

KIC 005396265

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})
005396265-01	OBS	No	2.551215	133.861100	15.7	12.519	9.5	10.7	2.11	7620	0.91	7108.67
005396265-02	OBS	No	323.721360	428.780223	161.3	11.700	9.7	8.7	2.11	7620	2.97	11.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005396265-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
005396265-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—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.

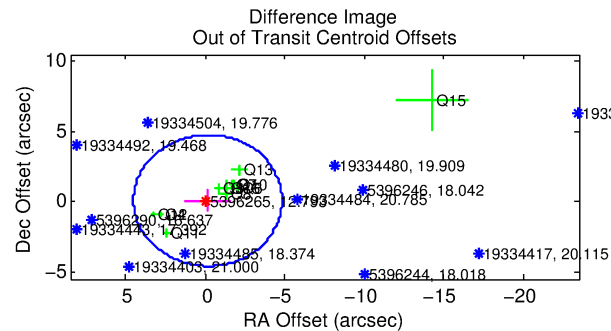
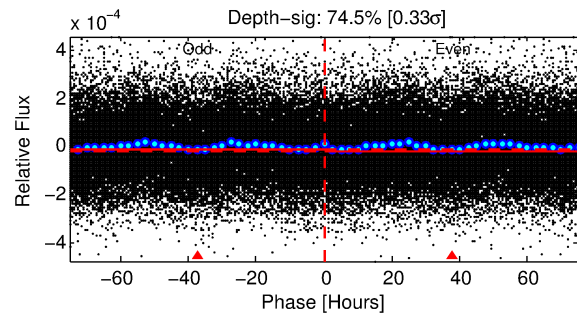
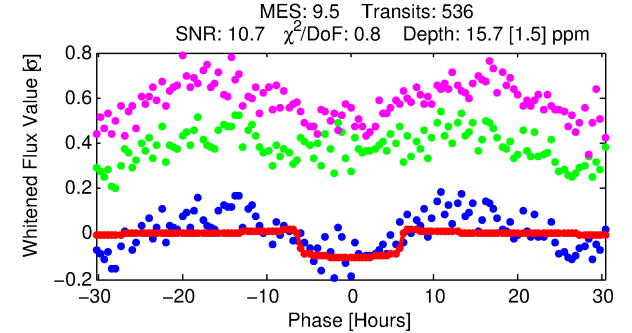
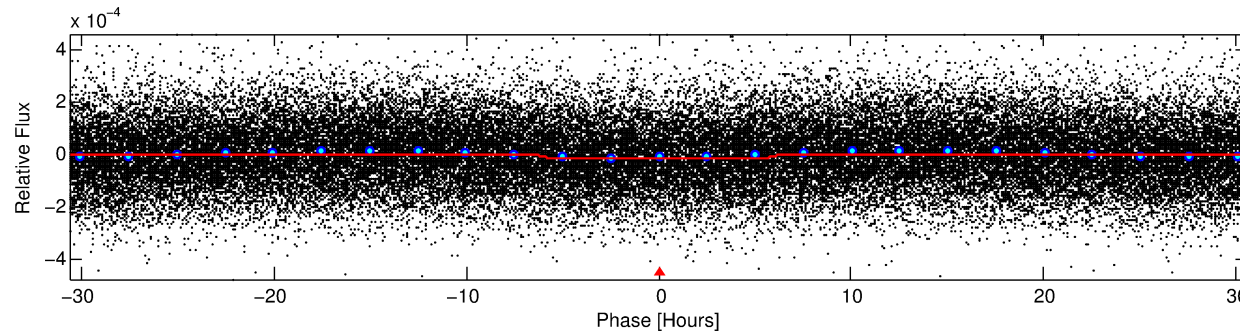
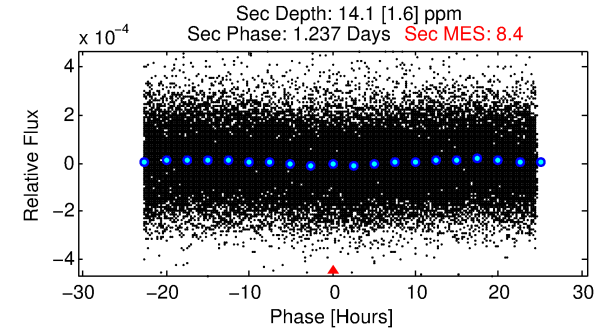
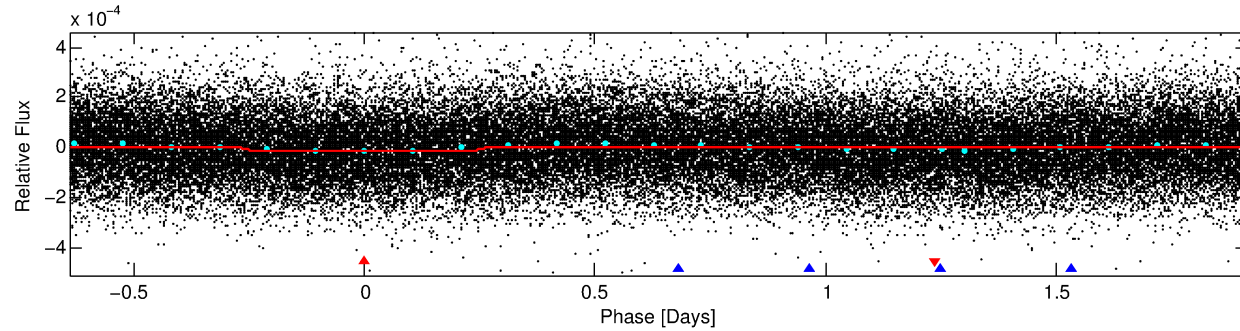
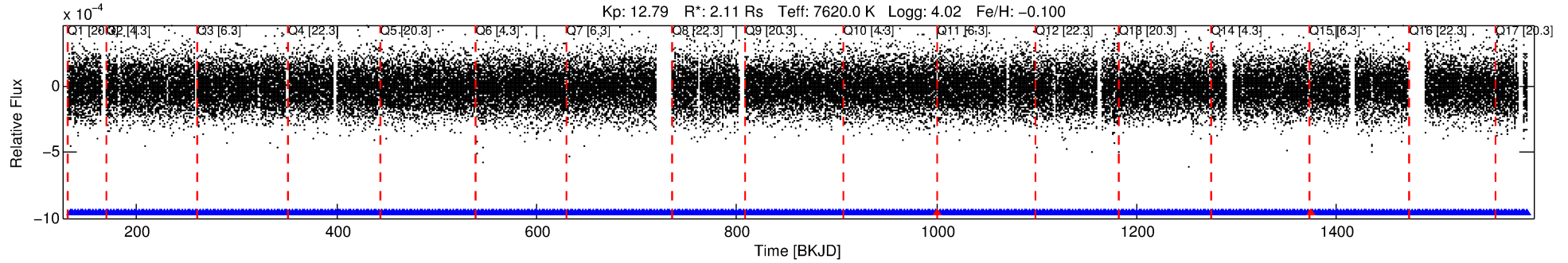
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005396265-01

No Significant Match Found

DV One-Page Summary

KIC: 5396265 Candidate: 1 of 2 Period: 2.551 d



DV Fit Results:

Period = 2.55121 [0.00004] d
Epoch = 133.8611 [0.0088] BKJD
Rp/R* = 0.0040 [0.0012]
a/R* = 1.32 [1.06]
b = 0.77 [0.99]
Seff = 7108.67 [2795.86]
Teq = 2341 [230] K
Rp = 0.91 [0.36] Re
a = 0.0436 [0.0101] AU
Ag = 17.67 [12.32] [1.35σ]
Teff = 7422 [1154] K [4.32σ]

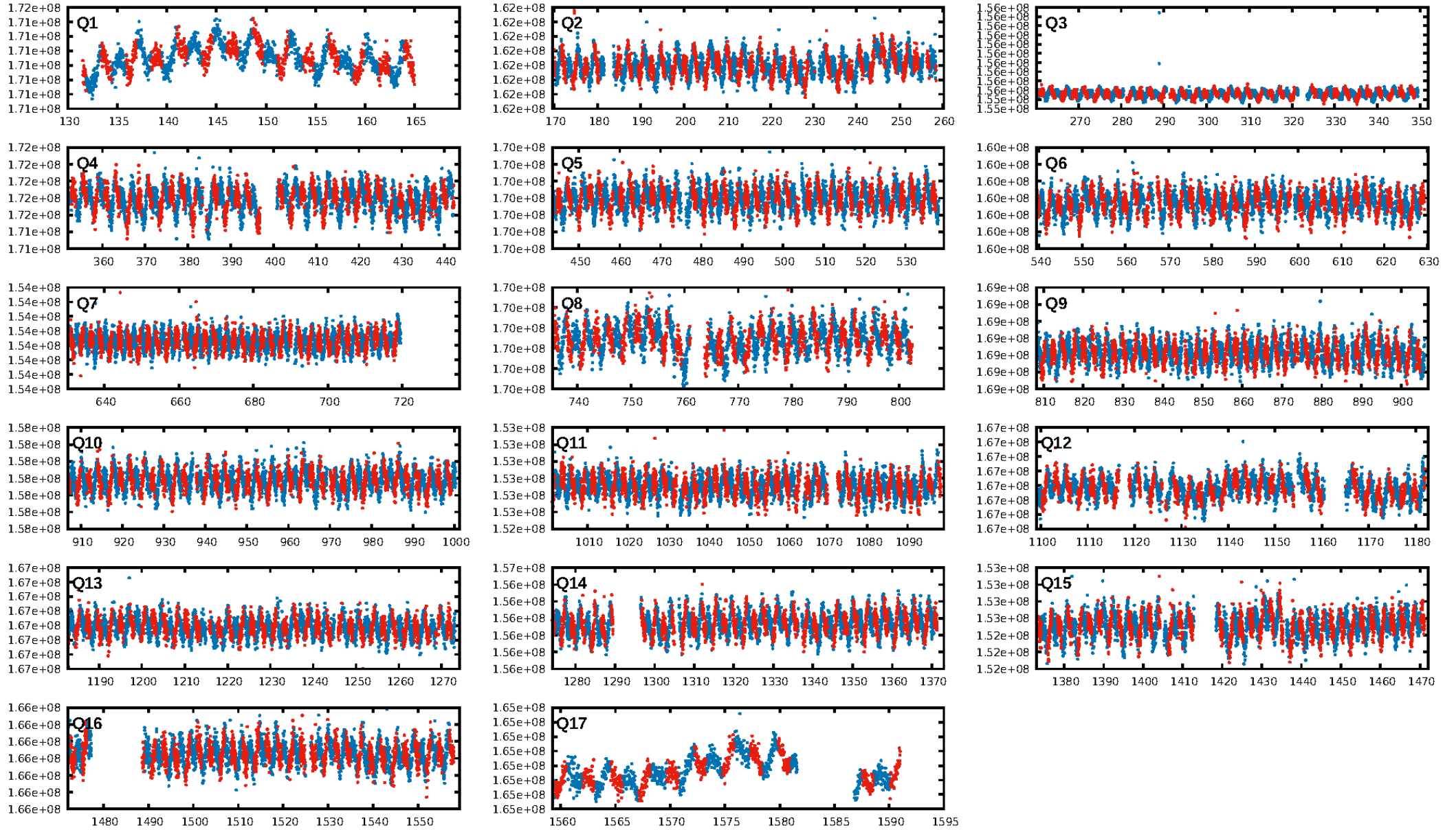
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [449.84σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.08e-17
RollingBand-fgt: 1.00 [509/511]
GhostDiagnostic-chr: 3.339
Centroid-sig: 0.3%
Centroid-so: 2.672 arcsec [2.18σ]
OotOffset-rm: 0.180 arcsec [0.12σ]
OotOffset-st: 2/4/4/1 [11]
KicOffset-rm: 0.211 arcsec [0.13σ]
KicOffset-st: 2/4/4/1 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [17/17]

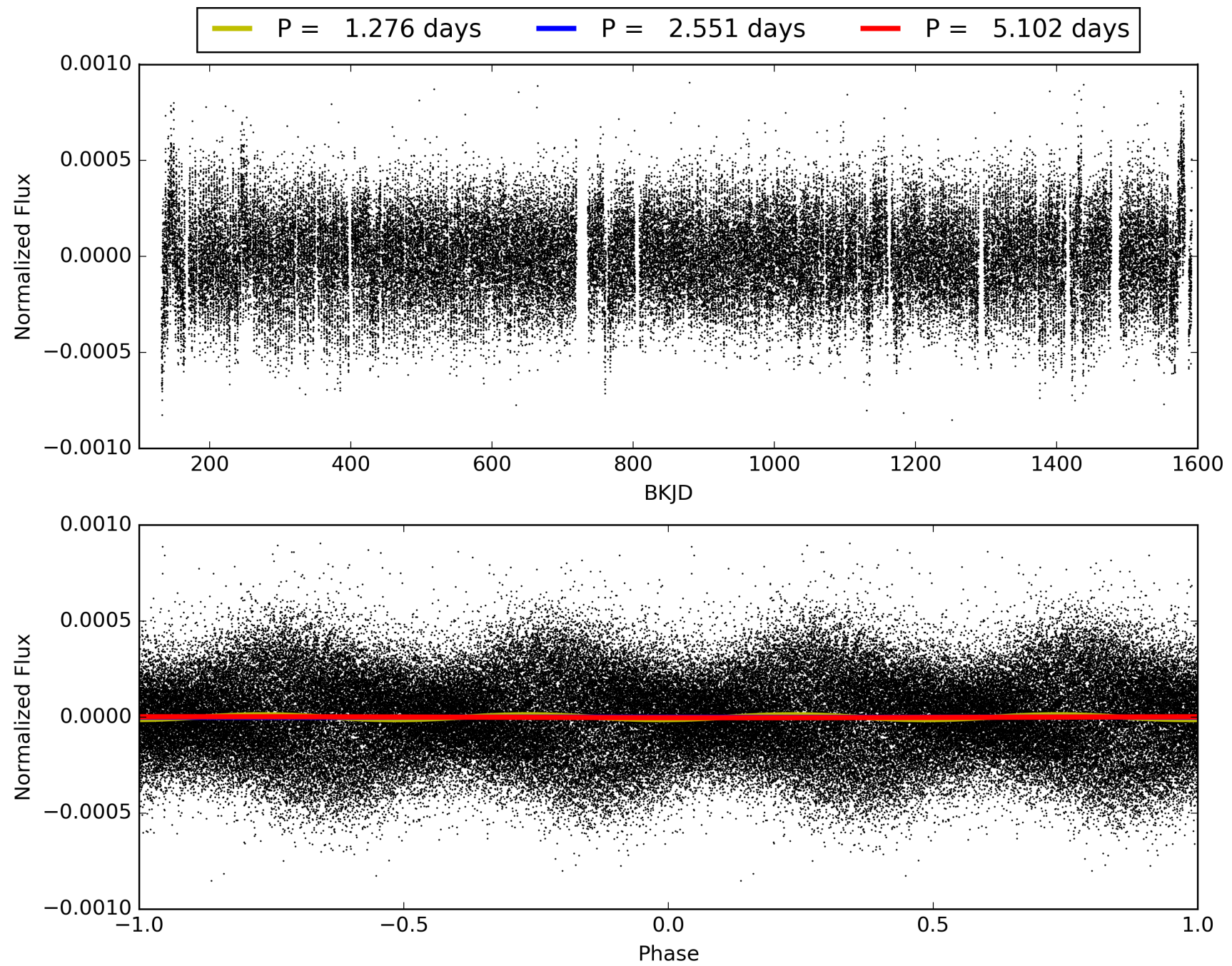
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:25:55 Z

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

TCE 005396265-01, PDC Light Curves

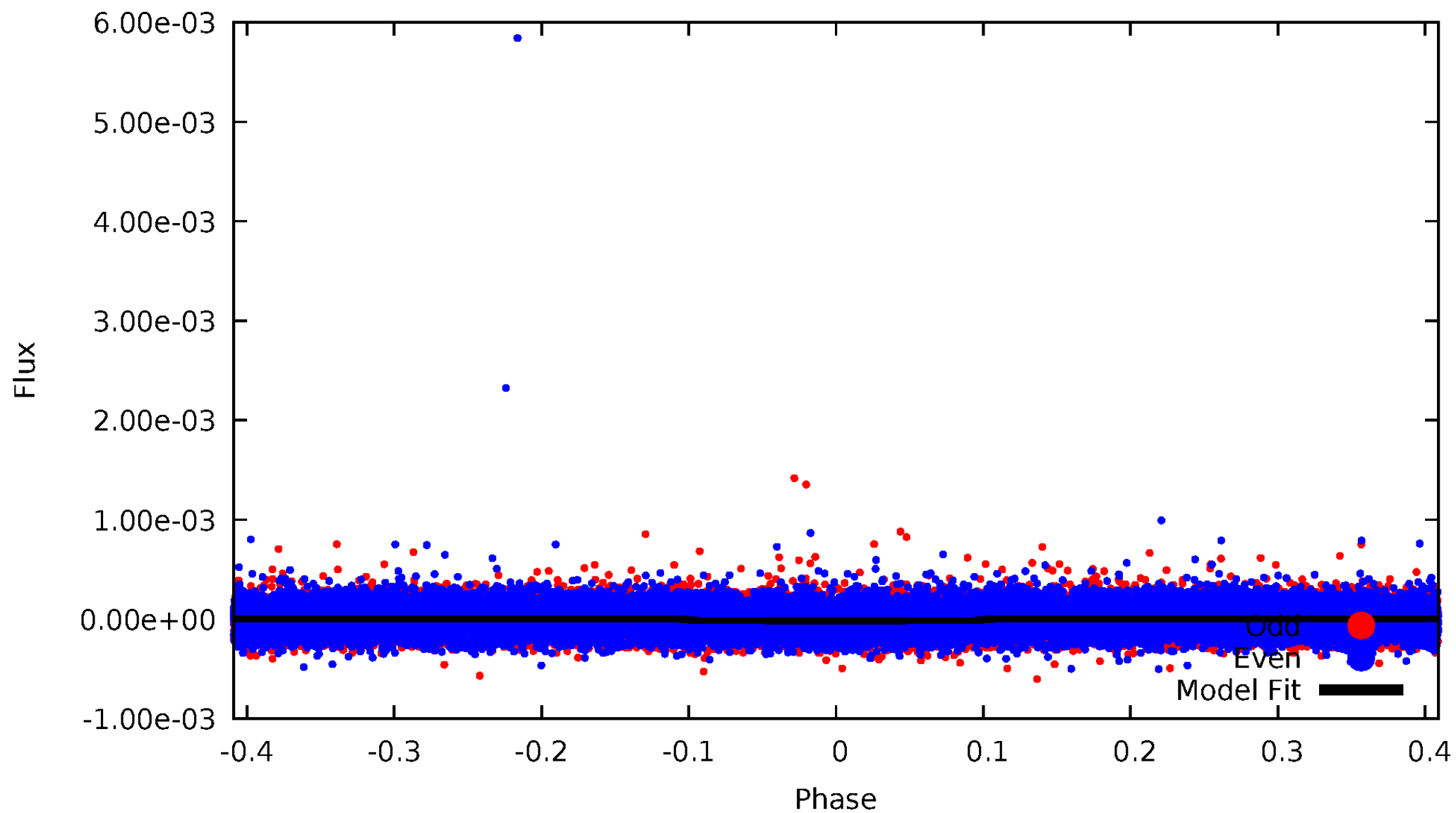


TCE 005396265-01



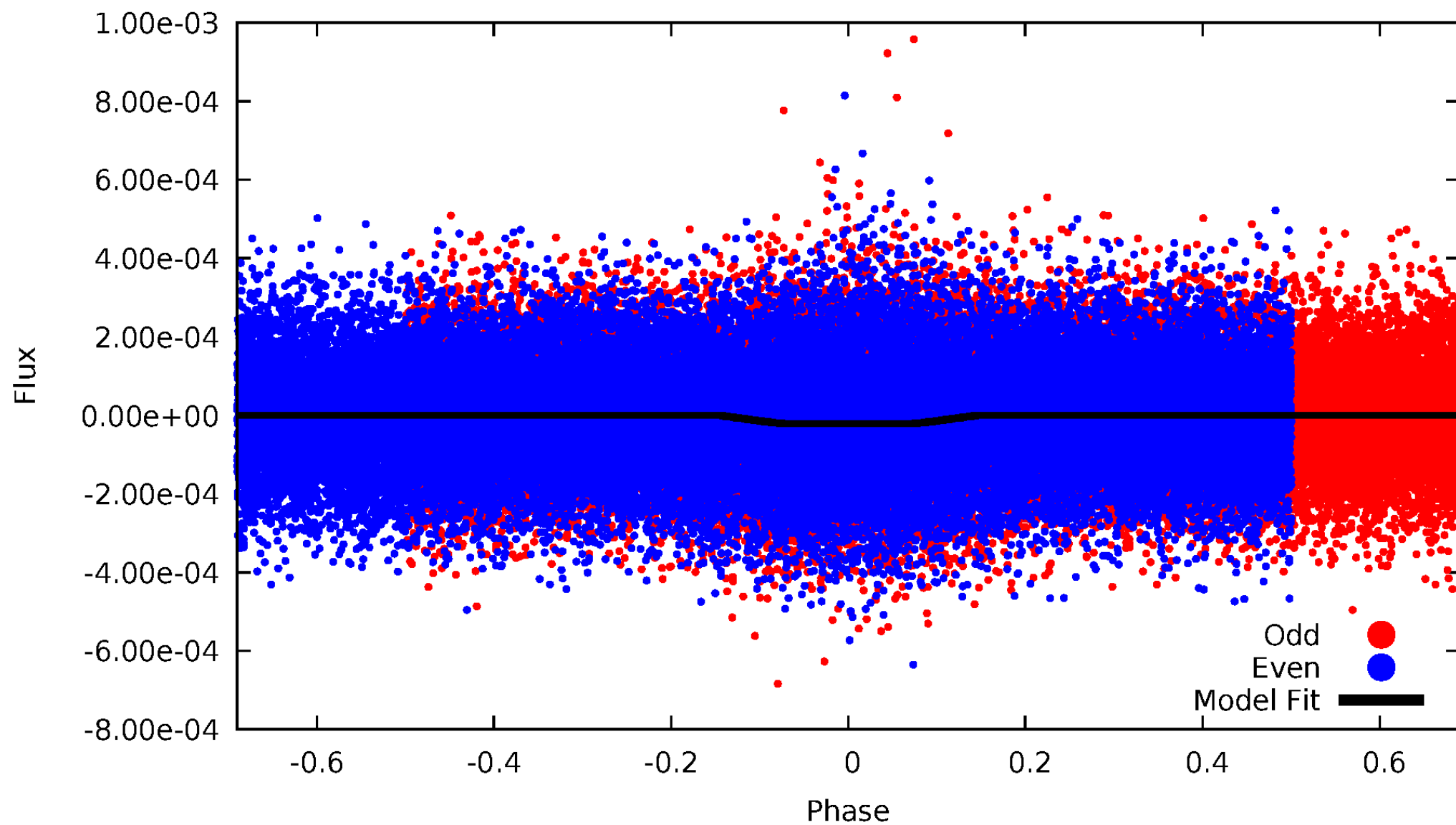
DV Odd/Even

TCE 005396265-01



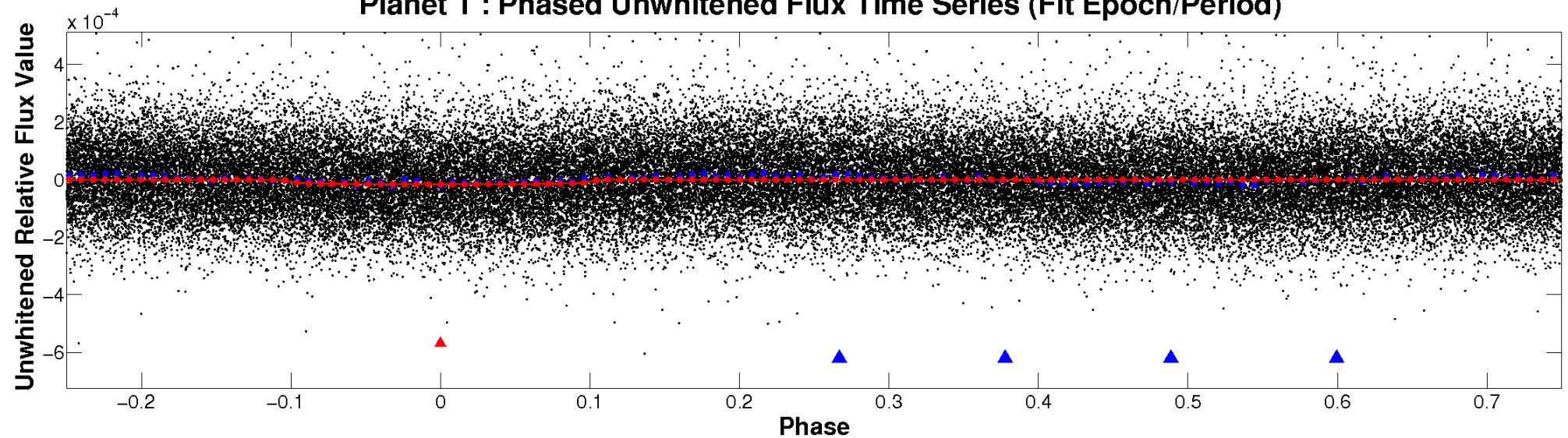
ALT Odd/Even

TCE 005396265-01

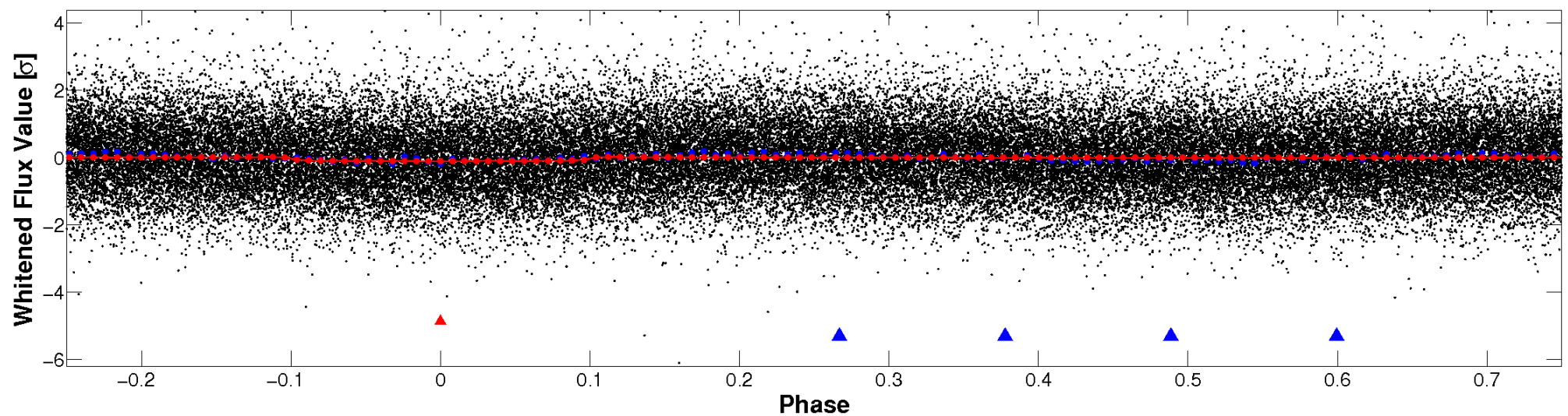


Non-Whitened Vs. Whitened Light Curve

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

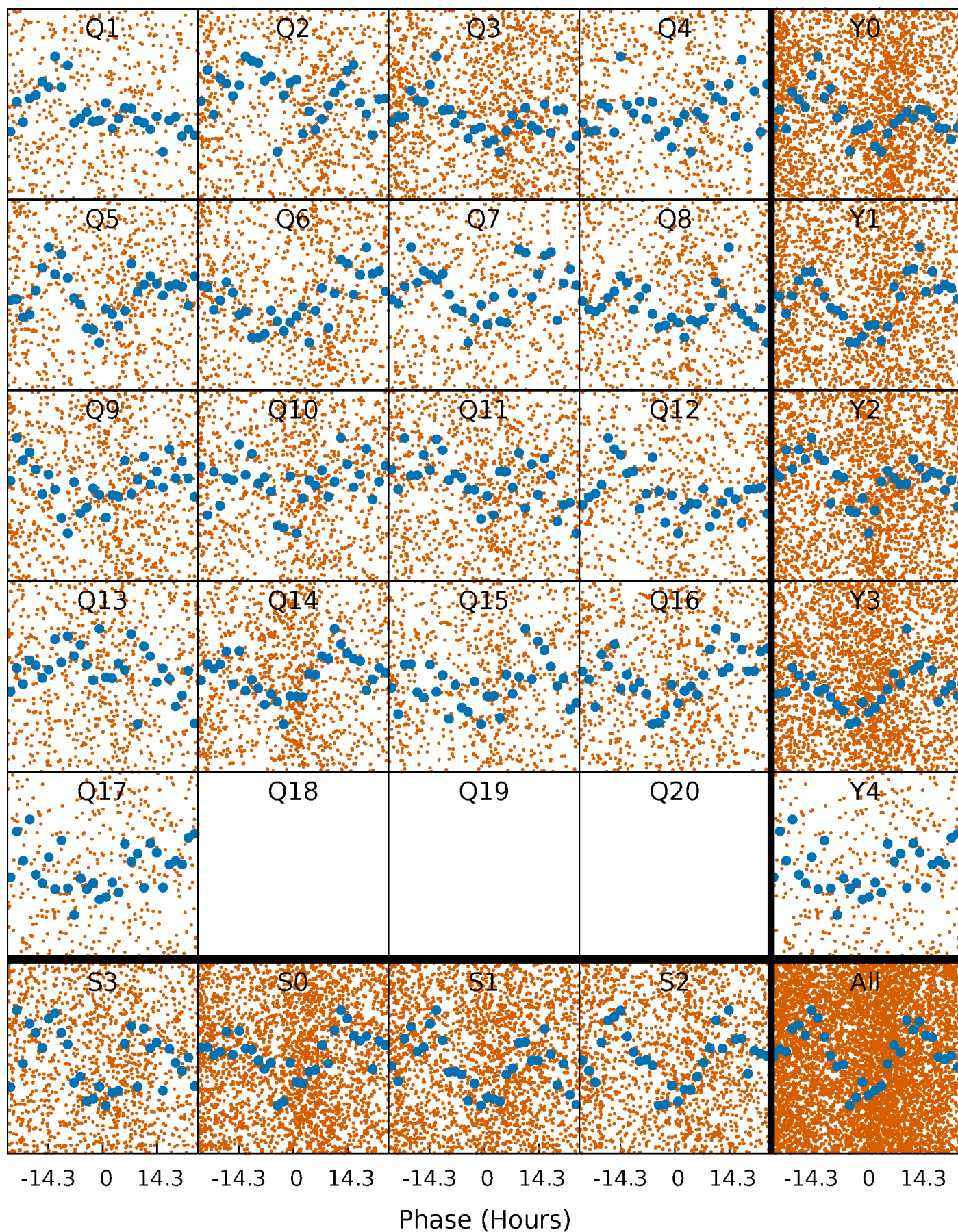


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



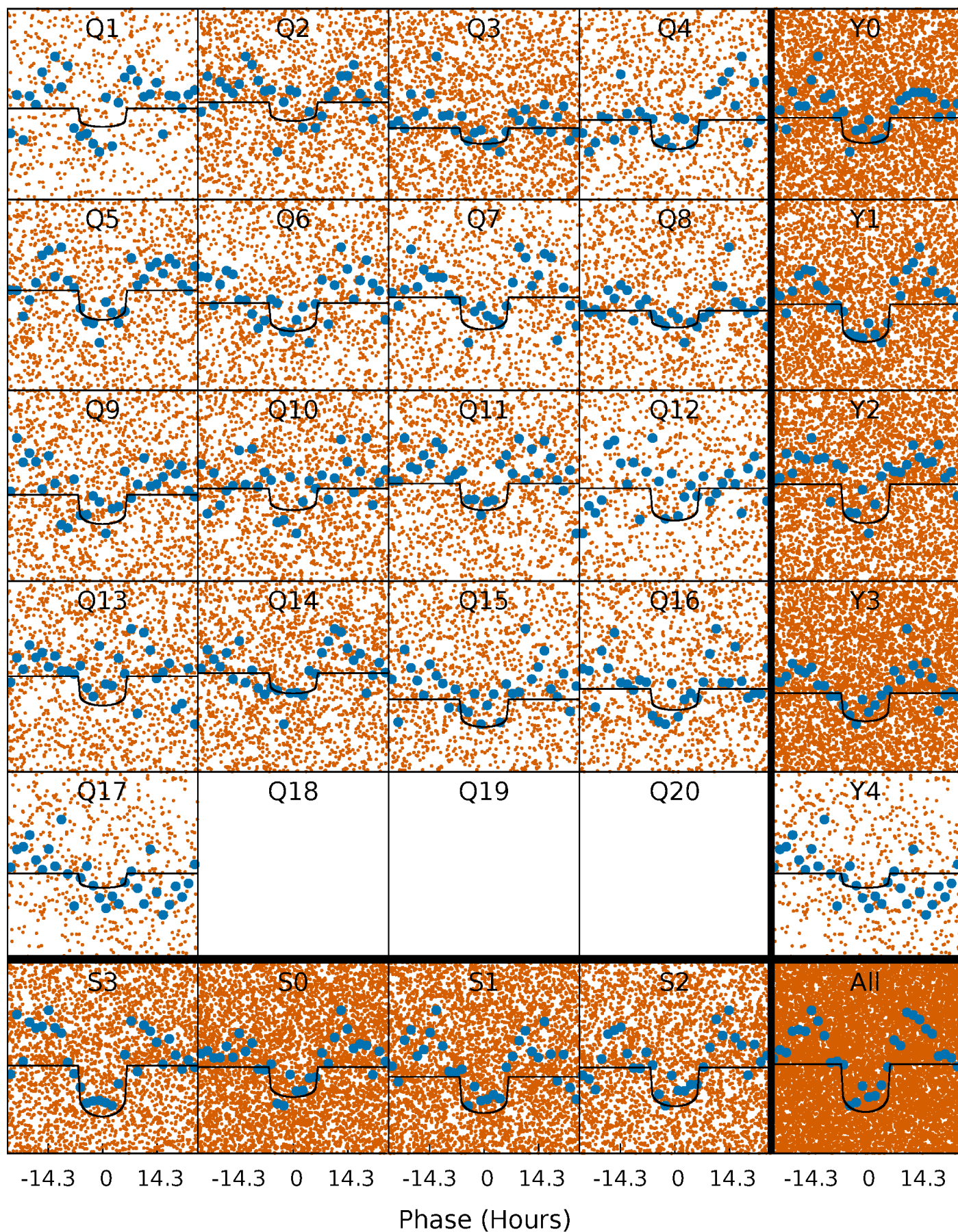
PDC Quarter-Phased Transit Curves

TCE 005396265-01 P= 2.551215 Days $T_0=133.861100$ (BKJD)



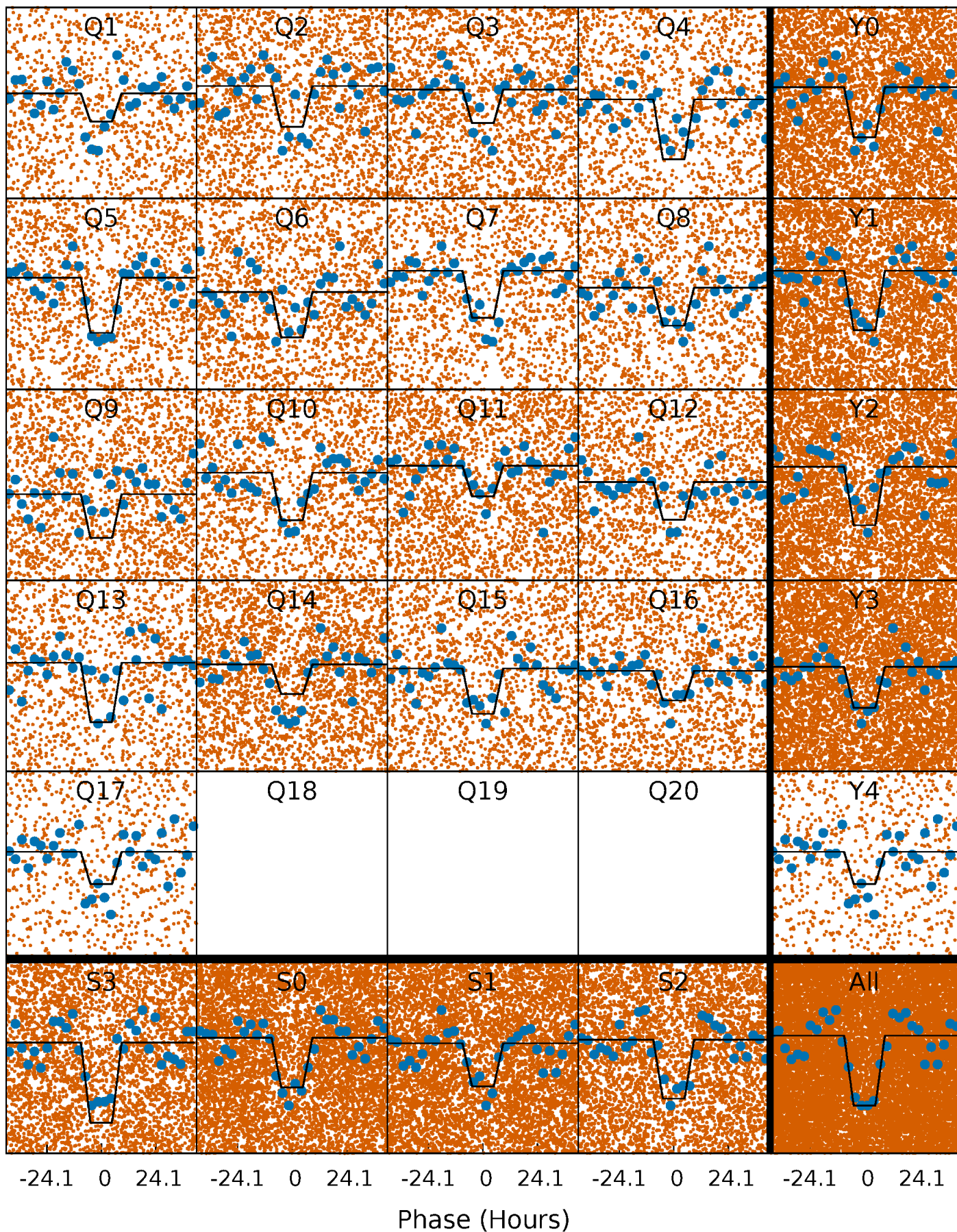
DV Quarter-Phased Transit Curves

TCE 005396265-01 P= 2.551215 Days $T_0=133.861100$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

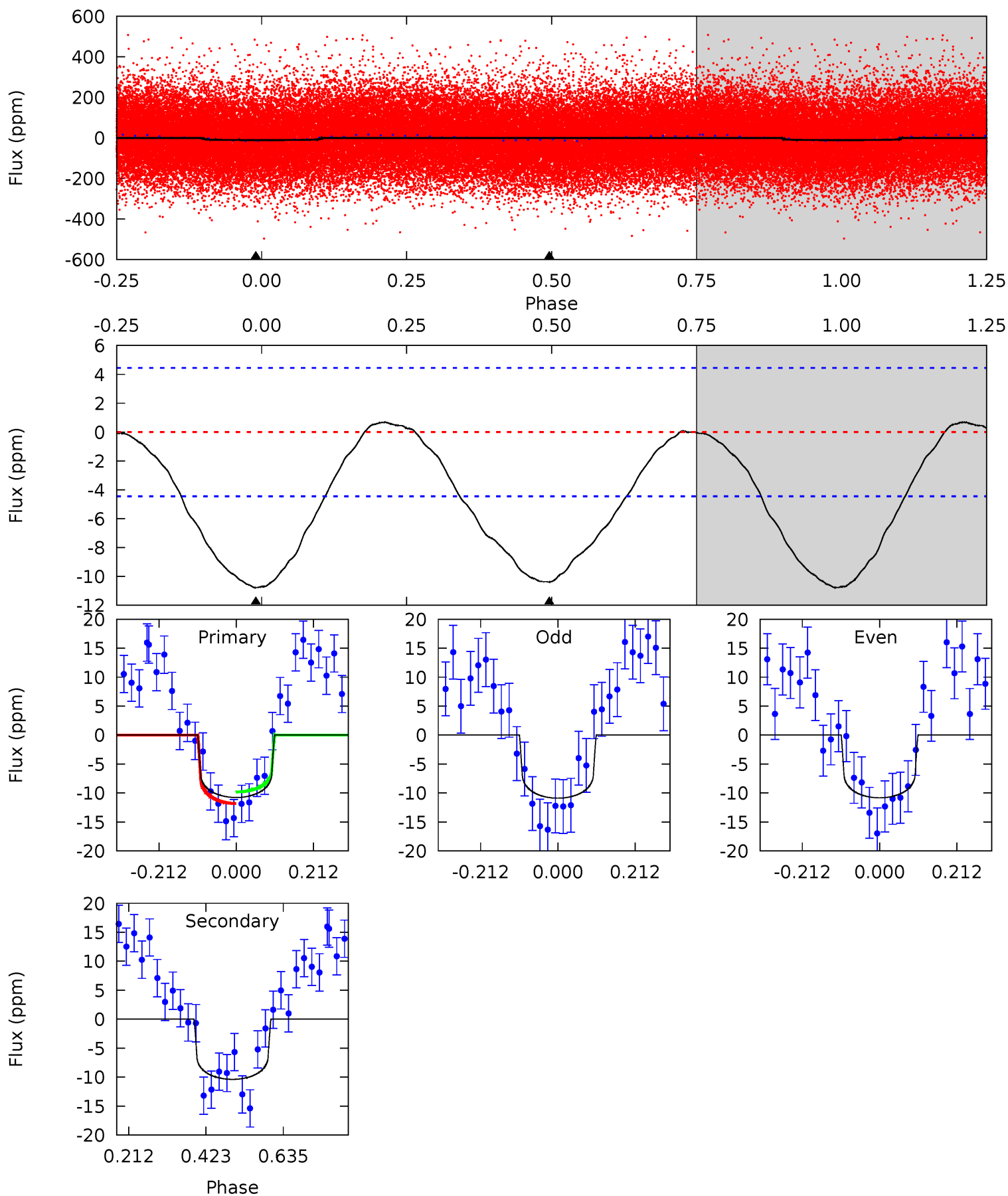
TCE 005396265-01 P= 2.551086 Days $T_0=133.859675$ (BKJD)



DV Model-Shift Uniqueness Test

005396265-01, P = 2.551215 Days, E = 131.309885 Days

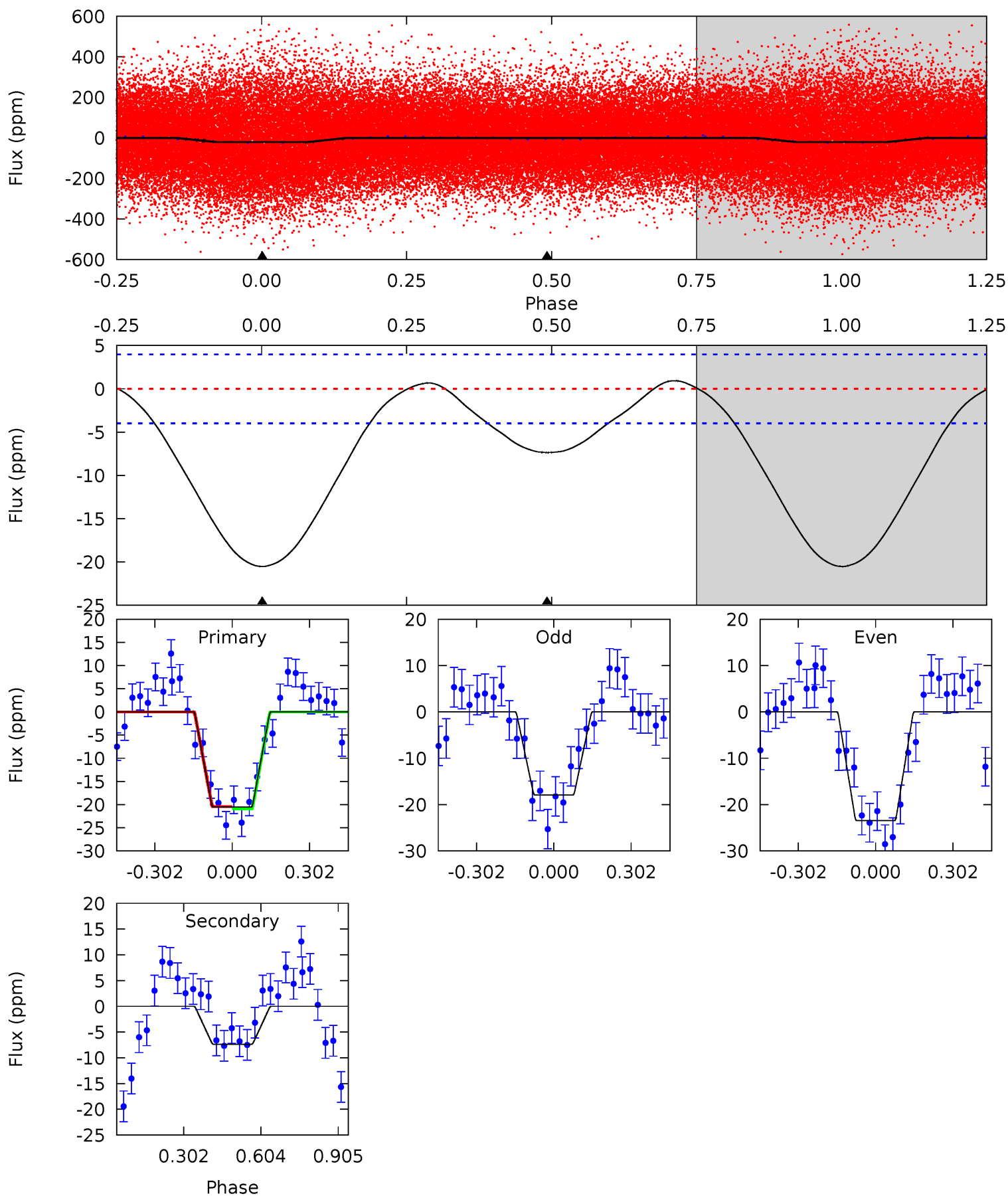
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	10.3	0	0	4.40	1.25	0.38	10.7	10.7	10.3	10.3	0.03	0.97	0.06	0.98



Alt Model-Shift Uniqueness Test

005396265-01, P = 2.551086 Days, E = 131.308589 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.3	8.00	0	0	4.33	1.03	0.61	22.3	22.3	8.00	8.00	3.01	0.29	0.04	0.25



Stellar Parameters For KIC 005396265

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7620^{+211}_{-316}	$4.017^{+0.204}_{-0.153}$	$-0.100^{+0.200}_{-0.350}$	$2.114^{+0.541}_{-0.541}$	$1.694^{+0.198}_{-0.298}$	$0.252^{+0.272}_{-0.104}$
	+3%/-4%	+5%/-4%	+200%/-350%	+26%/-26%	+12%/-18%	+108%/-41%
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 005396265-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$0.88^{+0.29}_{-0.29}$	3228^{+262}_{-233}	6739^{+1644}_{-888}	14^{+17}_{-6}
Alt.	-7 ± 1	$1.02^{+0.32}_{-0.28}$	3255^{+240}_{-242}	5723^{+981}_{-594}	$7.189^{+6.964}_{-2.935}$

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

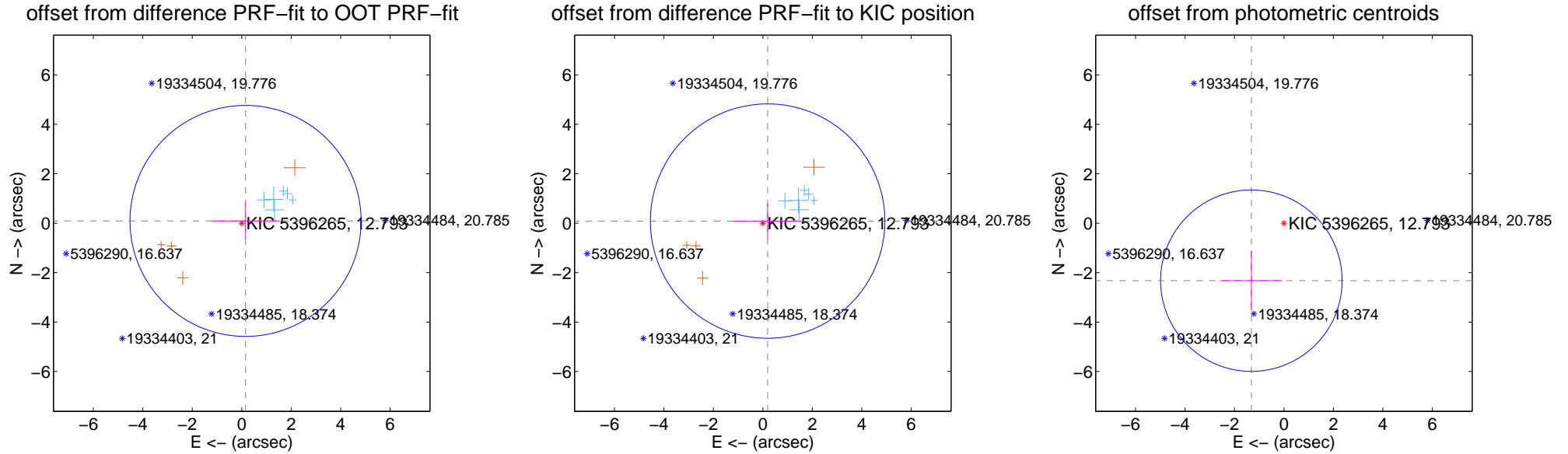
DV Centroid Data

Supplemental centroid analysis for 005396265-01. Kepler magnitude: 12.79. Transit SNR 10.73

There are 6 quarters with good PRF difference image offsets

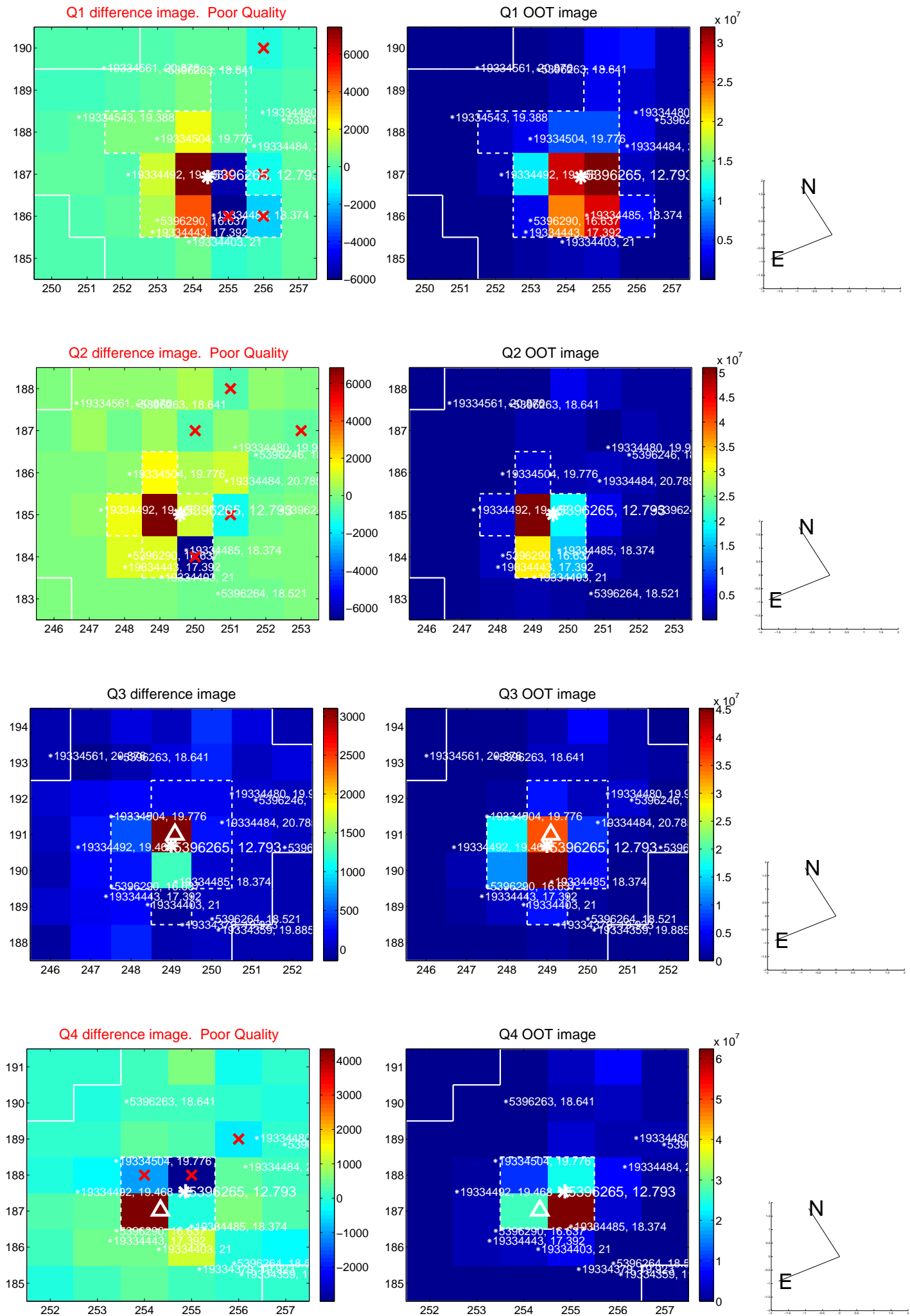
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.180 ± 1.557	0.12	-0.154 ± 1.381	0.092 ± 0.741
PRF-fit source offset from KIC position	0.211 ± 1.580	0.13	-0.193 ± 1.415	0.085 ± 0.722
photometric centroid source offset	2.67 ± 1.22	2.18	1.32 ± 1.25	-2.32 ± 1.21

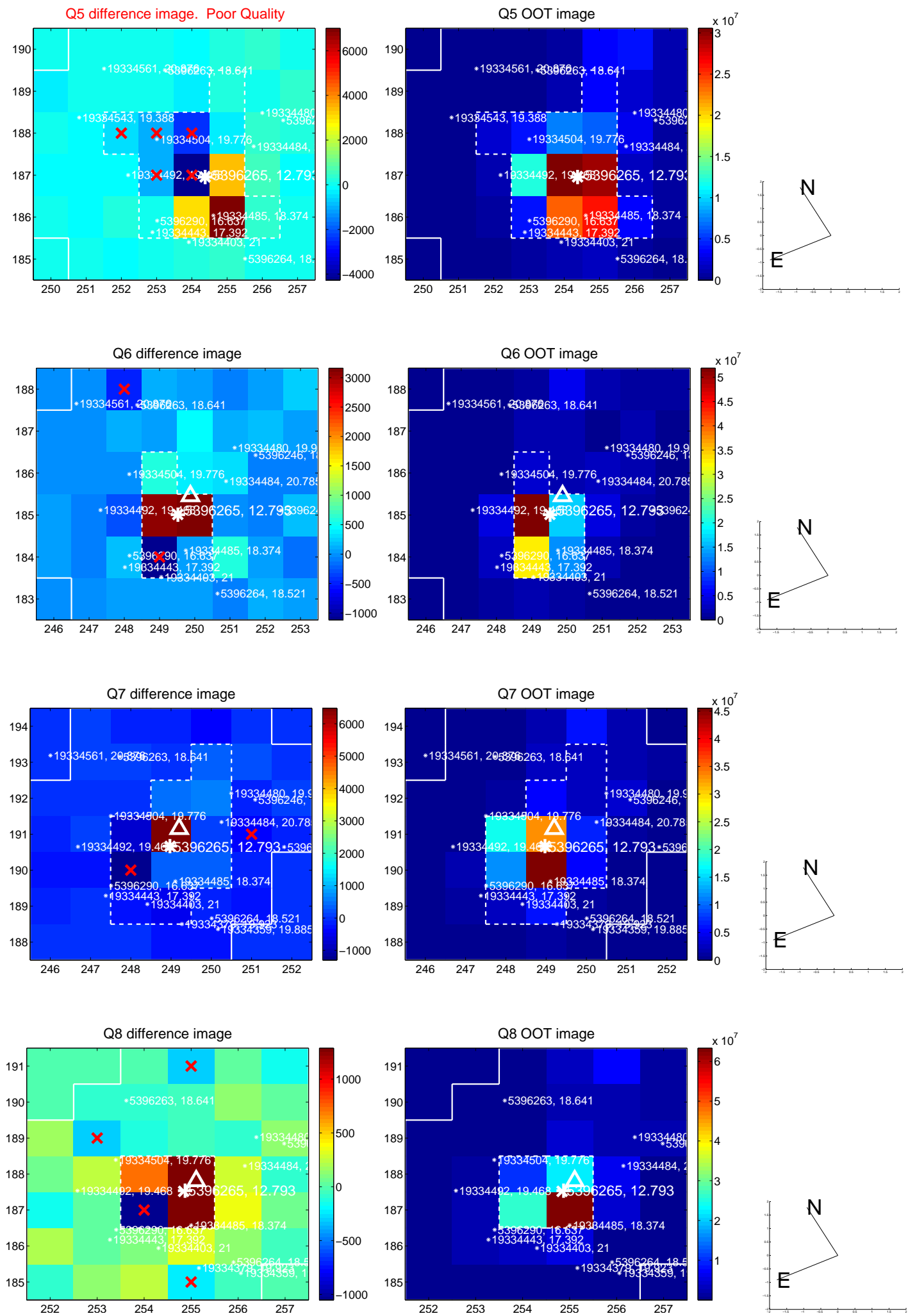


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

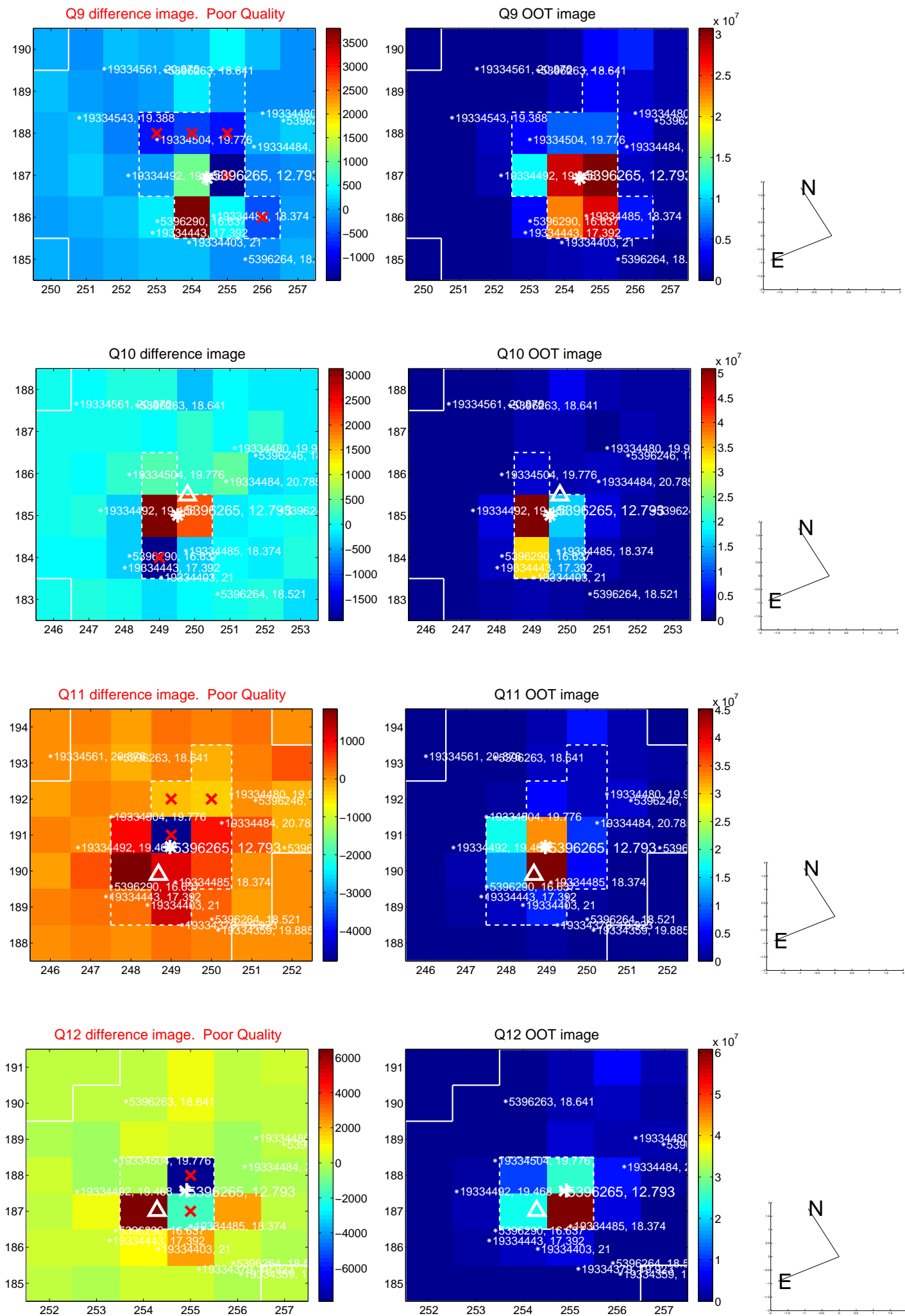
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



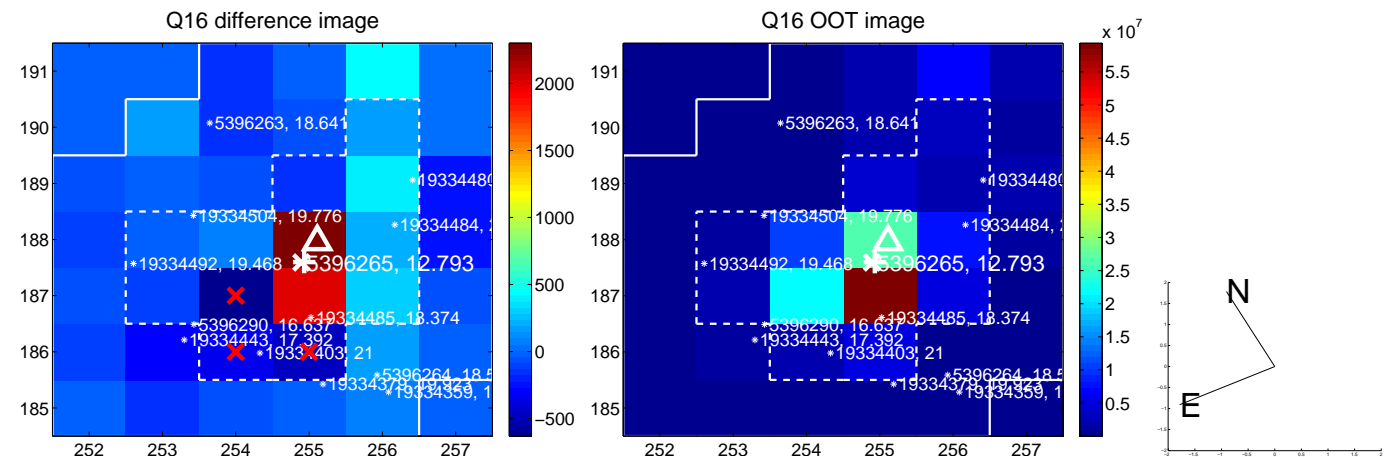
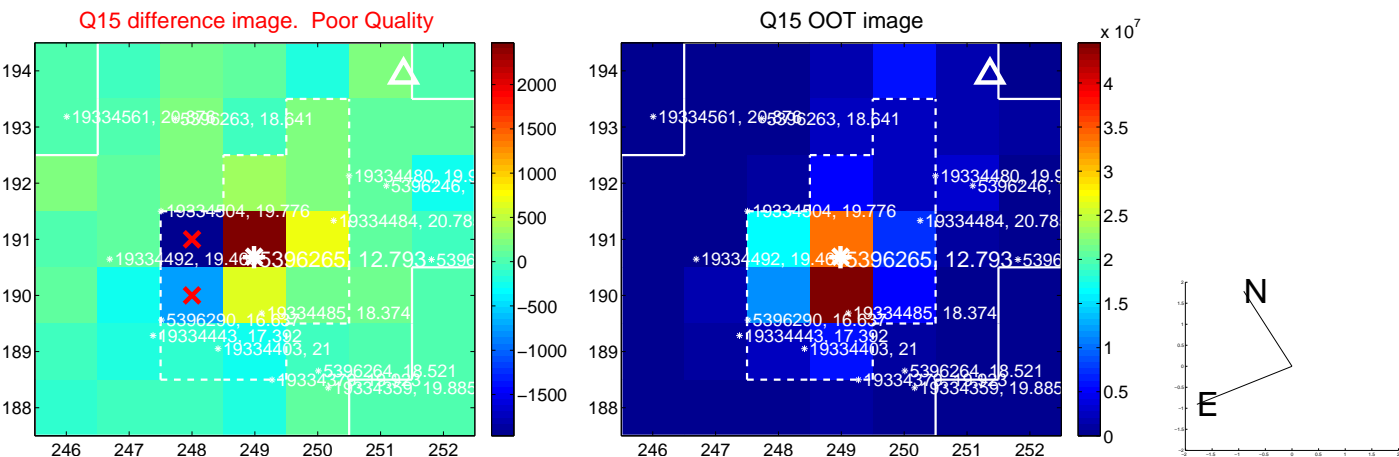
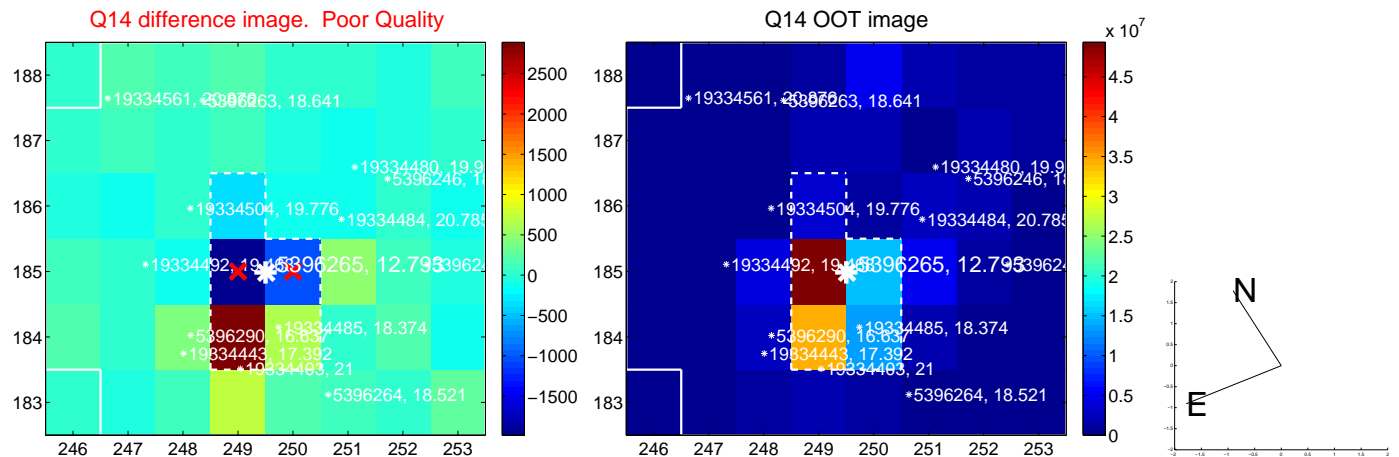
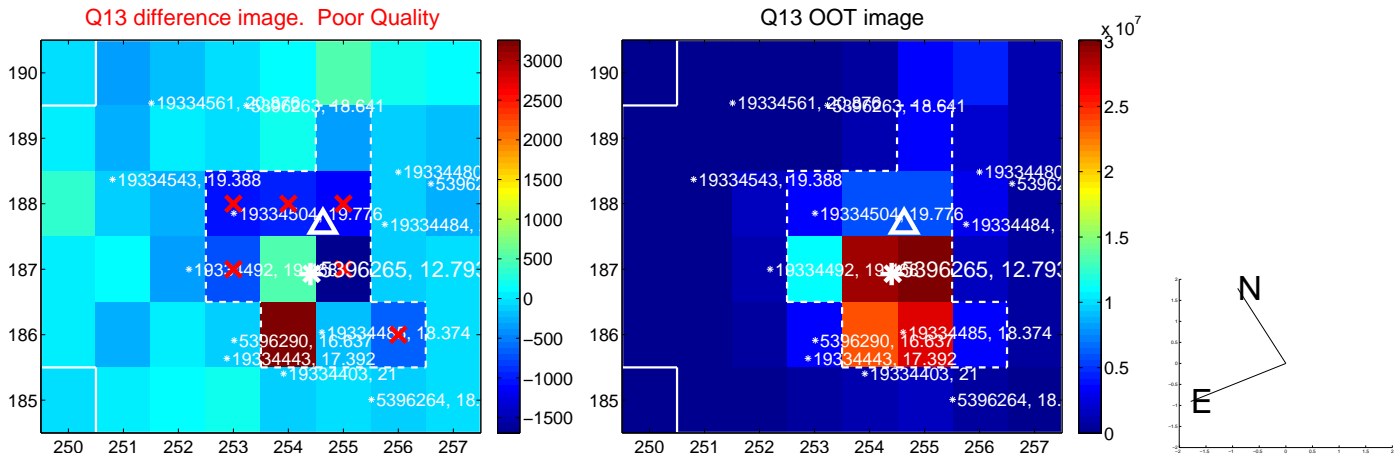
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



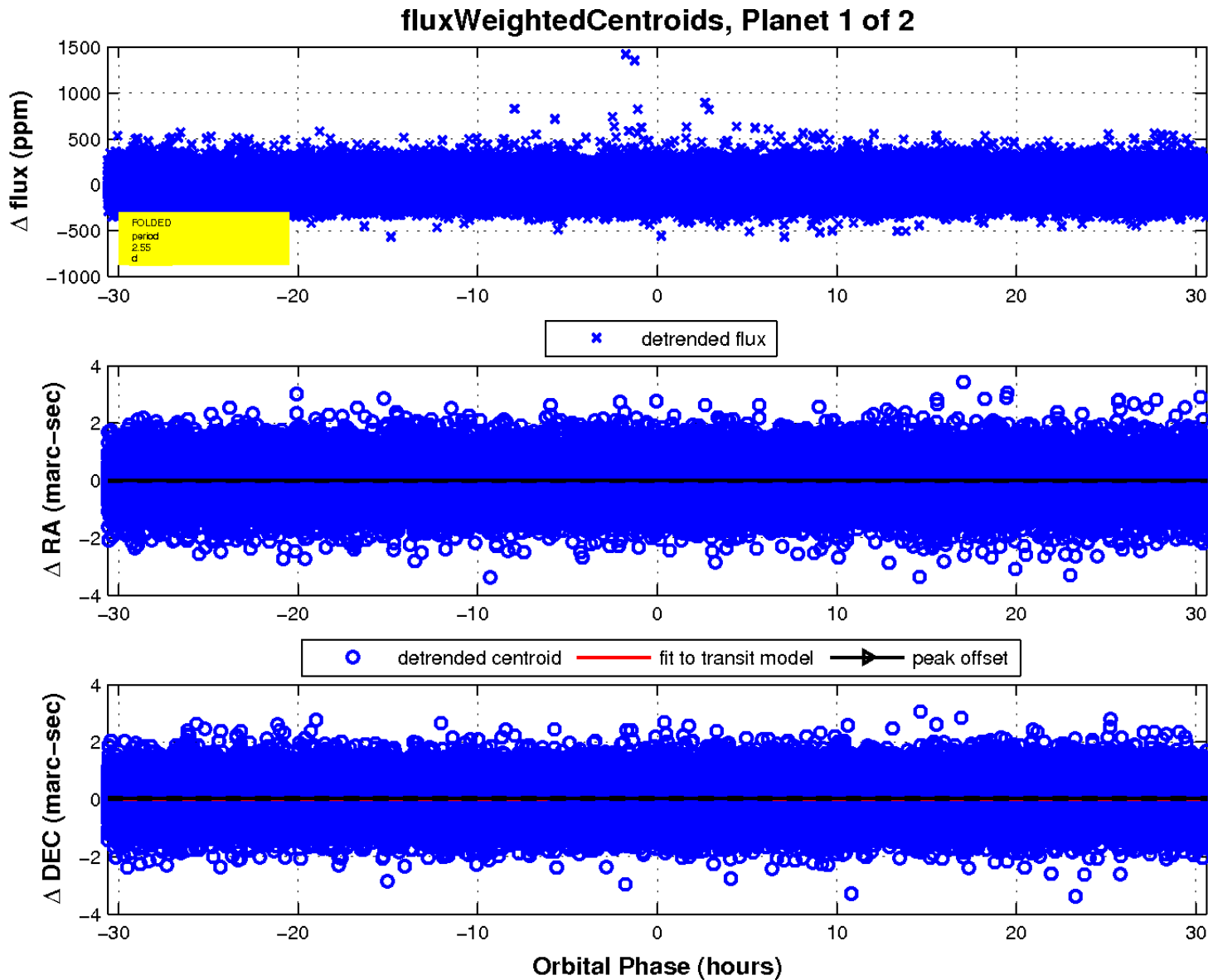
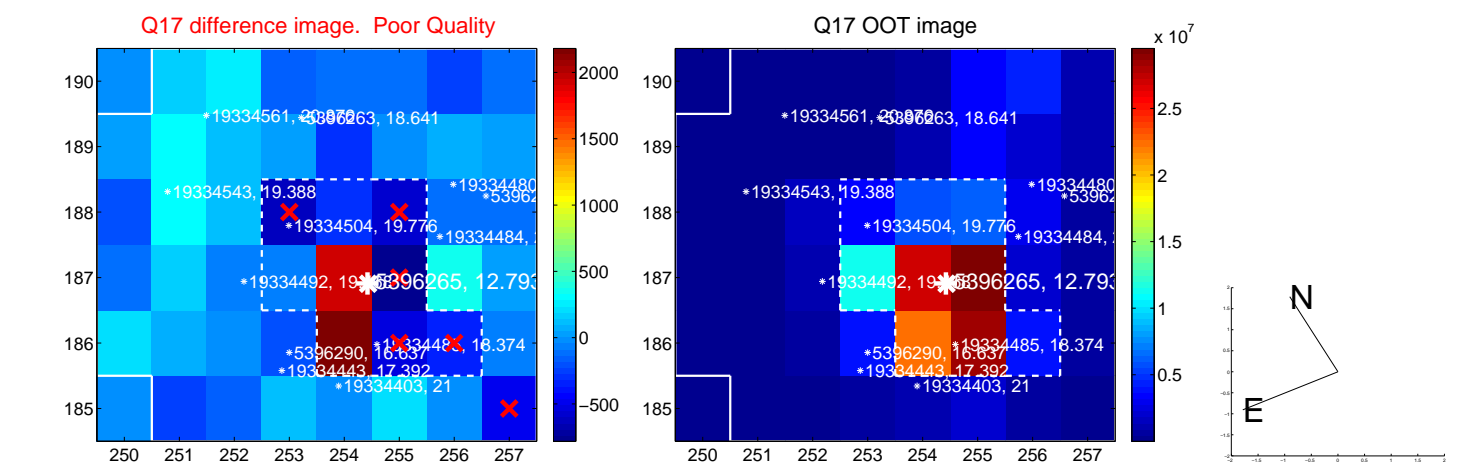
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

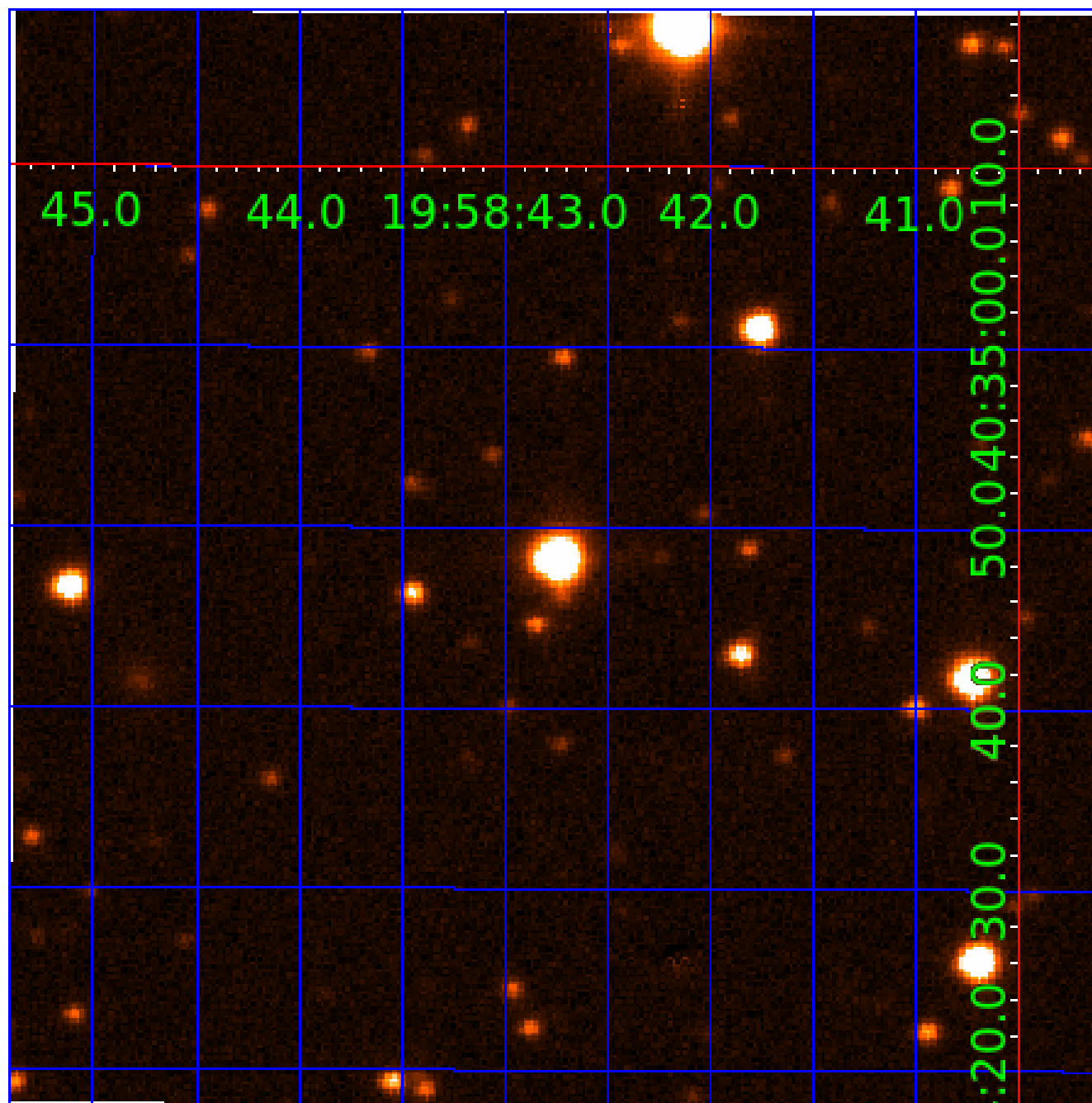


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005396265

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})
005396265-01	OBS	No	2.551215	133.861100	15.7	12.519	9.5	10.7	2.11	7620	0.91	7108.67
005396265-02	OBS	No	323.721360	428.780223	161.3	11.700	9.7	8.7	2.11	7620	2.97	11.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005396265-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
005396265-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—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.

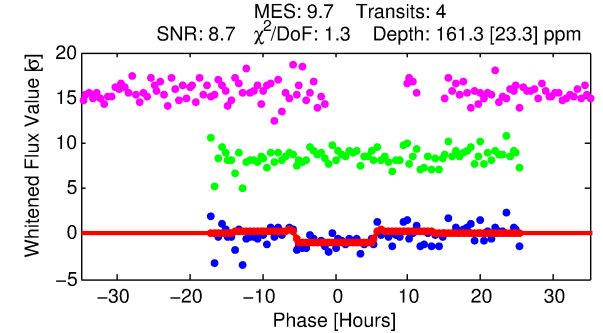
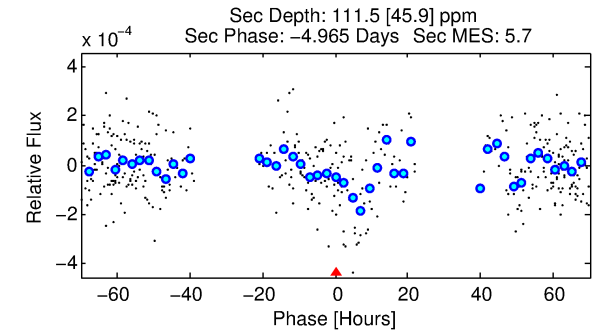
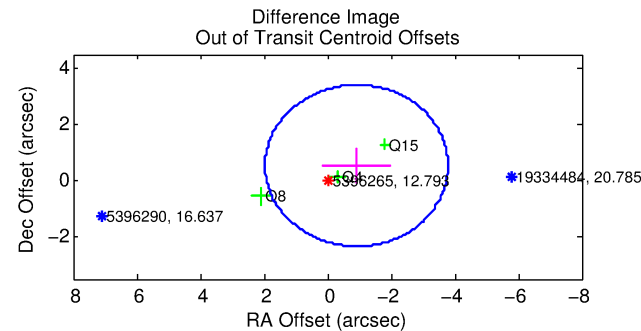
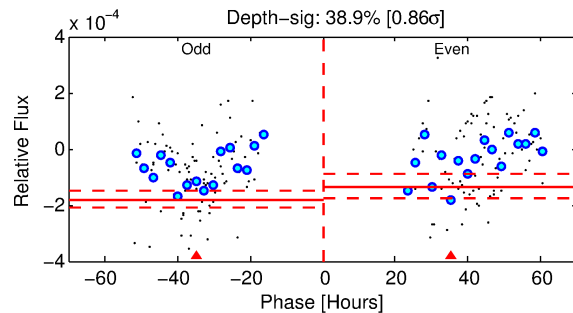
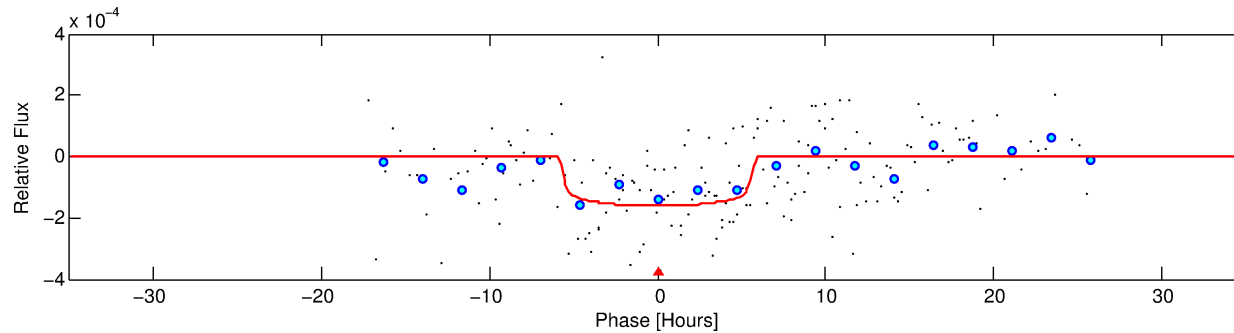
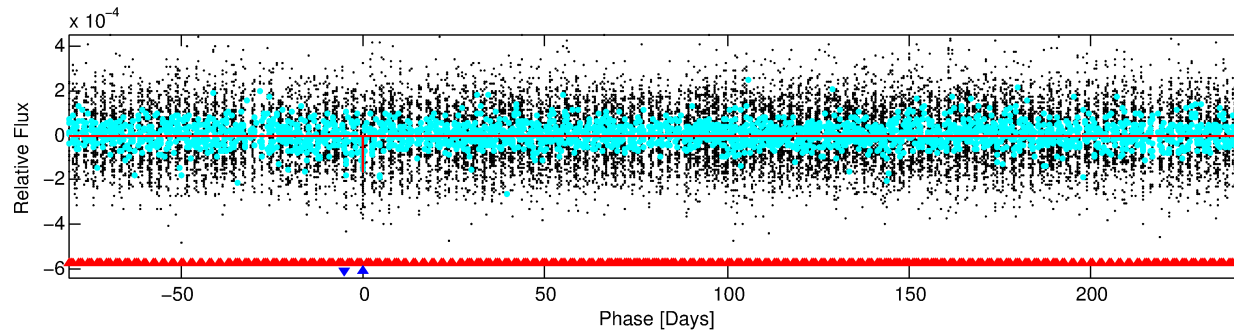
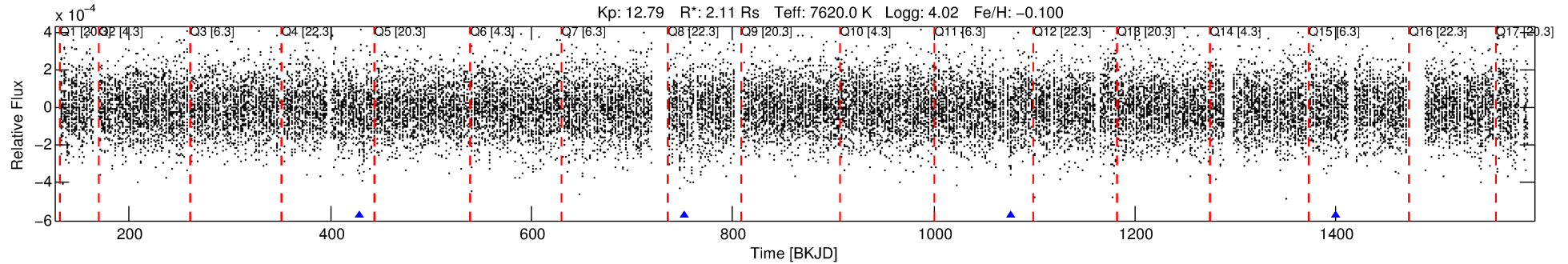
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005396265-02

No Significant Match Found

DV One-Page Summary

KIC: 5396265 Candidate: 2 of 2 Period: 323.721 d



DV Fit Results:

Period = 323.72136 [0.01358] d
Epoch = 428.7802 [0.0205] BKJD
Rp/R* = 0.0129 [0.0036]
a/R* = 128.62 [216.49]
b = 0.81 [0.72]
Seff = 11.15 [4.38]
Teq = 466 [46] K
Rp = 2.97 [1.12] Re
a = 1.1004 [0.2548] AU
Ag = 8431.65 [6544.79] [1.29 σ]
Teffp = 6903 [1224] K [5.26 σ]

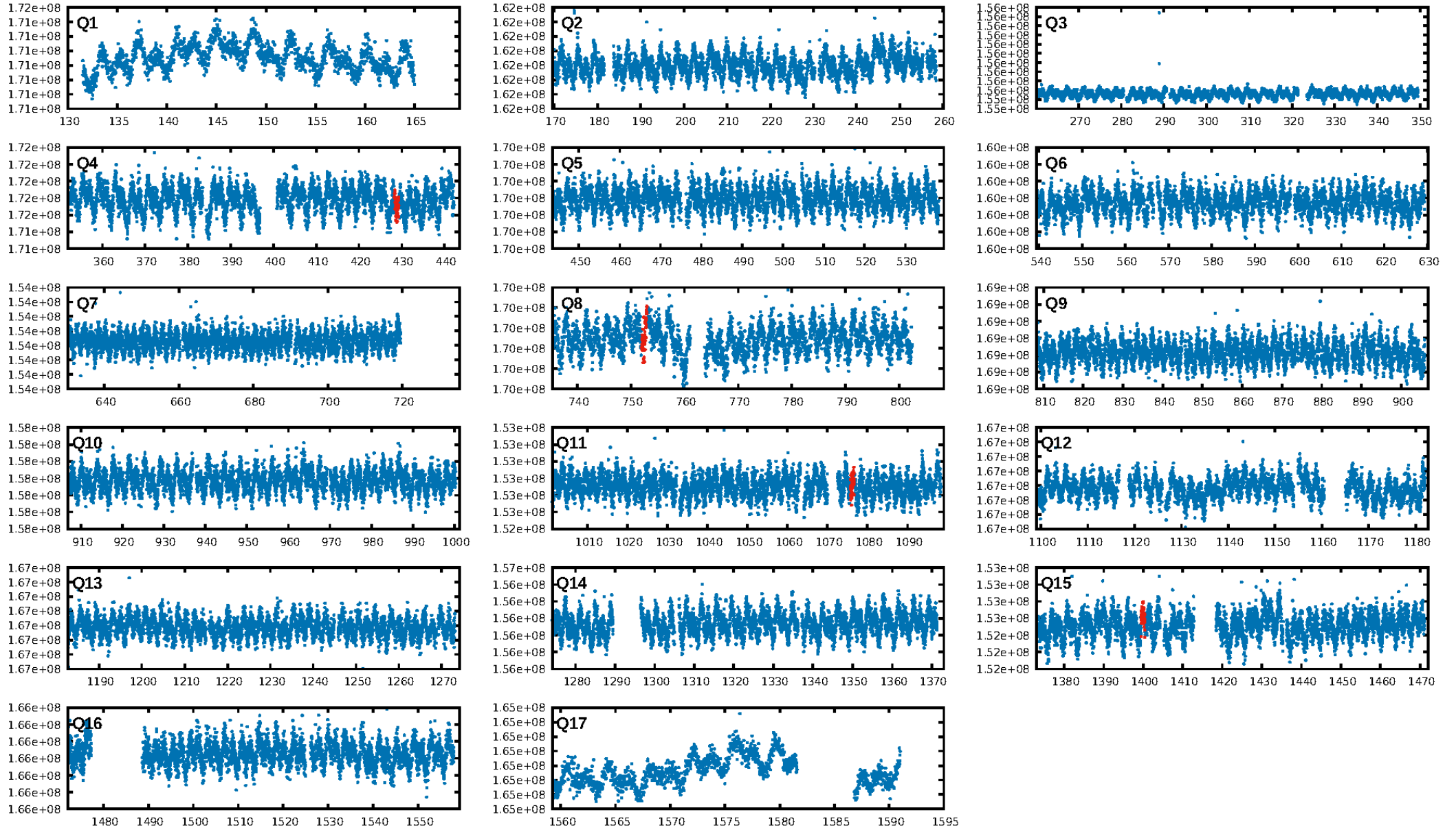
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [449.84 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 76.4%
ModelChiSquareGof-sig: 99.4%
Bootstrap-pfa: 6.86e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.671
Centroid-sig: 73.1%
Centroid-so: 1.160 arcsec [0.74 σ]
OotOffset-rm: 1.058 arcsec [1.10 σ]
KicOffset-rm: 1.028 arcsec [1.04 σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.25 [1/4]

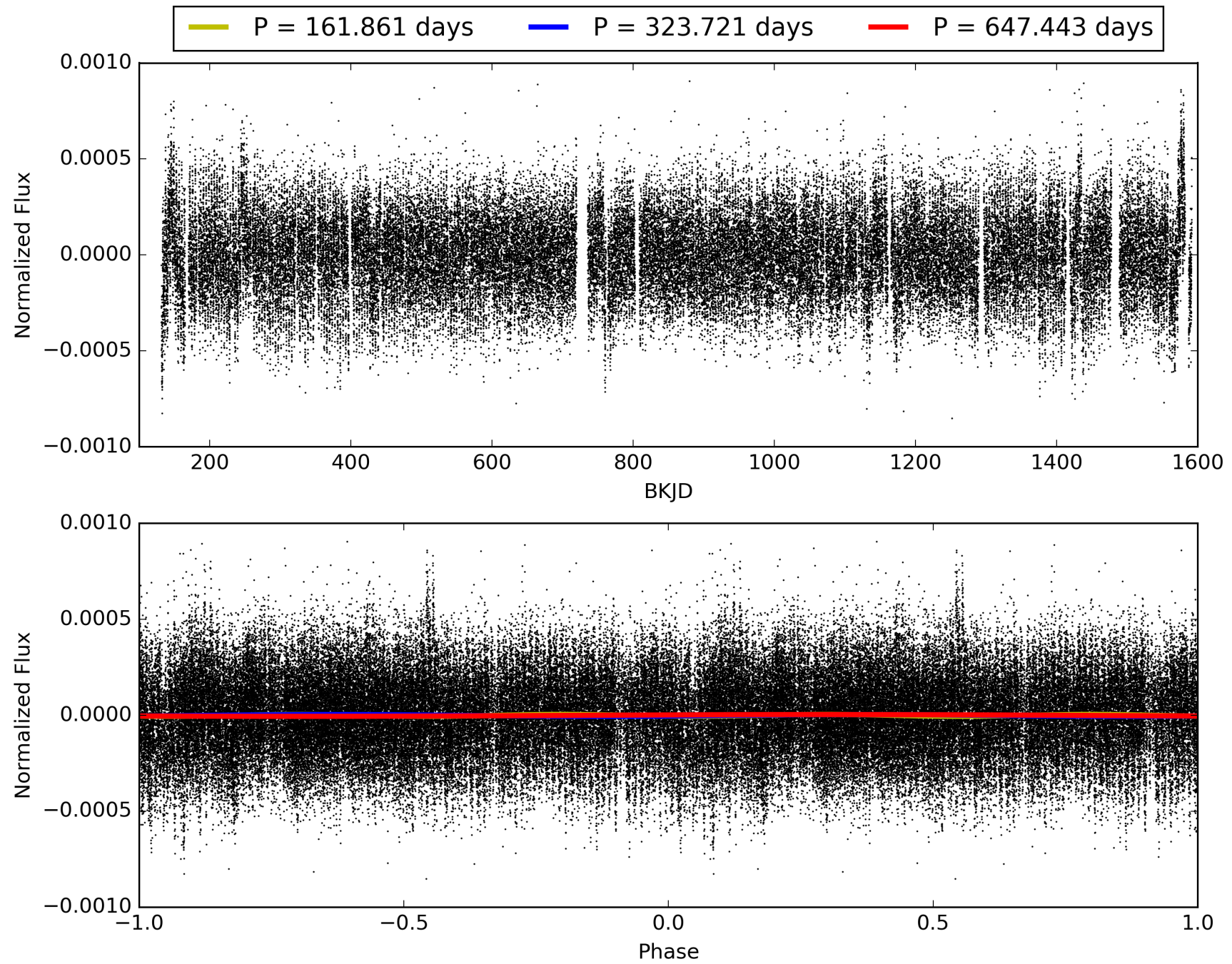
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:26:13 Z

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

TCE 005396265-02, PDC Light Curves

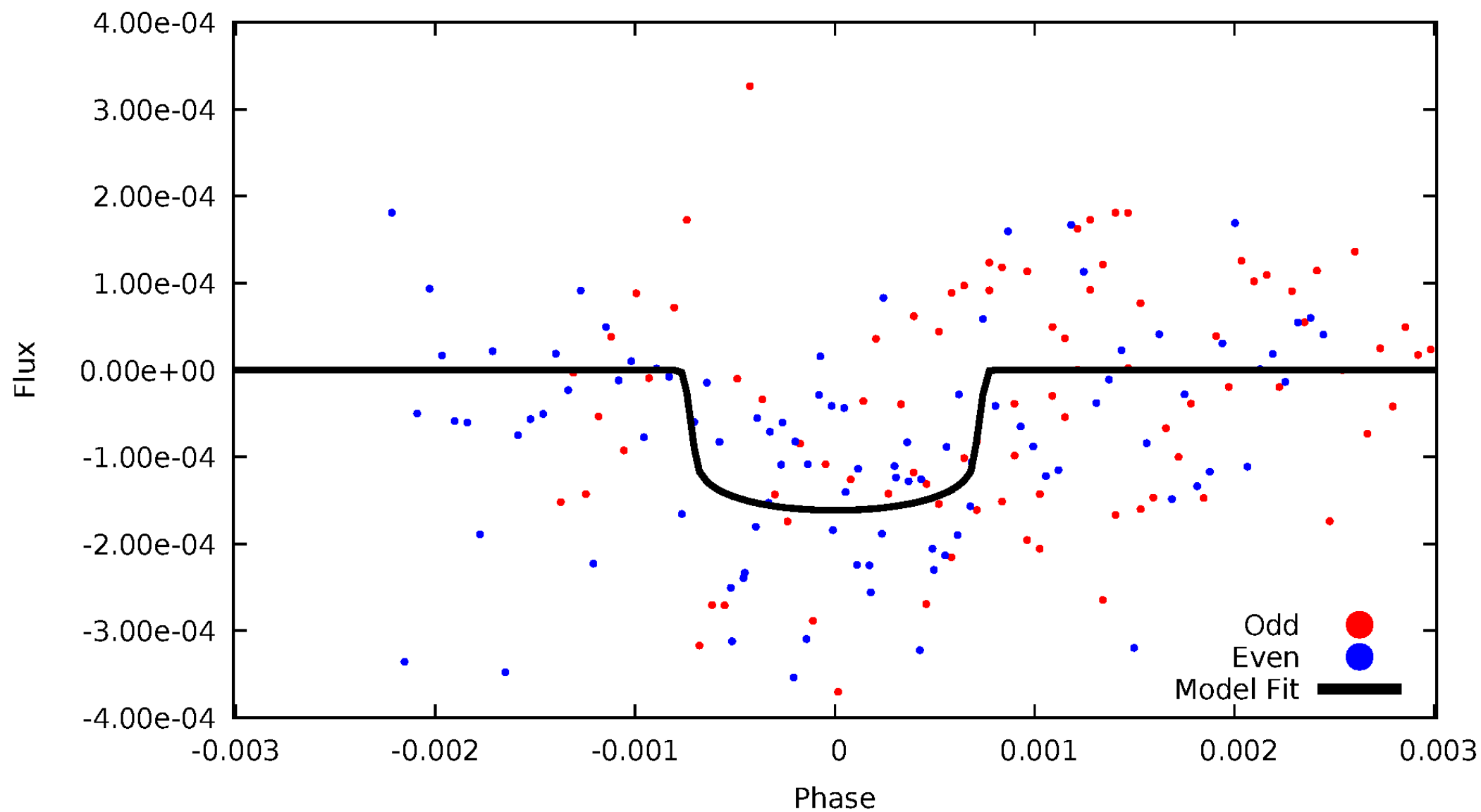


TCE 005396265-02



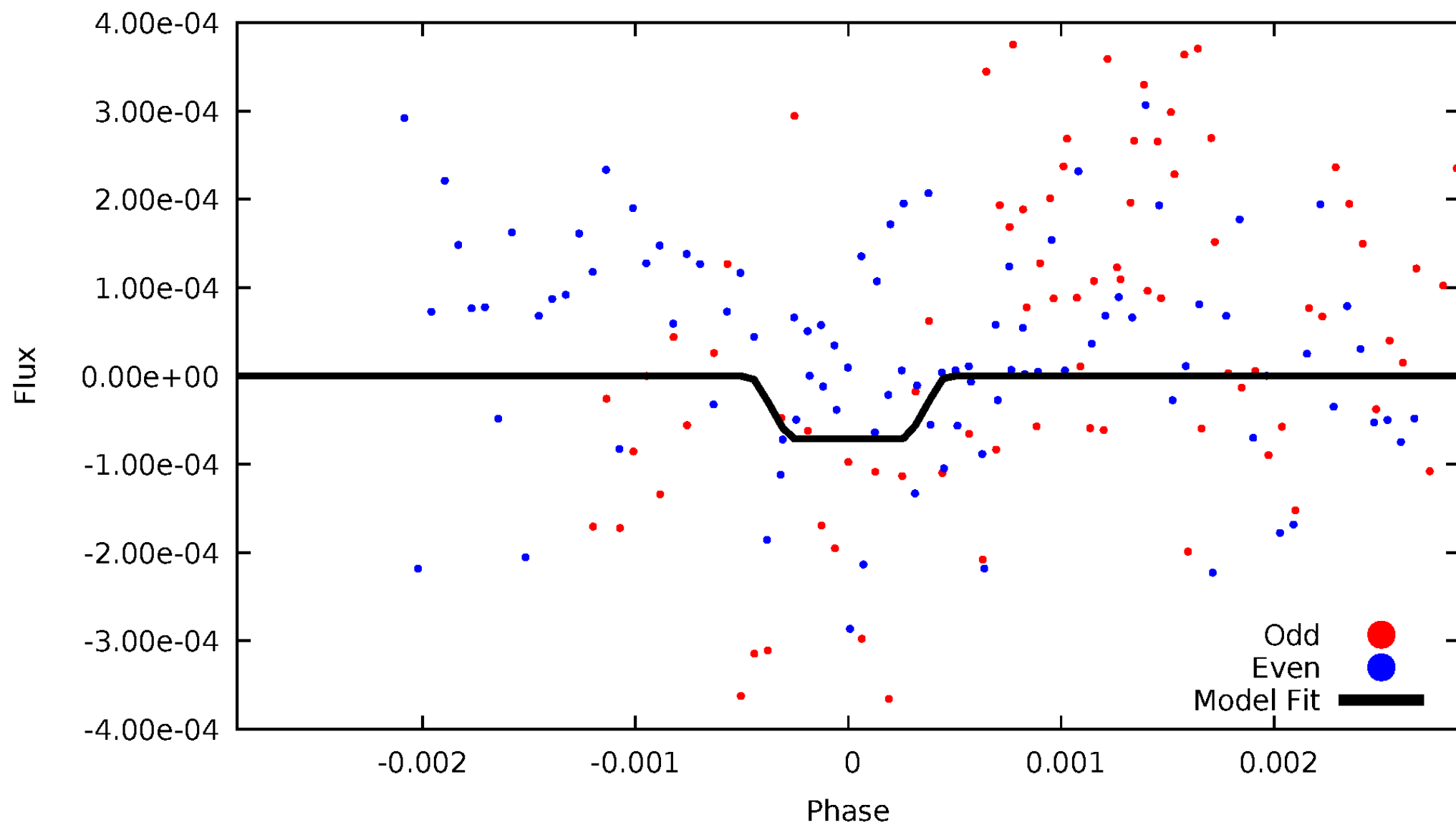
DV Odd/Even

TCE 005396265-02



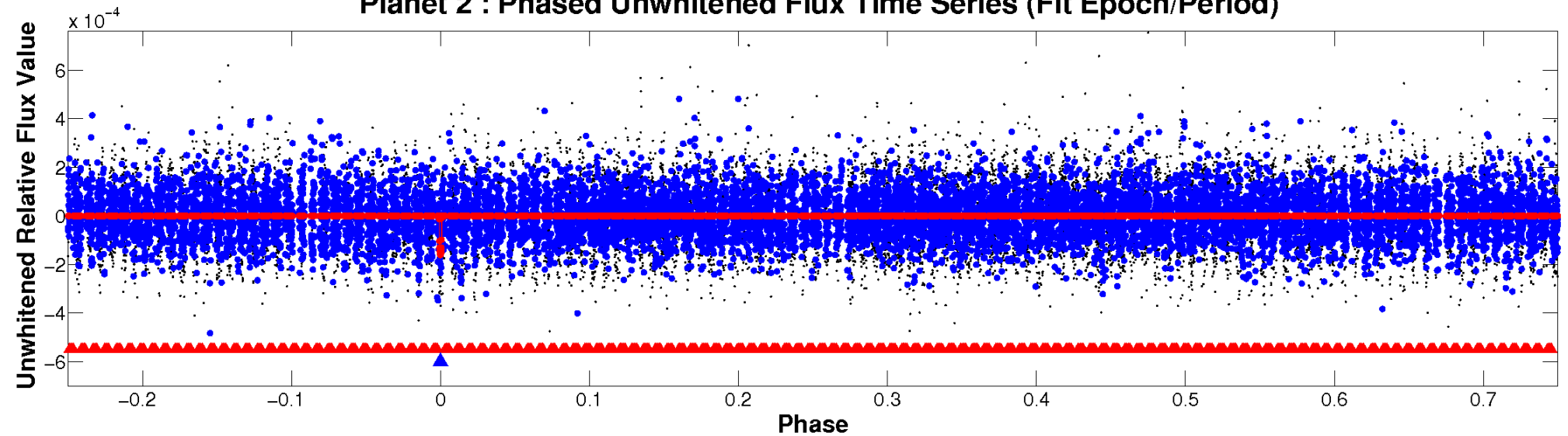
ALT Odd/Even

TCE 005396265-02

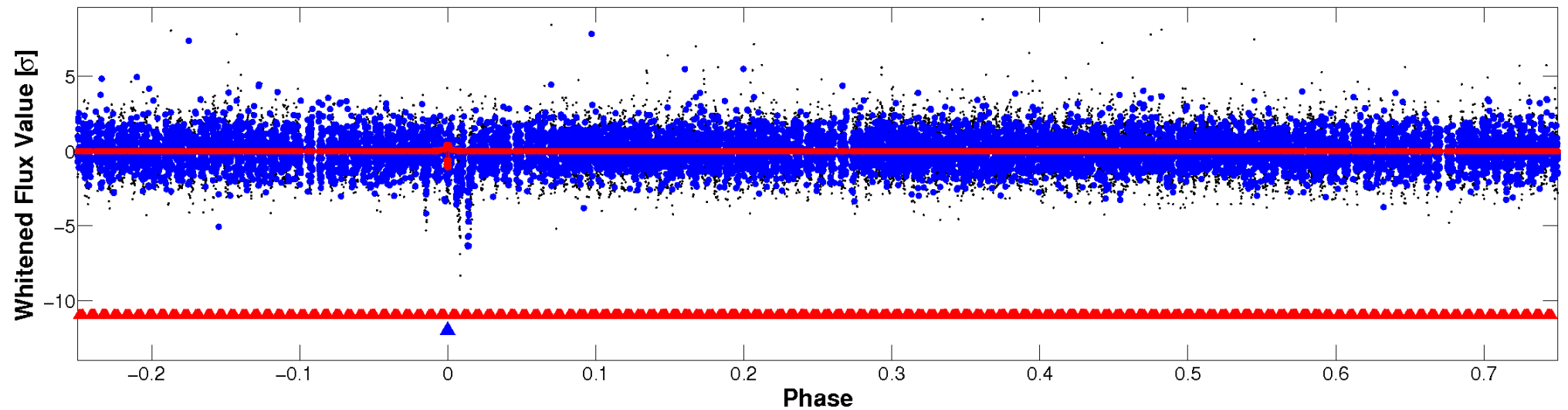


Non-Whitened Vs. Whitened Light Curve

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



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



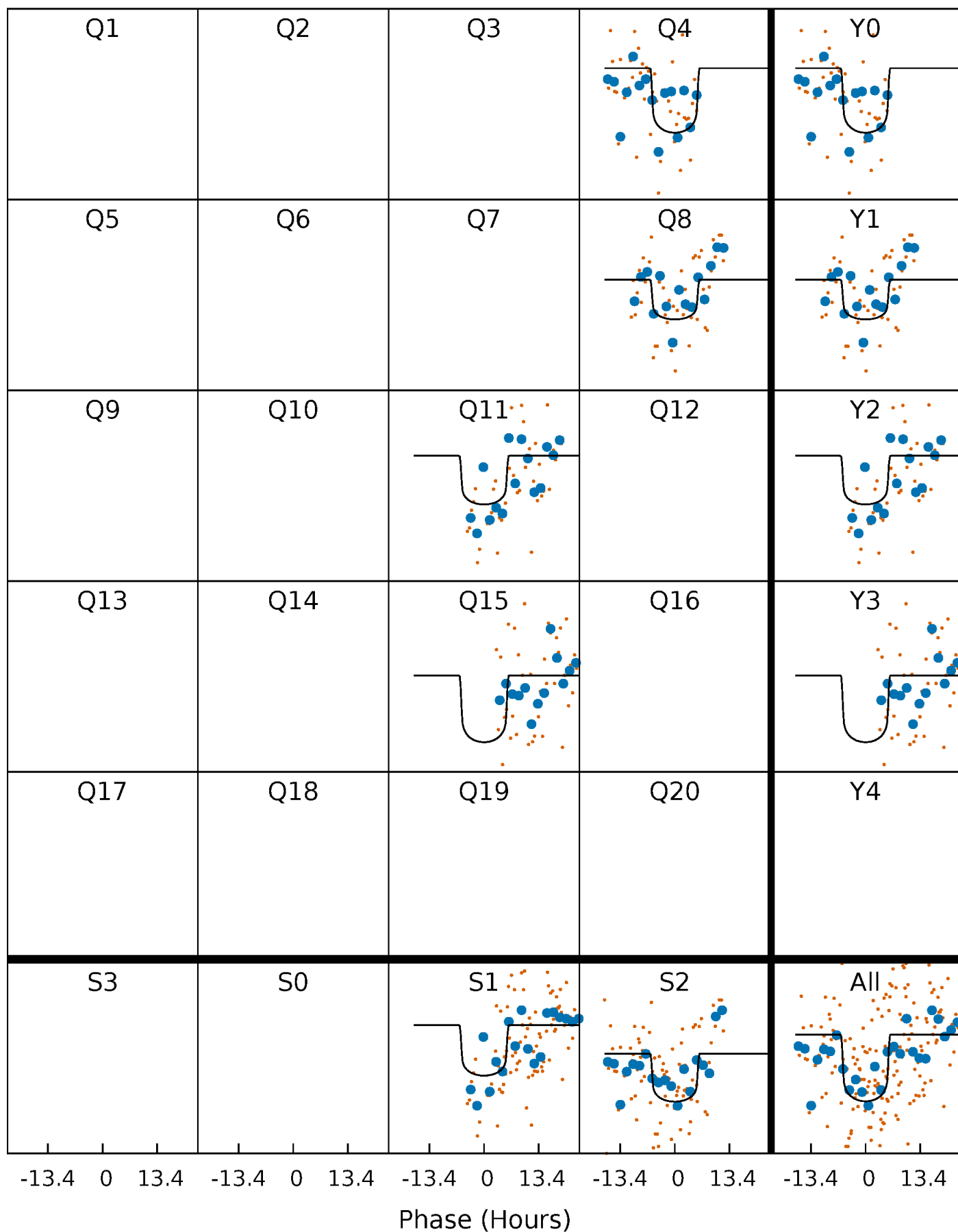
PDC Quarter-Phased Transit Curves

TCE 005396265-02 $P=323.721360$ Days $T_0=428.780223$ (BKJD)



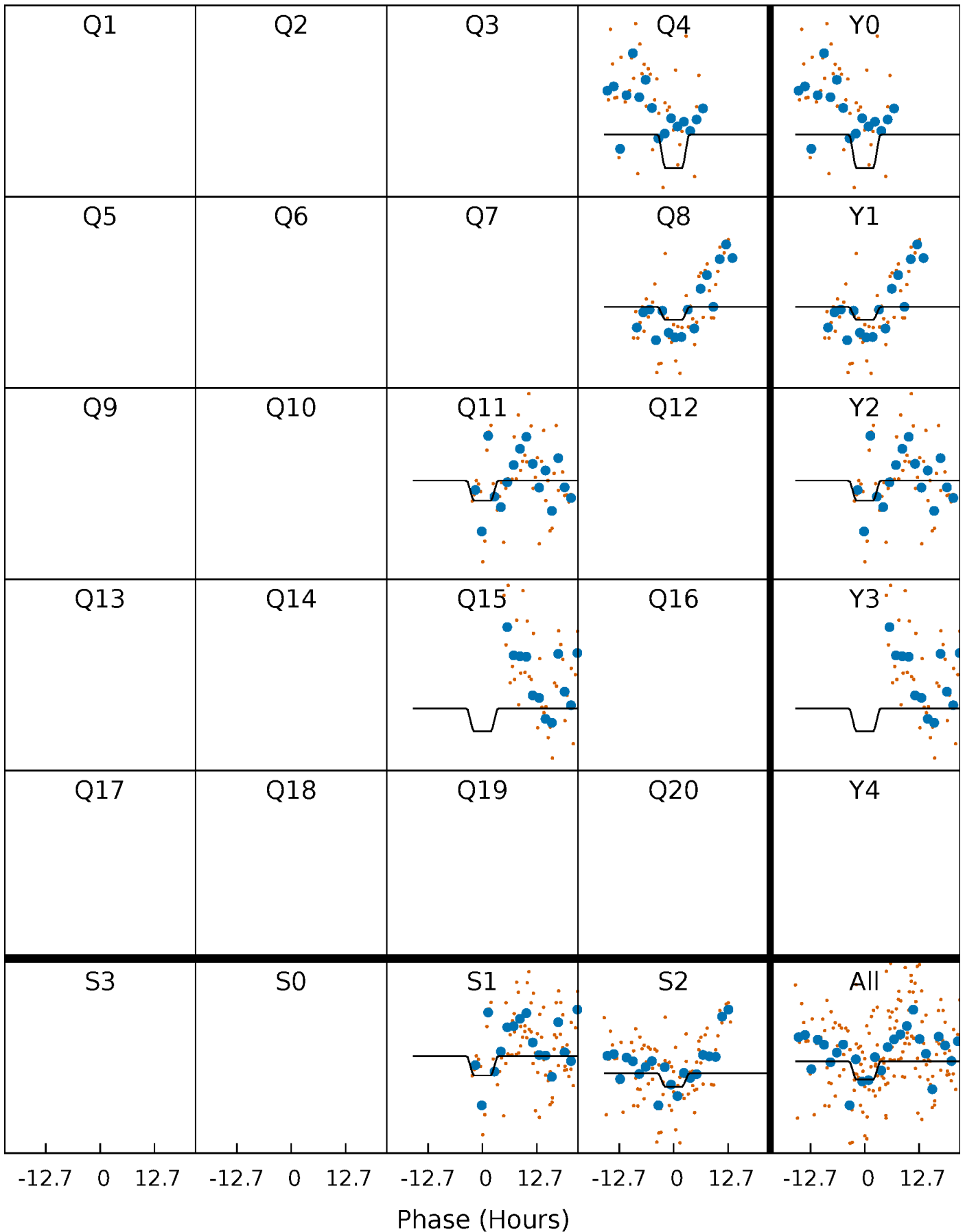
DV Quarter-Phased Transit Curves

TCE 005396265-02 P=323.721360 Days $T_0=428.780223$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

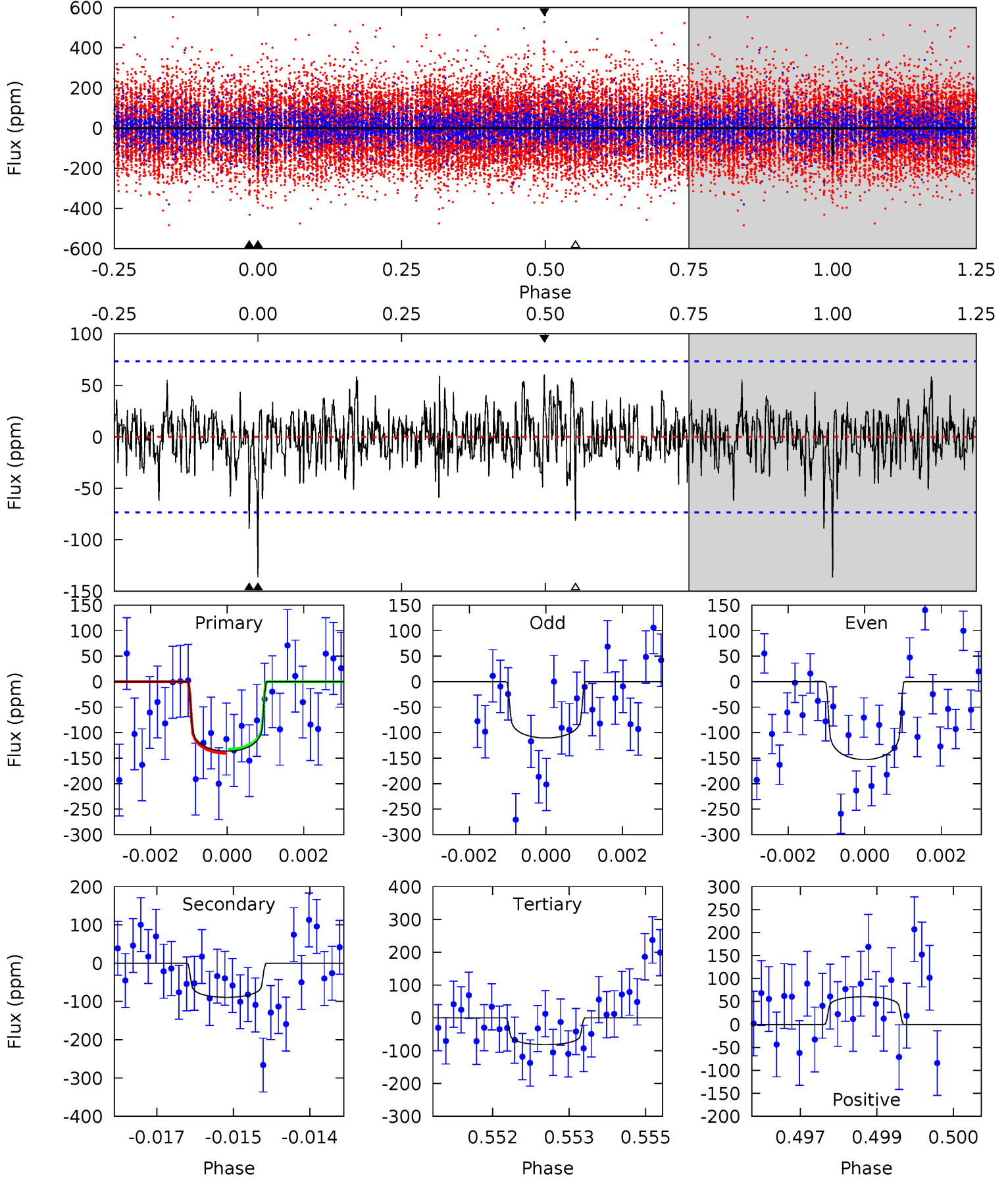
TCE 005396265-02 P=323.708458 Days $T_0=428.736793$ (BKJD)



DV Model-Shift Uniqueness Test

005396265-02, P = 323.721360 Days, E = 105.058863 Days

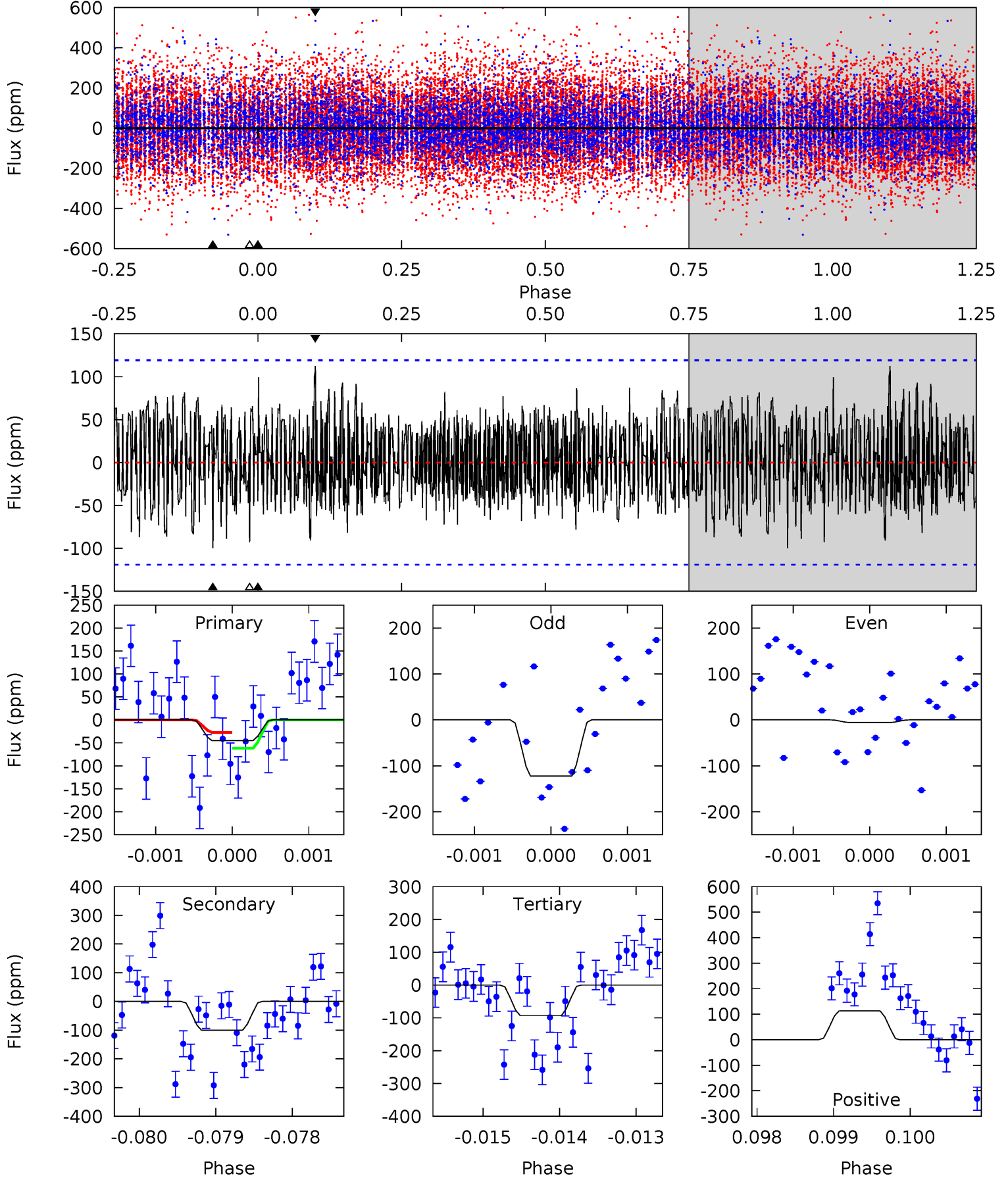
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.98	6.53	5.98	4.41	5.38	3.17	1.36	4.00	5.57	0.55	2.11	1.52	1.07	0.31	0.29



Alt Model-Shift Uniqueness Test

005396265-02, $P = 323.708458$ Days, $E = 105.028335$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.06	4.58	4.25	5.17	5.46	3.31	1.53	-2.20	-3.11	0.33	-0.59	2.57	2.12	0.53	0.78



Stellar Parameters For KIC 005396265

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7620^{+211}_{-316}	$4.017^{+0.204}_{-0.153}$	$-0.100^{+0.200}_{-0.350}$	$2.114^{+0.541}_{-0.541}$	$1.694^{+0.198}_{-0.298}$	$0.252^{+0.272}_{-0.104}$
	+3%/-4%	+5%/-4%	+200%/-350%	+26%/-26%	+12%/-18%	+108%/-41%
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 005396265-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-89 ± 14	$2.87^{+0.91}_{-0.85}$	642^{+47}_{-47}	6353^{+1374}_{-672}	7071^{+7468}_{-3133}
Alt.	-100 ± 22	$1.90^{+0.86}_{-0.78}$	643^{+46}_{-49}	8349^{+3940}_{-1672}	17971^{+35087}_{-9875}

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

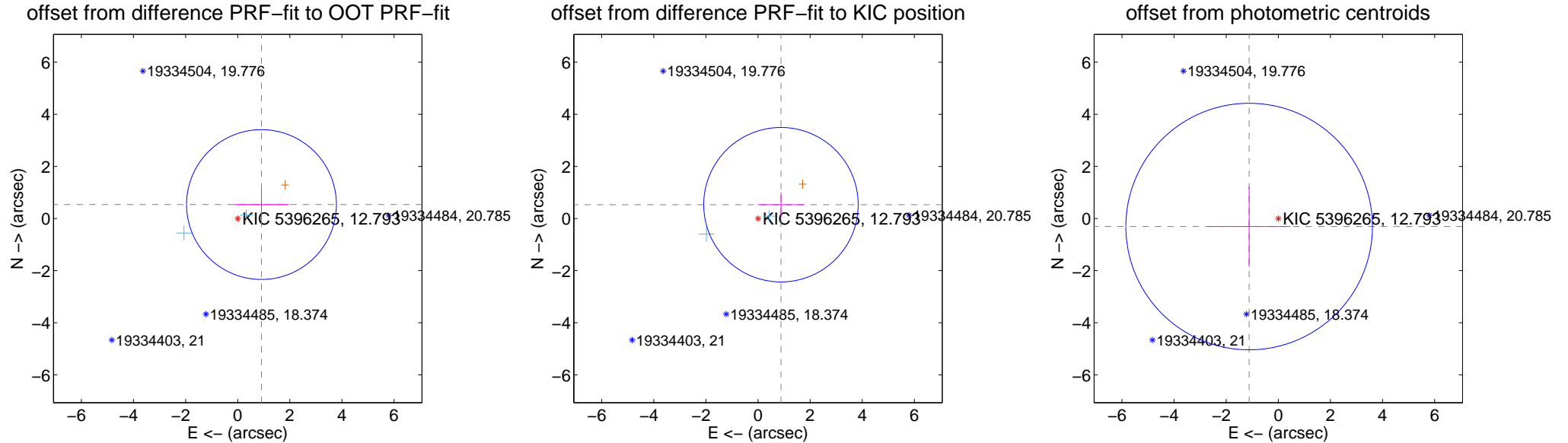
DV Centroid Data

Supplemental centroid analysis for 005396265-02. Kepler magnitude: 12.79. Transit SNR 8.67

There are 2 quarters with good PRF difference image offsets

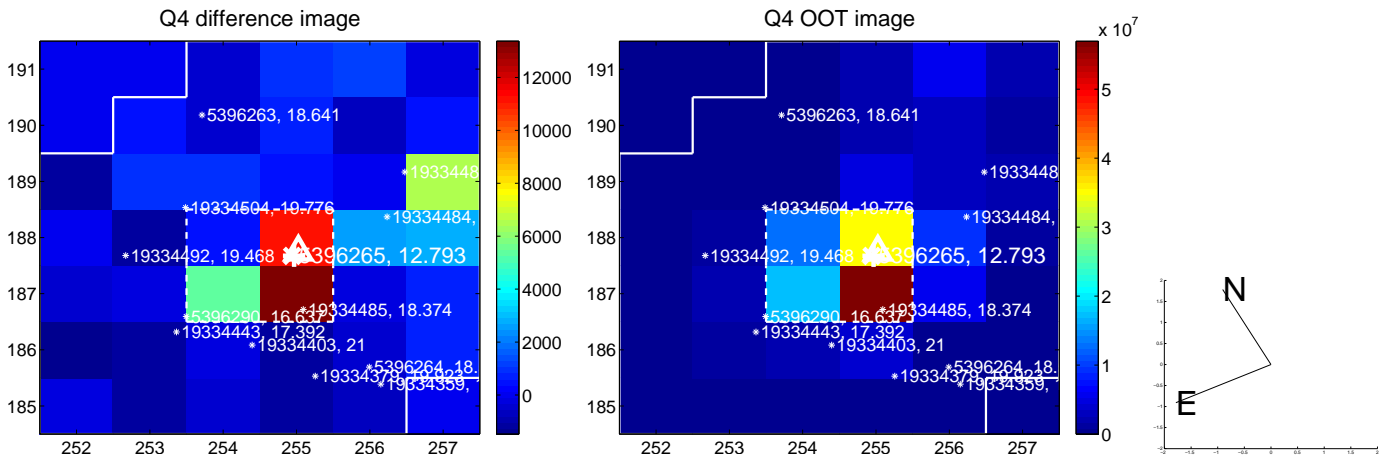
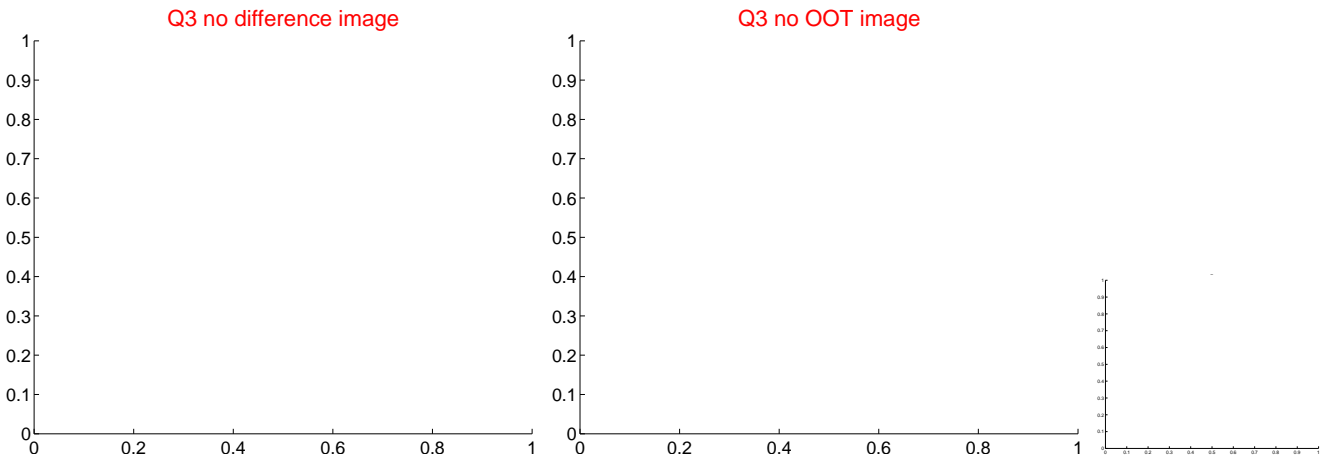
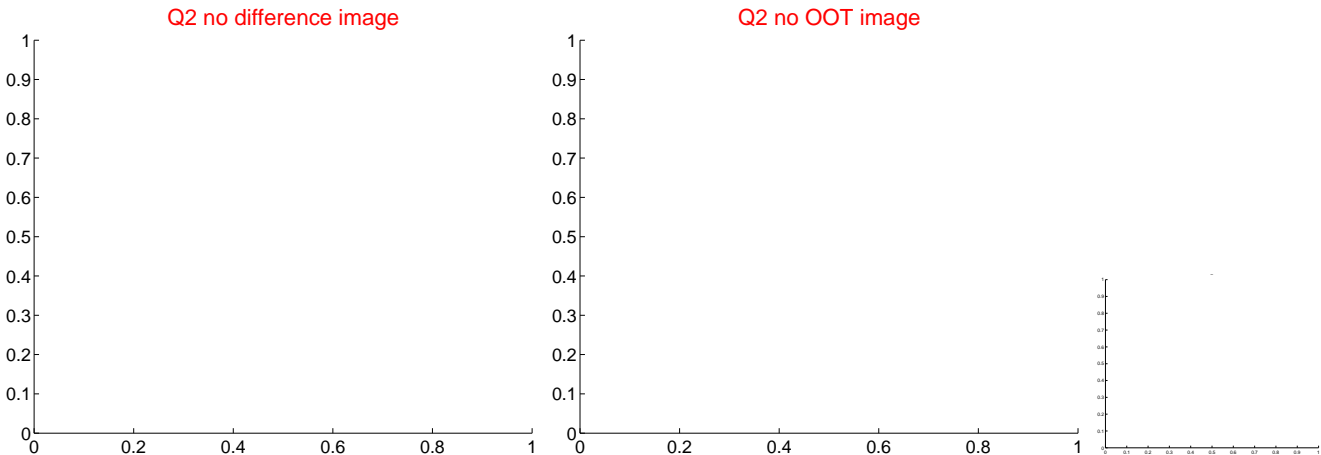
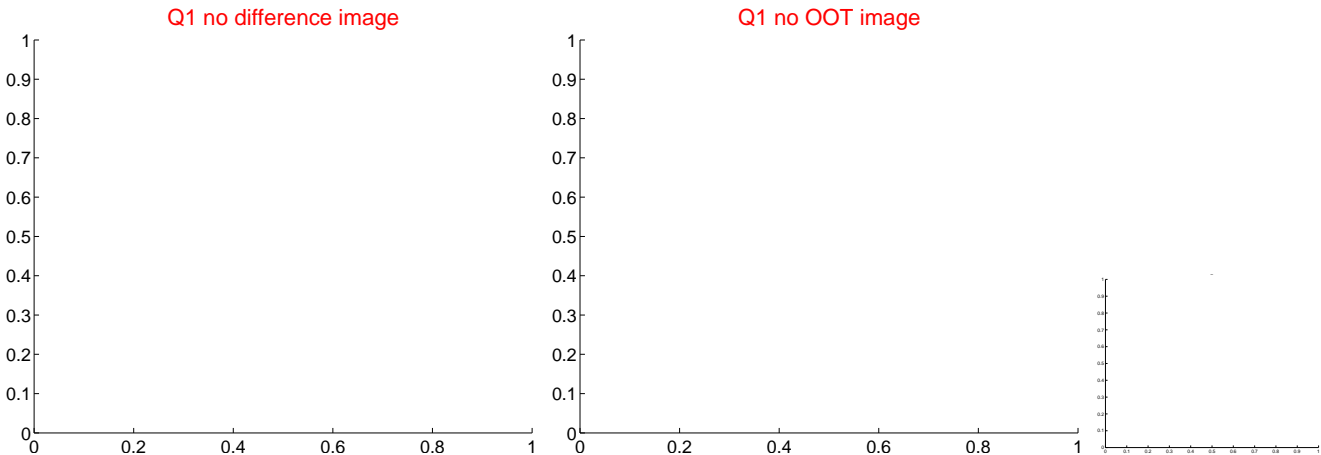
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.058 ± 0.958	1.10	-0.912 ± 1.054	0.537 ± 0.599
PRF-fit source offset from KIC position	1.028 ± 0.988	1.04	-0.880 ± 0.893	0.531 ± 0.466
photometric centroid source offset	1.16 ± 1.58	0.74	1.12 ± 1.58	-0.31 ± 1.54

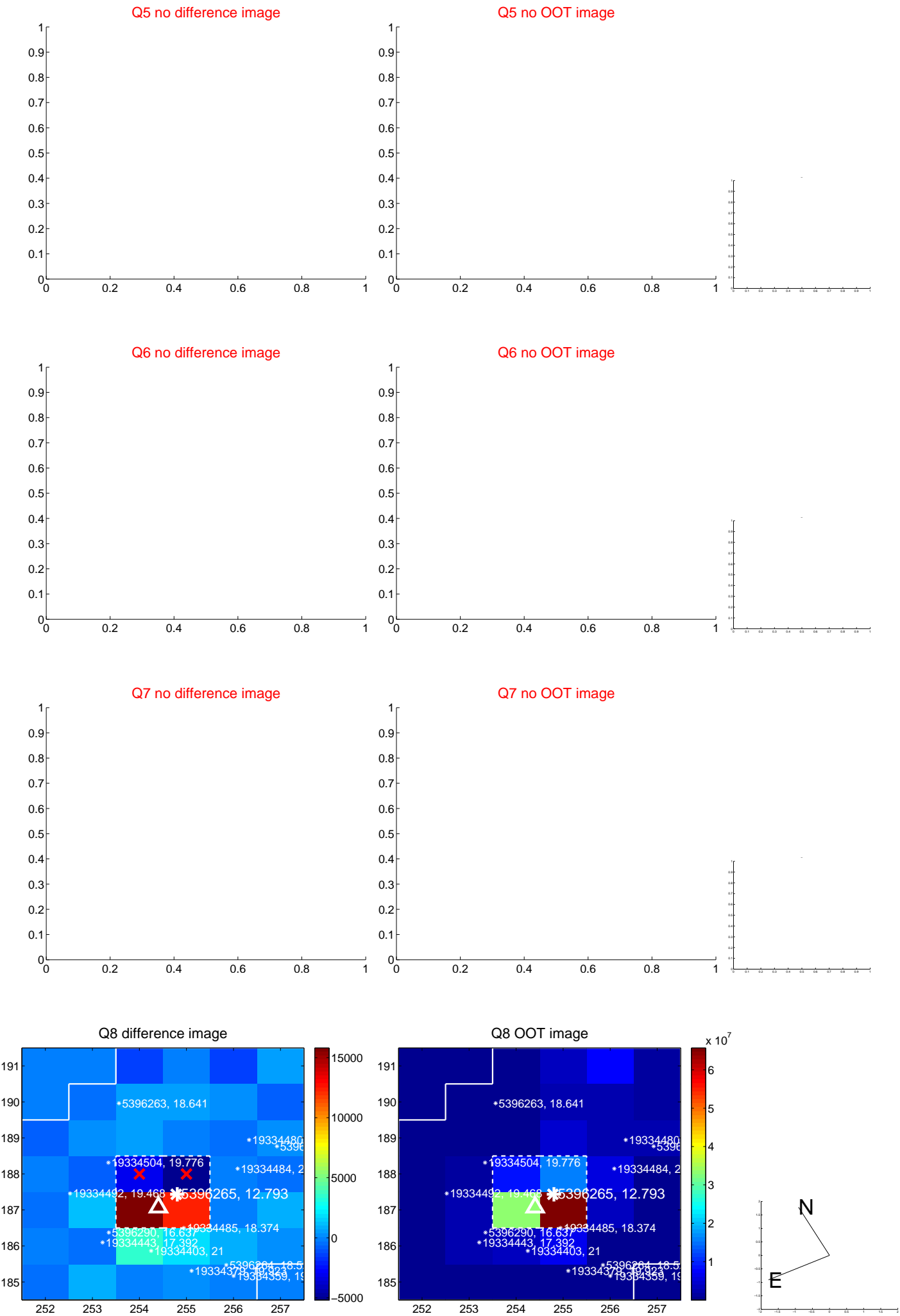


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

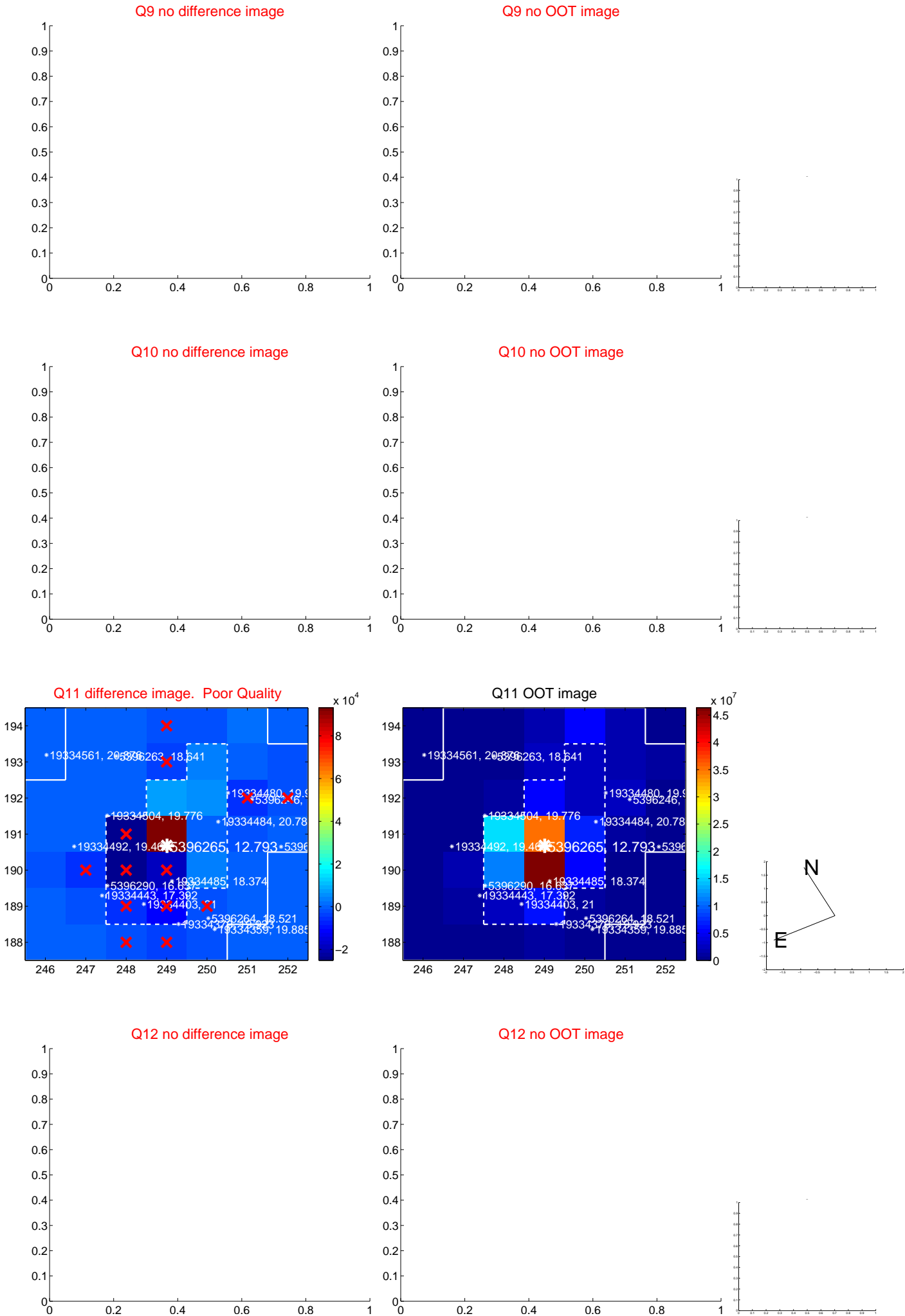
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



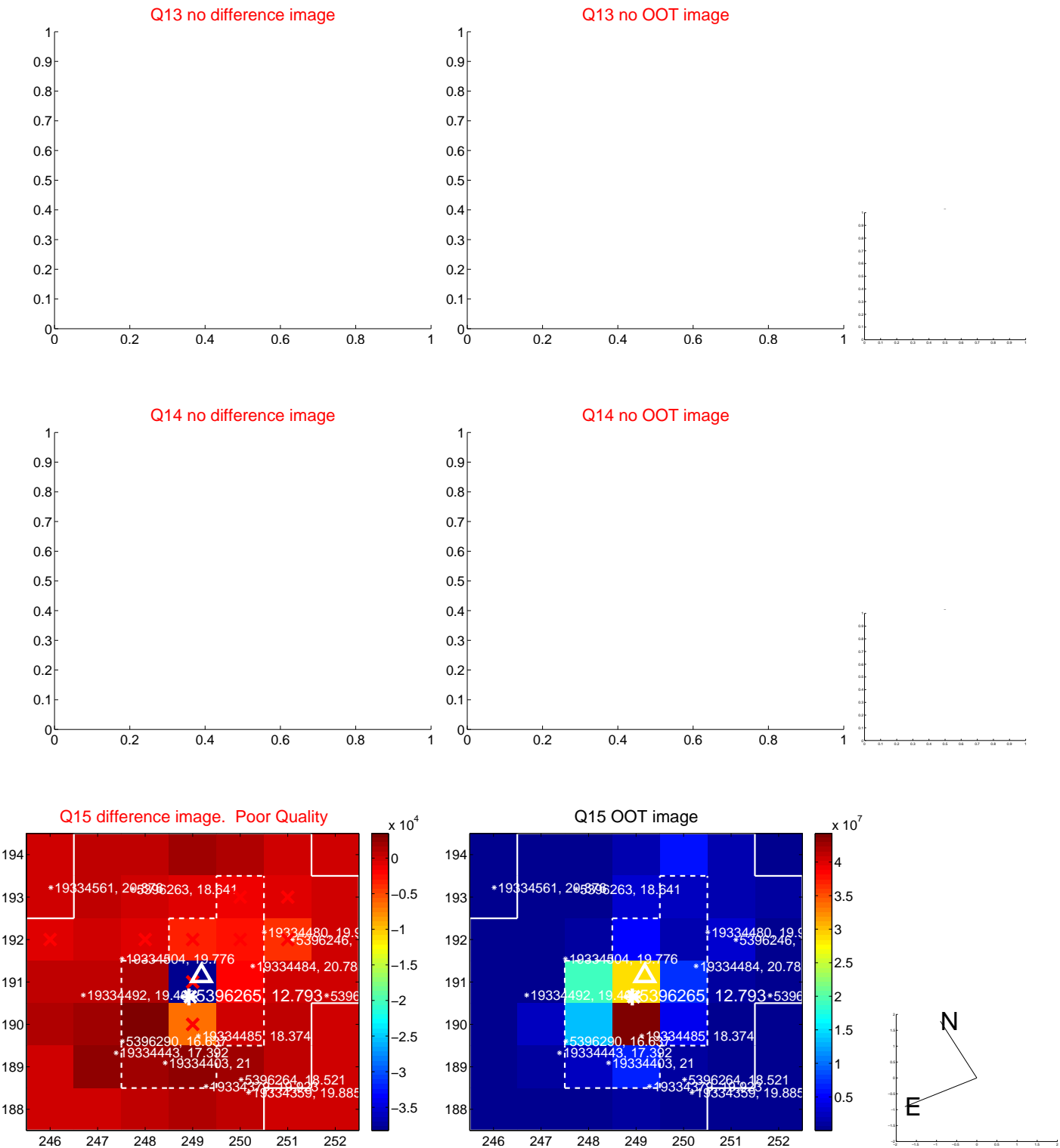
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



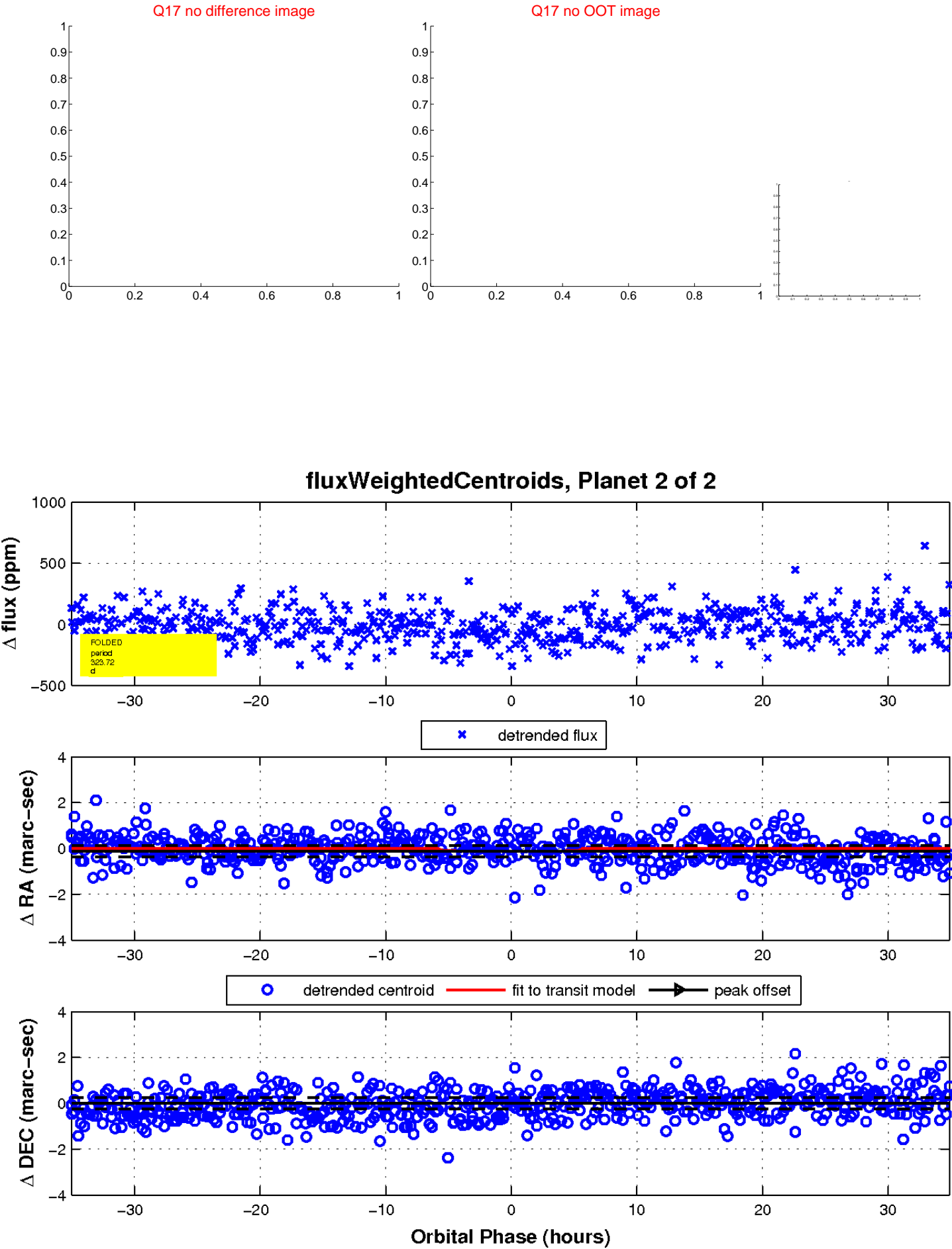
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

