

KIC 002302548

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})
002302548-01	OBS	0988.01	10.381212	133.069450	800.2	2.848	68.9	69.7	0.78	5095	2.48	48.44
002302548-02	OBS	0988.02	24.570861	135.874186	684.3	2.860	34.6	36.7	0.78	5095	2.21	15.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002302548-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
002302548-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

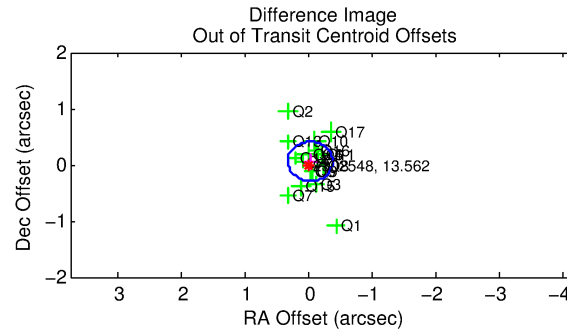
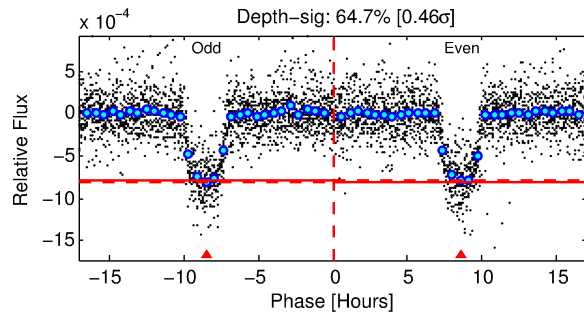
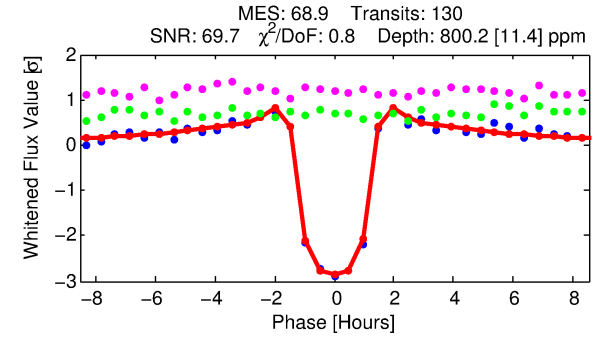
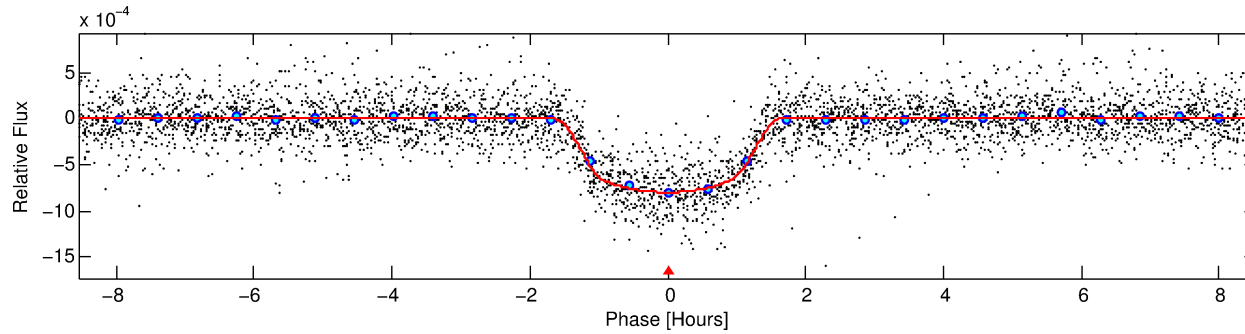
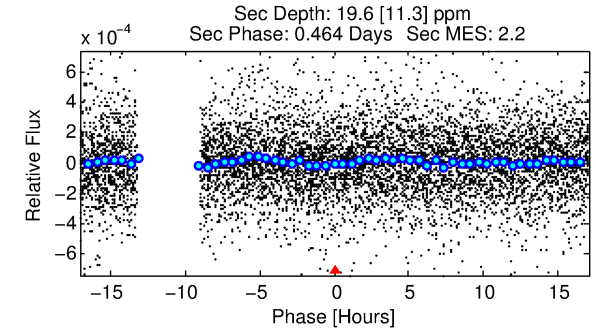
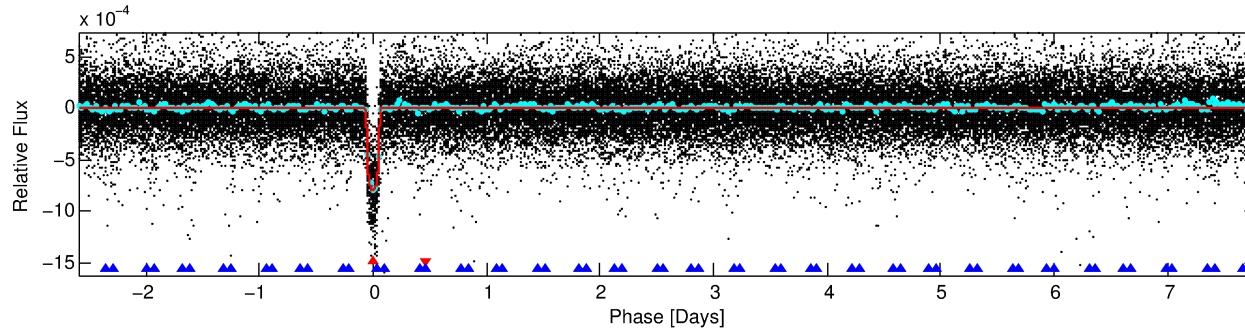
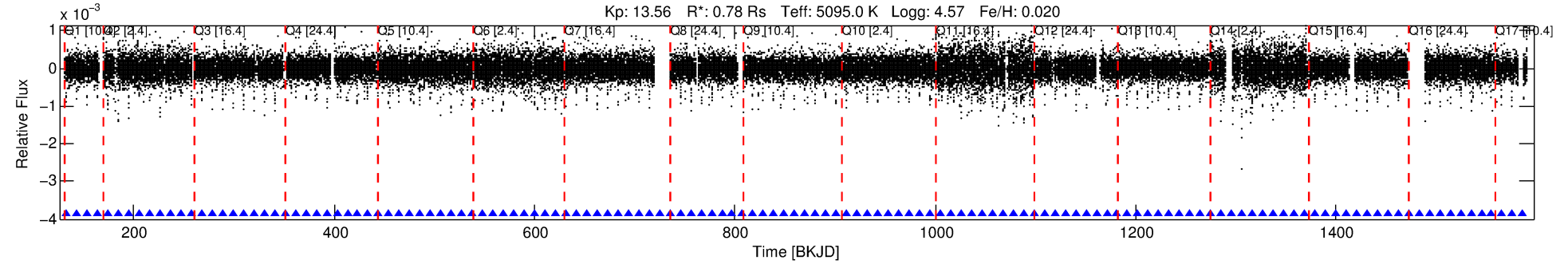
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002302548-01

No Significant Match Found

DV One-Page Summary

KIC: 2302548 Candidate: 1 of 2 Period: 10.381 d
KOI: K00988.01 Name: Kepler-261b Corr: 0.980



DV Fit Results:

Period = 10.38121 [0.00001] d
Epoch = 133.0695 [0.0007] BKJD
Rp/R* = 0.0292 [0.0029]
a/R* = 17.79 [6.43]
b = 0.81 [0.16]
Seff = 48.44 [5.91]
Teff = 673 [21] K
Rp = 2.48 [0.30] Re
a = 0.0871 [0.0054] AU
Ag = 13.23 [8.15] [1.50σ]
Teffp = 1984 [305] K [4.29σ]

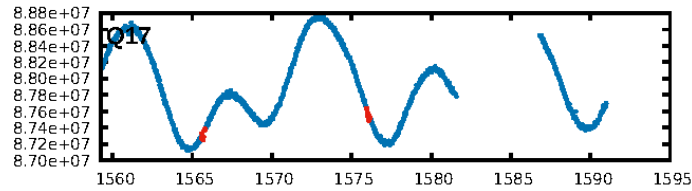
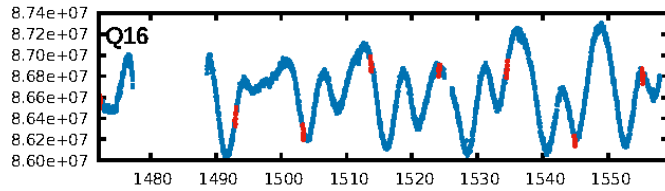
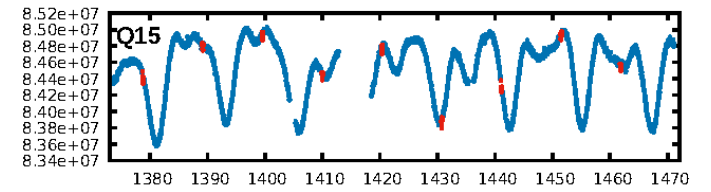
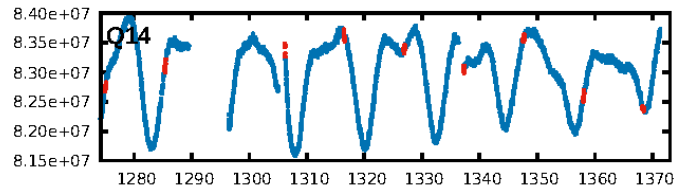
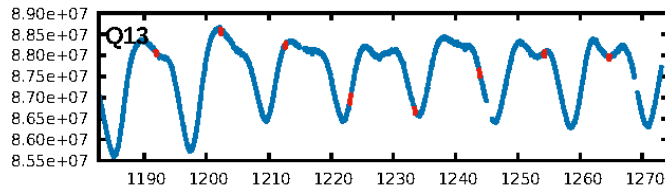
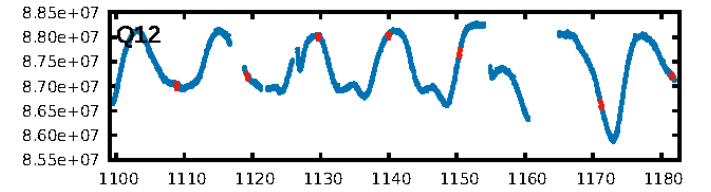
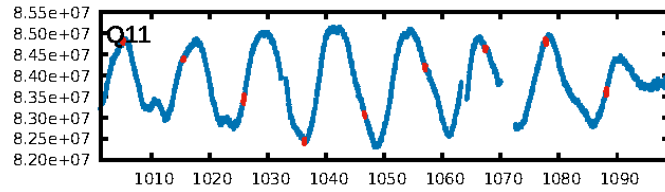
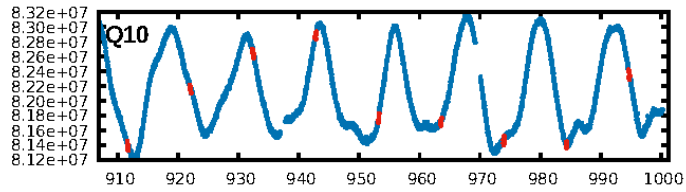
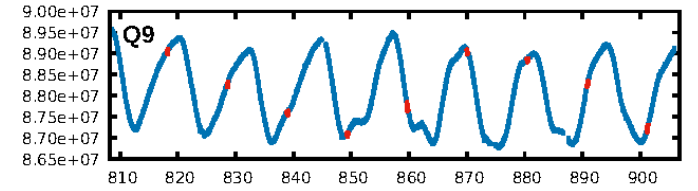
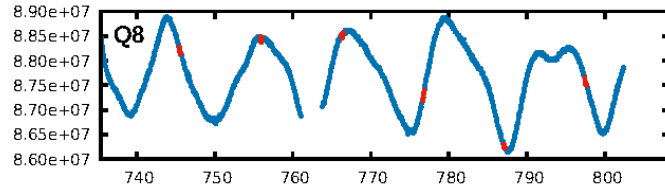
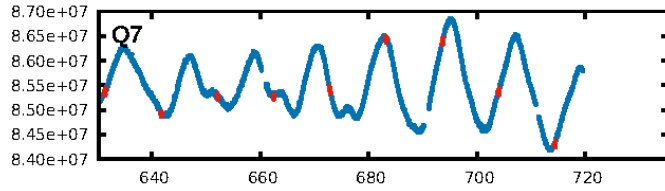
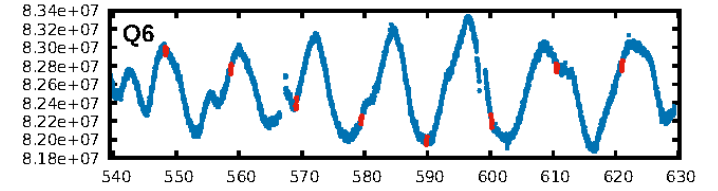
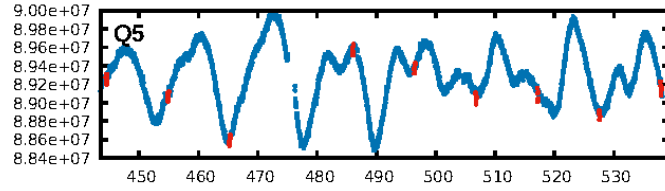
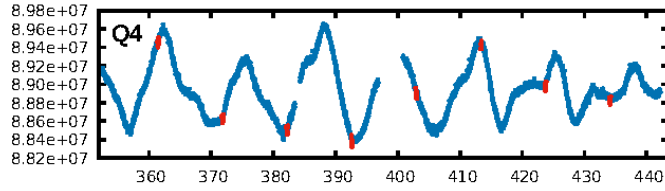
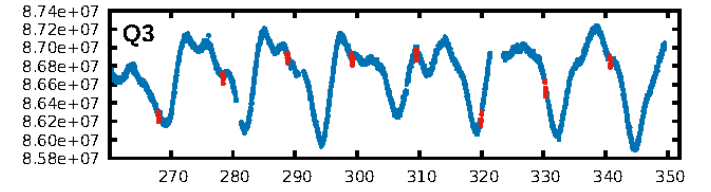
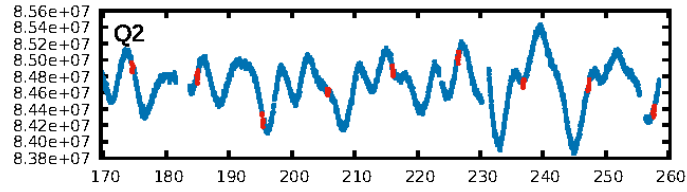
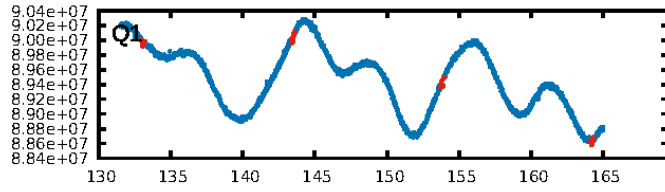
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [84.39σ]
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [124/124]
GhostDiagnostic-chr: 3.826
Centroid-sig: 0.0%
Centroid-so: 0.285 arcsec [1.48σ]
OotOffset-rm: 0.060 arcsec [0.52σ]
KicOffset-rm: 0.242 arcsec [1.80σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

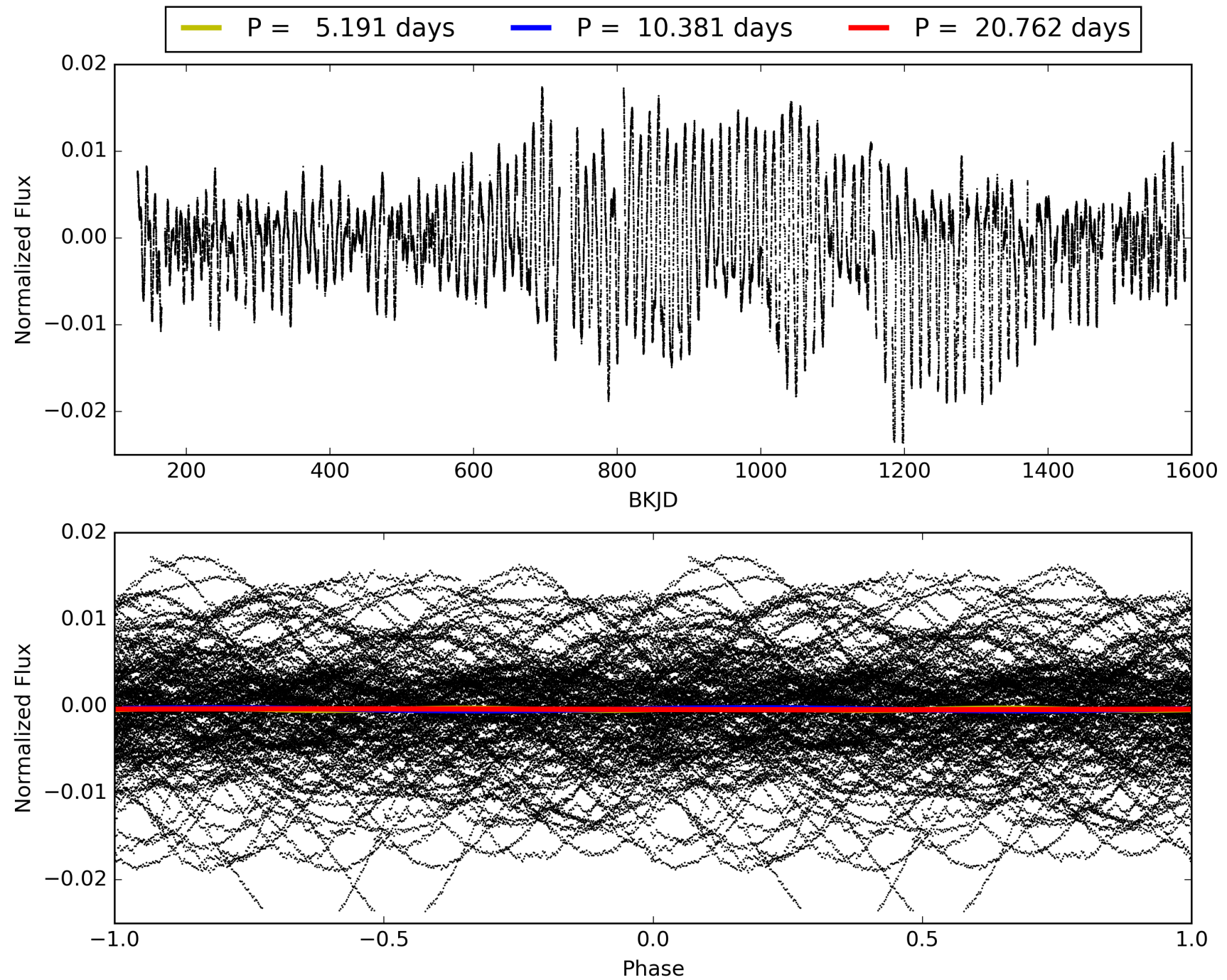
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:24:24 Z

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

TCE 002302548-01, PDC Light Curves

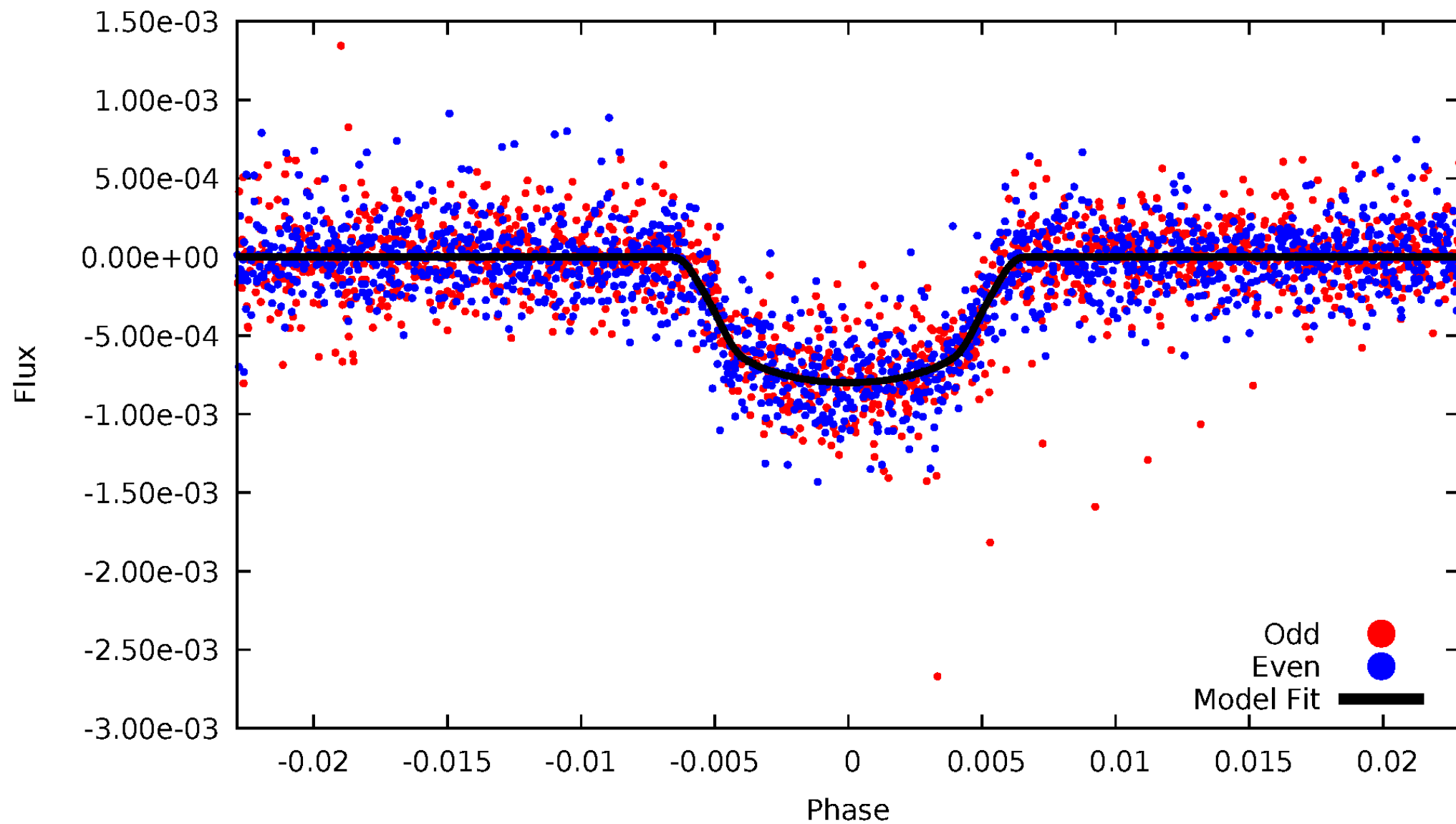


TCE 002302548-01



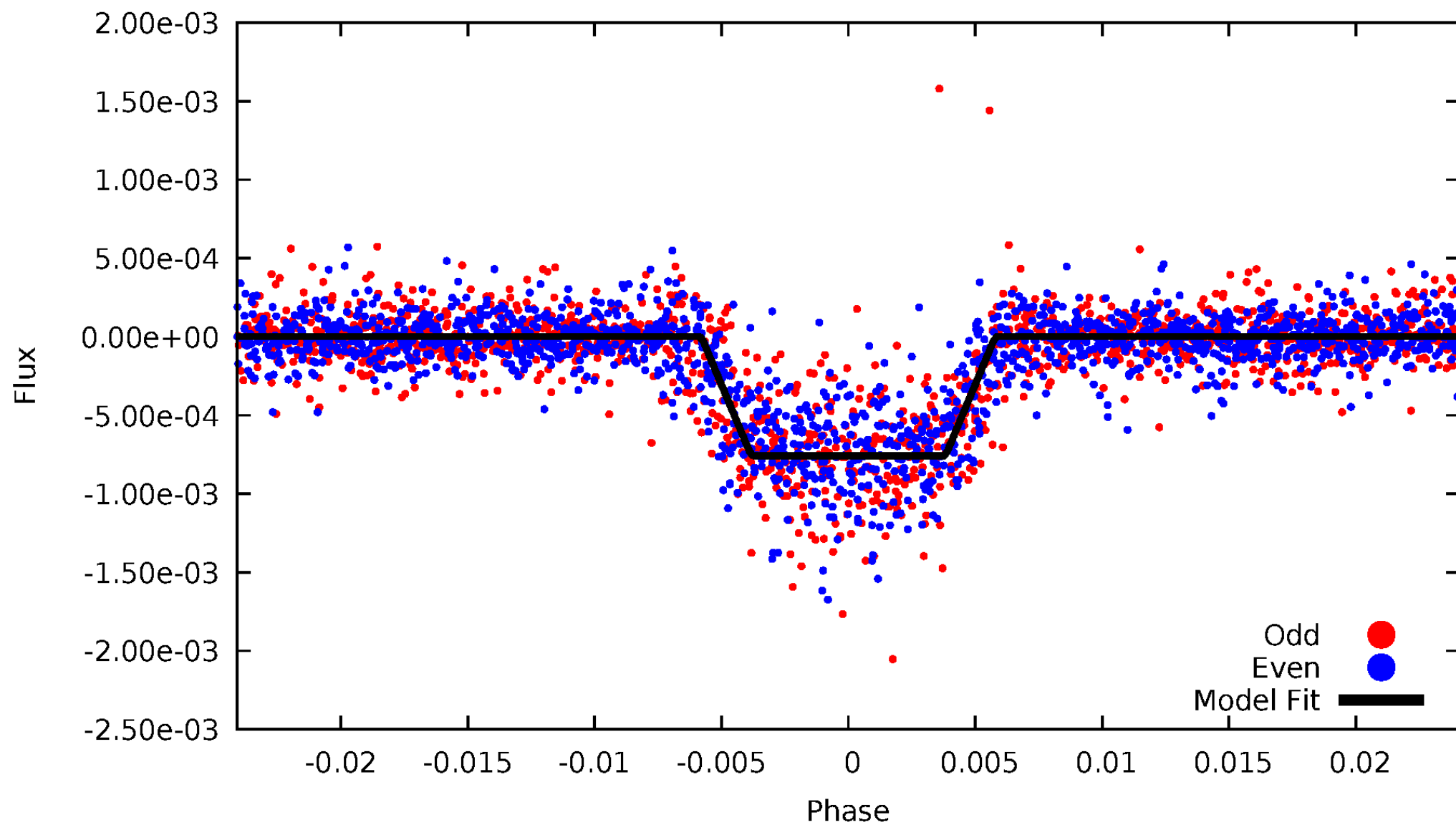
DV Odd/Even

TCE 002302548-01



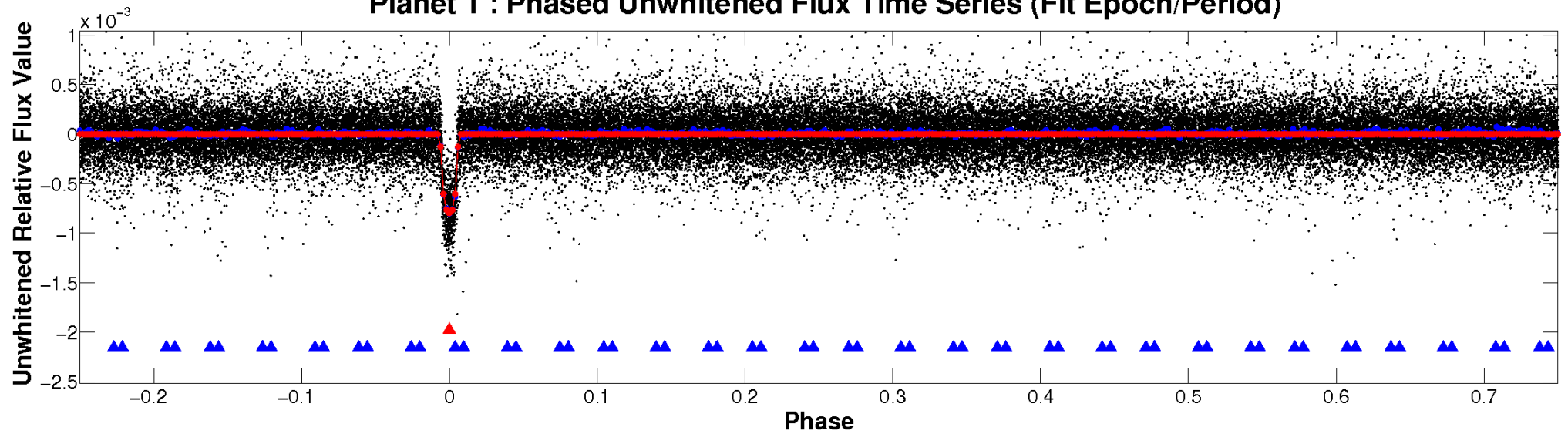
ALT Odd/Even

TCE 002302548-01

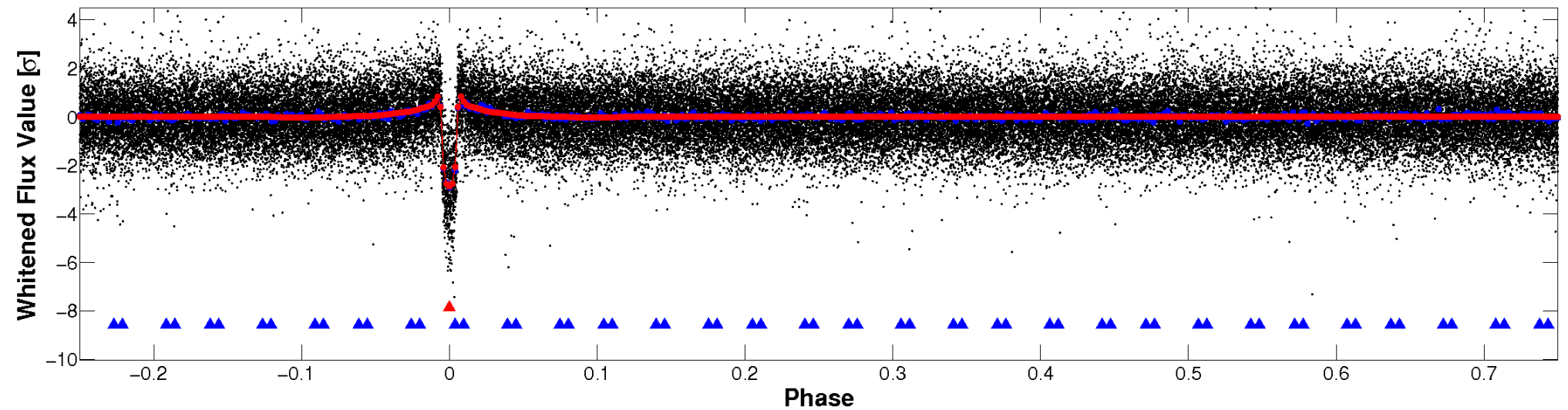


Non-Whitened Vs. Whitened Light Curve

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

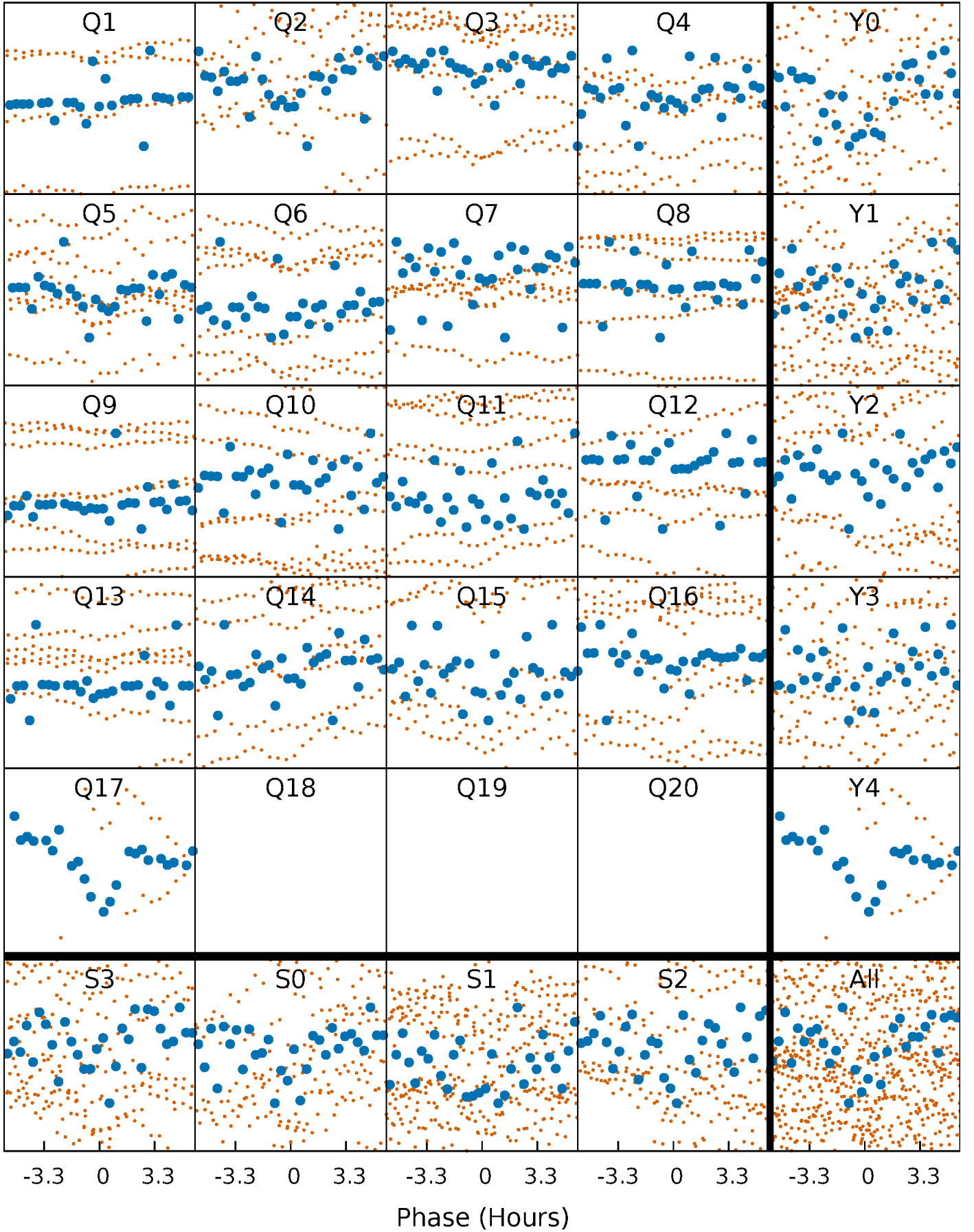


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



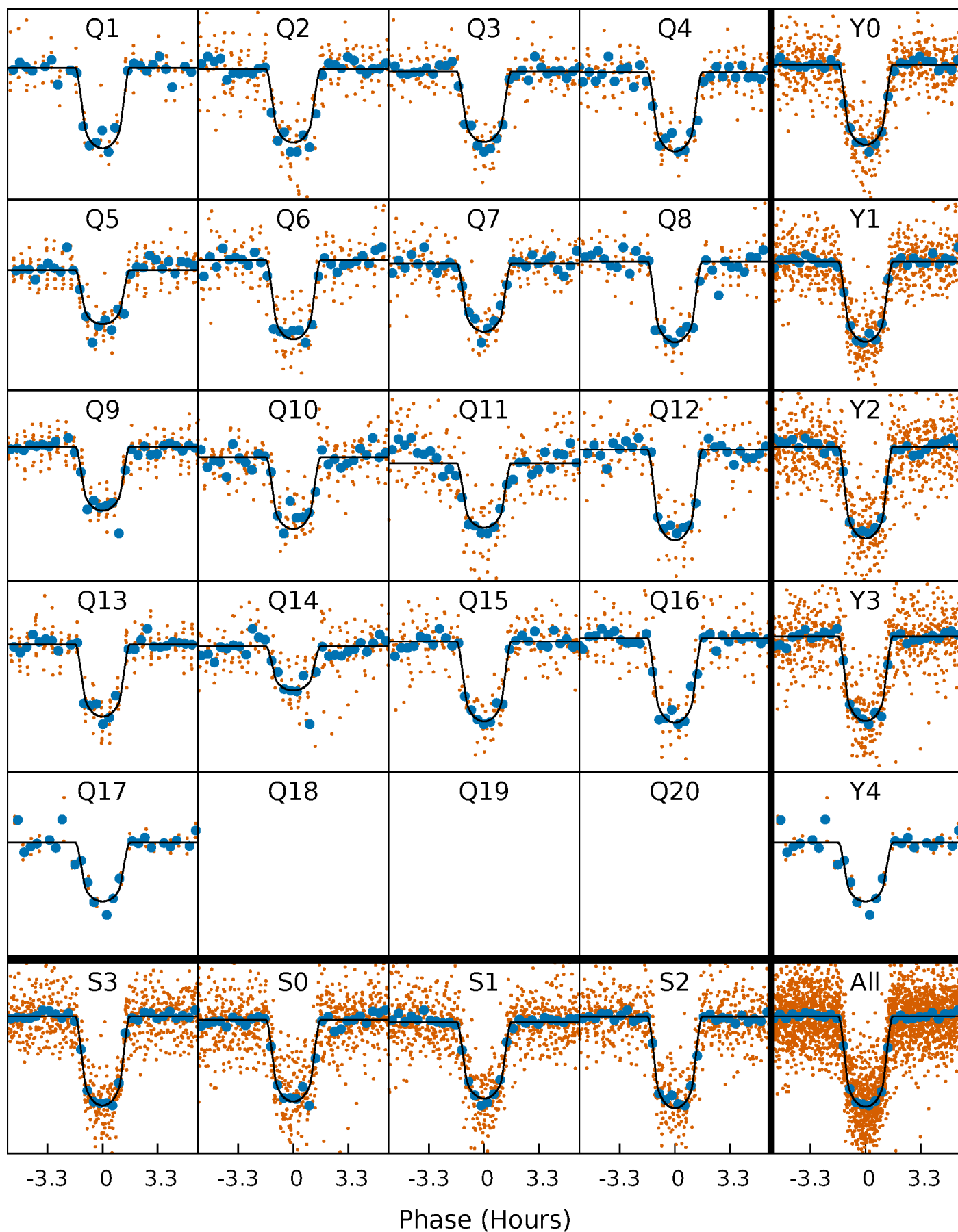
PDC Quarter-Phased Transit Curves

TCE 002302548-01 P= 10.381212 Days $T_0=133.069450$ (BKJD)



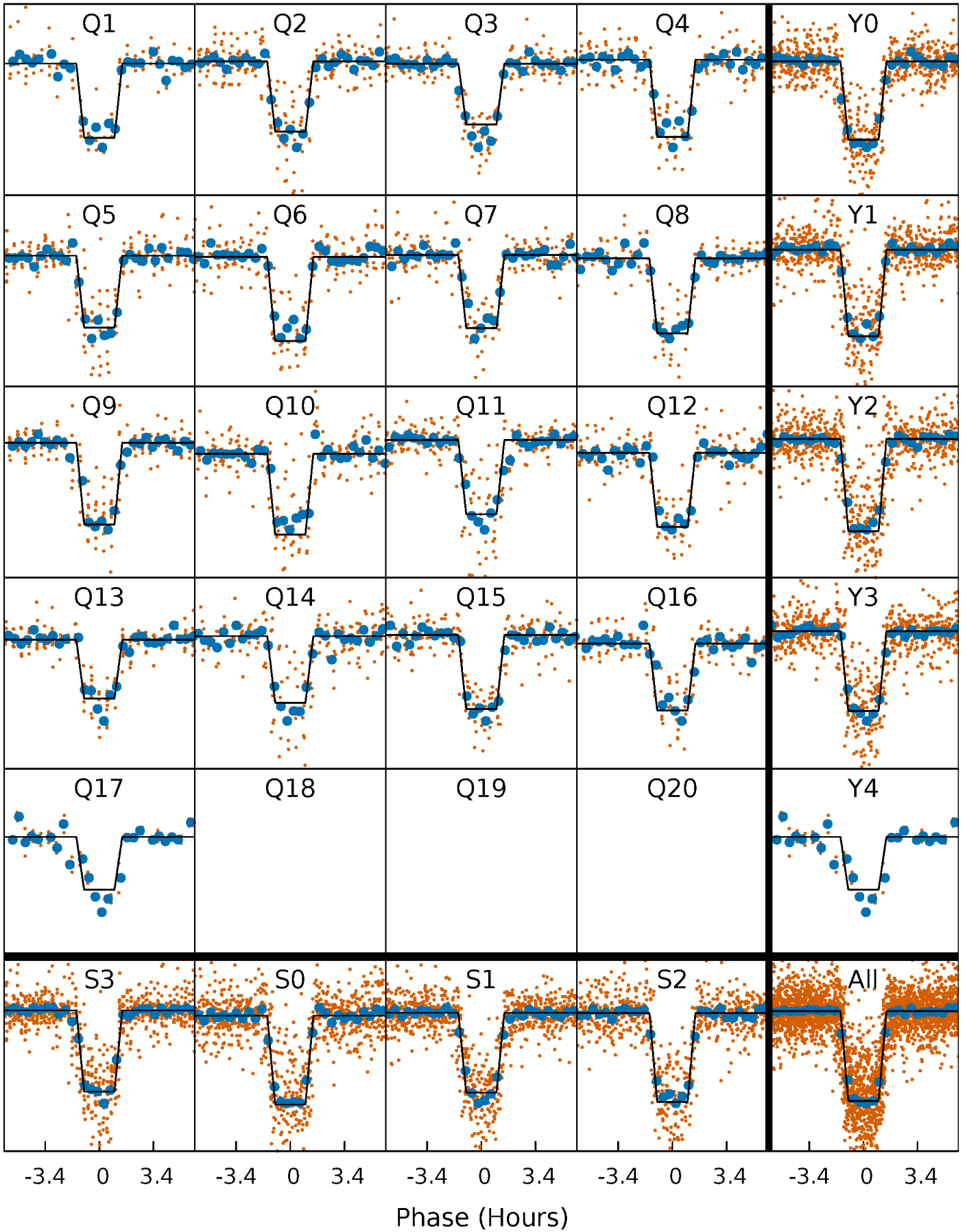
DV Quarter-Phased Transit Curves

TCE 002302548-01 P= 10.381212 Days $T_0=133.069450$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

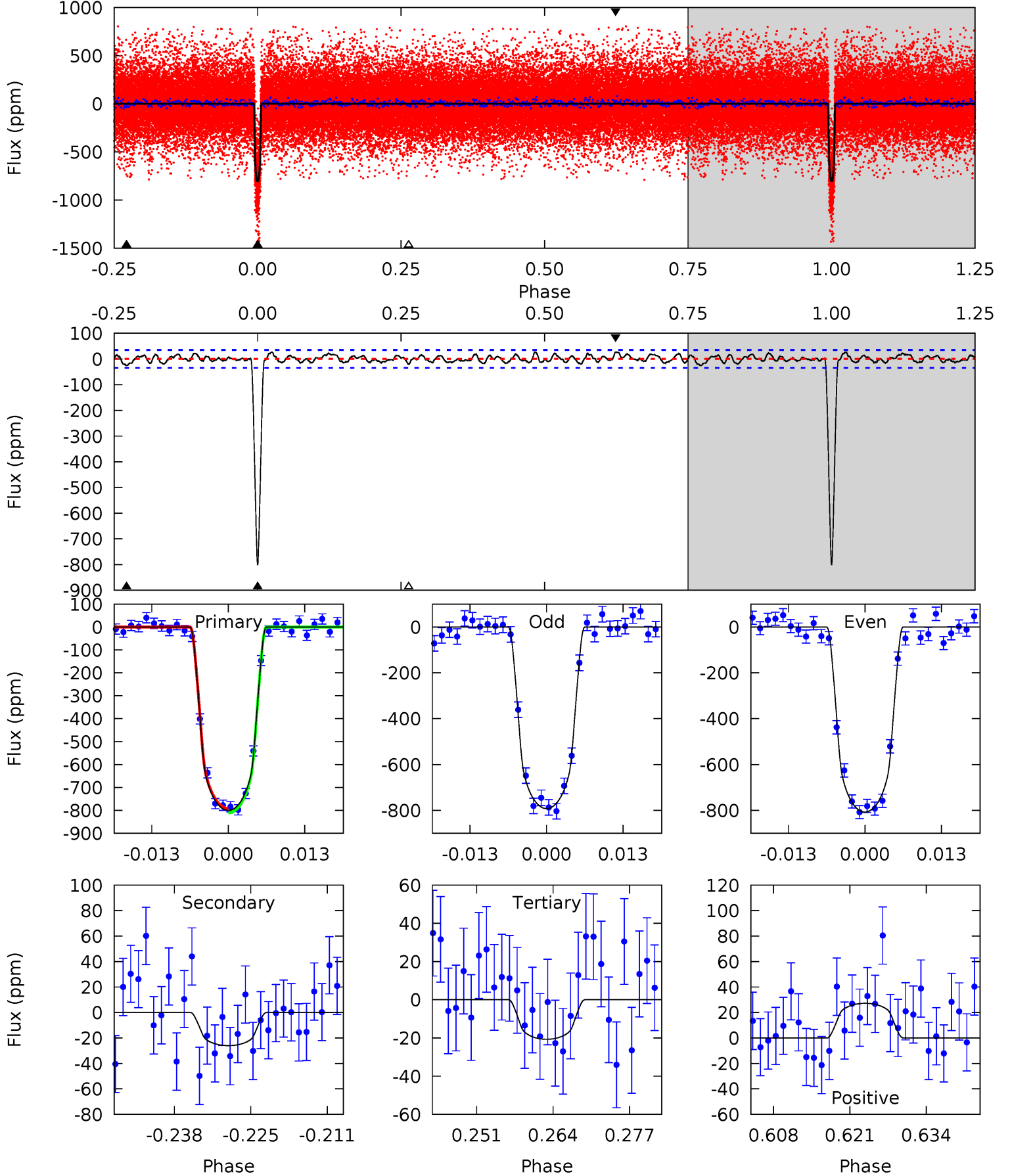
TCE 002302548-01 P= 10.381156 Days $T_0=133.073102$ (BKJD)



DV Model-Shift Uniqueness Test

002302548-01, $P = 10.381212$ Days, $E = 122.688238$ Days

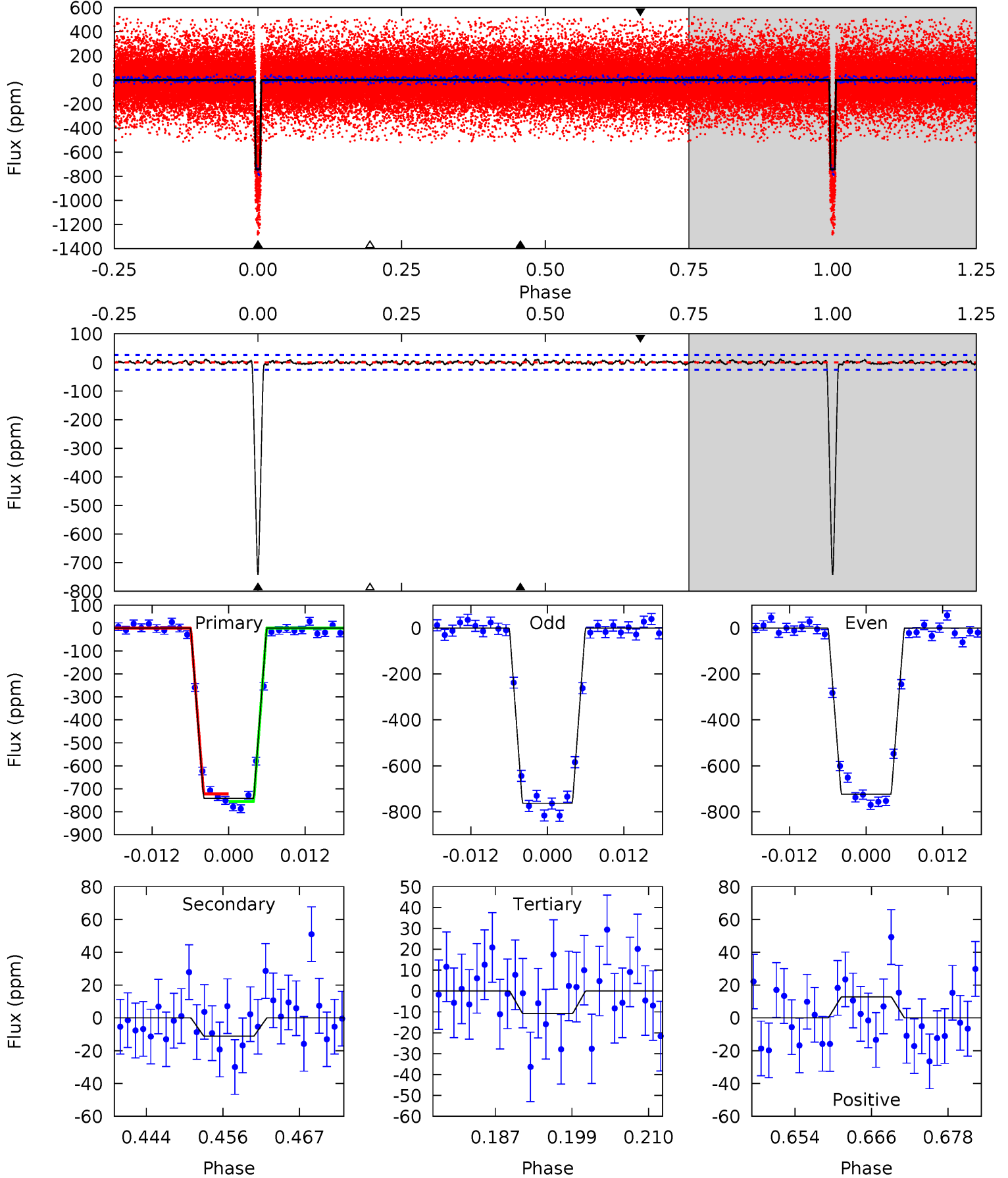
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
113.7	3.70	2.94	3.87	4.97	2.48	1.50	110.8	109.9	0.76	-0.17	1.09	1.02	0.03	1.37



Alt Model-Shift Uniqueness Test

002302548-01, P = 10.381156 Days, E = 122.691946 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
142.9	2.16	2.08	2.47	5.00	2.52	0.74	140.8	140.4	0.07	-0.31	3.78	1.01	0.02	3.21



Stellar Parameters For KIC 002302548

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5095^{+101}_{-101}	$4.566^{+0.032}_{-0.052}$	$0.020^{+0.150}_{-0.150}$	$0.780^{+0.055}_{-0.035}$	$0.816^{+0.047}_{-0.041}$	$2.424^{+0.310}_{-0.400}$
	+2%/-2%	+1%/-1%	+750%/-750%	+7%/-4%	+6%/-5%	+13%/-17%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 002302548-01 / KOI 0988.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 7	$2.51^{+0.24}_{-0.26}$	943^{+26}_{-23}	2825^{+140}_{-134}	17^{+7}_{-5}
Alt.	-11 ± 5	$2.34^{+0.29}_{-0.23}$	942^{+26}_{-22}	2566^{+151}_{-205}	$8.286^{+4.567}_{-3.958}$

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 $A_{obs} \gg 1.0$

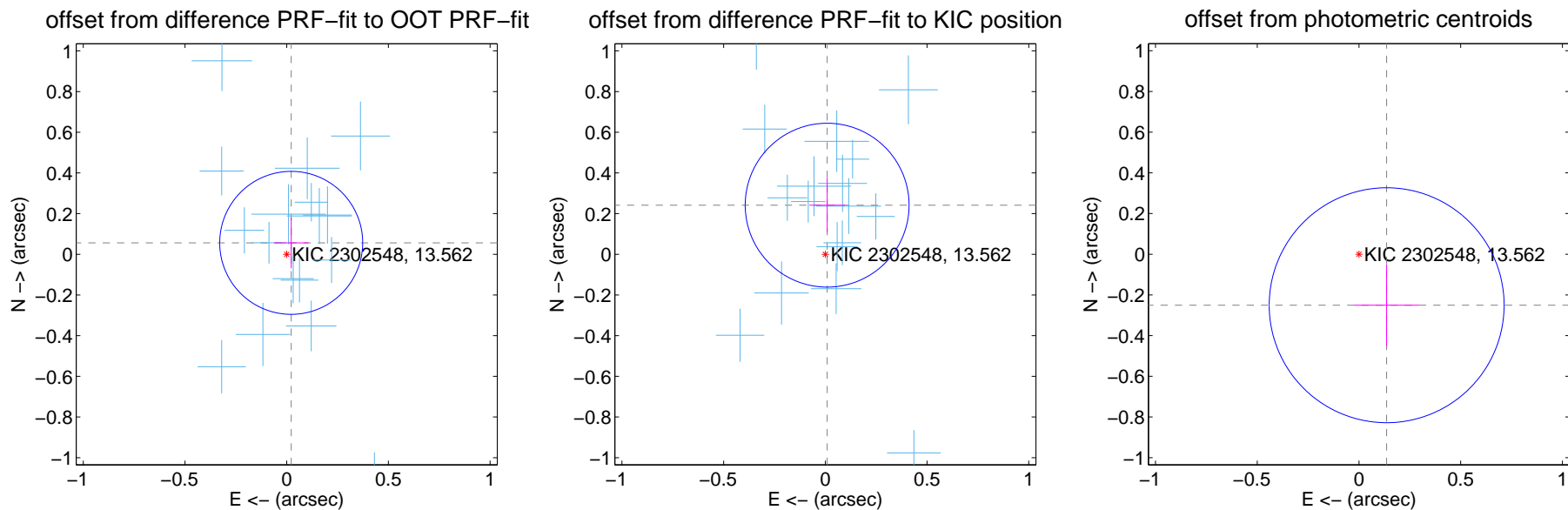
DV Centroid Data

Supplemental centroid analysis for 002302548-01. Kepler magnitude: 13.56. Transit SNR 69.74

There are 17 quarters with good PRF difference image offsets

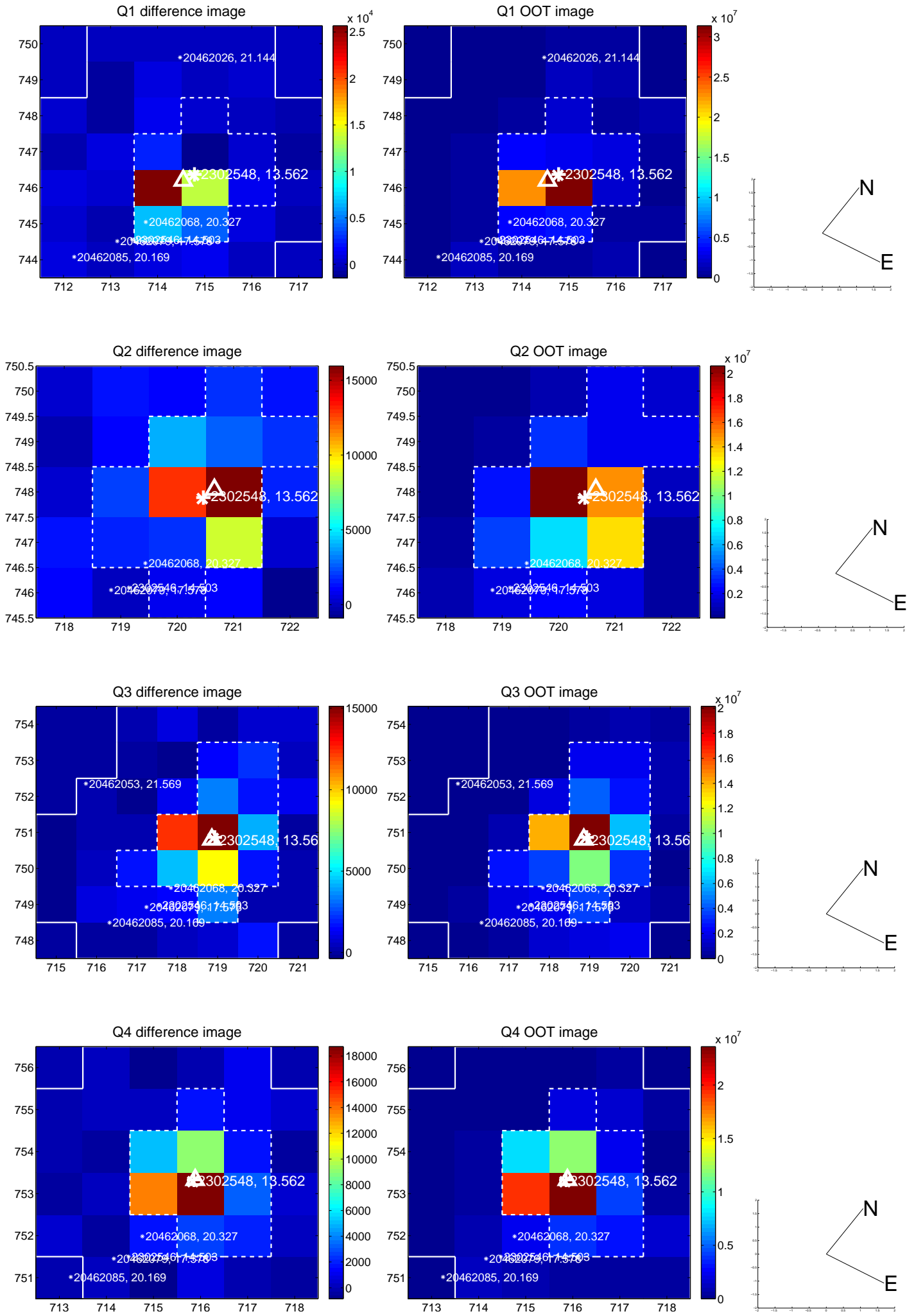
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.060 ± 0.117	0.52	-0.022 ± 0.085	0.056 ± 0.125
PRF-fit source offset from KIC position	0.242 ± 0.134	1.80	-0.009 ± 0.087	0.241 ± 0.135
photometric centroid source offset	0.29 ± 0.19	1.48	-0.14 ± 0.16	-0.25 ± 0.20

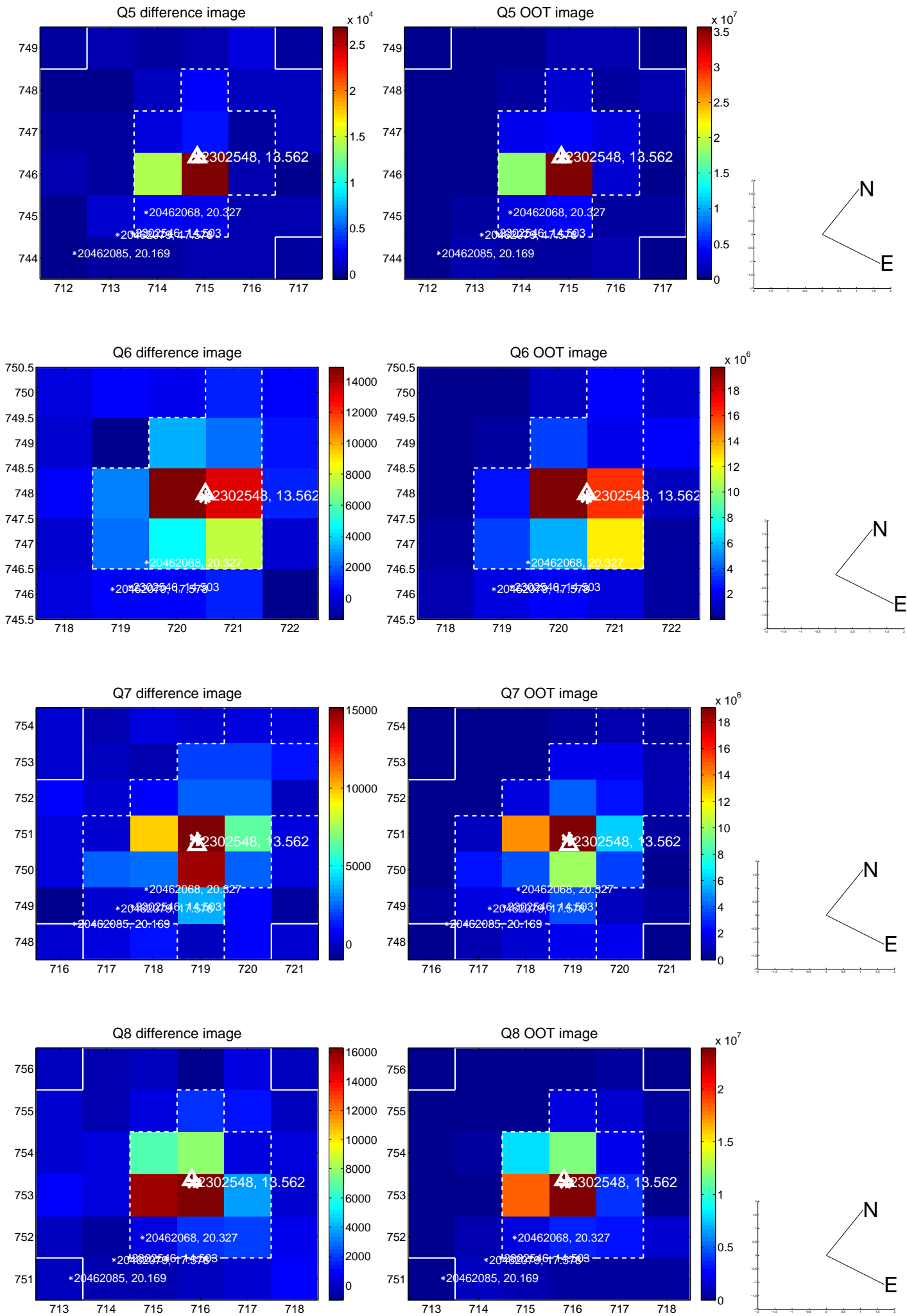


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

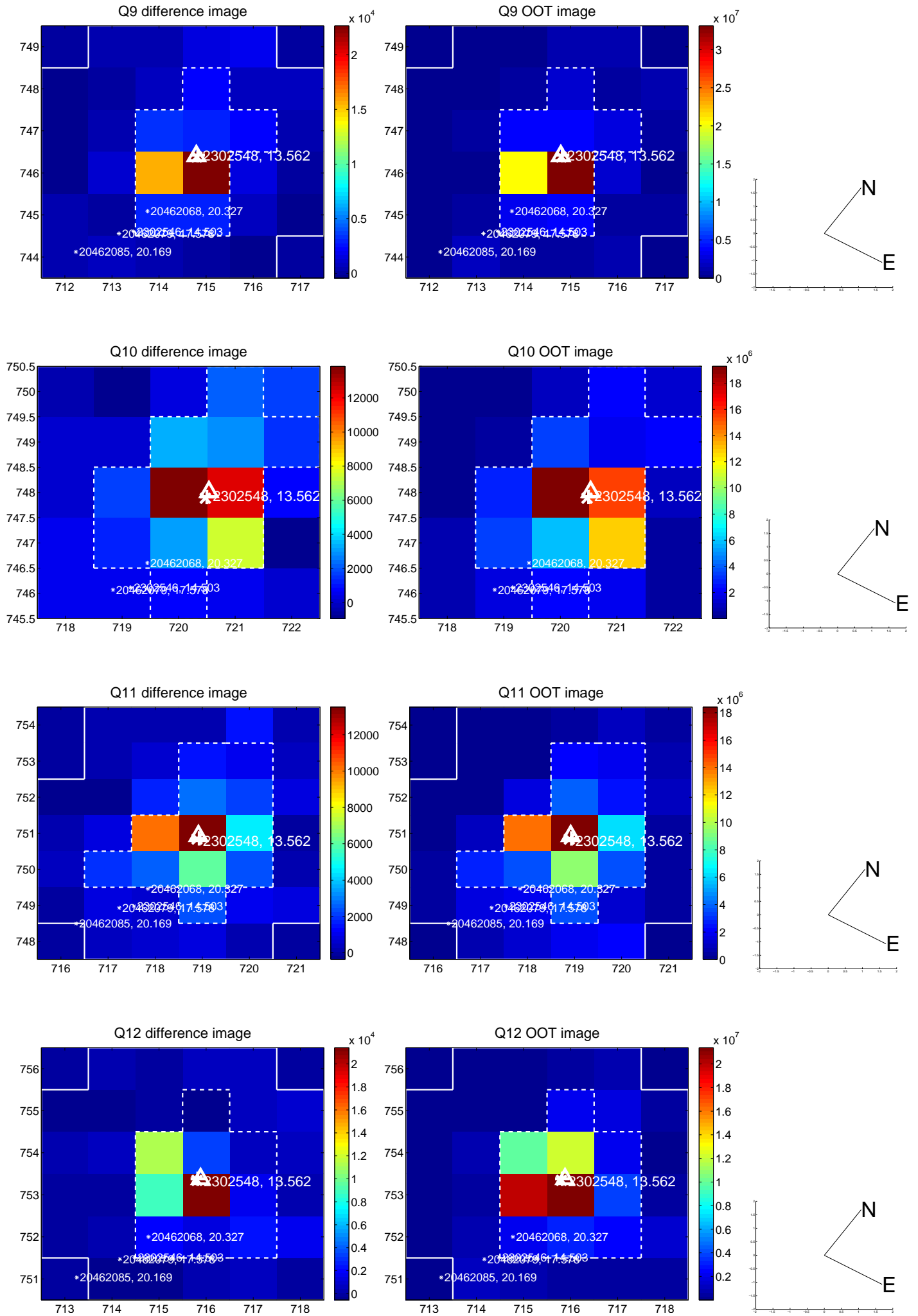
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



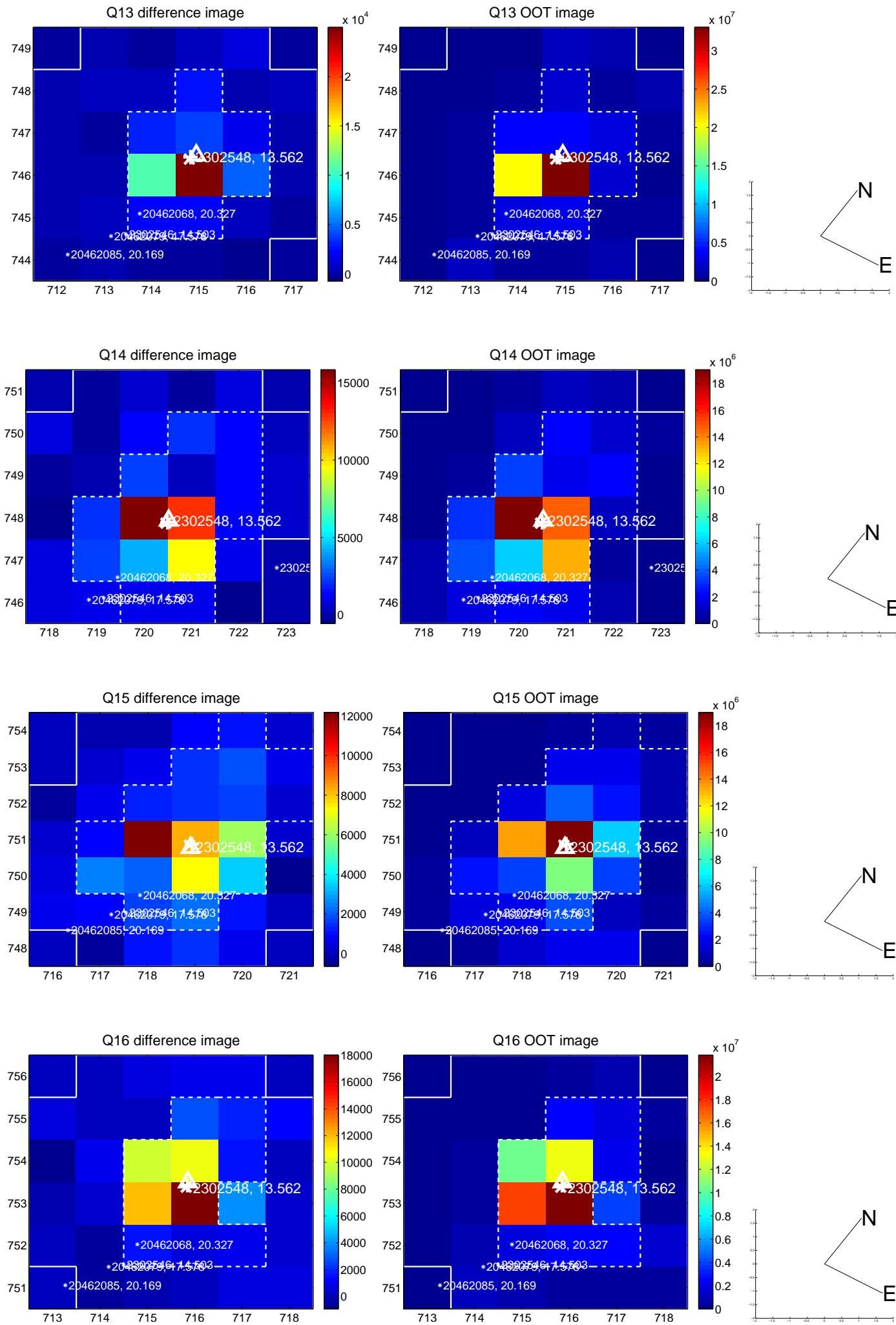
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



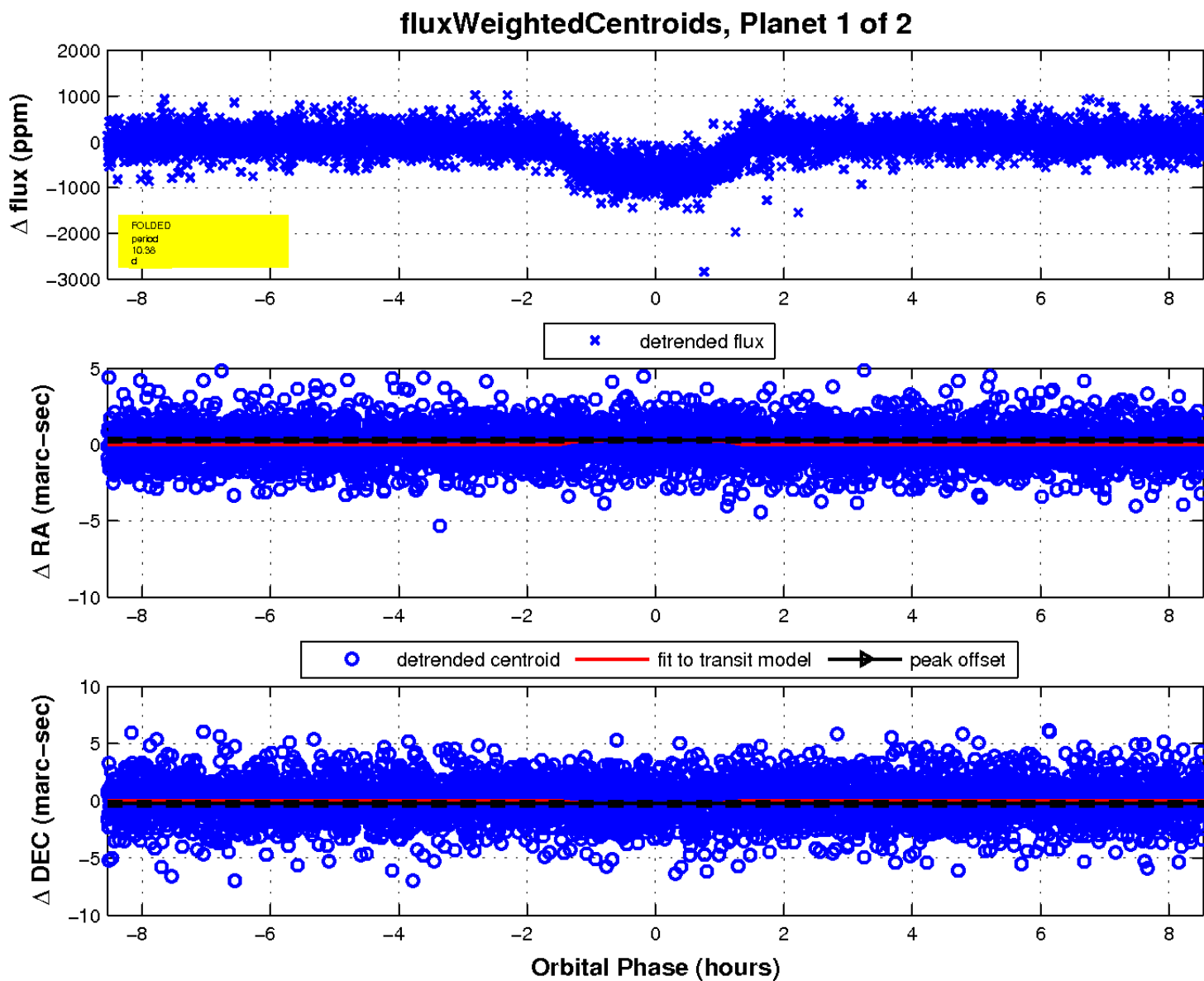
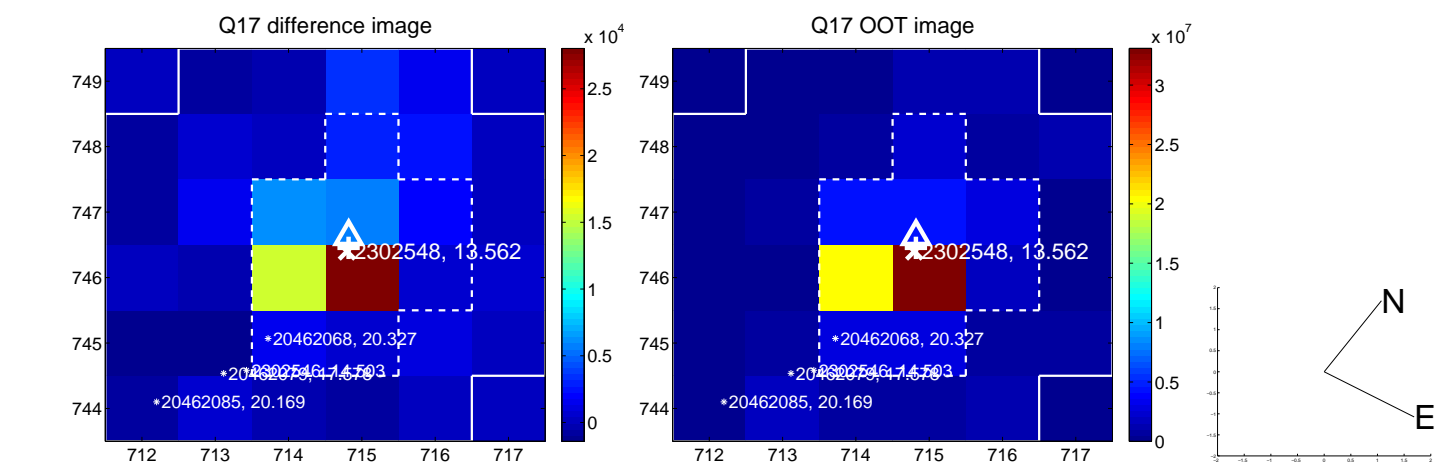
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



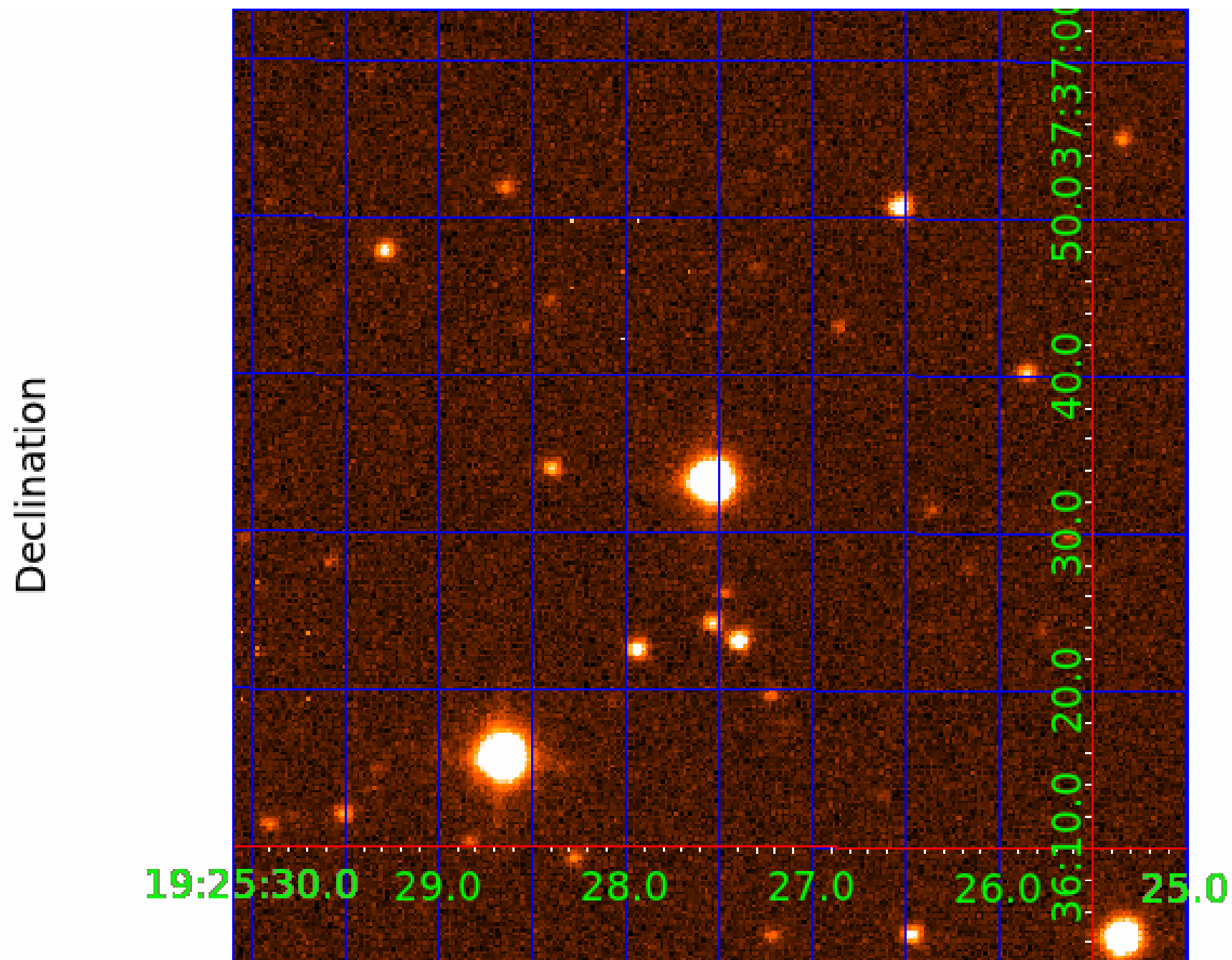
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 002302548

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})
002302548-01	OBS	0988.01	10.381212	133.069450	800.2	2.848	68.9	69.7	0.78	5095	2.48	48.44
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002302548-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
002302548-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

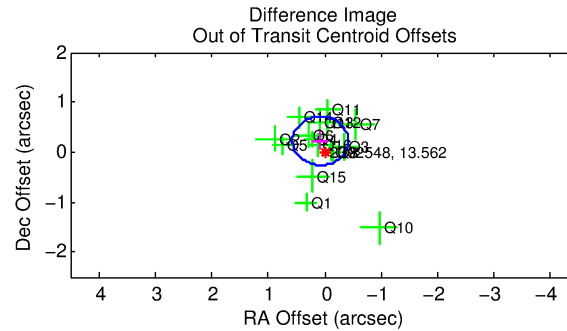
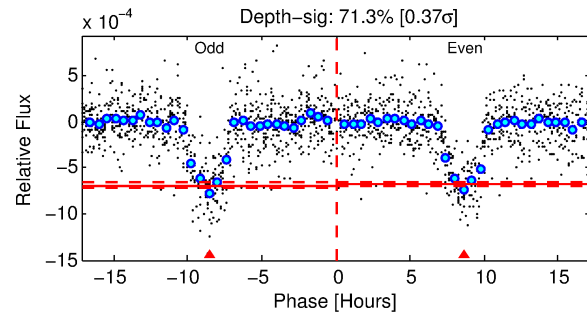
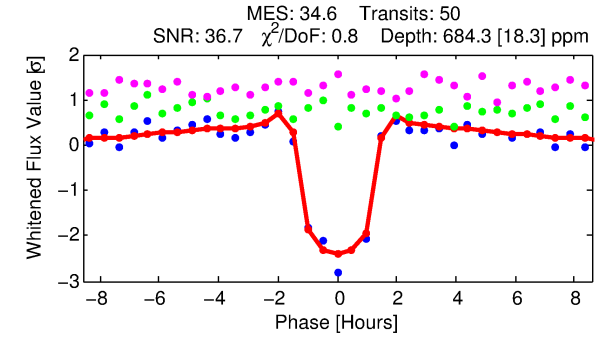
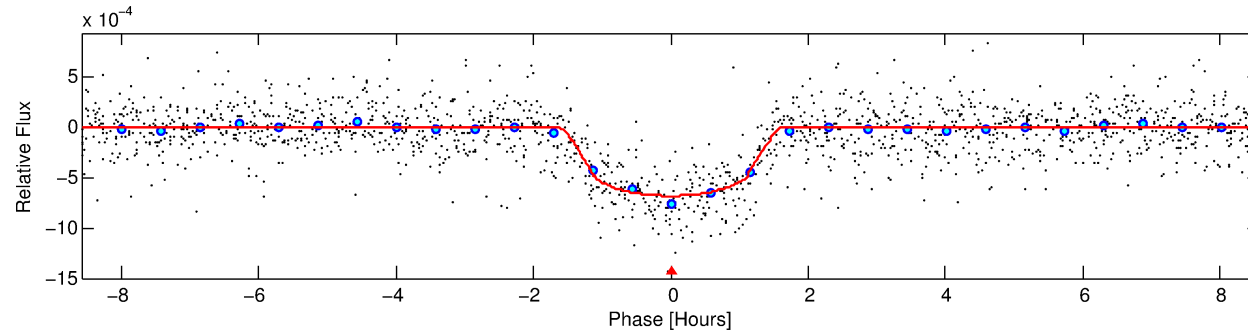
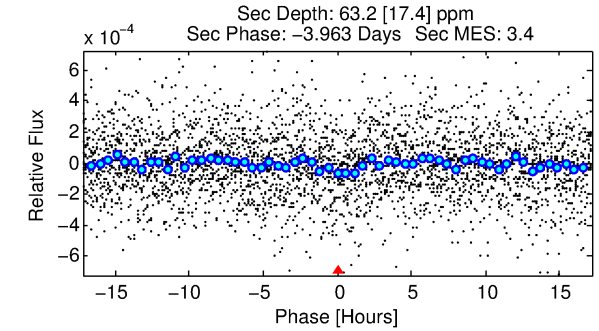
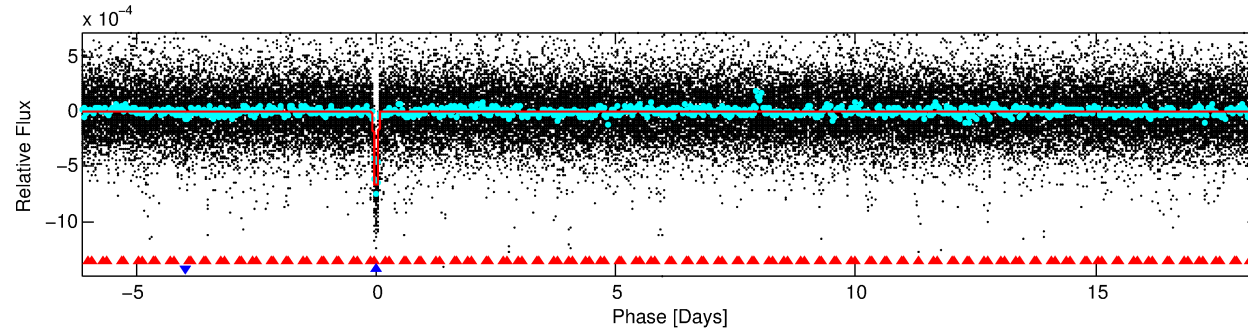
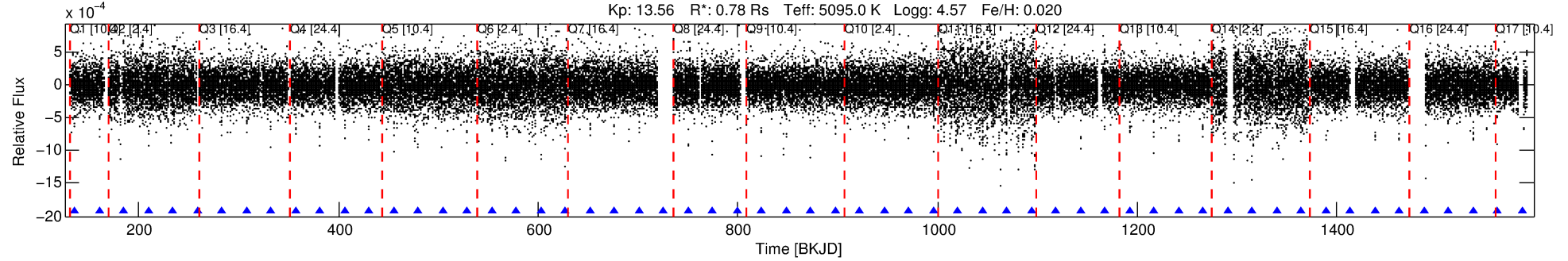
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002302548-02

No Significant Match Found

DV One-Page Summary

KIC: 2302548 Candidate: 2 of 2 Period: 24.571 d
KOI: K00988.02 Name: Kepler-261c Corr: 0.983



DV Fit Results:

Period = 24.57086 [0.00005] d
Epoch = 135.8742 [0.0015] BKJD
Rp/R* = 0.0260 [0.0071]
a/R* = 46.98 [45.80]
b = 0.74 [0.62]
Seff = 15.36 [1.87]
Teff = 505 [15] K
Rp = 2.21 [0.62] Re
a = 0.1547 [0.0095] AU
Ag = 170.26 [105.19] [1.61σ]
Teffp = 2819 [434] K [5.33σ]

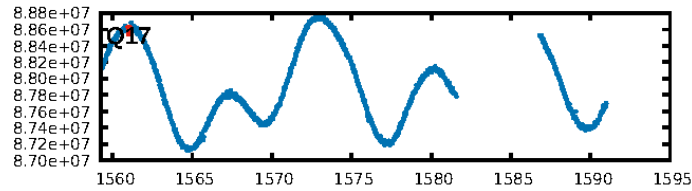
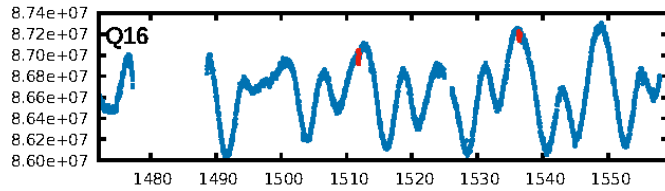
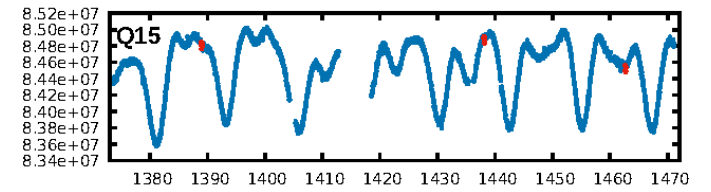
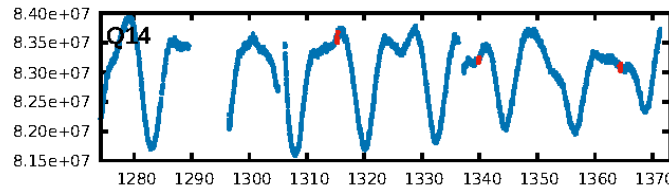
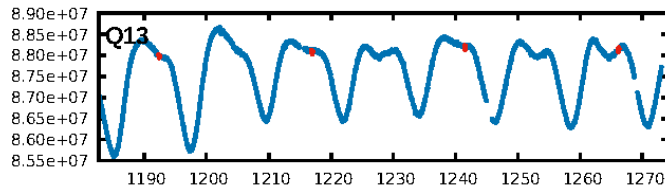
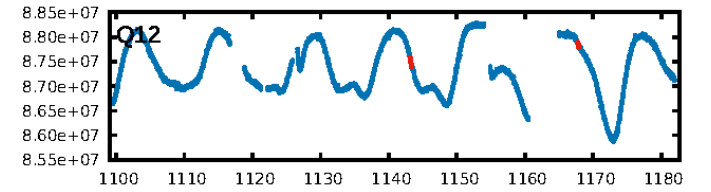
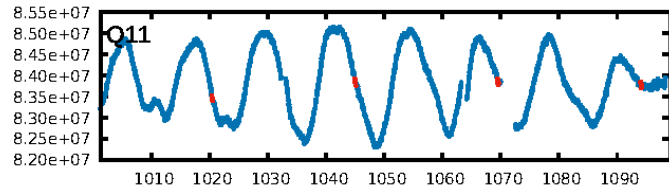
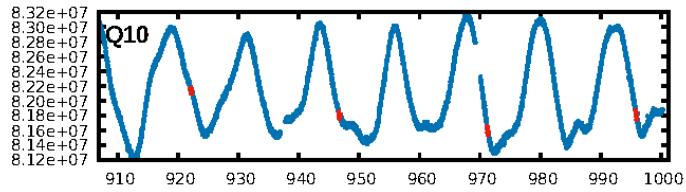
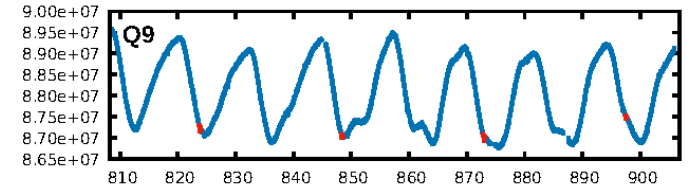
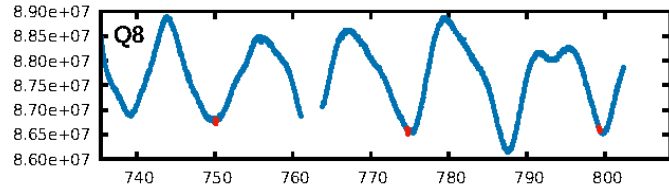
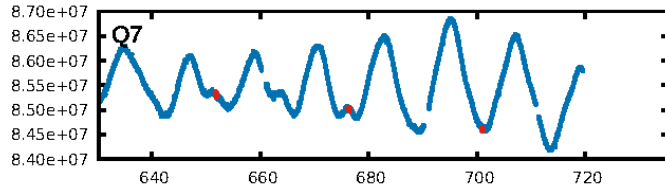
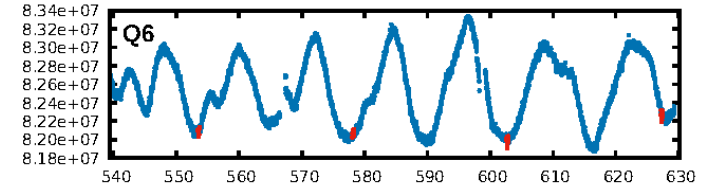
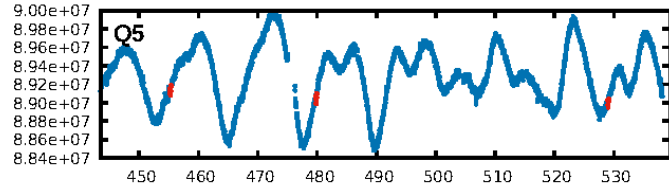
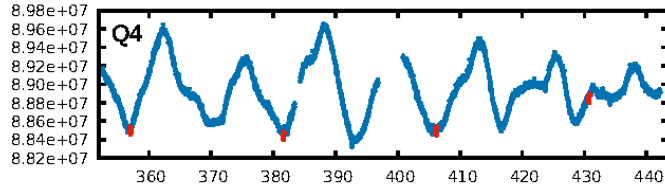
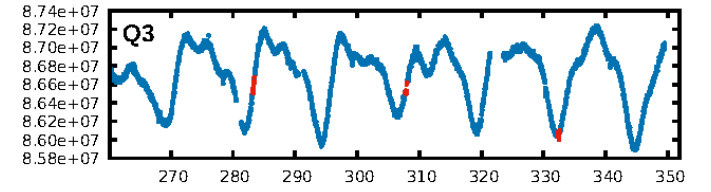
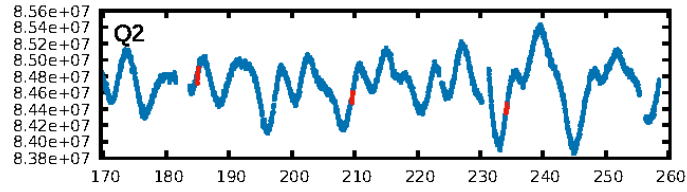
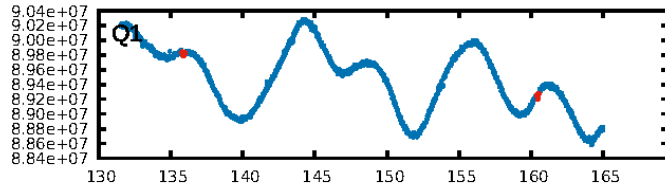
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [84.39σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.01e-212
RollingBand-fgt: 1.00 [47/47]
GhostDiagnostic-chr: 1.199
Centroid-sig: 3.6%
Centroid-so: 0.292 arcsec [0.94σ]
OotOffset-rm: 0.243 arcsec [1.48σ]
KicOffset-rm: 0.433 arcsec [2.35σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [16/16]

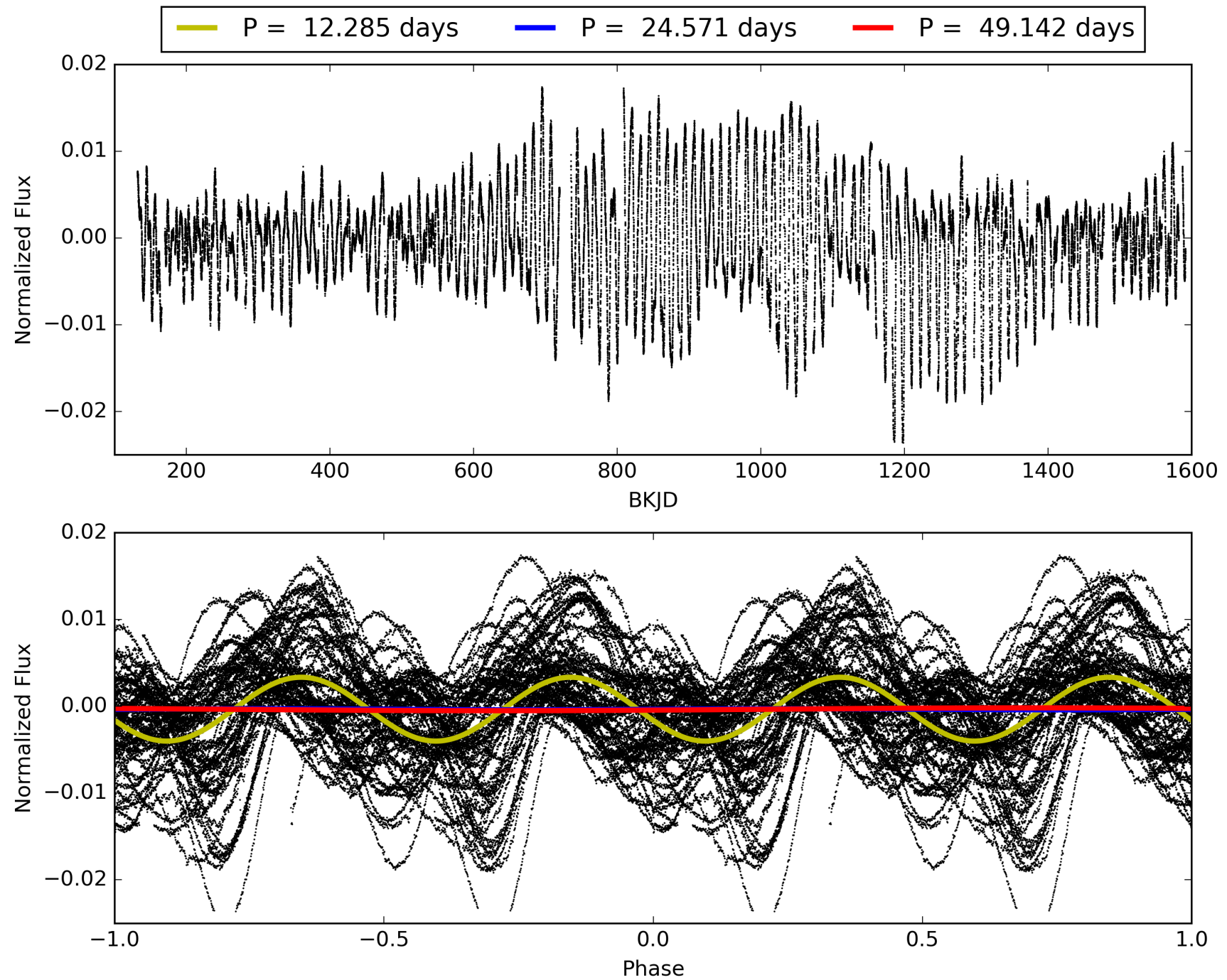
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:24:31 Z

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

TCE 002302548-02, PDC Light Curves

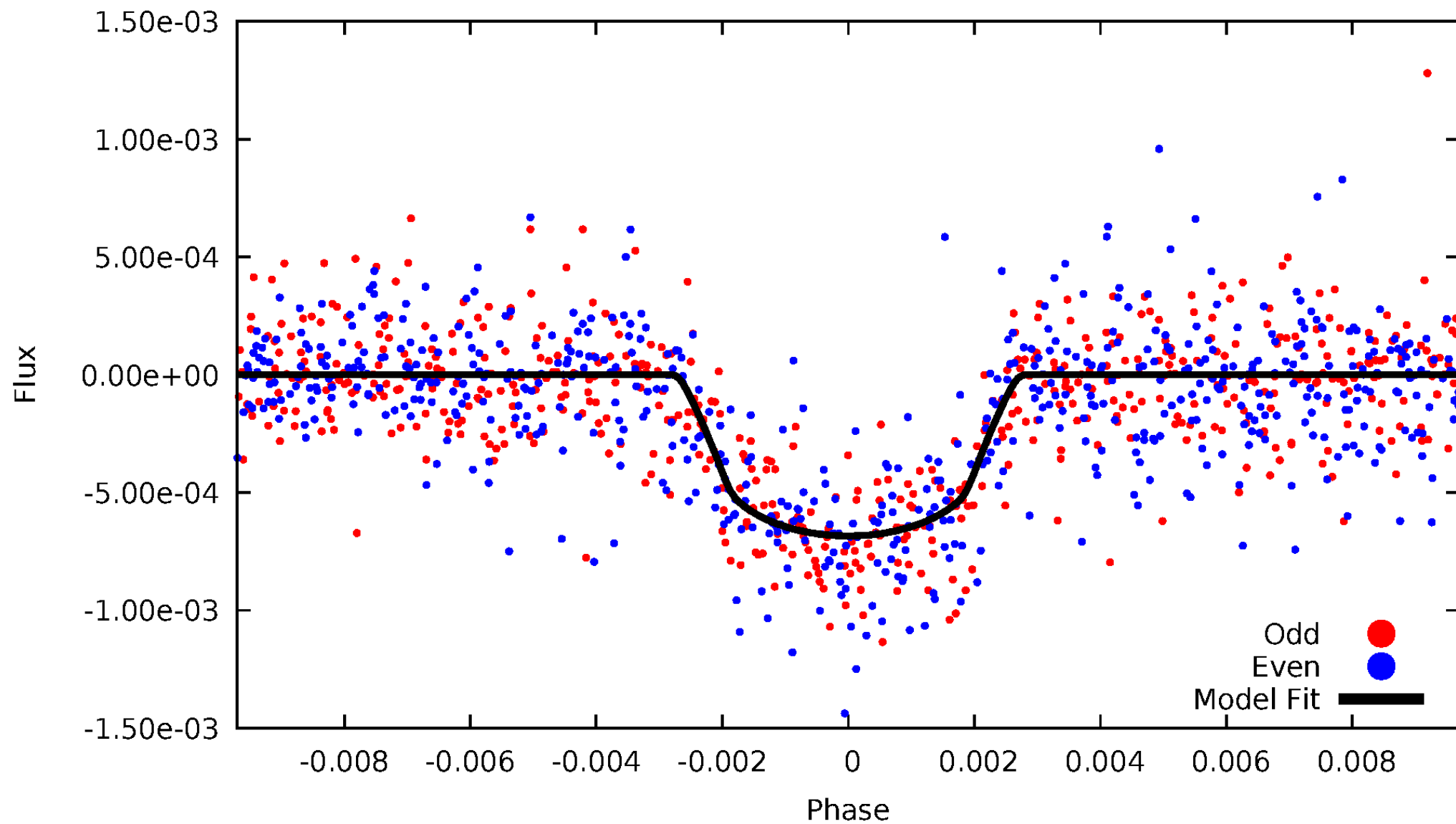


TCE 002302548-02



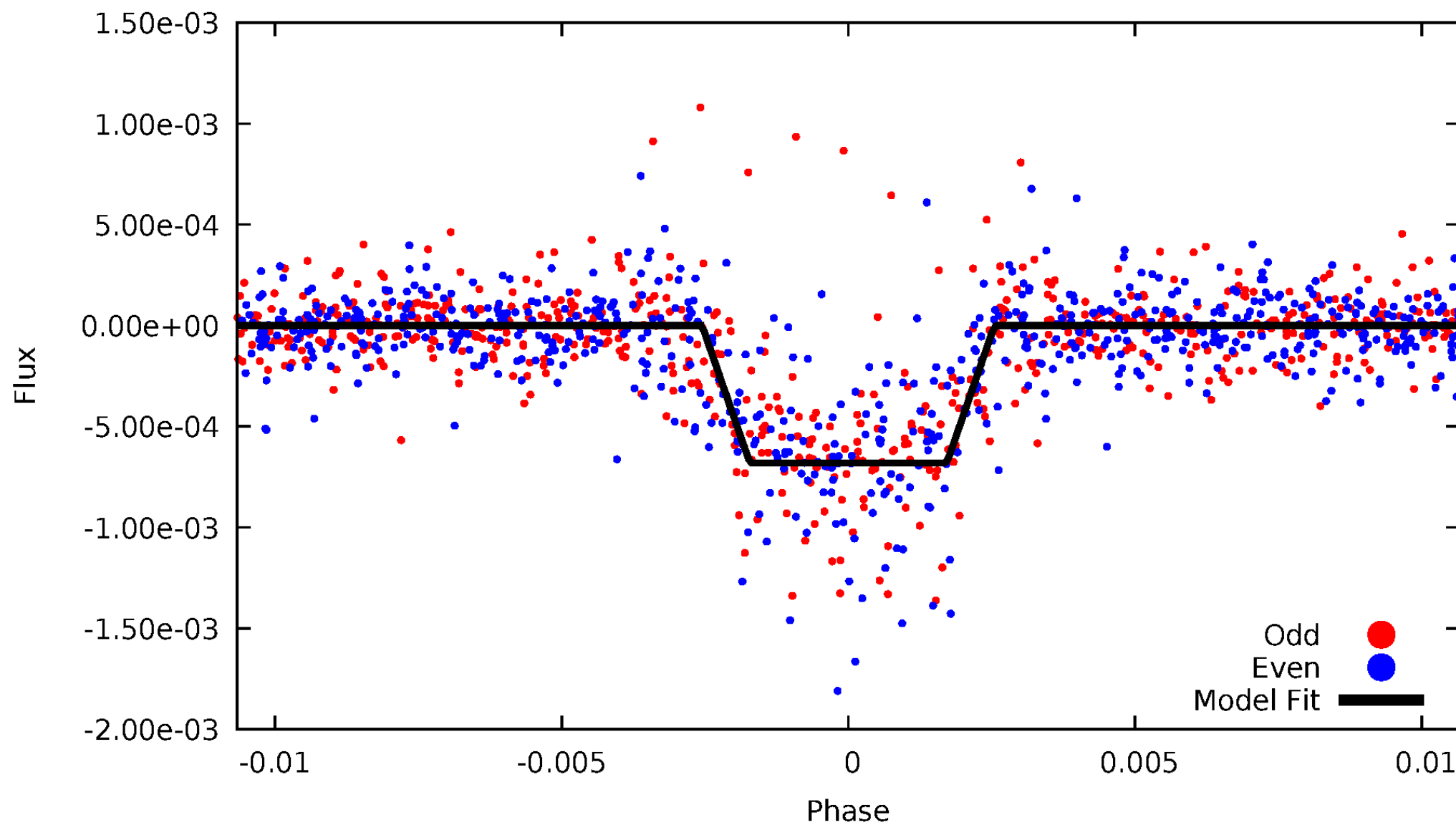
DV Odd/Even

TCE 002302548-02



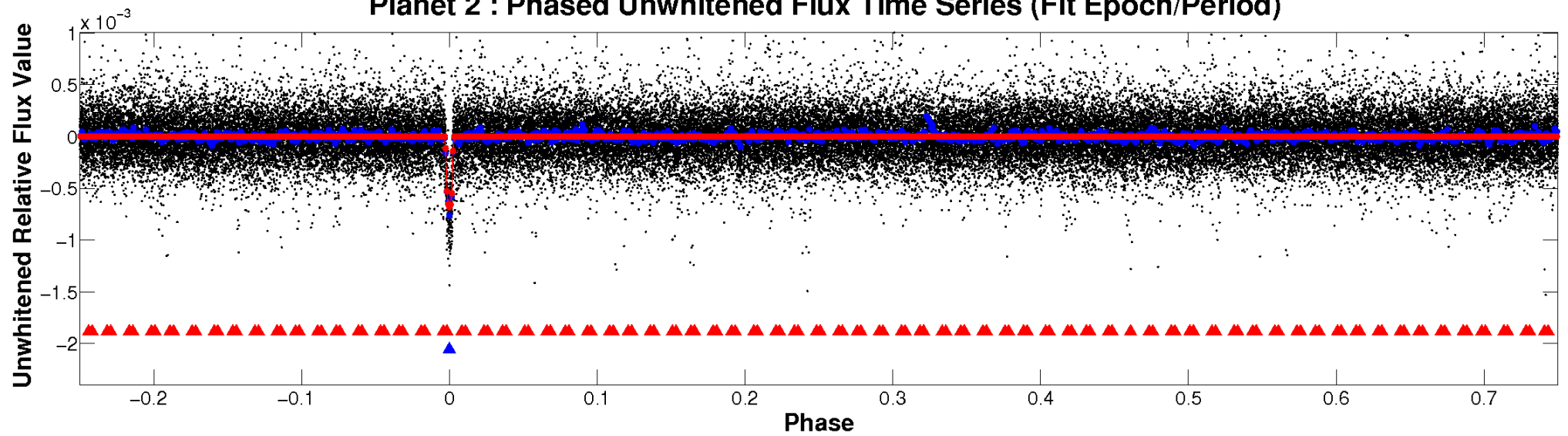
ALT Odd/Even

TCE 002302548-02

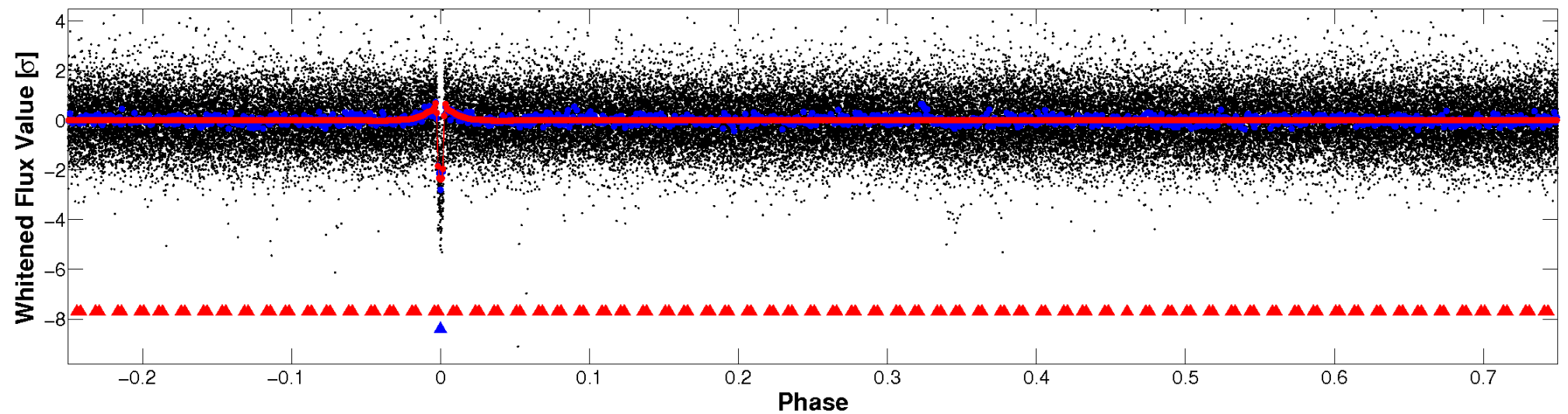


Non-Whitened Vs. Whitened Light Curve

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

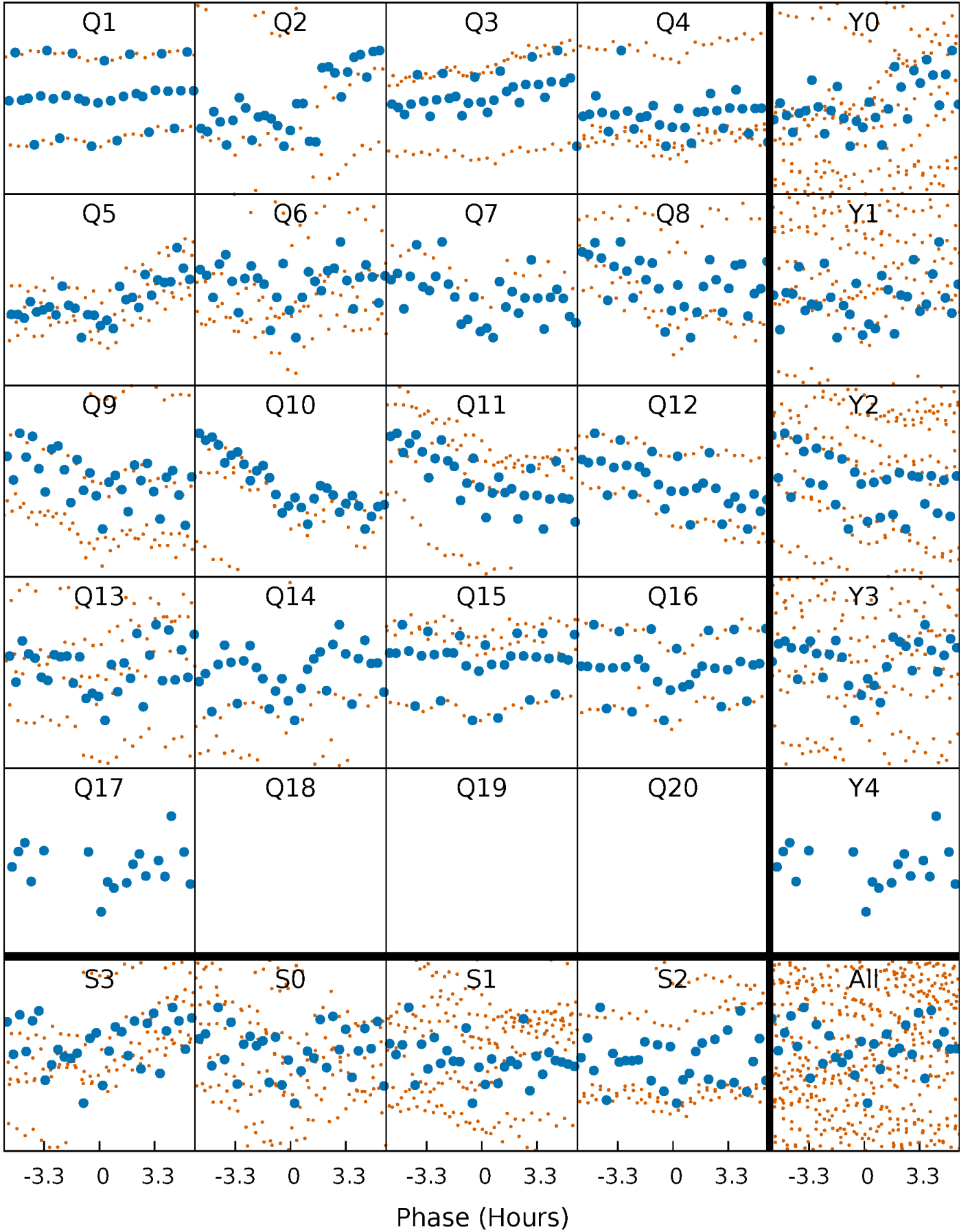


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



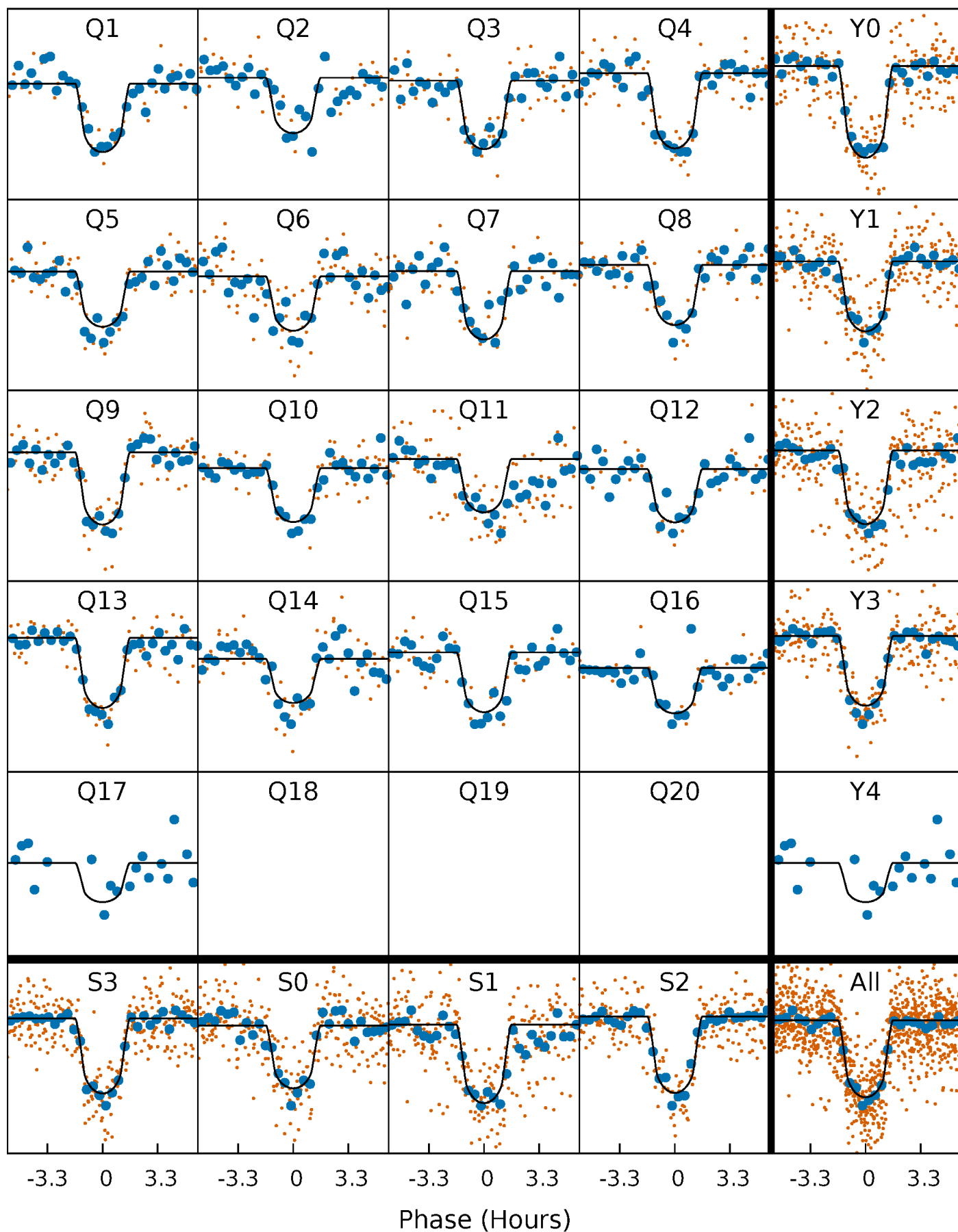
PDC Quarter-Phased Transit Curves

TCE 002302548-02 P= 24.570861 Days $T_0=135.874186$ (BKJD)



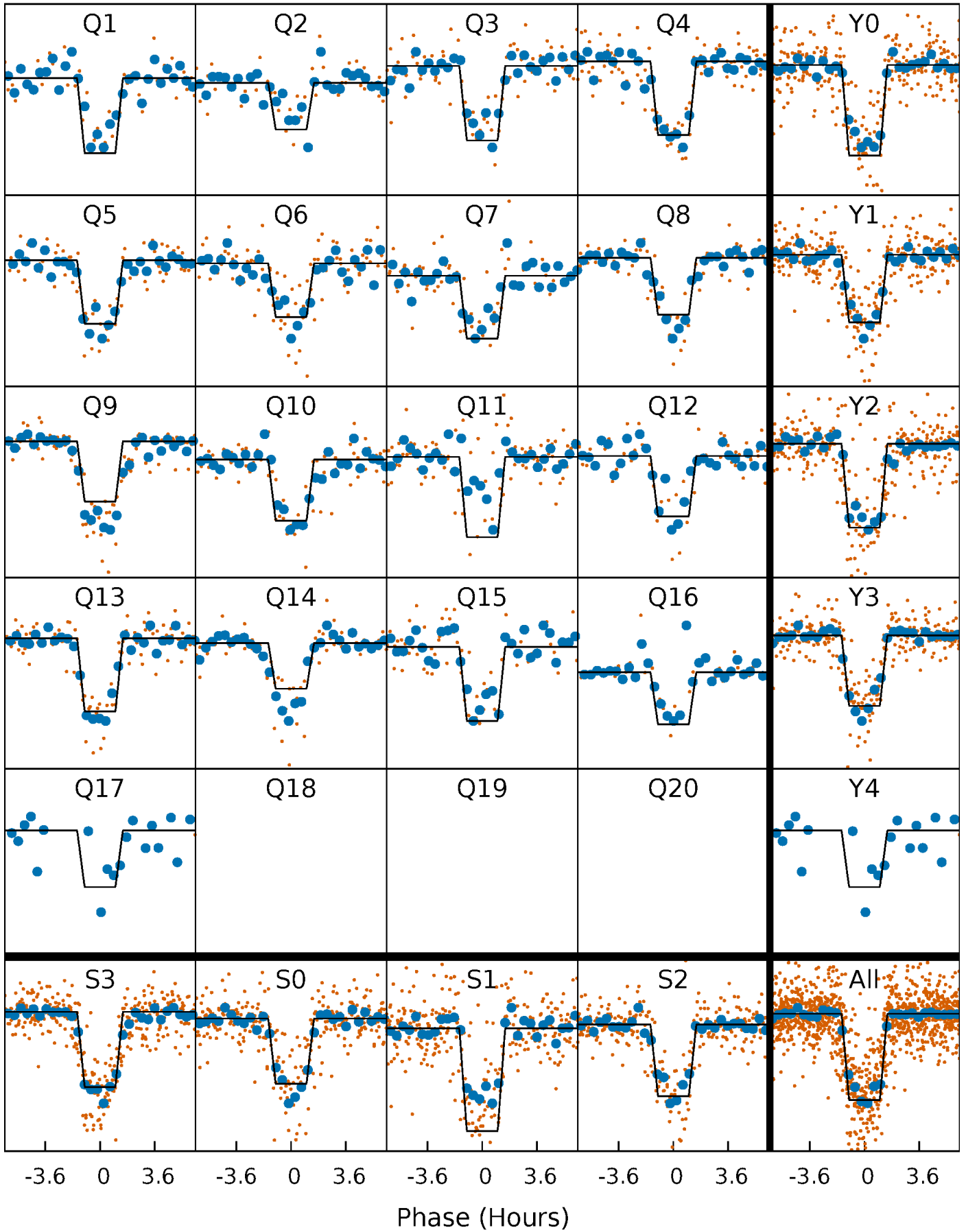
DV Quarter-Phased Transit Curves

TCE 002302548-02 P= 24.570861 Days $T_0=135.874186$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

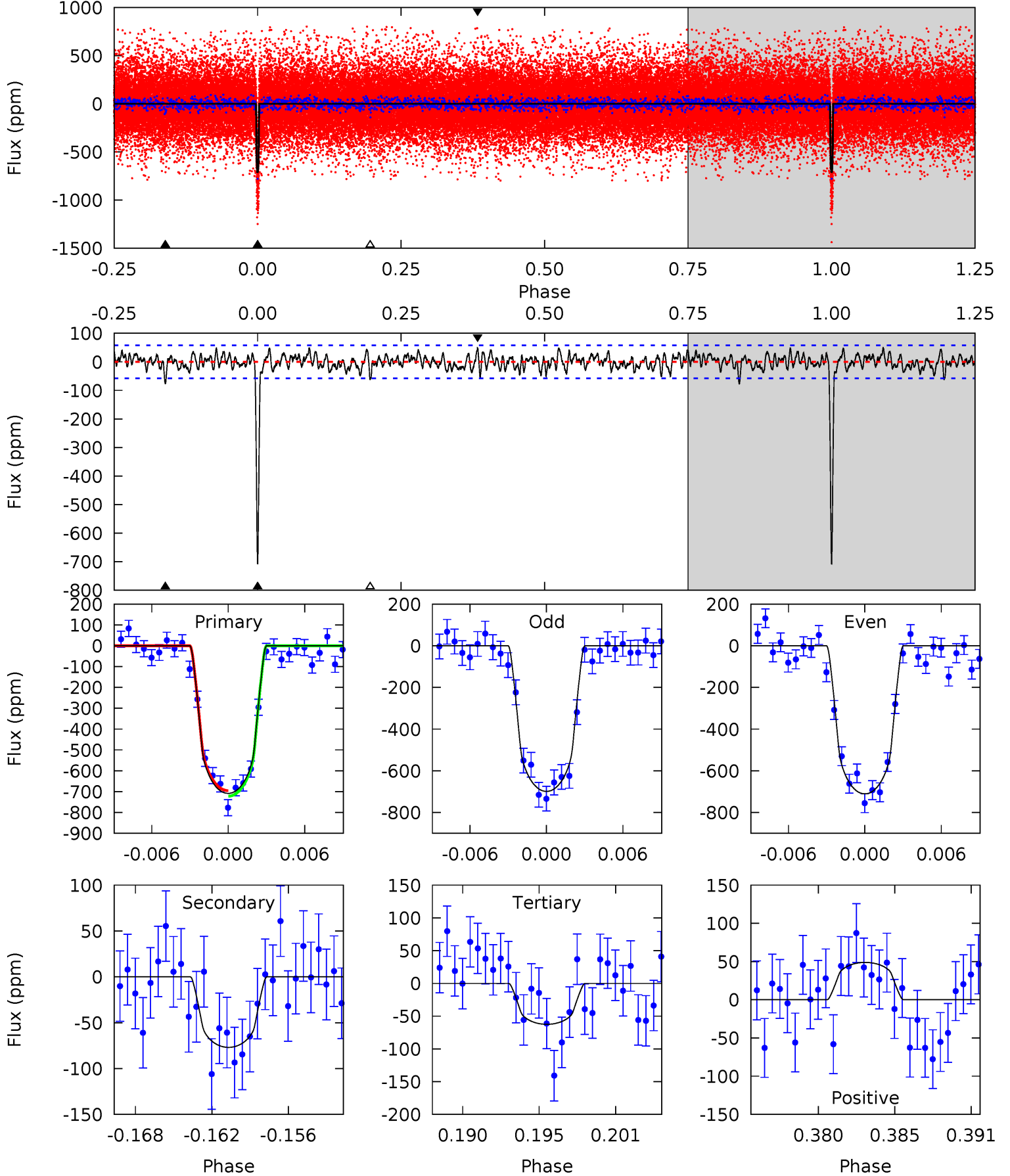
TCE 002302548-02 P= 24.570973 Days $T_0=135.871928$ (BKJD)



DV Model-Shift Uniqueness Test

002302548-02, P = 24.570861 Days, E = 111.303325 Days

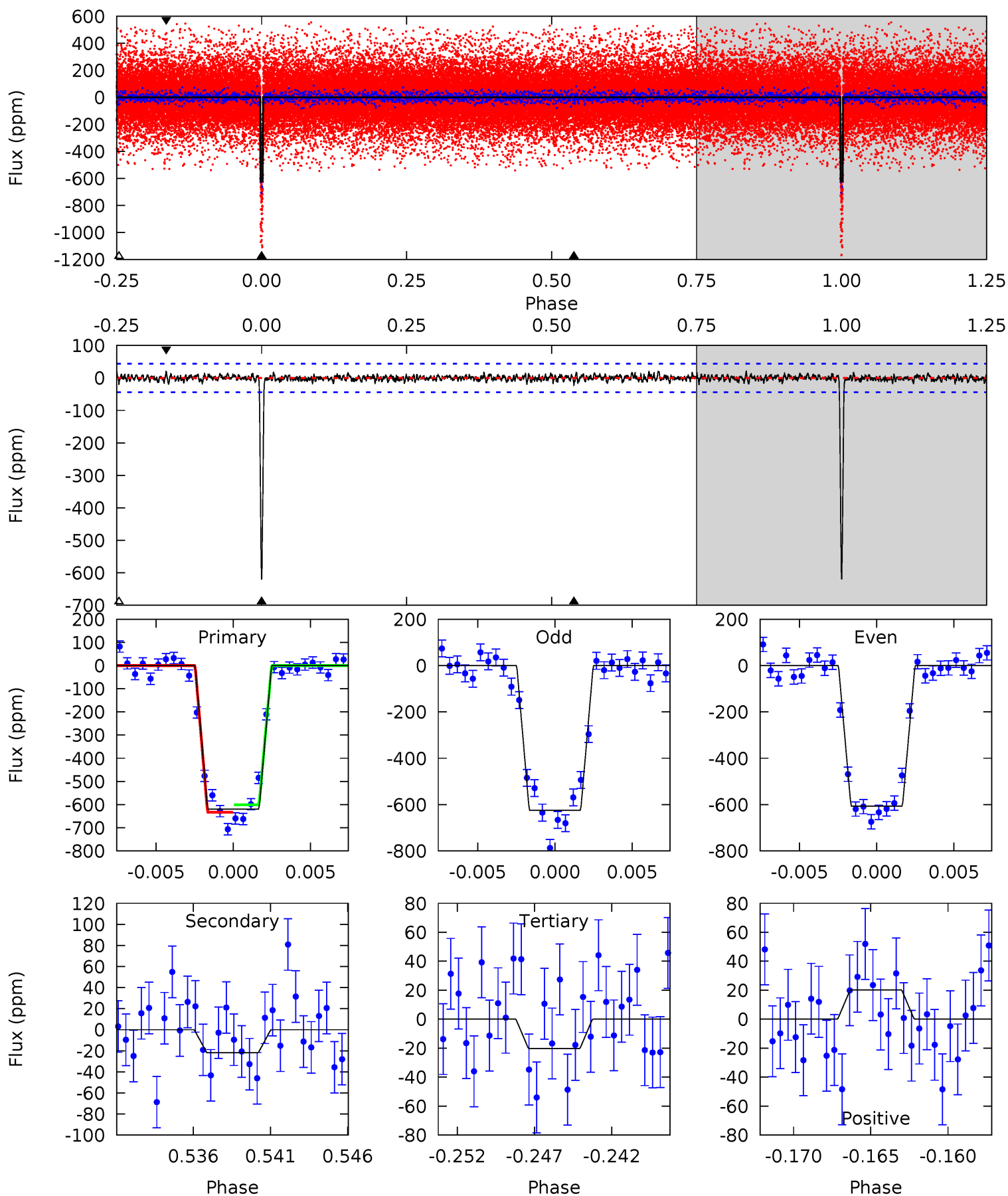
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.8	6.82	5.55	4.33	5.14	2.77	1.72	57.3	58.5	1.27	2.49	0.53	0.98	0.06	1.18



Alt Model-Shift Uniqueness Test

002302548-02, P = 24.570973 Days, E = 111.300955 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.9	2.58	2.39	2.38	5.15	2.80	0.71	70.5	70.5	0.19	0.20	1.05	0.99	0.03	1.92



Stellar Parameters For KIC 002302548

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5095^{+101}_{-101}	$4.566^{+0.032}_{-0.052}$	$0.020^{+0.150}_{-0.150}$	$0.780^{+0.055}_{-0.035}$	$0.816^{+0.047}_{-0.041}$	$2.424^{+0.310}_{-0.400}$
	+2%/-2%	+1%/-1%	+750%/-750%	+7%/-4%	+6%/-5%	+13%/-17%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 002302548-02 / KOI 0988.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-77 ± 11	$2.25^{+0.59}_{-0.66}$	707^{+18}_{-17}	3407^{+436}_{-243}	198^{+205}_{-78}
Alt.	-22 ± 9	$2.27^{+0.57}_{-0.65}$	707^{+18}_{-18}	2820^{+322}_{-235}	53^{+60}_{-26}

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

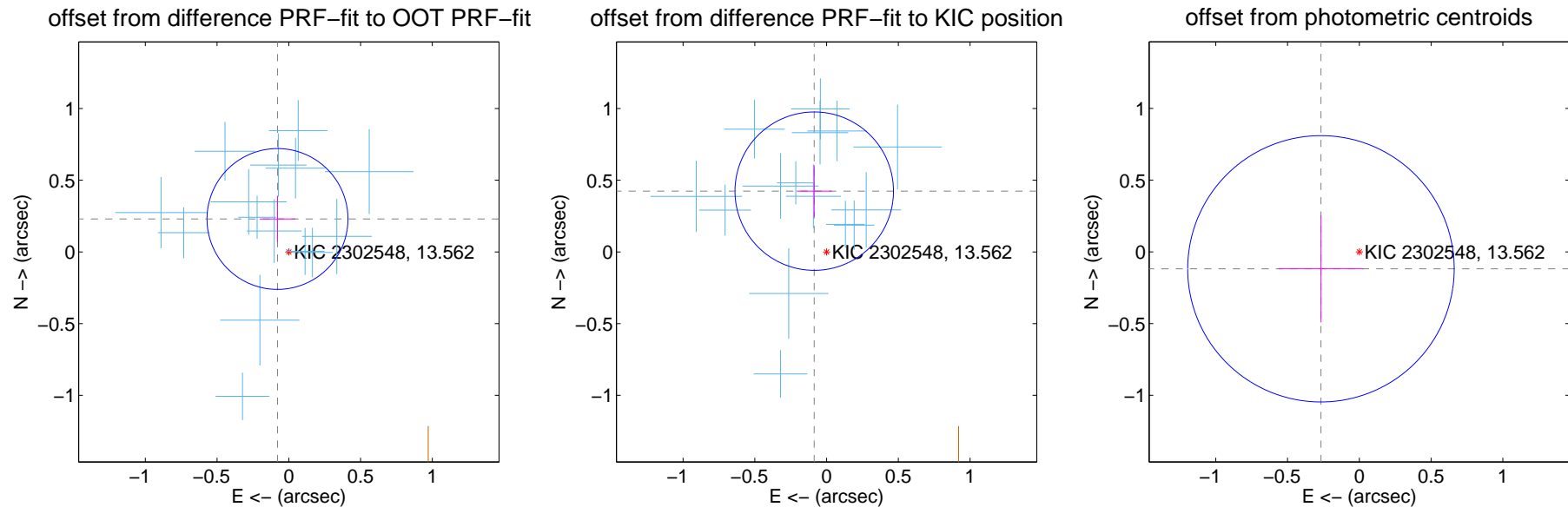
DV Centroid Data

Supplemental centroid analysis for 002302548-02. Kepler magnitude: 13.56. Transit SNR 36.73

There are 15 quarters with good PRF difference image offsets

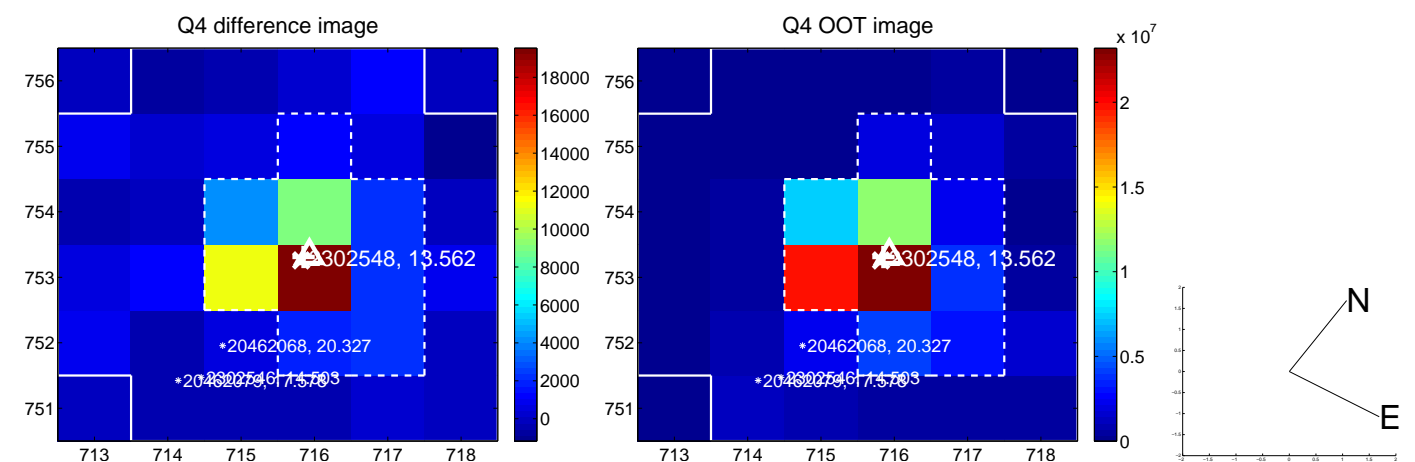
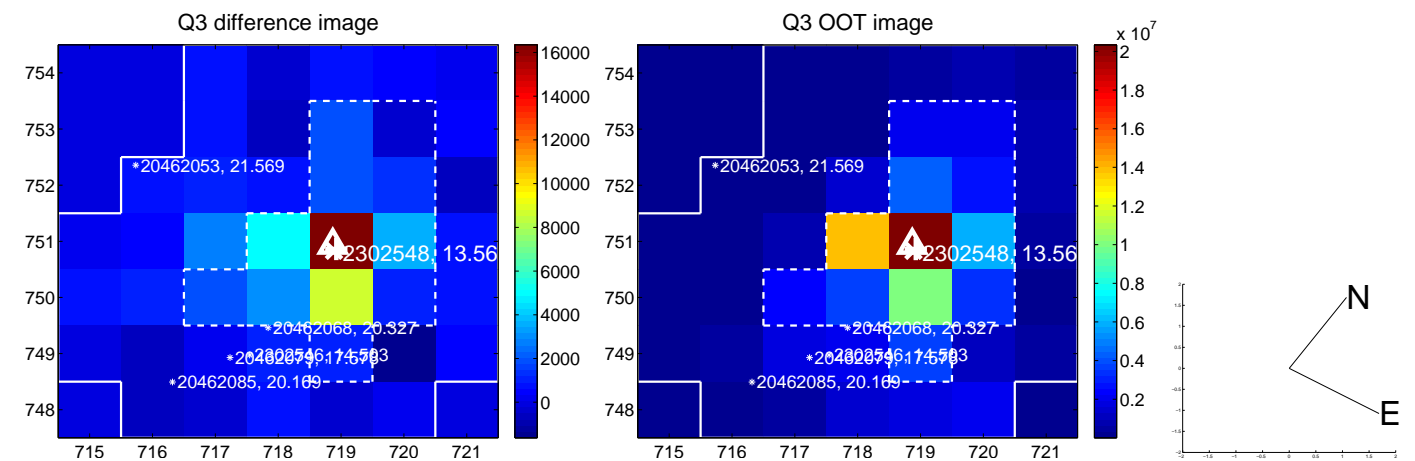
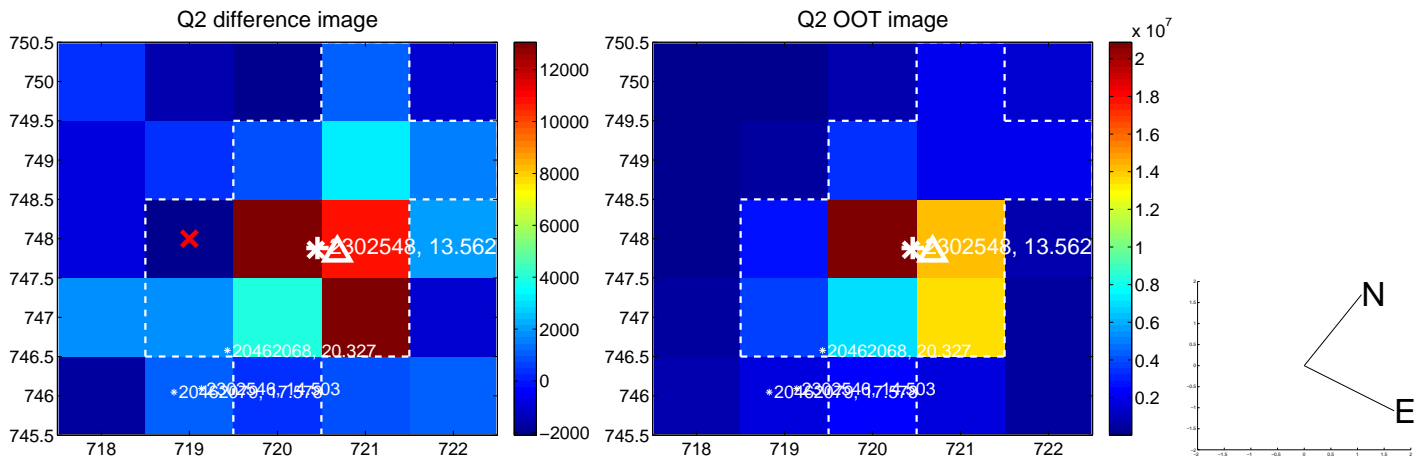
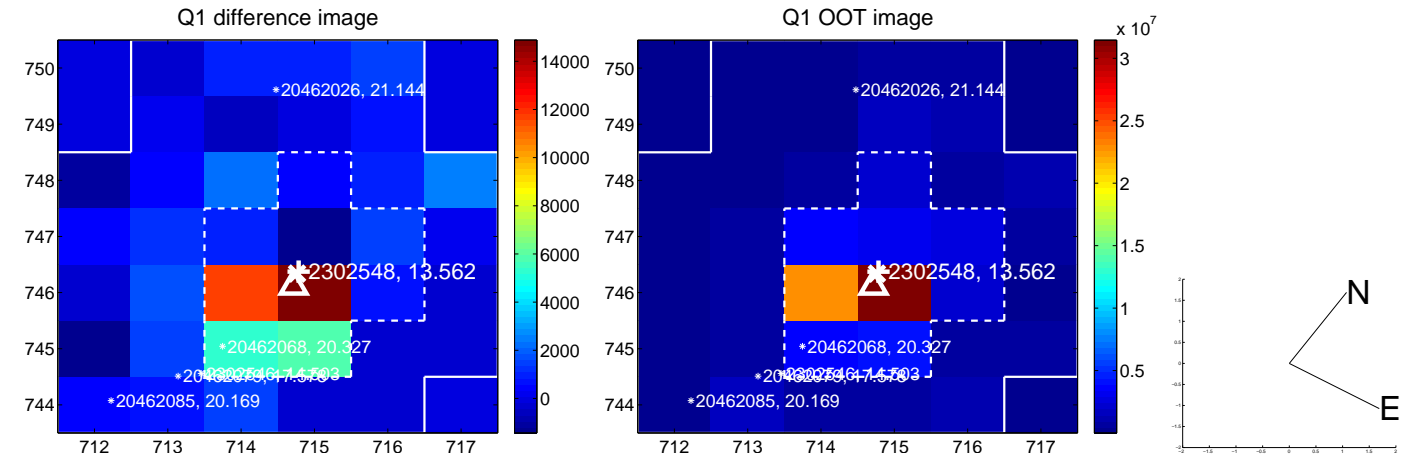
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.243 ± 0.164	1.48	0.079 ± 0.124	0.230 ± 0.161
PRF-fit source offset from KIC position	0.433 ± 0.184	2.35	0.086 ± 0.122	0.424 ± 0.180
photometric centroid source offset	0.29 ± 0.31	0.94	0.27 ± 0.30	-0.12 ± 0.37

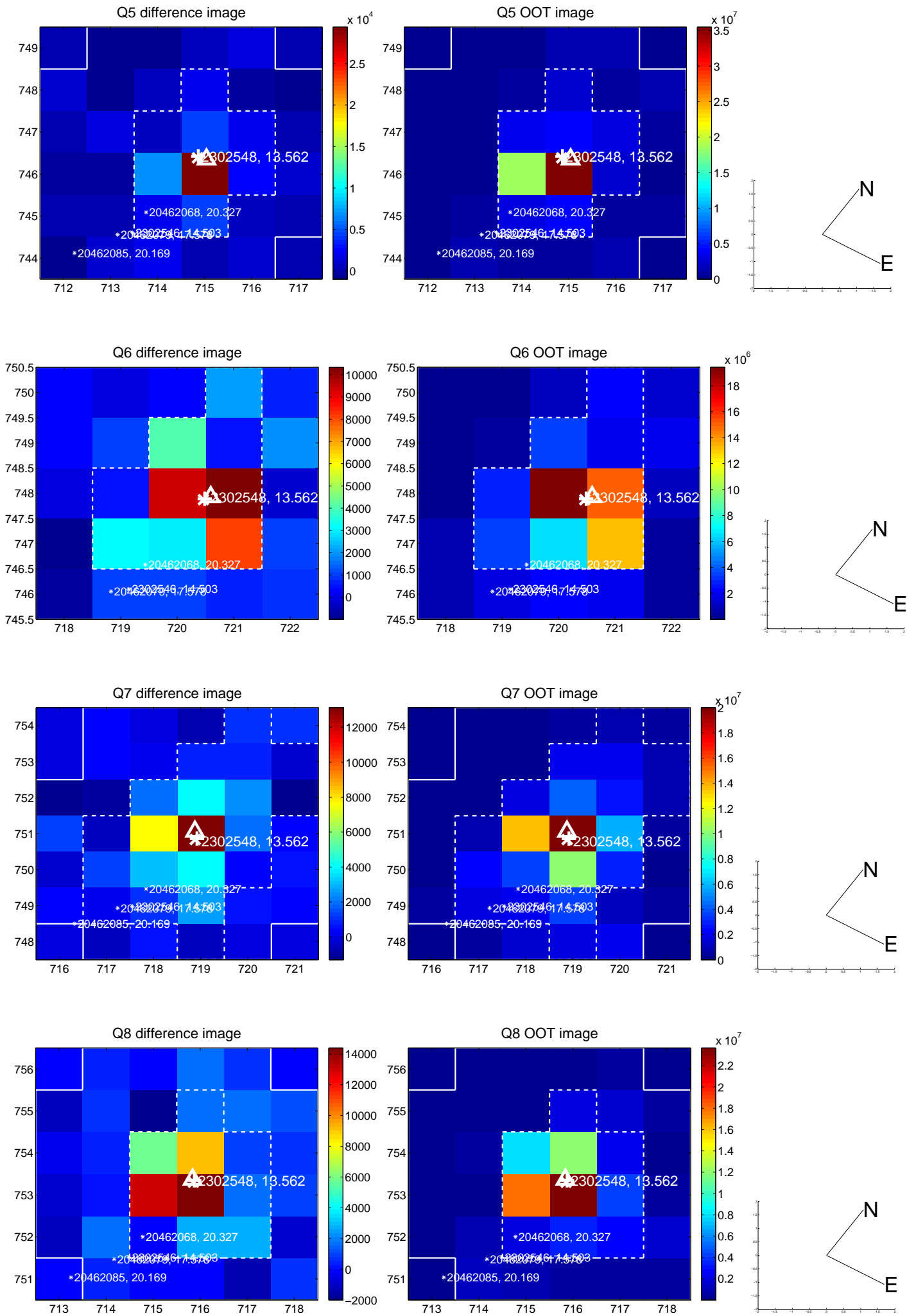


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

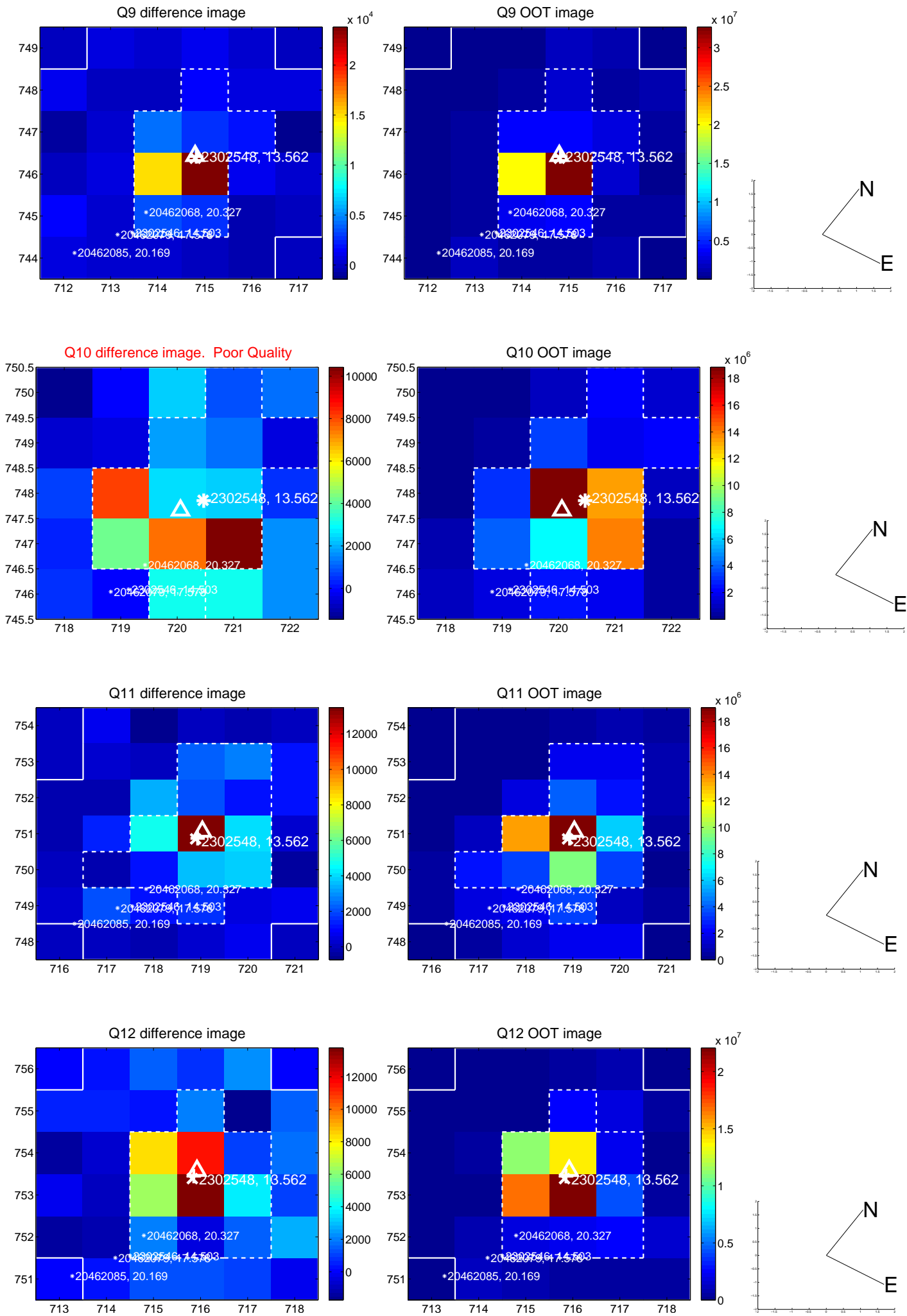
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



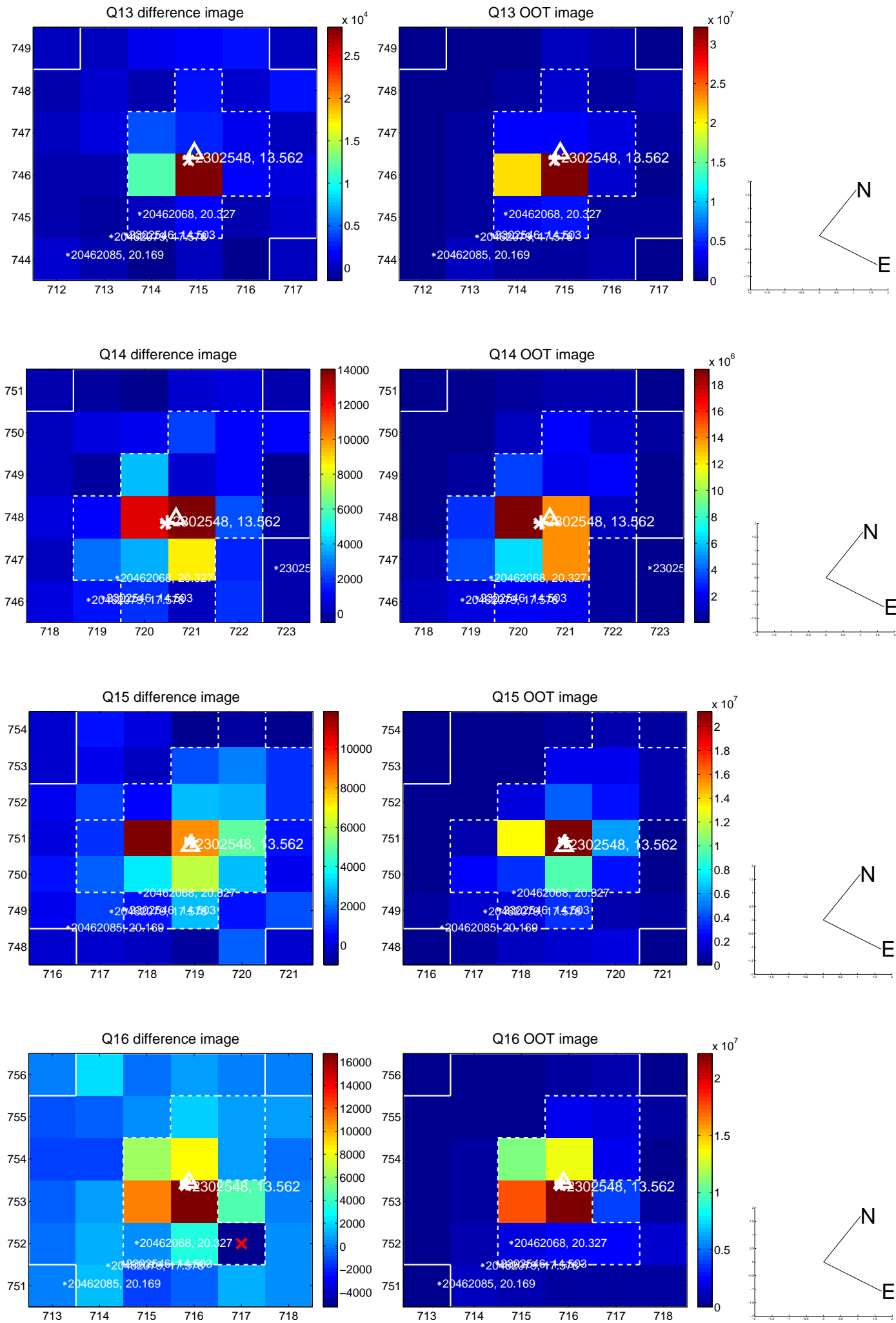
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



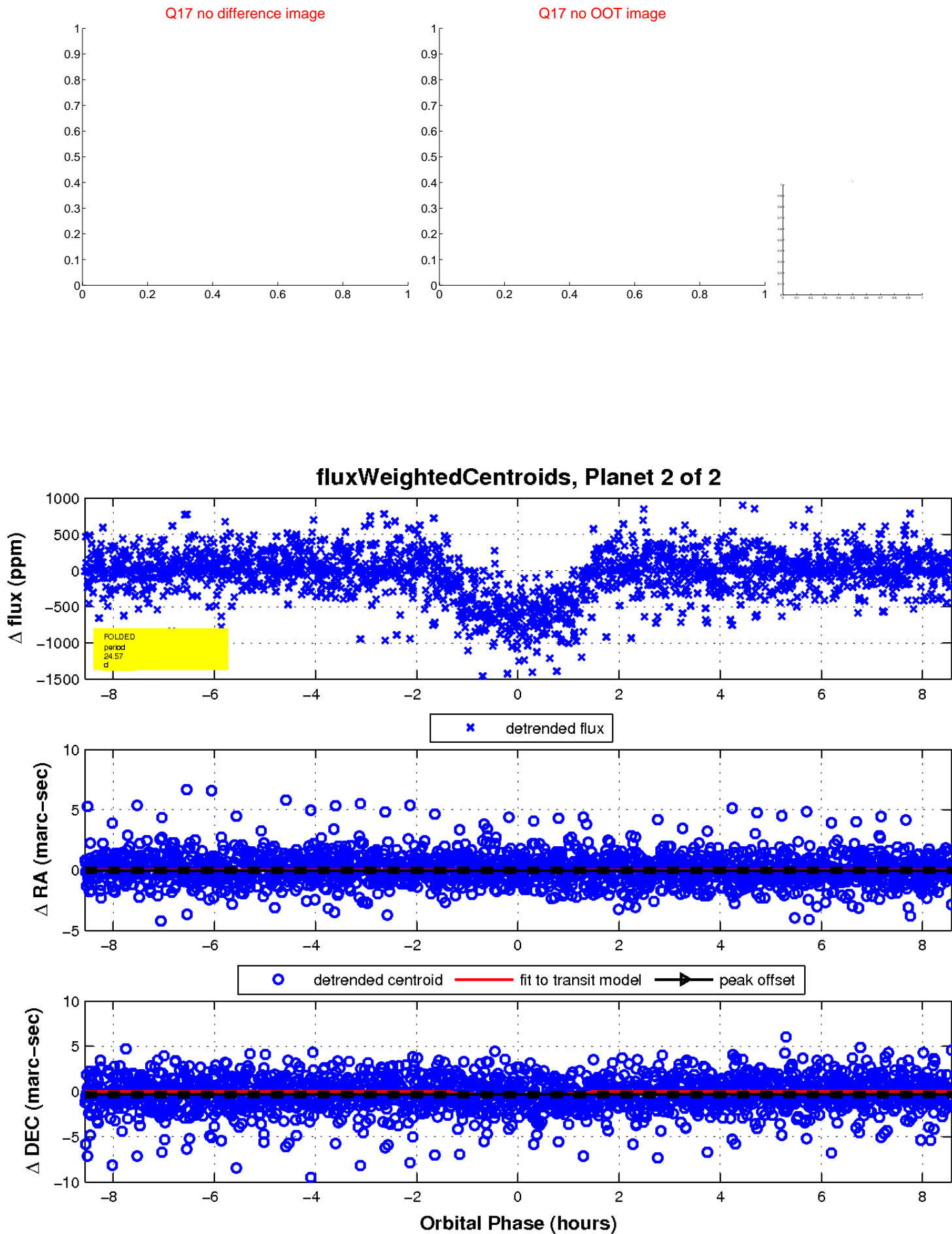
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

