

KIC 007301640

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})
007301640-01	OBS	No	1.336646	132.065771	63.8	7.594	10.1	9.8	1.78	7239	1.44	10296.65
007301640-02	OBS	No	61.746490	189.009519	454.6	6.402	7.7	5.6	1.78	7239	4.05	62.12
007301640-03	OBS	No	54.053244	142.752319	452.0	7.573	8.2	7.4	1.78	7239	4.07	74.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007301640-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007301640-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007301640-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

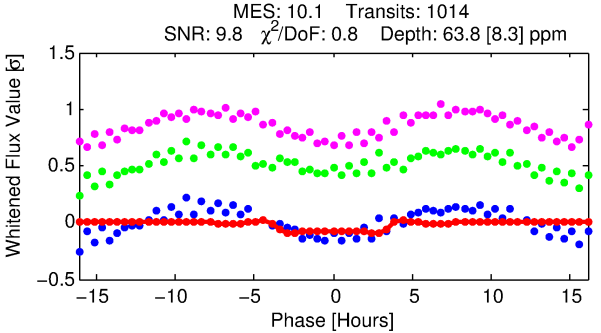
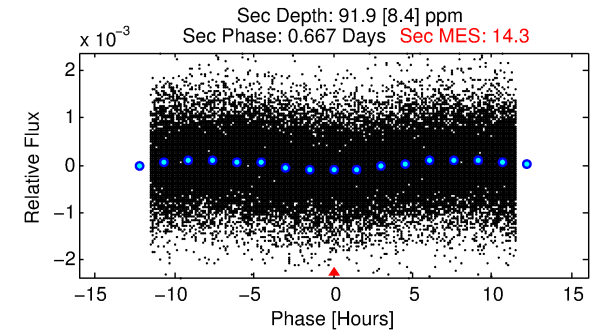
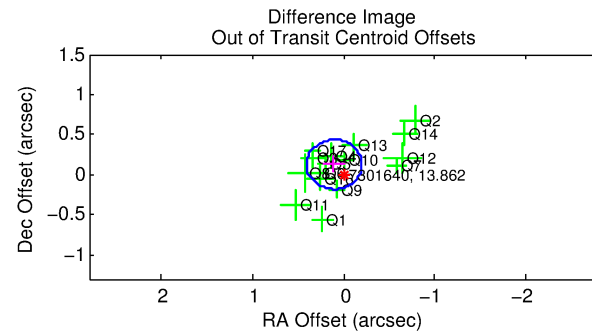
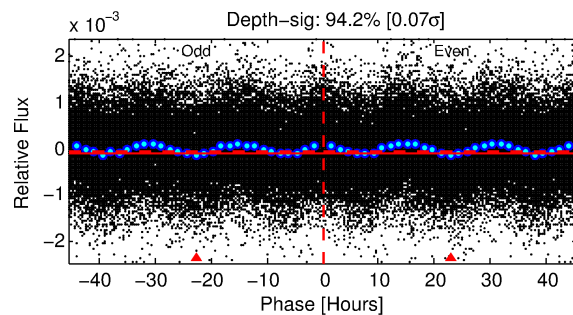
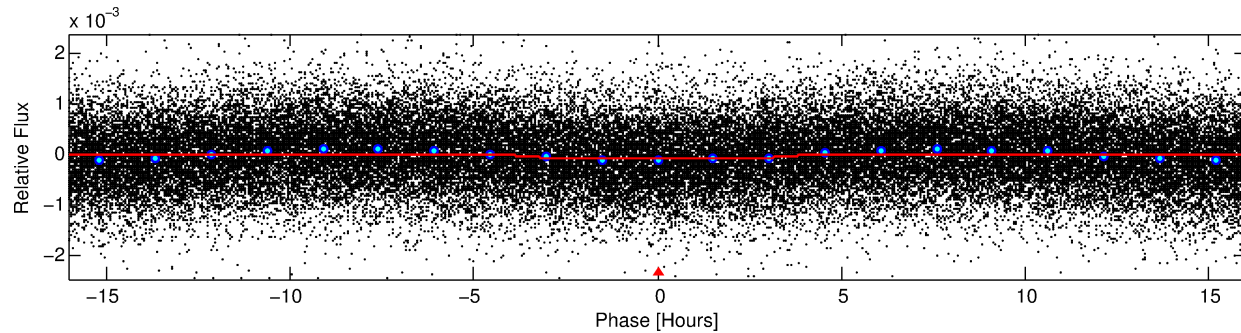
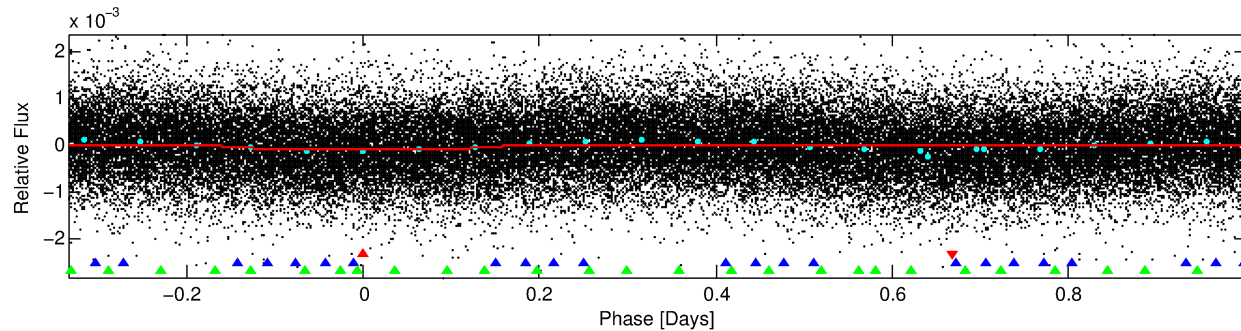
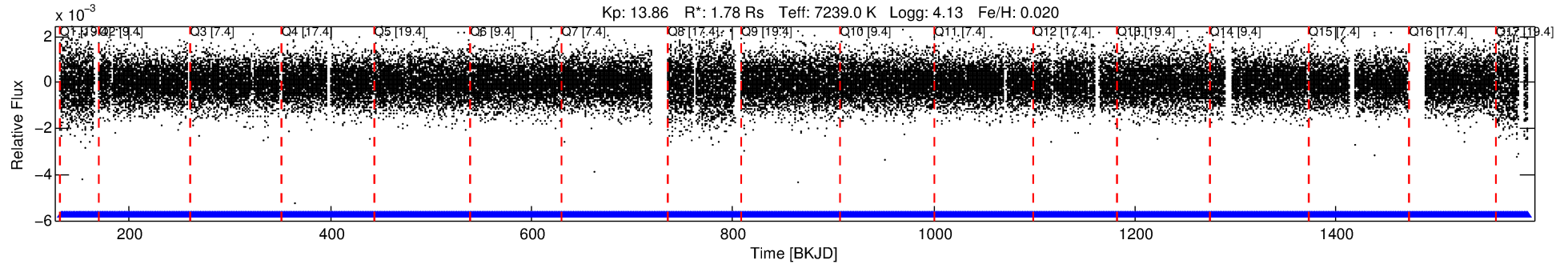
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007301640-01

No Significant Match Found

DV One-Page Summary

KIC: 7301640 Candidate: 1 of 3 Period: 1.337 d



DV Fit Results:

Period = 1.33665 [0.00002] d
Epoch = 132.0658 [0.0062] BKJD
Rp/R* = 0.0074 [0.0078]
a/R* = 1.49 [5.07]
b = 0.03 [217.59]
Seff = 10296.65 [4141.35]
Teq = 2569 [258] K
Rp = 1.44 [1.59] Re
a = 0.0275 [0.0071] AU
Ag = 18.49 [39.60] [0.44 σ]
Teffp = 8235 [4362] K [1.30 σ]

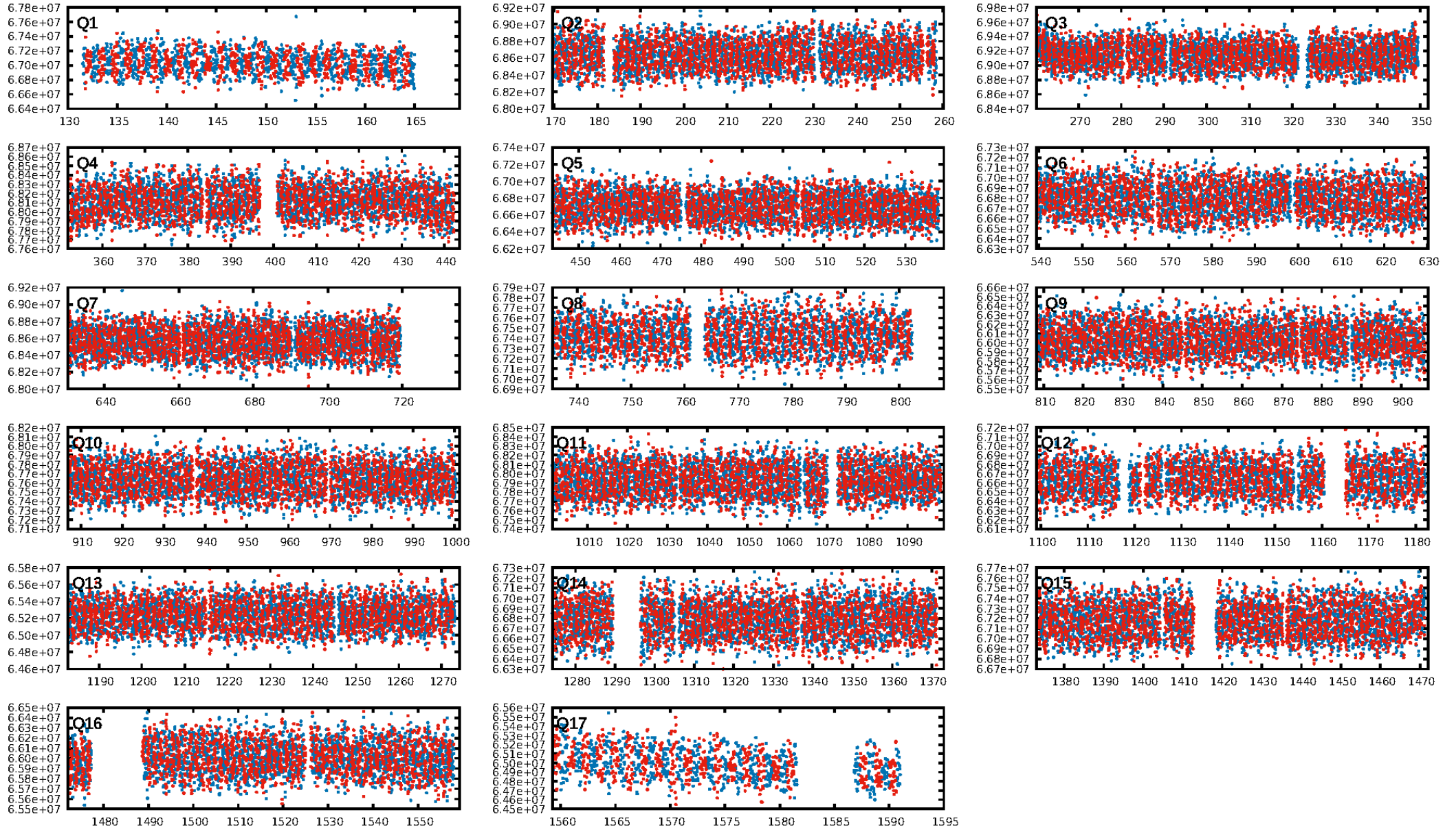
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [117.96 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.08e-10
RollingBand-fgt: 1.00 [969/969]
GhostDiagnostic-chr: 10.96
Centroid-sig: 0.0%
Centroid-so: 1.680 arcsec [2.76 σ]
OotOffset-rm: 0.163 arcsec [1.59 σ]
KicOffset-rm: 0.177 arcsec [1.83 σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

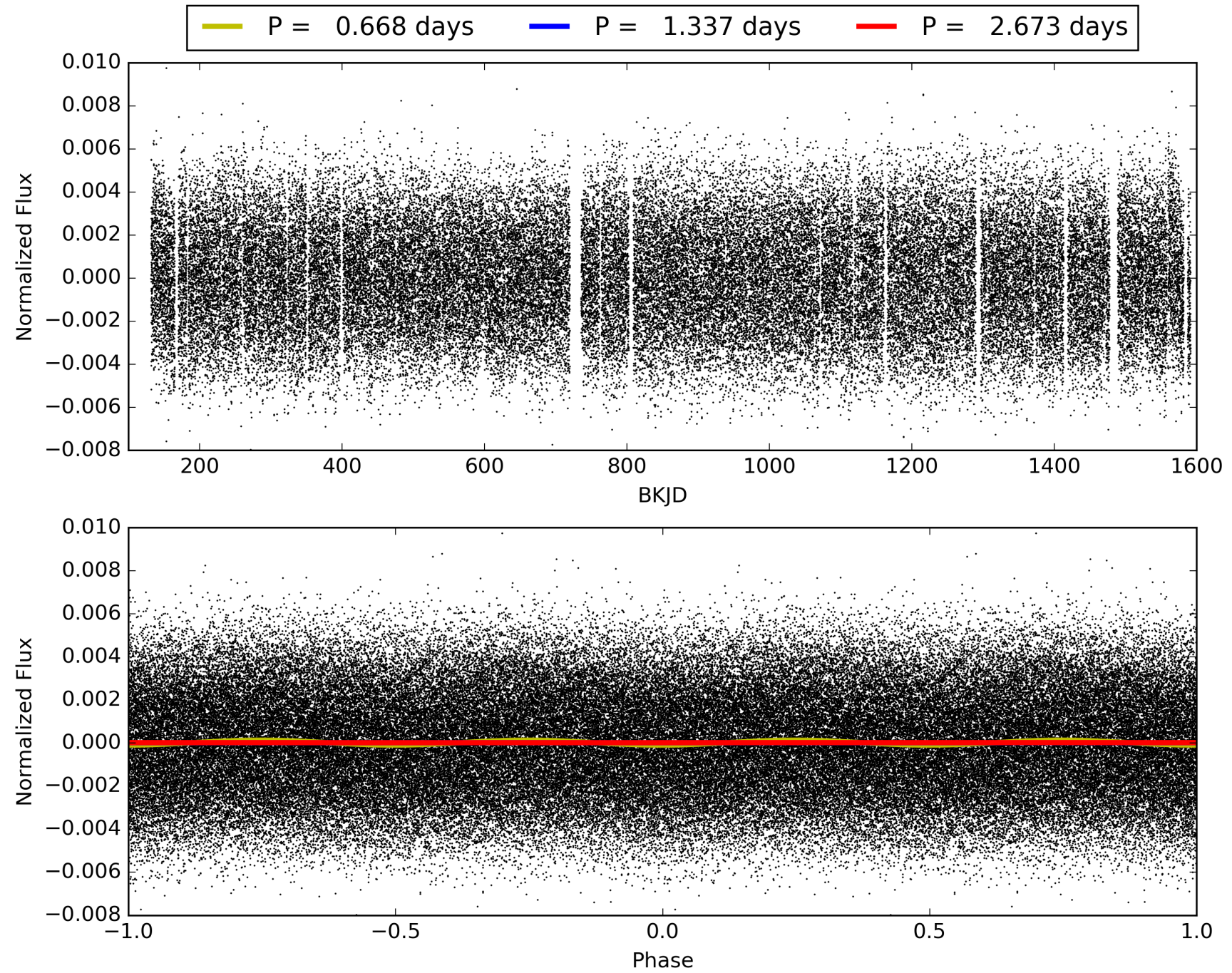
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007301640-01, PDC Light Curves

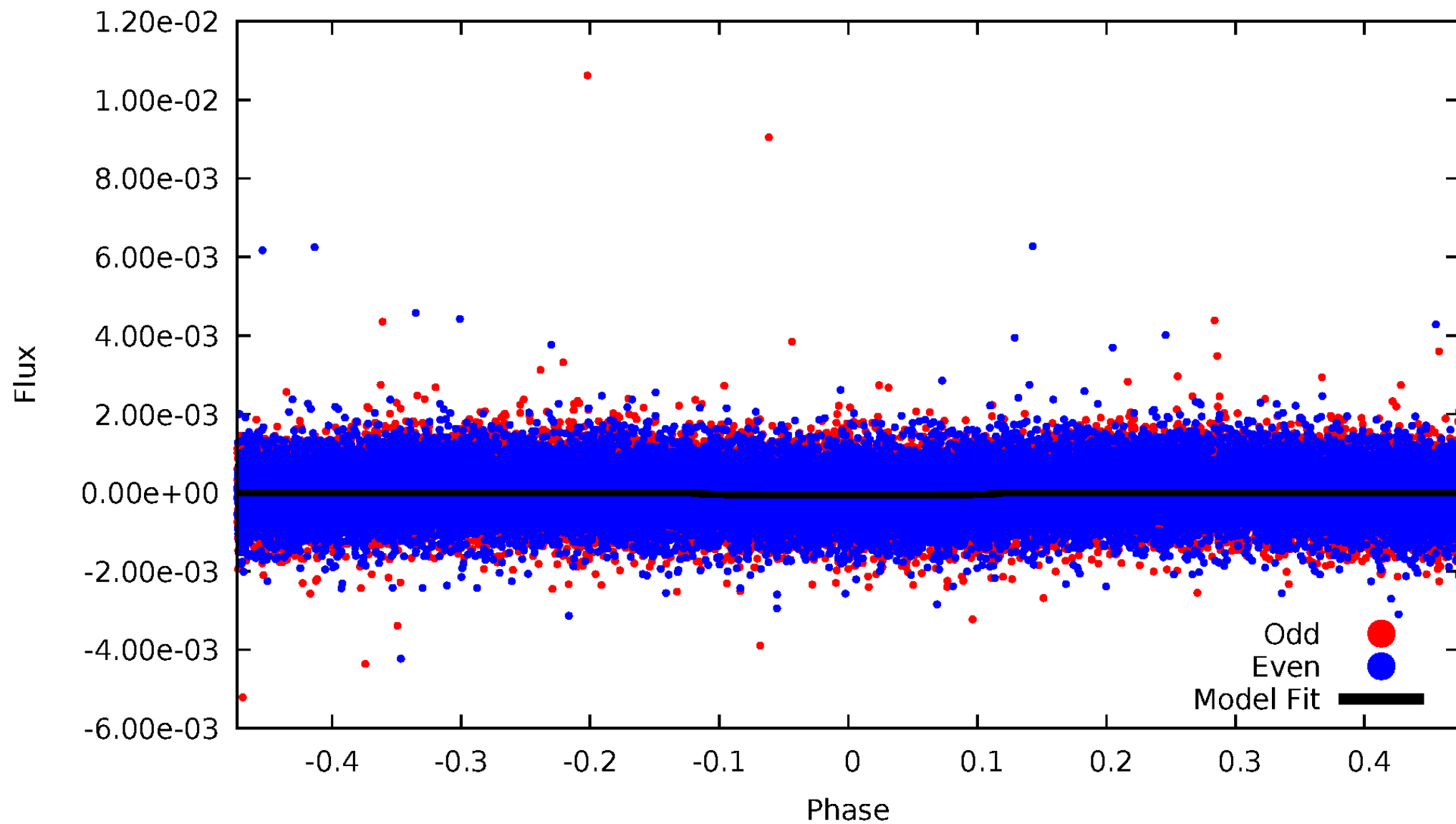


TCE 007301640-01



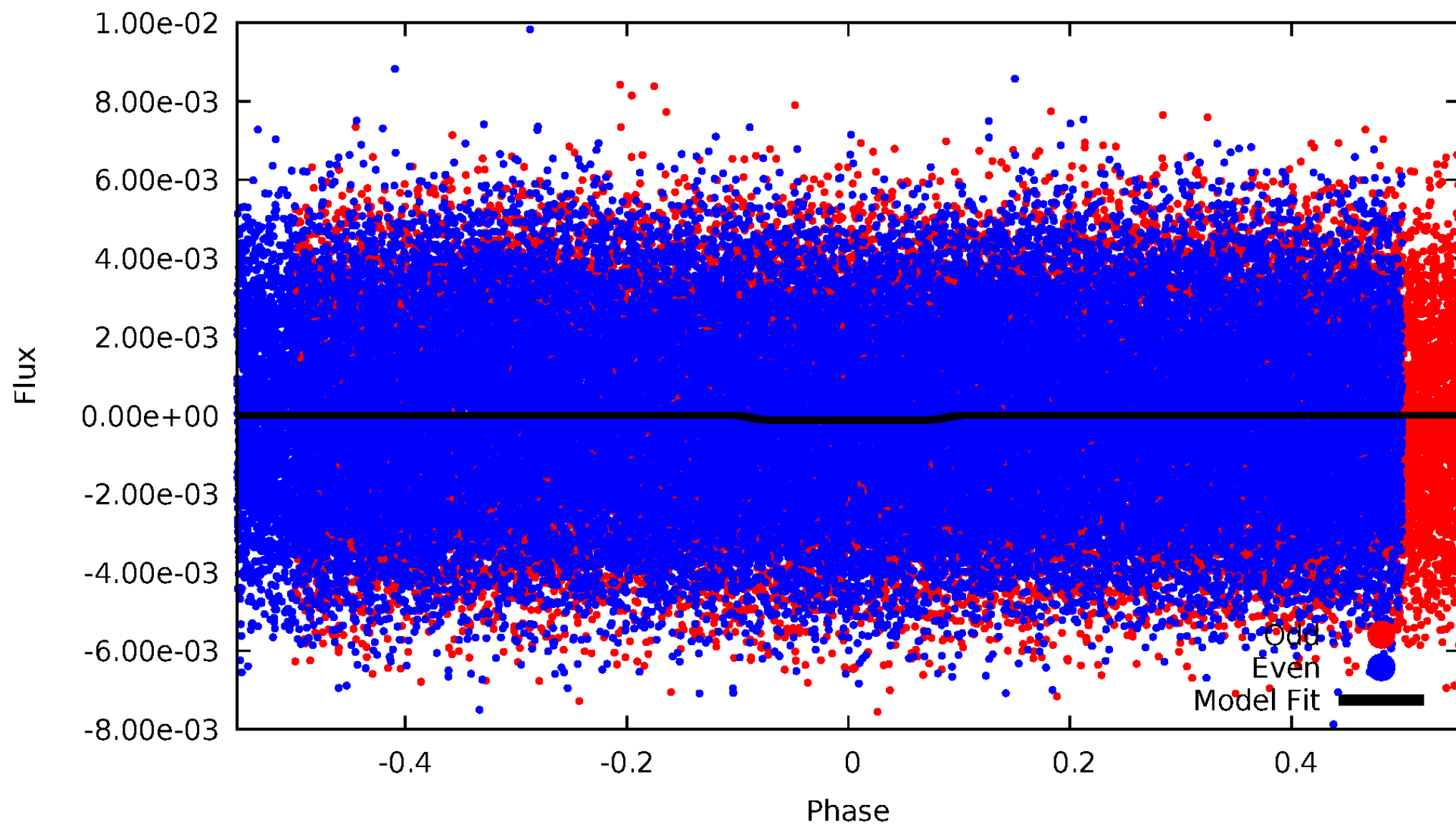
DV Odd/Even

TCE 007301640-01

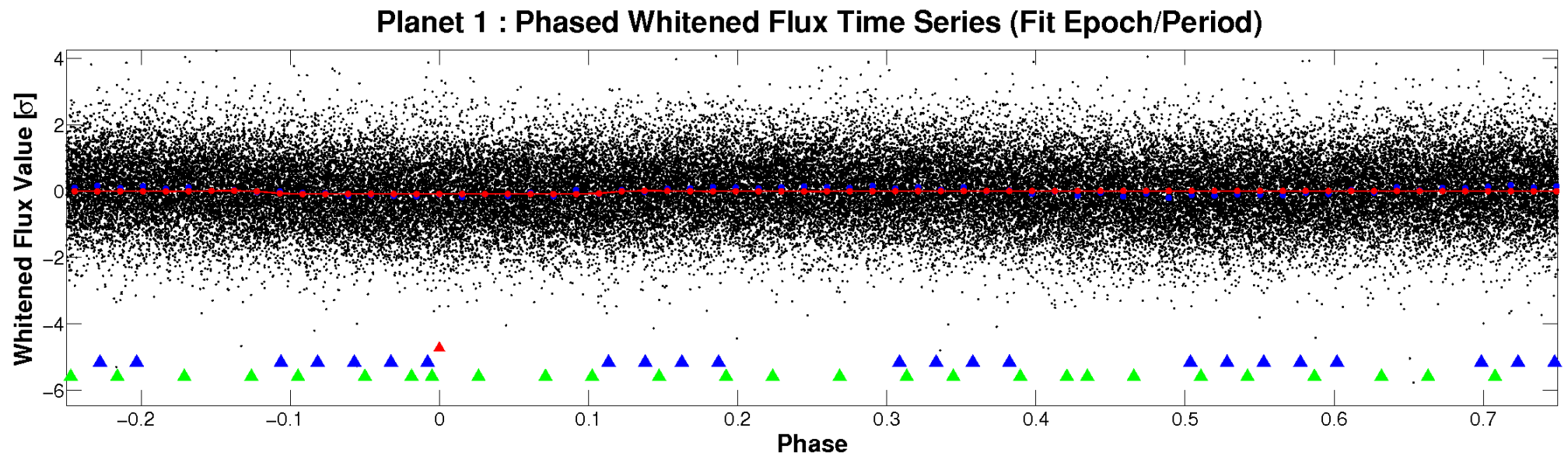
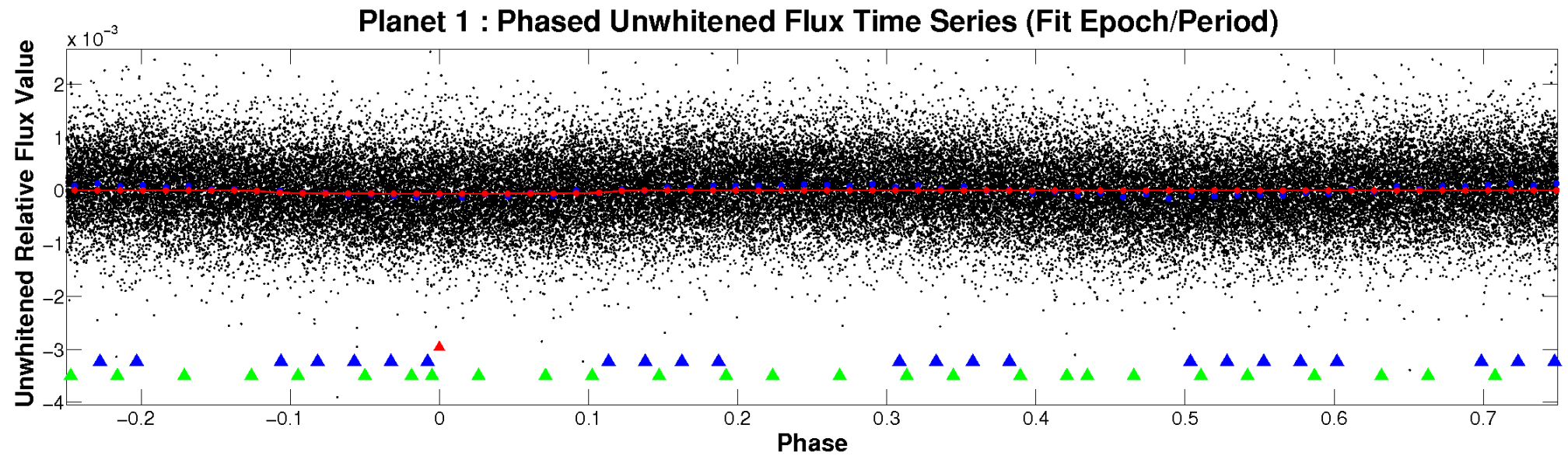


ALT Odd/Even

TCE 007301640-01

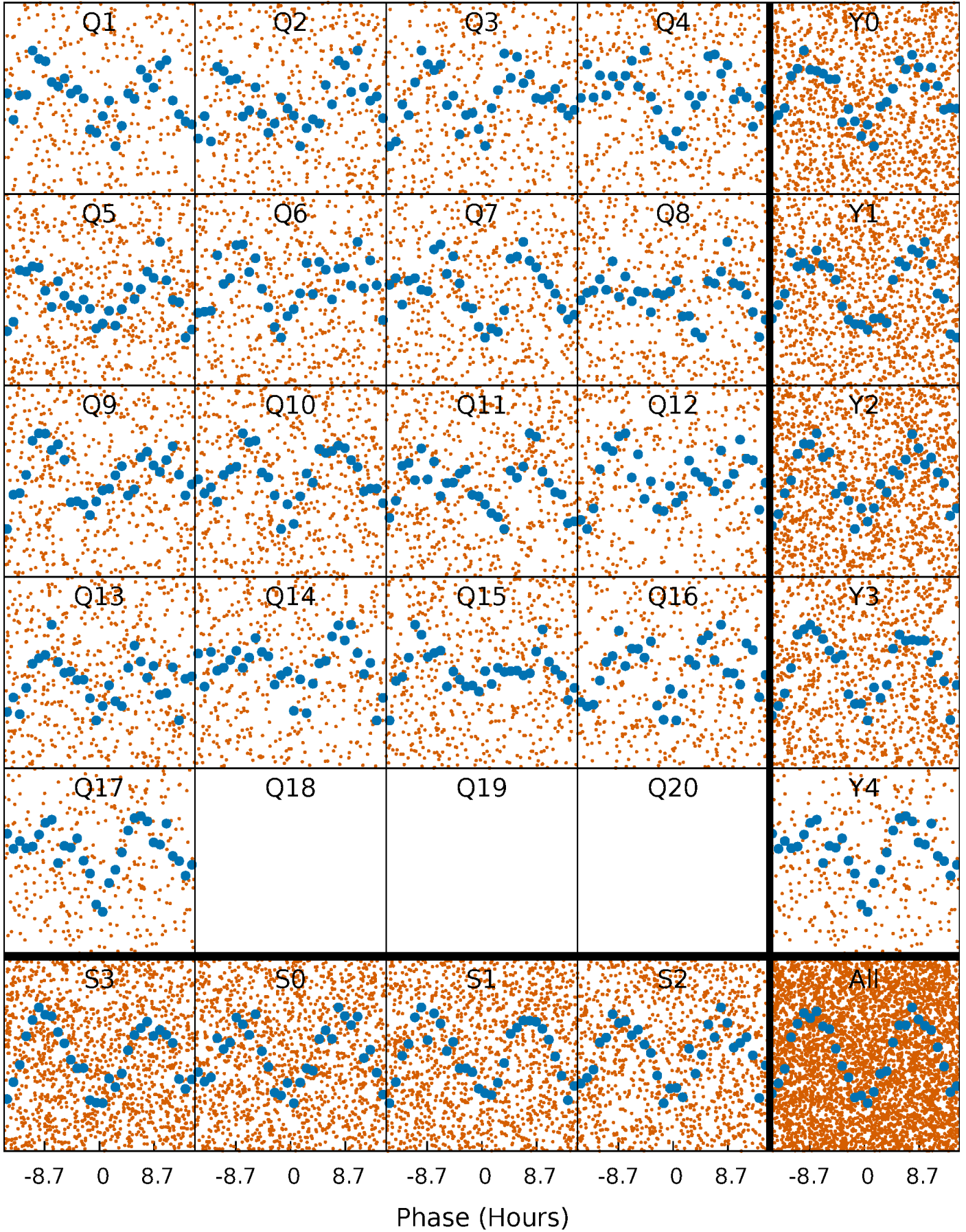


Non-Whitened Vs. Whitened Light Curve



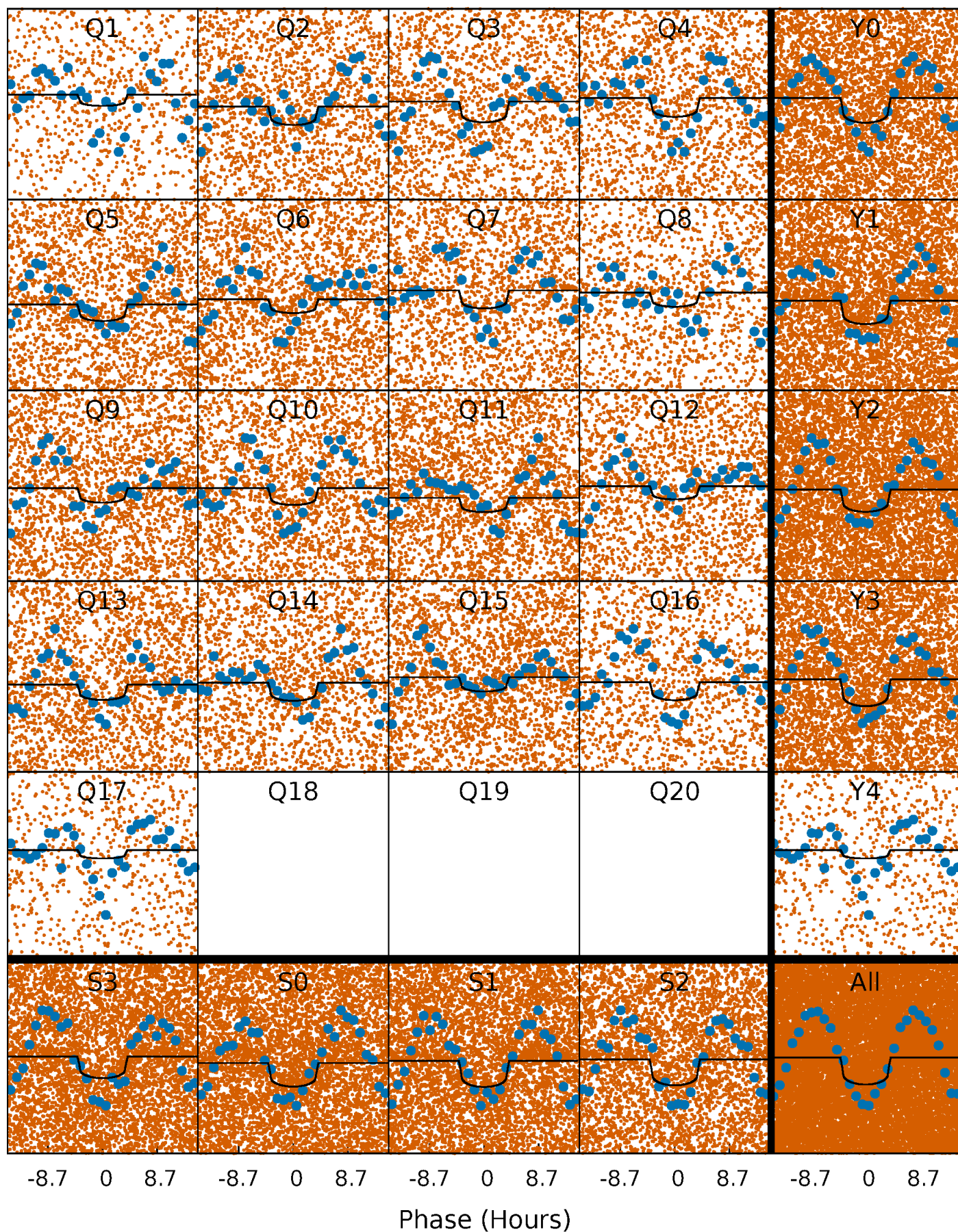
PDC Quarter-Phased Transit Curves

TCE 007301640-01 P= 1.336646 Days $T_0=132.065771$ (BKJD)



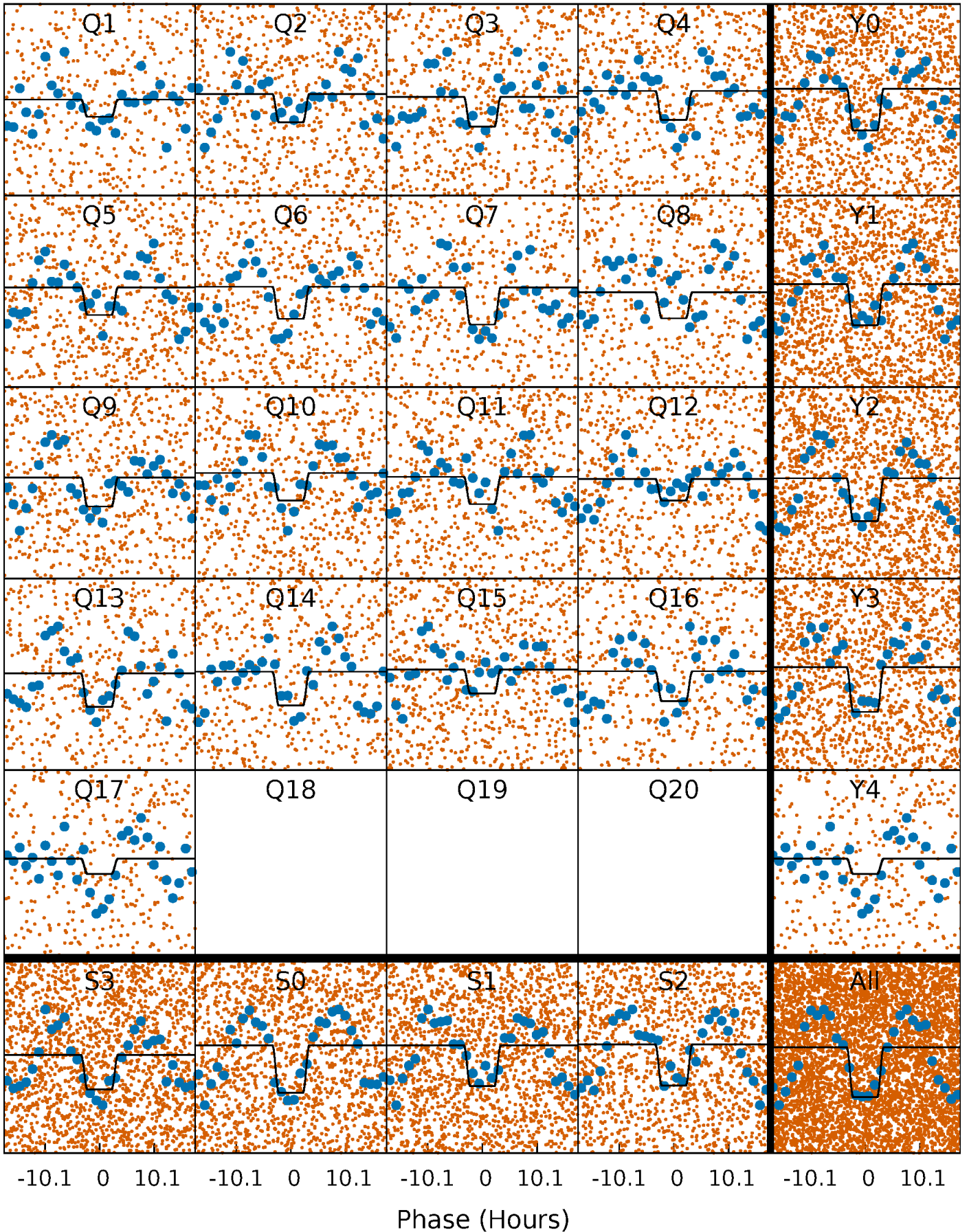
DV Quarter-Phased Transit Curves

TCE 007301640-01 P= 1.336646 Days $T_0=132.065771$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

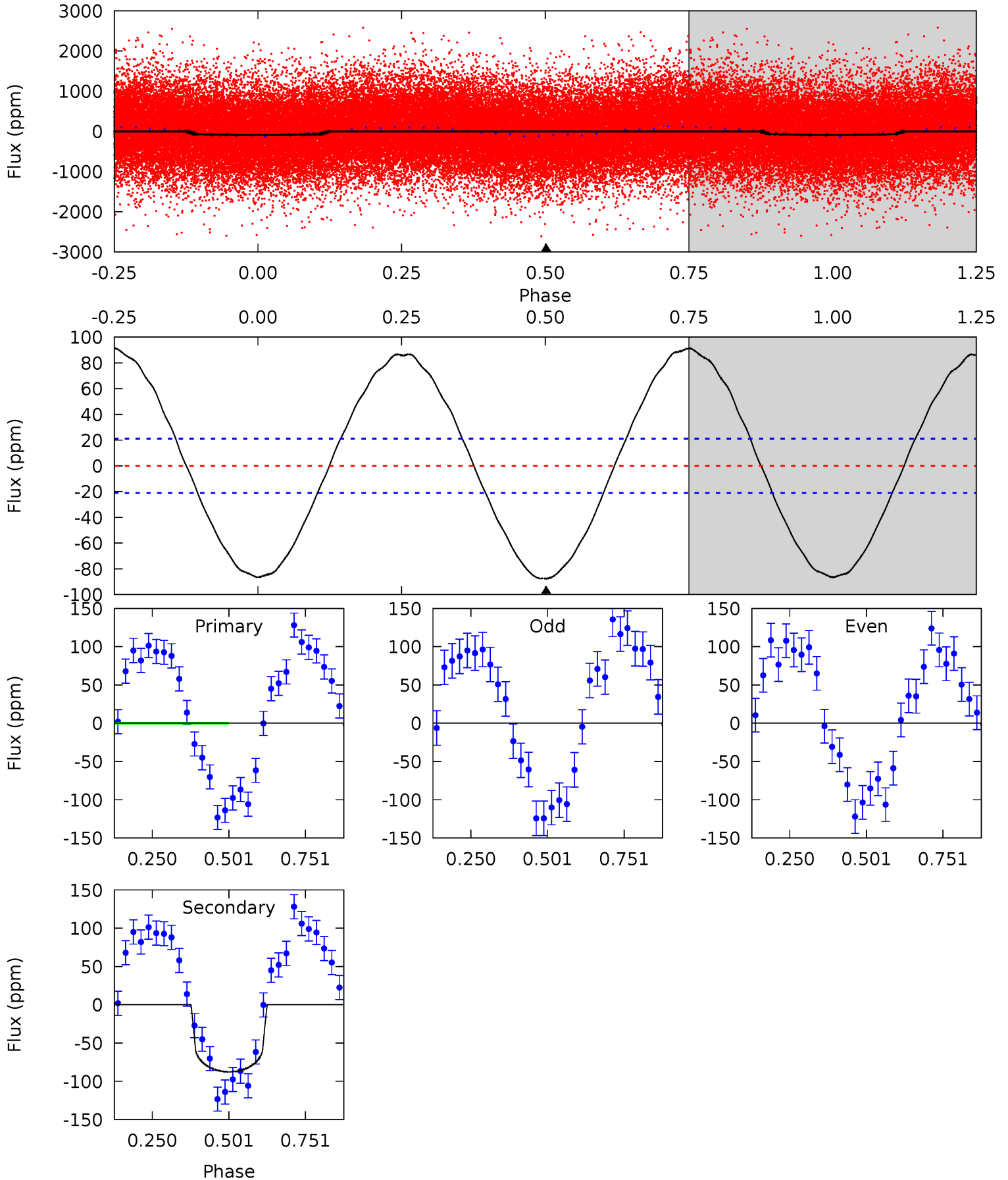
TCE 007301640-01 P= 1.336681 Days $T_0=132.046954$ (BKJD)



DV Model-Shift Uniqueness Test

007301640-01, P = 1.336646 Days, E = 130.729125 Days

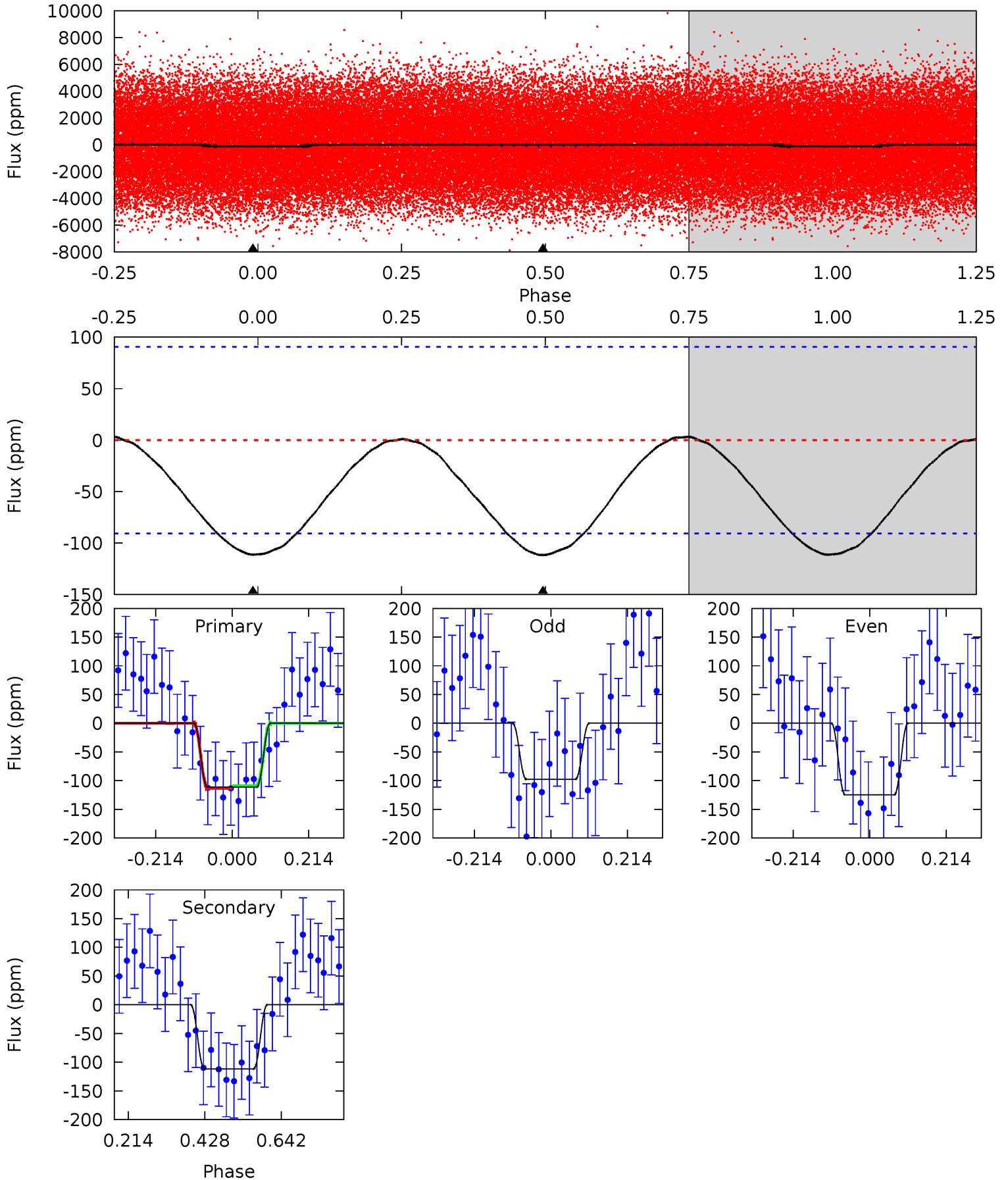
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	18.1	0	0	4.37	1.15	12.7	18.1	18.1	18.1	18.1	0.17	0.98	0.51	0.52



Alt Model-Shift Uniqueness Test

007301640-01, P = 1.336681 Days, E = 130.710273 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.40	5.42	0	0	4.40	1.24	0.11	5.40	5.40	5.42	5.42	0.66	1.09	0.03	0.12



Stellar Parameters For KIC 007301640

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7239^{+230}_{-316}	$4.129^{+0.128}_{-0.192}$	$0.020^{+0.200}_{-0.350}$	$1.781^{+0.563}_{-0.375}$	$1.558^{+0.212}_{-0.236}$	$0.388^{+0.277}_{-0.197}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+32%/-21%	+14%/-15%	+71%/-51%
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 007301640-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-88 ± 5	$1.78^{+1.42}_{-1.09}$	3621^{+290}_{-254}	7270^{+8092}_{-1935}	12^{+66}_{-8}
Alt.	-112 ± 21	$2.32^{+1.55}_{-1.28}$	3607^{+283}_{-252}	6622^{+4785}_{-1416}	$8.382^{+35.168}_{-5.375}$

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

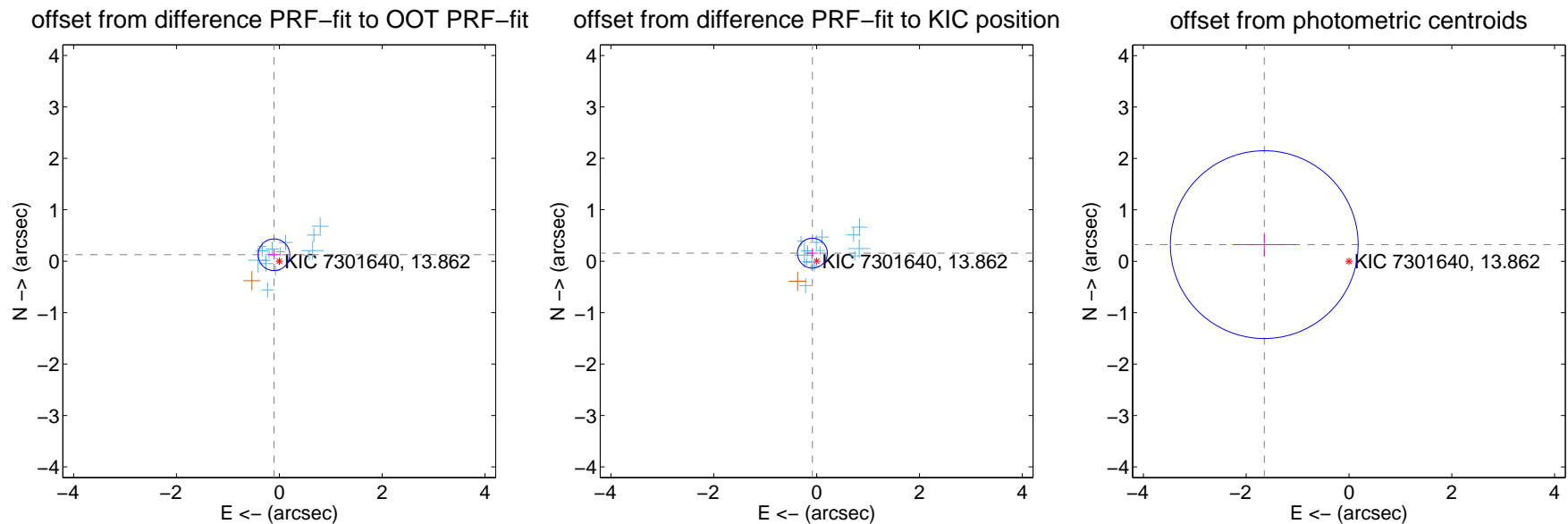
DV Centroid Data

Supplemental centroid analysis for 007301640-01. Kepler magnitude: 13.86. Transit SNR 9.84

There are 15 quarters with good PRF difference image offsets

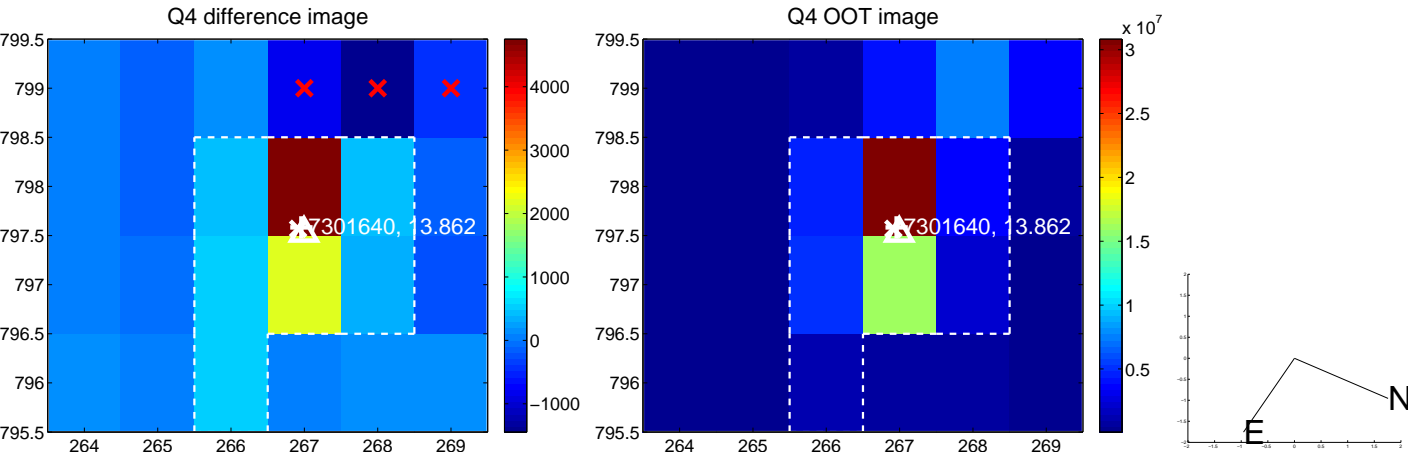
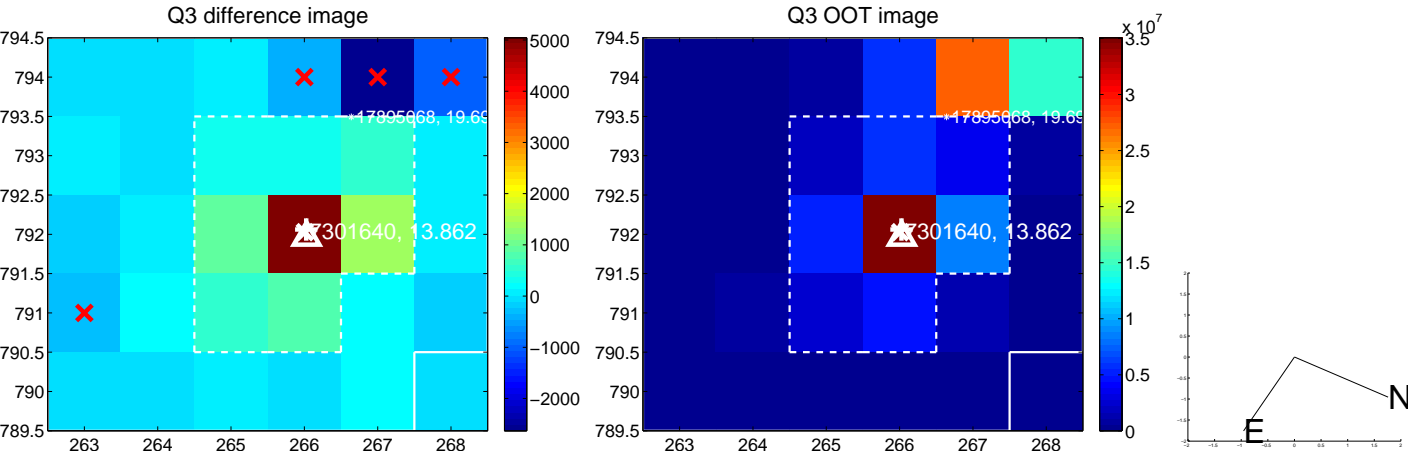
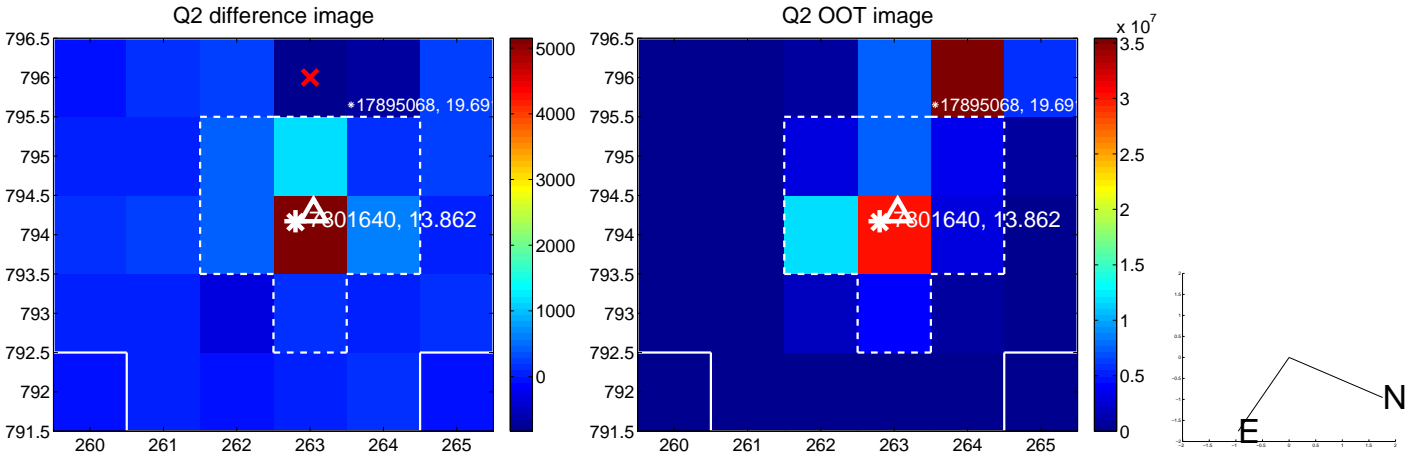
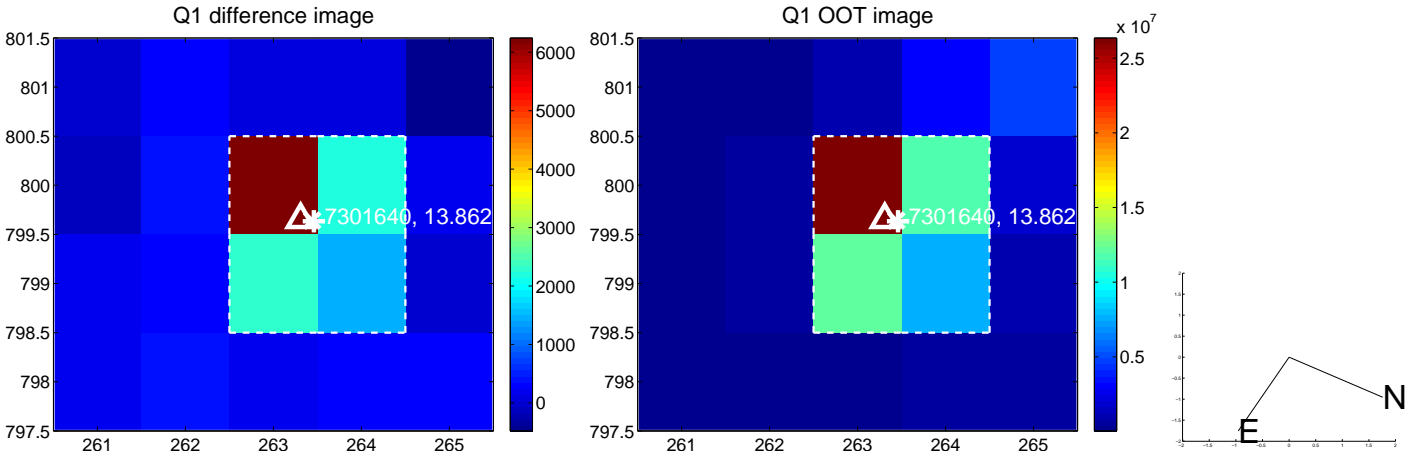
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.163 ± 0.102	1.59	0.103 ± 0.115	0.126 ± 0.093
PRF-fit source offset from KIC position	0.177 ± 0.097	1.83	0.083 ± 0.106	0.156 ± 0.094
photometric centroid source offset	1.68 ± 0.61	2.76	1.65 ± 0.62	0.32 ± 0.23

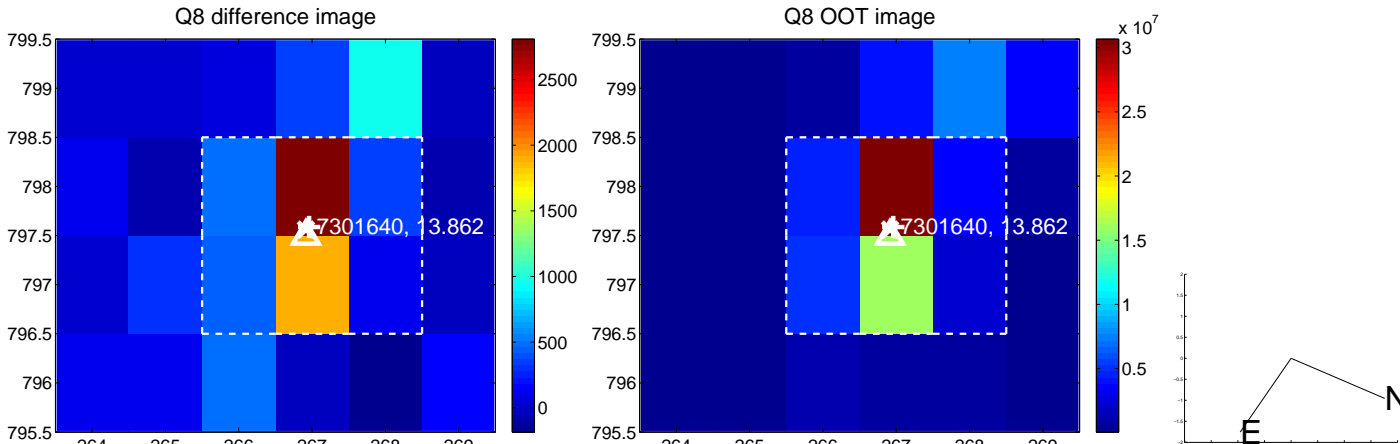
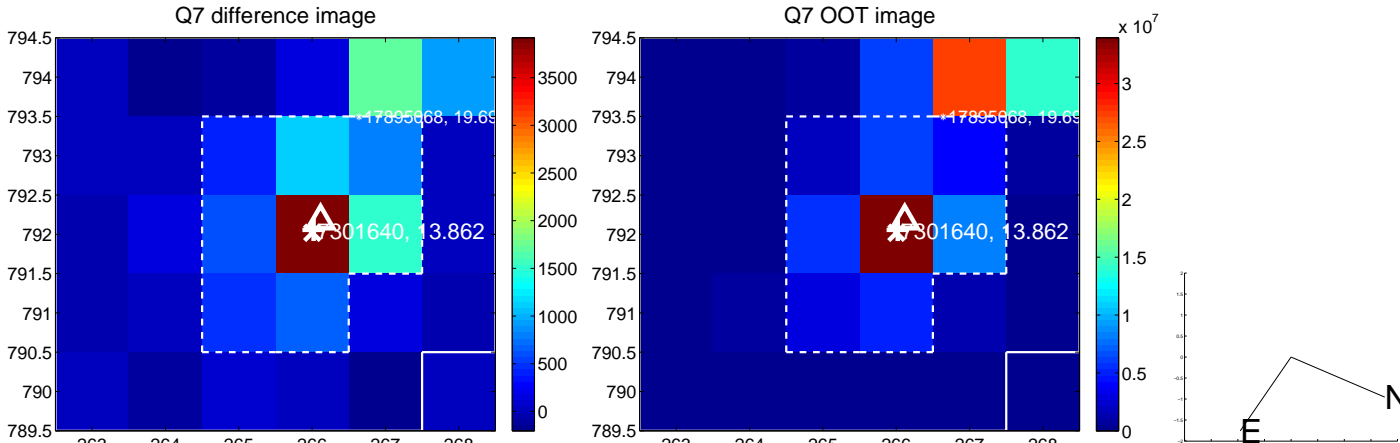
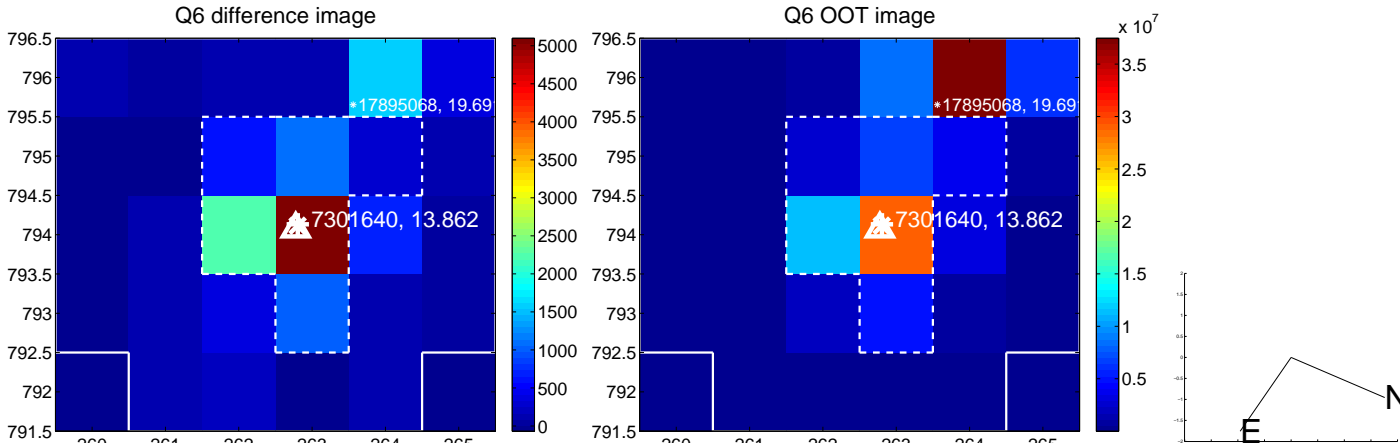
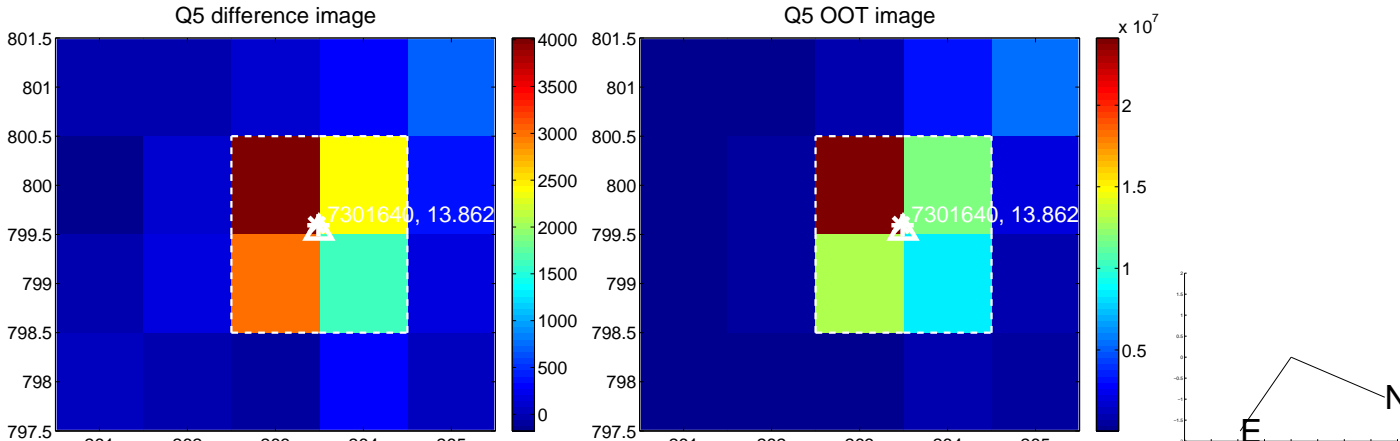


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

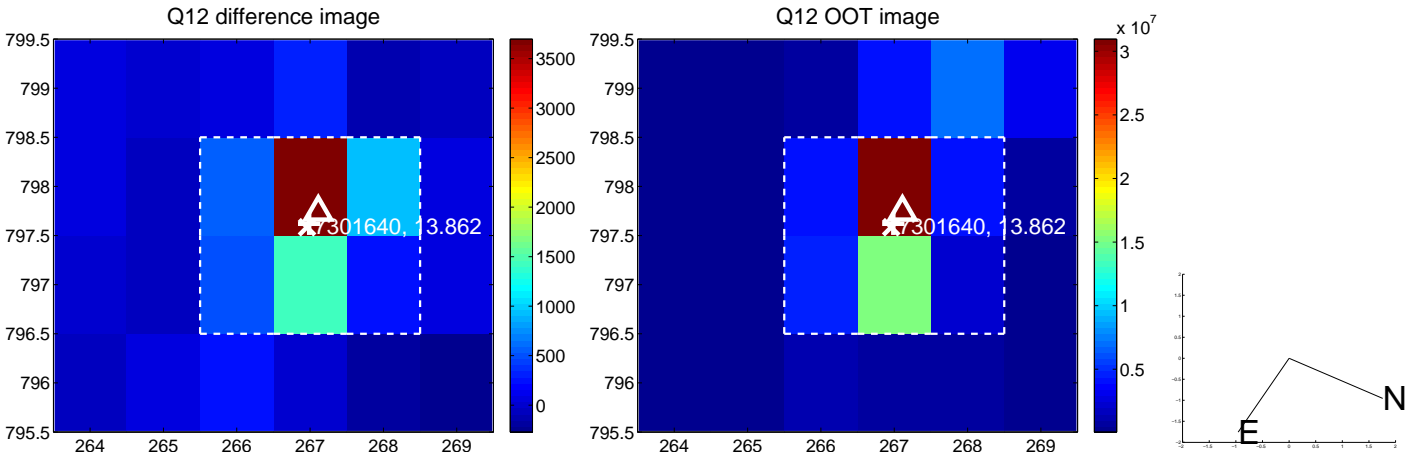
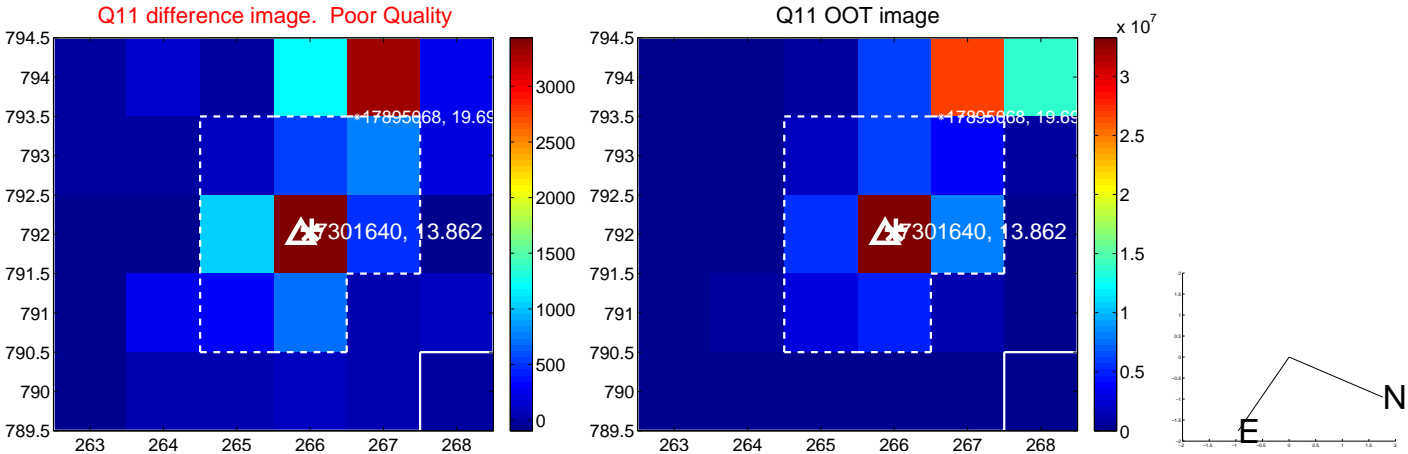
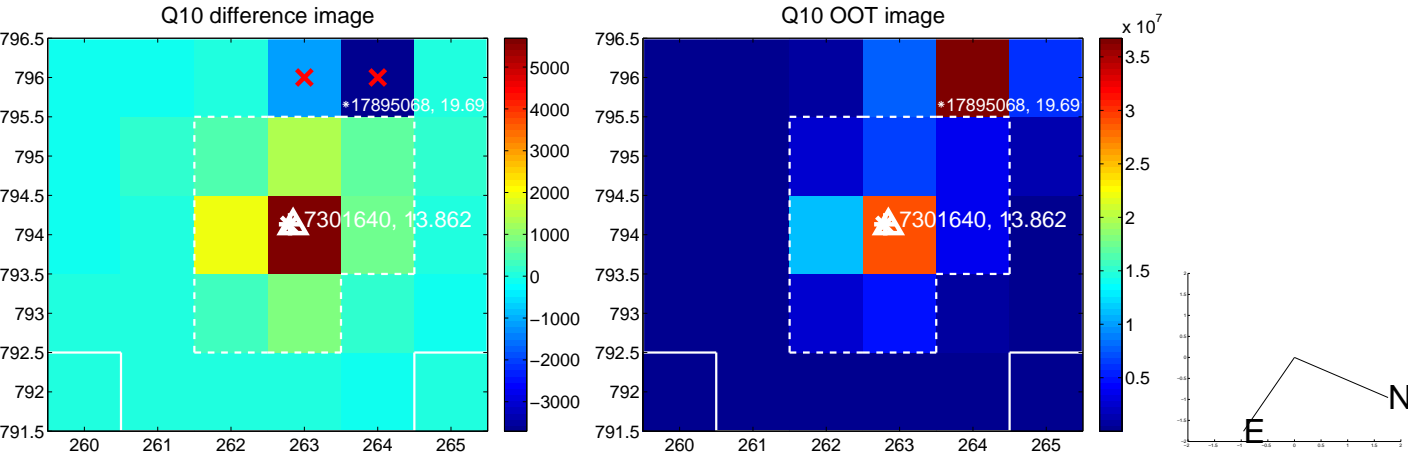
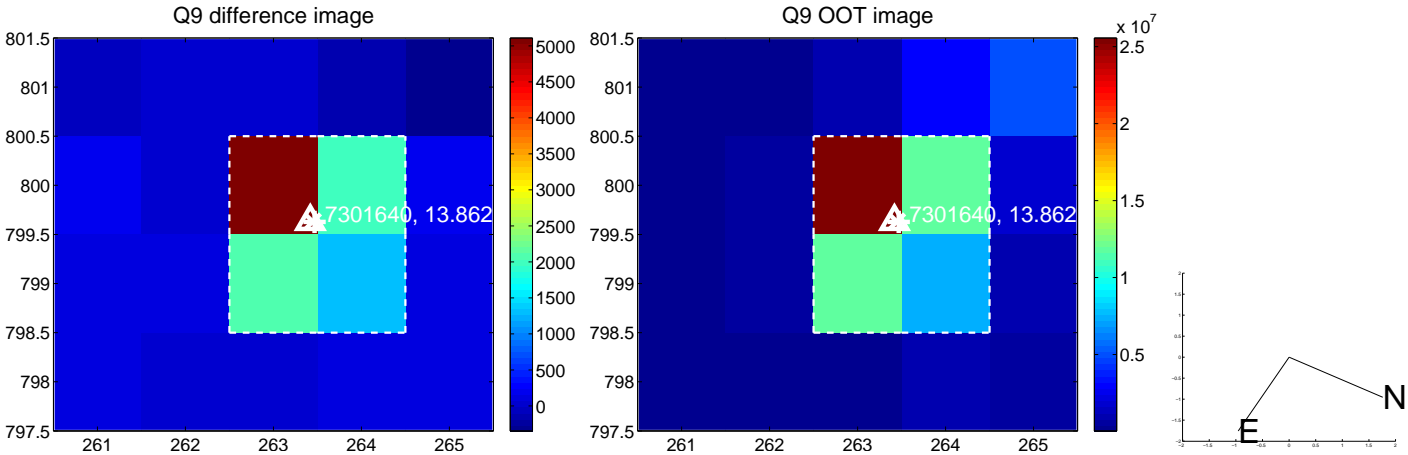
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



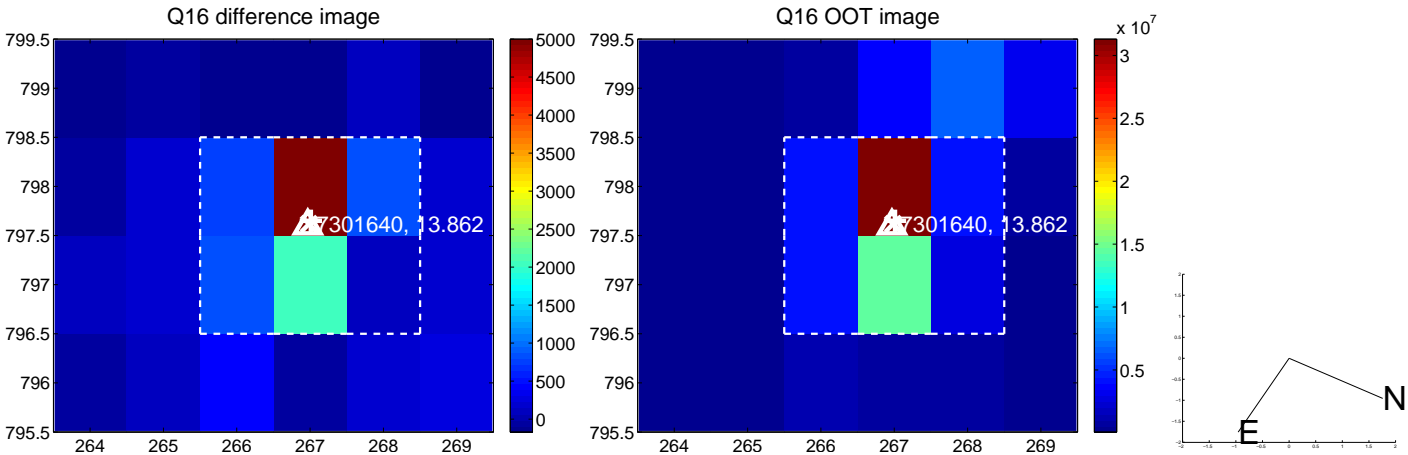
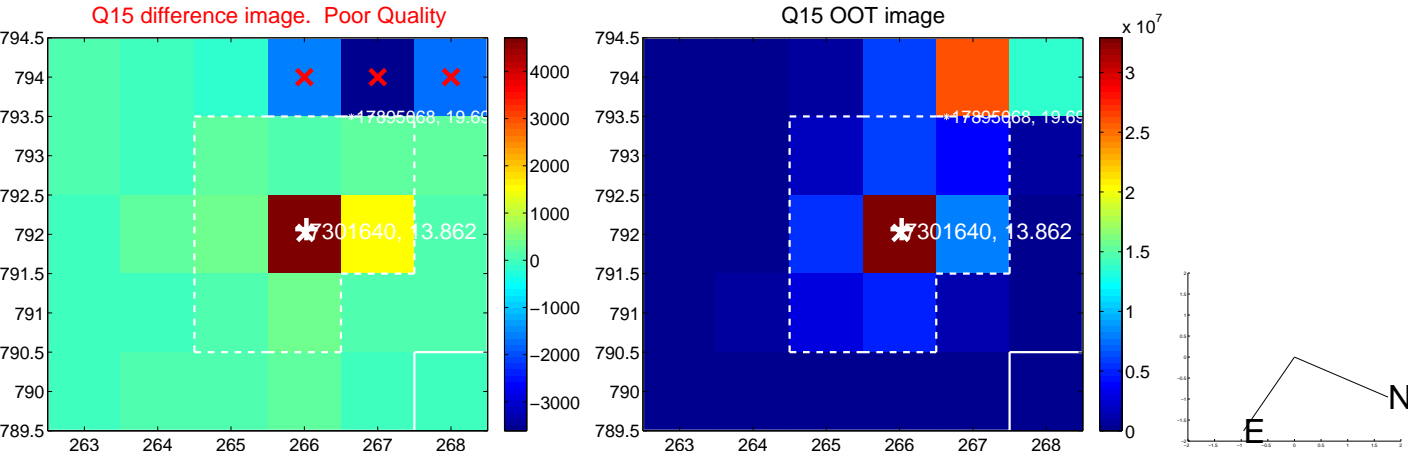
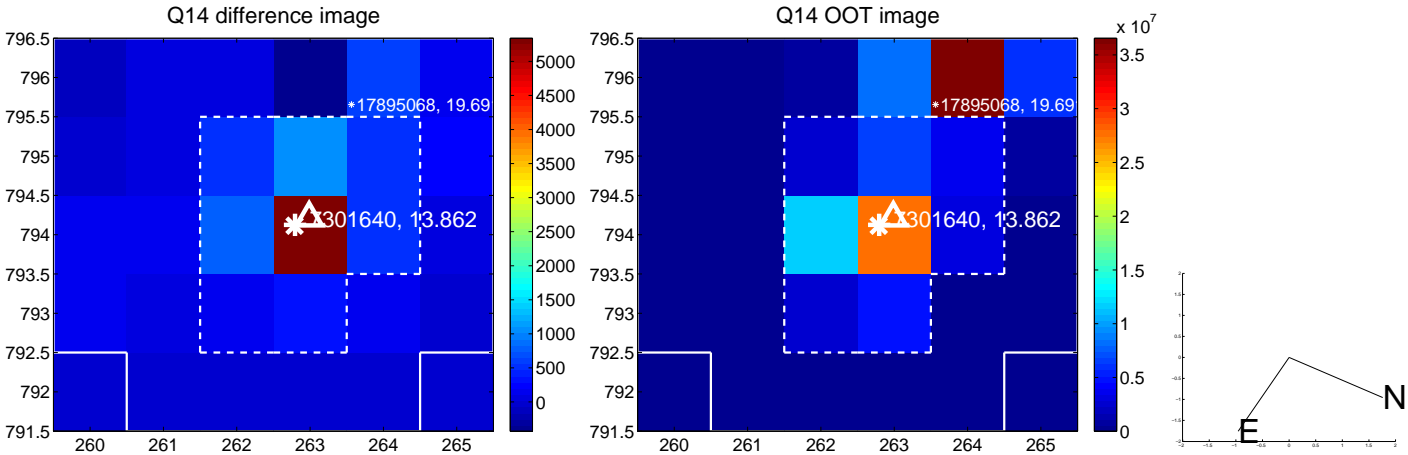
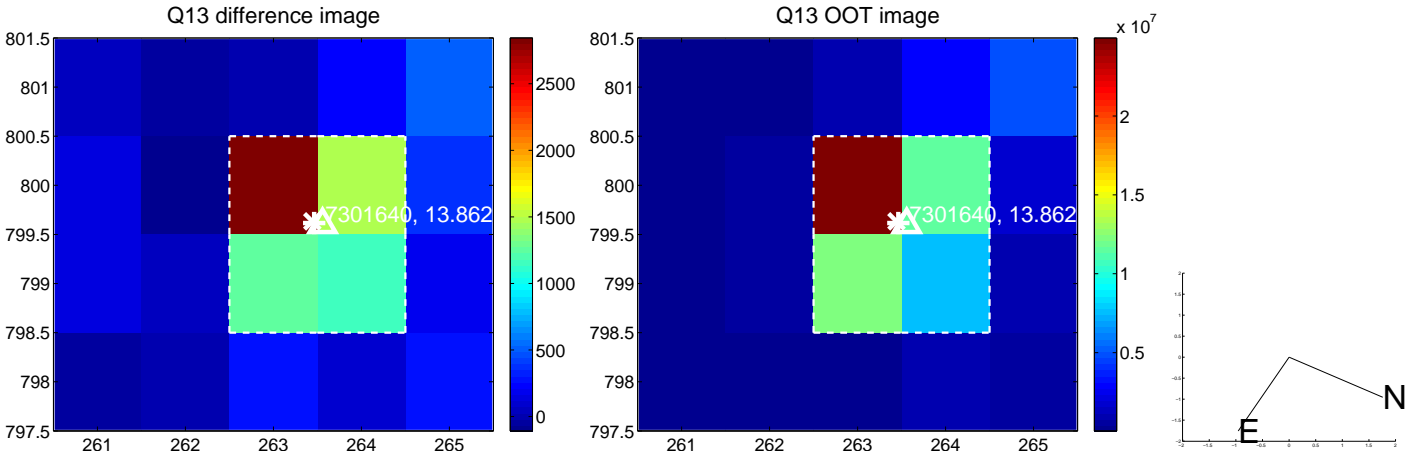
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



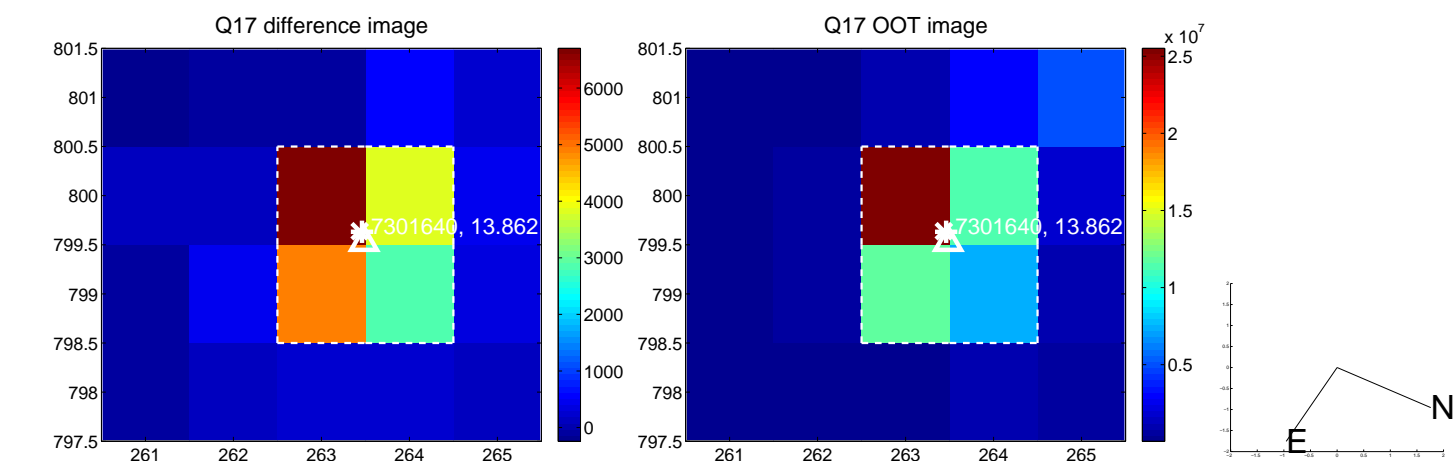
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



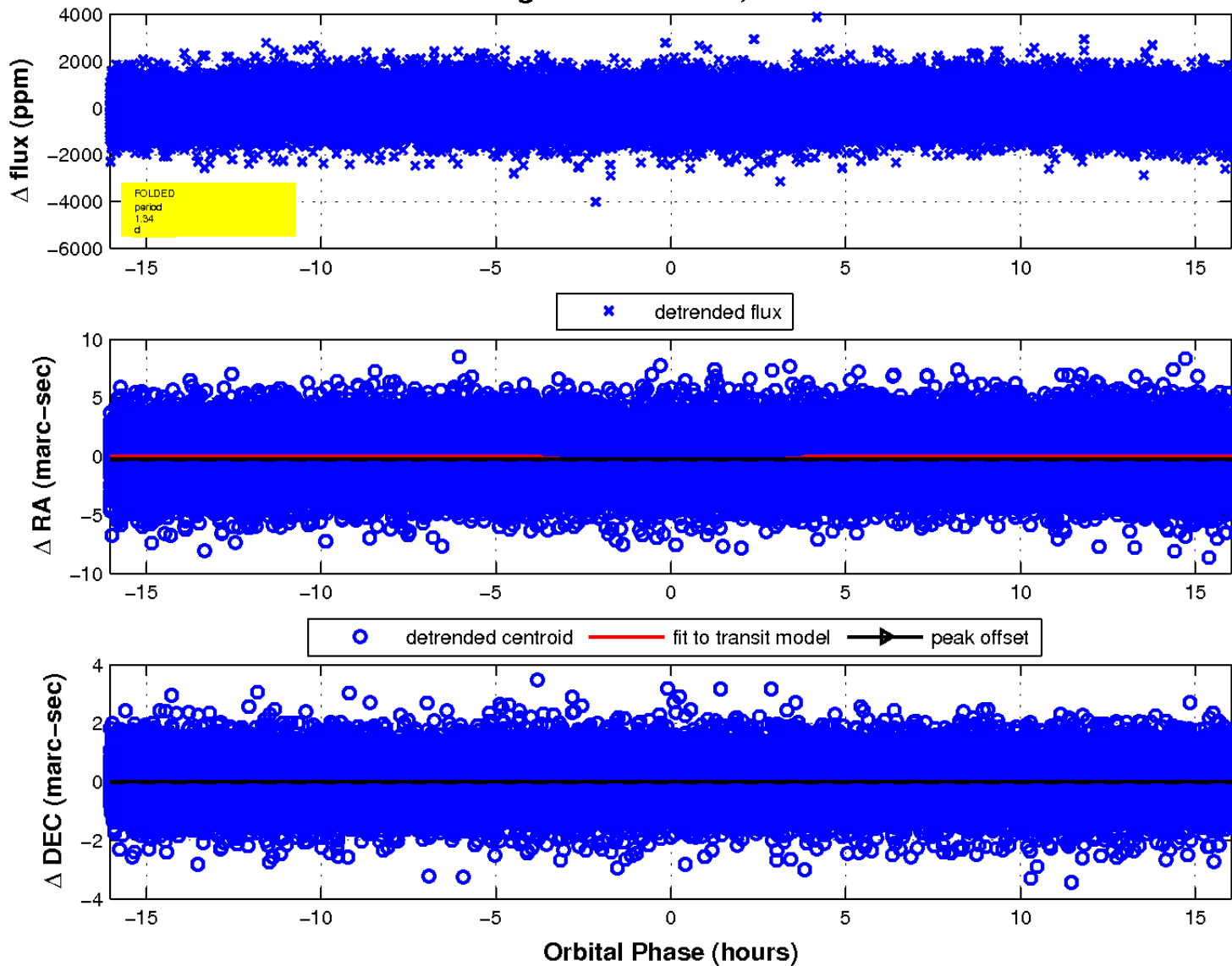
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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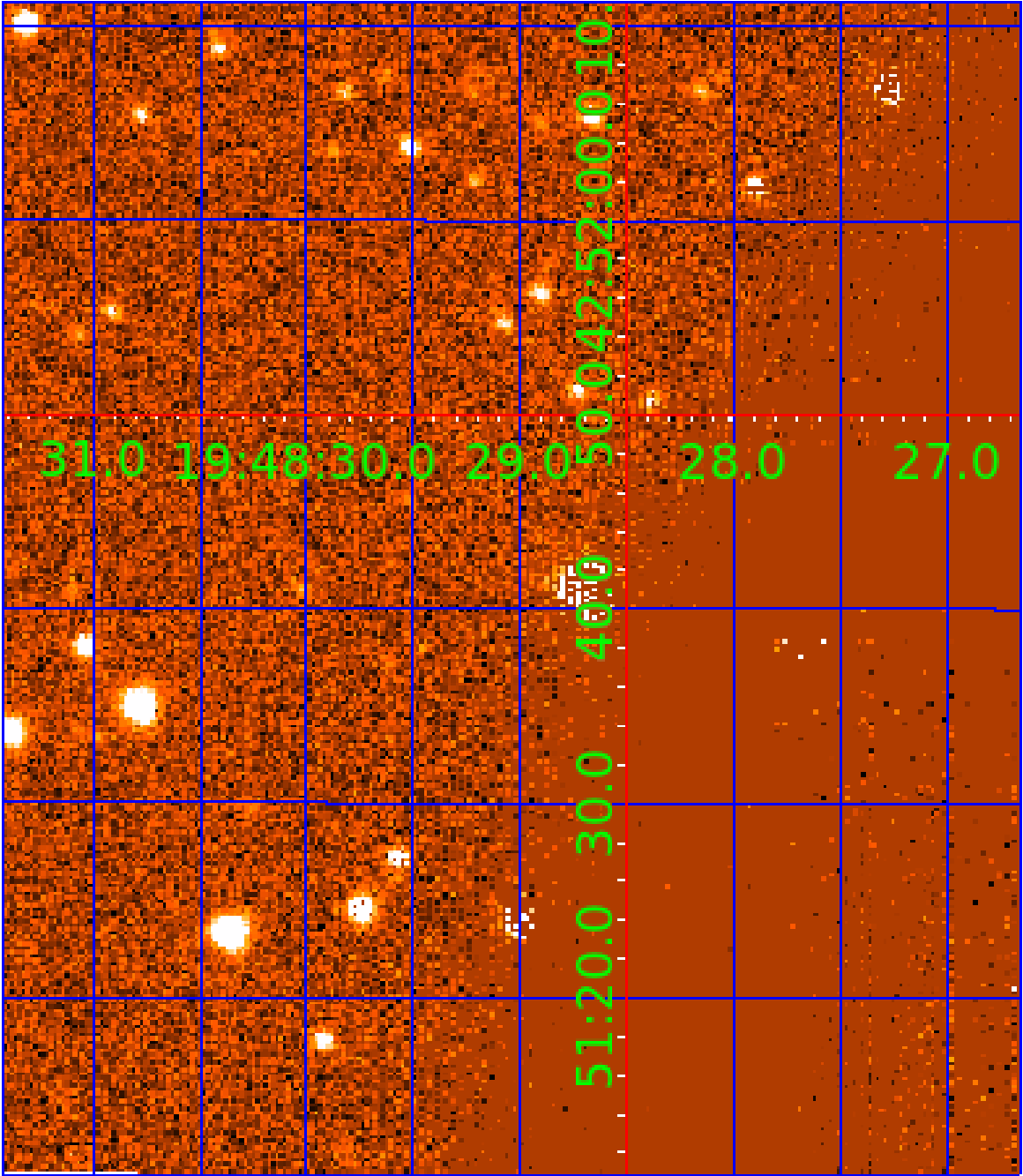


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 007301640

Q1-17 DR25 TCE Parameters

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Robovetter Results

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007301640-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007301640-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

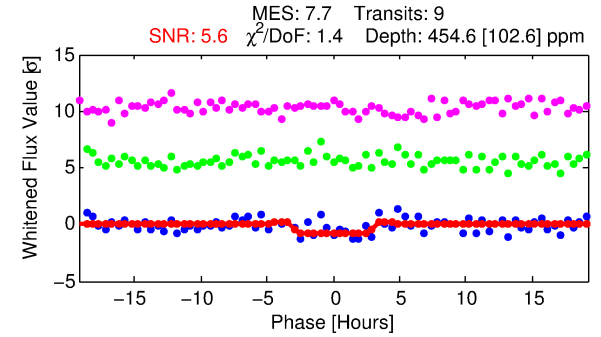
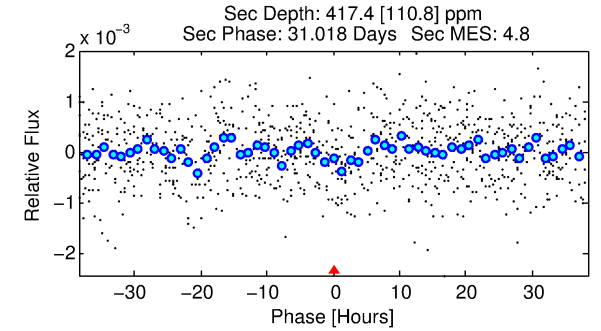
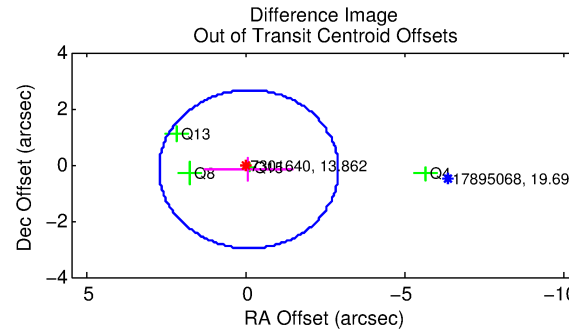
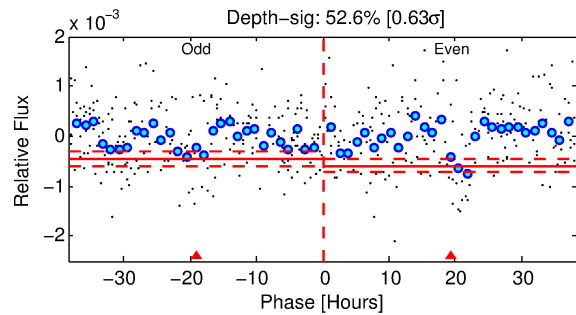
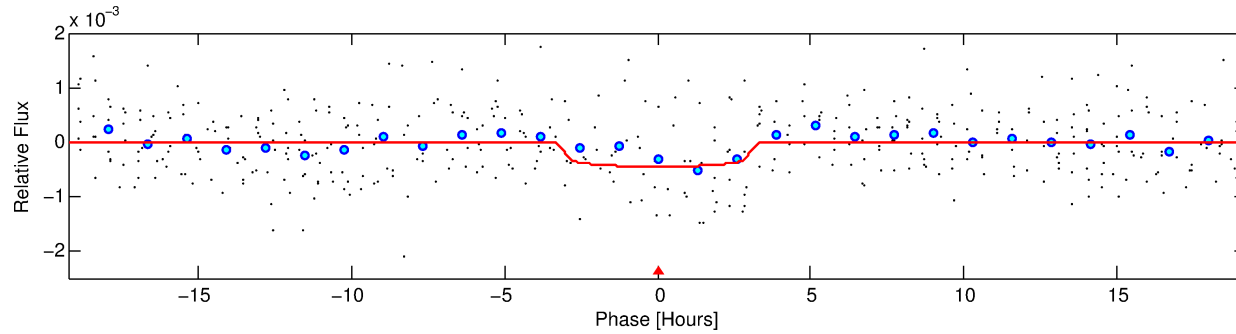
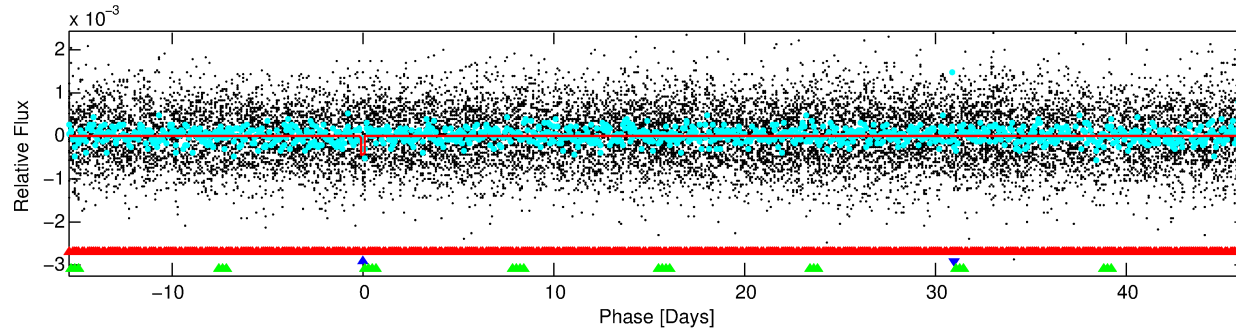
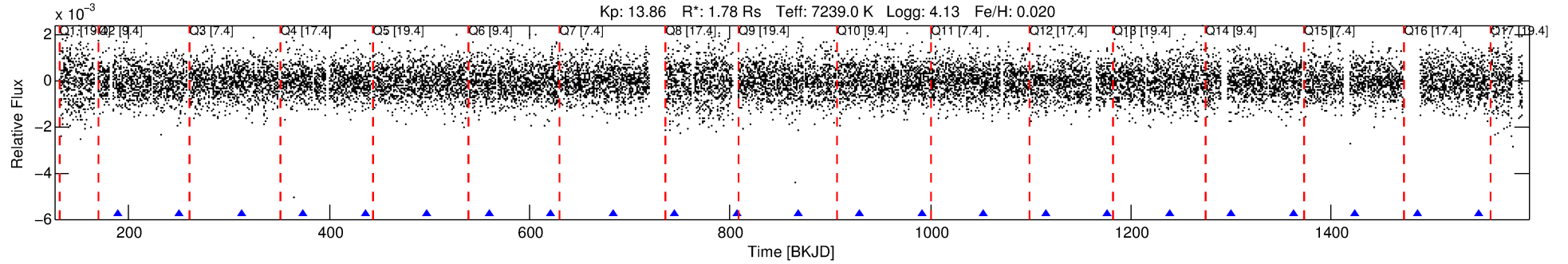
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007301640-02

No Significant Match Found

DV One-Page Summary

KIC: 7301640 Candidate: 2 of 3 Period: 61.746 d



DV Fit Results:

Period = 61.74649 [0.00175] d
Epoch = 189.0095 [0.0253] BKJD
Rp/R* = 0.0208 [0.0161]
a/R* = 56.07 [258.44]
b = 0.68 [3.65]
Seff = 62.12 [24.99]
Teq = 716 [72] K
Rp = 4.05 [3.39] Re
a = 0.3544 [0.0911] AU
Ag = 1756.82 [2831.01] [0.62 σ]
Teffp = 7166 [2830] K [2.28 σ]

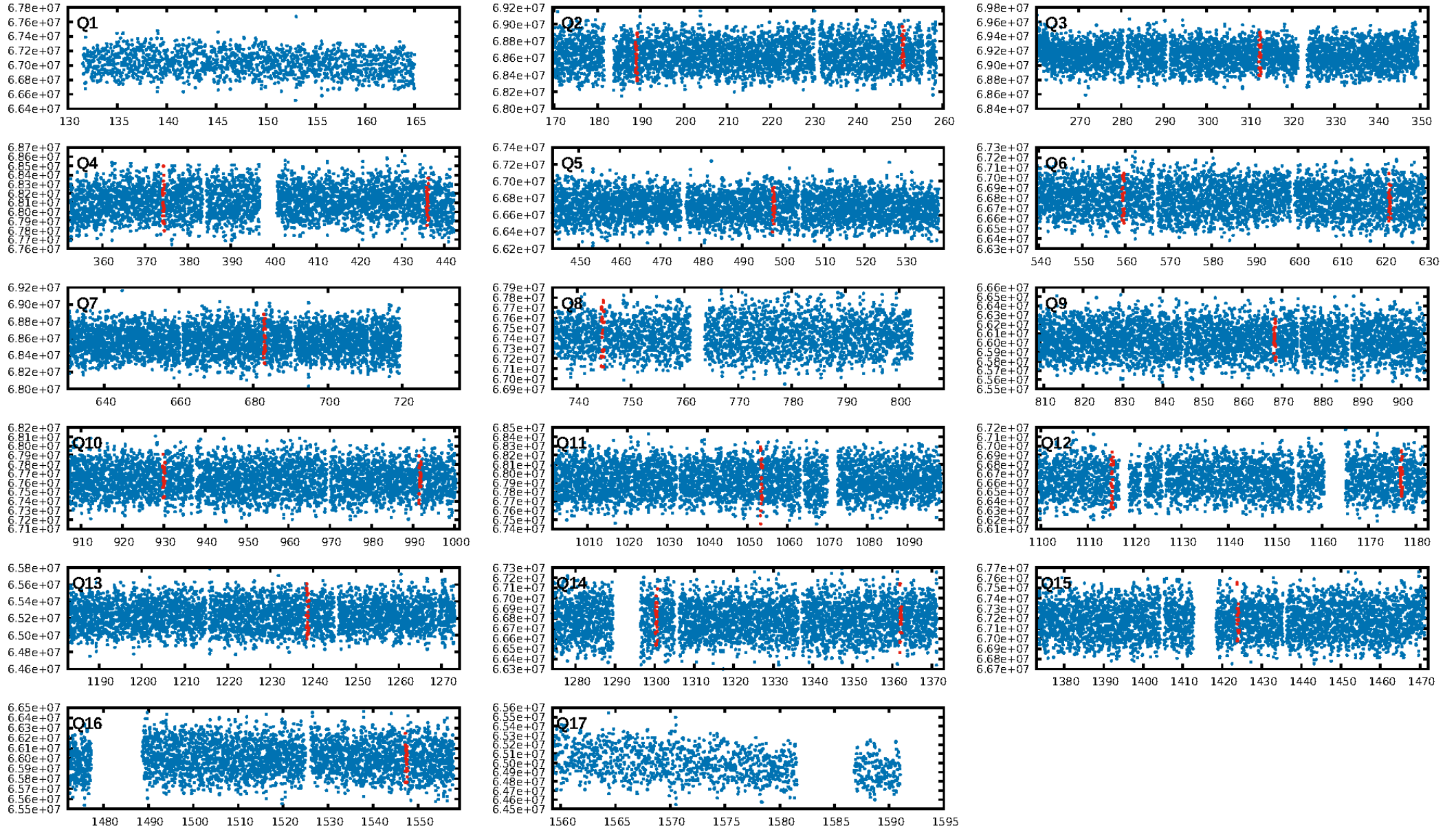
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.62 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.7%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 1.65e-08
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 0.2569
Centroid-sig: 19.8%
Centroid-so: 3.319 arcsec [3.87 σ]
OotOffset-rm: 0.186 arcsec [0.20 σ]
KicOffset-rm: 0.276 arcsec [0.24 σ]
OotOffset-st: 0/1/2/1 [4]
KicOffset-st: 0/1/2/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/15]

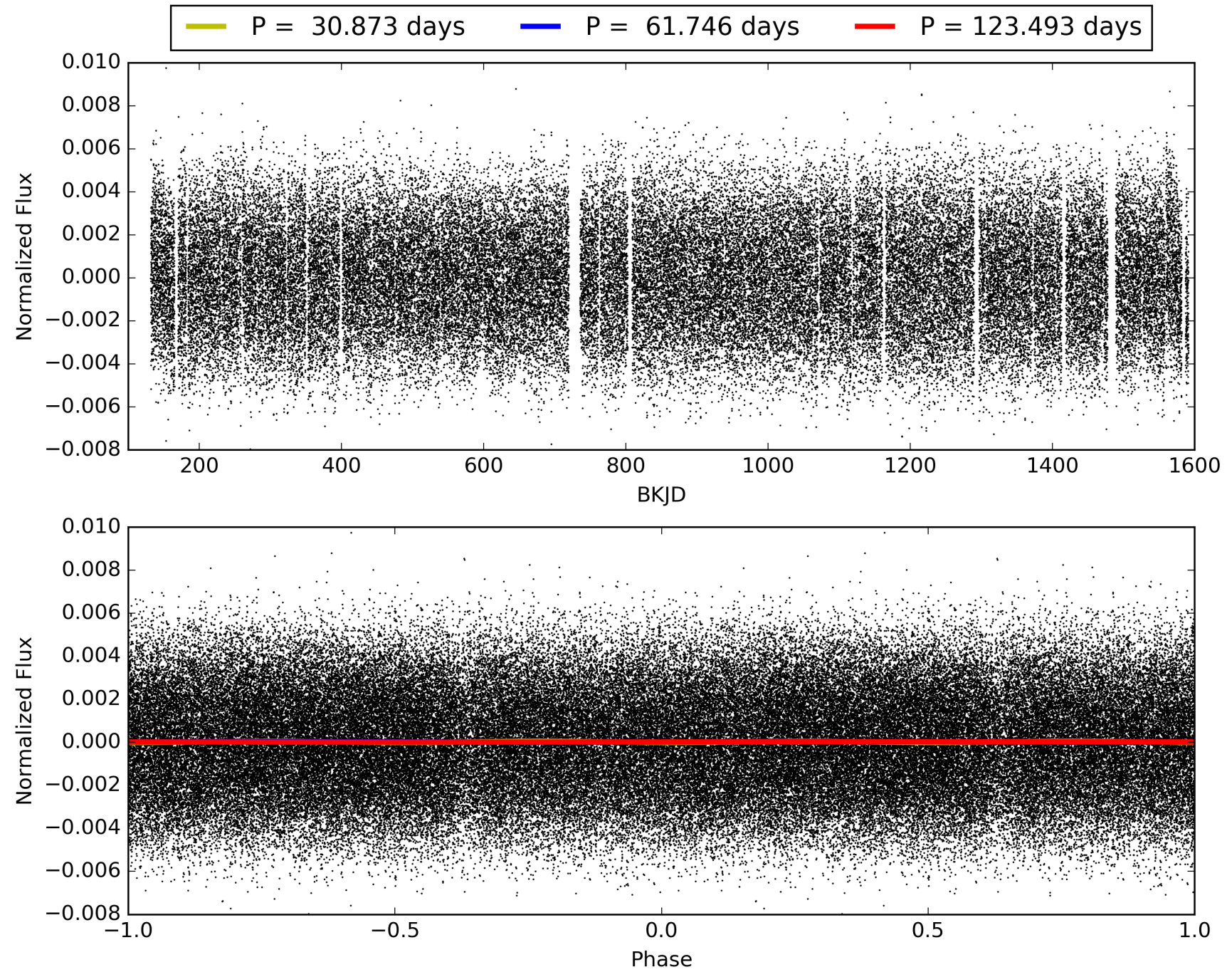
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:00:14 Z

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

TCE 007301640-02, PDC Light Curves

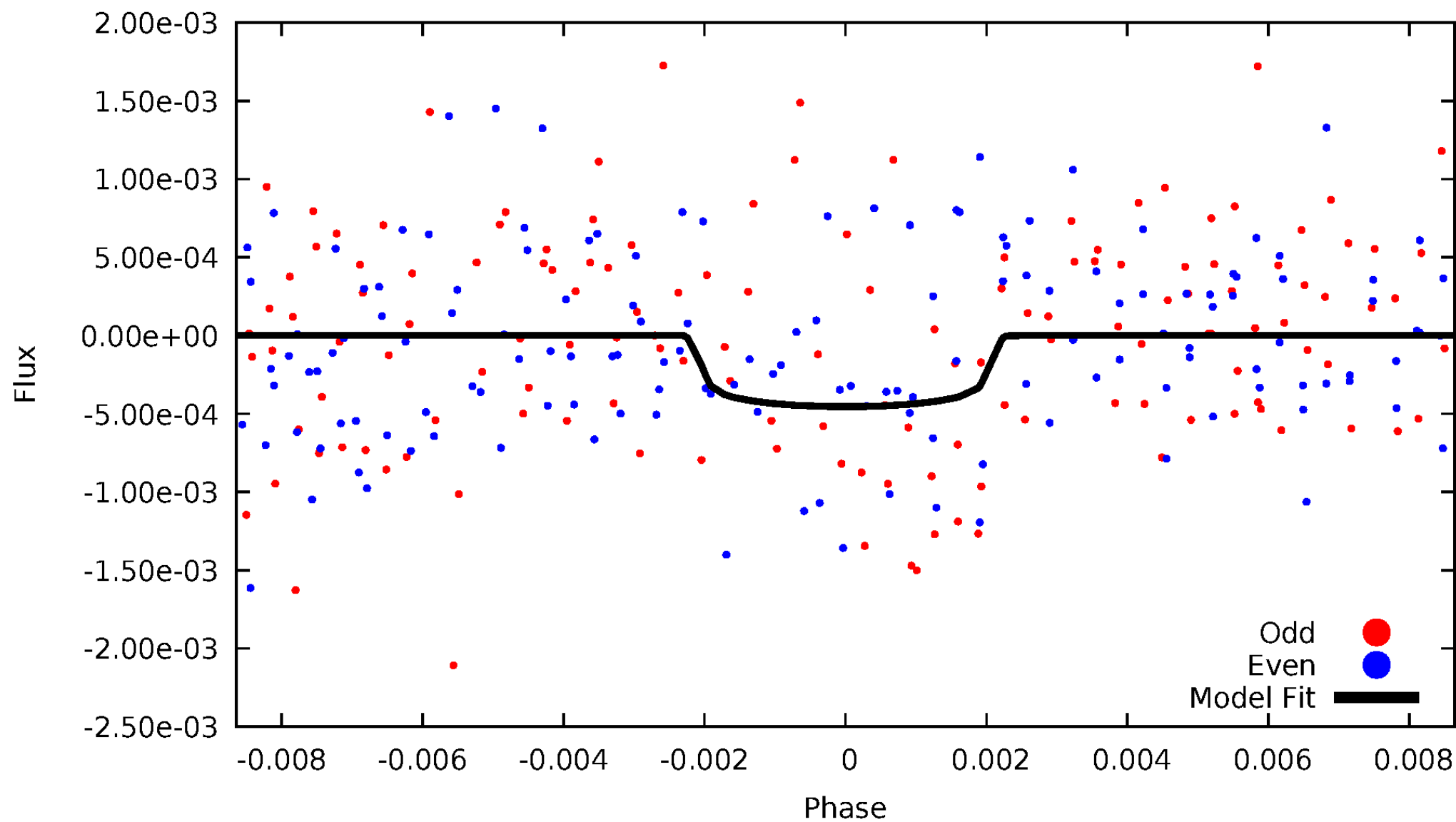


TCE 007301640-02



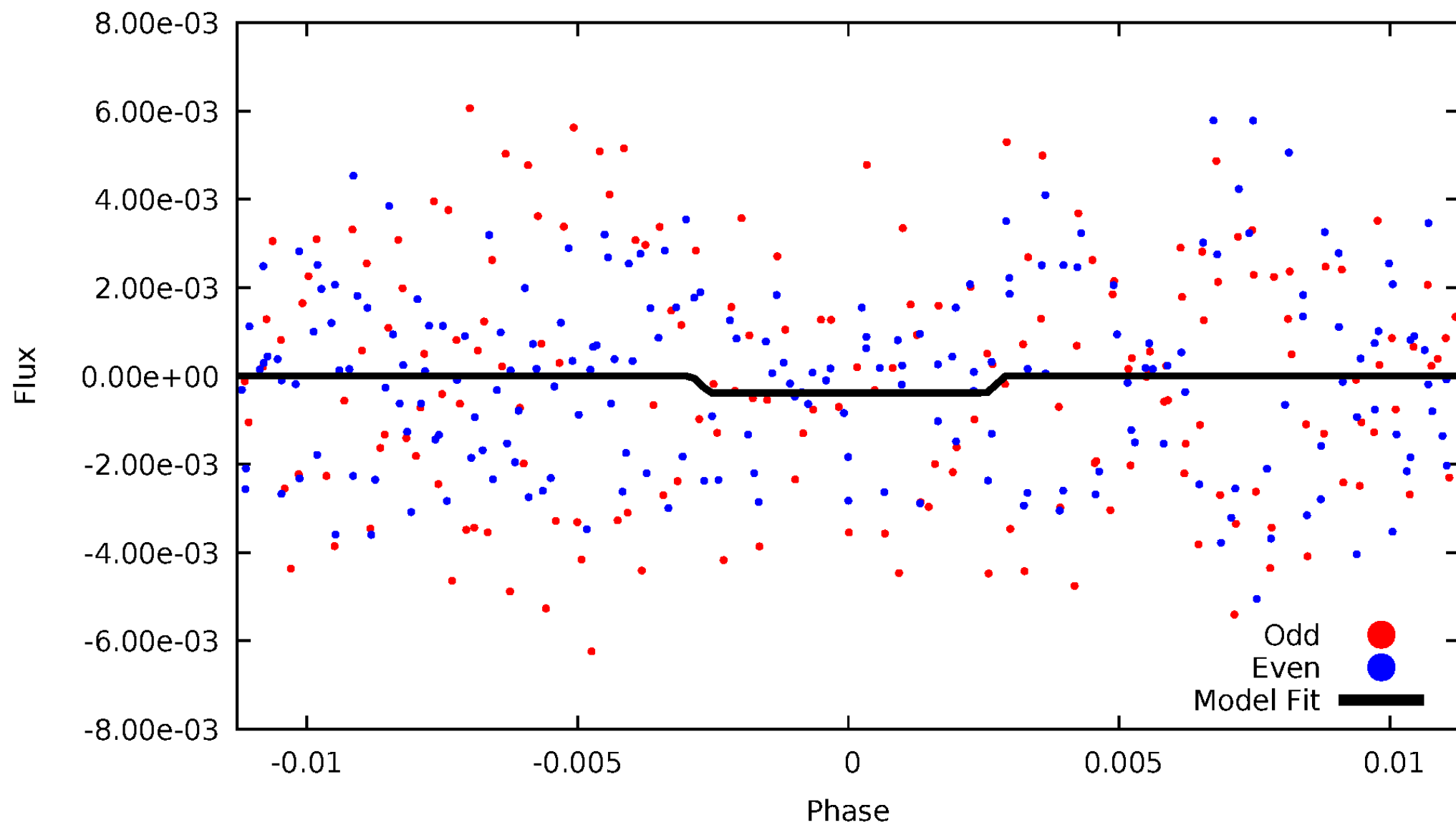
DV Odd/Even

TCE 007301640-02



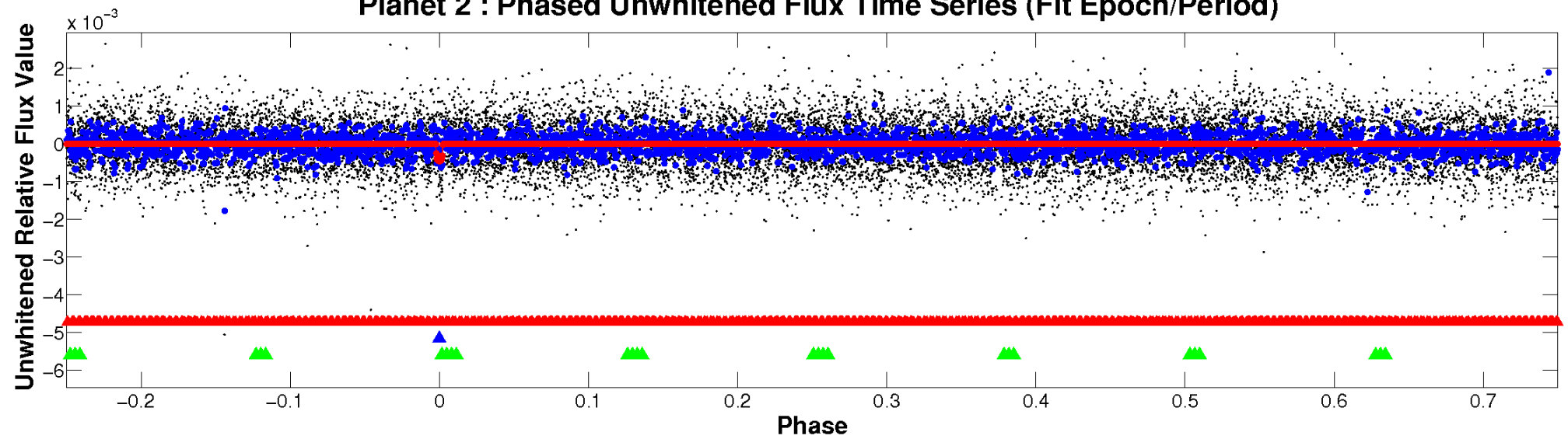
ALT Odd/Even

TCE 007301640-02

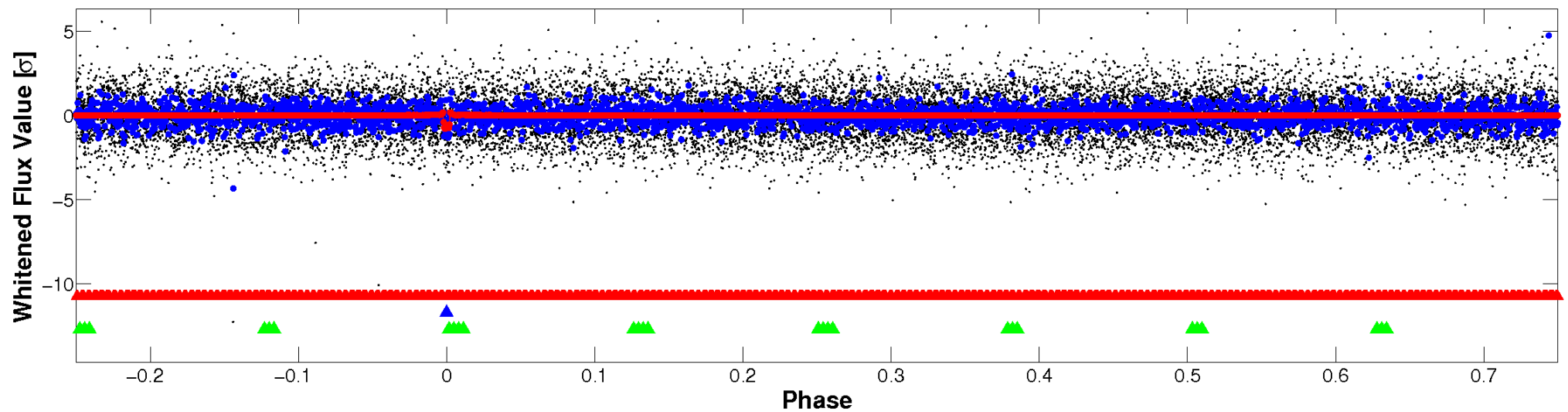


Non-Whitened Vs. Whitened Light Curve

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

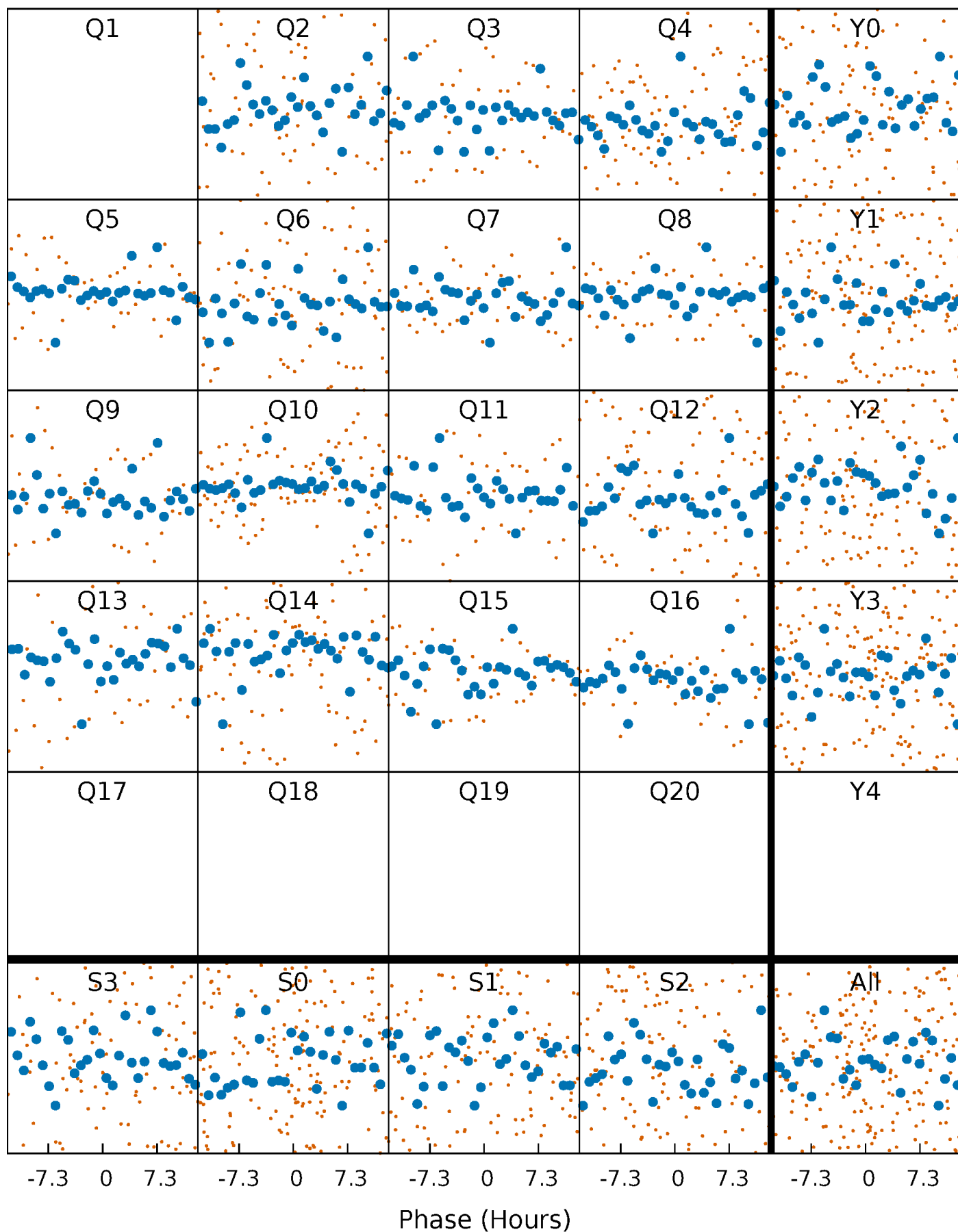


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



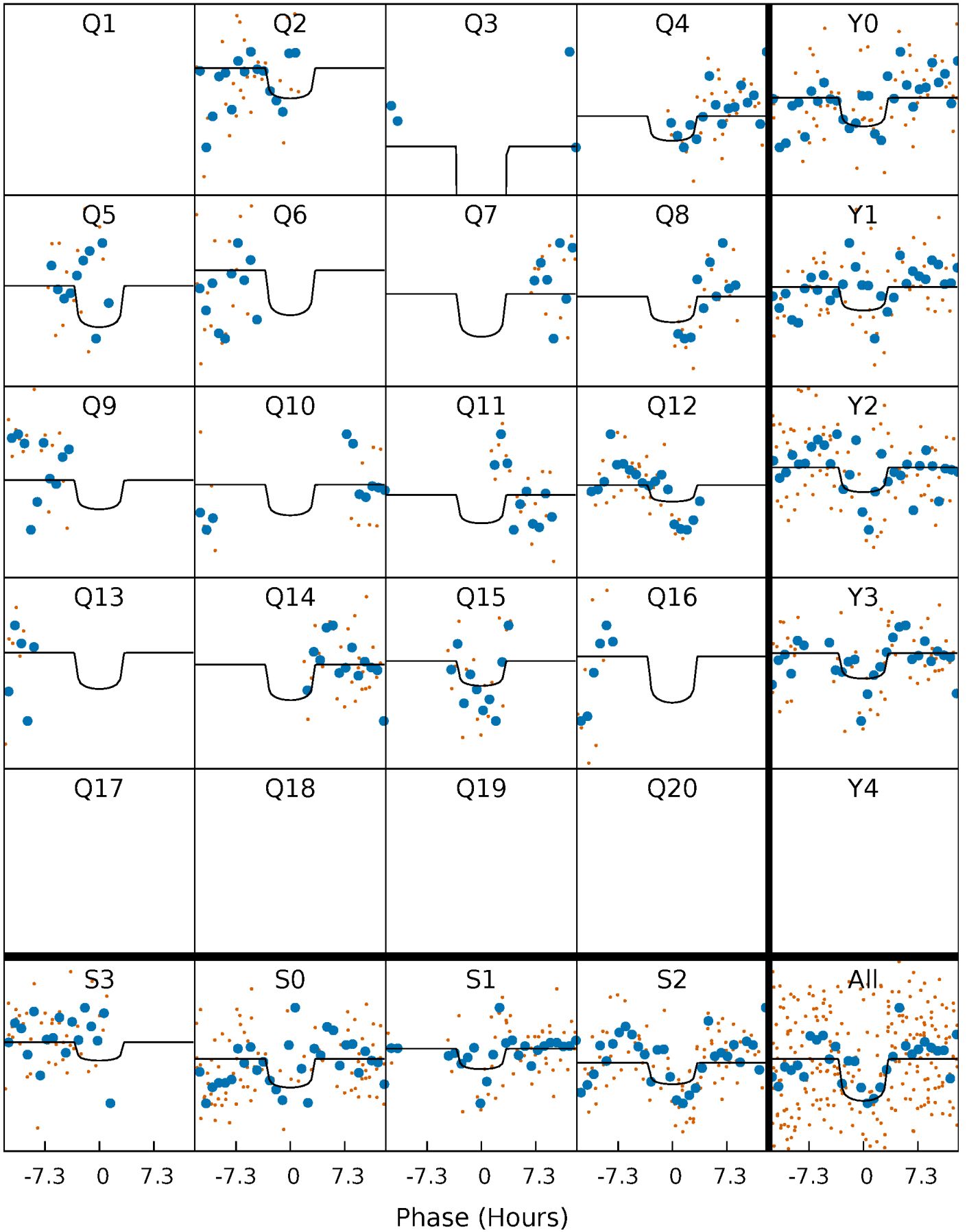
PDC Quarter-Phased Transit Curves

TCE 007301640-02 P= 61.746490 Days $T_0=189.009519$ (BKJD)



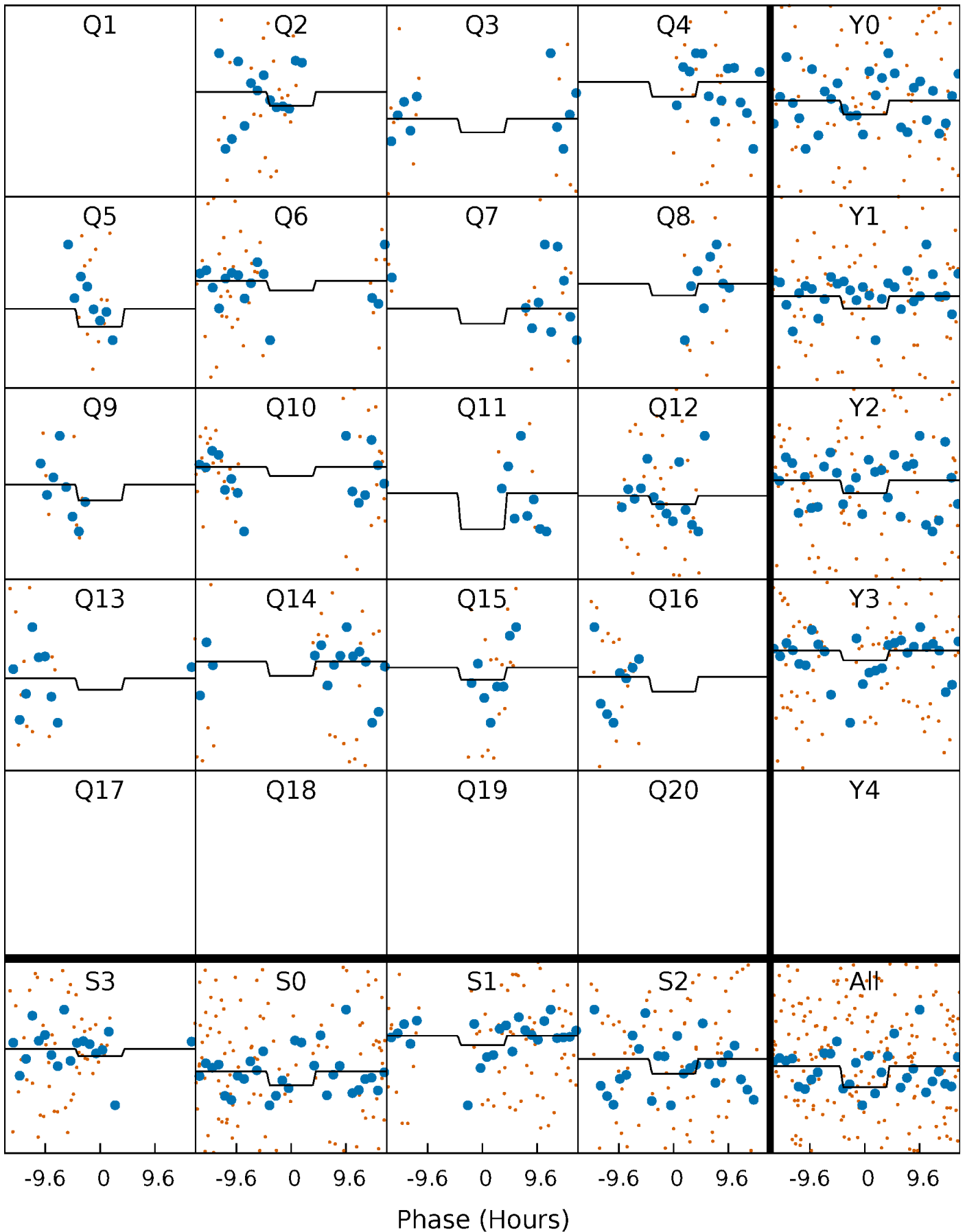
DV Quarter-Phased Transit Curves

TCE 007301640-02 P= 61.746490 Days $T_0=189.009519$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

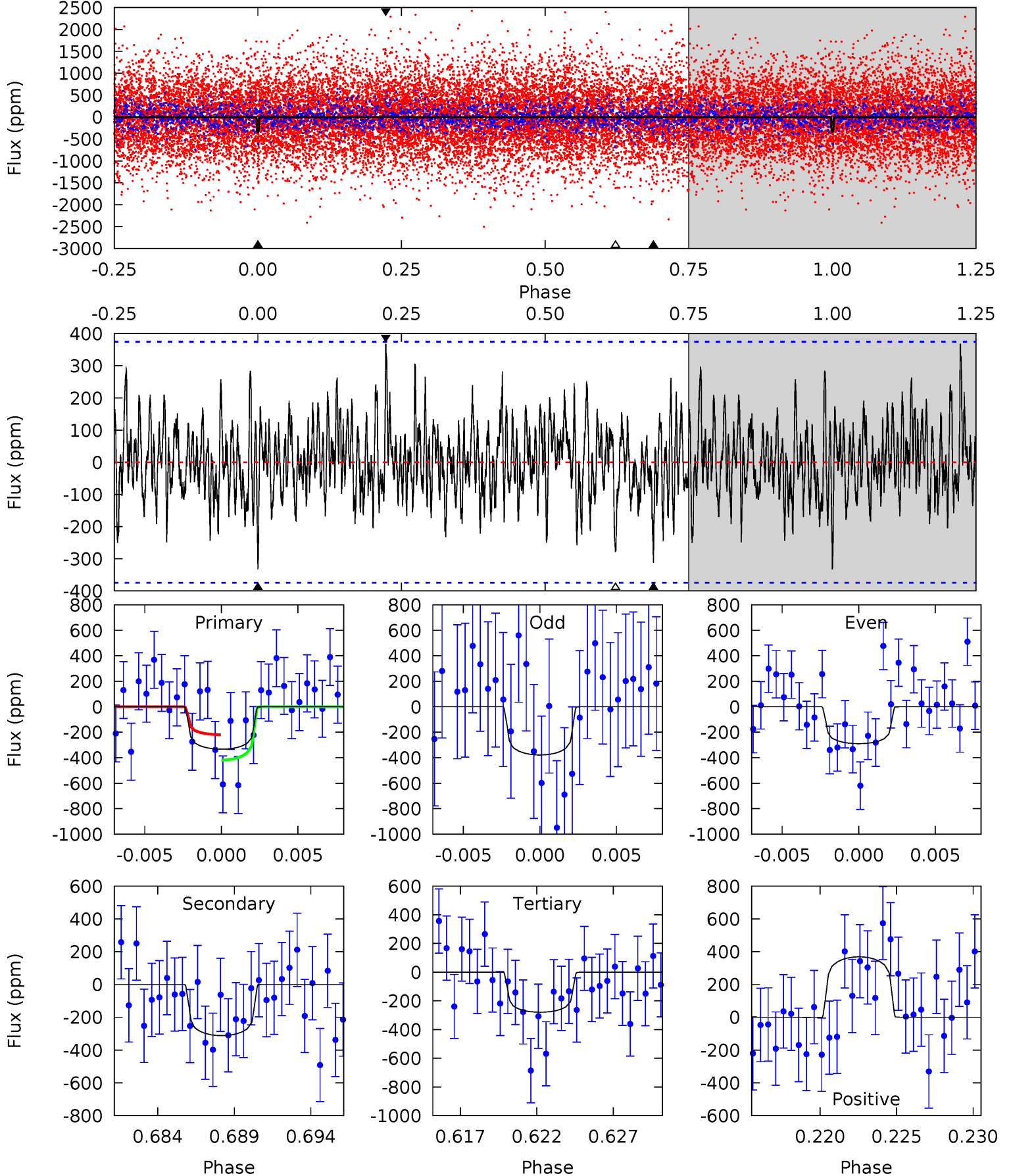
TCE 007301640-02 P= 61.742827 Days $T_0=188.998875$ (BKJD)



DV Model-Shift Uniqueness Test

007301640-02, P = 61.746490 Days, E = 127.263029 Days

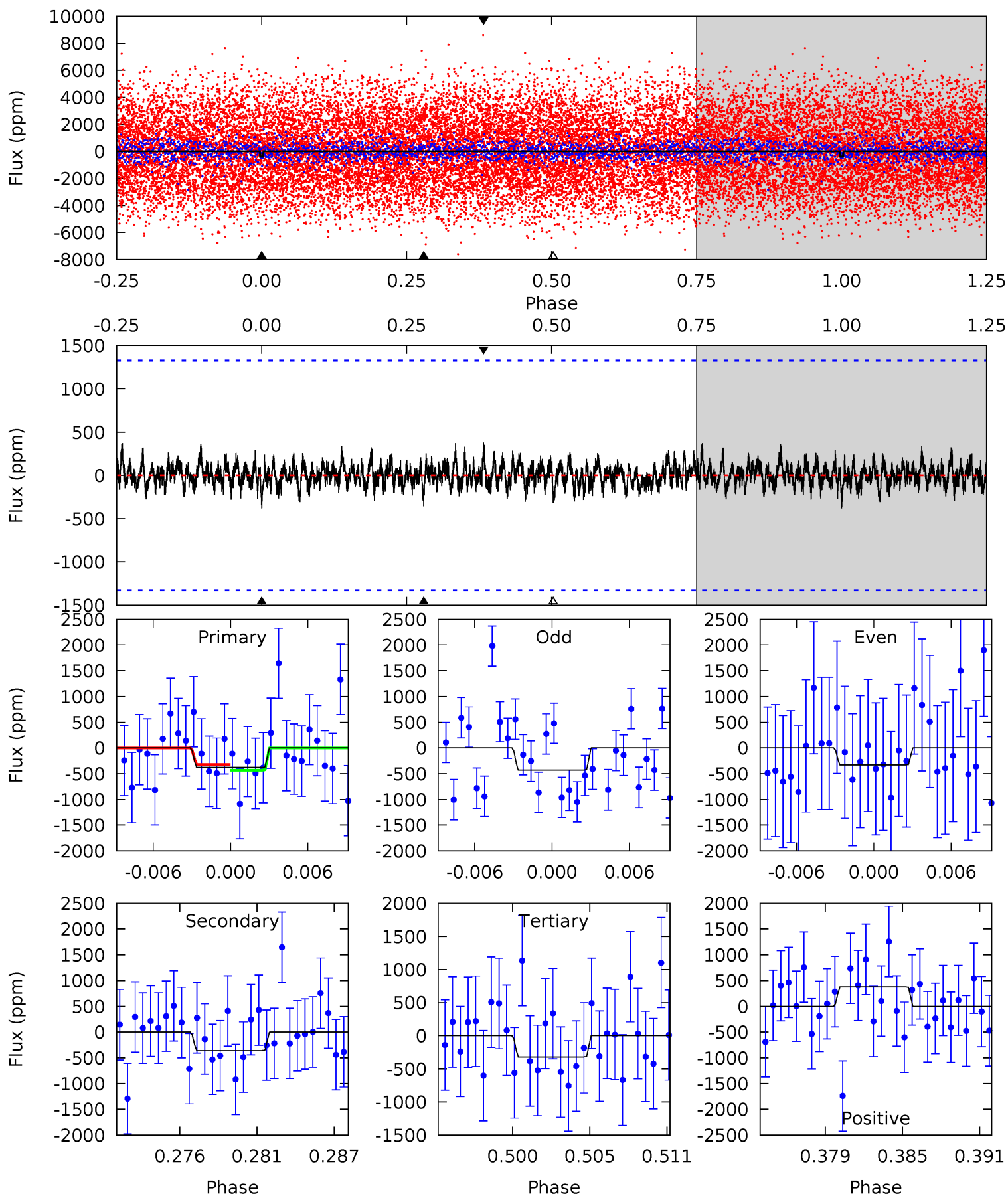
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.59	4.30	3.85	5.08	5.17	2.82	1.38	0.74	-0.49	0.45	-0.78	0.61	0.64	0.53	1.35



Alt Model-Shift Uniqueness Test

007301640-02, P = 61.742827 Days, E = 127.256048 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.47	1.38	1.23	1.46	5.13	2.76	0.41	0.24	0.01	0.15	-0.08	0.19	3.58	0.50	0.21



Stellar Parameters For KIC 007301640

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7239^{+230}_{-316}	$4.129^{+0.128}_{-0.192}$	$0.020^{+0.200}_{-0.350}$	$1.781^{+0.563}_{-0.375}$	$1.558^{+0.212}_{-0.236}$	$0.388^{+0.277}_{-0.197}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+32%/-21%	+14%/-15%	+71%/-51%
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 007301640-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-312 ± 73	$4.53^{+3.34}_{-2.59}$	1007^{+81}_{-70}	6235^{+4020}_{-1396}	1030^{+4420}_{-699}
Alt.	-357 ± 258	$4.37^{+3.00}_{-2.51}$	1011^{+74}_{-68}	6399^{+5016}_{-1961}	1060^{+5593}_{-868}

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 $A_{obs} \gg 1.0$

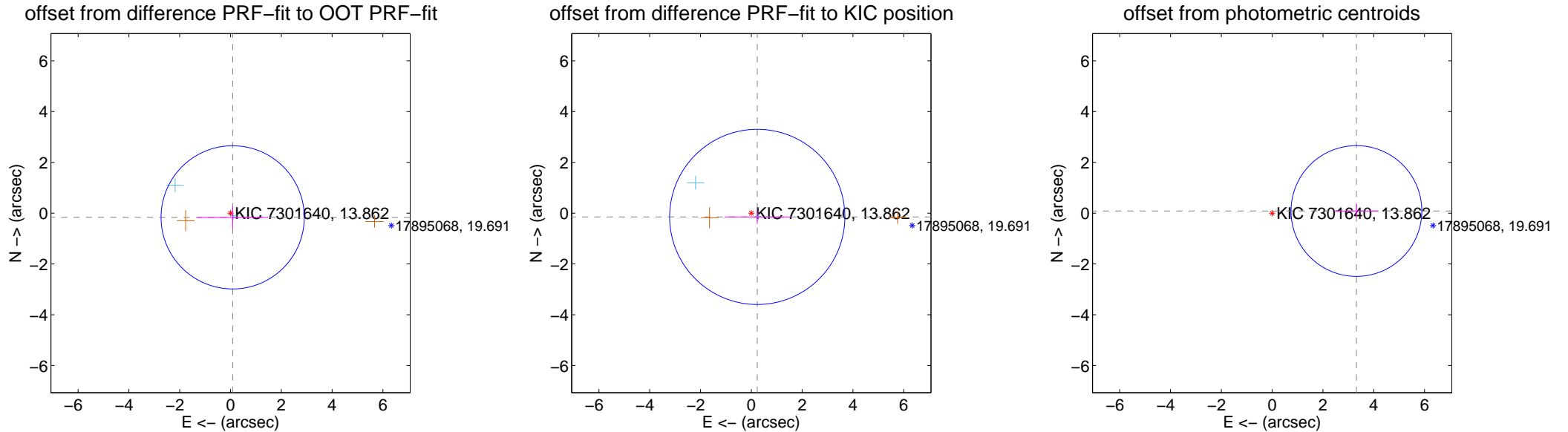
DV Centroid Data

Supplemental centroid analysis for 007301640-02. Kepler magnitude: 13.86. Transit SNR 5.56

There are 2 quarters with good PRF difference image offsets

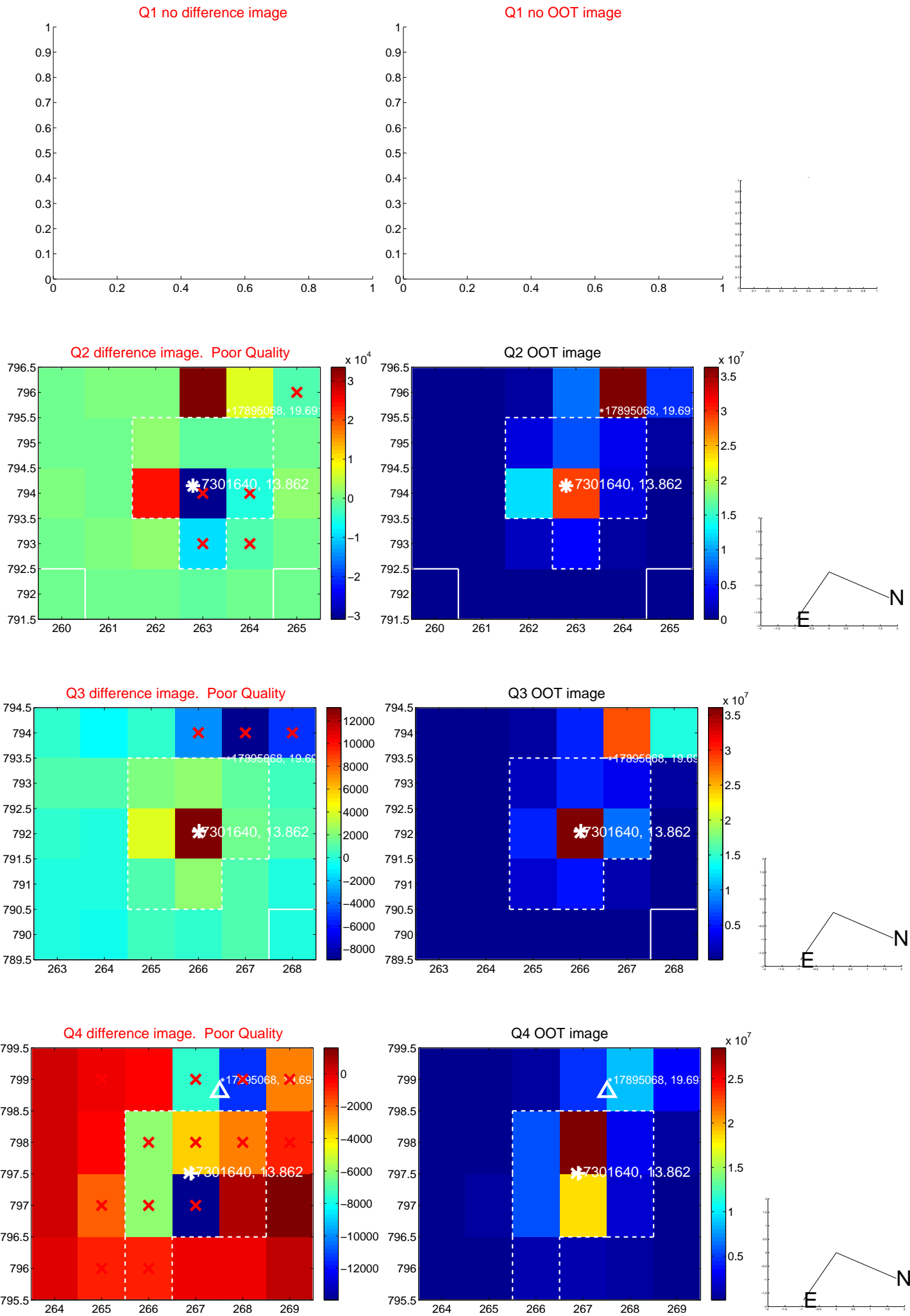
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.186 ± 0.940	0.20	-0.085 ± 1.397	-0.165 ± 0.430
PRF-fit source offset from KIC position	0.276 ± 1.150	0.24	-0.233 ± 1.286	-0.147 ± 0.277
photometric centroid source offset	3.32 ± 0.86	3.87	-3.32 ± 0.86	0.08 ± 0.26

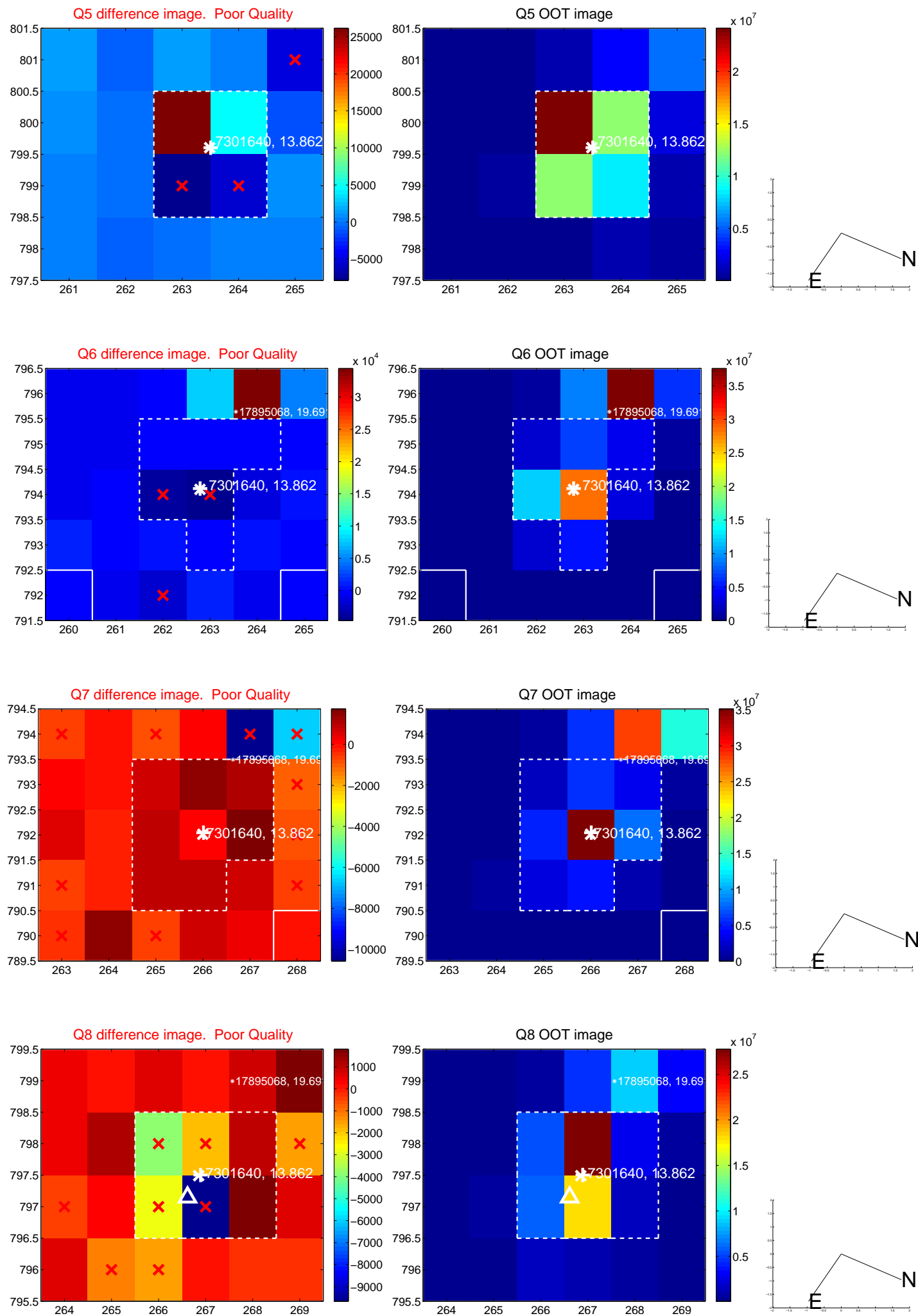


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

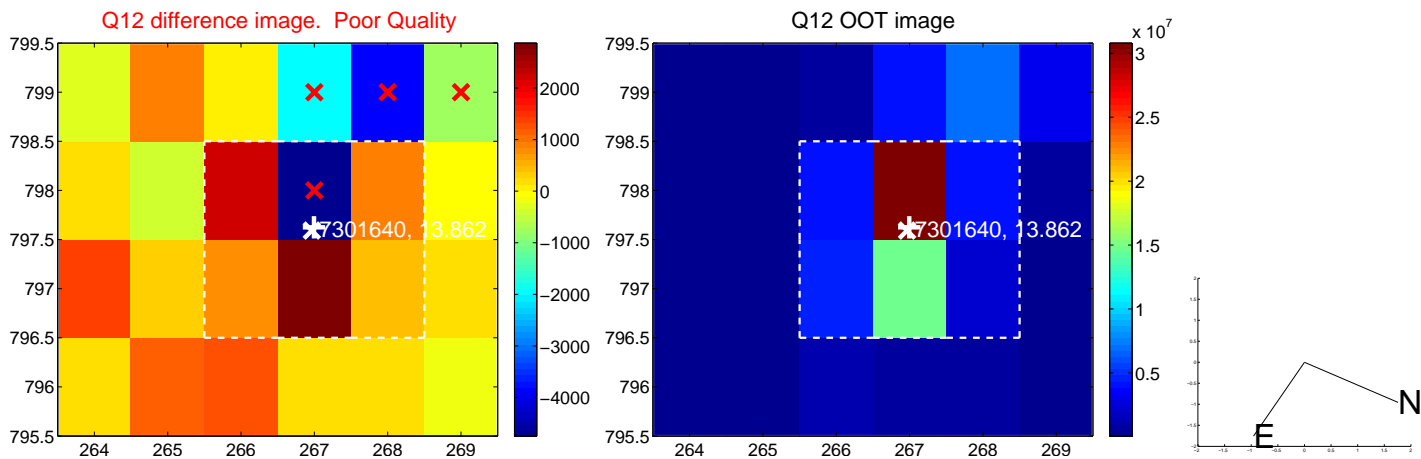
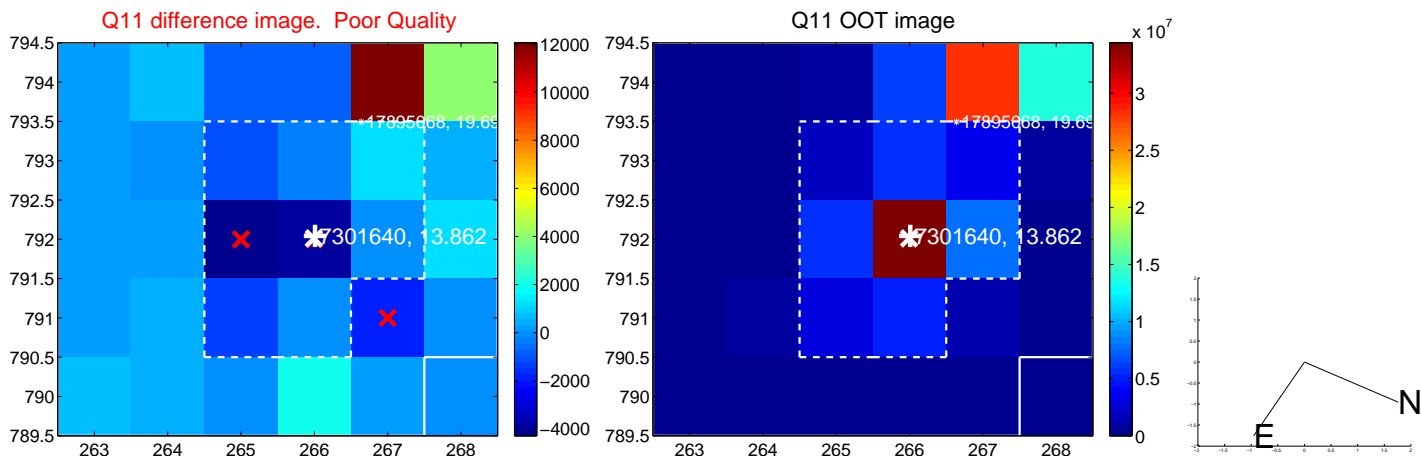
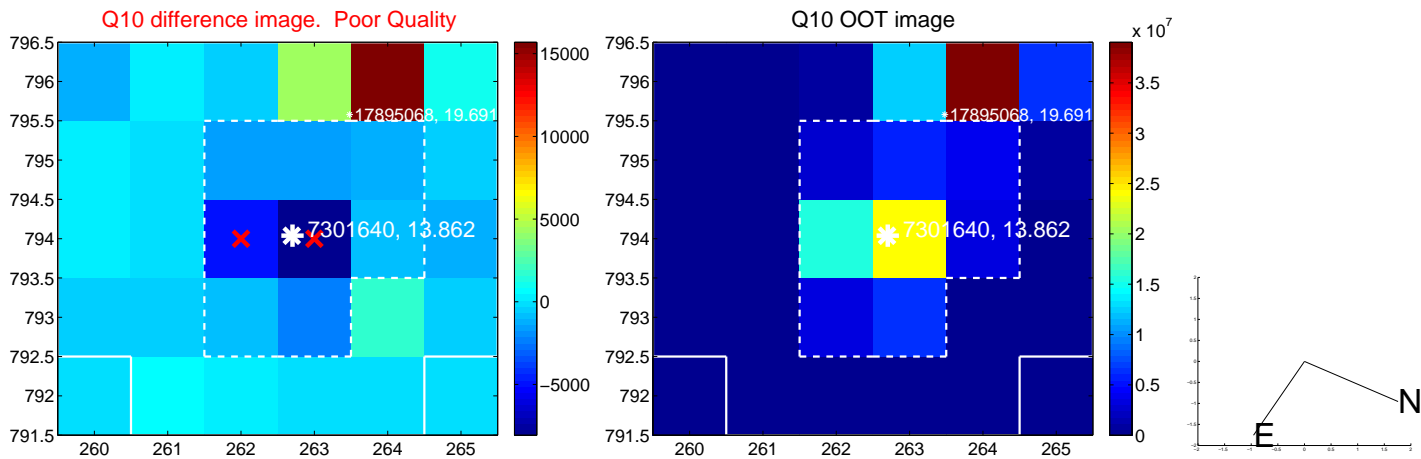
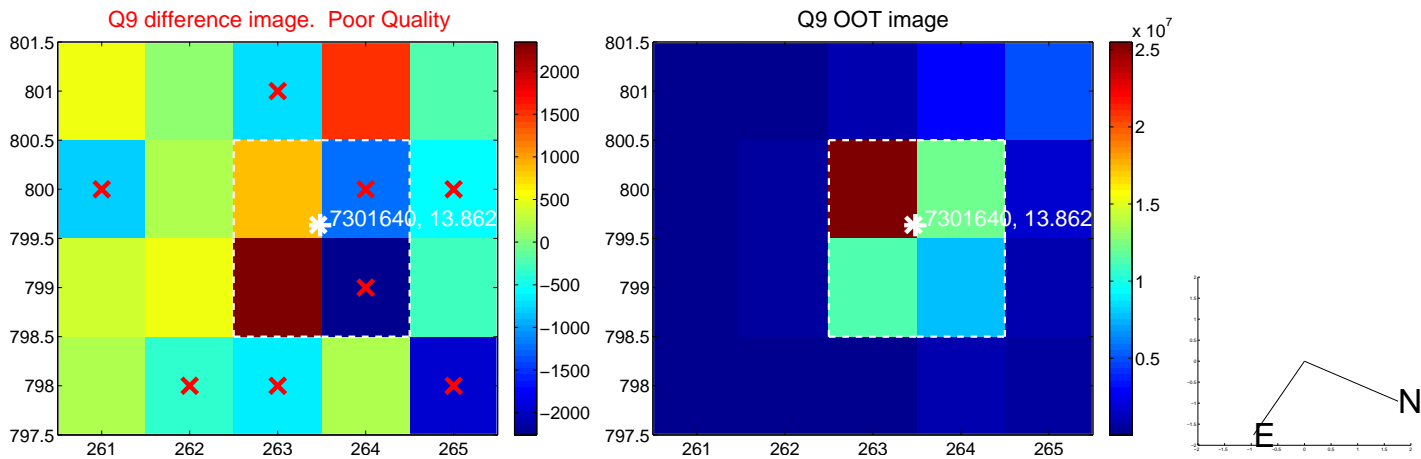
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



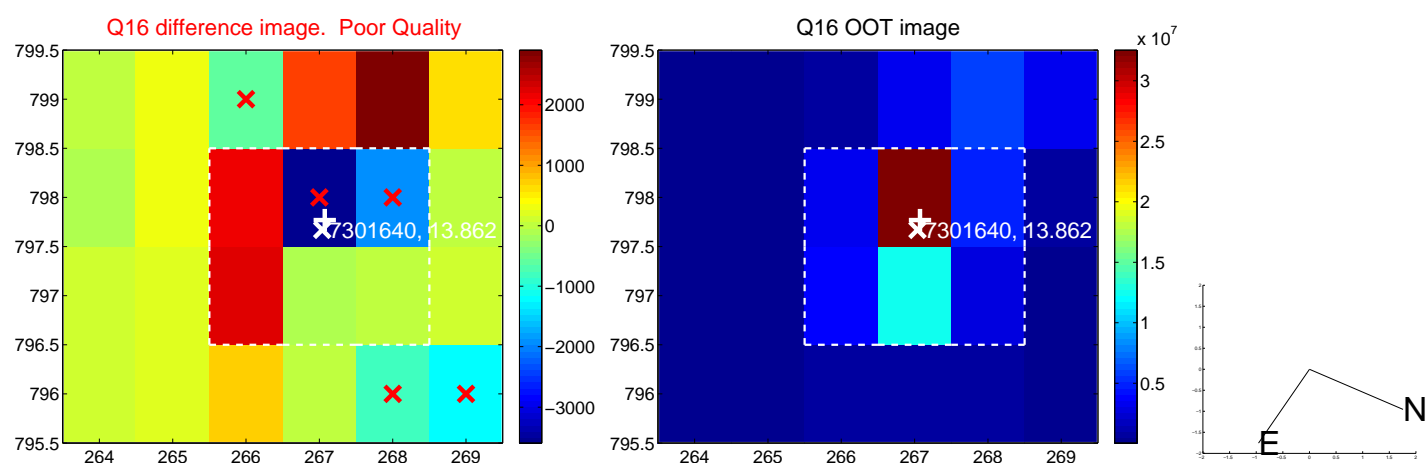
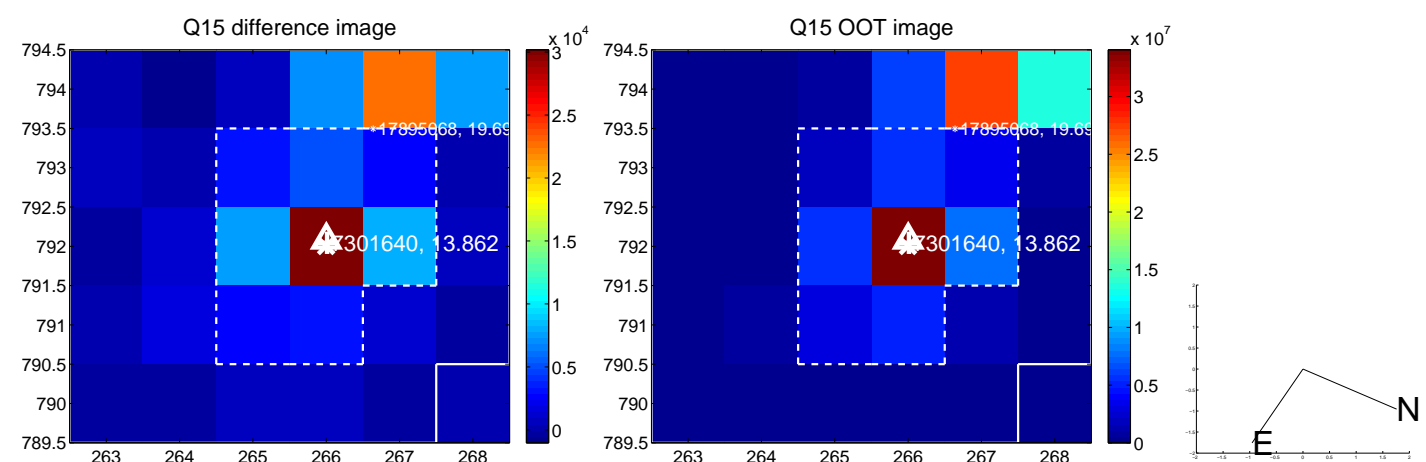
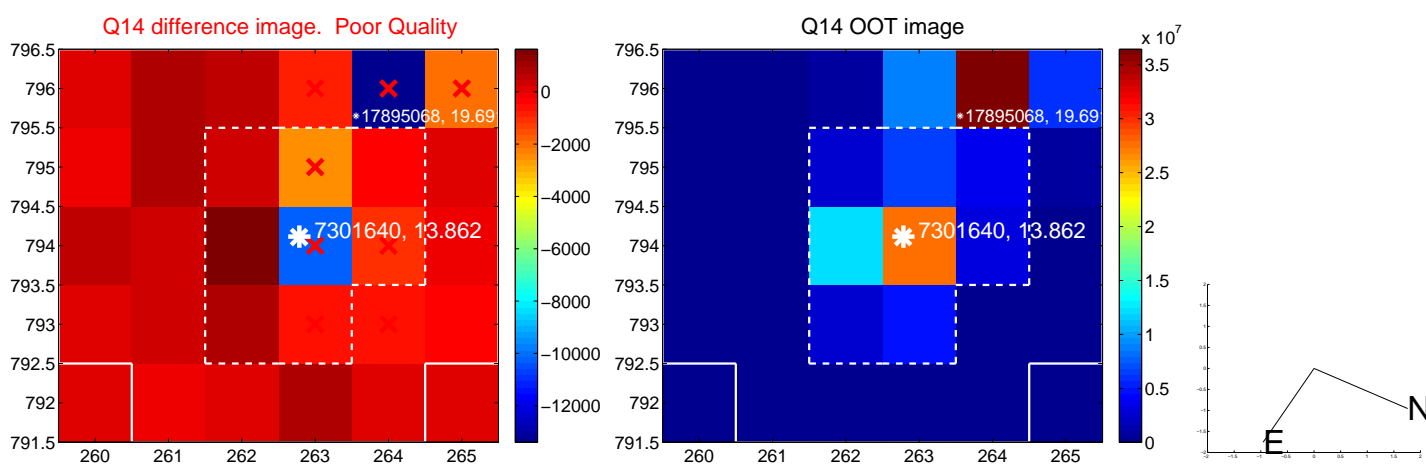
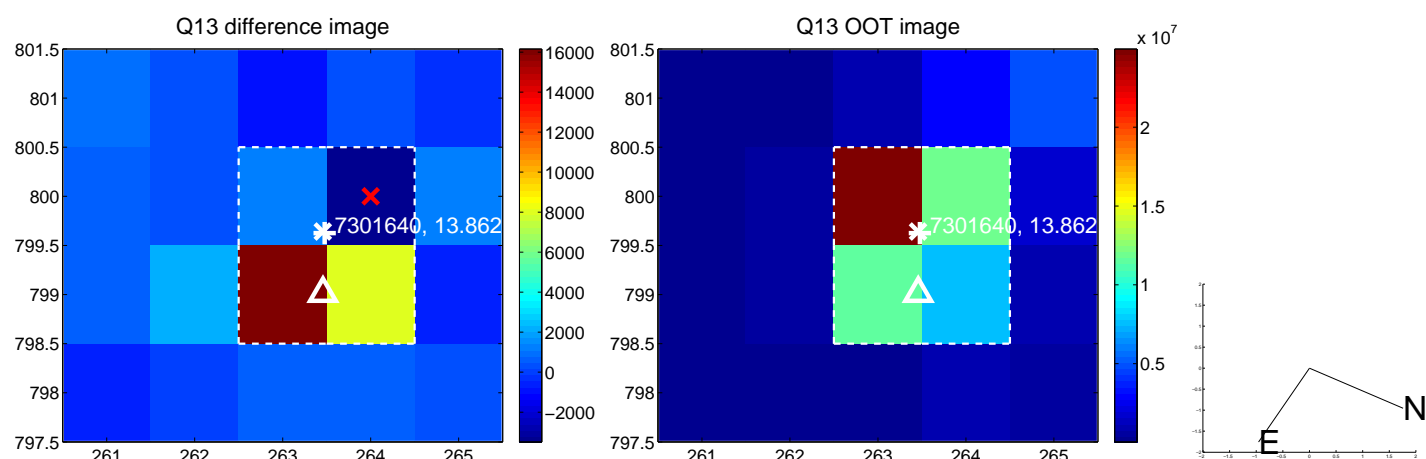
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



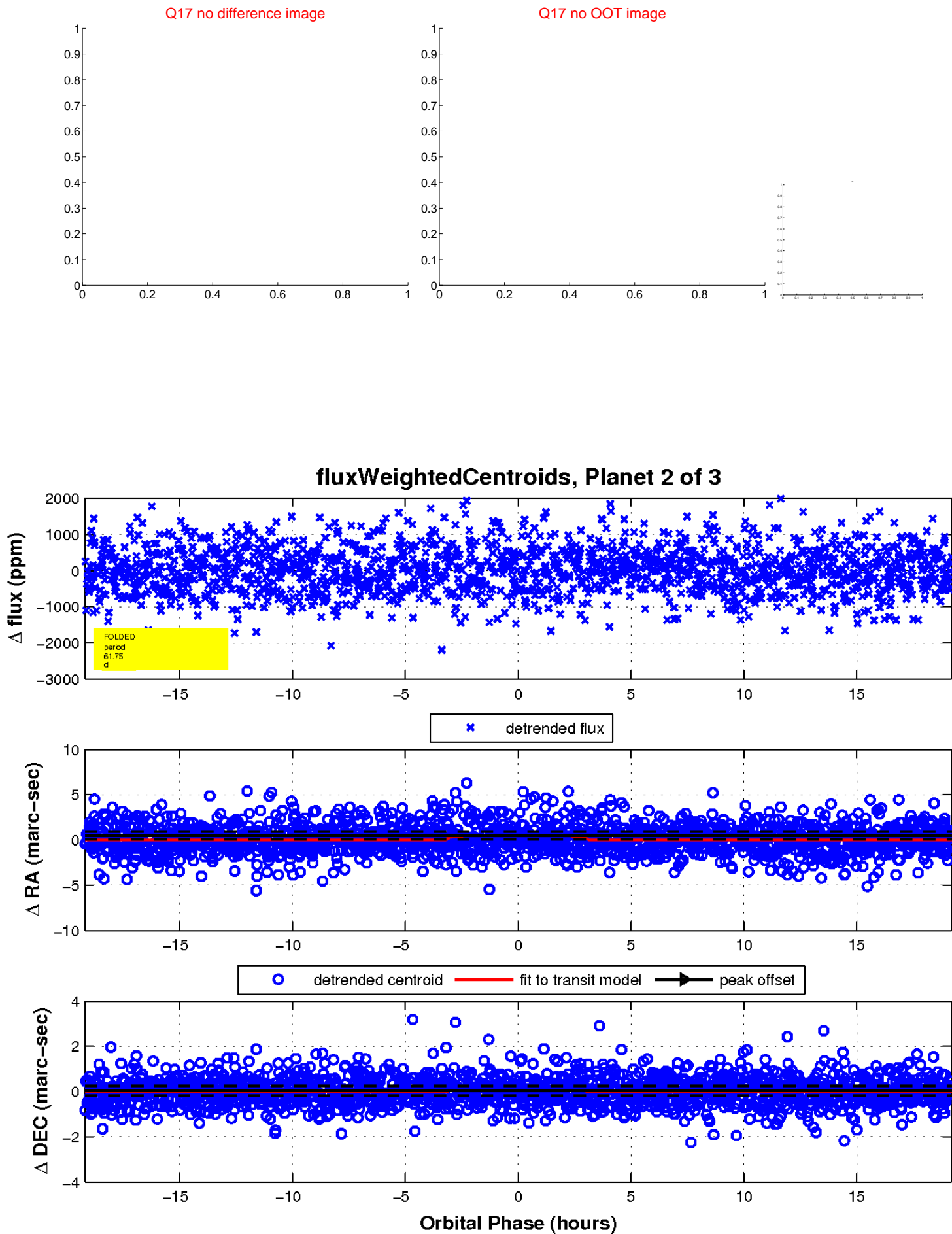
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

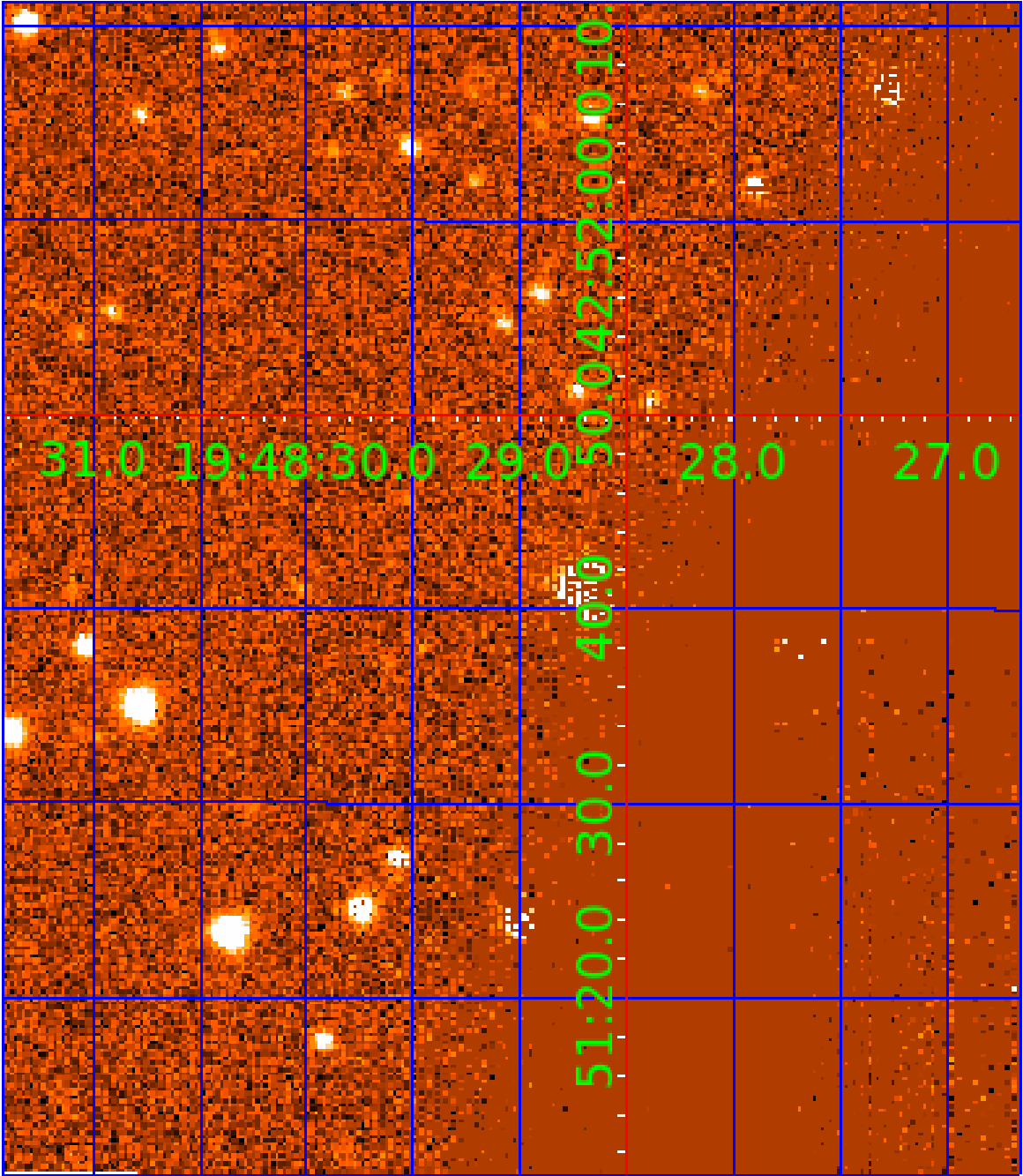


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007301640

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})
007301640-01	OBS	No	1.336646	132.065771	63.8	7.594	10.1	9.8	1.78	7239	1.44	10296.65
007301640-02	OBS	No	61.746490	189.009519	454.6	6.402	7.7	5.6	1.78	7239	4.05	62.12
007301640-03	OBS	No	54.053244	142.752319	452.0	7.573	8.2	7.4	1.78	7239	4.07	74.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007301640-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
007301640-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007301640-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

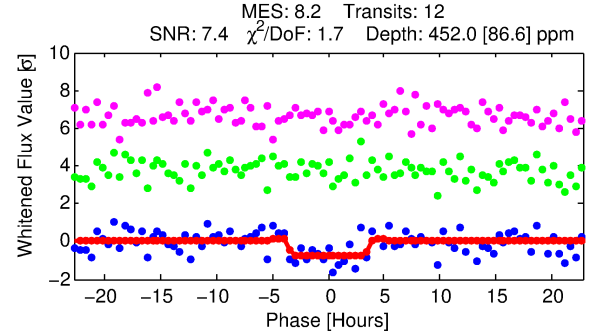
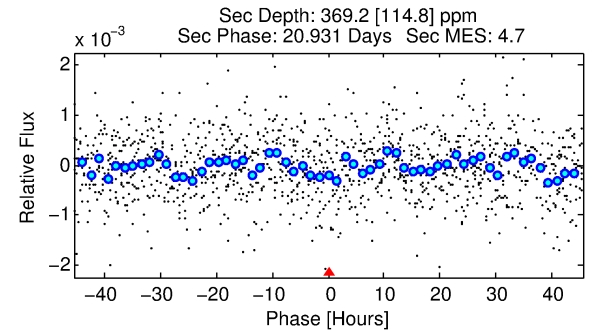
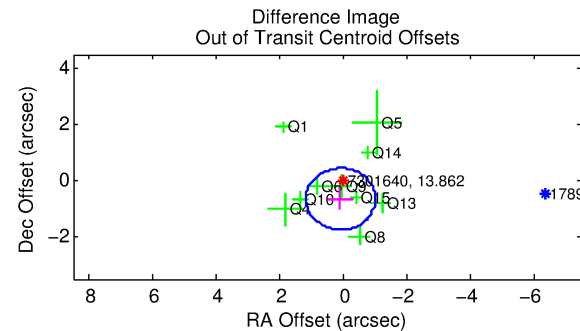
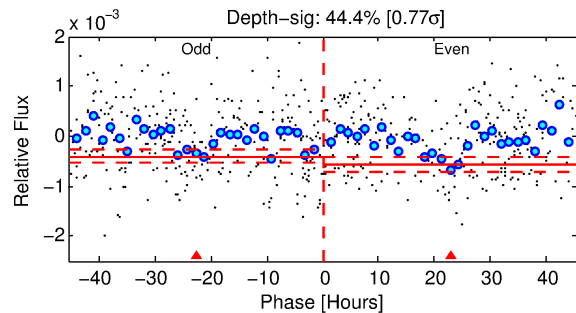
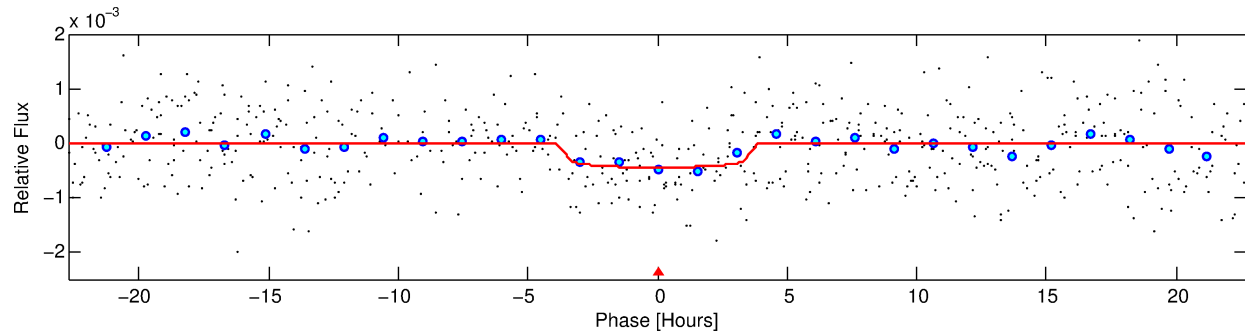
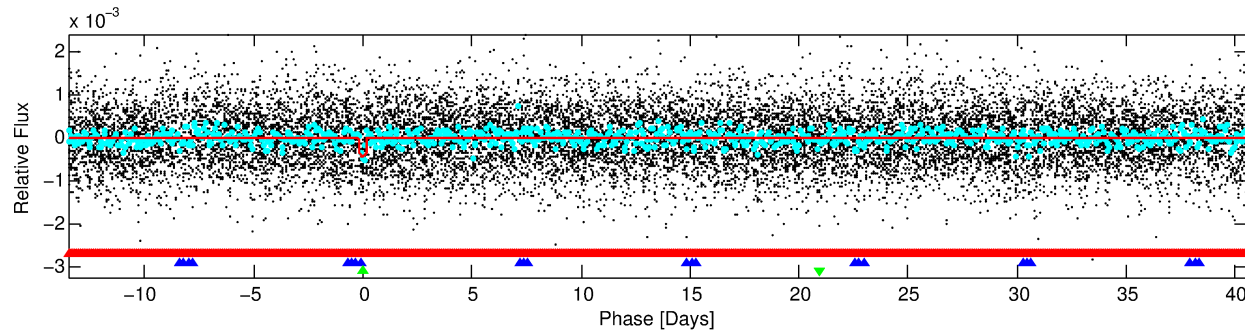
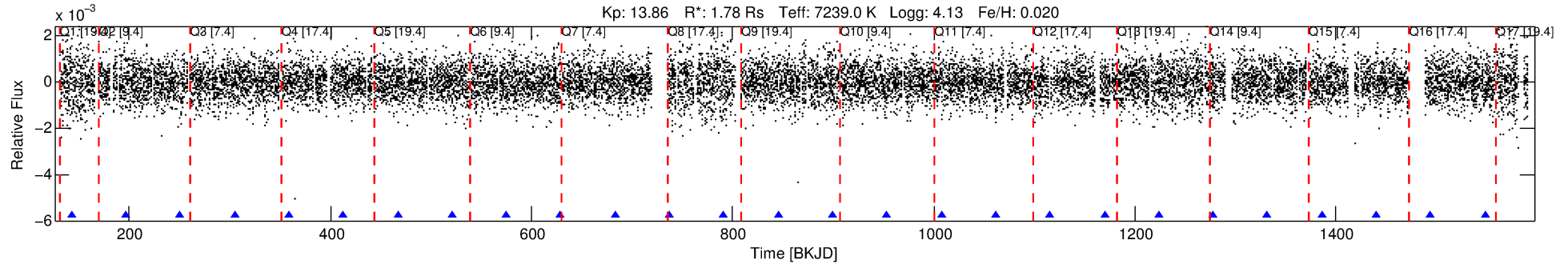
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007301640-03

No Significant Match Found

DV One-Page Summary

KIC: 7301640 Candidate: 3 of 3 Period: 54.053 d



DV Fit Results:

Period = 54.05324 [0.00155] d
Epoch = 142.7523 [0.0248] BKJD
Rp/R* = 0.0209 [0.0151]
a/R* = 40.10 [173.78]
b = 0.71 [3.06]
Seff = 74.18 [29.84]
Teq = 748 [75] K
Rp = 4.06 [3.20] Re
a = 0.3244 [0.0834] AU
Ag = 1293.47 [1967.70] [0.66 σ]
Teffp = 6939 [2581] K [2.40 σ]

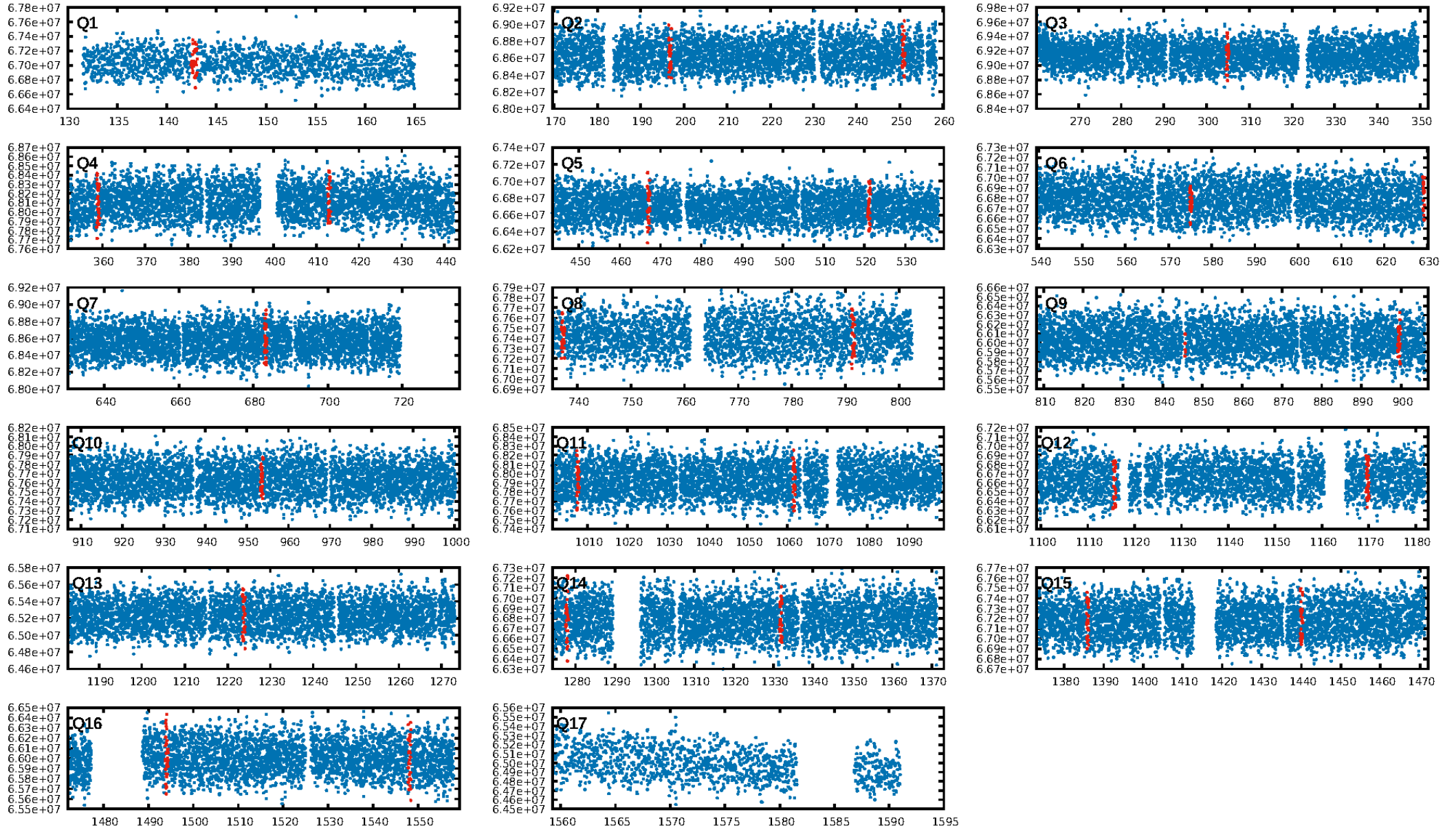
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [117.96 σ]
LongPeriod-sig: 100.0% [18.62 σ]
ModelChiSquare2-sig: 16.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.53e-09
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -11.14
Centroid-sig: 0.1%
Centroid-so: 1.061 arcsec [1.77 σ]
OotOffset-rm: 0.660 arcsec [1.81 σ]
KicOffset-rm: 0.629 arcsec [1.59 σ]
OotOffset-st: 3/1/2/4 [10]
KicOffset-st: 3/1/2/4 [10]
DiffImageQuality-fgm: 0.20 [2/10]
DiffImageOverlap-fno: 0.00 [0/16]

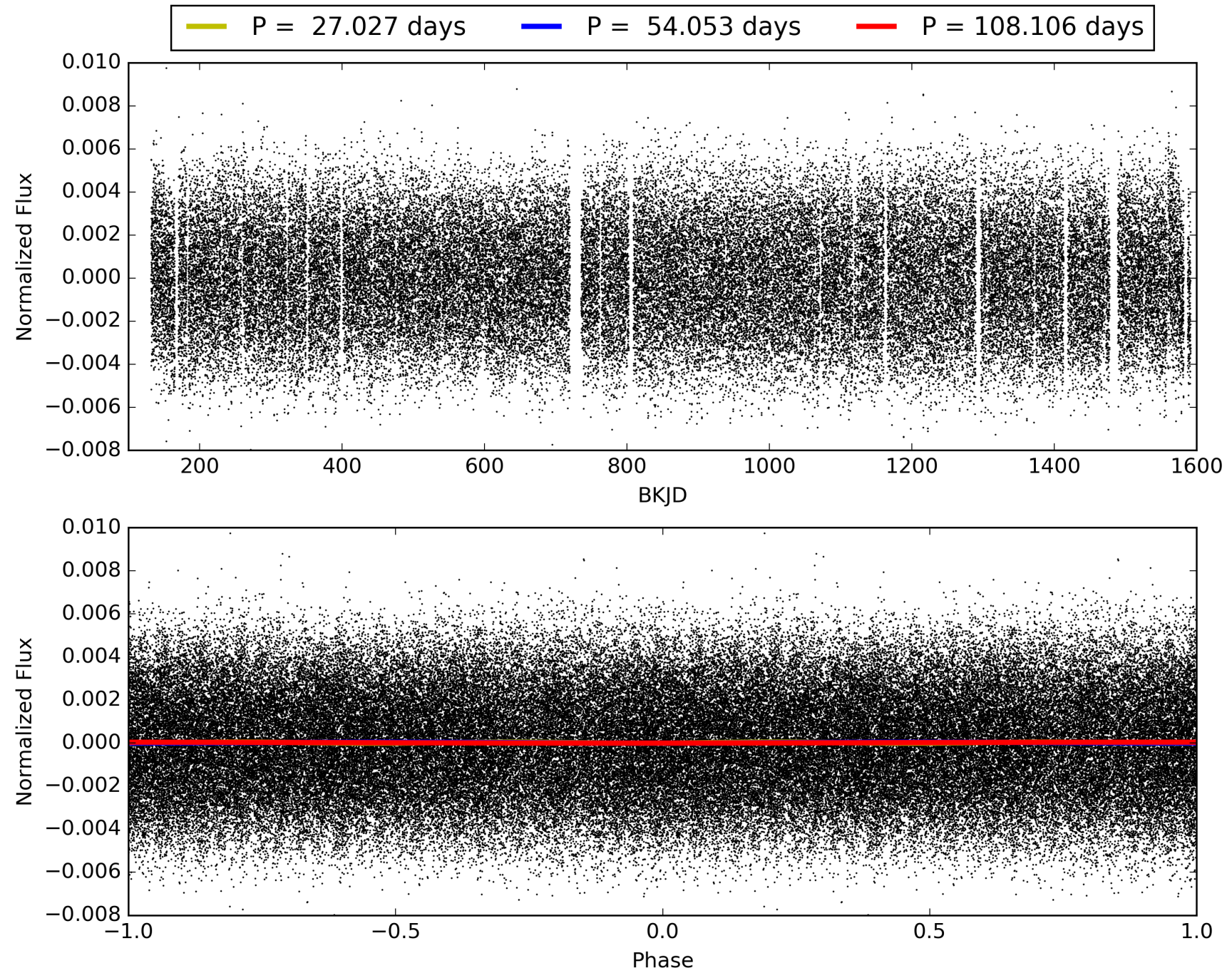
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:00:18 Z

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

TCE 007301640-03, PDC Light Curves

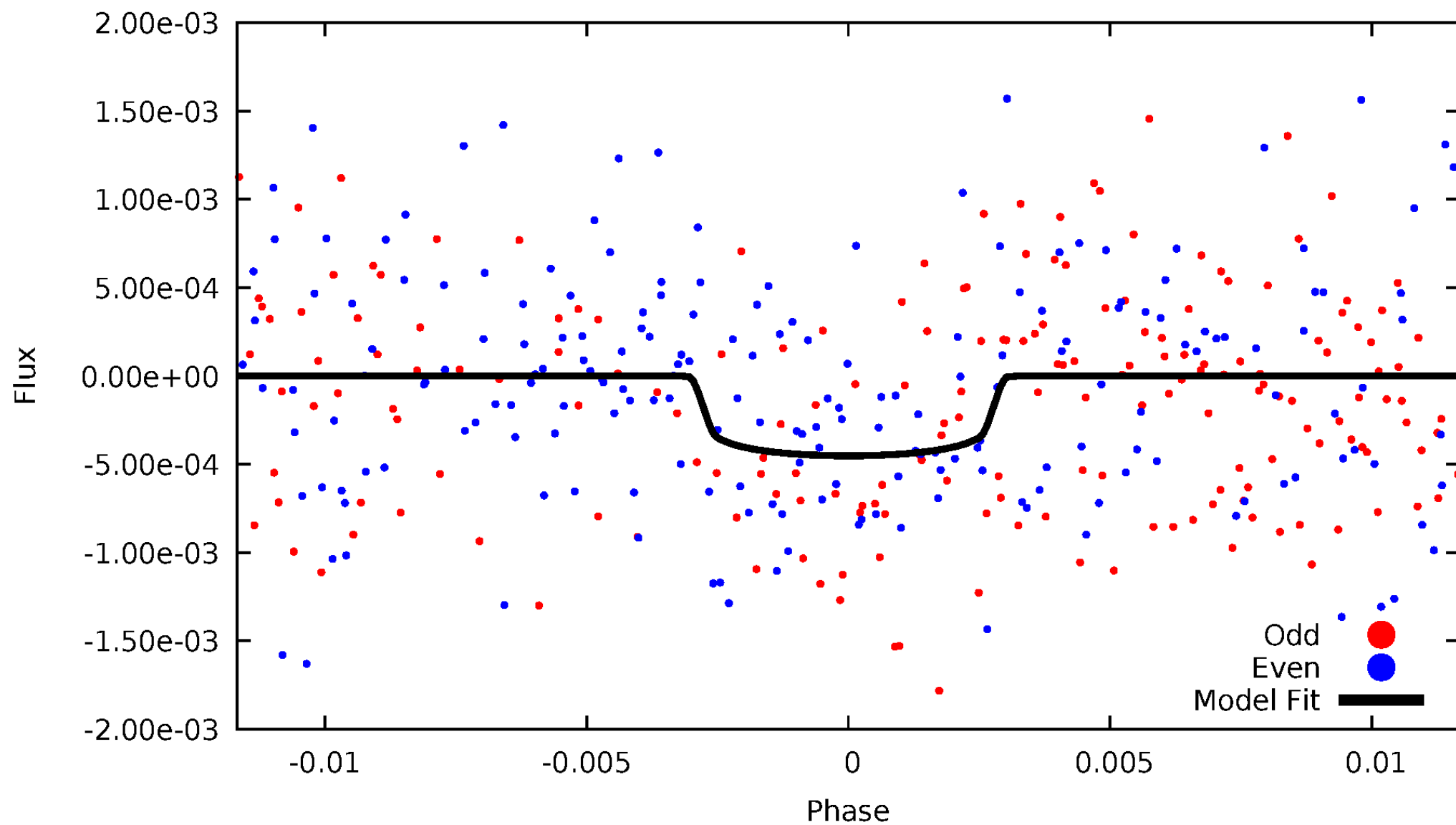


TCE 007301640-03



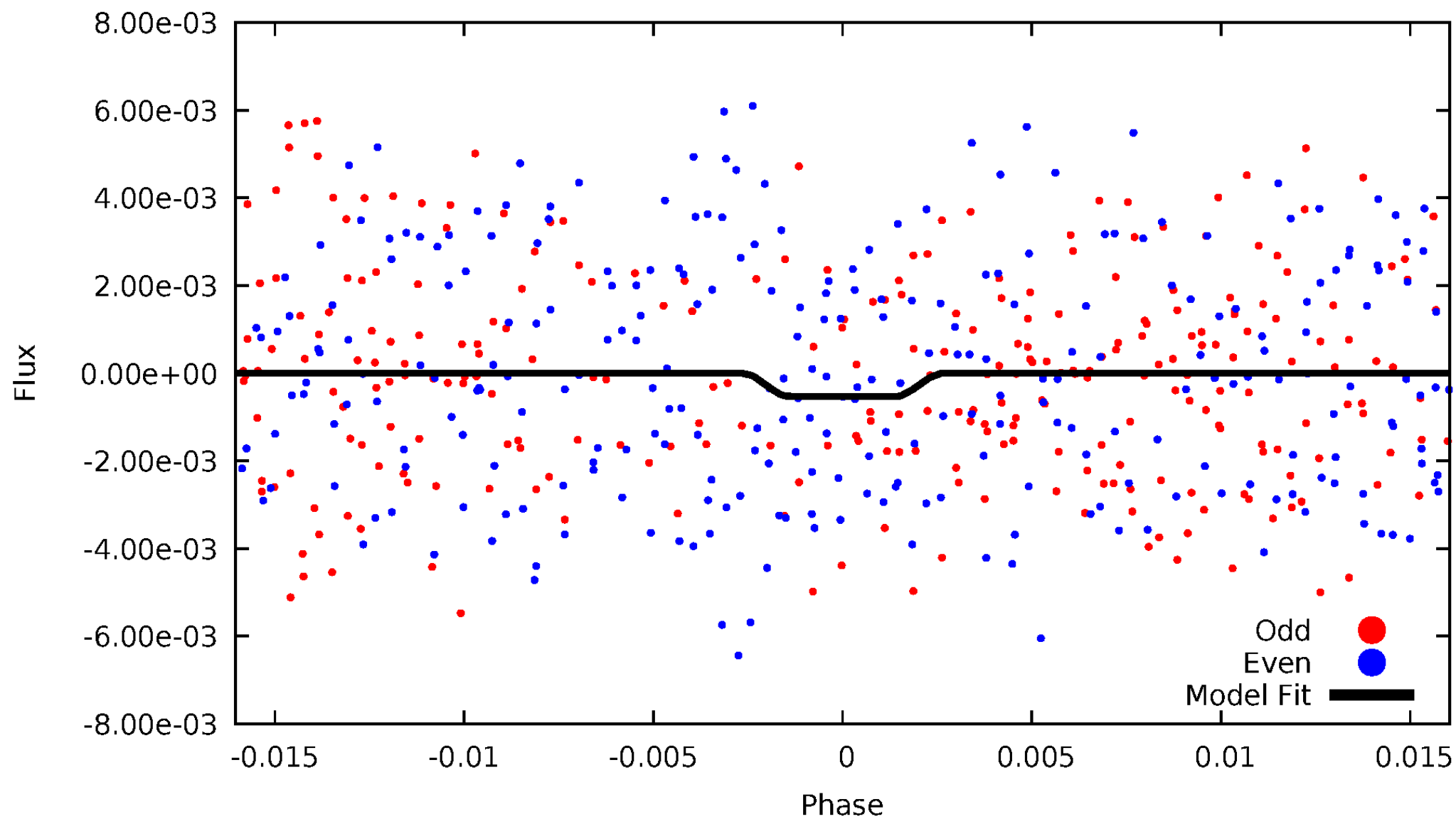
DV Odd/Even

TCE 007301640-03



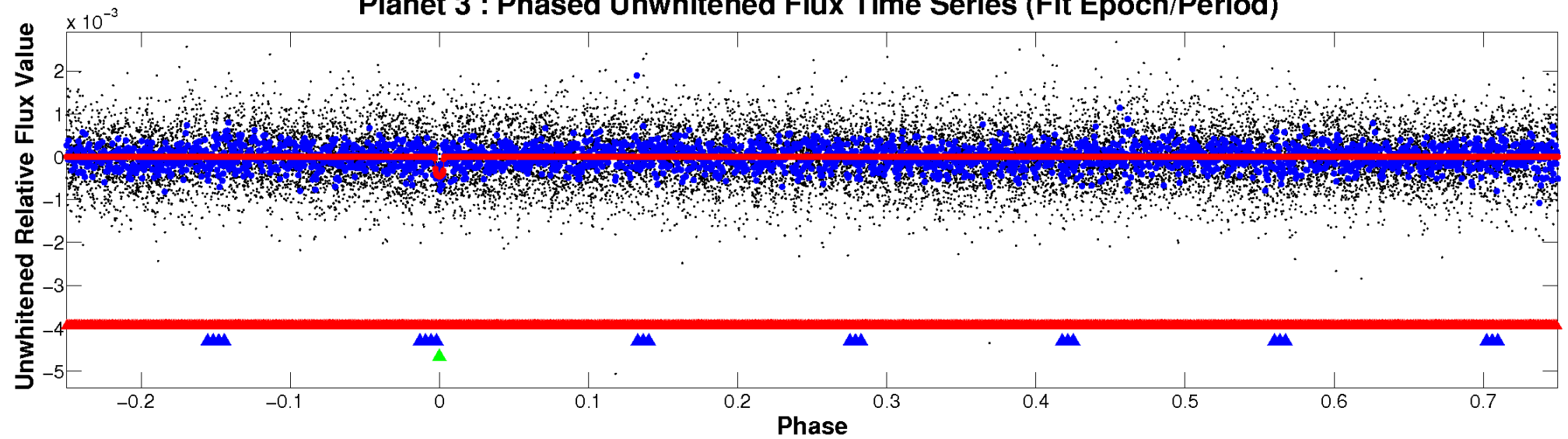
ALT Odd/Even

TCE 007301640-03

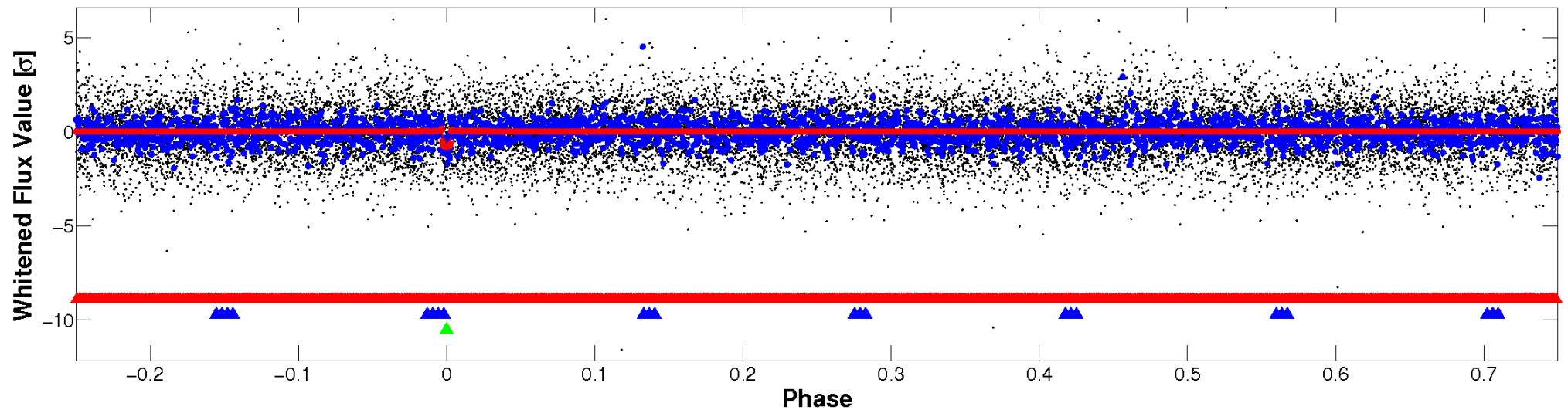


Non-Whitened Vs. Whitened Light Curve

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

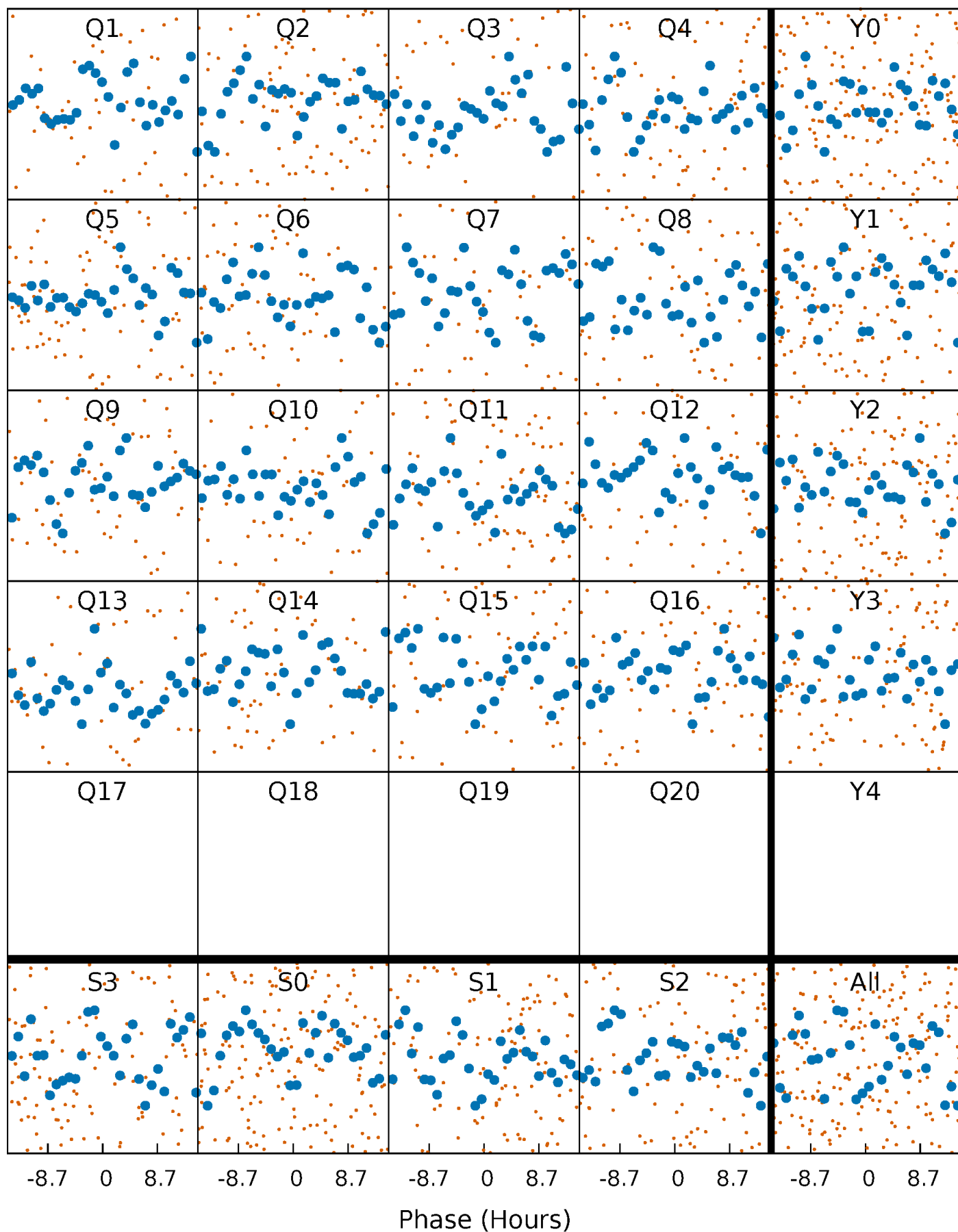


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



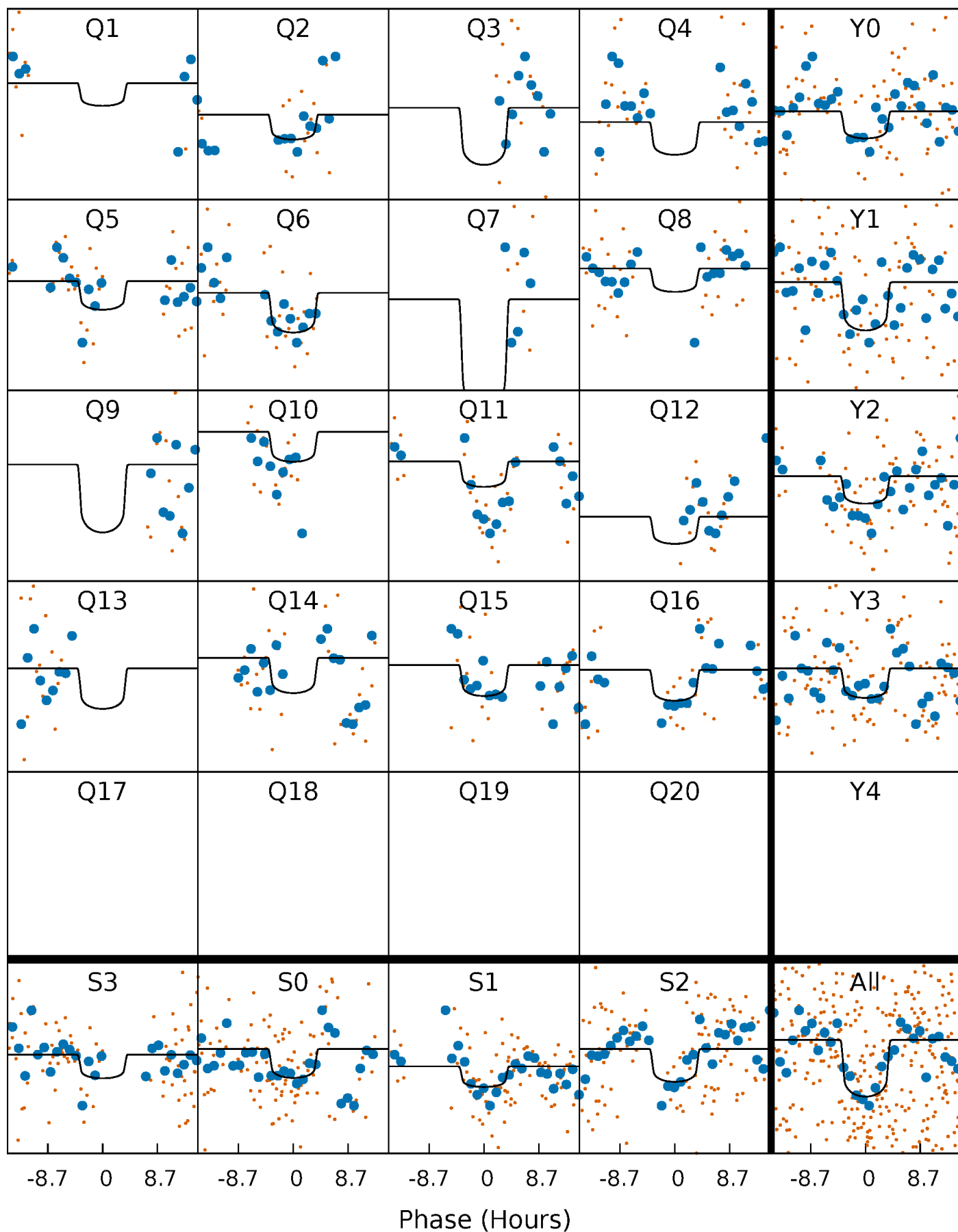
PDC Quarter-Phased Transit Curves

TCE 007301640-03 P= 54.053244 Days $T_0=142.752319$ (BKJD)



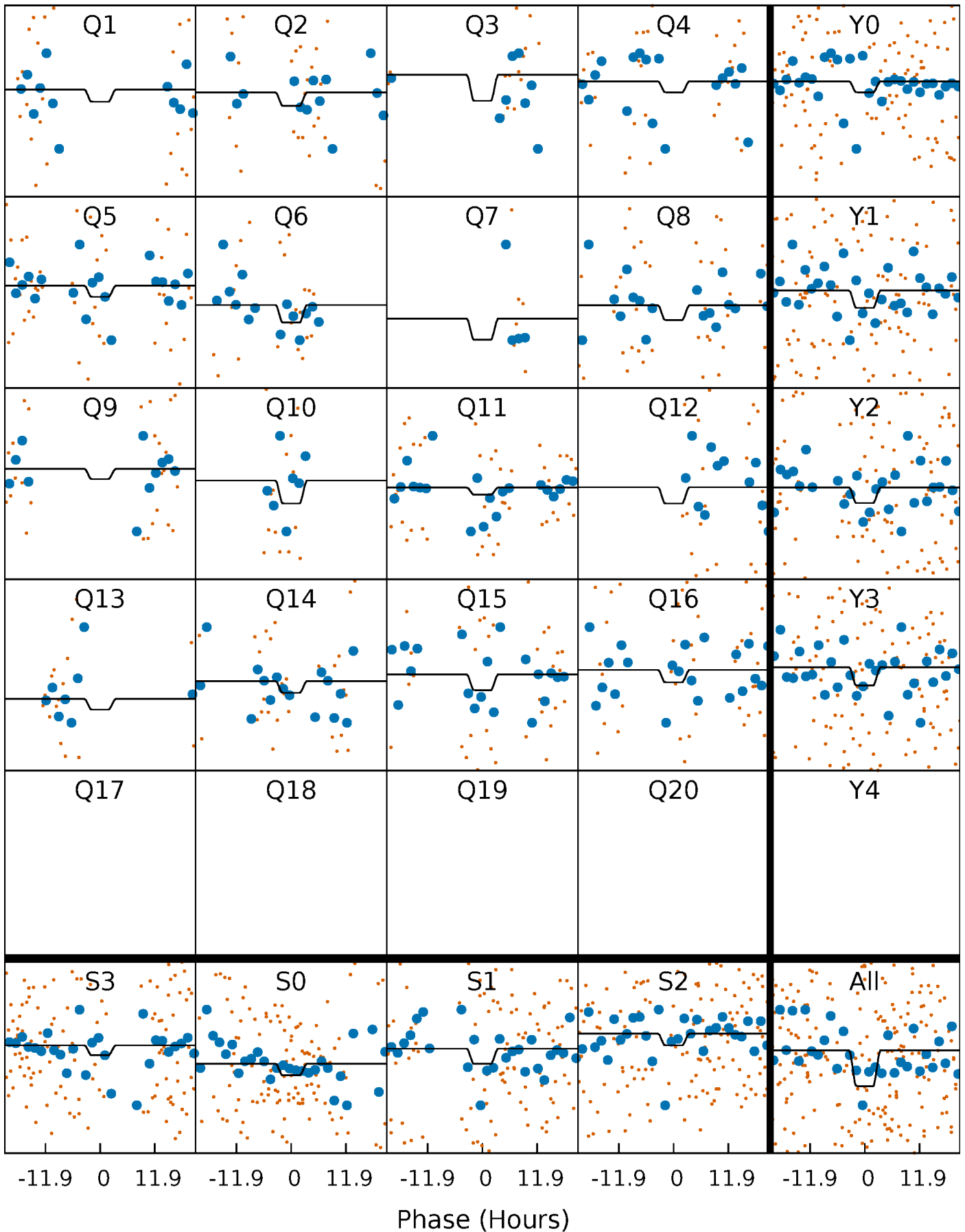
DV Quarter-Phased Transit Curves

TCE 007301640-03 P= 54.053244 Days $T_0=142.752319$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

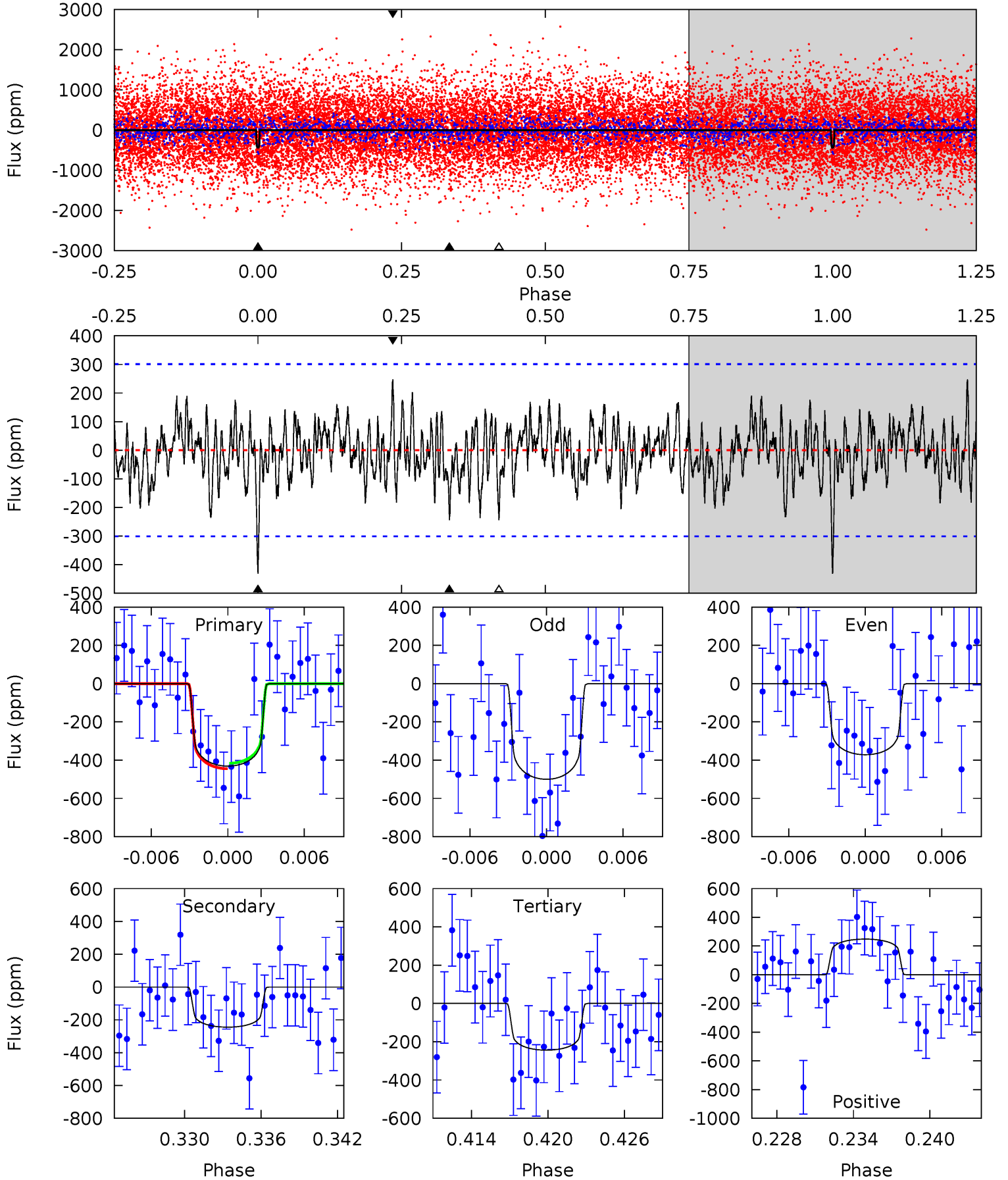
TCE 007301640-03 P= 54.055855 Days $T_0=142.659755$ (BKJD)



DV Model-Shift Uniqueness Test

007301640-03, P = 54.053244 Days, E = 88.699075 Days

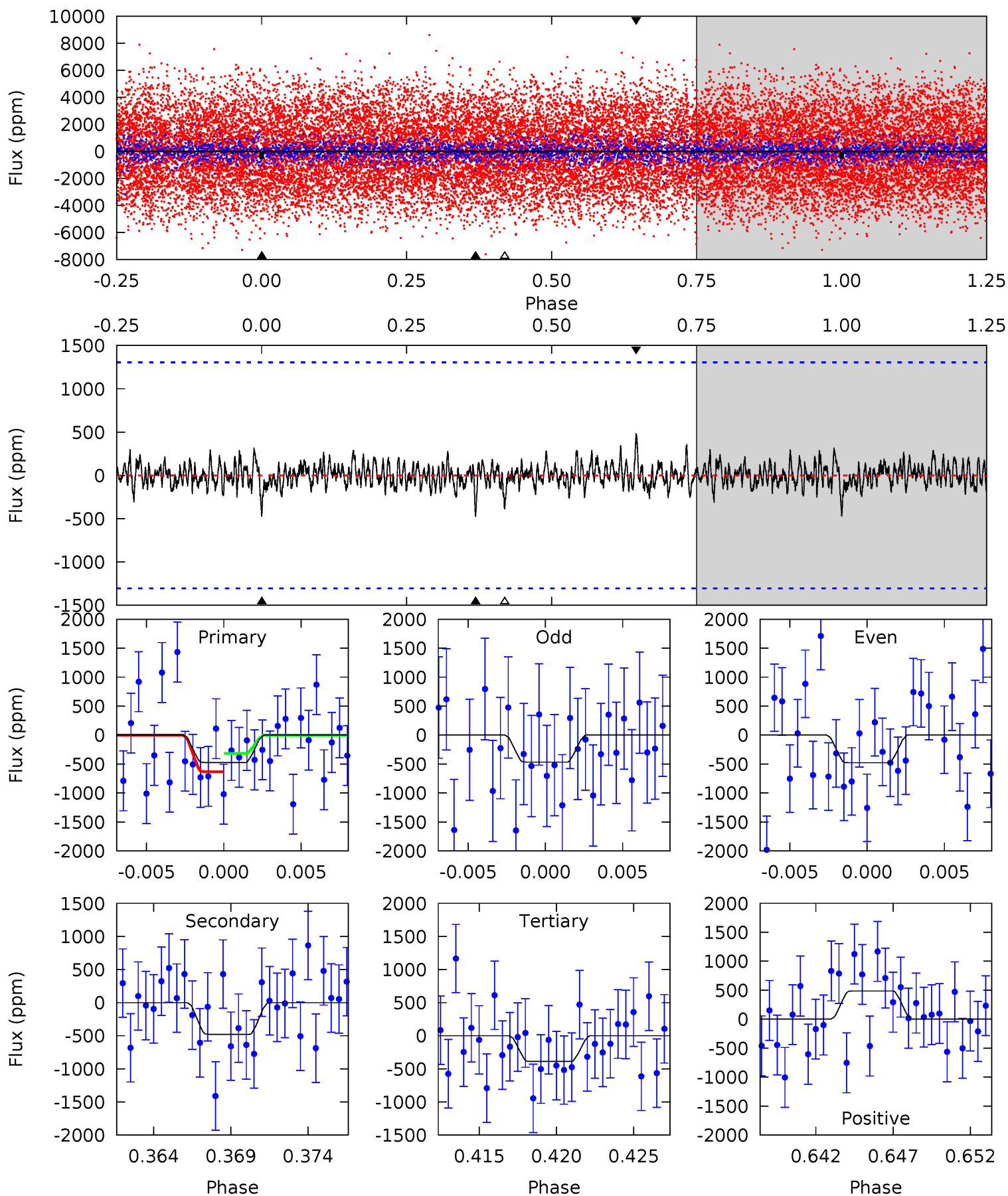
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.34	4.16	4.15	4.23	5.12	2.75	1.38	3.18	3.11	0.01	-0.06	1.10	1.26	0.37	0.24



Alt Model-Shift Uniqueness Test

007301640-03, P = 54.055855 Days, E = 88.603900 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.87	1.89	1.54	1.92	5.16	2.80	0.44	0.33	-0.05	0.35	-0.03	0.02	0.88	0.50	0.62



Stellar Parameters For KIC 007301640

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7239^{+230}_{-316}	$4.129^{+0.128}_{-0.192}$	$0.020^{+0.200}_{-0.350}$	$1.781^{+0.563}_{-0.375}$	$1.558^{+0.212}_{-0.236}$	$0.388^{+0.277}_{-0.197}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+32%/-21%	+14%/-15%	+71%/-51%
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 007301640-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-245 ± 59	$4.54^{+2.90}_{-2.73}$	1051^{+80}_{-74}	5879^{+3959}_{-1176}	662^{+3361}_{-419}
Alt.	-478 ± 253	$4.76^{+2.98}_{-2.71}$	1058^{+77}_{-77}	6634^{+5654}_{-1712}	1108^{+5280}_{-819}

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 $A_{obs} \gg 1.0$

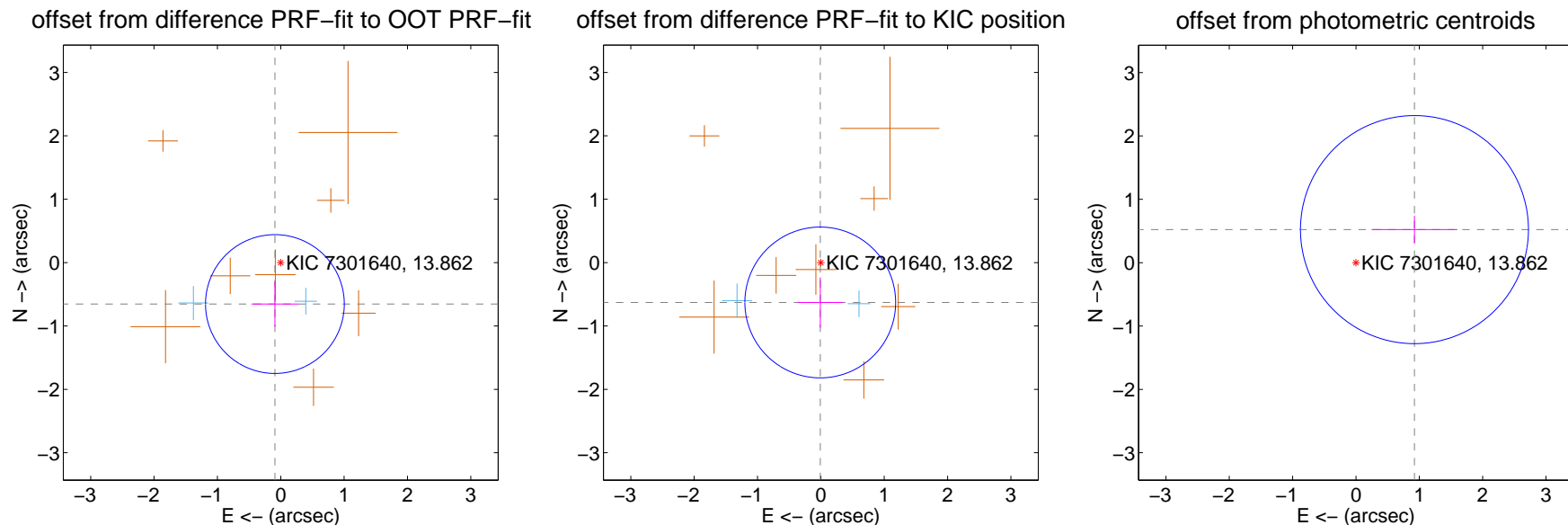
DV Centroid Data

Supplemental centroid analysis for 007301640-03. Kepler magnitude: 13.86. Transit SNR 7.43

There are 2 quarters with good PRF difference image offsets

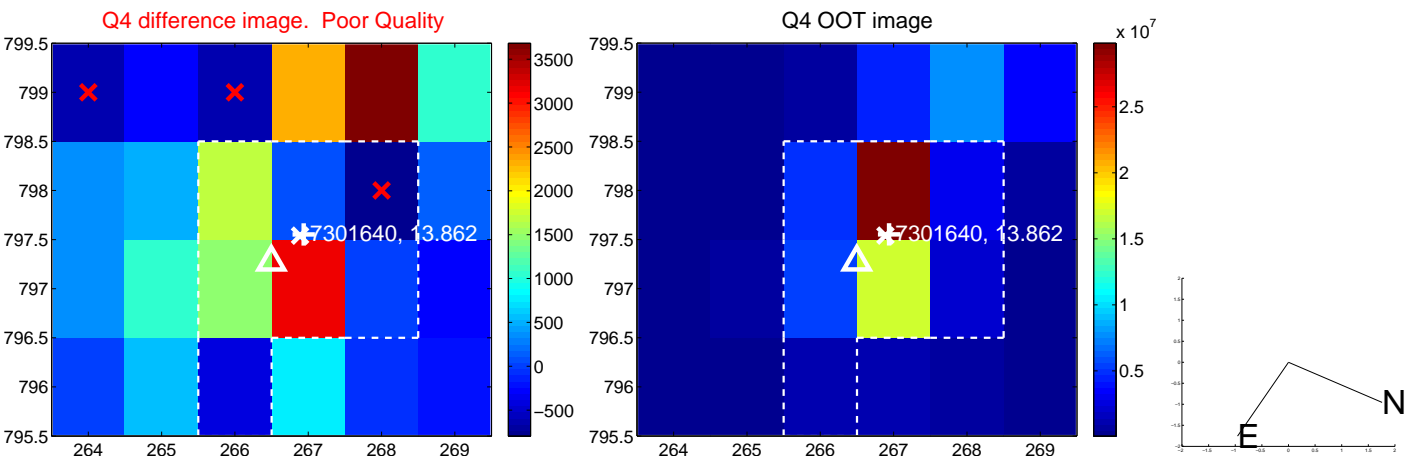
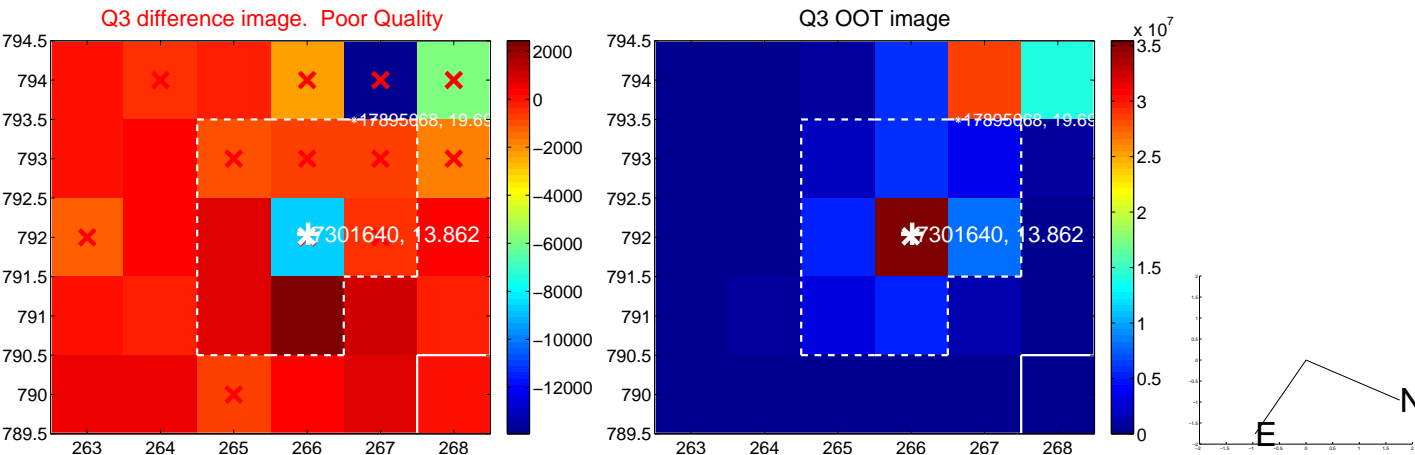
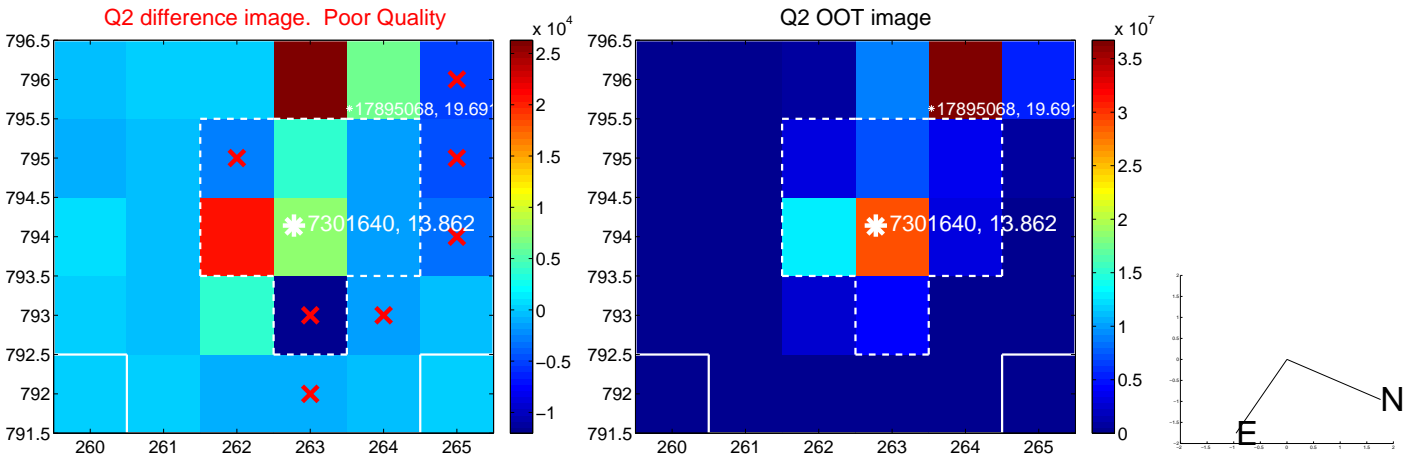
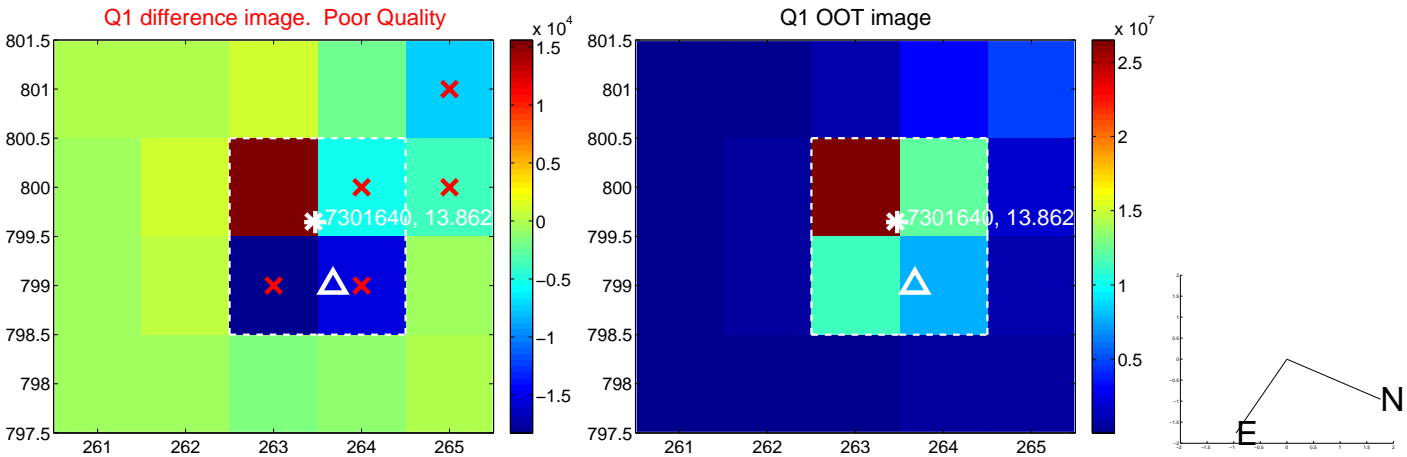
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.660 ± 0.365	1.81	0.092 ± 0.369	-0.654 ± 0.358
PRF-fit source offset from KIC position	0.629 ± 0.397	1.59	0.010 ± 0.354	-0.629 ± 0.397
photometric centroid source offset	1.06 ± 0.60	1.77	-0.92 ± 0.68	0.52 ± 0.22

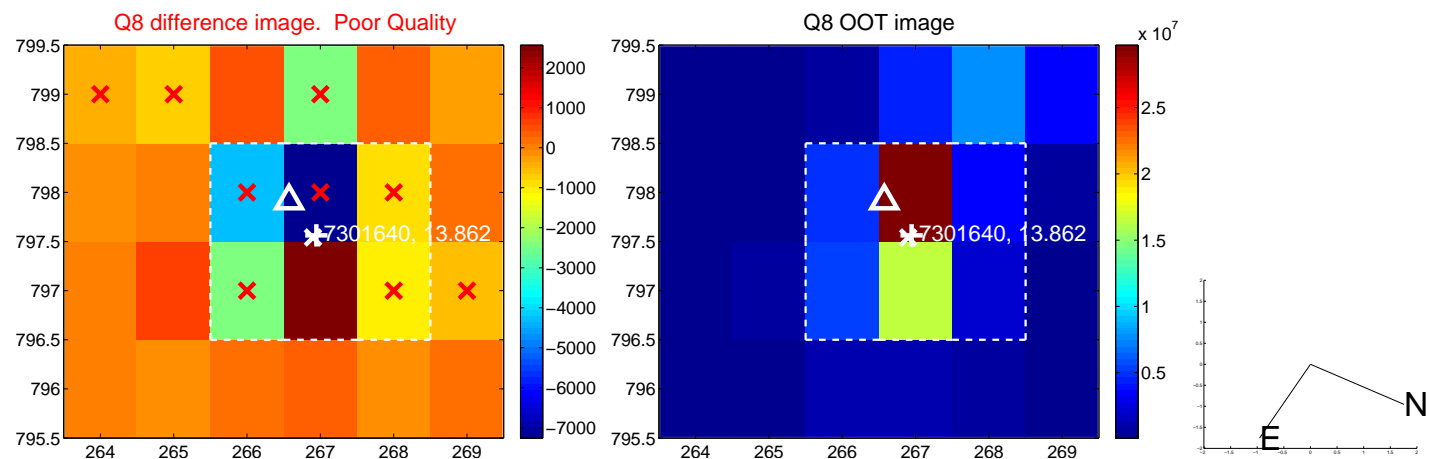
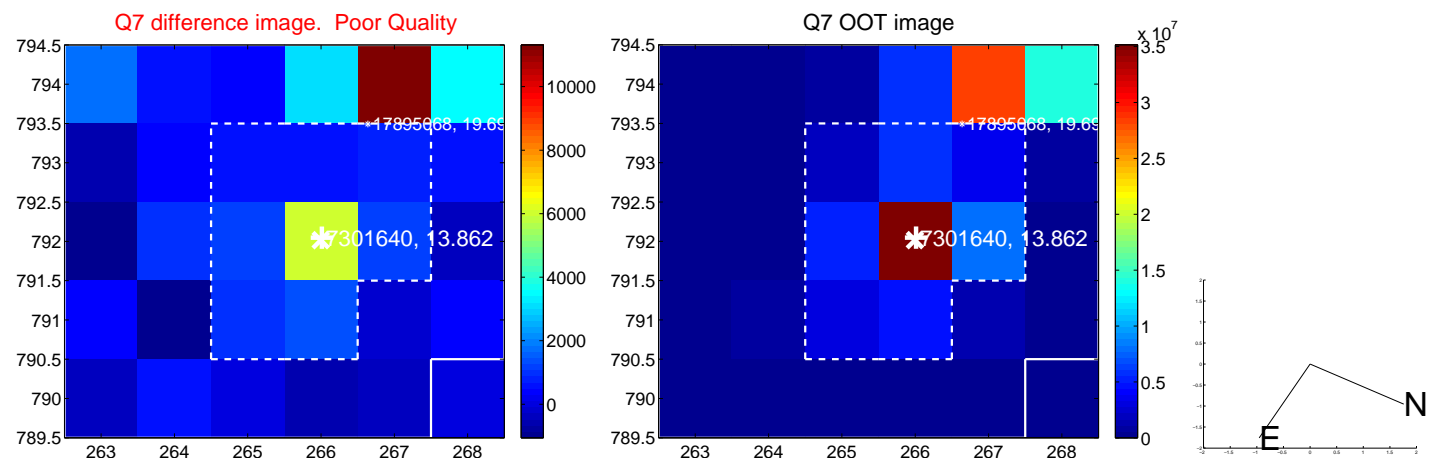
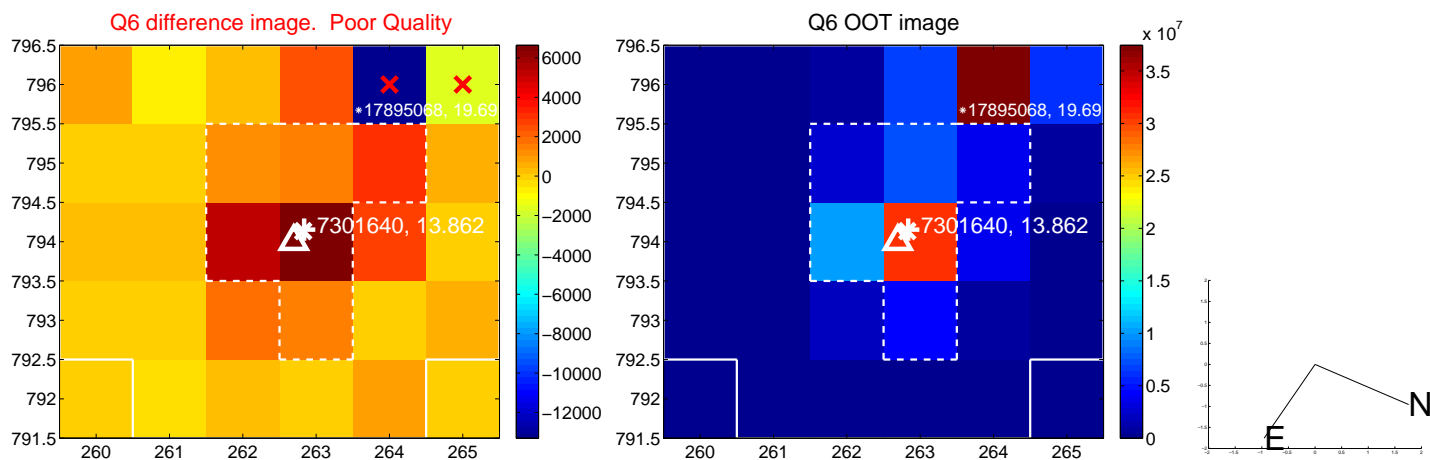
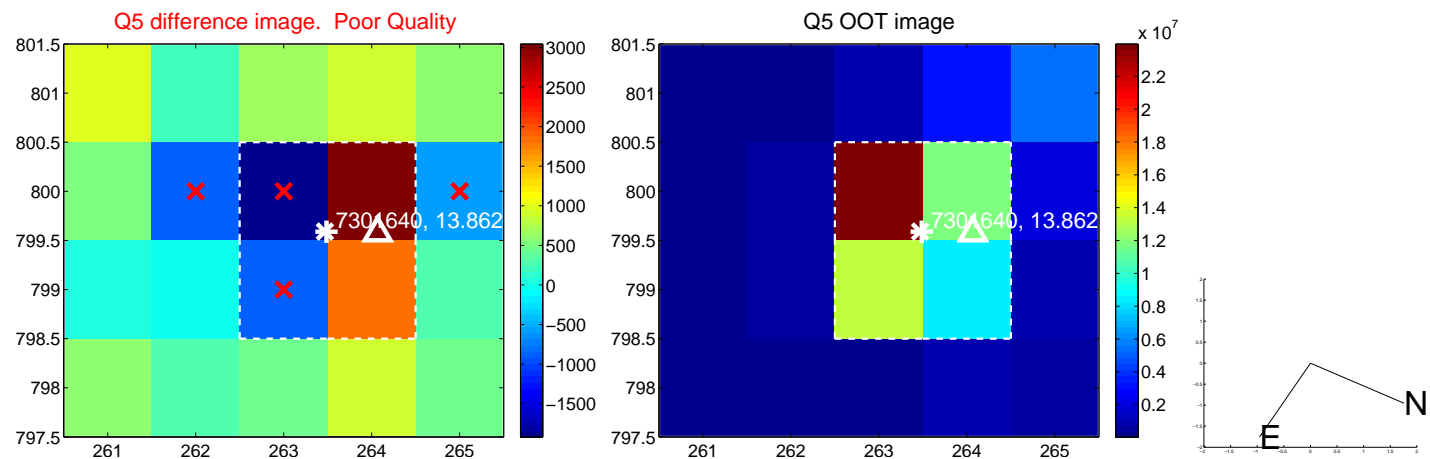


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

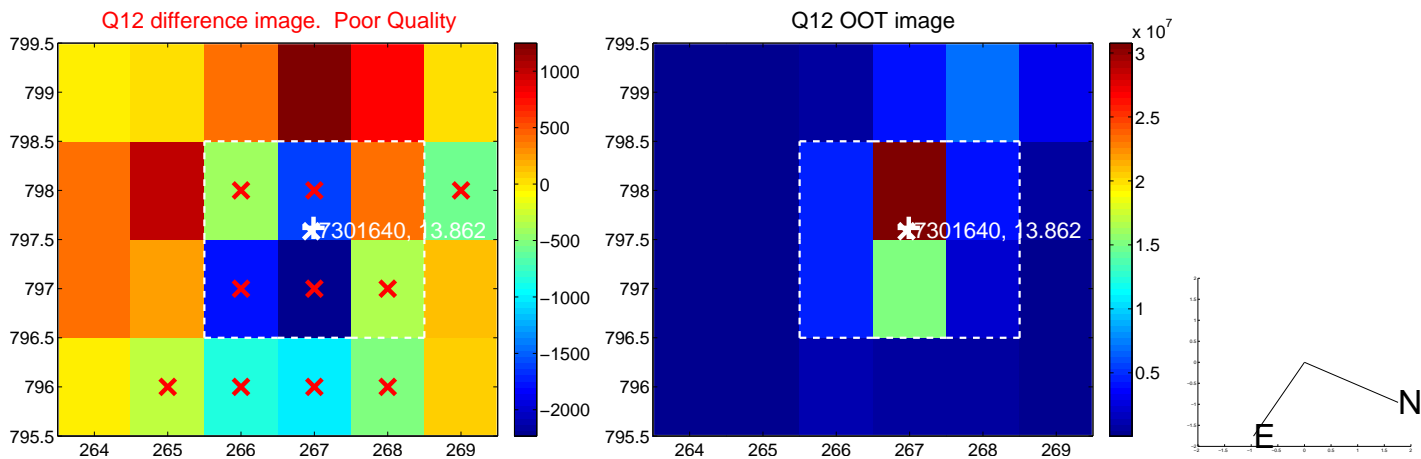
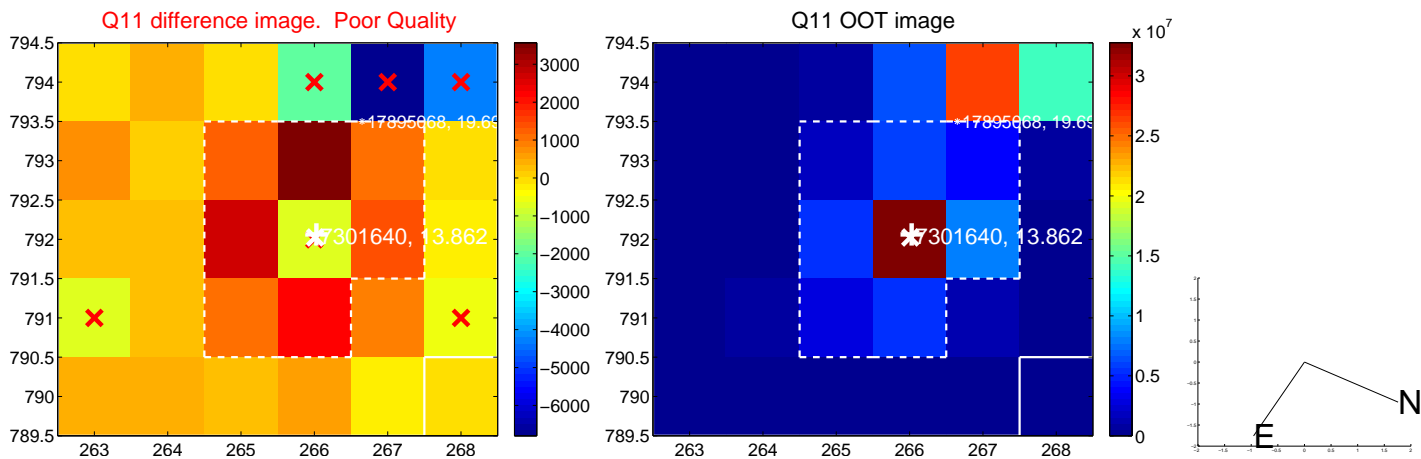
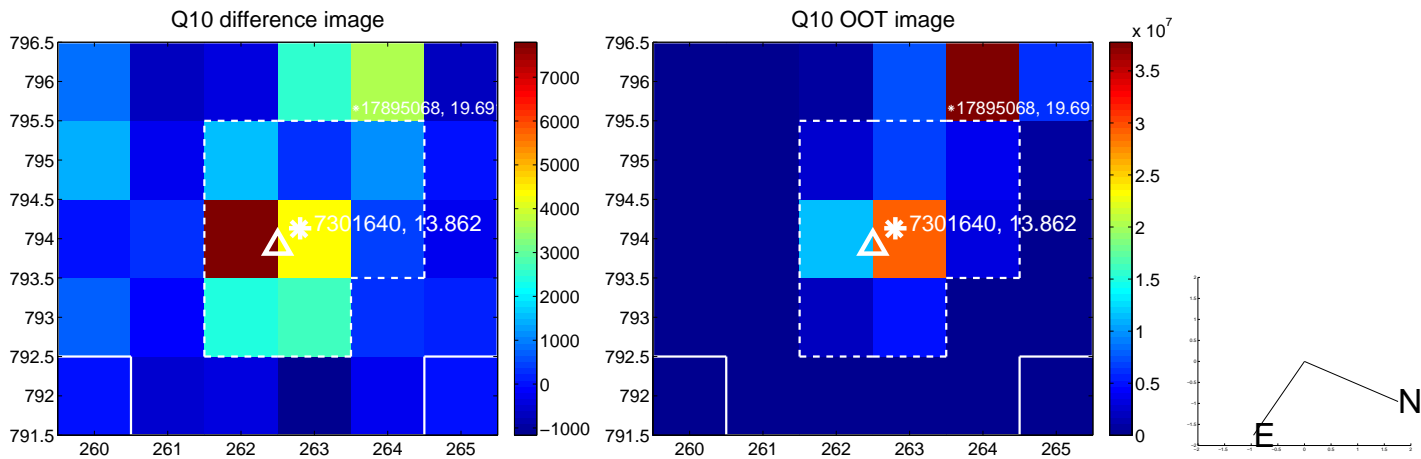
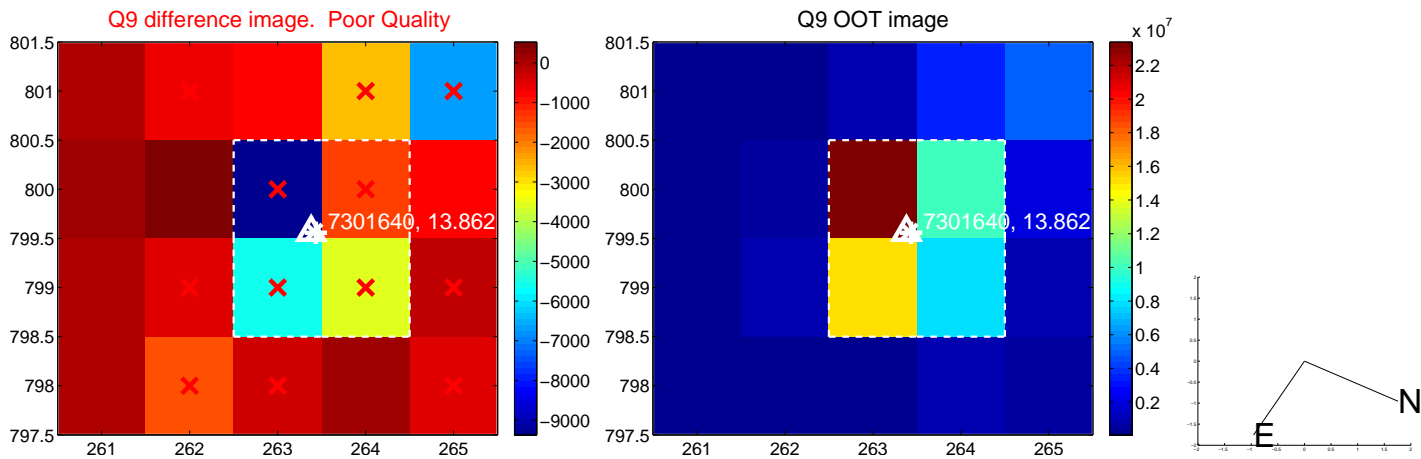
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



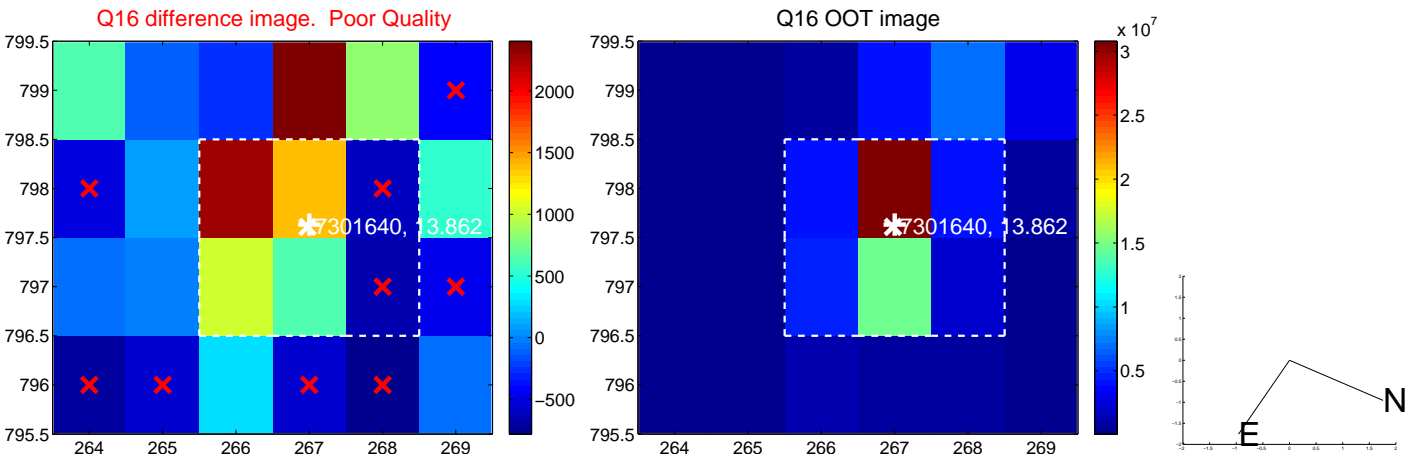
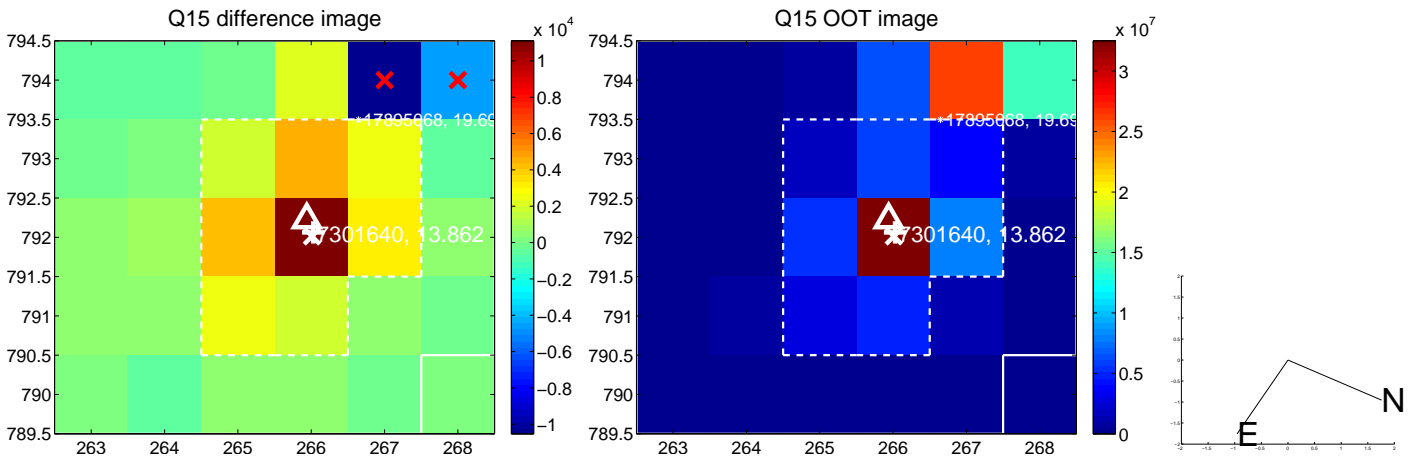
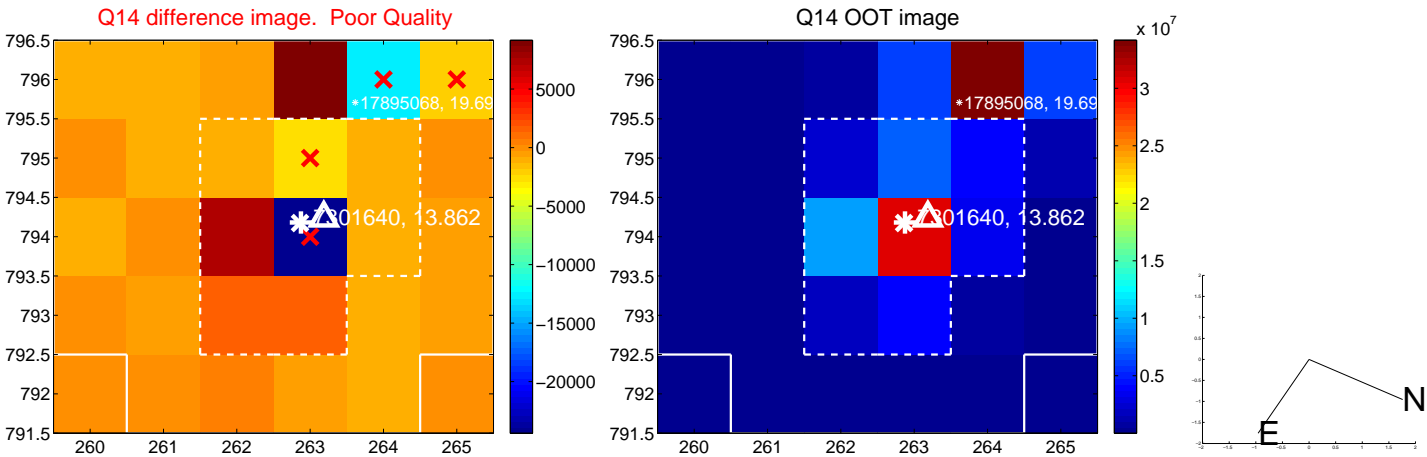
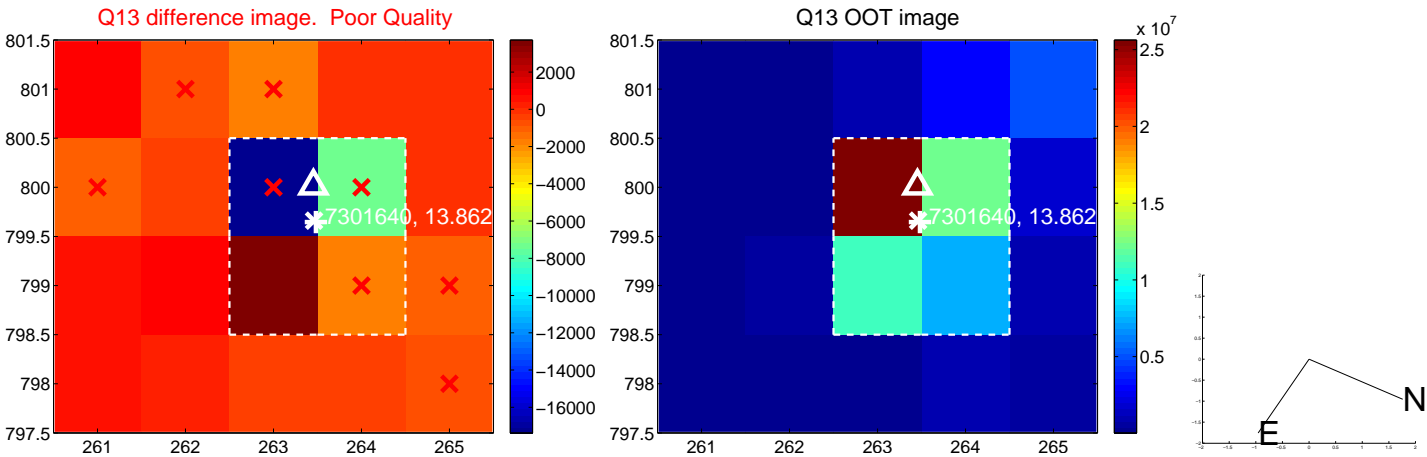
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



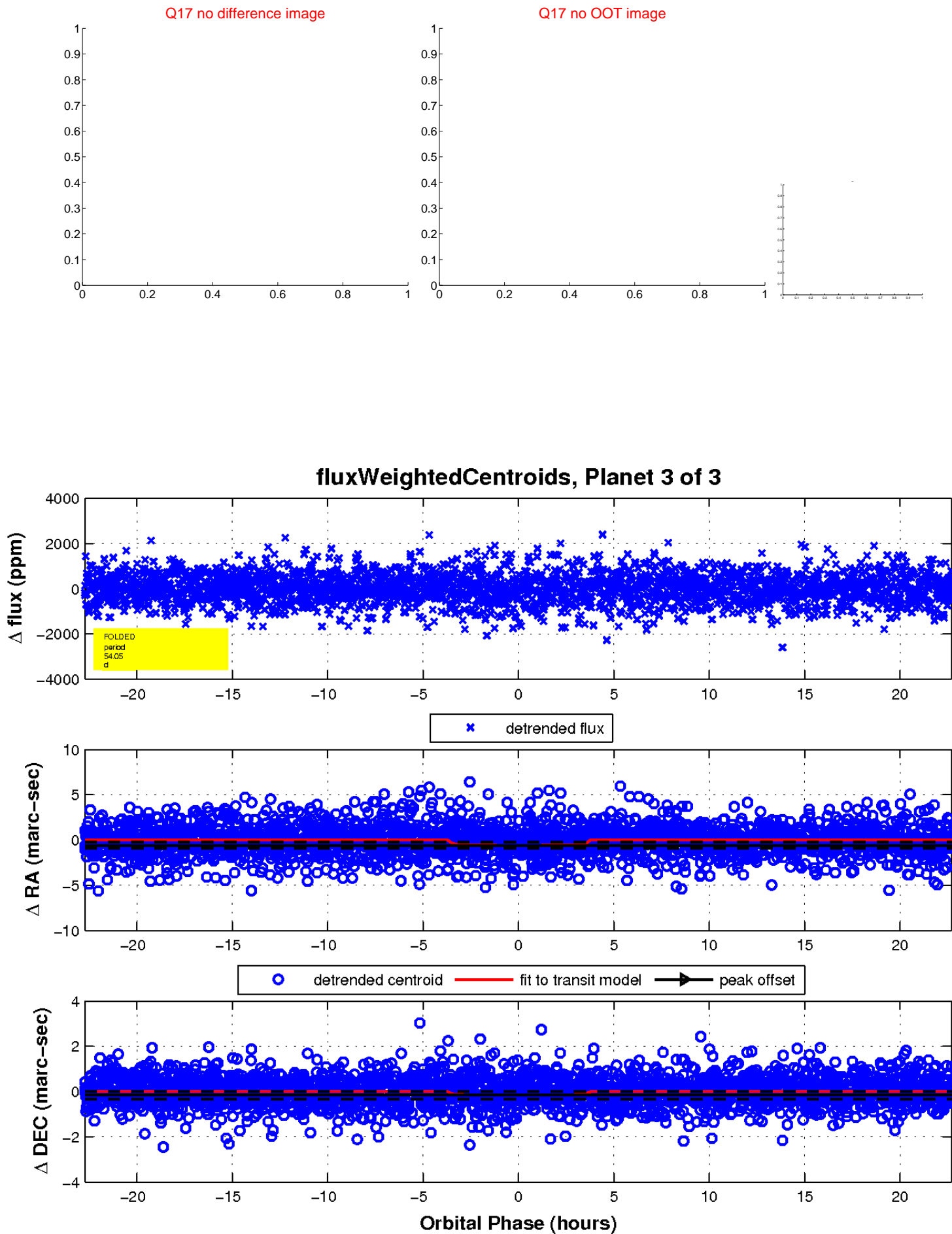
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

