

KIC 003557293

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})
003557293-01	OBS	No	0.787454	131.737665	89.6	0.733	7.7	10.8	1.06	6100	1.21	4939.96
003557293-02	OBS	No	0.787459	132.120771	65.7	0.872	7.6	9.0	1.06	6100	1.03	4939.92
003557293-03	OBS	No	400.519249	246.787399	731.7	8.143	7.4	7.6	1.06	6100	5.55	1.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003557293-01	OBS	FP	0.00	1	0	0	1	LPP_ALT—MOD_NONUNIQ_ALT—EPHEM_MATCH
003557293-02	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—EPHEM_MATCH
003557293-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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.

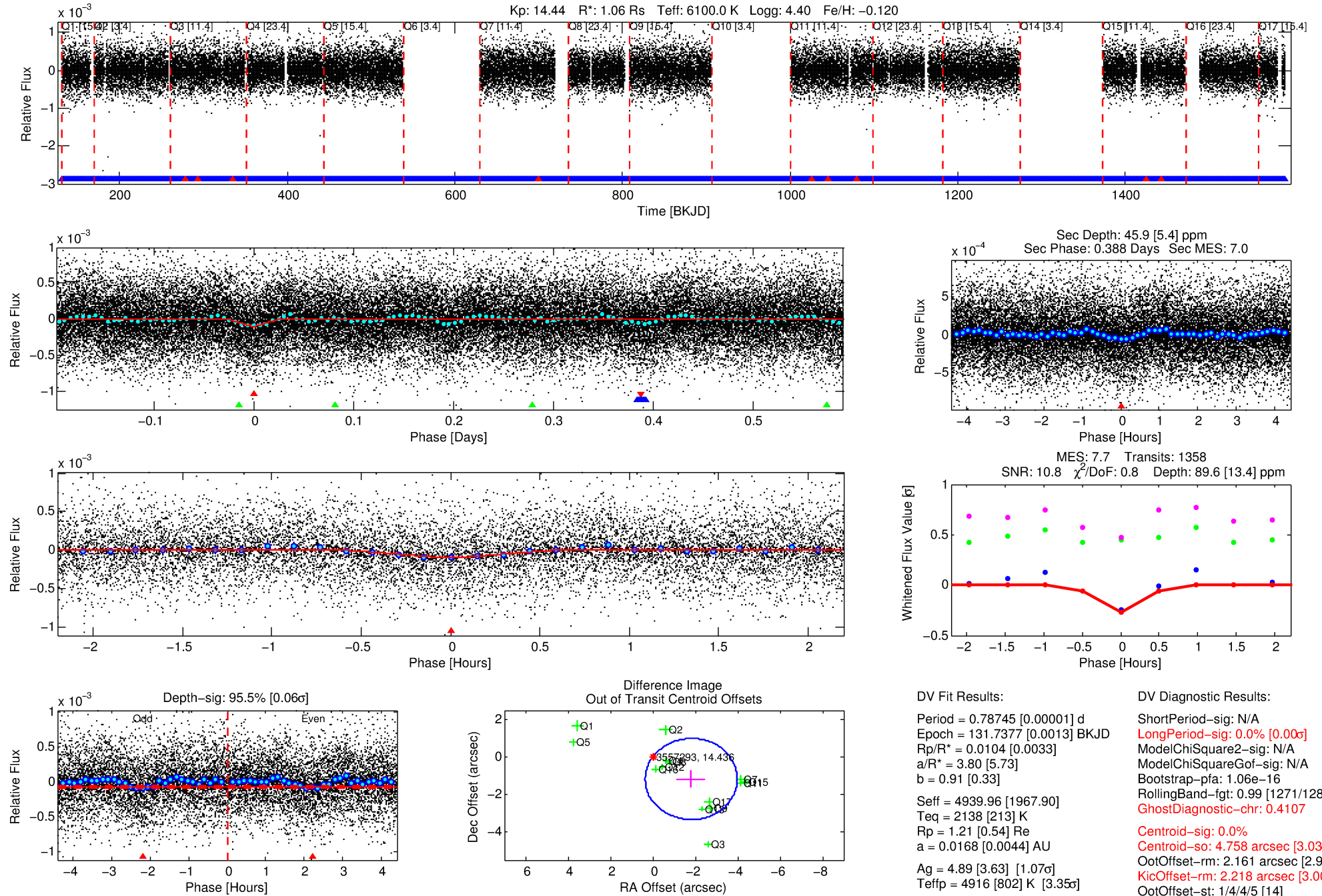
Ephemeris Match Information For 003557293-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
003557293-01	3557293	003557421-pri	3557421	2:1	85.4	16	-15	10.03	14.44	2305.60	Direct-PRF	0	0.40	0.67

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

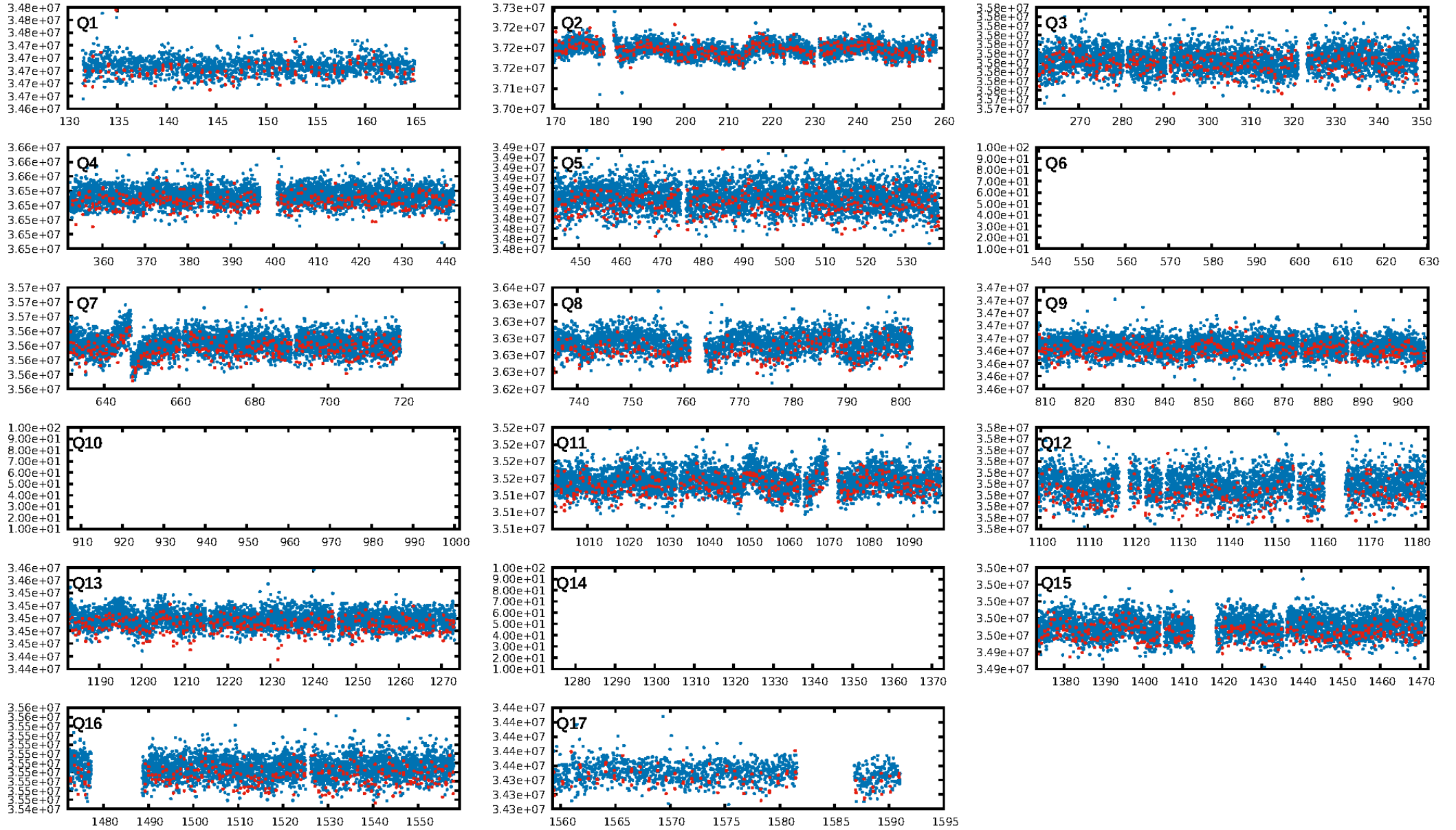
KIC: 3557293 Candidate: 1 of 3 Period: 0.787 d



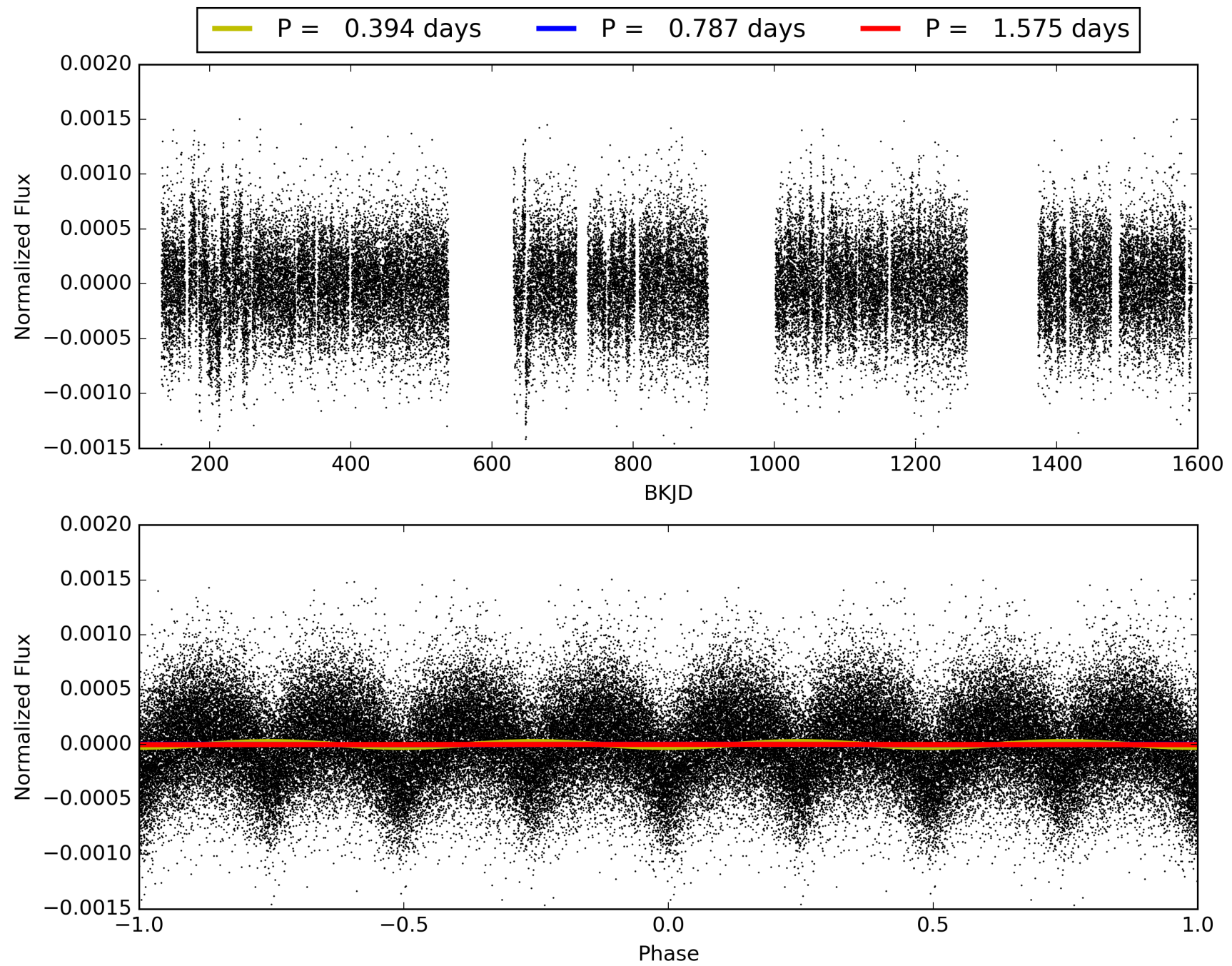
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:27:45 Z

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

TCE 003557293-01, PDC Light Curves

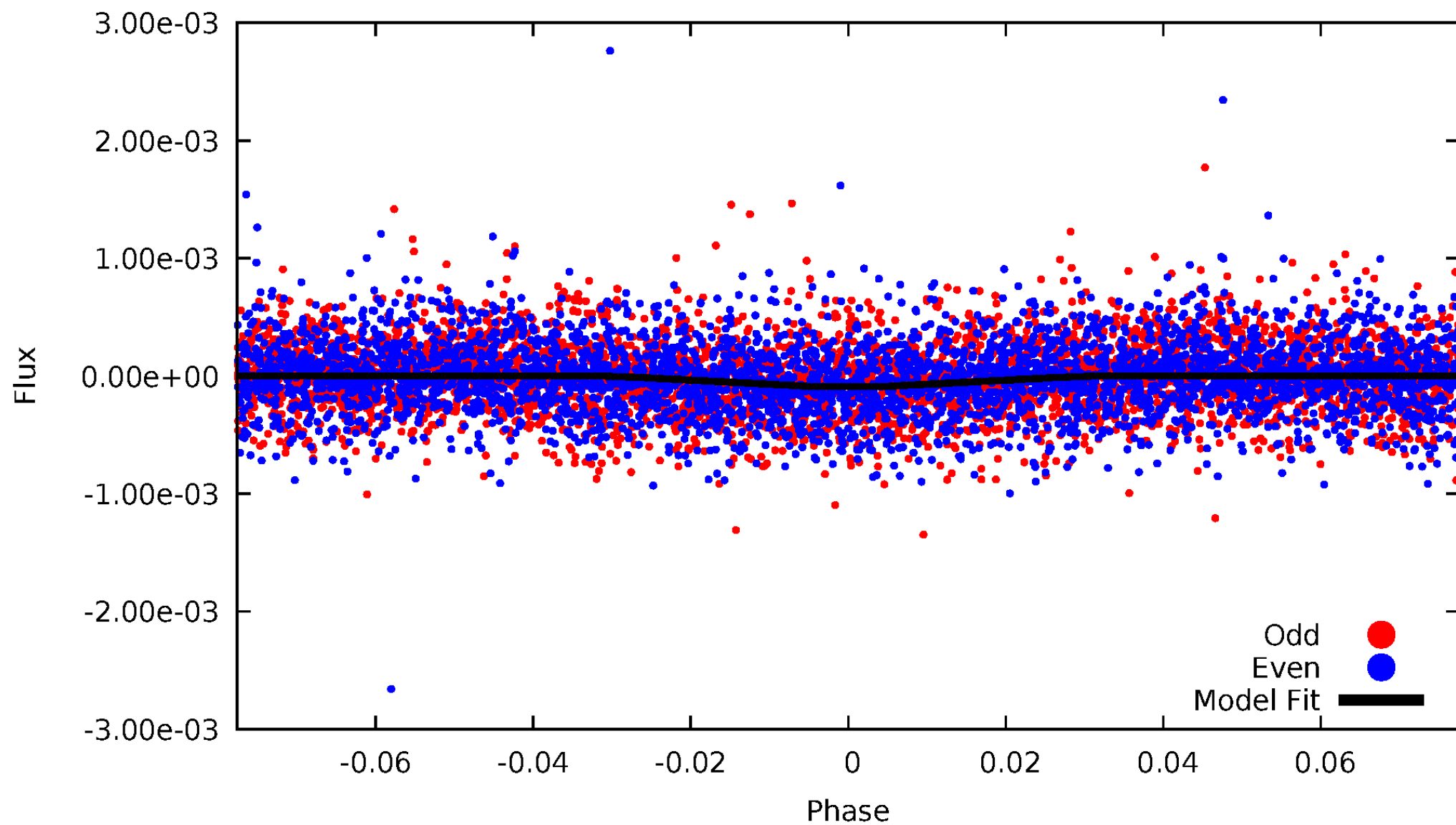


TCE 003557293-01



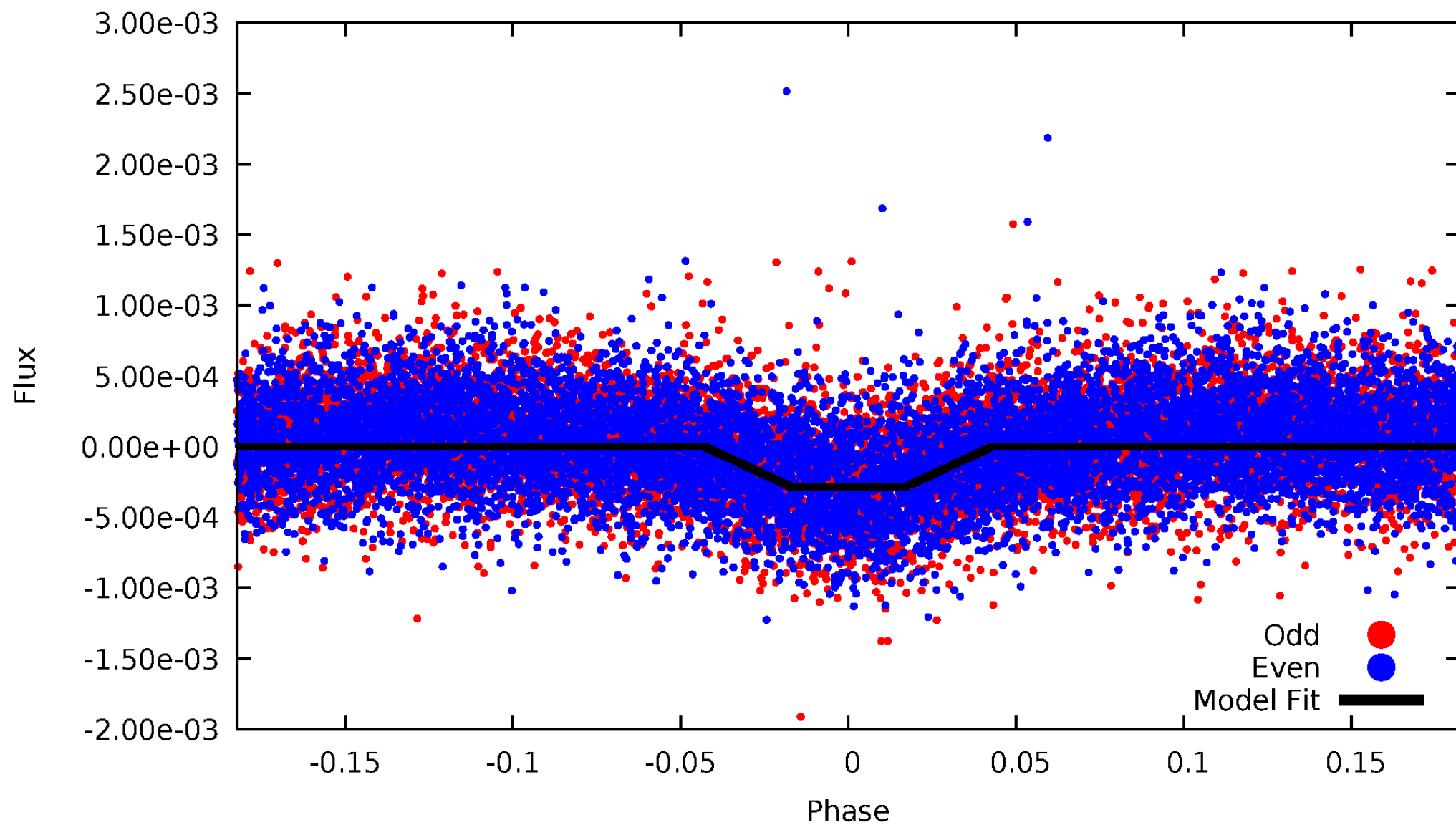
DV Odd/Even

TCE 003557293-01

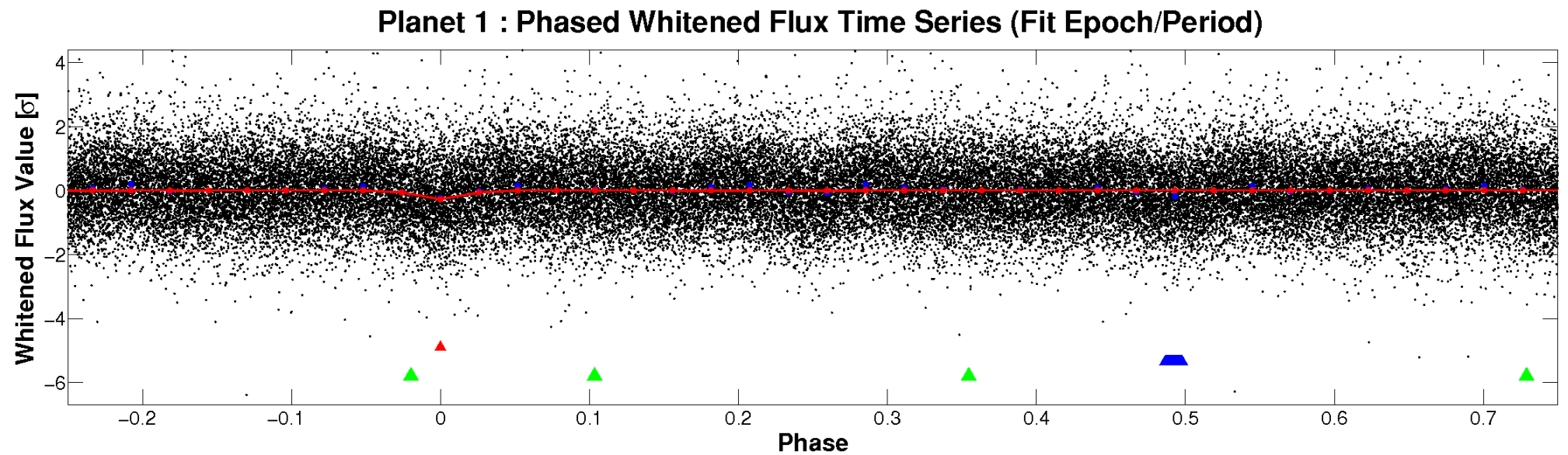
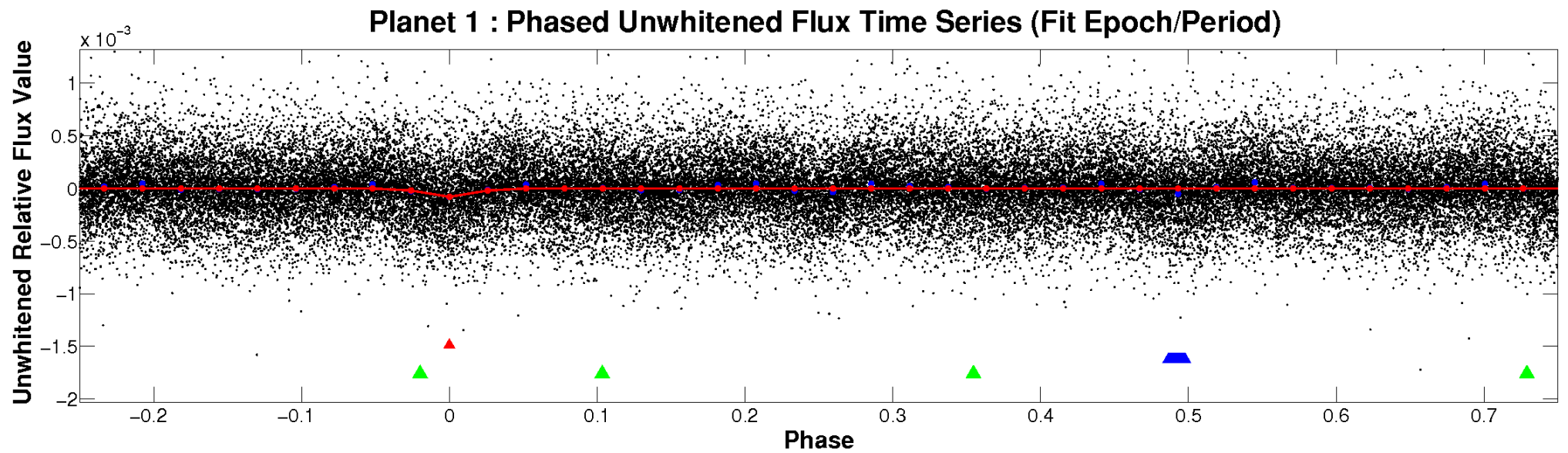


ALT Odd/Even

TCE 003557293-01

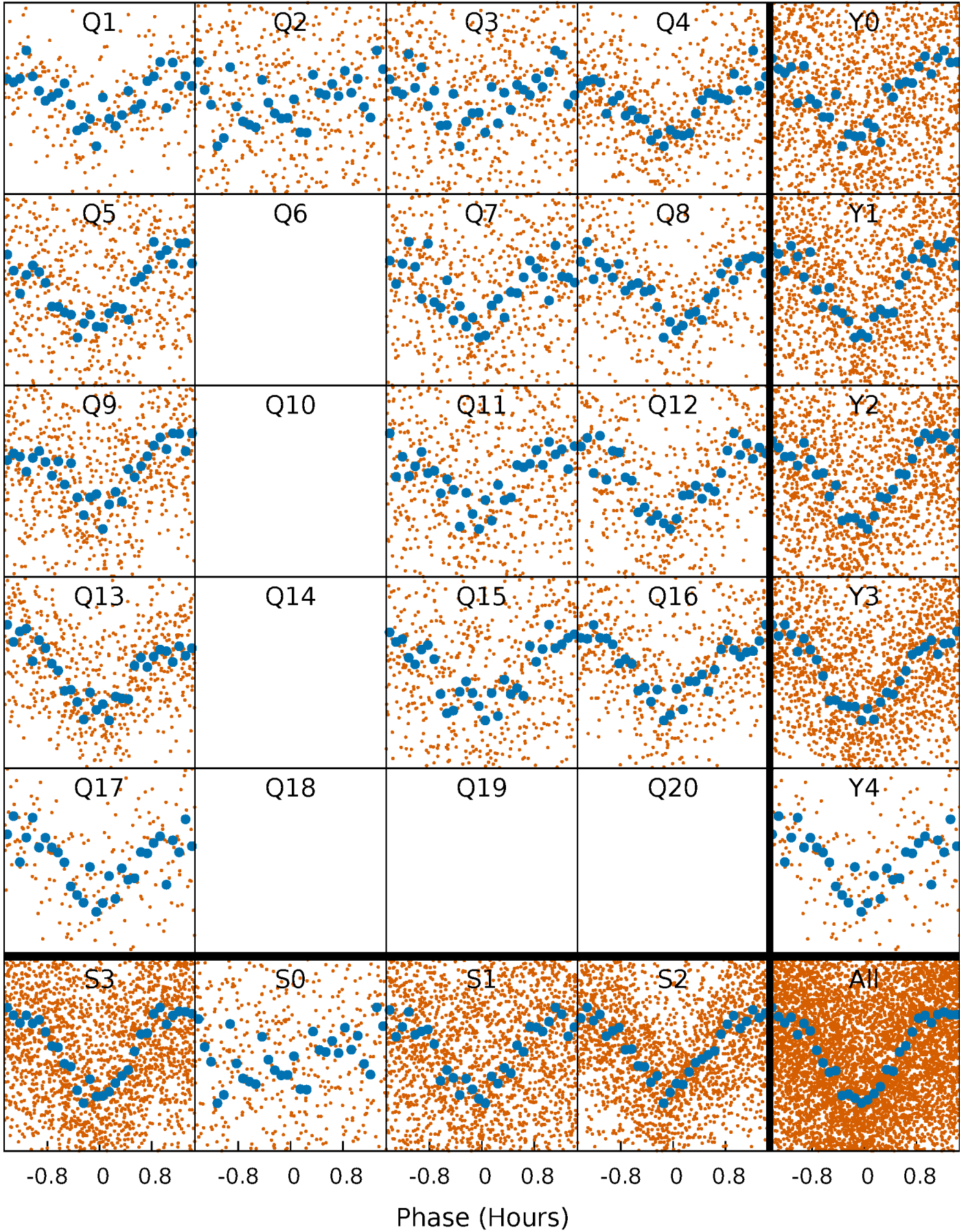


Non-Whitened Vs. Whitened Light Curve



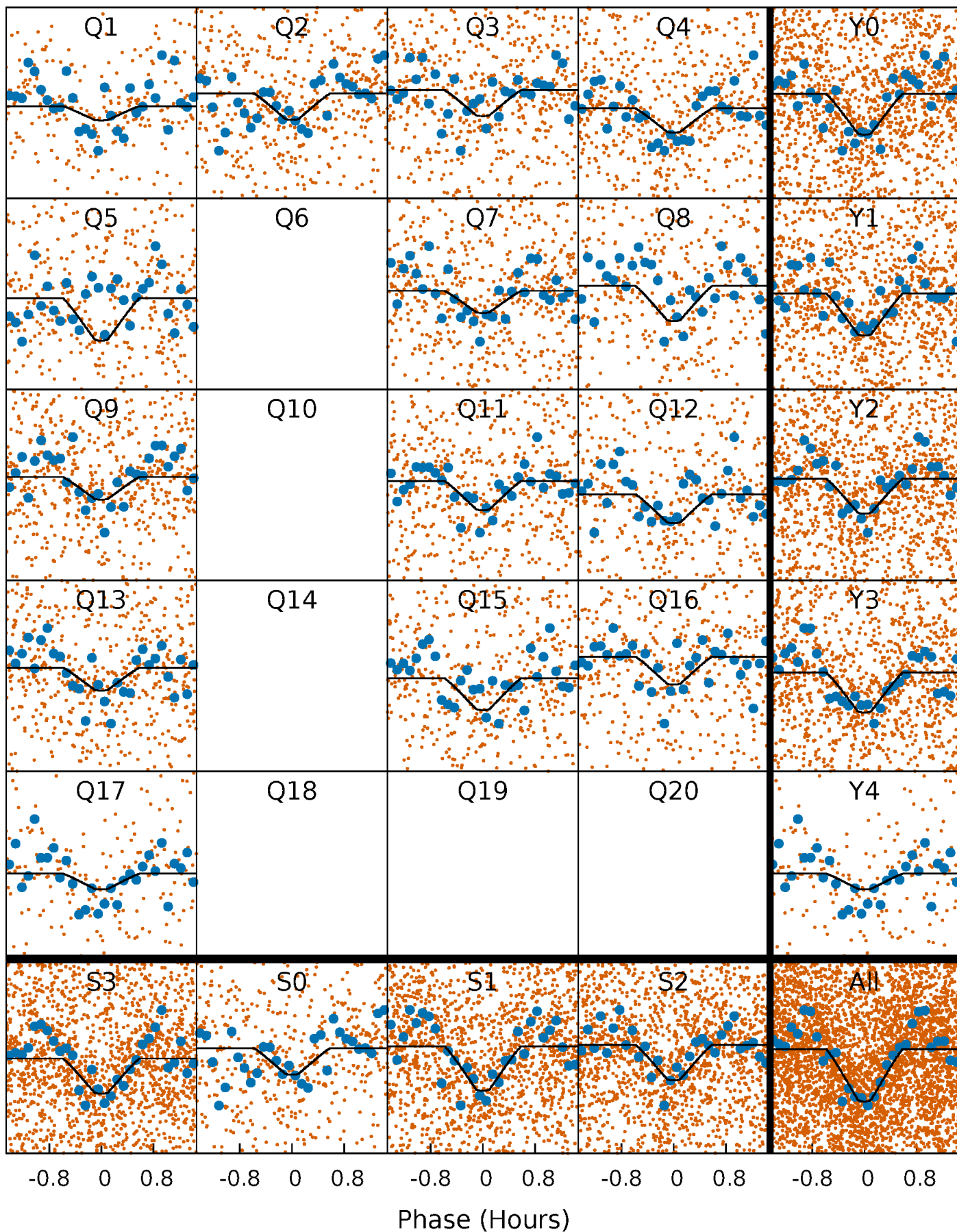
PDC Quarter-Phased Transit Curves

TCE 003557293-01 P= 0.787454 Days $T_0=131.737665$ (BKJD)



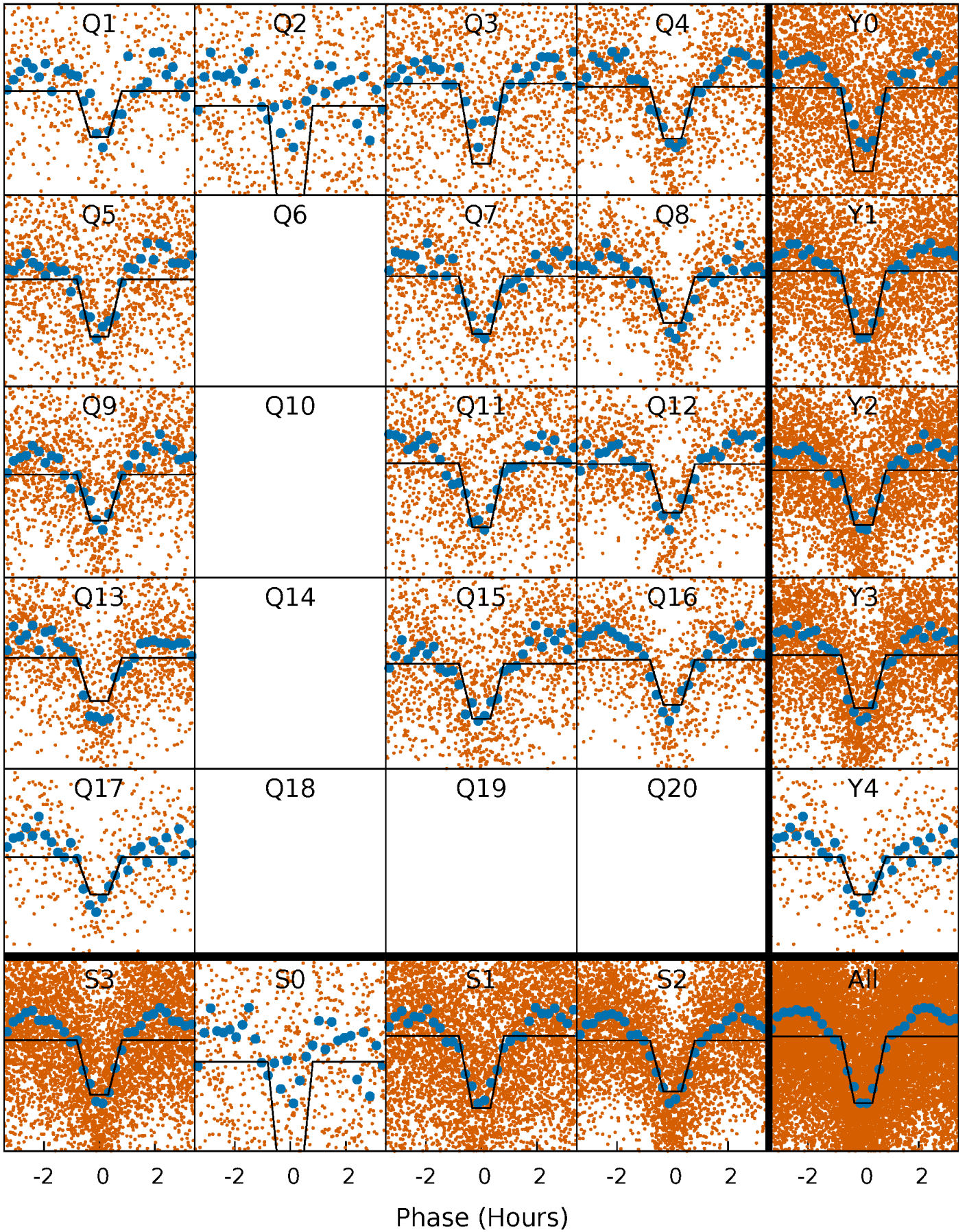
DV Quarter-Phased Transit Curves

TCE 003557293-01 P= 0.787454 Days $T_0=131.737665$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

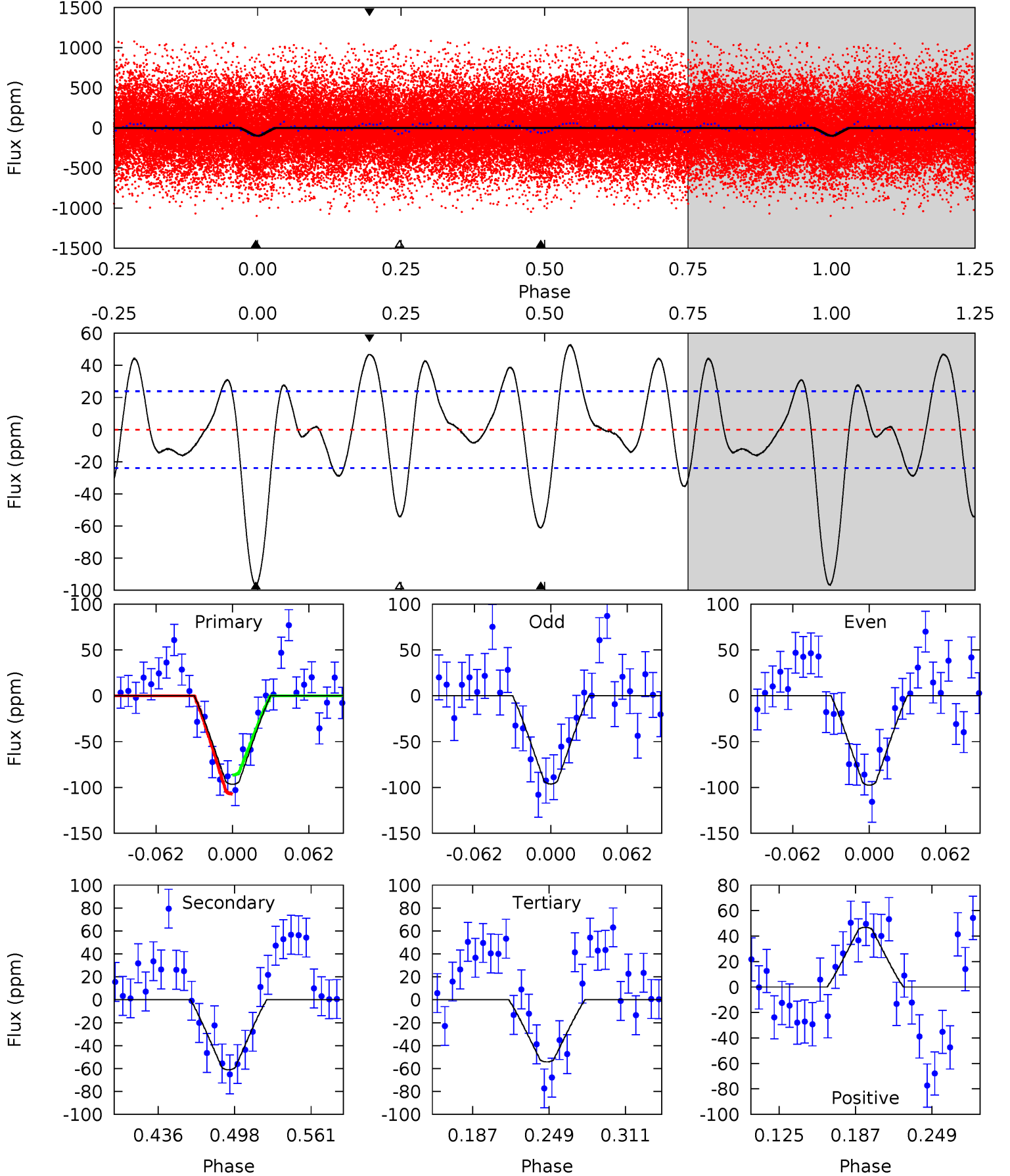
TCE 003557293-01 P= 0.787461 Days $T_0=131.728307$ (BKJD)



DV Model-Shift Uniqueness Test

003557293-01, P = 0.787454 Days, E = 130.950211 Days

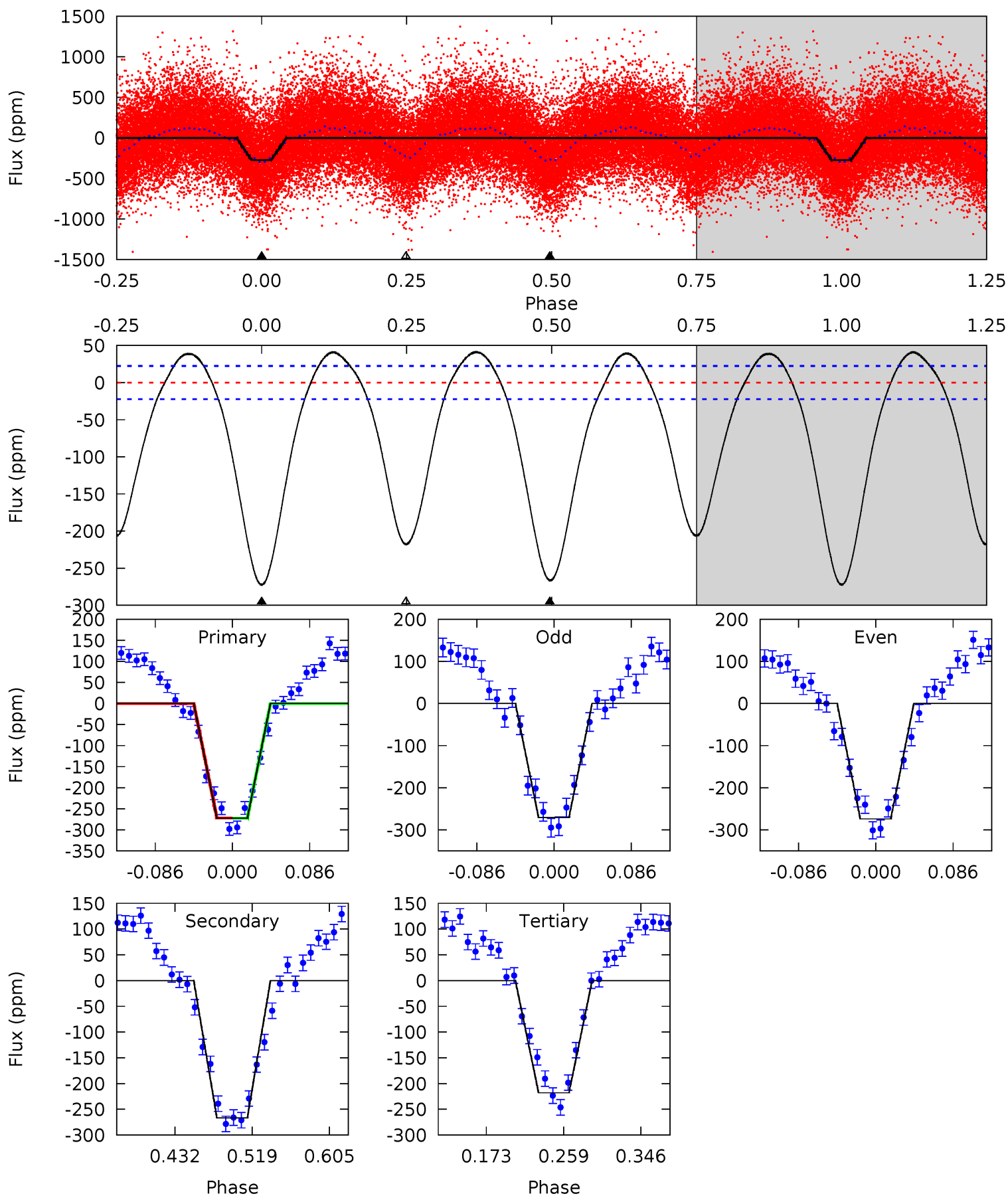
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	11.9	10.6	9.14	4.66	1.86	4.32	8.27	9.71	1.33	2.77	0.13	0.94	0.35	2.03



Alt Model-Shift Uniqueness Test

003557293-01, P = 0.787461 Days, E = 130.940846 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.8	54.6	44.6	0	4.60	1.71	17.1	11.2	55.8	9.99	54.6	0.34	0.95	0.13	0.09



Stellar Parameters For KIC 003557293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6100^{+184}_{-202}	$4.396^{+0.087}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.061^{+0.334}_{-0.143}$	$1.019^{+0.167}_{-0.125}$	$1.202^{+0.472}_{-0.653}$
	+3%/-3%	+2%/-5%	+208%/-250%	+31%/-13%	+16%/-12%	+39%/-54%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003557293-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-61 ± 5	$1.26^{+0.43}_{-0.40}$	3033^{+223}_{-170}	5232^{+1099}_{-583}	$5.914^{+6.813}_{-2.599}$
Alt.	-267 ± 5	$2.00^{+0.53}_{-0.43}$	3039^{+227}_{-163}	5999^{+783}_{-544}	10^{+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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

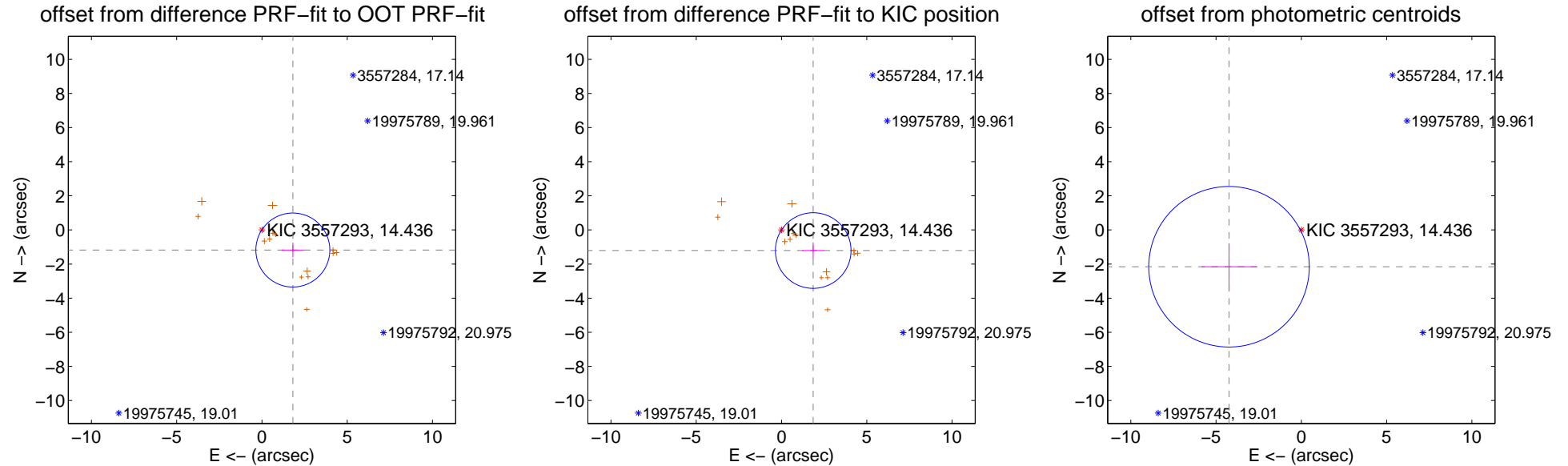
DV Centroid Data

Supplemental centroid analysis for 003557293-01. Kepler magnitude: 14.44. Transit SNR 10.81

There are 0 quarters with good PRF difference image offsets

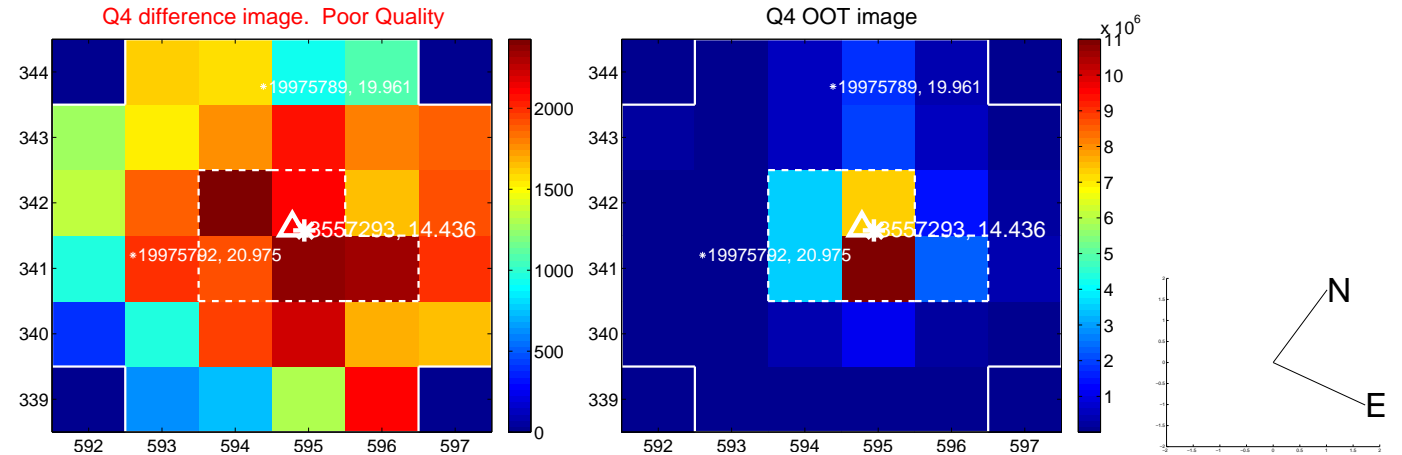
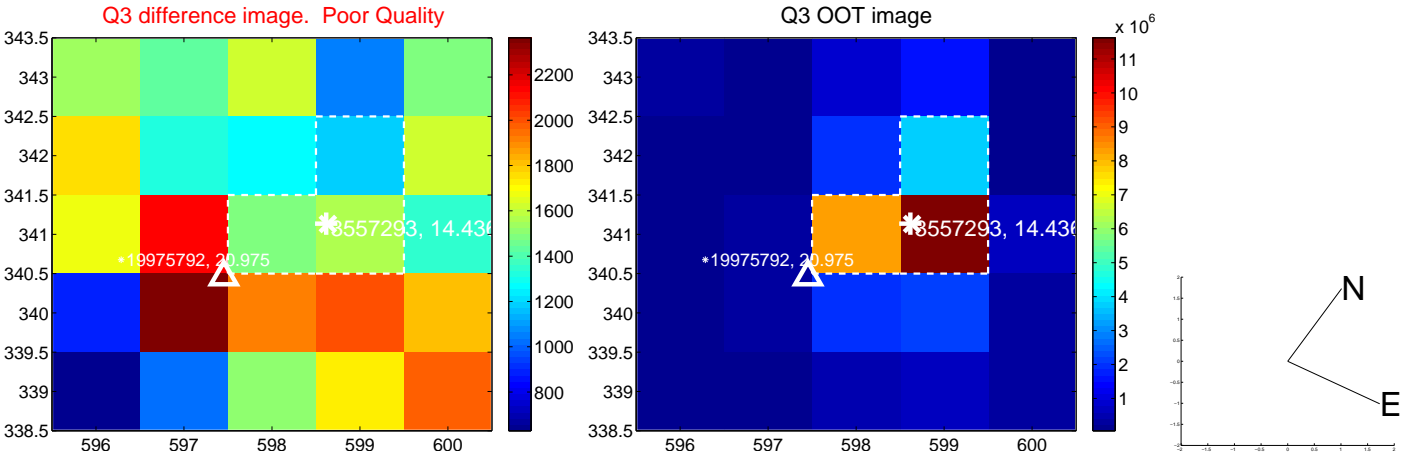
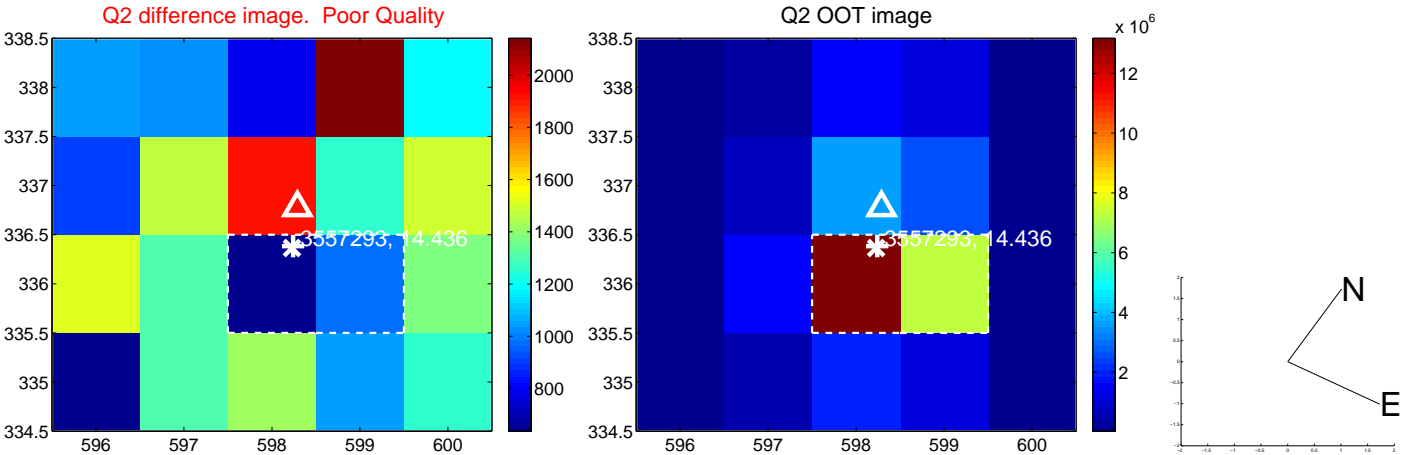
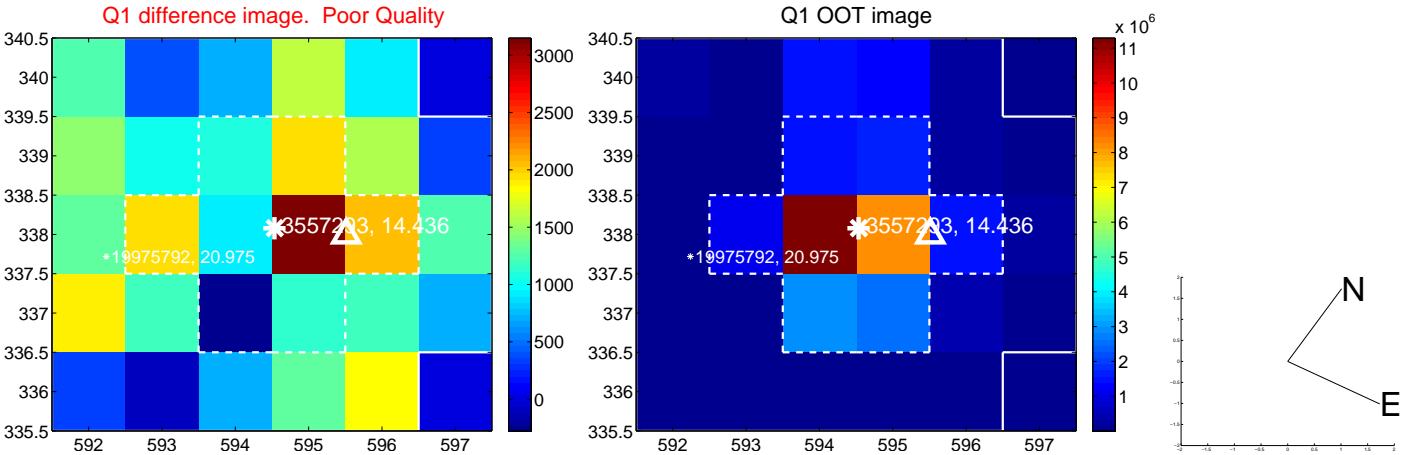
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.161 ± 0.723	2.99	-1.812 ± 0.652	-1.178 ± 0.432
PRF-fit source offset from KIC position	2.218 ± 0.739	3.00	-1.860 ± 0.642	-1.208 ± 0.476
photometric centroid source offset	4.76 ± 1.57	3.03	4.24 ± 1.61	-2.16 ± 1.38

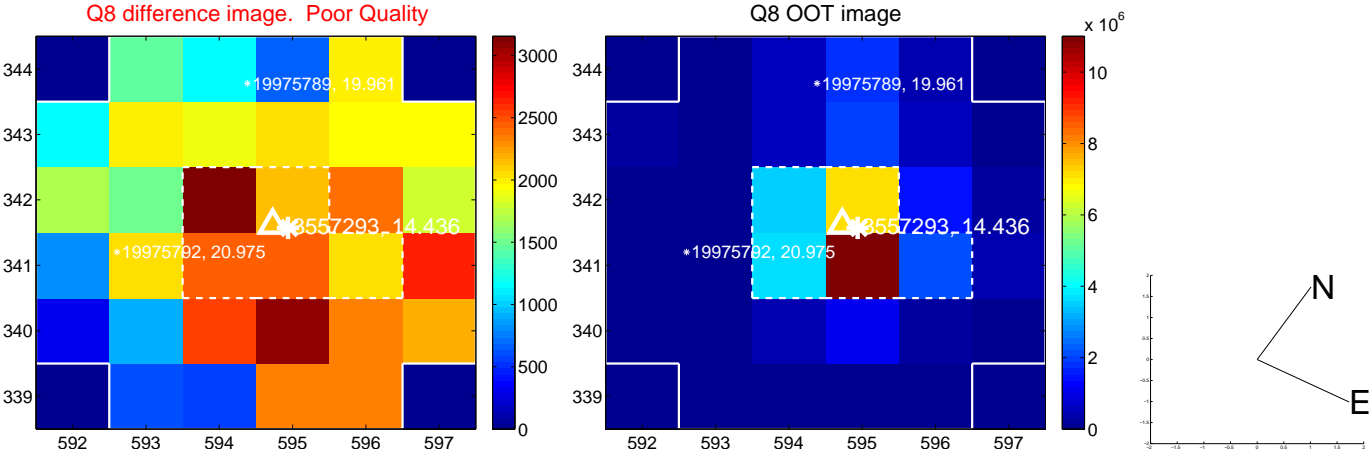
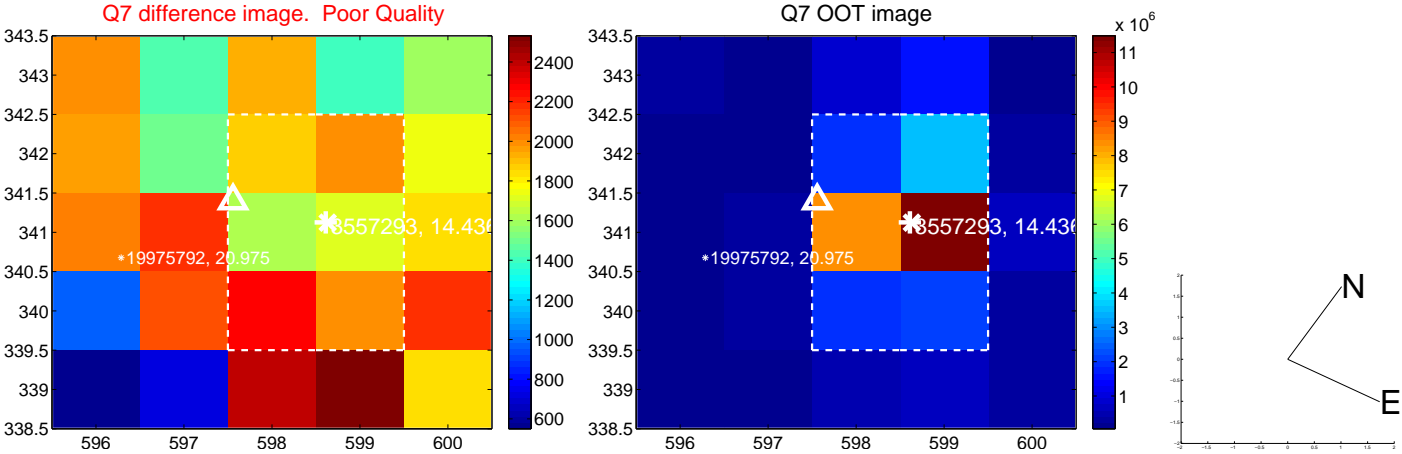
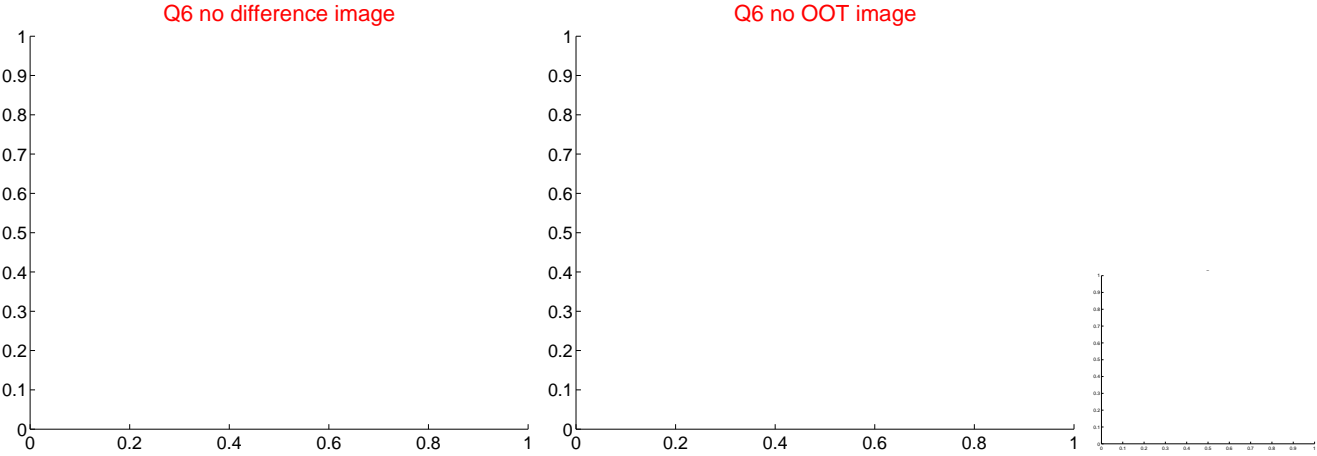
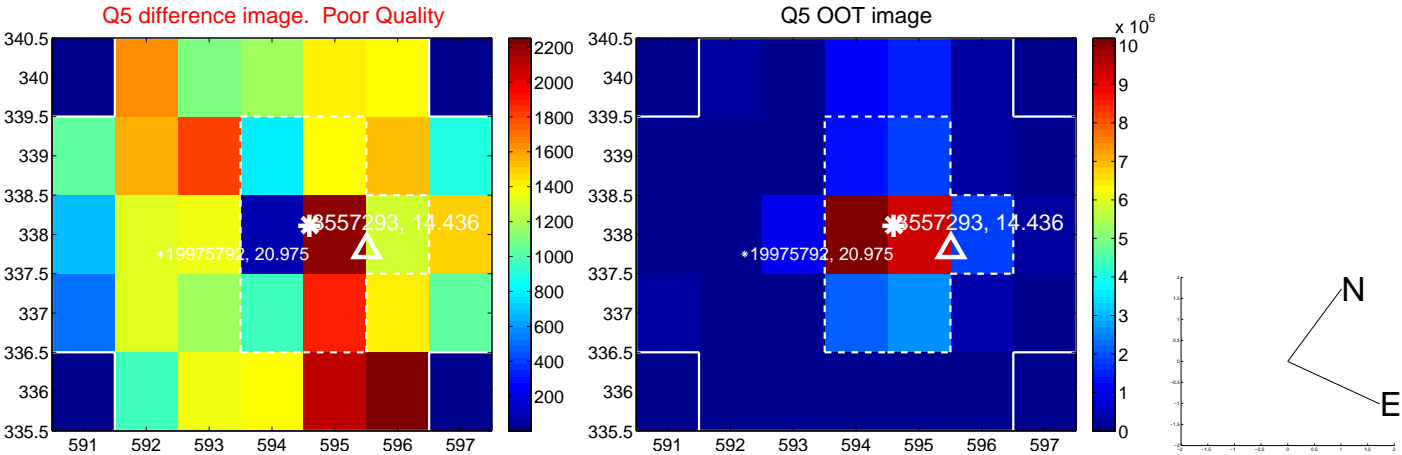


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

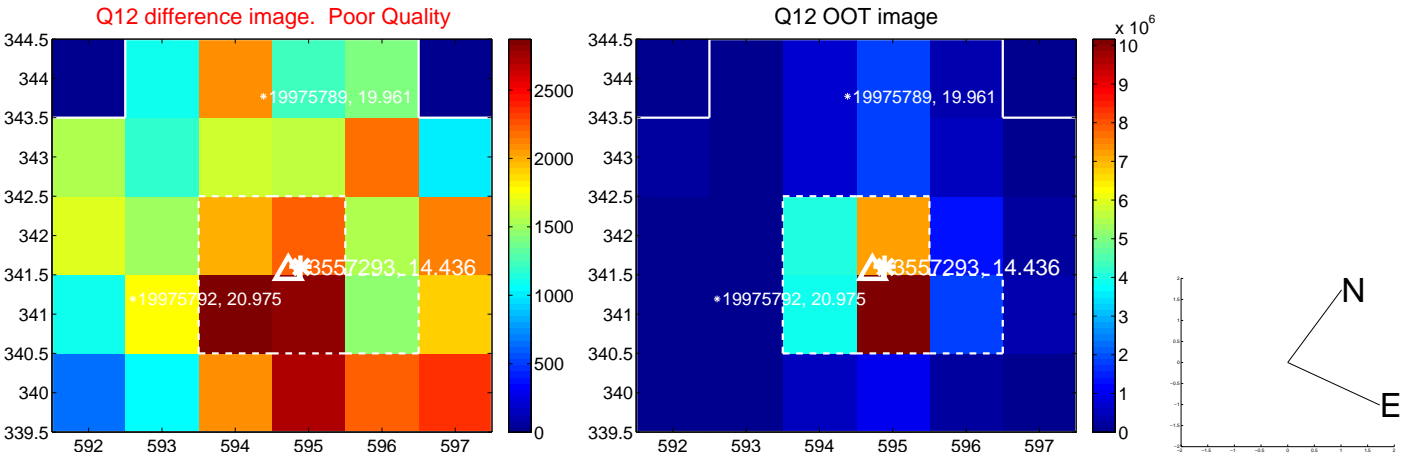
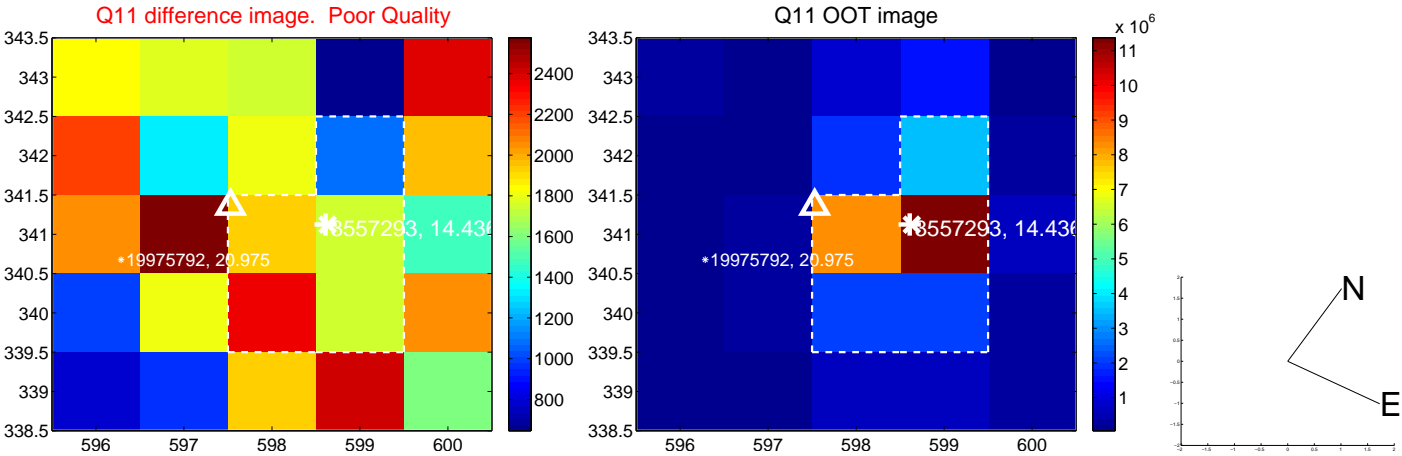
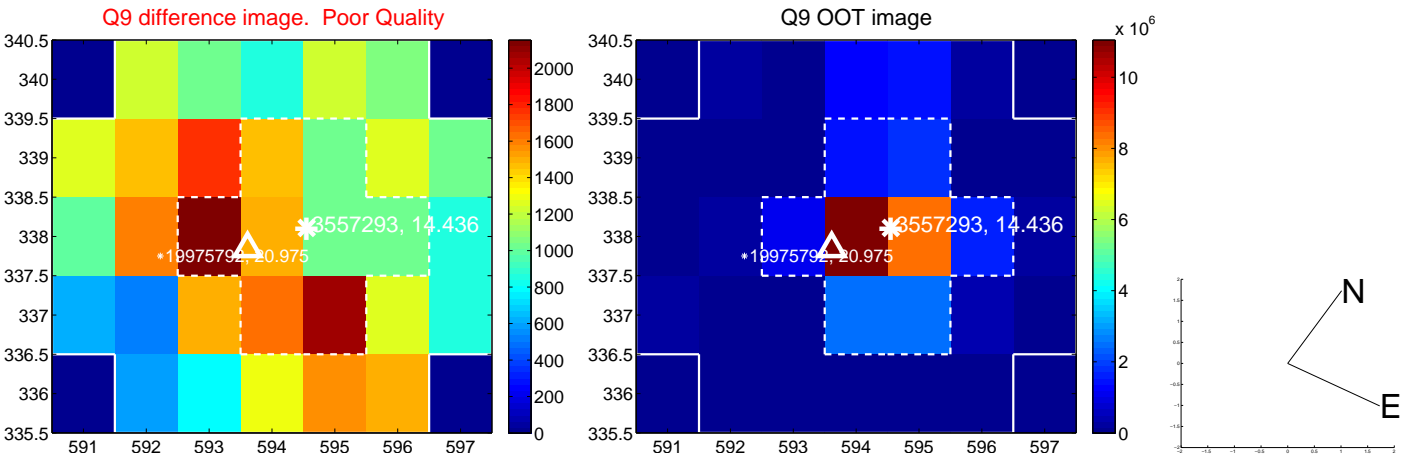
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



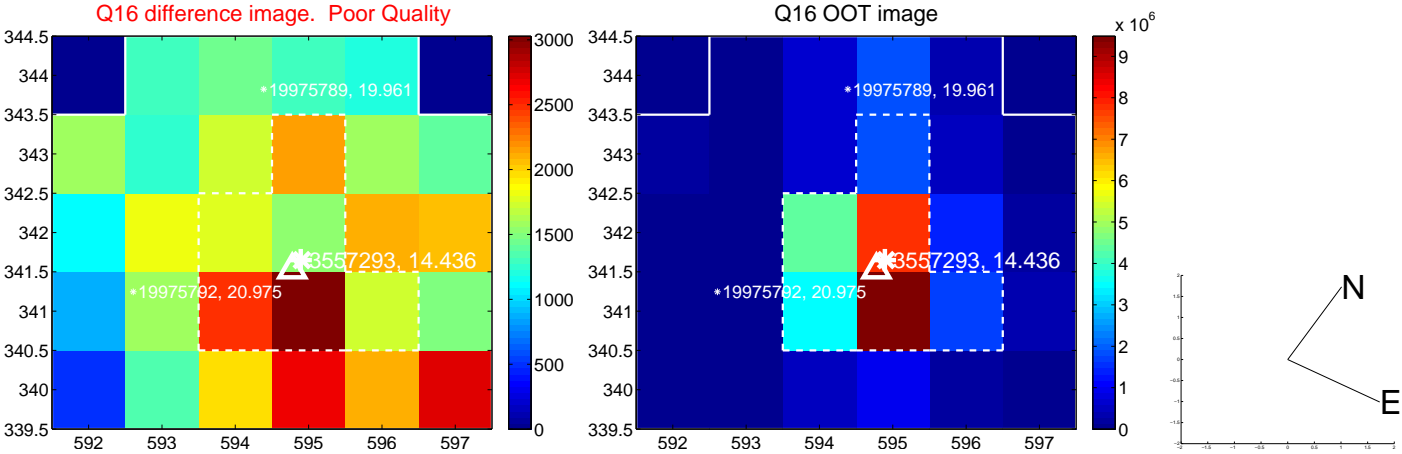
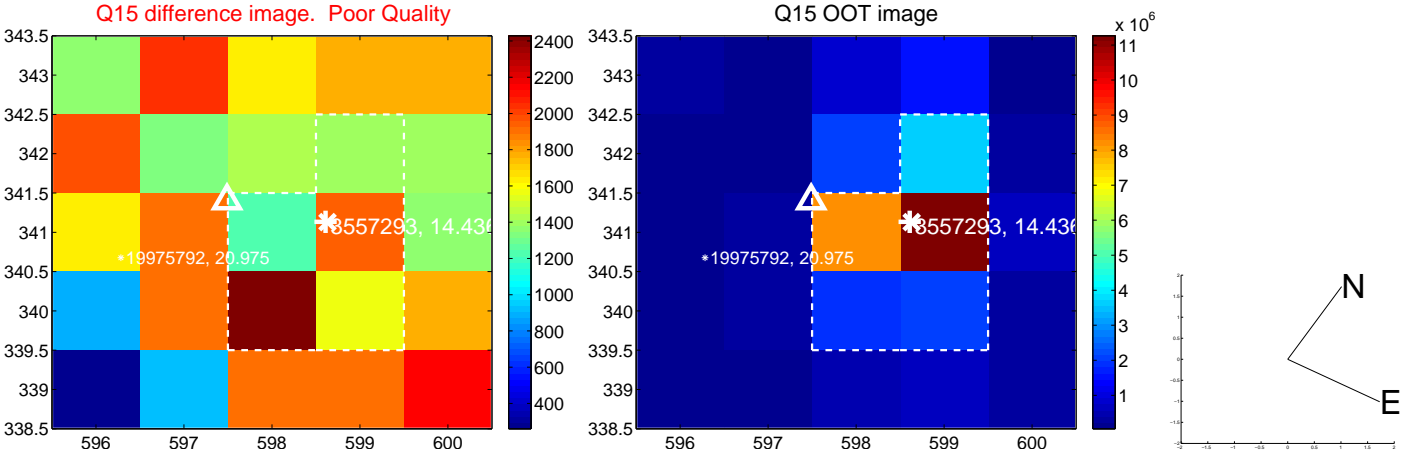
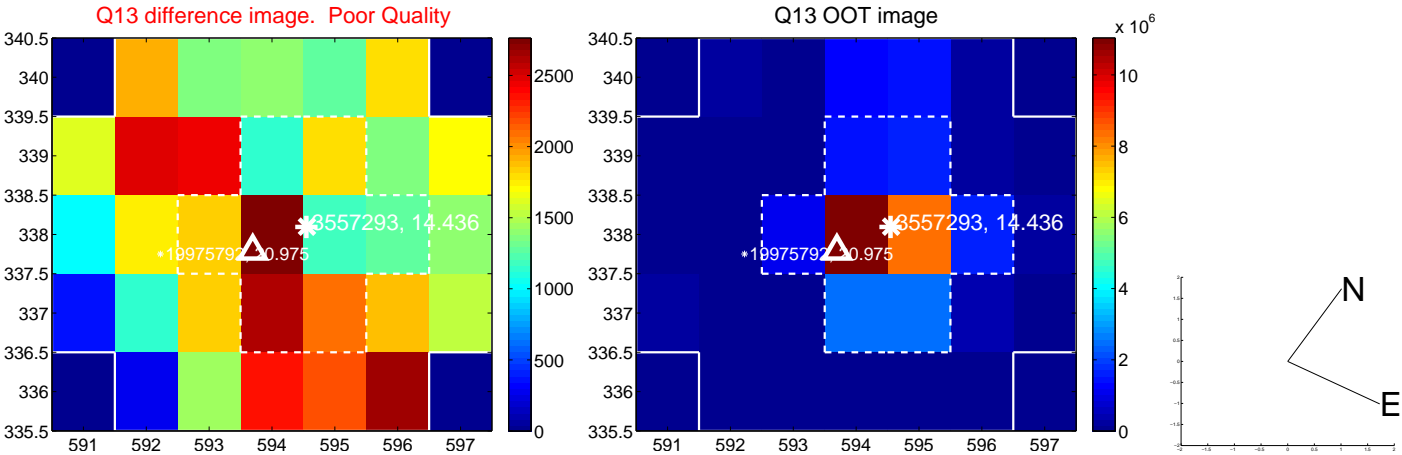
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



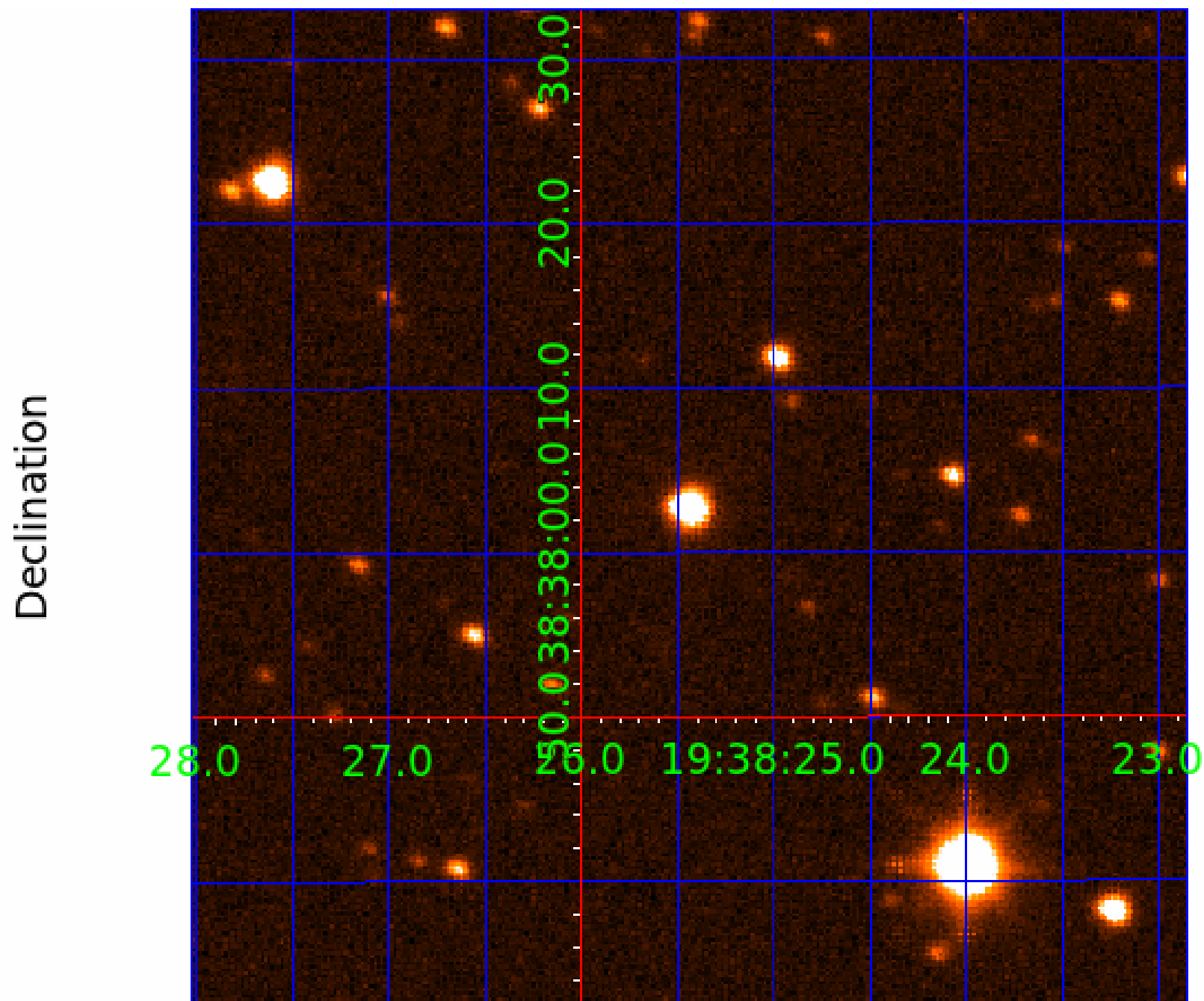
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003557293

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})
003557293-01	OBS	No	0.787454	131.737665	89.6	0.733	7.7	10.8	1.06	6100	1.21	4939.96
003557293-02	OBS	No	0.787459	132.120771	65.7	0.872	7.6	9.0	1.06	6100	1.03	4939.92
003557293-03	OBS	No	400.519249	246.787399	731.7	8.143	7.4	7.6	1.06	6100	5.55	1.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003557293-01	OBS	FP	0.00	1	0	0	1	LPP_ALT—MOD_NONUNIQ_ALT—EPHEM_MATCH
003557293-02	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—EPHEM_MATCH
003557293-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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.

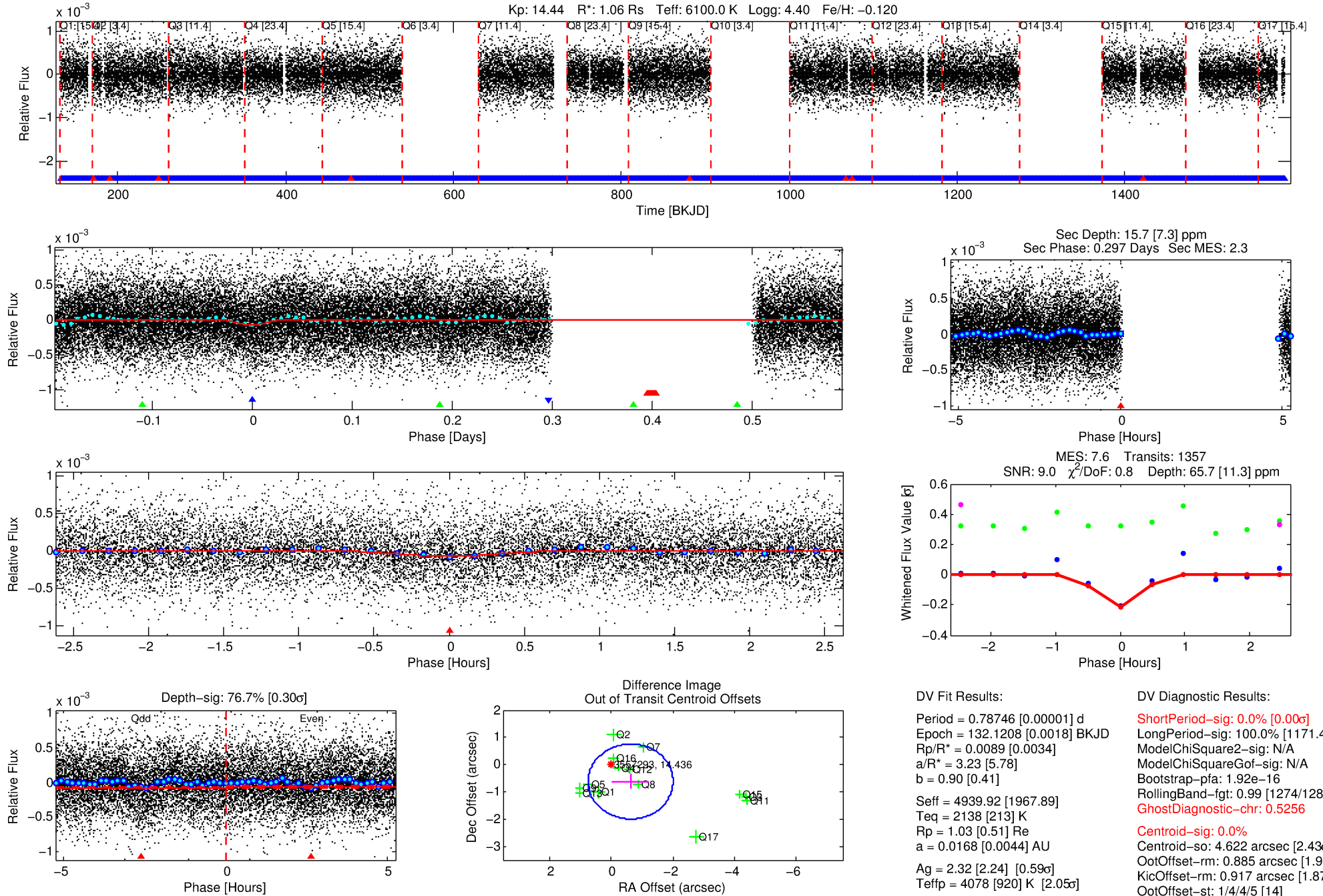
Ephemeris Match Information For 003557293-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
003557293-02	3557293	003557421-pri	3557421	2:1	85.4	16	-15	10.03	14.44	3143.90	Direct-PRF	0	1.20	0.41

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 3557293 Candidate: 2 of 3 Period: 0.787 d



DV Fit Results:

Period = 0.78746 [0.00001] d
Epoch = 132.1208 [0.0018] BKJD
Rp/R* = 0.0089 [0.0034]
a/R* = 3.23 [5.78]
b = 0.90 [0.41]
Seff = 4939.92 [1967.89]
Teff = 2138 [213] K
Rp = 1.03 [0.51] Re
a = 0.0168 [0.0044] AU
Ag = 2.32 [2.24] [0.59 σ]
Teffp = 4078 [920] K [2.05 σ]

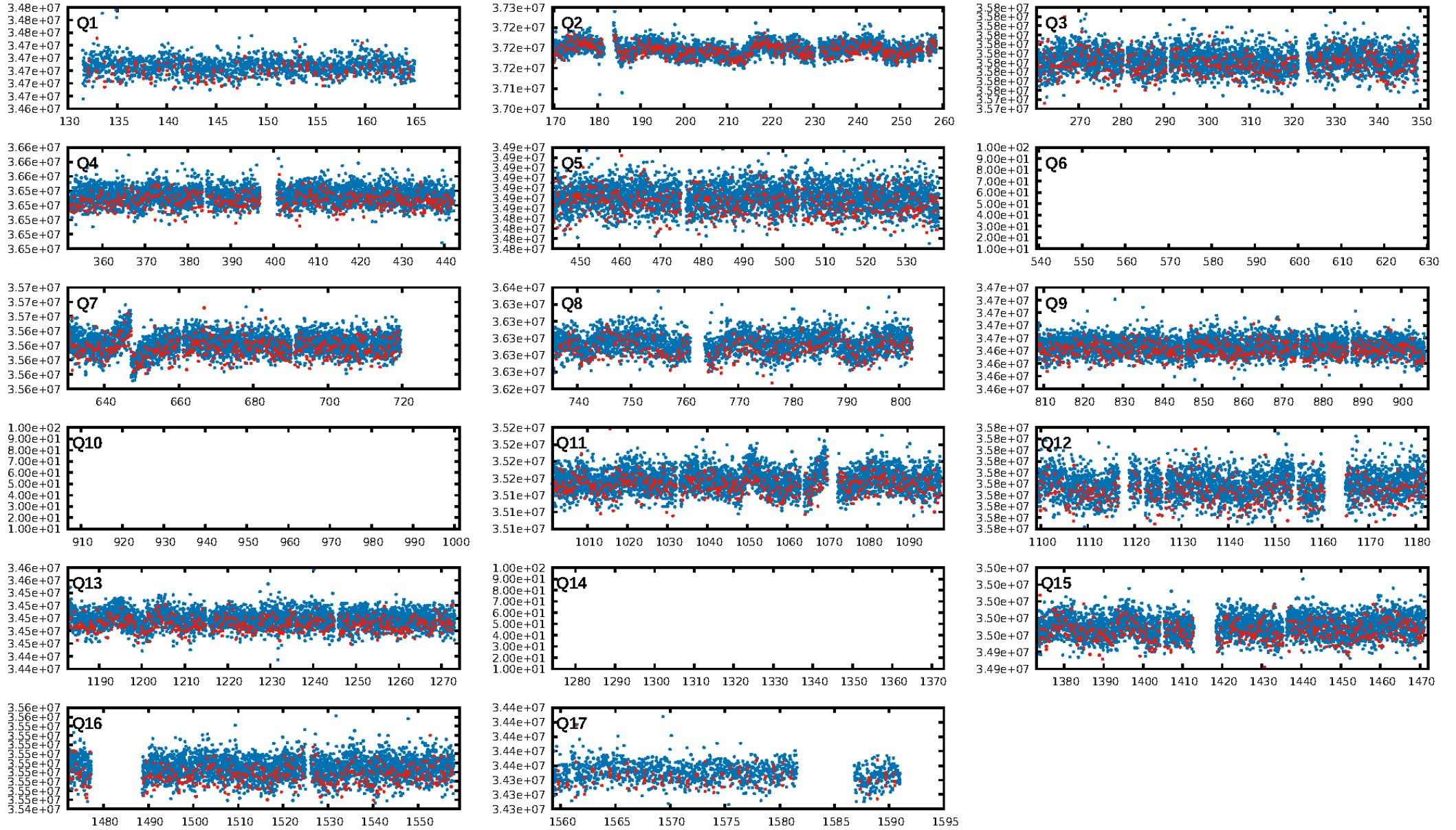
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [1171.41 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.92e-16
RollingBand-fgt: 0.99 [1274/1282]
GhostDiagnostic-chr: 0.5256
Centroid-sig: 0.0%
Centroid-so: 4.622 arcsec [2.43 σ]
OotOffset-rm: 0.885 arcsec [1.93 σ]
KicOffset-rm: 0.917 arcsec [1.87 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [14/14]

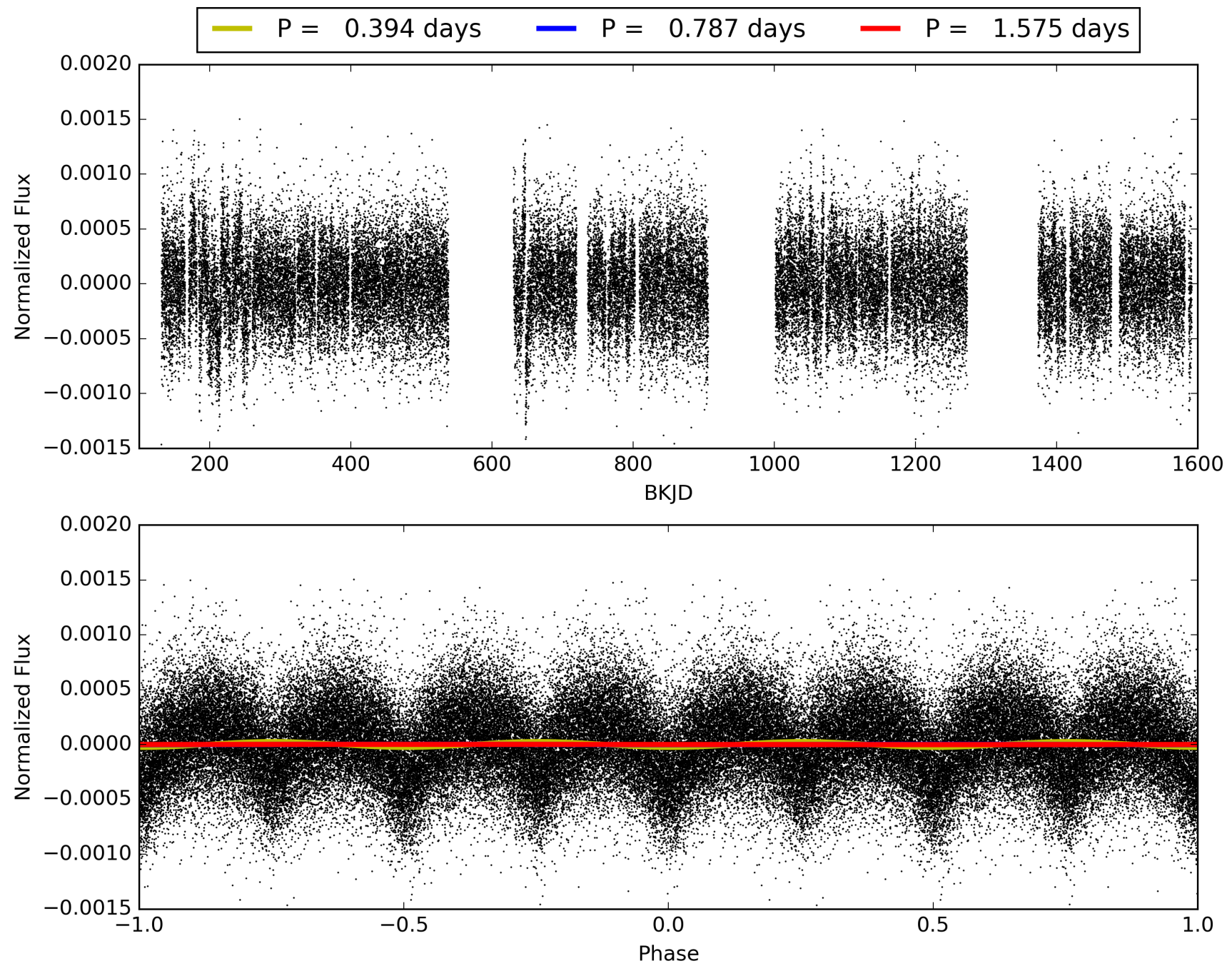
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:27:53 Z

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

TCE 003557293-02, PDC Light Curves

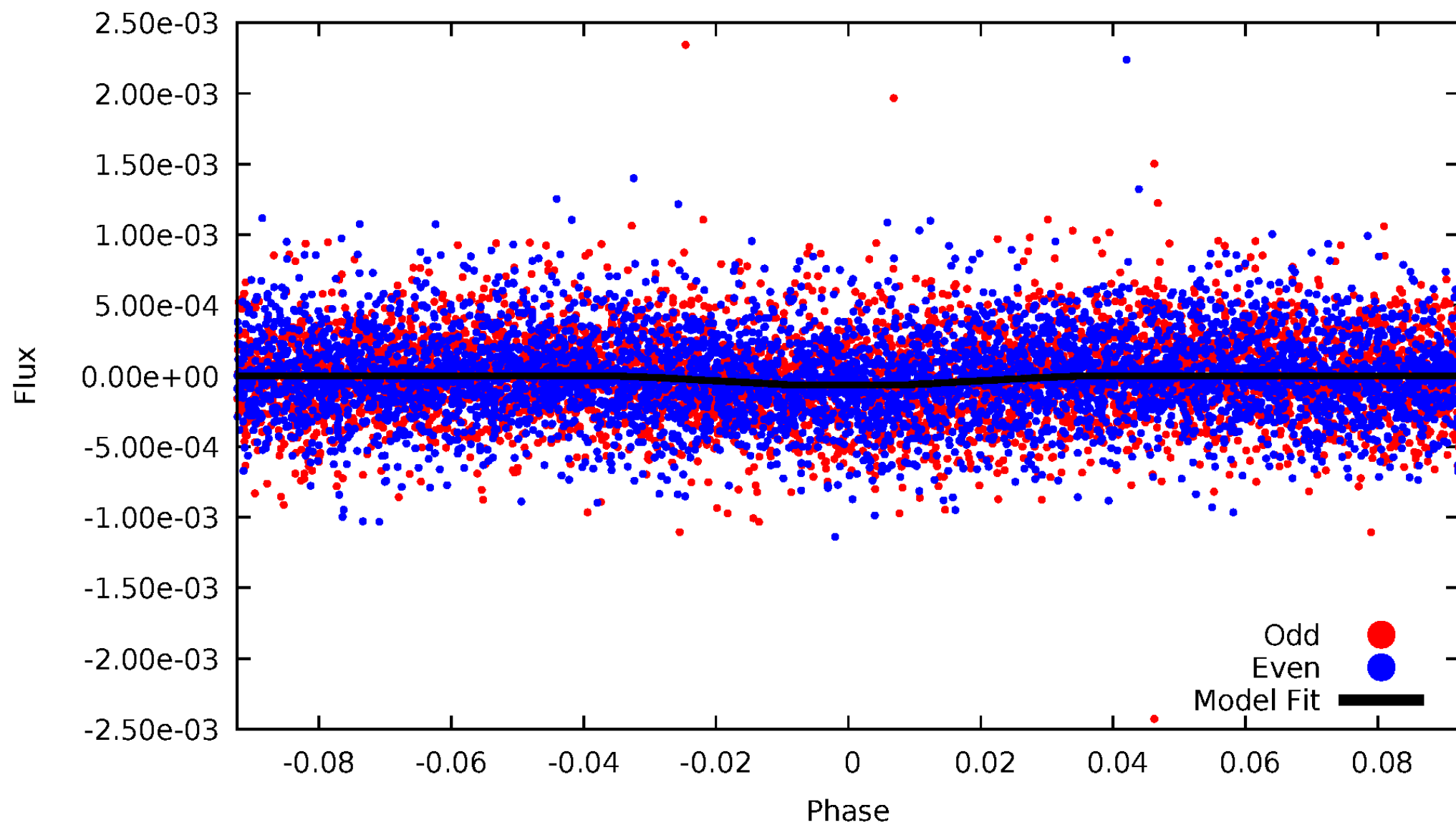


TCE 003557293-02



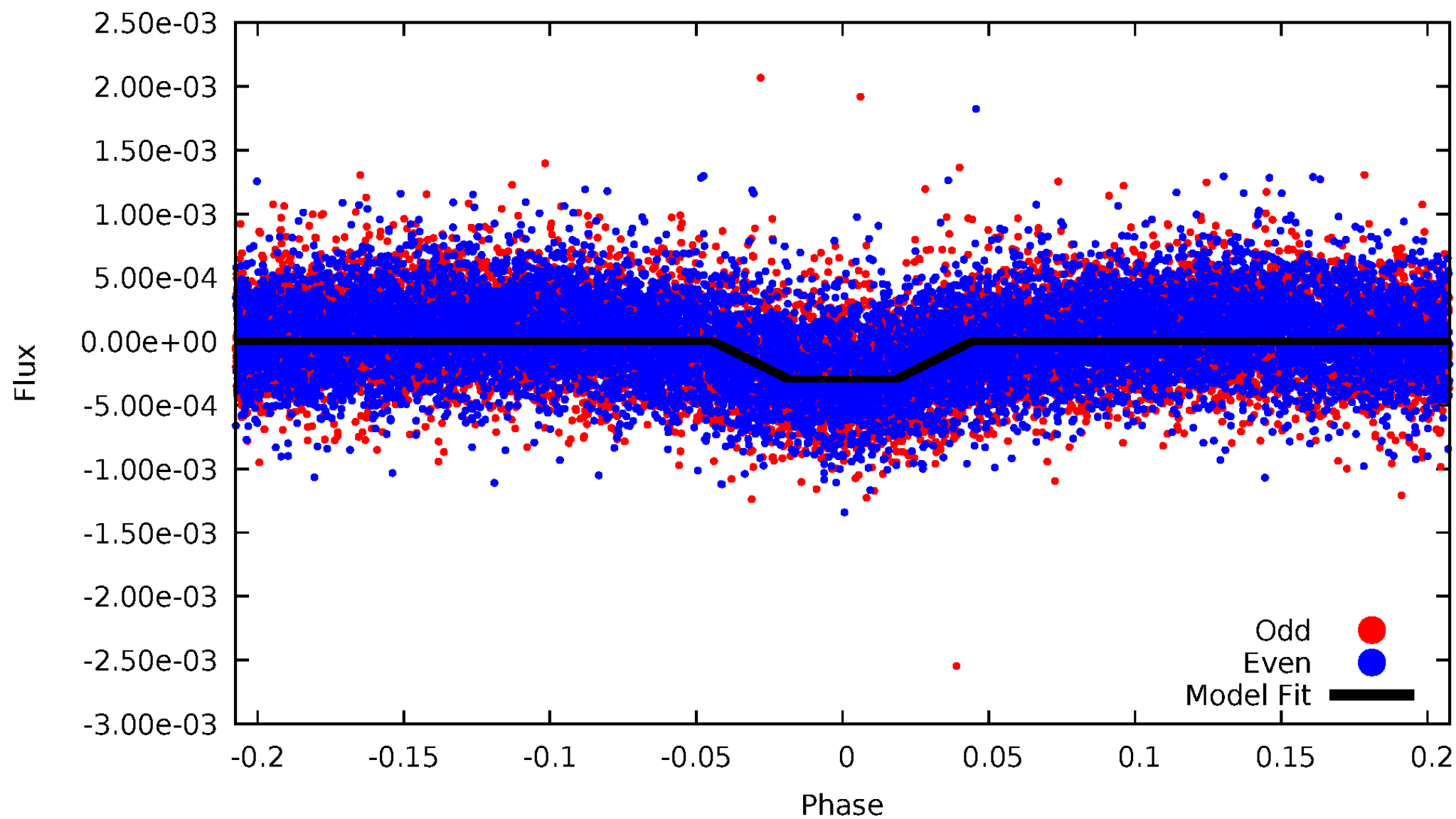
DV Odd/Even

TCE 003557293-02



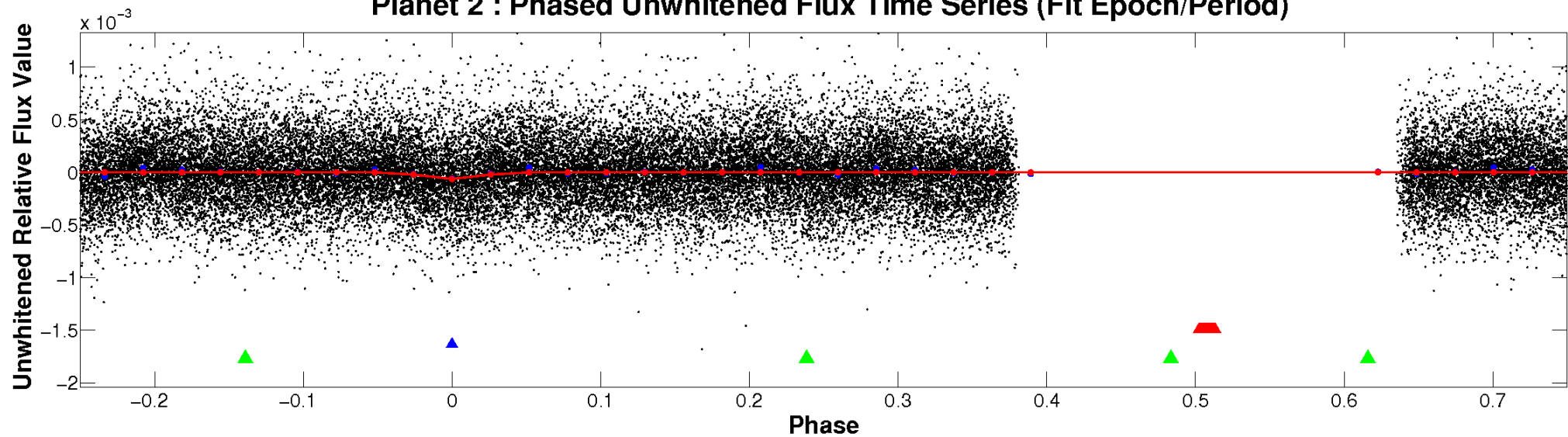
ALT Odd/Even

TCE 003557293-02

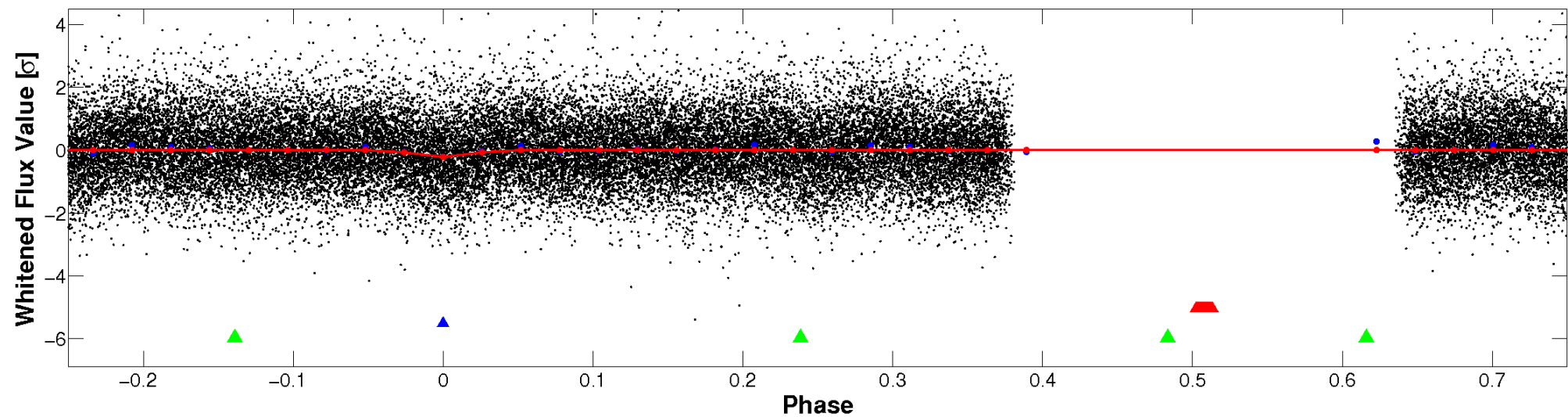


Non-Whitened Vs. Whitened Light Curve

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

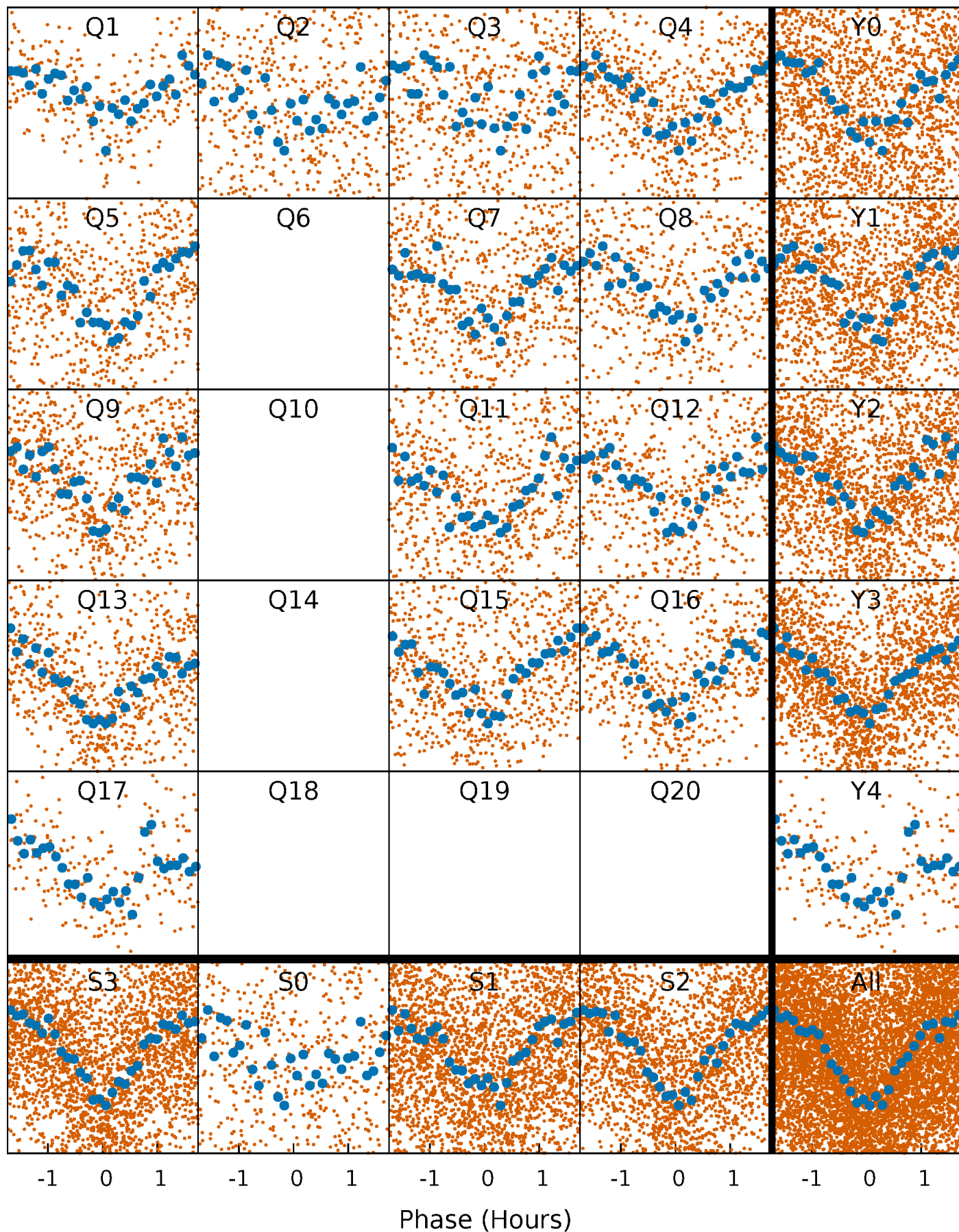


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



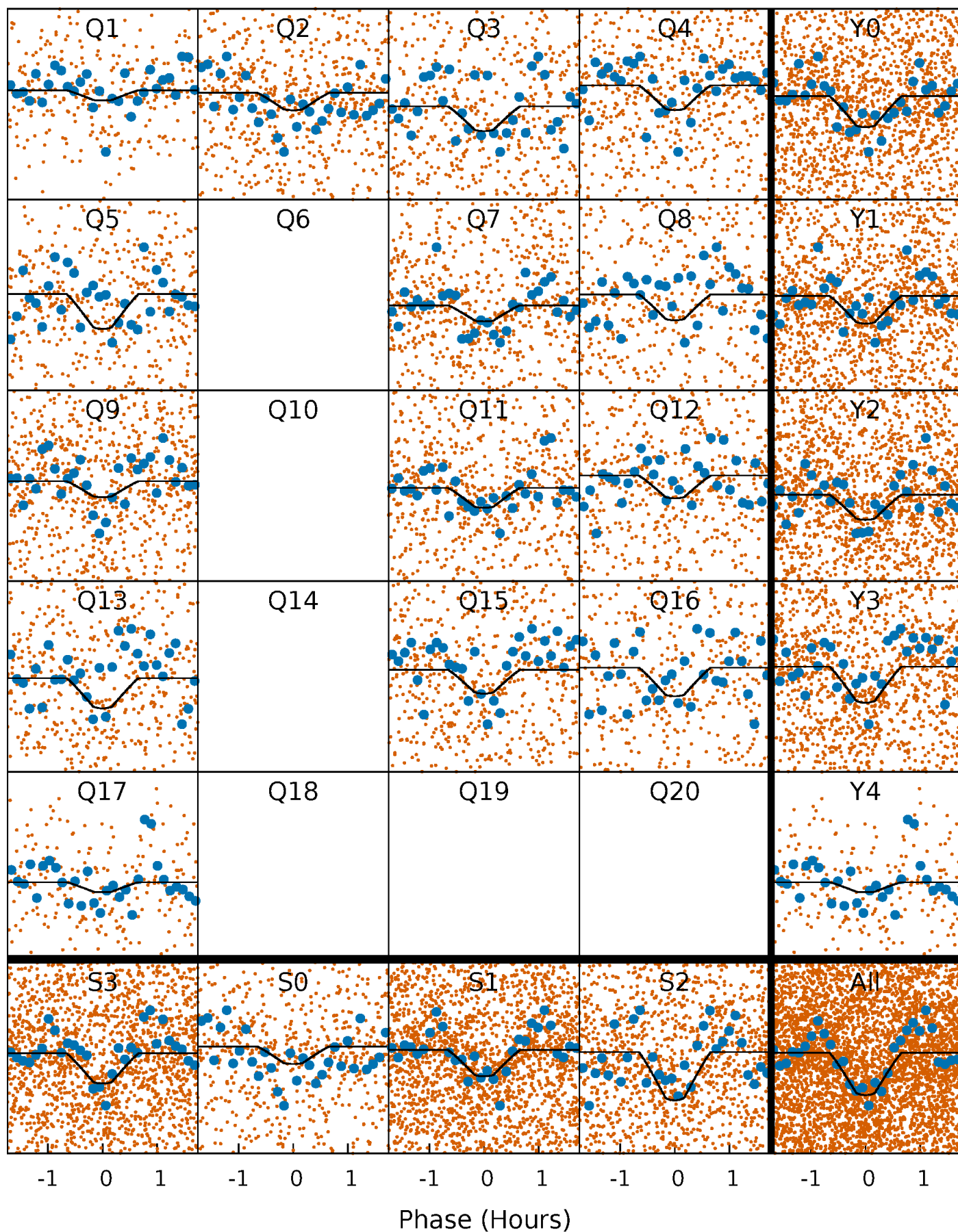
PDC Quarter-Phased Transit Curves

TCE 003557293-02 P= 0.787459 Days $T_0=132.120771$ (BKJD)



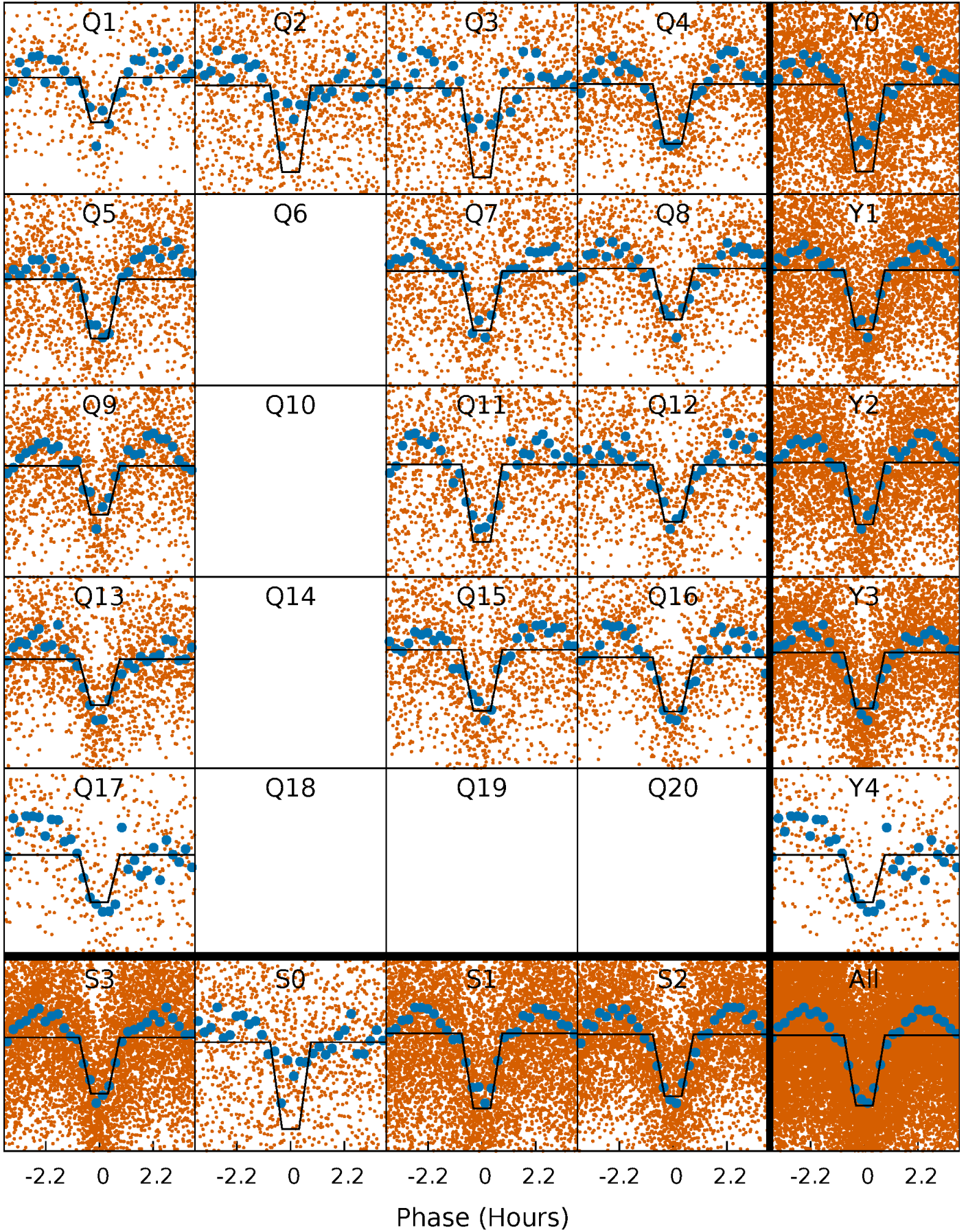
DV Quarter-Phased Transit Curves

TCE 003557293-02 P= 0.787459 Days $T_0=132.120771$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

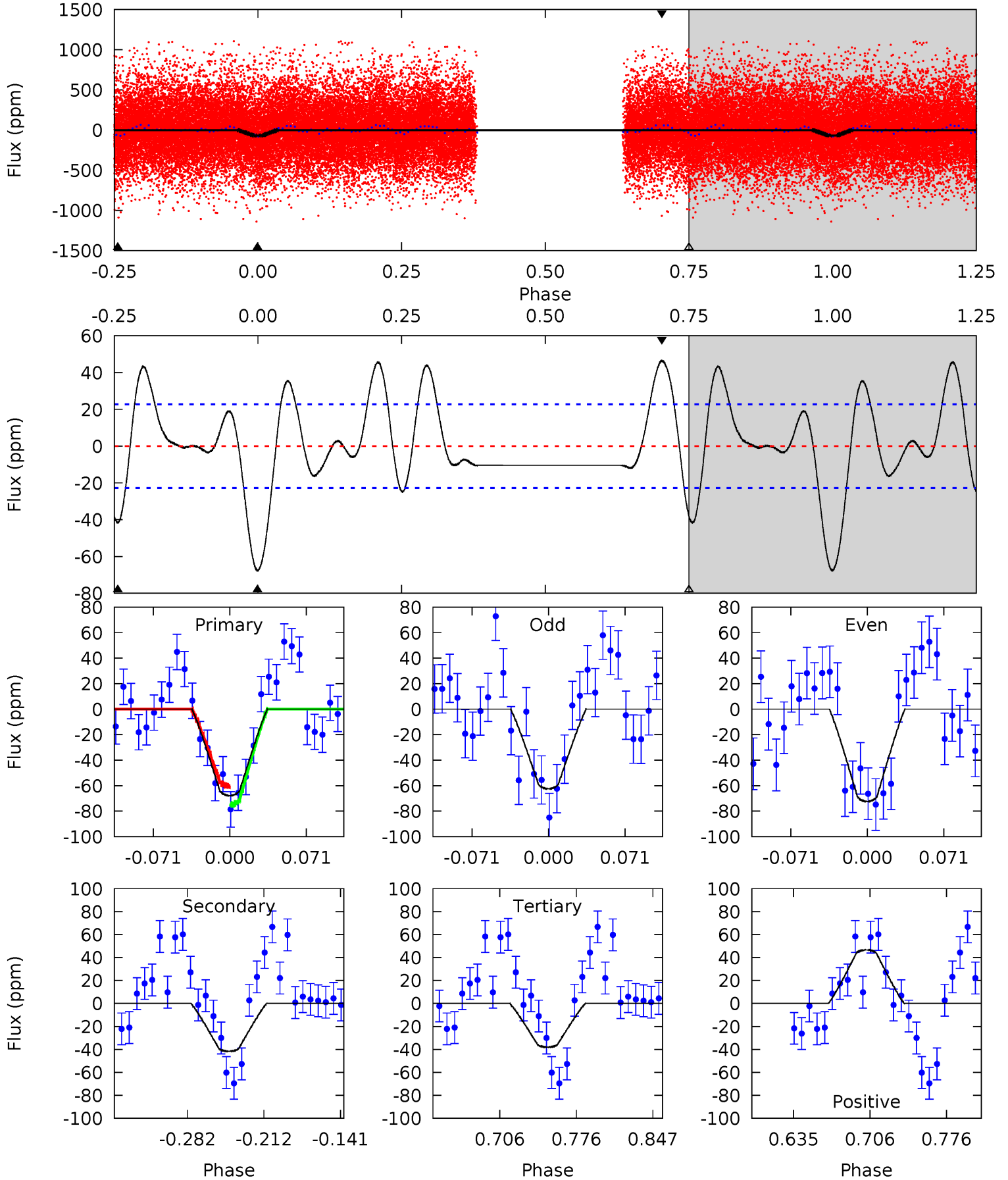
TCE 003557293-02 $P = 0.787454$ Days $T_0 = 132.126835$ (BKJD)



DV Model-Shift Uniqueness Test

003557293-02, P = 0.787459 Days, E = 131.333312 Days

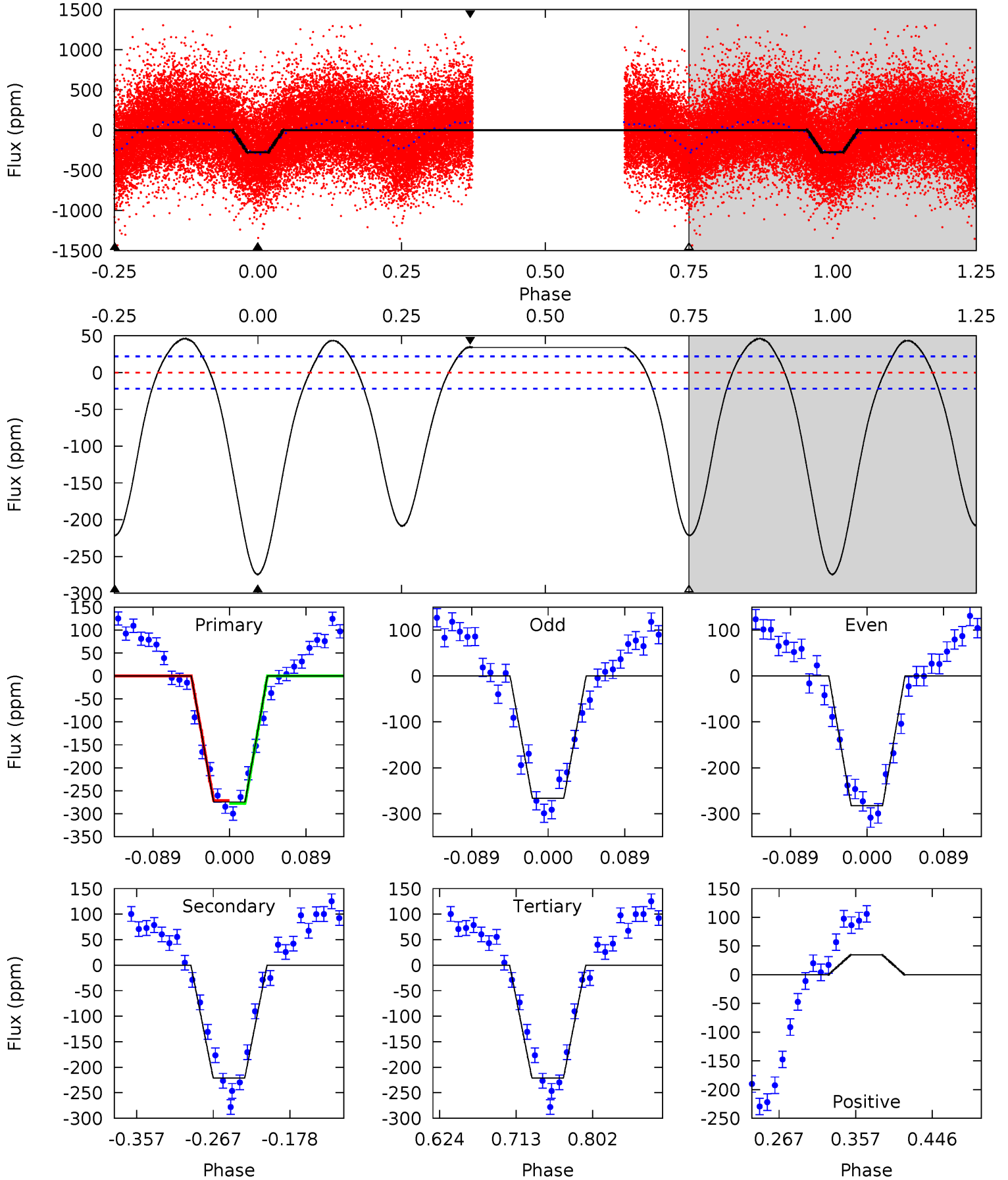
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	8.50	7.76	9.51	4.64	1.81	3.91	6.05	4.31	0.74	-1.01	1.03	0.98	0.41	1.51



Alt Model-Shift Uniqueness Test

003557293-02, P = 0.787454 Days, E = 131.339381 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.4	46.3	46.3	7.26	4.59	1.70	17.9	11.1	50.1	0.02	39.0	1.71	0.98	0.14	0.63



Stellar Parameters For KIC 003557293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6100^{+184}_{-202}	$4.396^{+0.087}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.061^{+0.334}_{-0.143}$	$1.019^{+0.167}_{-0.125}$	$1.202^{+0.472}_{-0.653}$
	+3%/-3%	+2%/-5%	+208%/-250%	+31%/-13%	+16%/-12%	+39%/-54%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003557293-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-42 ± 5	$1.05^{+0.47}_{-0.43}$	3028^{+236}_{-181}	5188^{+1590}_{-718}	$5.611^{+11.255}_{-2.831}$
Alt.	-221 ± 5	$2.04^{+0.54}_{-0.42}$	3021^{+224}_{-155}	5636^{+661}_{-505}	$8.157^{+4.641}_{-2.934}$

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 $A_{obs} \gg 1.0$

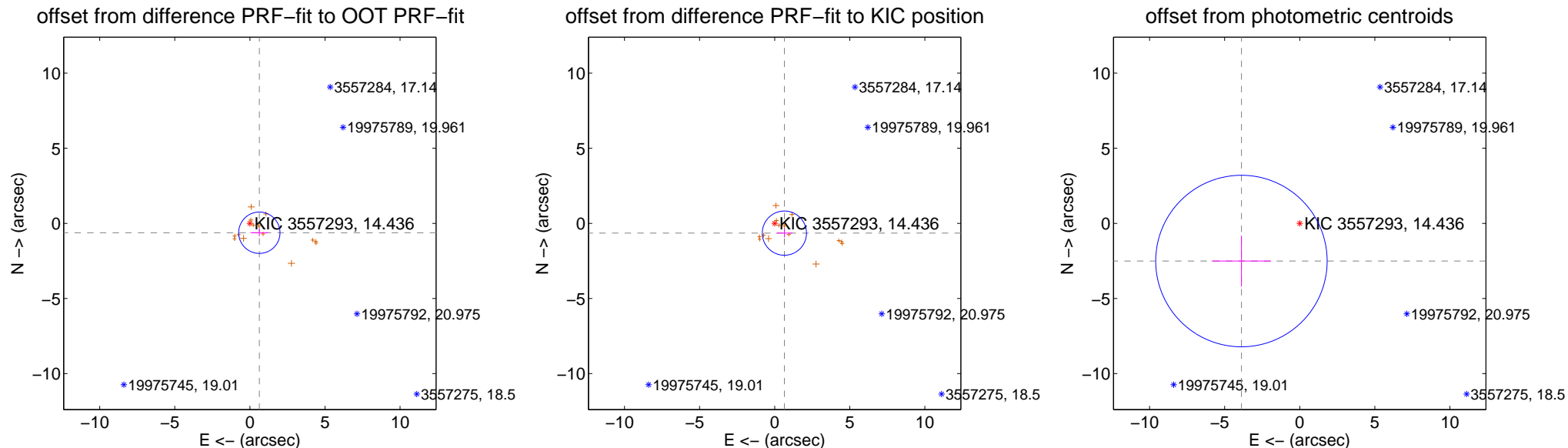
DV Centroid Data

Supplemental centroid analysis for 003557293-02. Kepler magnitude: 14.44. Transit SNR 8.97

There are 0 quarters with good PRF difference image offsets

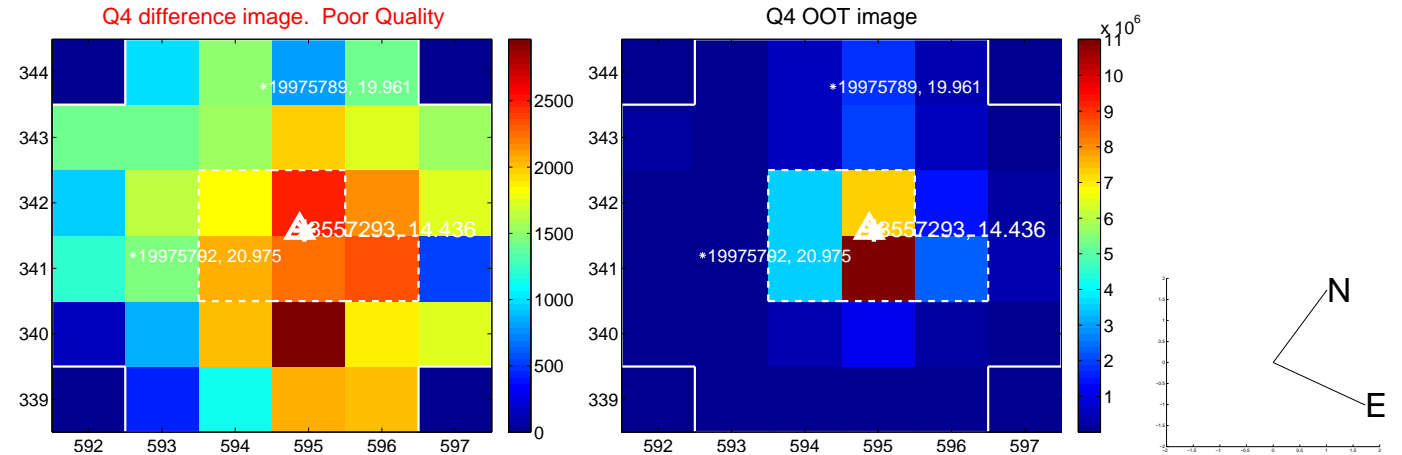
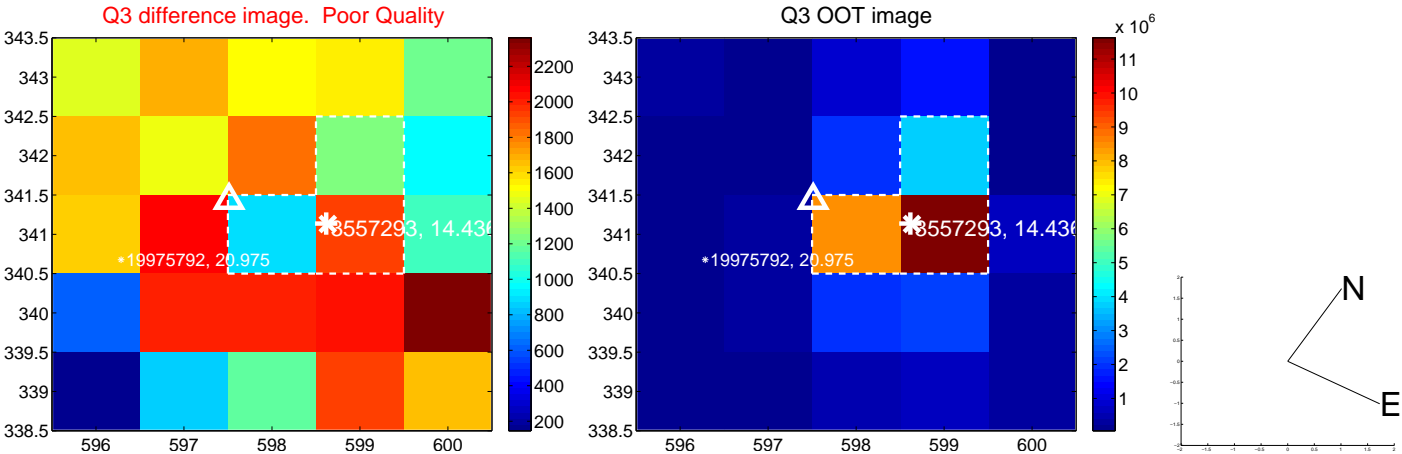
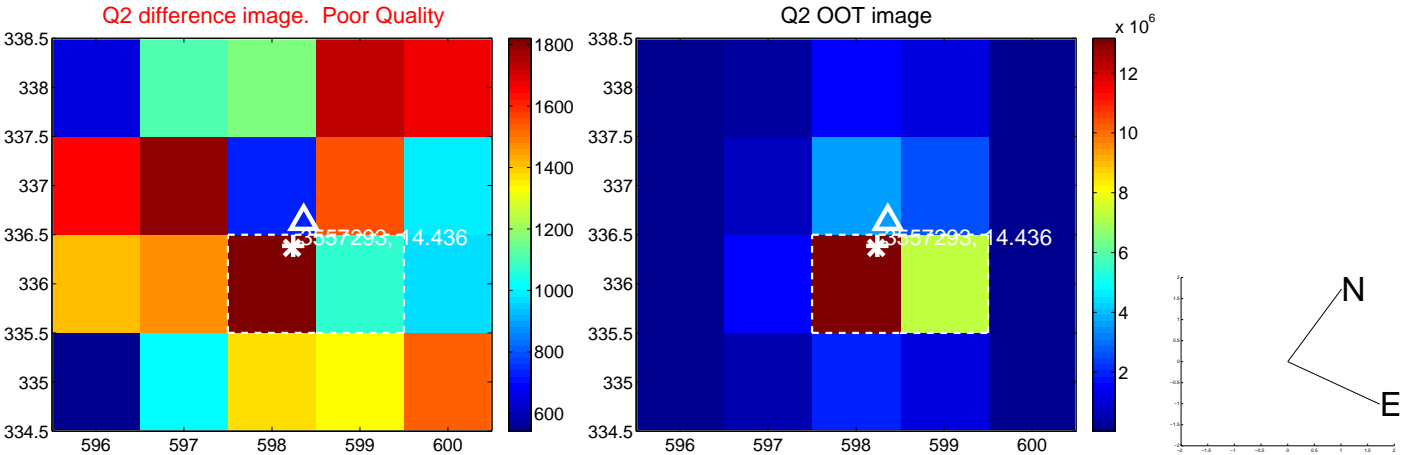
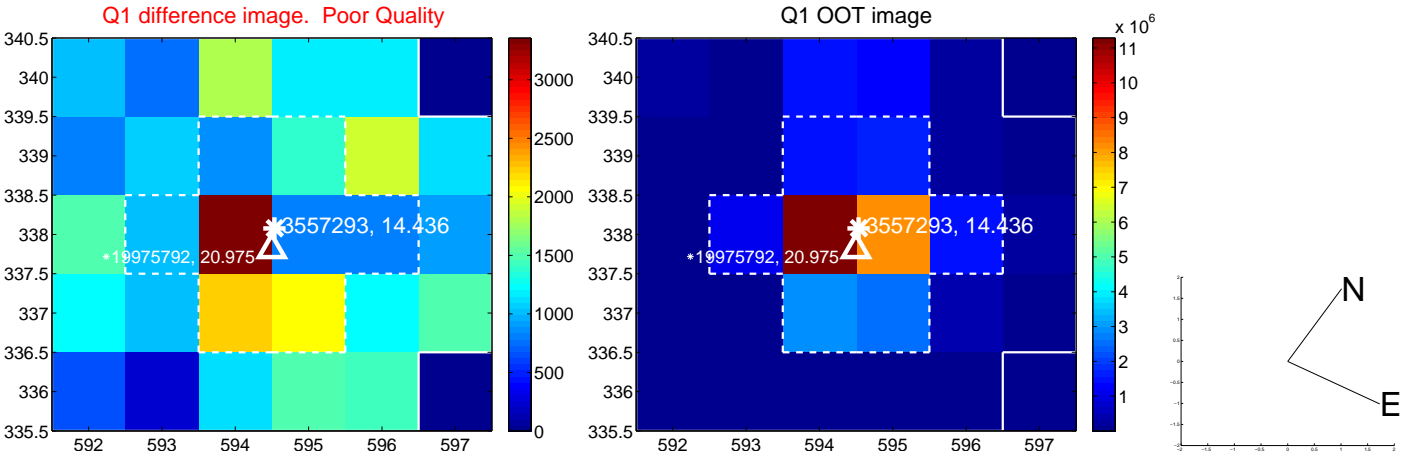
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.885 ± 0.459	1.93	-0.629 ± 0.600	-0.623 ± 0.240
PRF-fit source offset from KIC position	0.917 ± 0.491	1.87	-0.646 ± 0.534	-0.650 ± 0.285
photometric centroid source offset	4.62 ± 1.90	2.43	3.88 ± 1.98	-2.51 ± 1.70

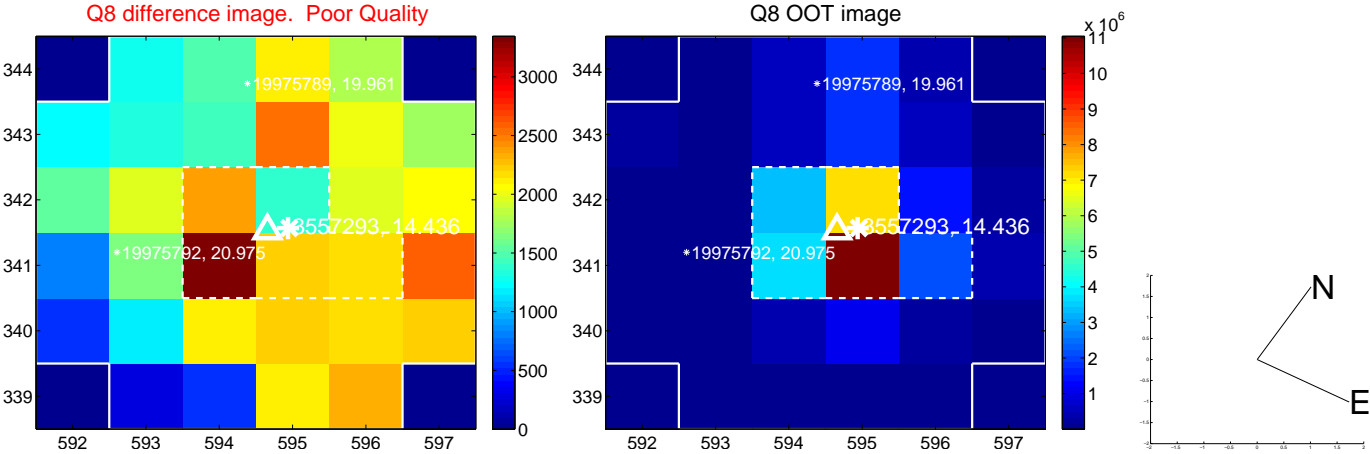
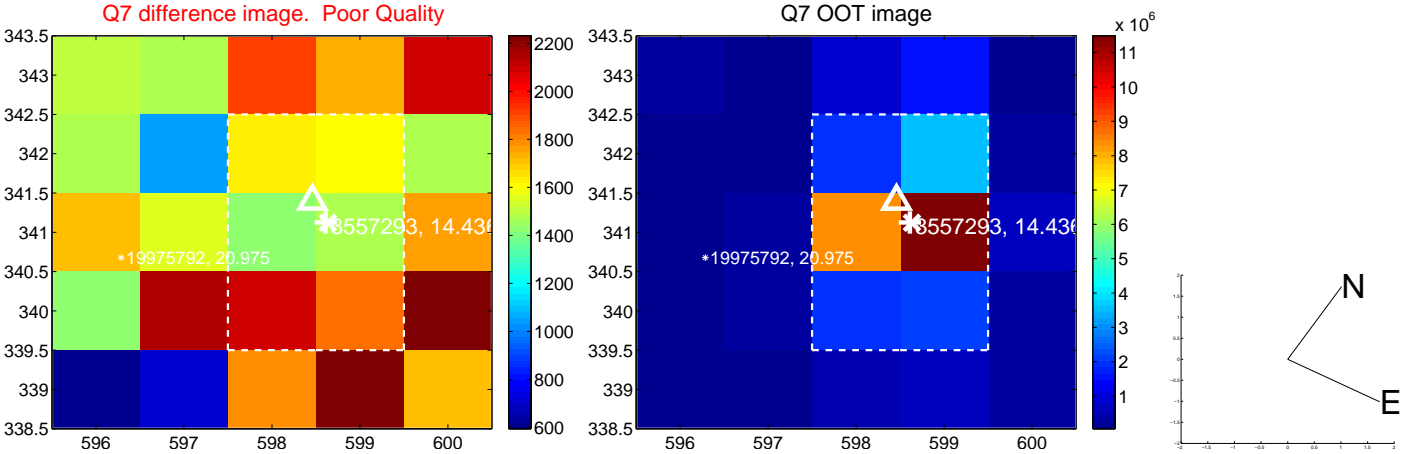
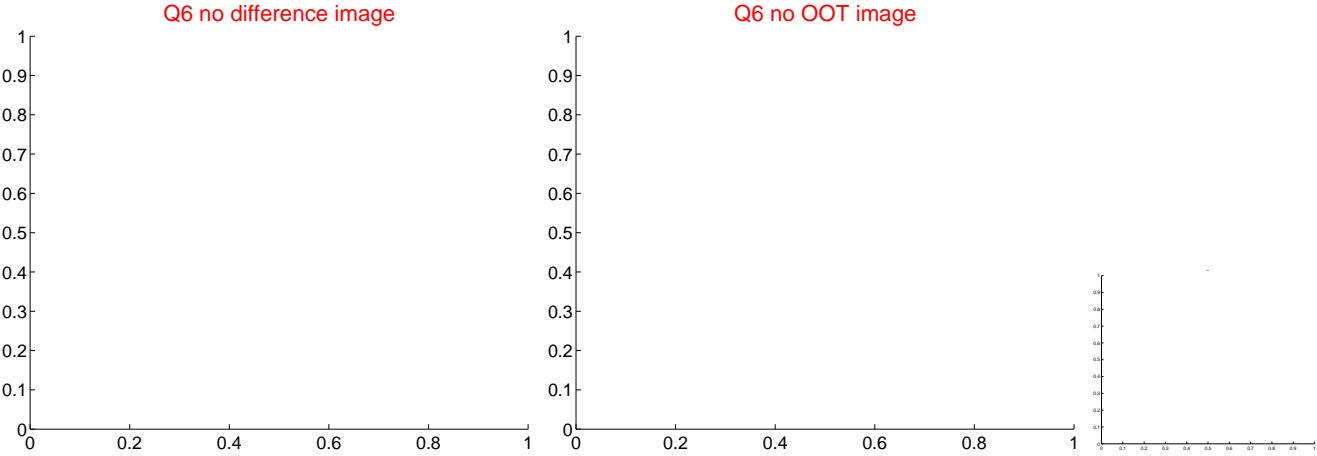
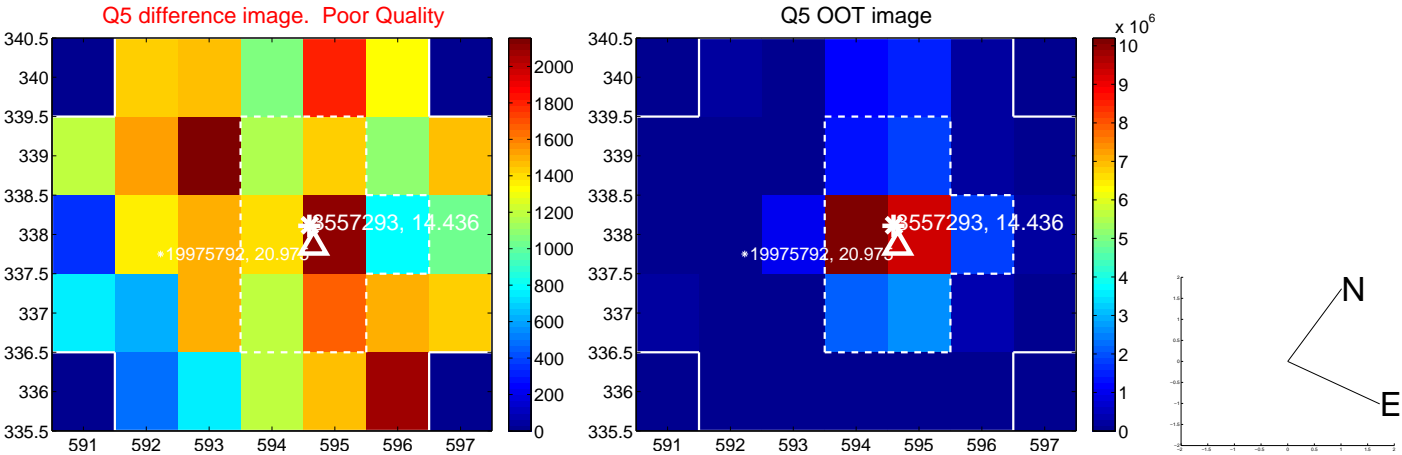


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

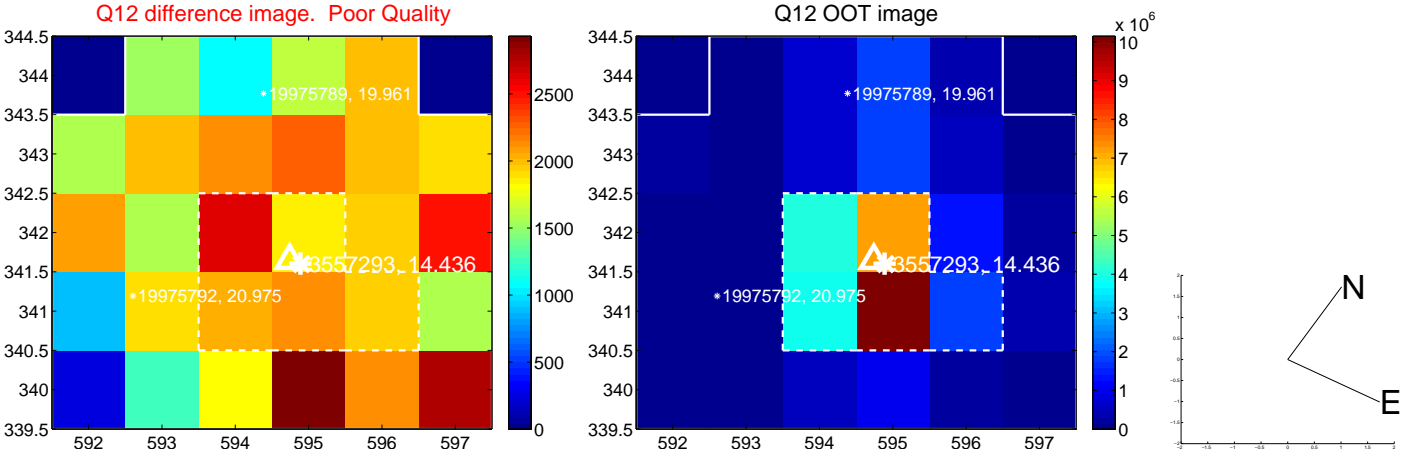
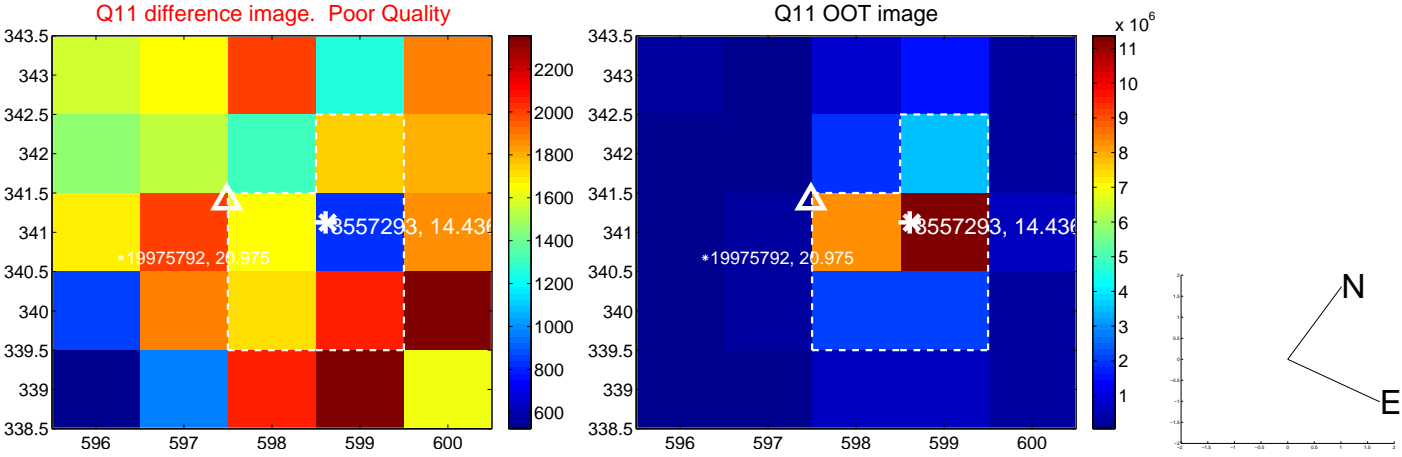
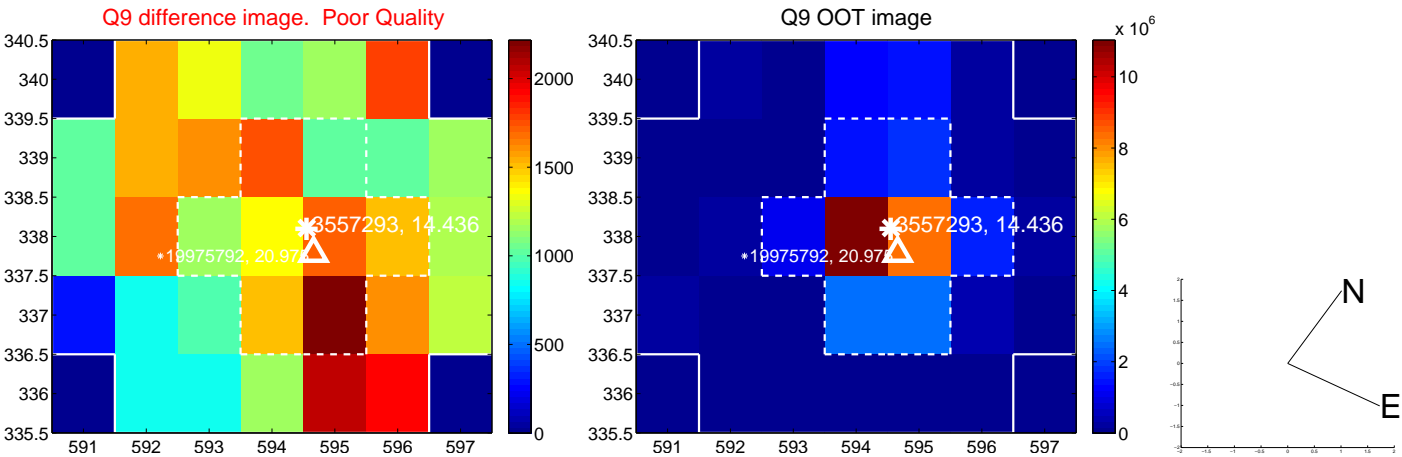
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



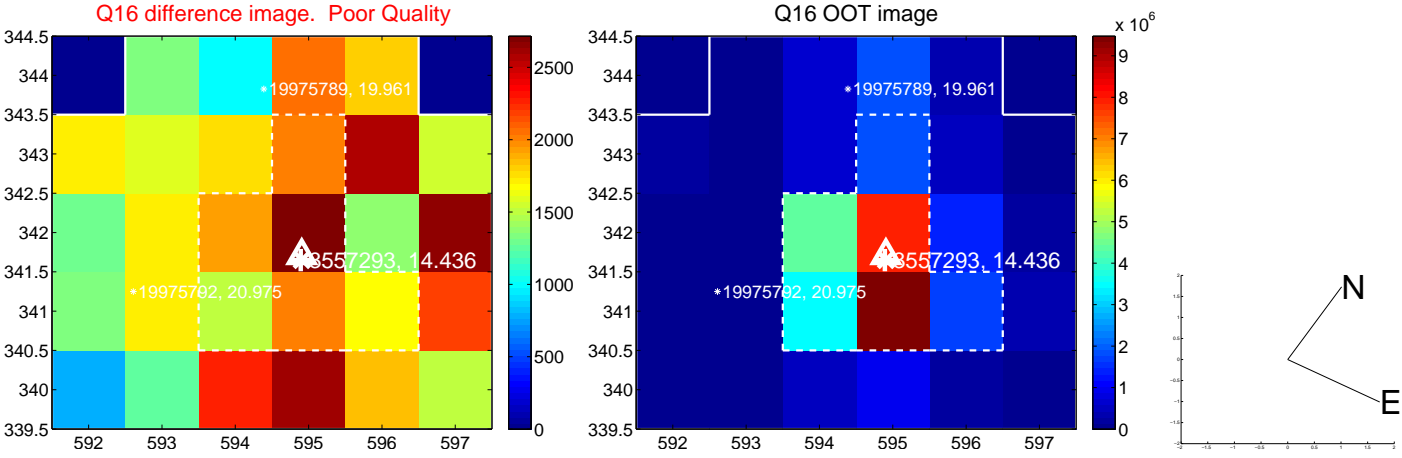
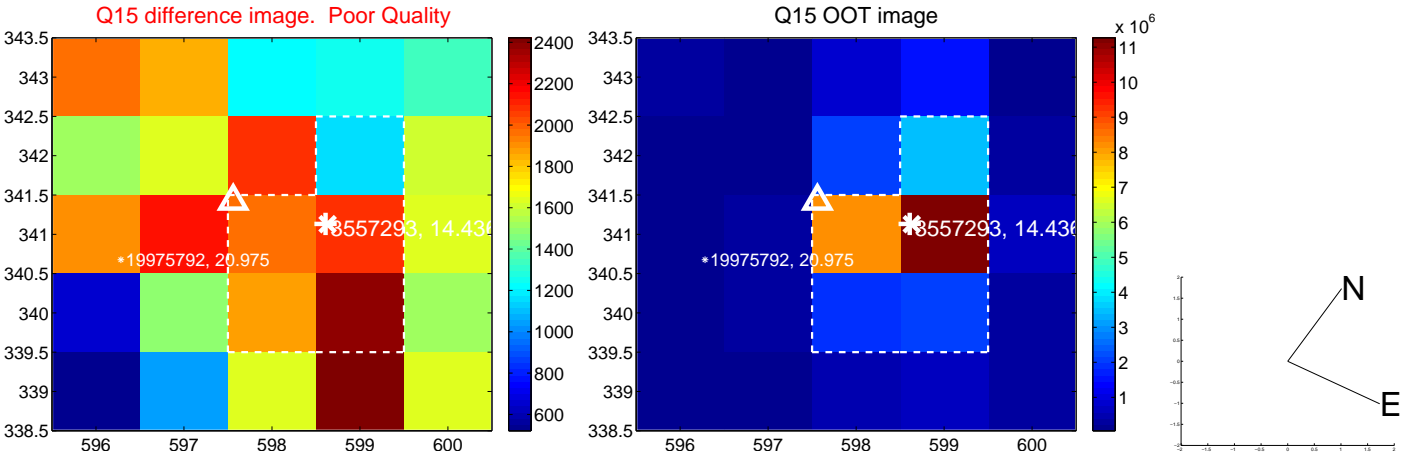
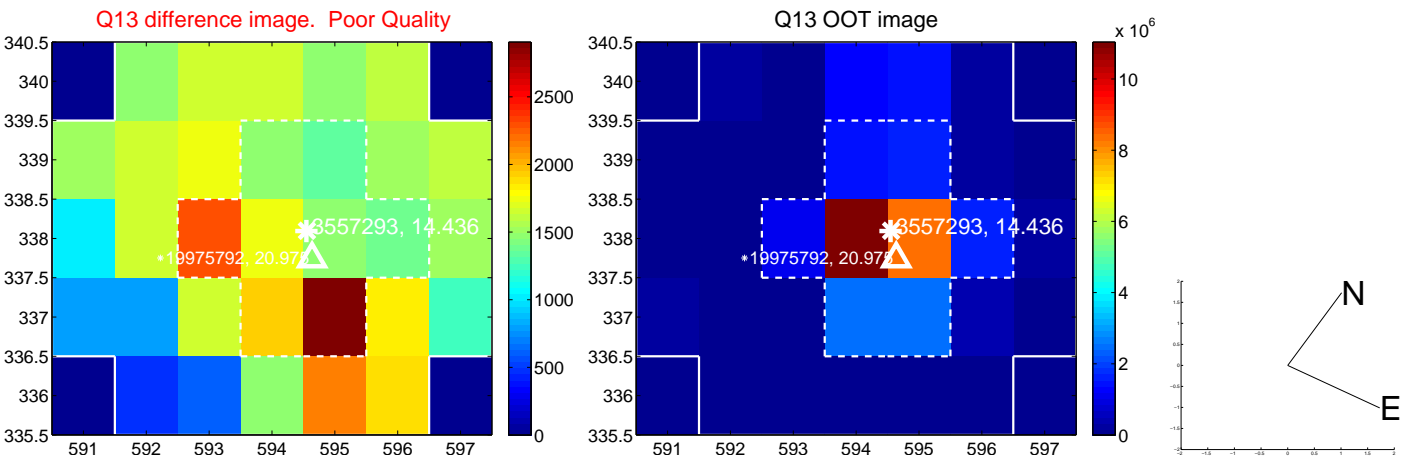
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



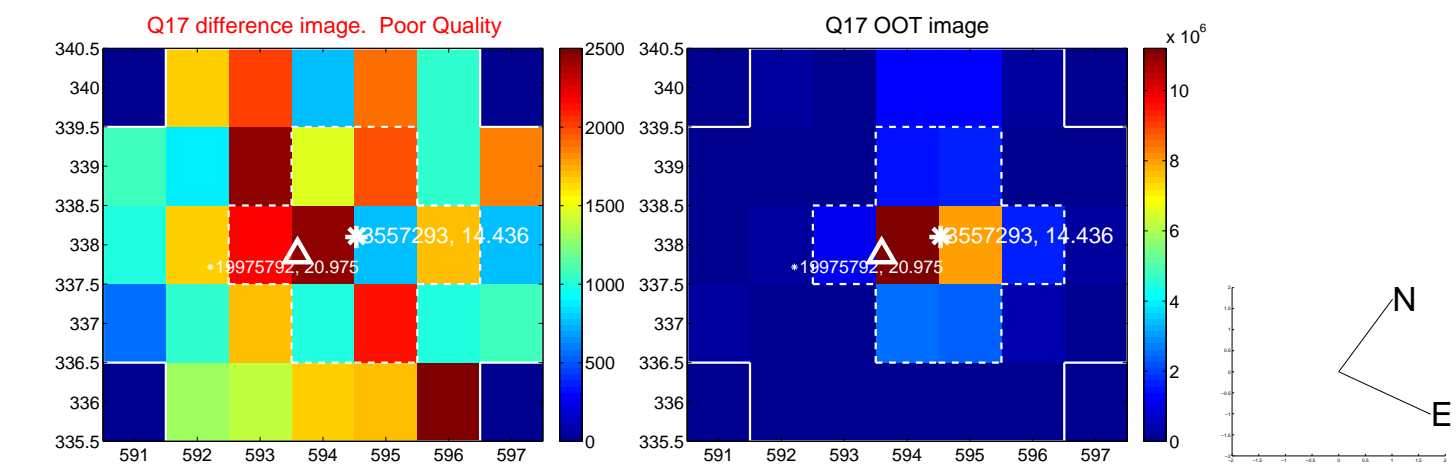
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



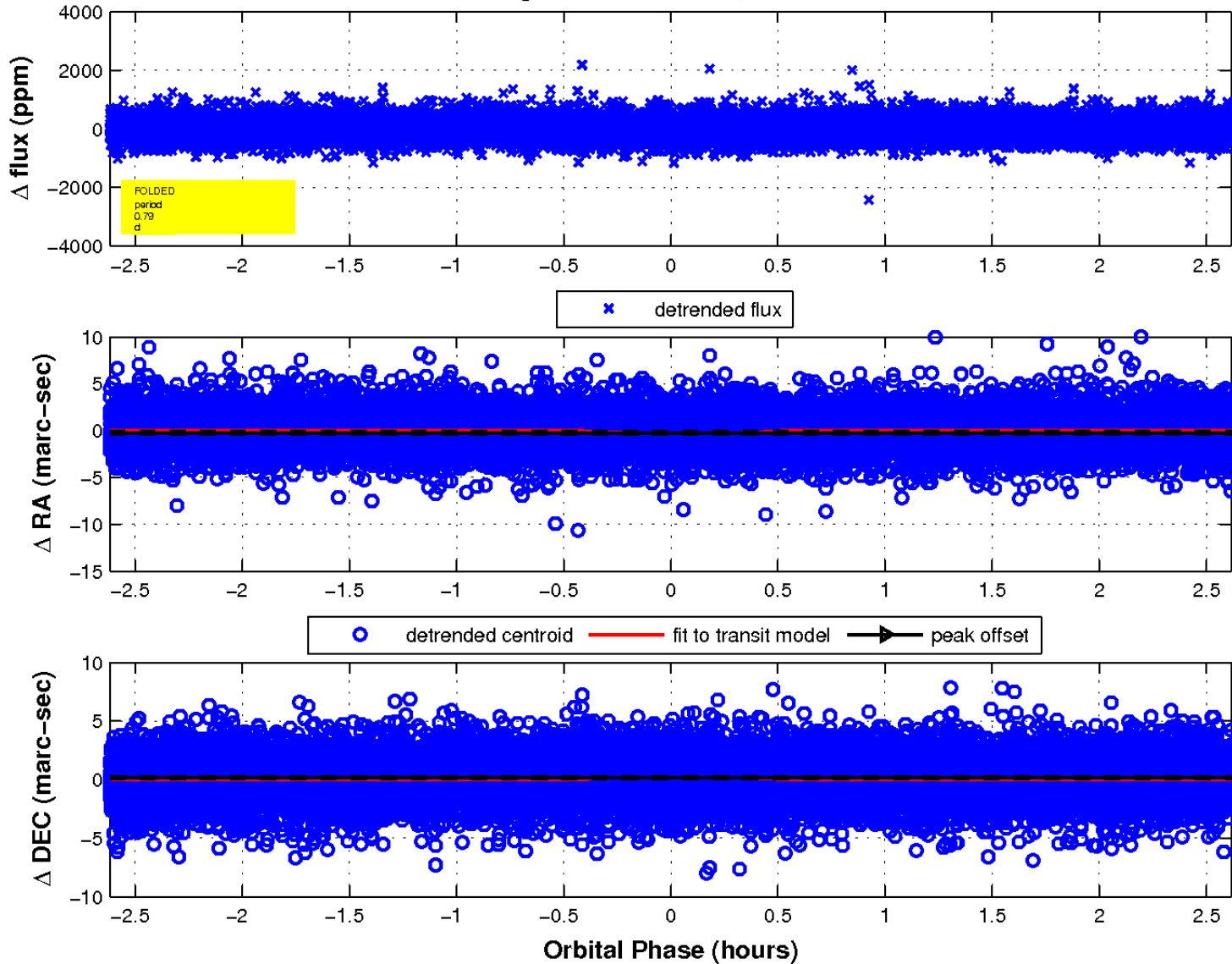
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



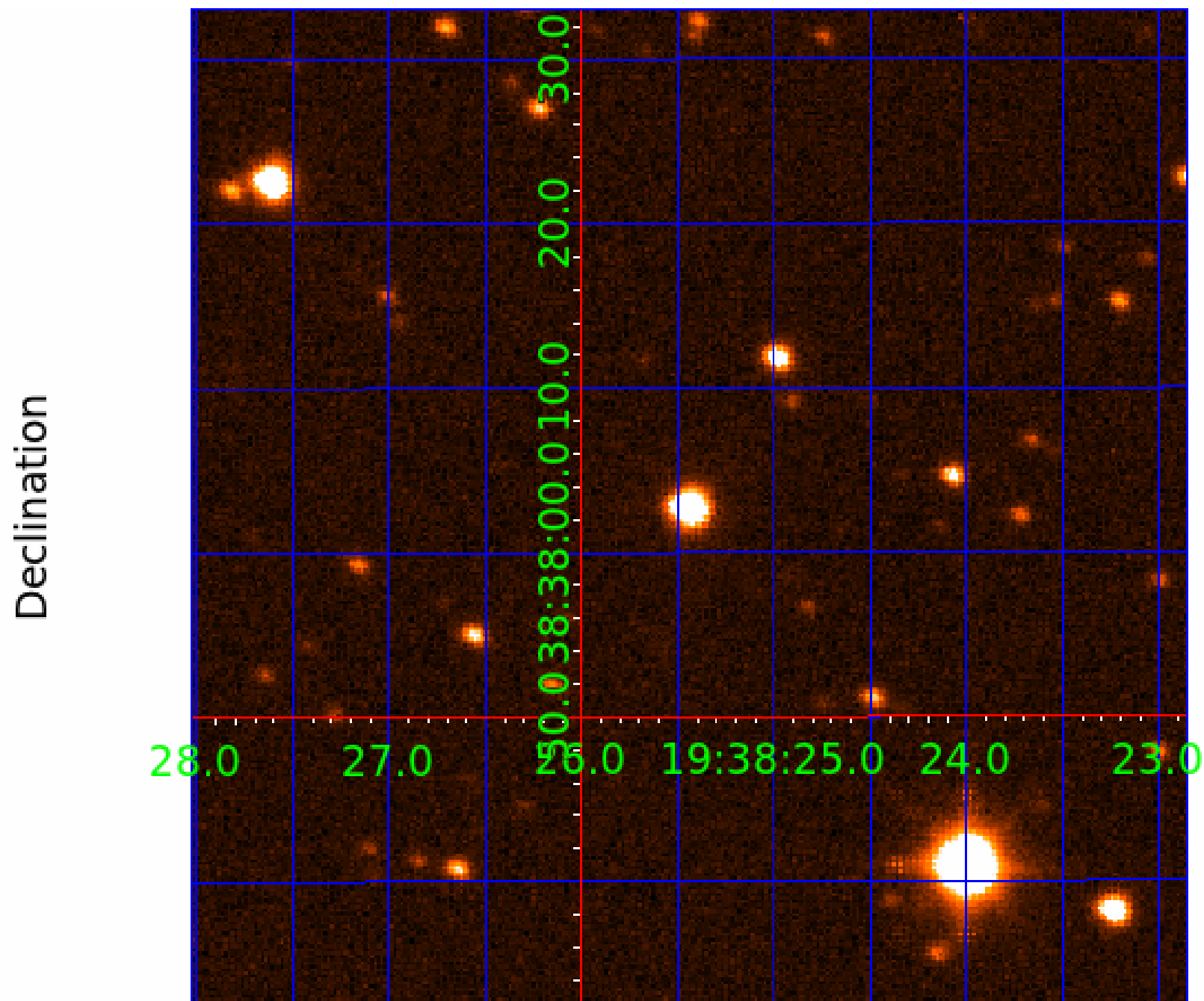
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 003557293

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})
003557293-01	OBS	No	0.787454	131.737665	89.6	0.733	7.7	10.8	1.06	6100	1.21	4939.96
003557293-02	OBS	No	0.787459	132.120771	65.7	0.872	7.6	9.0	1.06	6100	1.03	4939.92
003557293-03	OBS	No	400.519249	246.787399	731.7	8.143	7.4	7.6	1.06	6100	5.55	1.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003557293-01	OBS	FP	0.00	1	0	0	1	LPP_ALT—MOD_NONUNIQ_ALT—EPHEM_MATCH
003557293-02	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—EPHEM_MATCH
003557293-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

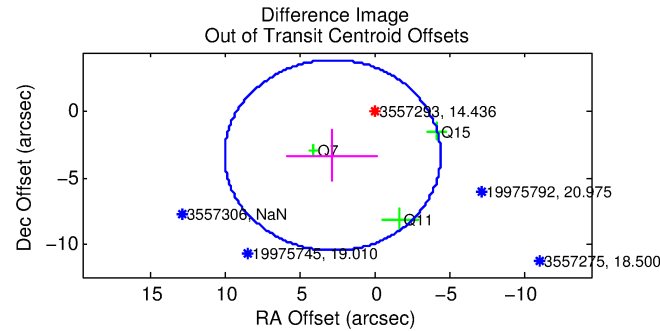
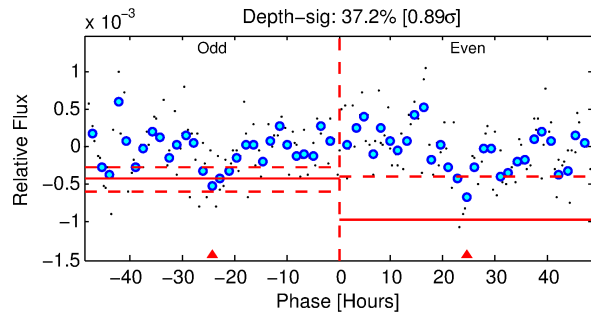
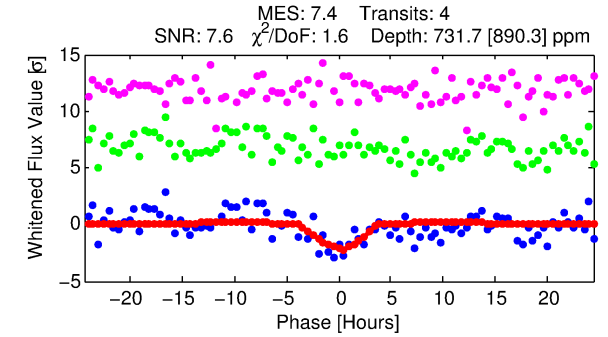
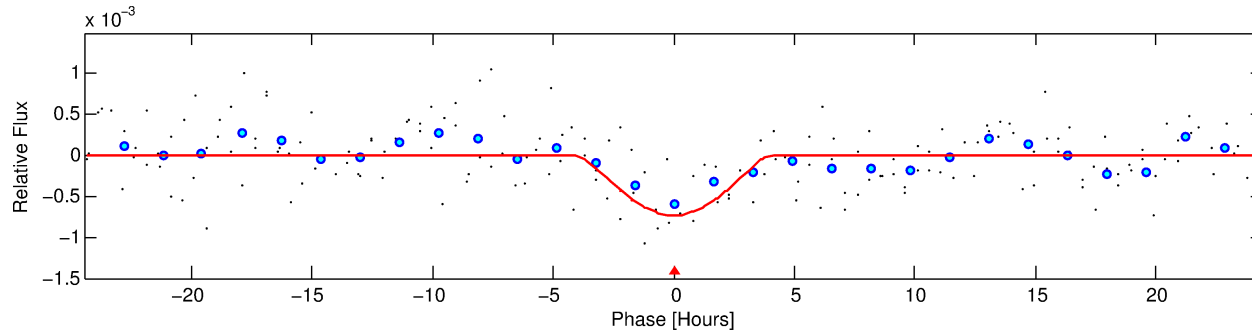
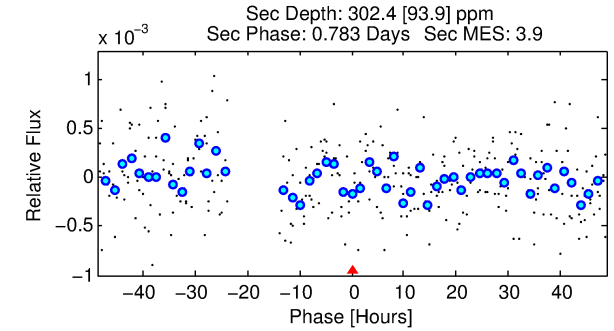
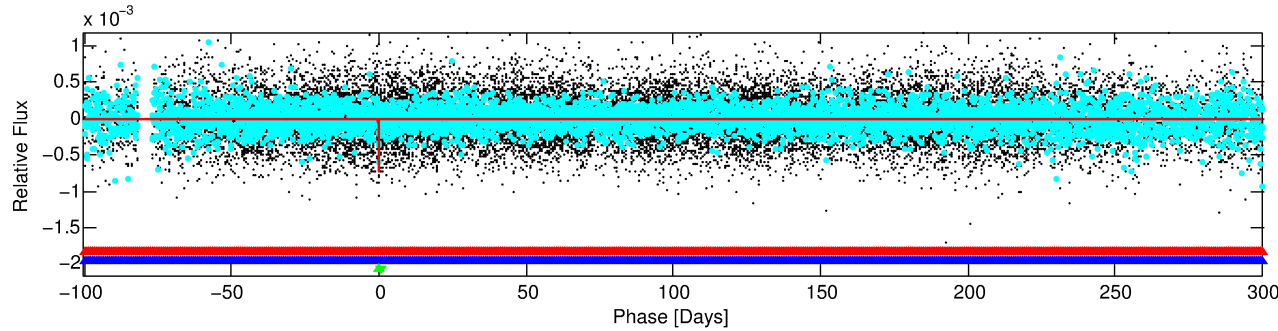
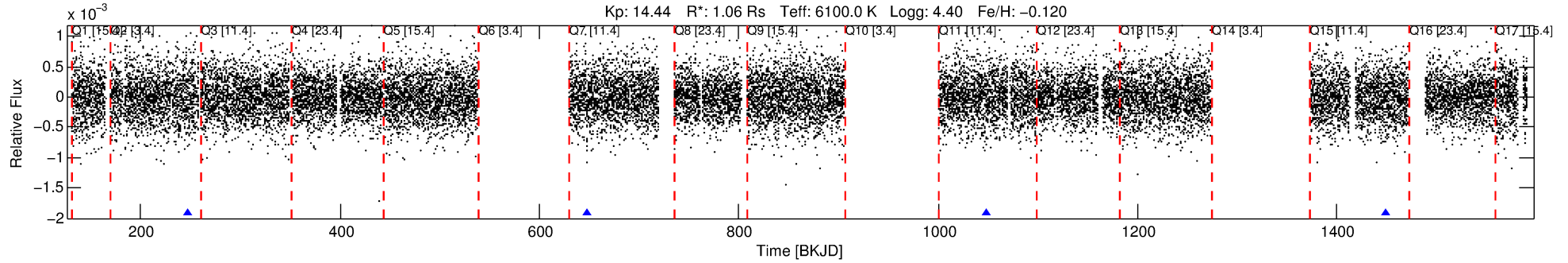
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003557293-03

No Significant Match Found

DV One-Page Summary

KIC: 3557293 Candidate: 3 of 3 Period: 400.519 d



DV Fit Results:

Period = 400.51925 [0.01903] d
Epoch = 246.7874 [0.0349] BKJD
Rp/R* = 0.0480 [0.3303]
a/R* = 117.89 [196.55]
b = 1.00 [0.52]
Seff = 1.22 [0.48]
Teq = 268 [27] K
Rp = 5.56 [38.28] Re
a = 1.0713 [0.2800] AU
Ag = 6185.86 [85214.33] [0.07σ]
Teffp = 3672 [12642] K [0.27σ]

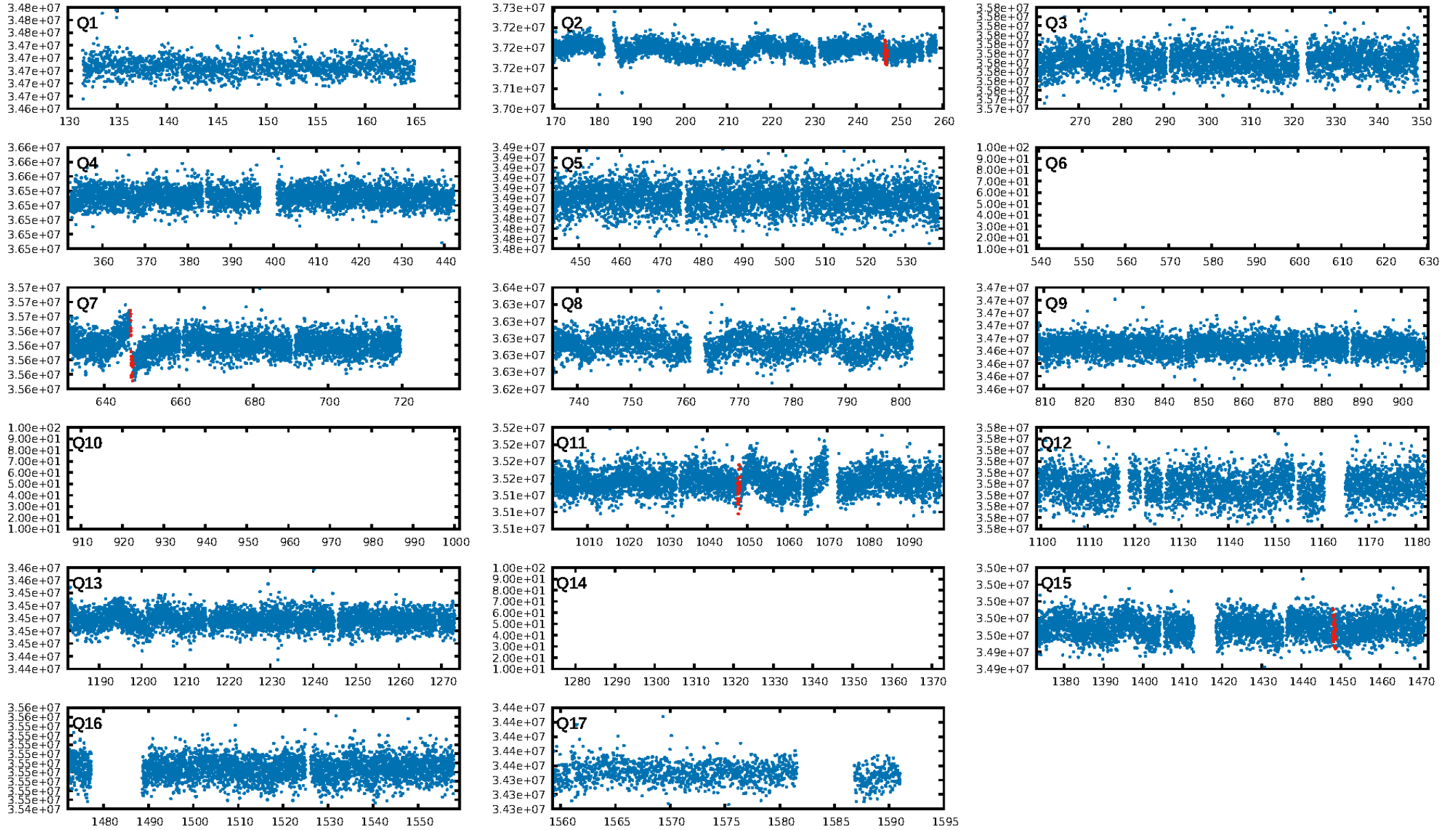
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1171.41σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.69e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -6.459
Centroid-sig: 77.7%
Centroid-so: 0.553 arcsec [0.42σ]
OotOffset-rm: 4.303 arcsec [1.79σ]
KicOffset-rm: 4.290 arcsec [2.18σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/4]

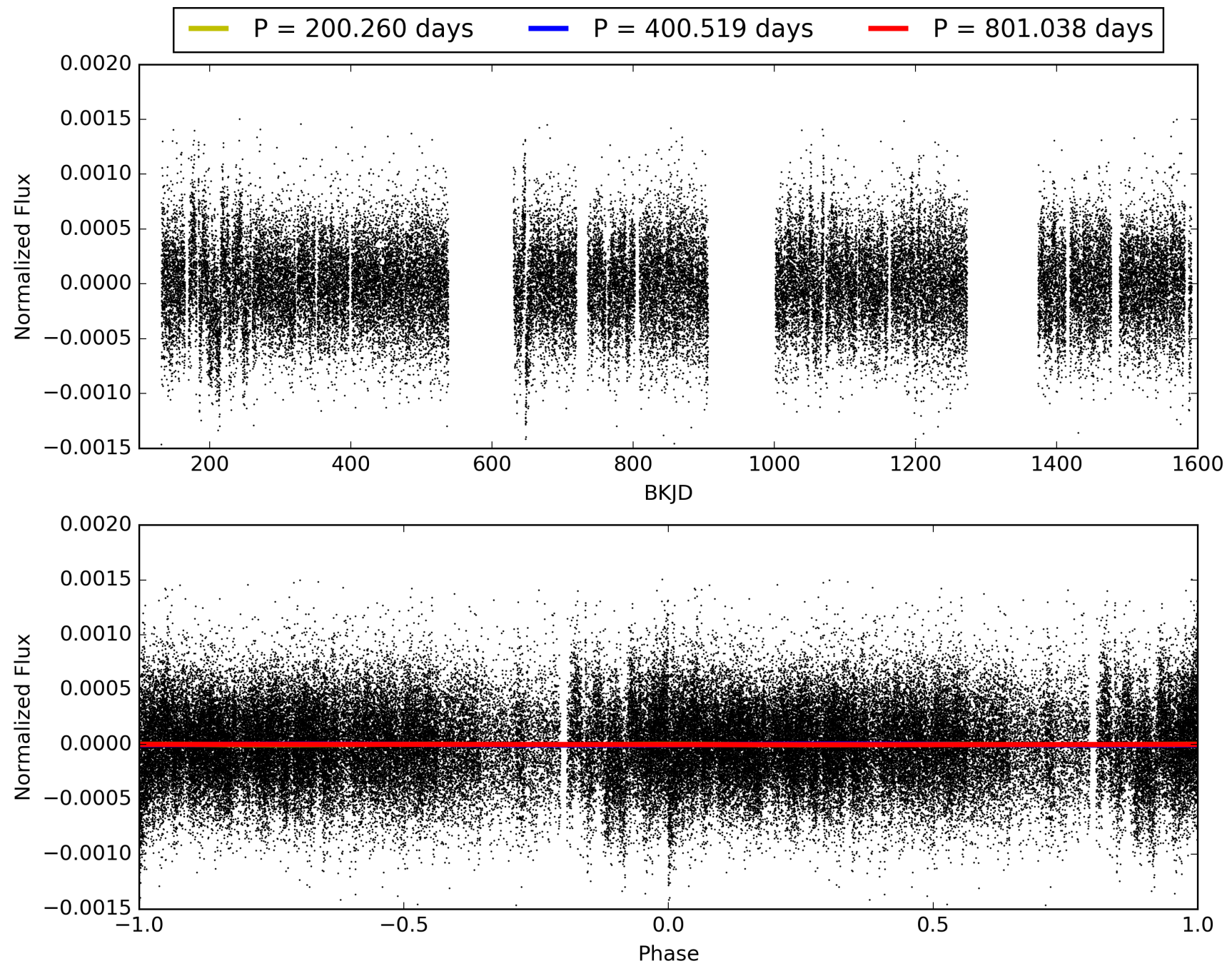
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:28:00 Z

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

TCE 003557293-03, PDC Light Curves

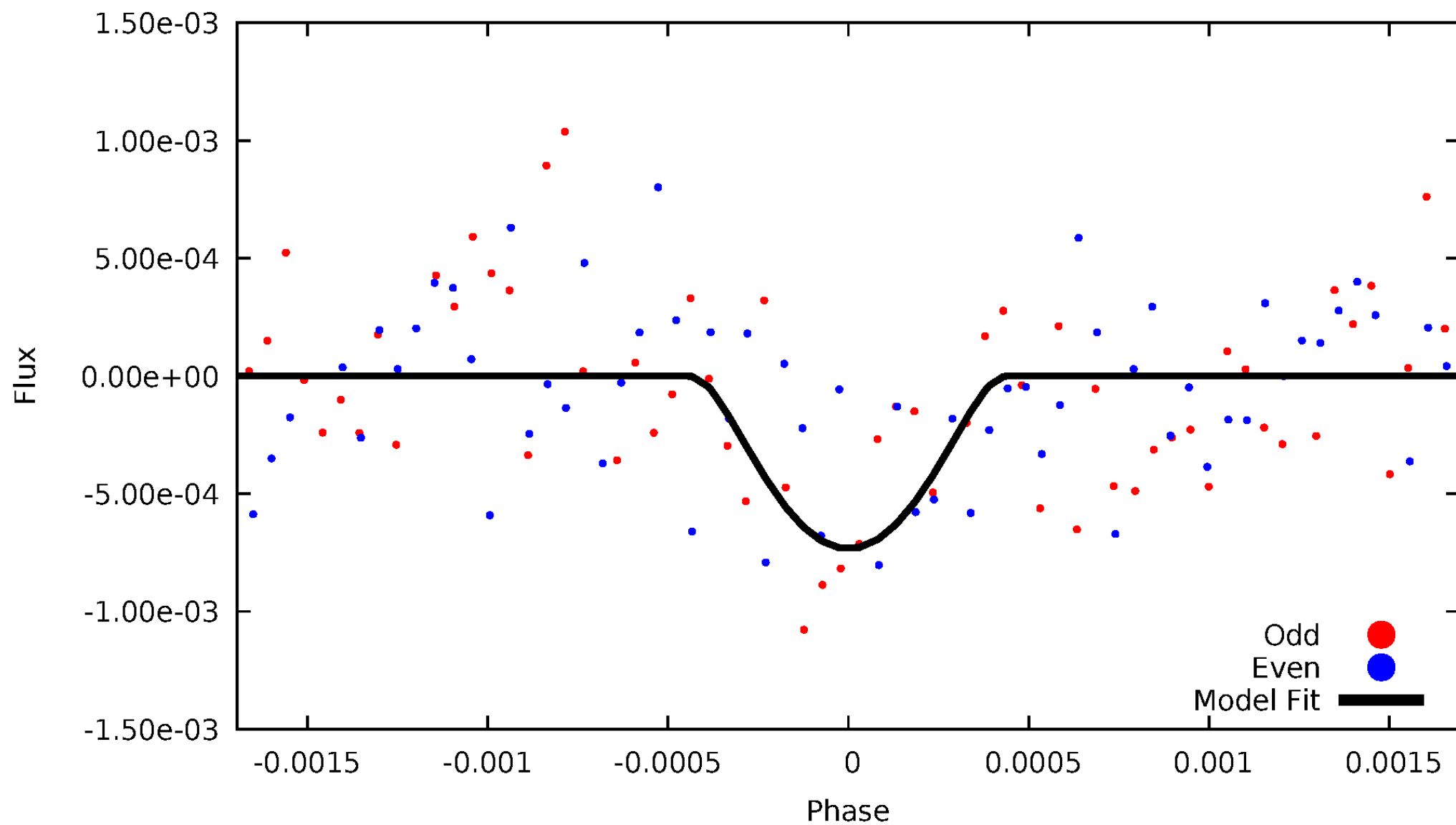


TCE 003557293-03



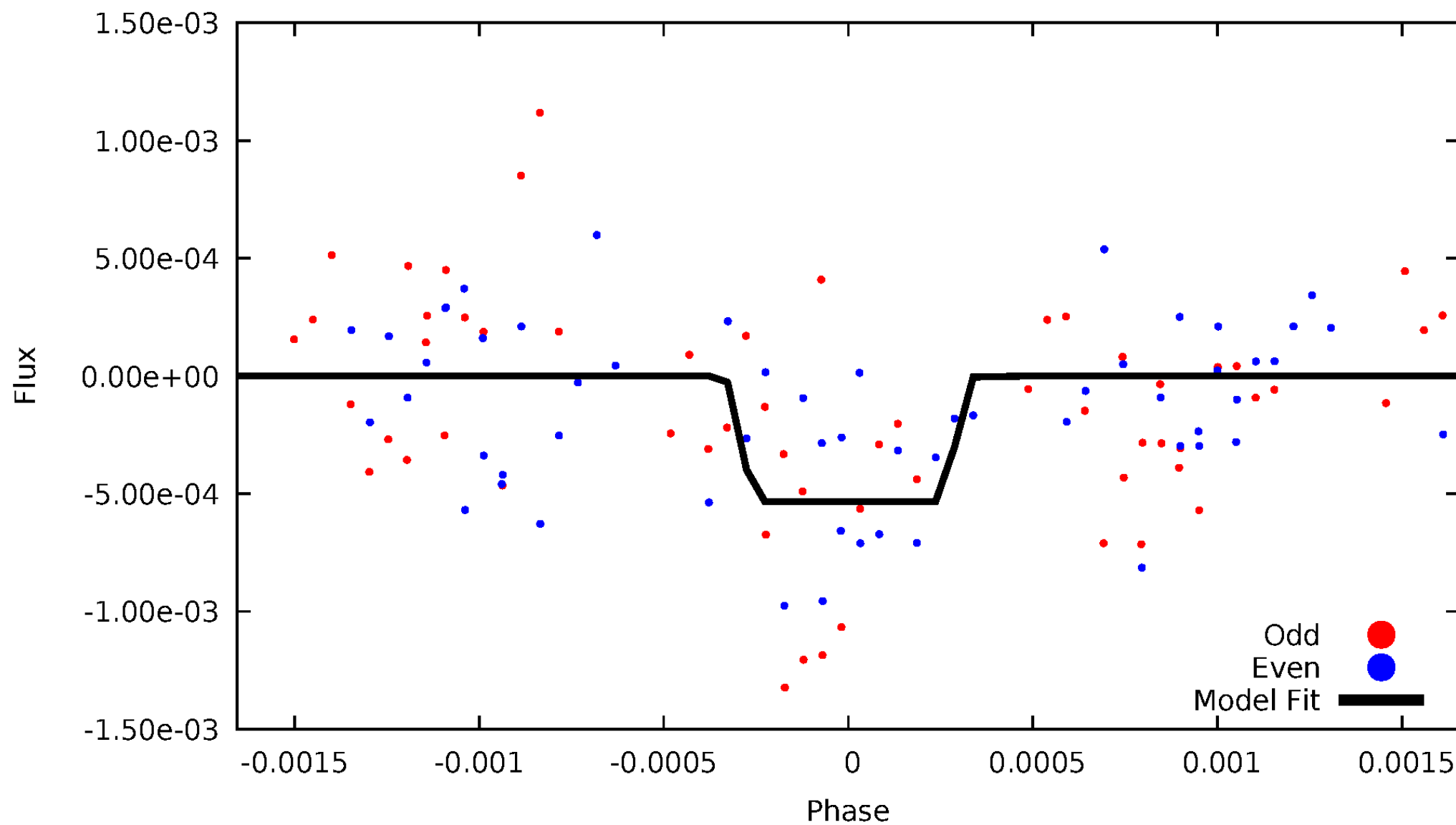
DV Odd/Even

TCE 003557293-03



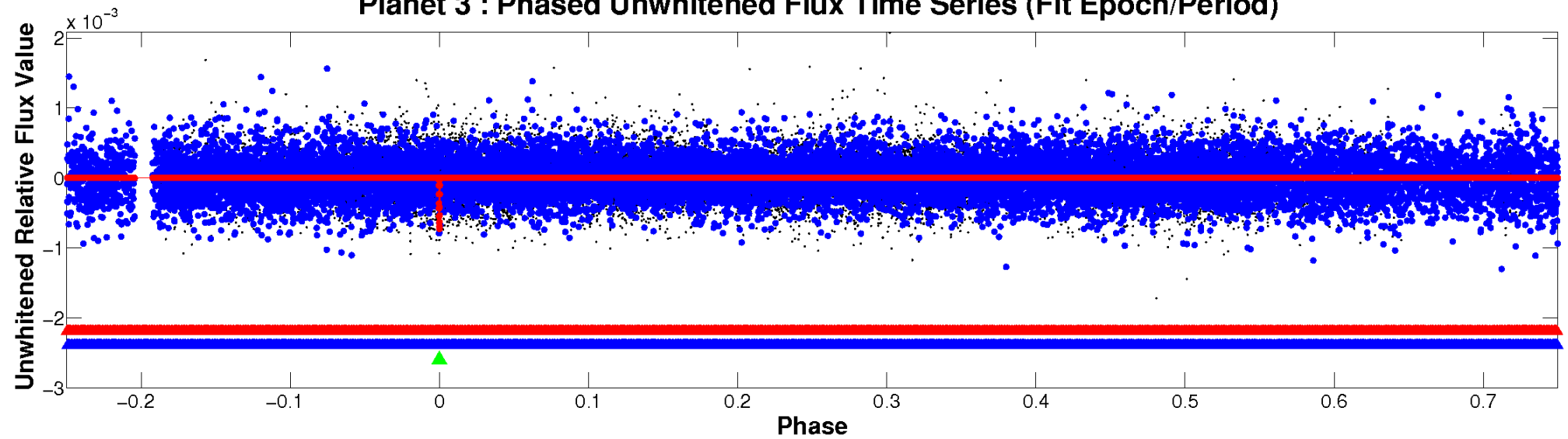
ALT Odd/Even

TCE 003557293-03

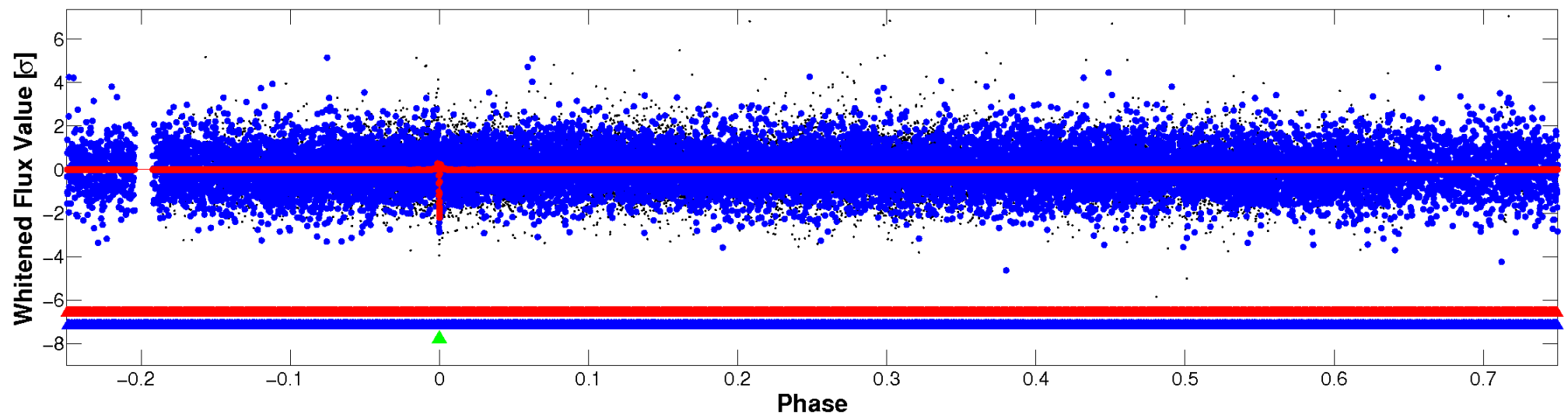


Non-Whitened Vs. Whitened Light Curve

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

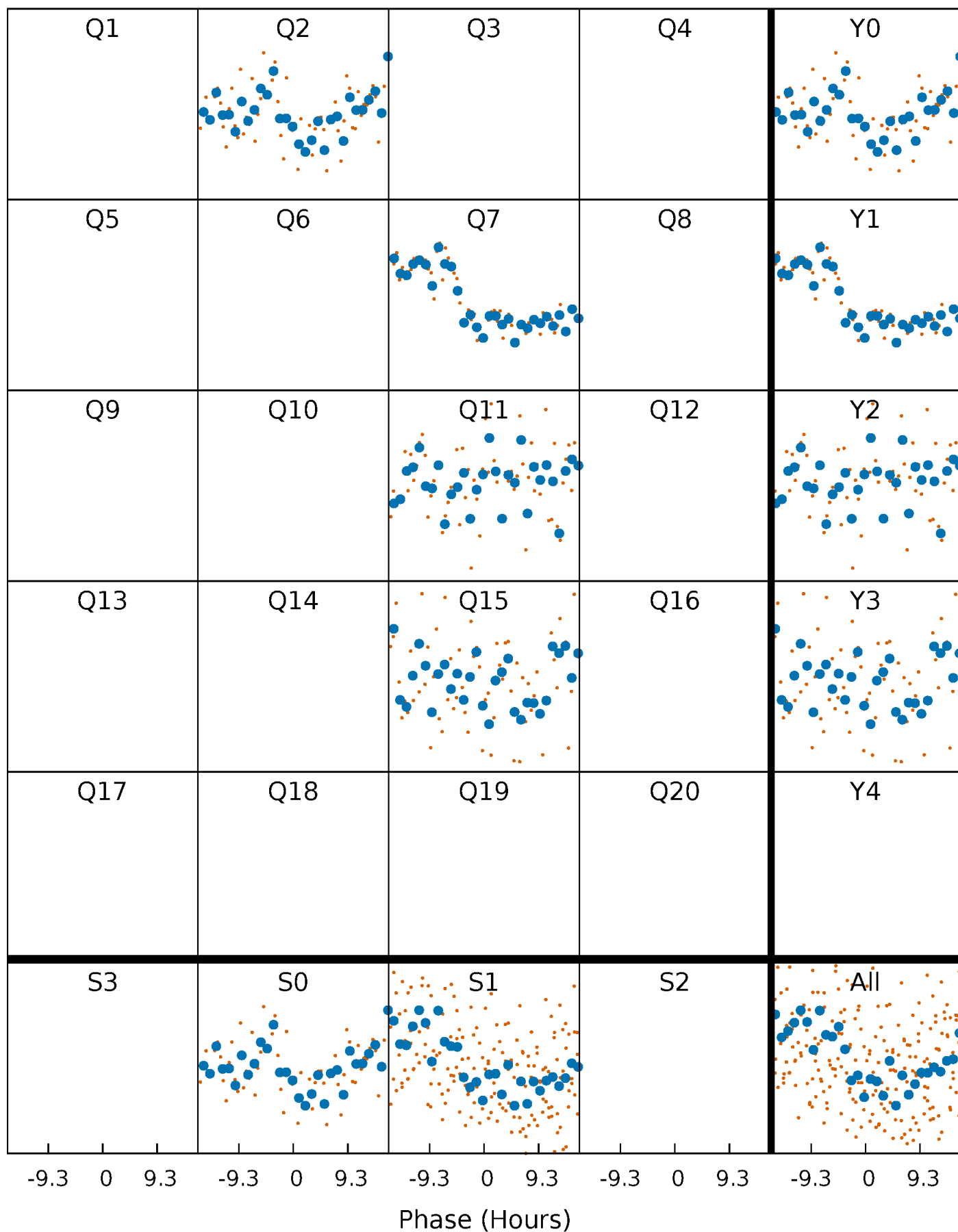


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



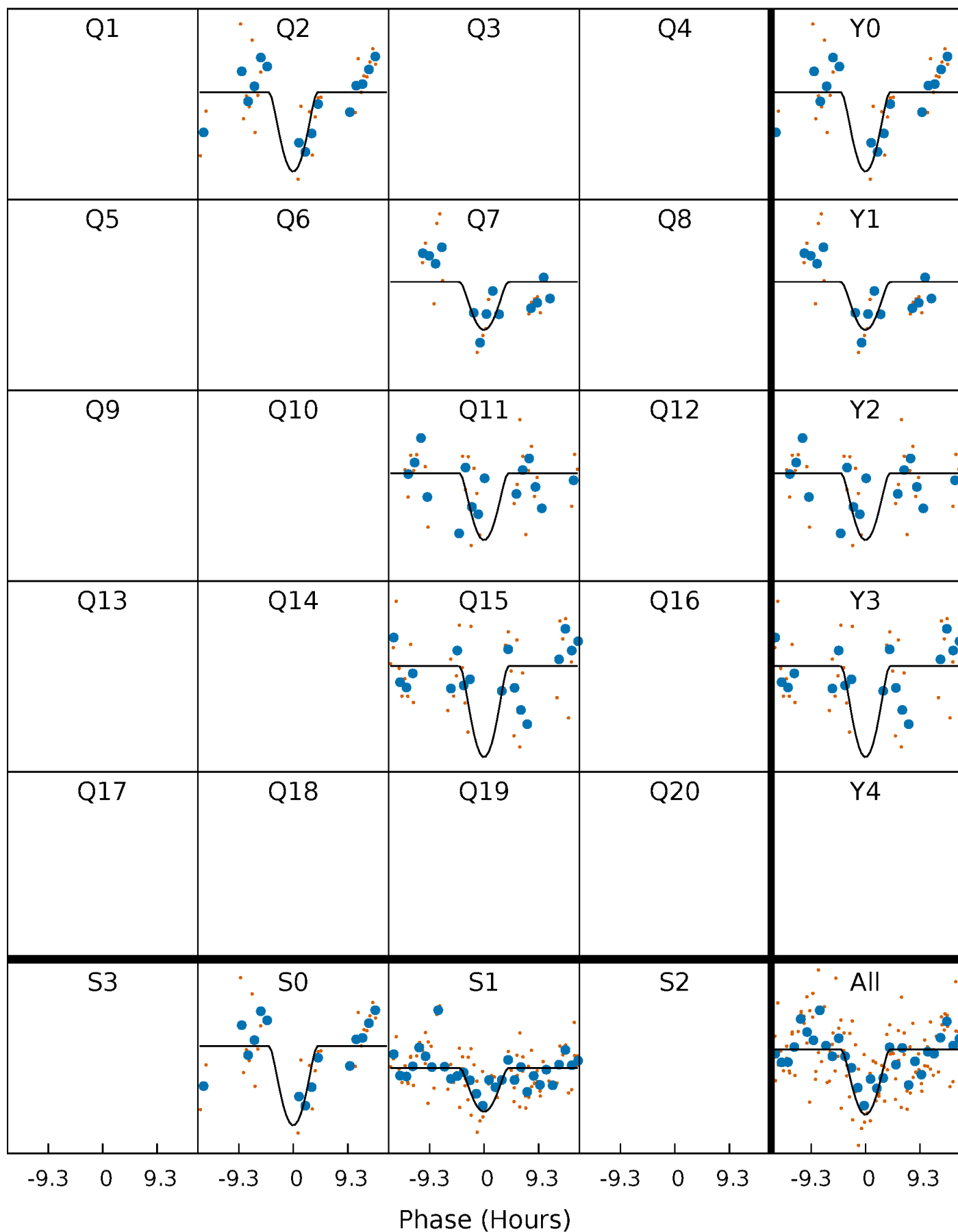
PDC Quarter-Phased Transit Curves

TCE 003557293-03 $P=400.519249$ Days $T_0=246.787399$ (BKJD)



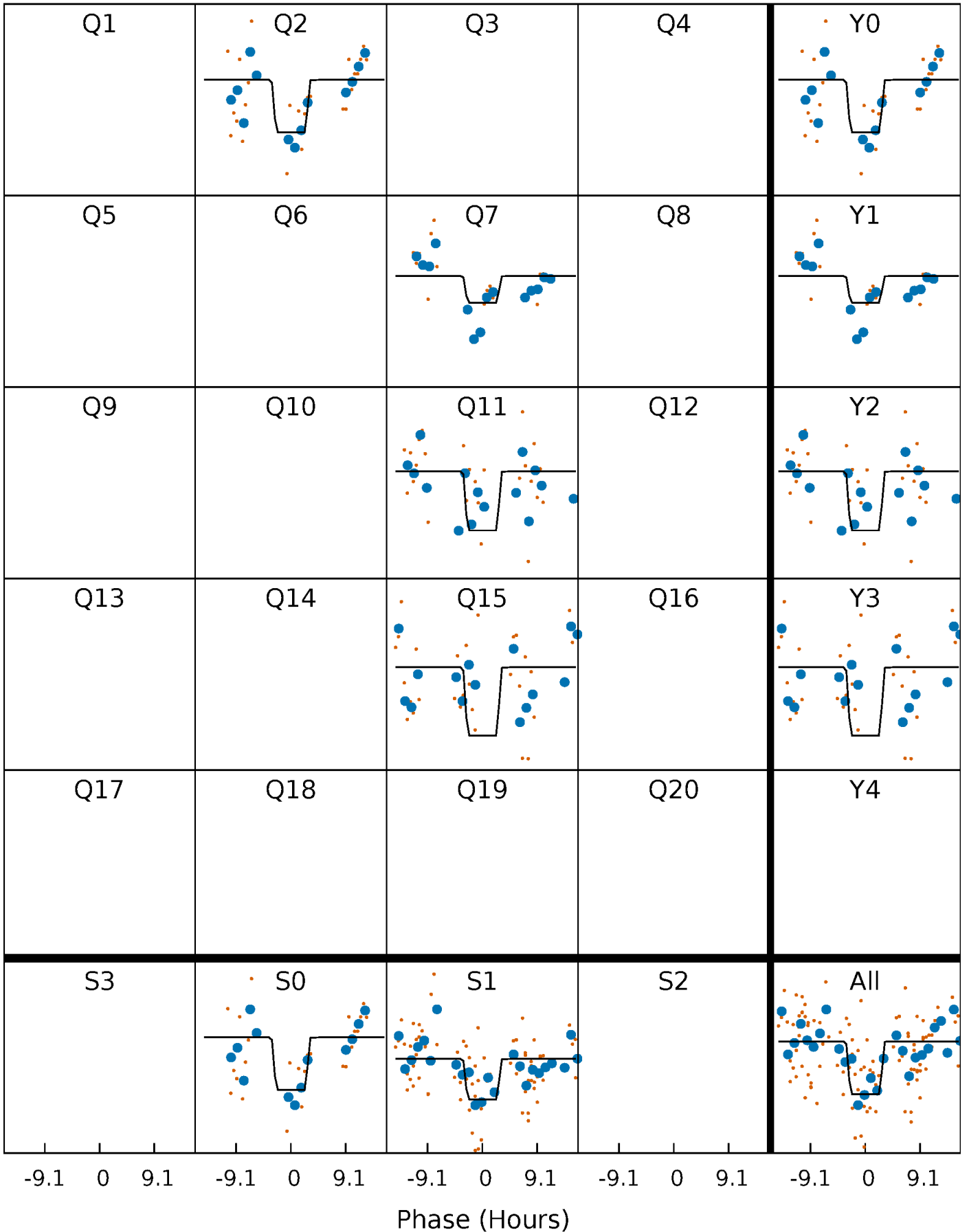
DV Quarter-Phased Transit Curves

TCE 003557293-03 $P=400.519249$ Days $T_0=246.787399$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

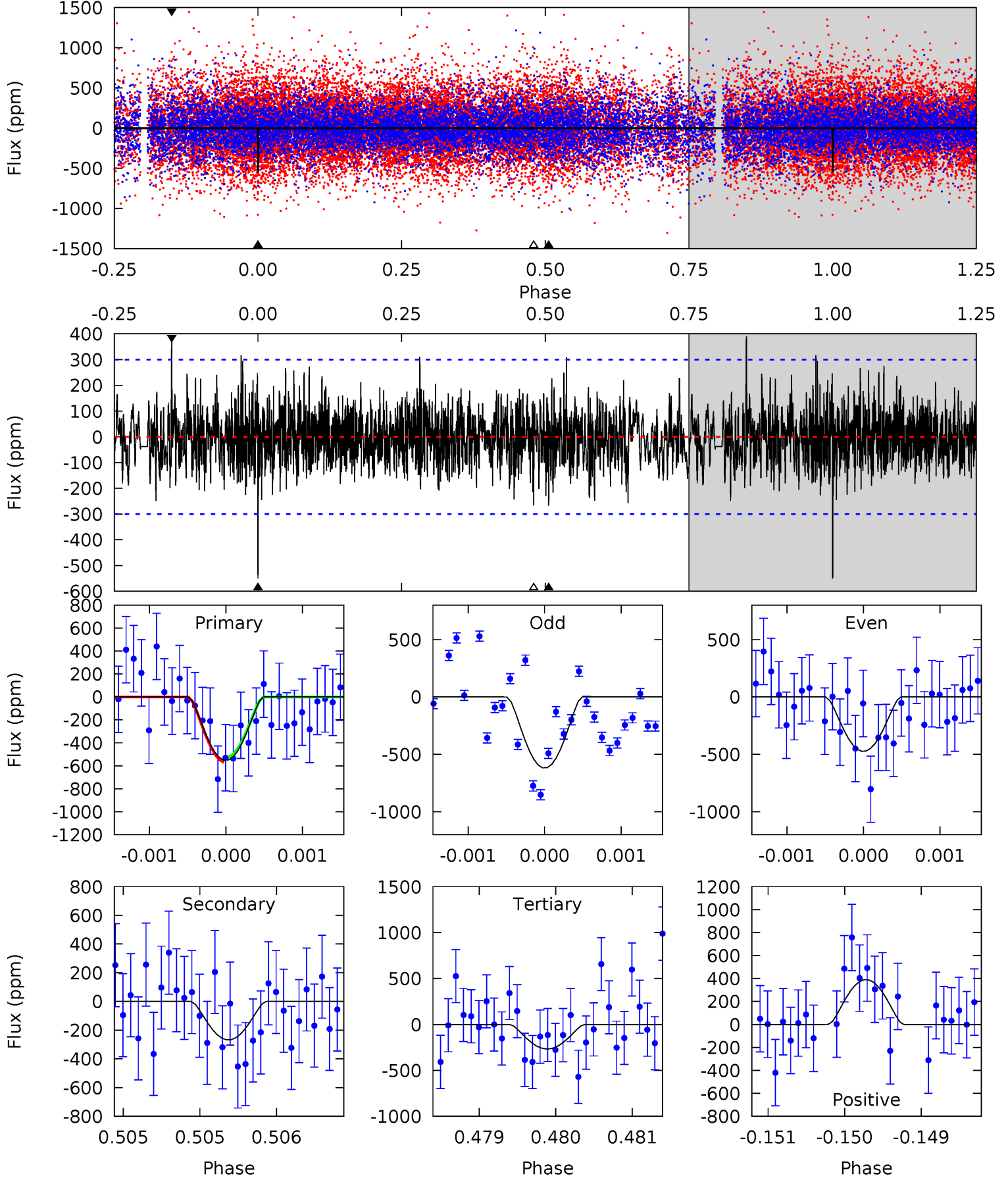
TCE 003557293-03 $P=400.477342$ Days $T_0=246.849014$ (BKJD)



DV Model-Shift Uniqueness Test

003557293-03, P = 400.519249 Days, E = 246.787399 Days

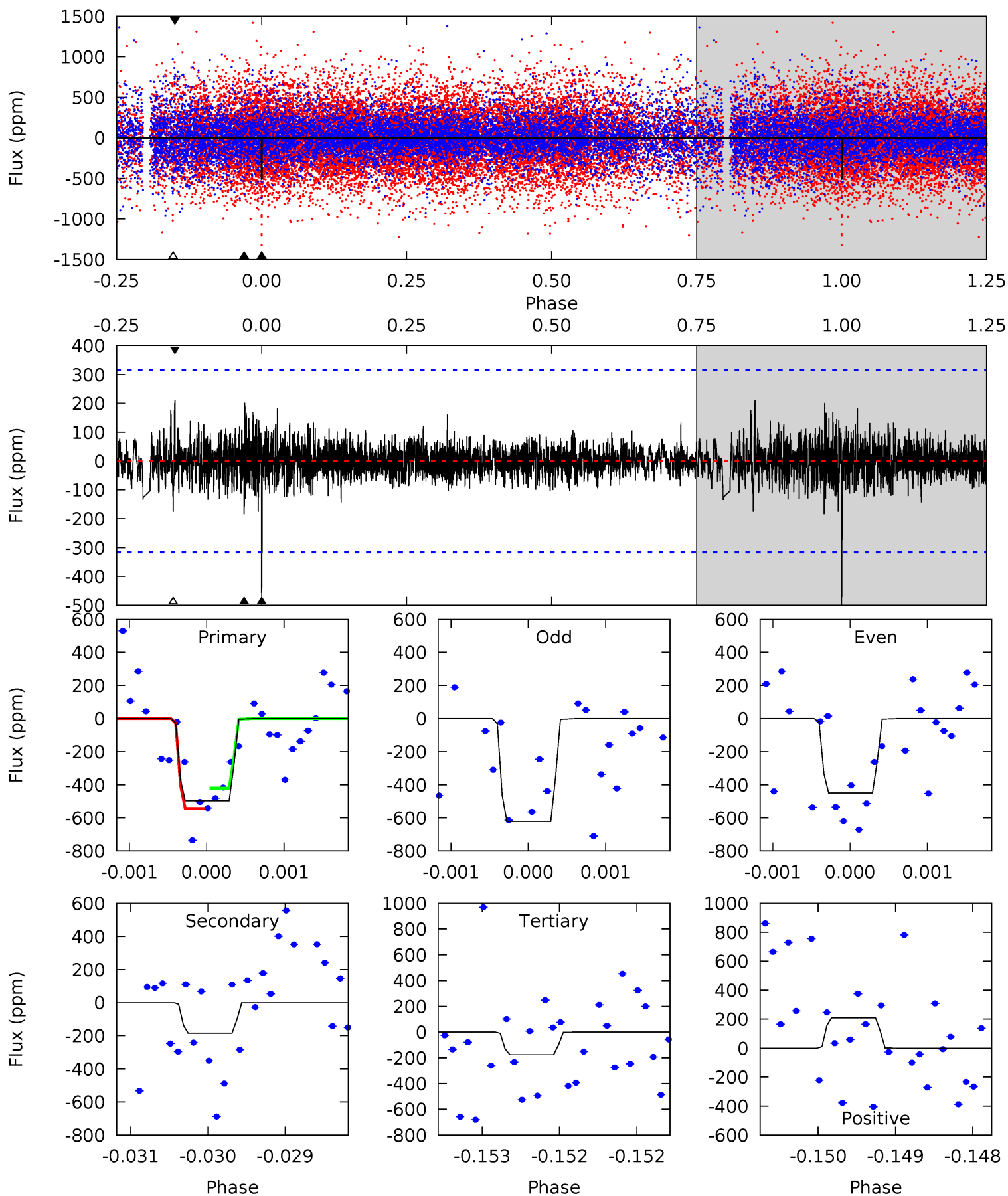
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	4.88	4.86	7.10	5.47	3.33	1.53	5.19	2.95	0.01	-2.23	1.33	0.94	0.41	0.39



Alt Model-Shift Uniqueness Test

003557293-03, P = 400.477342 Days, E = 246.849014 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.62	3.19	3.04	3.64	5.49	3.35	0.73	5.58	4.98	0.15	-0.45	1.46	0.99	0.30	1.04



Stellar Parameters For KIC 003557293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6100^{+184}_{-202}	$4.396^{+0.087}_{-0.203}$	$-0.120^{+0.250}_{-0.300}$	$1.061^{+0.334}_{-0.143}$	$1.019^{+0.167}_{-0.125}$	$1.202^{+0.472}_{-0.653}$
	+3%/-3%	+2%/-5%	+208%/-250%	+31%/-13%	+16%/-12%	+39%/-54%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003557293-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-267 ± 55	$29.23^{+32.92}_{-19.97}$	381^{+27}_{-21}	2458^{+846}_{-379}	202^{+1666}_{-156}
Alt.	-184 ± 58	$26.79^{+30.75}_{-19.30}$	379^{+29}_{-21}	2384^{+965}_{-381}	155^{+1858}_{-123}

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

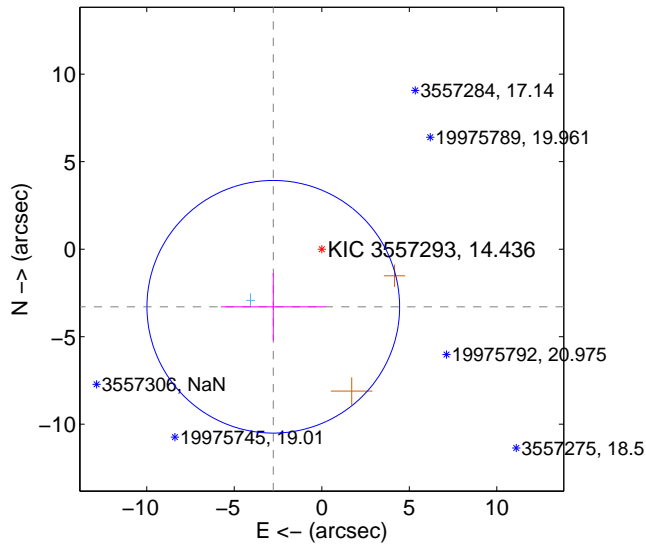
Supplemental centroid analysis for 003557293-03. Kepler magnitude: 14.44. Transit SNR 7.57

There are 1 quarters with good PRF difference image offsets

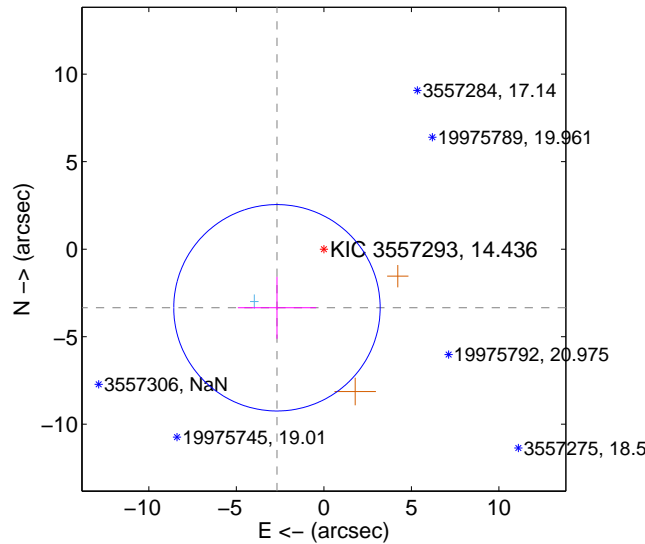
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.303 ± 2.406	1.79	2.771 ± 2.992	-3.292 ± 1.926
PRF-fit source offset from KIC position	4.290 ± 1.966	2.18	2.681 ± 2.239	-3.350 ± 1.768
photometric centroid source offset	0.55 ± 1.30	0.42	-0.55 ± 1.30	-0.03 ± 1.24

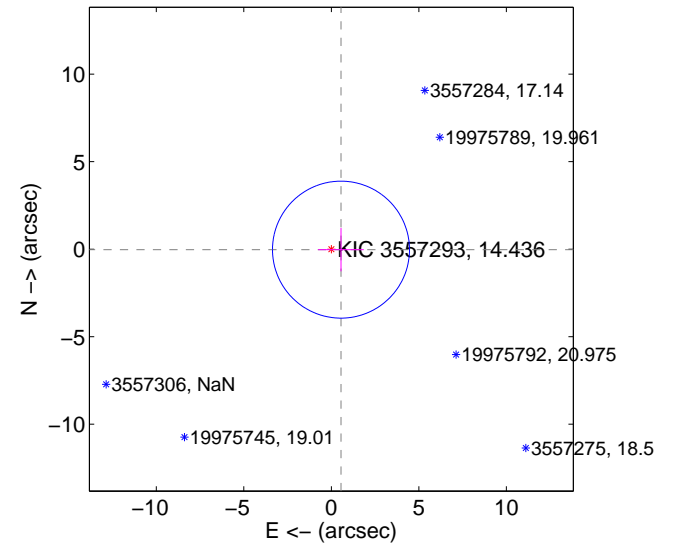
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

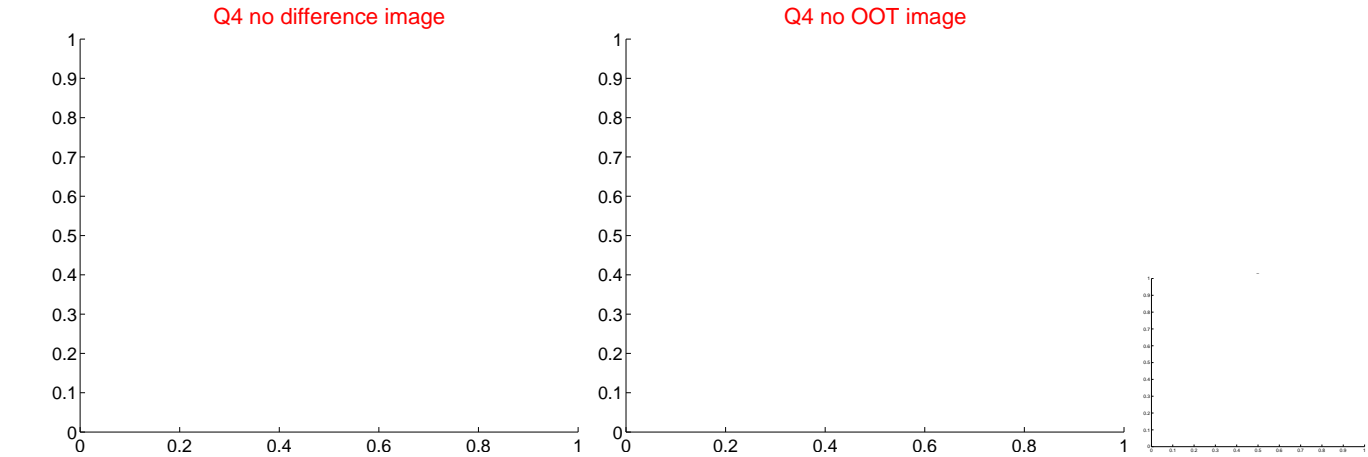
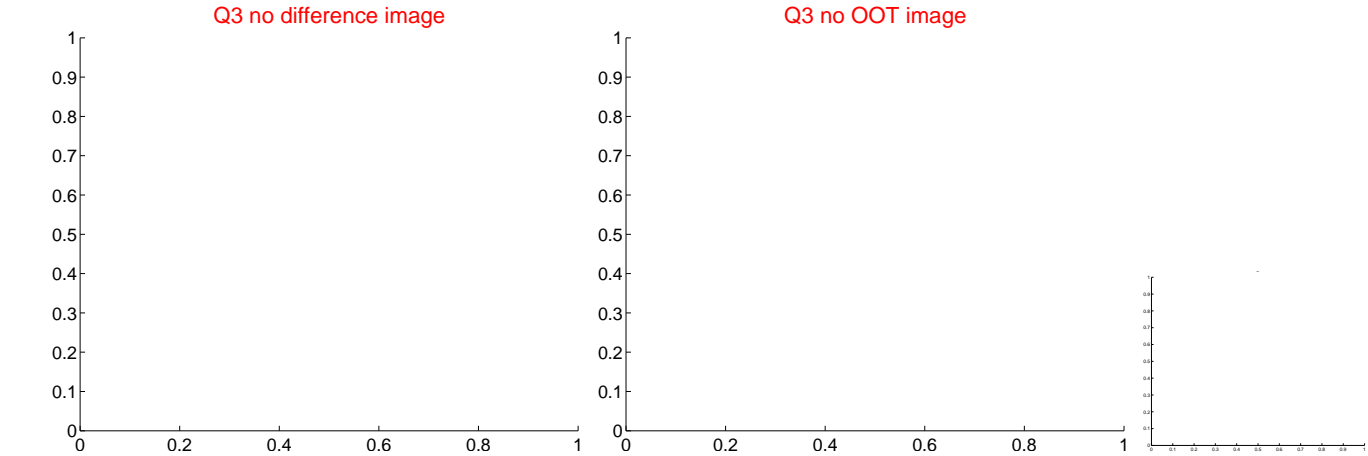
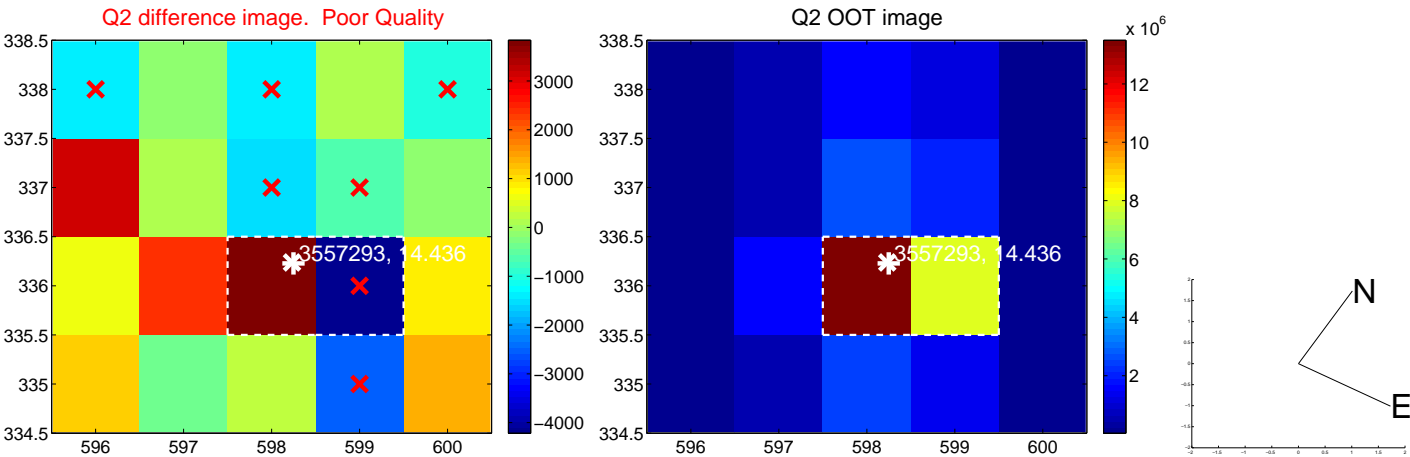
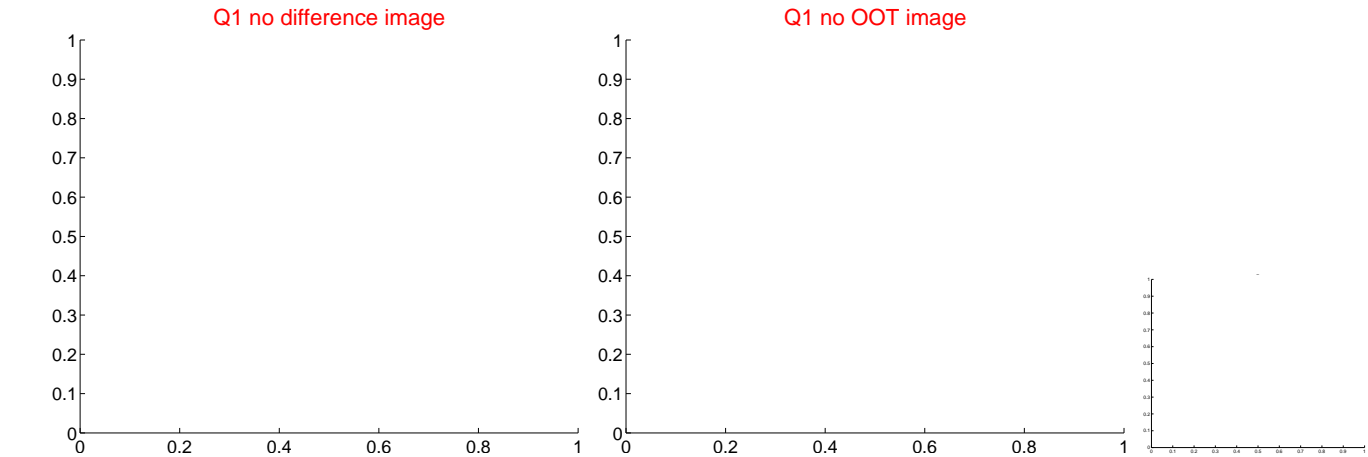


offset from photometric centroids

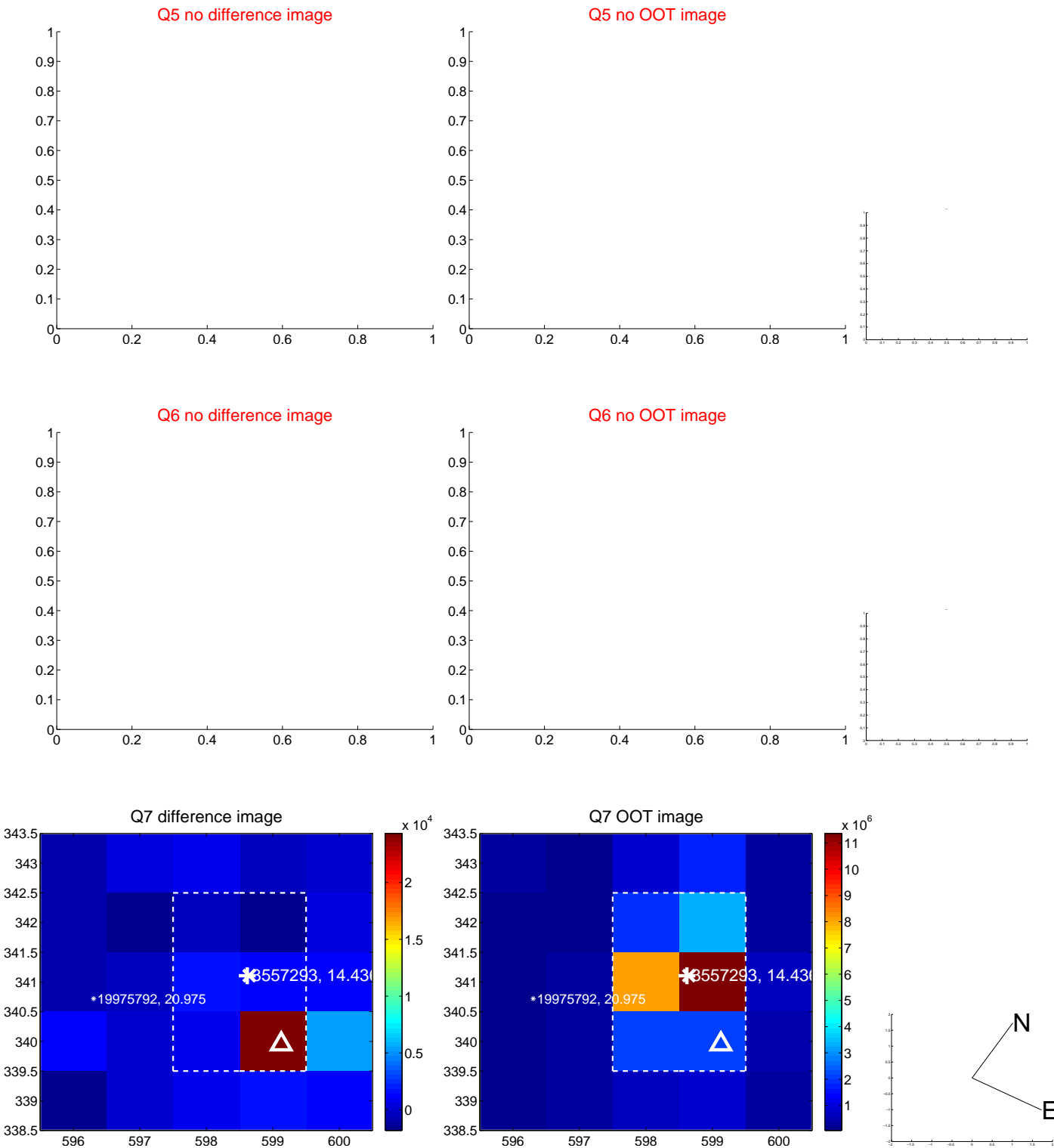


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

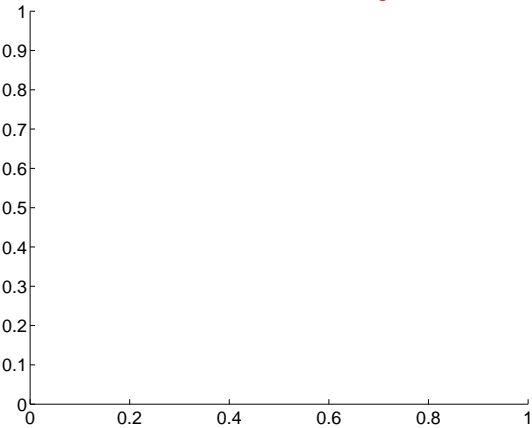
Q9 no difference image



Q9 no OOT image



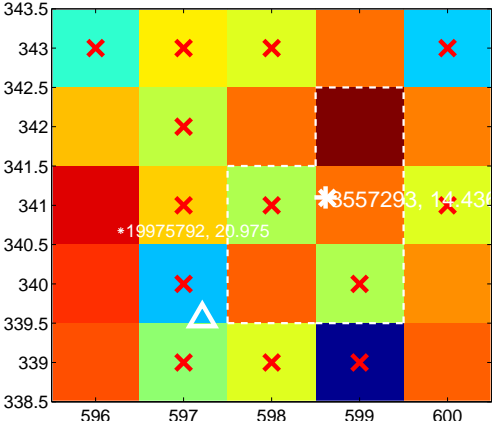
Q10 no difference image



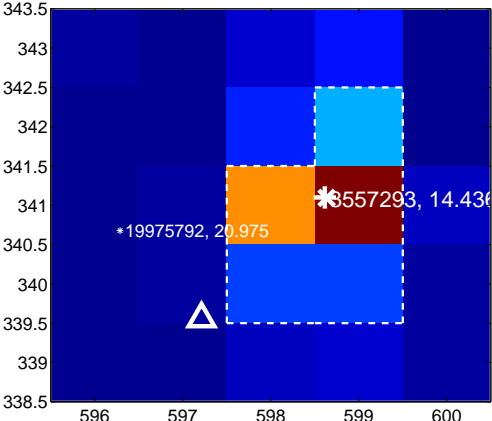
Q10 no OOT image



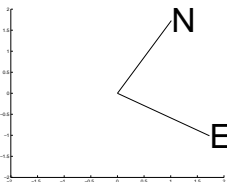
Q11 difference image. Poor Quality



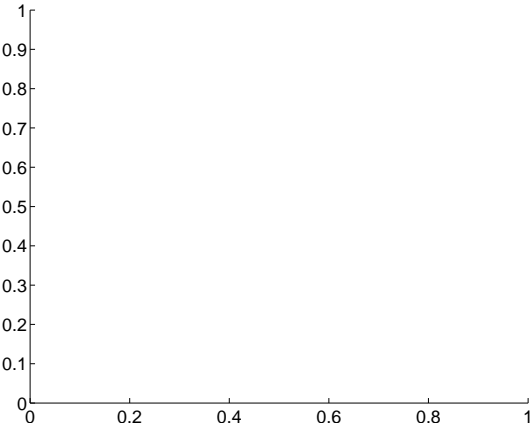
Q11 OOT image



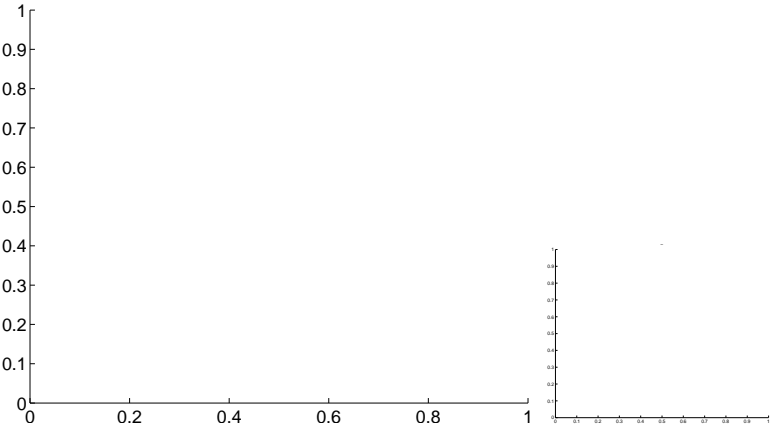
$\times 10^6$



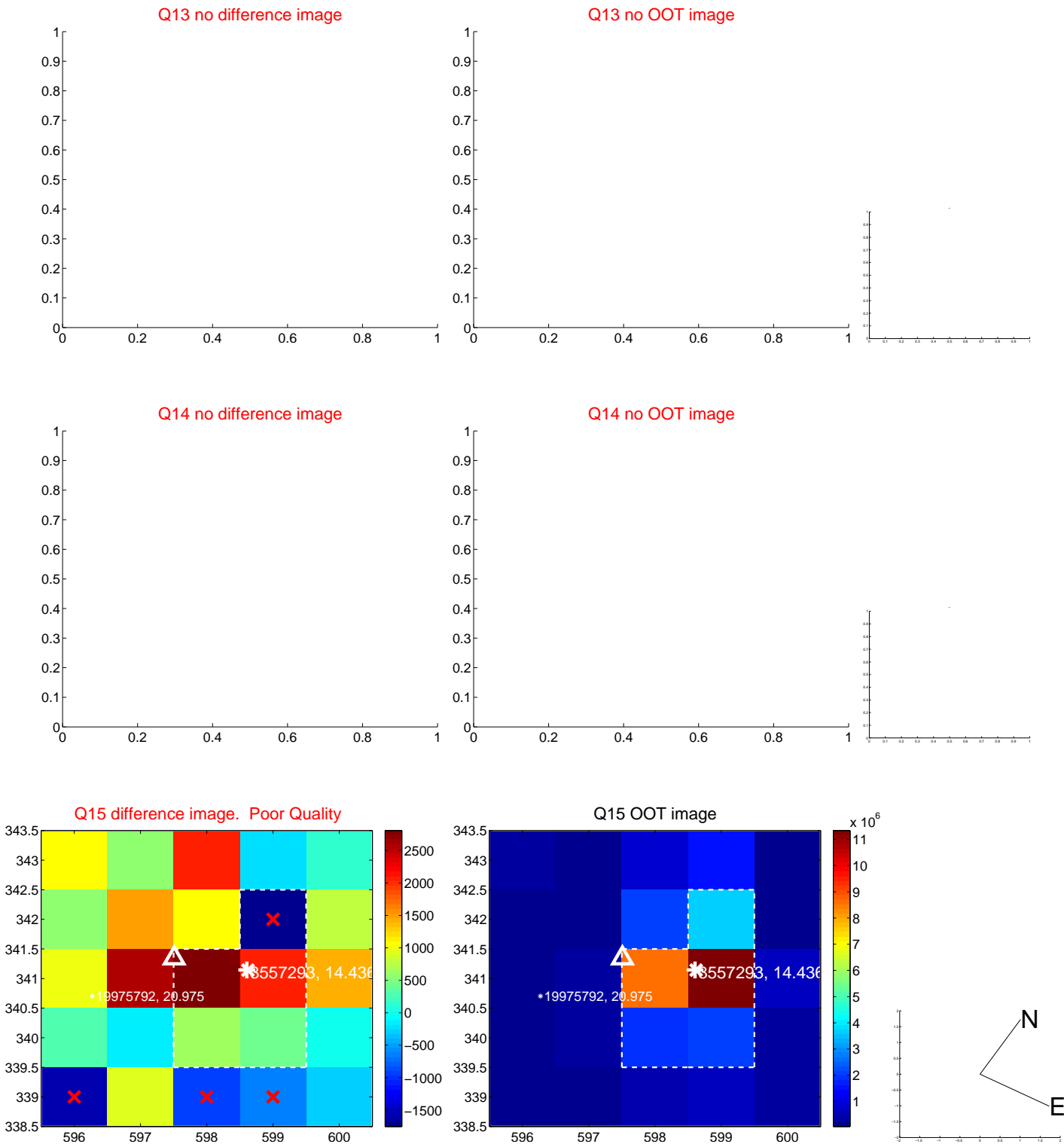
Q12 no difference image



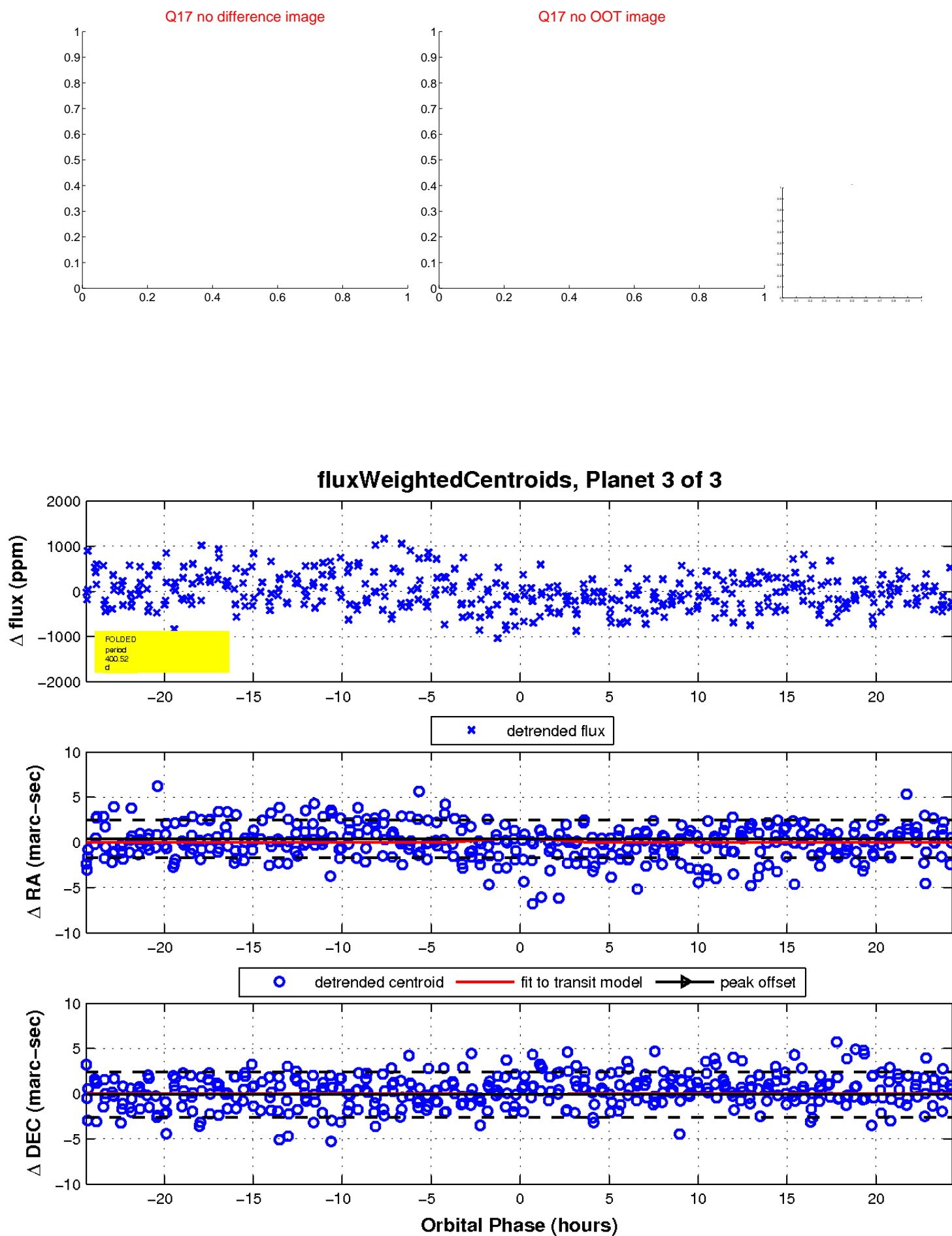
Q12 no OOT image



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

