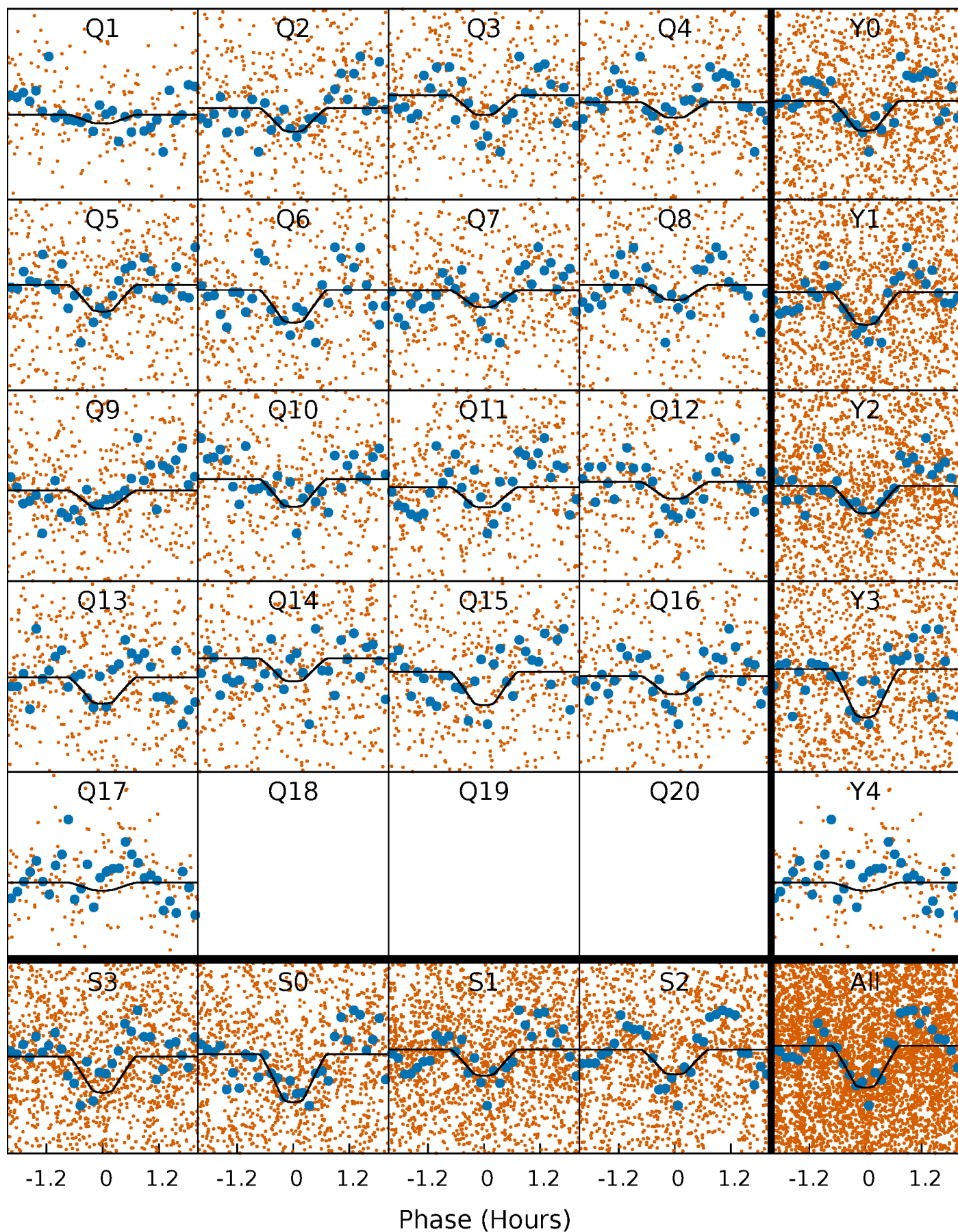
PDC Quarter-Phased Transit Curves

TCE 004253413-02 P= 0.830769 Days $T_0=132.497092$ (BKJD)



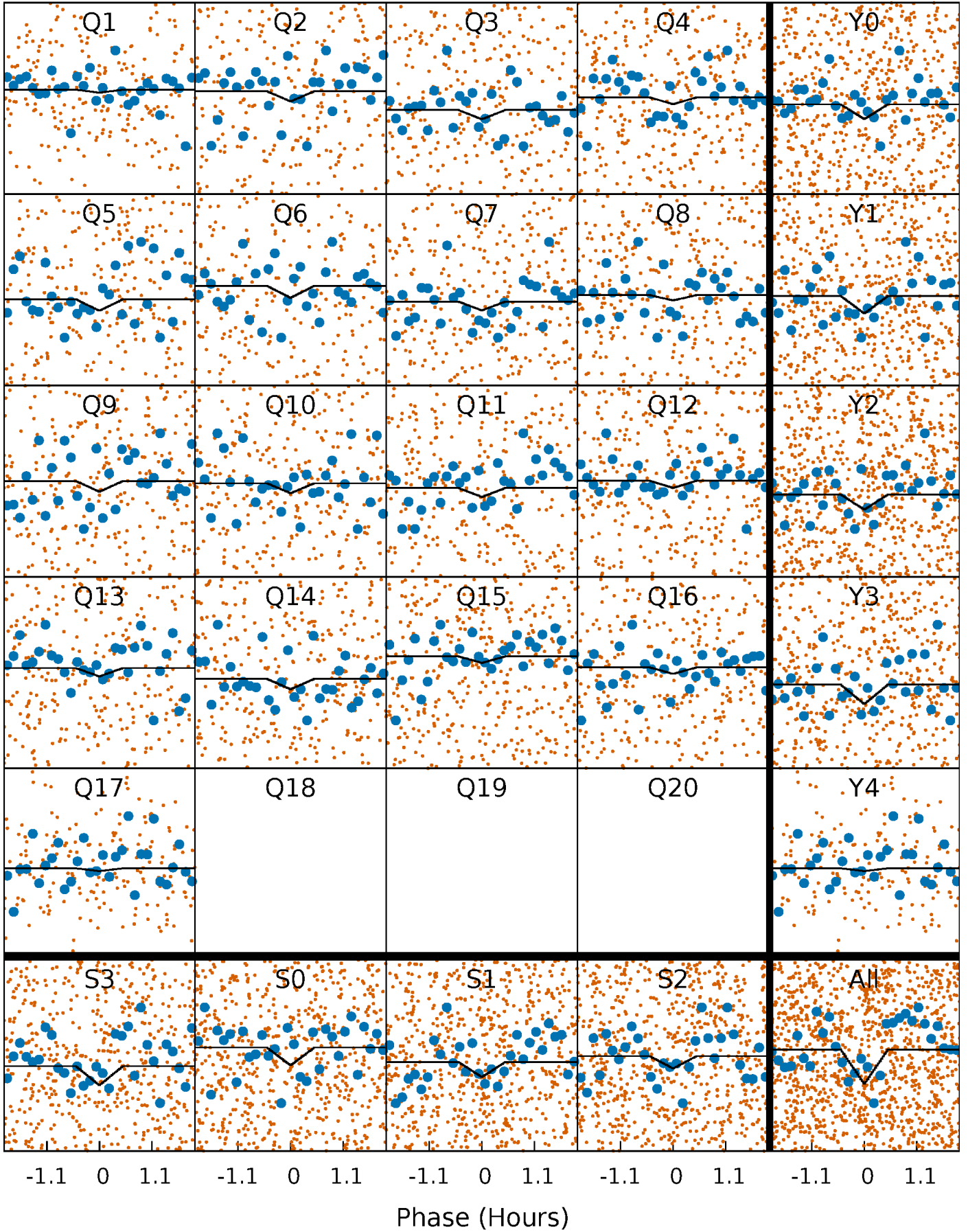
DV Quarter-Phased Transit Curves

TCE 004253413-02 $P = 0.830769$ Days $T_0 = 132.497092$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

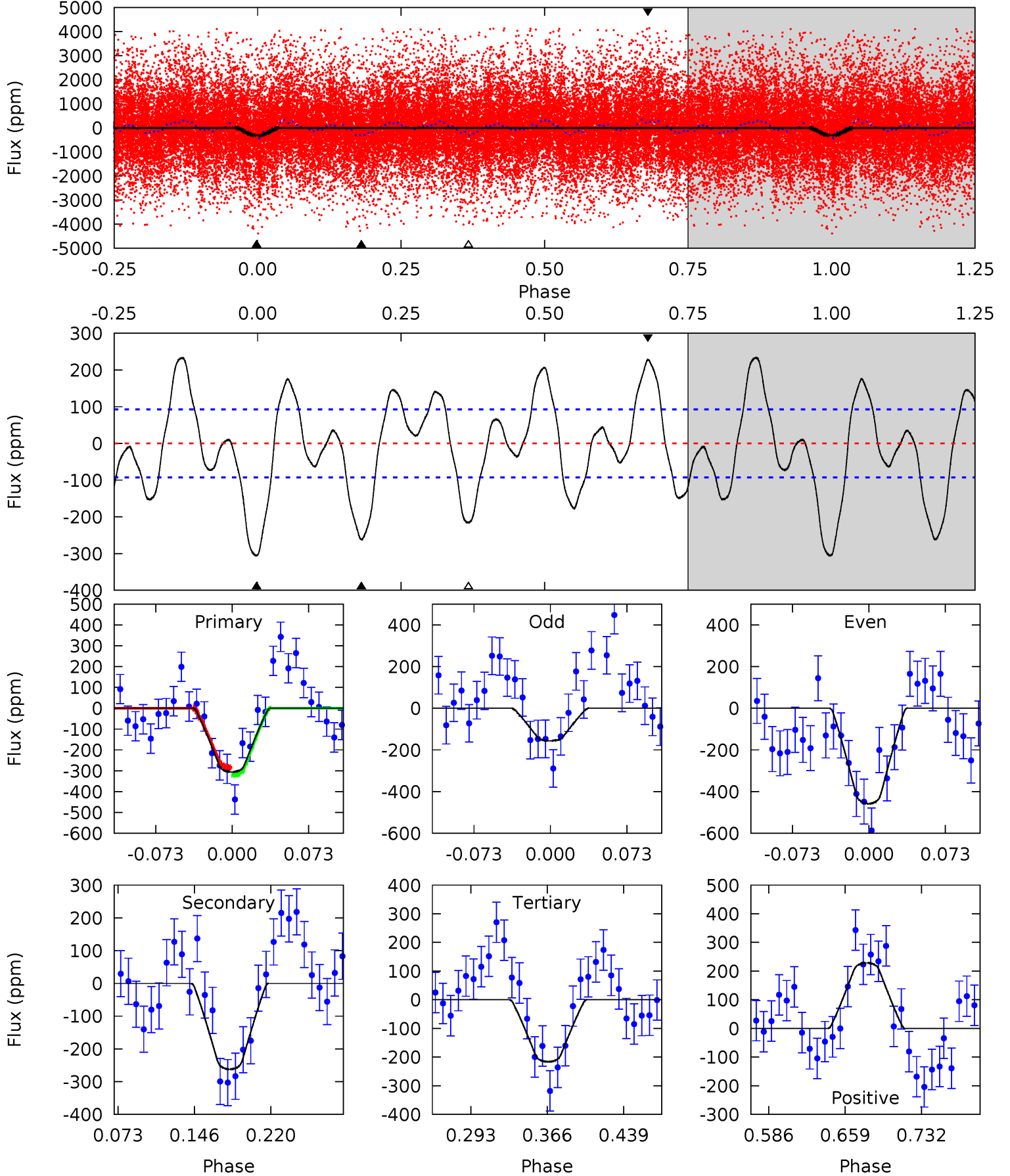
TCE 004253413-02 P= 0.830771 Days $T_0=132.497176$ (BKJD)



DV Model-Shift Uniqueness Test

004253413-02, P = 0.830769 Days, E = 131.666323 Days

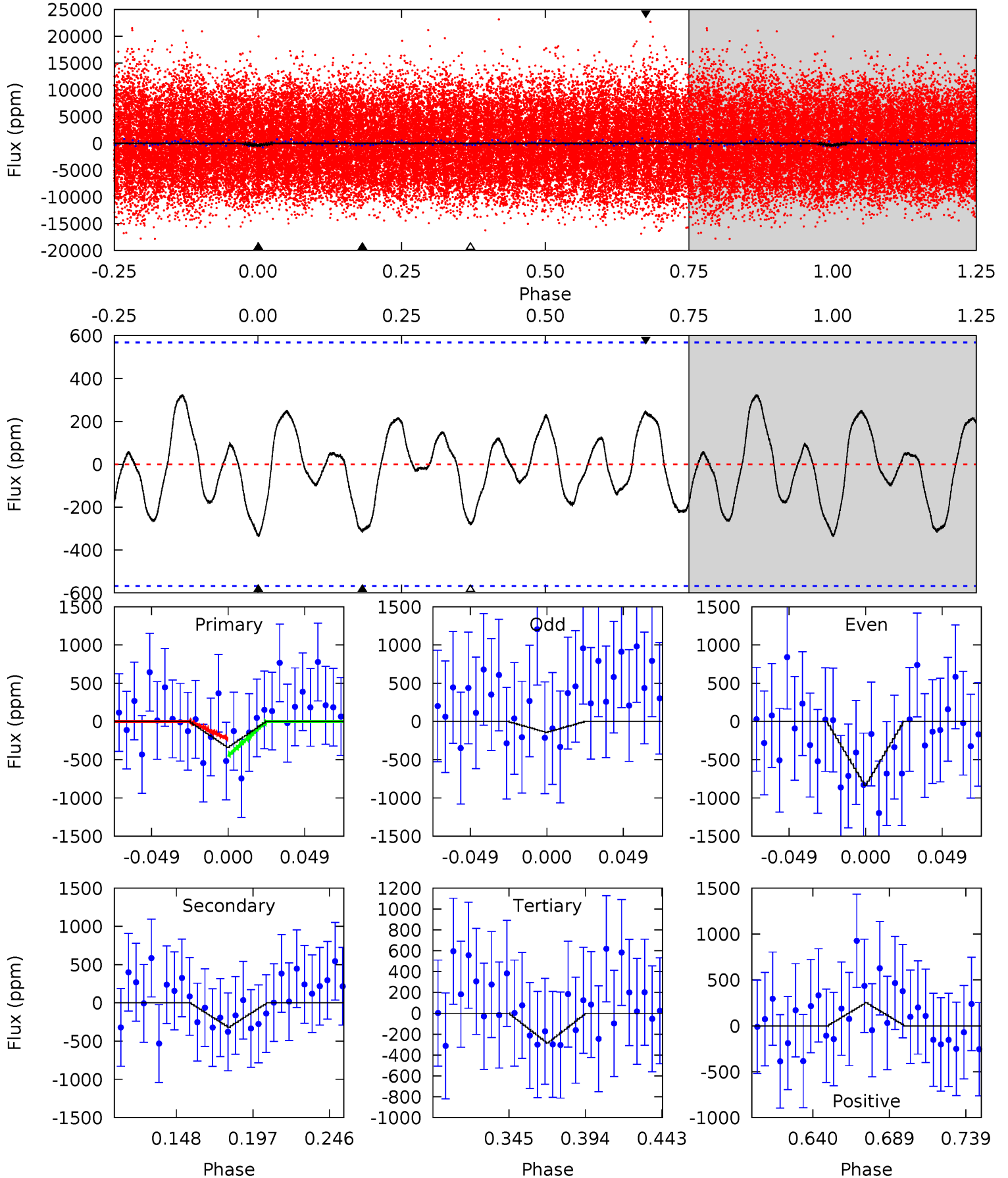
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	13.1	10.8	11.4	4.63	1.79	5.57	4.48	3.86	2.31	1.69	7.61	1.09	0.43	0.90



Alt Model-Shift Uniqueness Test

004253413-02, P = 0.830771 Days, E = 131.666405 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.80	2.64	2.36	2.08	4.71	1.97	1.16	0.44	0.72	0.28	0.56	2.88	0.82	0.49	0.93



Stellar Parameters For KIC 004253413

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7502^{+235}_{-314}	$3.532^{+0.612}_{-0.068}$	$-0.320^{+0.250}_{-0.300}$	$3.979^{+0.410}_{-2.321}$	$1.966^{+0.066}_{-0.597}$	$0.044^{+0.423}_{-0.010}$
	+3%/-4%	+17%/-2%	+78%/-94%	+10%/-58%	+3%/-30%	+963%/-22%
Source	KIC0	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 004253413-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-262 ± 20	$7.12^{+3.26}_{-3.05}$	6020^{+470}_{-905}	6327^{+2447}_{-1273}	$1.313^{+2.604}_{-0.703}$
Alt.	-318 ± 120	$6.94^{+3.18}_{-2.96}$	5952^{+495}_{-854}	6686^{+2818}_{-1626}	$1.605^{+3.501}_{-0.970}$

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

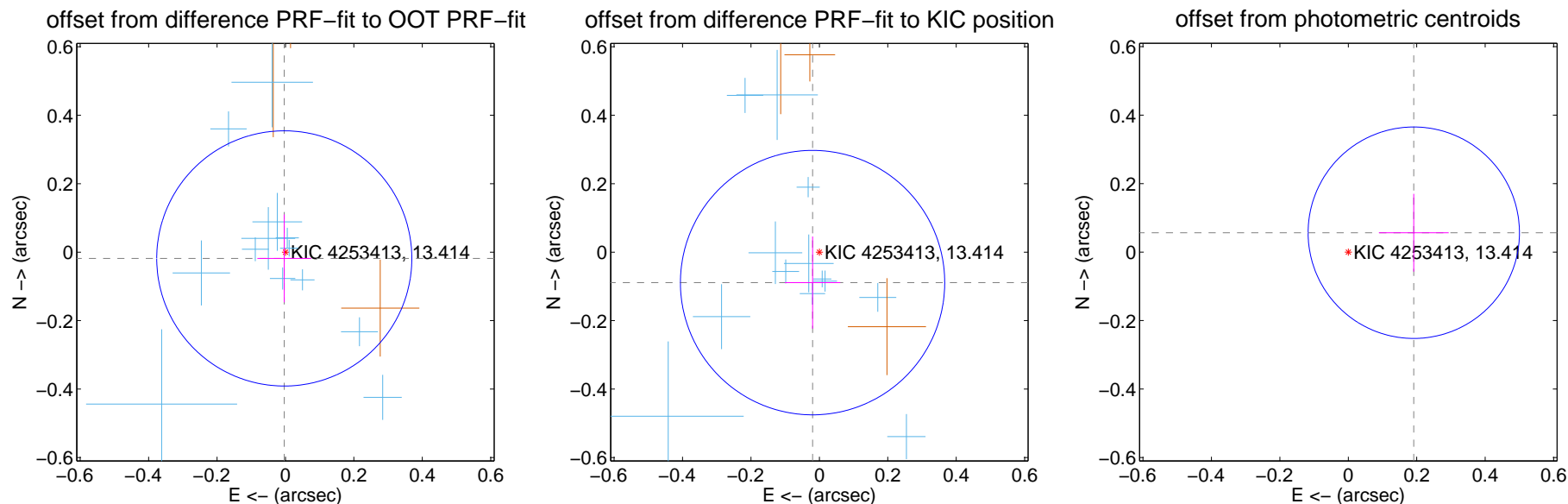
DV Centroid Data

Supplemental centroid analysis for 004253413-02. Kepler magnitude: 13.41. Transit SNR 10.78

There are 13 quarters with good PRF difference image offsets

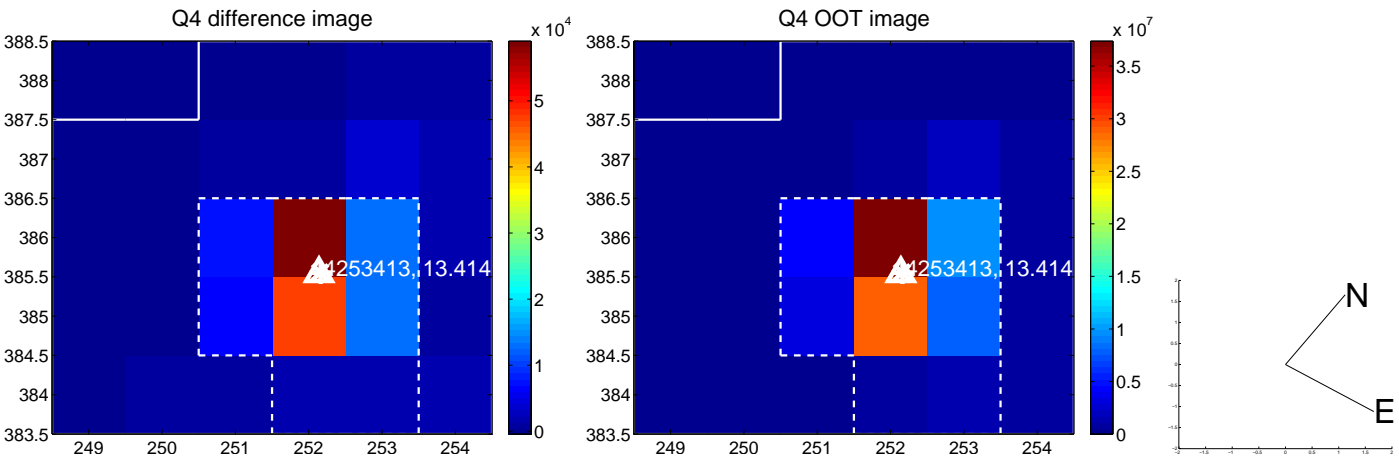
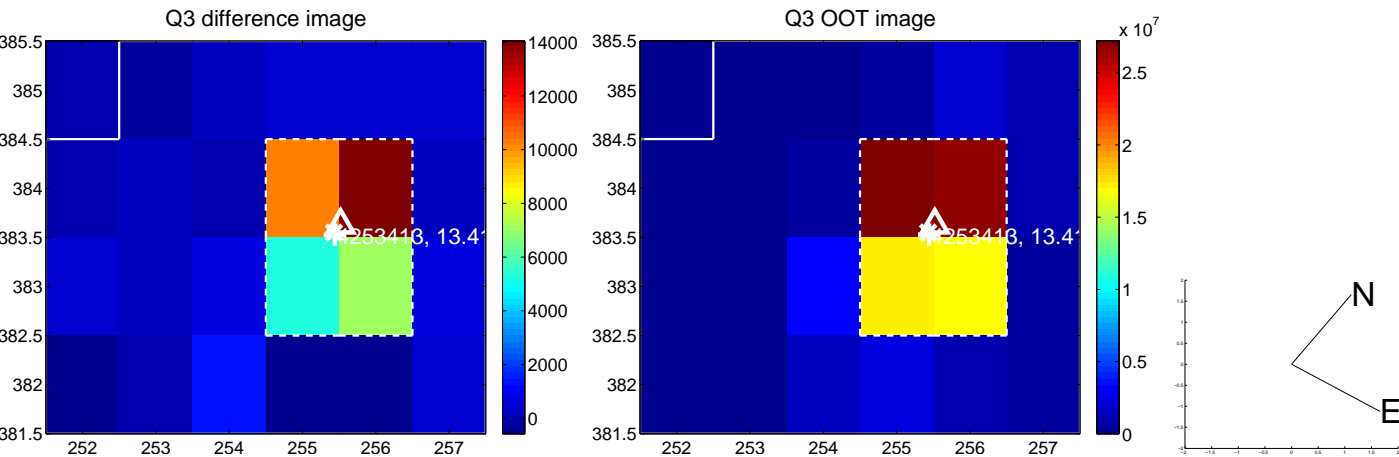
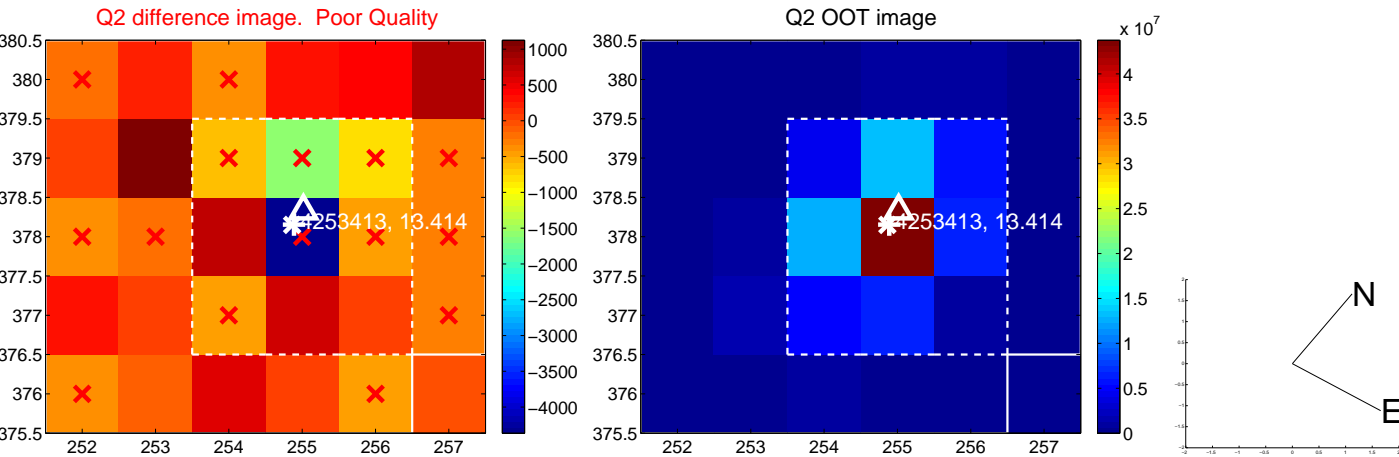
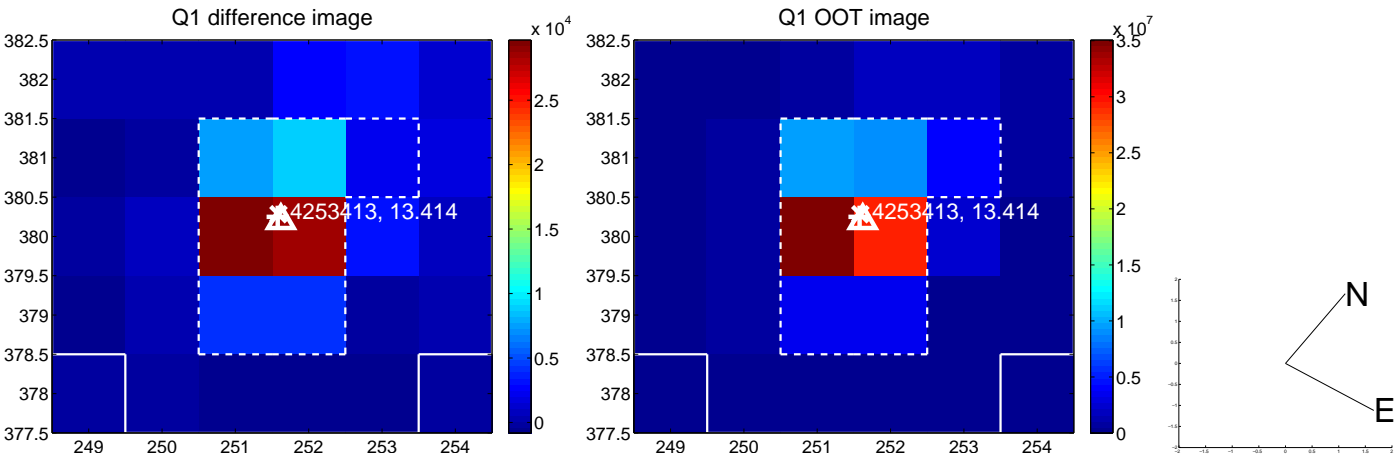
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.019 ± 0.124	0.15	0.003 ± 0.079	-0.018 ± 0.128
PRF-fit source offset from KIC position	0.091 ± 0.129	0.71	0.020 ± 0.081	-0.089 ± 0.135
photometric centroid source offset	0.20 ± 0.10	1.94	-0.19 ± 0.10	0.06 ± 0.11

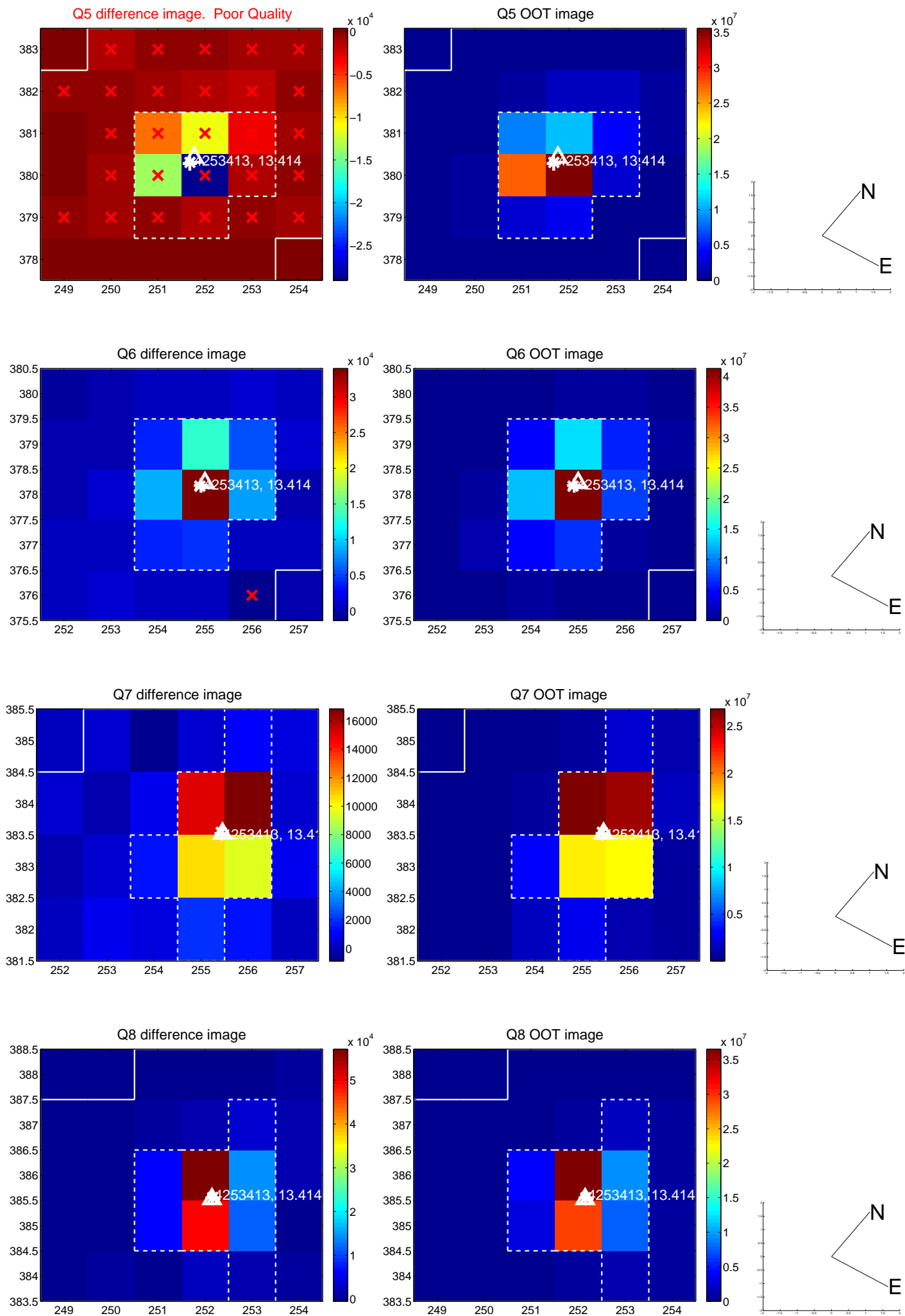


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

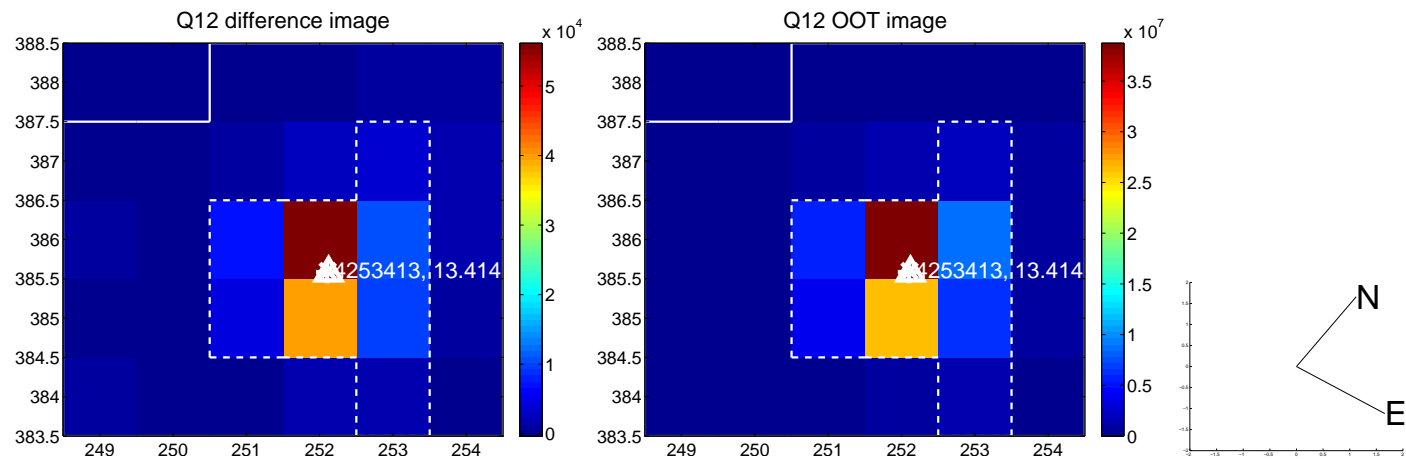
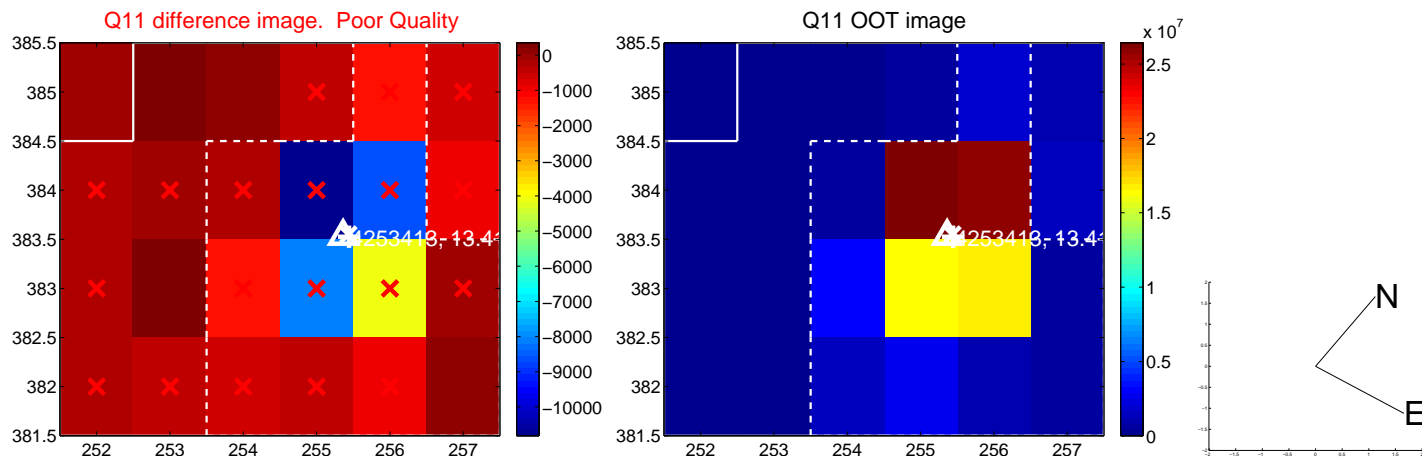
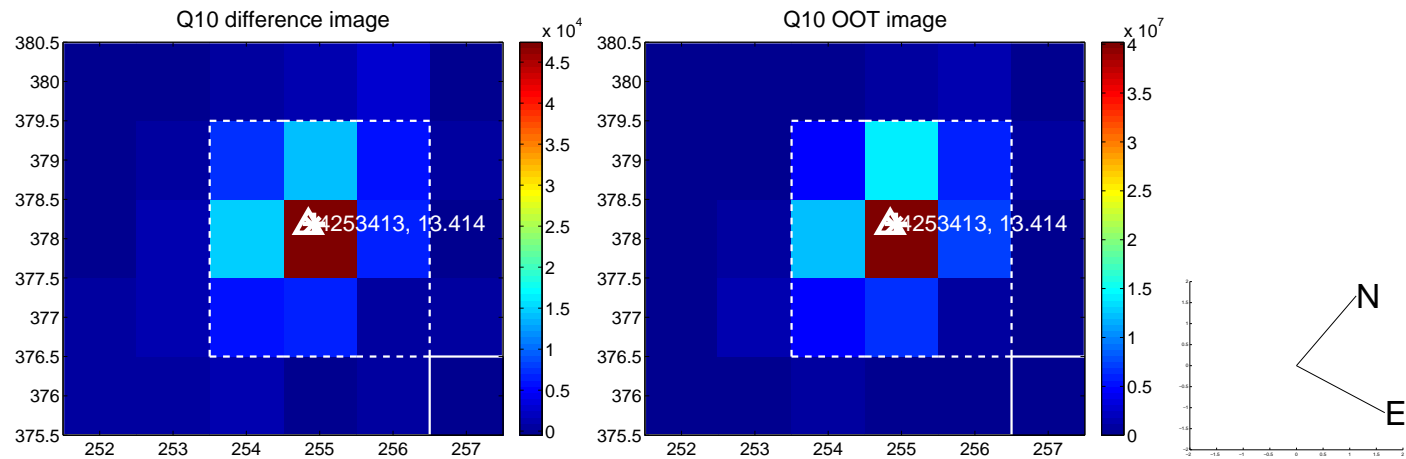
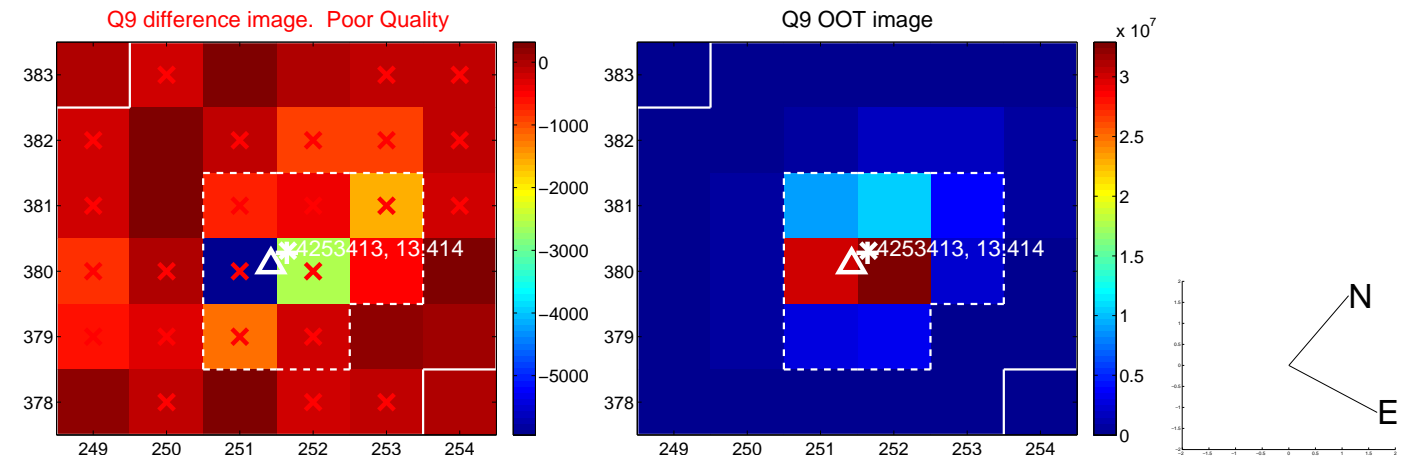
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



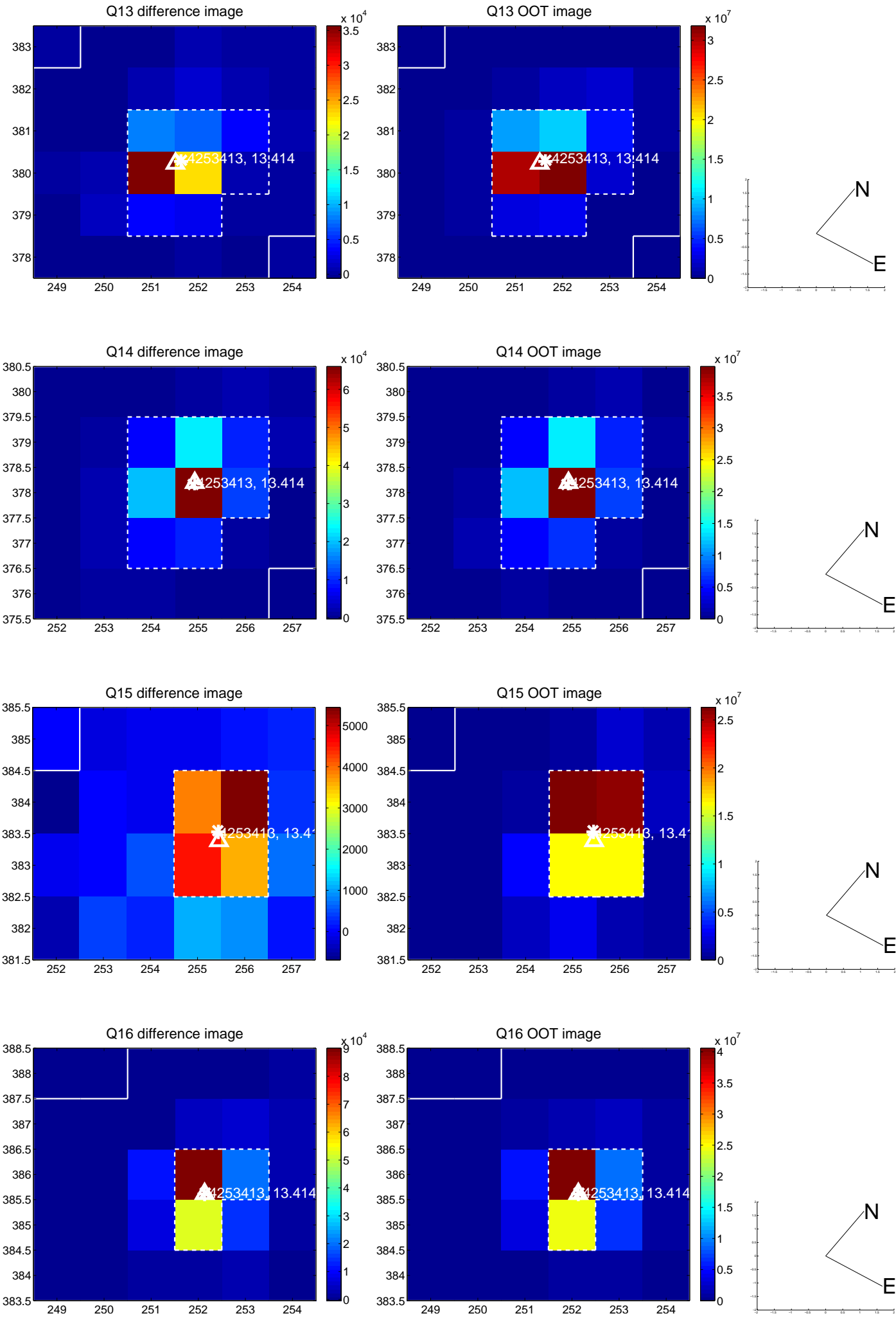
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



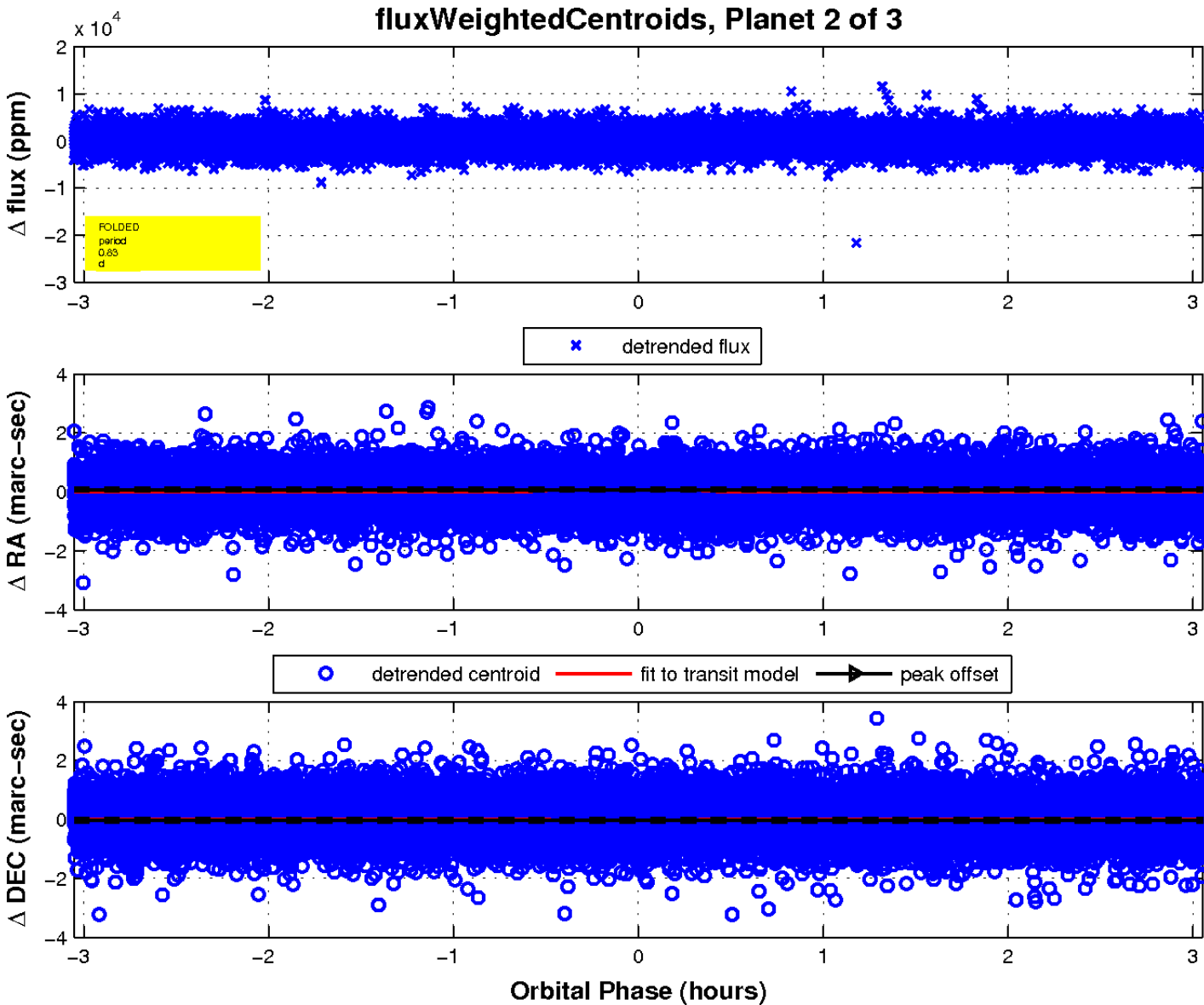
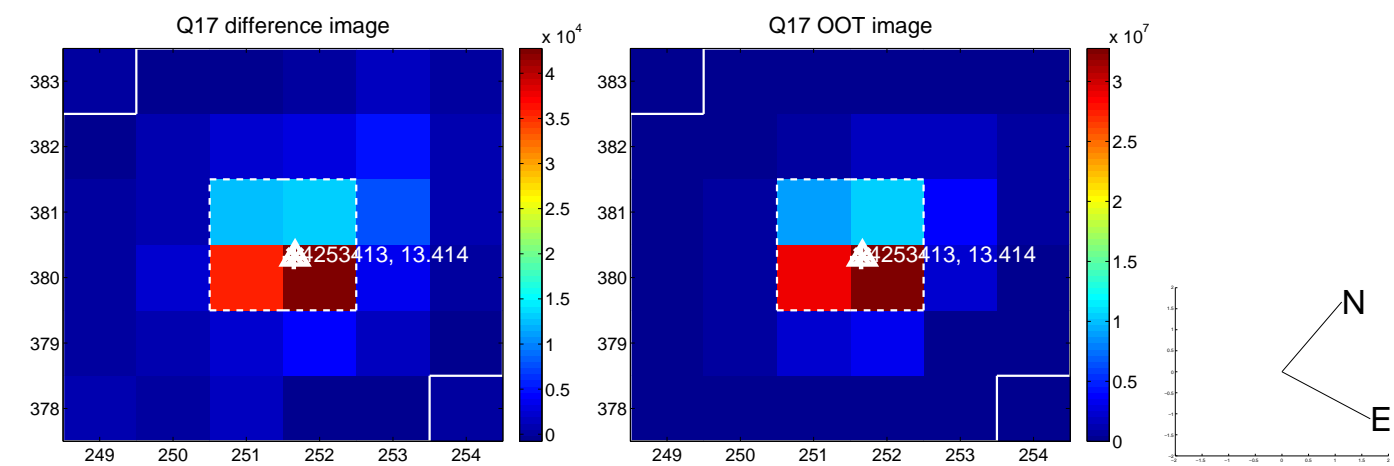
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

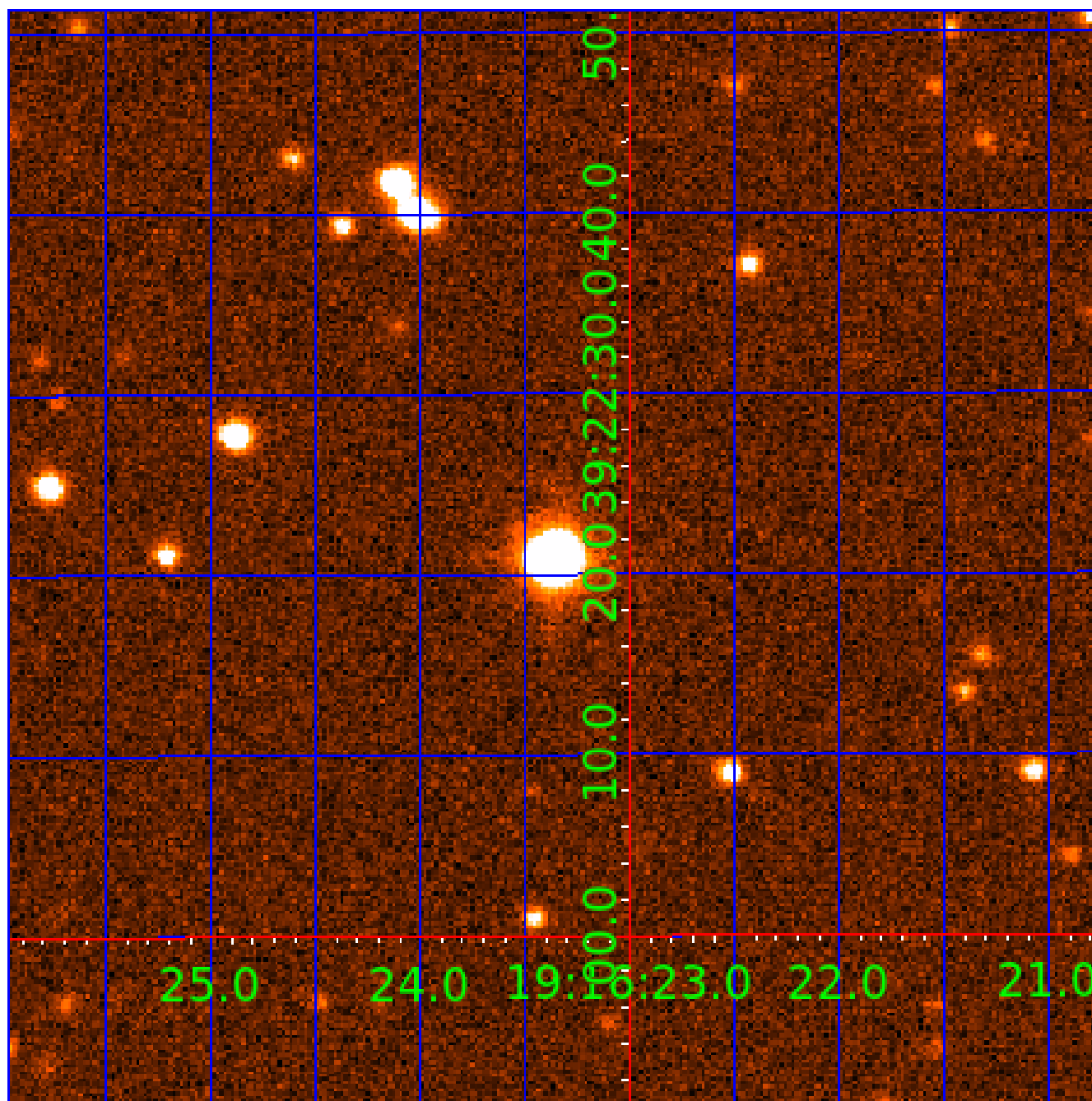


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004253413

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})
004253413-01	OBS	No	2.528432	134.098421	378.7	5.949	8.8	8.1	3.98	7502	9.09	21692.87
004253413-02	OBS	No	0.830769	132.497092	306.4	1.018	10.5	10.8	3.98	7502	8.25	95677.93
004253413-03	OBS	No	1.661516	132.022050	242.2	6.748	9.4	6.0	3.98	7502	6.89	37970.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004253413-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
004253413-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004253413-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD

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

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

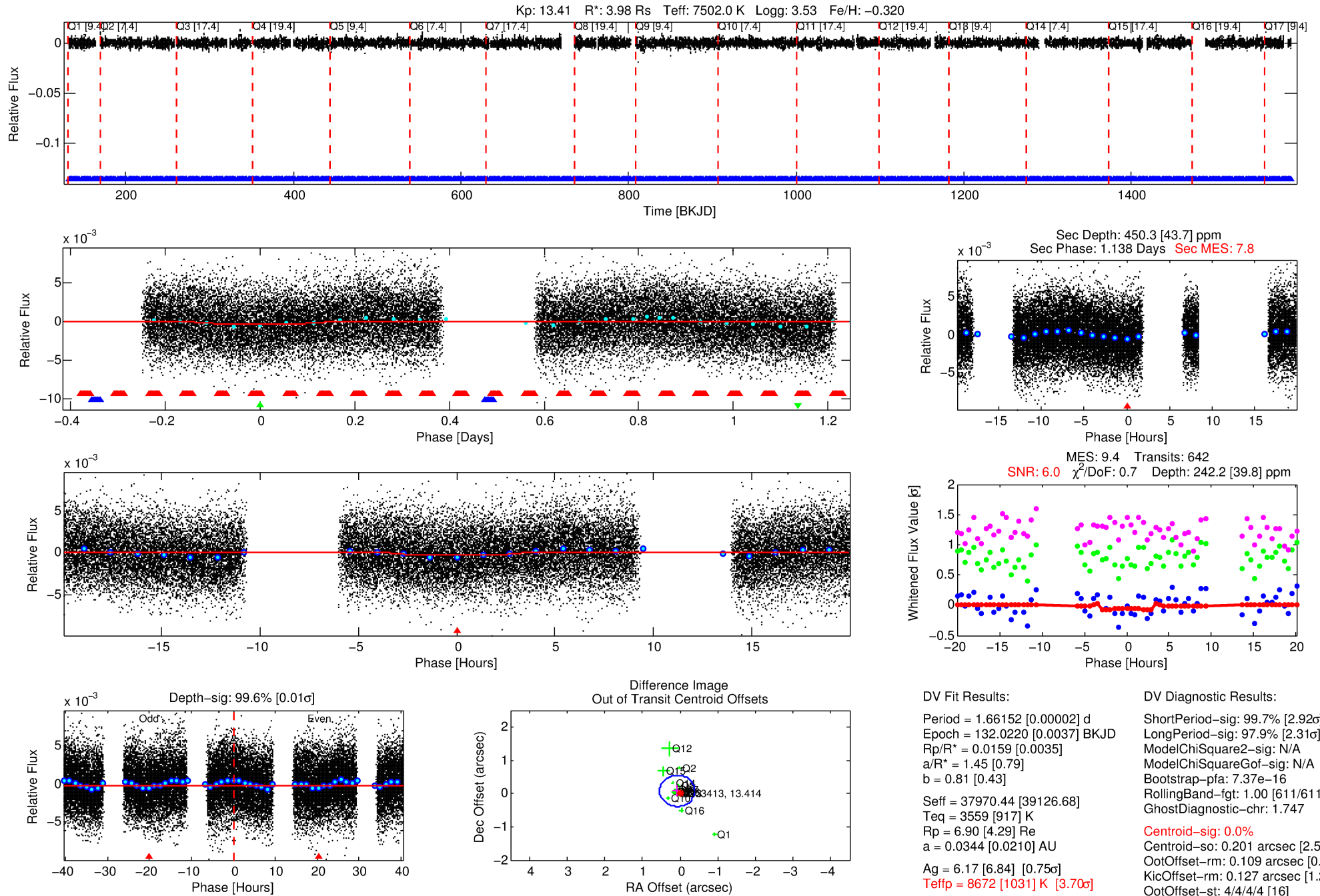
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004253413-03

No Significant Match Found

DV One-Page Summary

KIC: 4253413 Candidate: 3 of 3 Period: 1.662 d



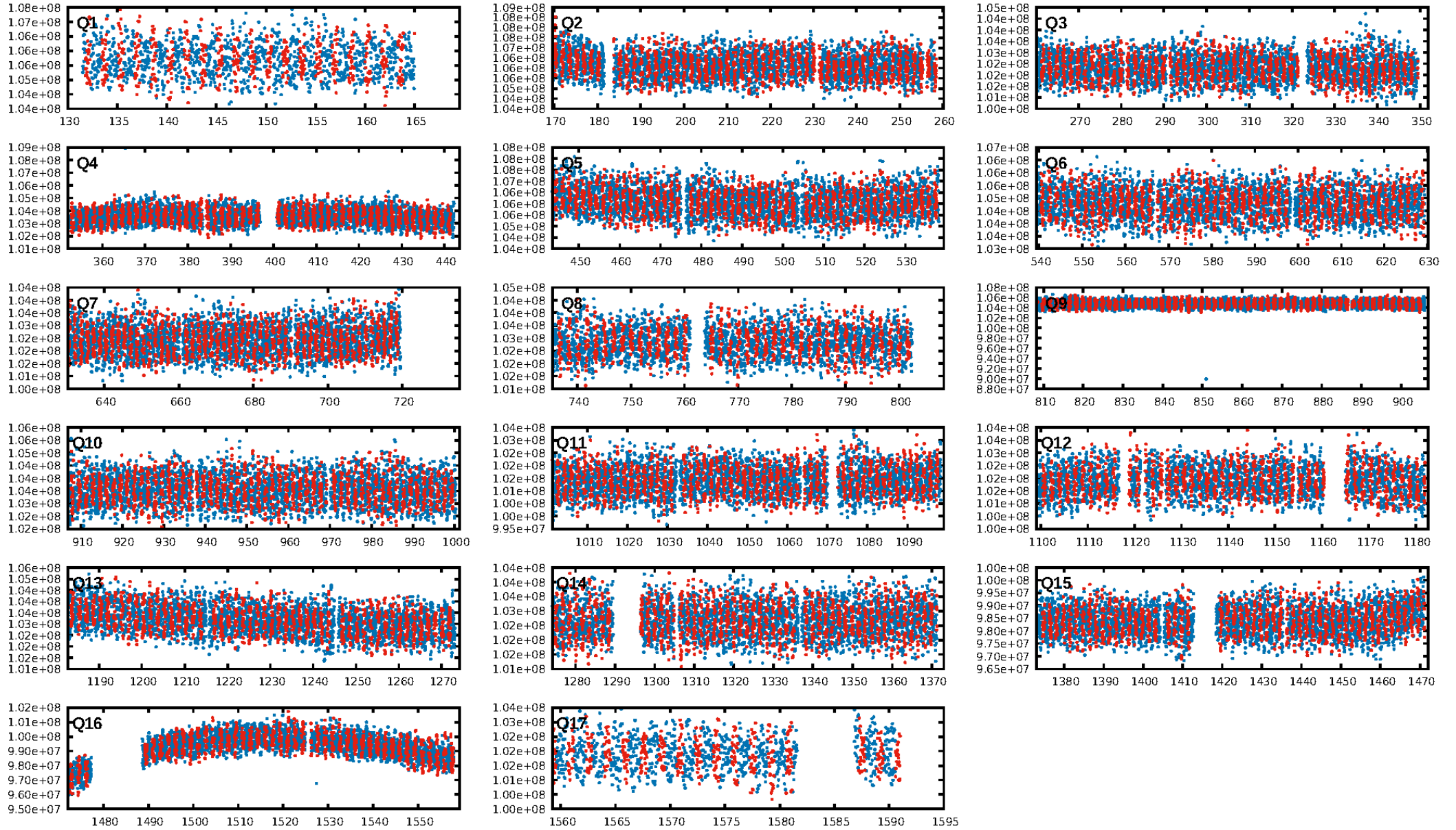
DV Fit Results:

Period = 1.66152 [0.00002] d
Epoch = 132.0220 [0.0037] BKJD
Rp/R* = 0.0159 [0.0035]
a/R* = 1.45 [0.79]
b = 0.81 [0.43]
Seff = 37970.44 [39126.68]
Teq = 3559 [917] K
Rp = 6.90 [4.29] Re
a = 0.0344 [0.0210] AU
Ag = 6.17 [6.84] [0.75 σ]
Teffp = 8672 [1031] K [3.70 σ]

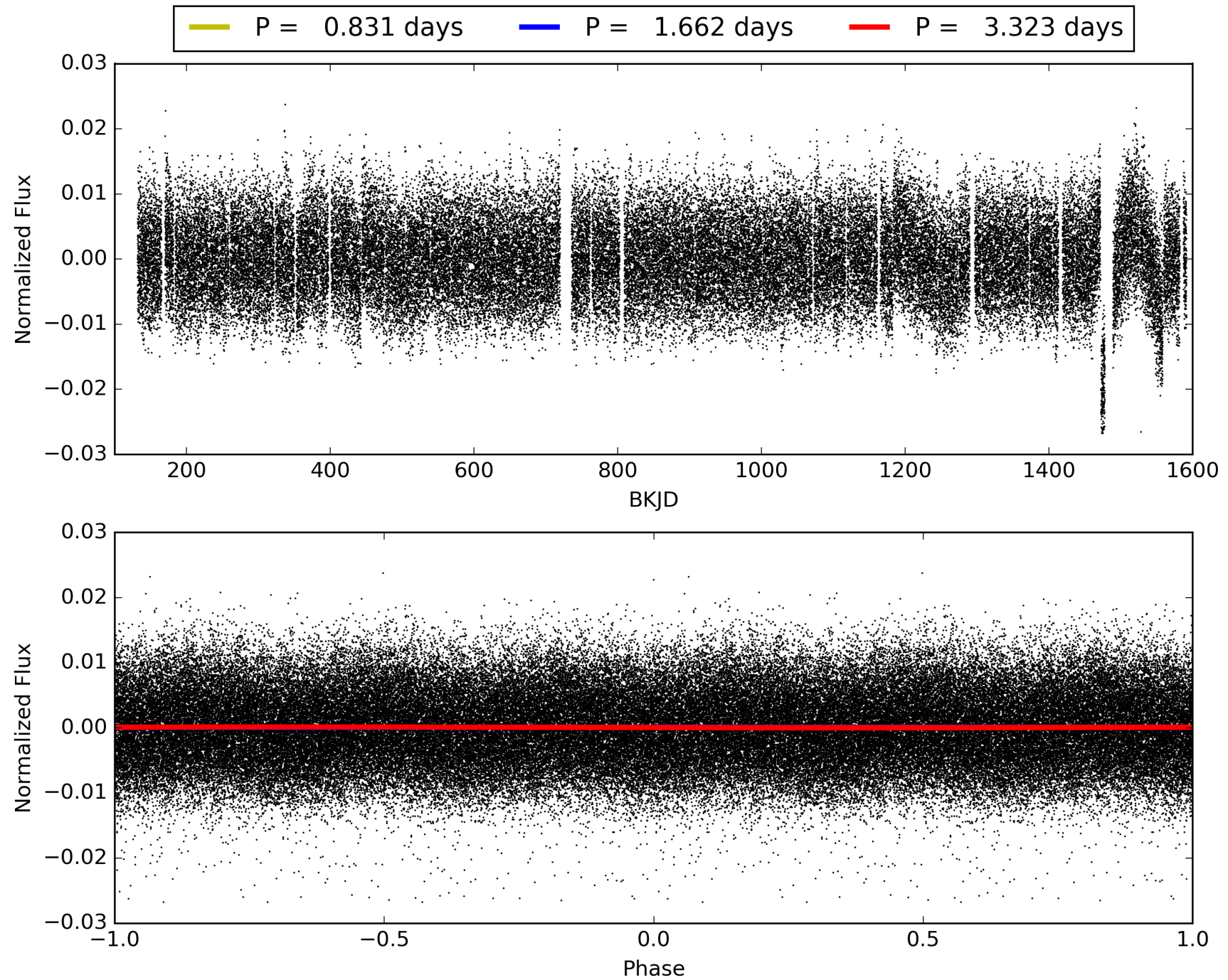
DV Diagnostic Results:

ShortPeriod-sig: 99.7% [2.92 σ]
LongPeriod-sig: 97.9% [2.31 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.37e-16
RollingBand-fgt: 1.00 [611/611]
GhostDiagnostic-chr: 1.747
Centroid-sig: 0.0%
Centroid-so: 0.201 arcsec [2.51 σ]
OotOffset-rm: 0.109 arcsec [0.70 σ]
KicOffset-rm: 0.127 arcsec [1.27 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 004253413-03, PDC Light Curves

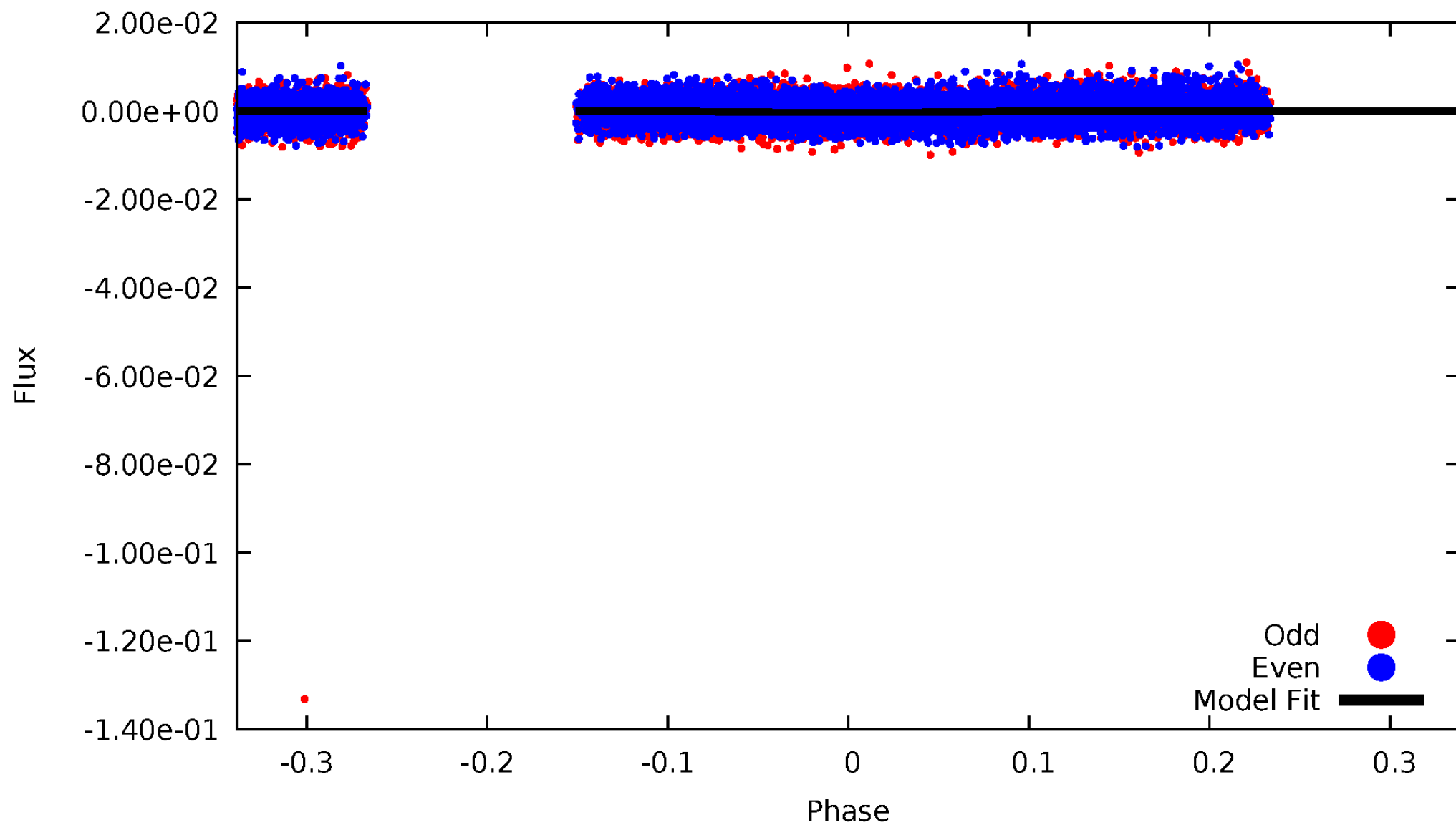


TCE 004253413-03



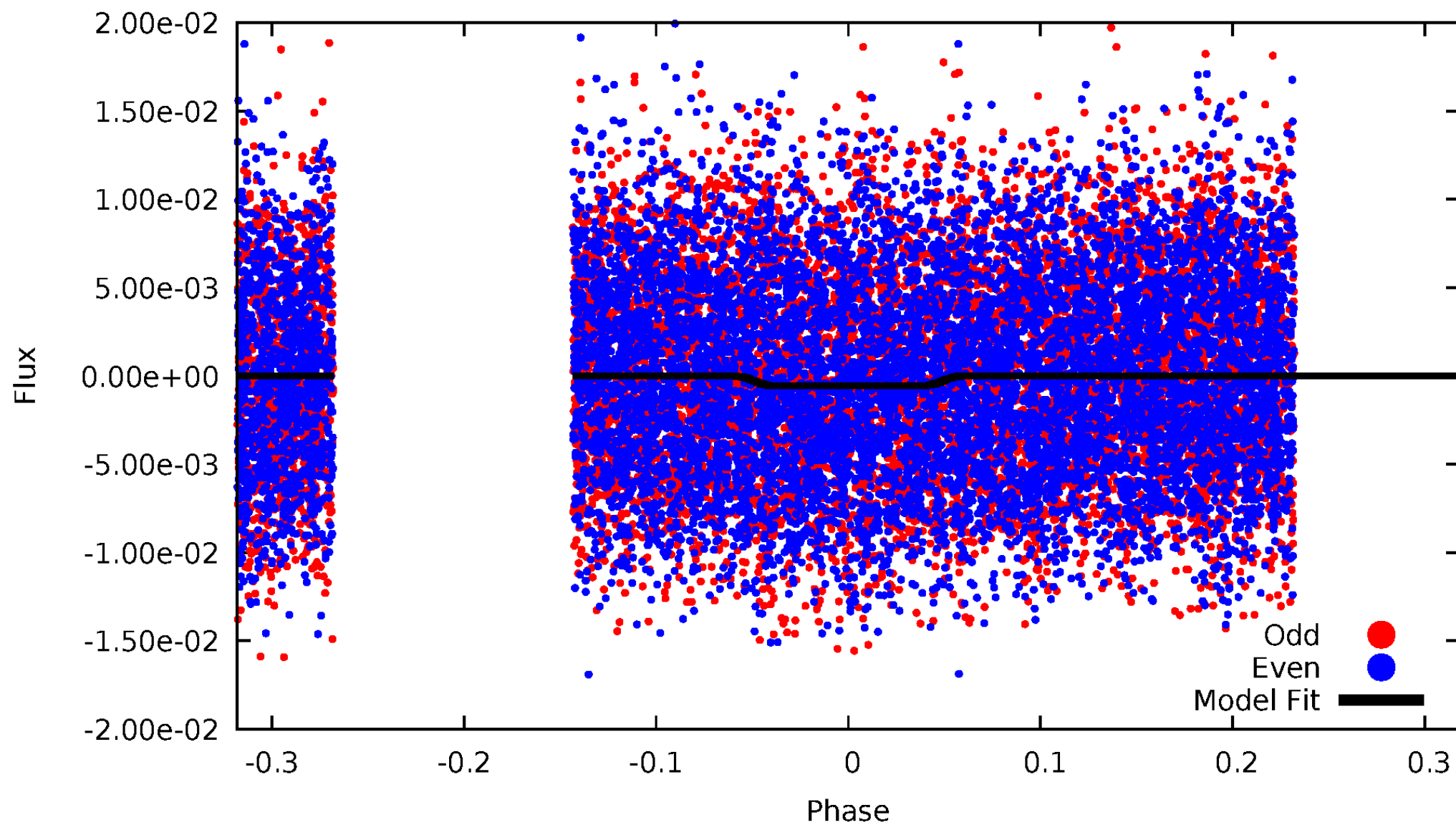
DV Odd/Even

TCE 004253413-03



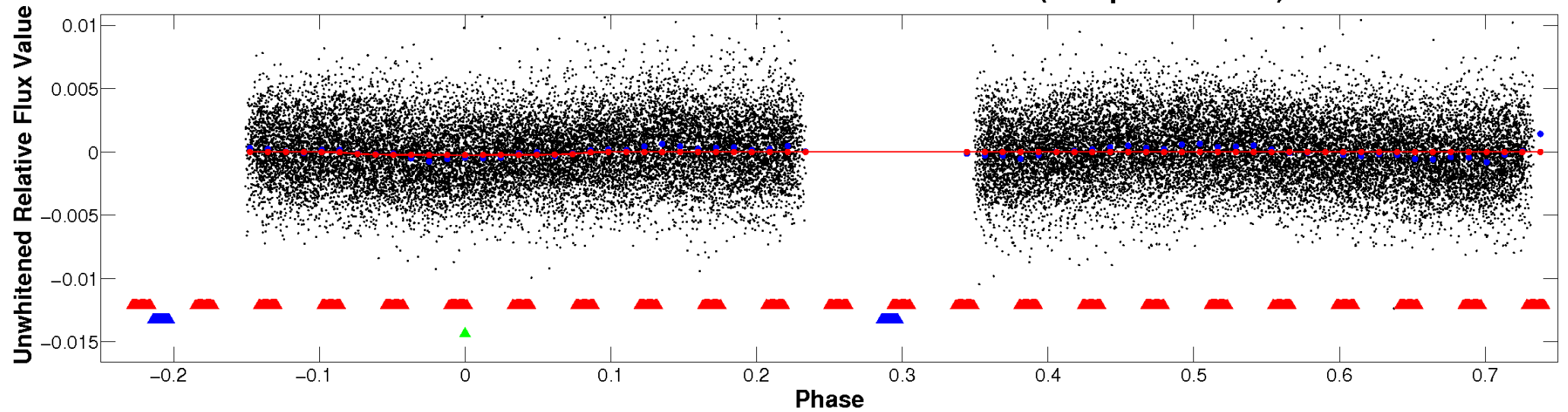
ALT Odd/Even

TCE 004253413-03

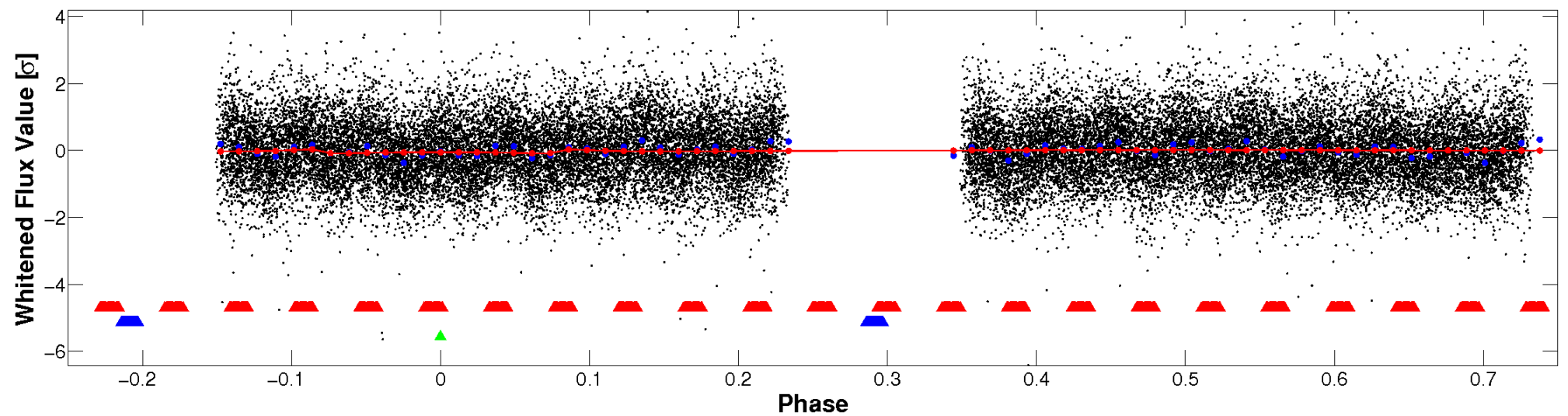


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

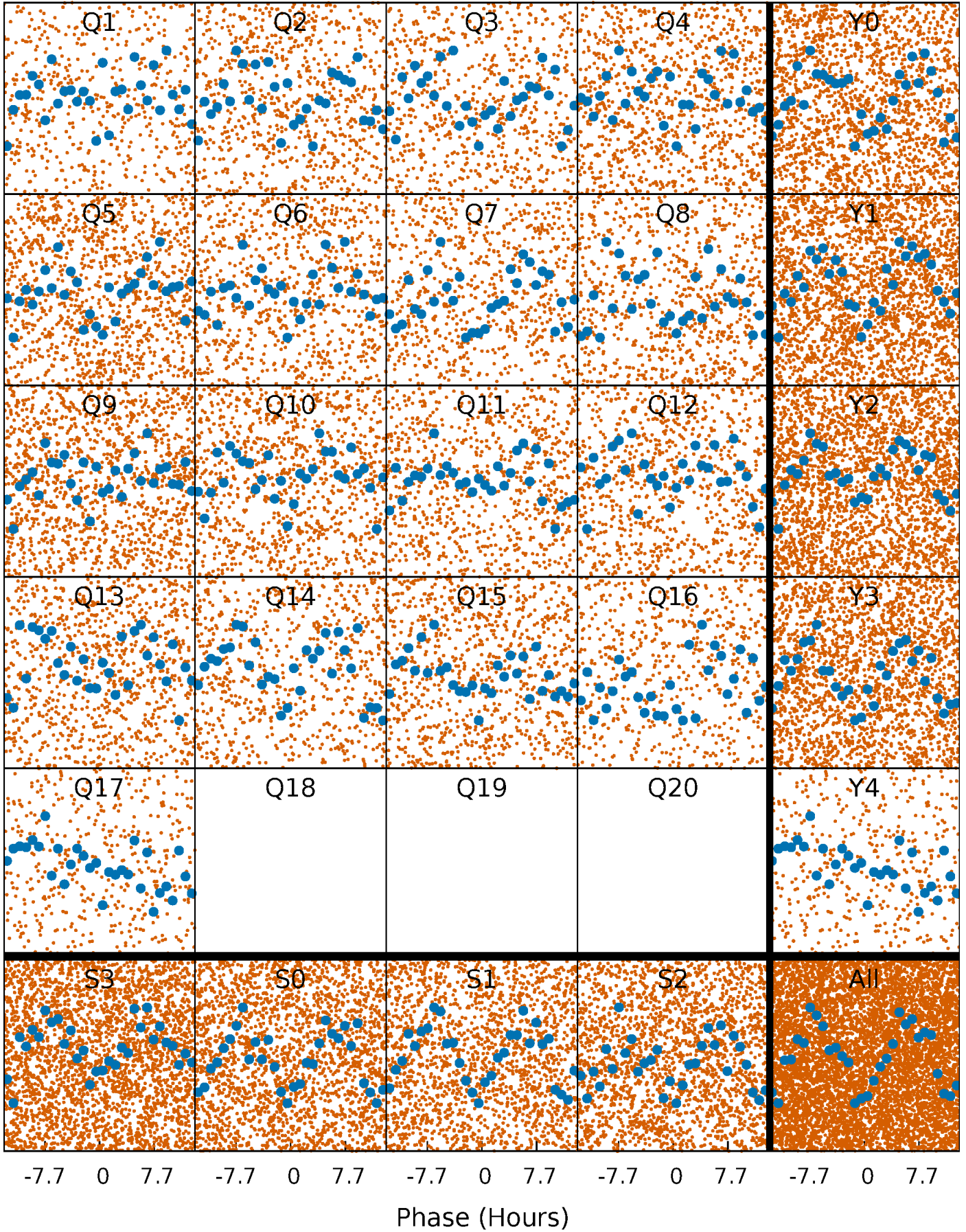


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



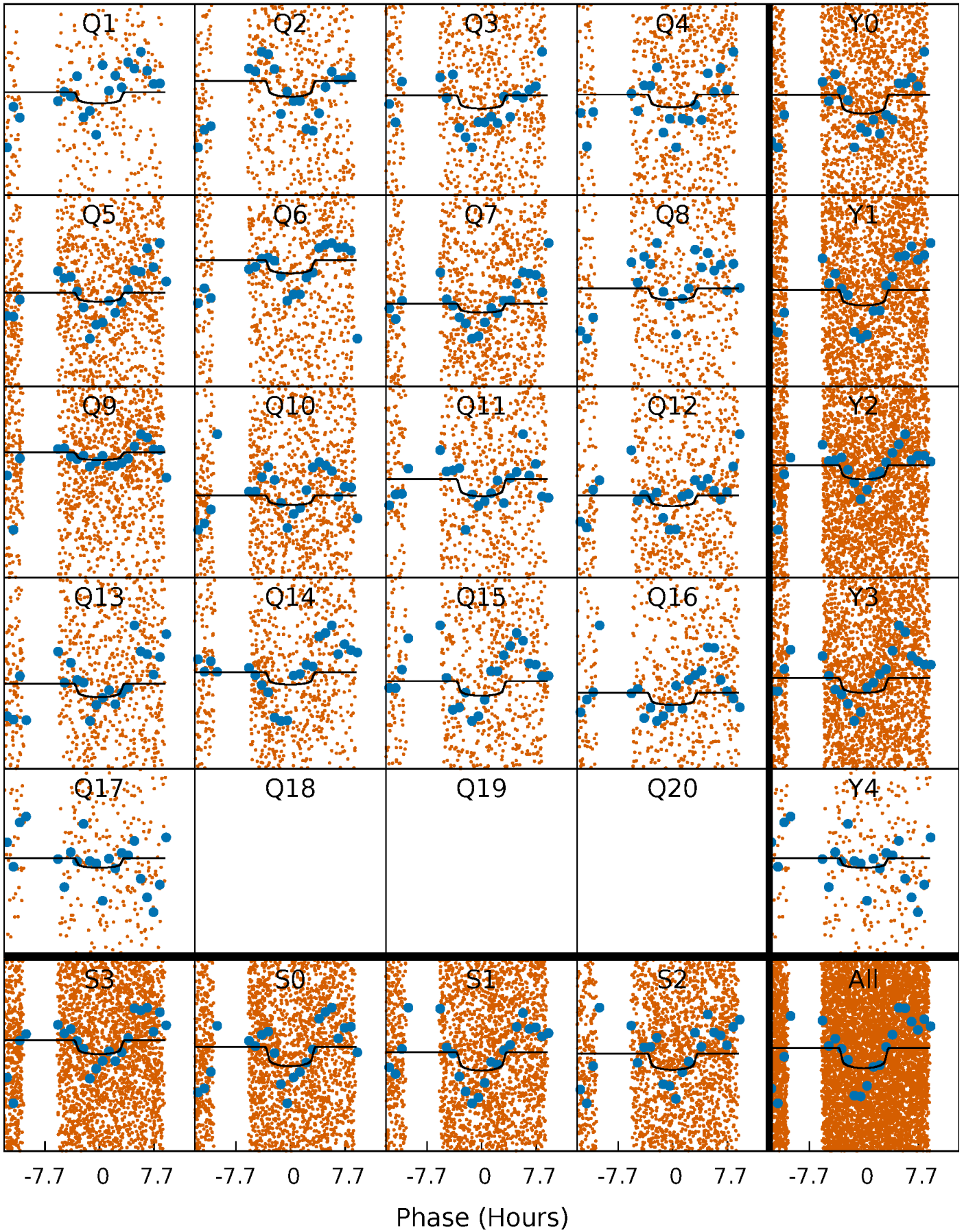
PDC Quarter-Phased Transit Curves

TCE 004253413-03 P= 1.661516 Days $T_0=132.022050$ (BKJD)



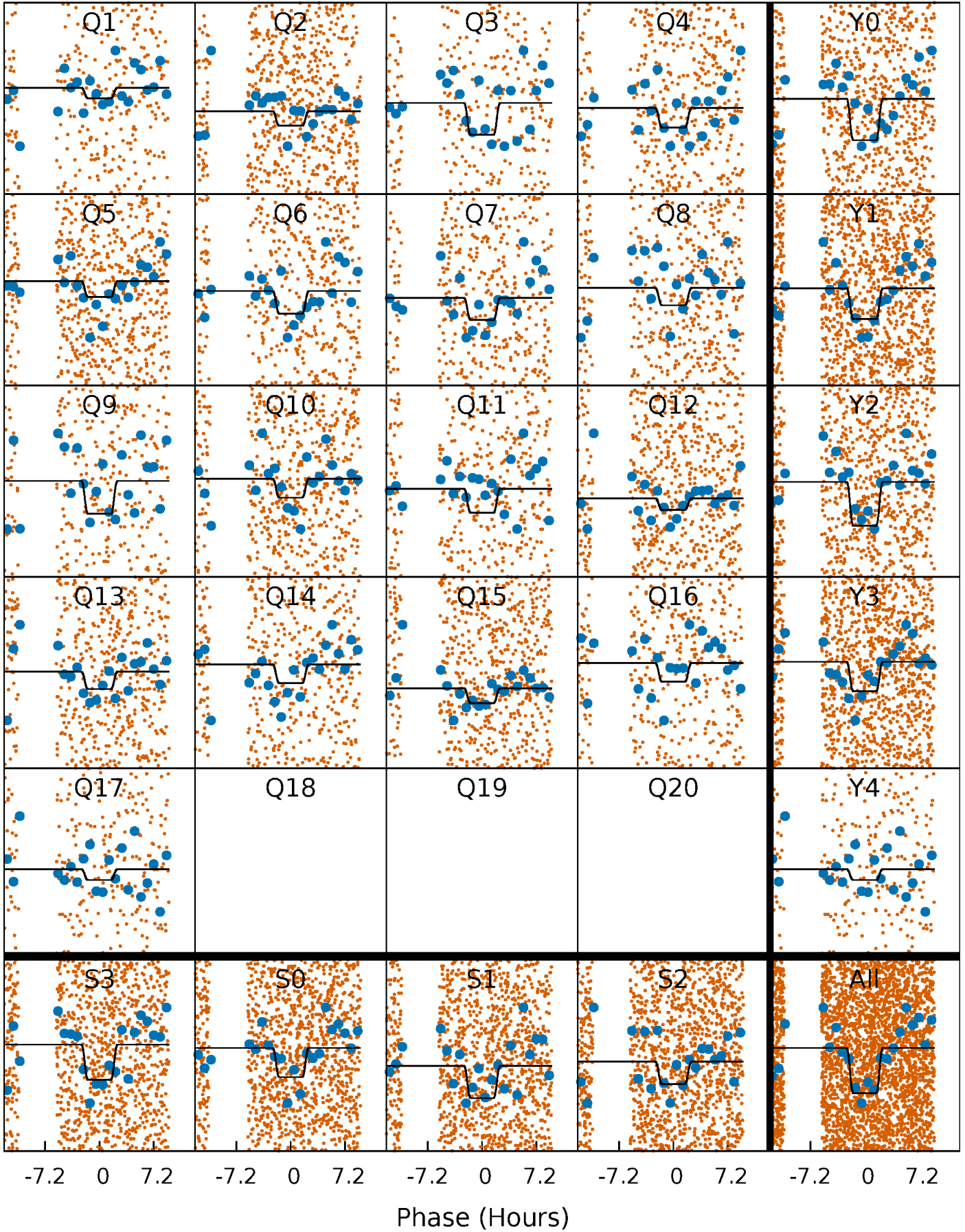
DV Quarter-Phased Transit Curves

TCE 004253413-03 P= 1.661516 Days $T_0=132.022050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

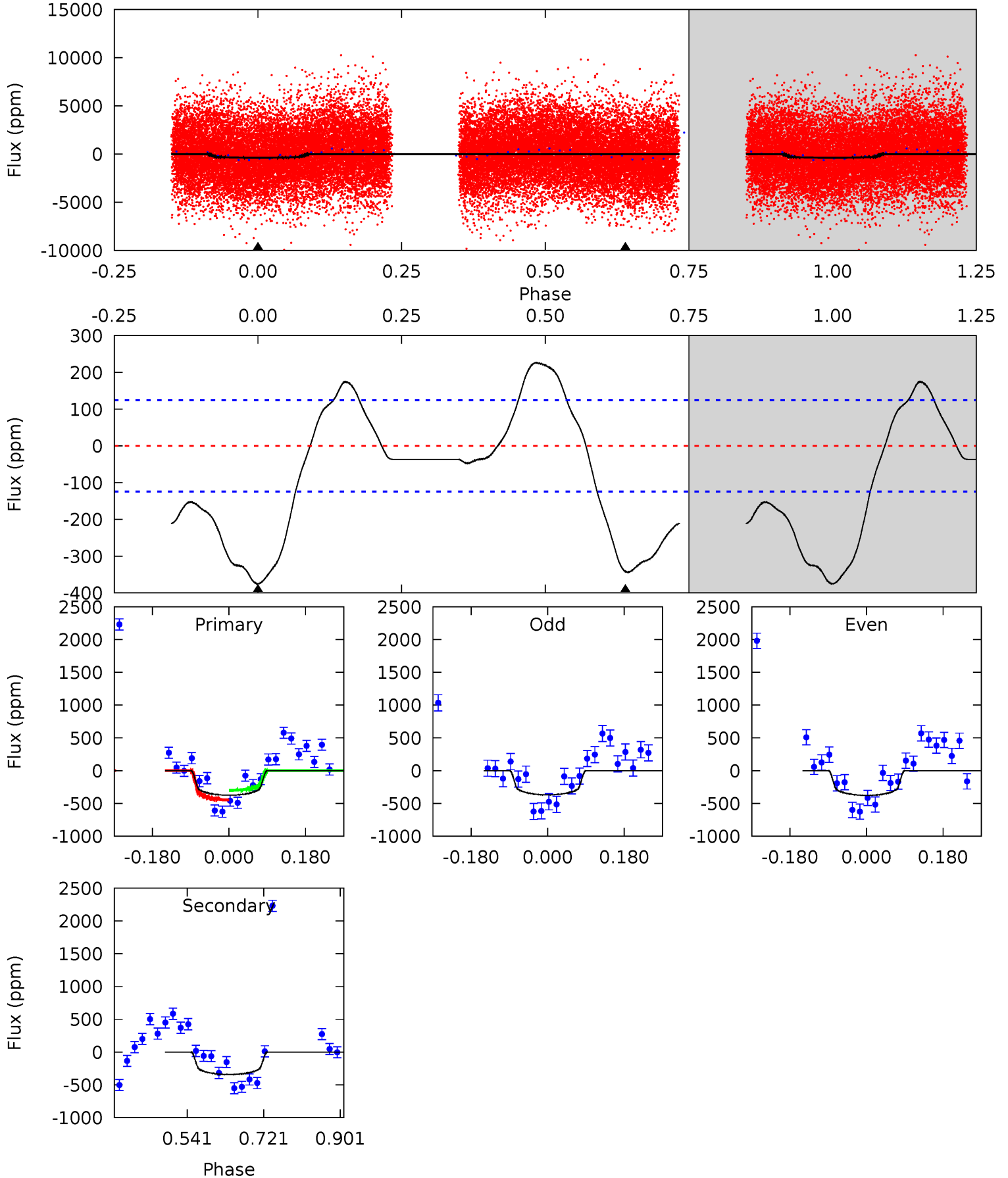
TCE 004253413-03 P= 1.661539 Days $T_0=132.007524$ (BKJD)



DV Model-Shift Uniqueness Test

004253413-03, P = 1.661516 Days, E = 130.360534 Days

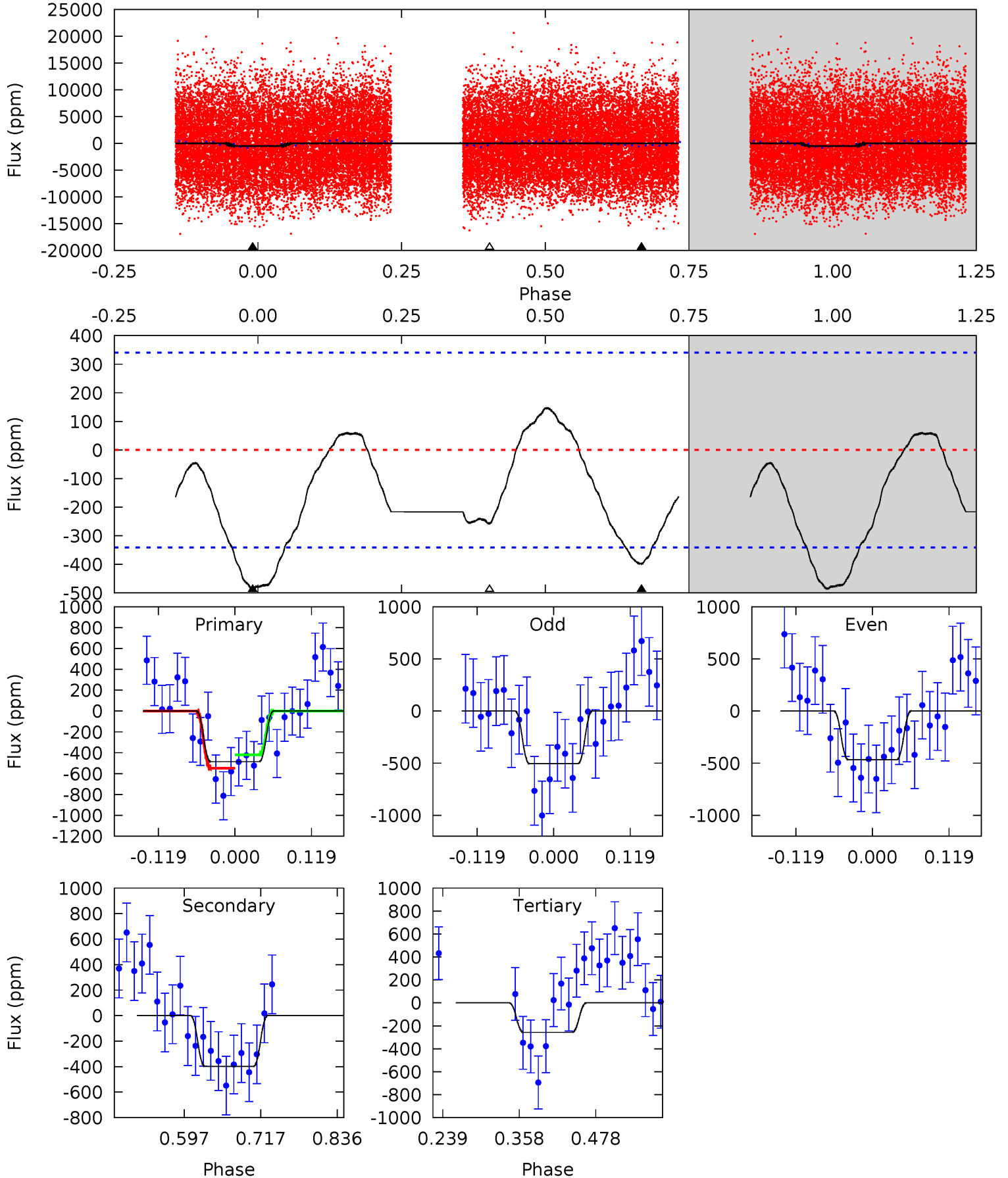
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	12.2	0	0	4.44	1.34	1.96	13.4	13.4	12.2	12.2	0.15	0.91	0.38	2.62



Alt Model-Shift Uniqueness Test

004253413-03, P = 1.661539 Days, E = 130.345985 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.45	5.30	3.42	0	4.53	1.56	1.74	3.03	6.45	1.88	5.30	0.25	0.72	0.23	0.85



Stellar Parameters For KIC 004253413

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7502^{+235}_{-314}	$3.532^{+0.612}_{-0.068}$	$-0.320^{+0.250}_{-0.300}$	$3.979^{+0.410}_{-2.321}$	$1.966^{+0.066}_{-0.597}$	$0.044^{+0.423}_{-0.010}$
	+3%/-4%	+17%/-2%	+78%/-94%	+10%/-58%	+3%/-30%	+963%/-22%
Source	KIC0	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 004253413-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-342 ± 28	$5.96^{+1.94}_{-1.88}$	4740^{+389}_{-683}	8125^{+1334}_{-1063}	$6.054^{+6.892}_{-2.495}$
Alt.	-399 ± 75	$9.04^{+2.20}_{-2.57}$	4768^{+358}_{-704}	6586^{+834}_{-634}	$3.106^{+2.623}_{-1.181}$

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

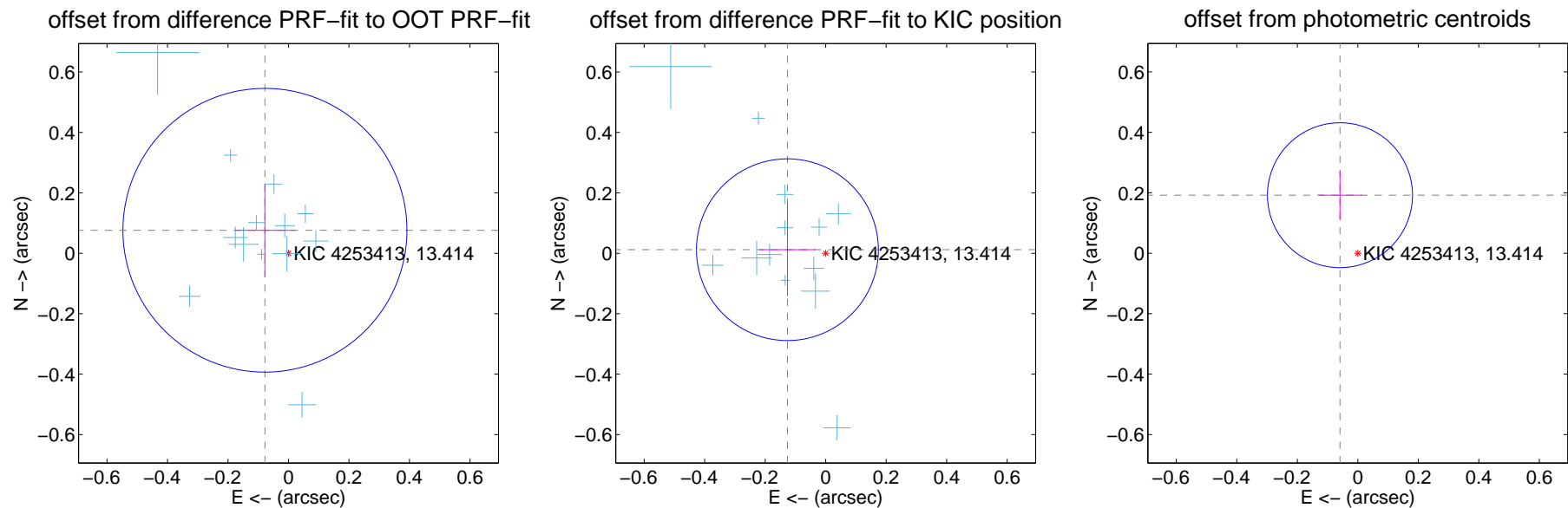
DV Centroid Data

Supplemental centroid analysis for 004253413-03. Kepler magnitude: 13.41. Transit SNR 6.00

There are 16 quarters with good PRF difference image offsets

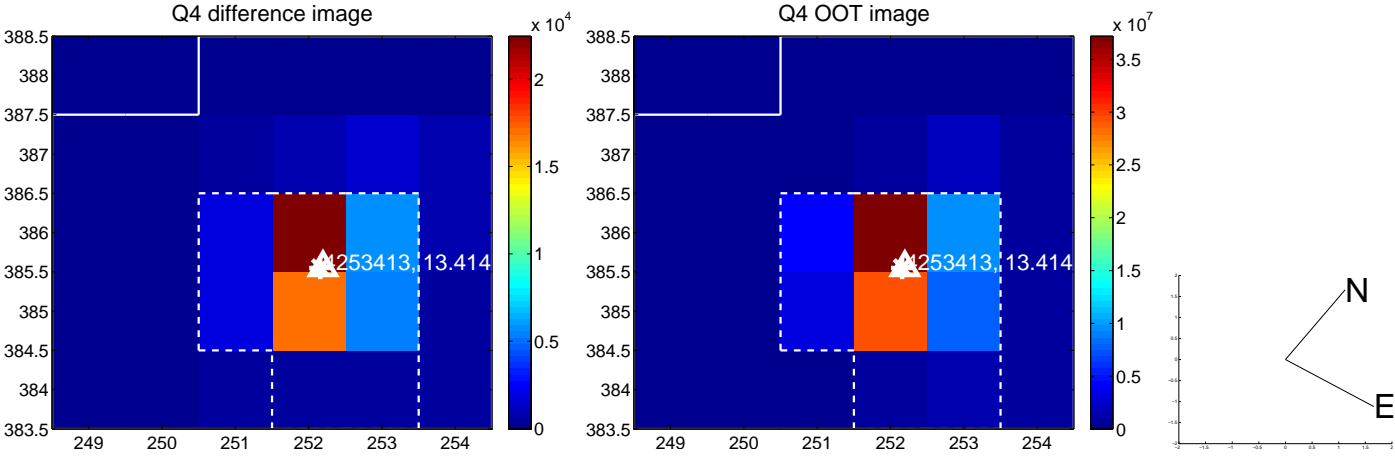
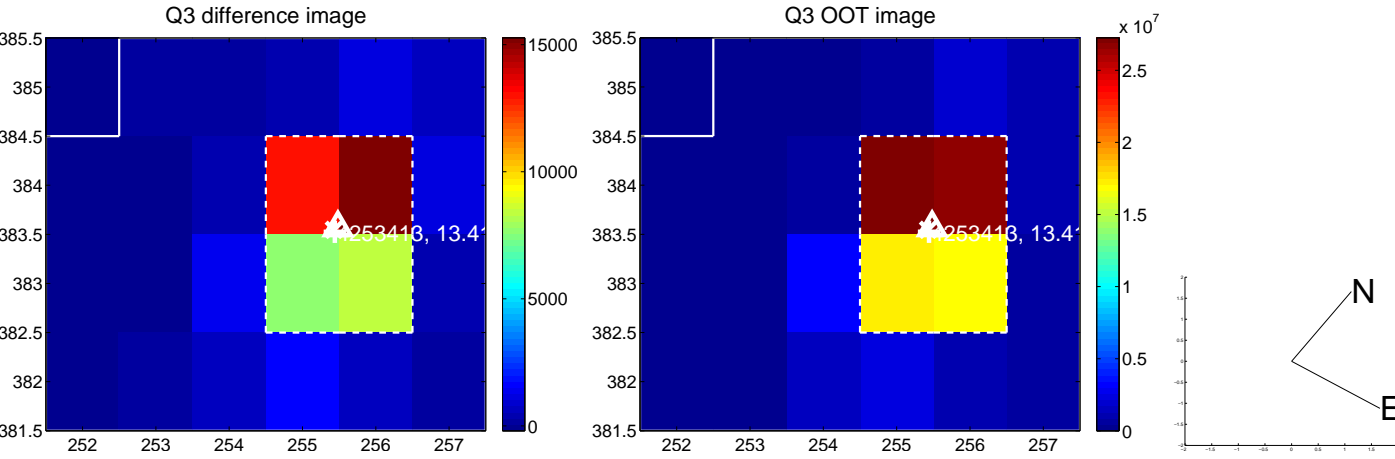
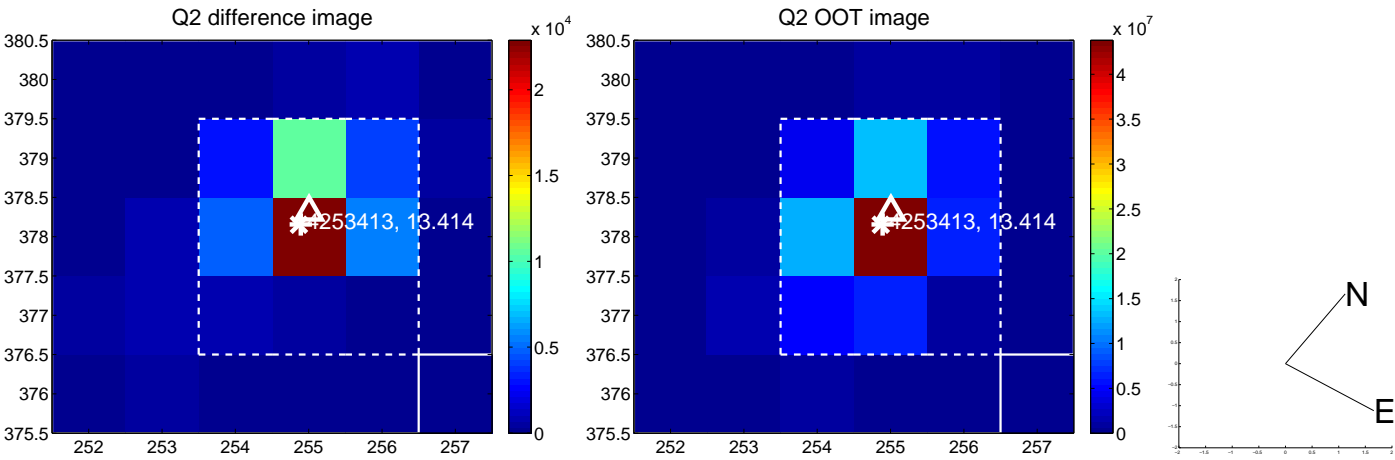
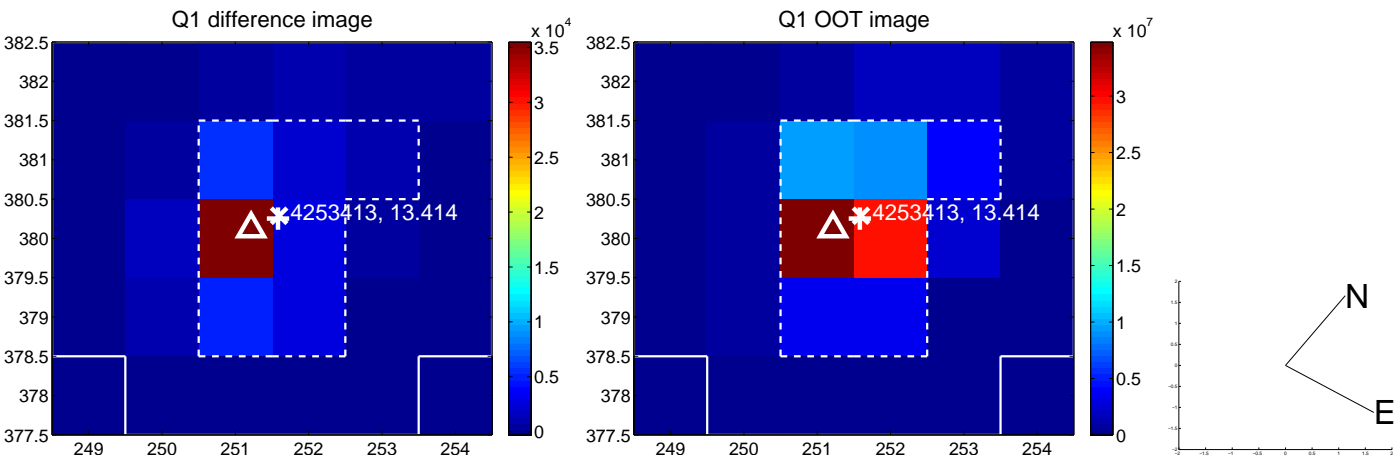
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.109 ± 0.156	0.70	0.078 ± 0.100	0.076 ± 0.155
PRF-fit source offset from KIC position	0.127 ± 0.100	1.27	0.126 ± 0.093	0.012 ± 0.153
photometric centroid source offset	0.20 ± 0.08	2.51	0.06 ± 0.07	0.19 ± 0.08

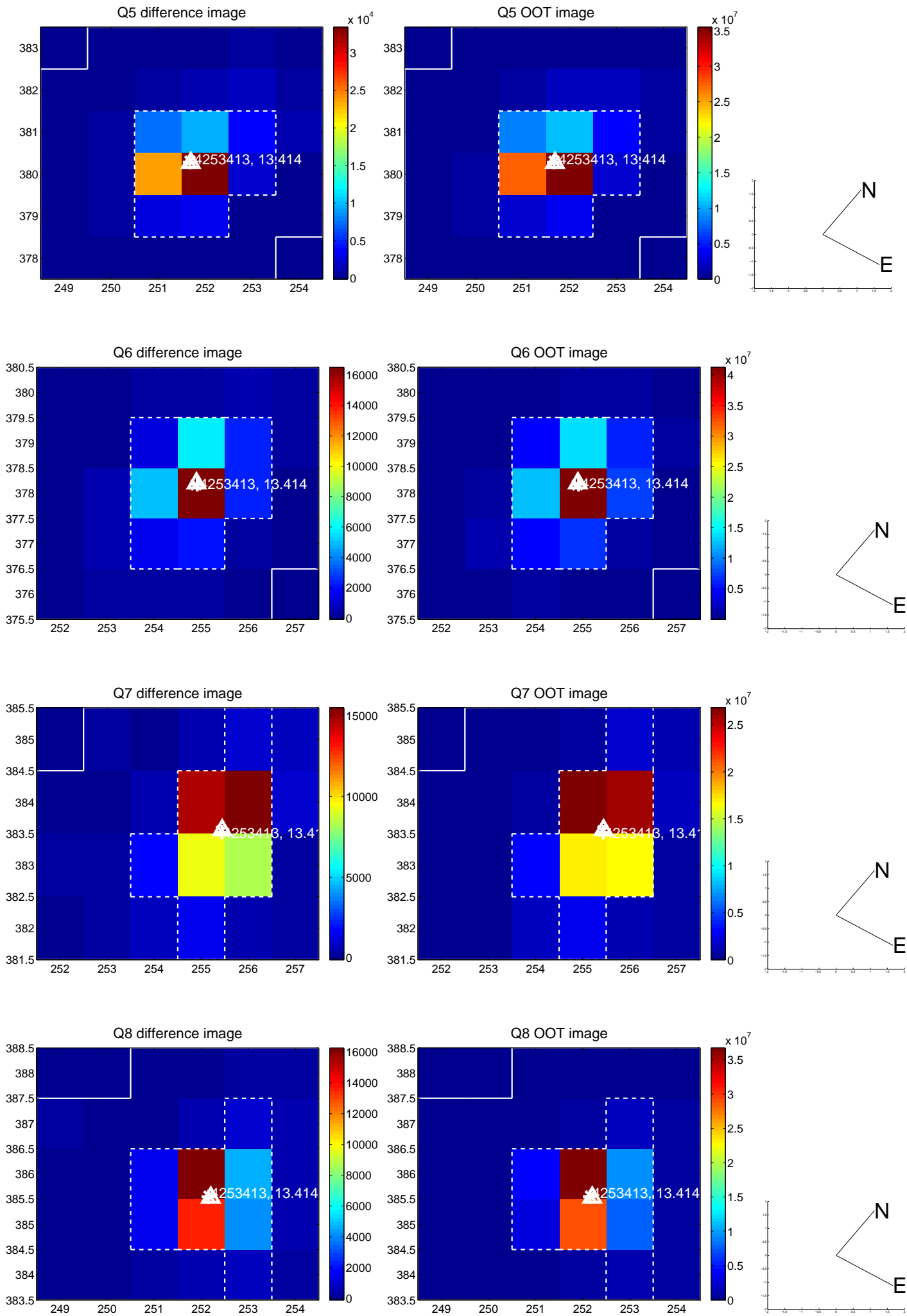


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

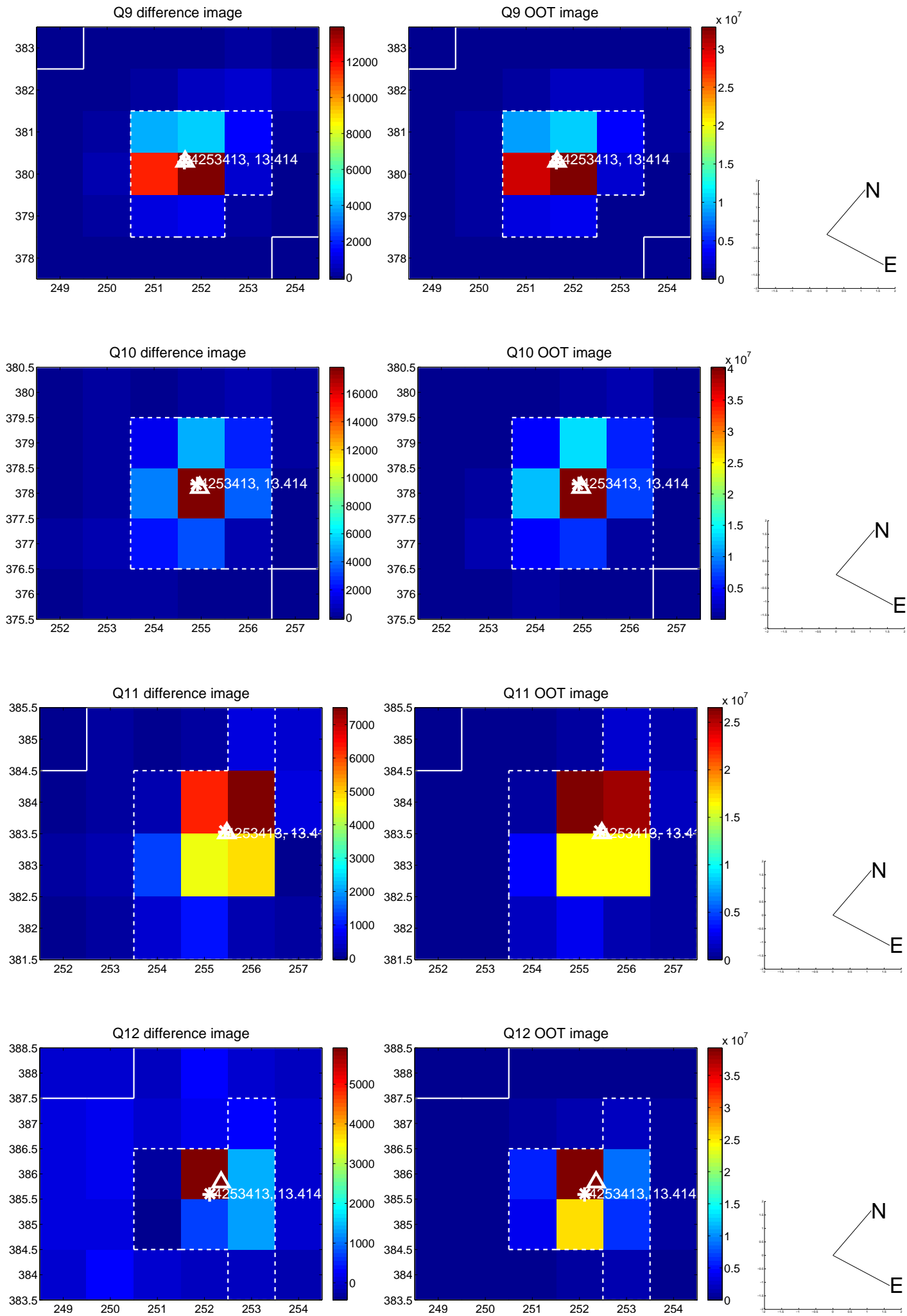
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



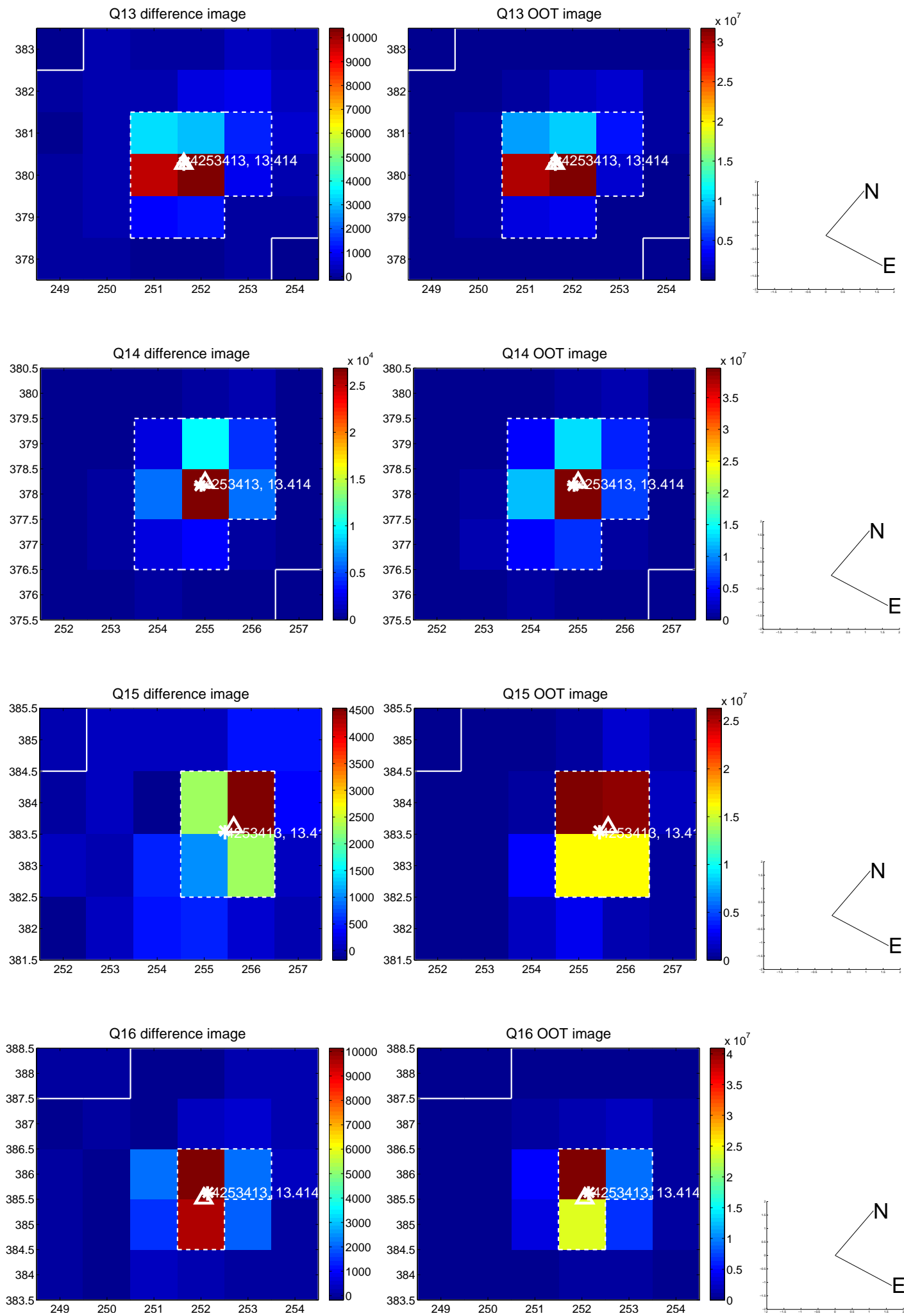
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



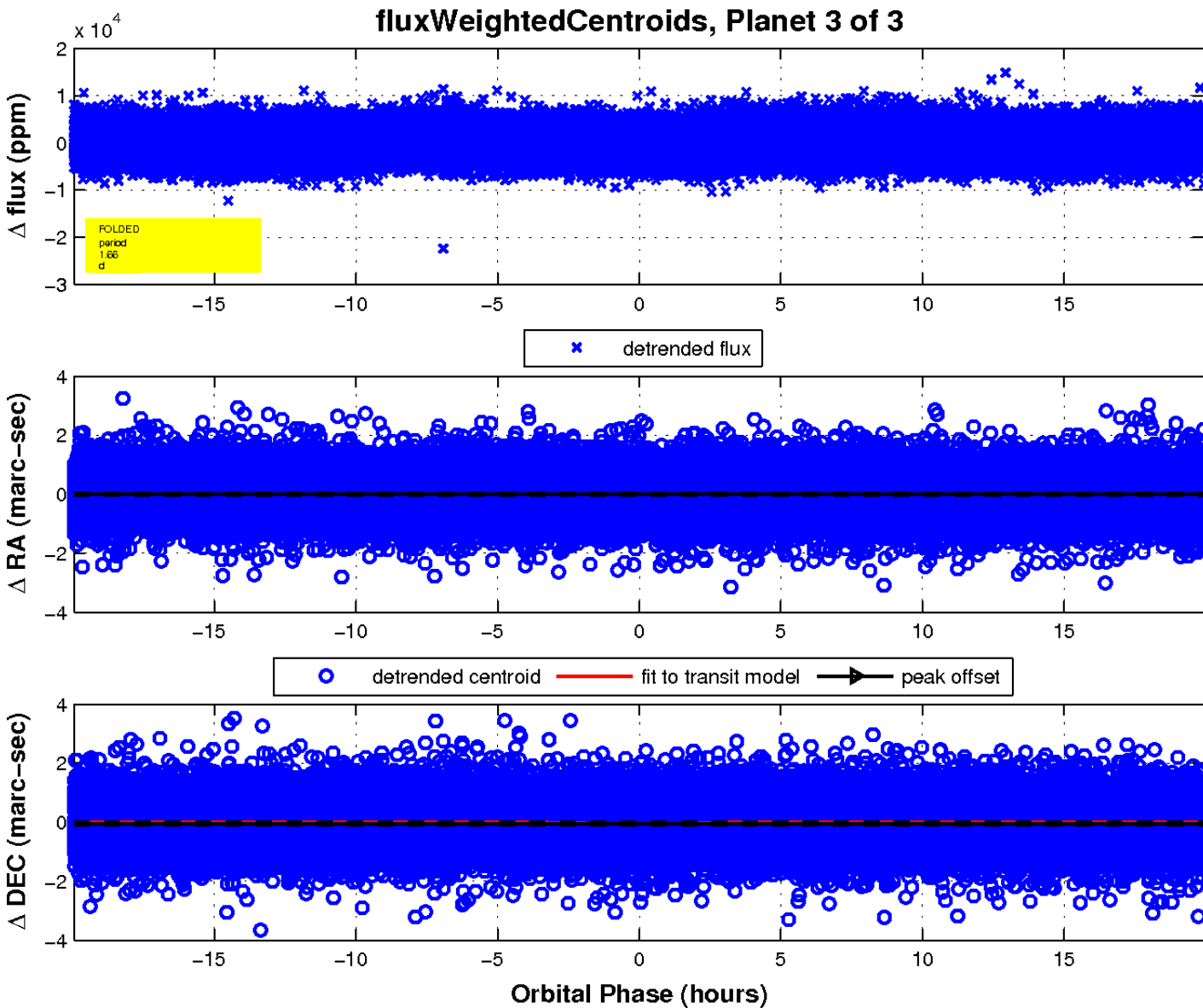
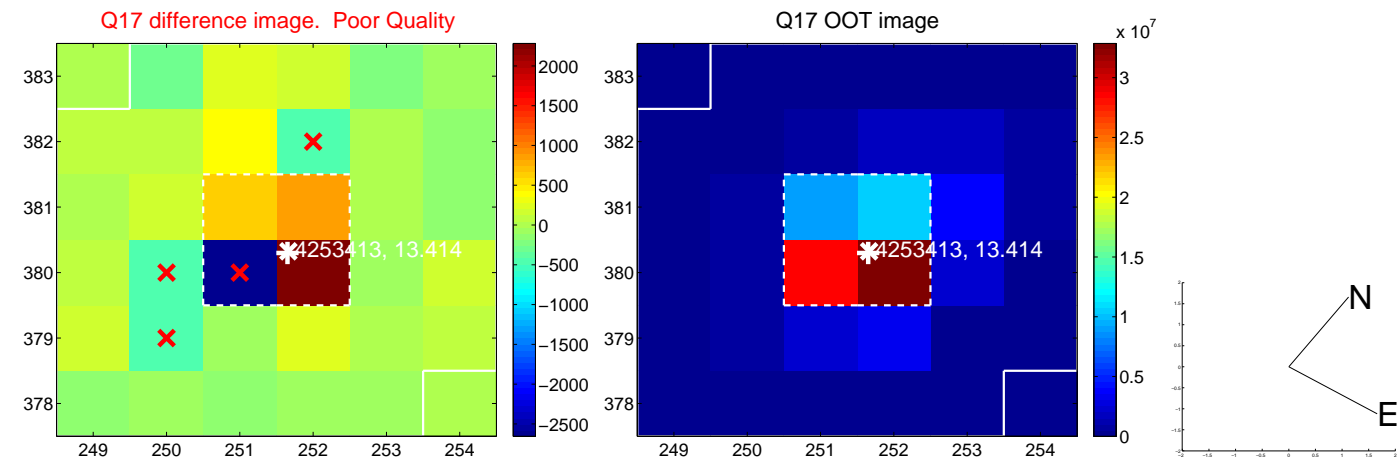
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

