

KIC 007903259

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})
007903259-01	OBS	No	1.202999	131.636366	23.0	4.529	8.9	8.7	1.58	6486	0.89	7192.61
007903259-02	OBS	No	423.719361	133.218497	1126.1	19.531	11.6	8.0	1.58	6486	6.51	2.89
007903259-03	OBS	No	33.696472	132.639952	95.5	8.076	9.7	2.7	1.58	6486	1.74	84.55
007903259-04	OBS	No	151.363806	171.969107	271.9	13.879	9.4	5.4	1.58	6486	2.77	11.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007903259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
007903259-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007903259-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
007903259-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_KIC_POS

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

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

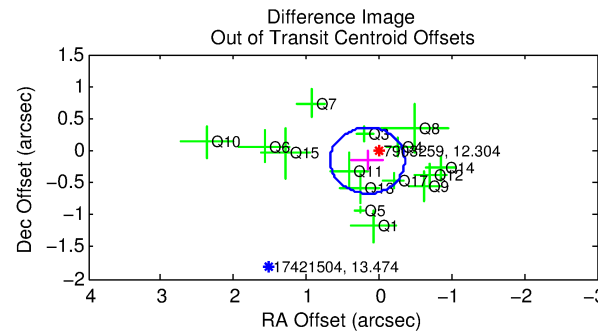
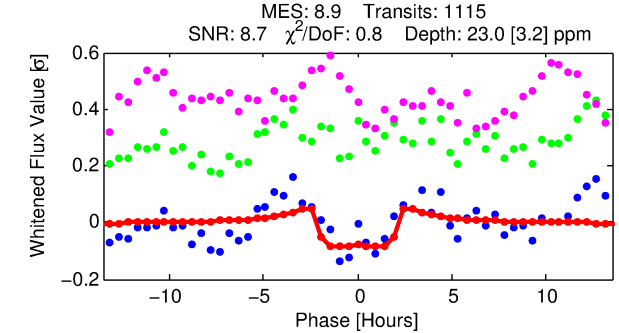
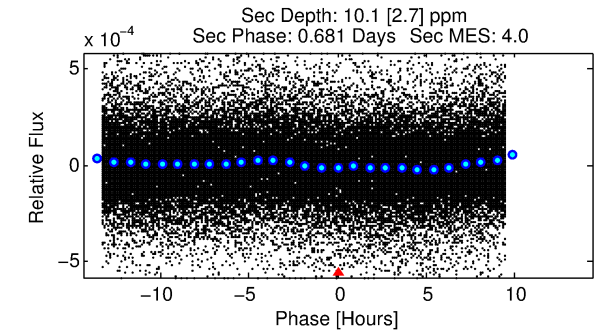
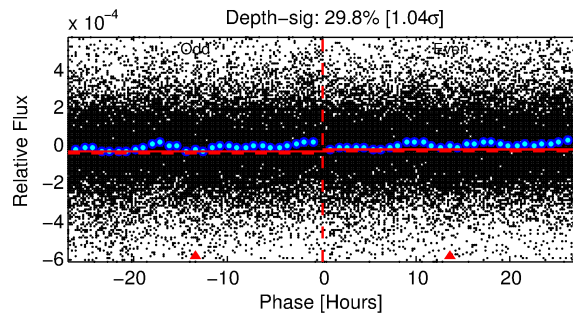
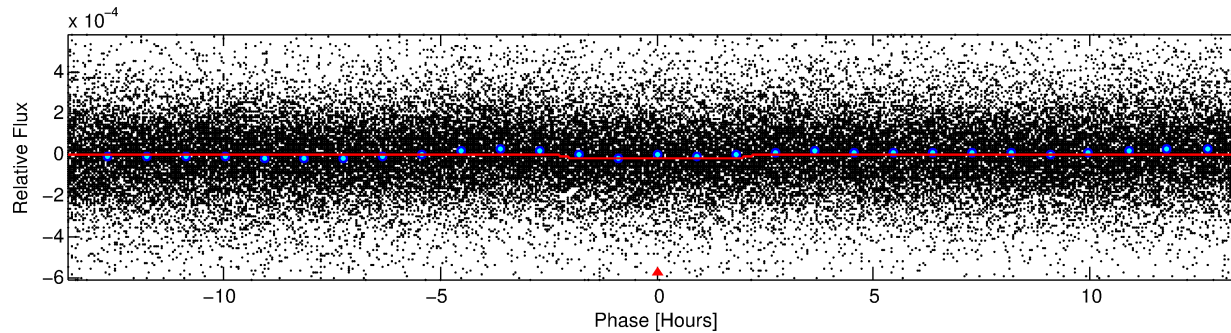
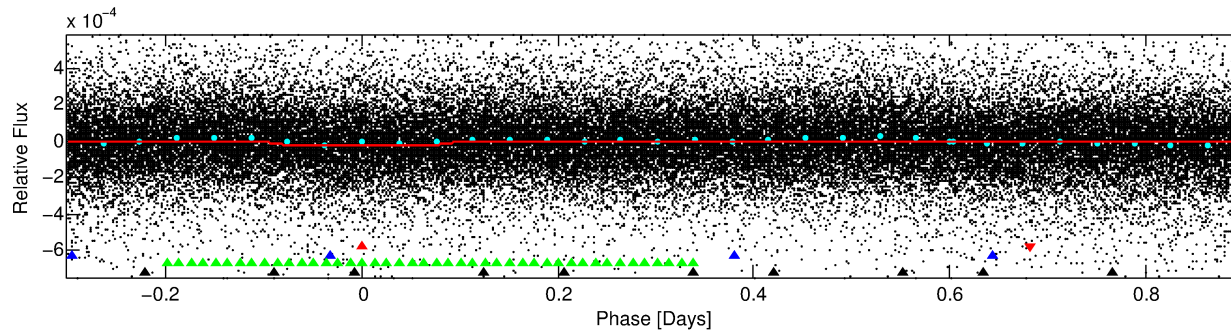
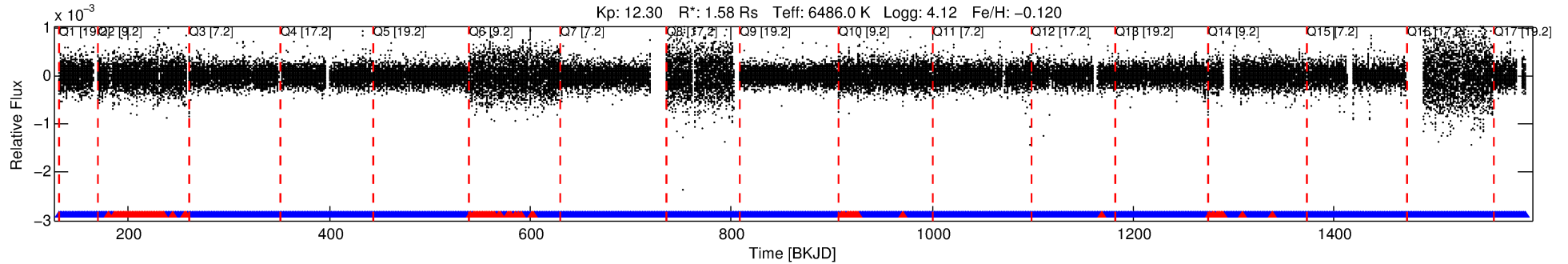
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007903259-01

No Significant Match Found

DV One-Page Summary

KIC: 7903259 Candidate: 1 of 4 Period: 1.203 d



DV Fit Results:

Period = 1.20300 [0.00001] d
Epoch = 131.6364 [0.0036] BKJD
Rp/R* = 0.0051 [0.0015]
a/R* = 1.31 [0.89]
b = 0.90 [0.35]
Seff = 7192.61 [3224.93]
Teq = 2348 [263] K
Rp = 0.88 [0.37] Re
a = 0.0235 [0.0064] AU
Ag = 3.92 [2.99] [0.98 σ]
Teff = 5110 [834] K [3.16 σ]

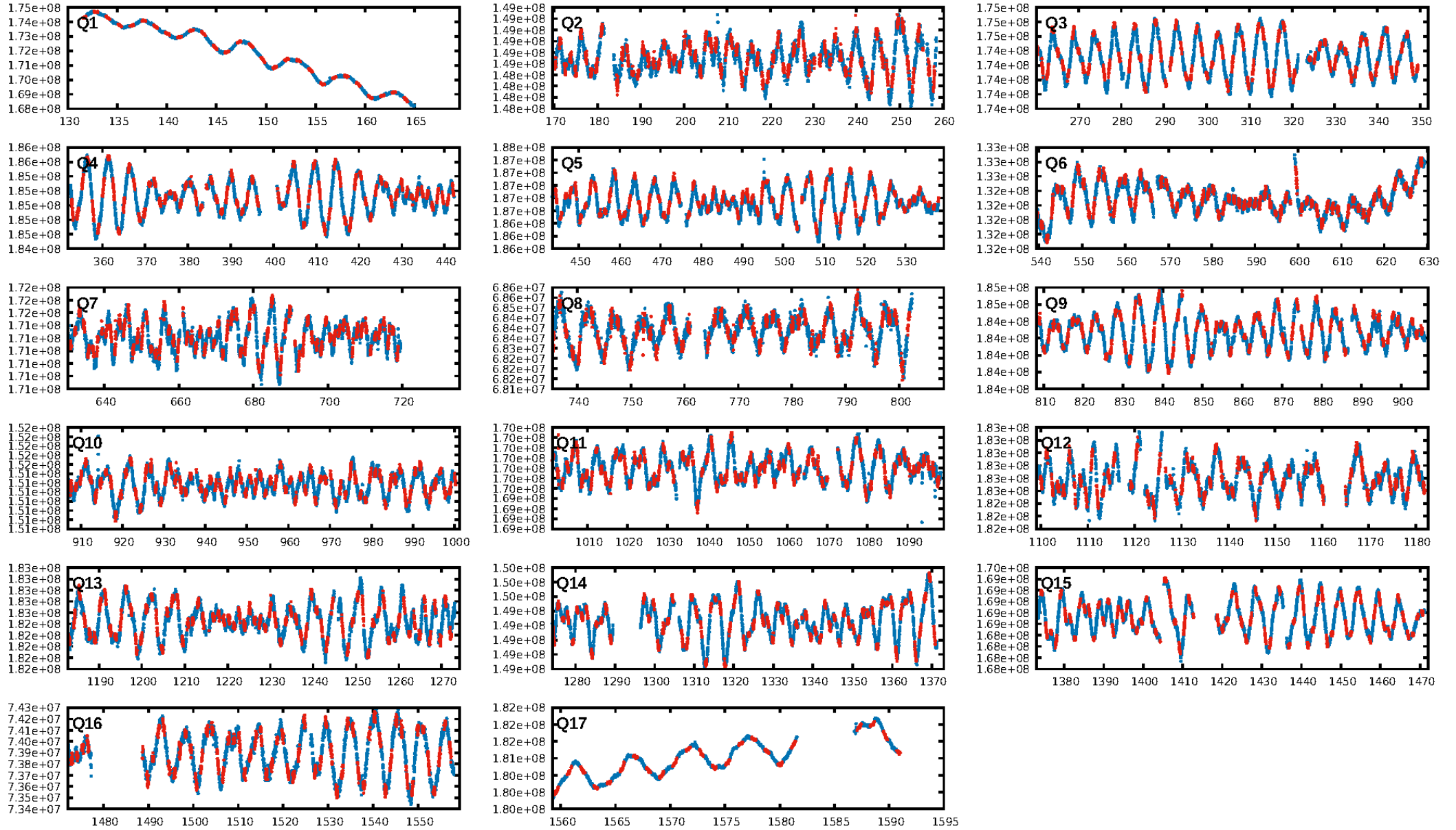
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [84.23 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.82e-15
RollingBand-fgt: 0.91 [965/1064]
GhostDiagnostic-chr: 0.8017
Centroid-sig: 0.0%
Centroid-so: 0.715 arcsec [1.14 σ]
OotOffset-rm: 0.225 arcsec [1.31 σ]
KicOffset-rm: 2.486 arcsec [15.44 σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.33 [5/15]
DiffImageOverlap-fno: 1.00 [17/17]

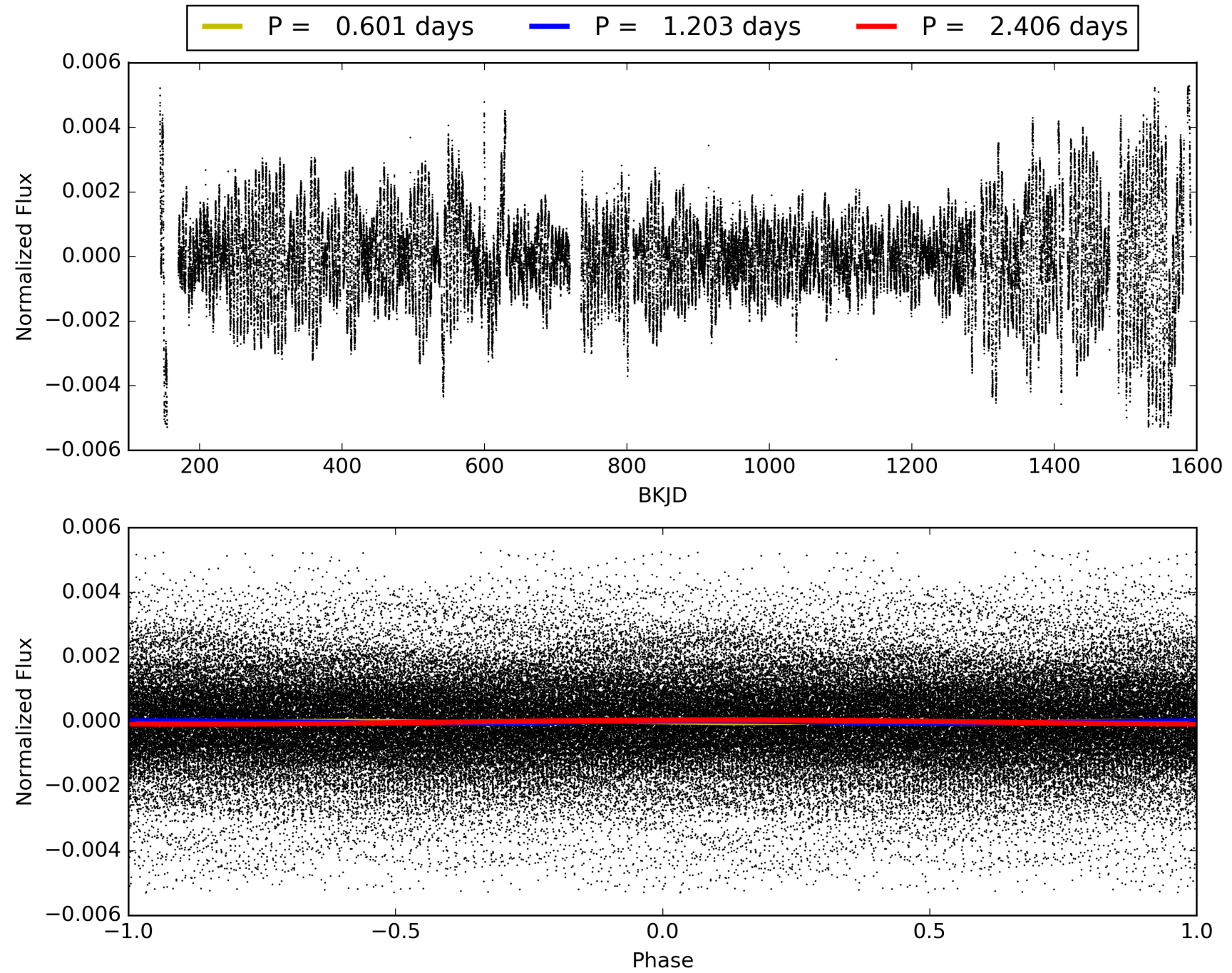
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:44:58 Z

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

TCE 007903259-01, PDC Light Curves

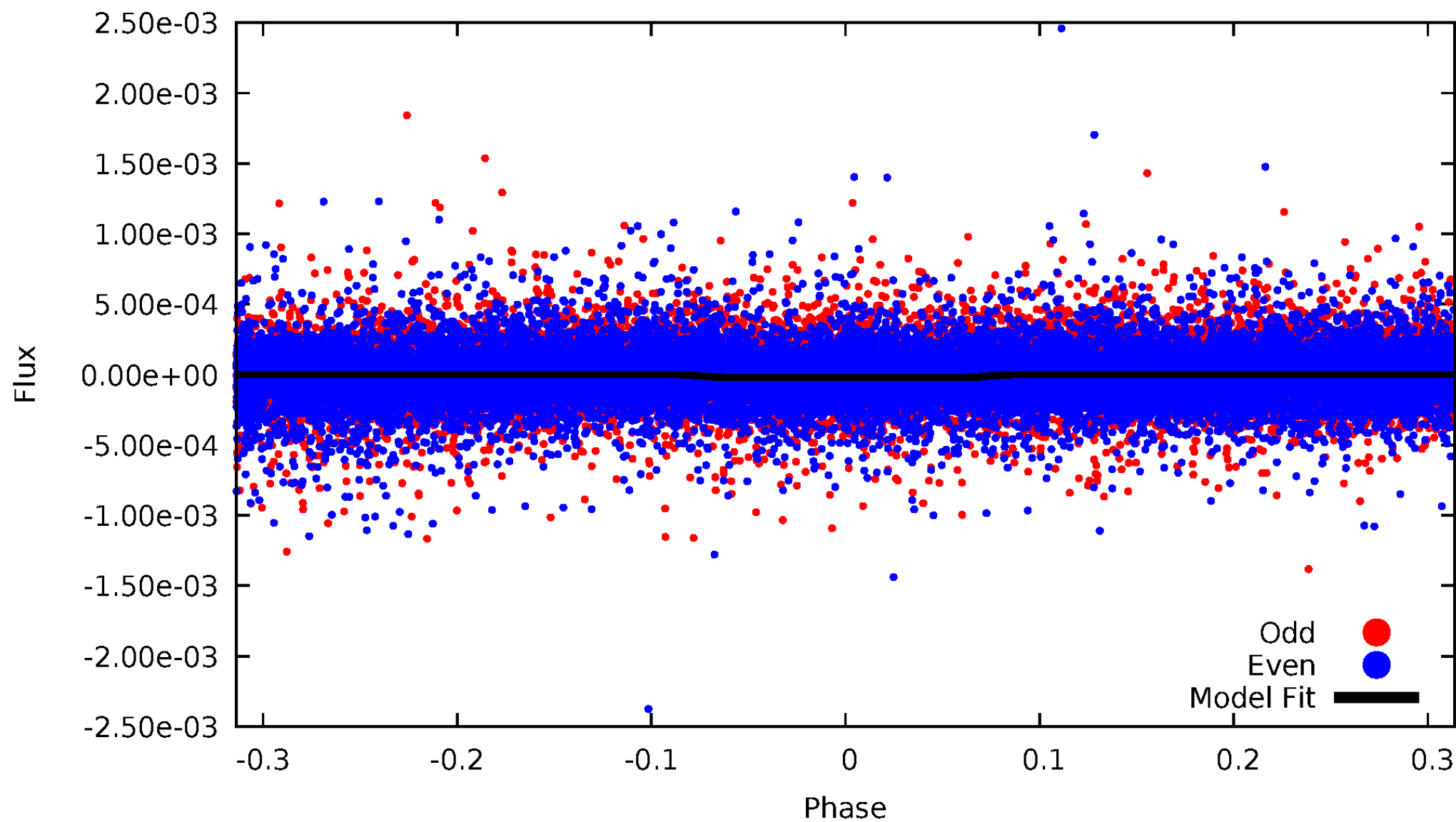


TCE 007903259-01



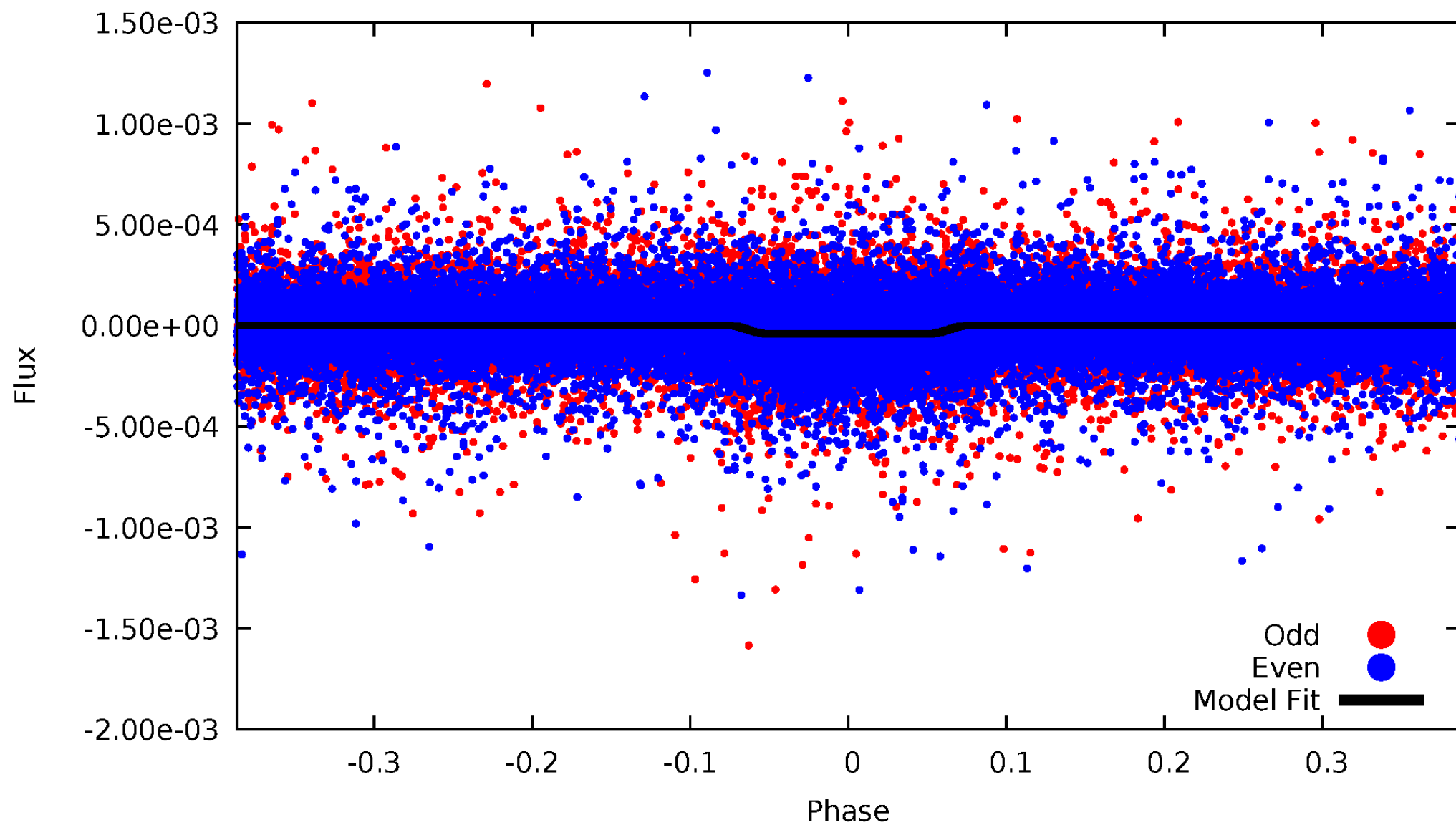
DV Odd/Even

TCE 007903259-01

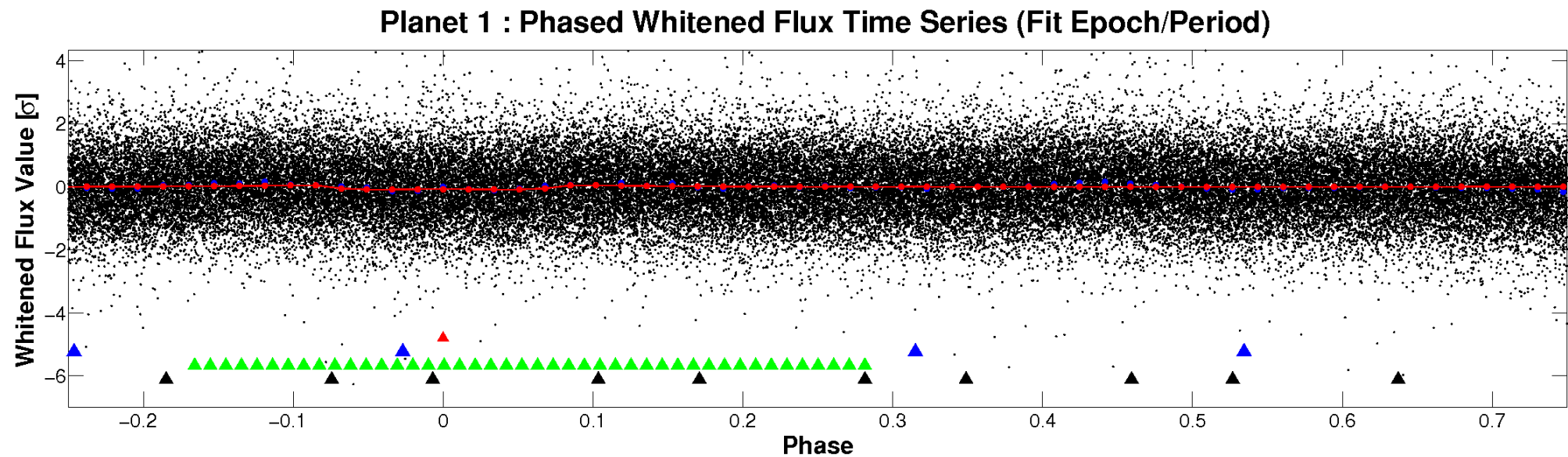
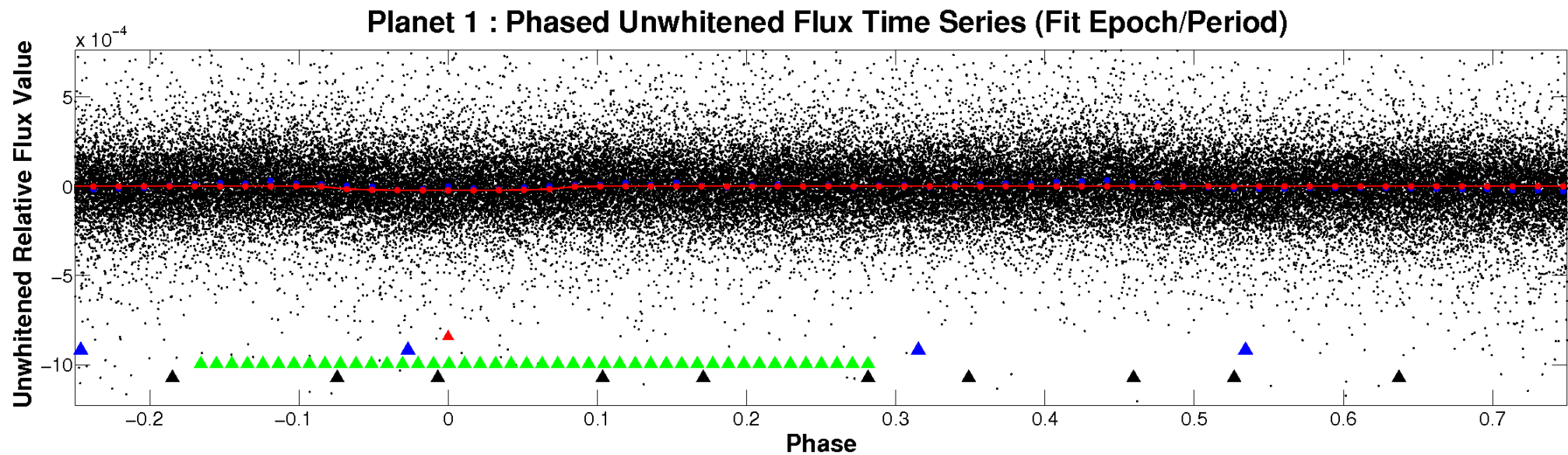


ALT Odd/Even

TCE 007903259-01

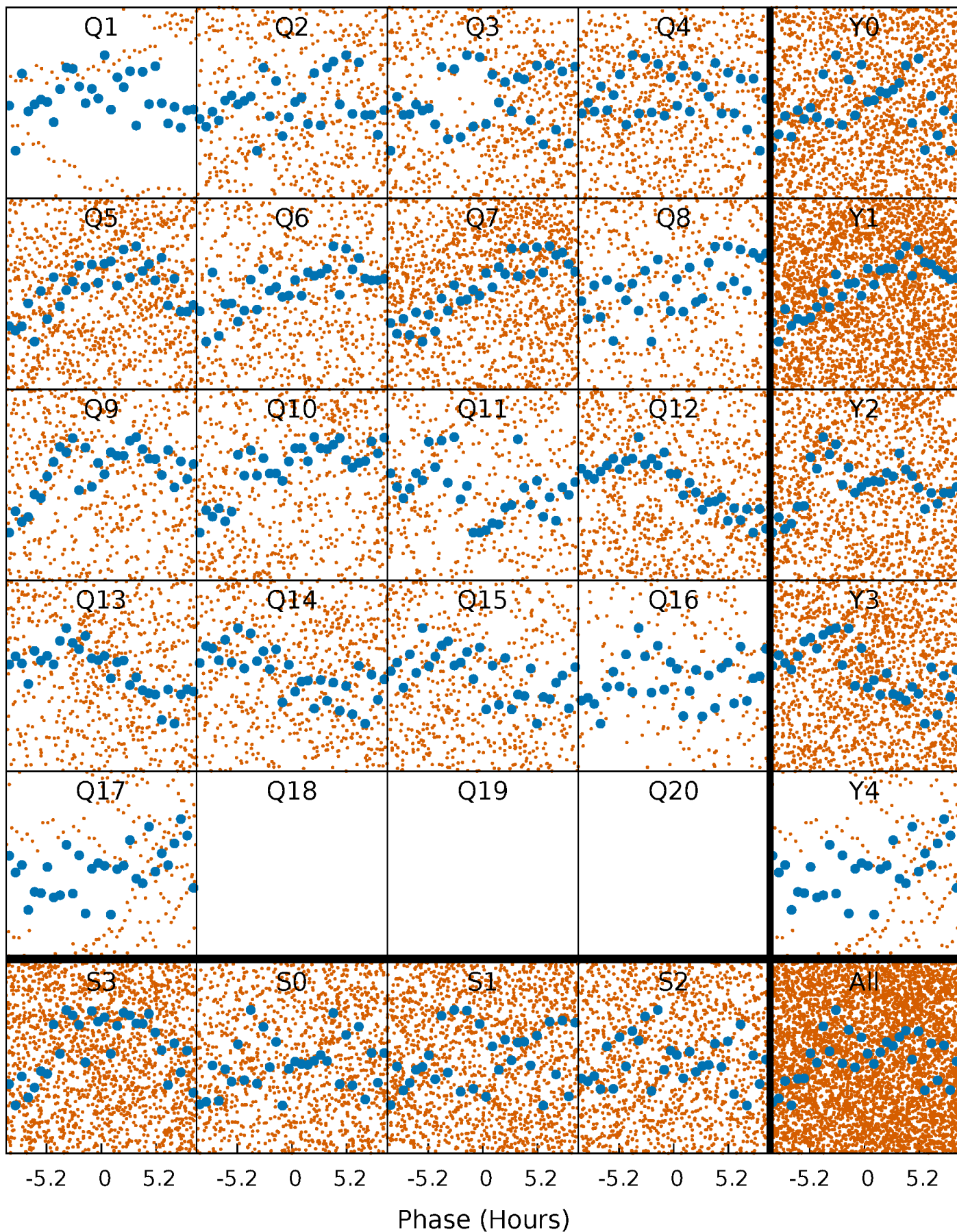


Non-Whitened Vs. Whitened Light Curve



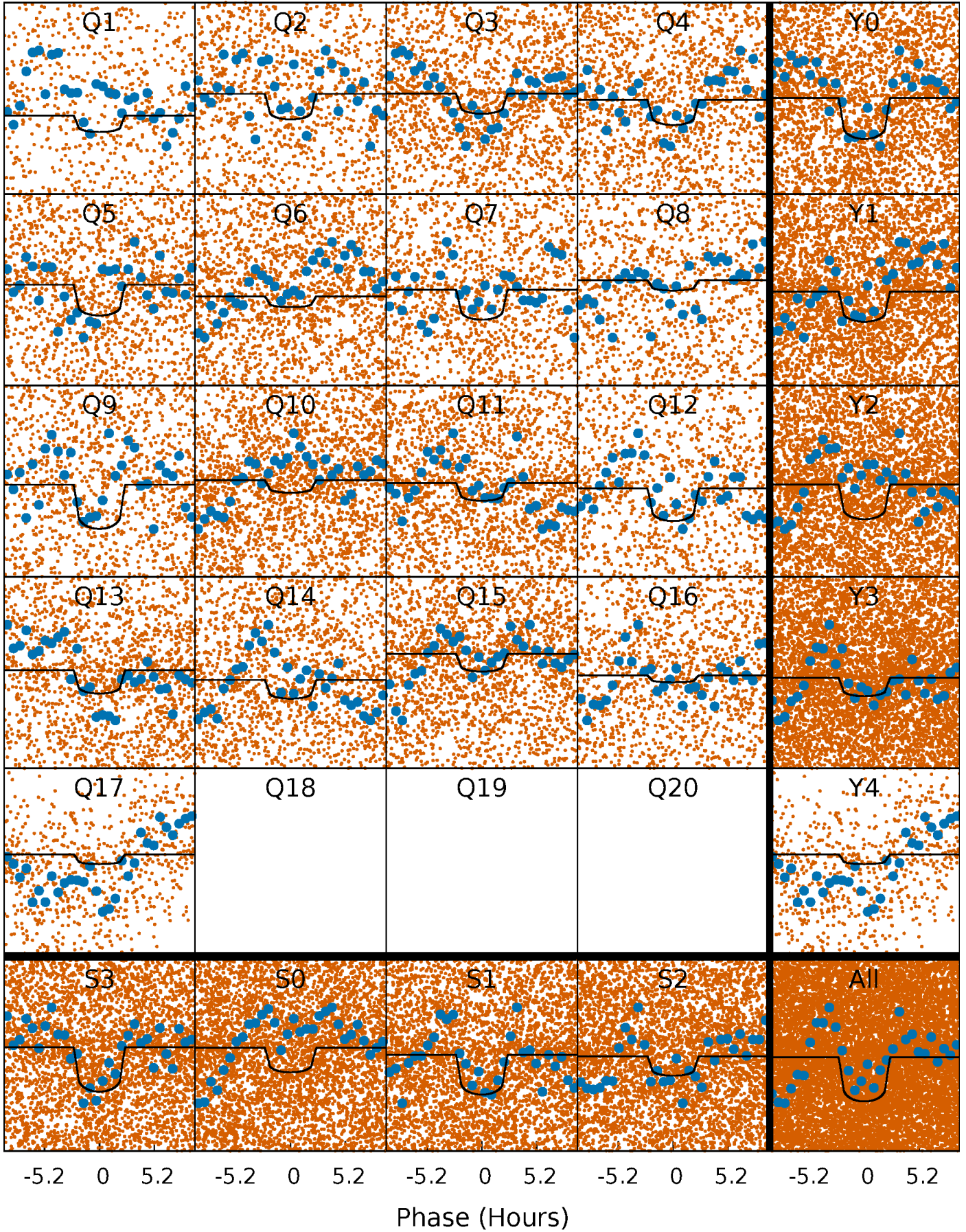
PDC Quarter-Phased Transit Curves

TCE 007903259-01 P= 1.202999 Days $T_0=131.636366$ (BKJD)



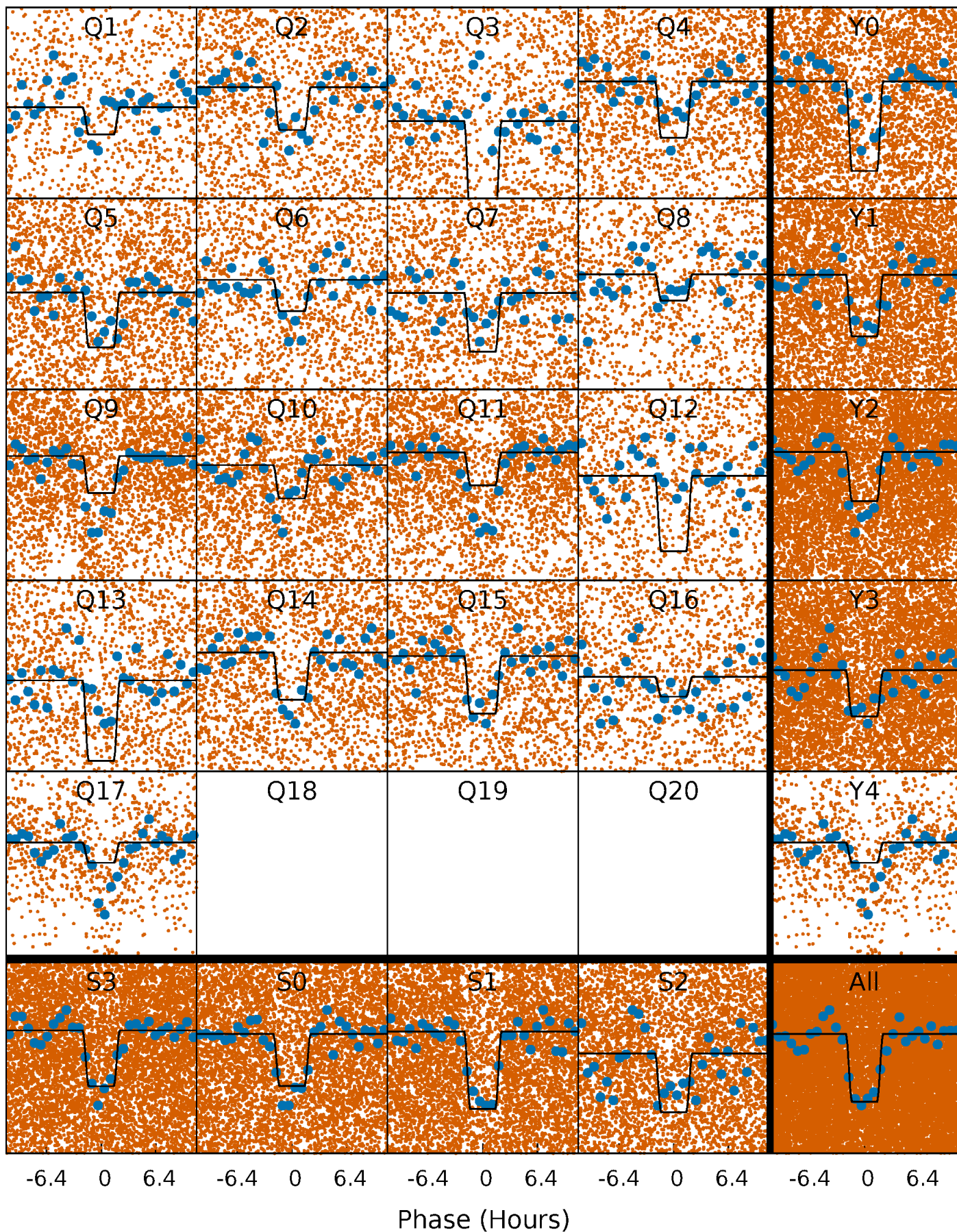
DV Quarter-Phased Transit Curves

TCE 007903259-01 P= 1.202999 Days $T_0=131.636366$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

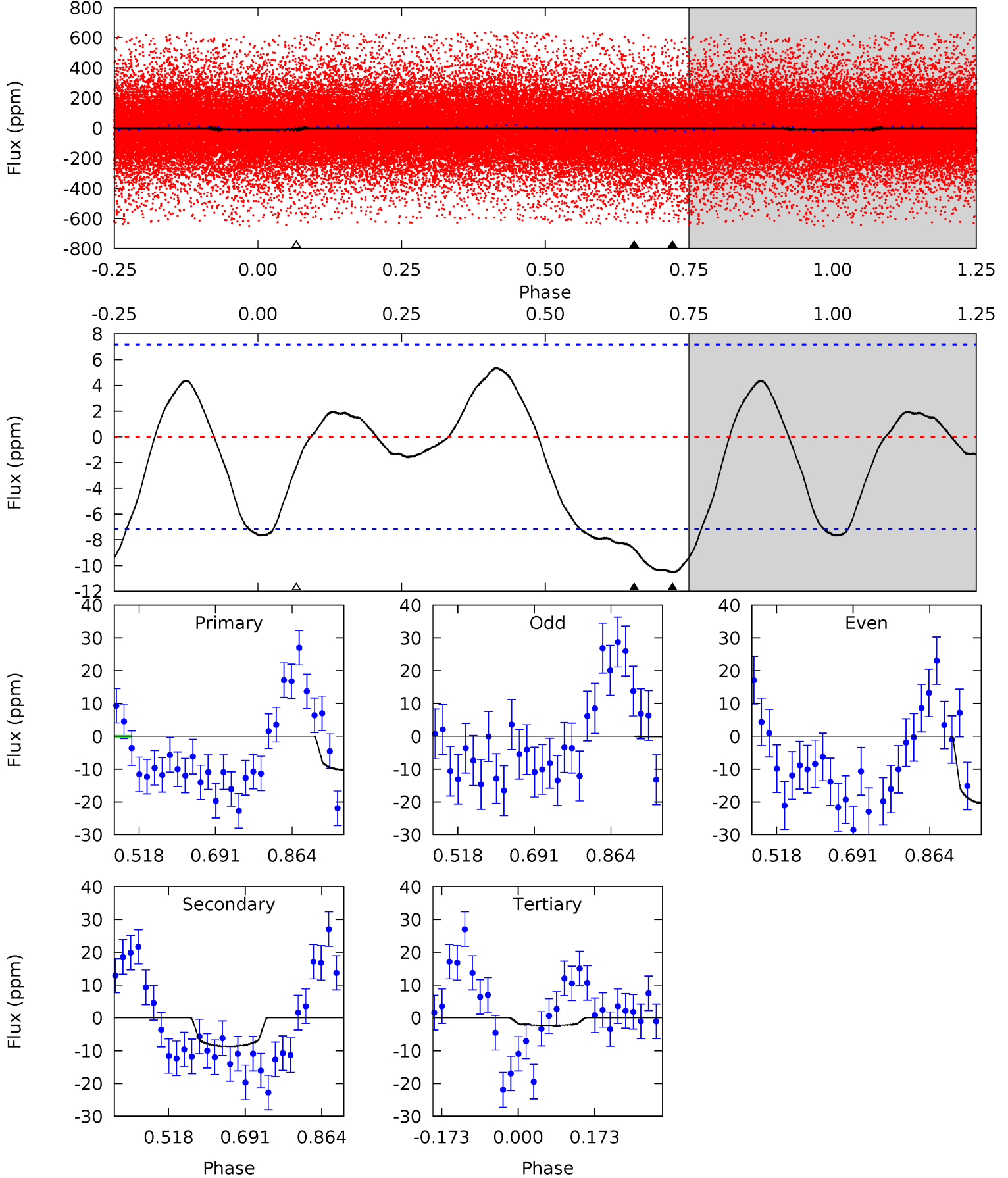
TCE 007903259-01 P= 1.203031 Days $T_0=131.619917$ (BKJD)



DV Model-Shift Uniqueness Test

007903259-01, P = 1.202999 Days, E = 130.433367 Days

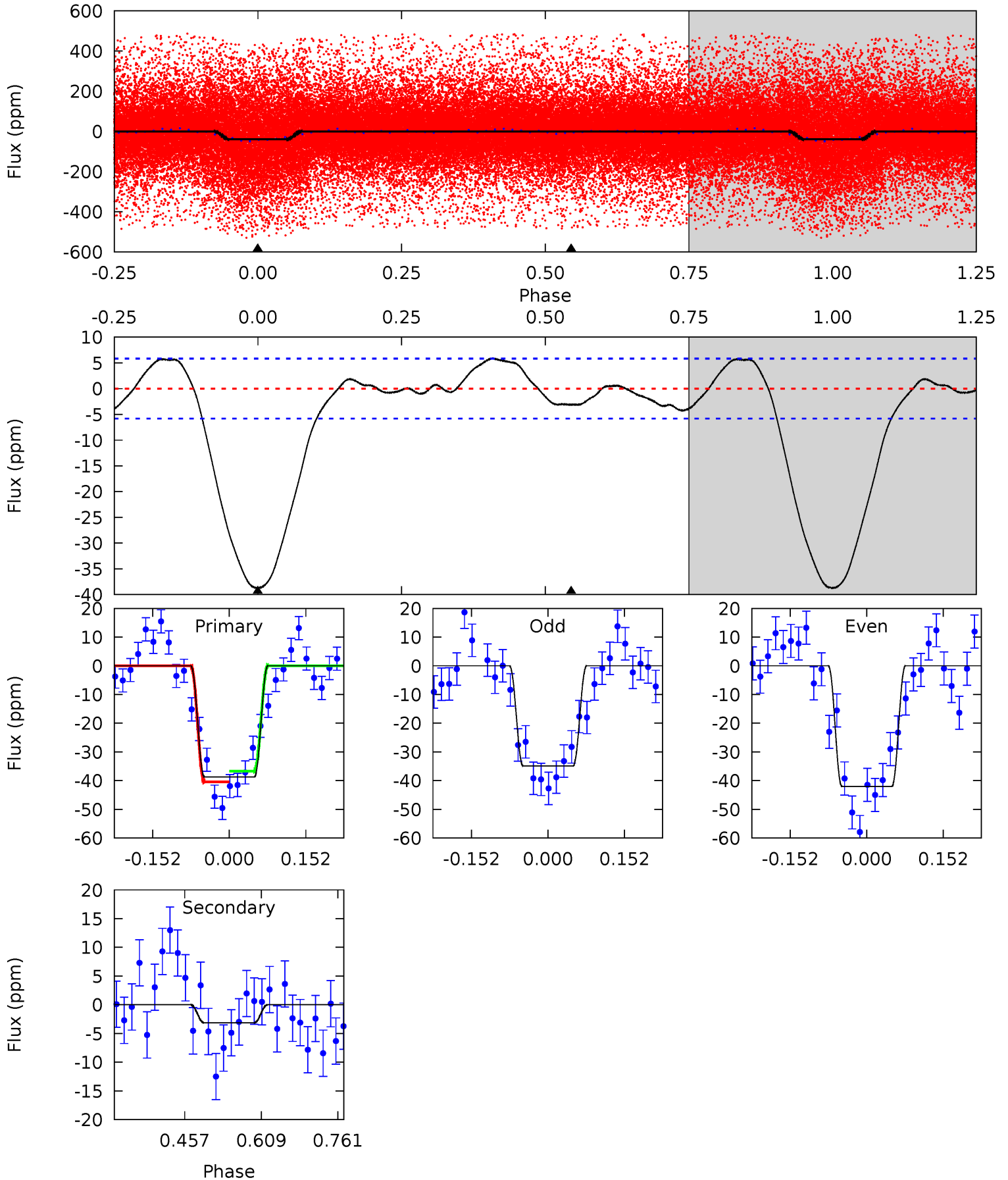
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.51	5.39	1.44	0	4.45	1.36	2.14	5.07	6.51	3.96	5.39	6.43	0.96	0.34	0.52



Alt Model-Shift Uniqueness Test

007903259-01, P = 1.203031 Days, E = 130.416886 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.7	2.41	0	0	4.48	1.43	2.00	29.7	29.7	2.41	2.41	2.76	1.04	0.13	1.45



Stellar Parameters For KIC 007903259

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6486^{+181}_{-250}	$4.116^{+0.240}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.580^{+0.483}_{-0.439}$	$1.189^{+0.206}_{-0.169}$	$0.424^{+0.530}_{-0.203}$
	+3%/-4%	+6%/-4%	+208%/-250%	+31%/-28%	+17%/-14%	+125%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007903259-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 2	$0.86^{+0.33}_{-0.26}$	3259^{+259}_{-269}	4890^{+899}_{-590}	$3.493^{+4.104}_{-1.681}$
Alt.	-3 ± 1	$1.10^{+0.34}_{-0.29}$	3265^{+251}_{-266}	3476^{+587}_{-794}	$0.749^{+0.845}_{-0.377}$

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

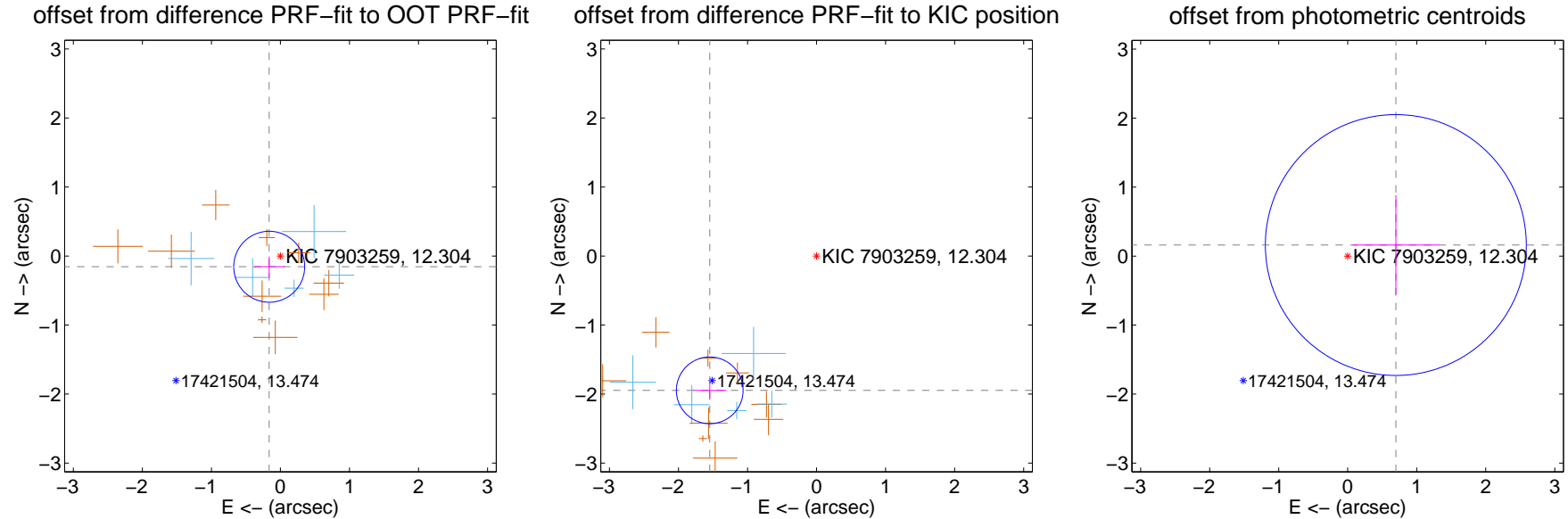
DV Centroid Data

Supplemental centroid analysis for 007903259-01. Kepler magnitude: 12.30. Transit SNR 8.68

There are 5 quarters with good PRF difference image offsets

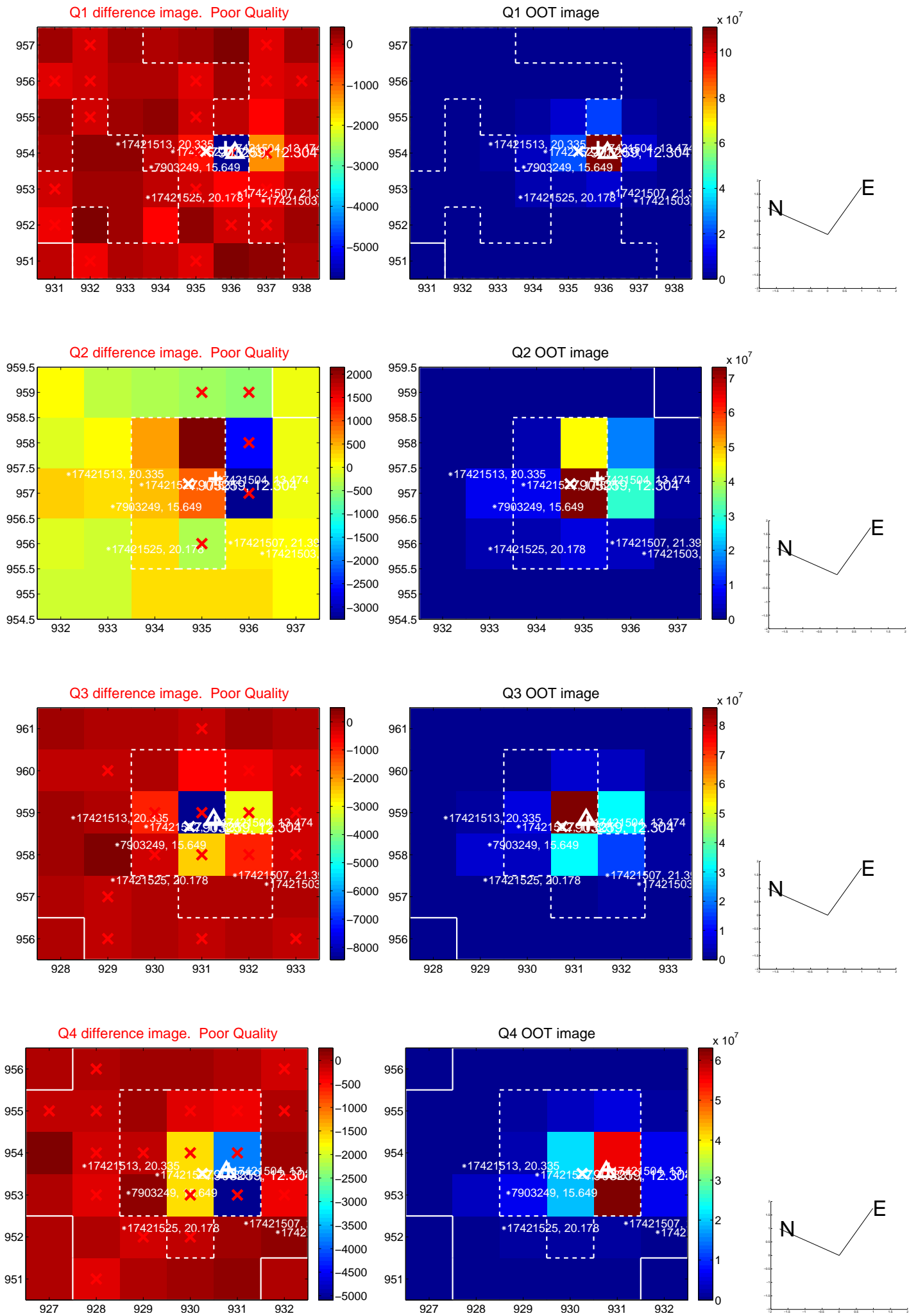
The OOT PRF centroid is offset from the target star catalog position by about 2.23 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.225 ± 0.171	1.31	0.163 ± 0.223	-0.155 ± 0.147
PRF-fit source offset from KIC position	2.486 ± 0.161	15.44	1.547 ± 0.241	-1.946 ± 0.136
photometric centroid source offset	0.72 ± 0.63	1.14	-0.70 ± 0.62	0.16 ± 0.72

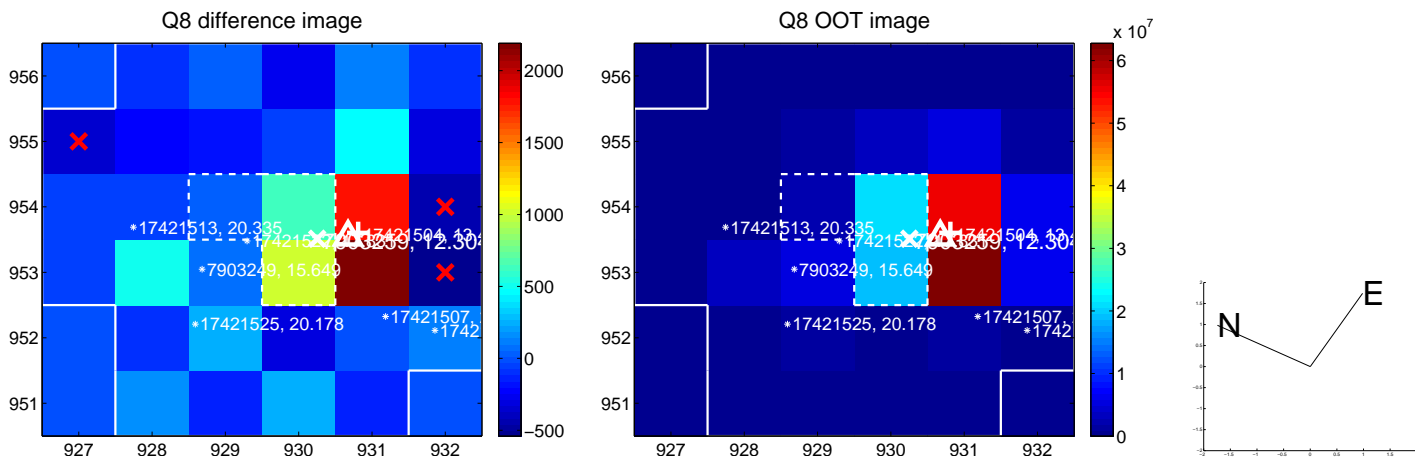
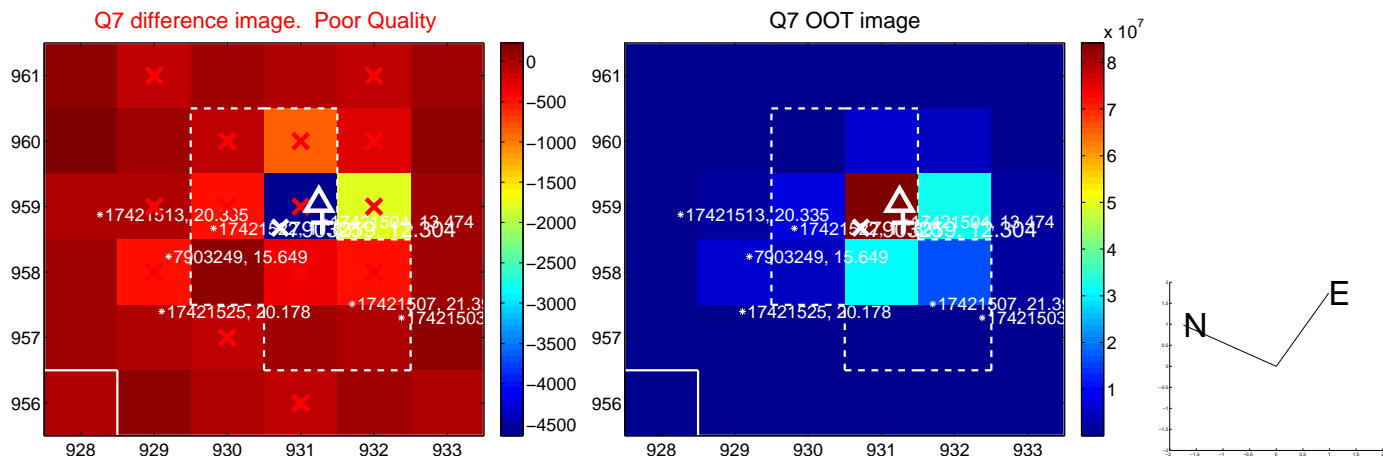
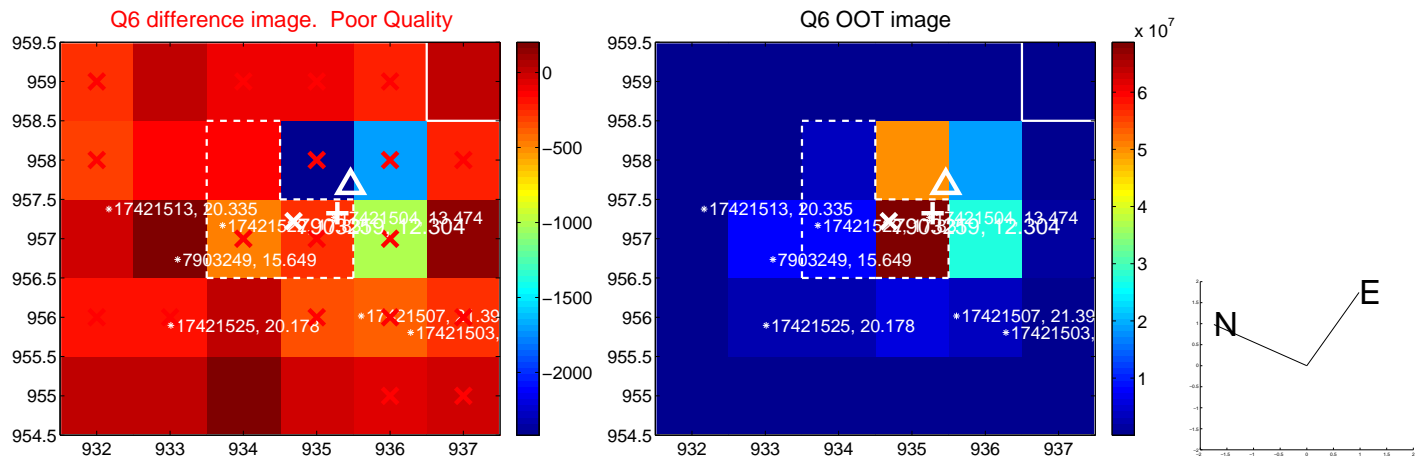
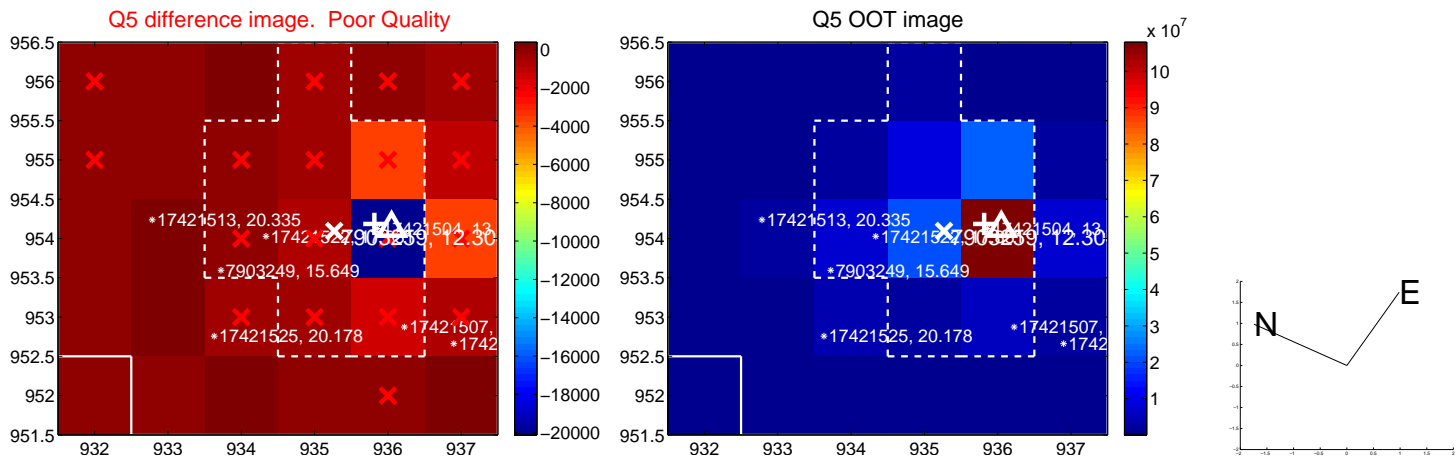


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

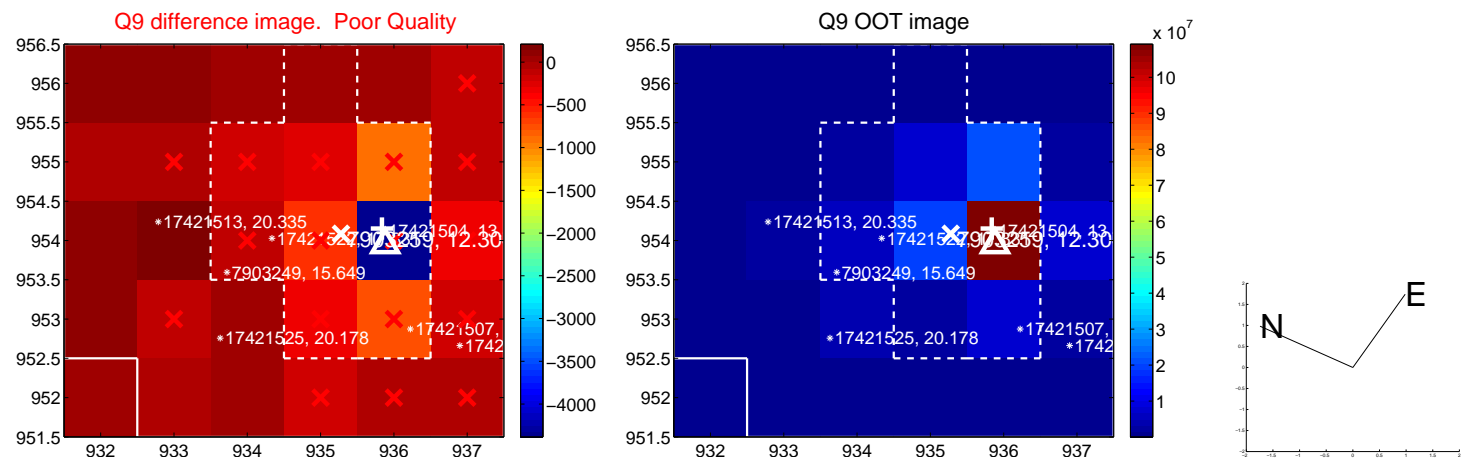
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



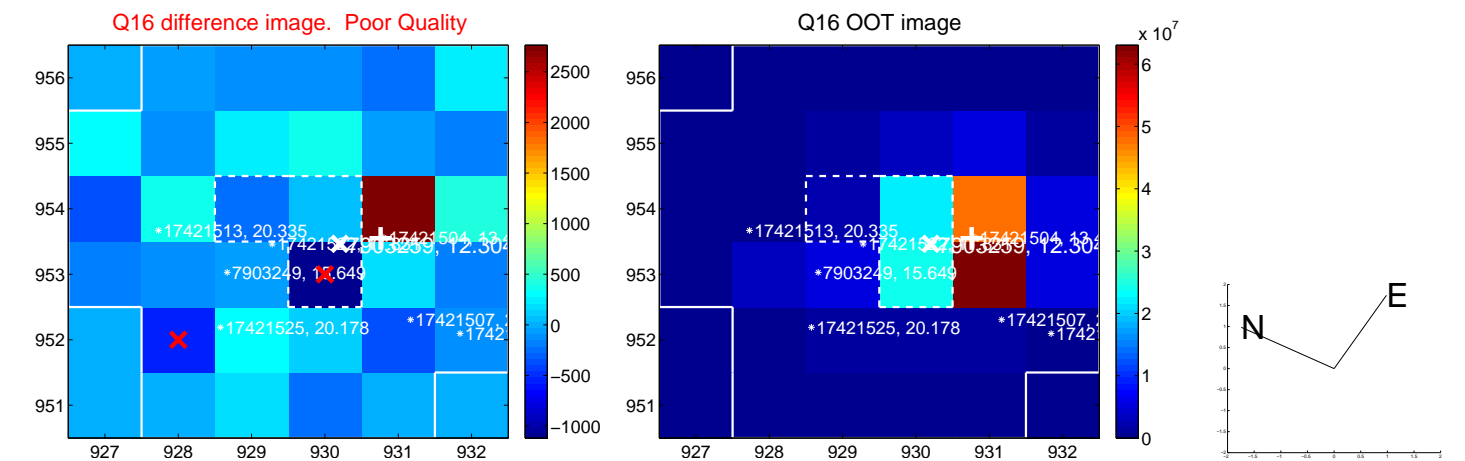
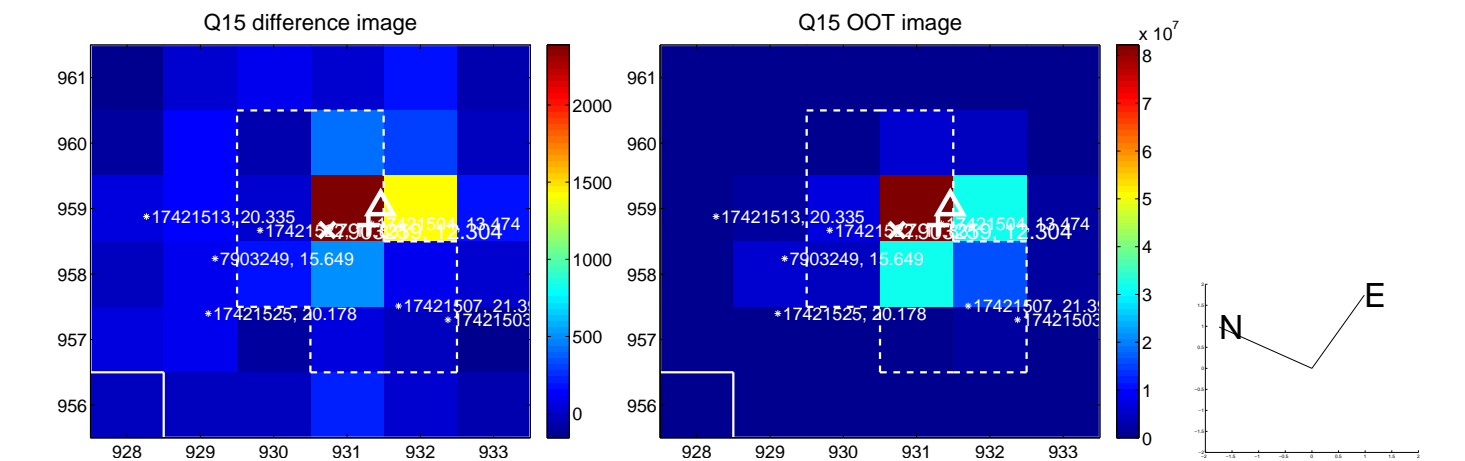
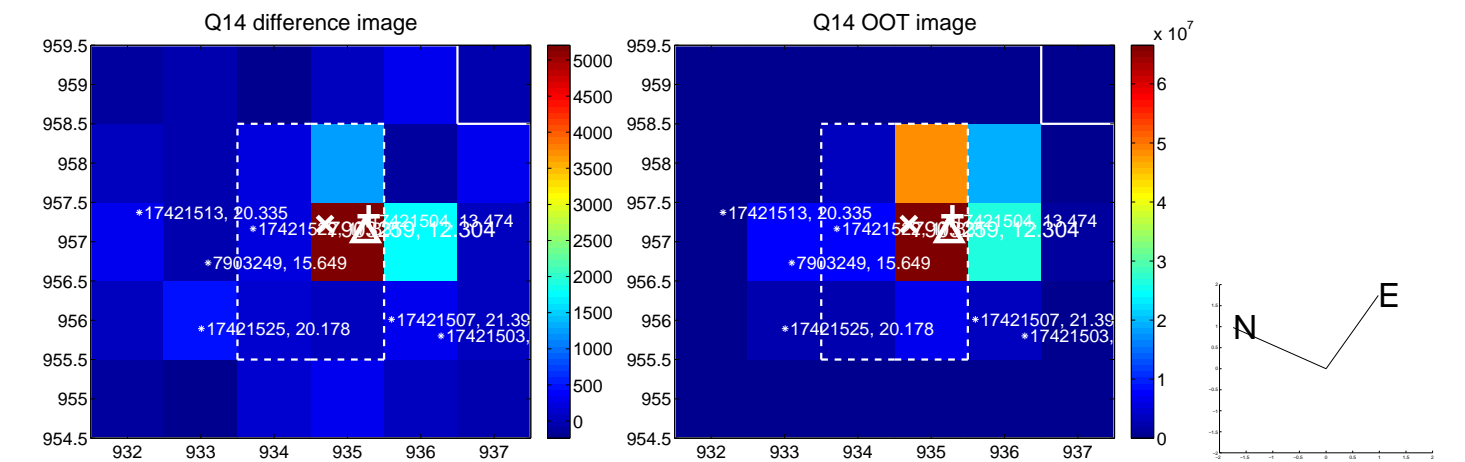
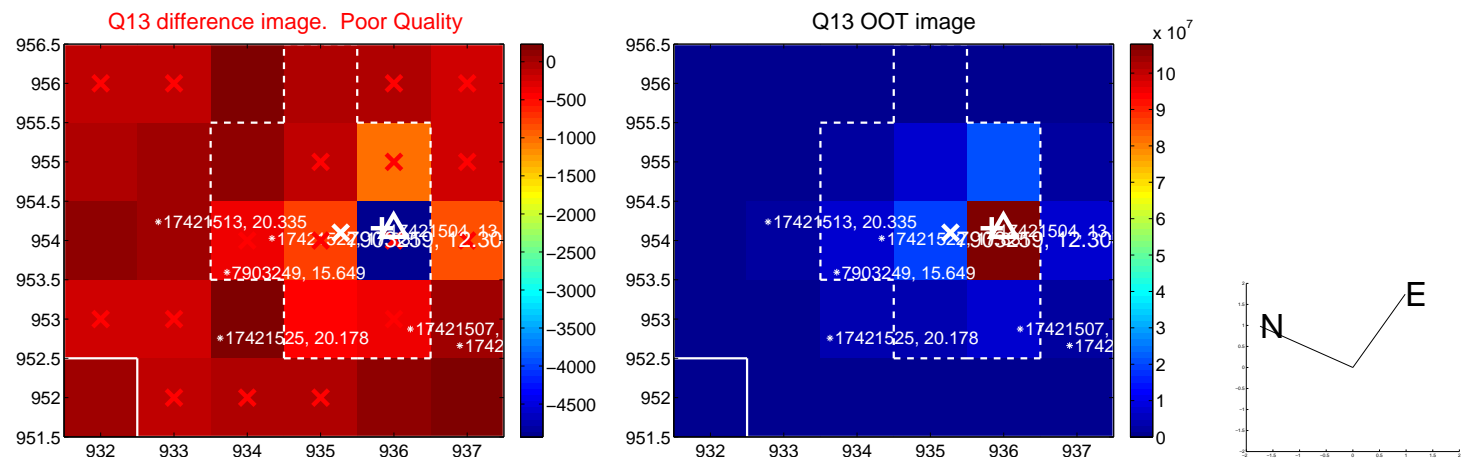
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



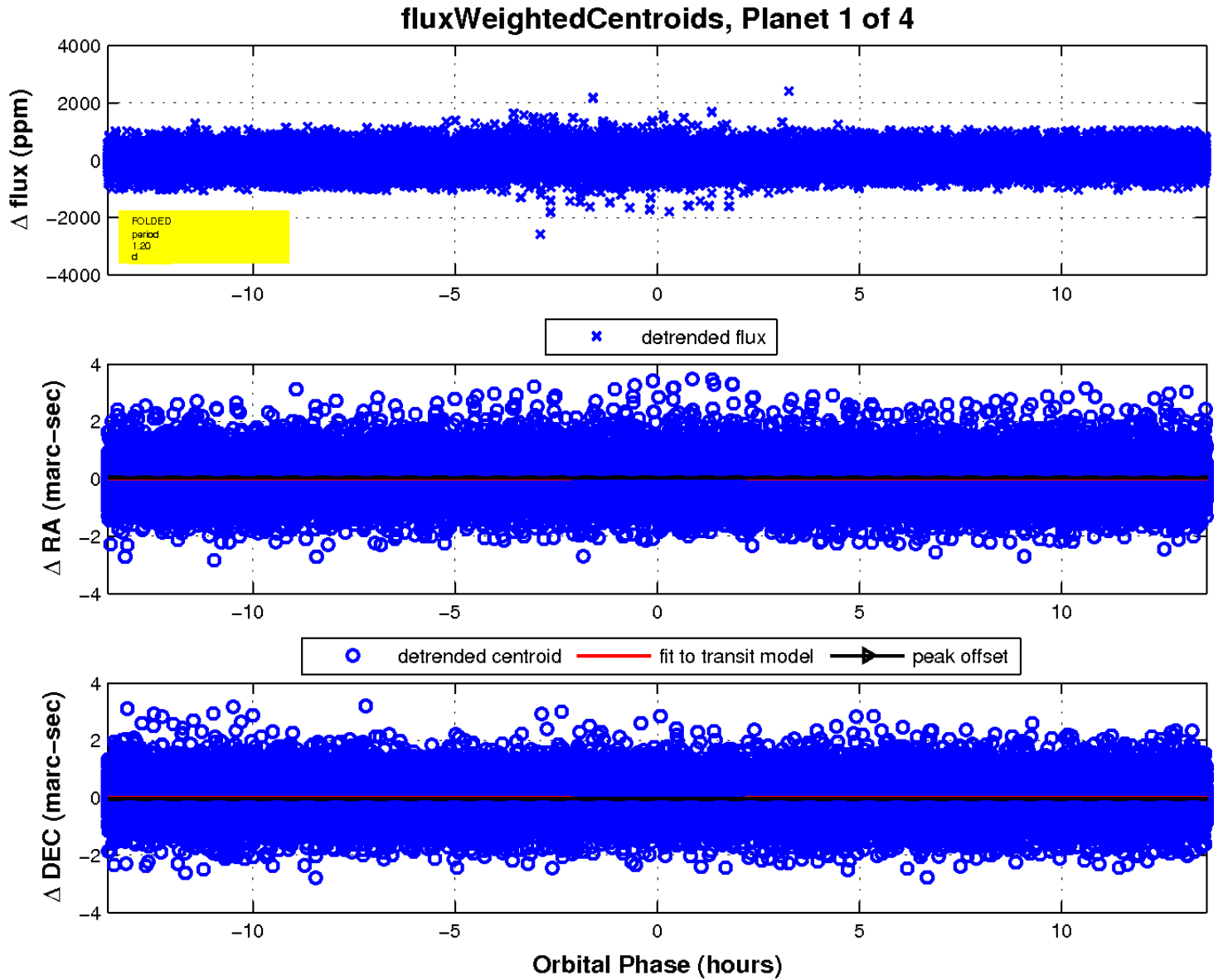
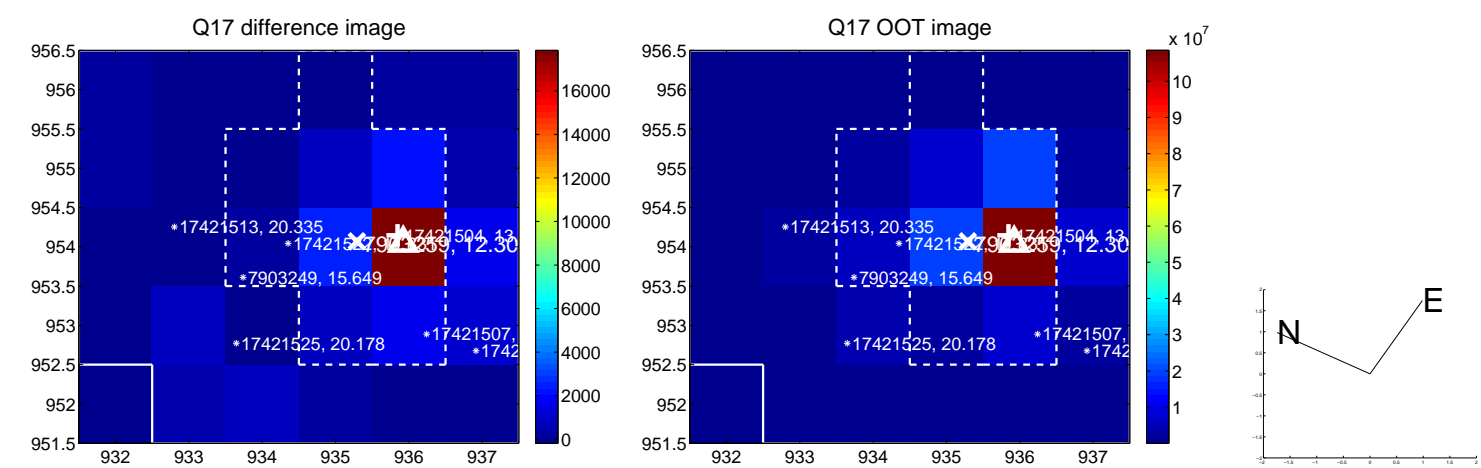
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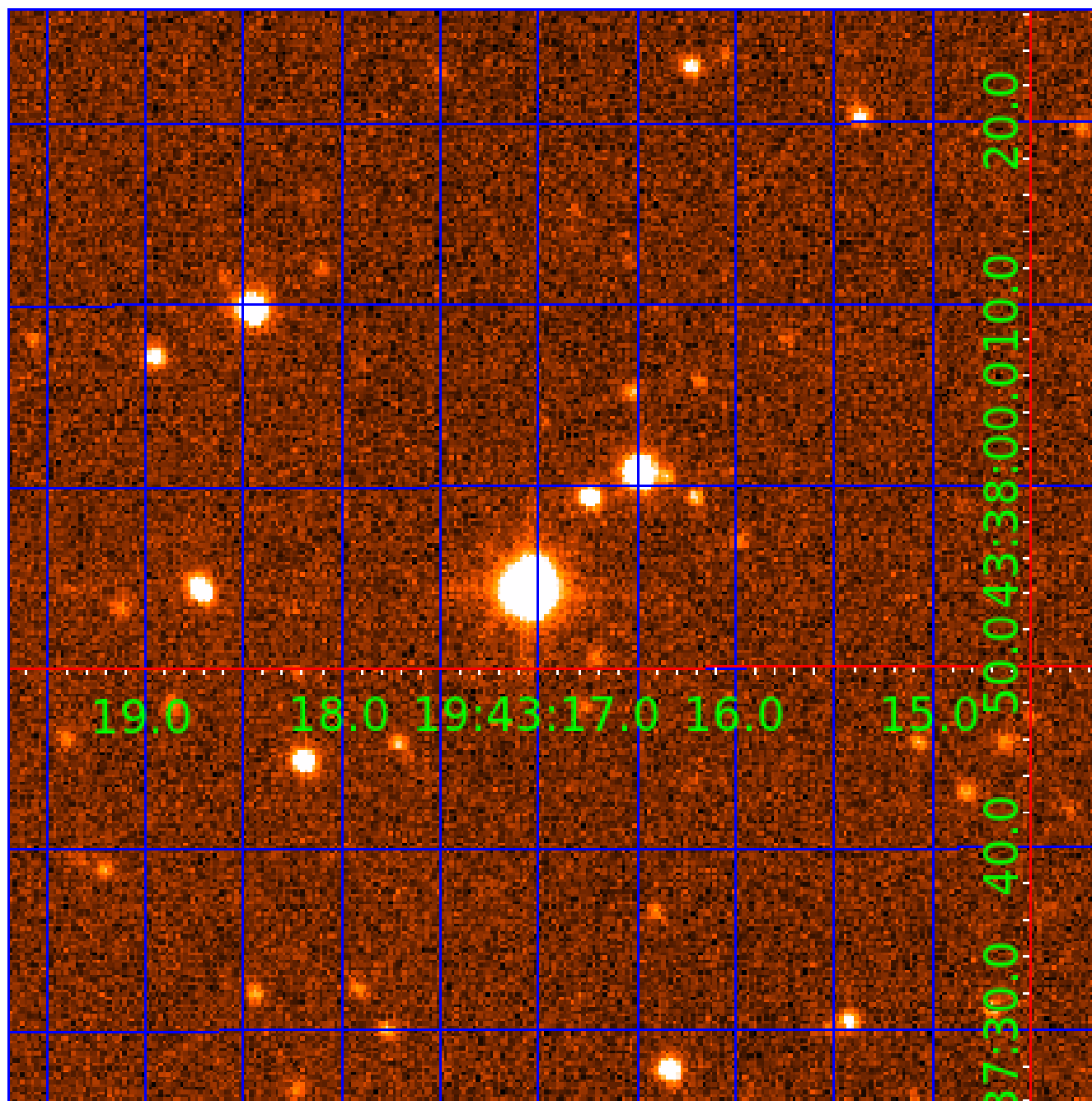


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007903259

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})
007903259-01	OBS	No	1.202999	131.636366	23.0	4.529	8.9	8.7	1.58	6486	0.89	7192.61
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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007903259-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007903259-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
007903259-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_KIC_POS

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

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

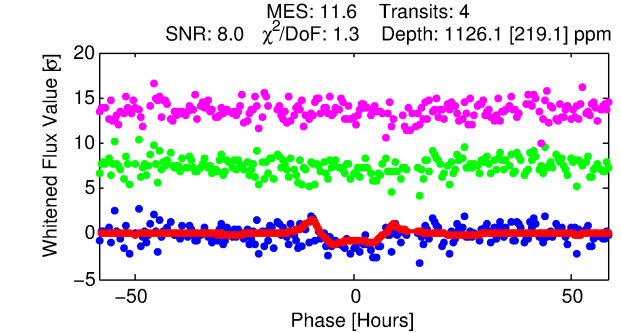
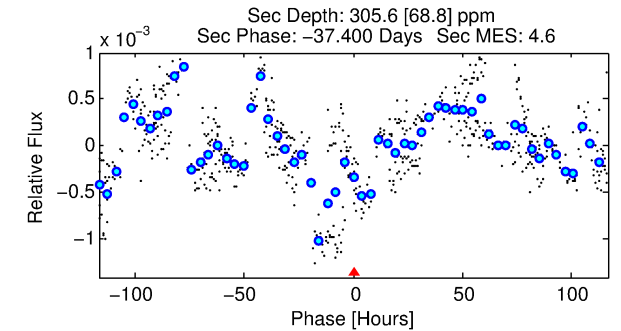
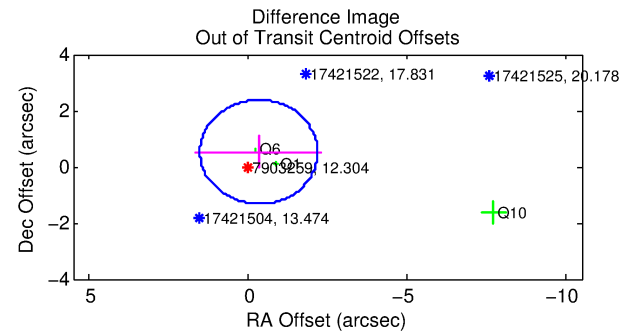
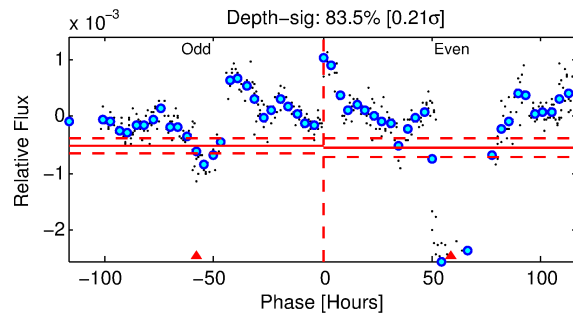
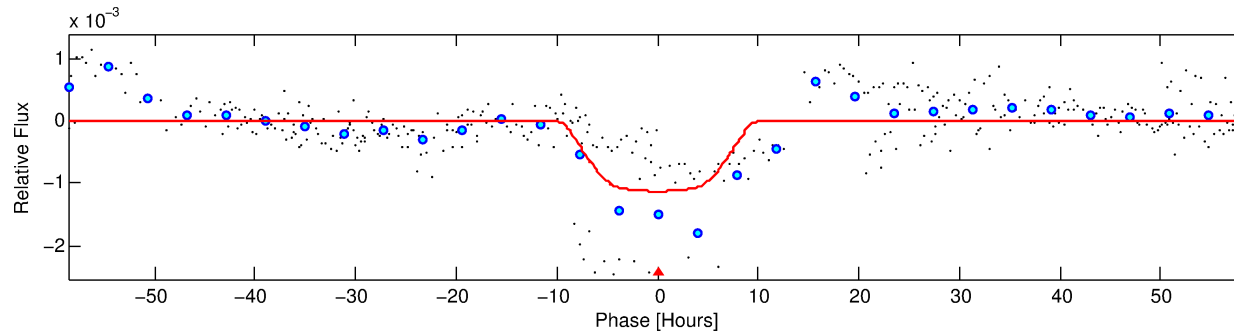
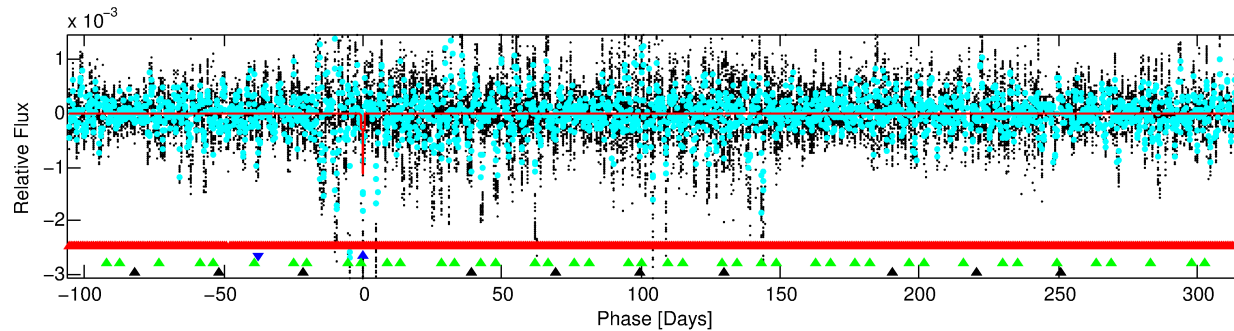
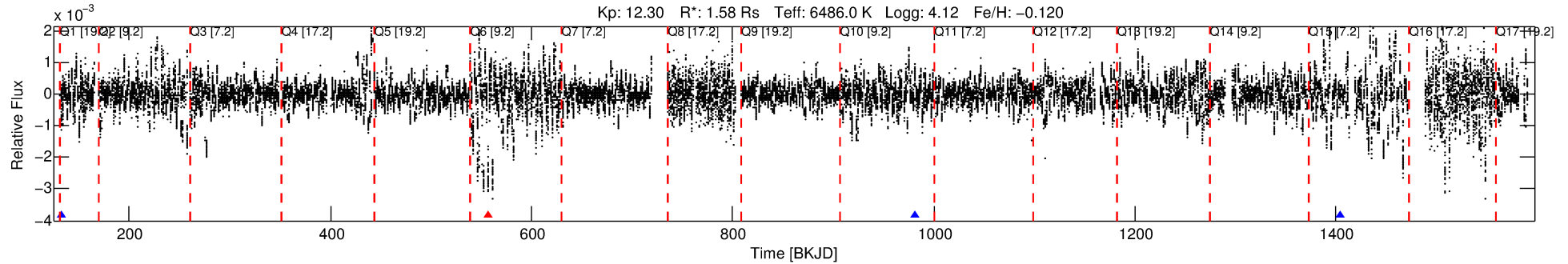
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007903259-02

No Significant Match Found

DV One-Page Summary

KIC: 7903259 Candidate: 2 of 4 Period: 423.719 d



DV Fit Results:

Period = 423.71936 [0.02340] d
Epoch = 133.2185 [0.0333] BKJD
Rp/R* = 0.0378 [0.0039]
a/R* = 71.49 [9.19]
b = 0.94 [0.01]
Seff = 2.89 [1.30]
Teq = 333 [37] K
Rp = 6.51 [2.10] Re
a = 1.1700 [0.3214] AU
Ag = 5424.02 [2818.46] [1.92 σ]
Teffp = 4412 [377] K [10.78 σ]

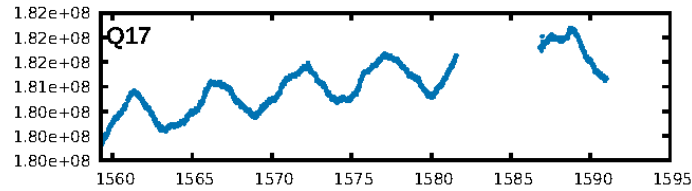
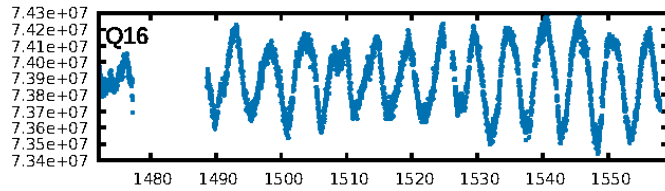
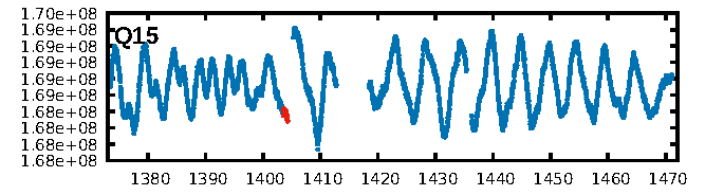
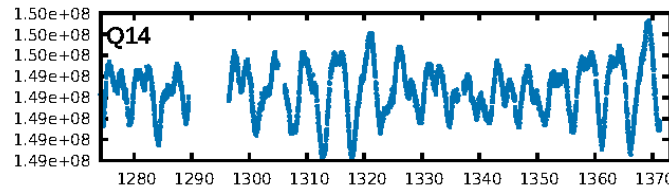
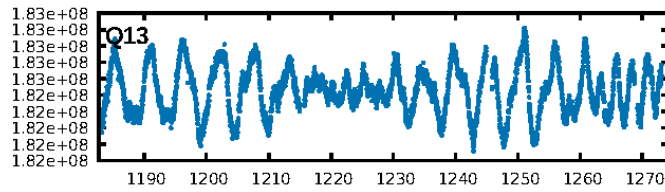
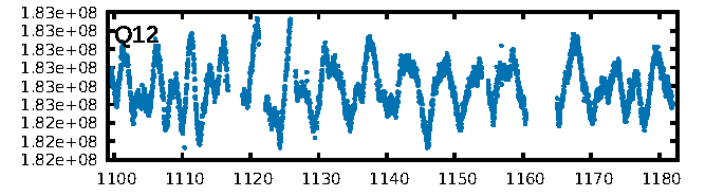
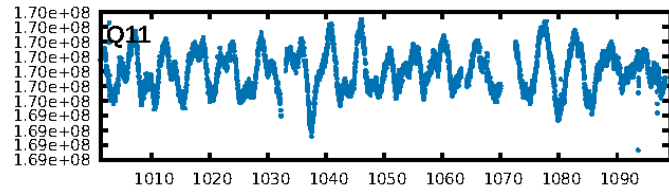
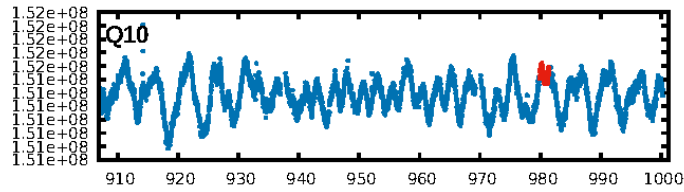
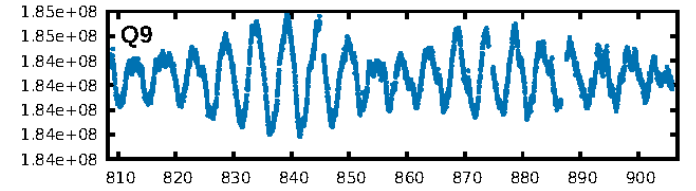
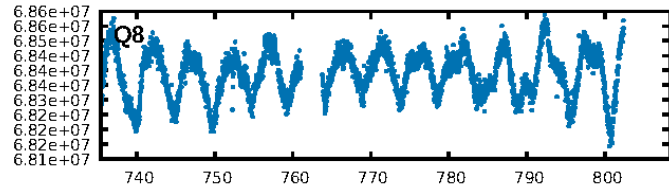
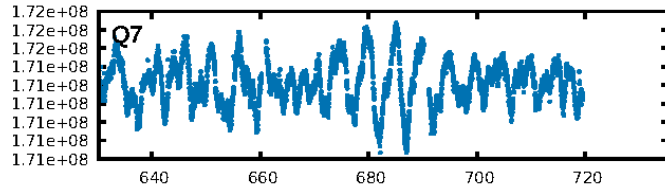
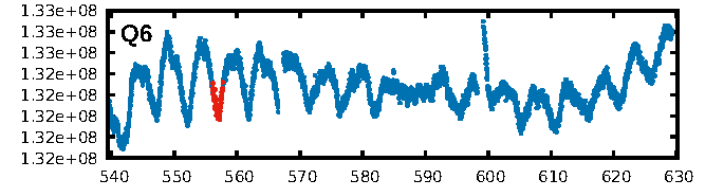
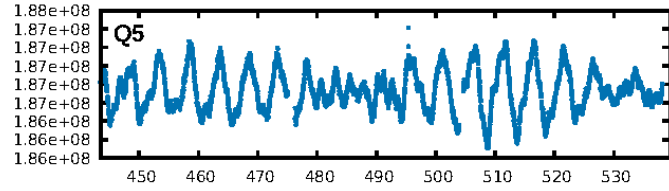
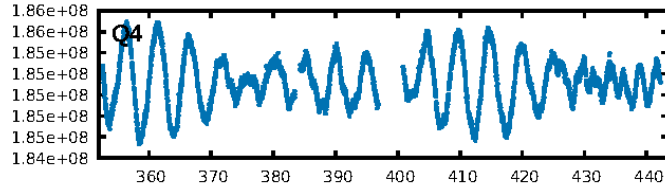
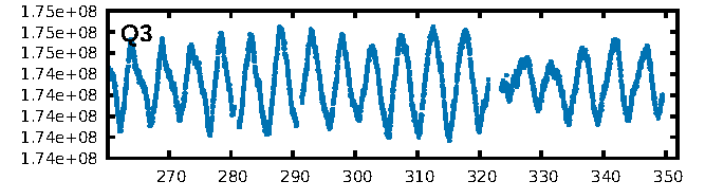
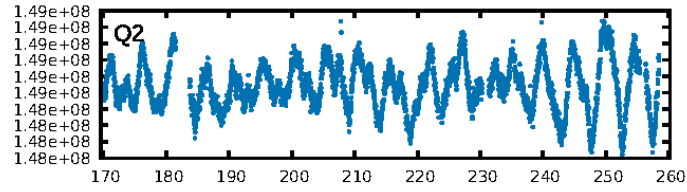
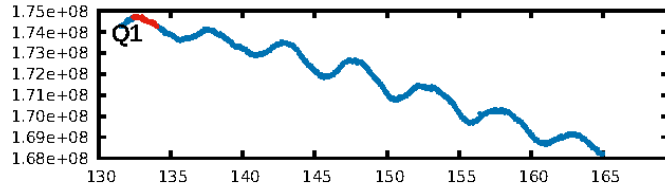
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [272.81 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.44e-13
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 3.522
Centroid-sig: 8.7%
Centroid-so: 1.929 arcsec [7.10 σ]
OotOffset-rm: 0.620 arcsec [1.01 σ]
KicOffset-rm: 1.741 arcsec [1.87 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

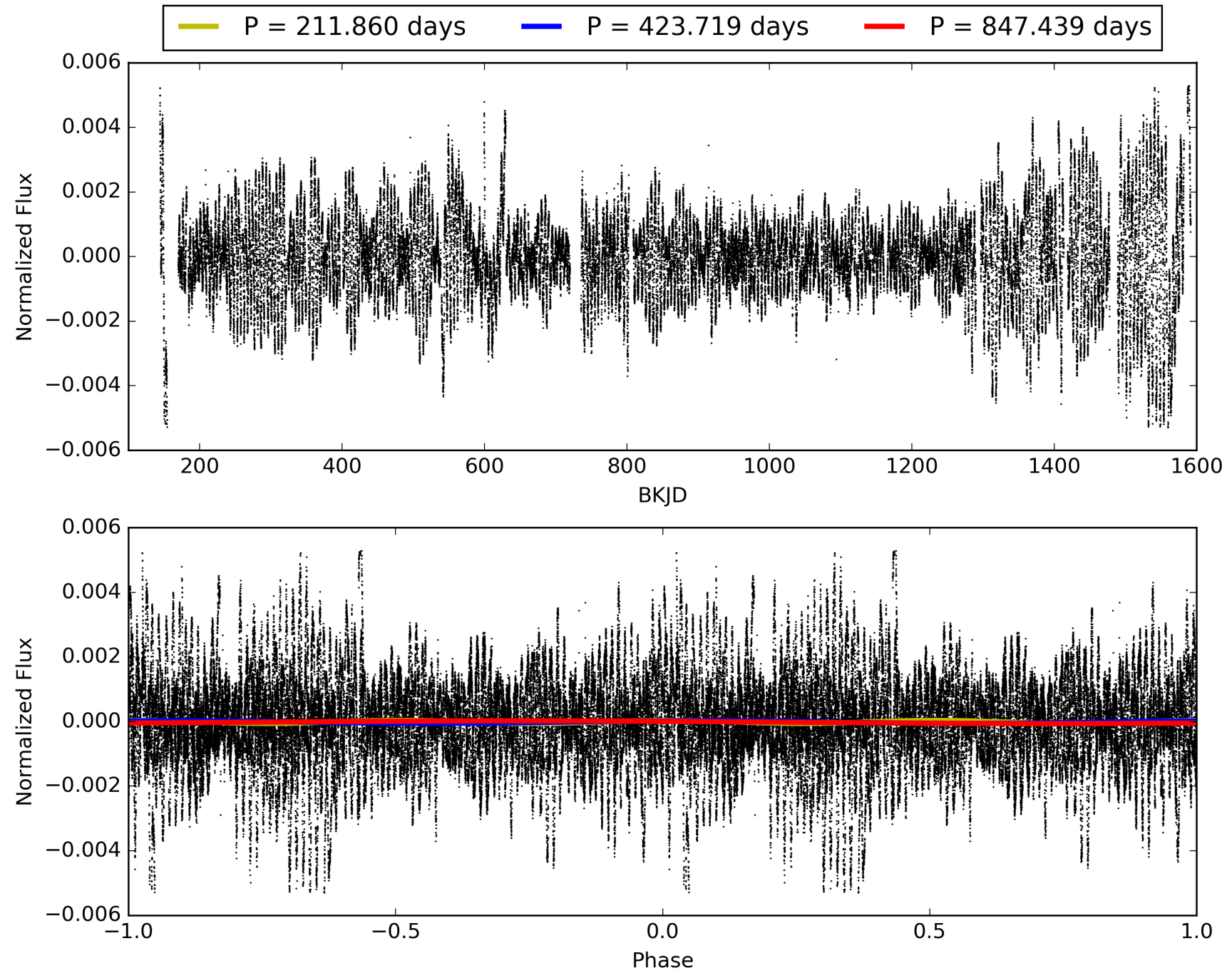
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:45:09 Z

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

TCE 007903259-02, PDC Light Curves

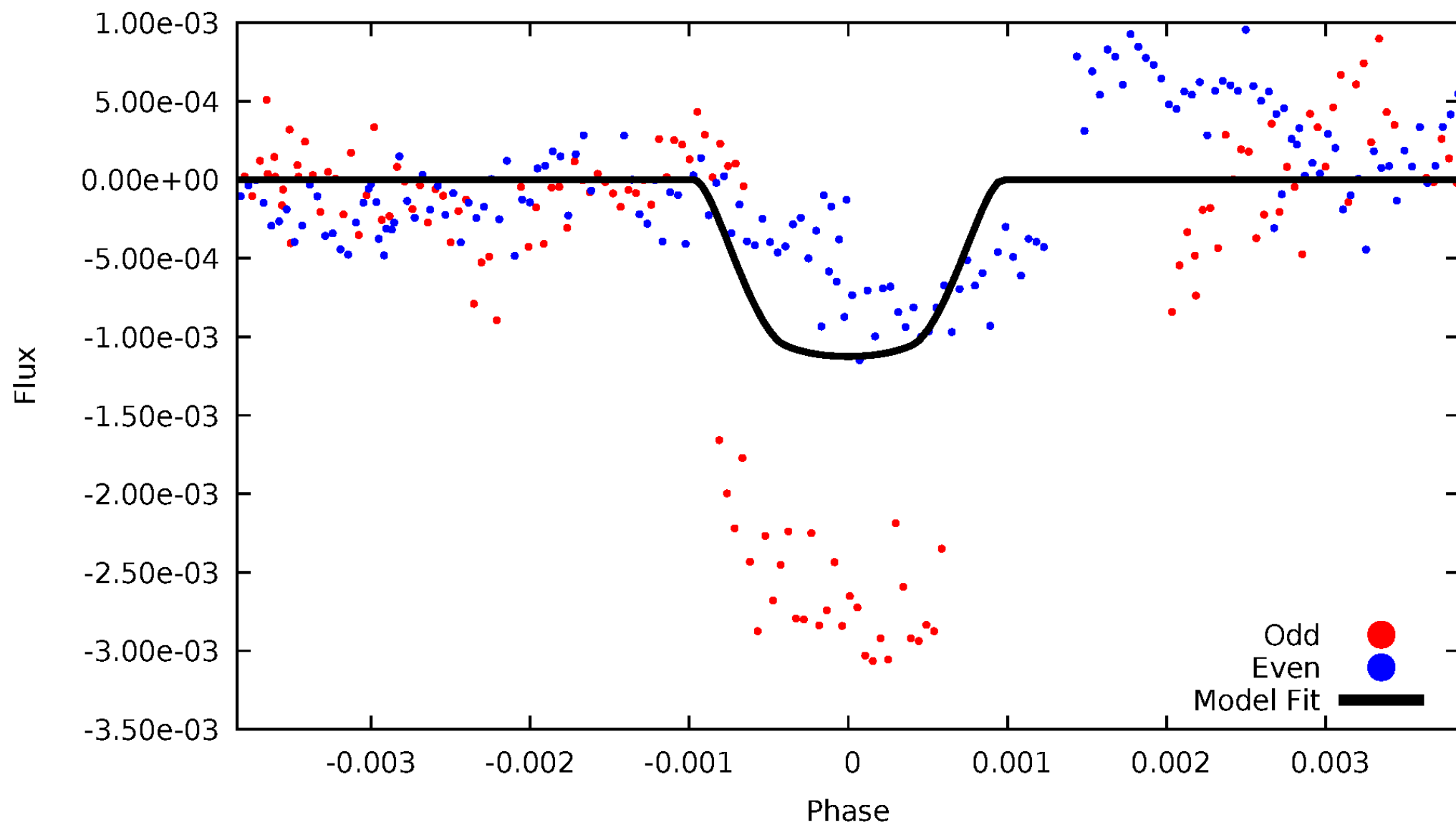


TCE 007903259-02



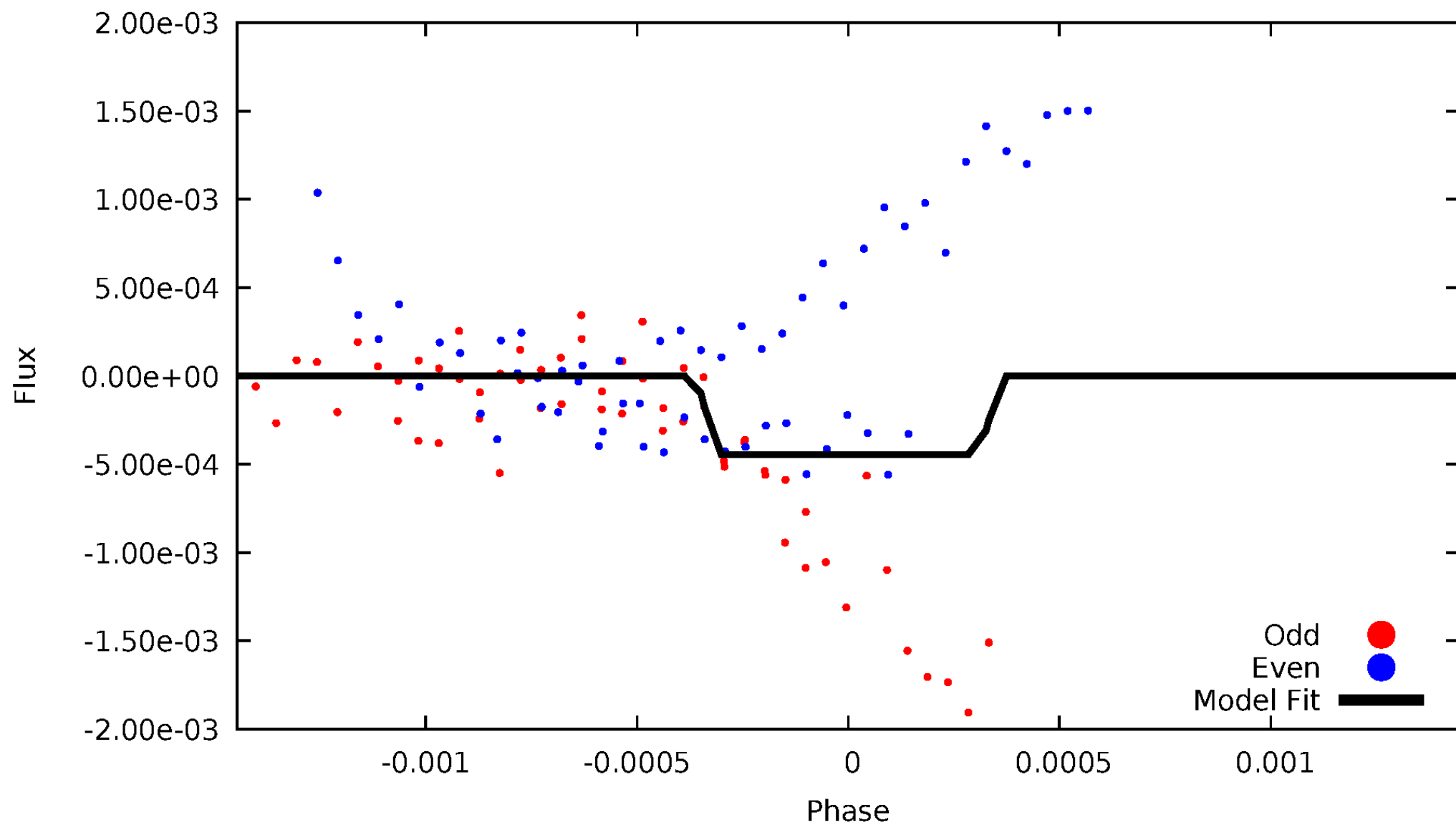
DV Odd/Even

TCE 007903259-02



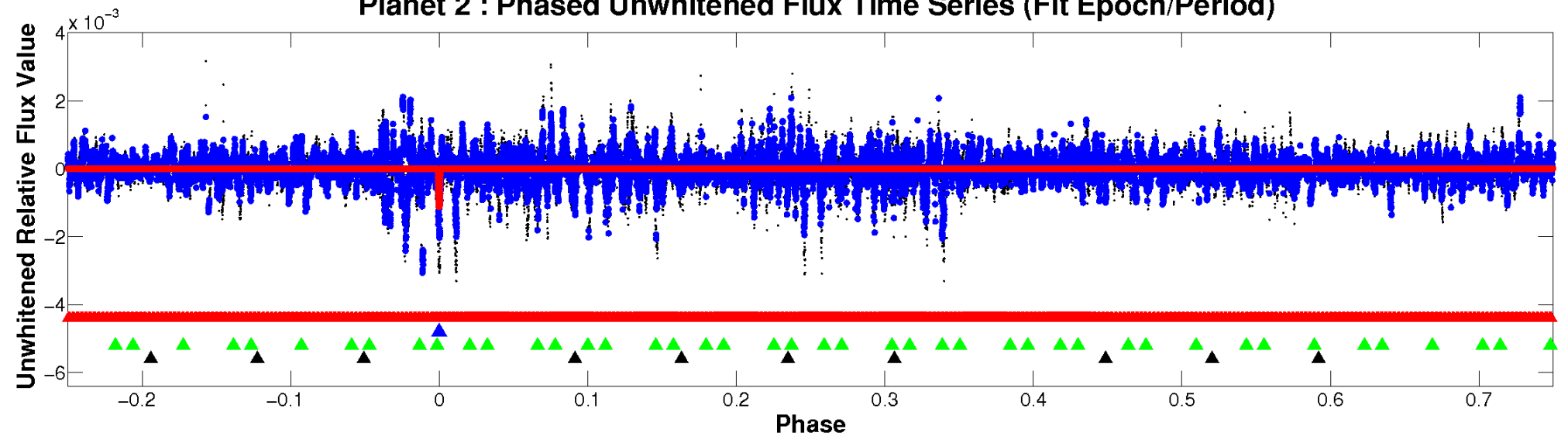
ALT Odd/Even

TCE 007903259-02

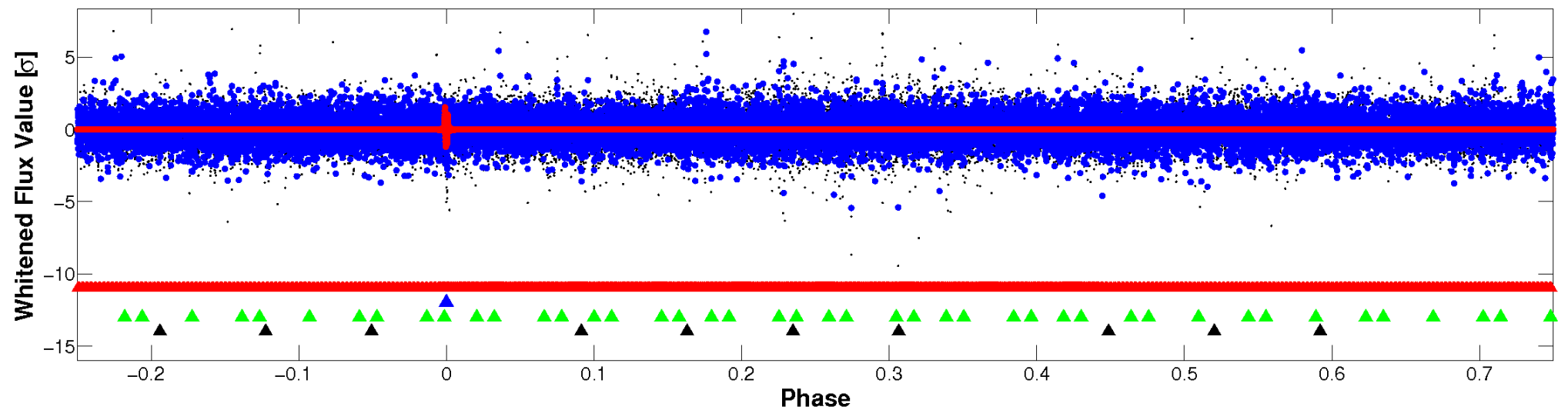


Non-Whitened Vs. Whitened Light Curve

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

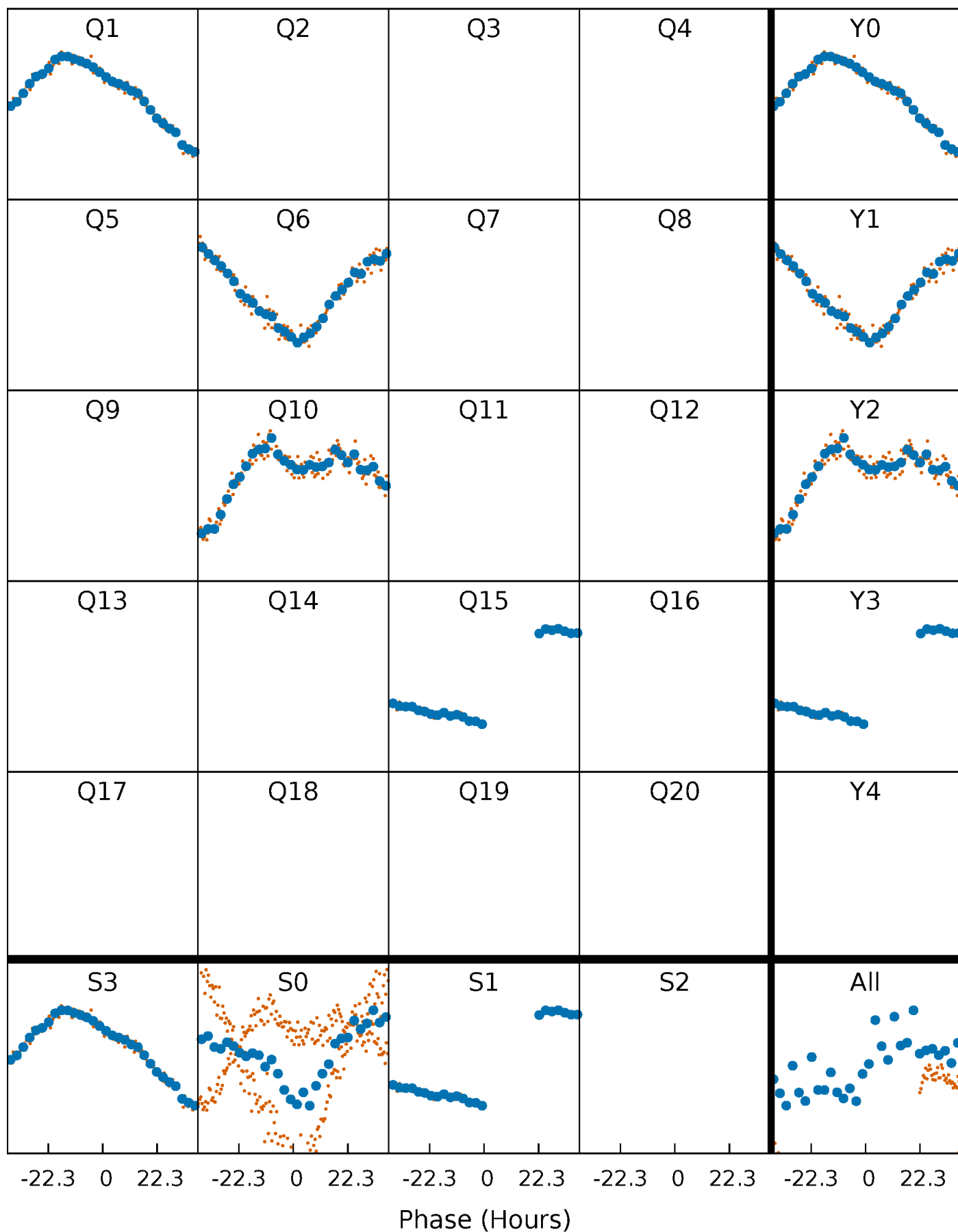


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



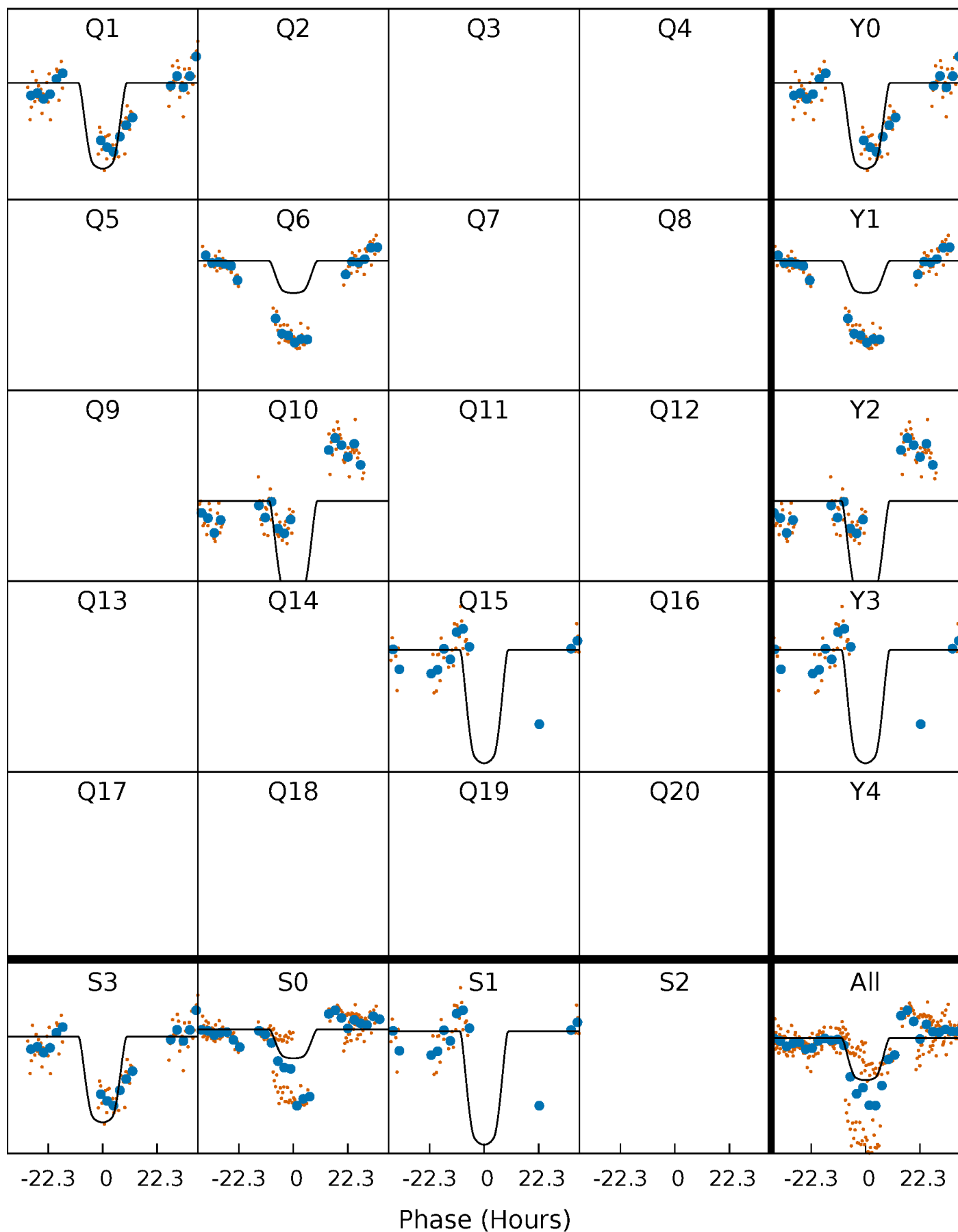
PDC Quarter-Phased Transit Curves

TCE 007903259-02 P=423.719361 Days $T_0=133.218496$ (BKJD)



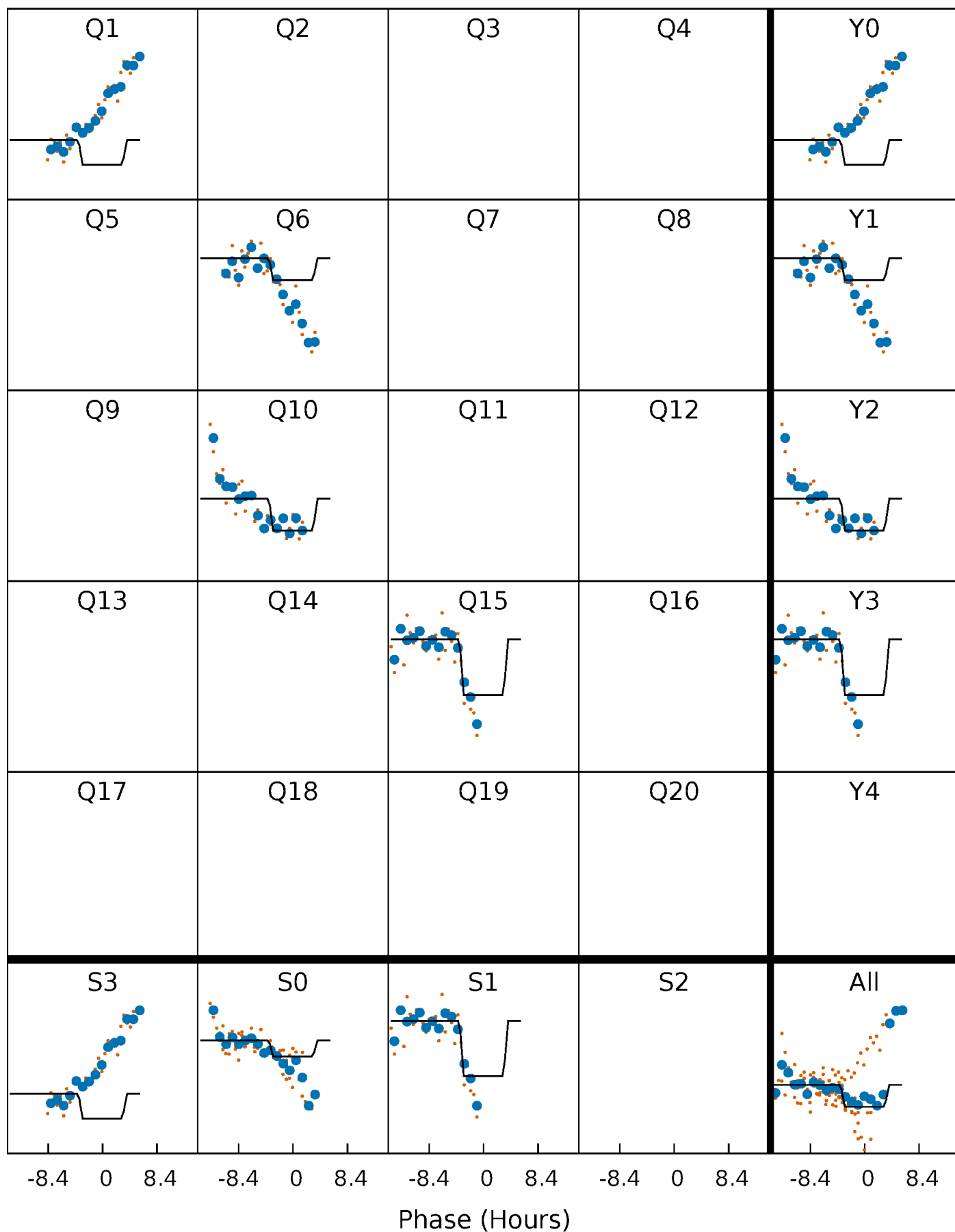
DV Quarter-Phased Transit Curves

TCE 007903259-02 $P=423.719361$ Days $T_0=133.218496$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

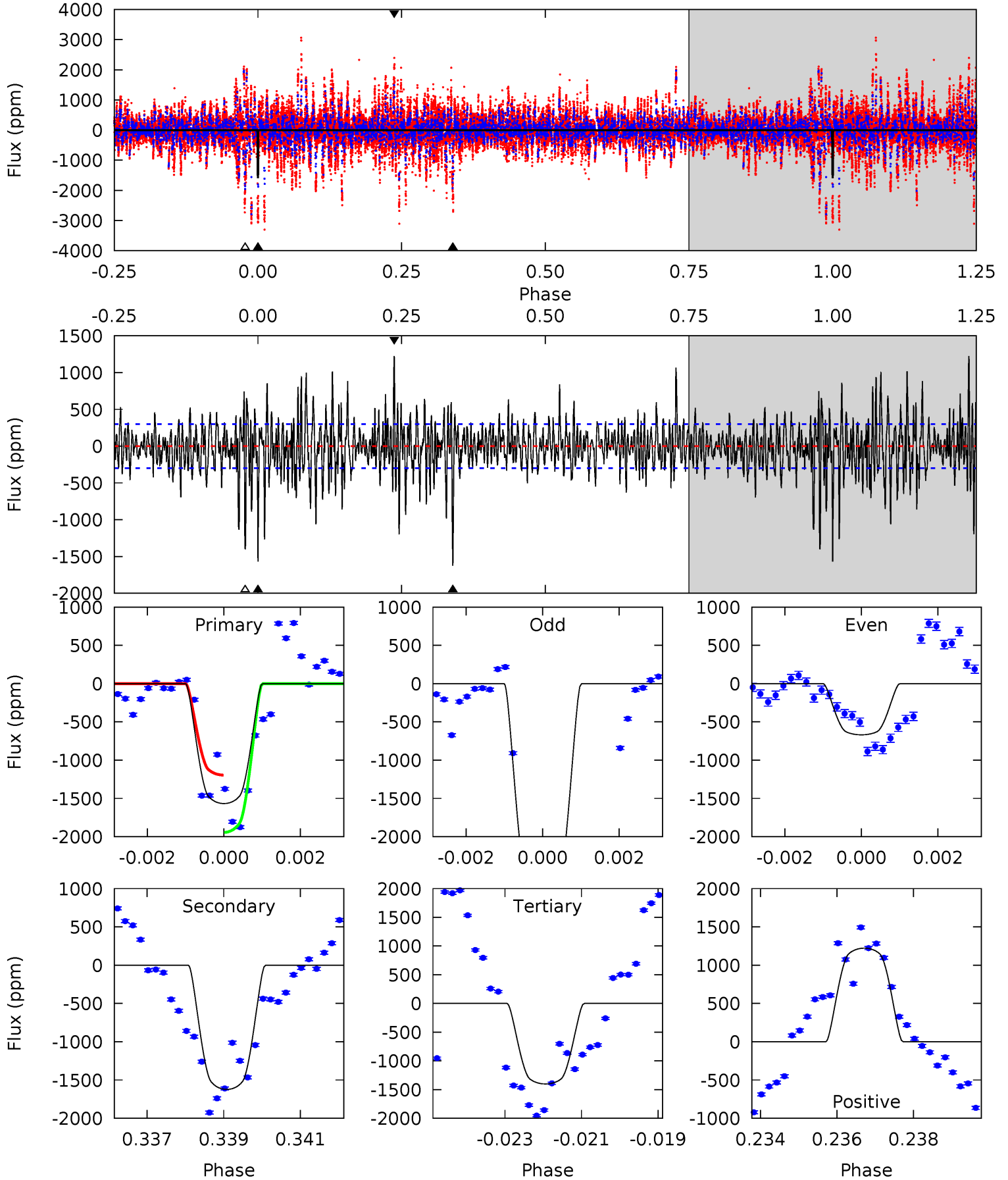
TCE 007903259-02 P=423.546832 Days $T_0=133.499017$ (BKJD)



DV Model-Shift Uniqueness Test

007903259-02, P = 423.719361 Days, E = 133.218496 Days

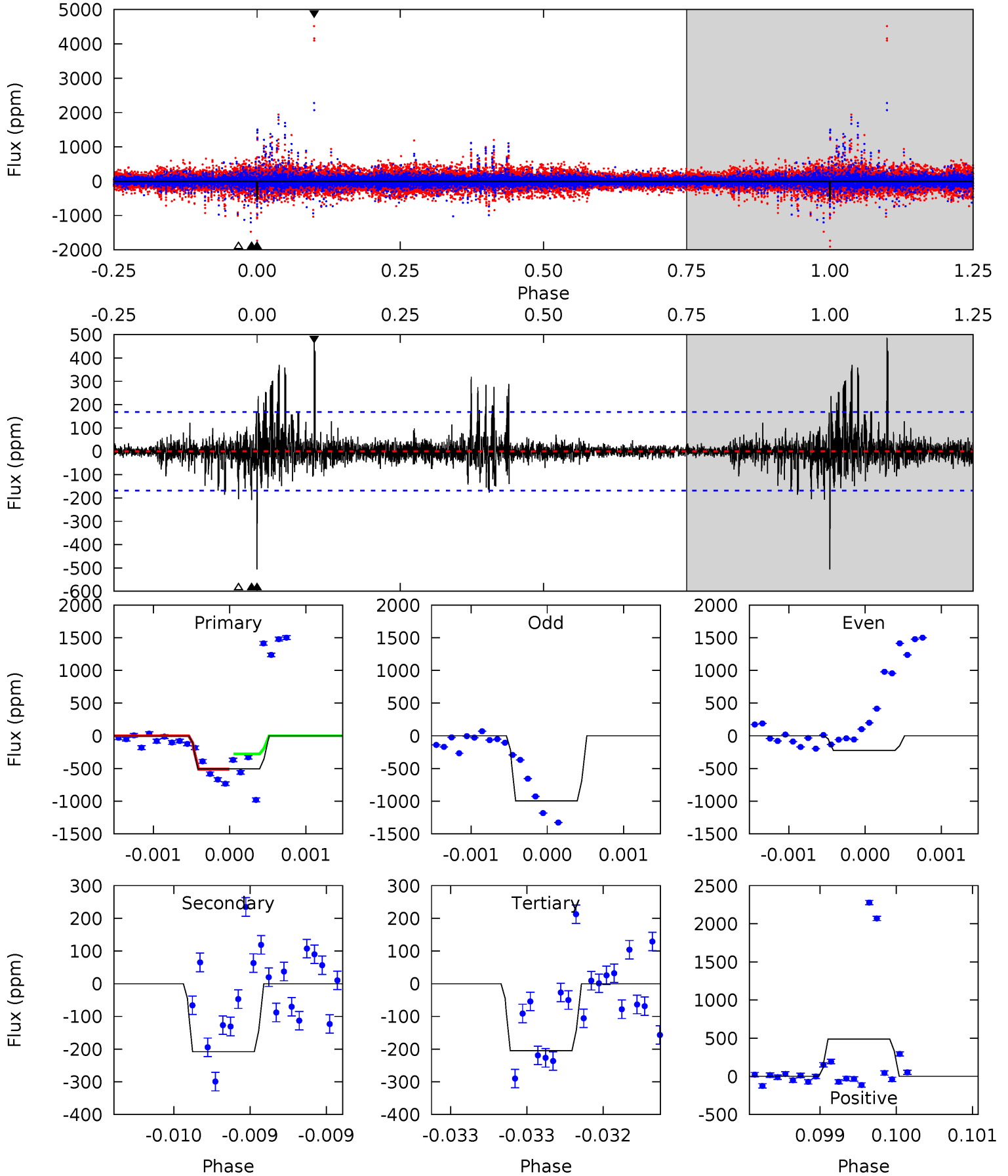
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.9	28.9	25.0	21.8	5.33	3.10	5.21	2.96	6.15	3.95	7.14	19.7	1.59	0.43	6.61



Alt Model-Shift Uniqueness Test

007903259-02, P = 423.546832 Days, E = 133.499017 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	6.81	6.70	16.0	5.51	3.38	1.41	9.88	0.61	0.11	-9.16	14.3	0.76	0.49	3.57



Stellar Parameters For KIC 007903259

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6486^{+181}_{-250}	$4.116^{+0.240}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.580^{+0.483}_{-0.439}$	$1.189^{+0.206}_{-0.169}$	$0.424^{+0.530}_{-0.203}$
	+3%/-4%	+6%/-4%	+208%/-250%	+31%/-28%	+17%/-14%	+125%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007903259-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1623 ± 56	$6.43^{+1.36}_{-1.17}$	458^{+41}_{-35}	6670^{+512}_{-421}	29691^{+14917}_{-9255}
Alt.	-208 ± 31	$3.58^{+1.04}_{-0.77}$	462^{+39}_{-36}	5378^{+594}_{-468}	12168^{+7740}_{-4556}

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

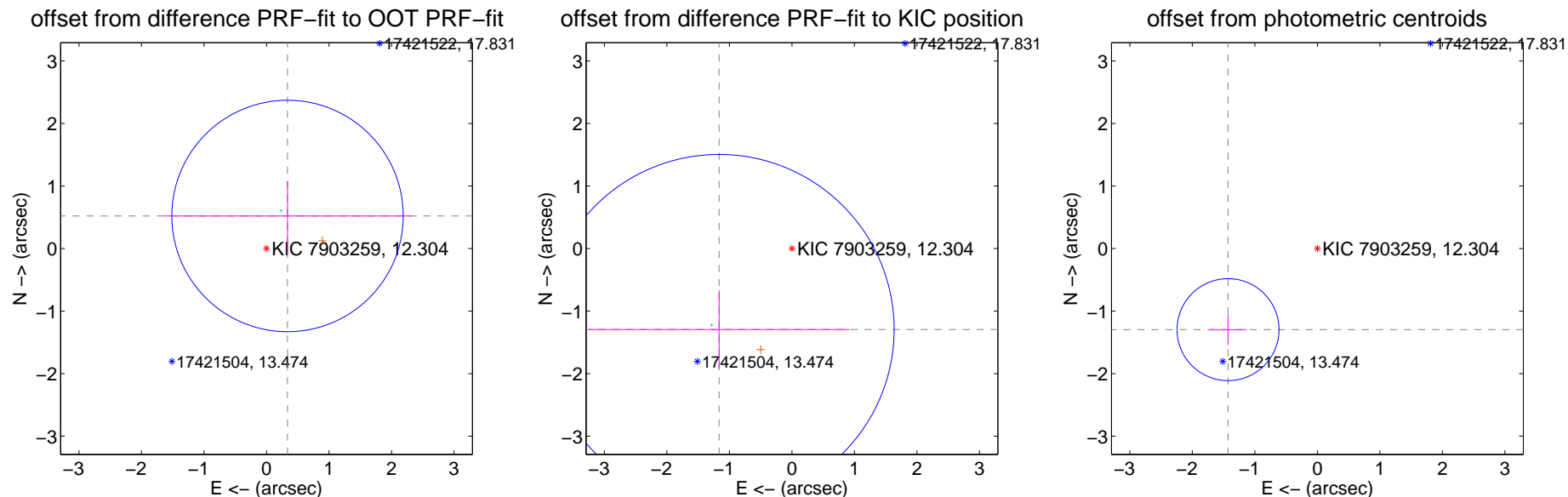
DV Centroid Data

Supplemental centroid analysis for 007903259-02. Kepler magnitude: 12.30. Transit SNR 7.99

There are 1 quarters with good PRF difference image offsets

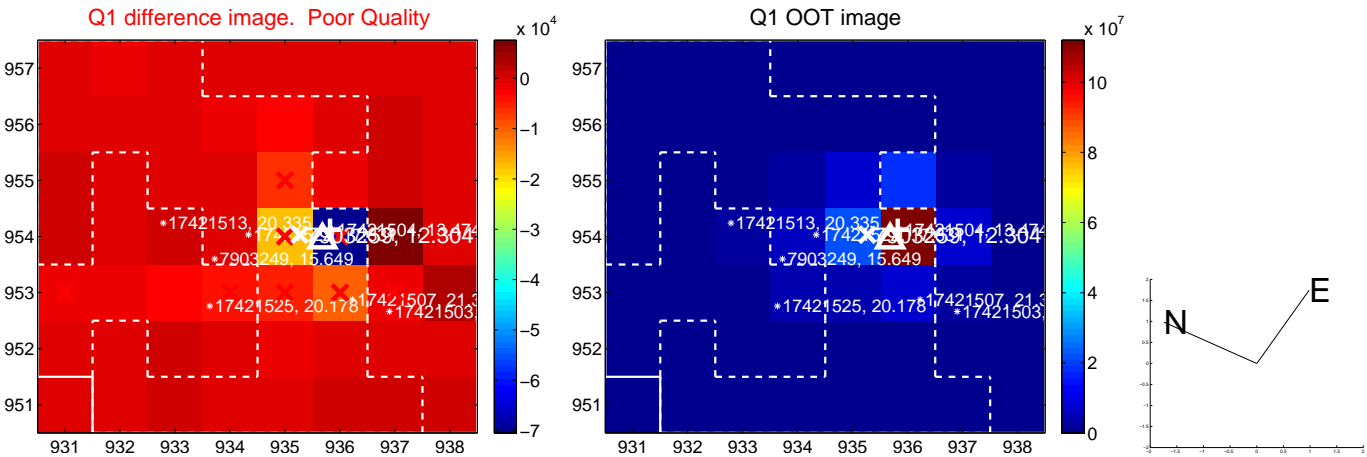
The OOT PRF centroid is offset from the target star catalog position by about 2.42 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.620 ± 0.617	1.01	-0.336 ± 1.984	0.521 ± 0.557
PRF-fit source offset from KIC position	1.741 ± 0.933	1.87	1.165 ± 2.084	-1.294 ± 0.627
photometric centroid source offset	1.93 ± 0.27	7.10	1.43 ± 0.29	-1.30 ± 0.24

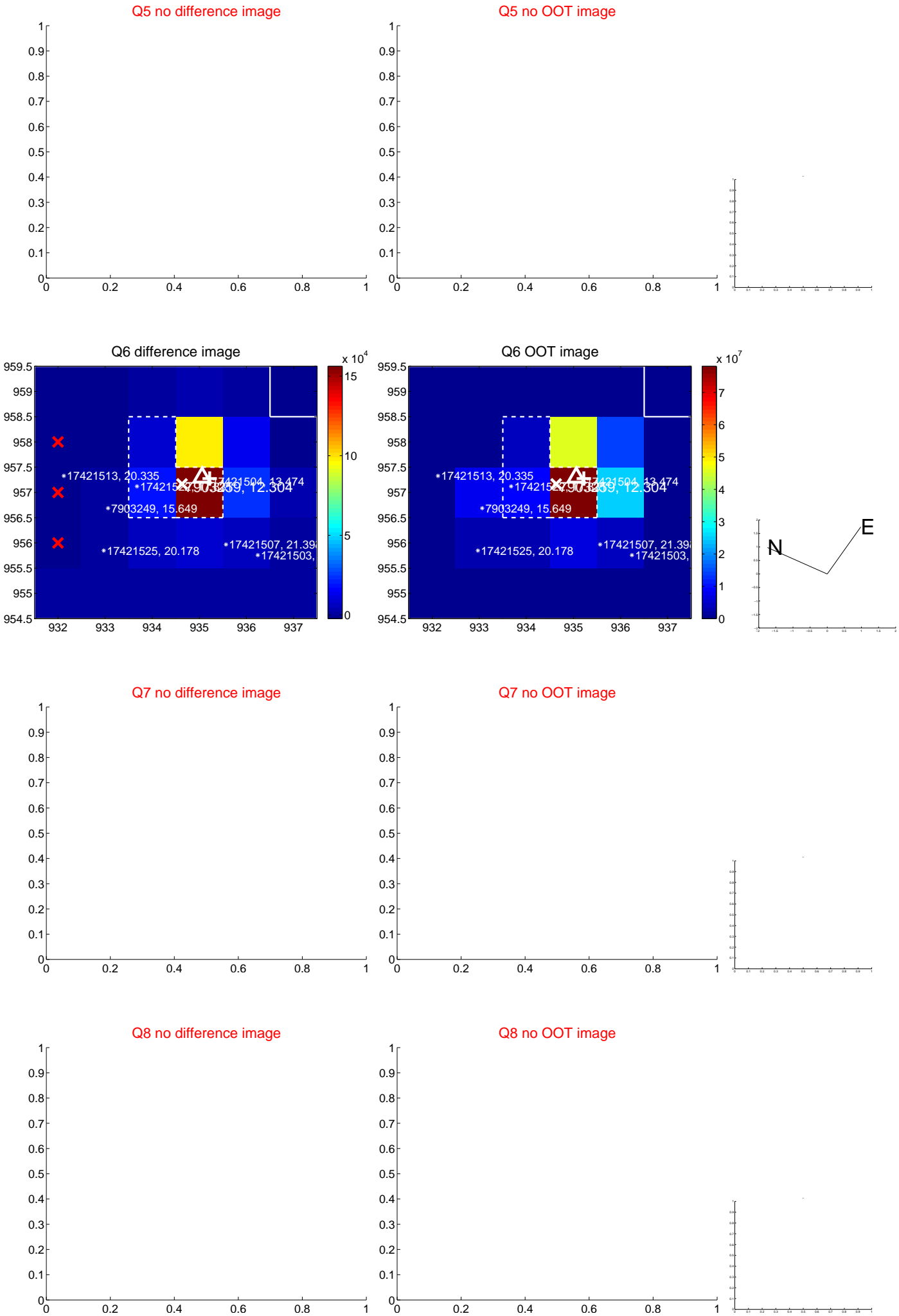


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

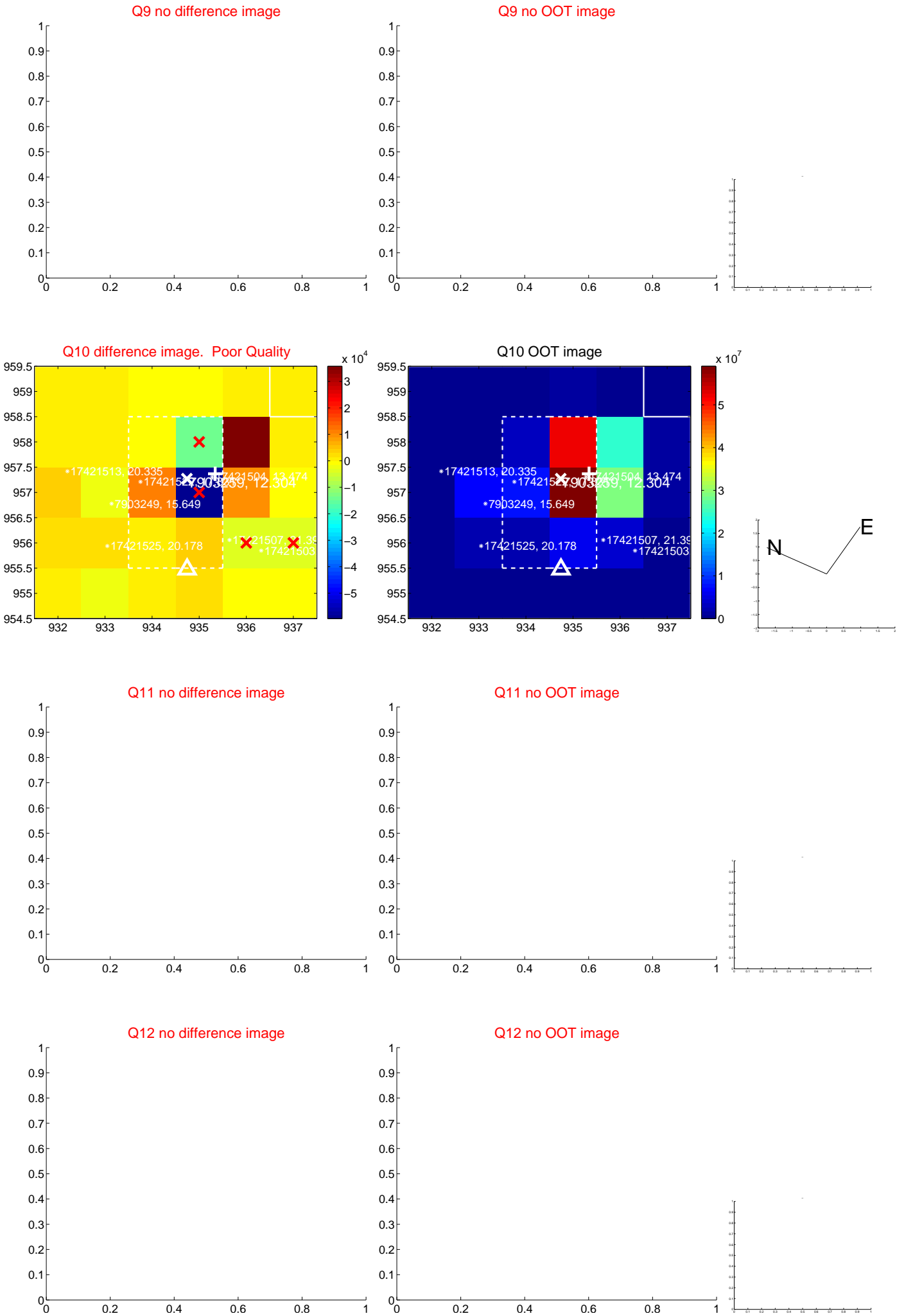
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



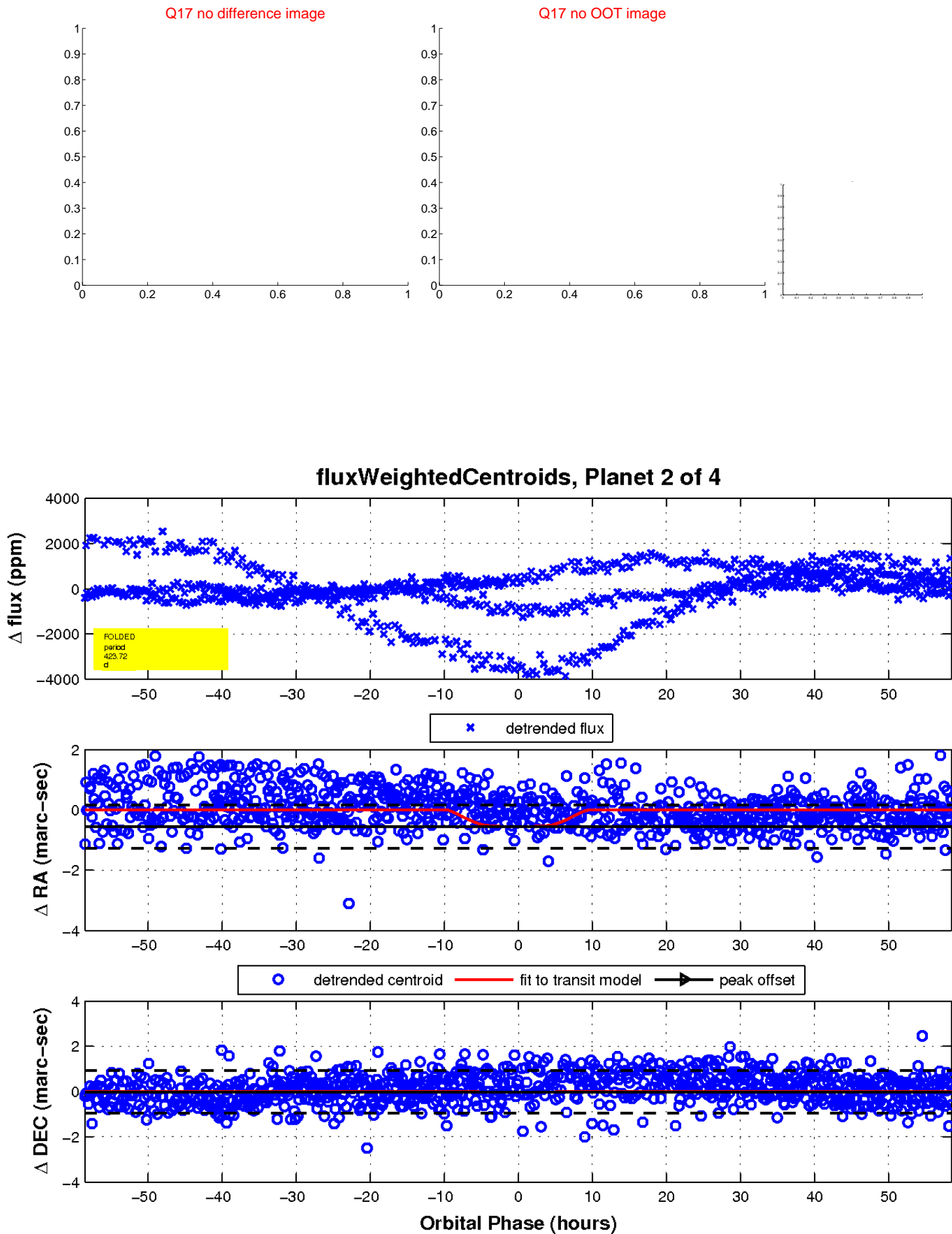
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

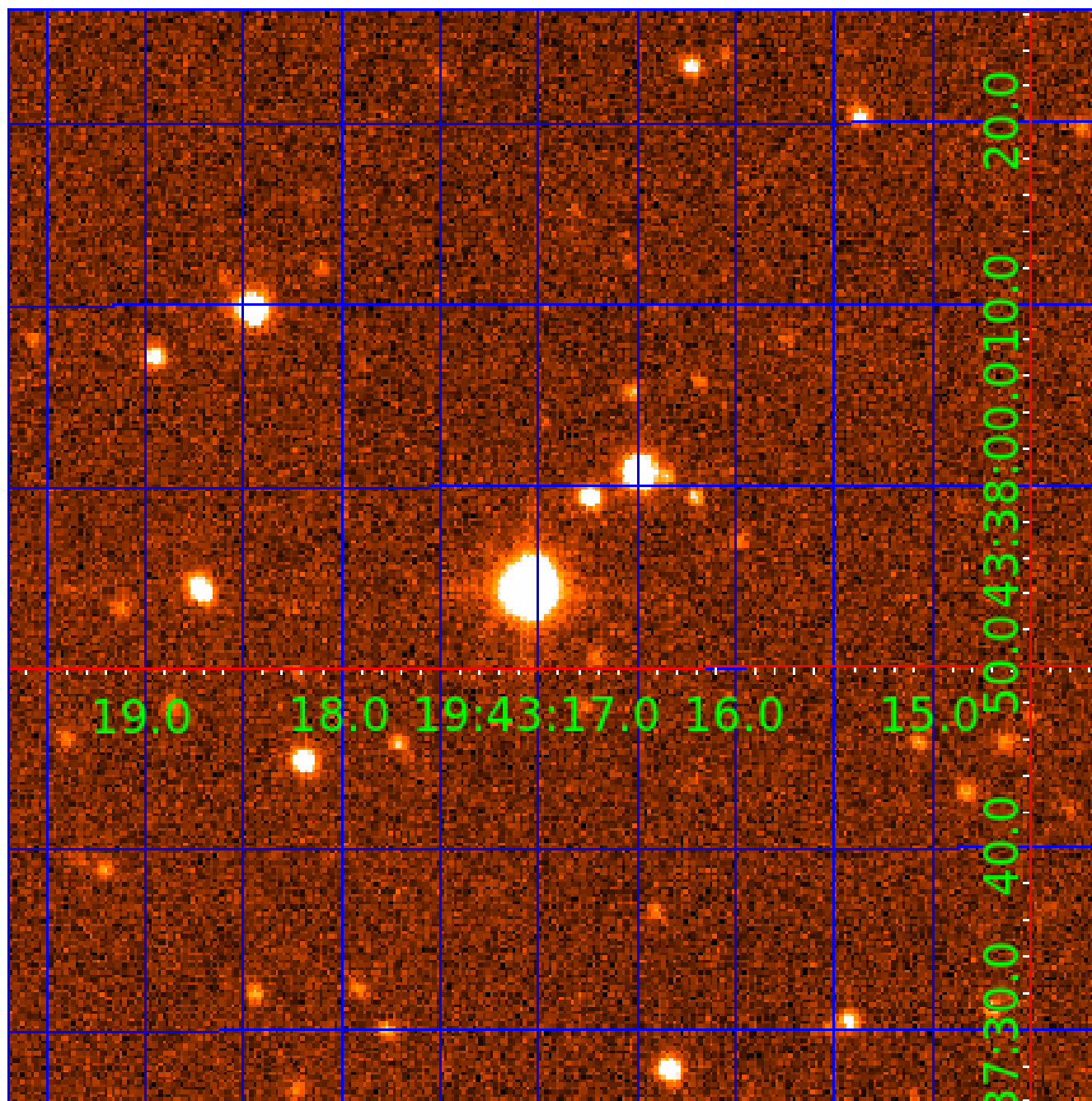


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007903259

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})
007903259-01	OBS	No	1.202999	131.636366	23.0	4.529	8.9	8.7	1.58	6486	0.89	7192.61
007903259-02	OBS	No	423.719361	133.218497	1126.1	19.531	11.6	8.0	1.58	6486	6.51	2.89
007903259-03	OBS	No	33.696472	132.639952	95.5	8.076	9.7	2.7	1.58	6486	1.74	84.55
007903259-04	OBS	No	151.363806	171.969107	271.9	13.879	9.4	5.4	1.58	6486	2.77	11.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007903259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
007903259-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007903259-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
007903259-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_KIC_POS

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

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

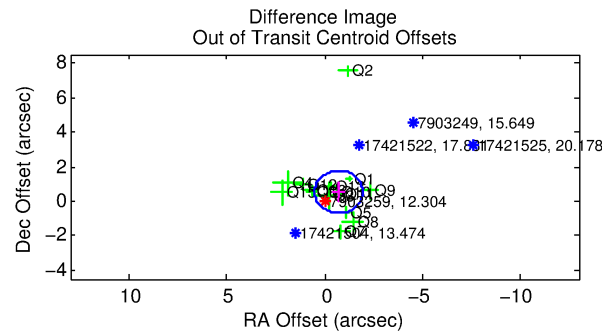
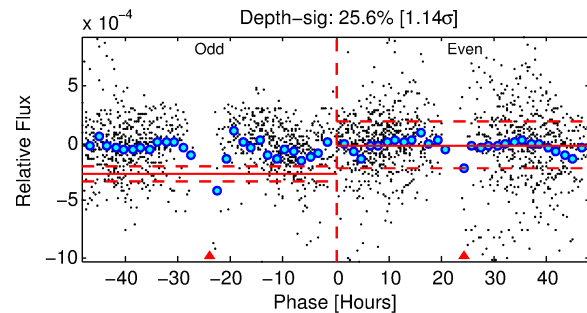
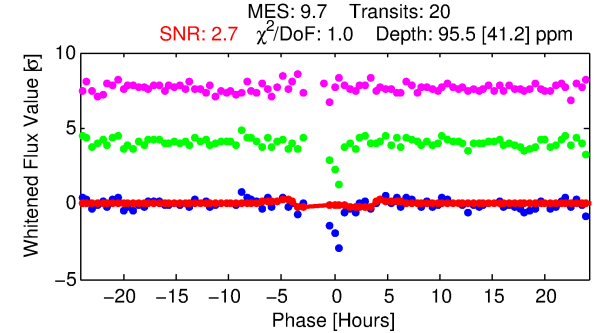
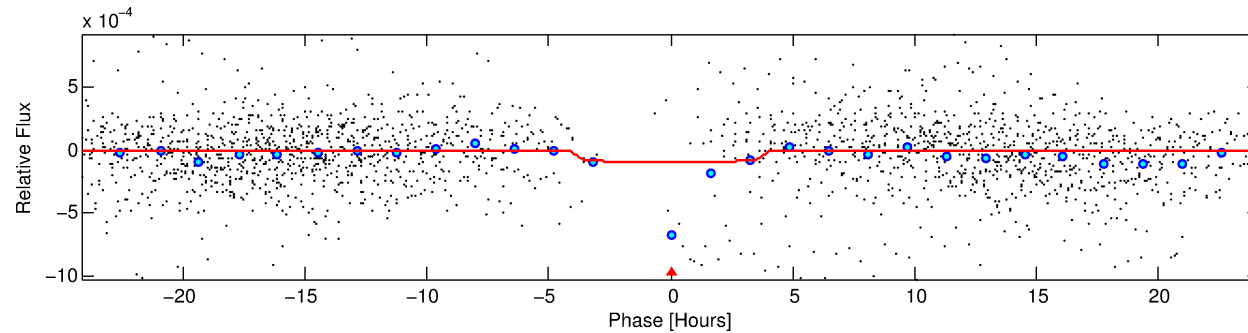
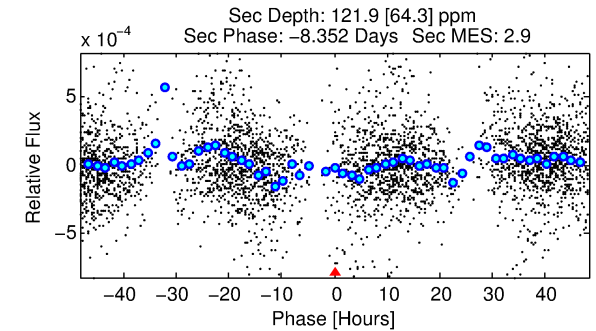
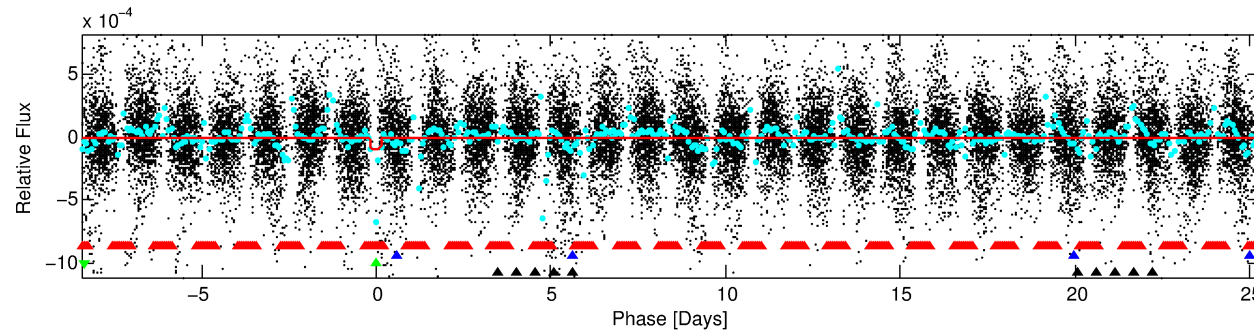
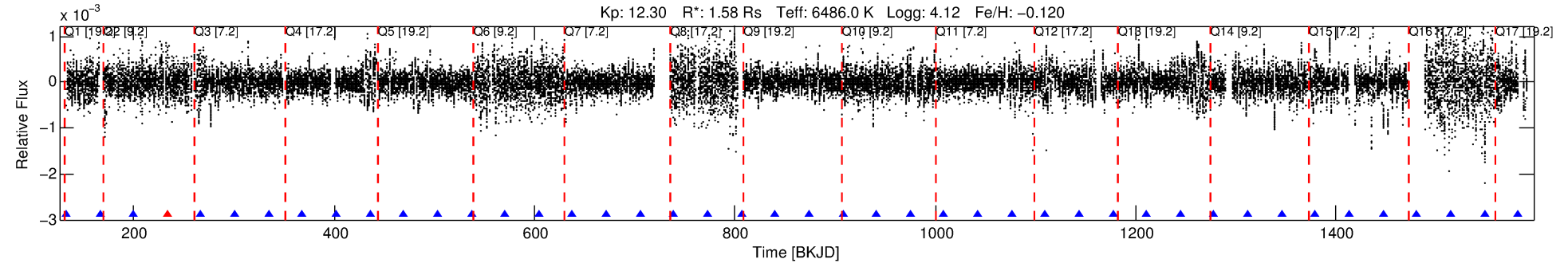
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007903259-03

No Significant Match Found

DV One-Page Summary

KIC: 7903259 Candidate: 3 of 4 Period: 33.696 d



DV Fit Results:

Period = 33.69647 [0.00247] d
Epoch = 132.6400 [0.0513] BKJD
Rp/R* = 0.0101 [0.0051]
a/R* = 17.48 [42.38]
b = 0.85 [0.78]
Seff = 84.55 [37.91]
Teq = 773 [87] K
Rp = 1.74 [1.03] Re
a = 0.2164 [0.0594] AU
Ag = 1031.77 [1256.57] [0.82σ]
Teffp = 6776 [1953] K [3.07σ]

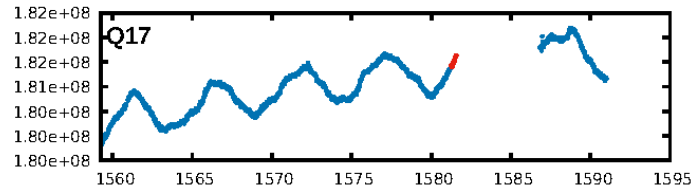
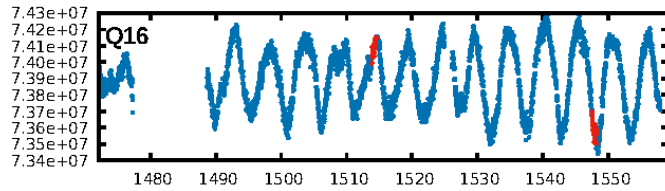
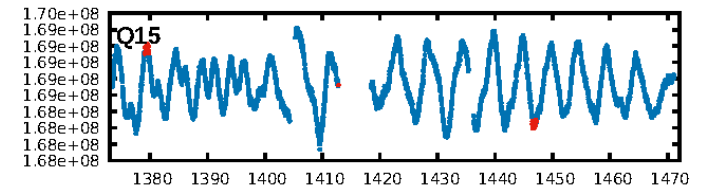
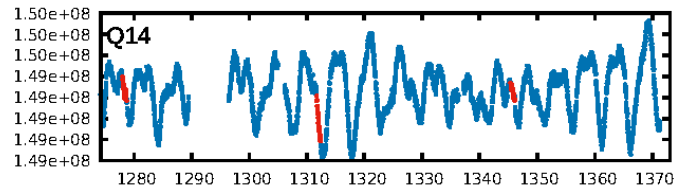
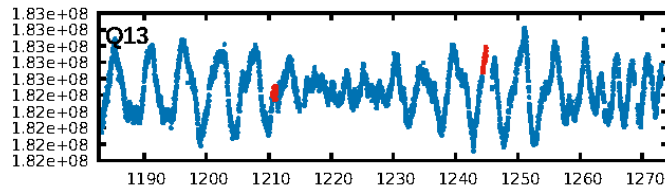
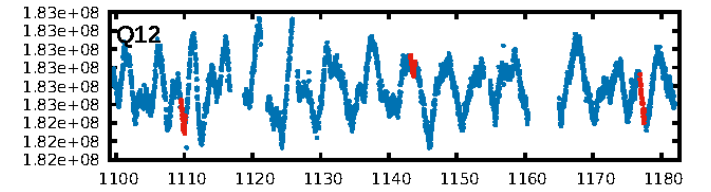
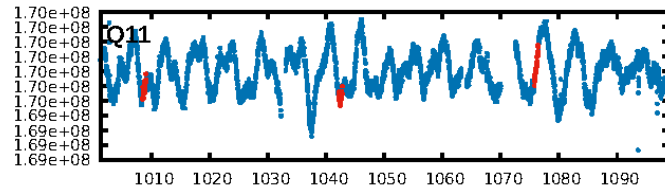
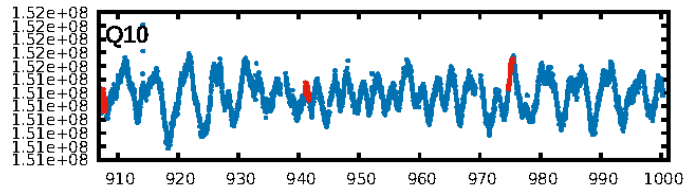
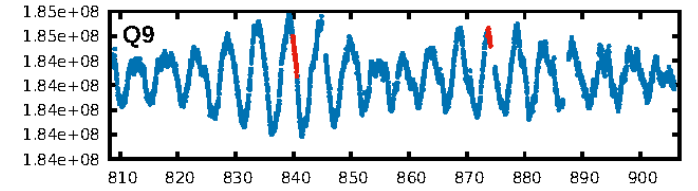
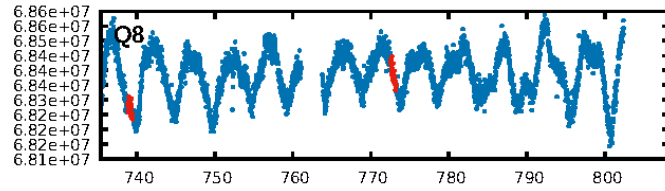
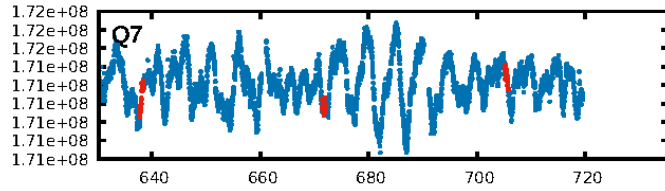
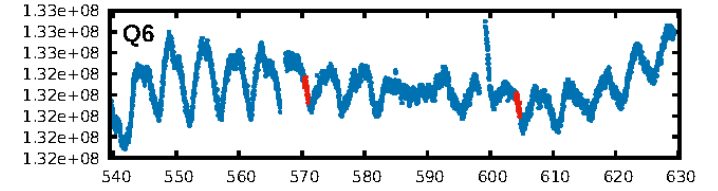
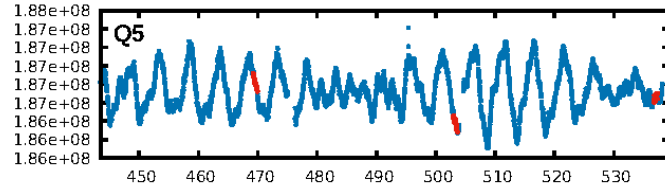
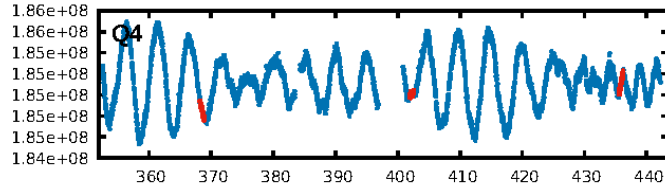
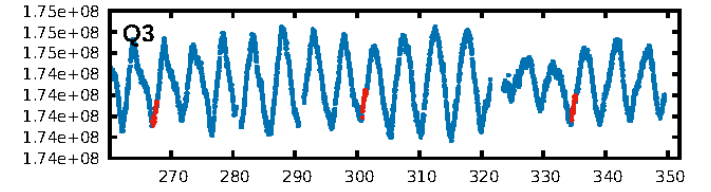
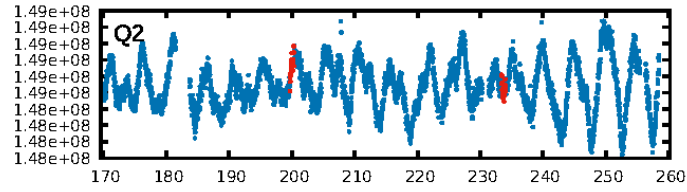
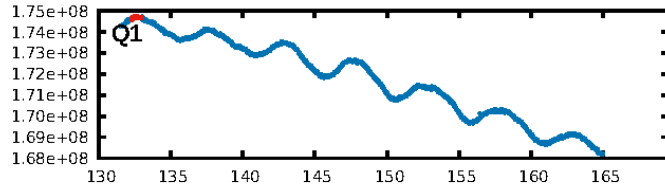
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [84.23σ]
LongPeriod-sig: 100.0% [175.86σ]
ModelChiSquare2-sig: 2.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.42e-16
RollingBand-fgt: 0.95 [18/19]
GhostDiagnostic-chr: 0.03535
Centroid-sig: 8.0%
Centroid-so: 2.320 arcsec [3.02σ]
OotOffset-rm: 0.882 arcsec [2.16σ]
KicOffset-rm: 1.514 arcsec [3.31σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.33 [5/15]
DiffImageOverlap-fno: 0.00 [0/16]

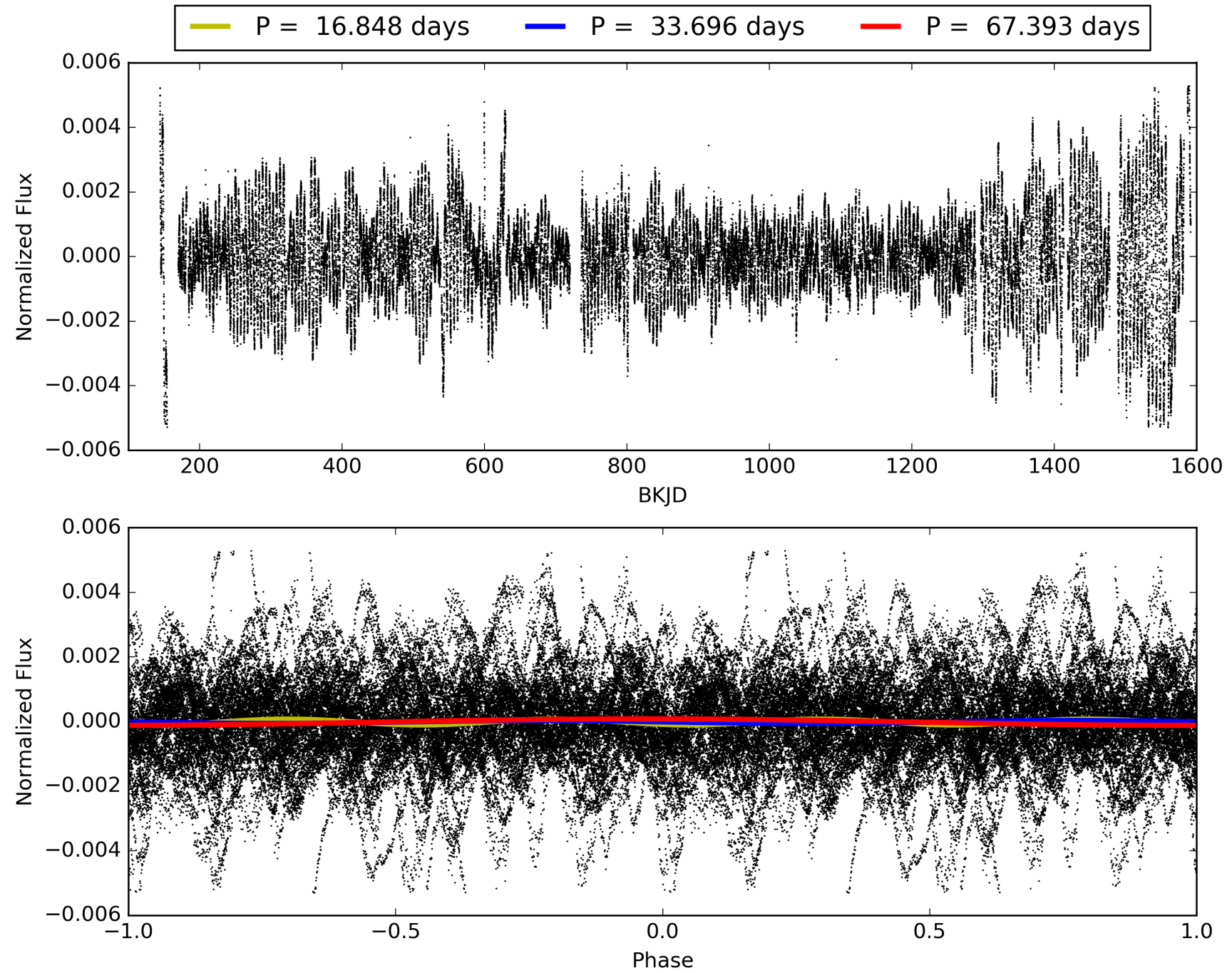
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:45:14 Z

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

TCE 007903259-03, PDC Light Curves

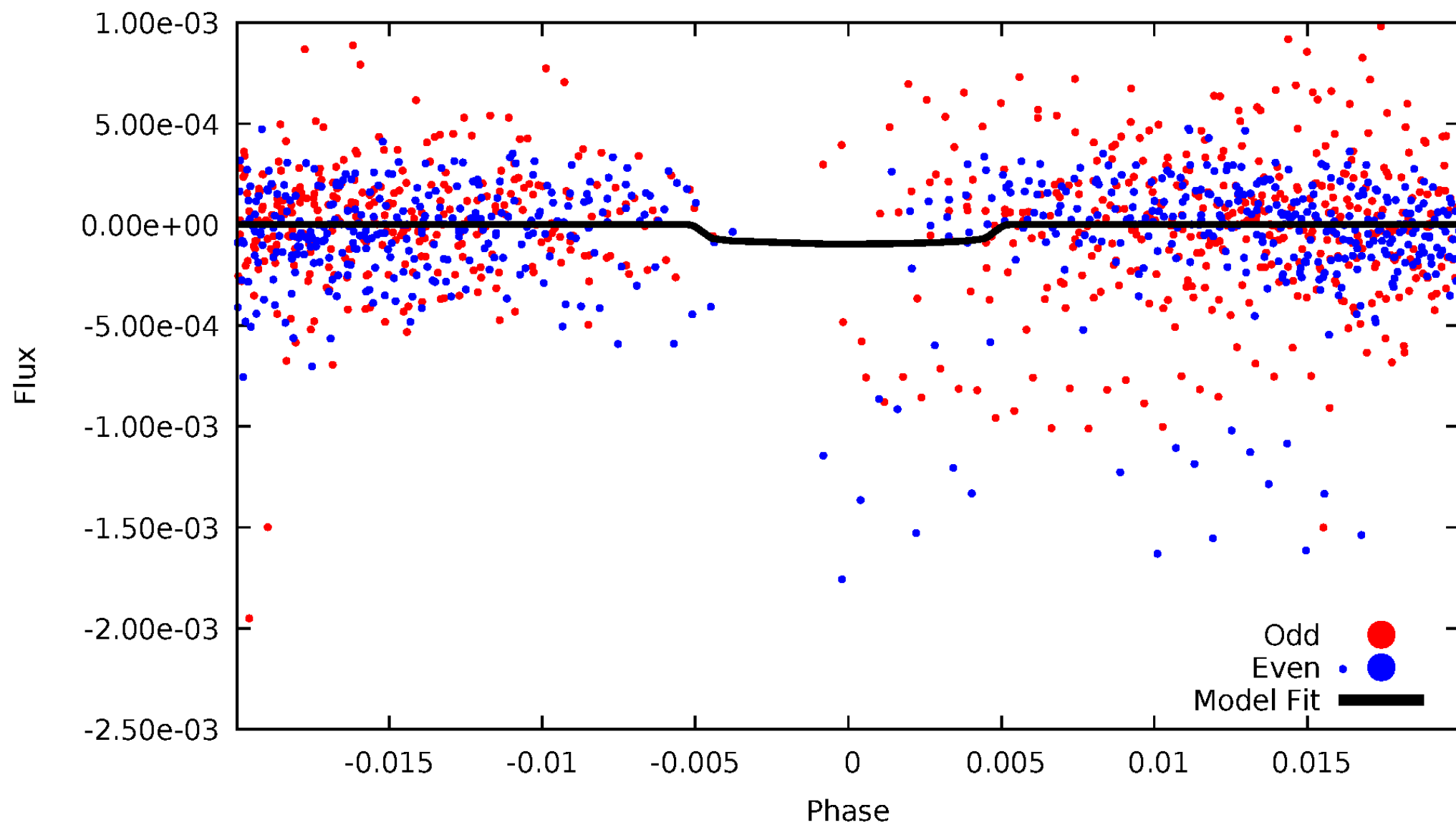


TCE 007903259-03



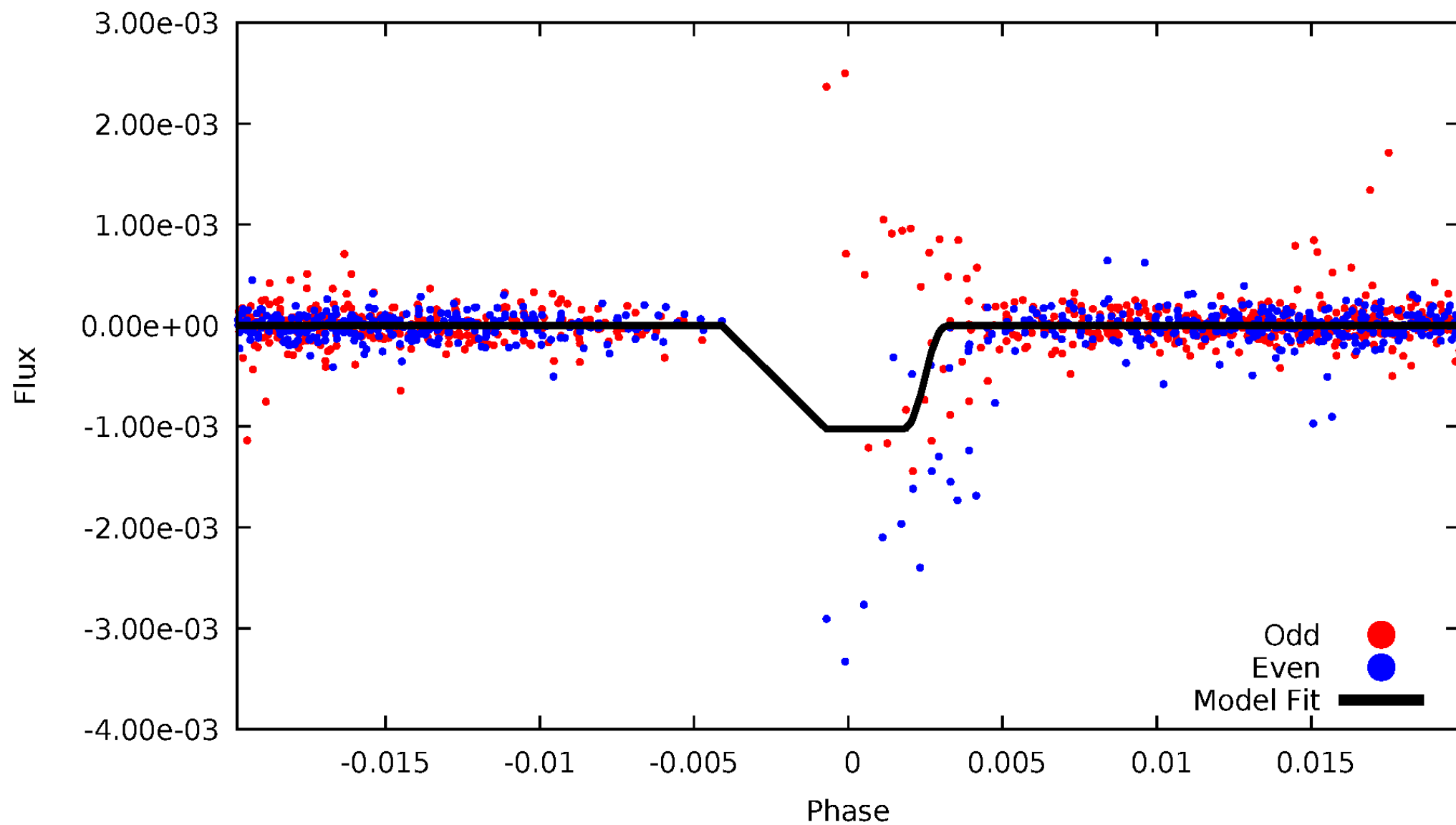
DV Odd/Even

TCE 007903259-03



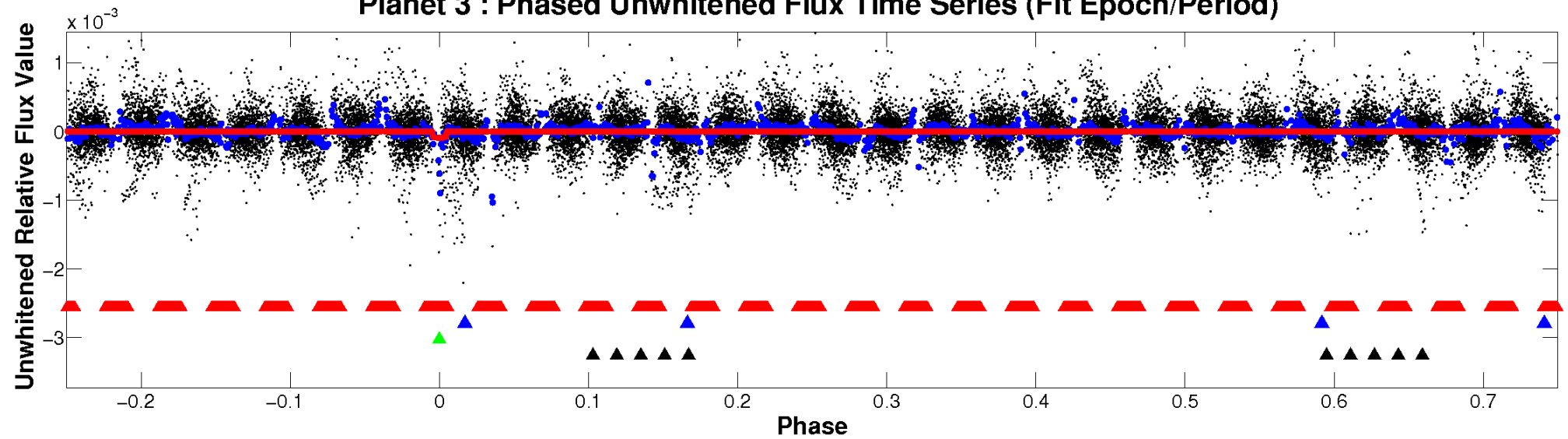
ALT Odd/Even

TCE 007903259-03

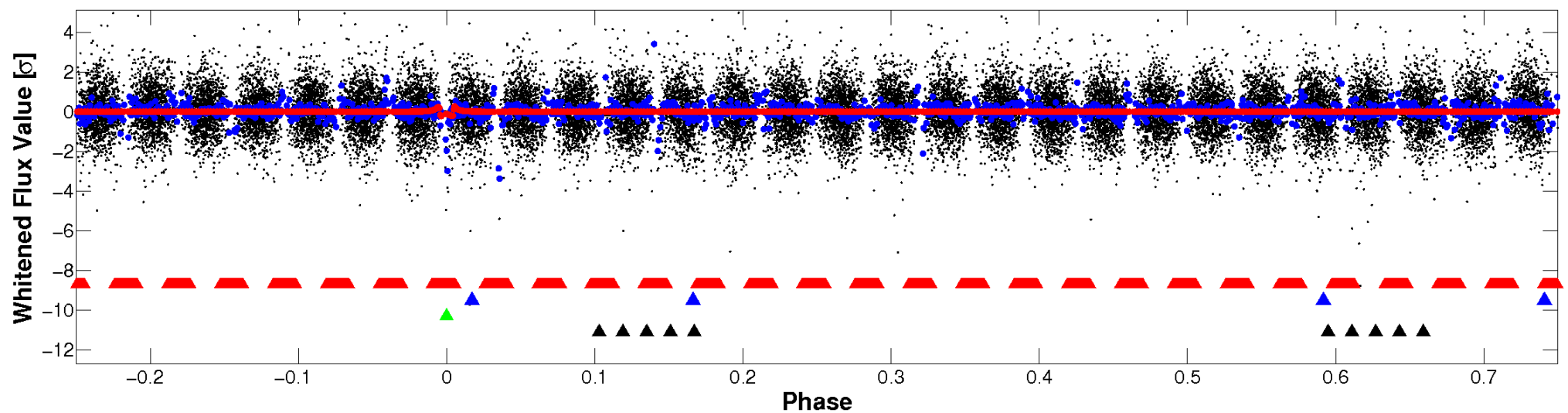


Non-Whitened Vs. Whitened Light Curve

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

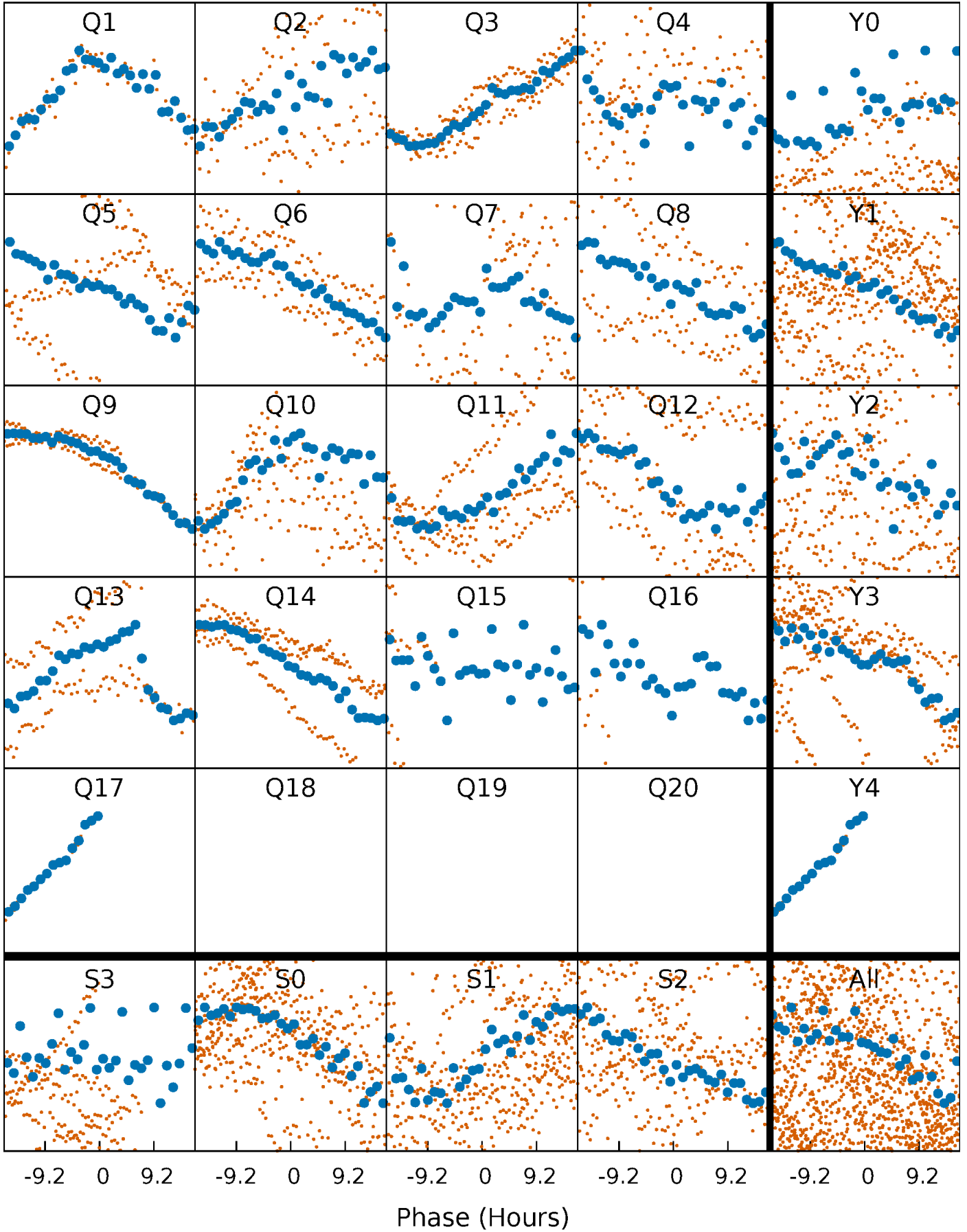


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



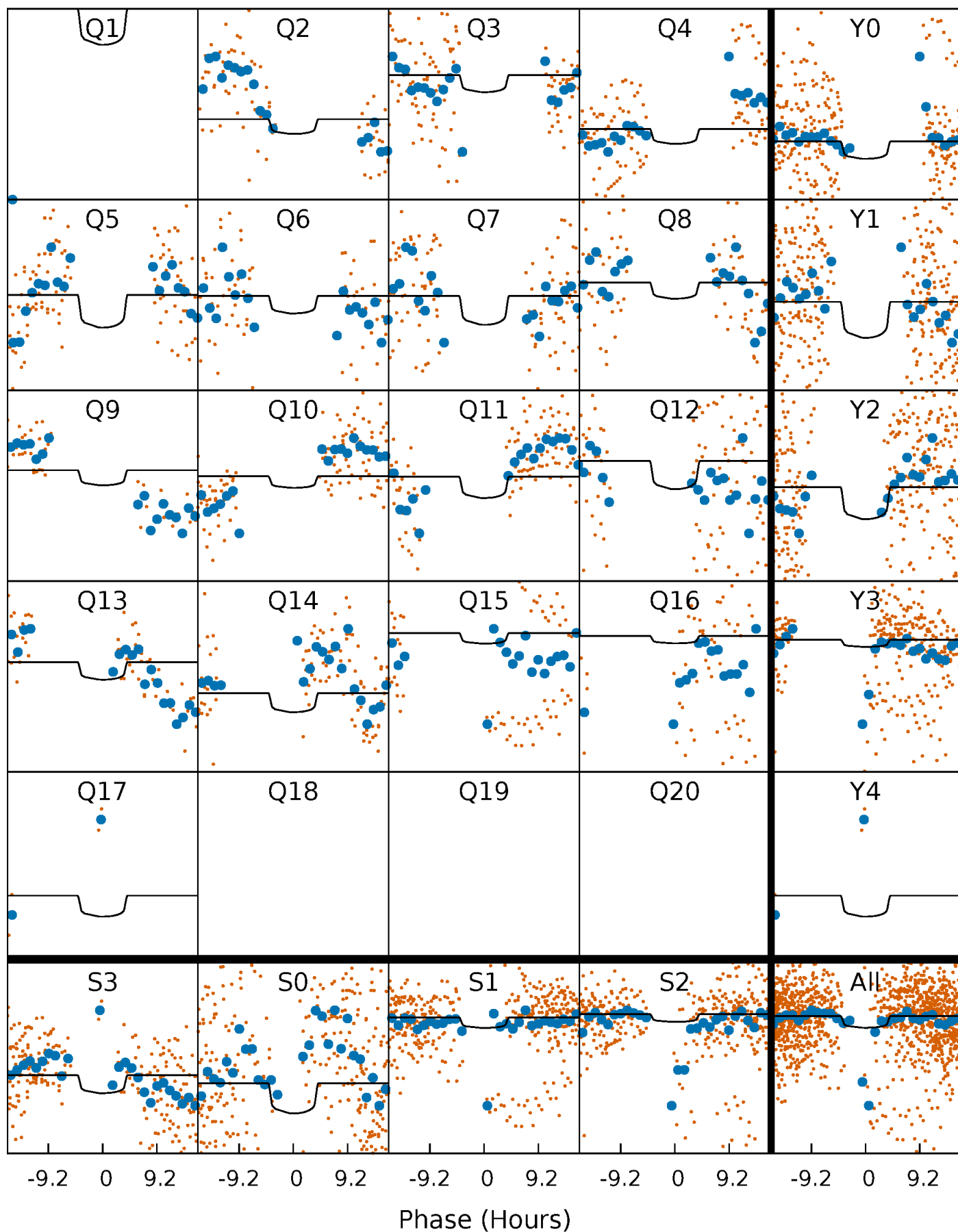
PDC Quarter-Phased Transit Curves

TCE 007903259-03 P= 33.696472 Days $T_0=132.639952$ (BKJD)



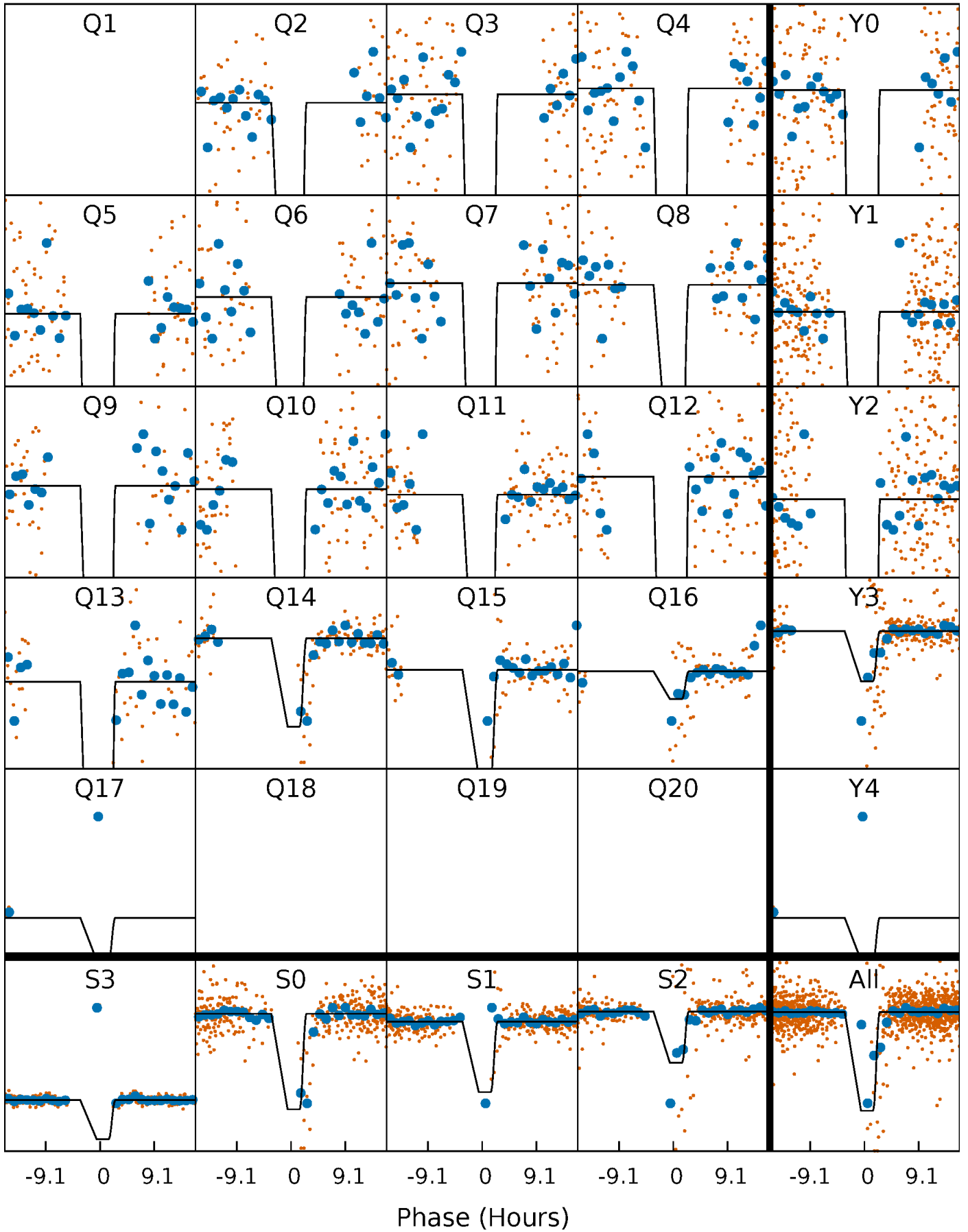
DV Quarter-Phased Transit Curves

TCE 007903259-03 P= 33.696472 Days $T_0=132.639952$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

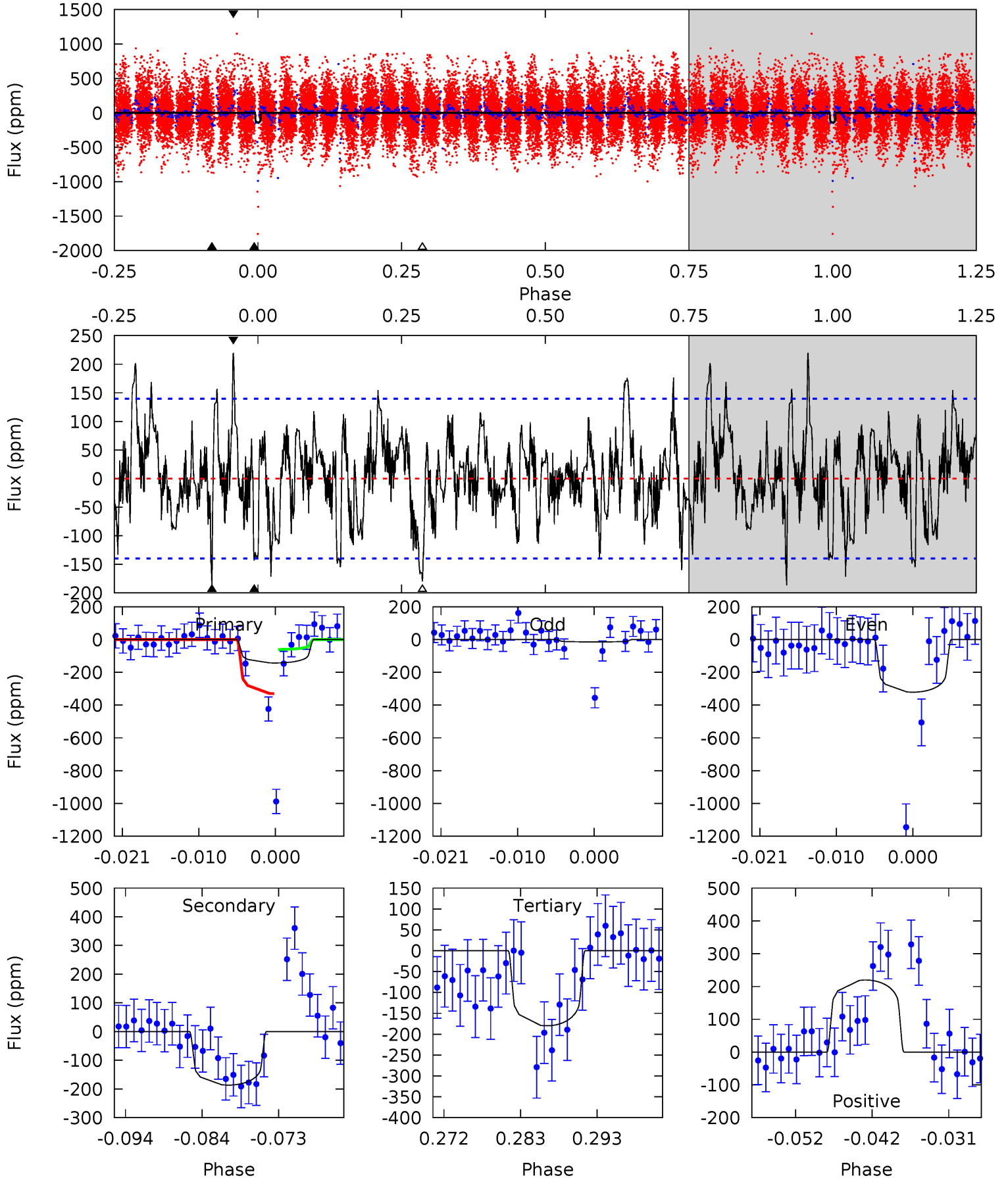
TCE 007903259-03 P= 33.696114 Days $T_0=132.651328$ (BKJD)



DV Model-Shift Uniqueness Test

007903259-03, P = 33.696472 Days, E = 98.943480 Days

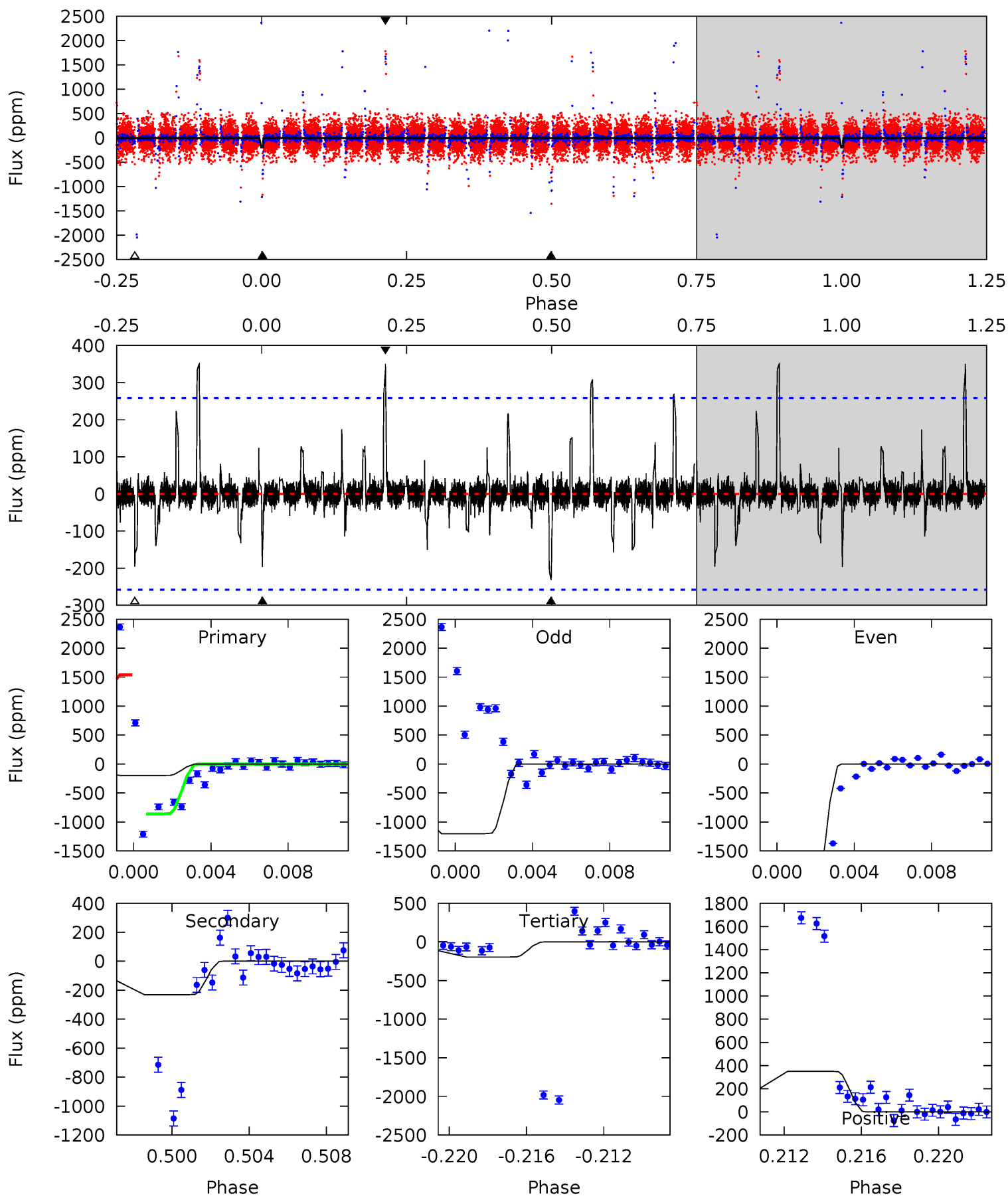
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.14	6.70	6.46	7.89	5.02	2.56	1.83	-1.32	-2.75	0.24	-1.19	5.48	3.62	0.54	3.32



Alt Model-Shift Uniqueness Test

007903259-03, P = 33.696114 Days, E = 98.955214 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.97	4.66	3.95	7.07	5.20	2.88	0.38	0.02	-3.10	0.71	-2.41	17.6	0.63	0.60	4.10



Stellar Parameters For KIC 007903259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6486^{+181}_{-250}	$4.116^{+0.240}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.580^{+0.483}_{-0.439}$	$1.189^{+0.206}_{-0.169}$	$0.424^{+0.530}_{-0.203}$
	+3%/-4%	+6%/-4%	+208%/-250%	+31%/-28%	+17%/-14%	+125%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007903259-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-187 ± 28	$1.70^{+0.90}_{-0.76}$	1069^{+97}_{-86}	7659^{+3763}_{-1478}	1729^{+3781}_{-1025}
Alt.	-231 ± 50	$5.37^{+1.43}_{-1.18}$	1070^{+85}_{-88}	4631^{+402}_{-373}	204^{+141}_{-79}

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

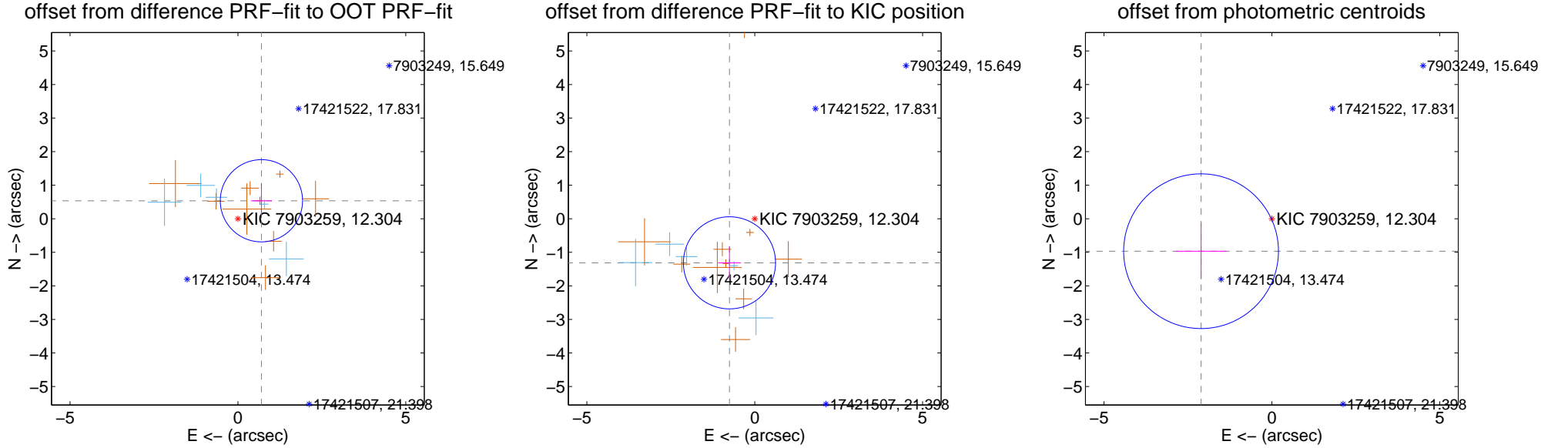
DV Centroid Data

Supplemental centroid analysis for 007903259-03. Kepler magnitude: 12.30. Transit SNR 2.73

There are 5 quarters with good PRF difference image offsets

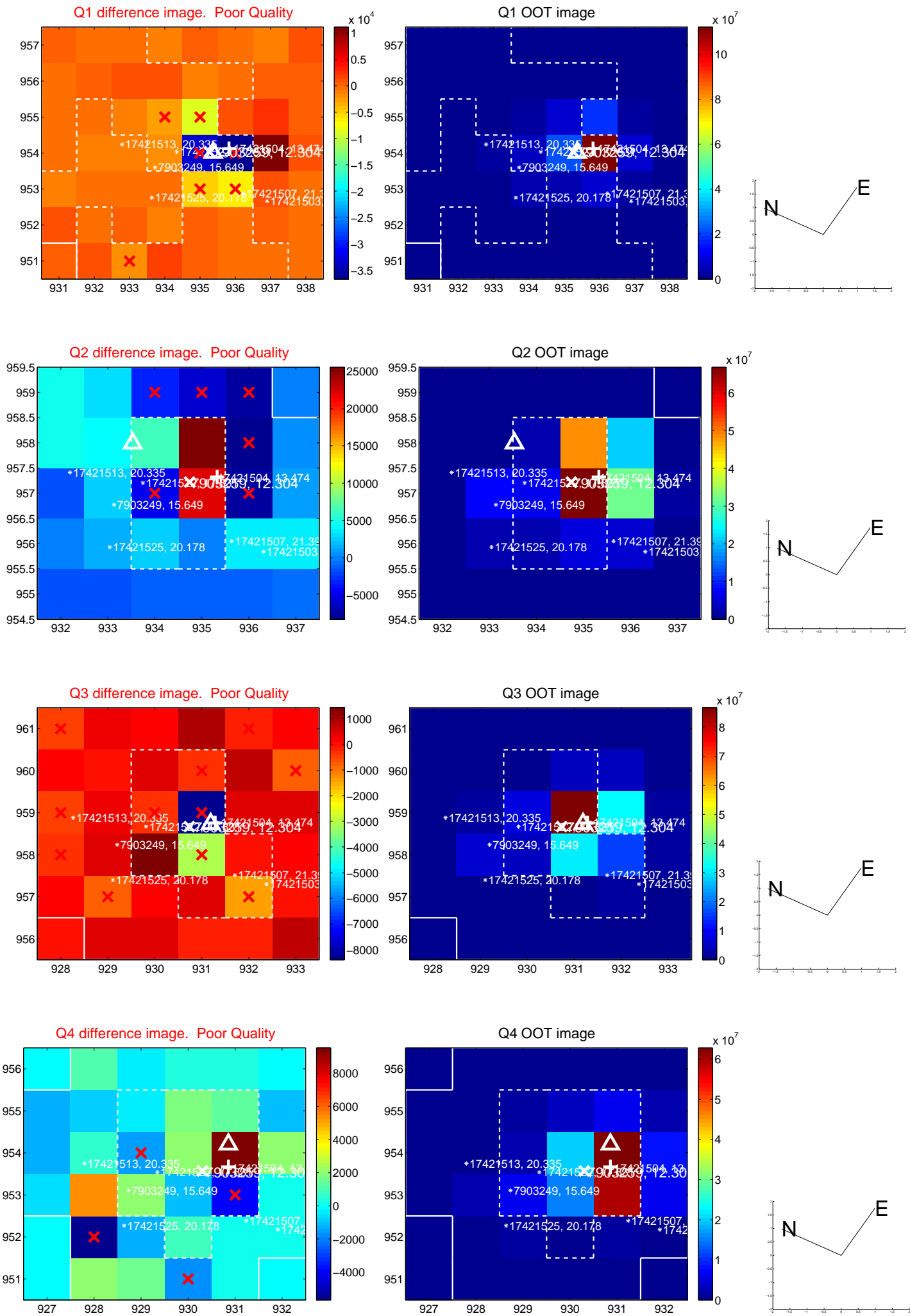
The OOT PRF centroid is offset from the target star catalog position by about 2.25 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.882 ± 0.408	2.16	-0.700 ± 0.314	0.536 ± 0.514
PRF-fit source offset from KIC position	1.514 ± 0.457	3.31	0.753 ± 0.338	-1.314 ± 0.496
photometric centroid source offset	2.32 ± 0.77	3.02	2.11 ± 0.75	-0.97 ± 0.84

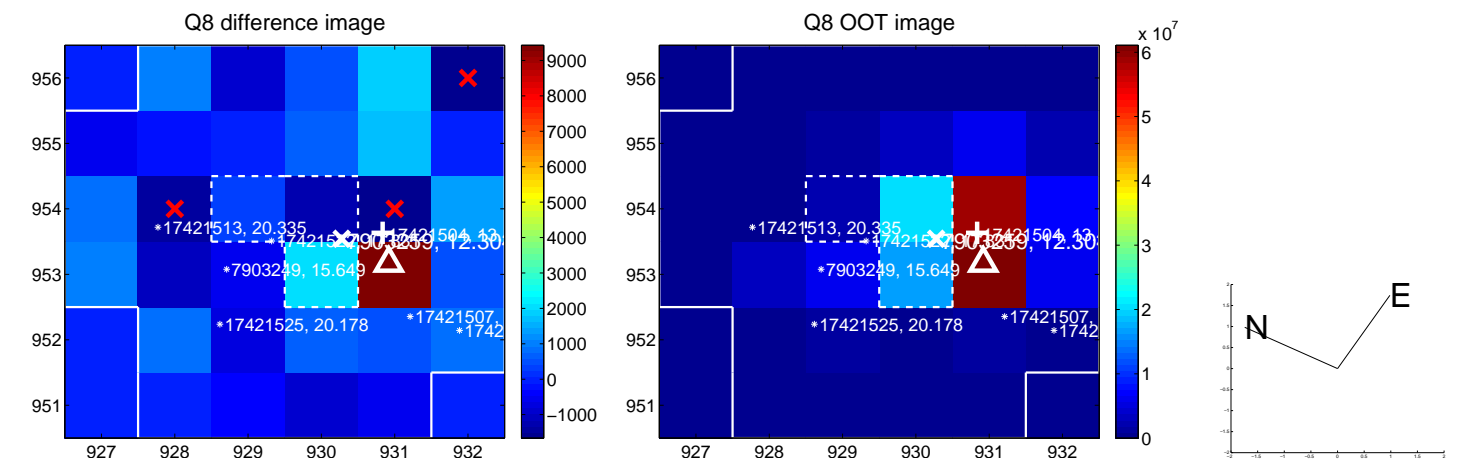
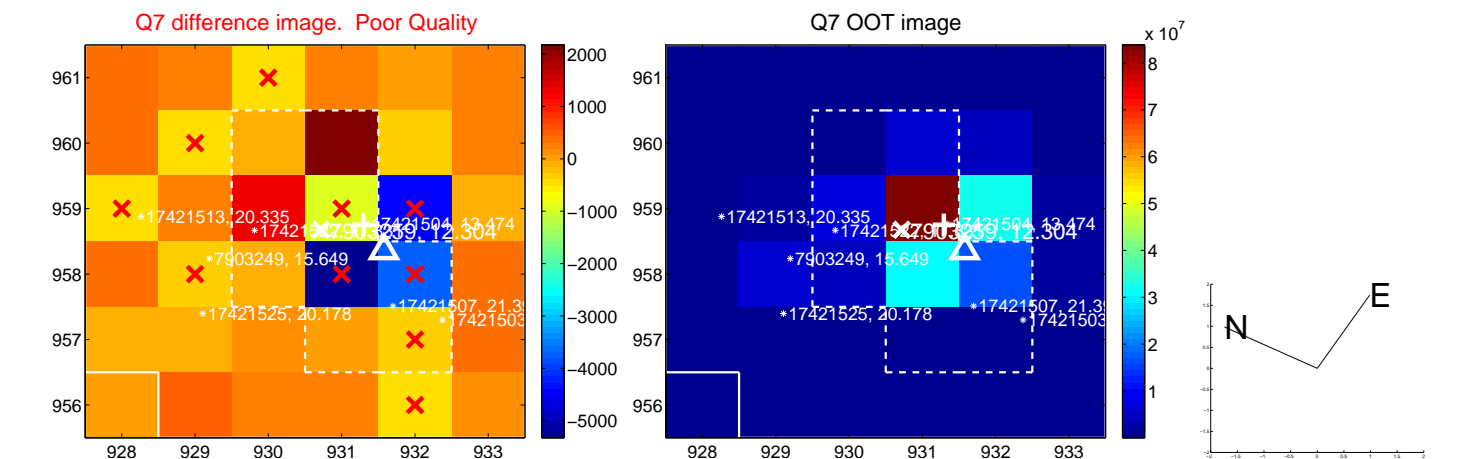
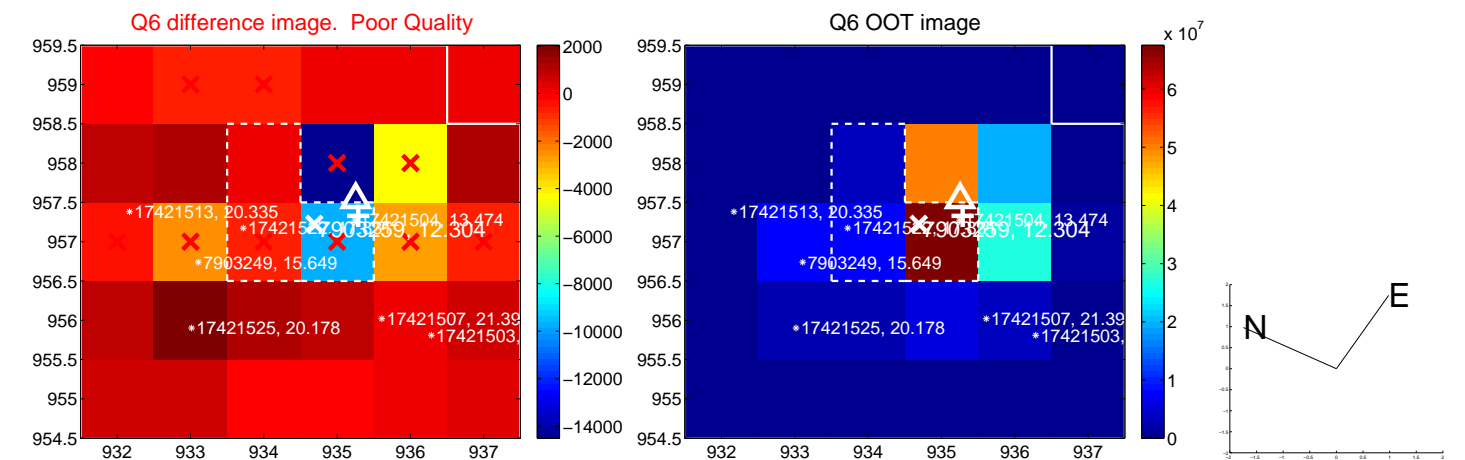
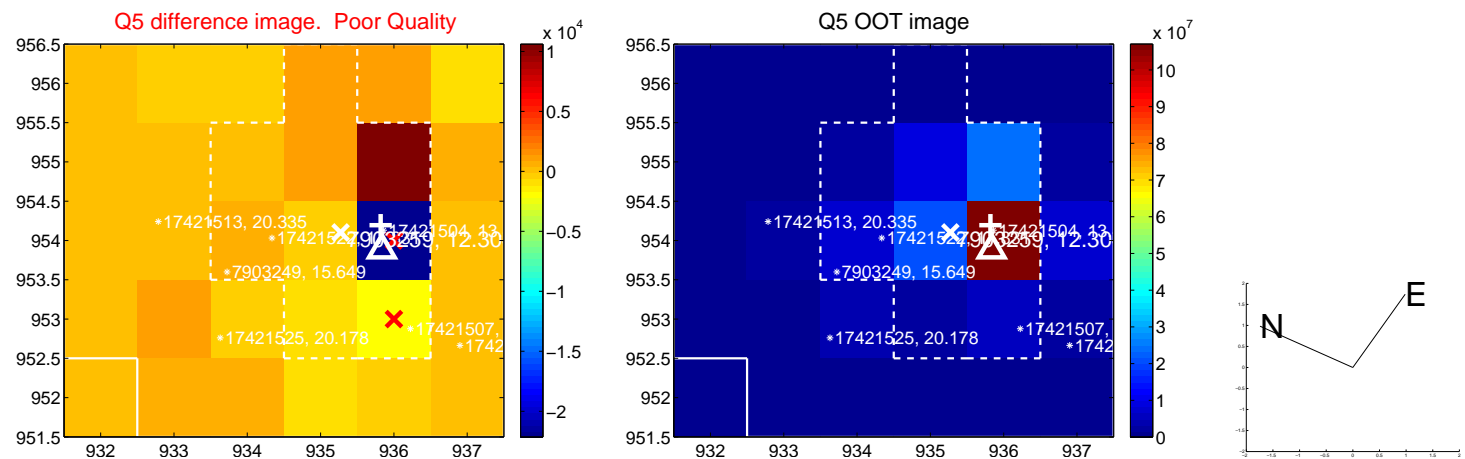


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

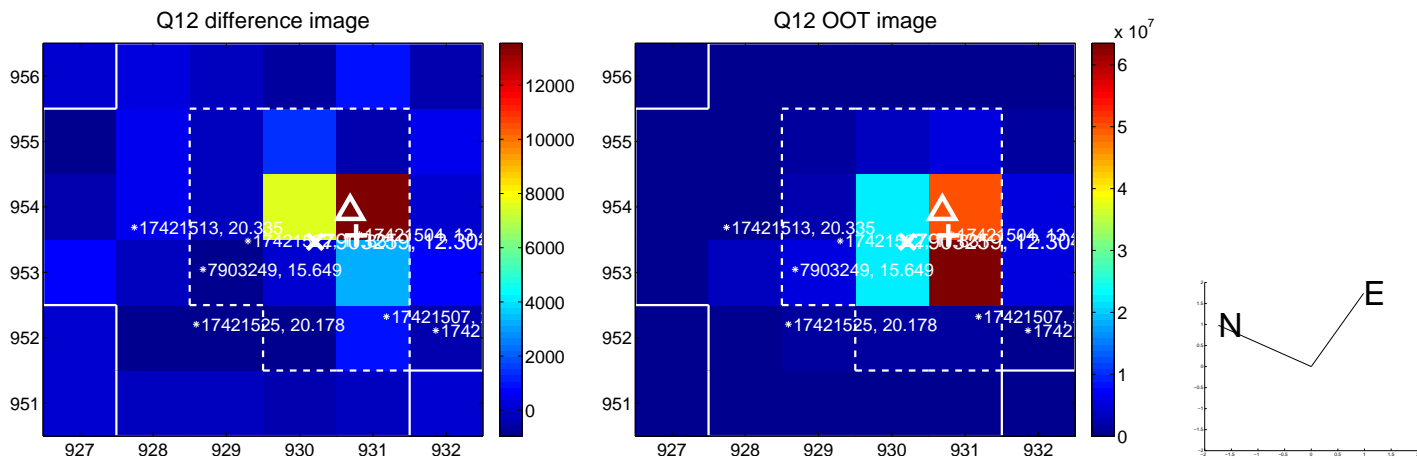
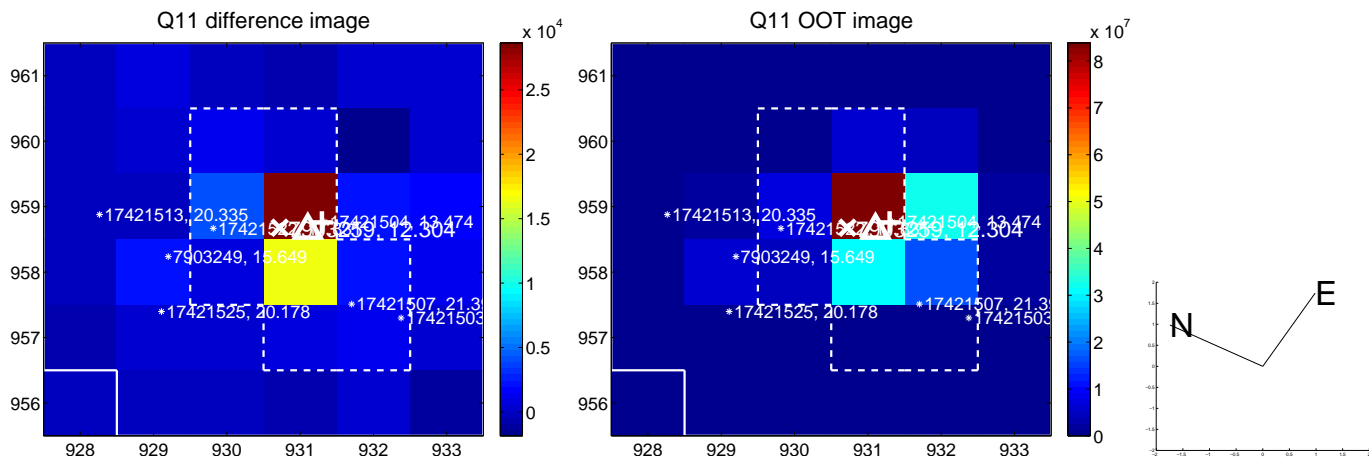
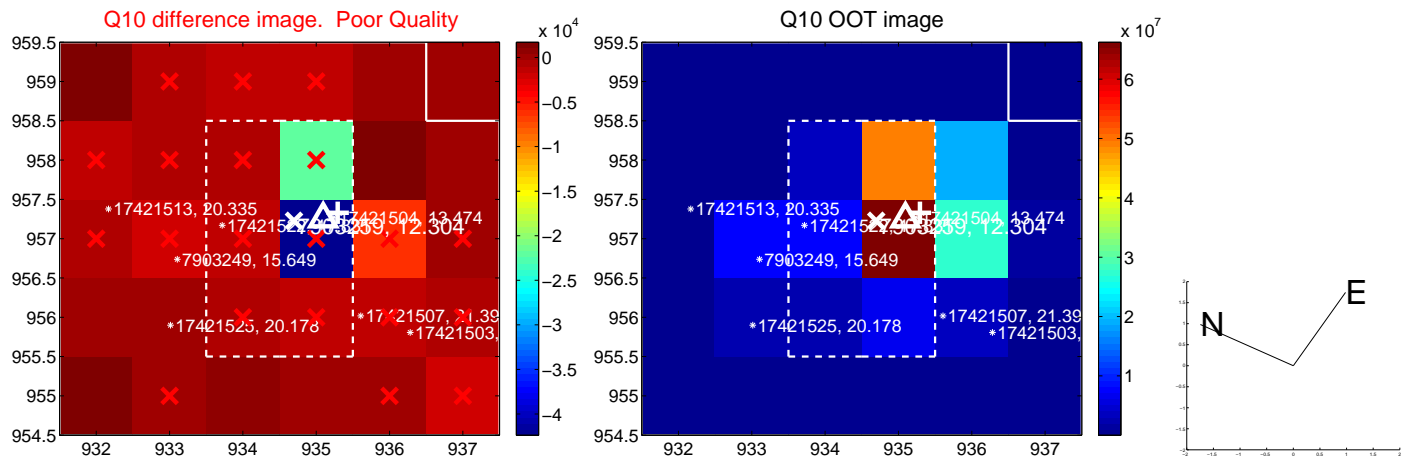
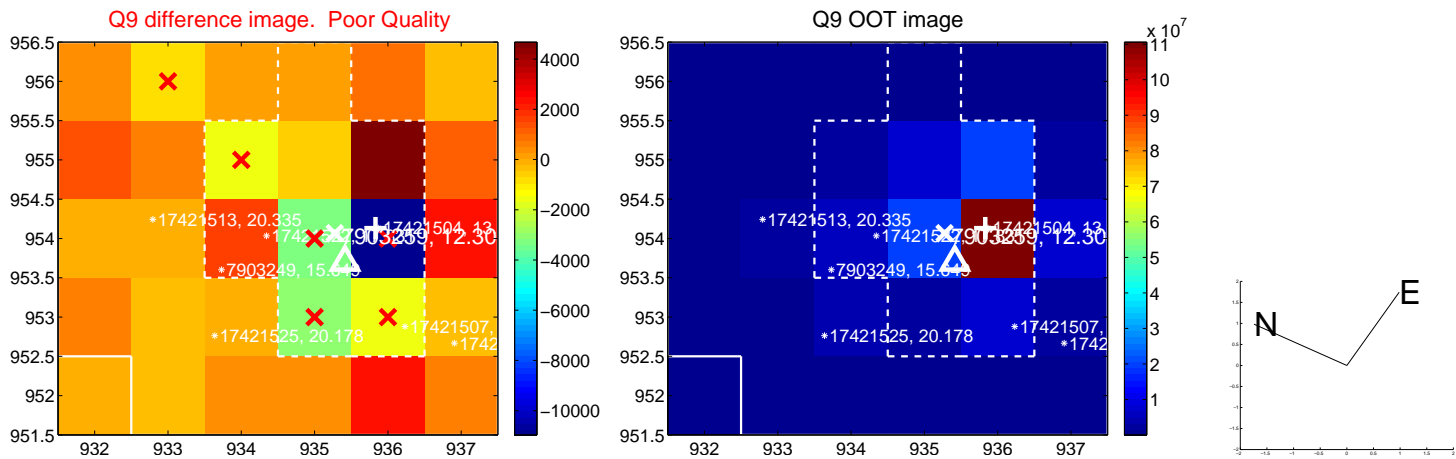
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



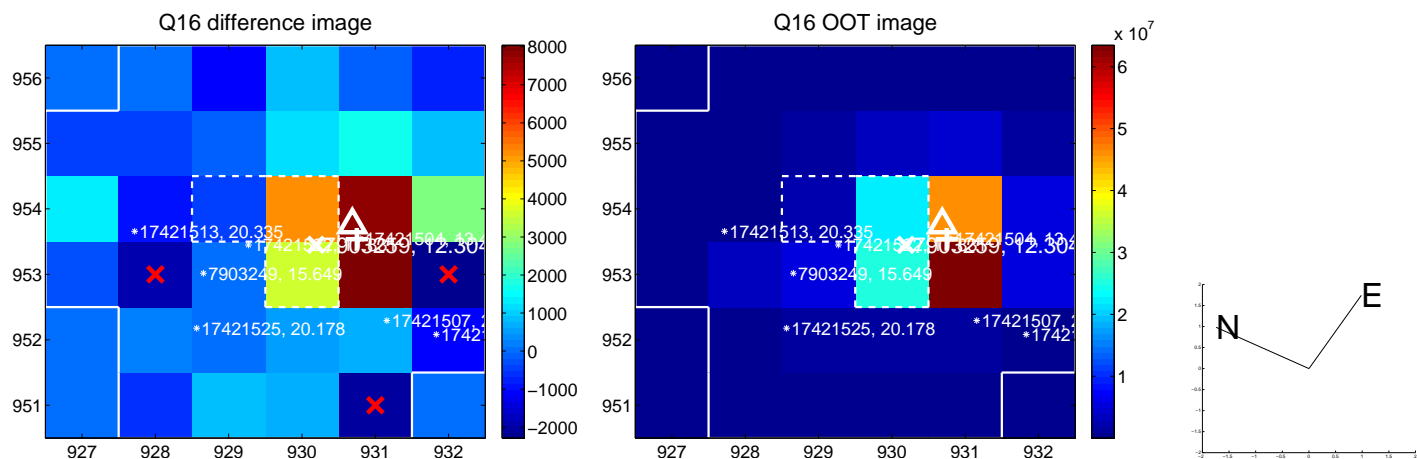
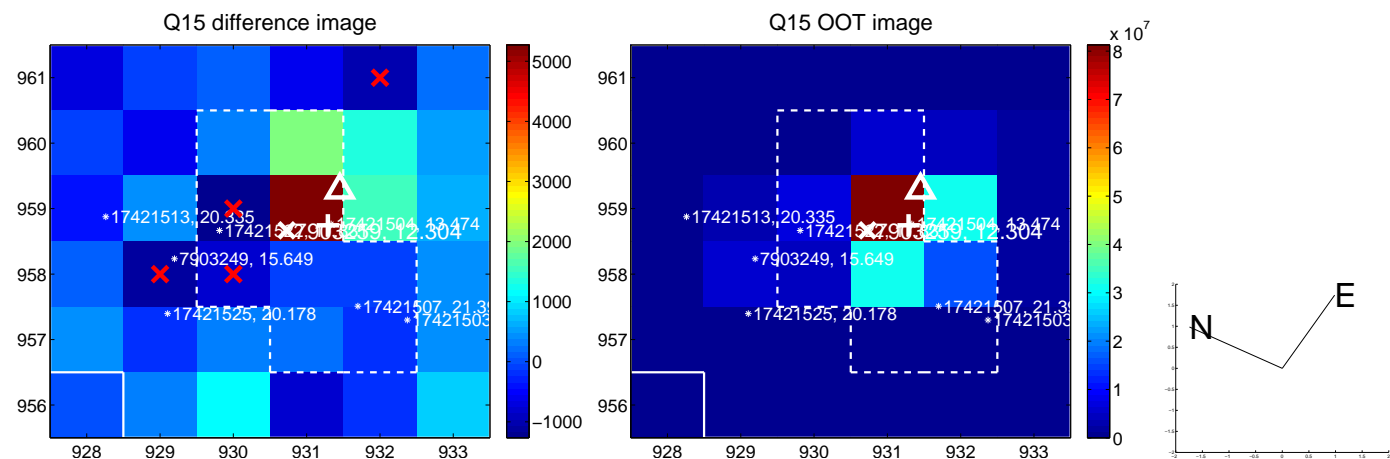
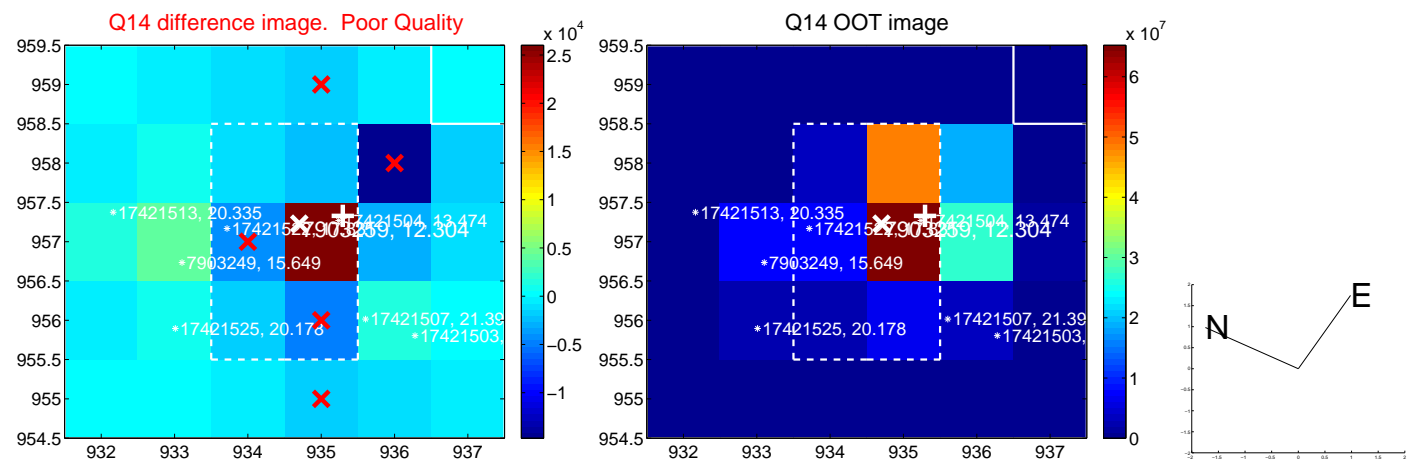
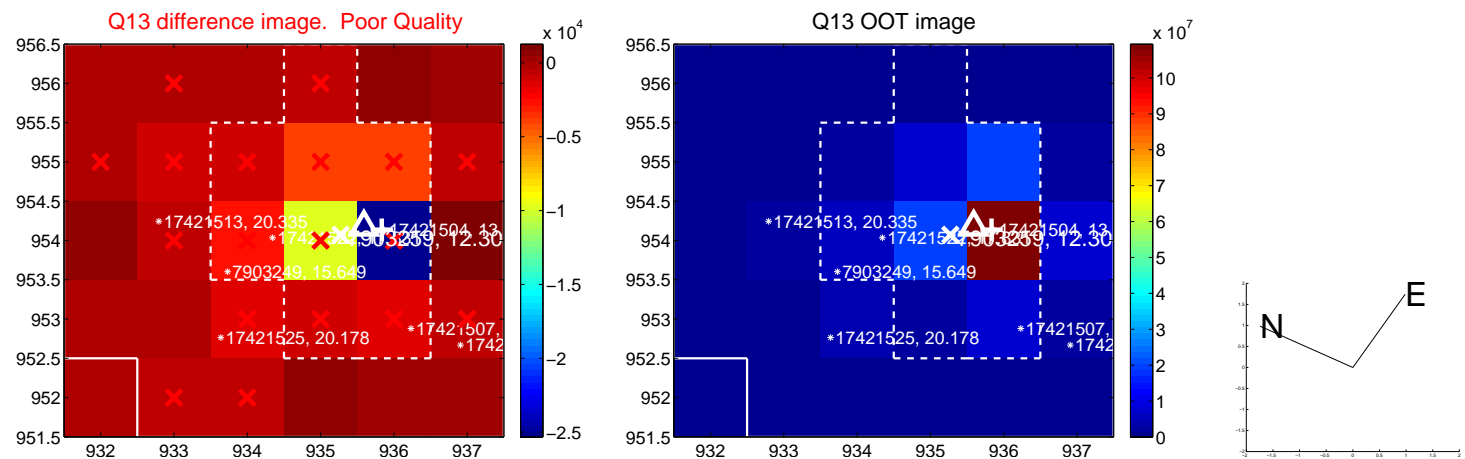
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



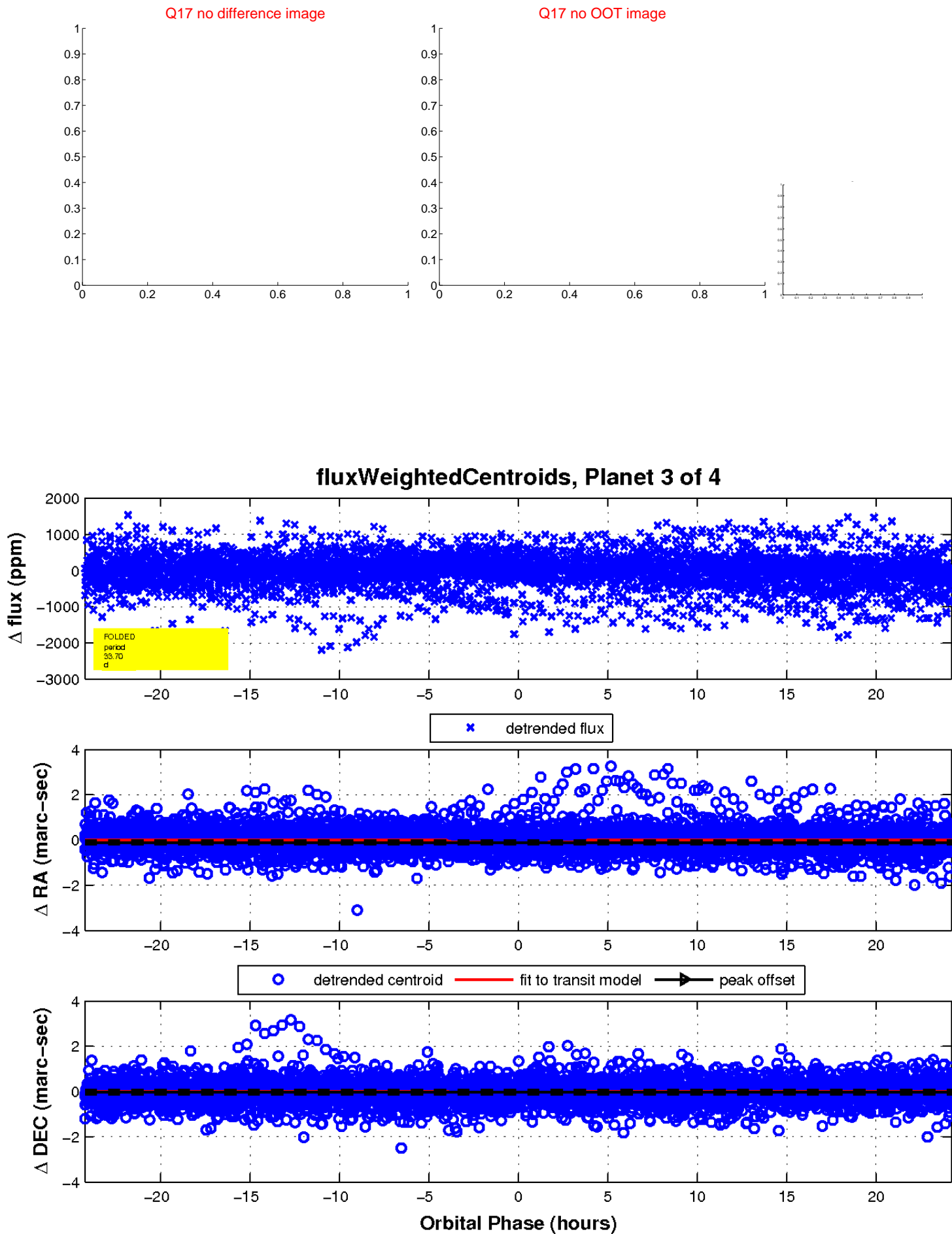
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

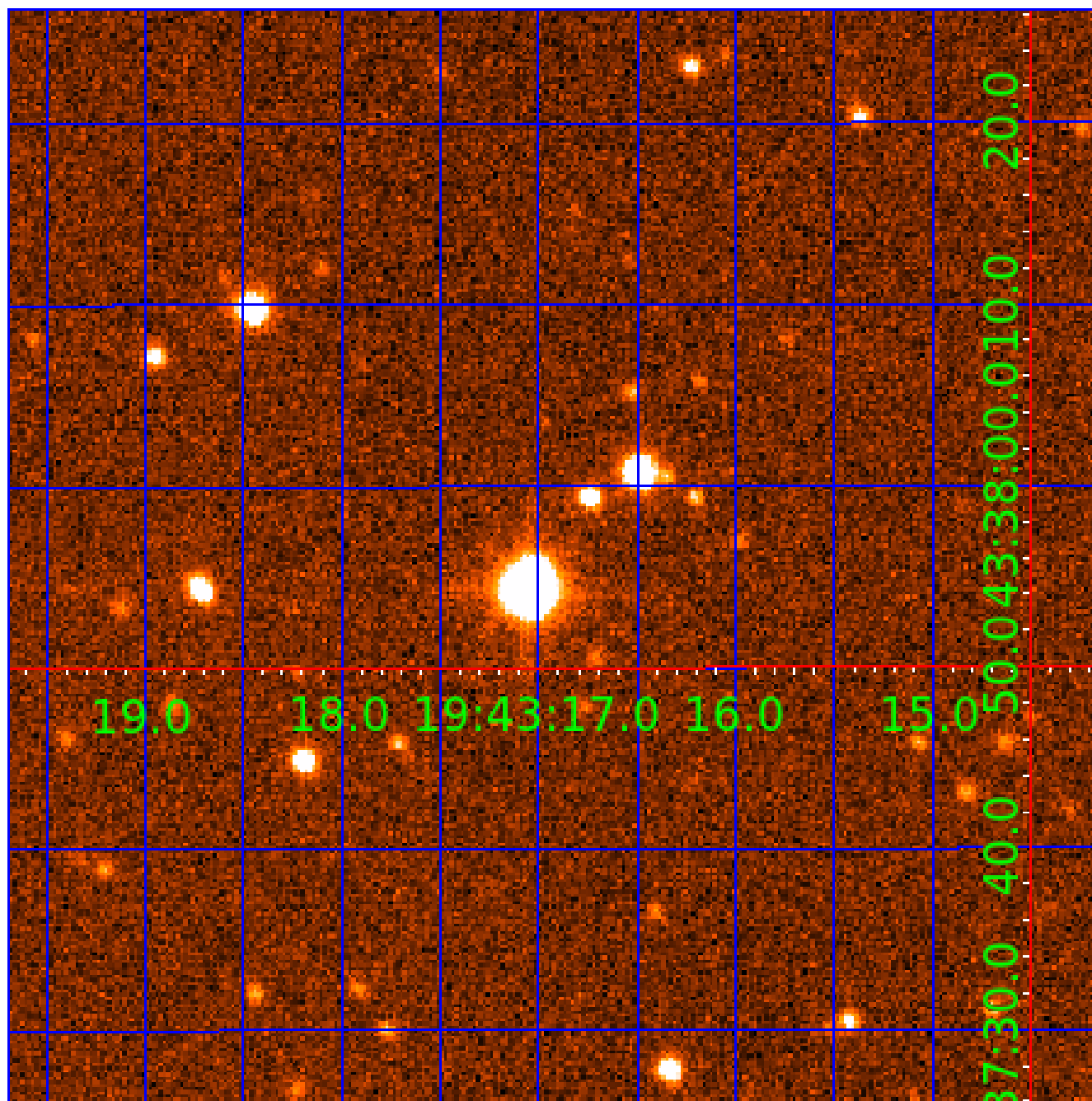


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007903259

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})
007903259-01	OBS	No	1.202999	131.636366	23.0	4.529	8.9	8.7	1.58	6486	0.89	7192.61
007903259-02	OBS	No	423.719361	133.218497	1126.1	19.531	11.6	8.0	1.58	6486	6.51	2.89
007903259-03	OBS	No	33.696472	132.639952	95.5	8.076	9.7	2.7	1.58	6486	1.74	84.55
007903259-04	OBS	No	151.363806	171.969107	271.9	13.879	9.4	5.4	1.58	6486	2.77	11.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007903259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
007903259-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007903259-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
007903259-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_KIC_POS

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

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

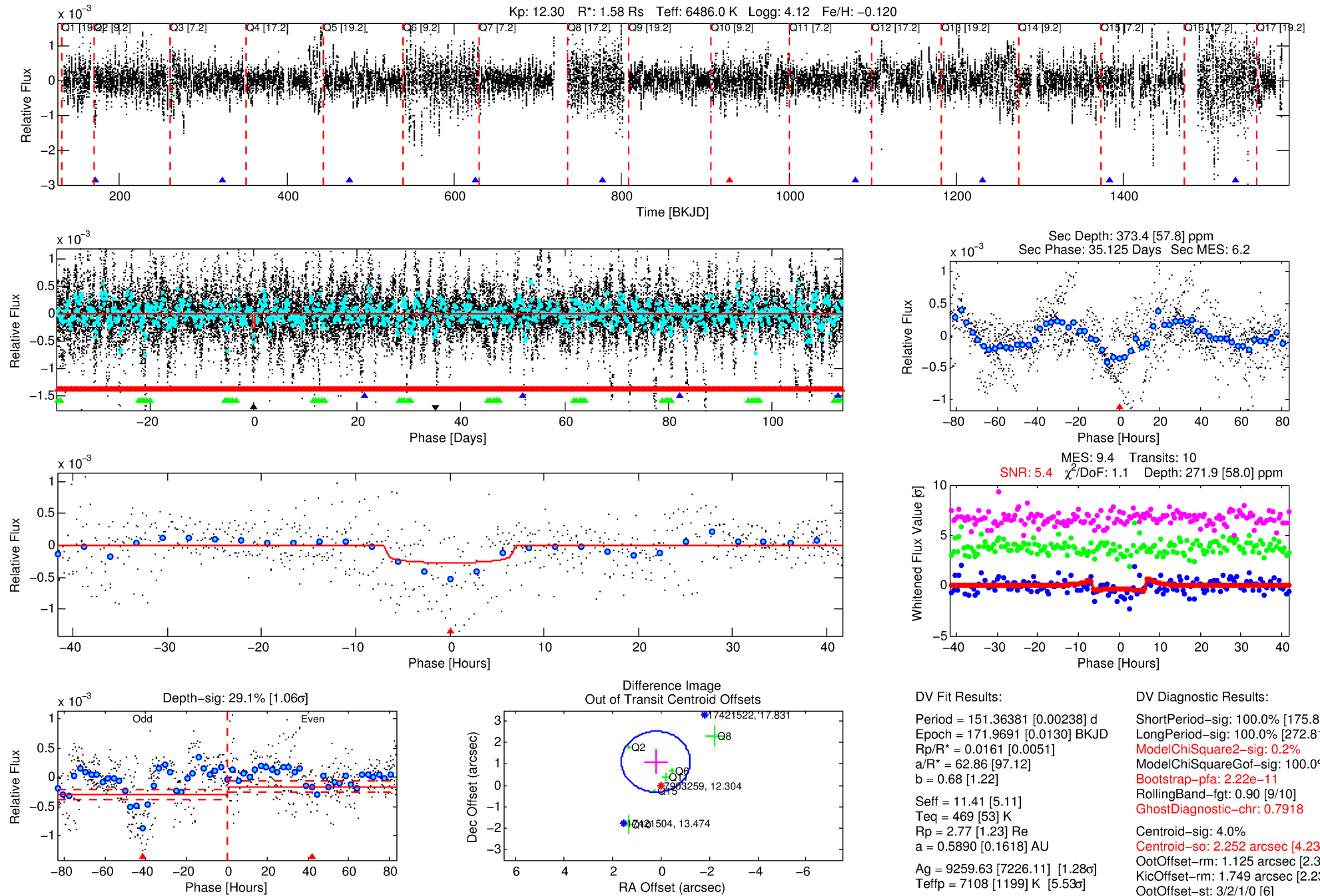
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007903259-04

No Significant Match Found

DV One-Page Summary

KIC: 7903259 Candidate: 4 of 4 Period: 151.364 d



DV Fit Results:

Period = 151.36381 [0.00238] d
Epoch = 171.9691 [0.0130] BKJD
Rp/R* = 0.0161 [0.0051]
a/R* = 62.86 [97.12]
b = 0.68 [1.22]
Seff = 11.41 [5.11]
Teq = 469 [53] K
Rp = 2.77 [1.23] Re
a = 0.5890 [0.1618] AU
Ag = 9259.63 [7226.11] [1.28 σ]
Teff = 7108 [1199] K [5.53 σ]

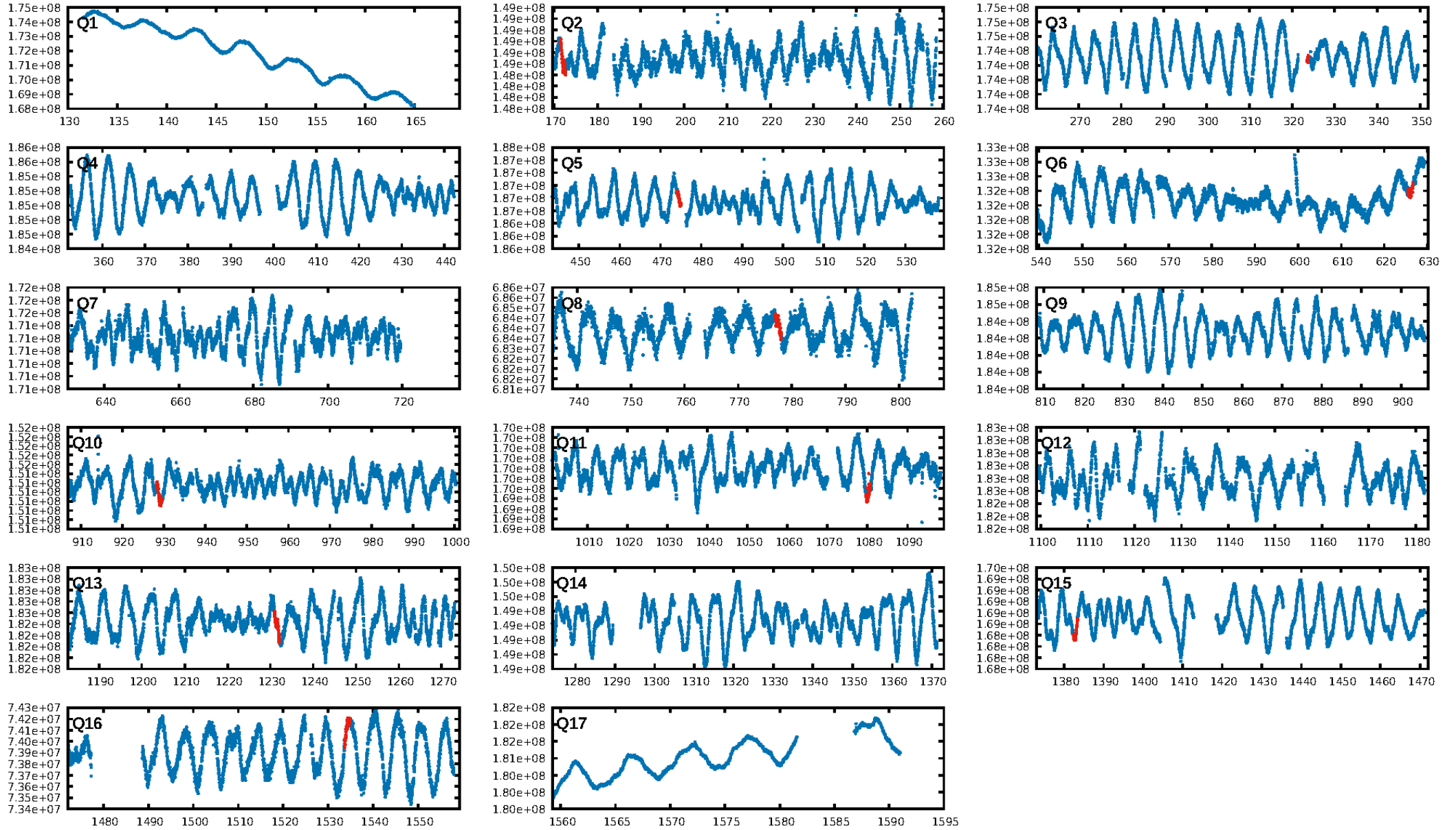
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [175.86 σ]
LongPeriod-sig: 100.0% [272.81 σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.22e-11
RollingBand-fgt: 0.90 [9/10]
GhostDiagnostic-chr: 0.7918
Centroid-sig: 4.0%
Centroid-so: 2.252 arcsec [4.23 σ]
OotOffset-rm: 1.125 arcsec [2.37 σ]
KicOffset-rm: 1.749 arcsec [2.23 σ]
OotOffset-st: 3/2/1/0 [6]
KicOffset-st: 3/2/1/0 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.00 [0/6]

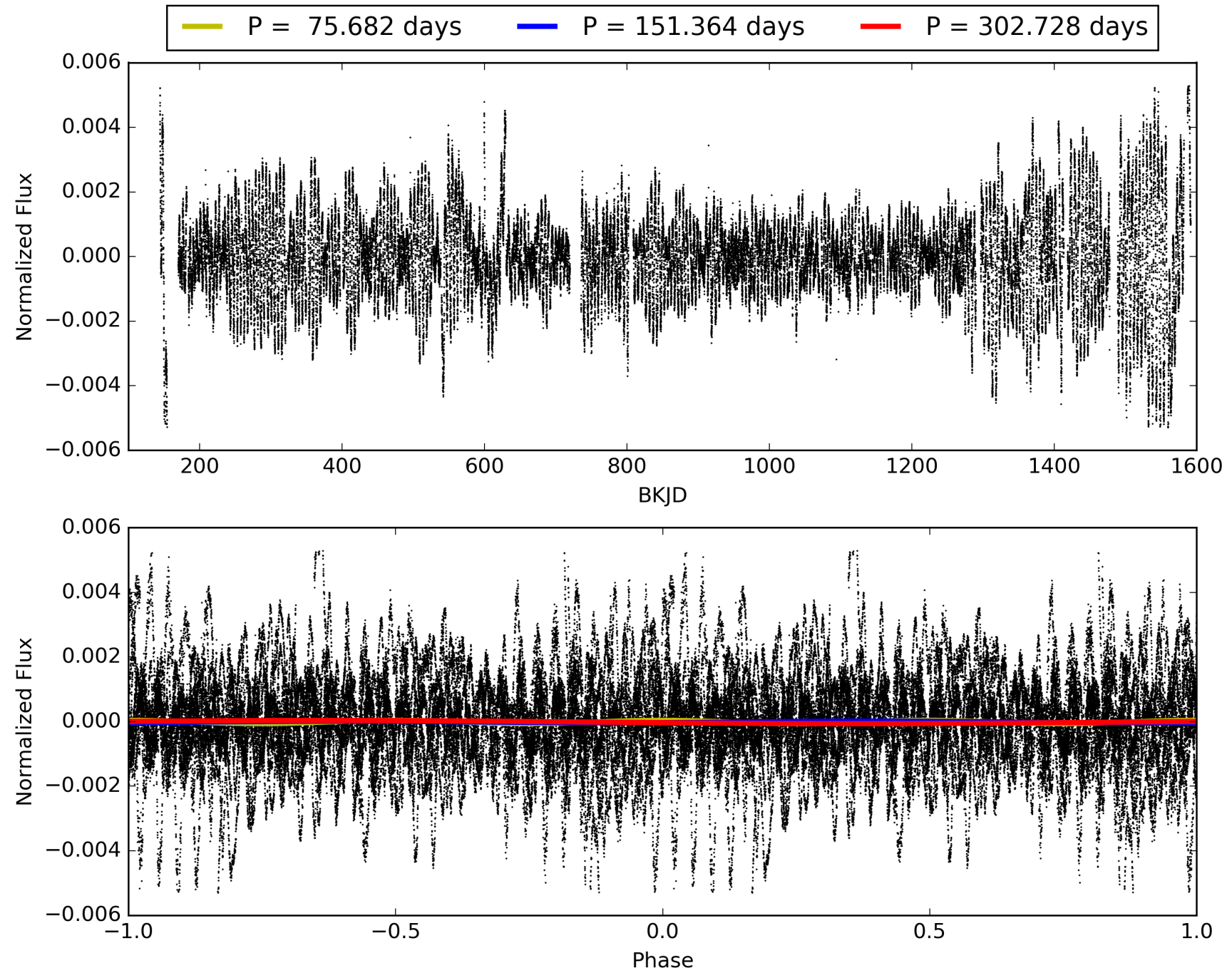
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:45:20 Z

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

TCE 007903259-04, PDC Light Curves

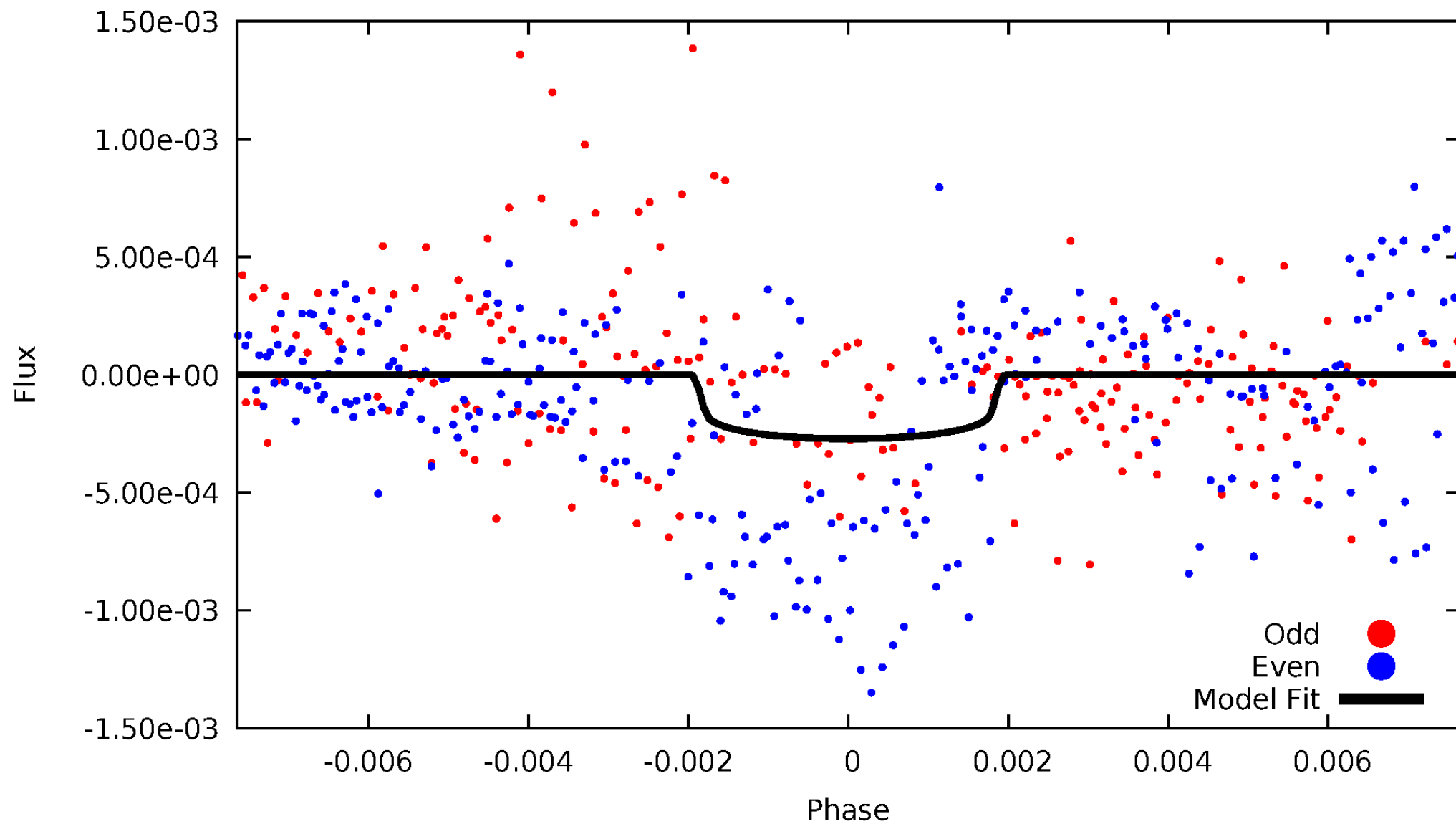


TCE 007903259-04



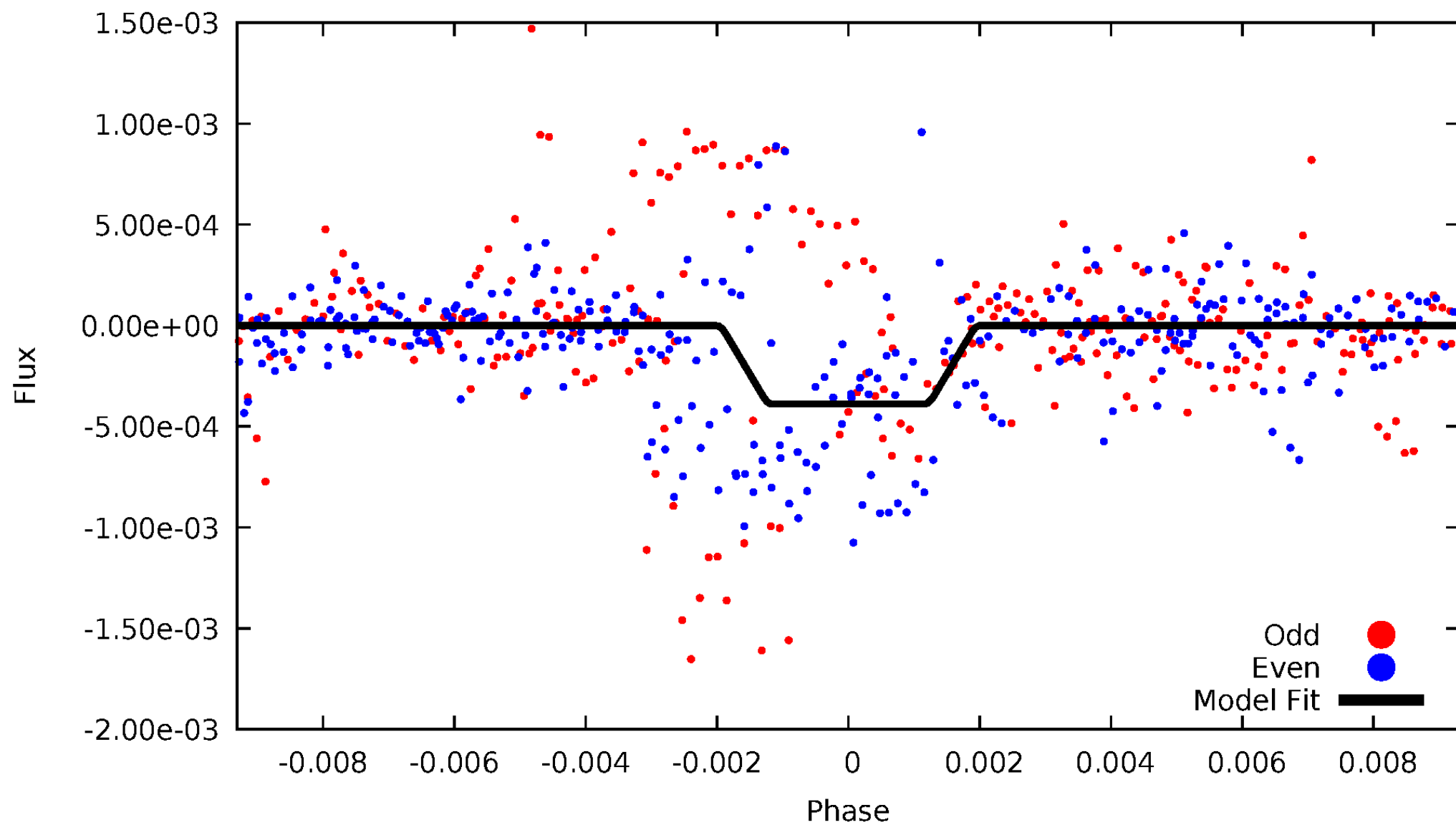
DV Odd/Even

TCE 007903259-04



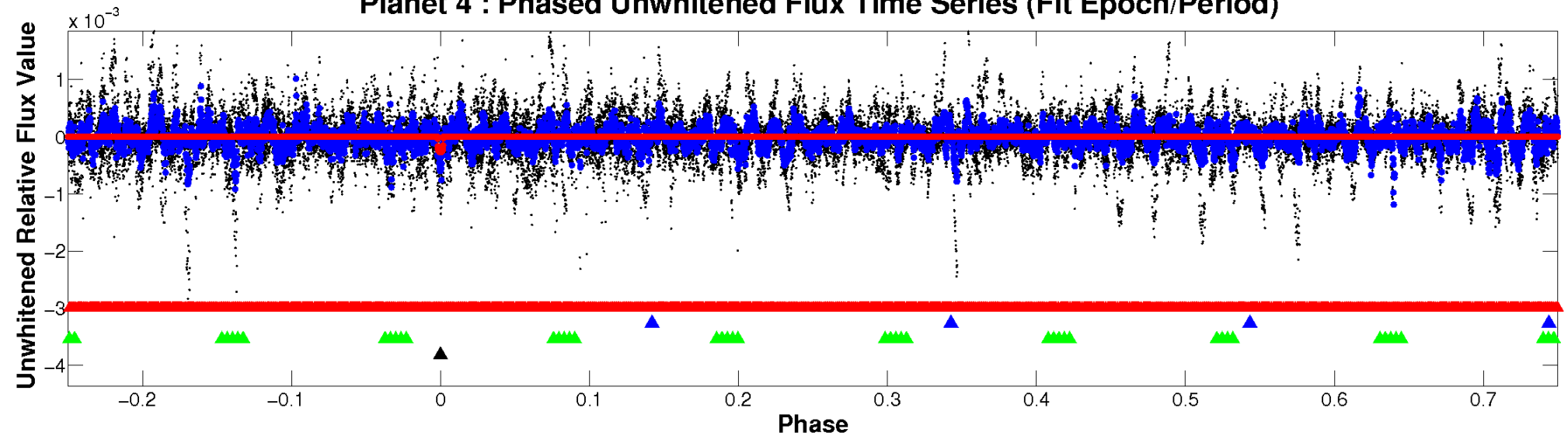
ALT Odd/Even

TCE 007903259-04

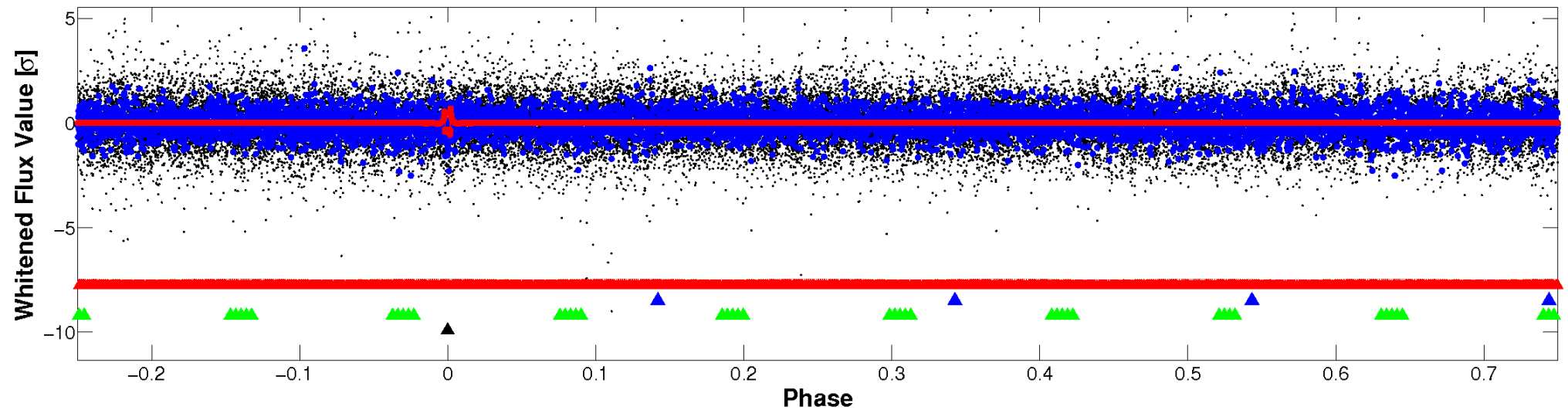


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

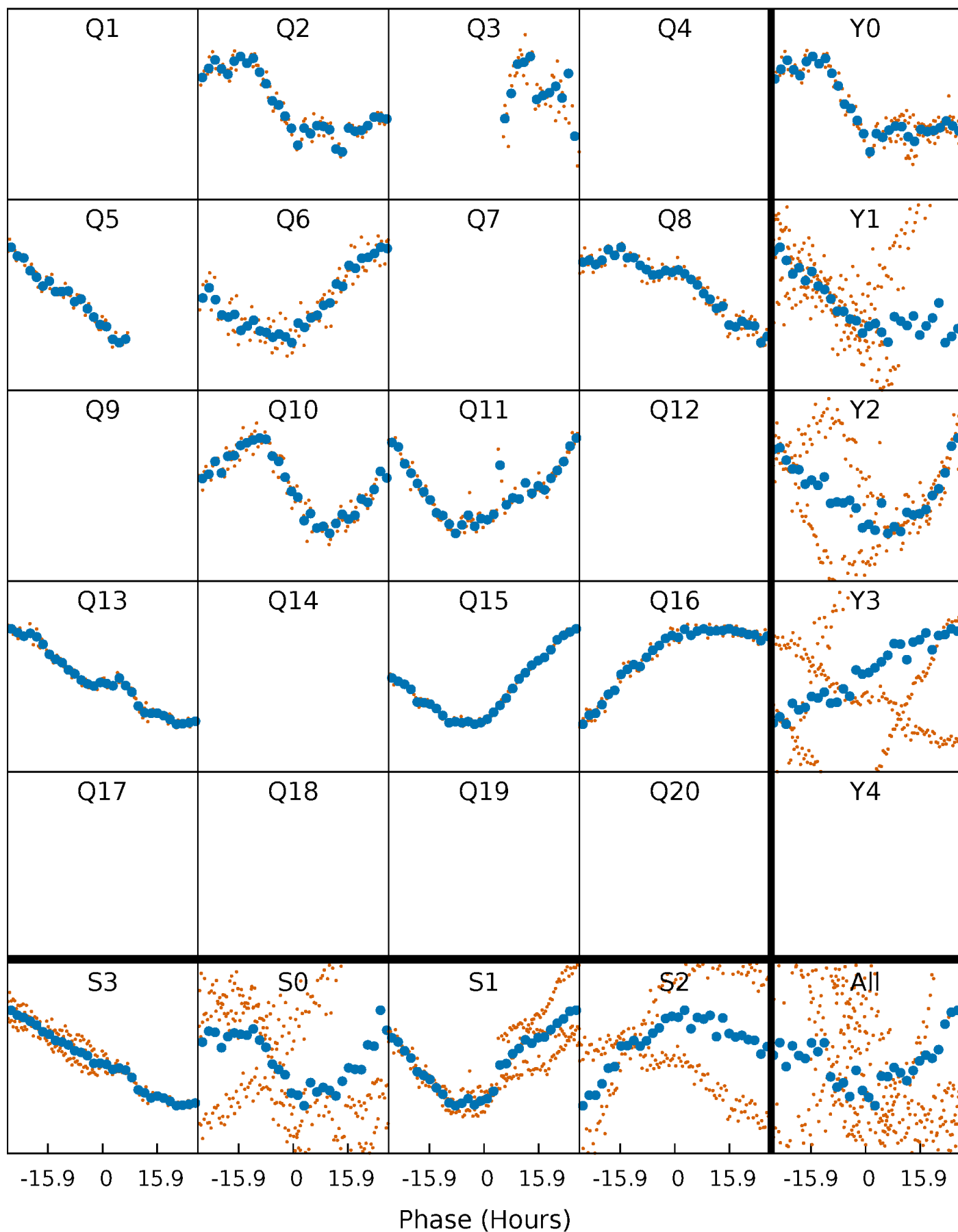


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



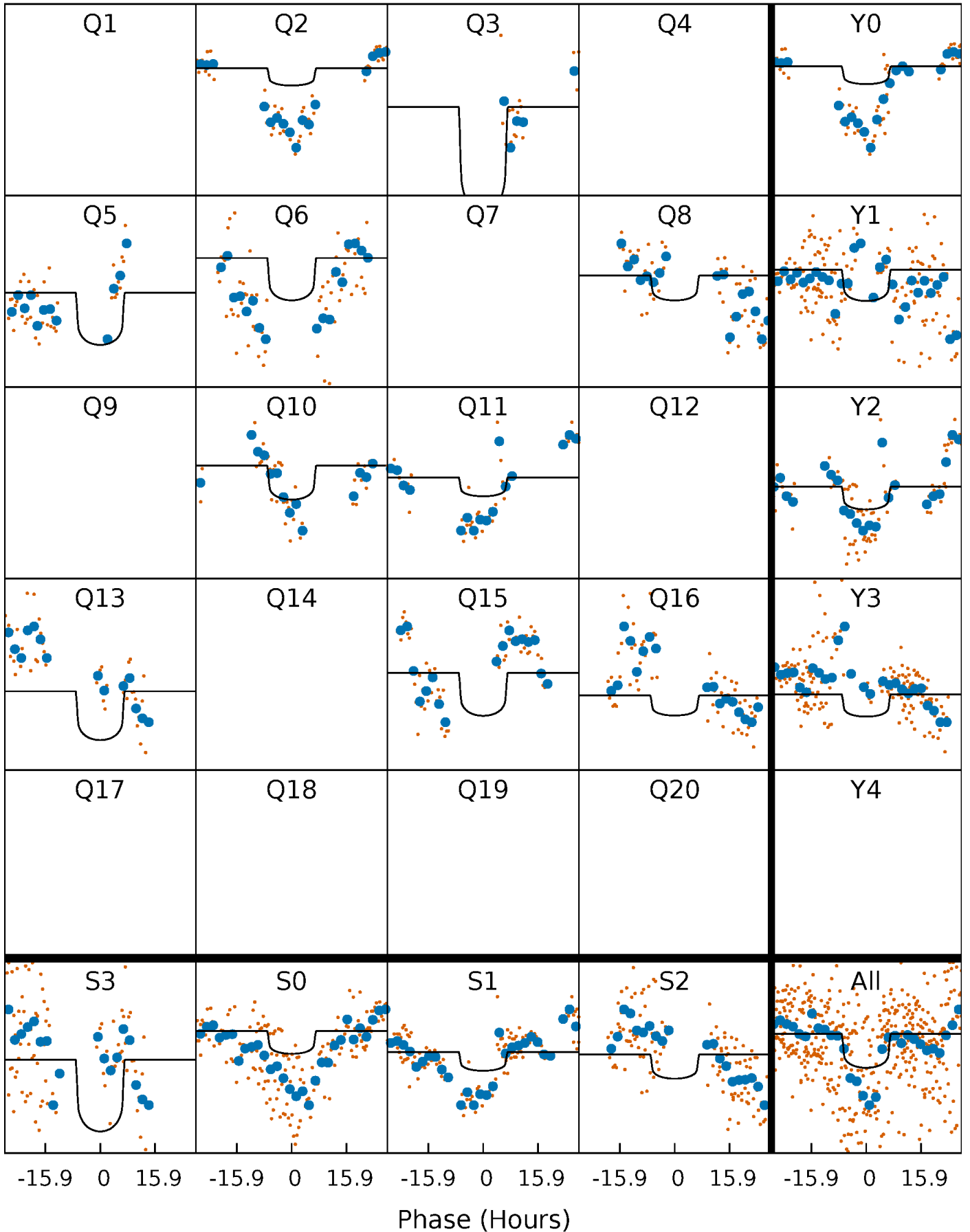
PDC Quarter-Phased Transit Curves

TCE 007903259-04 P=151.363806 Days $T_0=171.969107$ (BKJD)



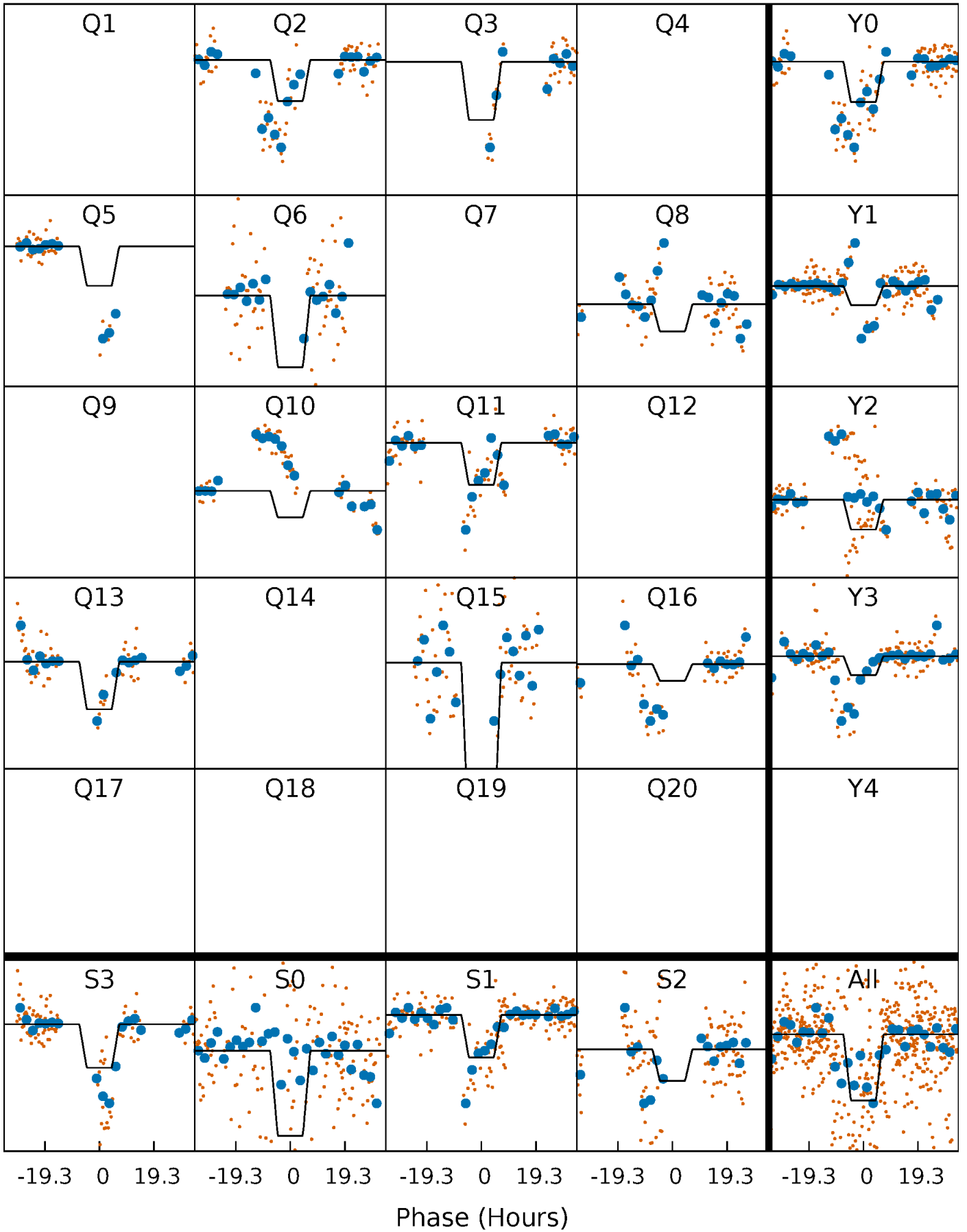
DV Quarter-Phased Transit Curves

TCE 007903259-04 P=151.363806 Days $T_0=171.969107$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

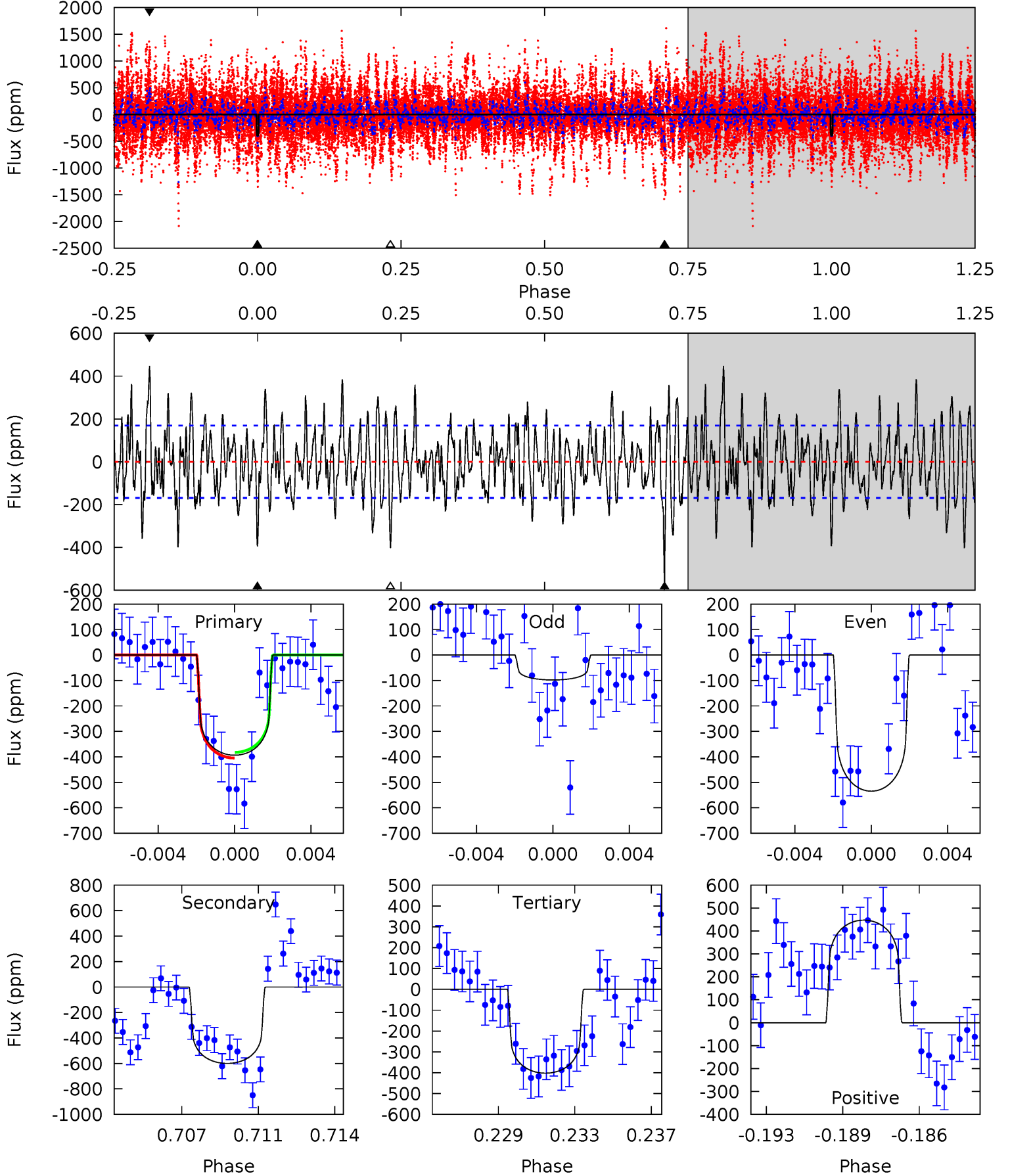
TCE 007903259-04 P=151.337757 Days $T_0=172.128526$ (BKJD)



DV Model-Shift Uniqueness Test

007903259-04, P = 151.363806 Days, E = 20.605301 Days

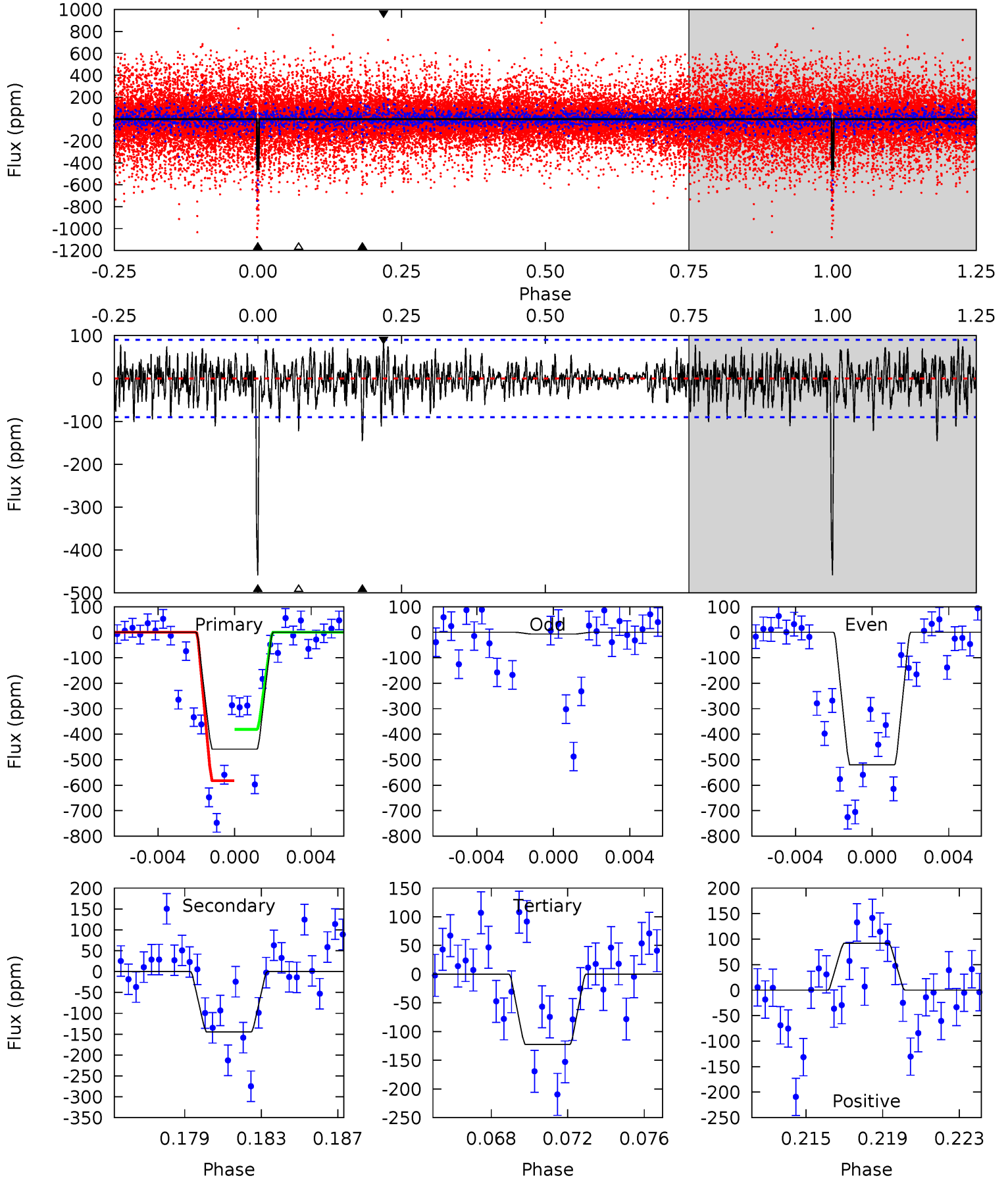
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	18.5	12.4	13.8	5.20	2.88	4.18	-0.27	-1.65	6.09	4.70	5.98	-2.03	0.43	0.34



Alt Model-Shift Uniqueness Test

007903259-04, P = 151.337757 Days, E = 20.790769 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	8.34	7.06	5.30	5.20	2.88	1.64	19.4	21.2	1.28	3.04	14.7	0.86	0.17	5.72



Stellar Parameters For KIC 007903259

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6486^{+181}_{-250}	$4.116^{+0.240}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.580^{+0.483}_{-0.439}$	$1.189^{+0.206}_{-0.169}$	$0.424^{+0.530}_{-0.203}$
	+3%/-4%	+6%/-4%	+208%/-250%	+31%/-28%	+17%/-14%	+125%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007903259-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-600 ± 32	$2.74^{+1.03}_{-0.89}$	652^{+50}_{-49}	8232^{+2357}_{-1296}	15182^{+19000}_{-7187}
Alt.	-145 ± 17	$3.32^{+1.09}_{-0.94}$	651^{+57}_{-53}	5139^{+744}_{-491}	2515^{+2435}_{-1116}

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

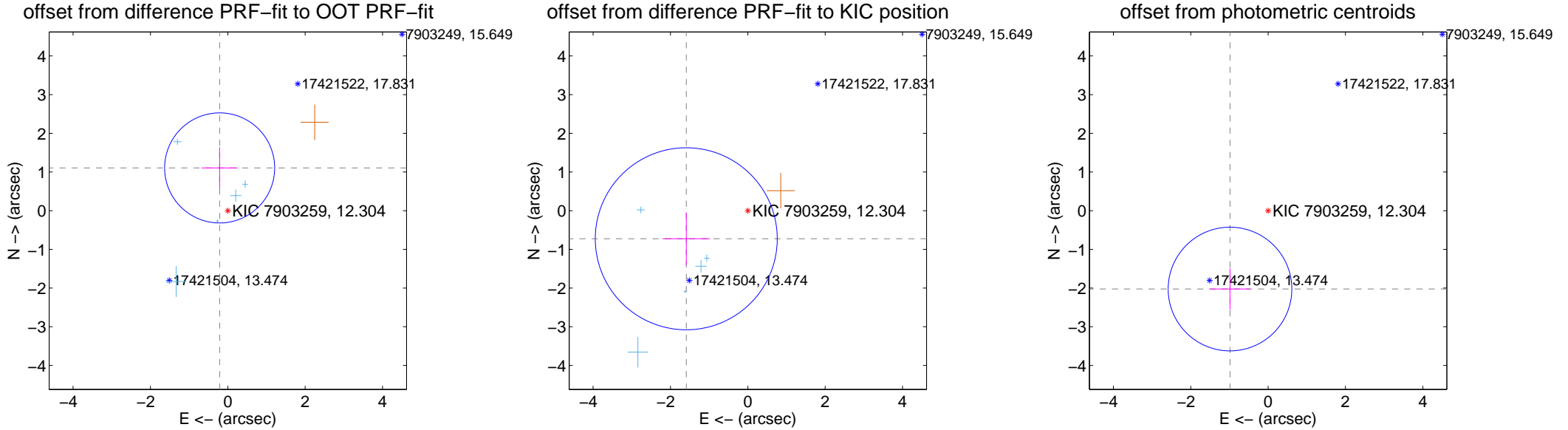
DV Centroid Data

Supplemental centroid analysis for 007903259-04. Kepler magnitude: 12.30. Transit SNR 5.35

There are 5 quarters with good PRF difference image offsets

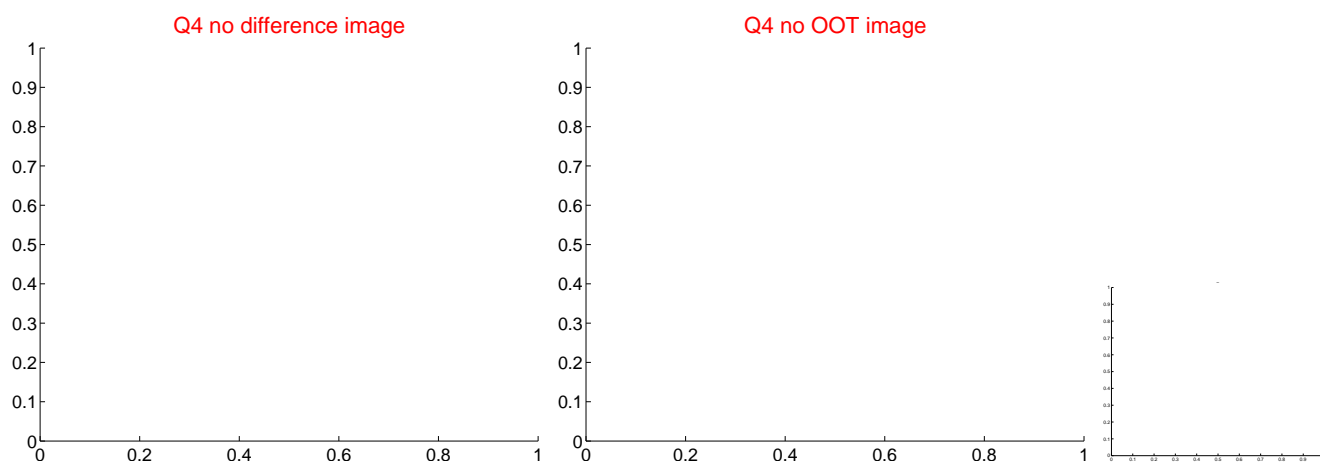
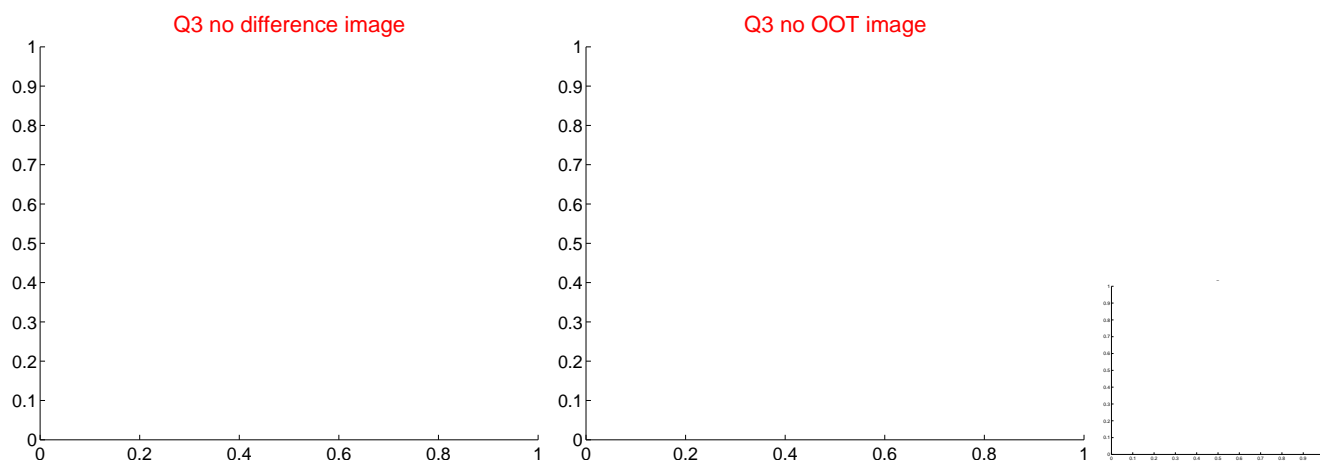
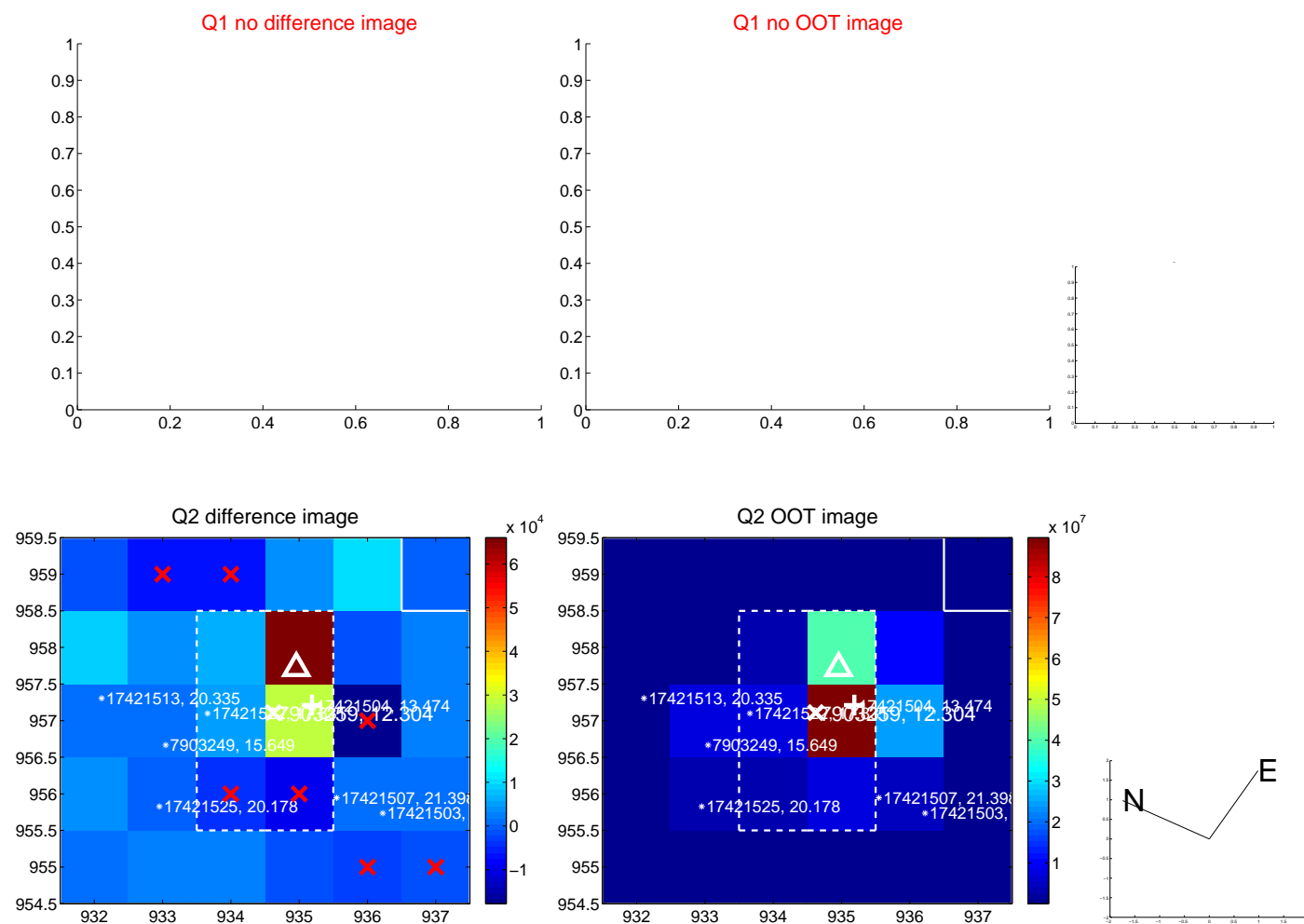
The OOT PRF centroid is offset from the target star catalog position by about 2.27 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.125 ± 0.474	2.37	0.211 ± 0.471	1.106 ± 0.533
PRF-fit source offset from KIC position	1.749 ± 0.784	2.23	1.591 ± 0.612	-0.726 ± 0.677
photometric centroid source offset	2.25 ± 0.53	4.23	0.99 ± 0.52	-2.02 ± 0.54

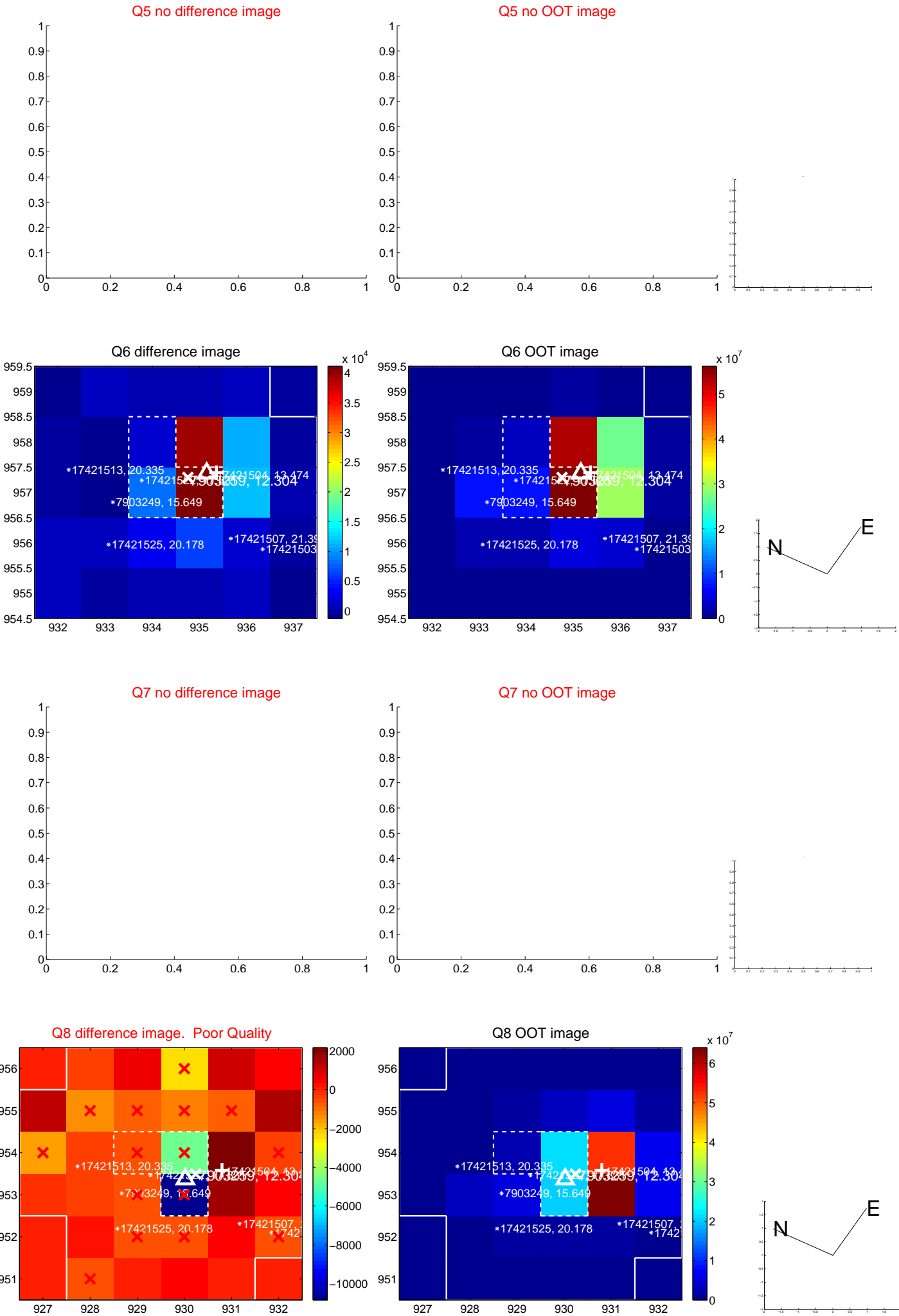


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

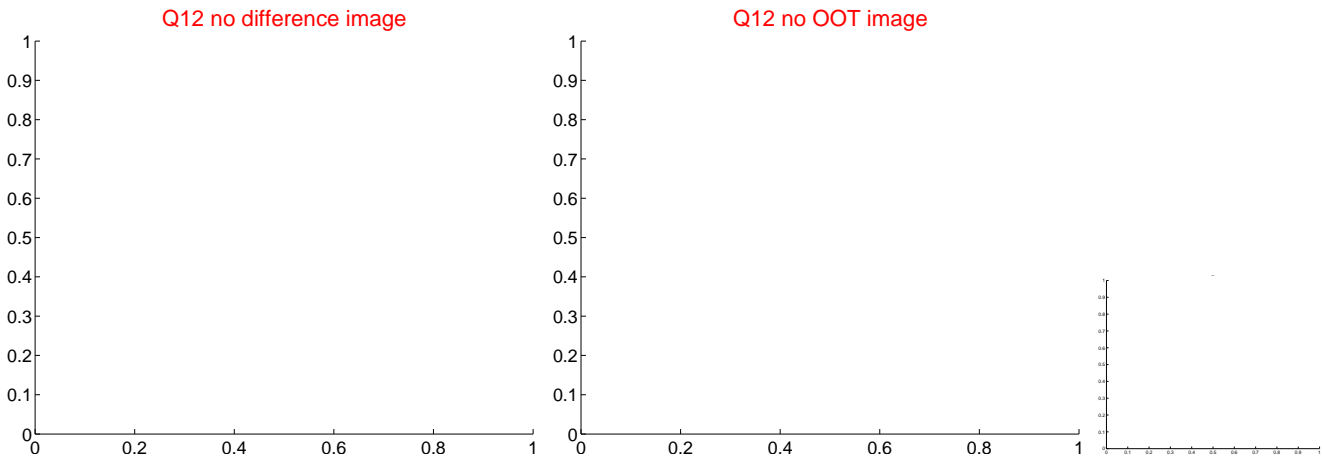
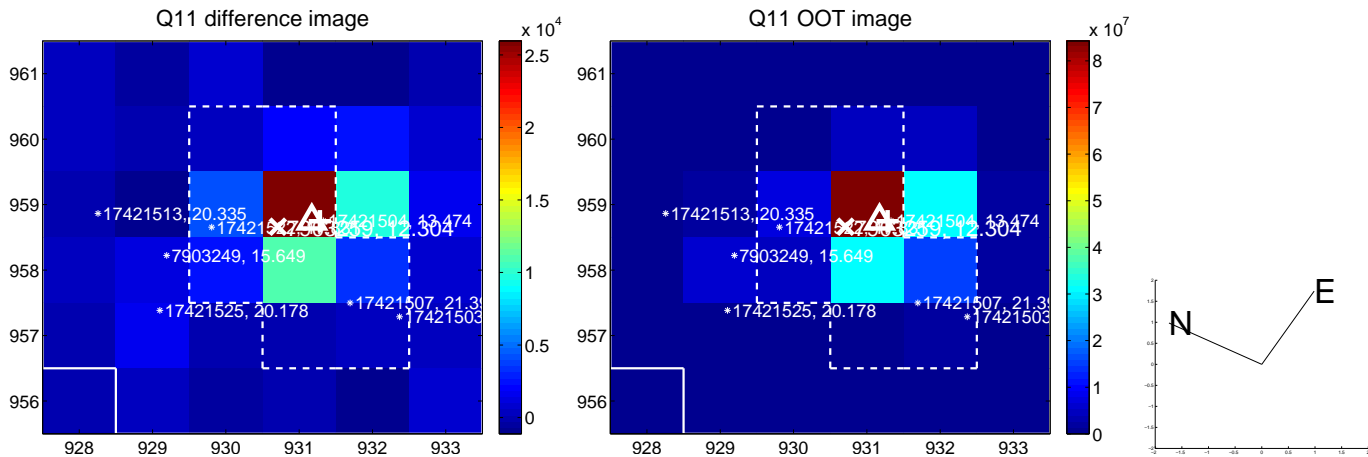
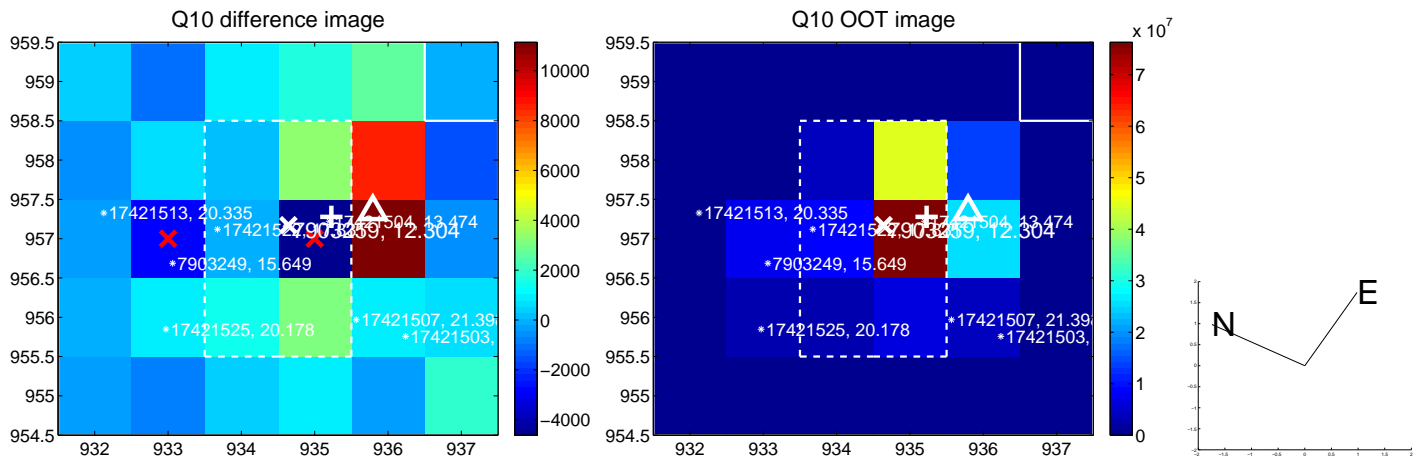
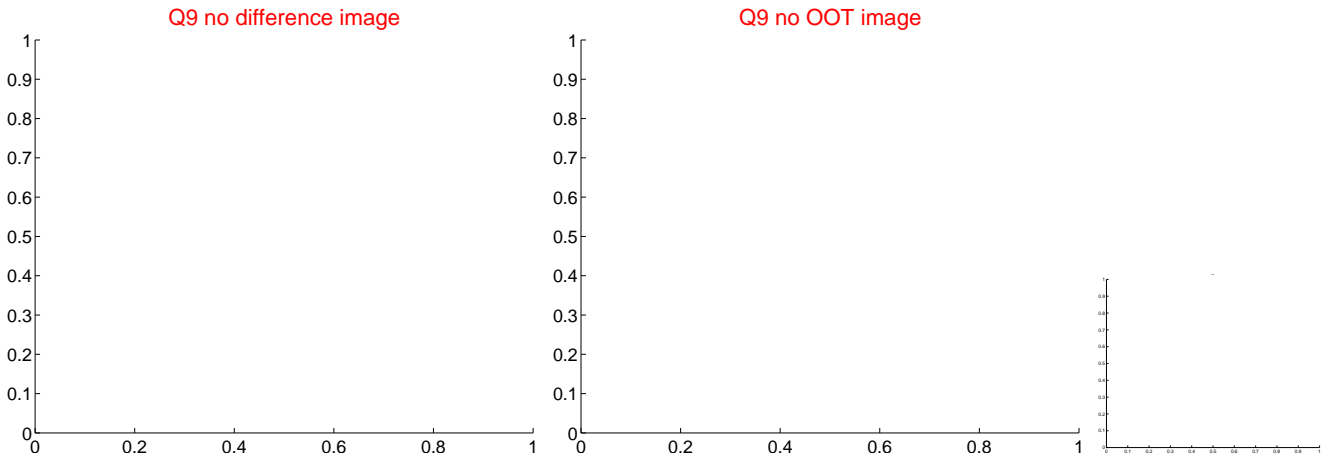
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



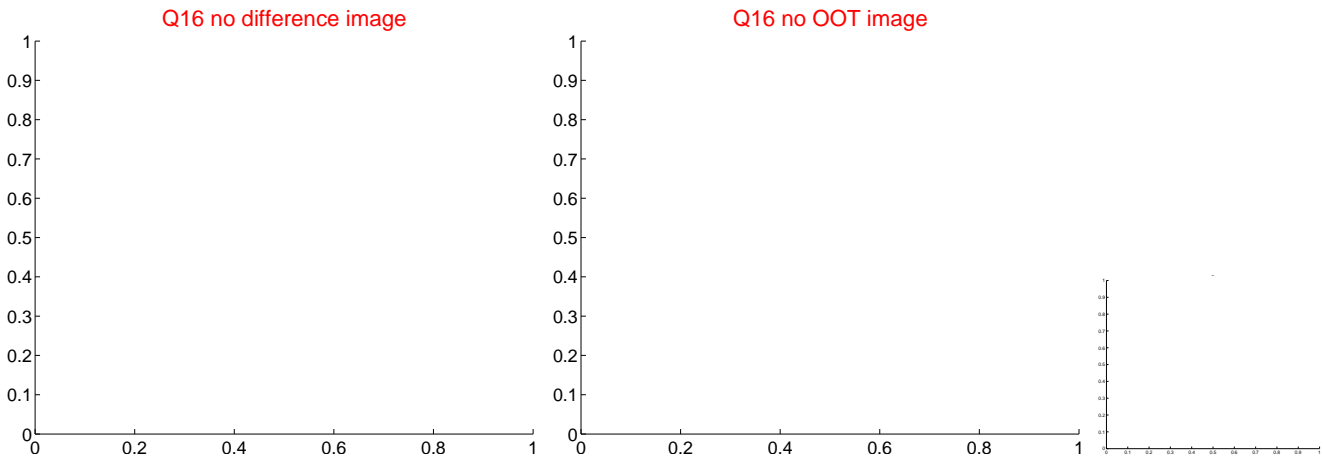
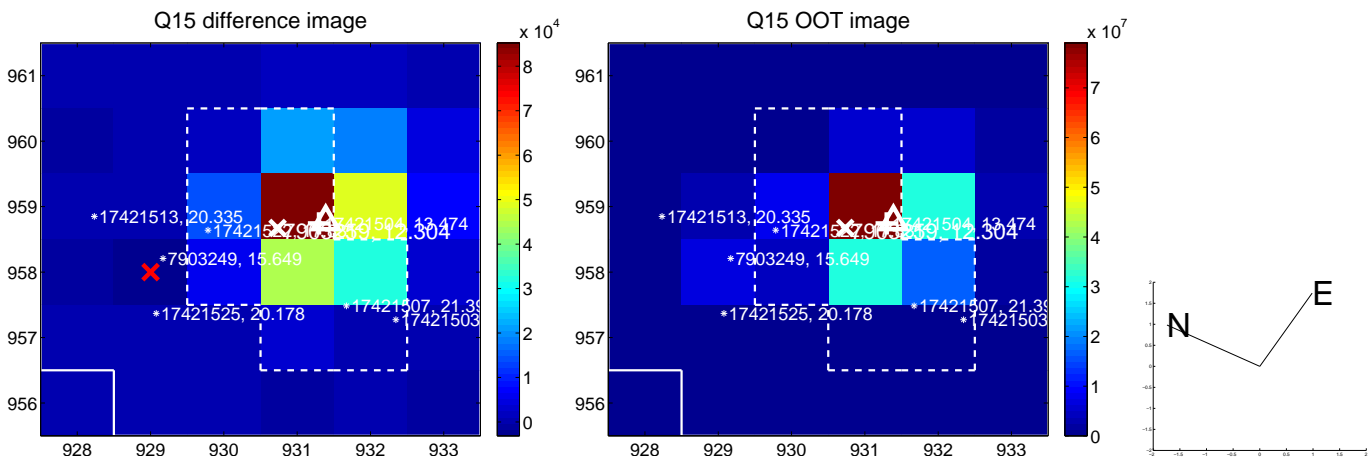
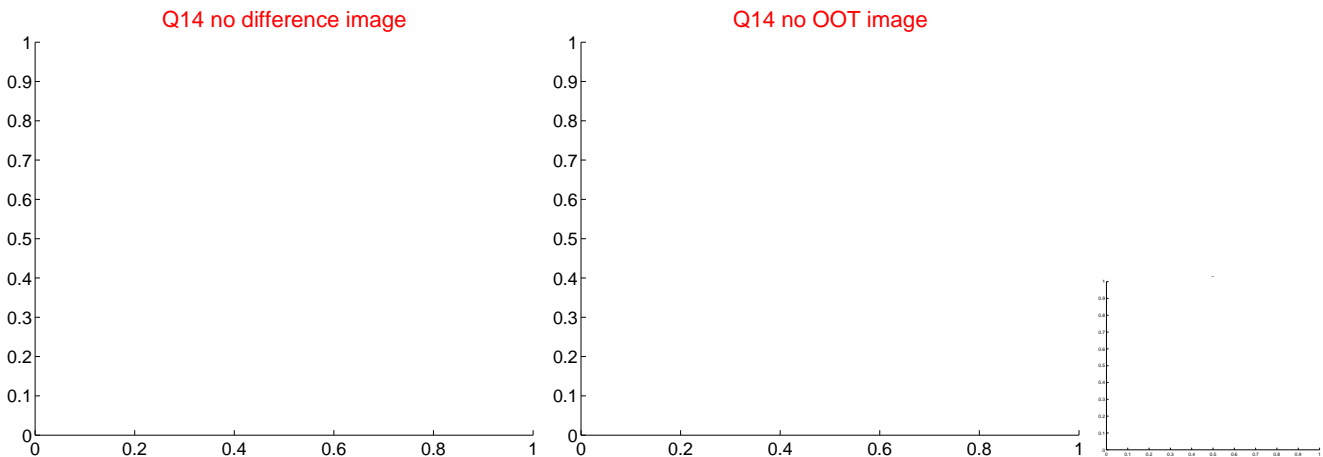
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



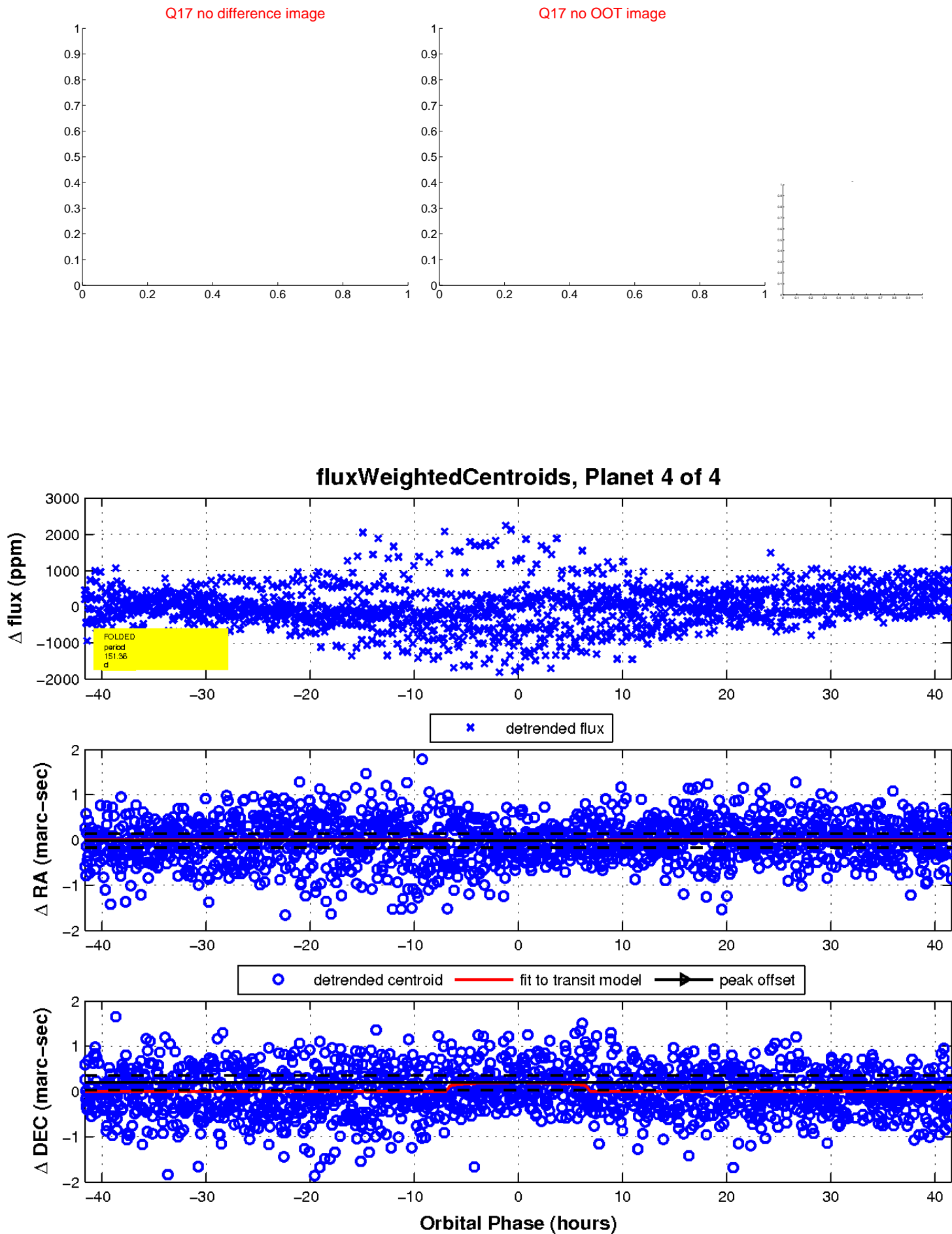
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

