

KIC 010083134

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})
010083134-01	OBS	No	6.276525	136.304841	0.0	19.032	10.0	0.0	3.44	7102	0.01	3915.86
010083134-02	OBS	No	3.137226	134.388754	9.5	28.691	8.9	3.9	3.44	7102	1.14	9871.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010083134-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_MEAS
010083134-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—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.

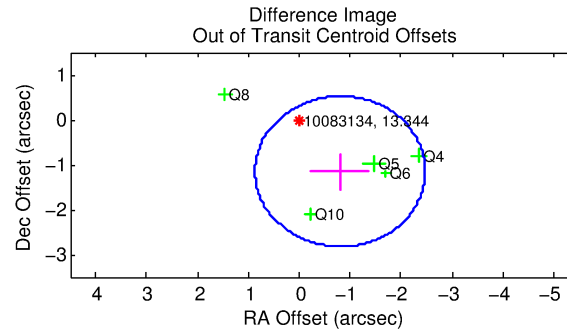
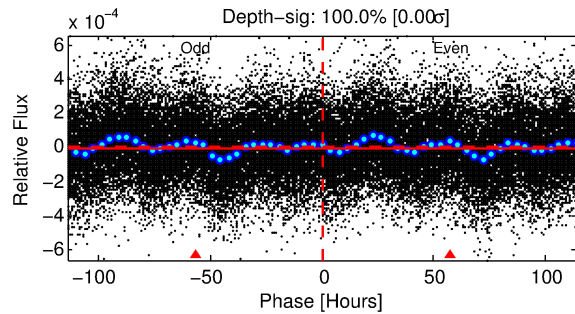
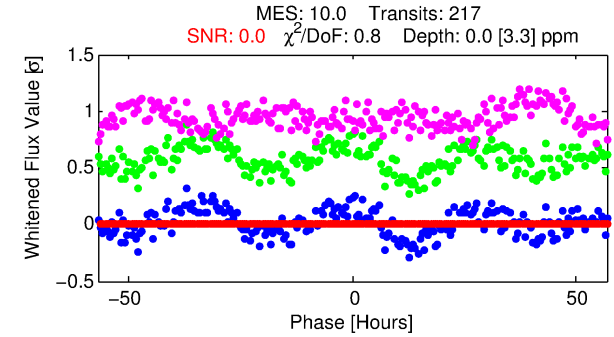
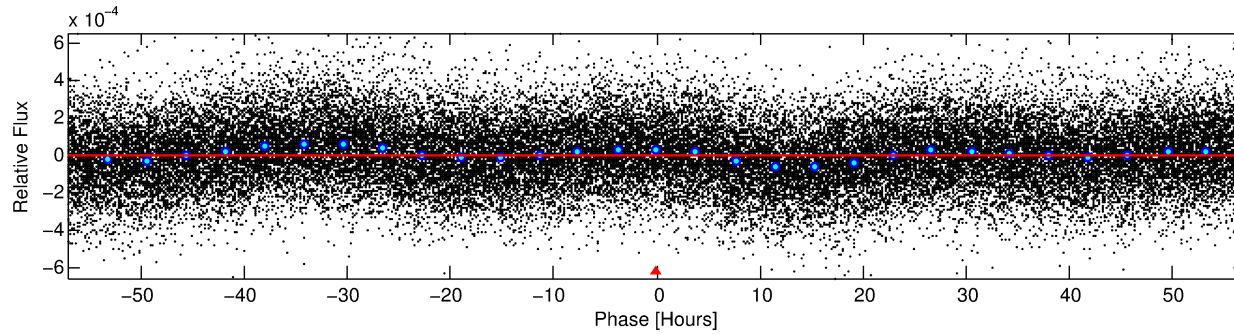
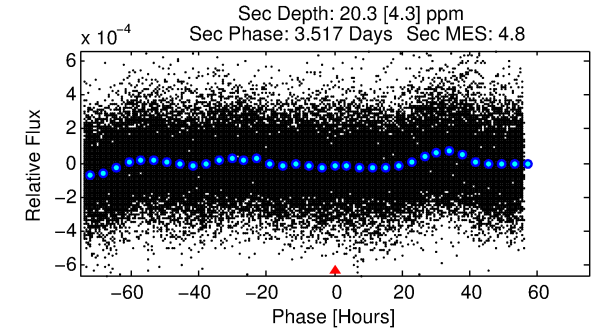
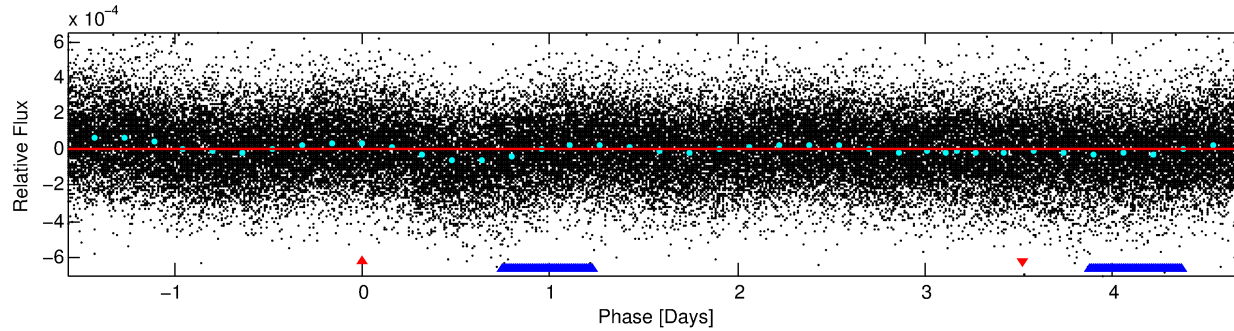
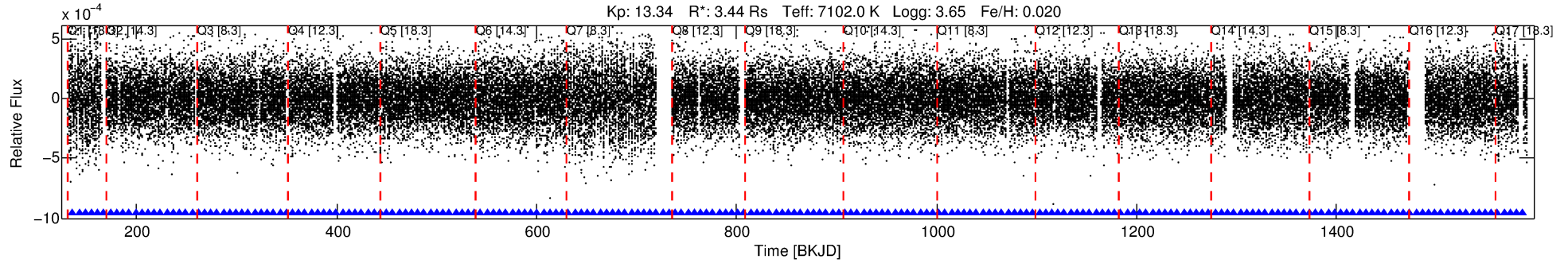
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010083134-01

No Significant Match Found

DV One-Page Summary

KIC: 10083134 Candidate: 1 of 2 Period: 6.277 d



DV Fit Results:

Period = 6.27653 [21.59682] d
Epoch = 136.3048 [2470.2112] BKJD
Rp/R* = 0.0000 [0.1466]
a/R* = 1.53 [787.71]
b = 0.87 [937.66]
Seff = 3915.86 [18098.66]
Teq = 2017 [2331] K
Rp = 0.00 [54.96] Re
a = 0.0829 [0.1923] AU
Ag = 3537532.90 [83506259522.62] [0.00σ]
Teffp = 135253 [798204796] K [0.00σ]

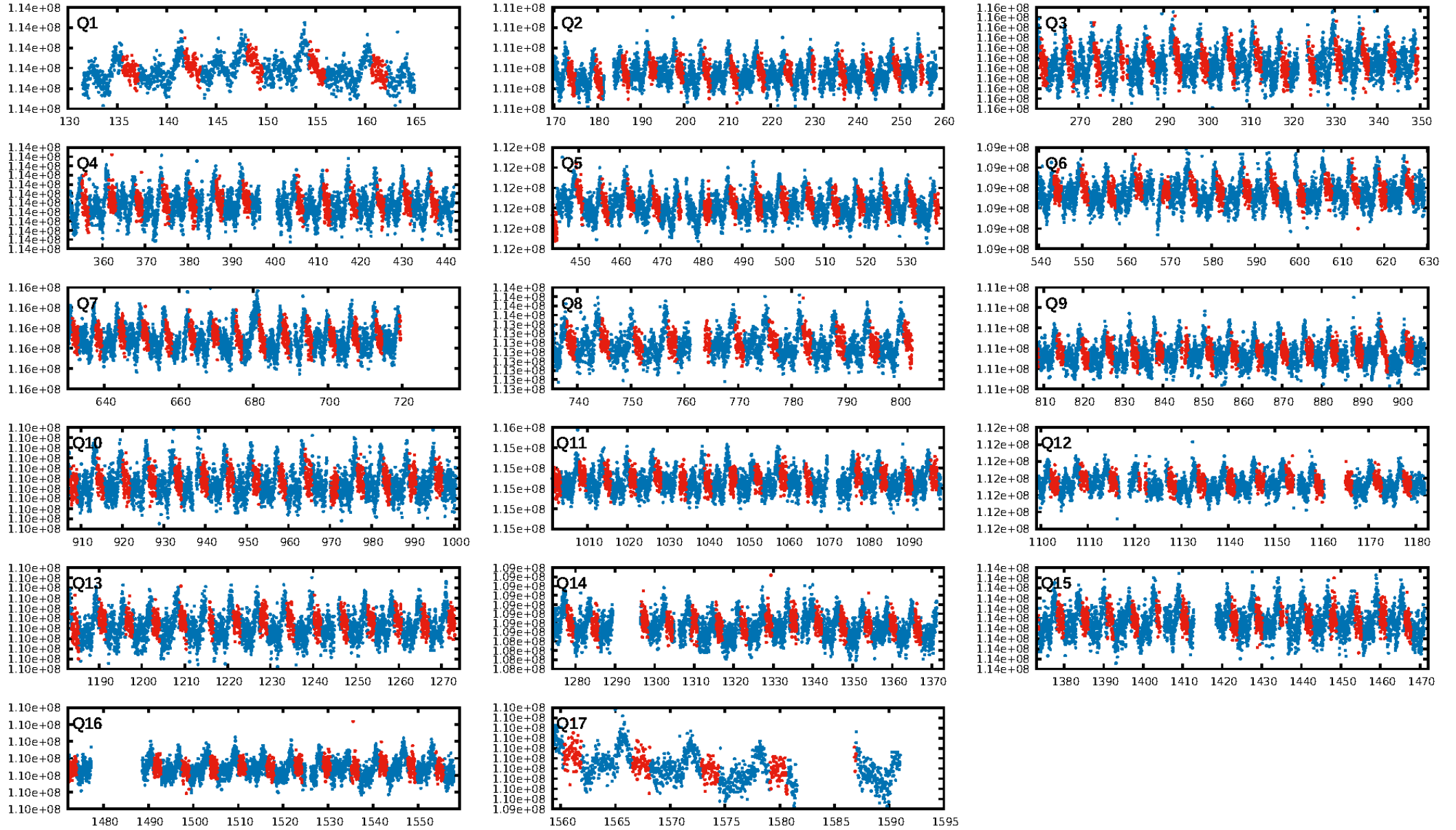
DV Diagnostic Results:

ShortPeriod-sig: 97.1% [2.19σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [208/208]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OutOffset-rm: 1.405 arcsec [2.52σ]
KicOffset-rm: 1.402 arcsec [2.87σ]
OutOffset-st: 2/0/2/1 [5]
KicOffset-st: 2/0/2/1 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.00 [0/17]

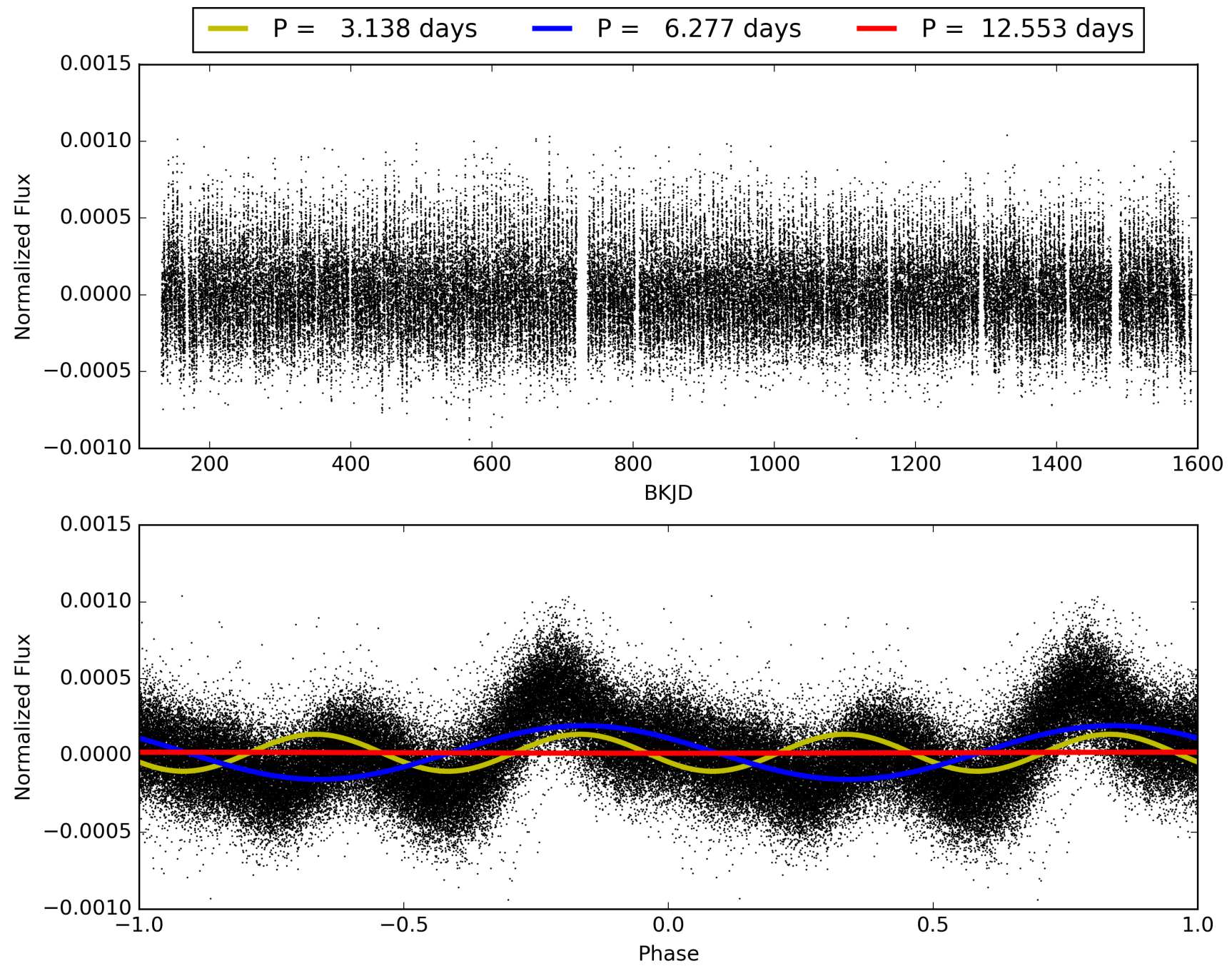
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010083134-01, PDC Light Curves

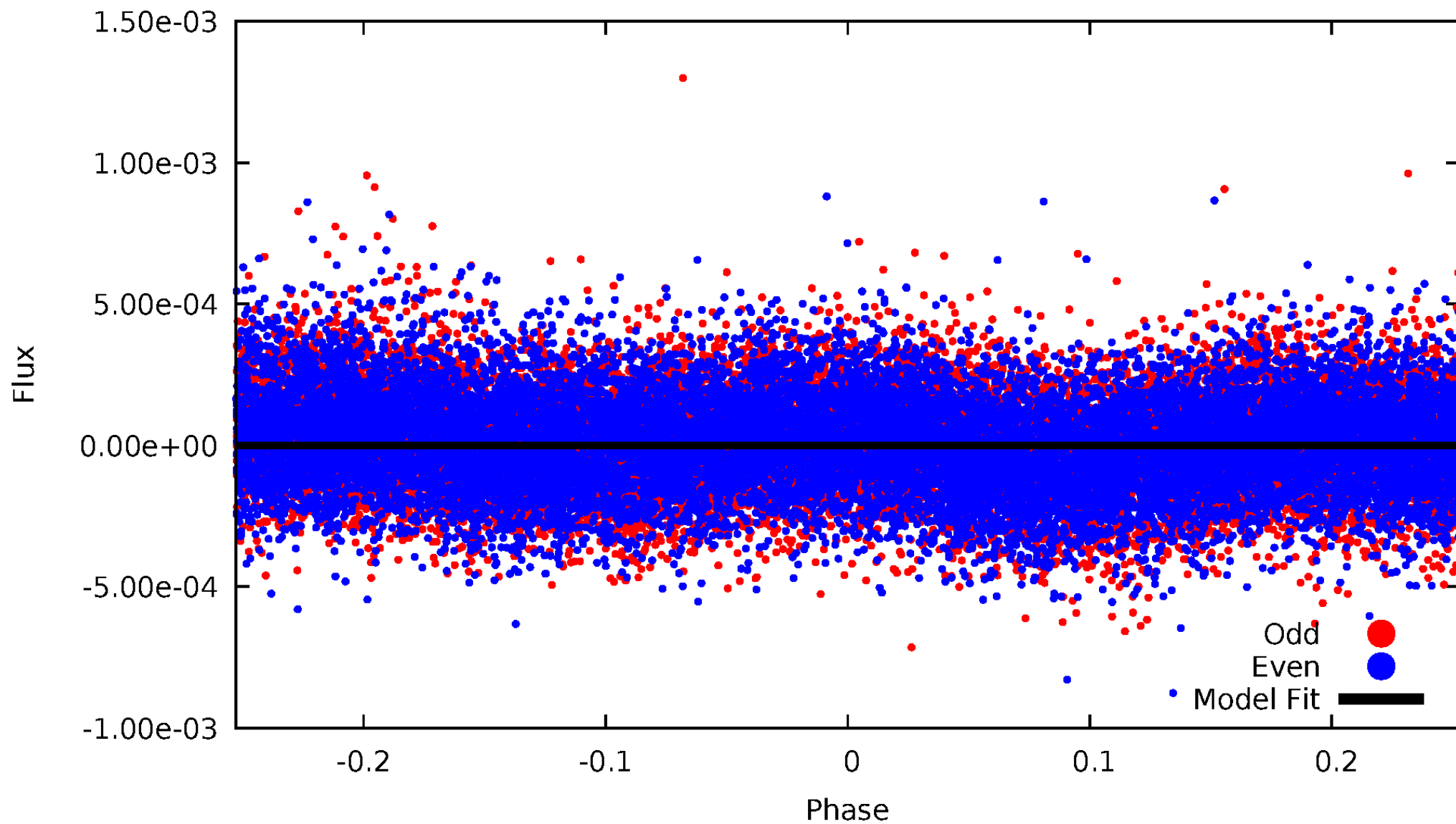


TCE 010083134-01



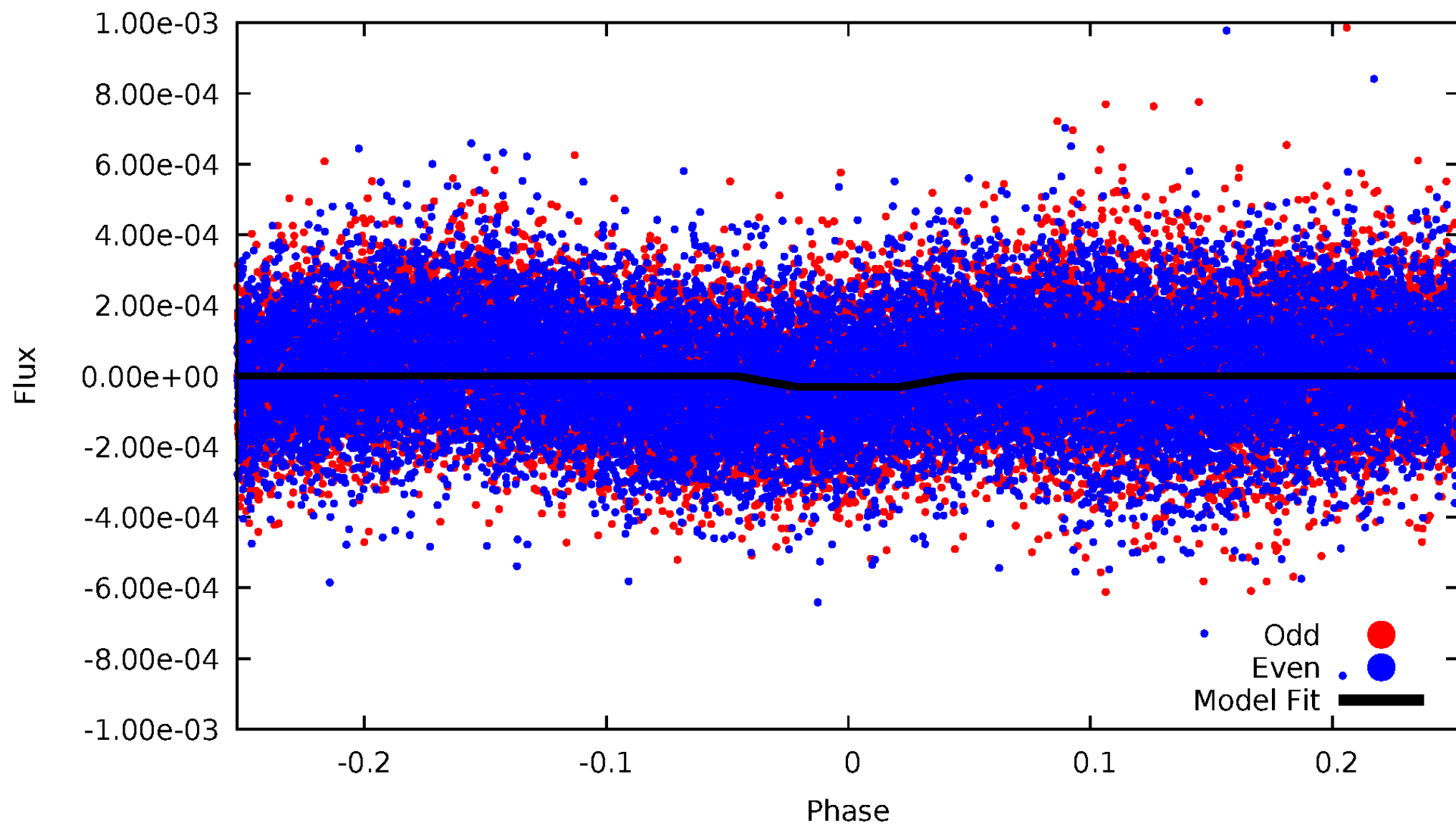
DV Odd/Even

TCE 010083134-01

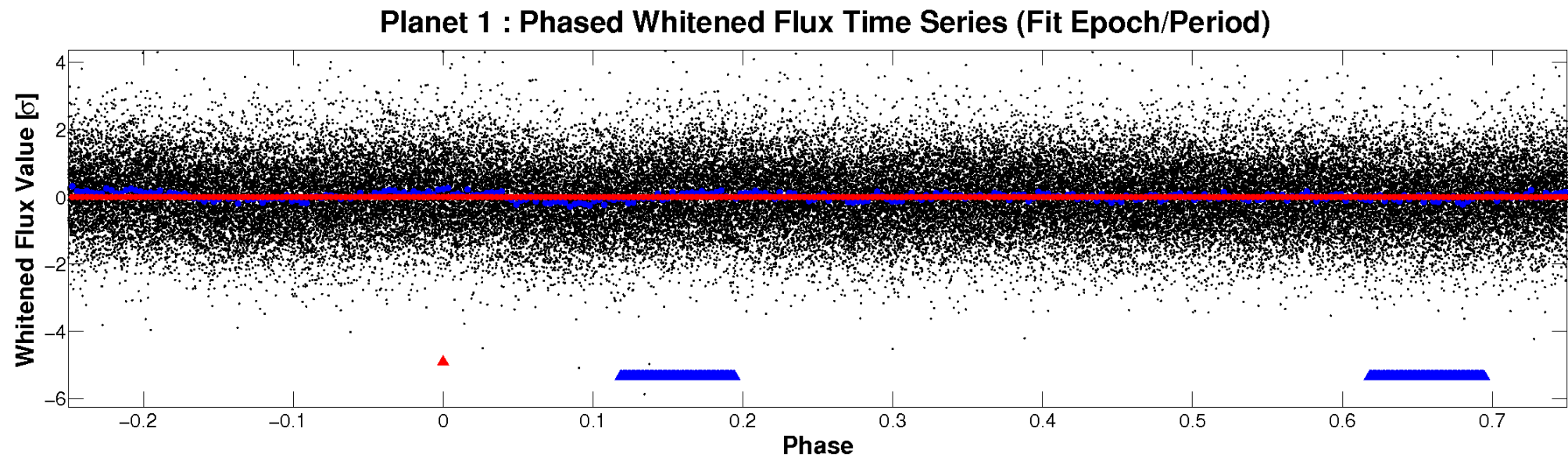
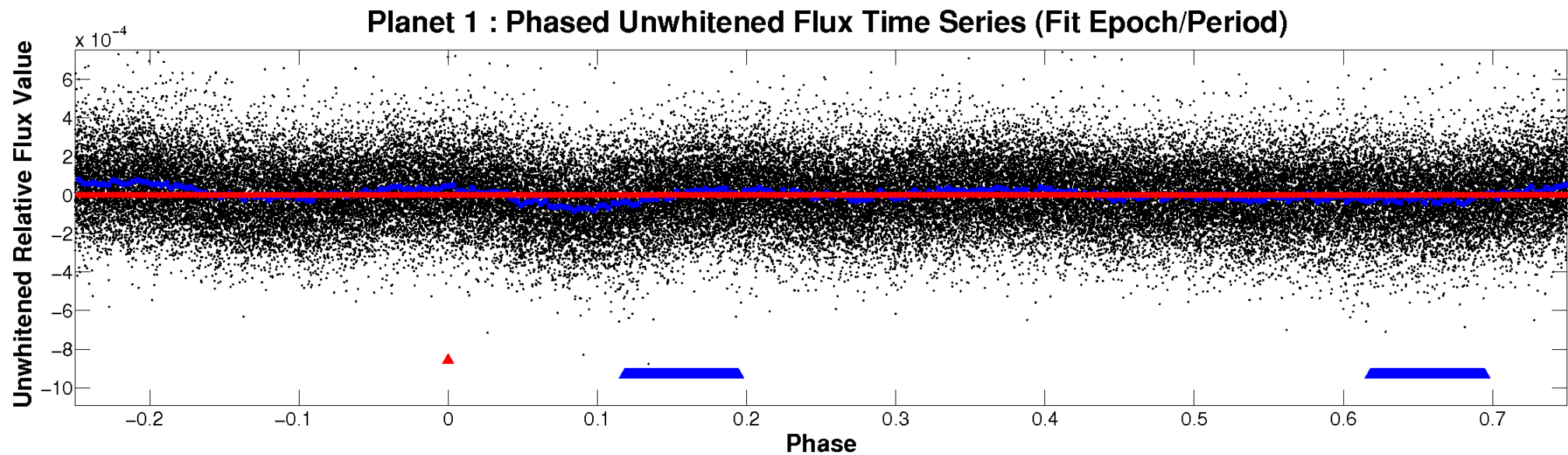


ALT Odd/Even

TCE 010083134-01

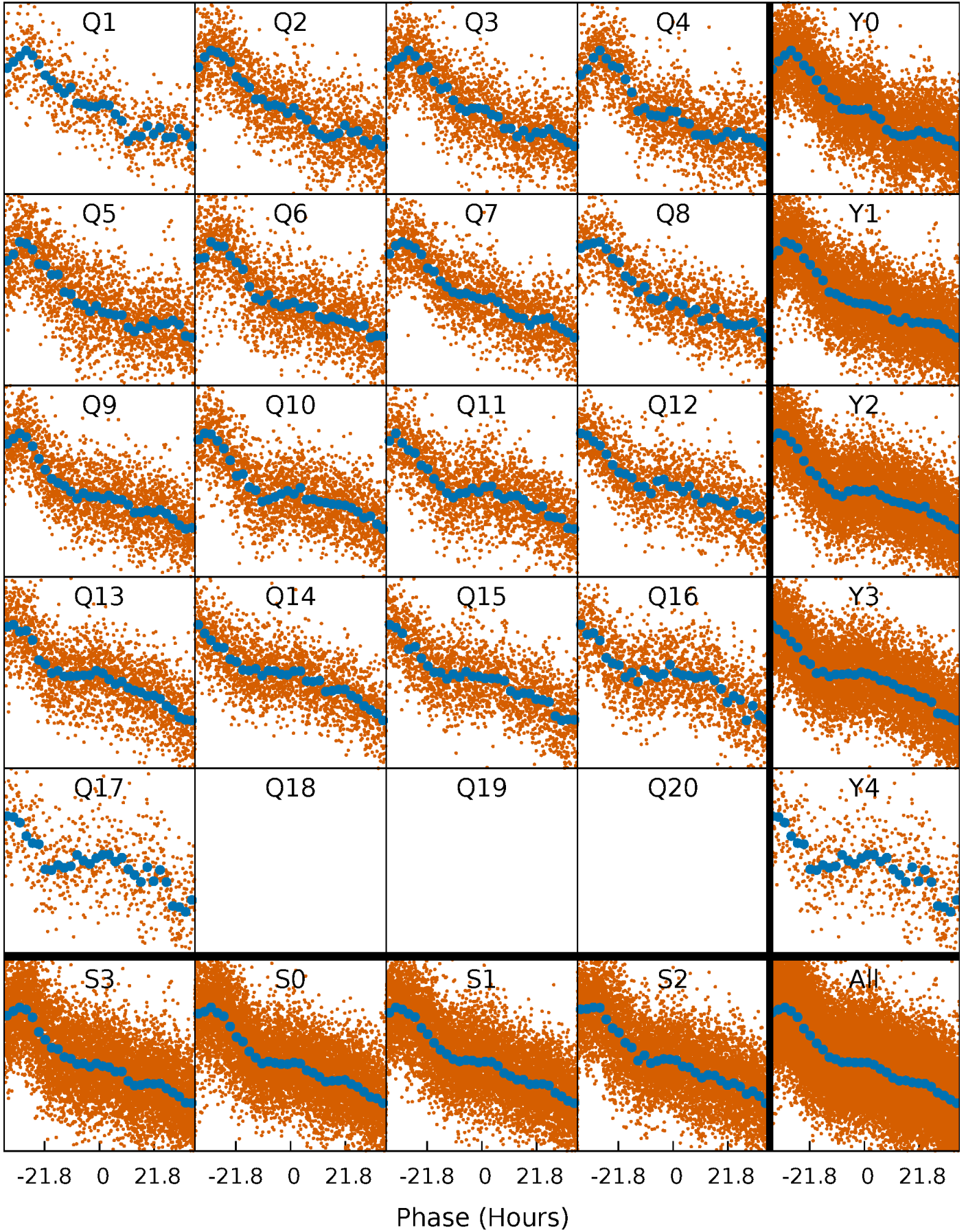


Non-Whitened Vs. Whitened Light Curve



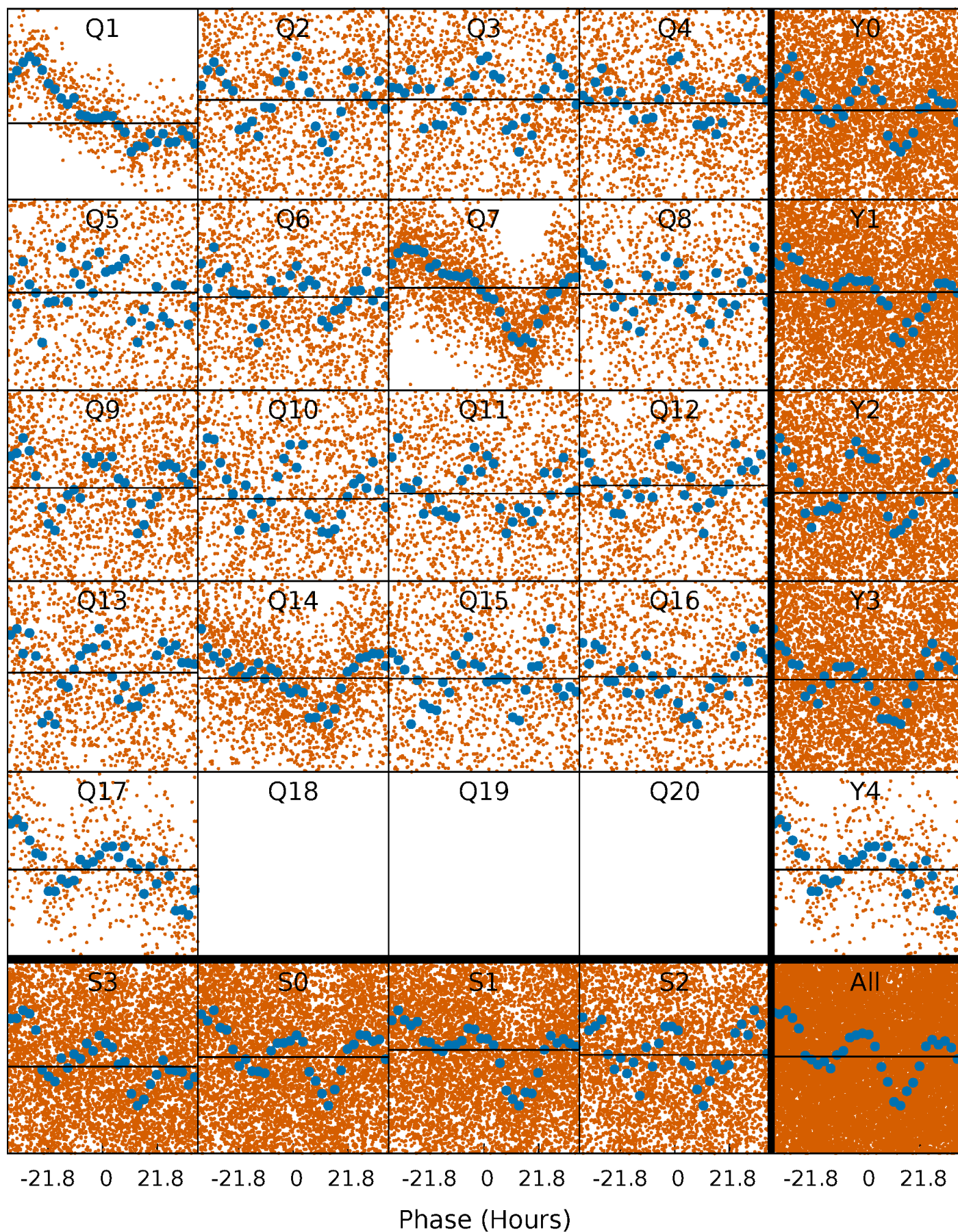
PDC Quarter-Phased Transit Curves

TCE 010083134-01 P= 6.276525 Days $T_0=136.304841$ (BKJD)



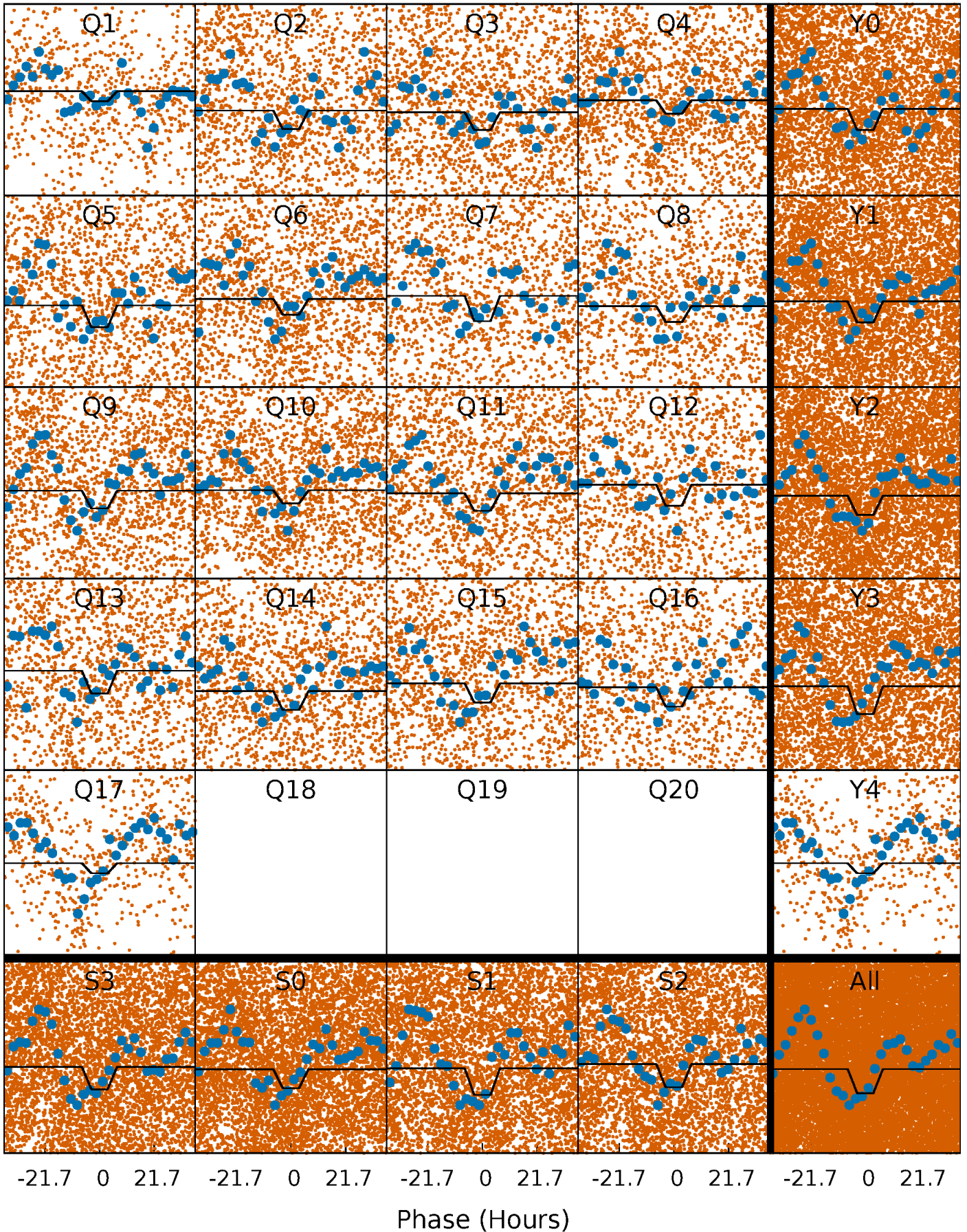
DV Quarter-Phased Transit Curves

TCE 010083134-01 P= 6.276525 Days $T_0=136.304841$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

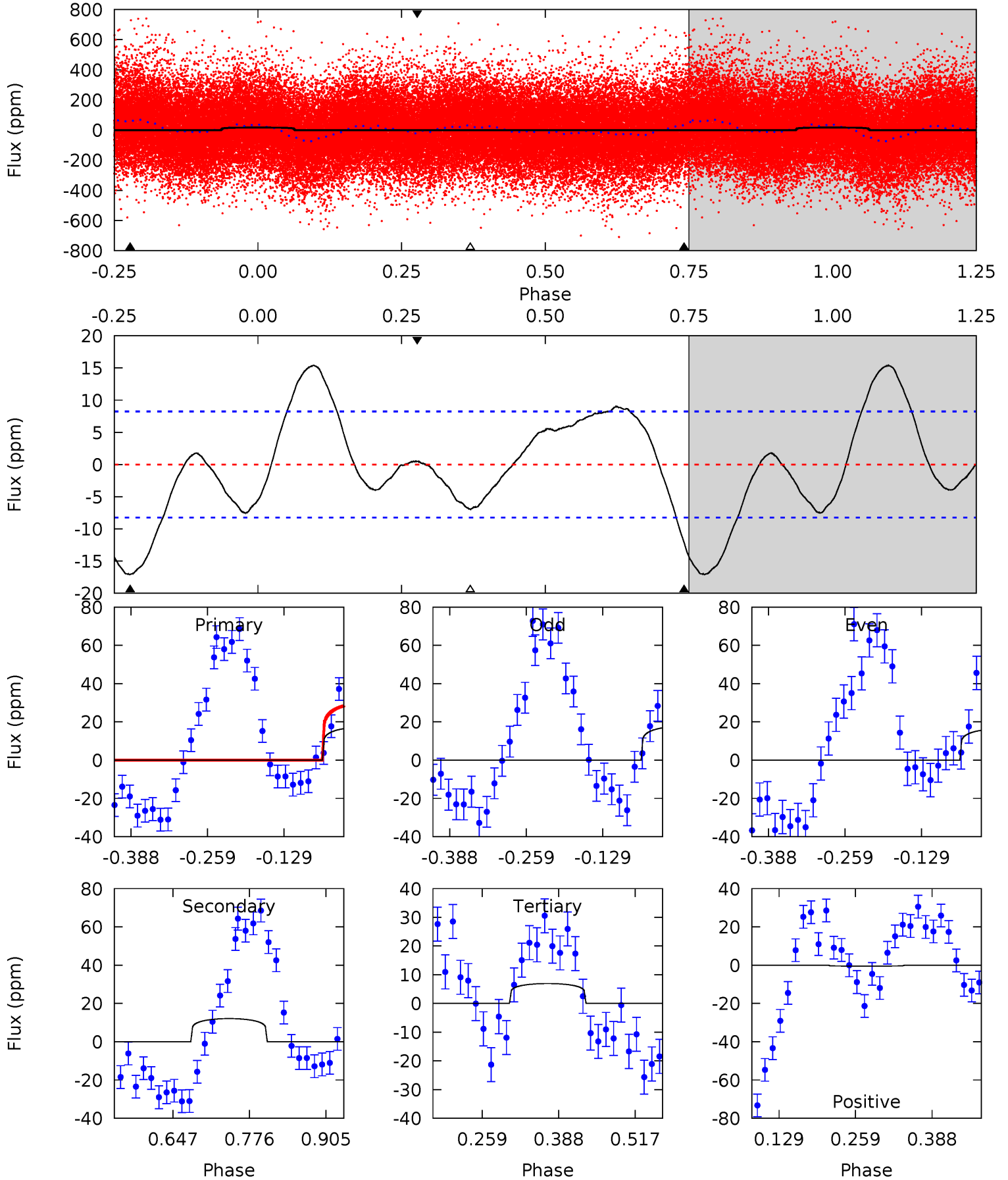
TCE 010083134-01 P= 6.275477 Days $T_0=136.030428$ (BKJD)



DV Model-Shift Uniqueness Test

010083134-01, P = 6.276525 Days, E = 130.028316 Days

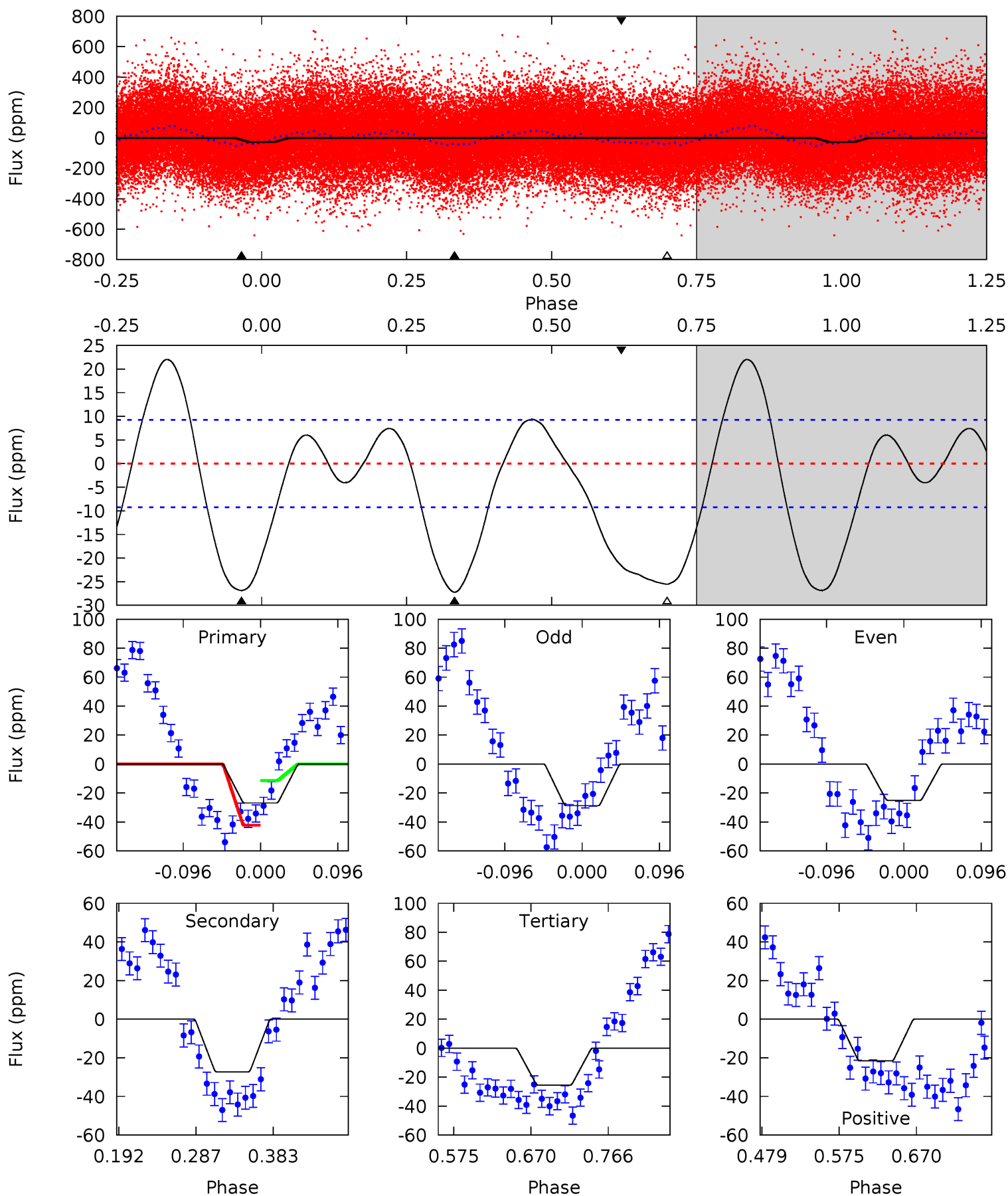
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.35	6.62	3.80	0.27	4.51	1.52	3.33	5.55	9.07	2.82	6.35	0.37	0.80	0.47	7.09



Alt Model-Shift Uniqueness Test

010083134-01, P = 6.275477 Days, E = 129.754951 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	13.5	12.6	-10.7	4.57	1.67	6.77	0.66	24.0	0.83	24.1	0.91	1.40	0.45	7.56



Stellar Parameters For KIC 010083134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7102^{+191}_{-254}	$3.651^{+0.314}_{-0.055}$	$0.020^{+0.250}_{-0.250}$	$3.436^{+0.318}_{-1.270}$	$1.929^{+0.141}_{-0.353}$	$0.067^{+0.150}_{-0.013}$
	+3%/-4%	+9%/-2%	+1250%/-1250%	+9%/-37%	+7%/-18%	+224%/-19%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010083134-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 2	$33.23^{+39.75}_{-24.72}$	1942^{+889}_{-414}	-2119^{+5115}_{-693}	$0.155^{+1.942}_{-0.138}$
Alt.	-27 ± 2	$34.55^{+36.28}_{-24.12}$	1926^{+939}_{-387}	1777^{+1457}_{-4557}	$0.326^{+2.754}_{-0.289}$

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 $A_{obs} \gg 1.0$

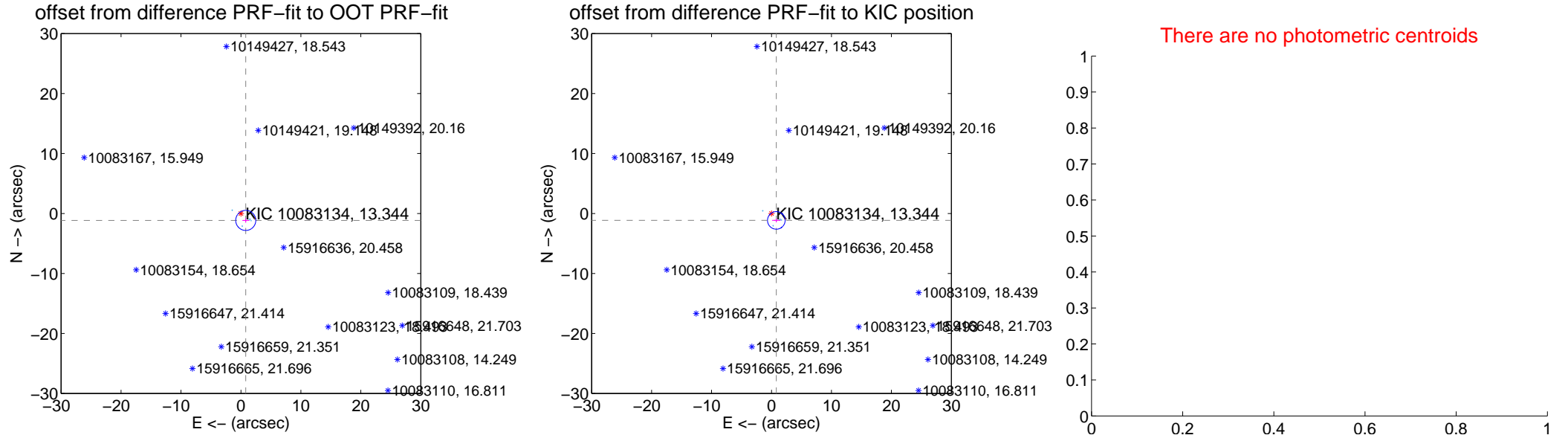
DV Centroid Data

Supplemental centroid analysis for 010083134-01. Kepler magnitude: 13.34. Transit SNR 0.00

There are 4 quarters with good PRF difference image offsets

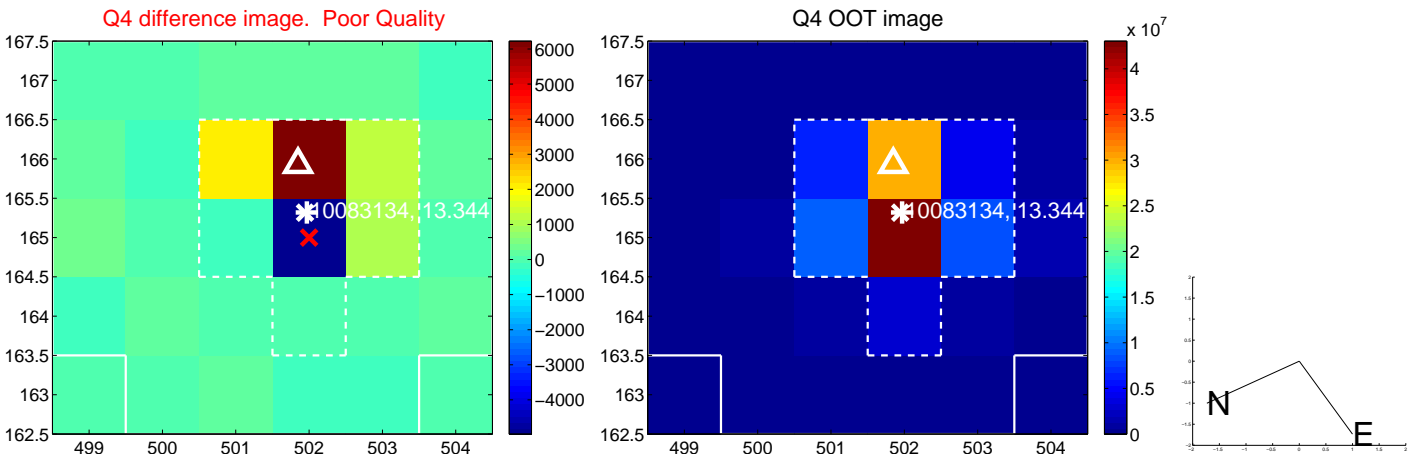
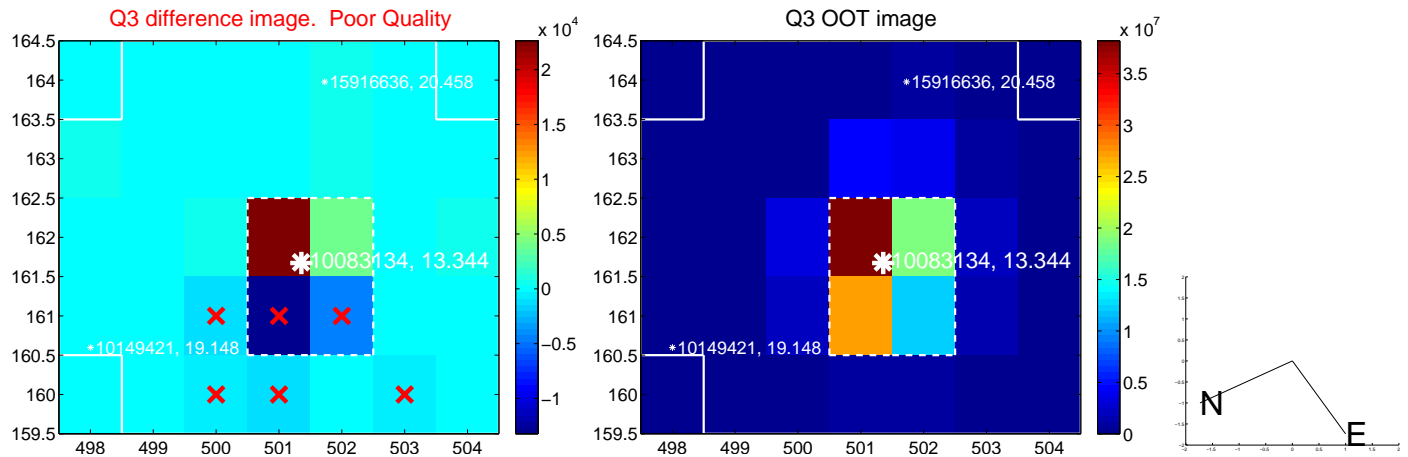
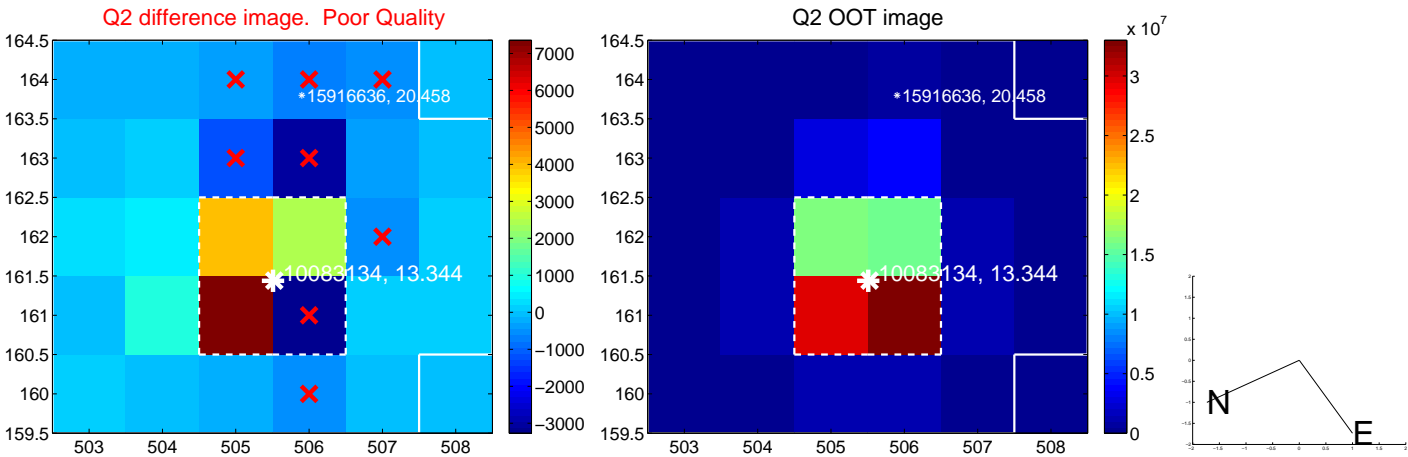
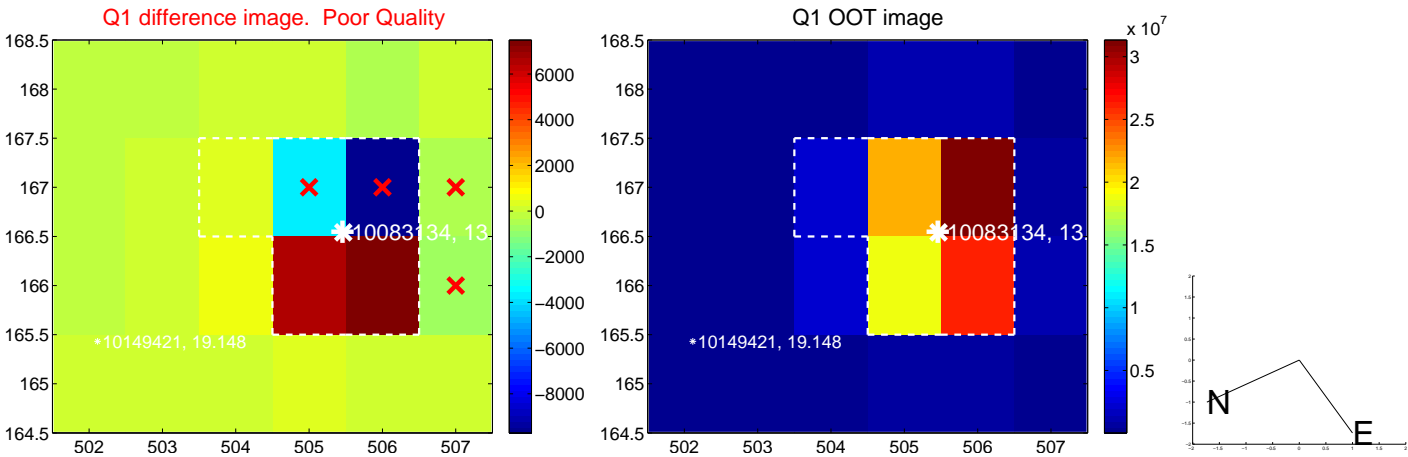
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.405 ± 0.558	2.52	-0.804 ± 0.567	-1.152 ± 0.394
PRF-fit source offset from KIC position	1.402 ± 0.489	2.87	-0.803 ± 0.712	-1.150 ± 0.330
photometric centroid source offset	—	—	—	—

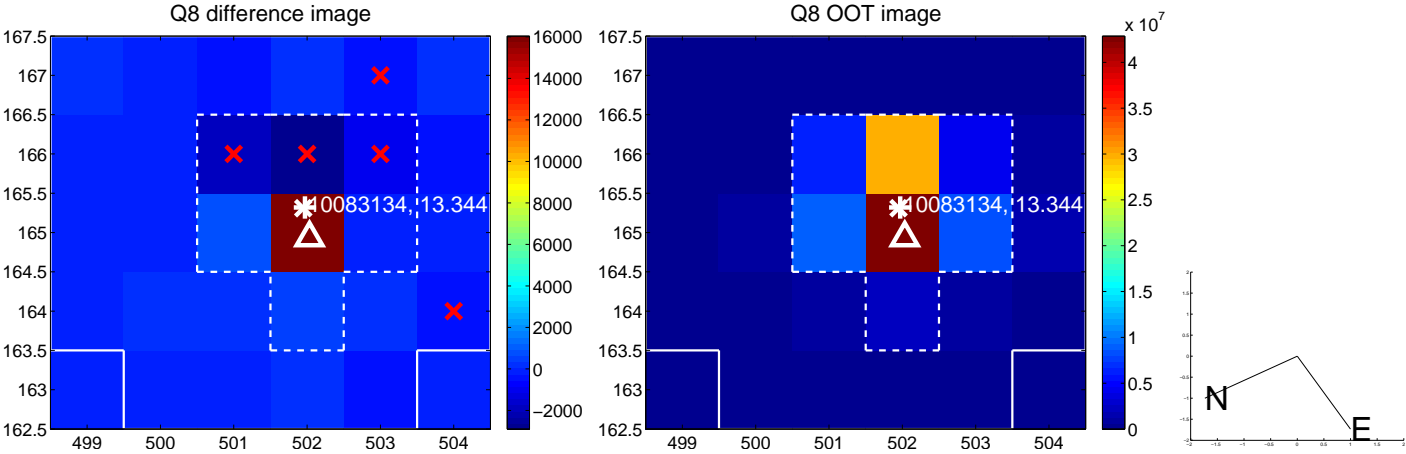
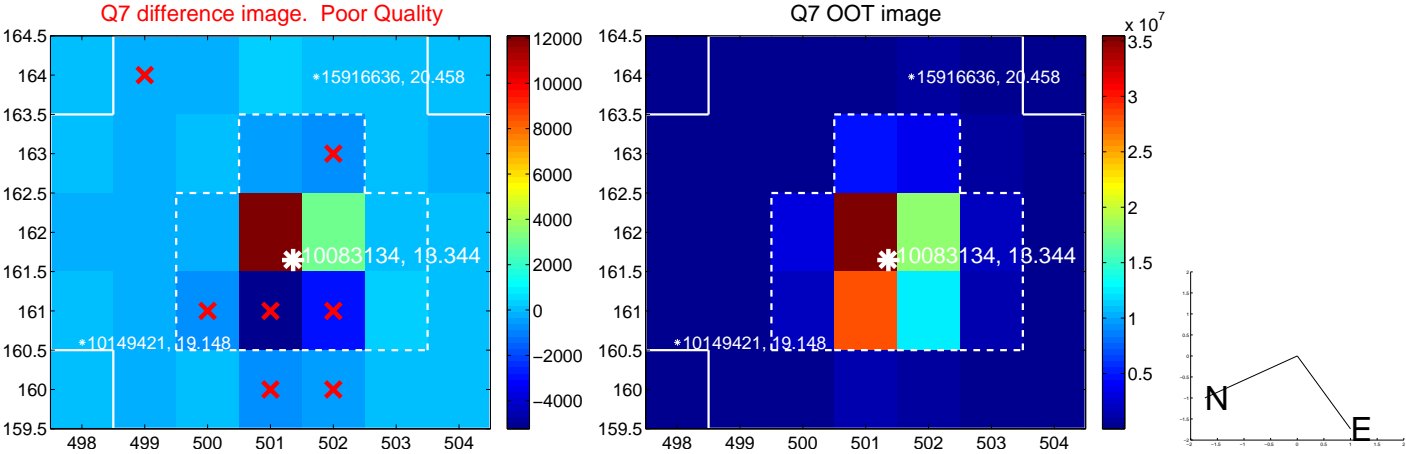
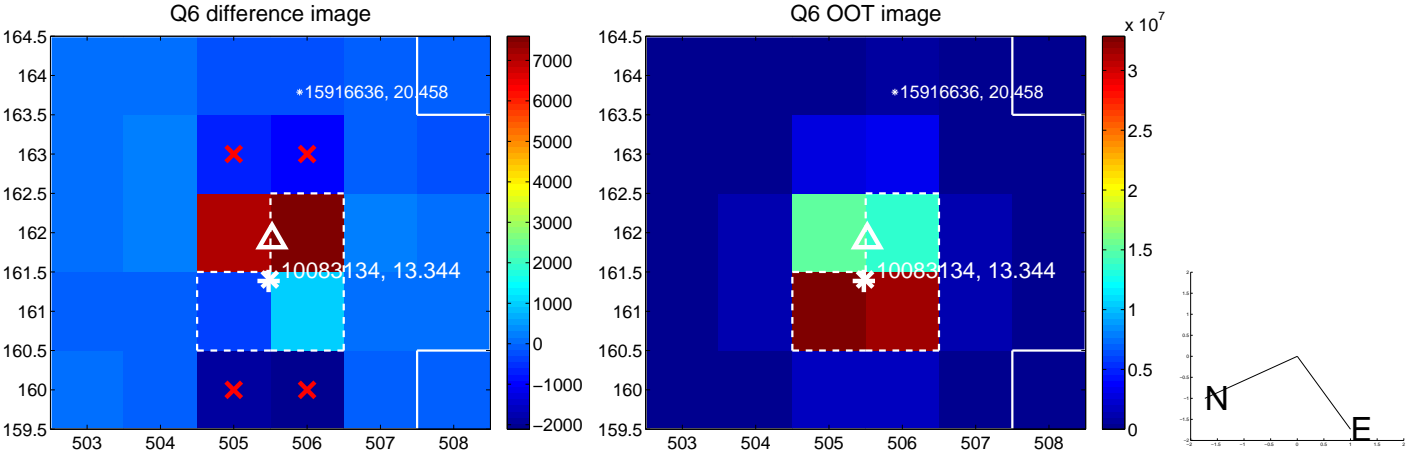
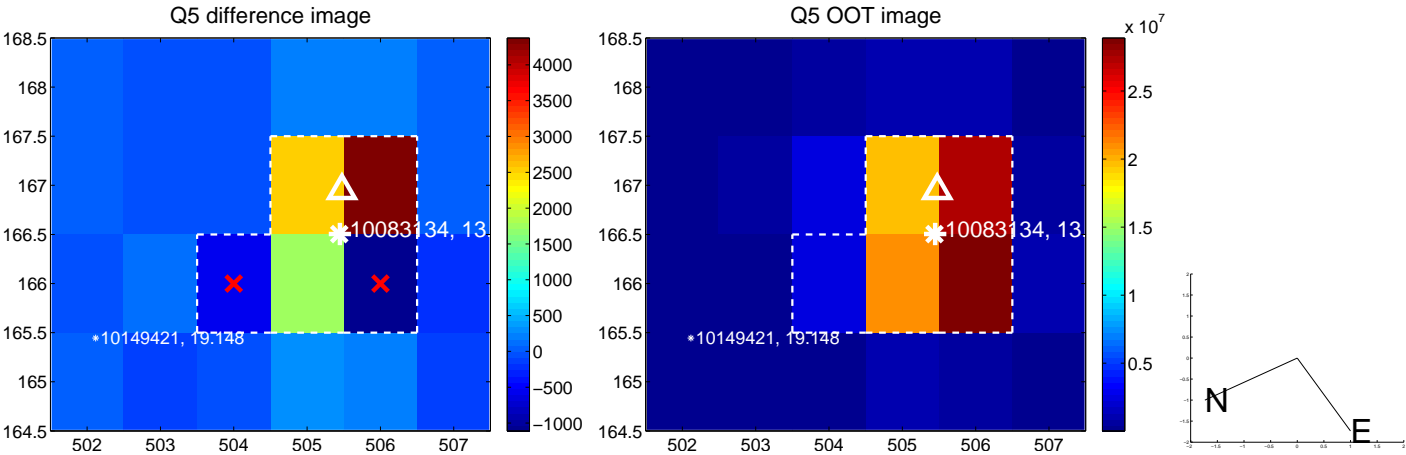


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

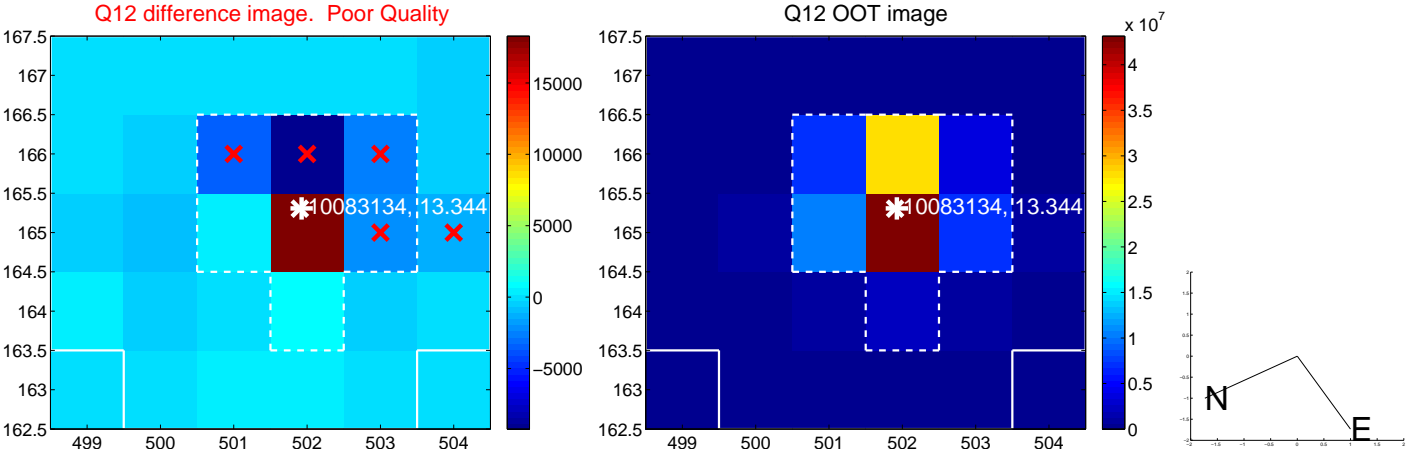
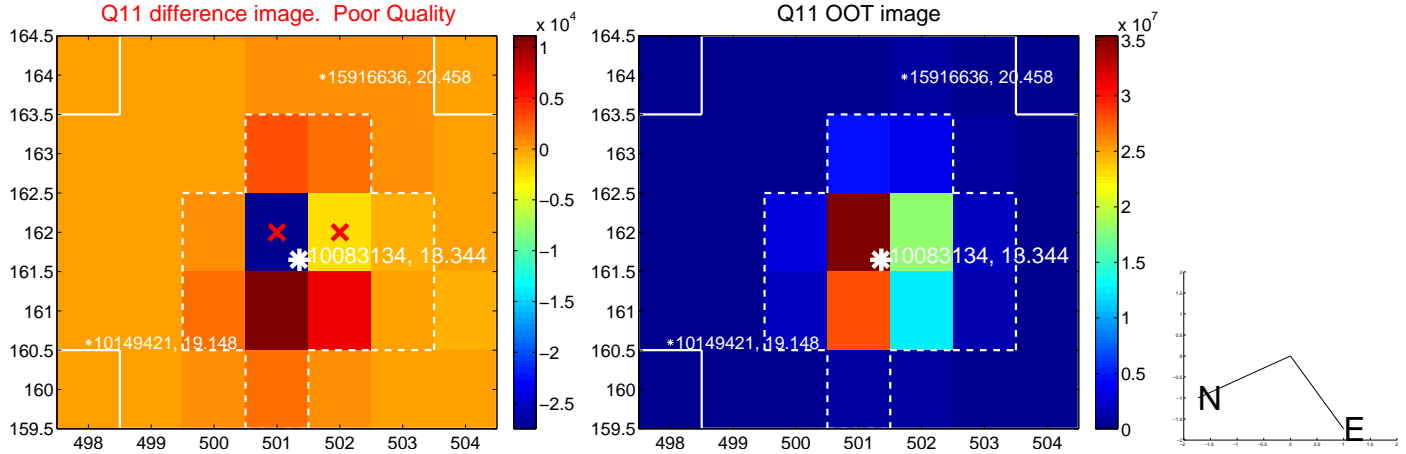
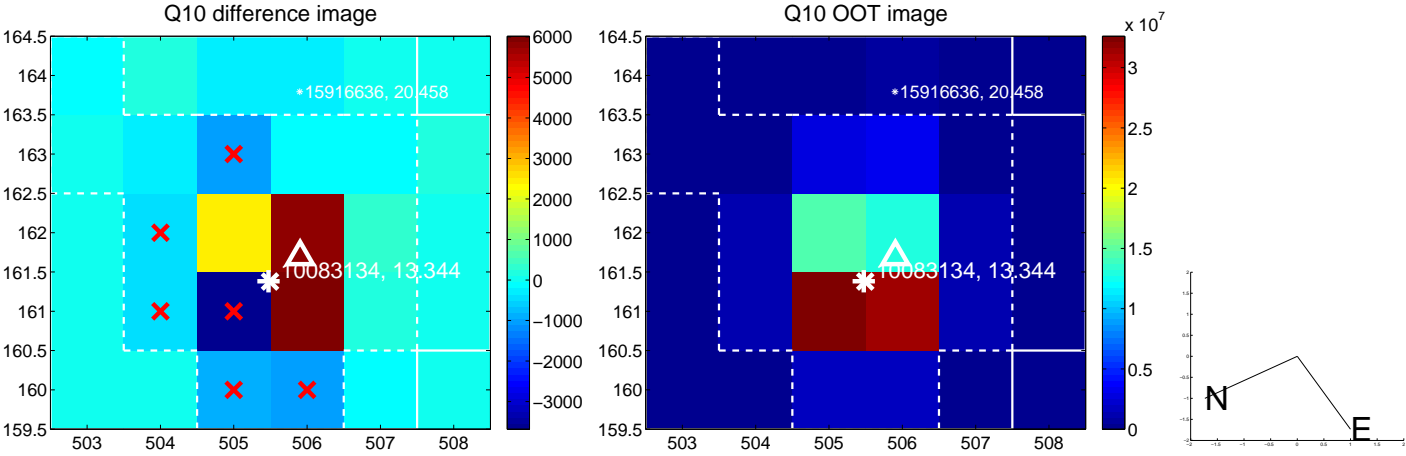
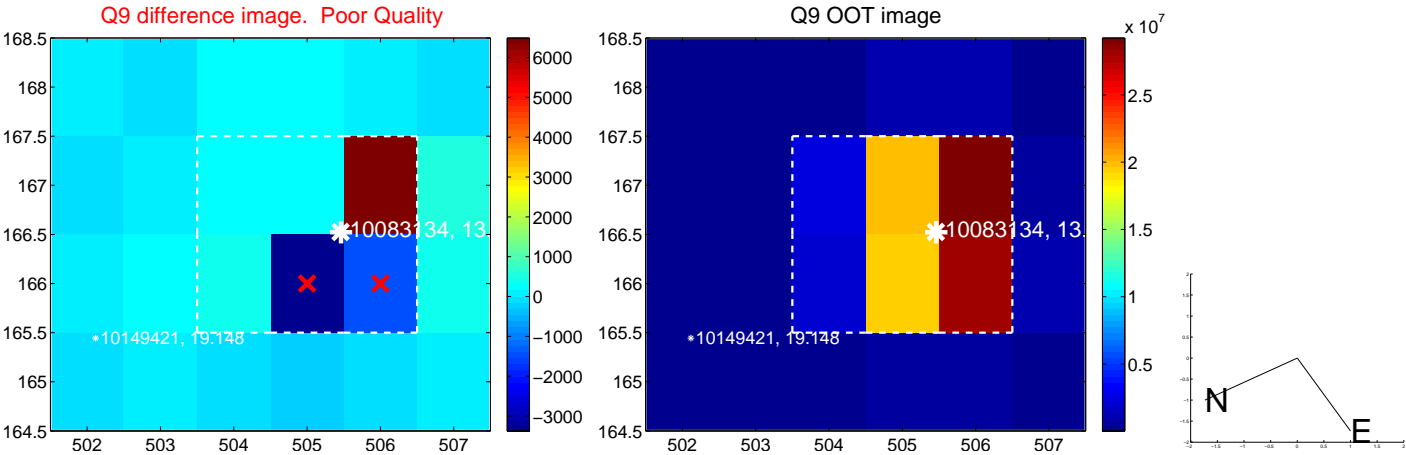
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



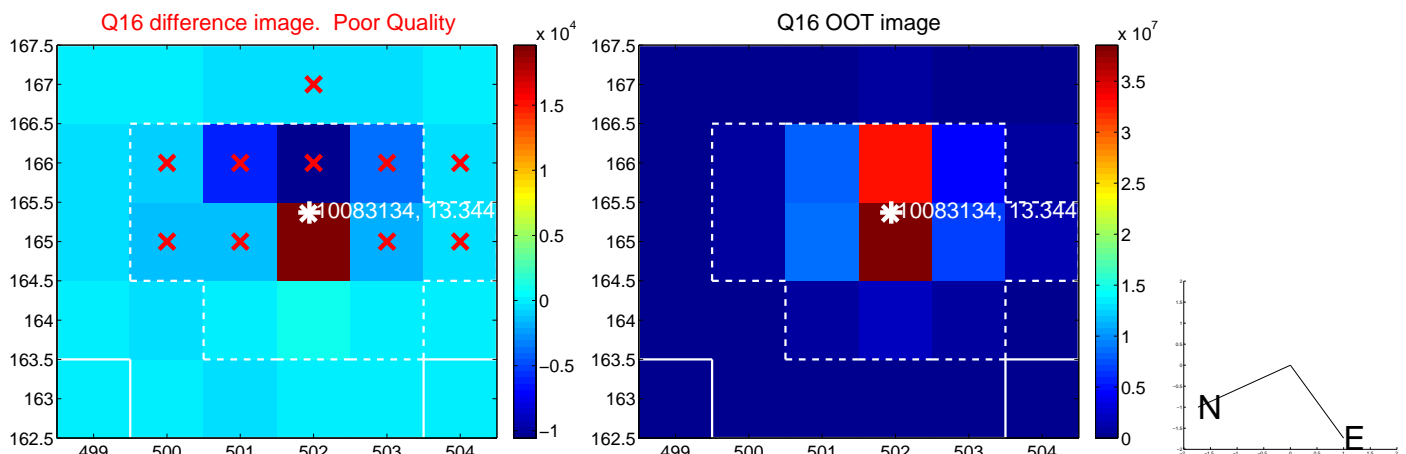
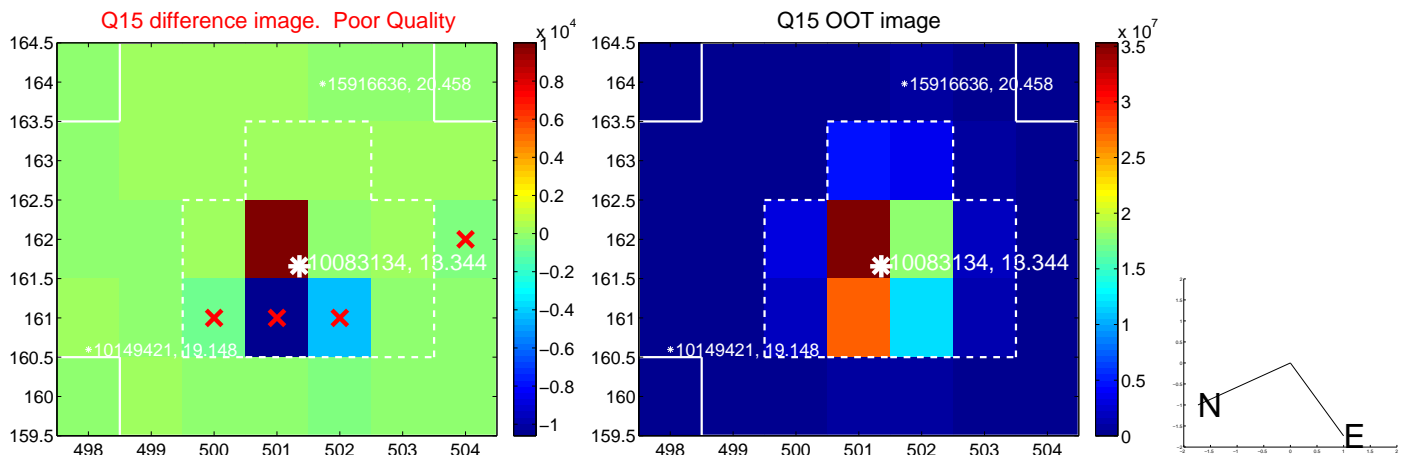
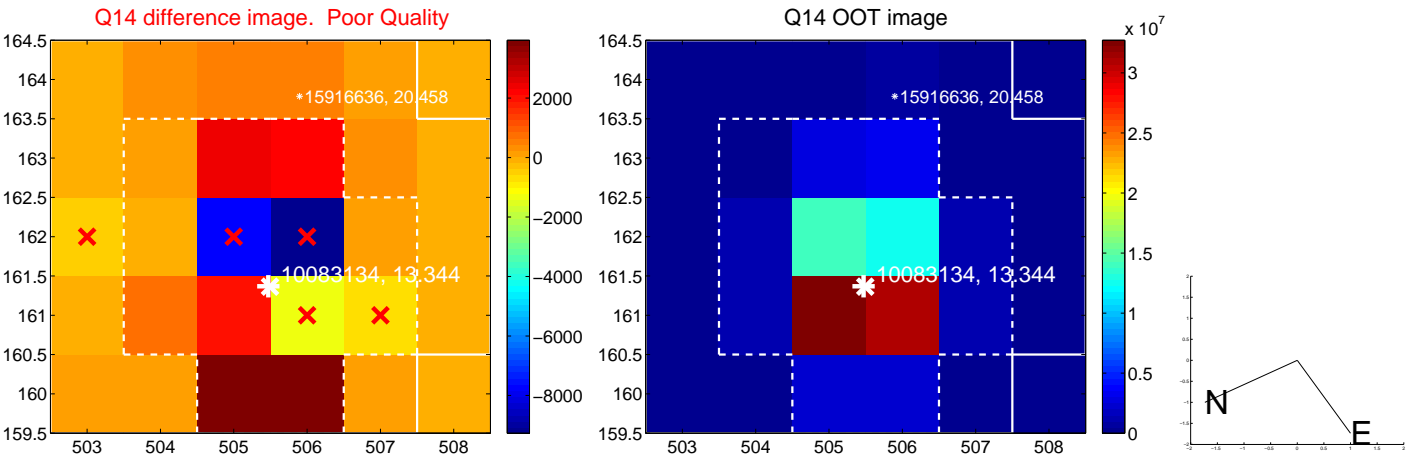
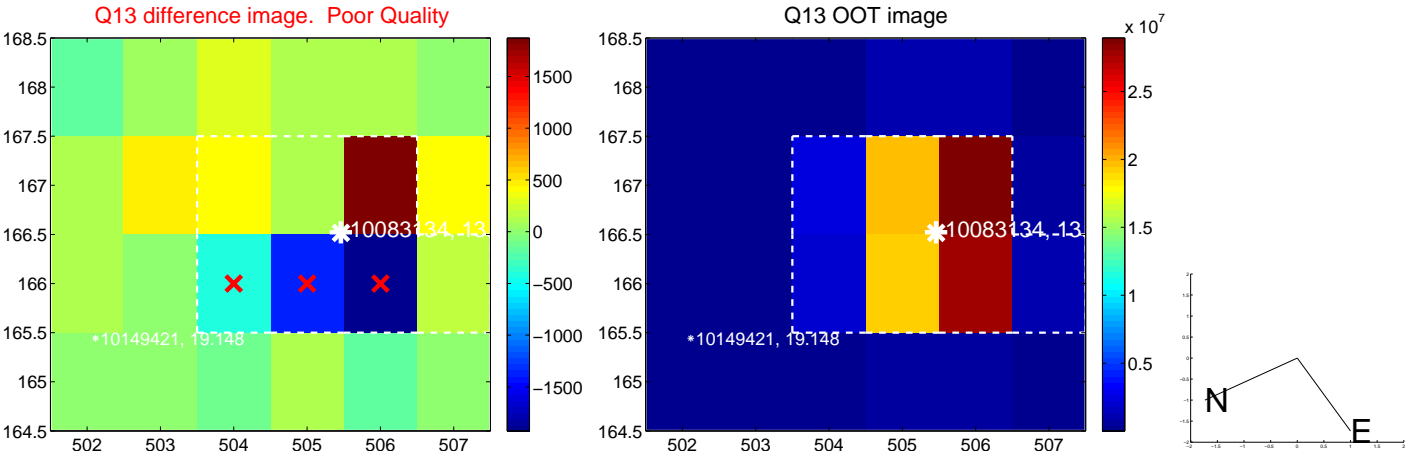
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



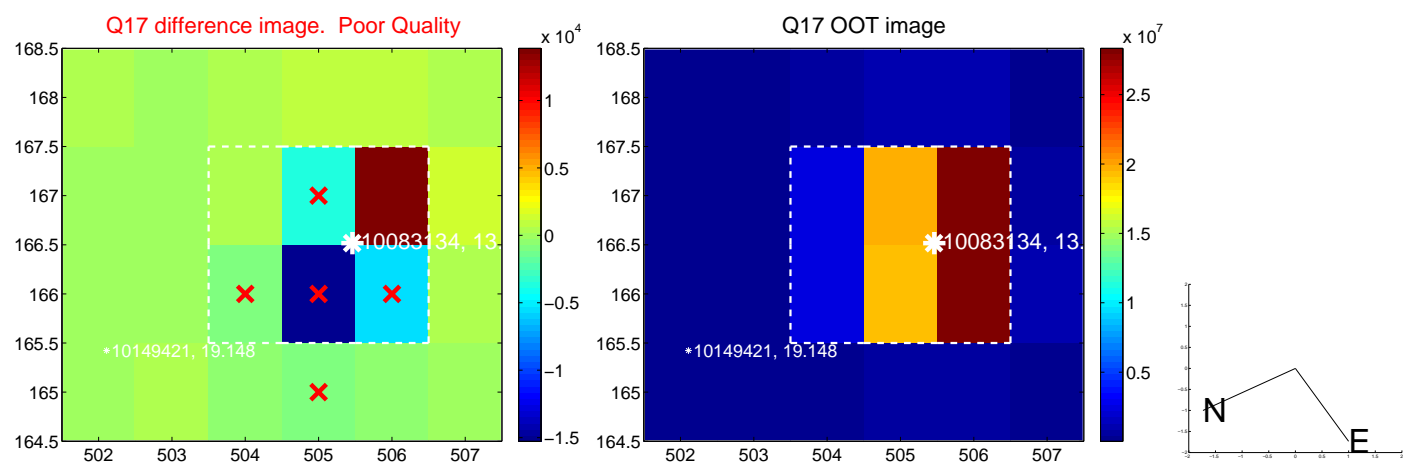
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



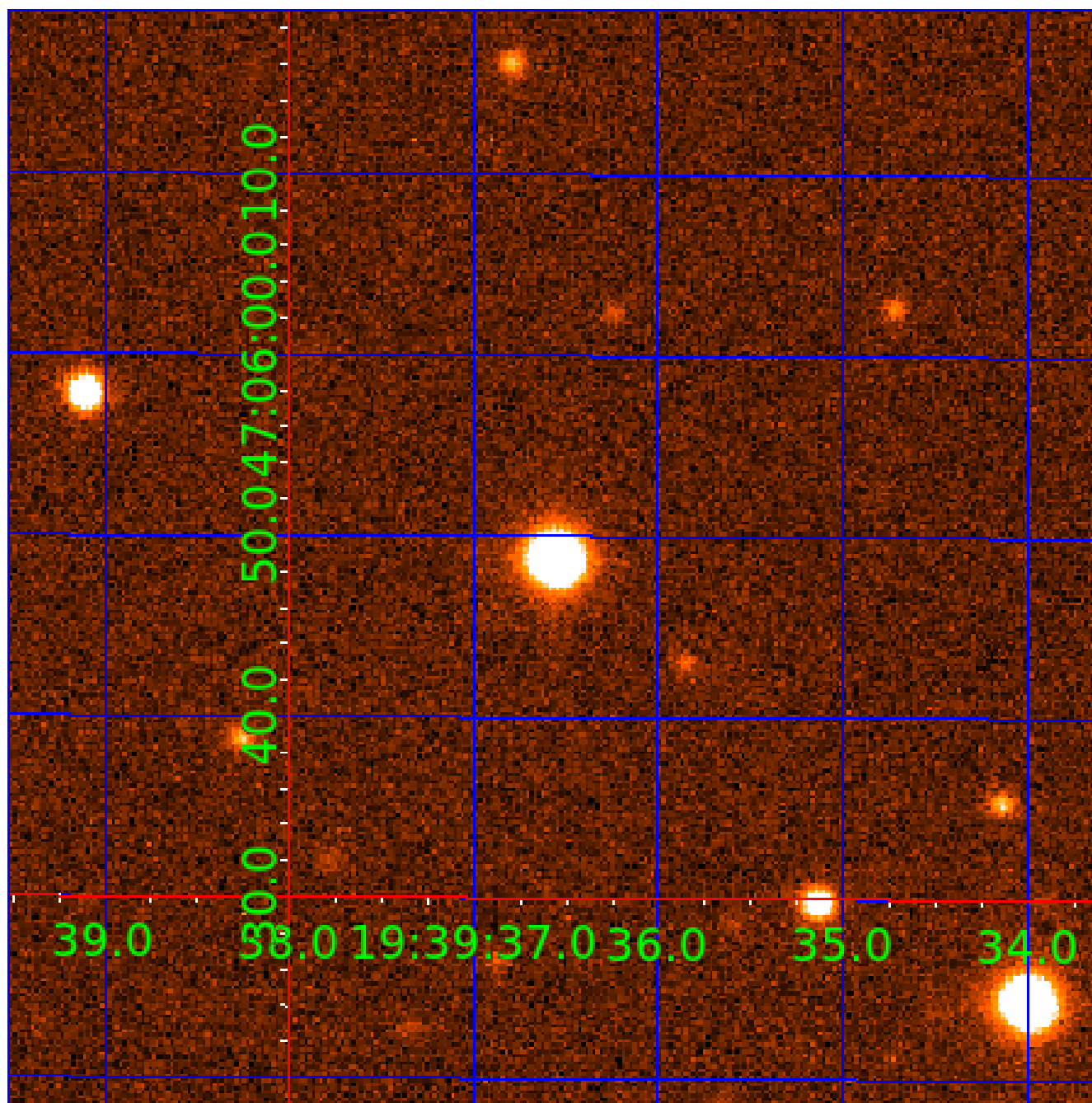
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 010083134

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})
010083134-01	OBS	No	6.276525	136.304841	0.0	19.032	10.0	0.0	3.44	7102	0.01	3915.86
010083134-02	OBS	No	3.137226	134.388754	9.5	28.691	8.9	3.9	3.44	7102	1.14	9871.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010083134-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_MEAS
010083134-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—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.

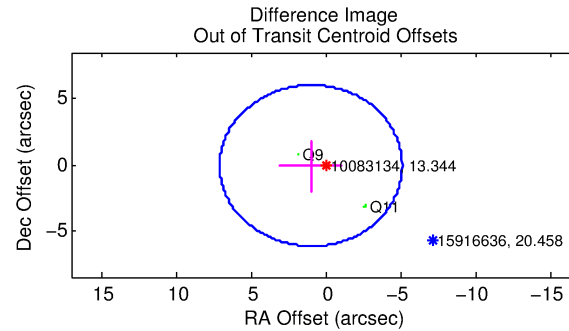
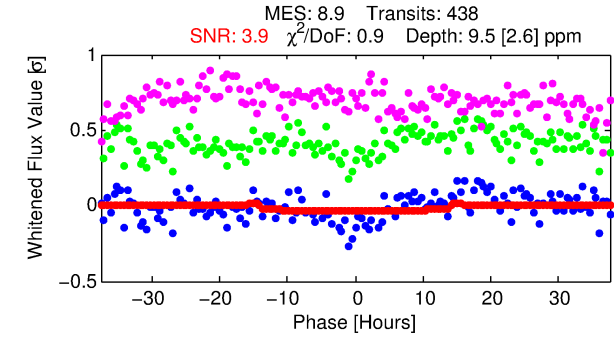
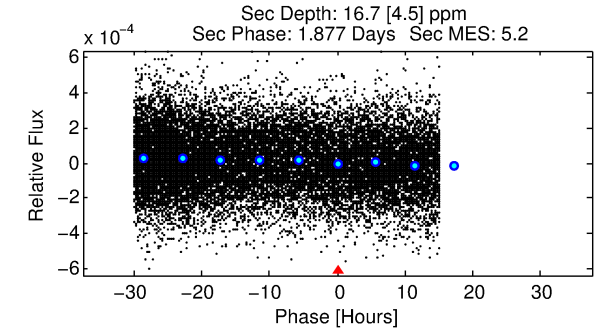
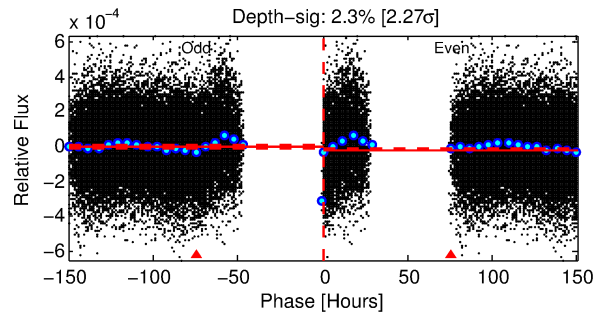
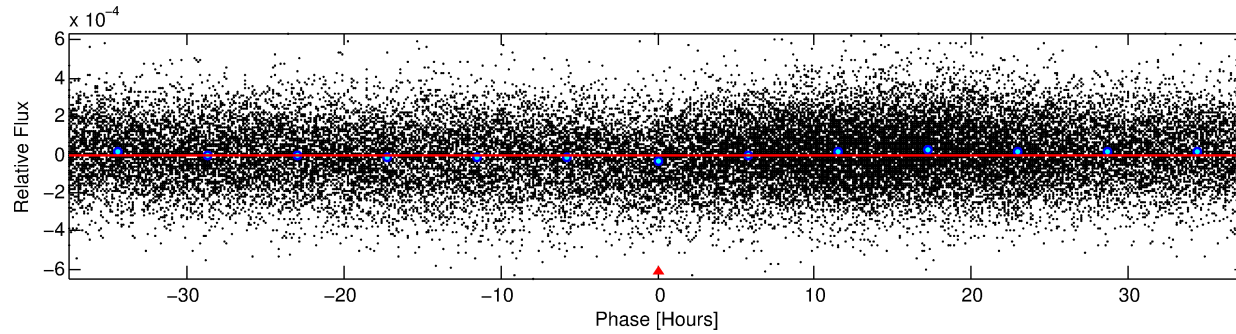
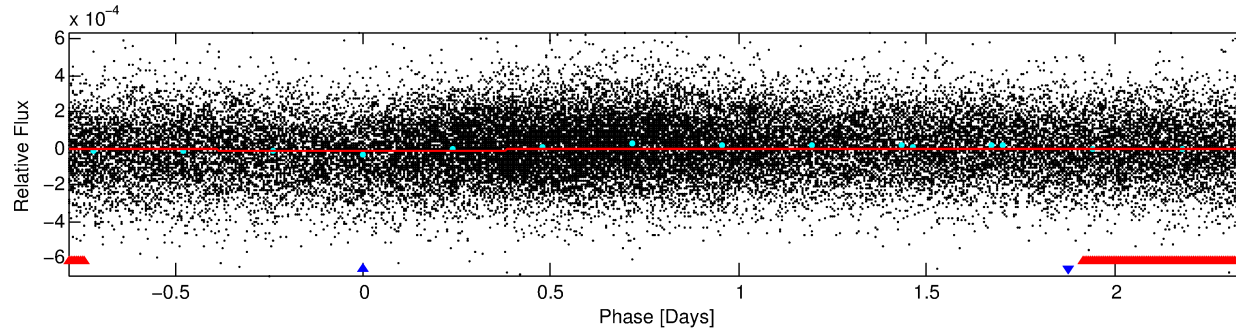
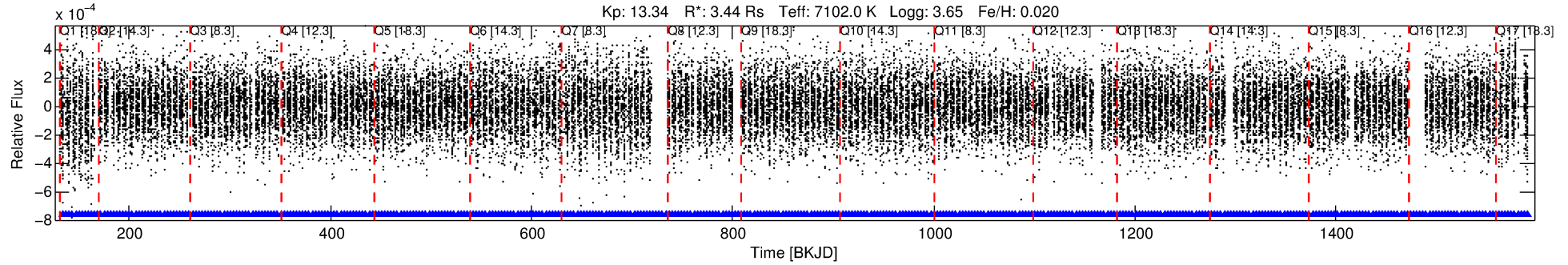
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010083134-02

No Significant Match Found

DV One-Page Summary

KIC: 10083134 Candidate: 2 of 2 Period: 3.137 d



DV Fit Results:

Period = 3.13723 [0.00016] d
Epoch = 134.3888 [0.0337] BKJD
Rp/R* = 0.0030 [0.0036]
a/R* = 1.04 [0.61]
b = 0.70 [5.48]
Seff = 9871.69 [5527.40]
Teq = 2542 [356] K
Rp = 1.14 [1.41] Re
a = 0.0522 [0.0180] AU
Ag = 19.43 [47.59] [0.39 σ]
Teffp = 8251 [4936] K [1.15 σ]

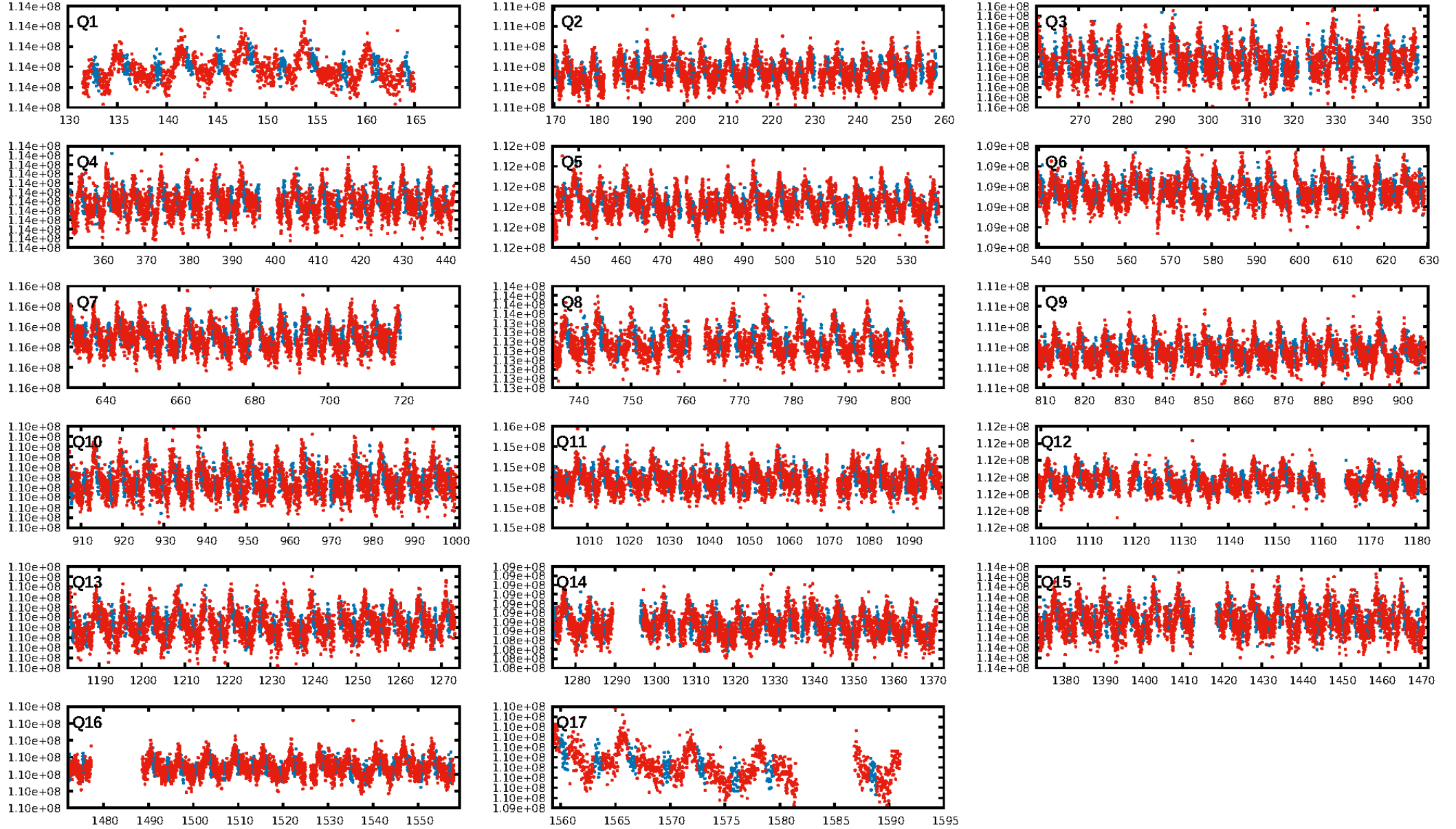
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 97.1% [2.19 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [417/417]
GhostDiagnostic-chr: 1.622
Centroid-sig: 36.5%
Centroid-so: 1.147 arcsec [0.91 σ]
OotOffset-rm: 0.974 arcsec [0.48 σ]
KicOffset-rm: 1.002 arcsec [0.49 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [17/17]

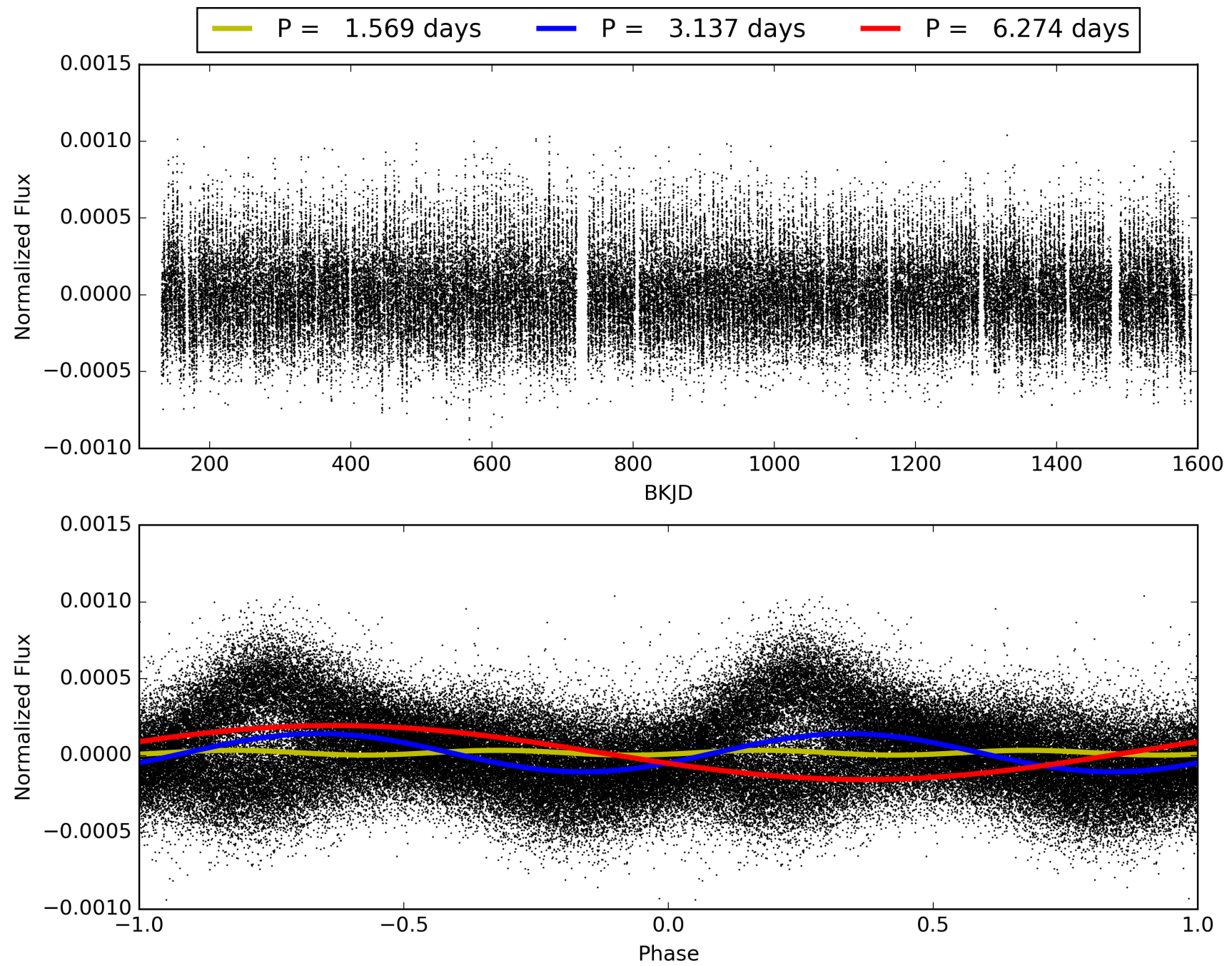
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:22:20 Z

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

TCE 010083134-02, PDC Light Curves

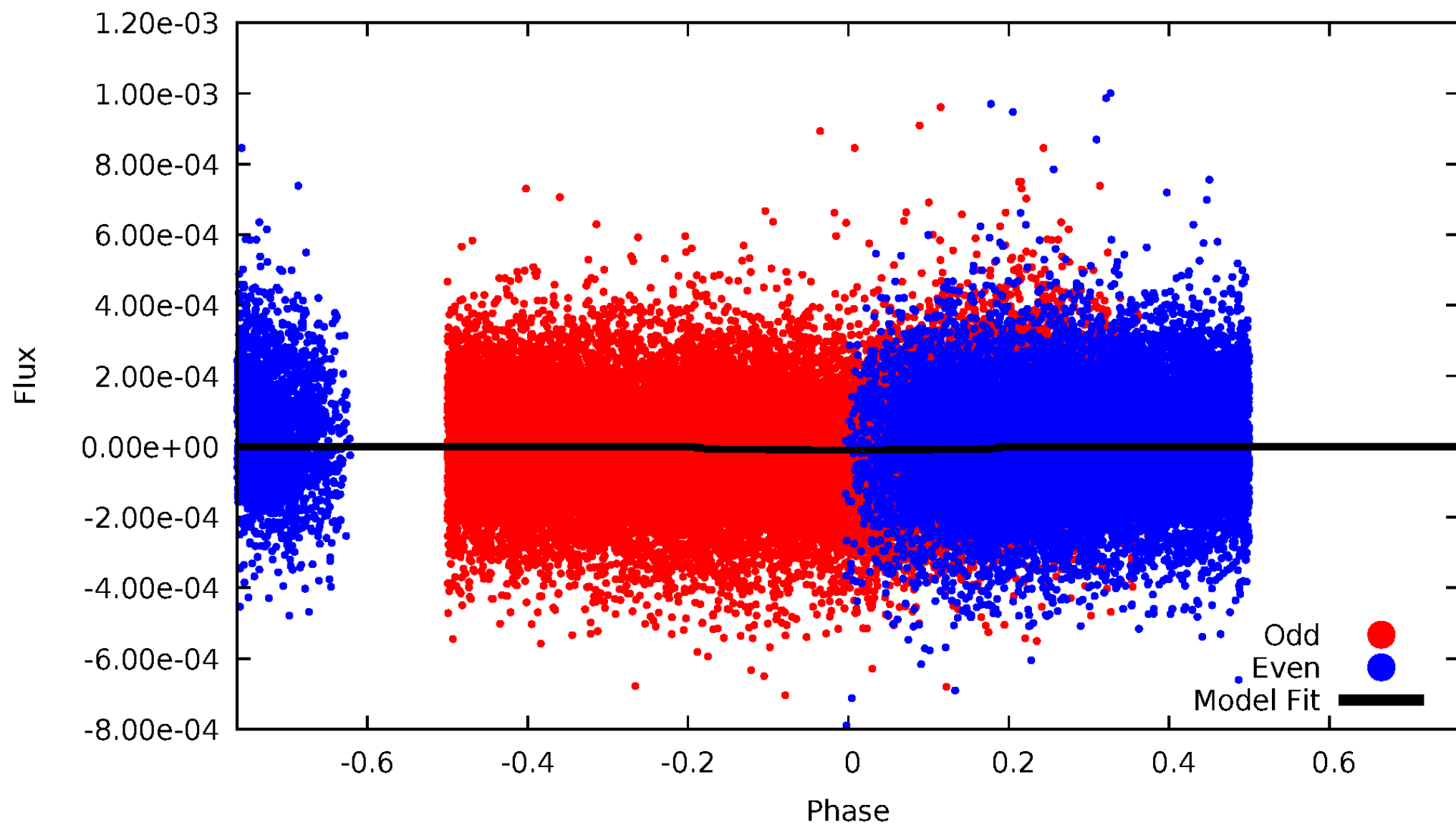


TCE 010083134-02



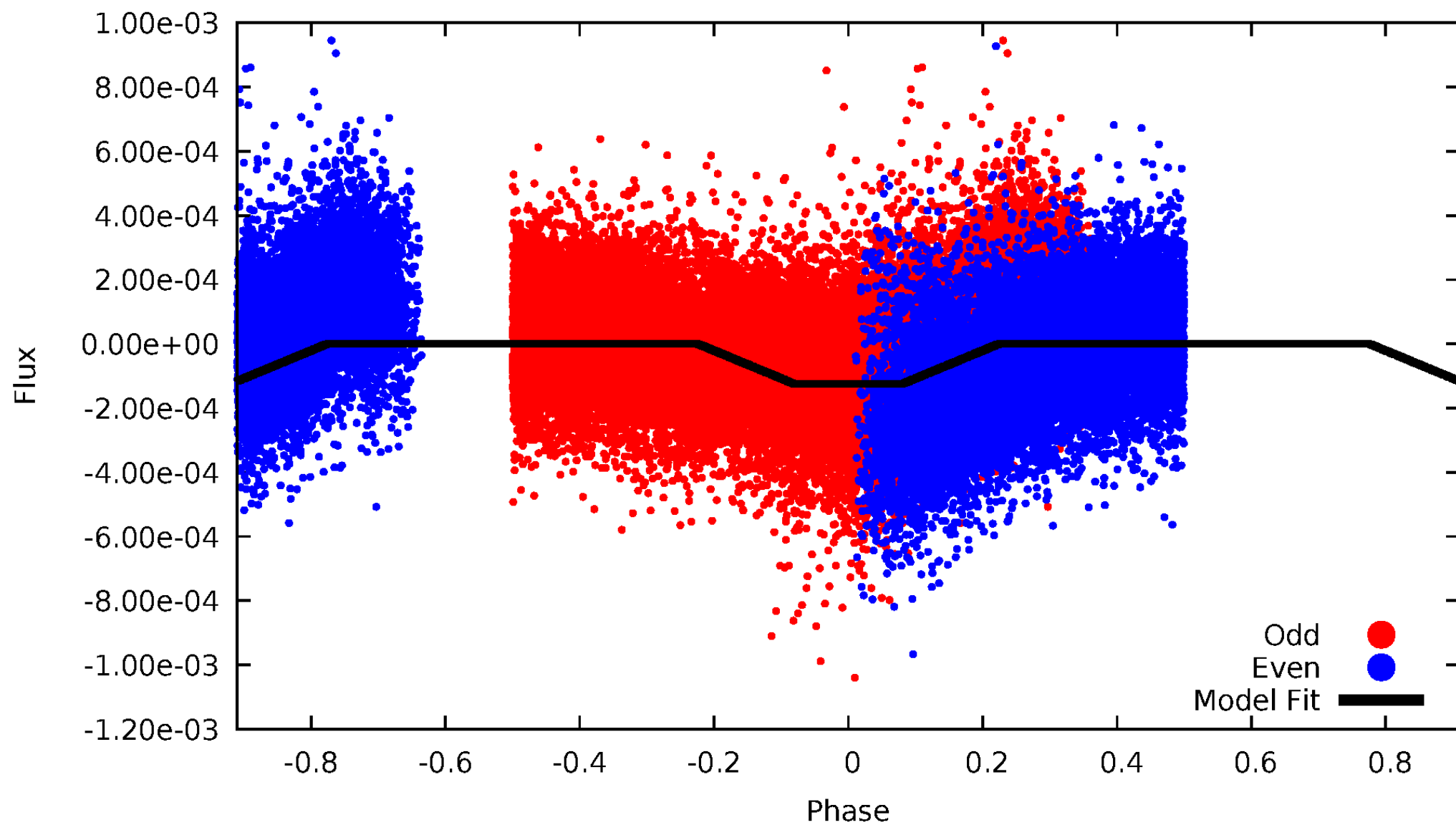
DV Odd/Even

TCE 010083134-02



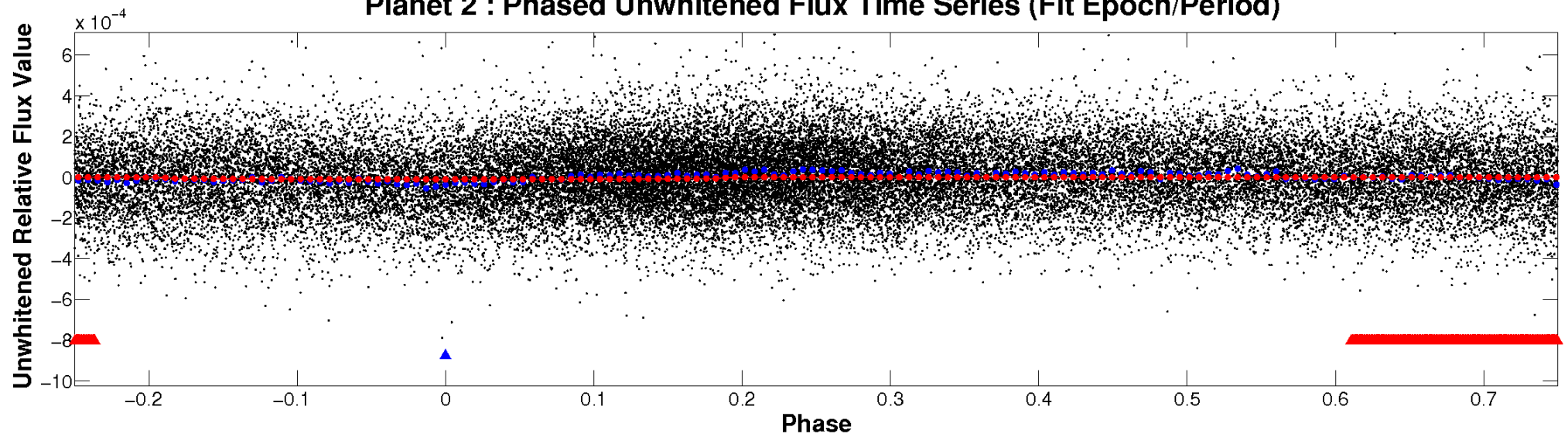
ALT Odd/Even

TCE 010083134-02

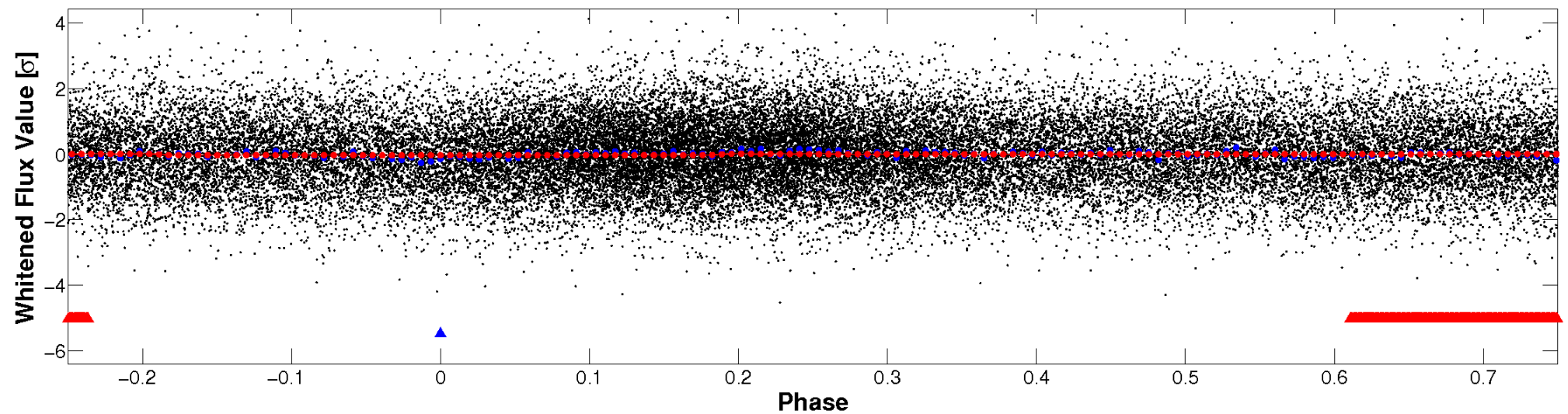


Non-Whitened Vs. Whitened Light Curve

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

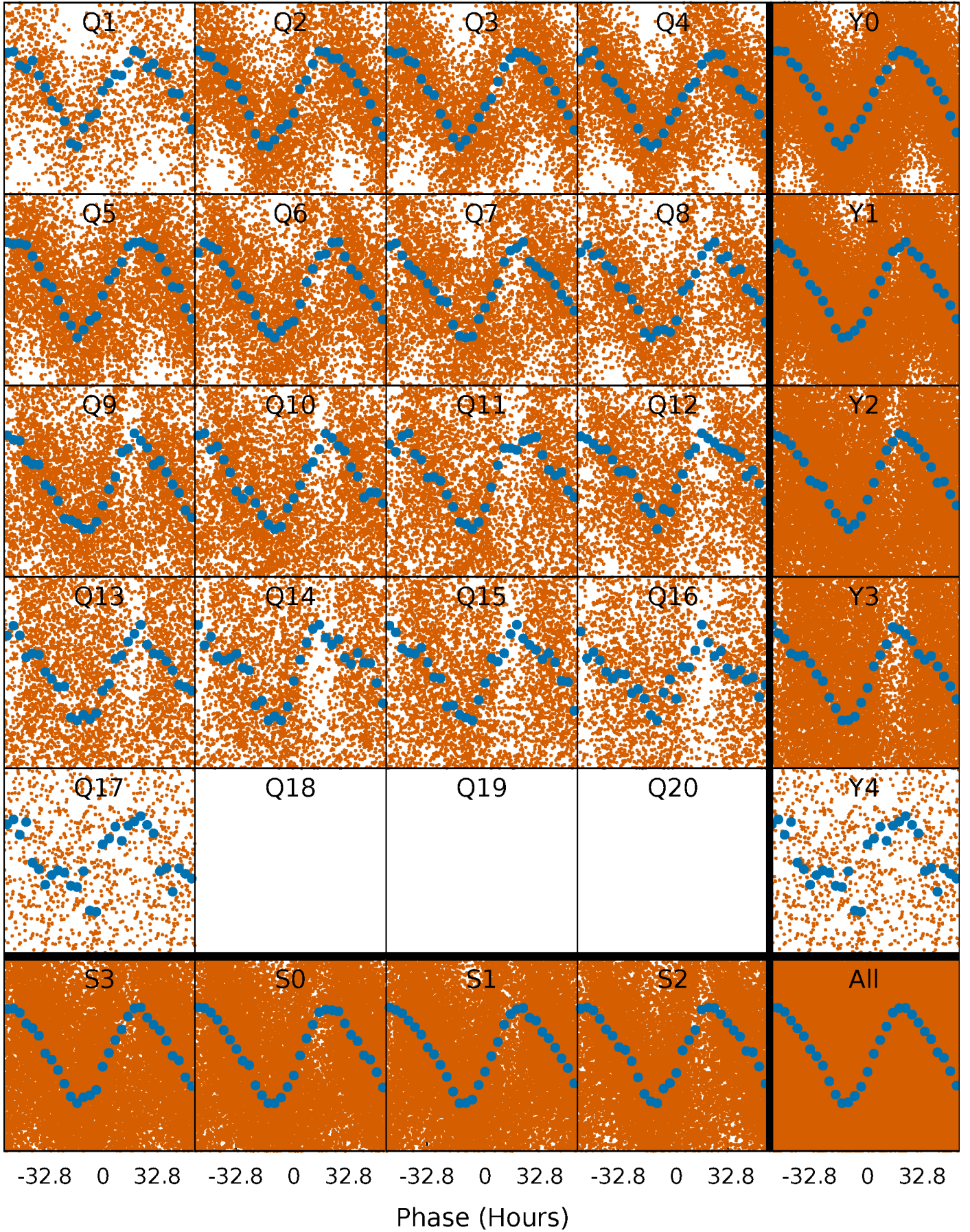


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



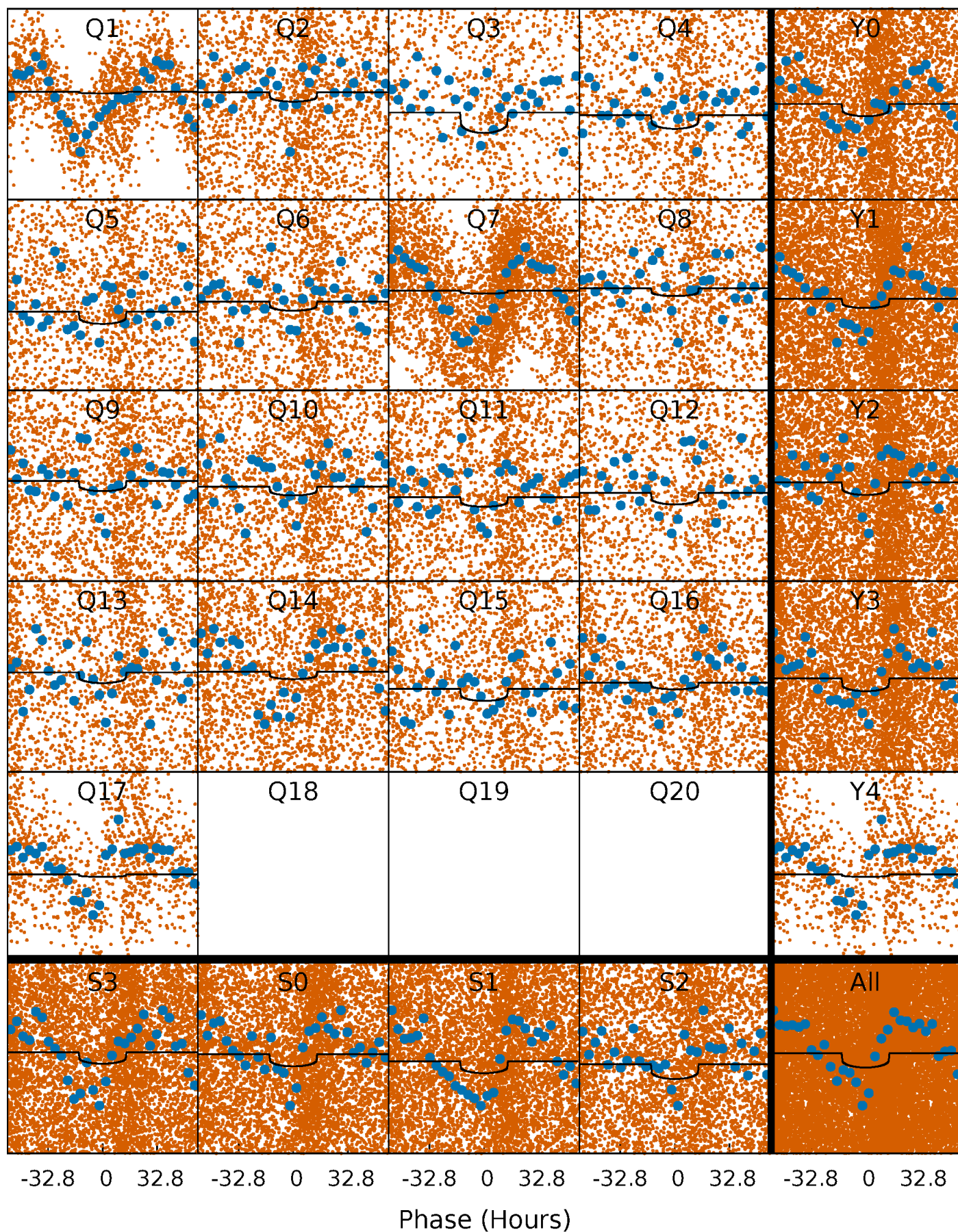
PDC Quarter-Phased Transit Curves

TCE 010083134-02 P= 3.137226 Days $T_0=134.388754$ (BKJD)



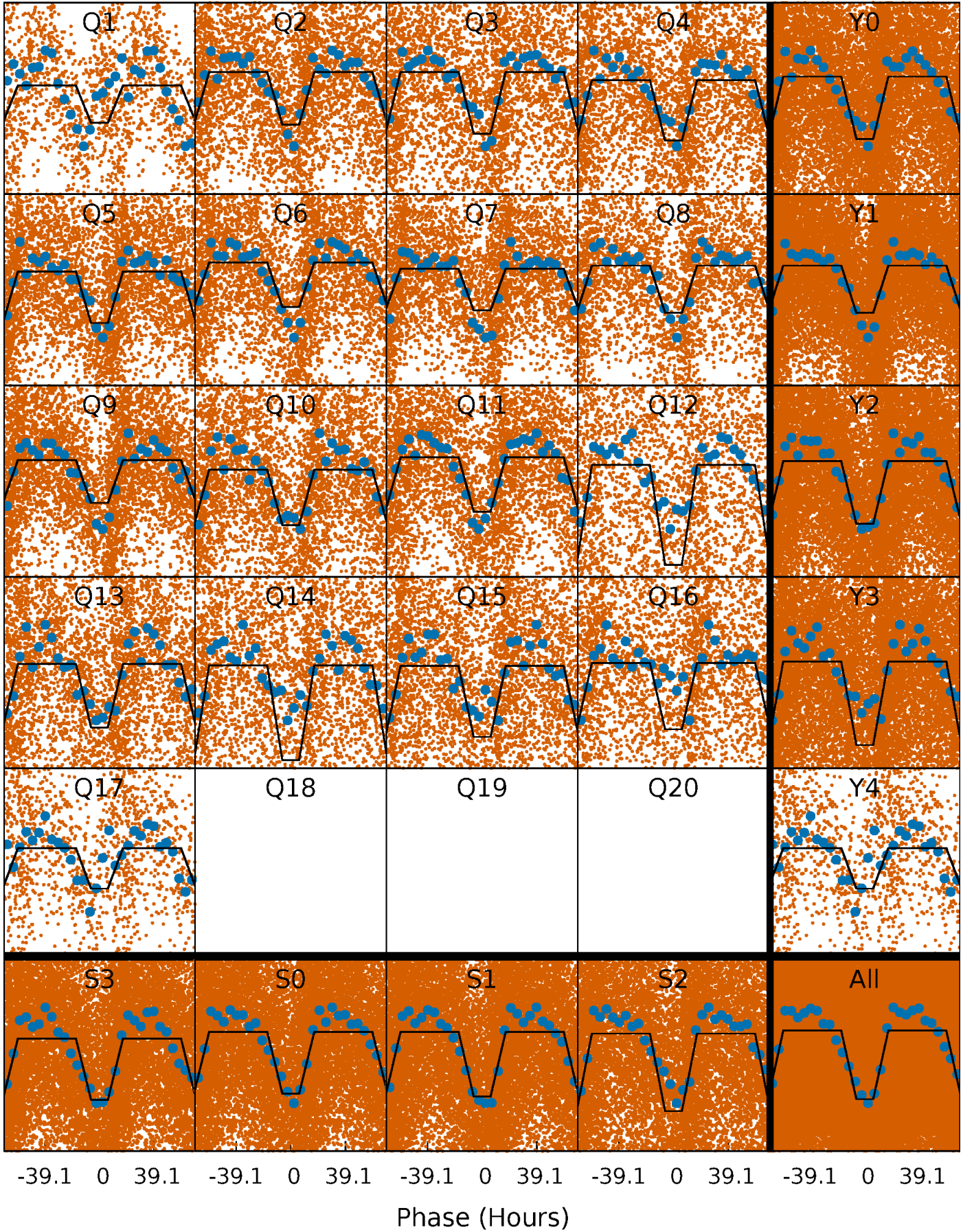
DV Quarter-Phased Transit Curves

TCE 010083134-02 $P = 3.137226$ Days $T_0 = 134.388754$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

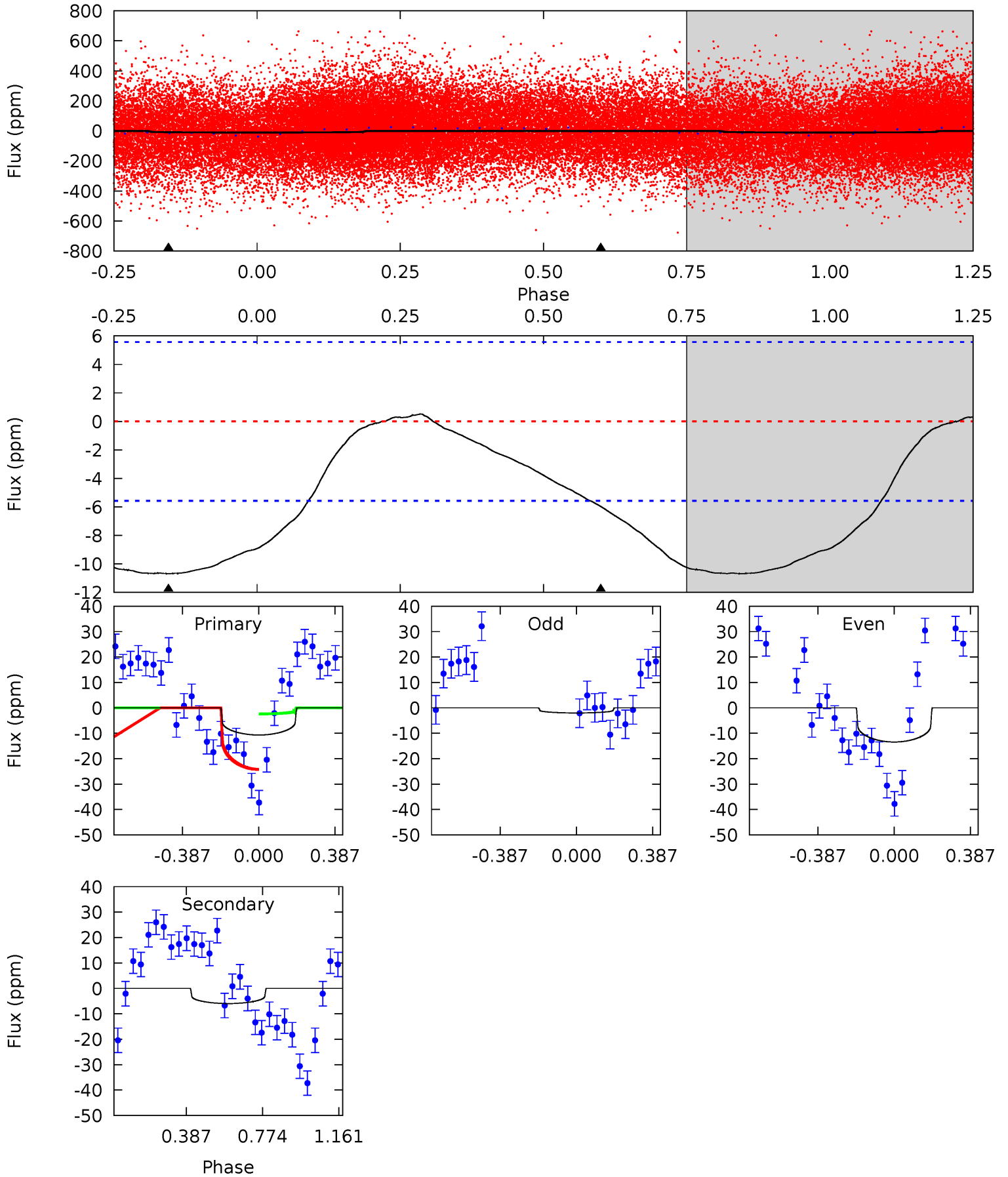
TCE 010083134-02 P= 3.137430 Days $T_0=134.340297$ (BKJD)



DV Model-Shift Uniqueness Test

010083134-02, P = 3.137226 Days, E = 131.251528 Days

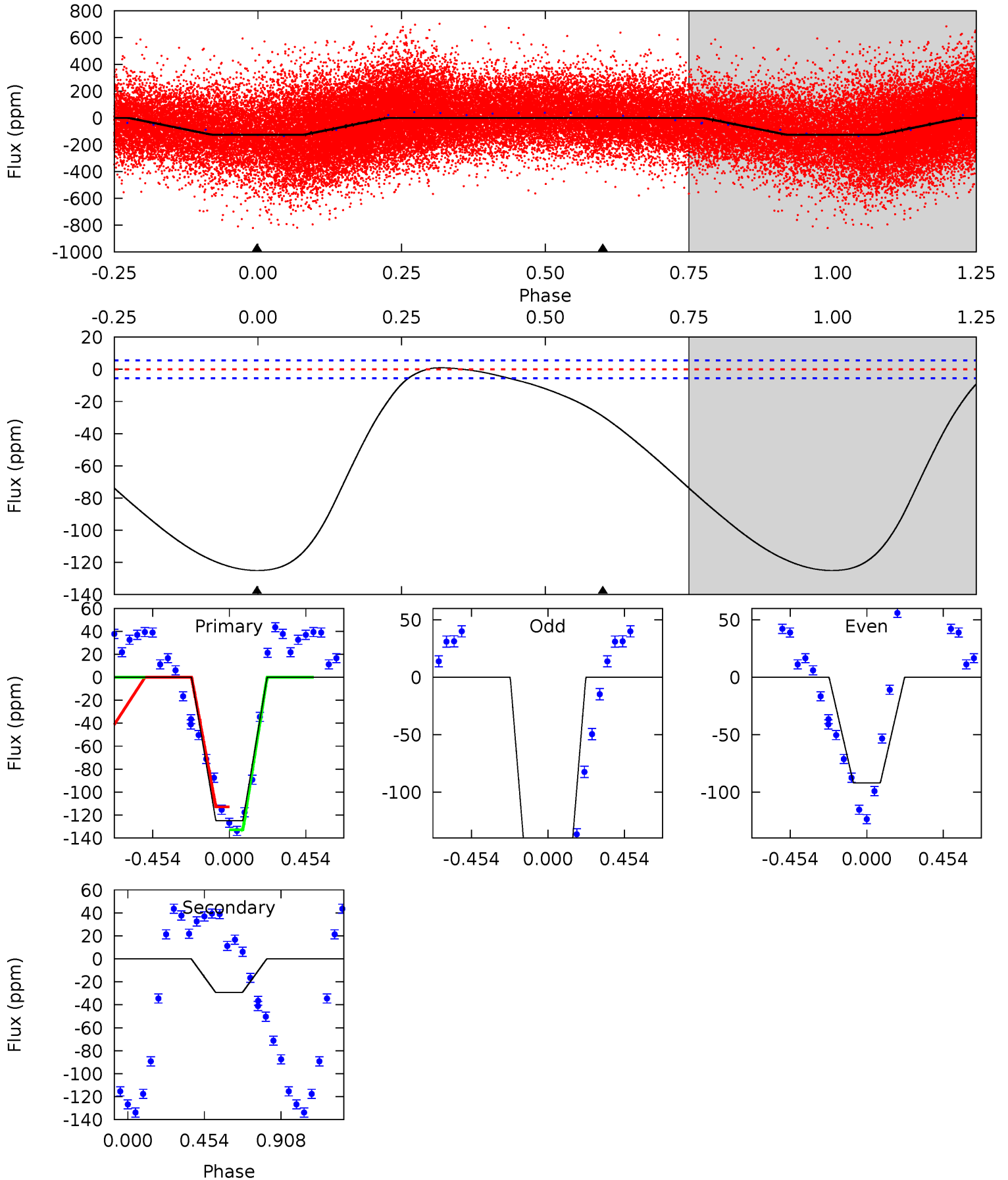
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.19	4.58	0	0	4.27	0.87	0.16	8.19	8.19	4.58	4.58	3.88	0.59	0.05	8.21



Alt Model-Shift Uniqueness Test

010083134-02, P = 3.137430 Days, E = 131.202867 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
95.7	22.3	0	0	4.24	0.75	1.78	95.7	95.7	22.3	22.3	57.5	1.22	0.01	8.03



Stellar Parameters For KIC 010083134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7102^{+191}_{-254}	$3.651^{+0.314}_{-0.055}$	$0.020^{+0.250}_{-0.250}$	$3.436^{+0.318}_{-1.270}$	$1.929^{+0.141}_{-0.353}$	$0.067^{+0.150}_{-0.013}$
	+3%/-4%	+9%/-2%	+1250%/-1250%	+9%/-37%	+7%/-18%	+224%/-19%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010083134-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 1	$1.34^{+1.13}_{-0.85}$	3457^{+191}_{-284}	5462^{+4172}_{-1313}	$4.740^{+33.021}_{-3.307}$
Alt.	-29 ± 1	$3.89^{+1.47}_{-1.37}$	3459^{+192}_{-317}	4854^{+921}_{-607}	$2.864^{+3.874}_{-1.318}$

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

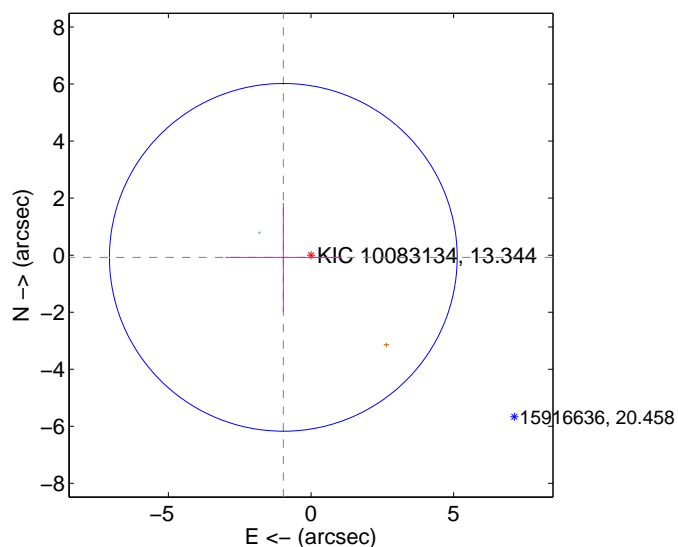
Supplemental centroid analysis for 010083134-02. Kepler magnitude: 13.34. Transit SNR 3.90

There are 1 quarters with good PRF difference image offsets

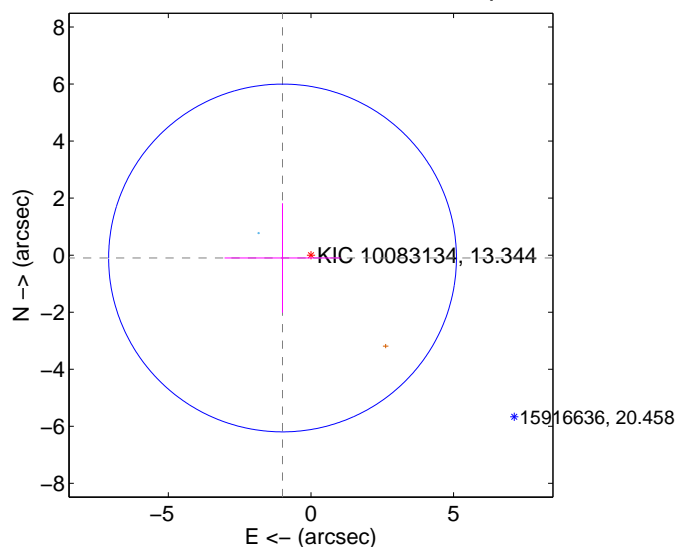
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.974 ± 2.032	0.48	0.971 ± 2.033	-0.077 ± 1.907
PRF-fit source offset from KIC position	1.002 ± 2.033	0.49	0.997 ± 2.034	-0.099 ± 1.921
photometric centroid source offset	1.15 ± 1.26	0.91	-0.28 ± 1.28	-1.11 ± 1.26

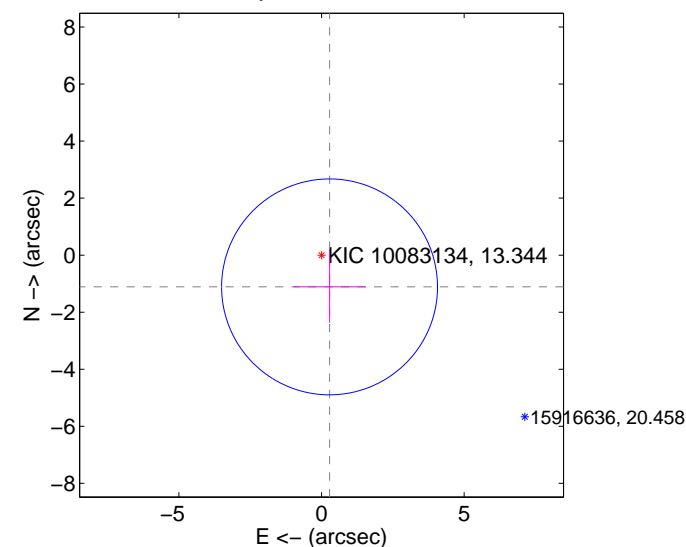
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

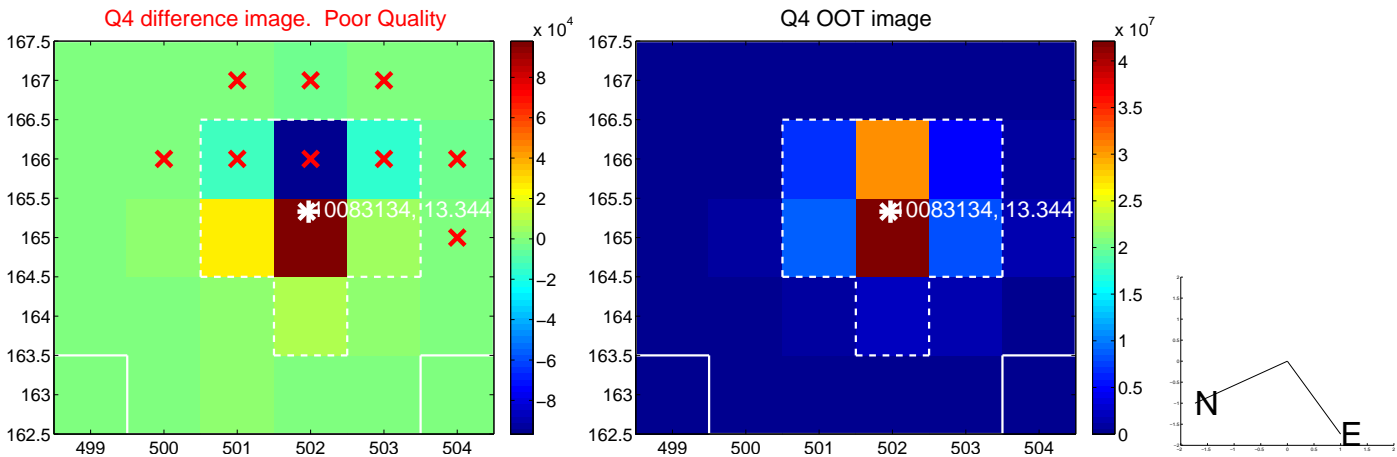
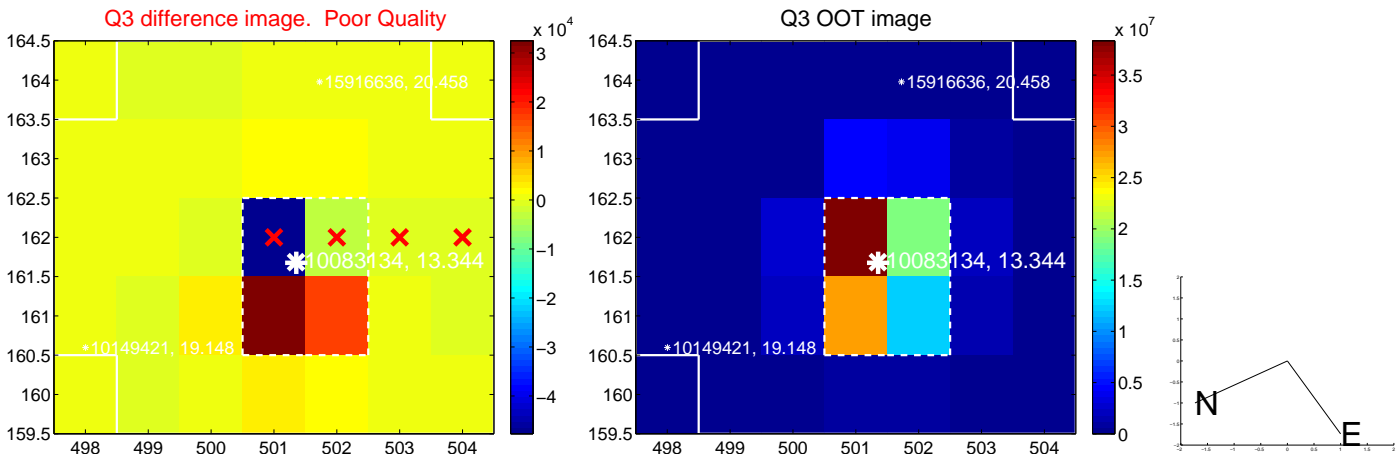
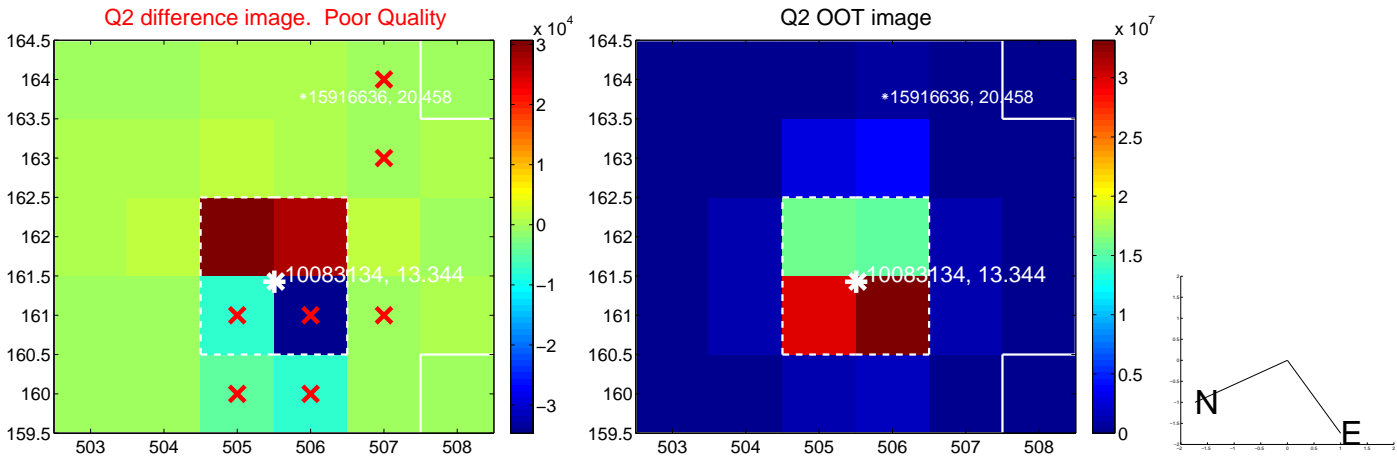
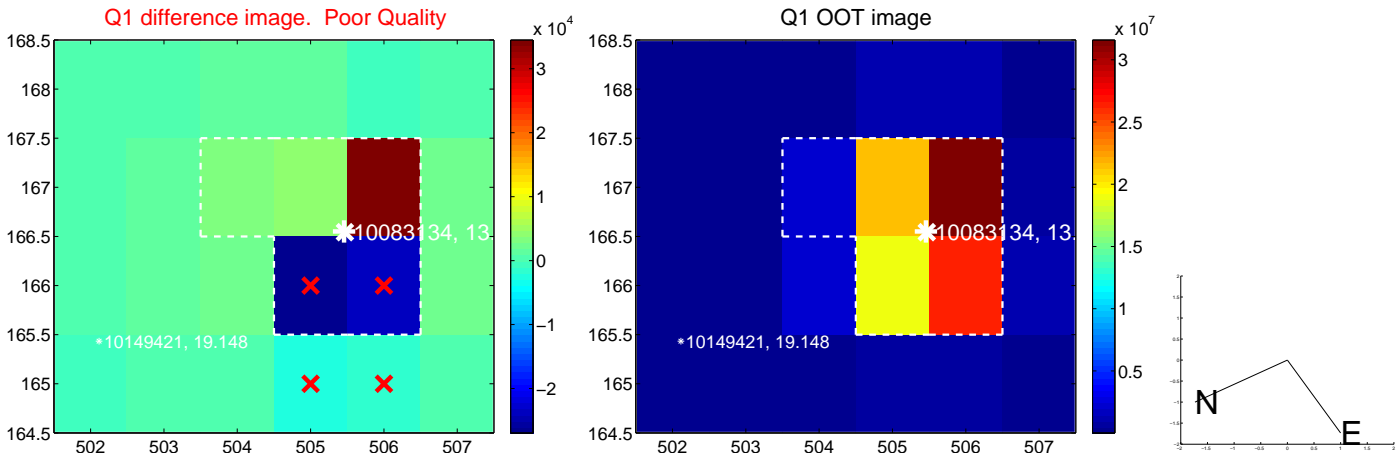


offset from photometric centroids

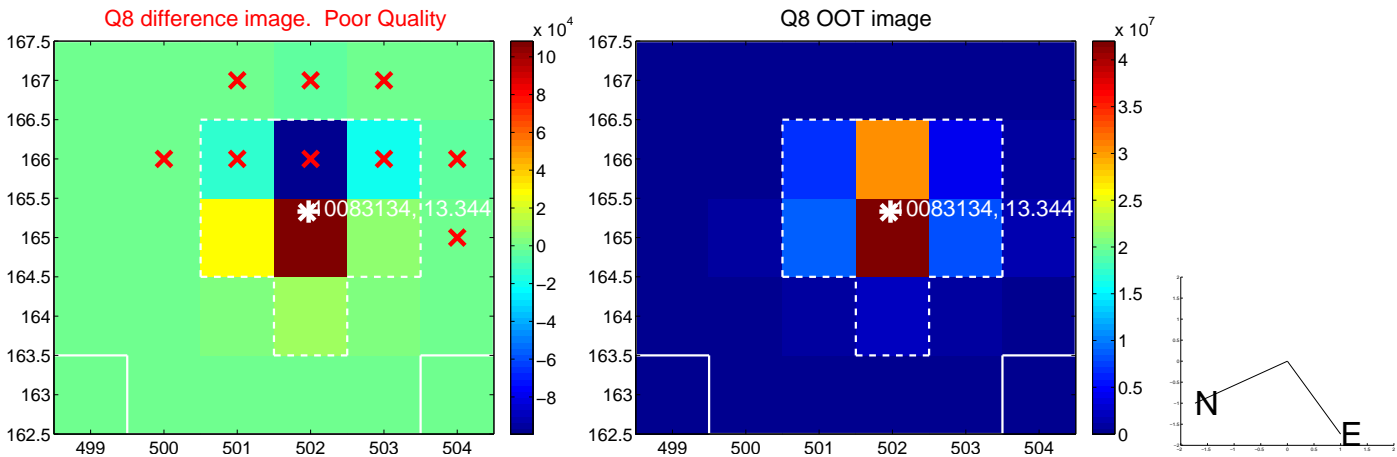
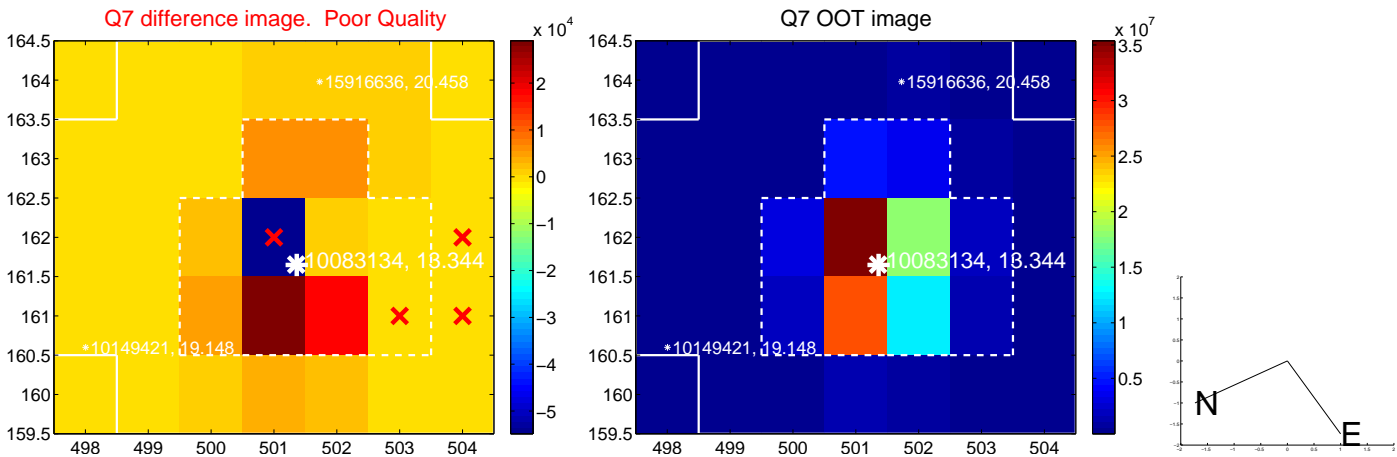
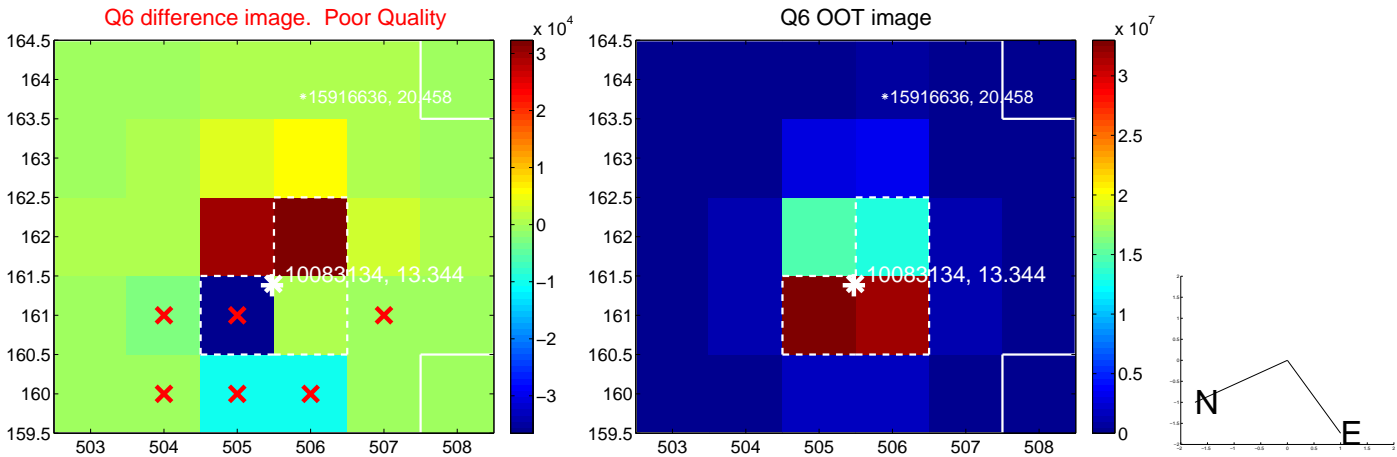
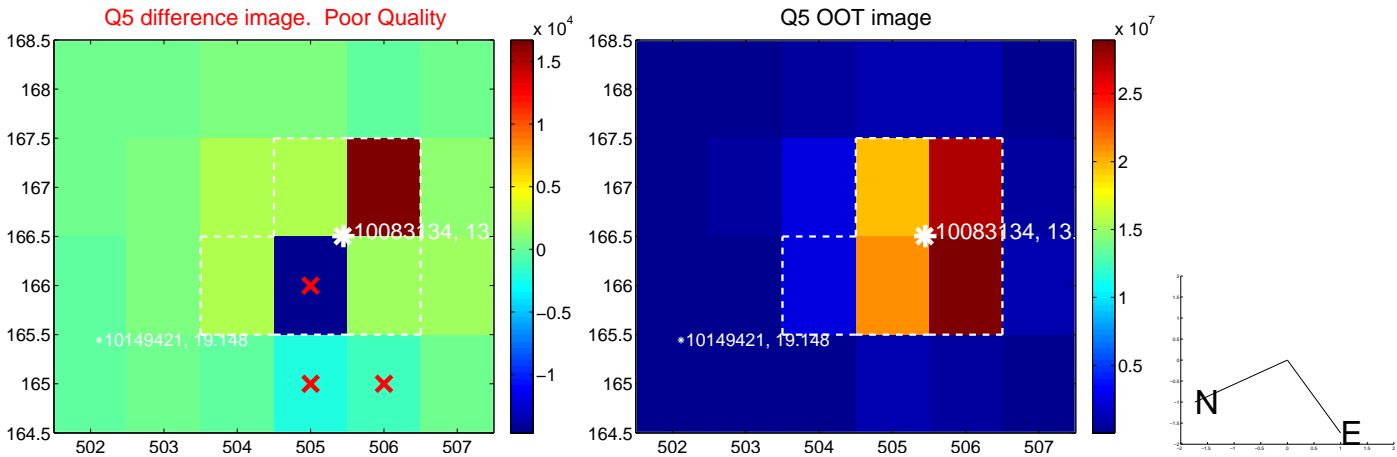


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

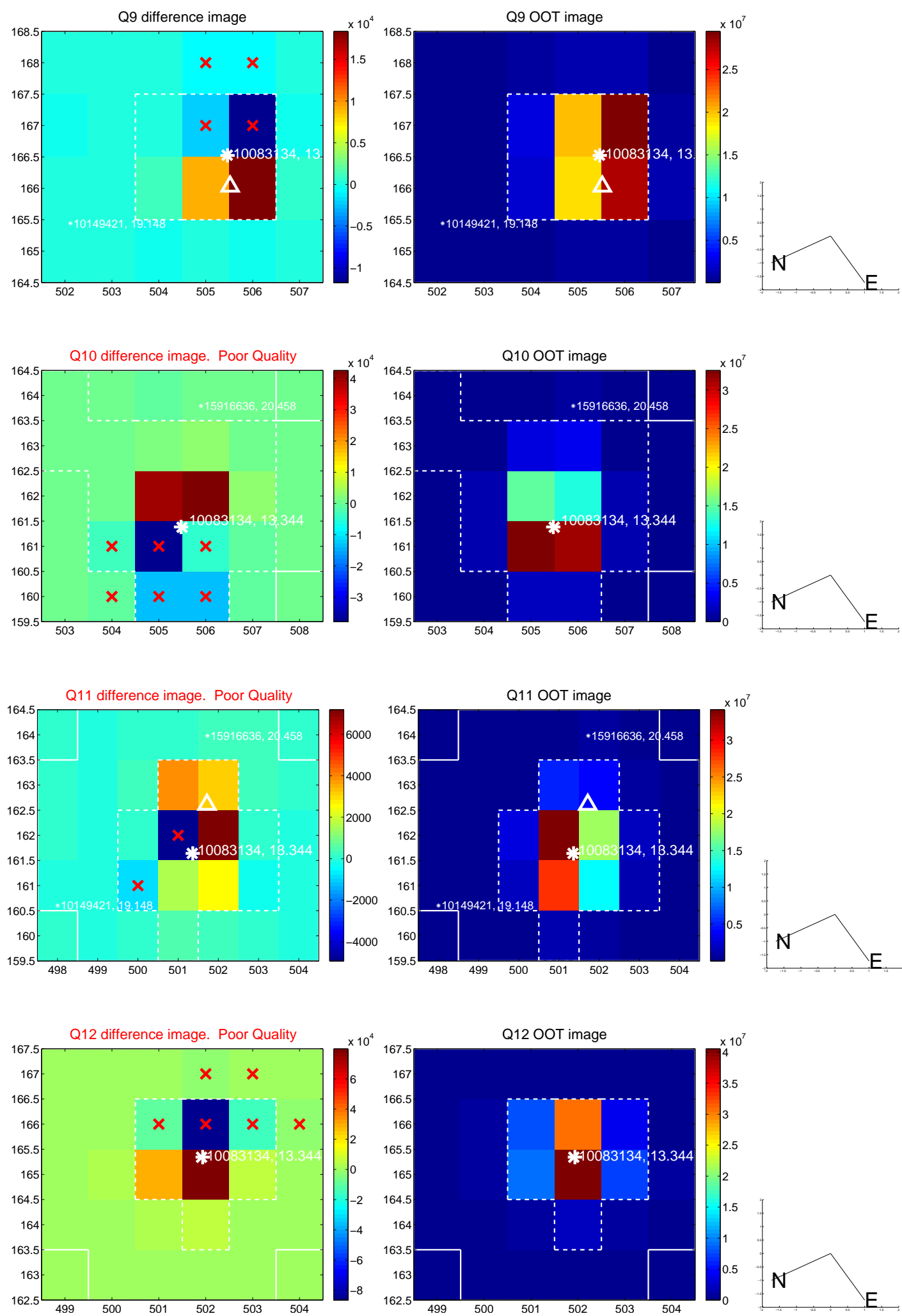
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



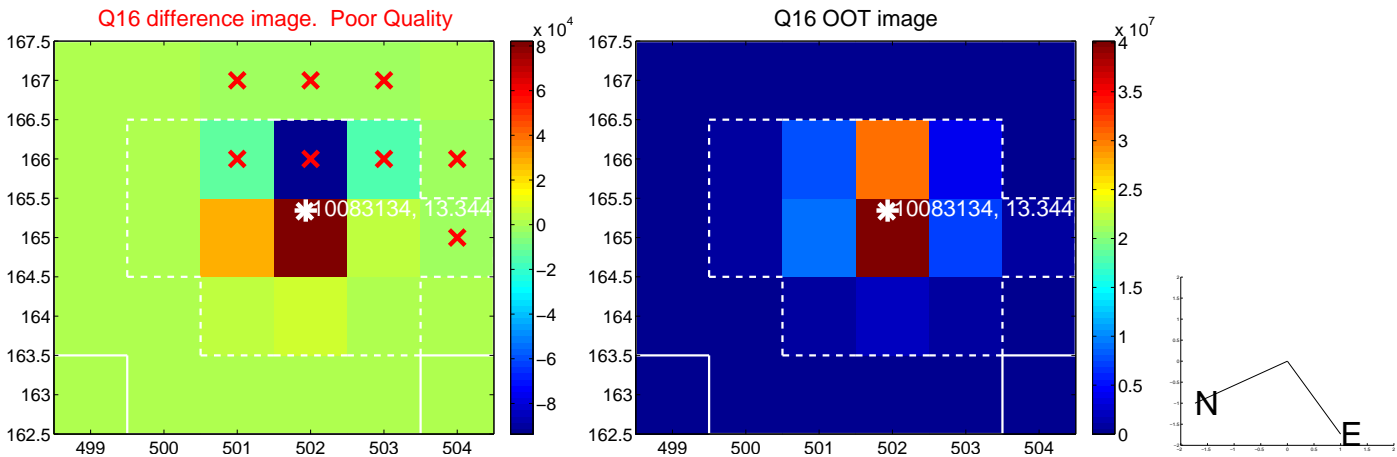
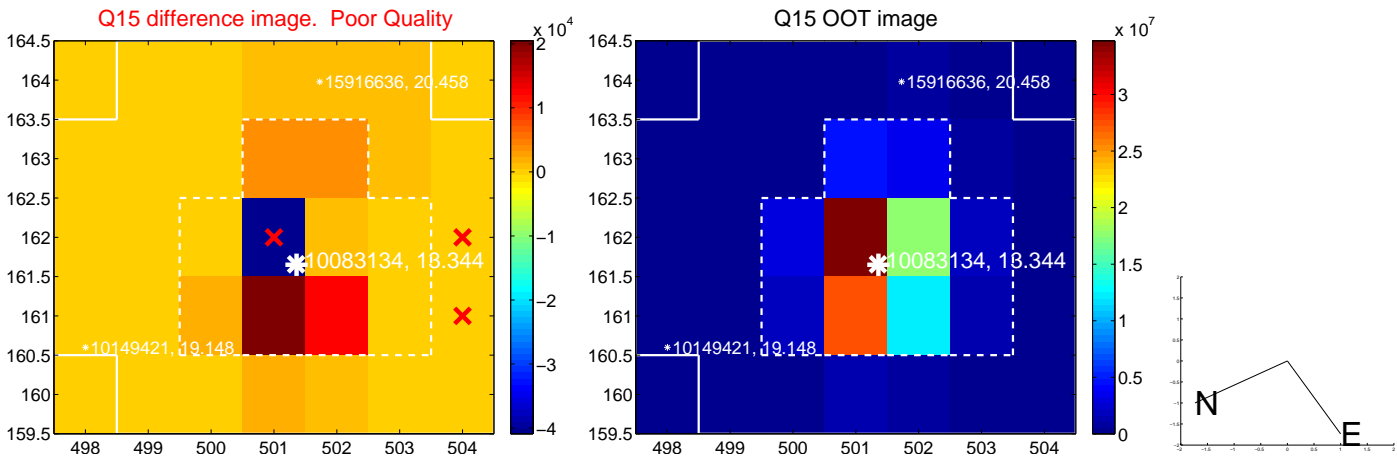
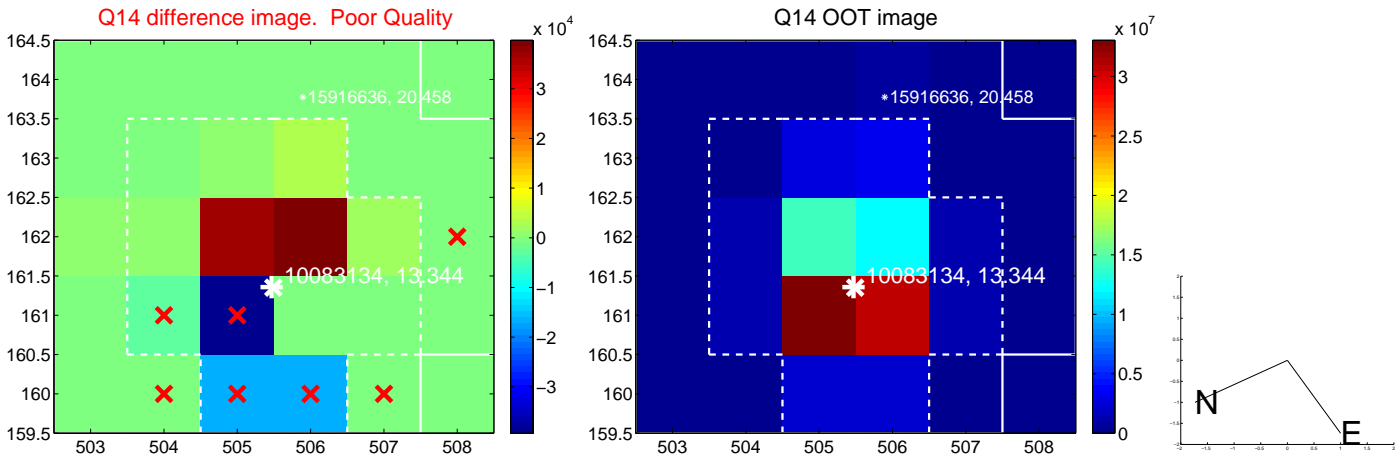
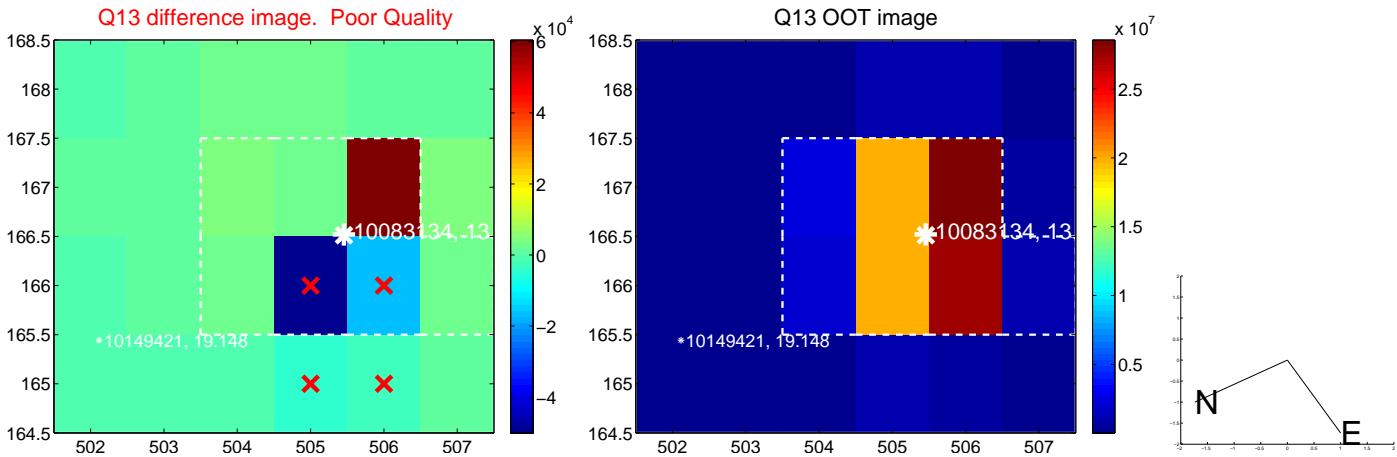
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



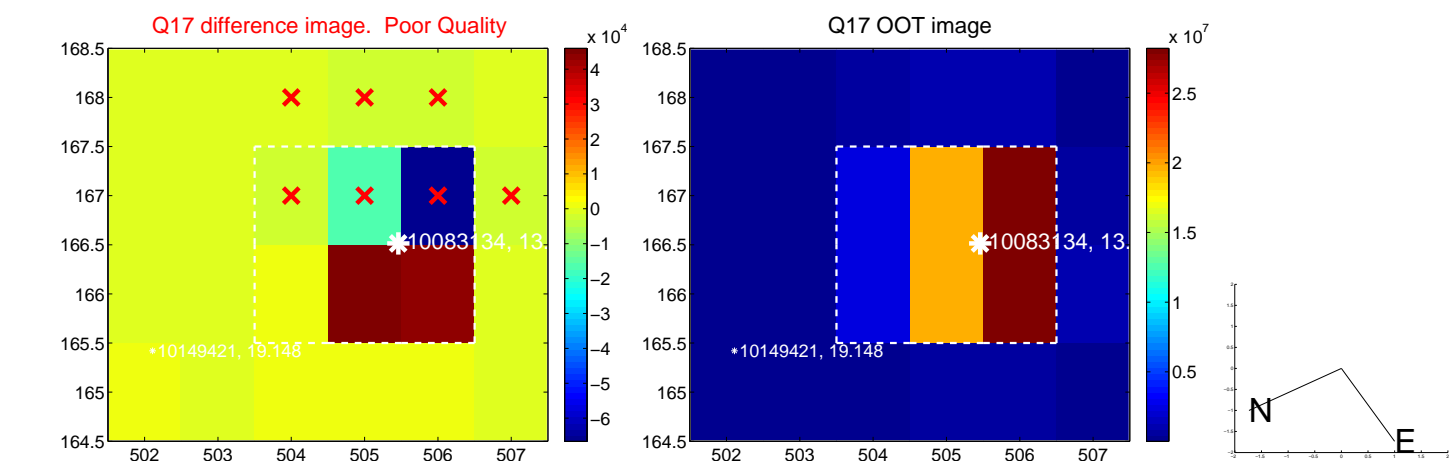
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



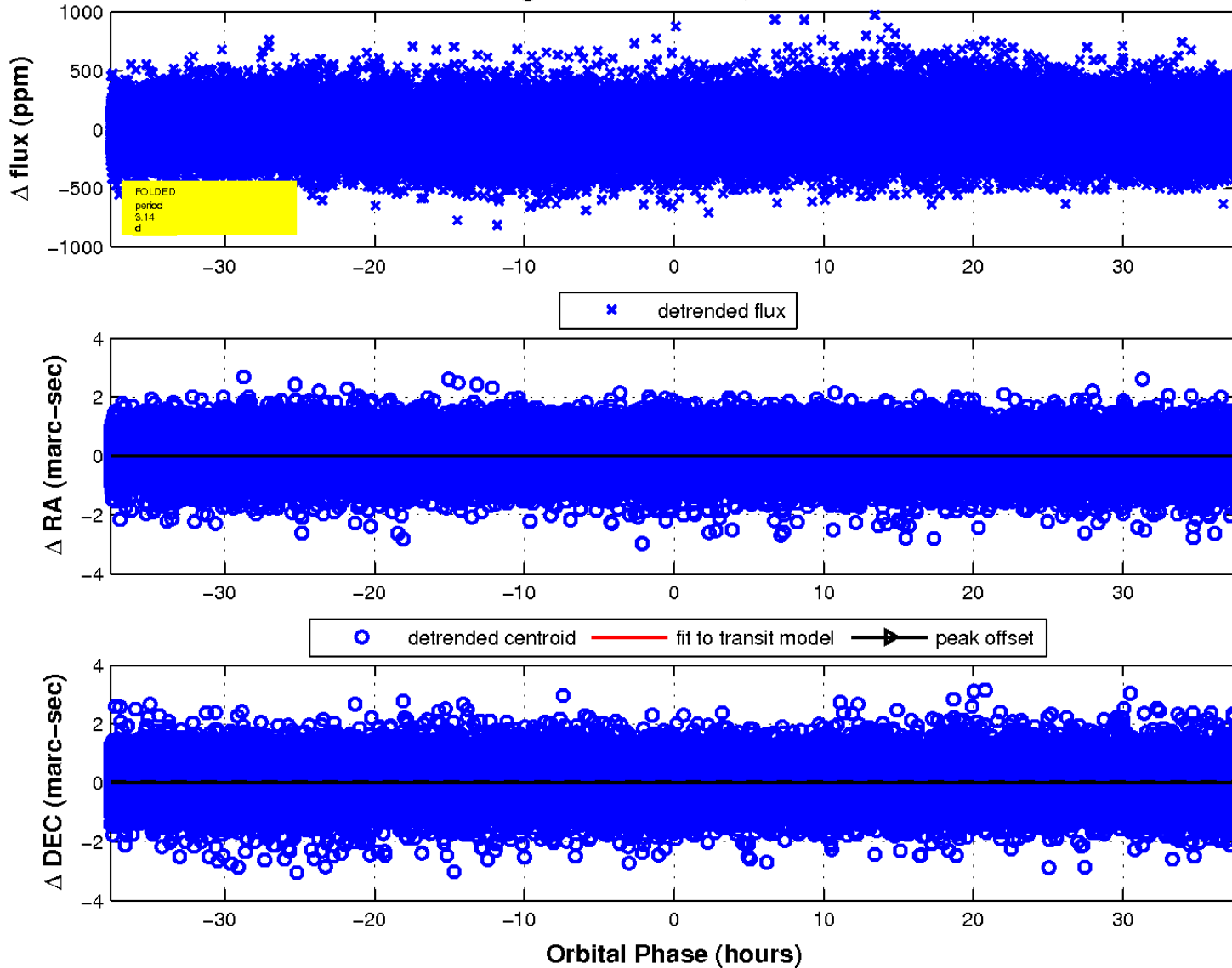
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

