

KIC 007918737

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})
007918737-01	OBS	No	0.846729	132.074455	49.7	1.887	9.0	6.2	3.85	7575	3.13	89467.24
007918737-02	OBS	No	0.780422	131.672740	80.7	3.478	7.7	10.2	3.85	7575	4.07	99743.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007918737-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
007918737-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

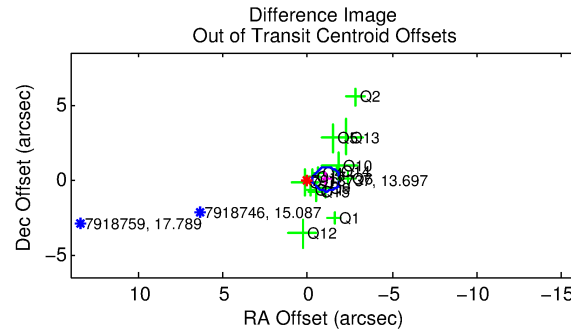
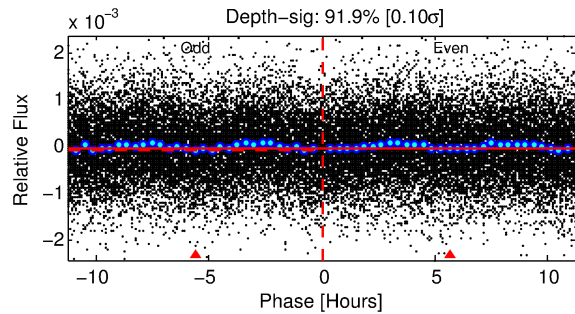
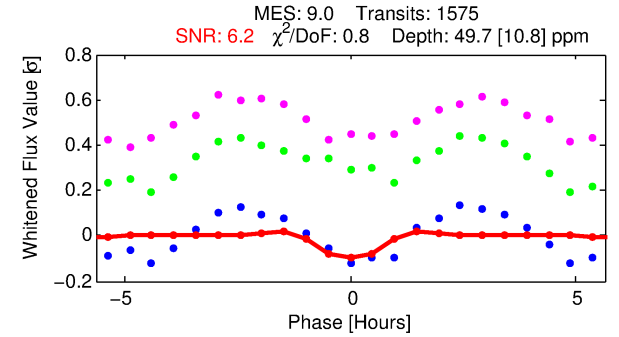
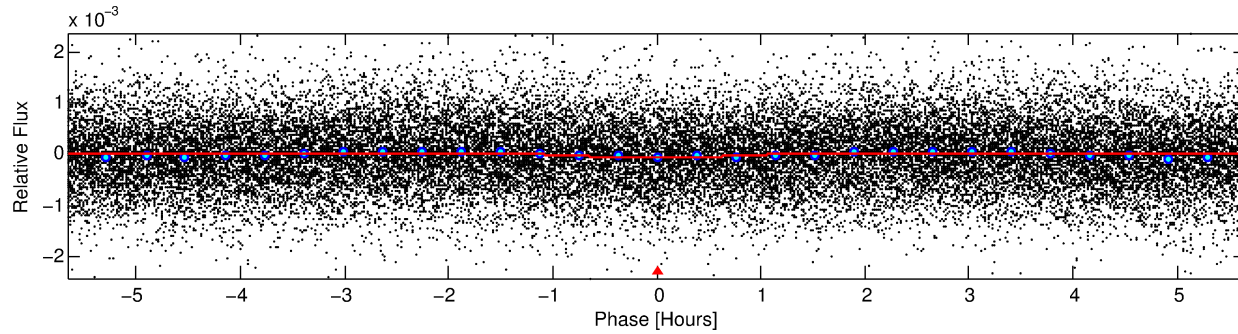
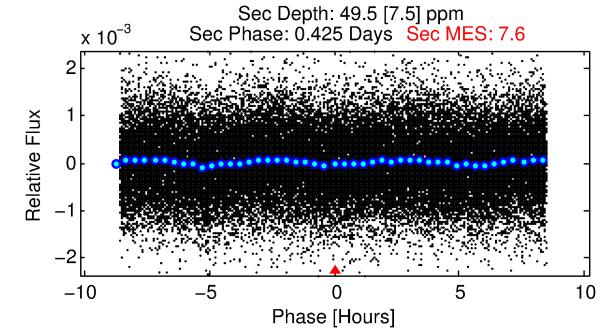
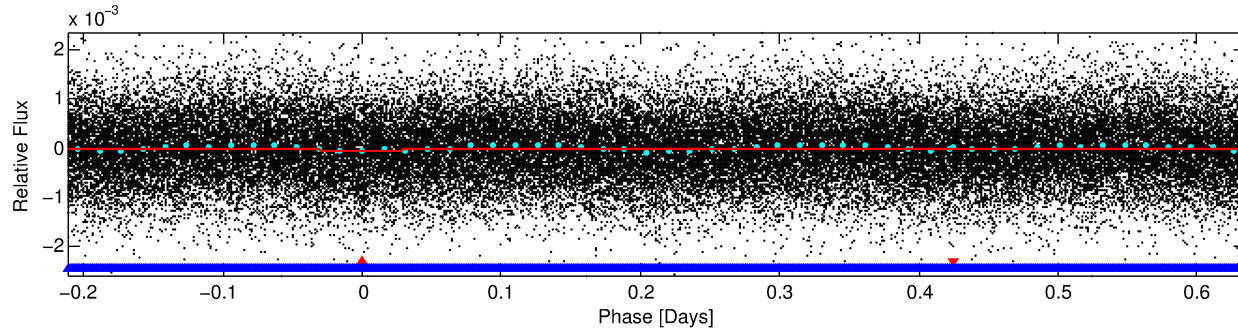
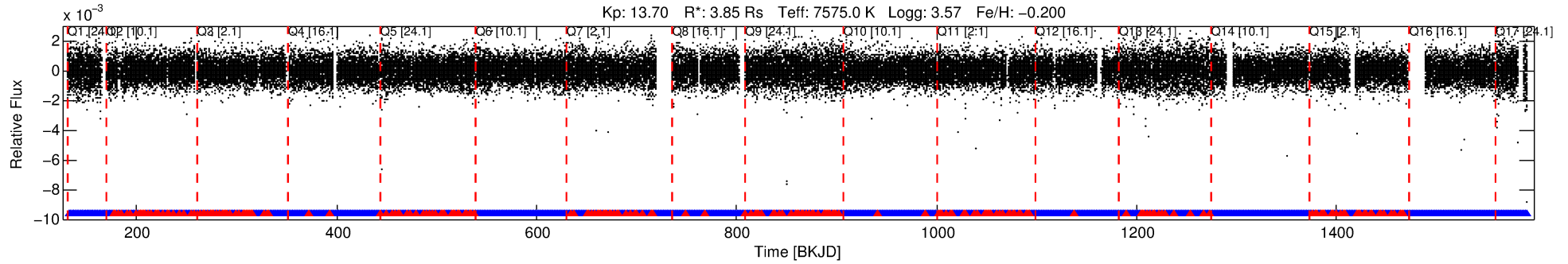
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007918737-01

No Significant Match Found

DV One-Page Summary

KIC: 7918737 Candidate: 1 of 2 Period: 0.847 d



DV Fit Results:

Period = 0.84673 [0.00002] d
Epoch = 132.0745 [0.0041] BKJD
Rp/R* = 0.0075 [0.0070]
a/R* = 1.95 [7.32]
b = 0.87 [1.41]
Seff = 89467.24 [81676.99]
Teq = 4410 [1007] K
Rp = 3.13 [3.38] Re
a = 0.0221 [0.0120] AU
Ag = 1.36 [2.85] [0.13σ]
Teffp = 7359 [3499] K [0.81σ]

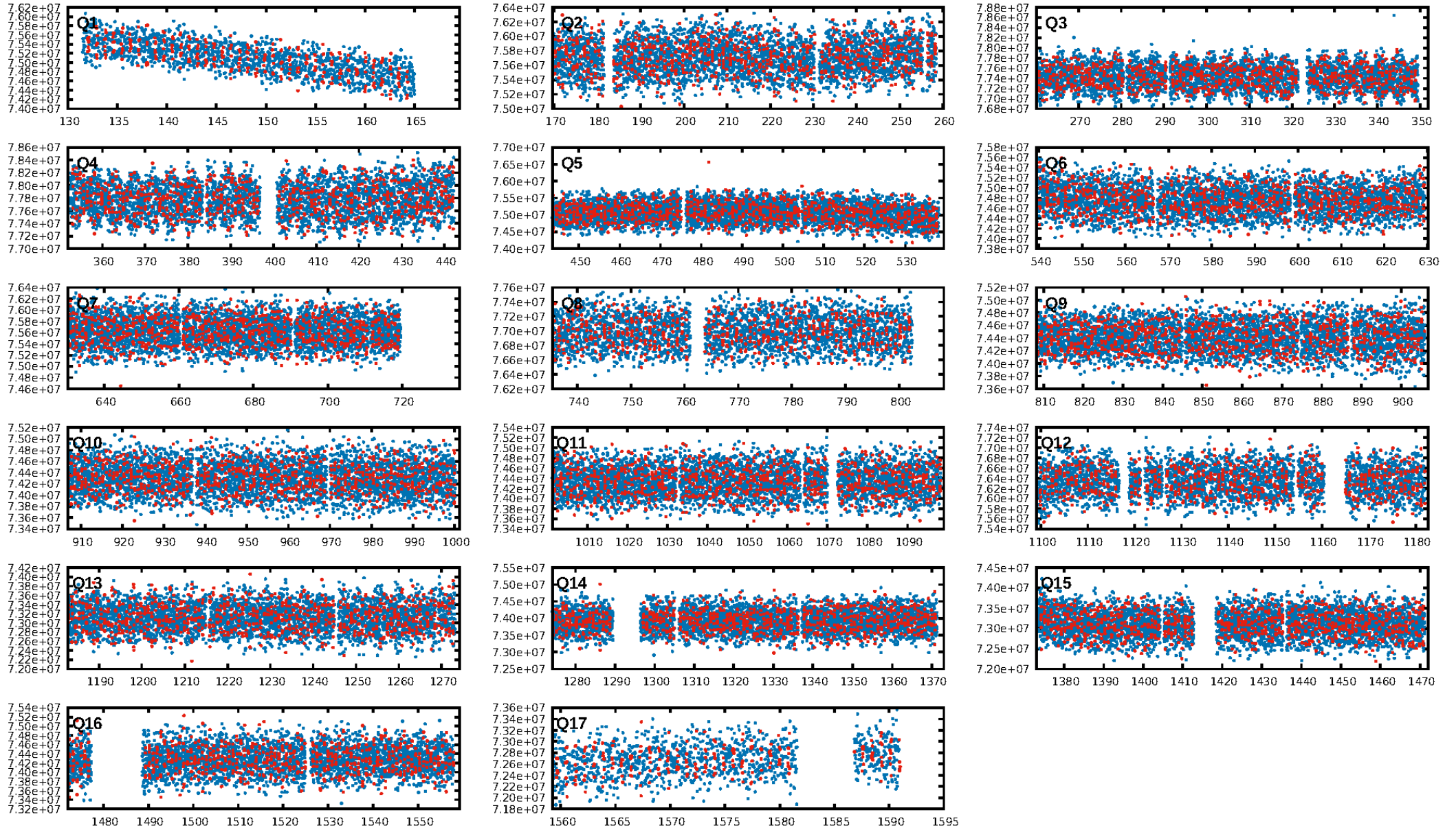
DV Diagnostic Results:

ShortPeriod-sig: 31.2% [0.40σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.67e-16
RollingBand-fgt: 0.84 [1271/1505]
GhostDiagnostic-chr: 0.9345
Centroid-sig: 21.8%
Centroid-so: 0.849 arcsec [1.18σ]
OotOffset-rm: 1.098 arcsec [4.15σ]
KicOffset-rm: 0.861 arcsec [3.41σ]
OotOffset-st: 4/2/3/5 [14]
KicOffset-st: 4/2/3/5 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 1.00 [17/17]

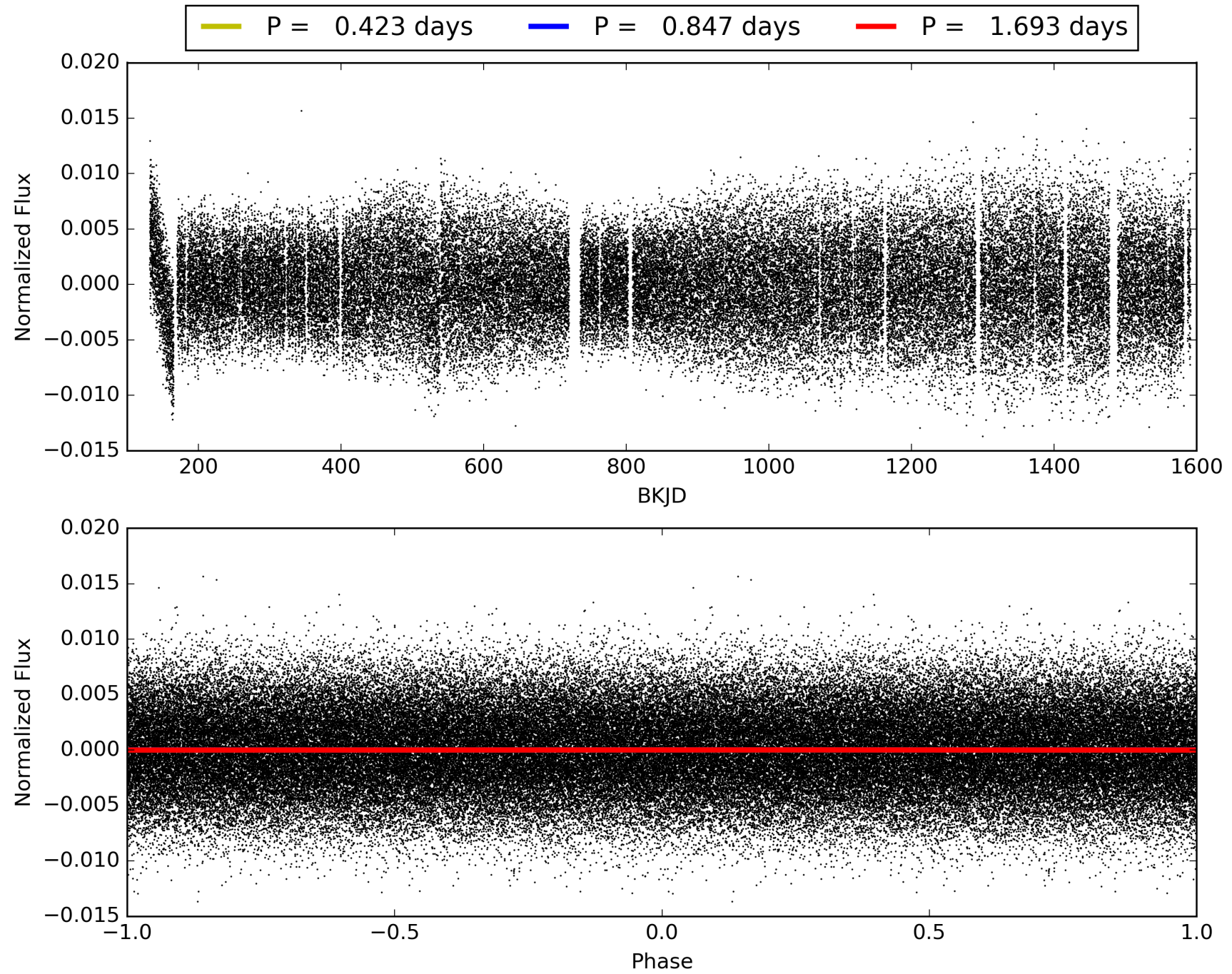
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007918737-01, PDC Light Curves

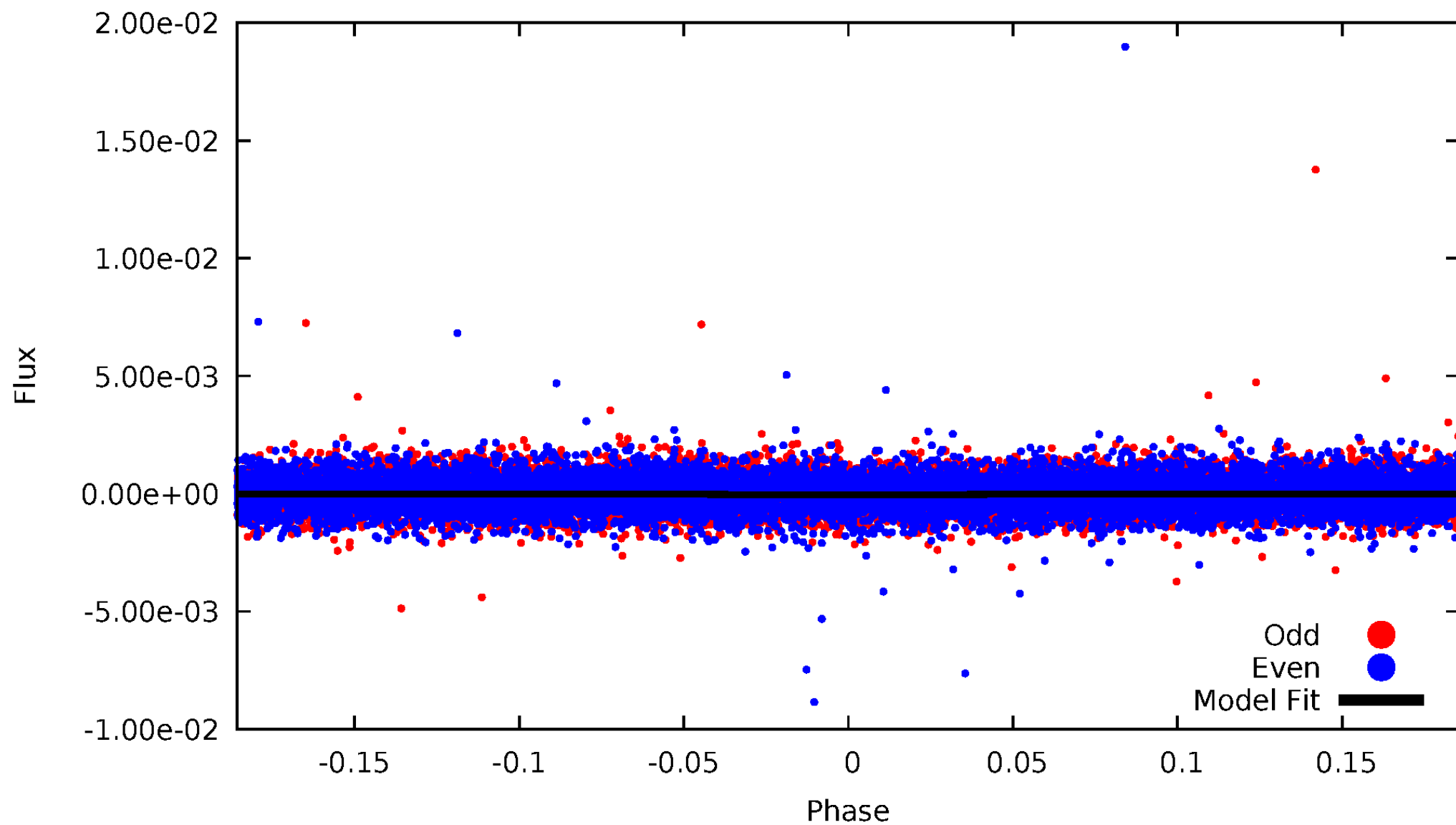


TCE 007918737-01



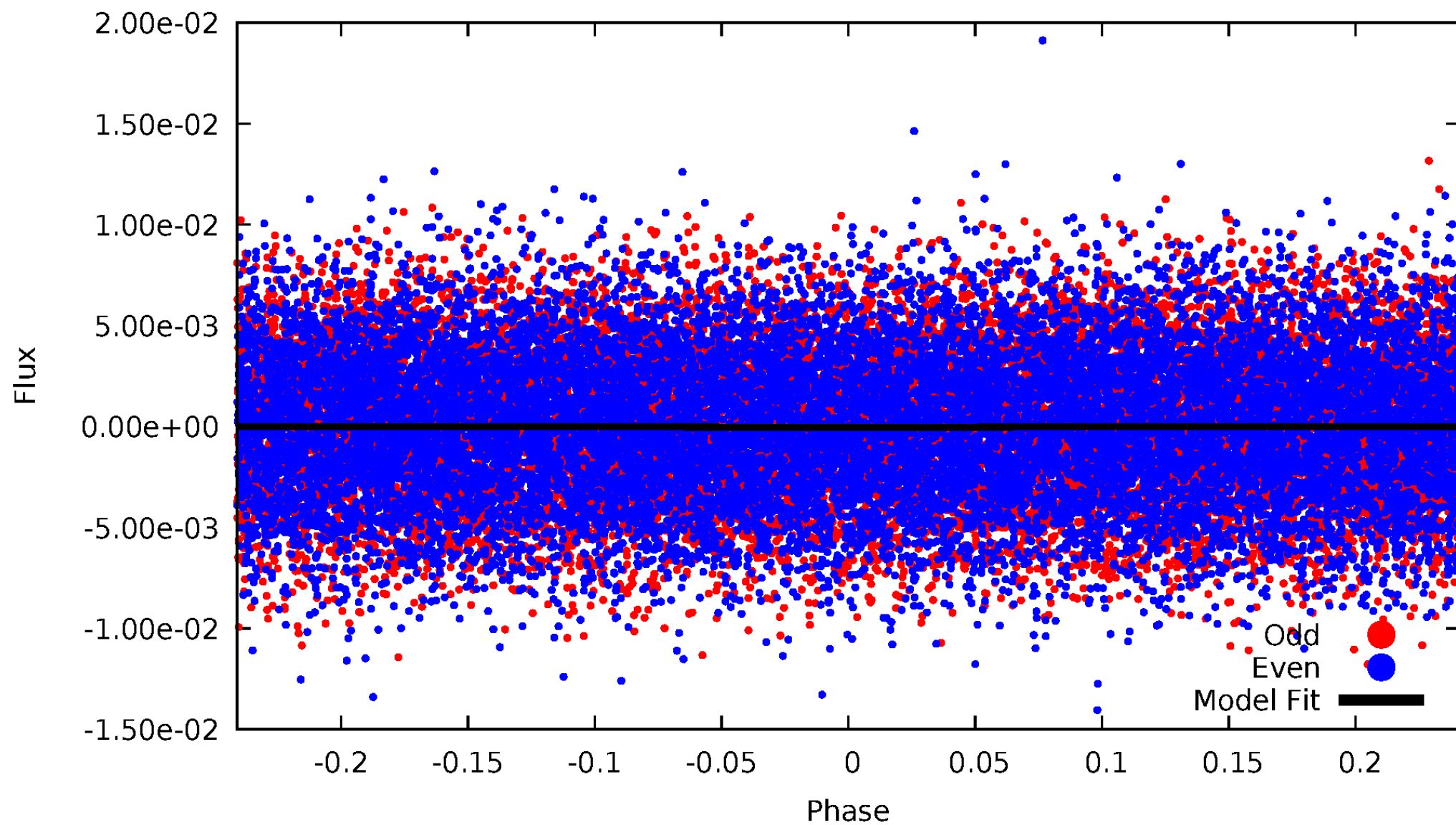
DV Odd/Even

TCE 007918737-01



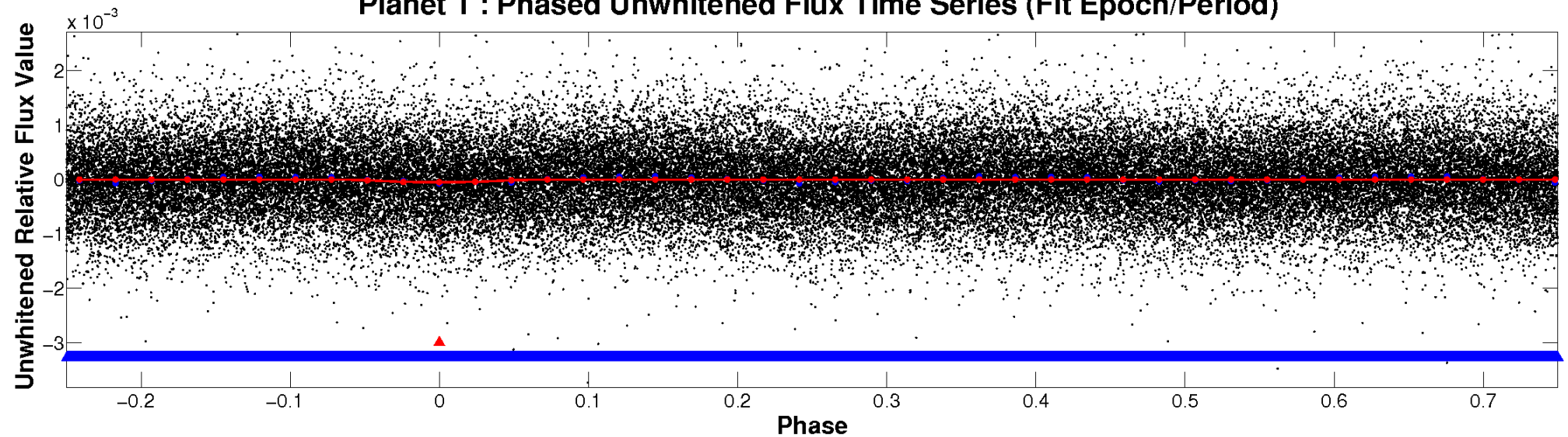
ALT Odd/Even

TCE 007918737-01

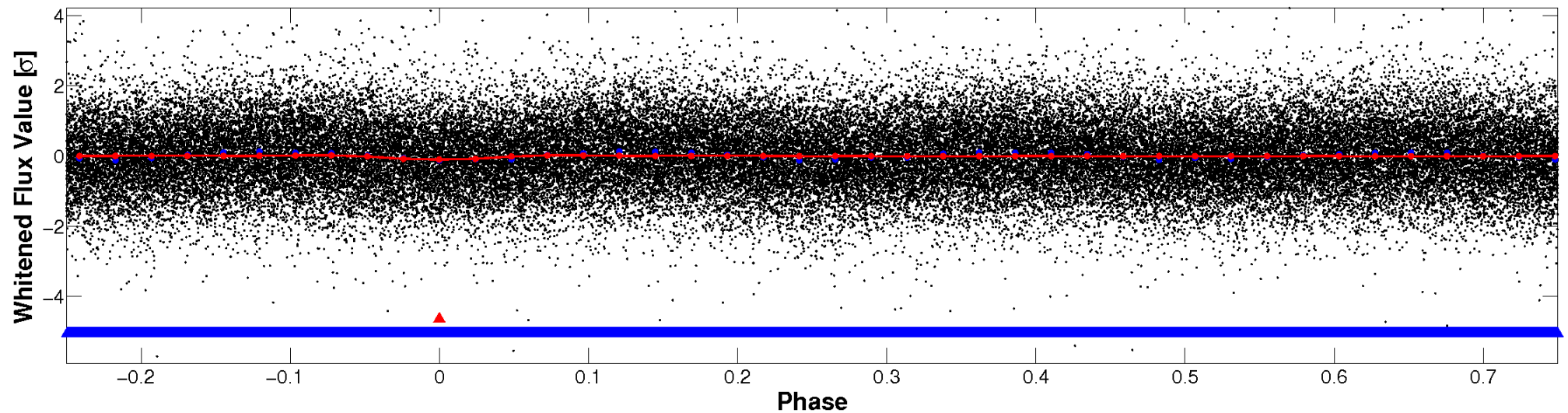


Non-Whitened Vs. Whitened Light Curve

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

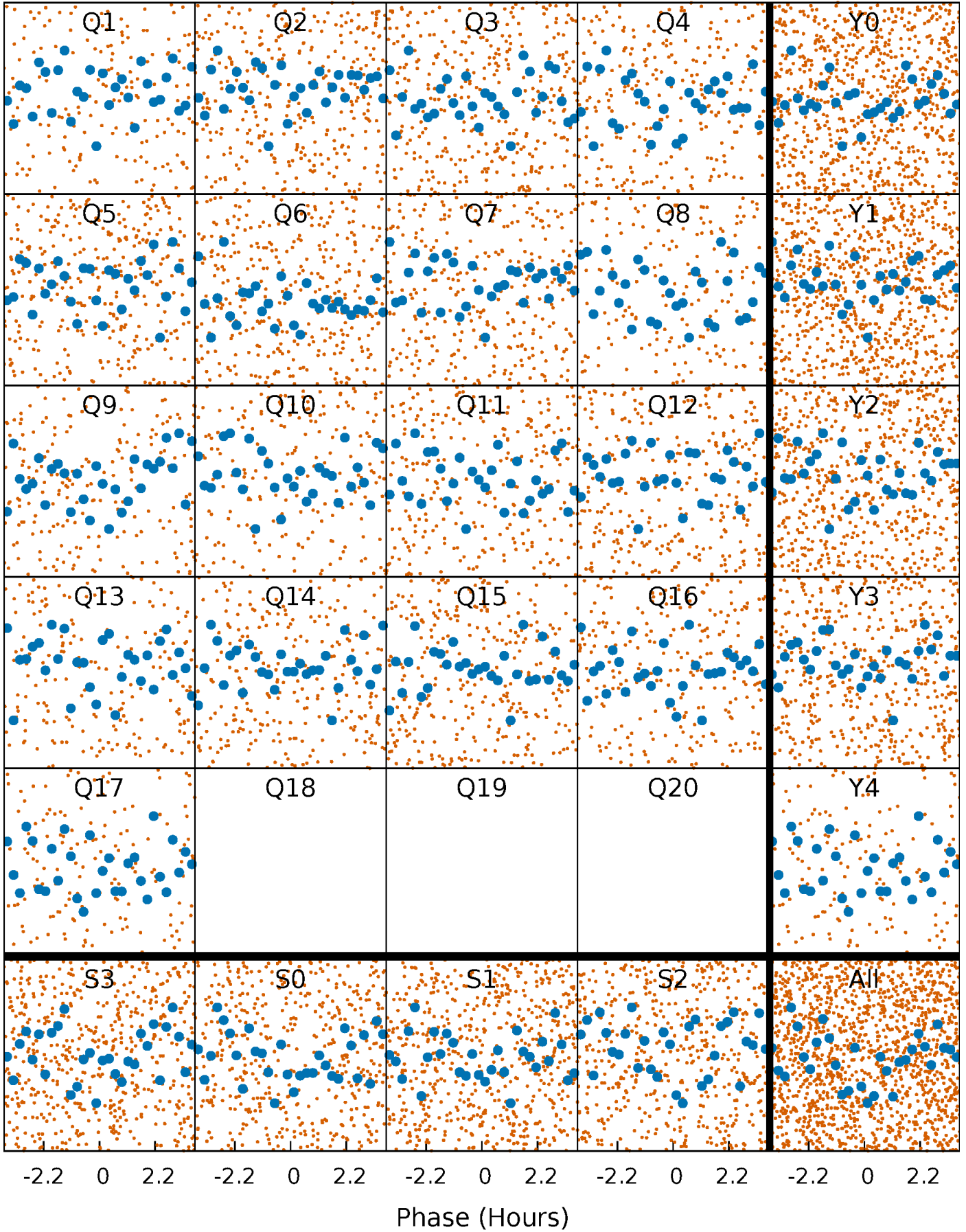


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



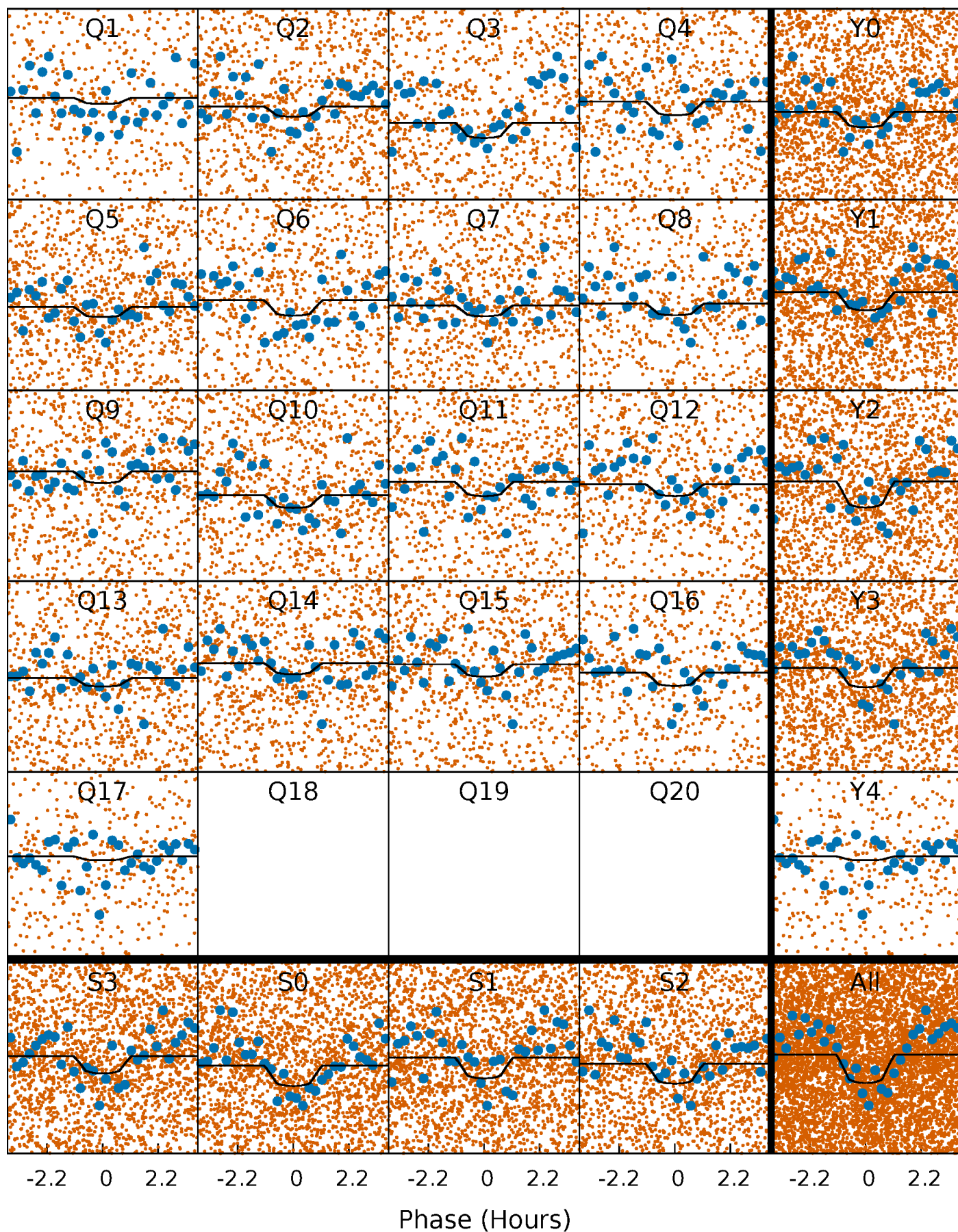
PDC Quarter-Phased Transit Curves

TCE 007918737-01 P= 0.846729 Days $T_0=132.074455$ (BKJD)



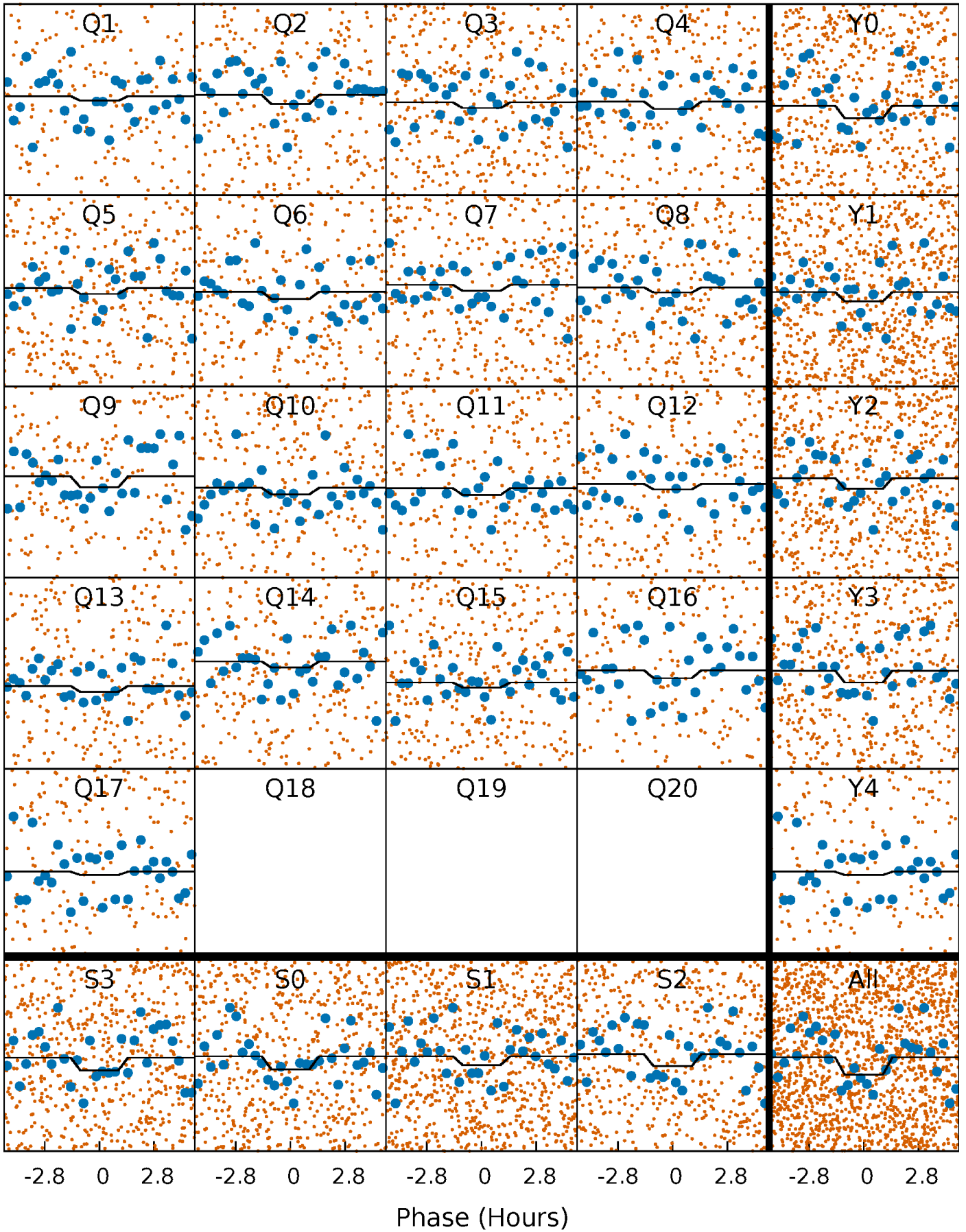
DV Quarter-Phased Transit Curves

TCE 007918737-01 P= 0.846729 Days $T_0=132.074455$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

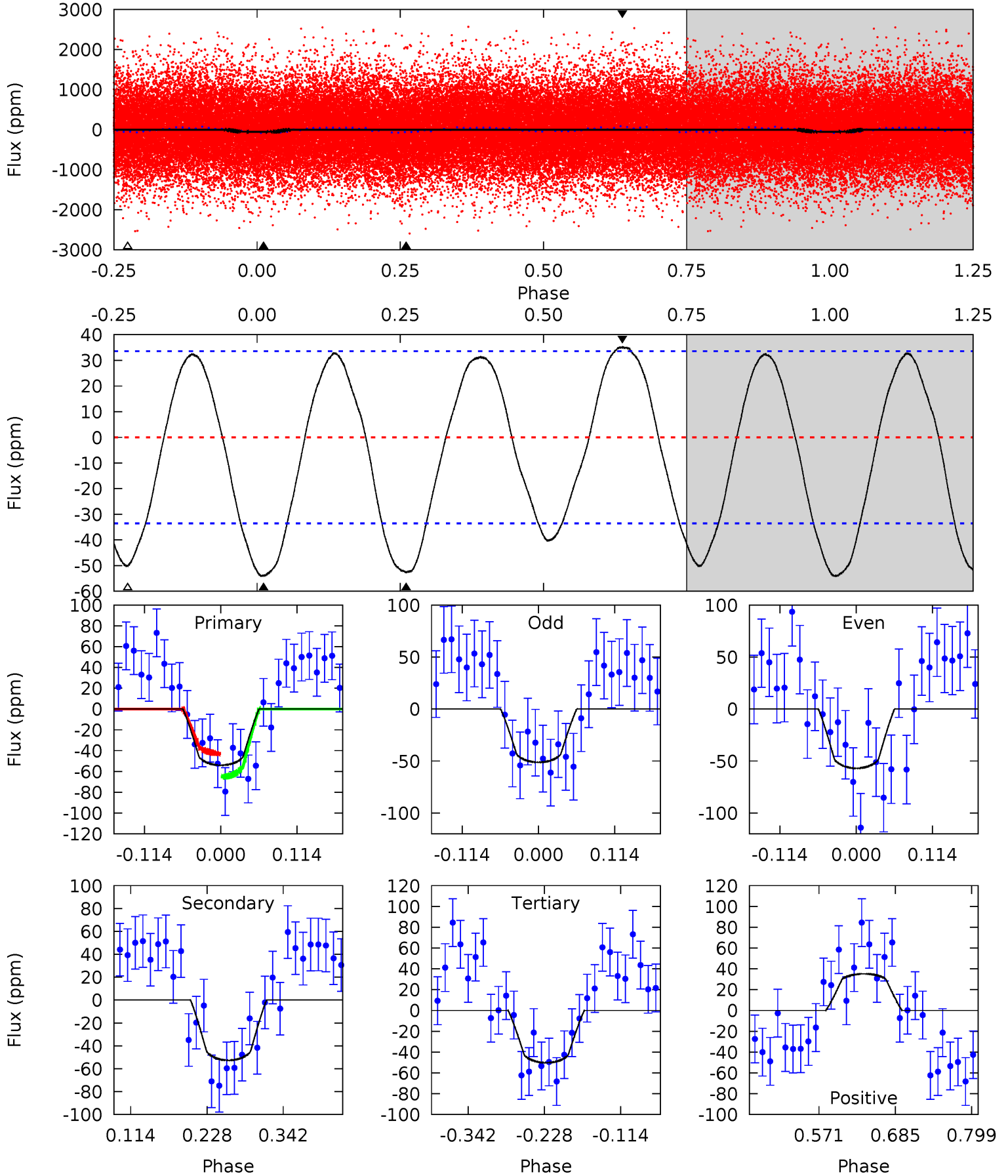
TCE 007918737-01 P= 0.846752 Days $T_0=132.071589$ (BKJD)



DV Model-Shift Uniqueness Test

007918737-01, P = 0.846729 Days, E = 131.227726 Days

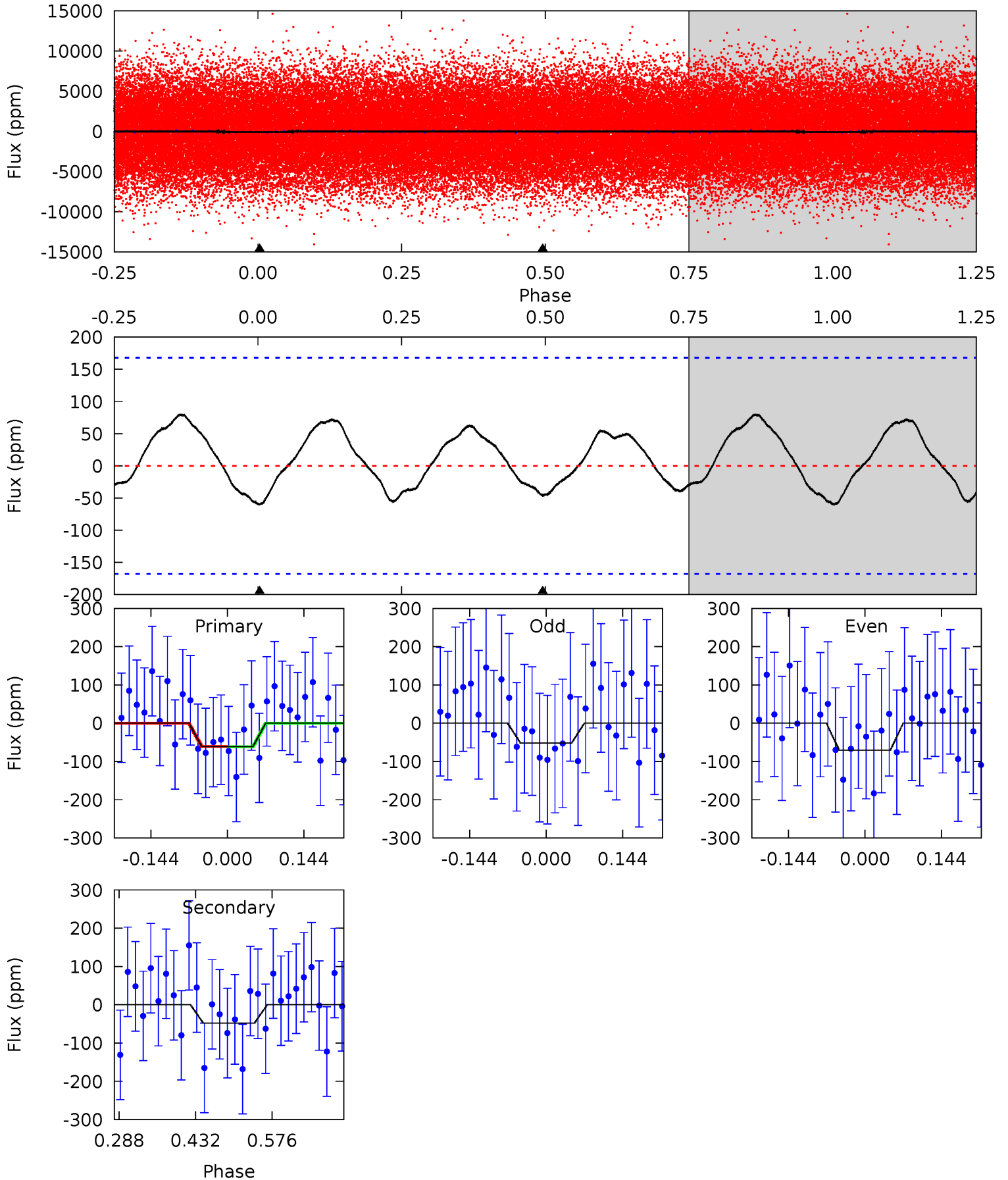
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.30	7.12	6.79	4.76	4.54	1.58	3.84	0.52	2.55	0.33	2.36	0.39	1.10	0.39	1.51



Alt Model-Shift Uniqueness Test

007918737-01, P = 0.846752 Days, E = 131.224837 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.63	1.28	0	0	4.49	1.46	0.93	1.63	1.63	1.28	1.28	0.25	1.02	0.57	0.02



Stellar Parameters For KIC 007918737

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7575^{+239}_{-292}	$3.570^{+0.540}_{-0.060}$	$-0.200^{+0.250}_{-0.300}$	$3.849^{+0.505}_{-2.021}$	$2.010^{+0.146}_{-0.510}$	$0.050^{+0.313}_{-0.010}$
	+3%/-4%	+15%/-2%	+125%/-150%	+13%/-53%	+7%/-25%	+631%/-19%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007918737-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-53 ± 7	$3.21^{+2.63}_{-2.05}$	5913^{+417}_{-827}	6275^{+6715}_{-2298}	$1.380^{+9.274}_{-0.970}$
Alt.	-48 ± 37	$2.95^{+2.51}_{-2.02}$	5875^{+430}_{-849}	6056^{+8541}_{-10005}	$1.201^{+11.538}_{-1.020}$

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 $A_{obs} \gg 1.0$

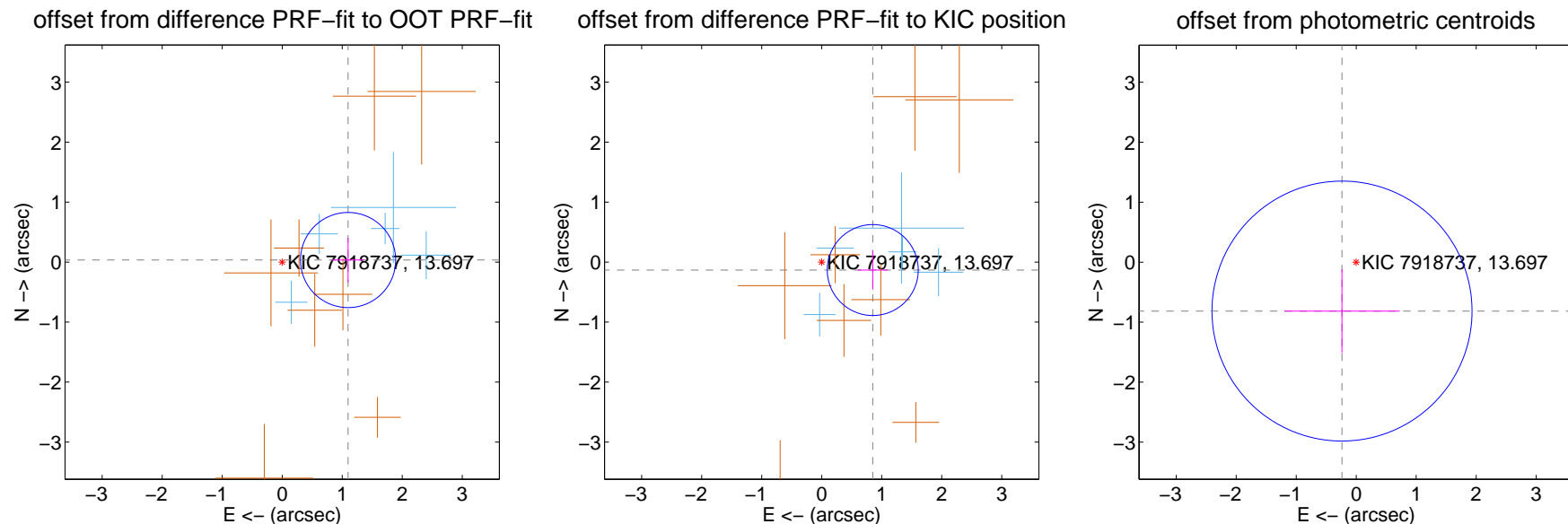
DV Centroid Data

Supplemental centroid analysis for 007918737-01. Kepler magnitude: 13.70. Transit SNR 6.17

There are 5 quarters with good PRF difference image offsets

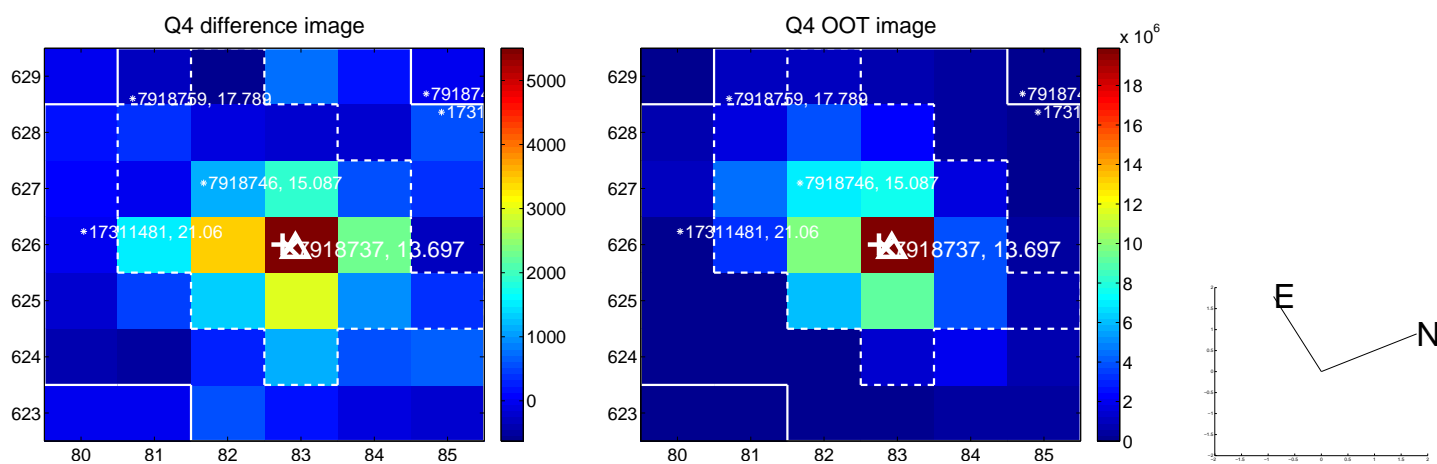
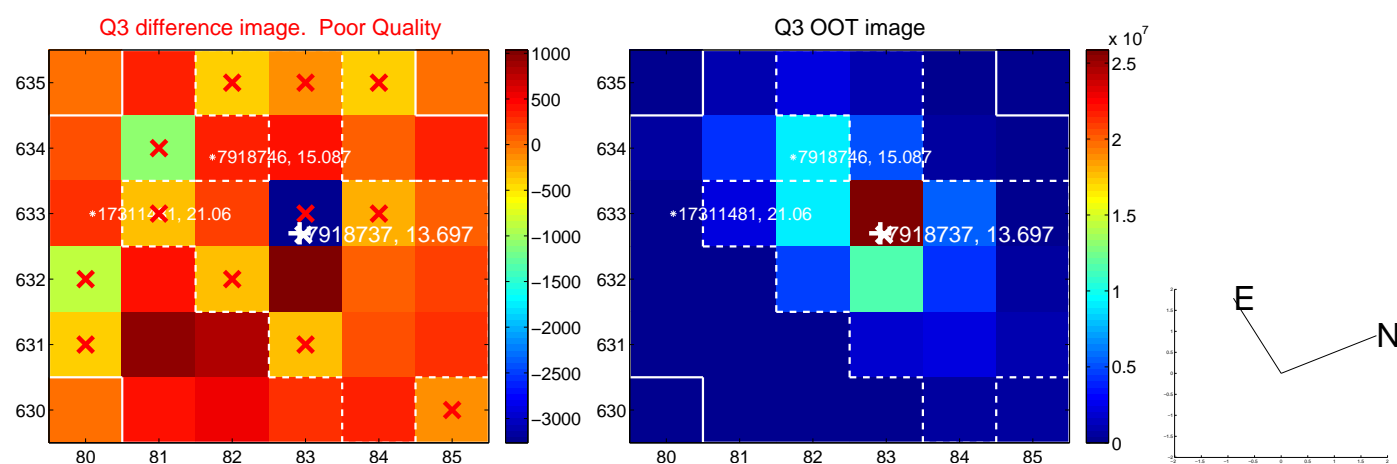
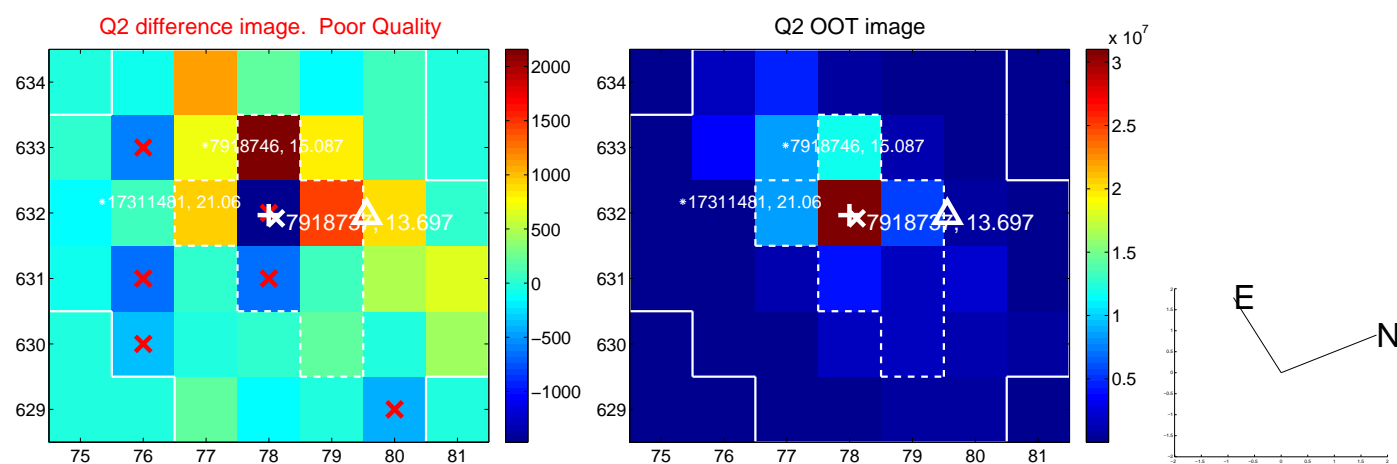
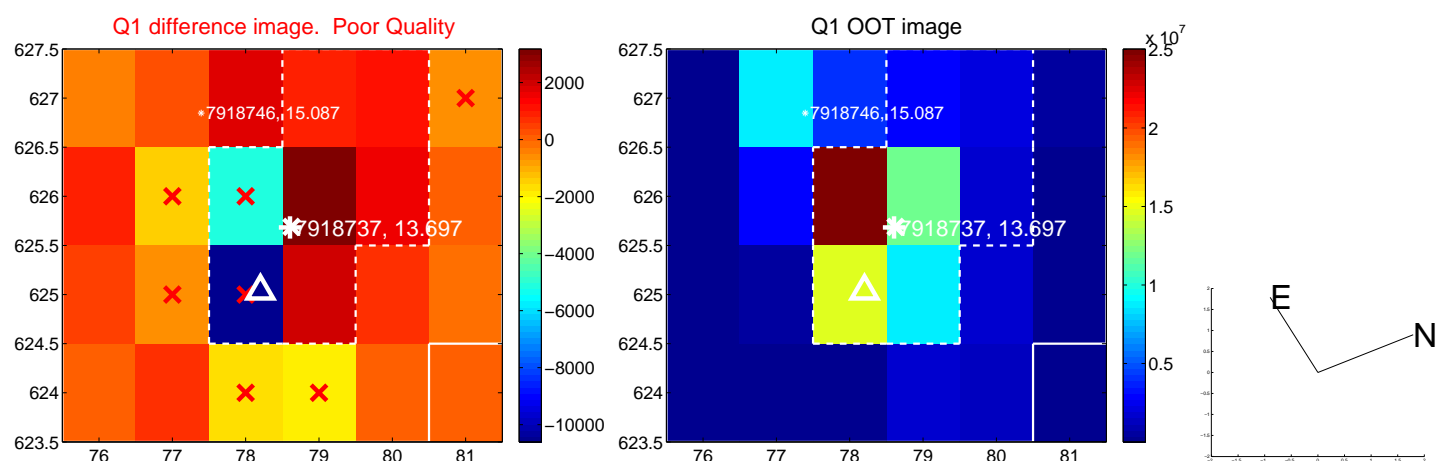
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.098 ± 0.264	4.15	-1.097 ± 0.264	0.034 ± 0.370
PRF-fit source offset from KIC position	0.861 ± 0.253	3.41	-0.850 ± 0.251	-0.133 ± 0.327
photometric centroid source offset	0.85 ± 0.72	1.18	0.24 ± 0.96	-0.82 ± 0.70

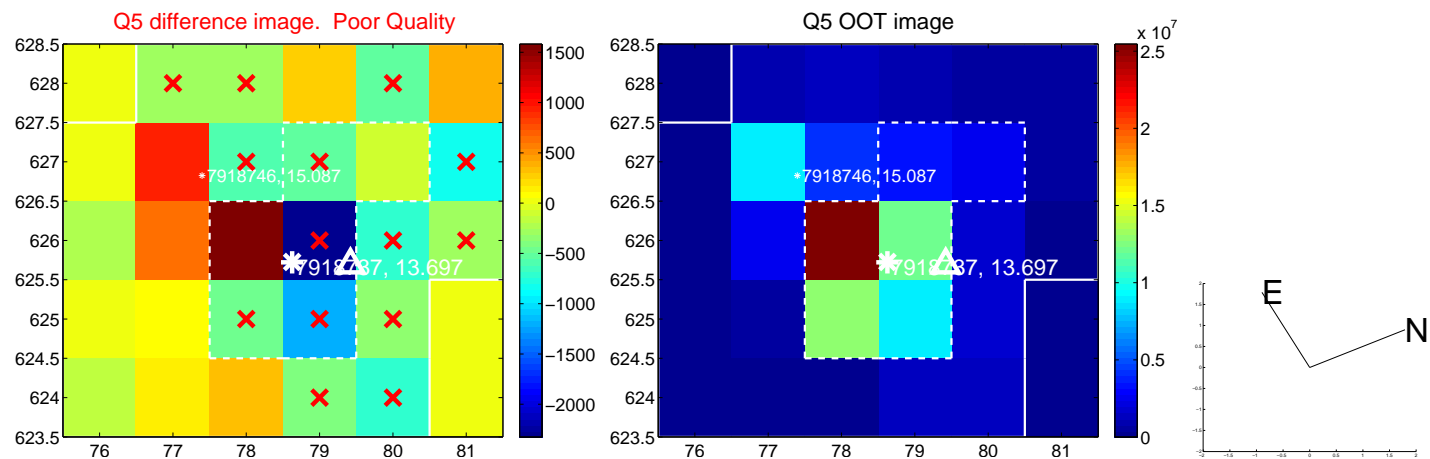


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

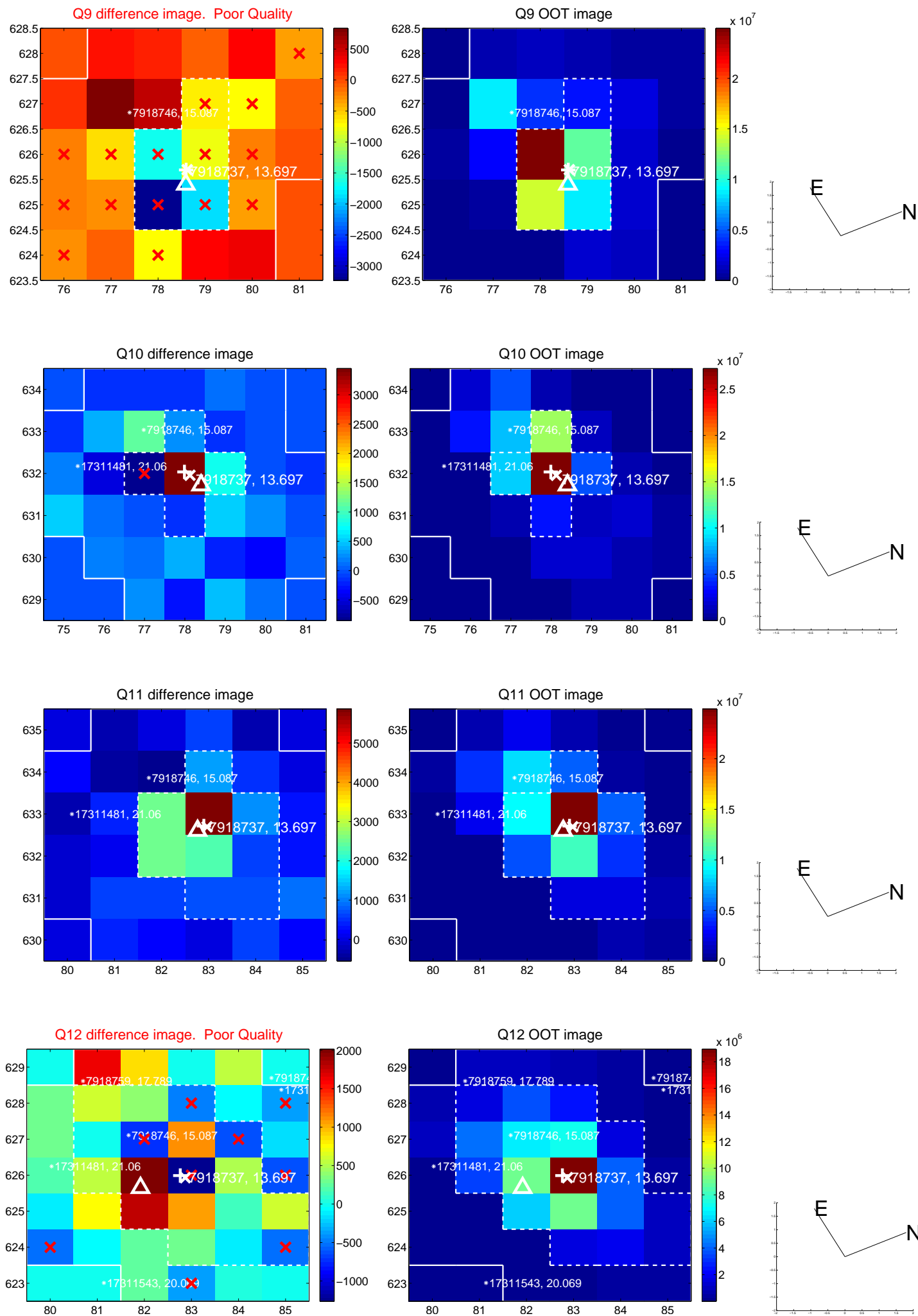
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



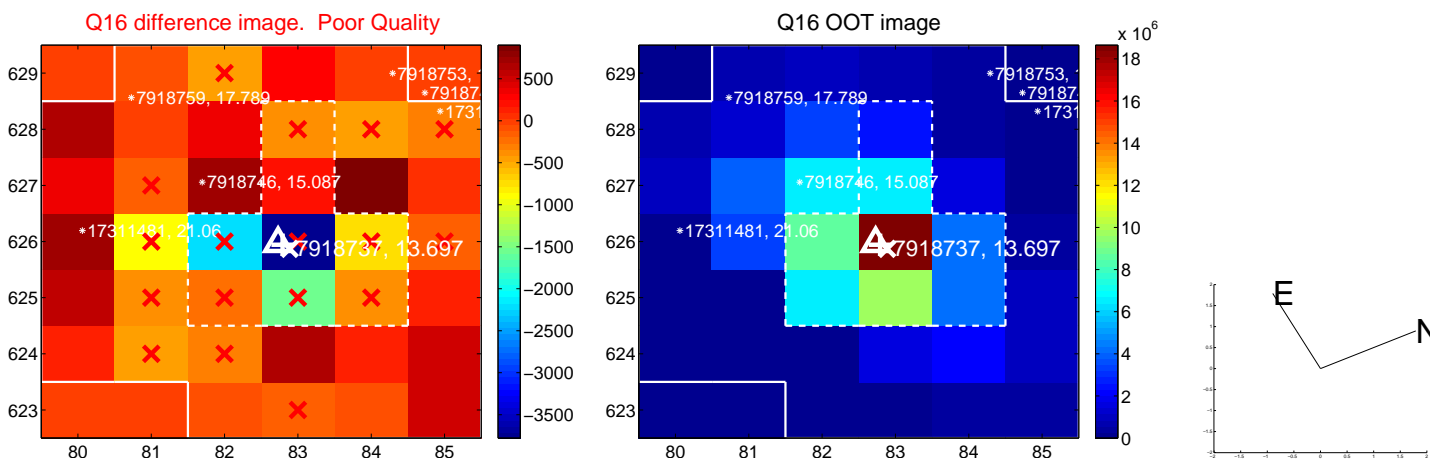
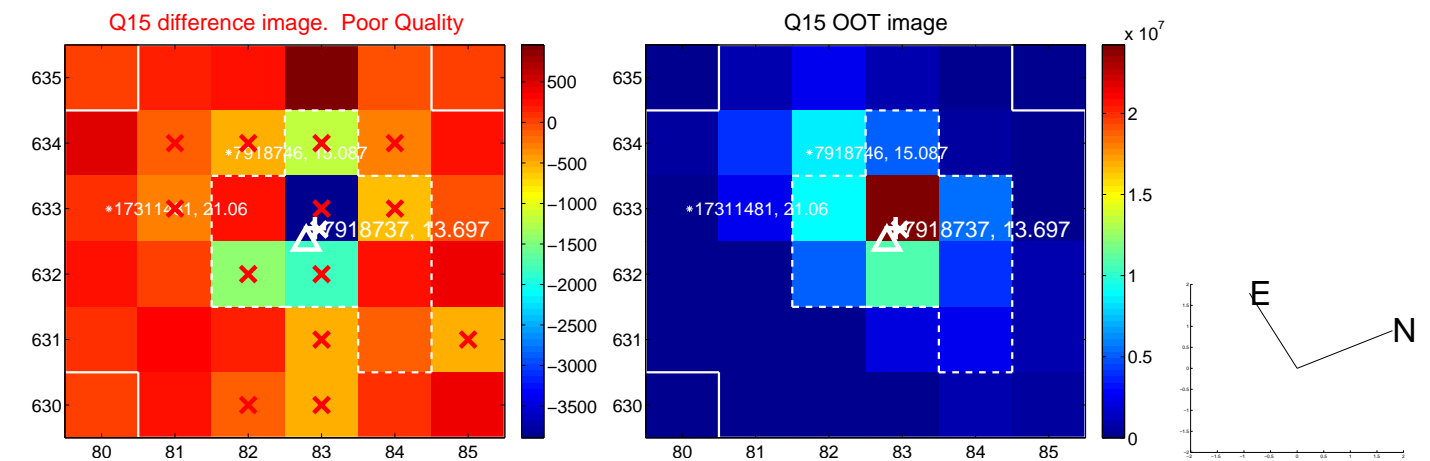
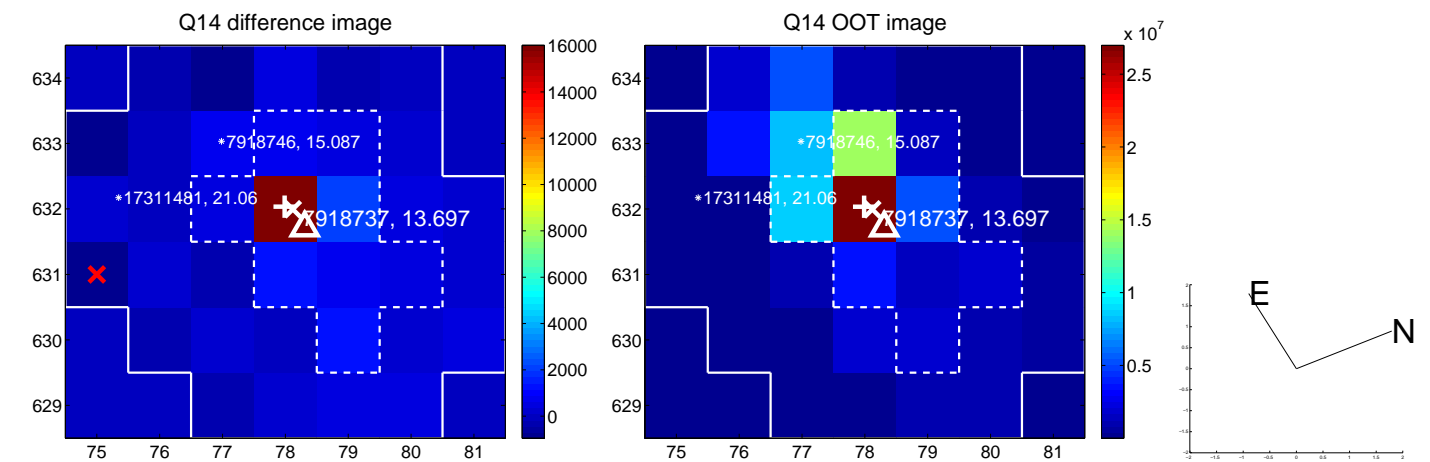
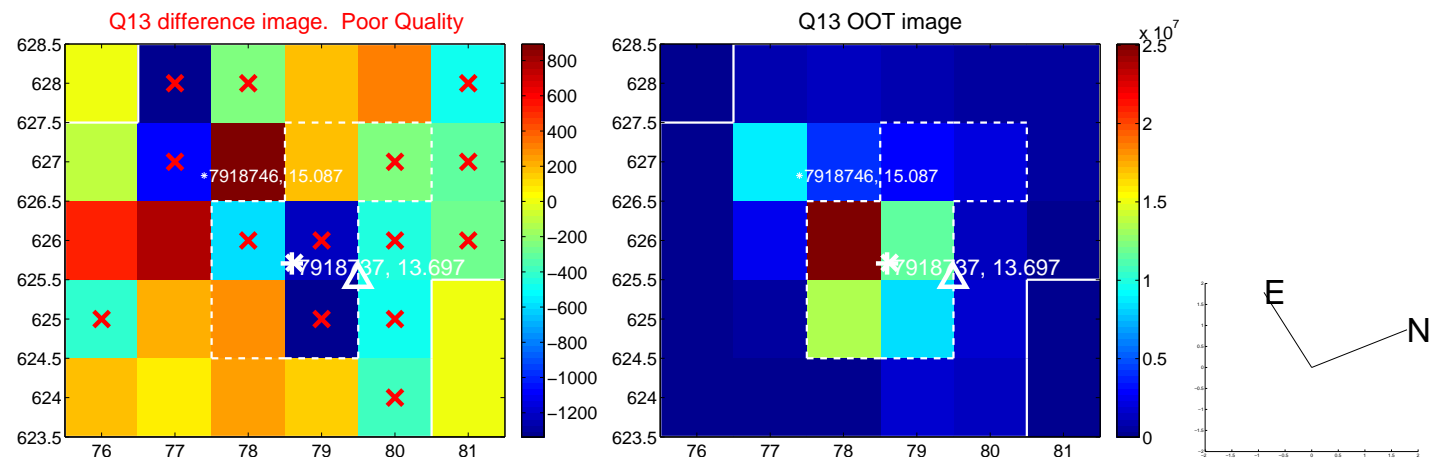
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



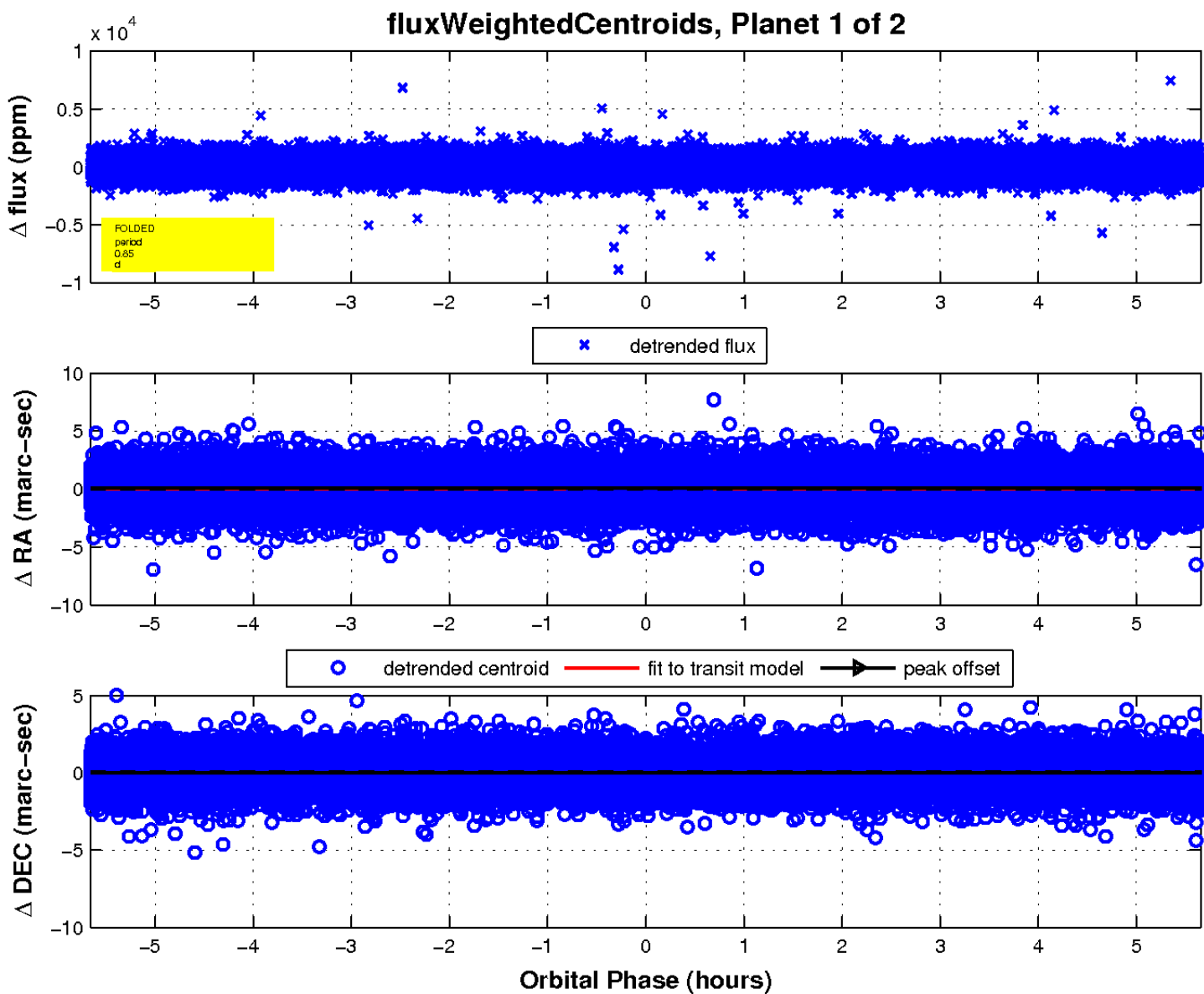
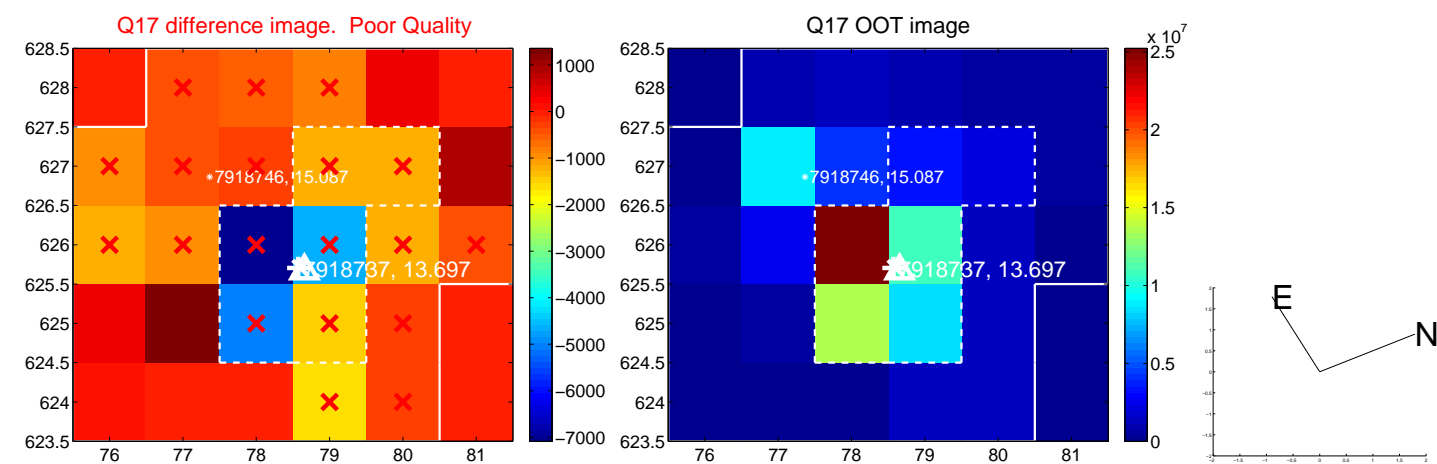
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

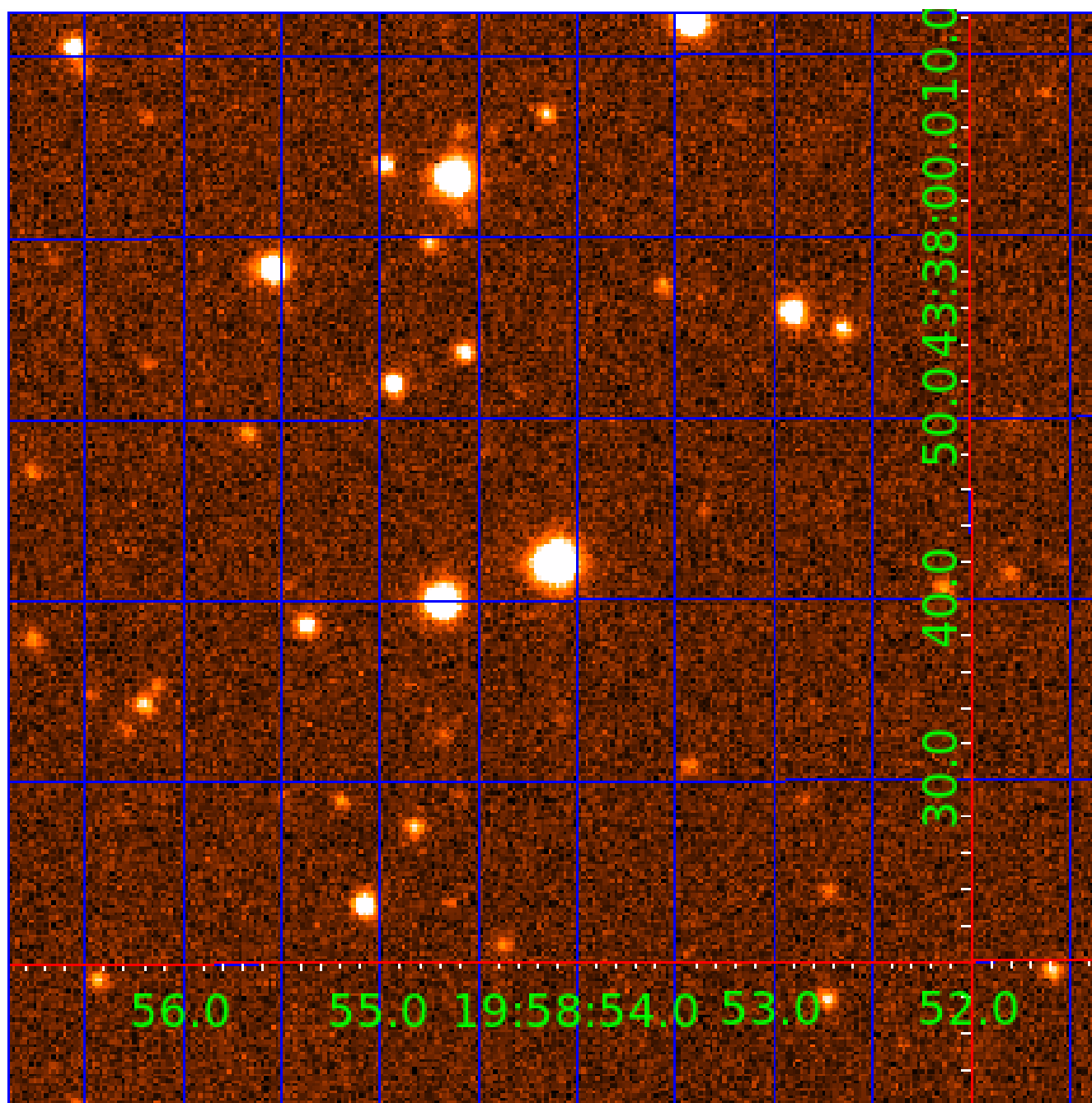


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007918737

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})
007918737-01	OBS	No	0.846729	132.074455	49.7	1.887	9.0	6.2	3.85	7575	3.13	89467.24
007918737-02	OBS	No	0.780422	131.672740	80.7	3.478	7.7	10.2	3.85	7575	4.07	99743.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007918737-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
007918737-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

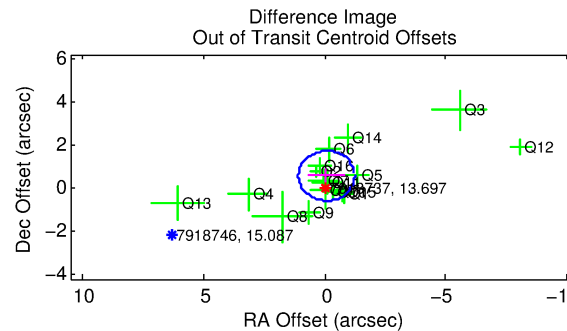
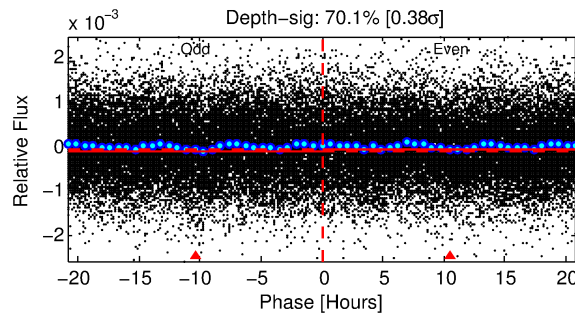
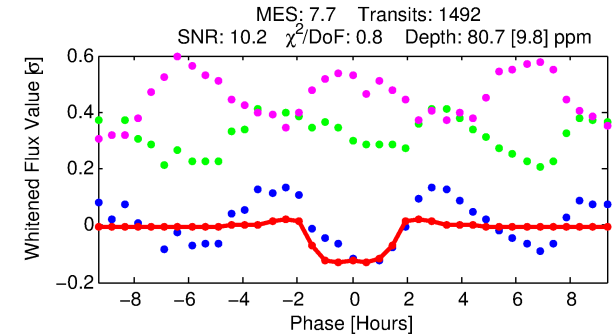
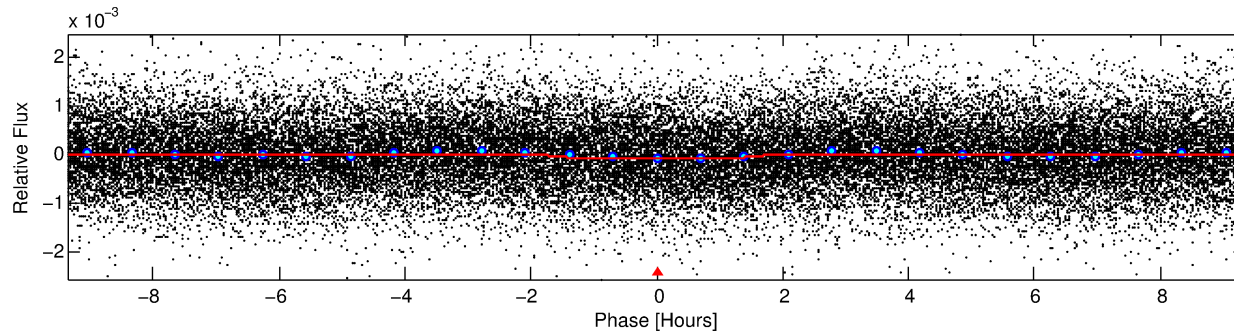
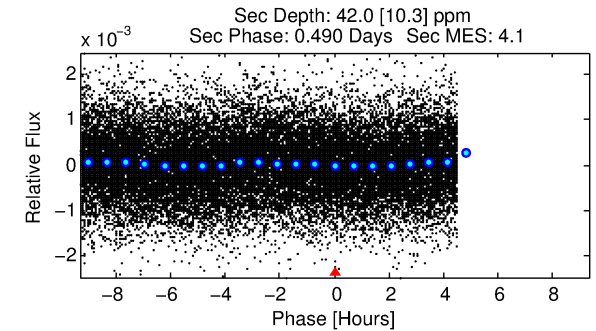
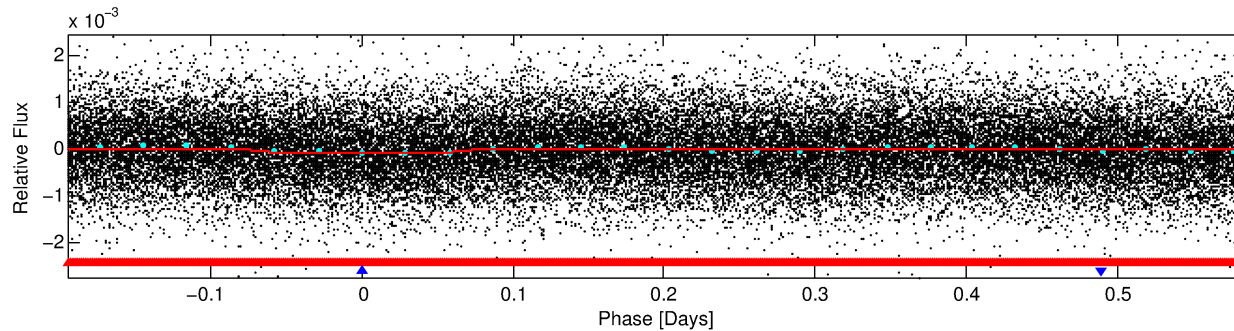
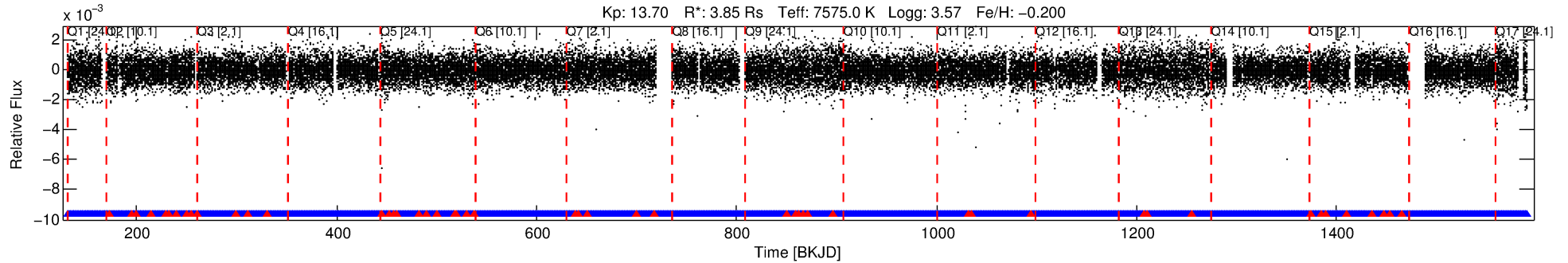
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007918737-02

No Significant Match Found

DV One-Page Summary

KIC: 7918737 Candidate: 2 of 2 Period: 0.780 d



DV Fit Results:

Period = 0.78042 [0.00001] d
Epoch = 131.6727 [0.0038] BKJD
Rp/R* = 0.0097 [0.0056]
a/R* = 1.22 [1.30]
b = 0.90 [0.69]
Seff = 99743.37 [91058.34]
Teq = 4532 [1034] K
Rp = 4.07 [3.18] Re
a = 0.0209 [0.0114] AU
Ag = 0.61 [0.91] [-0.43σ]
Teffp = 6196 [1850] K [0.79σ]

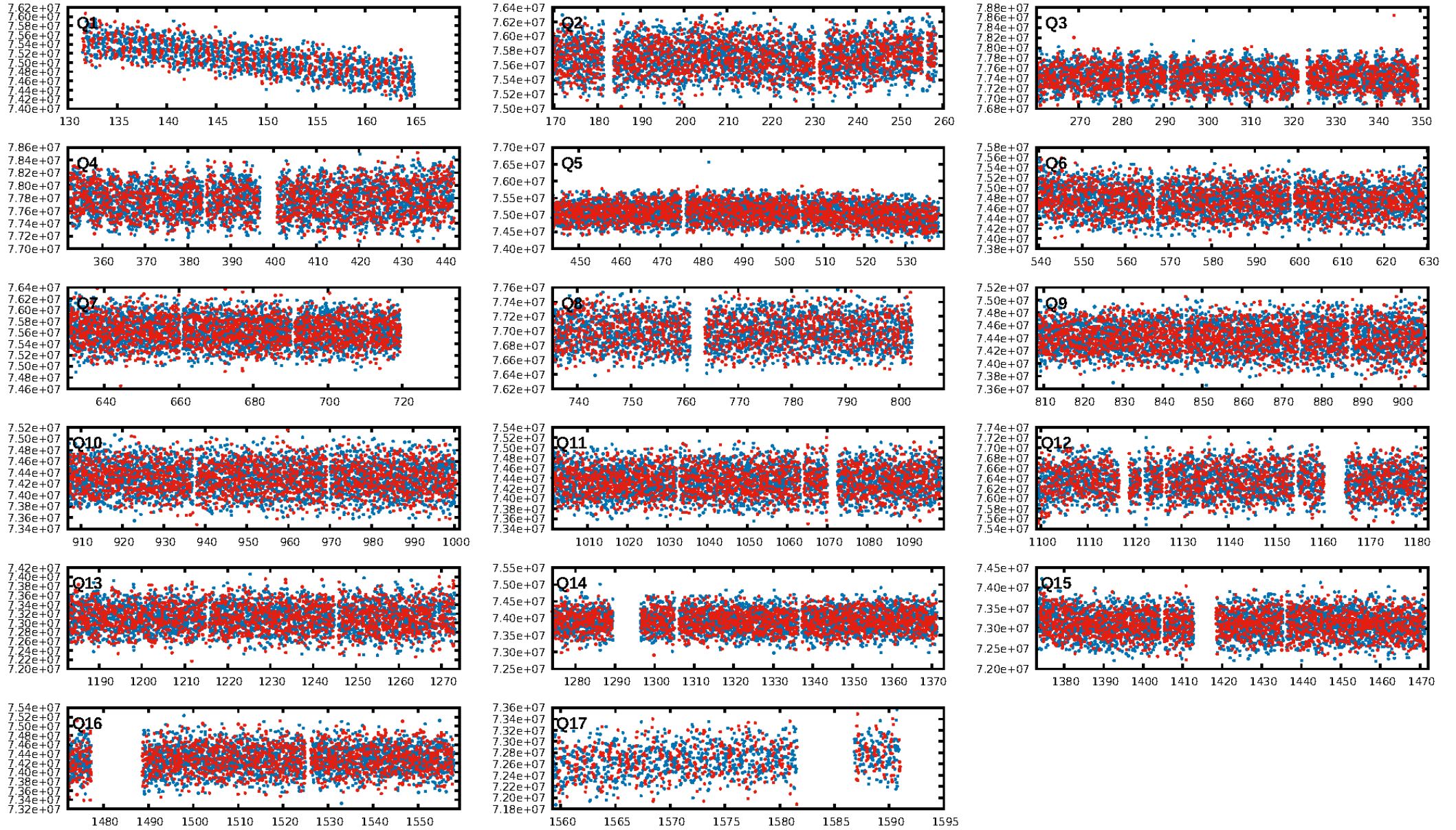
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 31.2% [0.40σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.62e-12
RollingBand-fgt: 0.96 [1372/1425]
GhostDiagnostic-chr: 7.743
Centroid-sig: 0.0%
Centroid-so: 1.310 arcsec [3.08σ]
OotOffset-rm: 0.578 arcsec [1.49σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.414 arcsec [1.44σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 1.00 [17/17]

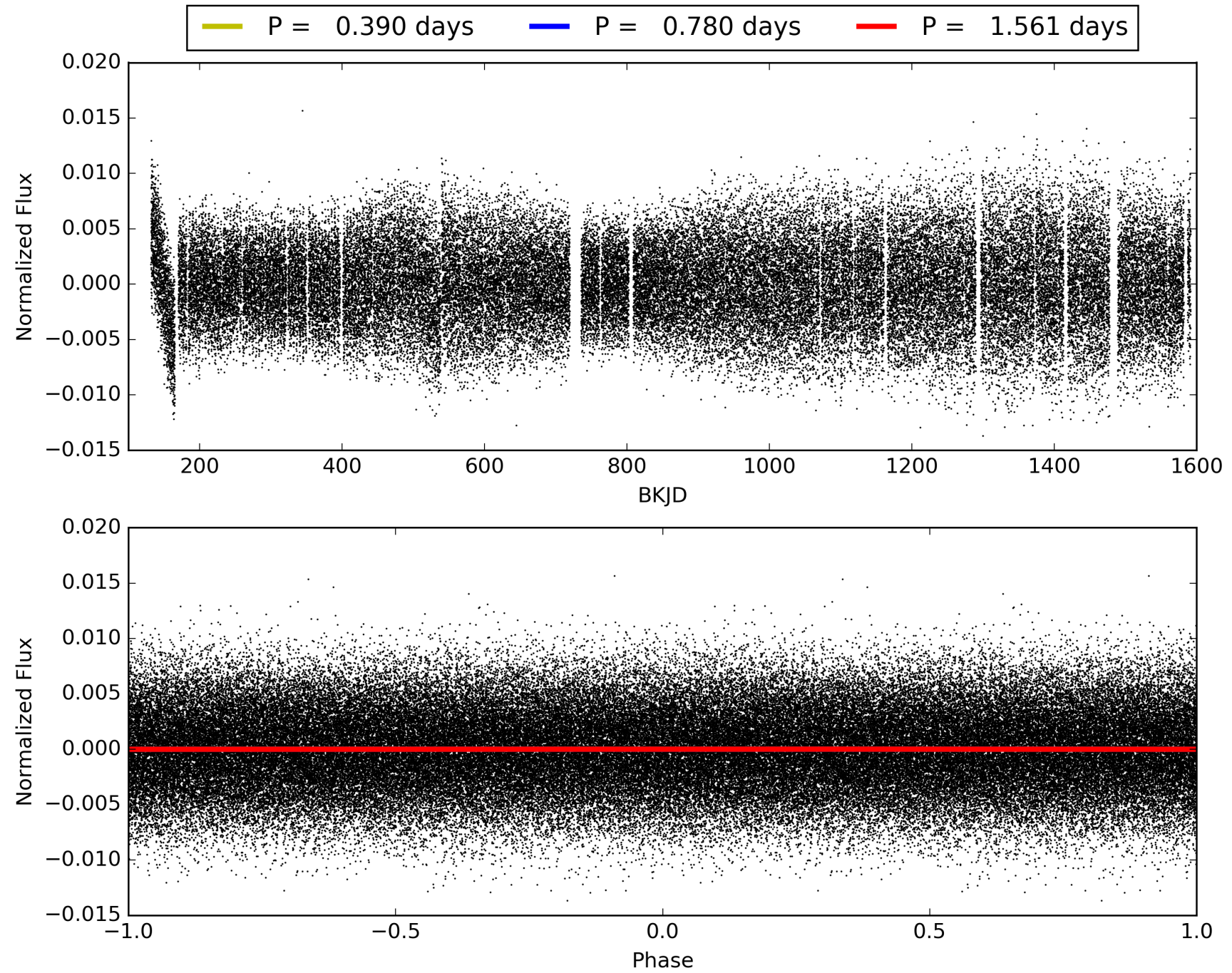
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:13:05 Z

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

TCE 007918737-02, PDC Light Curves

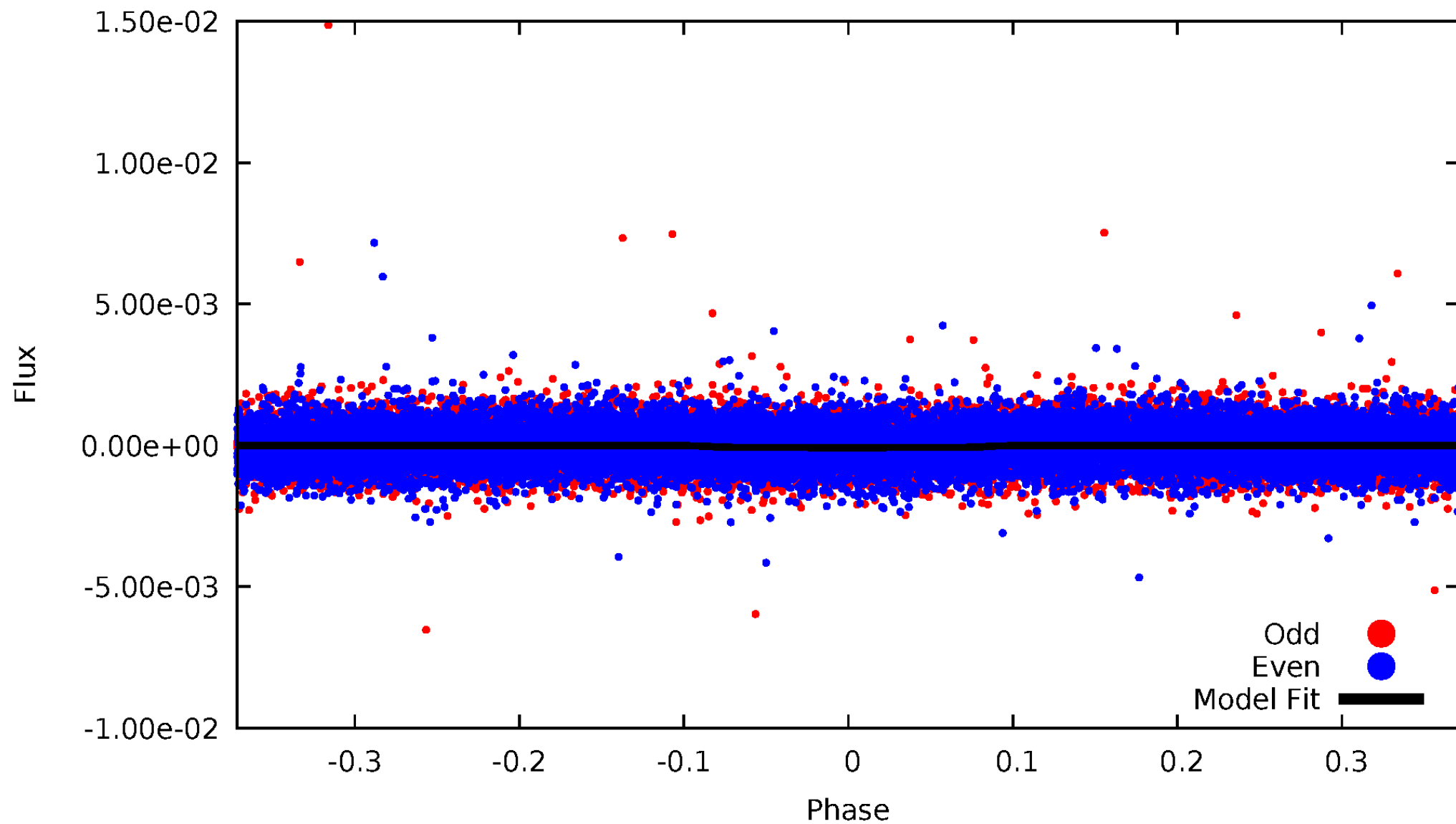


TCE 007918737-02



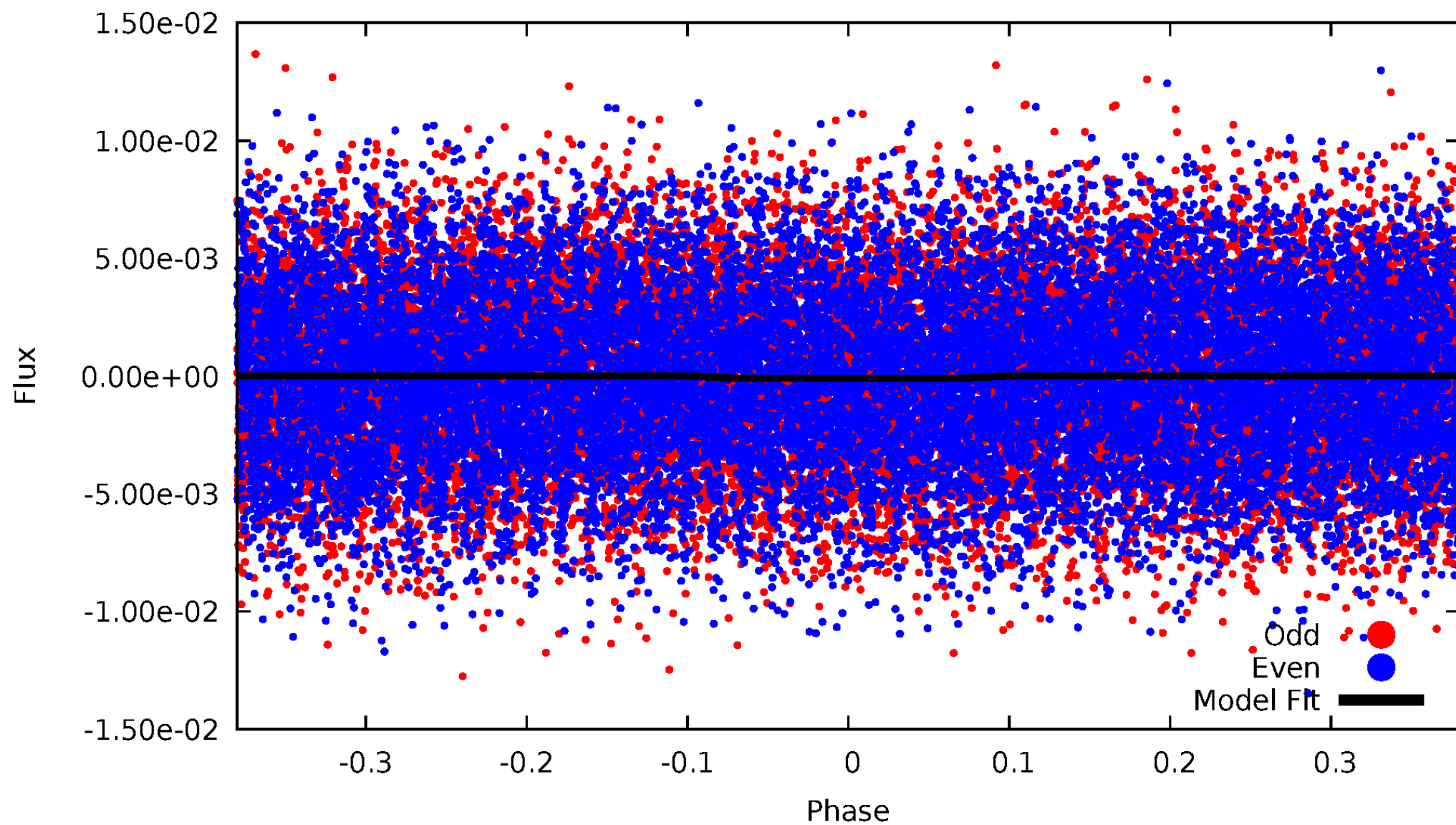
DV Odd/Even

TCE 007918737-02



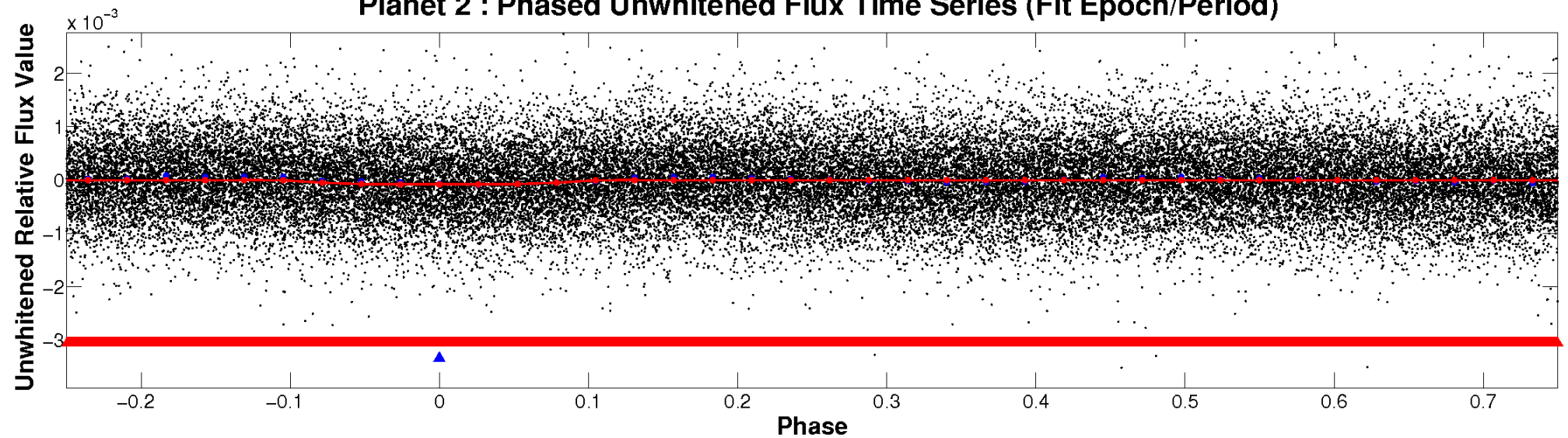
ALT Odd/Even

TCE 007918737-02

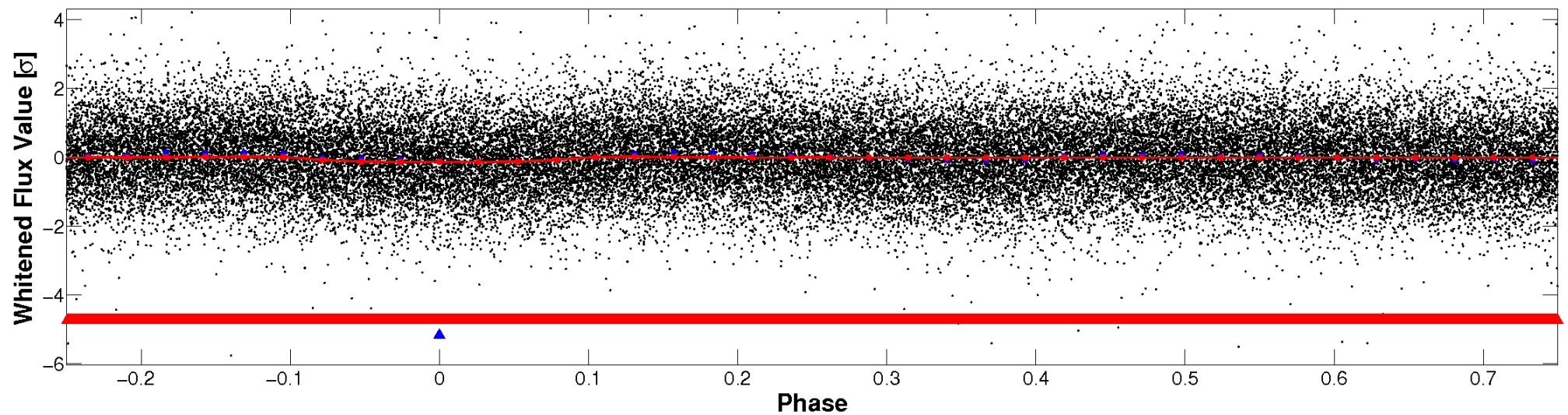


Non-Whitened Vs. Whitened Light Curve

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

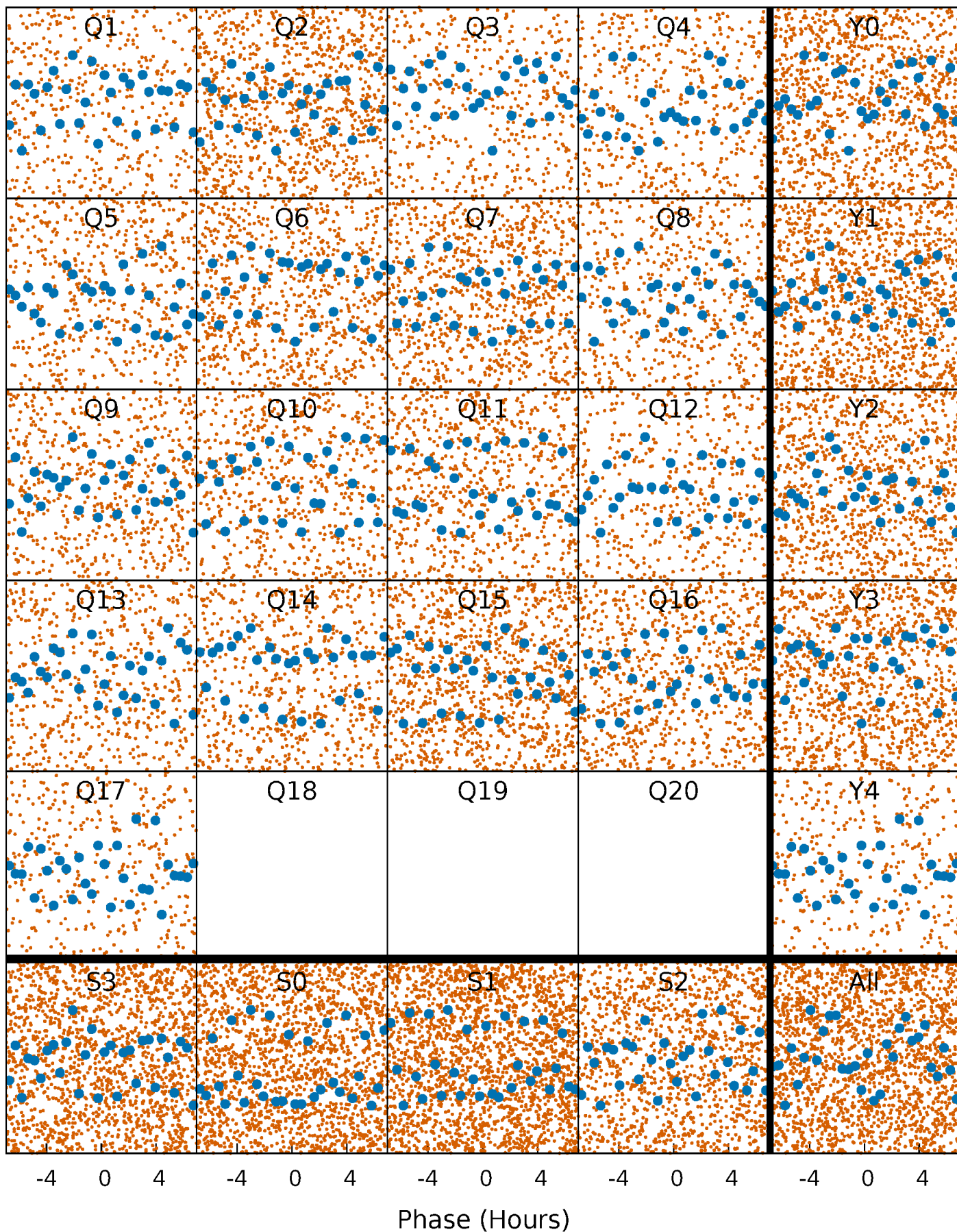


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



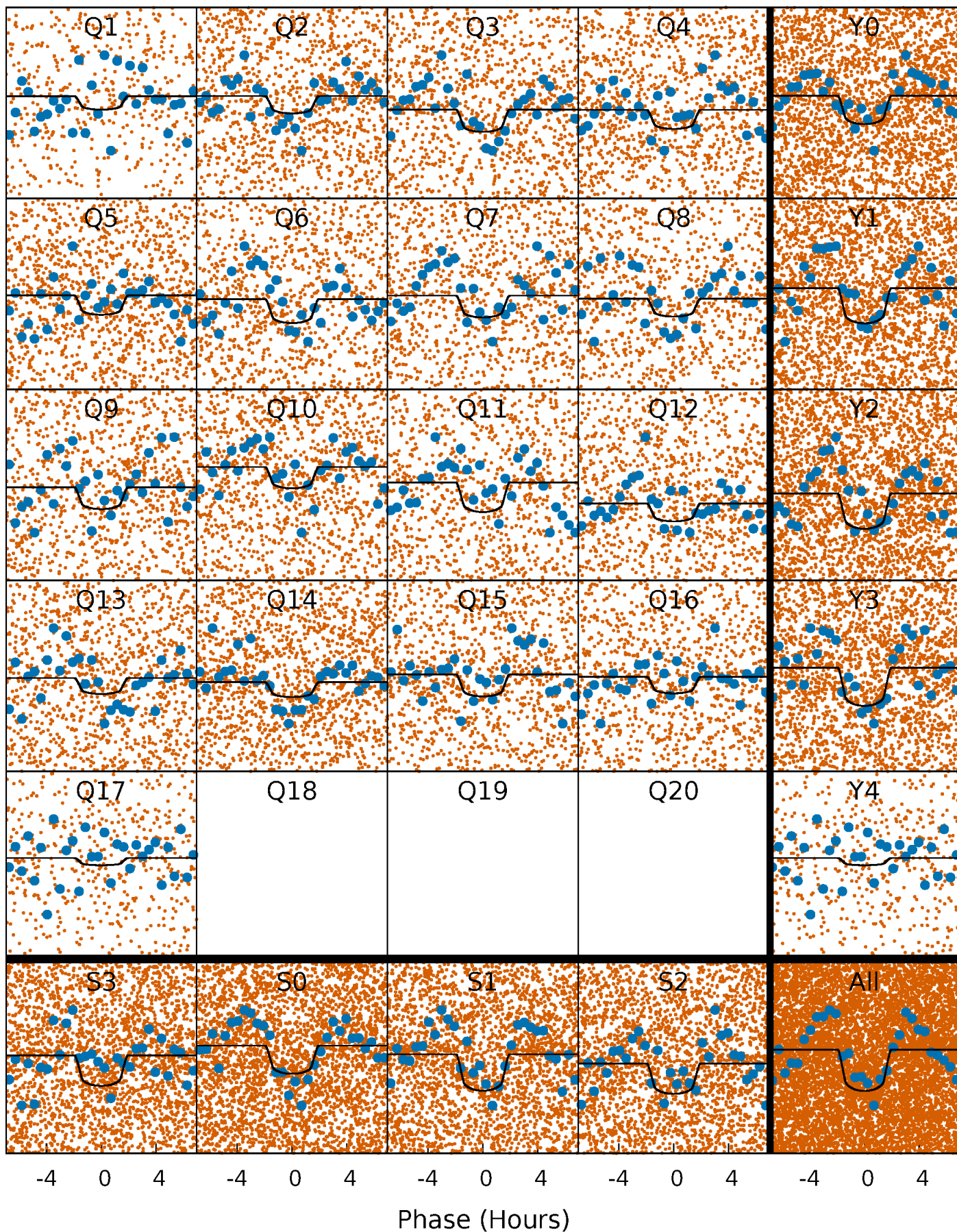
PDC Quarter-Phased Transit Curves

TCE 007918737-02 P= 0.780422 Days $T_0=131.672740$ (BKJD)



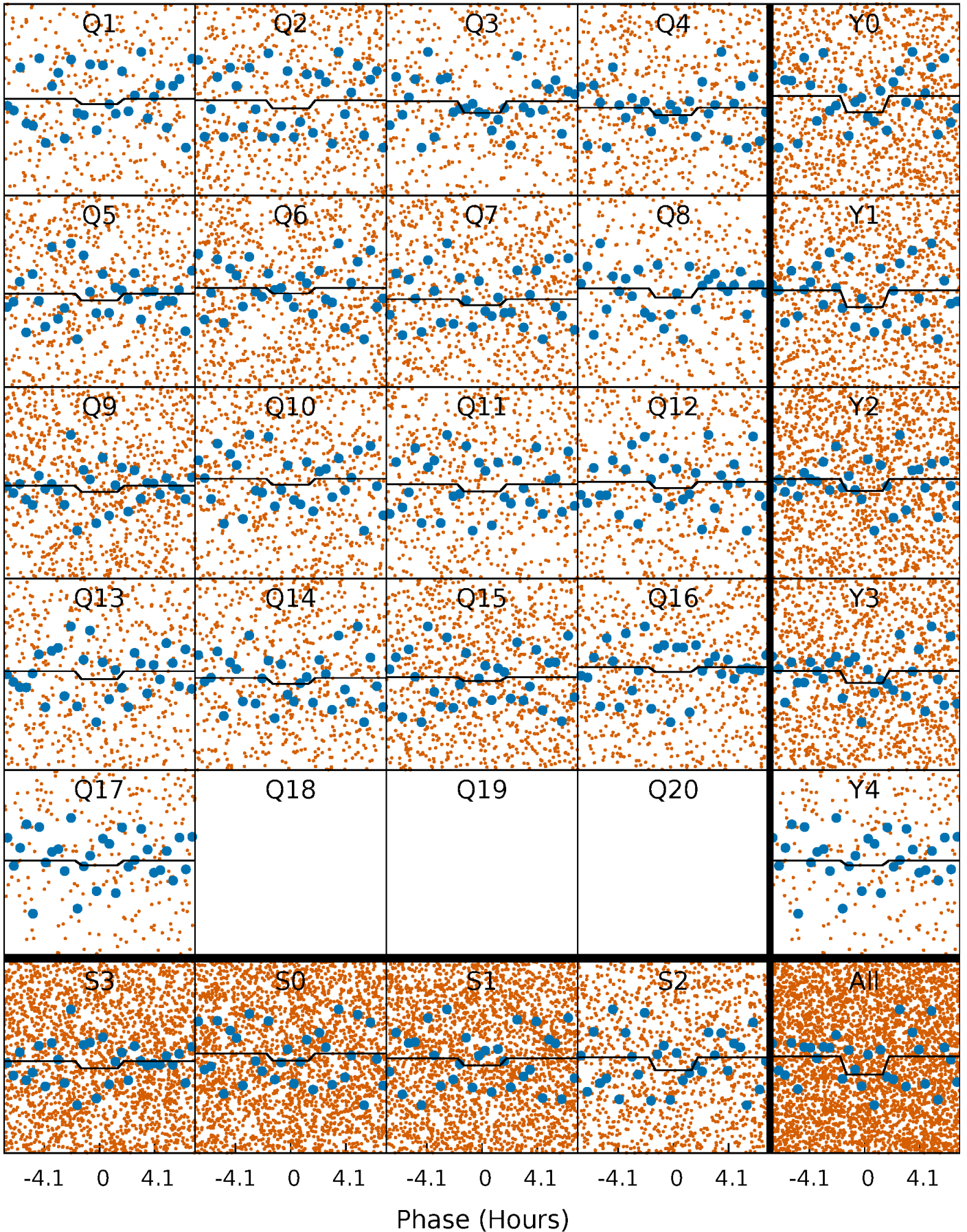
DV Quarter-Phased Transit Curves

TCE 007918737-02 P= 0.780422 Days $T_0=131.672740$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

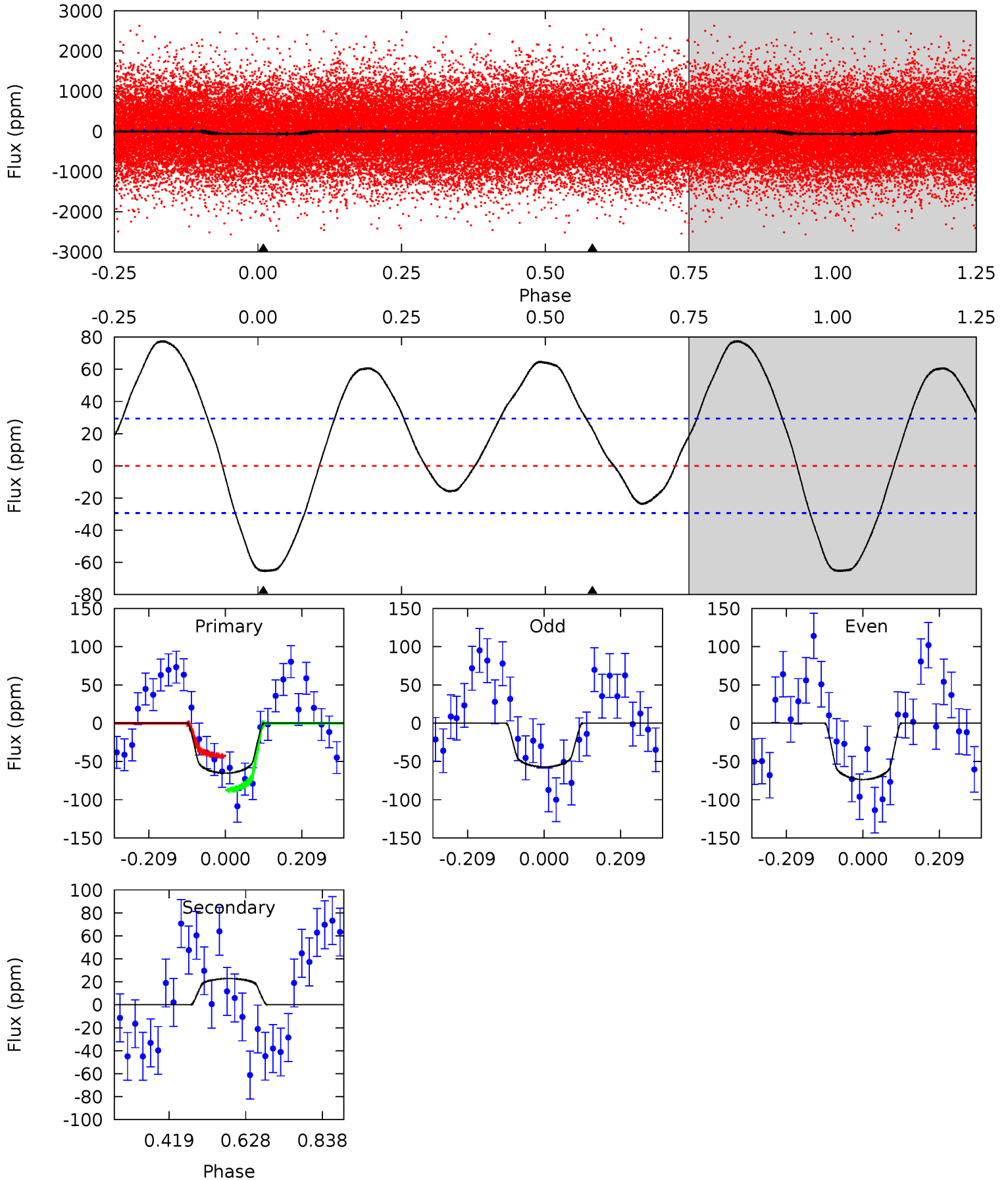
TCE 007918737-02 $P = 0.780426$ Days $T_0 = 131.671493$ (BKJD)



DV Model-Shift Uniqueness Test

007918737-02, P = 0.780422 Days, E = 130.892318 Days

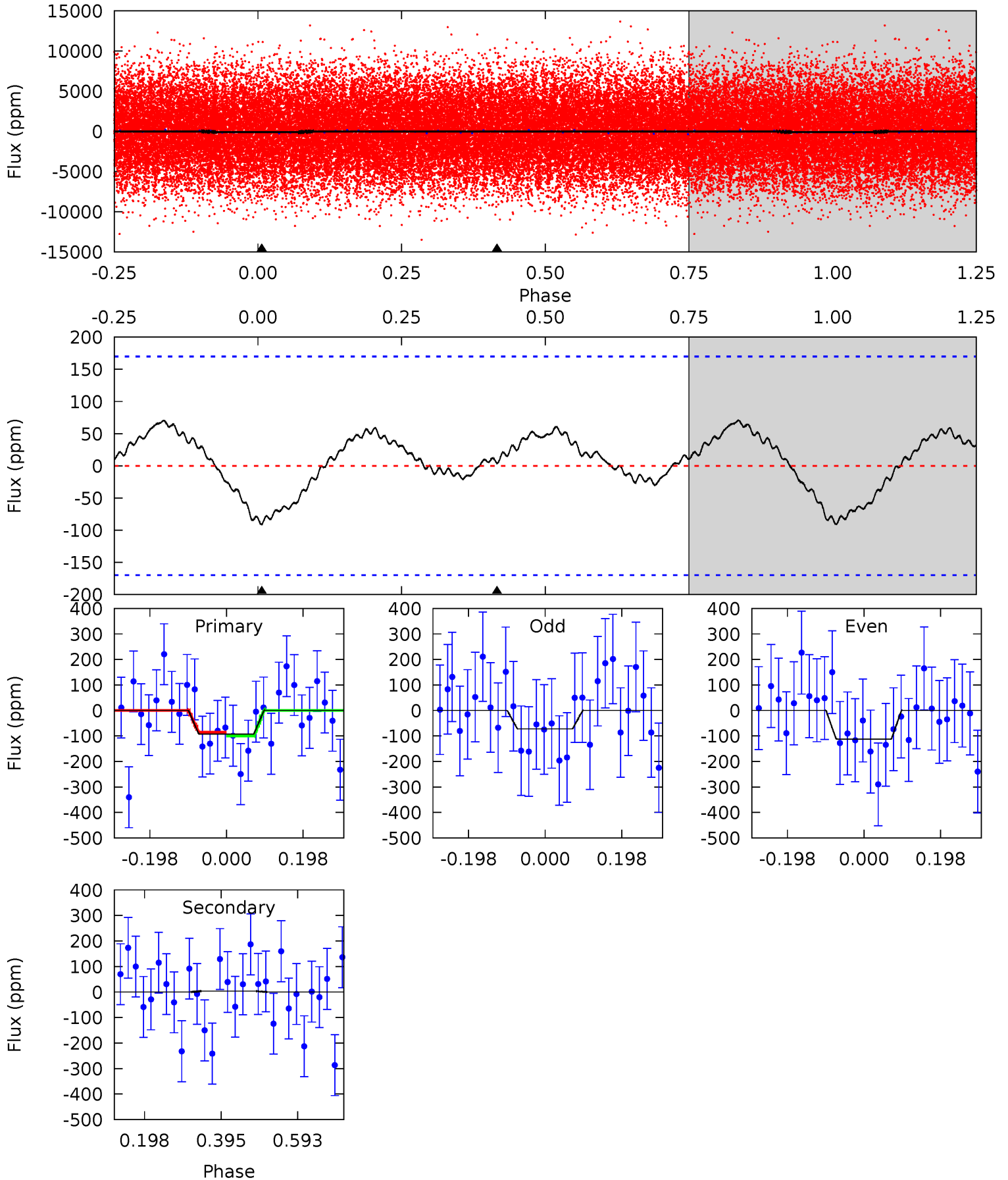
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.80	-3.43	0	0	4.41	1.26	3.66	9.80	9.80	-3.43	-3.43	1.24	0.91	0.54	3.34



Alt Model-Shift Uniqueness Test

007918737-02, P = 0.780426 Days, E = 130.891067 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.40	-0.09	0	0	4.42	1.29	0.64	2.40	2.40	-0.09	-0.09	0.52	0.63	0.44	0.19



Stellar Parameters For KIC 007918737

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7575^{+239}_{-292}	$3.570^{+0.540}_{-0.060}$	$-0.200^{+0.250}_{-0.300}$	$3.849^{+0.505}_{-2.021}$	$2.010^{+0.146}_{-0.510}$	$0.050^{+0.313}_{-0.010}$
	+3%/-4%	+15%/-2%	+125%/-150%	+13%/-53%	+7%/-25%	+631%/-19%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007918737-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	23 ± 7	$3.50^{+2.29}_{-1.81}$	6006^{+473}_{-810}	-5957^{+676}_{-1855}	$-0.422^{+0.271}_{-1.413}$
Alt.	3 ± 38	$3.51^{+2.52}_{-1.88}$	6013^{+472}_{-843}	-5007^{+10396}_{-1911}	$-0.038^{+0.944}_{-1.137}$

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

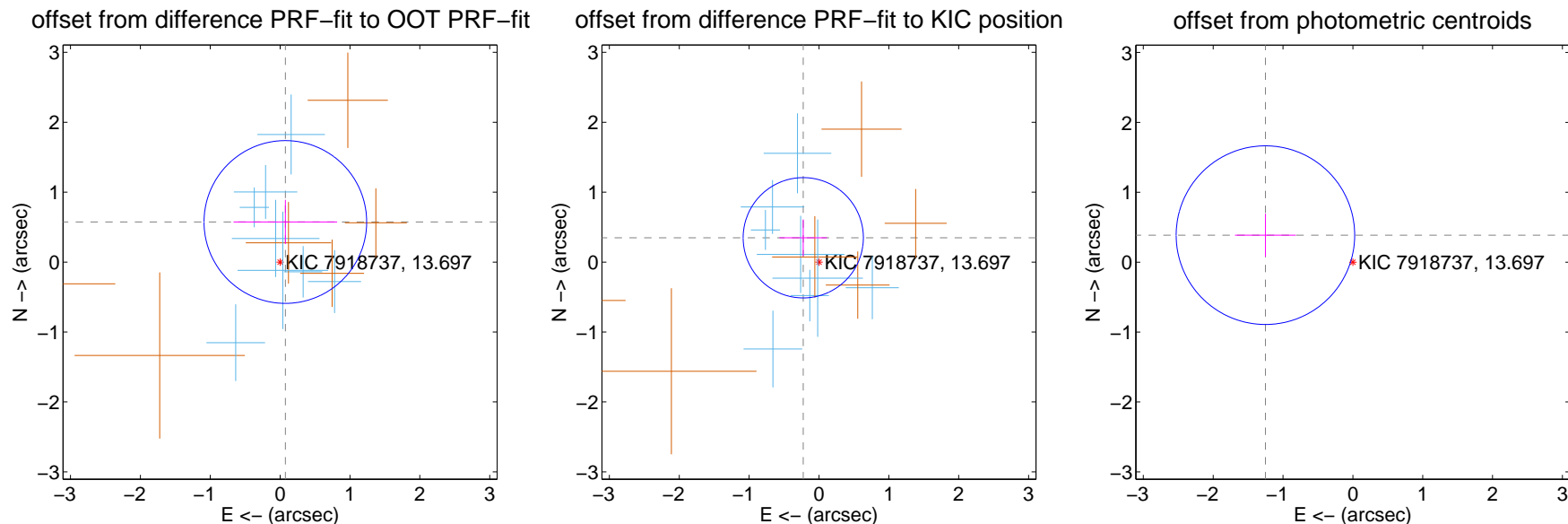
DV Centroid Data

Supplemental centroid analysis for 007918737-02. Kepler magnitude: 13.70. Transit SNR 10.19

There are 8 quarters with good PRF difference image offsets

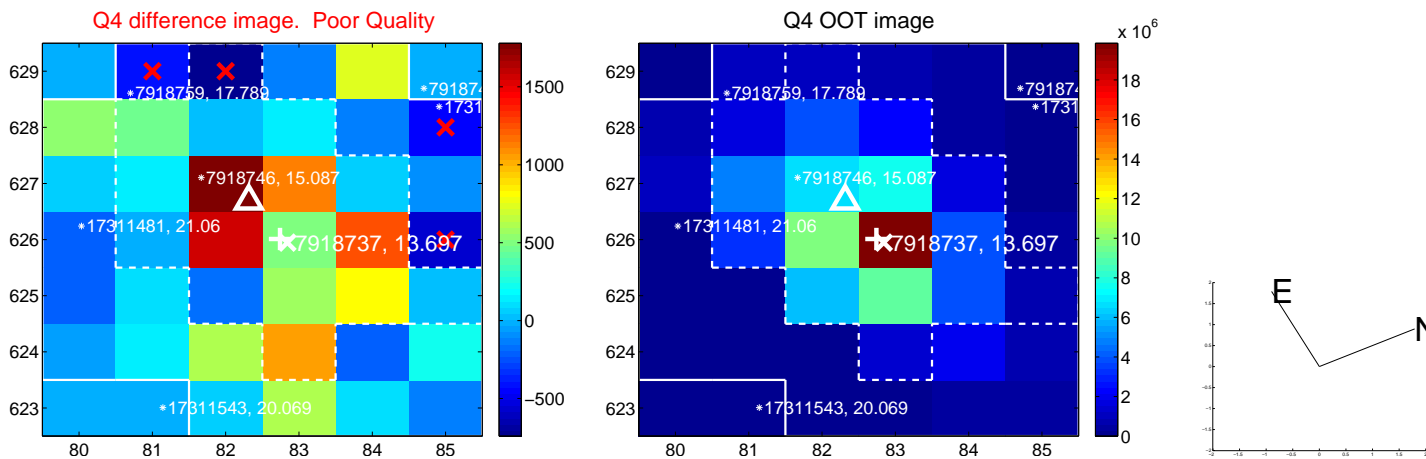
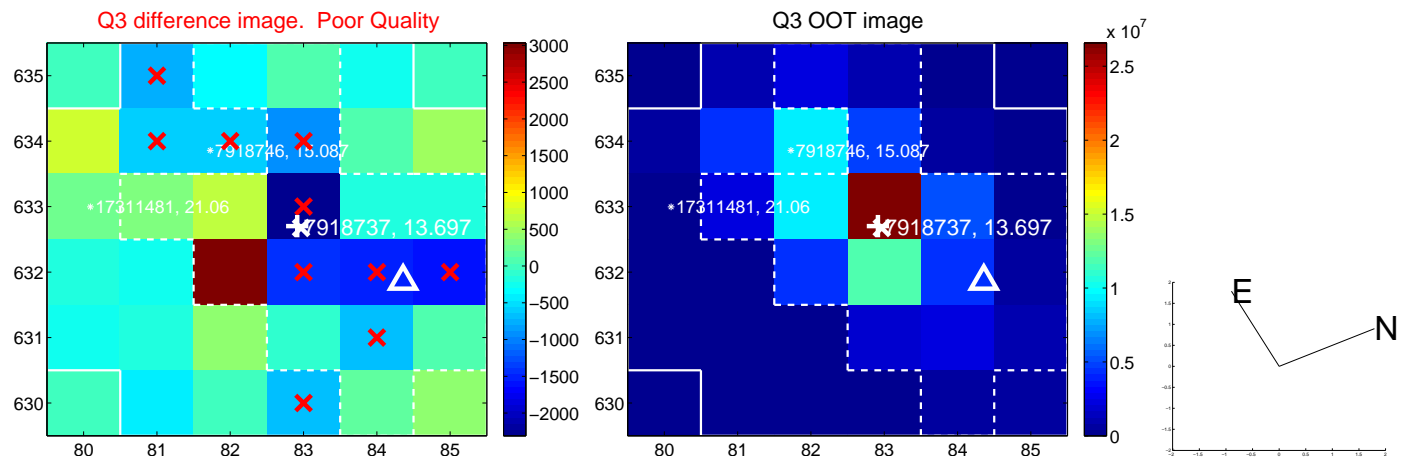
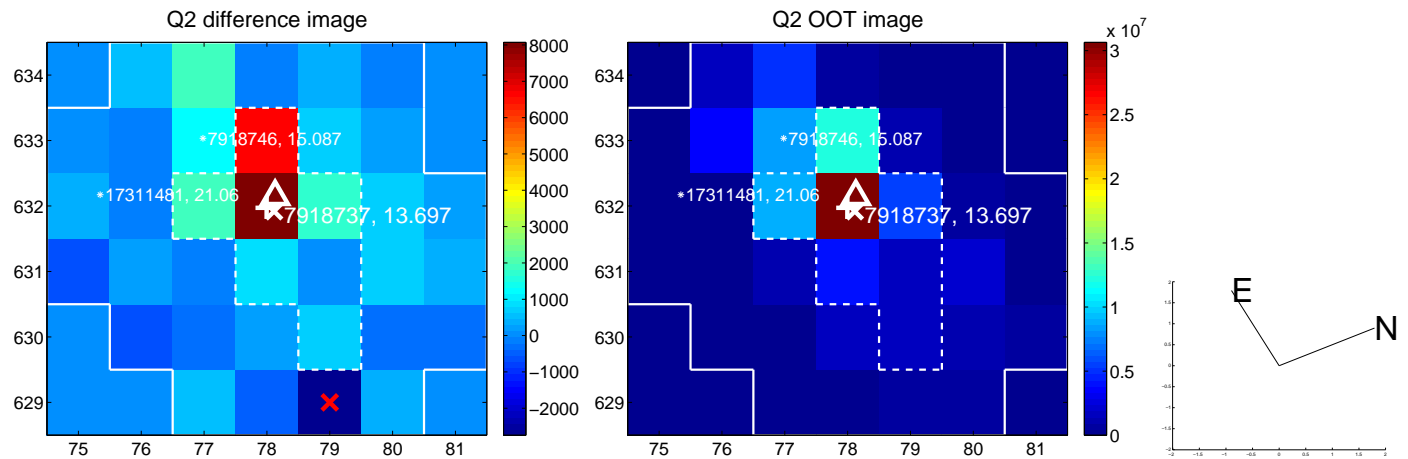
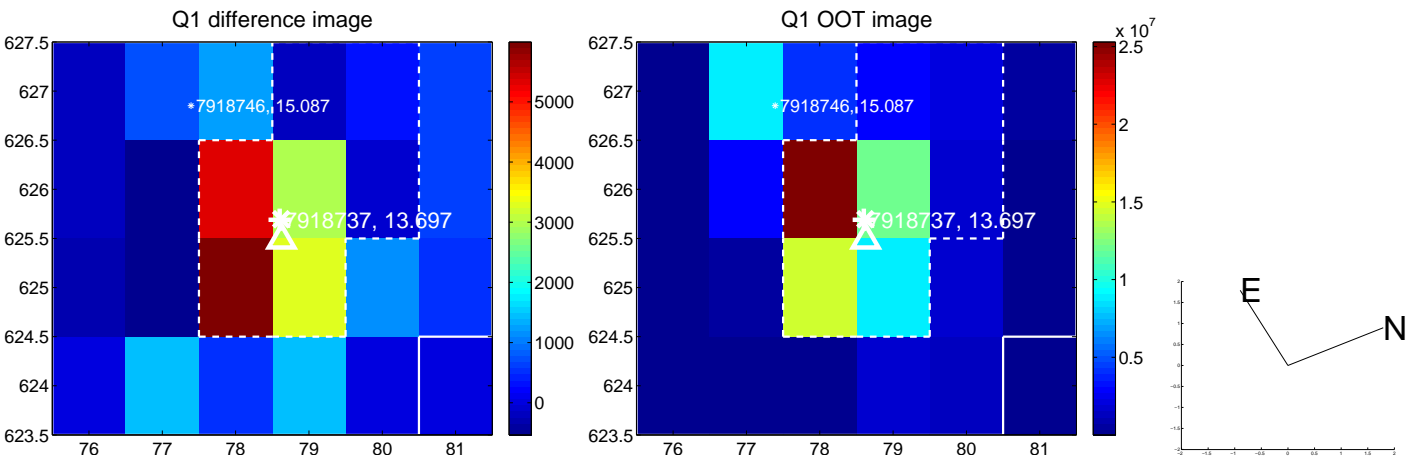
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.578 ± 0.388	1.49	-0.075 ± 0.742	0.573 ± 0.316
PRF-fit source offset from KIC position	0.414 ± 0.287	1.44	0.225 ± 0.339	0.348 ± 0.262
photometric centroid source offset	1.31 ± 0.43	3.08	1.25 ± 0.44	0.39 ± 0.31

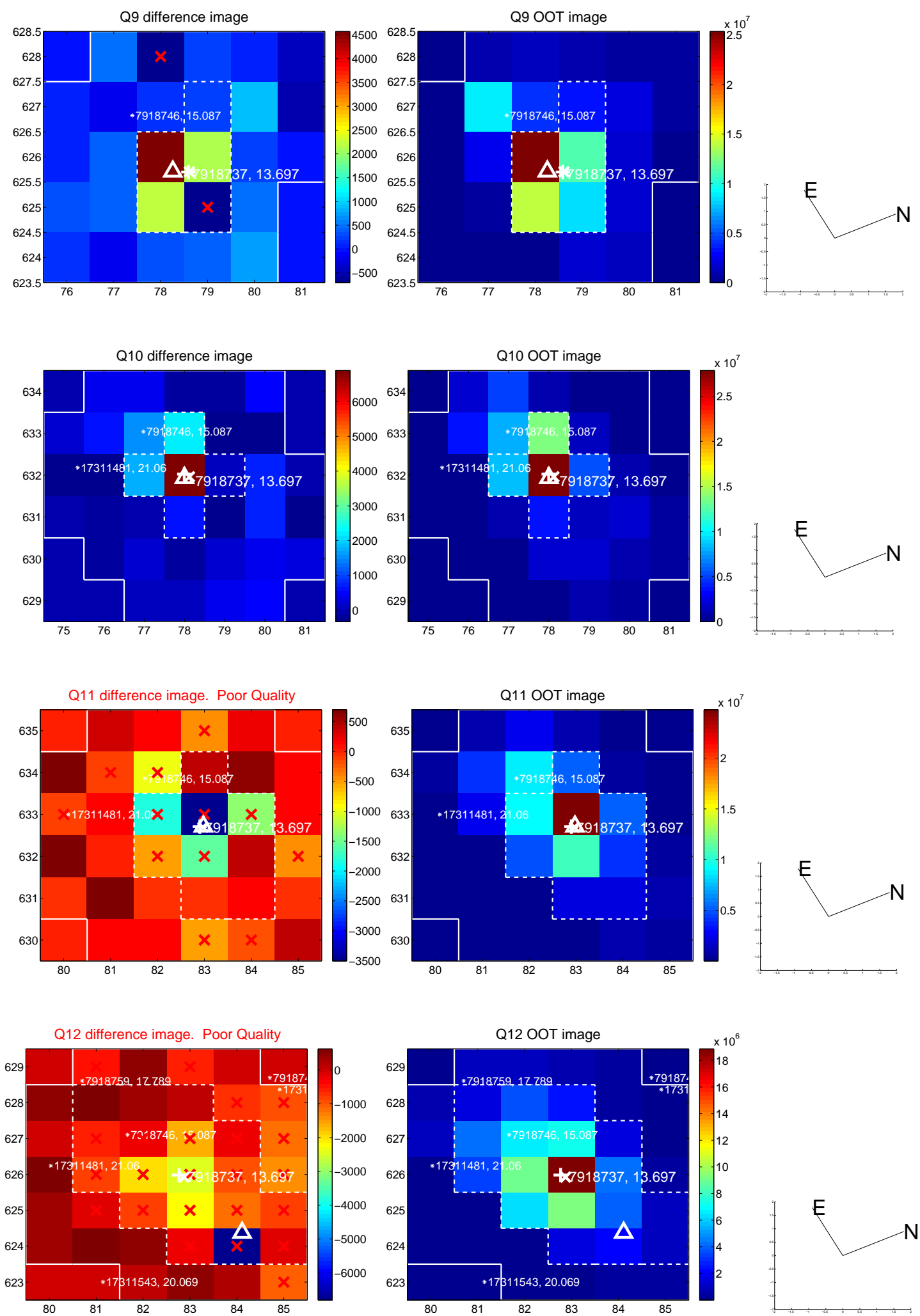


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

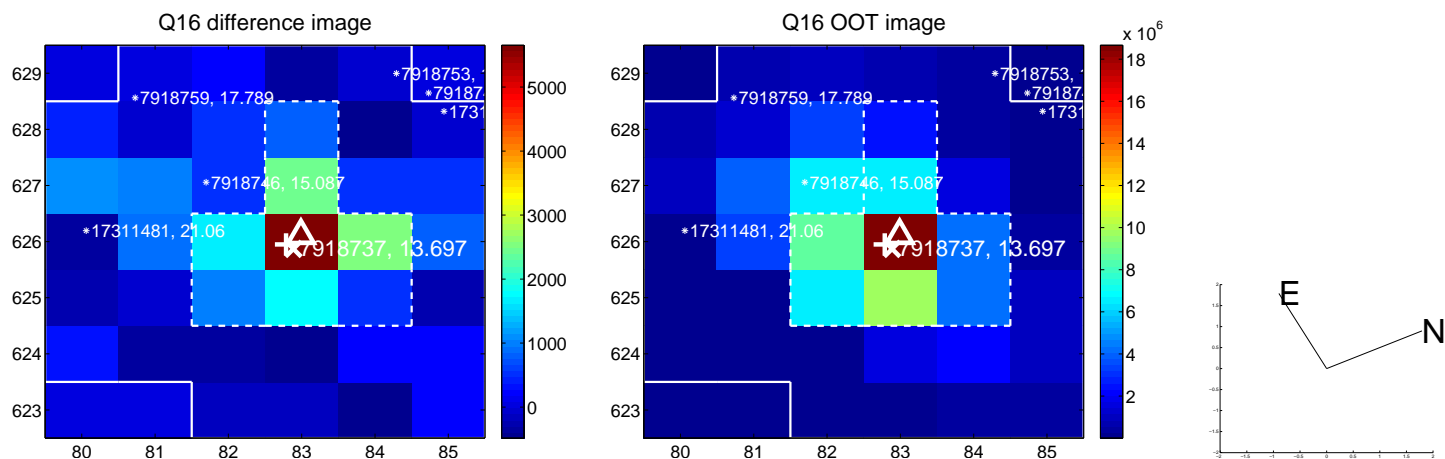
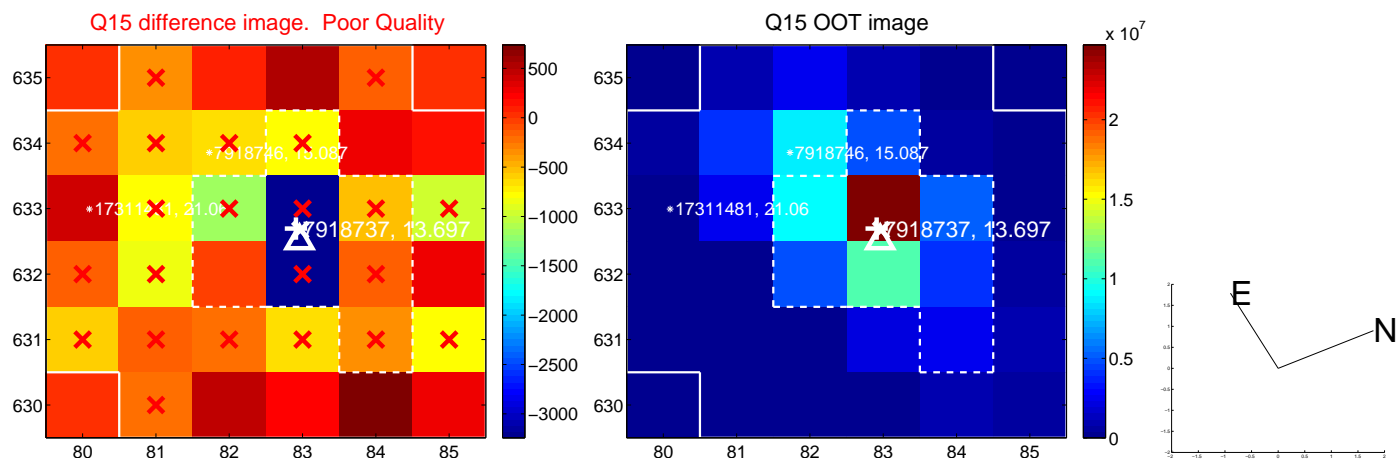
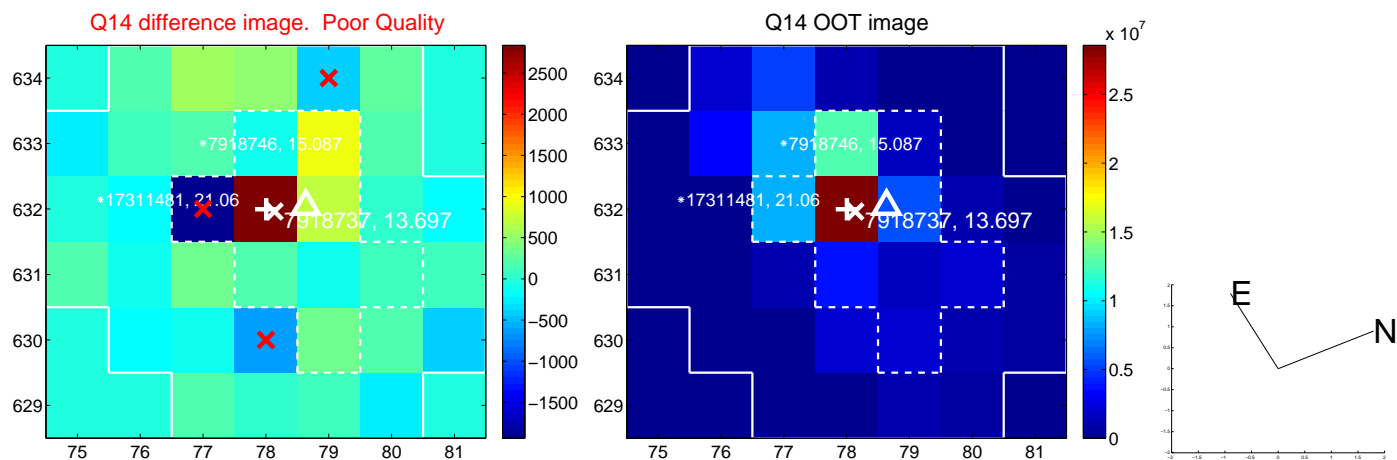
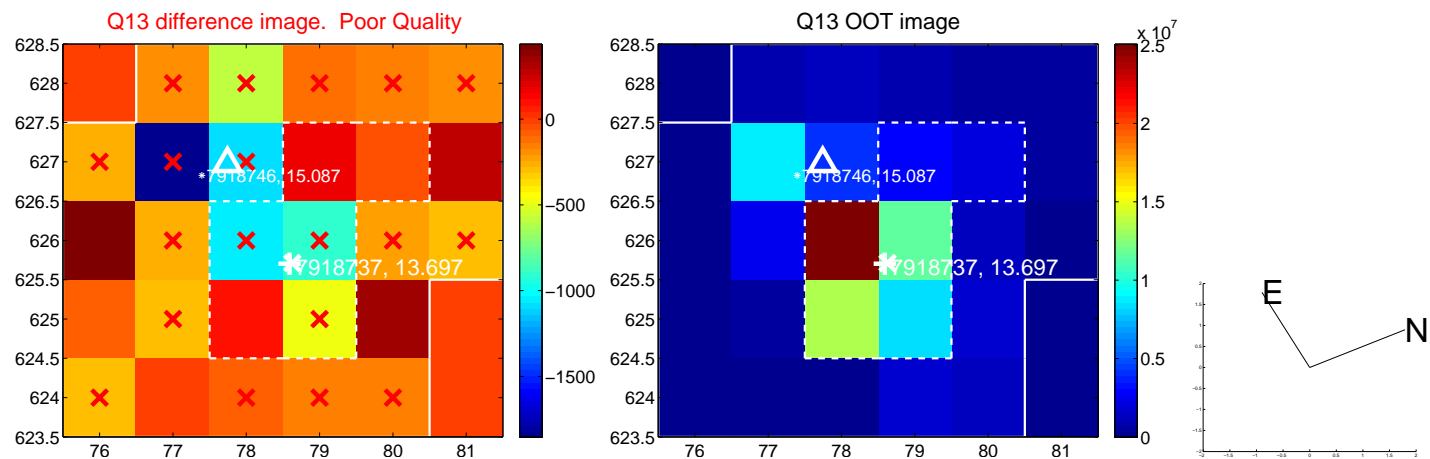
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



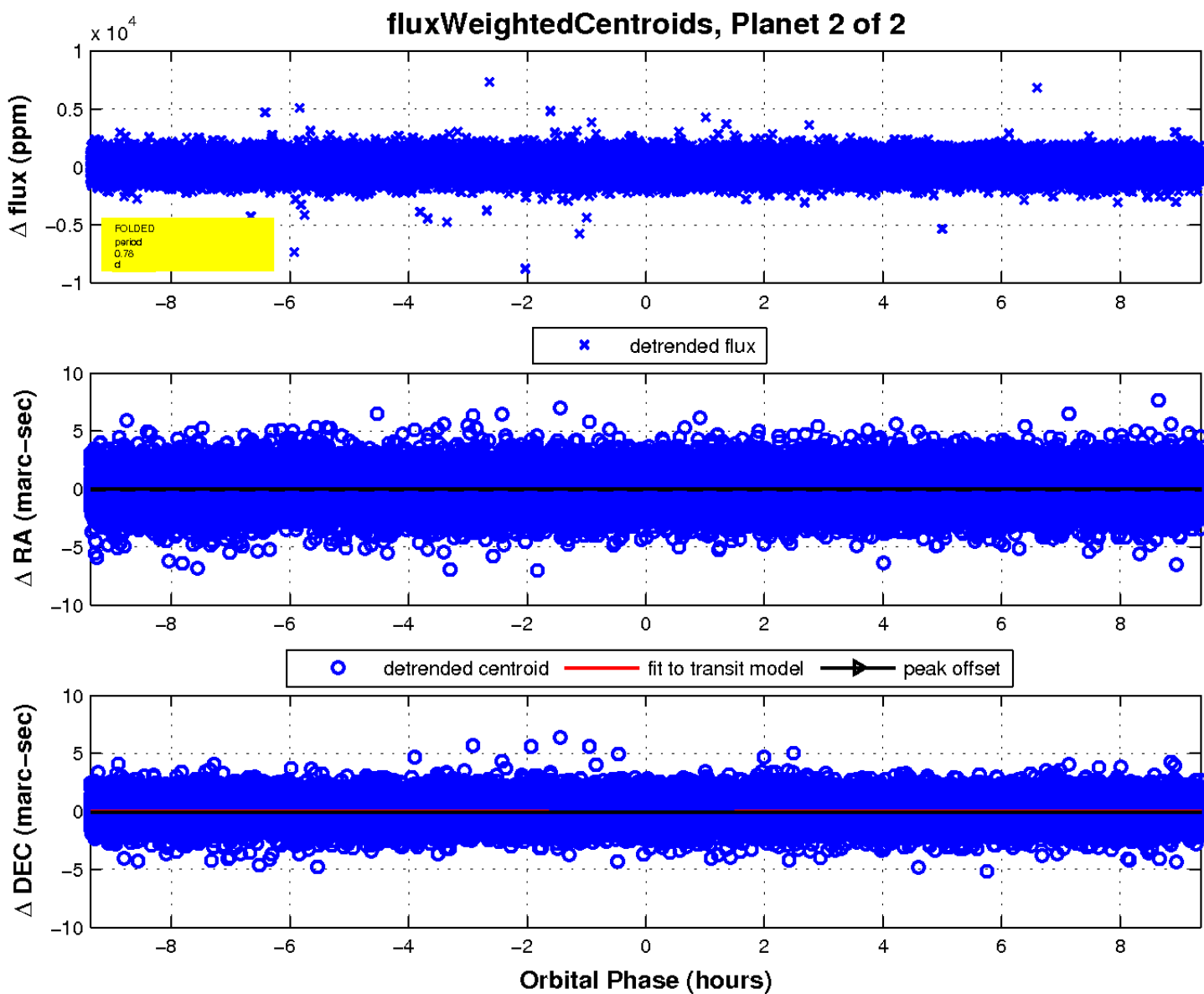
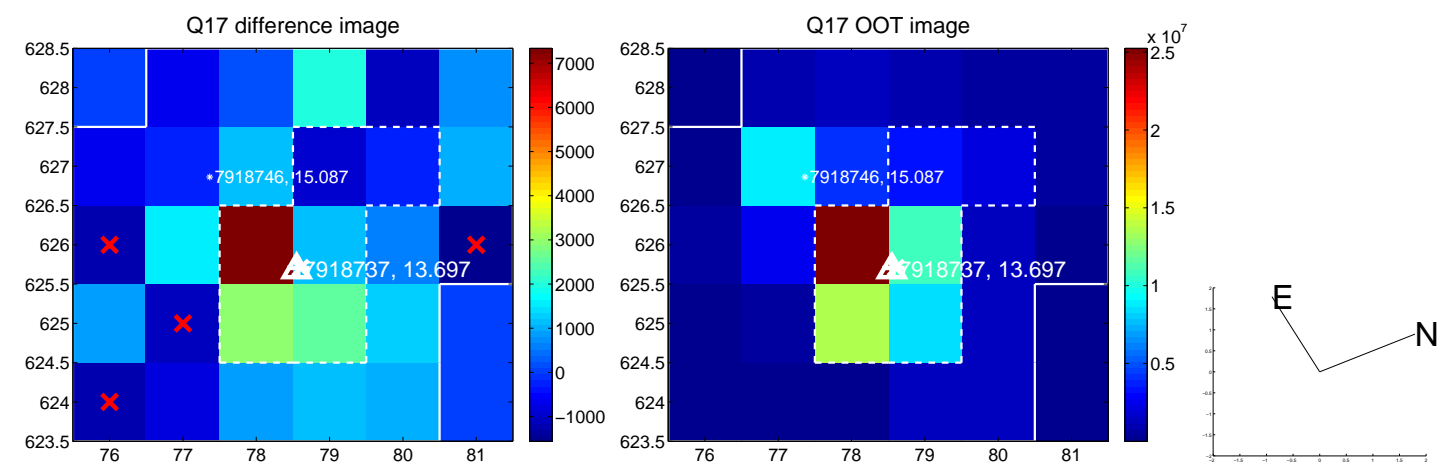
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UKIRT Image

Declination

