

KIC 007989079

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})
007989079-01	OBS	No	0.629560	131.598323	8.9	4.175	8.5	5.1	1.88	7748	0.61	40147.38
007989079-02	OBS	No	32.988750	139.769821	249.4	3.057	9.6	9.7	1.88	7748	3.41	204.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007989079-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
007989079-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

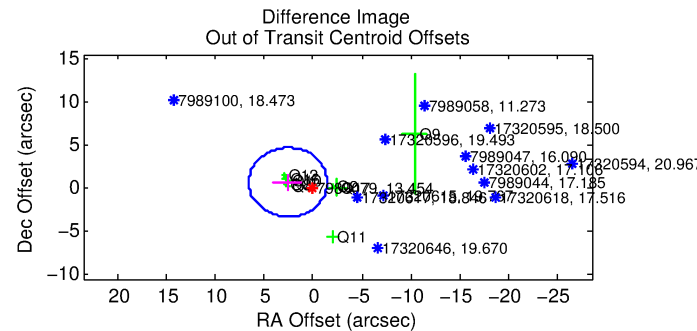
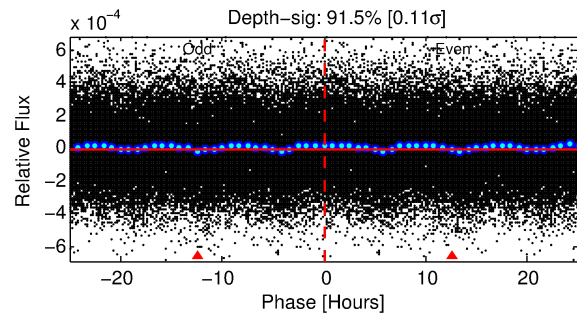
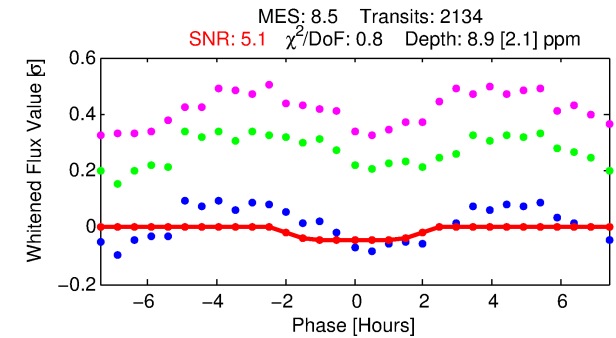
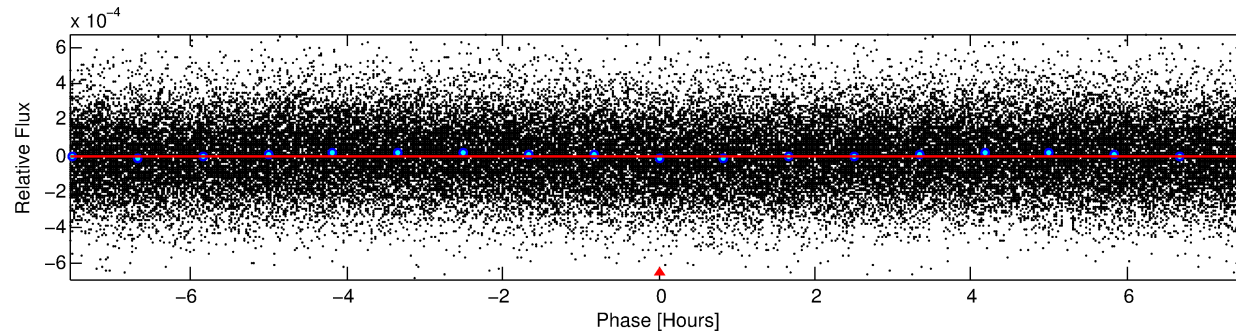
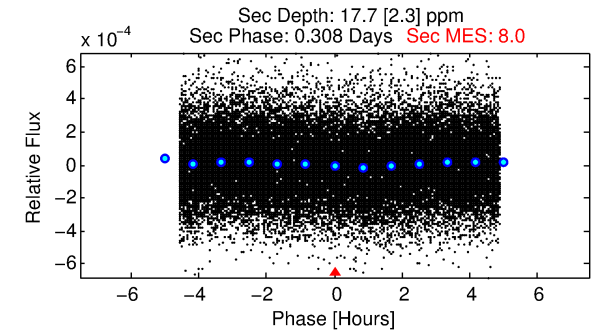
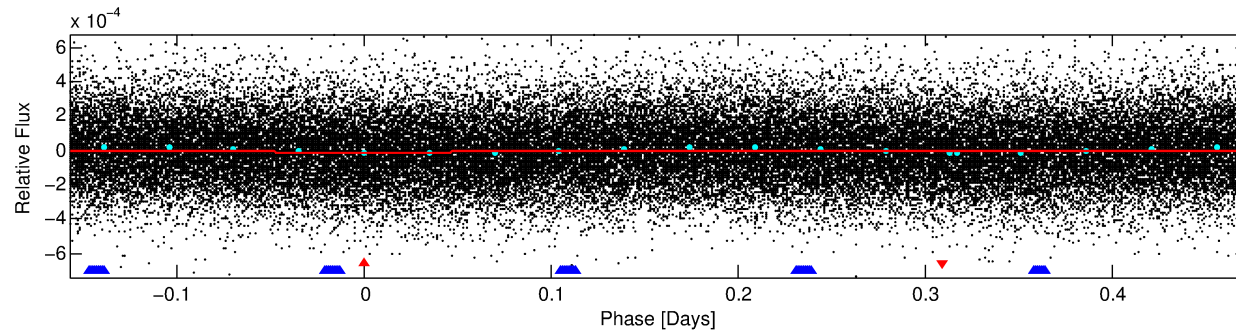
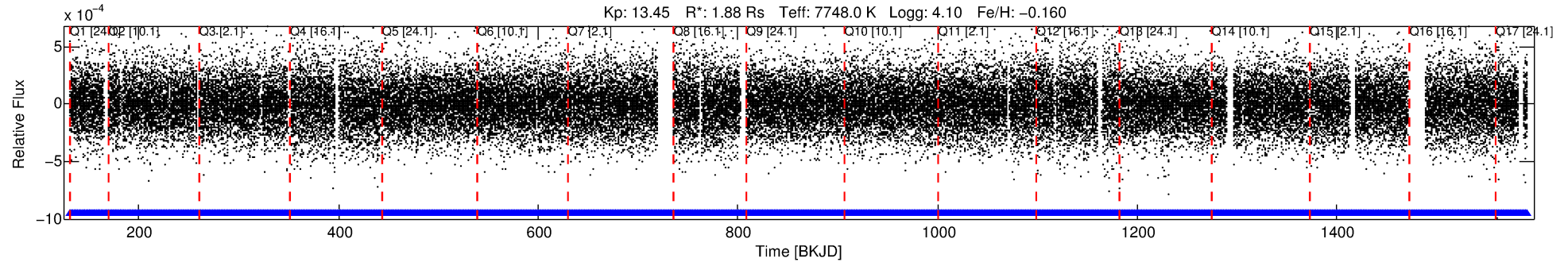
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007989079-01

No Significant Match Found

DV One-Page Summary

KIC: 7989079 Candidate: 1 of 2 Period: 0.630 d



DV Fit Results:

Period = 0.62956 [0.00002] d
Epoch = 131.5983 [0.0083] BKJD
Rp/R* = 0.0030 [0.0018]
a/R* = 1.14 [0.91]
b = 0.77 [1.84]
Seff = 40147.38 [13841.88]
Teq = 3609 [311] K
Rp = 0.62 [0.40] Re
a = 0.0169 [0.0037] AU
Ag = 7.35 [9.13] [0.70σ]
Teffp = 9190 [2789] K [1.99σ]

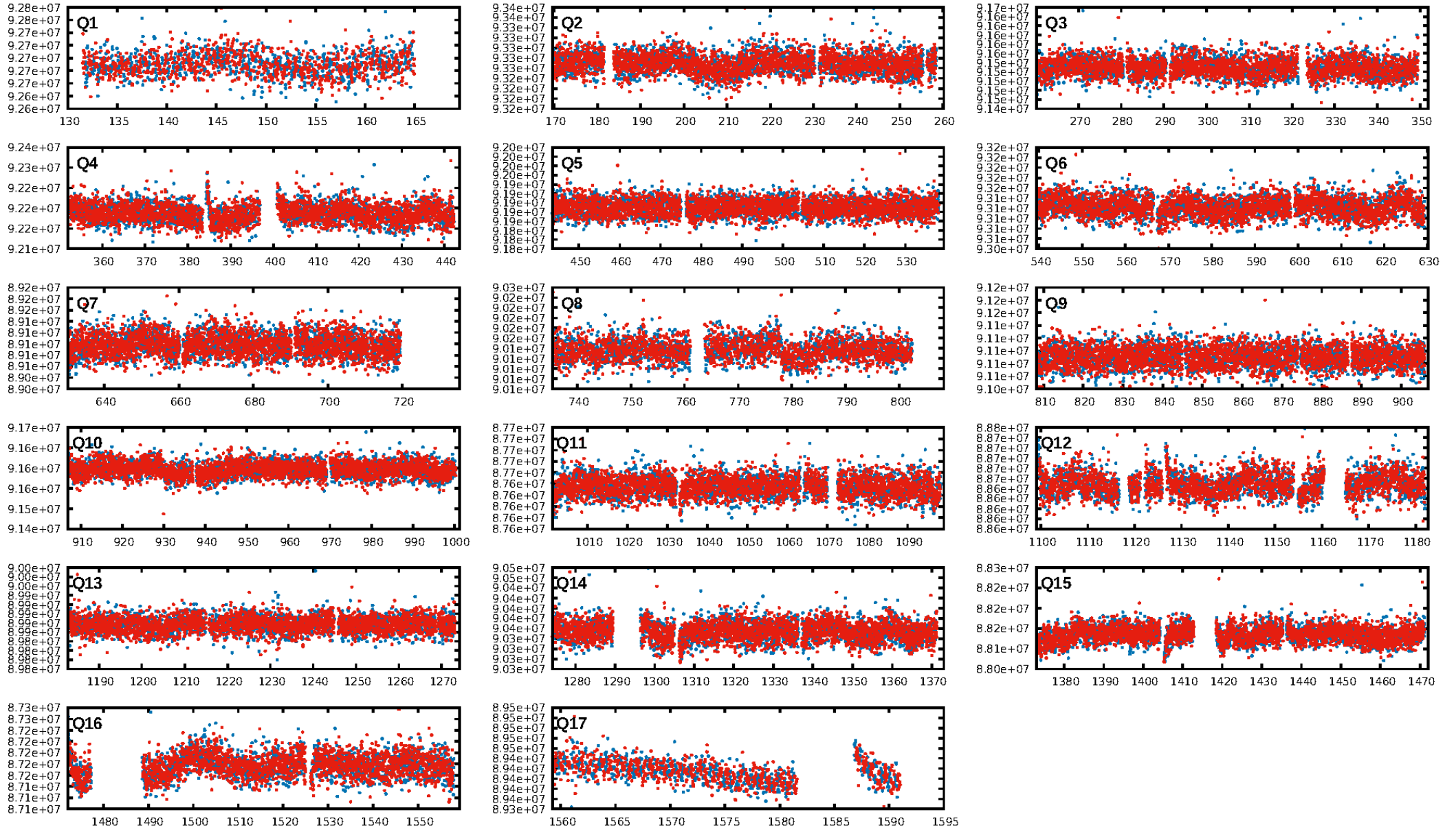
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [150.09σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.11e-11
RollingBand-fgt: 1.00 [2037/2037]
GhostDiagnostic-chr: -4.211
Centroid-sig: 92.7%
Centroid-so: 1.132 arcsec [0.42σ]
OotOffset-rm: 2.667 arcsec [2.00σ]
KicOffset-rm: 2.727 arcsec [1.90σ]
OotOffset-st: 2/1/4/2 [9]
KicOffset-st: 2/1/4/2 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 1.00 [17/17]

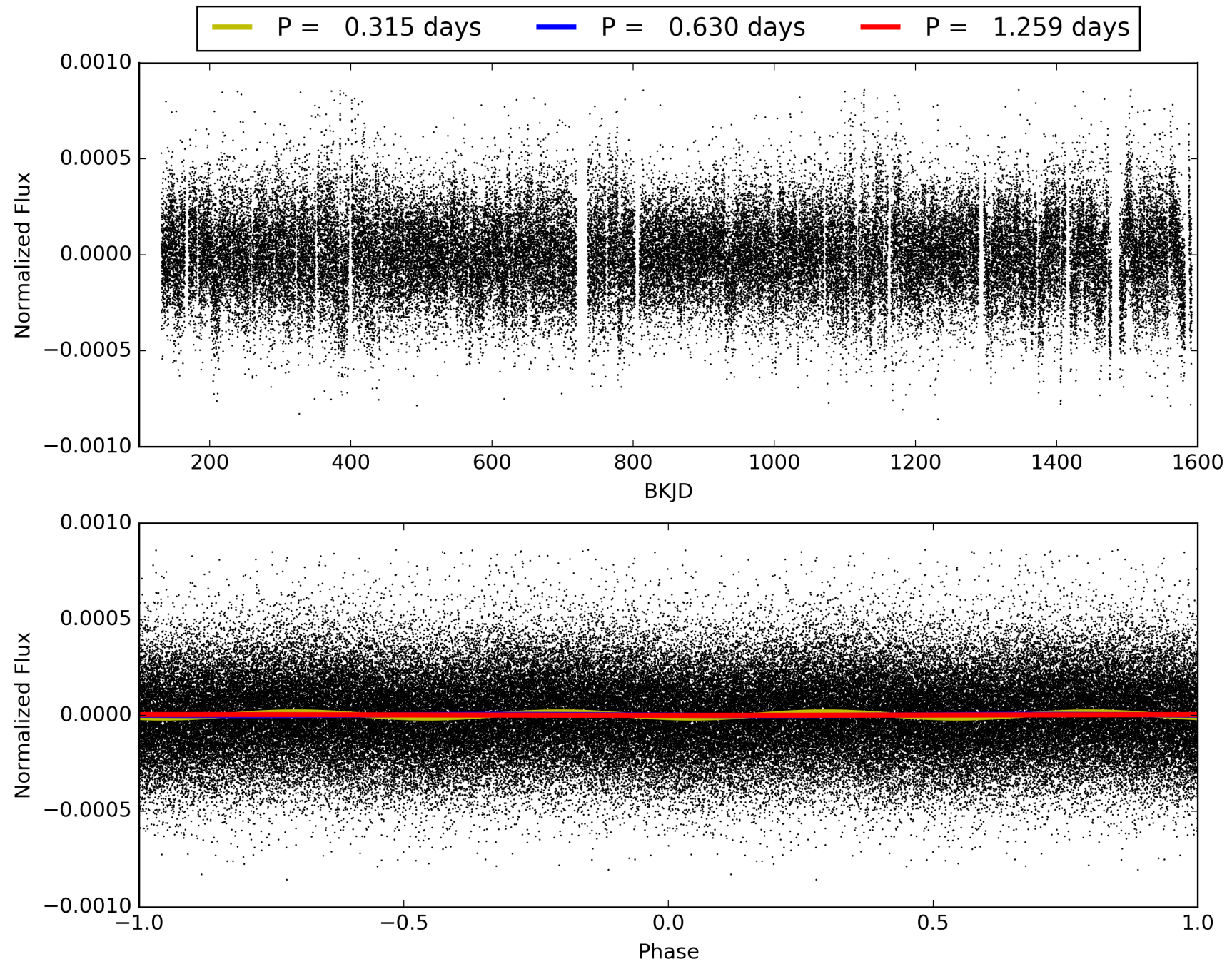
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:16:36 Z

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

TCE 007989079-01, PDC Light Curves

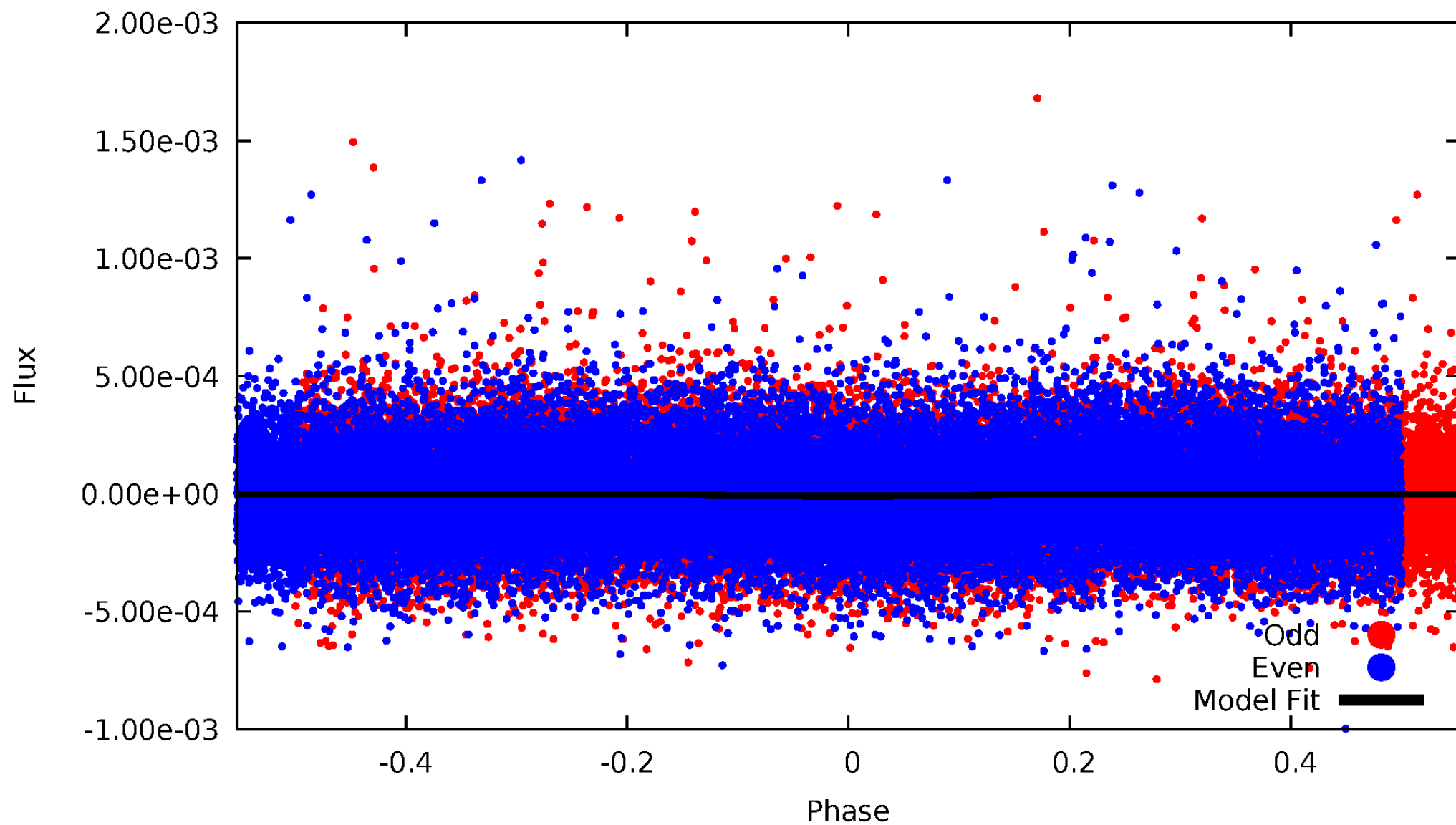


TCE 007989079-01



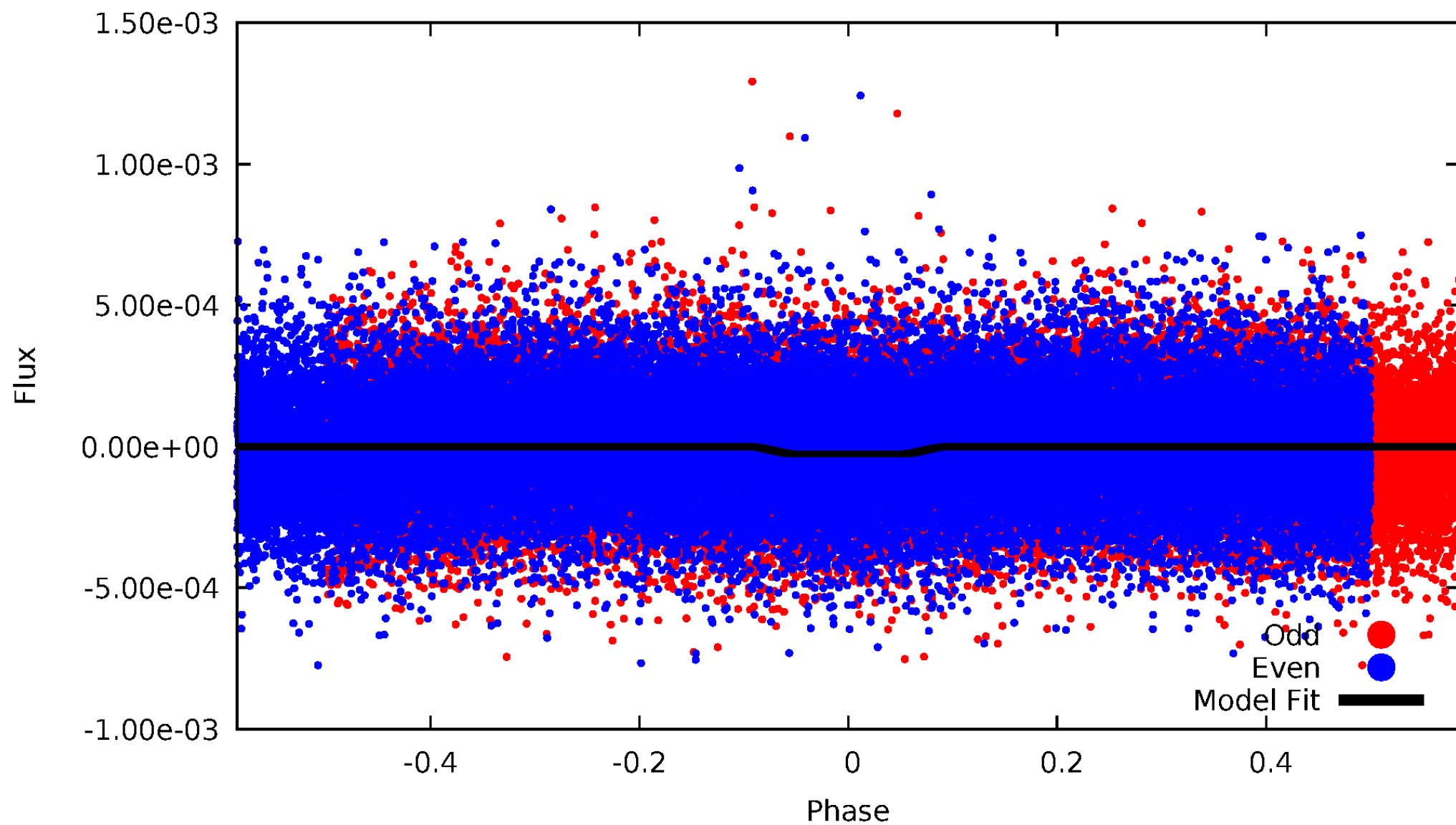
DV Odd/Even

TCE 007989079-01



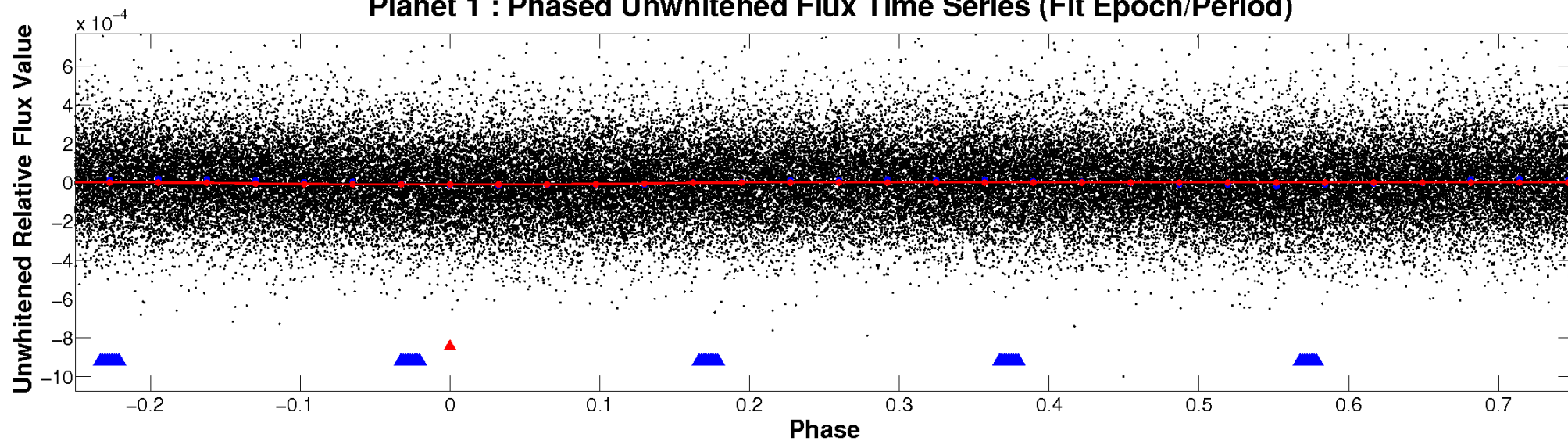
ALT Odd/Even

TCE 007989079-01

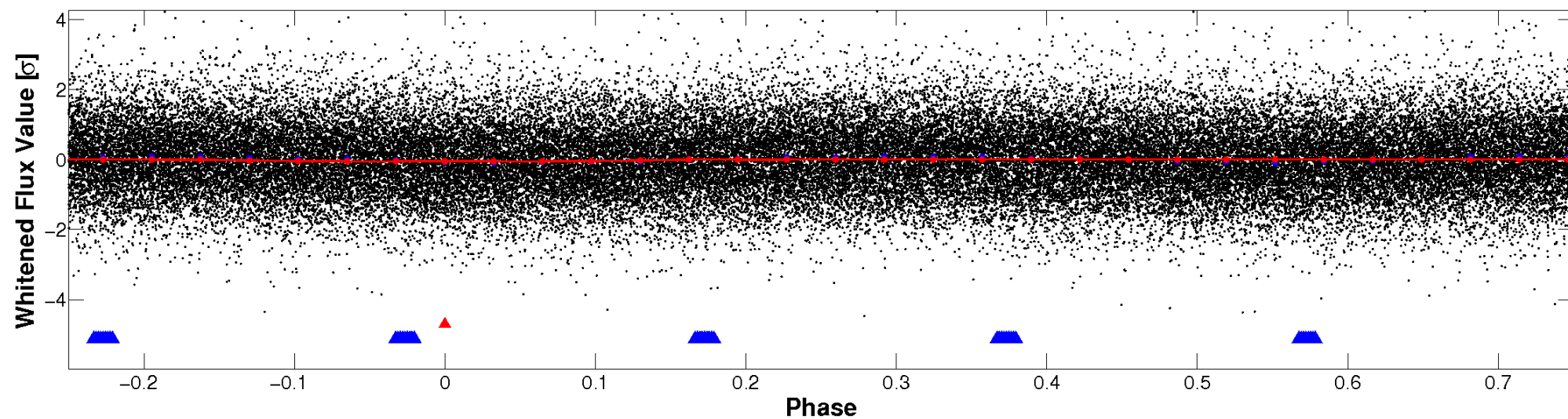


Non-Whitened Vs. Whitened Light Curve

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

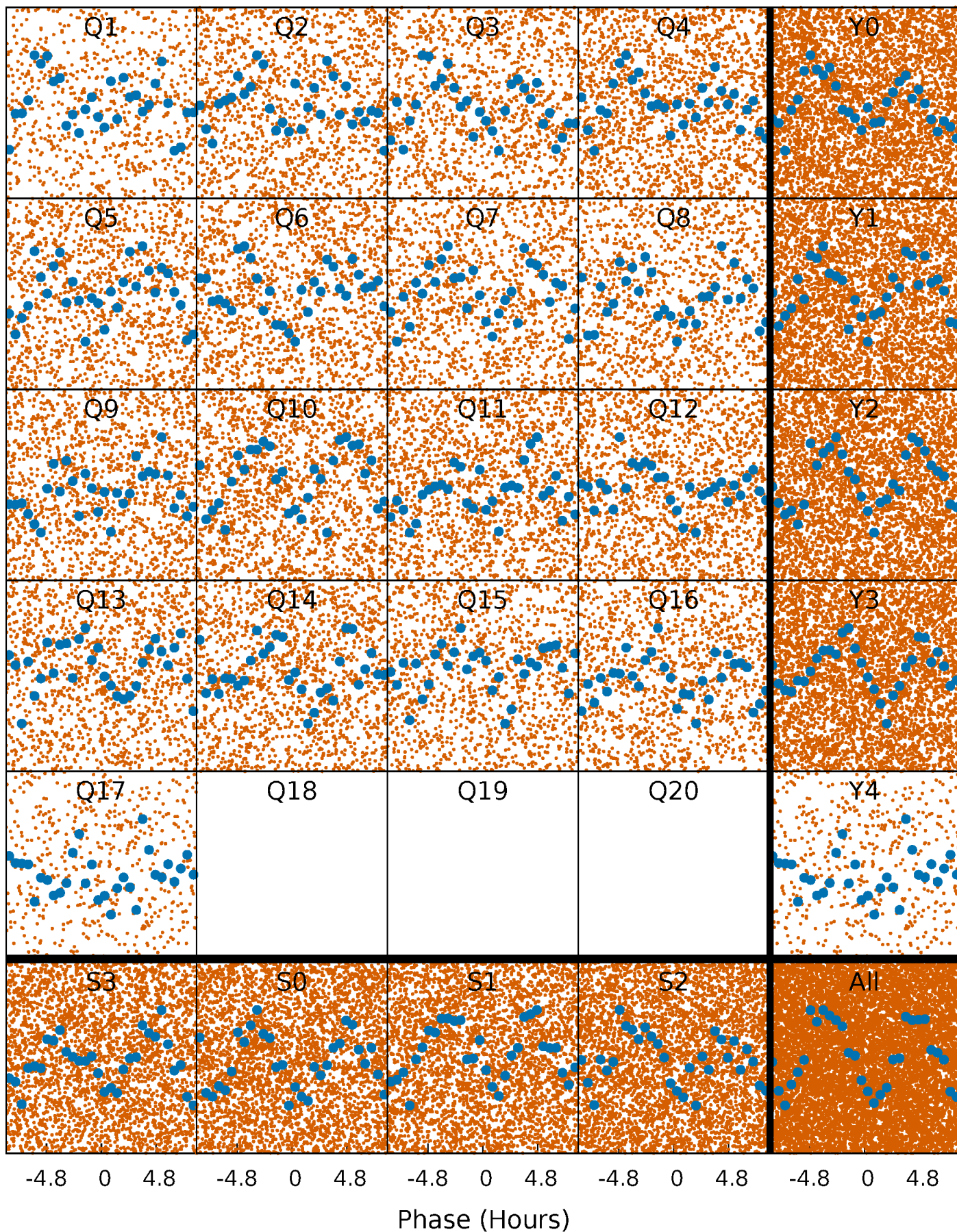


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



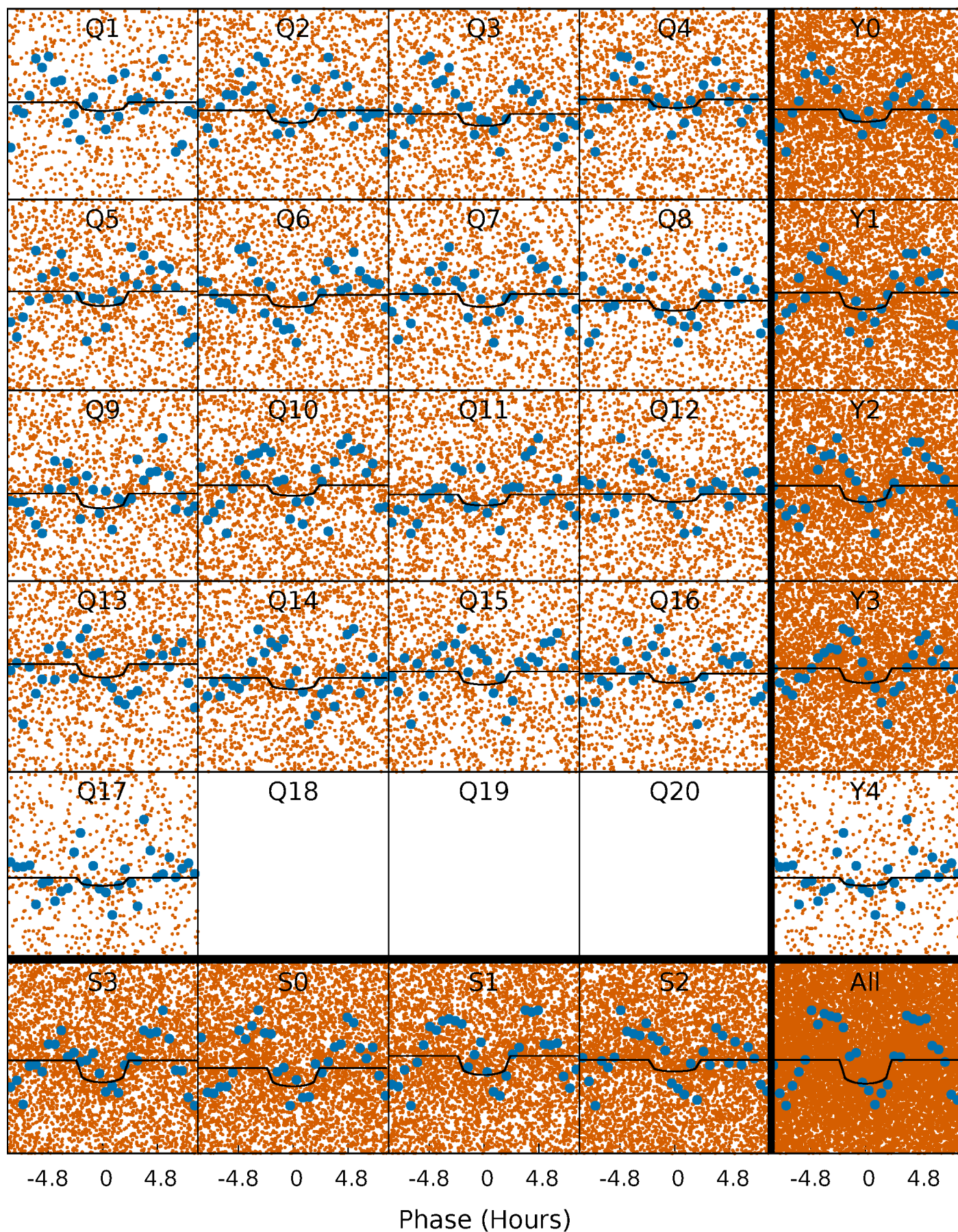
PDC Quarter-Phased Transit Curves

TCE 007989079-01 P= 0.629560 Days $T_0=131.598323$ (BKJD)



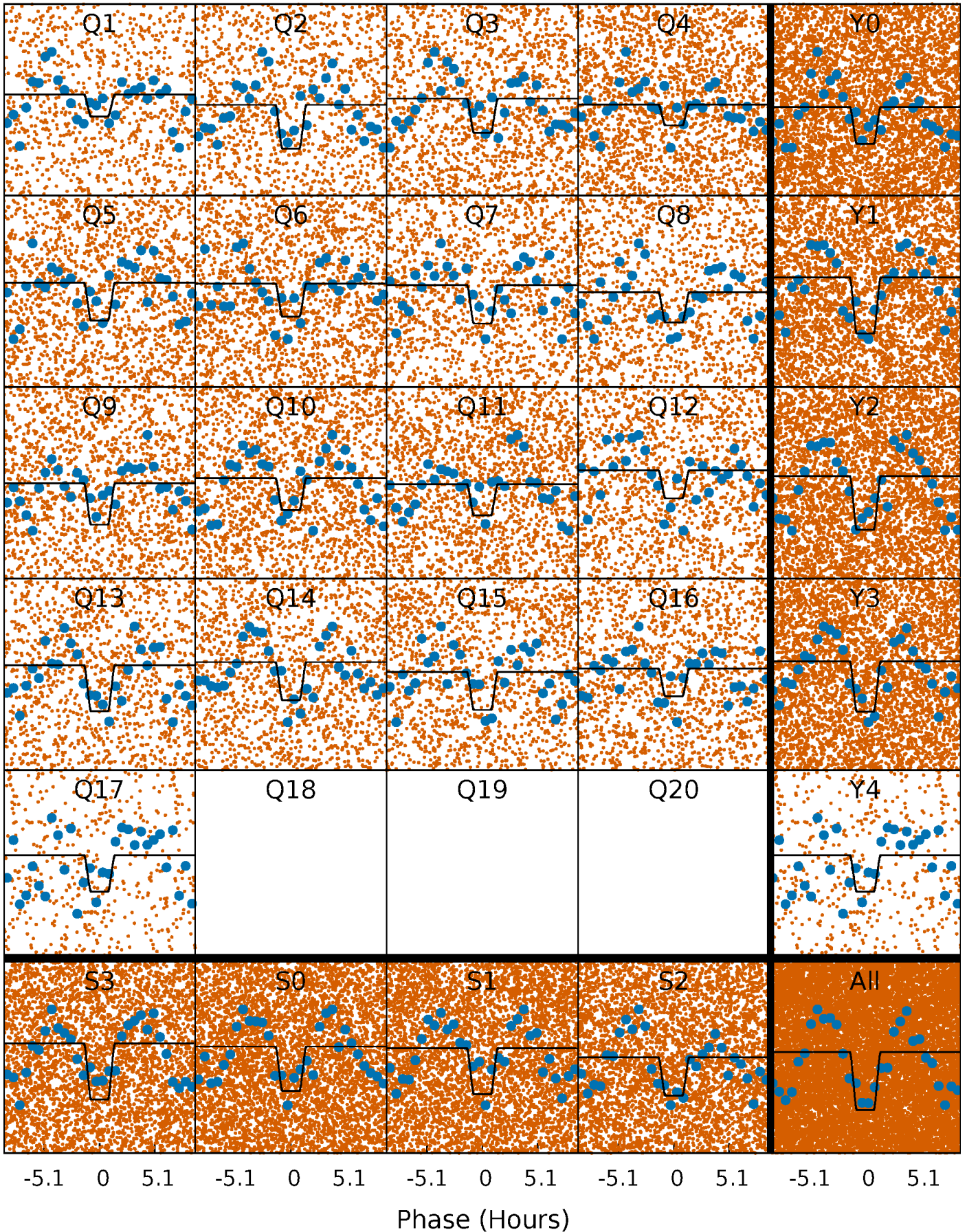
DV Quarter-Phased Transit Curves

TCE 007989079-01 P= 0.629560 Days $T_0=131.598323$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

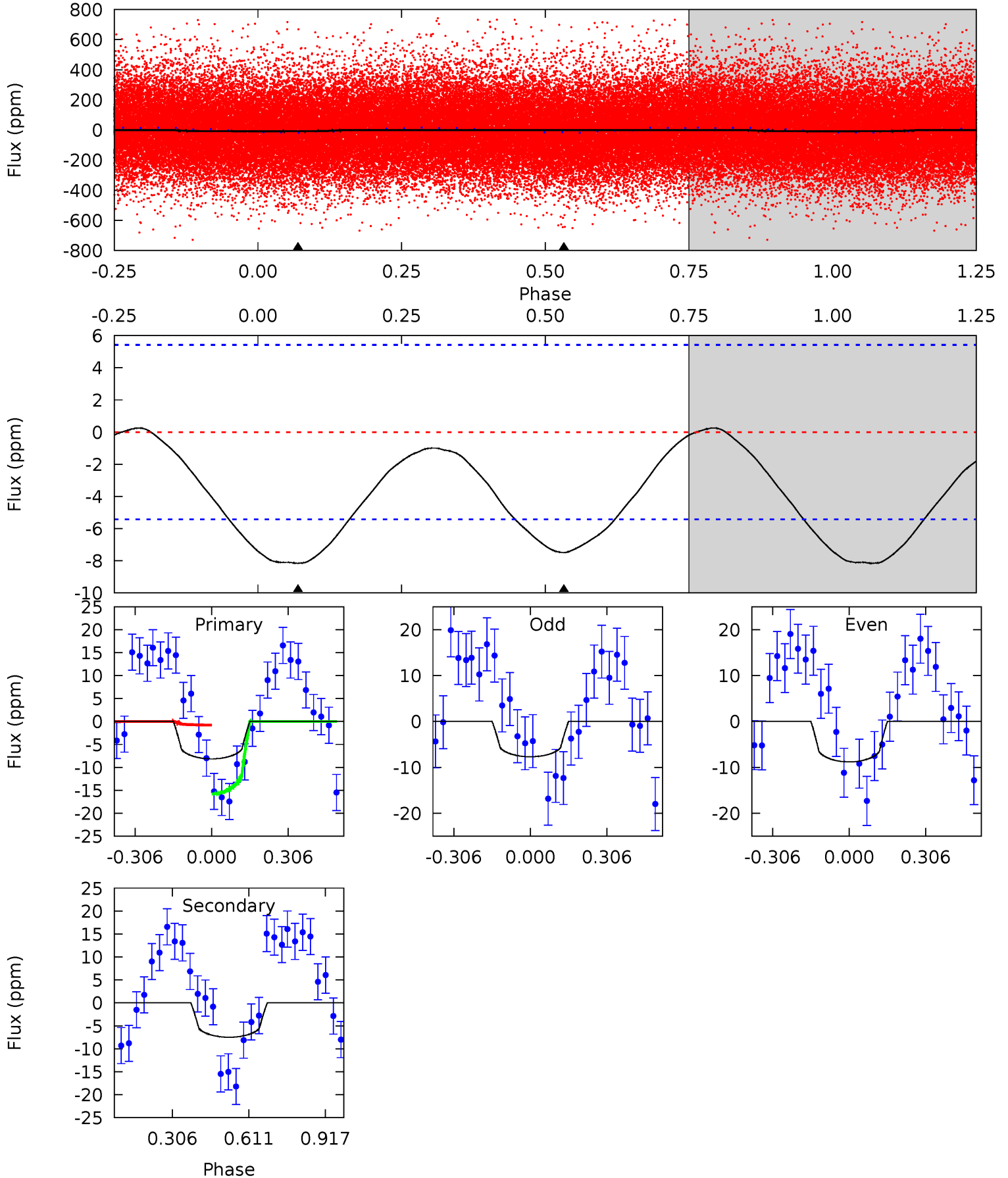
TCE 007989079-01 P= 0.629604 Days $T_0=131.579027$ (BKJD)



DV Model-Shift Uniqueness Test

007989079-01, P = 0.629560 Days, E = 130.968763 Days

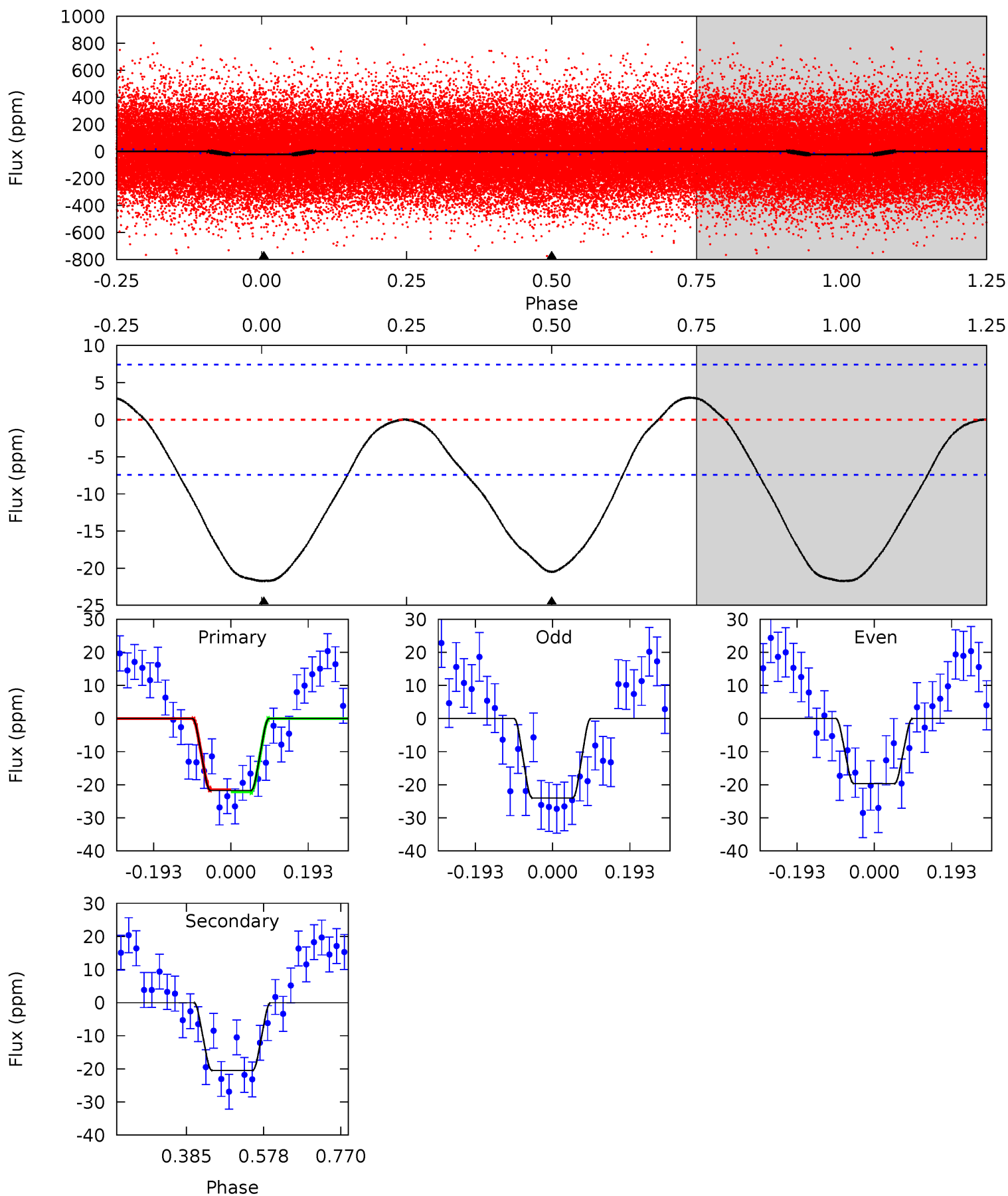
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.51	5.97	0	0	4.32	1.02	0.35	6.51	6.51	5.97	5.97	0.44	1.15	0.03	5.96



Alt Model-Shift Uniqueness Test

007989079-01, P = 0.629604 Days, E = 130.949423 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	12.2	0	0	4.43	1.30	0.95	13.0	13.0	12.2	12.2	1.29	0.93	0.12	0.21



Stellar Parameters For KIC 007989079

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7748^{+237}_{-316}	$4.098^{+0.160}_{-0.160}$	$-0.160^{+0.200}_{-0.350}$	$1.884^{+0.505}_{-0.413}$	$1.622^{+0.210}_{-0.233}$	$0.341^{+0.287}_{-0.156}$
	+3%/-4%	+4%/-4%	+125%/-219%	+27%/-22%	+13%/-14%	+84%/-46%
Source	KIC0	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 007989079-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 1	$0.64^{+0.39}_{-0.35}$	5037^{+344}_{-356}	6957^{+5110}_{-1768}	$2.926^{+10.844}_{-1.837}$
Alt.	-21 ± 2	$1.05^{+0.39}_{-0.38}$	5024^{+369}_{-353}	6959^{+2267}_{-1104}	$2.888^{+3.980}_{-1.336}$

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

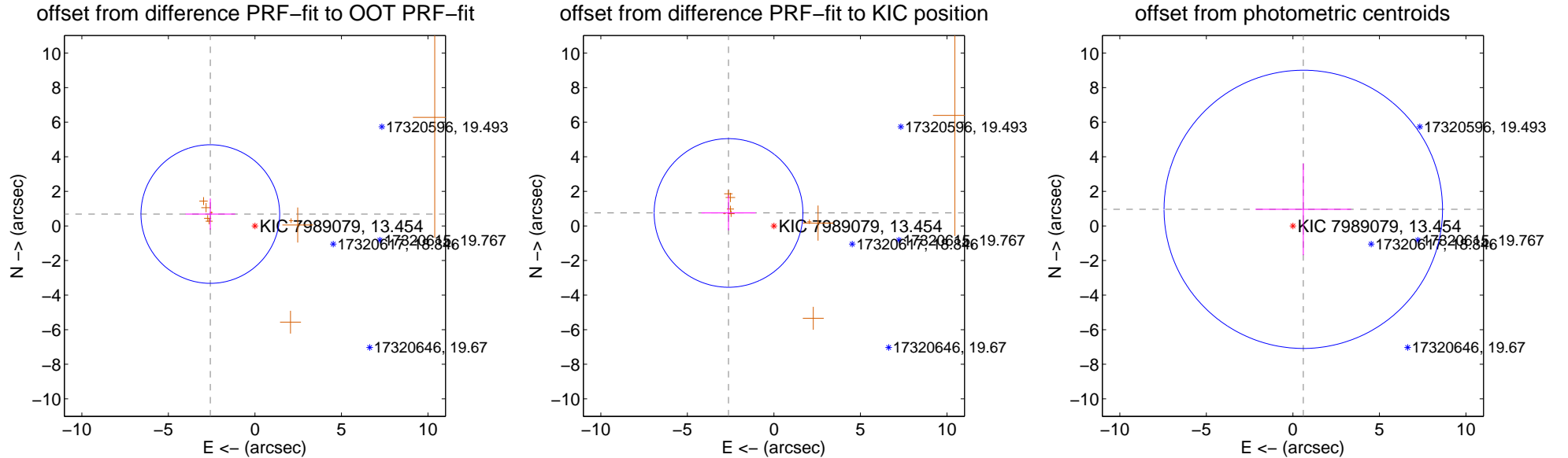
DV Centroid Data

Supplemental centroid analysis for 007989079-01. Kepler magnitude: 13.45. Transit SNR 5.13

There are 0 quarters with good PRF difference image offsets

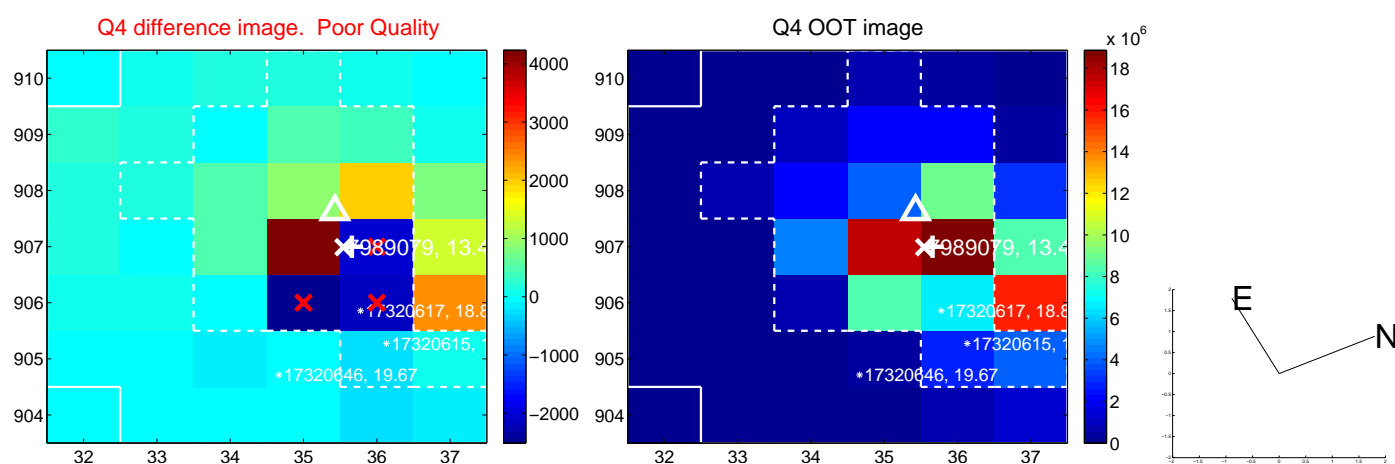
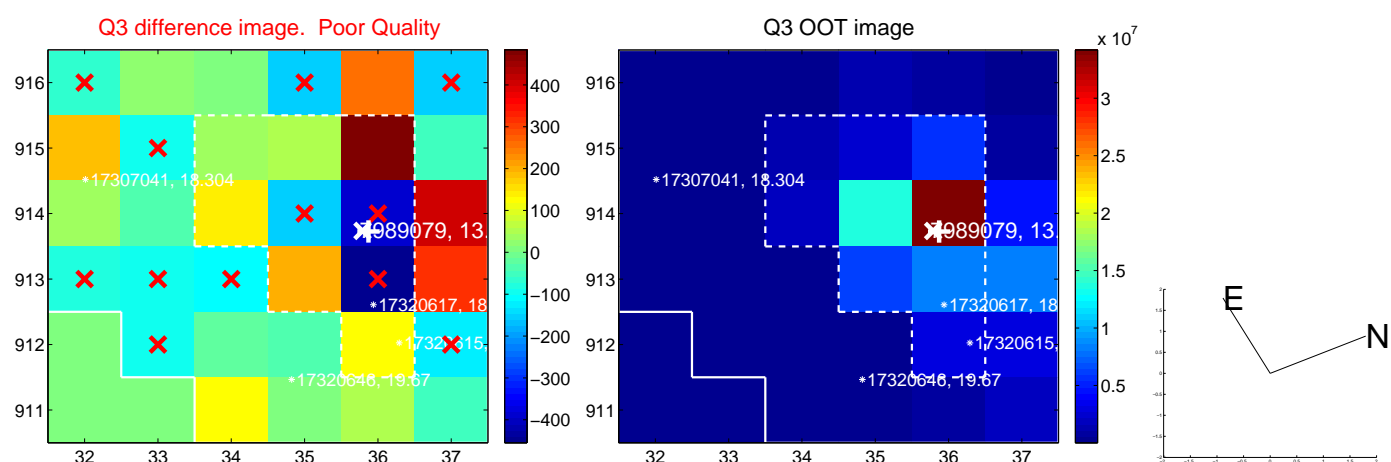
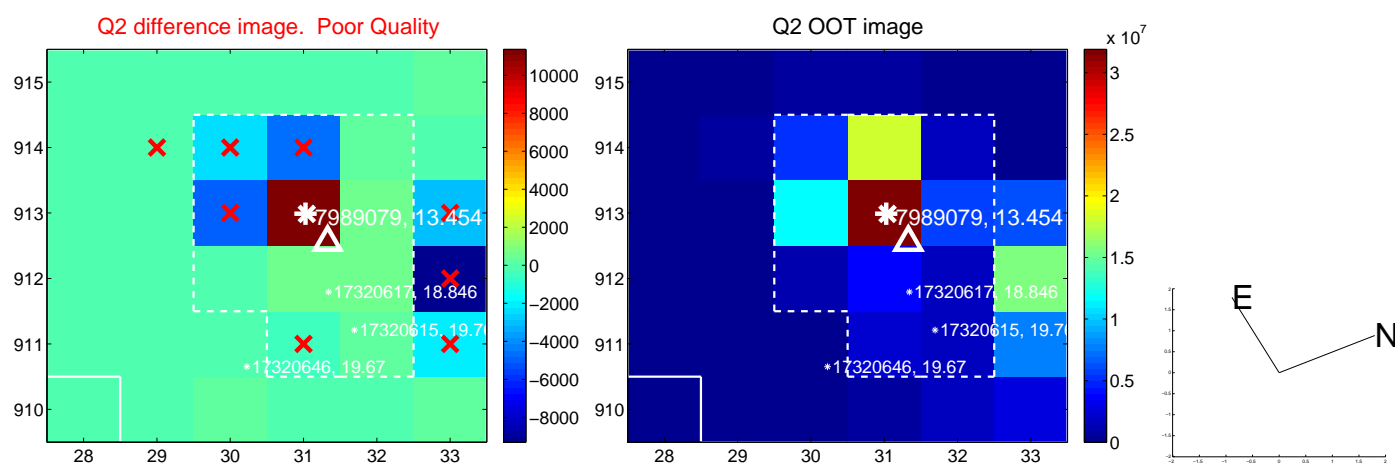
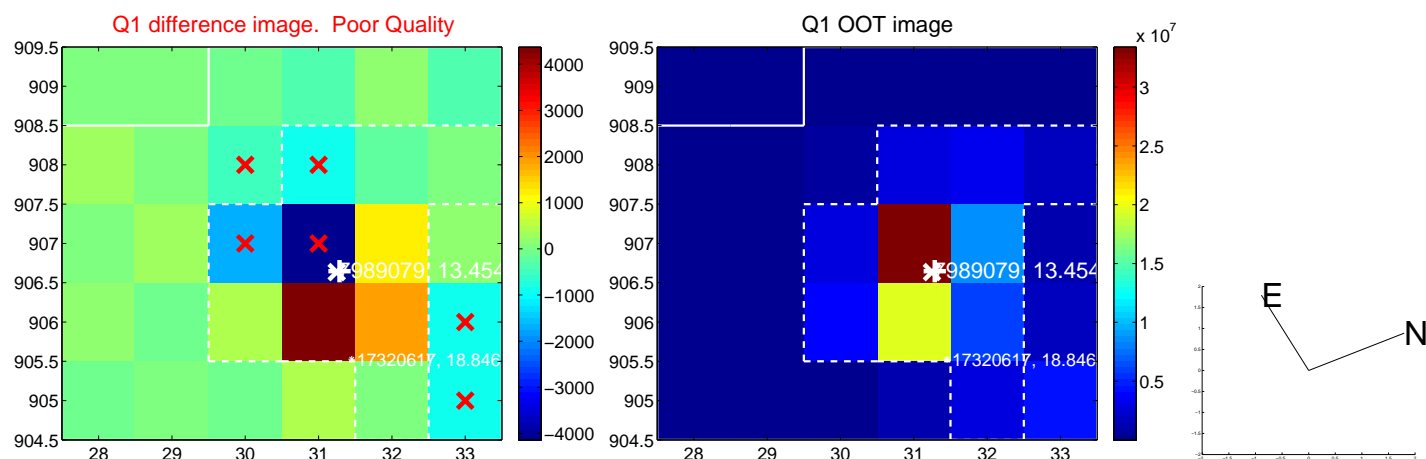
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.667 ± 1.336	2.00	2.577 ± 1.432	0.687 ± 0.902
PRF-fit source offset from KIC position	2.727 ± 1.432	1.90	2.622 ± 1.561	0.751 ± 1.011
photometric centroid source offset	1.13 ± 2.68	0.42	-0.60 ± 2.77	0.96 ± 2.65

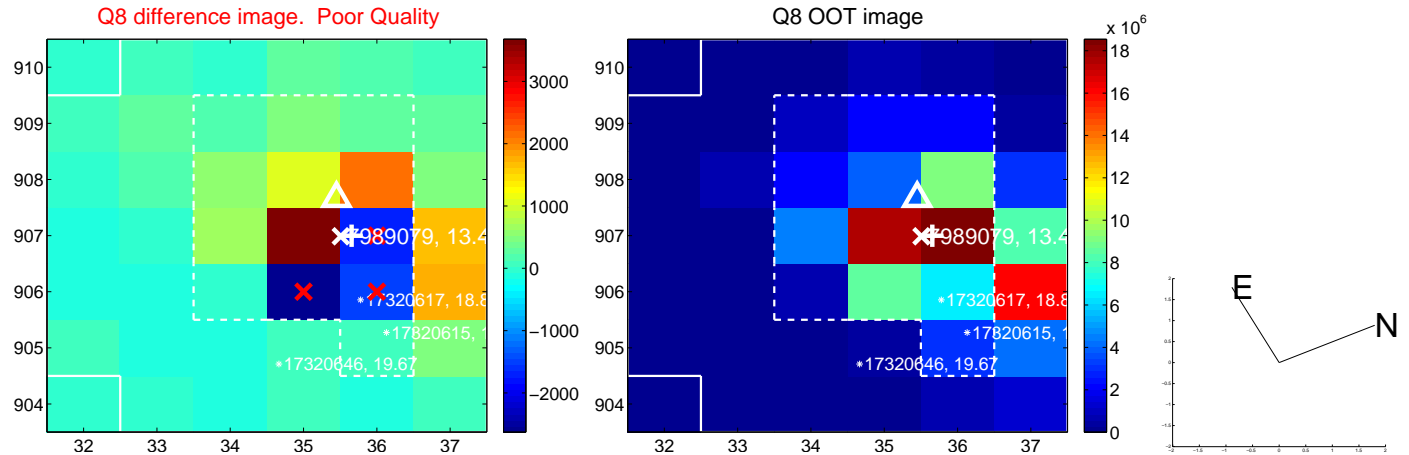
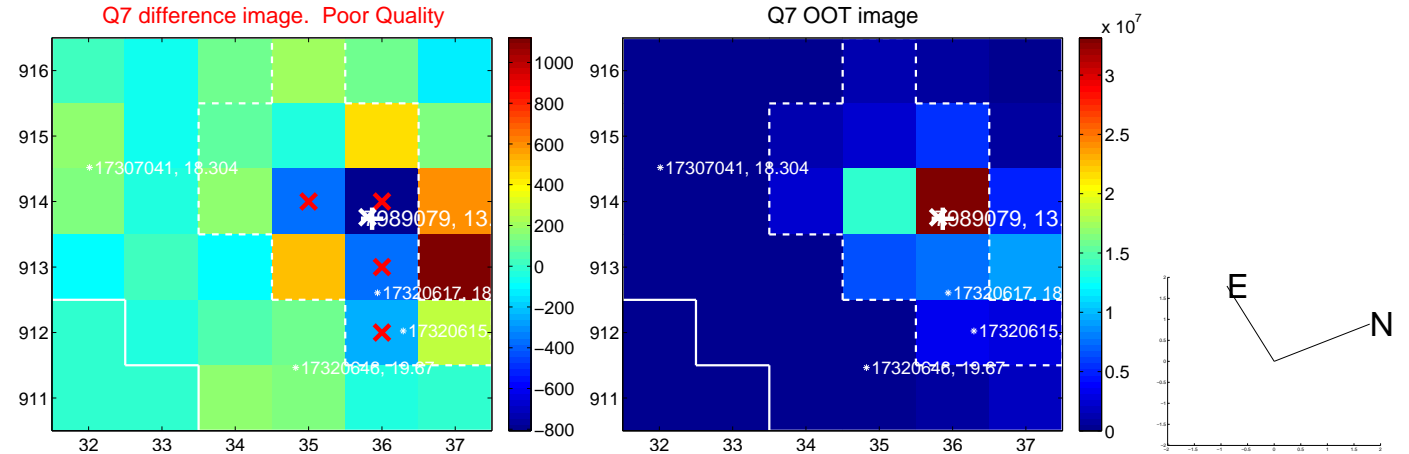
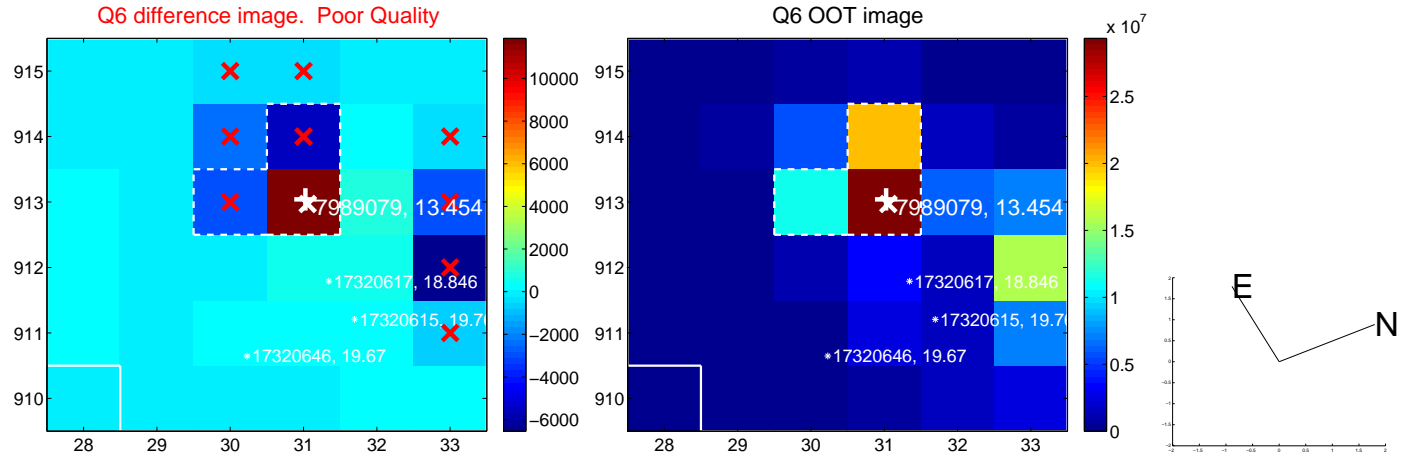
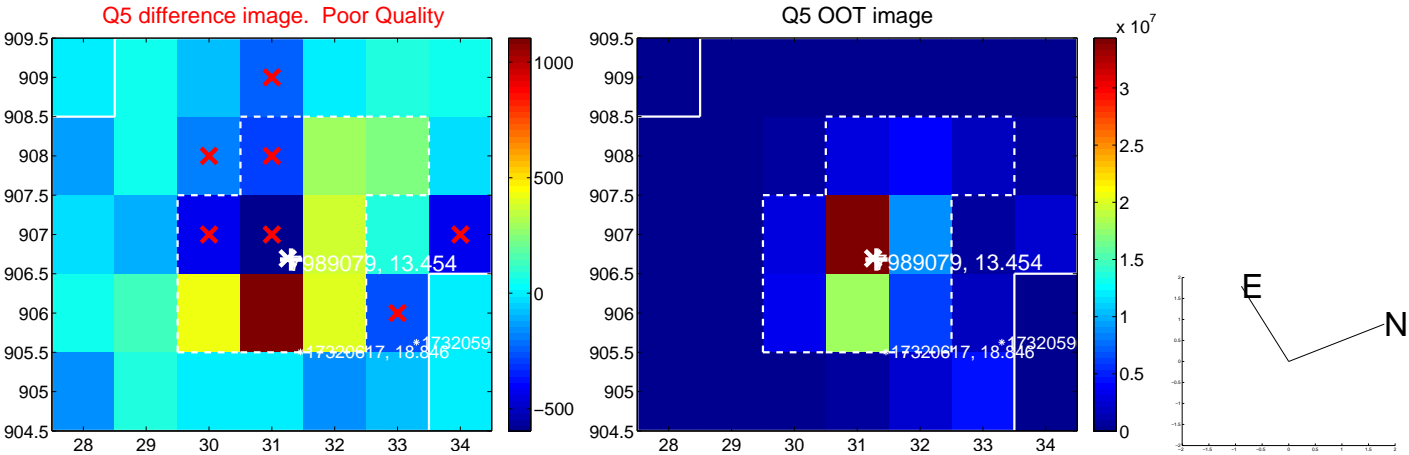


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

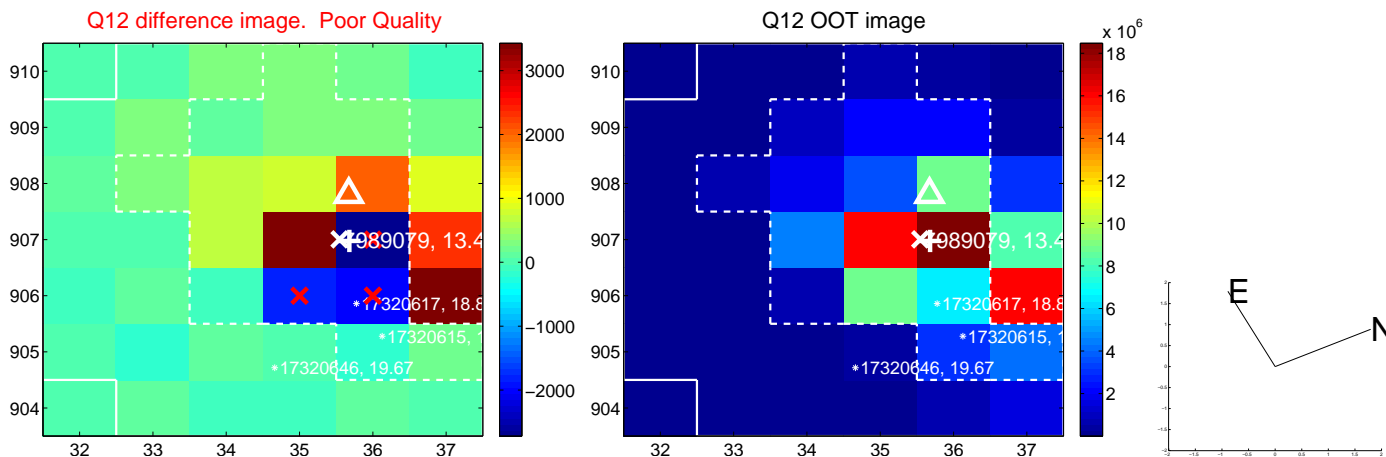
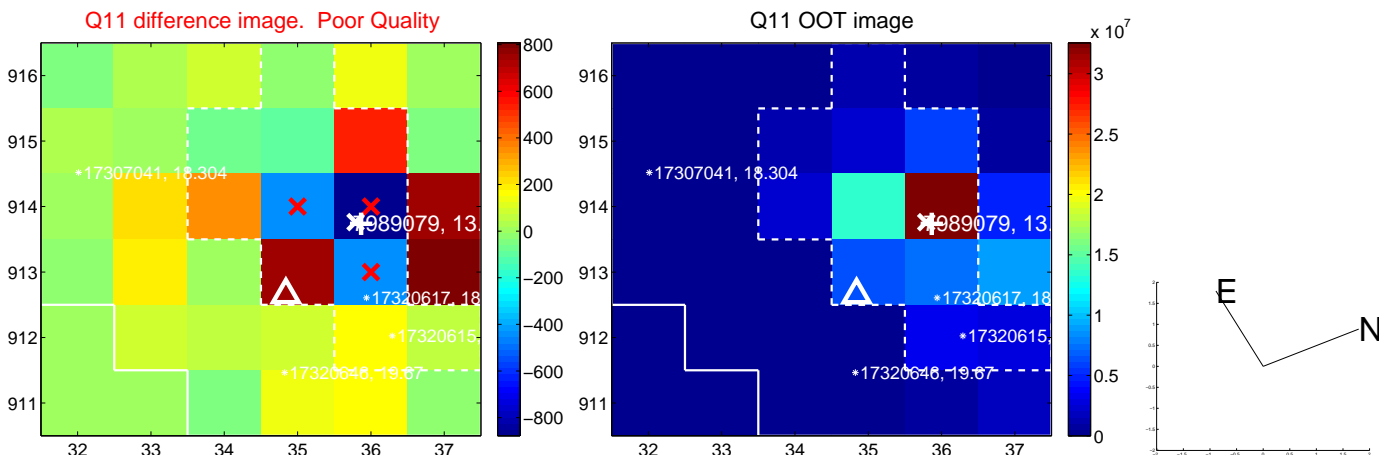
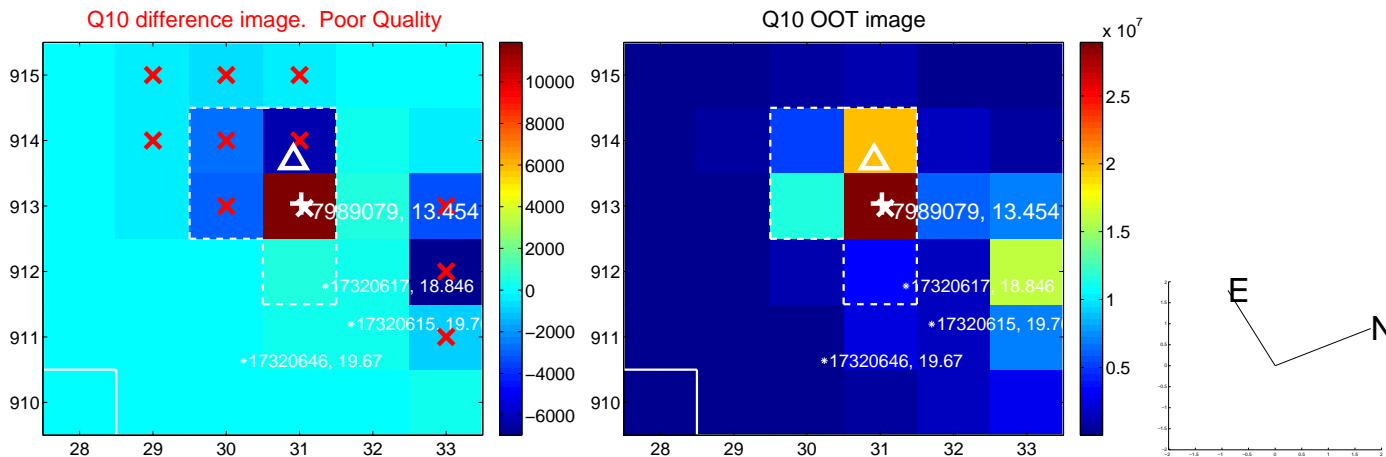
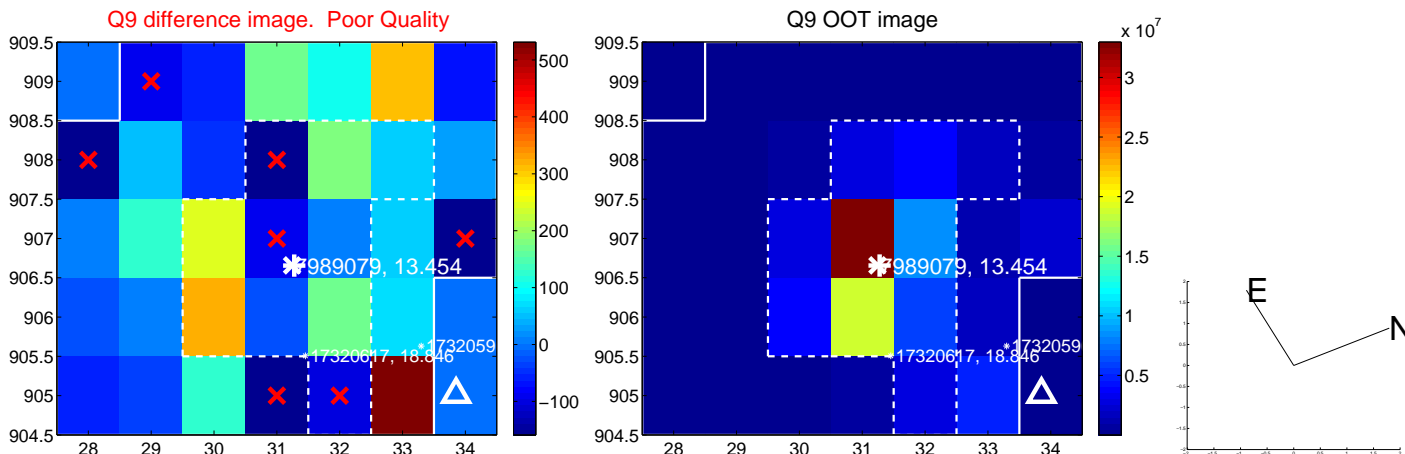
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



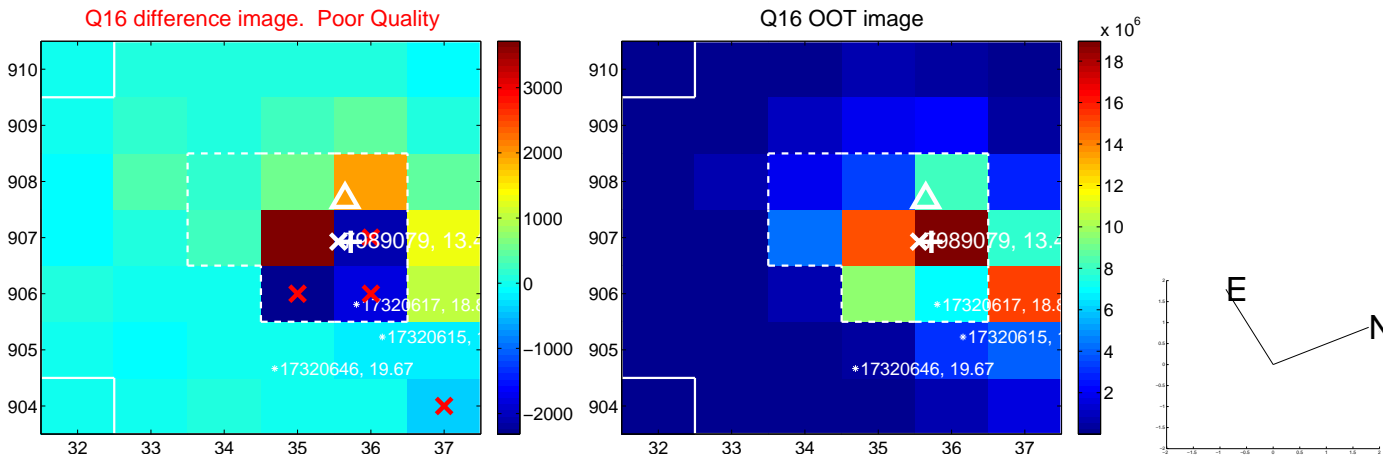
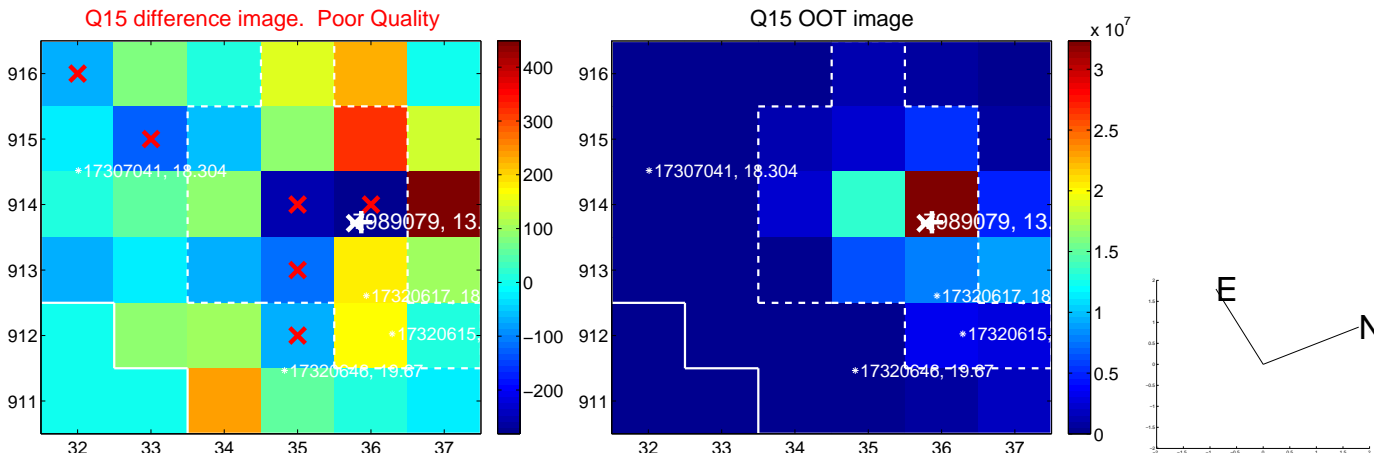
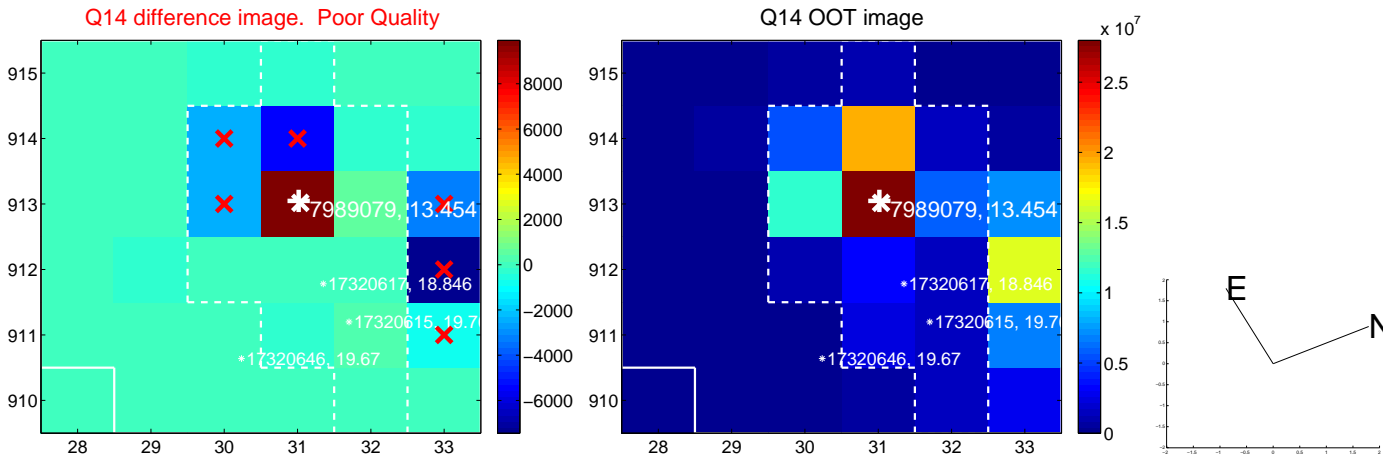
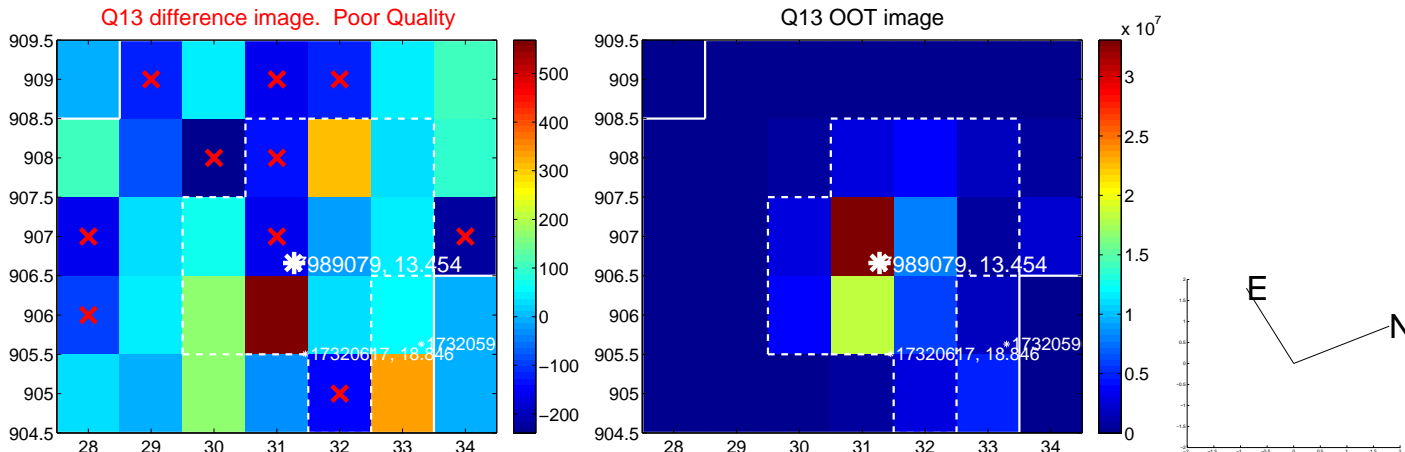
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



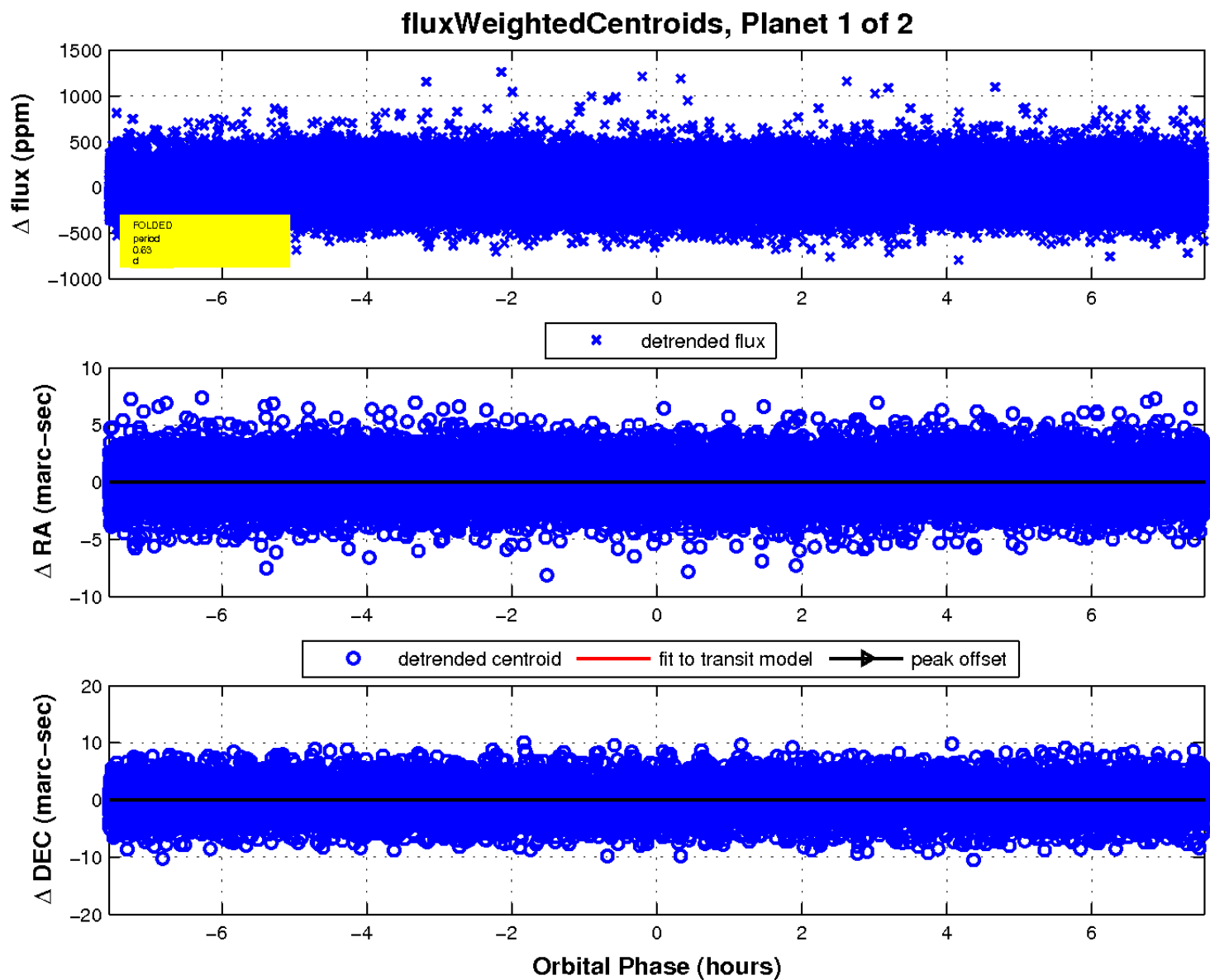
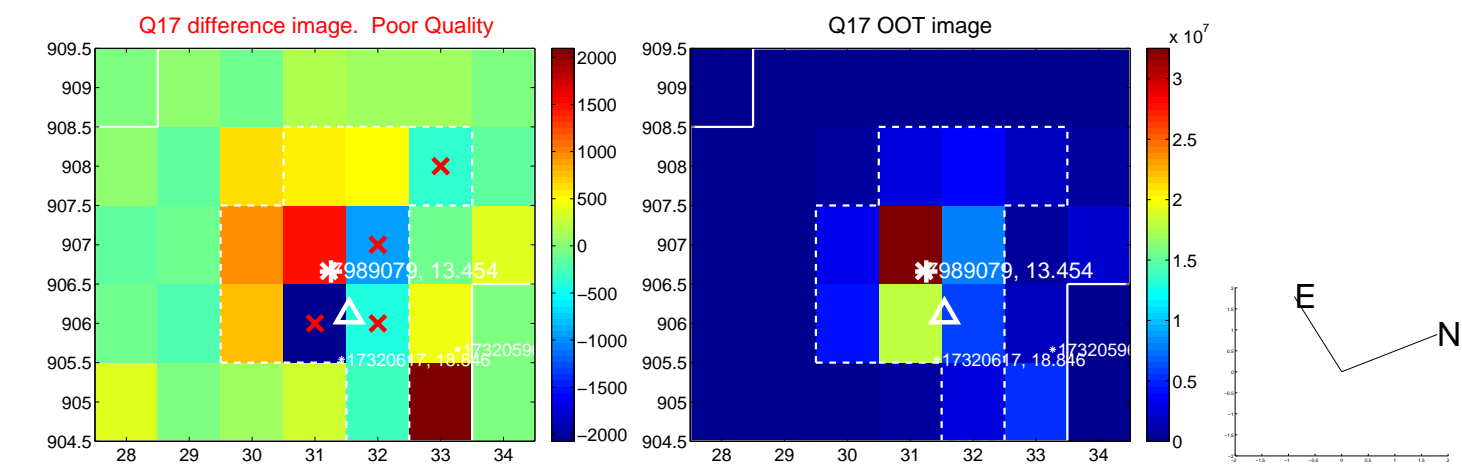
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

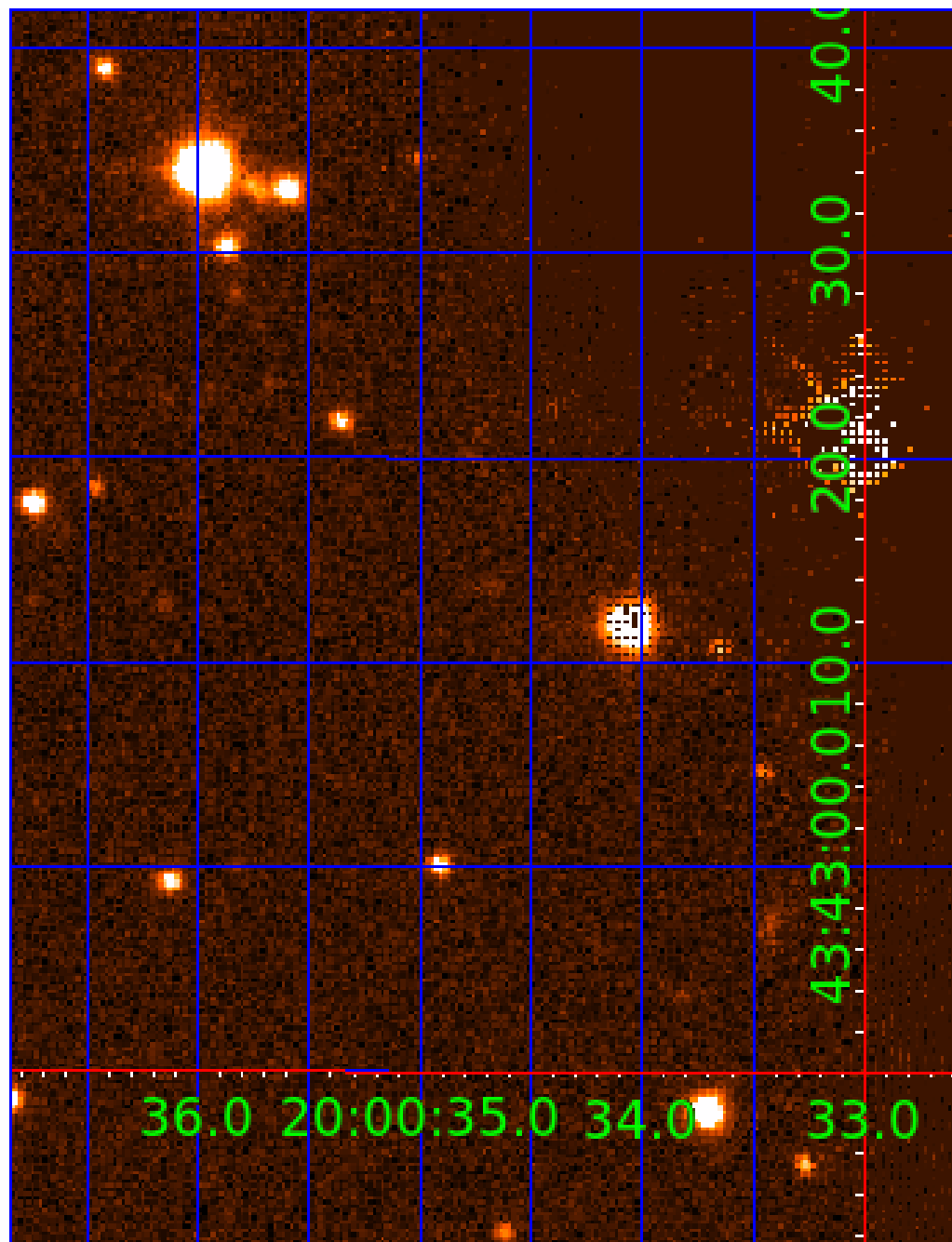


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007989079

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})
007989079-01	OBS	No	0.629560	131.598323	8.9	4.175	8.5	5.1	1.88	7748	0.61	40147.38
007989079-02	OBS	No	32.988750	139.769821	249.4	3.057	9.6	9.7	1.88	7748	3.41	204.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007989079-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
007989079-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

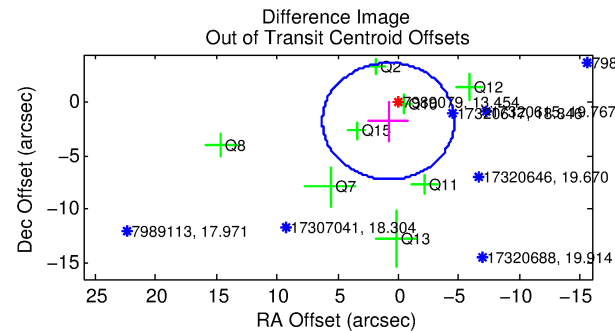
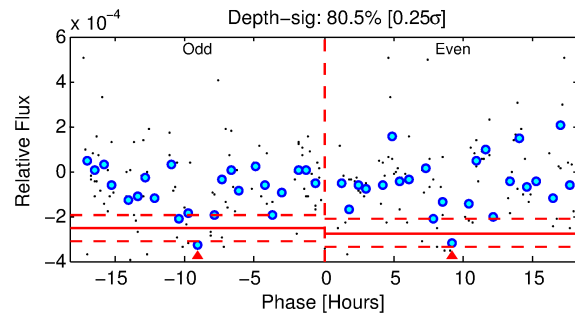
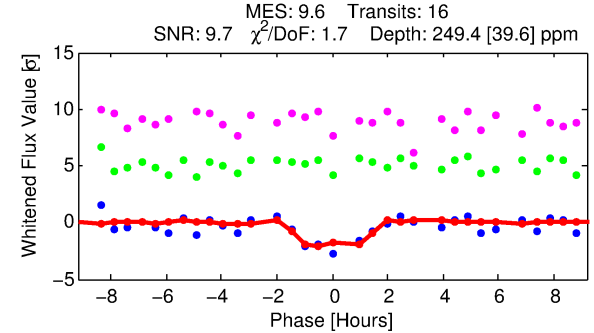
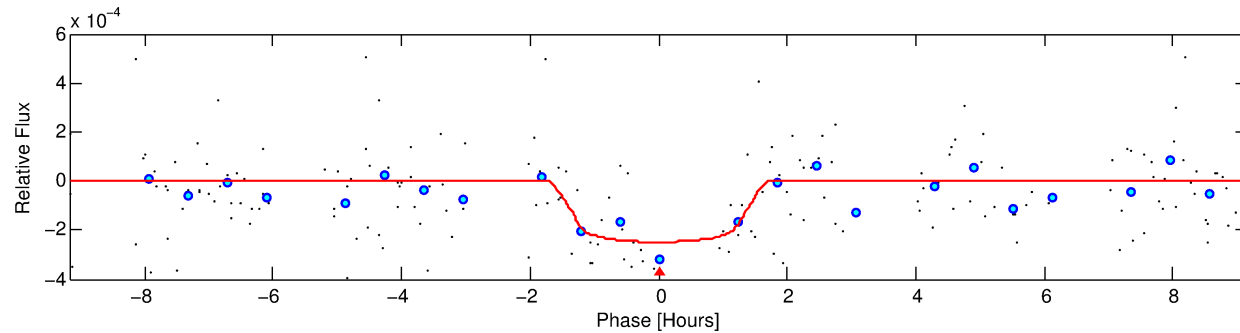
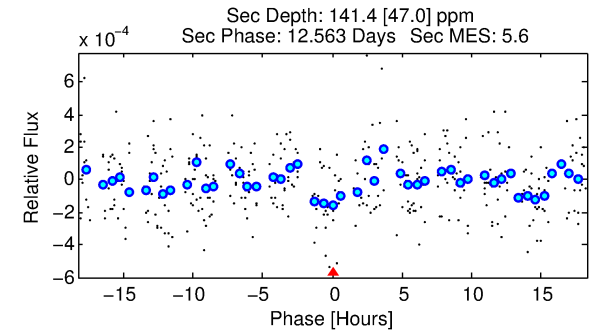
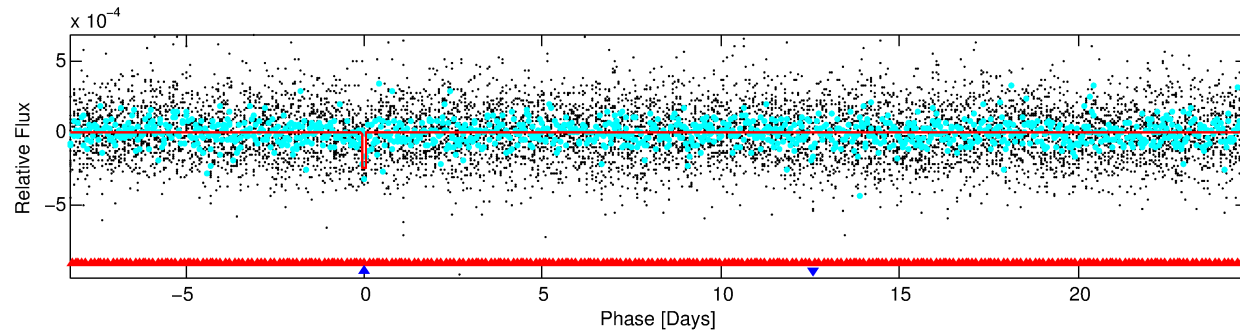
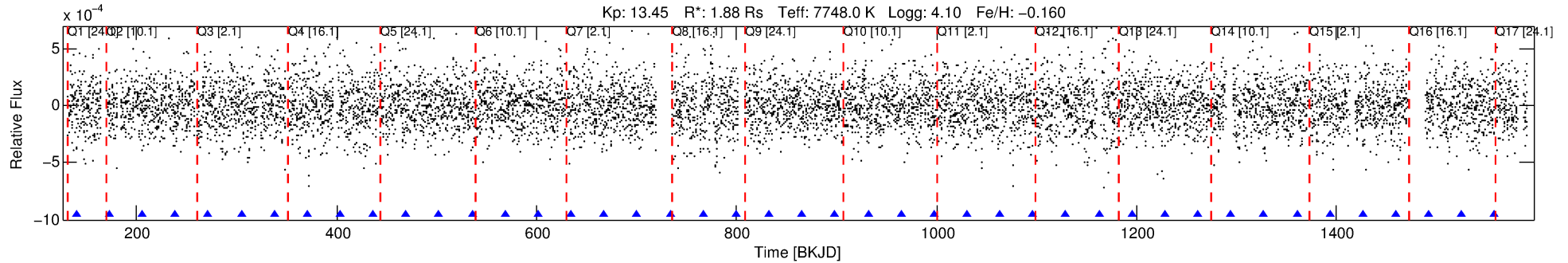
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007989079-02

No Significant Match Found

DV One-Page Summary

KIC: 7989079 Candidate: 2 of 2 Period: 32.989 d



DV Fit Results:

Period = 32.98875 [0.00034] d
Epoch = 139.7698 [0.0078] BKJD
Rp/R* = 0.0166 [0.0128]
a/R* = 42.36 [195.45]
b = 0.88 [1.22]
Seff = 204.75 [70.59]
Teq = 965 [83] K
Rp = 3.41 [2.78] Re
a = 0.2366 [0.0513] AU
Ag = 373.65 [599.47] [0.62σ]
Teffp = 6557 [2596] K [2.15σ]

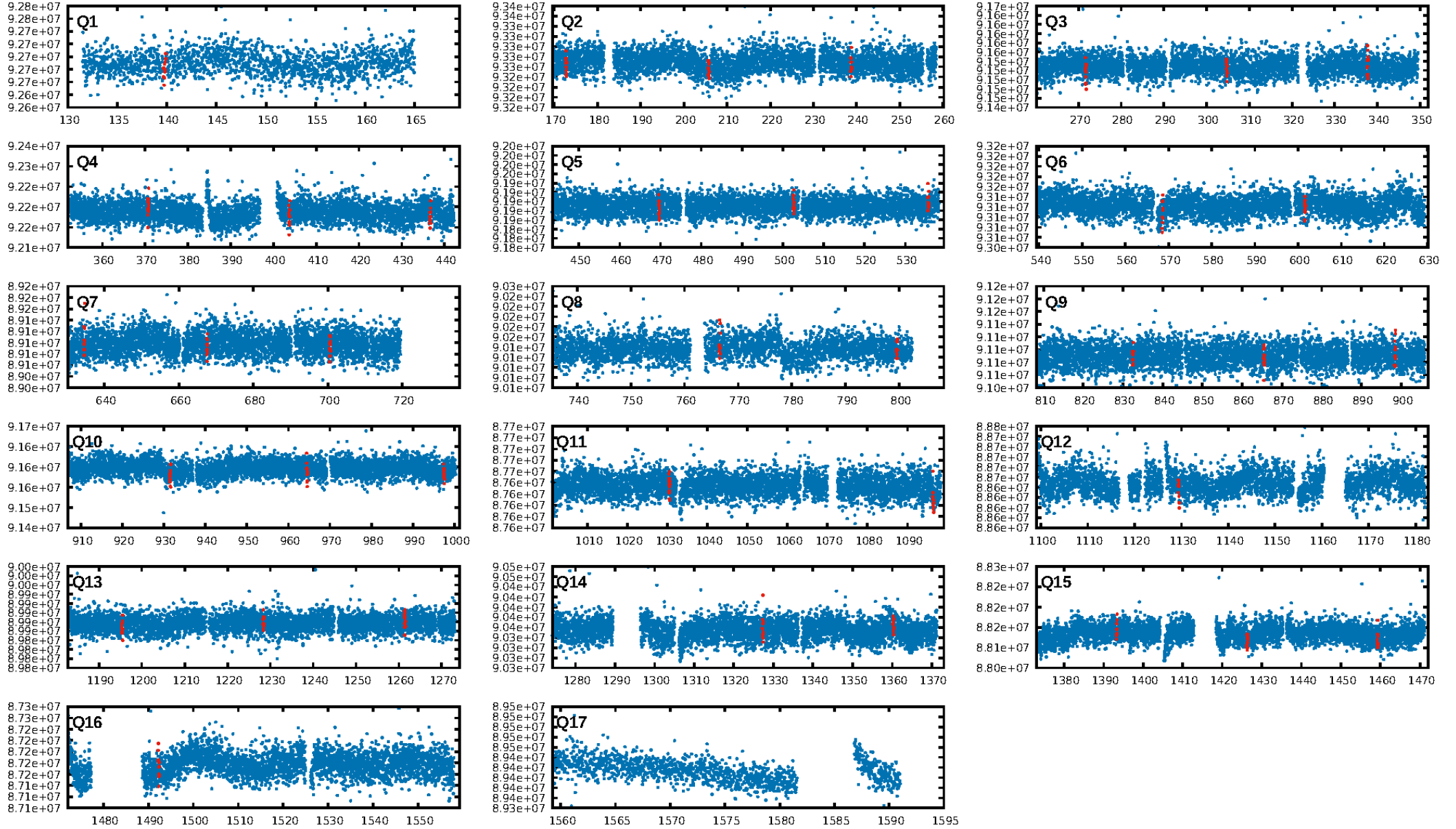
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [150.09σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 30.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.08e-09
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 4.919
Centroid-sig: 0.8%
Centroid-so: 2.184 arcsec [2.44σ]
OotOffset-rm: 1.925 arcsec [1.06σ]
OotOffset-st: 2/3/2/1 [8]
KicOffset-rm: 1.704 arcsec [0.97σ]
KicOffset-st: 2/3/2/1 [8]
DiffImageQuality-fgm: 0.12 [1/8]
DiffImageOverlap-fno: 0.00 [0/16]

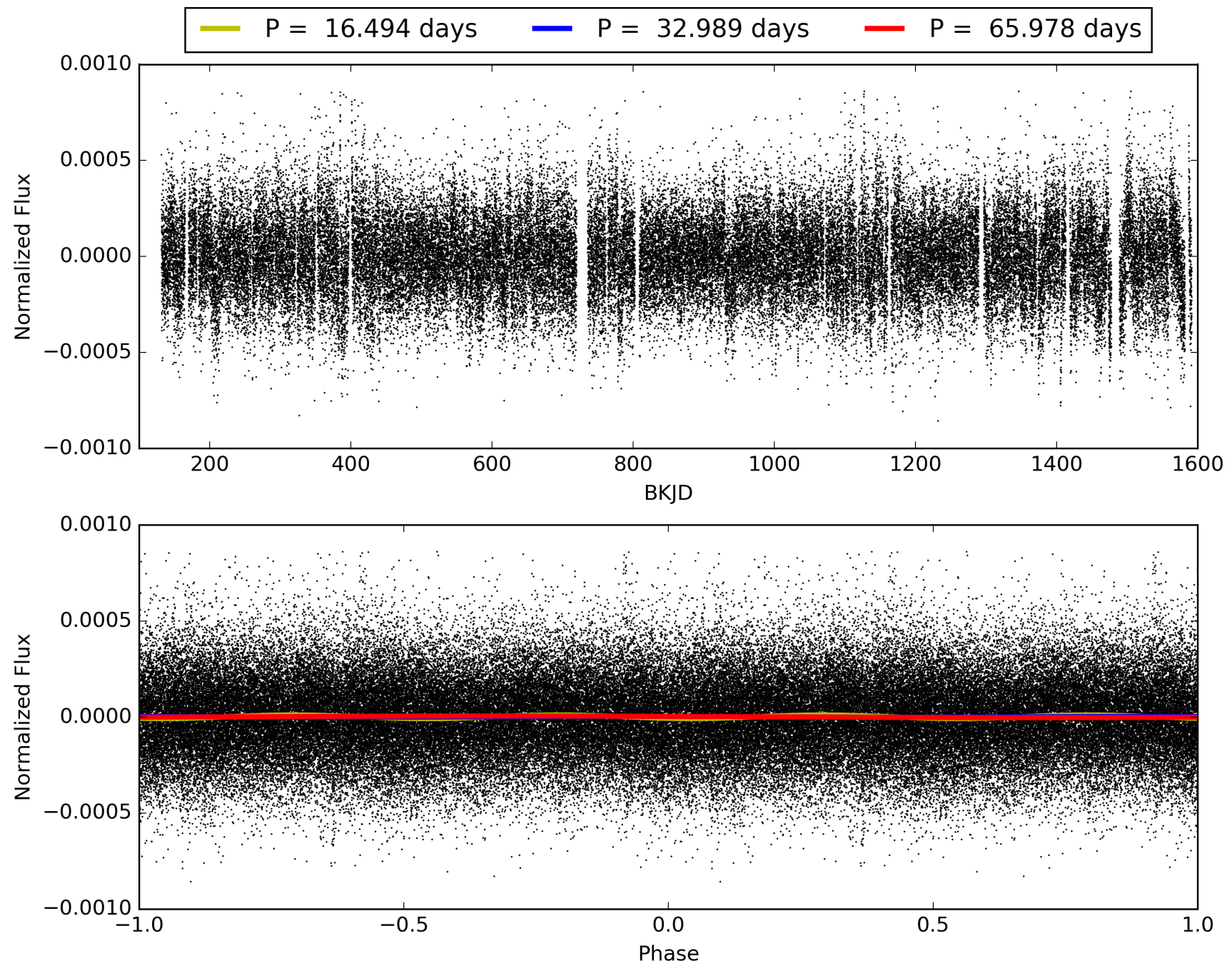
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:16:46 Z

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

TCE 007989079-02, PDC Light Curves

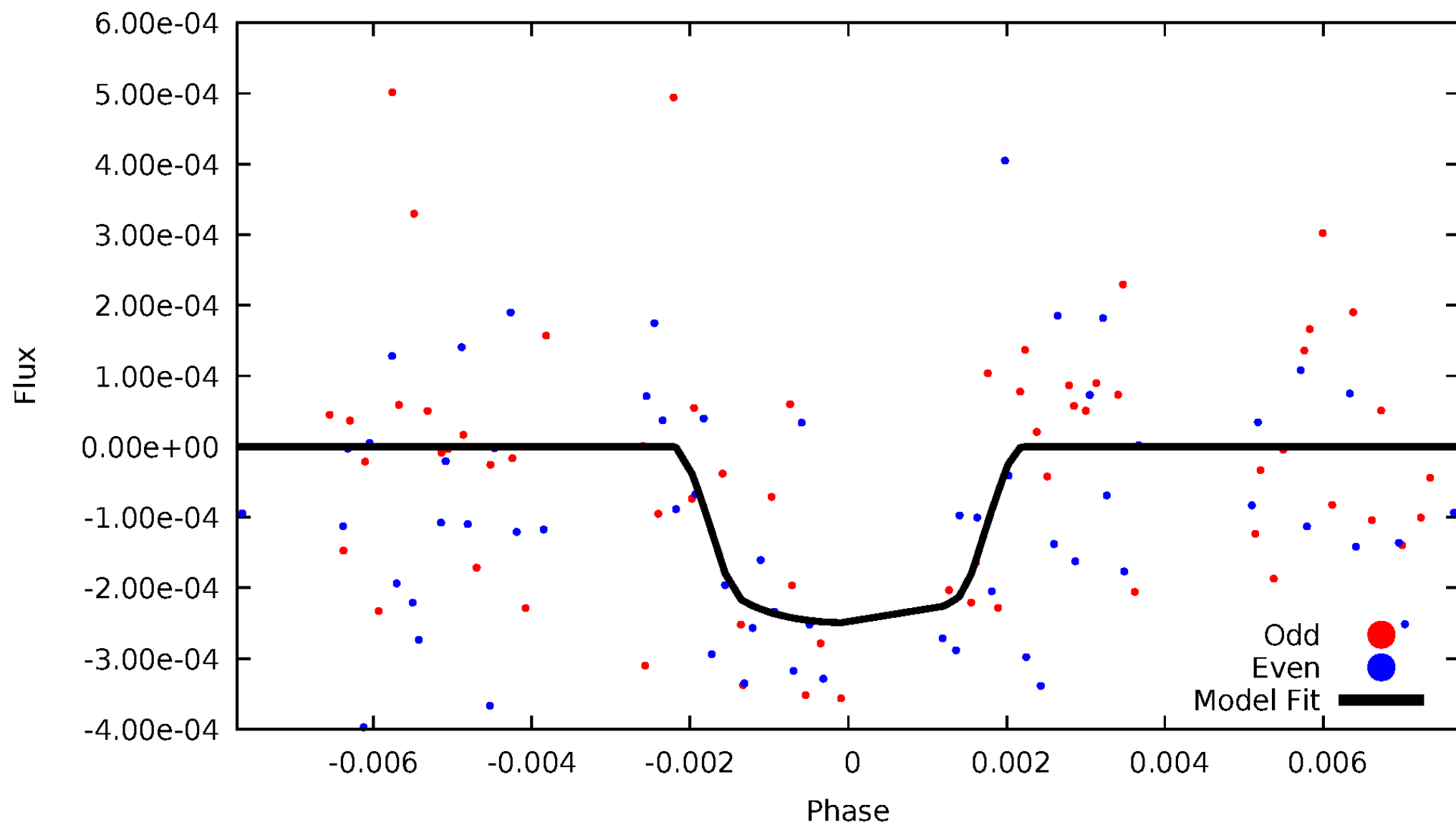


TCE 007989079-02



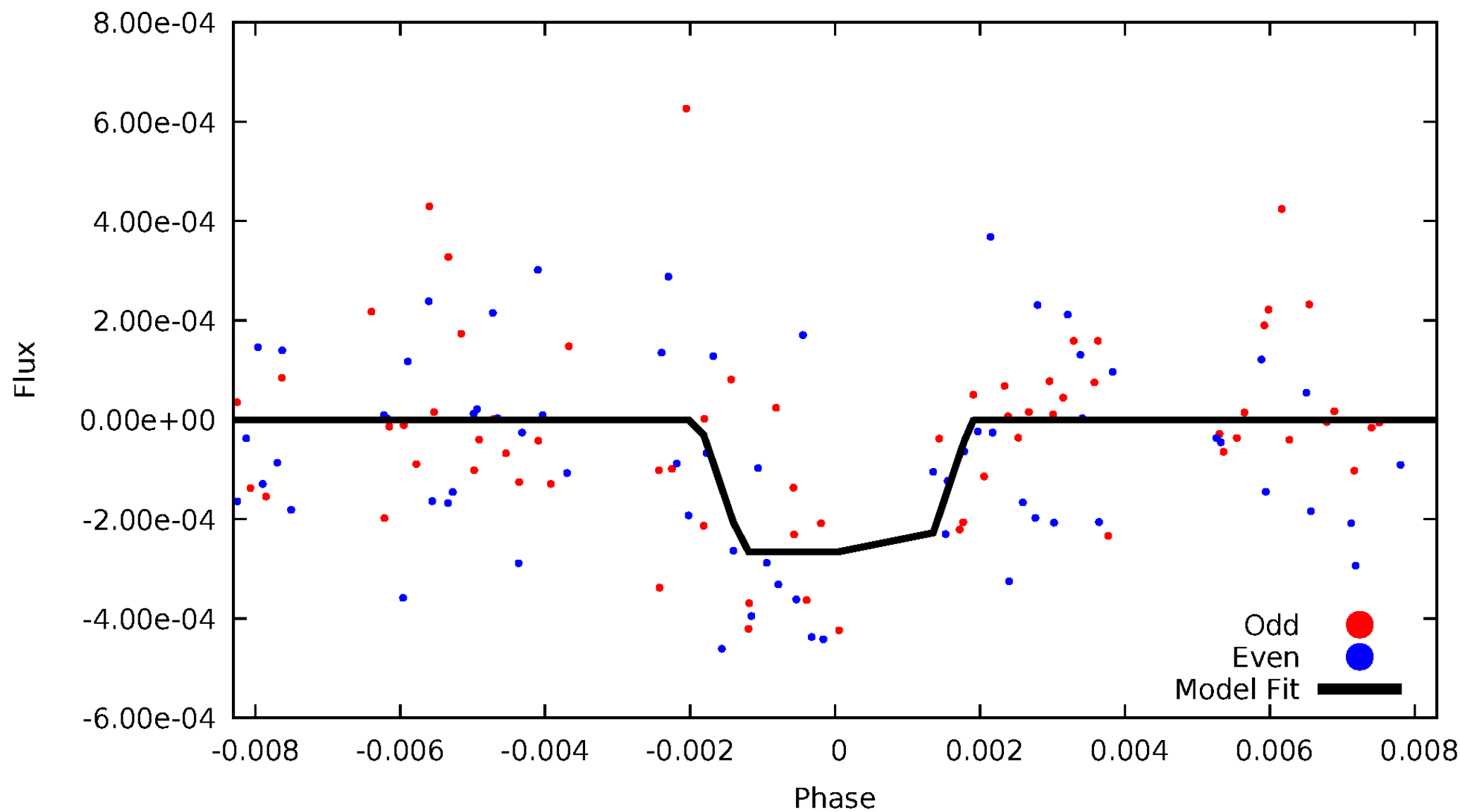
DV Odd/Even

TCE 007989079-02



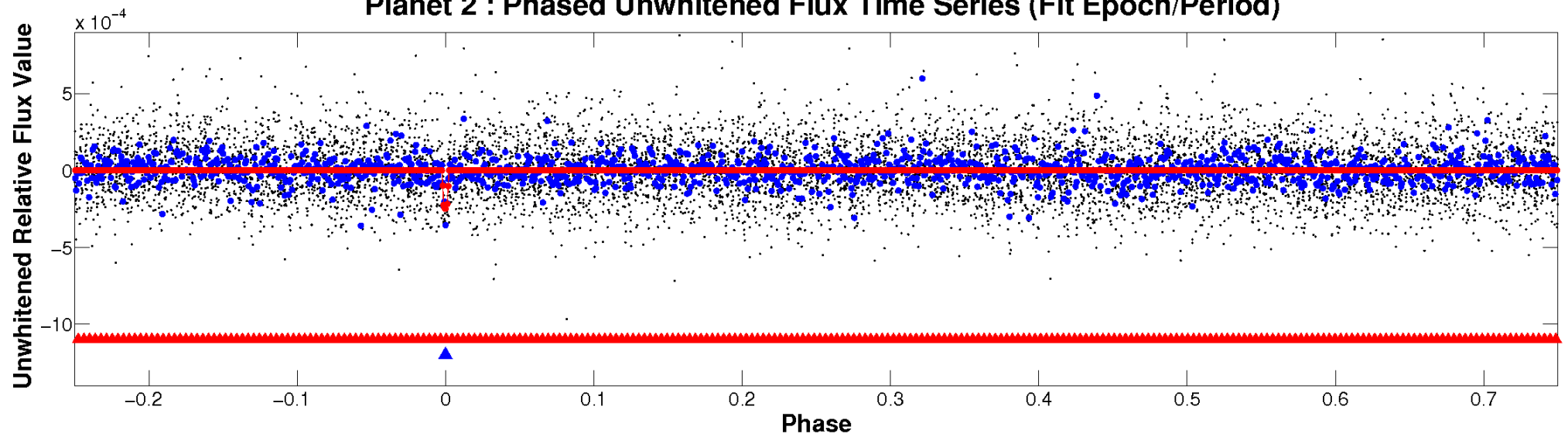
ALT Odd/Even

TCE 007989079-02

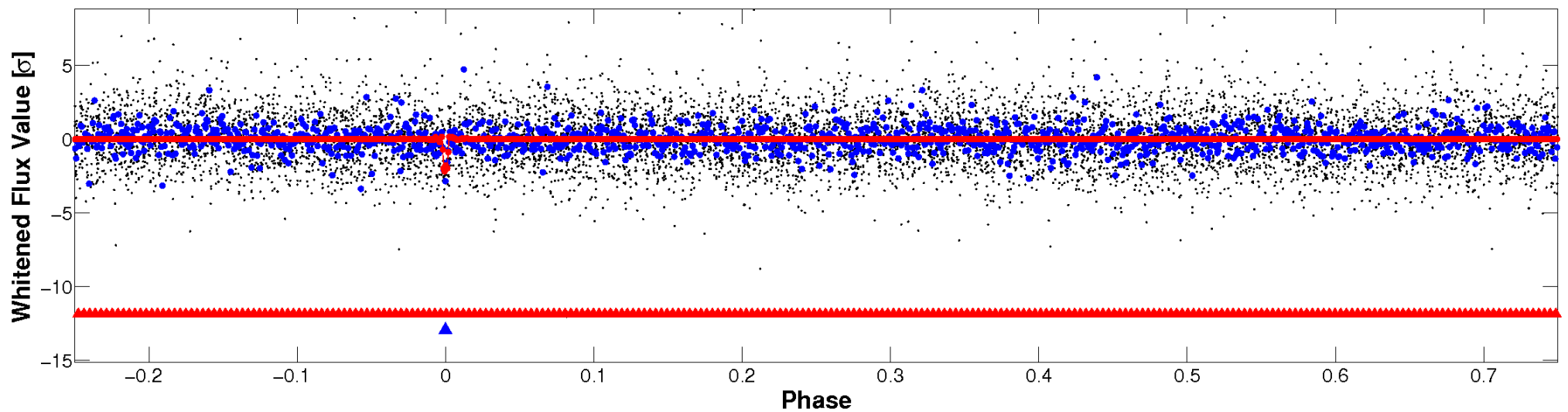


Non-Whitened Vs. Whitened Light Curve

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

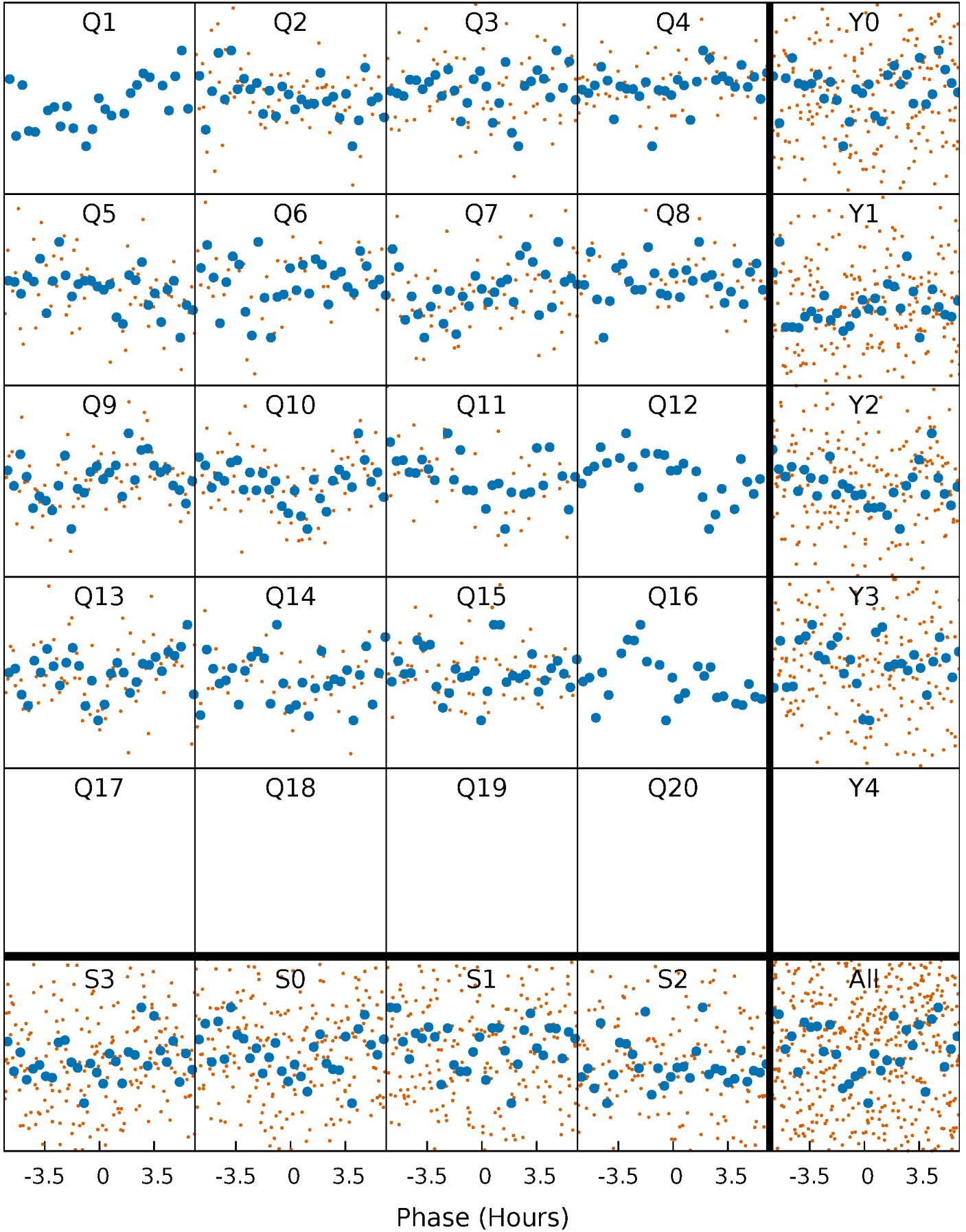


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



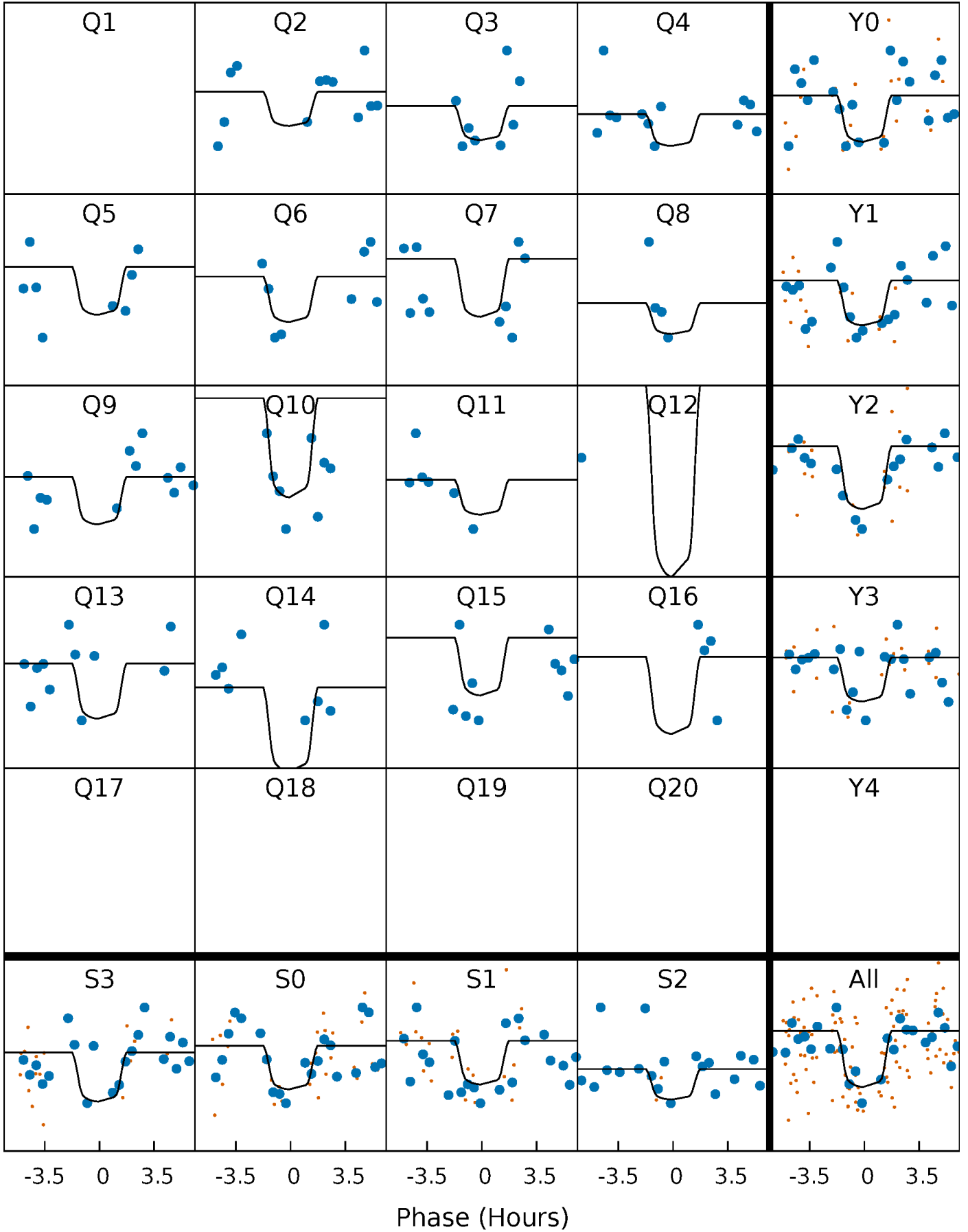
PDC Quarter-Phased Transit Curves

TCE 007989079-02 P= 32.988750 Days $T_0=139.769821$ (BKJD)



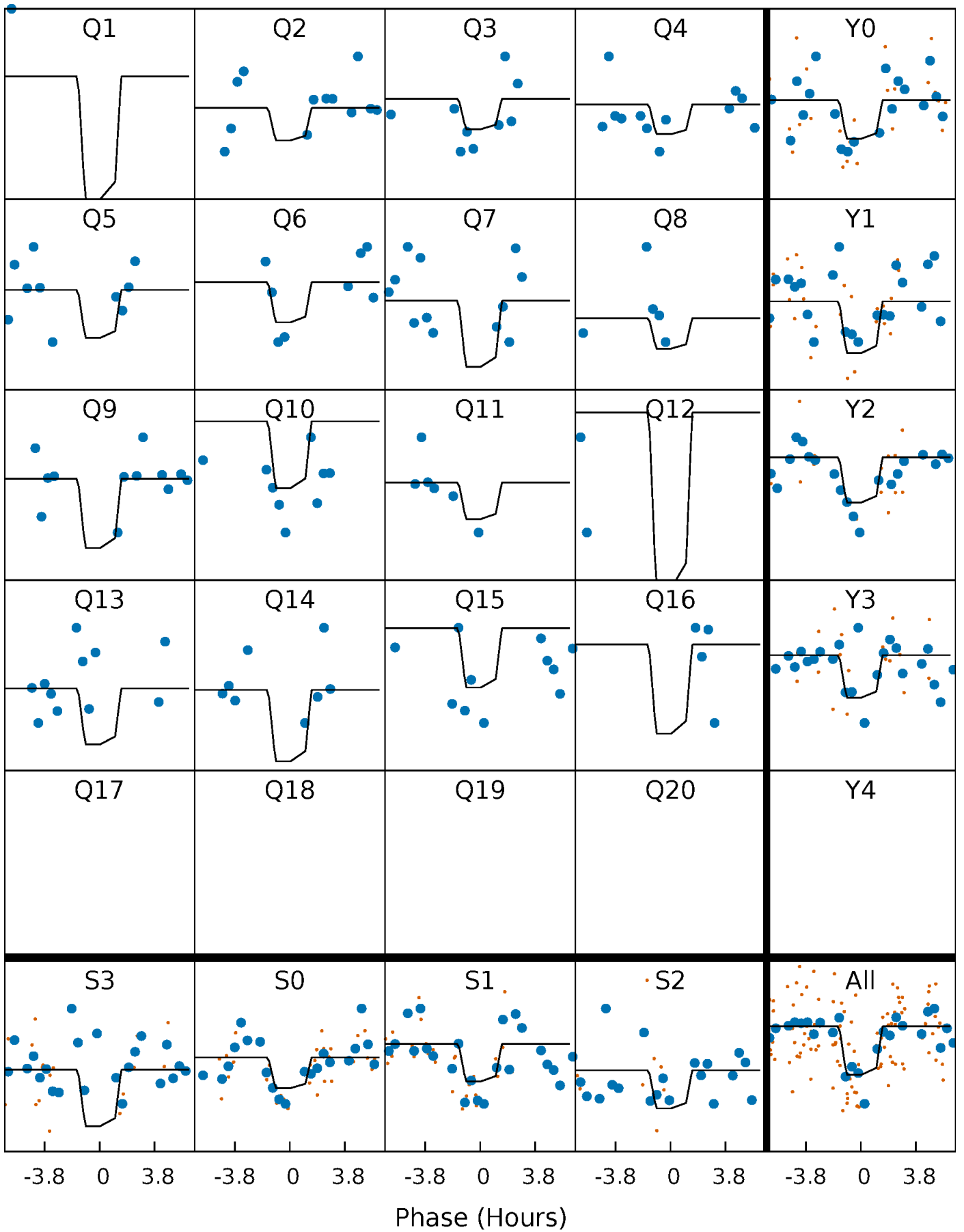
DV Quarter-Phased Transit Curves

TCE 007989079-02 P= 32.988750 Days $T_0=139.769821$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

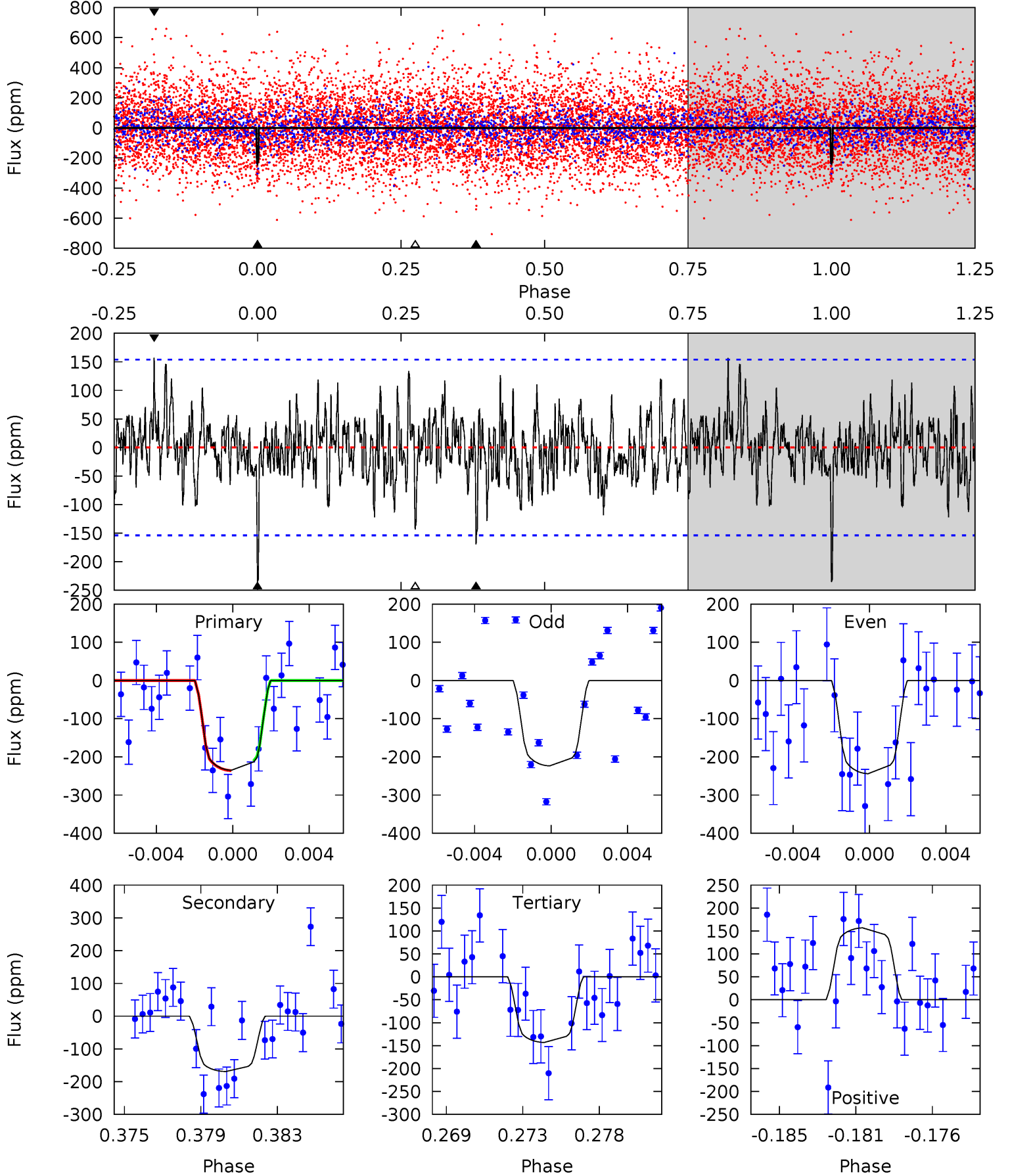
TCE 007989079-02 P= 32.988768 Days $T_0=139.764287$ (BKJD)



DV Model-Shift Uniqueness Test

007989079-02, $P = 32.988750$ Days, $E = 106.781071$ Days

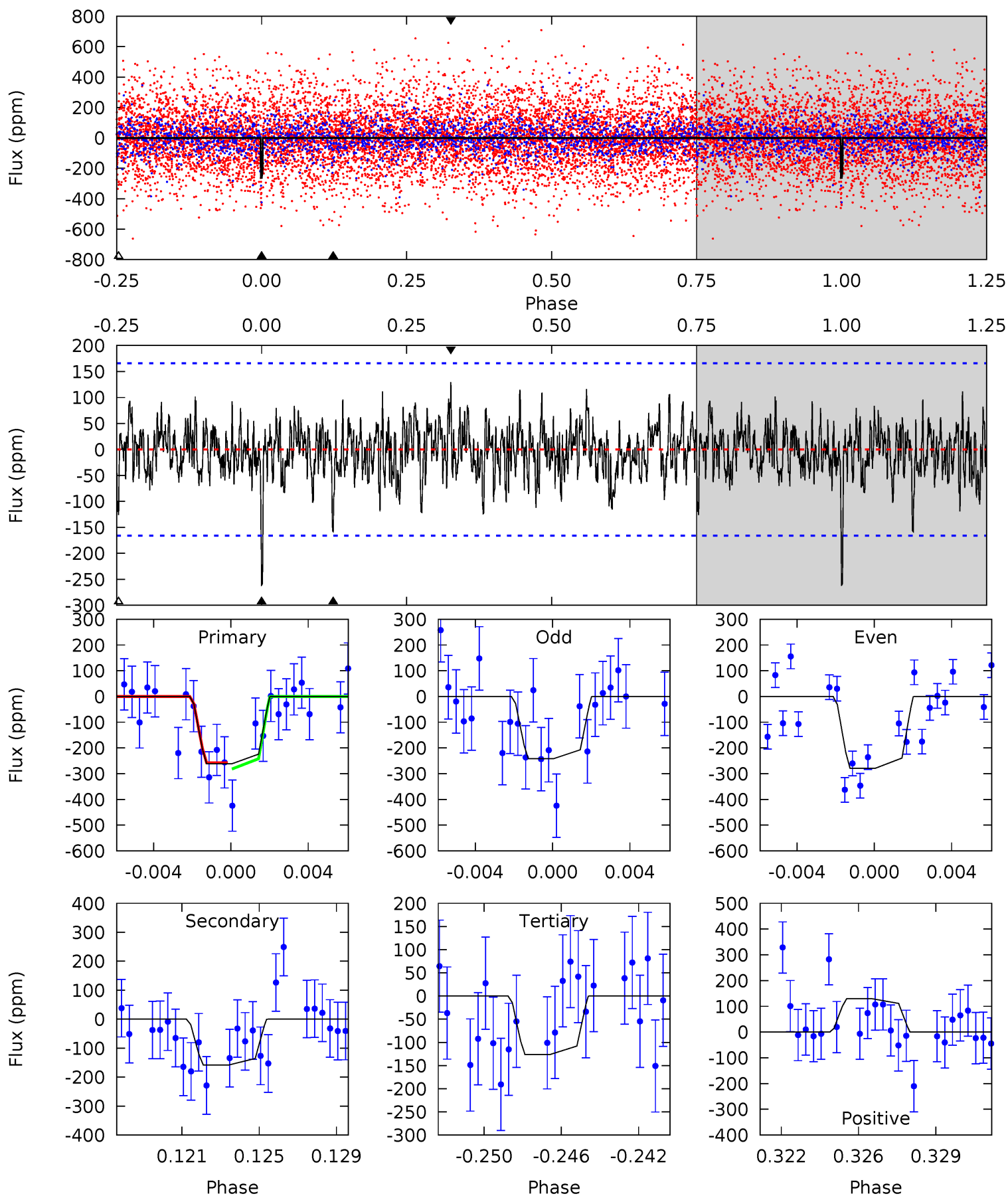
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.92	5.70	4.82	5.28	5.18	2.85	1.50	3.10	2.64	0.88	0.42	0.34	0.88	0.40	0.41



Alt Model-Shift Uniqueness Test

007989079-02, P = 32.988768 Days, E = 106.775519 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.20	4.97	3.95	4.07	5.21	2.90	1.27	4.25	4.14	1.01	0.90	0.58	0.76	0.33	0.35



Stellar Parameters For KIC 007989079

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7748^{+237}_{-316}	$4.098^{+0.160}_{-0.160}$	$-0.160^{+0.200}_{-0.350}$	$1.884^{+0.505}_{-0.413}$	$1.622^{+0.210}_{-0.233}$	$0.341^{+0.287}_{-0.156}$
	+3%/-4%	+4%/-4%	+125%/-219%	+27%/-22%	+13%/-14%	+84%/-46%
Source	KIC0	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 007989079-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-169 ± 30	$3.58^{+2.84}_{-2.14}$	1343^{+104}_{-85}	6505^{+5235}_{-1513}	392^{+2112}_{-268}
Alt.	-158 ± 32	$3.54^{+2.64}_{-2.02}$	1342^{+100}_{-89}	6418^{+4586}_{-1434}	384^{+1823}_{-259}

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 $A_{obs} \gg 1.0$

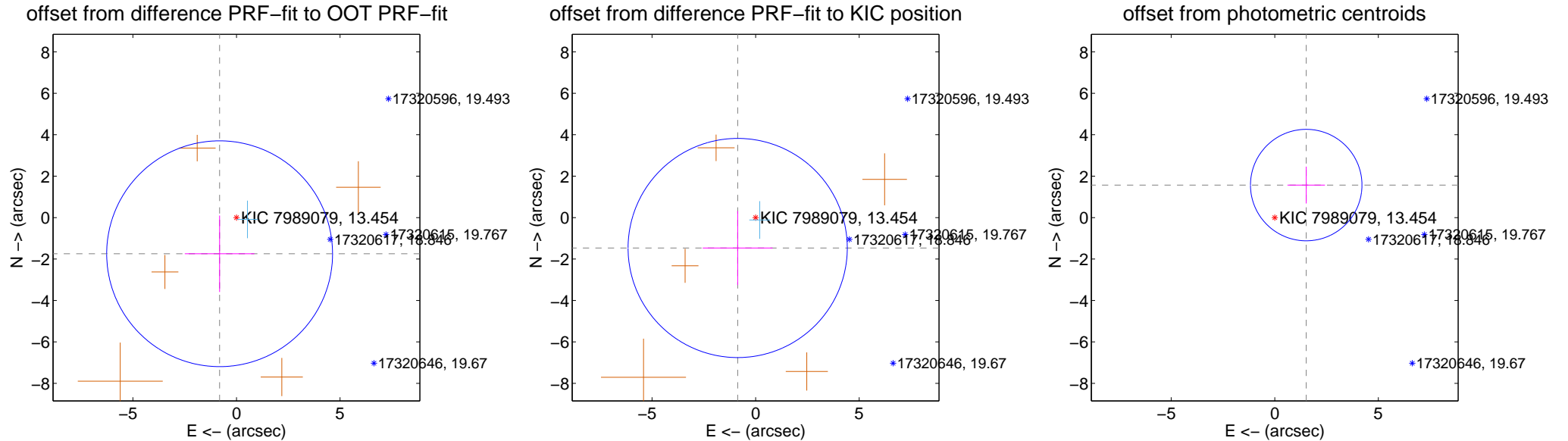
DV Centroid Data

Supplemental centroid analysis for 007989079-02. Kepler magnitude: 13.45. Transit SNR 9.68

There are 1 quarters with good PRF difference image offsets

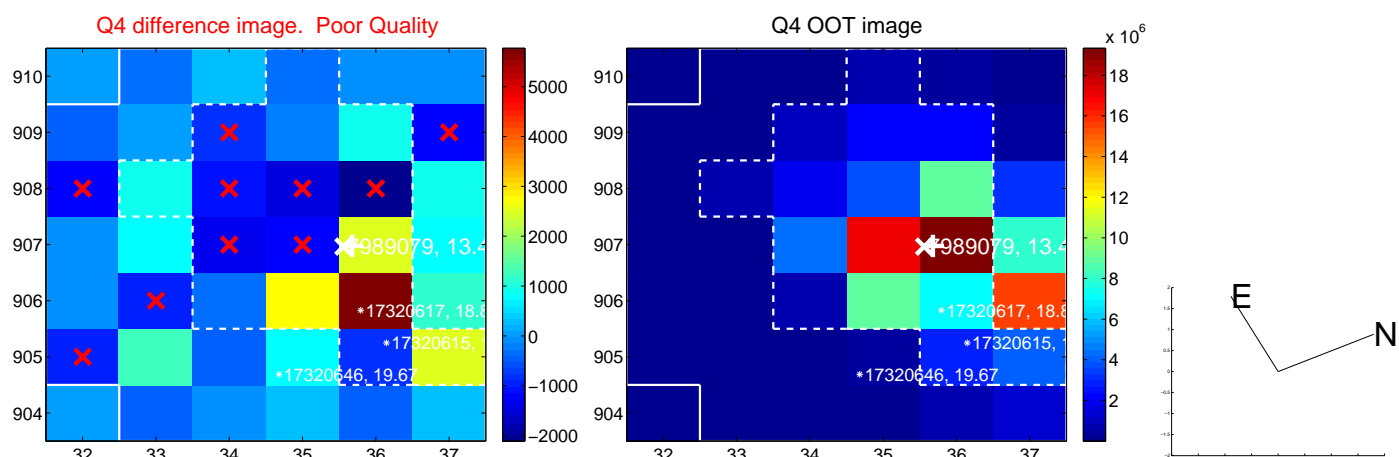
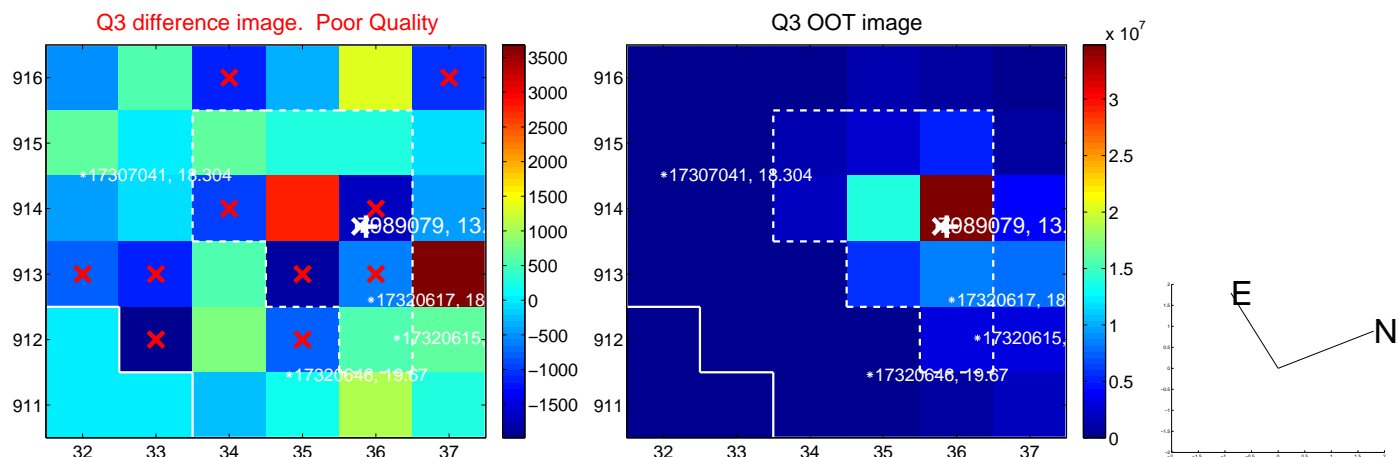
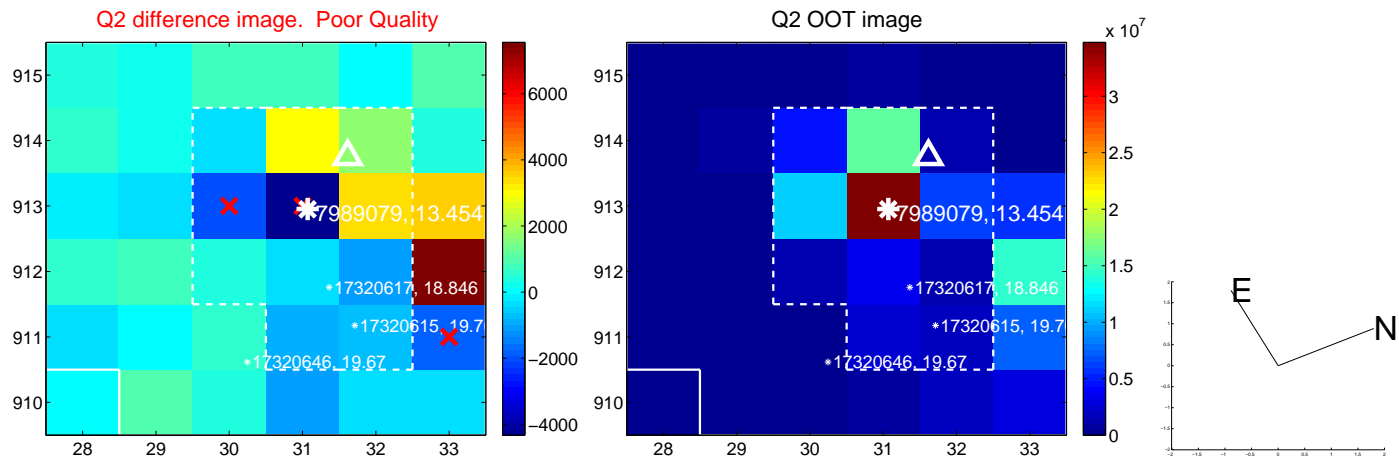
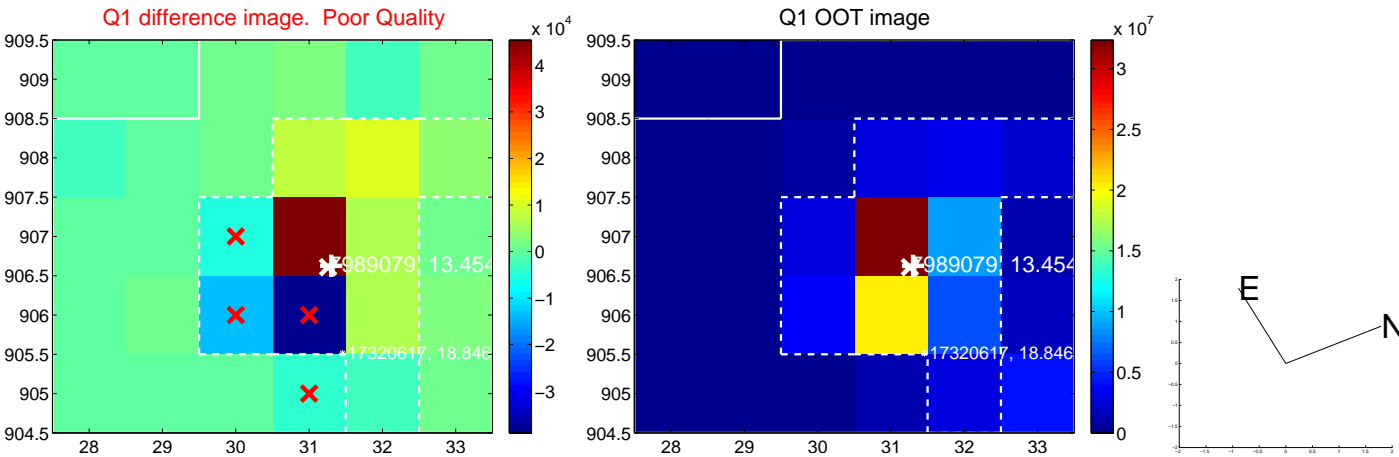
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.925 ± 1.817	1.06	0.813 ± 1.680	-1.745 ± 1.845
PRF-fit source offset from KIC position	1.704 ± 1.763	0.97	0.866 ± 1.686	-1.467 ± 1.789
photometric centroid source offset	2.18 ± 0.90	2.44	-1.52 ± 0.91	1.57 ± 0.89

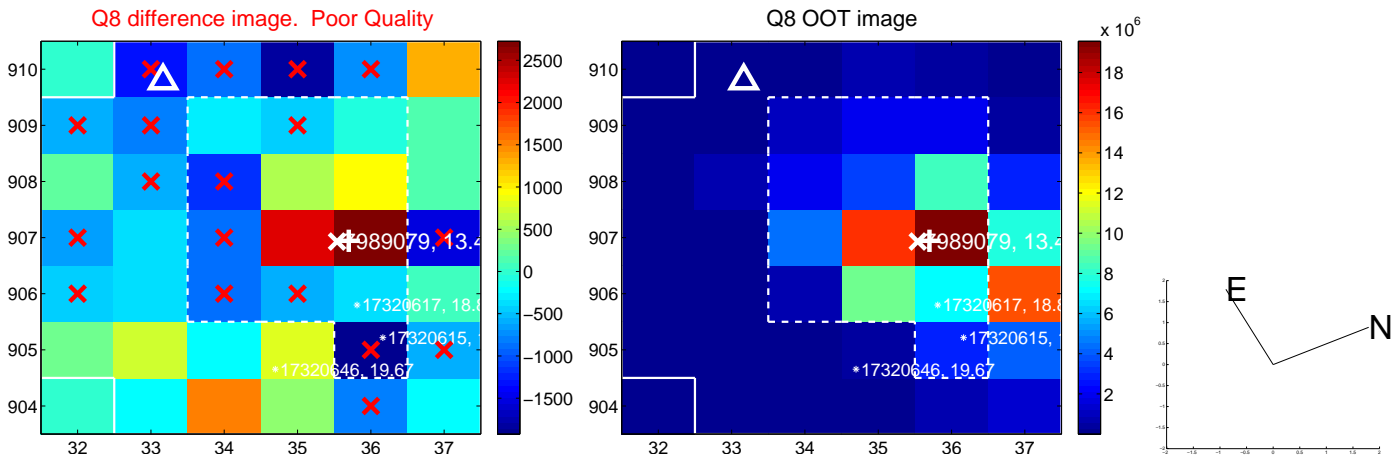
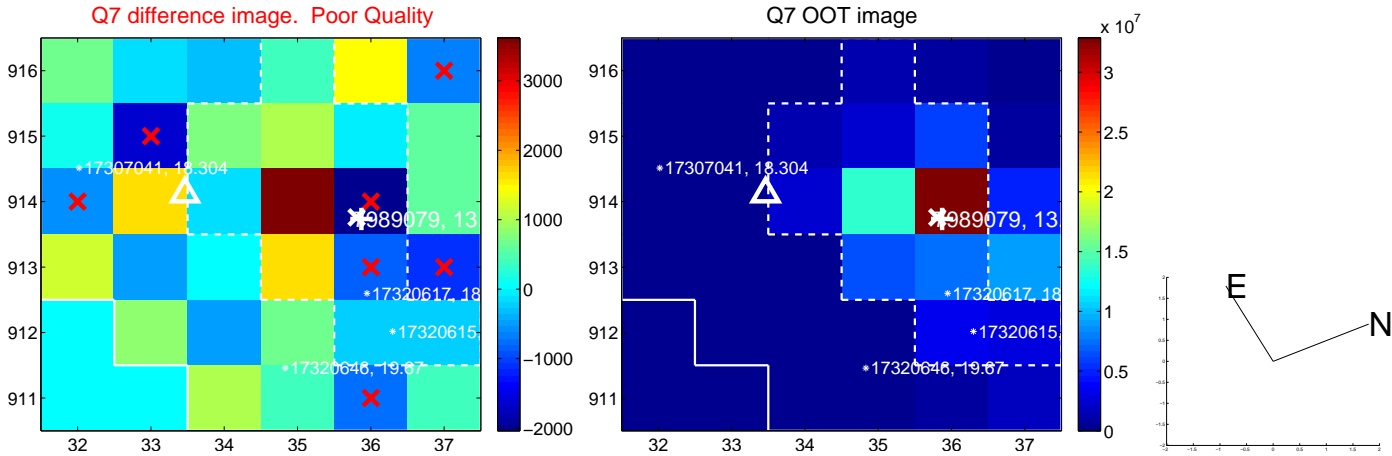
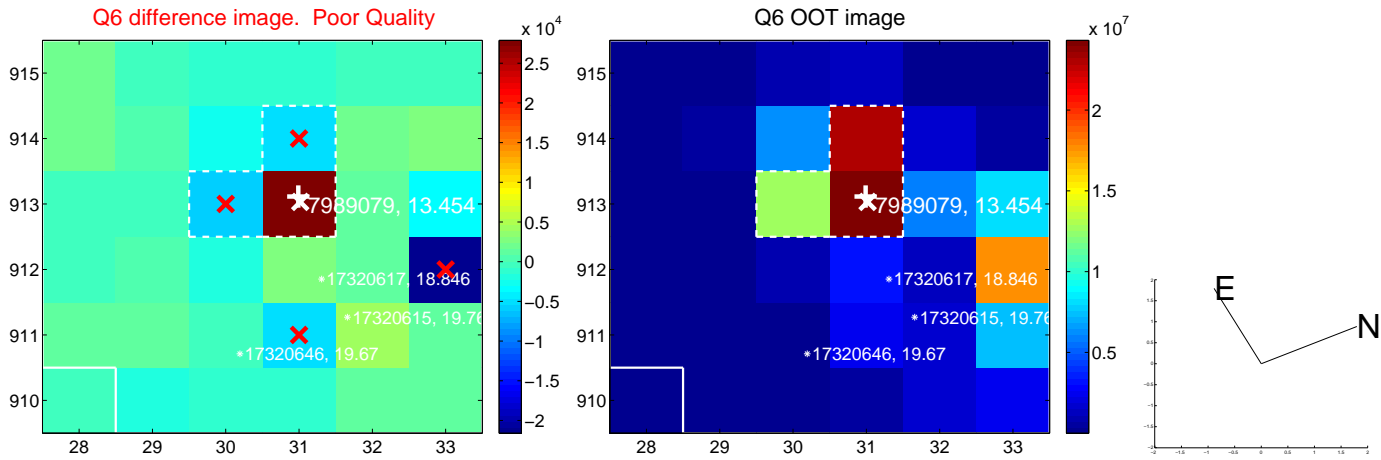
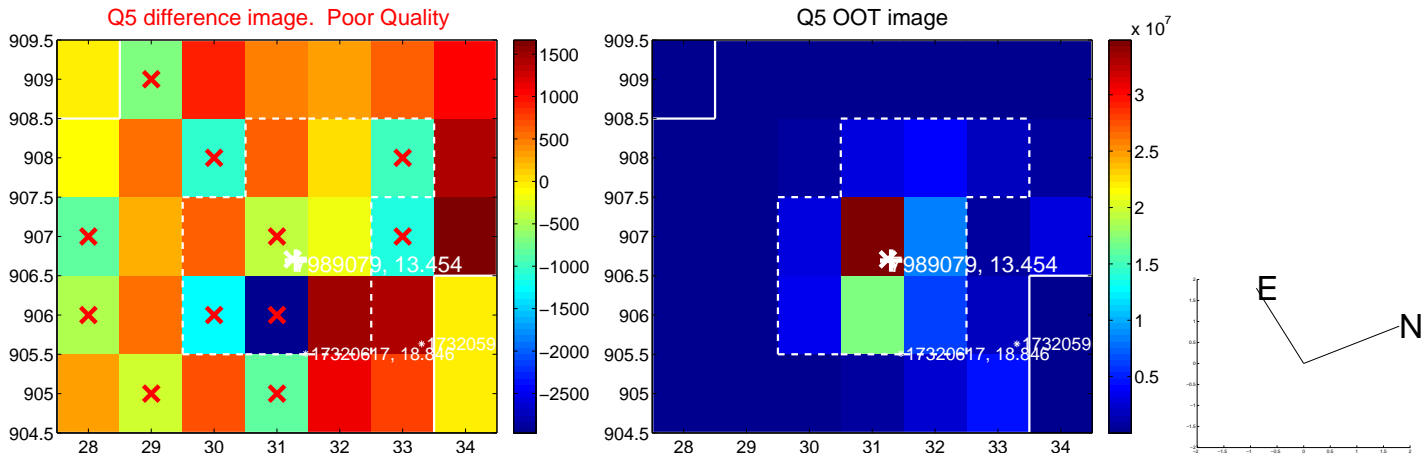


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

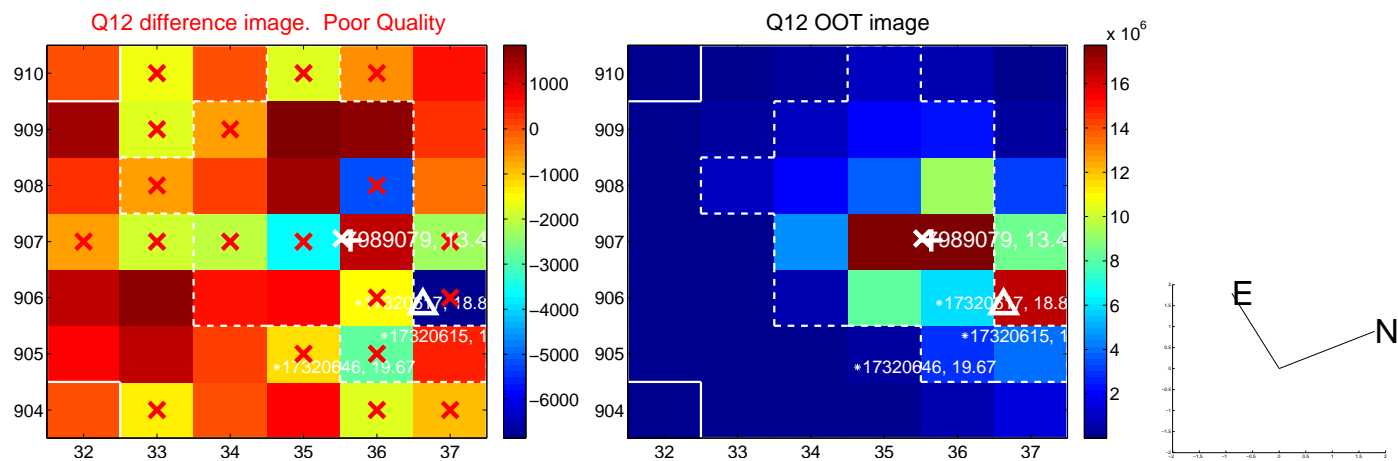
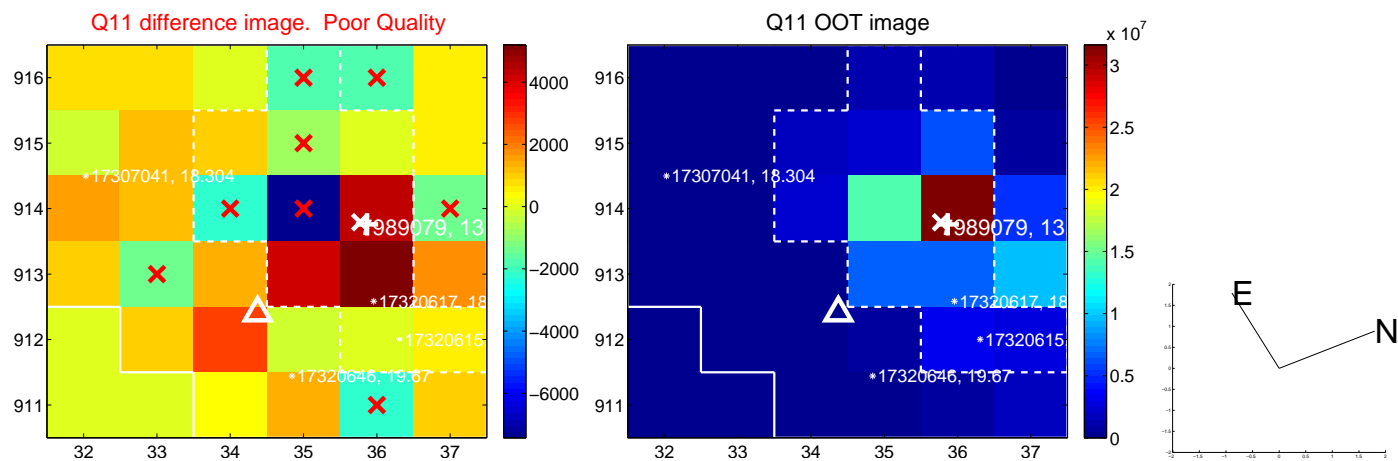
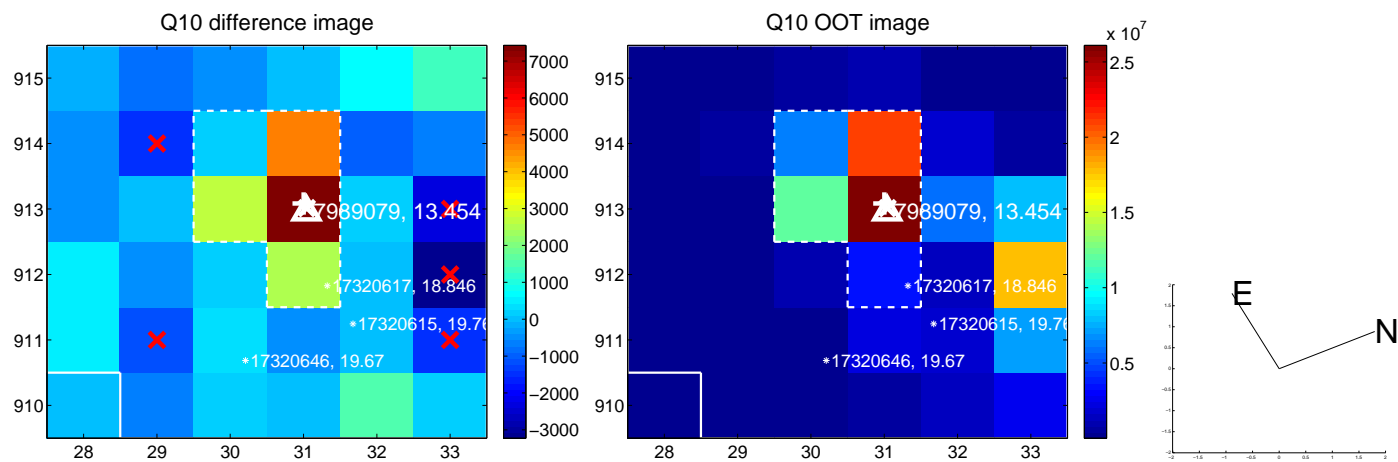
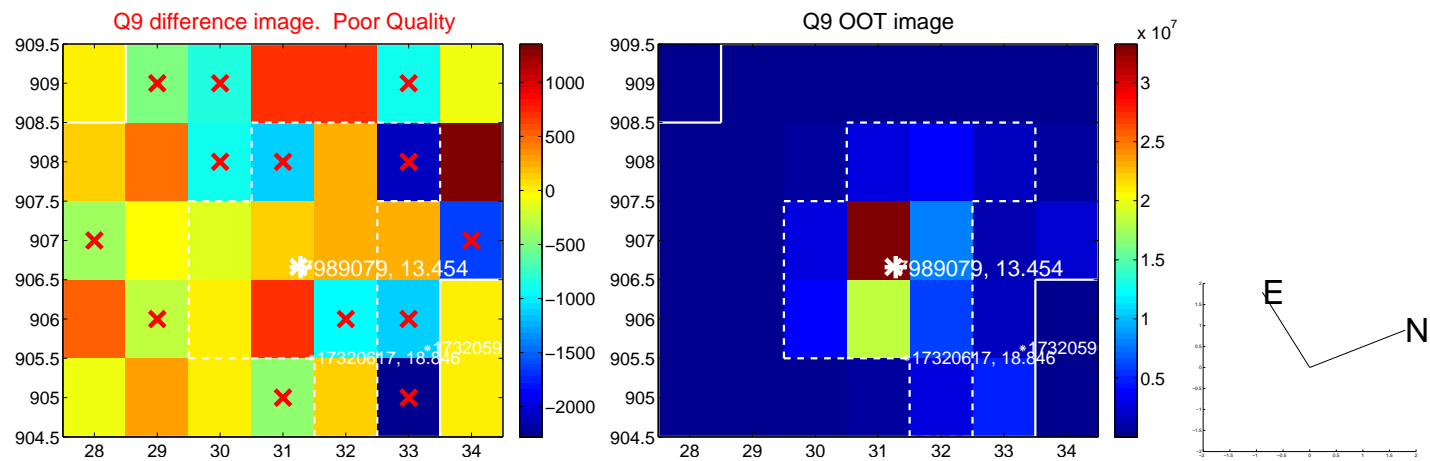
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



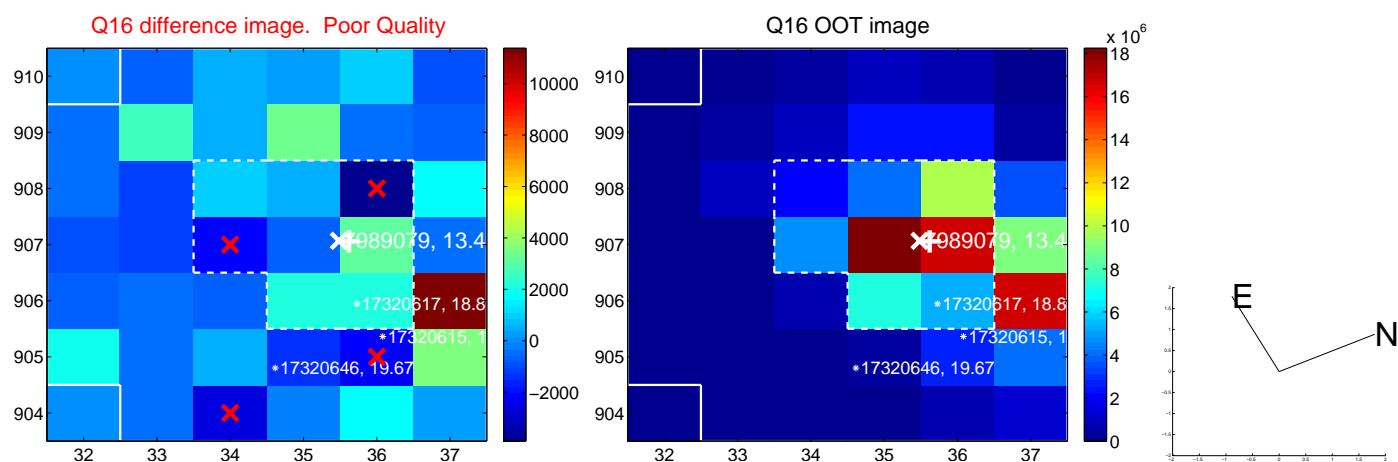
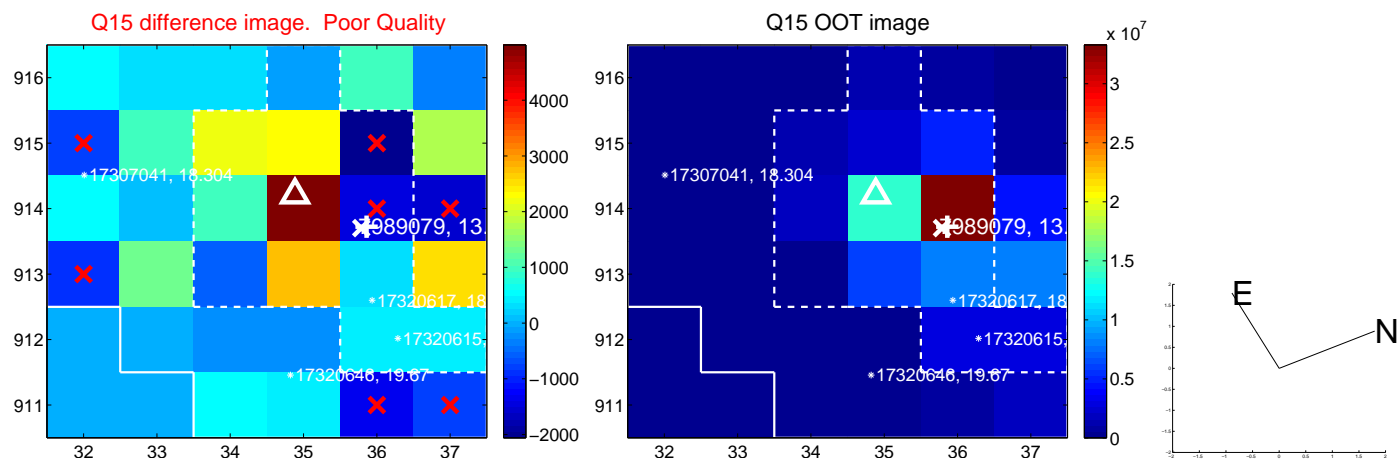
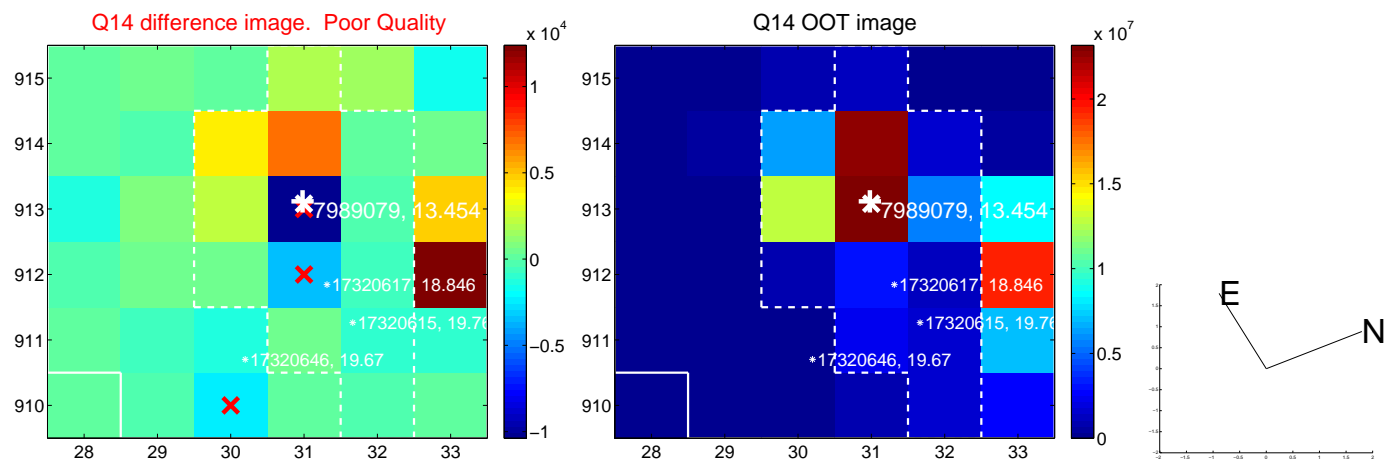
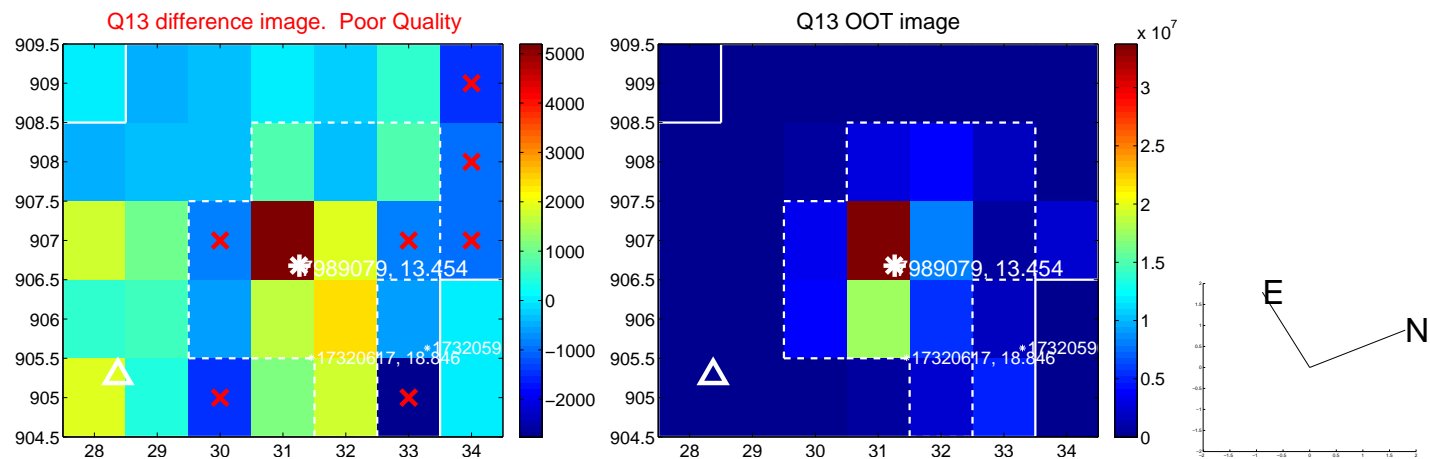
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



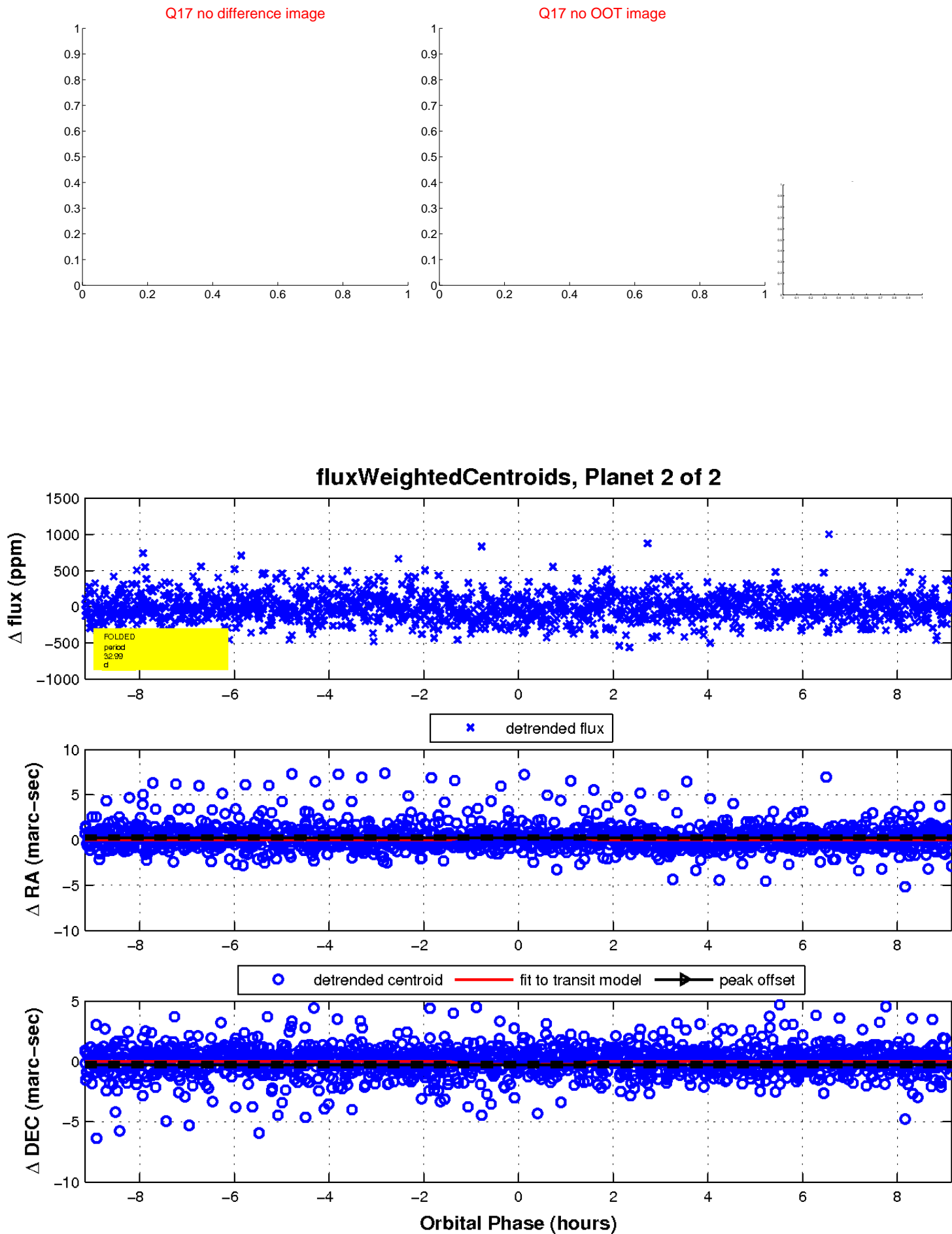
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

