

KIC 007515679

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})
007515679-01	OBS	3728.01	5.546076	133.504173	1552.0	2.589	154.7	150.9	4.04	7358	18.49	7046.79
007515679-02	OBS	No	5.547393	131.920570	25.8	0.651	7.2	3.0	4.04	7358	2.17	7044.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007515679-01	OBS	FP	0.00	0	1	0	0	HAS_SEC_TCE
007515679-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

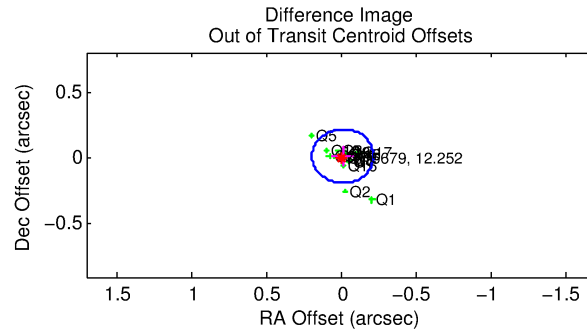
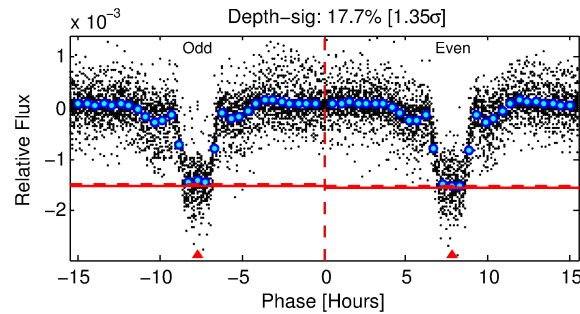
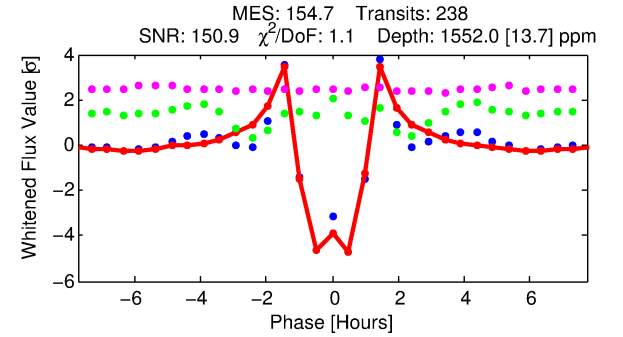
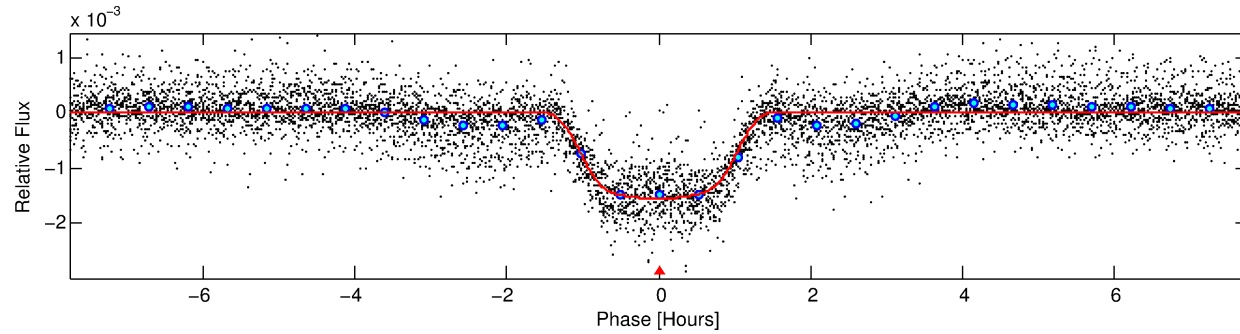
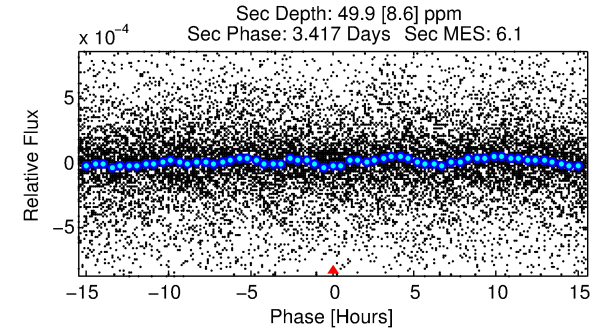
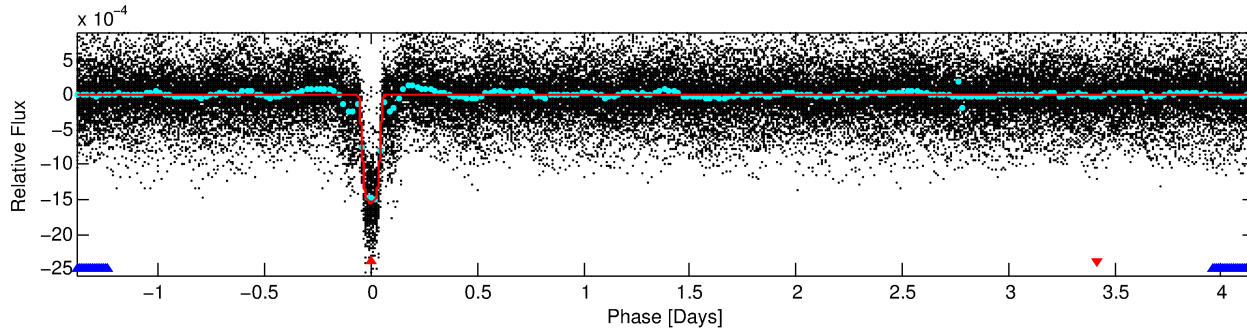
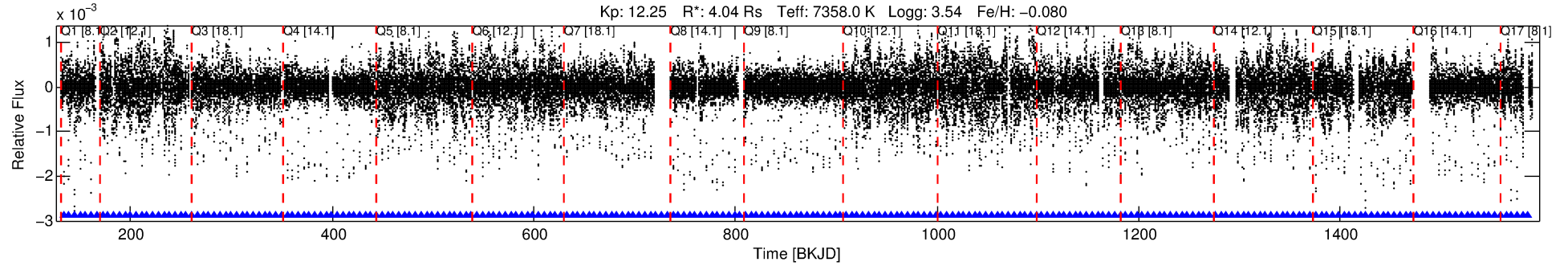
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007515679-01

No Significant Match Found

DV One-Page Summary

KIC: 7515679 Candidate: 1 of 2 Period: 5.546 d
KOI: K03728.01 Corr: 0.961



DV Fit Results:

Period = 5.54608 [0.00000] d
Epoch = 133.5042 [0.0002] BKJD
Rp/R* = 0.0420 [0.0003]
a/R* = 8.65 [0.21]
b = 0.90 [0.01]
Seff = 7046.79 [6922.04]
Teq = 2336 [574] K
Rp = 18.49 [10.38] Re
a = 0.0779 [0.0453] AU
Ag = 0.49 [0.48] [-1.07σ]
Teffp = 3018 [188] K [1.13σ]

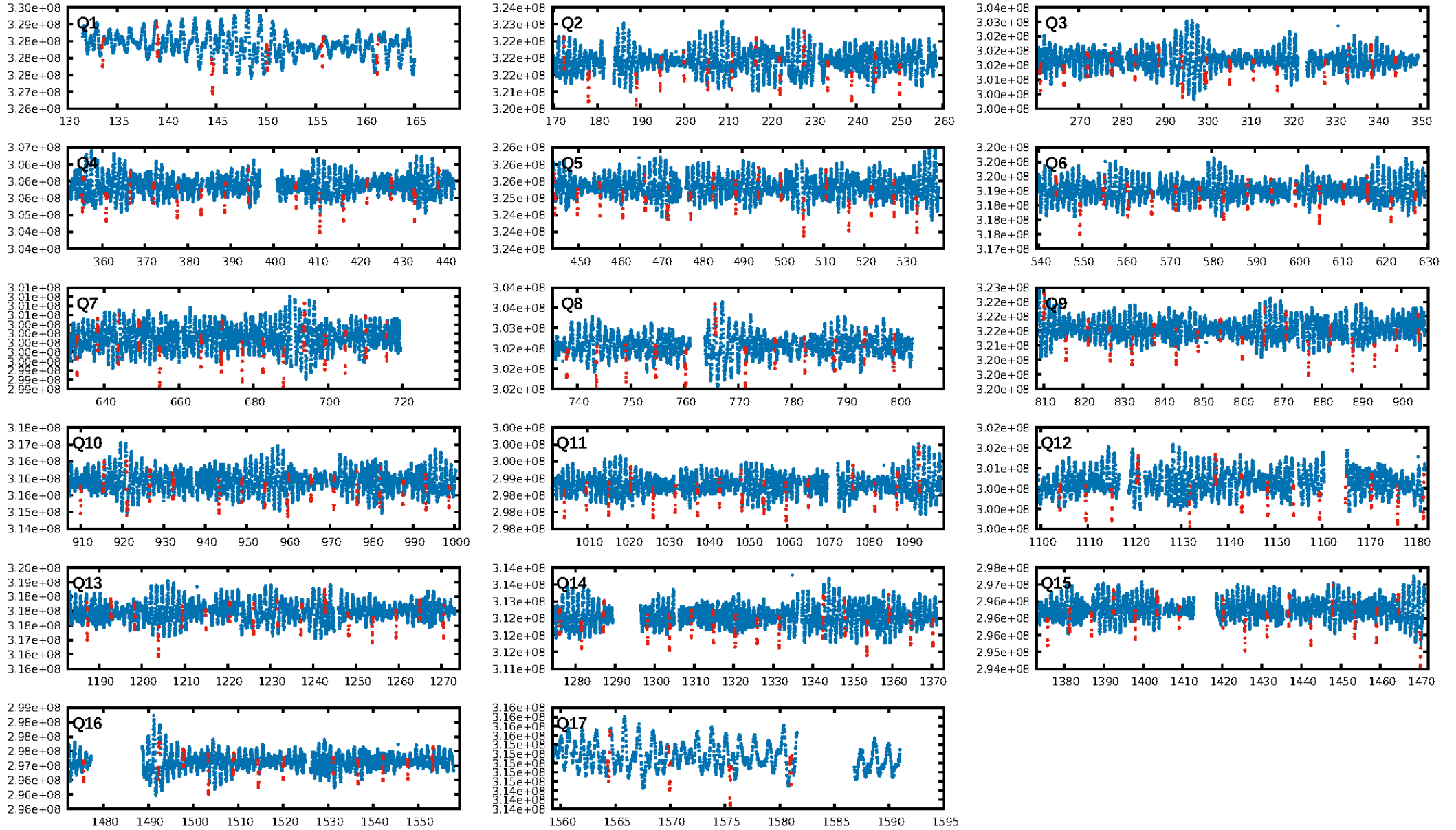
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.9% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [228/228]
GhostDiagnostic-chr: 2.157
Centroid-sig: 0.0%
Centroid-so: 0.209 arcsec [10.13σ]
OotOffset-rm: 0.020 arcsec [0.29σ]
KicOffset-rm: 0.131 arcsec [1.79σ]
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]

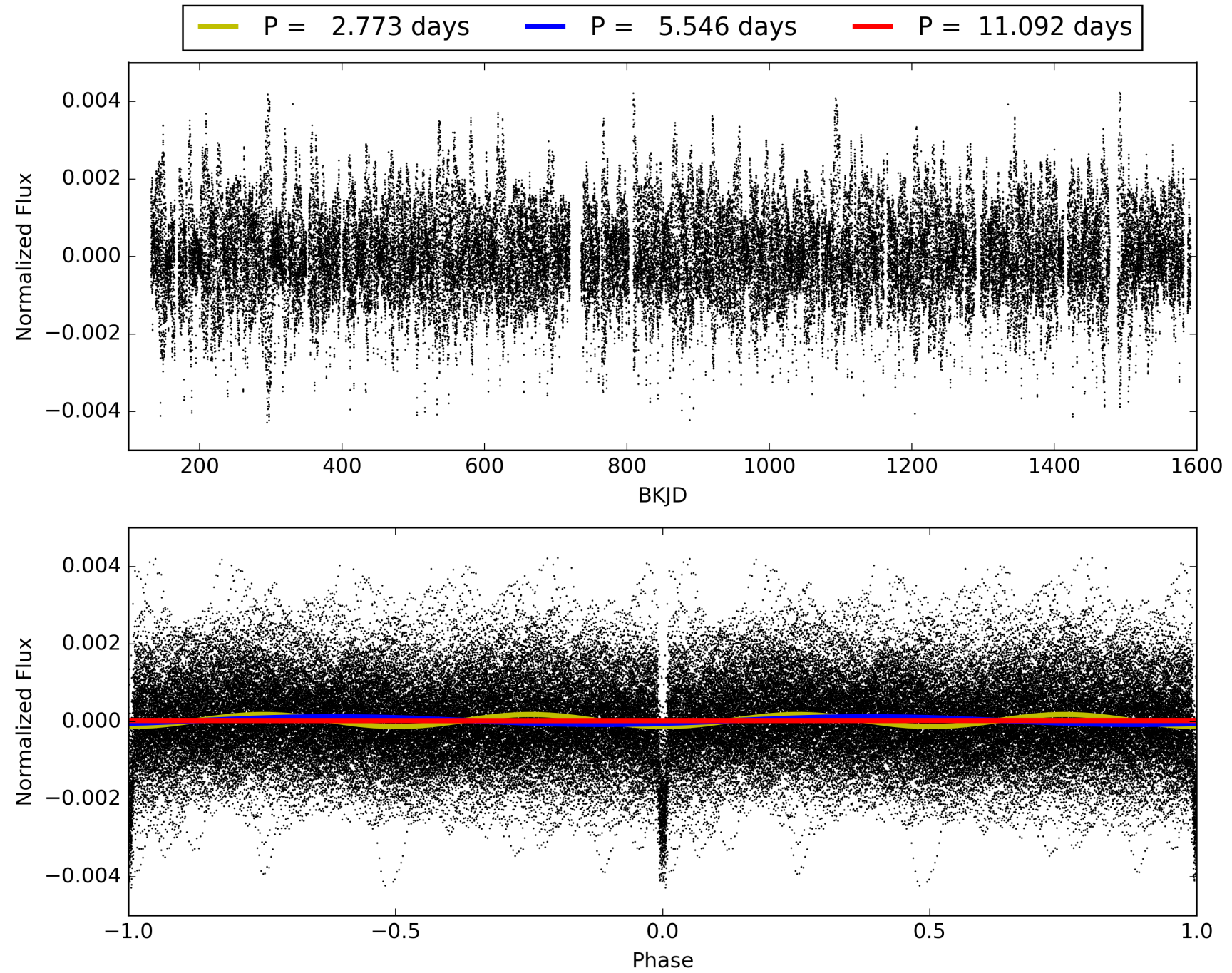
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:25:40 Z

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

TCE 007515679-01, PDC Light Curves

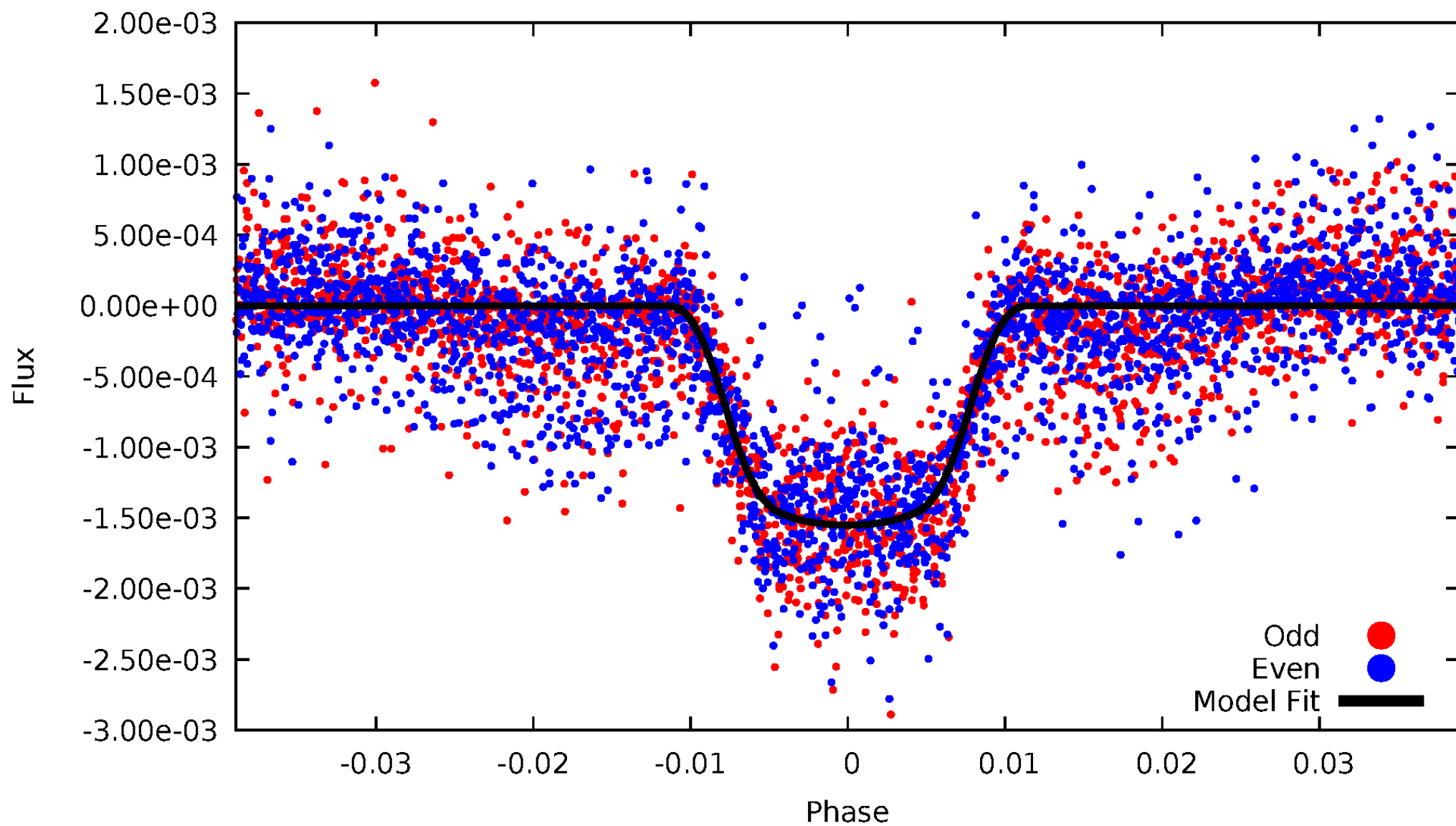


TCE 007515679-01



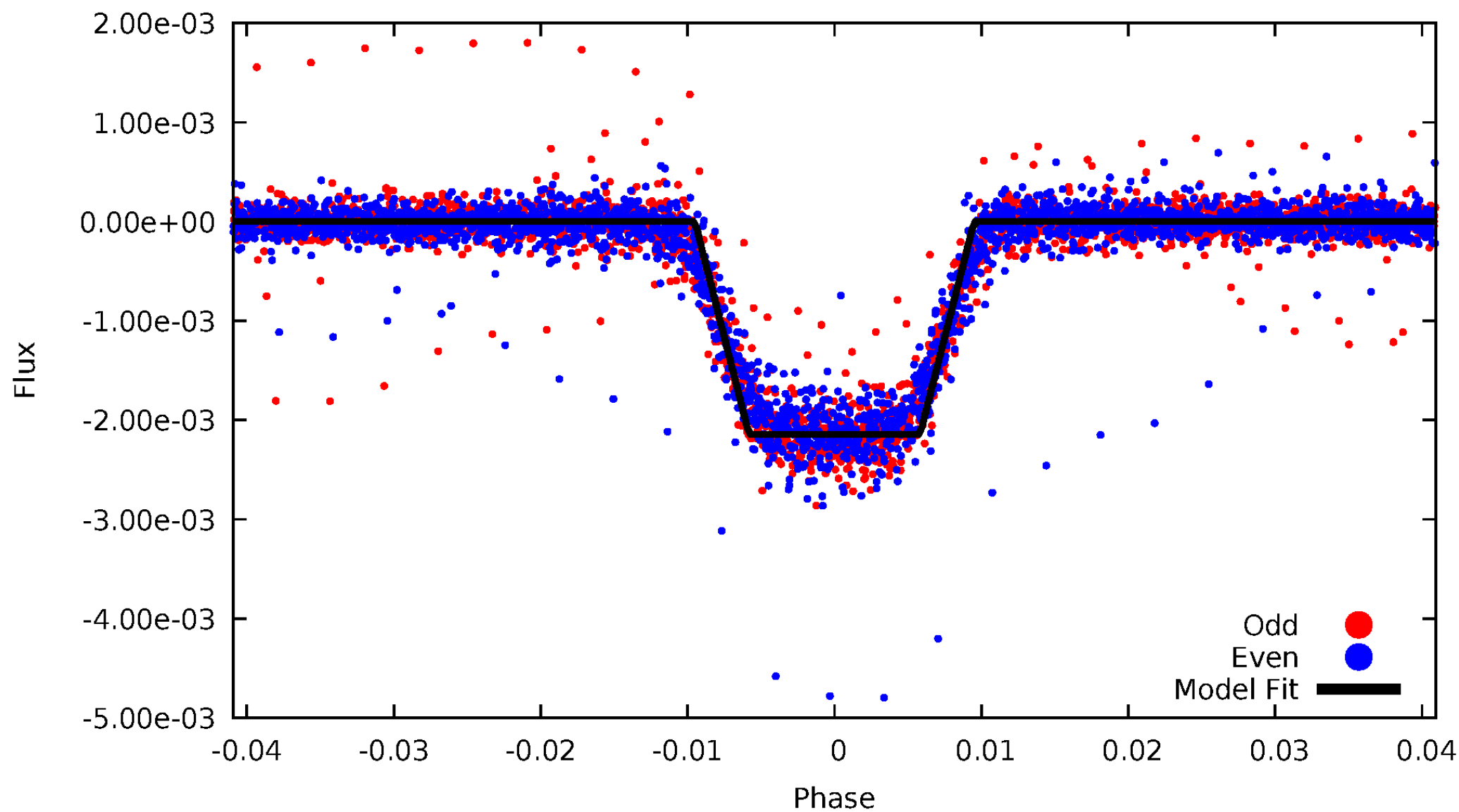
DV Odd/Even

TCE 007515679-01



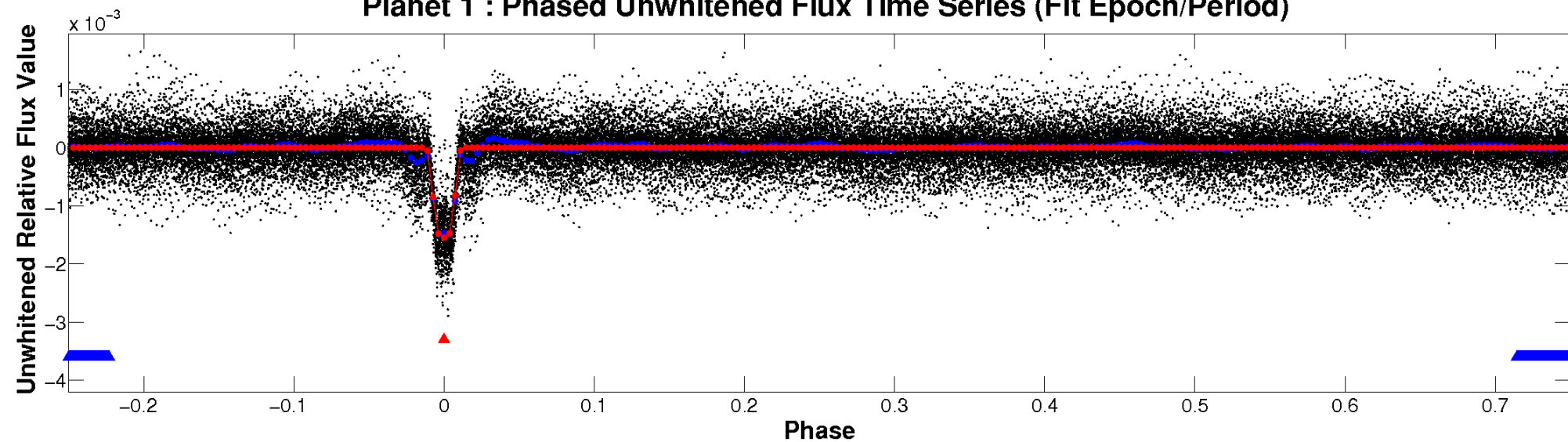
ALT Odd/Even

TCE 007515679-01

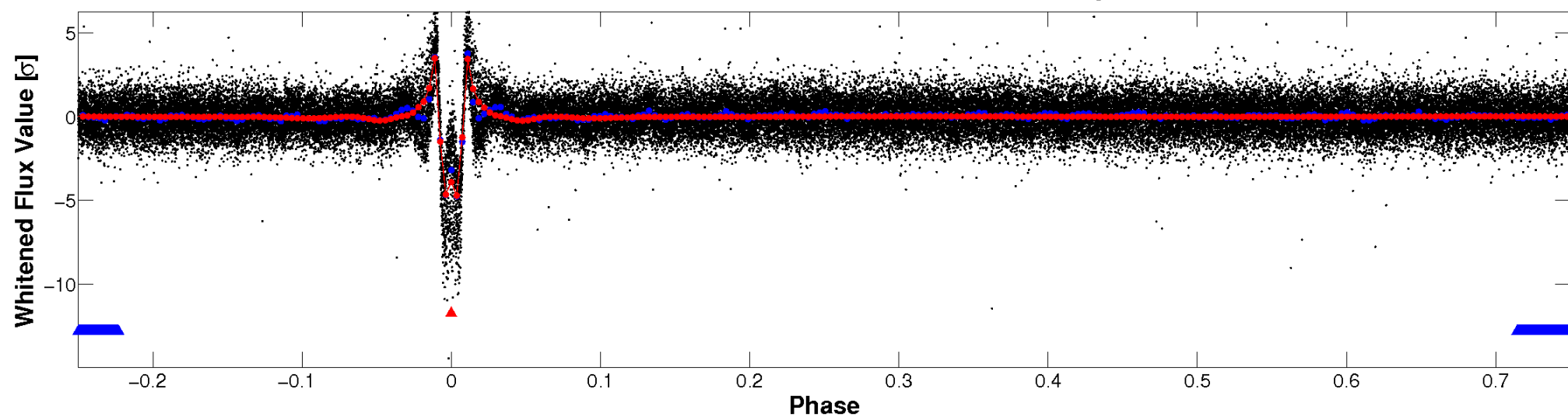


Non-Whitened Vs. Whitened Light Curve

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

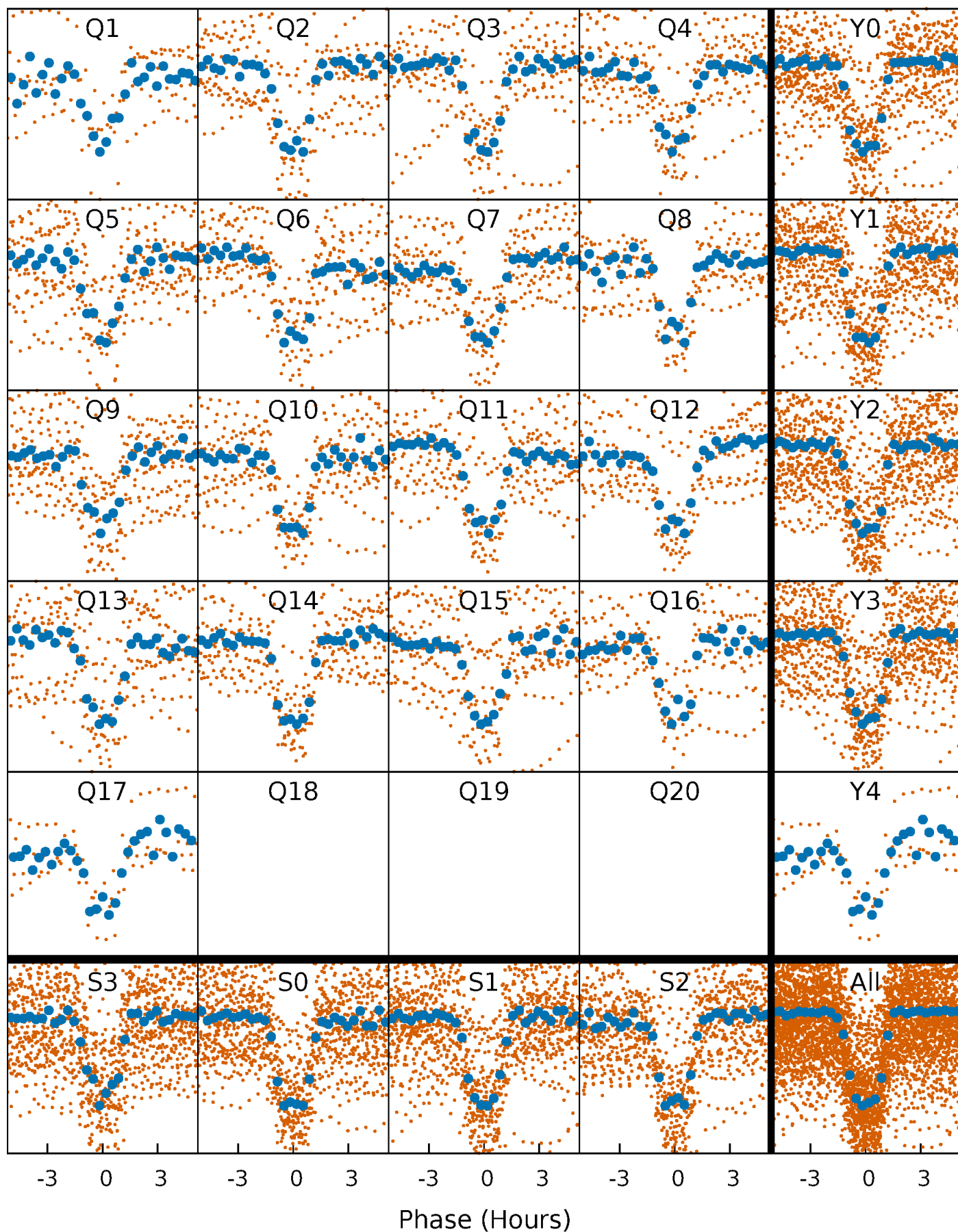


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



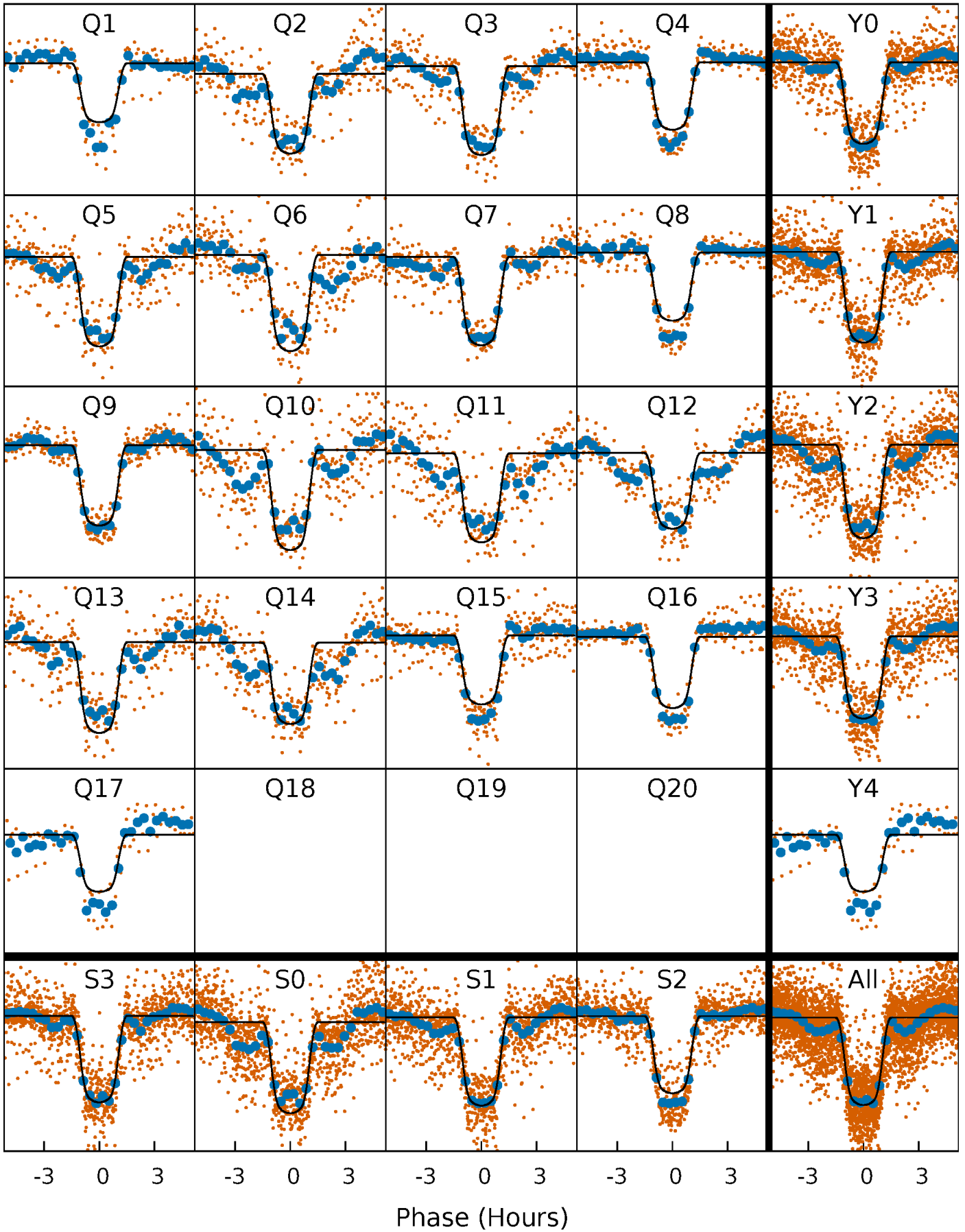
PDC Quarter-Phased Transit Curves

TCE 007515679-01 P= 5.546076 Days $T_0=133.504173$ (BKJD)



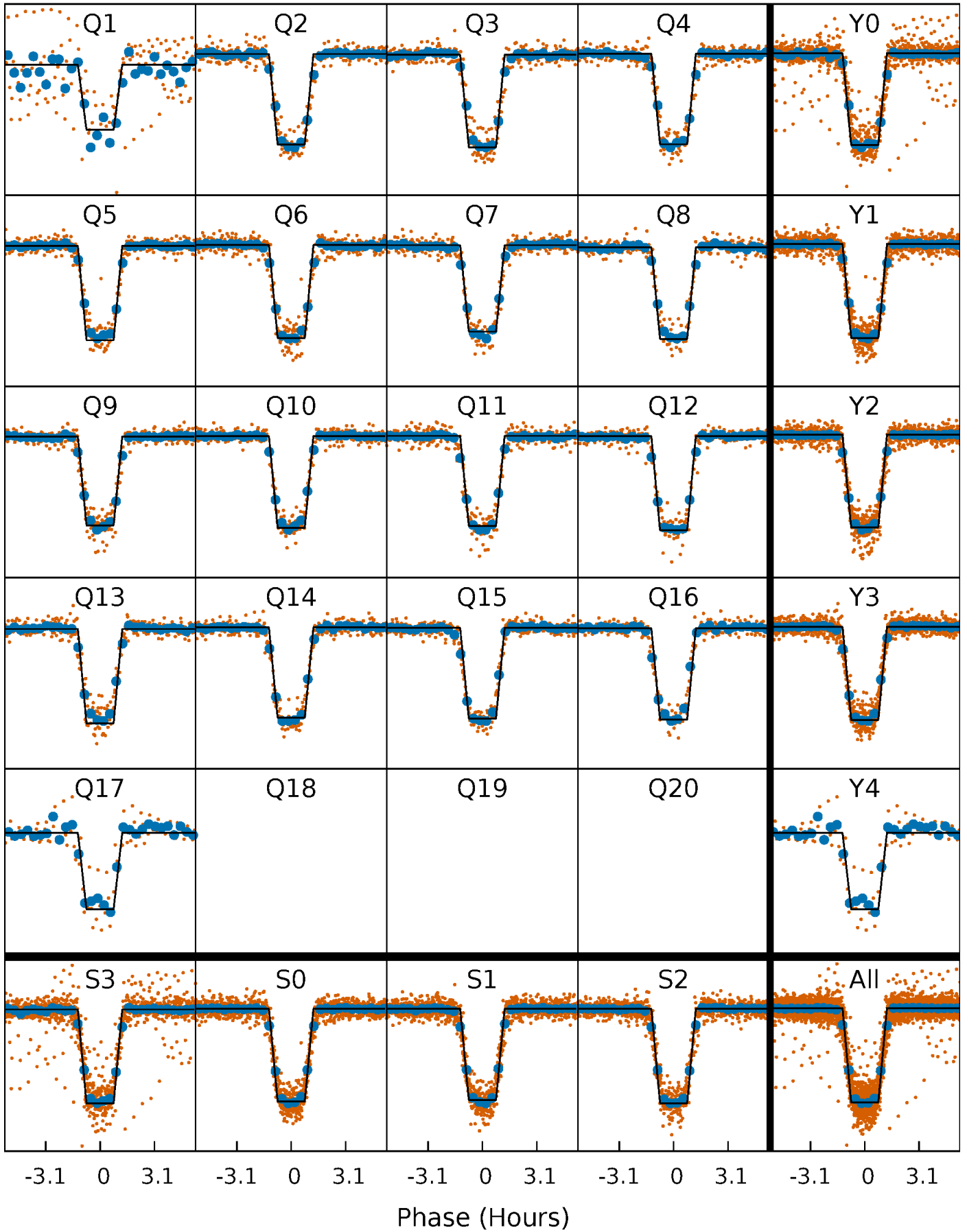
DV Quarter-Phased Transit Curves

TCE 007515679-01 P= 5.546076 Days $T_0=133.504173$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

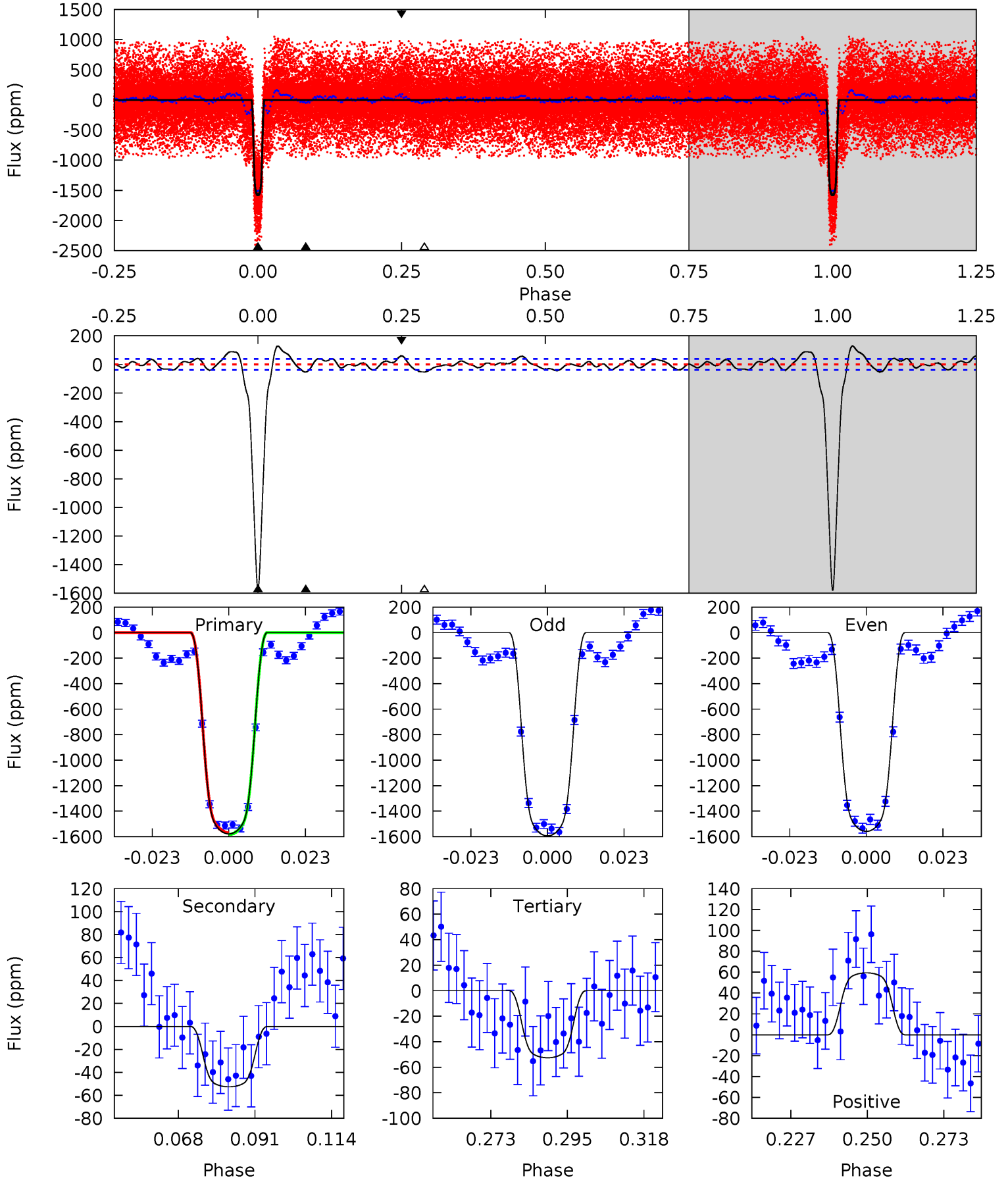
TCE 007515679-01 P= 5.546109 Days $T_0=133.500092$ (BKJD)



DV Model-Shift Uniqueness Test

007515679-01, P = 5.546076 Days, E = 127.958097 Days

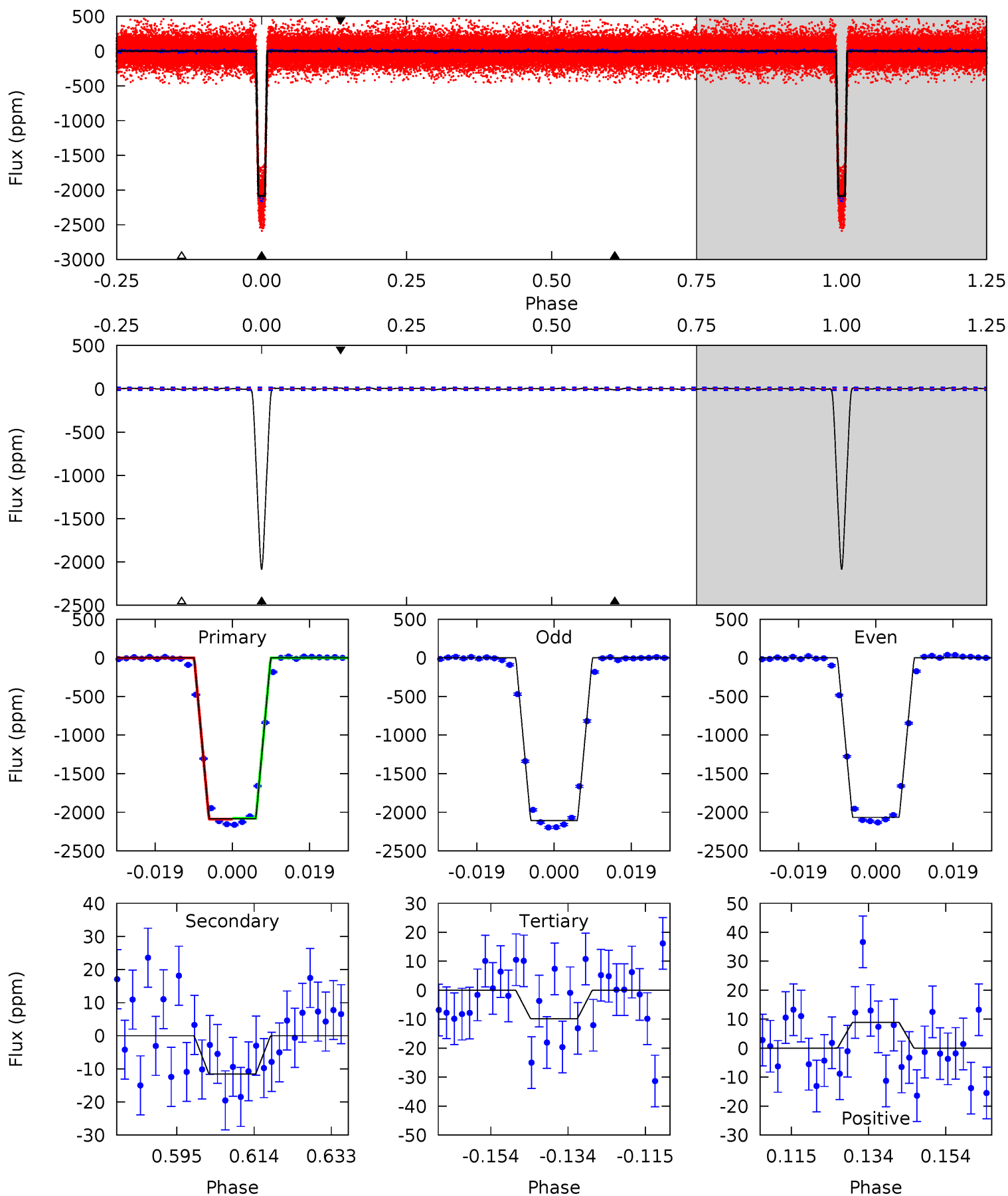
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
198.0	6.60	6.60	7.45	4.87	2.28	4.08	191.4	190.6	0.00	-0.85	2.24	0.99	0.08	0.82



Alt Model-Shift Uniqueness Test

007515679-01, P = 5.546109 Days, E = 127.953983 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
606.4	3.36	2.86	2.58	4.90	2.34	1.12	603.5	603.8	0.49	0.78	6.17	0.99	0.00	2.00



Stellar Parameters For KIC 007515679

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7358^{+203}_{-330}	$3.538^{+0.580}_{-0.061}$	$-0.080^{+0.250}_{-0.300}$	$4.037^{+0.400}_{-2.266}$	$2.054^{+0.110}_{-0.585}$	$0.044^{+0.322}_{-0.010}$
	+3%/-4%	+16%/-2%	+312%/-375%	+10%/-56%	+5%/-28%	+733%/-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 007515679-01 / KOI 3728.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-53 ± 8	$17.26^{+2.12}_{-5.58}$	3110^{+244}_{-484}	3152^{+226}_{-238}	$0.600^{+0.584}_{-0.151}$
Alt.	-12 ± 3	$18.85^{+2.47}_{-5.69}$	3098^{+244}_{-448}	-2930^{+466}_{-178}	$0.114^{+0.094}_{-0.043}$

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

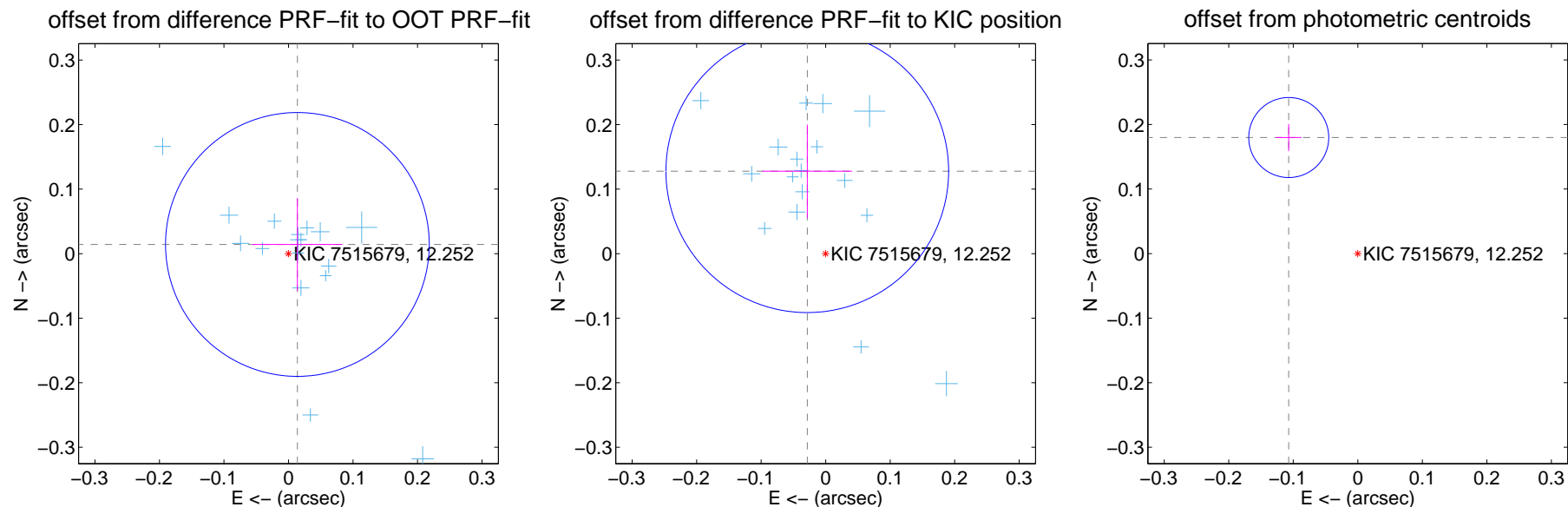
DV Centroid Data

Supplemental centroid analysis for 007515679-01. Kepler magnitude: 12.25. Transit SNR 150.92

There are 17 quarters with good PRF difference image offsets

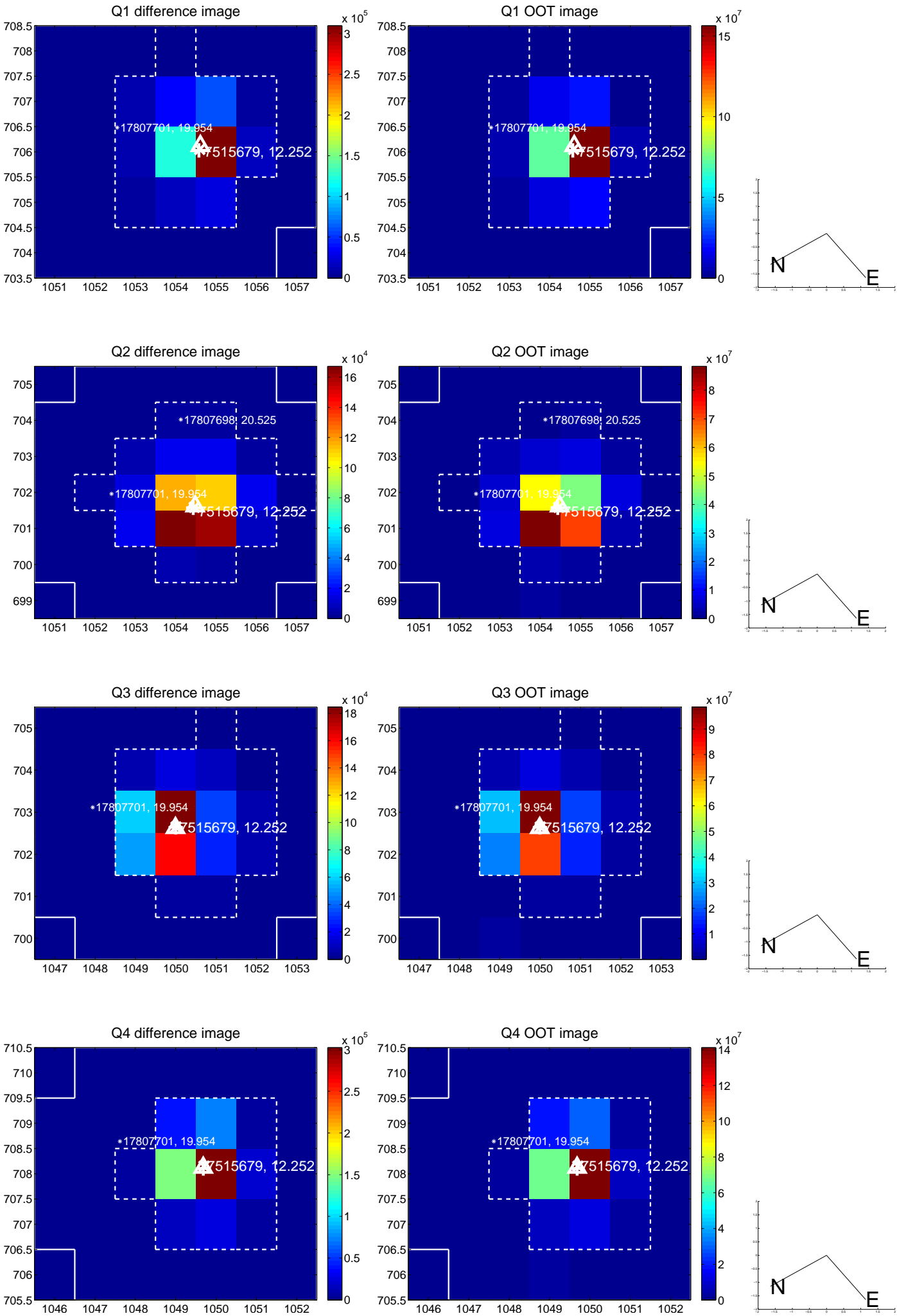
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.020 ± 0.068	0.29	-0.014 ± 0.070	0.014 ± 0.072
PRF-fit source offset from KIC position	0.131 ± 0.073	1.79	0.028 ± 0.070	0.128 ± 0.072
photometric centroid source offset	0.21 ± 0.02	10.13	0.11 ± 0.02	0.18 ± 0.02

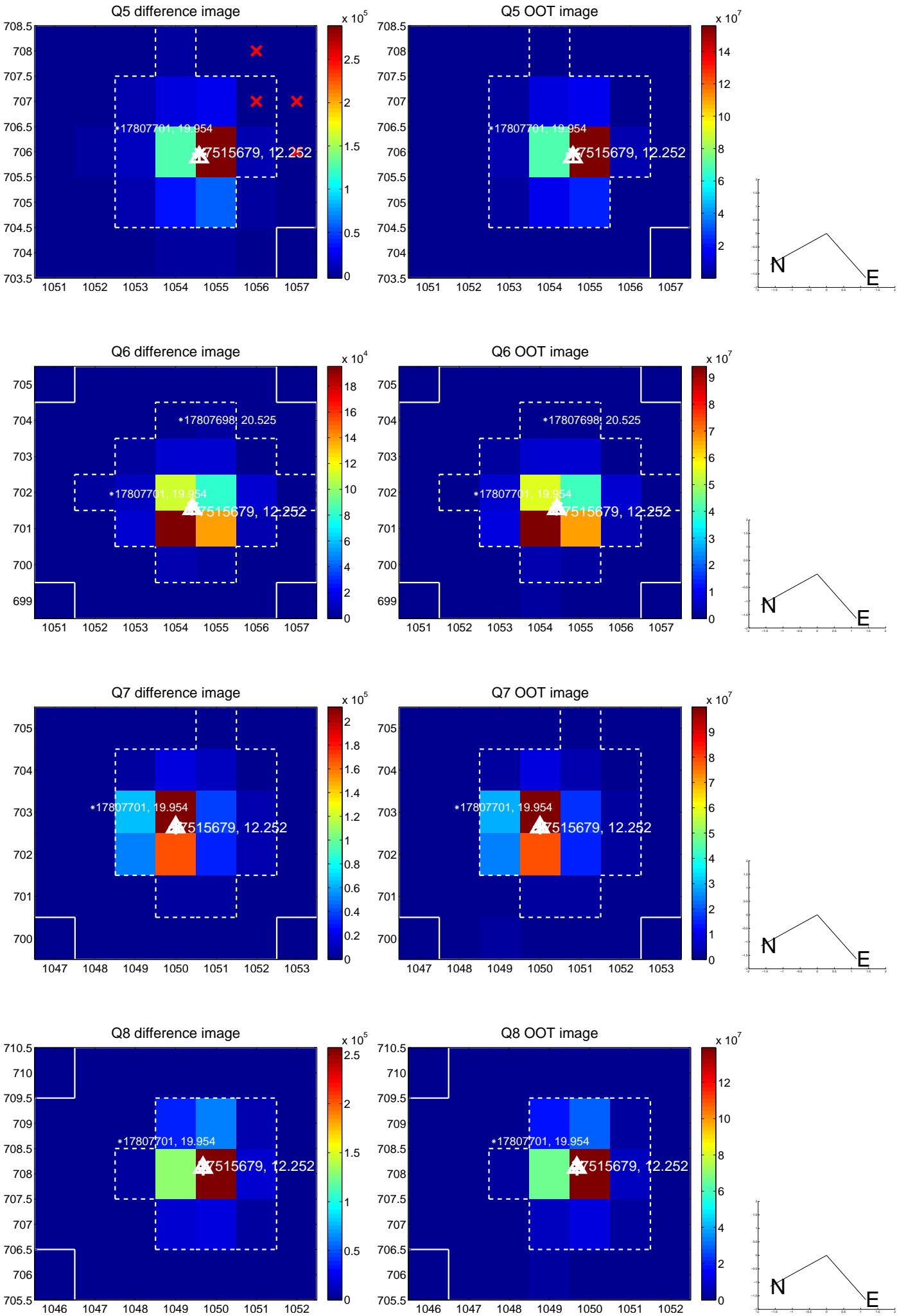


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

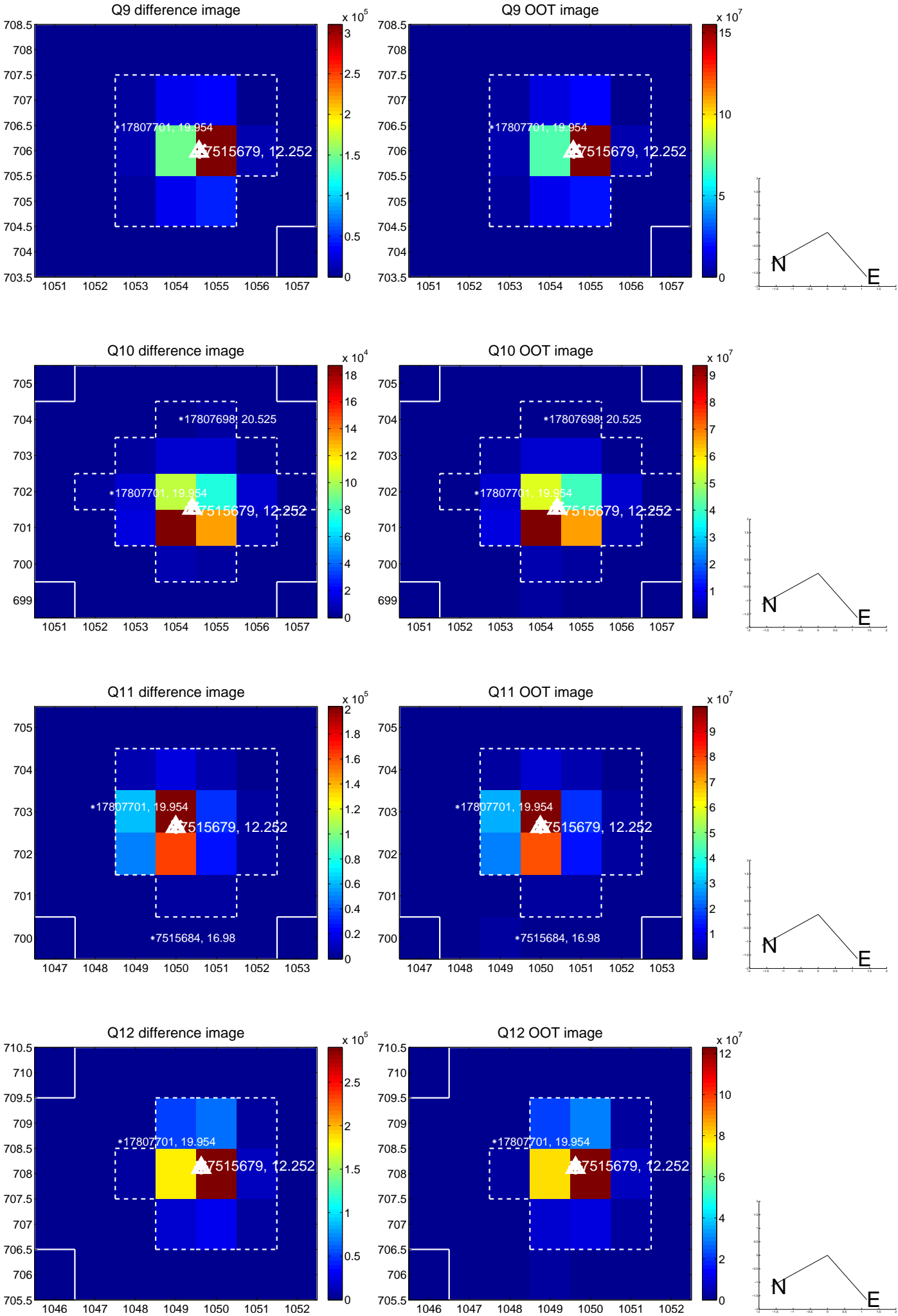
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



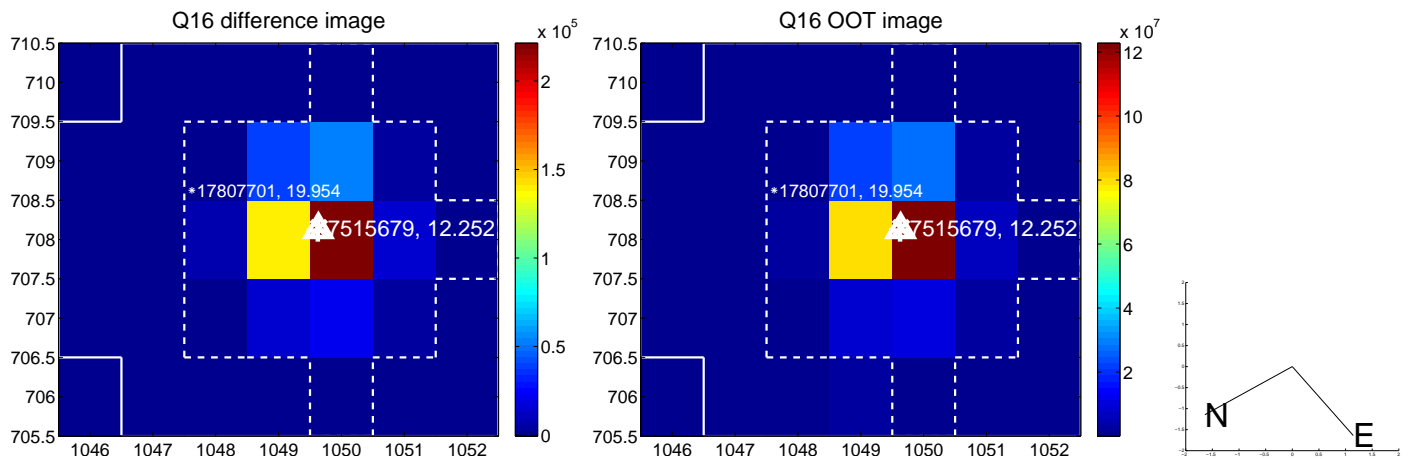
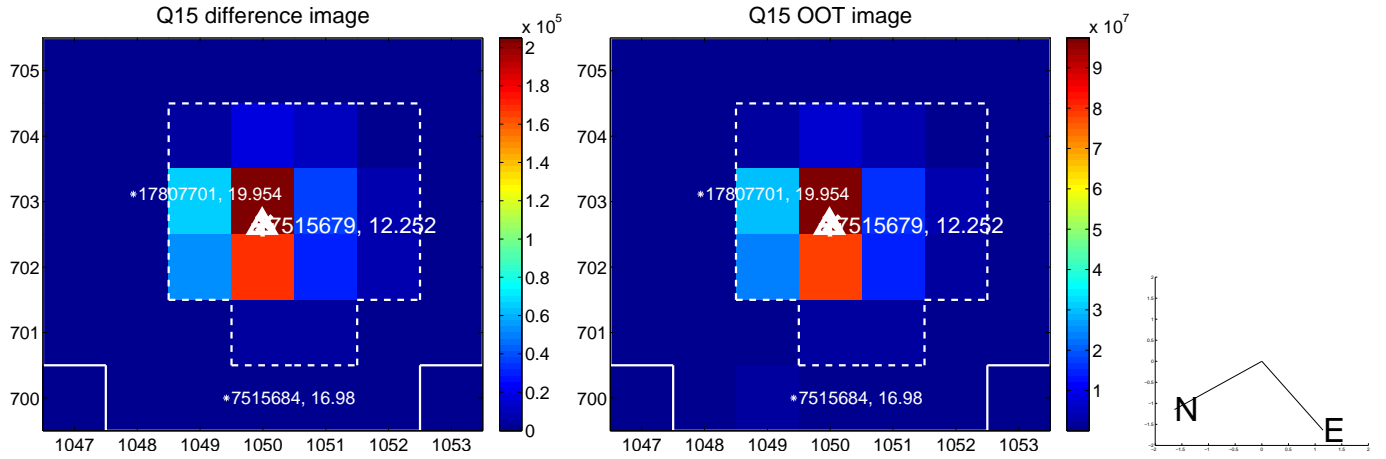
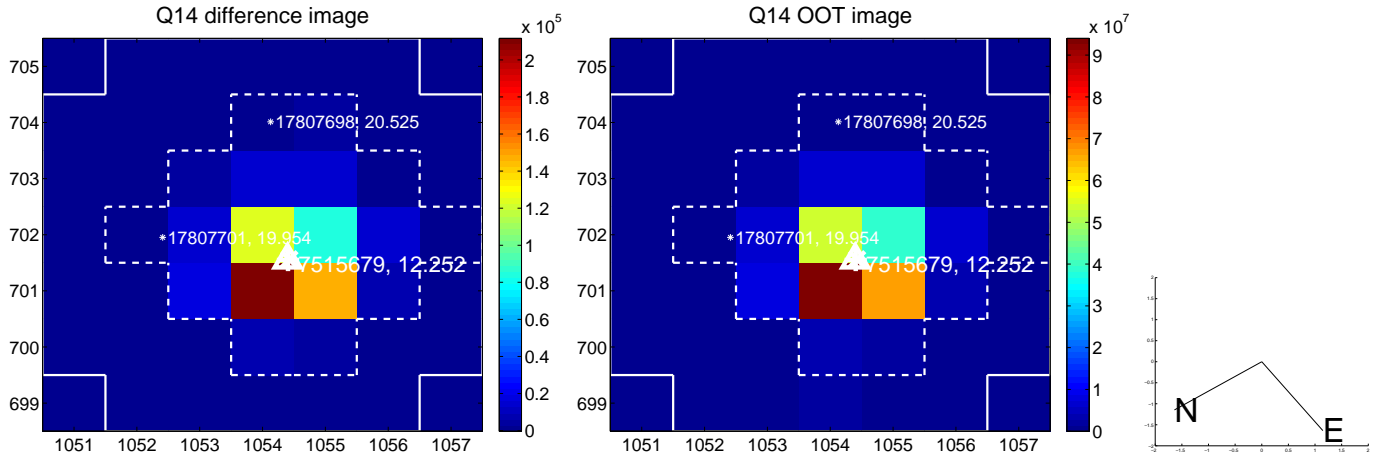
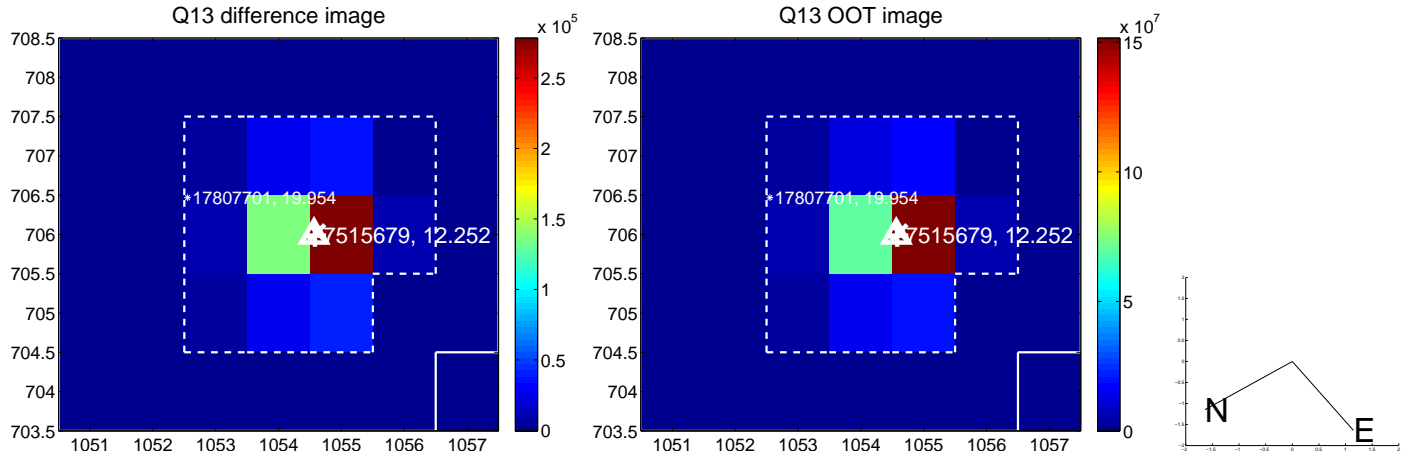
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



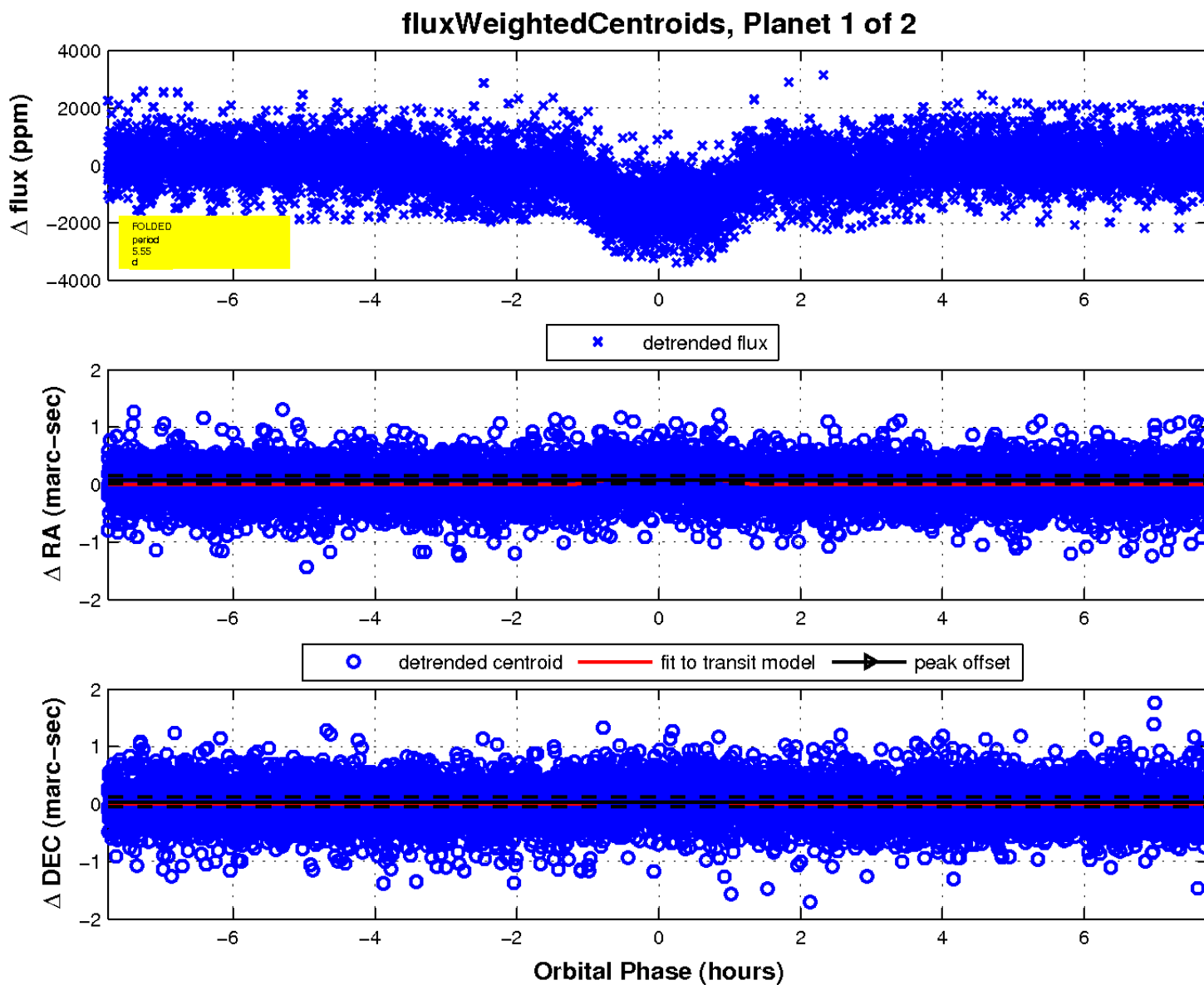
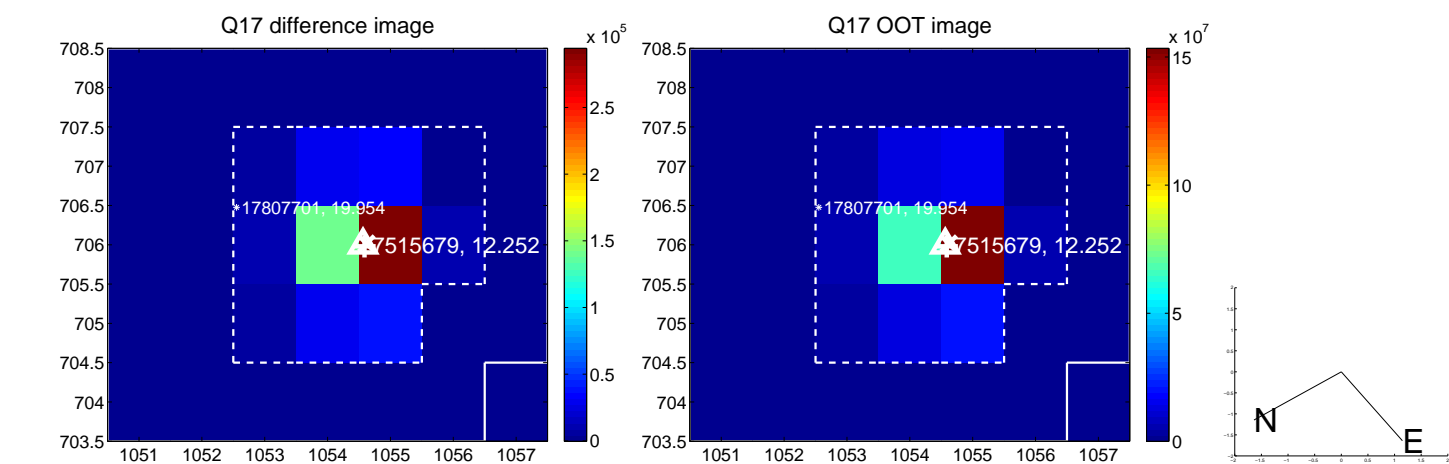
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



This astronomical image shows a field of stars against a dark background. A grid of blue lines is overlaid on the image. A prominent star is located at the center, with its coordinates labeled as '19:11:14.0'. Other stars are labeled with their respective coordinates, including '16.0', '15.0', '13.0', '12.0', '11.0', '10.0', '50.0', and '40.0'. A red crosshair is centered on the main star.

Declination

KIC 007515679

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})
007515679-01	OBS	3728.01	5.546076	133.504173	1552.0	2.589	154.7	150.9	4.04	7358	18.49	7046.79
007515679-02	OBS	No	5.547393	131.920570	25.8	0.651	7.2	3.0	4.04	7358	2.17	7044.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007515679-01	OBS	FP	0.00	0	1	0	0	HAS_SEC_TCE
007515679-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

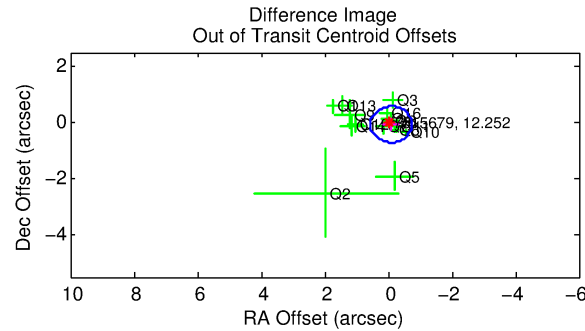
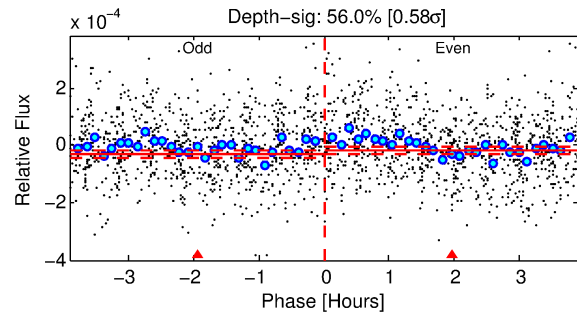
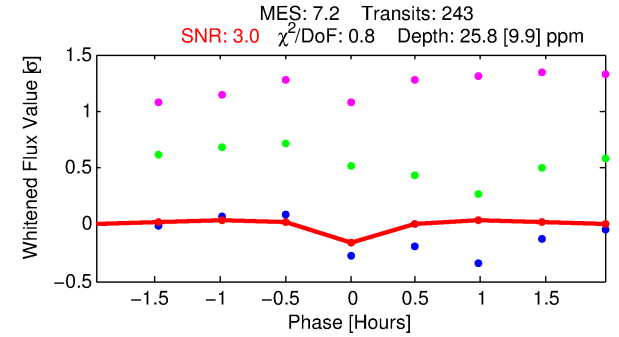
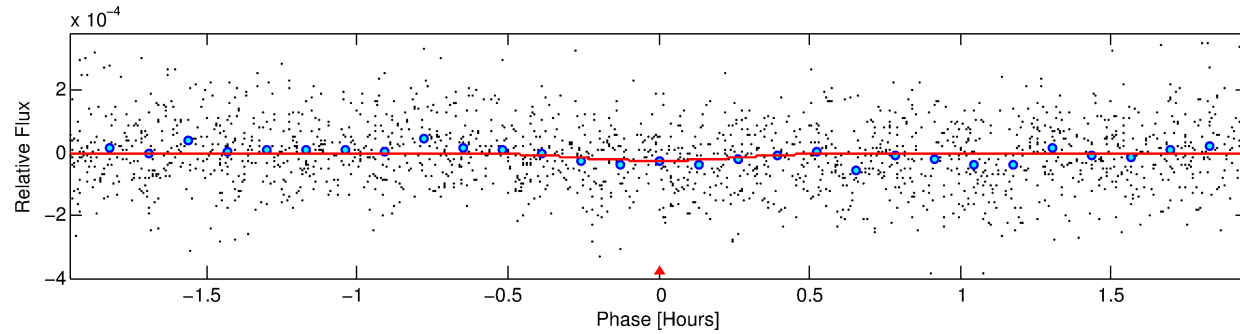
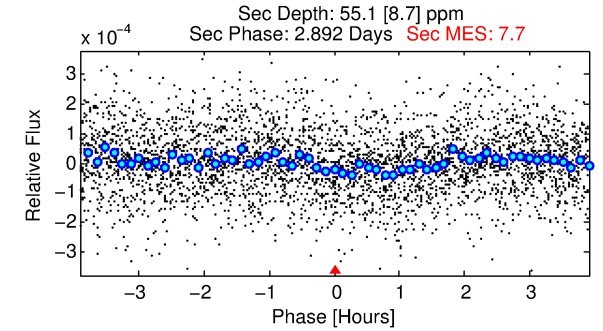
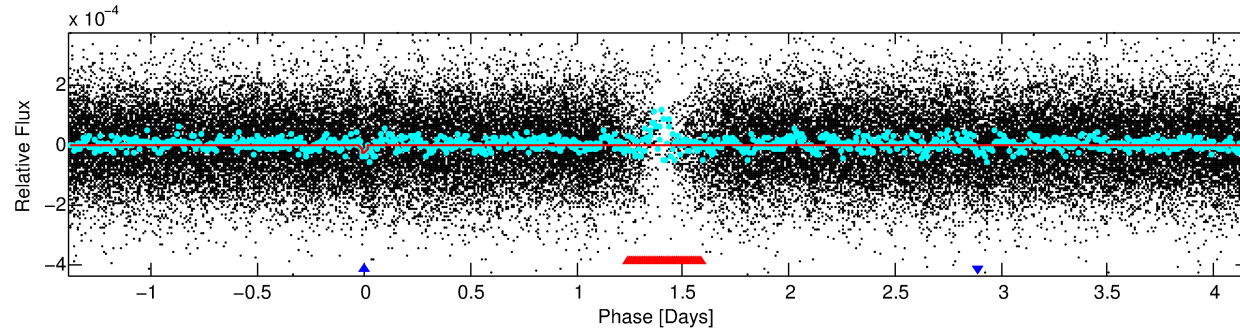
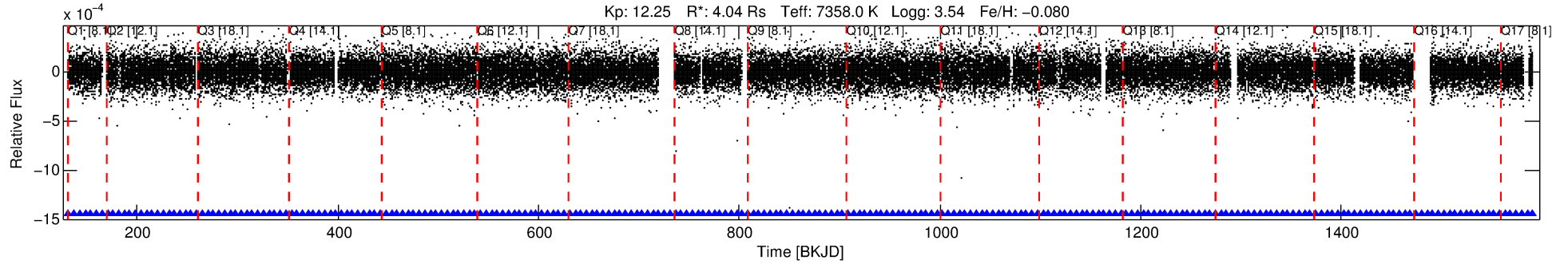
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007515679-02

No Significant Match Found

DV One-Page Summary

KIC: 7515679 Candidate: 2 of 2 Period: 5.547 d
KOI: K03728 Corr: No Ephemeris Match



DV Fit Results:

Period = 5.54739 [0.00005] d
Epoch = 131.9206 [0.0045] BKJD
Rp/R* = 0.0049 [0.0031]
a/R* = 56.78 [196.85]
b = 0.50 [5.23]
Seff = 7044.56 [6919.85]
Teq = 2336 [574] K
Rp = 2.17 [1.82] Re
a = 0.0779 [0.0453] AU
Ag = 39.14 [62.25] [0.61σ]
Teffp = 9034 [2882] K [2.28σ]

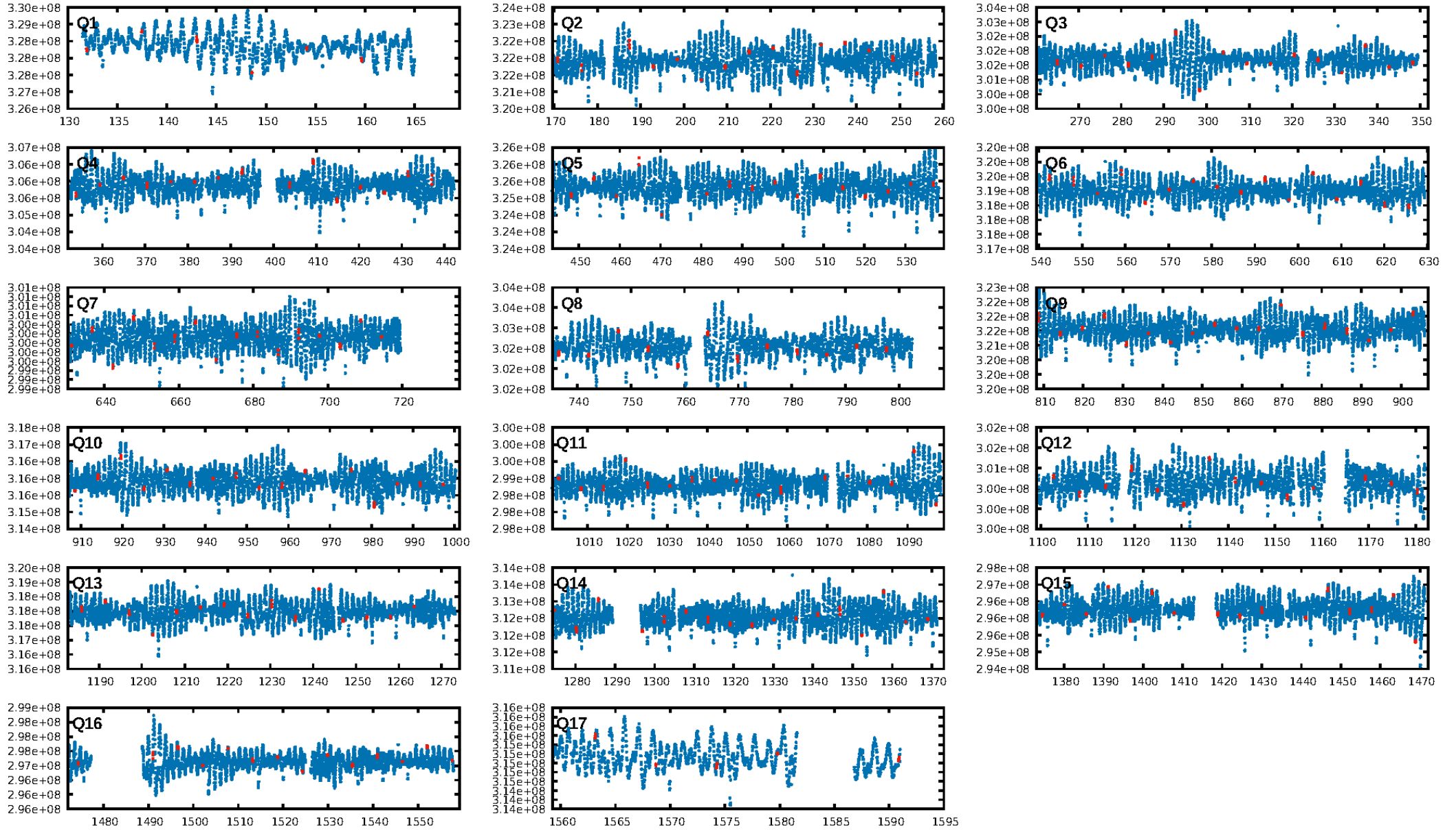
DV Diagnostic Results:

ShortPeriod-sig: 0.9% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.33e-13
RollingBand-fgt: 1.00 [232/232]
GhostDiagnostic-chr: -0.7025
Centroid-sig: 0.1%
Centroid-so: 5.273 arcsec [2.30σ]
OotOffset-rm: 0.113 arcsec [0.52σ]
KicOffset-rm: 0.050 arcsec [0.20σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 1.00 [17/17]

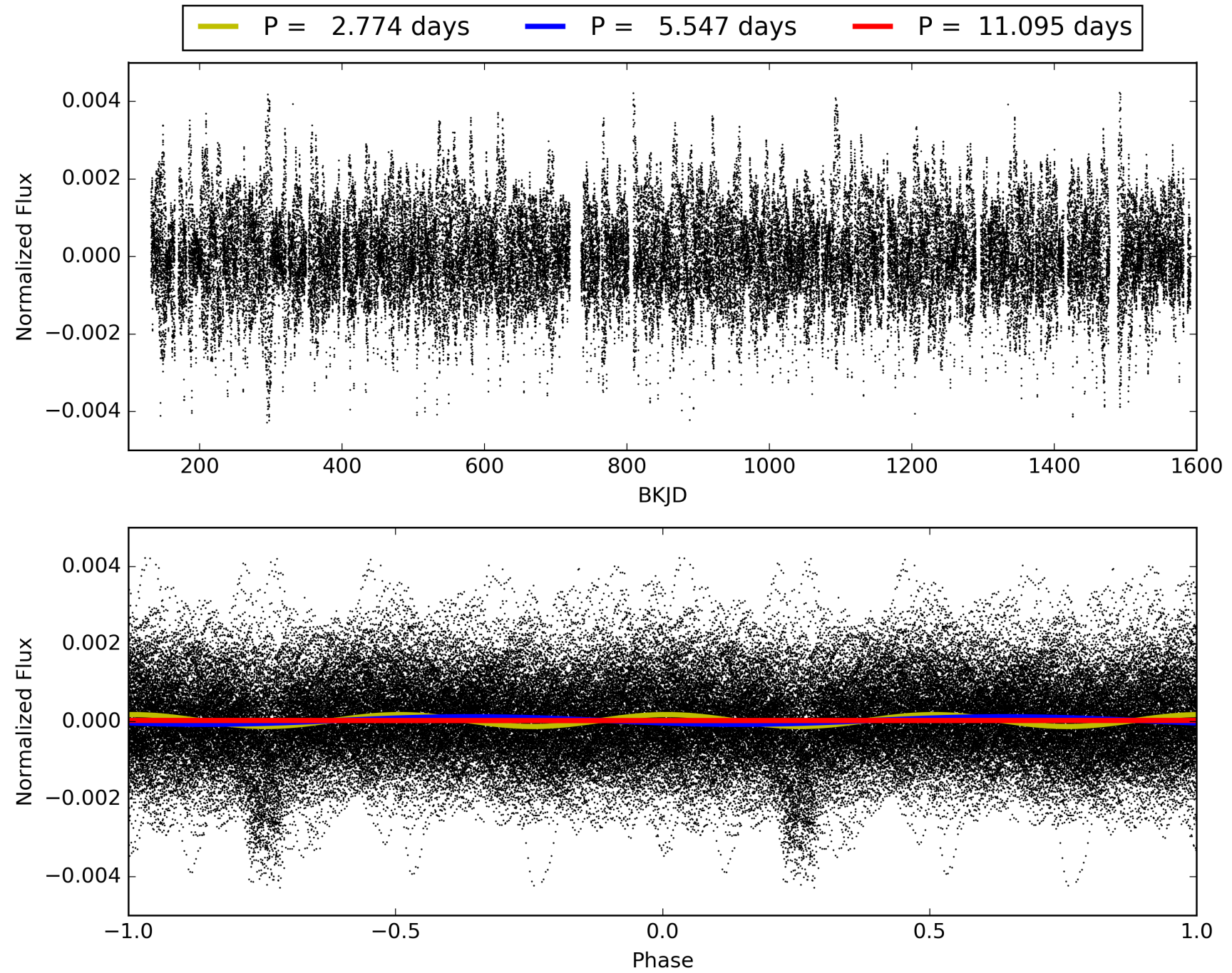
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:25:48 Z

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

TCE 007515679-02, PDC Light Curves

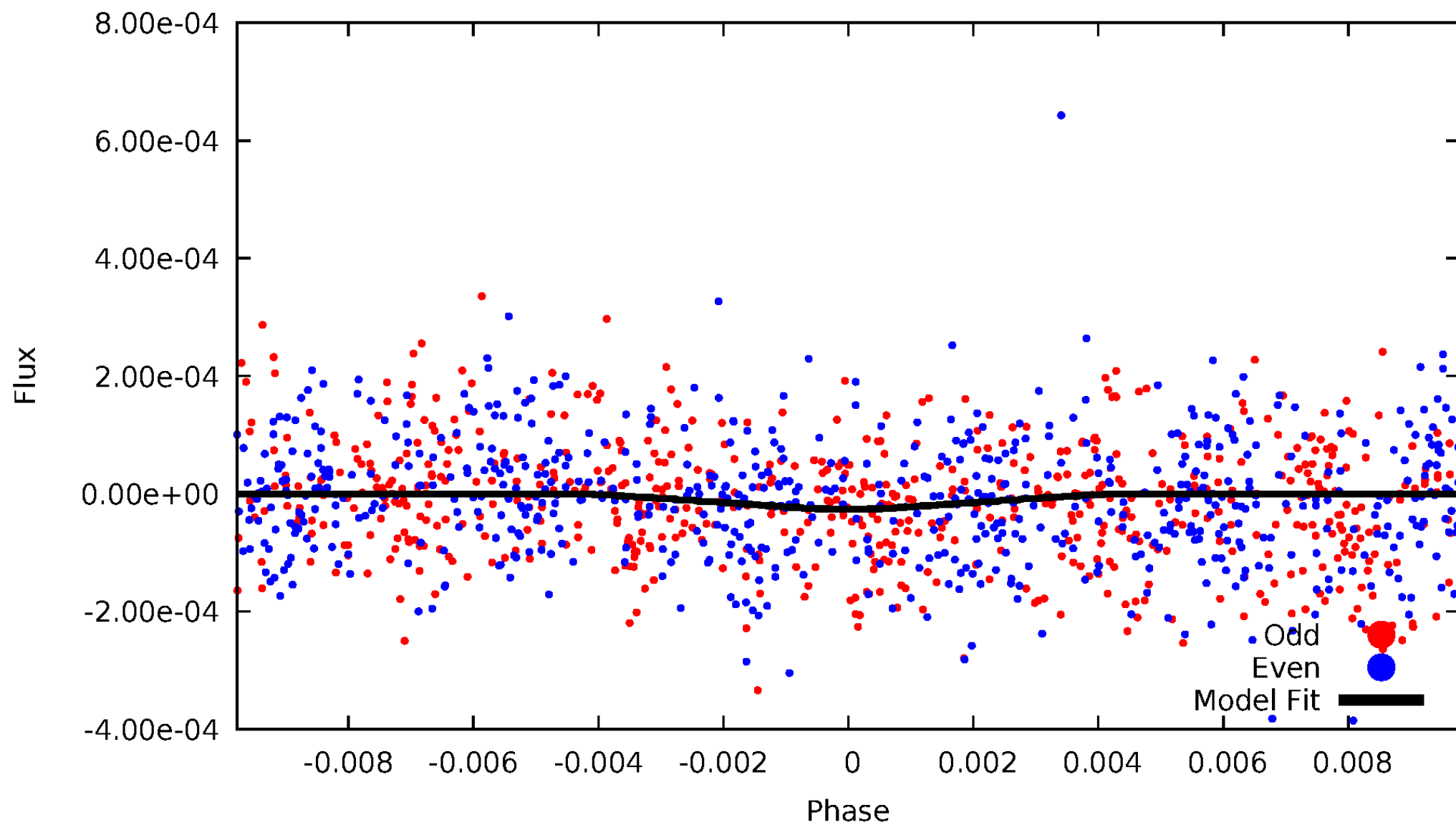


TCE 007515679-02



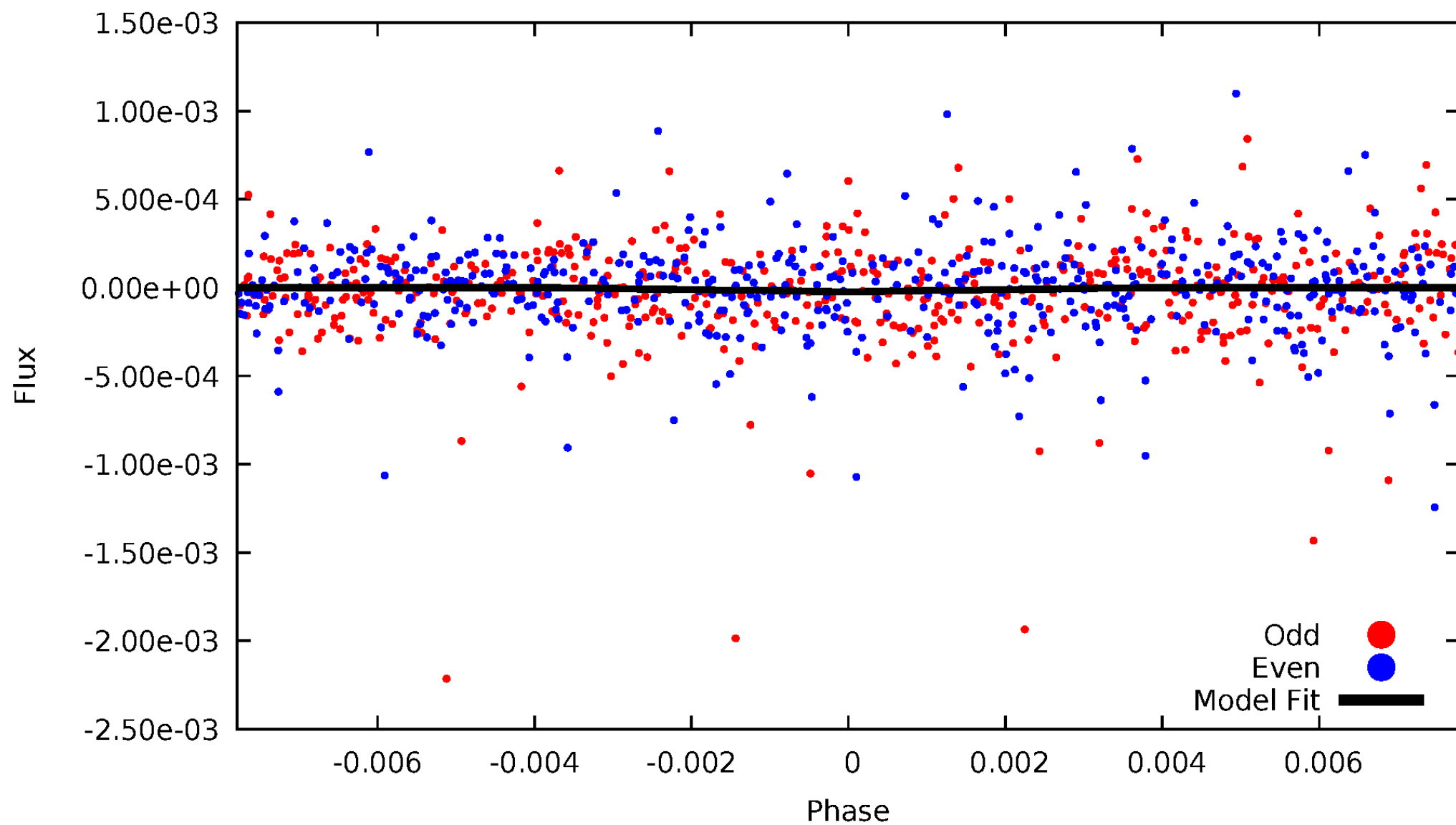
DV Odd/Even

TCE 007515679-02



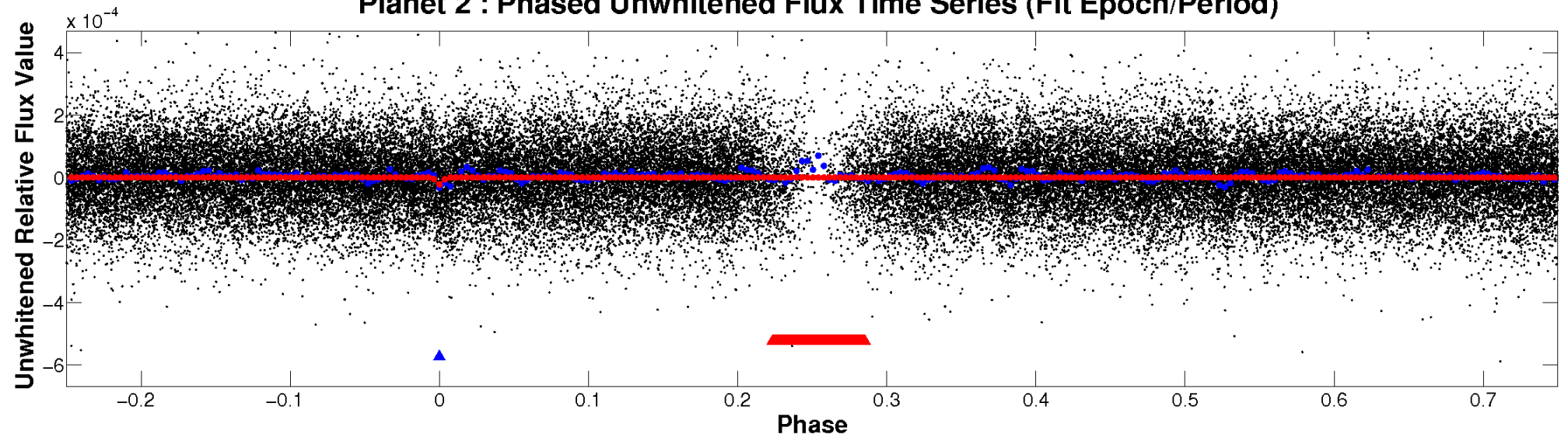
ALT Odd/Even

TCE 007515679-02

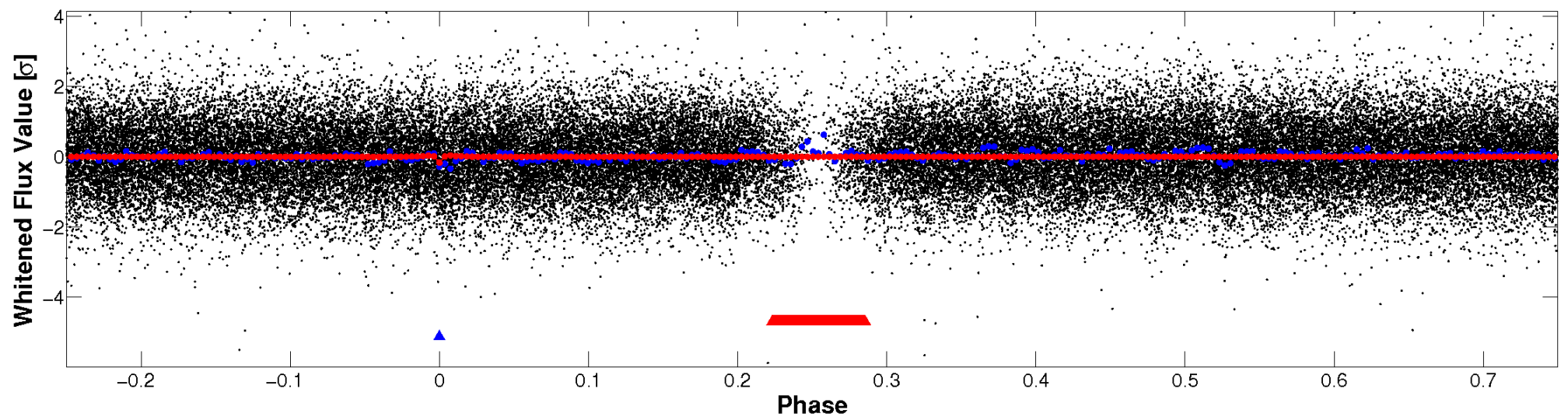


Non-Whitened Vs. Whitened Light Curve

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

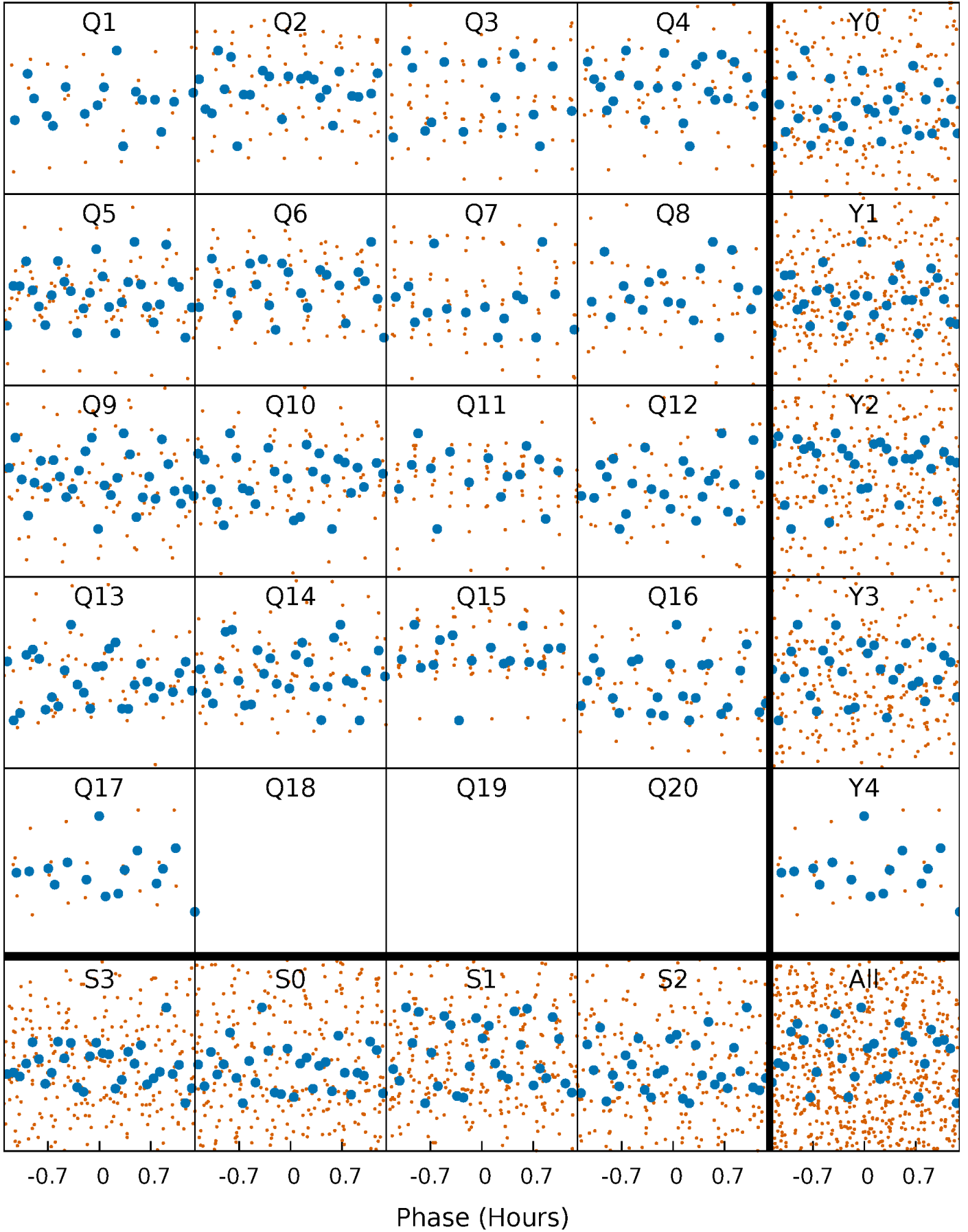


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



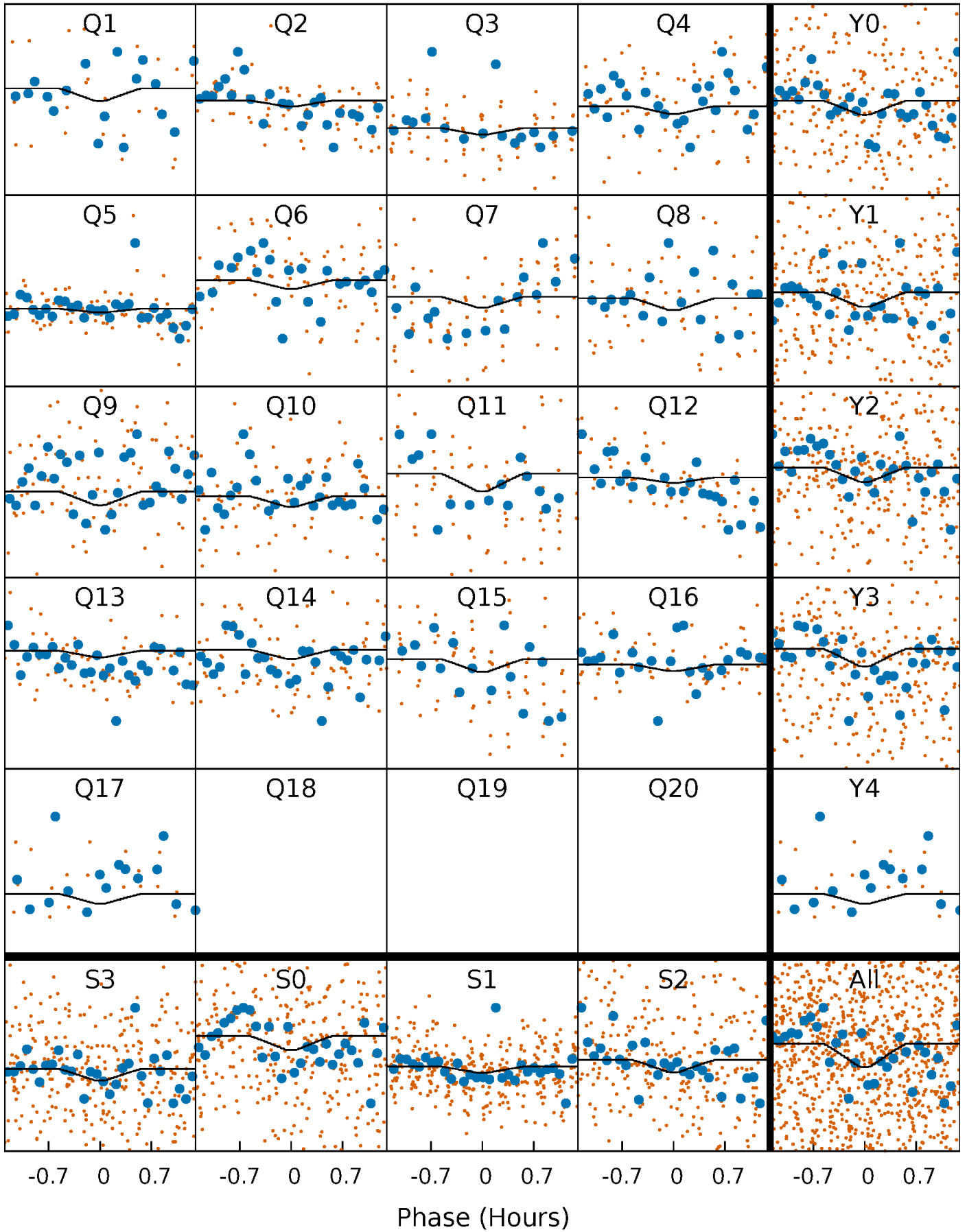
PDC Quarter-Phased Transit Curves

TCE 007515679-02 P= 5.547393 Days $T_0=131.920570$ (BKJD)



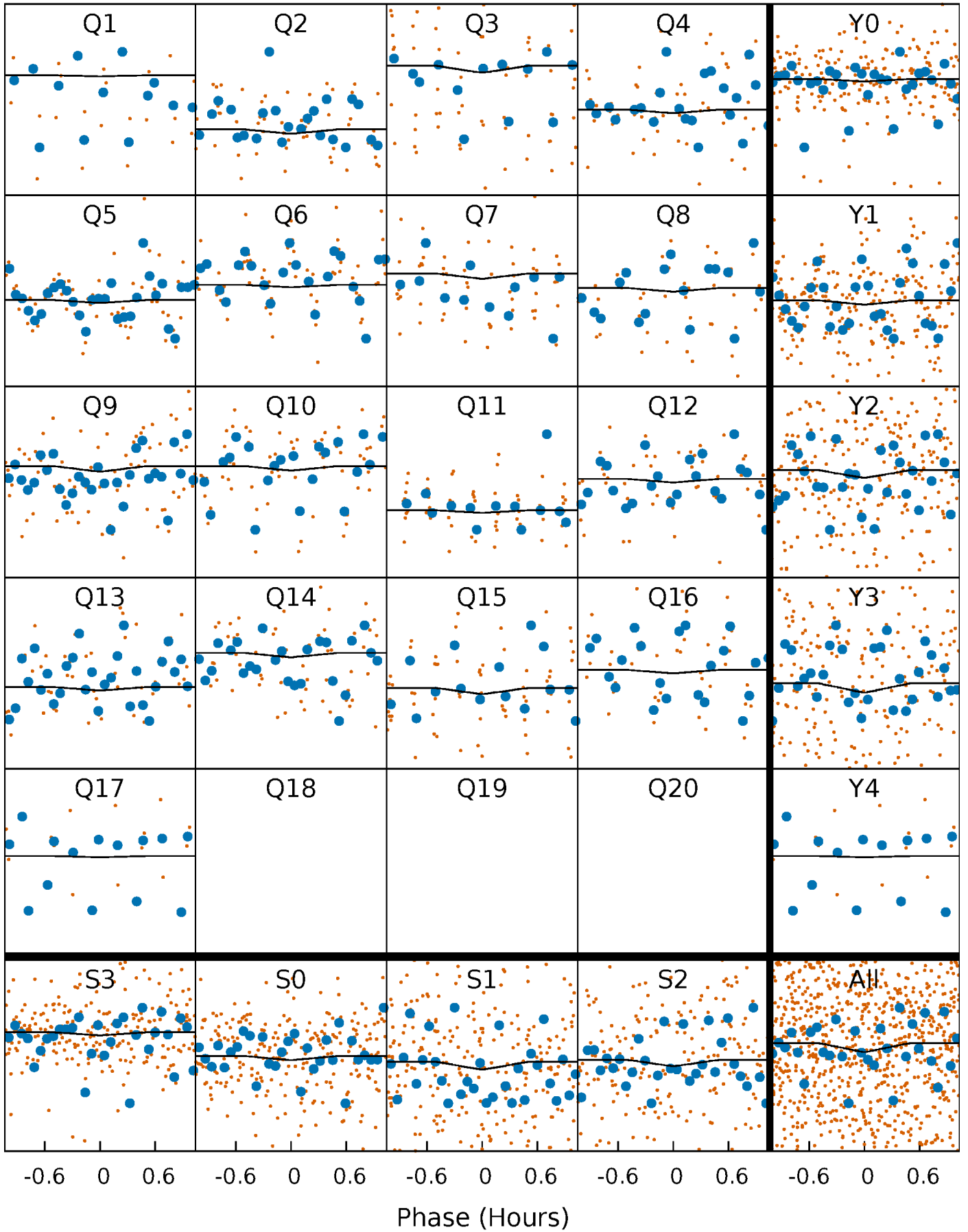
DV Quarter-Phased Transit Curves

TCE 007515679-02 P= 5.547393 Days $T_0=131.920570$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

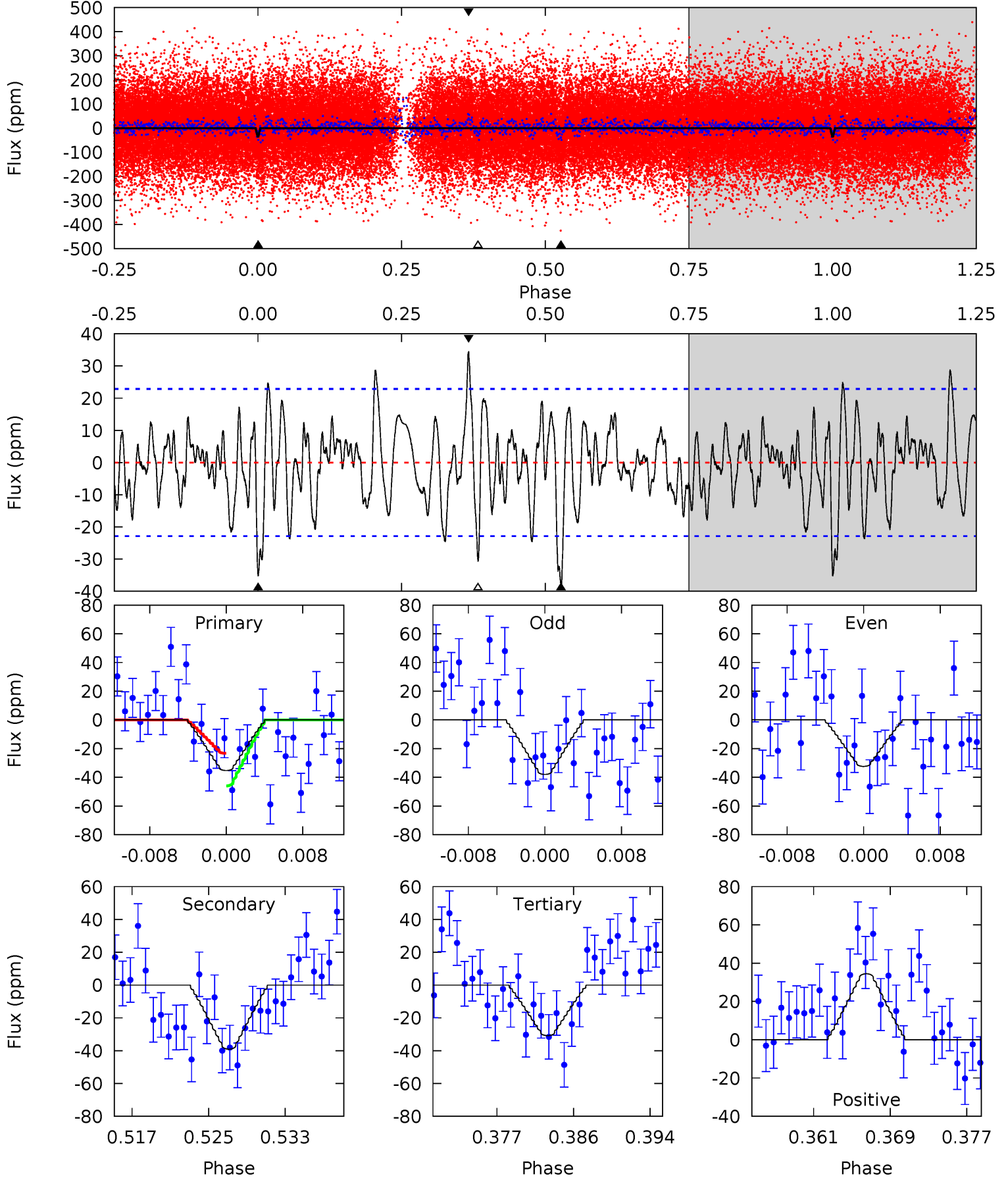
TCE 007515679-02 P= 5.547372 Days $T_0=131.920692$ (BKJD)



DV Model-Shift Uniqueness Test

007515679-02, P = 5.547393 Days, E = 126.373177 Days

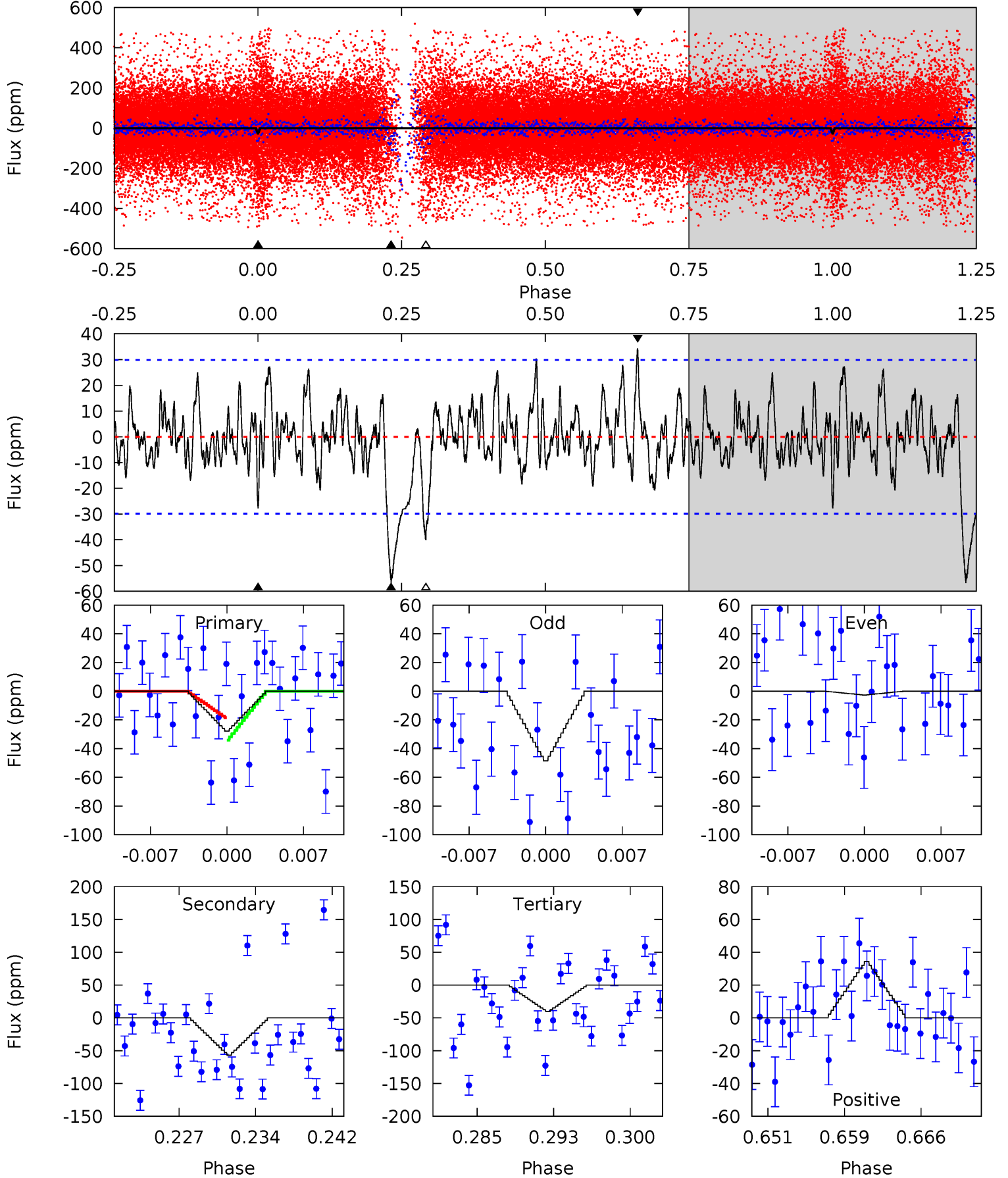
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.82	8.66	6.83	7.64	5.06	2.64	2.23	1.00	0.18	1.83	1.02	0.62	1.25	0.47	2.52



Alt Model-Shift Uniqueness Test

007515679-02, P = 5.547372 Days, E = 126.373320 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.72	9.66	6.85	5.85	5.09	2.68	1.73	-2.12	-1.13	2.82	3.81	3.92	2.88	0.38	0



Stellar Parameters For KIC 007515679

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7358^{+203}_{-330}	$3.538^{+0.580}_{-0.061}$	$-0.080^{+0.250}_{-0.300}$	$4.037^{+0.400}_{-2.266}$	$2.054^{+0.110}_{-0.585}$	$0.044^{+0.322}_{-0.010}$
	+3%/-4%	+16%/-2%	+312%/-375%	+10%/-56%	+5%/-28%	+733%/-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 007515679-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-39 ± 5	$1.98^{+1.33}_{-1.04}$	3113^{+236}_{-434}	7912^{+5349}_{-1723}	32^{+103}_{-20}
Alt.	-57 ± 6	$1.97^{+1.27}_{-1.16}$	3129^{+232}_{-415}	9261^{+8710}_{-2235}	47^{+223}_{-29}

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

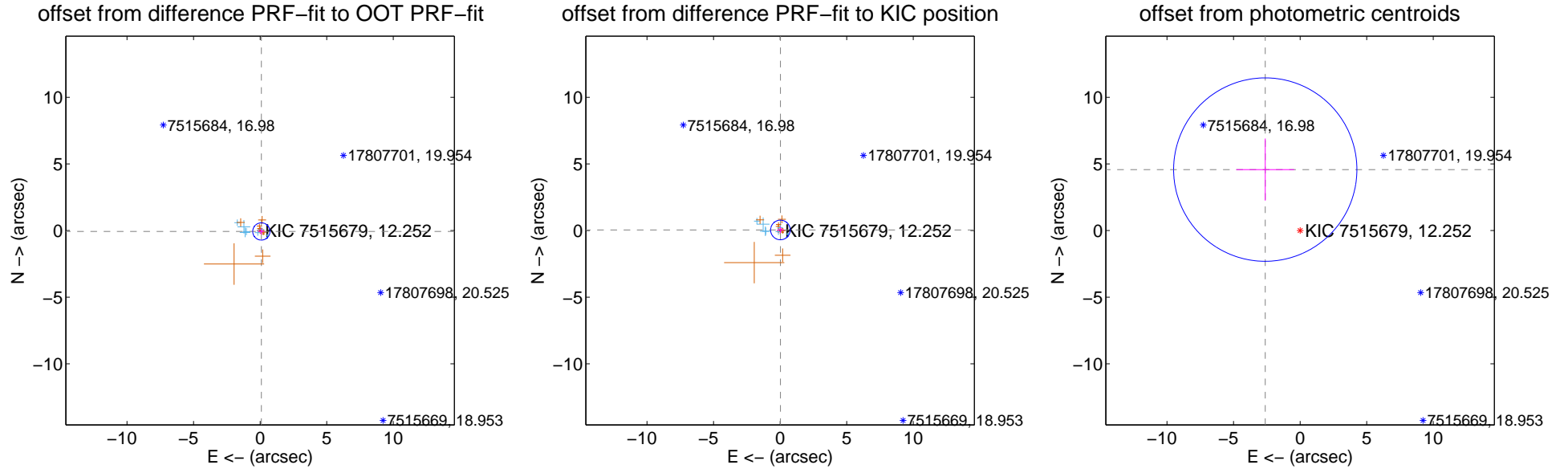
DV Centroid Data

Supplemental centroid analysis for 007515679-02. Kepler magnitude: 12.25. Transit SNR 3.01

There are 7 quarters with good PRF difference image offsets

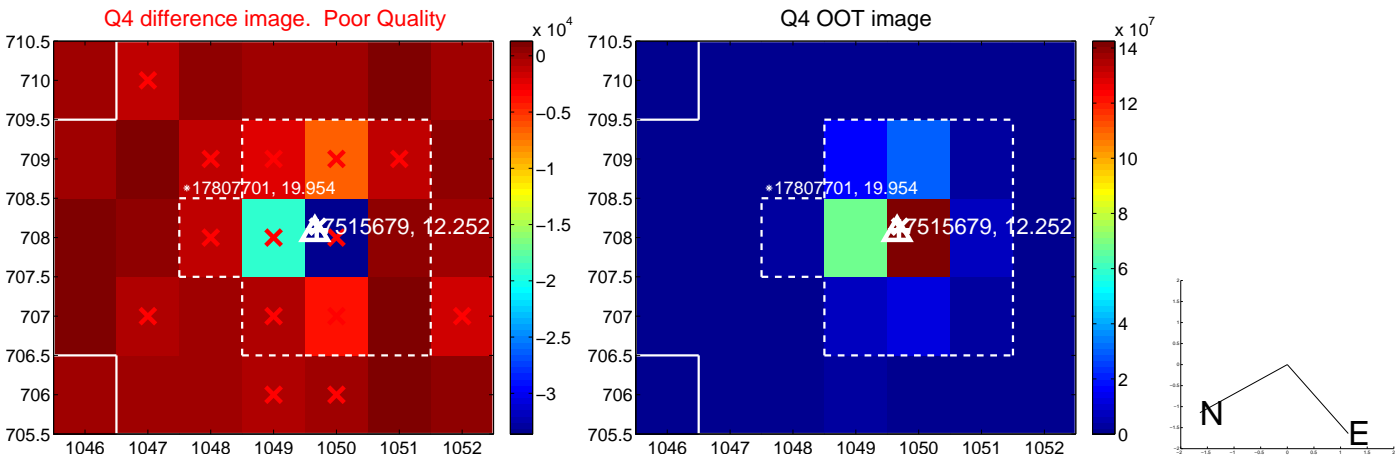
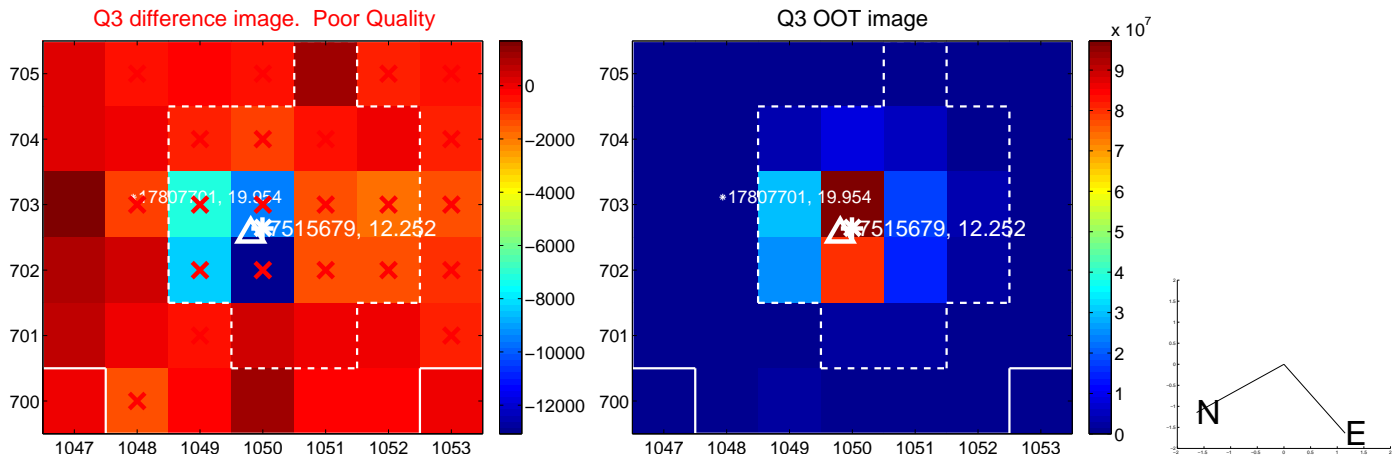
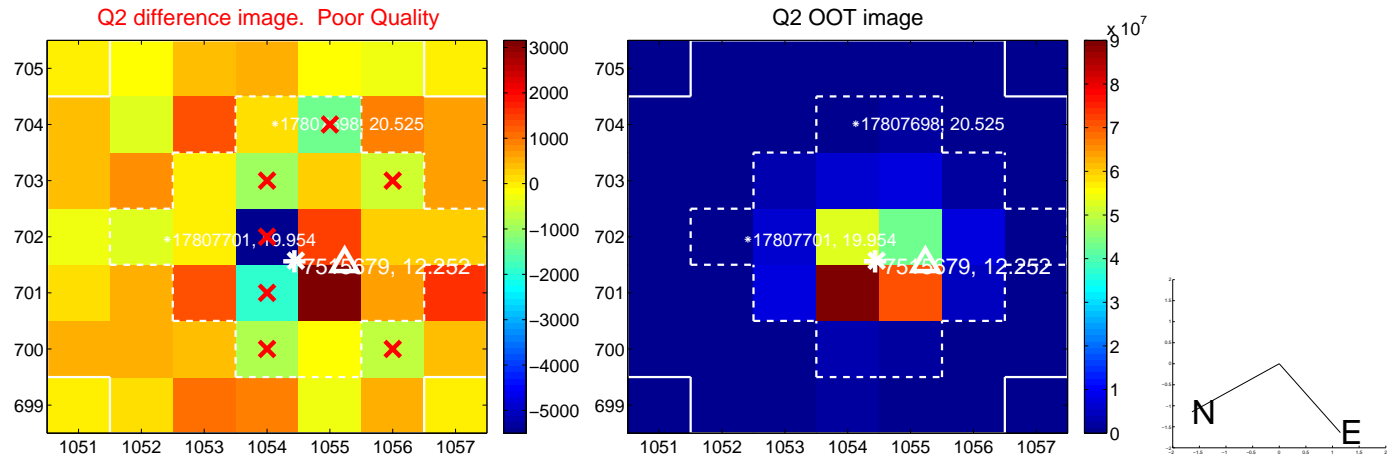
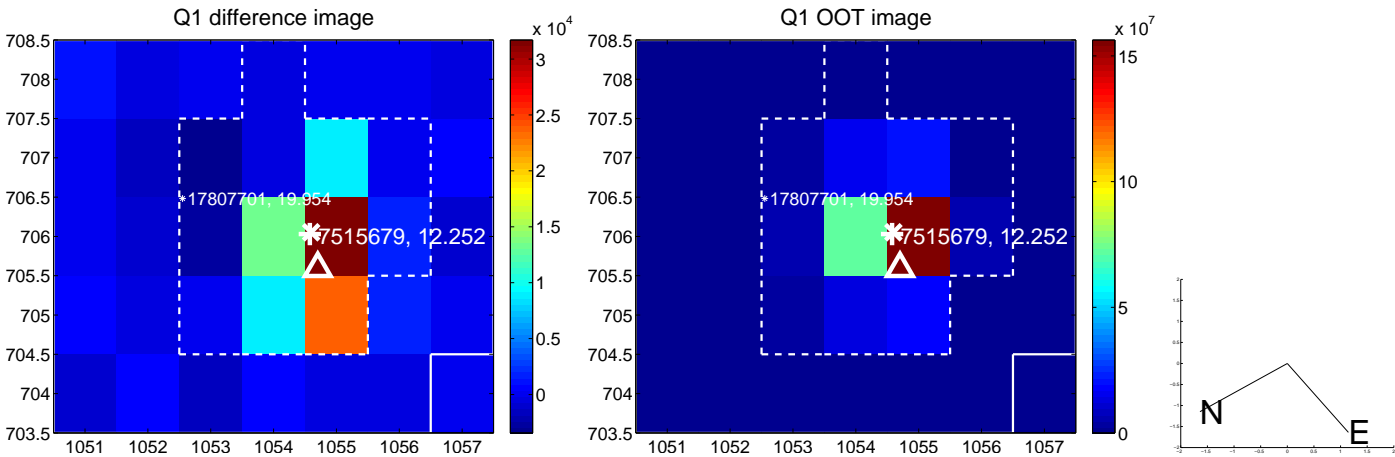
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.113 ± 0.216	0.52	-0.090 ± 0.224	-0.068 ± 0.222
PRF-fit source offset from KIC position	0.050 ± 0.245	0.20	-0.021 ± 0.240	0.045 ± 0.234
photometric centroid source offset	5.27 ± 2.29	2.30	2.62 ± 2.17	4.58 ± 2.33

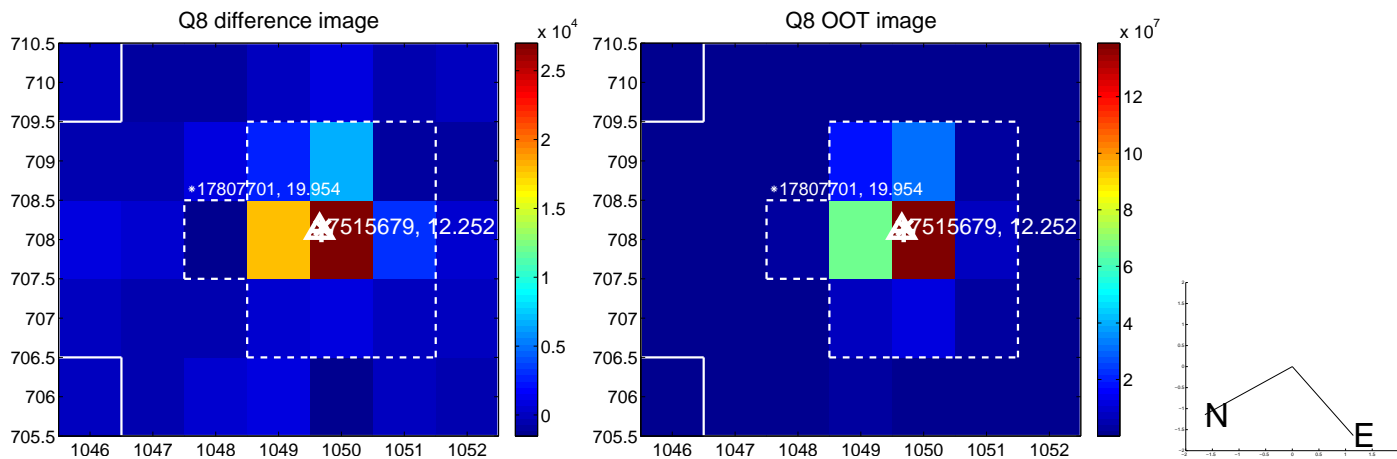
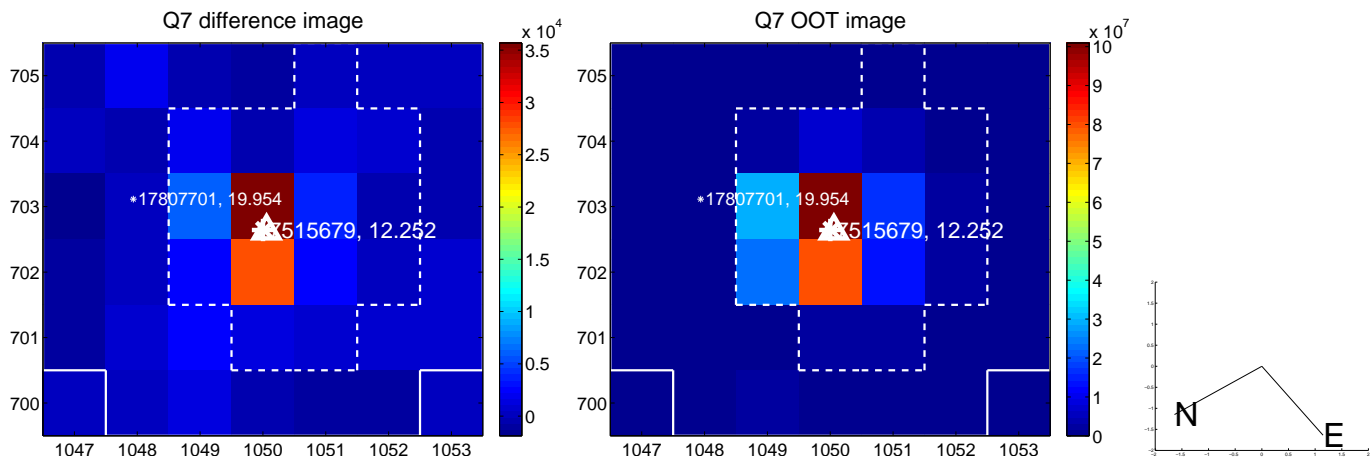
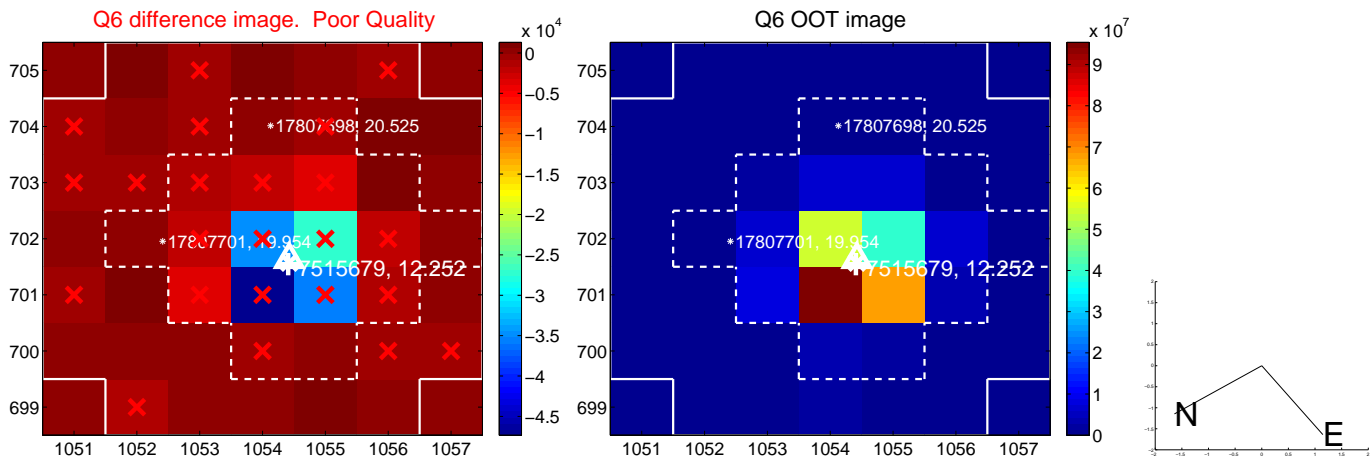
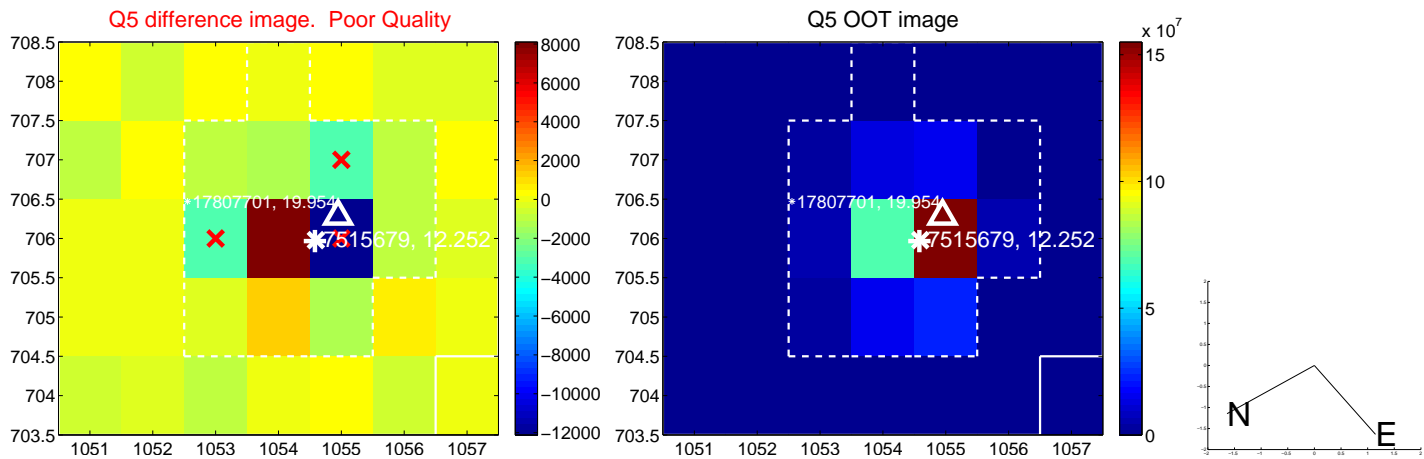


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

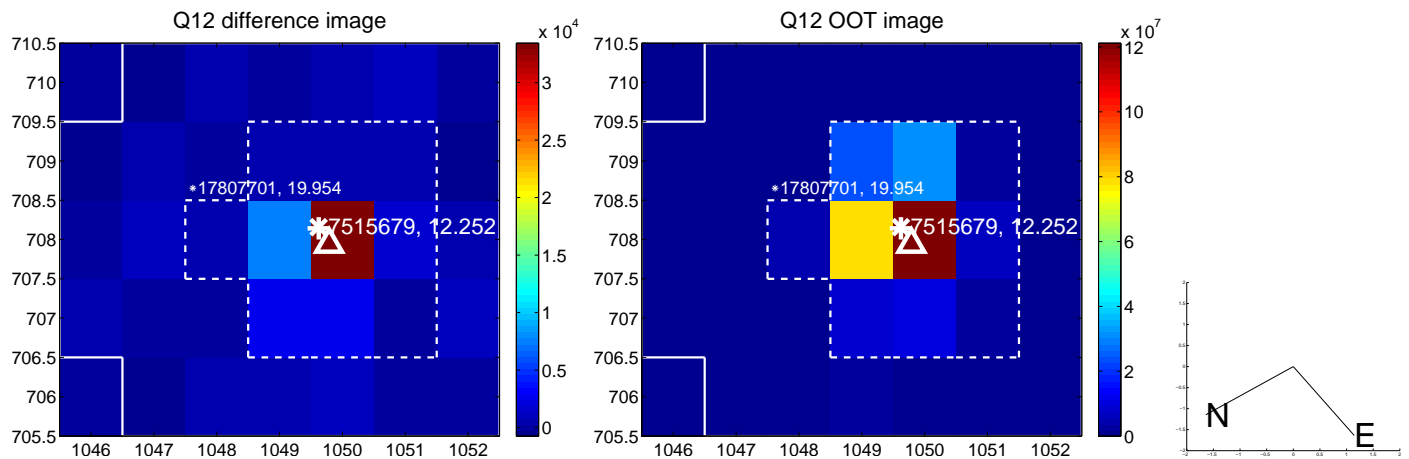
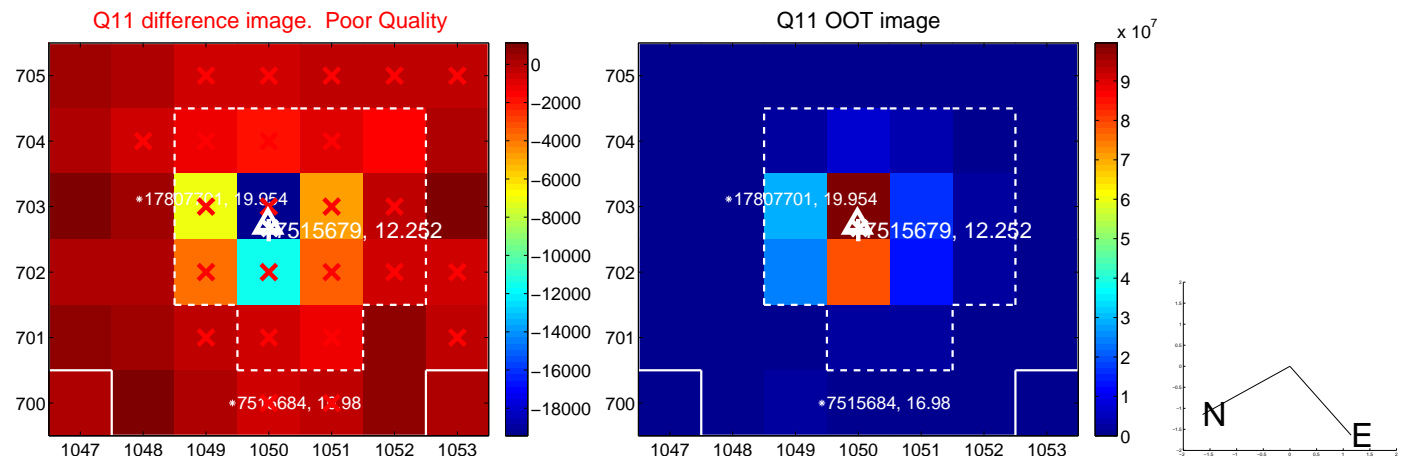
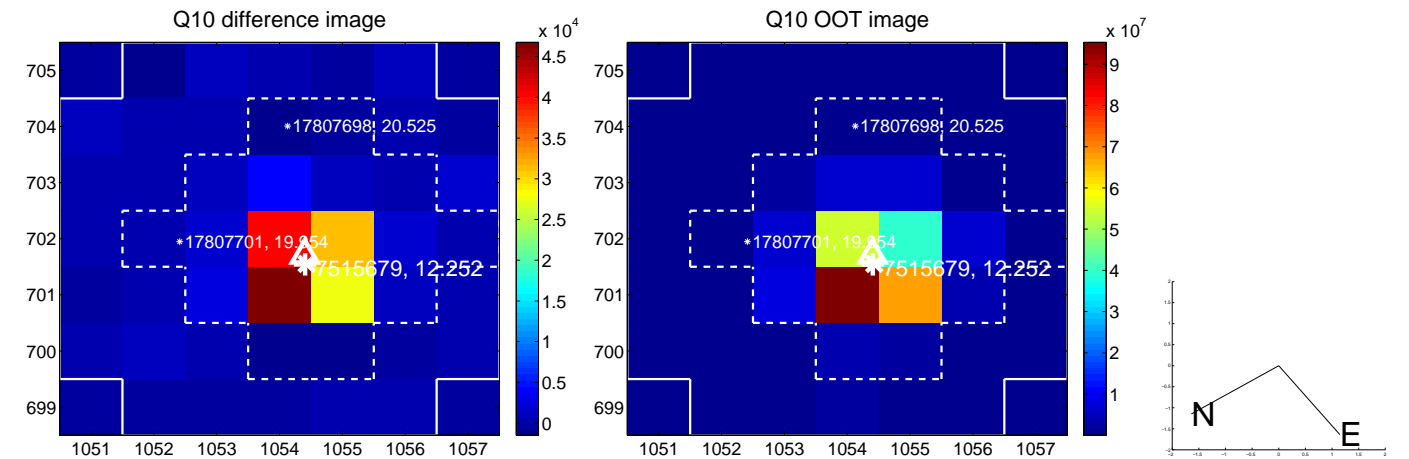
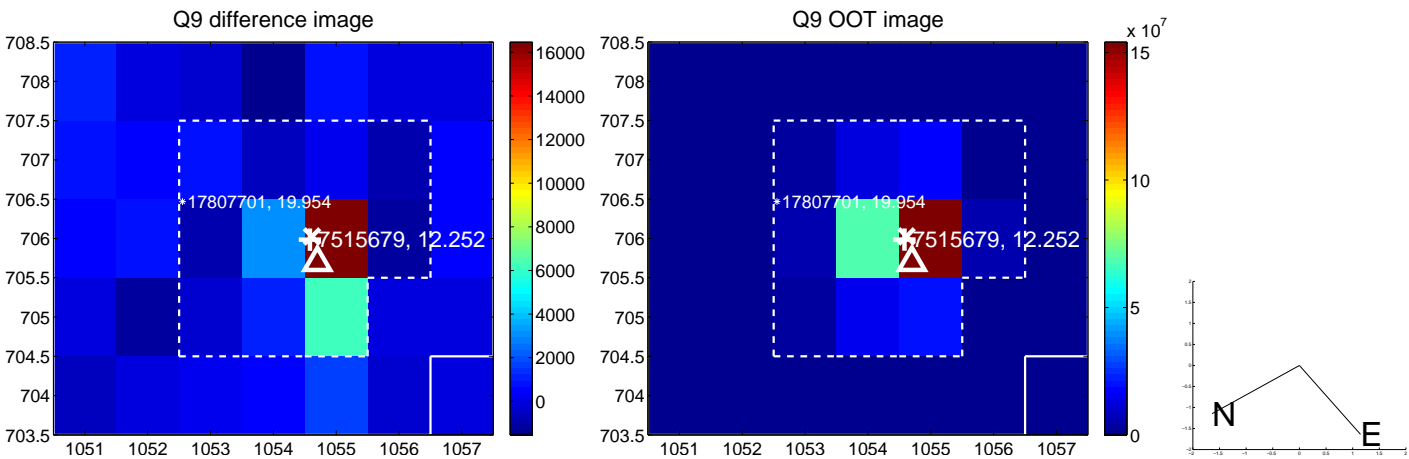
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



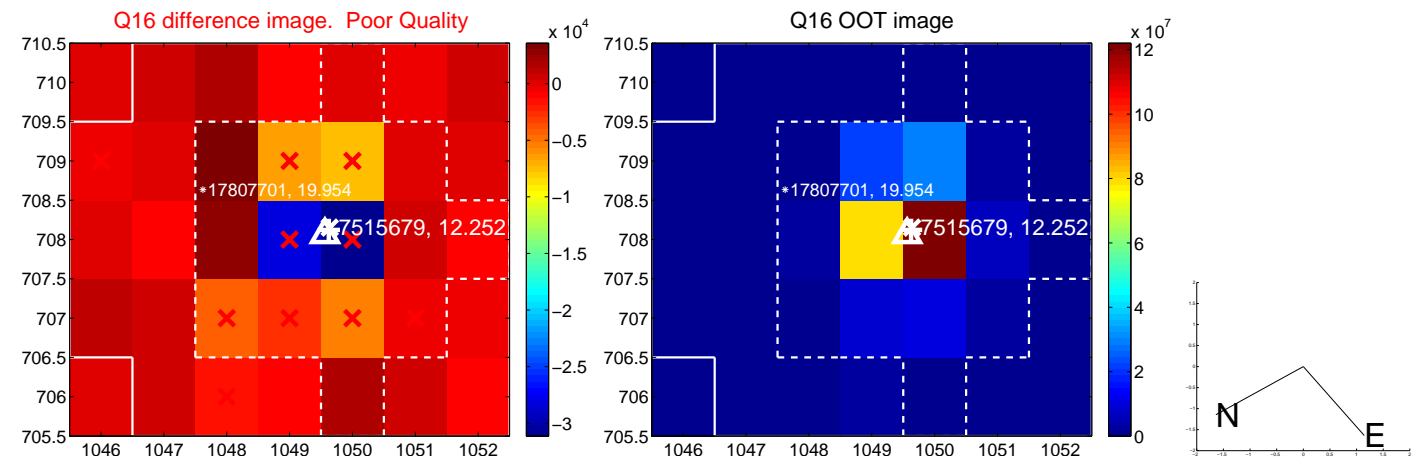
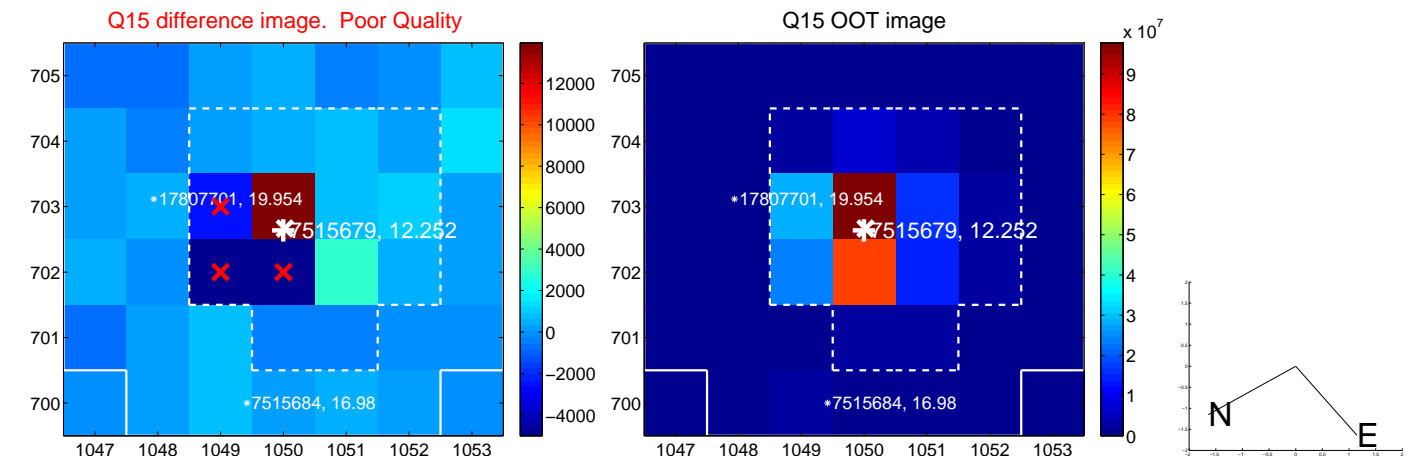
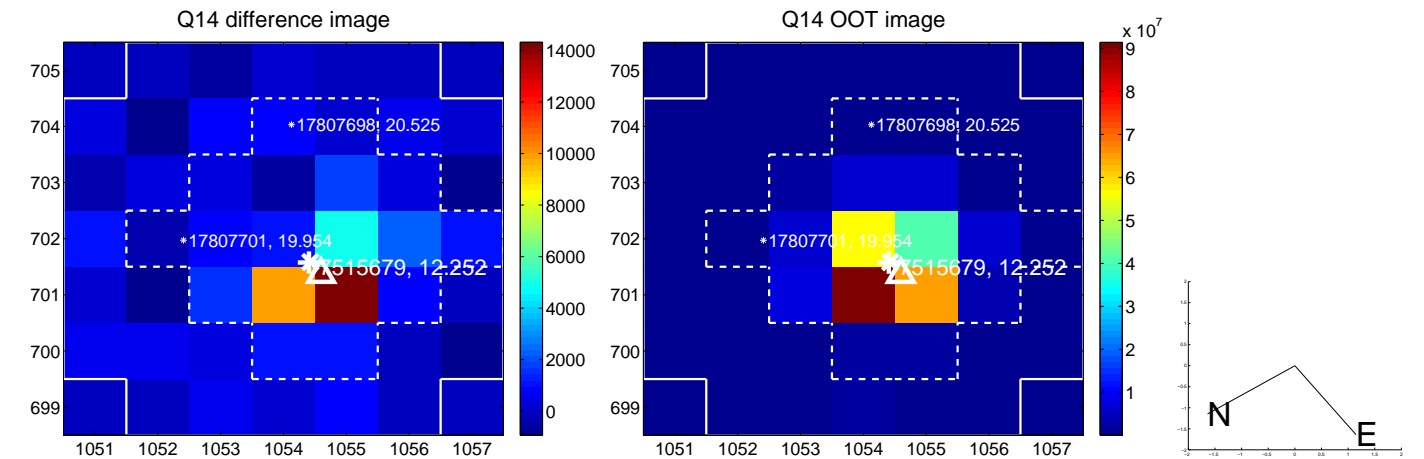
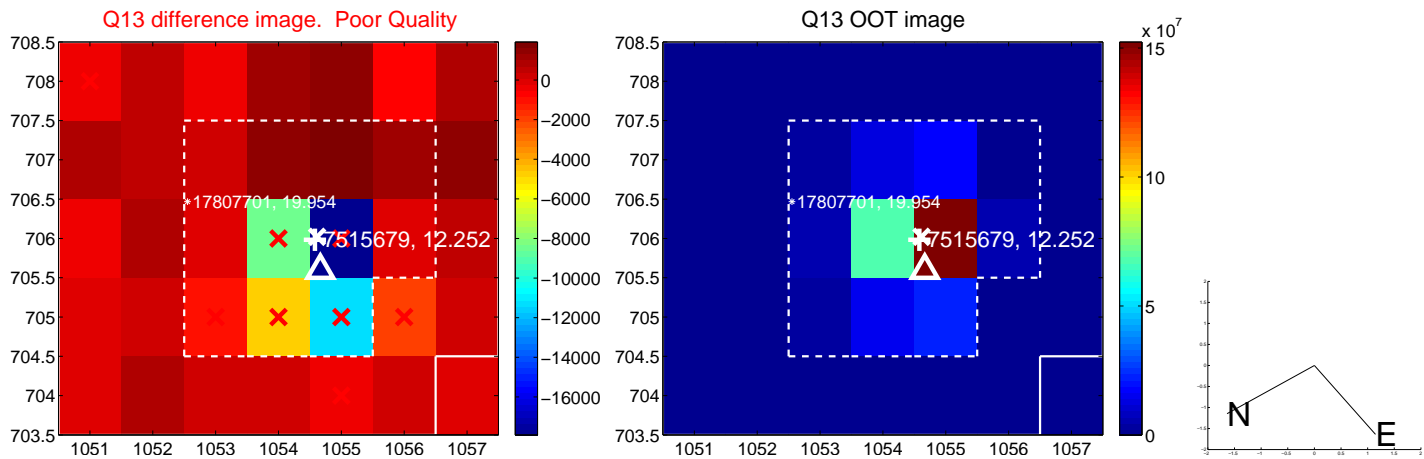
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



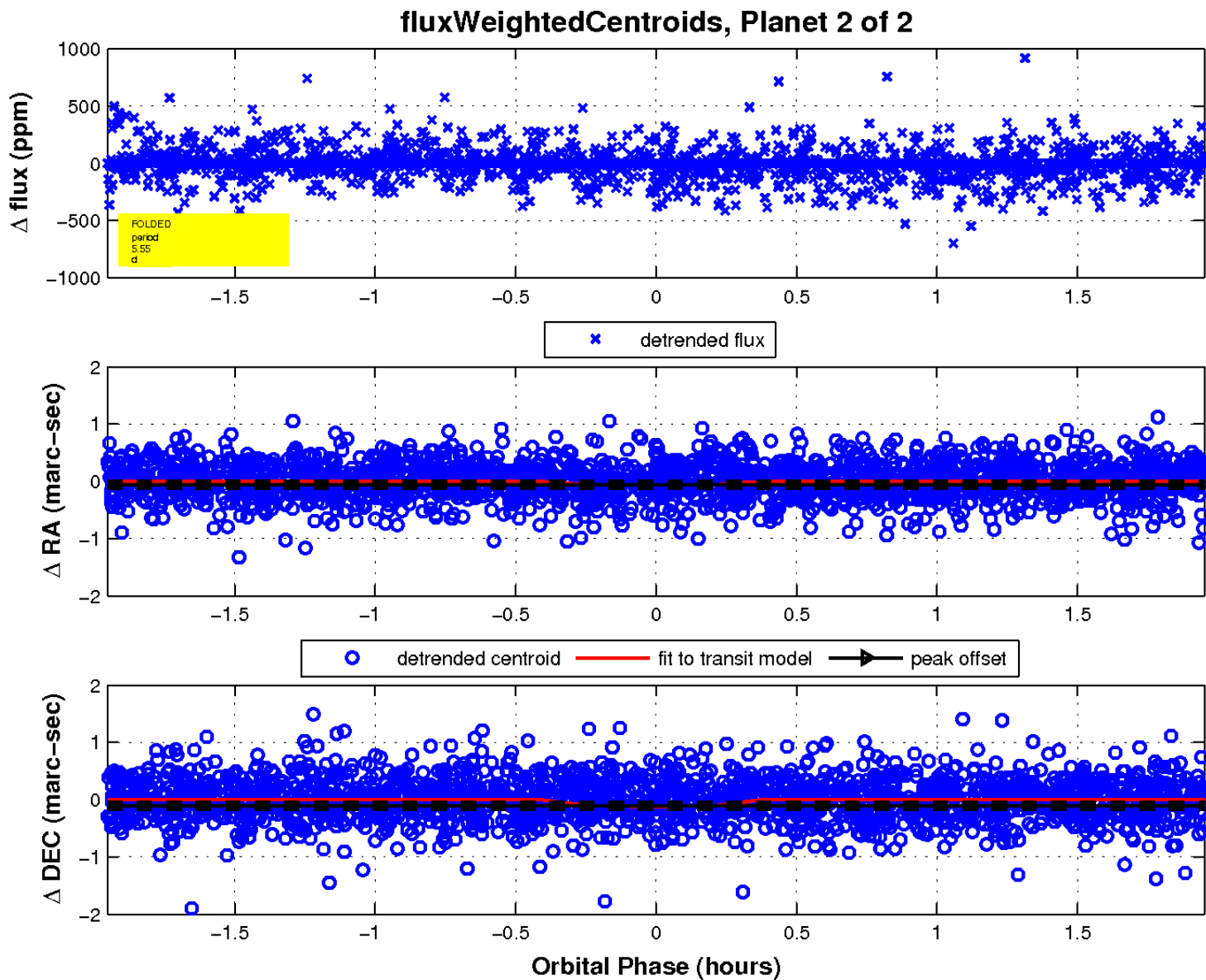
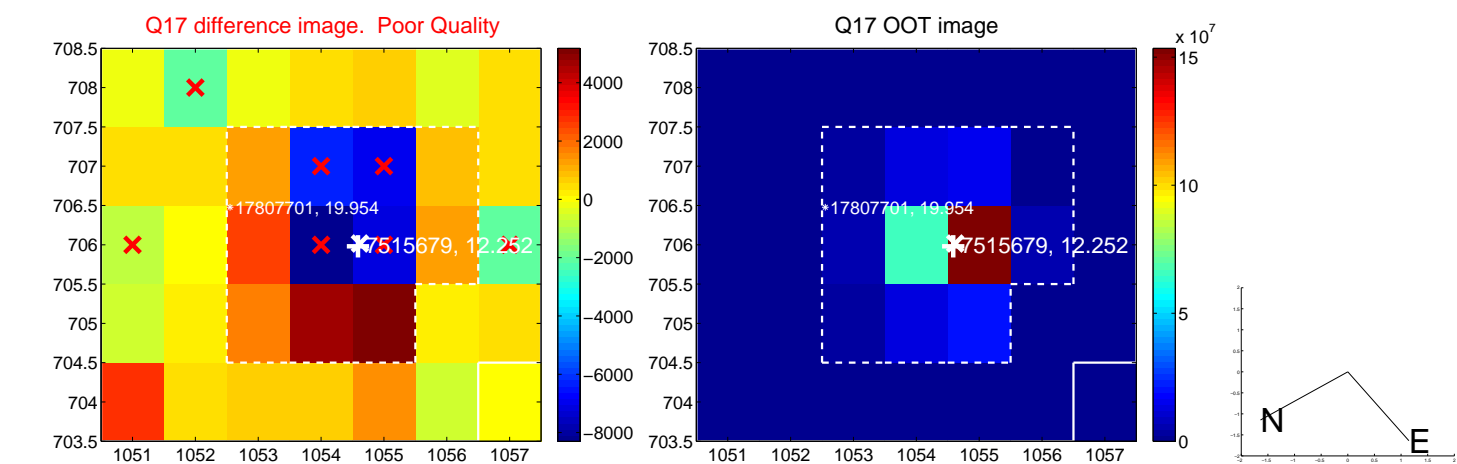
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

