

KIC 008957572

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})
008957572-01	OBS	7115.01	1.576651	132.448659	21.0	9.132	9.0	9.4	3.14	6742	1.46	17844.49
008957572-02	OBS	No	120.108466	221.629805	149.1	15.000	12.6	-1.0	3.14	6742	3.86	55.26
008957572-03	OBS	No	2.390765	132.372990	48.4	6.598	10.0	12.7	3.14	6742	2.52	10243.20
008957572-04	OBS	No	72.690279	187.719167	178.4	0.884	8.6	4.2	3.14	6742	4.92	107.94
008957572-05	OBS	No	145.393482	187.428032	227.5	6.184	8.9	8.7	3.14	6742	4.84	42.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008957572-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008957572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008957572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008957572-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008957572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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.

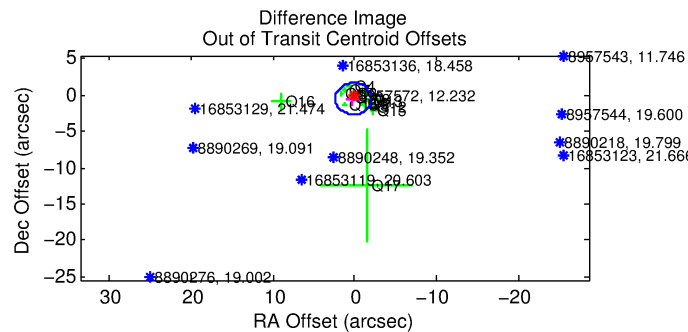
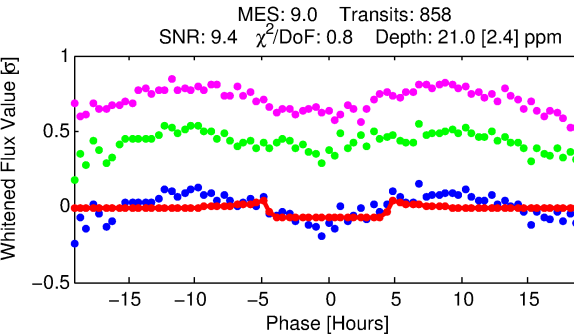
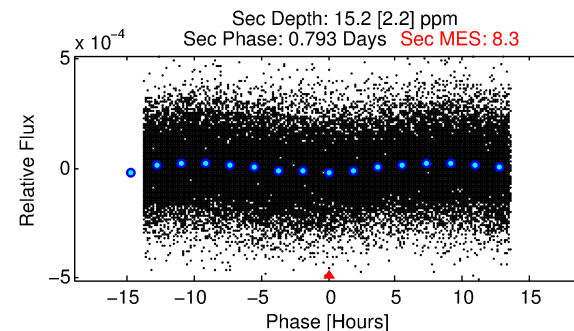
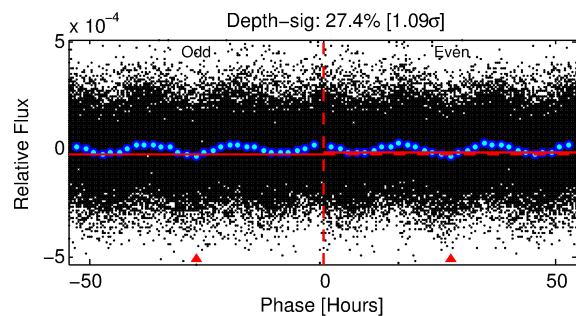
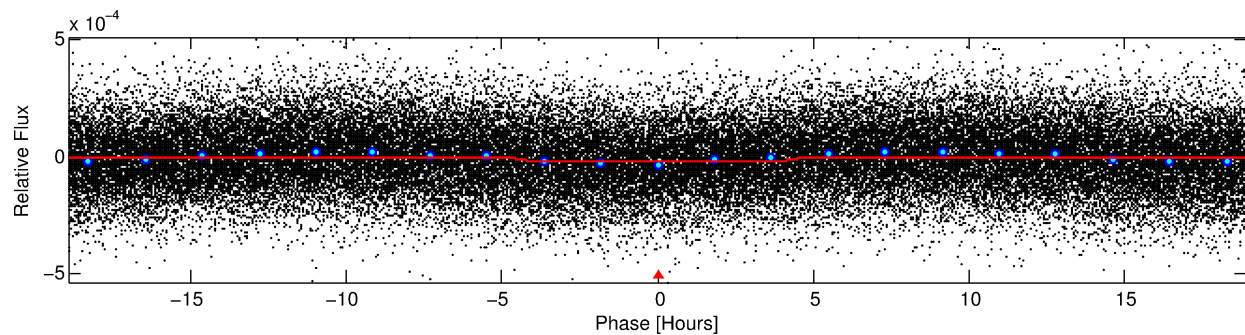
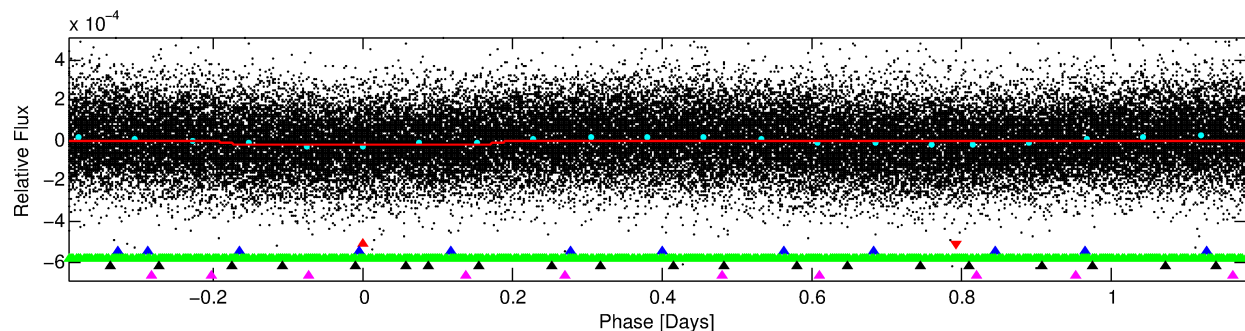
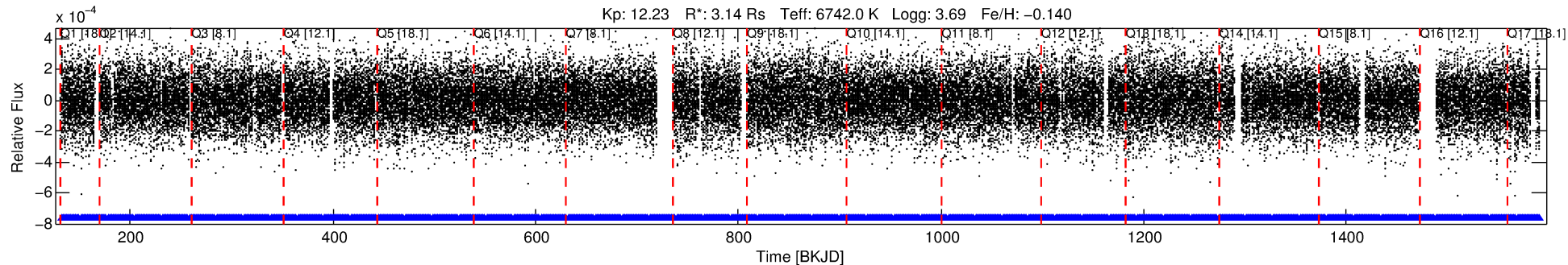
Ephemeris Match Information For 008957572-01

No Significant Match Found

DV One-Page Summary

KIC: 8957572 Candidate: 1 of 5 Period: 1.577 d
KOI: K07115.01 Corr: 0.792

Kp: 12.23 R*: 3.14 Rs Teff: 6742.0 K Logg: 3.69 Fe/H: -0.140



DV Fit Results:

Period = 1.57665 [0.00002] d
Epoch = 132.4487 [0.0045] BKJD
Rp/R* = 0.0043 [0.0024]
a/R* = 1.42 [2.23]
b = 0.30 [9.26]
Seff = 17844.49 [9701.06]
Teq = 2947 [401] K
Rp = 1.46 [0.98] Re
a = 0.0320 [0.0110] AU
Ag = 3.98 [4.95] [0.60σ]
Teffp = 6438 [1817] K [1.88σ]

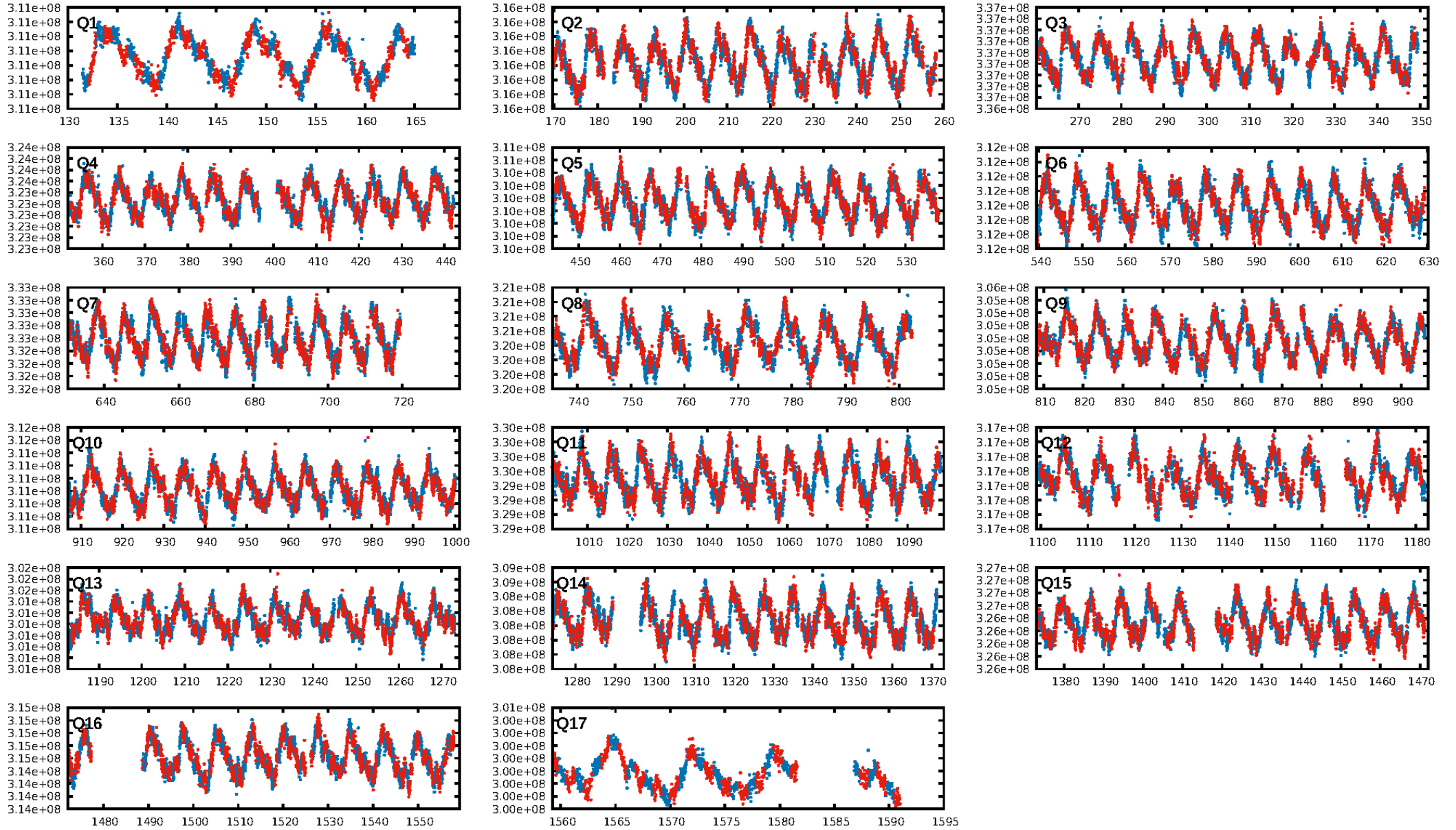
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 91.7% [1.73σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.10e-04
RollingBand-fgt: 1.00 [819/819]
GhostDiagnostic-chr: 1.634
Centroid-sig: 0.3%
Centroid-so: 0.745 arcsec [1.69σ]
OotOffset-rm: 0.539 arcsec [0.74σ]
KicOffset-rm: 0.504 arcsec [0.70σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [17/17]

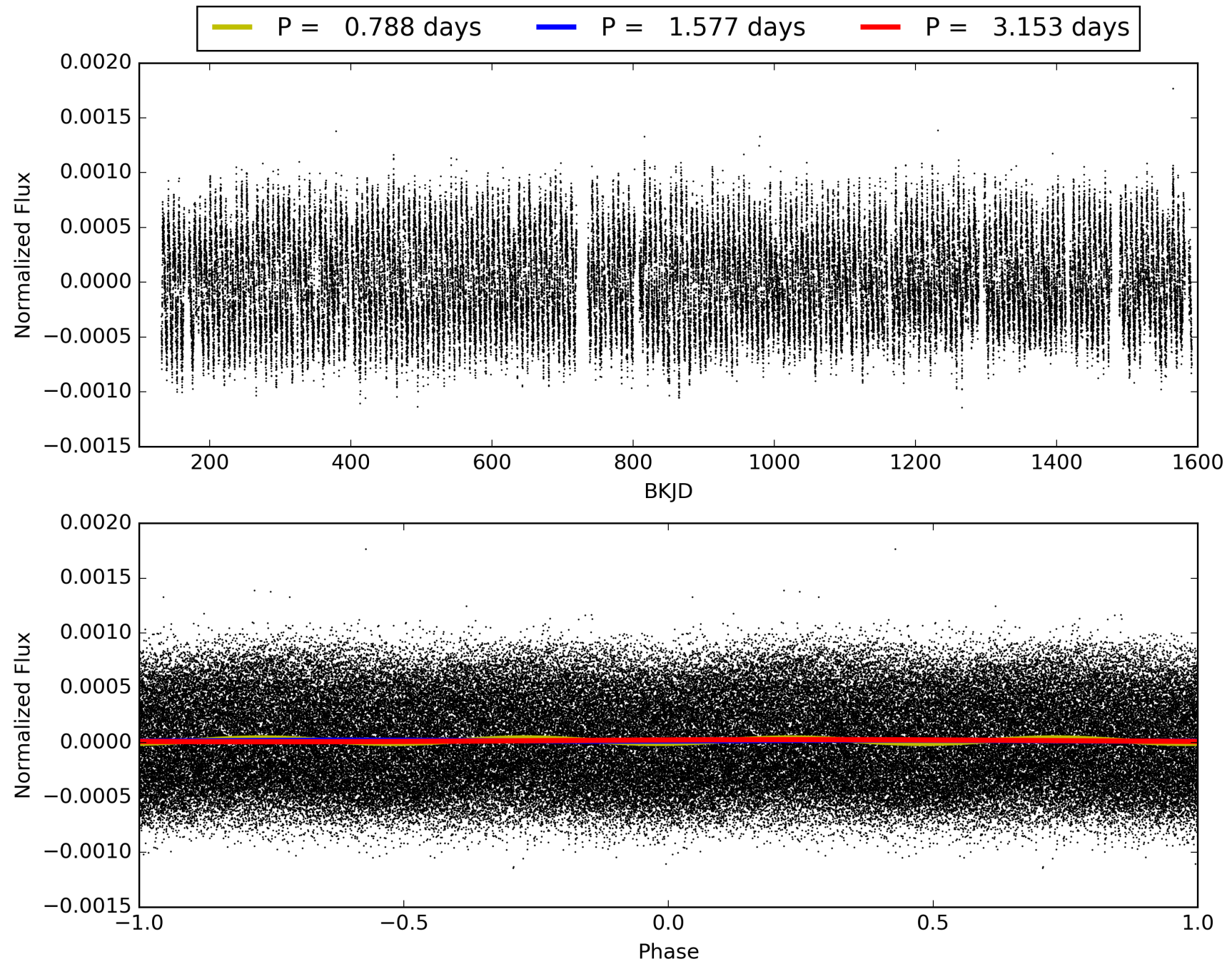
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:55:22 Z

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

TCE 008957572-01, PDC Light Curves

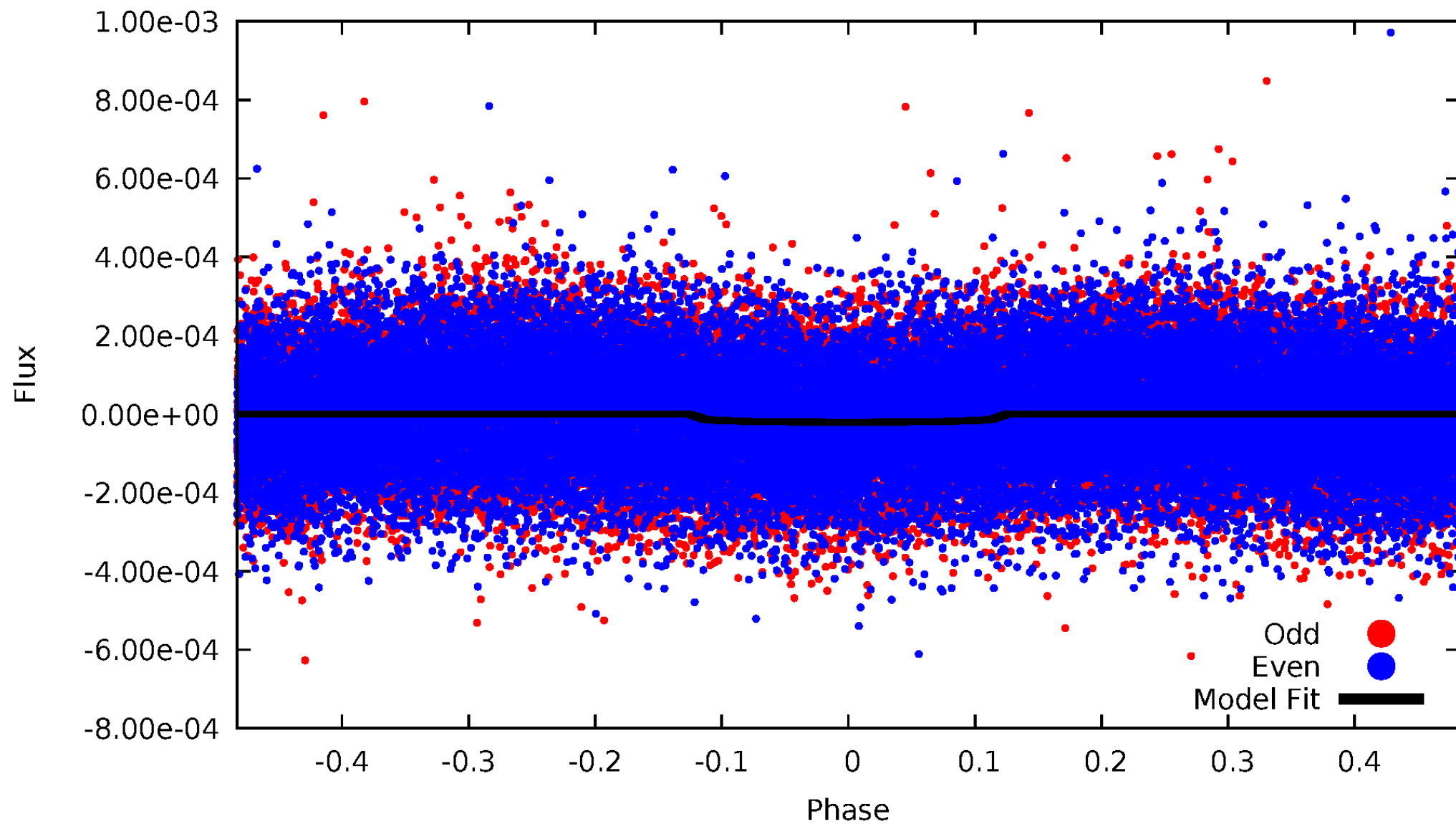


TCE 008957572-01



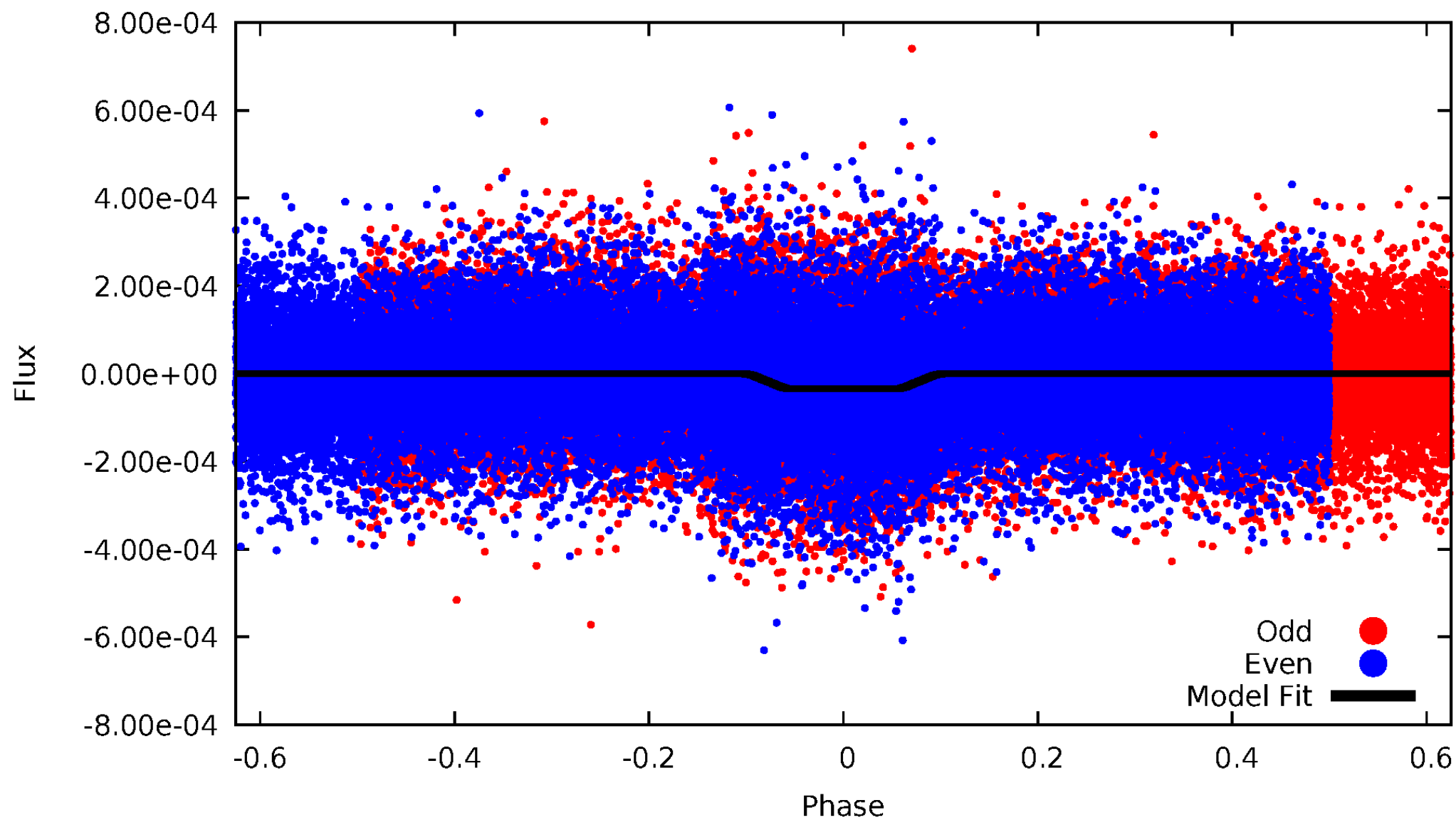
DV Odd/Even

TCE 008957572-01

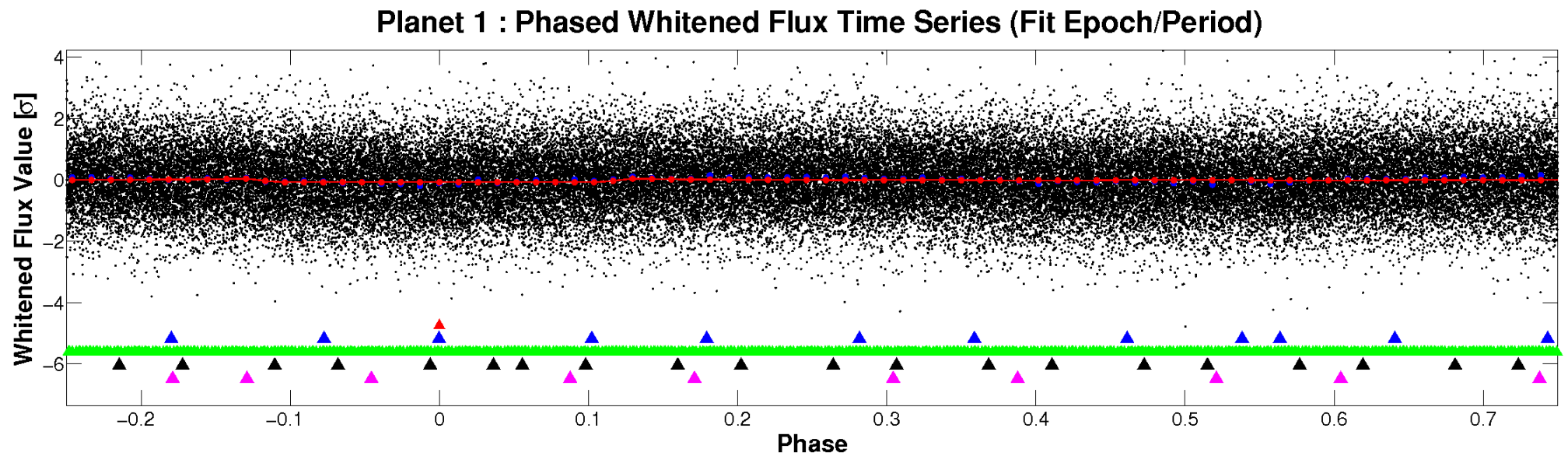
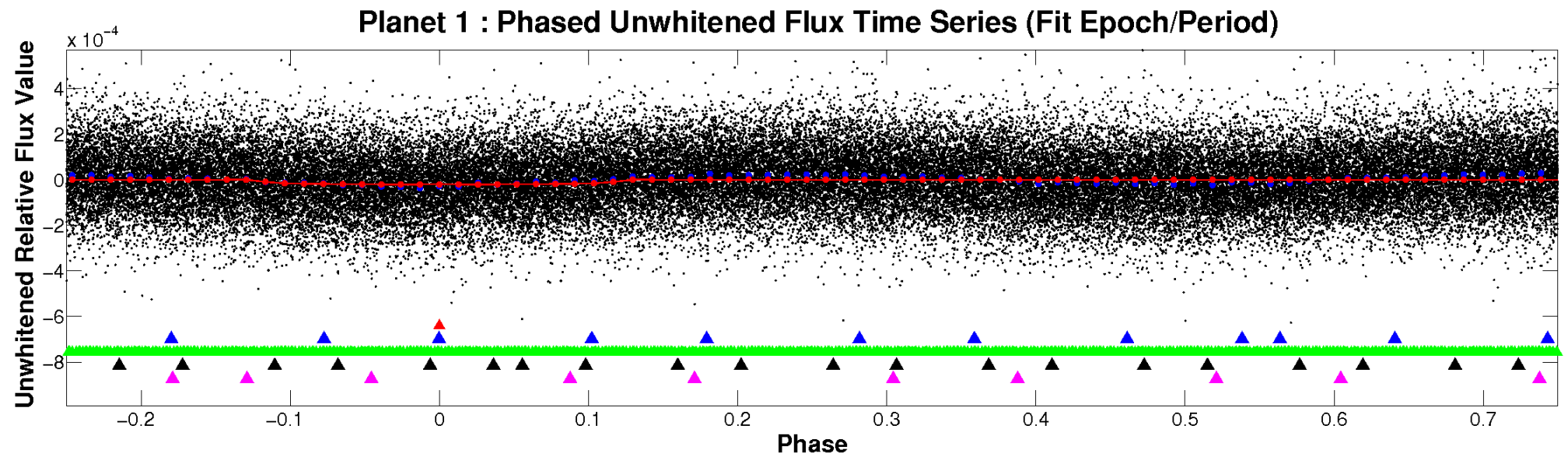


ALT Odd/Even

TCE 008957572-01

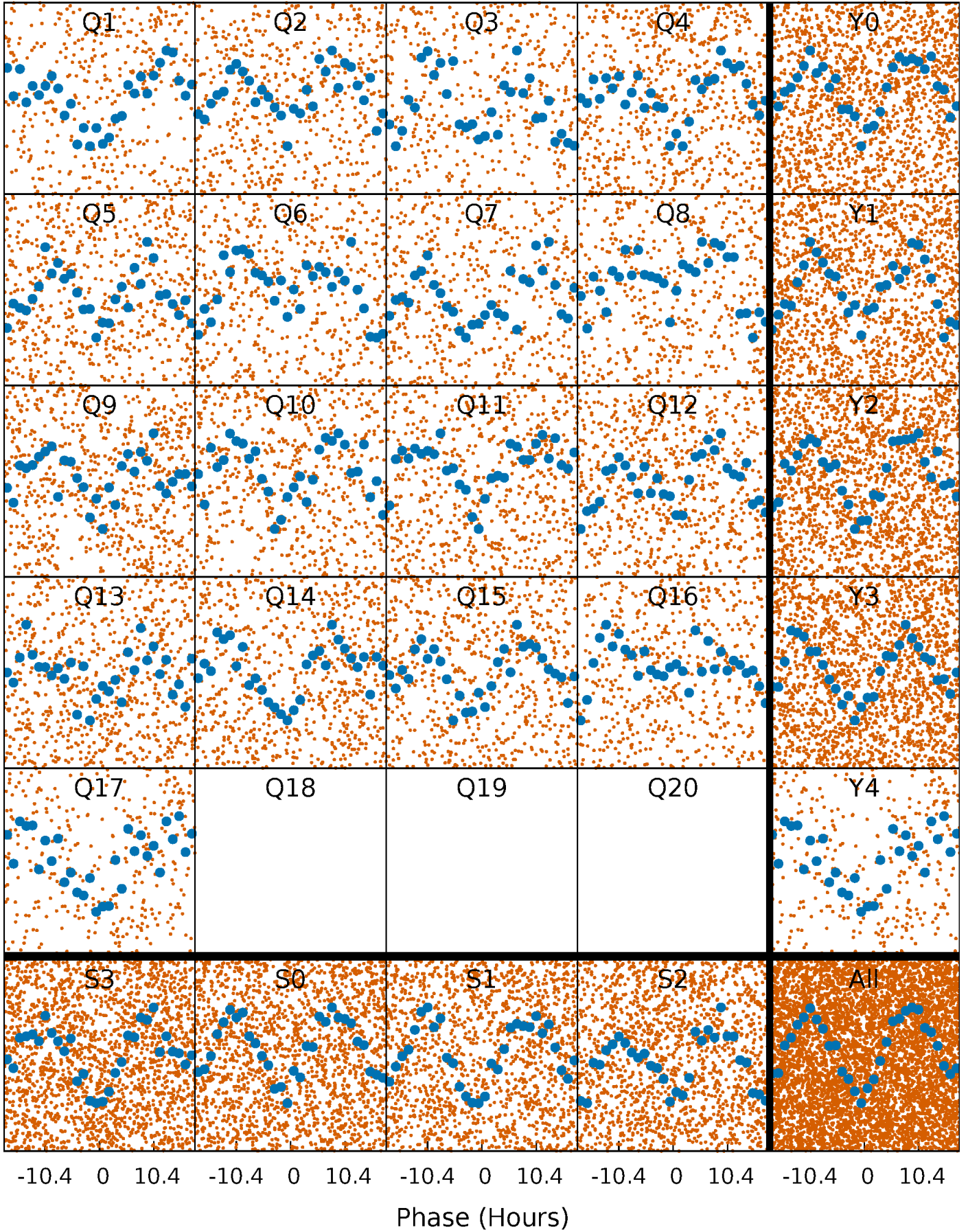


Non-Whitened Vs. Whitened Light Curve



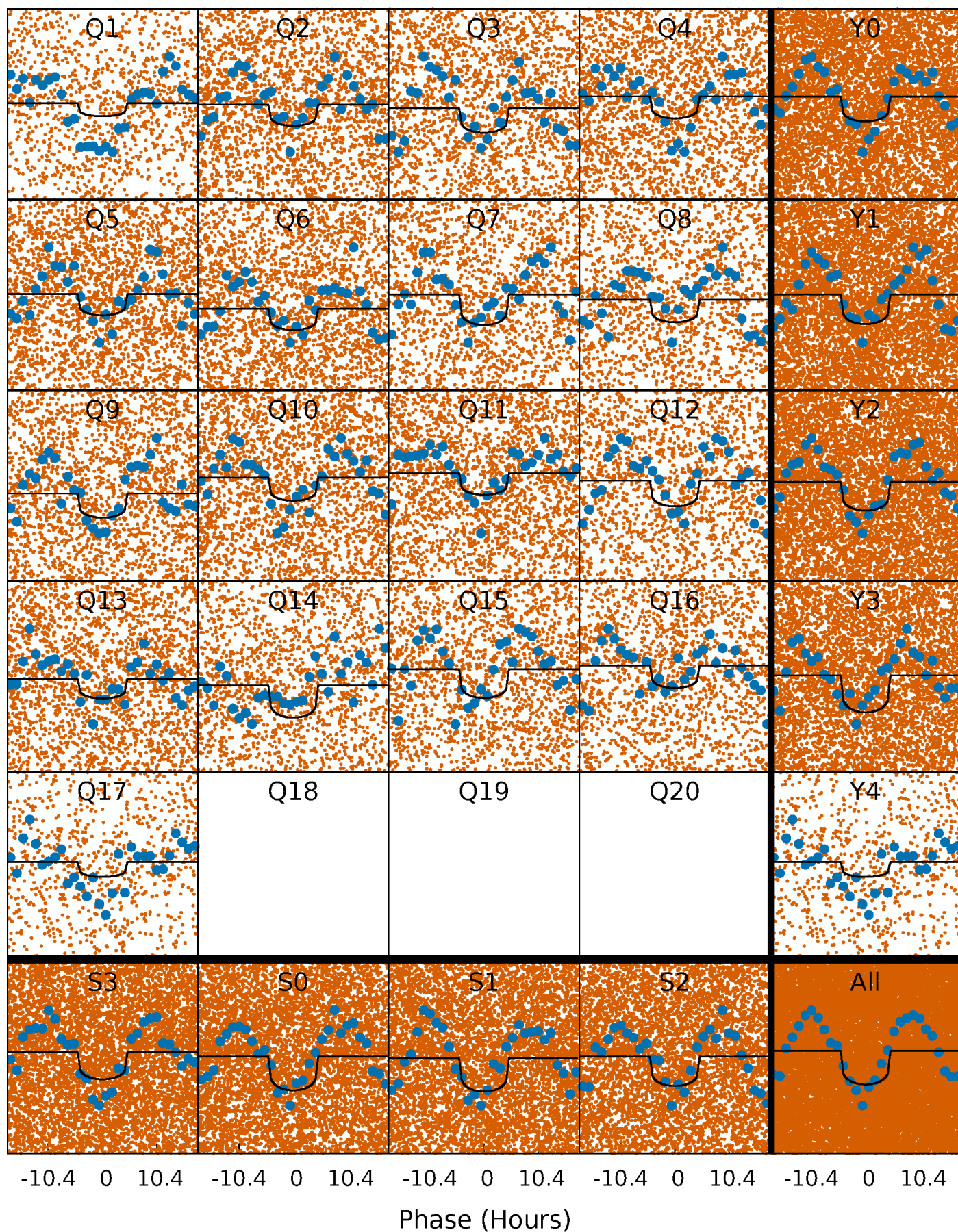
PDC Quarter-Phased Transit Curves

TCE 008957572-01 P= 1.576651 Days $T_0=132.448659$ (BKJD)



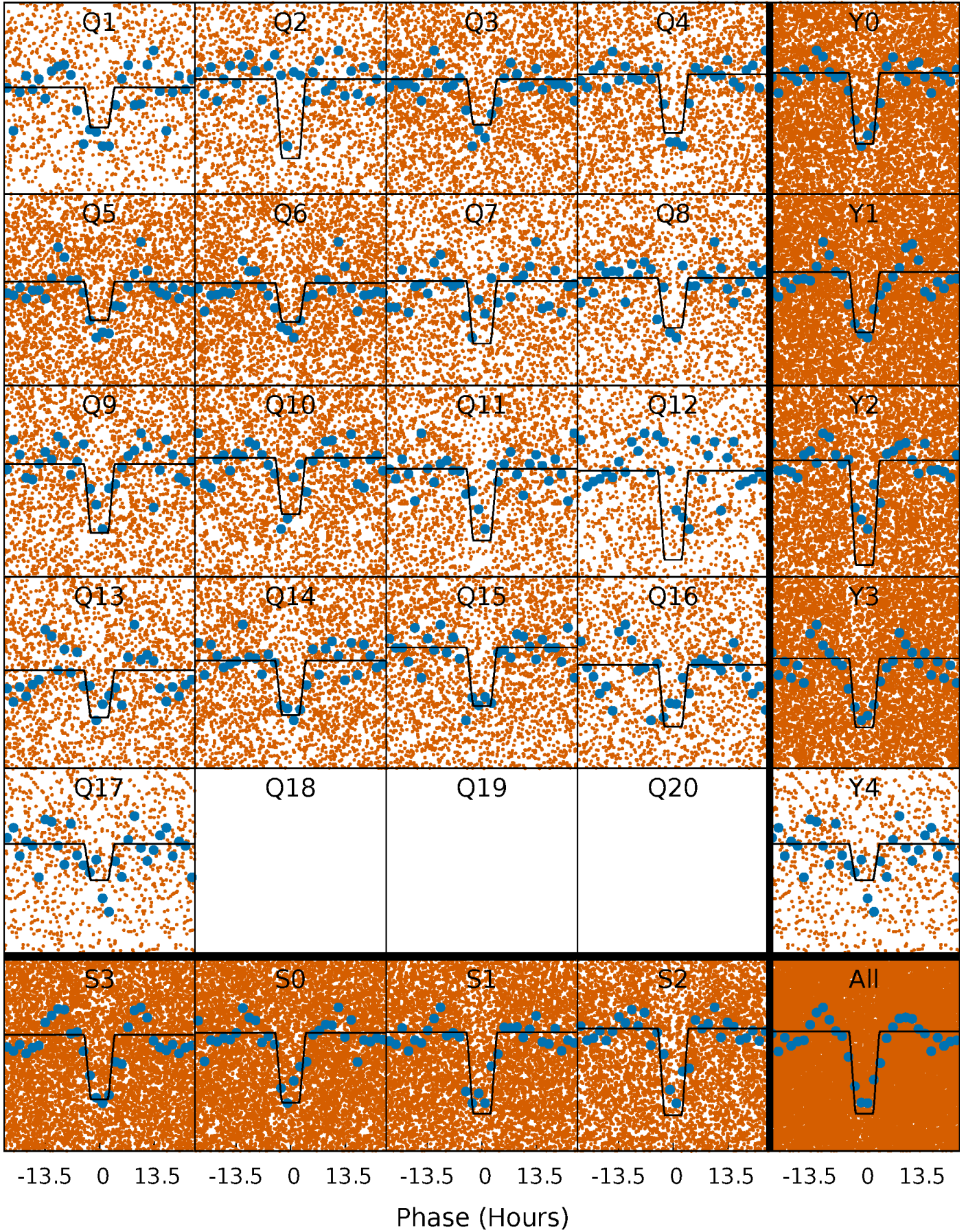
DV Quarter-Phased Transit Curves

TCE 008957572-01 P= 1.576651 Days $T_0=132.448659$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

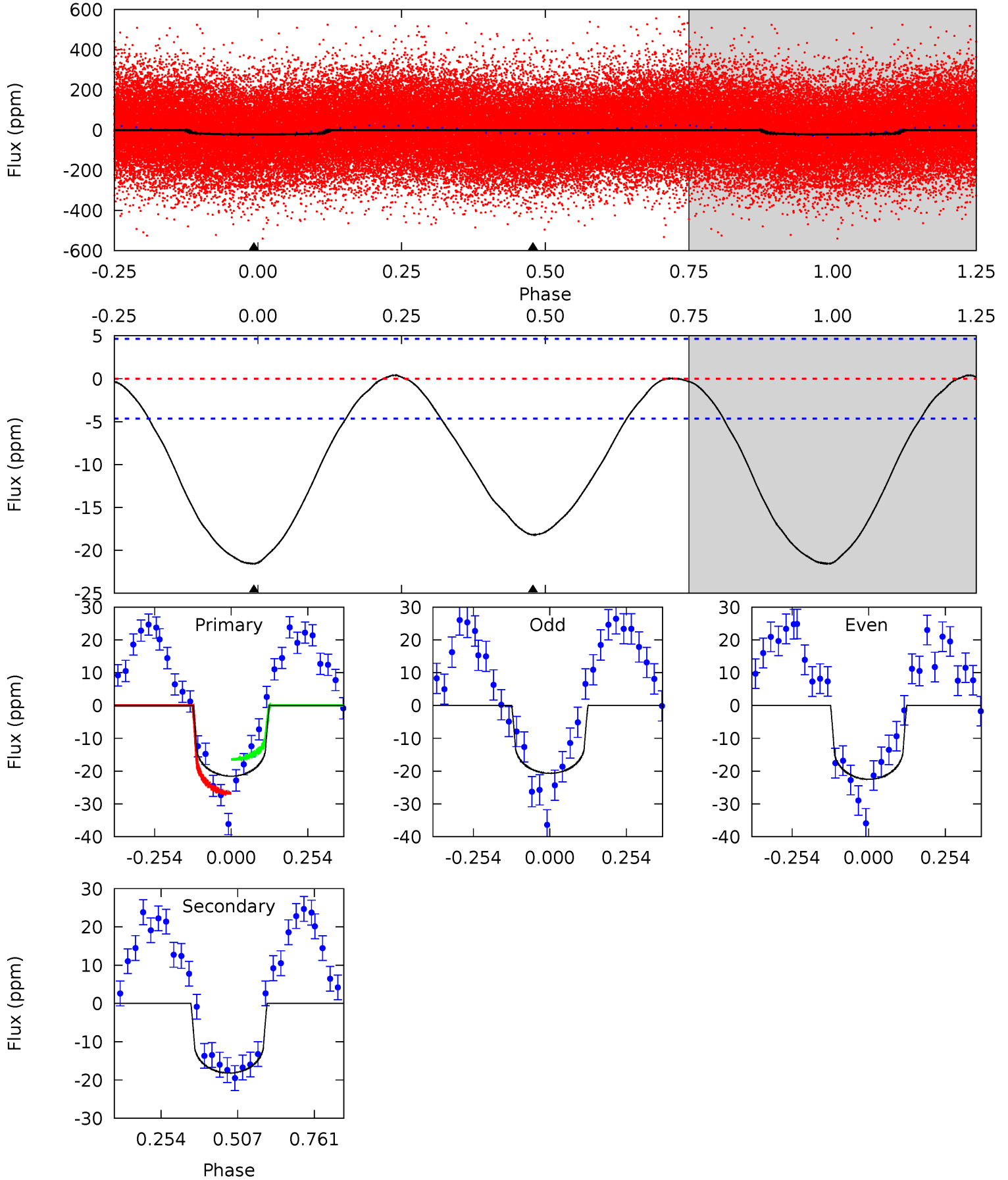
TCE 008957572-01 P= 1.576580 Days $T_0=132.446917$ (BKJD)



DV Model-Shift Uniqueness Test

008957572-01, P = 1.576651 Days, E = 130.872008 Days

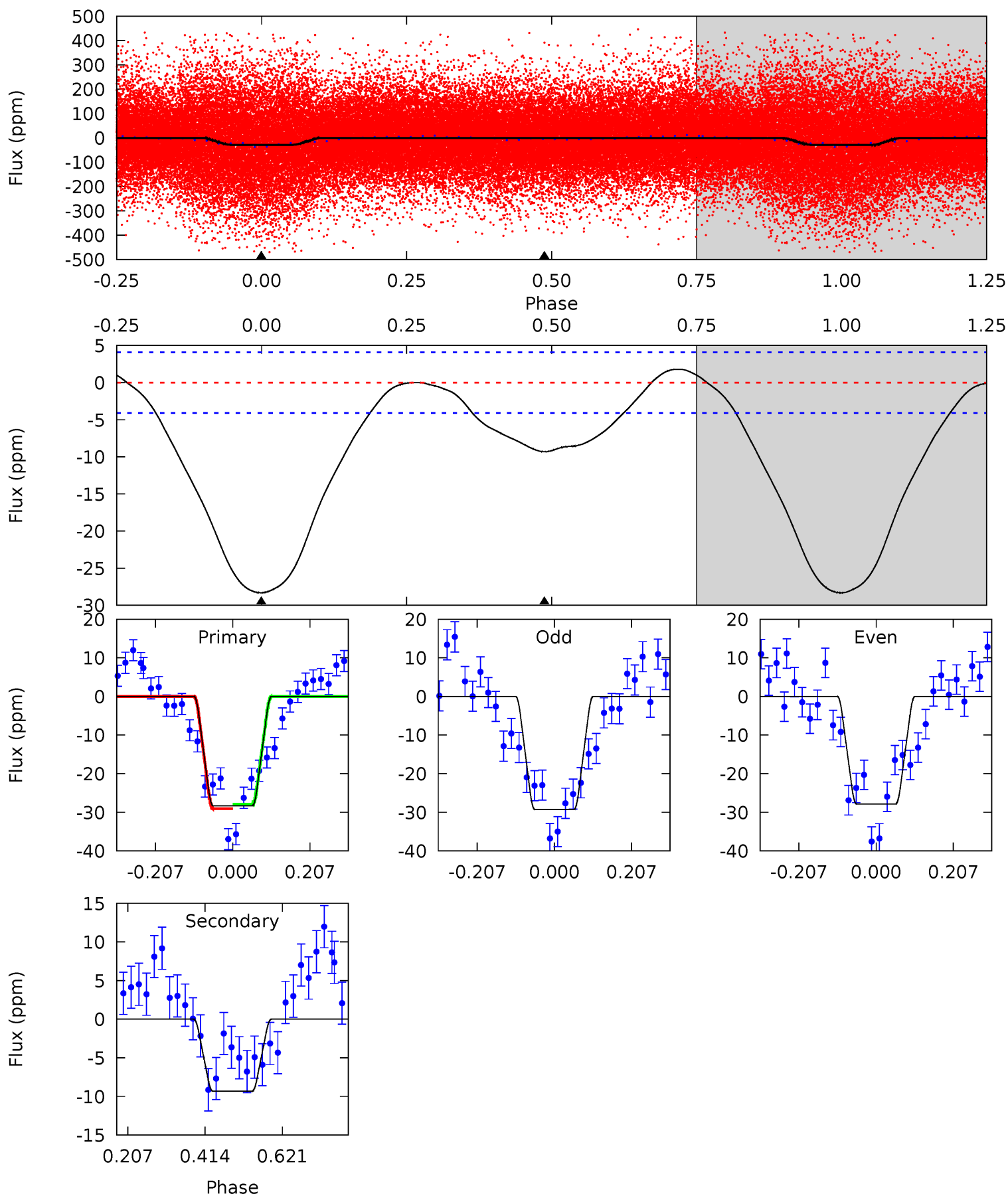
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	17.1	0	0	4.37	1.14	0.31	20.2	20.2	17.1	17.1	0.86	1.14	0.02	5.07



Alt Model-Shift Uniqueness Test

008957572-01, P = 1.576580 Days, E = 130.870337 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.5	10.0	0	0	4.41	1.26	1.15	30.5	30.5	10.0	10.0	0.77	1.20	0.06	0.63



Stellar Parameters For KIC 008957572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6742^{+160}_{-200}	$3.688^{+0.304}_{-0.076}$	$-0.140^{+0.300}_{-0.250}$	$3.138^{+0.396}_{-1.188}$	$1.752^{+0.166}_{-0.387}$	$0.080^{+0.175}_{-0.020}$
	+2%/-3%	+8%/-2%	+214%/-179%	+13%/-38%	+9%/-22%	+220%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008957572-01 / KOI 7115.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 1	$1.37^{+0.84}_{-0.64}$	4037^{+226}_{-364}	6510^{+3204}_{-1319}	$5.413^{+12.941}_{-3.378}$
Alt.	-9 ± 1	$1.85^{+0.85}_{-0.78}$	4027^{+211}_{-365}	4697^{+1488}_{-806}	$1.505^{+2.795}_{-0.781}$

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

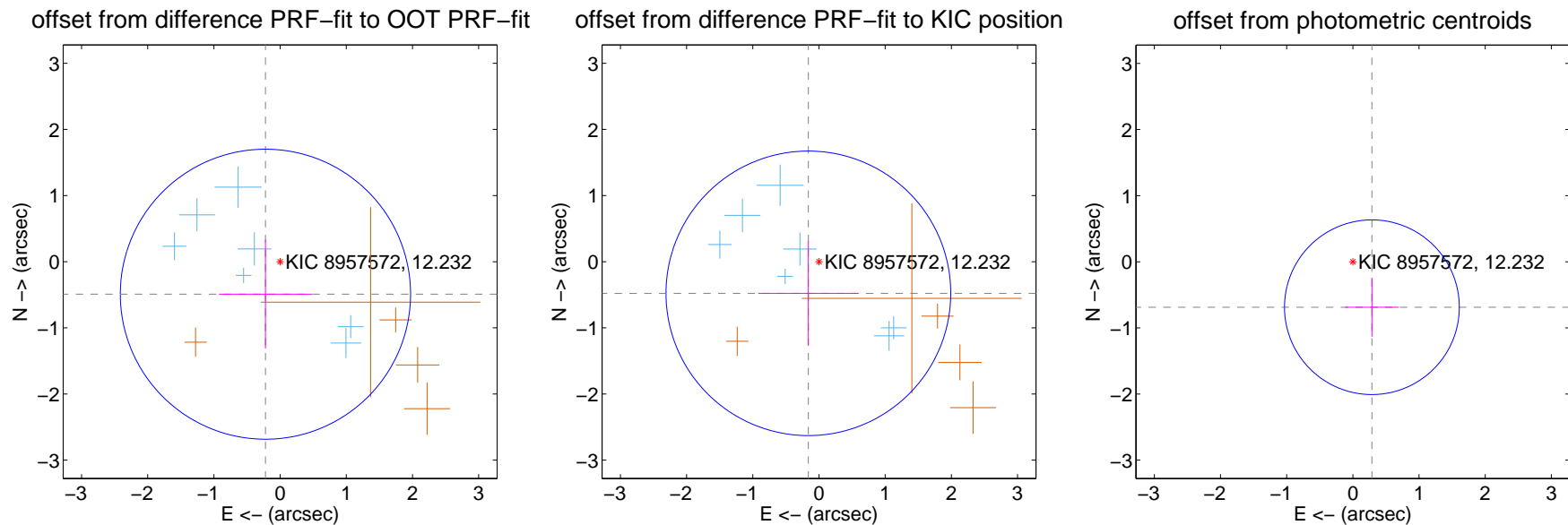
DV Centroid Data

Supplemental centroid analysis for 008957572-01. Kepler magnitude: 12.23. Transit SNR 9.43

There are 7 quarters with good PRF difference image offsets

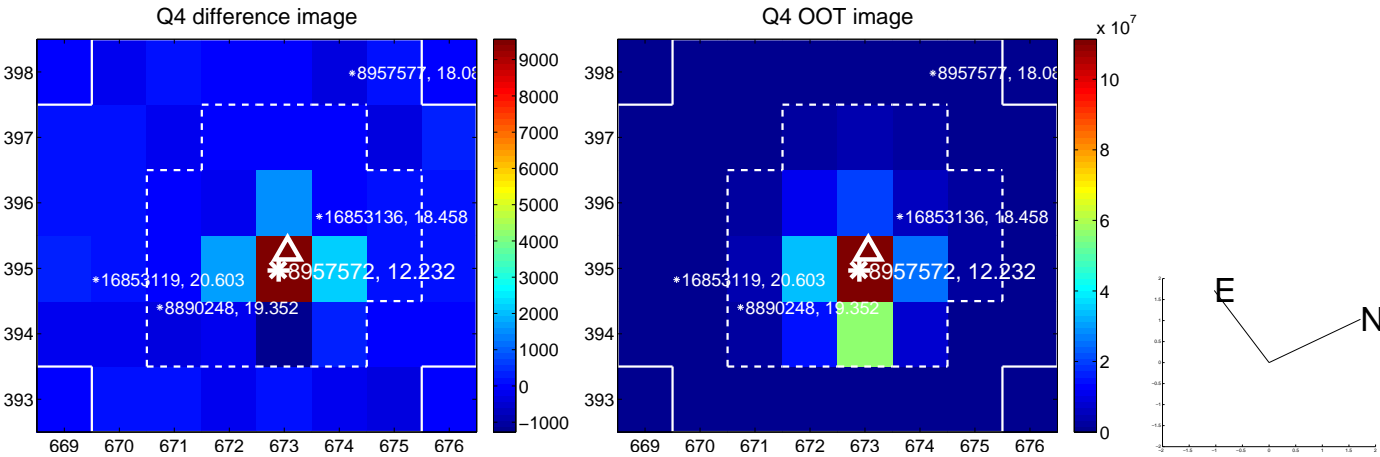
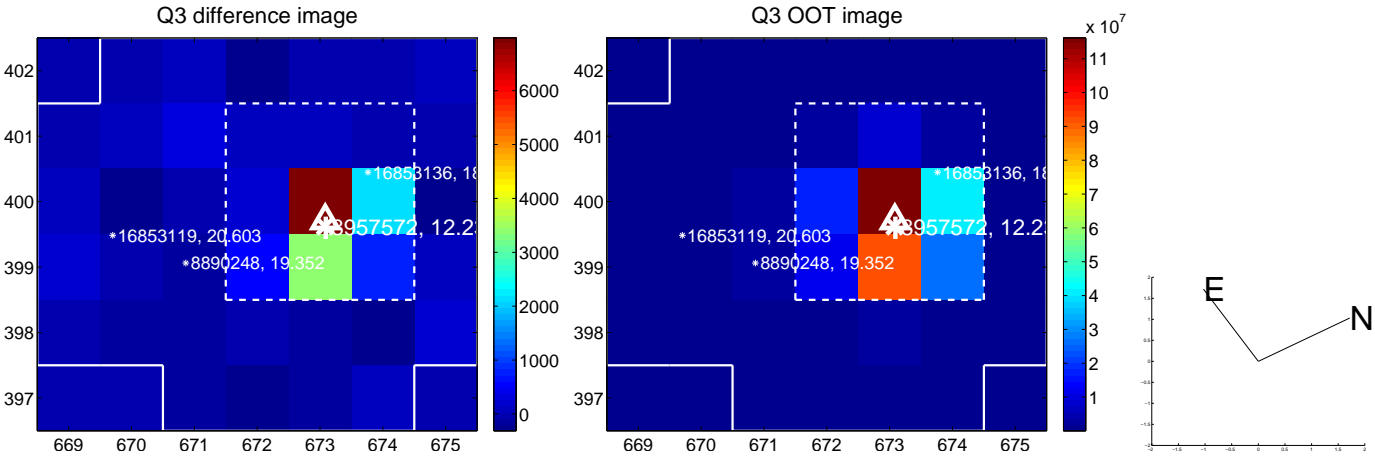
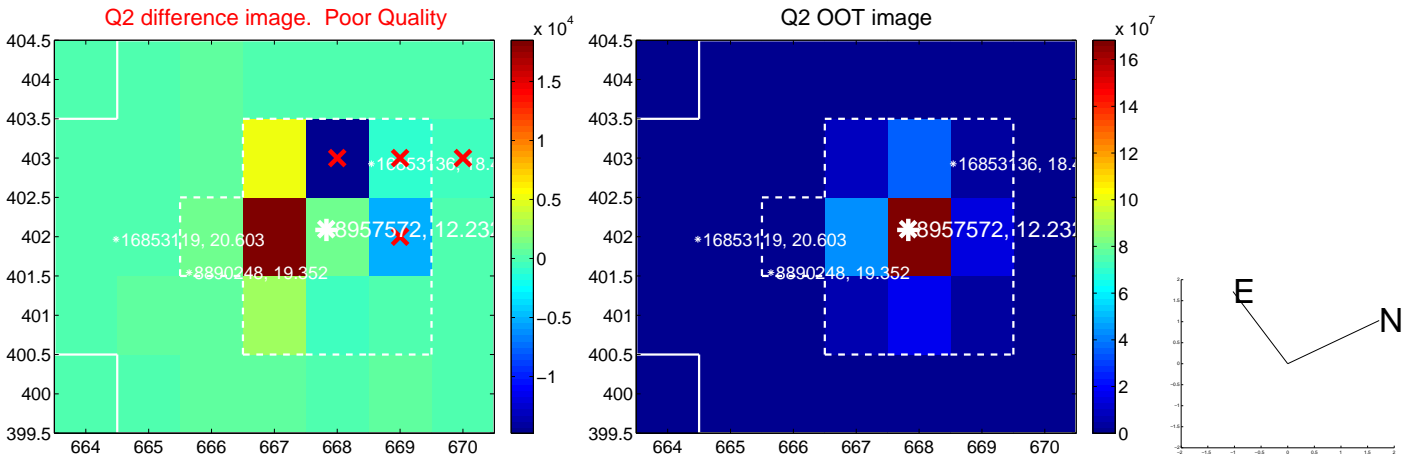
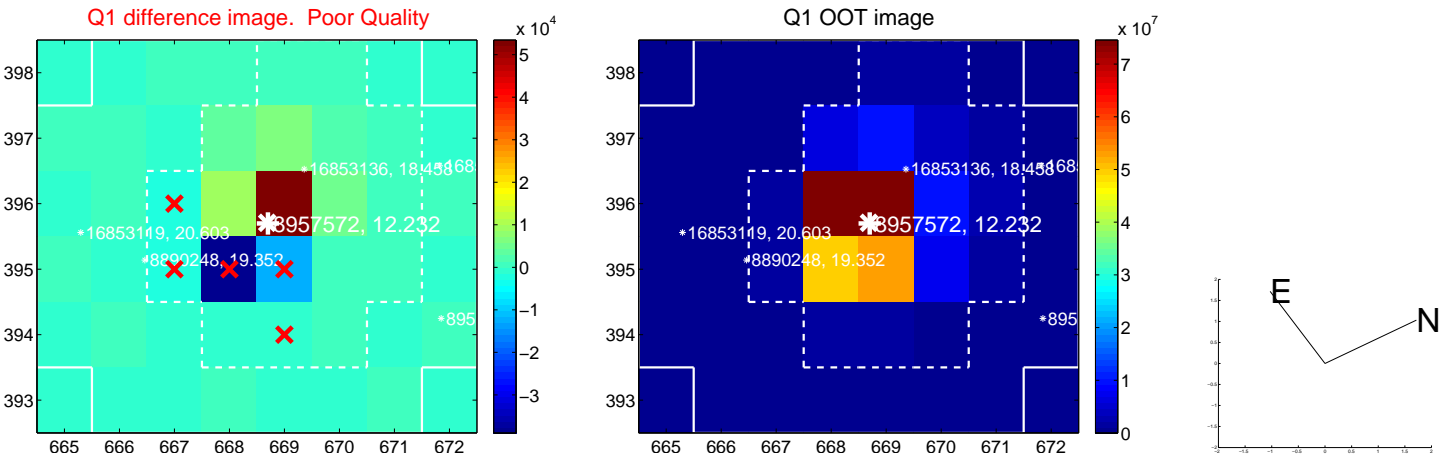
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.539 ± 0.731	0.74	0.222 ± 0.703	-0.492 ± 0.823
PRF-fit source offset from KIC position	0.504 ± 0.717	0.70	0.160 ± 0.756	-0.478 ± 0.790
photometric centroid source offset	0.75 ± 0.44	1.69	-0.29 ± 0.40	-0.69 ± 0.45

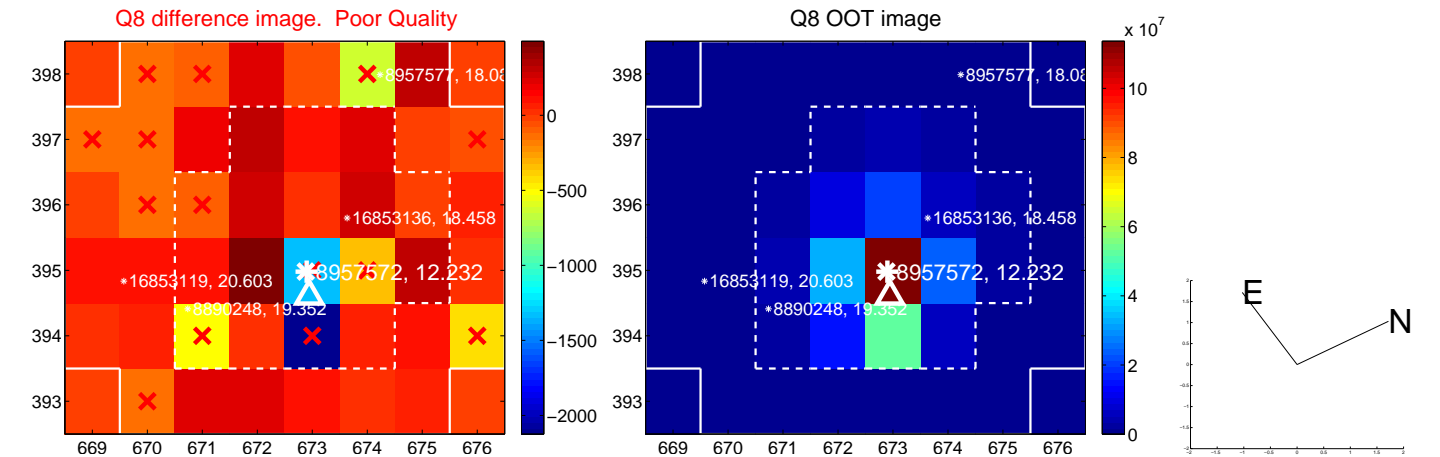
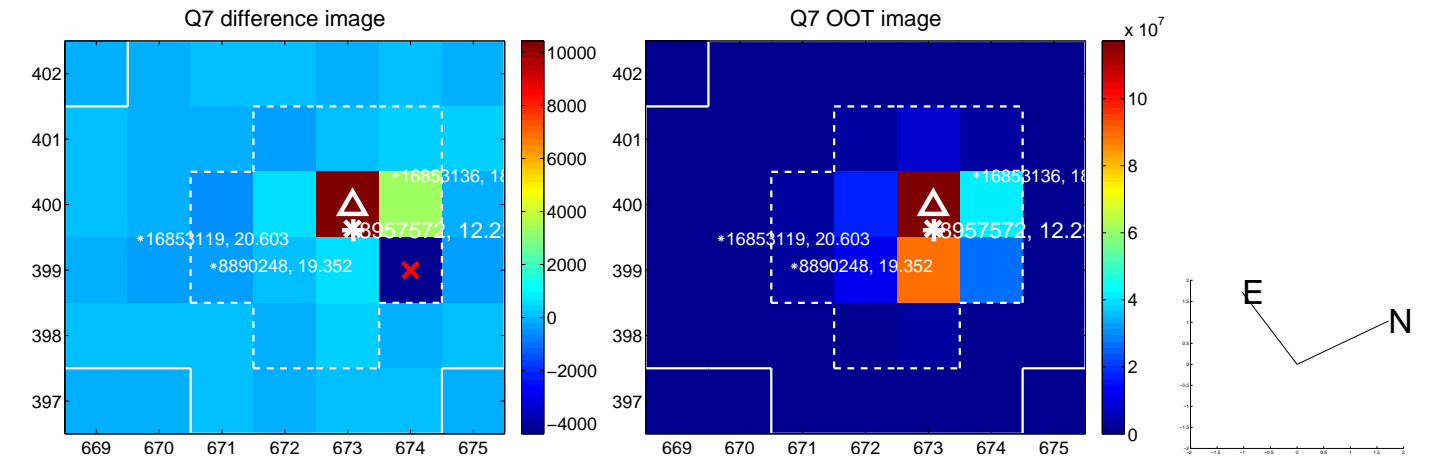
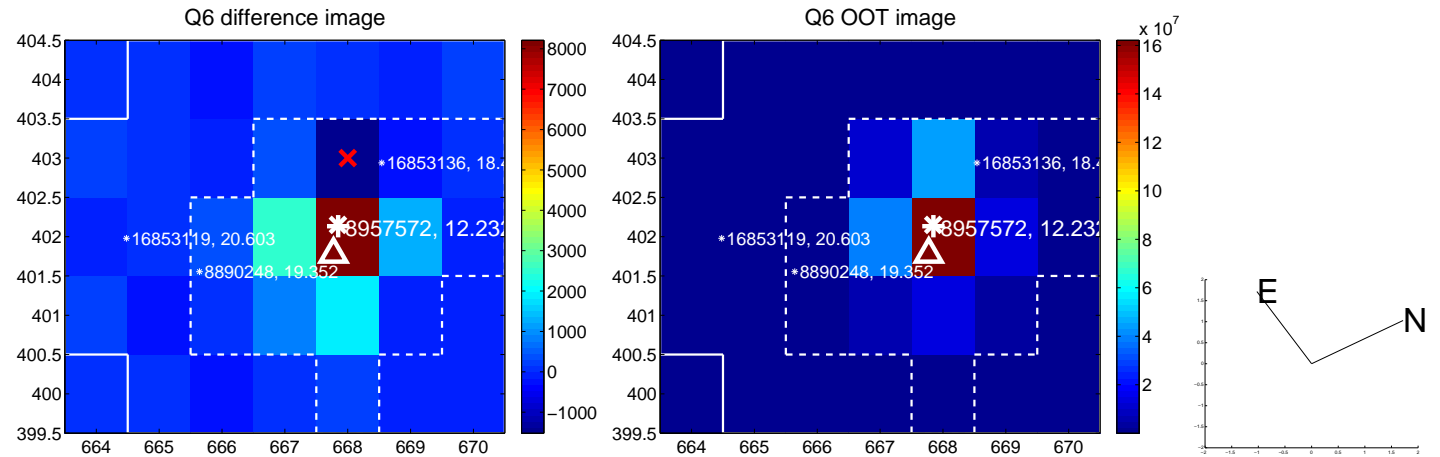
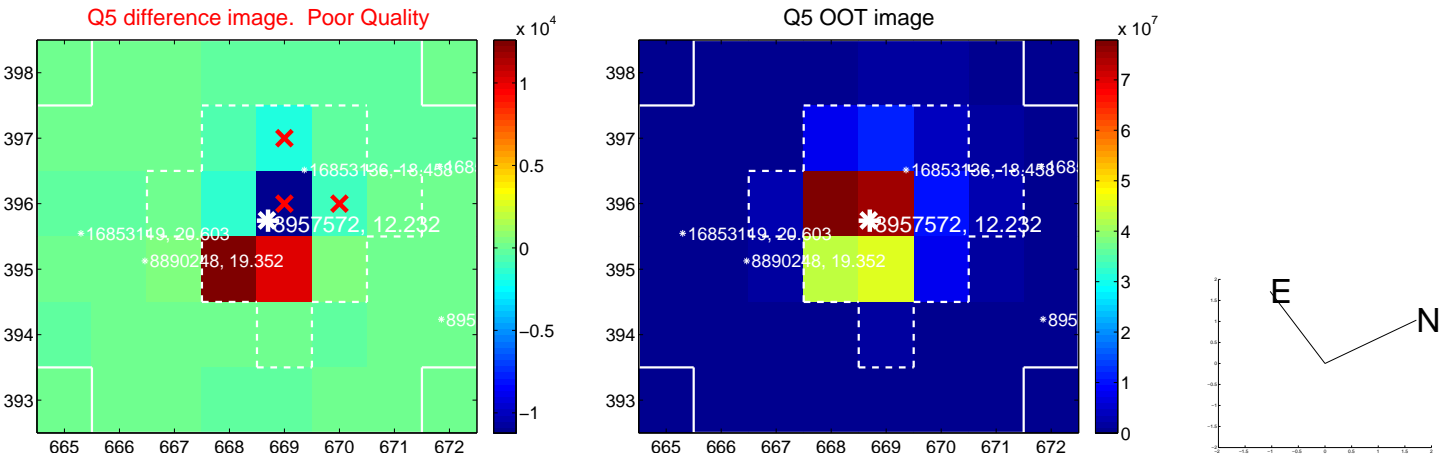


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

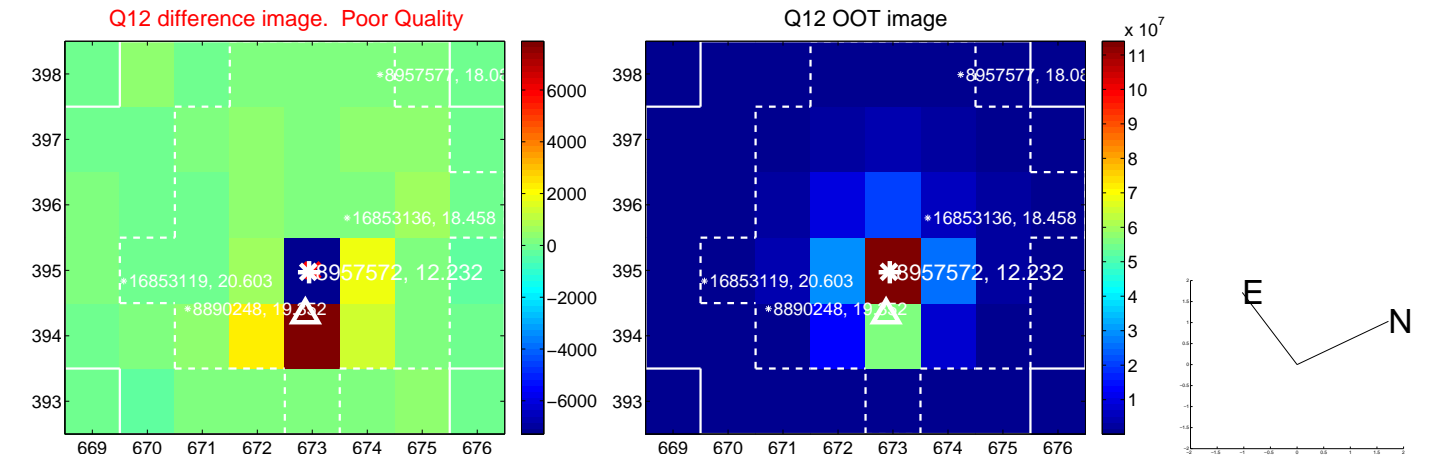
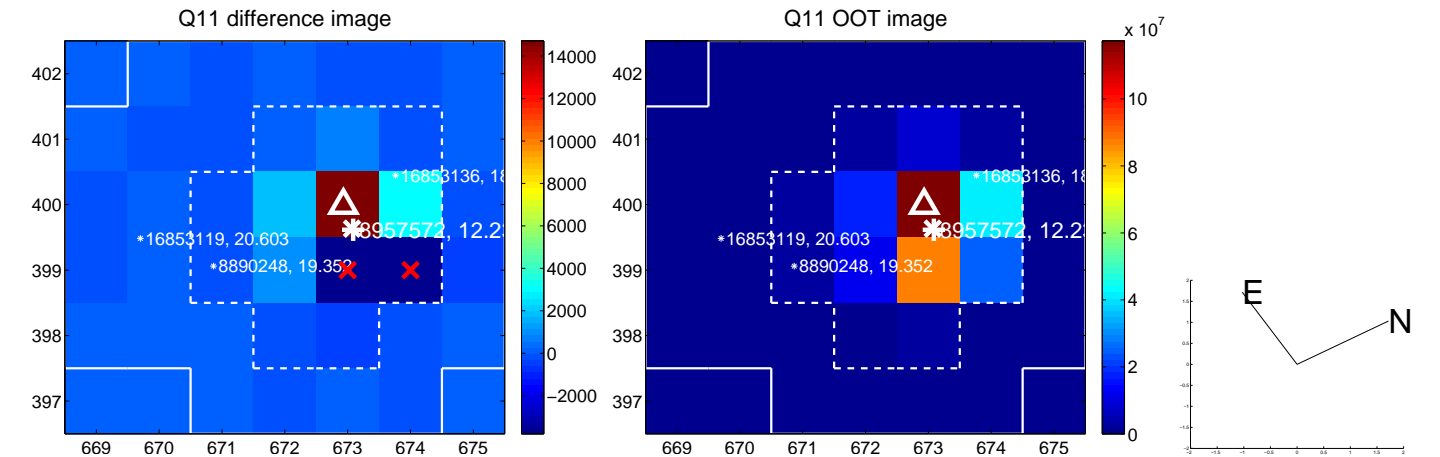
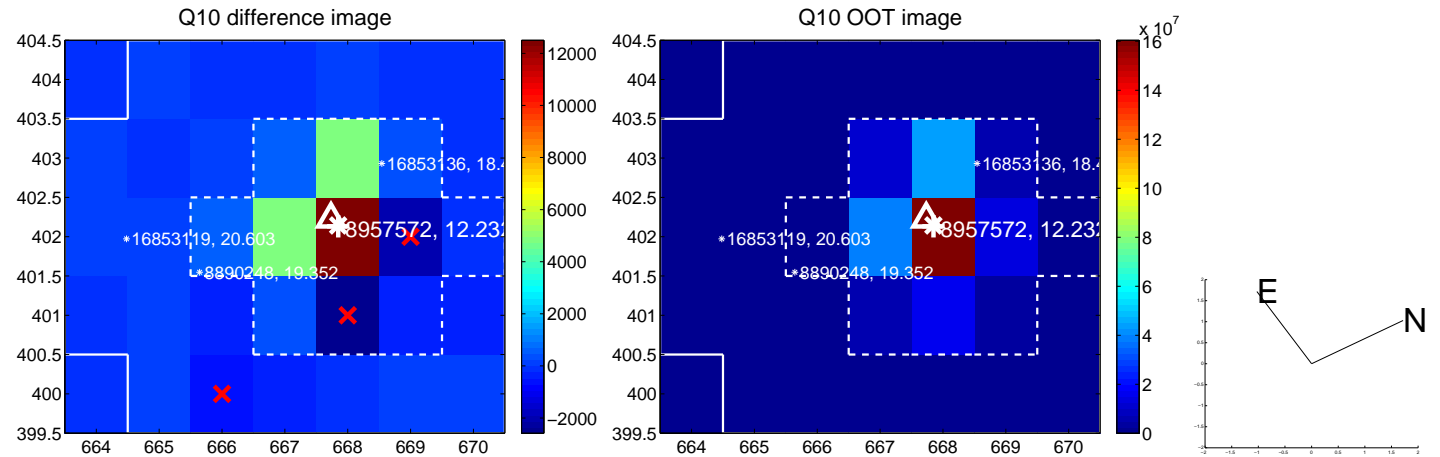
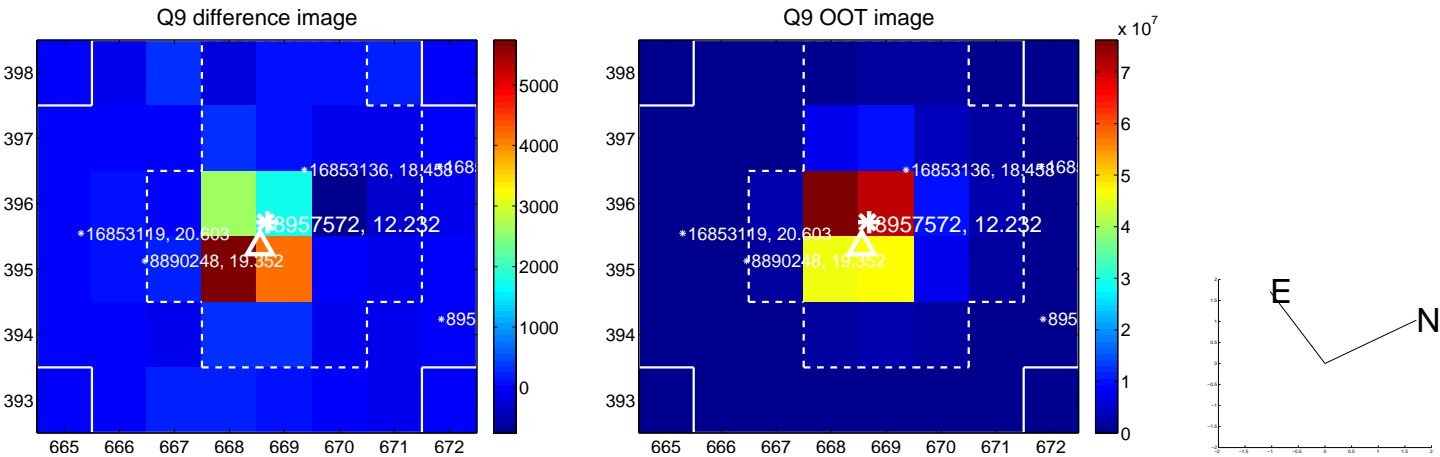
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



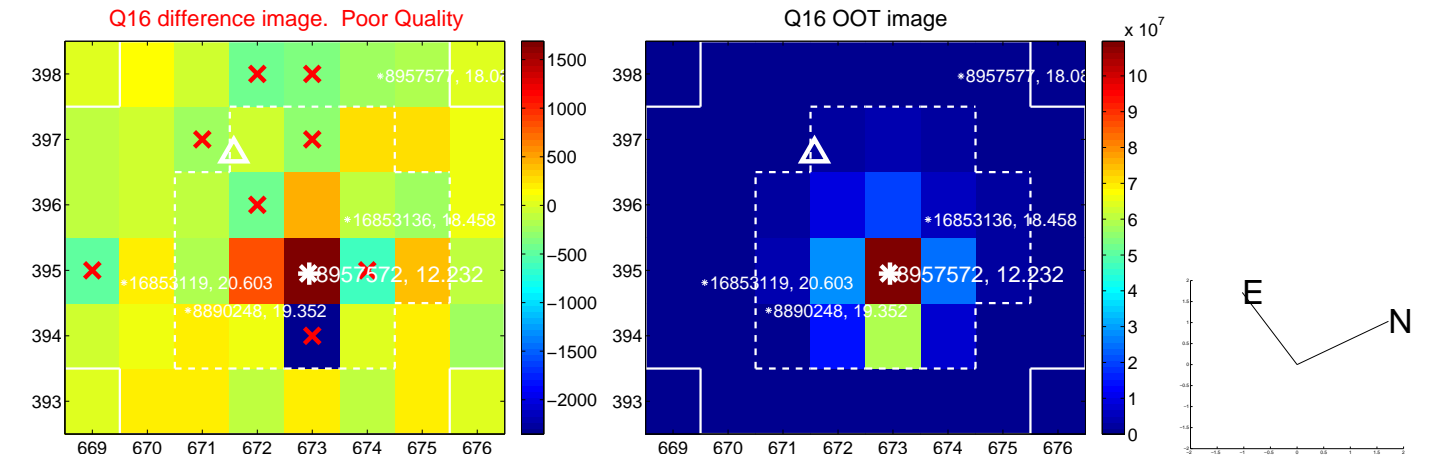
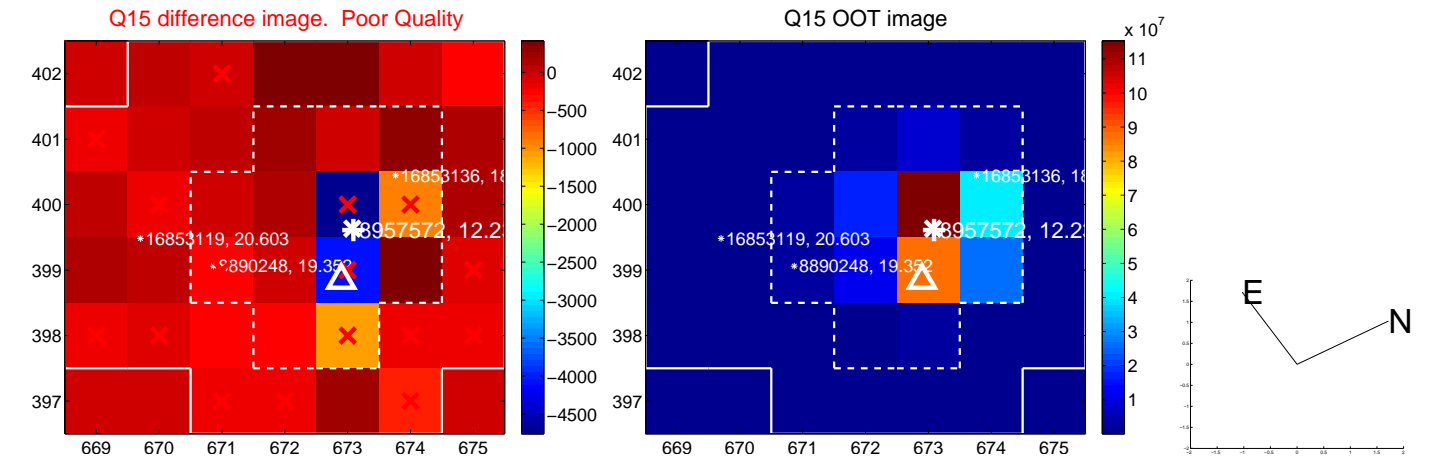
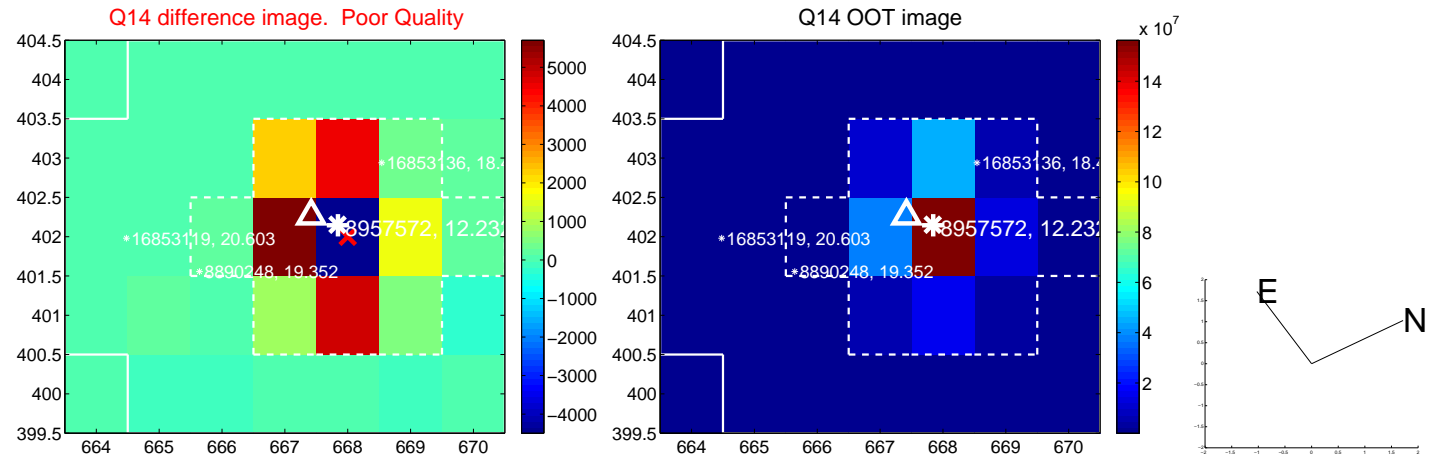
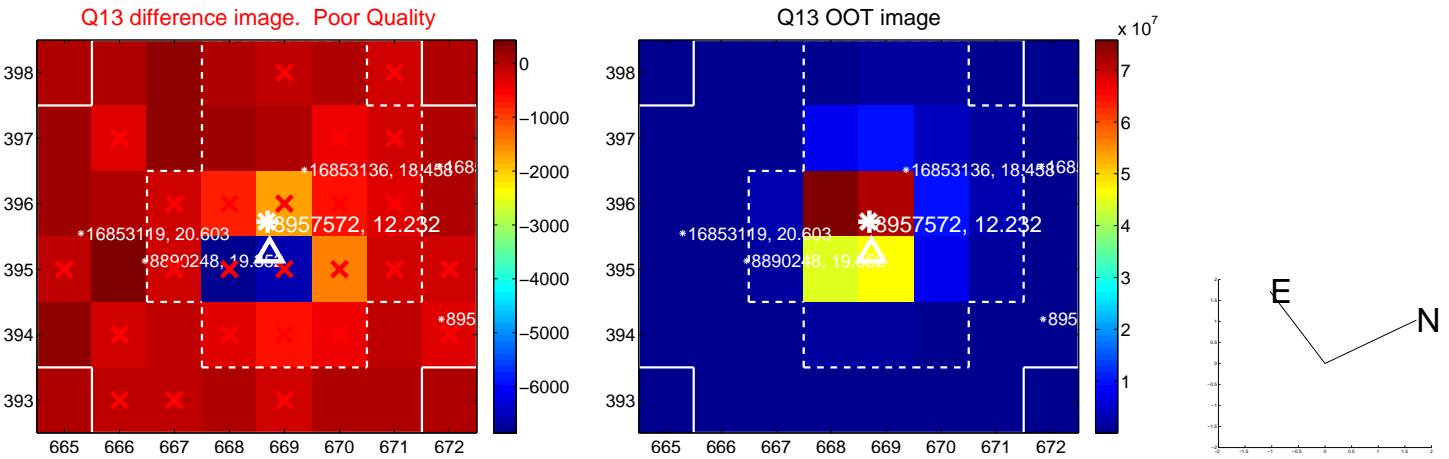
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



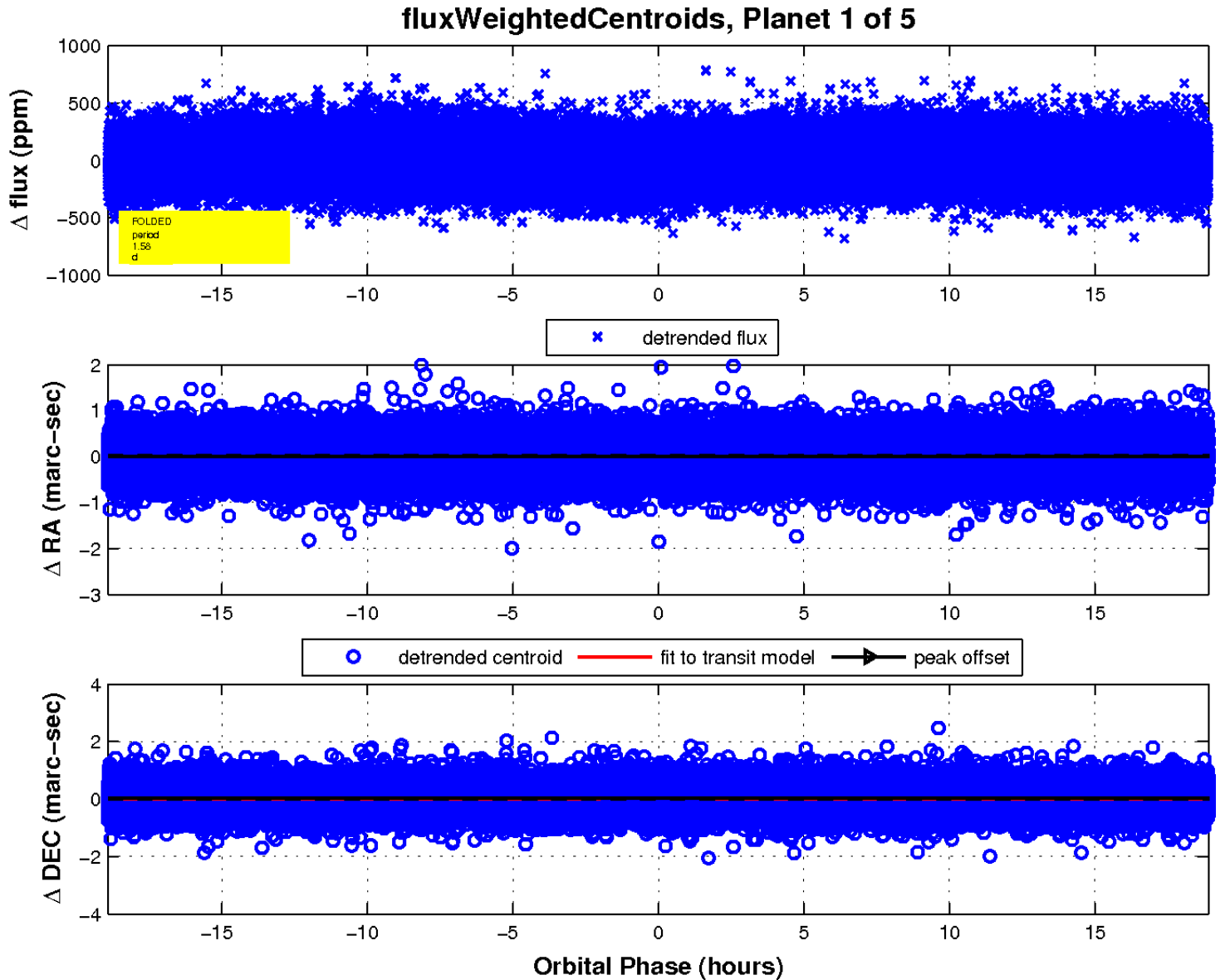
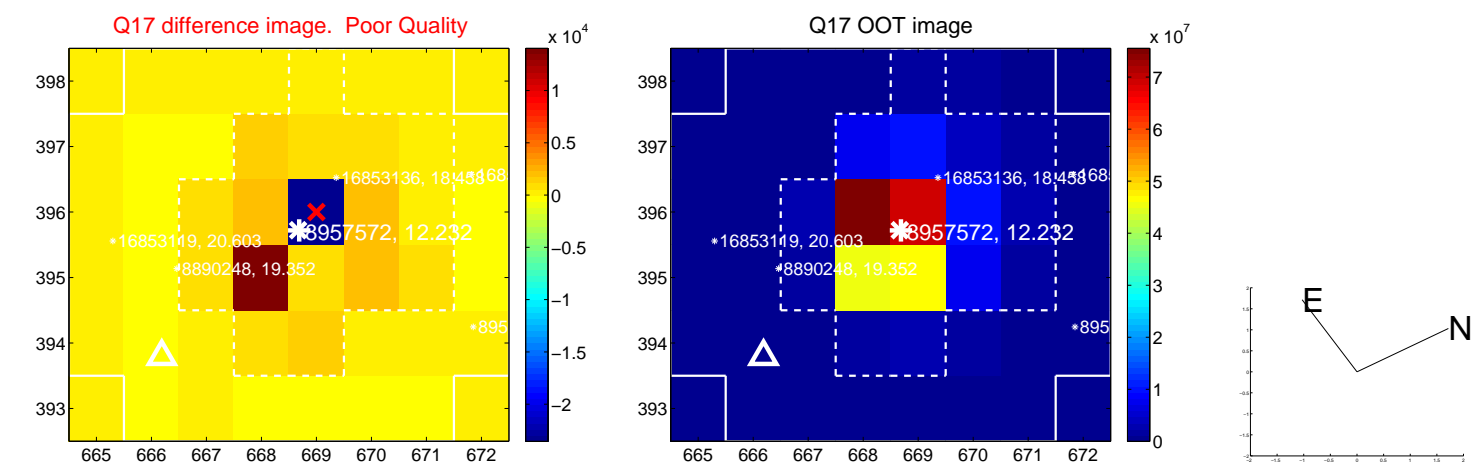
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

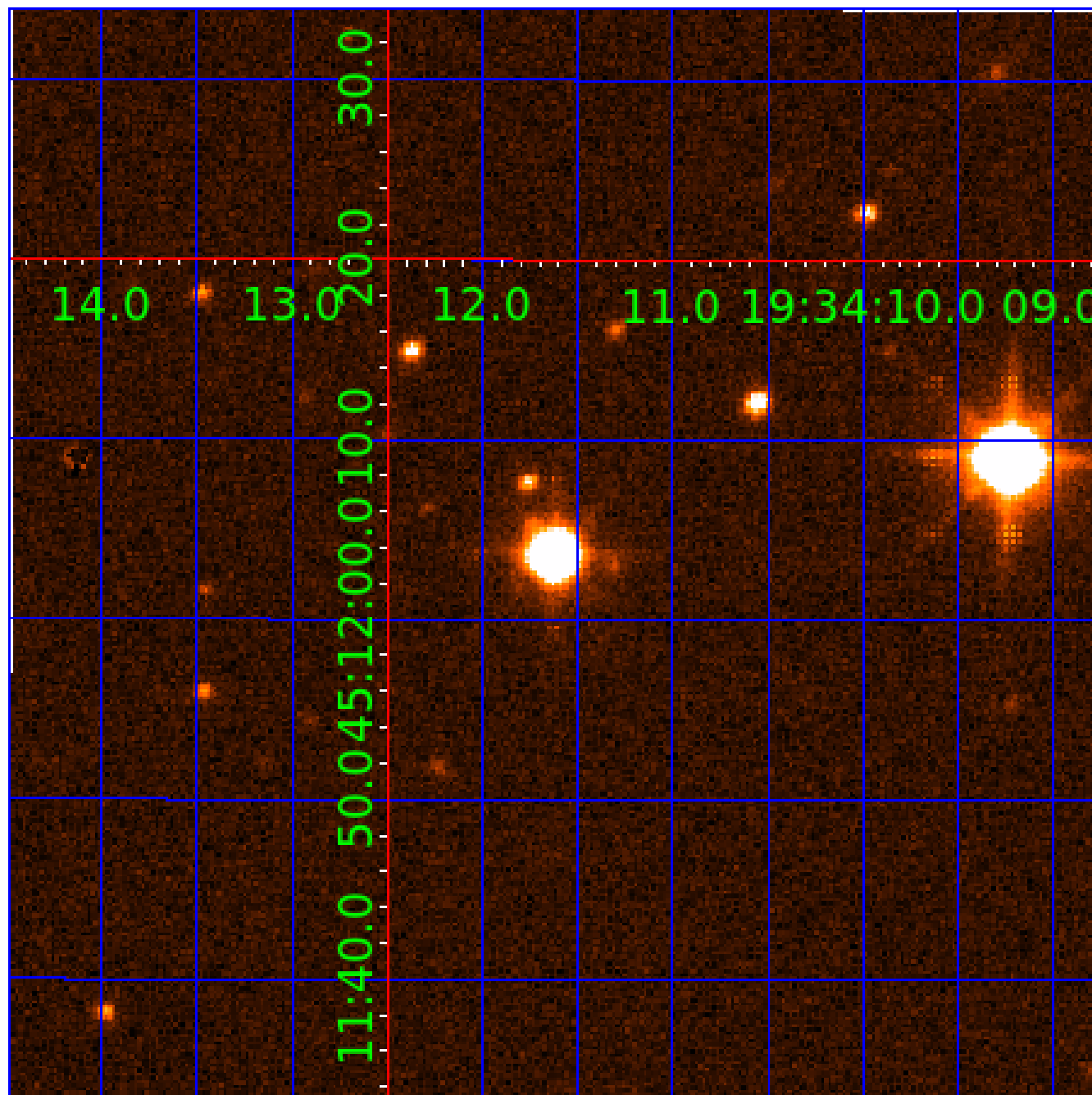


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008957572

Q1-17 DR25 TCE Parameters

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Robovetter Results

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008957572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008957572-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008957572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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 008957572-02

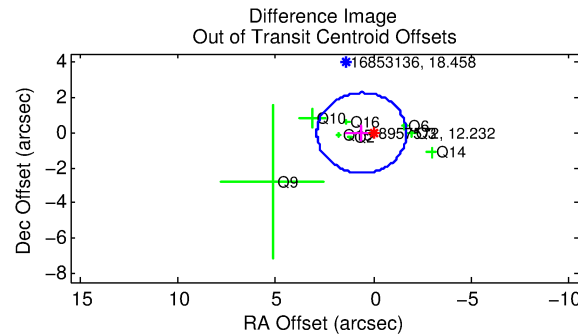
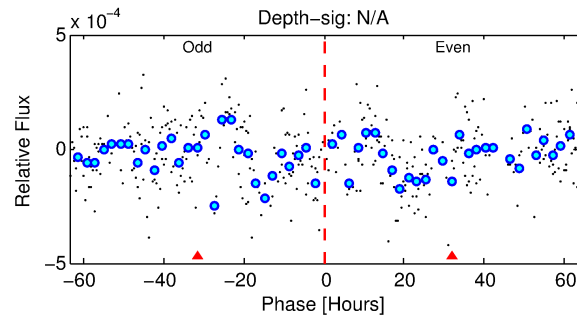
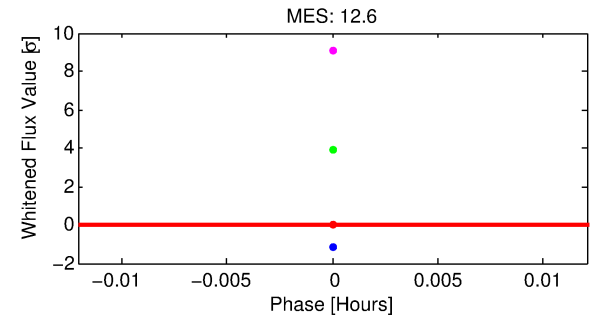
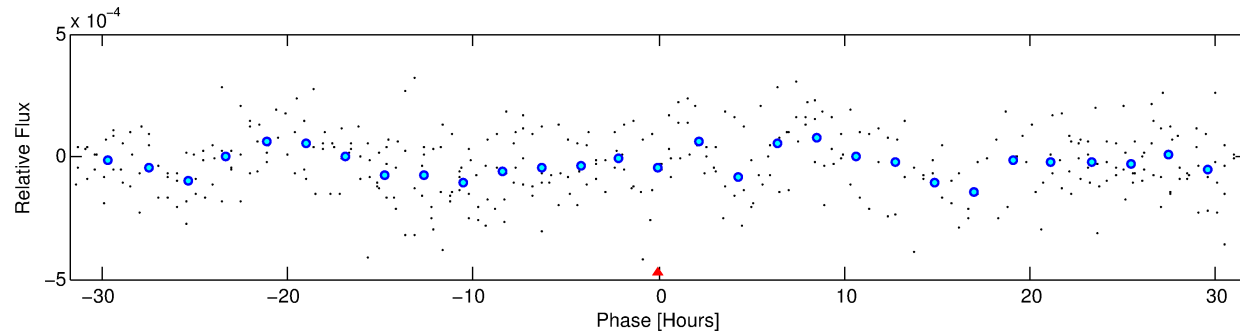
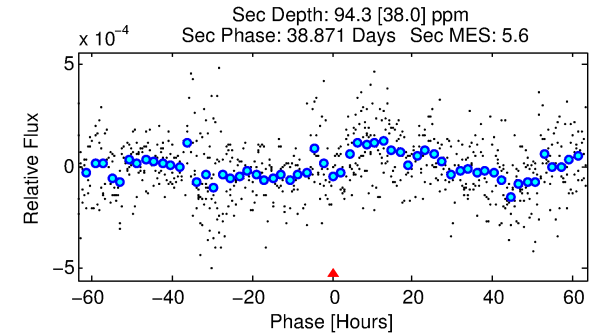
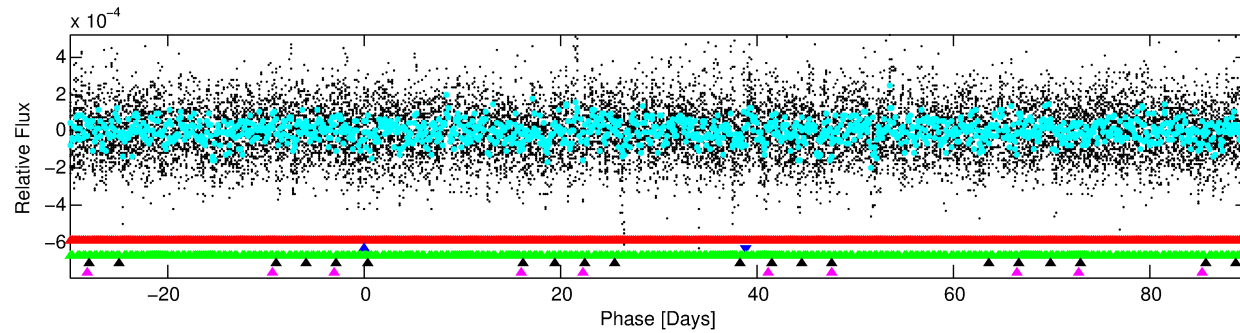
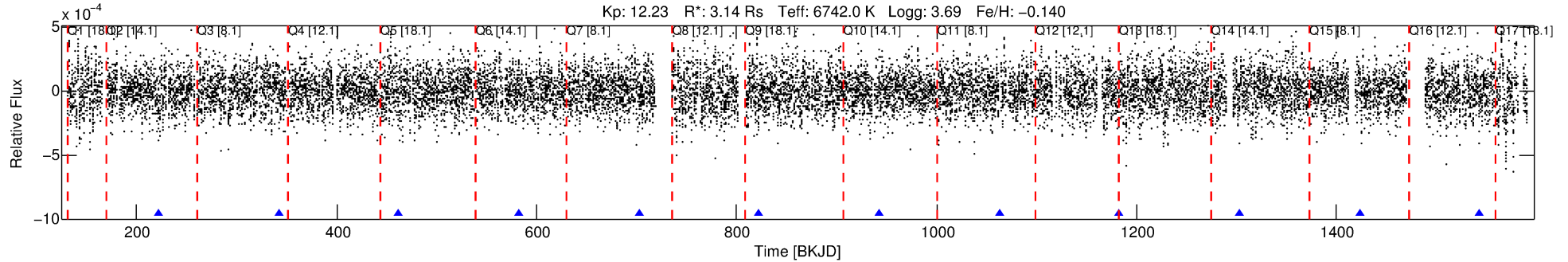
No Significant Match Found

DV One-Page Summary

KIC: 8957572 Candidate: 2 of 5 Period: 120.108 d

KOI: K07115 Corr: No Ephemeris Match

Kp: 12.23 R*: 3.14 Rs Teff: 6742.0 K Logg: 3.69 Fe/H: -0.140



TPS TCE Results:

Period = 120.10847 d
Epoch = 221.6298 BKJD

DV fit results are unavailable

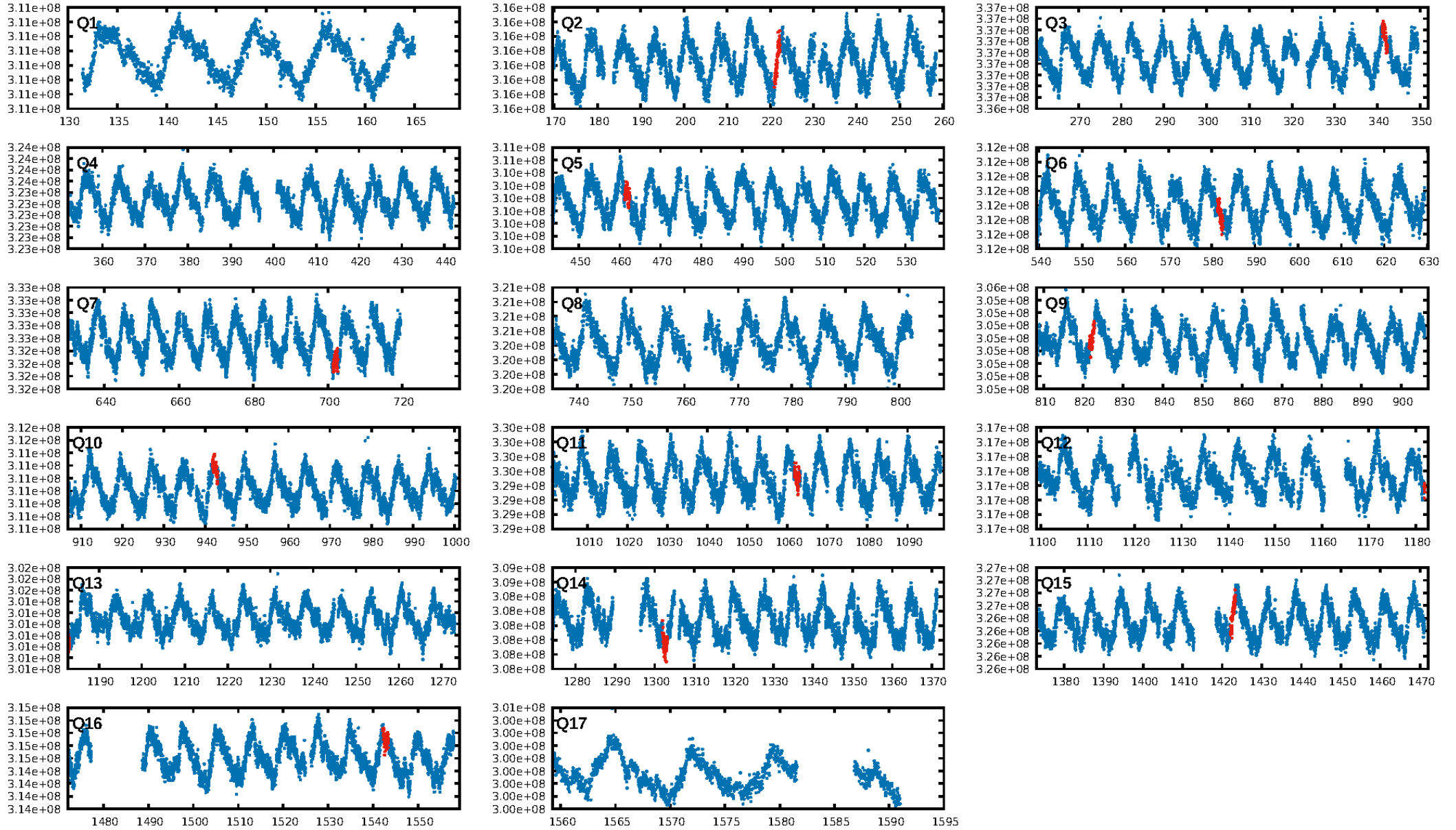
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [75.74σ]
LongPeriod-sig: 100.0% [37.40σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.66e-19
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 54.92
Centroid-sig: 39.0%
Centroid-so: 0.794 arcsec [1.16σ]
OotOffset-rm: 0.606 arcsec [0.80σ]
KicOffset-rm: 0.541 arcsec [0.57σ]
OotOffset-st: 4/2/1/1 [8]
KicOffset-st: 4/2/1/1 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.00 [0/10]

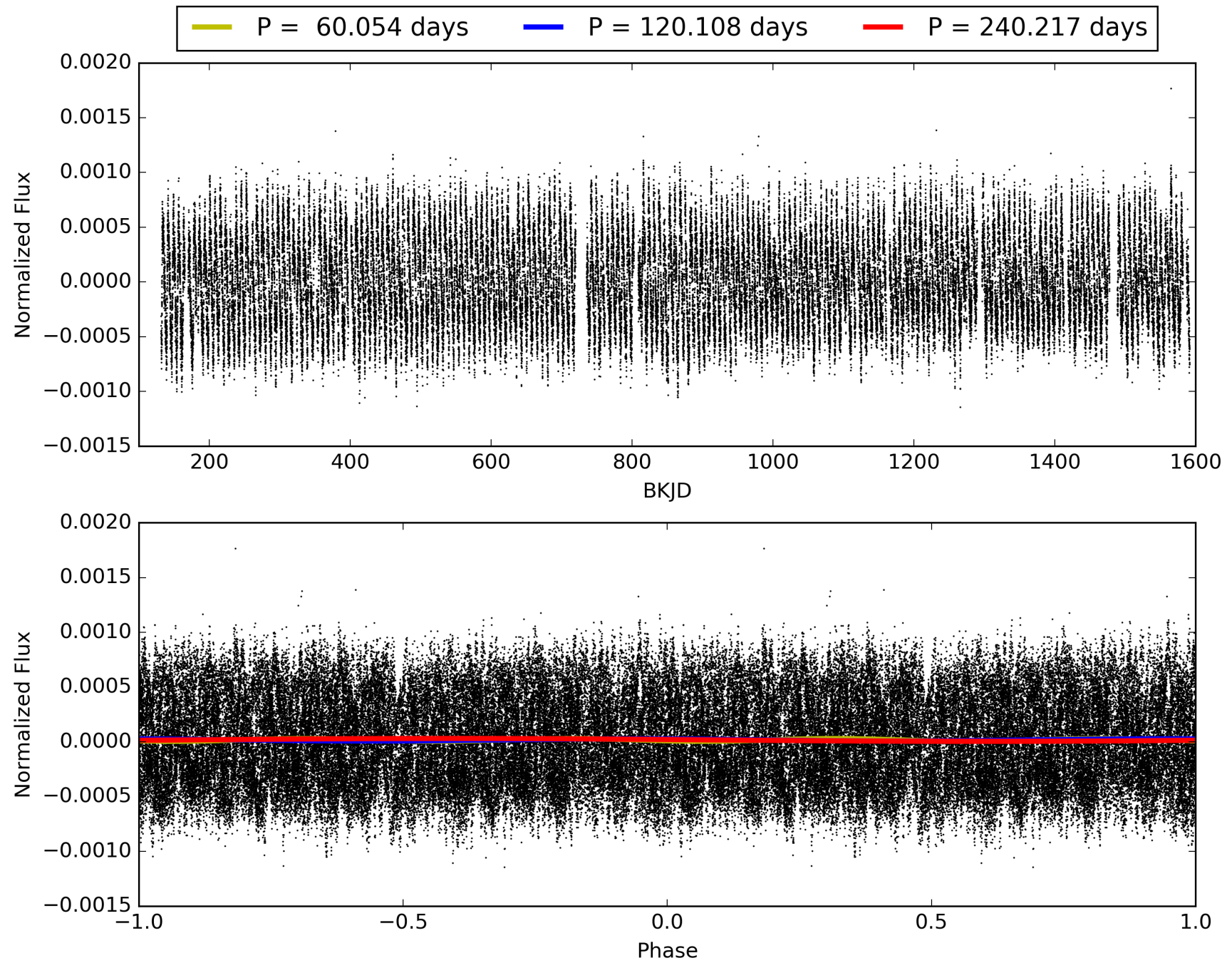
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:55:34 Z

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

TCE 008957572-02, PDC Light Curves

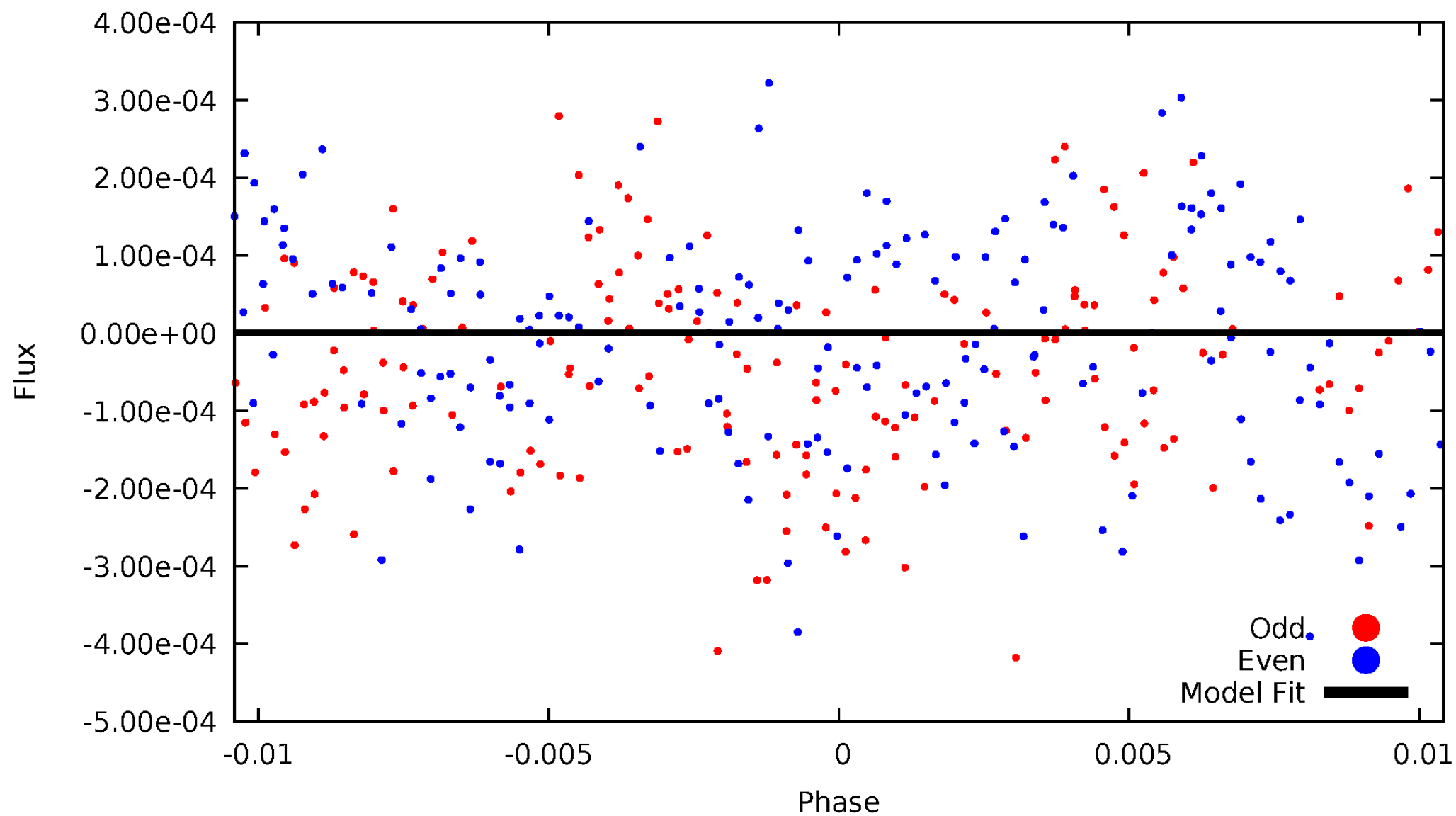


TCE 008957572-02



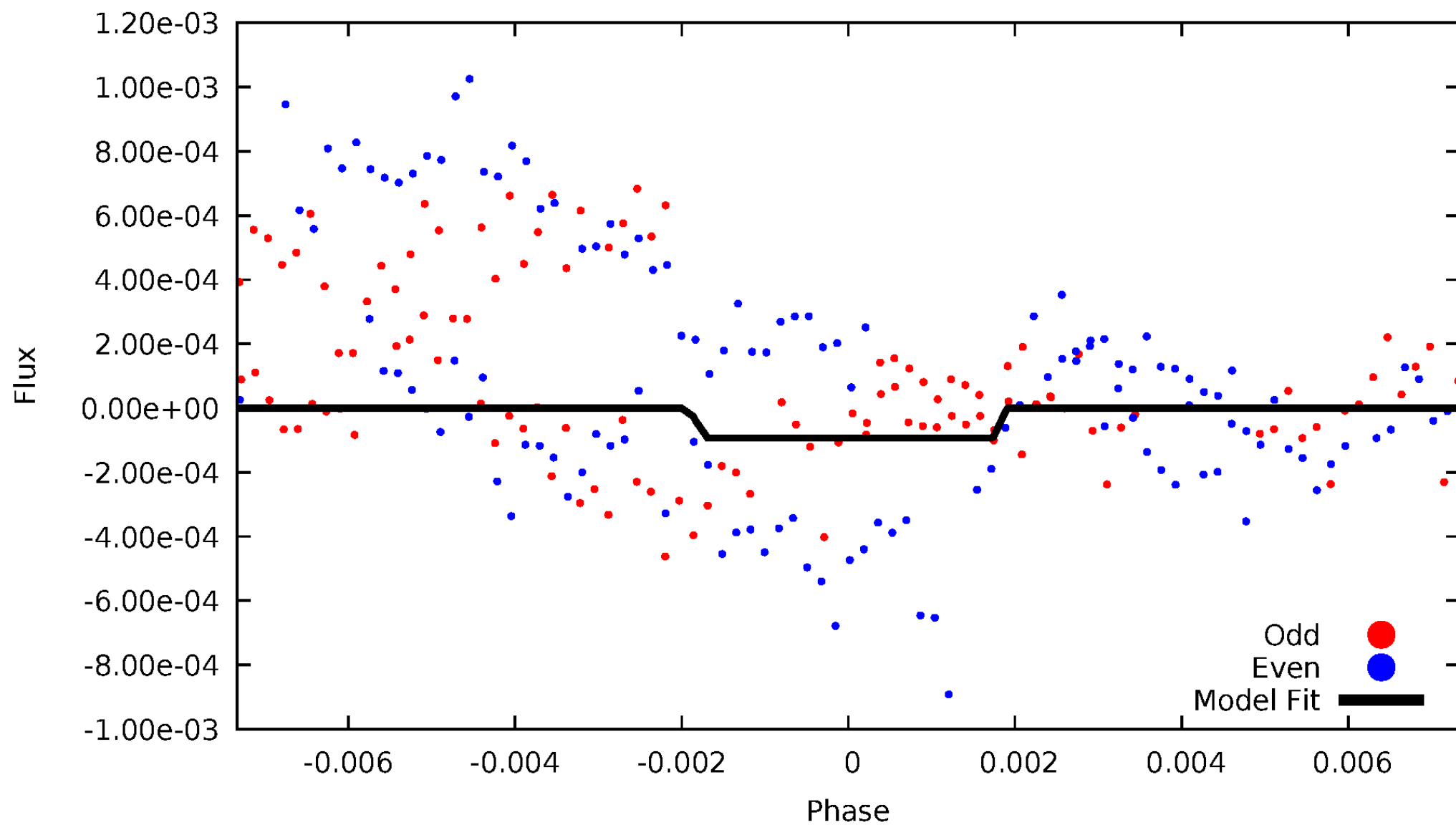
DV Odd/Even

TCE 008957572-02



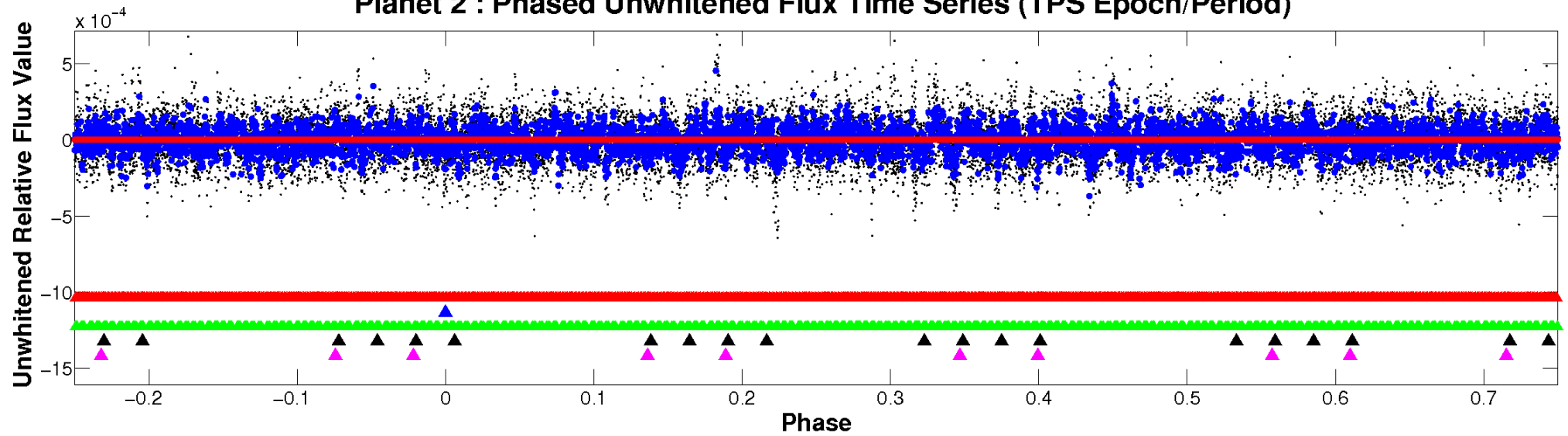
ALT Odd/Even

TCE 008957572-02



Non-Whitened Vs. Whitened Light Curve

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

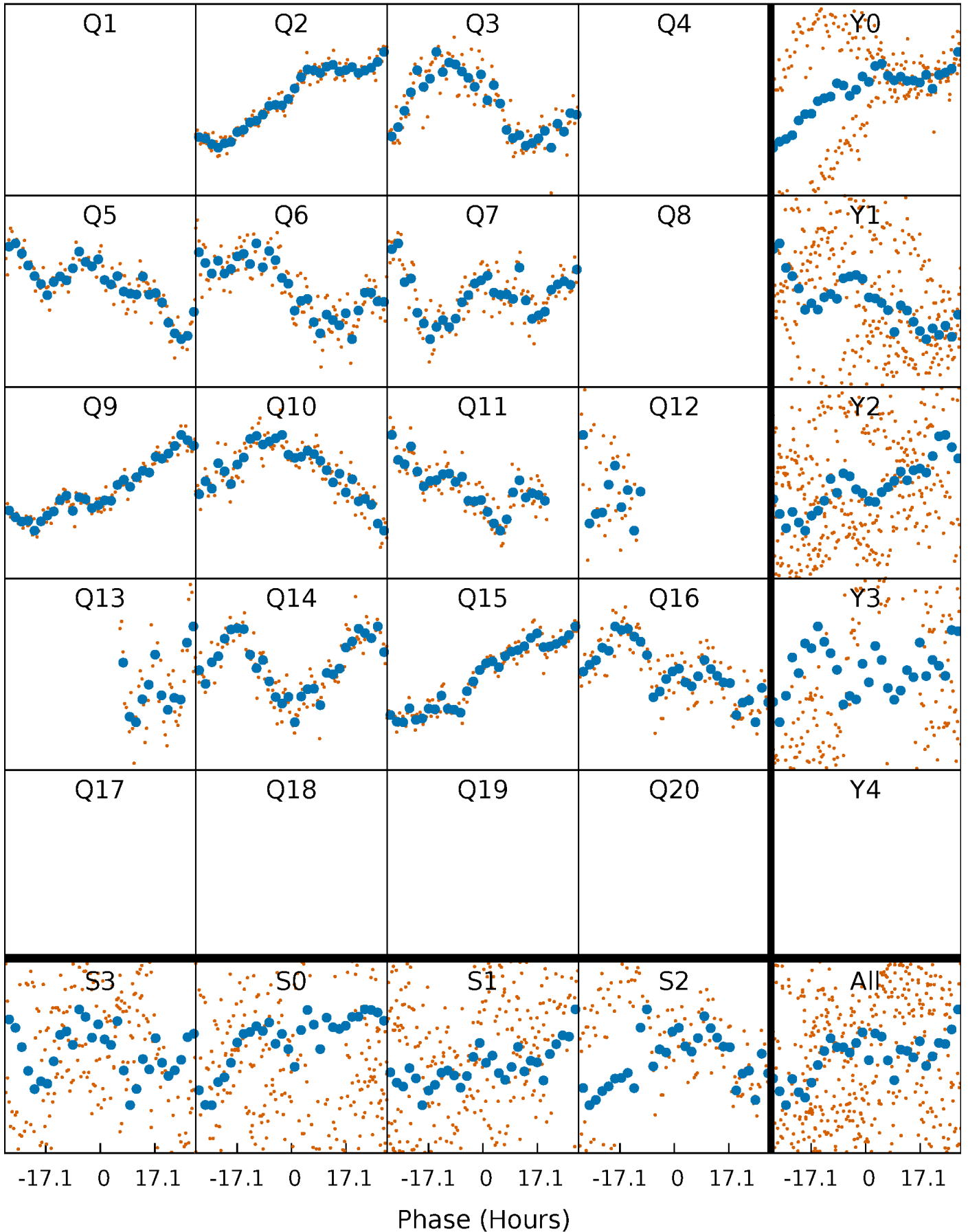


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



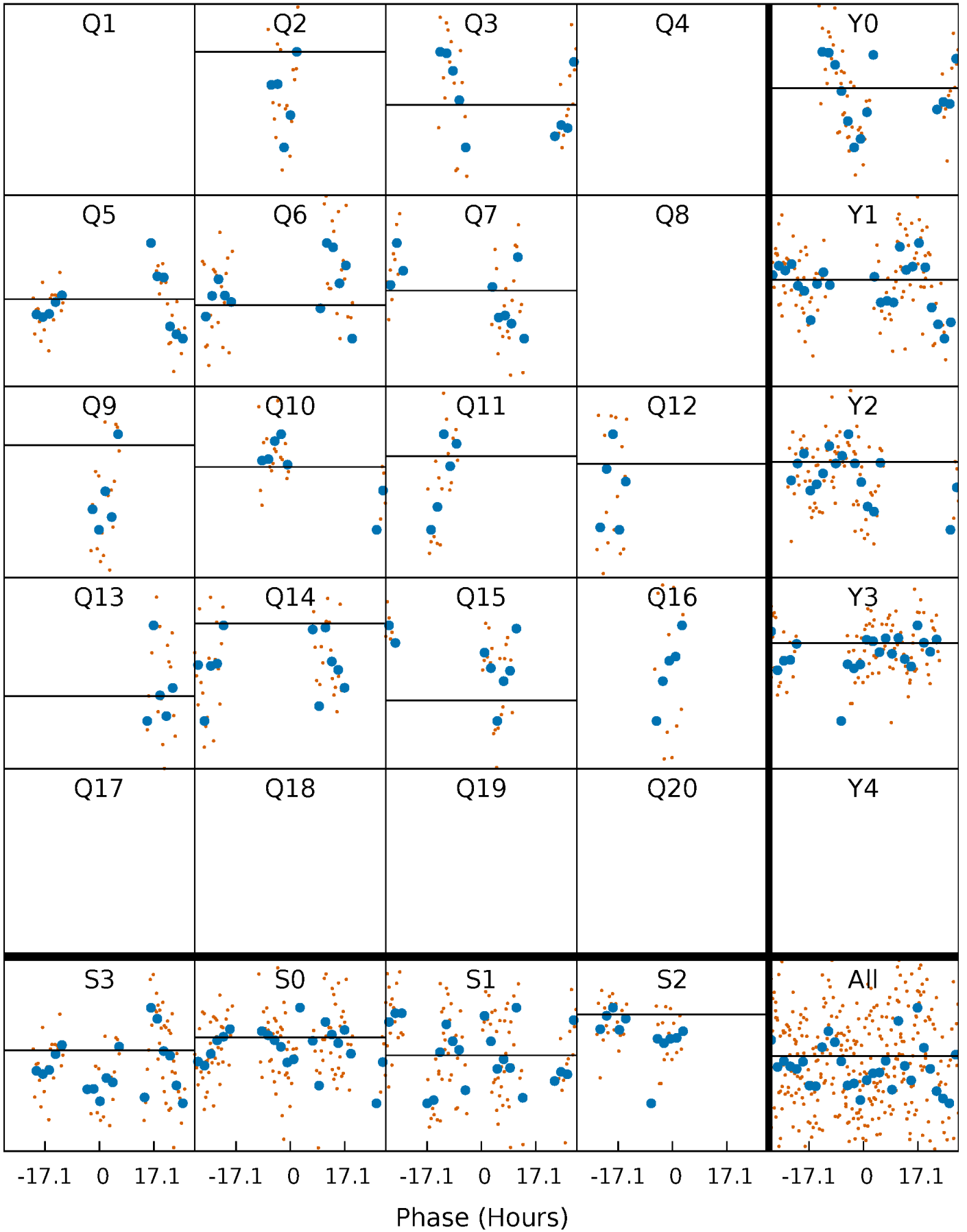
PDC Quarter-Phased Transit Curves

TCE 008957572-02 P=120.108466 Days $T_0=221.629805$ (BKJD)



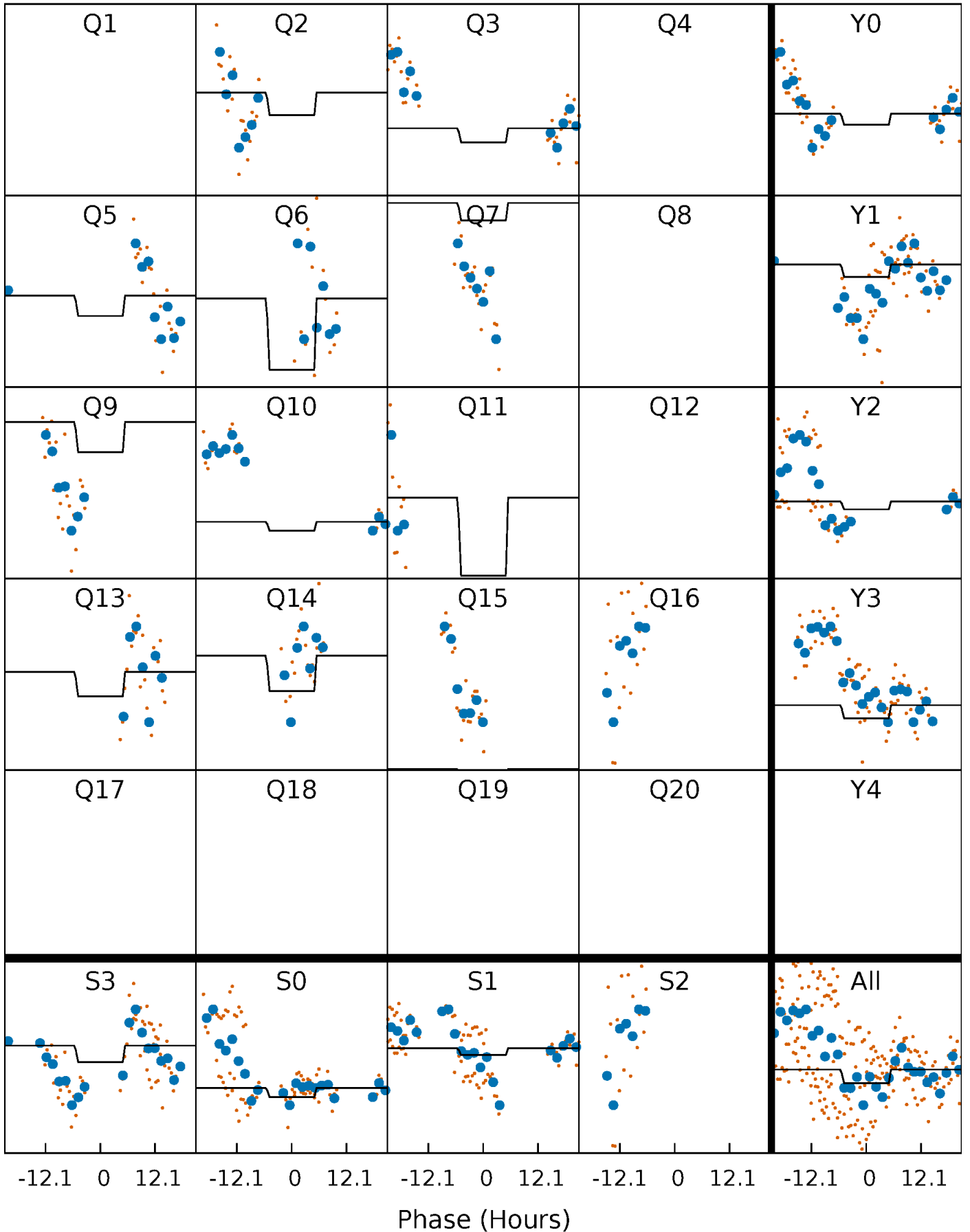
DV Quarter-Phased Transit Curves

TCE 008957572-02 P=120.108466 Days $T_0=221.629805$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

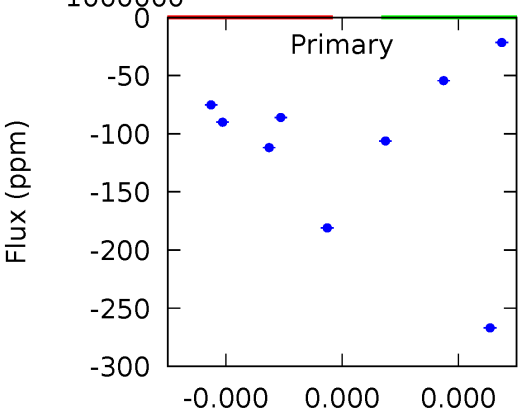
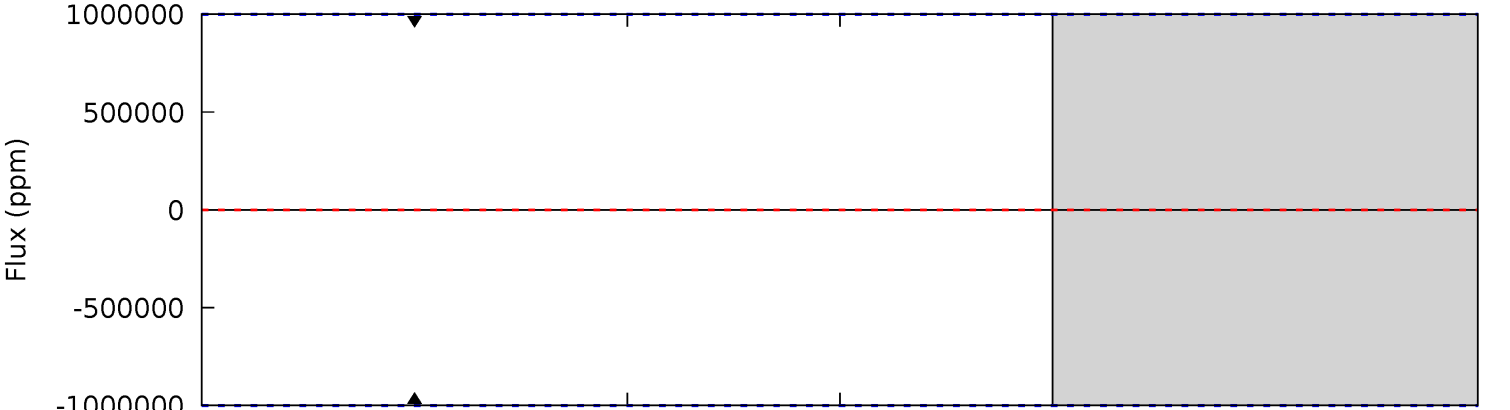
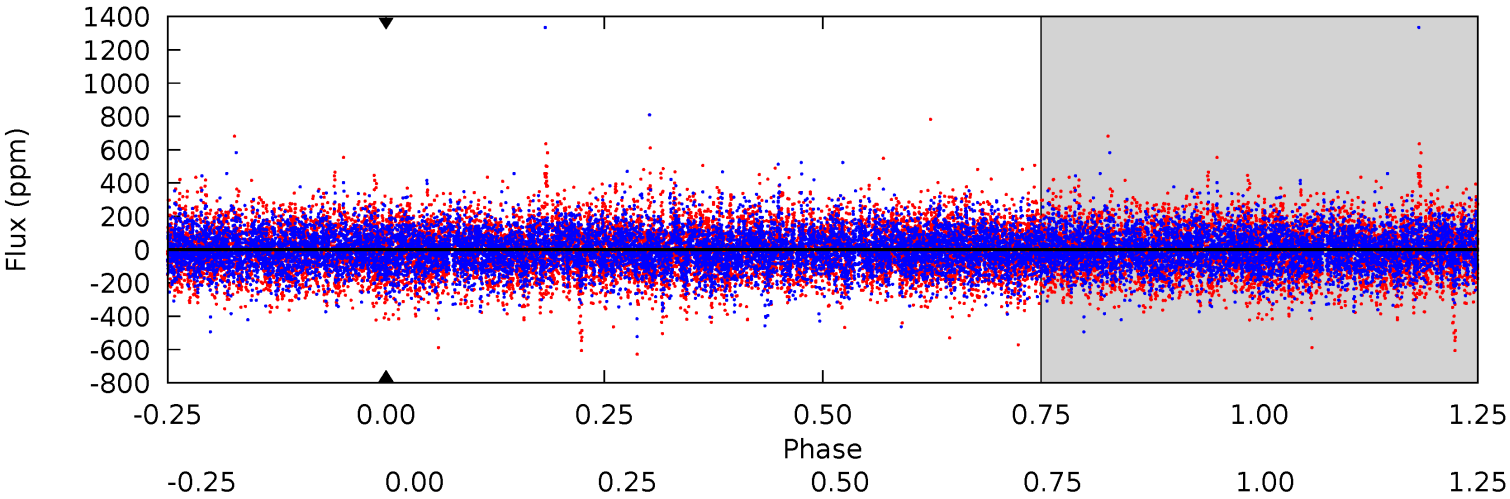
TCE 008957572-02 P=120.108466 Days $T_0=222.030723$ (BKJD)



DV Model-Shift Uniqueness Test

008957572-02, P = 120.108466 Days, E = 101.521339 Days

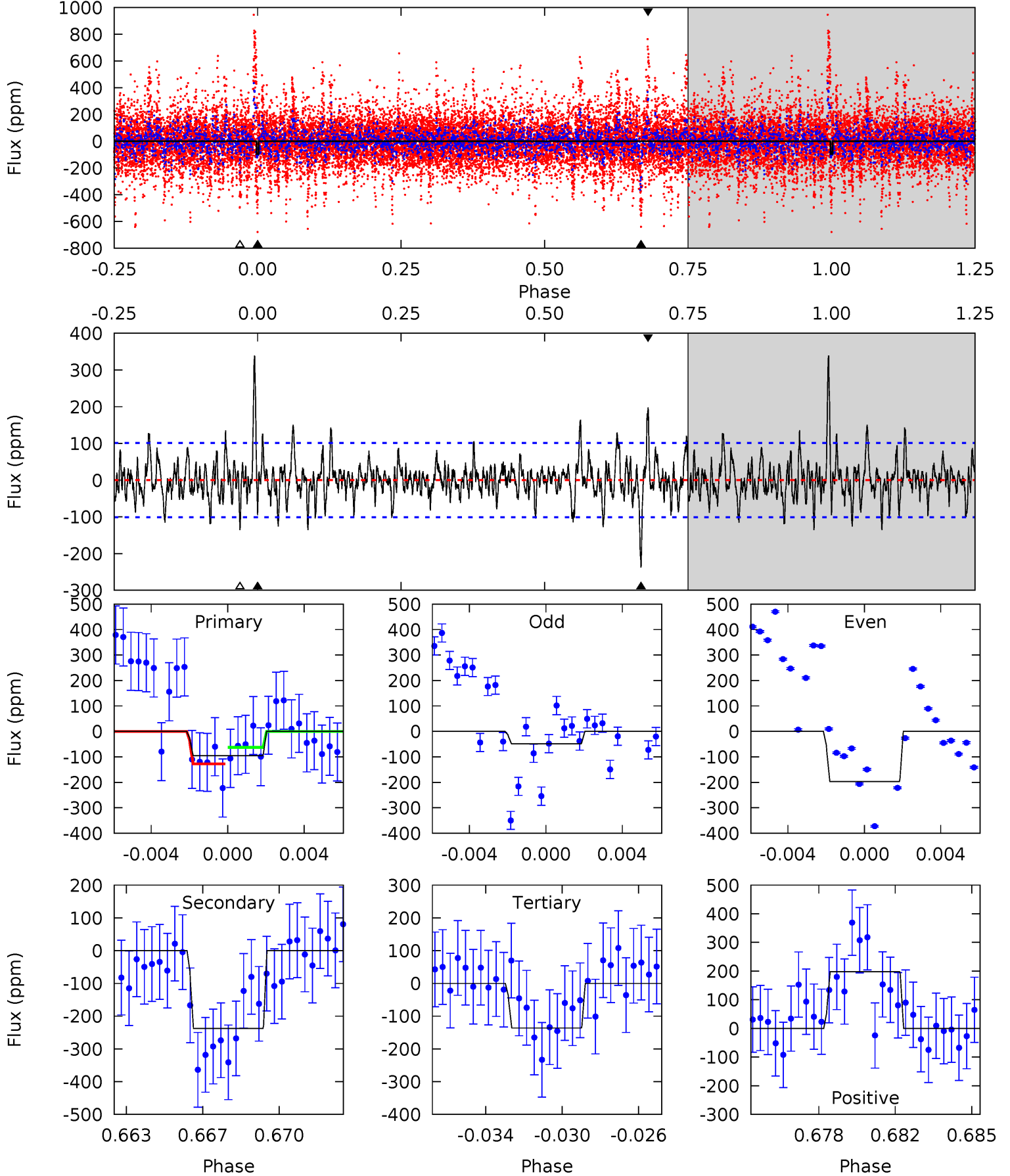
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008957572-02, $P = 120.108466$ Days, $E = 101.922257$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.90	12.3	7.03	10.2	5.21	2.90	2.48	-2.13	-5.32	5.23	2.04	3.82	0.98	0.59	1.69



Stellar Parameters For KIC 008957572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6742^{+160}_{-200}	$3.688^{+0.304}_{-0.076}$	$-0.140^{+0.300}_{-0.250}$	$3.138^{+0.396}_{-1.188}$	$1.752^{+0.166}_{-0.387}$	$0.080^{+0.175}_{-0.020}$
	+2%/-3%	+8%/-2%	+214%/-179%	+13%/-38%	+9%/-22%	+220%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008957572-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$22.45^{+23.52}_{-15.82}$	951^{+51}_{-88}	3546^{+32282}_{-33204}	73^{+74541}_{-61359}
Alt.	-238 ± 19	$23.39^{+23.55}_{-16.32}$	953^{+46}_{-89}	3537^{+2177}_{-687}	74^{+779}_{-54}

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

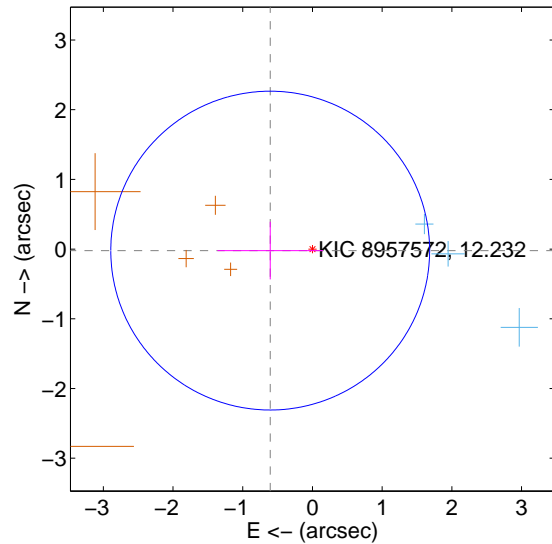
Supplemental centroid analysis for 008957572-02. Kepler magnitude: 12.23. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

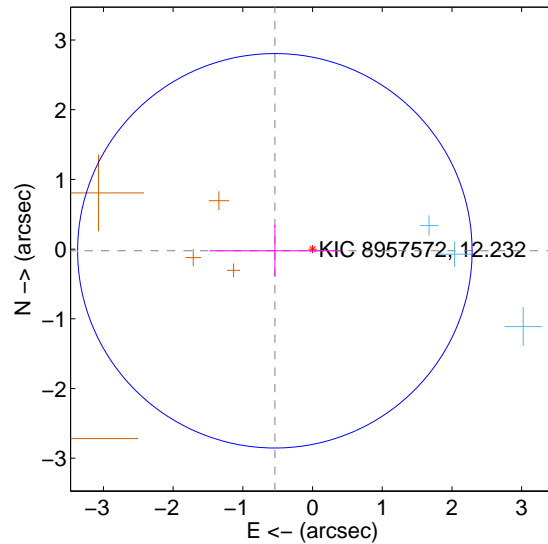
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.606 ± 0.762	0.80	0.606 ± 0.757	-0.022 ± 0.413
PRF-fit source offset from KIC position	0.541 ± 0.943	0.57	0.540 ± 0.940	-0.024 ± 0.370
photometric centroid source offset	0.79 ± 0.68	1.16	-0.79 ± 0.68	0.12 ± 0.73

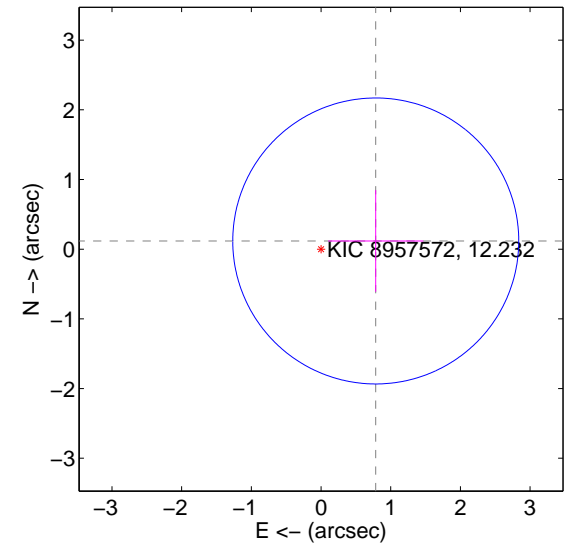
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

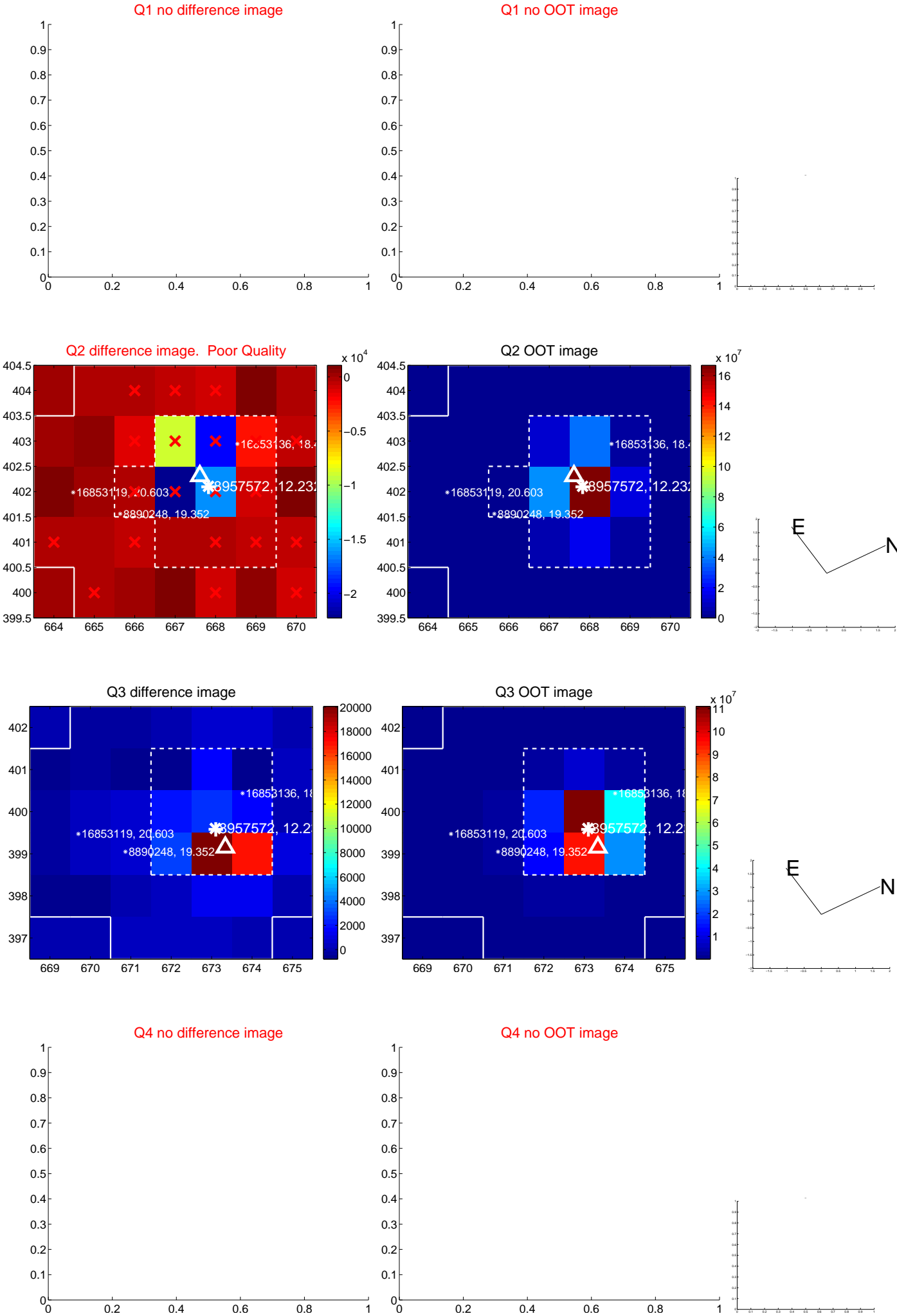


offset from photometric centroids

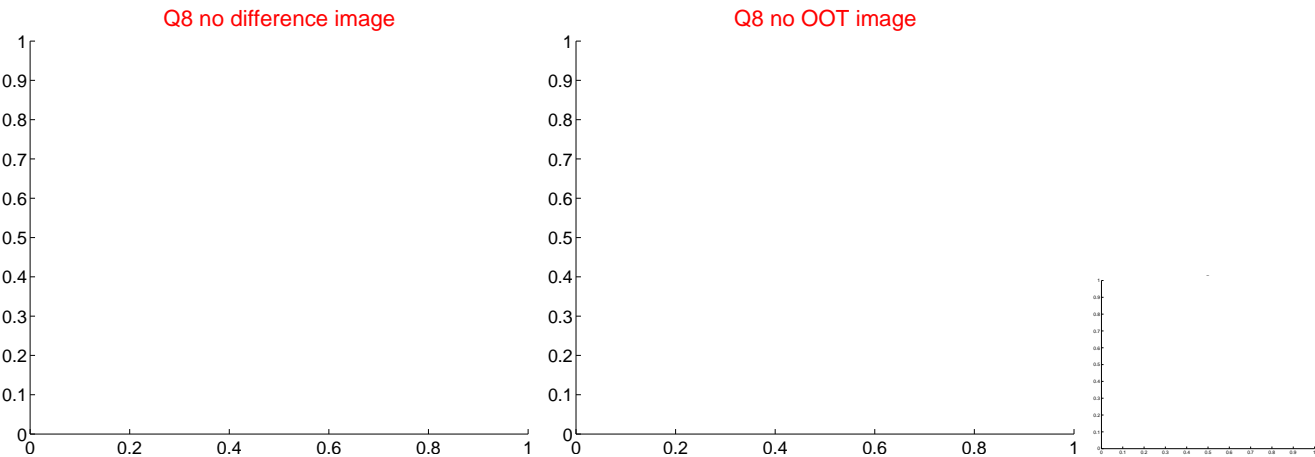
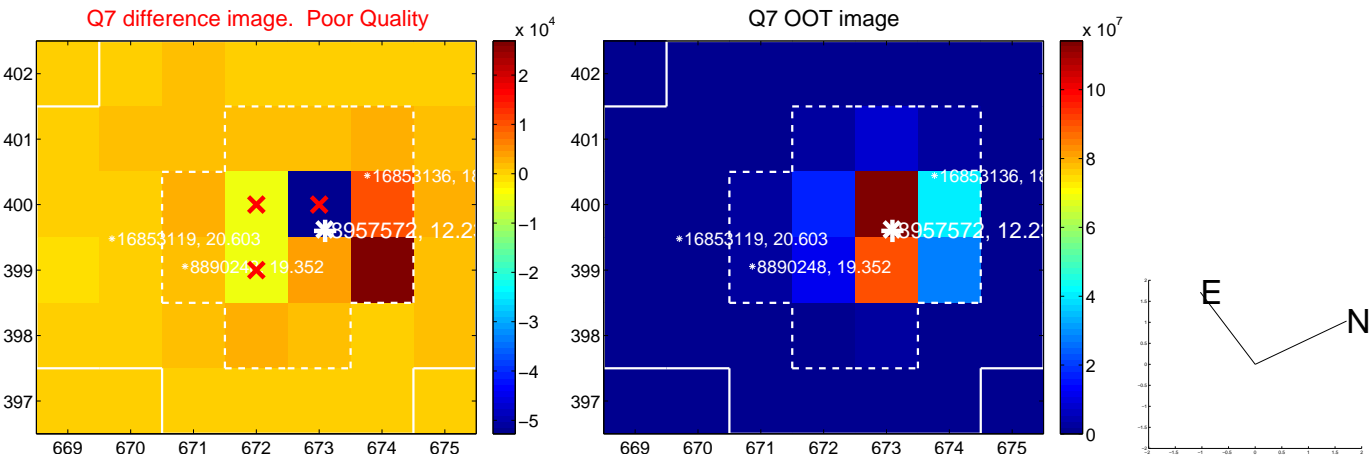
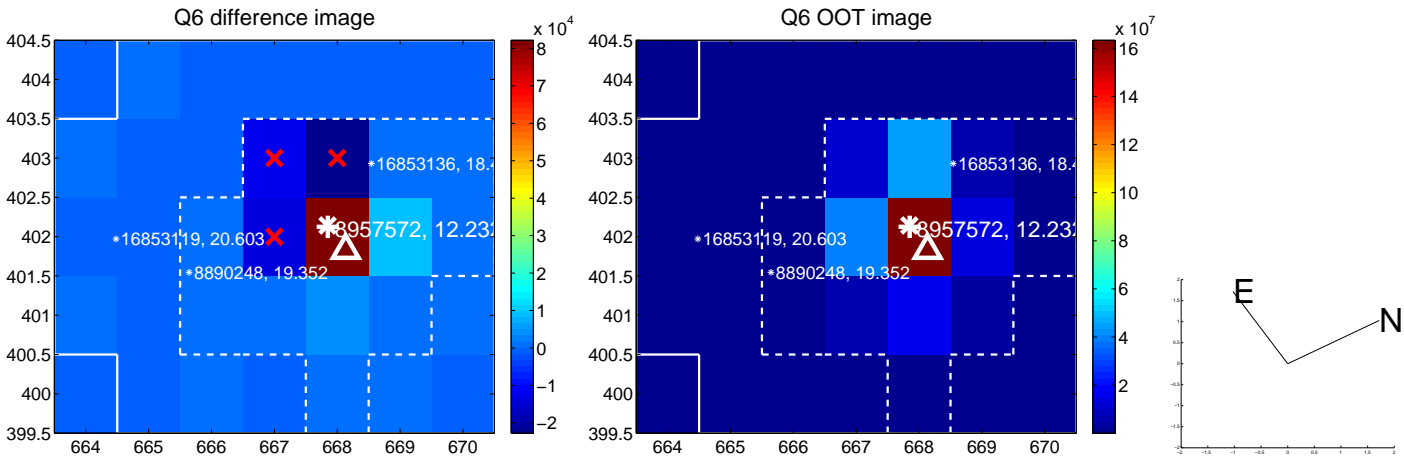
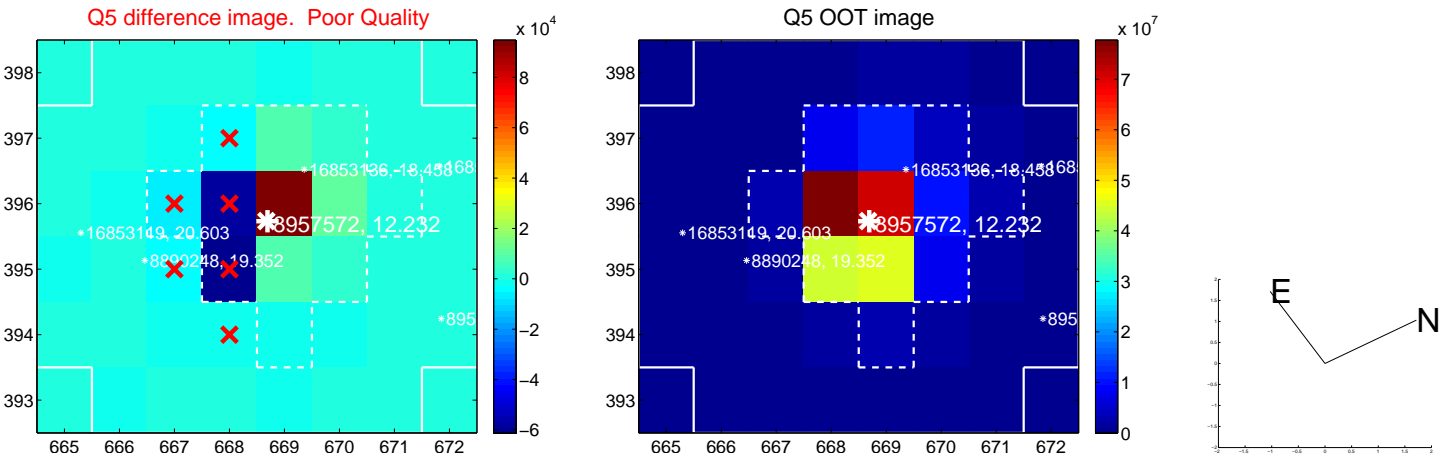


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

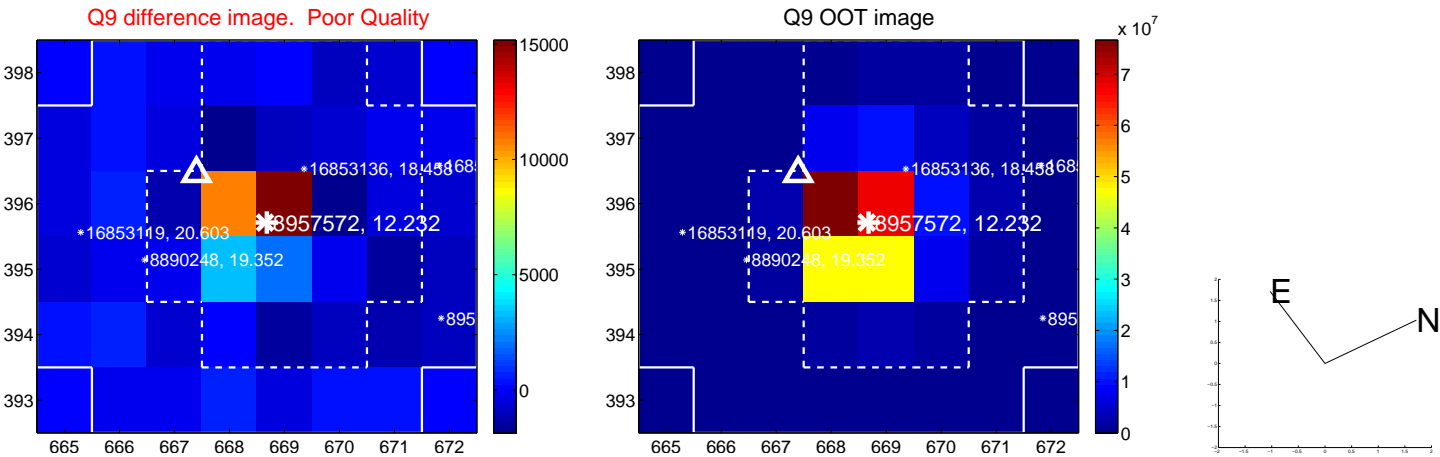
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



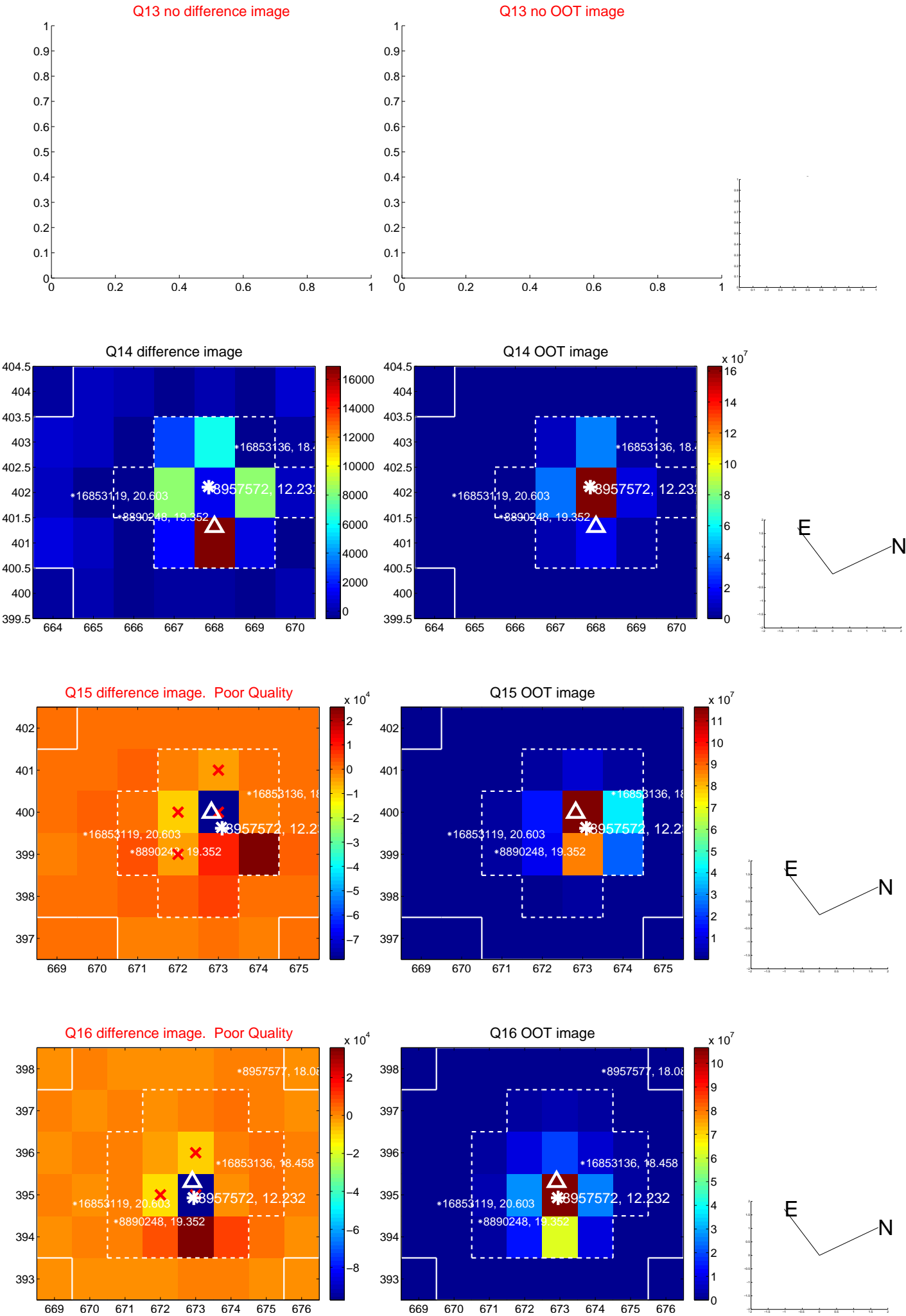
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



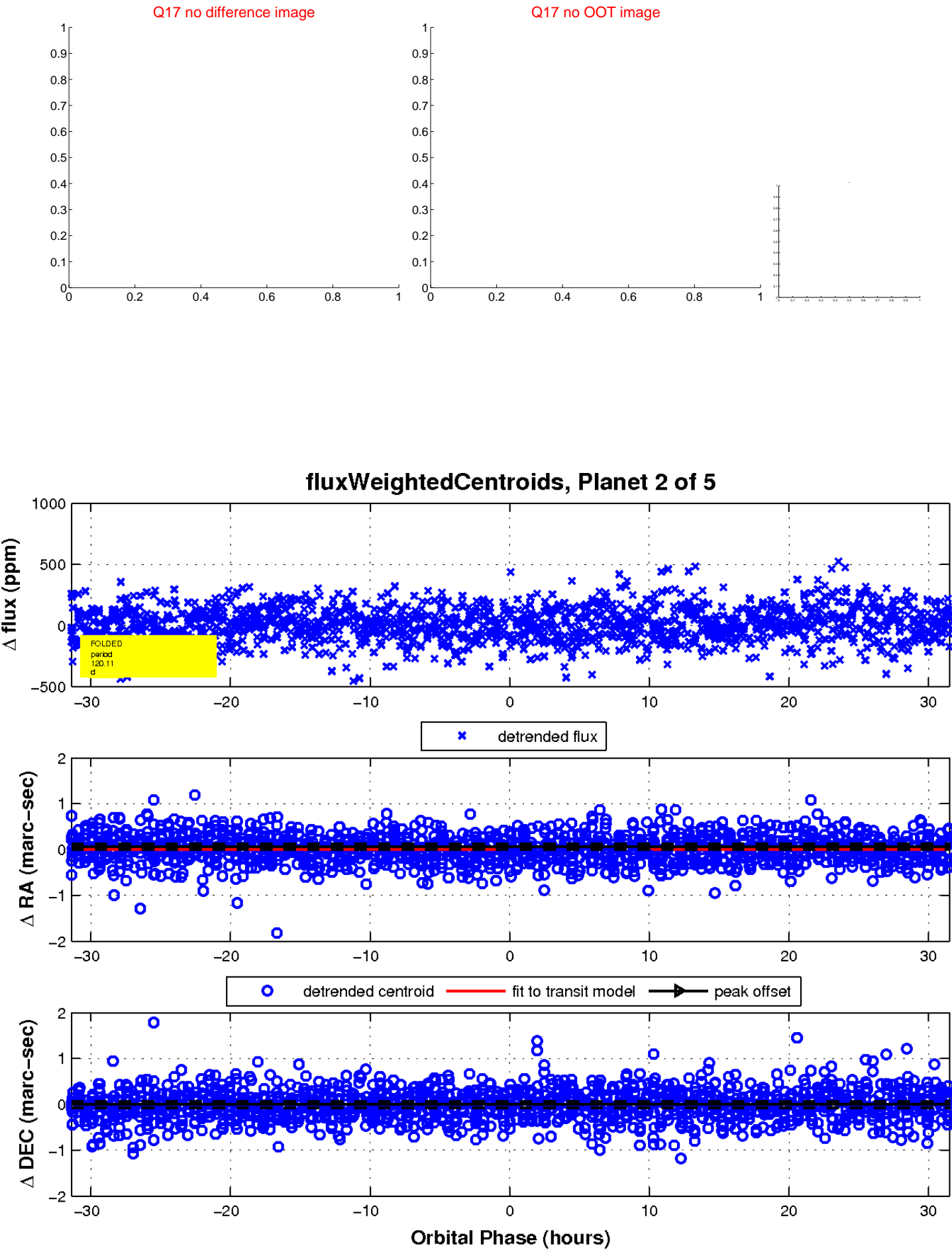
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

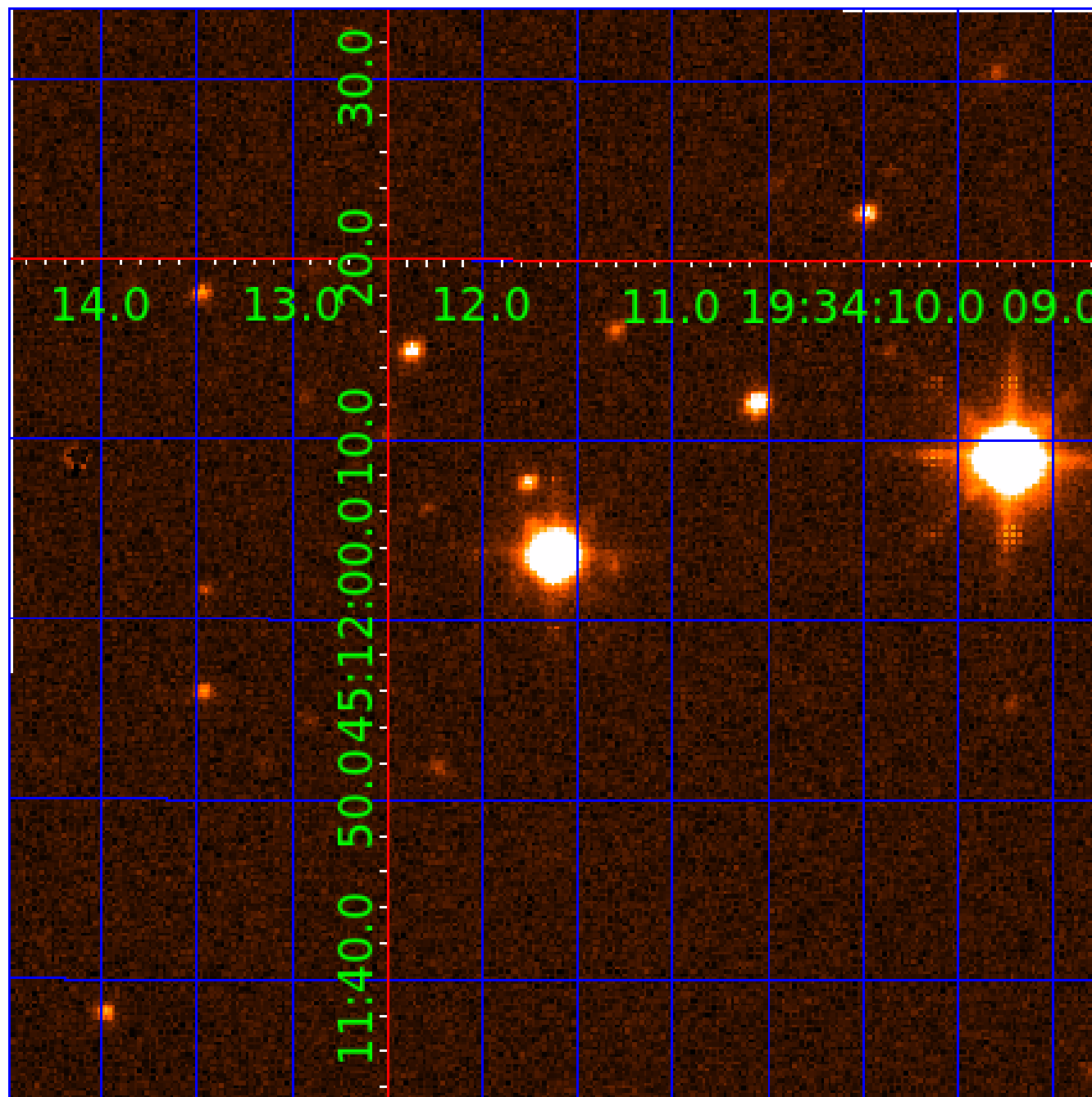


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008957572

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})
008957572-01	OBS	7115.01	1.576651	132.448659	21.0	9.132	9.0	9.4	3.14	6742	1.46	17844.49
008957572-02	OBS	No	120.108466	221.629805	149.1	15.000	12.6	-1.0	3.14	6742	3.86	55.26
008957572-03	OBS	No	2.390765	132.372990	48.4	6.598	10.0	12.7	3.14	6742	2.52	10243.20
008957572-04	OBS	No	72.690279	187.719167	178.4	0.884	8.6	4.2	3.14	6742	4.92	107.94
008957572-05	OBS	No	145.393482	187.428032	227.5	6.184	8.9	8.7	3.14	6742	4.84	42.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008957572-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008957572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS
008957572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008957572-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008957572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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 008957572-03

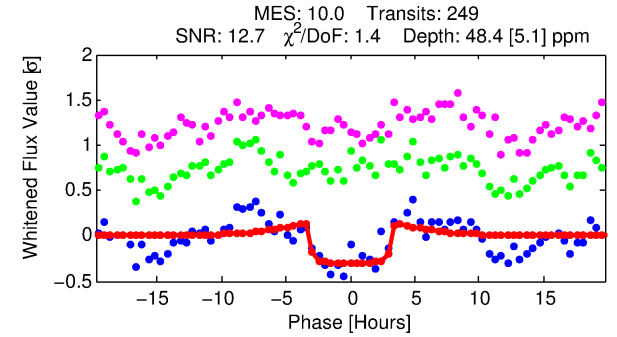
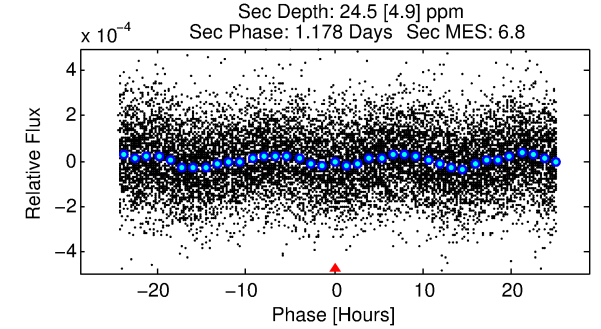
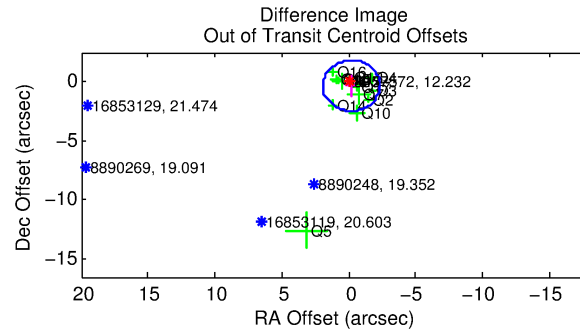
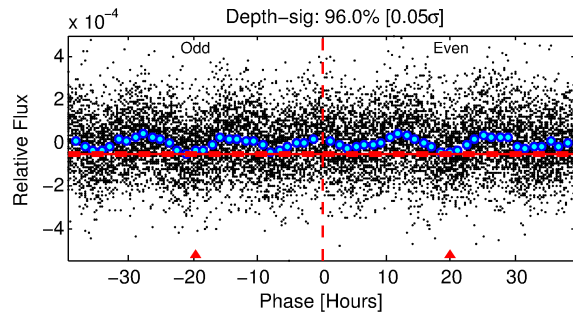
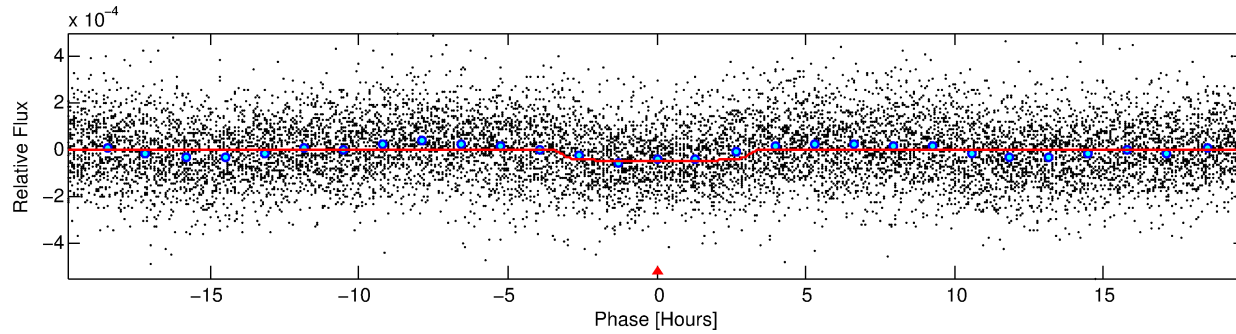
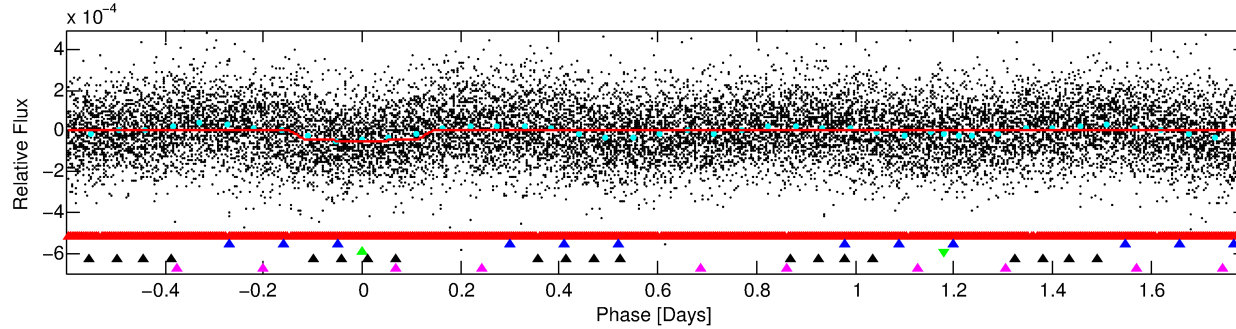
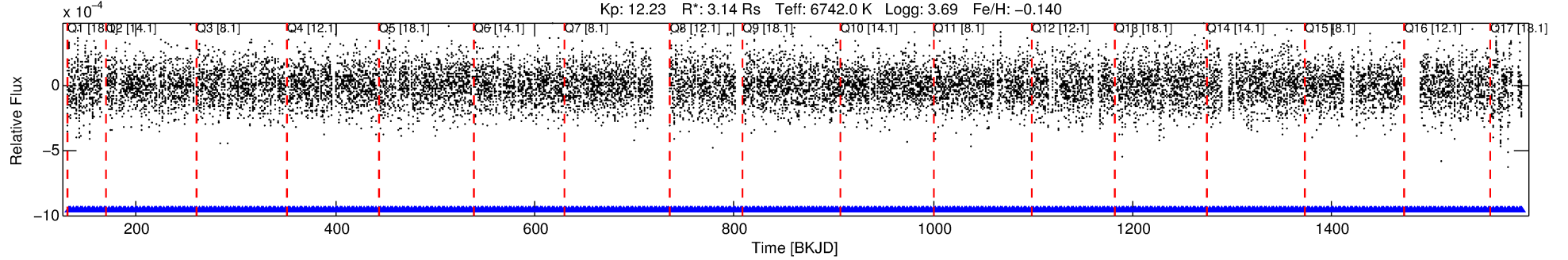
No Significant Match Found

DV One-Page Summary

KIC: 8957572 Candidate: 3 of 5 Period: 2.391 d

KOI: K07115 Corr: No Ephemeris Match

Kp: 12.23 R*: 3.14 Rs Teff: 6742.0 K Logg: 3.69 Fe/H: -0.140



DV Fit Results:

Period = 2.39076 [0.00002] d
Epoch = 132.3730 [0.0048] BKJD
Rp/R* = 0.0074 [0.0018]
a/R* = 1.60 [1.39]
b = 0.89 [0.33]
Seff = 10243.20 [5568.66]
Teq = 2565 [349] K
Rp = 2.53 [1.14] Re
a = 0.0422 [0.0145] AU
Ag = 3.77 [2.82] [0.98σ]
Teffp = 5525 [749] K [3.58σ]

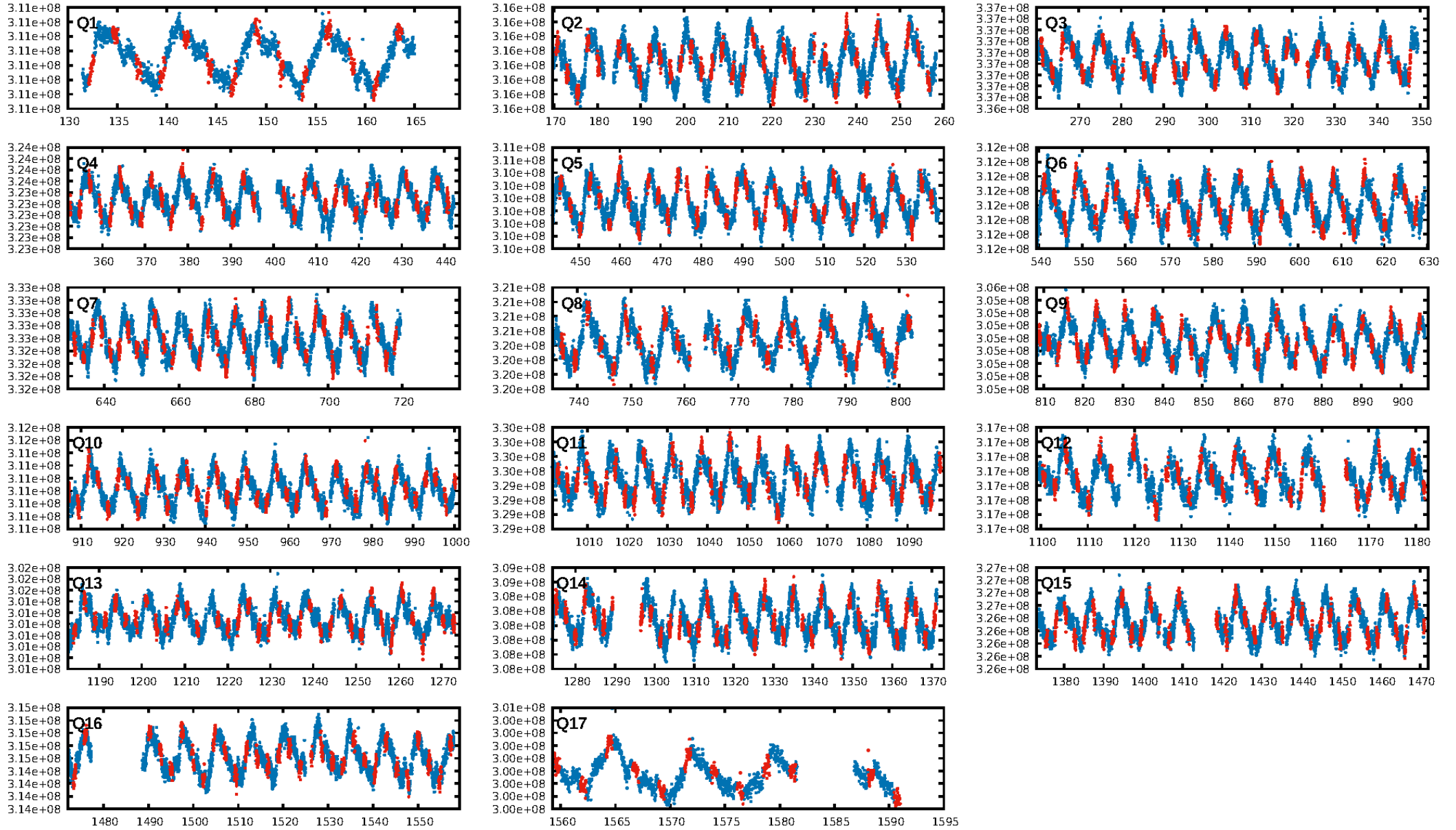
DV Diagnostic Results:

ShortPeriod-sig: 91.7% [1.73σ]
LongPeriod-sig: 100.0% [253.45σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.09e-06
RollingBand-fgt: 1.00 [238/238]
GhostDiagnostic-chr: 0.5828
Centroid-sig: 0.2%
Centroid-so: 0.712 arcsec [2.74σ]
OotOffset-rm: 0.364 arcsec [0.51σ]
KicOffset-rm: 0.372 arcsec [0.70σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 0.94 [16/17]

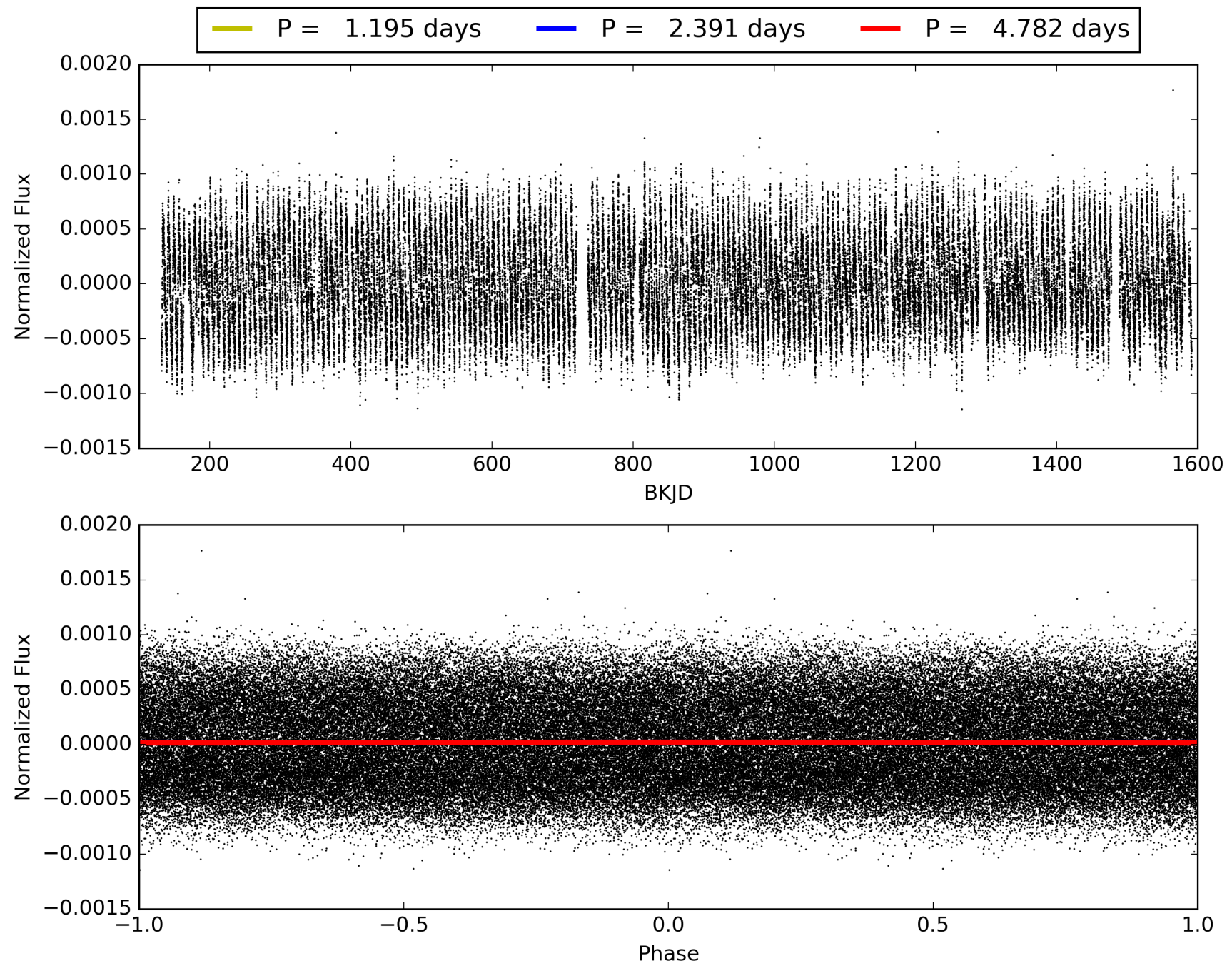
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:55:39 Z

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

TCE 008957572-03, PDC Light Curves

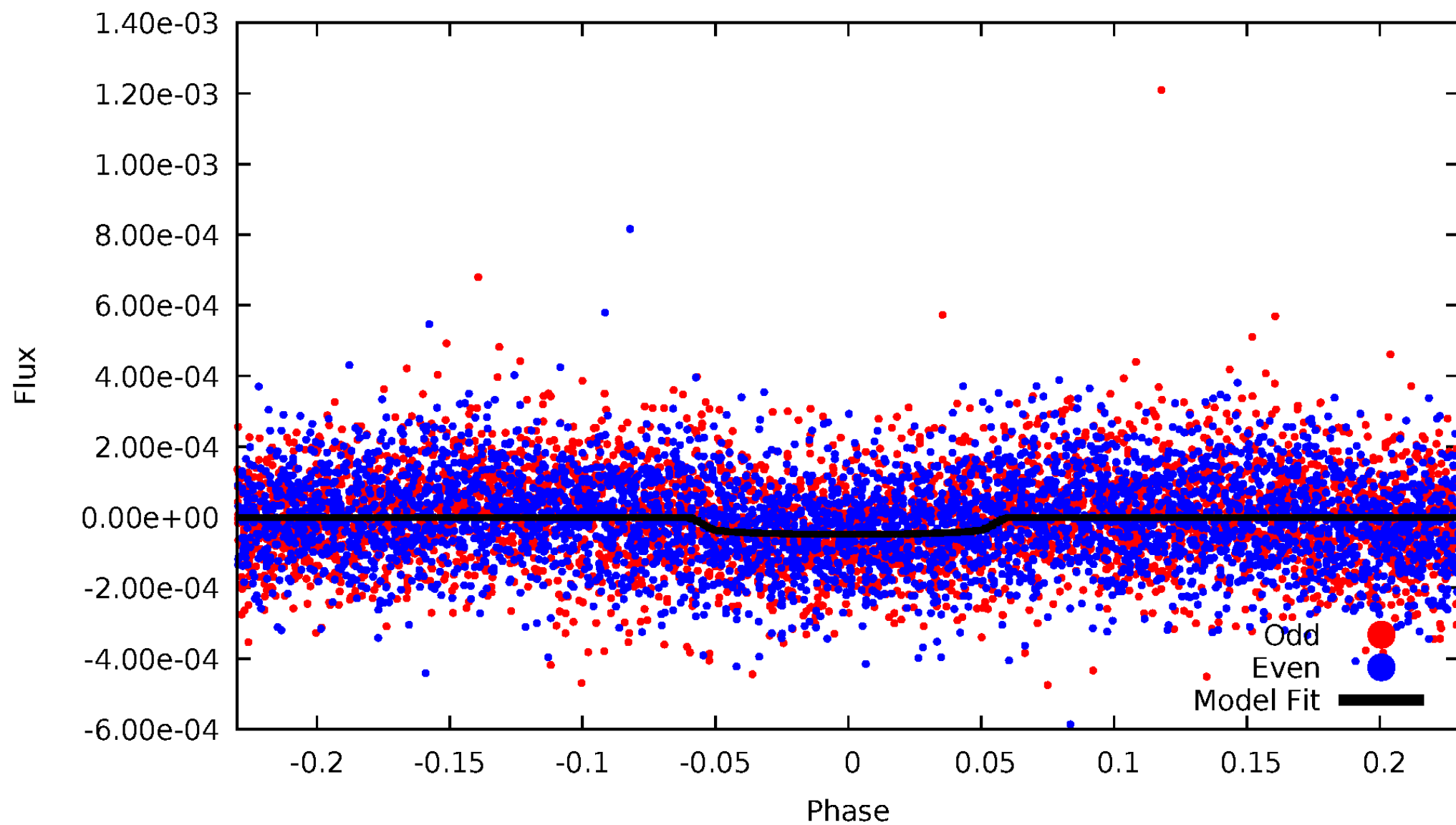


TCE 008957572-03



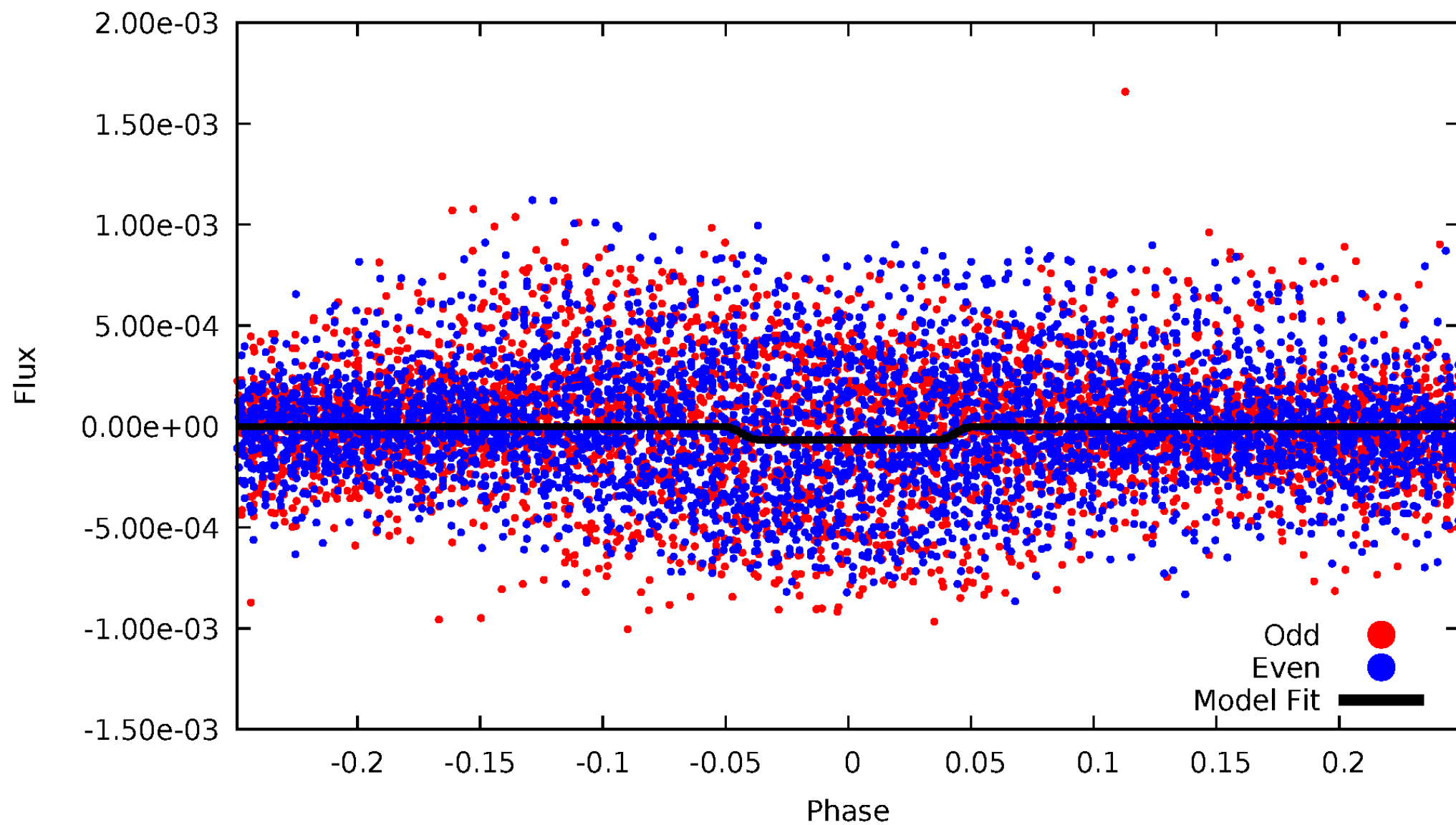
DV Odd/Even

TCE 008957572-03



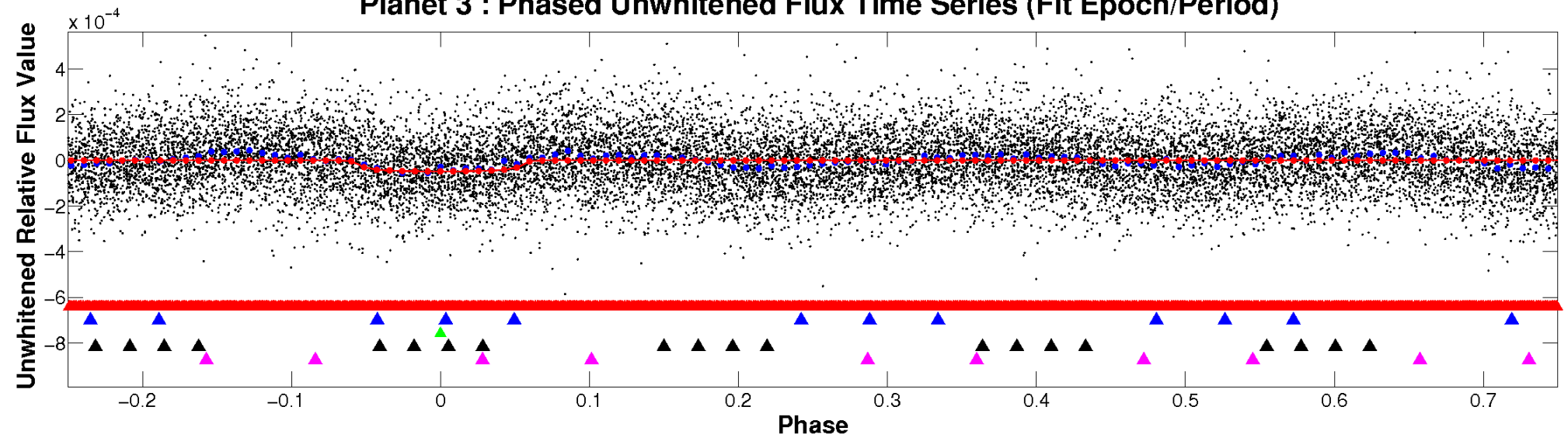
ALT Odd/Even

TCE 008957572-03

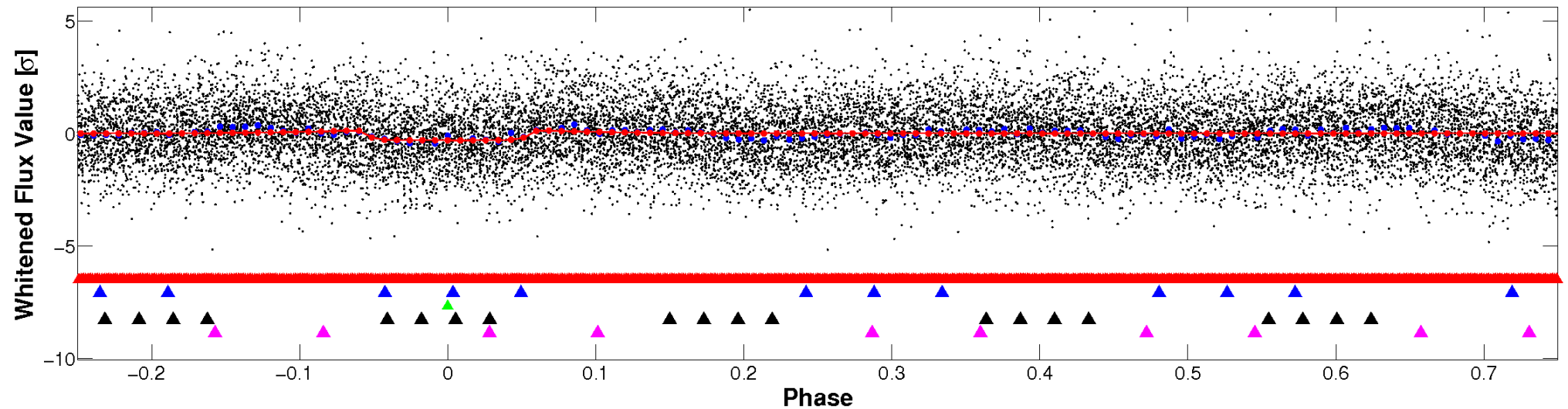


Non-Whitened Vs. Whitened Light Curve

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

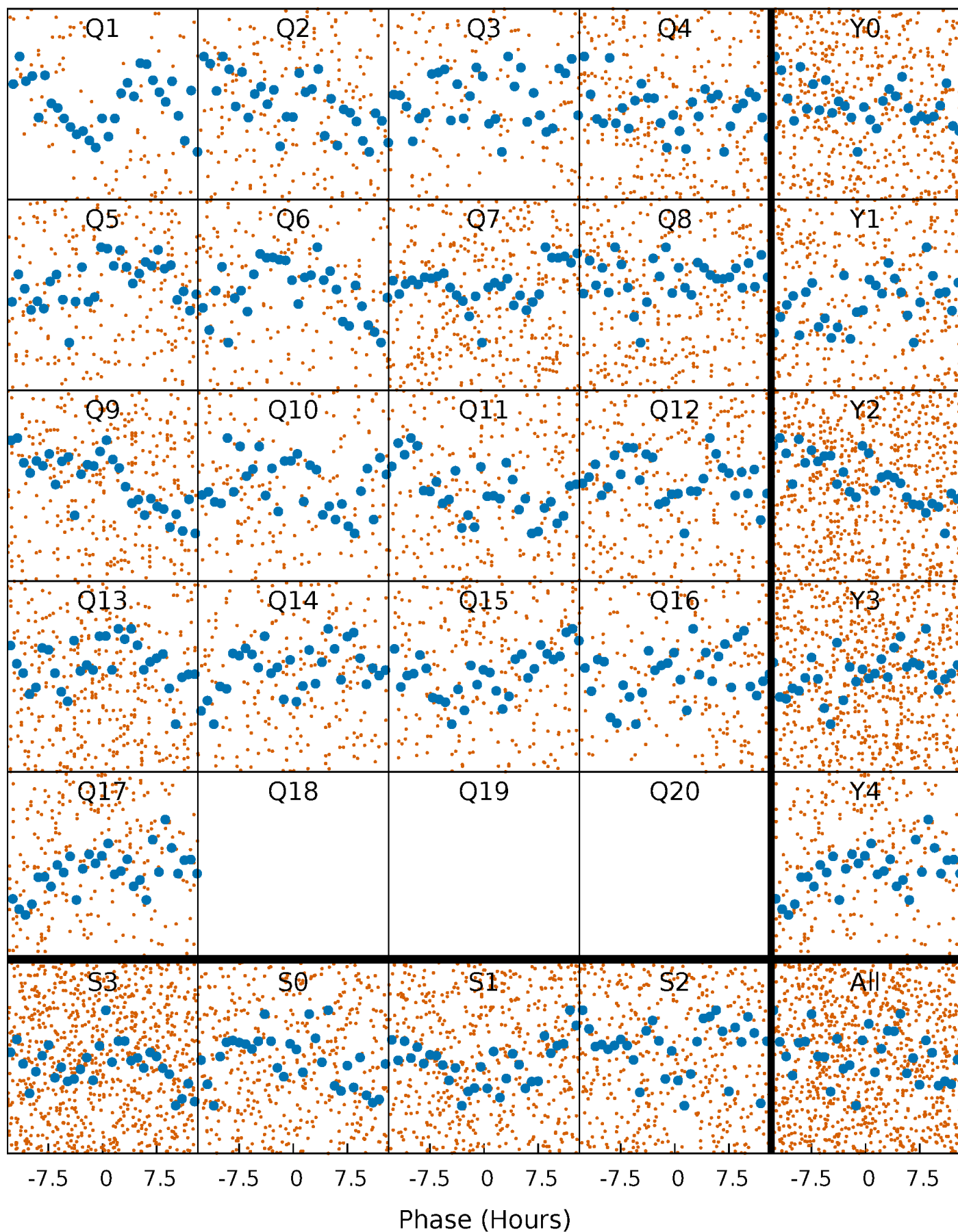


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



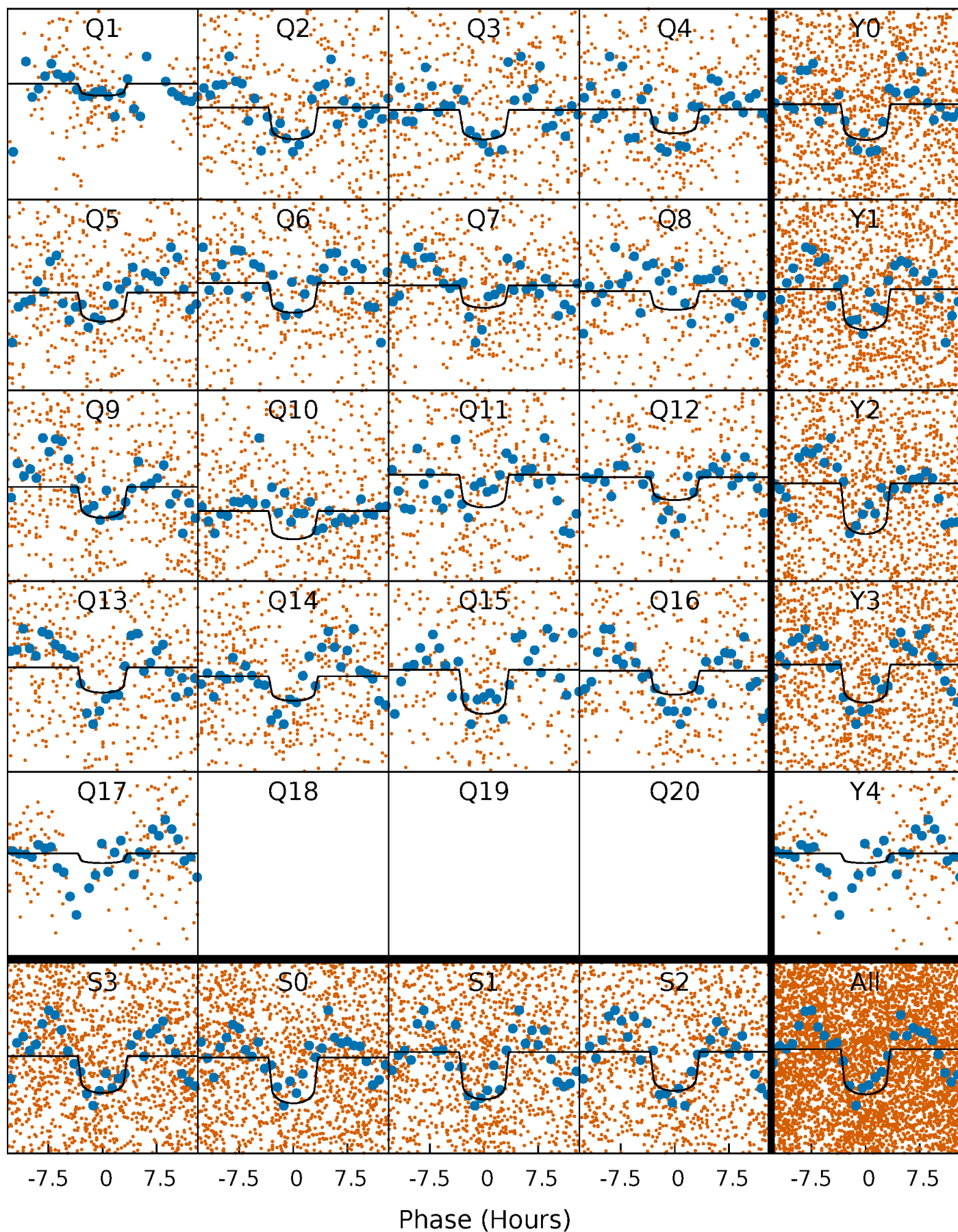
PDC Quarter-Phased Transit Curves

TCE 008957572-03 P= 2.390765 Days $T_0=132.372990$ (BKJD)



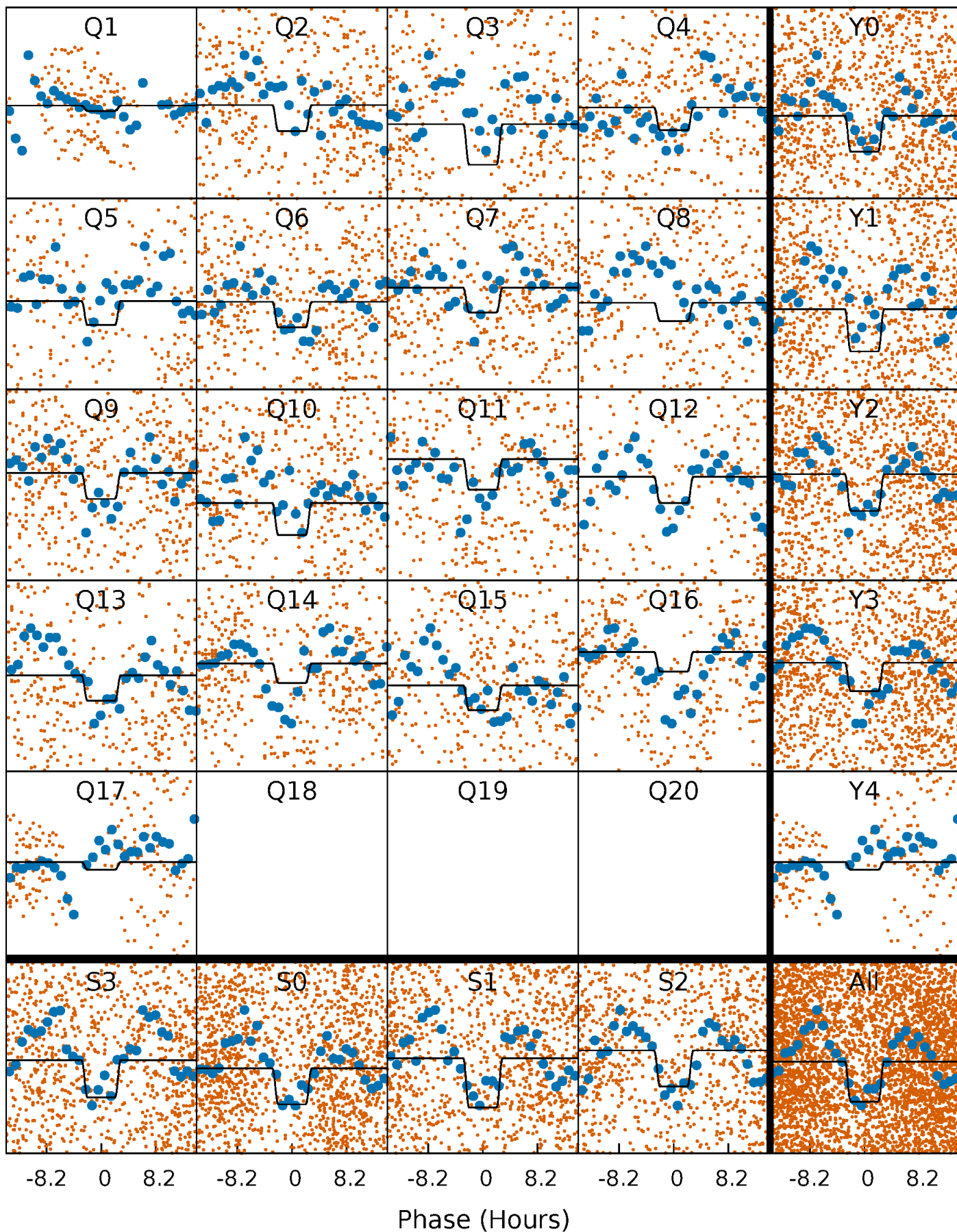
DV Quarter-Phased Transit Curves

TCE 008957572-03 P= 2.390765 Days $T_0=132.372990$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

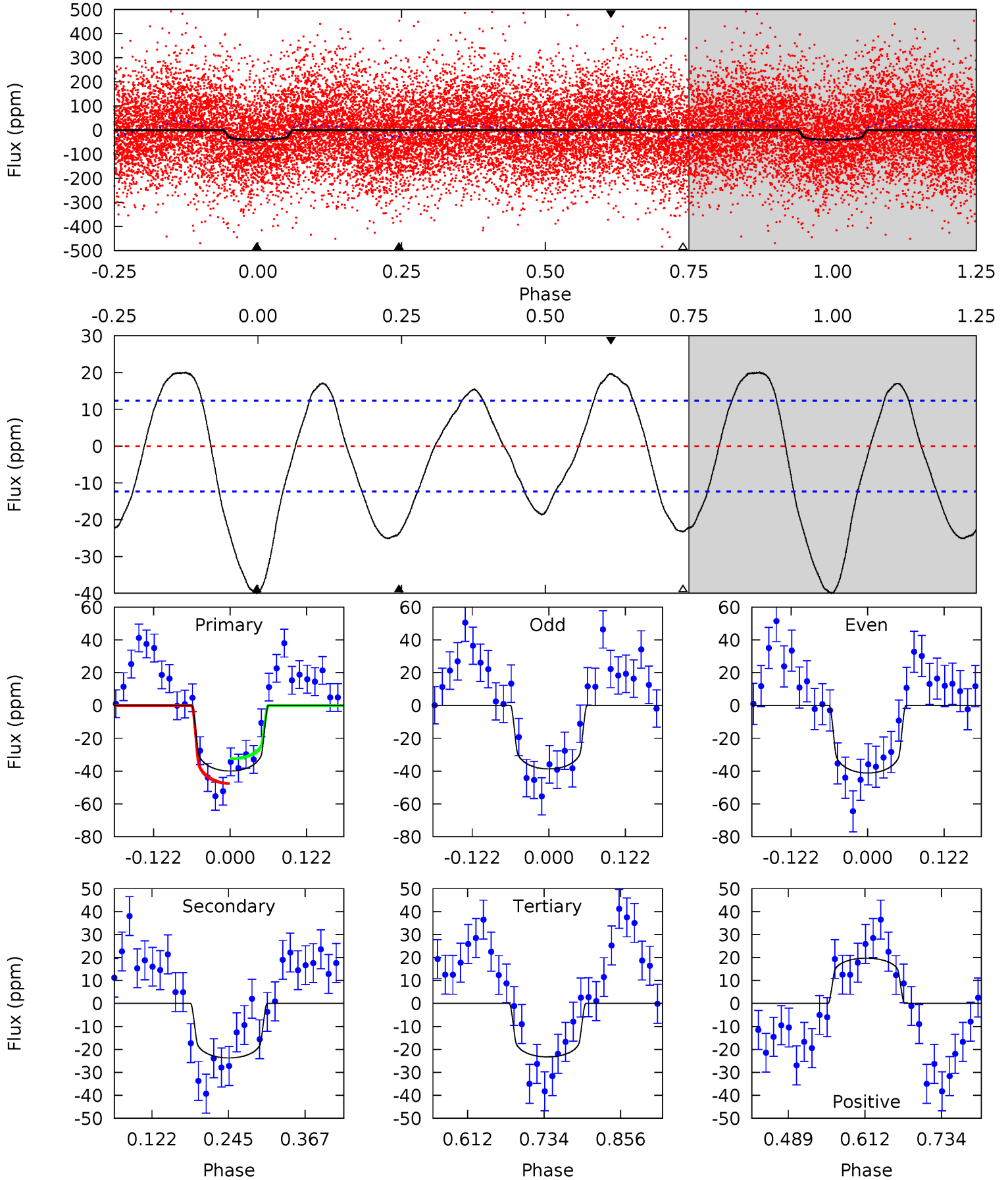
TCE 008957572-03 P= 2.390787 Days $T_0=132.371565$ (BKJD)



DV Model-Shift Uniqueness Test

008957572-03, P = 2.390765 Days, E = 129.982225 Days

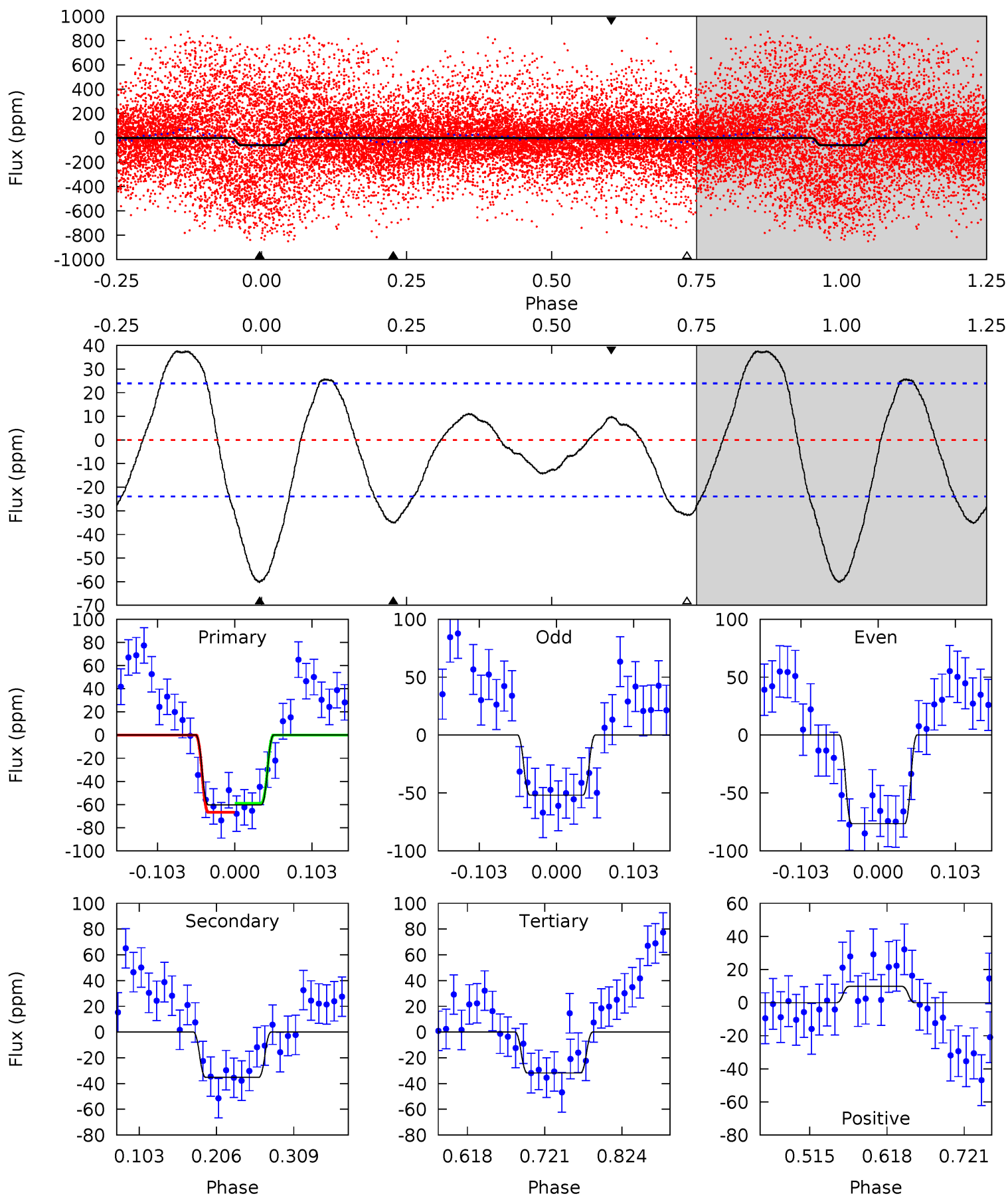
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	8.69	8.52	7.21	4.52	1.54	5.19	6.11	7.43	0.16	1.47	0.45	0.51	0.33	2.78



Alt Model-Shift Uniqueness Test

008957572-03, P = 2.390787 Days, E = 129.980778 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	6.71	6.06	1.87	4.56	1.63	3.43	5.41	9.61	0.64	4.84	2.32	-1.59	0.38	0.71



Stellar Parameters For KIC 008957572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6742^{+160}_{-200}	$3.688^{+0.304}_{-0.076}$	$-0.140^{+0.300}_{-0.250}$	$3.138^{+0.396}_{-1.188}$	$1.752^{+0.166}_{-0.387}$	$0.080^{+0.175}_{-0.020}$
	+2%/-3%	+8%/-2%	+214%/-179%	+13%/-38%	+9%/-22%	+220%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008957572-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-24 ± 3	$2.33^{+0.76}_{-0.64}$	3510^{+181}_{-284}	5375^{+839}_{-576}	$4.158^{+3.530}_{-1.737}$
Alt.	-35 ± 5	$2.59^{+0.73}_{-0.66}$	3500^{+201}_{-348}	5636^{+812}_{-556}	$5.117^{+3.995}_{-2.032}$

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

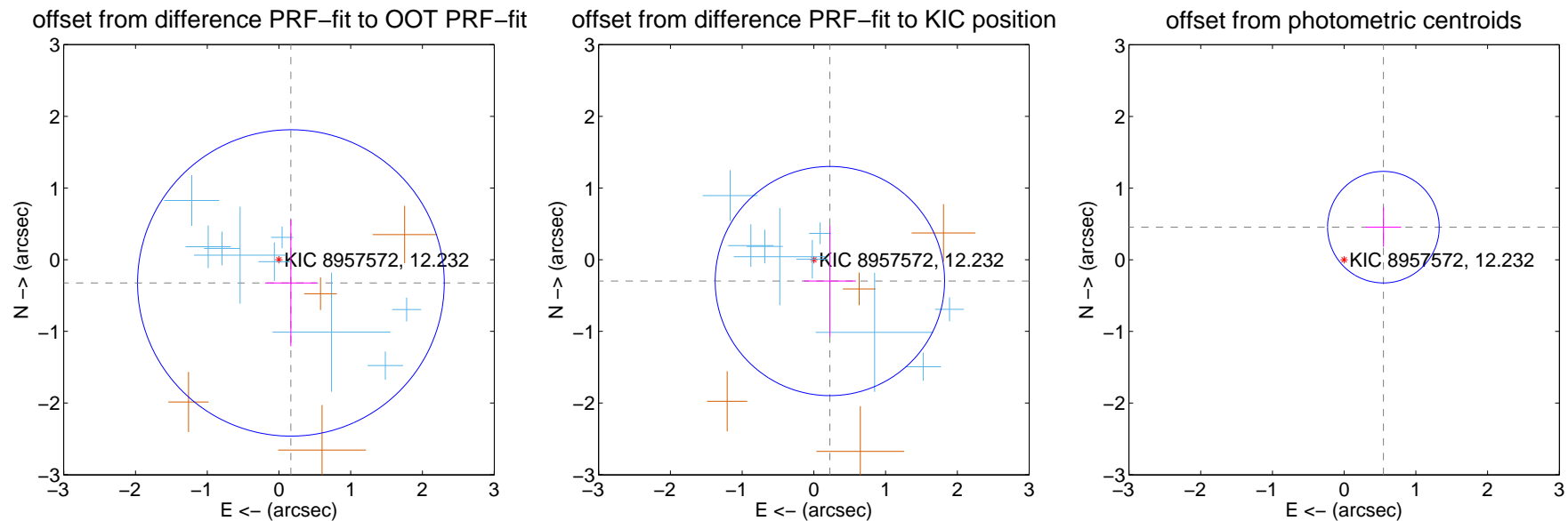
DV Centroid Data

Supplemental centroid analysis for 008957572-03. Kepler magnitude: 12.23. Transit SNR 12.67

There are 9 quarters with good PRF difference image offsets

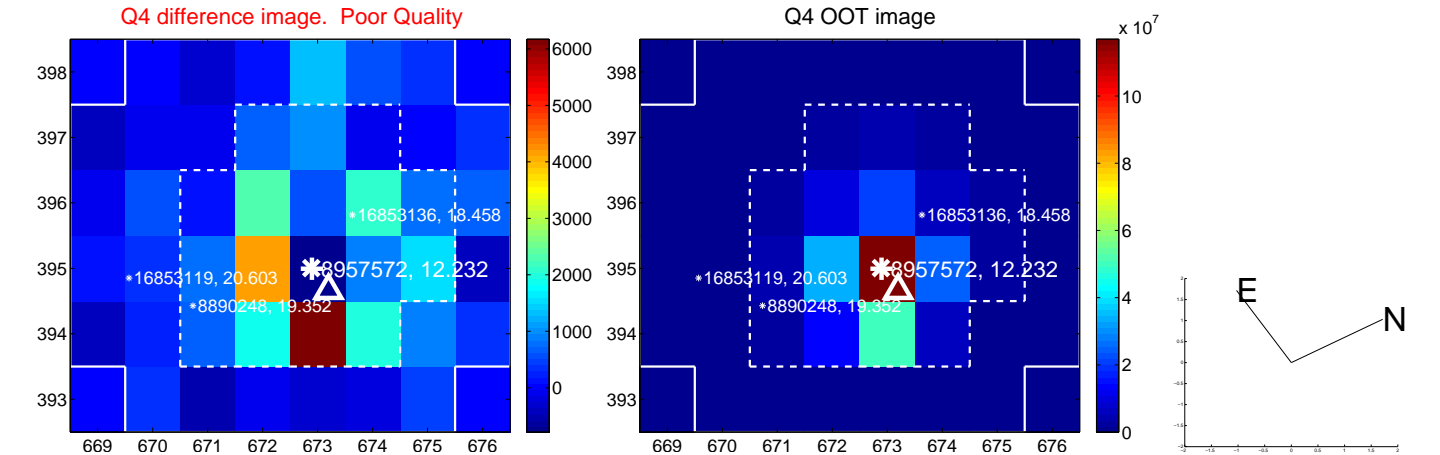
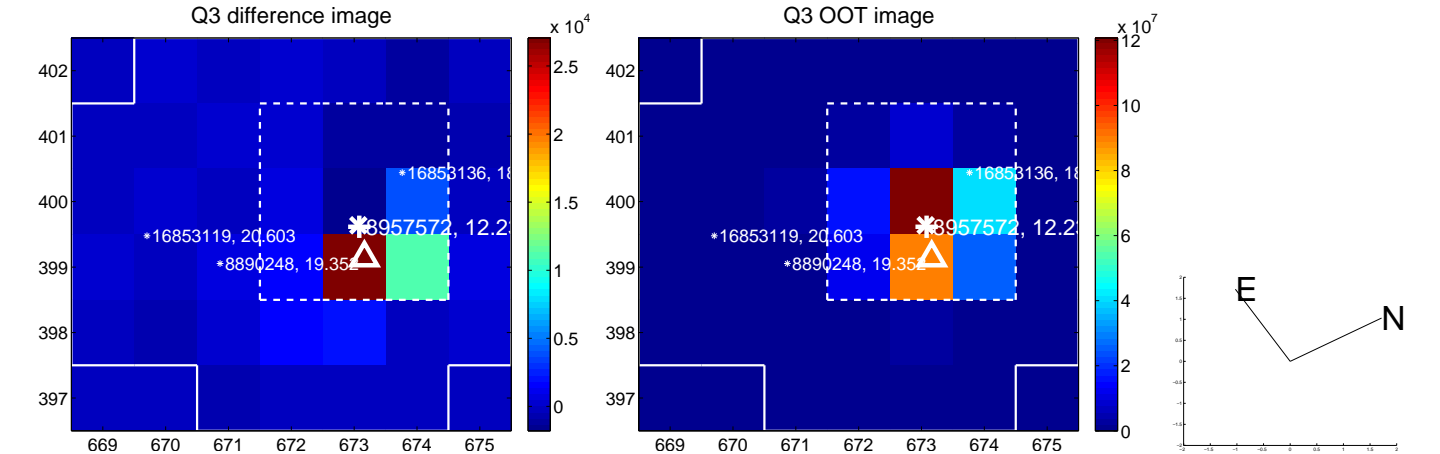
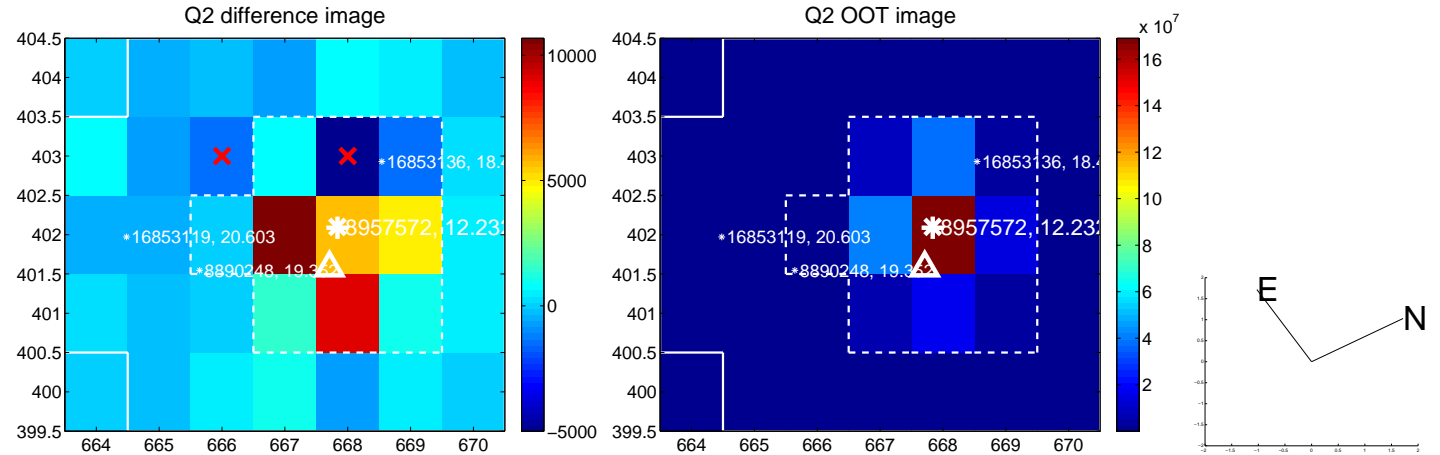
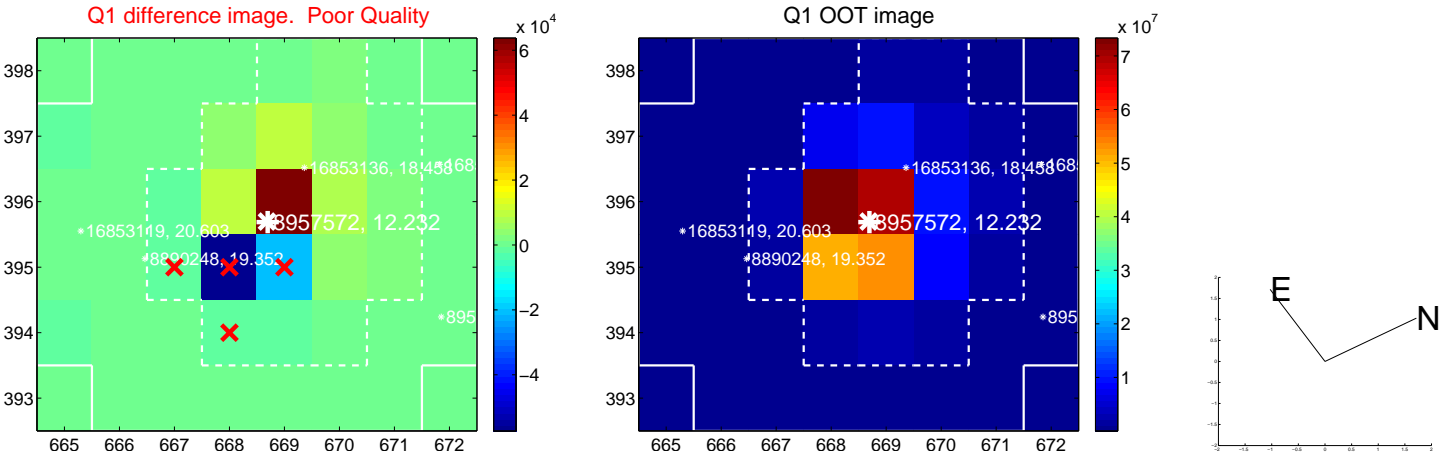
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.364 ± 0.712	0.51	-0.166 ± 0.360	-0.324 ± 0.883
PRF-fit source offset from KIC position	0.372 ± 0.533	0.70	-0.223 ± 0.362	-0.298 ± 0.774
photometric centroid source offset	0.71 ± 0.26	2.74	-0.55 ± 0.25	0.46 ± 0.27

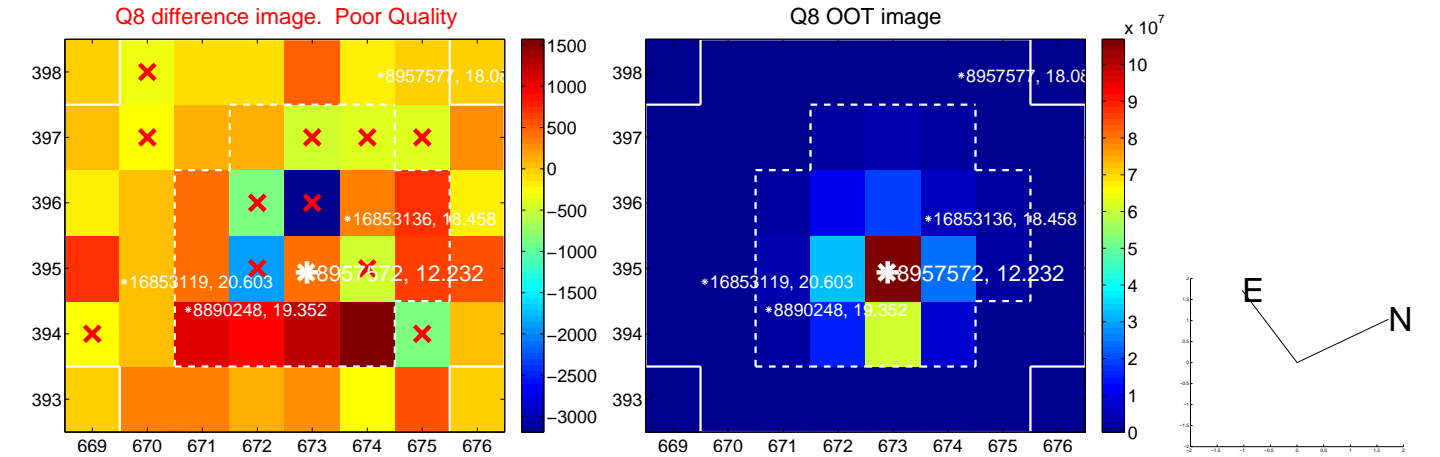
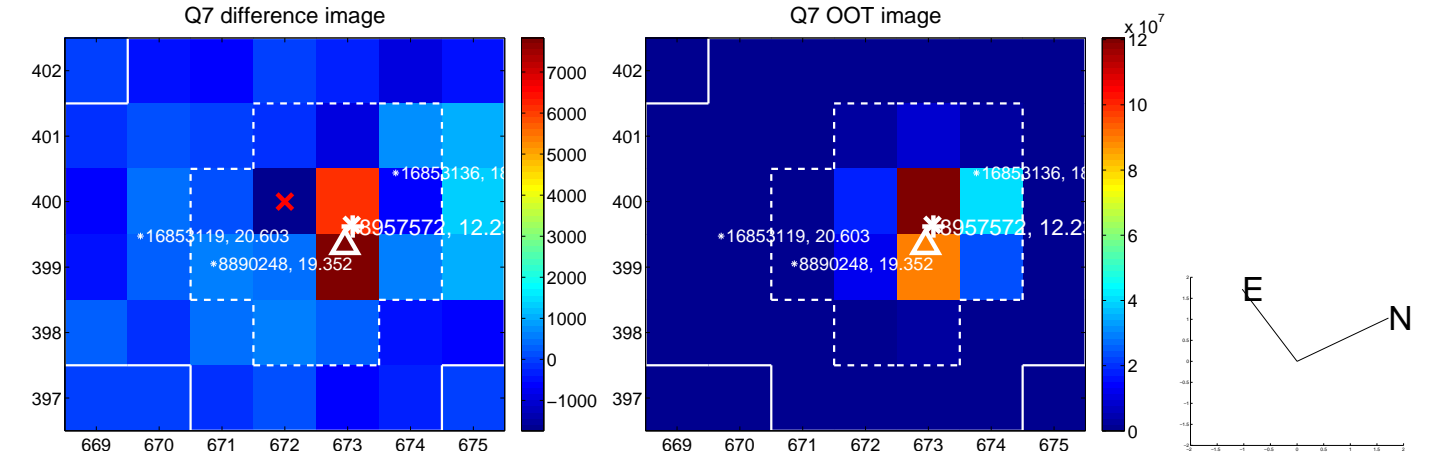
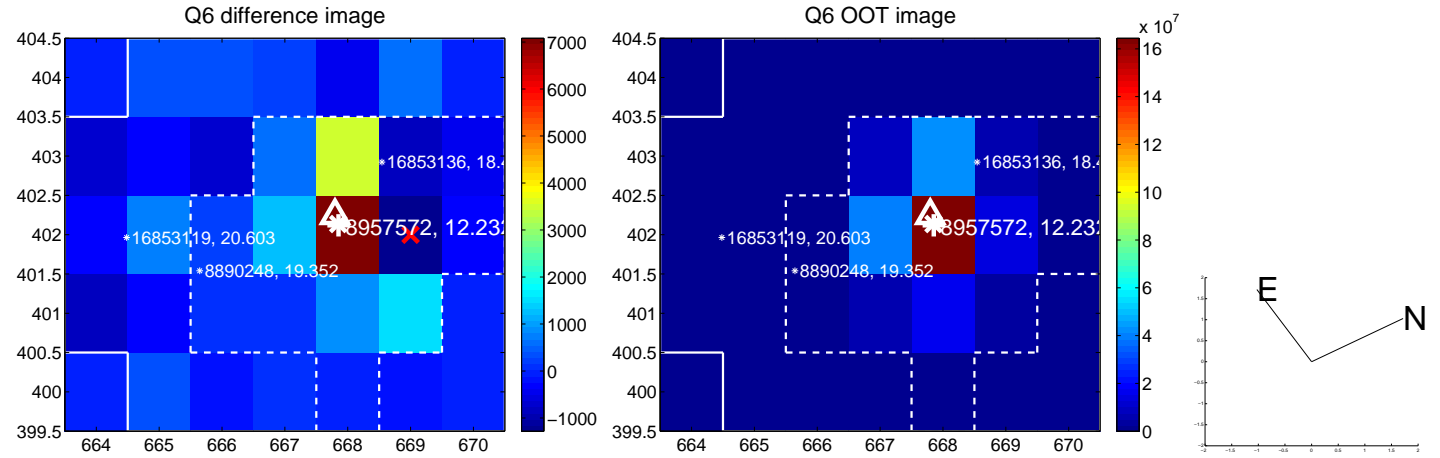
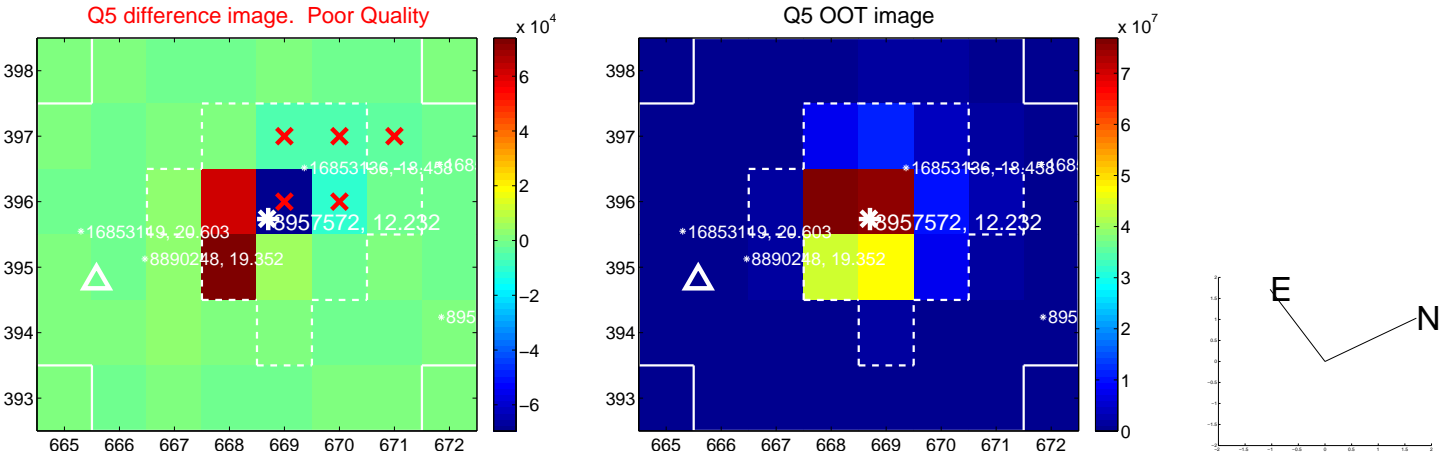


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

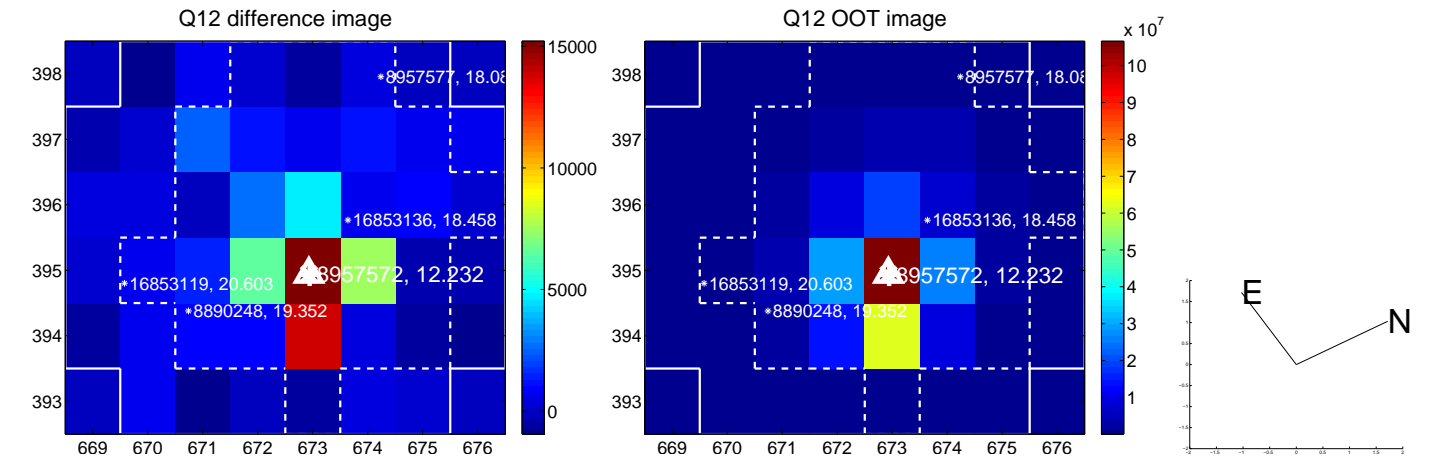
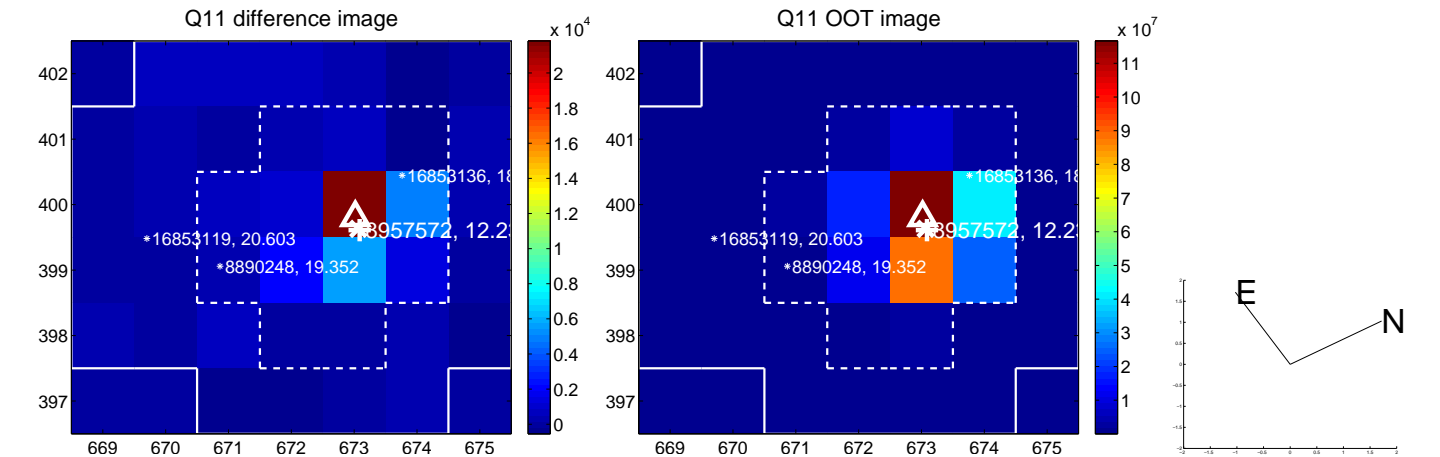
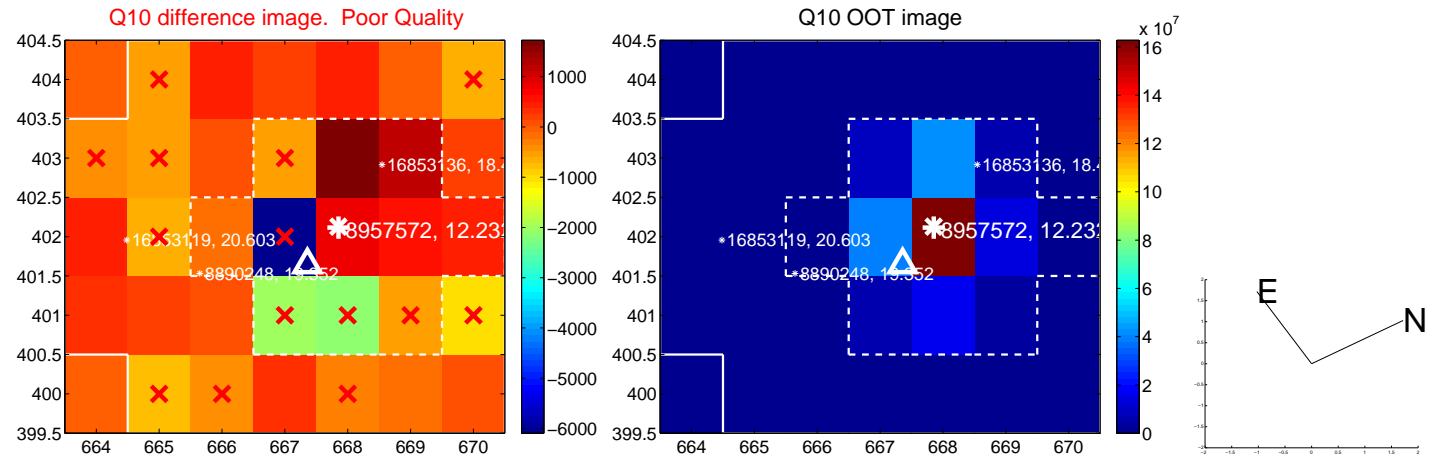
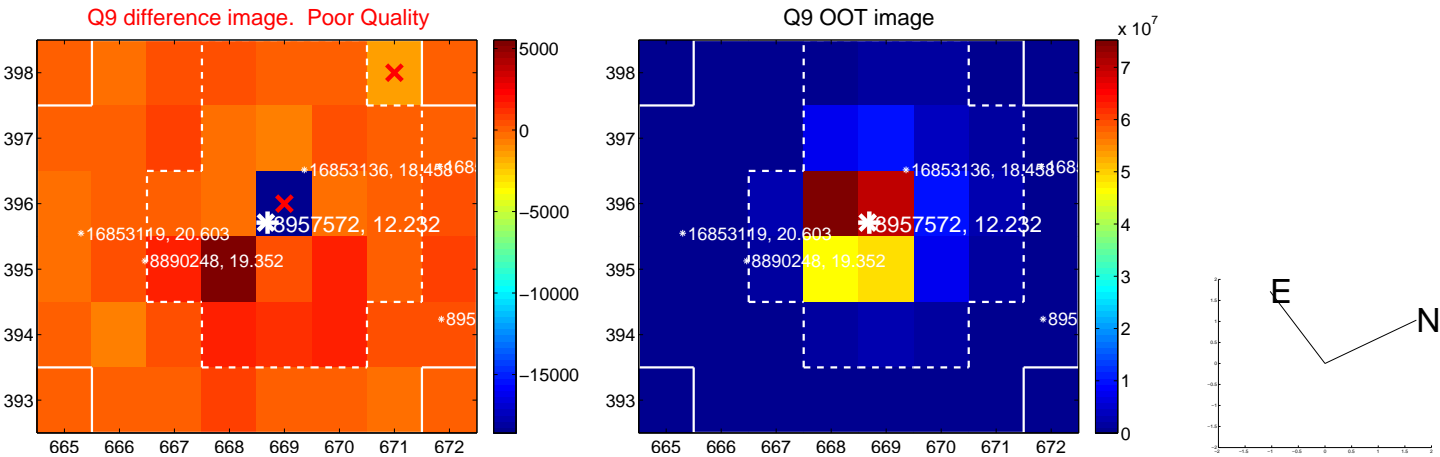
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



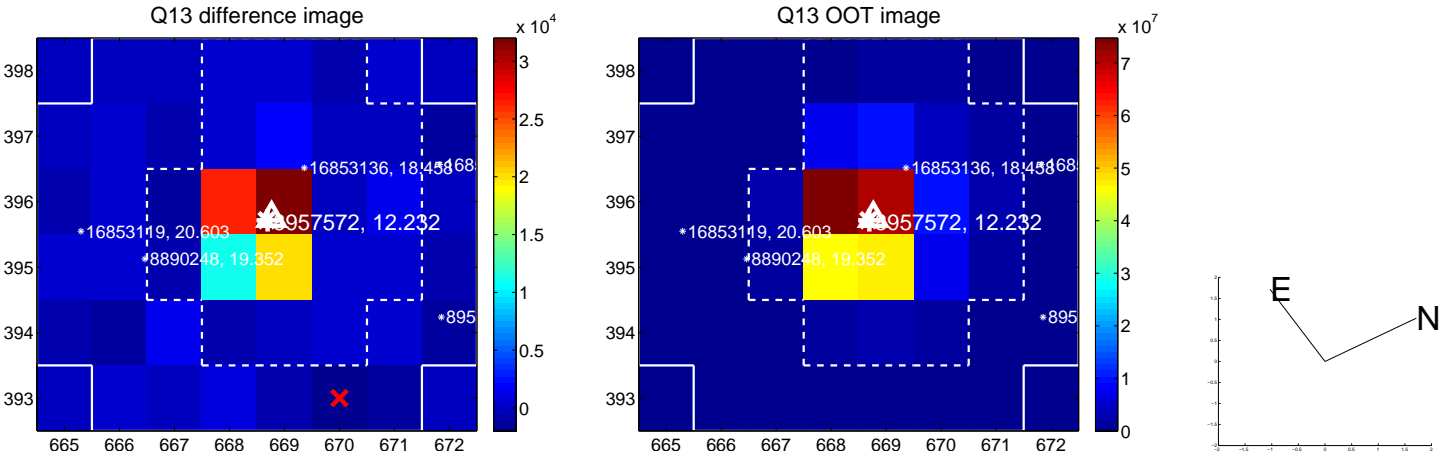
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



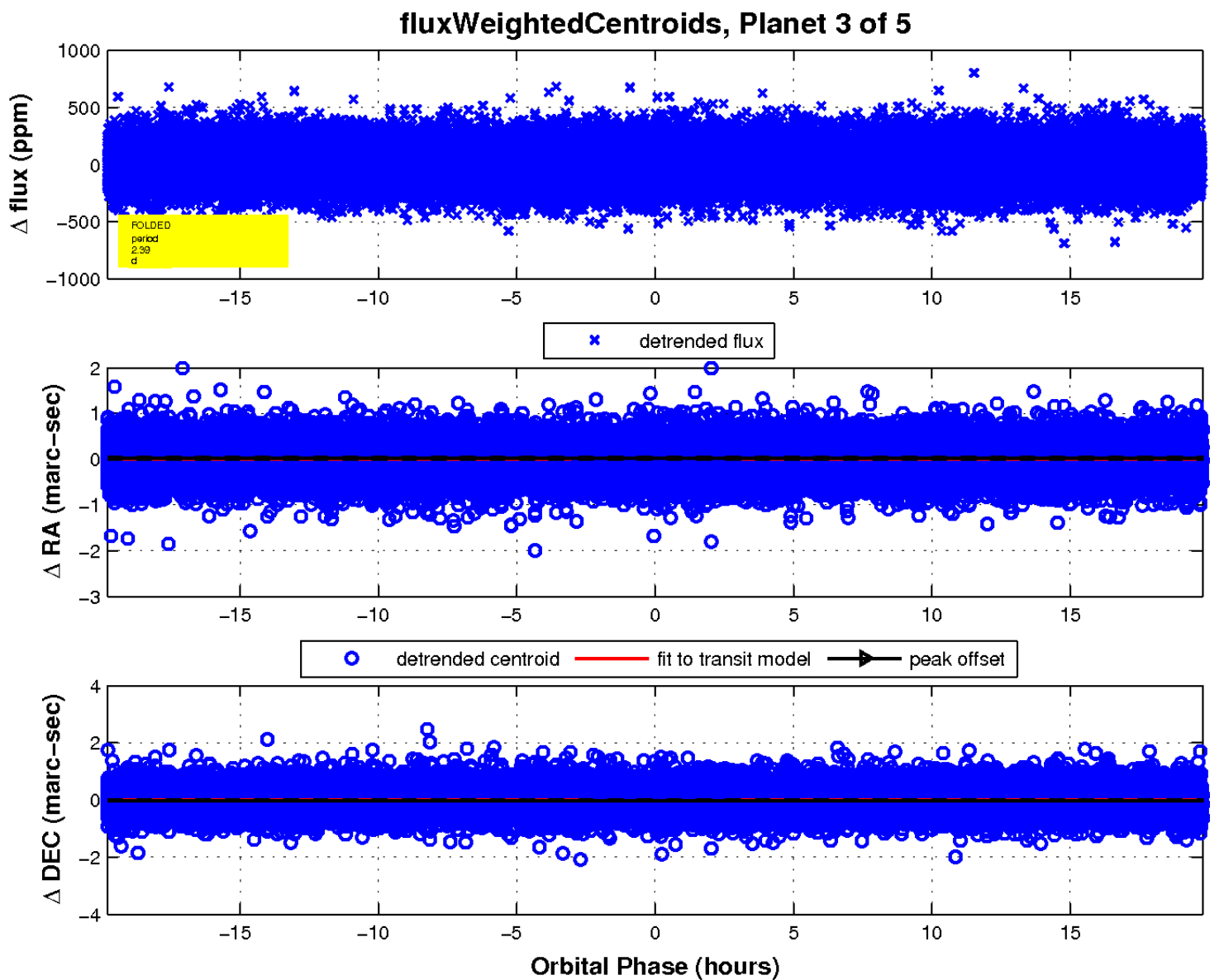
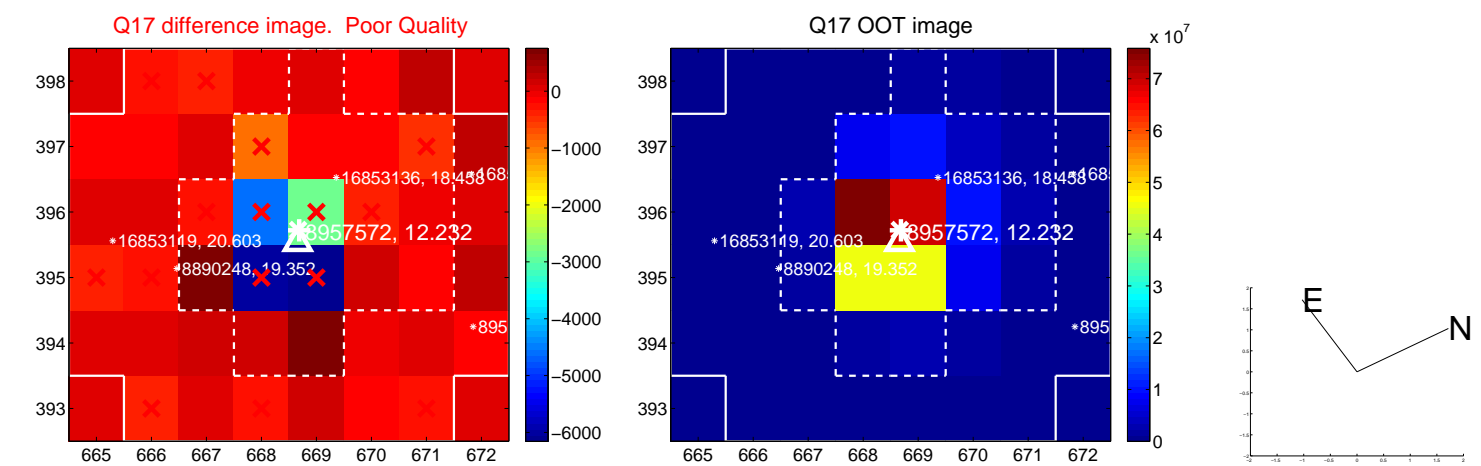
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

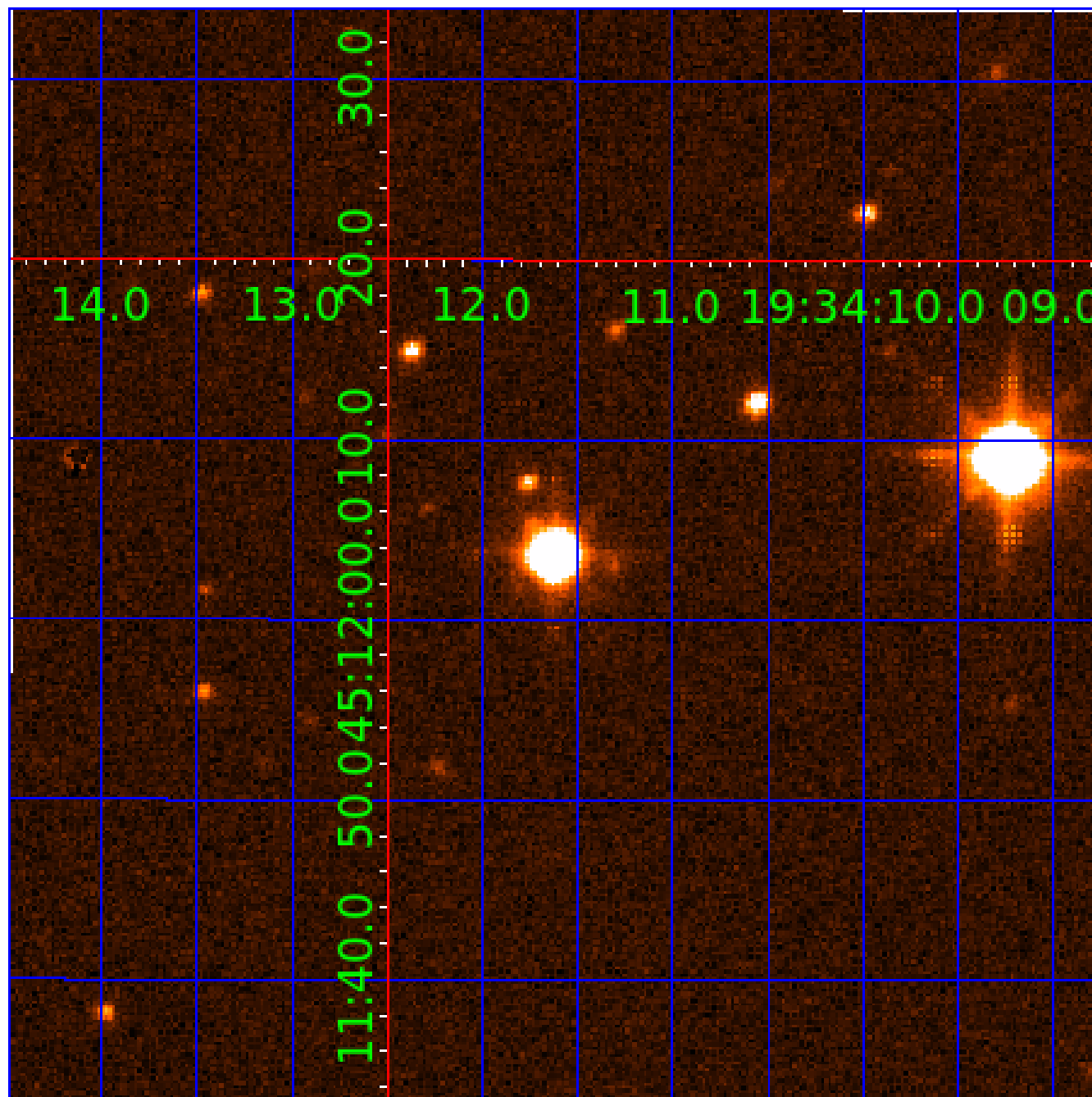


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008957572

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})
008957572-01	OBS	7115.01	1.576651	132.448659	21.0	9.132	9.0	9.4	3.14	6742	1.46	17844.49
008957572-02	OBS	No	120.108466	221.629805	149.1	15.000	12.6	-1.0	3.14	6742	3.86	55.26
008957572-03	OBS	No	2.390765	132.372990	48.4	6.598	10.0	12.7	3.14	6742	2.52	10243.20
008957572-04	OBS	No	72.690279	187.719167	178.4	0.884	8.6	4.2	3.14	6742	4.92	107.94
008957572-05	OBS	No	145.393482	187.428032	227.5	6.184	8.9	8.7	3.14	6742	4.84	42.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008957572-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008957572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008957572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008957572-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008957572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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.

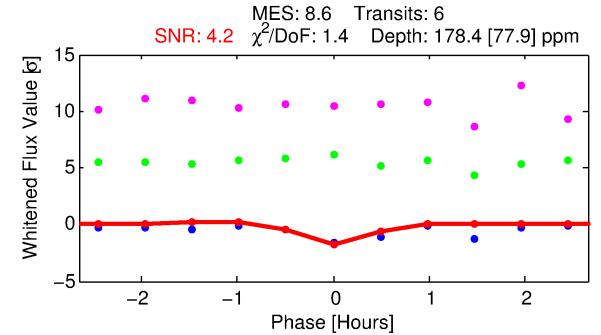
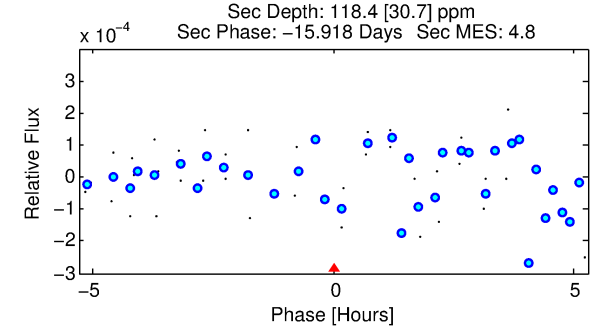
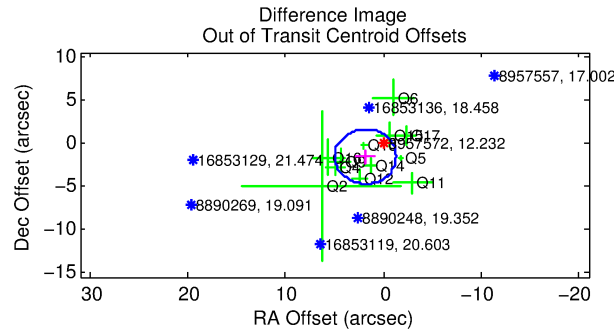
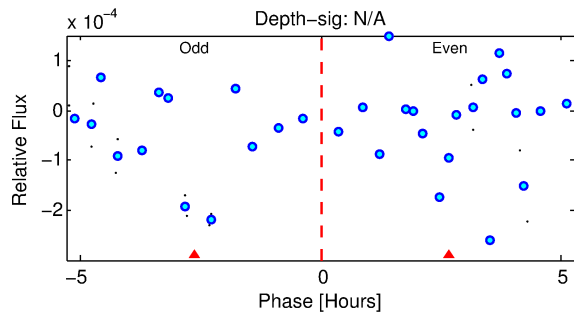
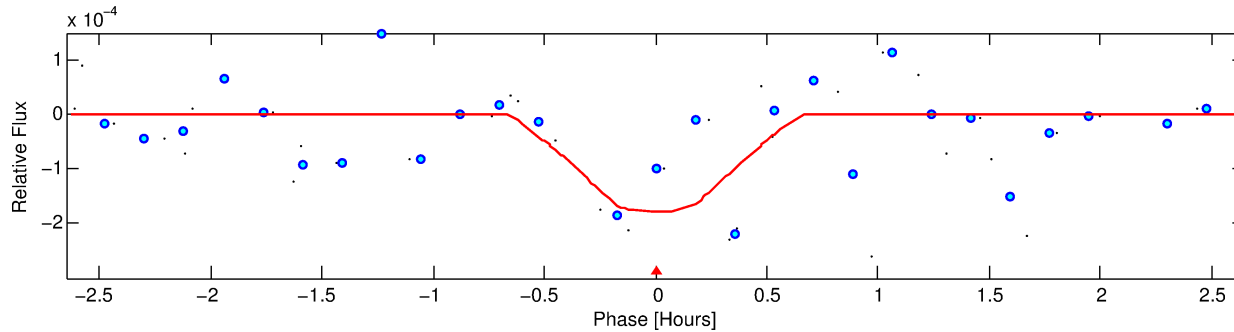
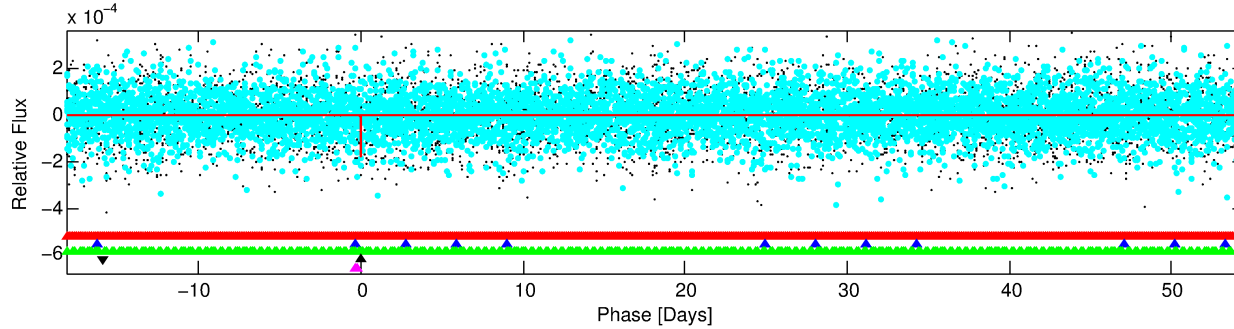
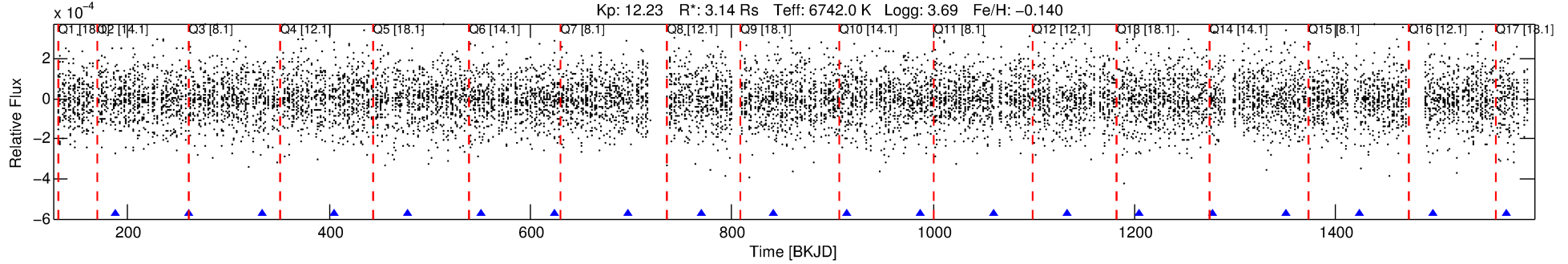
Ephemeris Match Information For 008957572-04

No Significant Match Found

DV One-Page Summary

KIC: 8957572 Candidate: 4 of 5 Period: 72.690 d
KOI: K07115 Corr: No Ephemeris Match

Kp: 12.23 R*: 3.14 Rs Teff: 6742.0 K Logg: 3.69 Fe/H: -0.140



DV Fit Results:

Period = 72.69028 [0.00080] d
Epoch = 187.7192 [0.0107] BKJD
Rp/R* = 0.0144 [0.0264]
a/R* = 296.68 [3234.13]
b = 0.90 [2.39]
Seff = 107.94 [58.68]
Teq = 822 [112] K
Rp = 4.92 [9.24] Re
a = 0.4109 [0.1412] AU
Ag = 453.81 [1689.99] [0.27σ]
Teffp = 5865 [5408] K [0.93σ]

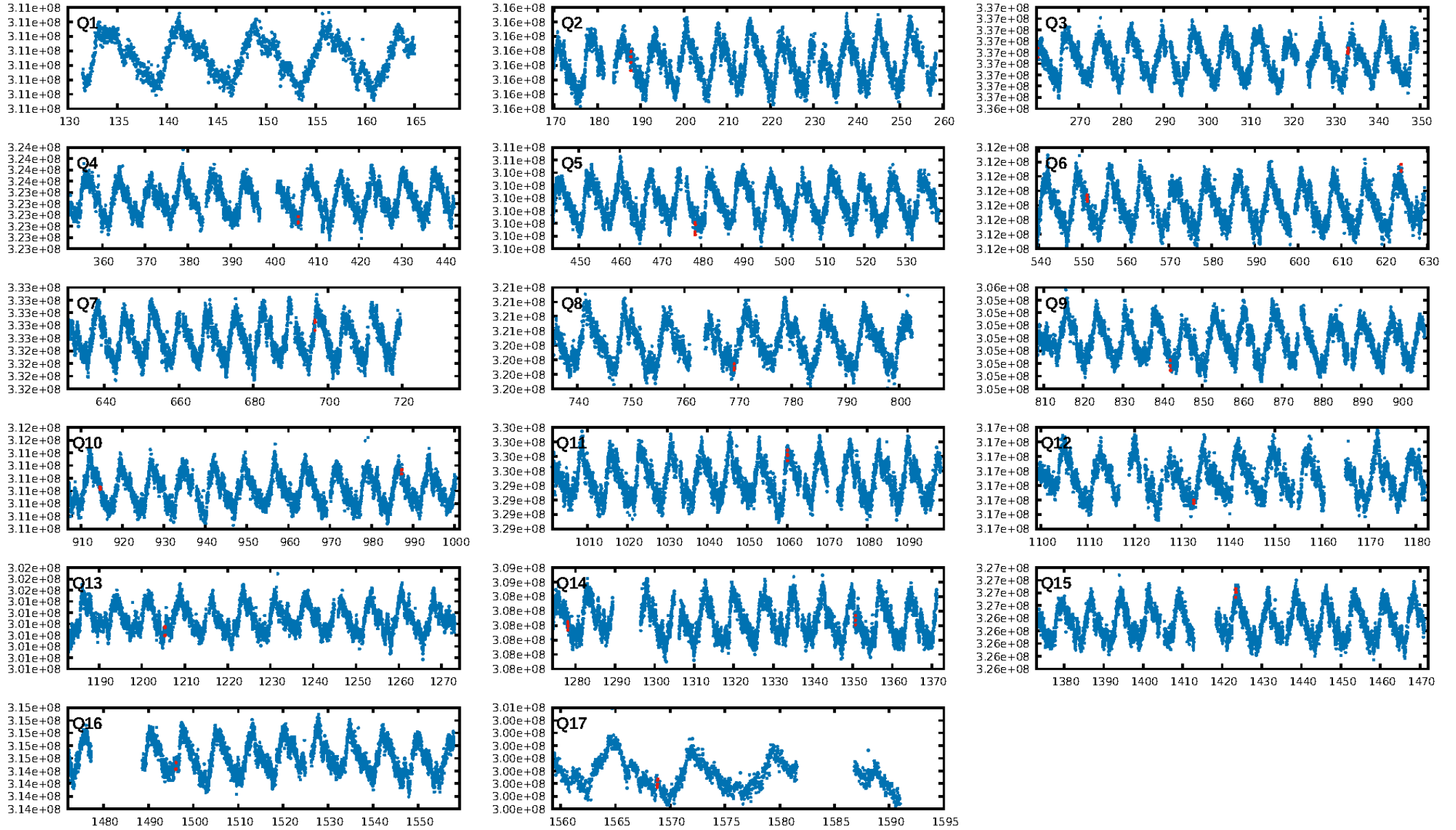
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [253.45σ]
LongPeriod-sig: 100.0% [75.74σ]
ModelChiSquare2-sig: 8.5%
ModelChiSquareGof-sig: 69.6%
Bootstrap-pfa: 7.99e-07
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.9161
Centroid-sig: 33.6%
Centroid-so: 0.845 arcsec [0.89σ]
OotOffset-rm: 2.409 arcsec [2.29σ]
KicOffset-rm: 2.339 arcsec [2.16σ]
OotOffset-st: 3/2/3/4 [12]
KicOffset-st: 3/2/3/4 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 0.25 [4/16]

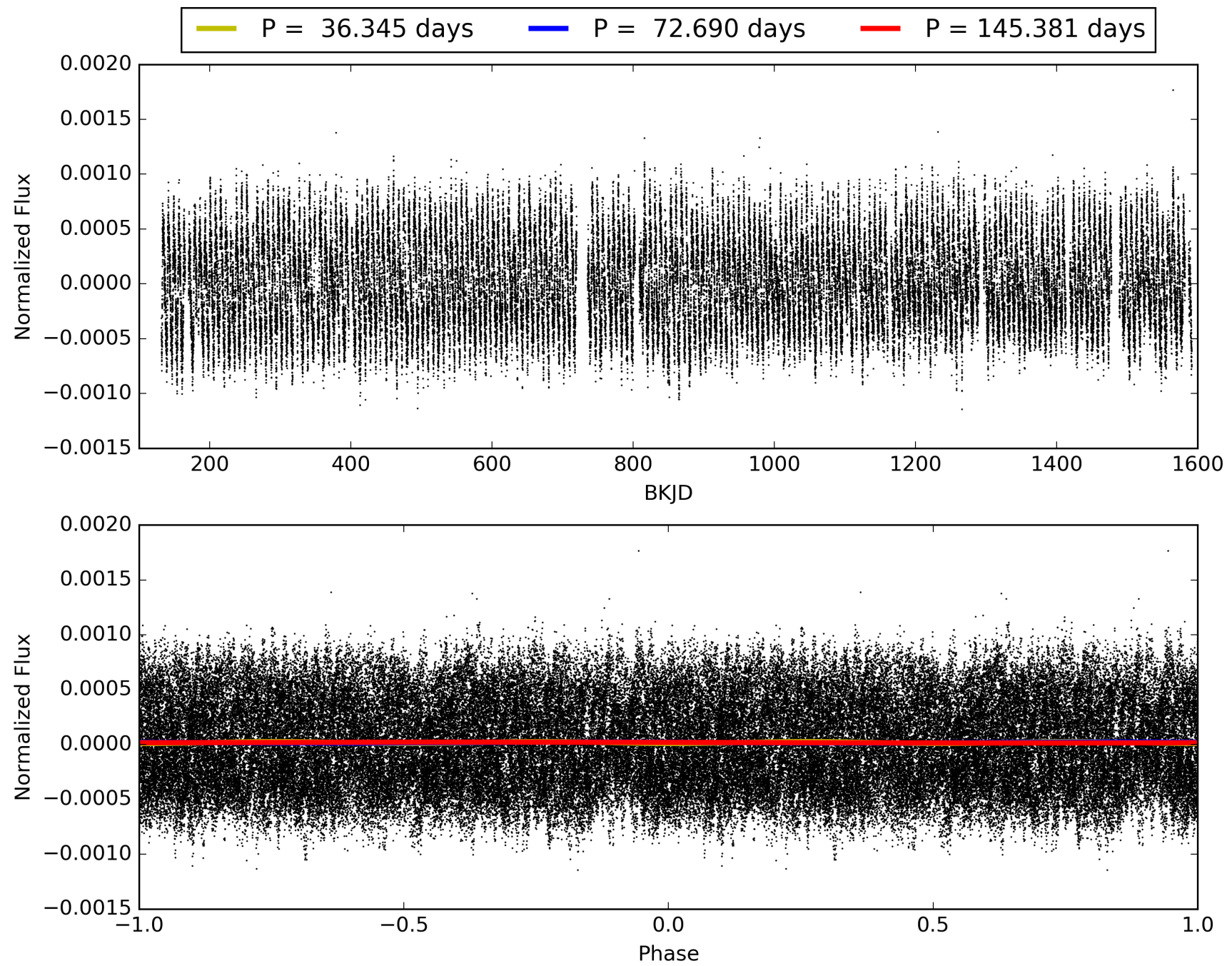
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:55:46 Z

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

TCE 008957572-04, PDC Light Curves

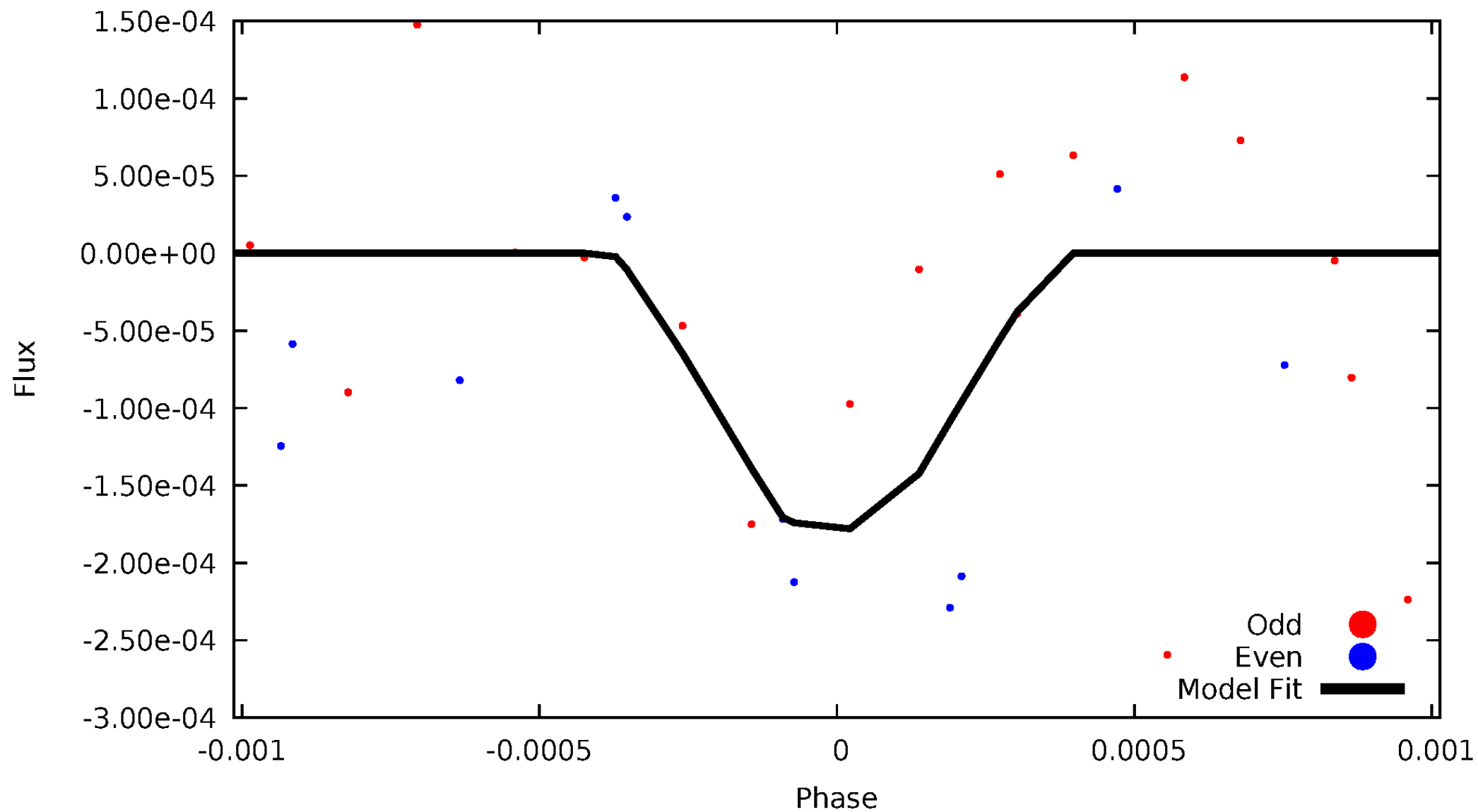


TCE 008957572-04



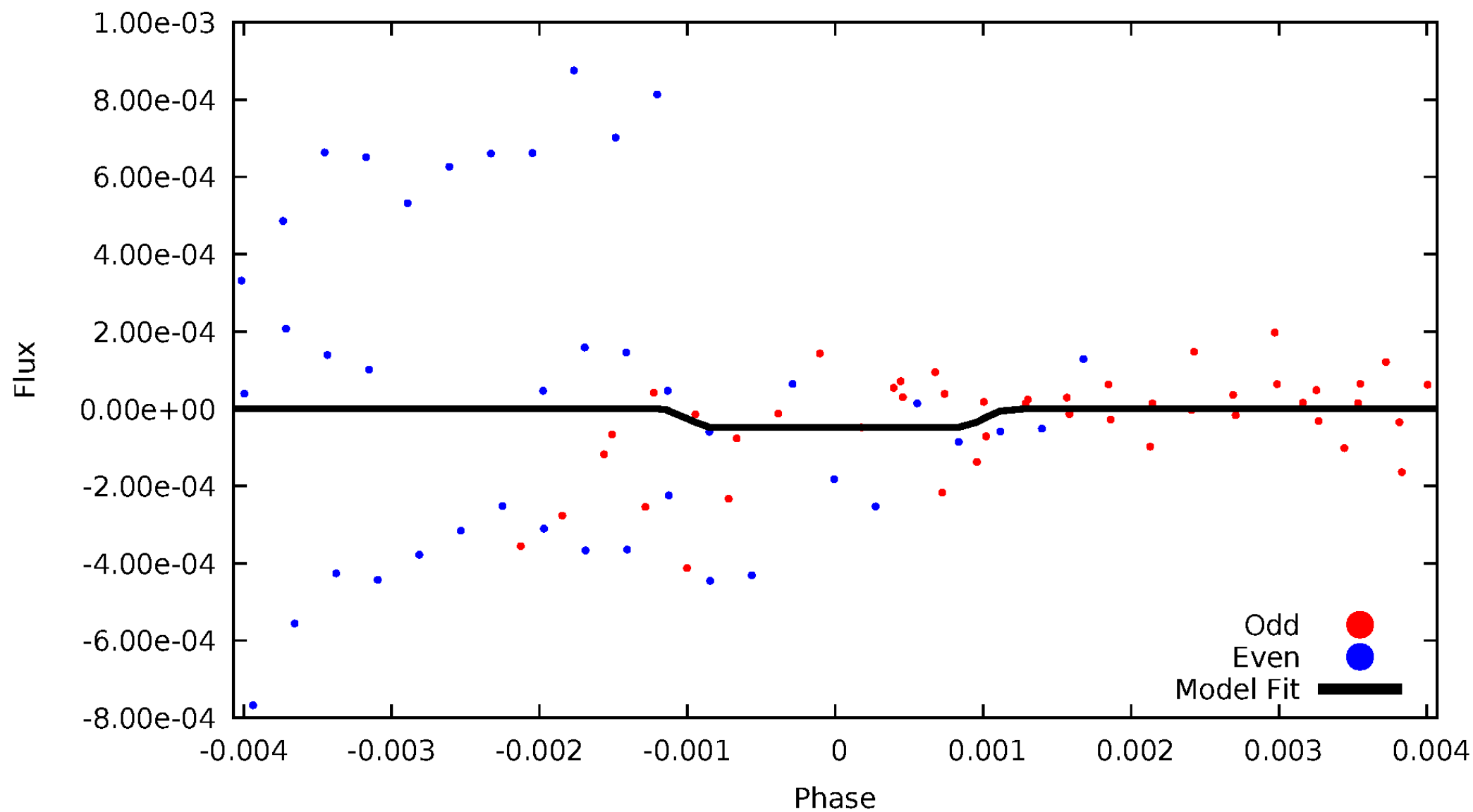
DV Odd/Even

TCE 008957572-04



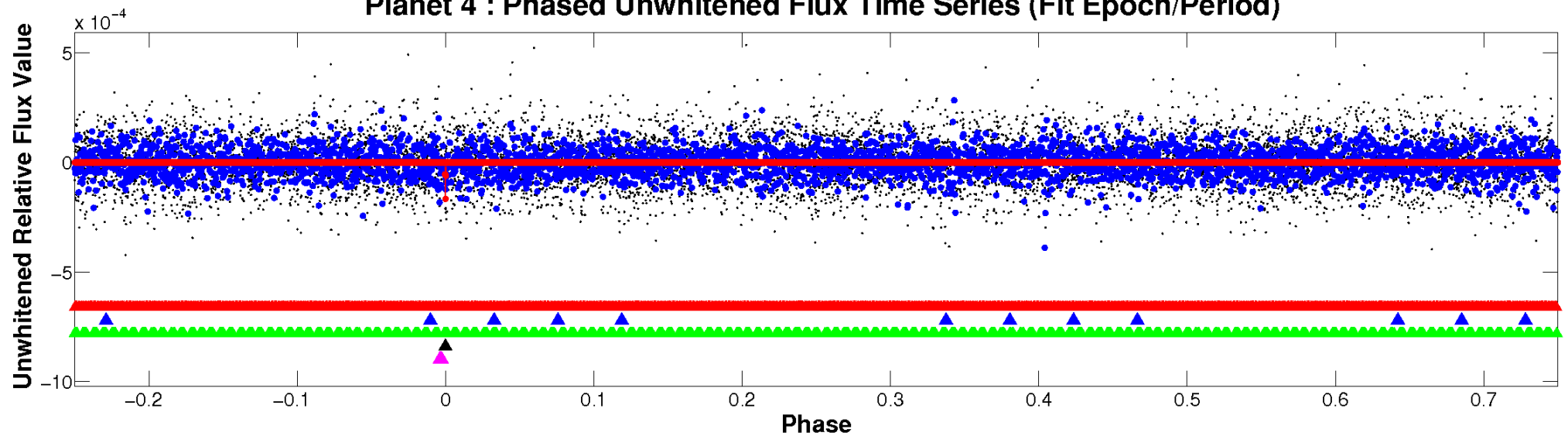
ALT Odd/Even

TCE 008957572-04

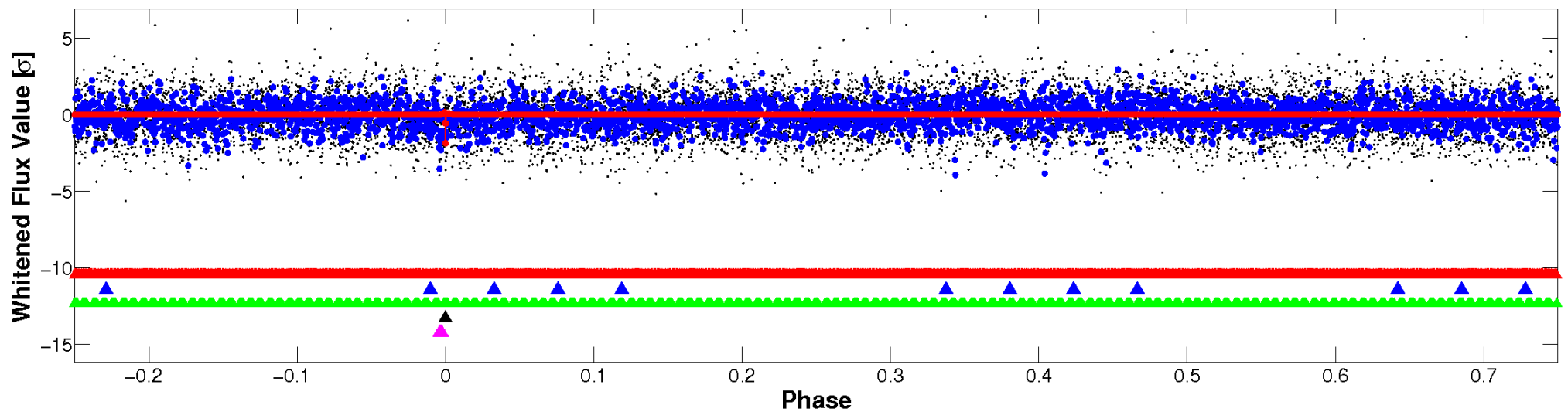


Non-Whitened Vs. Whitened Light Curve

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

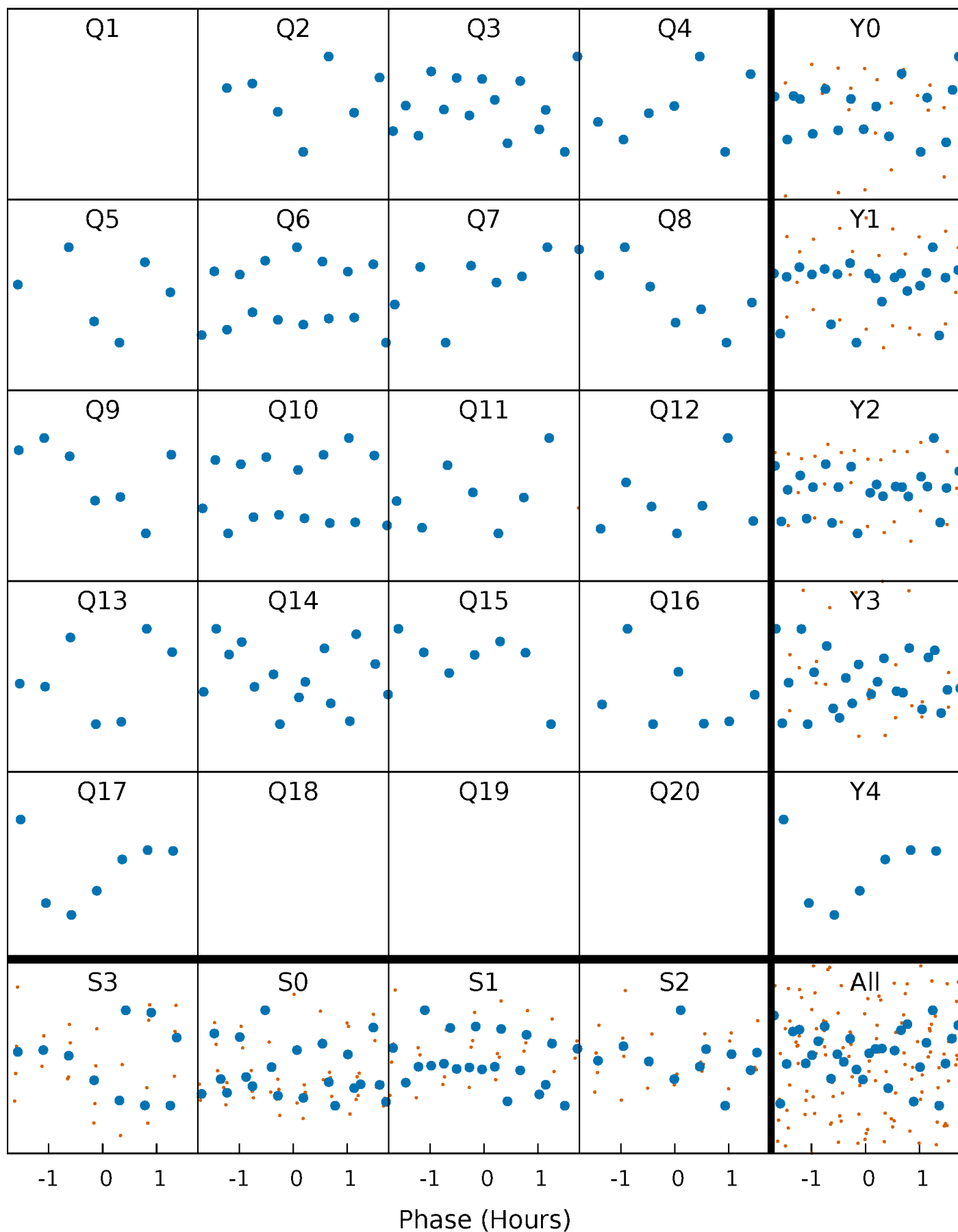


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



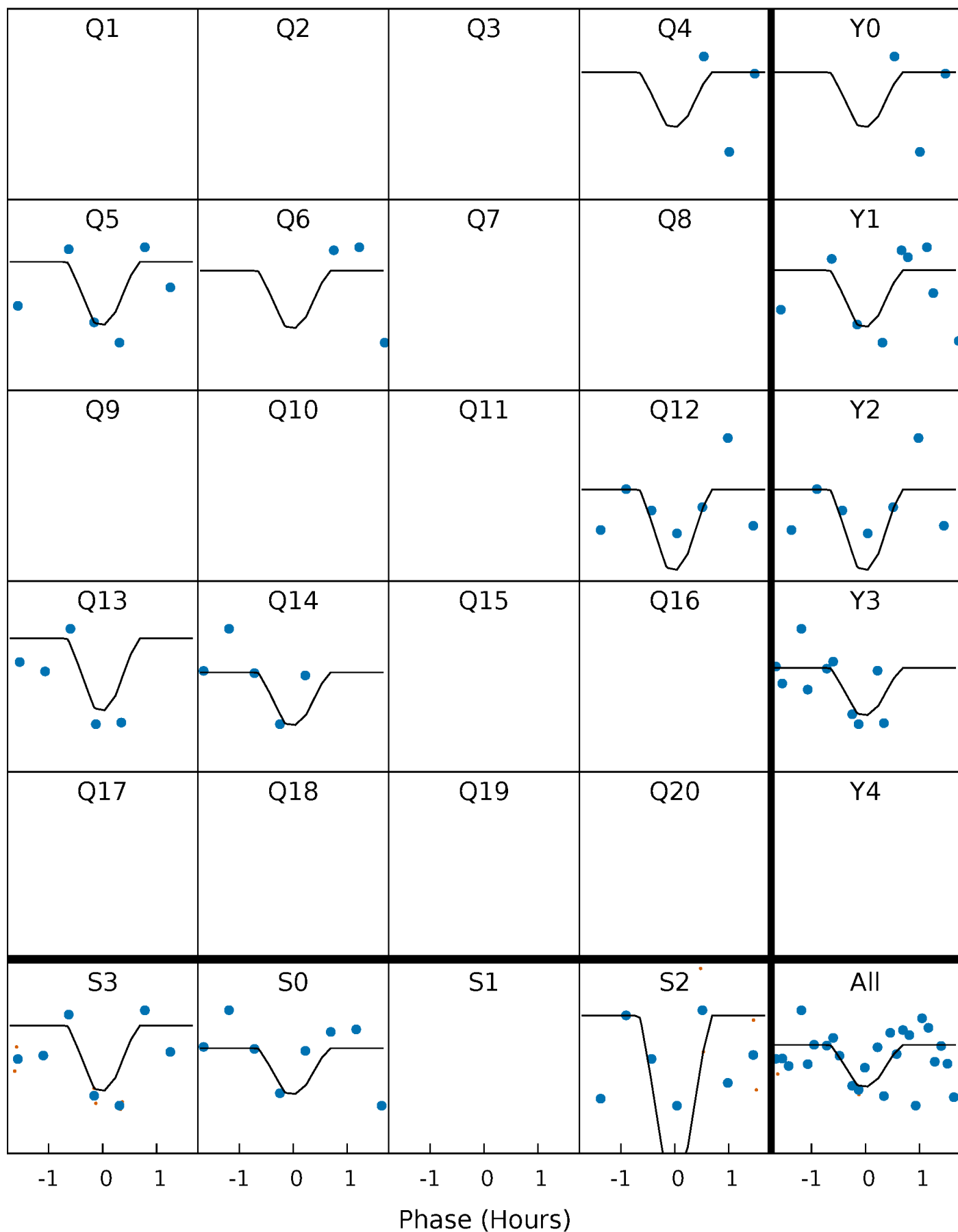
PDC Quarter-Phased Transit Curves

TCE 008957572-04 P= 72.690279 Days $T_0=187.719167$ (BKJD)



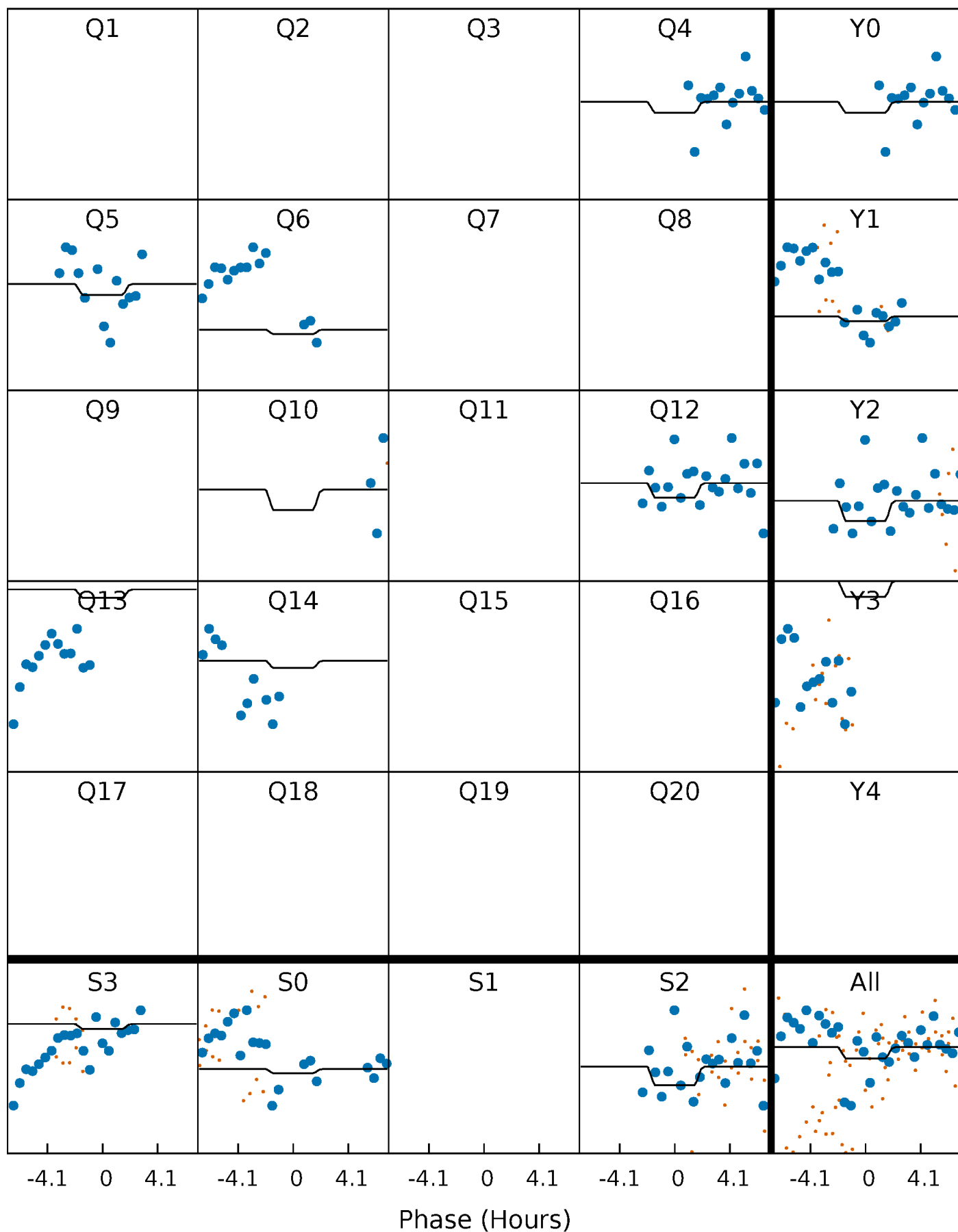
DV Quarter-Phased Transit Curves

TCE 008957572-04 P= 72.690279 Days $T_0=187.719167$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

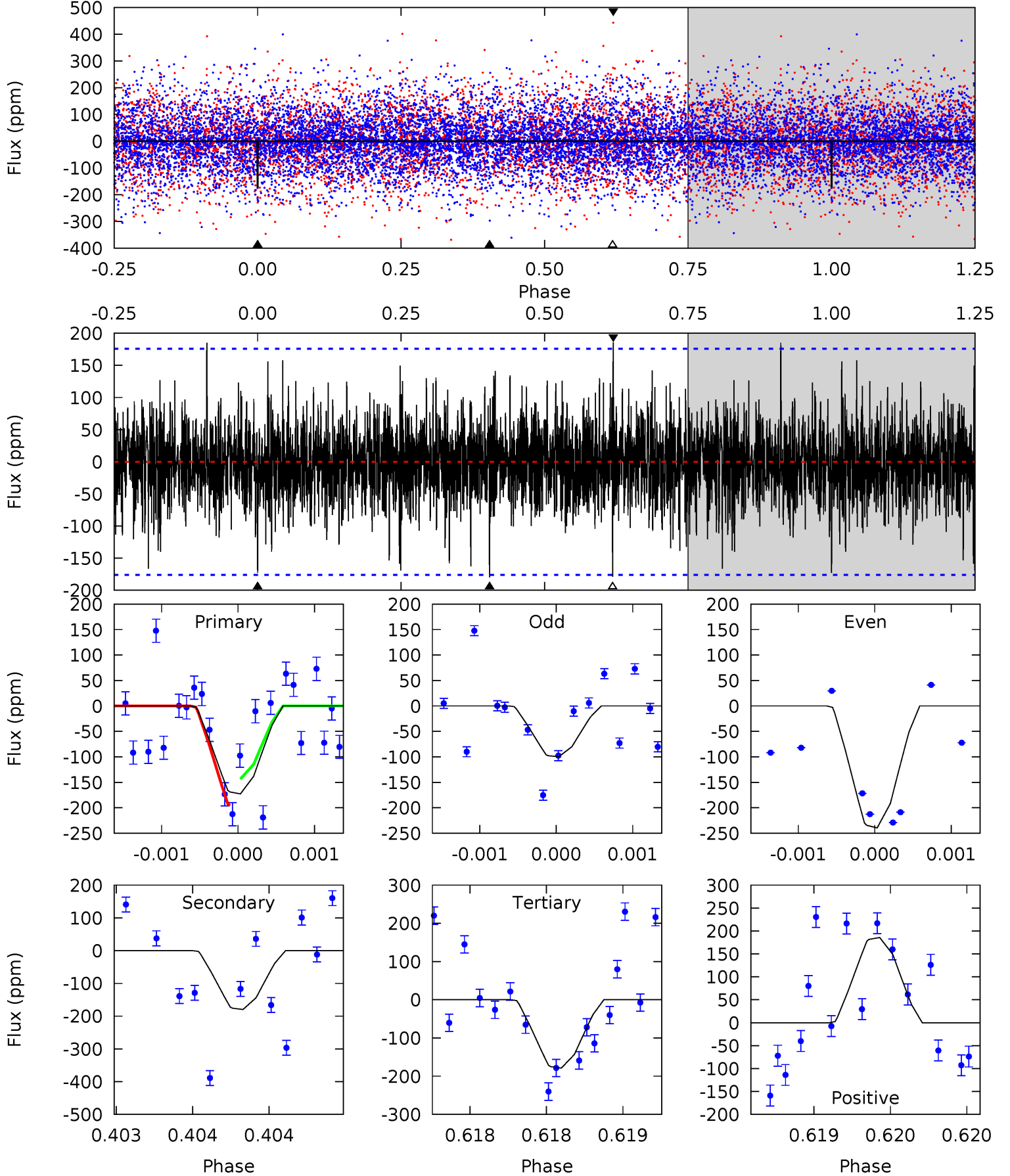
TCE 008957572-04 P= 72.696505 Days $T_0=187.688227$ (BKJD)



DV Model-Shift Uniqueness Test

008957572-04, $P = 72.690279$ Days, $E = 115.028888$ Days

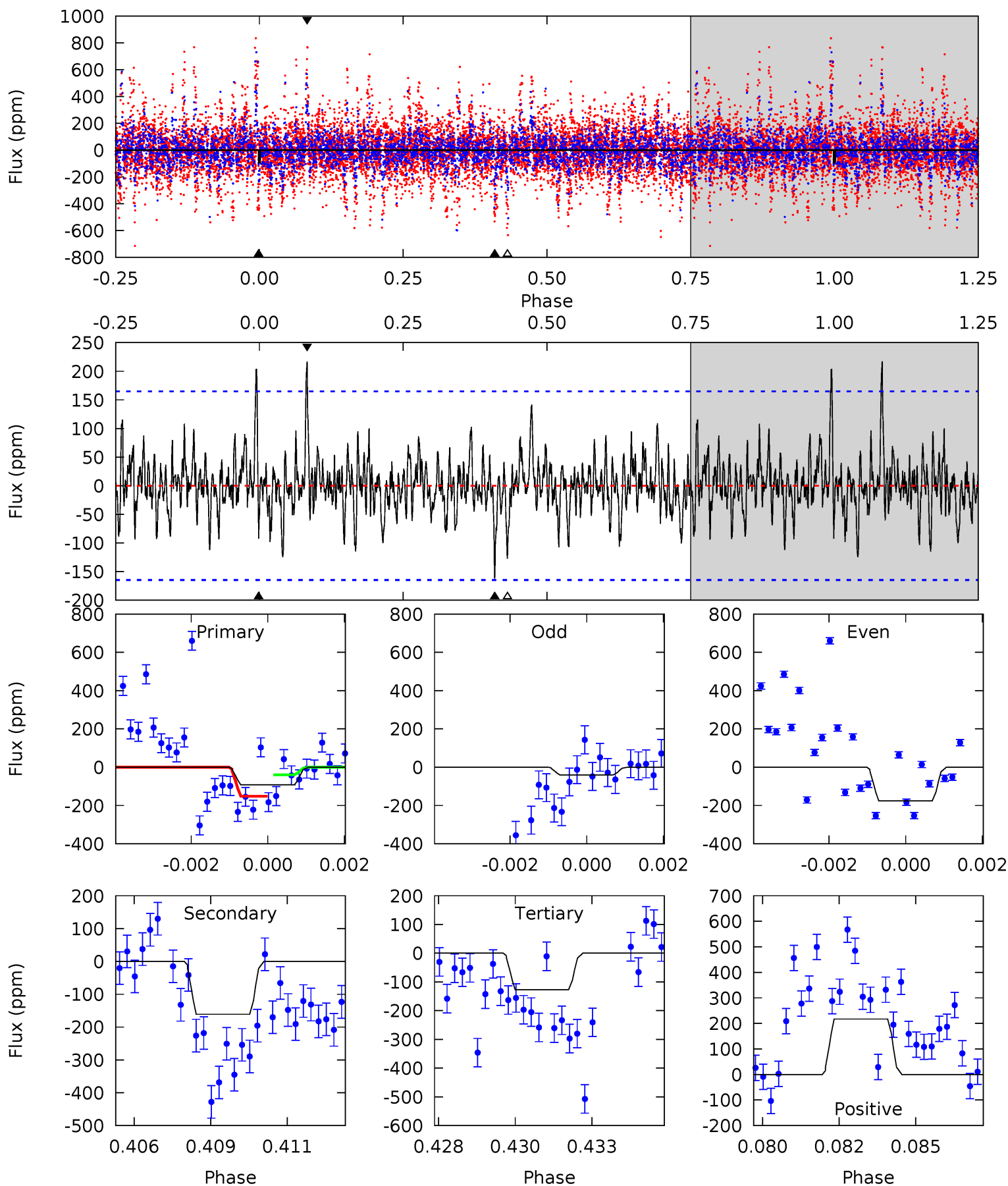
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.42	5.64	5.61	5.83	5.52	3.40	1.45	-0.20	-0.41	0.02	-0.19	2.19	1.01	0.51	0.82



Alt Model-Shift Uniqueness Test

008957572-04, P = 72.696505 Days, E = 114.991722 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.96	5.18	4.09	6.98	5.29	3.03	1.28	-1.12	-4.01	1.09	-1.80	2.06	2.13	0.57	1.80



Stellar Parameters For KIC 008957572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6742^{+160}_{-200}	$3.688^{+0.304}_{-0.076}$	$-0.140^{+0.300}_{-0.250}$	$3.138^{+0.396}_{-1.188}$	$1.752^{+0.166}_{-0.387}$	$0.080^{+0.175}_{-0.020}$
	+2%/-3%	+8%/-2%	+214%/-179%	+13%/-38%	+9%/-22%	+220%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008957572-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-180 ± 32	$7.35^{+7.75}_{-5.22}$	1131^{+59}_{-90}	5168^{+5225}_{-1240}	308^{+3197}_{-237}
Alt.	-161 ± 31	$6.40^{+6.34}_{-4.56}$	1120^{+66}_{-97}	5322^{+5324}_{-1304}	371^{+3607}_{-292}

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 $A_{obs} \gg 1.0$

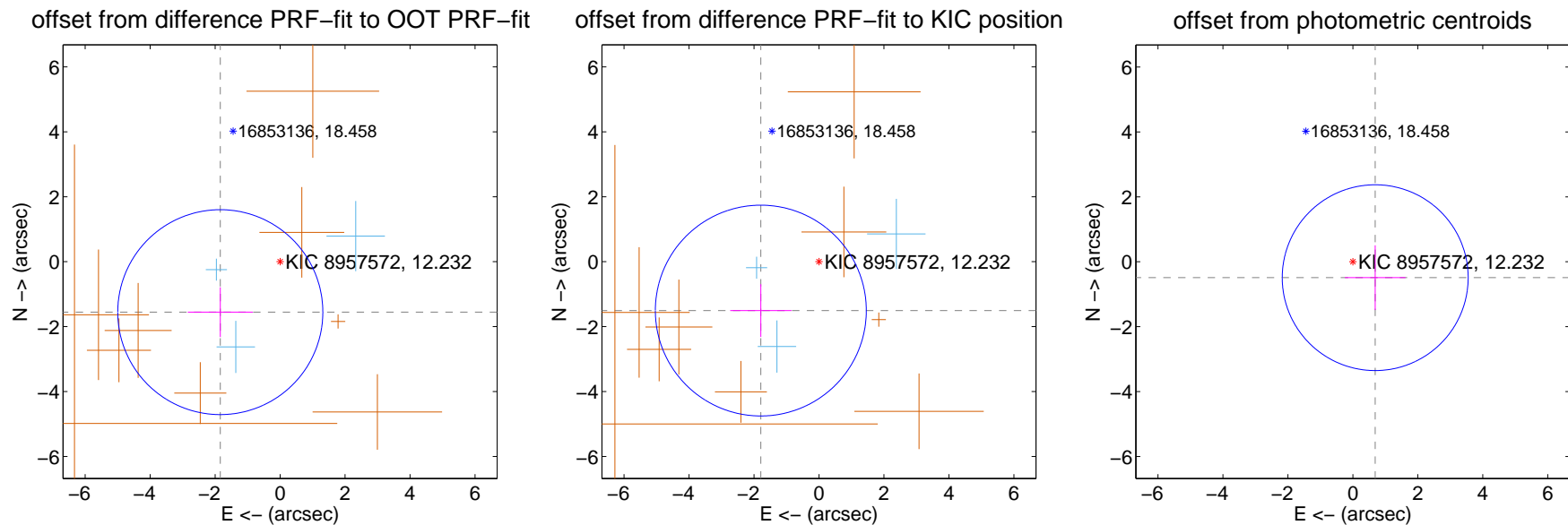
DV Centroid Data

Supplemental centroid analysis for 008957572-04. Kepler magnitude: 12.23. Transit SNR 4.20

There are 3 quarters with good PRF difference image offsets

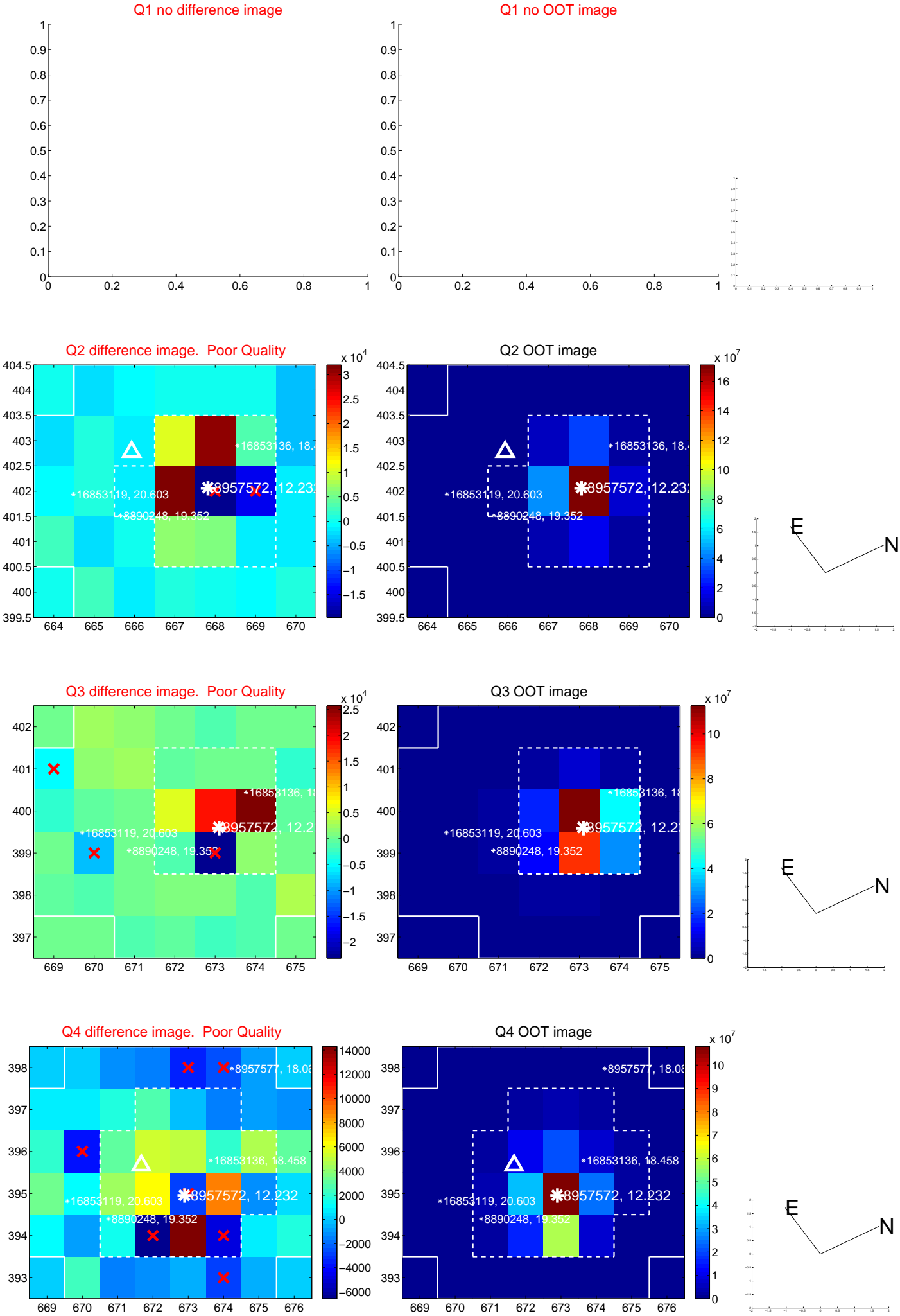
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.409 ± 1.052	2.29	1.841 ± 1.001	-1.554 ± 0.766
PRF-fit source offset from KIC position	2.339 ± 1.082	2.16	1.790 ± 0.944	-1.505 ± 0.812
photometric centroid source offset	0.84 ± 0.95	0.89	-0.69 ± 0.93	-0.49 ± 1.00

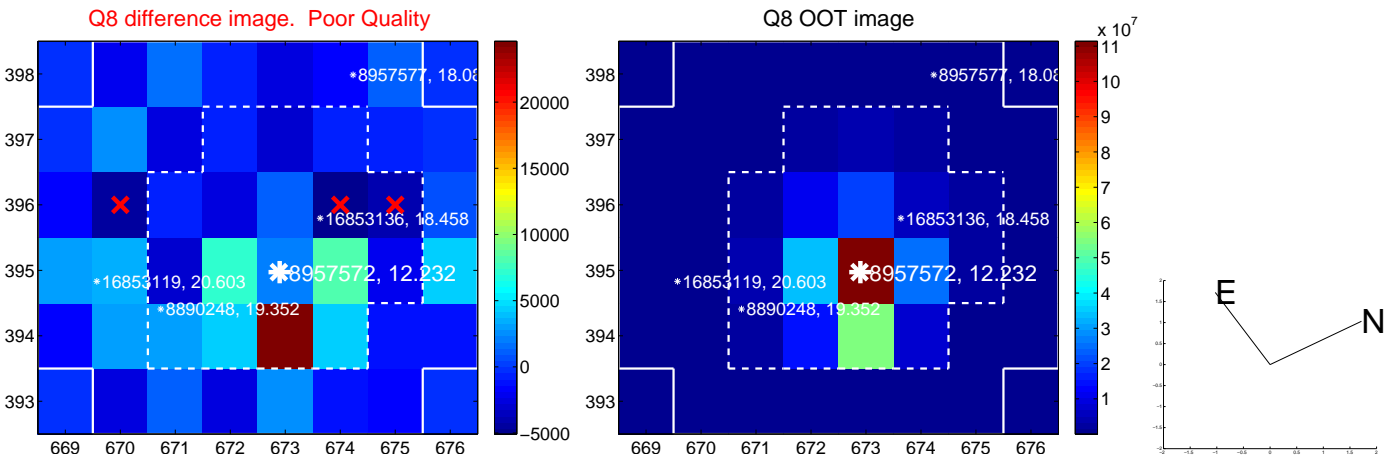
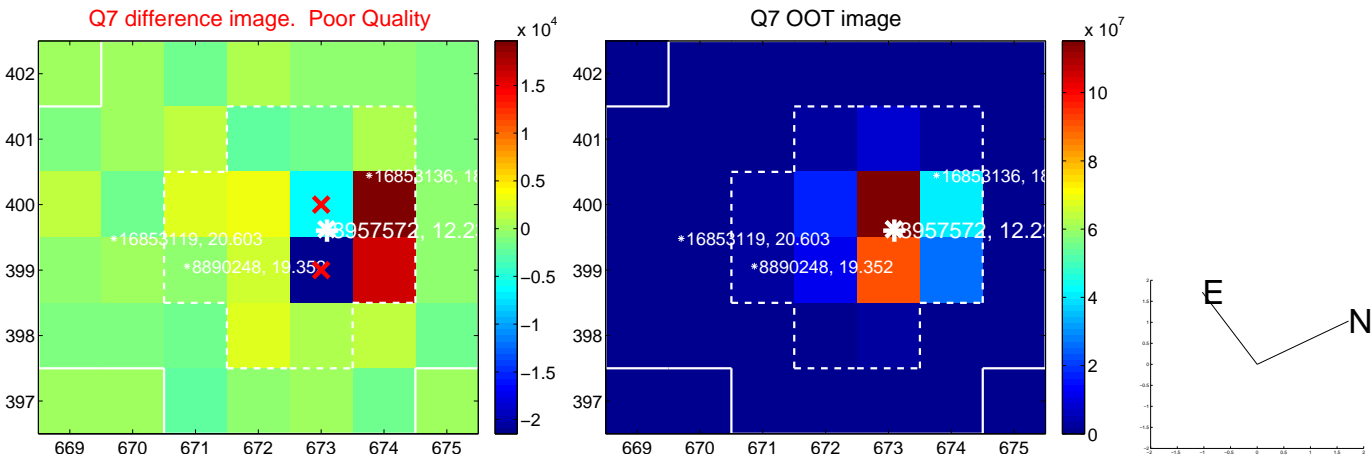
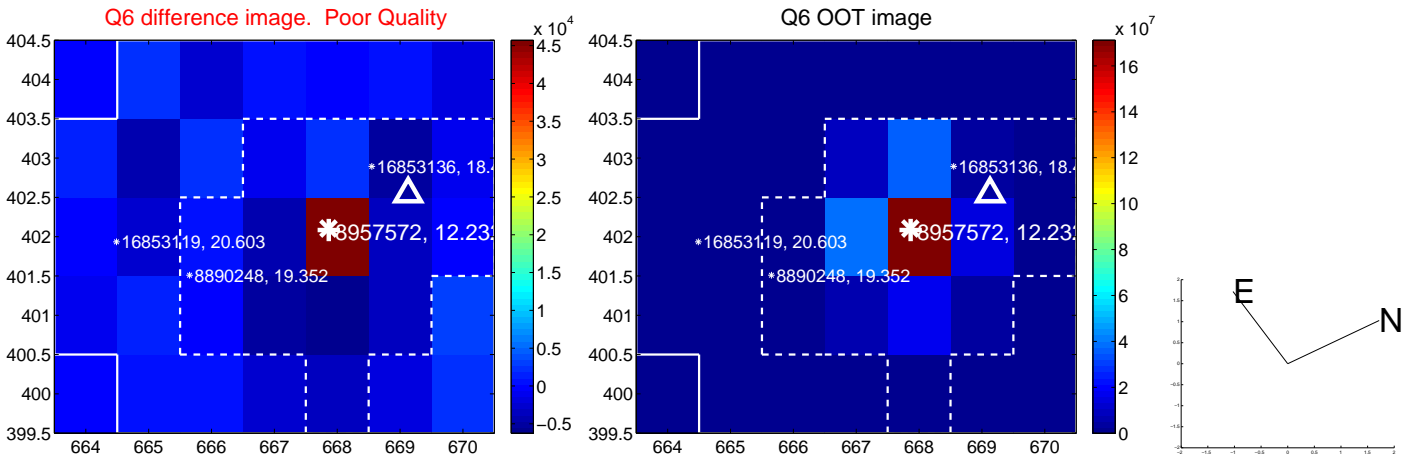
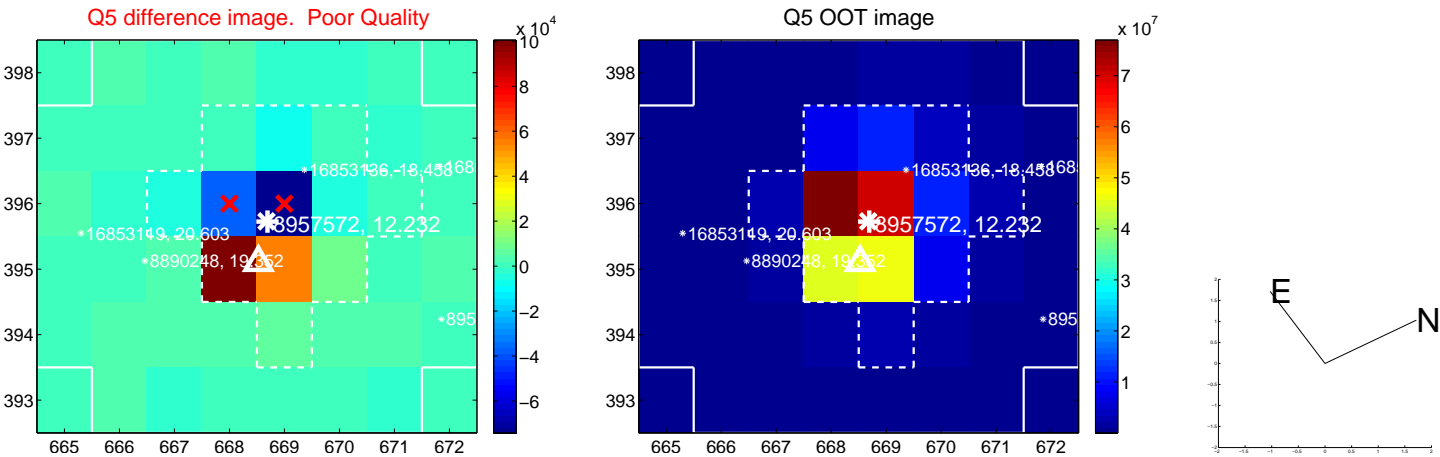


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

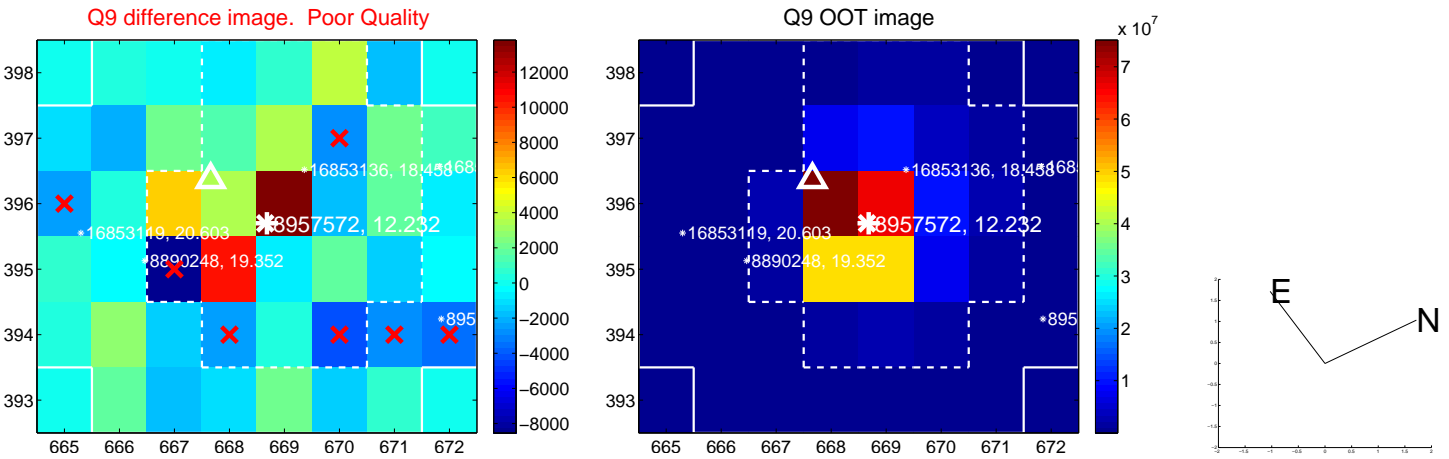
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



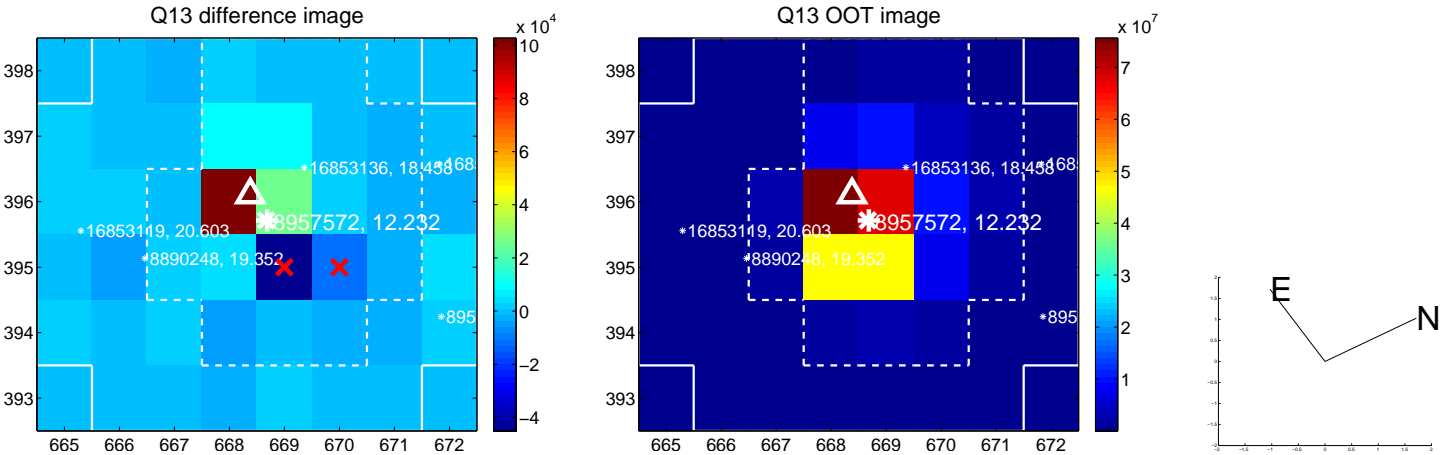
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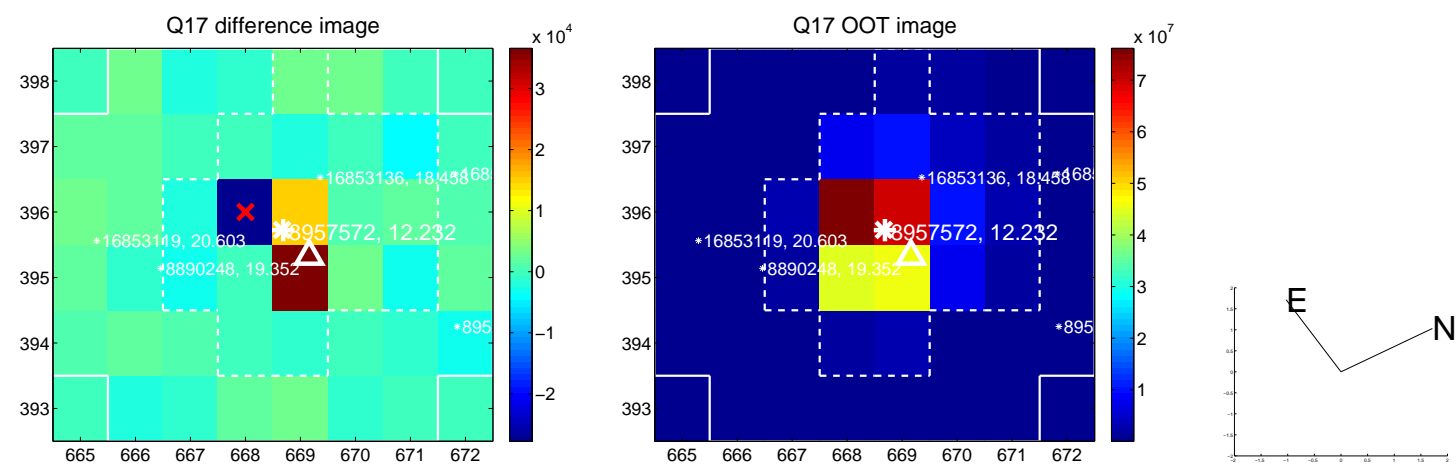
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



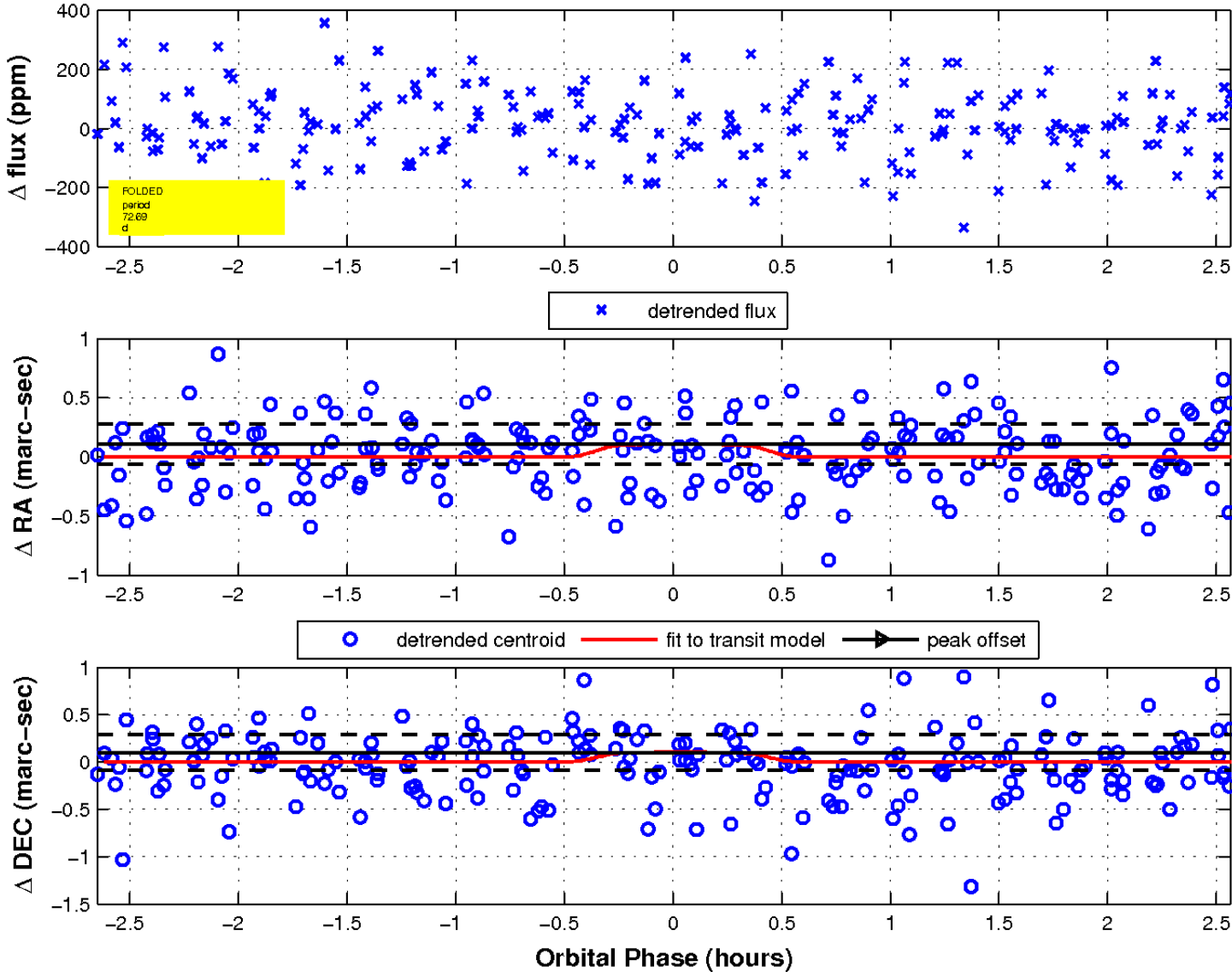
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

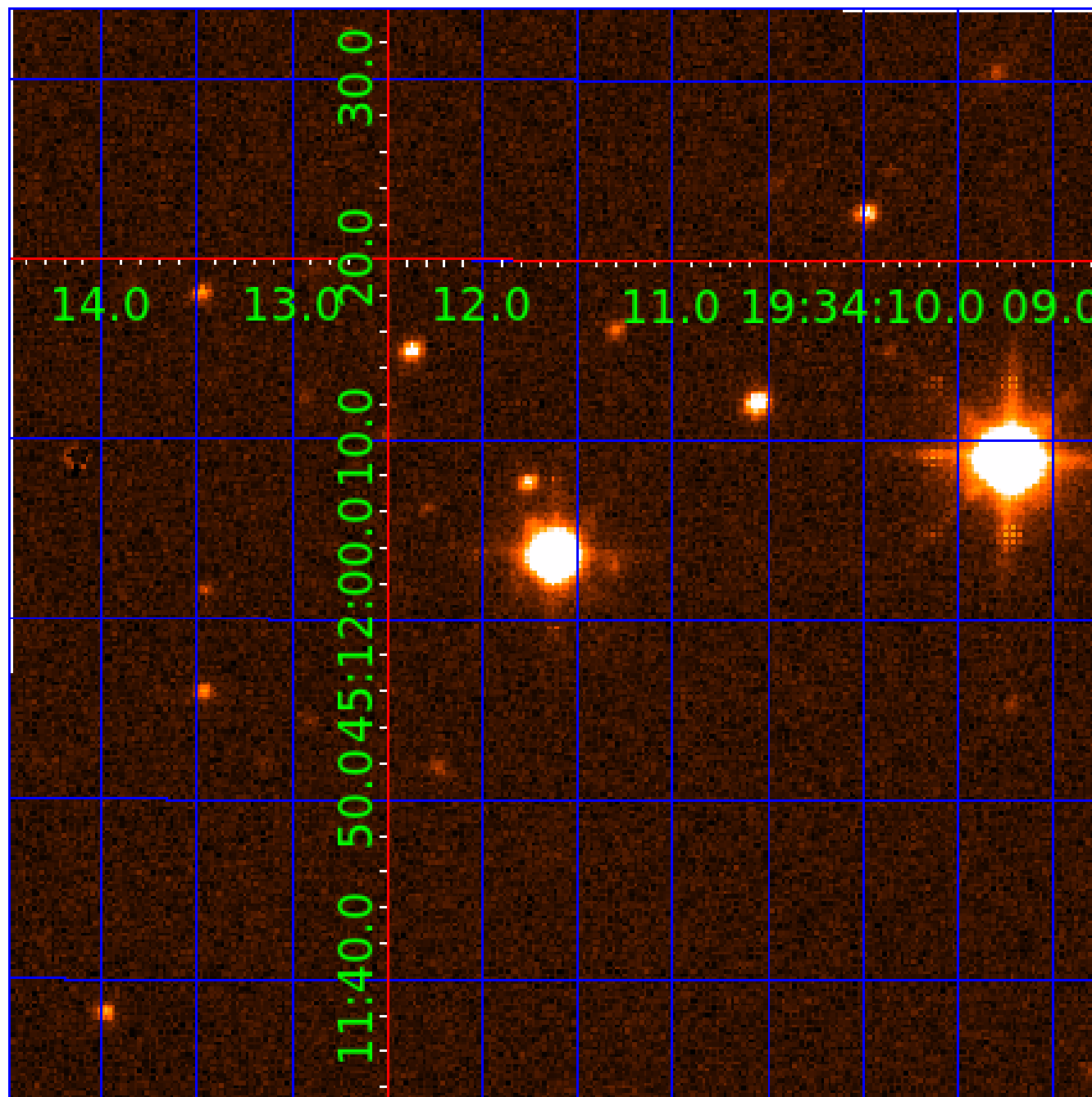


fluxWeightedCentroids, Planet 4 of 5



UKIRT Image

Declination



KIC 008957572

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})
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Robovetter Results

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008957572-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008957572-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008957572-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
008957572-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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.

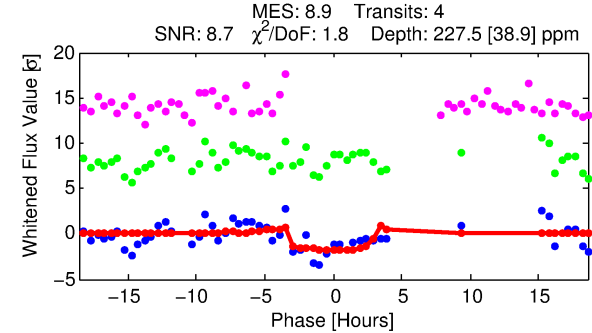
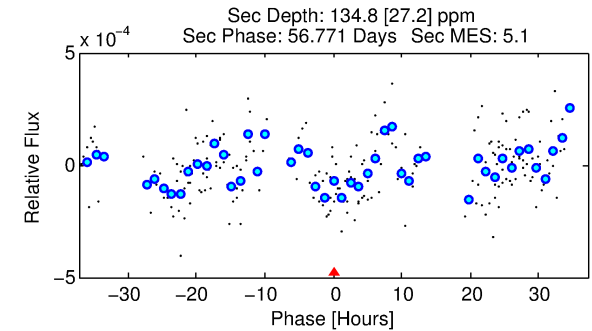
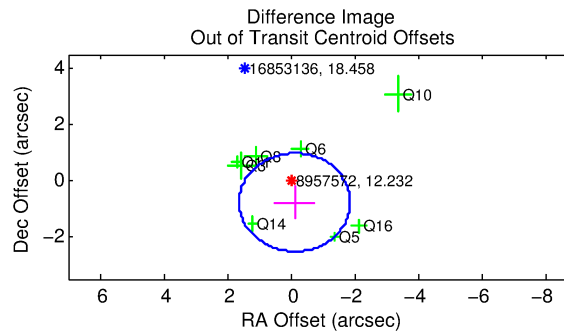
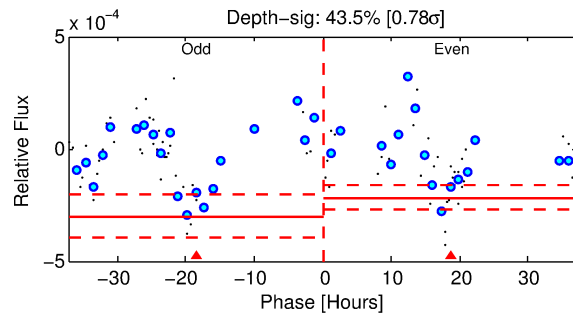
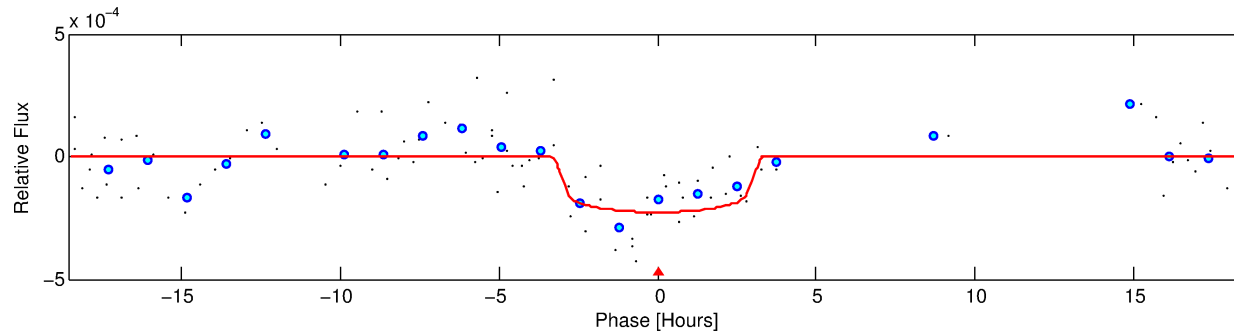
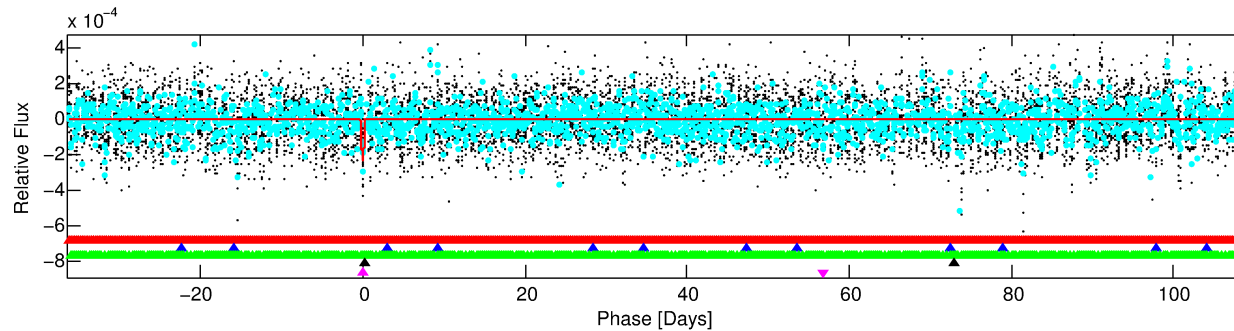
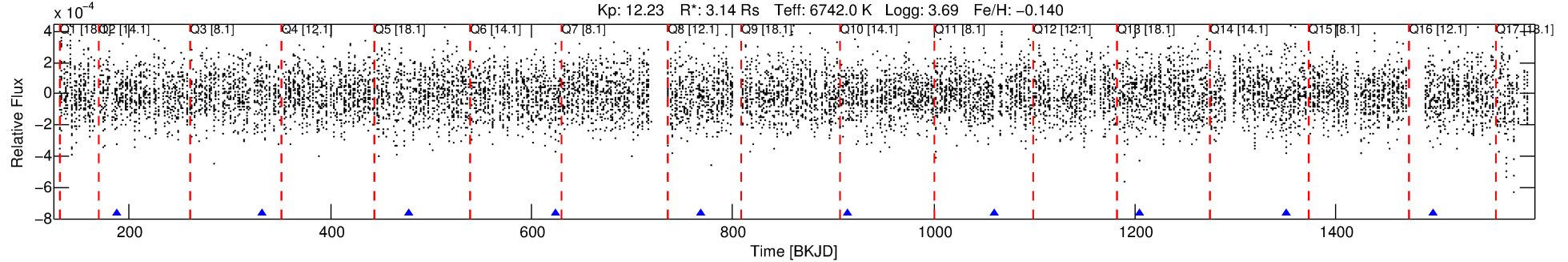
Ephemeris Match Information For 008957572-05

No Significant Match Found

DV One-Page Summary

KIC: 8957572 Candidate: 5 of 5 Period: 145.393 d
KOI: K07115 Corr: No Ephemeris Match

Kp: 12.23 R*: 3.14 Rs Teff: 6742.0 K Logg: 3.69 Fe/H: -0.140



DV Fit Results:

Period = 145.39348 [0.00458] d
Epoch = 187.4280 [0.0181] BKJD
Rp/R* = 0.0141 [0.0122]
a/R* = 167.81 [784.37]
b = 0.39 [10.02]
Seff = 42.83 [23.28]
Teq = 652 [89] K
Rp = 4.84 [4.55] Re
a = 0.6524 [0.2242] AU
Ag = 1344.67 [2432.60] [0.55σ]
Teffp = 6107 [2647] K [2.06σ]

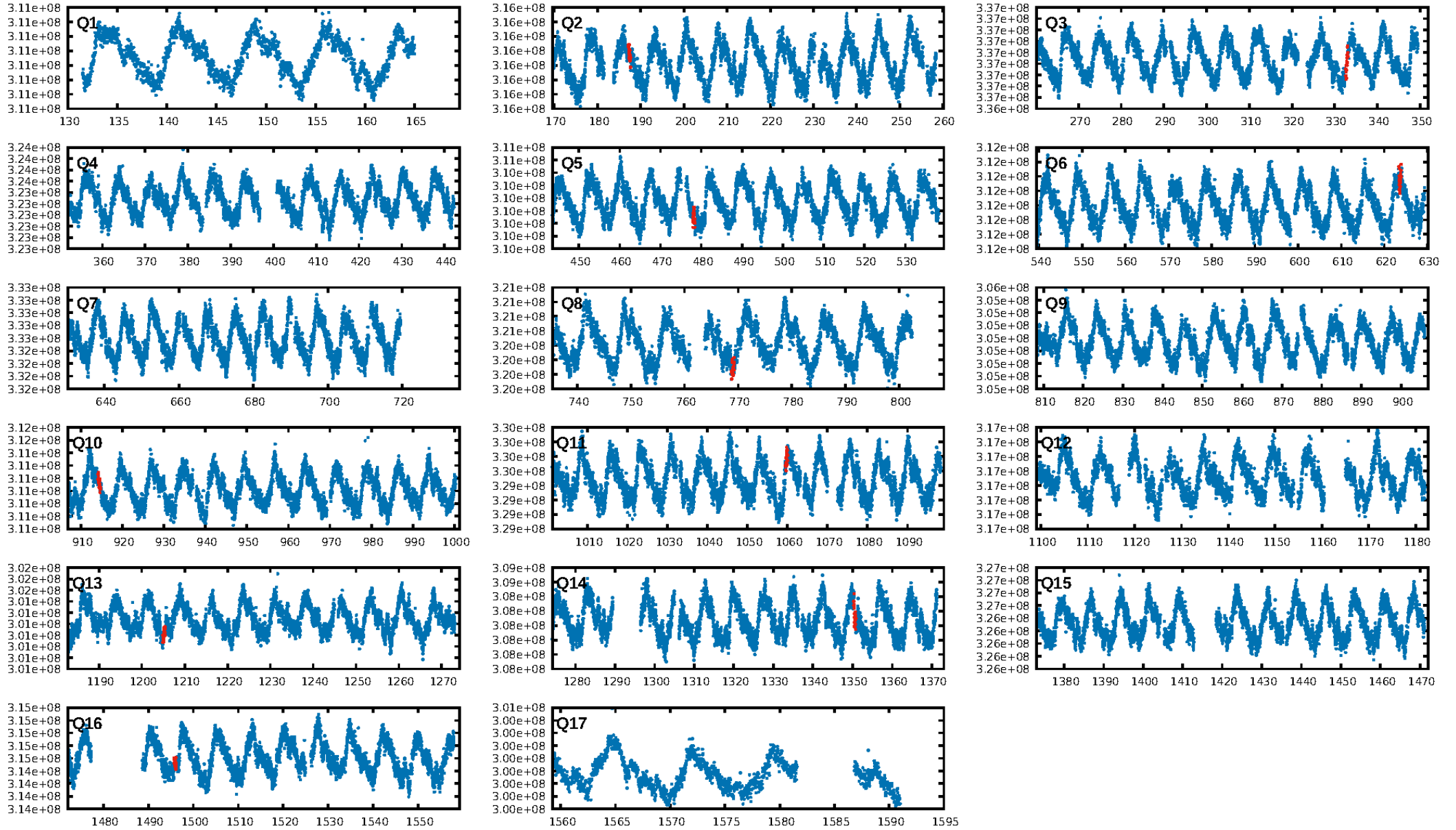
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [37.40σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 23.8%
ModelChiSquareGof-sig: 98.0%
Bootstrap-pfa: 2.20e-07
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.142
Centroid-sig: 34.6%
Centroid-so: 0.533 arcsec [1.27σ]
OotOffset-rm: 0.779 arcsec [1.34σ]
KicOffset-rm: 0.754 arcsec [1.16σ]
OotOffset-st: 3/2/2/1 [8]
KicOffset-st: 3/2/2/1 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 0.00 [0/10]

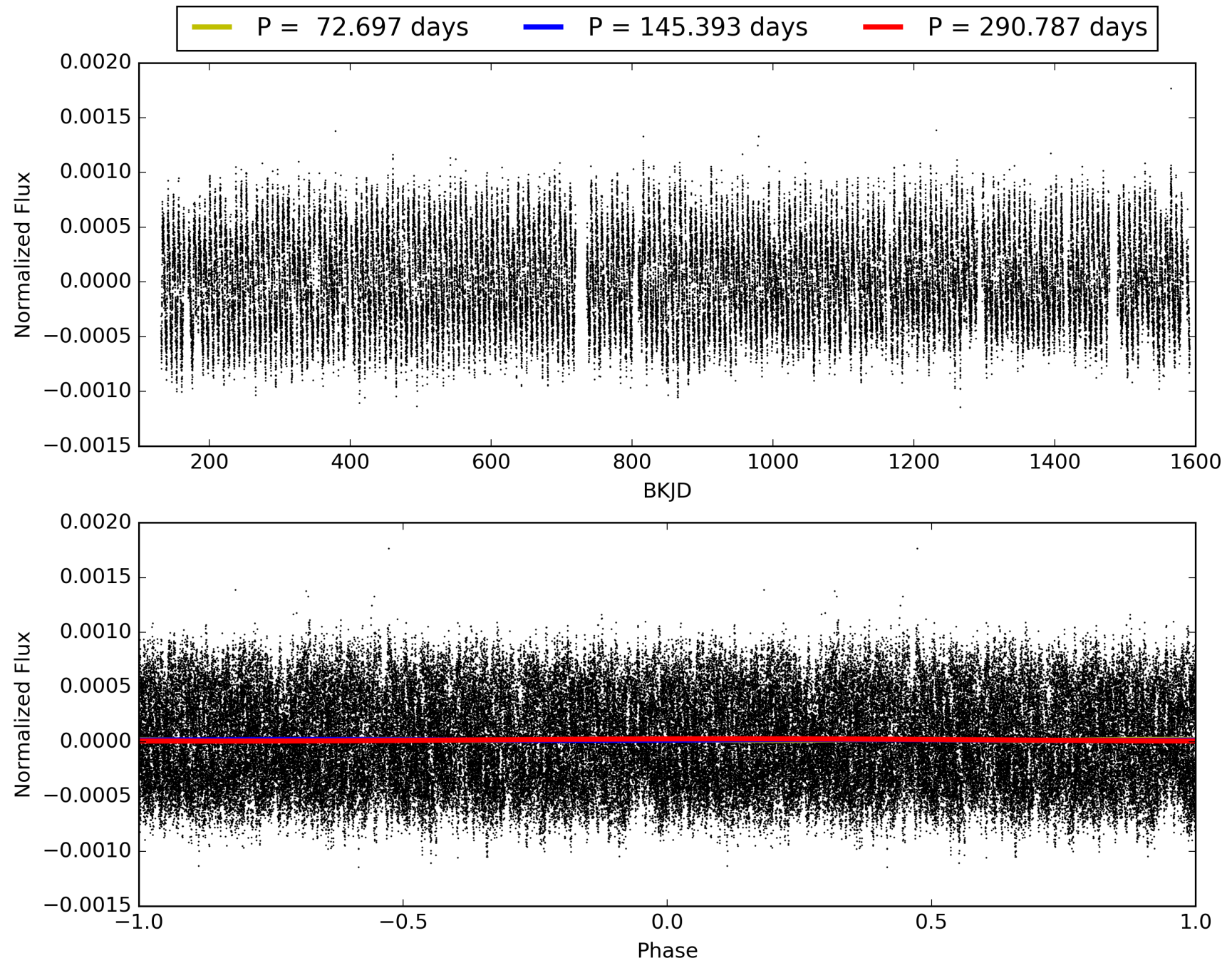
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:55:50 Z

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

TCE 008957572-05, PDC Light Curves

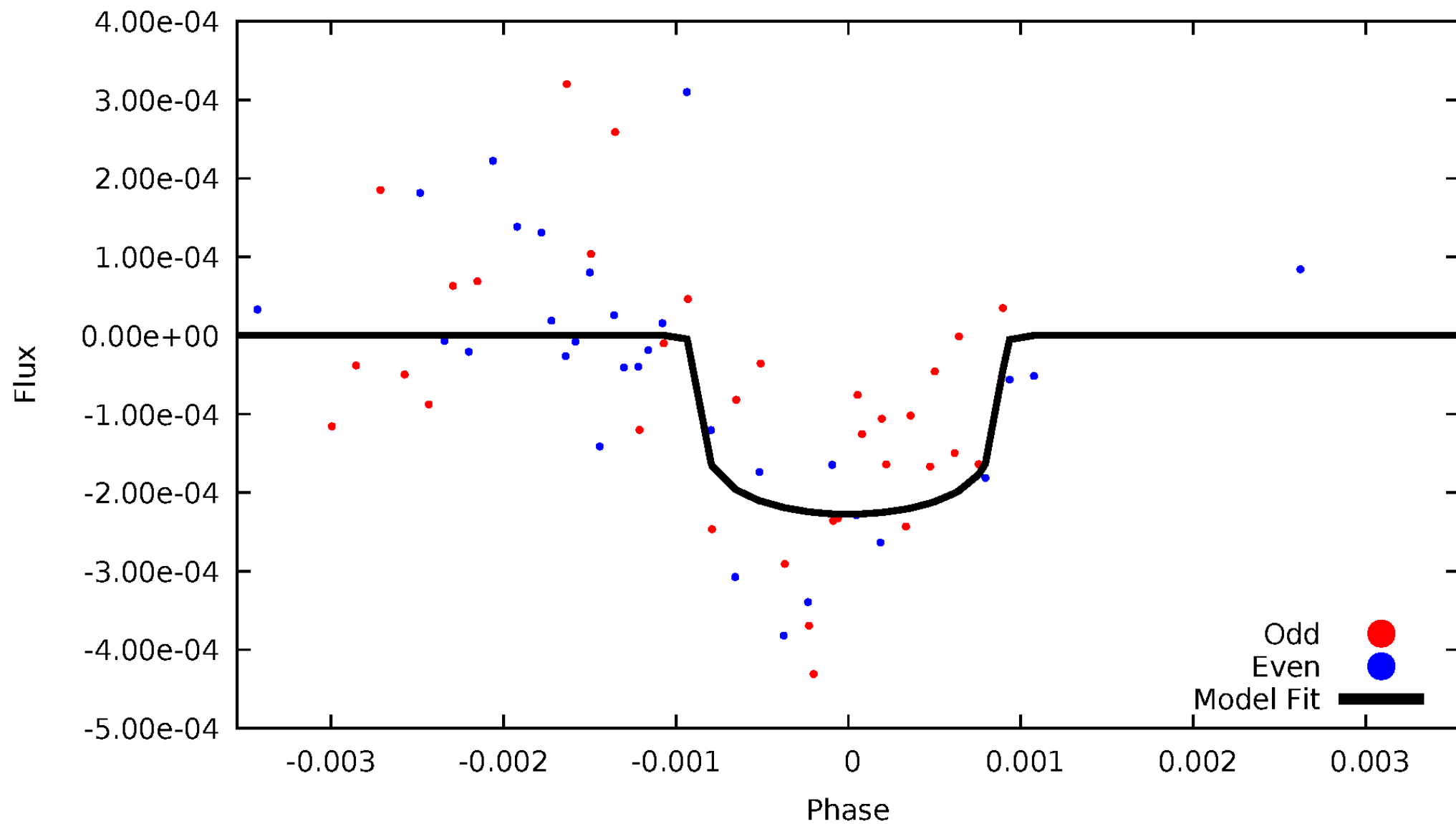


TCE 008957572-05



DV Odd/Even

TCE 008957572-05

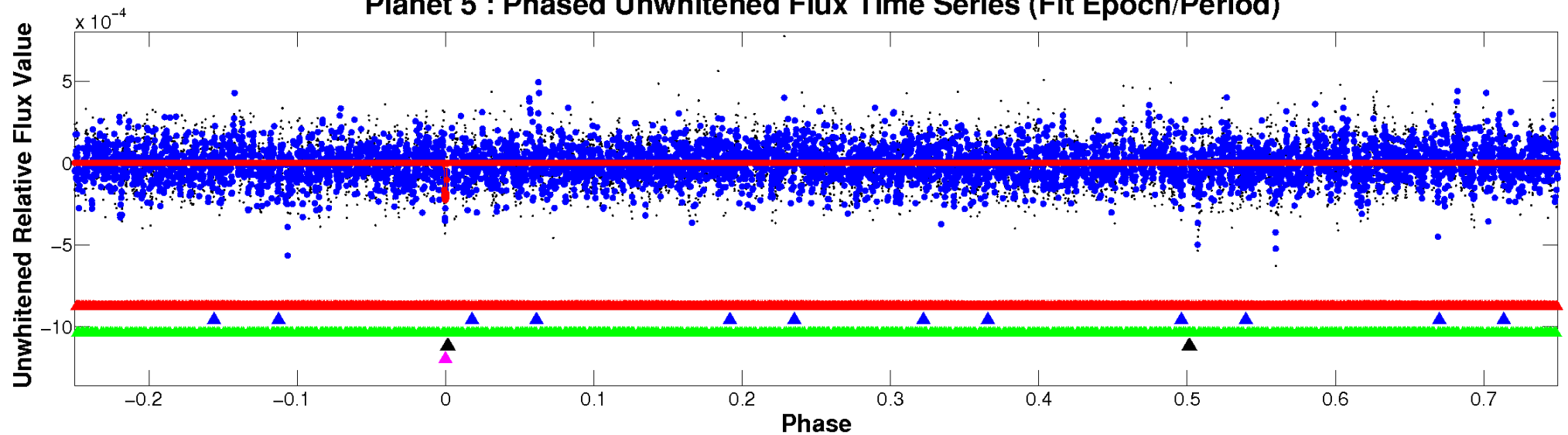


ALT Odd/Even

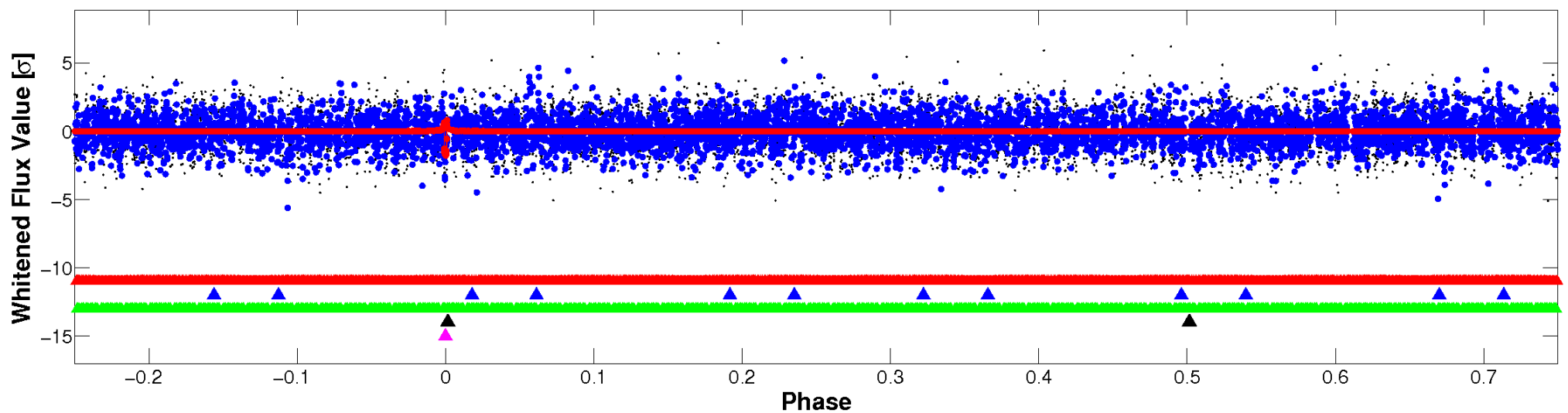
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

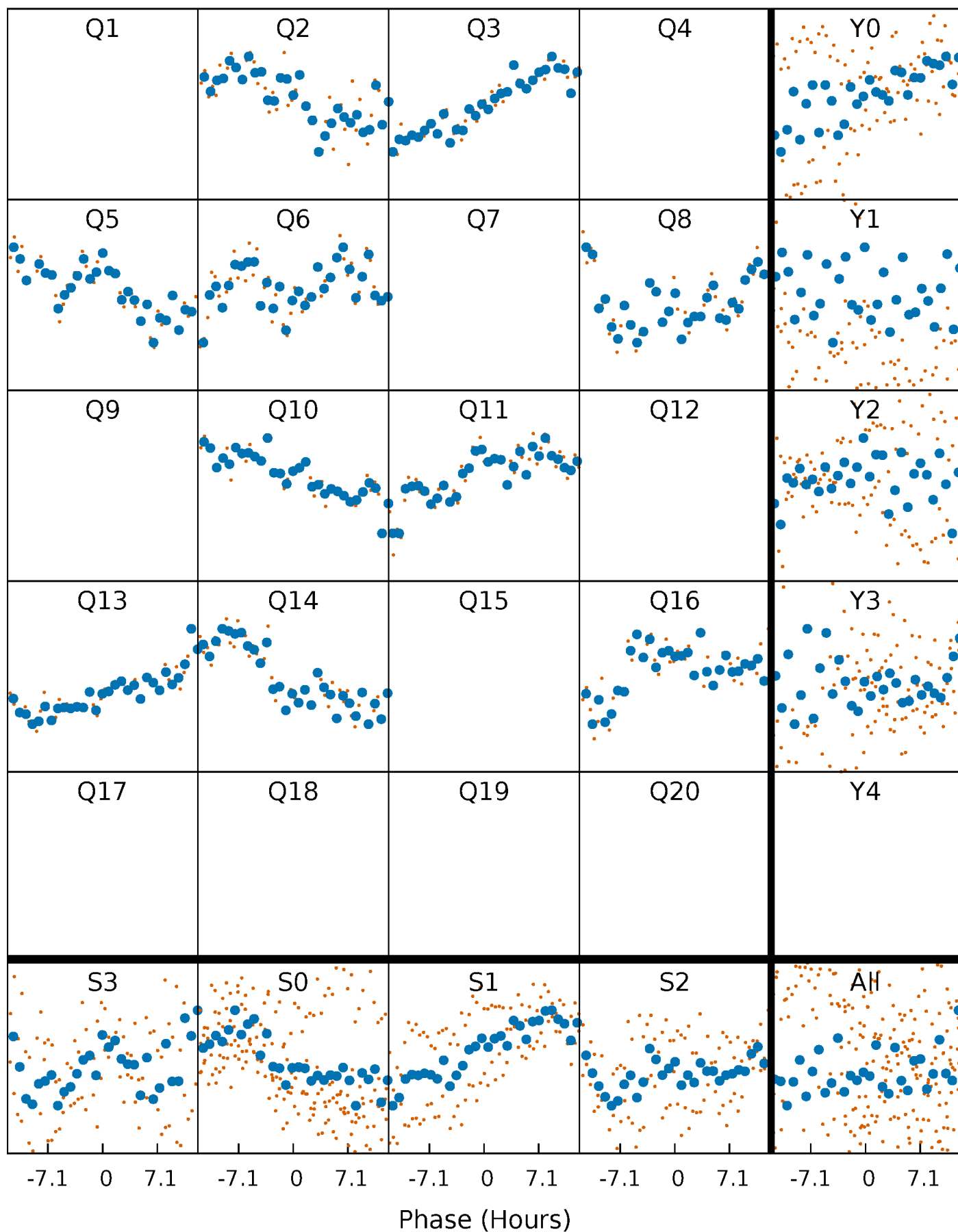


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



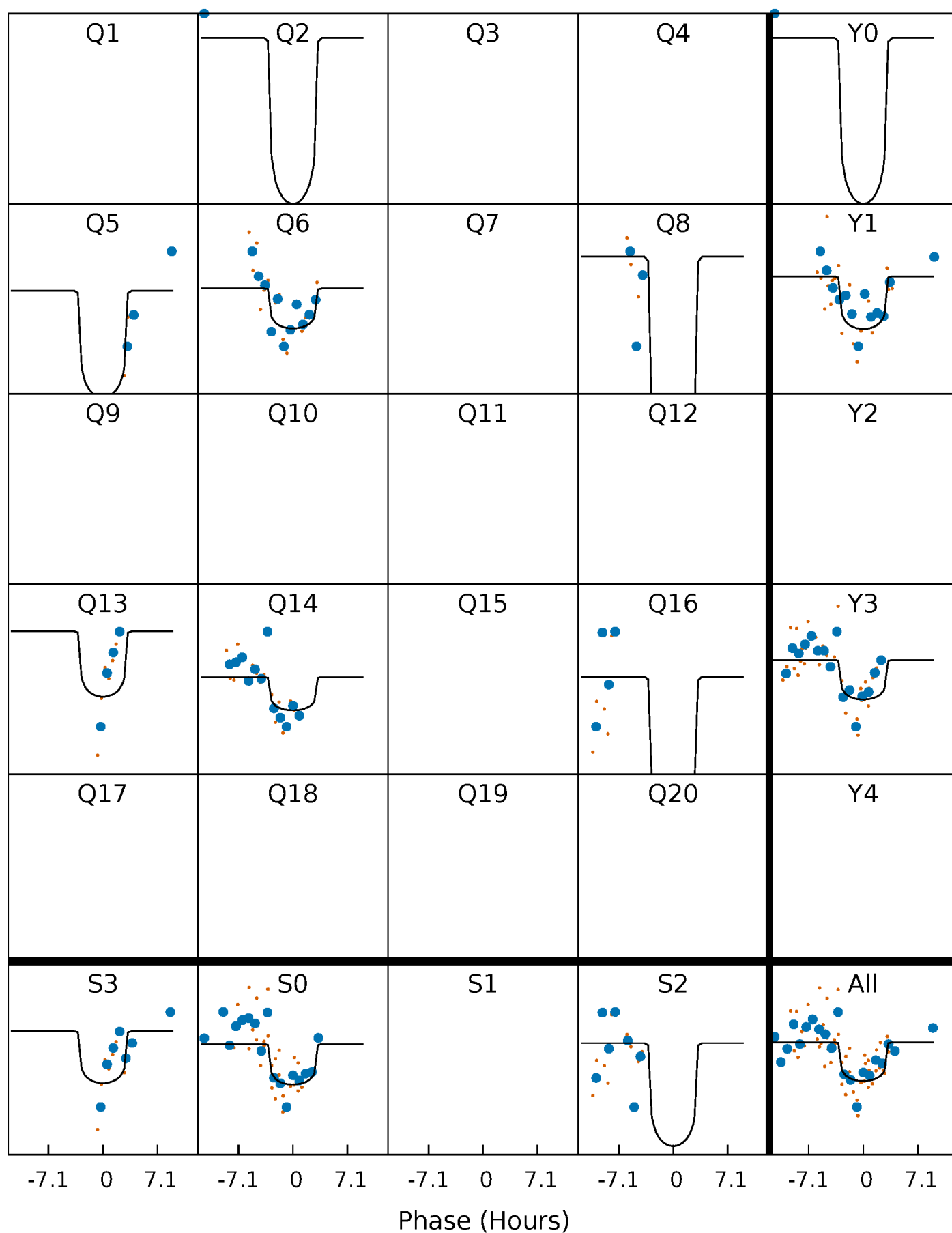
PDC Quarter-Phased Transit Curves

TCE 008957572-05 $P=145.393482$ Days $T_0=187.428032$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008957572-05 P=145.393482 Days $T_0=187.428032$ (BKJD)

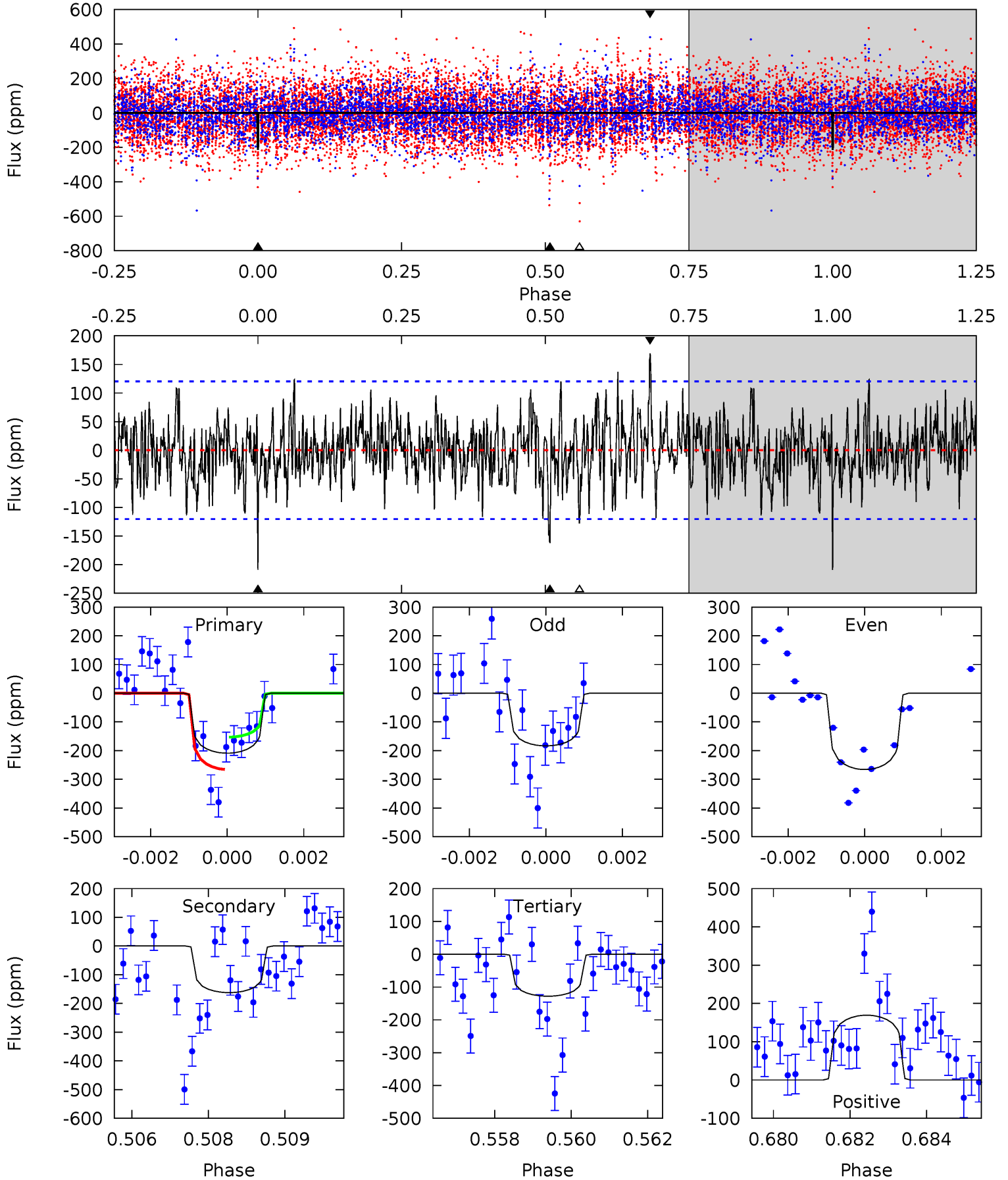


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008957572-05, $P = 145.393482$ Days, $E = 42.034550$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.28	7.20	5.68	7.51	5.34	3.11	1.88	3.60	1.76	1.53	-0.31	1.74	0.98	0.45	2.49



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008957572

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6742^{+160}_{-200}	$3.688^{+0.304}_{-0.076}$	$-0.140^{+0.300}_{-0.250}$	$3.138^{+0.396}_{-1.188}$	$1.752^{+0.166}_{-0.387}$	$0.080^{+0.175}_{-0.020}$
	+2%/-3%	+8%/-2%	+214%/-179%	+13%/-38%	+9%/-22%	+220%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008957572-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-162±23	$4.79^{+3.90}_{-2.86}$	895^{+46}_{-78}	6090^{+4787}_{-1364}	1641^{+8537}_{-1146}
Alt.	N/A	N/A	N/A	N/A	N/A

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

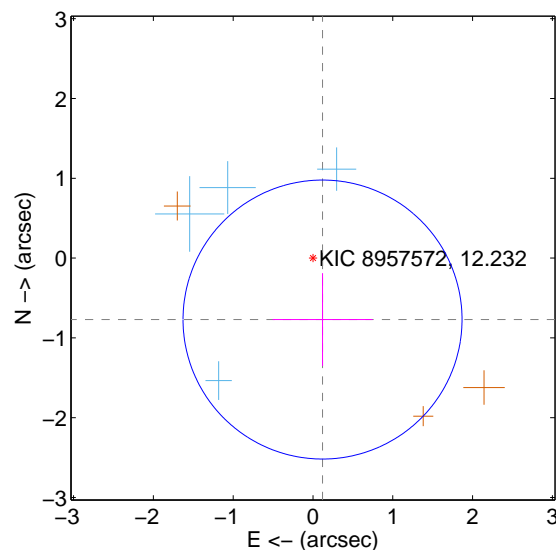
Supplemental centroid analysis for 008957572-05. Kepler magnitude: 12.23. Transit SNR 8.65

There are 4 quarters with good PRF difference image offsets

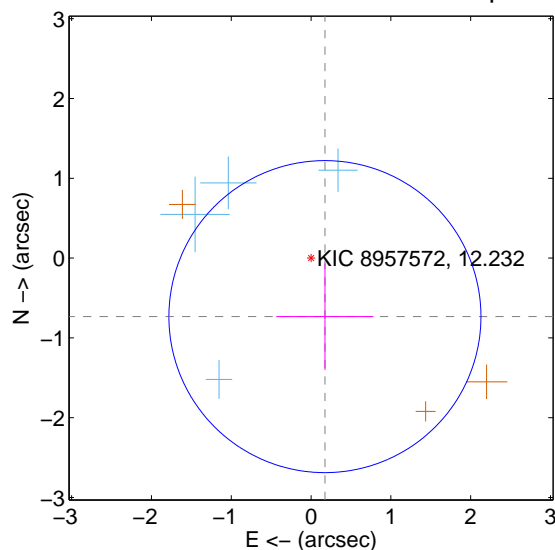
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.779 ± 0.583	1.34	-0.120 ± 0.626	-0.770 ± 0.582
PRF-fit source offset from KIC position	0.754 ± 0.652	1.16	-0.174 ± 0.610	-0.733 ± 0.669
photometric centroid source offset	0.53 ± 0.42	1.27	-0.45 ± 0.41	0.28 ± 0.43

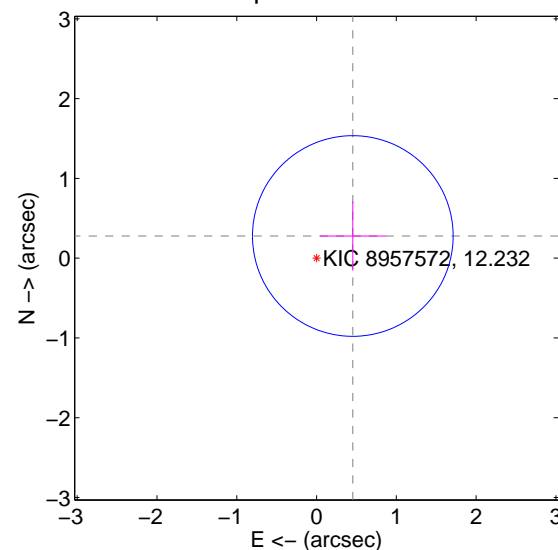
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

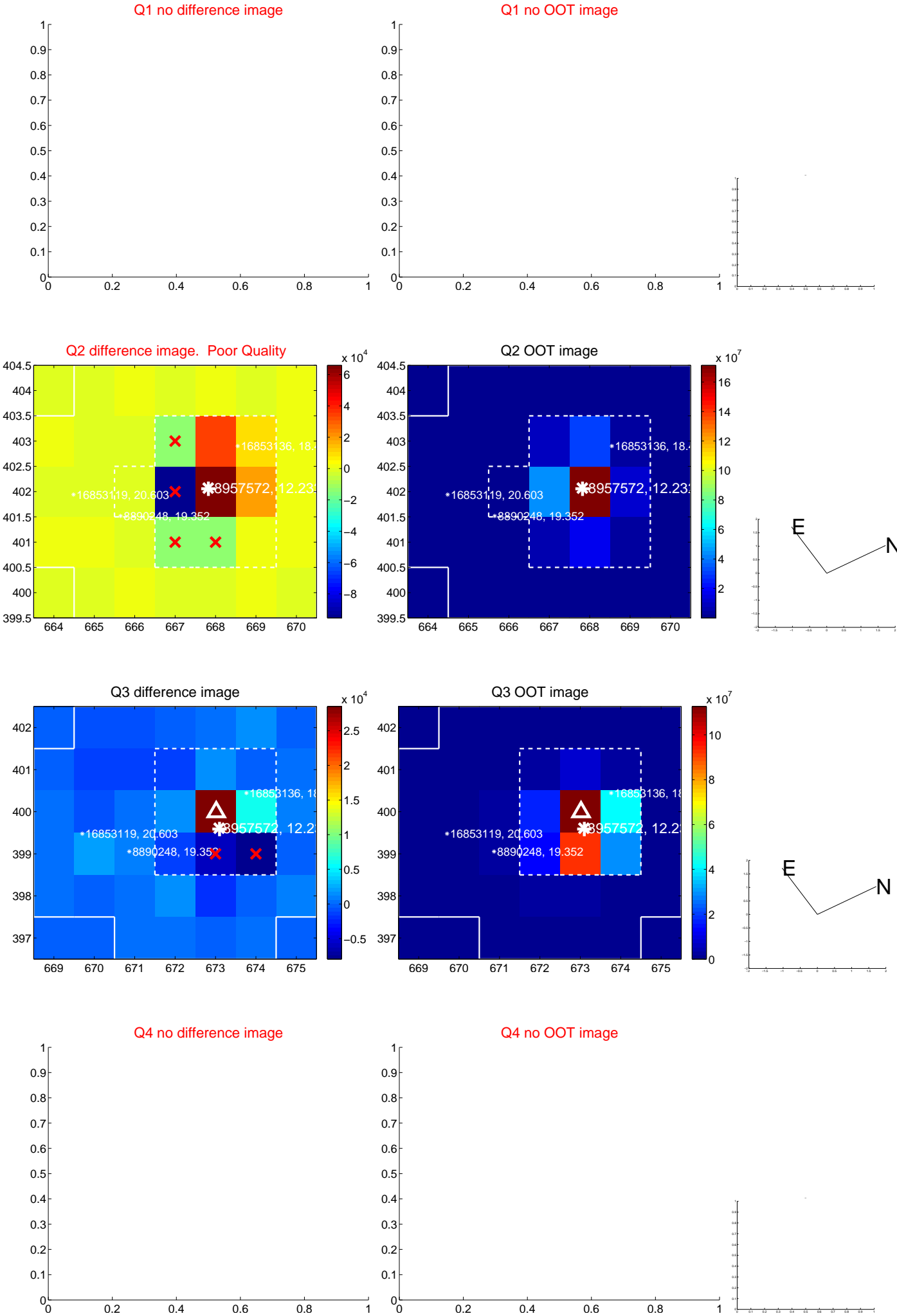


offset from photometric centroids

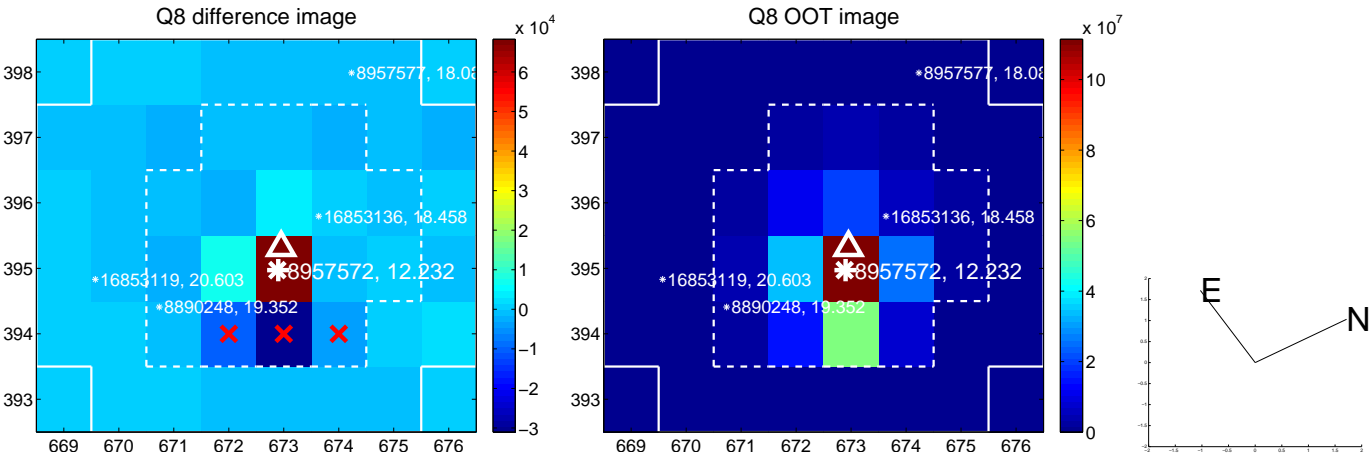
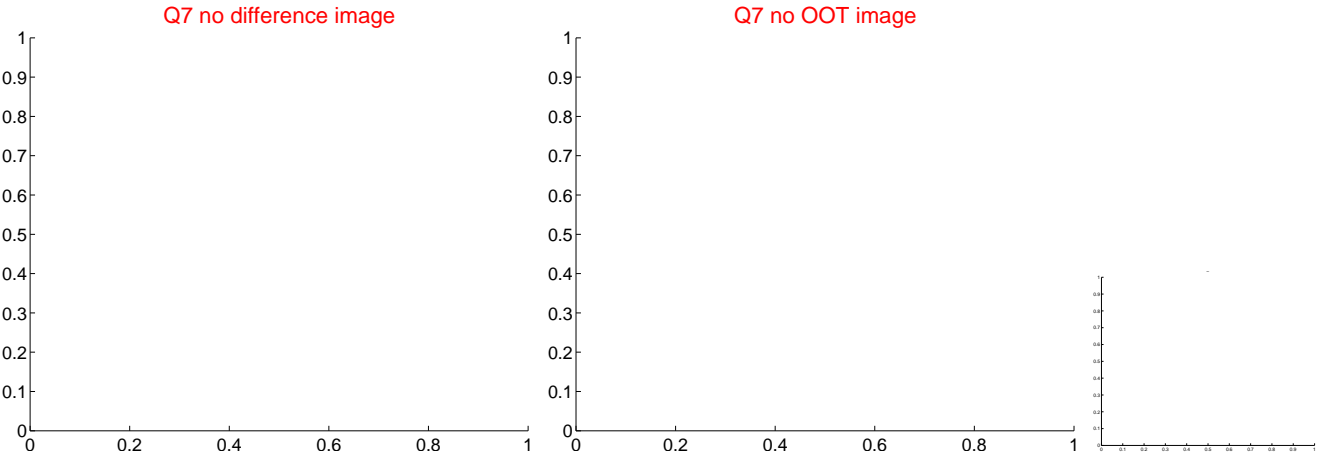
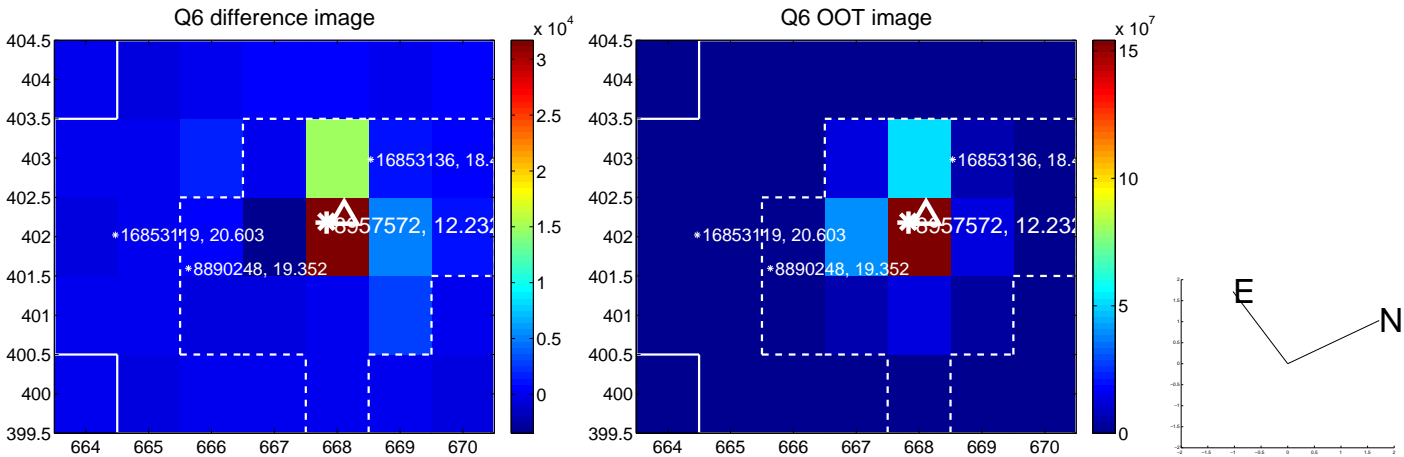
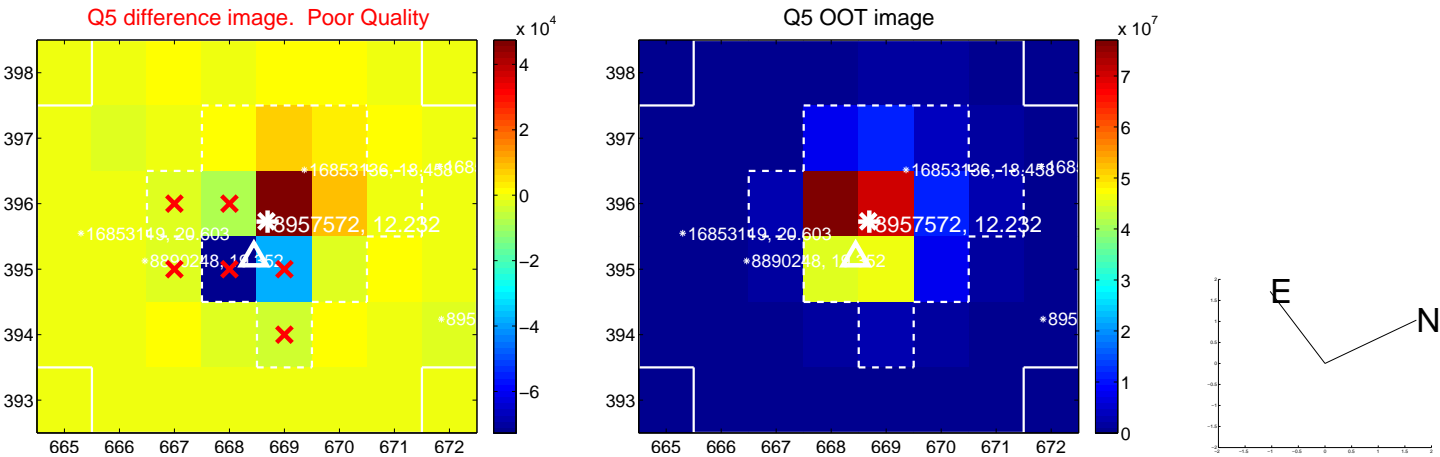


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

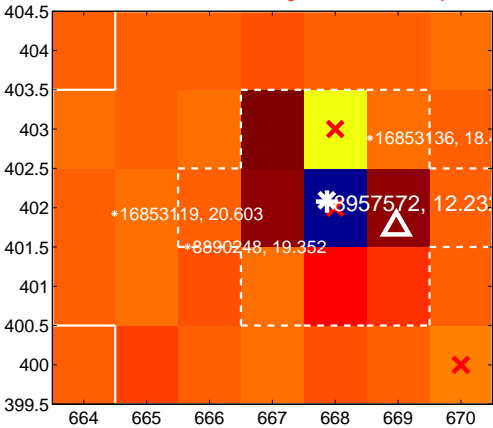
Q9 no difference image



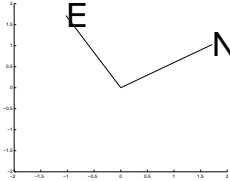
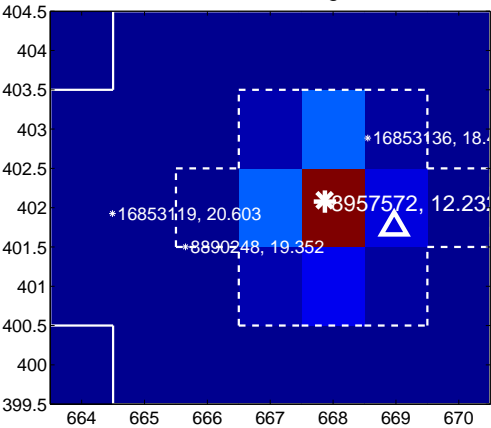
Q9 no OOT image



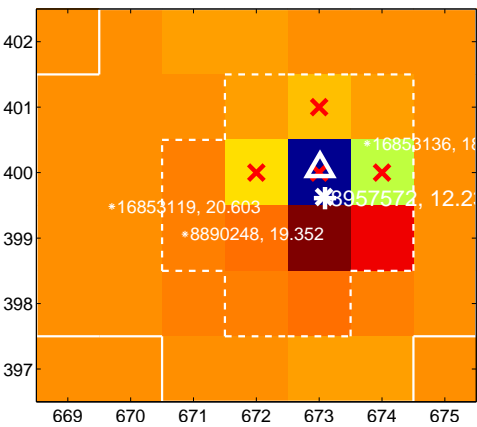
Q10 difference image. Poor Quality



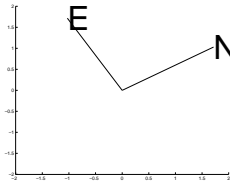
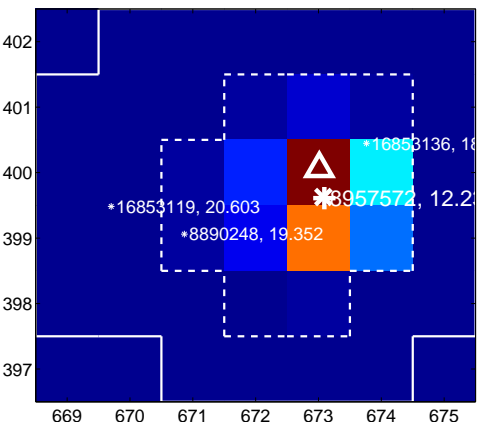
Q10 OOT image



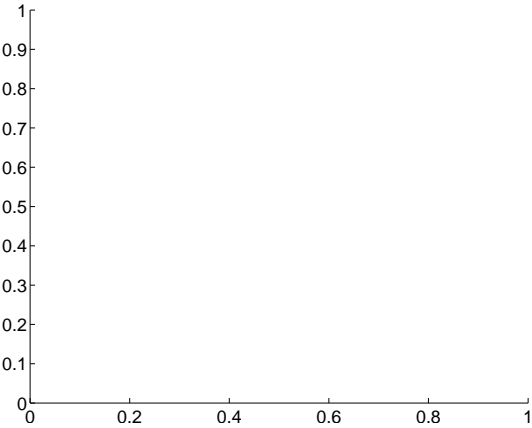
Q11 difference image. Poor Quality



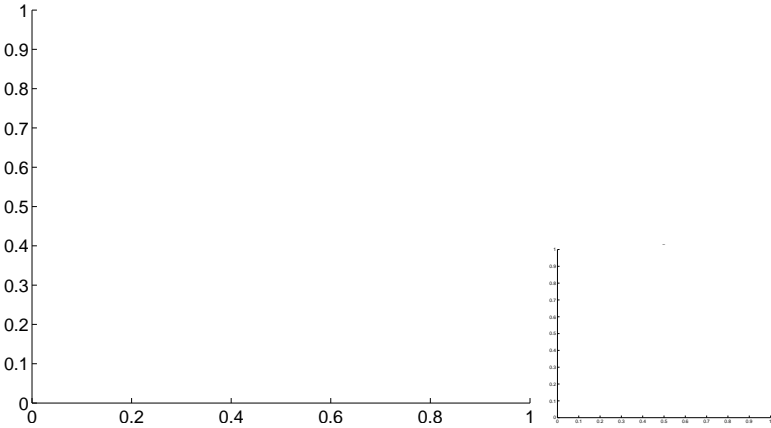
Q11 OOT image



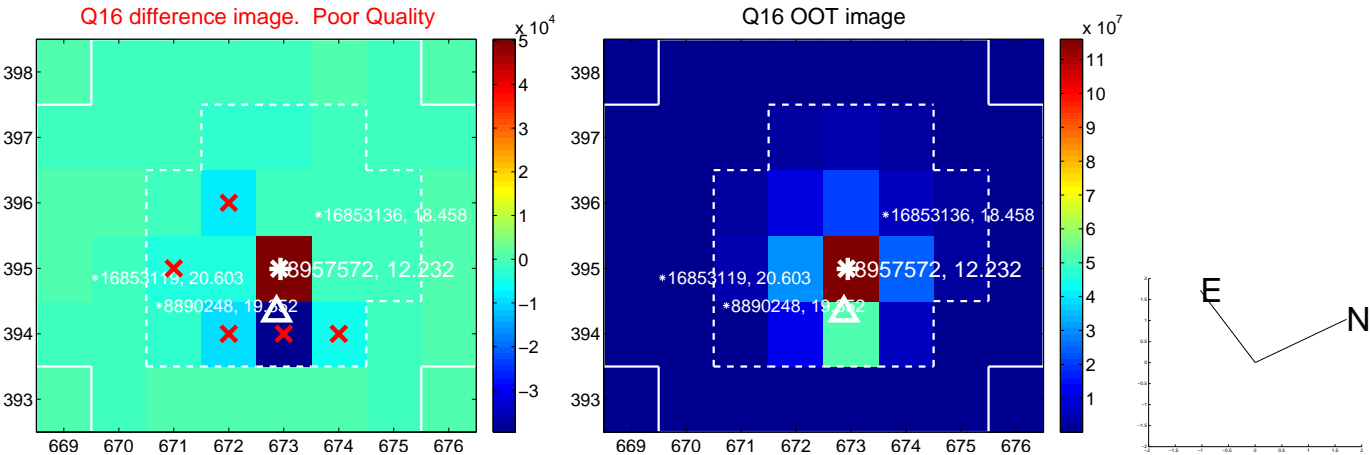
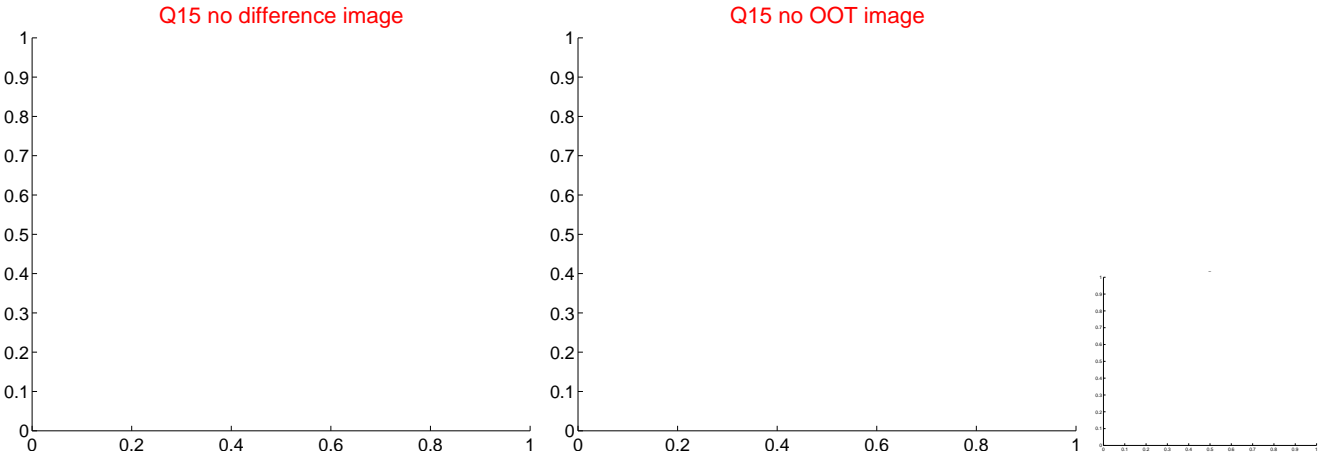
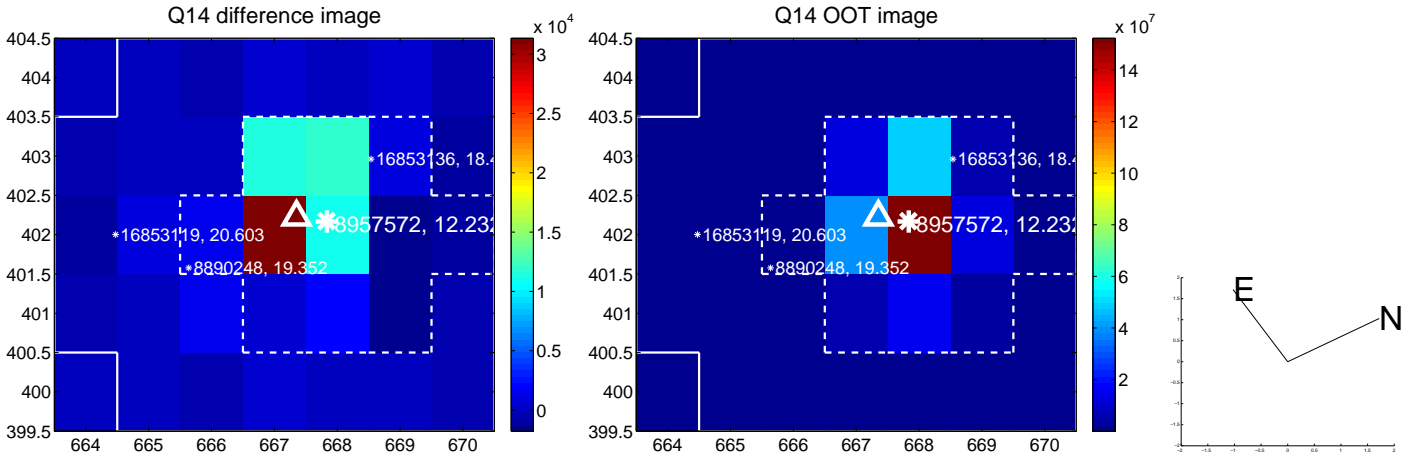
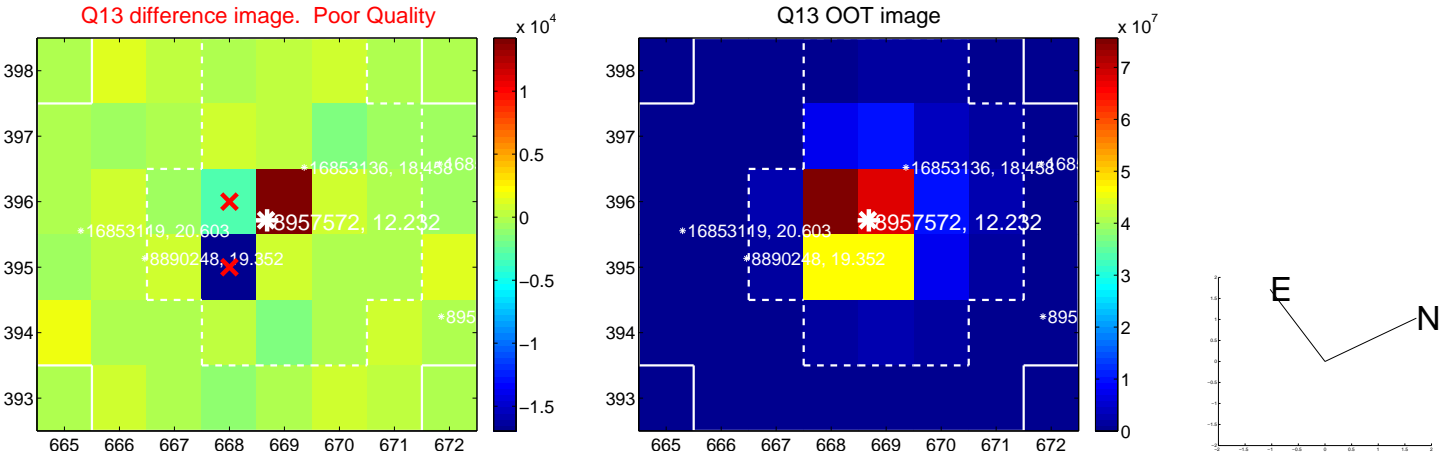
Q12 no difference image



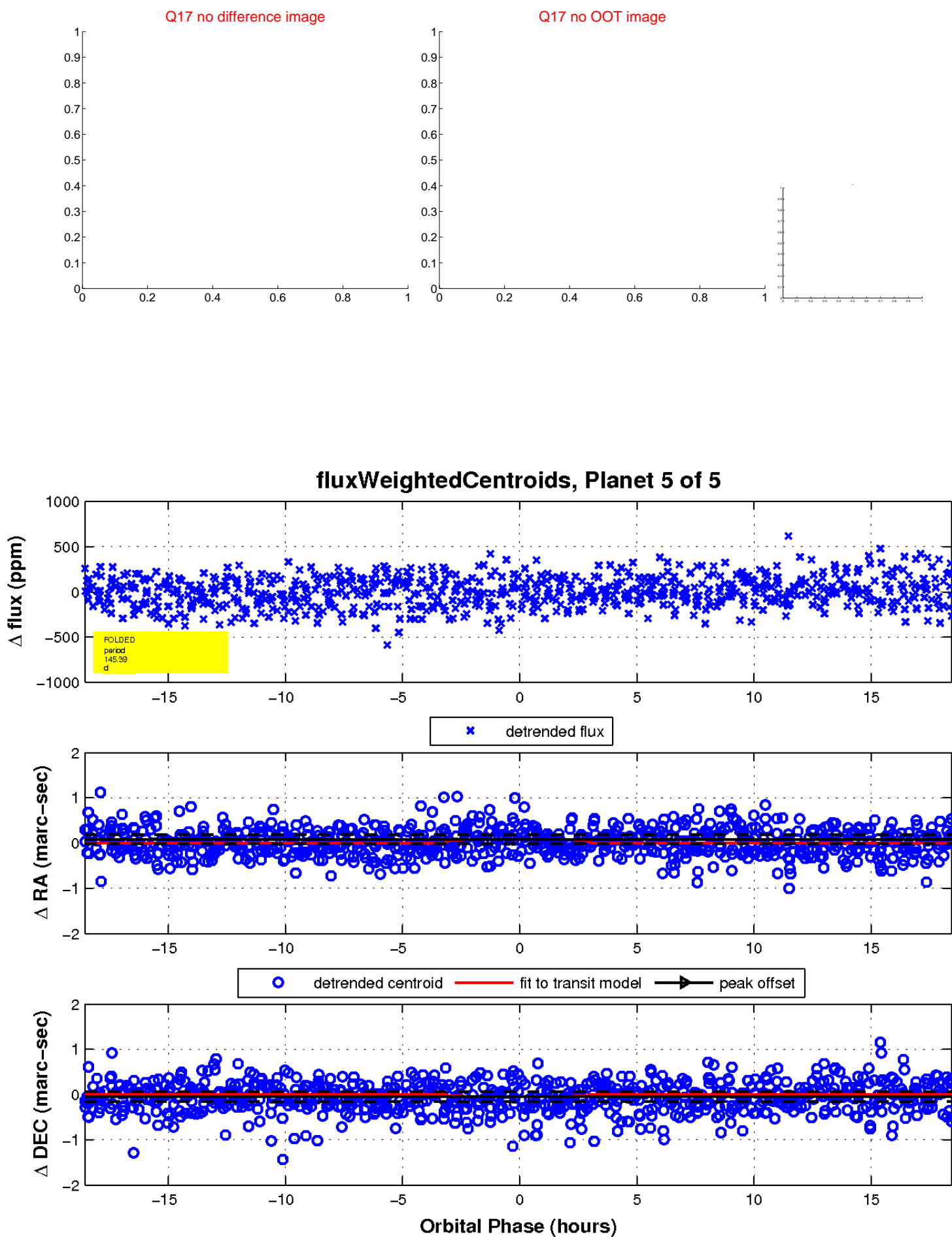
Q12 no OOT image



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

