

KIC 005130983

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})
005130983-01	OBS	3325.01	86.439194	144.574918	1300.3	6.793	18.5	22.1	1.02	6208	6.99	9.01
005130983-02	OBS	No	86.441957	200.547867	1141.5	9.351	15.4	17.0	1.02	6208	6.46	9.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005130983-01	OBS	FP	0.00	0	1	1	0	DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
005130983-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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

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

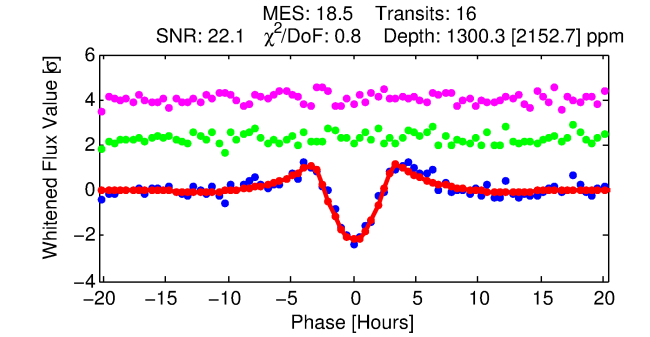
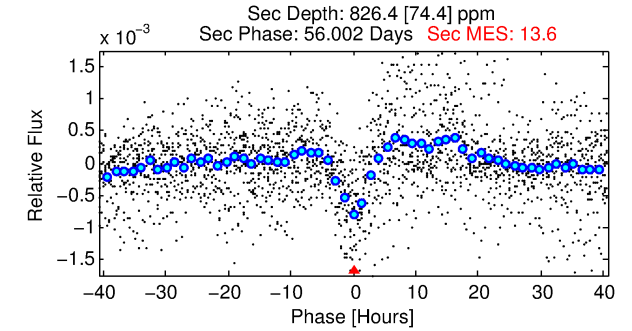
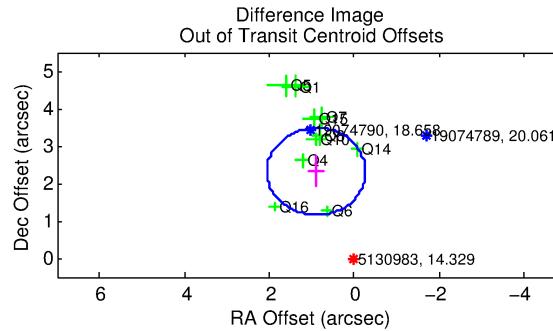
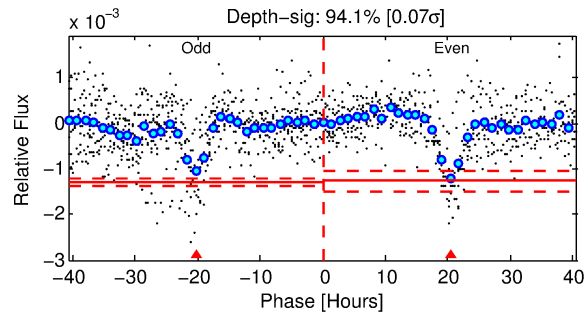
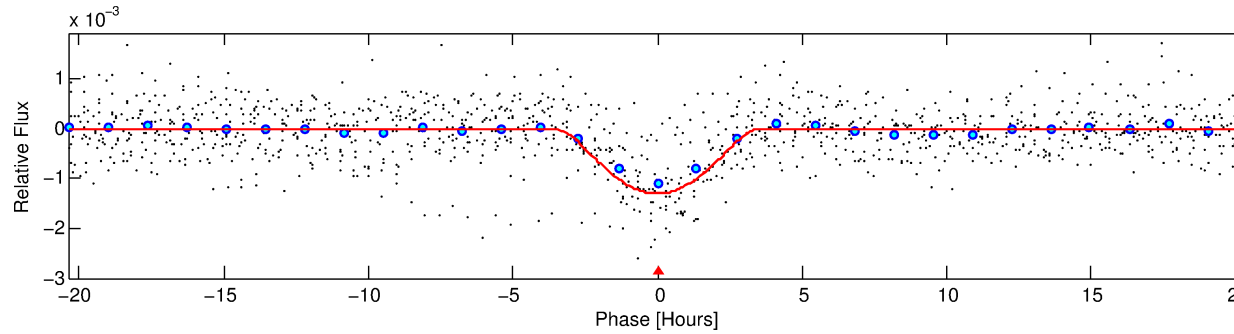
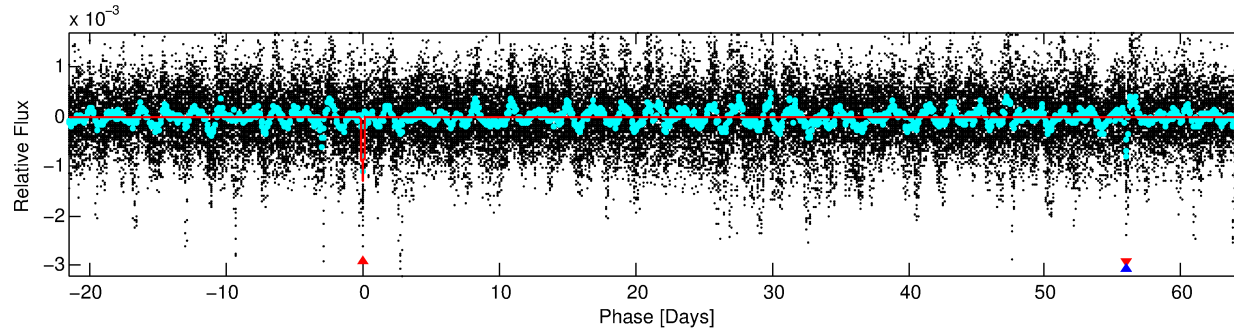
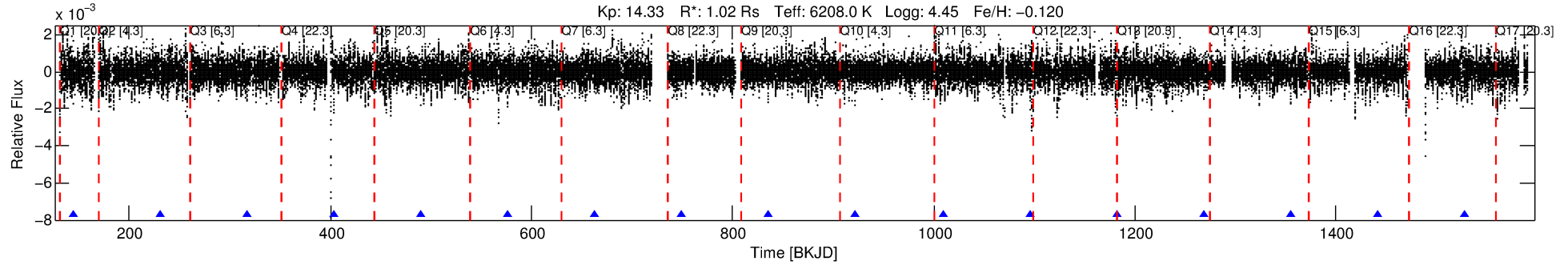
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005130983-01

No Significant Match Found

DV One-Page Summary

KIC: 5130983 Candidate: 1 of 2 Period: 86.439 d
KOI: K03325.01 Corr: 0.982



DV Fit Results:

Period = 86.43919 [0.00054] d
Epoch = 144.5749 [0.0052] BKJD
Rp/R* = 0.0626 [0.0648]
a/R* = 34.94 [8.44]
b = 1.00 [0.02]
Seff = 9.01 [3.63]
Teq = 442 [44] K
Rp = 6.99 [7.59] Re
a = 0.3936 [0.1047] AU
Ag = 1440.15 [3035.26] [0.47 σ]
Teffp = 4207 [2186] K [1.72 σ]

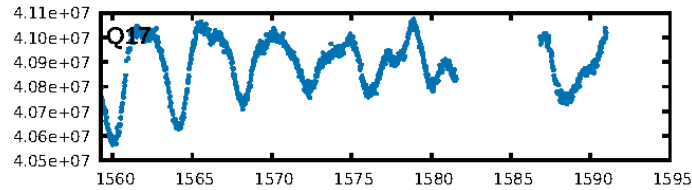
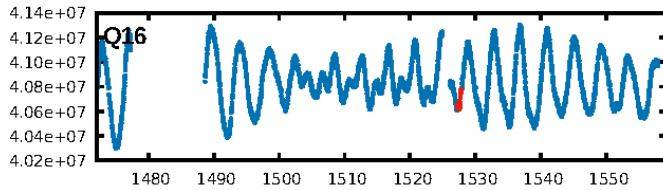
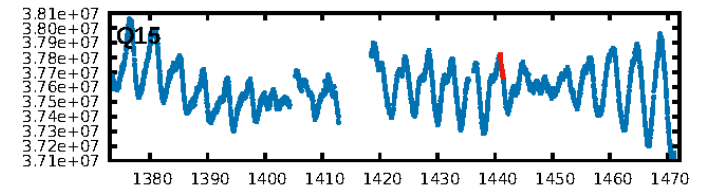
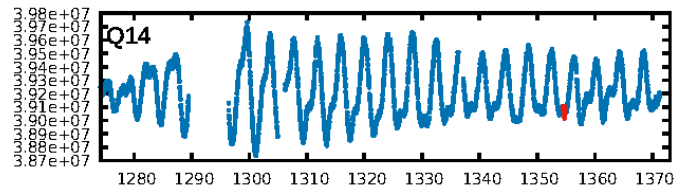
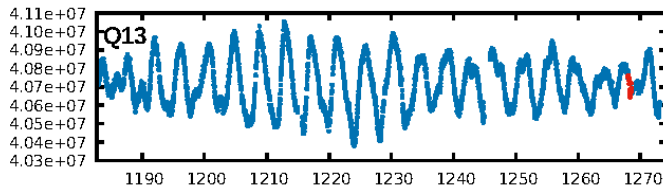
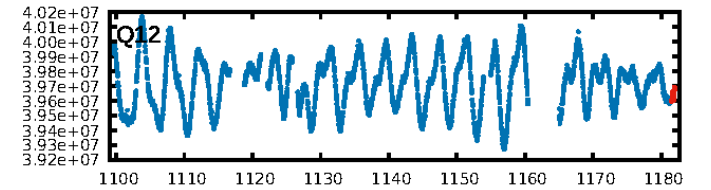
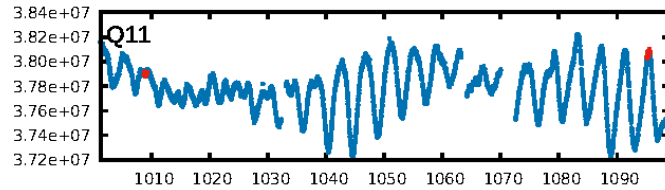
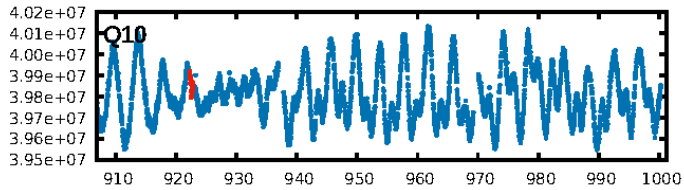
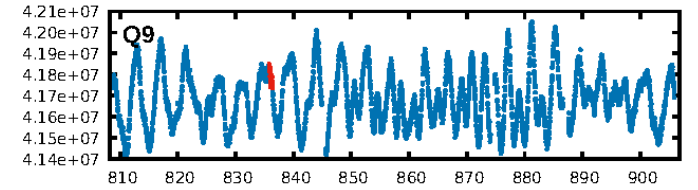
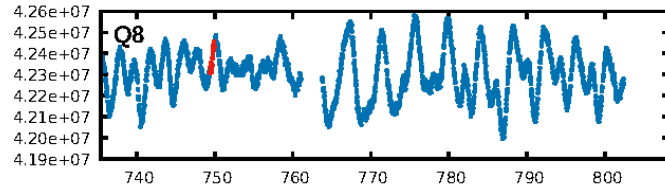
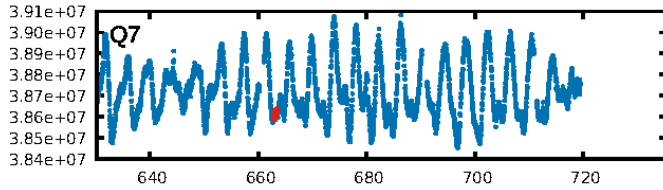
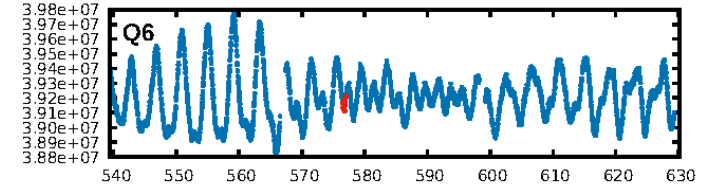
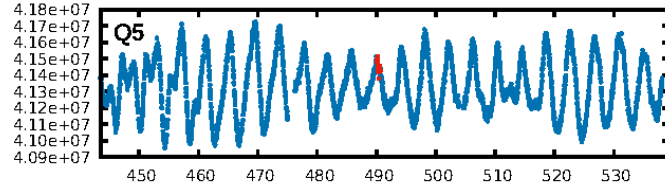
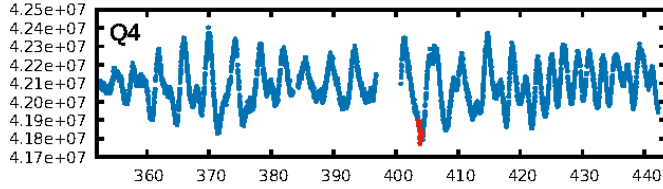
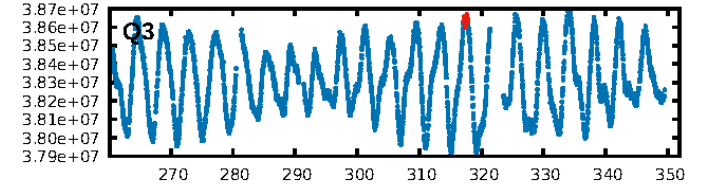
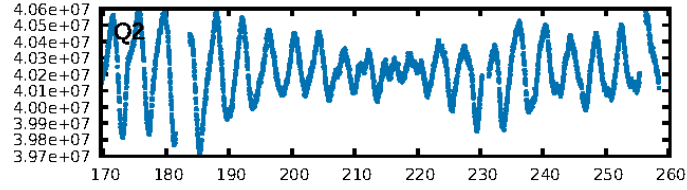
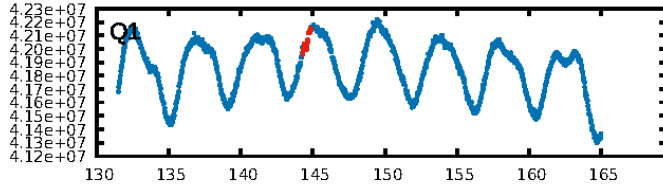
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.5% [0.01 σ]
ModelChiSquare2-sig: 55.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.68e-61
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 0.4715
Centroid-sig: 0.0%
Centroid-so: 2.941 arcsec [8.03 σ]
OotOffset-rm: 2.481 arcsec [6.40 σ]
KicOffset-rm: 2.499 arcsec [6.67 σ]
OotOffset-st: 3/2/3/2 [10]
KicOffset-st: 3/2/3/2 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [13/13]

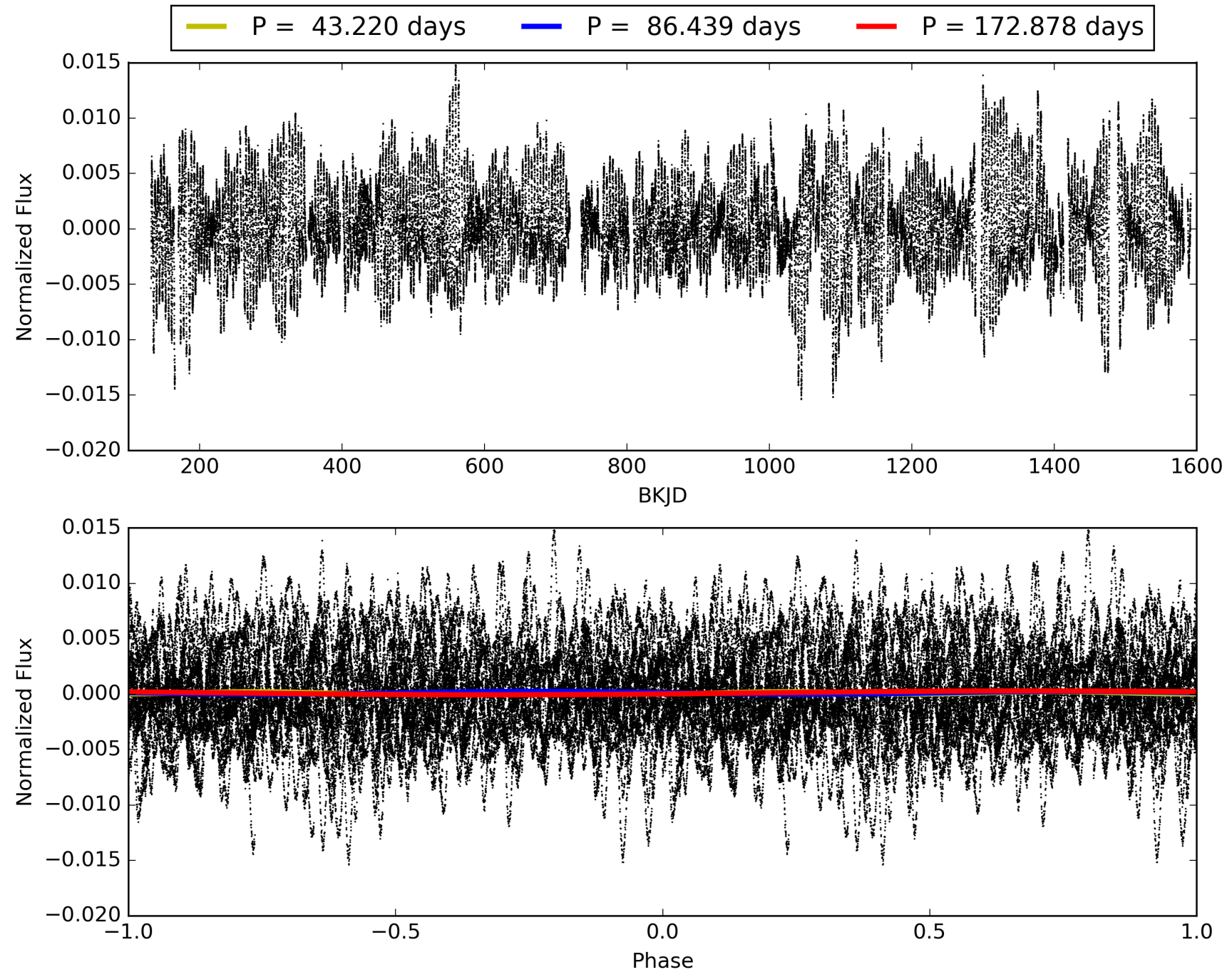
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005130983-01, PDC Light Curves

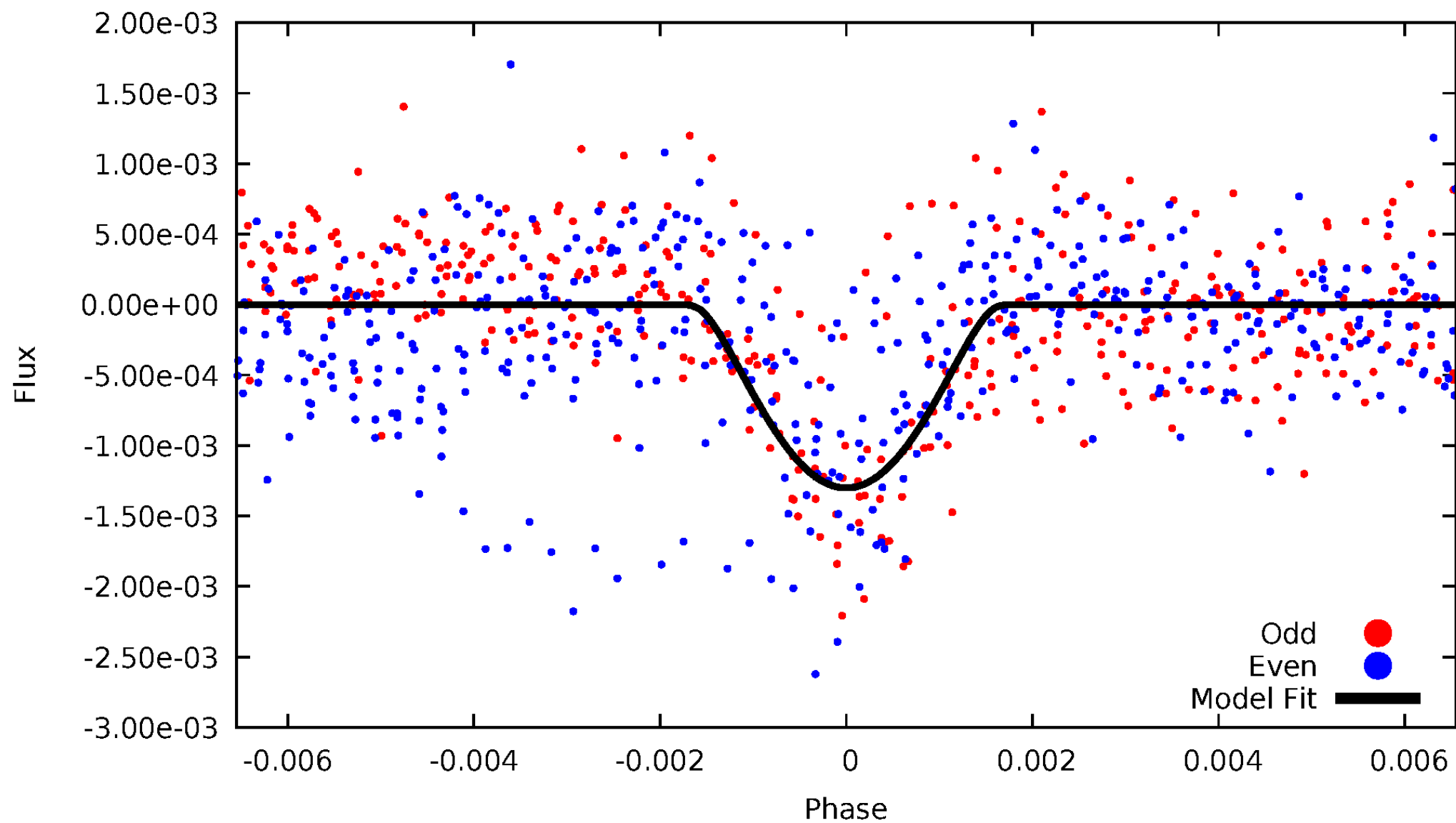


TCE 005130983-01



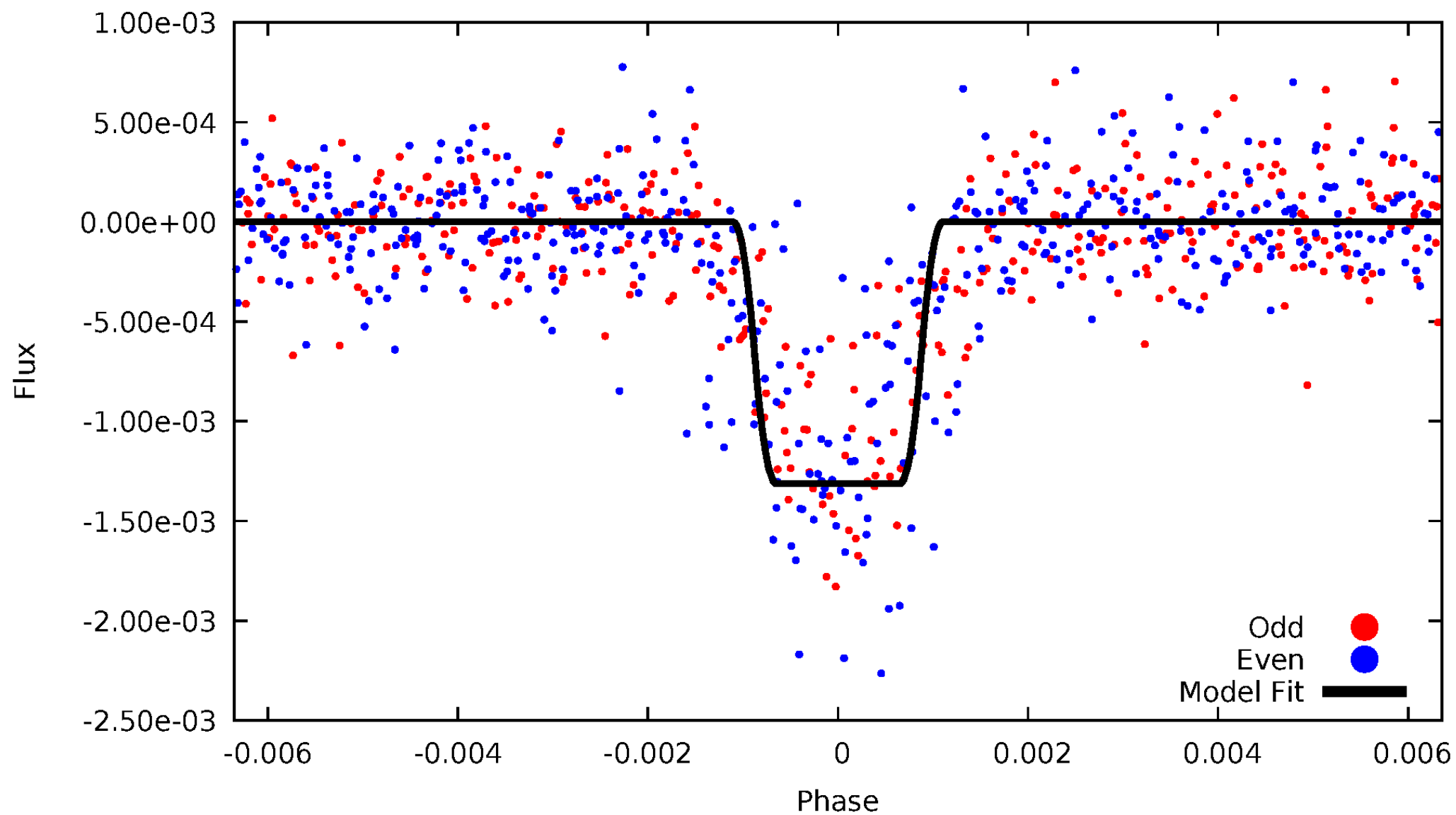
DV Odd/Even

TCE 005130983-01

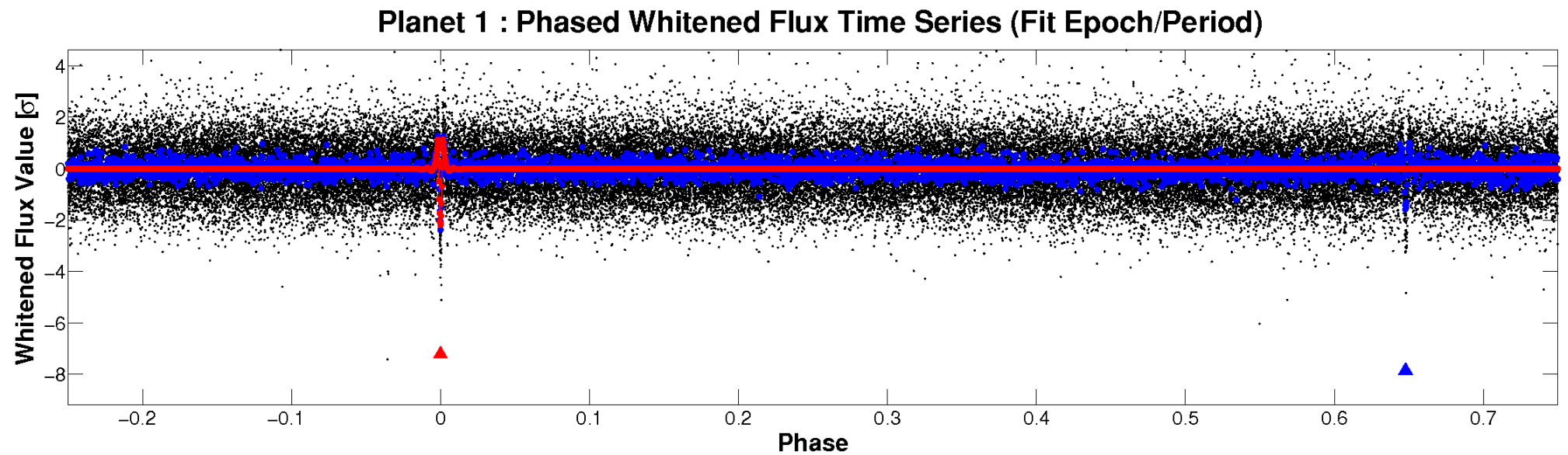
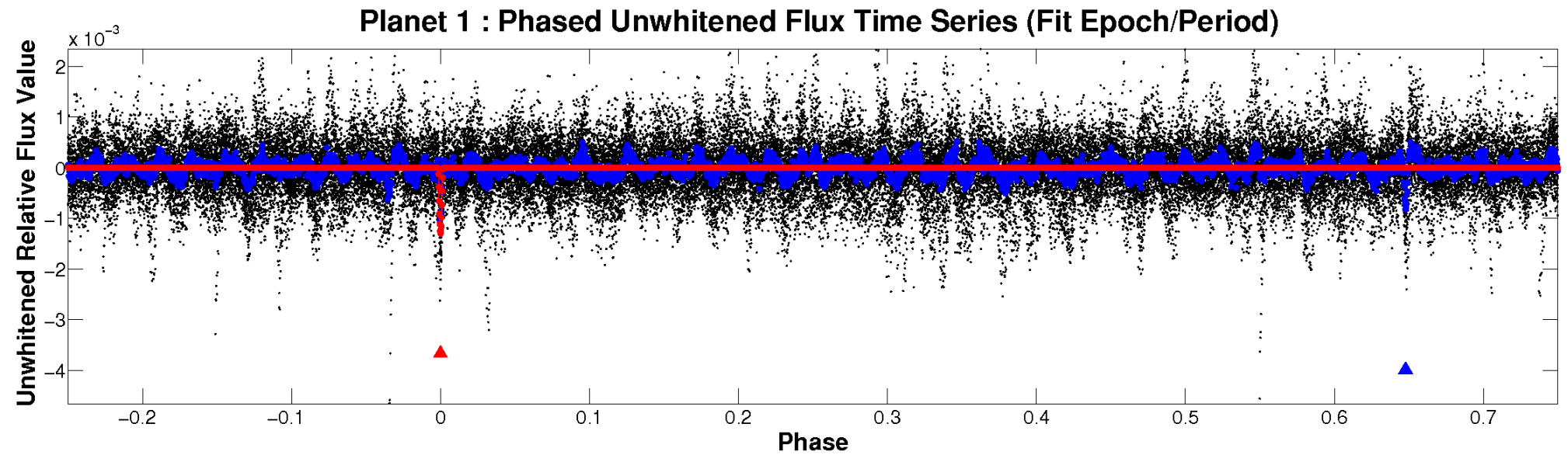


ALT Odd/Even

TCE 005130983-01

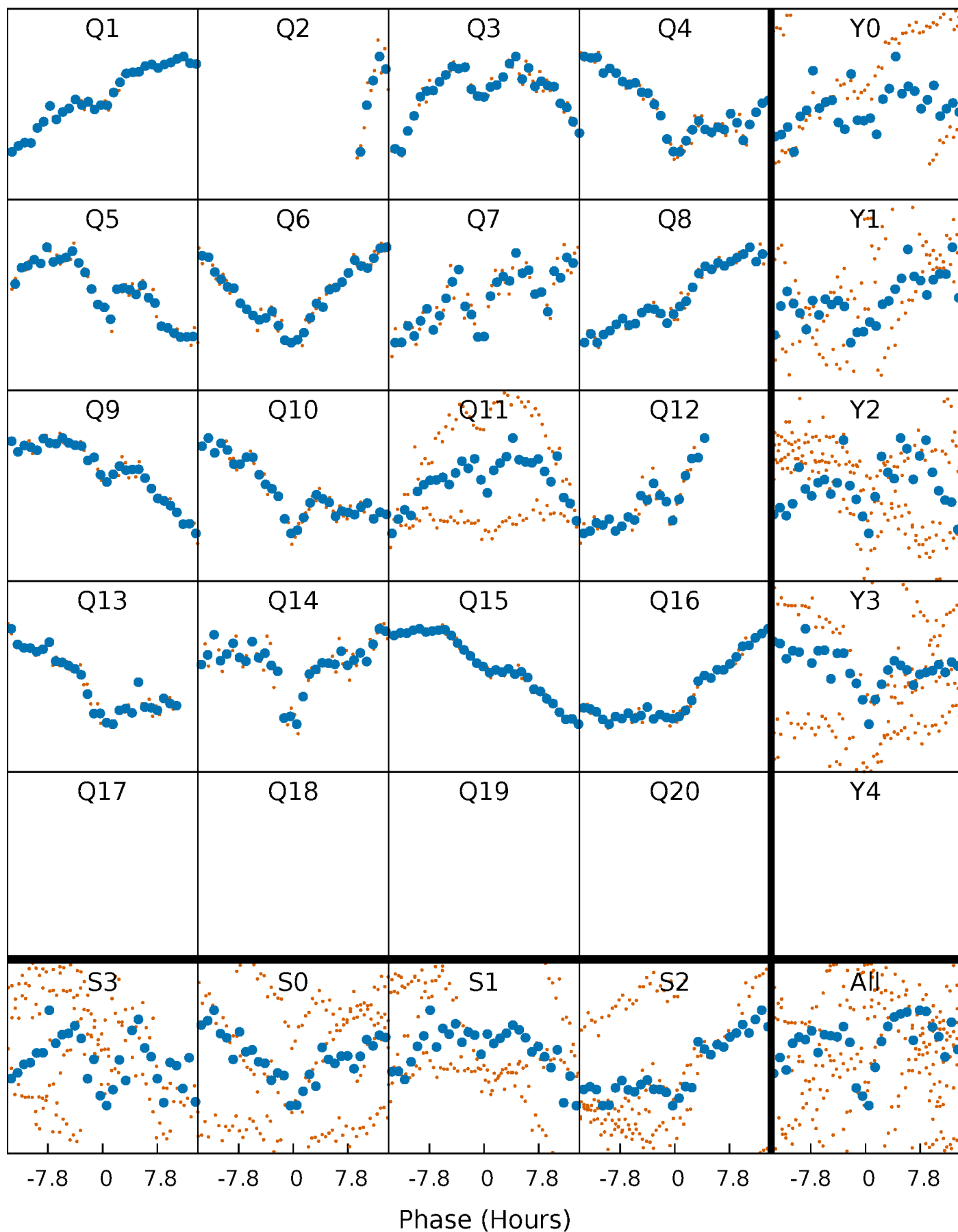


Non-Whitened Vs. Whitened Light Curve



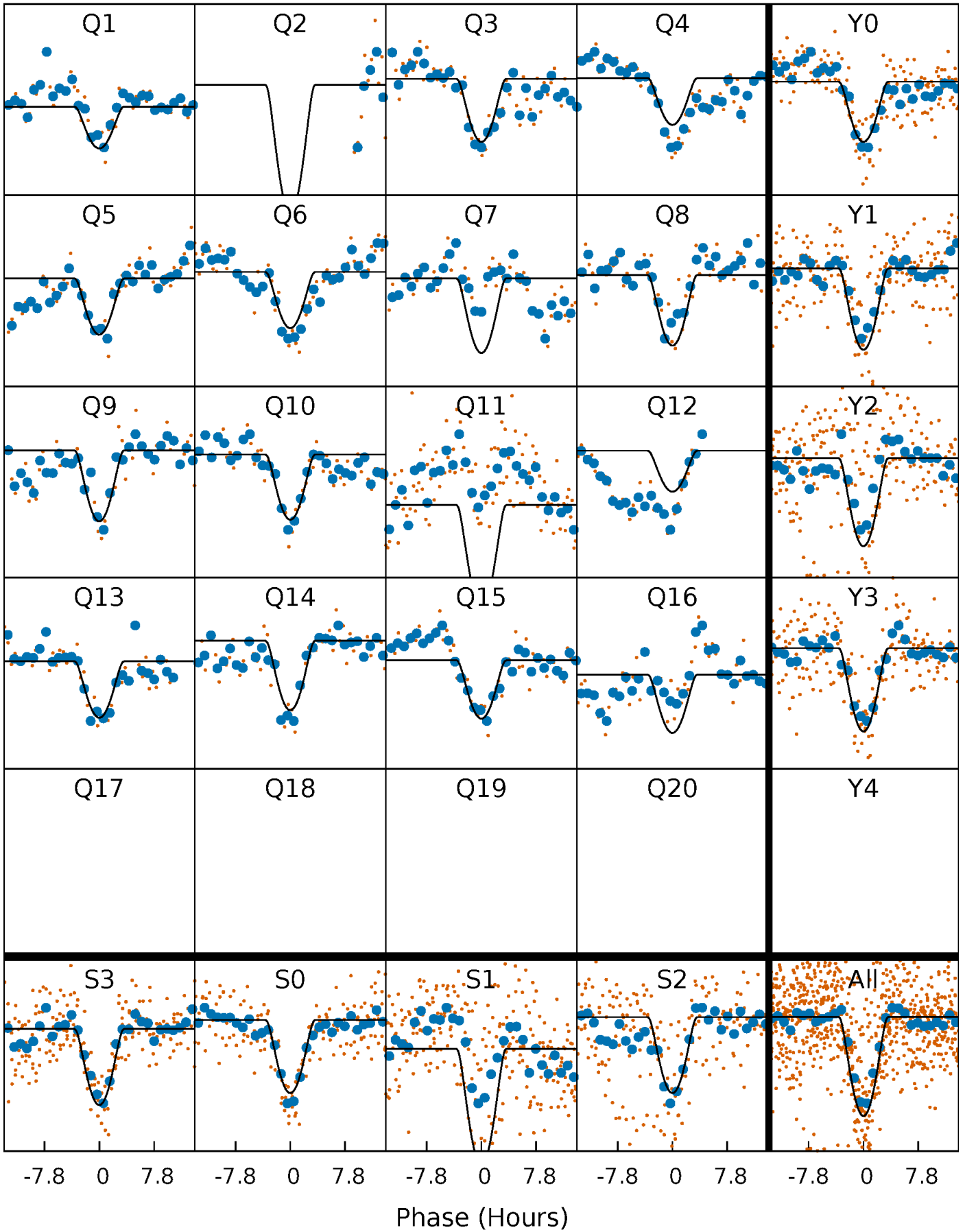
PDC Quarter-Phased Transit Curves

TCE 005130983-01 P= 86.439194 Days $T_0=144.574918$ (BKJD)



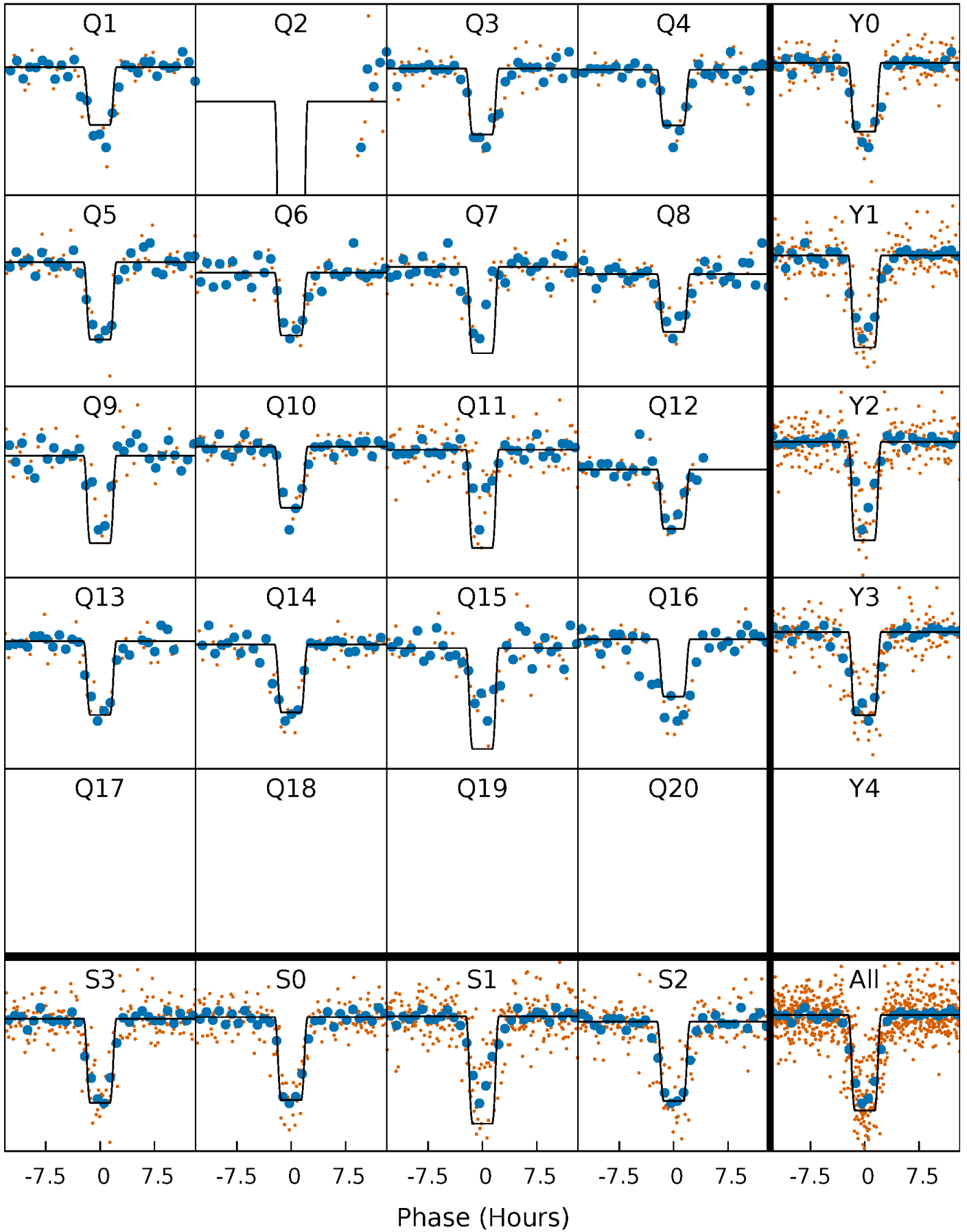
DV Quarter-Phased Transit Curves

TCE 005130983-01 P= 86.439194 Days $T_0=144.574918$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

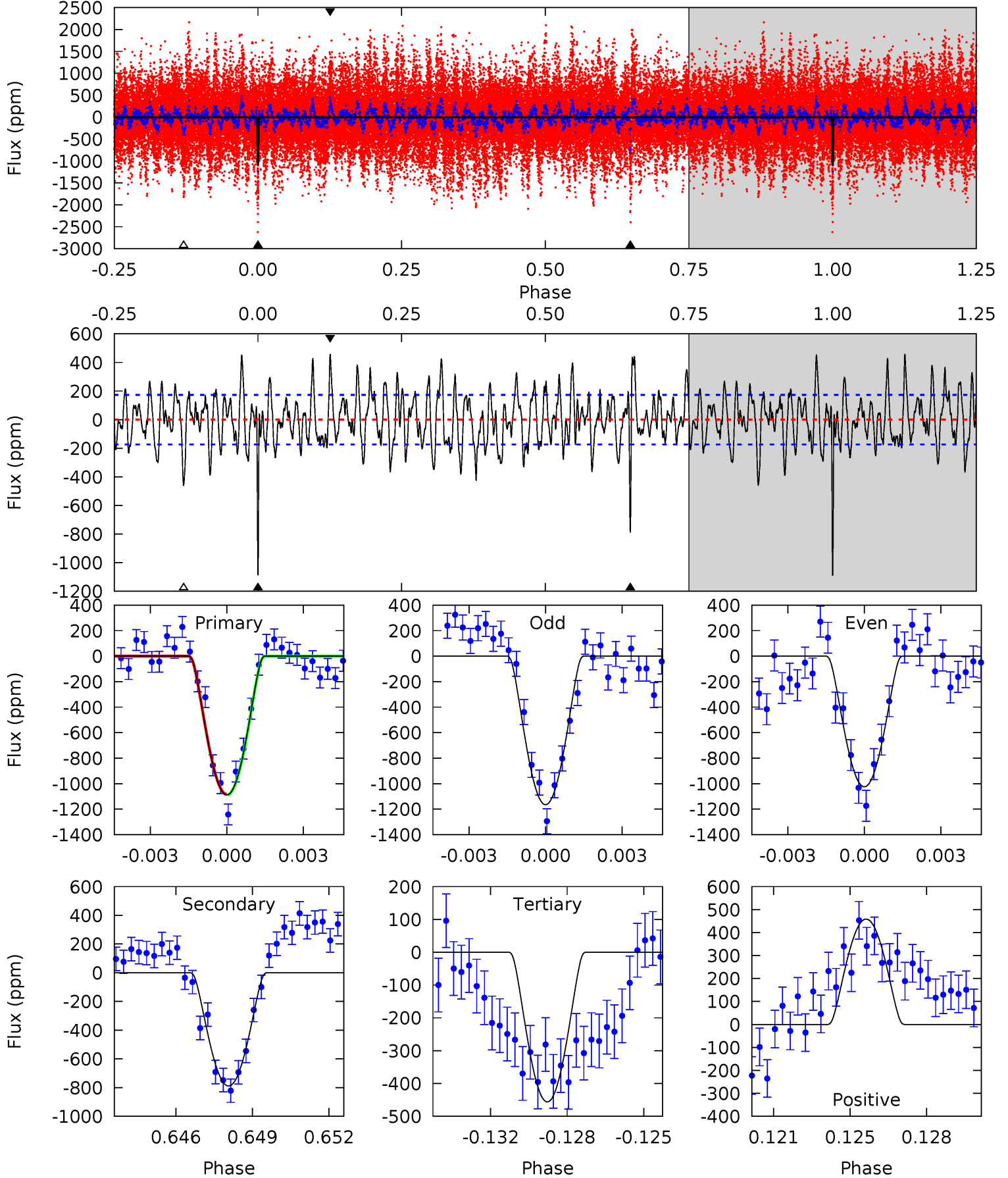
TCE 005130983-01 P= 86.439827 Days $T_0=144.571314$ (BKJD)



DV Model-Shift Uniqueness Test

005130983-01, P = 86.439194 Days, E = 58.135724 Days

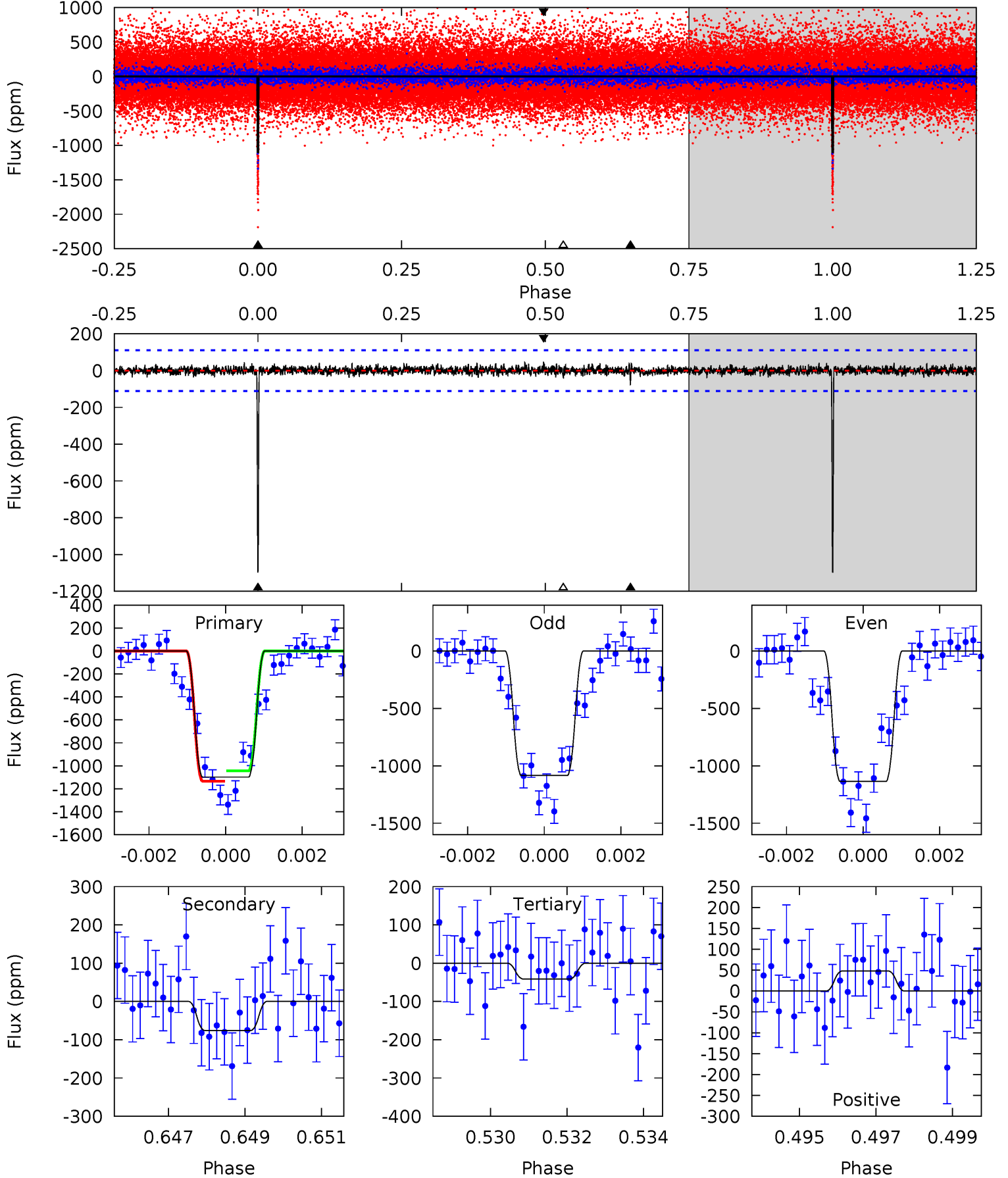
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.8	23.8	13.7	13.8	5.23	2.92	4.82	19.0	18.9	10.0	9.95	2.11	0.87	0.30	0.07



Alt Model-Shift Uniqueness Test

005130983-01, P = 86.439827 Days, E = 58.131487 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.5	3.62	1.98	2.29	5.31	3.07	0.58	50.5	50.2	1.64	1.33	1.20	0.96	0.04	2.17



Stellar Parameters For KIC 005130983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6208^{+172}_{-216}	$4.454^{+0.054}_{-0.202}$	$-0.120^{+0.250}_{-0.350}$	$1.024^{+0.332}_{-0.111}$	$1.086^{+0.141}_{-0.141}$	$1.423^{+0.393}_{-0.734}$
	+3%/-3%	+1%/-5%	+208%/-292%	+32%/-11%	+13%/-13%	+28%/-52%
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 005130983-01 / KOI 3325.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-789 ± 33	$8.49^{+6.89}_{-5.47}$	629^{+47}_{-32}	4117^{+2451}_{-715}	898^{+6502}_{-624}
Alt.	-76 ± 21	$7.23^{+6.46}_{-4.89}$	632^{+48}_{-31}	3000^{+1303}_{-491}	122^{+961}_{-92}

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 $A_{obs} \gg 1.0$

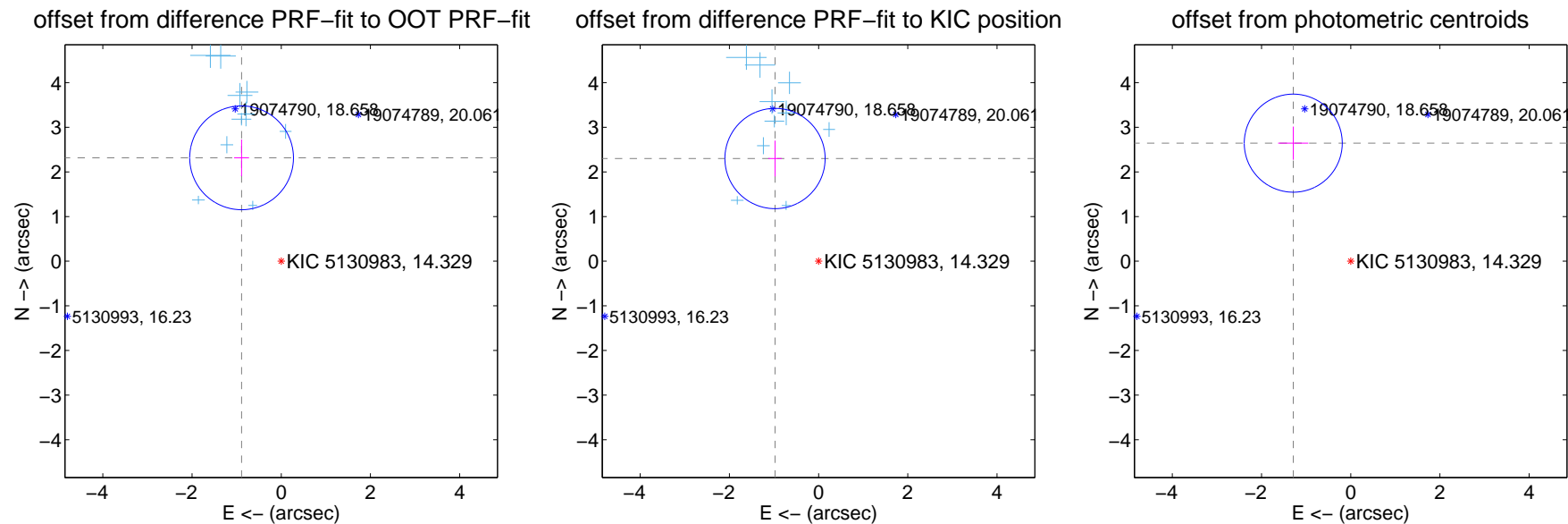
DV Centroid Data

Supplemental centroid analysis for 005130983-01. Kepler magnitude: 14.33. Transit SNR 22.06

There are 10 quarters with good PRF difference image offsets

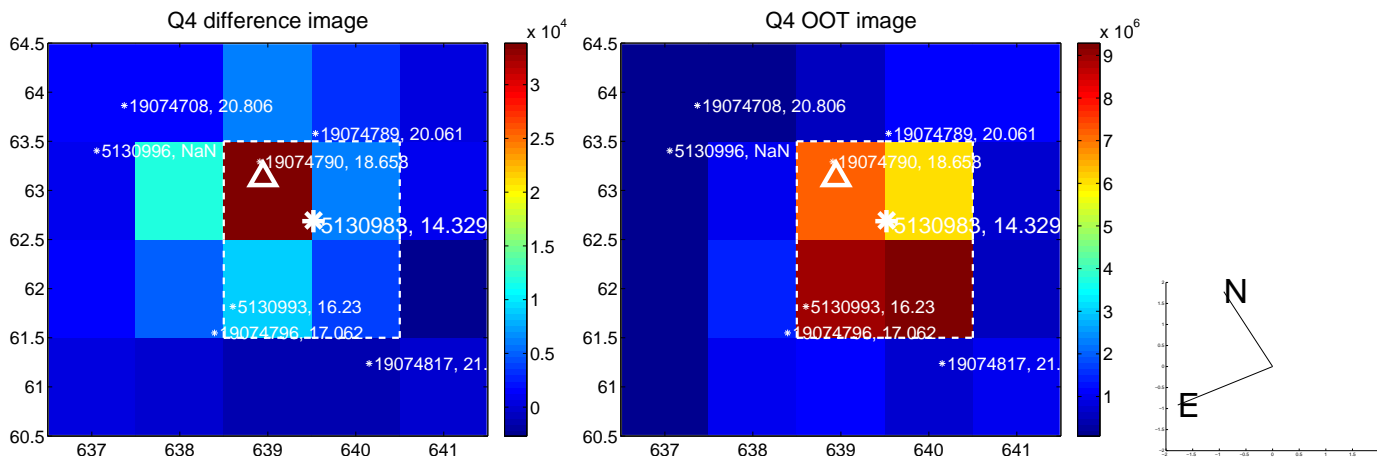
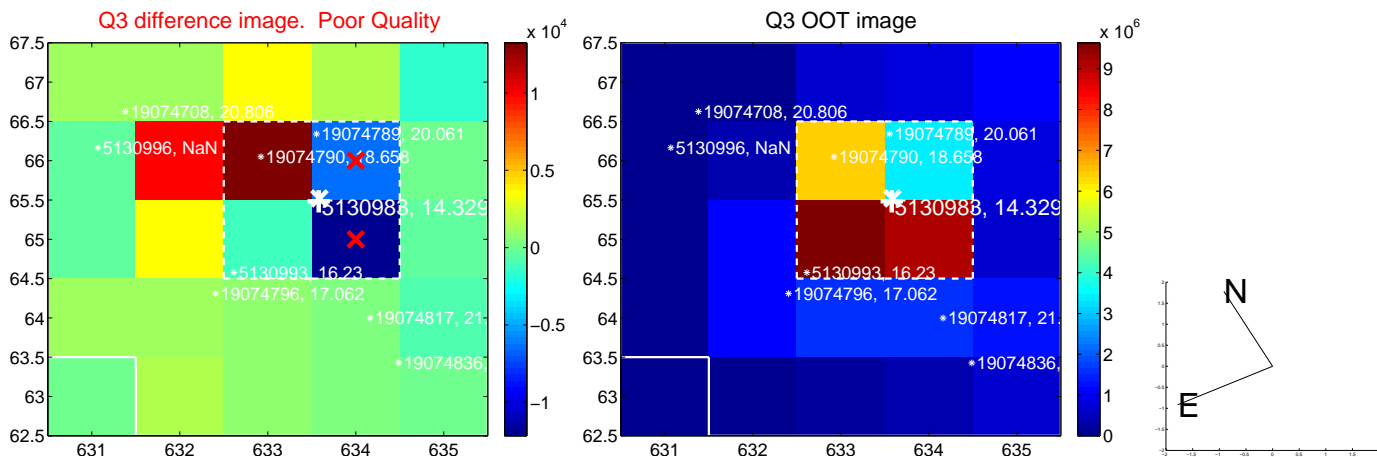
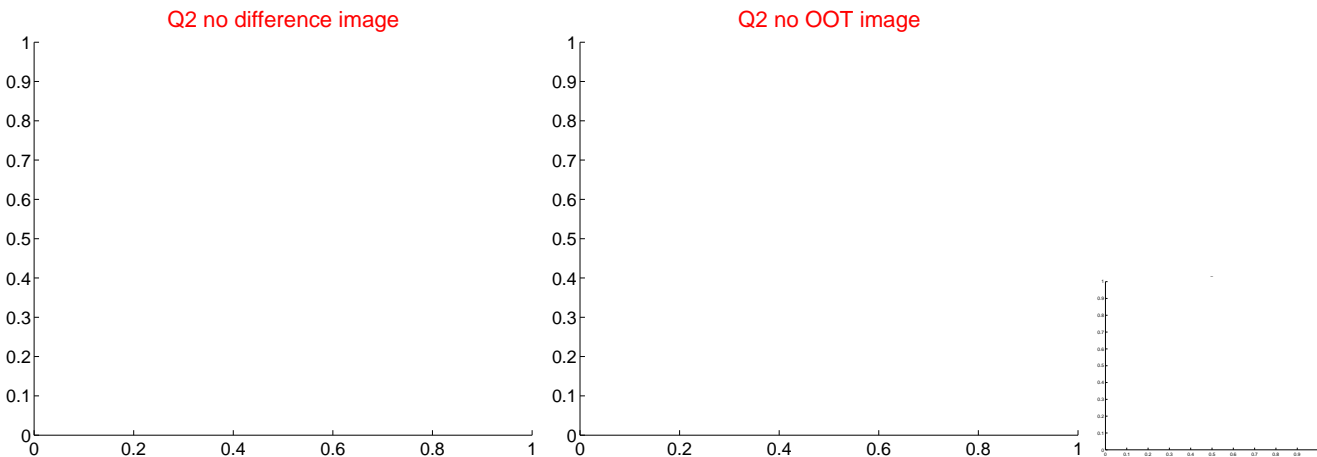
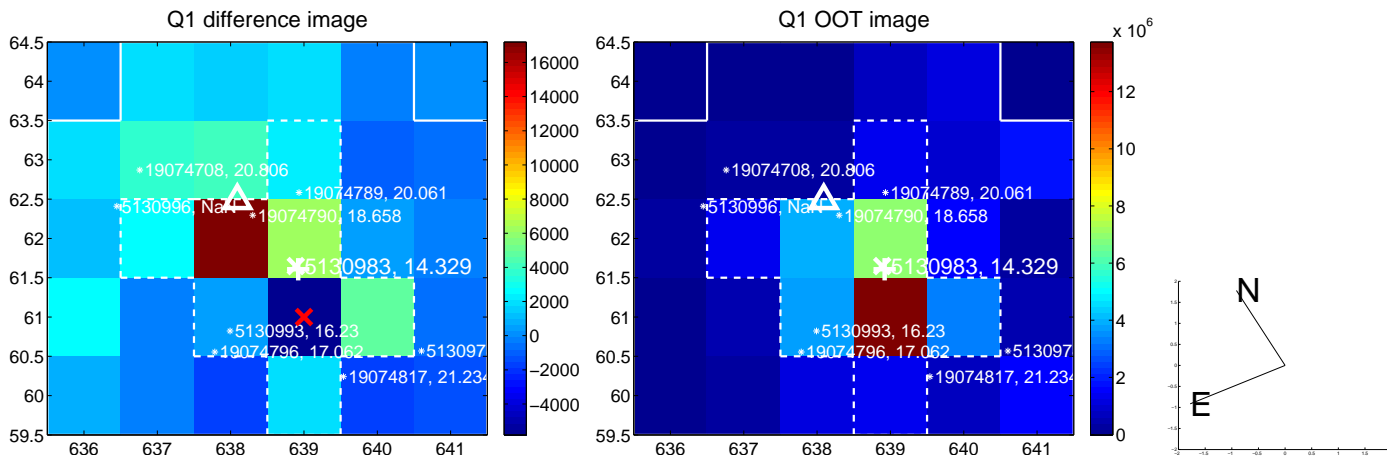
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.481 ± 0.388	6.40	0.889 ± 0.168	2.316 ± 0.410
PRF-fit source offset from KIC position	2.499 ± 0.374	6.67	0.977 ± 0.150	2.300 ± 0.402
photometric centroid source offset	2.94 ± 0.37	8.03	1.29 ± 0.34	2.64 ± 0.37

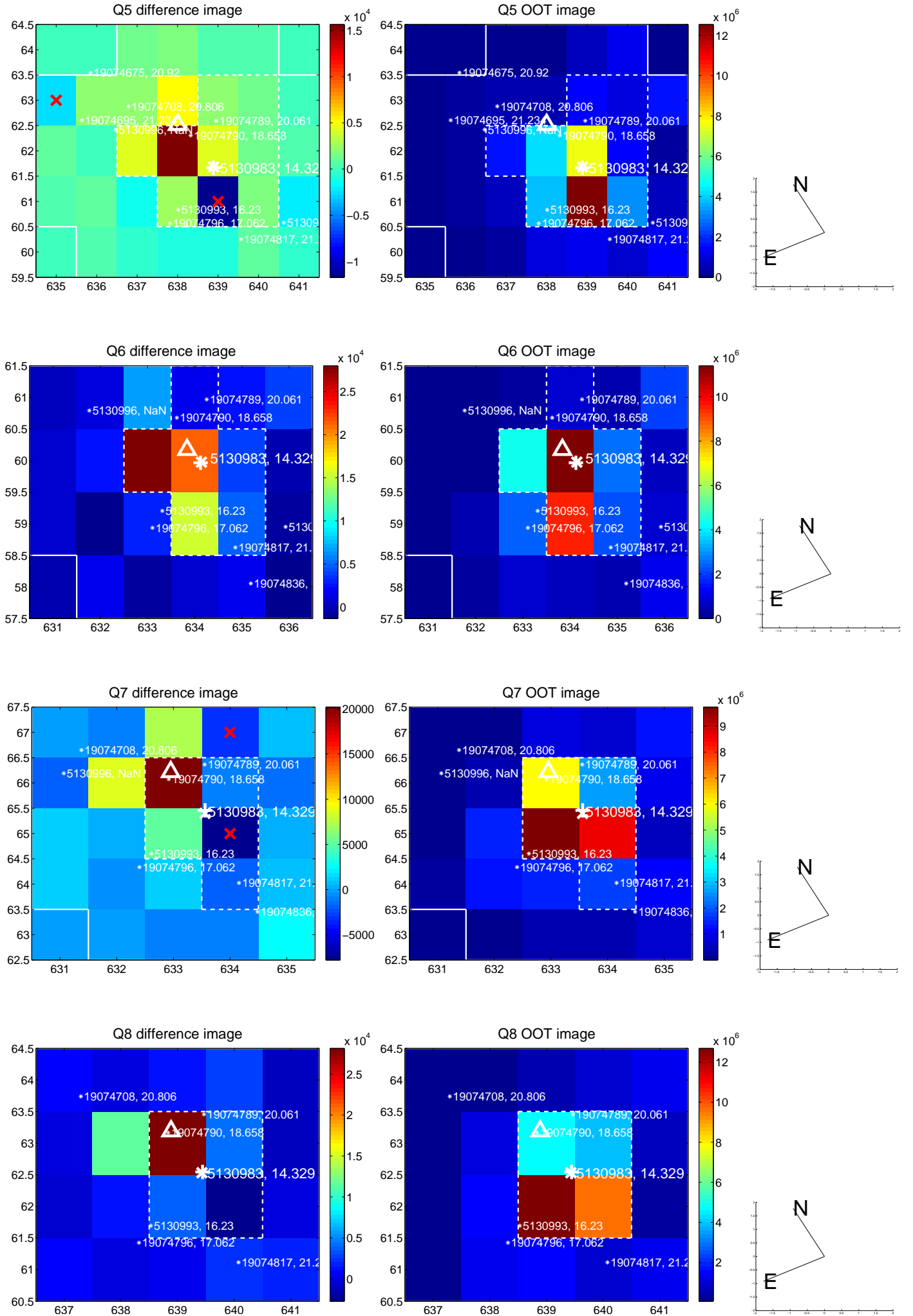


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

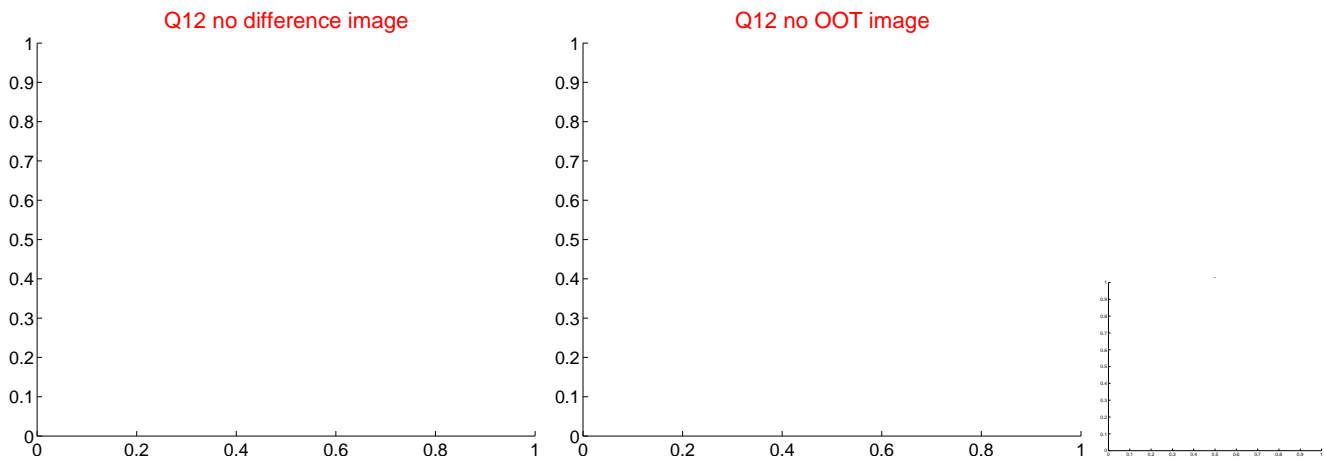
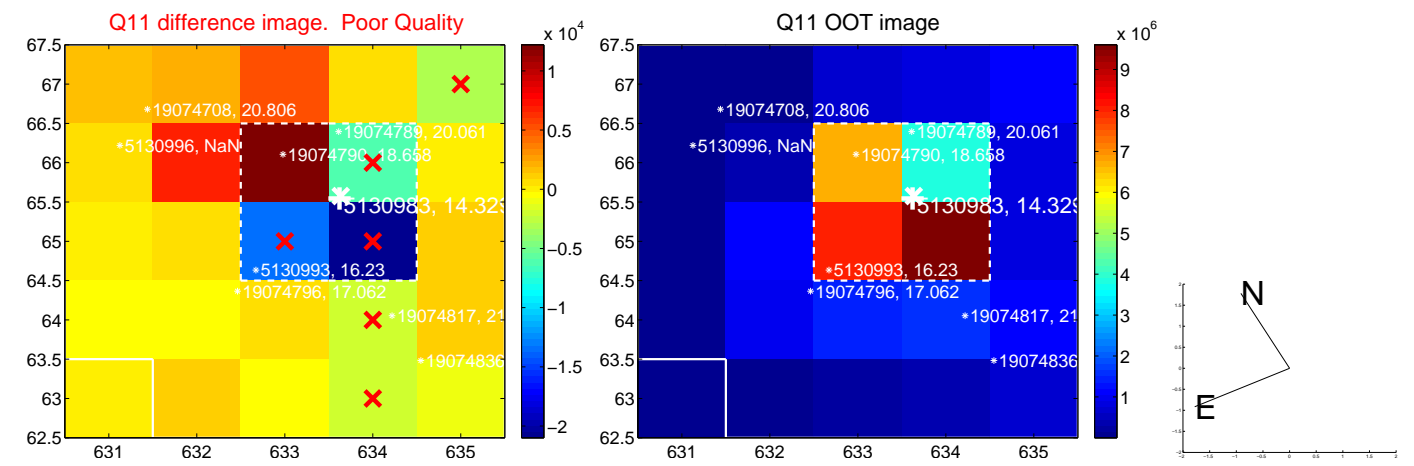
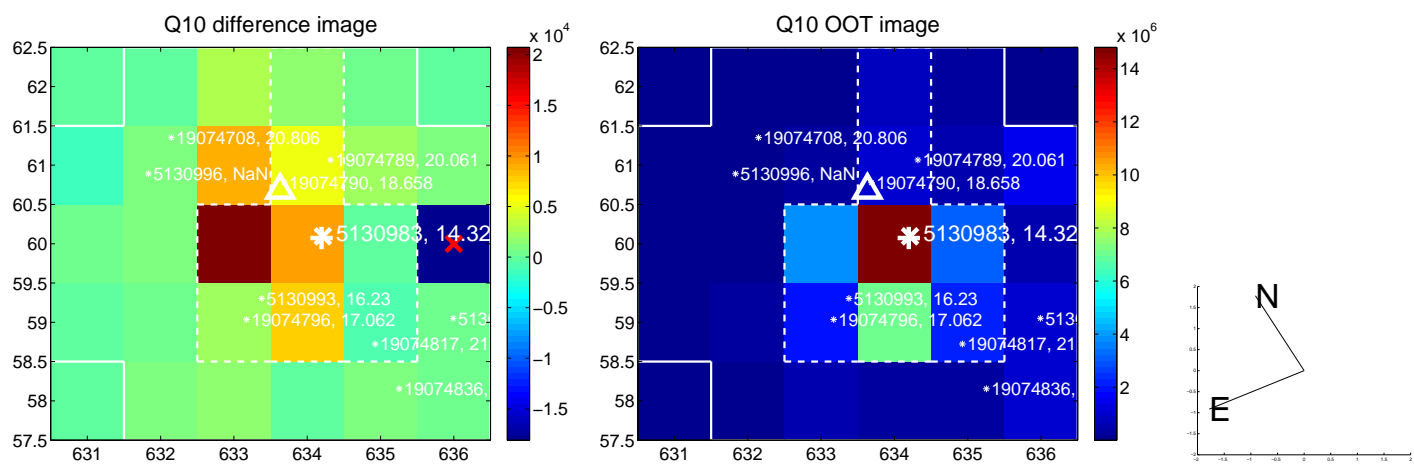
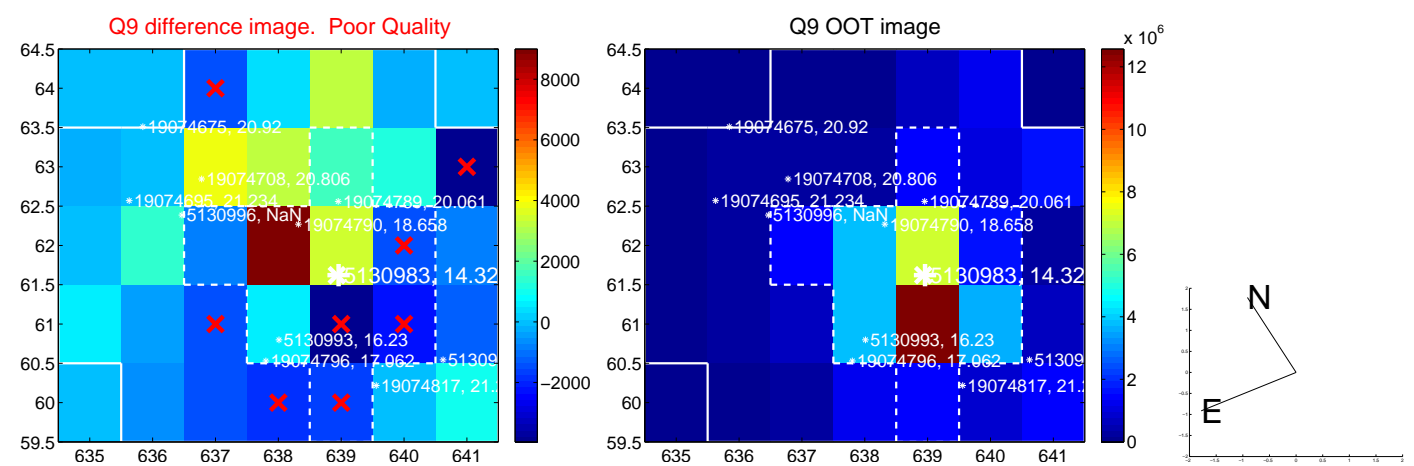
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



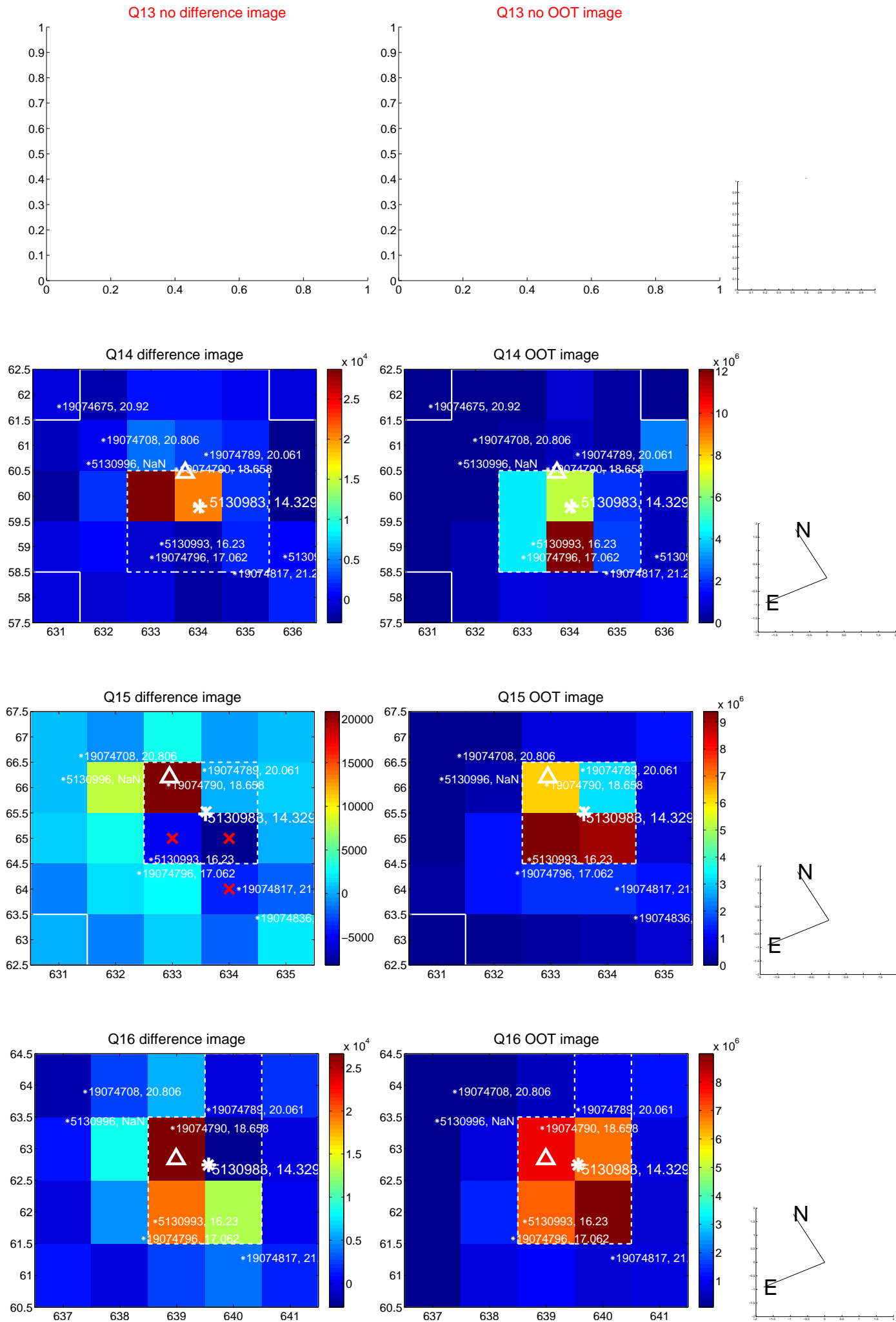
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



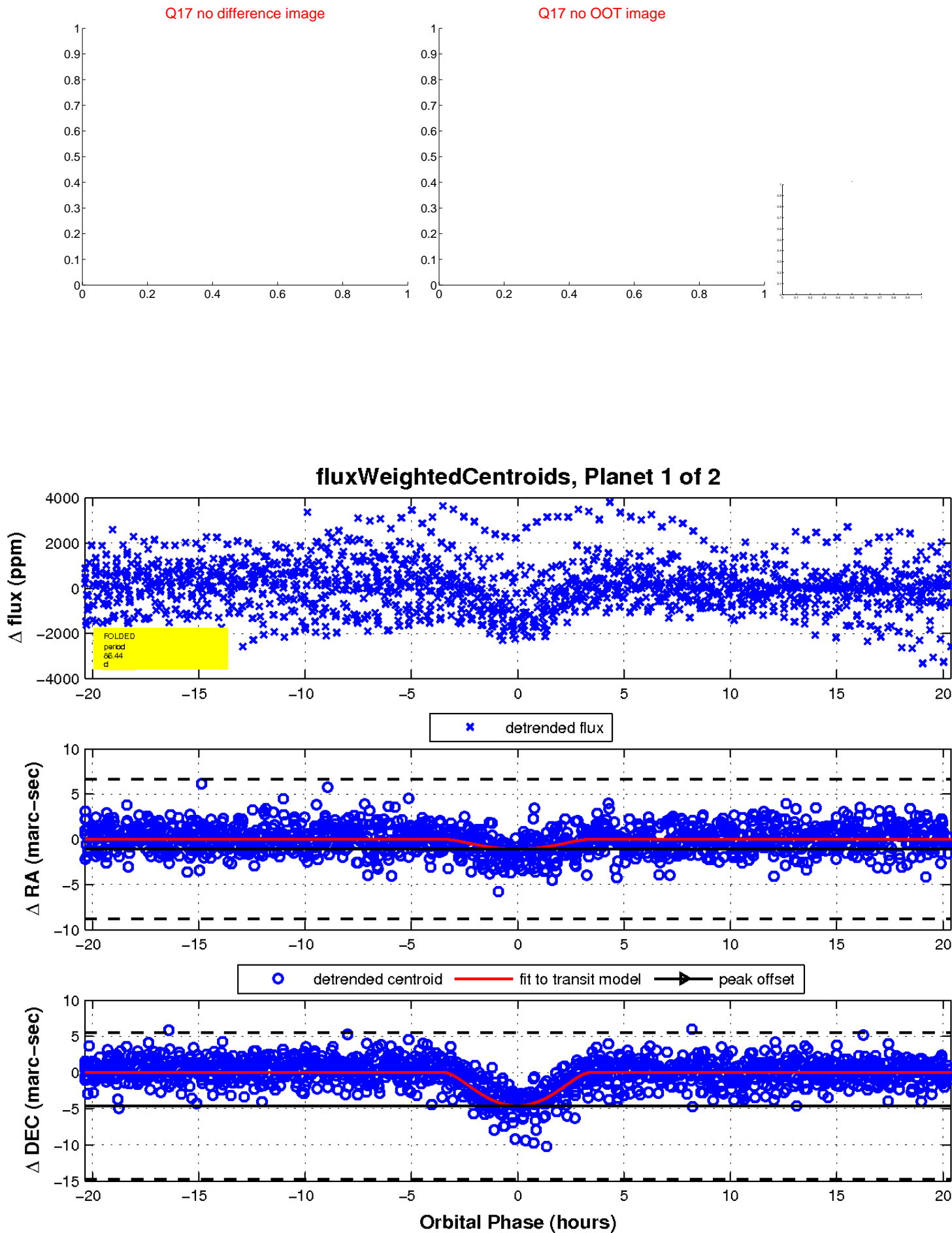
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

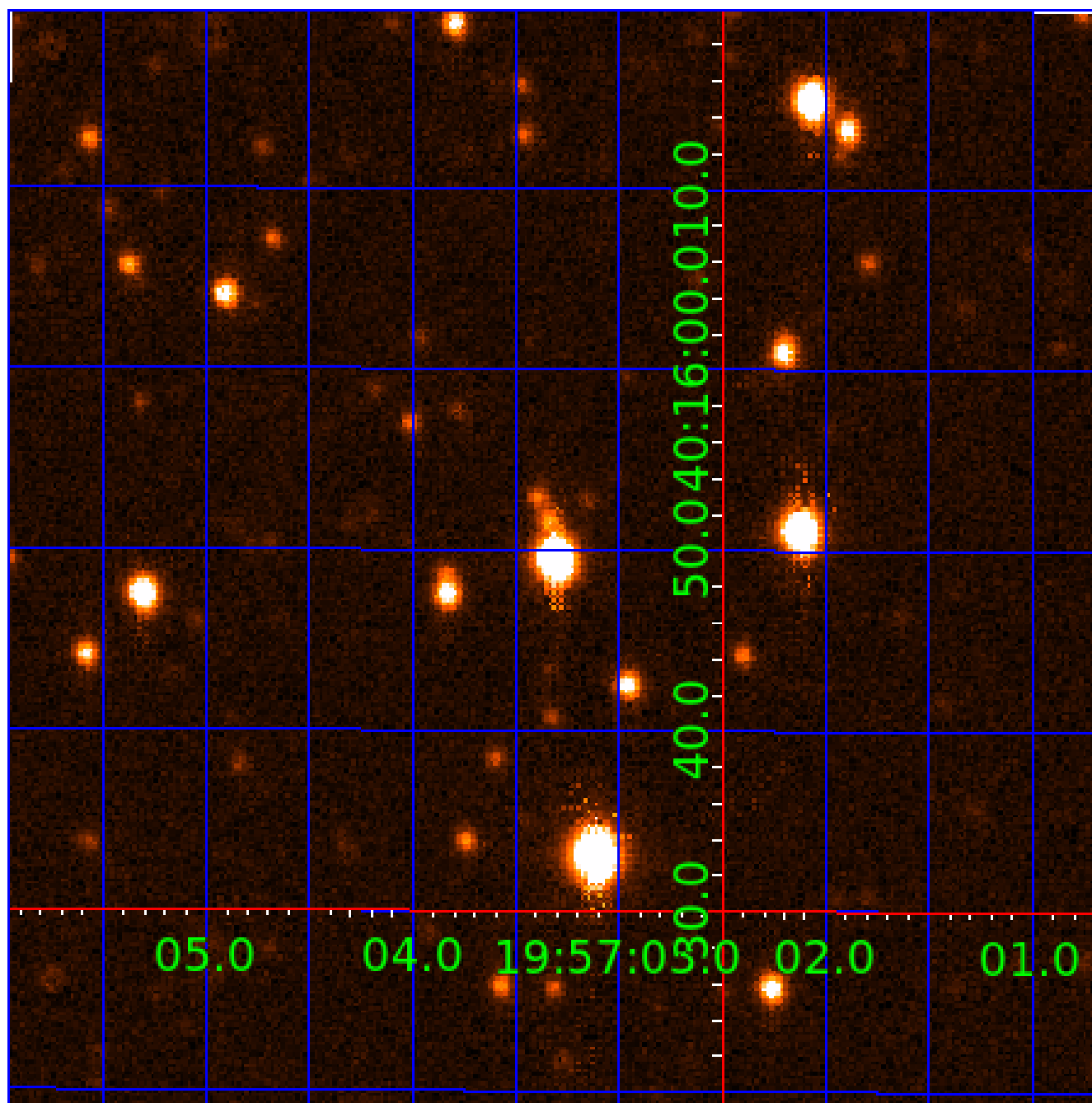


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005130983

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})
005130983-01	OBS	3325.01	86.439194	144.574918	1300.3	6.793	18.5	22.1	1.02	6208	6.99	9.01
005130983-02	OBS	No	86.441957	200.547867	1141.5	9.351	15.4	17.0	1.02	6208	6.46	9.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005130983-01	OBS	FP	0.00	0	1	1	0	DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
005130983-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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 005130983-02

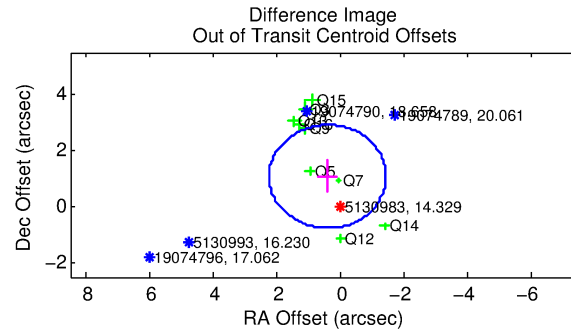
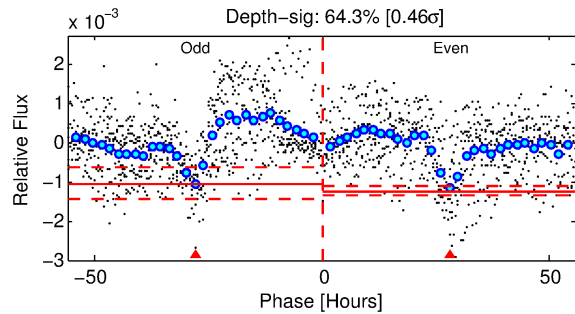
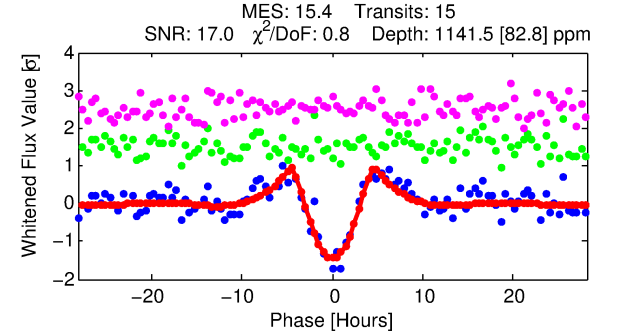
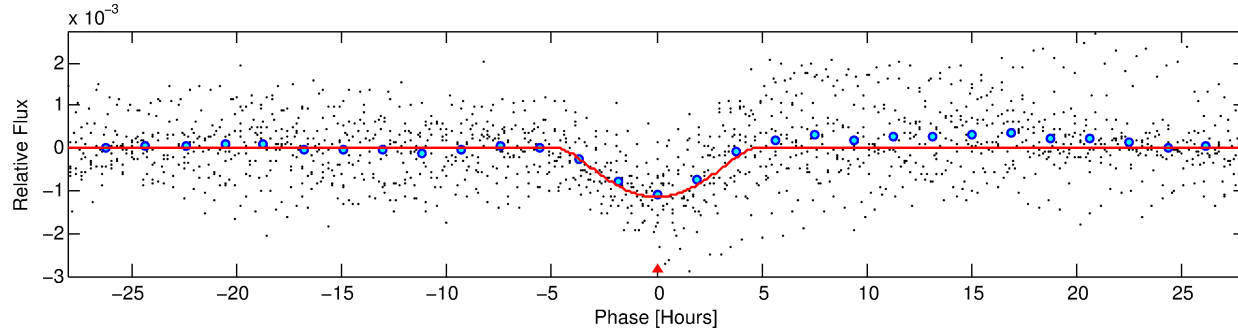
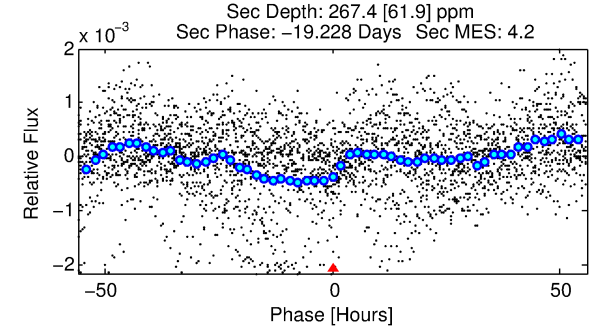
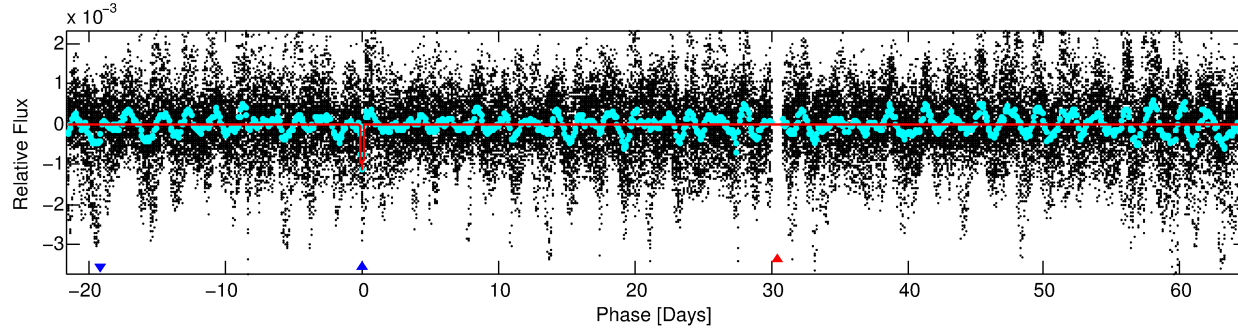
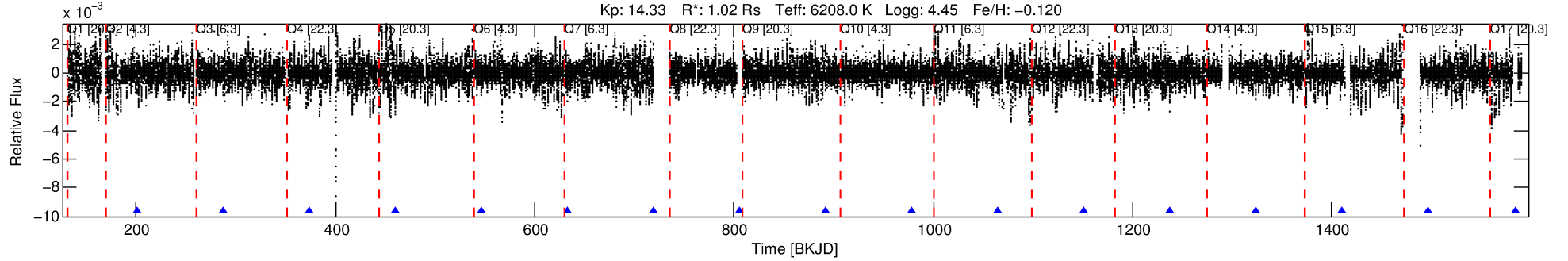
No Significant Match Found

DV One-Page Summary

KIC: 5130983 Candidate: 2 of 2 Period: 86.442 d

KOI: K03325 Corr: No Ephemeris Match

Kp: 14.33 R*: 1.02 Rs Teff: 6208.0 K Logg: 4.45 Fe/H: -0.120



DV Fit Results:

Period = 86.44196 [0.00087] d
Epoch = 200.5479 [0.0080] BKJD
Rp/R* = 0.0579 [0.0560]
a/R* = 24.68 [5.76]
b = 1.00 [0.08]
Seff = 9.01 [3.63]
Teq = 442 [44] K
Rp = 6.46 [6.60] Re
a = 0.3936 [0.1047] AU
Ag = 545.34 [1082.62] [0.50σ]
Teffp = 3301 [1612] K [1.77σ]

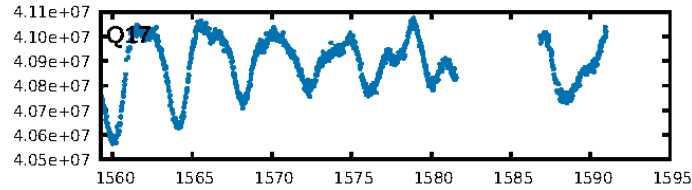
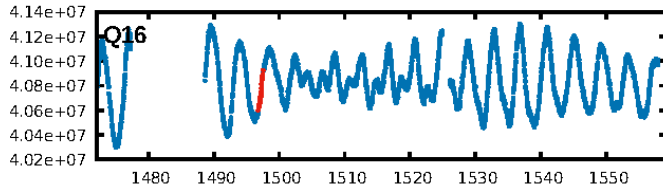
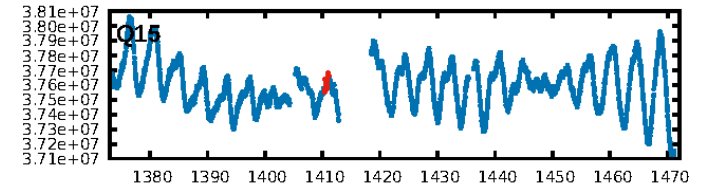
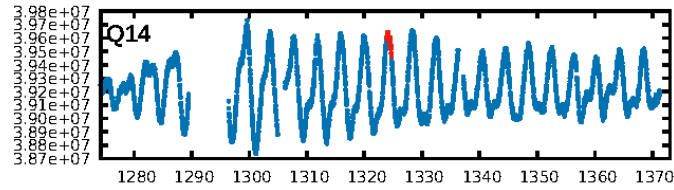
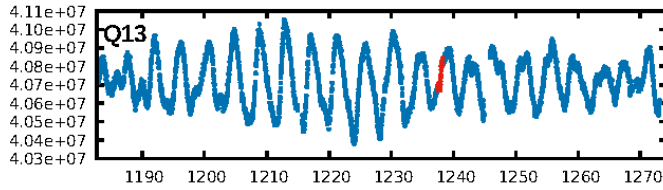
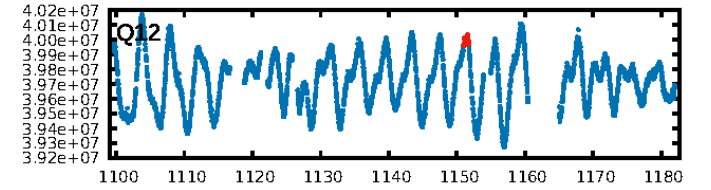
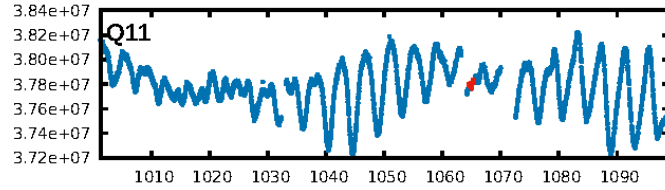
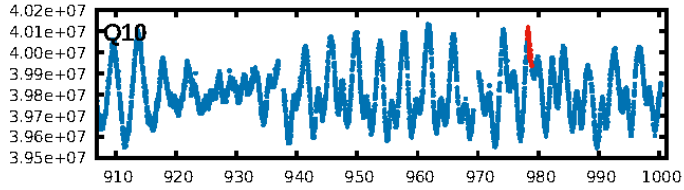
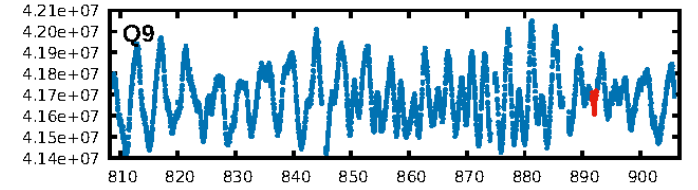
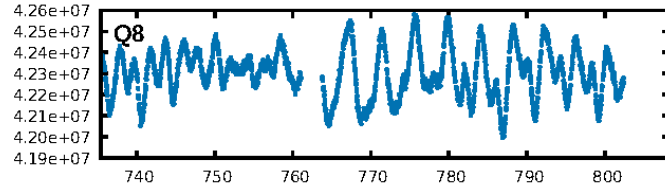
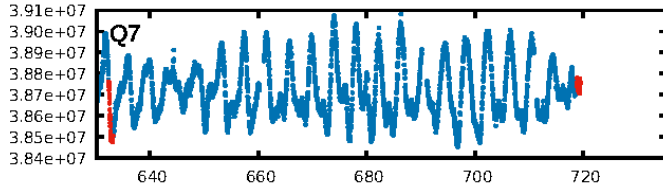
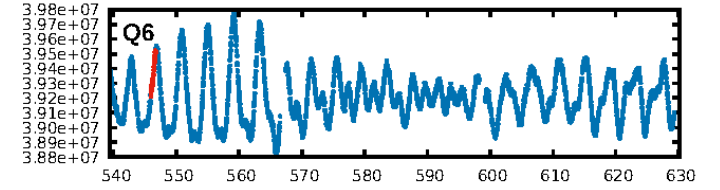
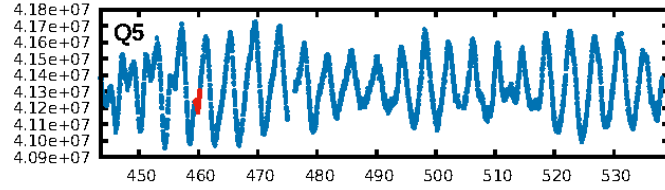
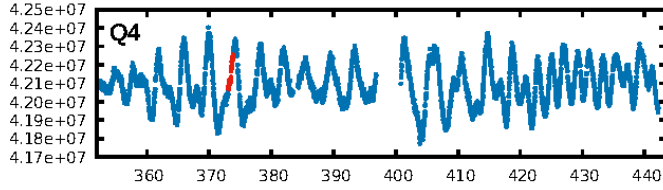
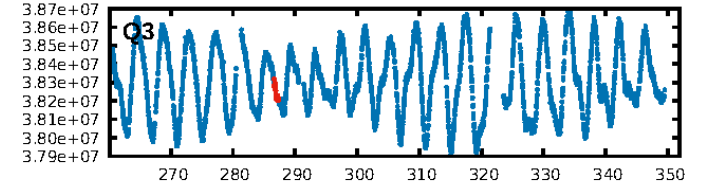
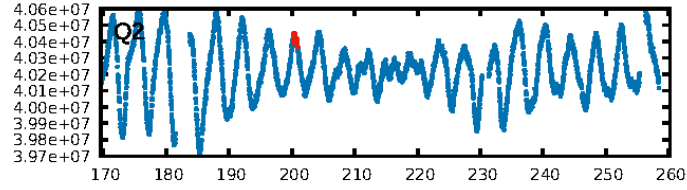
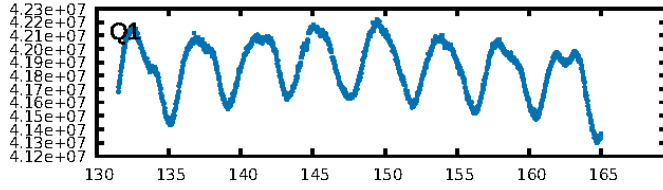
DV Diagnostic Results:

ShortPeriod-sig: 0.5% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.31e-45
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 0.6341
Centroid-sig: 0.0%
Centroid-so: 3.501 arcsec [8.97σ]
OotOffset-rm: 1.152 arcsec [1.88σ]
KicOffset-rm: 1.224 arcsec [2.02σ]
OotOffset-st: 1/3/2/3 [9]
KicOffset-st: 1/3/2/3 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 1.00 [11/11]

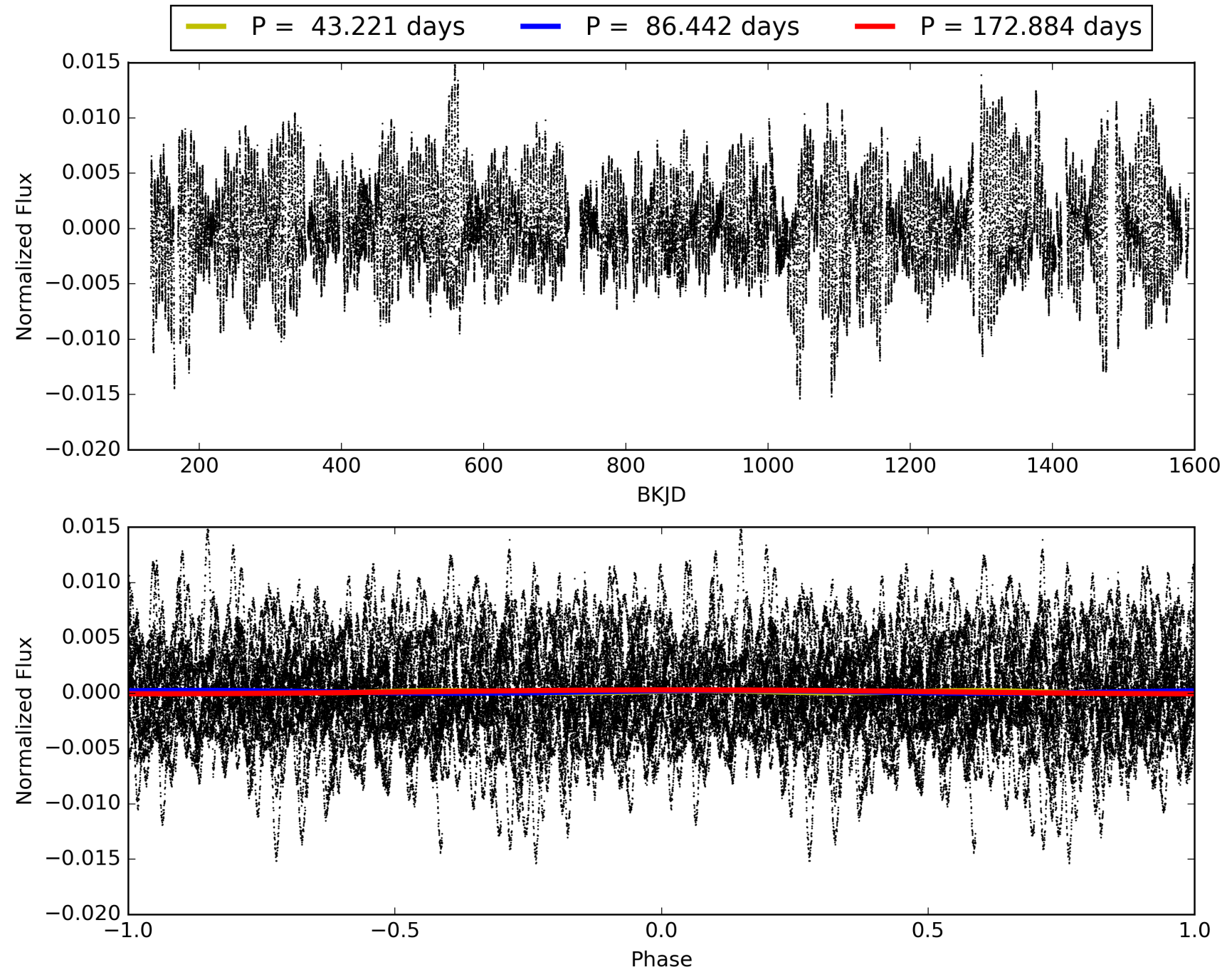
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:44:06 Z

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

TCE 005130983-02, PDC Light Curves

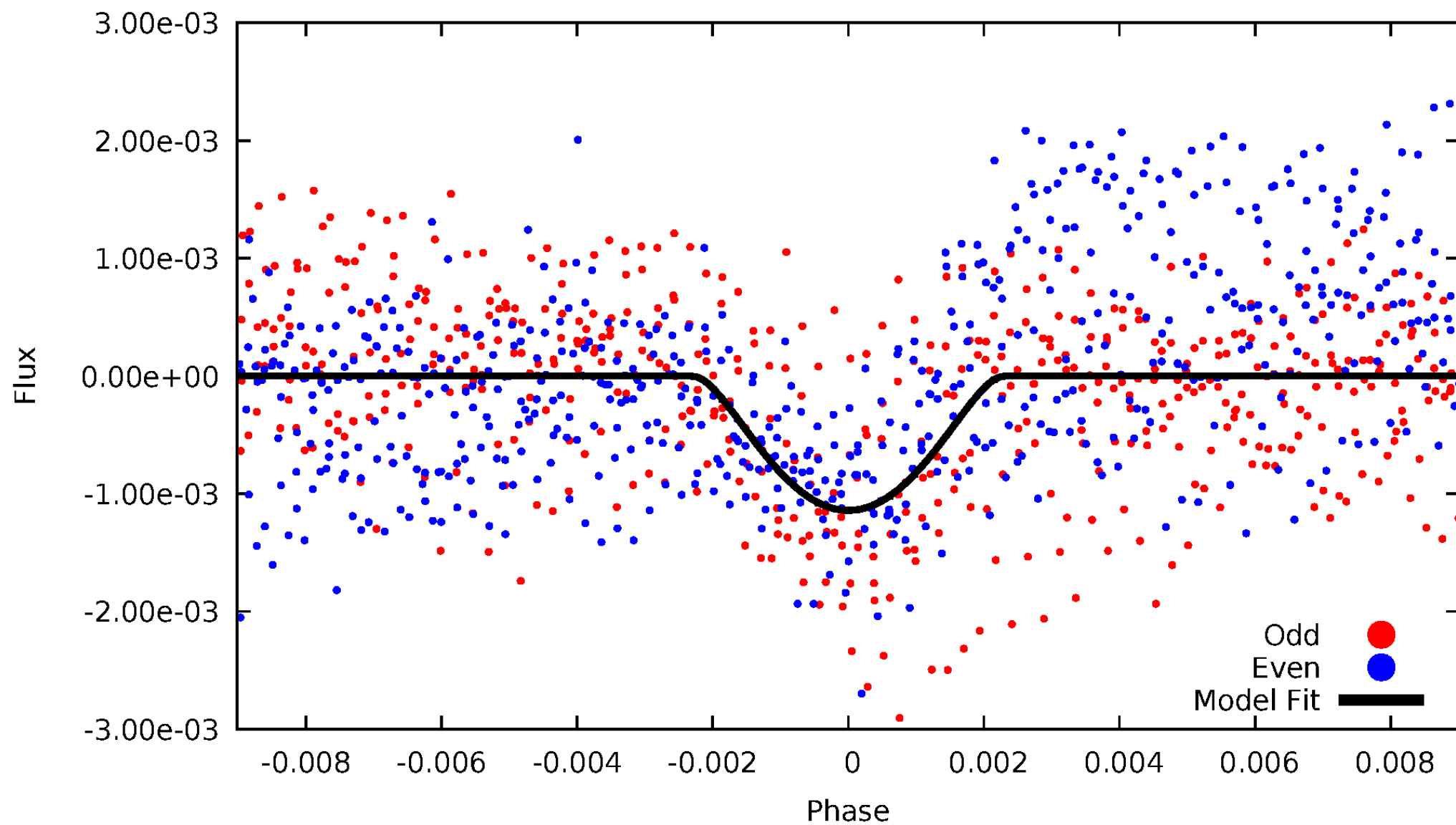


TCE 005130983-02



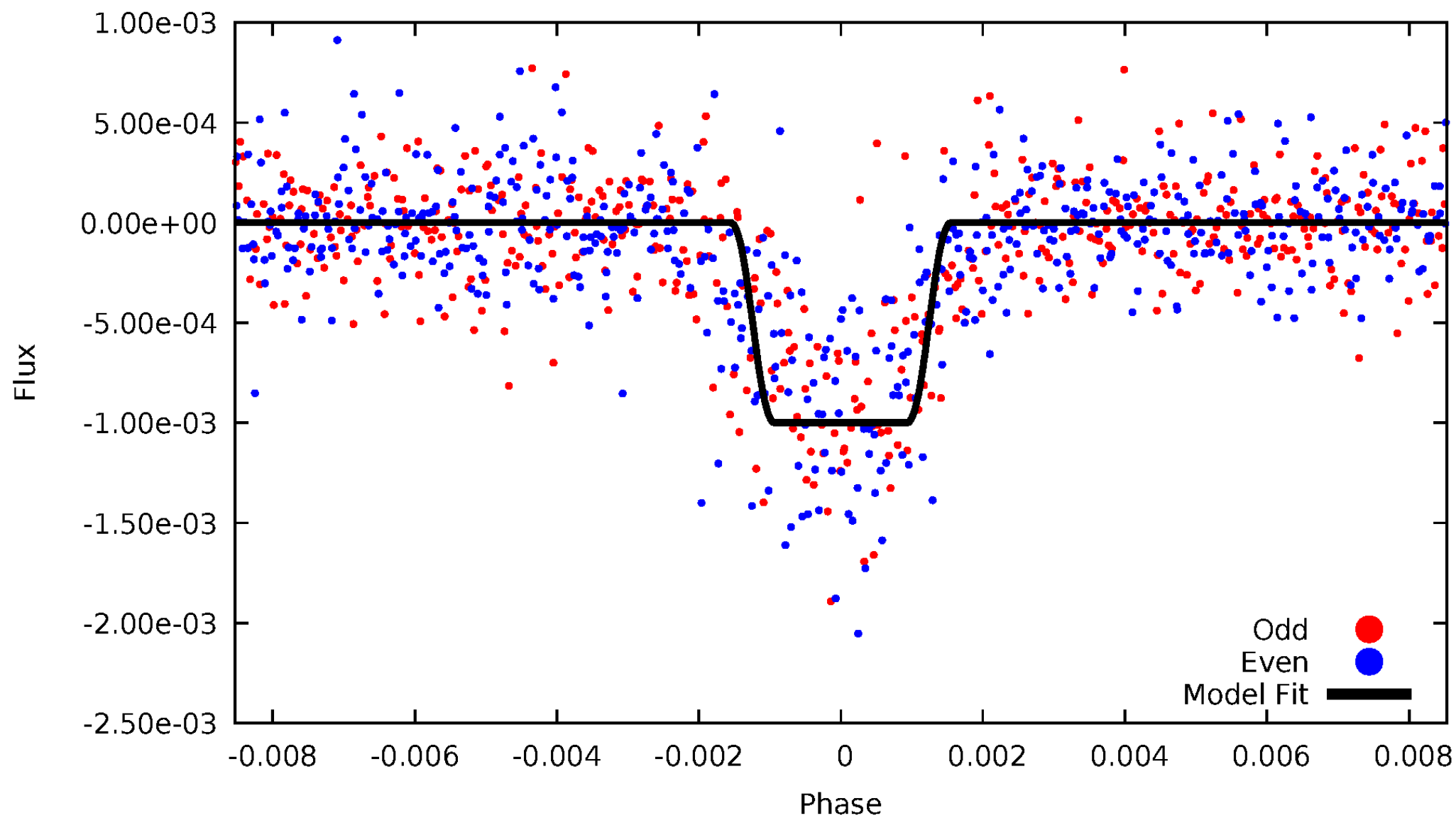
DV Odd/Even

TCE 005130983-02



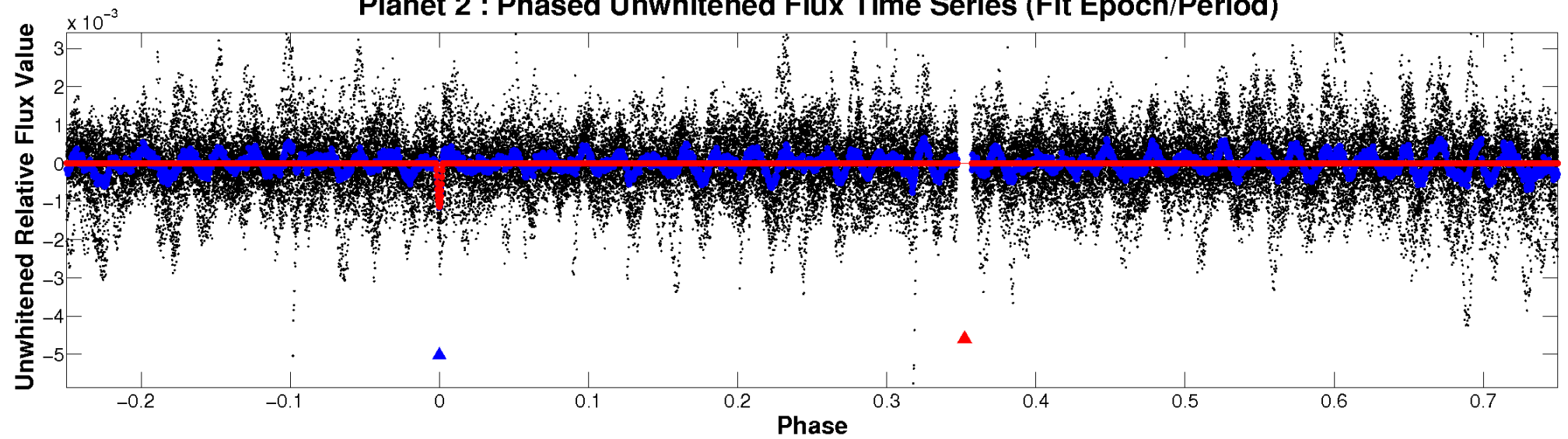
ALT Odd/Even

TCE 005130983-02

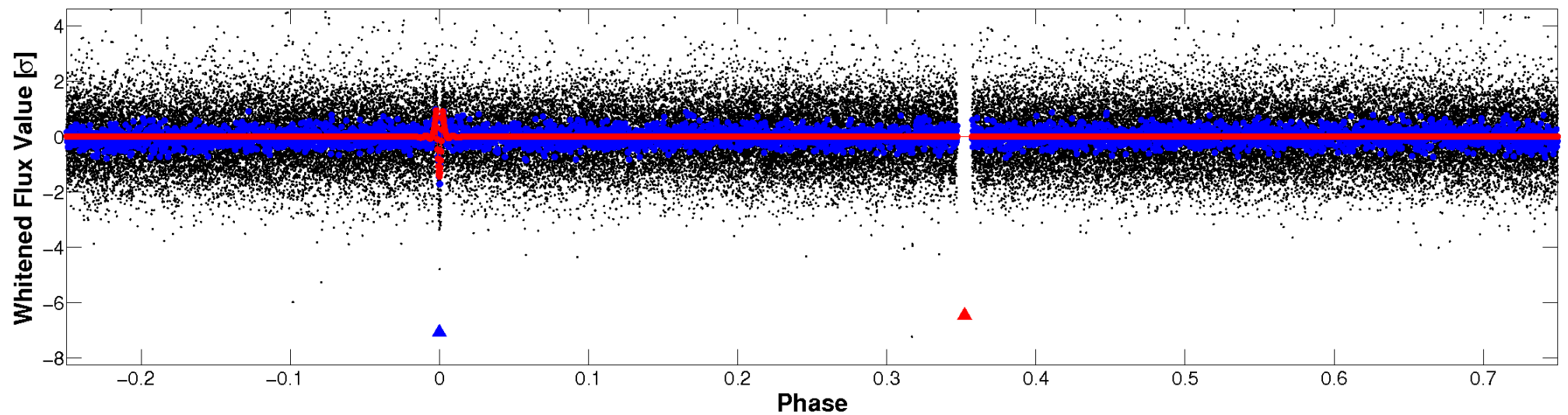


Non-Whitened Vs. Whitened Light Curve

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

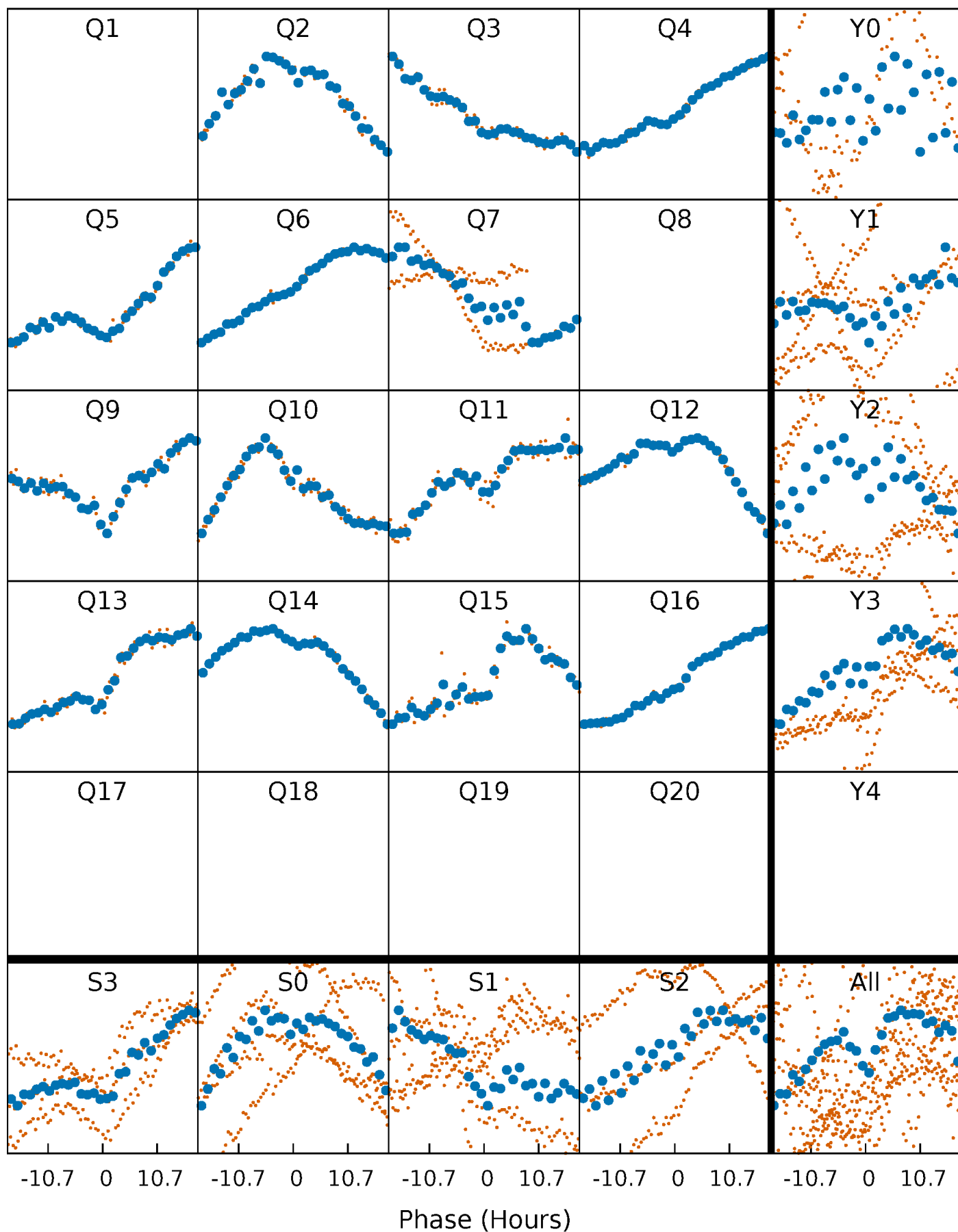


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



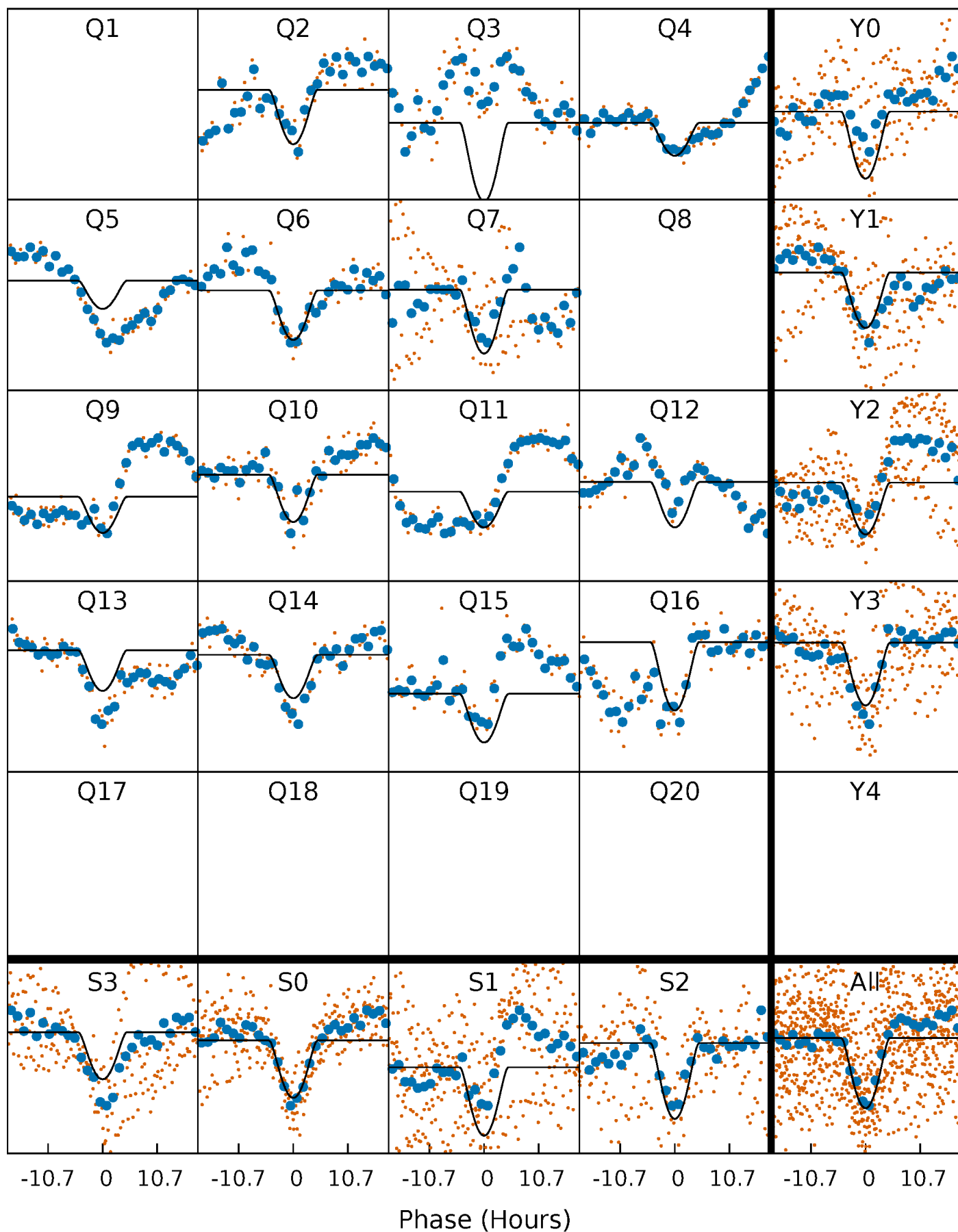
PDC Quarter-Phased Transit Curves

TCE 005130983-02 P= 86.441957 Days $T_0=200.547867$ (BKJD)



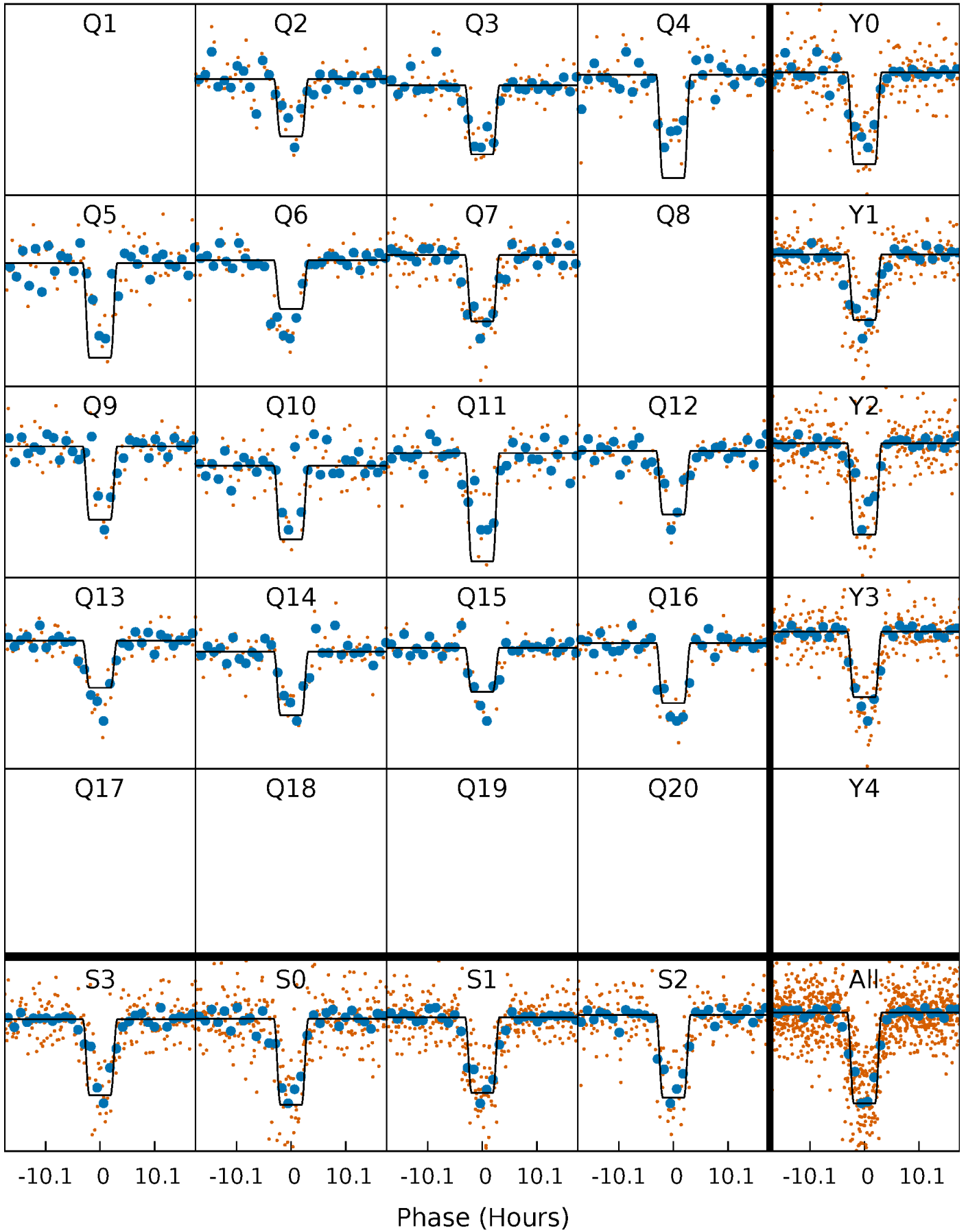
DV Quarter-Phased Transit Curves

TCE 005130983-02 P= 86.441957 Days $T_0=200.547867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

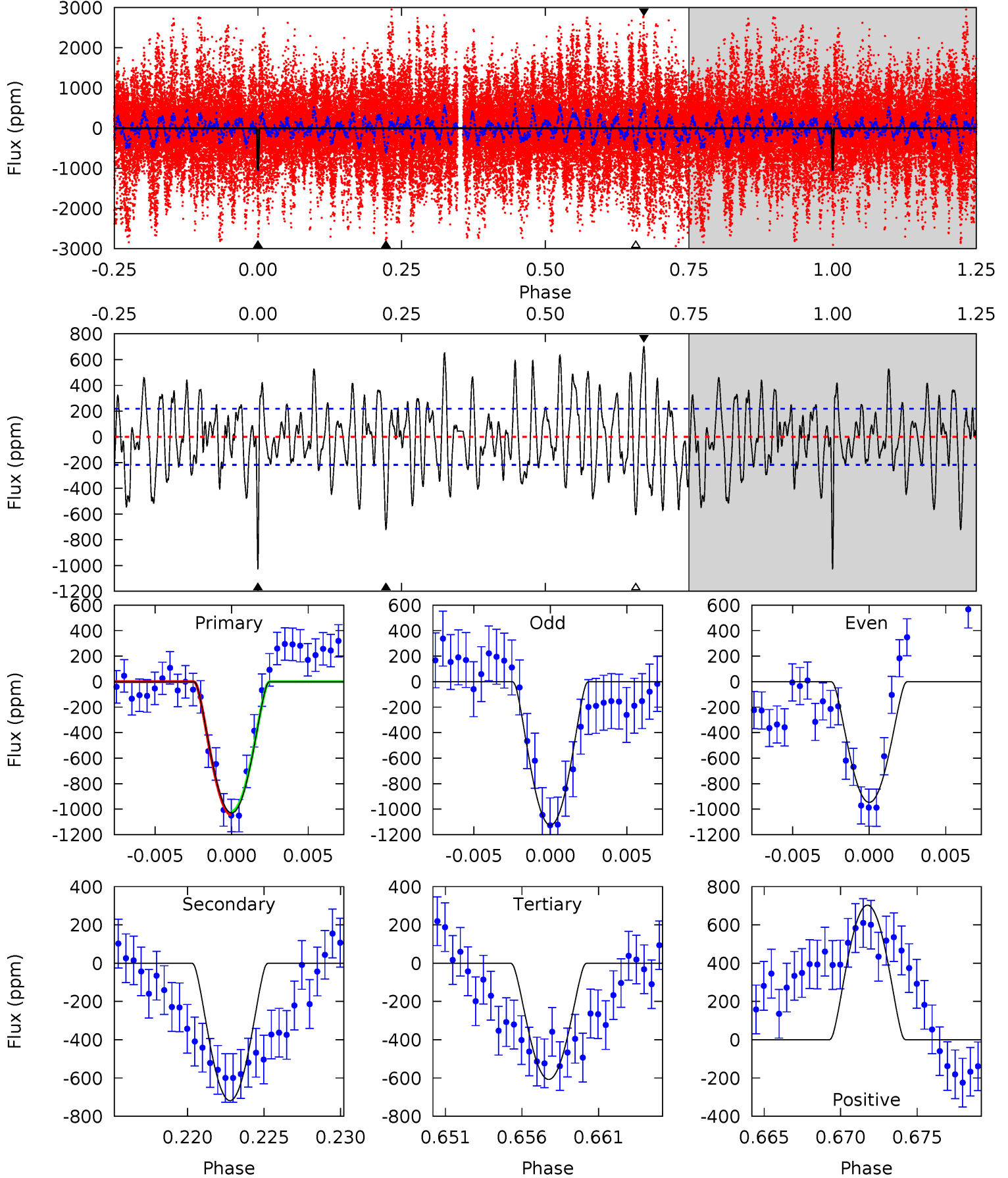
TCE 005130983-02 P= 86.440620 Days $T_0=200.559730$ (BKJD)



DV Model-Shift Uniqueness Test

005130983-02, P = 86.441957 Days, E = 114.105910 Days

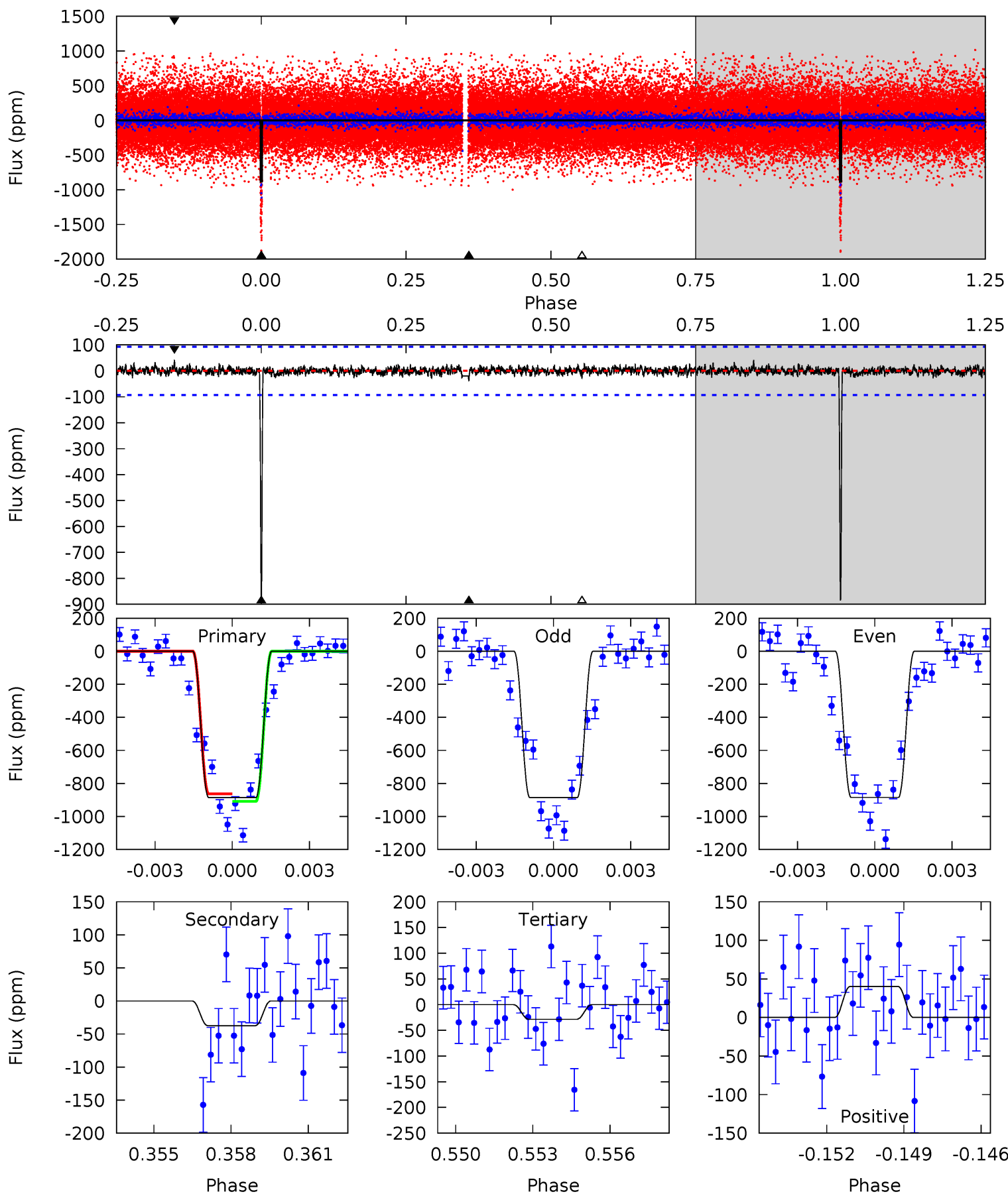
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	17.0	14.4	16.7	5.17	2.83	5.91	10.00	7.73	2.62	0.35	2.13	0.98	0.41	0.33



Alt Model-Shift Uniqueness Test

005130983-02, P = 86.440620 Days, E = 114.119110 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.0	2.11	1.61	2.28	5.25	2.96	0.50	48.4	47.7	0.50	-0.17	0.02	1.08	0.04	1.26



Stellar Parameters For KIC 005130983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6208^{+172}_{-216}	$4.454^{+0.054}_{-0.202}$	$-0.120^{+0.250}_{-0.350}$	$1.024^{+0.332}_{-0.111}$	$1.086^{+0.141}_{-0.141}$	$1.423^{+0.393}_{-0.734}$
	+3%/-3%	+1%/-5%	+208%/-292%	+32%/-11%	+13%/-13%	+28%/-52%
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 005130983-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-718 ± 42	$8.30^{+5.67}_{-4.76}$	629^{+48}_{-30}	4127^{+1792}_{-685}	901^{+3990}_{-609}
Alt.	-37 ± 18	$6.09^{+5.61}_{-3.99}$	629^{+43}_{-31}	2822^{+956}_{-474}	80^{+531}_{-63}

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 $A_{obs} \gg 1.0$

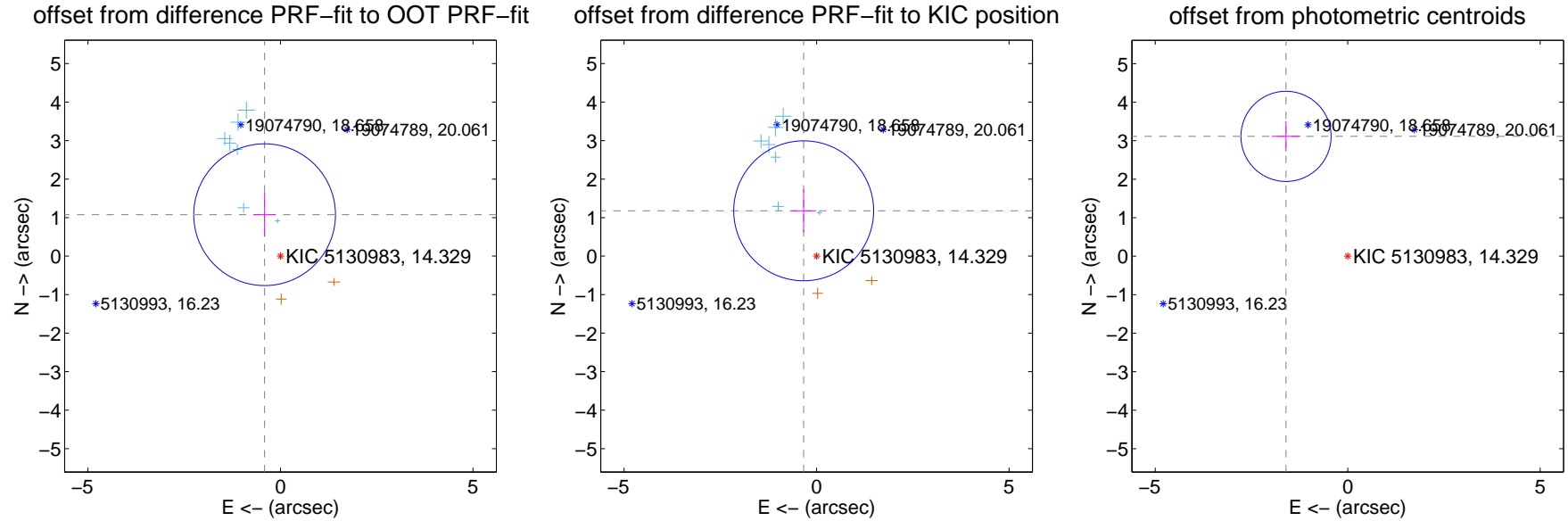
DV Centroid Data

Supplemental centroid analysis for 005130983-02. Kepler magnitude: 14.33. Transit SNR 16.97

There are 7 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.152 ± 0.613	1.88	0.412 ± 0.291	1.076 ± 0.566
PRF-fit source offset from KIC position	1.224 ± 0.606	2.02	0.335 ± 0.319	1.177 ± 0.557
photometric centroid source offset	3.50 ± 0.39	8.97	1.60 ± 0.37	3.11 ± 0.40



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 are from the UKIRT catalog.

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

Q1 no difference image



Q1 no OOT image



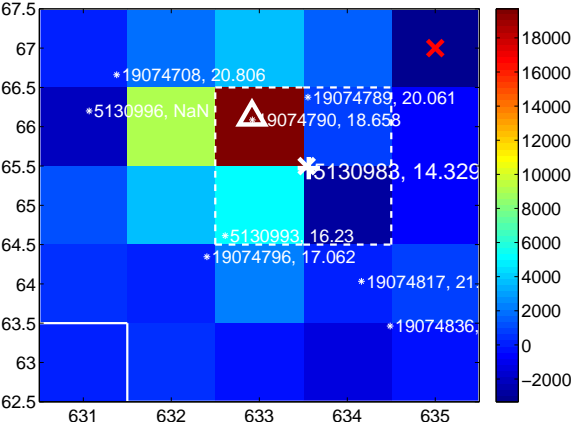
Q2 no difference image



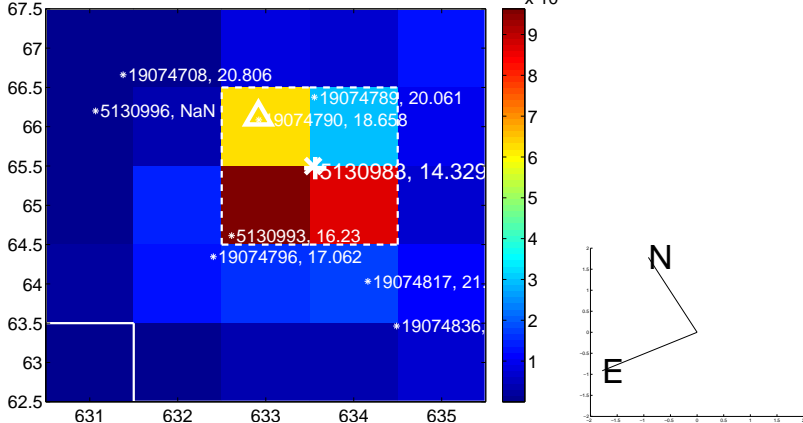
Q2 no OOT image



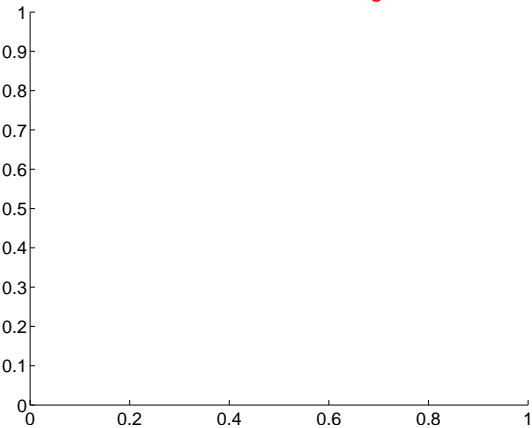
Q3 difference image



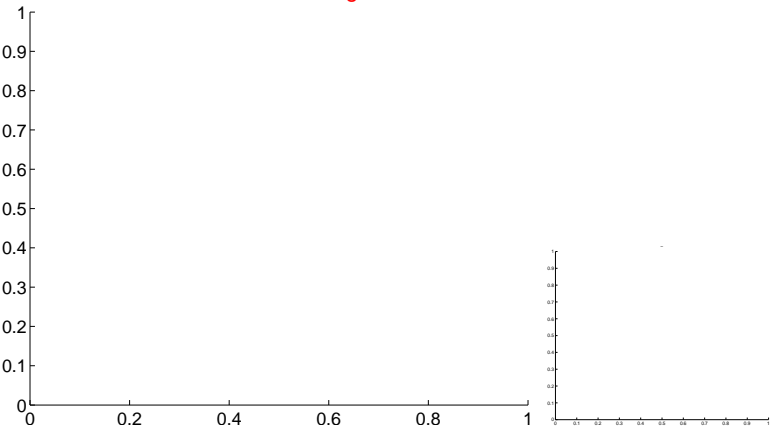
Q3 OOT image



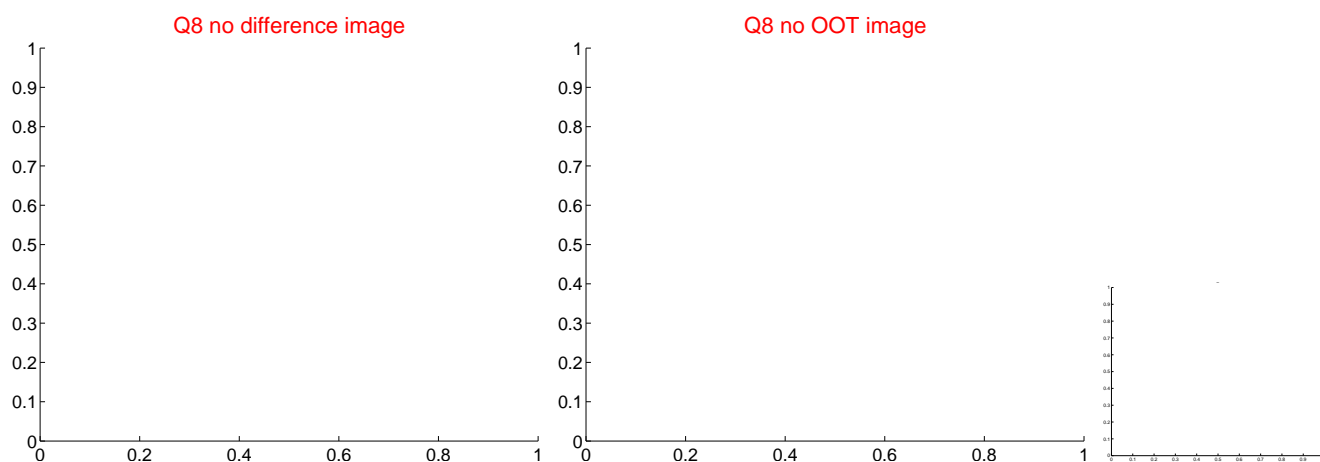
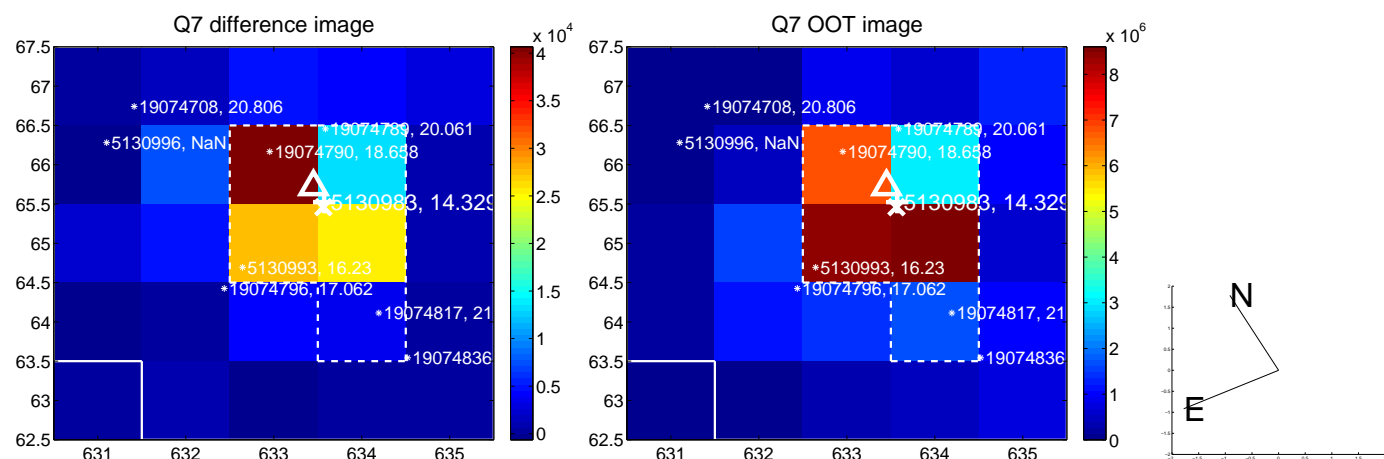
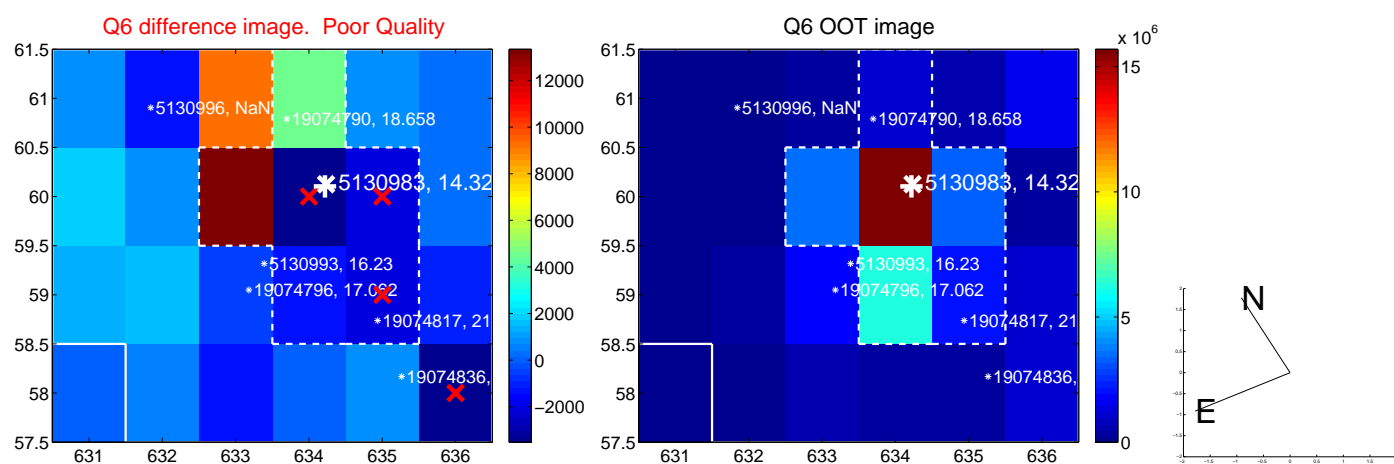
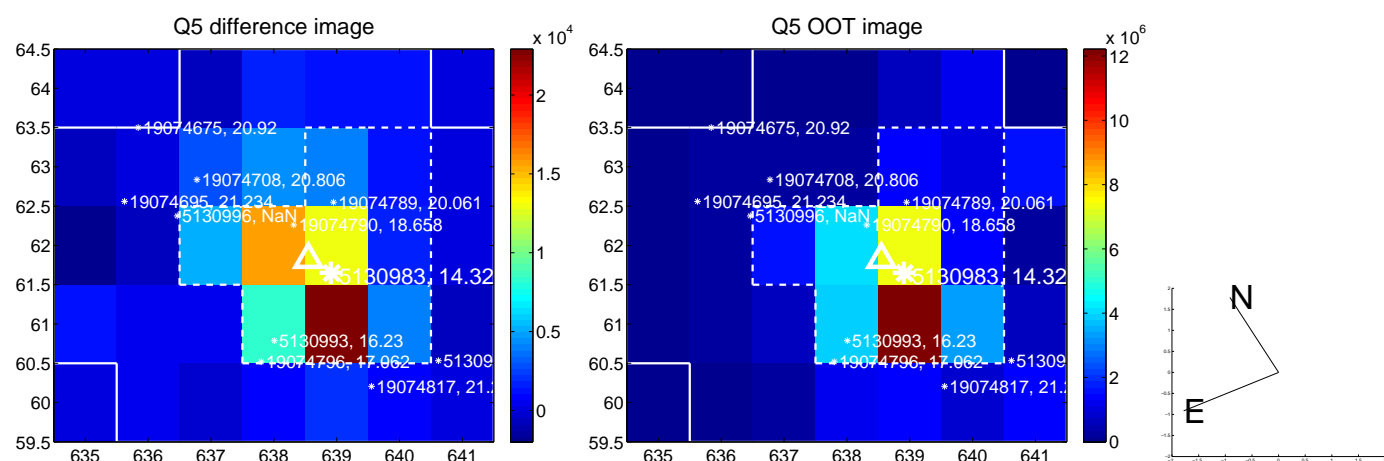
Q4 no difference image



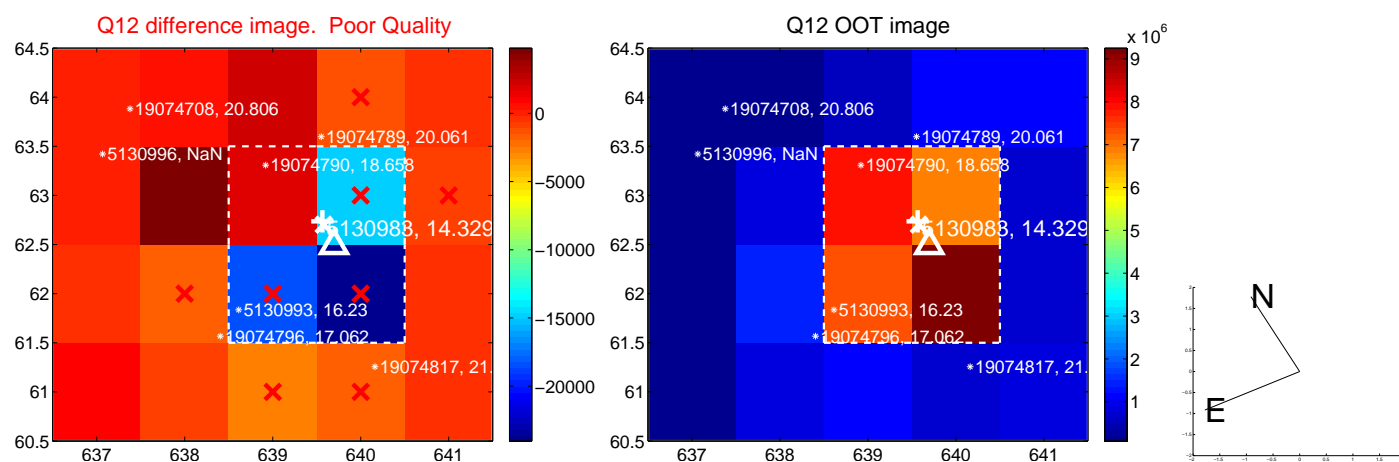
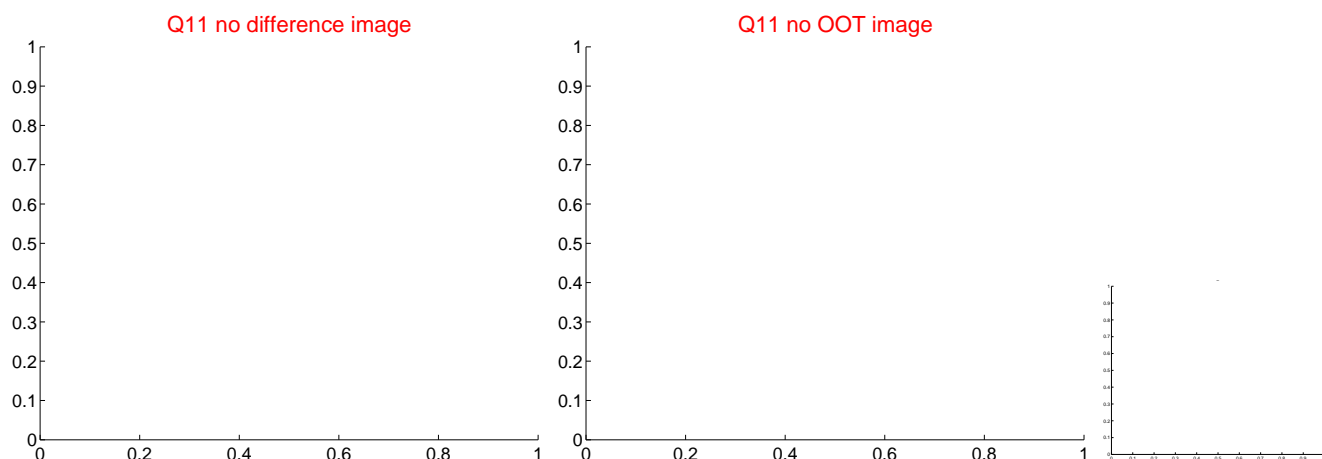
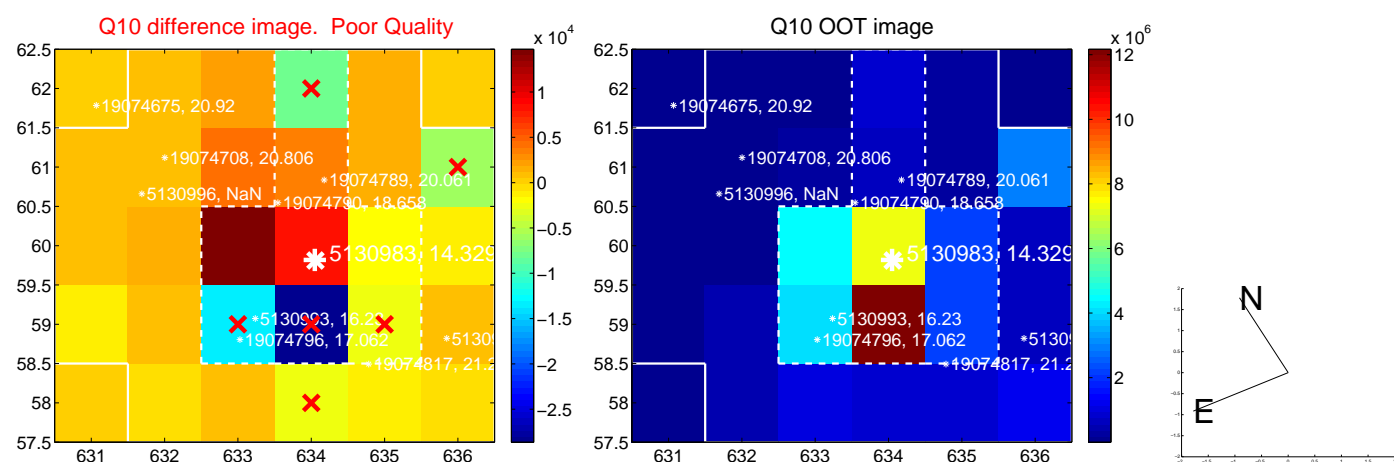
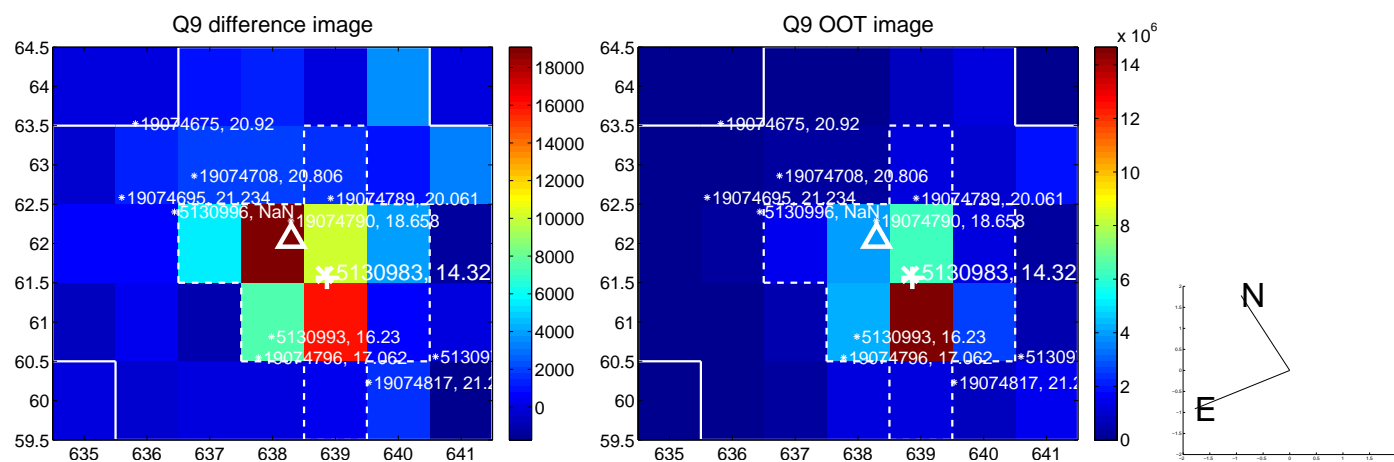
Q4 no OOT image



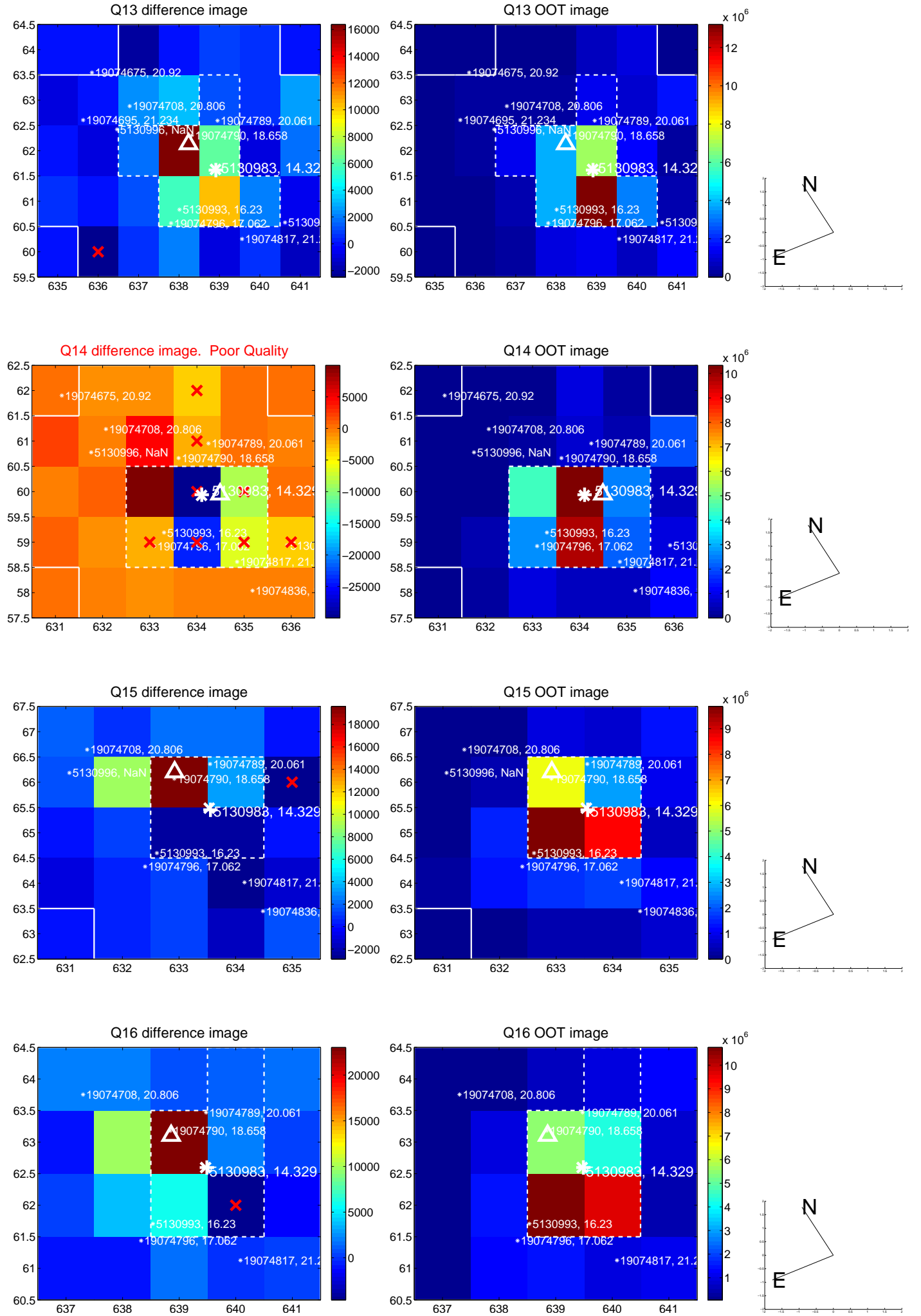
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



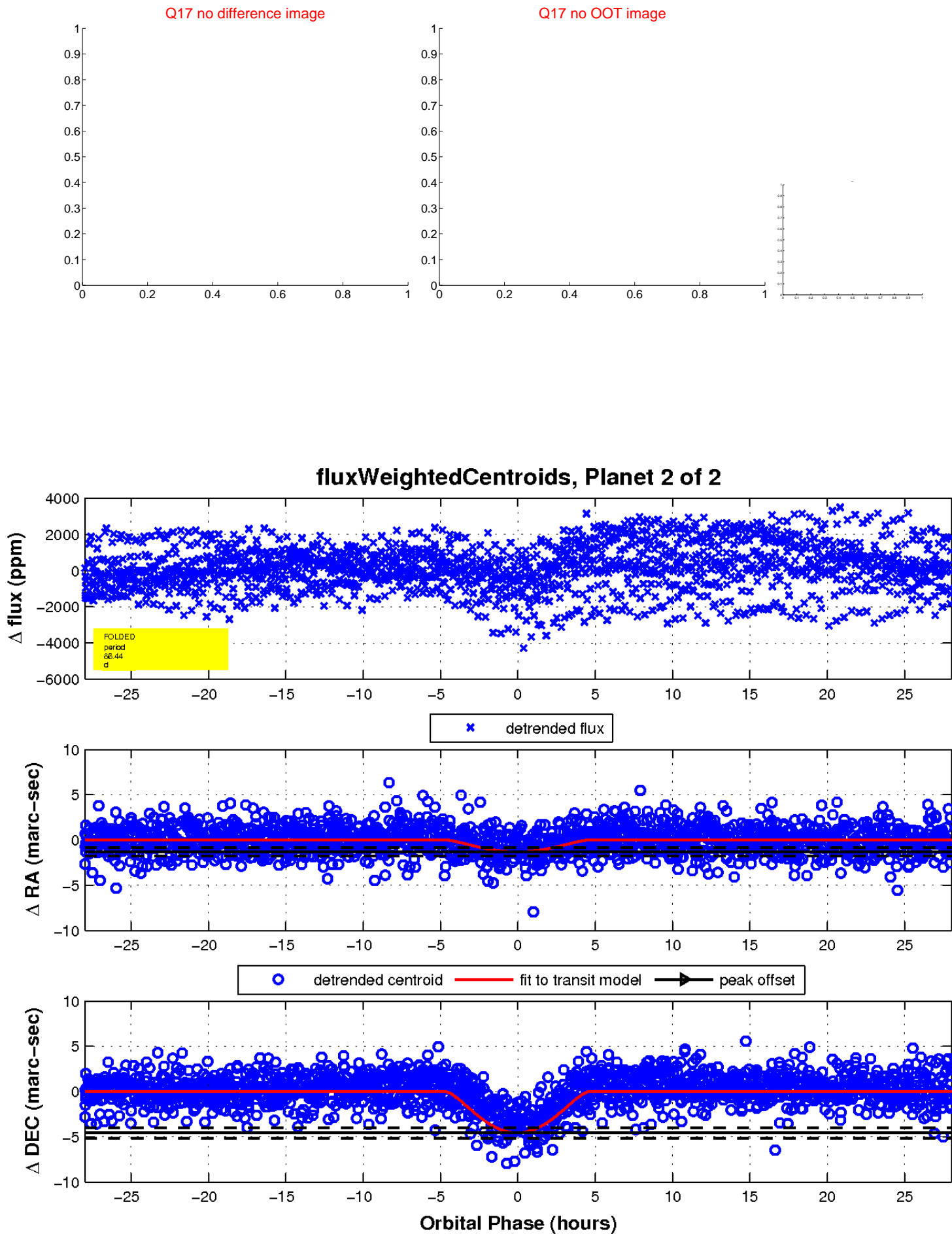
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

