

KIC 003757709

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})
003757709-01	OBS	No	2.169309	132.843653	17.8	3.785	8.9	9.5	1.47	6776	0.72	3151.89
003757709-02	OBS	No	2.169105	131.543208	20.7	3.304	8.6	9.8	1.47	6776	1.37	3152.28
003757709-03	OBS	No	0.867610	131.702194	5.9	4.836	9.2	4.4	1.47	6776	0.38	10696.29
003757709-04	OBS	No	56.313550	175.139984	149.9	7.409	8.9	6.0	1.47	6776	1.93	41.01
003757709-05	OBS	No	54.171044	162.453772	203.6	6.233	8.5	4.5	1.47	6776	4.11	43.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003757709-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003757709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003757709-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003757709-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003757709-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED

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

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

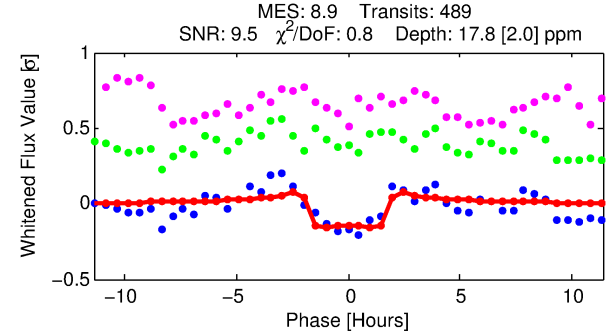
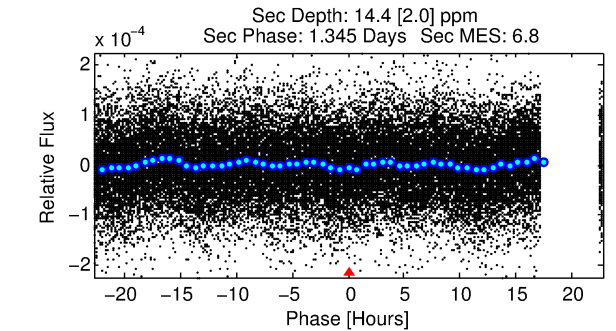
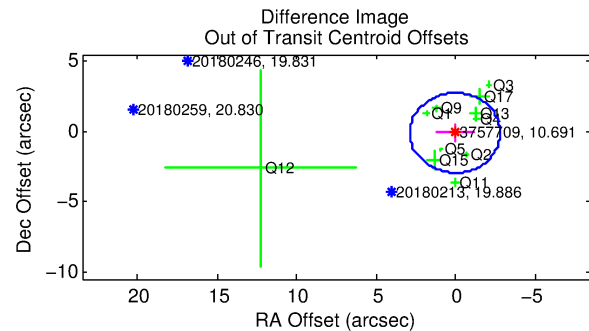
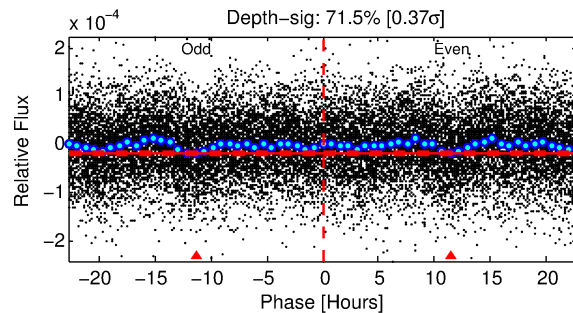
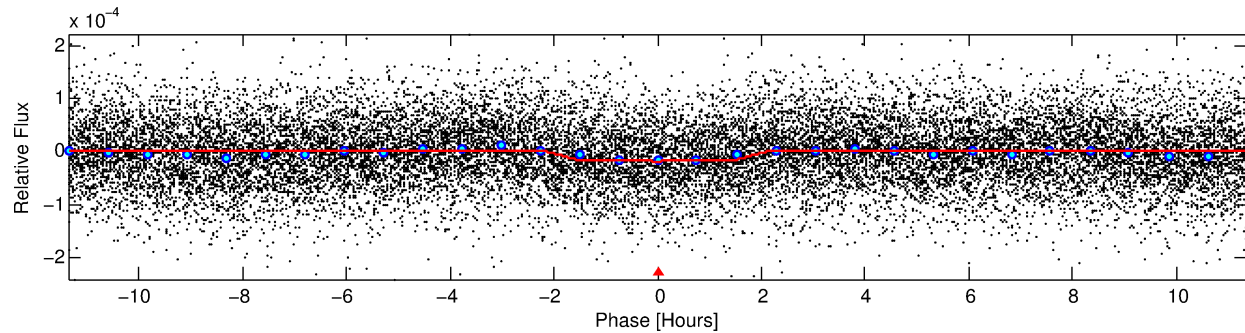
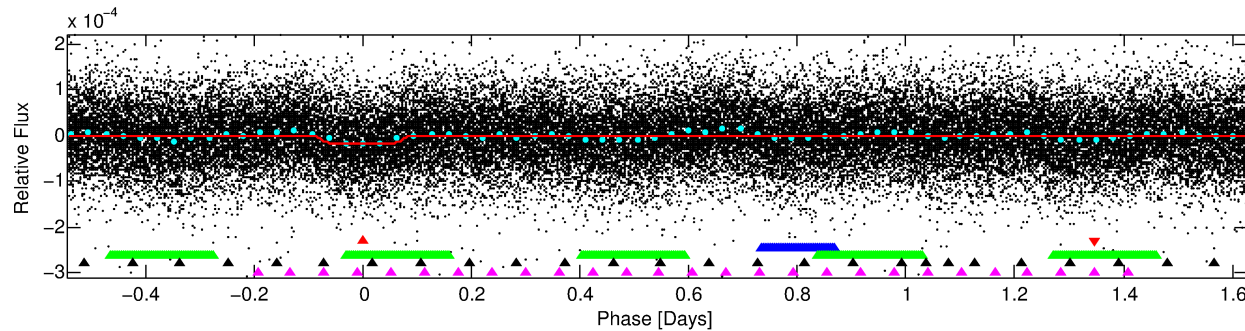
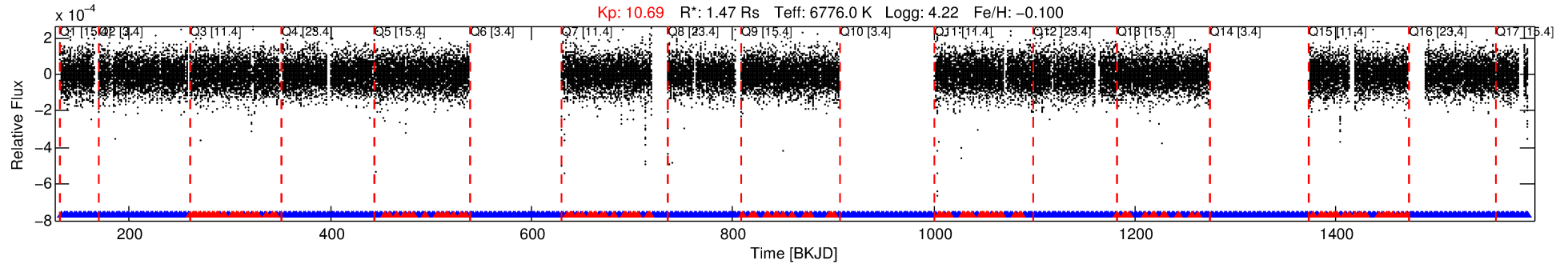
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003757709-01

No Significant Match Found

DV One-Page Summary

KIC: 3757709 Candidate: 1 of 5 Period: 2.169 d



DV Fit Results:

Period = 2.16931 [0.00001] d
Epoch = 132.8437 [0.0029] BKJD
 $R_p/R^* = 0.0045$ [0.0008]
 $a/R^* = 2.15$ [1.78]
 $b = 0.90$ [0.22]
 $\text{Seff} = 3151.89$ [612.91]
 $\text{Teq} = 1911$ [93] K
 $R_p = 0.72$ [0.17] R_e
 $a = 0.0360$ [0.0046] AU
 $\text{Ag} = 19.61$ [8.54] [2.18 σ]
 $\text{Teffp} = 6216$ [617] K [6.90 σ]

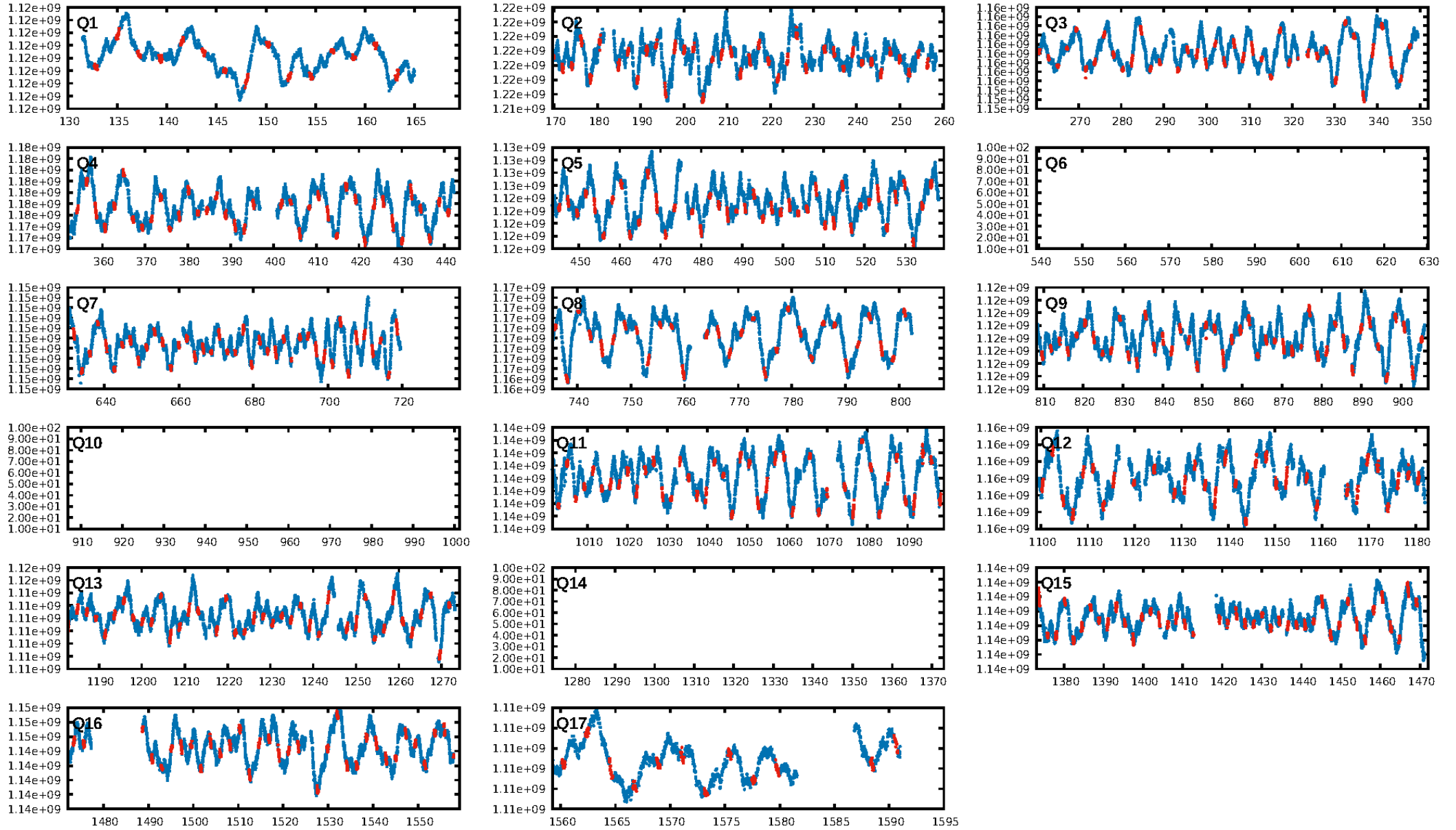
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: 100.0% [171.15 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.18e-12
RollingBand-fgt: 0.71 [326/462]
GhostDiagnostic-chr: -5.137
Centroid-sig: 19.3%
Centroid-so: 0.654 arcsec [0.69 σ]
OotOffset-rm: 0.107 arcsec [0.11 σ]
KicOffset-rm: 0.511 arcsec [0.57 σ]
OotOffset-st: 1/3/2/5 [11]
KicOffset-st: 1/3/2/5 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.00 [0/14]

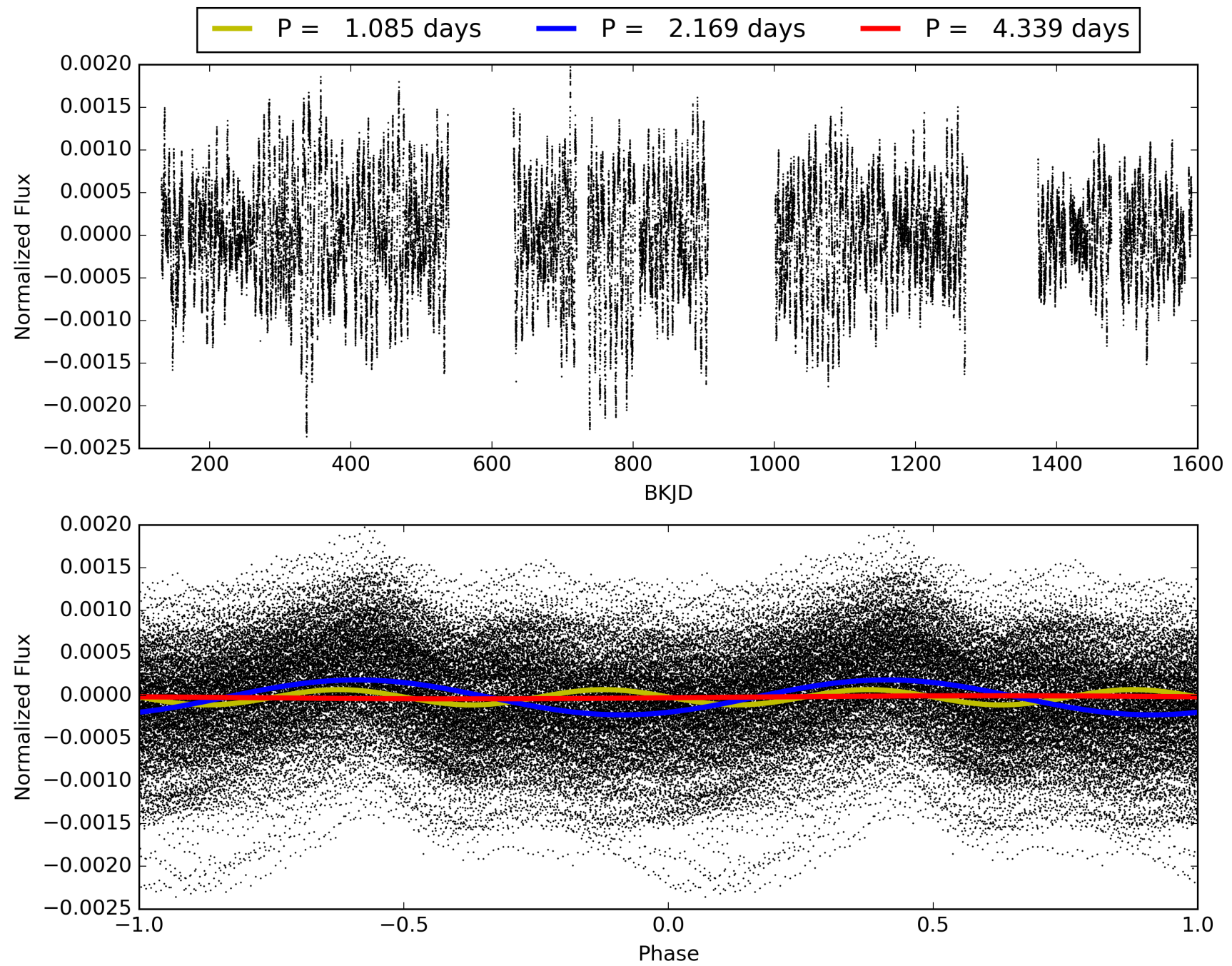
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:09:28 Z

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

TCE 003757709-01, PDC Light Curves

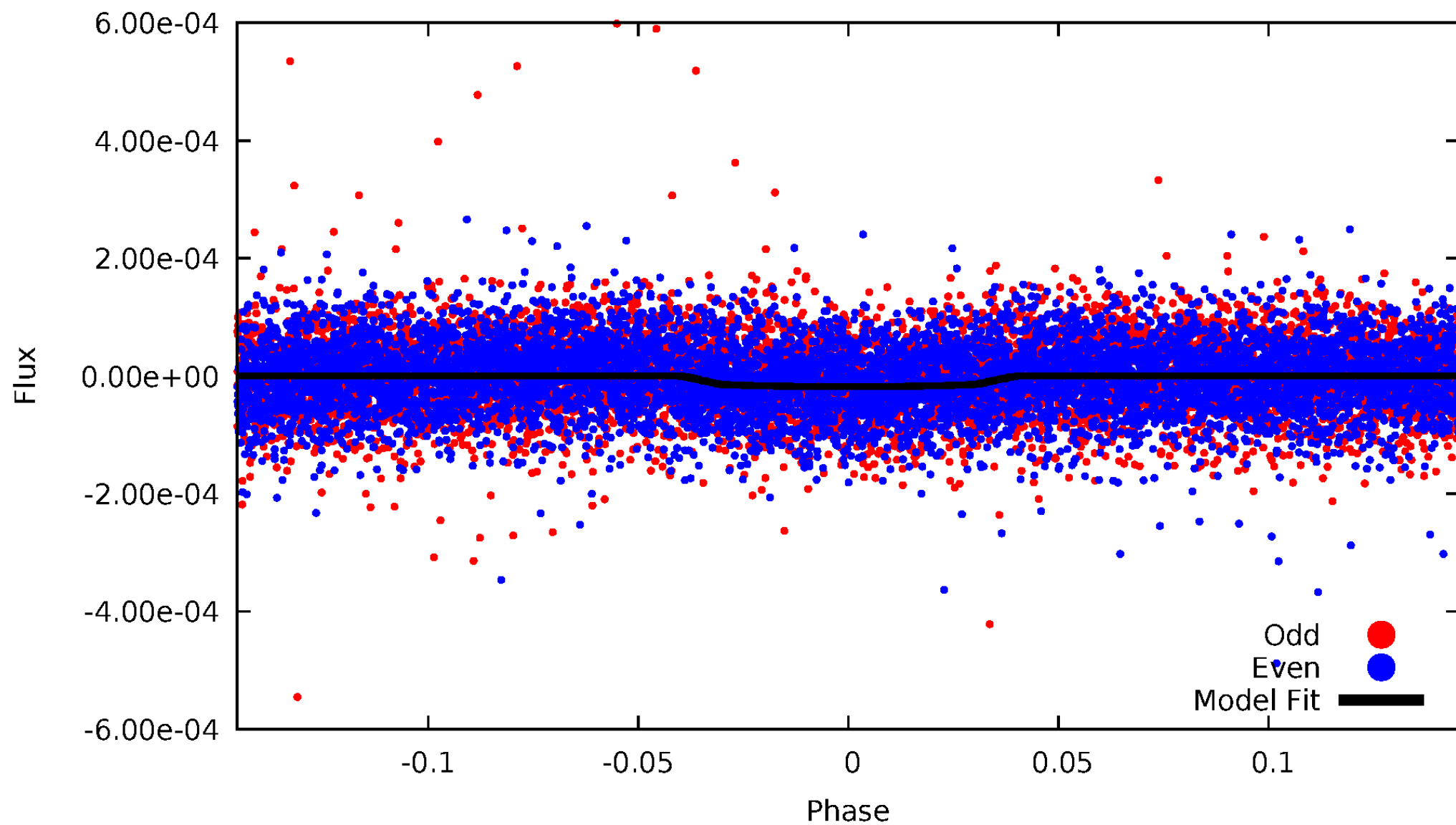


TCE 003757709-01



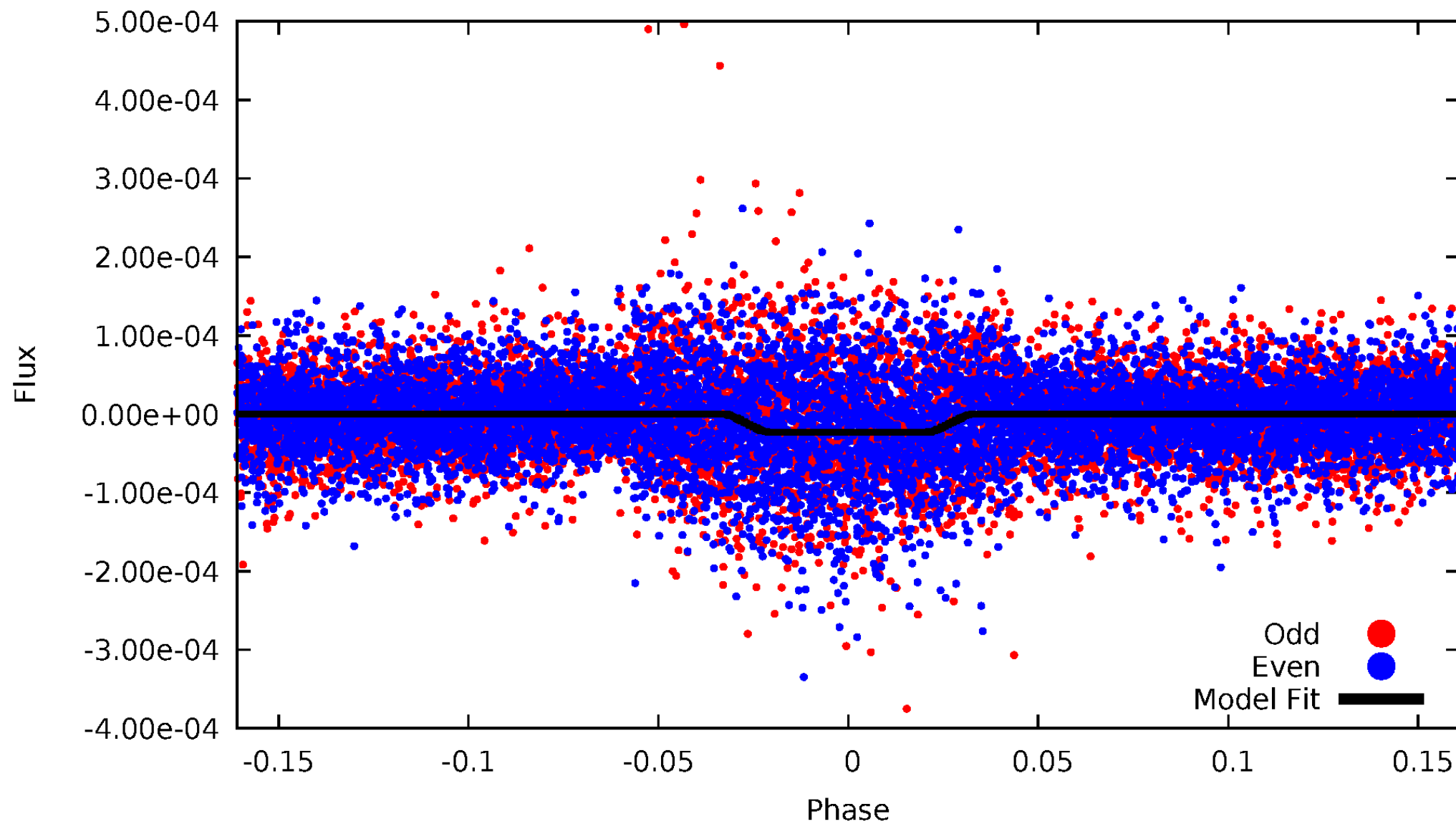
DV Odd/Even

TCE 003757709-01



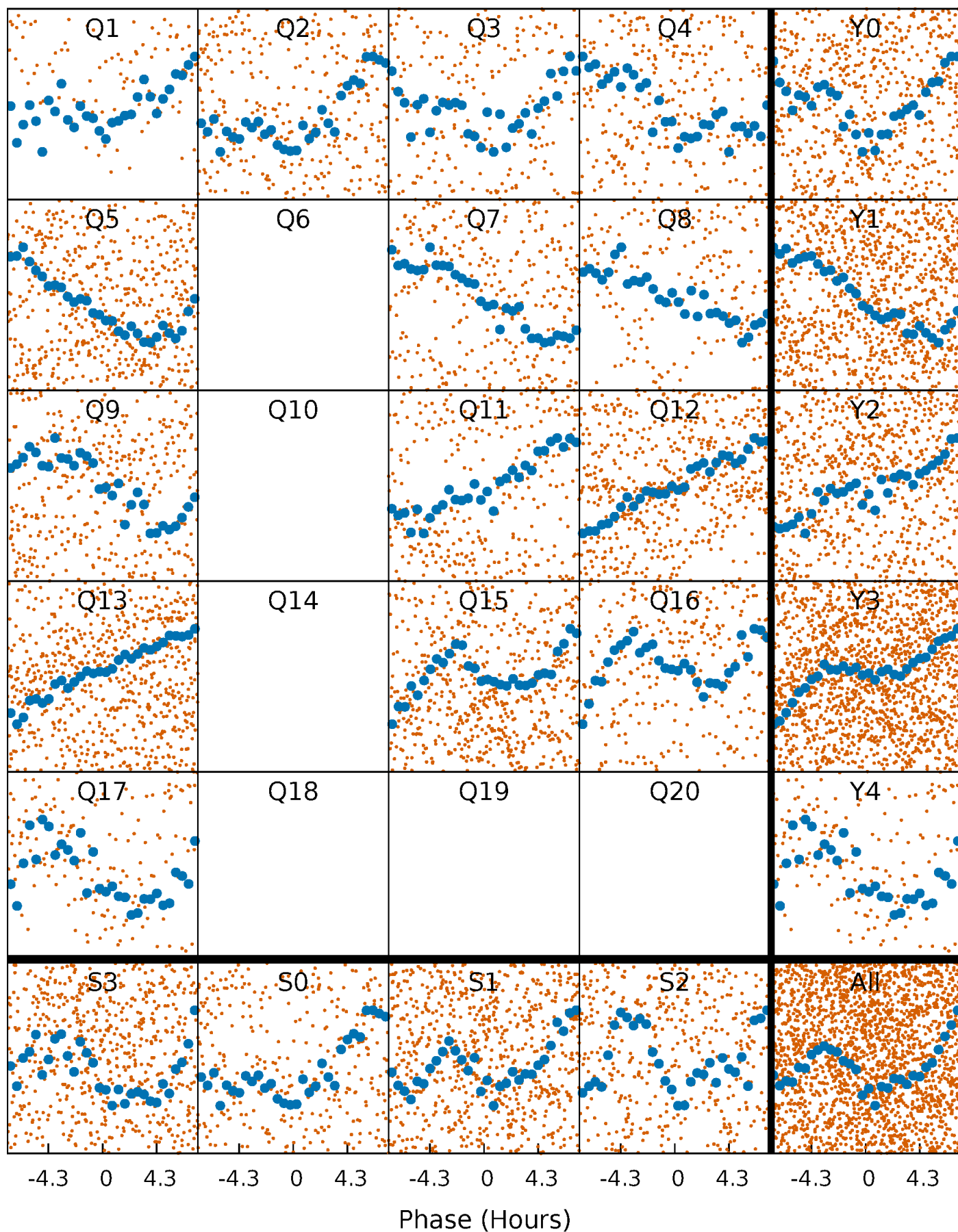
ALT Odd/Even

TCE 003757709-01



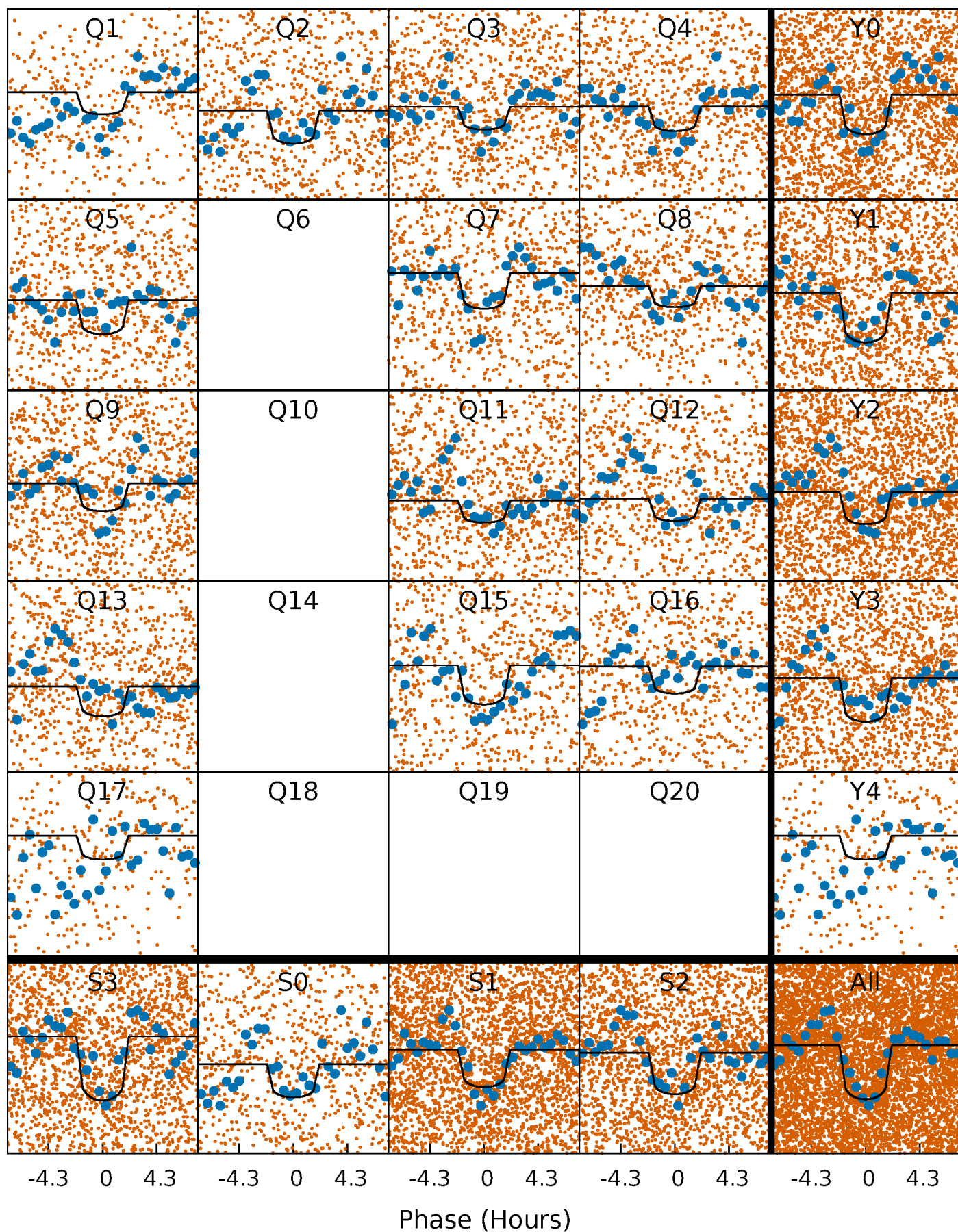
PDC Quarter-Phased Transit Curves

TCE 003757709-01 P= 2.169309 Days $T_0=132.843653$ (BKJD)



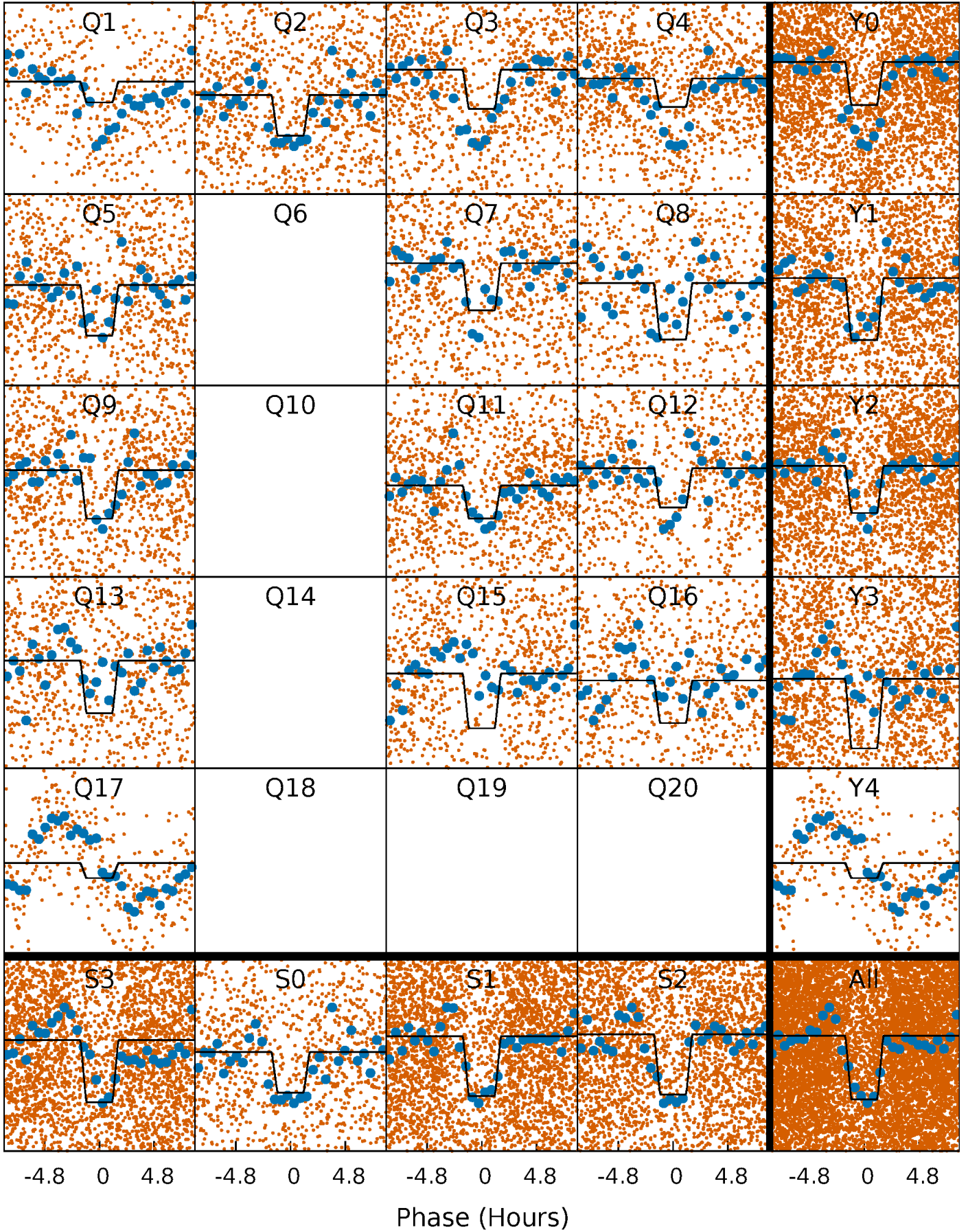
DV Quarter-Phased Transit Curves

TCE 003757709-01 P= 2.169309 Days $T_0=132.843653$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

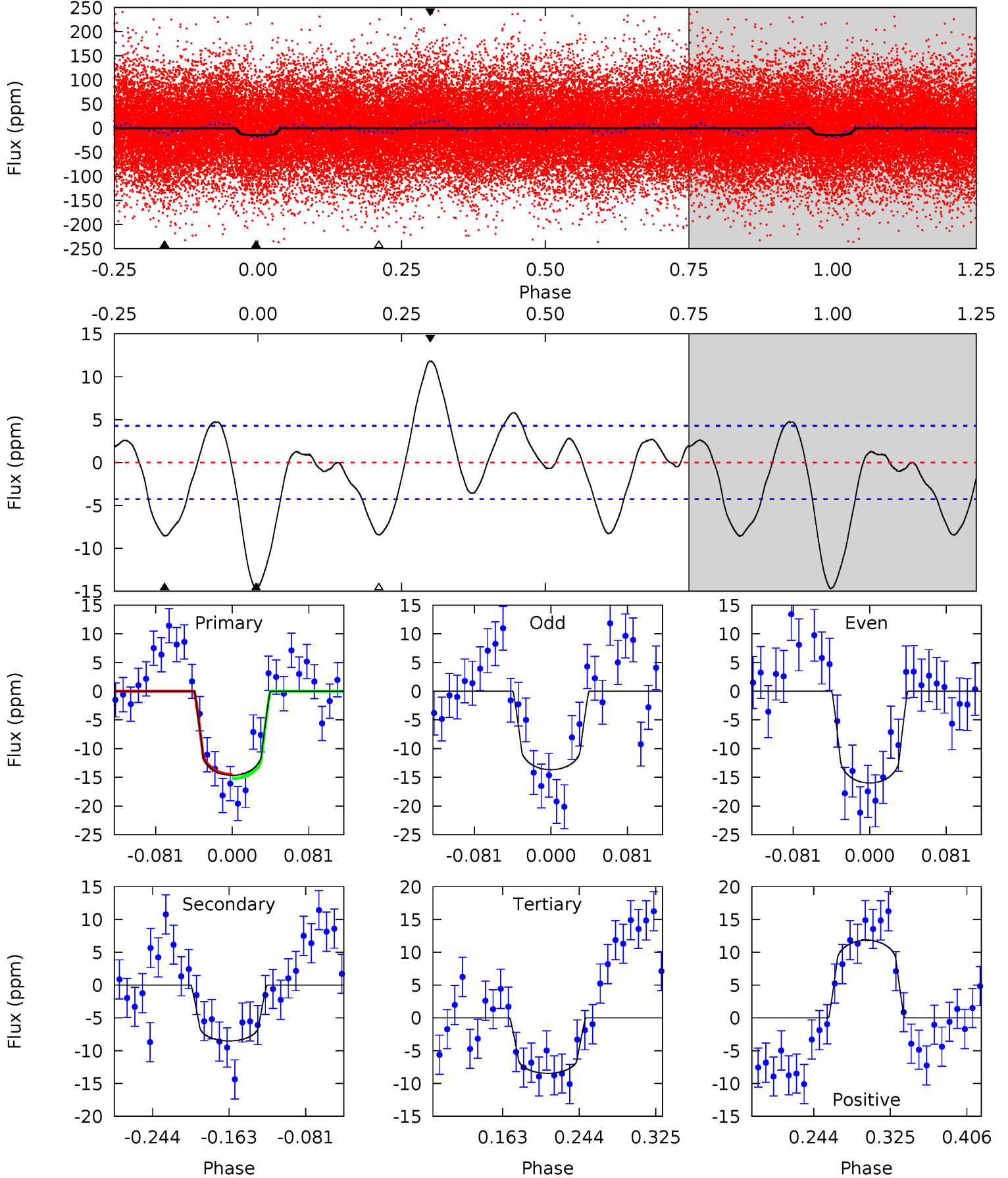
TCE 003757709-01 P= 2.169273 Days $T_0=132.854008$ (BKJD)



DV Model-Shift Uniqueness Test

003757709-01, P = 2.169309 Days, E = 130.674344 Days

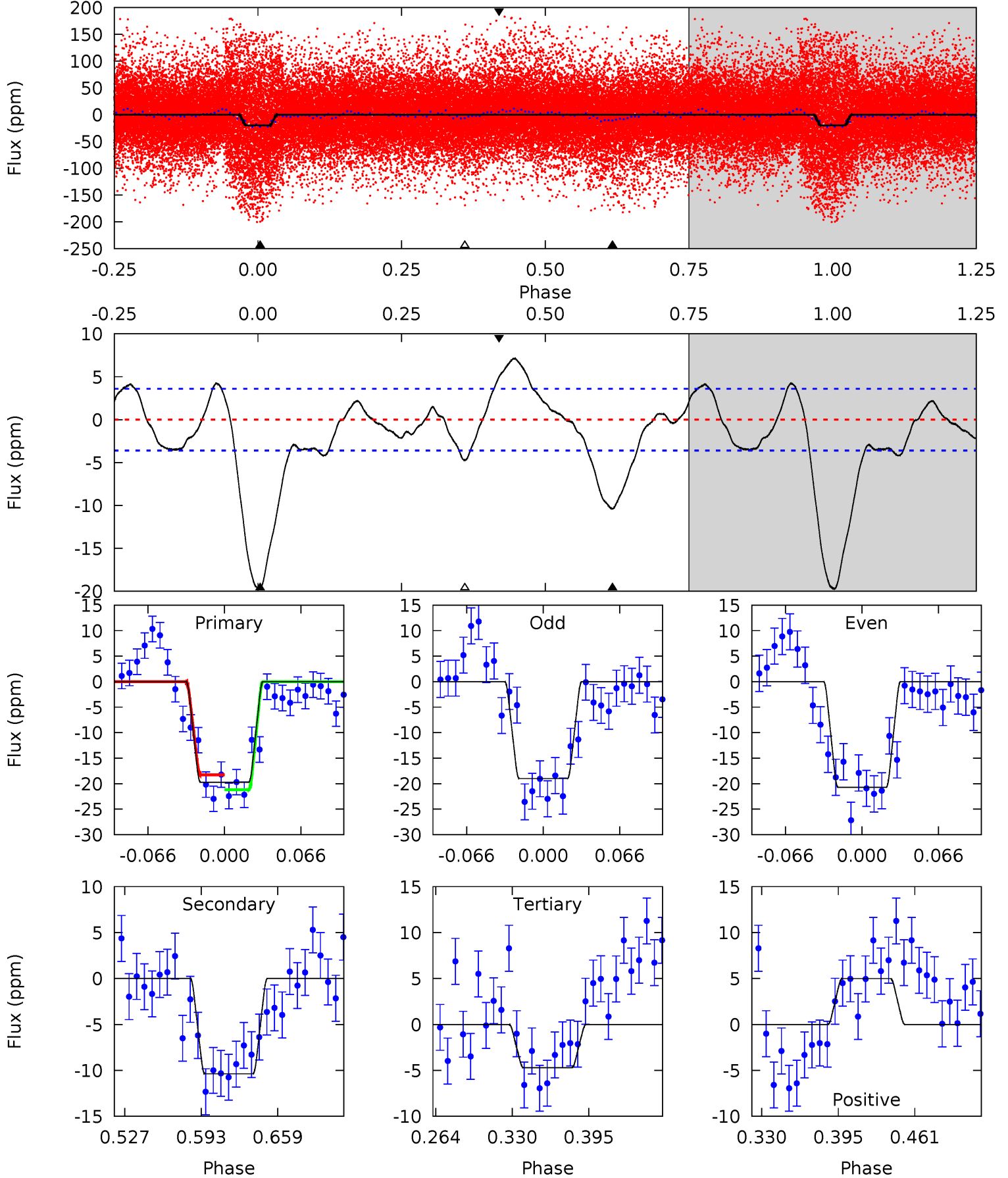
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	9.20	9.12	12.8	4.61	1.74	4.84	6.71	3.07	0.08	-3.56	1.27	0.92	0.45	0.38



Alt Model-Shift Uniqueness Test

003757709-01, P = 2.169273 Days, E = 130.684735 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	13.4	6.11	6.47	4.65	1.84	3.62	19.4	19.0	7.33	6.97	1.10	0.99	0.27	1.88



Stellar Parameters For KIC 003757709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6776^{+70}_{-91}	$4.224^{+0.068}_{-0.102}$	$-0.100^{+0.150}_{-0.200}$	$1.470^{+0.225}_{-0.150}$	$1.326^{+0.083}_{-0.092}$	$0.588^{+0.197}_{-0.188}$
	+1%/-1%	+2%/-2%	+150%/-200%	+15%/-10%	+6%/-7%	+34%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003757709-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 1	$0.74^{+0.15}_{-0.14}$	2675^{+100}_{-75}	5446^{+543}_{-433}	11^{+6}_{-4}
Alt.	-10 ± 1	$0.78^{+0.14}_{-0.13}$	2678^{+106}_{-82}	5517^{+526}_{-390}	12^{+6}_{-4}

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

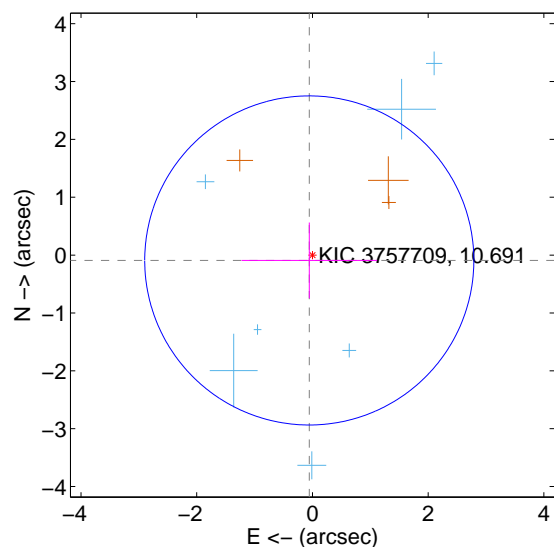
Supplemental centroid analysis for 003757709-01. **Kepler magnitude: 10.69.** Transit SNR 9.50

There are 7 quarters with good PRF difference image offsets

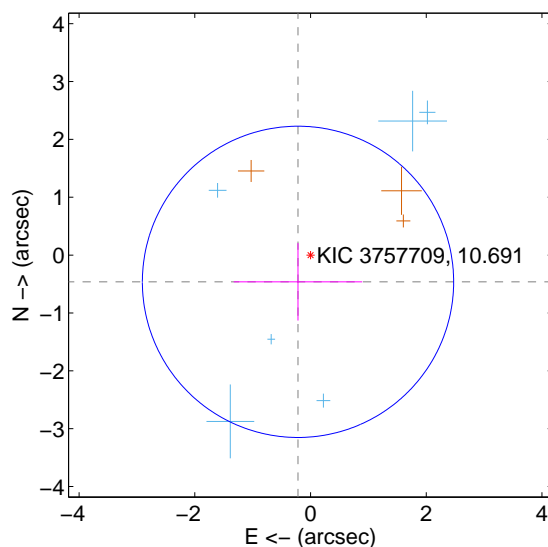
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.107 ± 0.948	0.11	0.055 ± 1.172	-0.092 ± 0.655
PRF-fit source offset from KIC position	0.511 ± 0.897	0.57	0.216 ± 1.110	-0.462 ± 0.669
photometric centroid source offset	0.65 ± 0.94	0.69	0.13 ± 0.69	0.64 ± 0.95

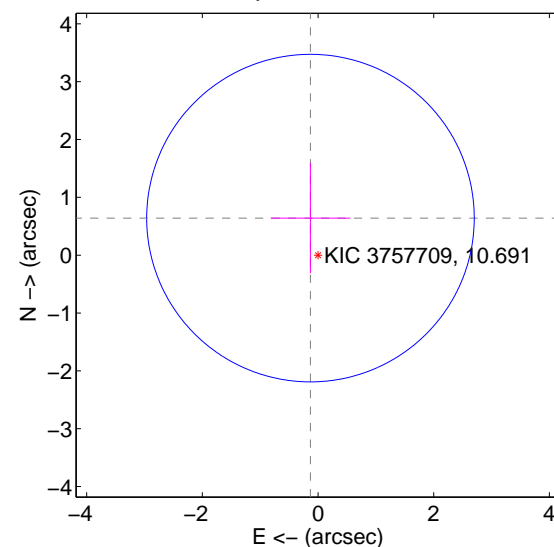
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

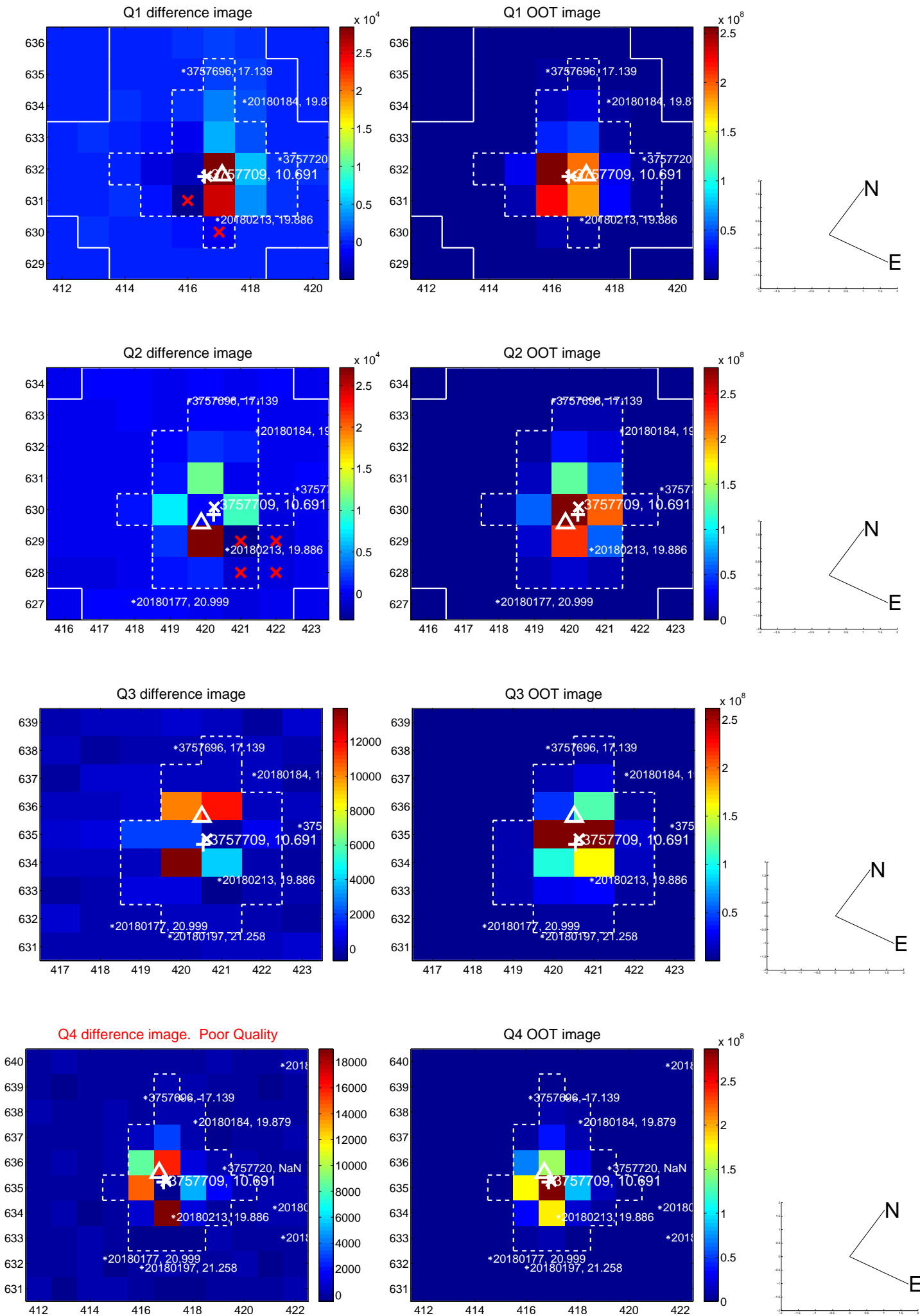


offset from photometric centroids

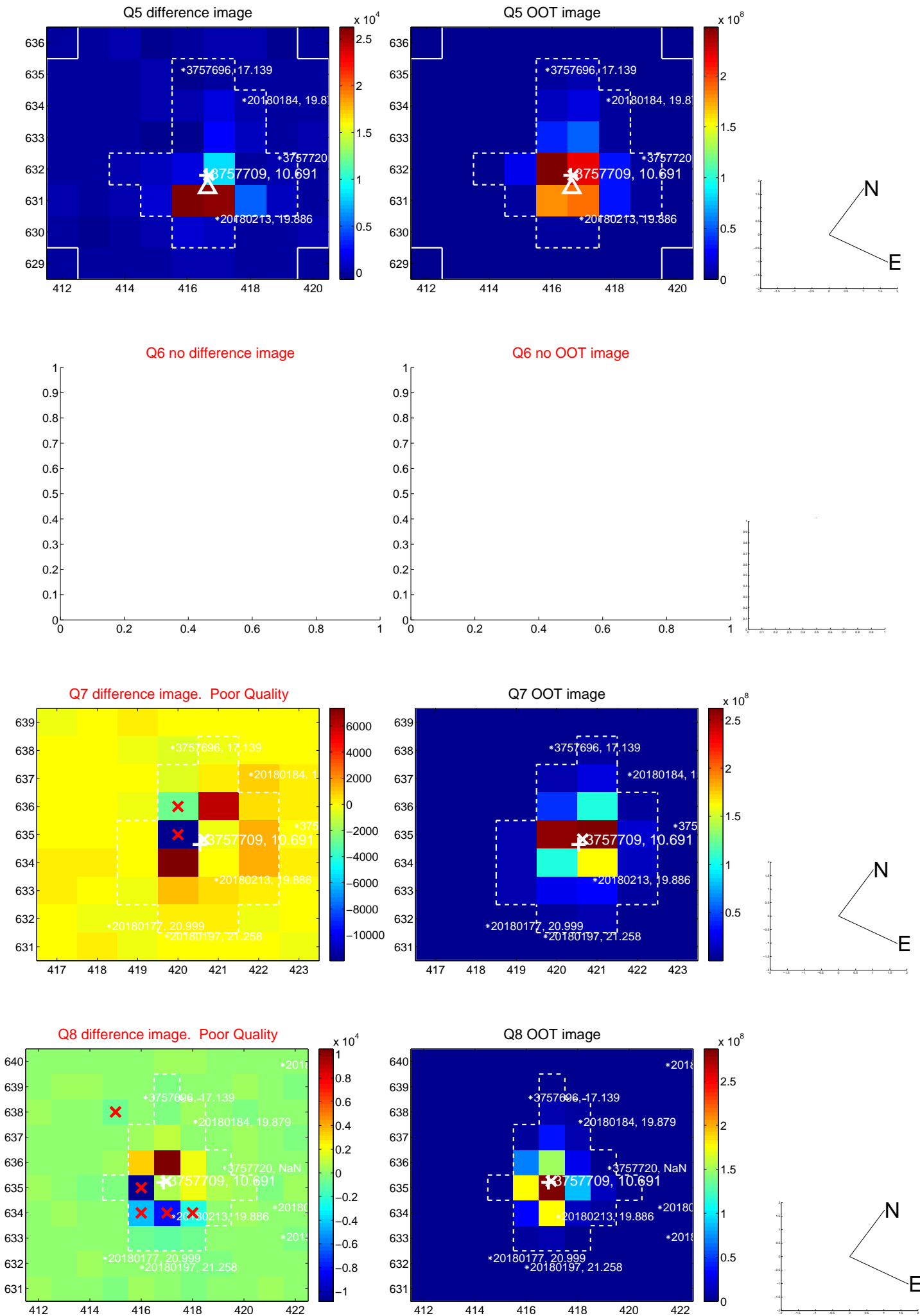


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

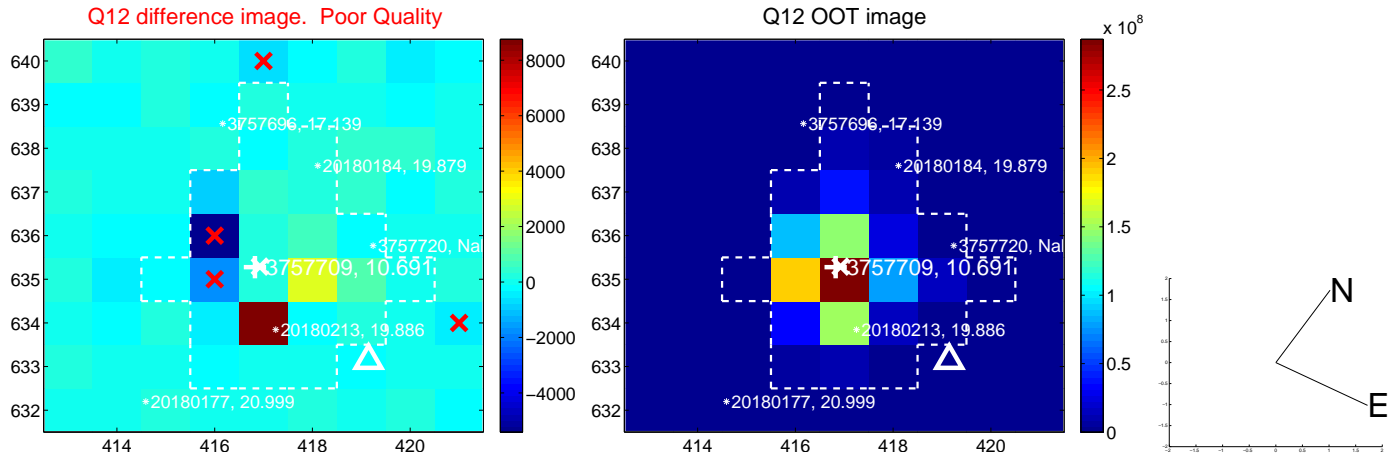
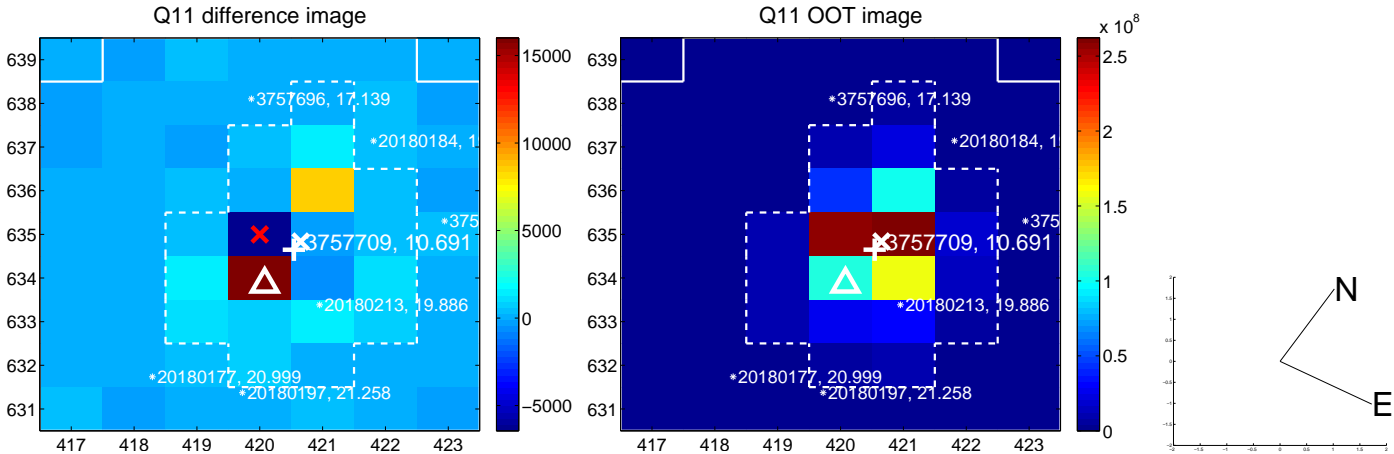
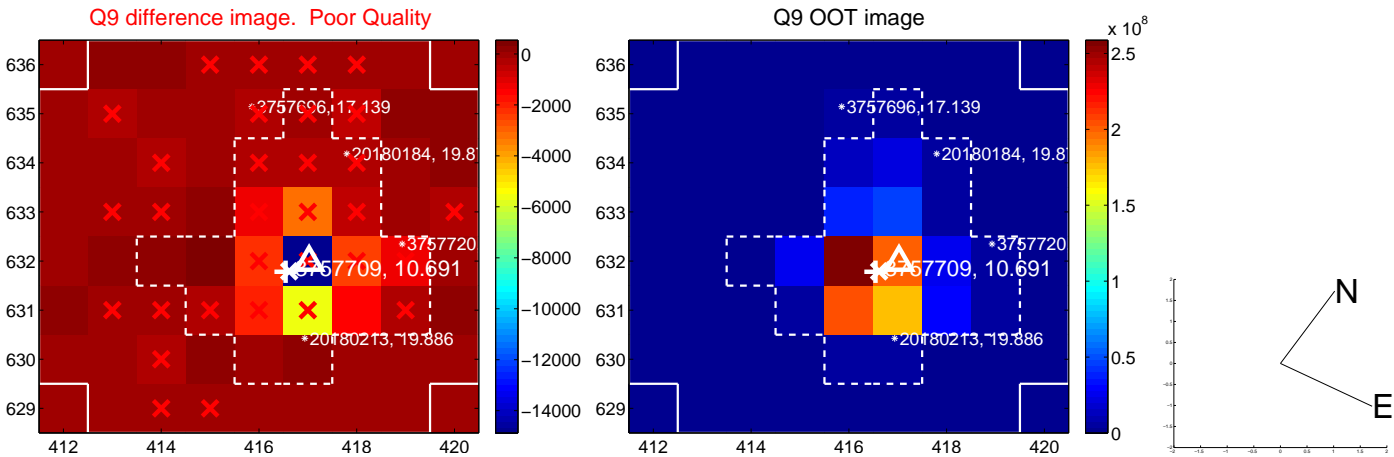
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



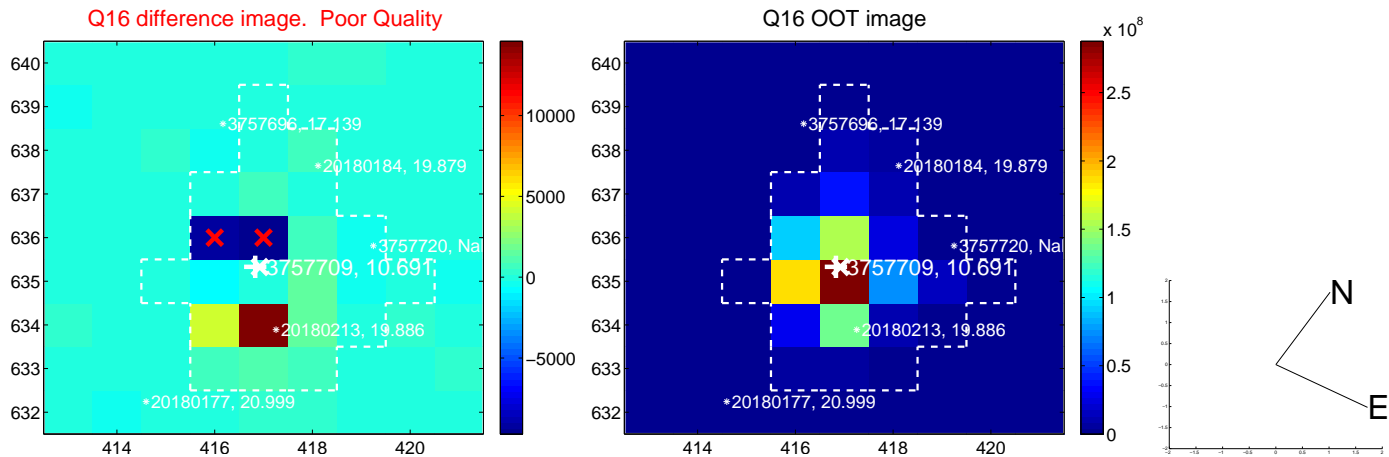
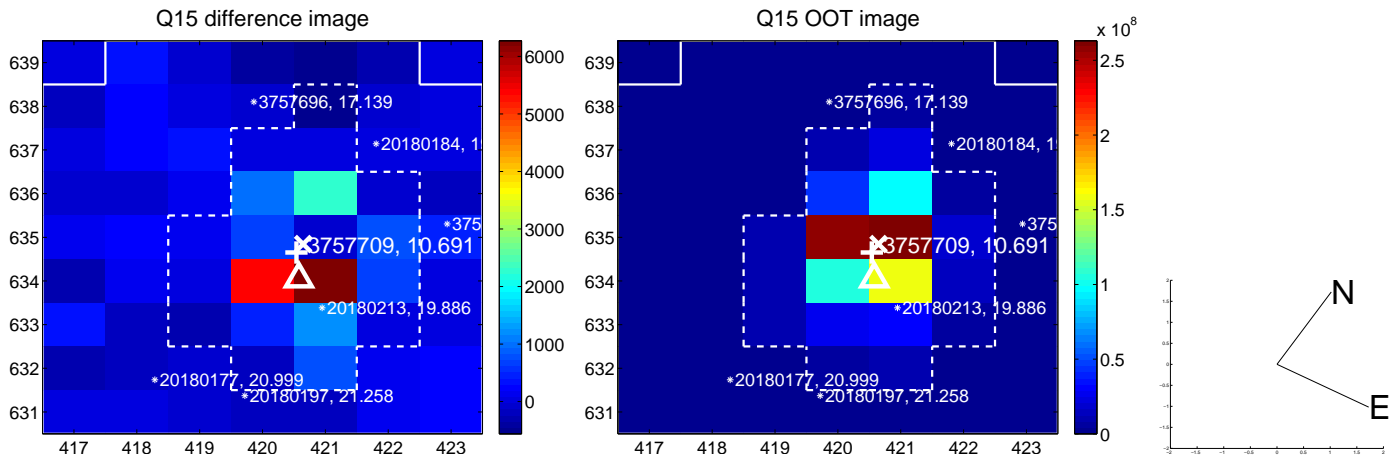
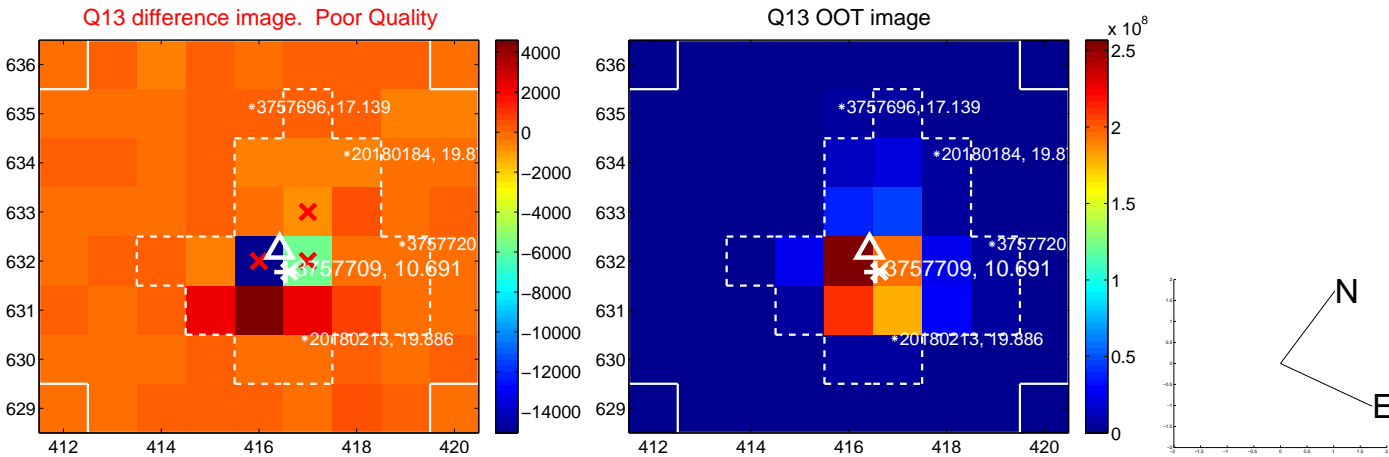
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



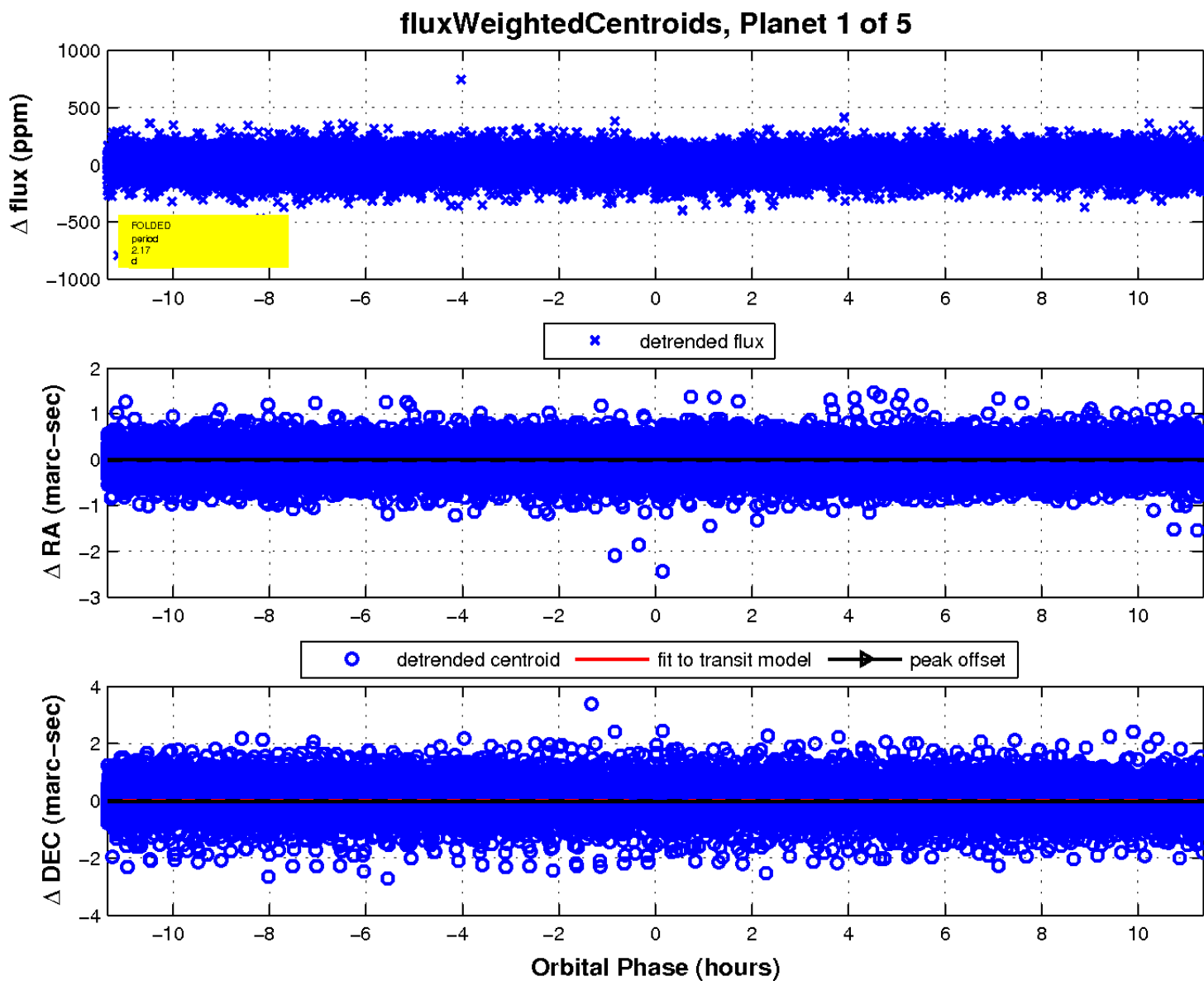
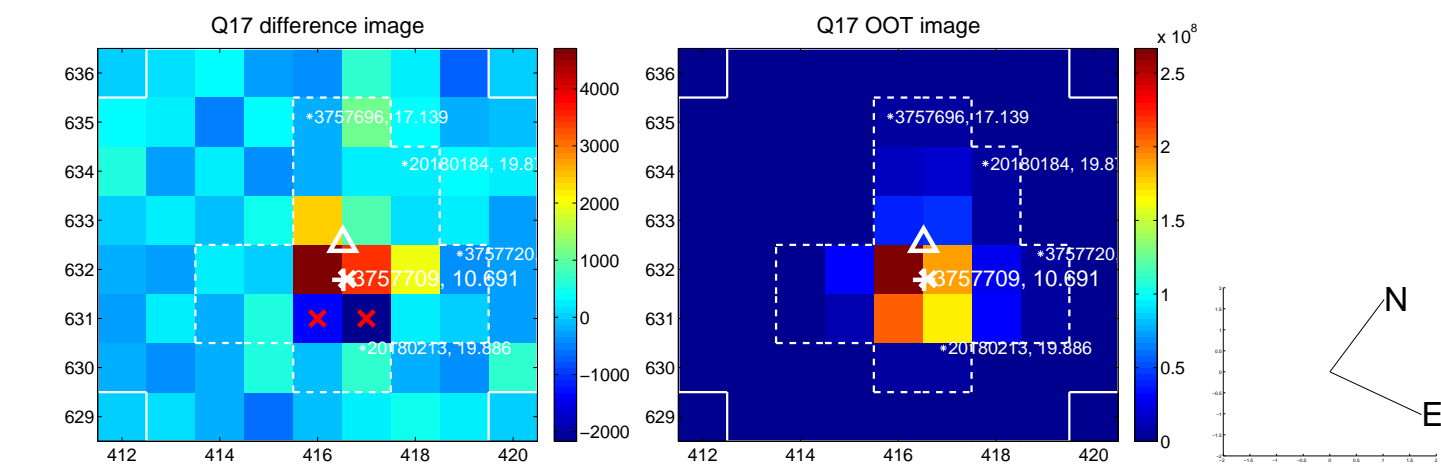
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

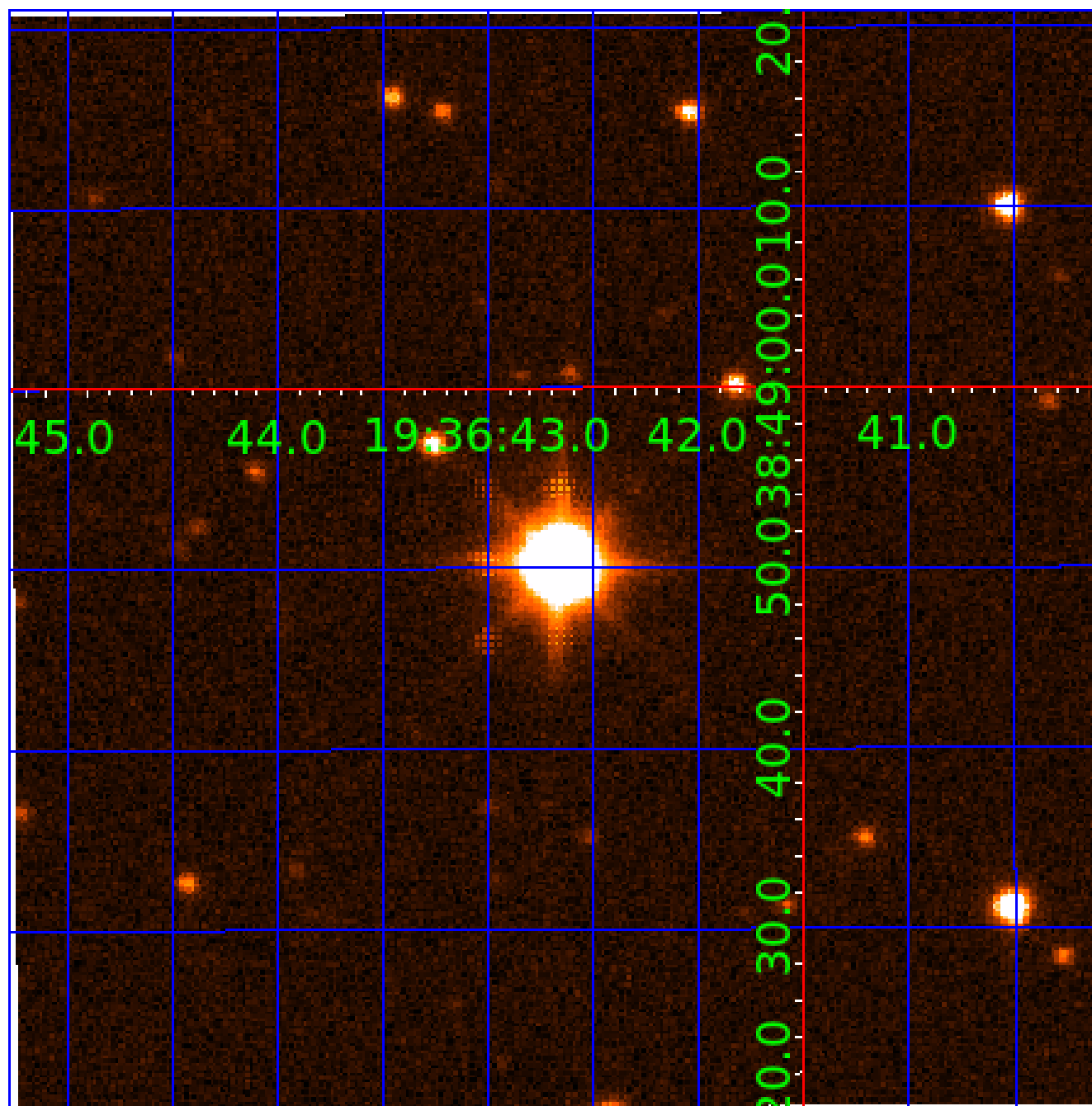


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003757709

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})
003757709-01	OBS	No	2.169309	132.843653	17.8	3.785	8.9	9.5	1.47	6776	0.72	3151.89
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Robovetter Results

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003757709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003757709-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003757709-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003757709-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED

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

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

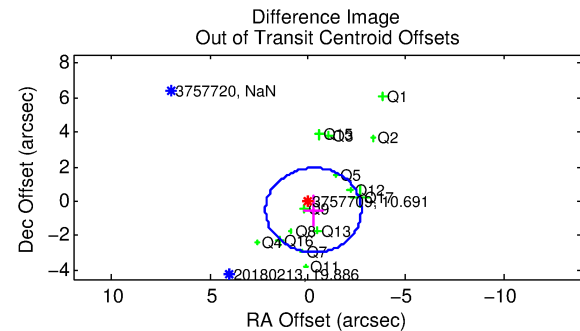
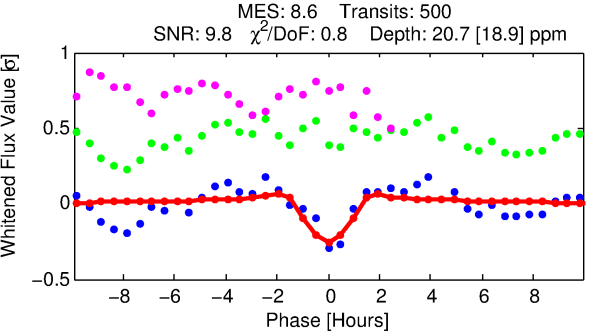
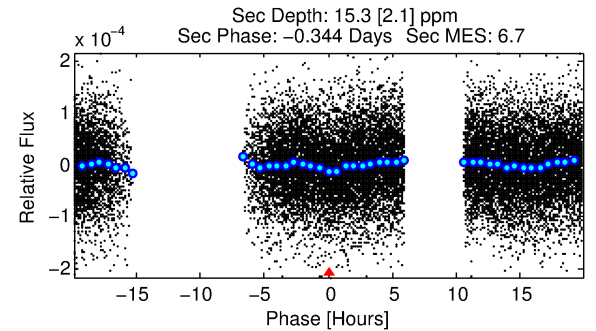
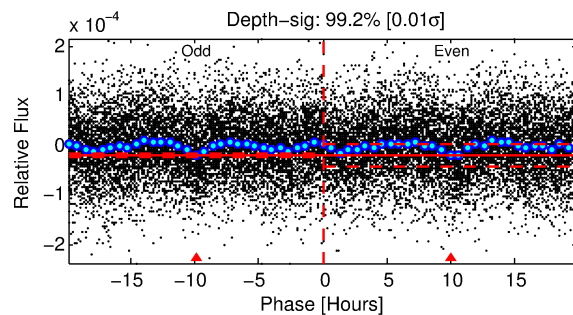
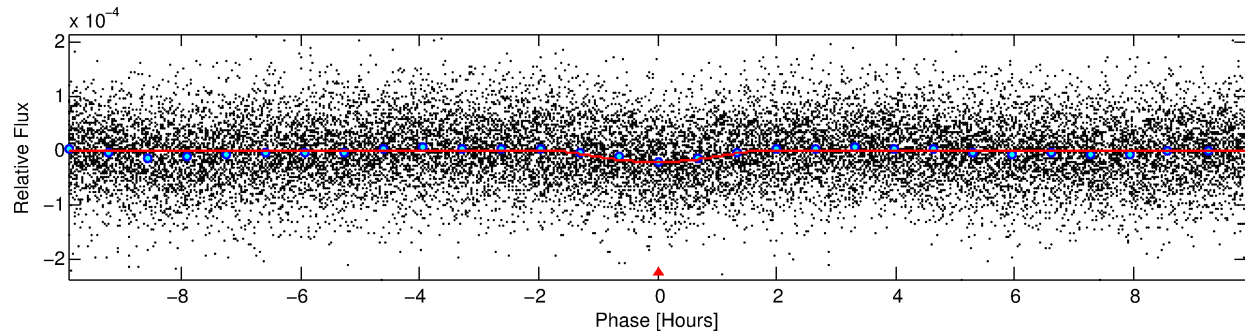
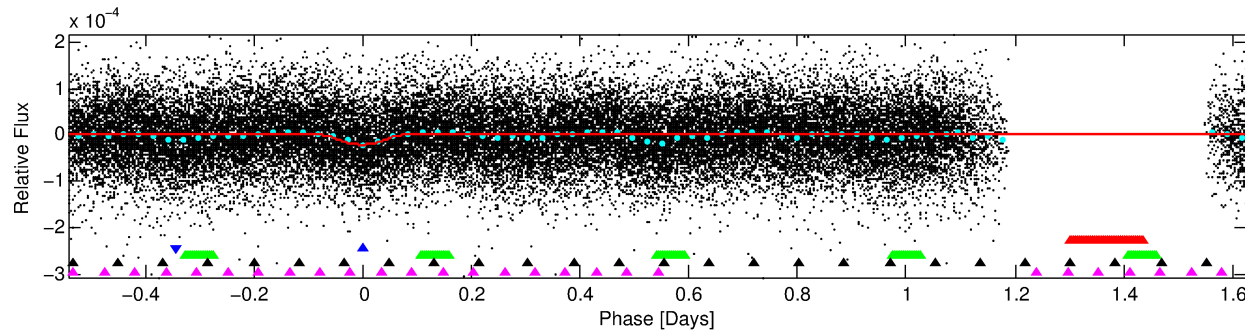
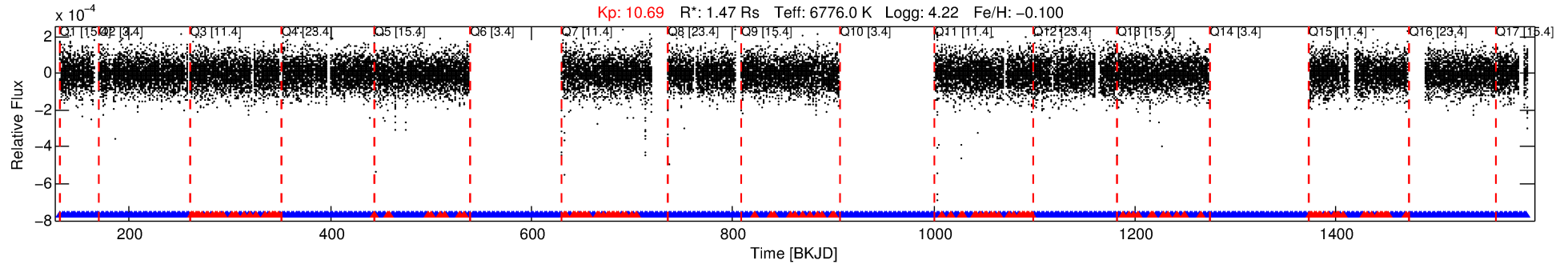
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003757709-02

No Significant Match Found

DV One-Page Summary

KIC: 3757709 Candidate: 2 of 5 Period: 2.169 d



DV Fit Results:

Period = 2.16911 [0.00002] d
Epoch = 131.5432 [0.0042] BKJD
Rp/R* = 0.0086 [0.0185]
a/R* = 1.20 [0.22]
b = 1.00 [0.03]
Seff = 3152.28 [612.99]
Teq = 1911 [93] K
Rp = 1.37 [2.97] Re
a = 0.0360 [0.0046] AU
Ag = 5.80 [25.06] [0.19 σ]
Teff = 4585 [4947] K [0.54 σ]

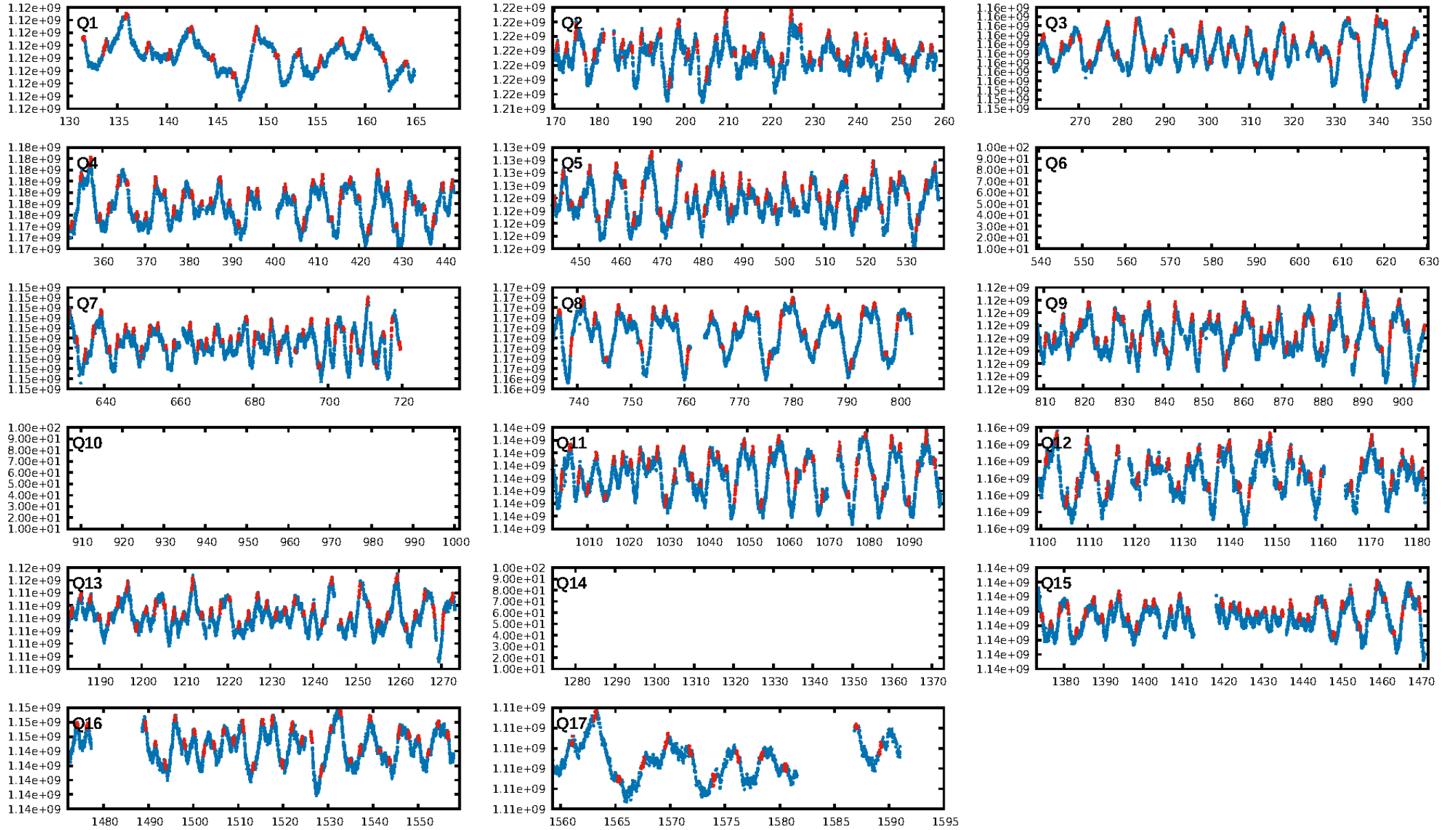
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.33 σ]
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.09e-16
RollingBand-fgt: 0.75 [352/472]
GhostDiagnostic-chr: -10.16
Centroid-sig: 11.8%
Centroid-so: 1.362 arcsec [1.55 σ]
OotOffset-rm: 0.595 arcsec [0.73 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-rm: 1.073 arcsec [1.21 σ]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 0.00 [0/14]

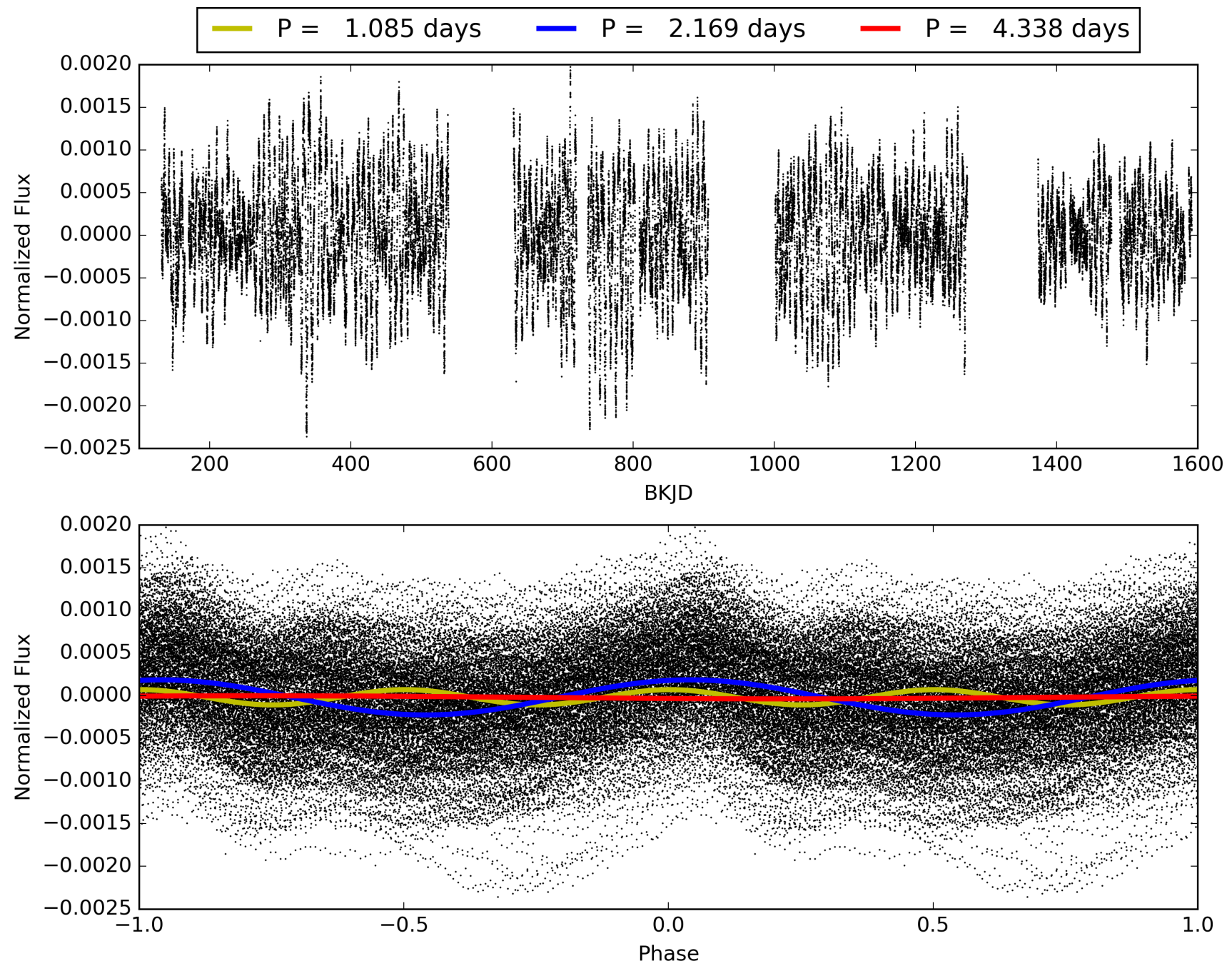
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:09:36 Z

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

TCE 003757709-02, PDC Light Curves

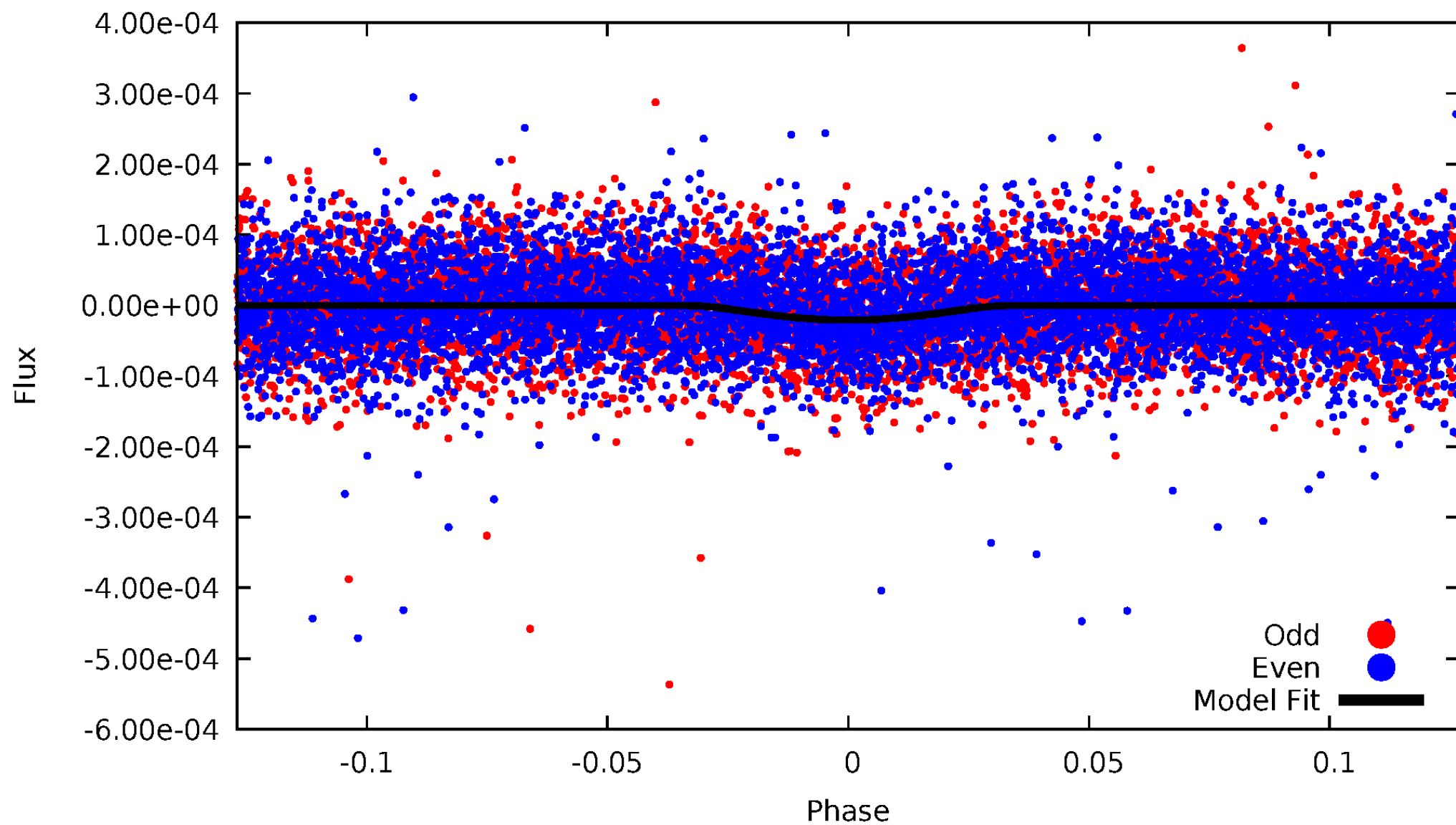


TCE 003757709-02



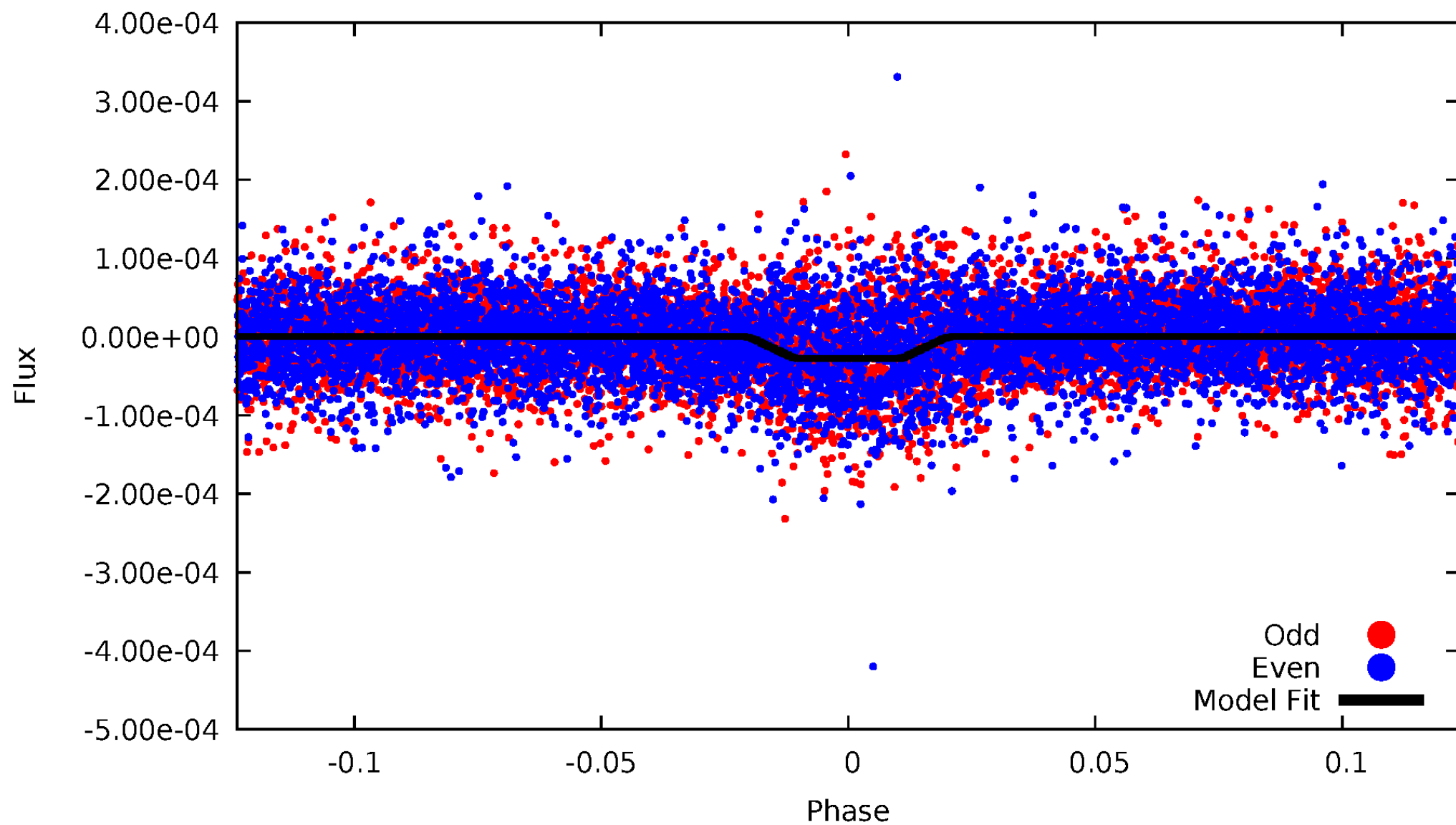
DV Odd/Even

TCE 003757709-02



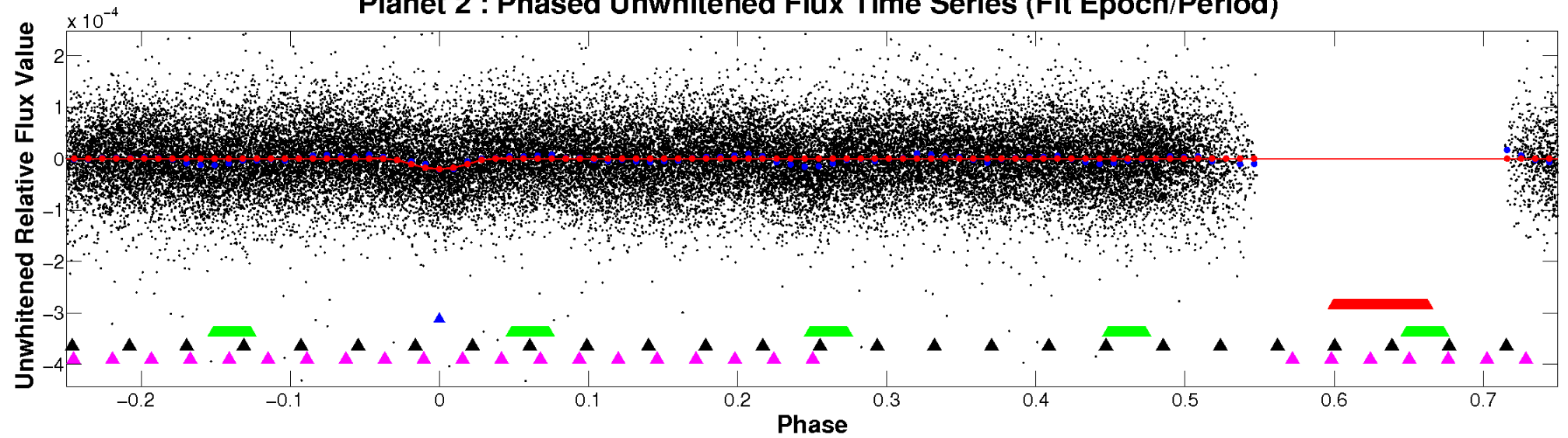
ALT Odd/Even

TCE 003757709-02

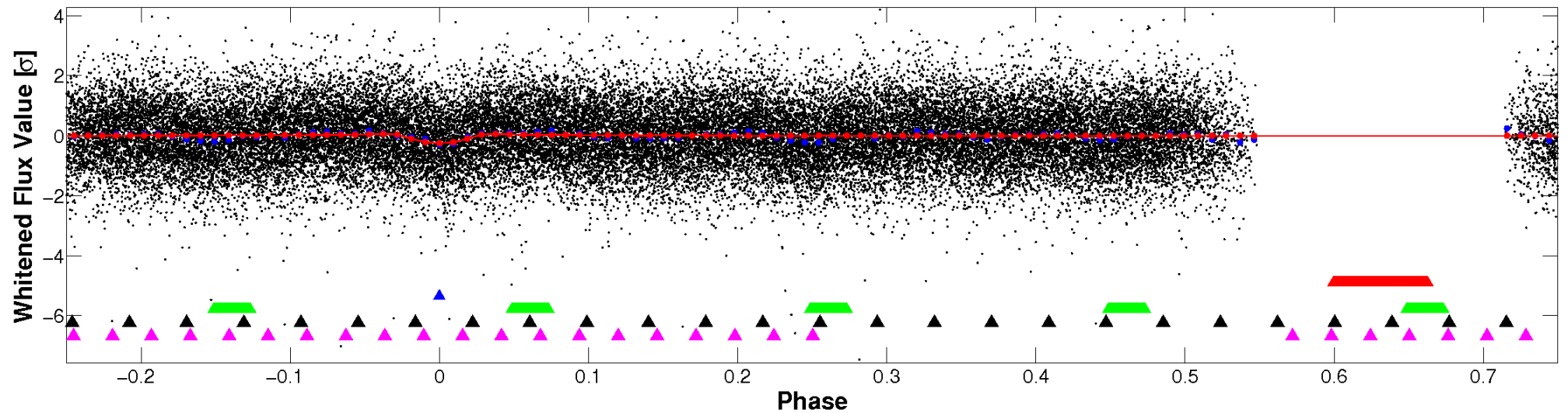


Non-Whitened Vs. Whitened Light Curve

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

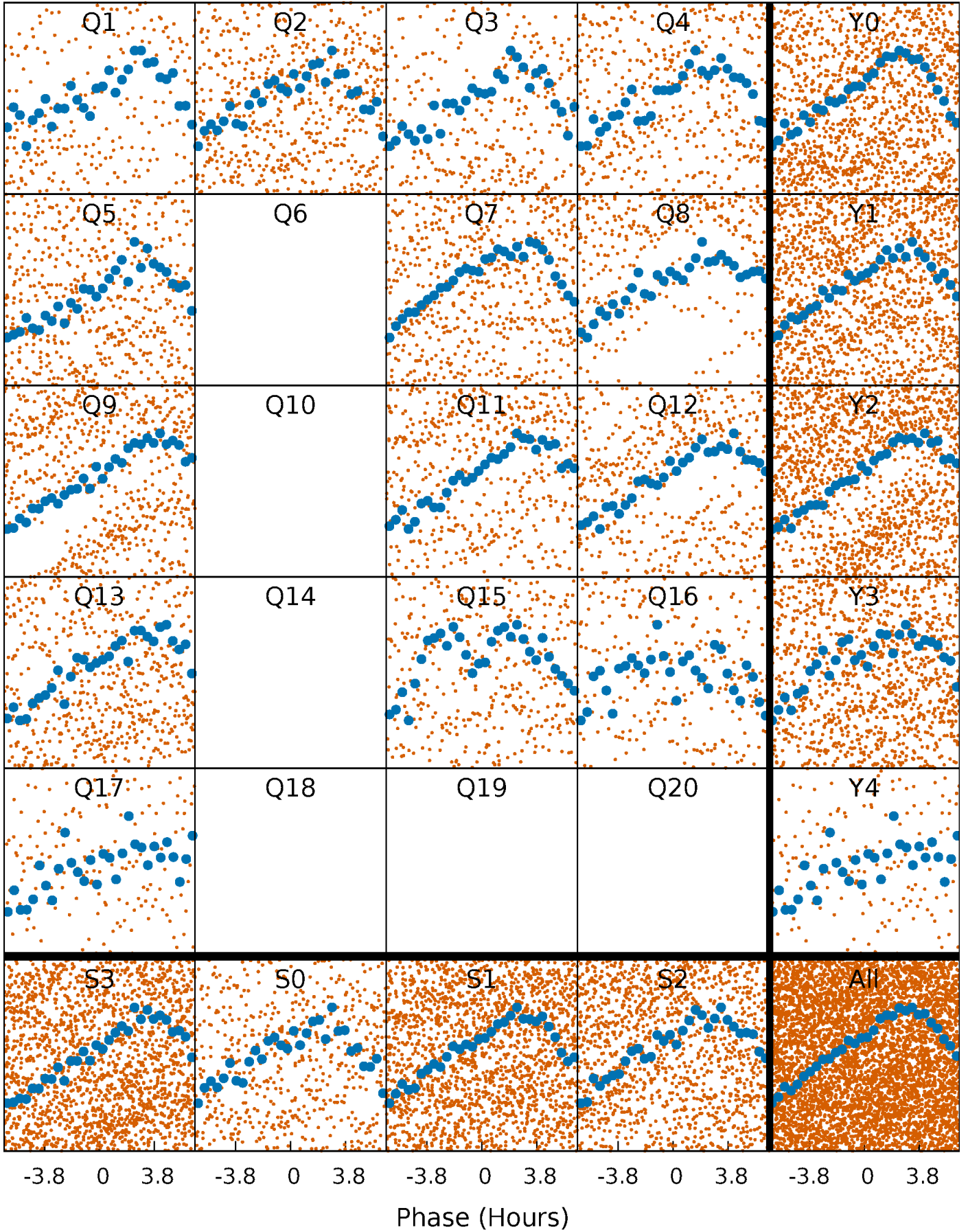


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



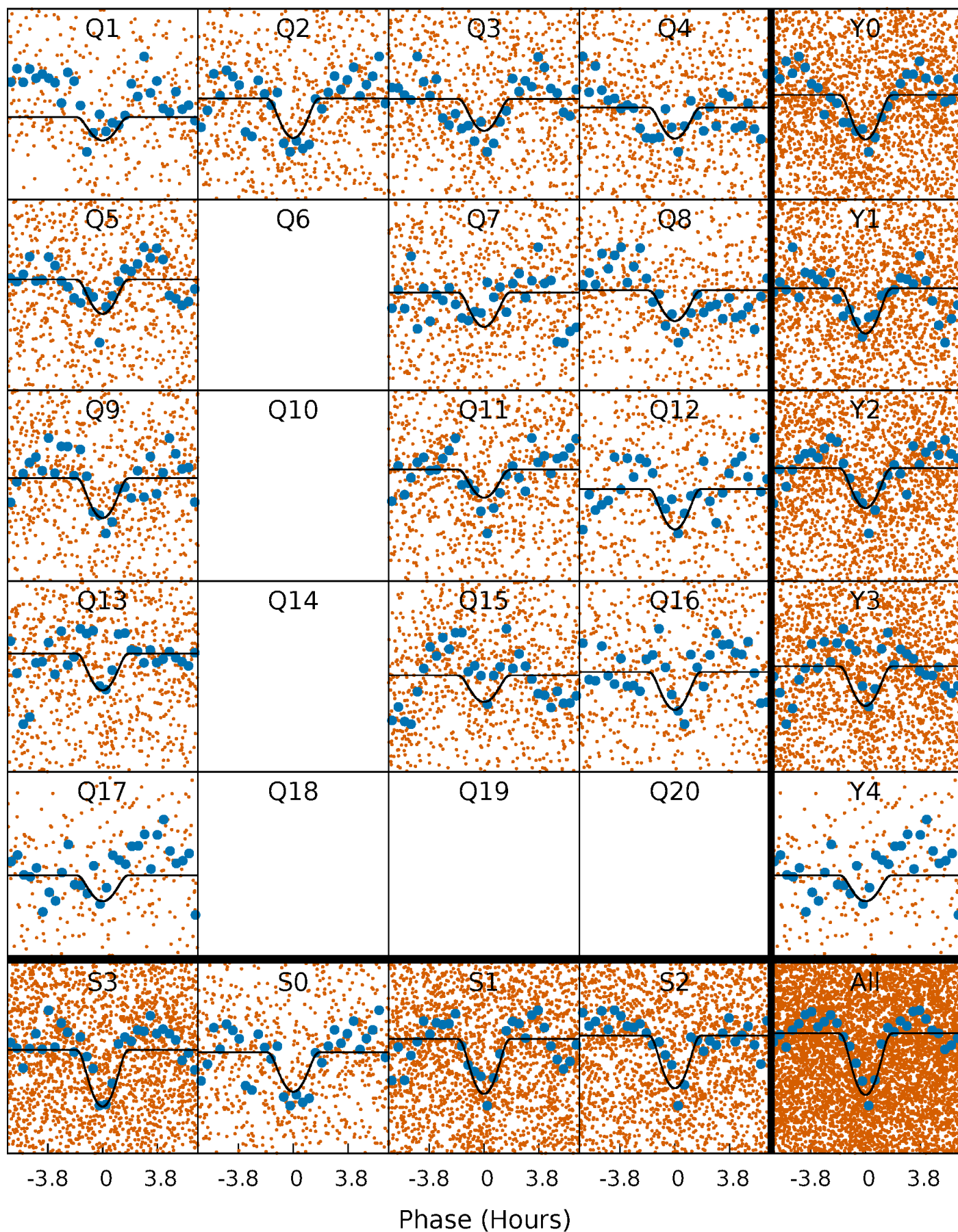
PDC Quarter-Phased Transit Curves

TCE 003757709-02 P= 2.169105 Days $T_0=131.543208$ (BKJD)



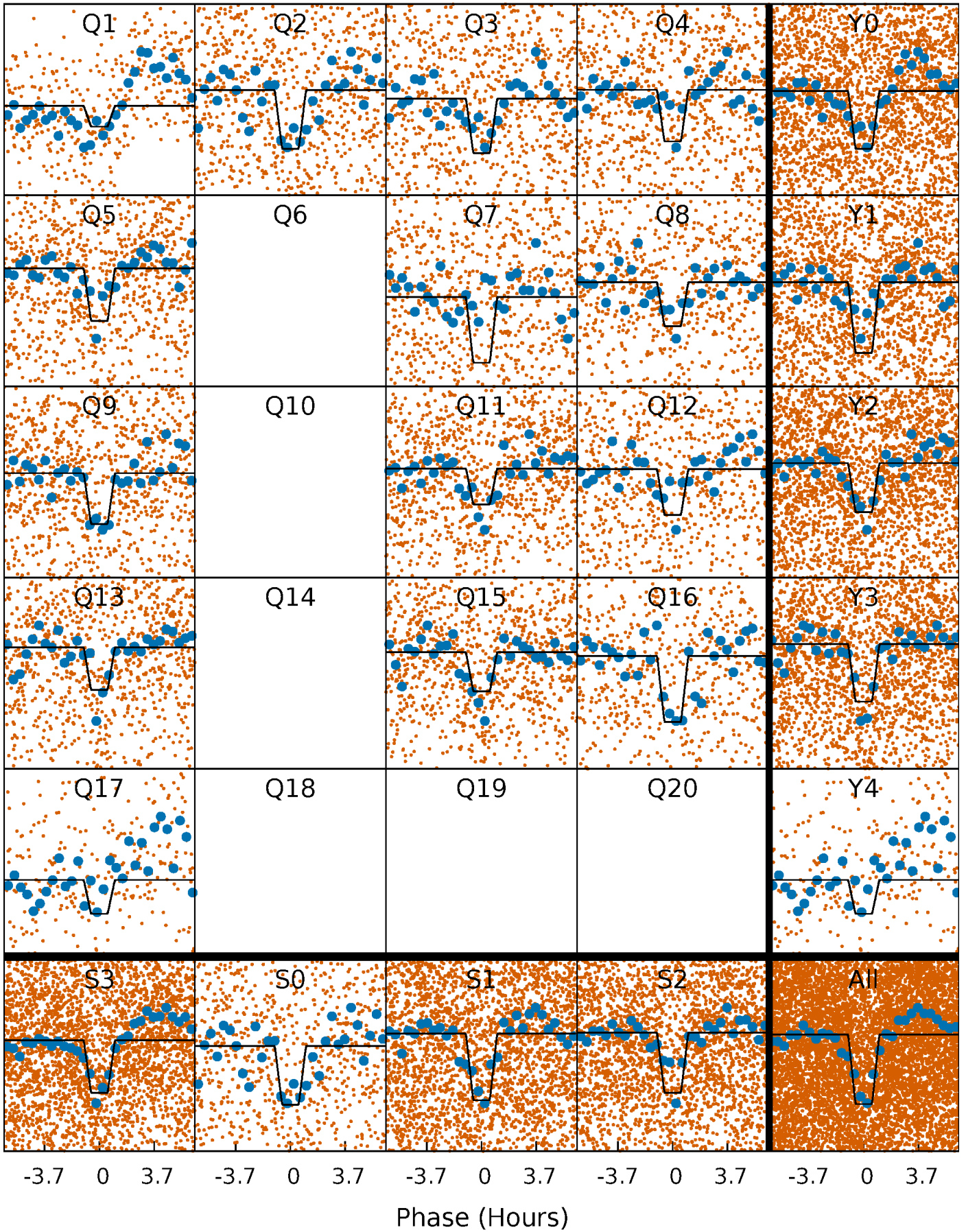
DV Quarter-Phased Transit Curves

TCE 003757709-02 P= 2.169105 Days $T_0=131.543208$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

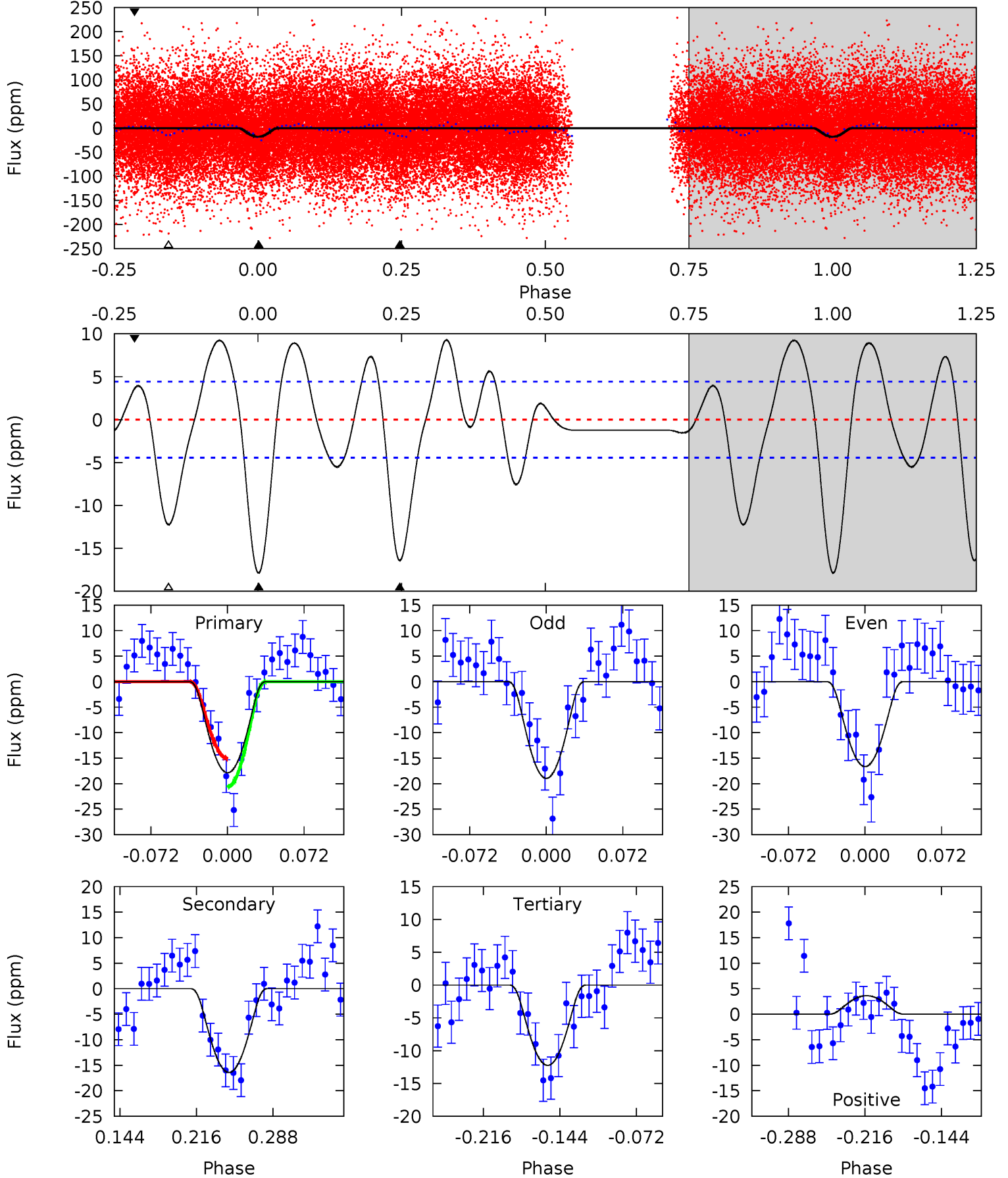
TCE 003757709-02 P= 2.169119 Days $T_0=131.541456$ (BKJD)



DV Model-Shift Uniqueness Test

003757709-02, P = 2.169105 Days, E = 129.374103 Days

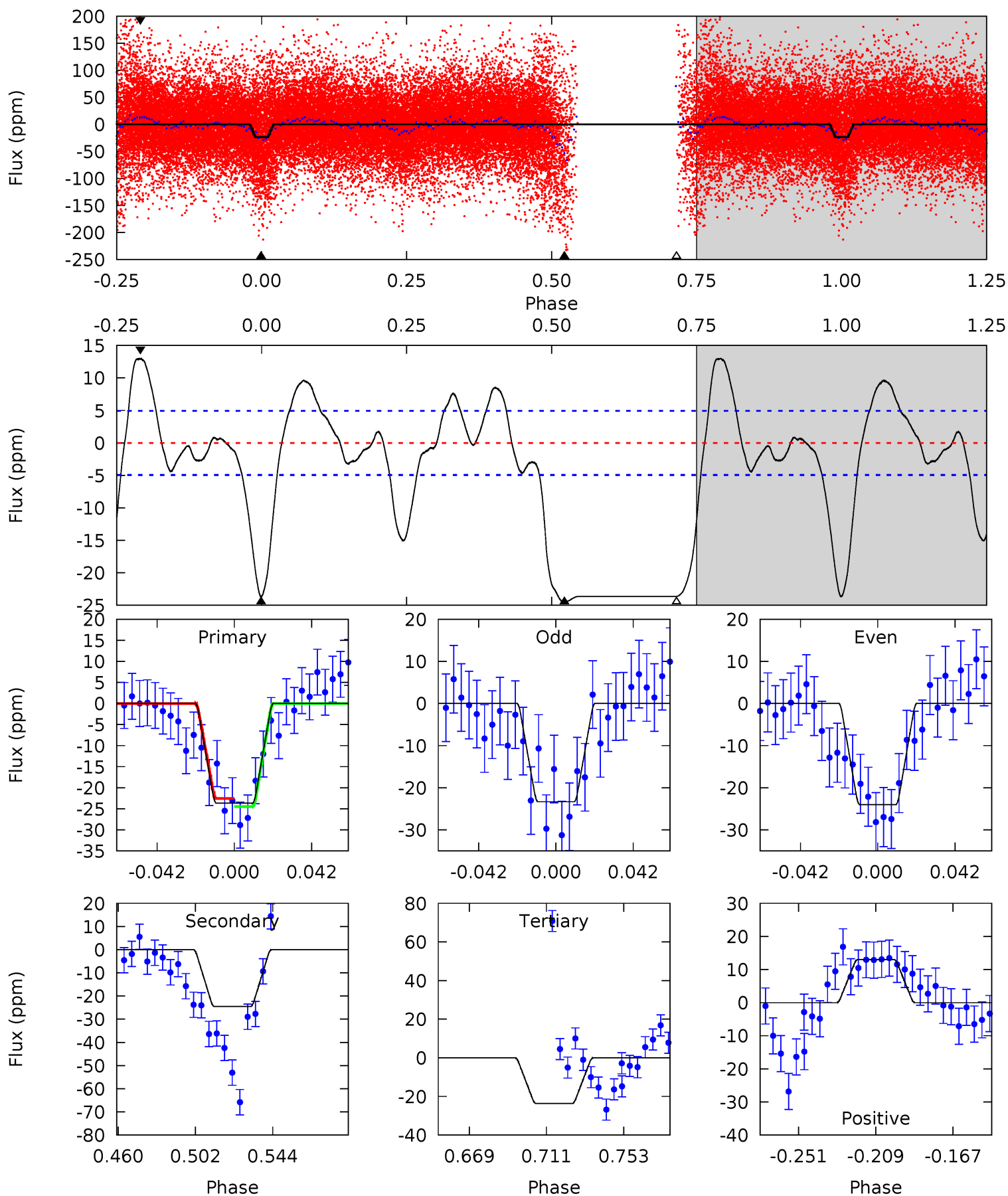
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	17.2	12.8	3.79	4.63	1.80	5.34	5.88	14.9	4.36	13.4	1.20	0.98	0.34	2.91



Alt Model-Shift Uniqueness Test

003757709-02, P = 2.169119 Days, E = 129.372337 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	23.6	22.7	12.5	4.74	2.04	5.92	0.03	10.3	0.86	11.1	0.32	0.92	0.35	0.90



Stellar Parameters For KIC 003757709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6776^{+70}_{-91}	$4.224^{+0.068}_{-0.102}$	$-0.100^{+0.150}_{-0.200}$	$1.470^{+0.225}_{-0.150}$	$1.326^{+0.083}_{-0.092}$	$0.588^{+0.197}_{-0.188}$
	+1%/-1%	+2%/-2%	+150%/-200%	+15%/-10%	+6%/-7%	+34%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003757709-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 1	$2.67^{+2.38}_{-1.76}$	2676^{+107}_{-79}	3619^{+2127}_{-950}	$1.663^{+12.451}_{-1.199}$
Alt.	-25 ± 1	$2.28^{+2.35}_{-1.59}$	2681^{+98}_{-76}	4201^{+3110}_{-1070}	$3.382^{+33.139}_{-2.578}$

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

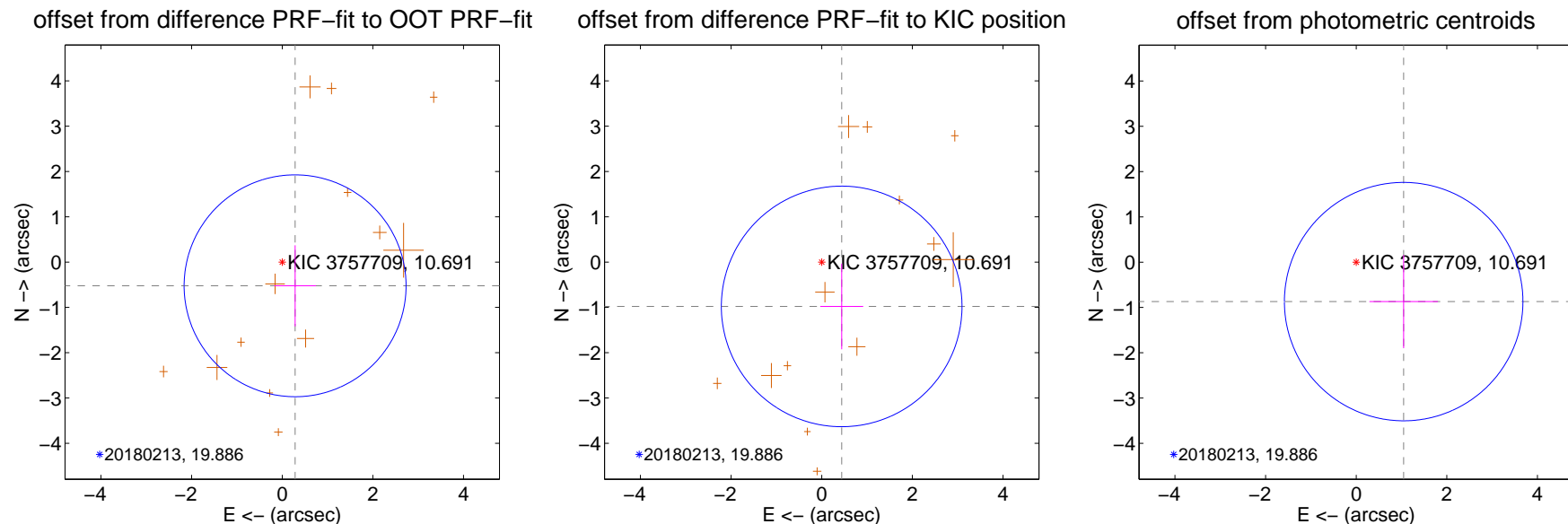
DV Centroid Data

Supplemental centroid analysis for 003757709-02. **Kepler magnitude: 10.69.** Transit SNR 9.82

There are 0 quarters with good PRF difference image offsets

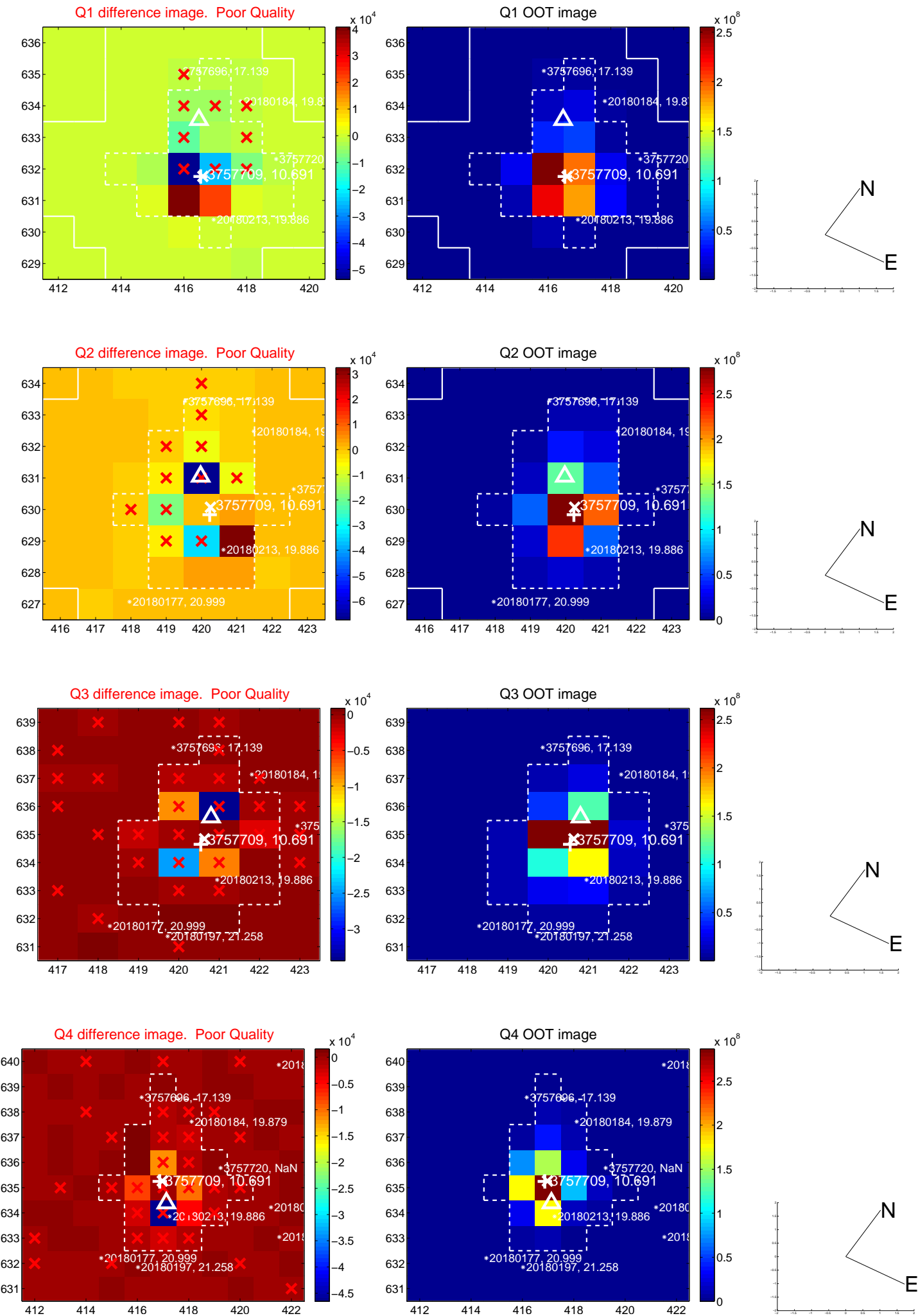
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.595 ± 0.816	0.73	-0.284 ± 0.459	-0.523 ± 0.894
PRF-fit source offset from KIC position	1.073 ± 0.885	1.21	-0.440 ± 0.474	-0.978 ± 0.947
photometric centroid source offset	1.36 ± 0.88	1.55	-1.05 ± 0.75	-0.87 ± 1.03

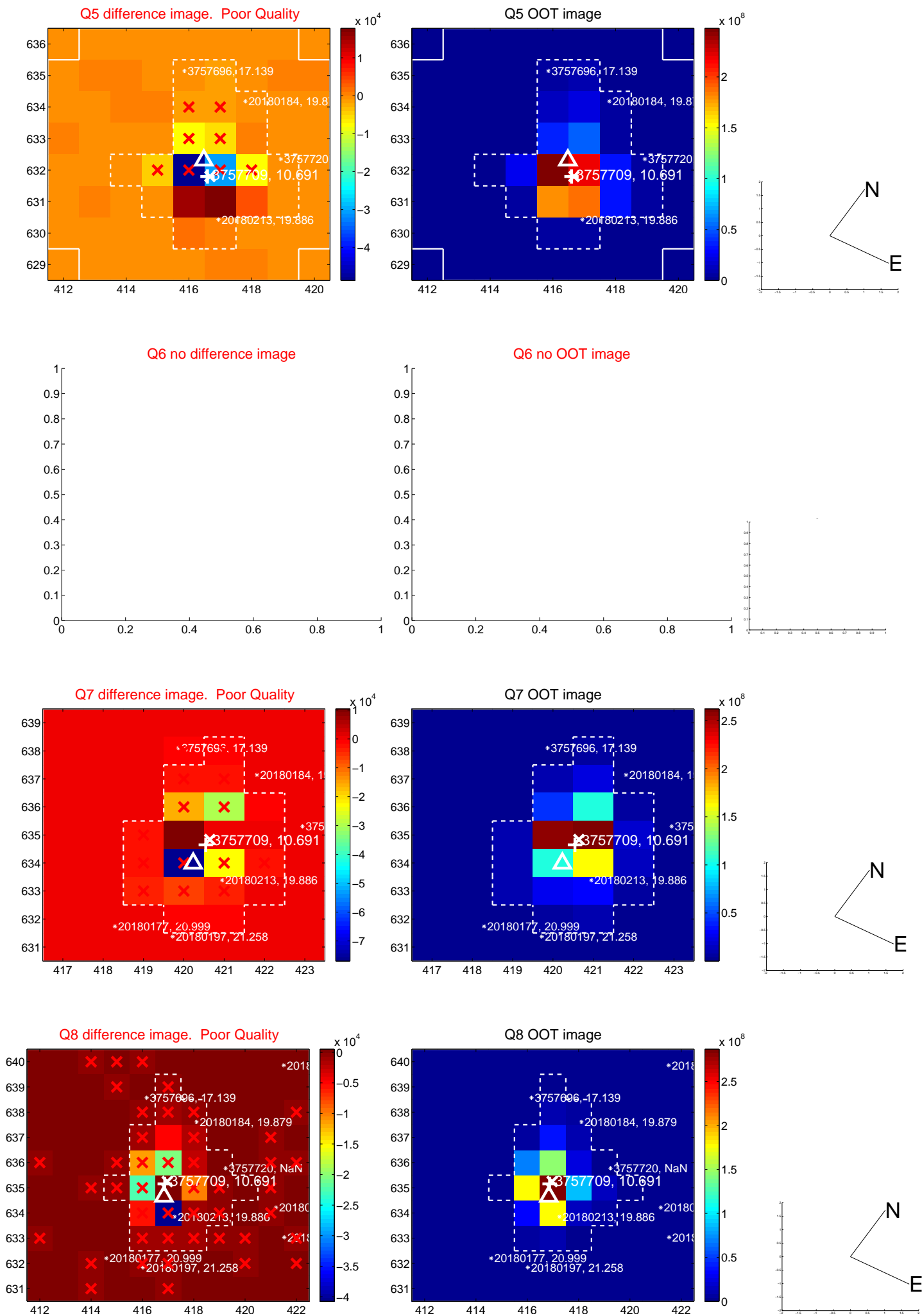


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

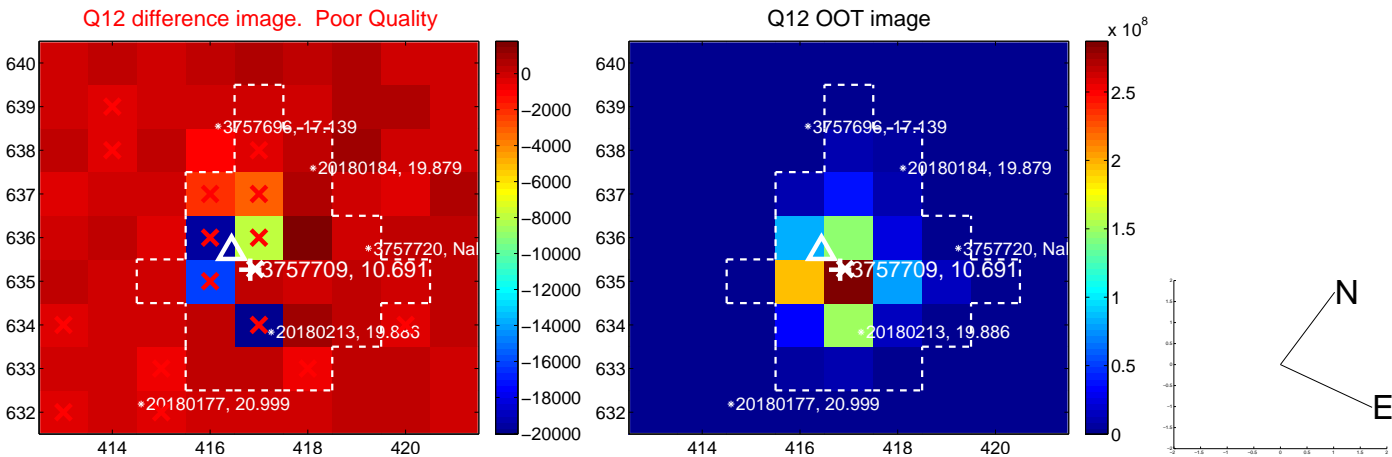
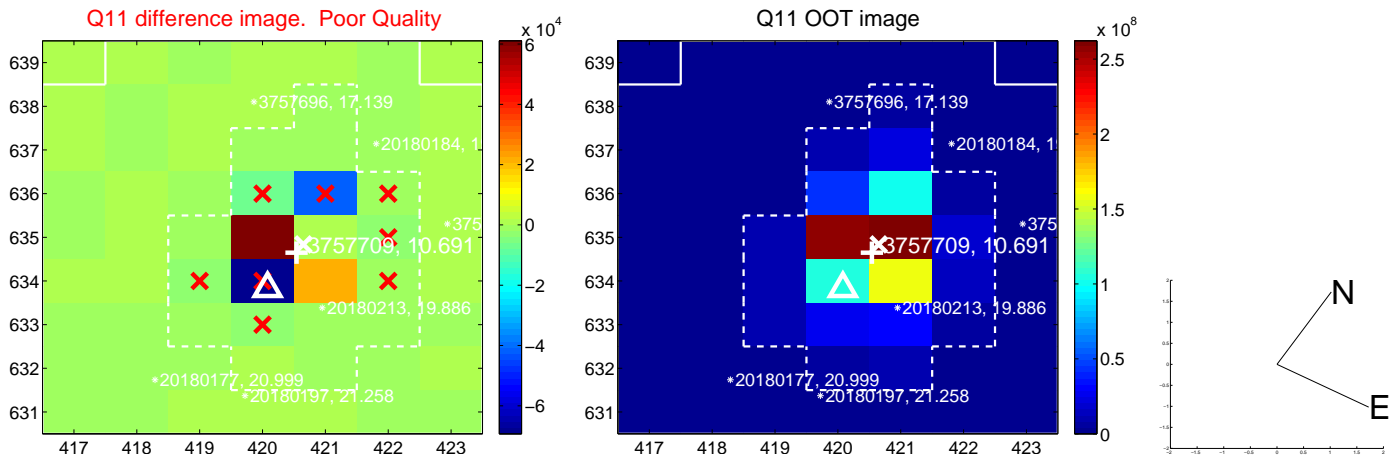
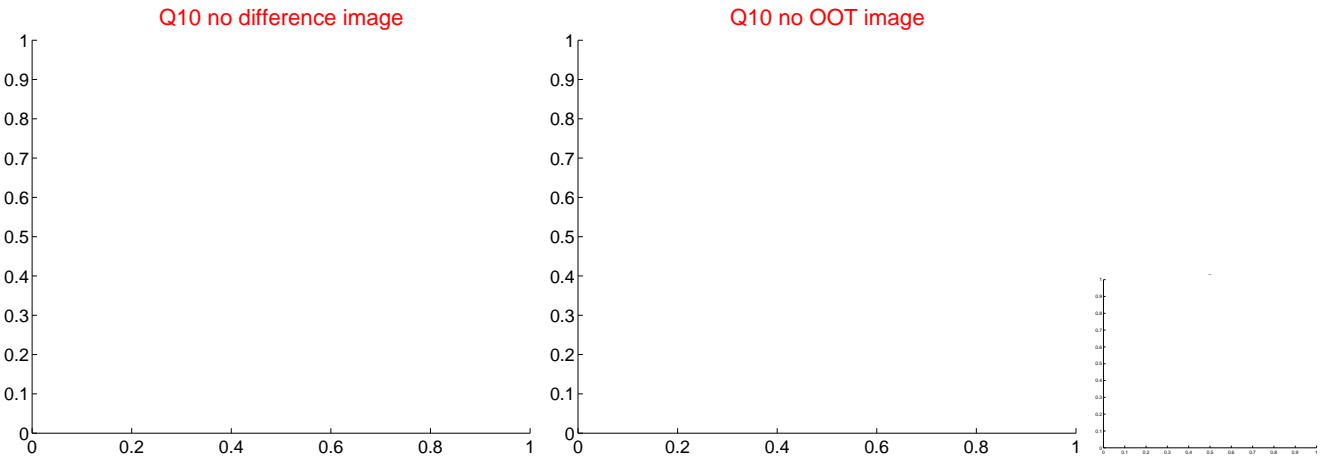
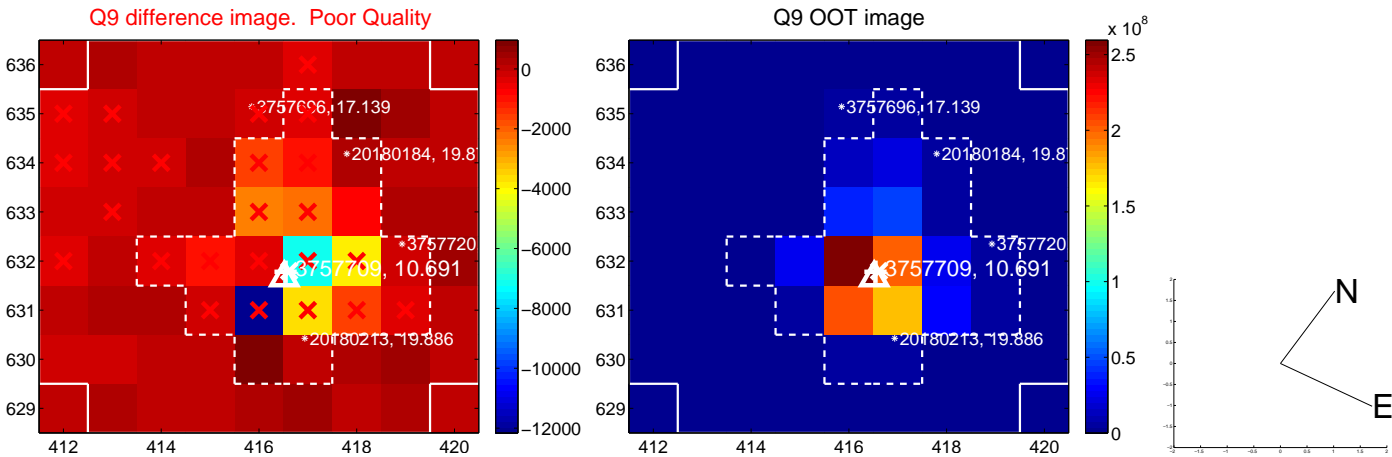
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



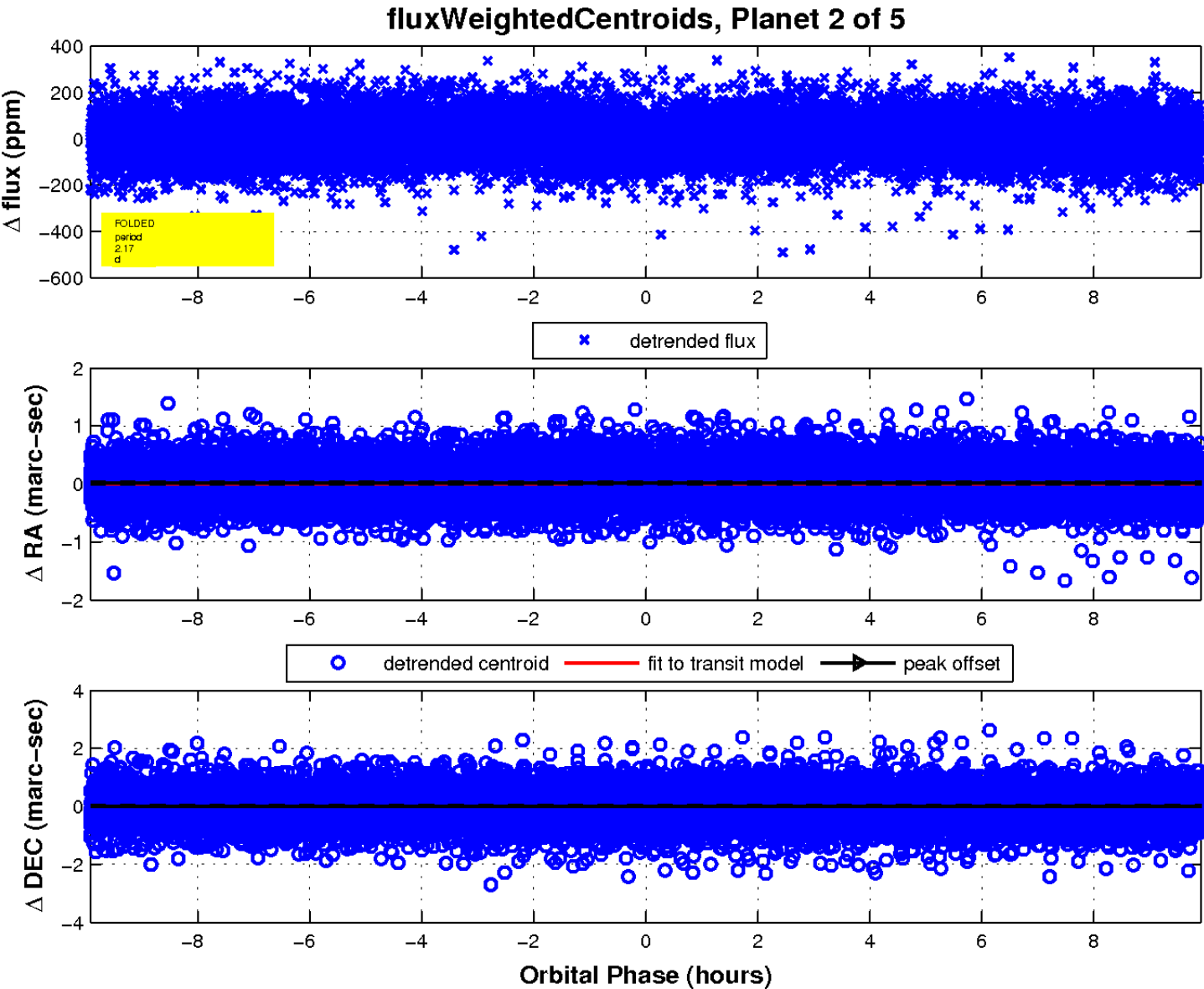
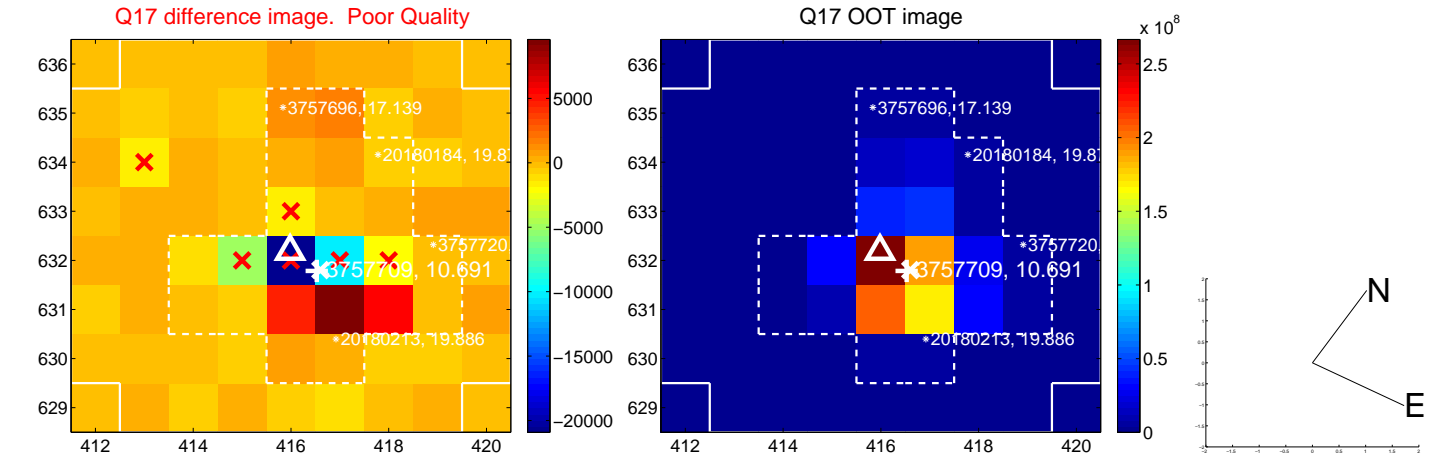
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



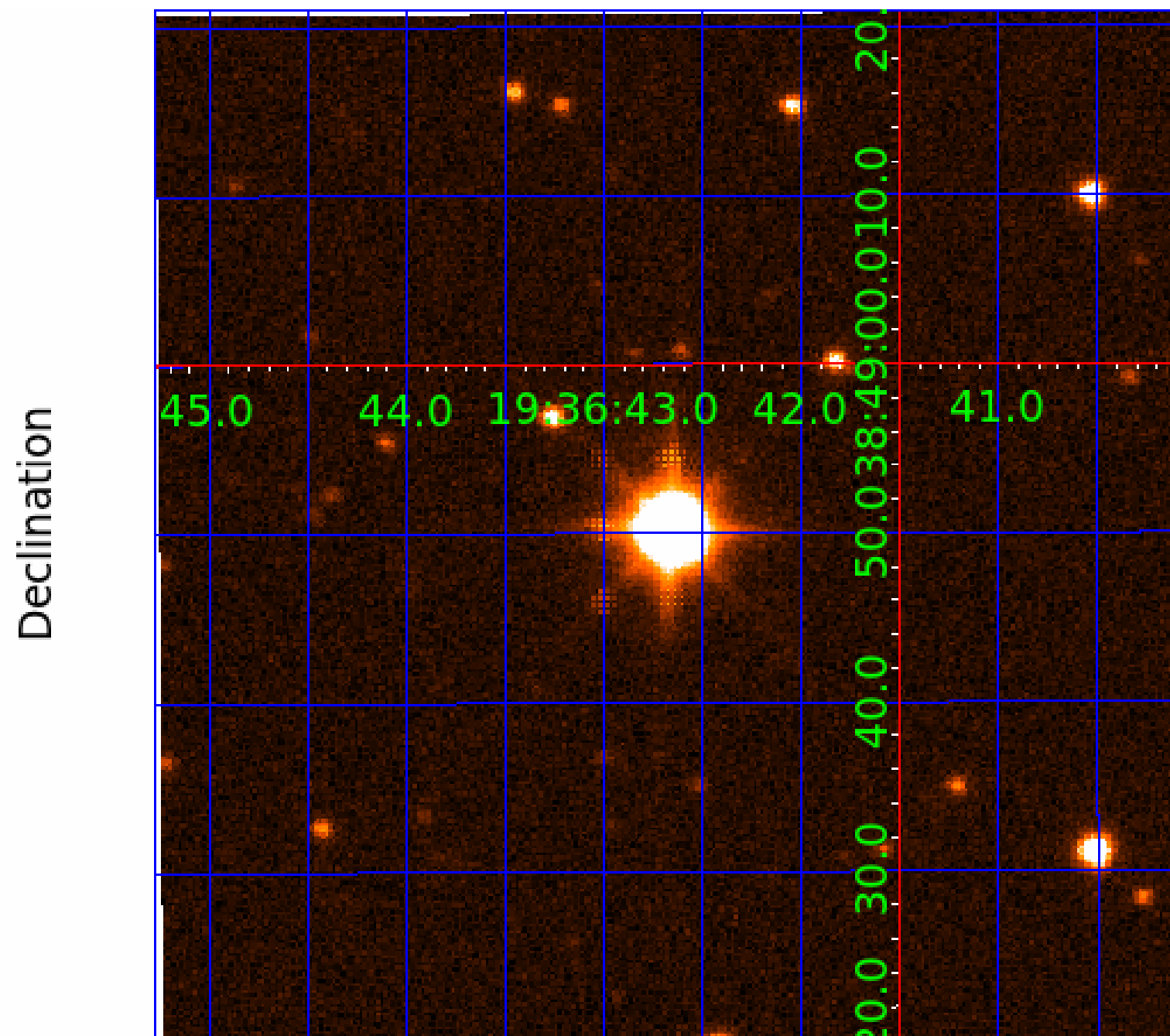
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003757709

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})
003757709-01	OBS	No	2.169309	132.843653	17.8	3.785	8.9	9.5	1.47	6776	0.72	3151.89
003757709-02	OBS	No	2.169105	131.543208	20.7	3.304	8.6	9.8	1.47	6776	1.37	3152.28
003757709-03	OBS	No	0.867610	131.702194	5.9	4.836	9.2	4.4	1.47	6776	0.38	10696.29
003757709-04	OBS	No	56.313550	175.139984	149.9	7.409	8.9	6.0	1.47	6776	1.93	41.01
003757709-05	OBS	No	54.171044	162.453772	203.6	6.233	8.5	4.5	1.47	6776	4.11	43.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003757709-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003757709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003757709-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003757709-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003757709-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED

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

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

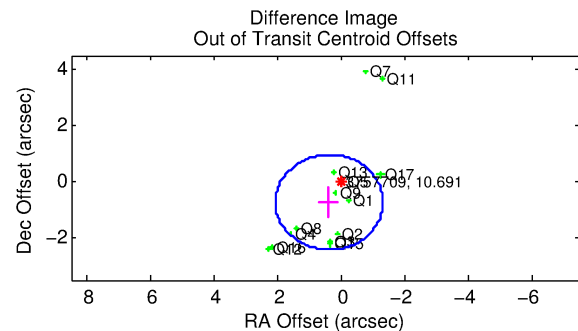
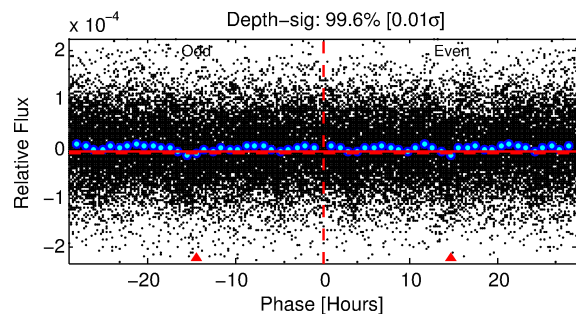
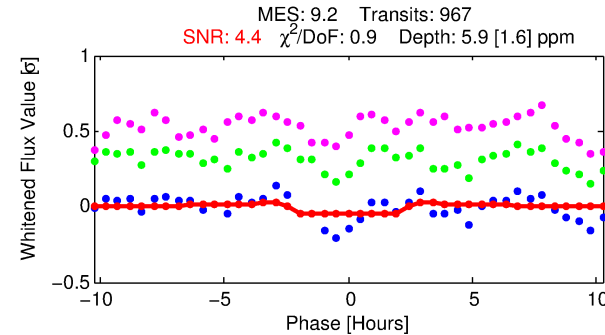
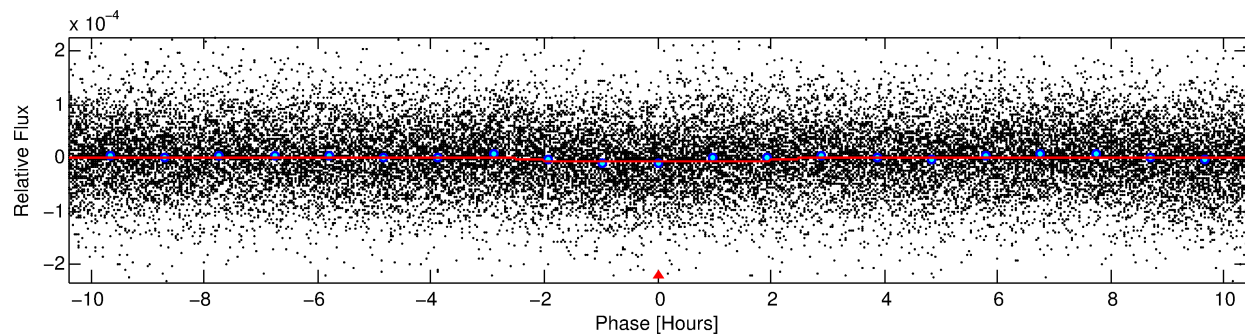
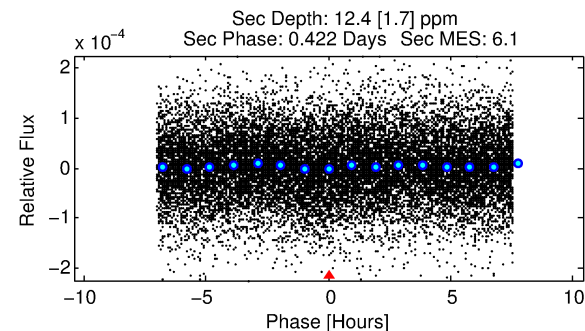
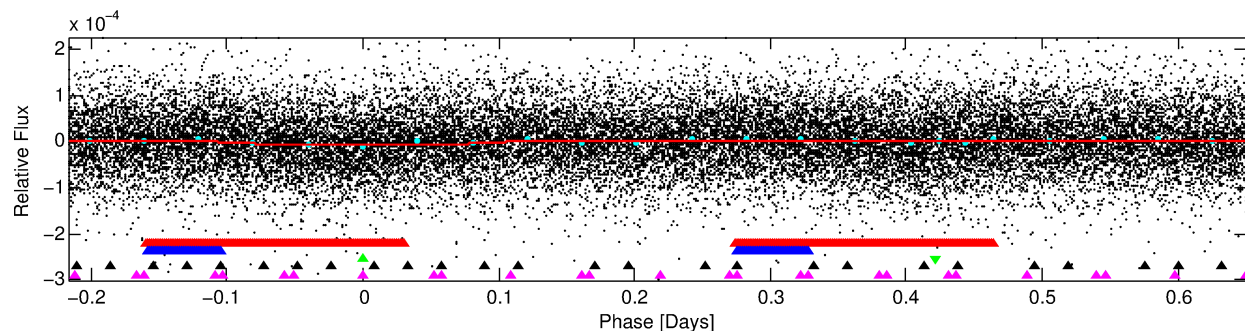
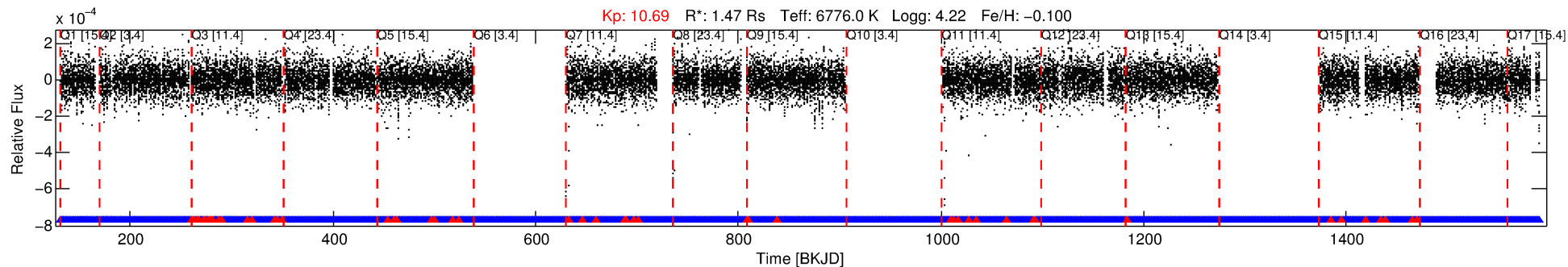
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003757709-03

No Significant Match Found

DV One-Page Summary

KIC: 3757709 Candidate: 3 of 5 Period: 0.868 d



DV Fit Results:

Period = 0.86761 [0.00003] d
Epoch = 131.7022 [0.0073] BKJD
 $R_p/R^* = 0.0024$ [0.0007]
 $a/R^* = 1.28$ [0.70]
 $b = 0.70$ [1.02]
 $\text{Seff} = 10696.29$ [2079.98]
 $\text{Teq} = 2593$ [126] K
 $R_p = 0.38$ [0.12] R_e
 $a = 0.0195$ [0.0025] AU
 $\text{Ag} = 17.79$ [10.72] [1.57 σ]
 $\text{Teffp} = 8235$ [1184] K [4.74 σ]

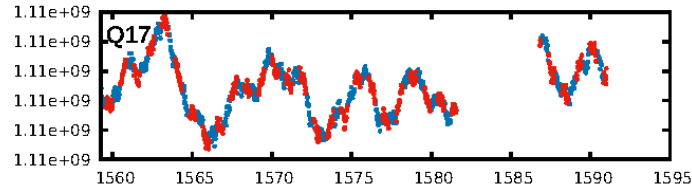
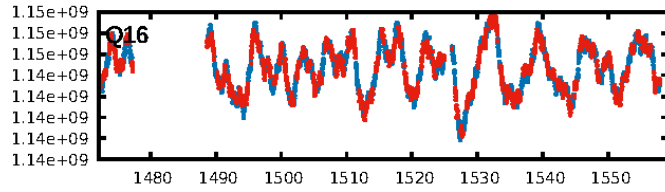
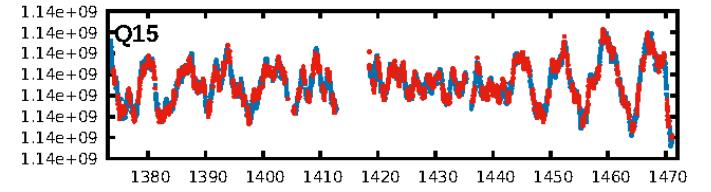
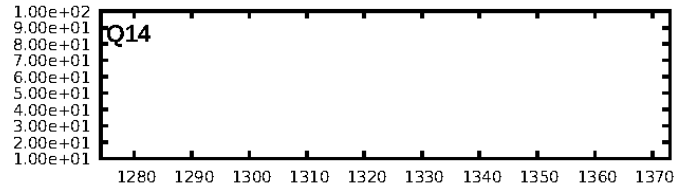
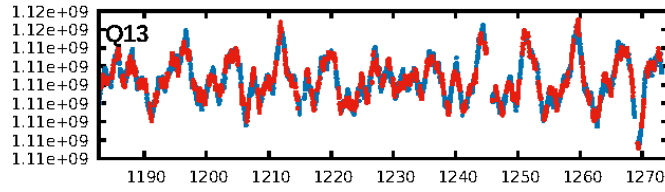
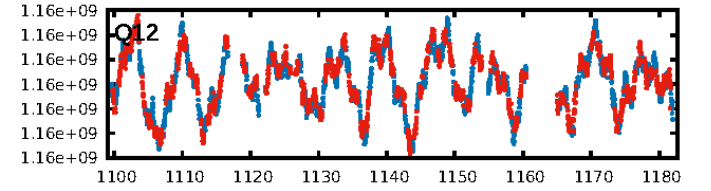
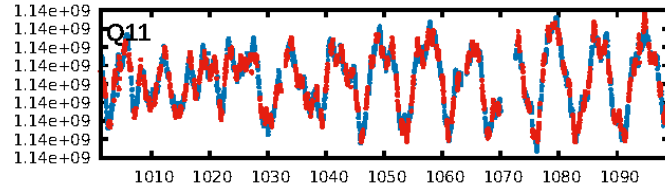
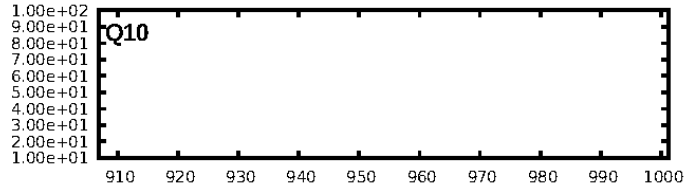
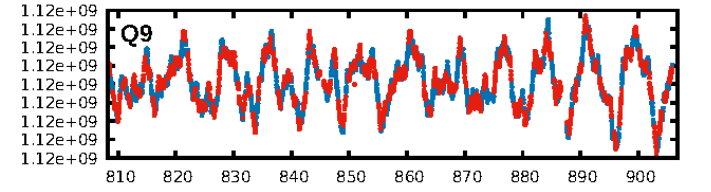
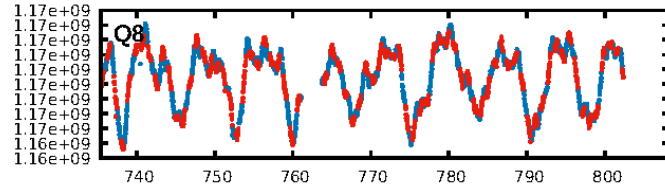
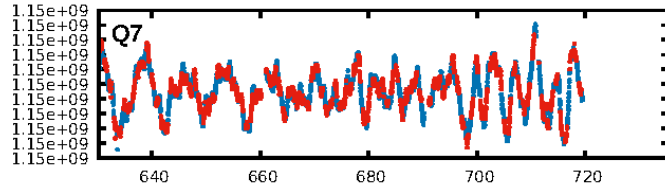
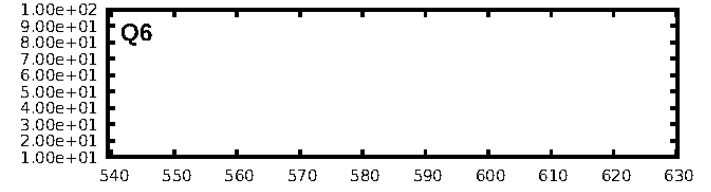
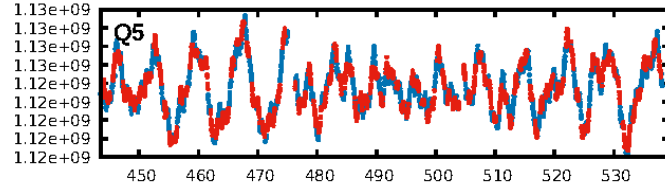
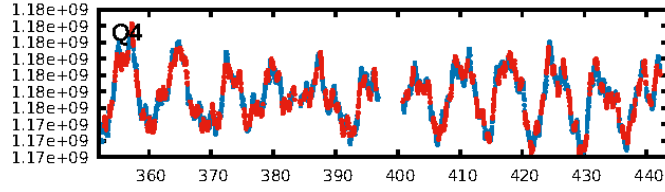
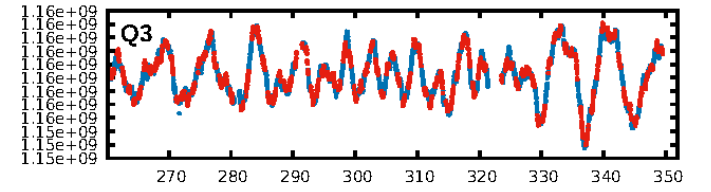
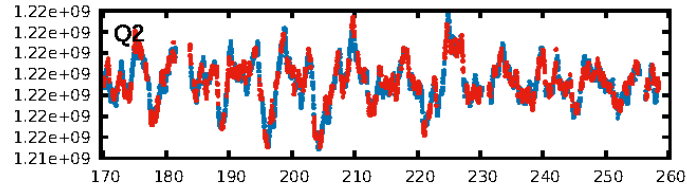
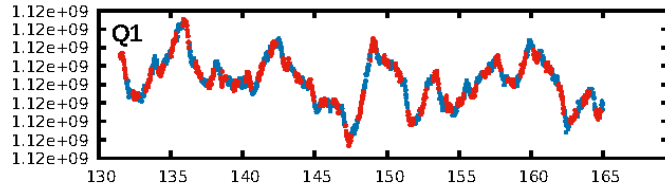
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.33 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.67e-14
RollingBand-fgt: 0.94 [856/909]
GhostDiagnostic-chr: 22.86
Centroid-sig: 2.0%
Centroid-so: 2.177 arcsec [1.71 σ]
OotOffset-rm: 0.831 arcsec [1.47 σ]
KicOffset-rm: 1.065 arcsec [1.77 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

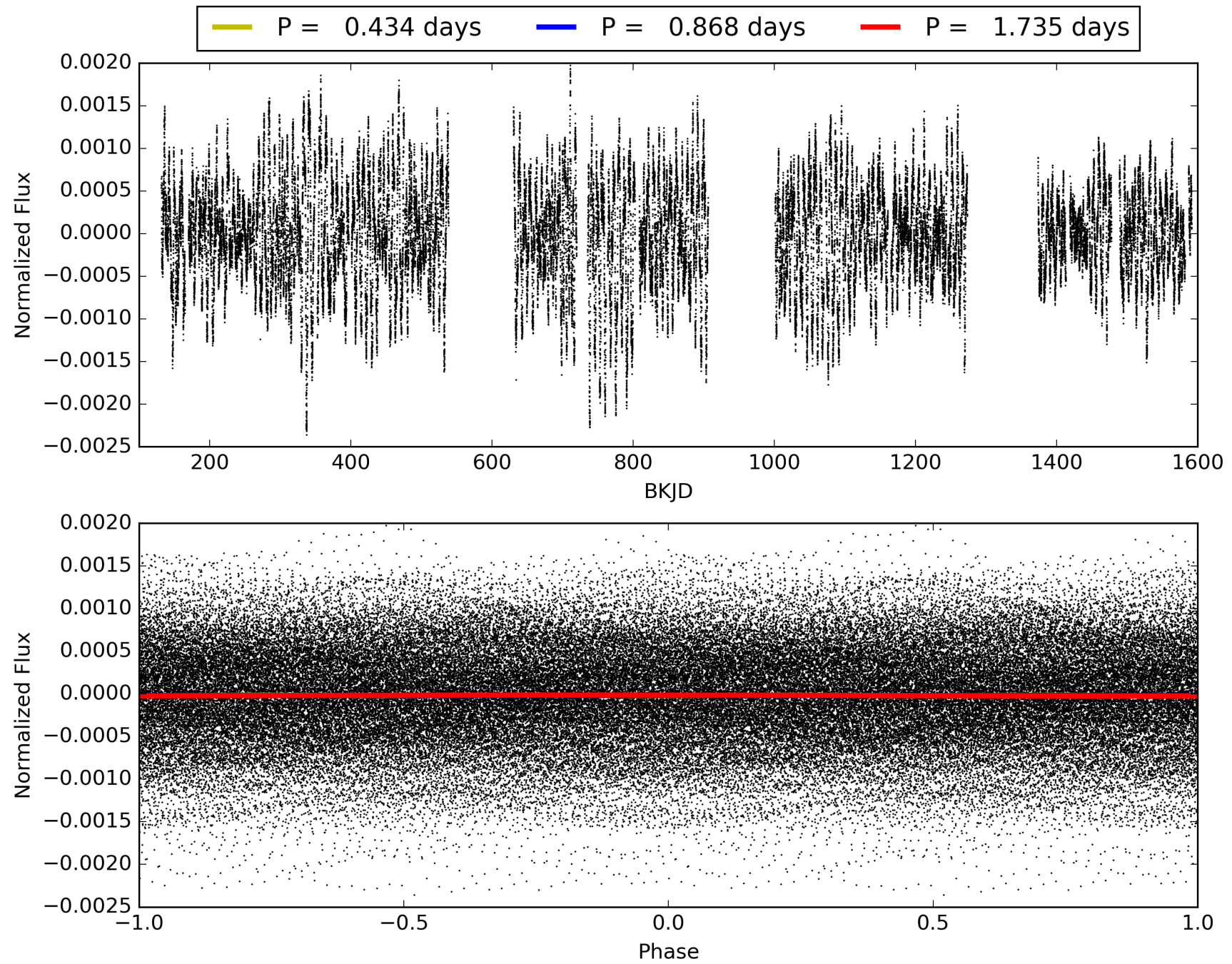
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:09:46 Z

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

TCE 003757709-03, PDC Light Curves

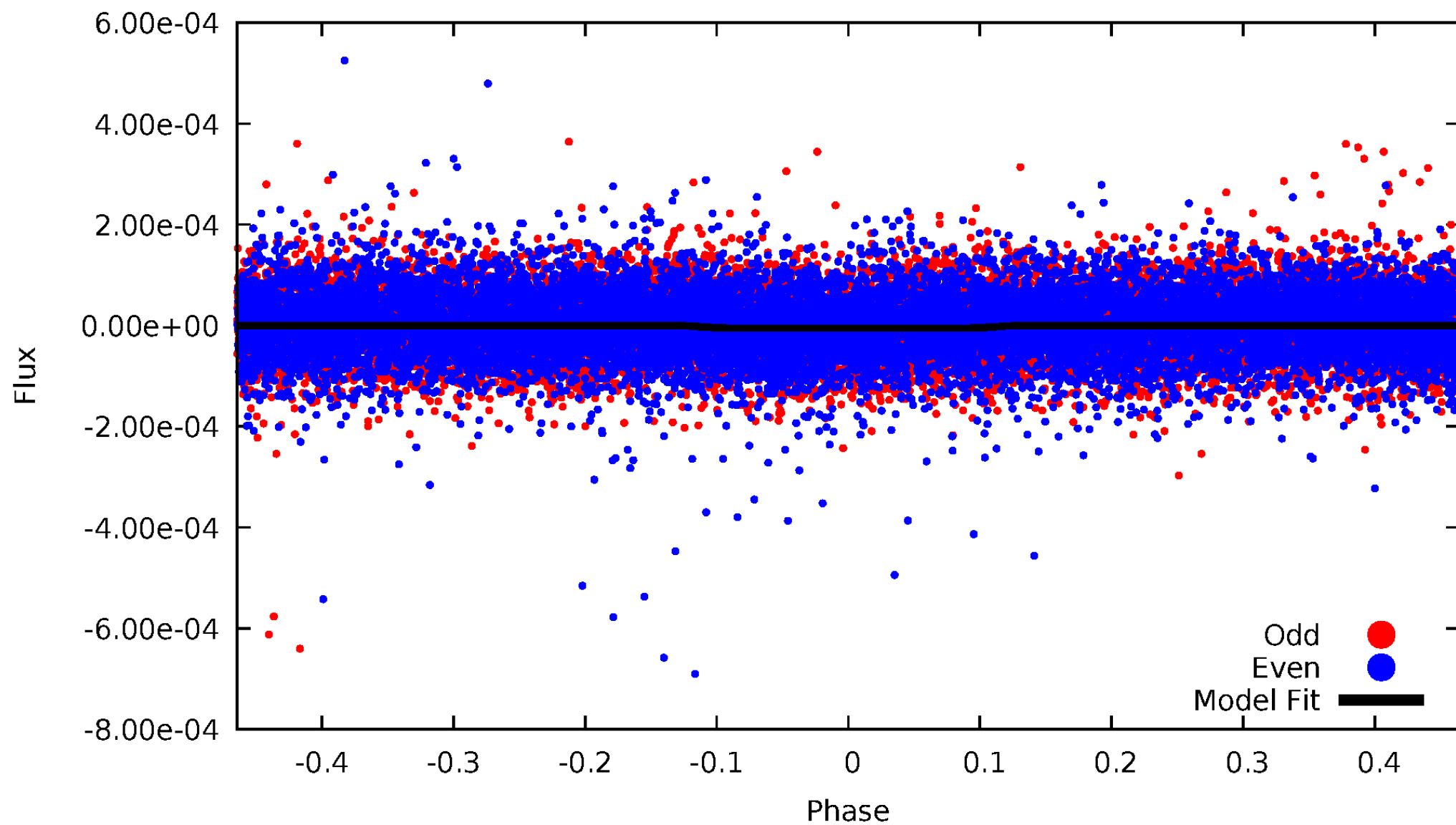


TCE 003757709-03



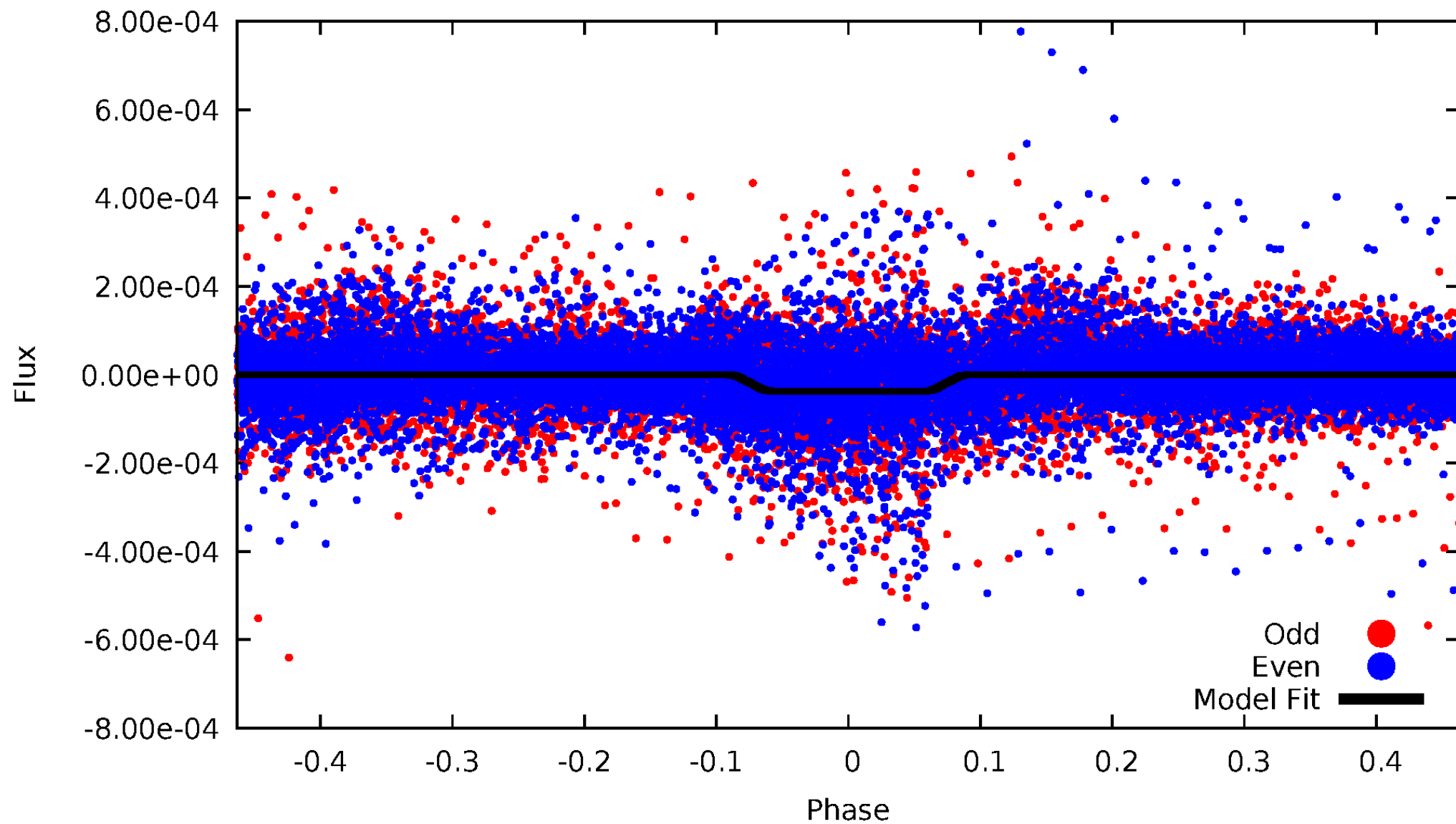
DV Odd/Even

TCE 003757709-03

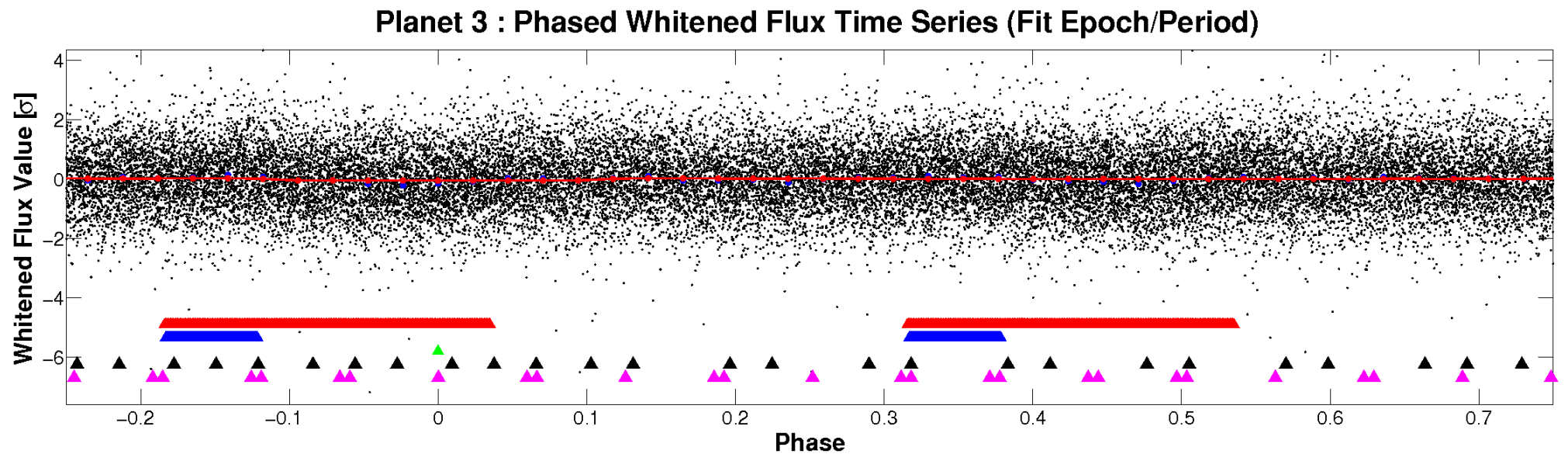
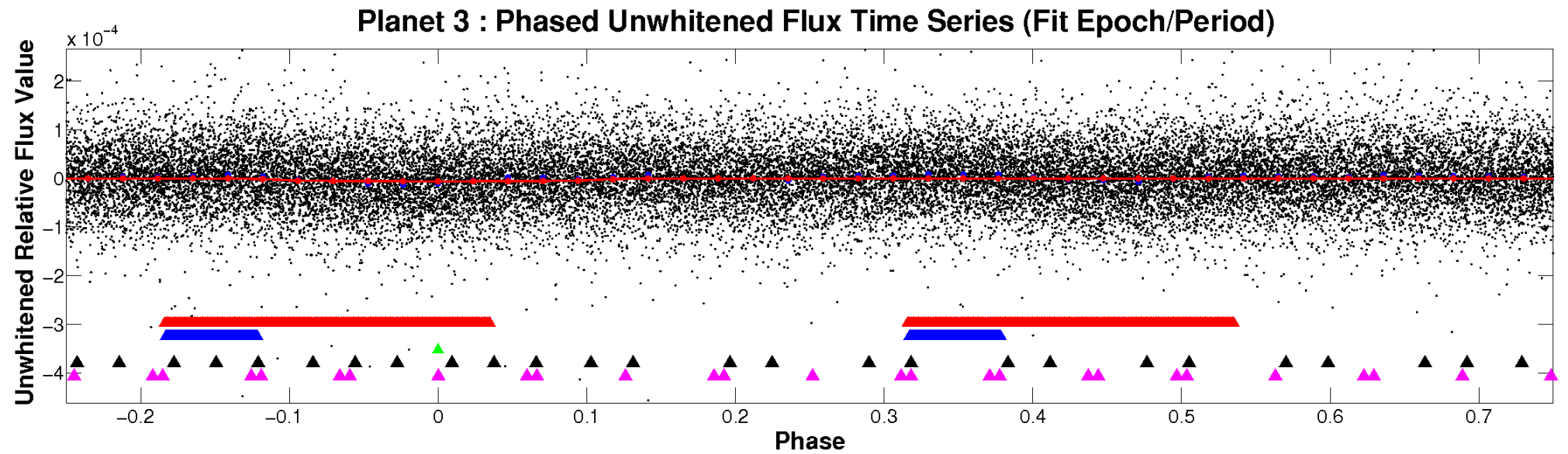


ALT Odd/Even

TCE 003757709-03

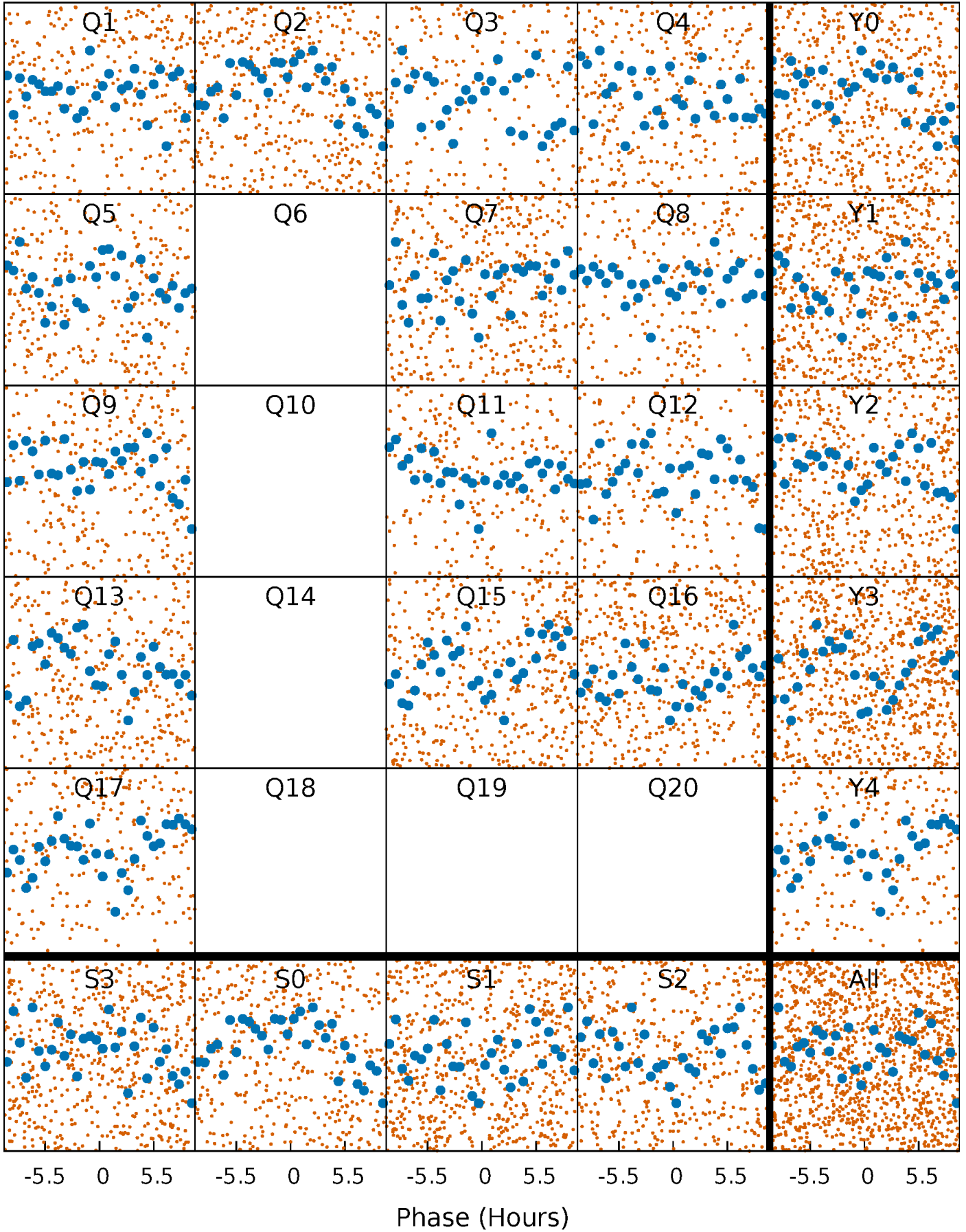


Non-Whitened Vs. Whitened Light Curve



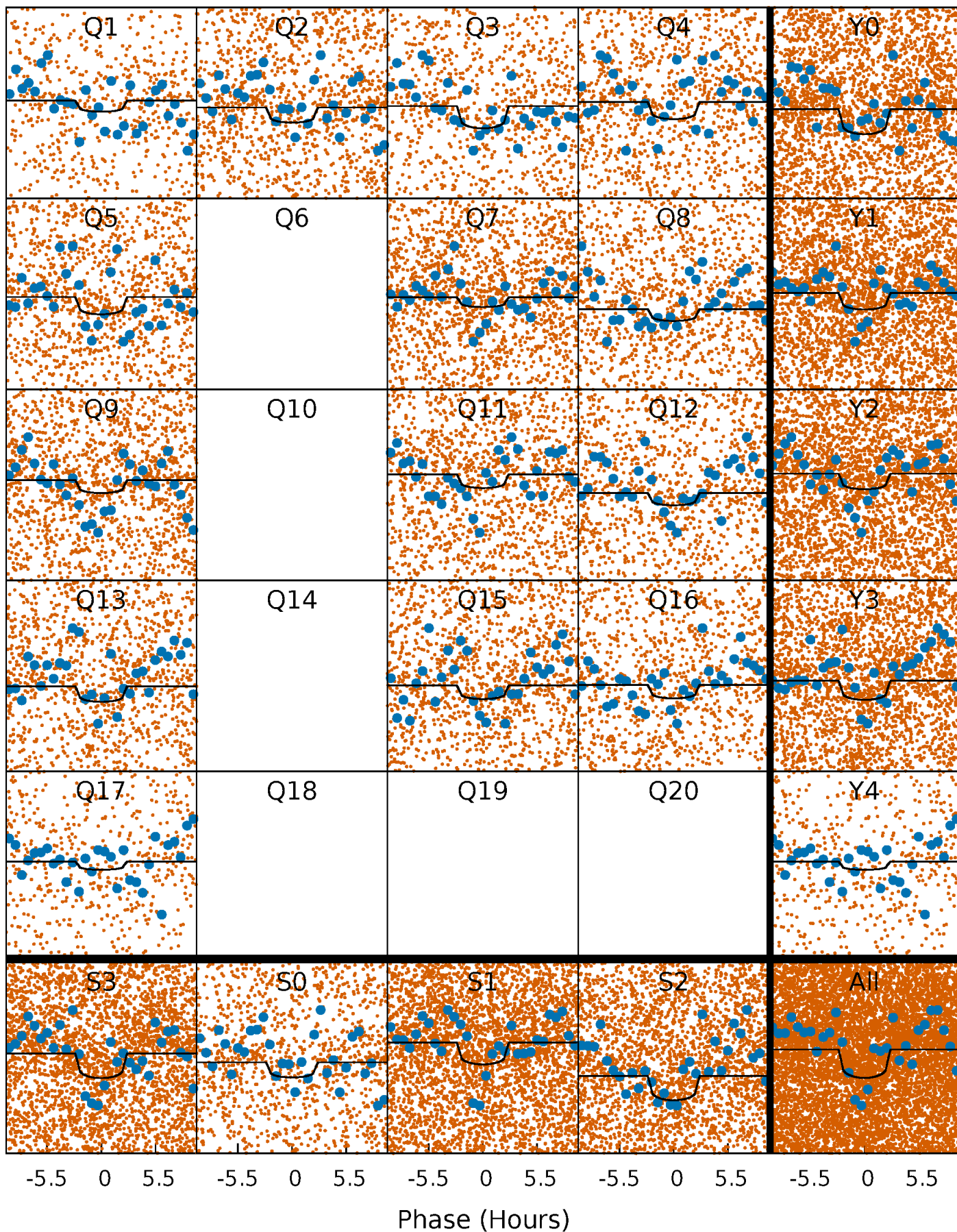
PDC Quarter-Phased Transit Curves

TCE 003757709-03 P= 0.867610 Days $T_0=131.702194$ (BKJD)



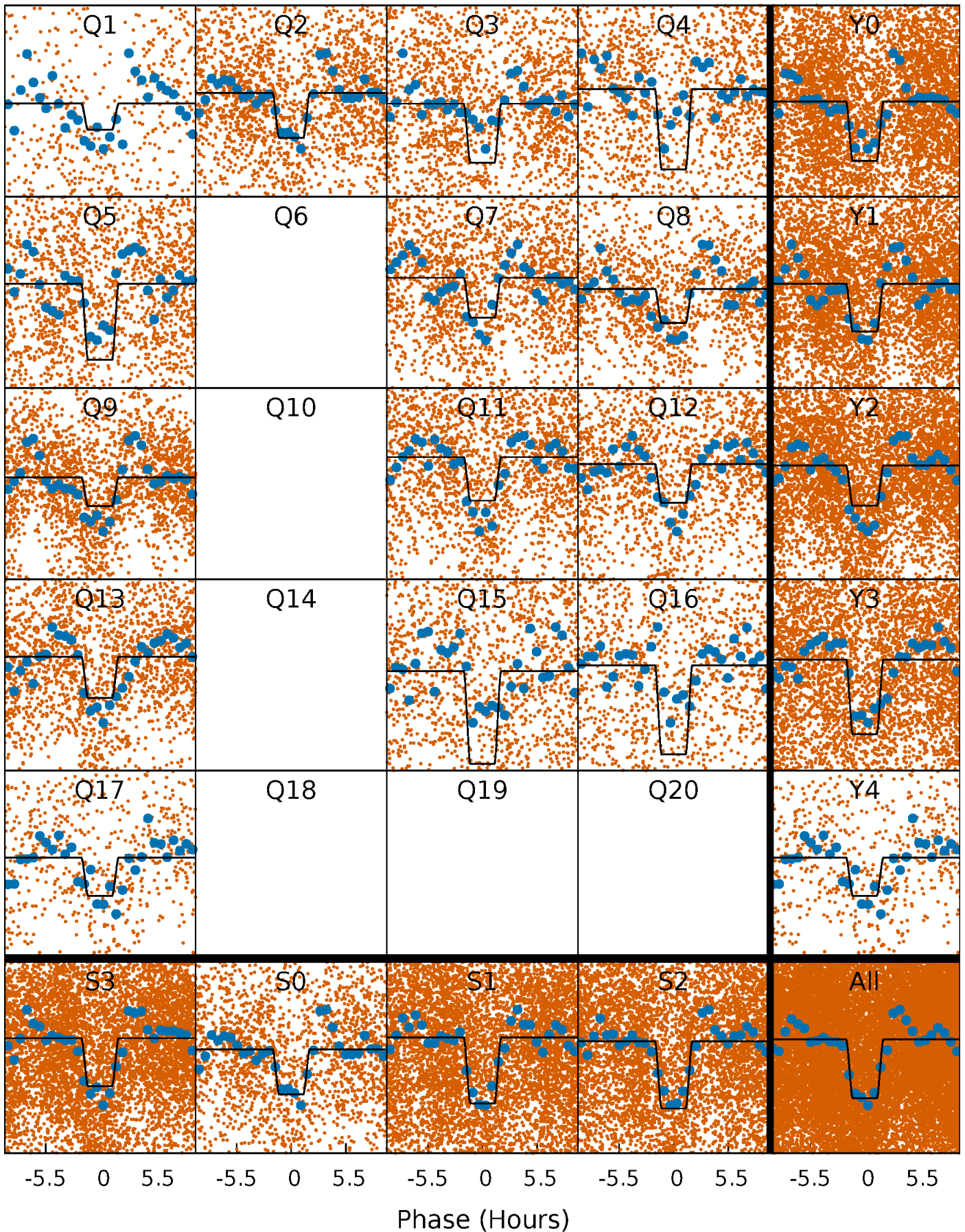
DV Quarter-Phased Transit Curves

TCE 003757709-03 P= 0.867610 Days $T_0=131.702194$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

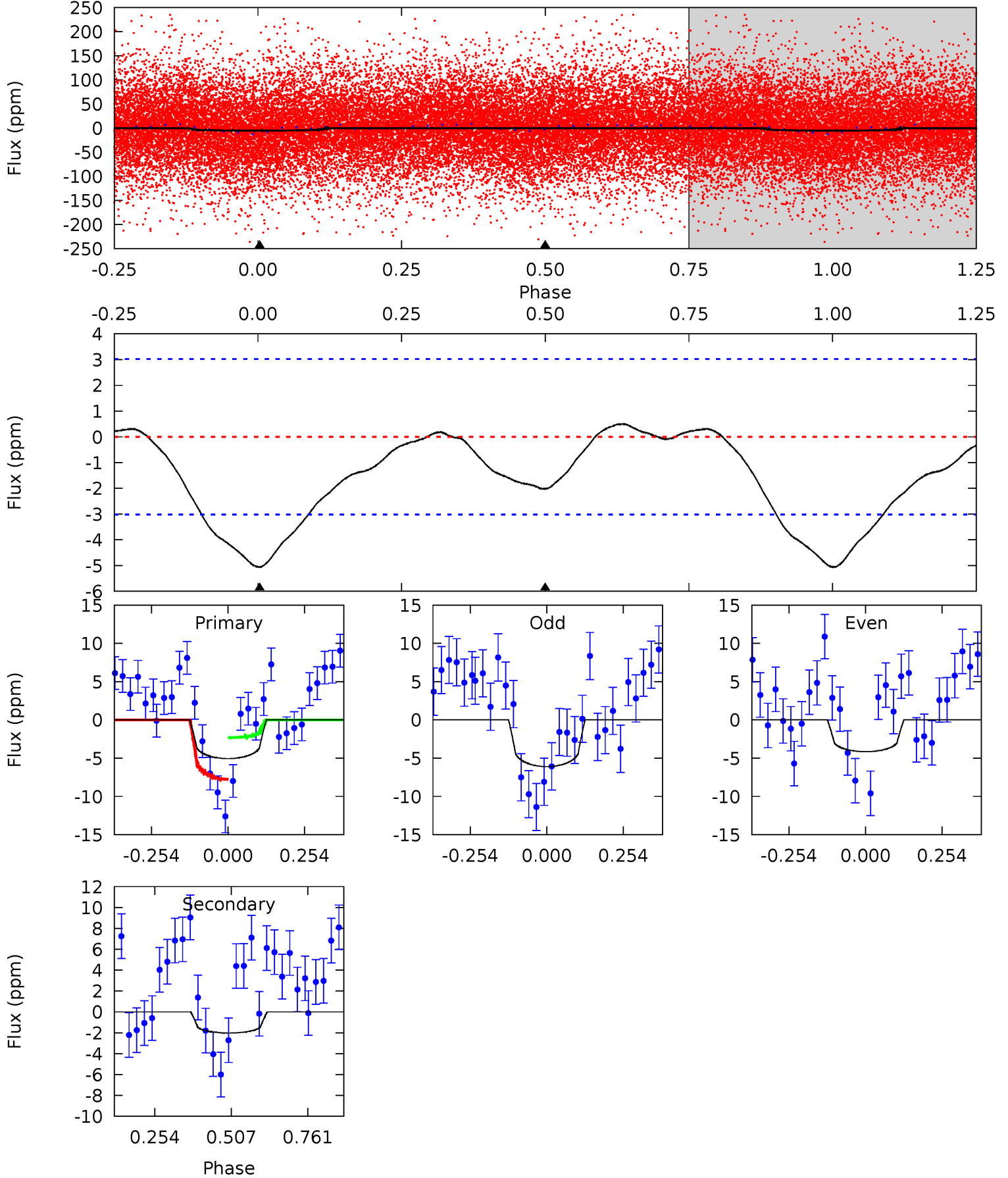
TCE 003757709-03 P= 0.867643 Days $T_0=131.660715$ (BKJD)



DV Model-Shift Uniqueness Test

003757709-03, P = 0.867610 Days, E = 131.702194 Days

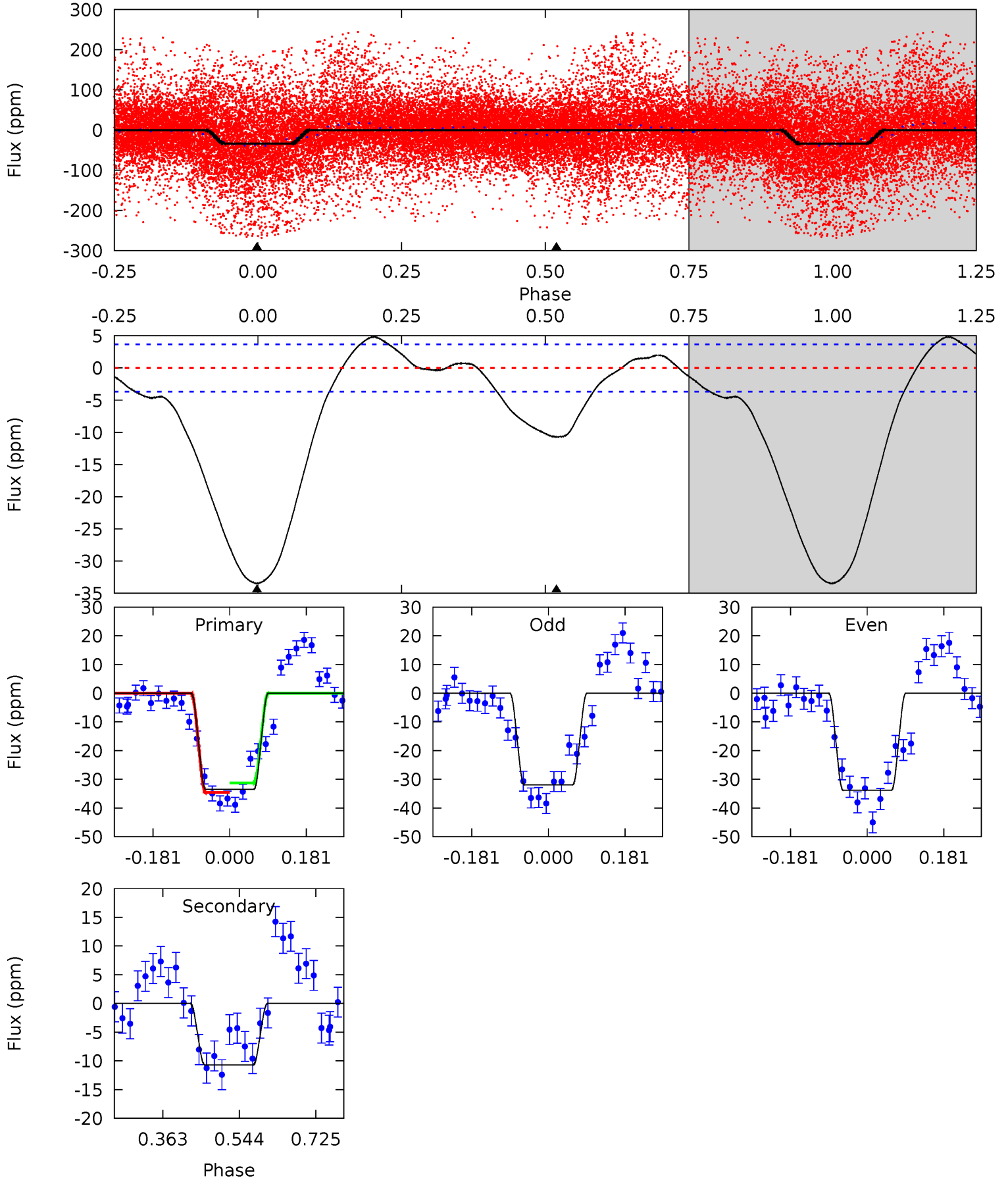
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.31	2.92	0	0	4.37	1.14	0.43	7.31	7.31	2.92	2.92	1.42	0.84	0.09	3.89



Alt Model-Shift Uniqueness Test

003757709-03, P = 0.867643 Days, E = 131.660715 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.5	12.9	0	0	4.44	1.34	3.27	40.5	40.5	12.9	12.9	1.16	1.26	0.13	1.96



Stellar Parameters For KIC 003757709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6776^{+70}_{-91}	$4.224^{+0.068}_{-0.102}$	$-0.100^{+0.150}_{-0.200}$	$1.470^{+0.225}_{-0.150}$	$1.326^{+0.083}_{-0.092}$	$0.588^{+0.197}_{-0.188}$
	+1%/-1%	+2%/-2%	+150%/-200%	+15%/-10%	+6%/-7%	+34%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003757709-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2 ± 1	$0.38^{+0.10}_{-0.11}$	3640^{+126}_{-106}	5150^{+1026}_{-736}	$2.867^{+3.066}_{-1.325}$
Alt.	-11 ± 1	$0.99^{+0.13}_{-0.13}$	3645^{+143}_{-120}	4887^{+292}_{-258}	$2.295^{+0.673}_{-0.533}$

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 $A_{obs} \gg 1.0$

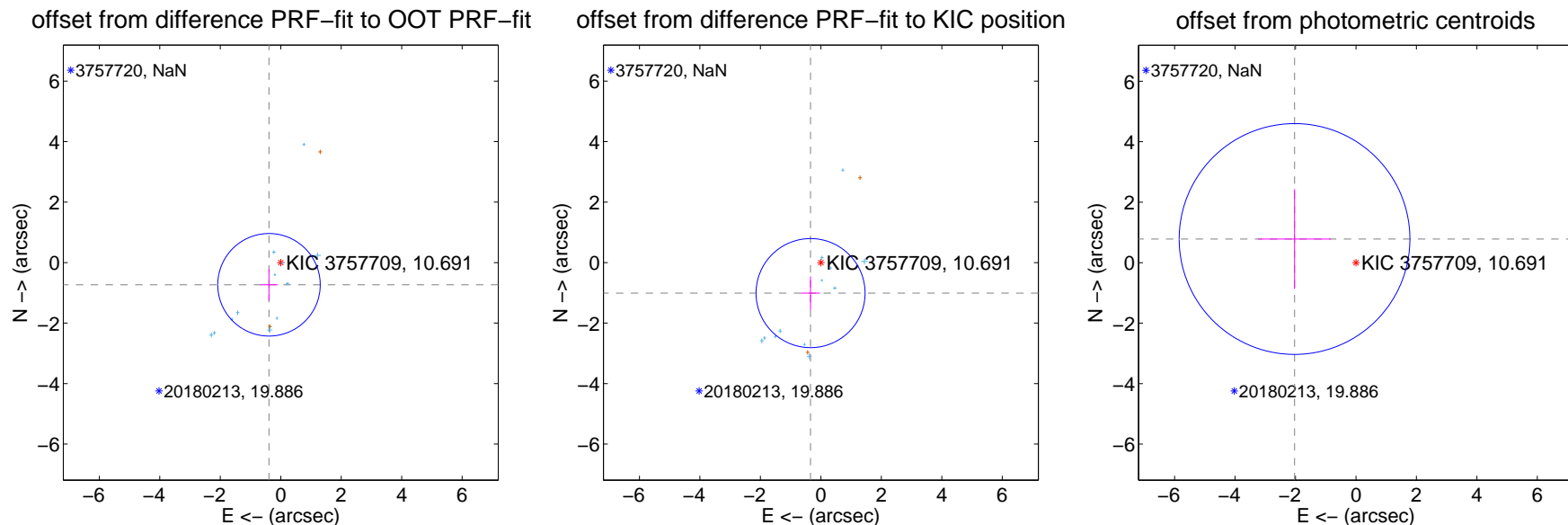
DV Centroid Data

Supplemental centroid analysis for 003757709-03. **Kepler magnitude: 10.69.** Transit SNR 4.42

There are 12 quarters with good PRF difference image offsets

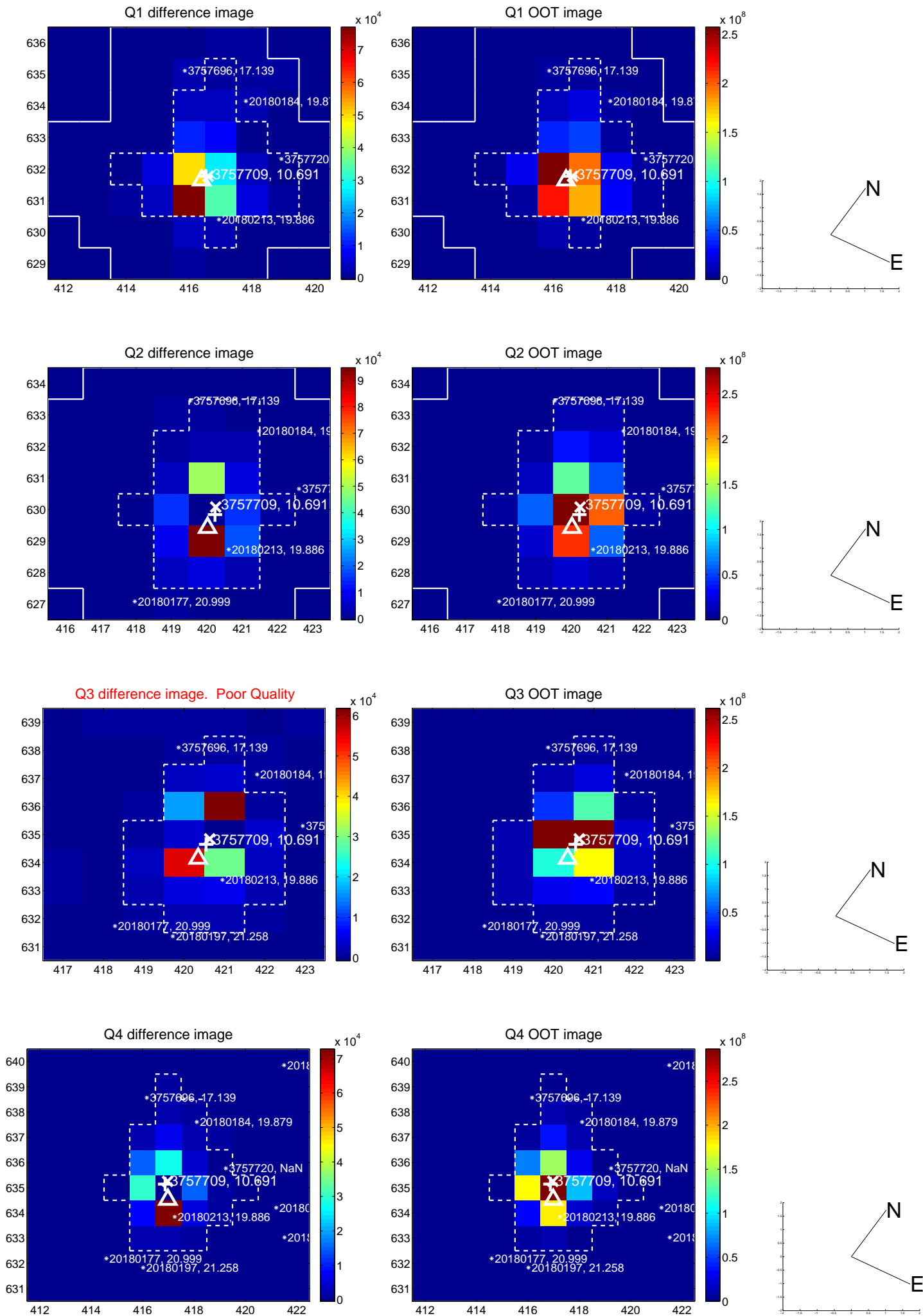
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.831 ± 0.565	1.47	0.389 ± 0.294	-0.734 ± 0.520
PRF-fit source offset from KIC position	1.065 ± 0.601	1.77	0.341 ± 0.309	-1.009 ± 0.553
photometric centroid source offset	2.18 ± 1.27	1.71	2.03 ± 1.21	0.78 ± 1.65

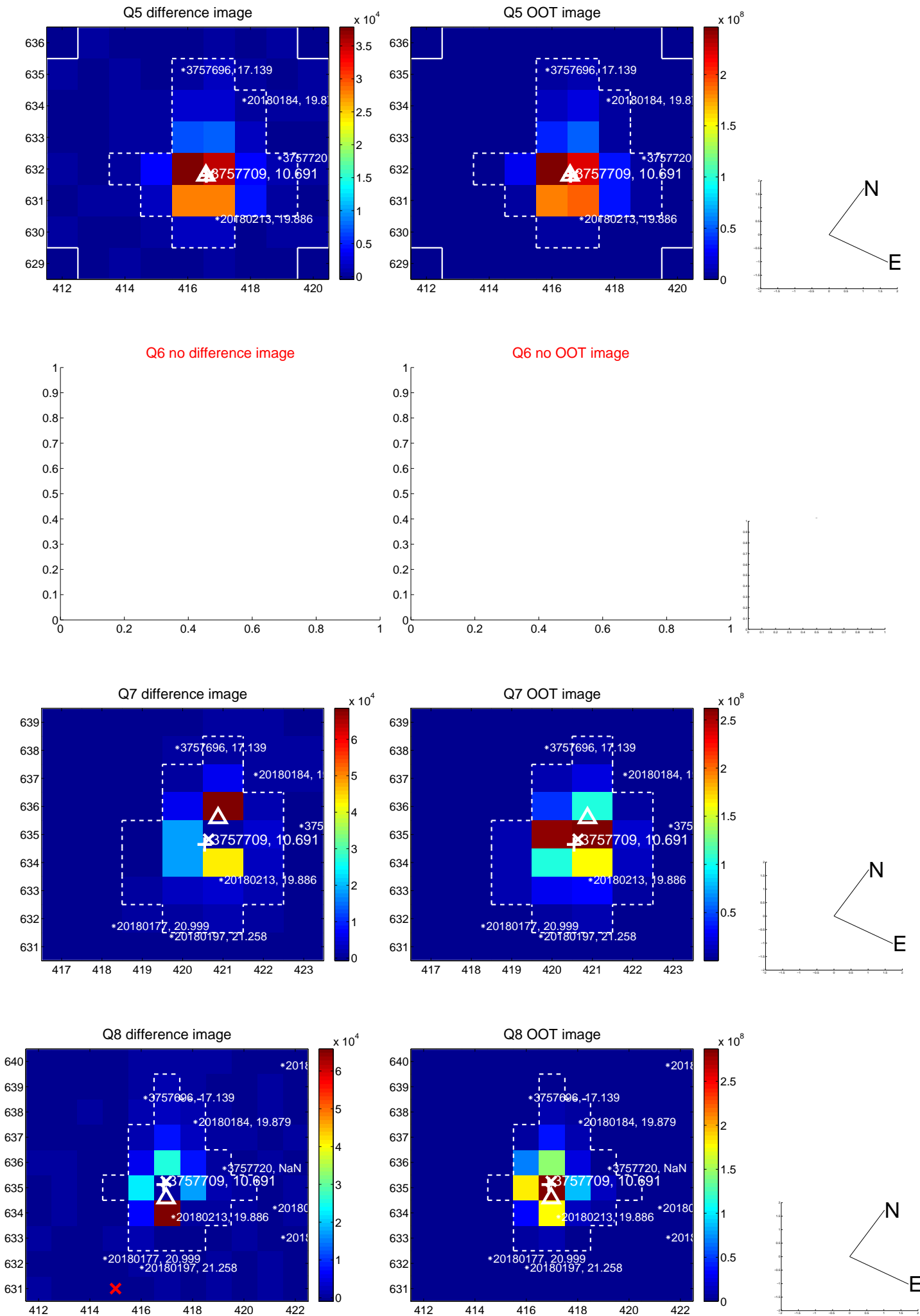


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

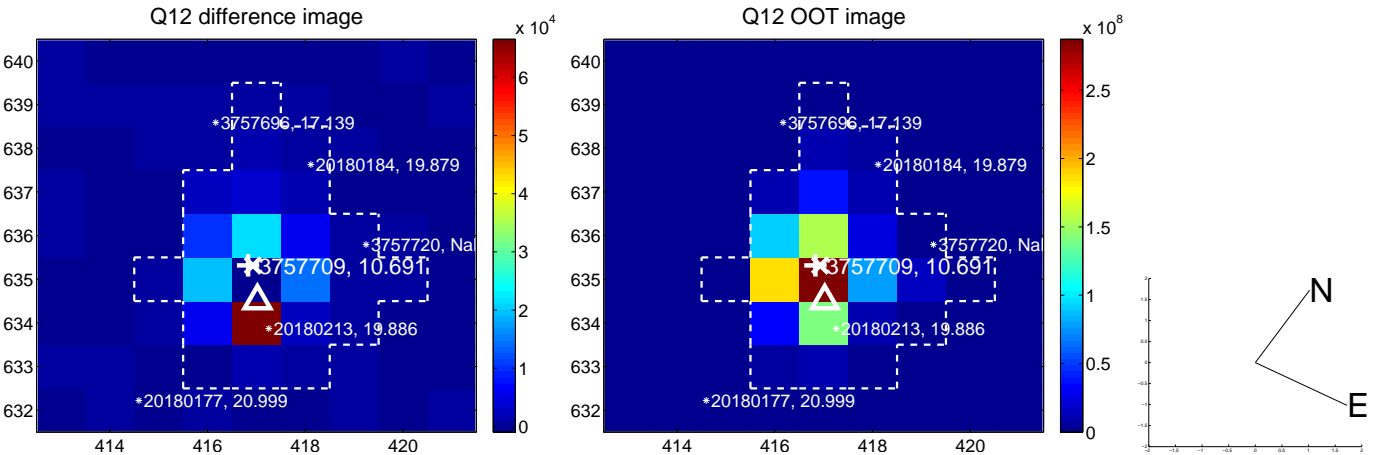
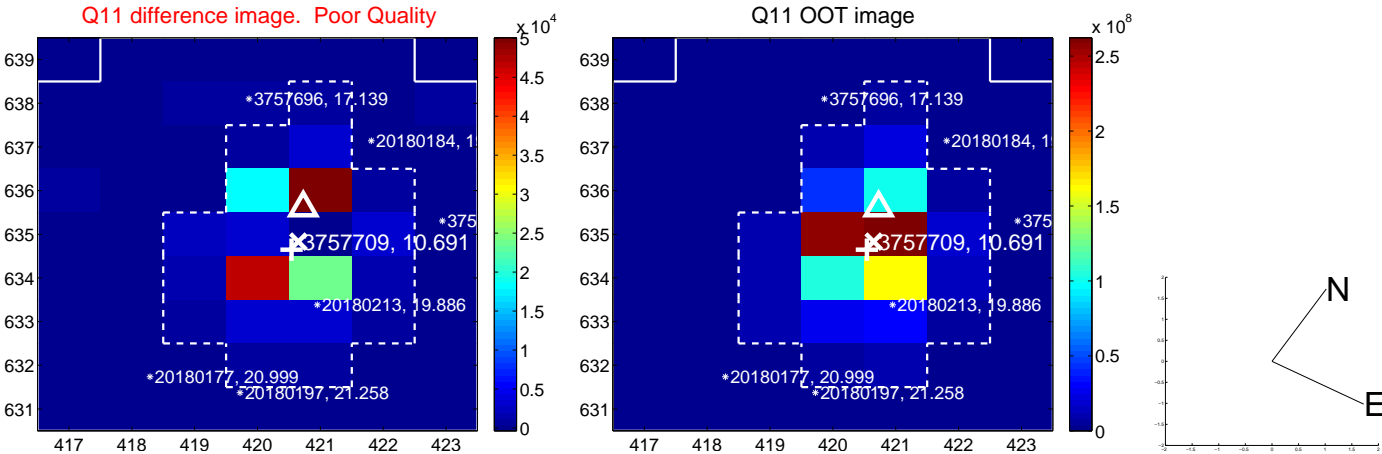
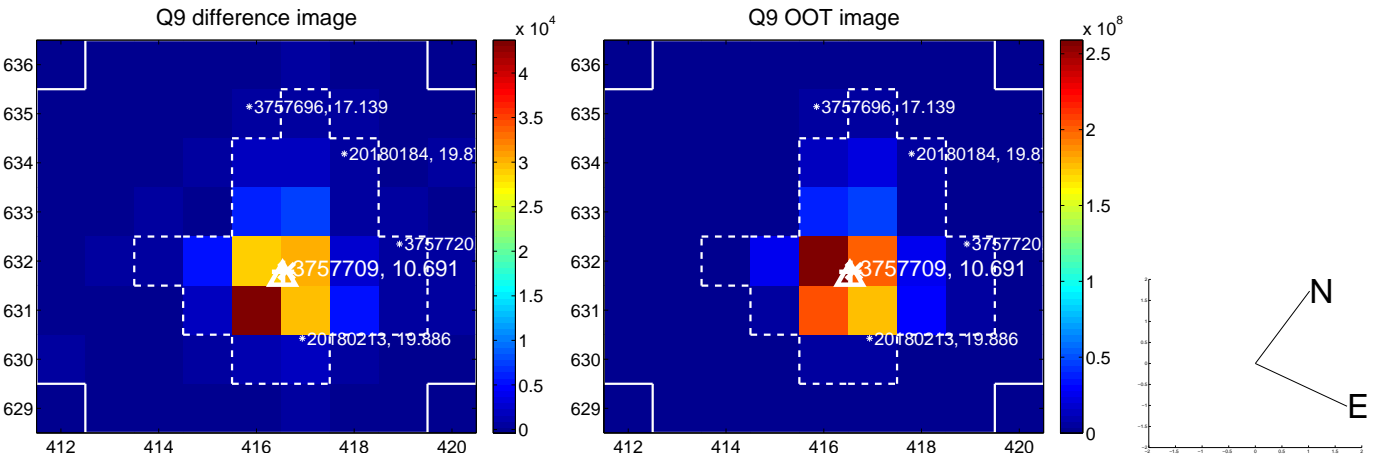
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



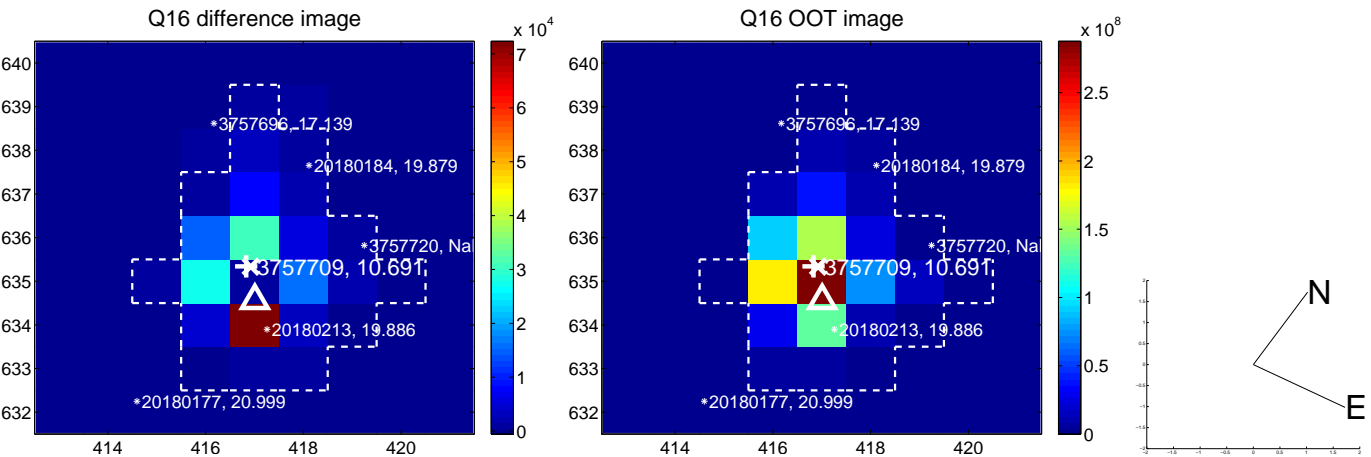
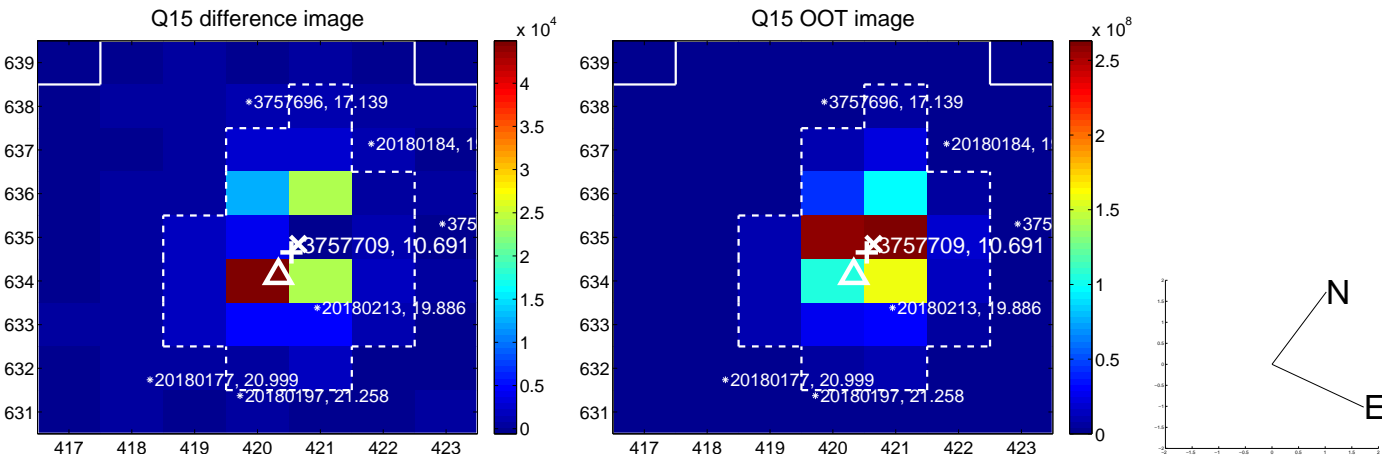
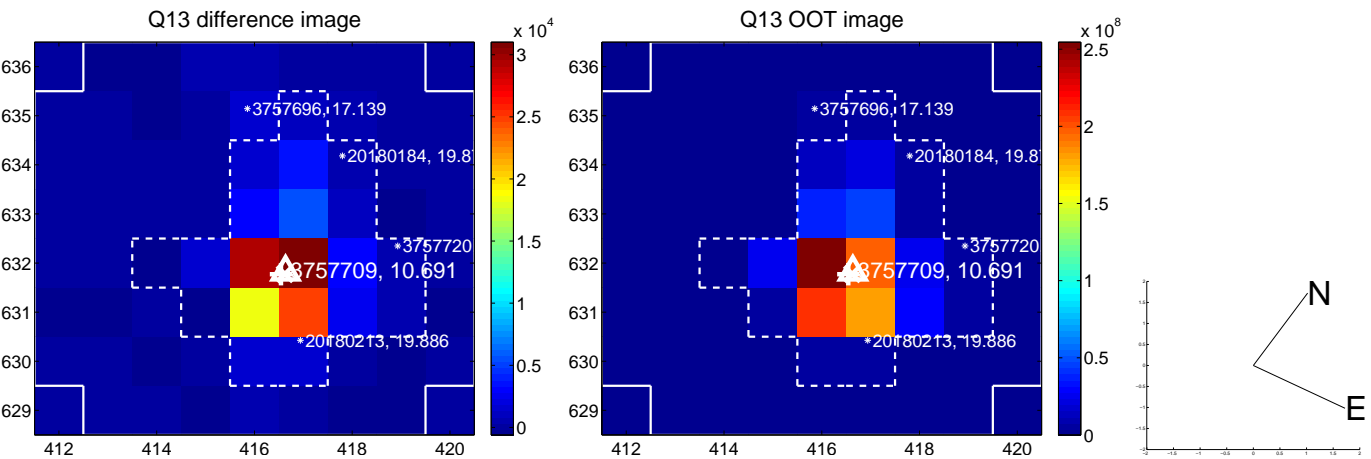
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



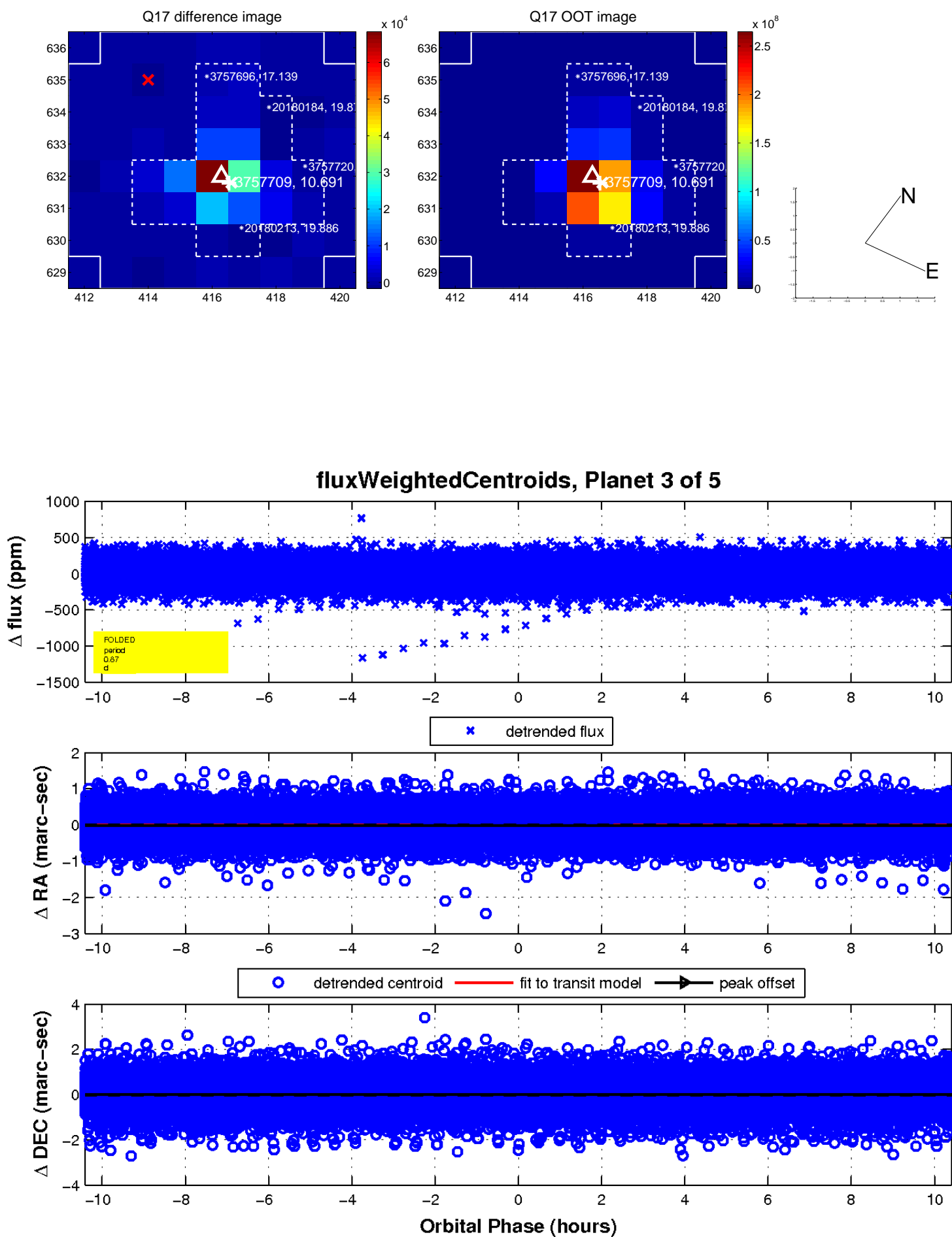
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

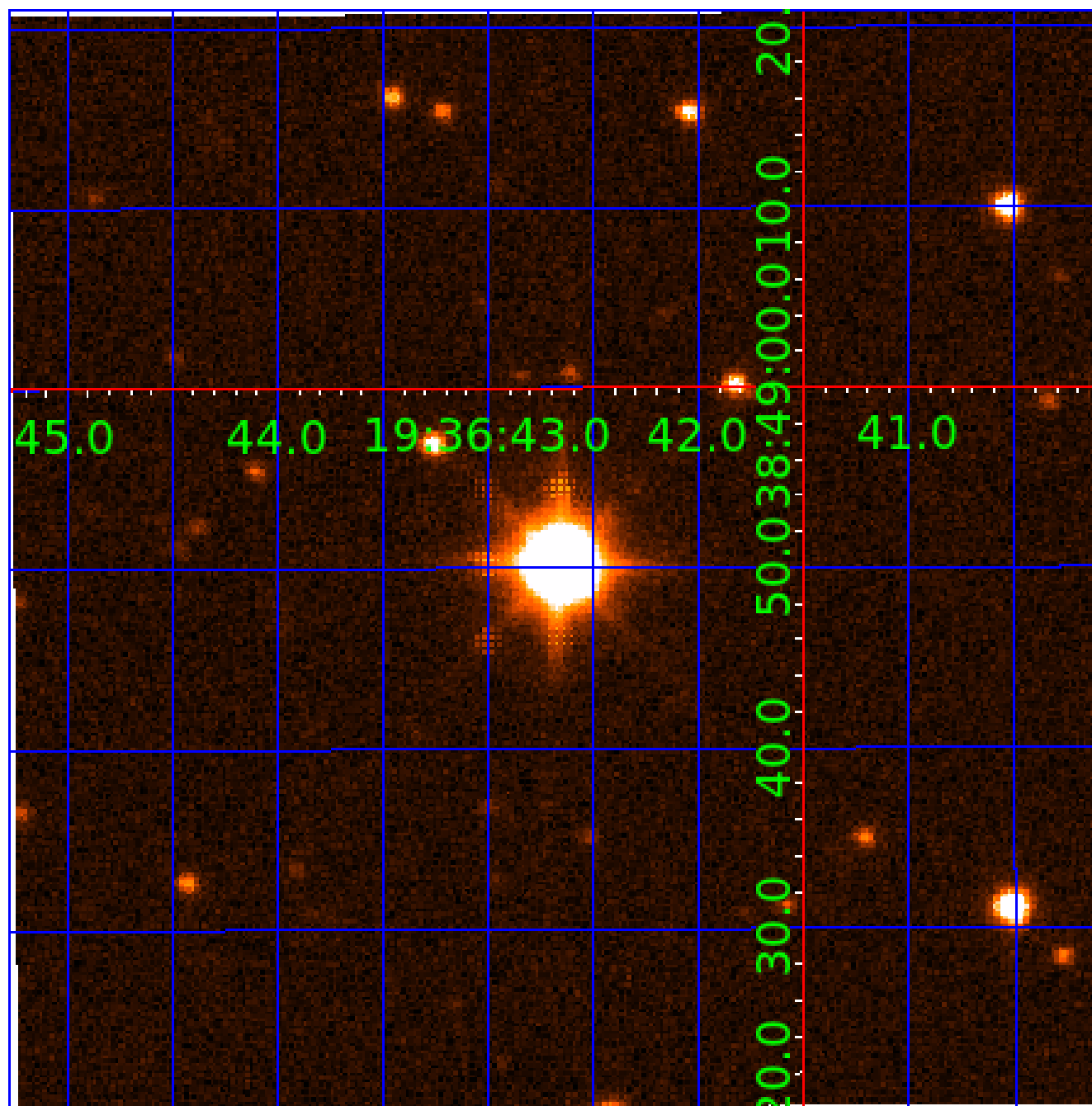


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003757709

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})
003757709-01	OBS	No	2.169309	132.843653	17.8	3.785	8.9	9.5	1.47	6776	0.72	3151.89
003757709-02	OBS	No	2.169105	131.543208	20.7	3.304	8.6	9.8	1.47	6776	1.37	3152.28
003757709-03	OBS	No	0.867610	131.702194	5.9	4.836	9.2	4.4	1.47	6776	0.38	10696.29
003757709-04	OBS	No	56.313550	175.139984	149.9	7.409	8.9	6.0	1.47	6776	1.93	41.01
003757709-05	OBS	No	54.171044	162.453772	203.6	6.233	8.5	4.5	1.47	6776	4.11	43.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003757709-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003757709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003757709-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003757709-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003757709-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED

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

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

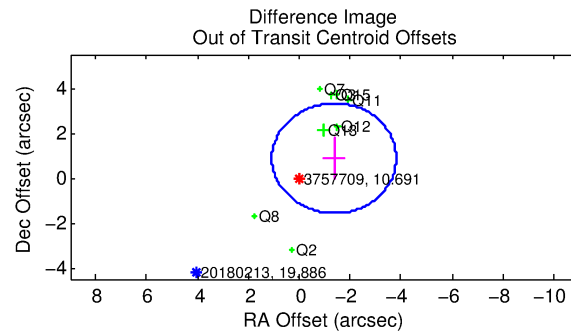
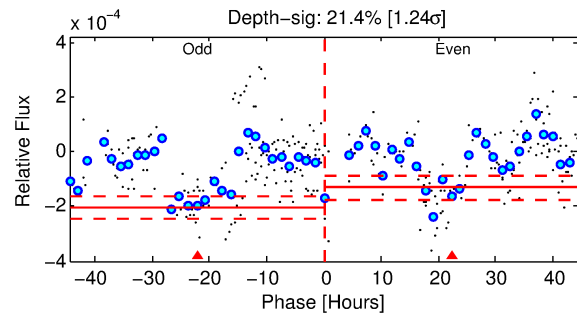
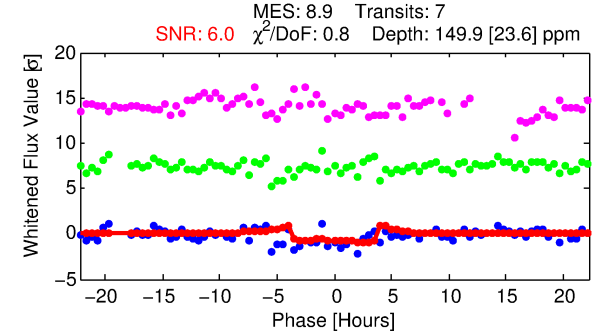
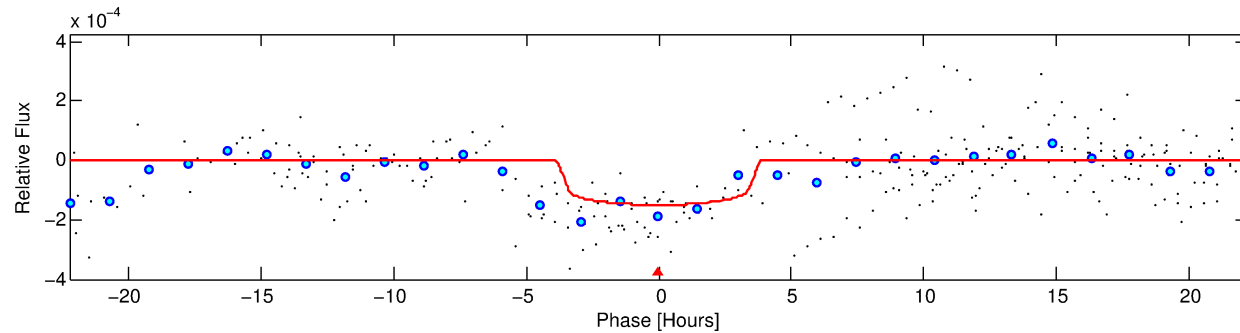
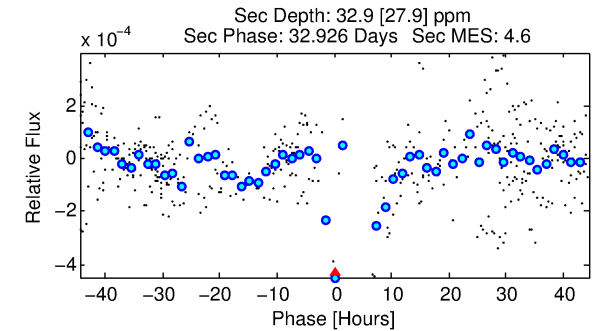
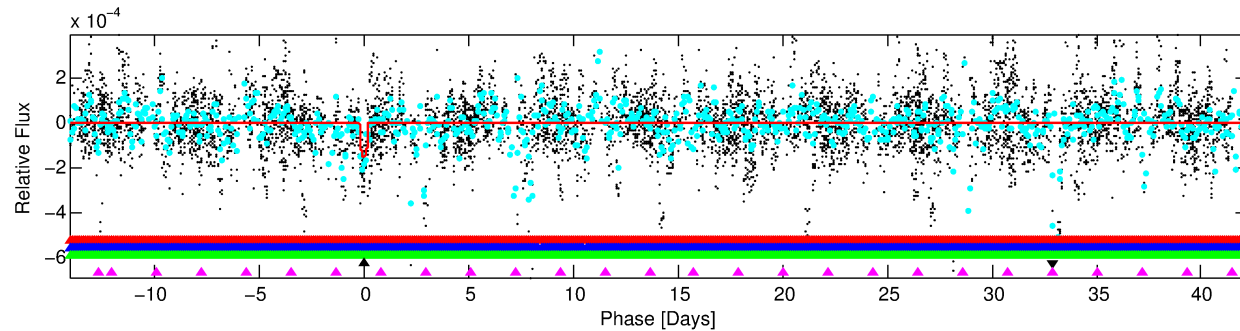
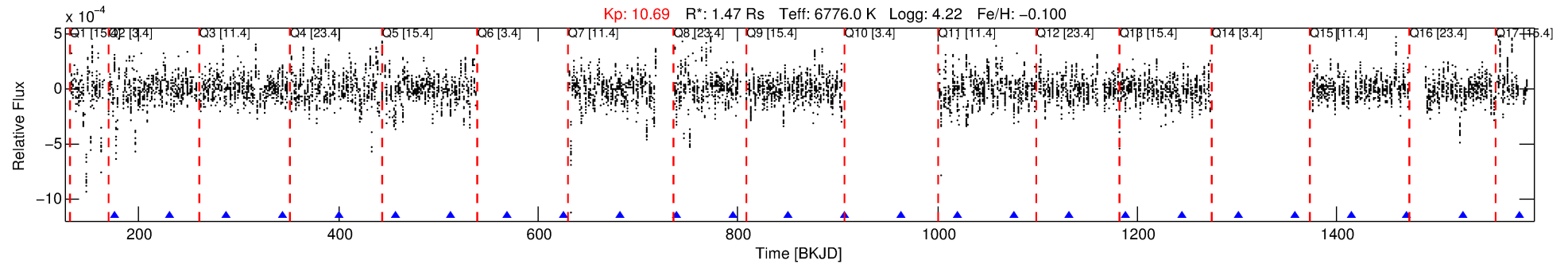
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003757709-04

No Significant Match Found

DV One-Page Summary

KIC: 3757709 Candidate: 4 of 5 Period: 56.314 d



DV Fit Results:

Period = 56.31355 [0.00093] d
Epoch = 175.1400 [0.0147] BKJD
Rp/R* = 0.0120 [0.0064]
a/R* = 41.91 [125.86]
b = 0.71 [2.11]
Seff = 41.01 [7.97]
Teq = 645 [31] K
Rp = 1.93 [1.07] Re
a = 0.3155 [0.0406] AU
Ag = 482.61 [663.10] [0.73σ]
Teffp = 4676 [1593] K [2.53σ]

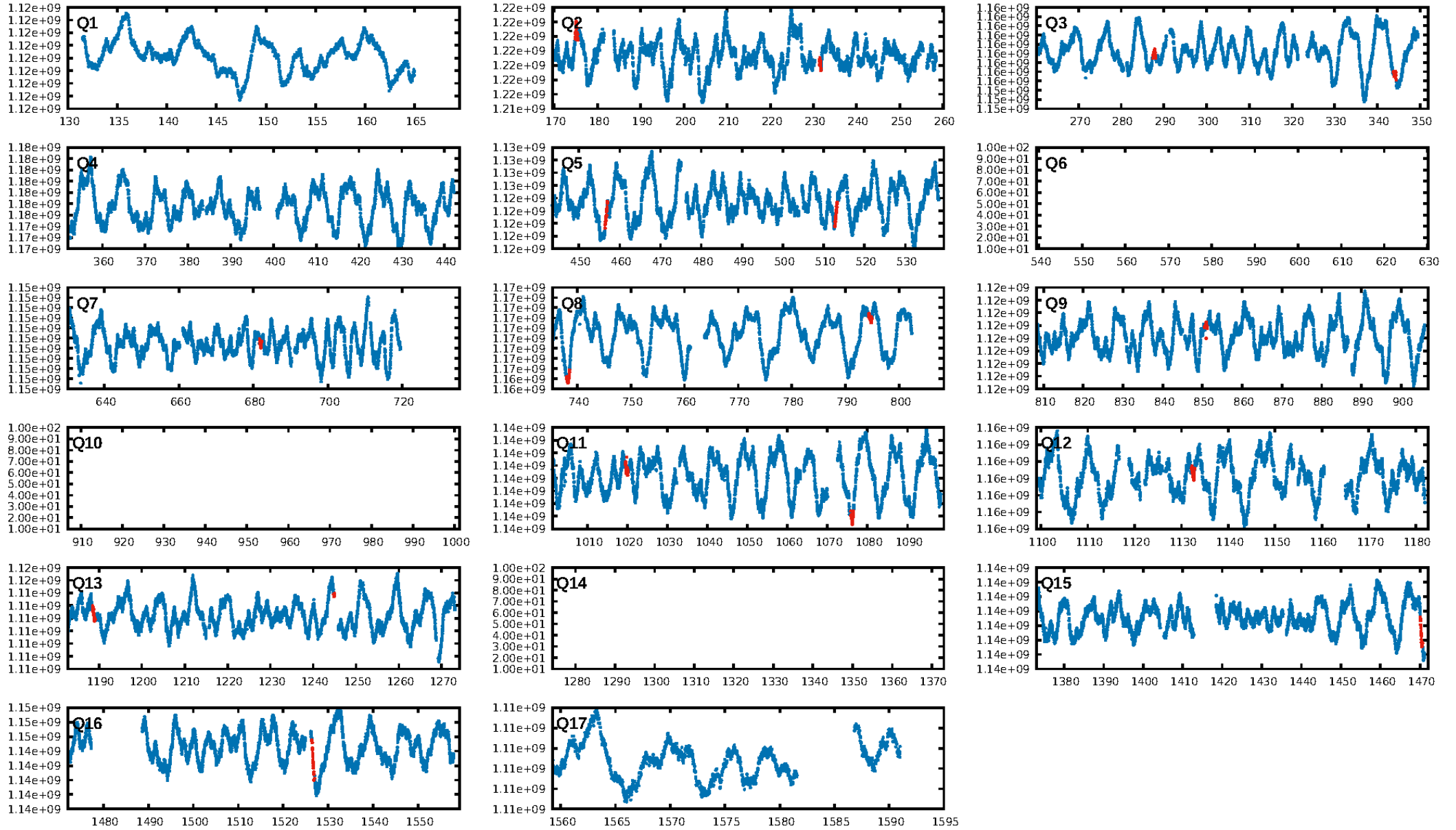
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 17.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.37e-12
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.3179
Centroid-sig: 56.5%
Centroid-so: 0.381 arcsec [0.93σ]
OotOffset-rm: 1.622 arcsec [1.99σ]
OotOffset-st: 1/4/2/1 [8]
KicOffset-rm: 1.302 arcsec [2.43σ]
KicOffset-st: 1/4/2/1 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 0.00 [0/10]

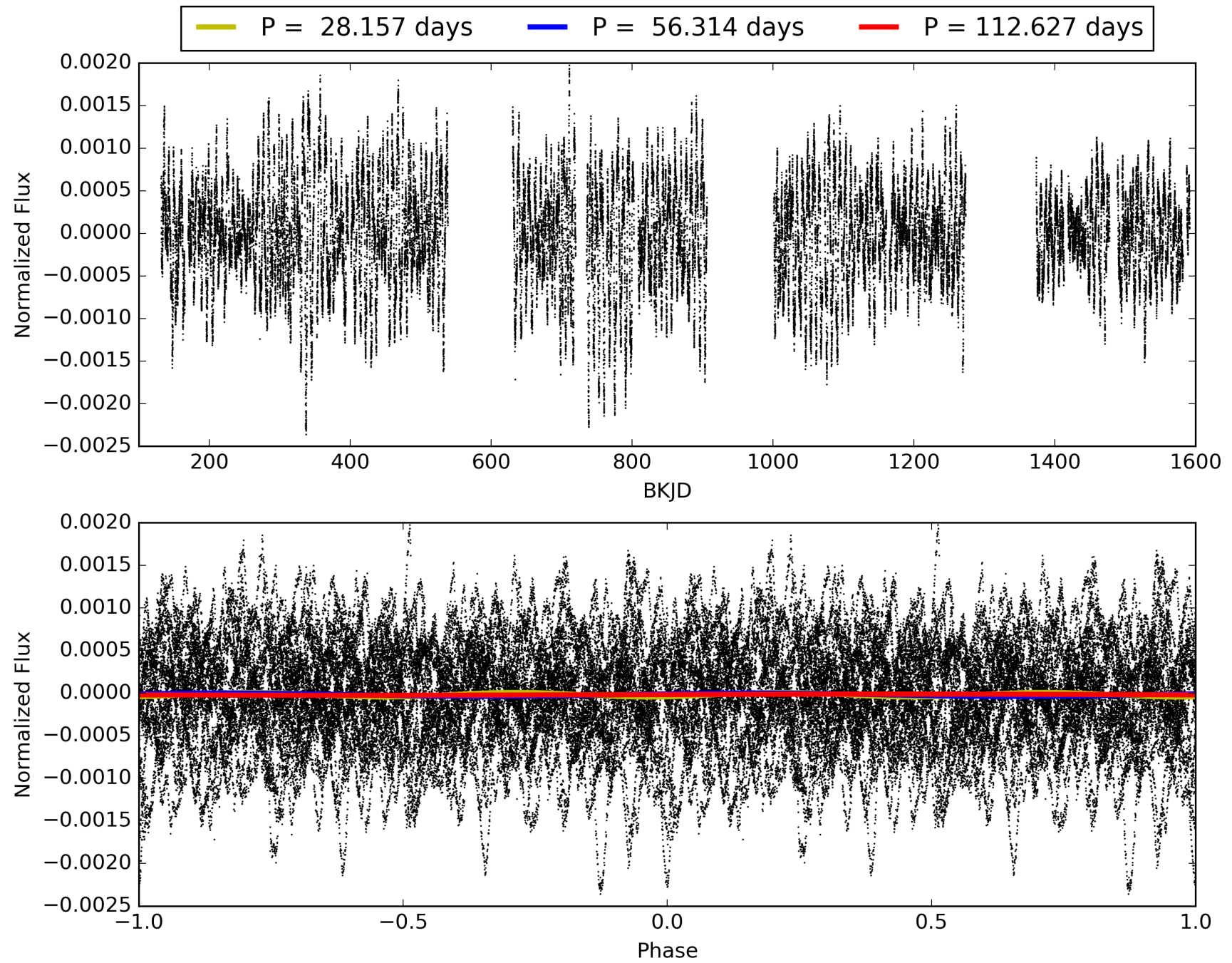
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:09:53 Z

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

TCE 003757709-04, PDC Light Curves

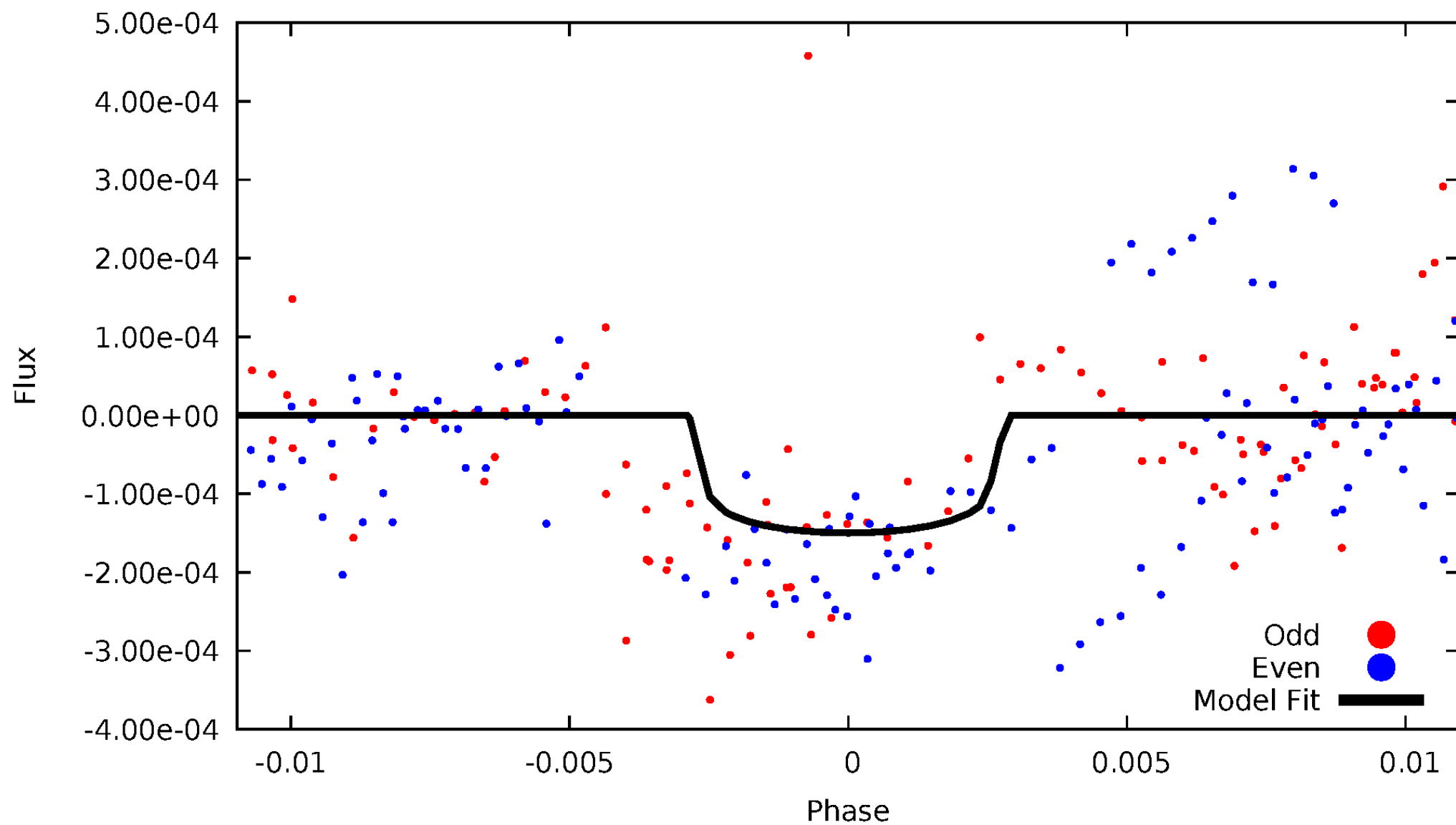


TCE 003757709-04



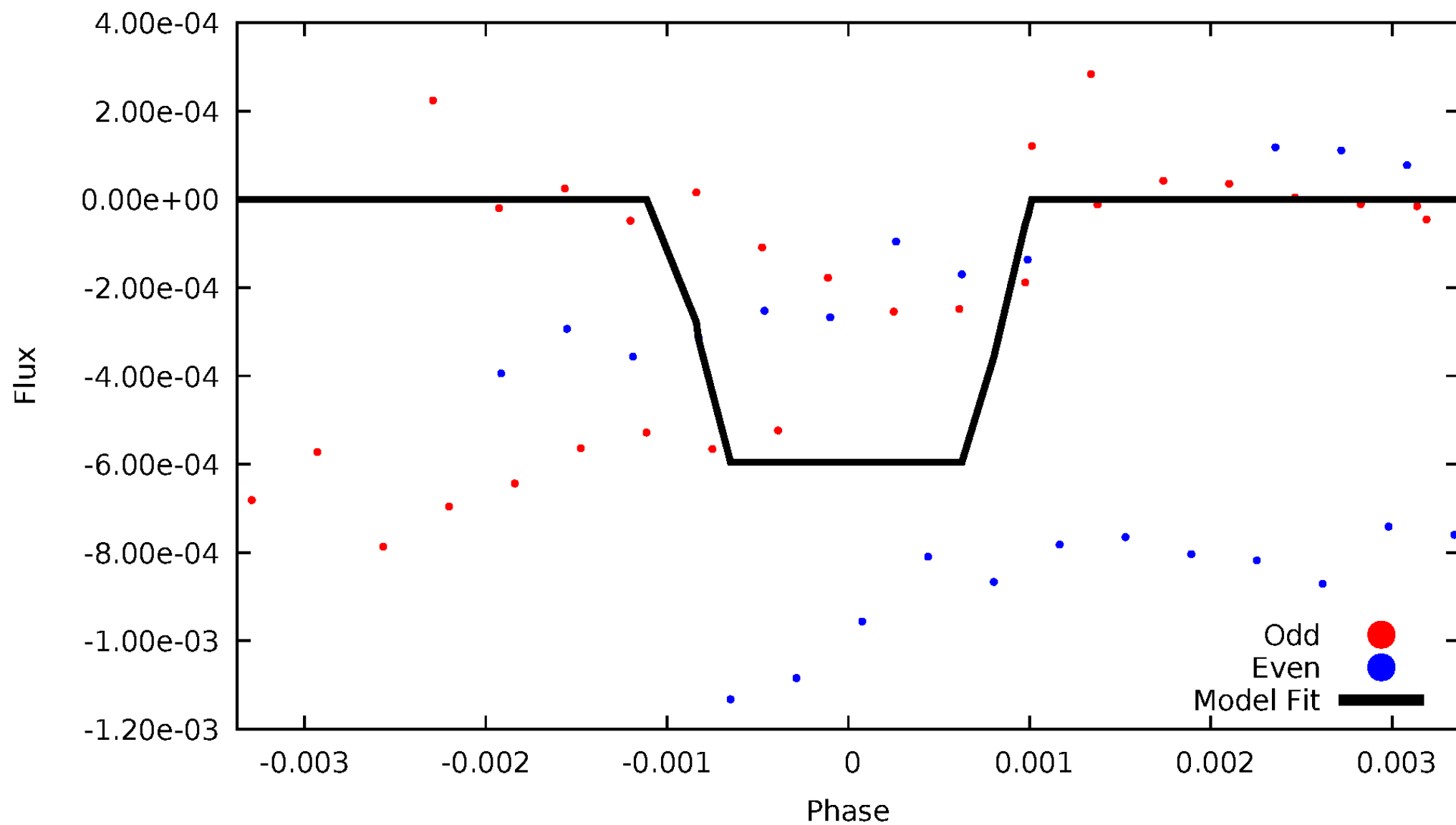
DV Odd/Even

TCE 003757709-04



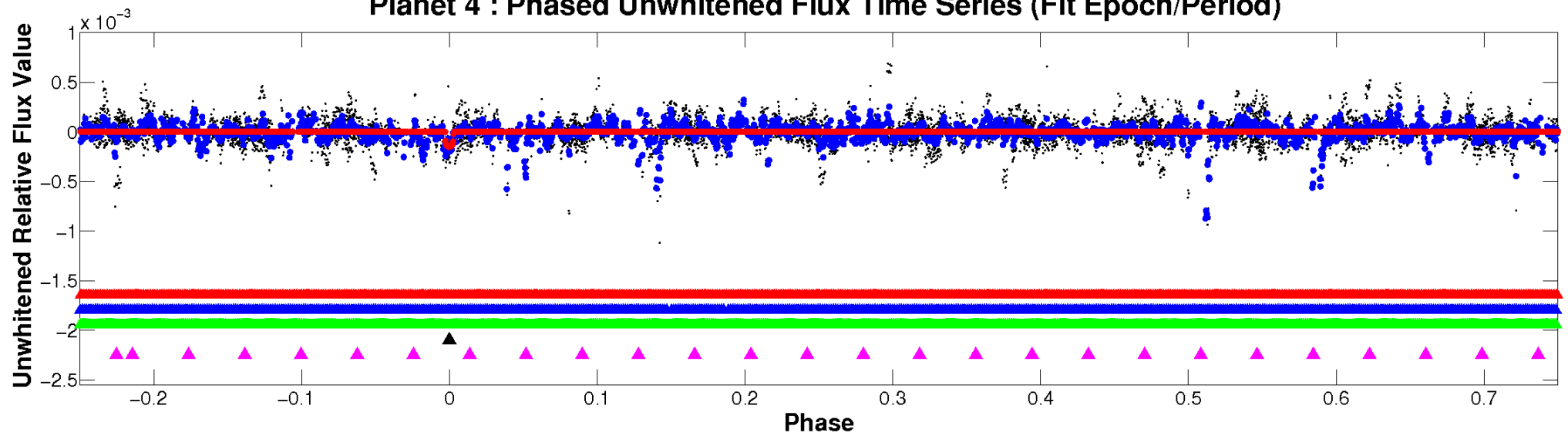
ALT Odd/Even

TCE 003757709-04

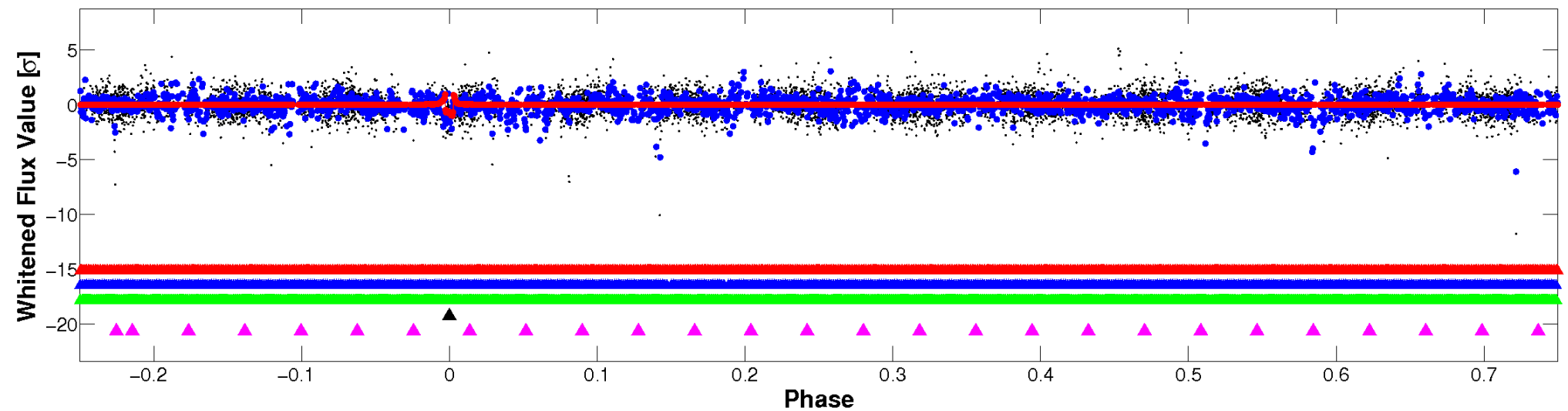


Non-Whitened Vs. Whitened Light Curve

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

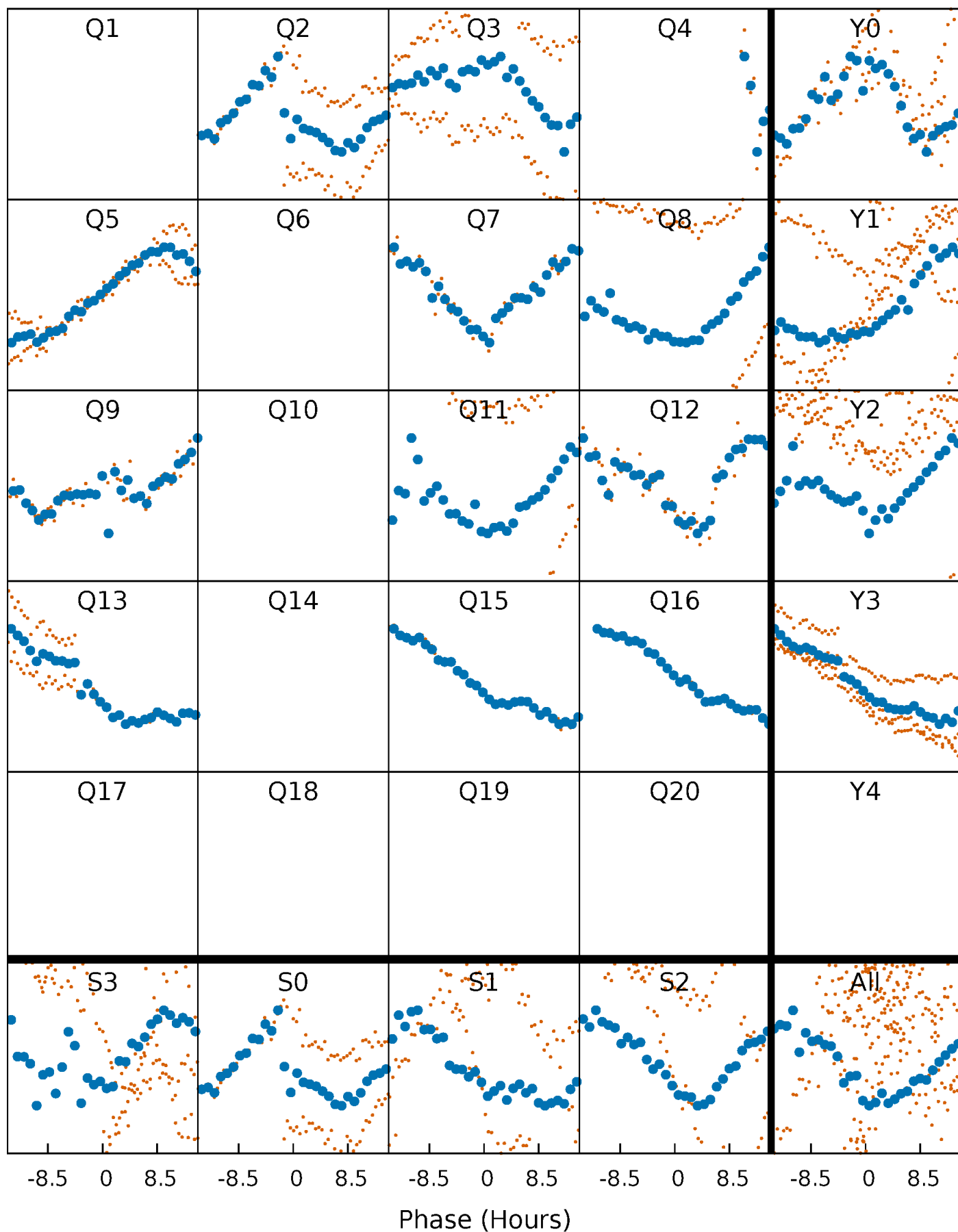


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



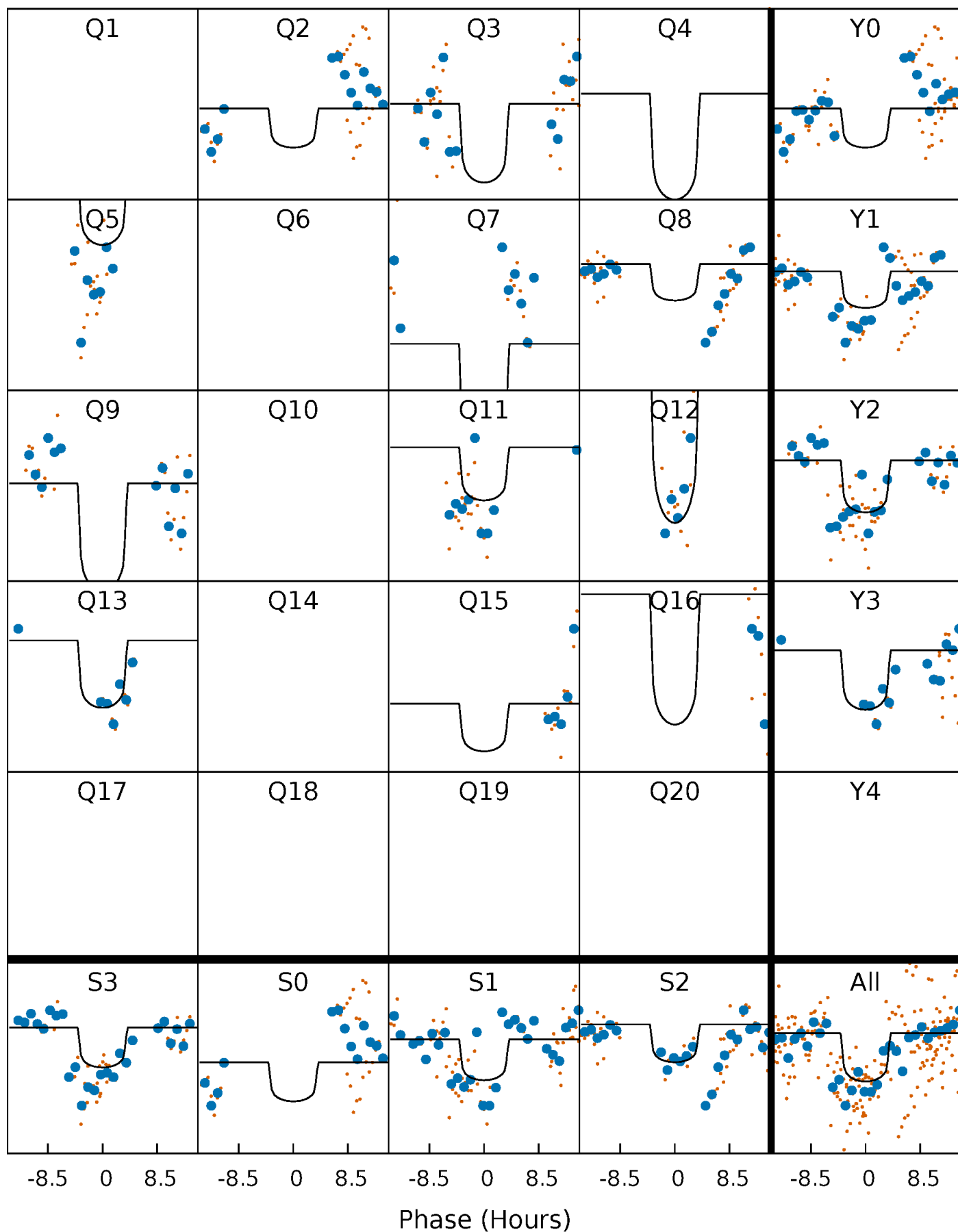
PDC Quarter-Phased Transit Curves

TCE 003757709-04 P= 56.313550 Days $T_0=175.139984$ (BKJD)



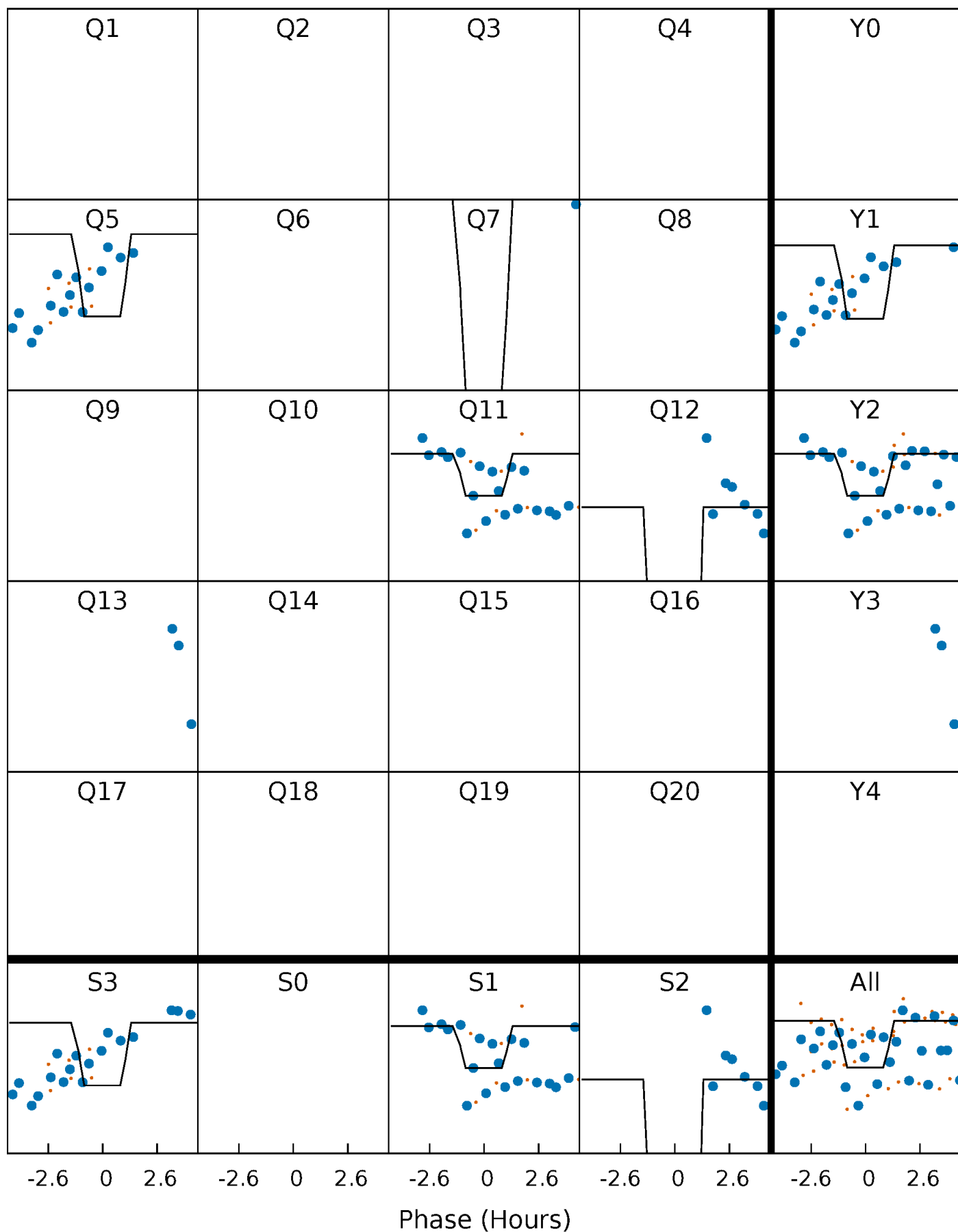
DV Quarter-Phased Transit Curves

TCE 003757709-04 P= 56.313550 Days $T_0=175.139984$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

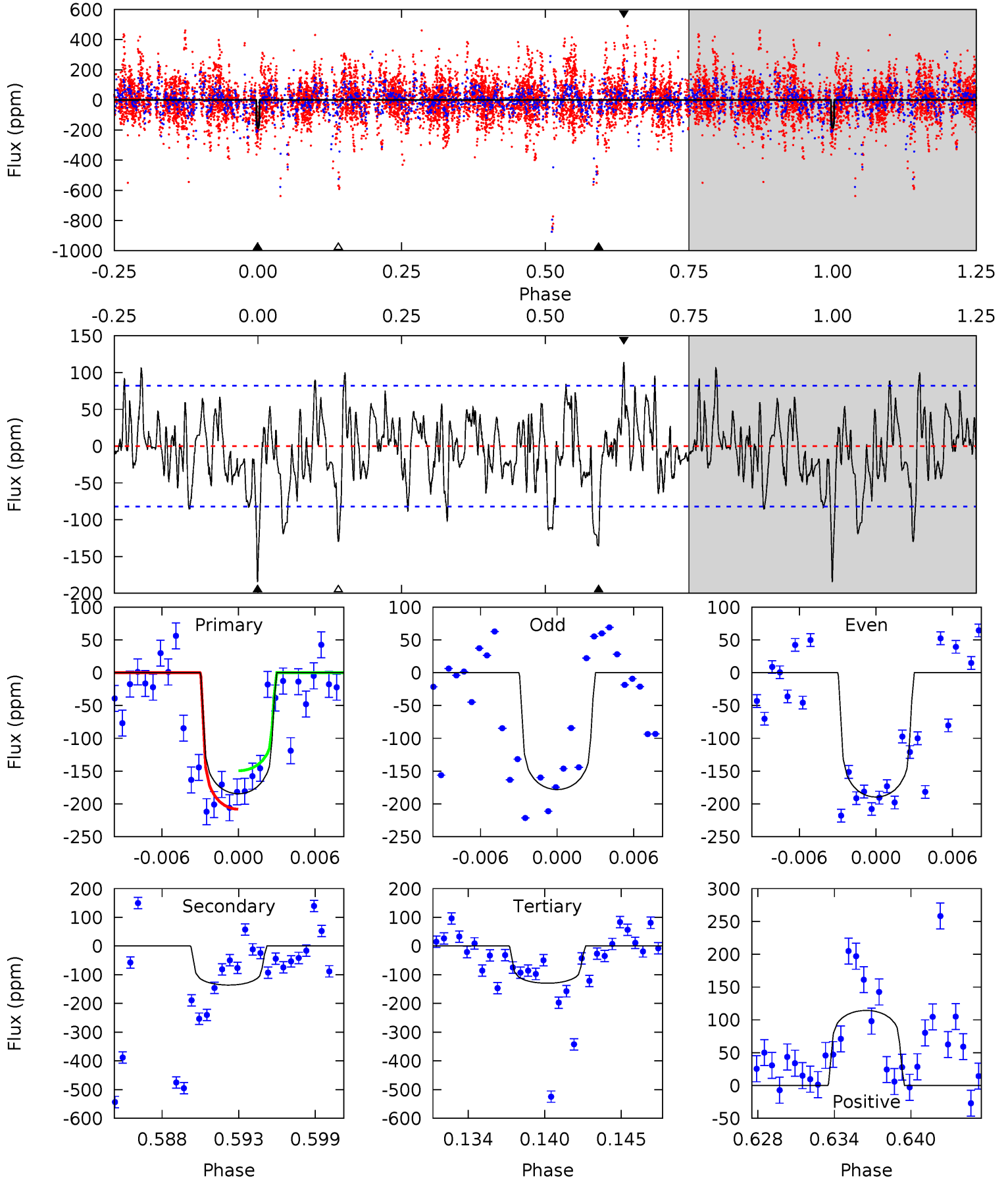
TCE 003757709-04 P= 56.301506 Days $T_0=175.204780$ (BKJD)



DV Model-Shift Uniqueness Test

003757709-04, P = 56.313550 Days, E = 118.826434 Days

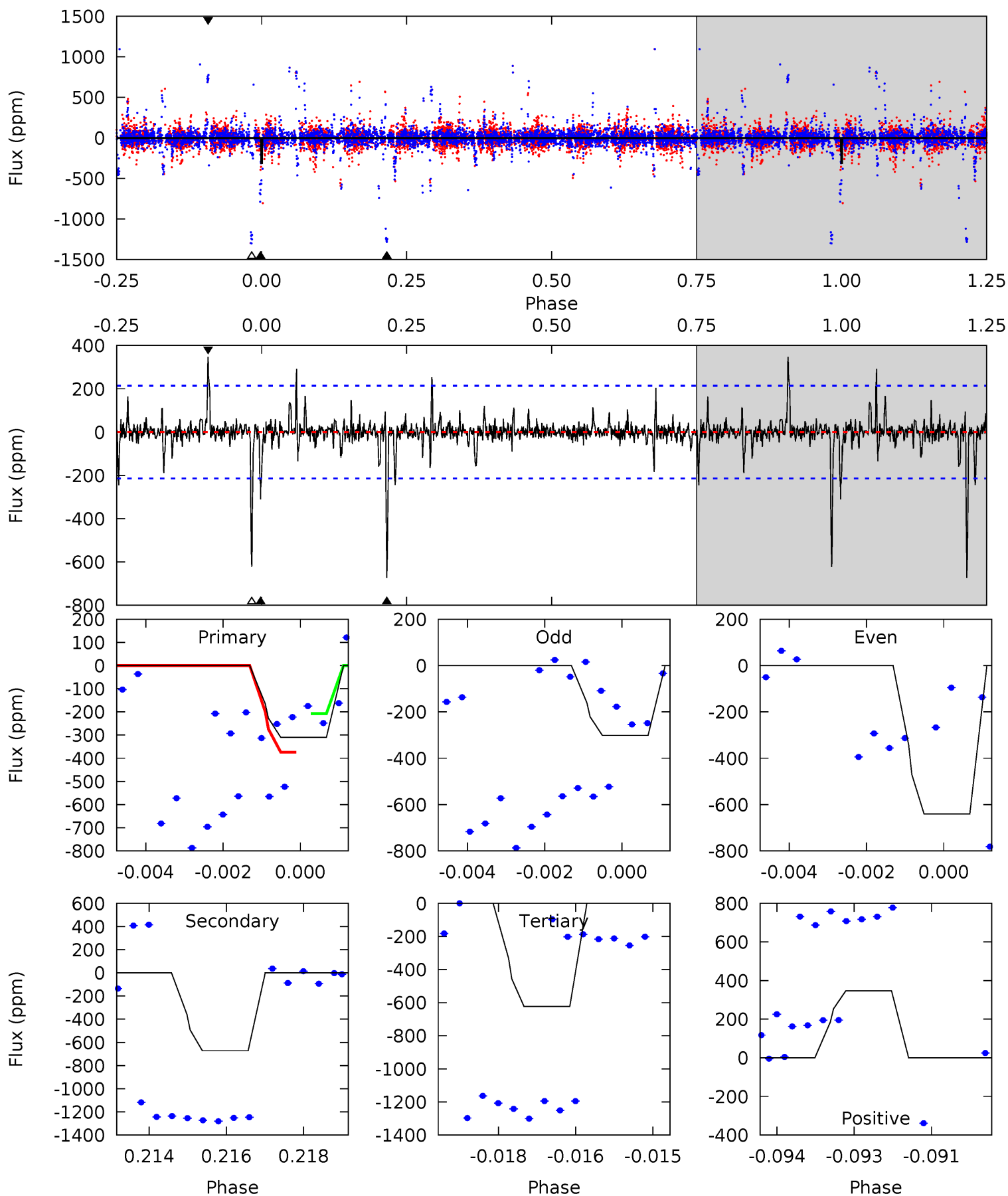
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	8.49	8.09	7.14	5.13	2.76	2.43	3.43	4.38	0.40	1.35	0.34	0.84	0.38	1.83



Alt Model-Shift Uniqueness Test

003757709-04, P = 56.301506 Days, E = 118.903274 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.72	16.8	15.5	8.64	5.34	3.12	0.98	-7.81	-0.91	1.24	8.13	3.94	1.23	0.34	2.18



Stellar Parameters For KIC 003757709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6776^{+70}_{-91}	$4.224^{+0.068}_{-0.102}$	$-0.100^{+0.150}_{-0.200}$	$1.470^{+0.225}_{-0.150}$	$1.326^{+0.083}_{-0.092}$	$0.588^{+0.197}_{-0.188}$
	+1%/-1%	+2%/-2%	+150%/-200%	+15%/-10%	+6%/-7%	+34%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003757709-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-136 ± 16	$1.99^{+1.07}_{-0.96}$	903^{+35}_{-26}	6581^{+3311}_{-1218}	1864^{+5030}_{-1075}
Alt.	-672 ± 40	$3.99^{+1.09}_{-0.95}$	905^{+34}_{-29}	6933^{+1286}_{-746}	2286^{+1640}_{-857}

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

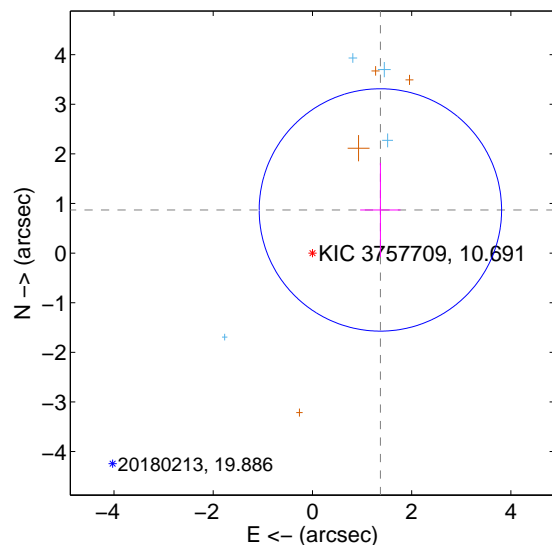
Supplemental centroid analysis for 003757709-04. **Kepler magnitude: 10.69.** Transit SNR 6.01

There are 4 quarters with good PRF difference image offsets

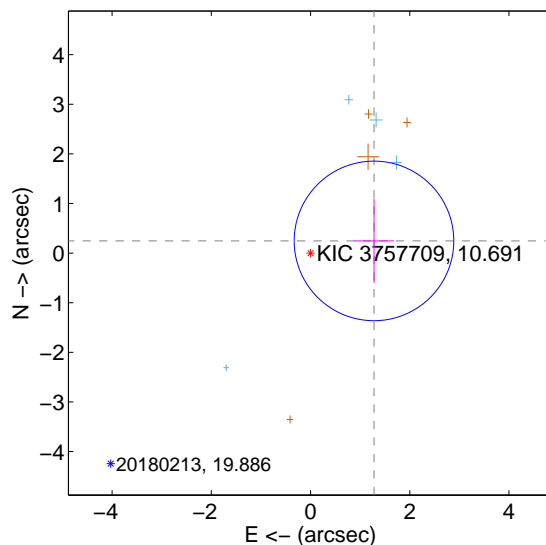
The direct PRF centroid is offset from the target star catalog position by about 1.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.622 ± 0.814	1.99	-1.369 ± 0.407	0.870 ± 0.949
PRF-fit source offset from KIC position	1.302 ± 0.536	2.43	-1.279 ± 0.402	0.246 ± 0.847
photometric centroid source offset	0.38 ± 0.41	0.93	-0.38 ± 0.41	-0.04 ± 0.60

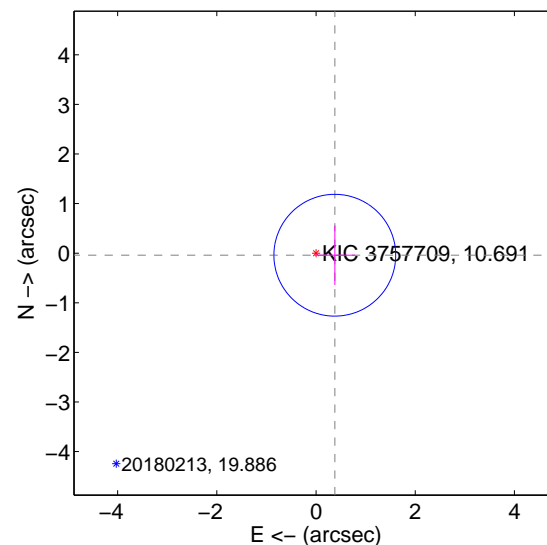
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

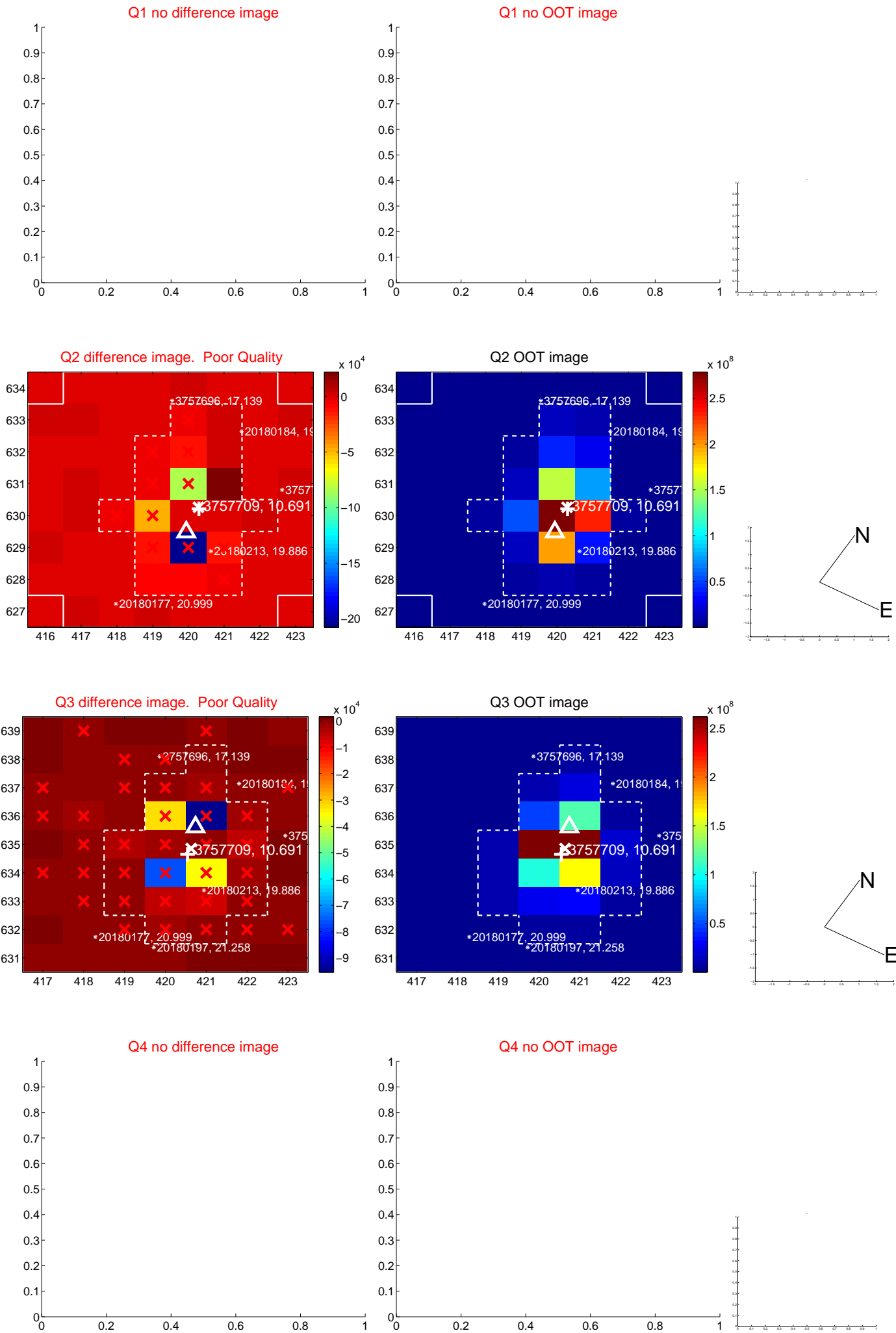


offset from photometric centroids

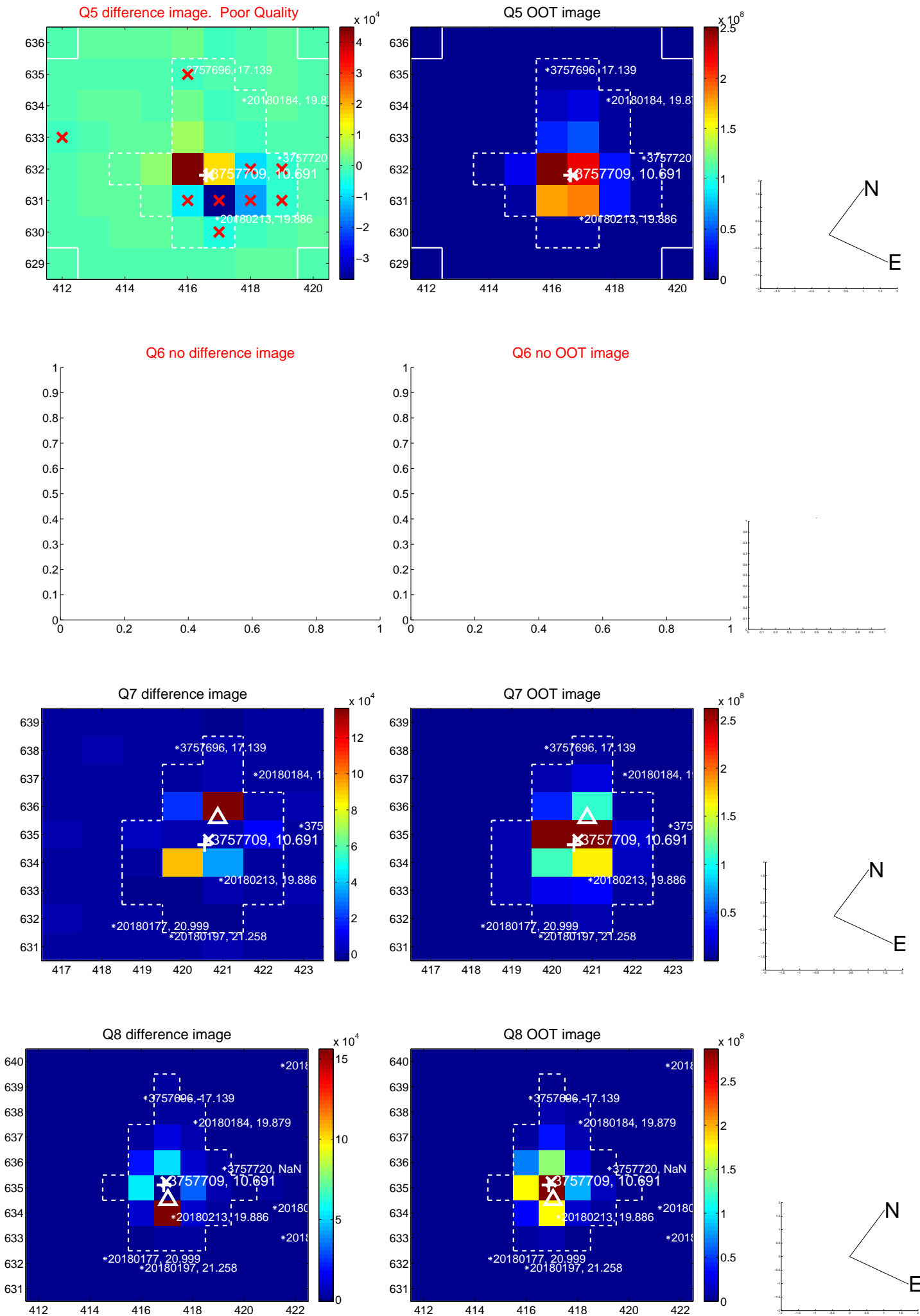


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

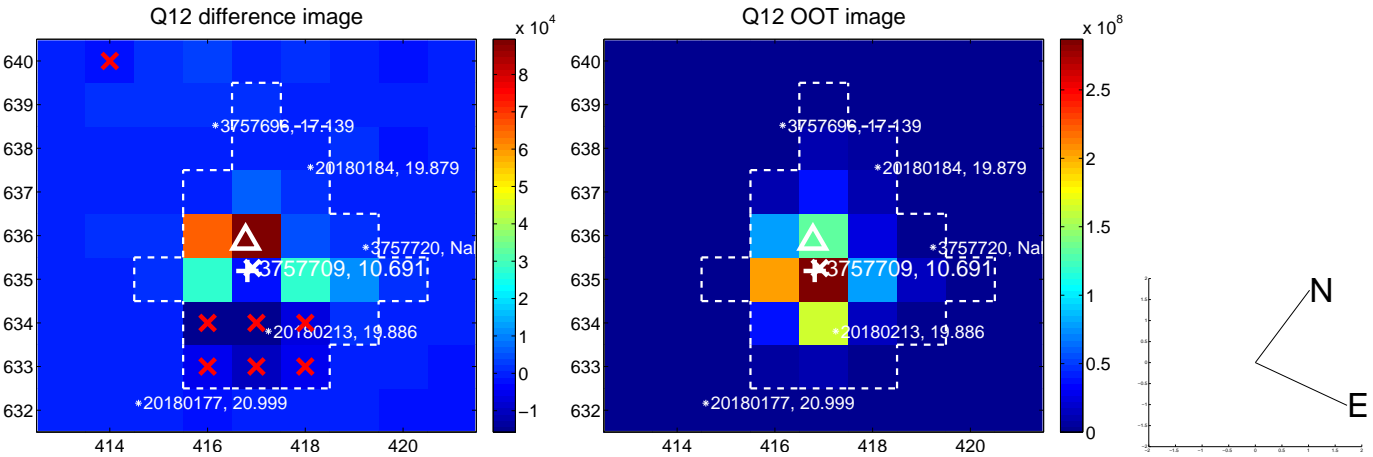
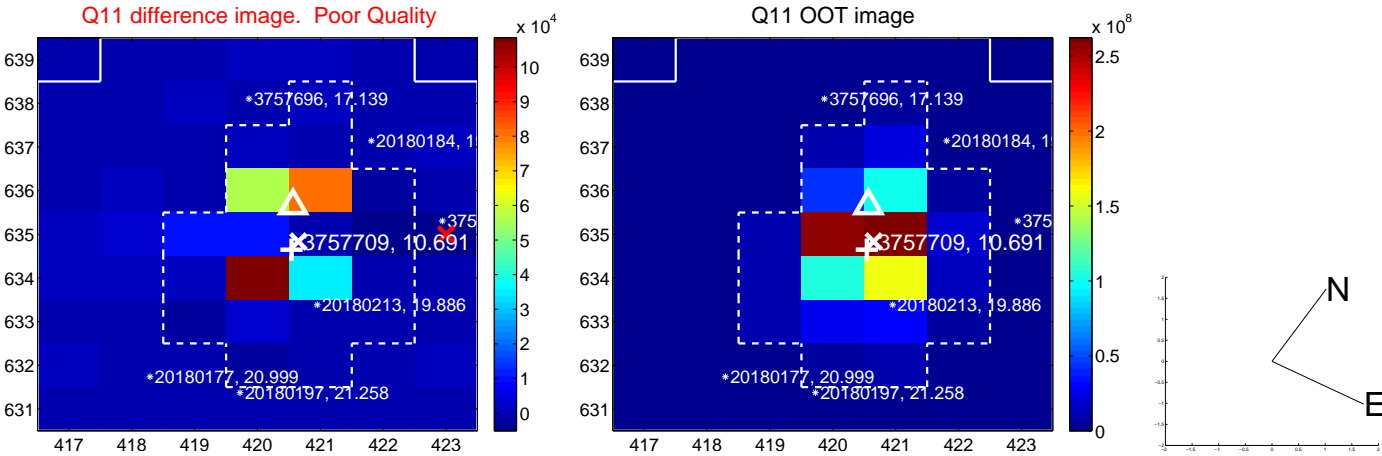
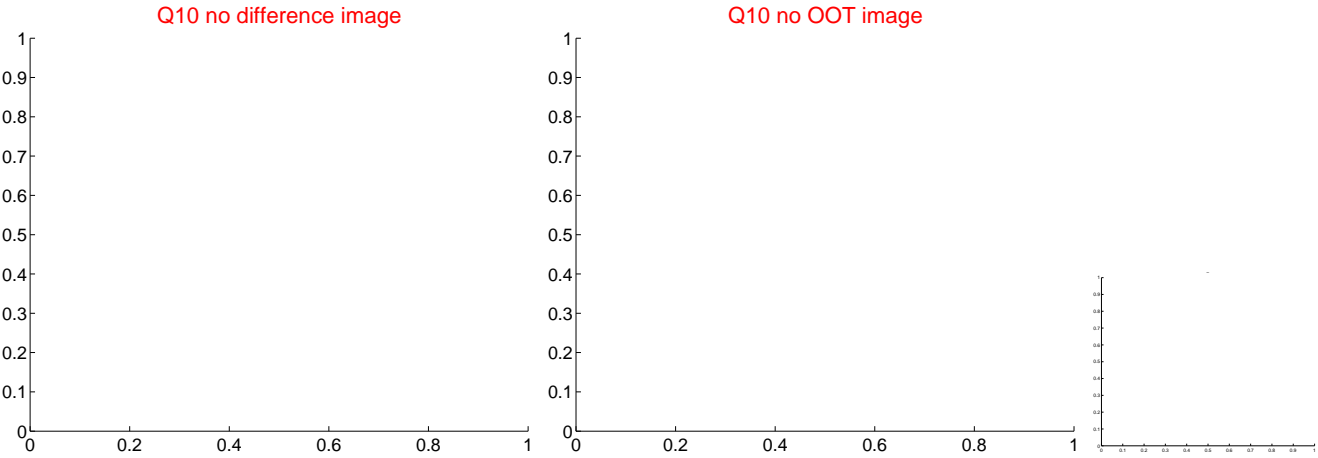
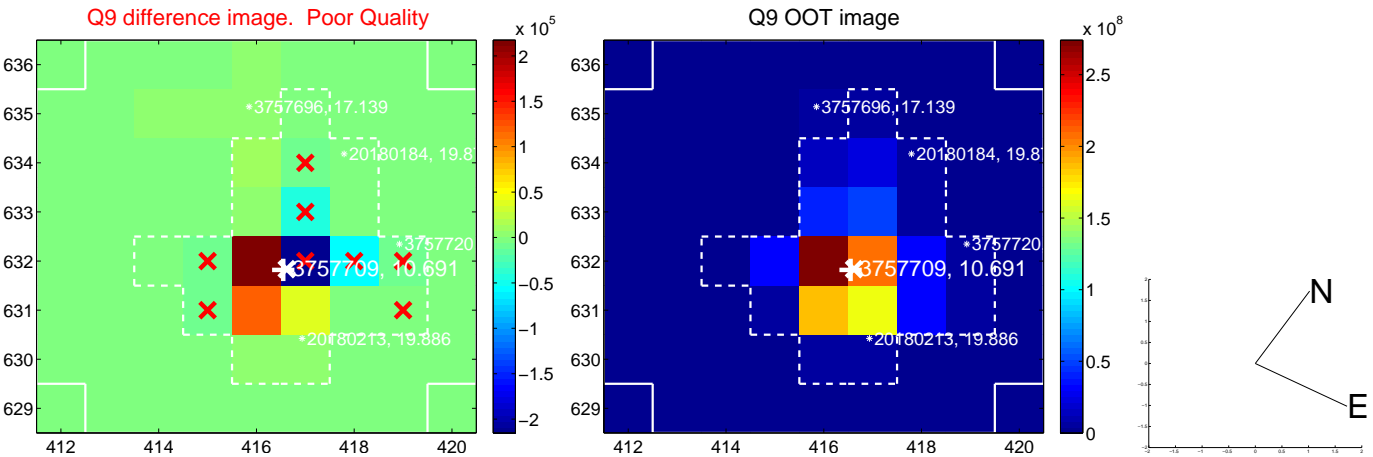
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



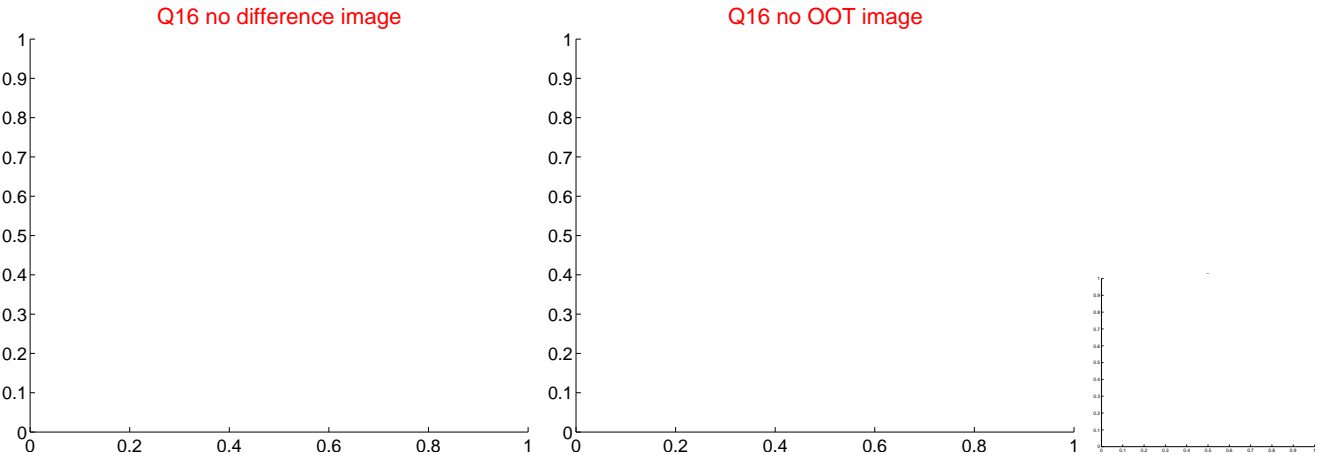
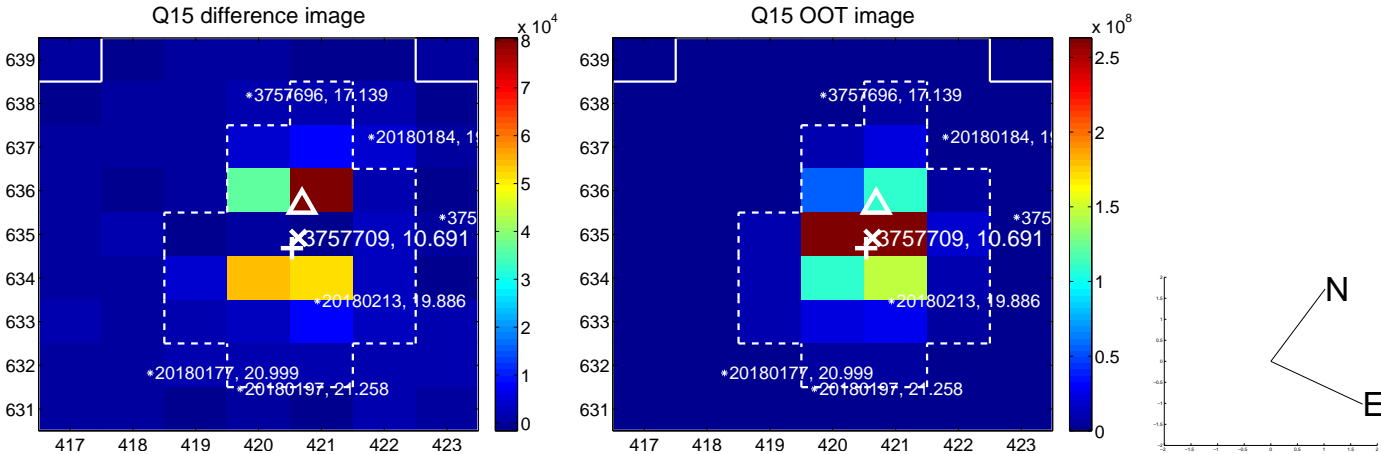
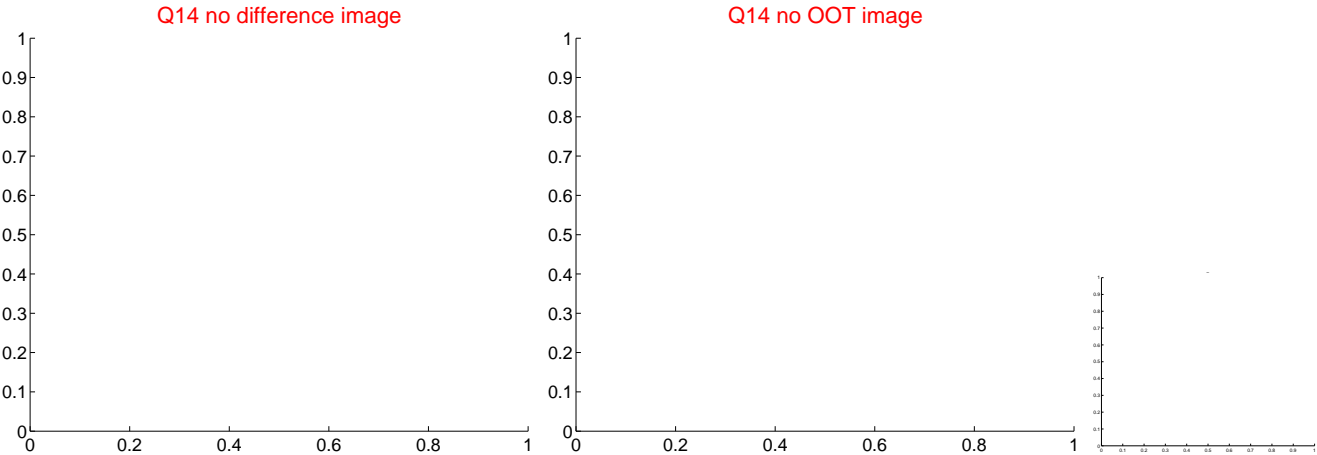
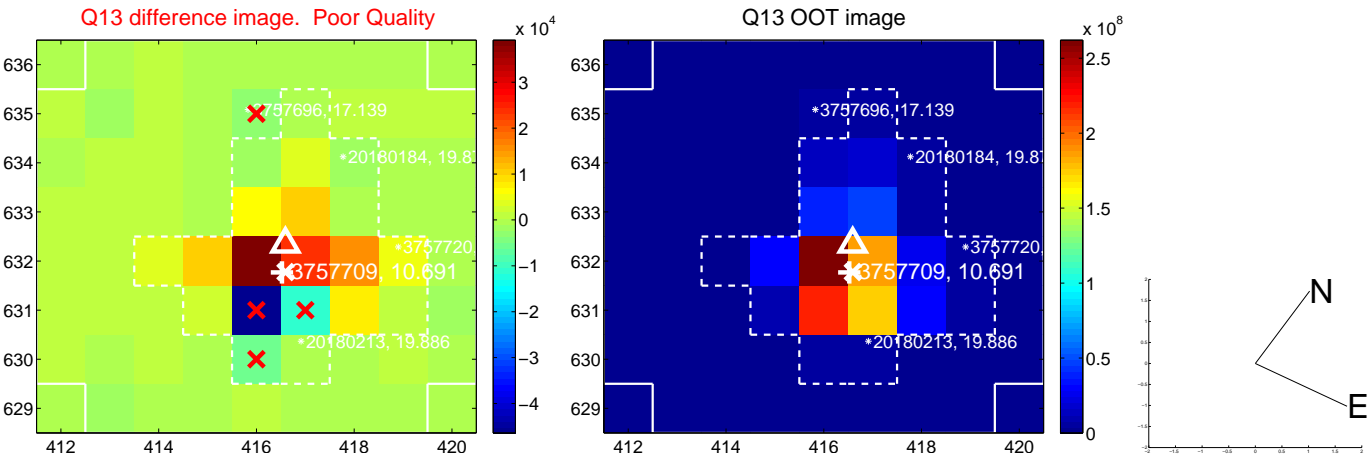
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



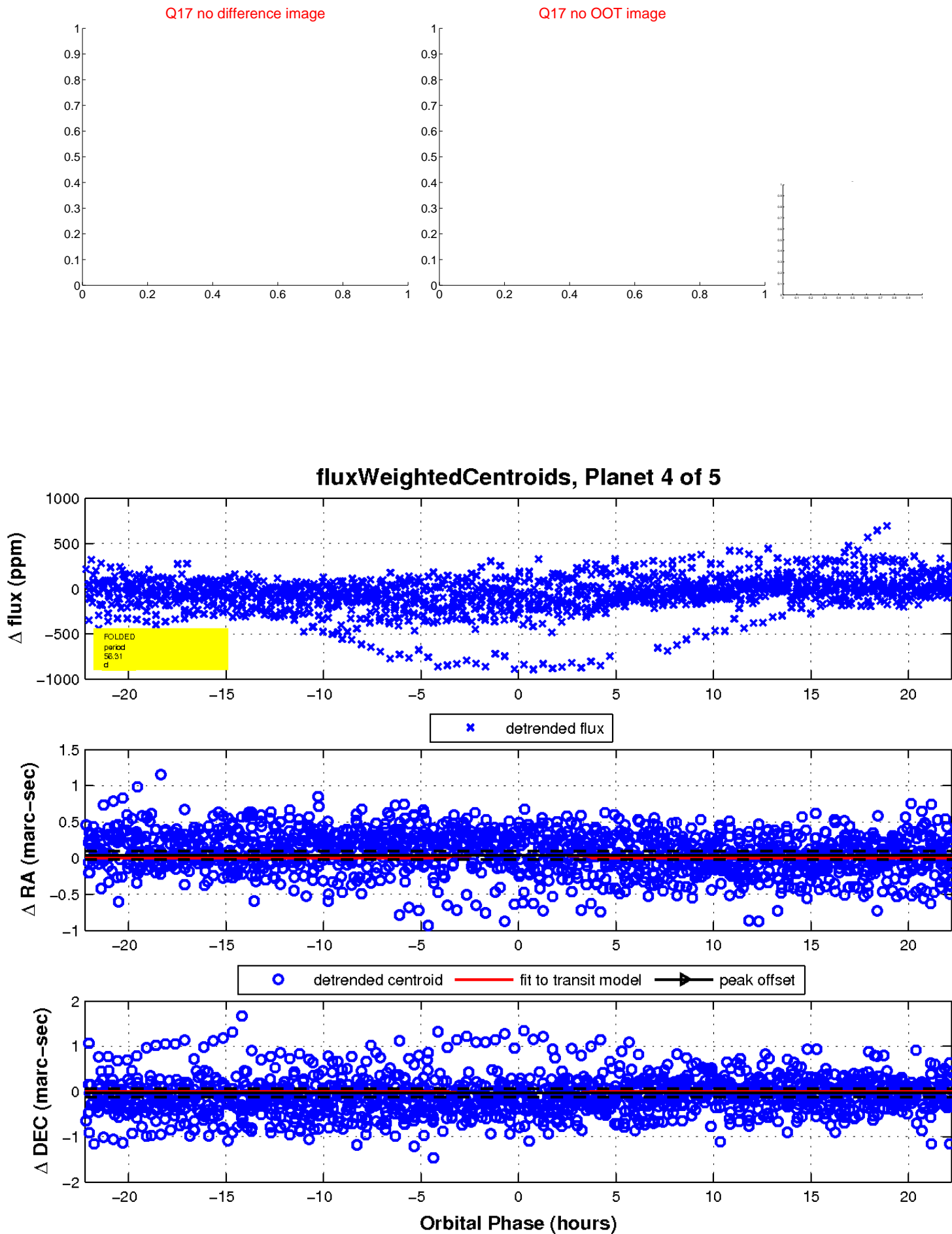
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

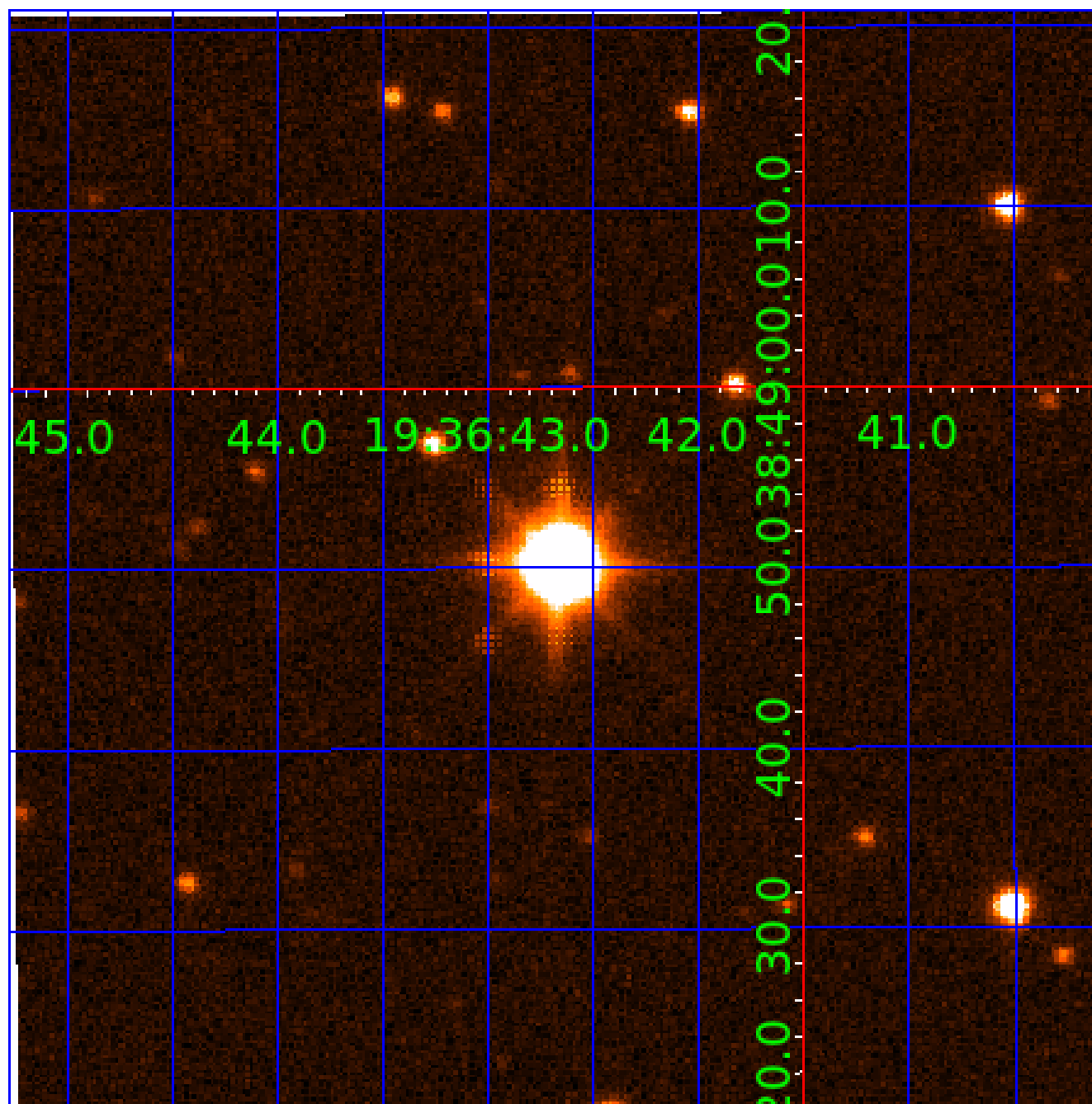


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003757709

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})
003757709-01	OBS	No	2.169309	132.843653	17.8	3.785	8.9	9.5	1.47	6776	0.72	3151.89
003757709-02	OBS	No	2.169105	131.543208	20.7	3.304	8.6	9.8	1.47	6776	1.37	3152.28
003757709-03	OBS	No	0.867610	131.702194	5.9	4.836	9.2	4.4	1.47	6776	0.38	10696.29
003757709-04	OBS	No	56.313550	175.139984	149.9	7.409	8.9	6.0	1.47	6776	1.93	41.01
003757709-05	OBS	No	54.171044	162.453772	203.6	6.233	8.5	4.5	1.47	6776	4.11	43.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003757709-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003757709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003757709-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003757709-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003757709-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED

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

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

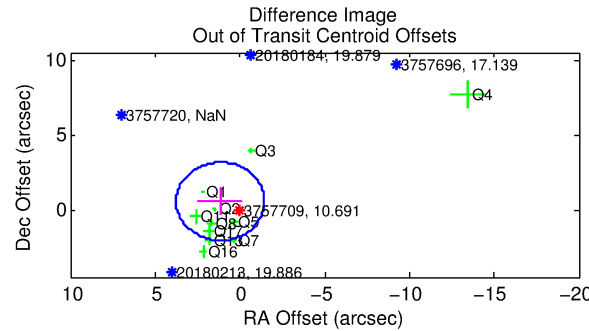
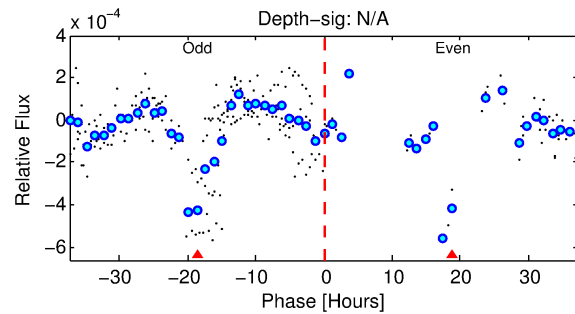
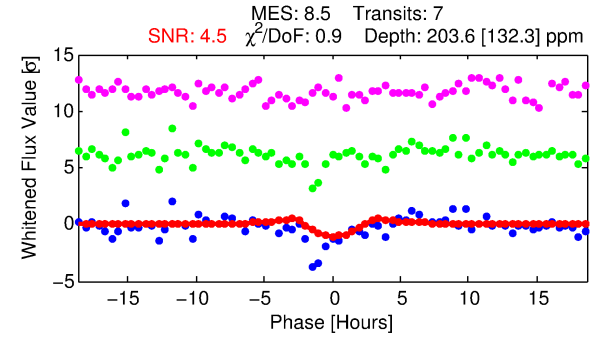
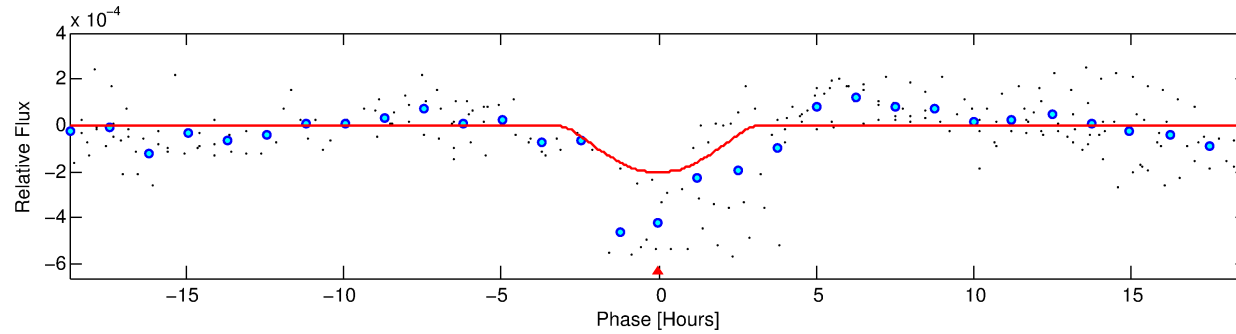
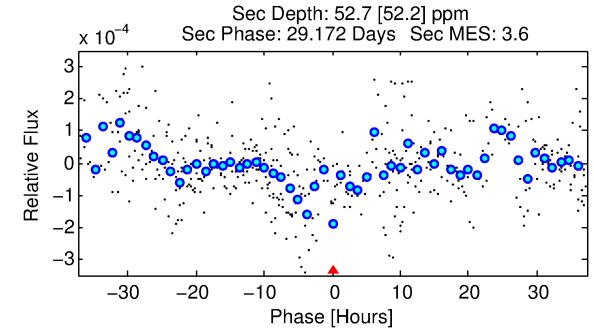
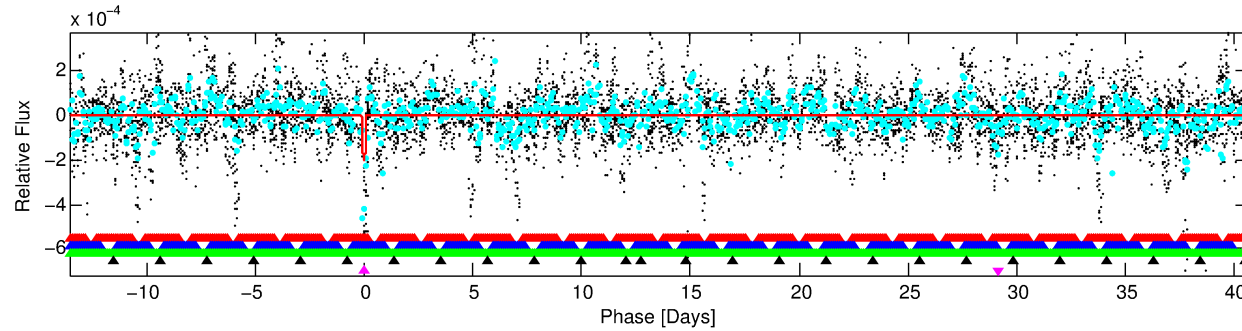
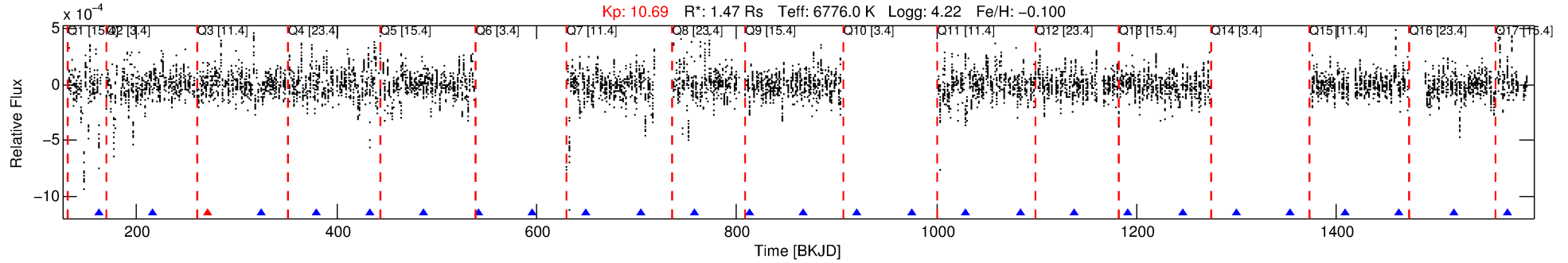
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003757709-05

No Significant Match Found

DV One-Page Summary

KIC: 3757709 Candidate: 5 of 5 Period: 54.171 d



DV Fit Results:

Period = 54.17104 [0.00168] d
Epoch = 162.4538 [0.0188] BKJD
Rp/R* = 0.0256 [0.0958]
a/R* = 15.18 [14.99]
b = 1.00 [0.15]
Seff = 43.18 [8.40]
Teq = 654 [32] K
Rp = 4.11 [15.39] Re
a = 0.3074 [0.0395] AU
Ag = 162.38 [1226.43] [0.13σ]
Teffp = 3608 [6810] K [0.43σ]

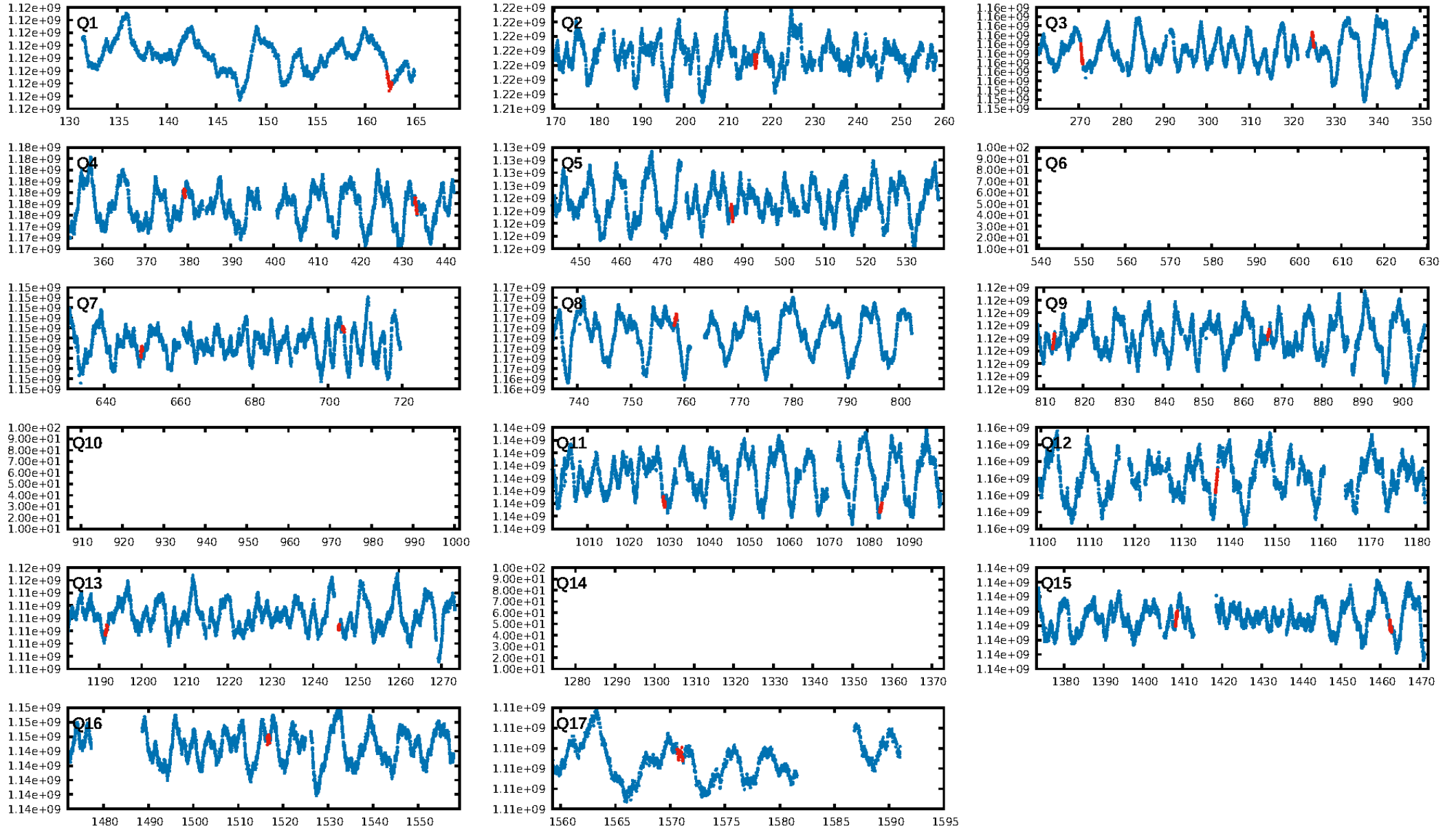
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [171.15σ]
LongPeriod-sig: 100.0% [5.31σ]
ModelChiSquare2-sig: 49.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.25e-14
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: -1.602
Centroid-sig: 0.0%
Centroid-so: 1.297 arcsec [2.89σ]
OotOffset-rm: 1.283 arcsec [1.48σ]
KicOffset-rm: 2.148 arcsec [1.25σ]
OotOffset-st: 1/3/3/4 [11]
KicOffset-st: 1/3/3/4 [11]
DiffImageQuality-fgm: 0.27 [3/11]
DiffImageOverlap-fno: 0.00 [0/14]

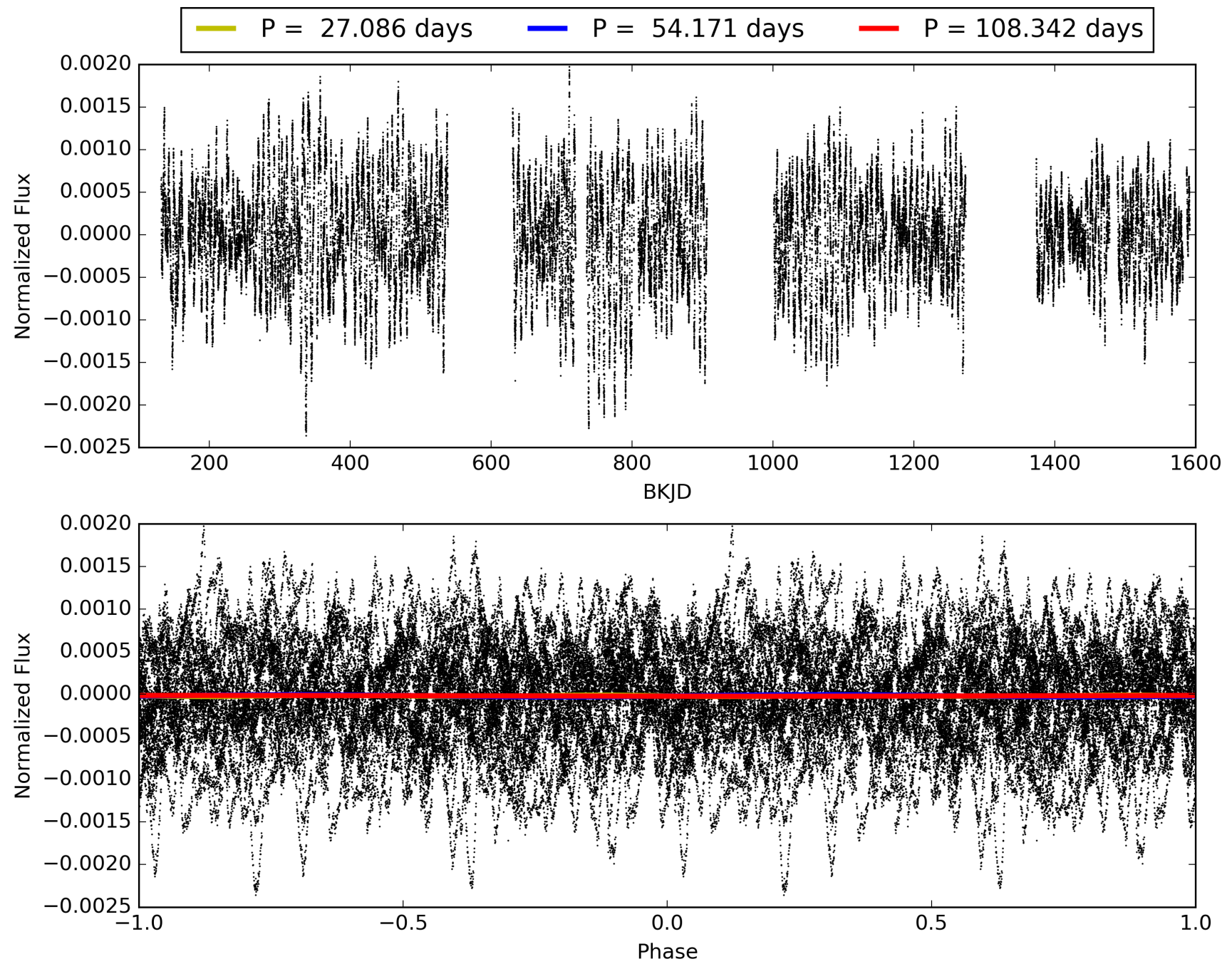
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:09:57 Z

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

TCE 003757709-05, PDC Light Curves

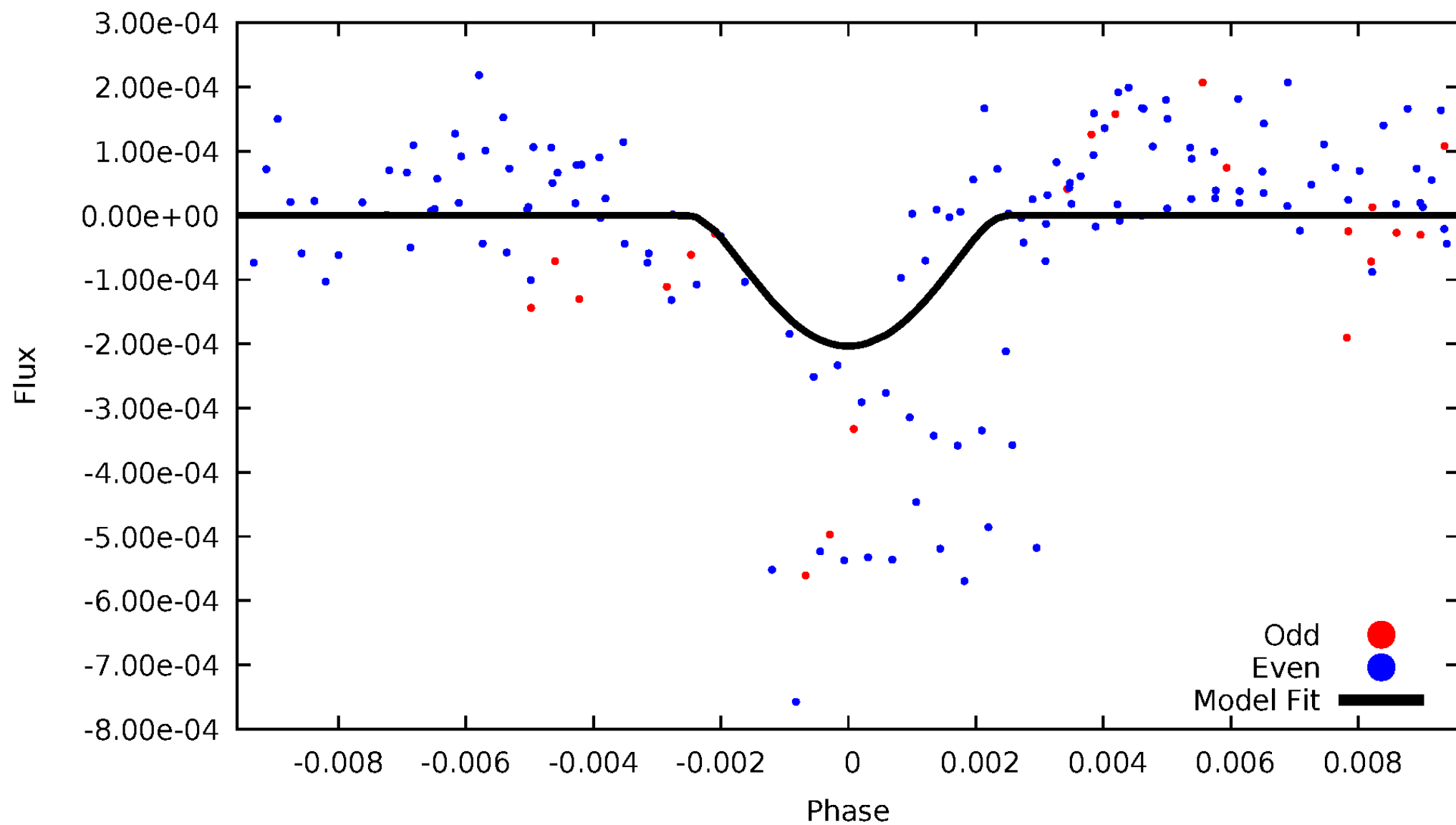


TCE 003757709-05



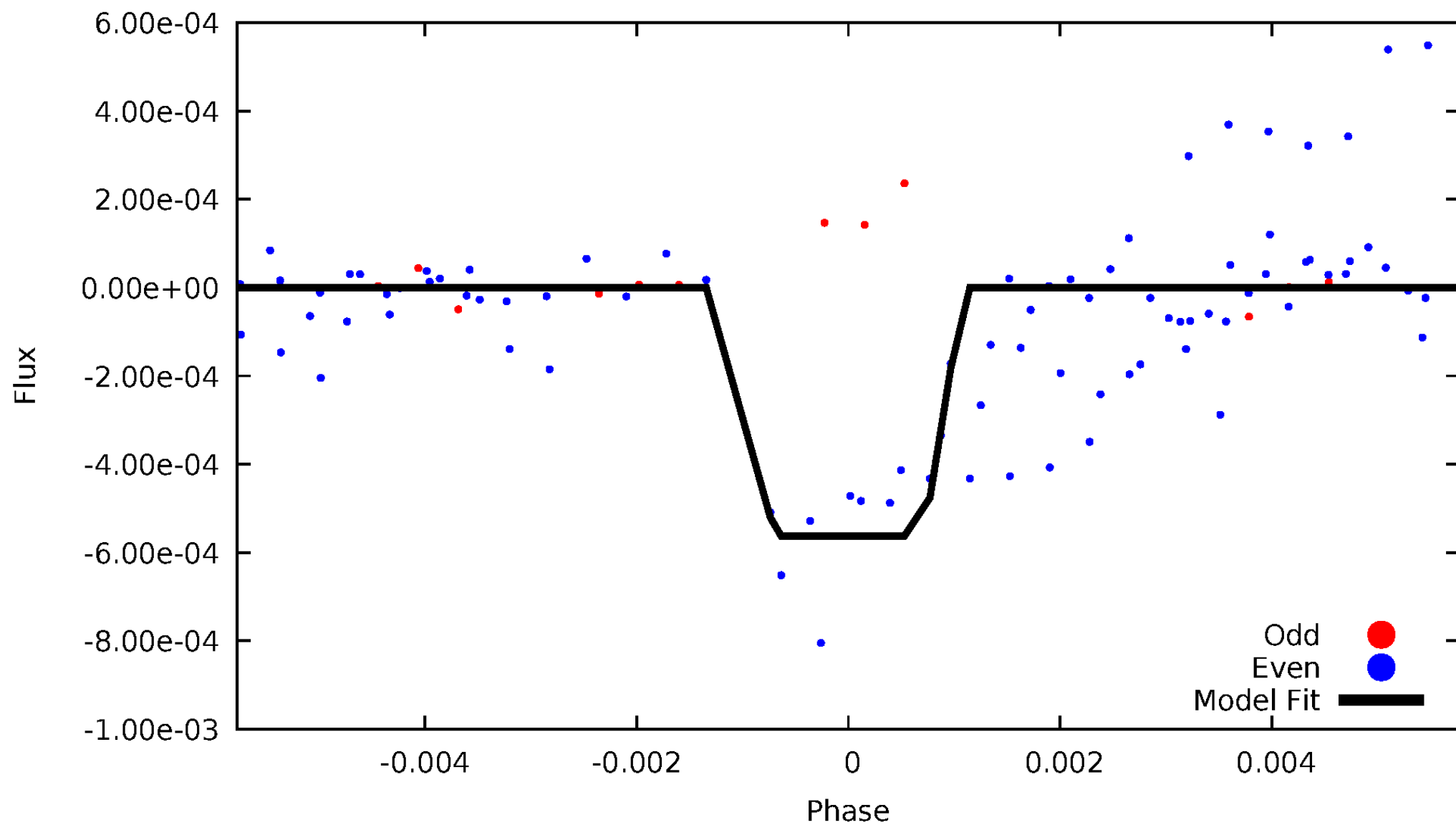
DV Odd/Even

TCE 003757709-05



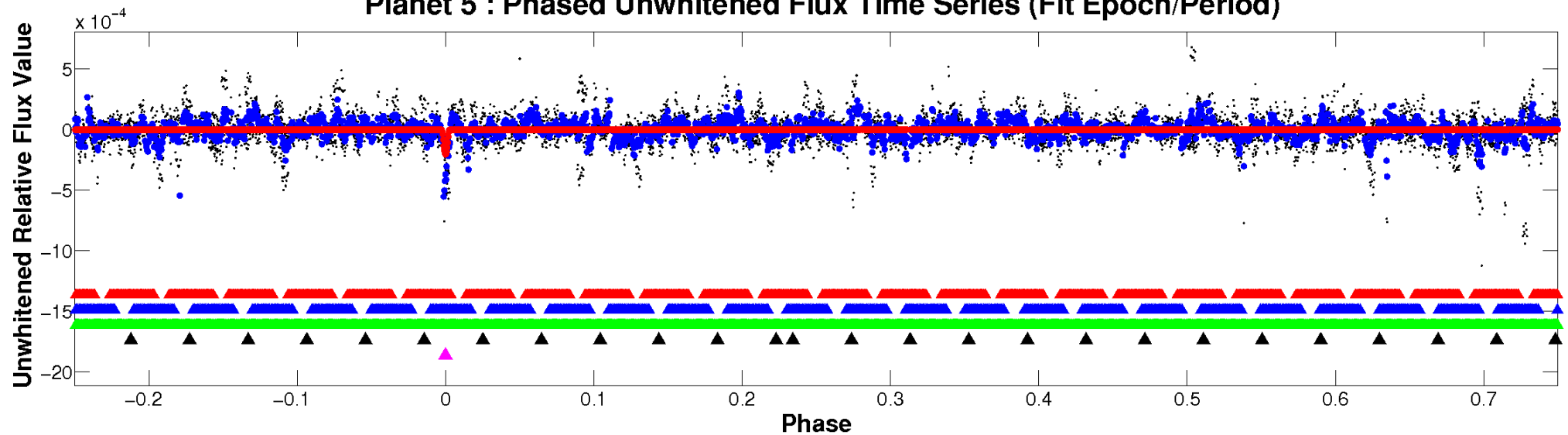
ALT Odd/Even

TCE 003757709-05

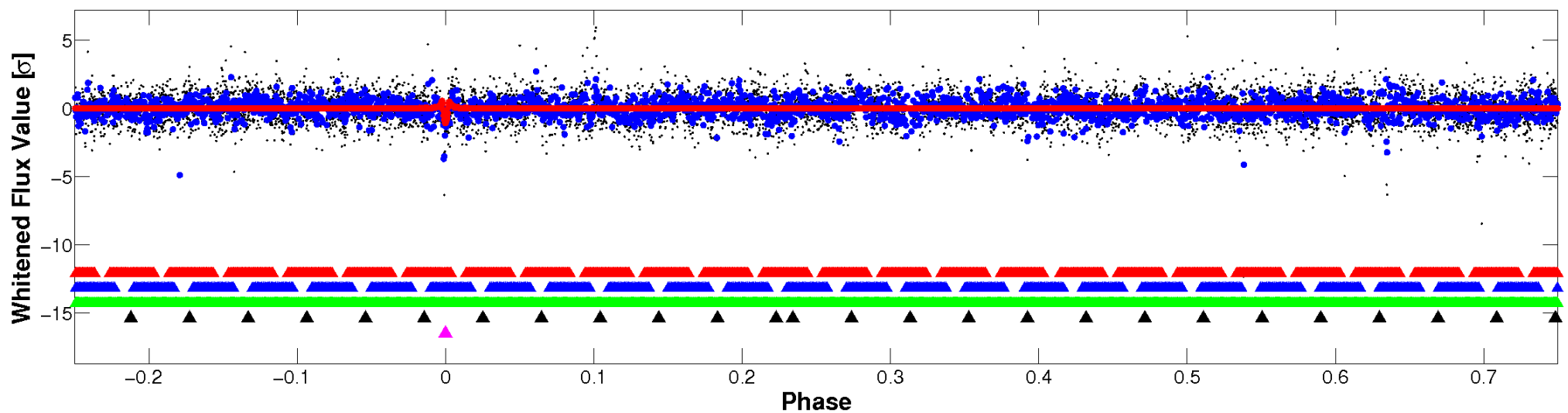


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

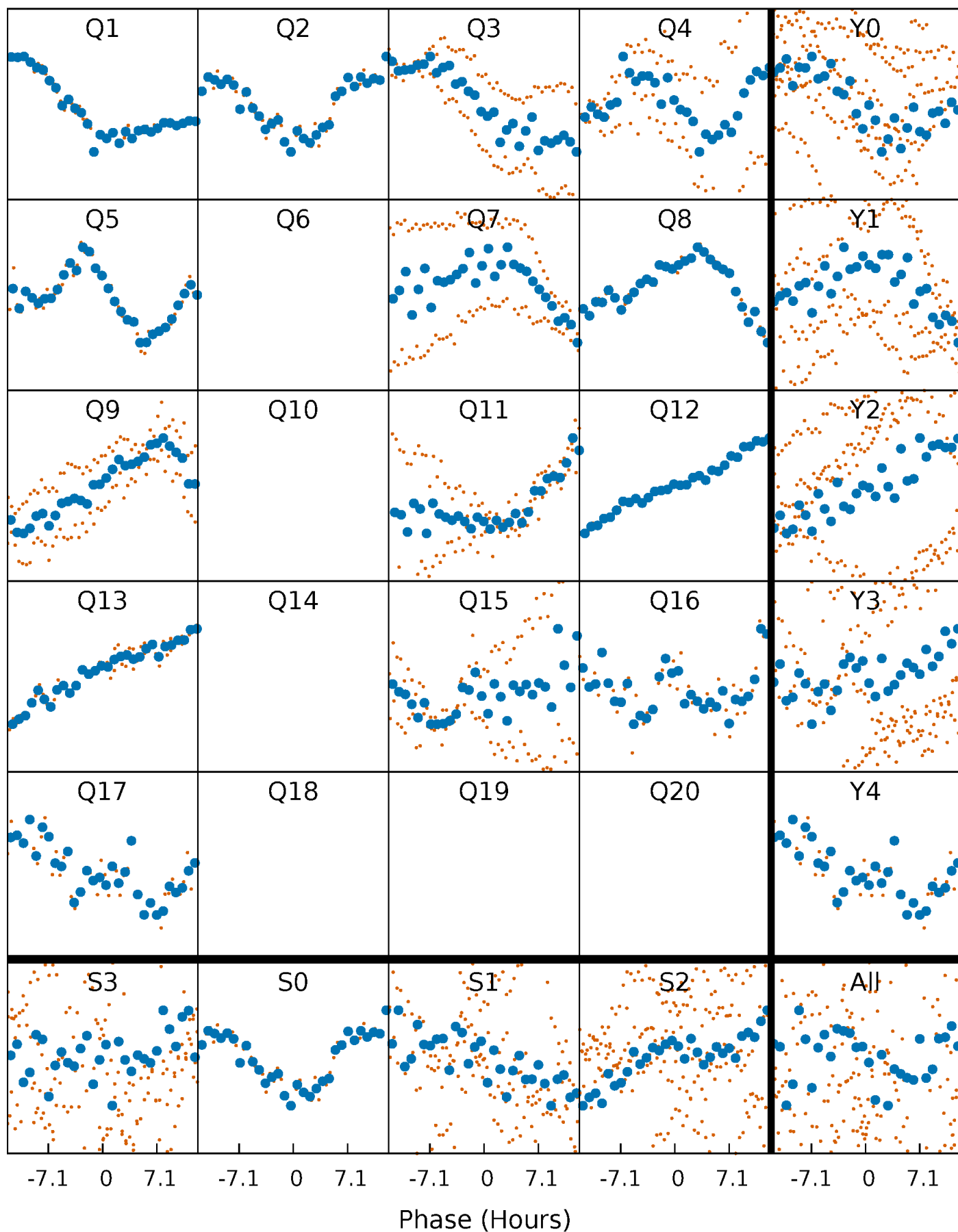


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



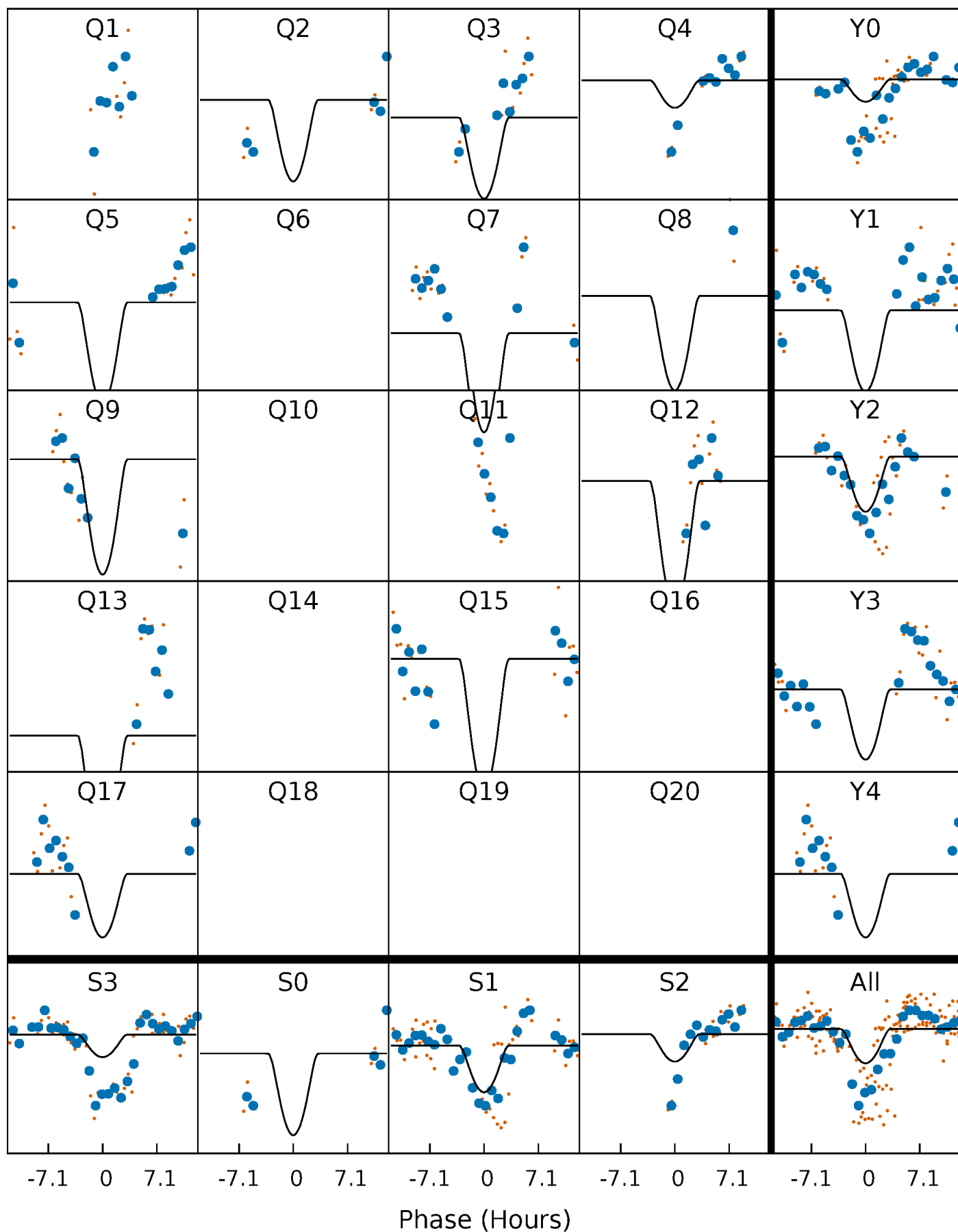
PDC Quarter-Phased Transit Curves

TCE 003757709-05 $P = 54.171044$ Days $T_0 = 162.453772$ (BKJD)



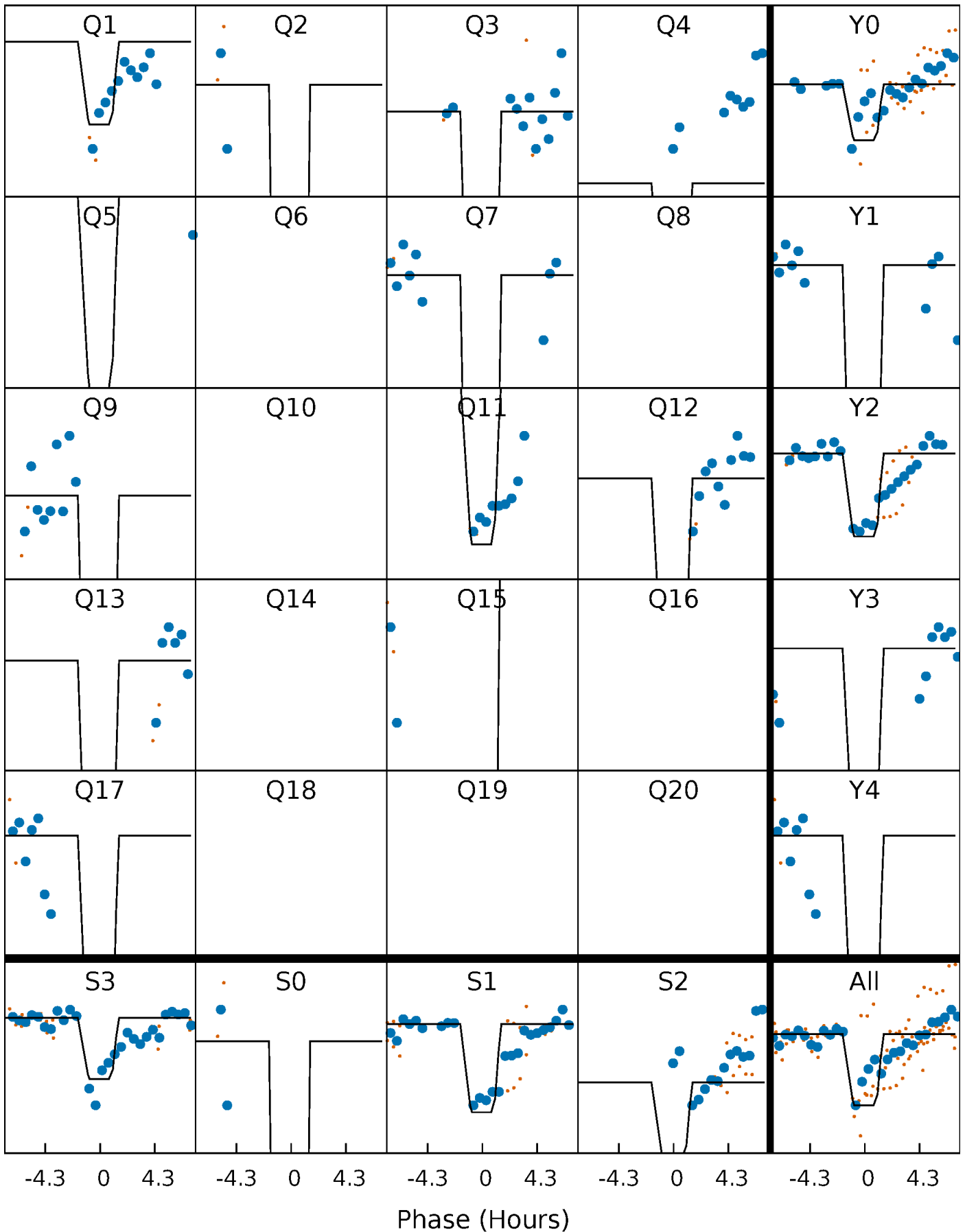
DV Quarter-Phased Transit Curves

TCE 003757709-05 P= 54.171044 Days $T_0=162.453772$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

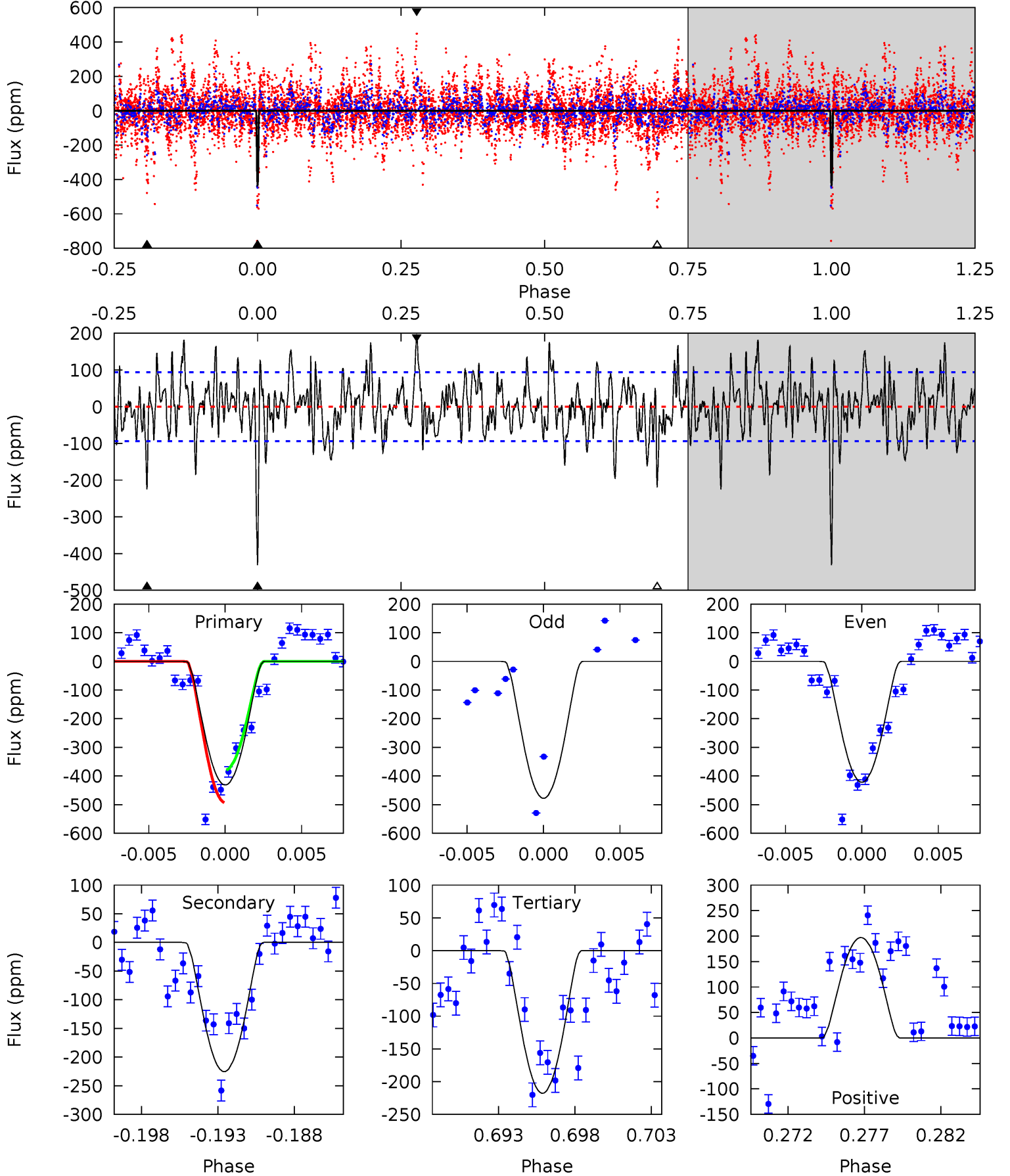
TCE 003757709-05 $P = 54.172319$ Days $T_0 = 162.423301$ (BKJD)



DV Model-Shift Uniqueness Test

003757709-05, P = 54.171044 Days, E = 108.282728 Days

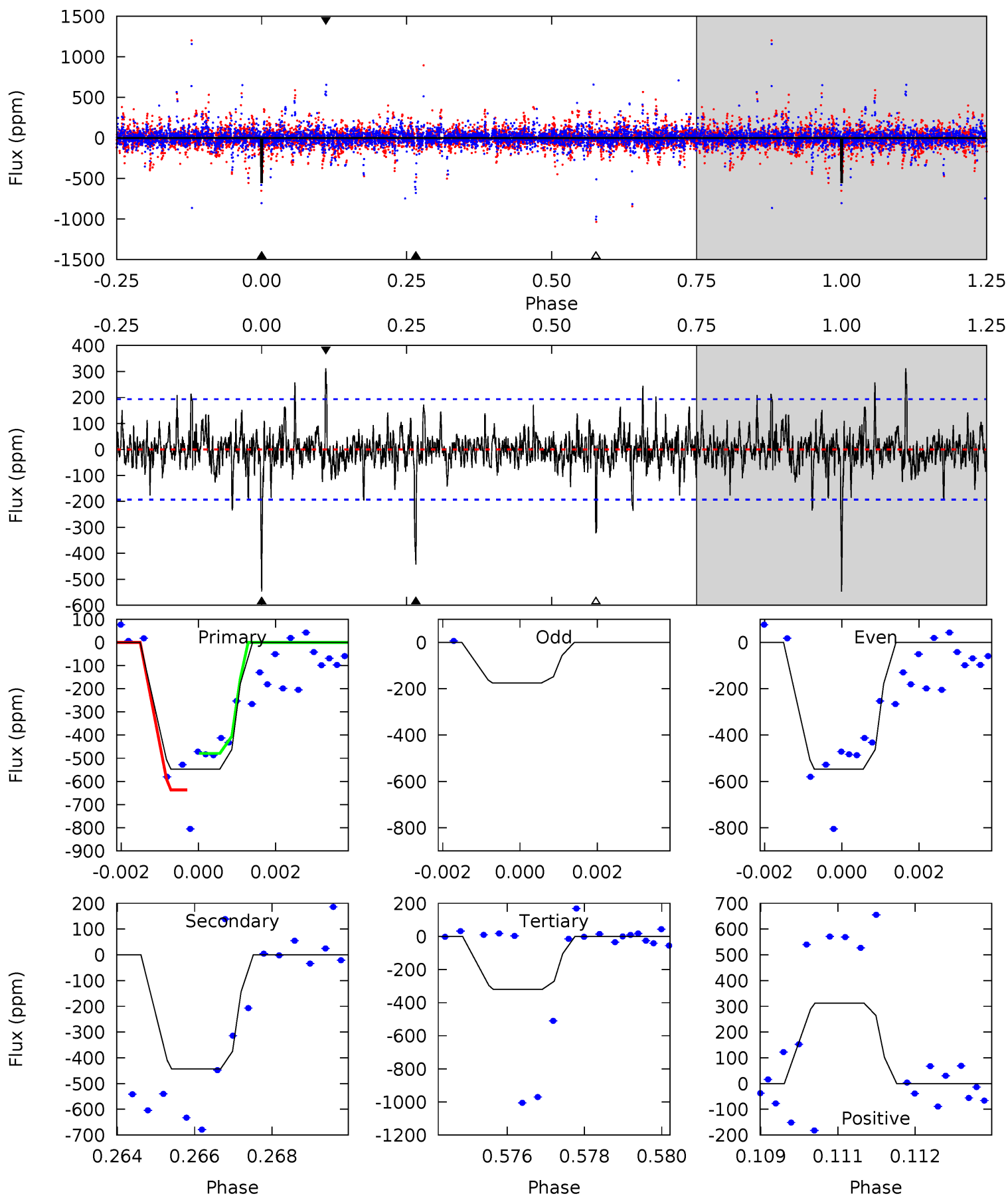
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.7	12.4	12.0	10.8	5.16	2.81	3.35	11.8	12.9	0.42	1.55	0.96	1.14	0.31	2.90



Alt Model-Shift Uniqueness Test

003757709-05, P = 54.172319 Days, E = 108.250982 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	12.2	8.85	8.63	5.35	3.12	1.43	6.26	6.47	3.39	3.61	3.77	0.60	0.36	0



Stellar Parameters For KIC 003757709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6776^{+70}_{-91}	$4.224^{+0.068}_{-0.102}$	$-0.100^{+0.150}_{-0.200}$	$1.470^{+0.225}_{-0.150}$	$1.326^{+0.083}_{-0.092}$	$0.588^{+0.197}_{-0.188}$
	+1%/-1%	+2%/-2%	+150%/-200%	+15%/-10%	+6%/-7%	+34%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003757709-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-225 ± 18	$12.94^{+11.88}_{-9.42}$	916^{+34}_{-29}	3445^{+2209}_{-615}	72^{+886}_{-53}
Alt.	-443 ± 36	$12.15^{+12.04}_{-7.91}$	915^{+35}_{-28}	3932^{+2175}_{-807}	155^{+1180}_{-117}

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 $A_{obs} \gg 1.0$

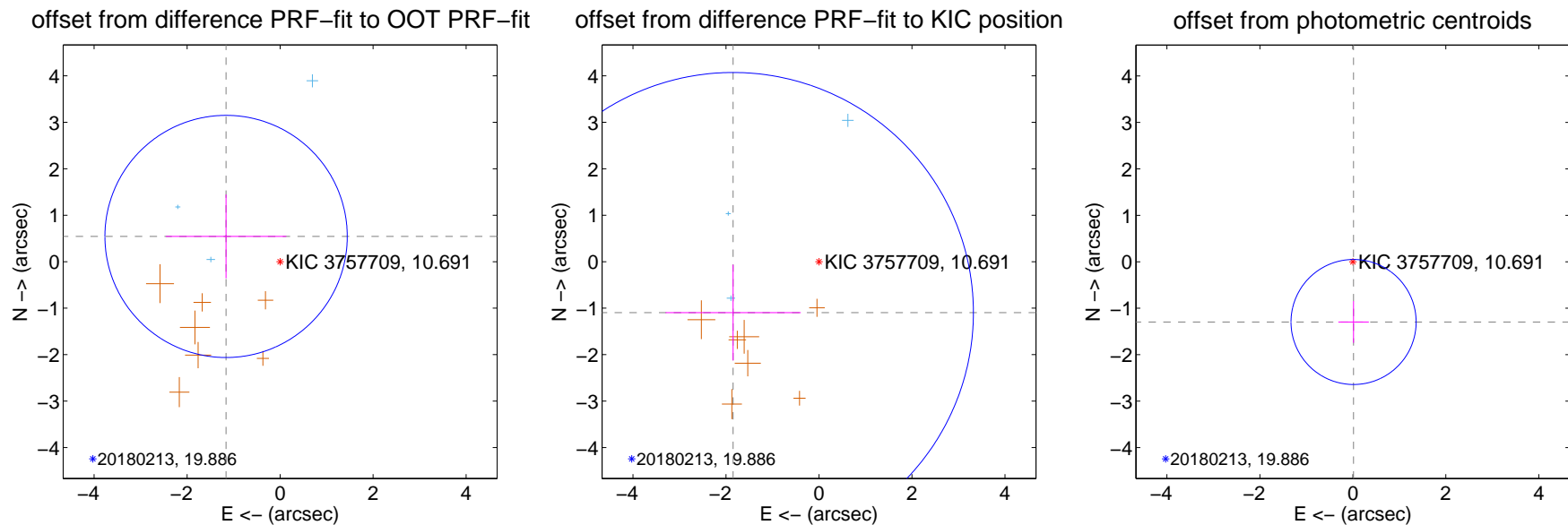
DV Centroid Data

Supplemental centroid analysis for 003757709-05. **Kepler magnitude: 10.69.** Transit SNR 4.48

There are 3 quarters with good PRF difference image offsets

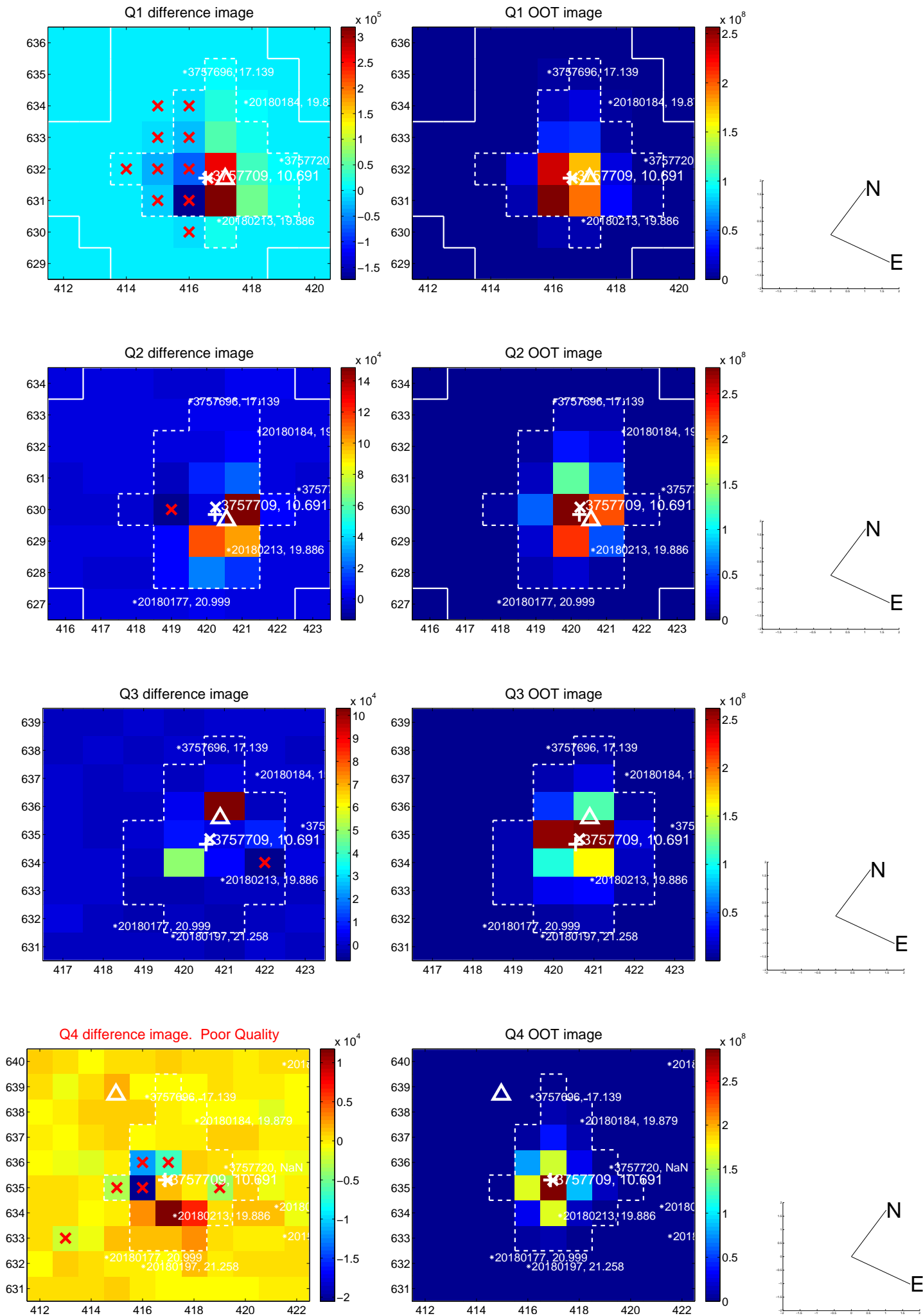
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.283 ± 0.869	1.48	1.162 ± 1.295	0.544 ± 0.902
PRF-fit source offset from KIC position	2.148 ± 1.723	1.25	1.847 ± 1.454	-1.096 ± 1.030
photometric centroid source offset	1.30 ± 0.45	2.89	-0.02 ± 0.33	-1.30 ± 0.45

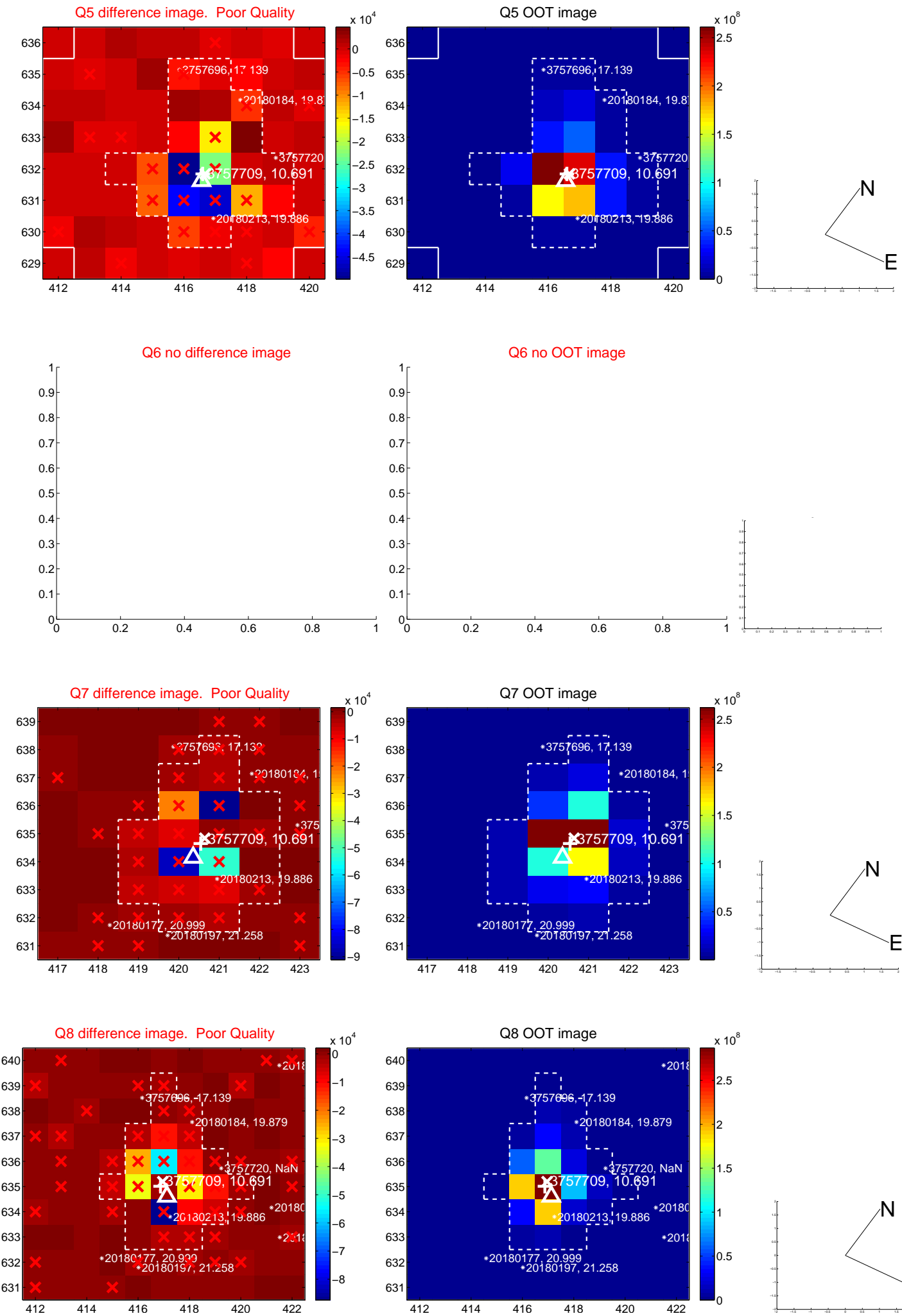


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

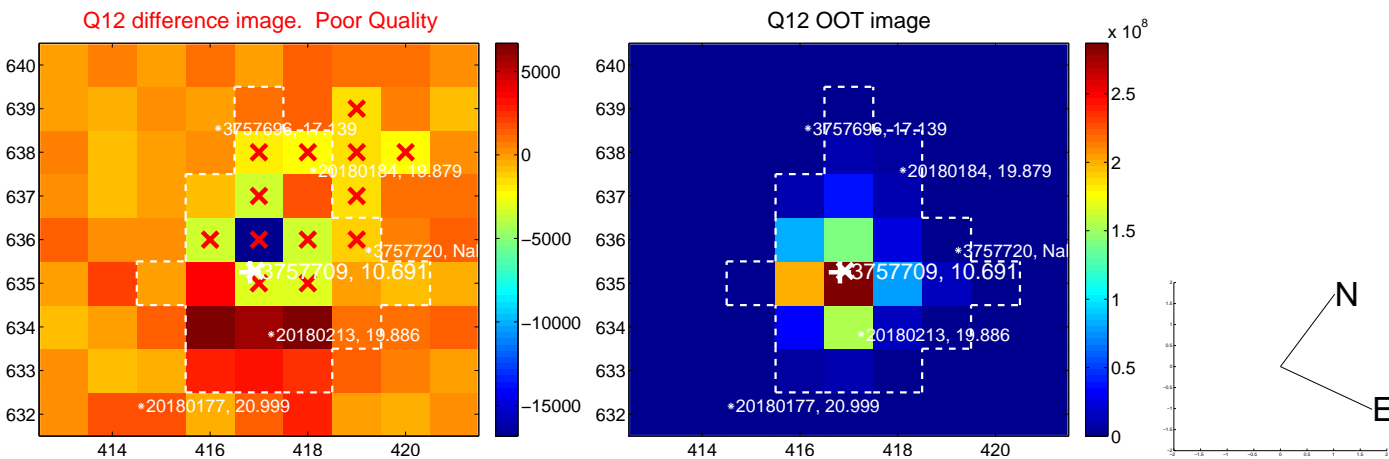
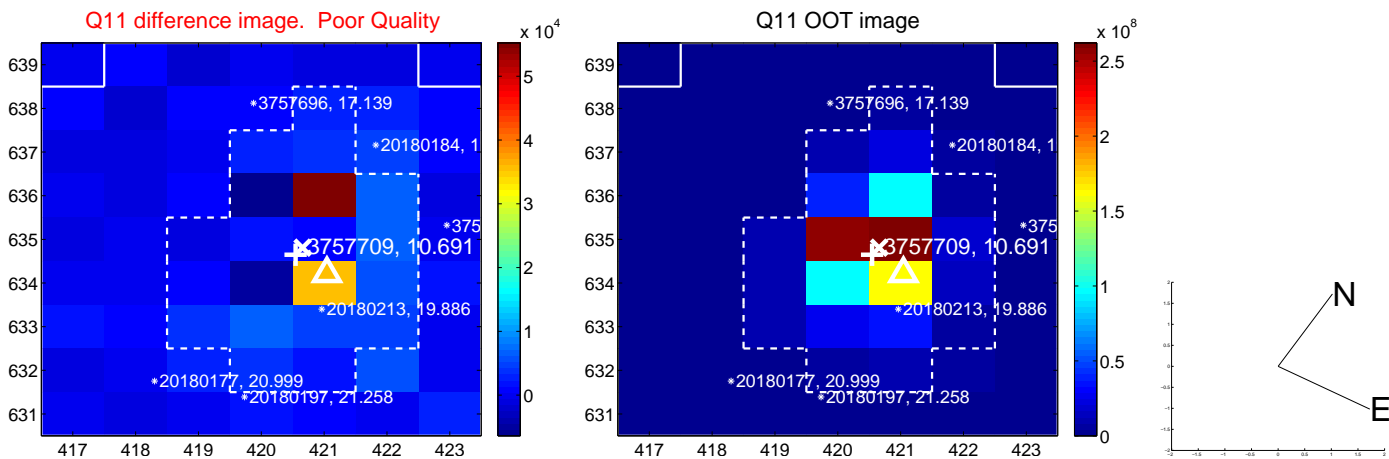
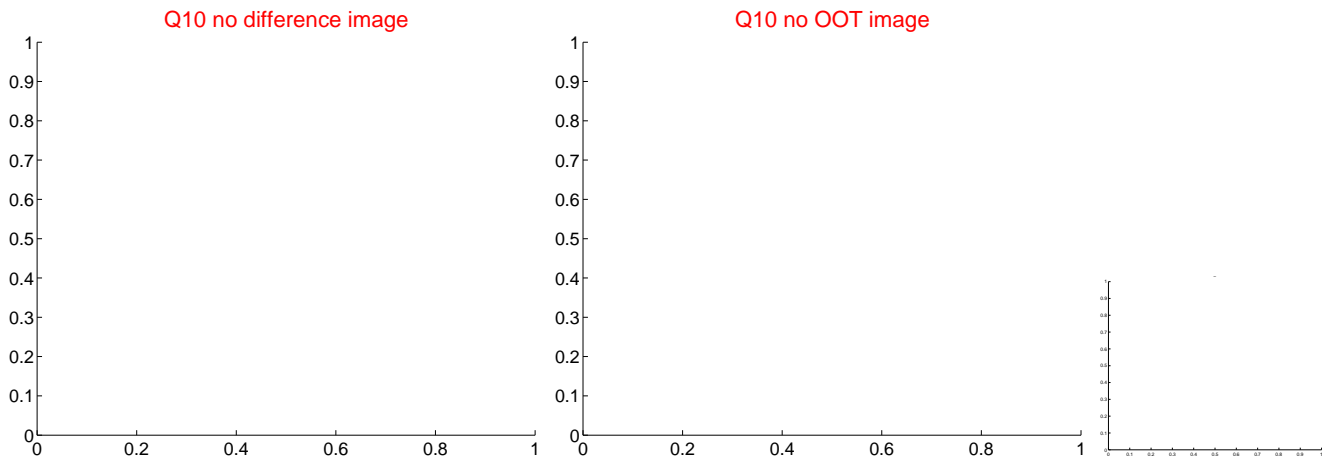
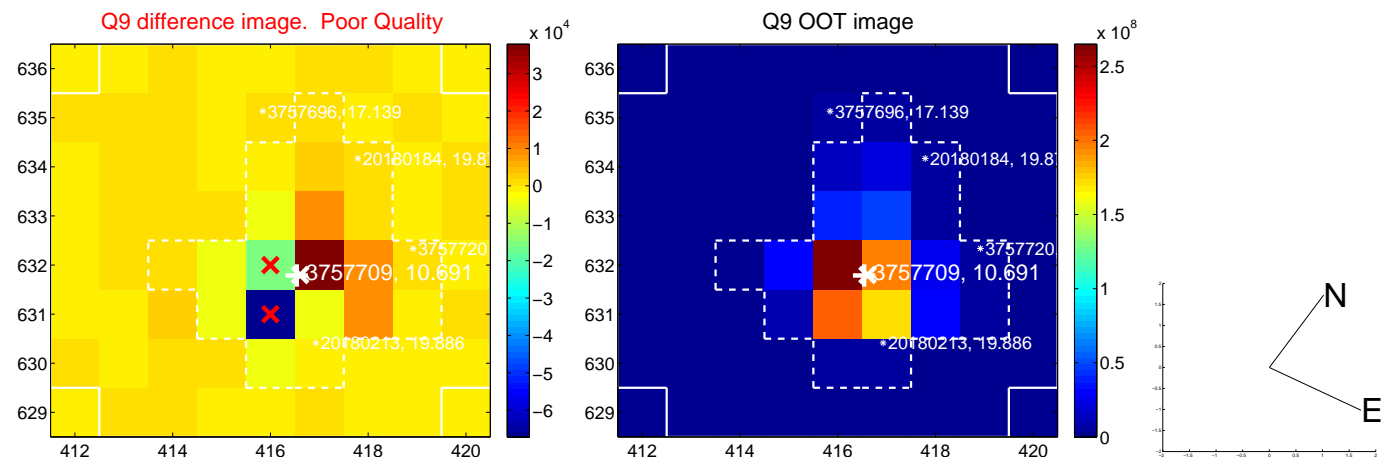
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



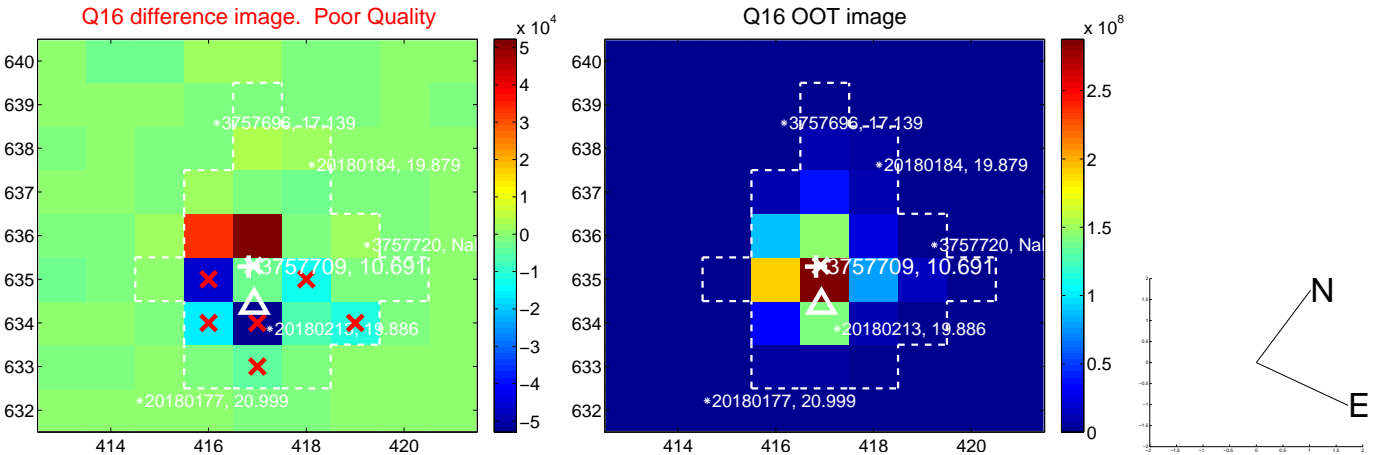
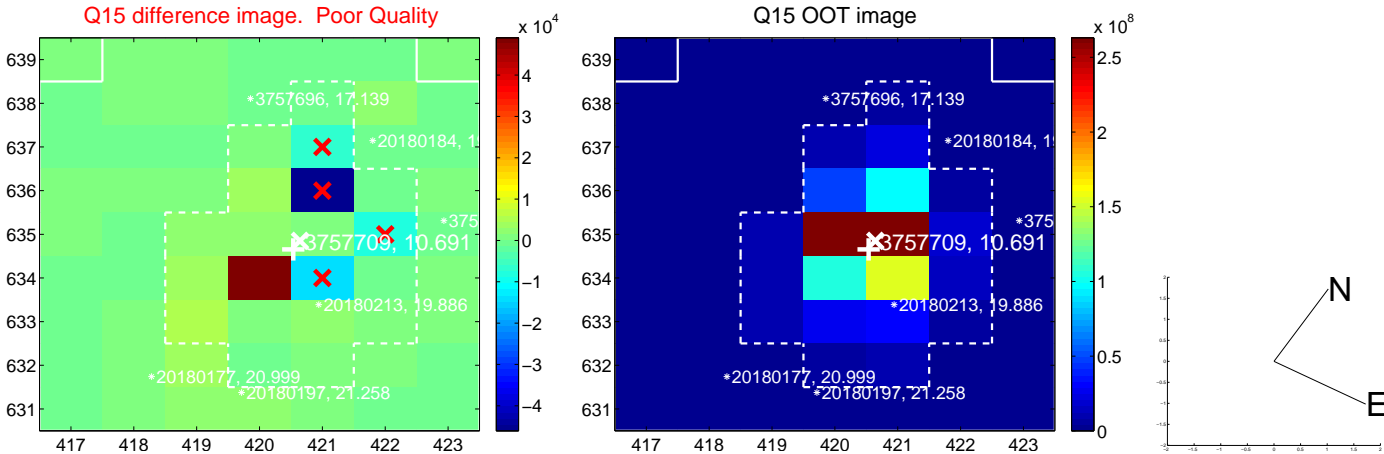
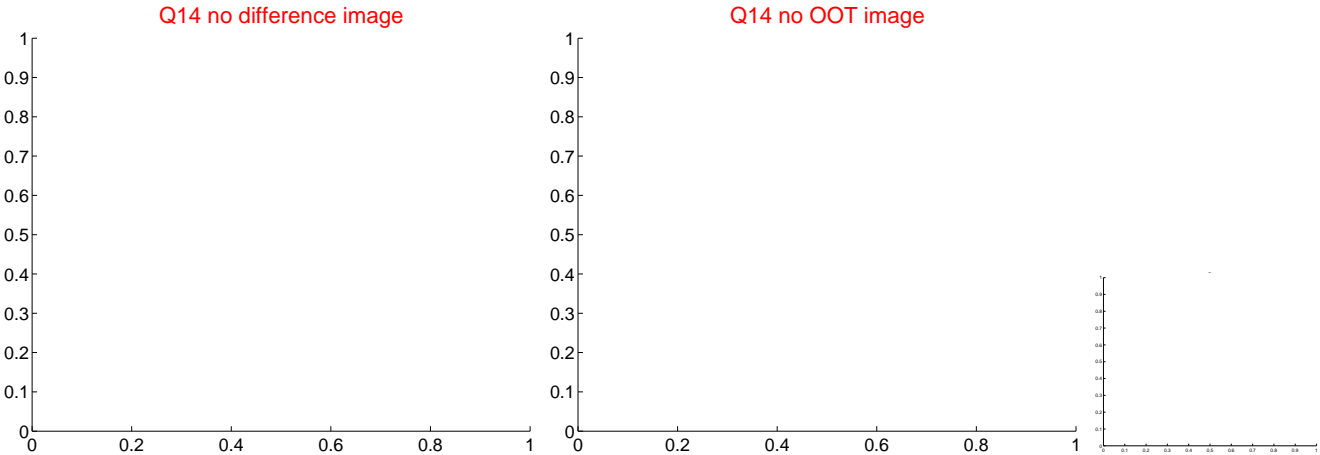
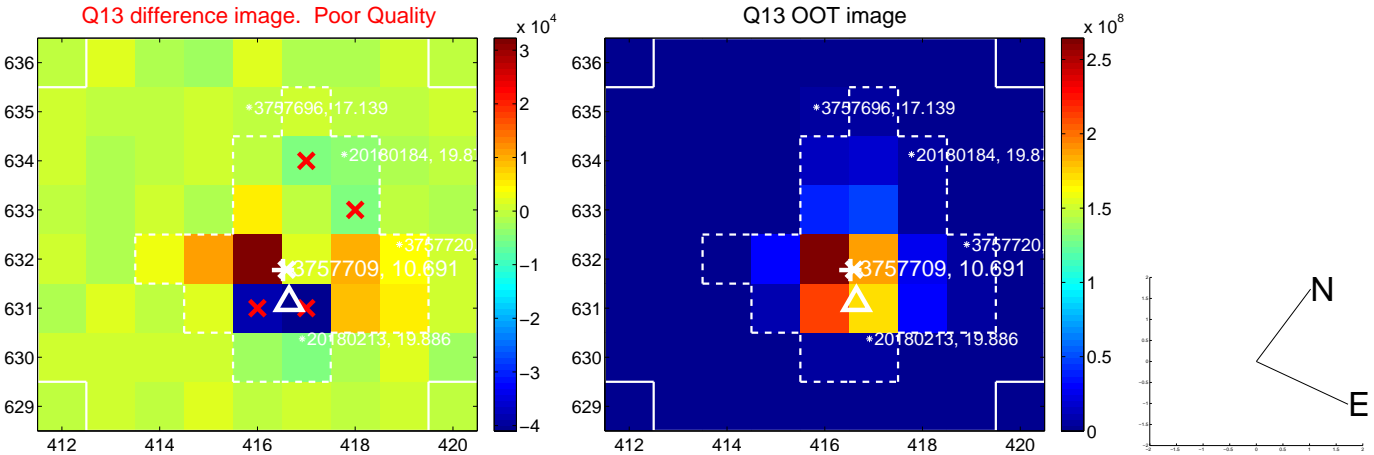
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



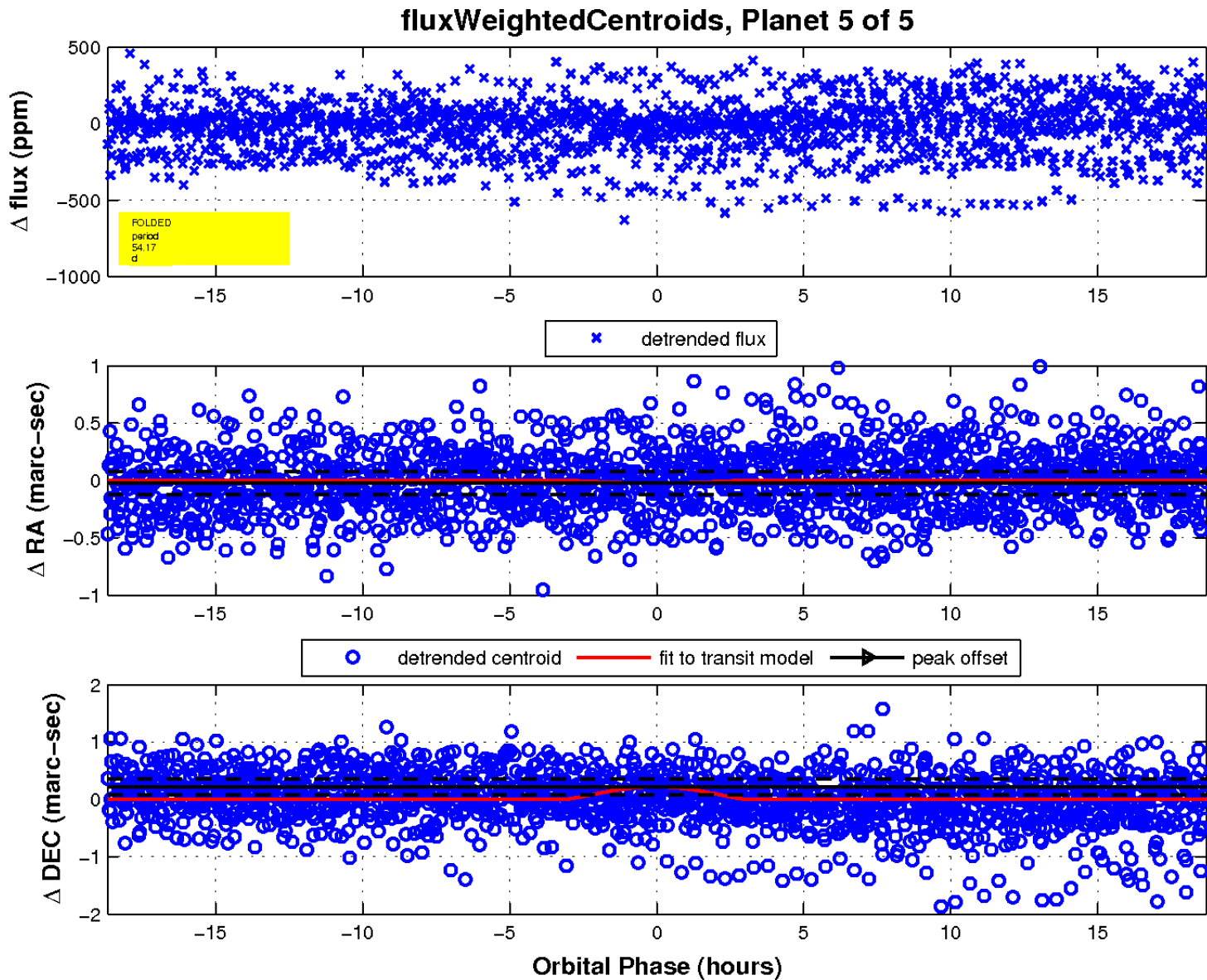
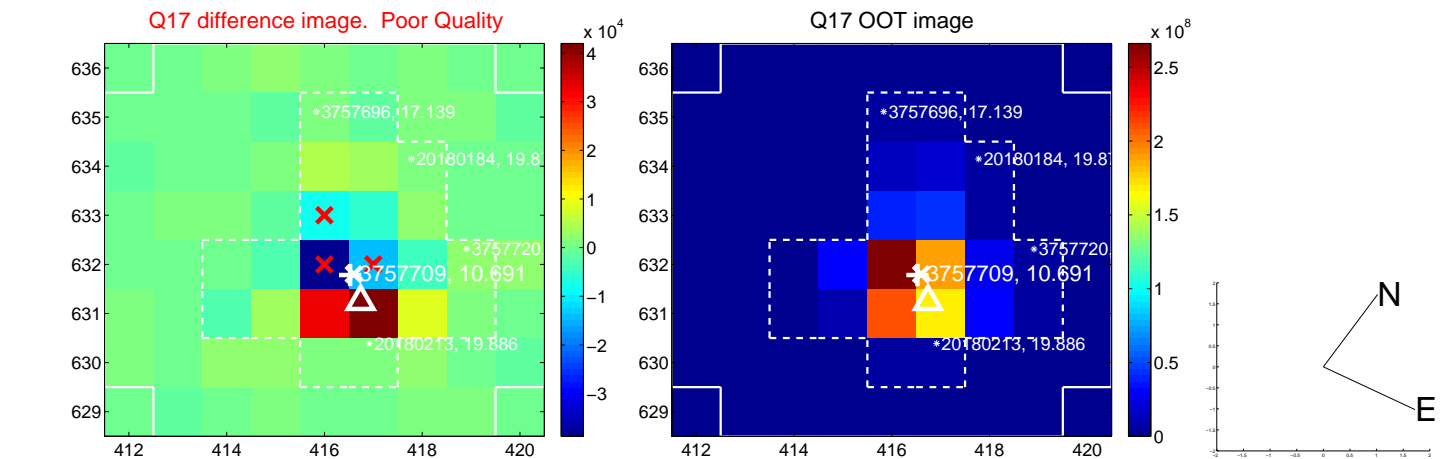
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

