

KIC 007624753

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})
007624753-01	OBS	No	0.985484	132.023244	27.1	3.808	11.9	11.6	3.37	7908	2.01	64620.64
007624753-02	OBS	No	0.795140	131.908566	24.9	4.144	9.0	8.3	3.37	7908	1.81	86029.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007624753-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007624753-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

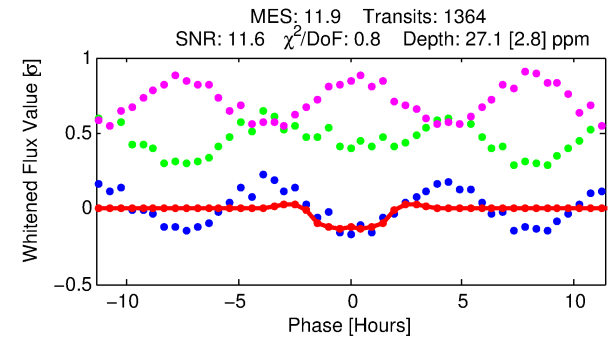
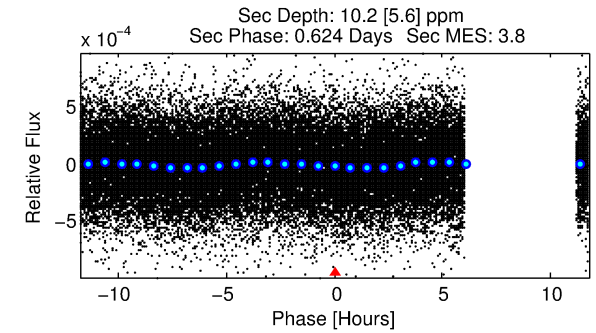
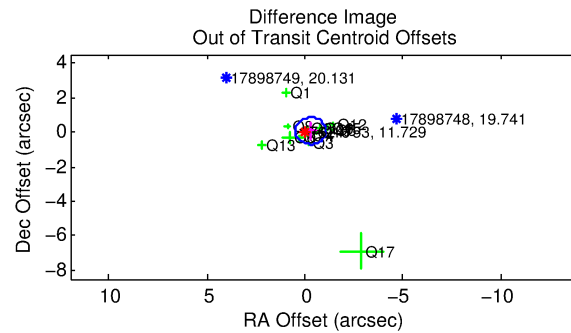
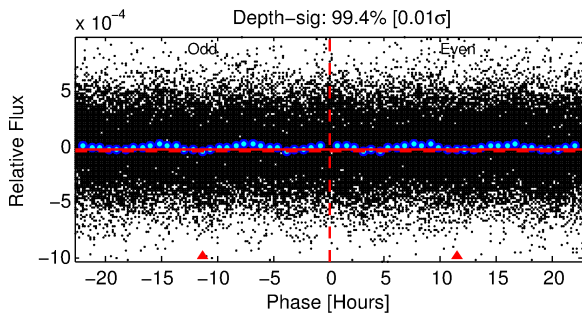
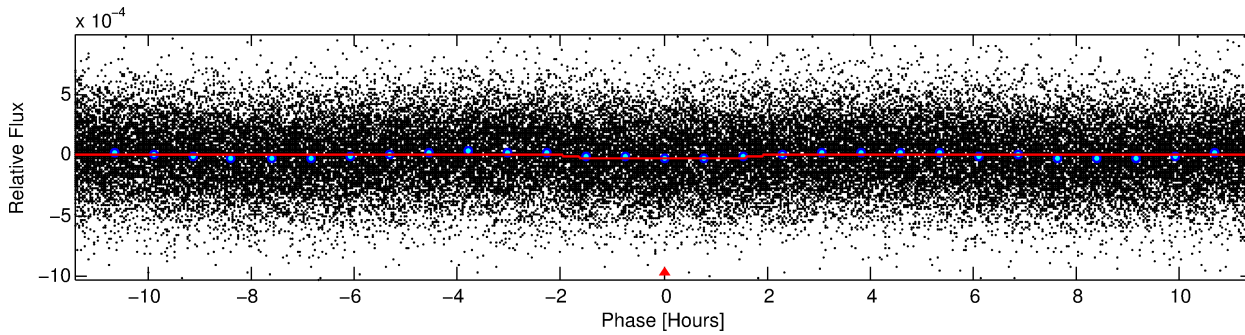
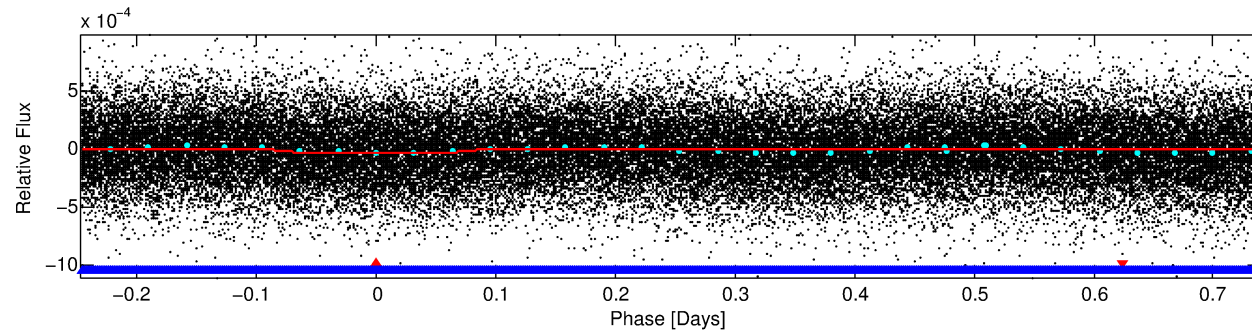
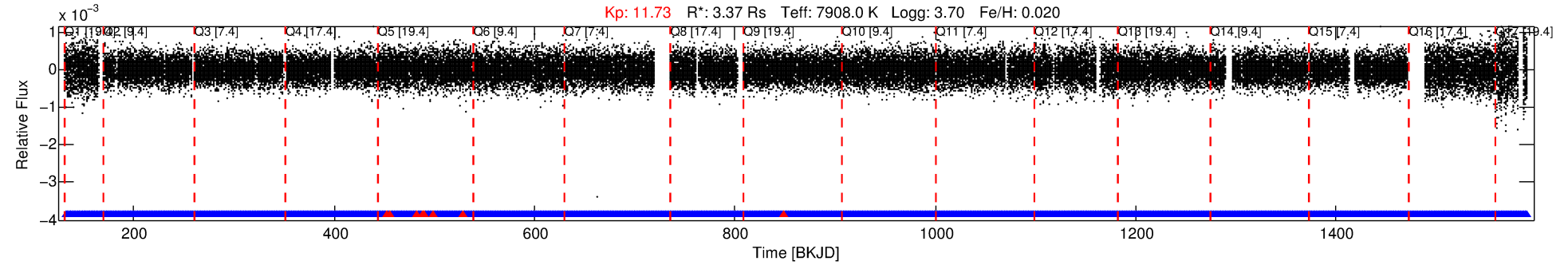
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007624753-01

No Significant Match Found

DV One-Page Summary

KIC: 7624753 Candidate: 1 of 2 Period: 0.985 d



DV Fit Results:

Period = 0.98548 [0.00001] d
Epoch = 132.0232 [0.0037] BKJD
 $R_p/R^* = 0.0055$ [0.0024]
 $a/R^* = 1.34$ [1.58]
 $b = 0.88$ [0.70]
 $S_{\text{eff}} = 64620.64$ [49110.69]
 $T_{\text{eq}} = 4066$ [772] K
 $R_p = 2.01$ [1.28] R_e
 $a = 0.0248$ [0.0113] AU
 $A_g = 0.85$ [1.09] [-0.13 σ]
 $T_{\text{eff}} = 6043$ [1585] K [1.12 σ]

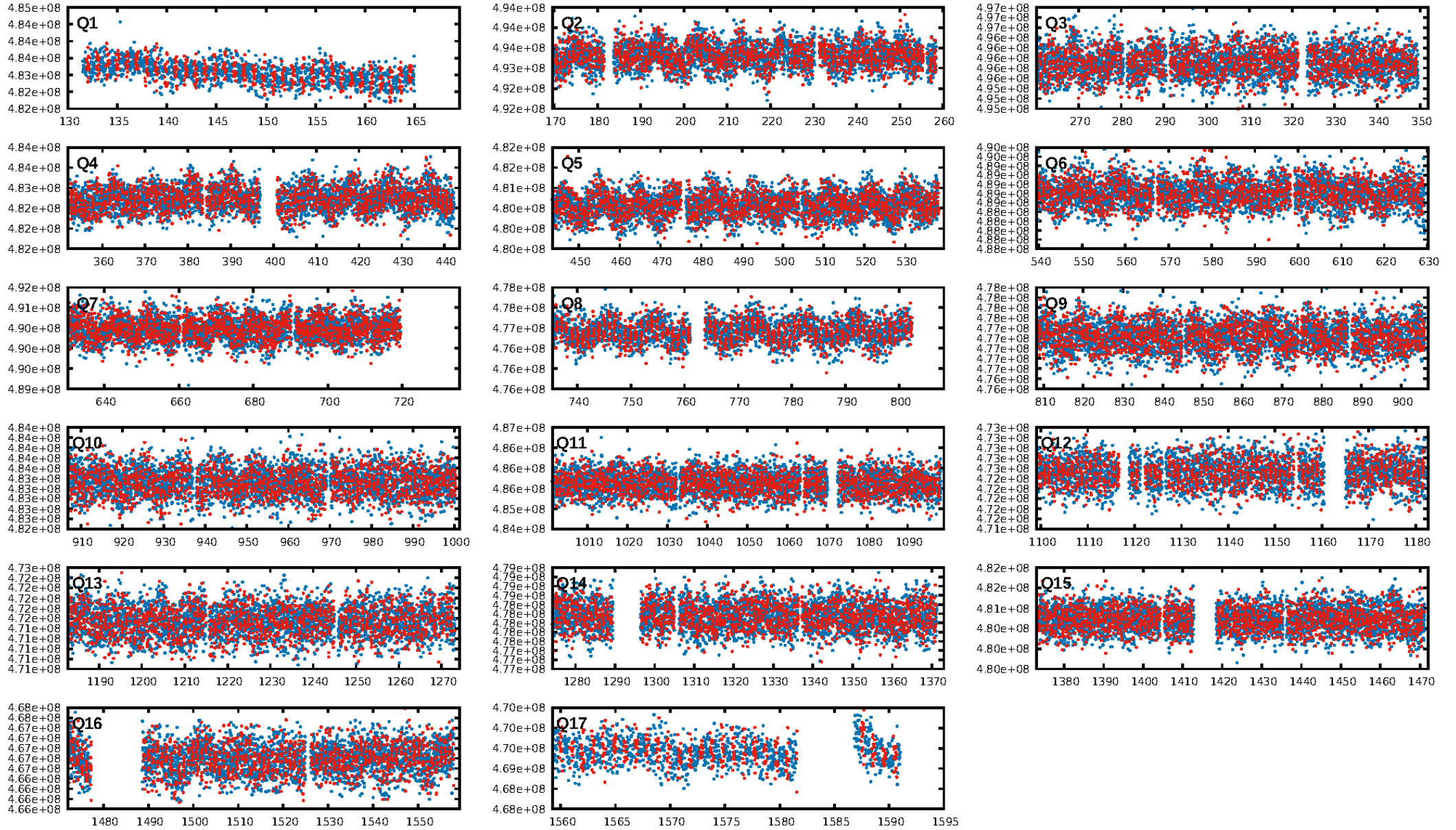
DV Diagnostic Results:

ShortPeriod-sig: 58.3% [0.81 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.49e-14
RollingBand-fgt: 0.99 [1293/1303]
GhostDiagnostic-chr: 1.915
Centroid-sig: 0.8%
Centroid-so: 0.547 arcsec [1.86 σ]
OotOffset-rm: 0.286 arcsec [1.10 σ]
KicOffset-rm: 0.412 arcsec [1.44 σ]
OotOffset-st: 2/4/4/5 [15]
KicOffset-st: 2/4/4/5 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 0.00 [0/17]

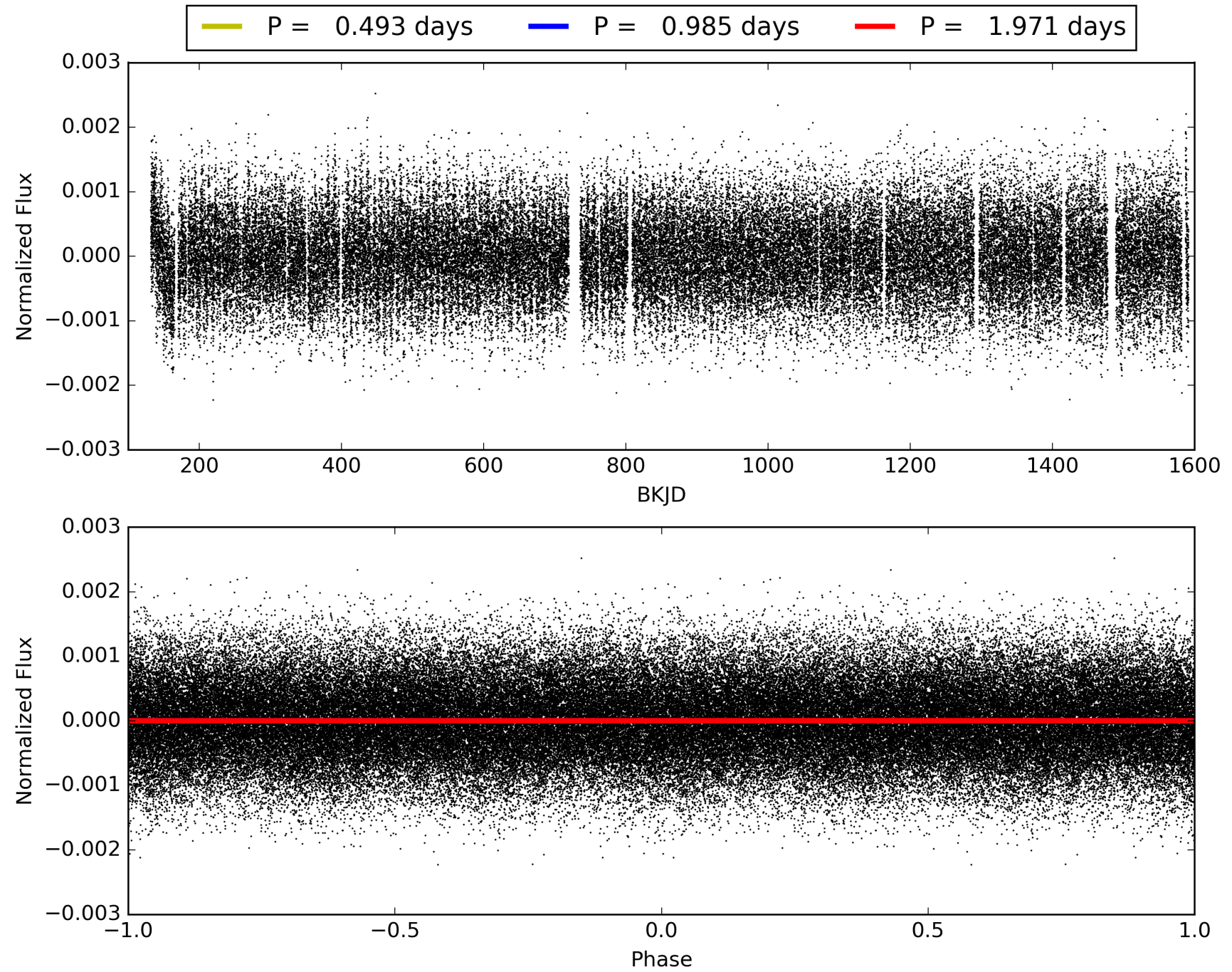
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:08:16 Z

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

TCE 007624753-01, PDC Light Curves

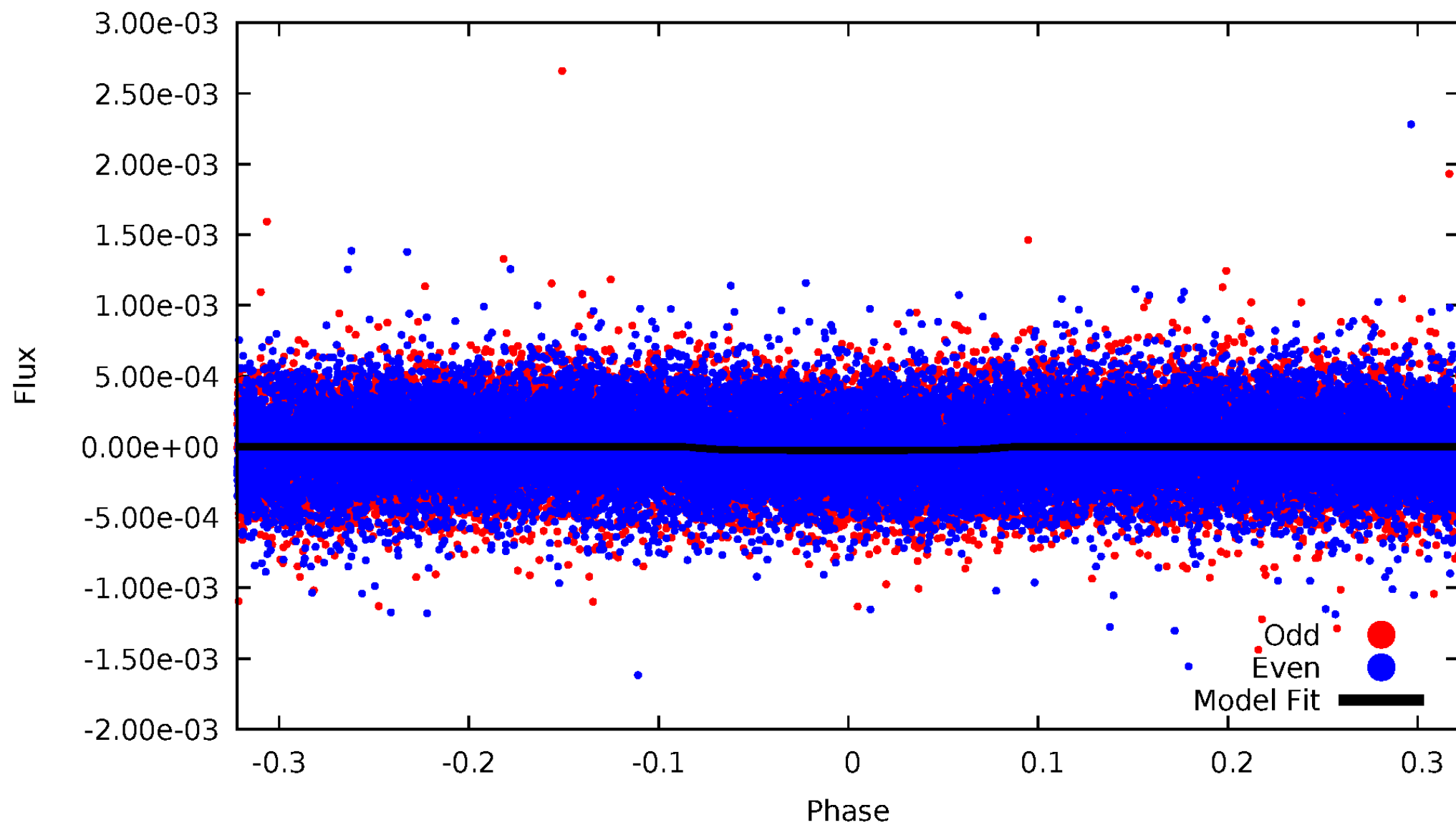


TCE 007624753-01



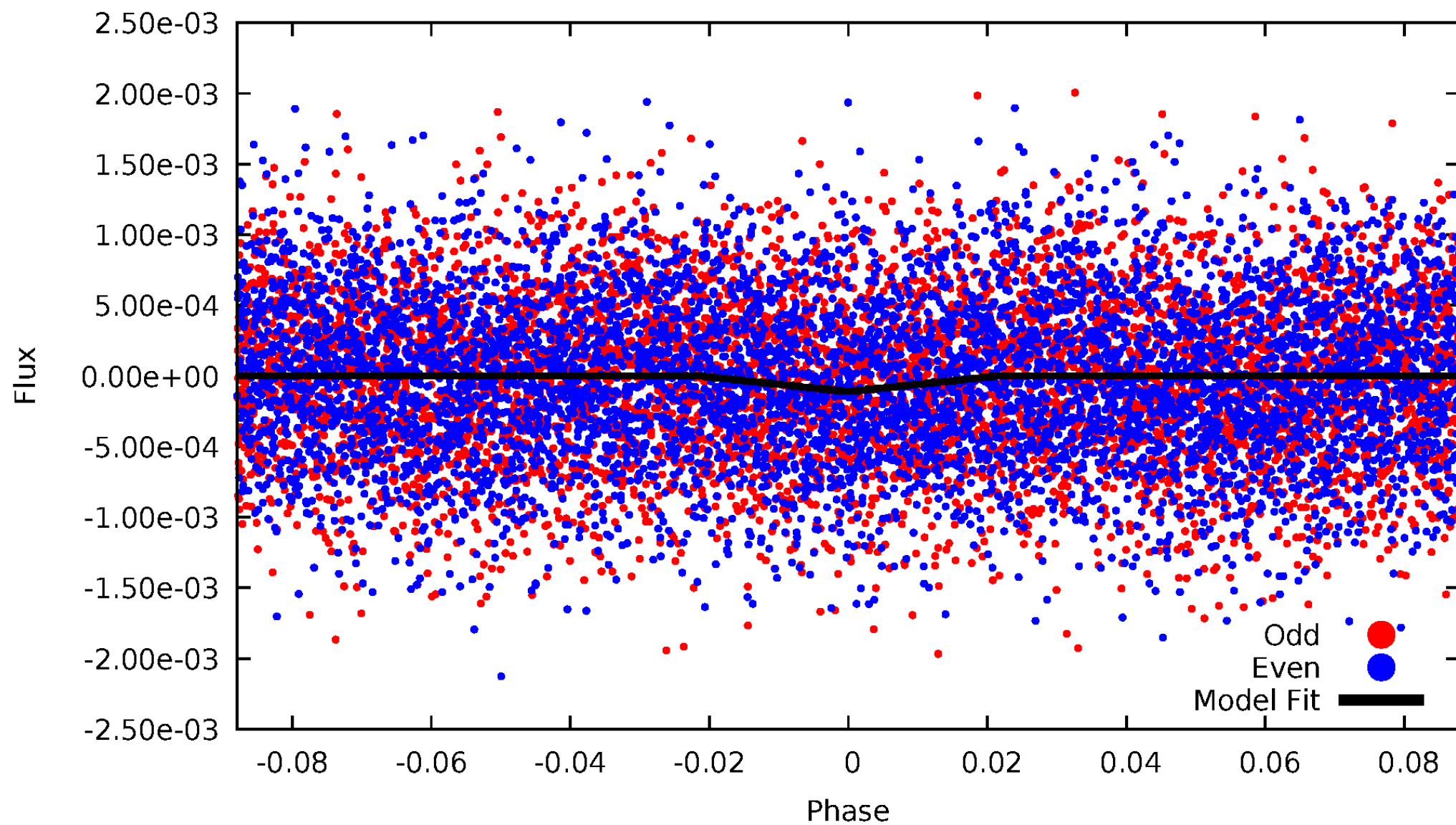
DV Odd/Even

TCE 007624753-01

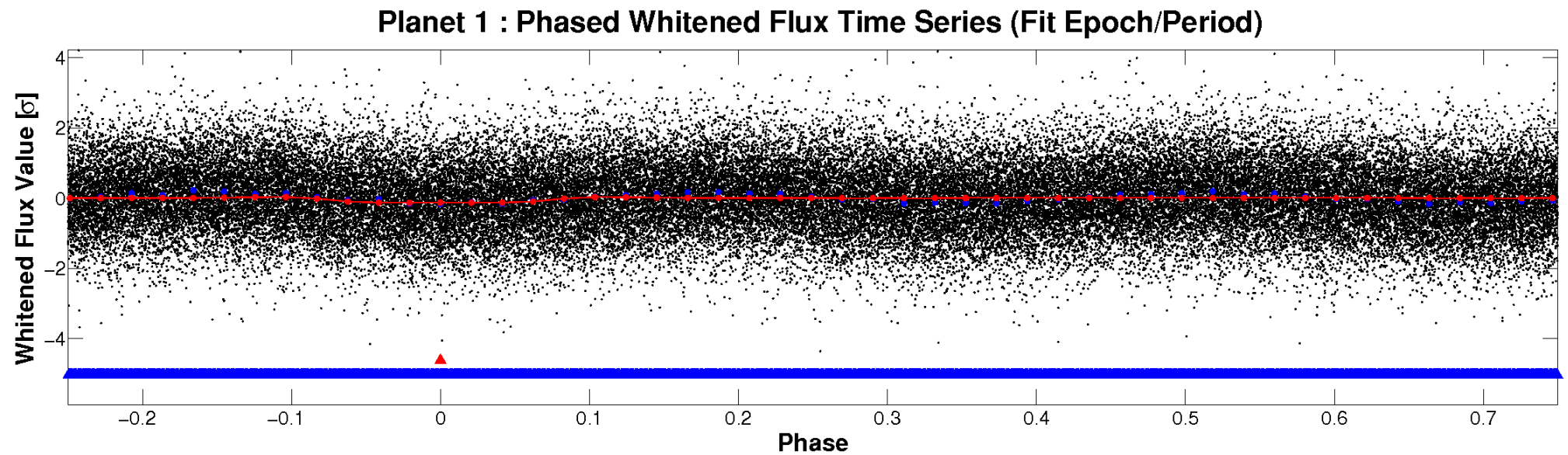
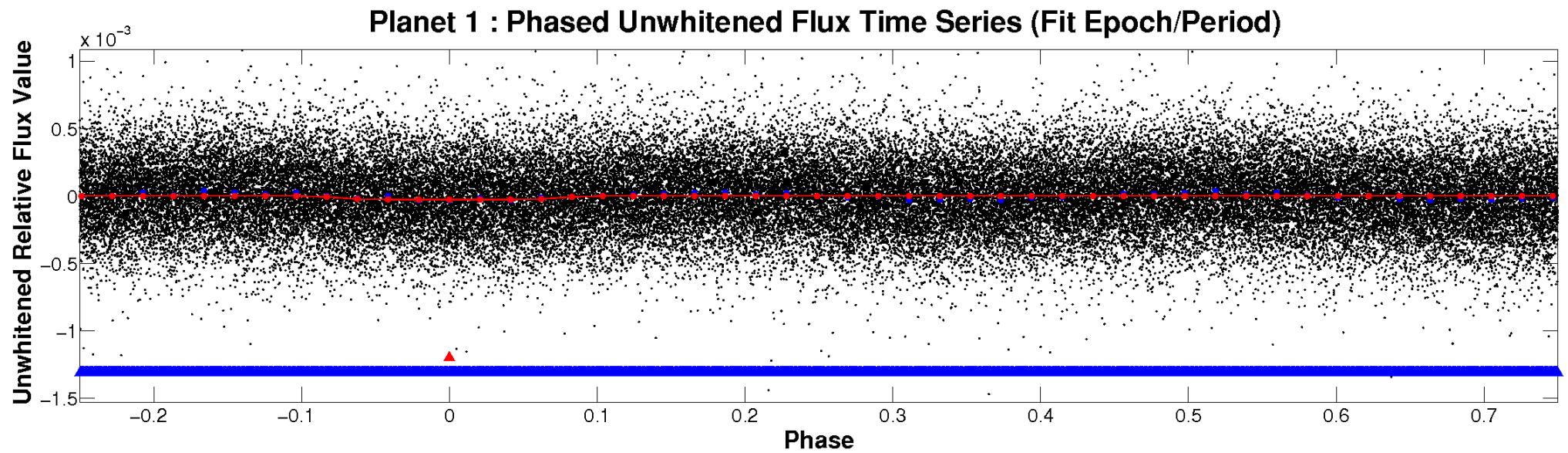


ALT Odd/Even

TCE 007624753-01

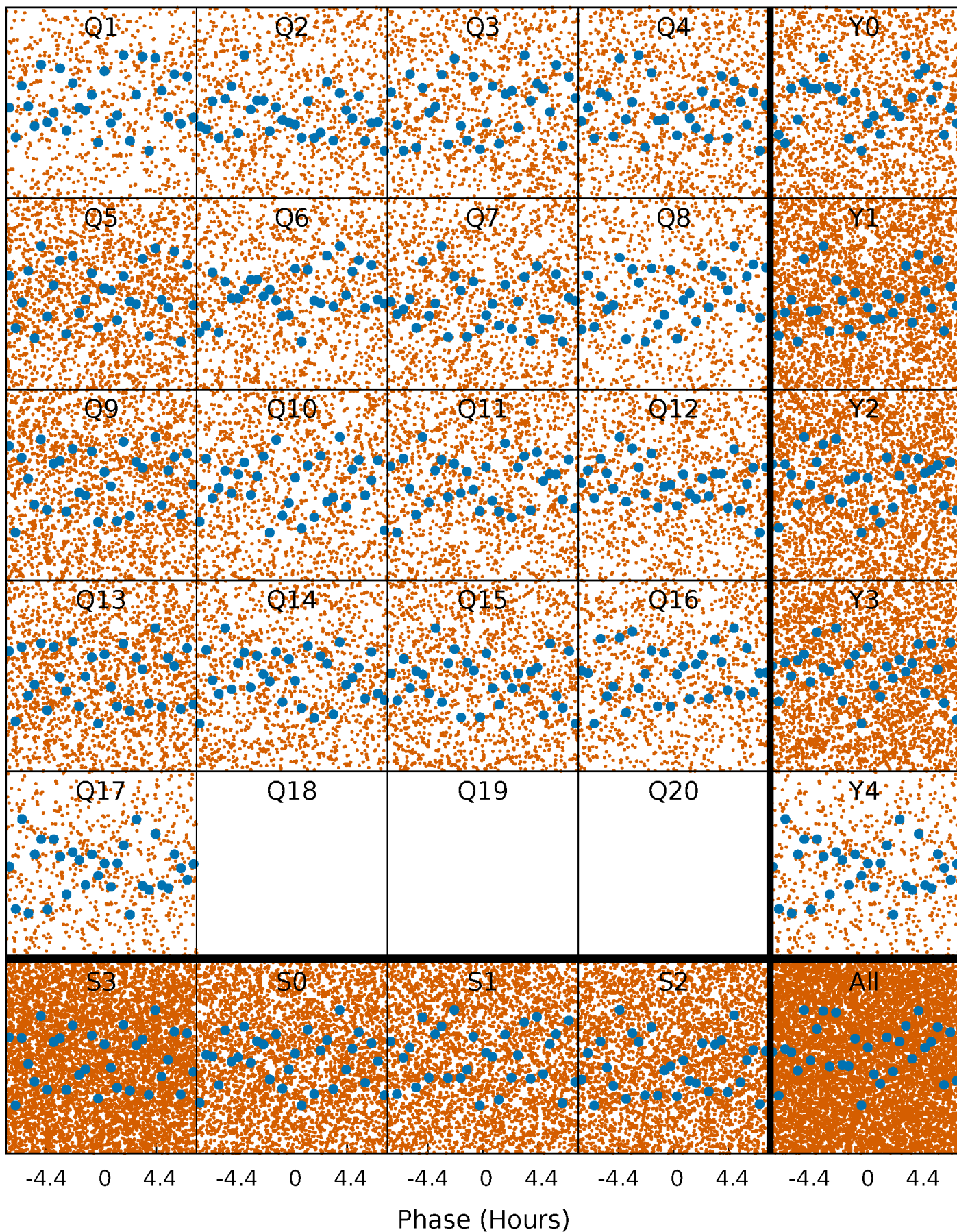


Non-Whitened Vs. Whitened Light Curve



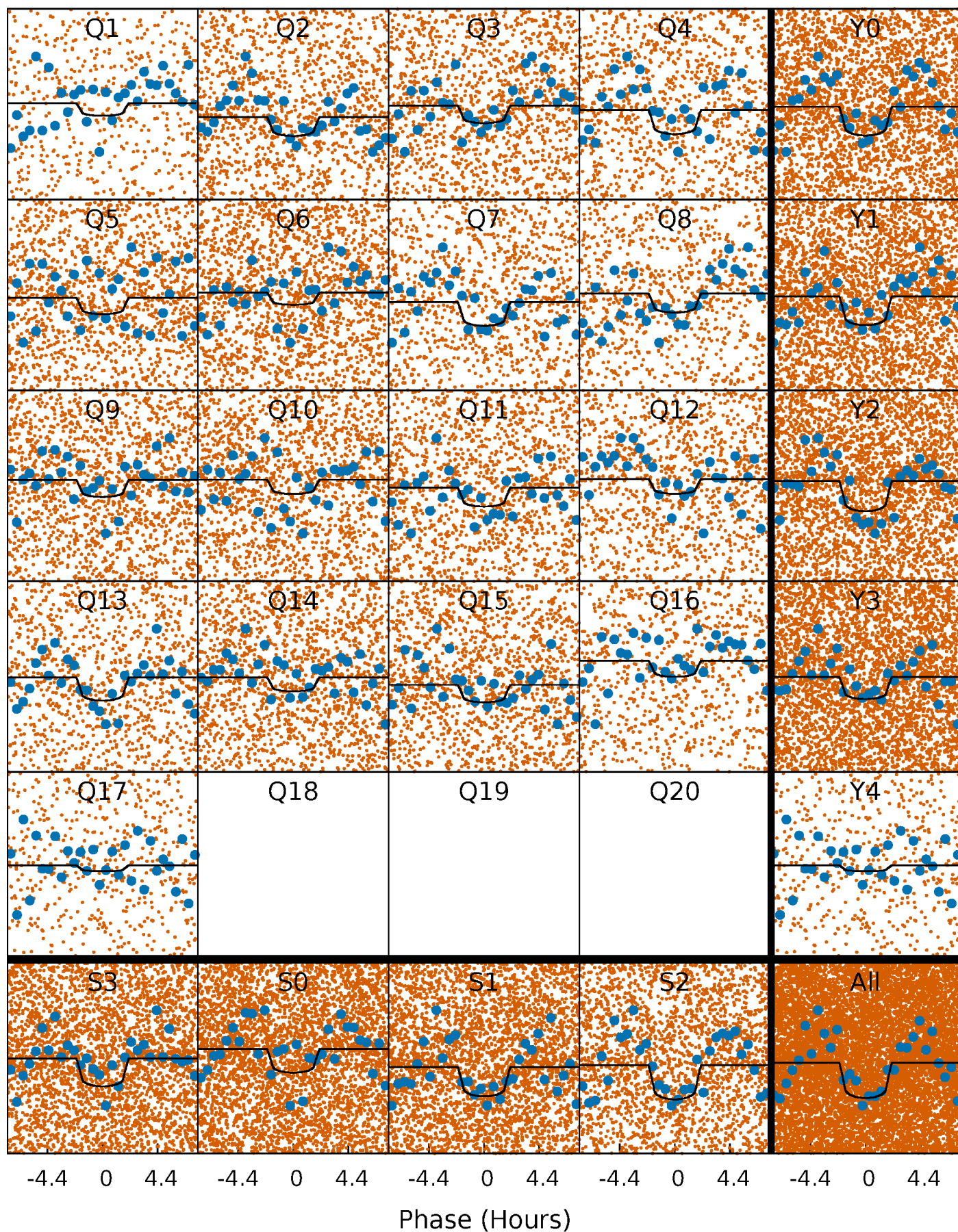
PDC Quarter-Phased Transit Curves

TCE 007624753-01 P= 0.985484 Days $T_0=132.023244$ (BKJD)



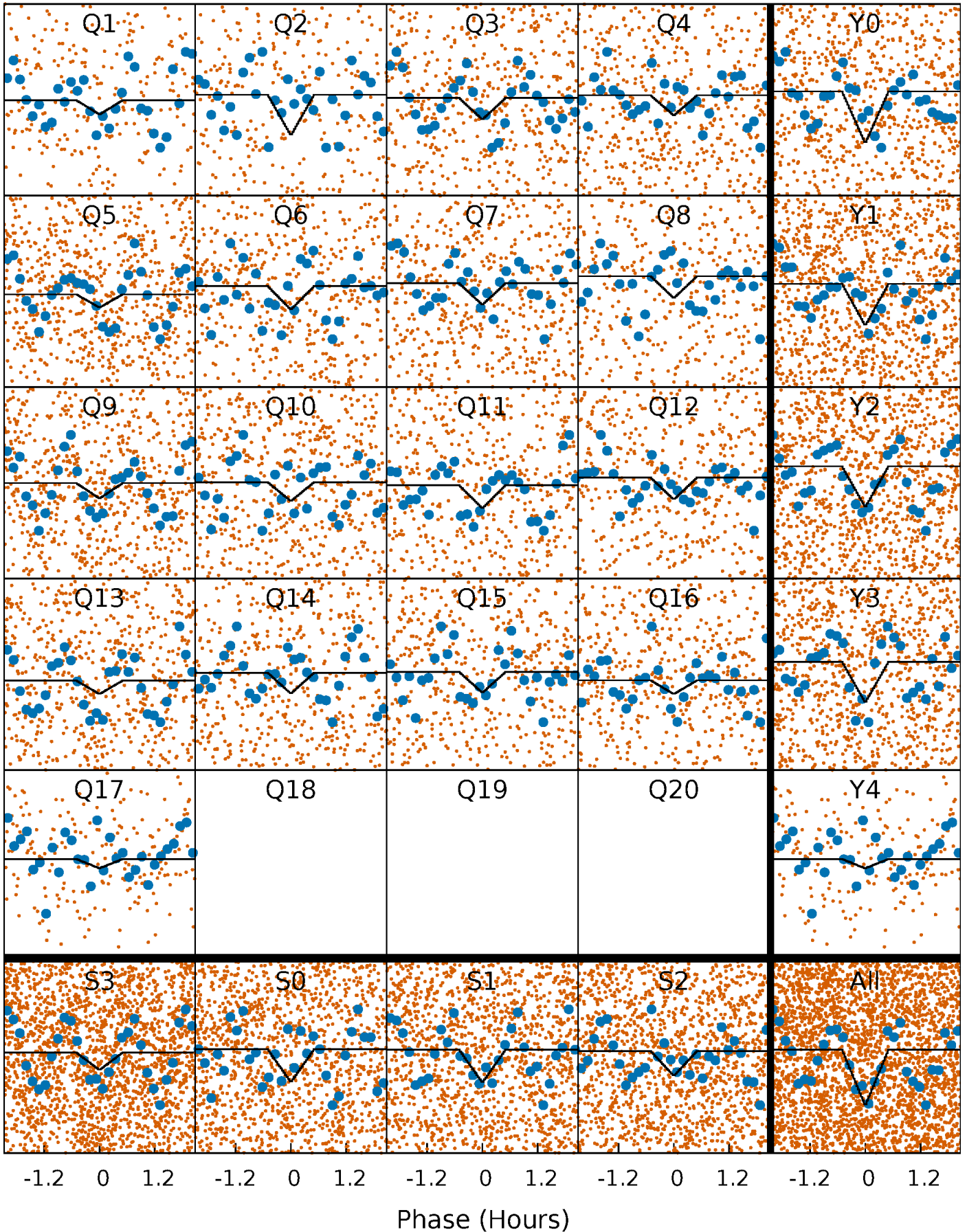
DV Quarter-Phased Transit Curves

TCE 007624753-01 P= 0.985484 Days $T_0=132.023244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

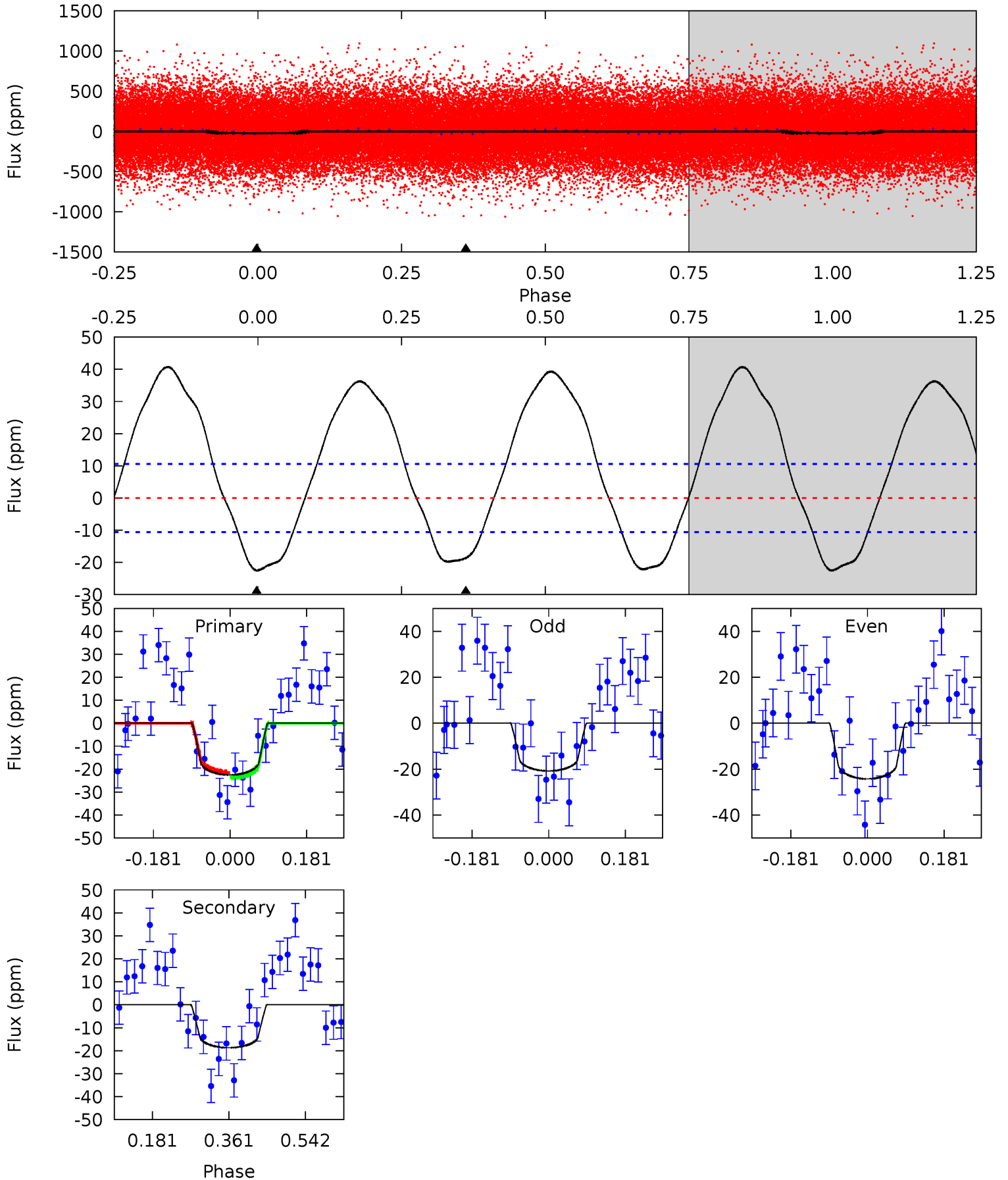
TCE 007624753-01 P= 0.985488 Days $T_0=132.011025$ (BKJD)



DV Model-Shift Uniqueness Test

007624753-01, P = 0.985484 Days, E = 131.037760 Days

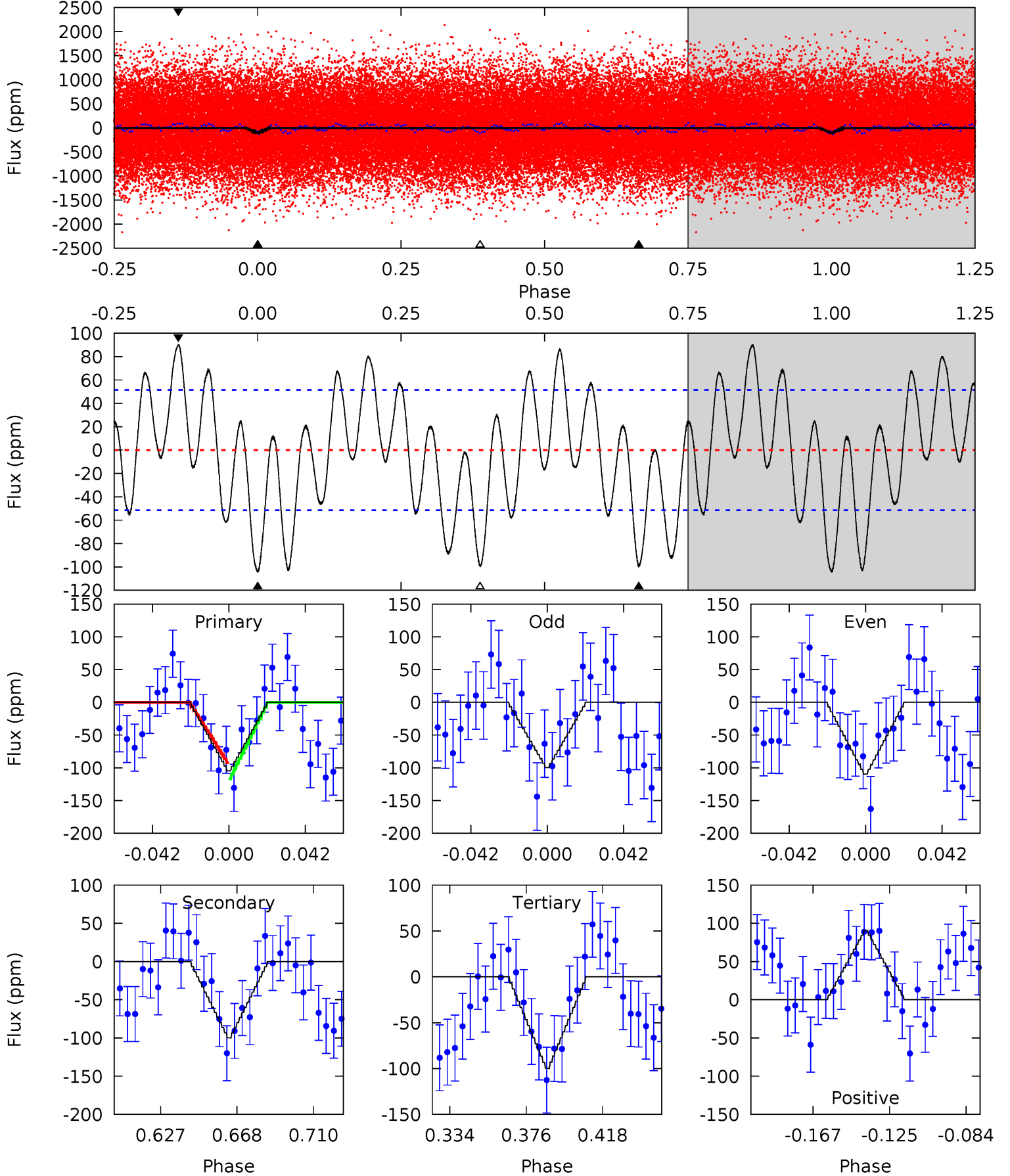
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.44	7.83	0	0	4.44	1.34	7.96	9.44	9.44	7.83	7.83	0.73	0.89	0.64	0.43



Alt Model-Shift Uniqueness Test

007624753-01, P = 0.985488 Days, E = 131.025537 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.63	9.19	9.18	8.32	4.74	2.04	4.30	0.45	1.32	0.00	0.87	0.45	0.87	0.46	1.15



Stellar Parameters For KIC 007624753

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7908^{+220}_{-330}	$3.704^{+0.440}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$3.366^{+0.712}_{-1.544}$	$2.086^{+0.323}_{-0.525}$	$0.077^{+0.329}_{-0.027}$
	+3%/-4%	+12%/-3%	+1000%/-1750%	+21%/-46%	+15%/-25%	+426%/-35%
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 007624753-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19±2	$1.83^{+1.05}_{-0.84}$	5500^{+385}_{-628}	6405^{+3052}_{-1349}	$1.890^{+4.385}_{-1.116}$
Alt.	-100±11	$3.51^{+1.08}_{-1.12}$	5463^{+431}_{-624}	7369^{+1447}_{-954}	$2.710^{+2.920}_{-1.102}$

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 $A_{obs} \gg 1.0$

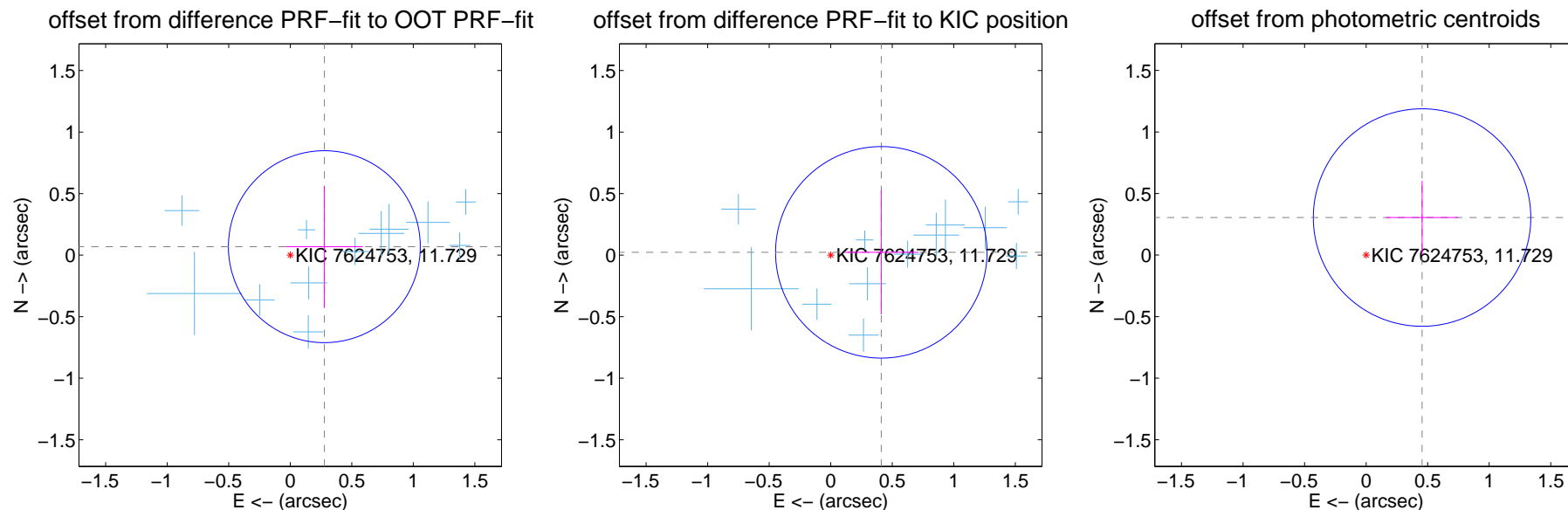
DV Centroid Data

Supplemental centroid analysis for 007624753-01. **Kepler magnitude: 11.73.** Transit SNR 11.60

There are 14 quarters with good PRF difference image offsets

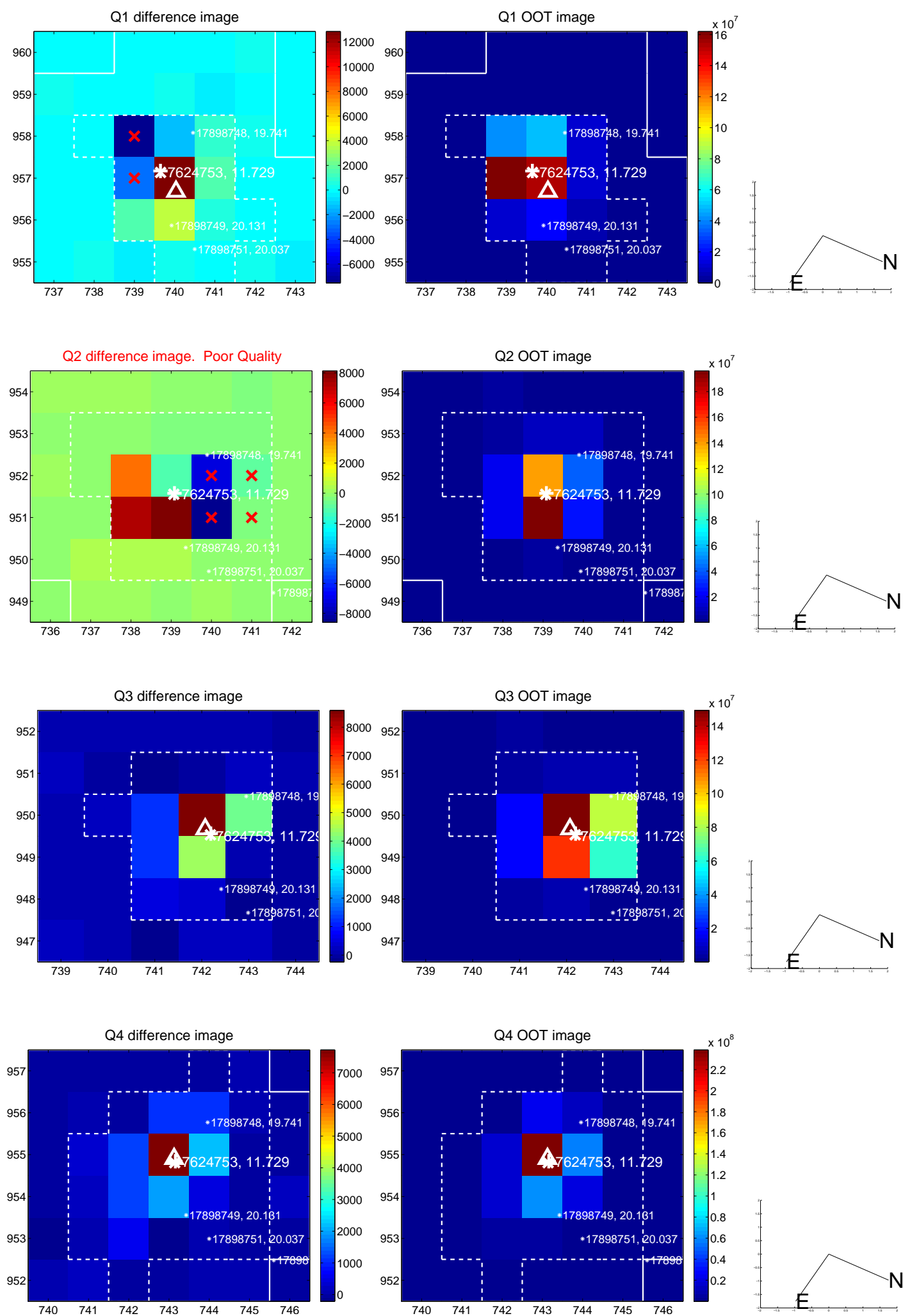
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.286 ± 0.260	1.10	-0.277 ± 0.313	0.069 ± 0.492
PRF-fit source offset from KIC position	0.412 ± 0.286	1.44	-0.411 ± 0.301	0.023 ± 0.505
photometric centroid source offset	0.55 ± 0.29	1.86	-0.45 ± 0.29	0.30 ± 0.30

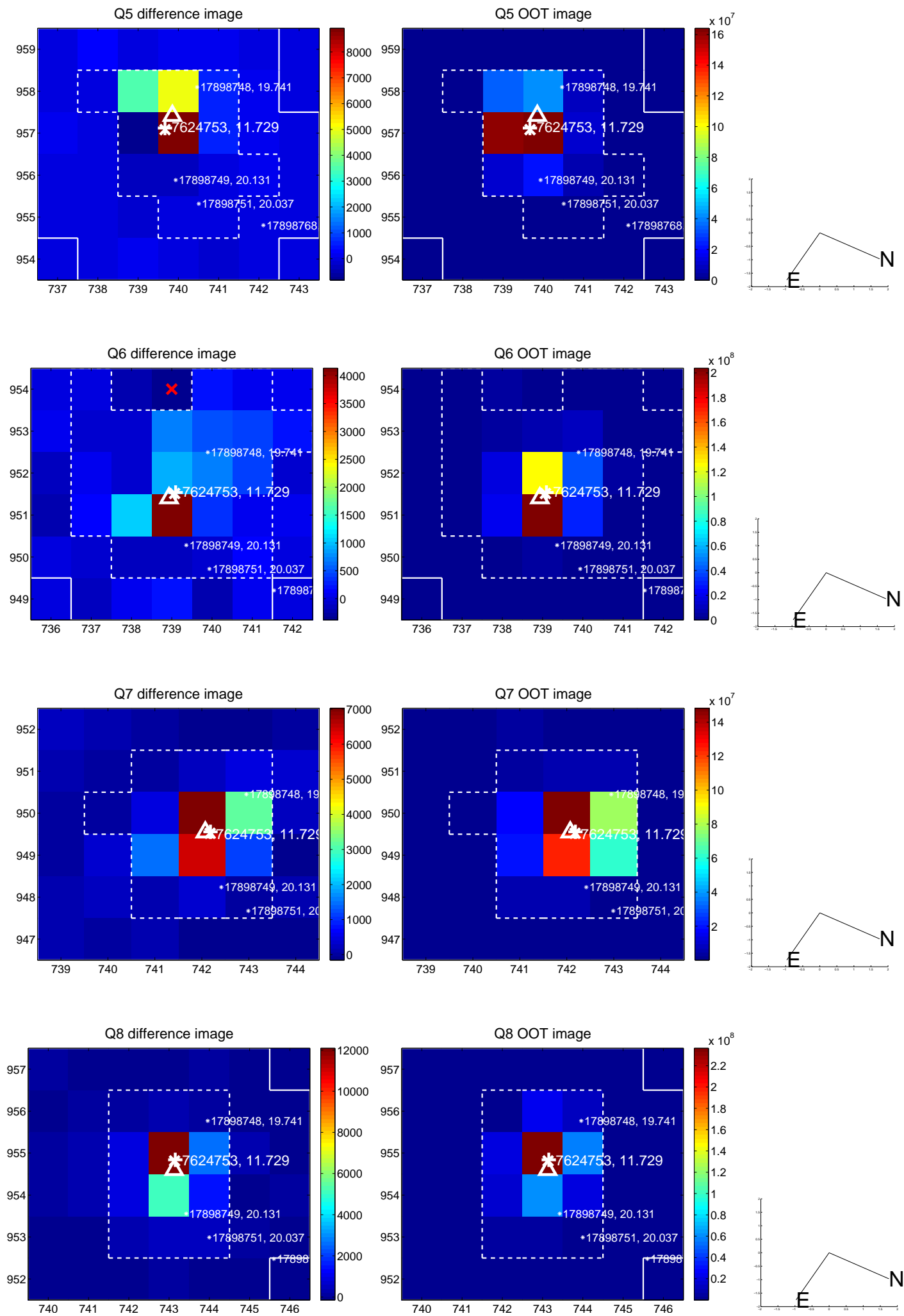


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

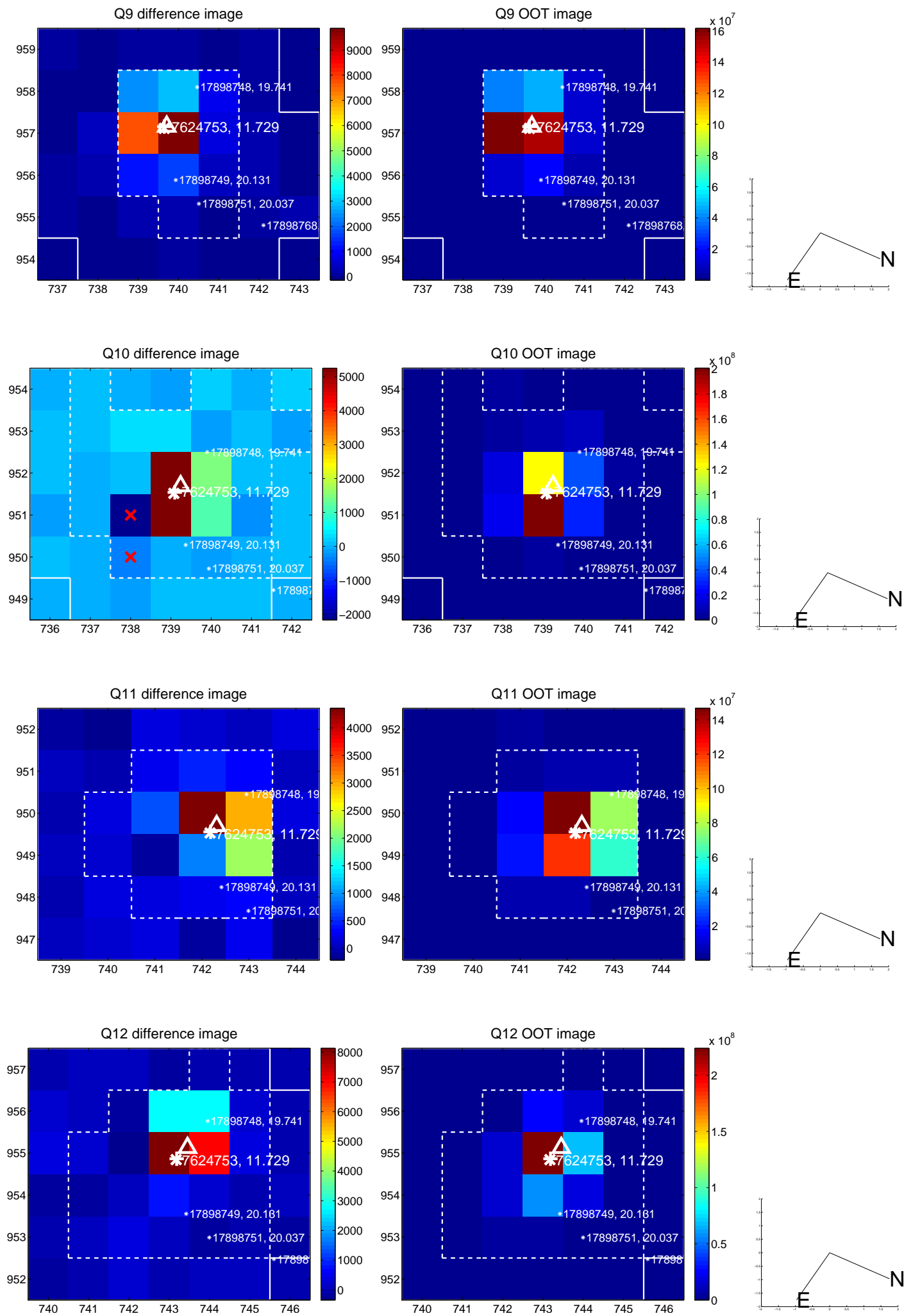
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



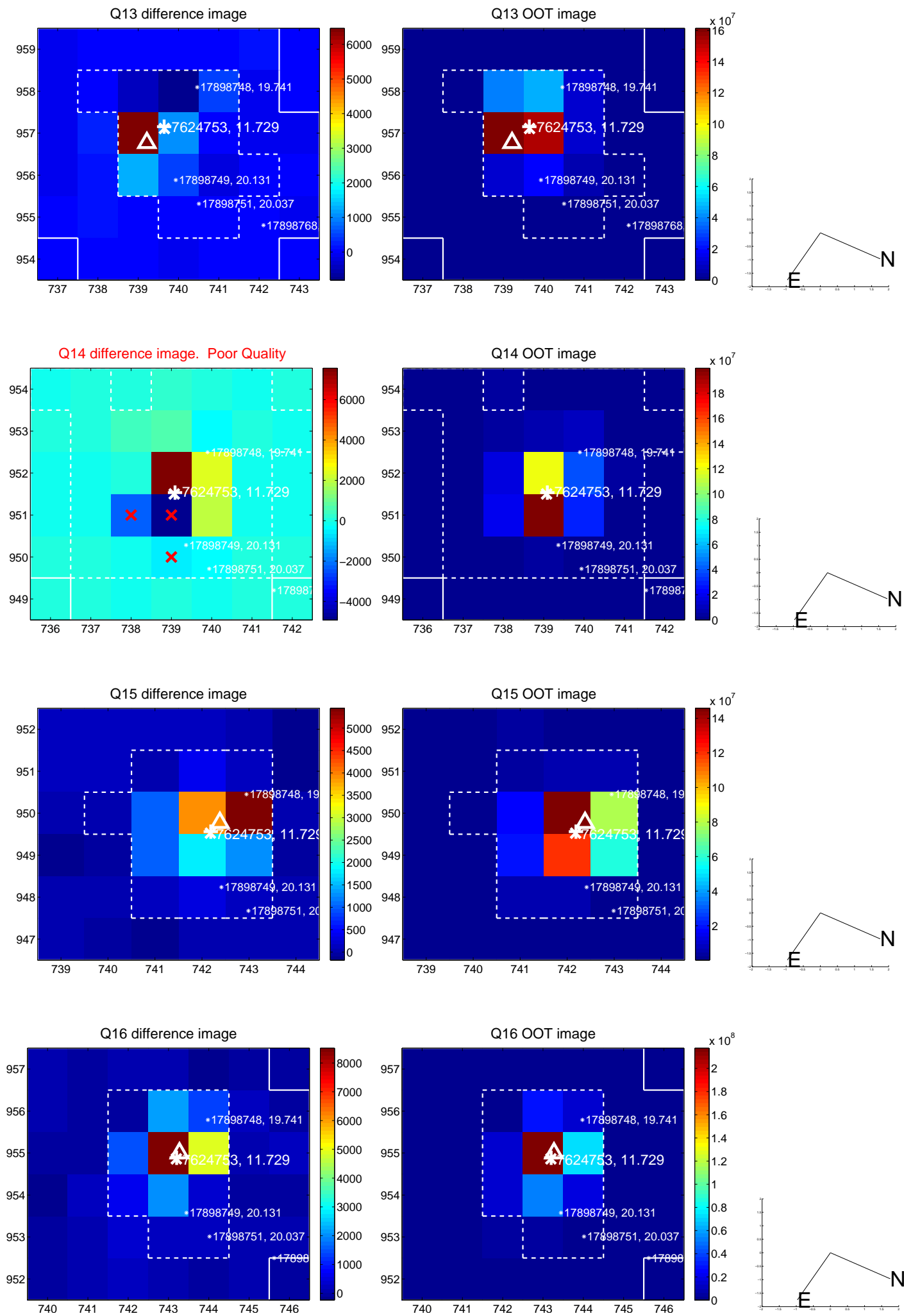
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

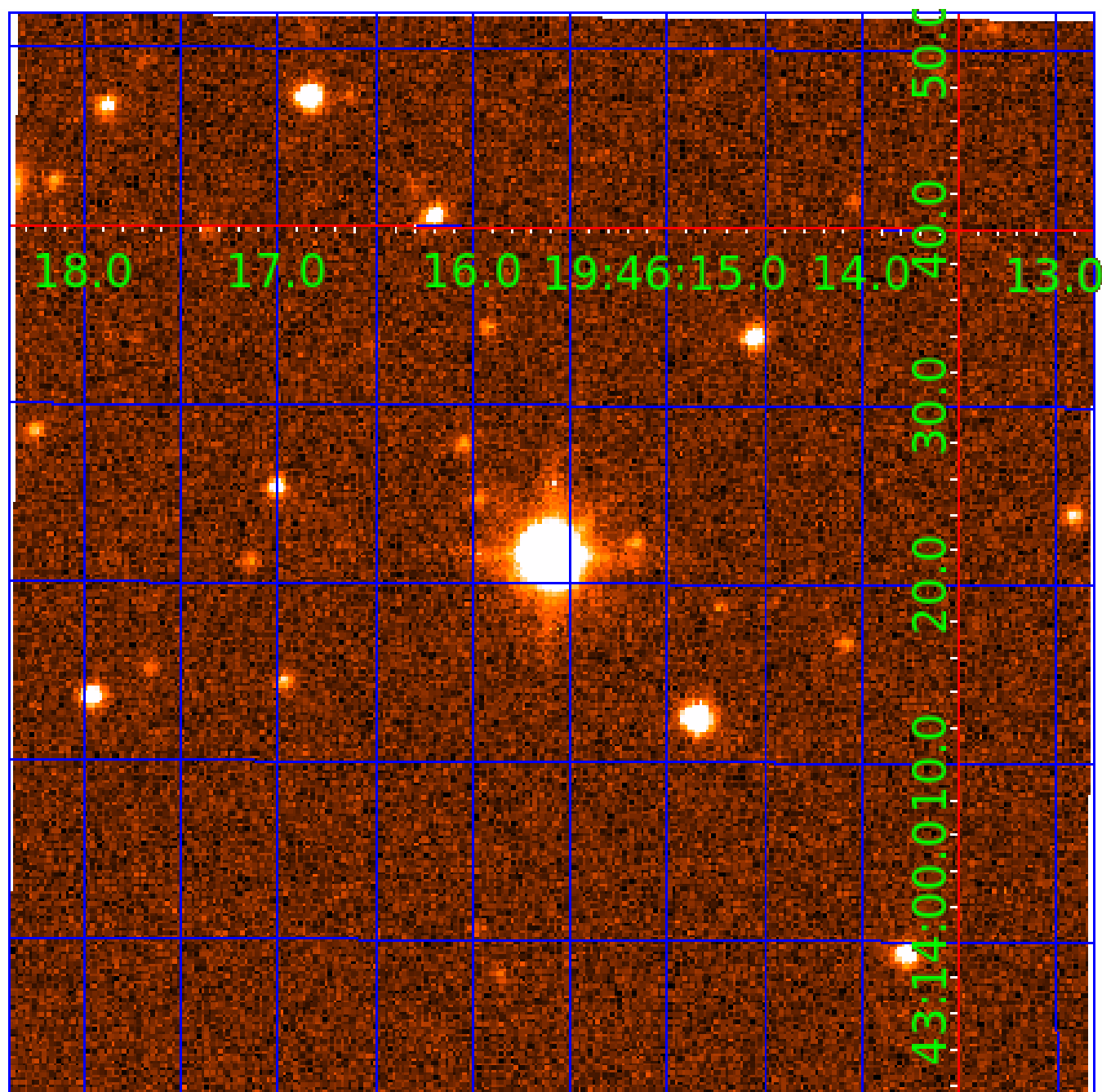


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007624753

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})
007624753-01	OBS	No	0.985484	132.023244	27.1	3.808	11.9	11.6	3.37	7908	2.01	64620.64
007624753-02	OBS	No	0.795140	131.908566	24.9	4.144	9.0	8.3	3.37	7908	1.81	86029.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007624753-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
007624753-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

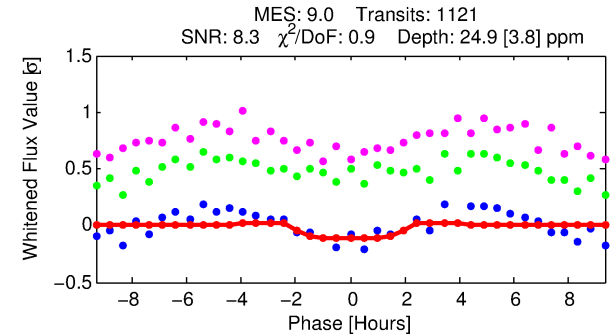
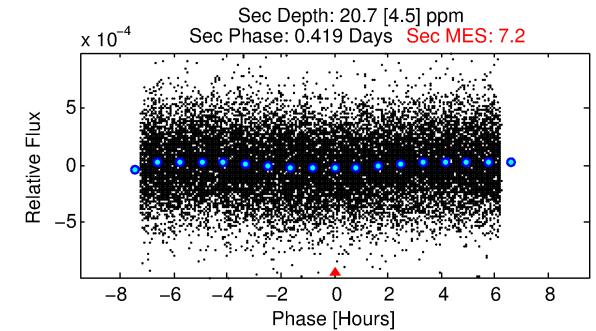
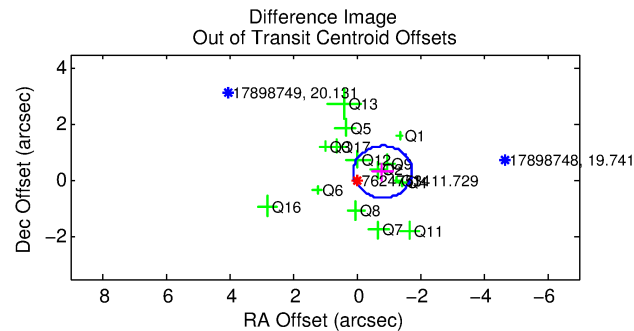
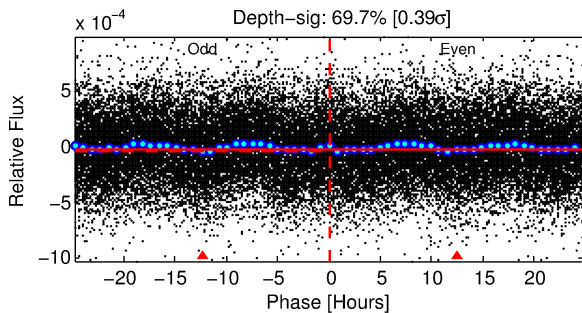
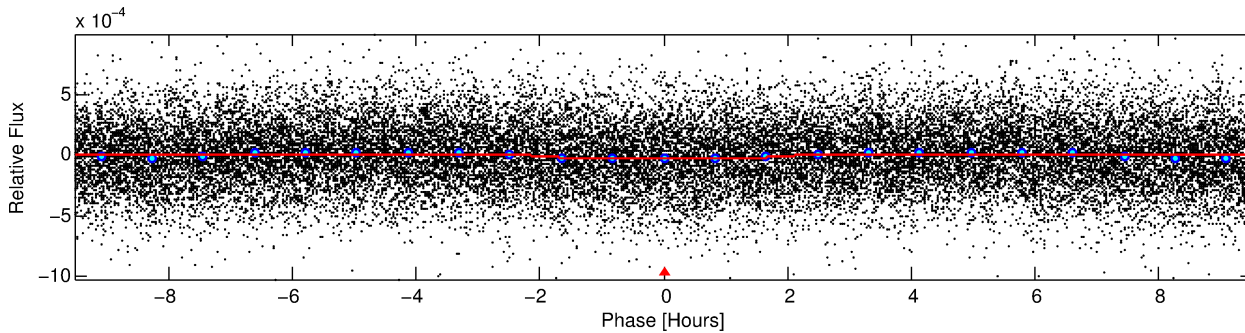
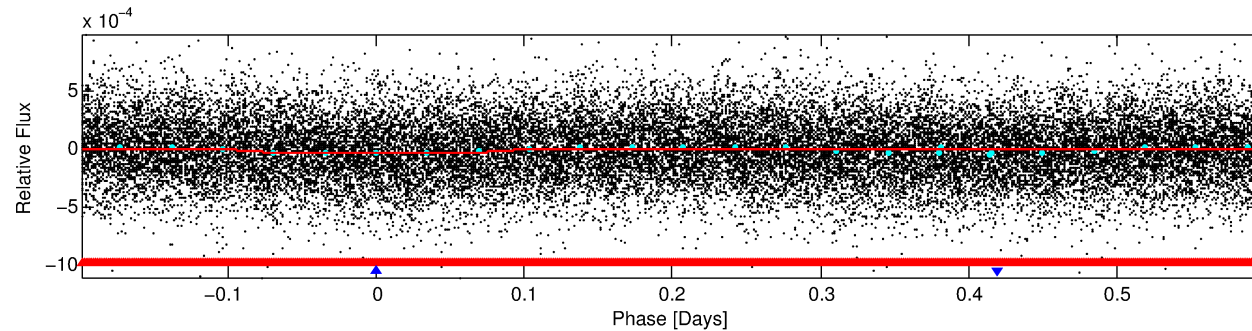
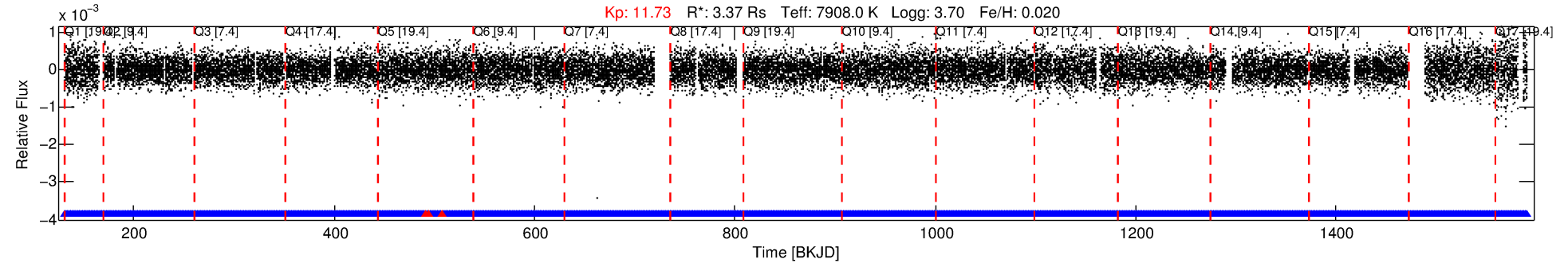
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007624753-02

No Significant Match Found

DV One-Page Summary

KIC: 7624753 Candidate: 2 of 2 Period: 0.795 d



DV Fit Results:

Period = 0.79514 [0.00001] d
Epoch = 131.9086 [0.0058] BKJD
Rp/R* = 0.0049 [0.0033]
a/R* = 1.32 [2.19]
b = 0.73 [2.58]
Seff = 86029.20 [65380.87]
Teq = 4367 [830] K
Rp = 1.81 [1.48] Re
a = 0.0215 [0.0098] AU
Ag = 1.61 [2.50] [0.24 σ]
Teffp = 7601 [2620] K [1.18 σ]

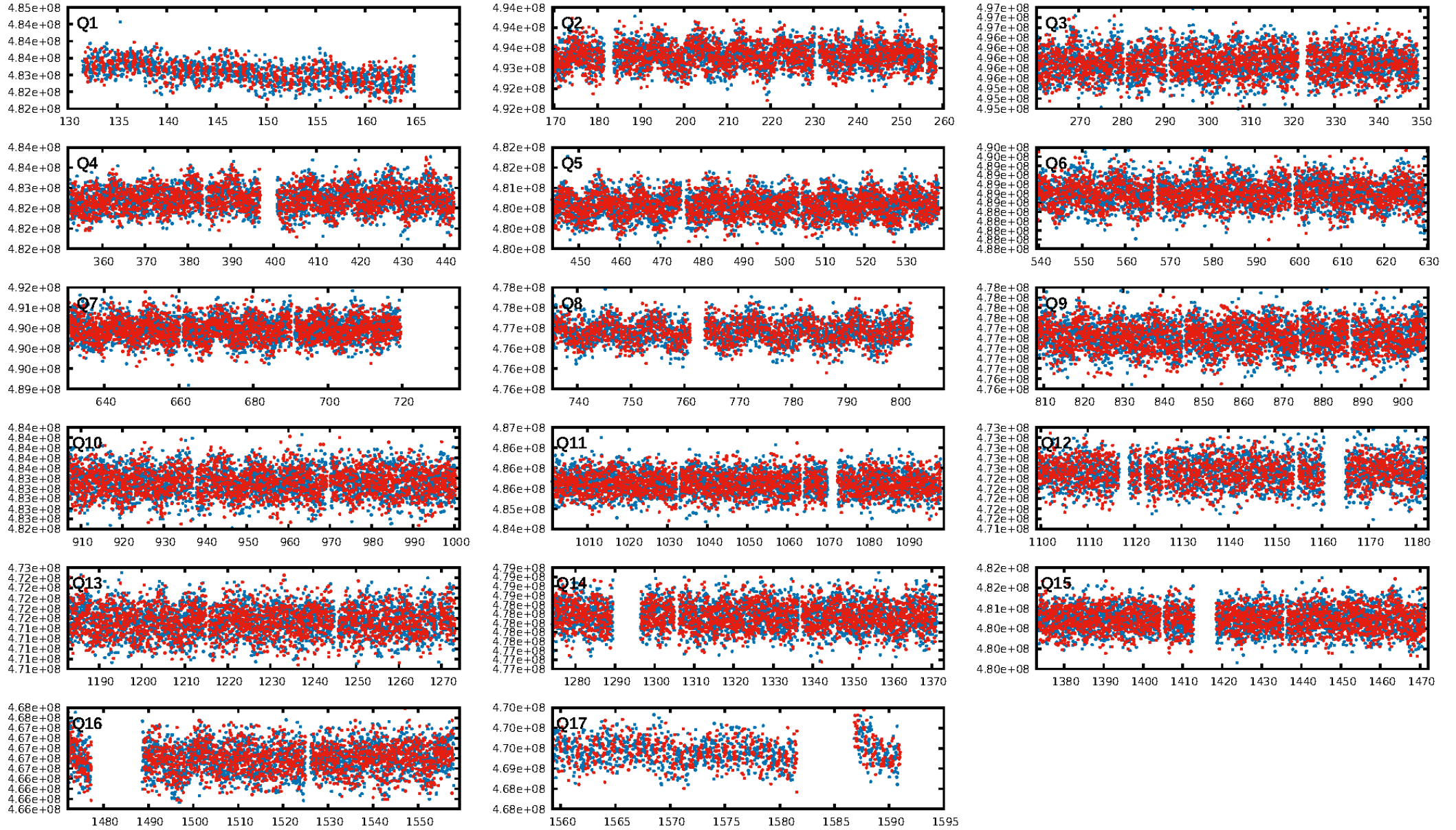
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 58.3% [0.81 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGo-fsig: N/A
Bootstrap-pfa: 9.51e-07
RollingBand-fgt: 1.00 [1067/1070]
GhostDiagnostic-chr: 1.331
Centroid-sig: 17.0%
Centroid-so: 0.227 arcsec [0.80 σ]
OotOffset-rm: 0.876 arcsec [2.84 σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-rm: 0.994 arcsec [3.21 σ]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 1.00 [17/17]

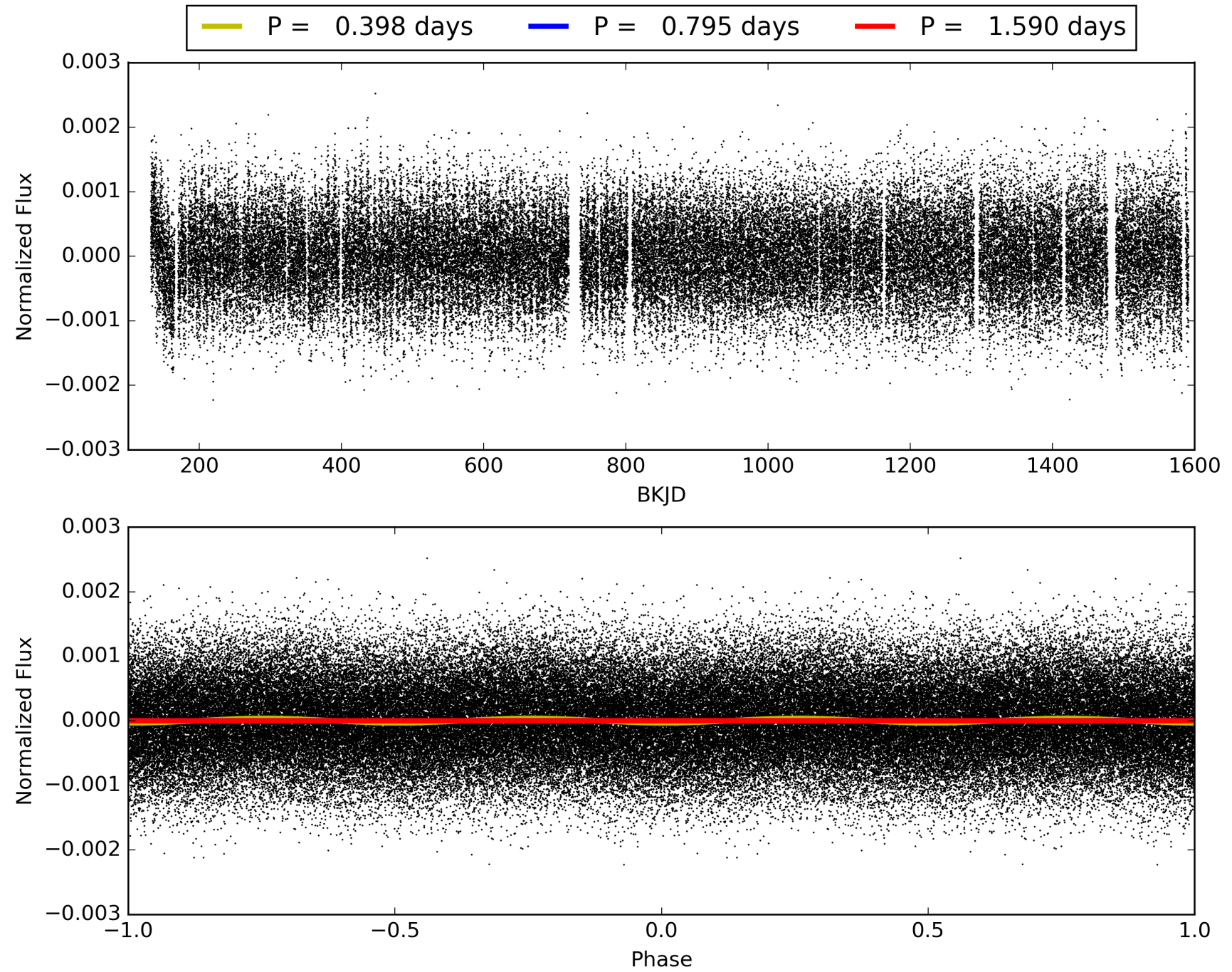
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:08:29 Z

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

TCE 007624753-02, PDC Light Curves

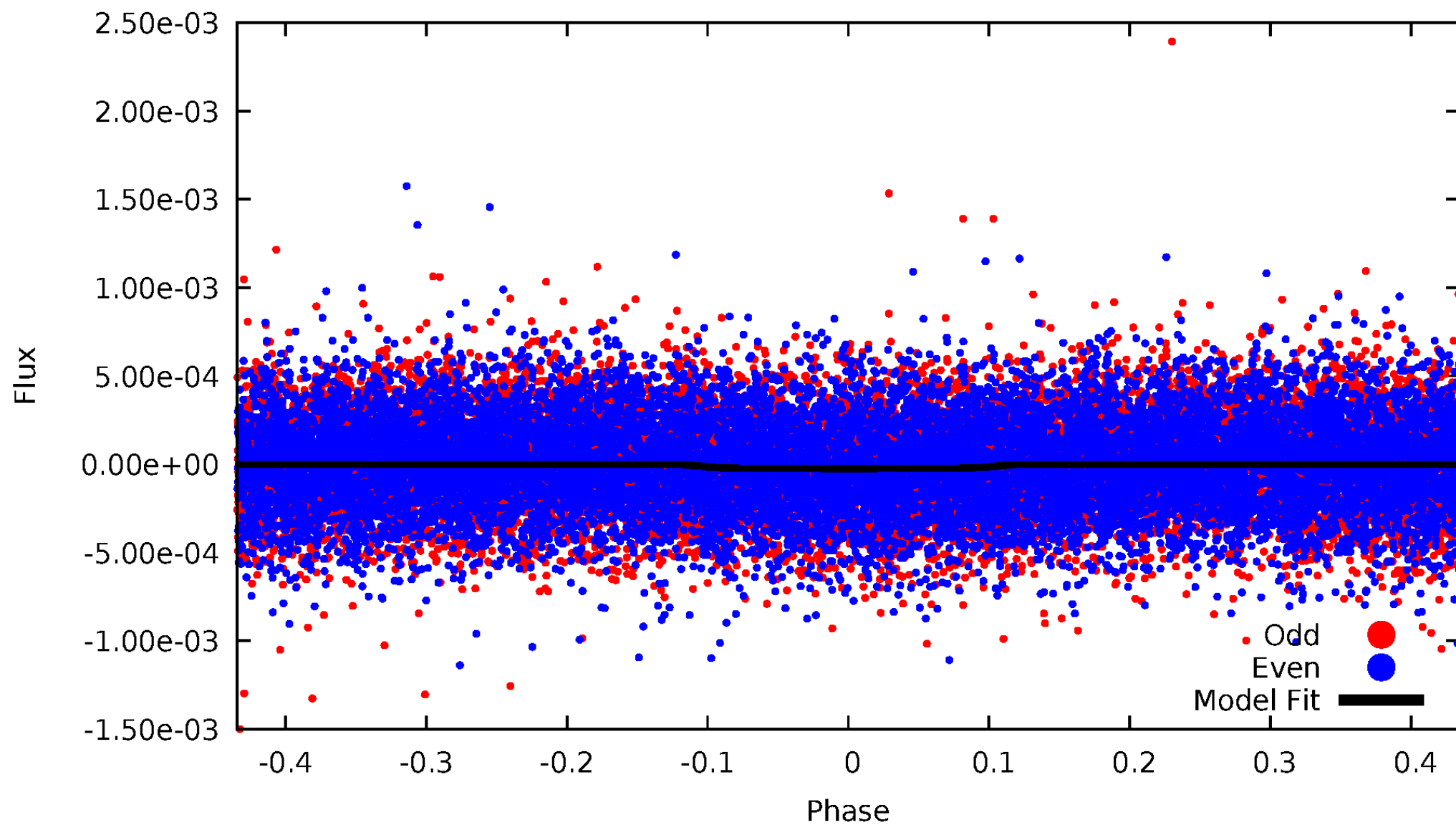


TCE 007624753-02



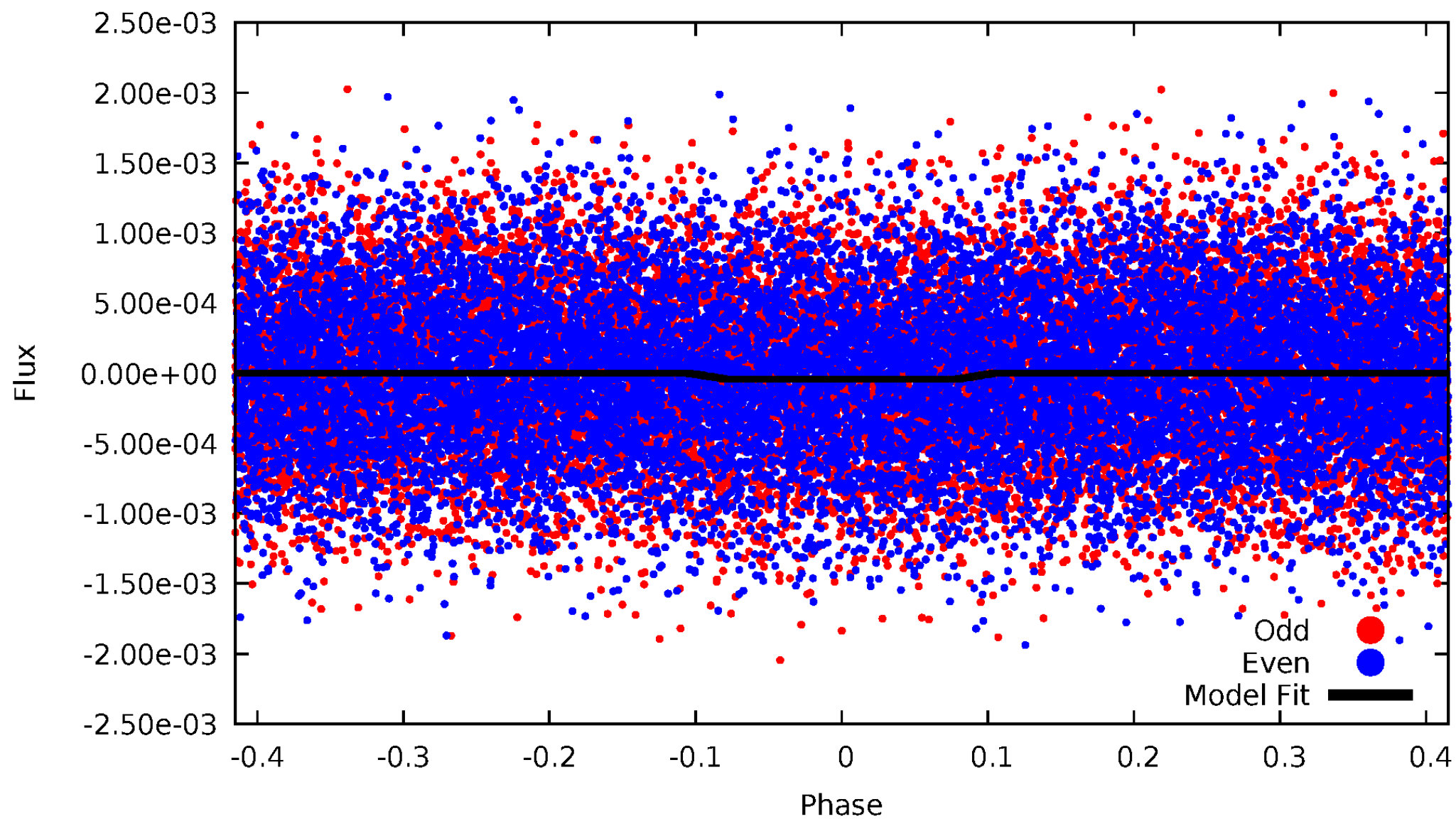
DV Odd/Even

TCE 007624753-02



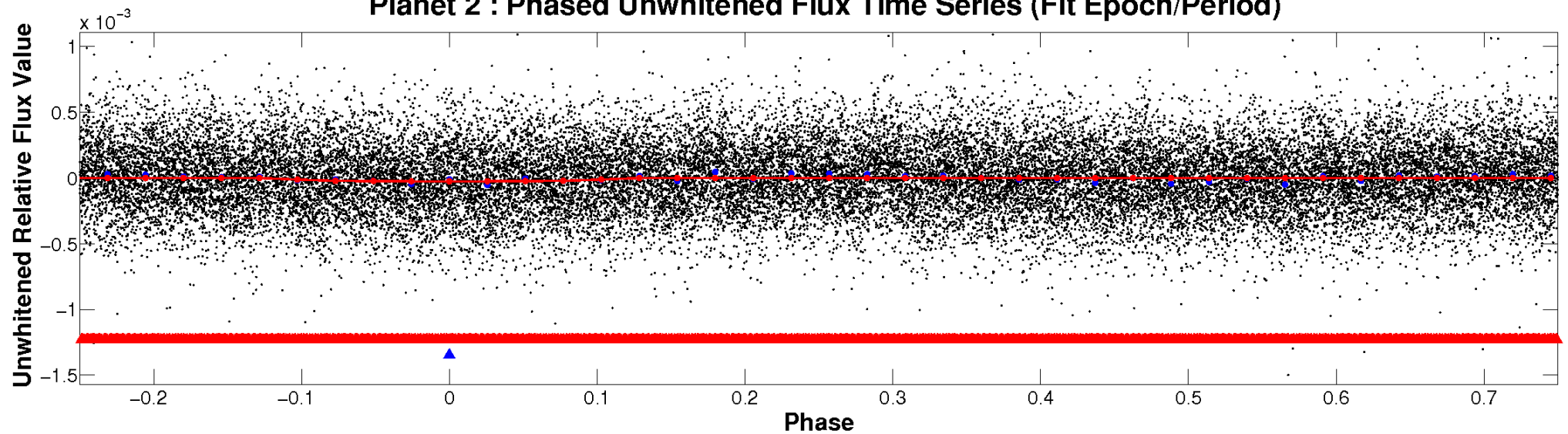
ALT Odd/Even

TCE 007624753-02

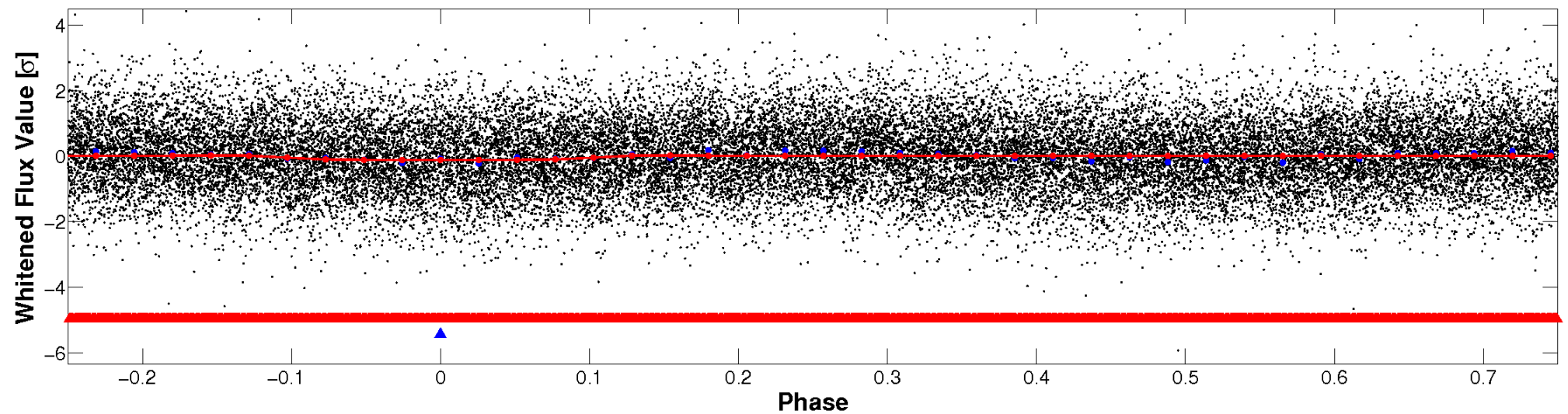


Non-Whitened Vs. Whitened Light Curve

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

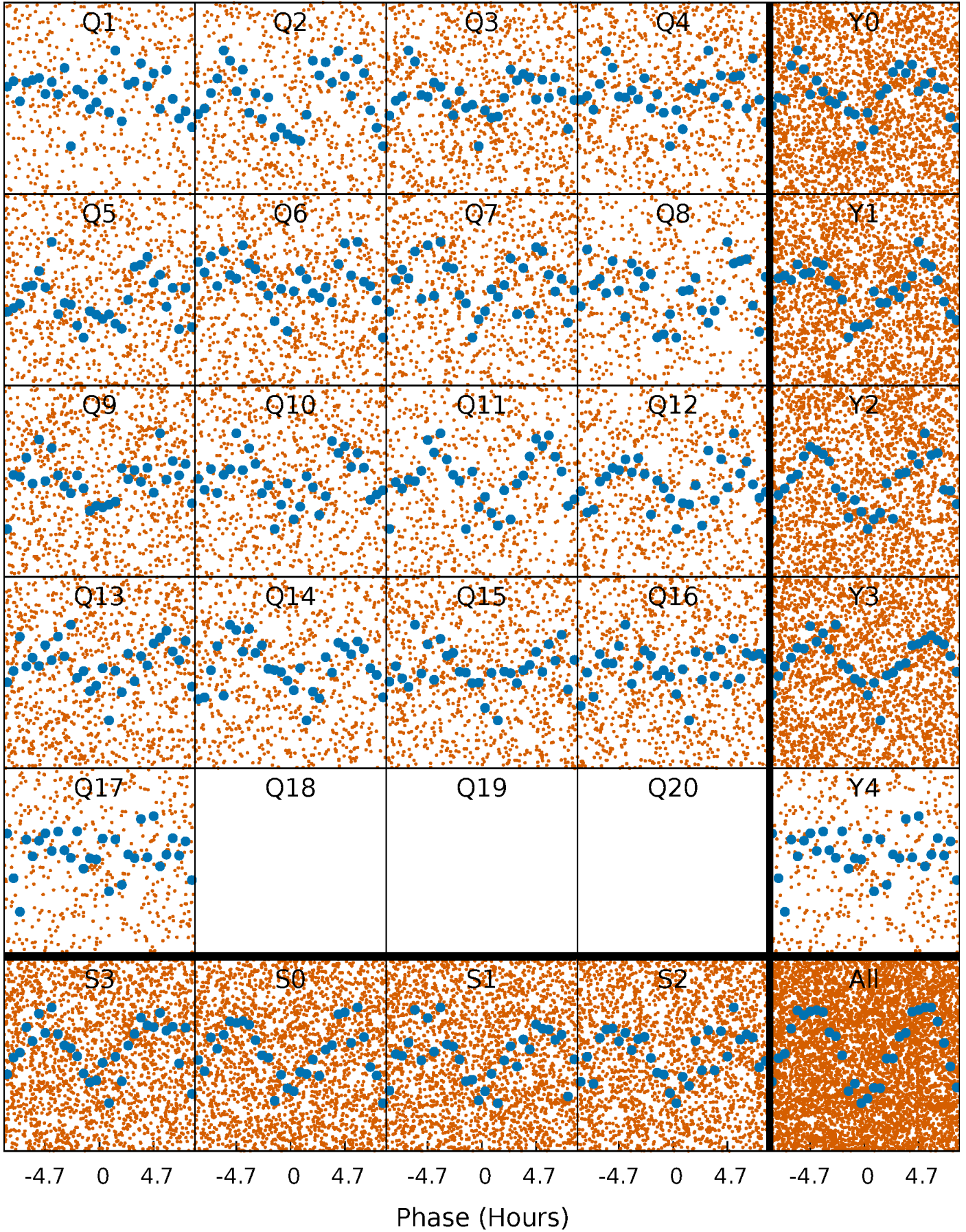


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



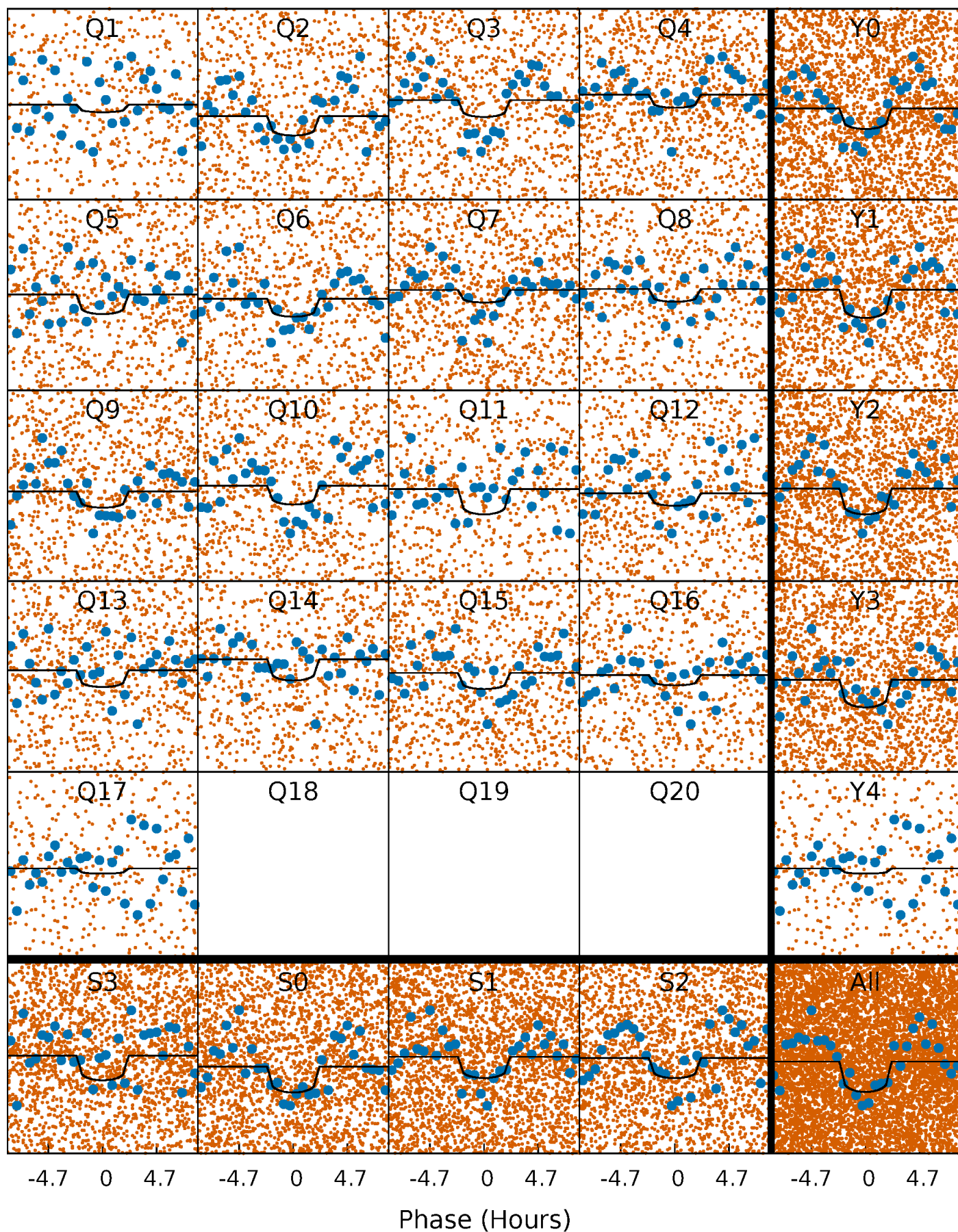
PDC Quarter-Phased Transit Curves

TCE 007624753-02 P= 0.795140 Days $T_0=131.908566$ (BKJD)



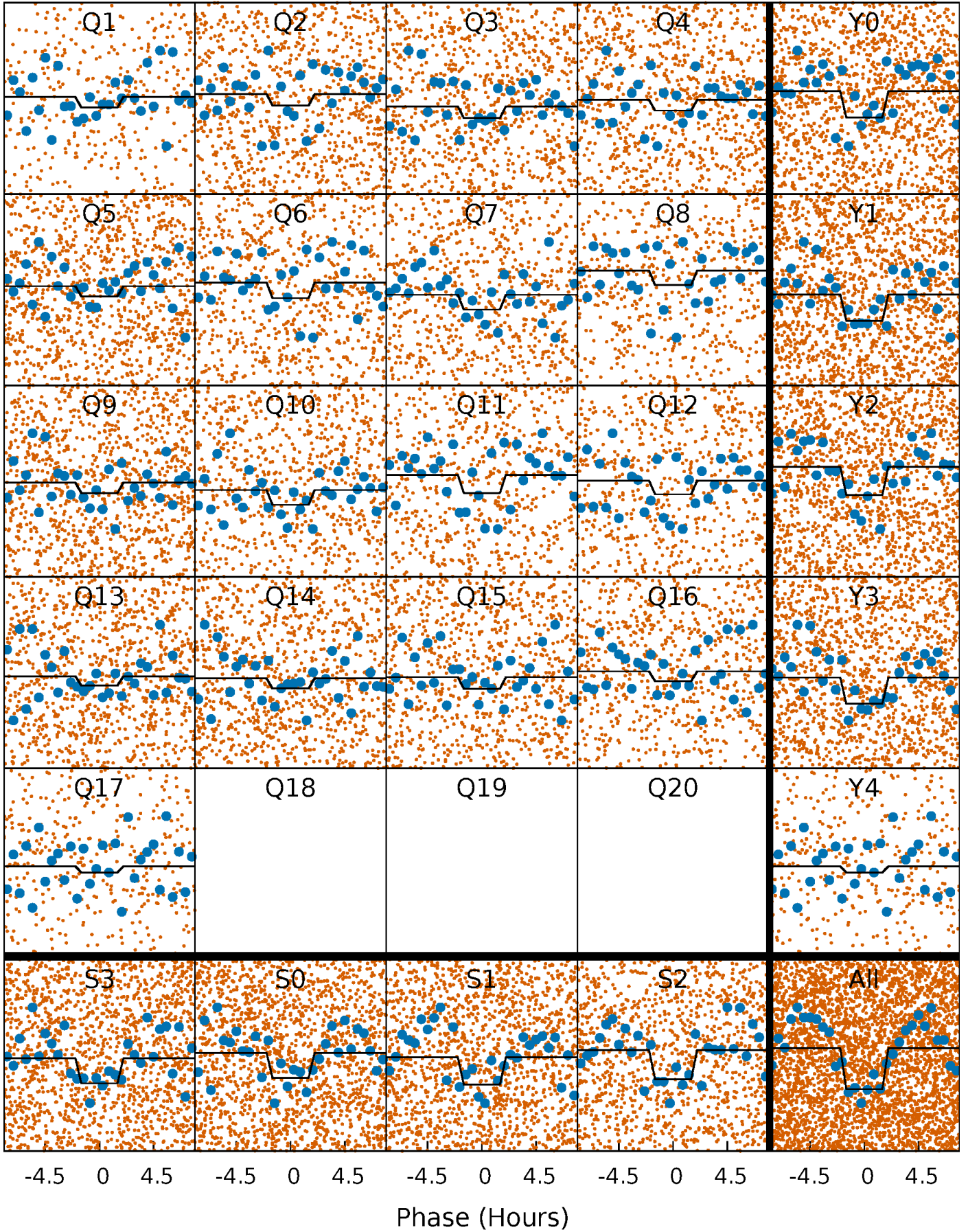
DV Quarter-Phased Transit Curves

TCE 007624753-02 P= 0.795140 Days $T_0=131.908566$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

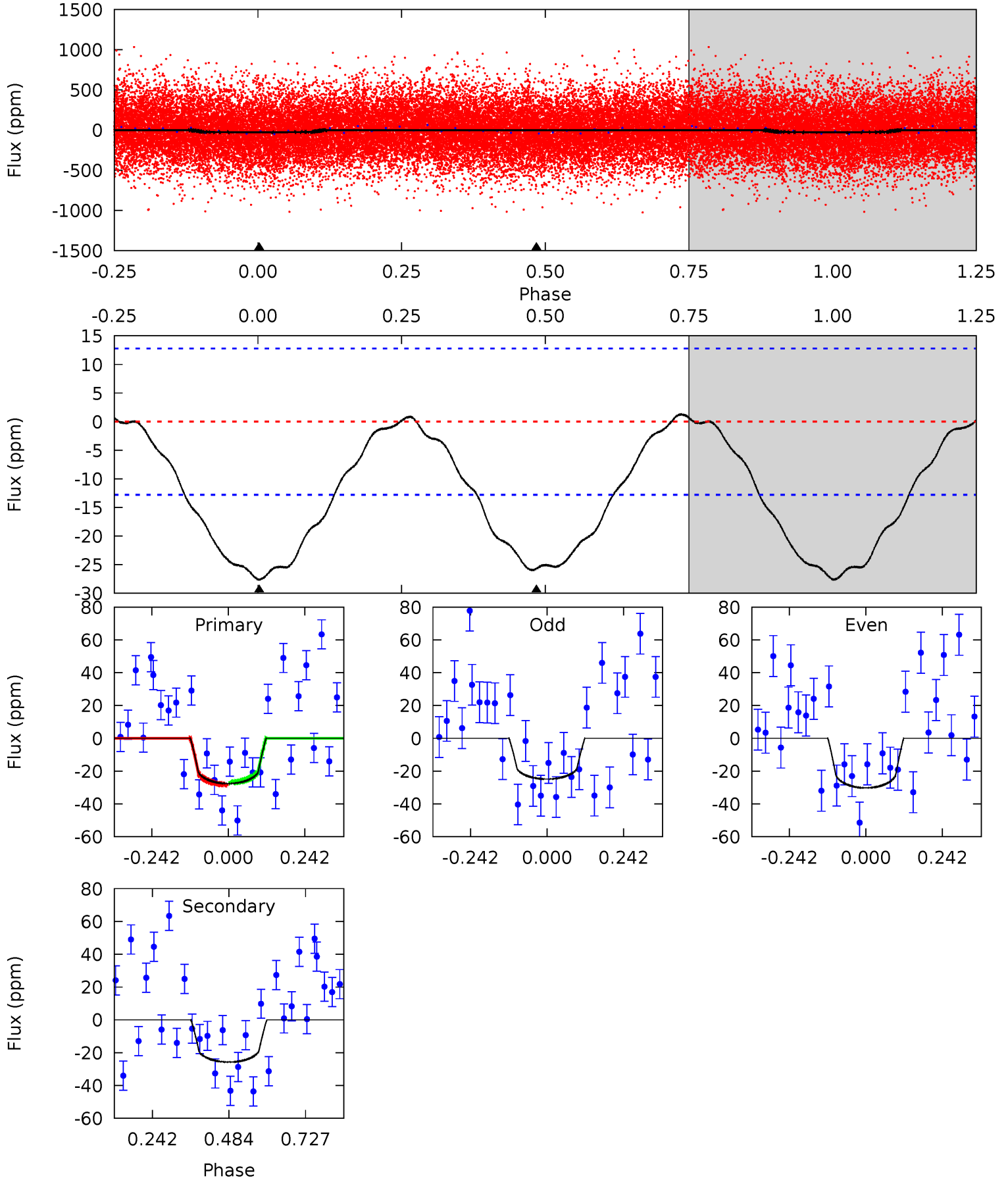
TCE 007624753-02 P= 0.795179 Days $T_0=131.881415$ (BKJD)



DV Model-Shift Uniqueness Test

007624753-02, P = 0.795140 Days, E = 131.113426 Days

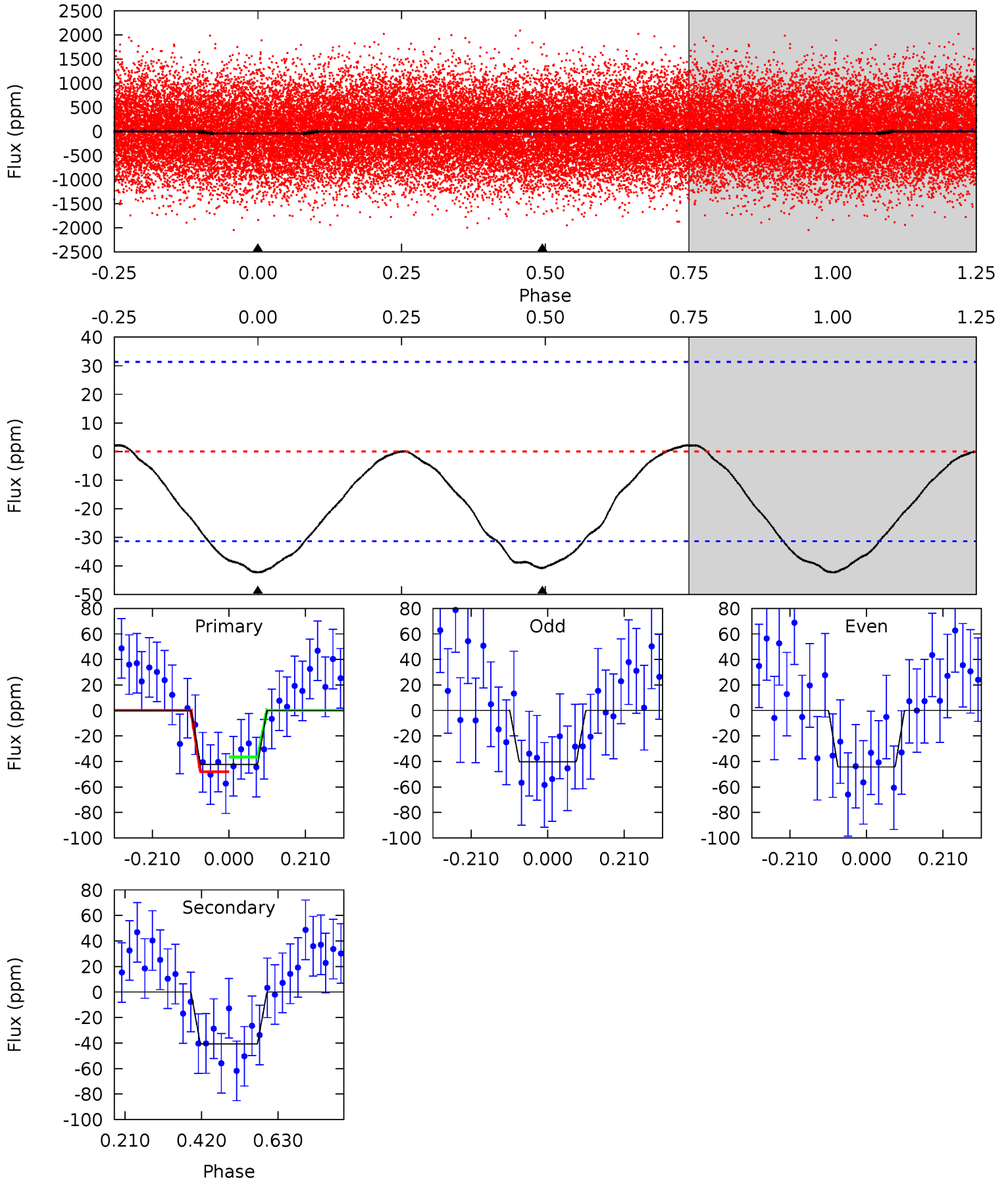
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.44	8.80	0	0	4.38	1.17	0.24	9.44	9.44	8.80	8.80	0.92	1.00	0.04	0.21



Alt Model-Shift Uniqueness Test

007624753-02, P = 0.795179 Days, E = 131.086236 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.93	5.72	0	0	4.41	1.25	0.22	5.93	5.93	5.72	5.72	0.29	0.83	0.05	0.81



Stellar Parameters For KIC 007624753

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7908^{+220}_{-330}	$3.704^{+0.440}_{-0.110}$	$0.020^{+0.200}_{-0.350}$	$3.366^{+0.712}_{-1.544}$	$2.086^{+0.323}_{-0.525}$	$0.077^{+0.329}_{-0.027}$
	+3%/-4%	+12%/-3%	+1000%/-1750%	+21%/-46%	+15%/-25%	+426%/-35%
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 007624753-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-26 ± 3	$1.70^{+1.29}_{-1.00}$	5882^{+492}_{-769}	7363^{+7244}_{-2167}	$2.255^{+11.205}_{-1.526}$
Alt.	-41 ± 7	$2.20^{+1.38}_{-1.15}$	5892^{+466}_{-717}	7173^{+4408}_{-1729}	$2.084^{+6.677}_{-1.294}$

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

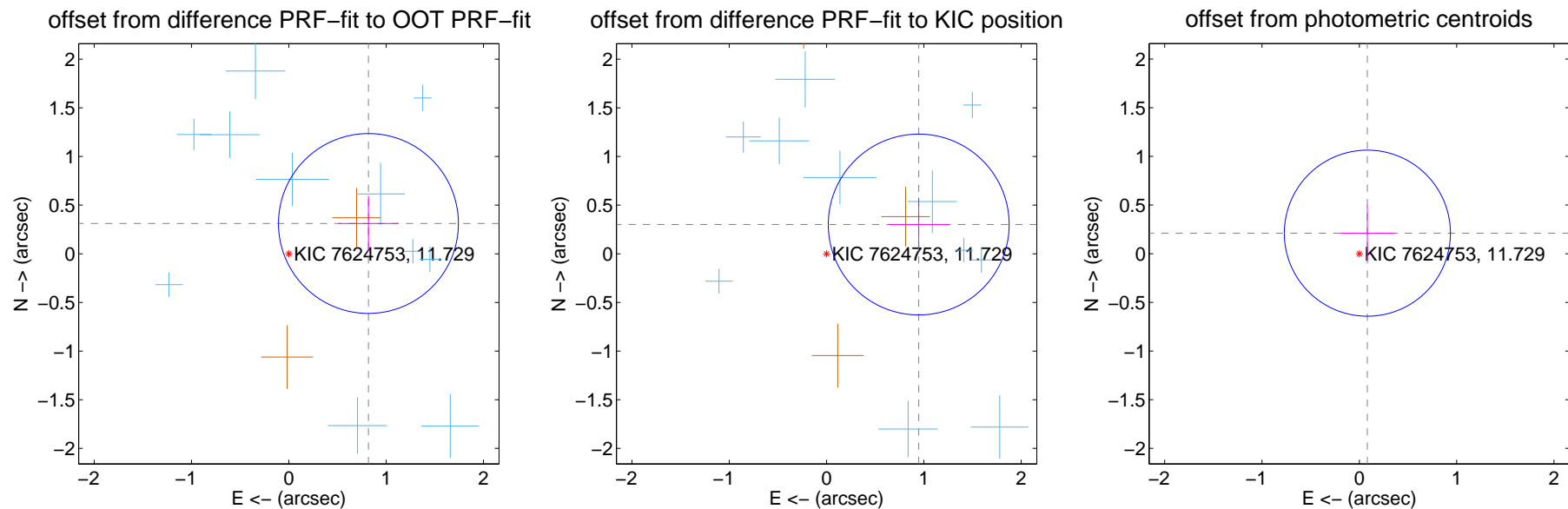
DV Centroid Data

Supplemental centroid analysis for 007624753-02. **Kepler magnitude: 11.73.** Transit SNR 8.34

There are 11 quarters with good PRF difference image offsets

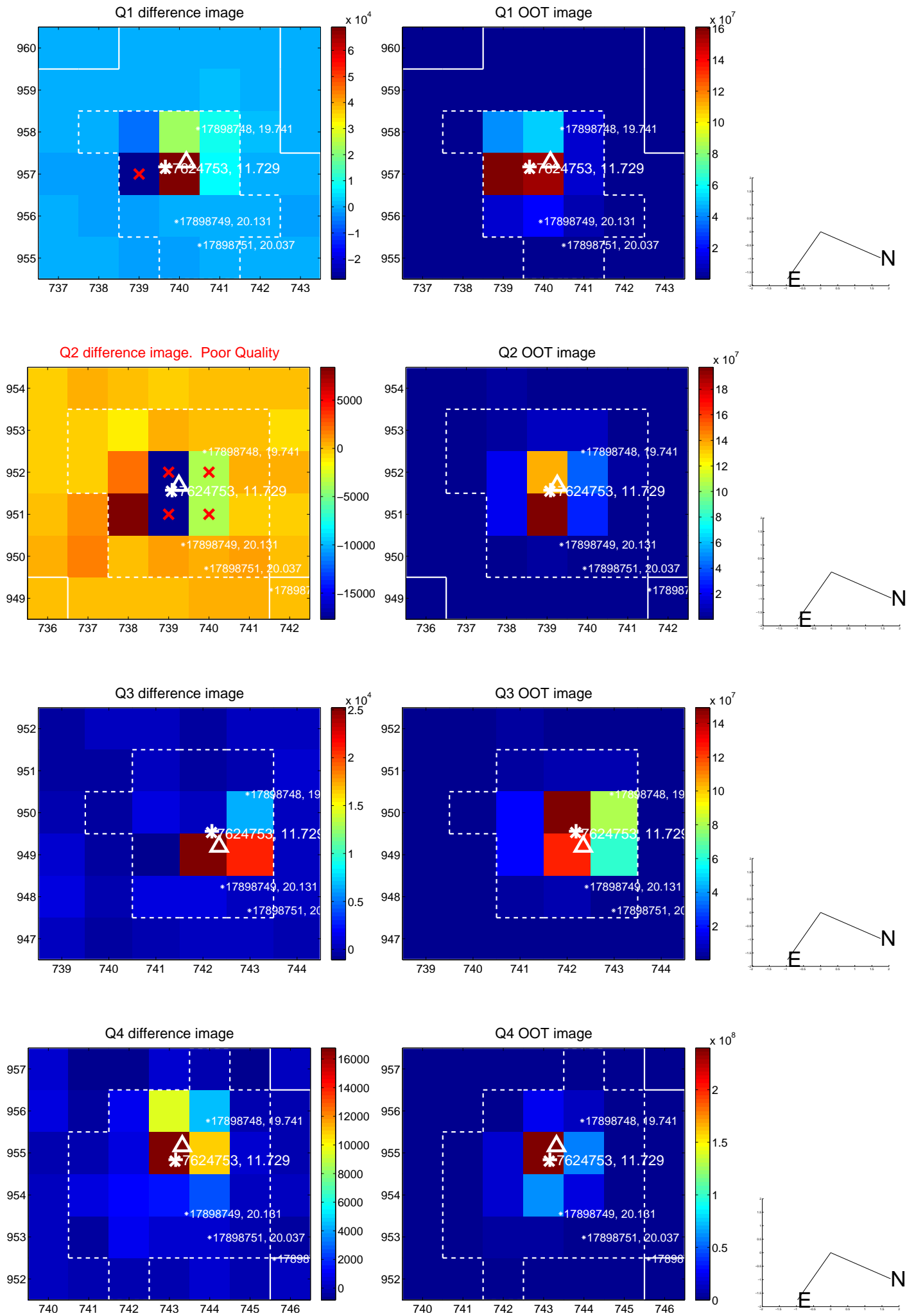
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.876 ± 0.308	2.84	-0.818 ± 0.311	0.311 ± 0.284
PRF-fit source offset from KIC position	0.994 ± 0.310	3.21	-0.947 ± 0.313	0.301 ± 0.277
photometric centroid source offset	0.23 ± 0.28	0.80	-0.08 ± 0.28	0.21 ± 0.29

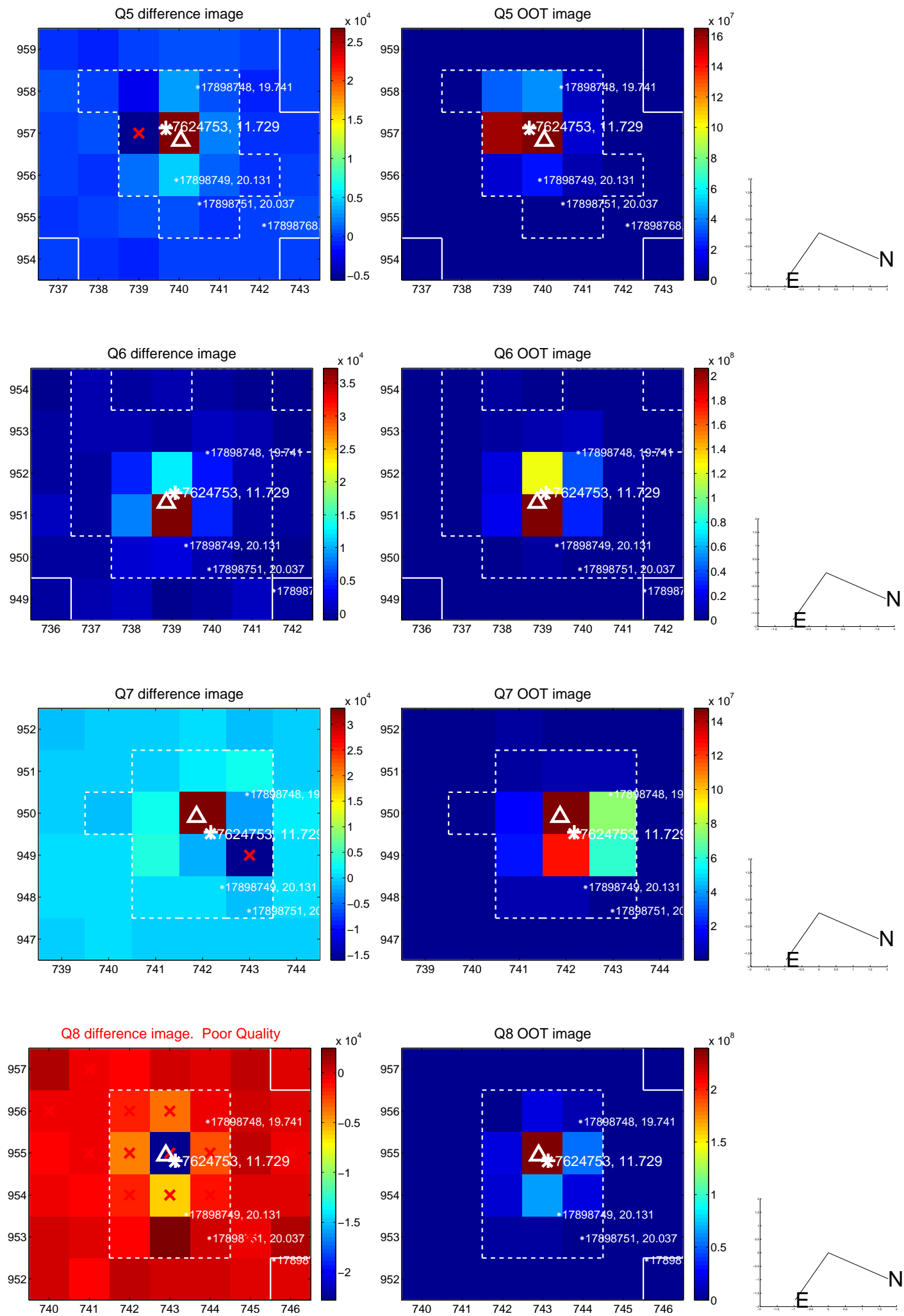


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

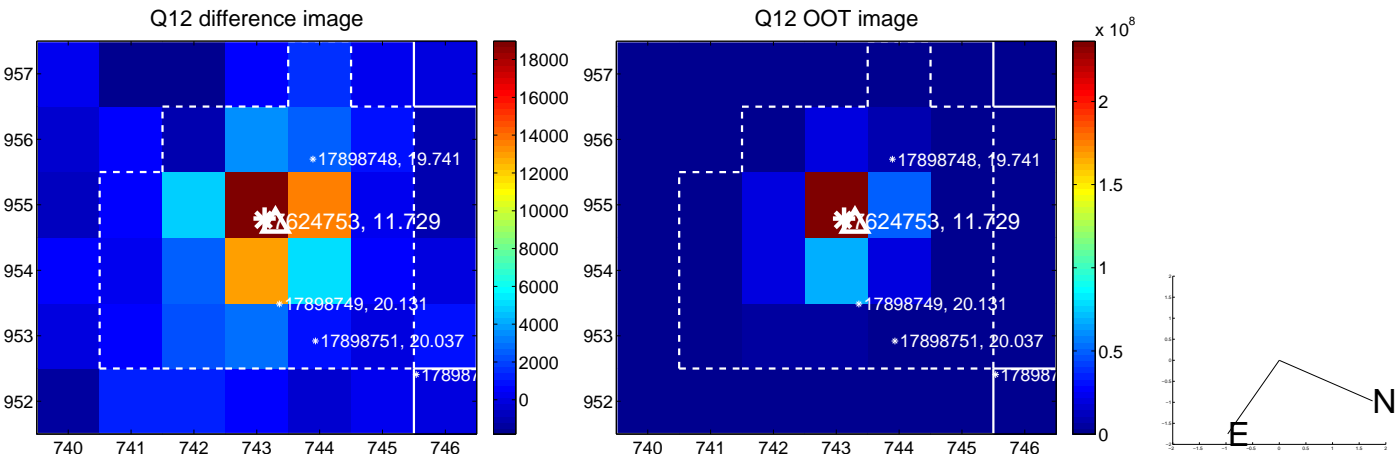
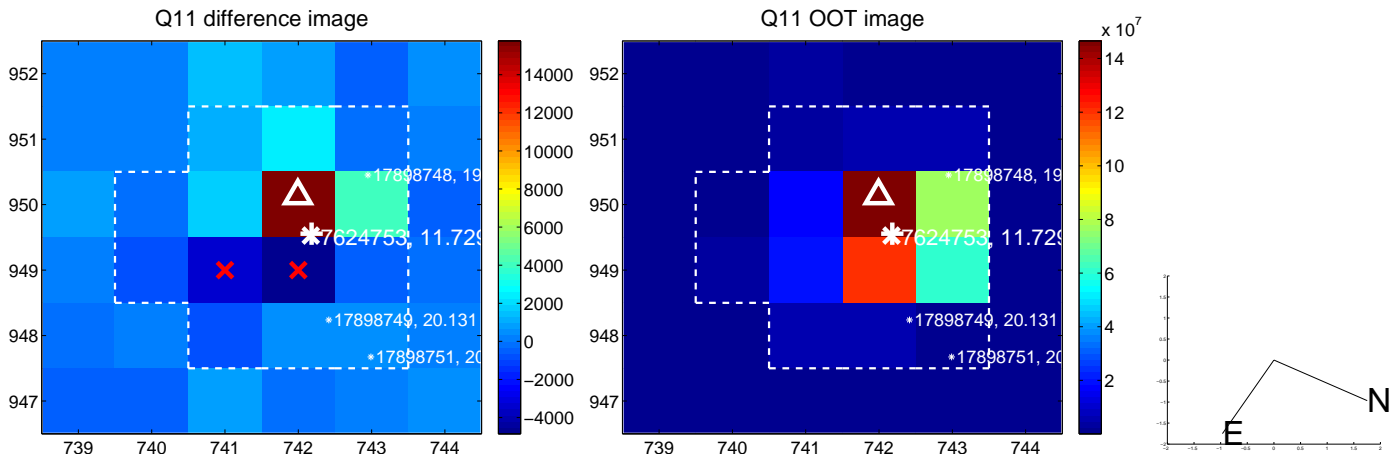
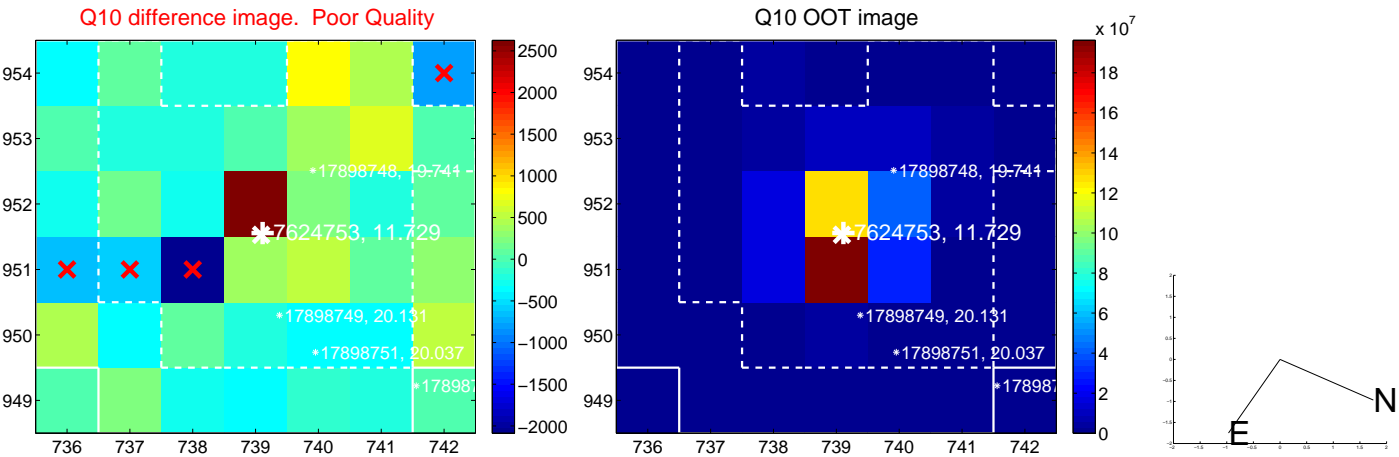
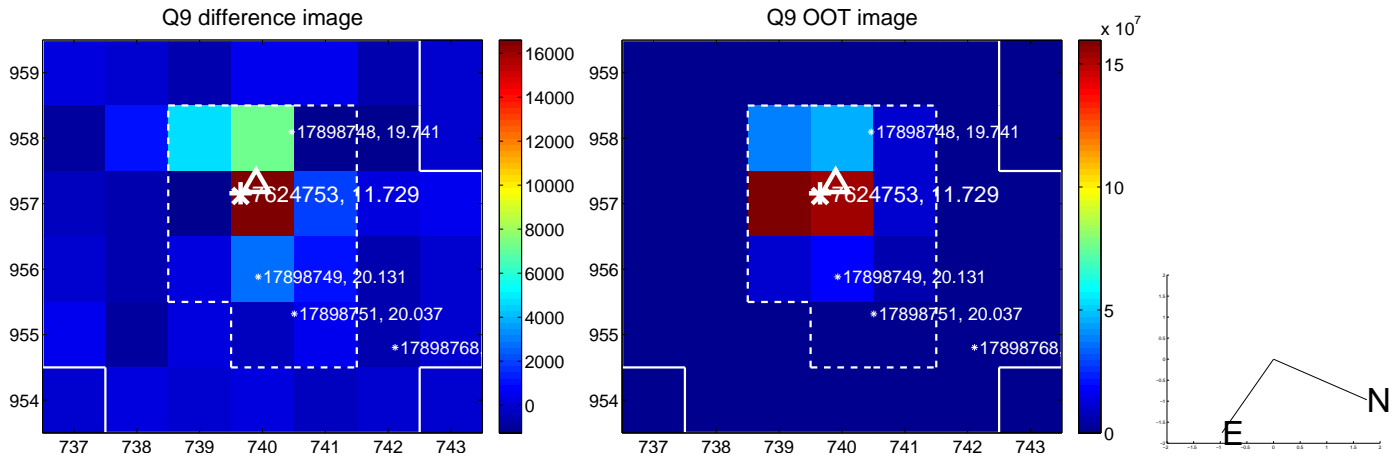
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



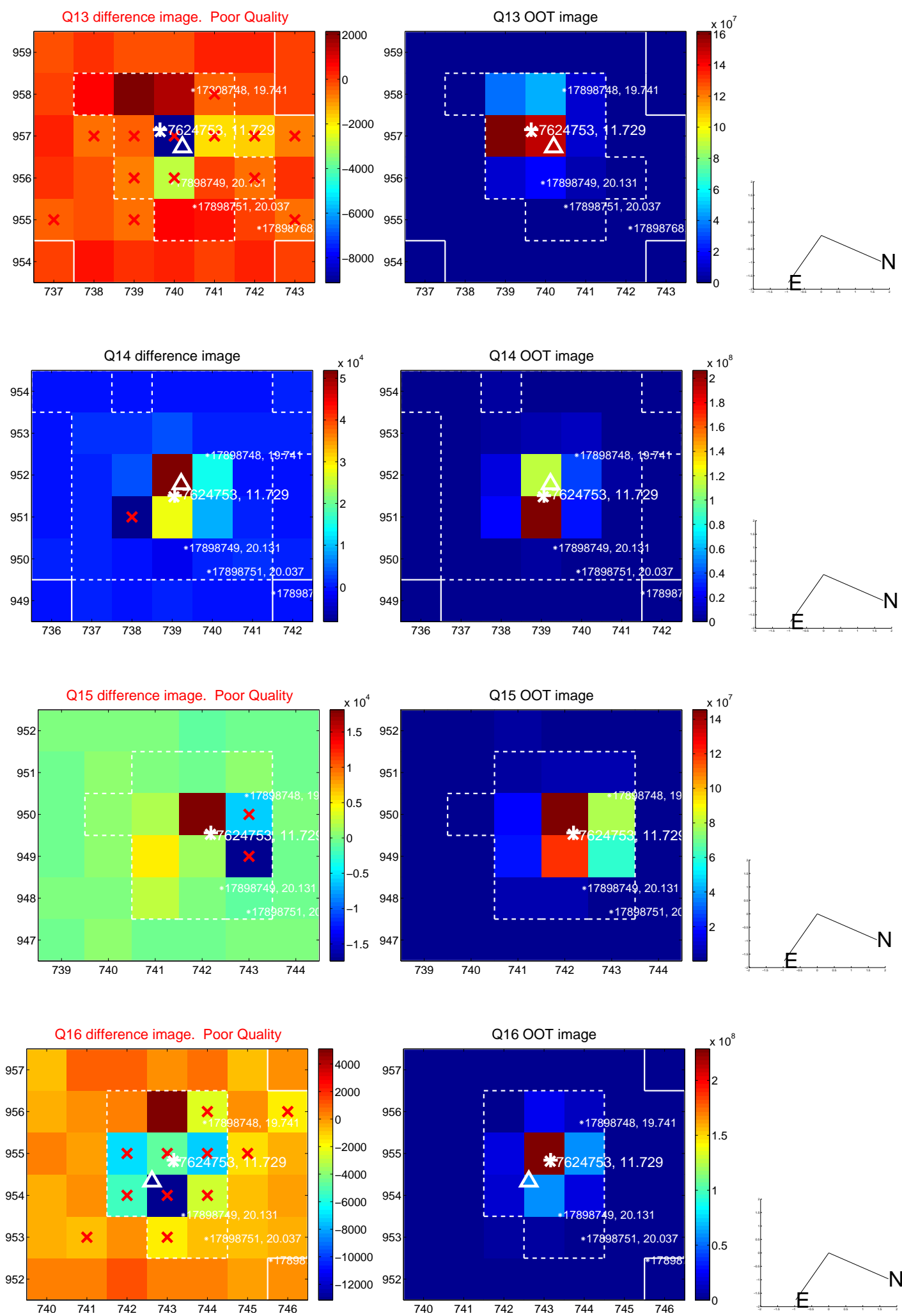
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



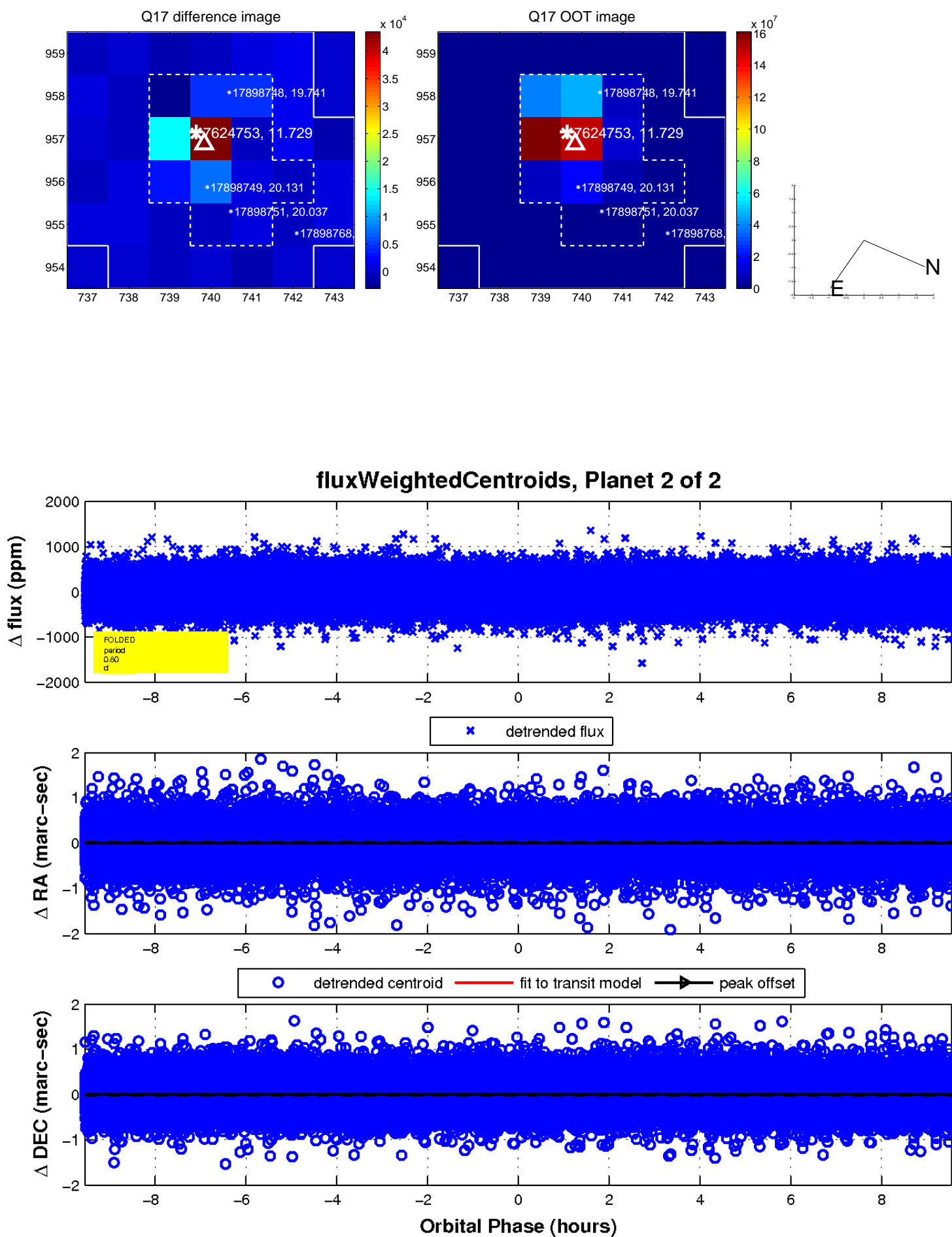
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

