

KIC 007256914

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})
007256914-01	OBS	4136.01	2.417502	133.806174	56.6	4.377	13.1	13.9	1.31	5575	1.13	1220.27
007256914-02	OBS	4136.02	4.033641	134.220346	64.4	5.846	11.3	12.4	1.31	5575	1.20	616.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007256914-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT
007256914-02	OBS	PC	0.97	0	0	0	0	NO_COMMENT

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

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

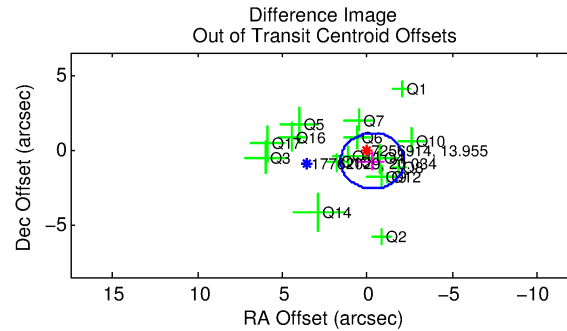
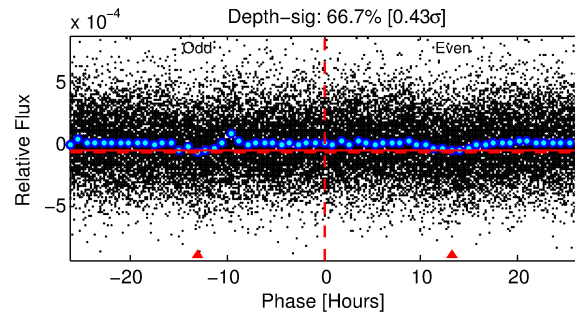
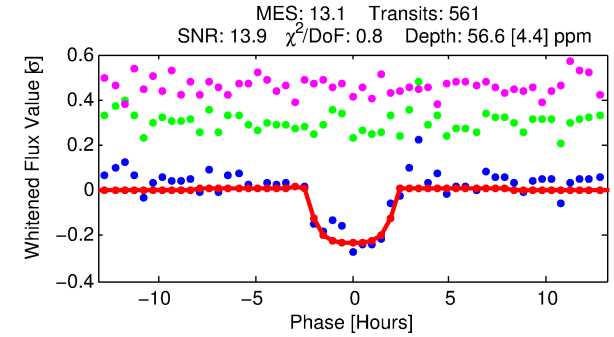
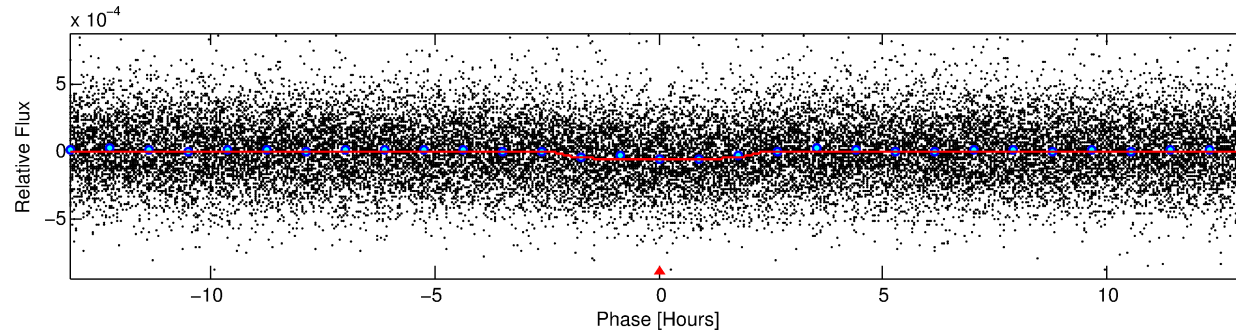
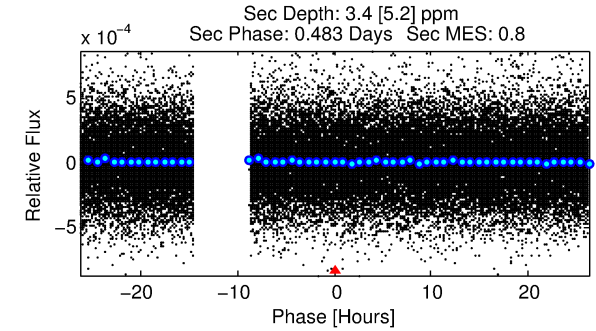
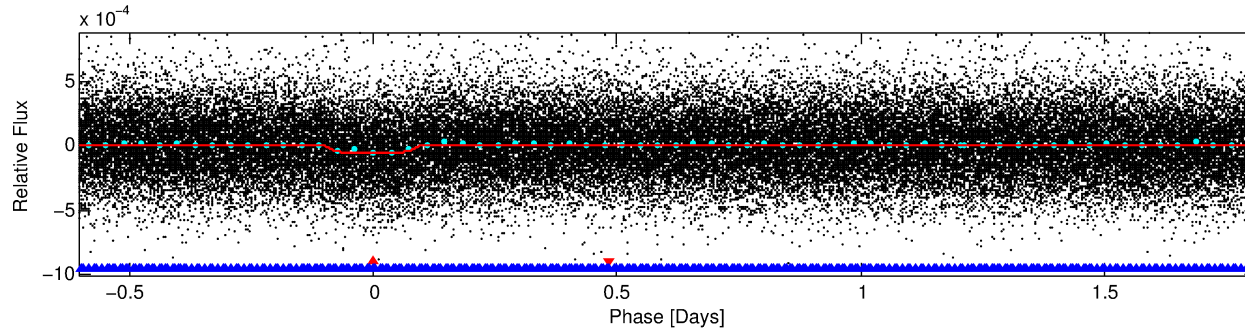
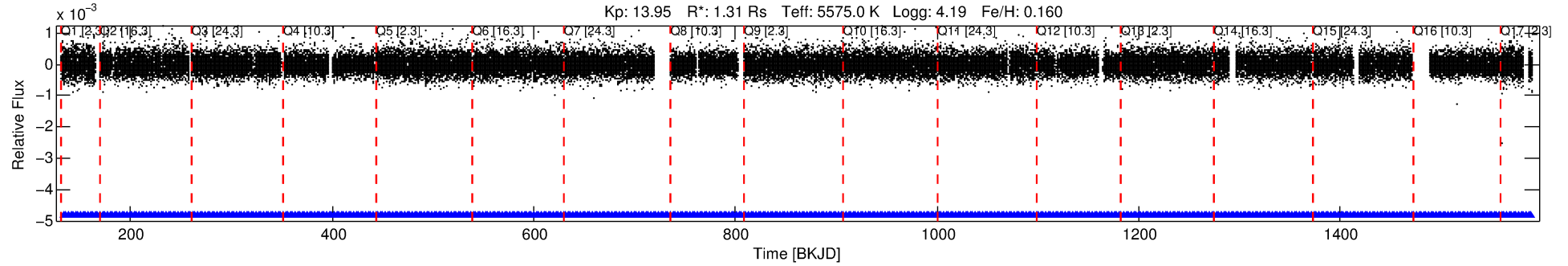
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007256914-01

No Significant Match Found

DV One-Page Summary

KIC: 7256914 Candidate: 1 of 2 Period: 2.418 d
KOI: K04136.01 Corr: 0.986



DV Fit Results:

Period = 2.41750 [0.00002] d
Epoch = 133.8062 [0.0043] BKJD
Rp/R* = 0.0079 [0.0034]
a/R* = 2.45 [3.84]
b = 0.85 [0.62]
Seff = 1220.27 [398.72]
Teq = 1507 [123] K
Rp = 1.13 [0.55] Re
a = 0.0348 [0.0070] AU
Ag = 1.76 [3.16] [0.24σ]
Teffp = 2684 [1188] K [0.99σ]

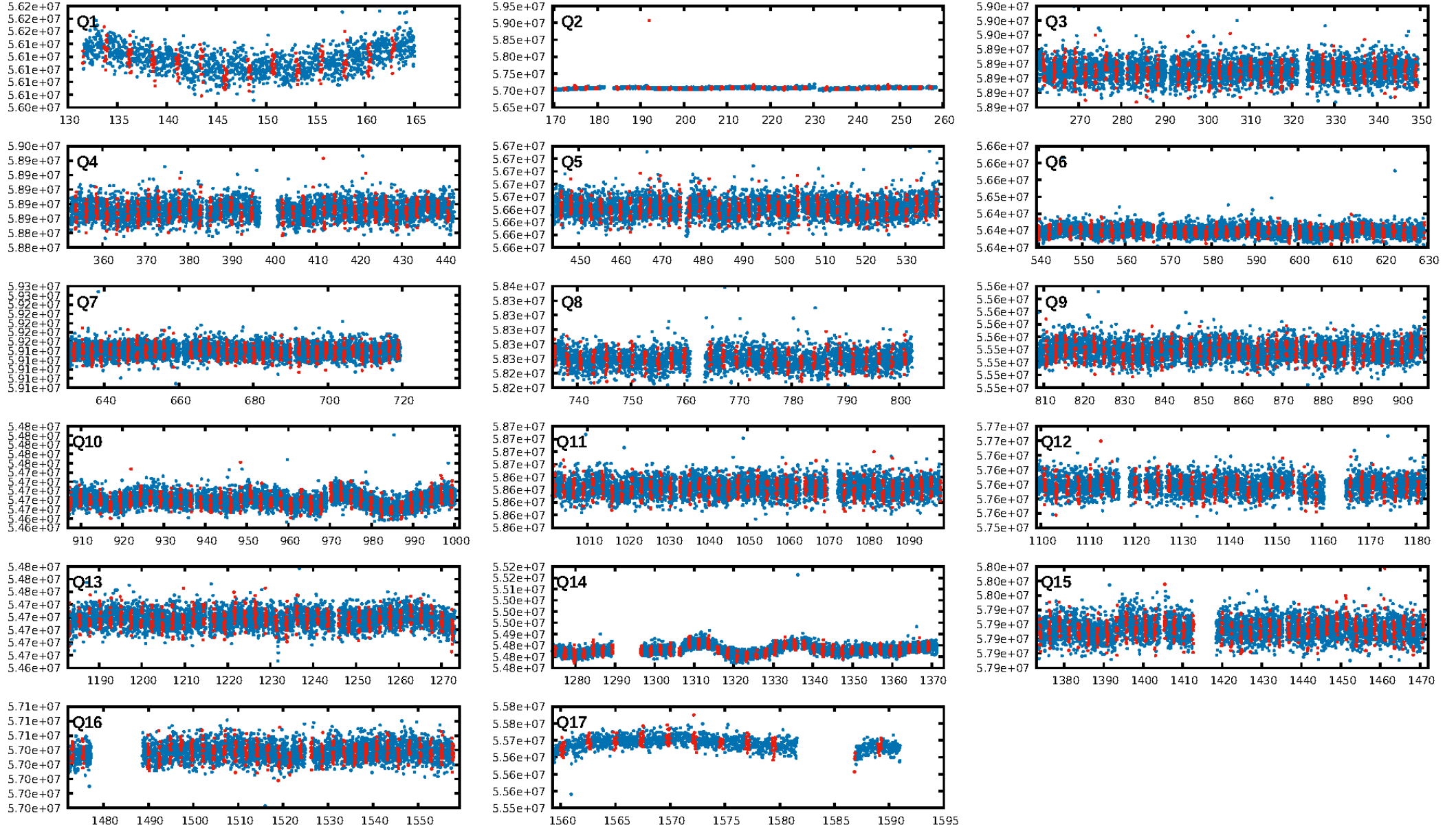
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.31σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.18e-39
RollingBand-fgt: 1.00 [538/538]
GhostDiagnostic-chr: 2.081
Centroid-sig: 0.1%
Centroid-so: 2.163 arcsec [2.30σ]
OotOffset-rm: 0.815 arcsec [1.31σ]
KicOffset-rm: 0.747 arcsec [1.30σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 1.00 [17/17]

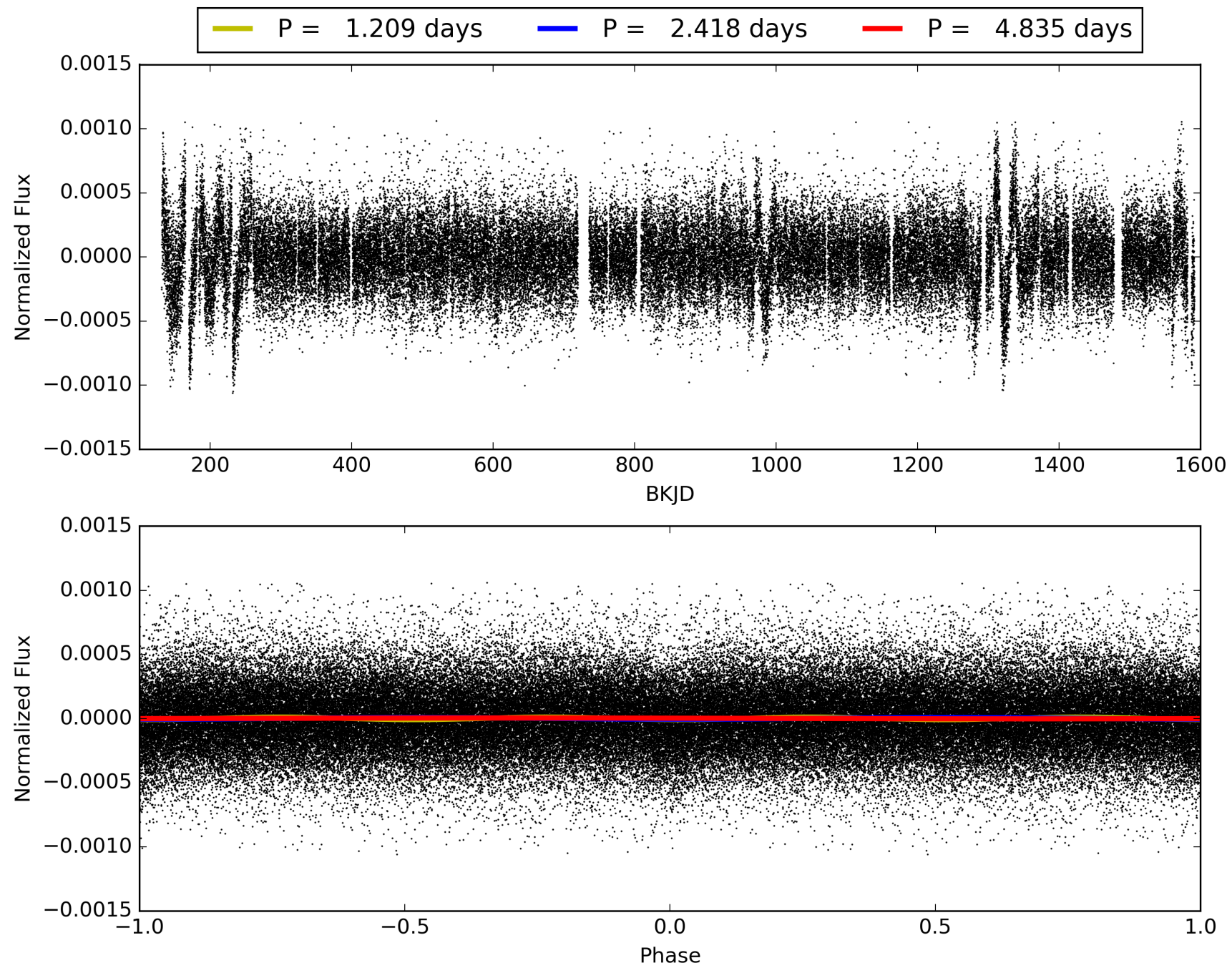
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:37:30 Z

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

TCE 007256914-01, PDC Light Curves

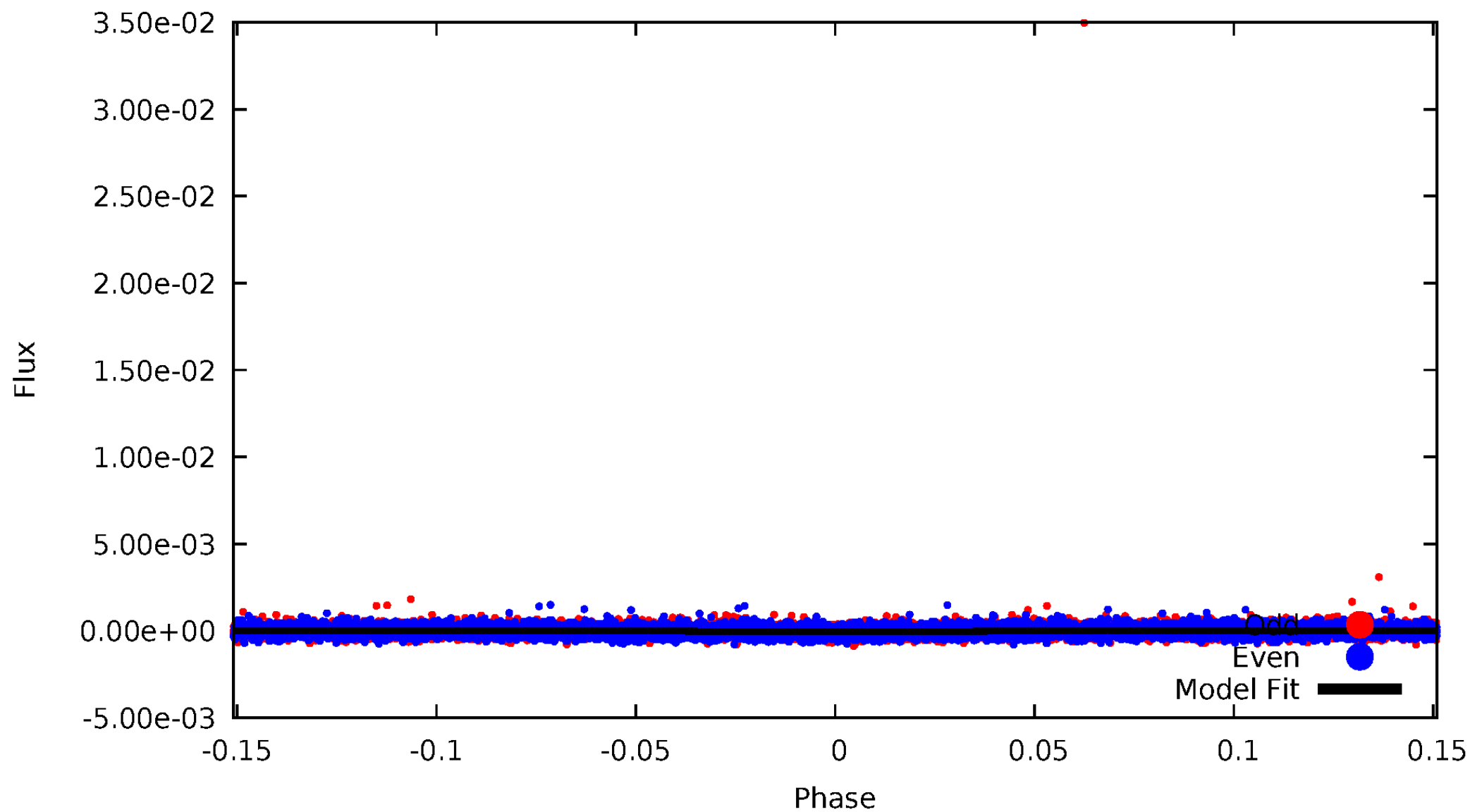


TCE 007256914-01



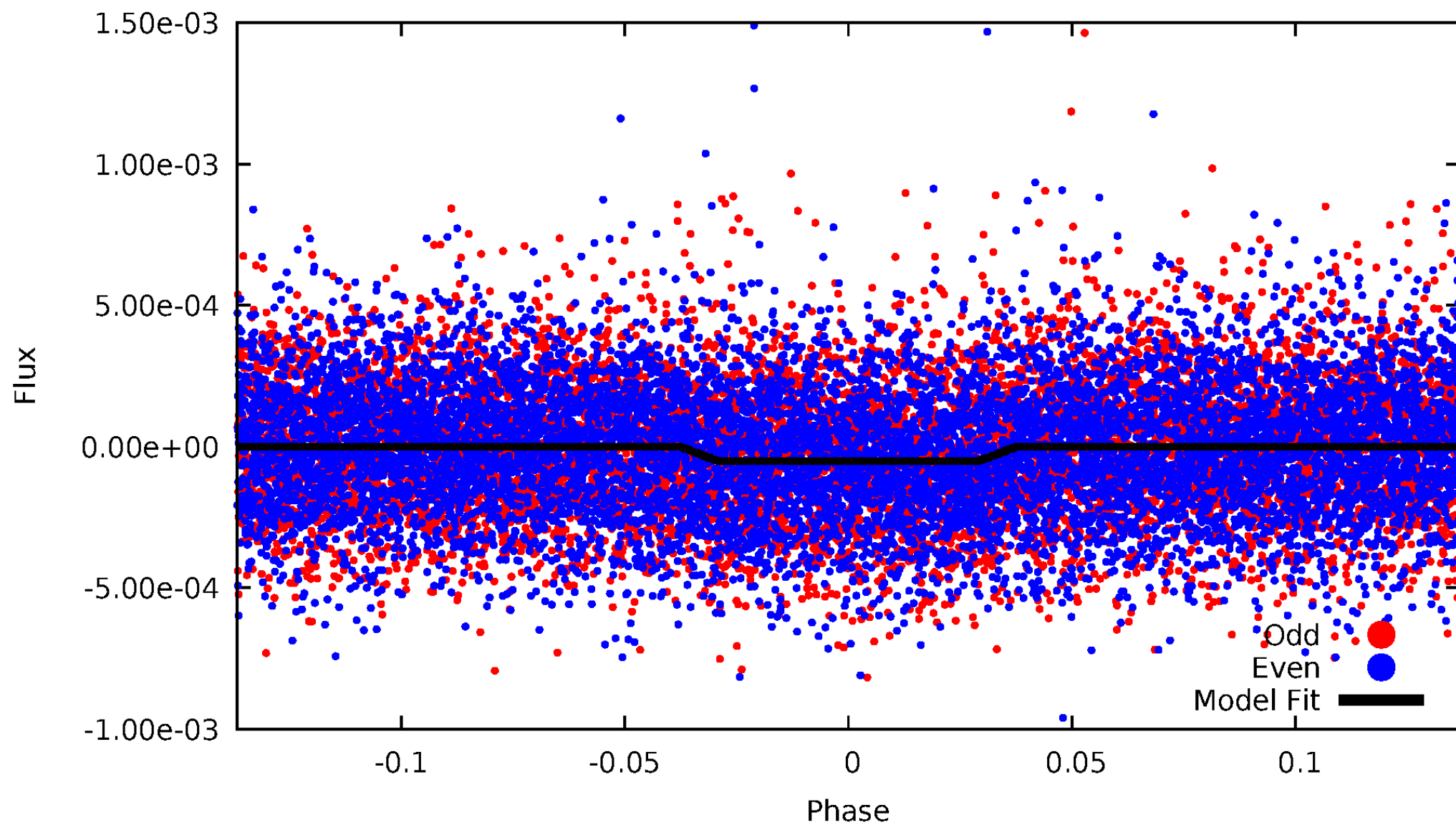
DV Odd/Even

TCE 007256914-01



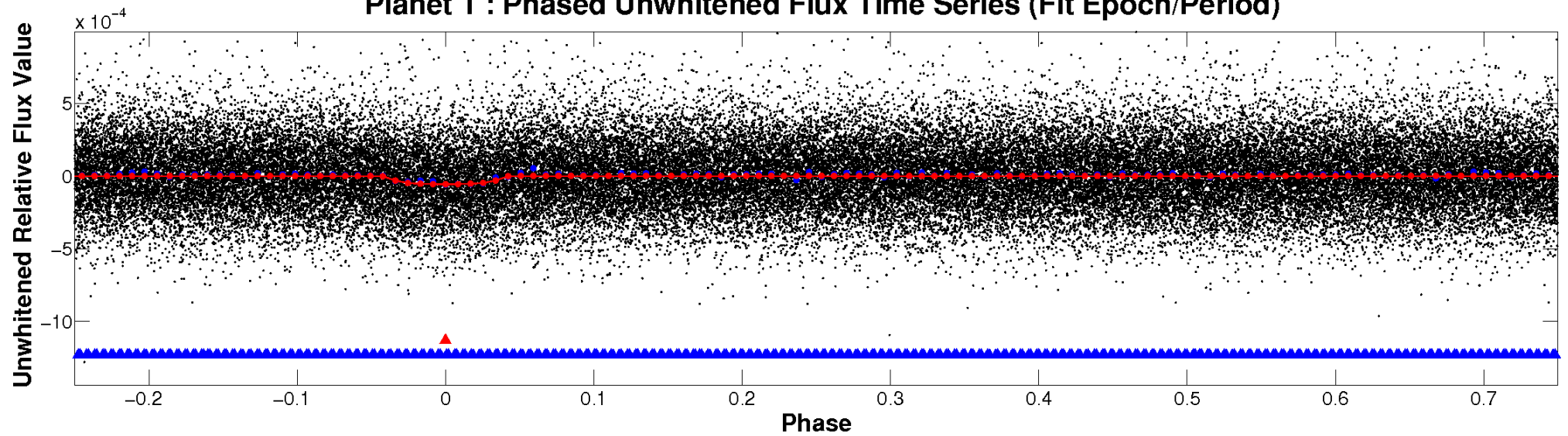
ALT Odd/Even

TCE 007256914-01

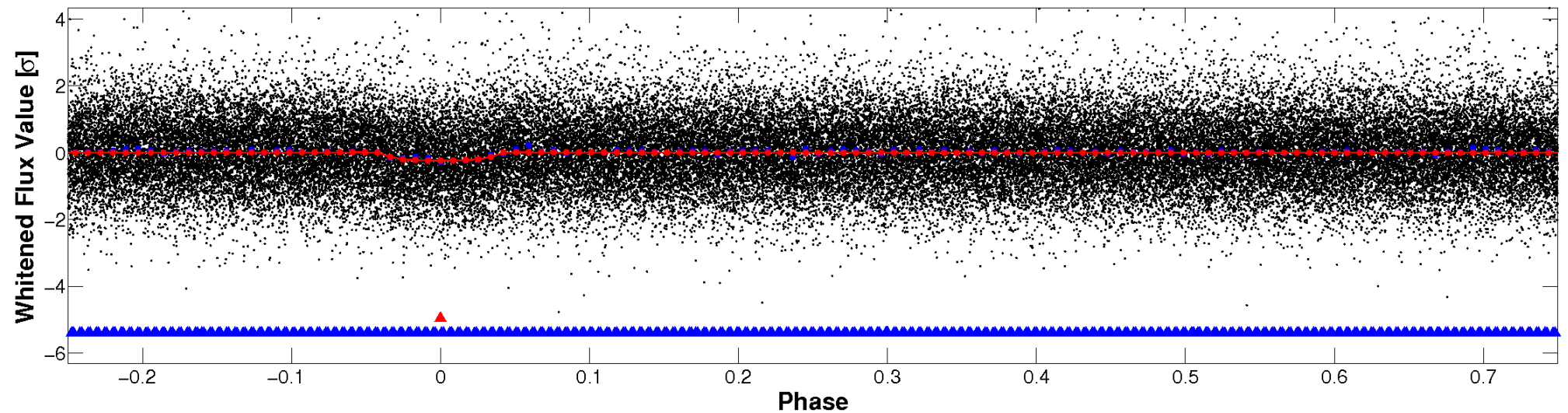


Non-Whitened Vs. Whitened Light Curve

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

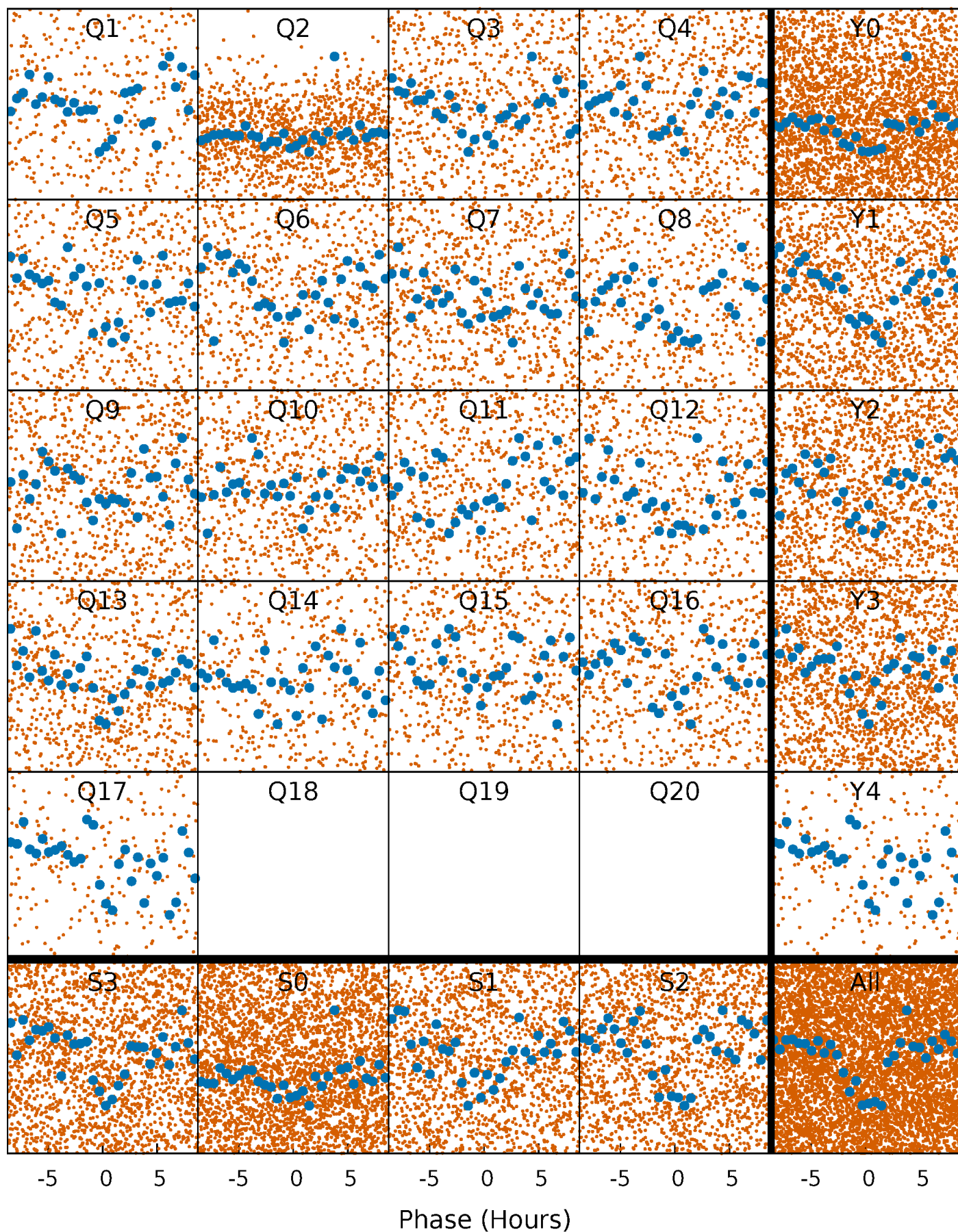


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



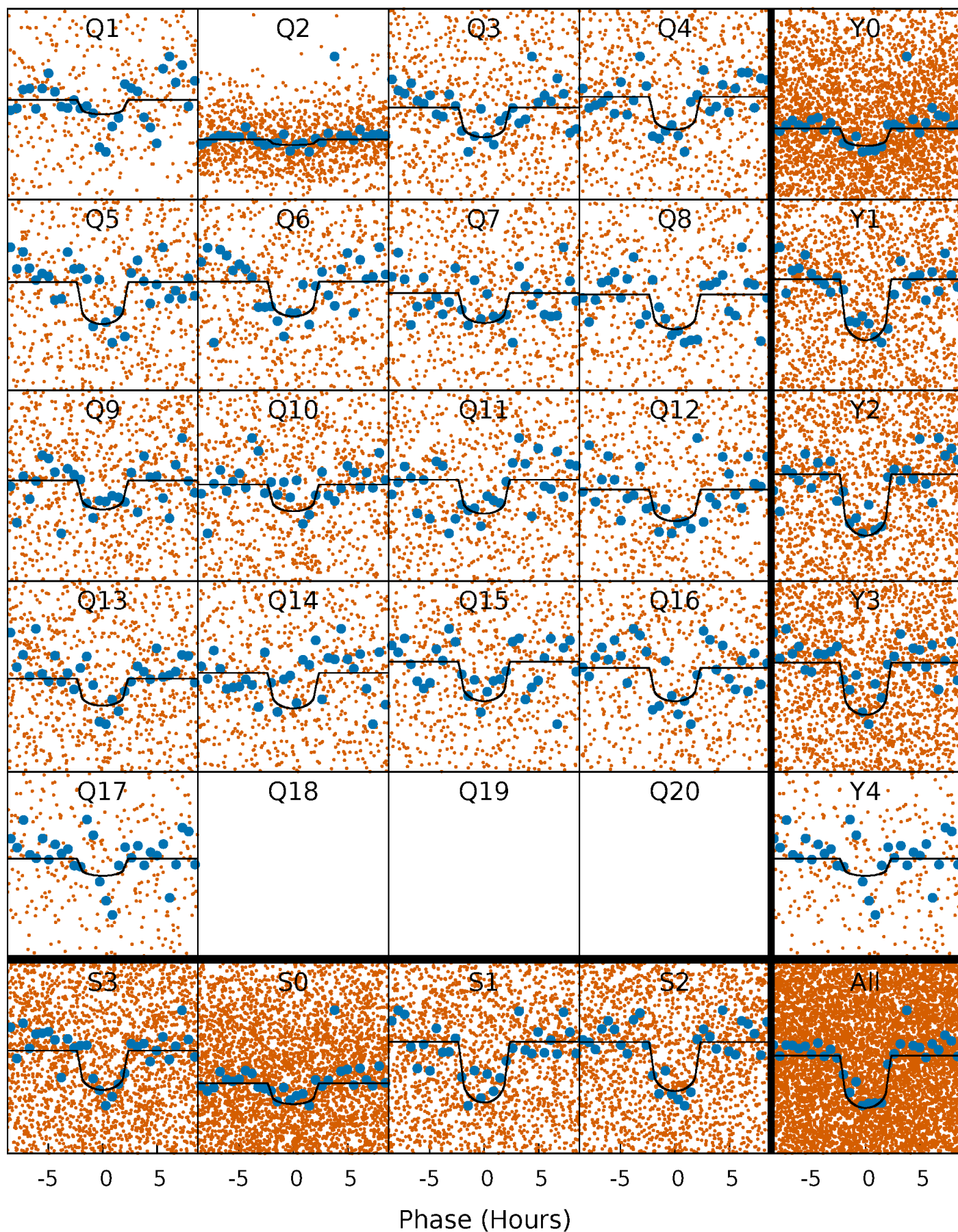
PDC Quarter-Phased Transit Curves

TCE 007256914-01 P= 2.417502 Days $T_0=133.806174$ (BKJD)



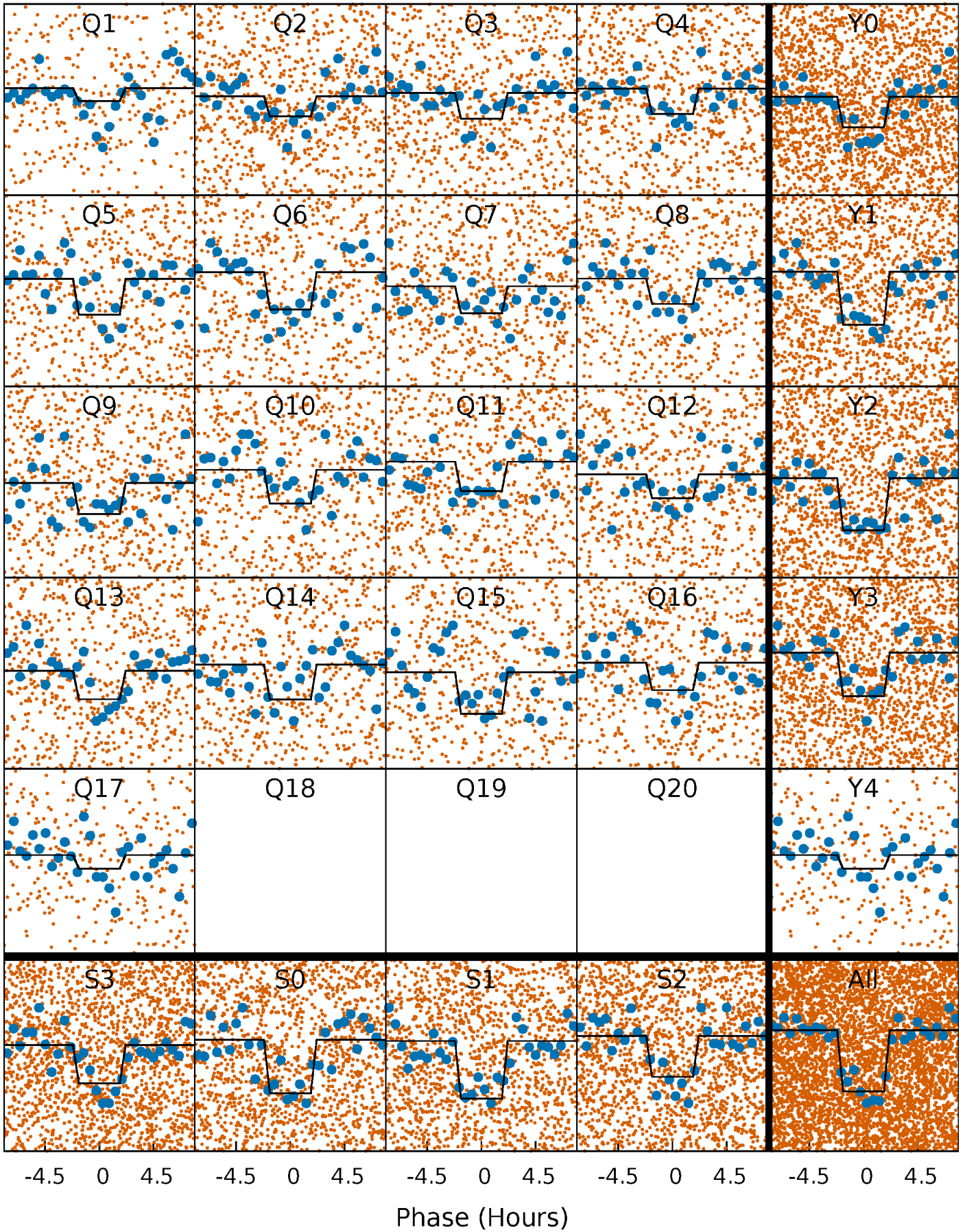
DV Quarter-Phased Transit Curves

TCE 007256914-01 P= 2.417502 Days $T_0=133.806174$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

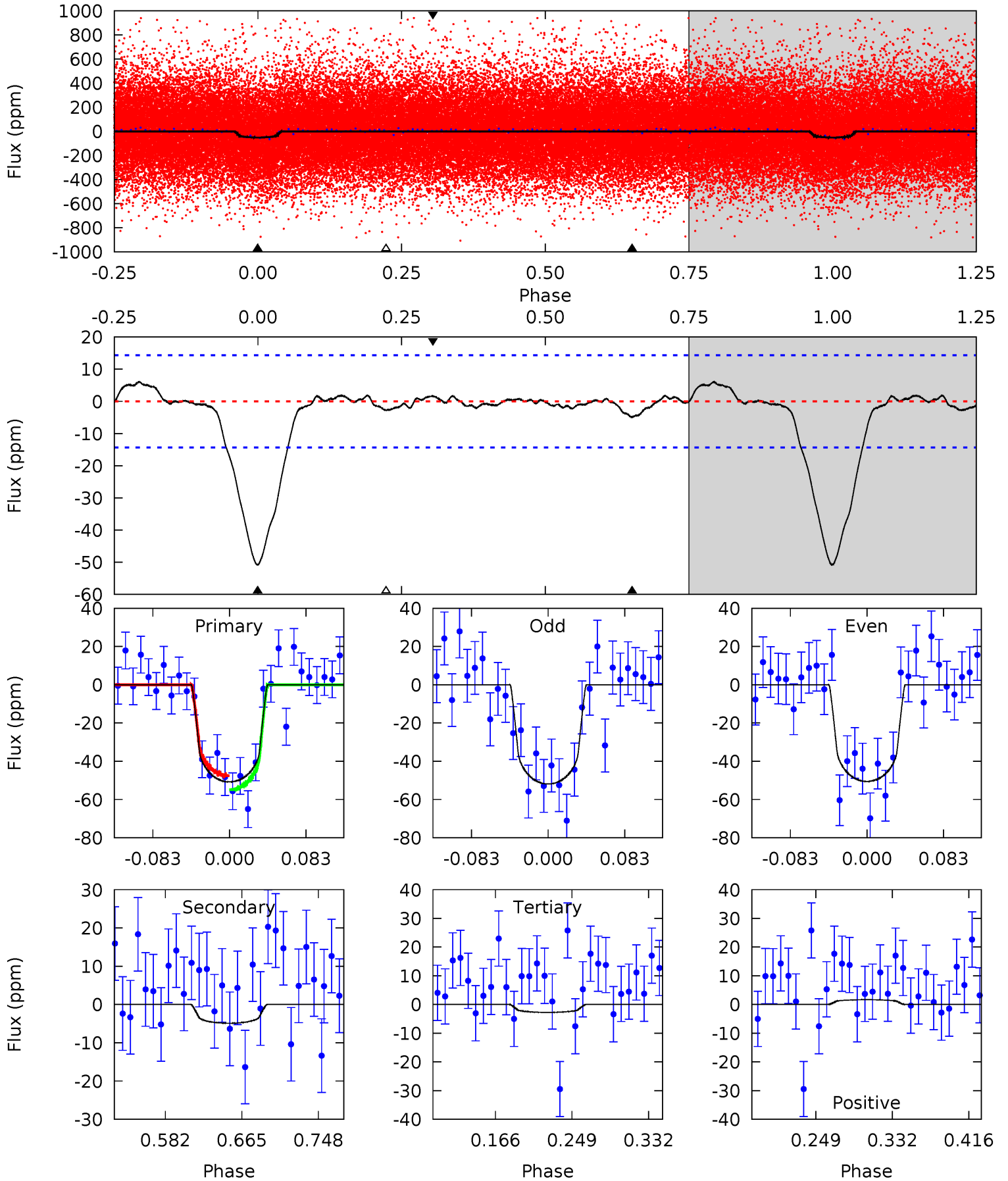
TCE 007256914-01 P= 2.417488 Days $T_0=133.807245$ (BKJD)



DV Model-Shift Uniqueness Test

007256914-01, P = 2.417502 Days, E = 131.388672 Days

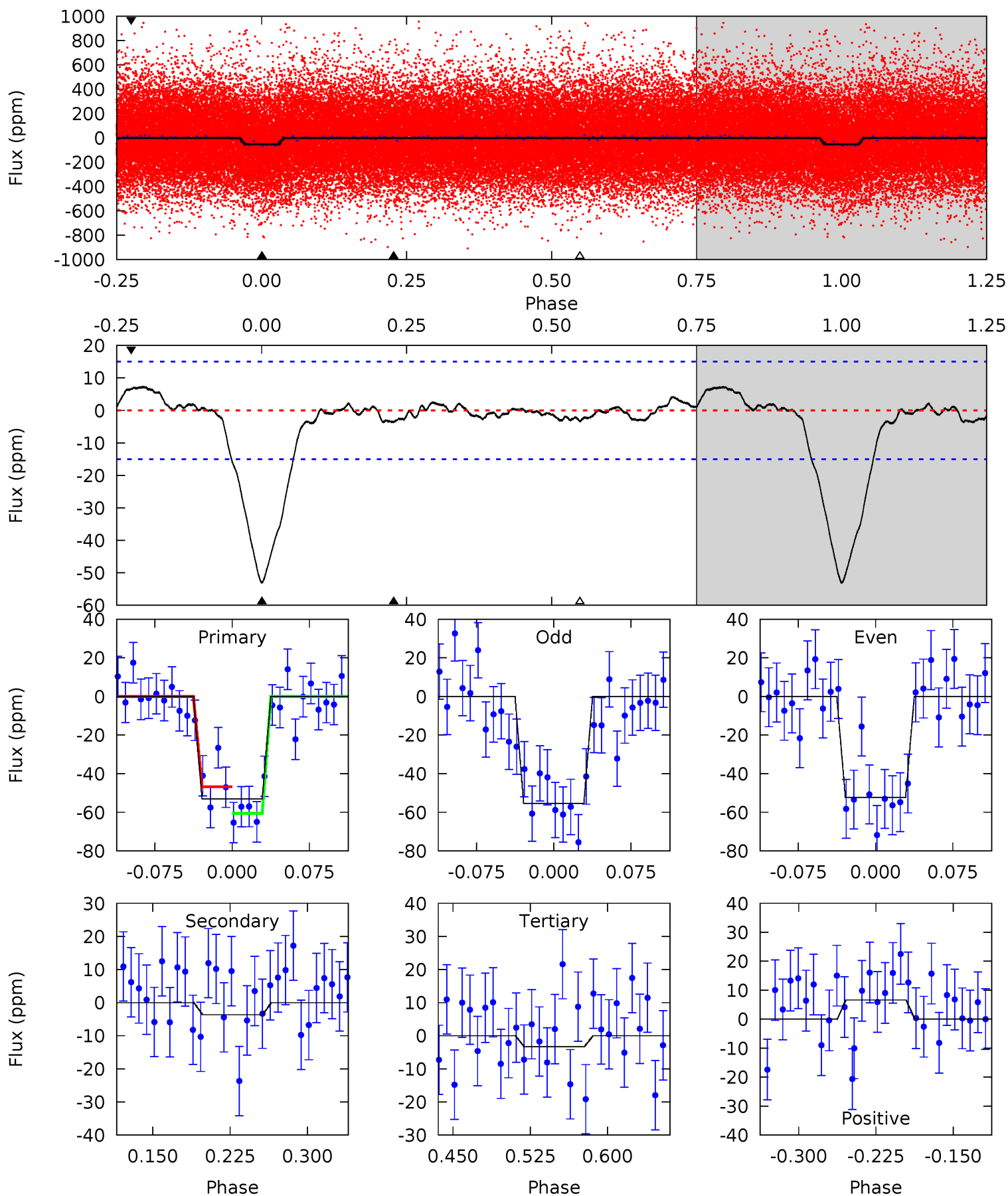
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	1.57	0.88	0.53	4.60	1.73	0.60	15.4	15.8	0.69	1.04	0.21	0.99	0.11	1.19



Alt Model-Shift Uniqueness Test

007256914-01, P = 2.417488 Days, E = 131.389757 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	1.12	1.03	2.04	4.62	1.78	0.79	15.3	14.3	0.09	-0.92	0.46	1.03	0.12	2.11



Stellar Parameters For KIC 007256914

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5575^{+83}_{-75}	$4.189^{+0.188}_{-0.101}$	$0.160^{+0.150}_{-0.150}$	$1.308^{+0.208}_{-0.277}$	$0.965^{+0.066}_{-0.053}$	$0.607^{+0.595}_{-0.186}$
	+1%/-1%	+4%/-2%	+94%/-94%	+16%/-21%	+7%/-5%	+98%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 007256914-01 / KOI 4136.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 3	$1.16^{+0.47}_{-0.48}$	2094^{+96}_{-103}	3293^{+788}_{-682}	$2.273^{+5.165}_{-1.624}$
Alt.	-4 ± 3	$0.98^{+0.50}_{-0.43}$	2097^{+93}_{-137}	3314^{+846}_{-4948}	$2.429^{+6.692}_{-2.132}$

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 $A_{obs} \gg 1.0$

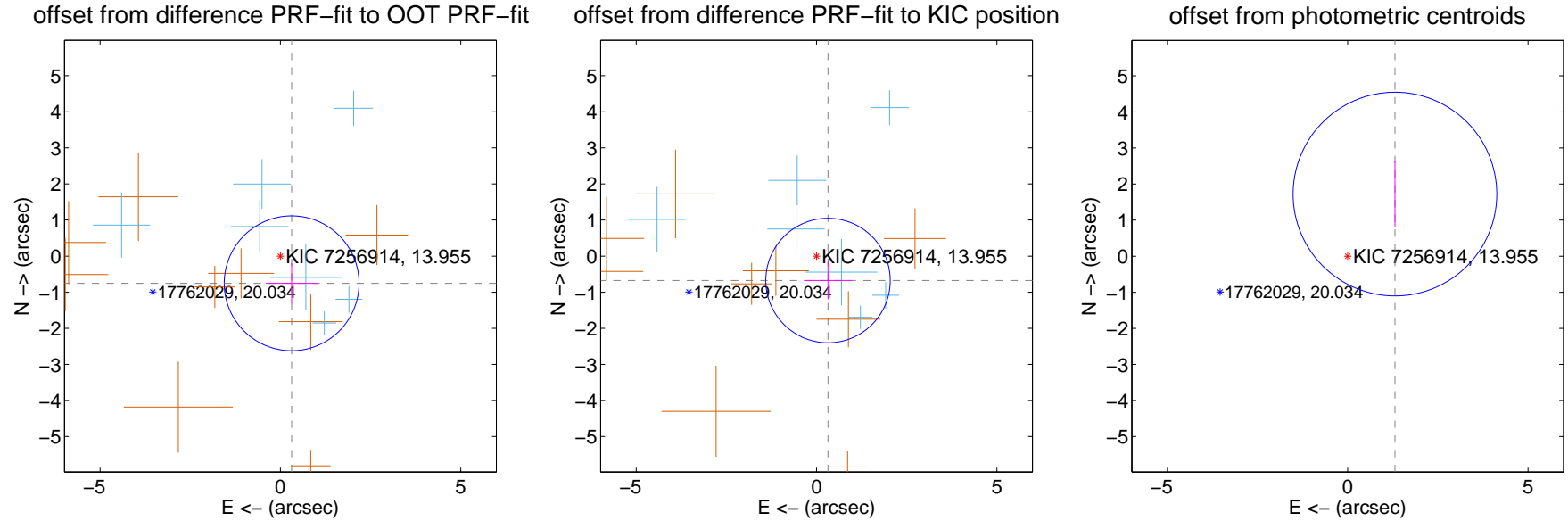
DV Centroid Data

Supplemental centroid analysis for 007256914-01. Kepler magnitude: 13.96. Transit SNR 13.90

There are 7 quarters with good PRF difference image offsets

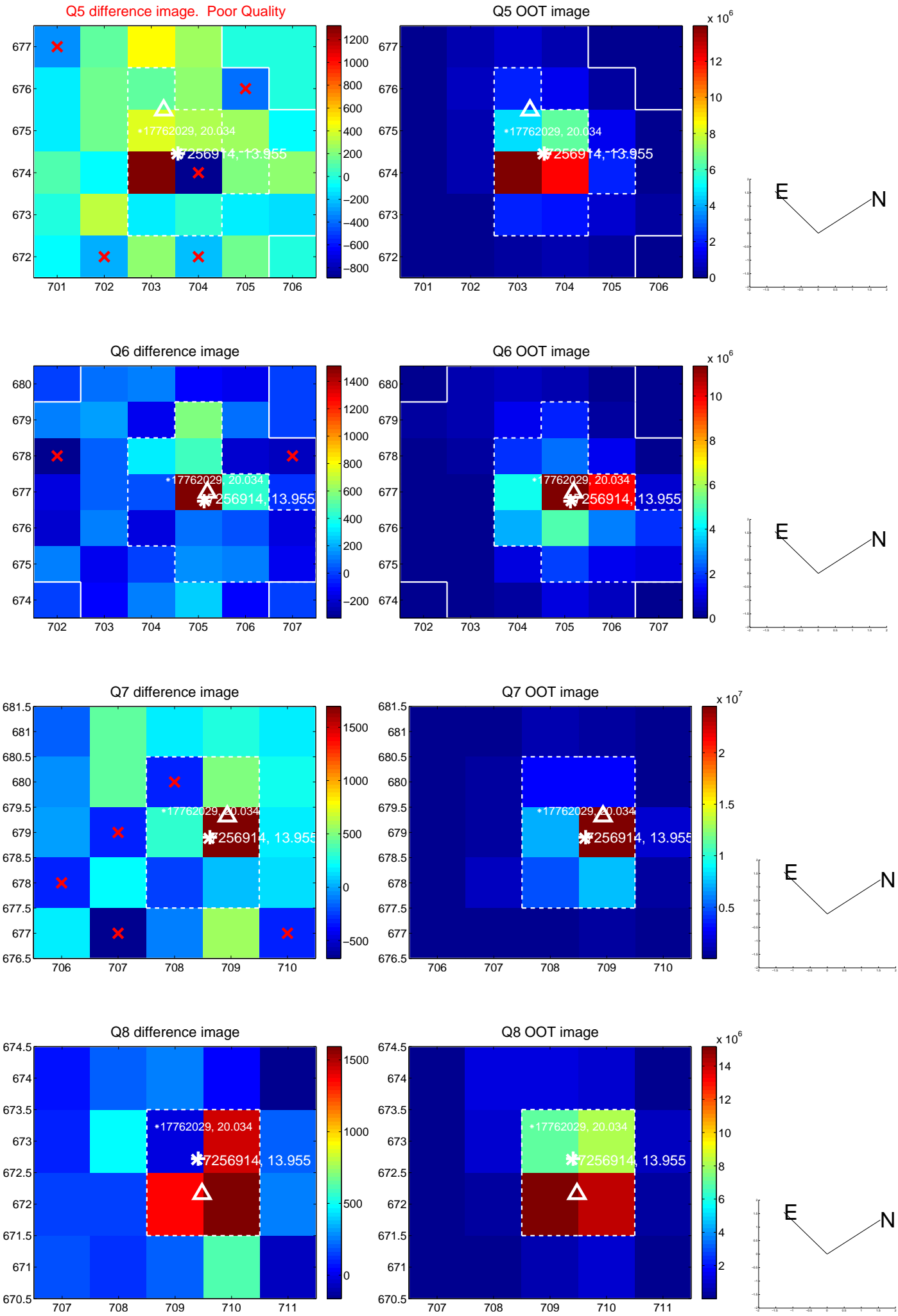
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.815 ± 0.623	1.31	-0.310 ± 0.717	-0.753 ± 0.560
PRF-fit source offset from KIC position	0.747 ± 0.575	1.30	-0.317 ± 0.668	-0.676 ± 0.524
photometric centroid source offset	2.16 ± 0.94	2.30	-1.31 ± 0.99	1.72 ± 0.91

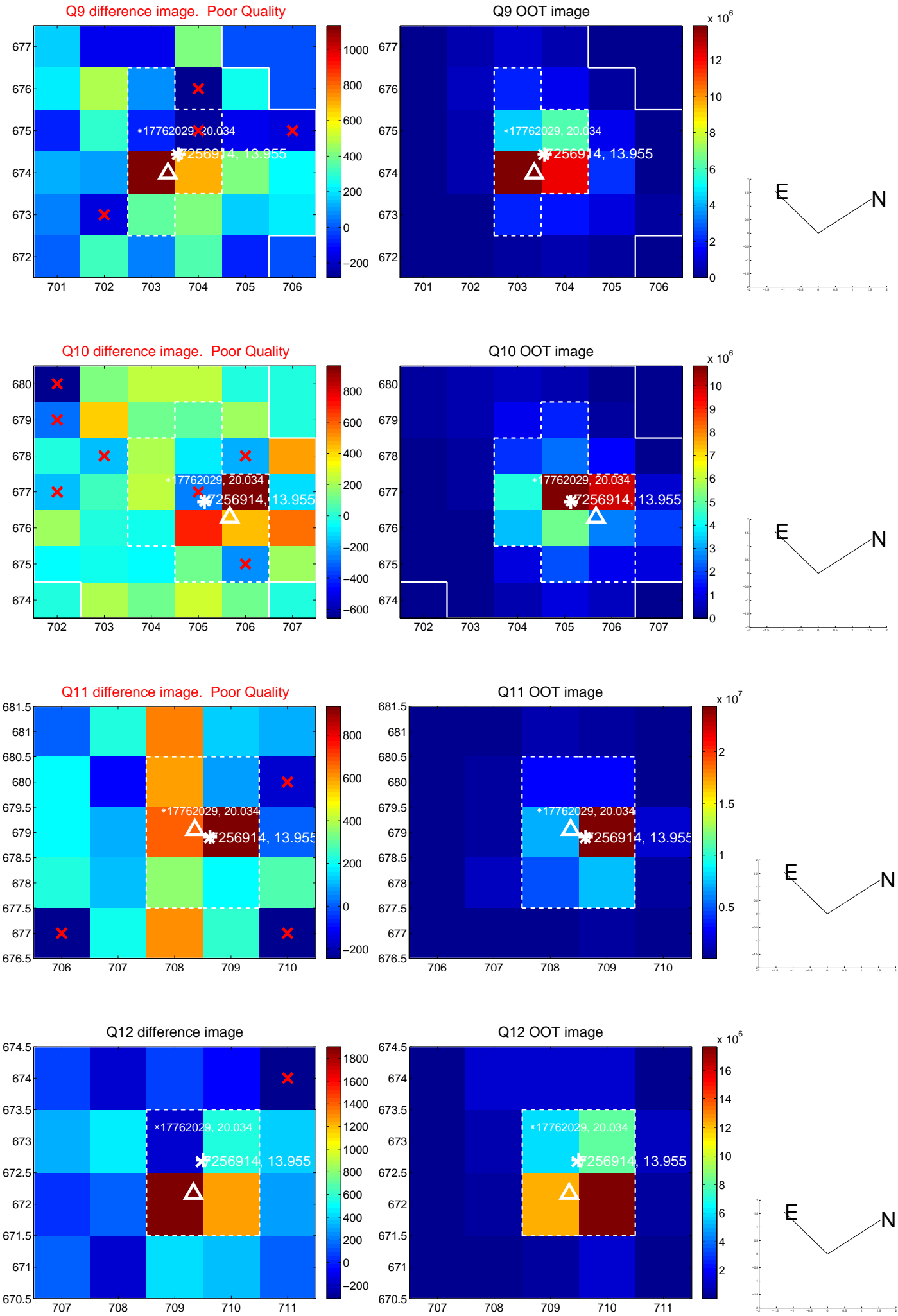


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

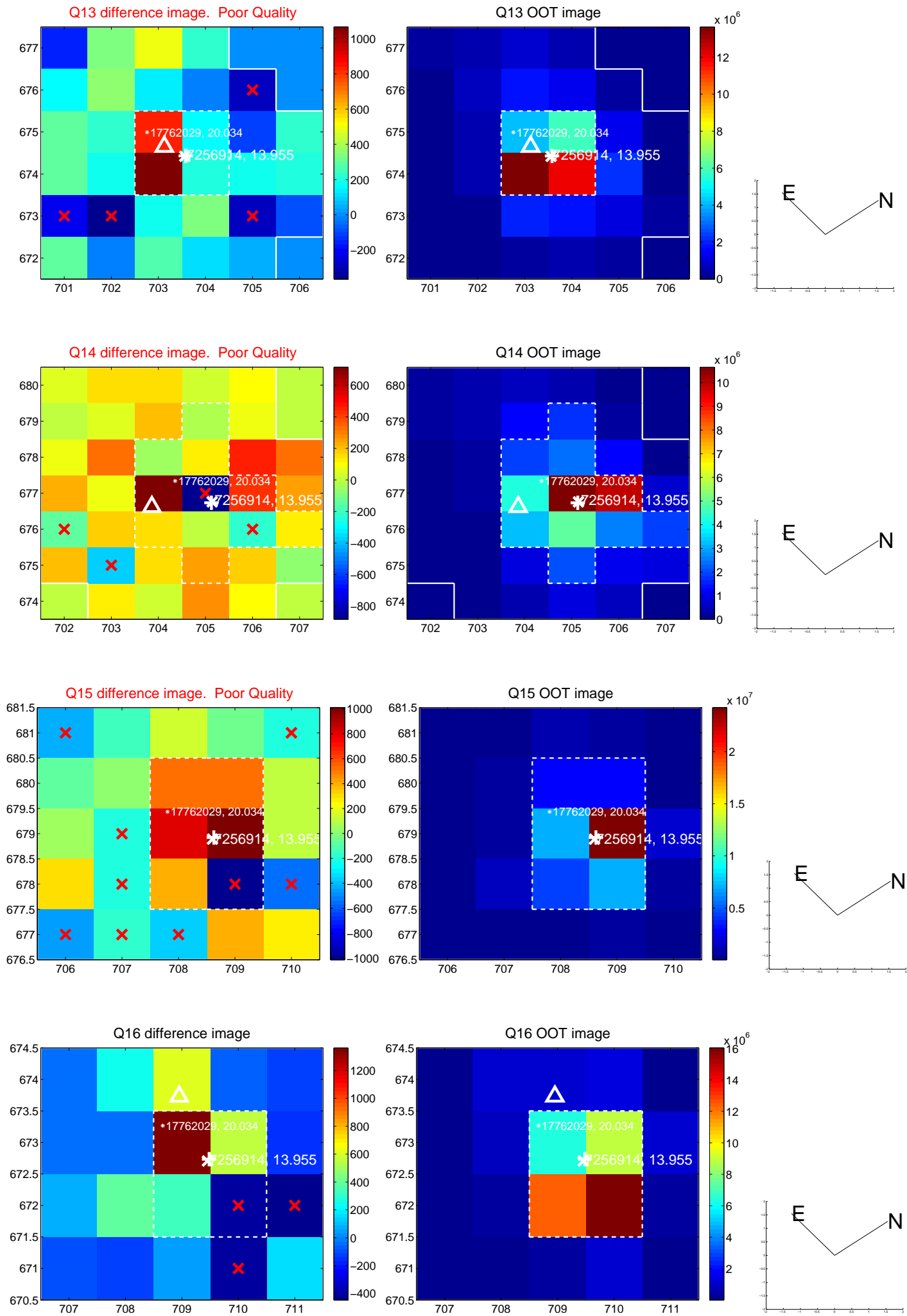
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



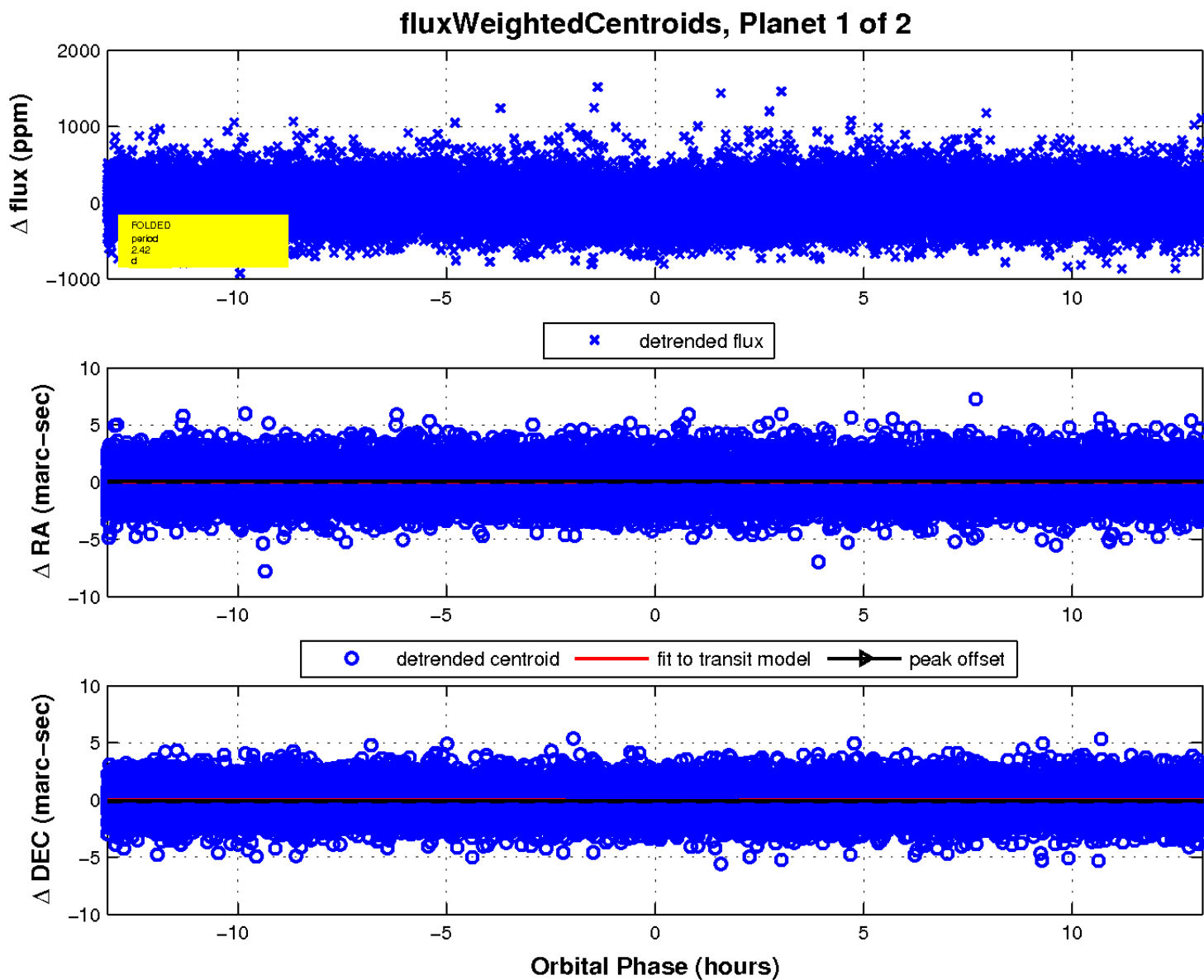
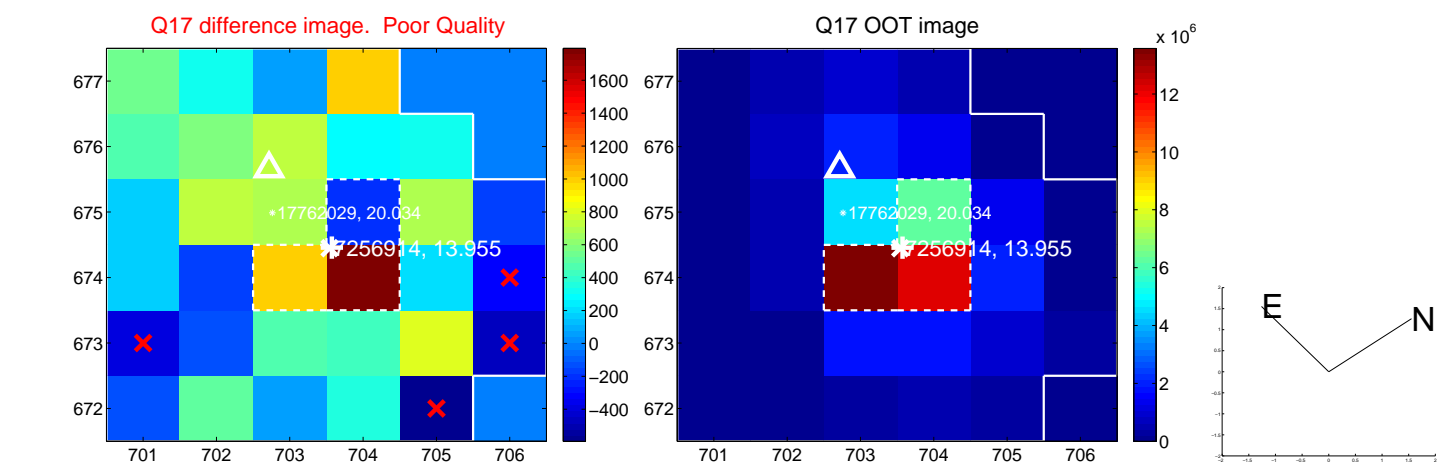
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

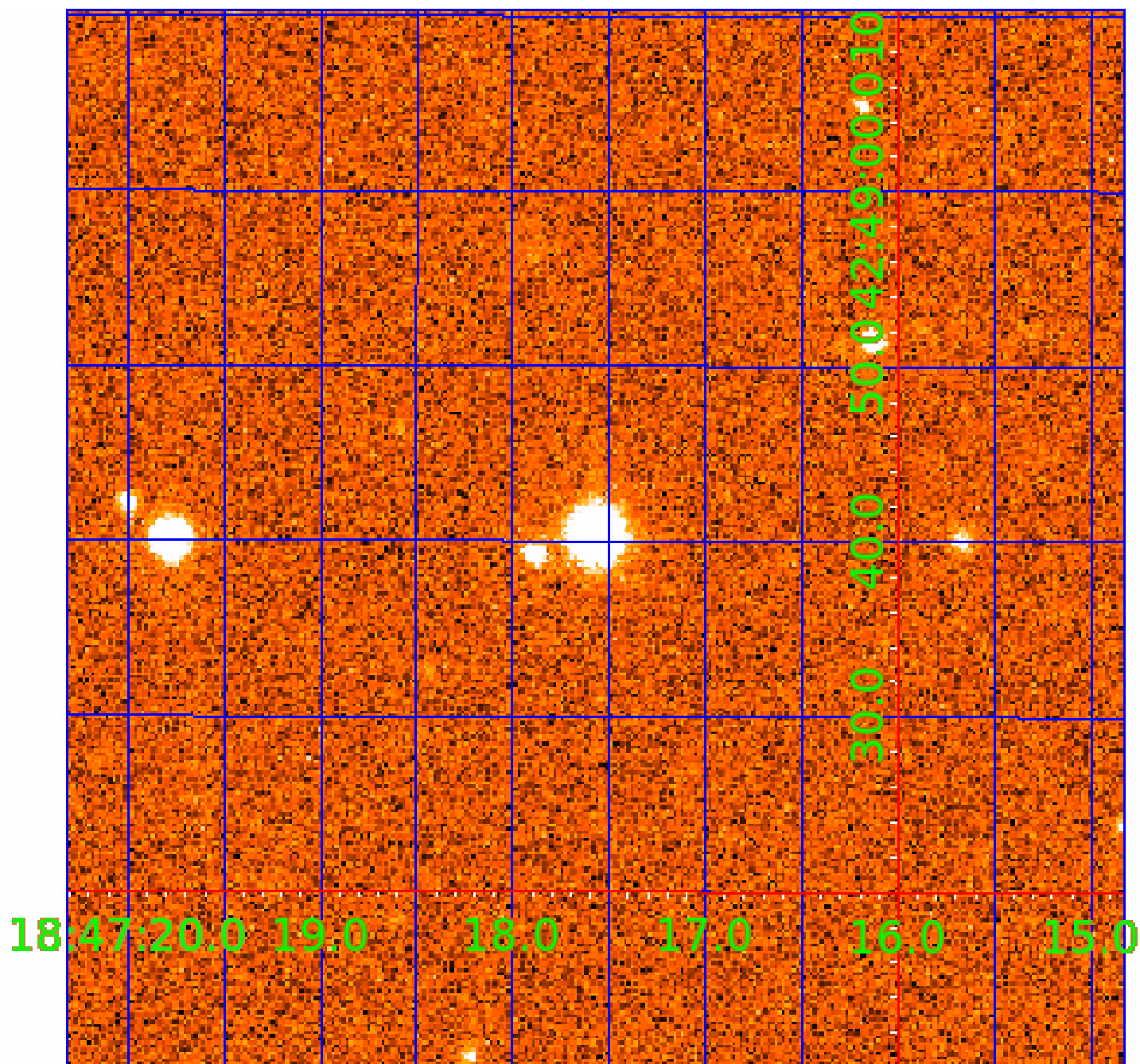


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007256914

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})
007256914-01	OBS	4136.01	2.417502	133.806174	56.6	4.377	13.1	13.9	1.31	5575	1.13	1220.27
007256914-02	OBS	4136.02	4.033641	134.220346	64.4	5.846	11.3	12.4	1.31	5575	1.20	616.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007256914-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT
007256914-02	OBS	PC	0.97	0	0	0	0	NO_COMMENT

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

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

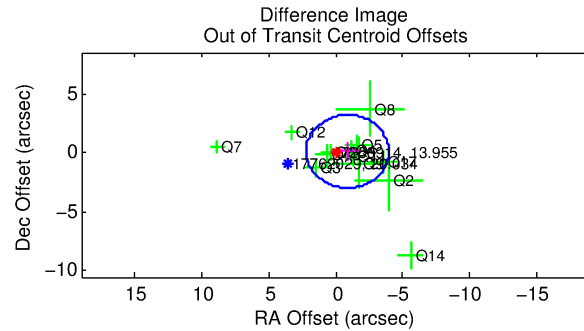
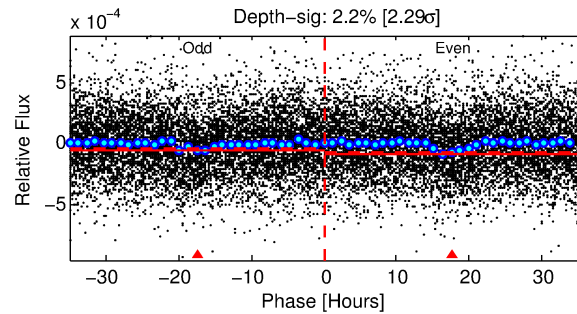
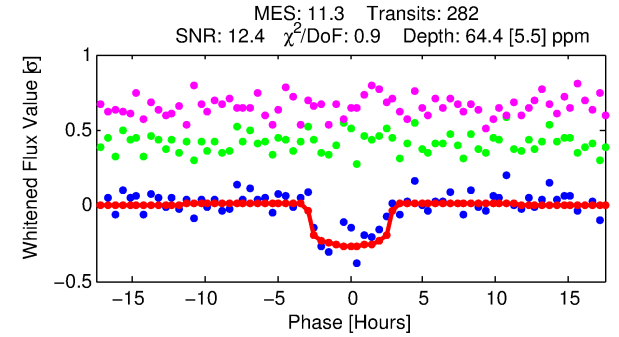
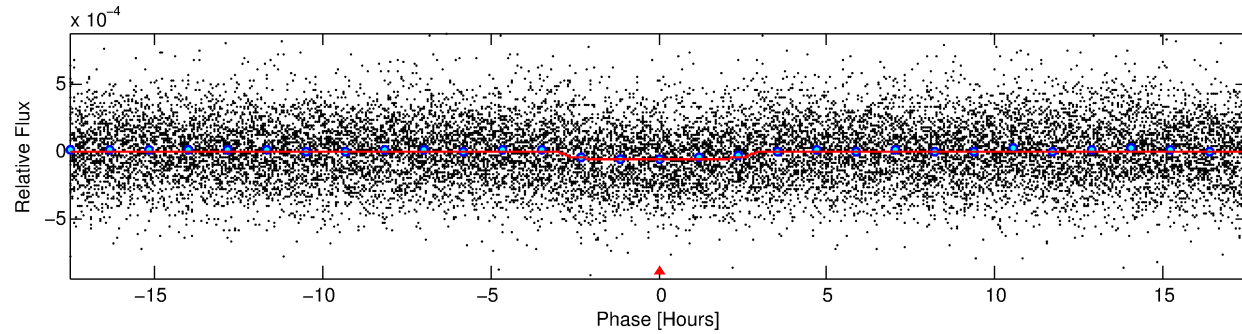
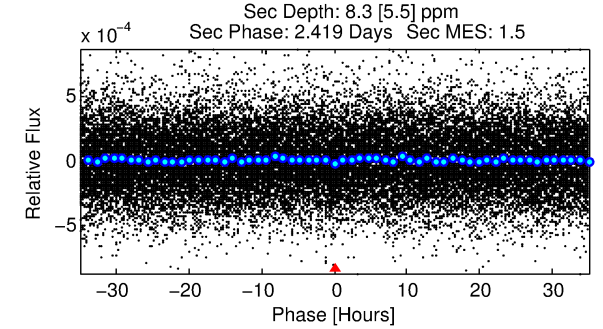
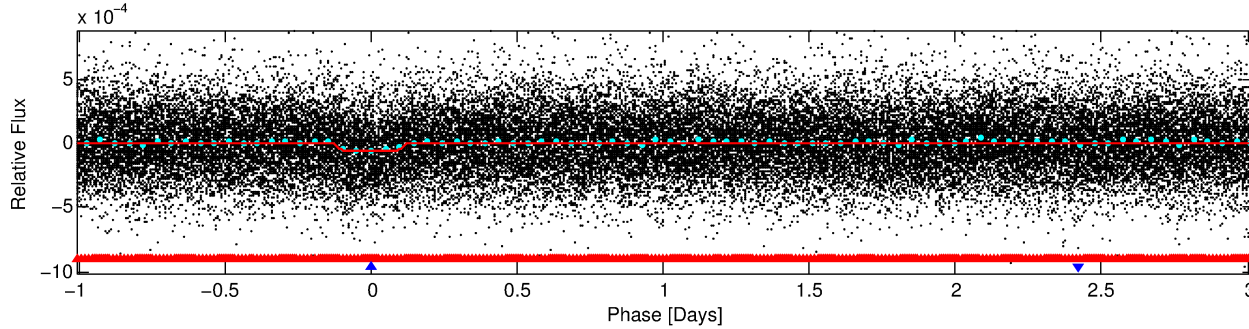
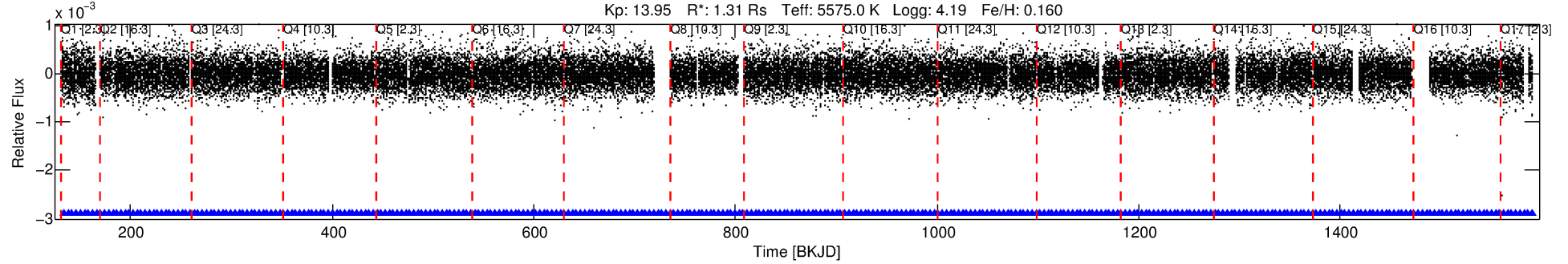
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007256914-02

No Significant Match Found

DV One-Page Summary

KIC: 7256914 Candidate: 2 of 2 Period: 4.034 d
KOI: K04136.02 Corr: 0.976



DV Fit Results:

Period = 4.03364 [0.00004] d
Epoch = 134.2203 [0.0067] BKJD
Rp/R* = 0.0084 [0.0041]
a/R* = 3.03 [5.68]
b = 0.85 [0.72]
Seff = 616.62 [201.48]
Teff = 1271 [104] K
Rp = 1.20 [0.64] Re
a = 0.0490 [0.0099] AU
Ag = 7.58 [9.21] [0.71σ]
Teffp = 3260 [957] K [2.07σ]

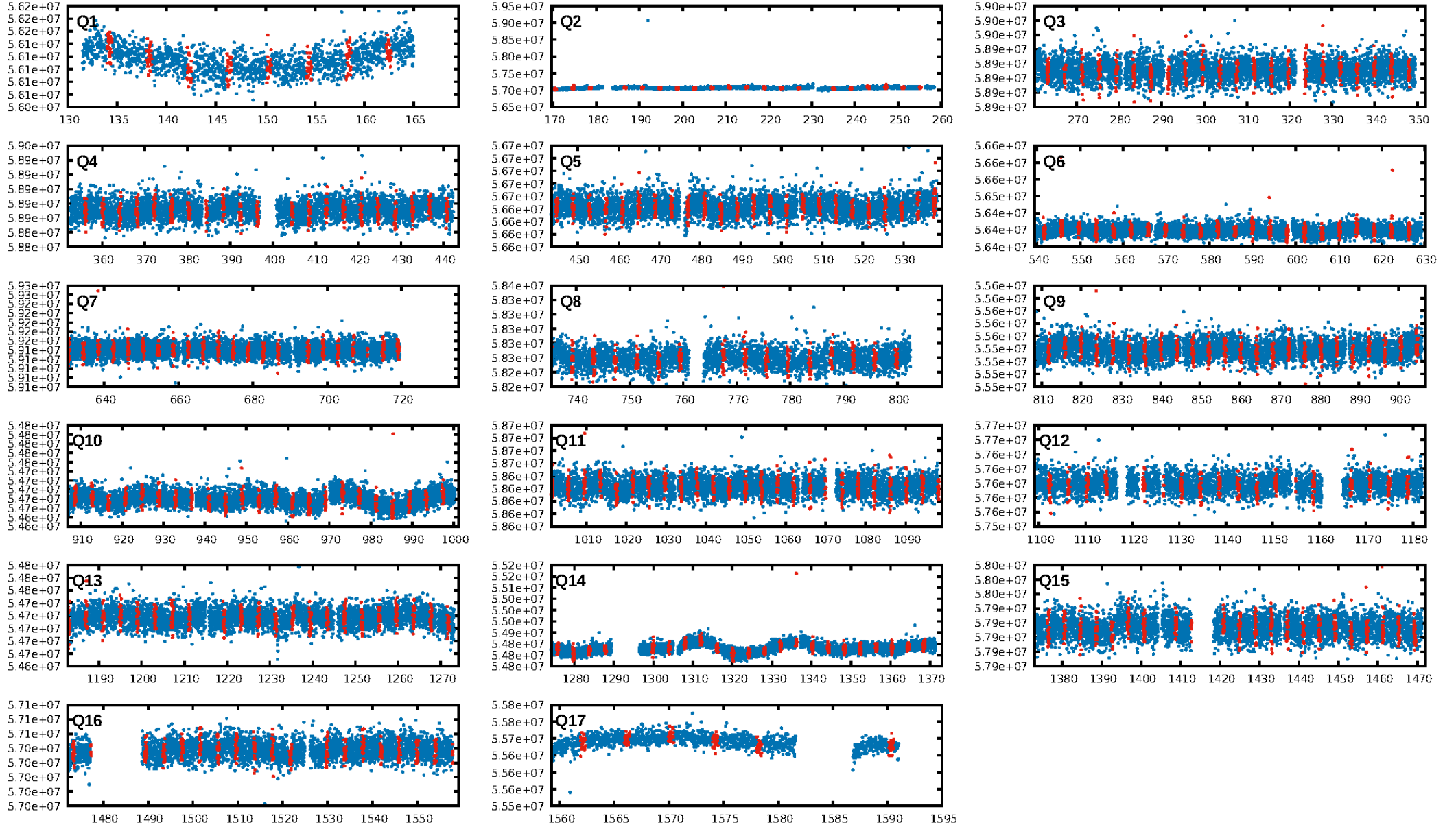
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.00e-29
RollingBand-fgt: 1.00 [268/268]
GhostDiagnostic-chr: 2.723
Centroid-sig: 29.8%
Centroid-so: 1.484 arcsec [1.50σ]
OotOffset-rm: 0.880 arcsec [0.86σ]
KicOffset-rm: 0.898 arcsec [1.08σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [17/17]

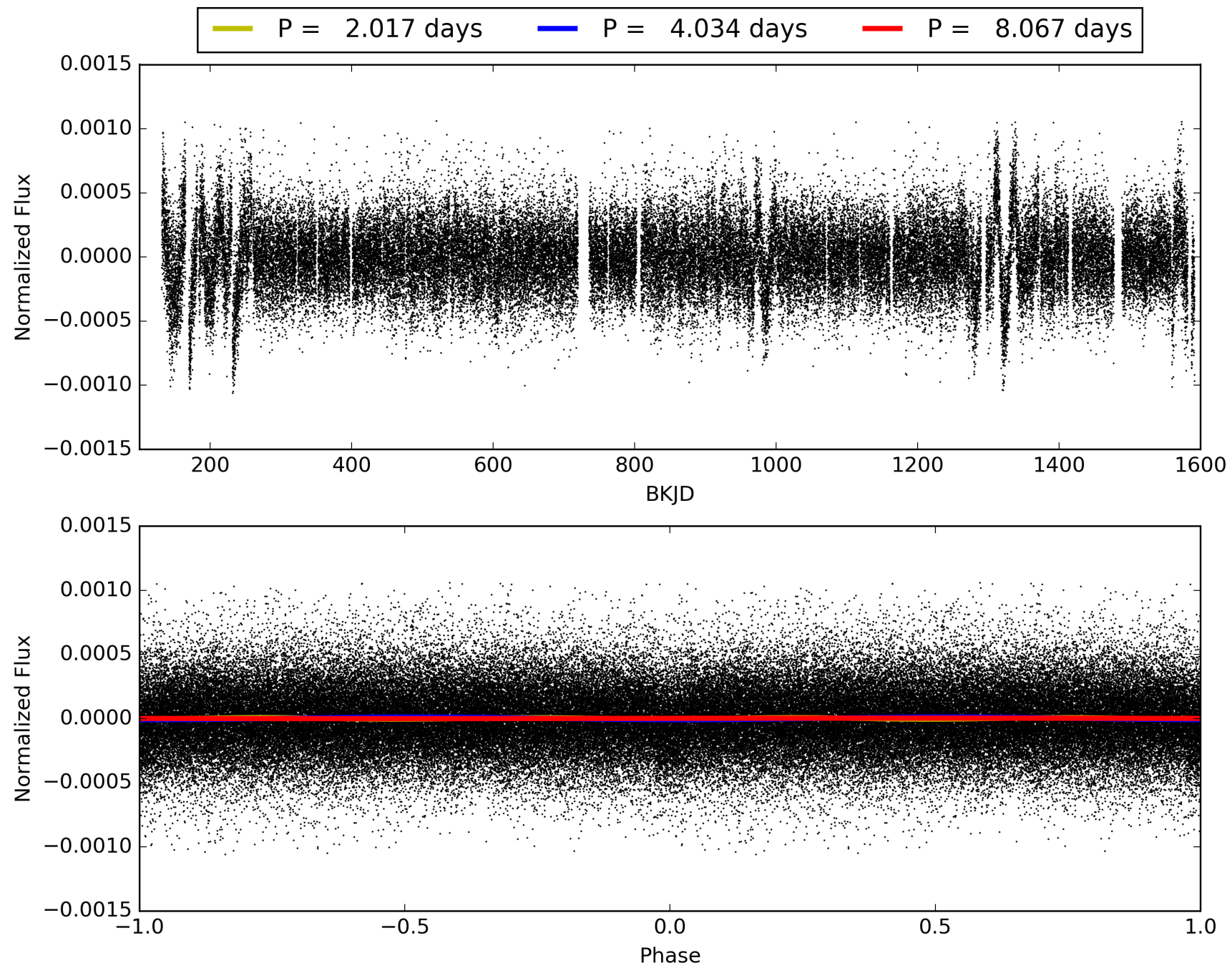
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:37:40 Z

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

TCE 007256914-02, PDC Light Curves

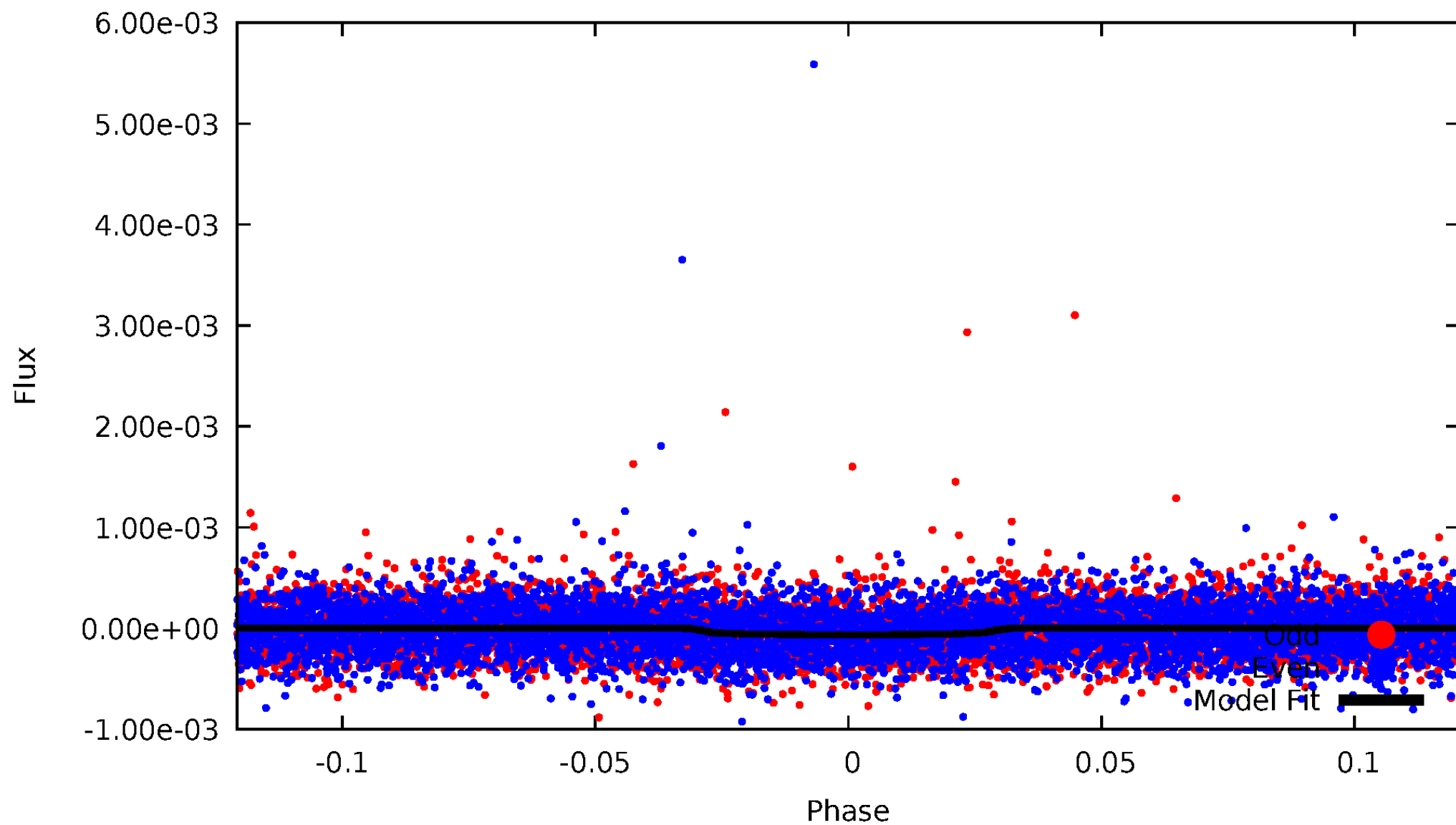


TCE 007256914-02



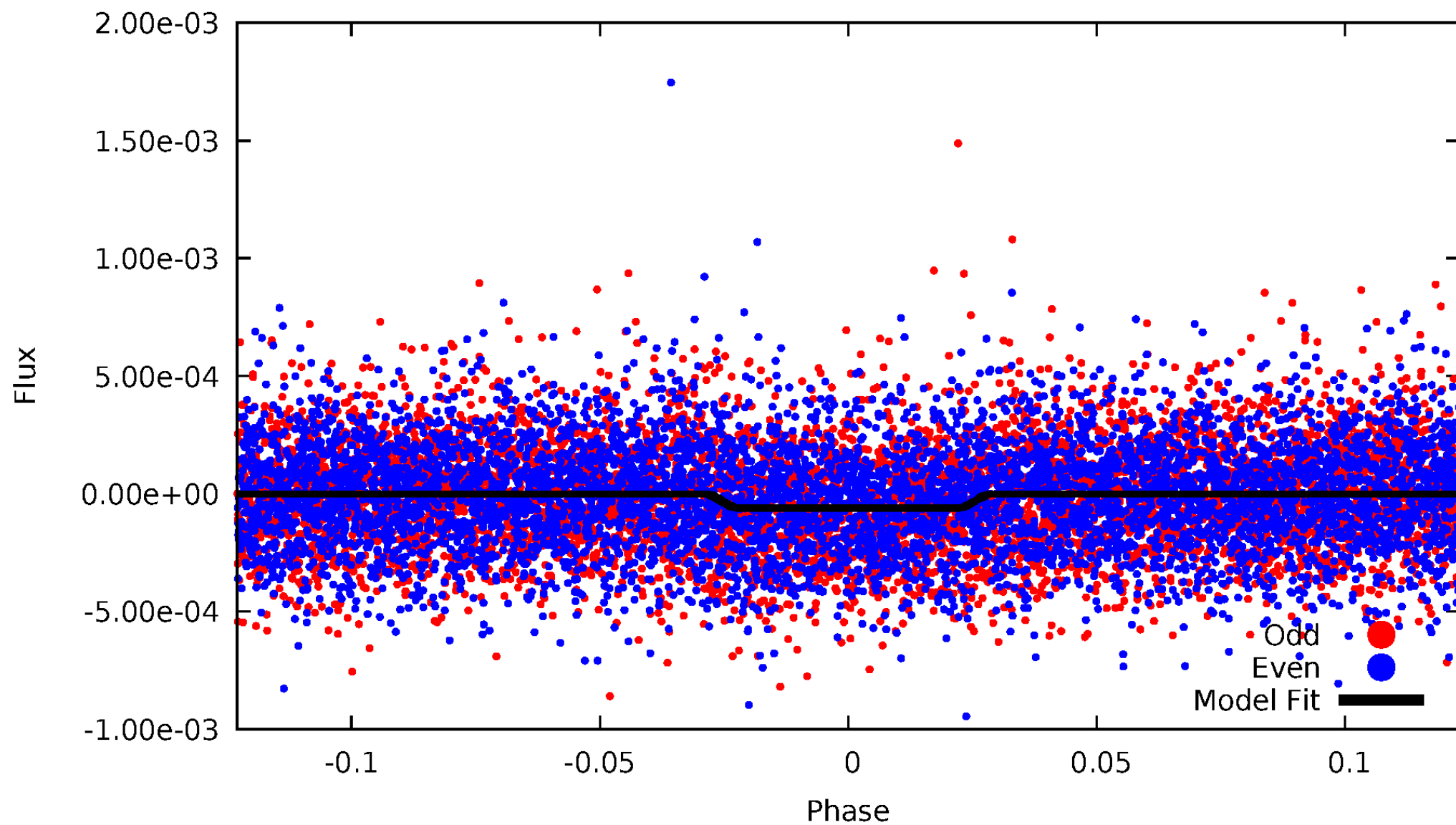
DV Odd/Even

TCE 007256914-02



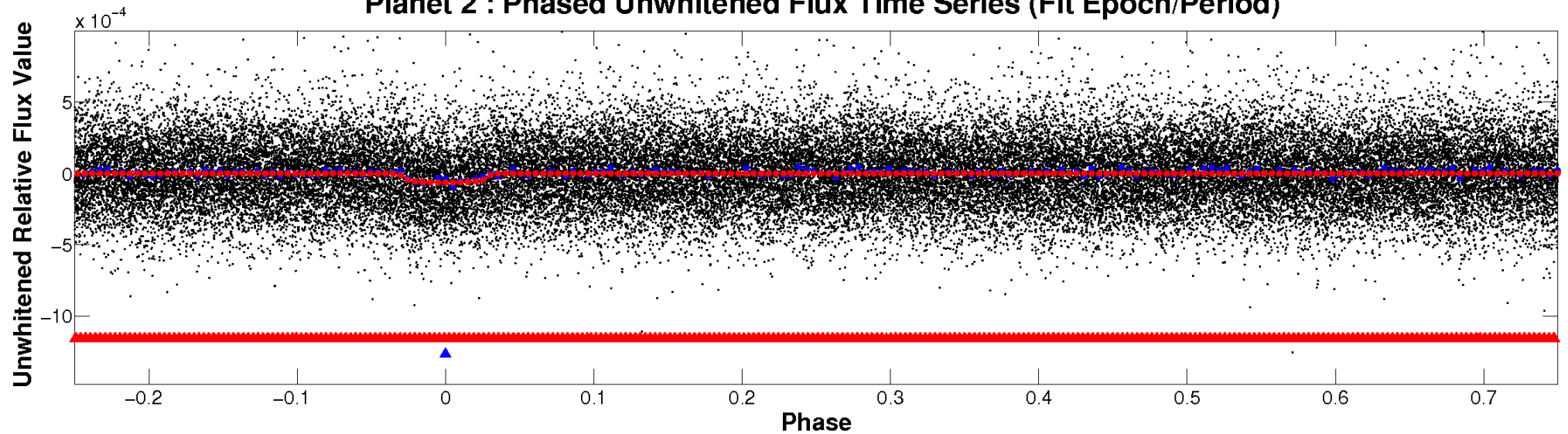
ALT Odd/Even

TCE 007256914-02

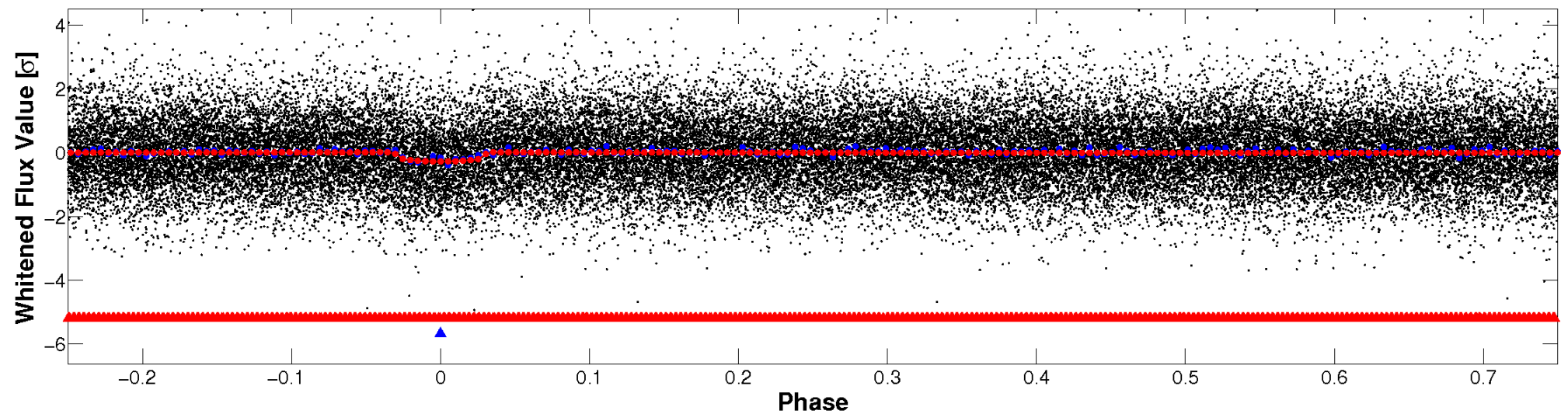


Non-Whitened Vs. Whitened Light Curve

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

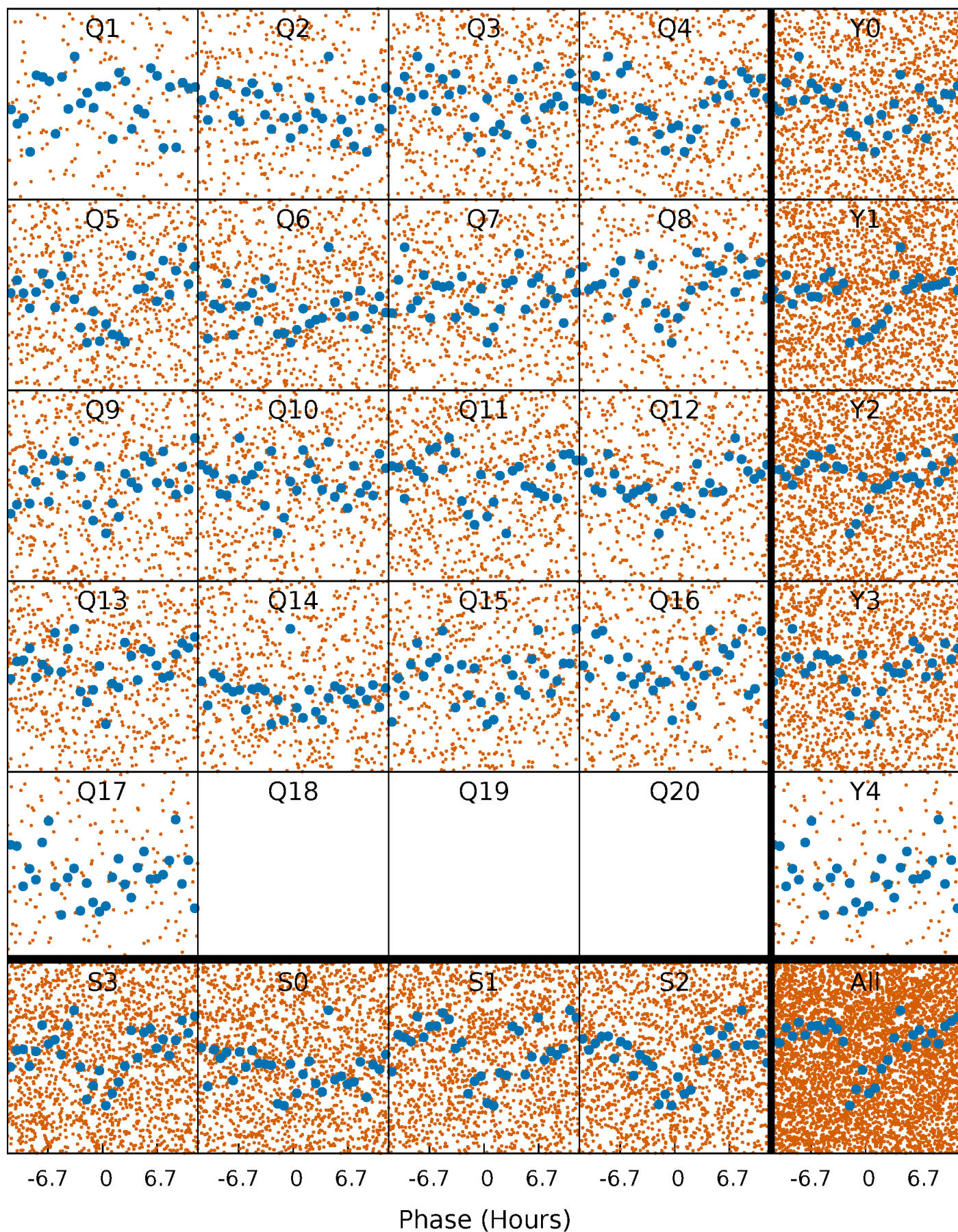


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



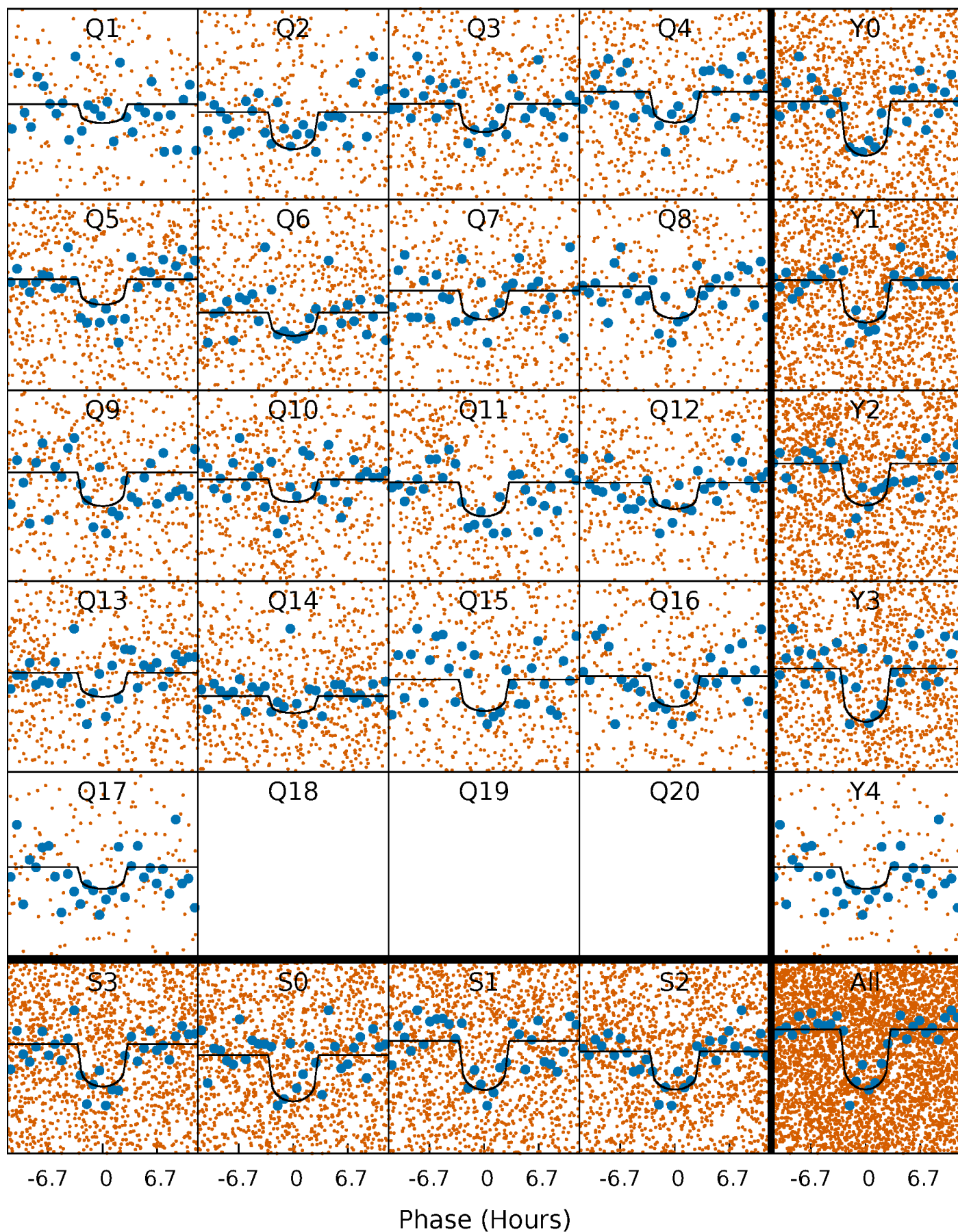
PDC Quarter-Phased Transit Curves

TCE 007256914-02 P= 4.033641 Days $T_0=134.220346$ (BKJD)



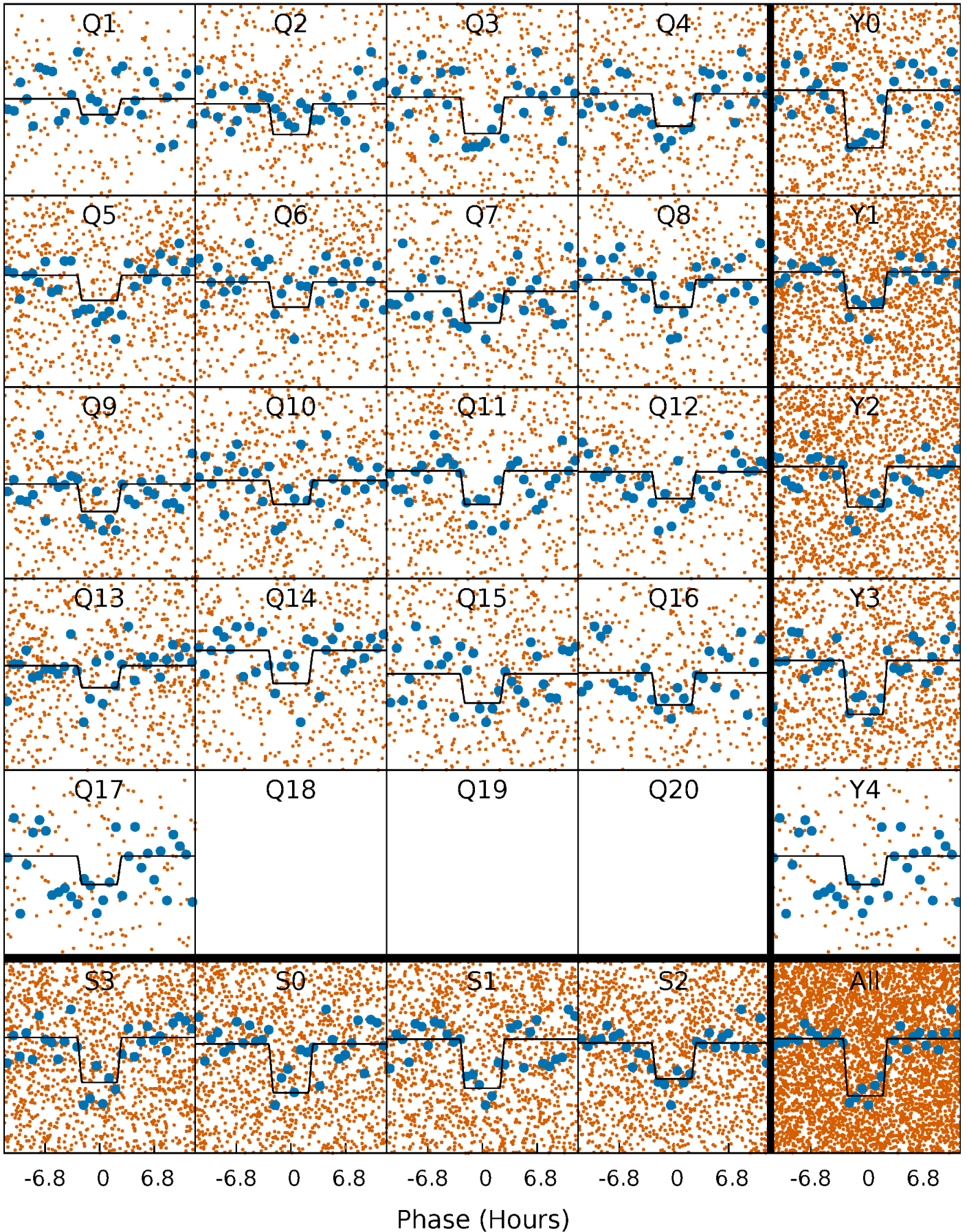
DV Quarter-Phased Transit Curves

TCE 007256914-02 P= 4.033641 Days $T_0=134.220346$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

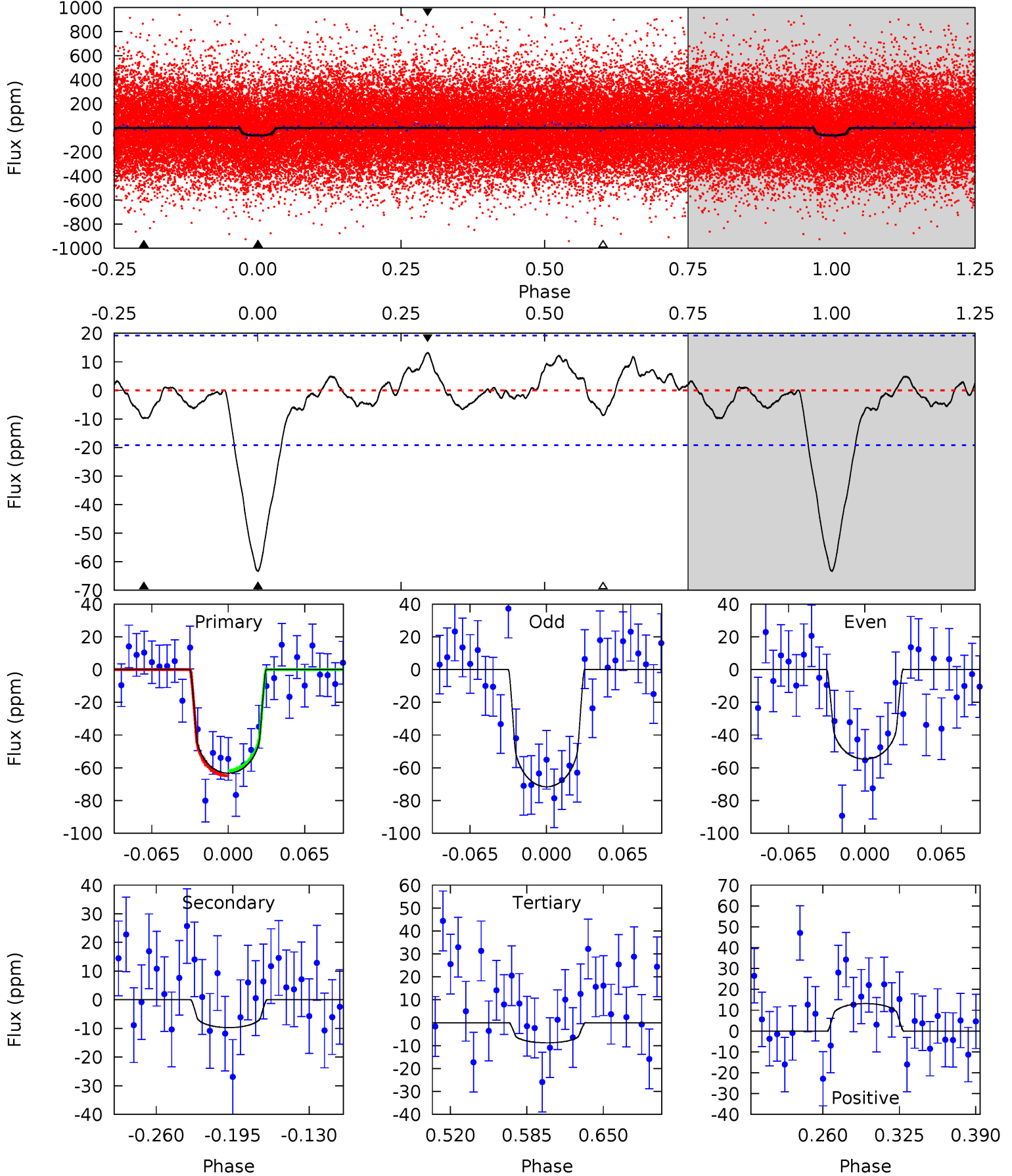
TCE 007256914-02 P= 4.033658 Days $T_0=134.212908$ (BKJD)



DV Model-Shift Uniqueness Test

007256914-02, P = 4.033641 Days, E = 130.186705 Days

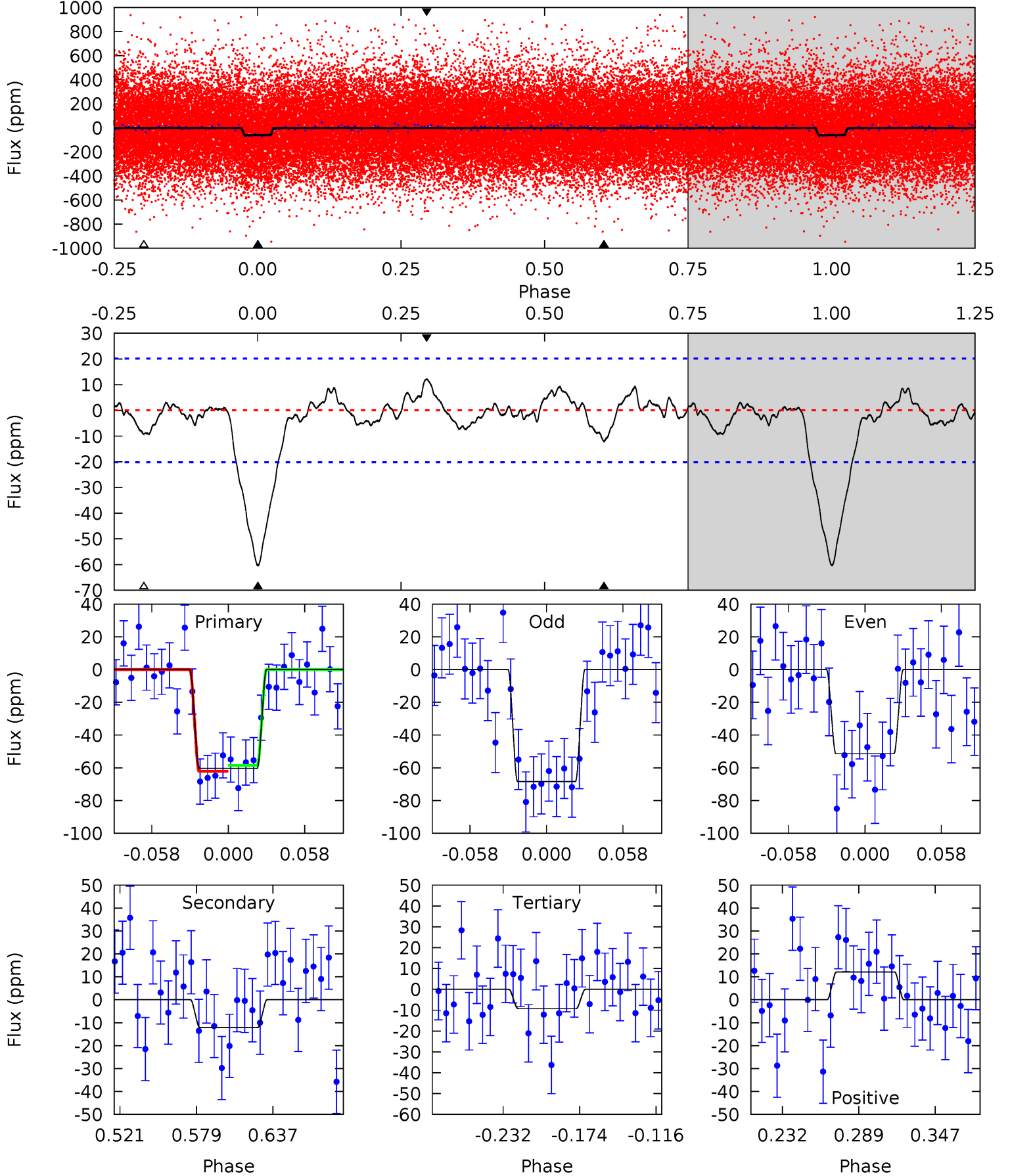
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	2.36	2.13	3.20	4.65	1.85	1.26	13.2	12.2	0.23	-0.84	2.06	1.02	0.17	0.39



Alt Model-Shift Uniqueness Test

007256914-02, P = 4.033658 Days, E = 130.179250 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	2.80	2.15	2.81	4.68	1.90	0.98	11.8	11.2	0.65	-0.01	1.96	1.07	0.17	0.43



Stellar Parameters For KIC 007256914

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5575^{+83}_{-75}	$4.189^{+0.188}_{-0.101}$	$0.160^{+0.150}_{-0.150}$	$1.308^{+0.208}_{-0.277}$	$0.965^{+0.066}_{-0.053}$	$0.607^{+0.595}_{-0.186}$
	+1%/-1%	+4%/-2%	+94%/-94%	+16%/-21%	+7%/-5%	+98%/-31%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 007256914-02 / KOI 4136.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-10 ± 4	$1.22^{+0.54}_{-0.58}$	1769^{+82}_{-95}	3702^{+1018}_{-517}	$8.571^{+23.105}_{-5.220}$
Alt.	-12 ± 4	$1.11^{+0.60}_{-0.52}$	1763^{+83}_{-106}	3969^{+1096}_{-587}	13^{+33}_{-8}

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 $A_{obs} \gg 1.0$

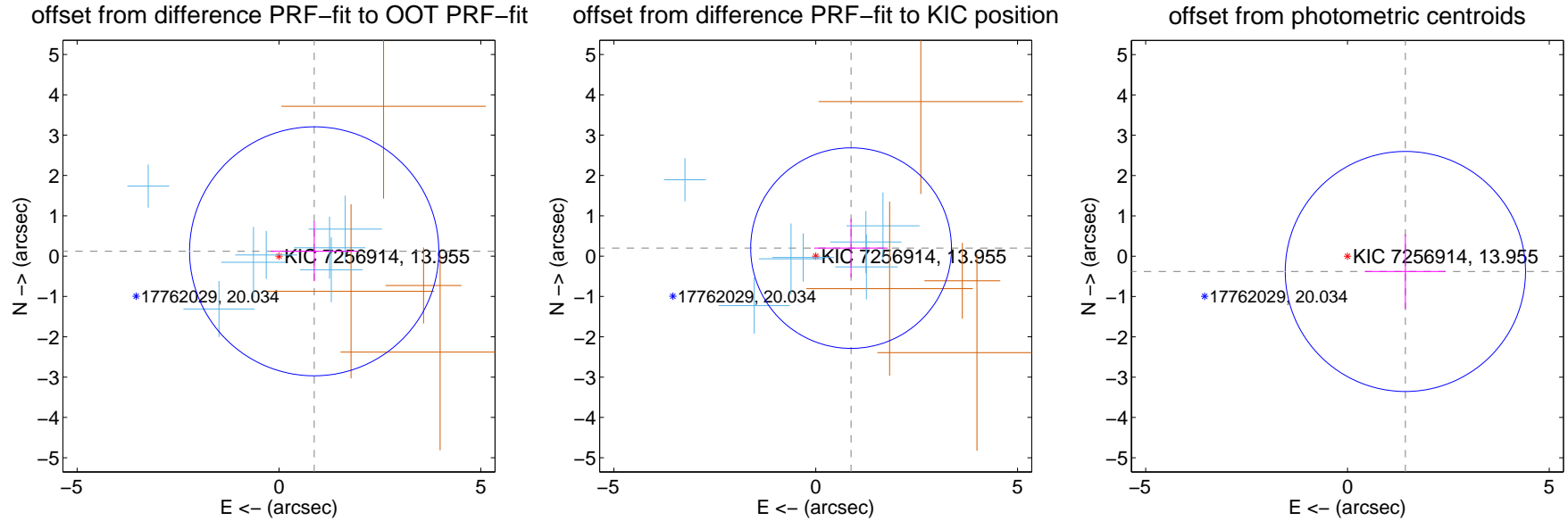
DV Centroid Data

Supplemental centroid analysis for 007256914-02. Kepler magnitude: 13.96. Transit SNR 12.39

There are 7 quarters with good PRF difference image offsets

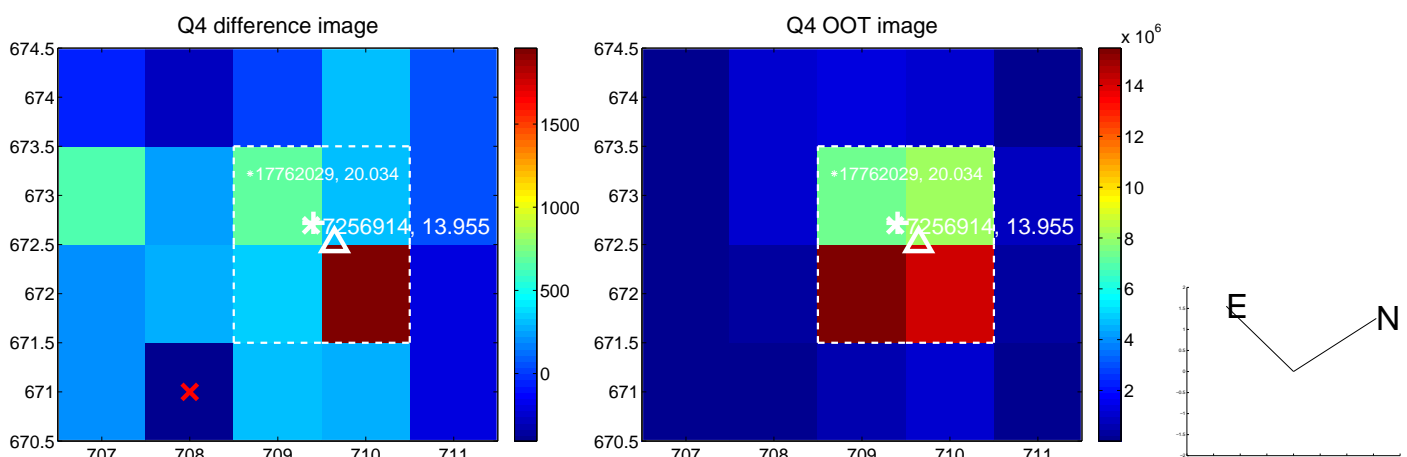
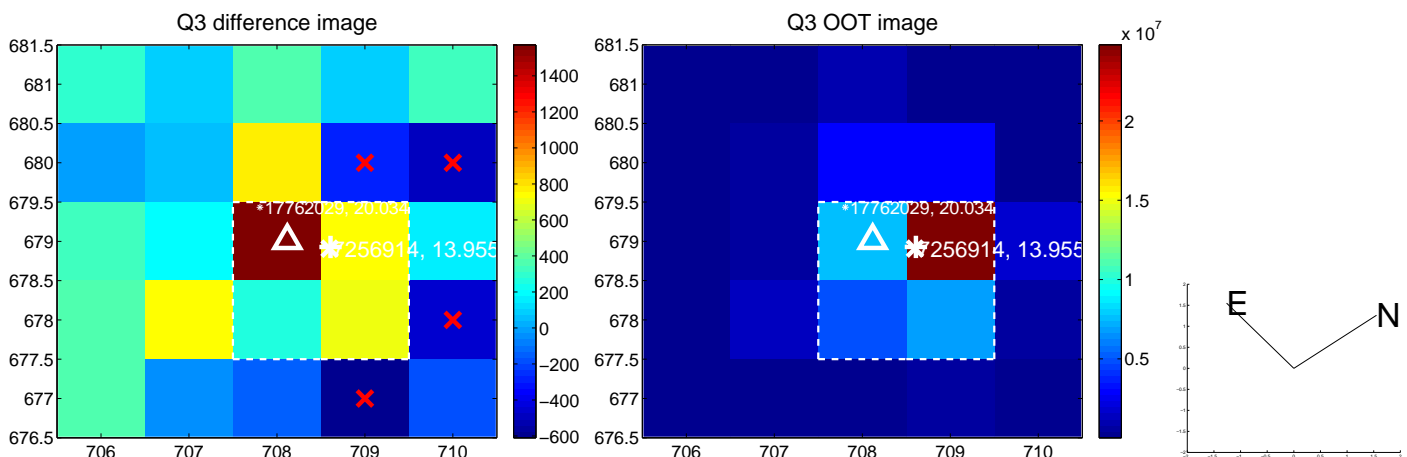
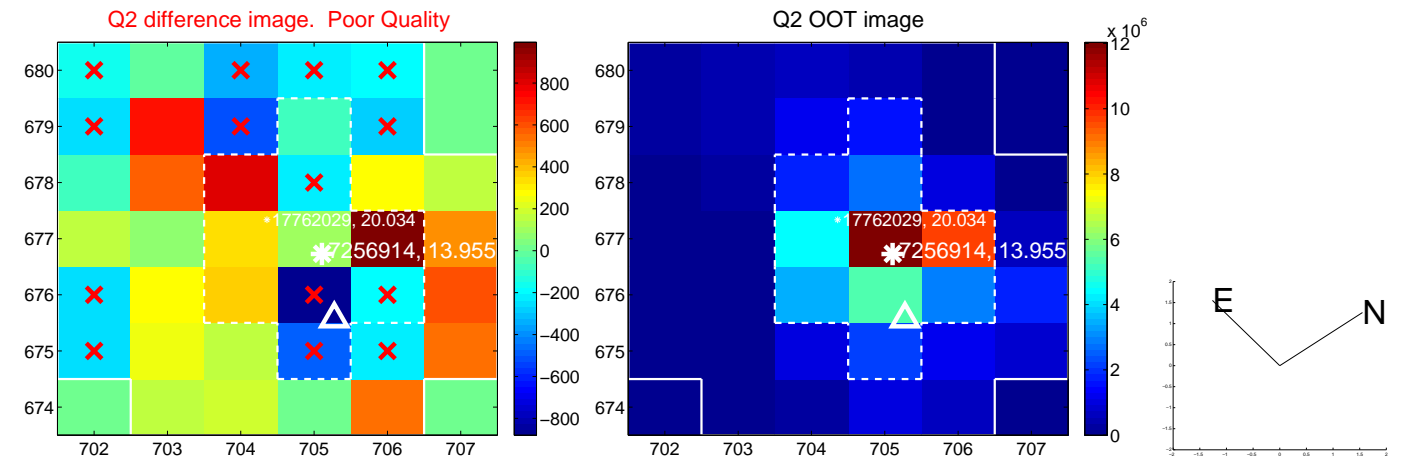
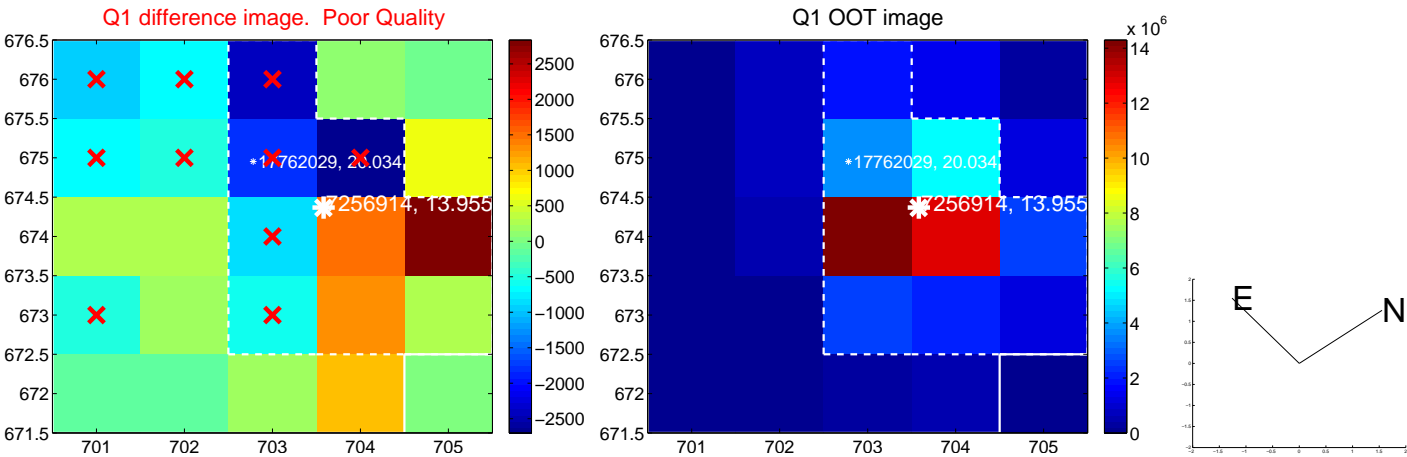
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.880 ± 1.029	0.86	-0.872 ± 1.076	0.120 ± 0.742
PRF-fit source offset from KIC position	0.898 ± 0.829	1.08	-0.876 ± 0.913	0.199 ± 0.725
photometric centroid source offset	1.48 ± 0.99	1.50	-1.43 ± 1.00	-0.38 ± 0.92

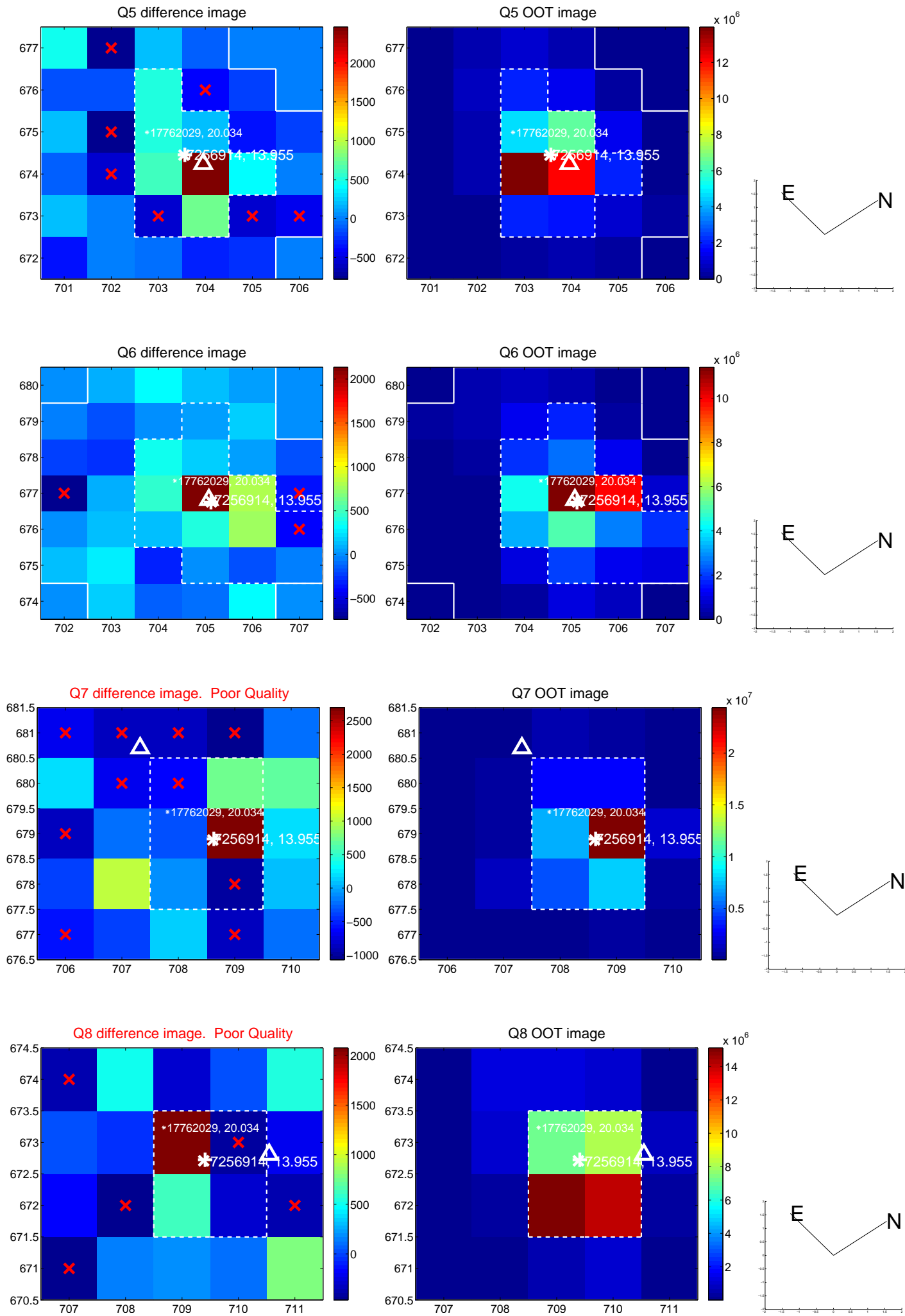


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

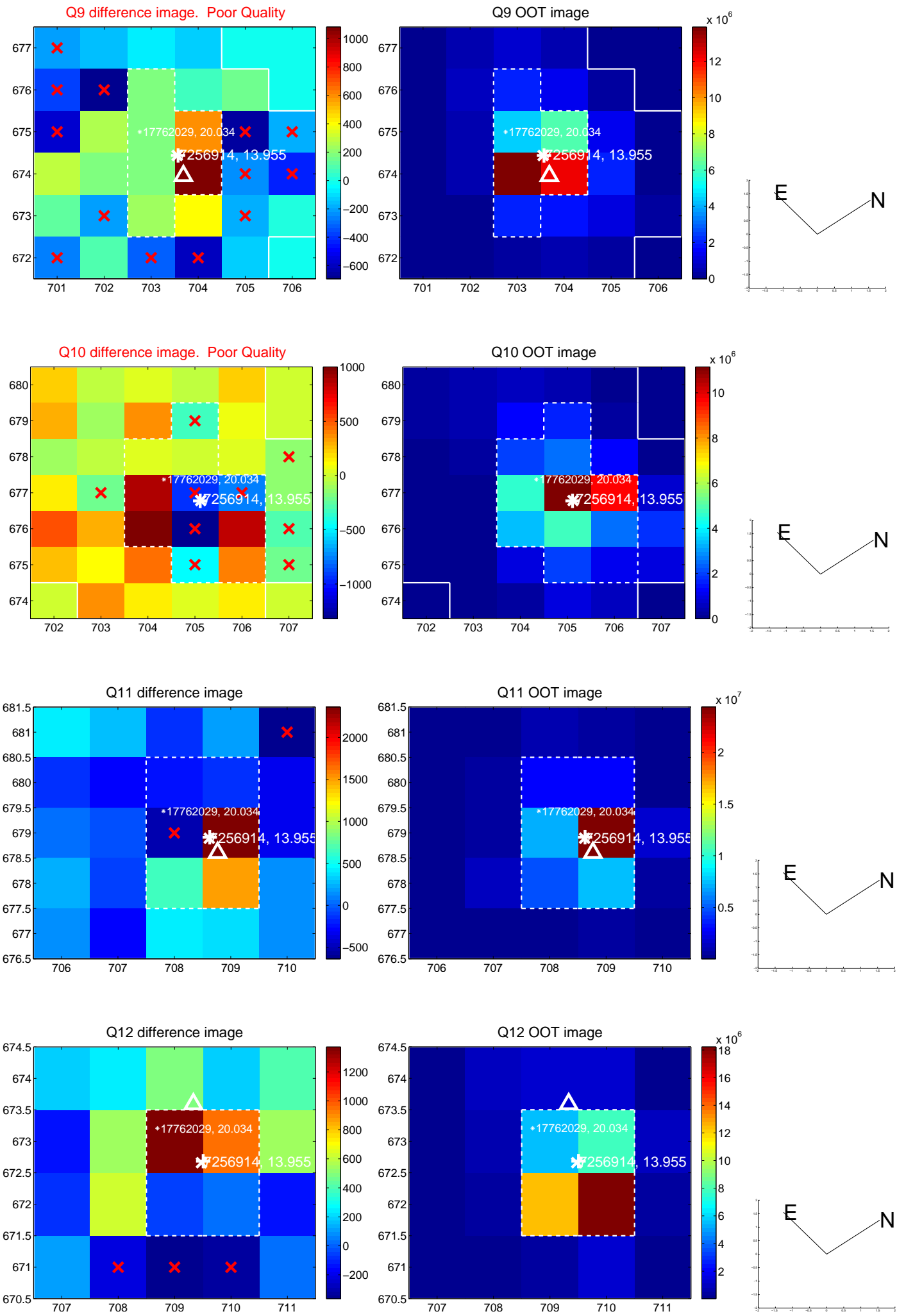
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



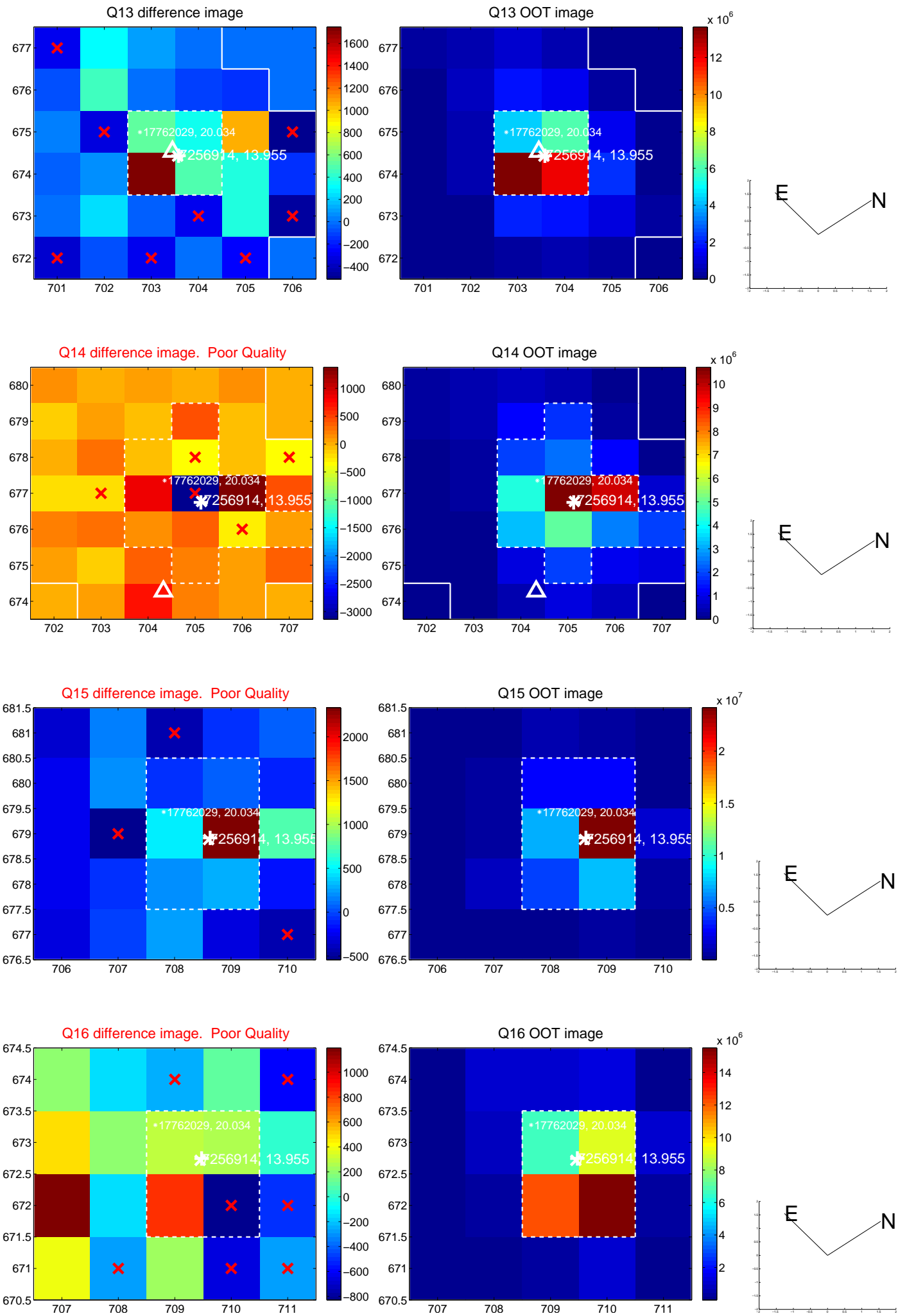
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



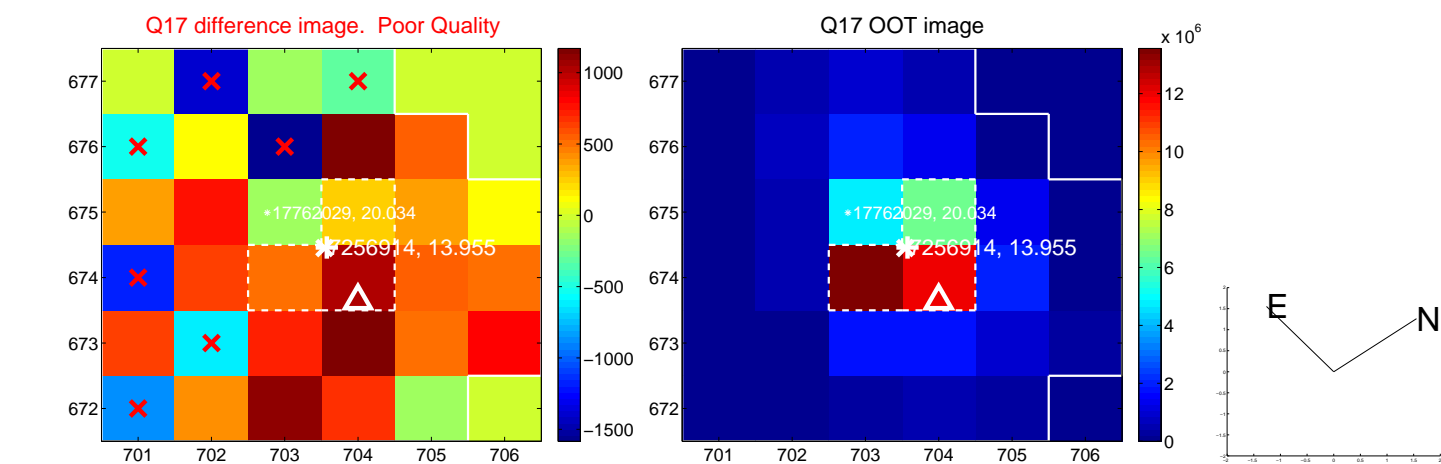
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



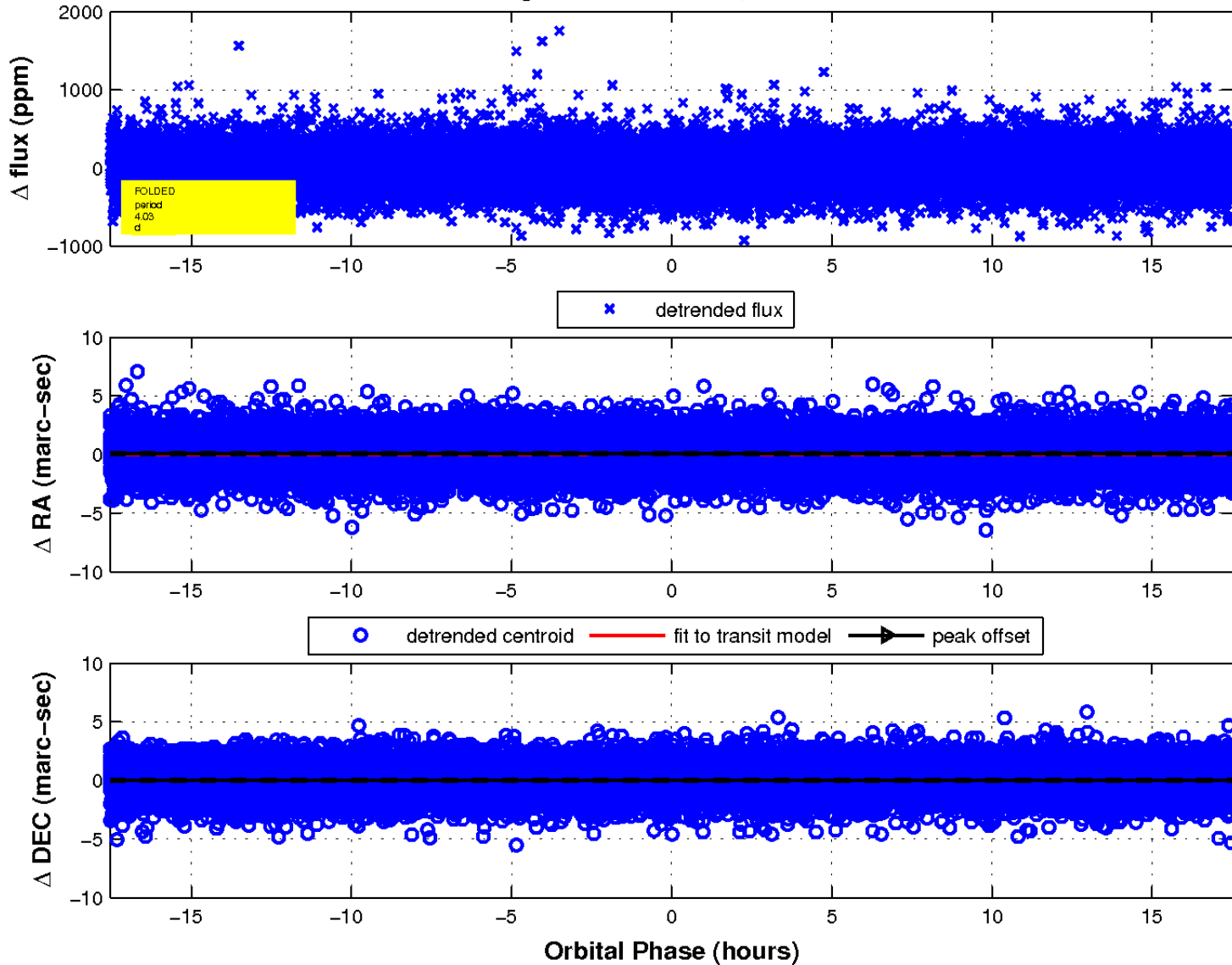
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

