

KIC 006531801

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})
006531801-01	OBS	No	0.985616	131.744913	35.4	3.404	11.0	5.2	1.27	7273	0.87	9073.21
006531801-02	OBS	No	0.987781	132.252537	0.0	9.507	10.7	0.0	1.27	7273	0.00	9046.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006531801-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
006531801-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—CENT_FEW_MEAS

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 006531801-01

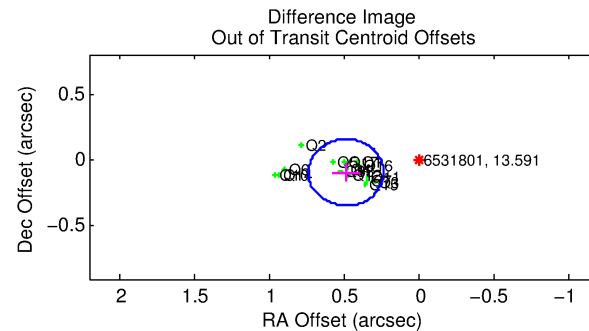
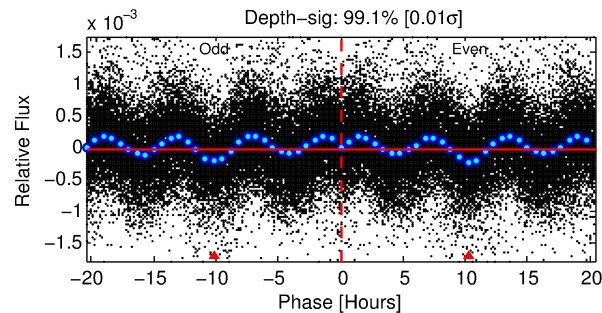
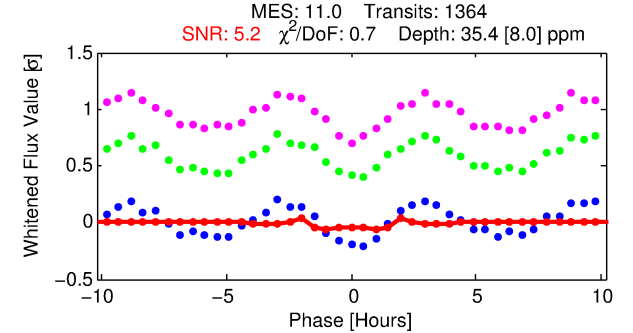
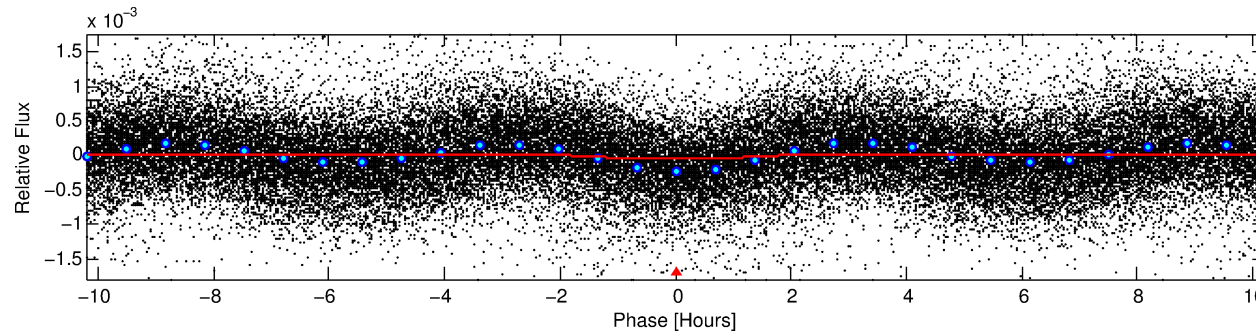
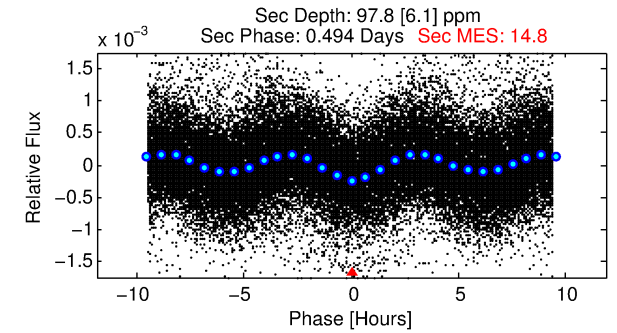
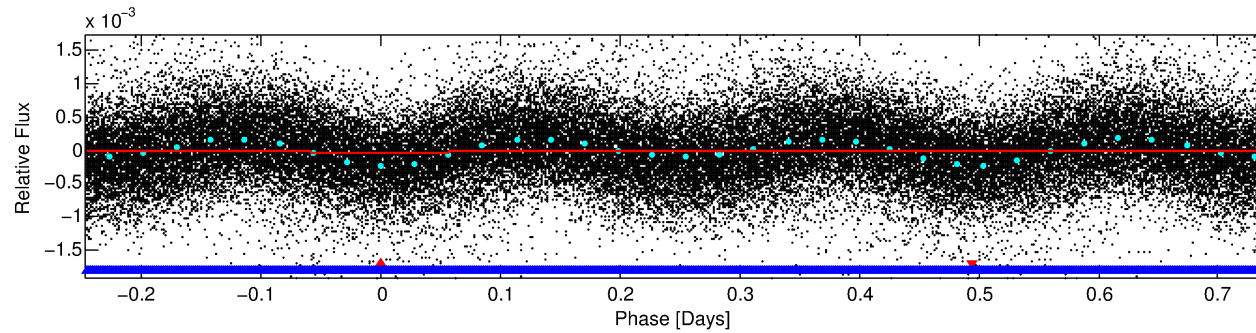
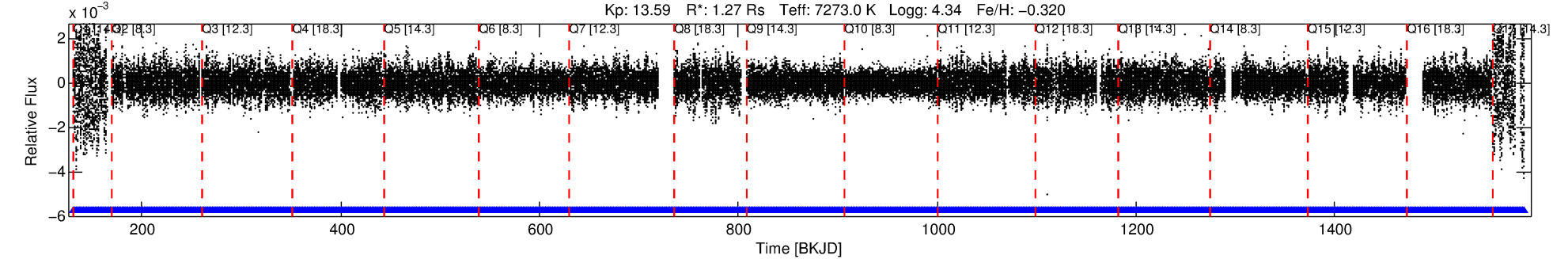
No Significant Match Found

DV One-Page Summary

KIC: 6531801 Candidate: 1 of 2 Period: 0.986 d

KOI: K06727 Corr: No Ephemeris Match

Kp: 13.59 R*: 1.27 Rs Teff: 7273.0 K Logg: 4.34 Fe/H: -0.320



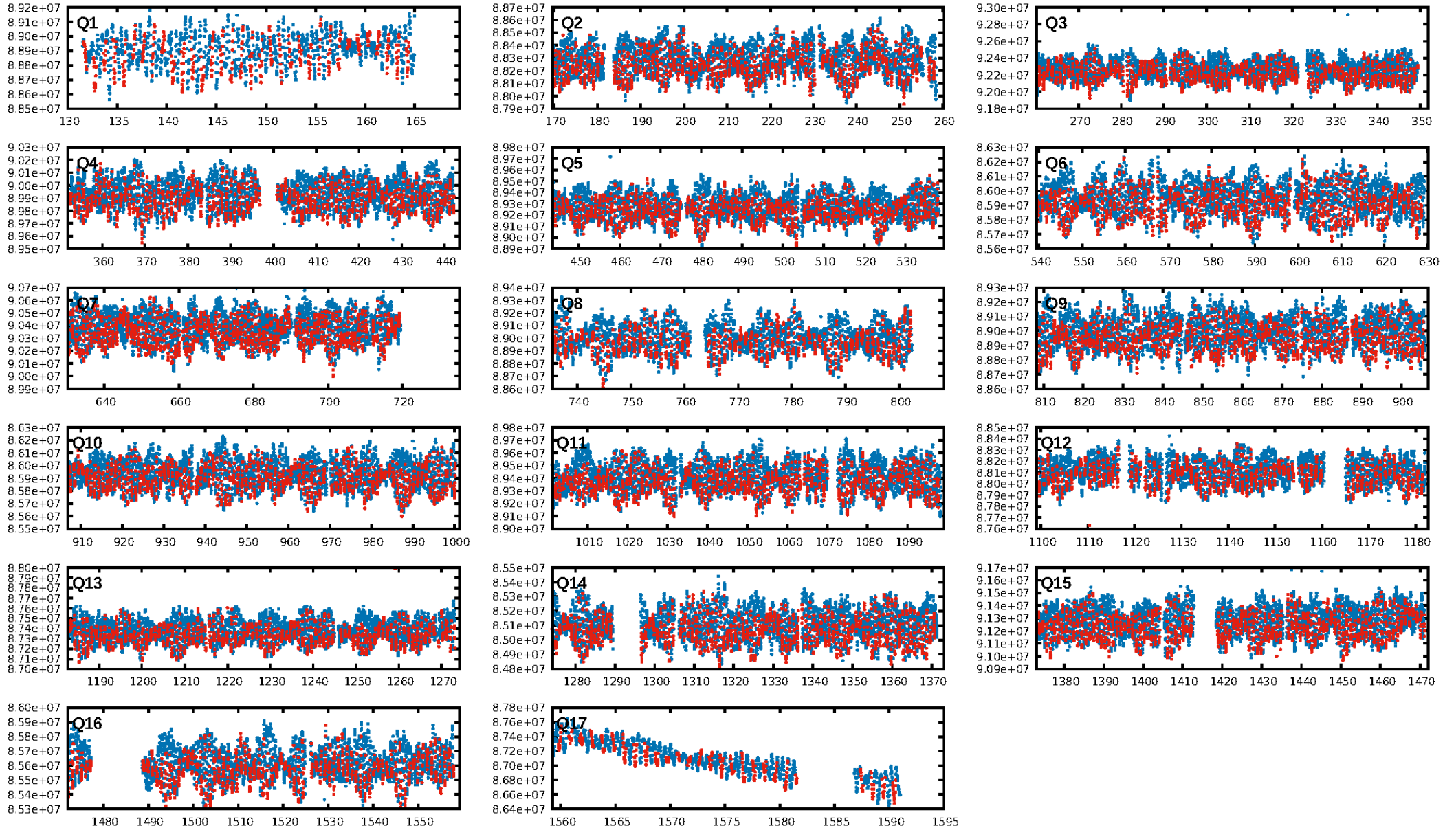
DV Fit Results:

Period = 0.98562 [0.00002] d
Epoch = 131.7449 [0.0031] BKJD
Rp/R* = 0.0063 [0.0021]
a/R* = 1.37 [1.23]
b = 0.90 [0.41]
Seff = 9073.21 [4035.76]
Teff = 2489 [277] K
Rp = 0.87 [0.43] Re
a = 0.0210 [0.0062] AU
Ag = 31.25 [24.19] [1.25σ]
Teffp = 9098 [1538] K [4.23σ]

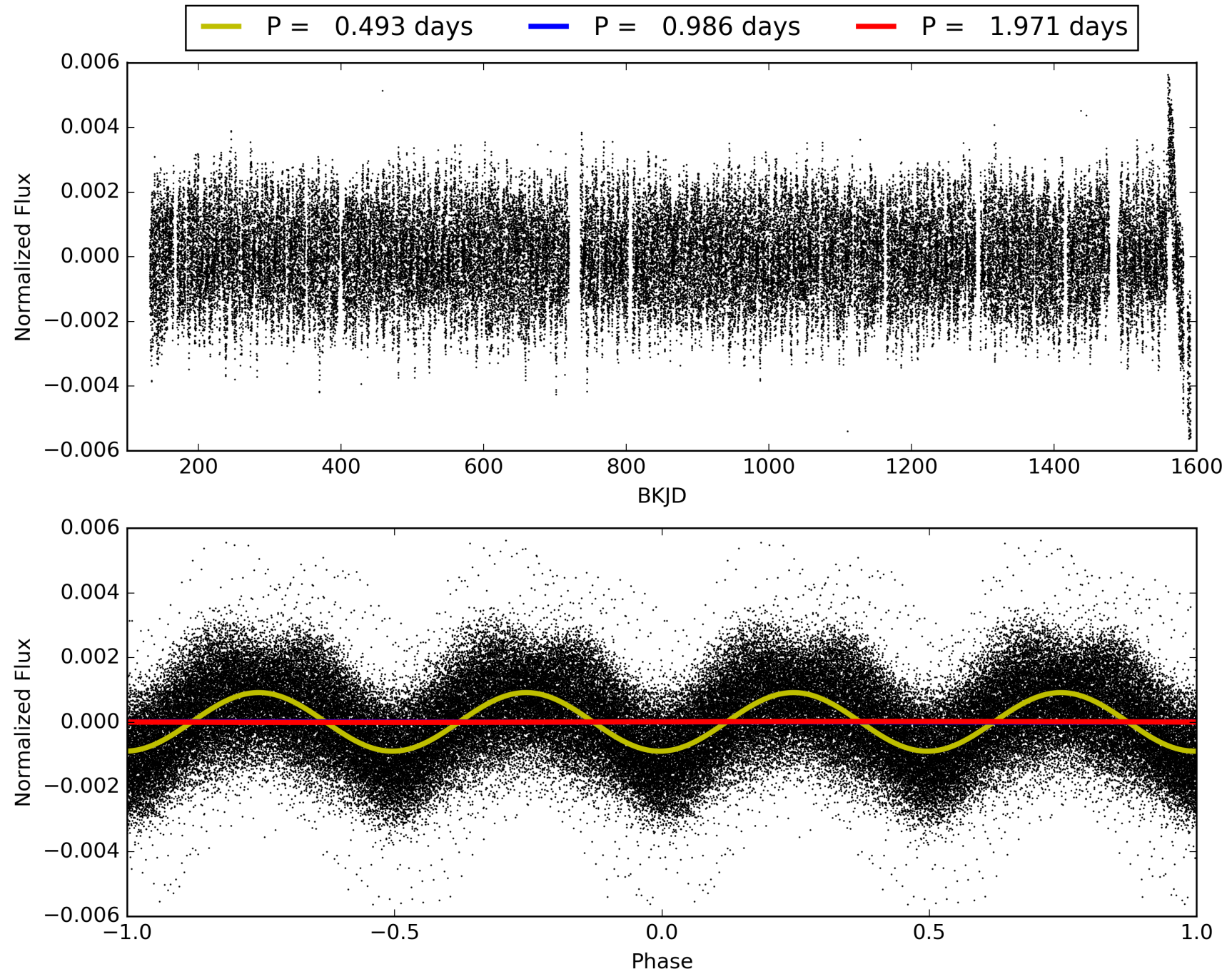
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.4% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1303/1303]
GhostDiagnostic-chr: 0.9156
Centroid-sig: 0.0%
Centroid-so: 3.675 arcsec [3.78σ]
OotOffset-rm: 0.492 arcsec [5.88σ]
KicOffset-rm: 0.042 arcsec [0.61σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006531801-01, PDC Light Curves

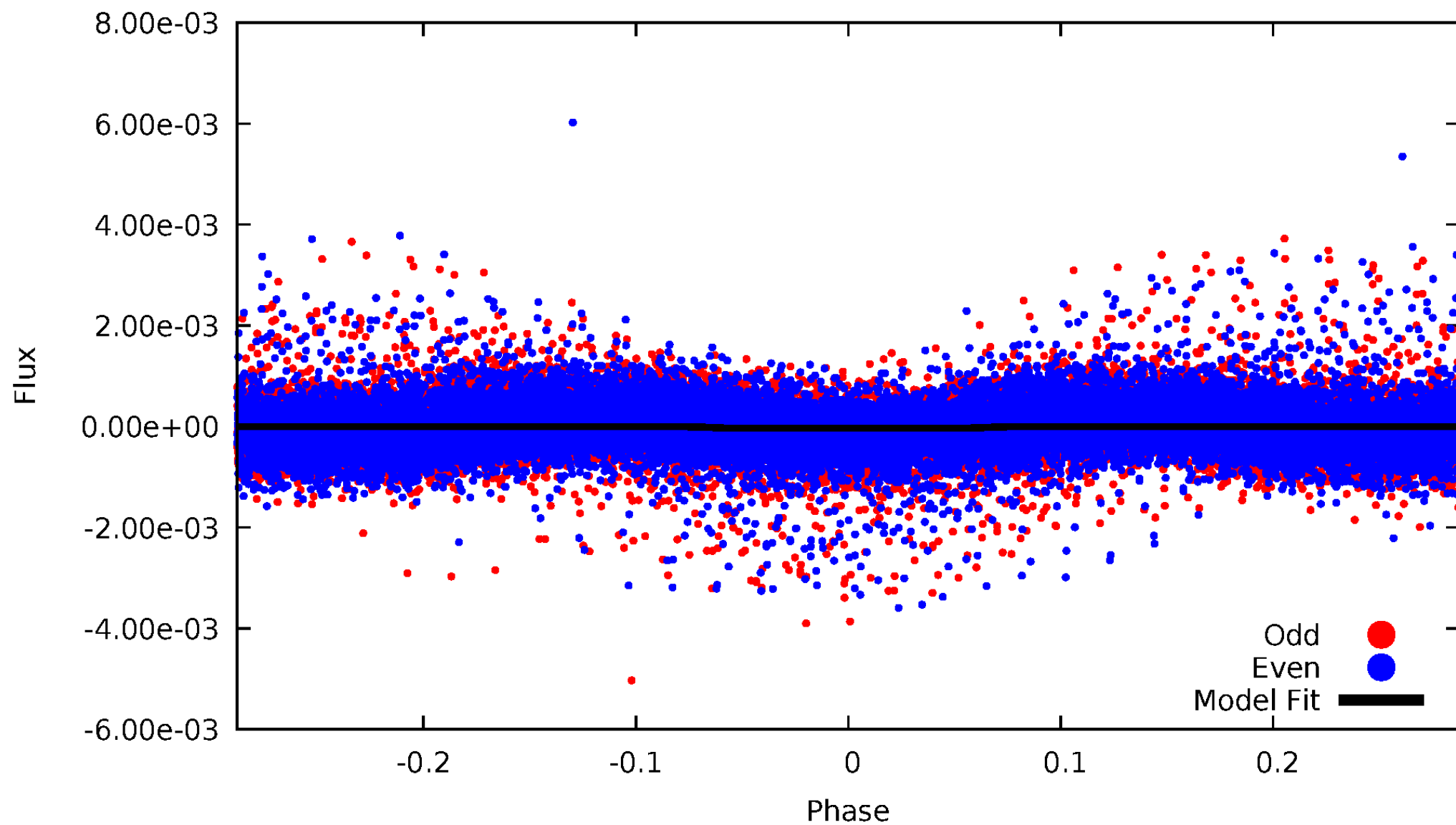


TCE 006531801-01



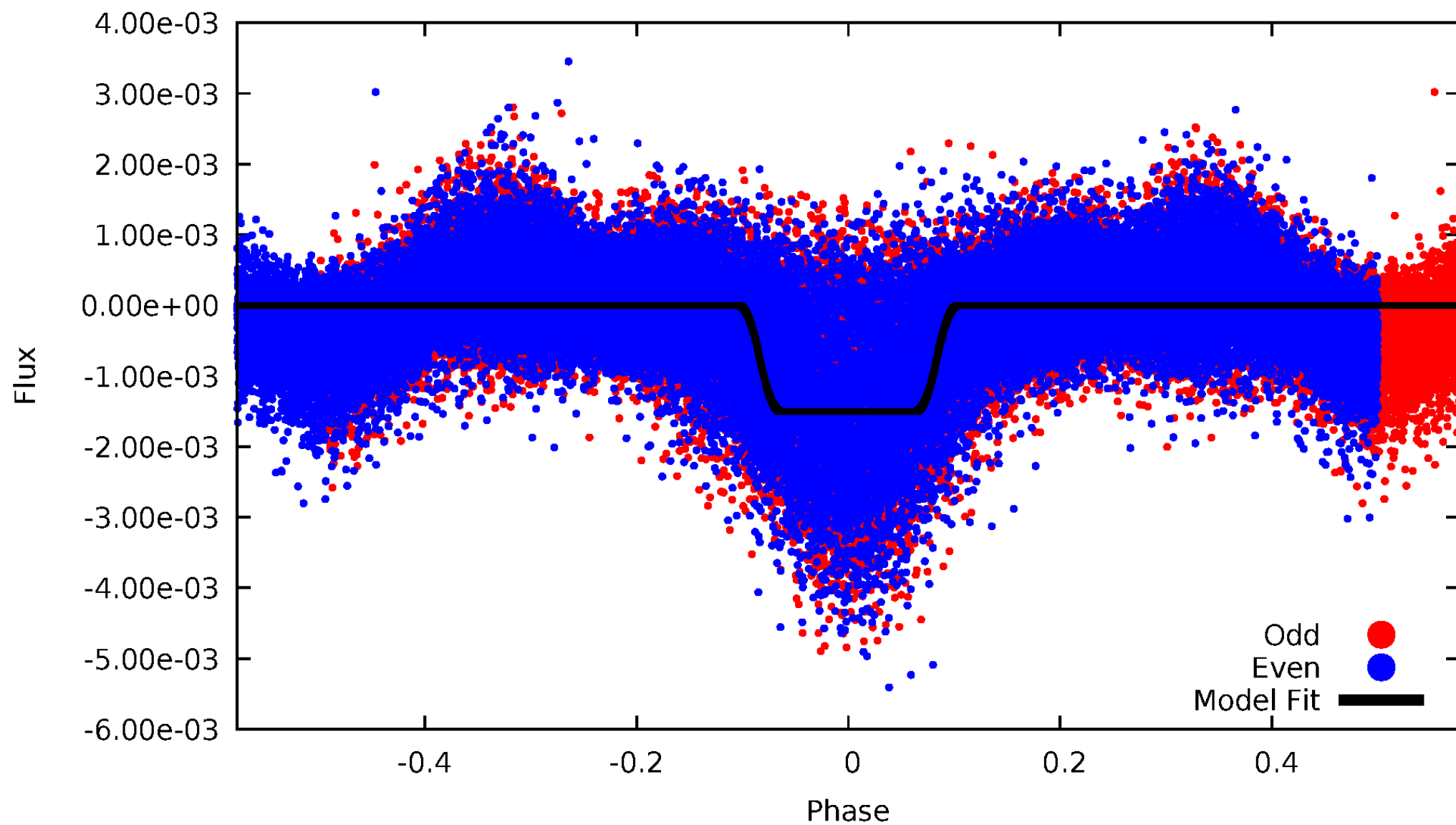
DV Odd/Even

TCE 006531801-01



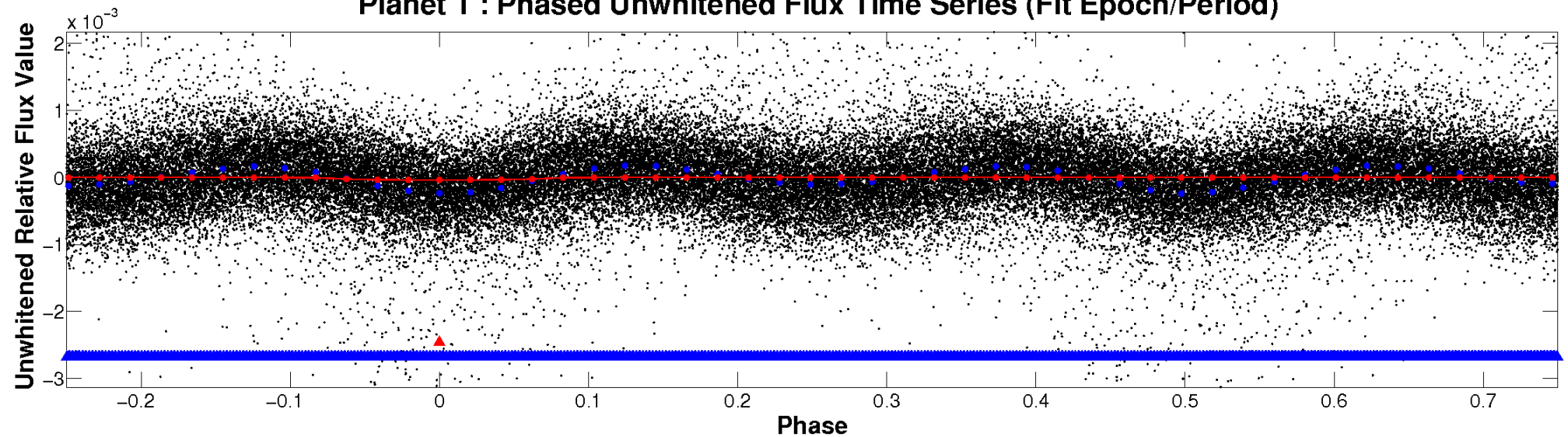
ALT Odd/Even

TCE 006531801-01

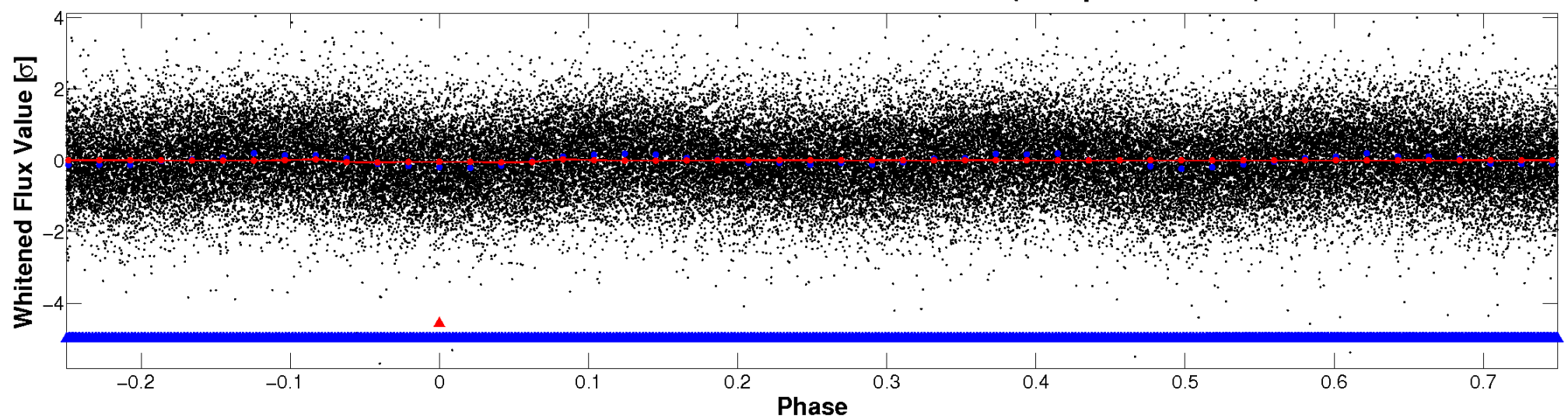


Non-Whitened Vs. Whitened Light Curve

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

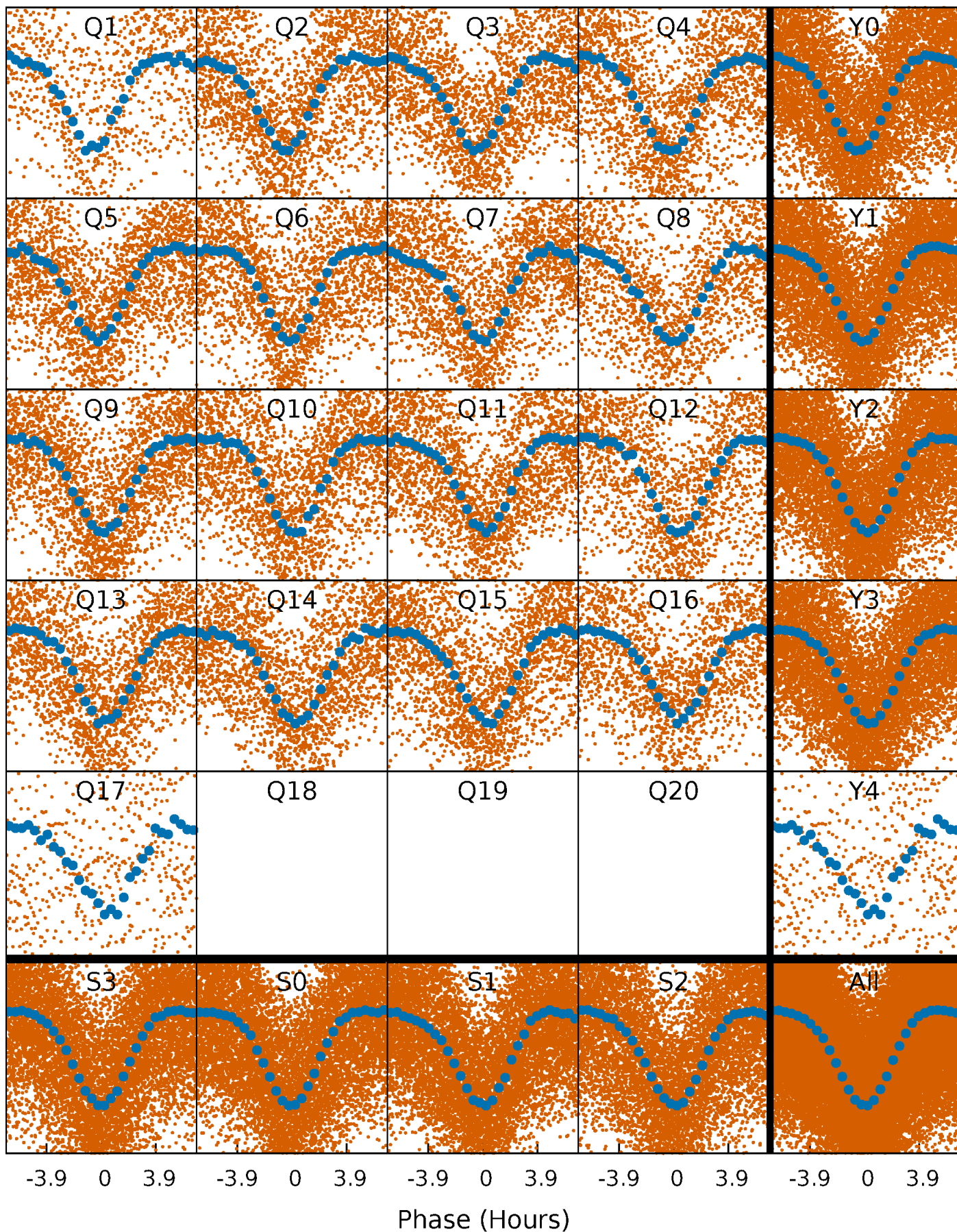


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



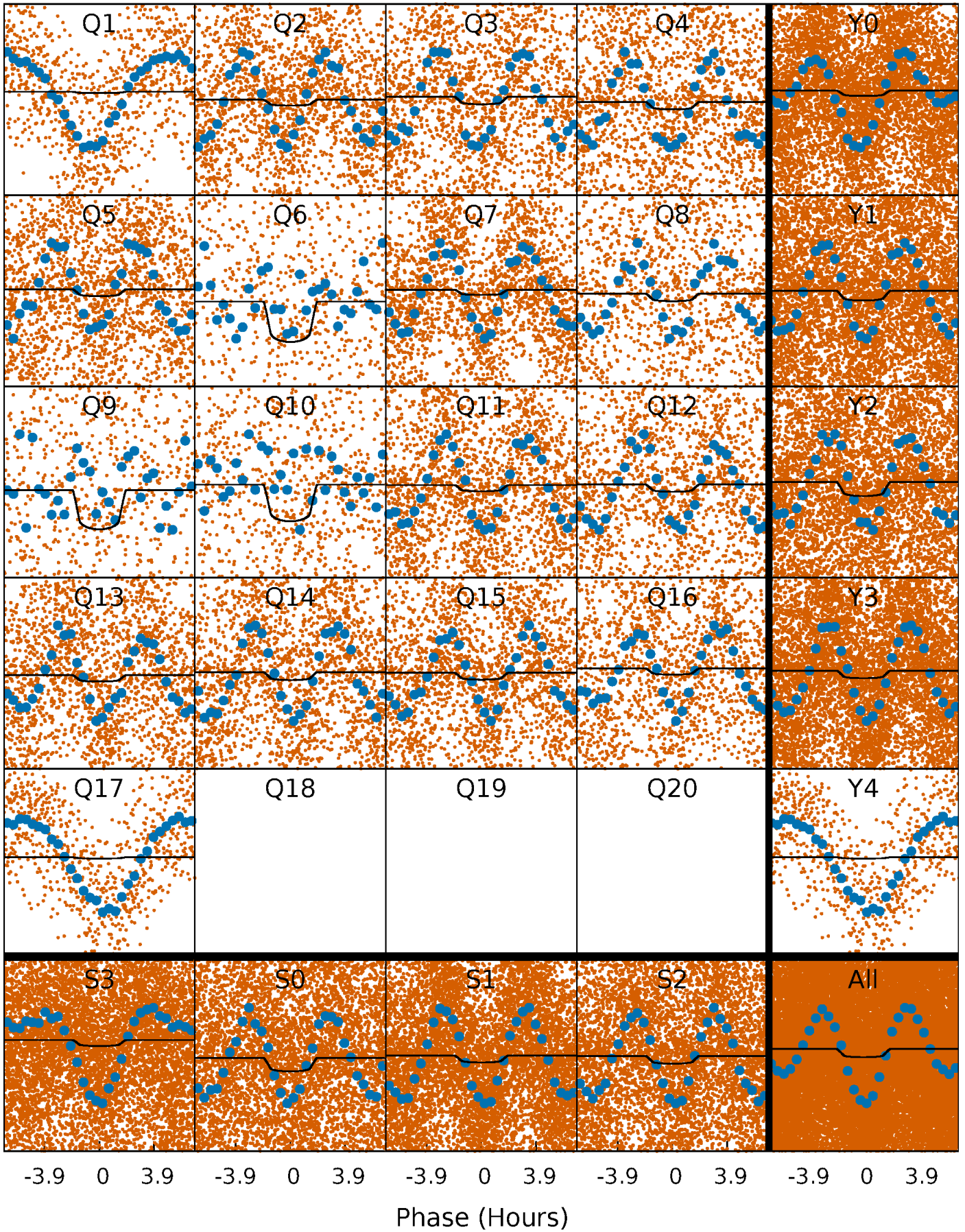
PDC Quarter-Phased Transit Curves

TCE 006531801-01 P= 0.985616 Days $T_0=131.744913$ (BKJD)



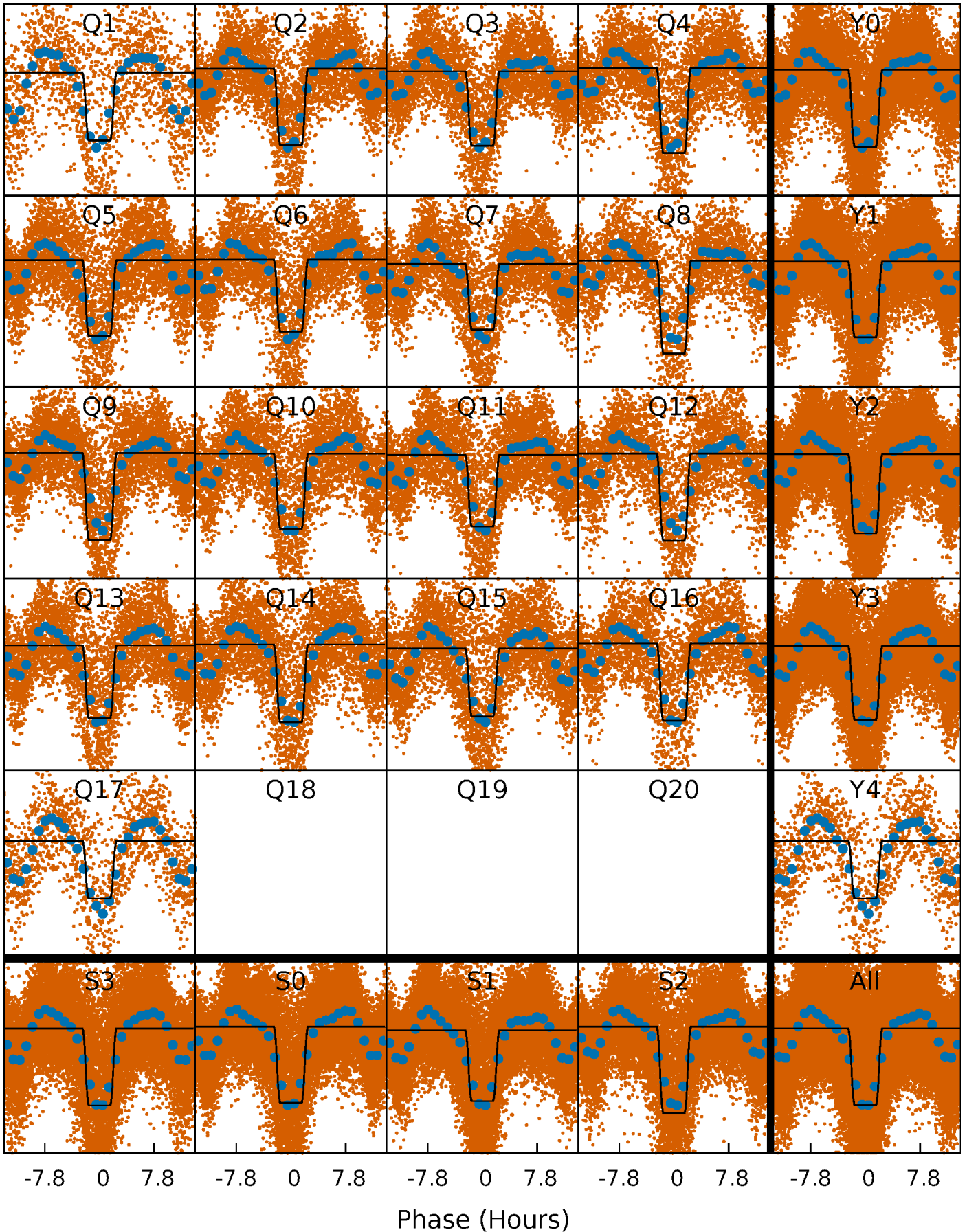
DV Quarter-Phased Transit Curves

TCE 006531801-01 P= 0.985616 Days $T_0=131.744913$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

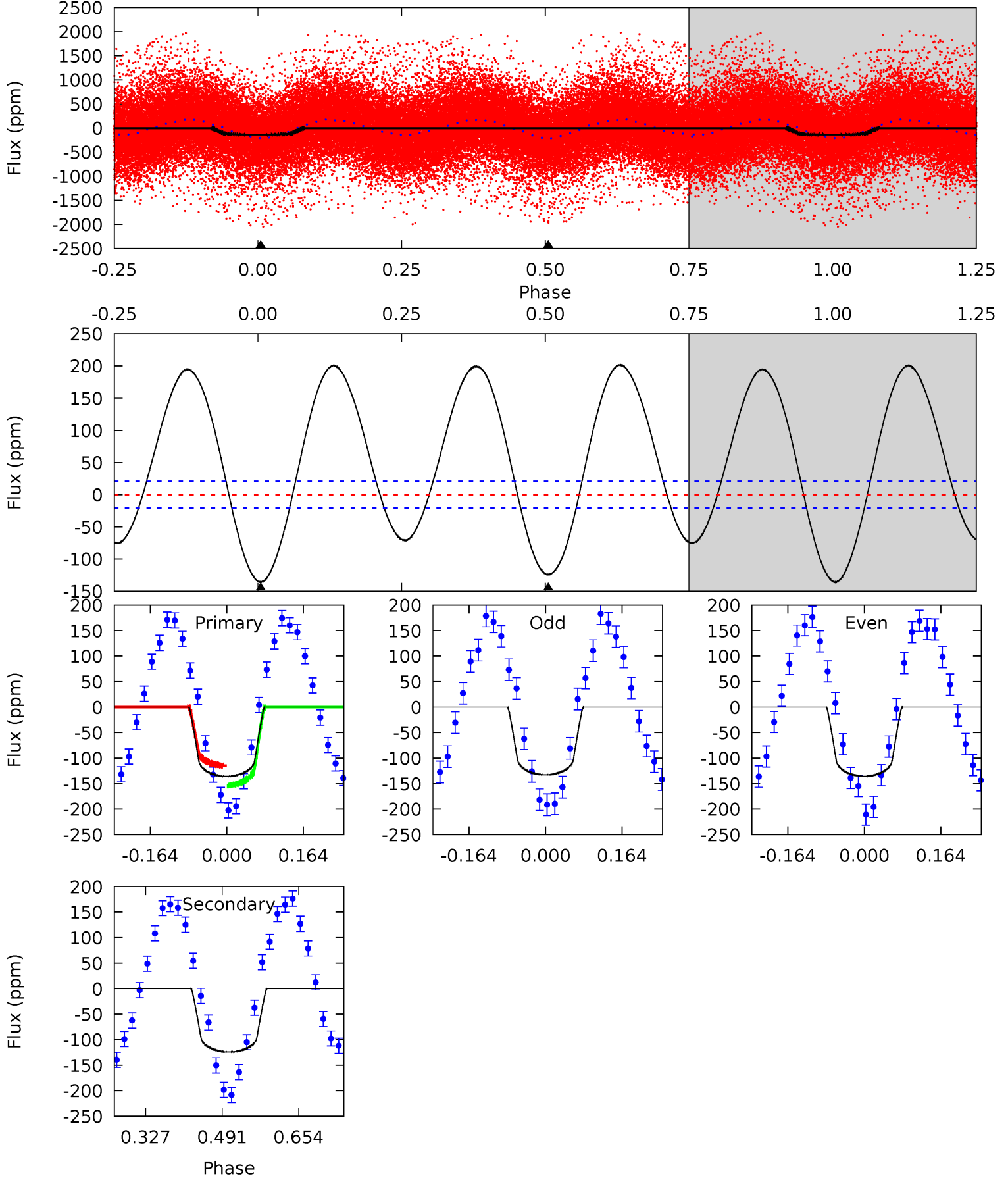
TCE 006531801-01 P= 0.985631 Days $T_0=131.732778$ (BKJD)



DV Model-Shift Uniqueness Test

006531801-01, P = 0.985616 Days, E = 130.759297 Days

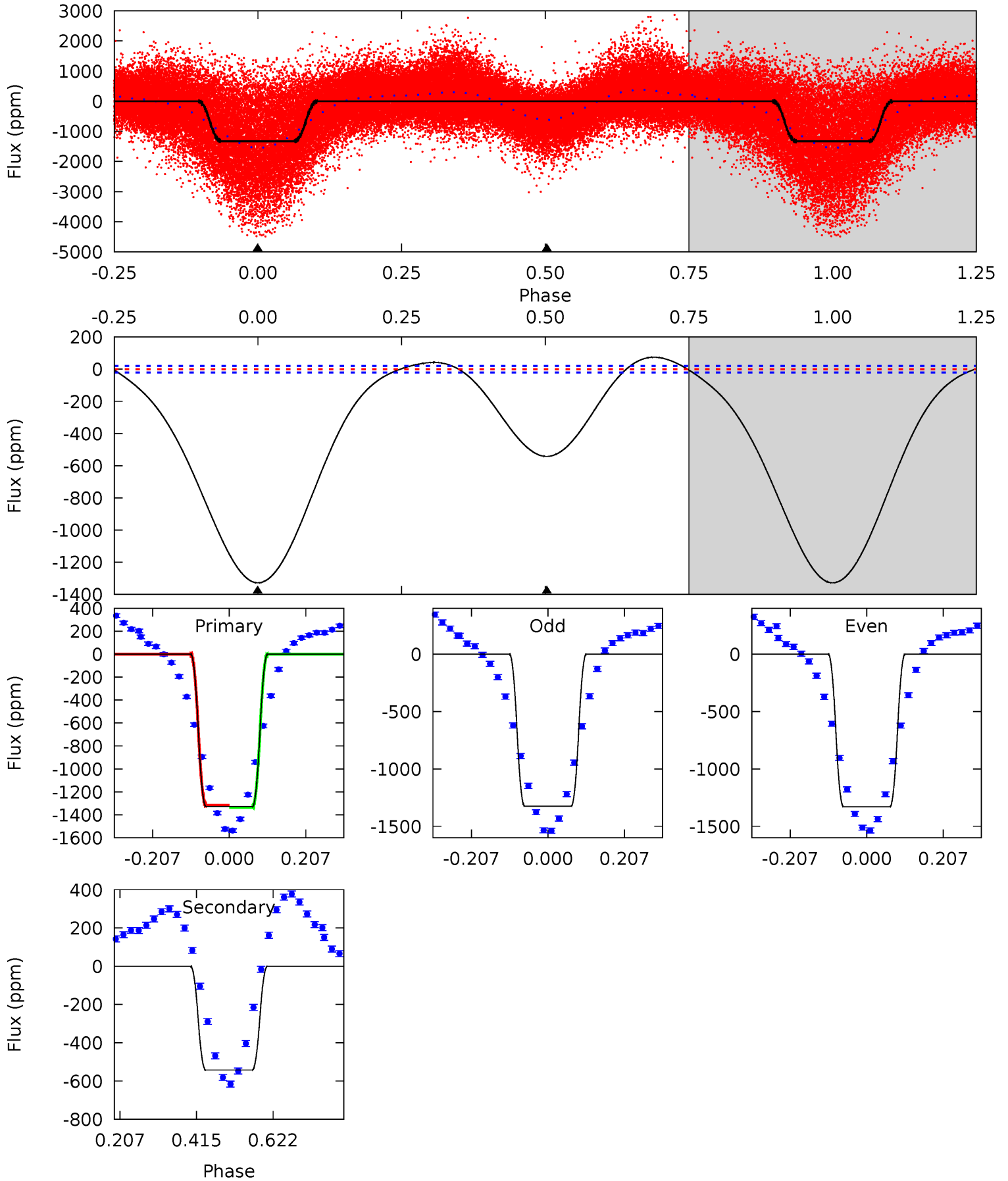
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	26.5	0	0	4.46	1.39	14.5	29.1	29.1	26.5	26.5	0.28	1.41	0.60	4.28



Alt Model-Shift Uniqueness Test

006531801-01, P = 0.985631 Days, E = 130.747147 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
280.2	114.4	0	0	4.41	1.26	9.32	280.2	280.2	114.4	114.4	0.53	0.99	0.05	2.12



Stellar Parameters For KIC 006531801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7273^{+228}_{-304}	$4.340^{+0.058}_{-0.217}$	$-0.320^{+0.250}_{-0.350}$	$1.266^{+0.461}_{-0.123}$	$1.302^{+0.218}_{-0.158}$	$0.905^{+0.274}_{-0.490}$
	+3%/-4%	+1%/-5%	+78%/-109%	+36%/-10%	+17%/-12%	+30%/-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 006531801-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-124 ± 5	$0.94^{+0.34}_{-0.30}$	3535^{+265}_{-196}	10321^{+3677}_{-1854}	34^{+39}_{-16}
Alt.	-542 ± 5	$5.53^{+1.01}_{-0.56}$	3545^{+279}_{-187}	5485^{+219}_{-205}	$4.314^{+0.894}_{-1.160}$

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

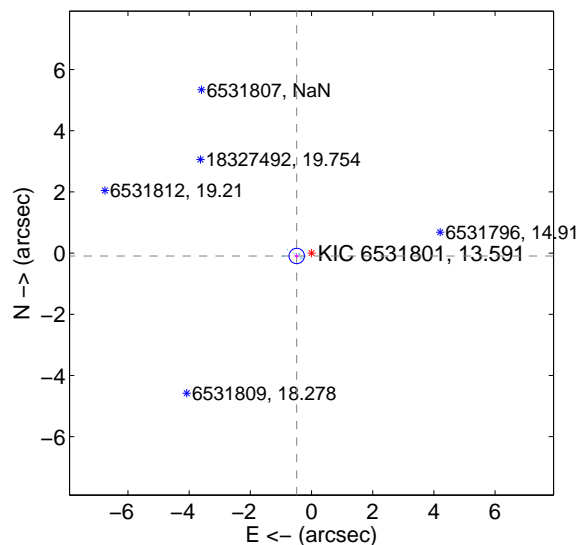
Supplemental centroid analysis for 006531801-01. Kepler magnitude: 13.59. Transit SNR 5.19

There are 17 quarters with good PRF difference image offsets

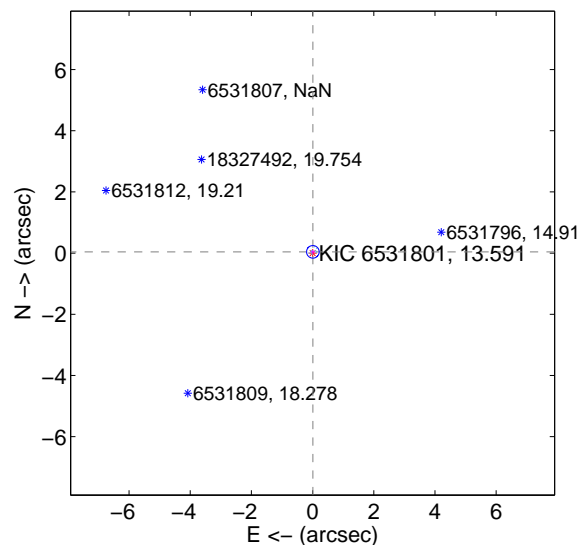
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.492 ± 0.084	5.88	0.483 ± 0.084	-0.094 ± 0.068
PRF-fit source offset from KIC position	0.042 ± 0.069	0.61	-0.009 ± 0.069	0.041 ± 0.068
photometric centroid source offset	3.67 ± 0.97	3.78	3.42 ± 1.03	-1.35 ± 0.51

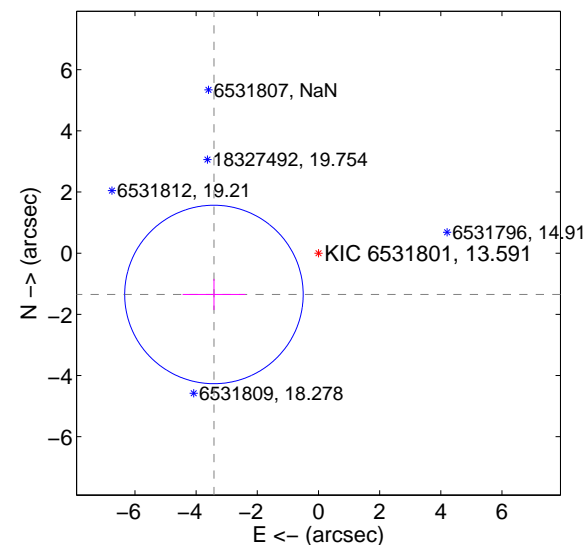
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

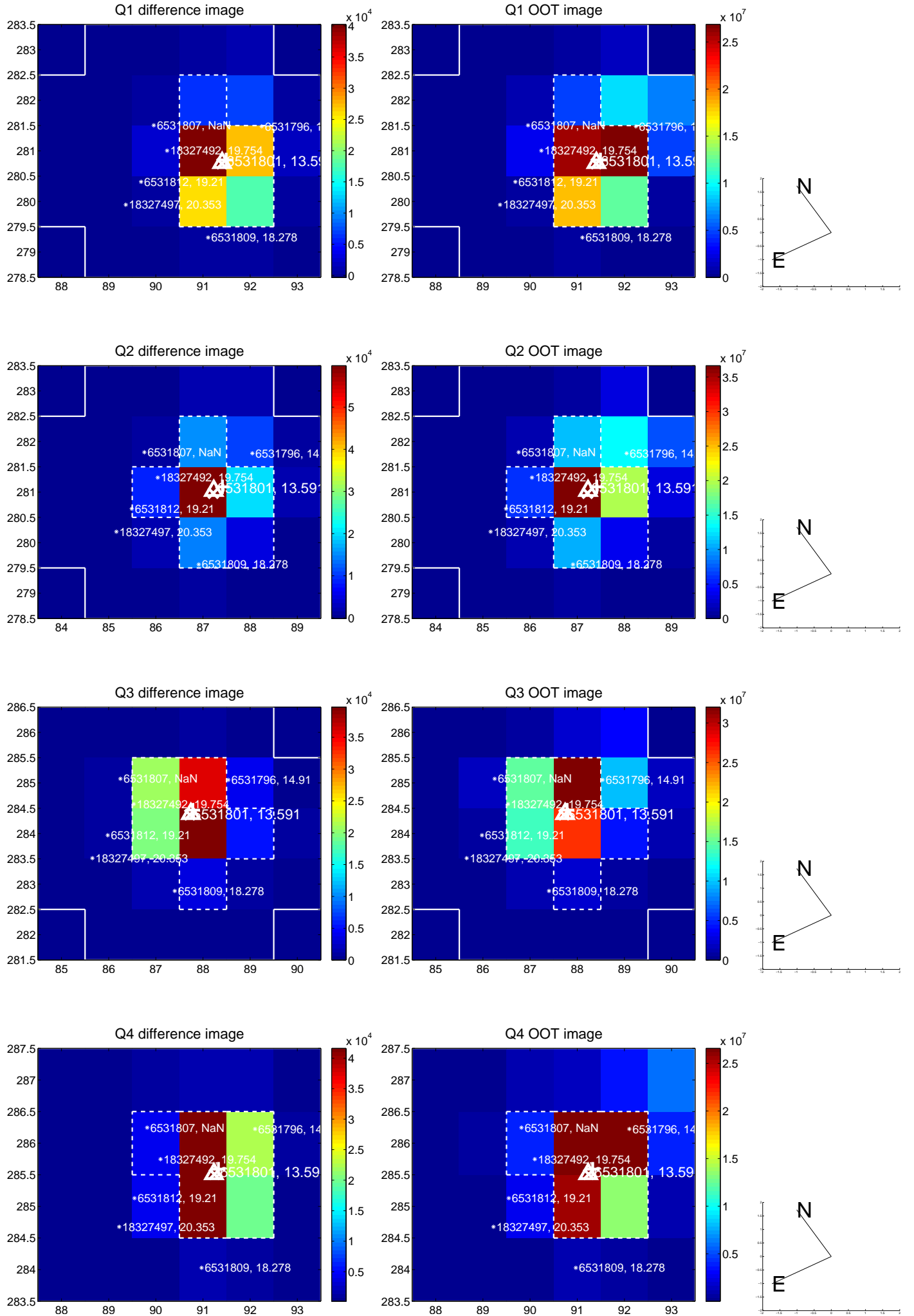


offset from photometric centroids

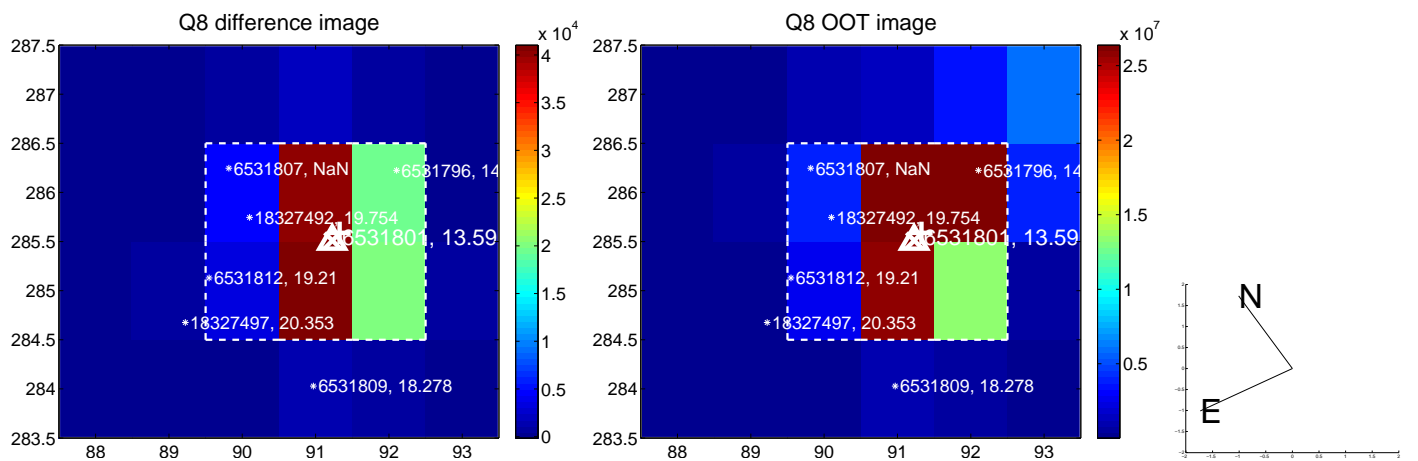
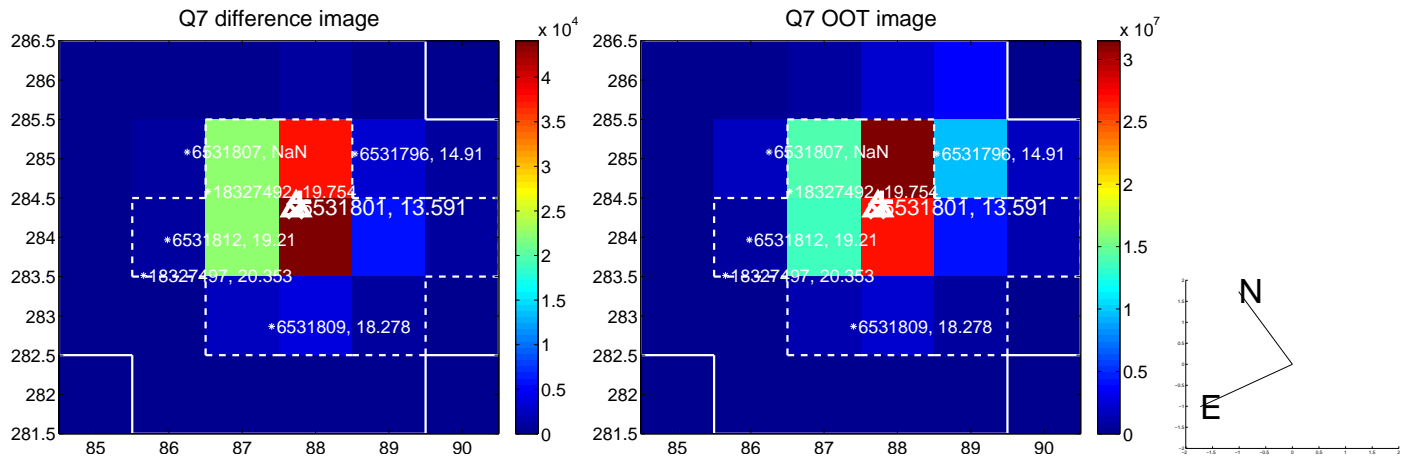
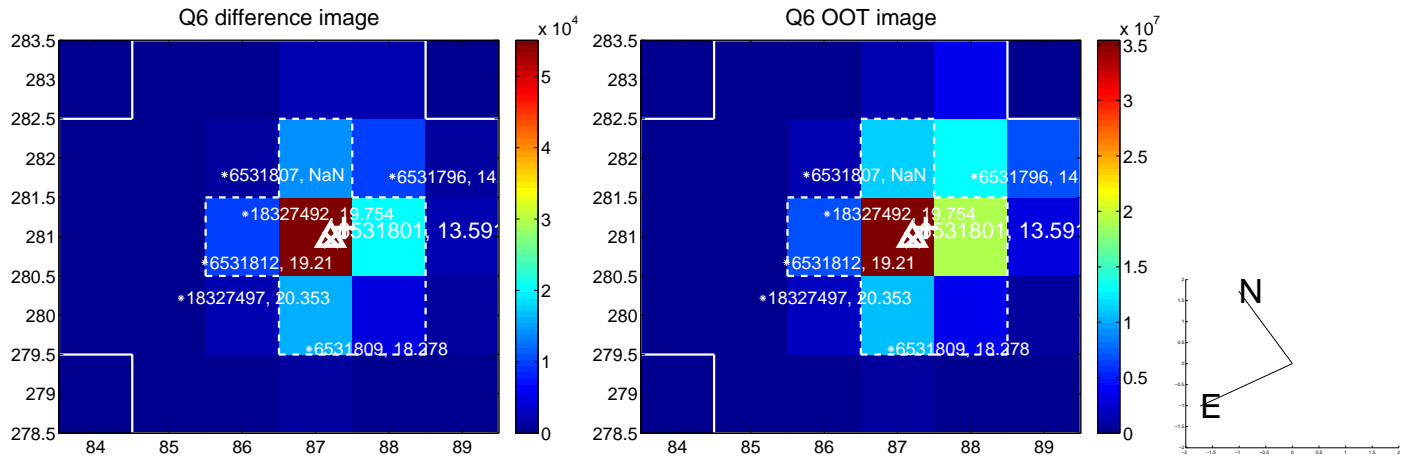
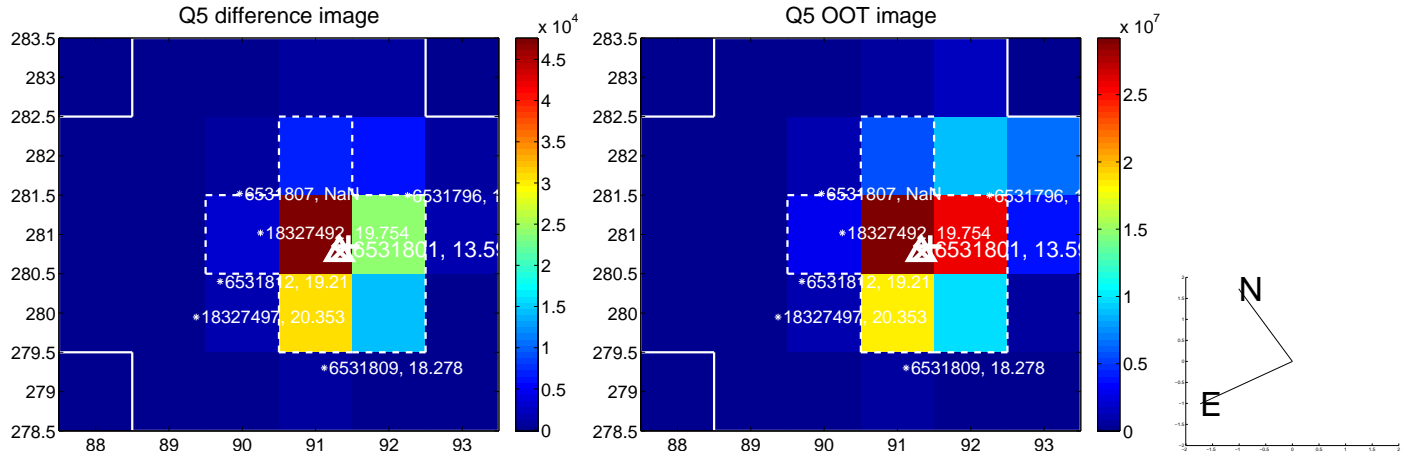


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

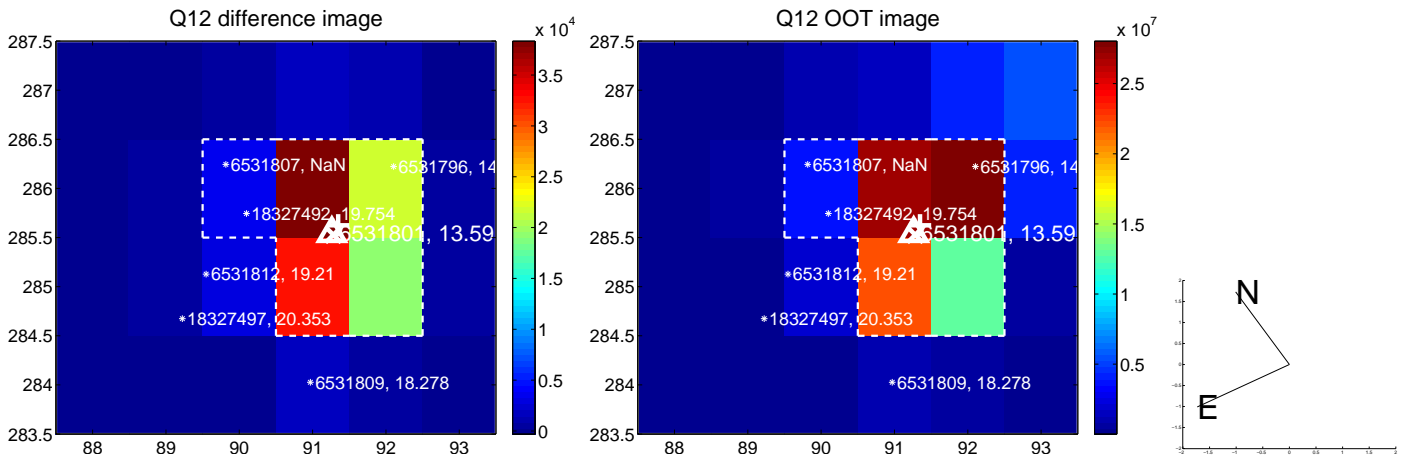
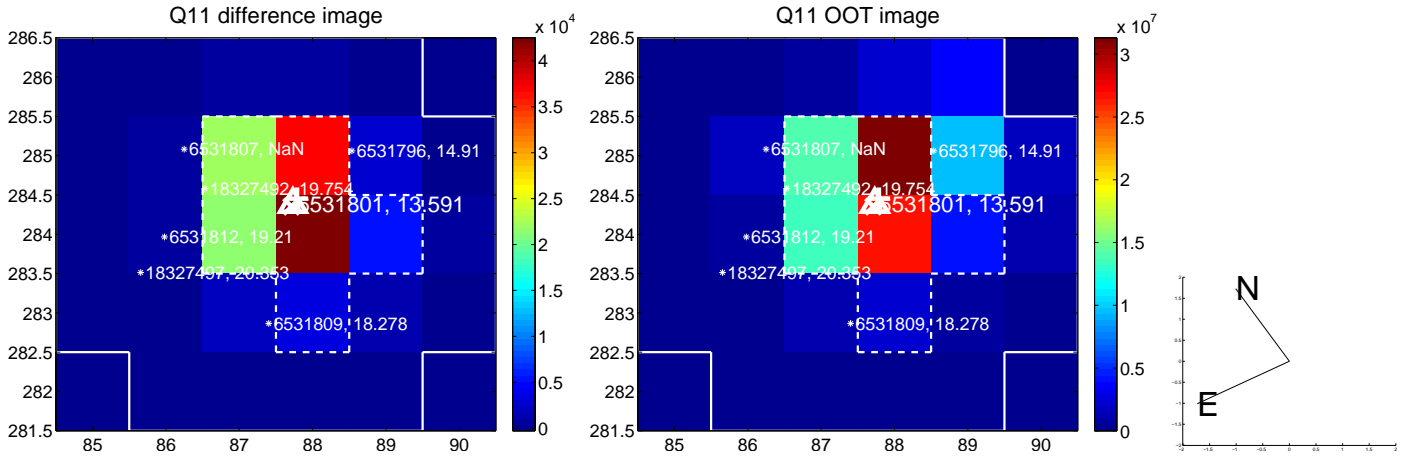
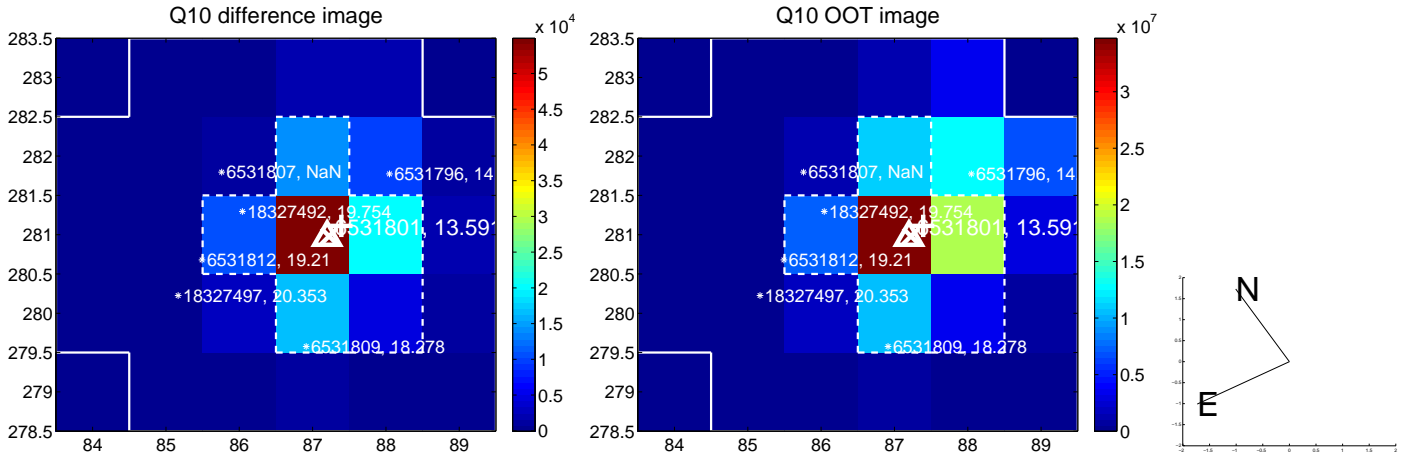
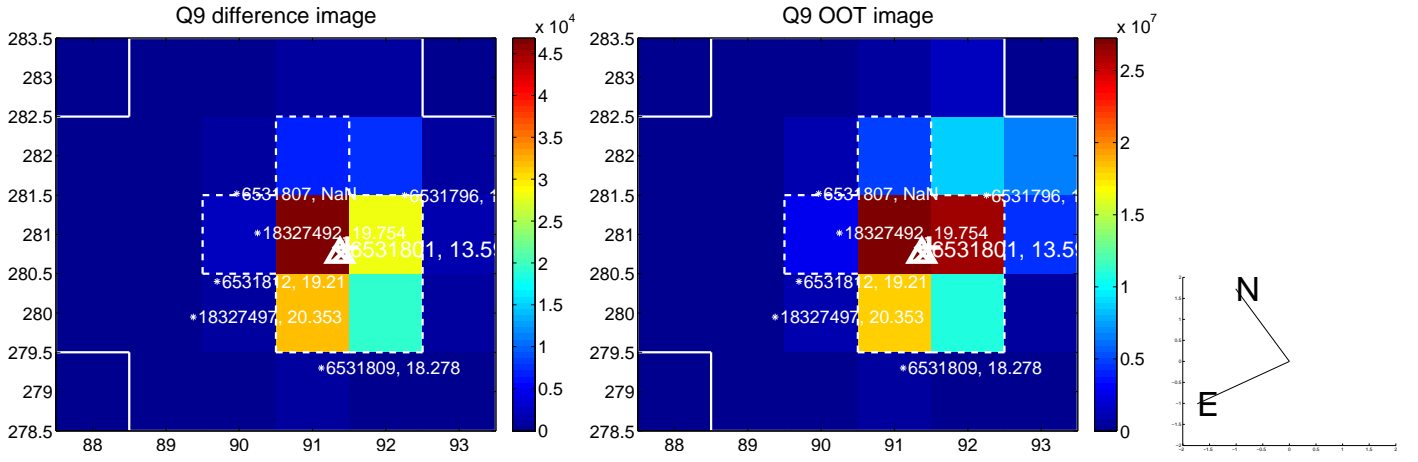
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



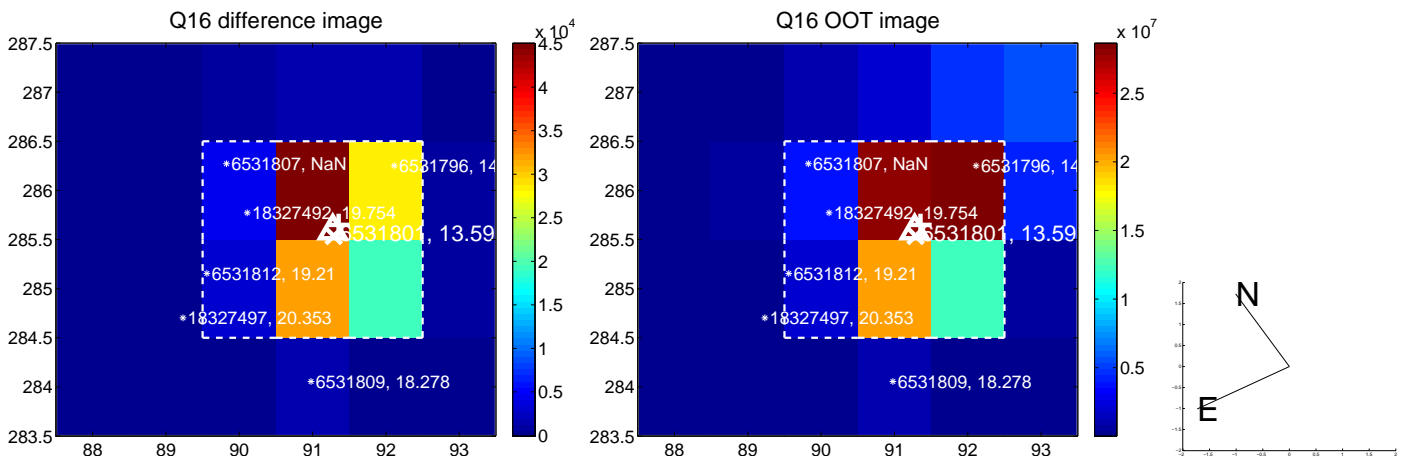
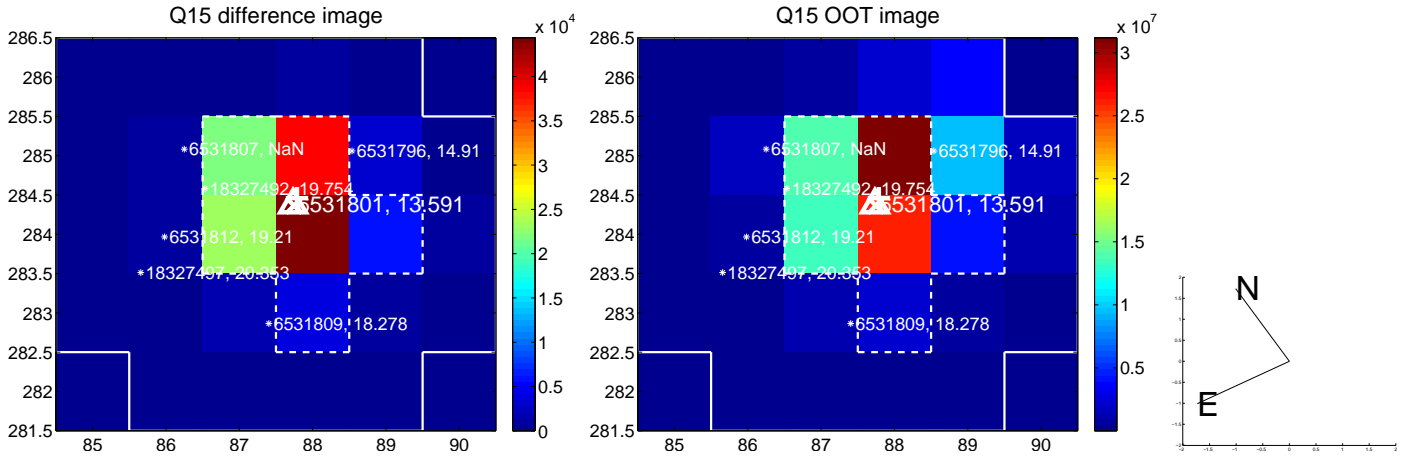
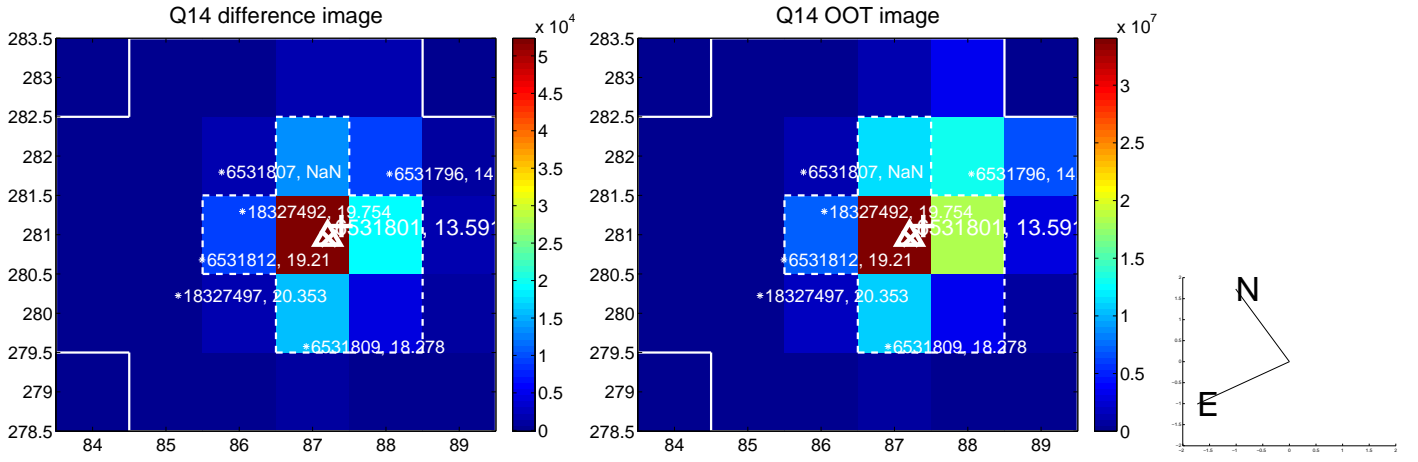
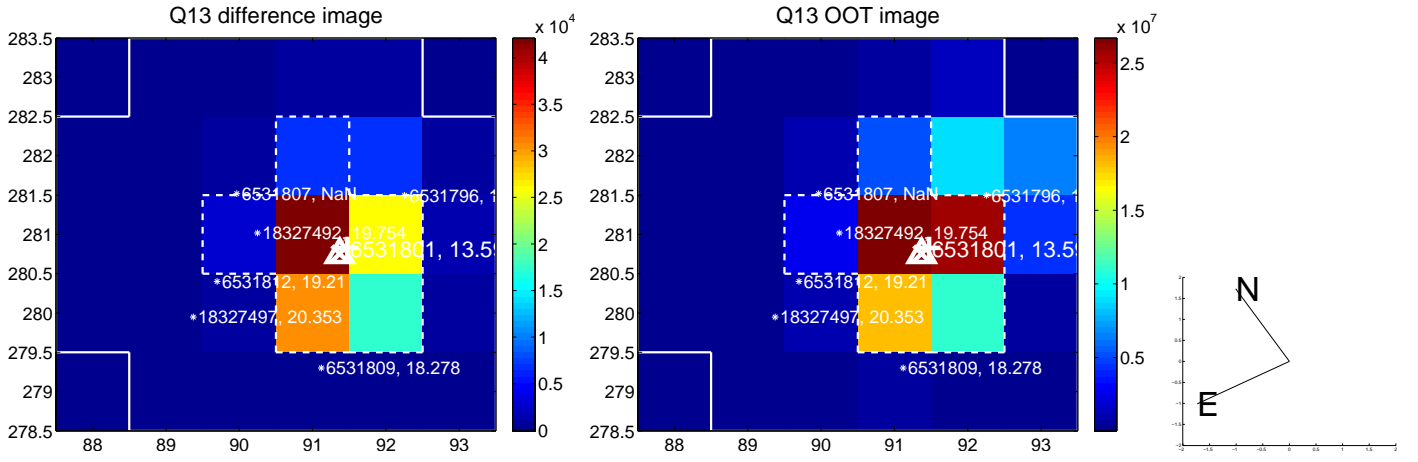
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



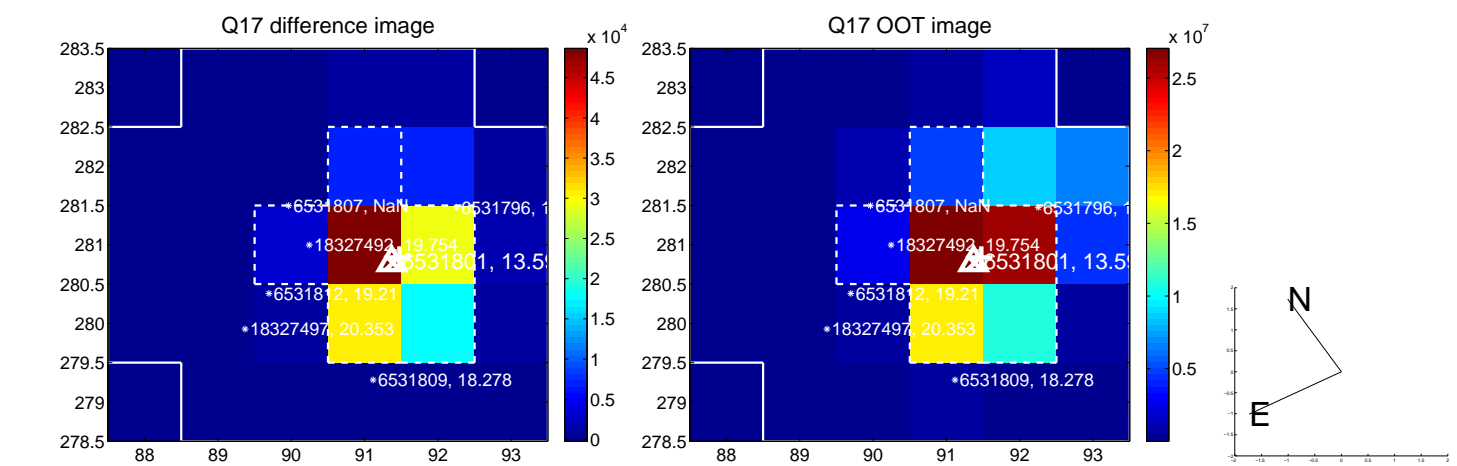
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



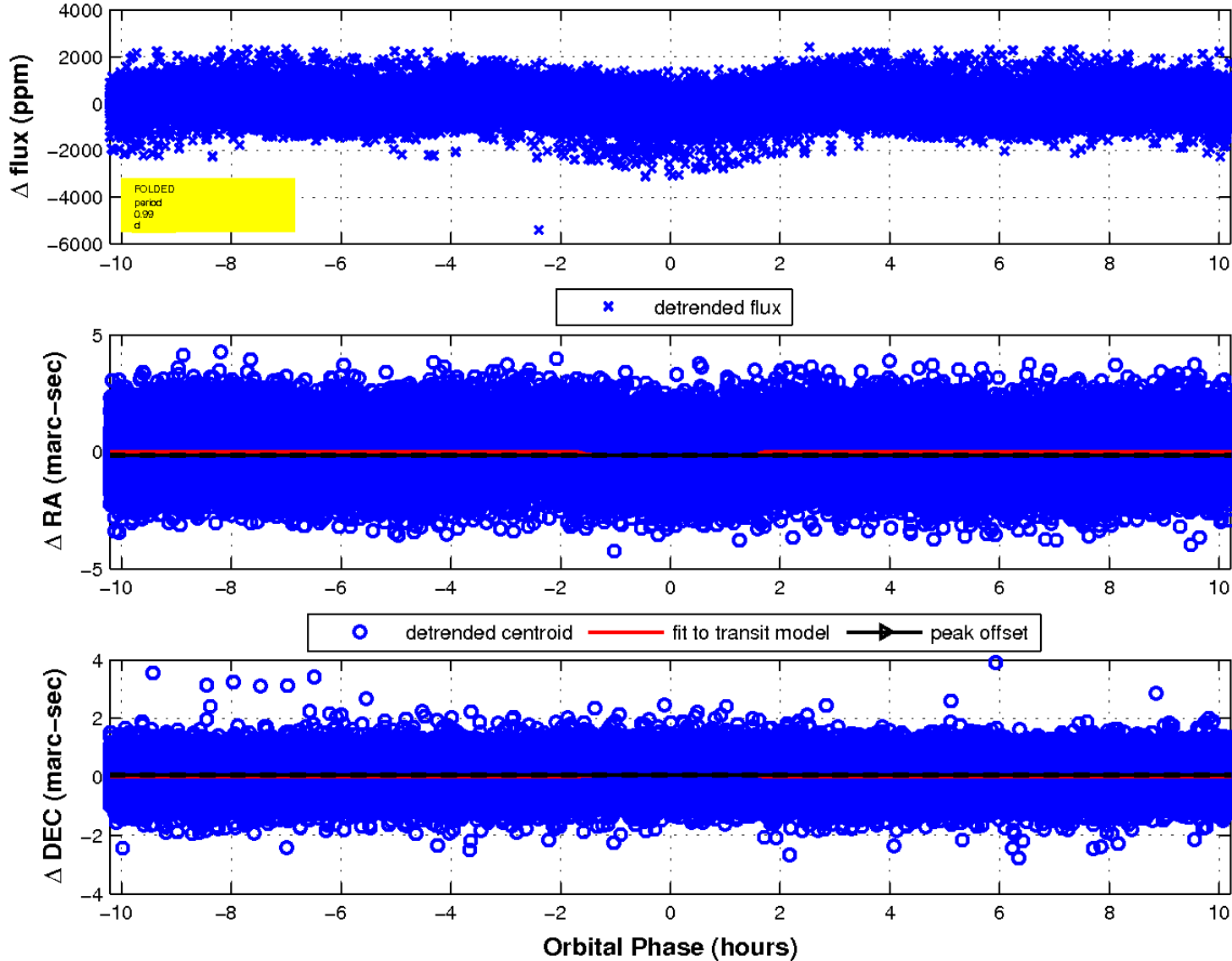
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

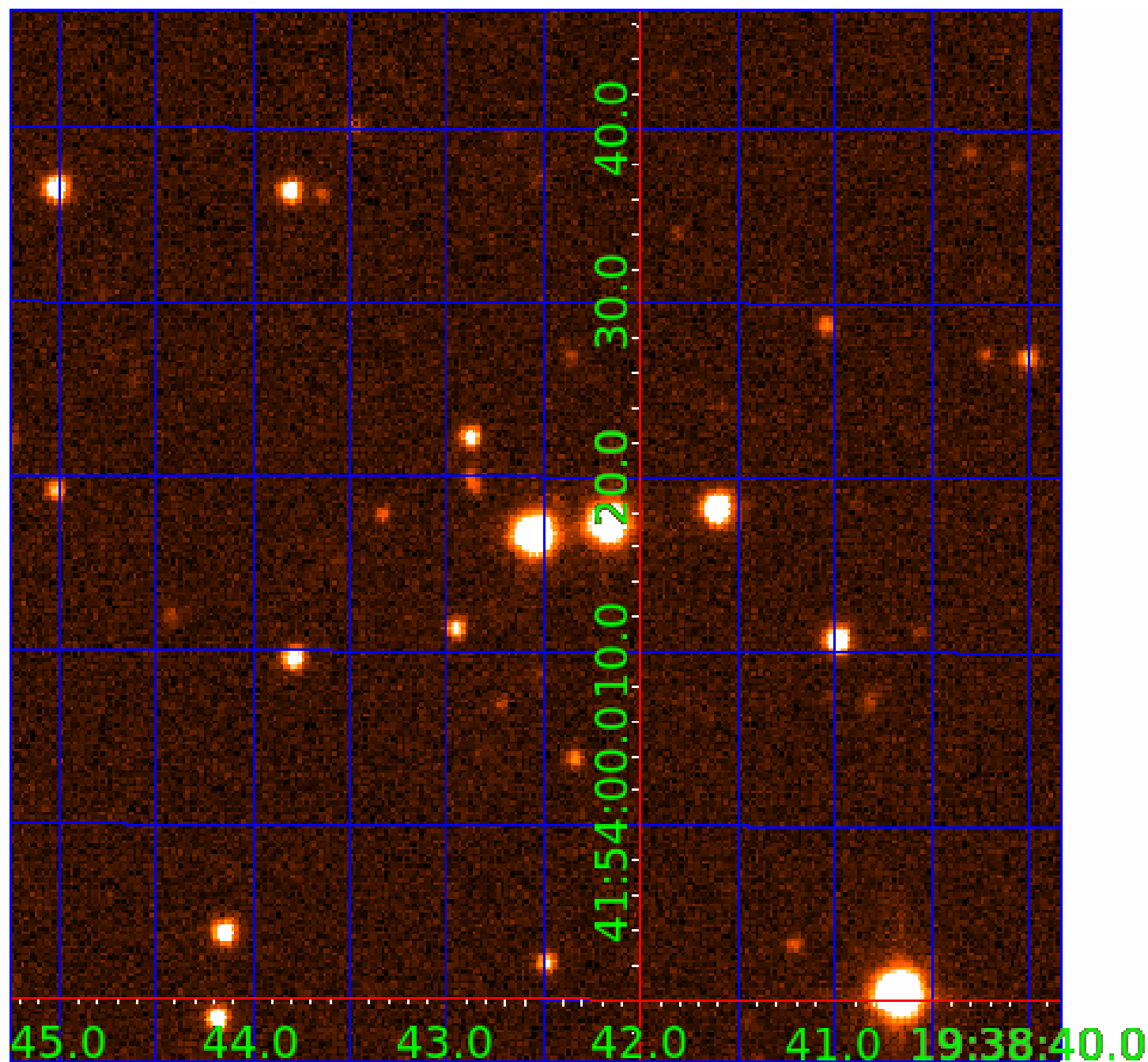


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006531801

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})
006531801-01	OBS	No	0.985616	131.744913	35.4	3.404	11.0	5.2	1.27	7273	0.87	9073.21
006531801-02	OBS	No	0.987781	132.252537	0.0	9.507	10.7	0.0	1.27	7273	0.00	9046.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006531801-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS
006531801-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—CENT_FEW_MEAS

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

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

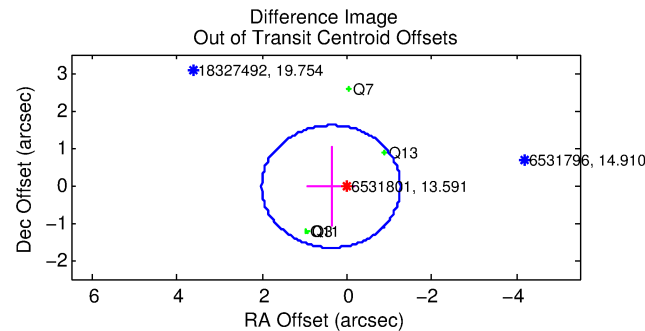
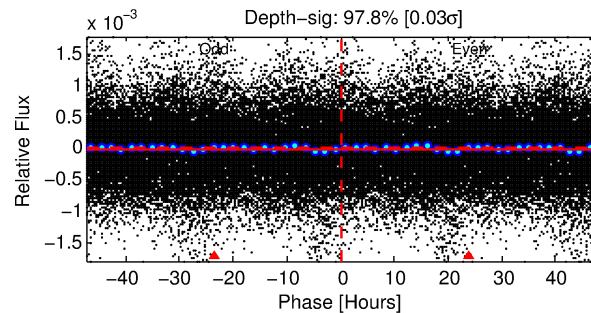
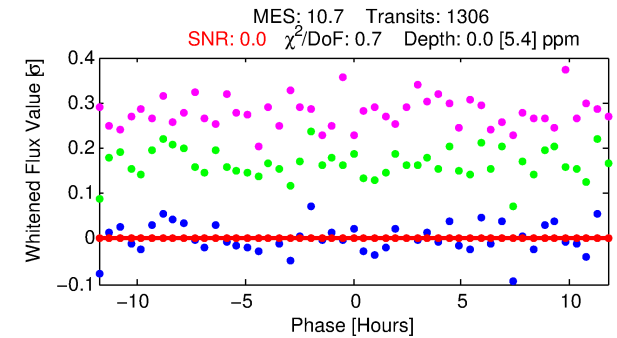
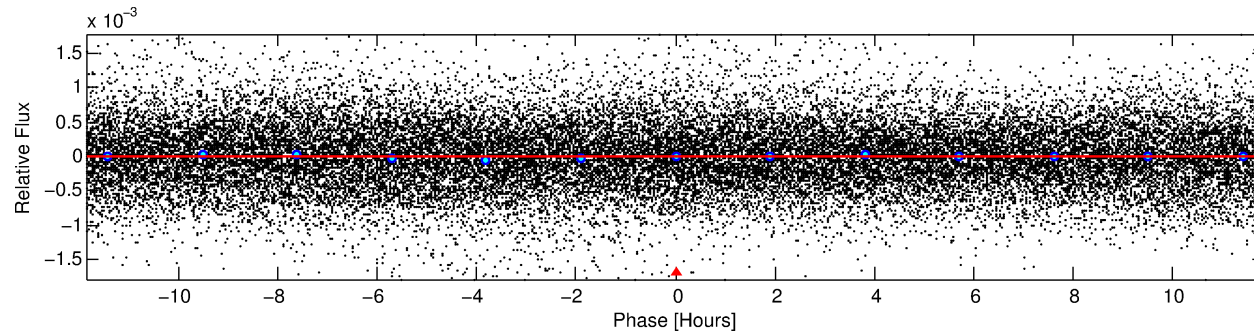
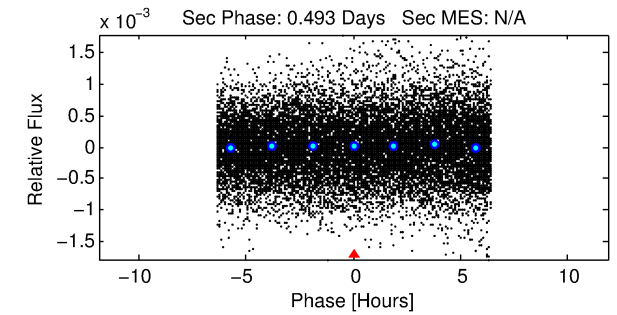
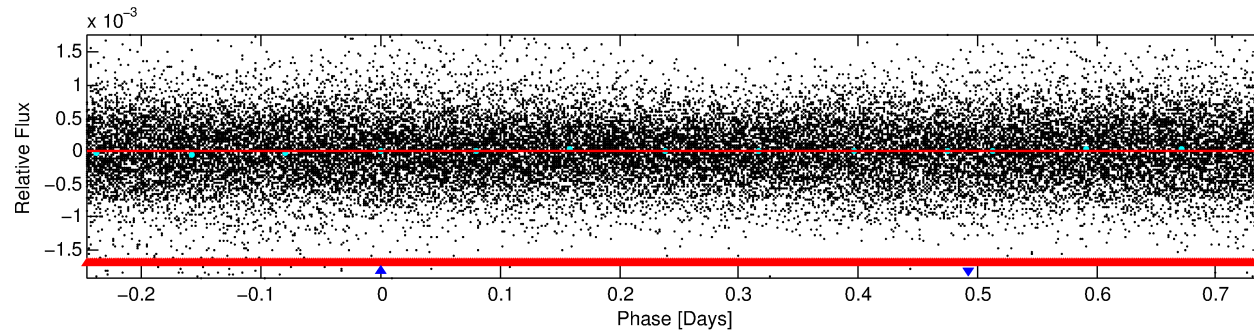
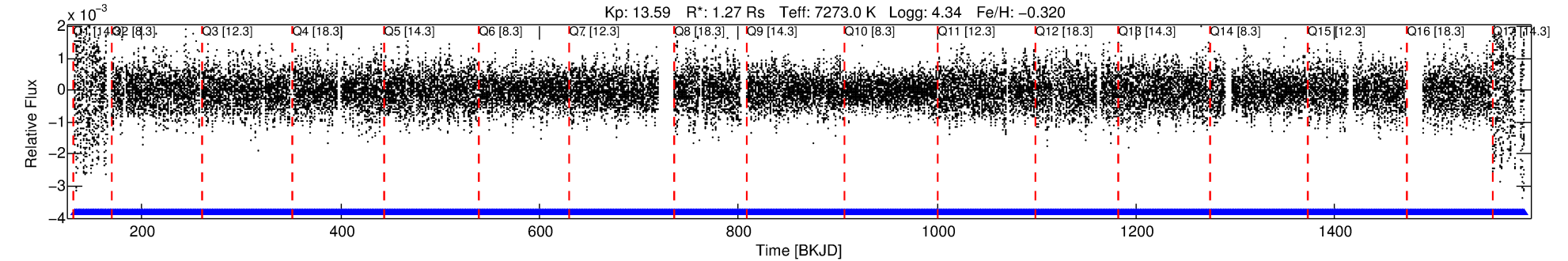
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006531801-02

No Significant Match Found

DV One-Page Summary

KIC: 6531801 Candidate: 2 of 2 Period: 0.988 d
KOI: K06727 Corr: No Ephemeris Match



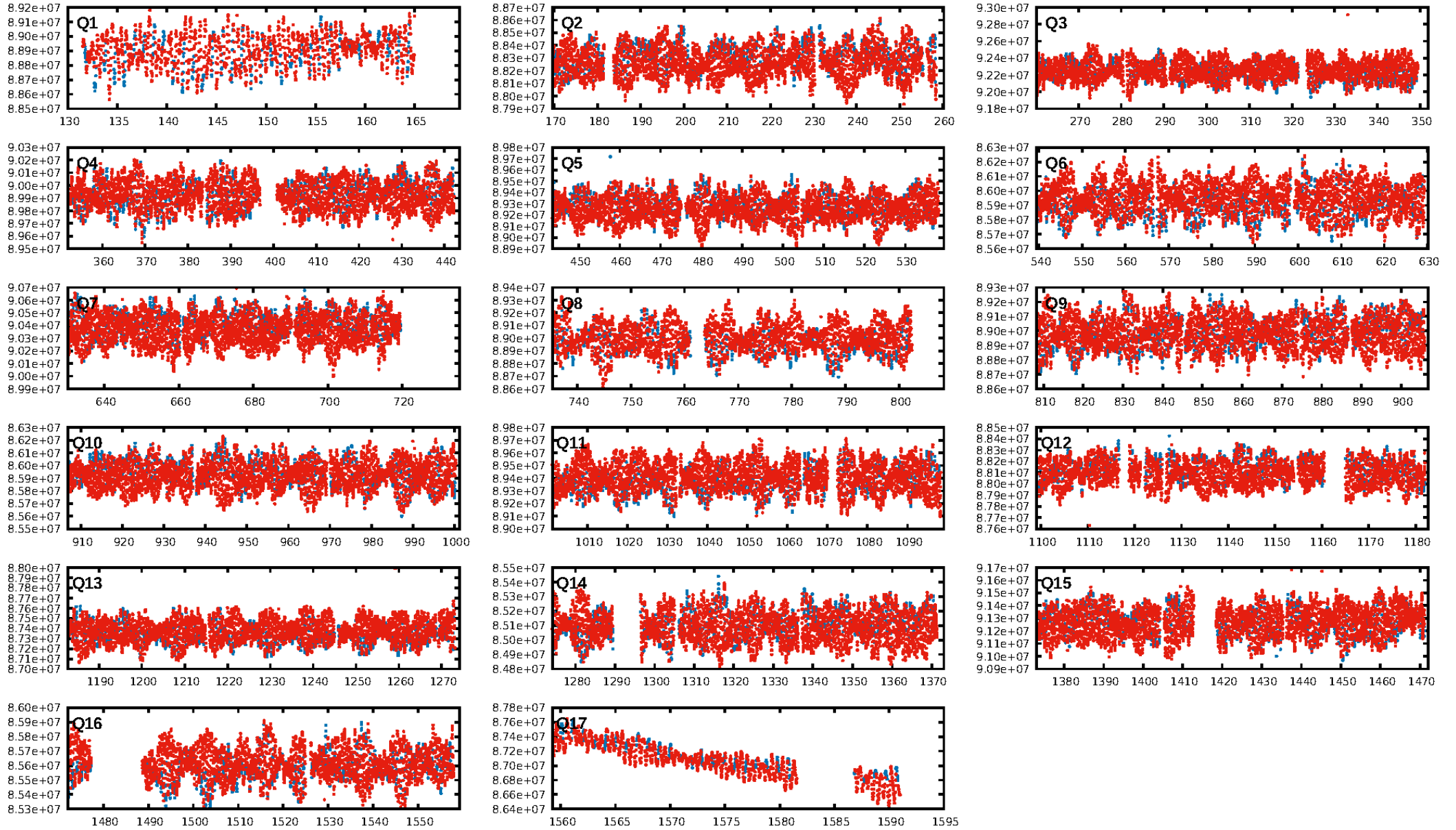
DV Fit Results:

Period = 0.98778 [807.37383] d
Epoch = 132.2525 [188980.6712] BKJD
Rp/R* = 0.0000 [2.4897]
a/R* = 1.04 [75285.25]
b = 0.42 [2318036.15]
Seff = 9046.70 [9859228.34]
Teq = 2487 [677550] K
Rp = 0.00 [343.96] Re
a = 0.0211 [11.4837] AU

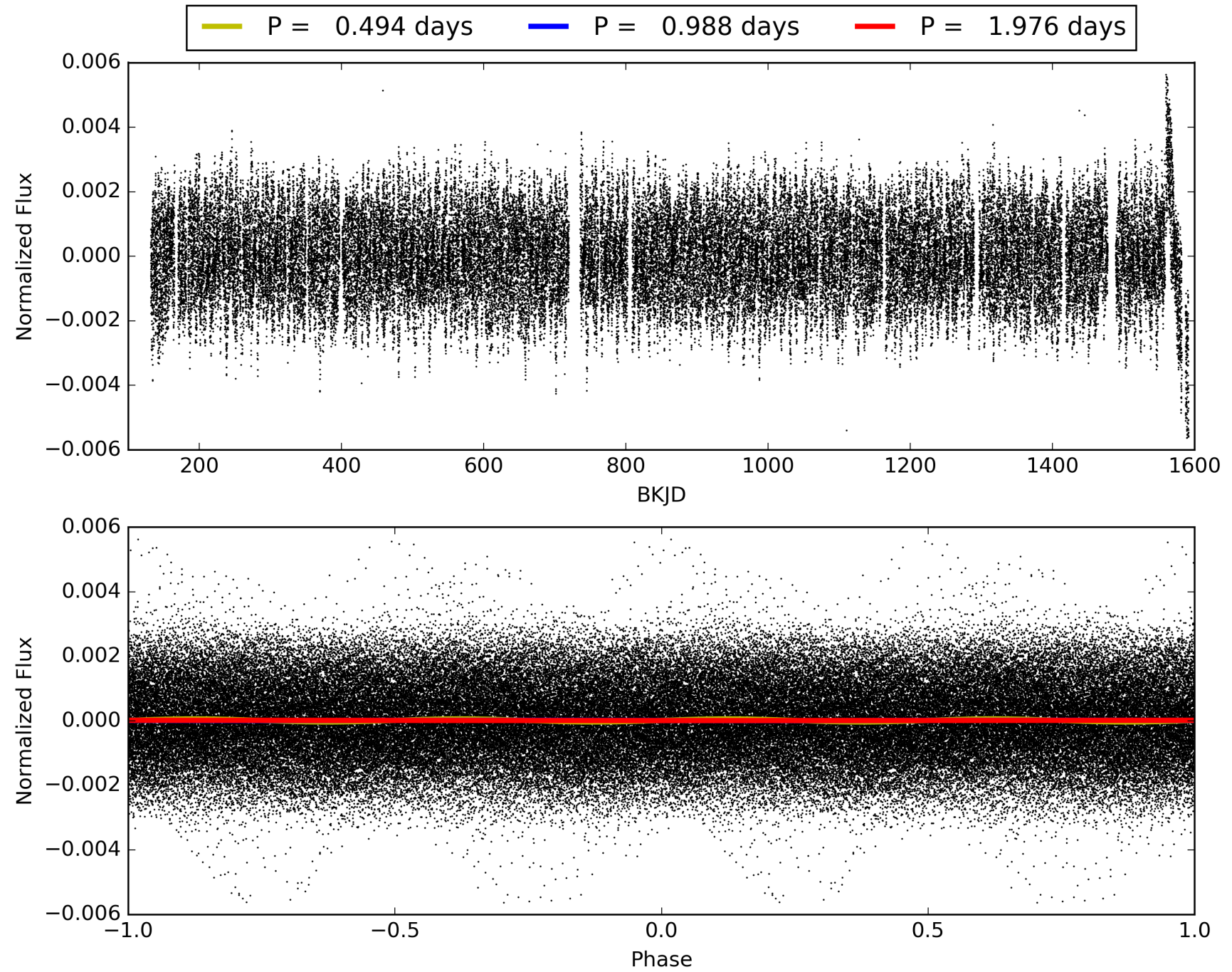
DV Diagnostic Results:

ShortPeriod-sig: 0.4% [0.01 σ]
DongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1244/1244]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.369 arcsec [0.68 σ]
KicOffset-rm: 0.153 arcsec [0.17 σ]
OotOffset-st: 0/3/0/1 [4]
KicOffset-st: 0/3/0/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006531801-02, PDC Light Curves

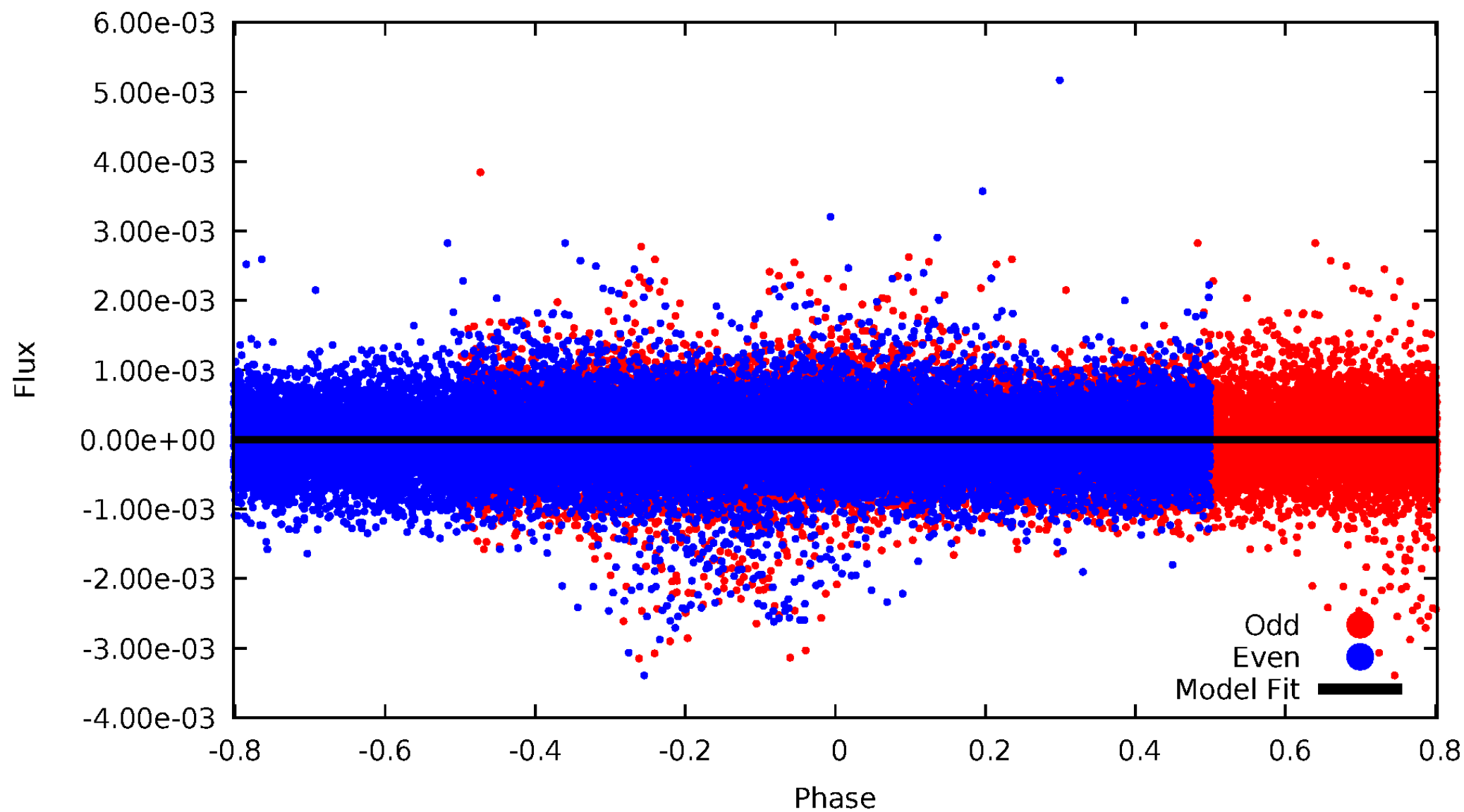


TCE 006531801-02



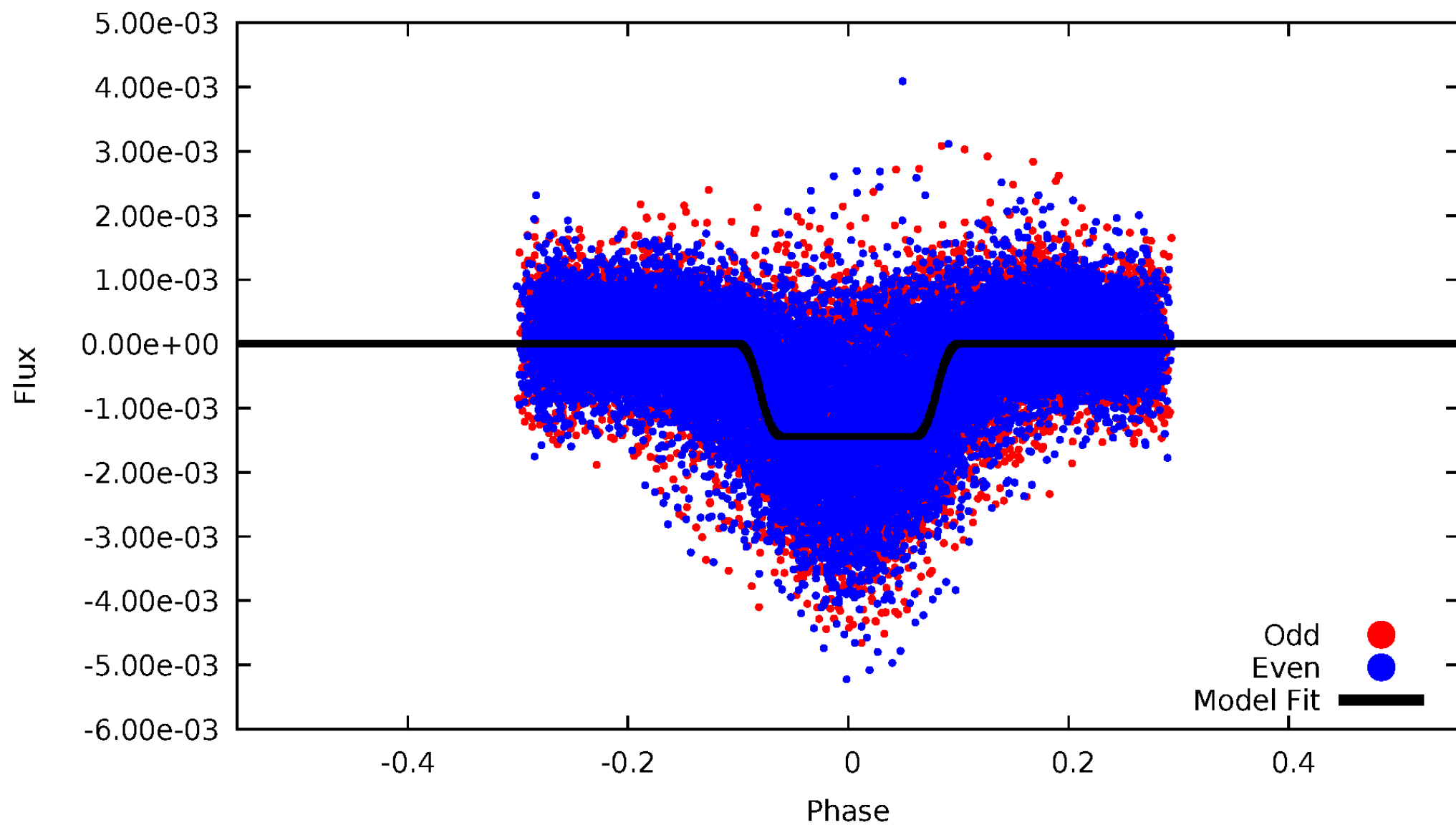
DV Odd/Even

TCE 006531801-02



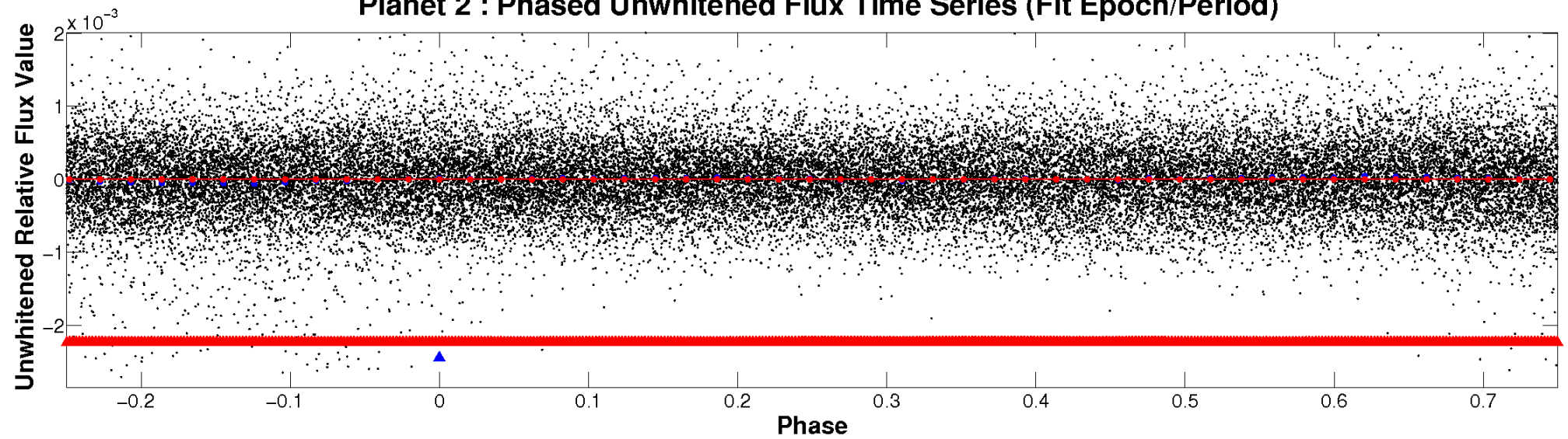
ALT Odd/Even

TCE 006531801-02

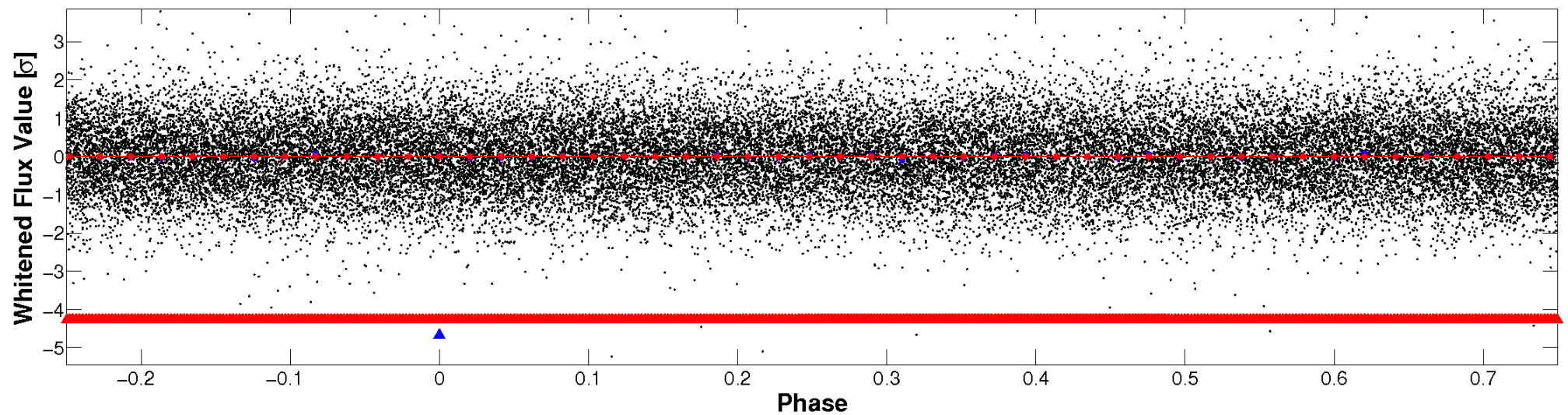


Non-Whitened Vs. Whitened Light Curve

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

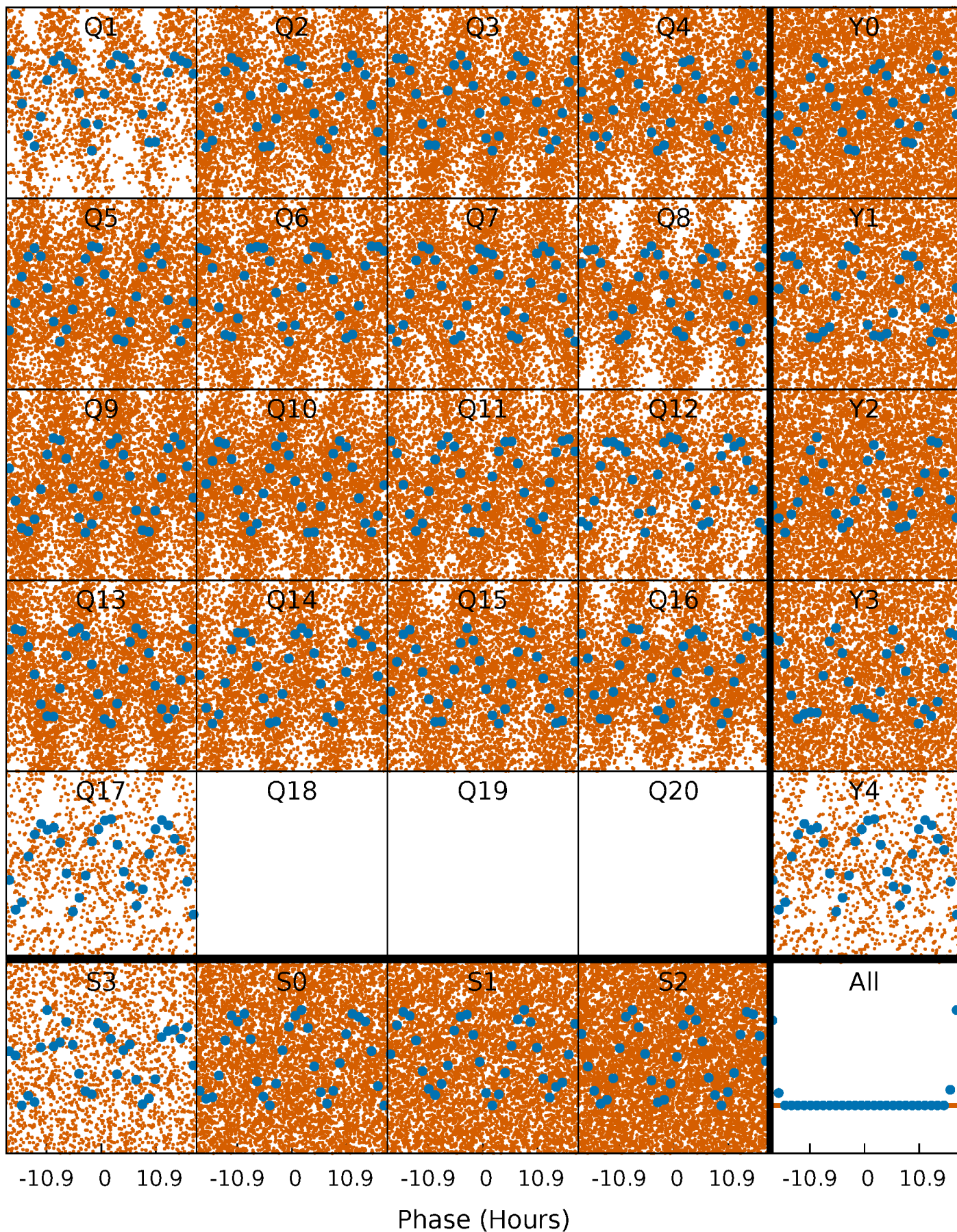


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



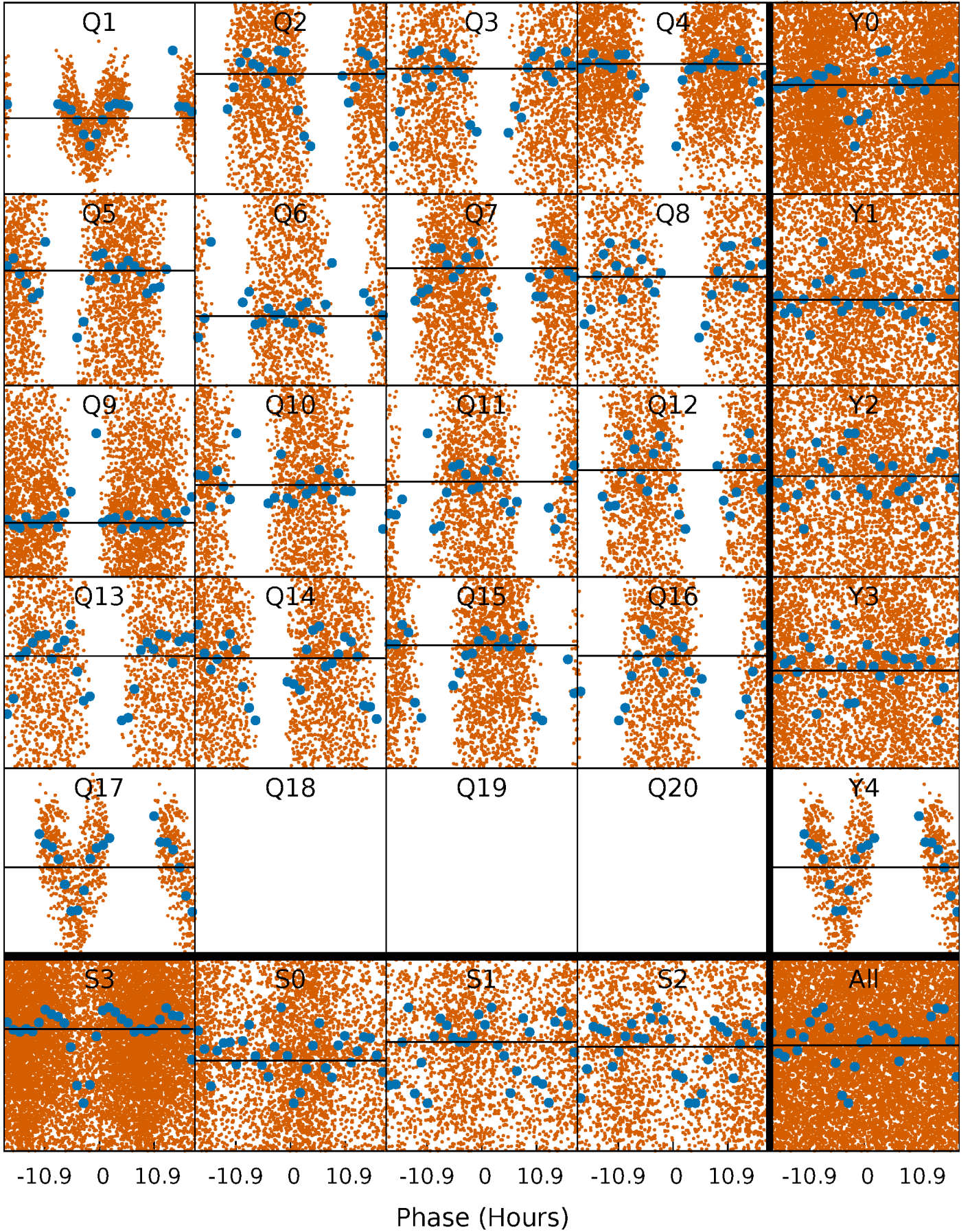
PDC Quarter-Phased Transit Curves

TCE 006531801-02 $P = 0.987781$ Days $T_0 = 132.252537$ (BKJD)



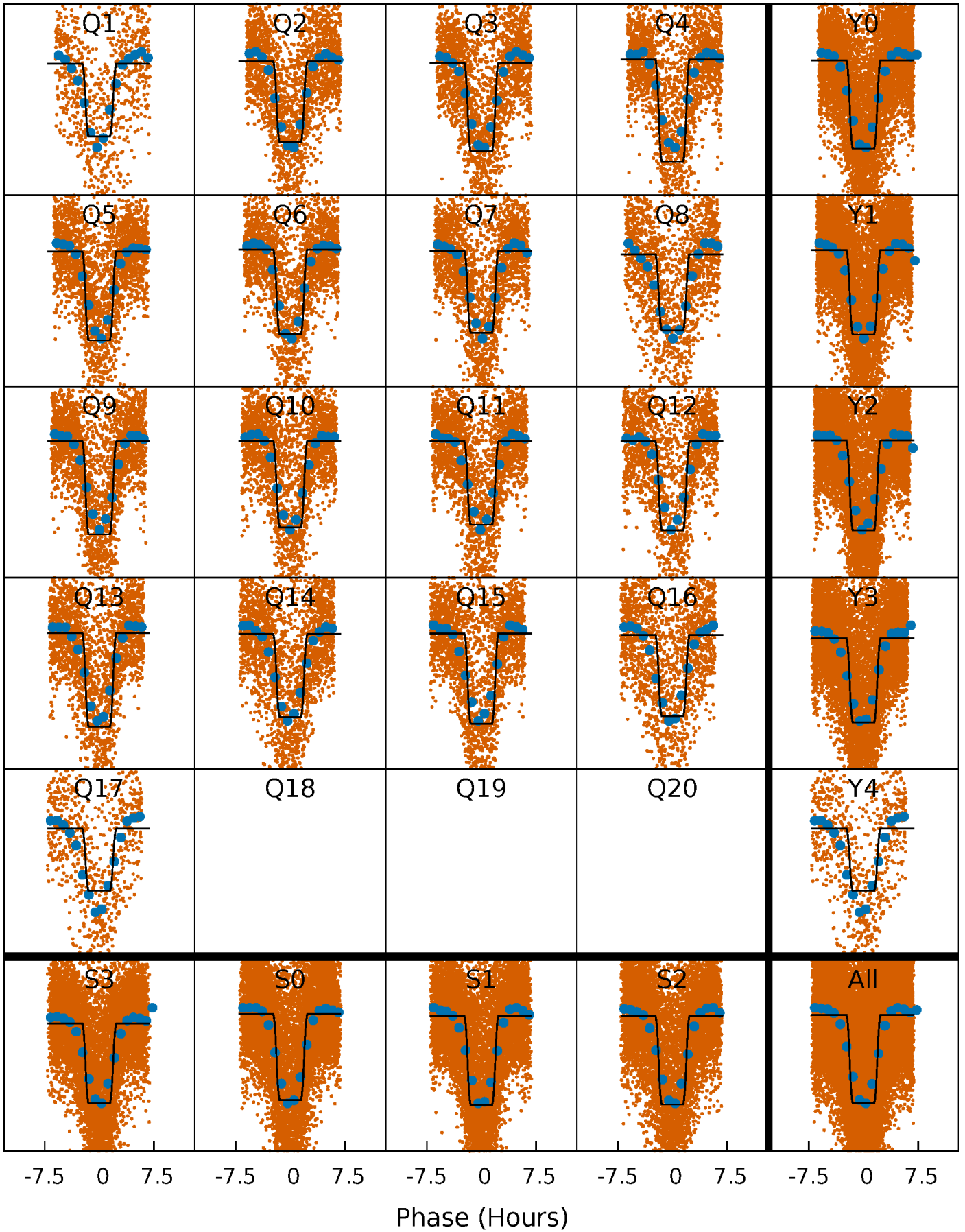
DV Quarter-Phased Transit Curves

TCE 006531801-02 $P = 0.987781$ Days $T_0 = 132.252537$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

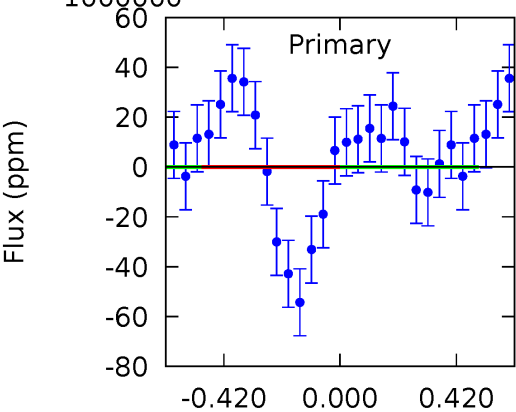
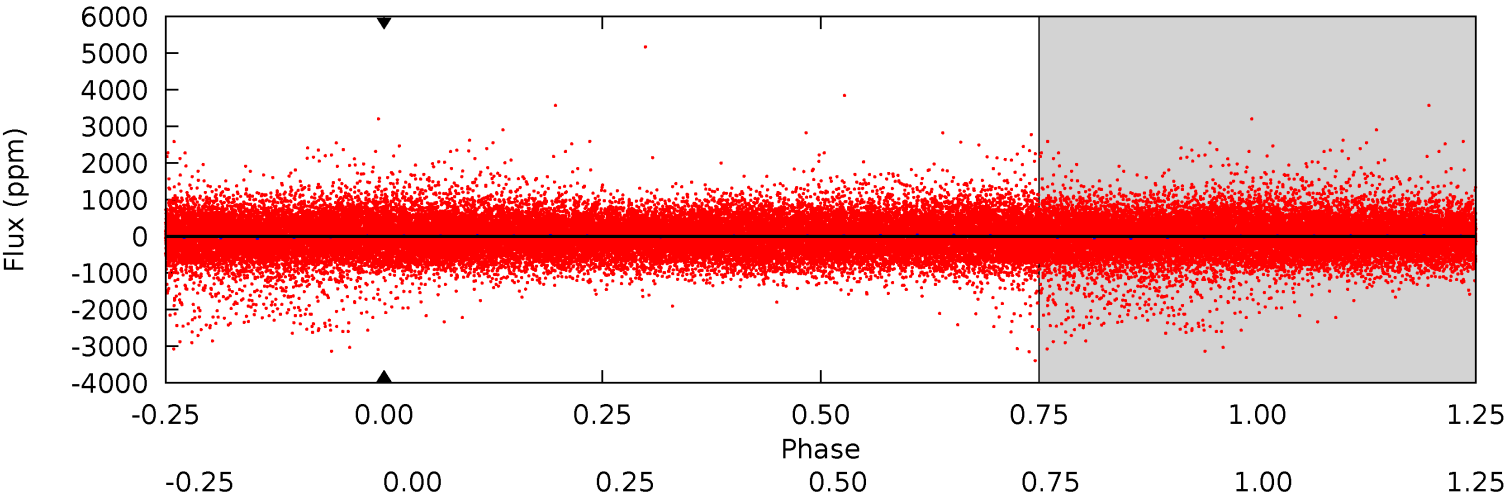
TCE 006531801-02 P= 0.985648 Days $T_0=132.217215$ (BKJD)



DV Model-Shift Uniqueness Test

006531801-02, P = 0.987781 Days, E = 131.264756 Days

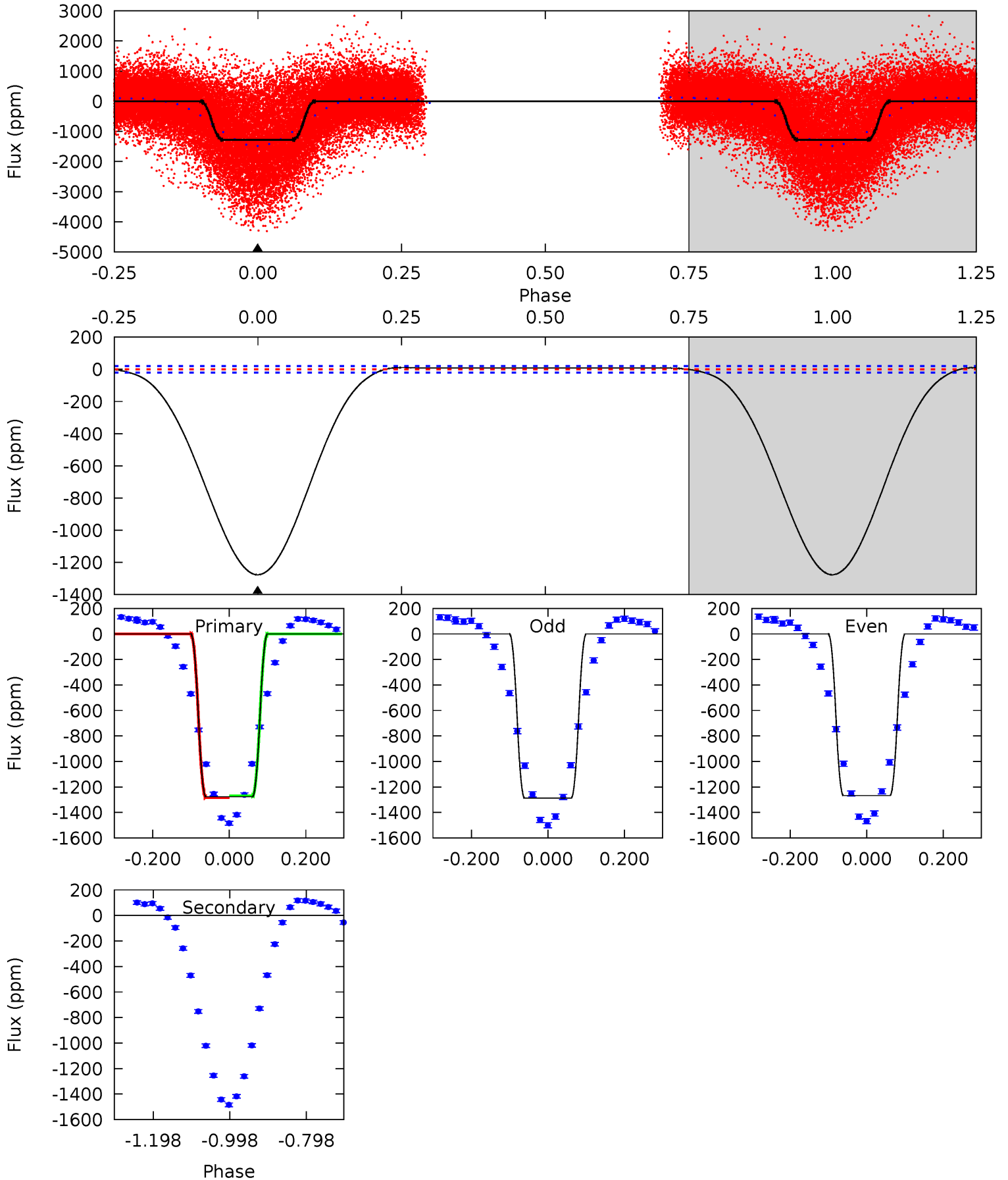
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006531801-02, P = 0.985648 Days, E = 131.231567 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
279.9	0	0	0	4.42	1.28	3.67	279.9	279.9	0	0	2.12	0.98	0.01	1.53



Stellar Parameters For KIC 006531801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7273^{+228}_{-304}	$4.340^{+0.058}_{-0.217}$	$-0.320^{+0.250}_{-0.350}$	$1.266^{+0.461}_{-0.123}$	$1.302^{+0.218}_{-0.158}$	$0.905^{+0.274}_{-0.490}$
	+3%/-4%	+1%/-5%	+78%/-109%	+36%/-10%	+17%/-12%	+30%/-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 006531801-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$230.95^{+265.55}_{-160.46}$	434^{+217}_{-97}	-2148^{+6196}_{-1875}	$-3.258^{+4391.345}_{-3756.983}$
Alt.	0 ± 5	$248.28^{+276.78}_{-174.74}$	431^{+223}_{-98}	-1395^{+174}_{-243}	$-0.000^{+0.176}_{-0.157}$

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 $A_{obs} \gg 1.0$

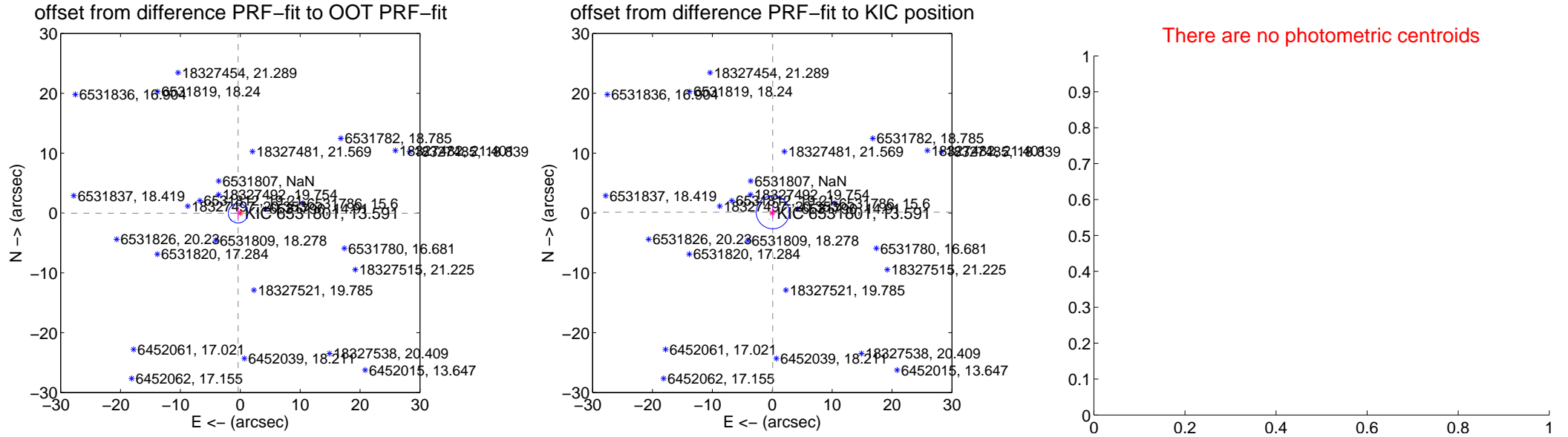
DV Centroid Data

Supplemental centroid analysis for 006531801-02. Kepler magnitude: 13.59. Transit SNR 0.00

There are 3 quarters with good PRF difference image offsets

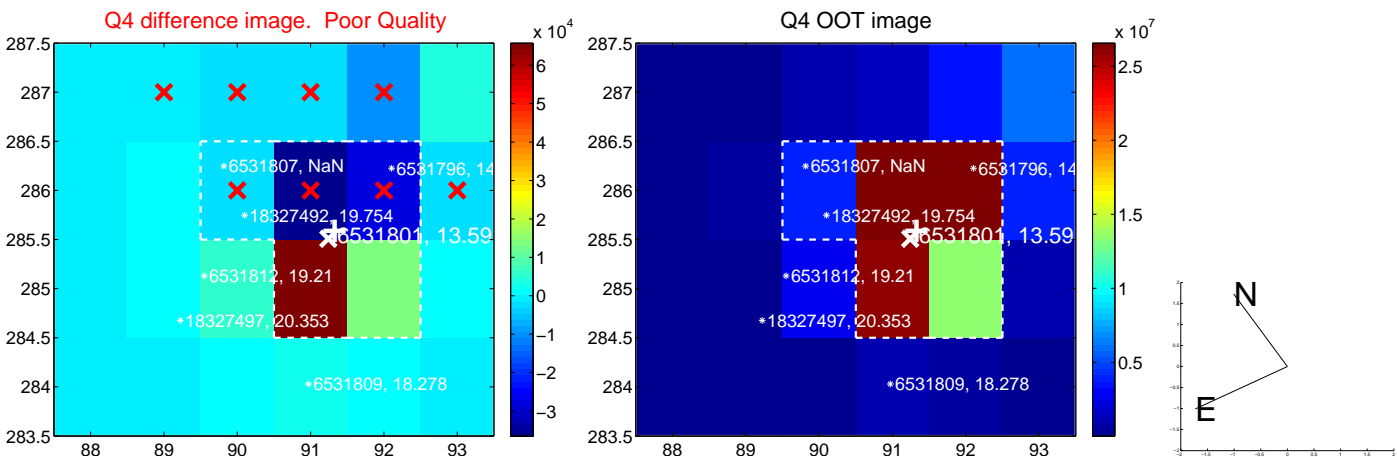
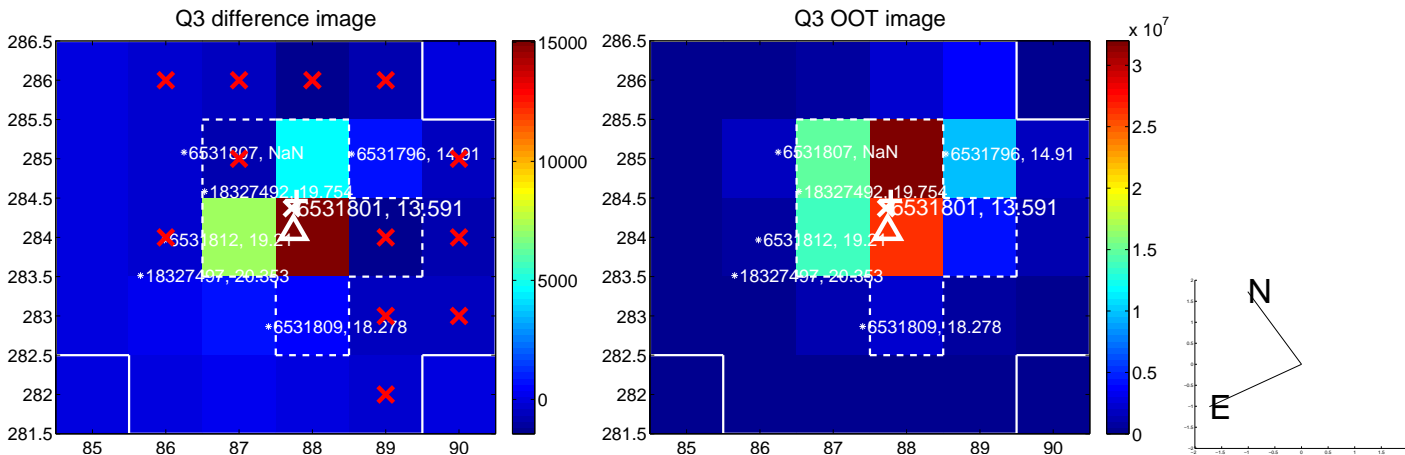
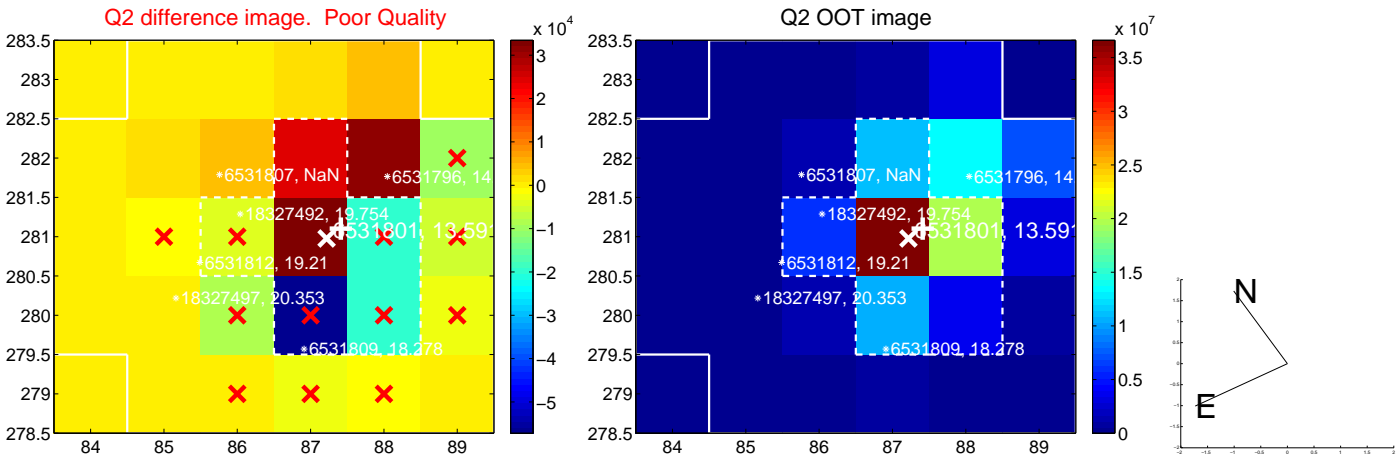
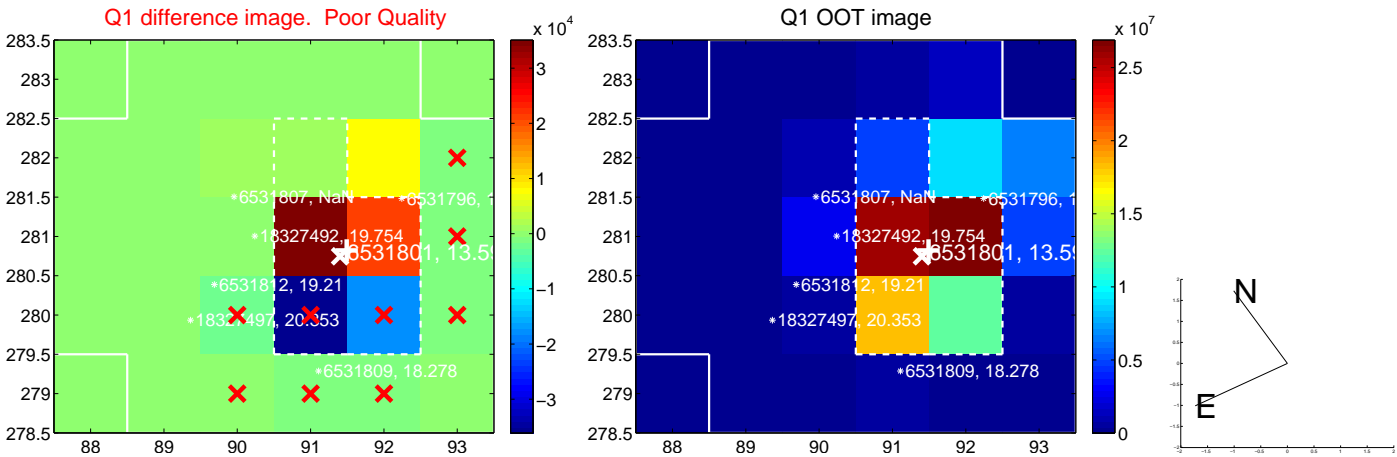
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.369 ± 0.545	0.68	0.367 ± 0.540	-0.030 ± 1.033
PRF-fit source offset from KIC position	0.153 ± 0.920	0.17	-0.083 ± 0.561	0.128 ± 1.036
photometric centroid source offset	—	—	—	—

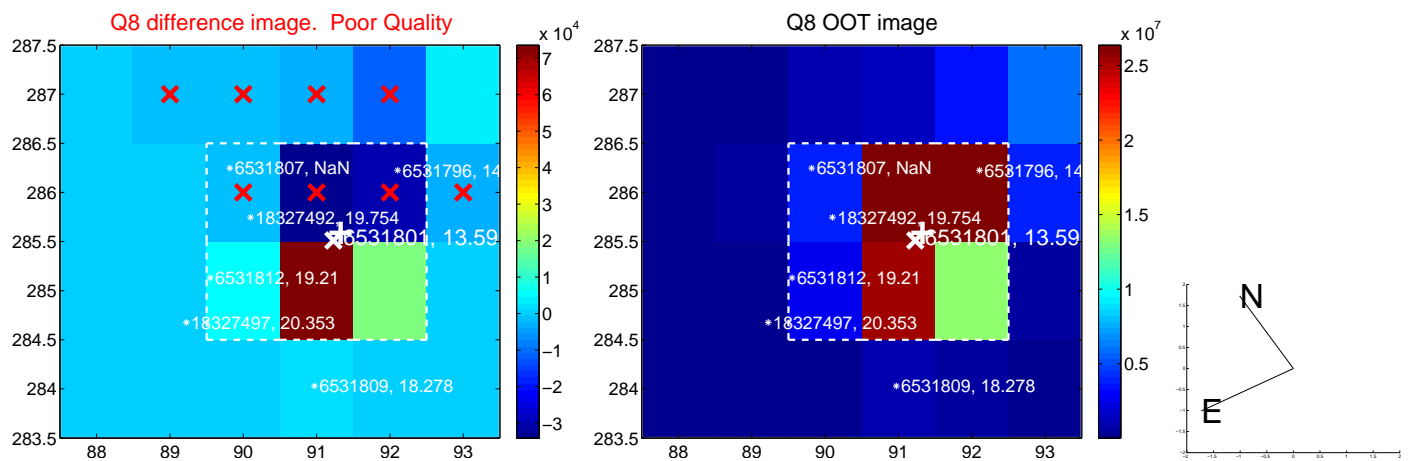
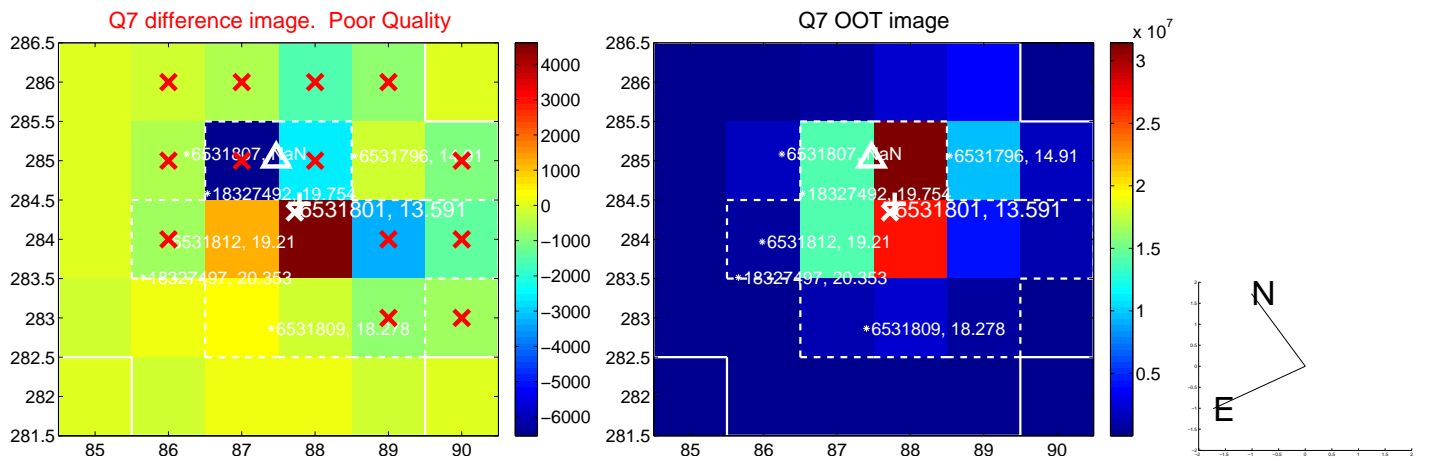
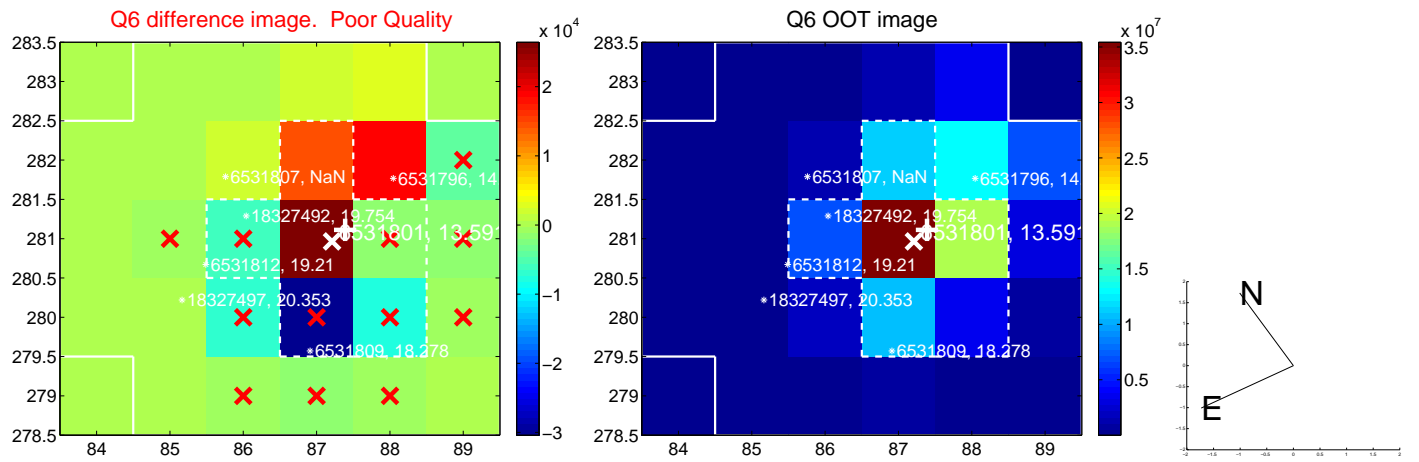
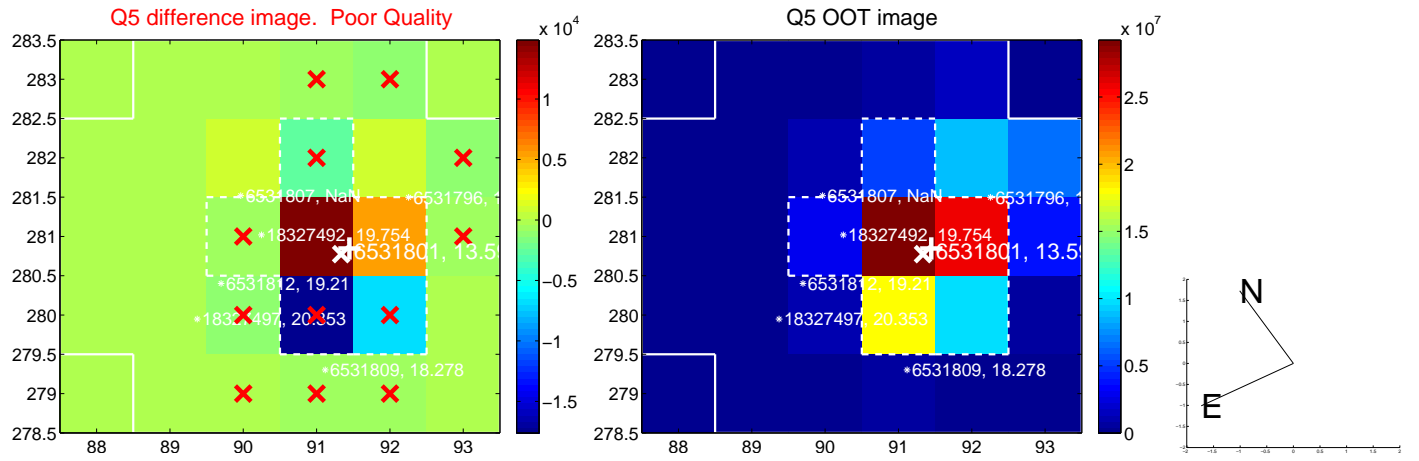


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

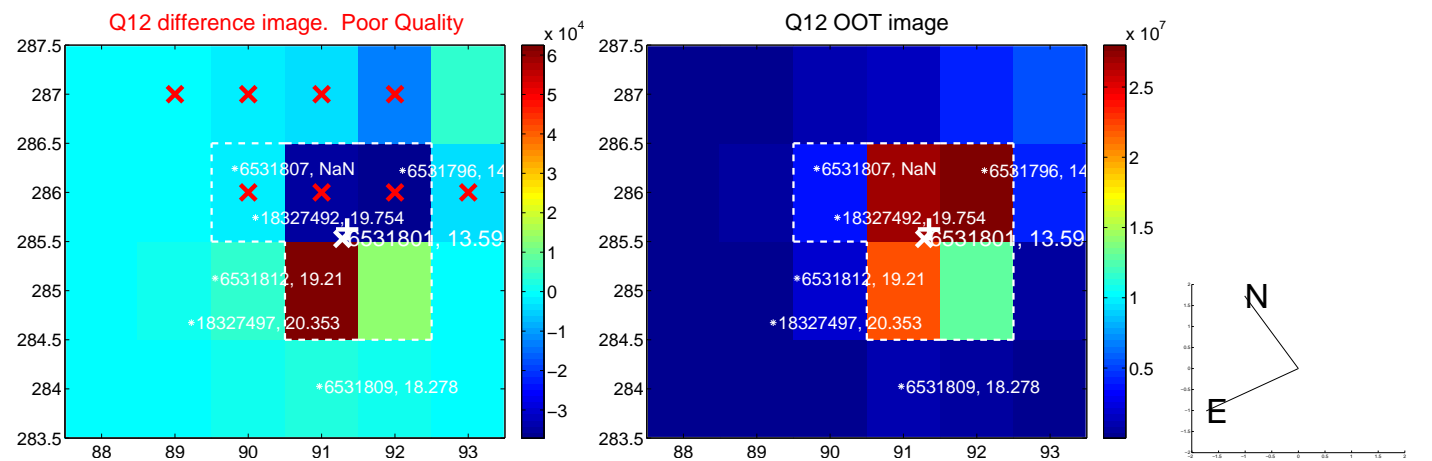
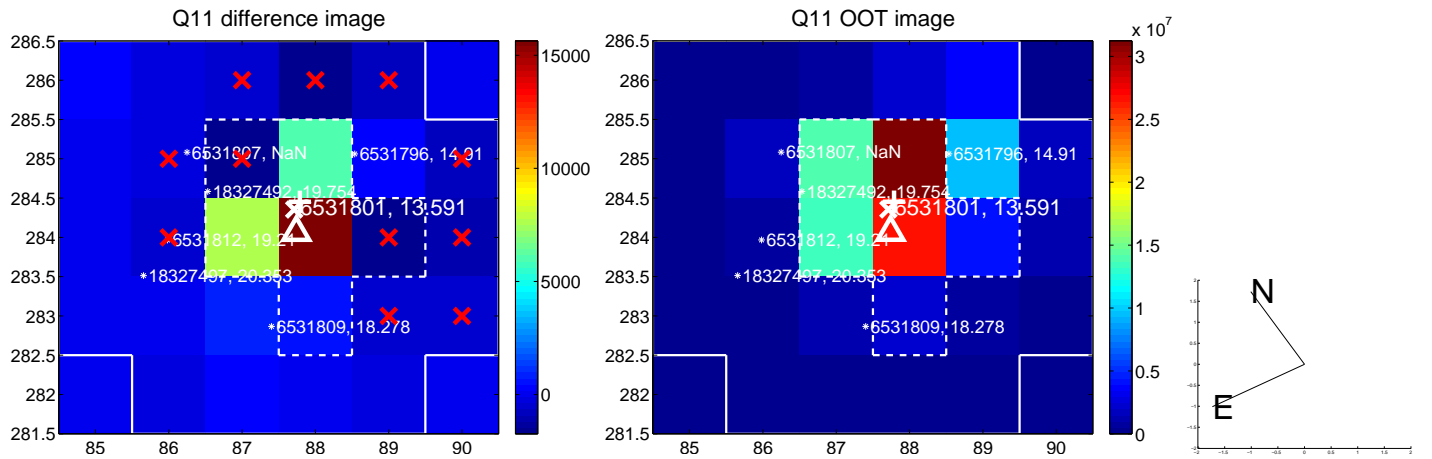
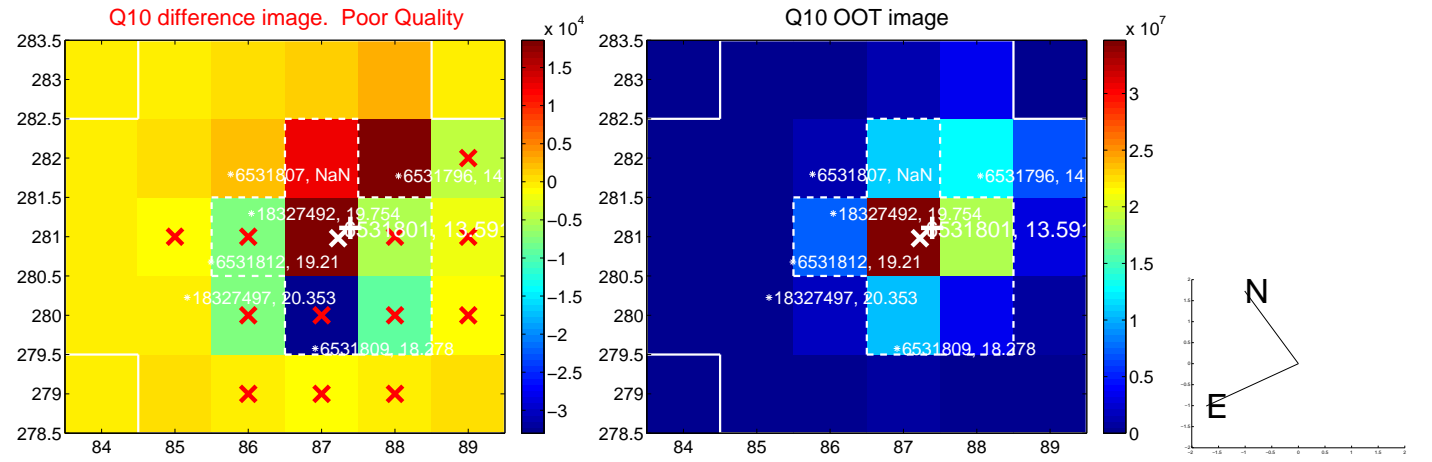
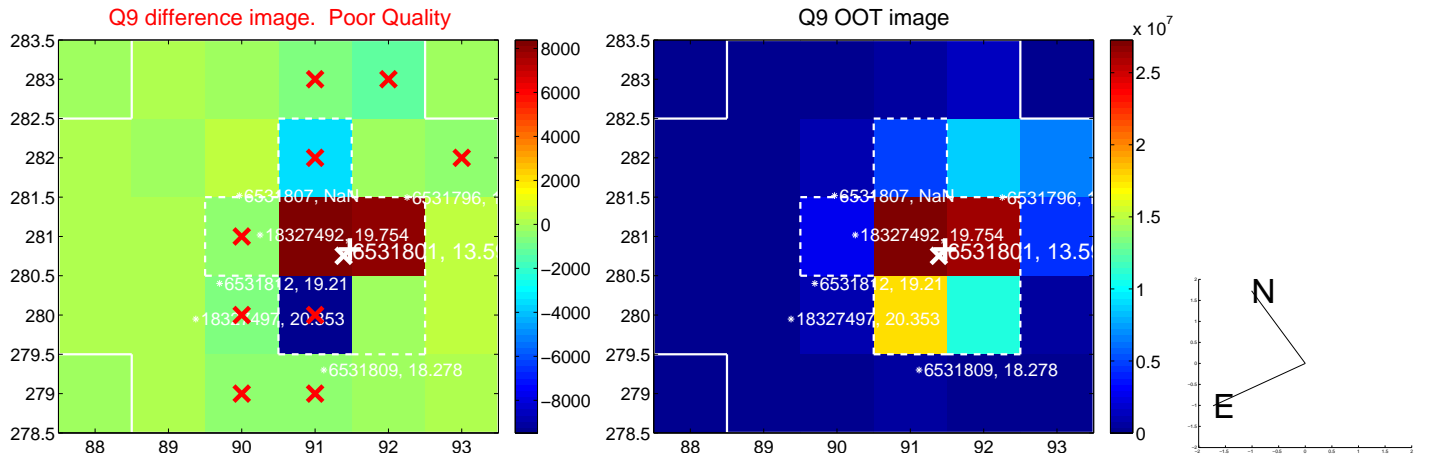
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



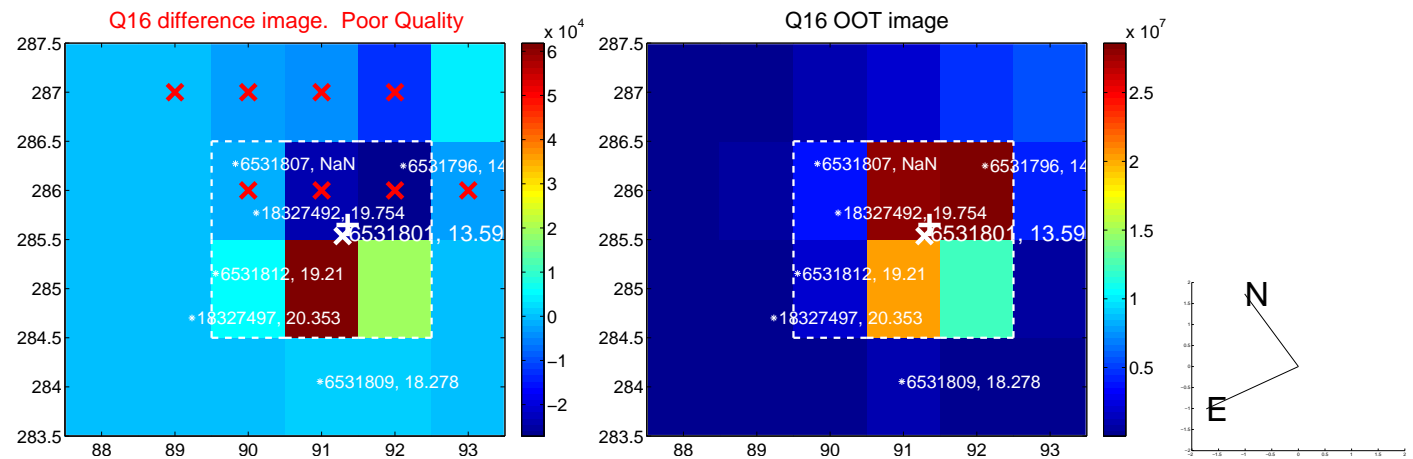
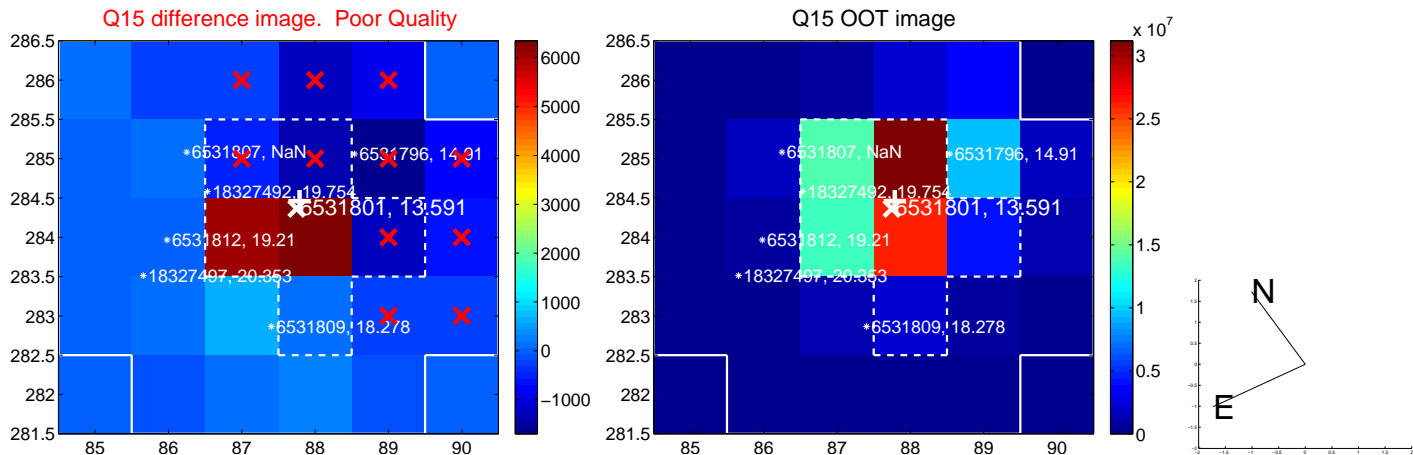
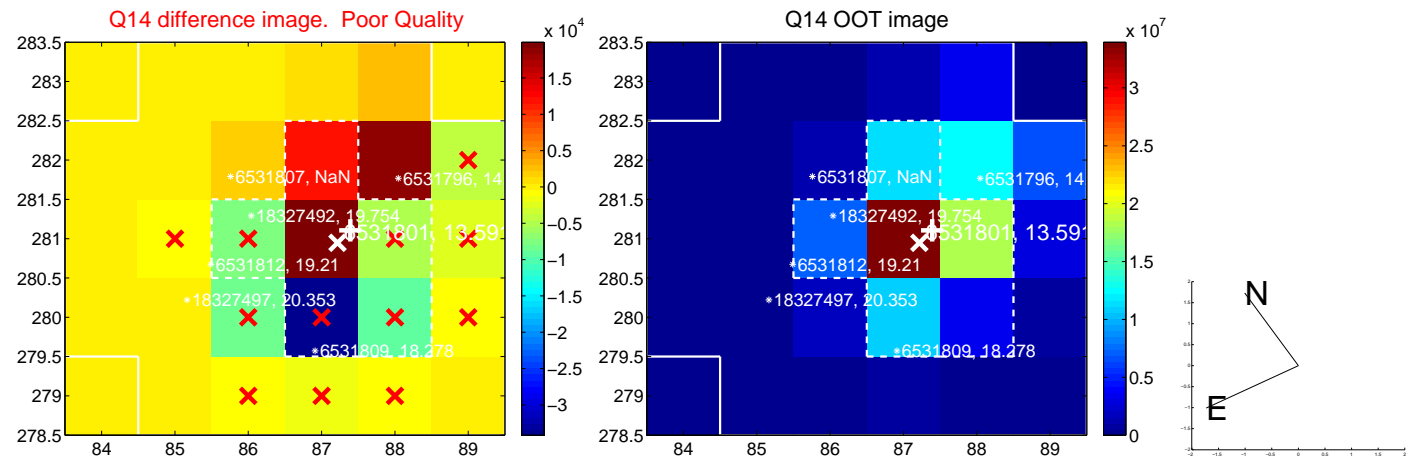
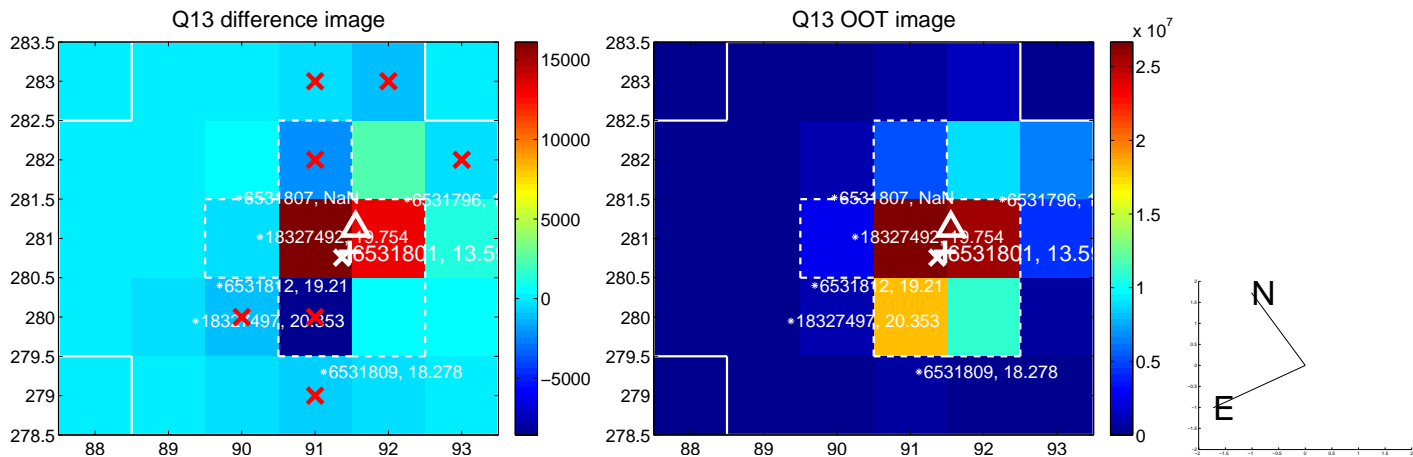
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



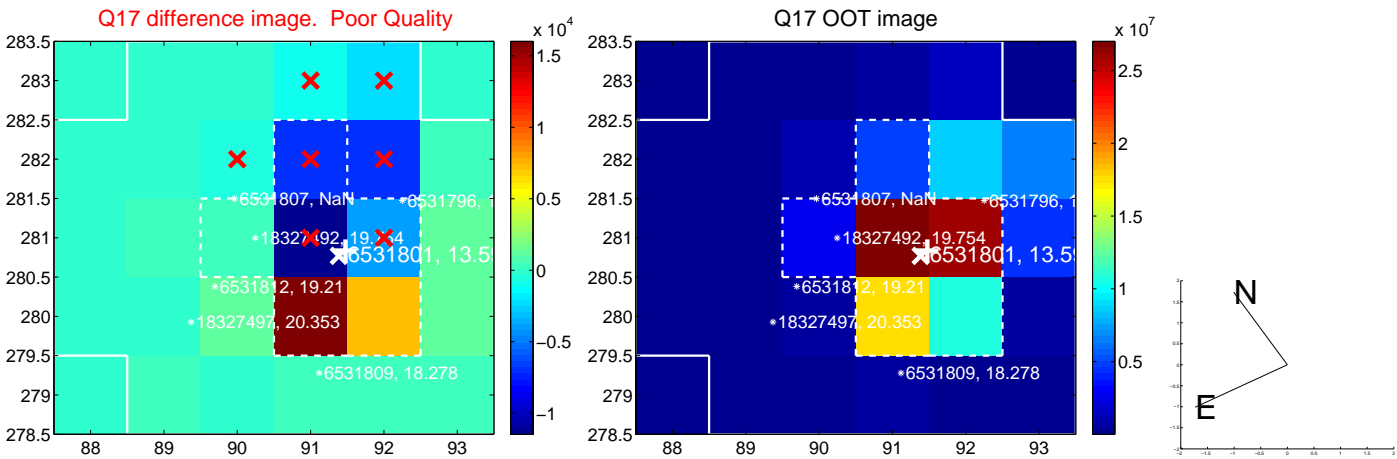
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

