

KIC 011818232

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})
011818232-01	OBS	No	1.010094	132.510681	111.1	4.900	9.2	4.7	0.79	5784	1.04	1771.78
011818232-03	OBS	No	0.505747	131.916584	83.7	1.608	8.3	3.7	0.79	5784	0.86	4456.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011818232-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011818232-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—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.

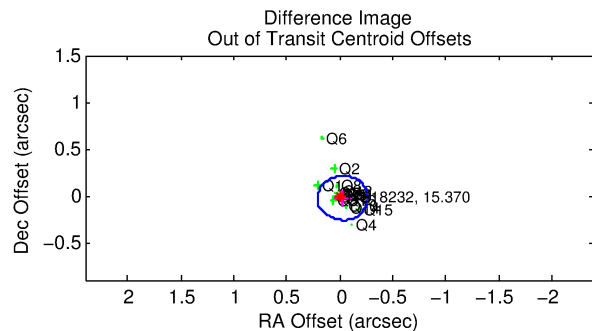
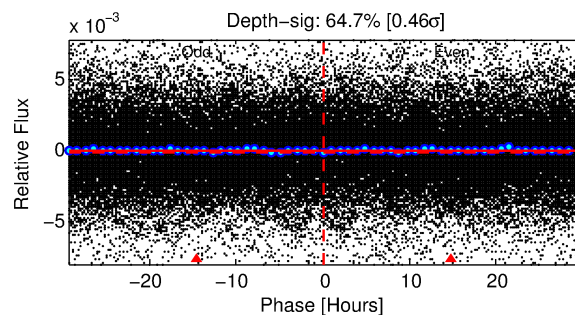
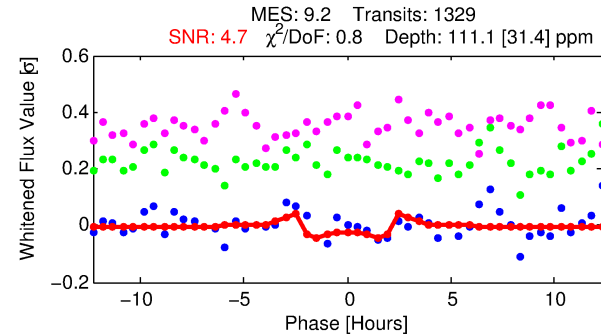
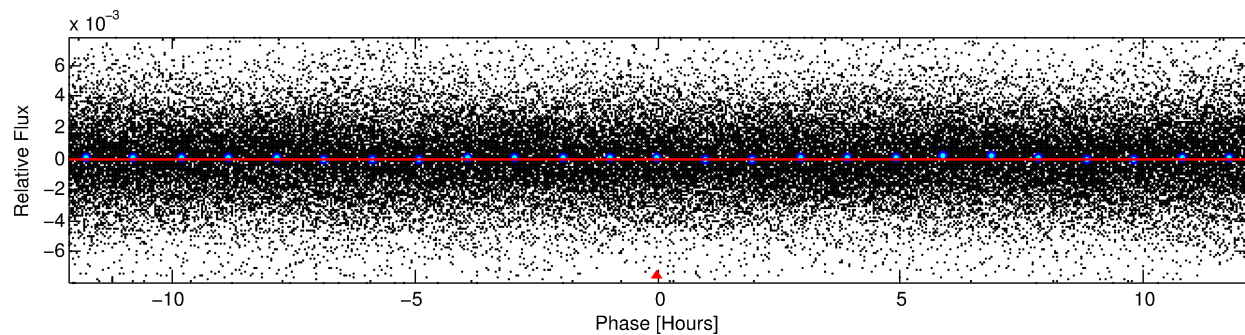
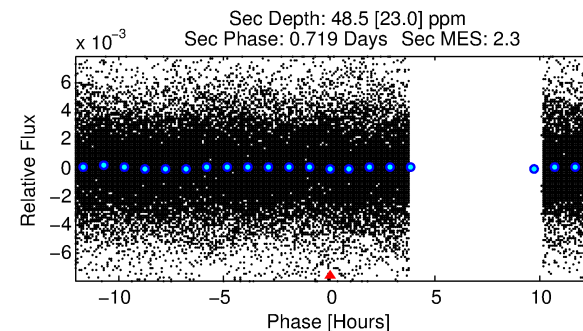
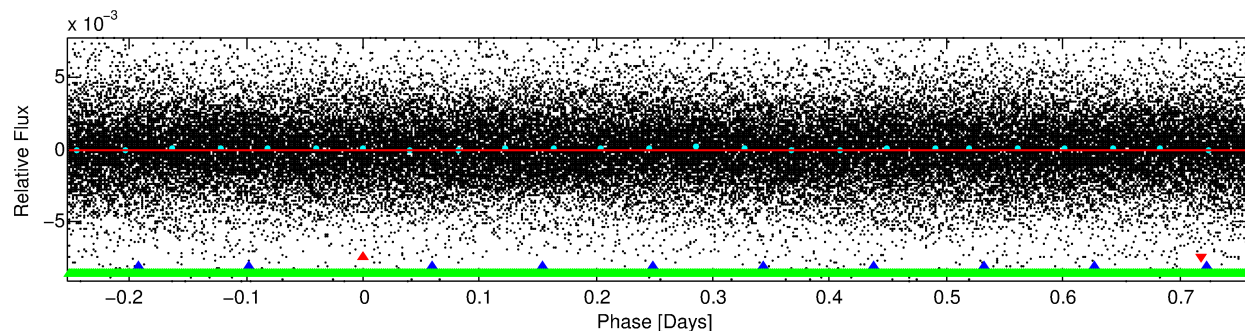
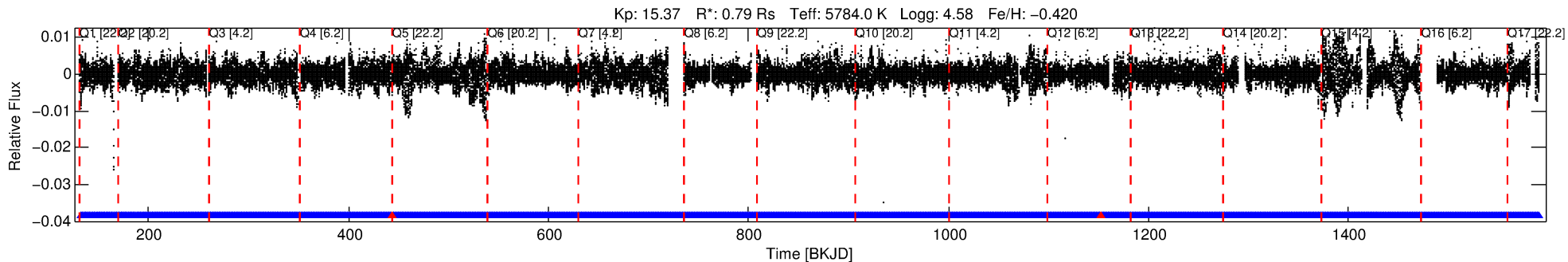
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011818232-01

No Significant Match Found

DV One-Page Summary

KIC: 11818232 Candidate: 1 of 3 Period: 1.010 d



DV Fit Results:

Period = 1.01009 [0.00002] d
Epoch = 132.5107 [0.0040] BKJD
Rp/R* = 0.0120 [0.0023]
a/R* = 1.13 [0.13]
b = 0.94 [0.06]
Seff = 1771.78 [582.06]
Teff = 1654 [136] K
Rp = 1.04 [0.33] Re
a = 0.0188 [0.0041] AU
Ag = 8.77 [5.98] [1.30σ]
Teffp = 4401 [678] K [3.97σ]

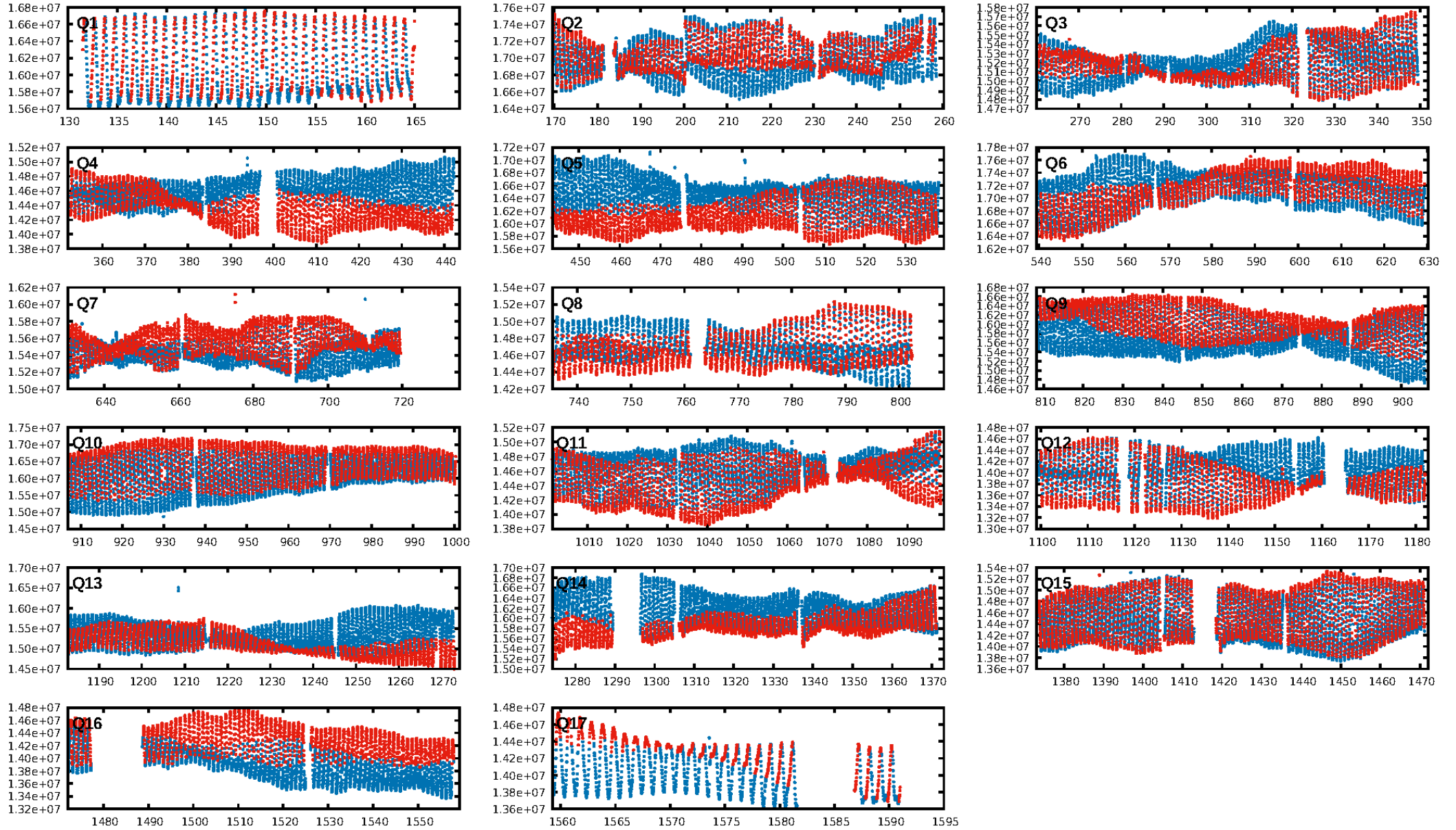
DV Diagnostic Results:

ShortPeriod-sig: 98.1% [2.35σ]
LongPeriod-sig: 100.0% [448.75σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1266/1268]
GhostDiagnostic-chr: 0.7342
Centroid-sig: 18.9%
Centroid-so: 1.148 arcsec [1.43σ]
OotOffset-rm: 0.038 arcsec [0.47σ]
KicOffset-rm: 0.023 arcsec [0.32σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 0.00 [0/17]

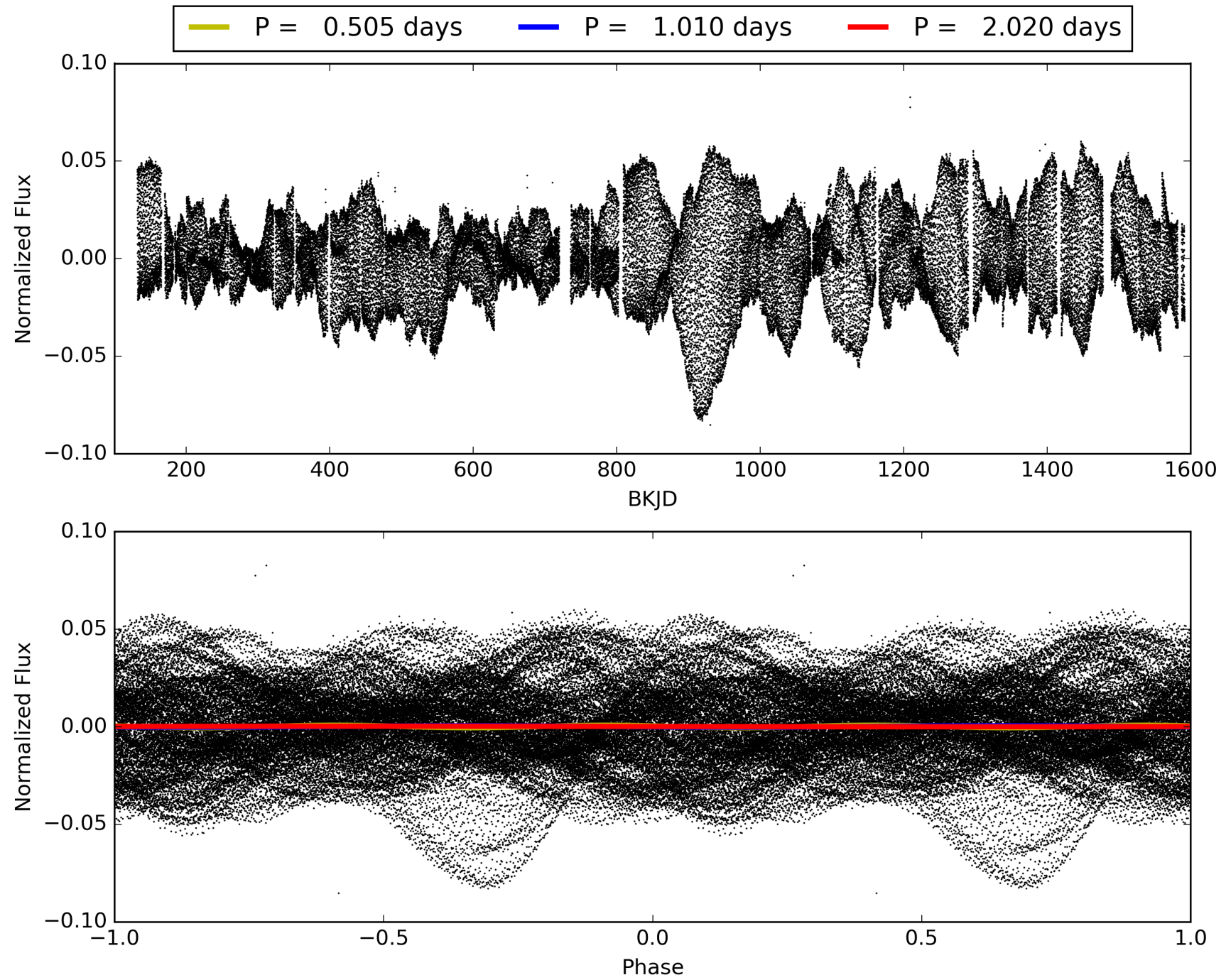
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011818232-01, PDC Light Curves

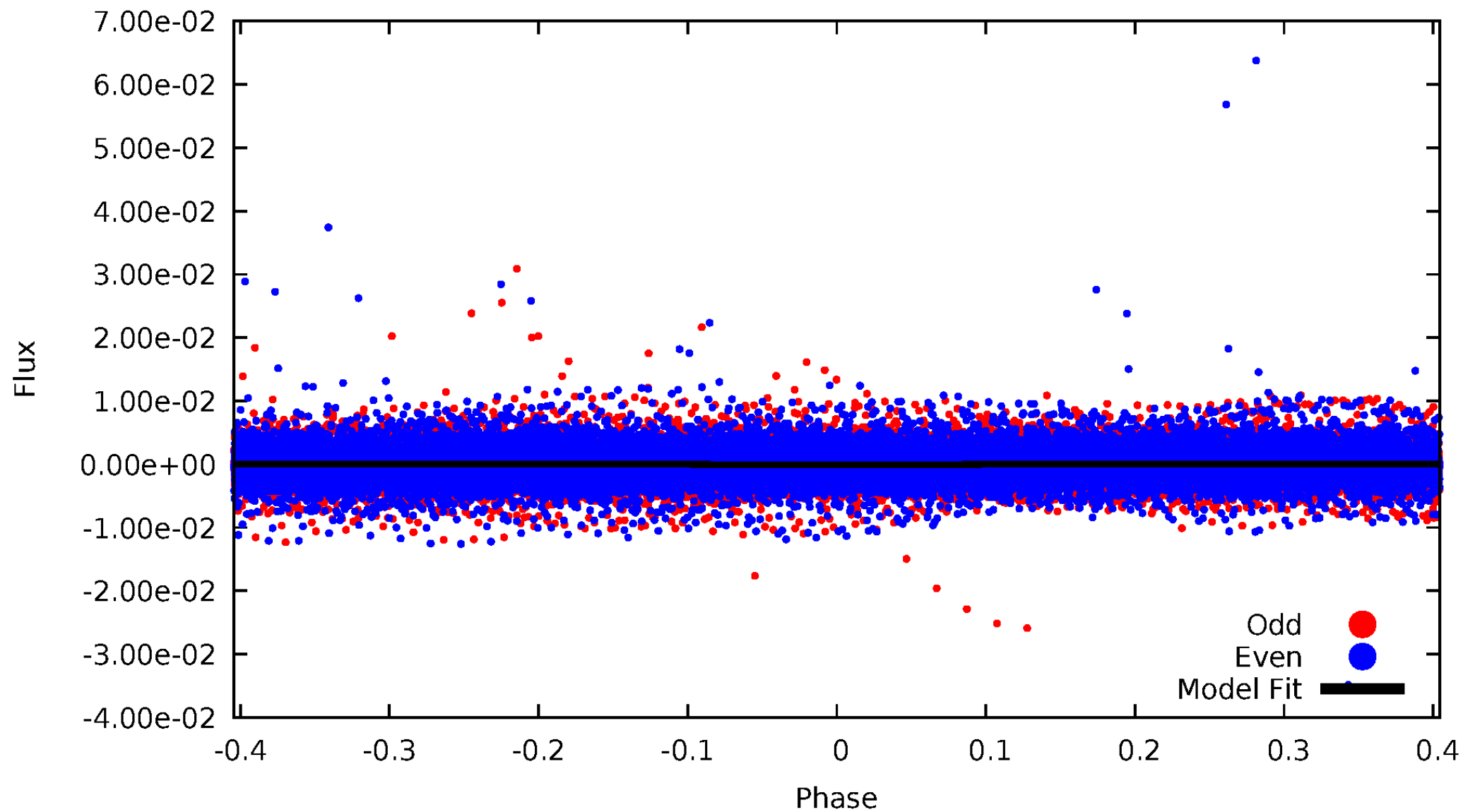


TCE 011818232-01



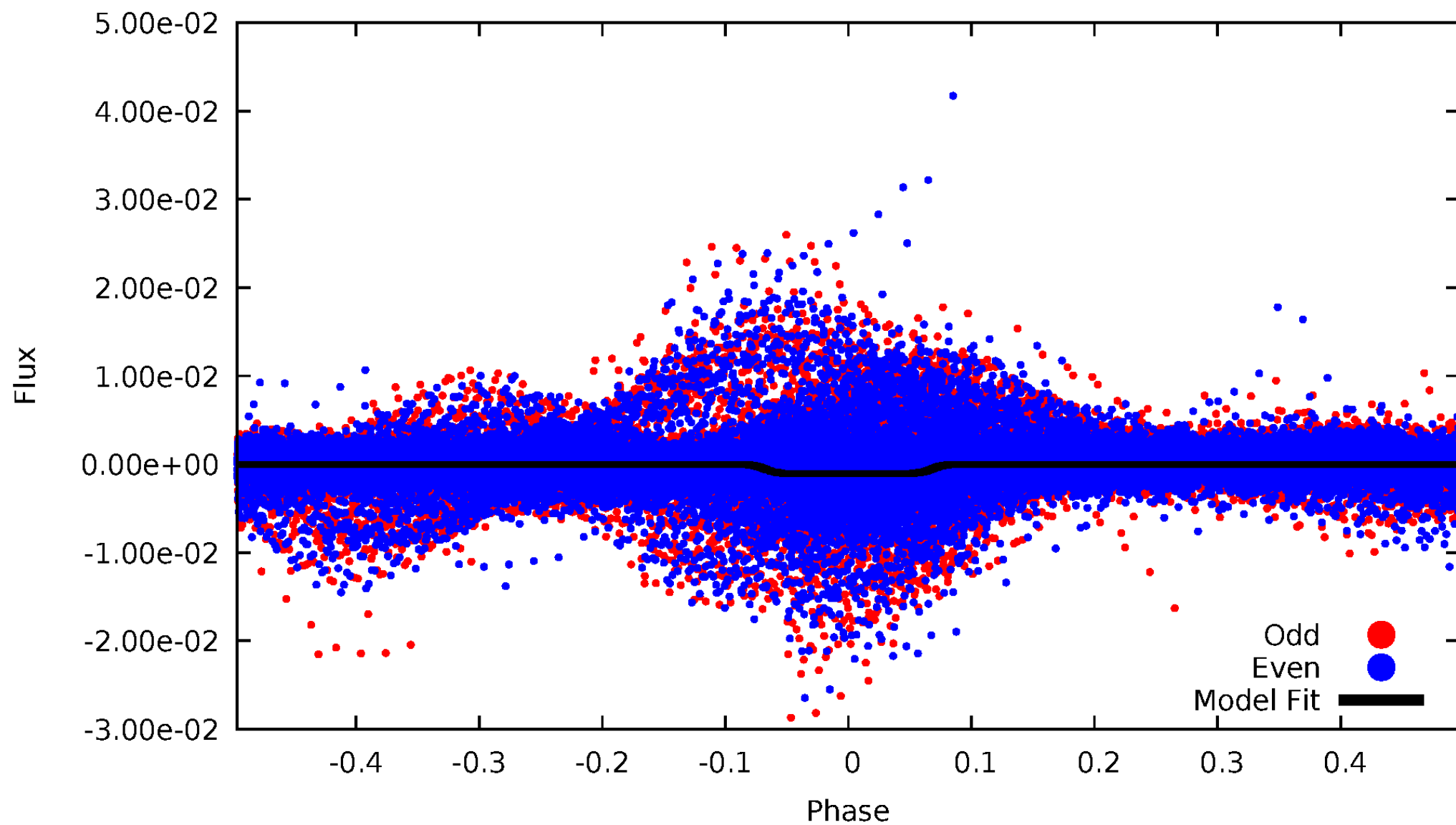
DV Odd/Even

TCE 011818232-01

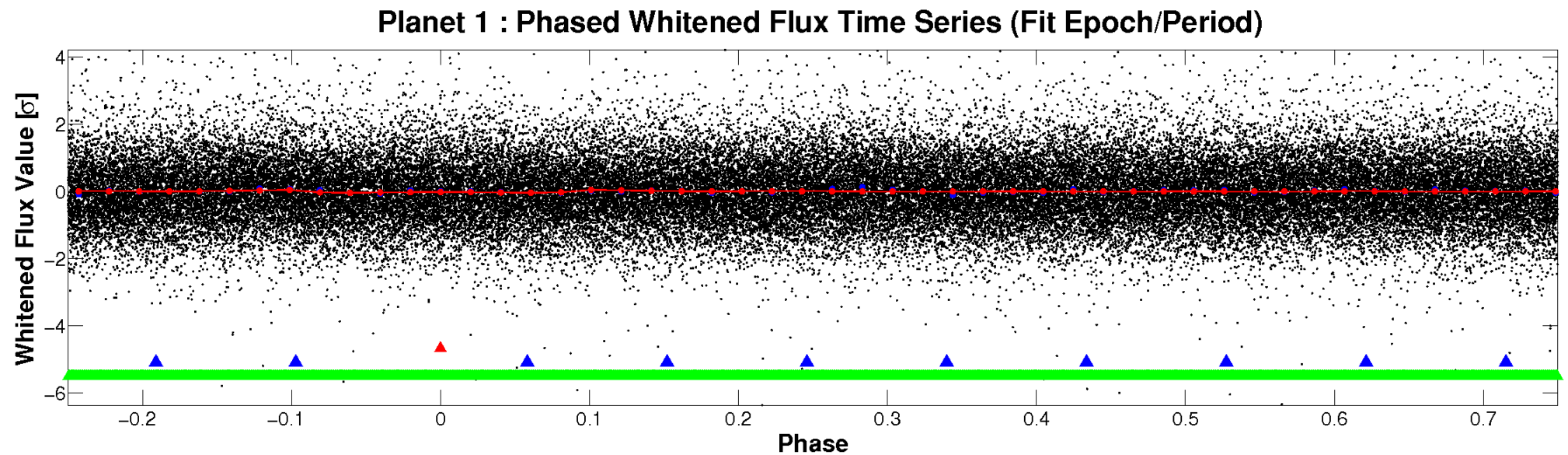
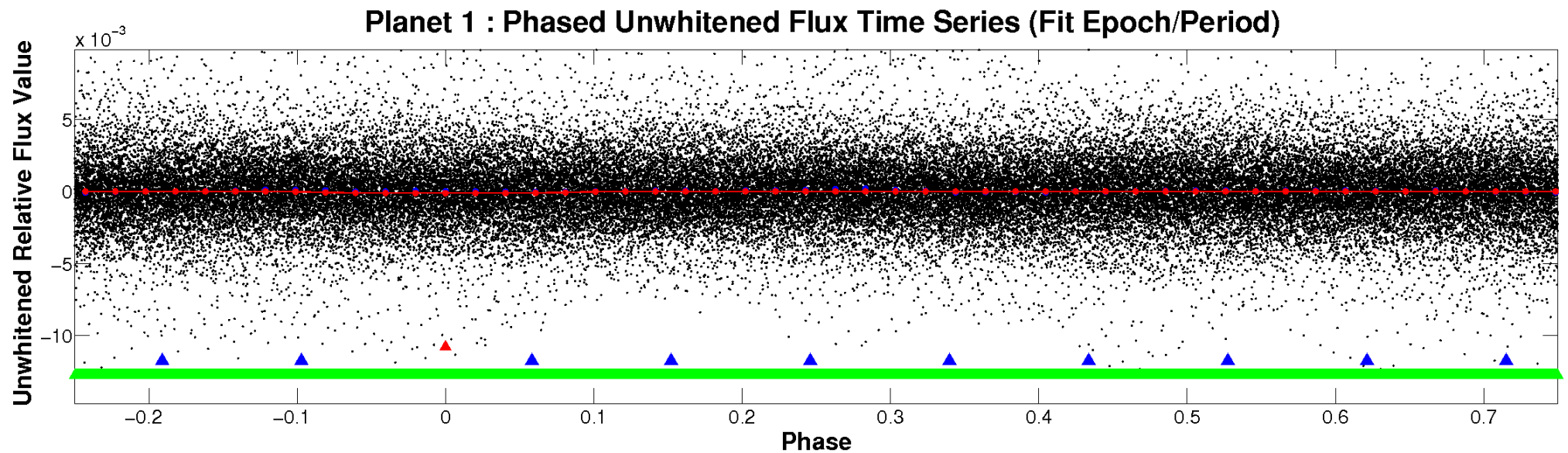


ALT Odd/Even

TCE 011818232-01

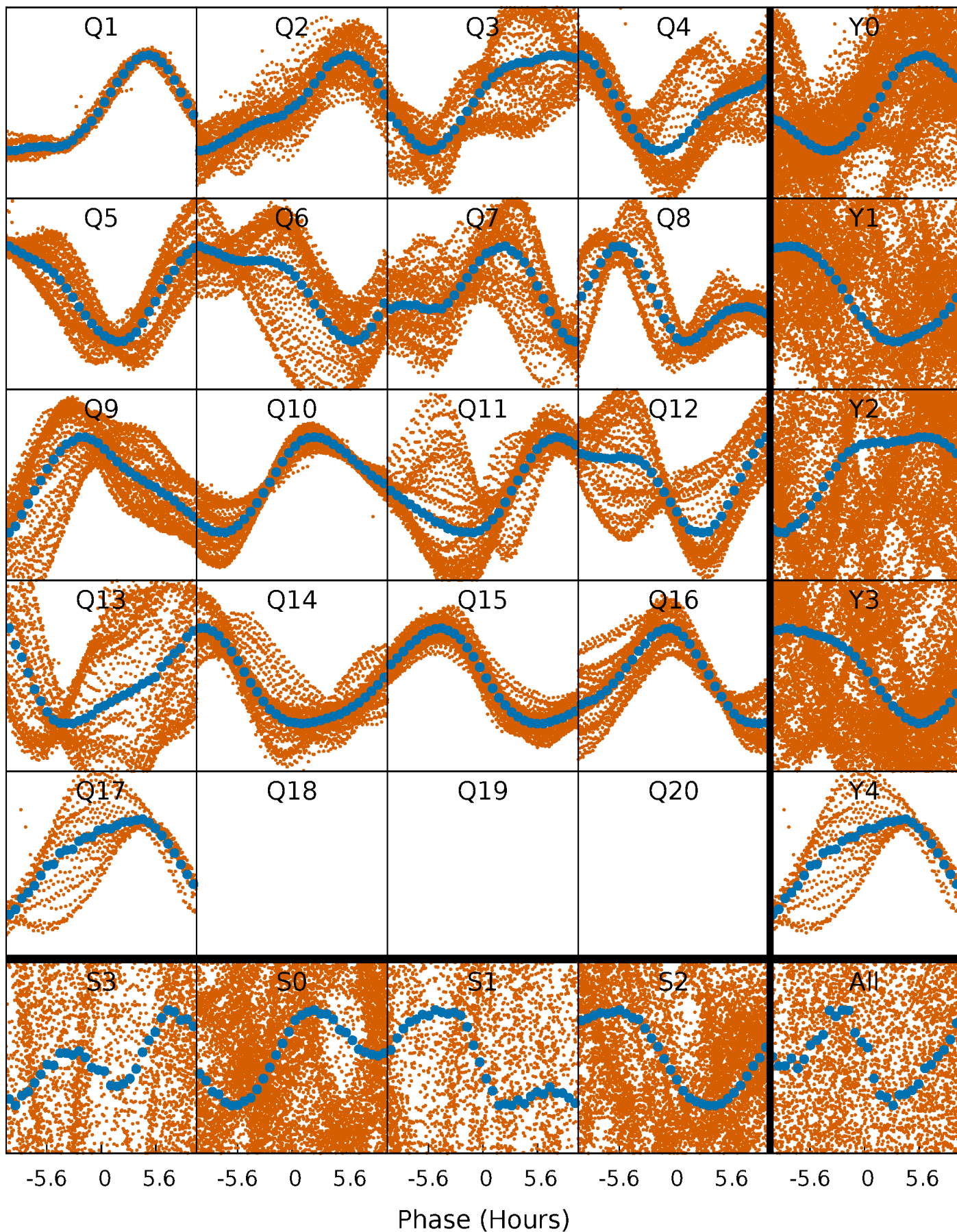


Non-Whitened Vs. Whitened Light Curve



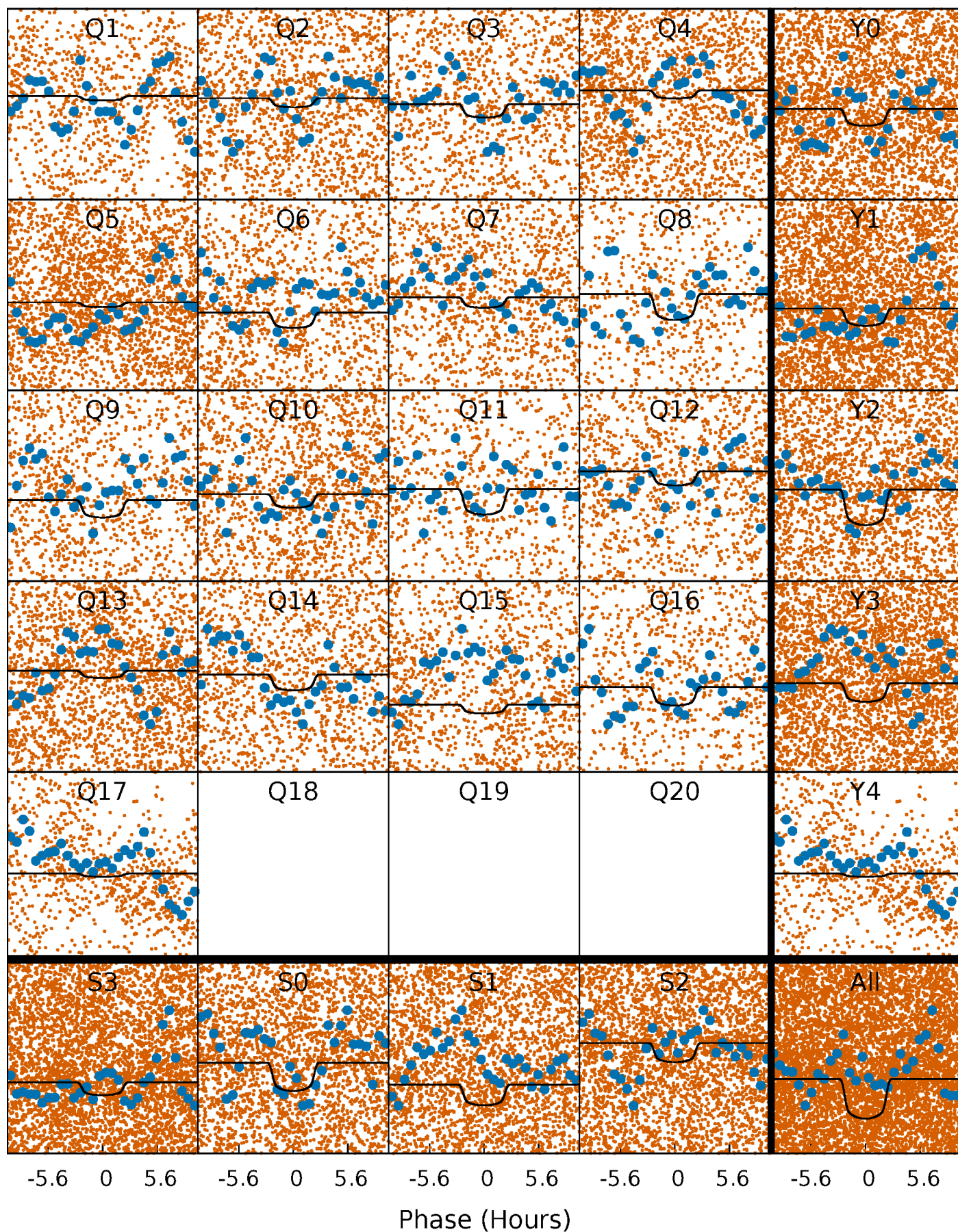
PDC Quarter-Phased Transit Curves

TCE 011818232-01 P= 1.010094 Days $T_0=132.510681$ (BKJD)



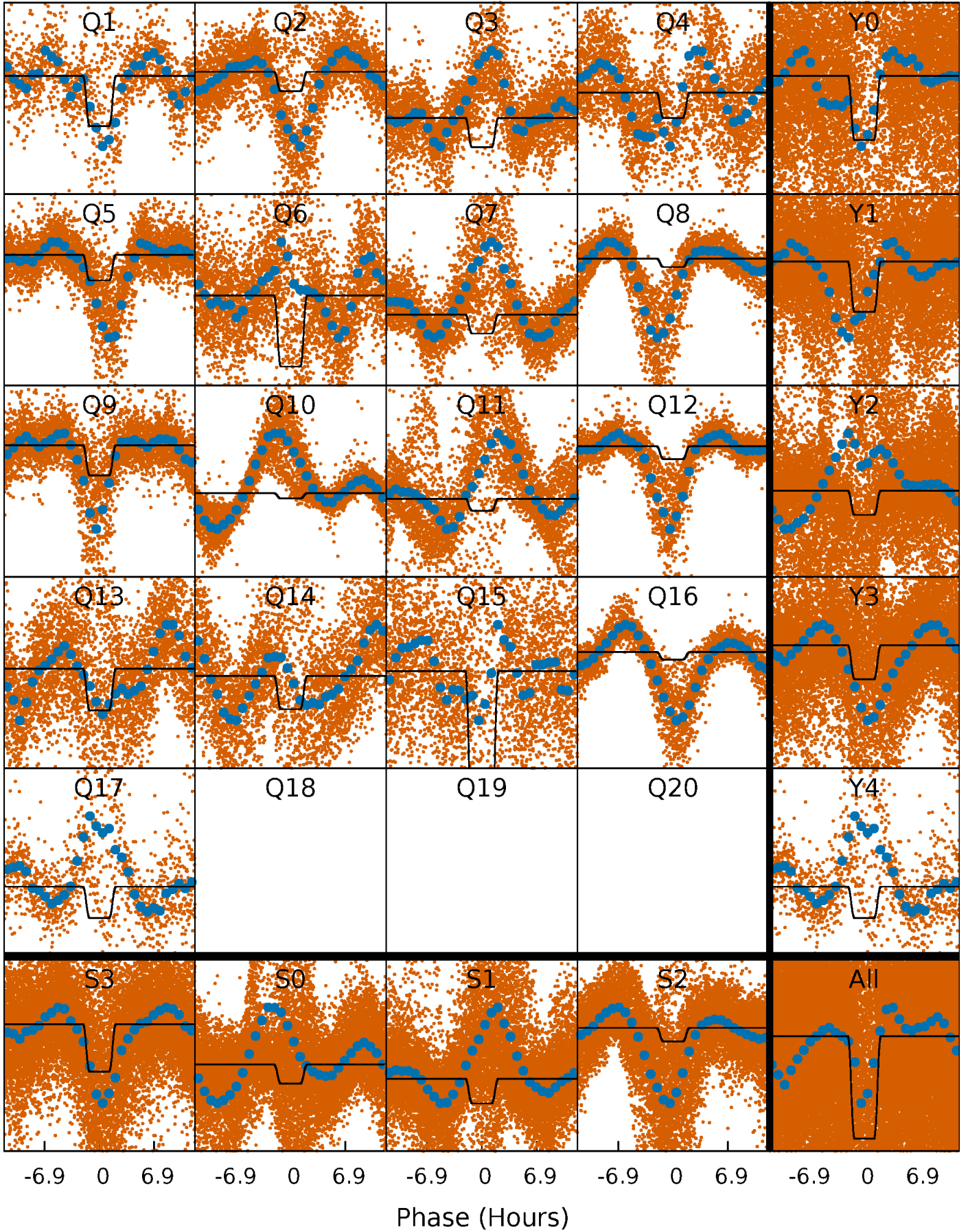
DV Quarter-Phased Transit Curves

TCE 011818232-01 P= 1.010094 Days $T_0=132.510681$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

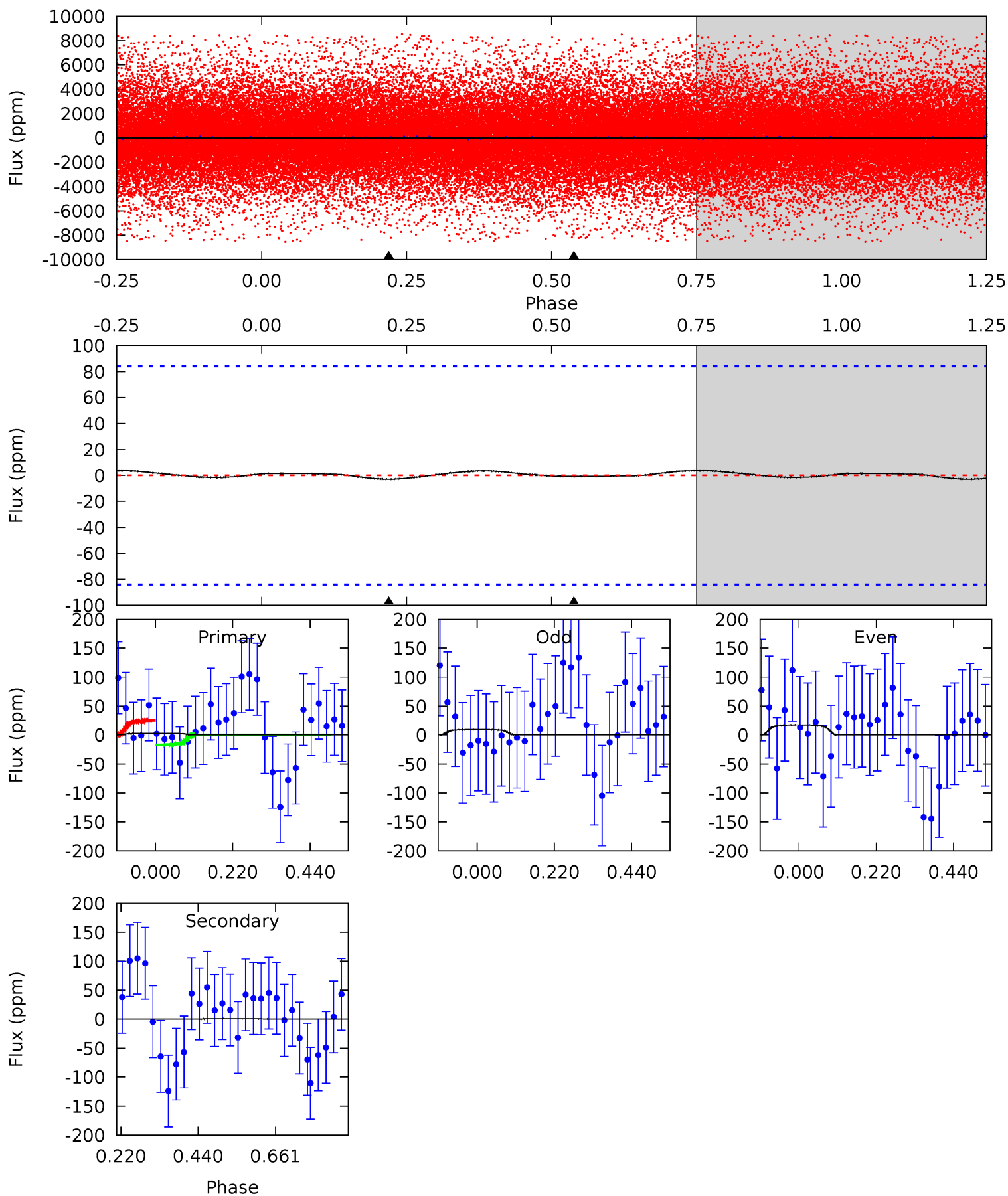
TCE 011818232-01 P= 1.010291 Days $T_0=132.485174$ (BKJD)



DV Model-Shift Uniqueness Test

011818232-01, P = 1.010094 Days, E = 131.500587 Days

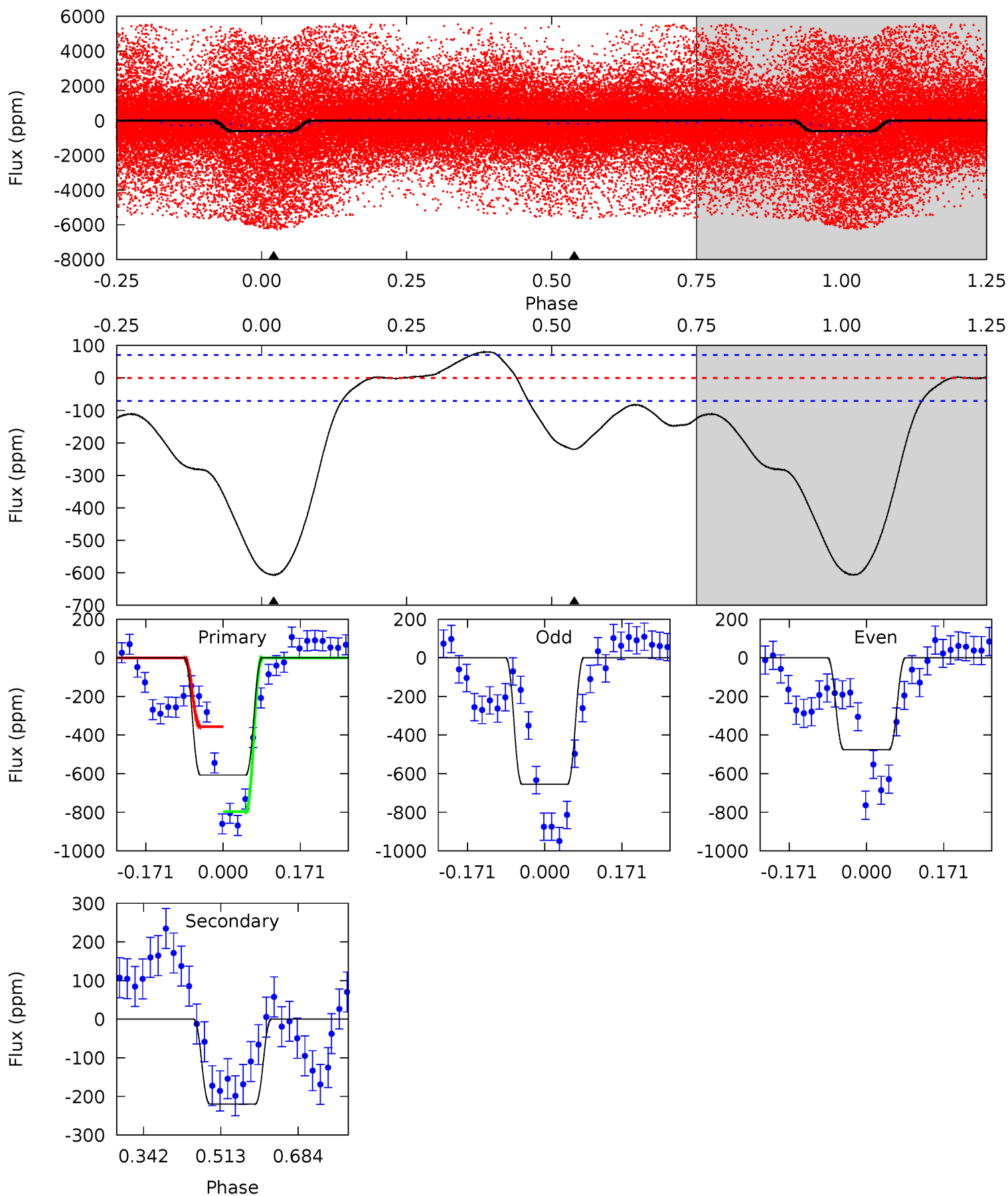
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.16	0.04	0	0	4.40	1.23	0.09	0.16	0.16	0.04	0.04	0.21	-0.11	0.55	0.21



Alt Model-Shift Uniqueness Test

011818232-01, P = 1.010291 Days, E = 131.474883 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.2	13.8	0	0	4.45	1.37	5.42	38.2	38.2	13.8	13.8	5.65	0.82	0.12	0



Stellar Parameters For KIC 011818232

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5784^{+155}_{-155}	$4.581^{+0.032}_{-0.168}$	$-0.420^{+0.300}_{-0.300}$	$0.790^{+0.205}_{-0.068}$	$0.877^{+0.088}_{-0.096}$	$2.502^{+0.425}_{-1.167}$
	+3%/-3%	+1%/-4%	+71%/-71%	+26%/-9%	+10%/-11%	+17%/-47%
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 011818232-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 19	$1.10^{+0.23}_{-0.22}$	2364^{+139}_{-96}	-2622^{+6465}_{-1260}	$0.067^{+3.291}_{-2.961}$
Alt.	-220 ± 16	$2.88^{+0.42}_{-0.30}$	2363^{+131}_{-94}	4150^{+160}_{-148}	$5.139^{+1.224}_{-1.152}$

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

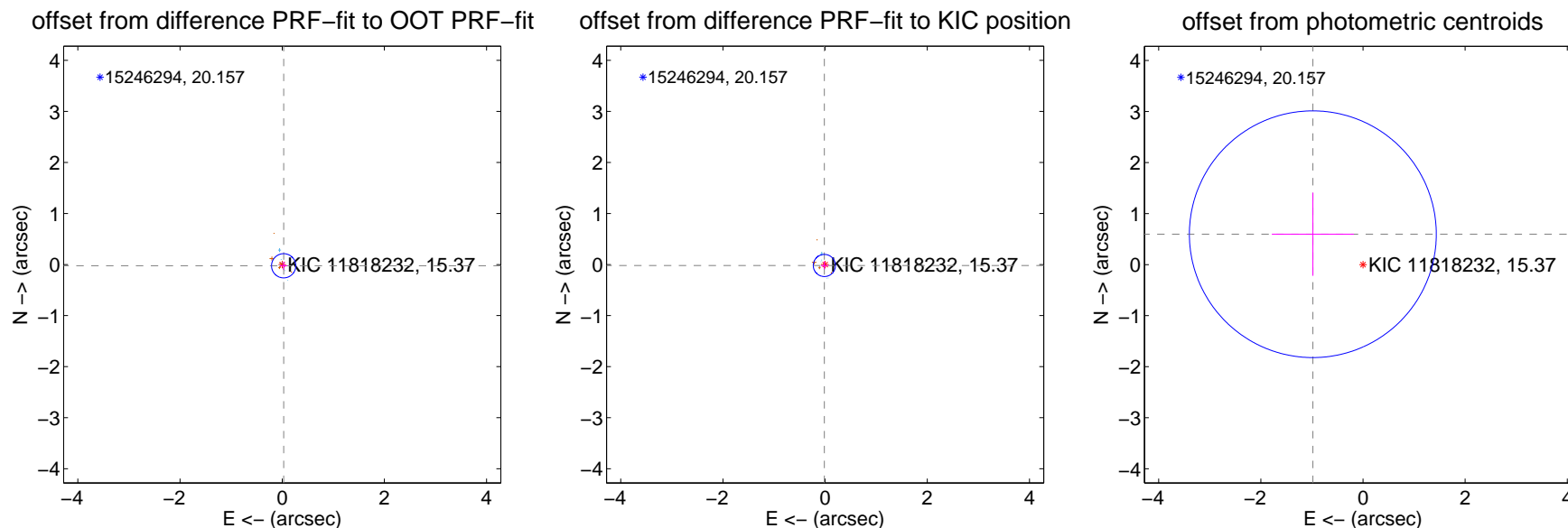
DV Centroid Data

Supplemental centroid analysis for 011818232-01. Kepler magnitude: 15.37. Transit SNR 4.69

There are 8 quarters with good PRF difference image offsets

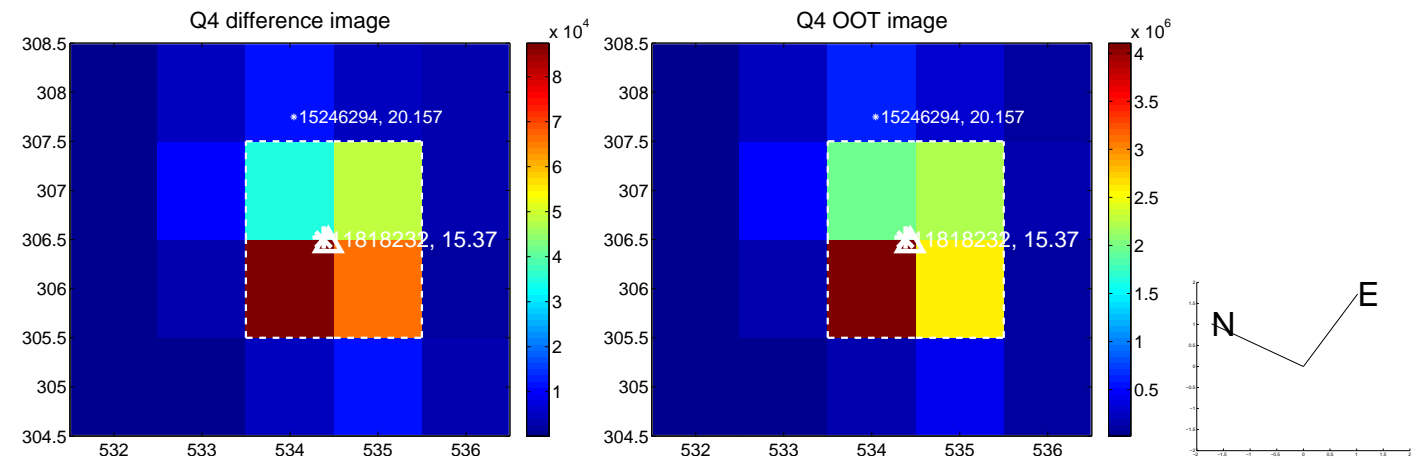
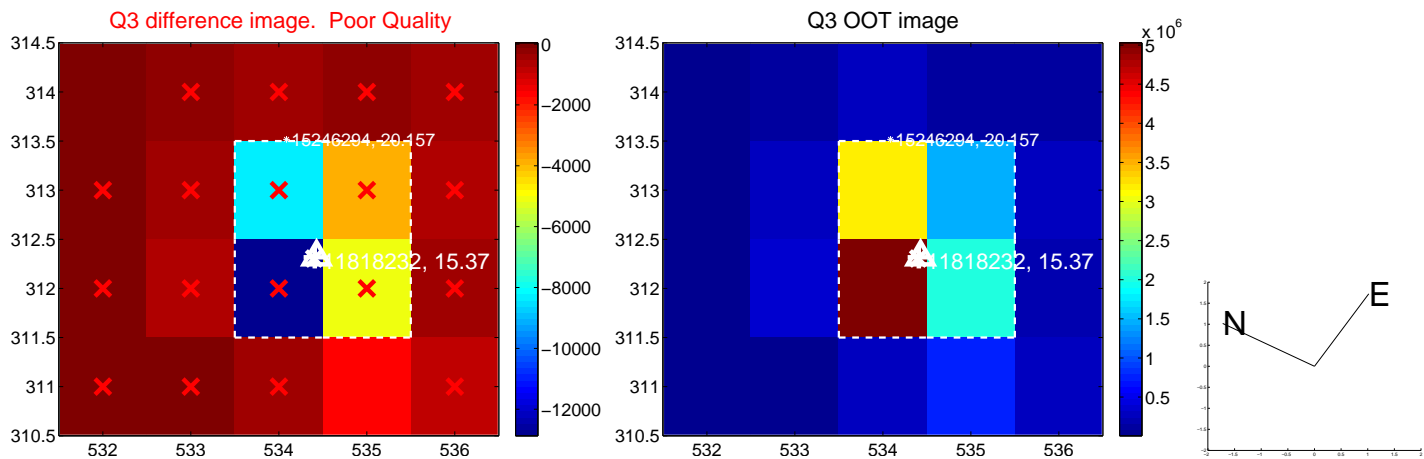
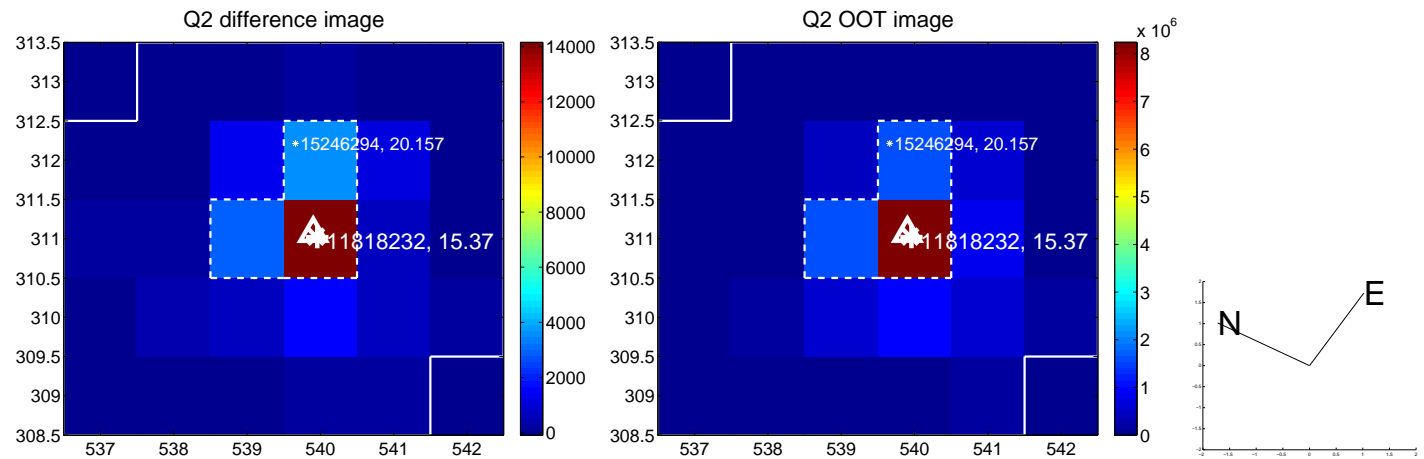
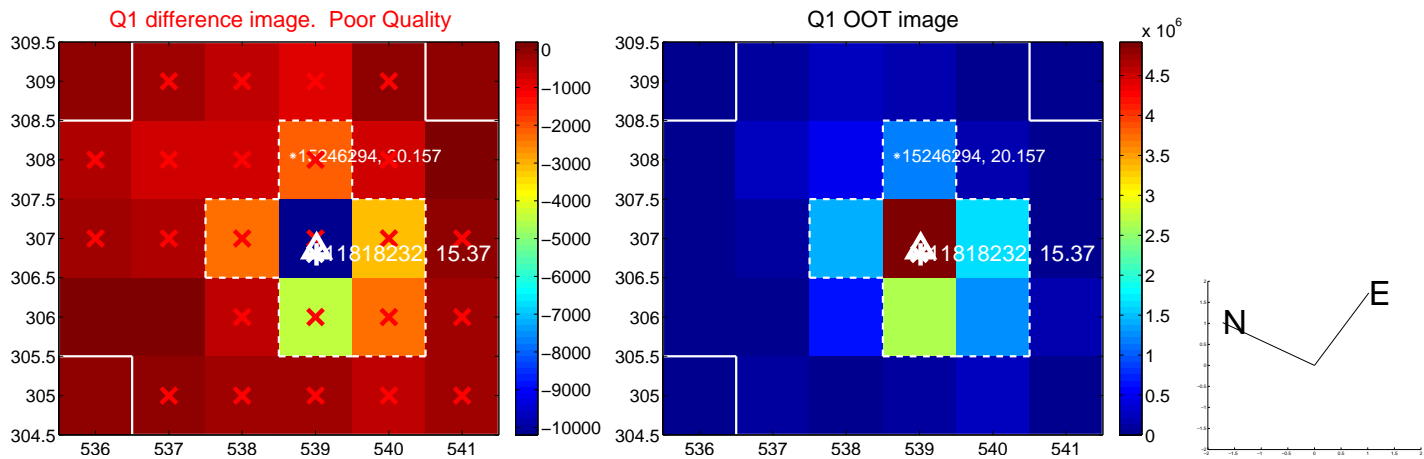
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.079	0.47	-0.029 ± 0.070	-0.024 ± 0.081
PRF-fit source offset from KIC position	0.023 ± 0.072	0.32	0.015 ± 0.069	-0.018 ± 0.080
photometric centroid source offset	1.15 ± 0.81	1.43	0.98 ± 0.80	0.60 ± 0.82

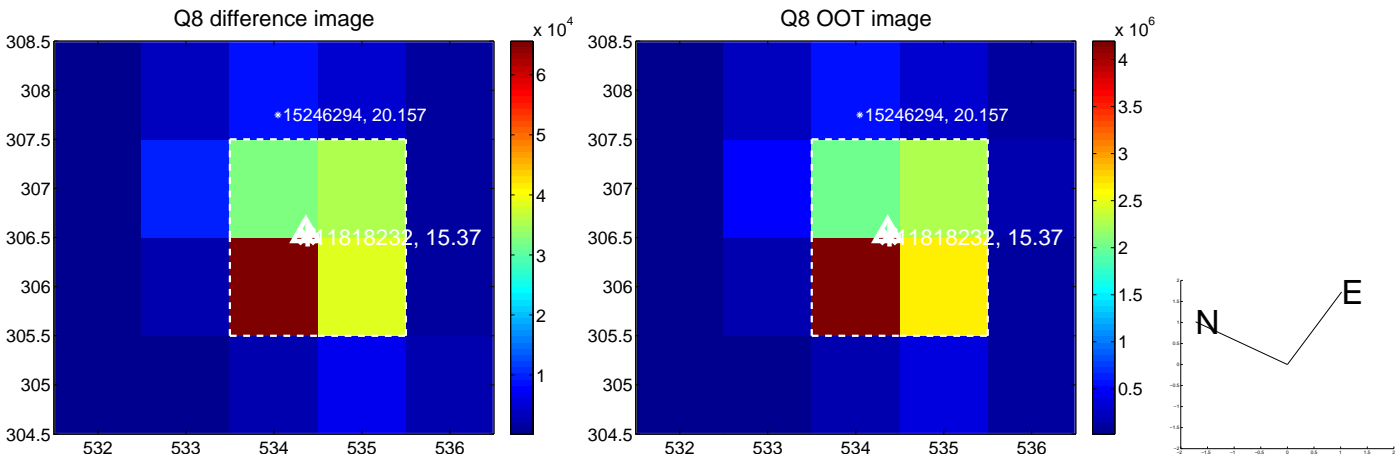
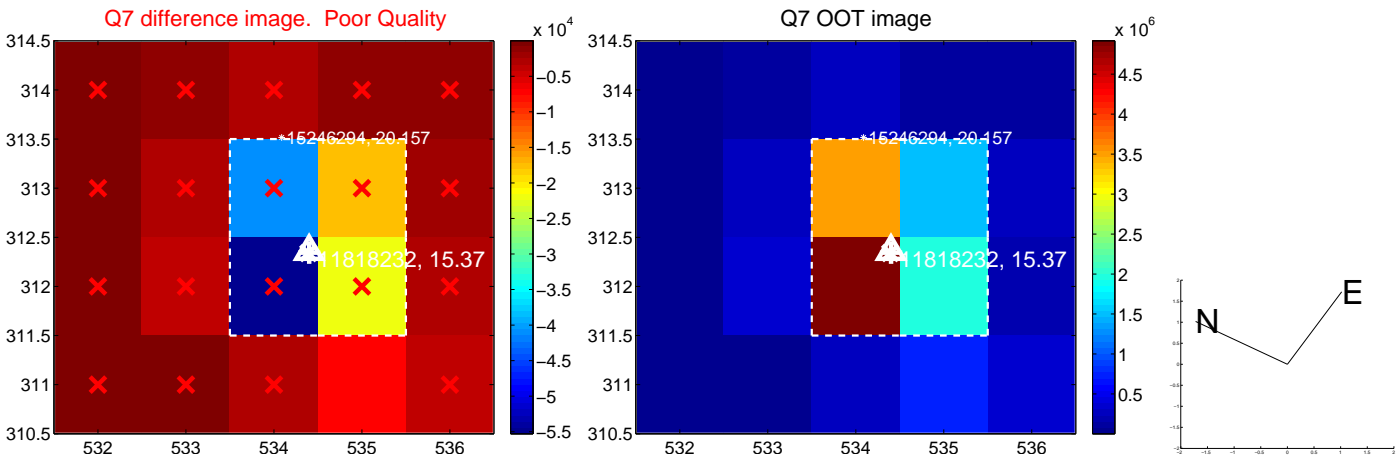
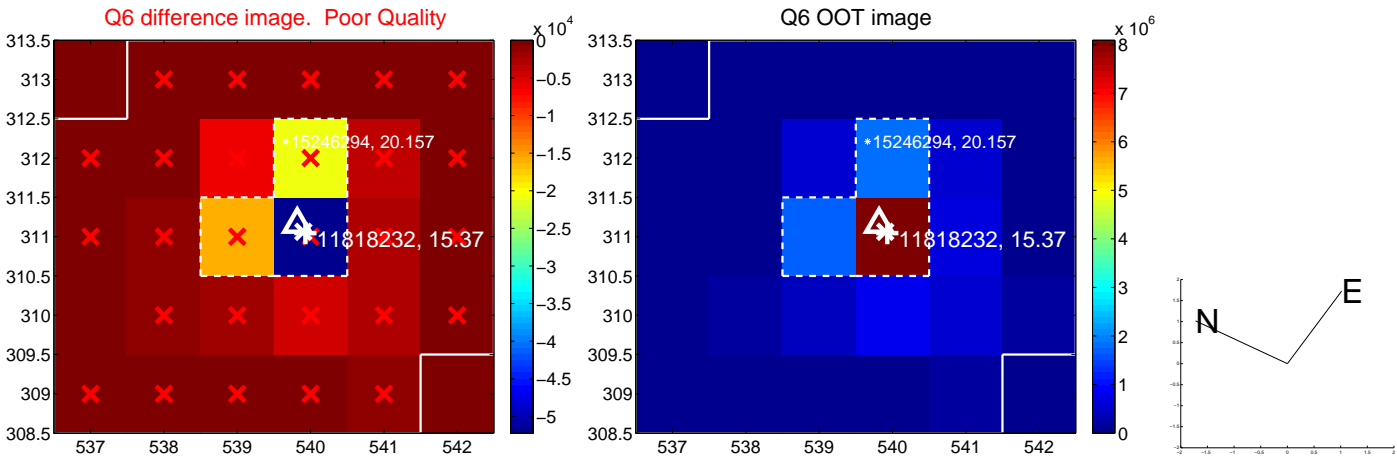
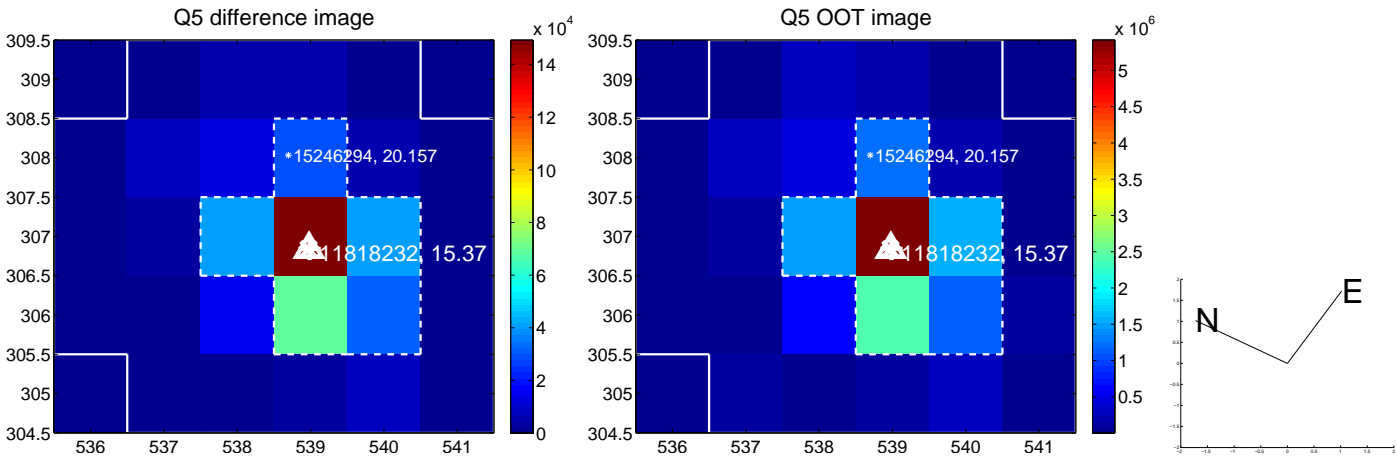


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

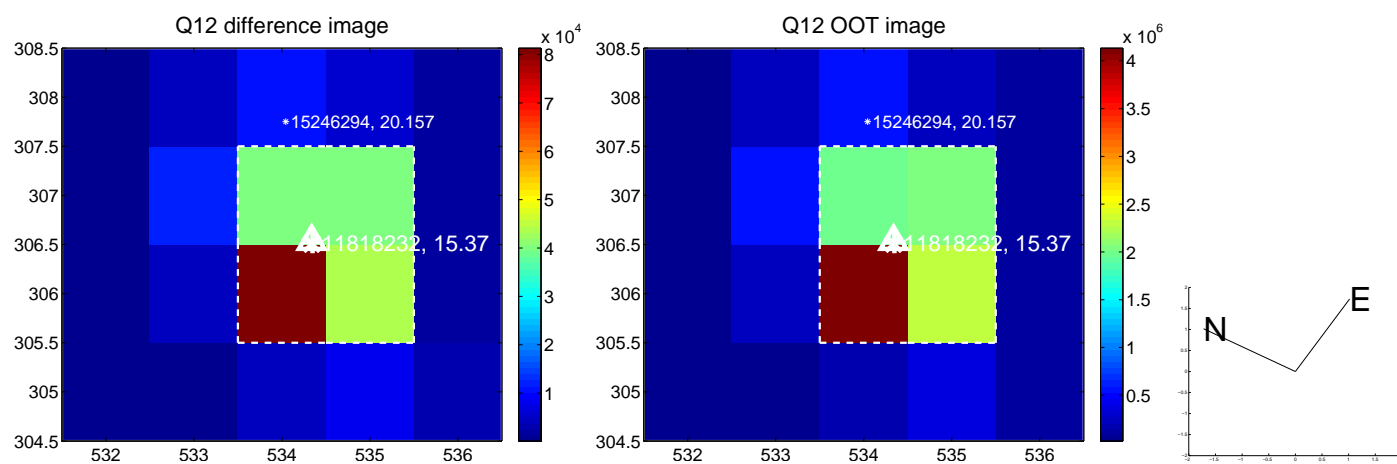
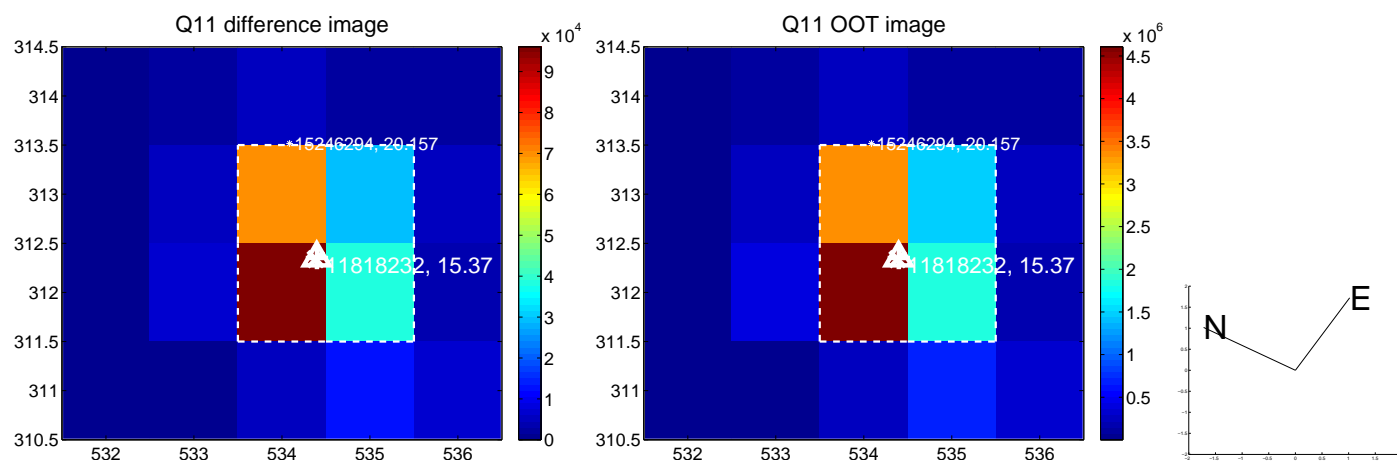
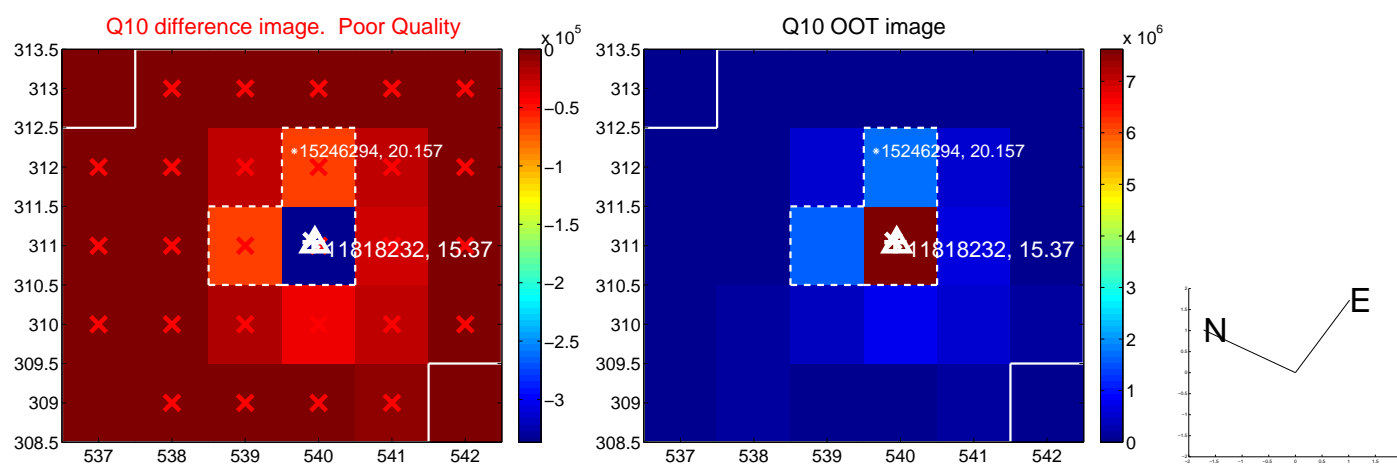
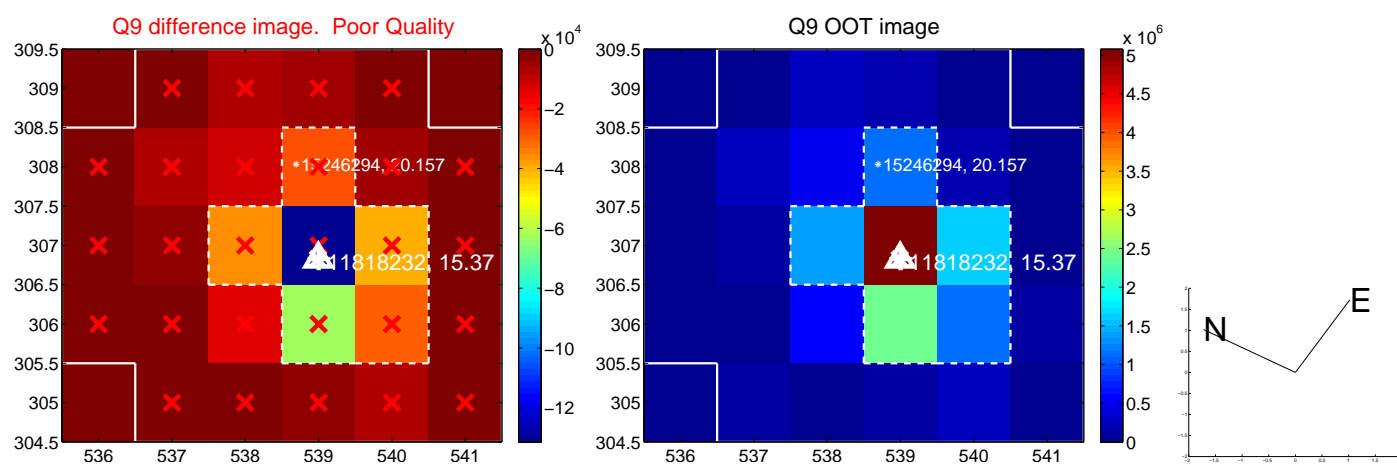
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



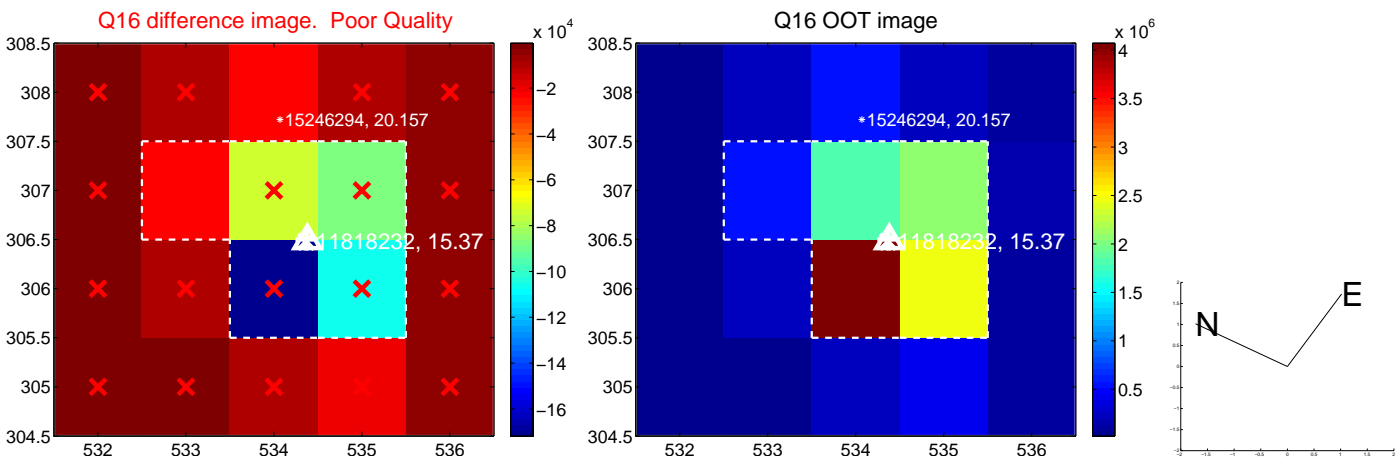
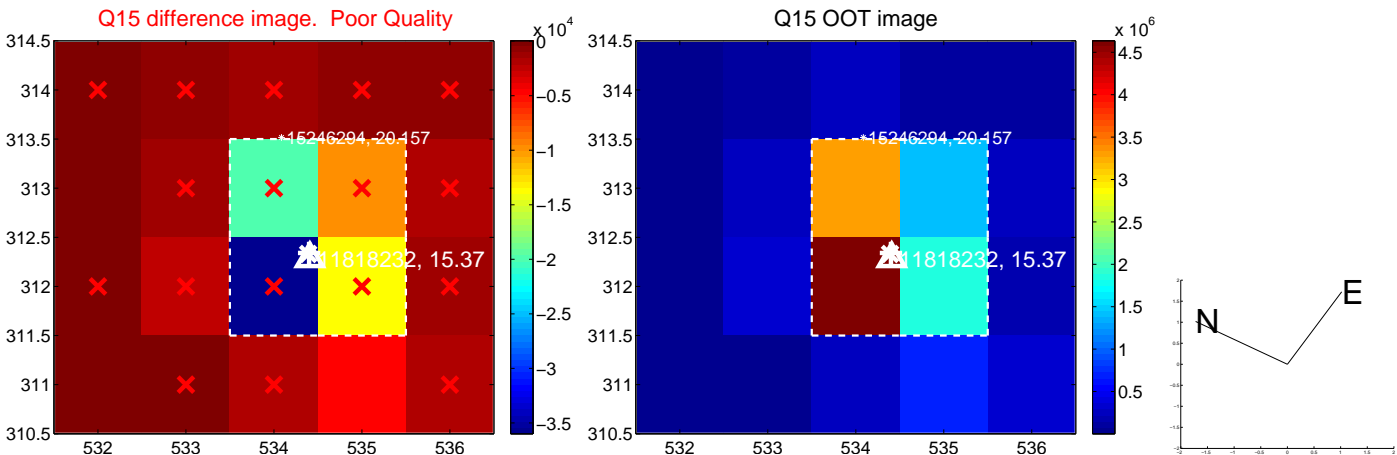
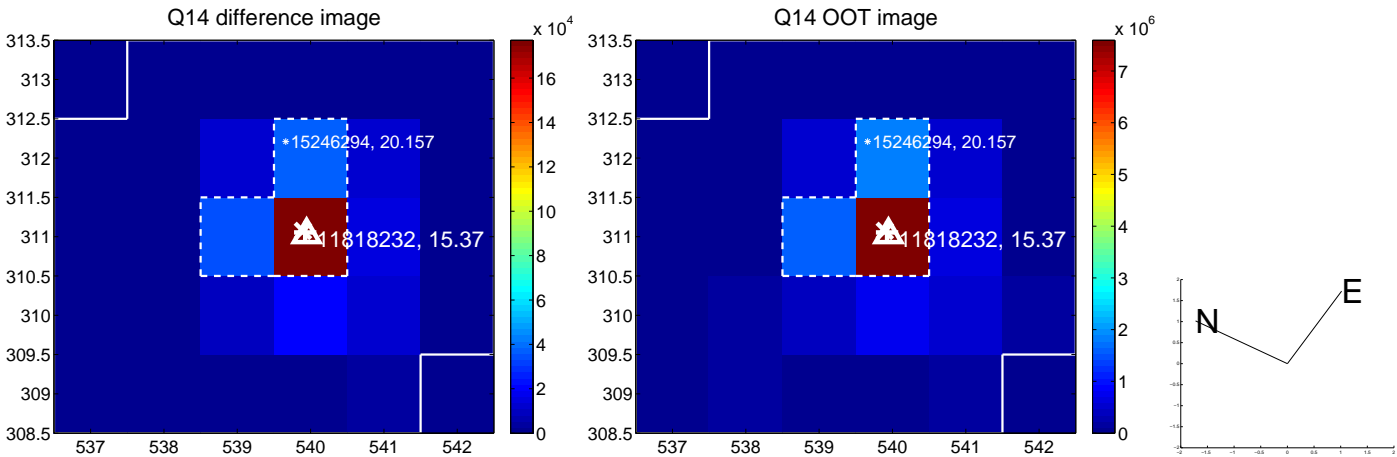
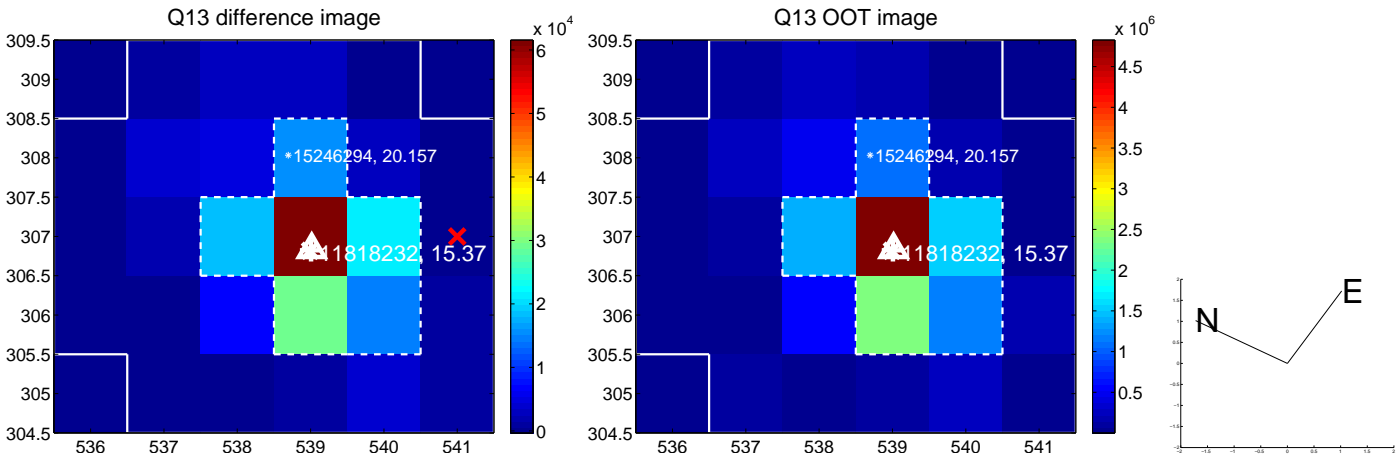
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



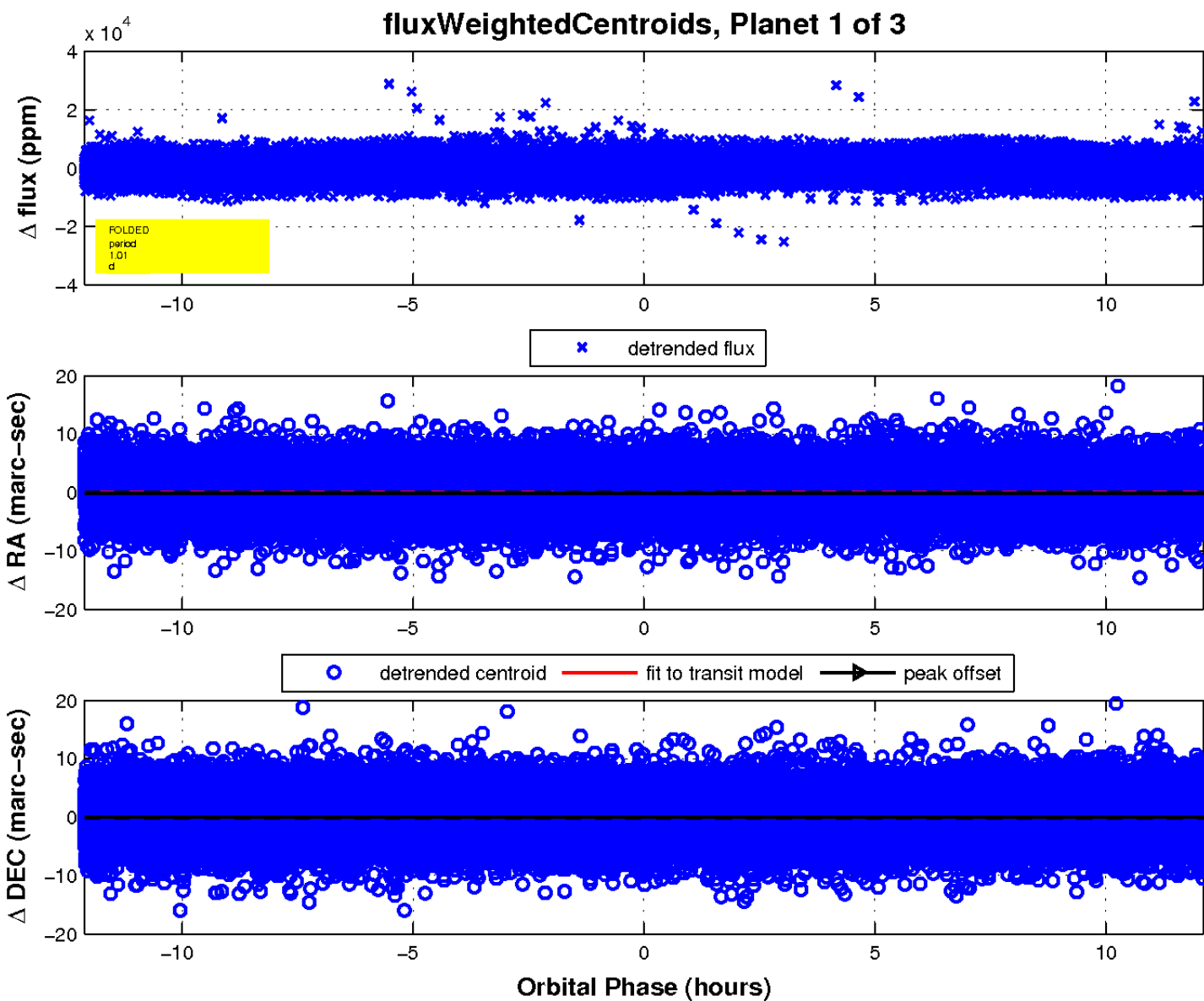
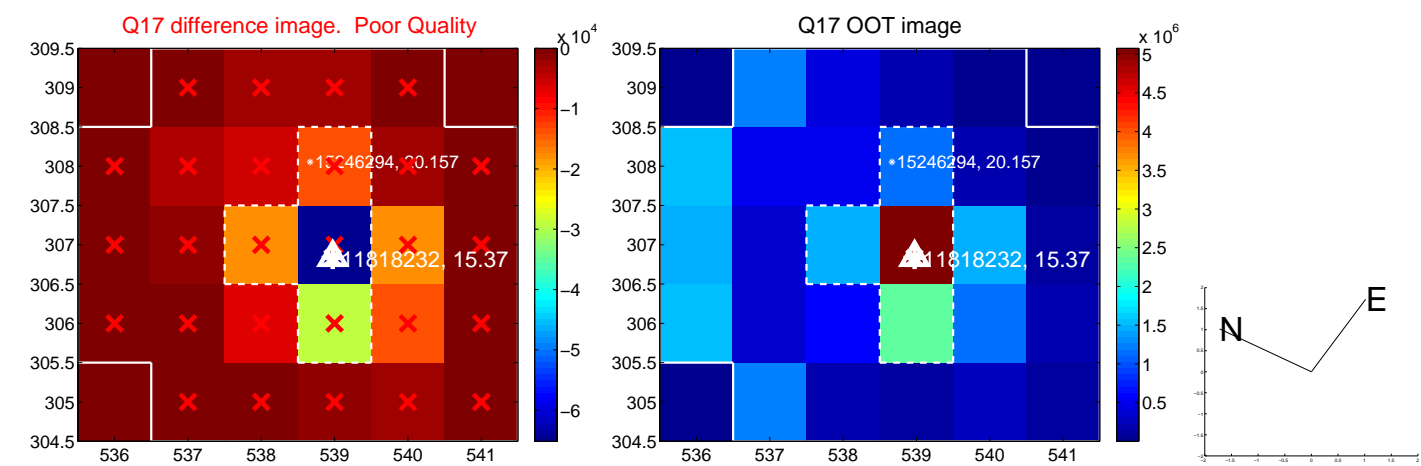
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

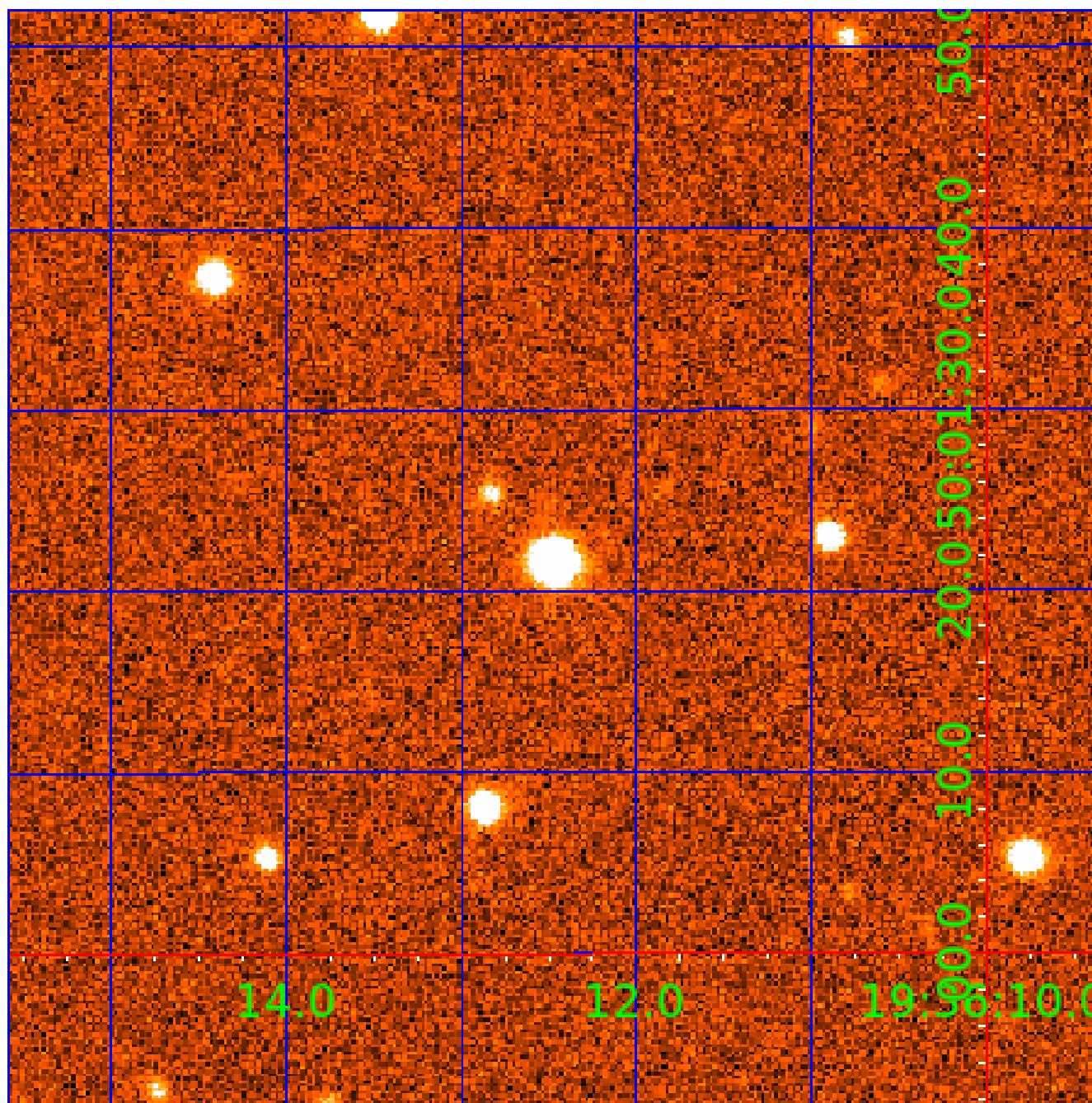


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011818232

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})
011818232-01	OBS	No	1.010094	132.510681	111.1	4.900	9.2	4.7	0.79	5784	1.04	1771.78
011818232-03	OBS	No	0.505747	131.916584	83.7	1.608	8.3	3.7	0.79	5784	0.86	4456.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011818232-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
011818232-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—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.

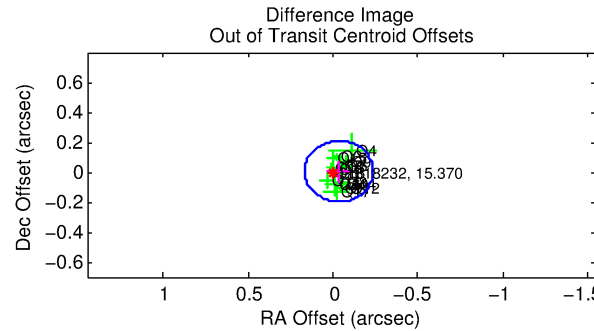
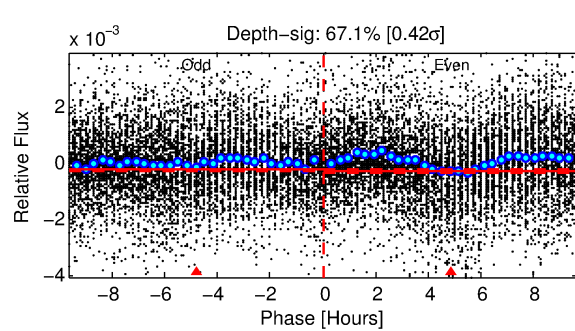
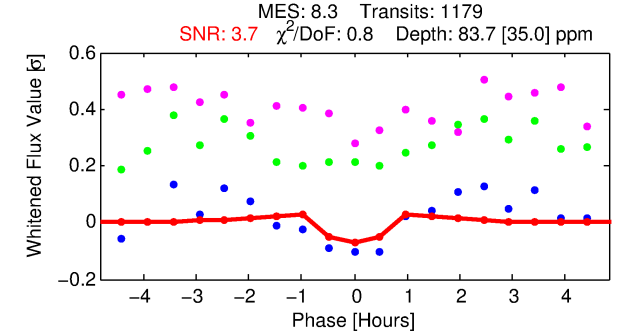
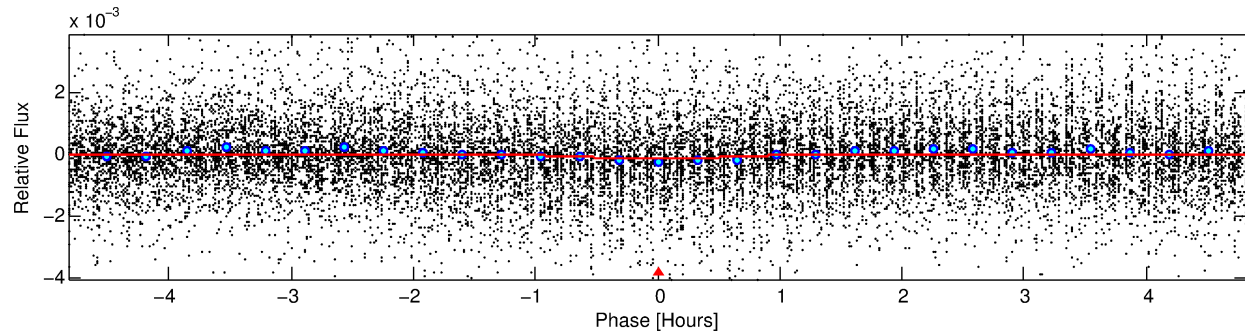
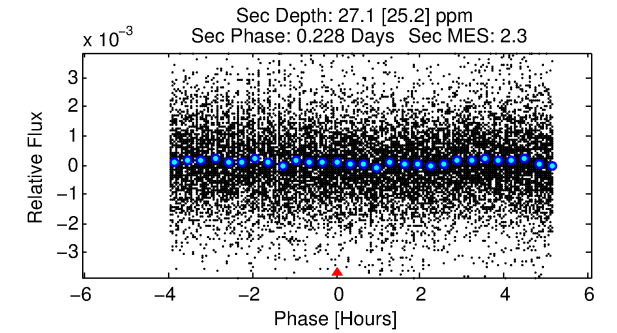
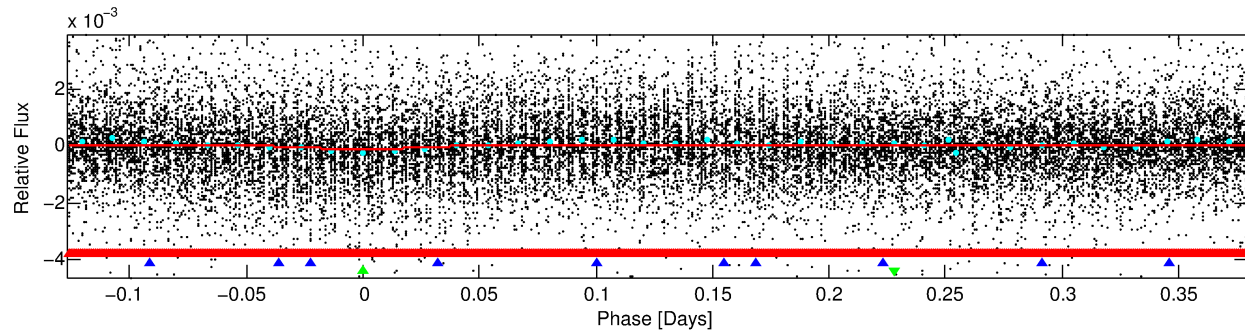
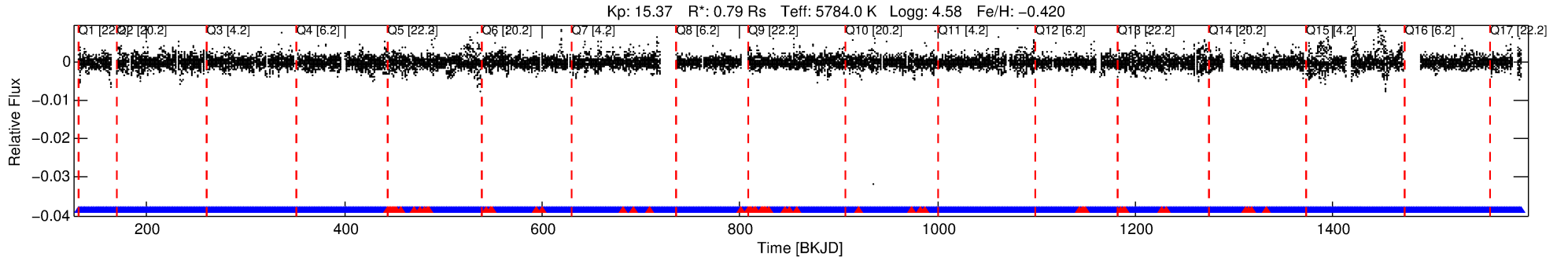
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011818232-03

No Significant Match Found

DV One-Page Summary

KIC: 11818232 Candidate: 3 of 3 Period: 0.506 d



DV Fit Results:

Period = 0.50575 [0.00003] d
Epoch = 131.9166 [0.0044] BKJD
Rp/R* = 0.0099 [0.0128]
a/R* = 1.45 [4.88]
b = 0.90 [1.40]
Seff = 4456.37 [1464.00]
Teff = 2083 [171] K
Rp = 0.86 [1.13] Re
a = 0.0119 [0.0026] AU
Ag = 2.86 [7.90] [0.24σ]
Teffp = 4189 [2877] K [0.73σ]

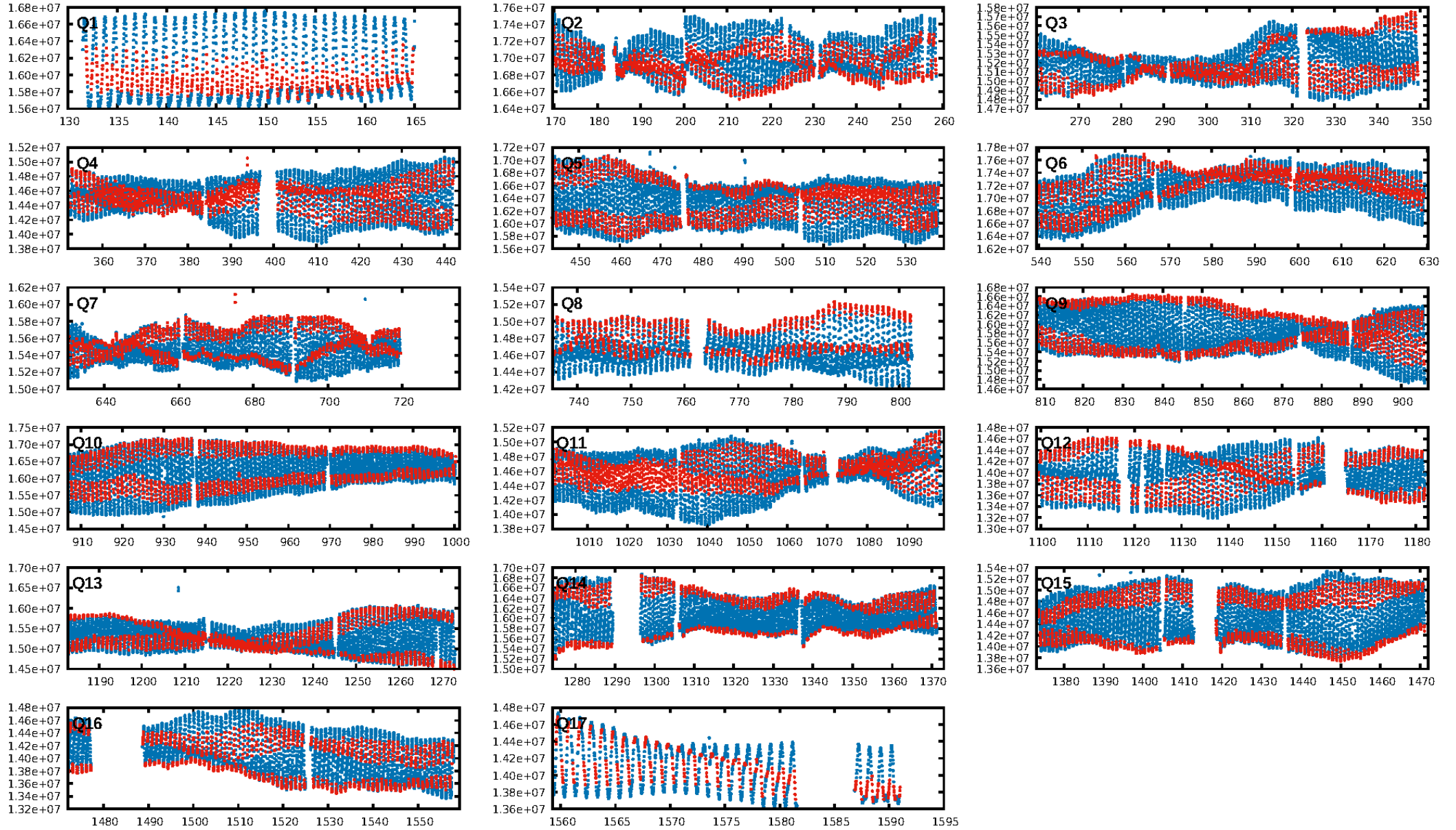
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.1% [2.35σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [1065/1121]
GhostDiagnostic-chr: 11.99
Centroid-sig: 53.9%
Centroid-so: 0.930 arcsec [0.76σ]
OotOffset-rm: 0.033 arcsec [0.49σ]
KicOffset-rm: 0.077 arcsec [1.09σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.41 [7/17]
DiffImageOverlap-fno: 0.94 [16/17]

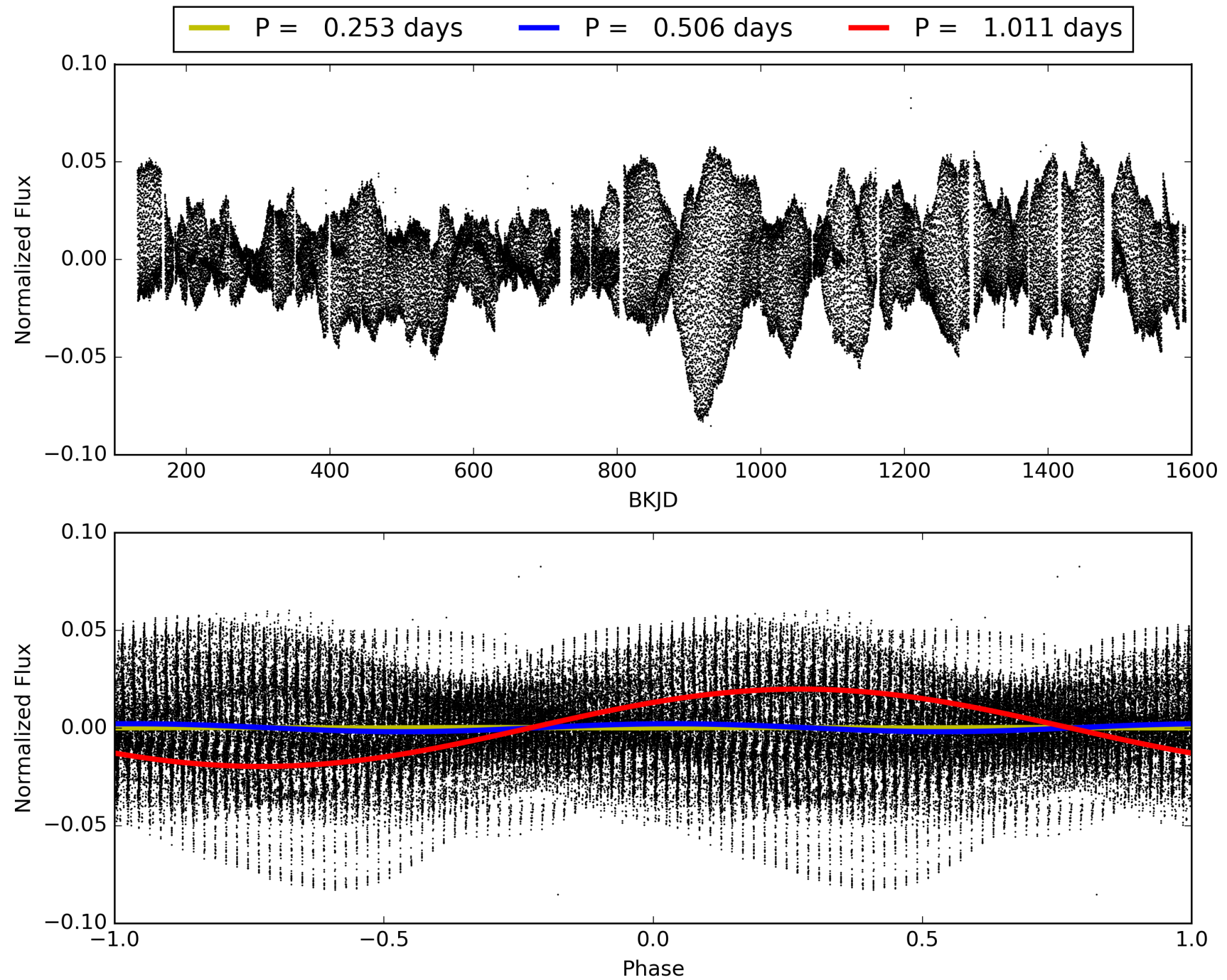
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:45 Z

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

TCE 011818232-03, PDC Light Curves

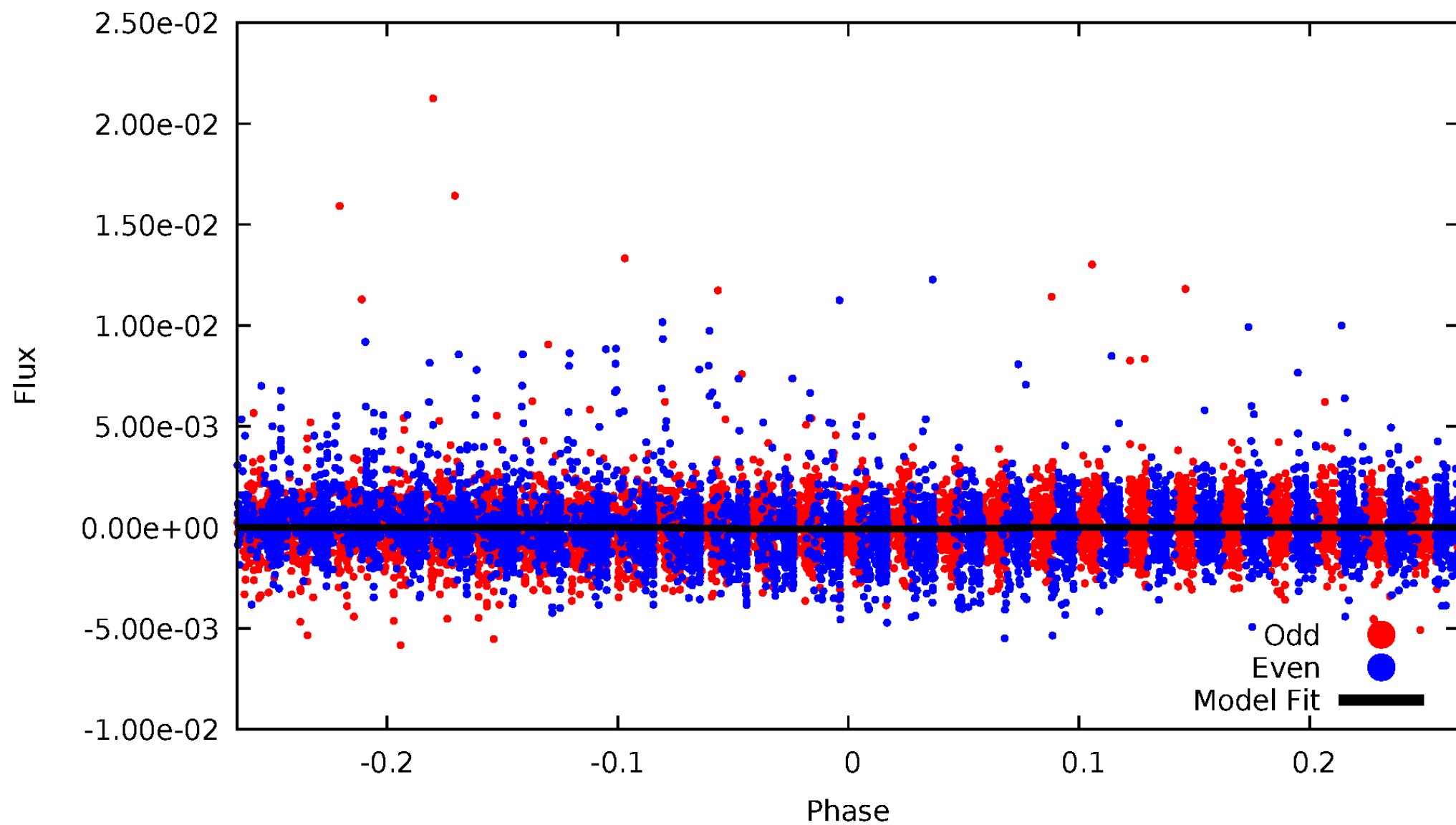


TCE 011818232-03



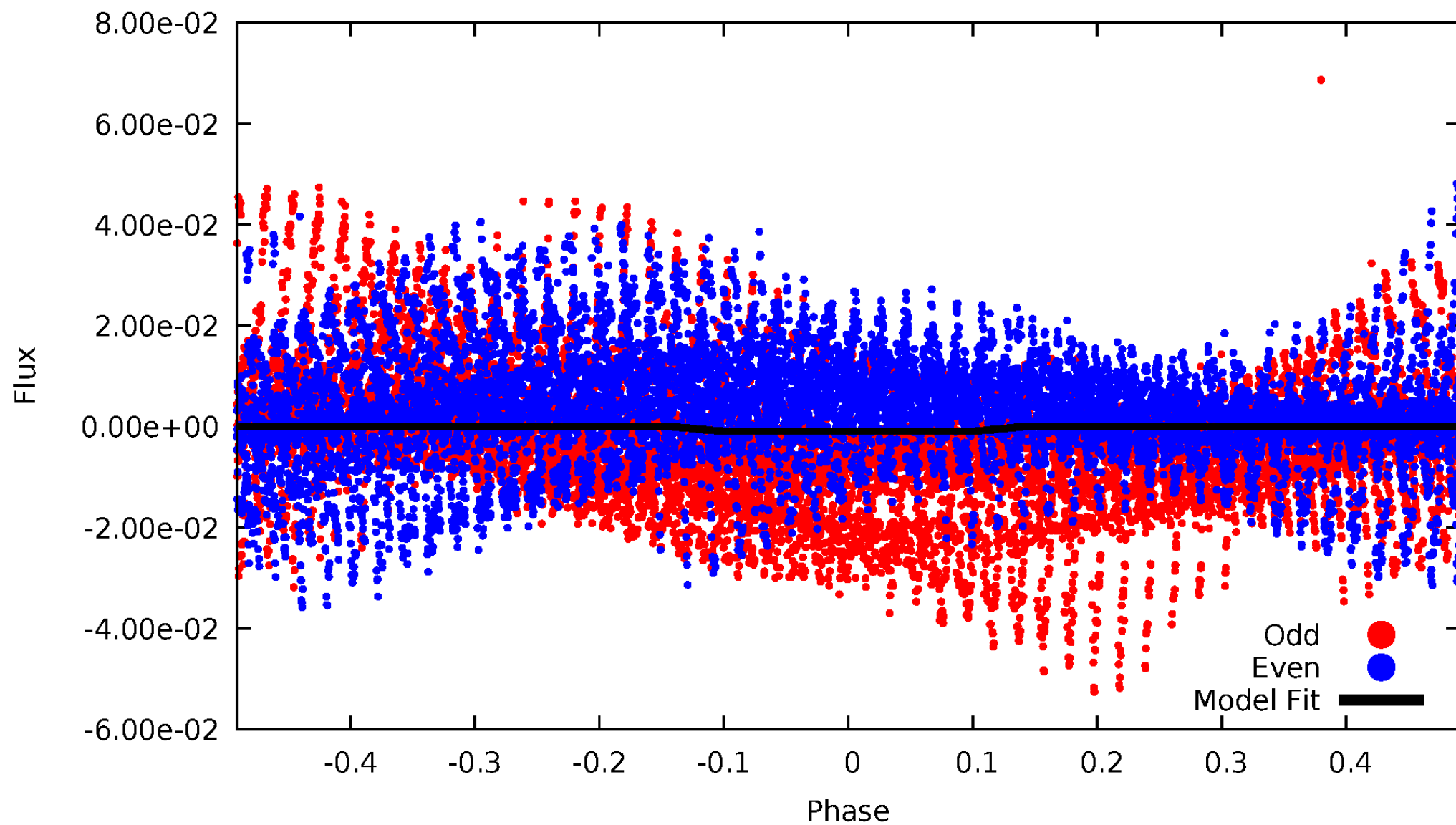
DV Odd/Even

TCE 011818232-03



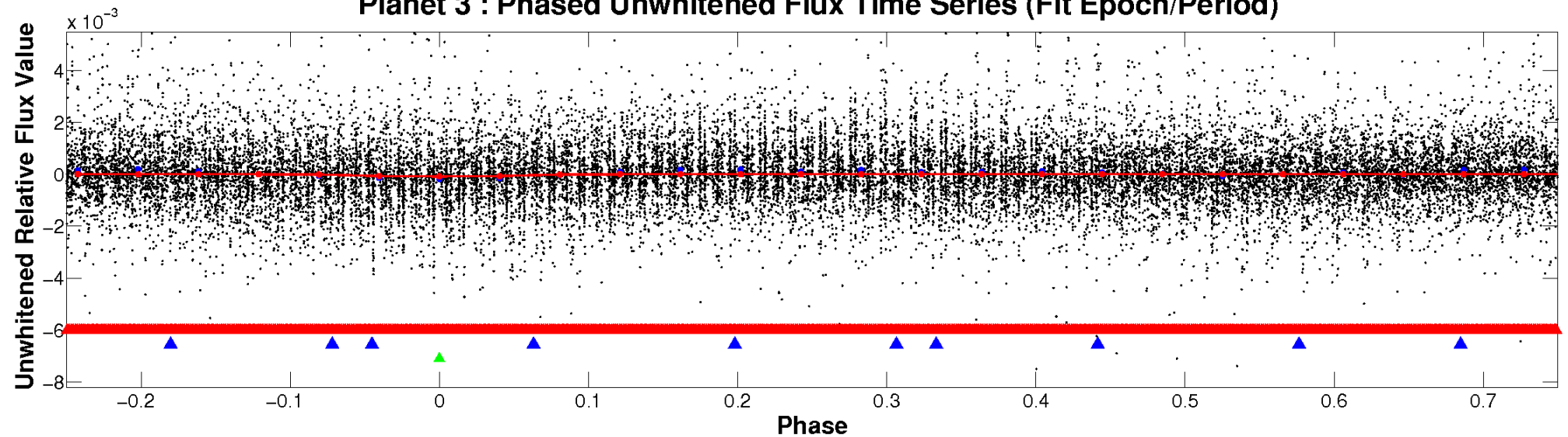
ALT Odd/Even

TCE 011818232-03

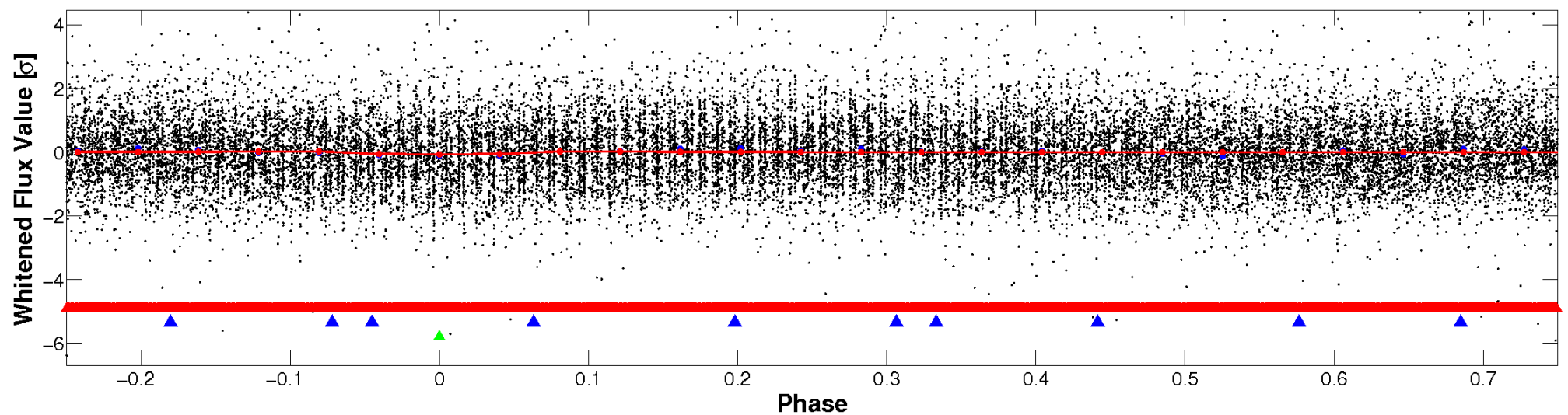


Non-Whitened Vs. Whitened Light Curve

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

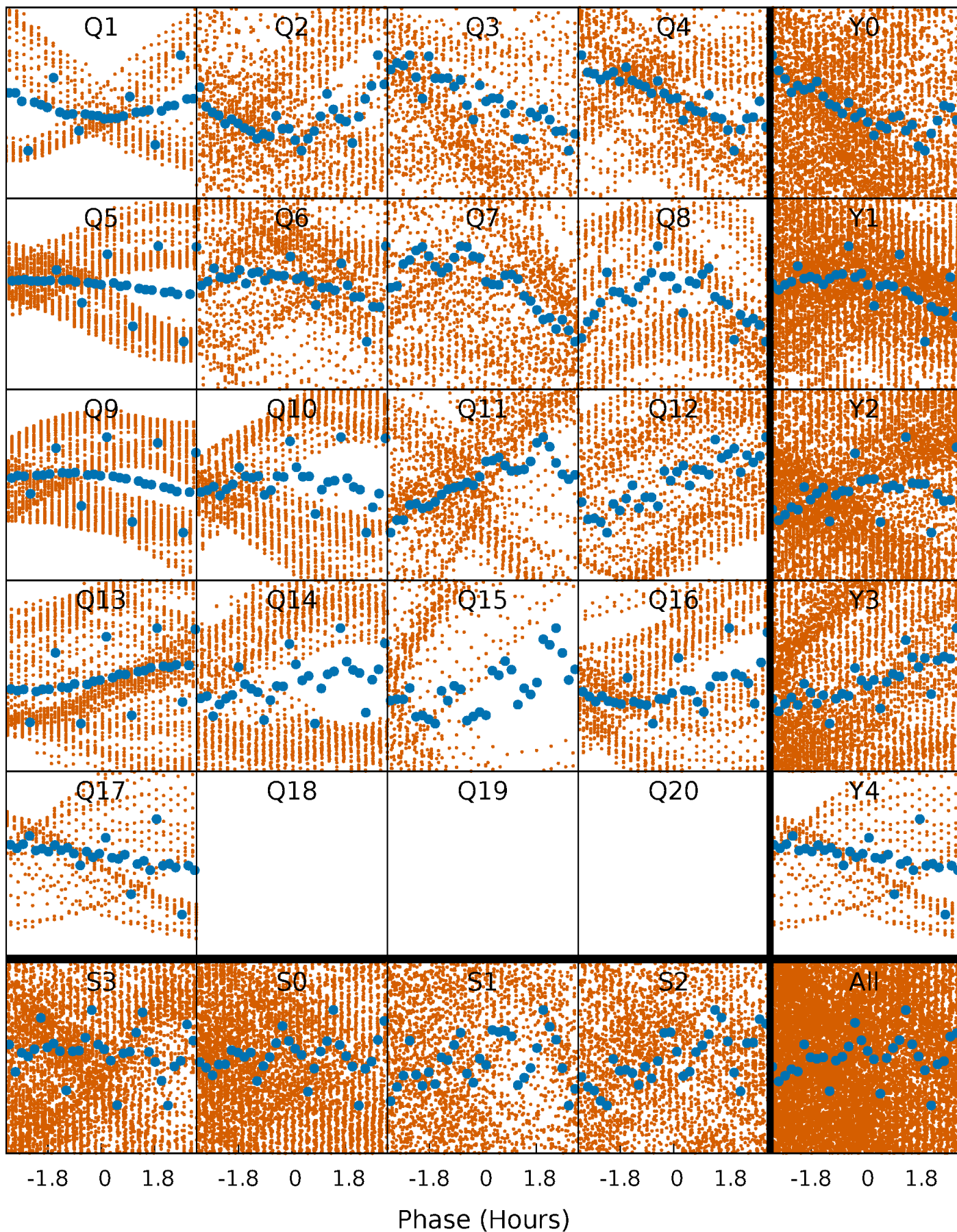


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



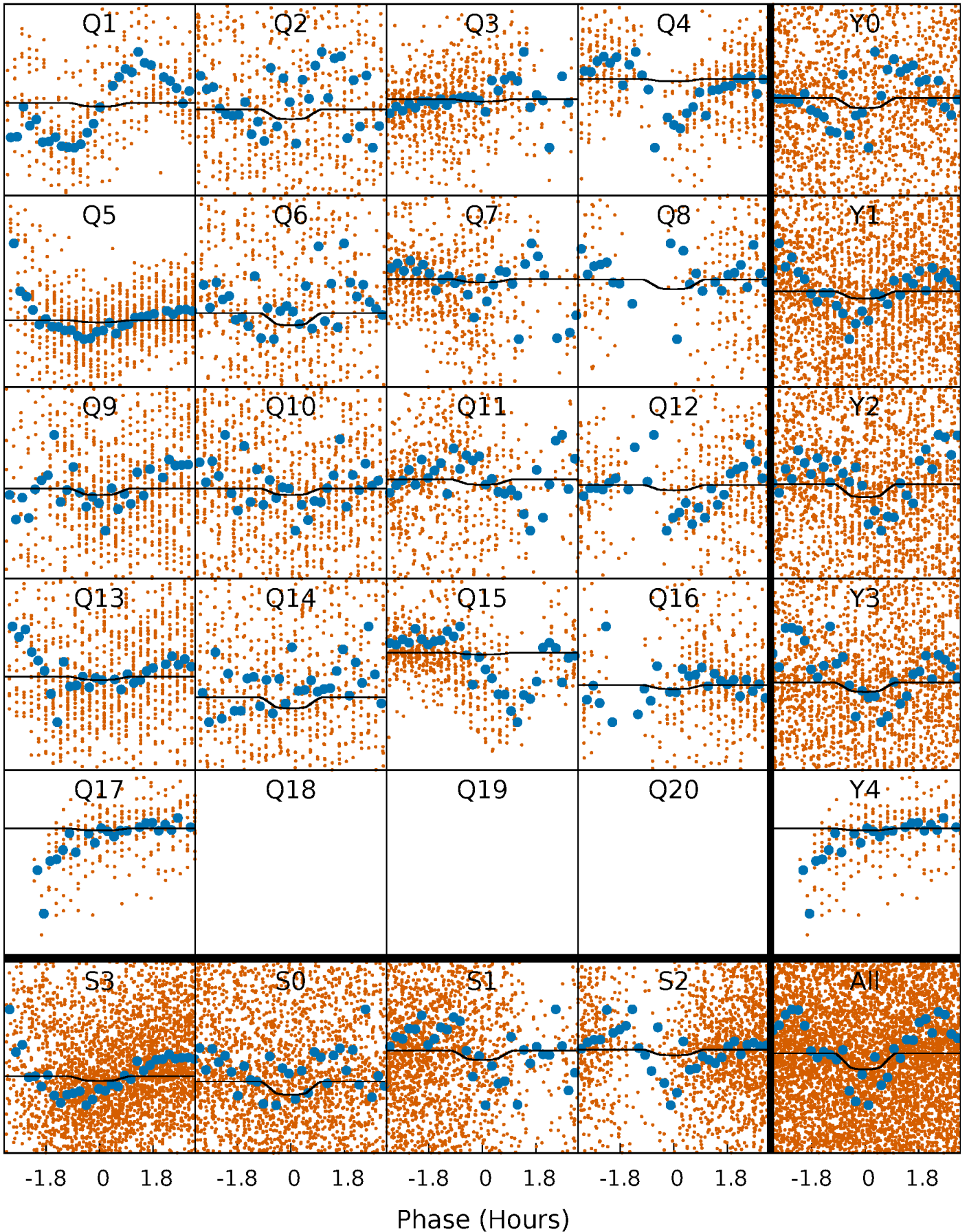
PDC Quarter-Phased Transit Curves

TCE 011818232-03 P= 0.505747 Days $T_0=131.916584$ (BKJD)



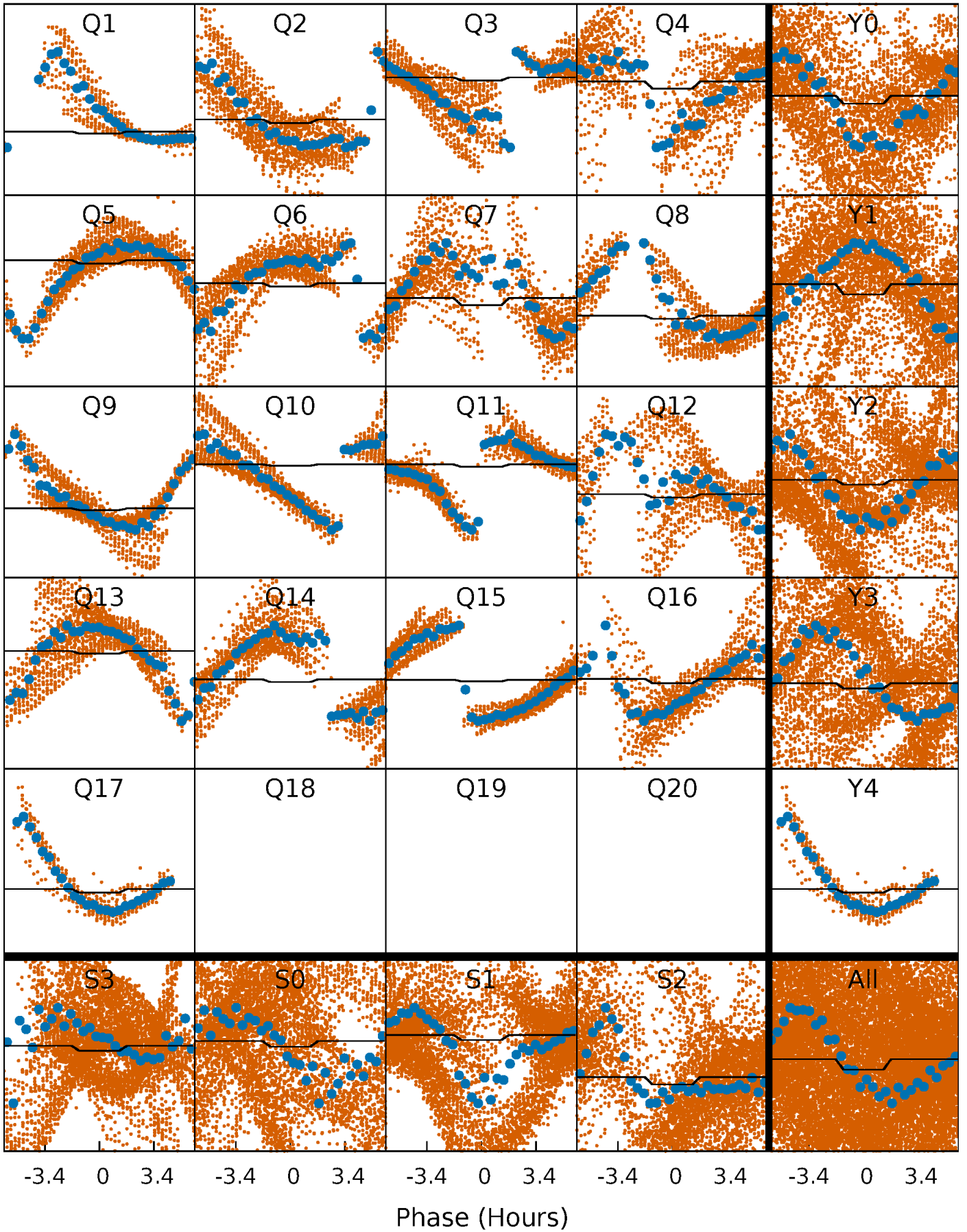
DV Quarter-Phased Transit Curves

TCE 011818232-03 P= 0.505747 Days $T_0=131.916584$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

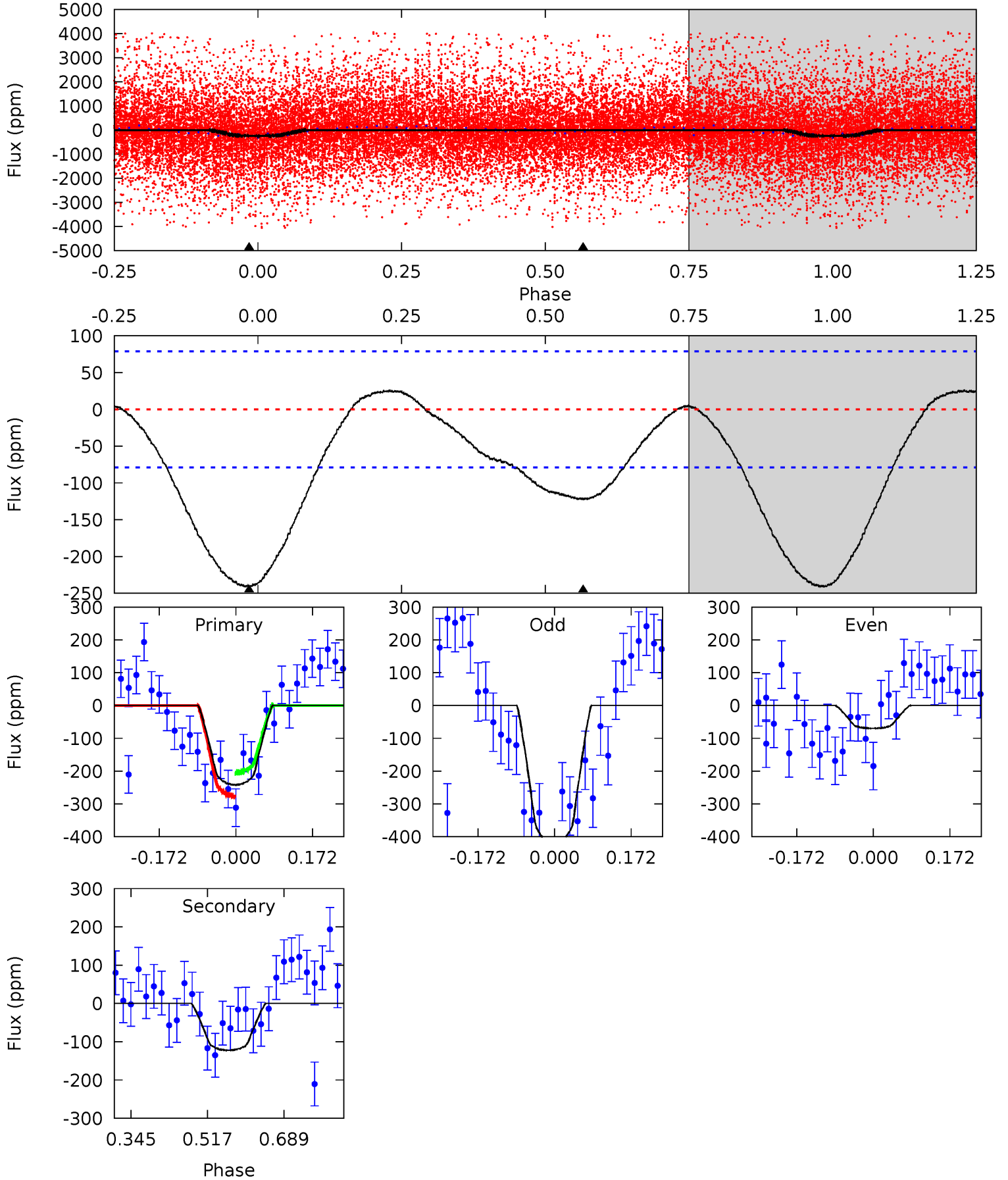
TCE 011818232-03 P= 0.505788 Days $T_0=131.928577$ (BKJD)



DV Model-Shift Uniqueness Test

011818232-03, P = 0.505747 Days, E = 131.410837 Days

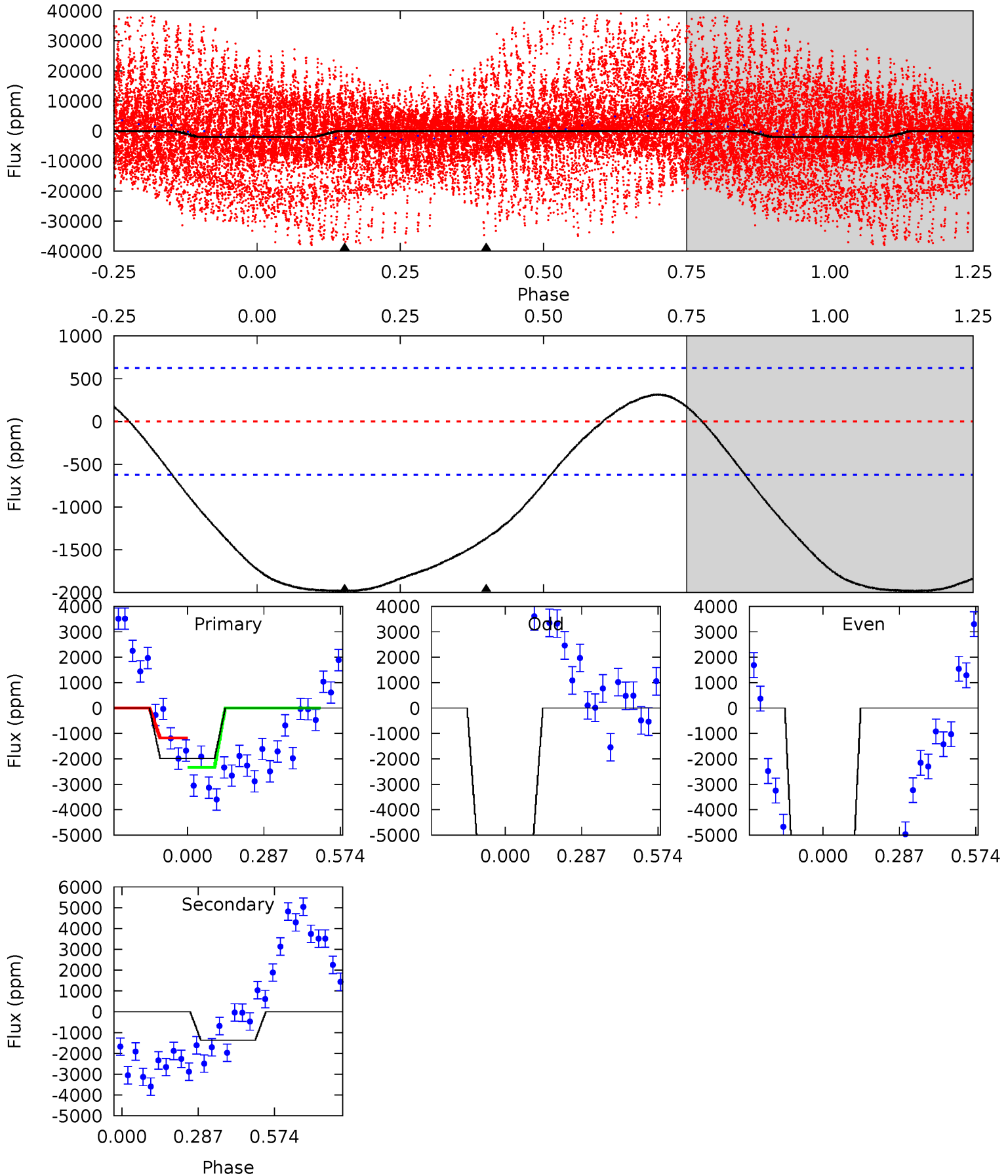
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	6.91	0	0	4.45	1.36	1.37	13.6	13.6	6.91	6.91	9.93	0.81	0.10	2.11



Alt Model-Shift Uniqueness Test

011818232-03, P = 0.505788 Days, E = 131.422789 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	9.50	0	0	4.34	1.07	2.34	13.8	13.8	9.50	9.50	16.5	1.07	0.14	4.75



Stellar Parameters For KIC 011818232

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5784^{+155}_{-155}	$4.581^{+0.032}_{-0.168}$	$-0.420^{+0.300}_{-0.300}$	$0.790^{+0.205}_{-0.068}$	$0.877^{+0.088}_{-0.096}$	$2.502^{+0.425}_{-1.167}$
	+3%/-3%	+1%/-4%	+71%/-71%	+26%/-9%	+10%/-11%	+17%/-47%
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 011818232-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-122±18	$1.21^{+1.09}_{-0.81}$	2972^{+182}_{-114}	5299^{+4348}_{-1312}	$6.616^{+50.376}_{-4.837}$
Alt.	-1368±144	$2.69^{+1.36}_{-1.17}$	2991^{+166}_{-128}	6436^{+2603}_{-1182}	15^{+31}_{-8}

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

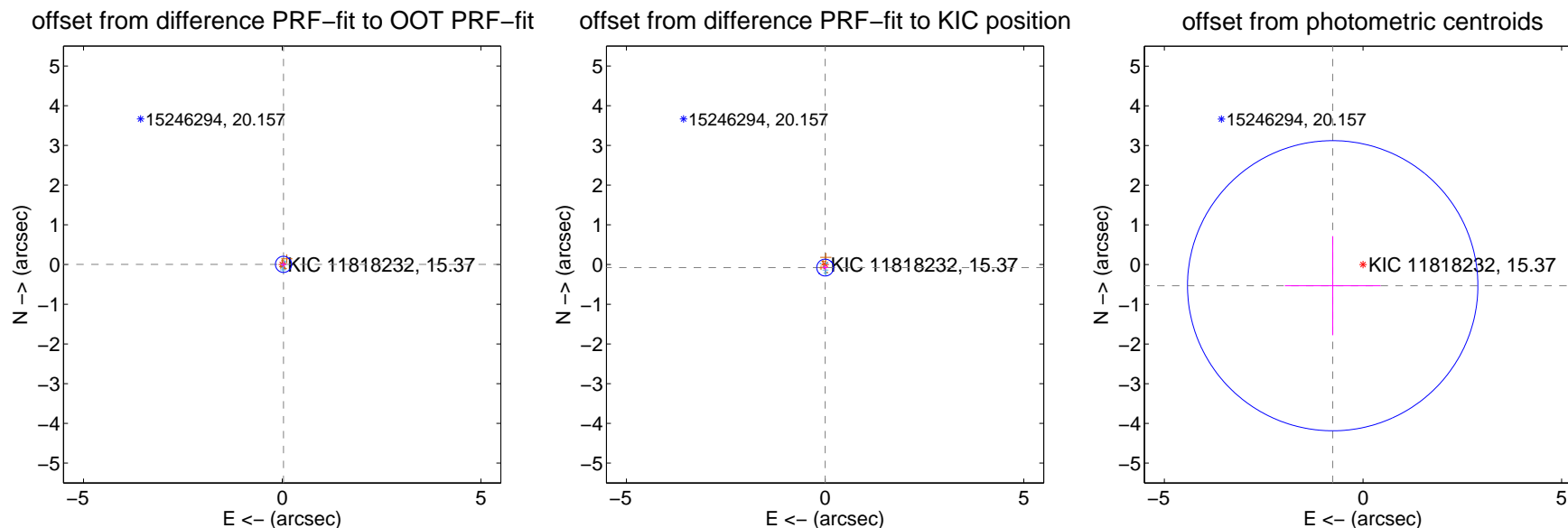
DV Centroid Data

Supplemental centroid analysis for 011818232-03. Kepler magnitude: 15.37. Transit SNR 3.70

There are 7 quarters with good PRF difference image offsets

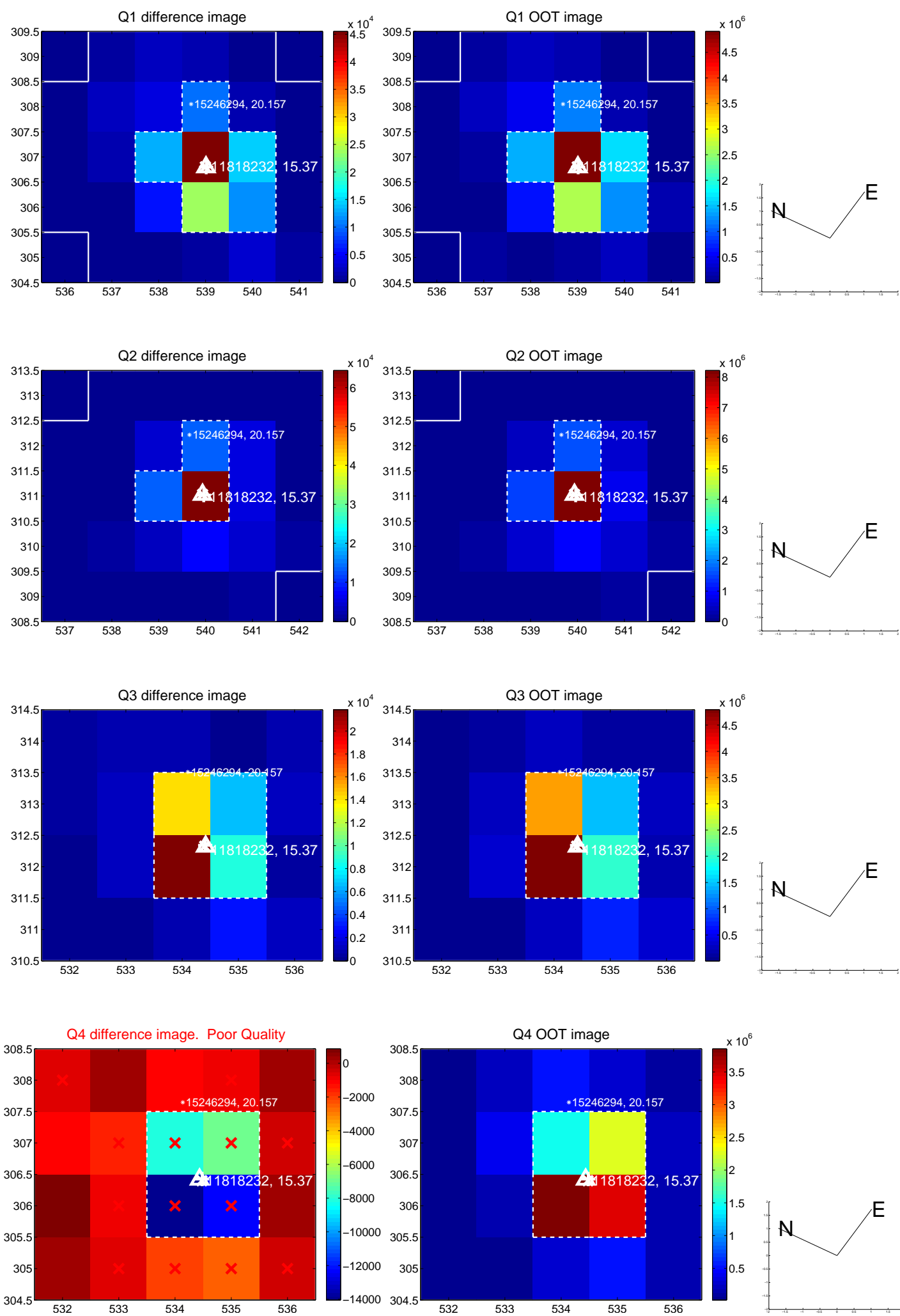
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.033 ± 0.068	0.49	-0.033 ± 0.068	0.005 ± 0.068
PRF-fit source offset from KIC position	0.077 ± 0.071	1.09	-0.001 ± 0.068	-0.077 ± 0.071
photometric centroid source offset	0.93 ± 1.22	0.76	0.76 ± 1.20	-0.53 ± 1.25

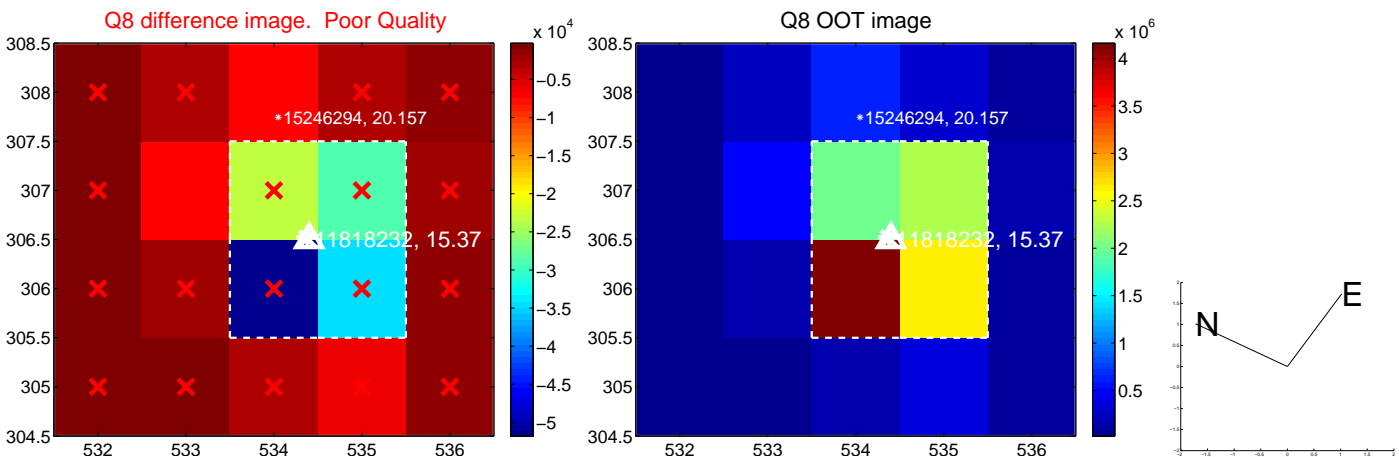
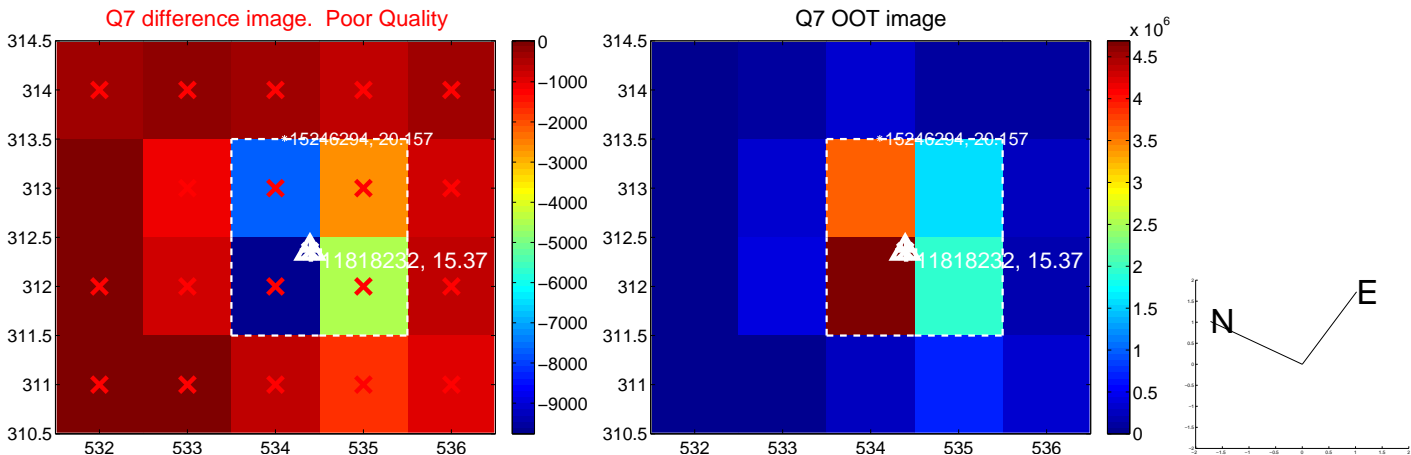
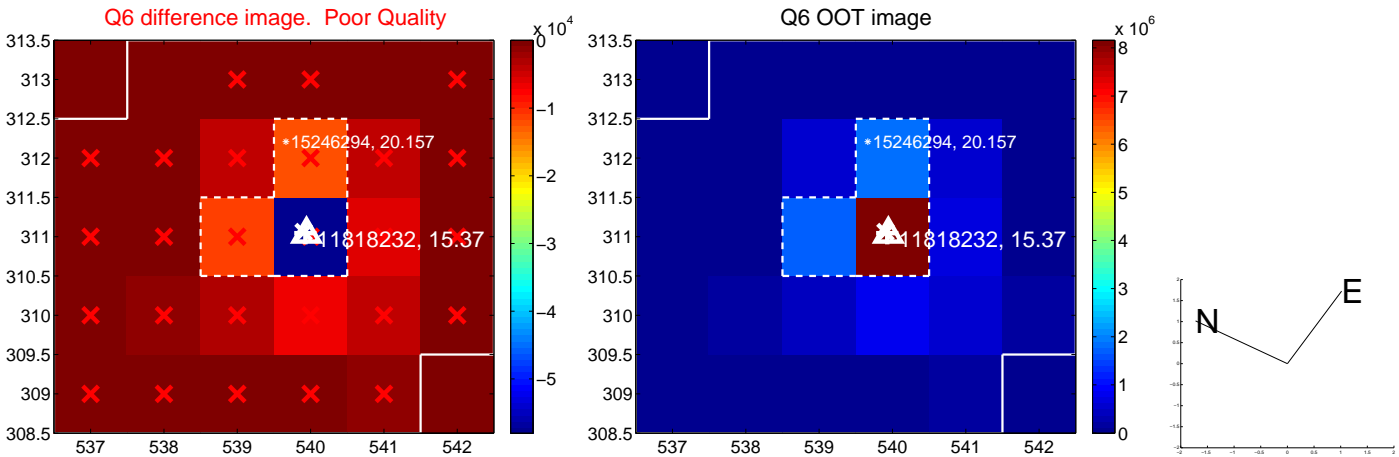
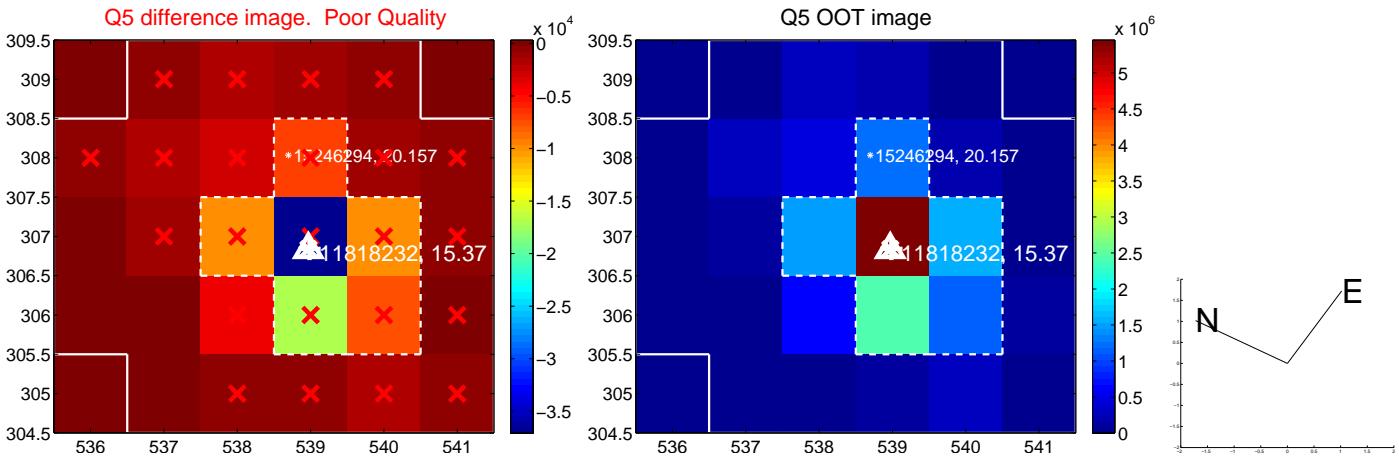


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

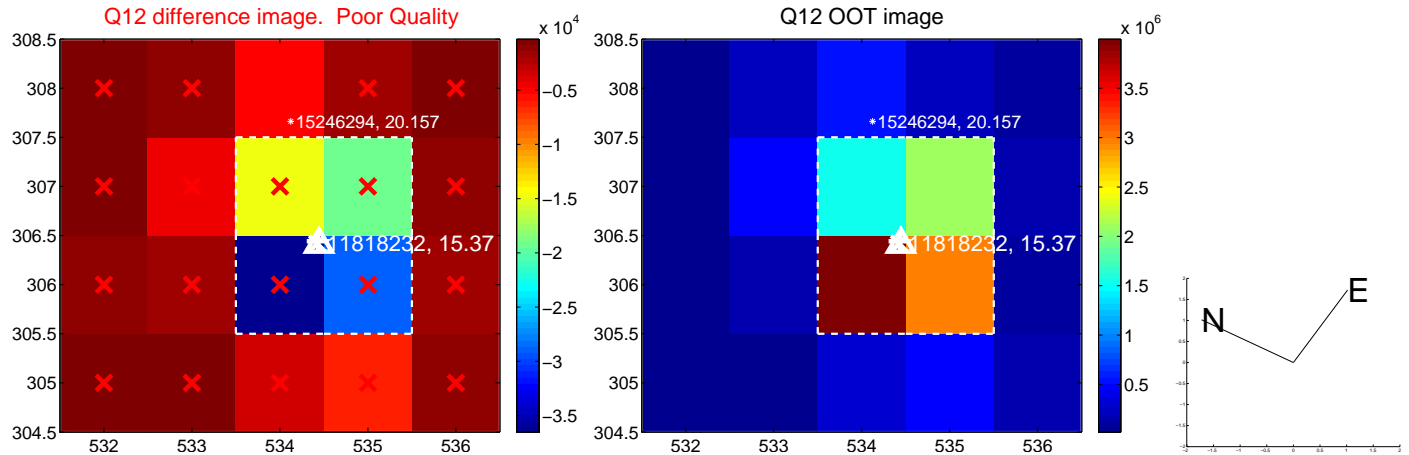
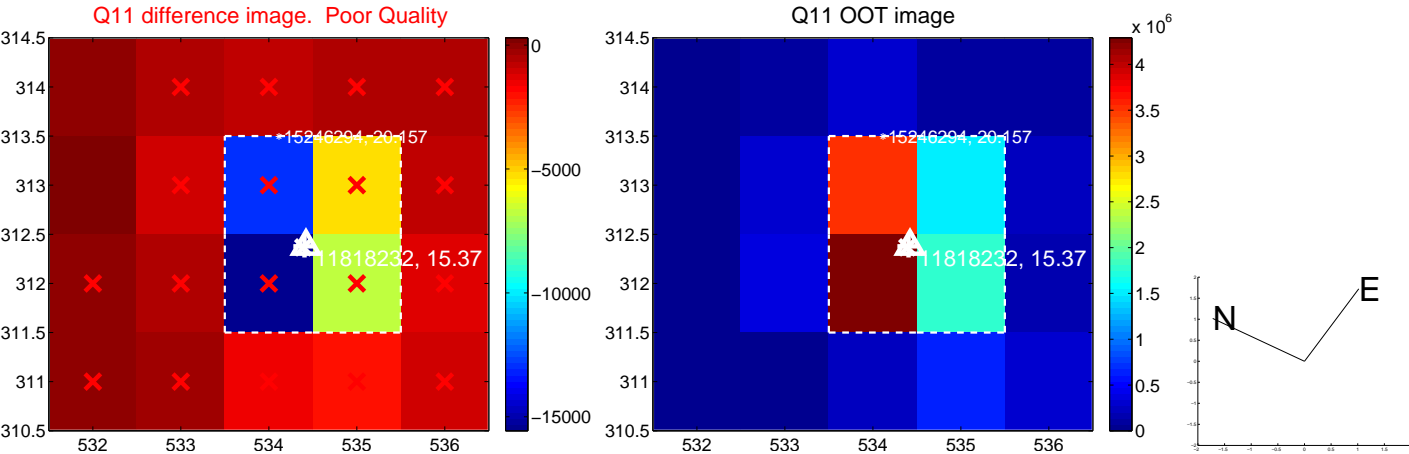
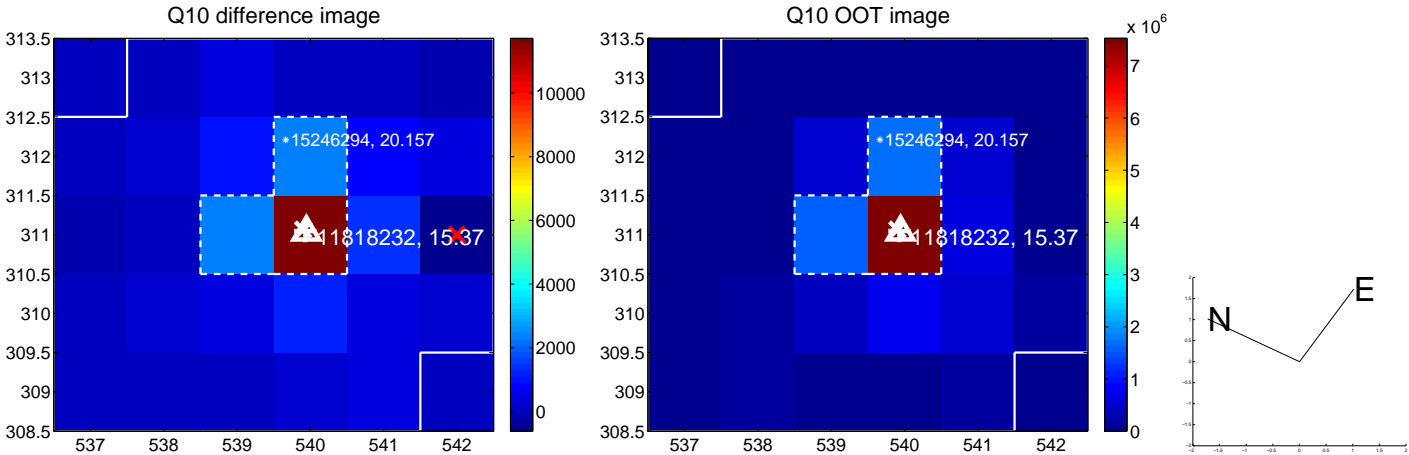
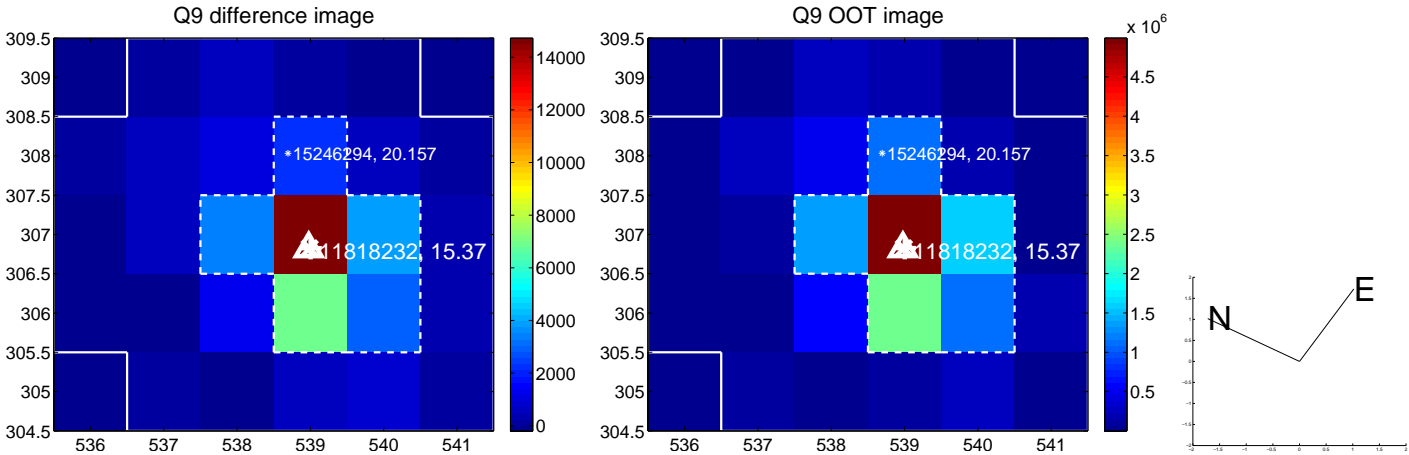
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



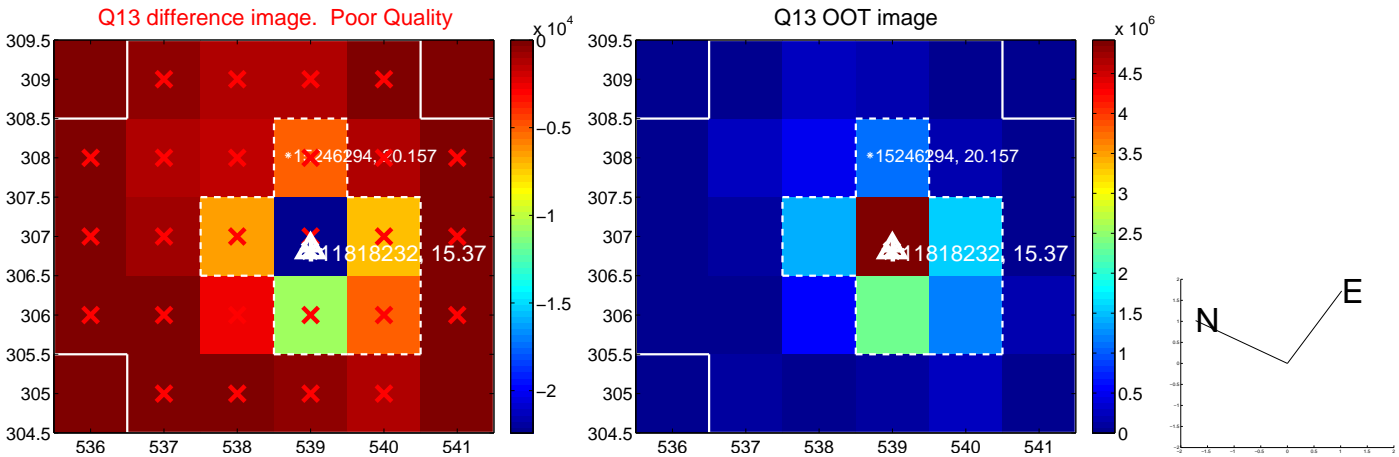
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



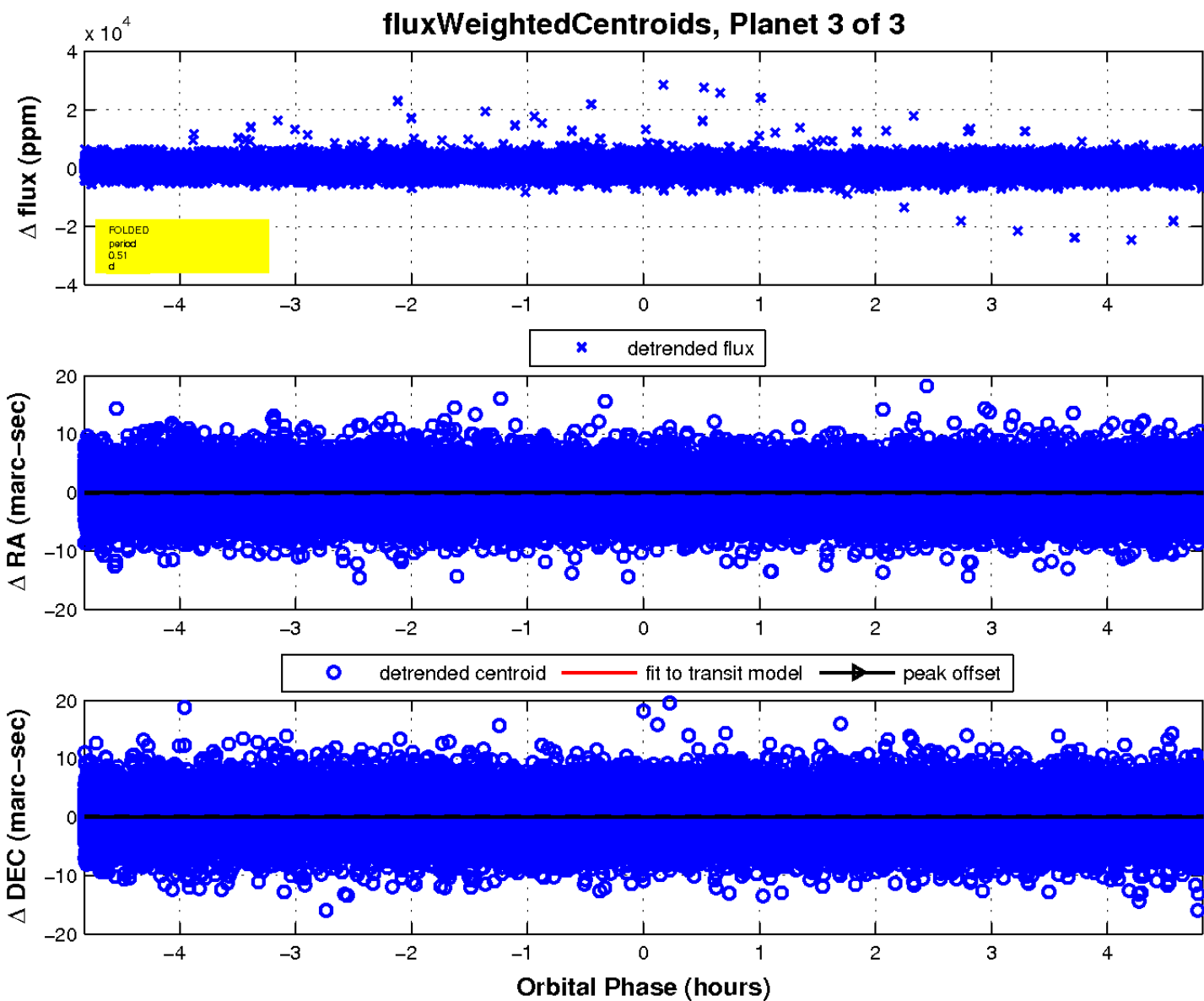
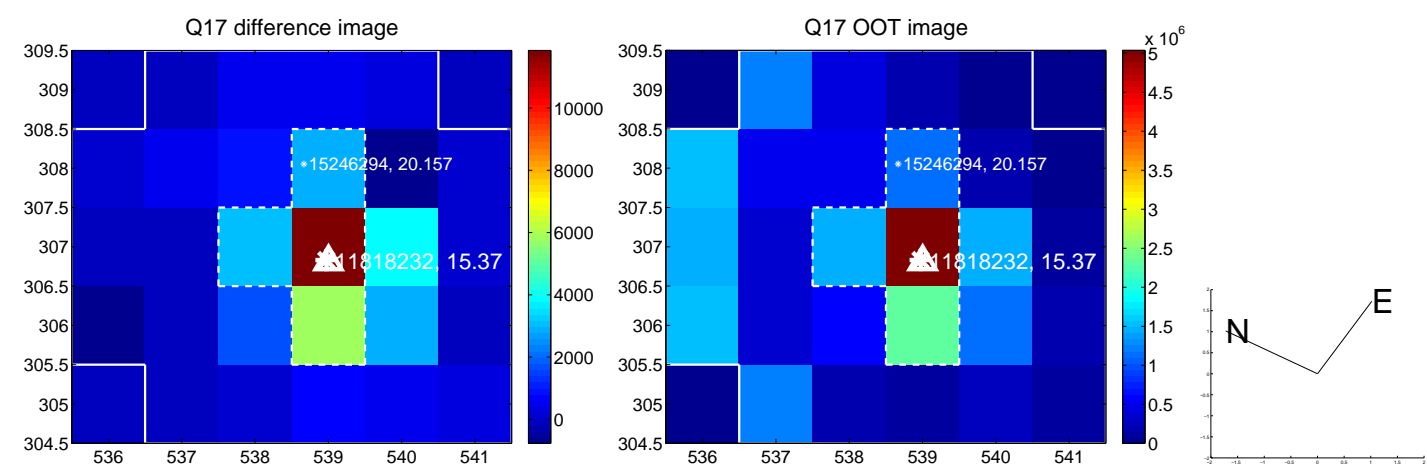
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

