

KIC 007116849

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})
007116849-01	OBS	No	0.566759	131.867463	31.4	3.647	8.0	4.2	0.69	4486	0.48	1173.88
007116849-02	OBS	No	32.186463	137.033456	882.1	3.968	7.9	6.8	0.69	4486	2.19	5.38
007116849-03	OBS	No	21.238883	133.467051	829.7	4.015	8.4	9.6	0.69	4486	2.38	9.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116849-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007116849-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007116849-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

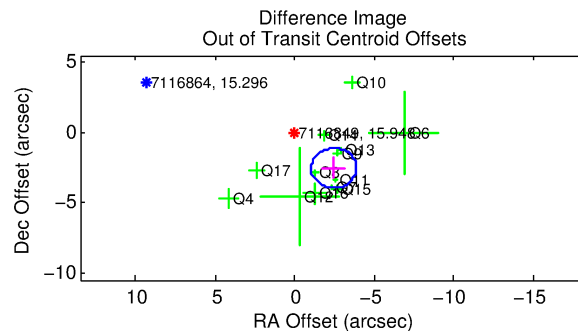
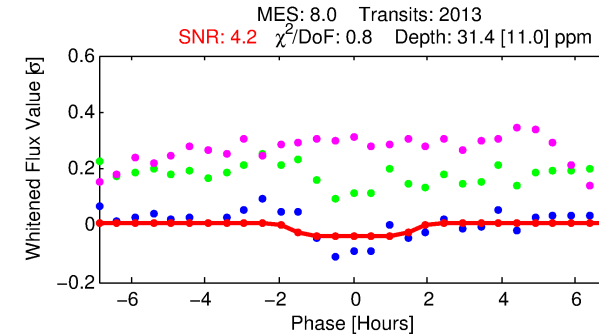
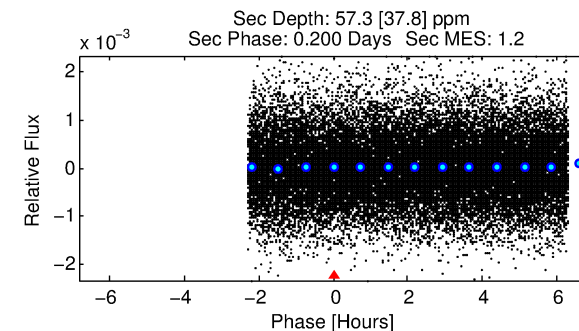
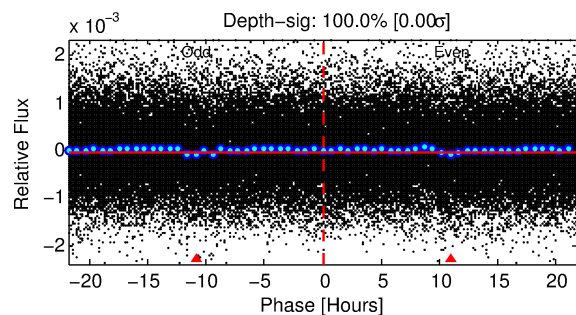
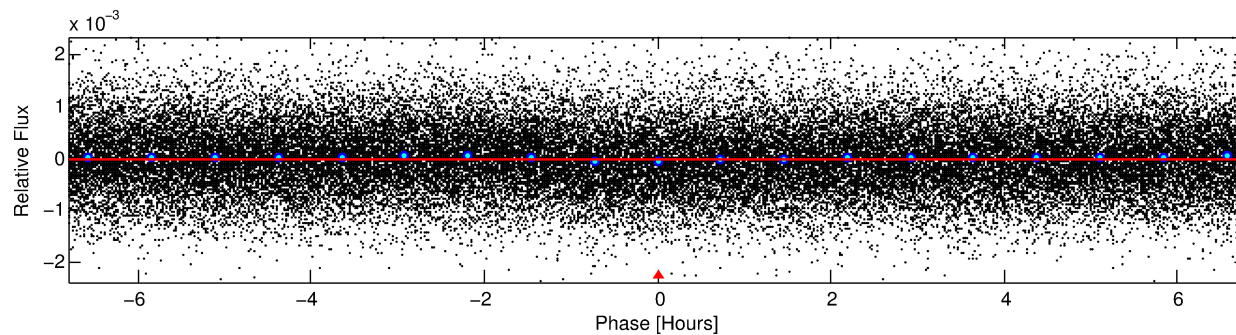
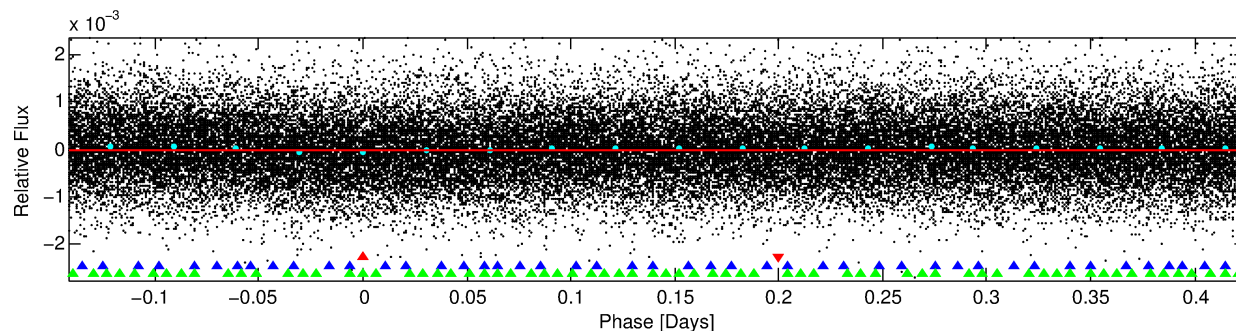
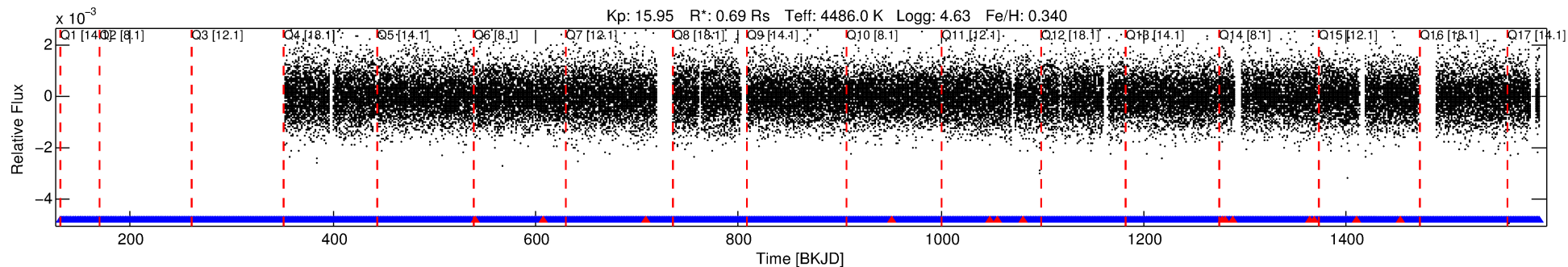
Ephemeris Match Information For 007116849-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (μ)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
007116849-01	7116849	RR-Lyr-pri	7198959	1:1	697.0	175	-10	7.86	15.95	20106.00	Direct-PRF	0	2.19	21.71

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7116849 Candidate: 1 of 3 Period: 0.567 d



DV Fit Results:

Period = 0.56676 [0.00002] d
Epoch = 131.8675 [0.0091] BKJD
Rp/R* = 0.0064 [0.0092]
a/R* = 1.08 [0.86]
b = 0.90 [1.18]
Seff = 1173.88 [191.37]
Teq = 1493 [61] K
Rp = 0.48 [0.69] Re
a = 0.0122 [0.0007] AU
Ag = 20.21 [59.79] [0.32σ]
Teffp = 4893 [3621] K [0.94σ]

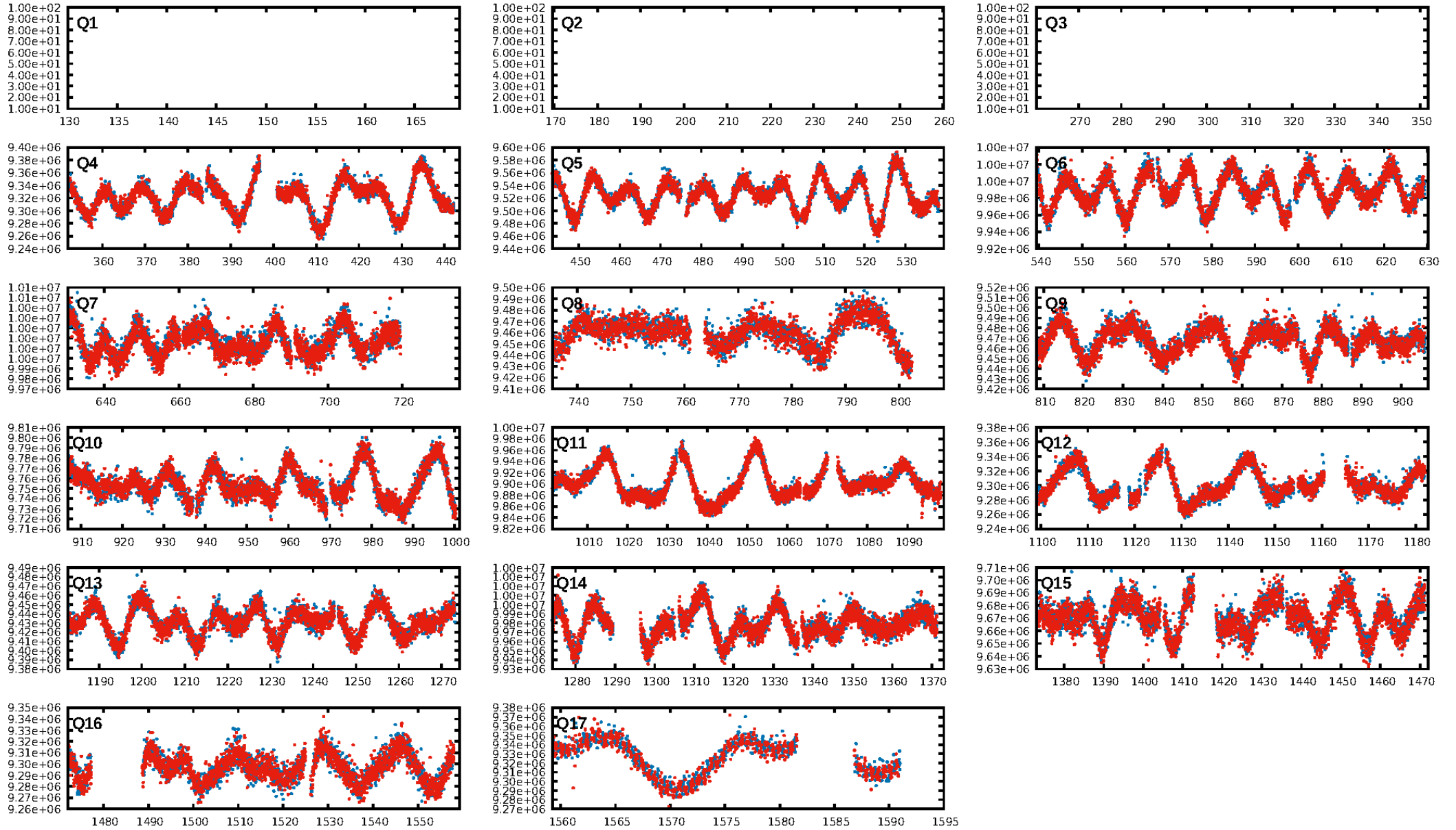
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [91.47σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.41e-10
RollingBand-fgt: 0.99 [1952/1966]
GhostDiagnostic-chr: 0.3168
Centroid-sig: 0.0%
Centroid-so: 10.508 arcsec [4.78σ]
OotOffset-rm: 3.525 arcsec [7.43σ]
KicOffset-rm: 3.435 arcsec [6.99σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 1.00 [14/14]

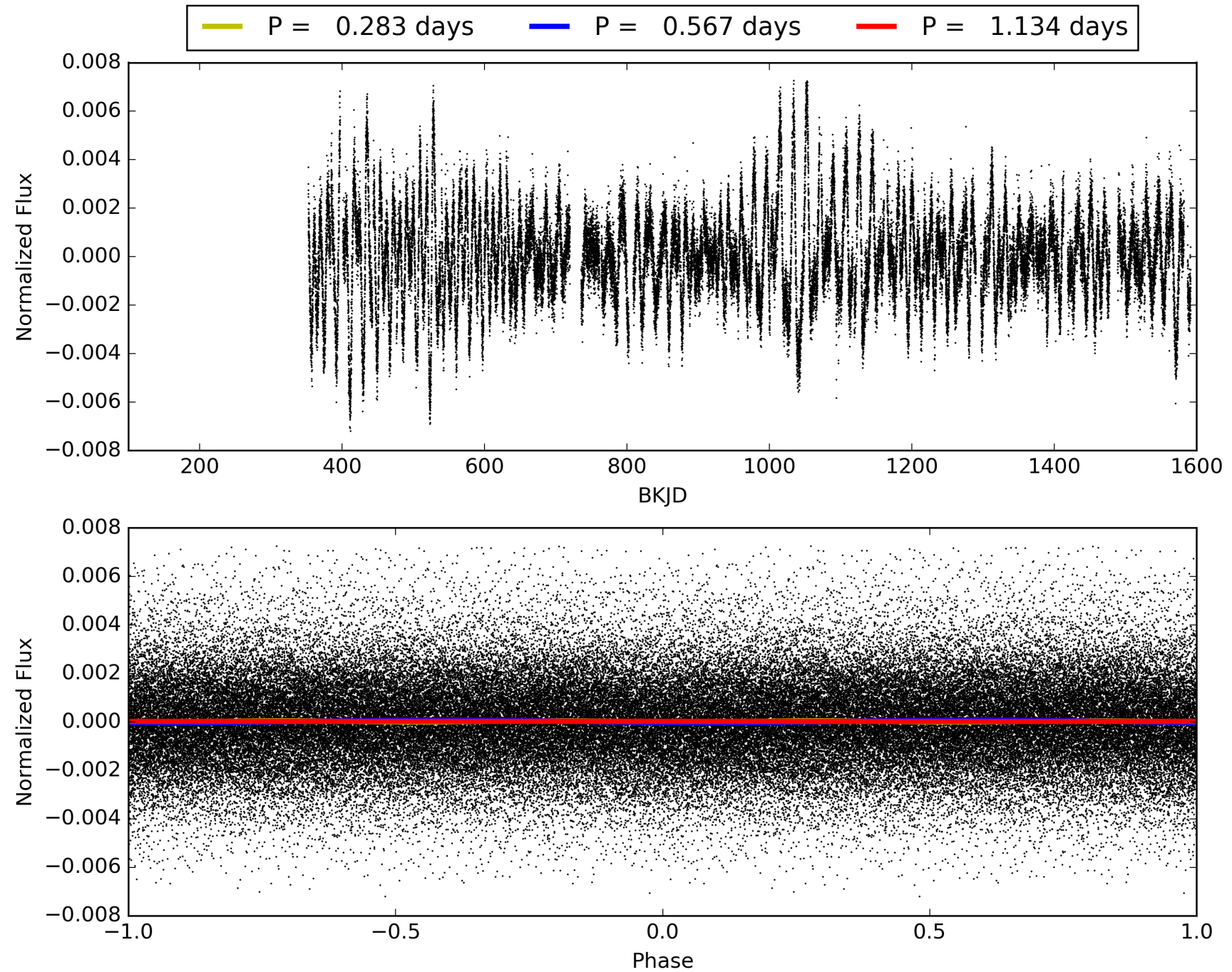
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:01:15 Z

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

TCE 007116849-01, PDC Light Curves

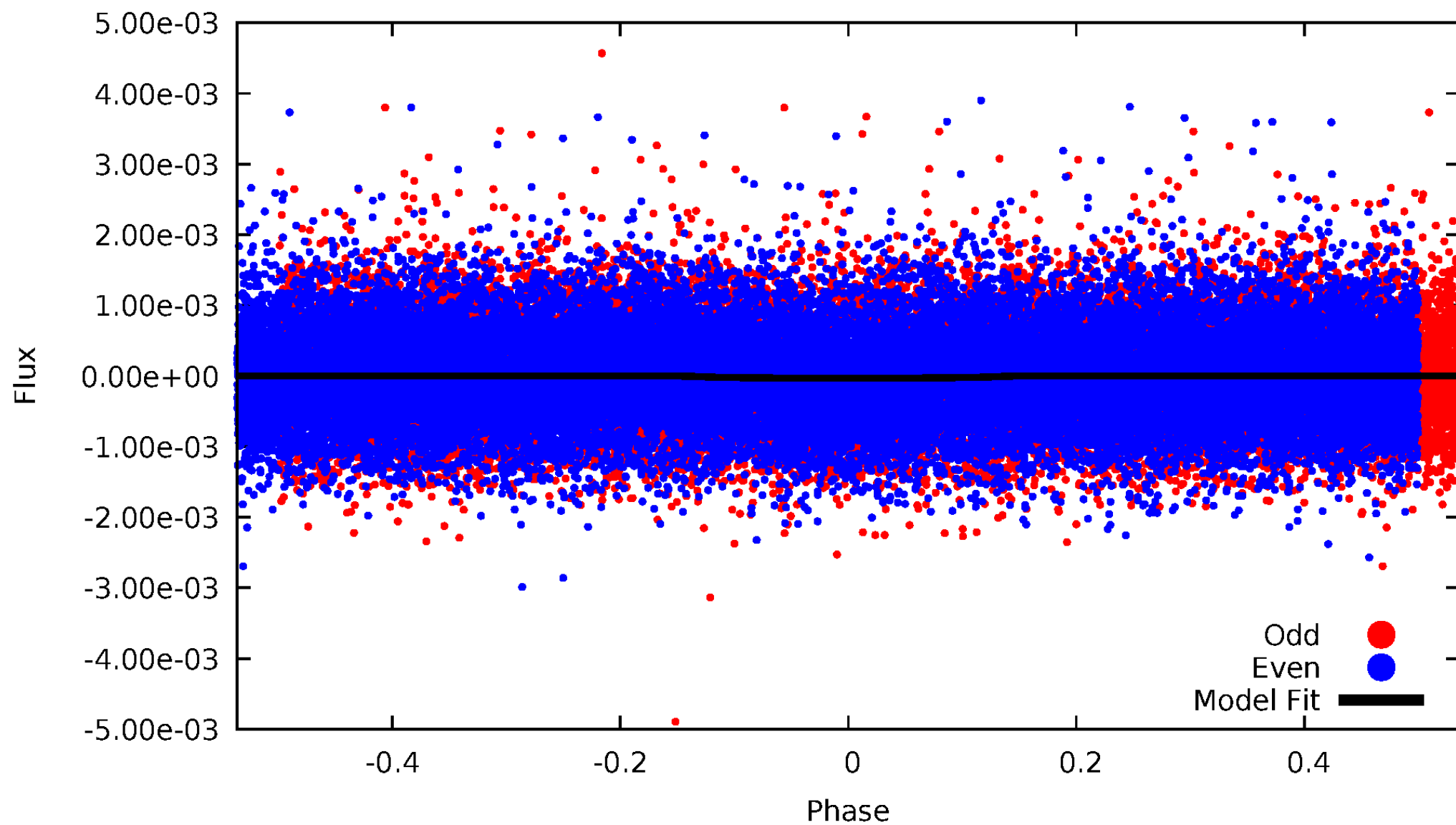


TCE 007116849-01



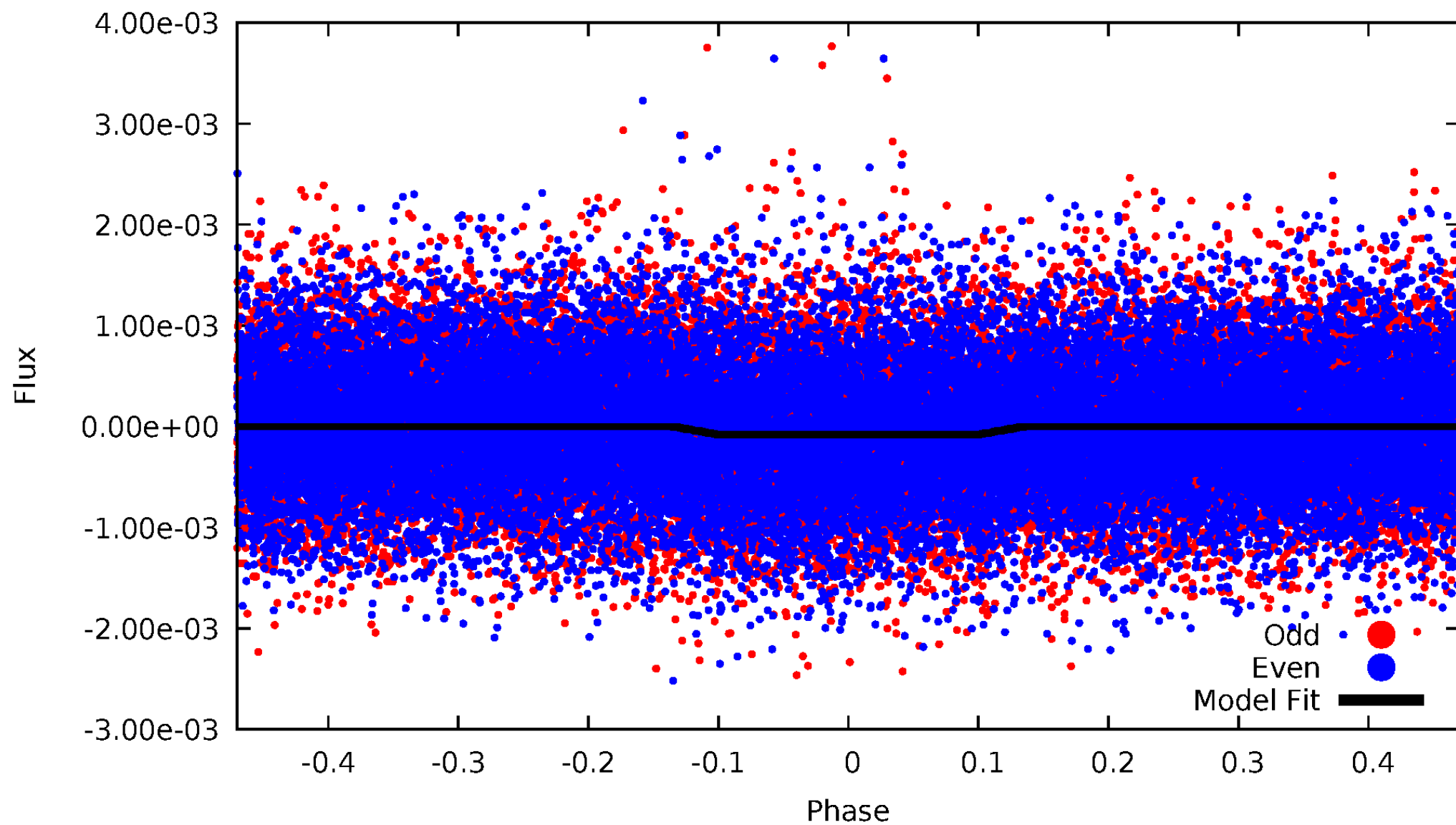
DV Odd/Even

TCE 007116849-01

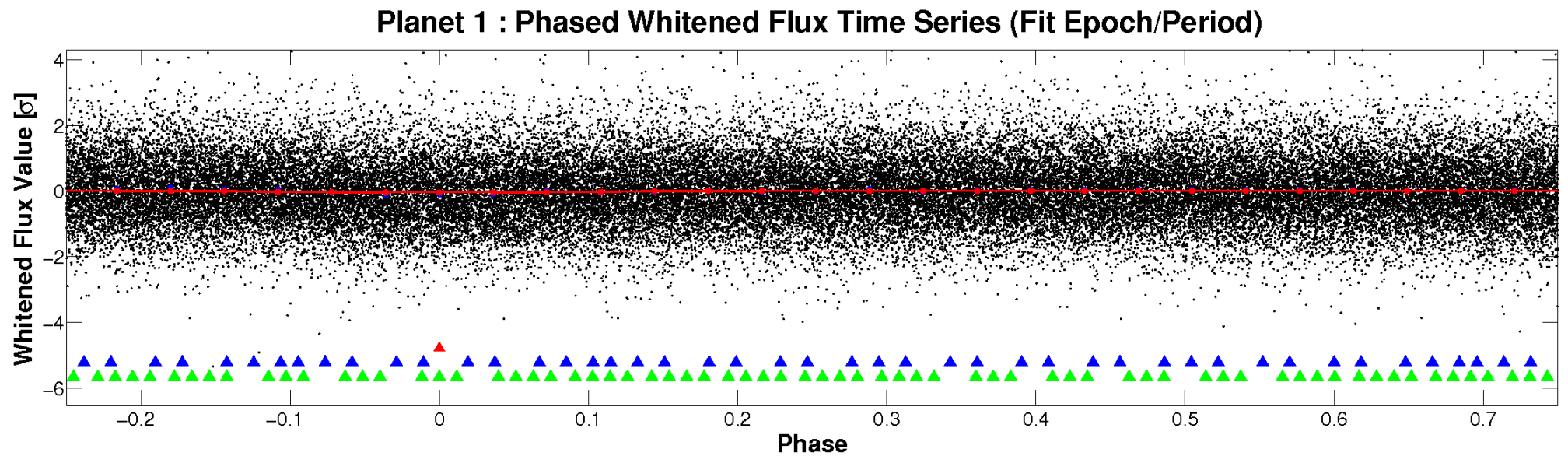
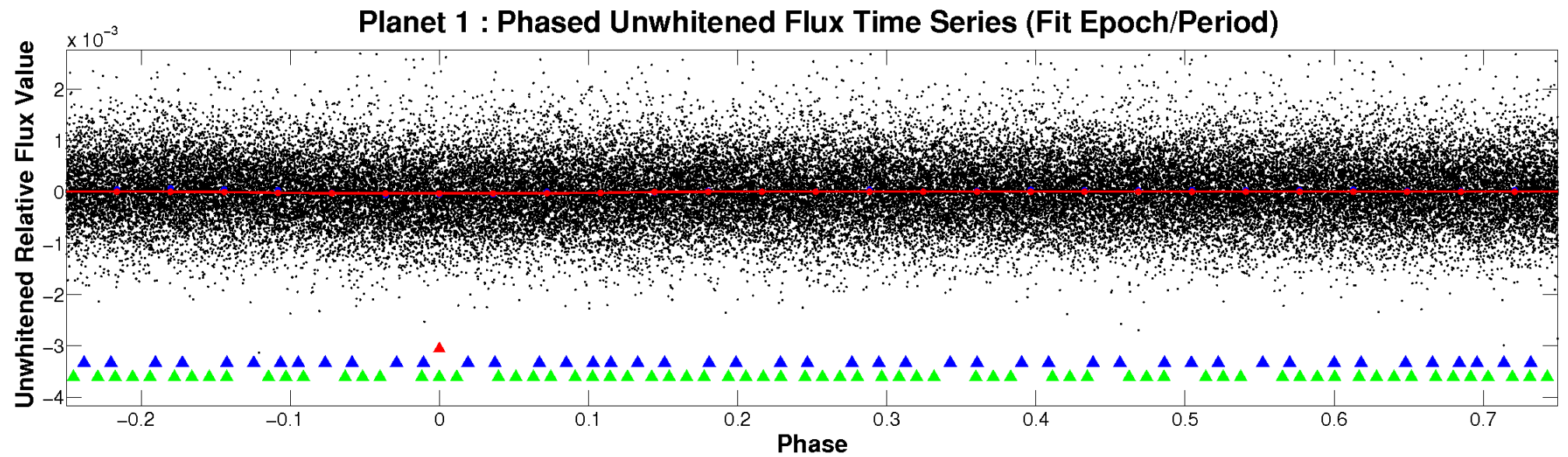


ALT Odd/Even

TCE 007116849-01

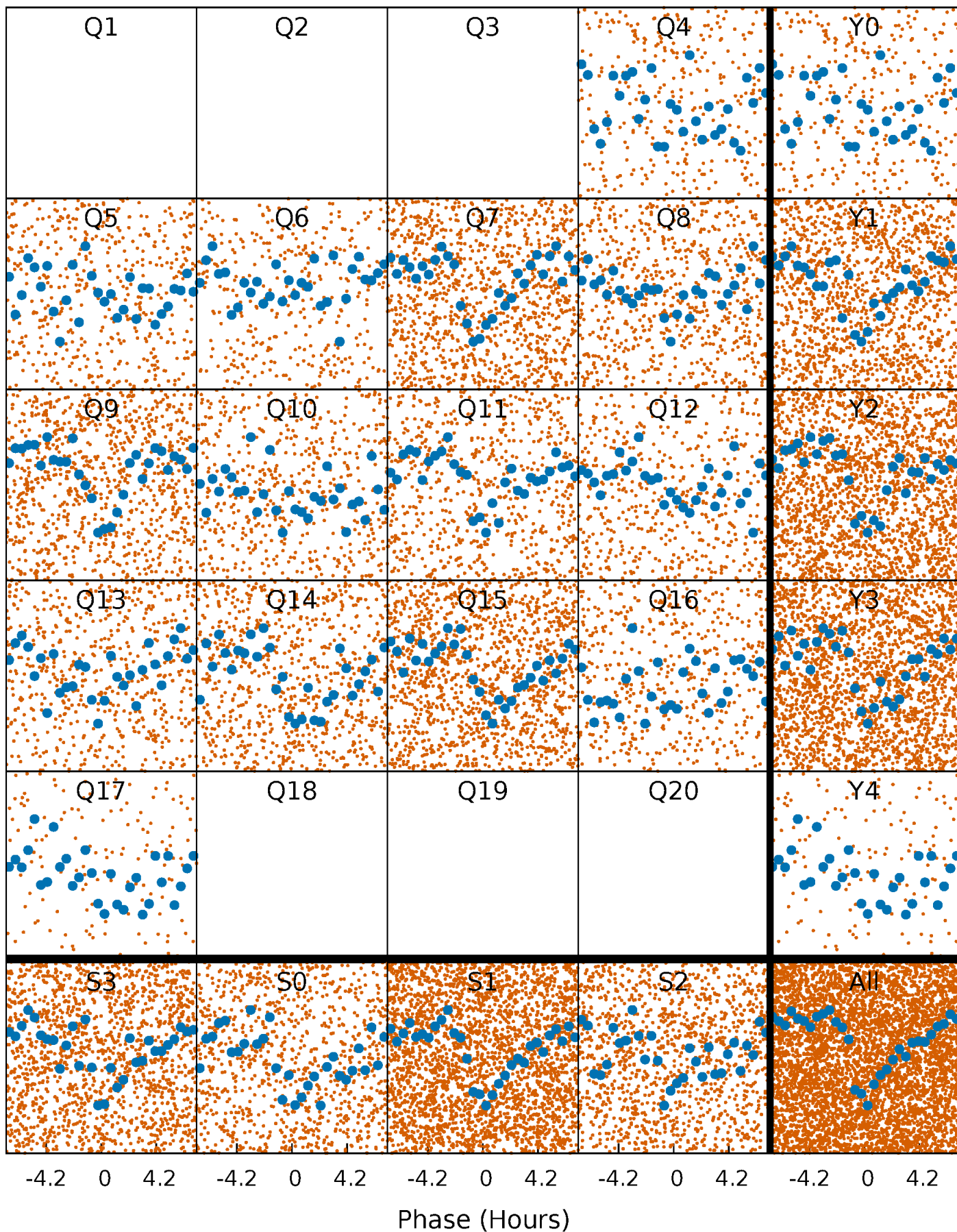


Non-Whitened Vs. Whitened Light Curve



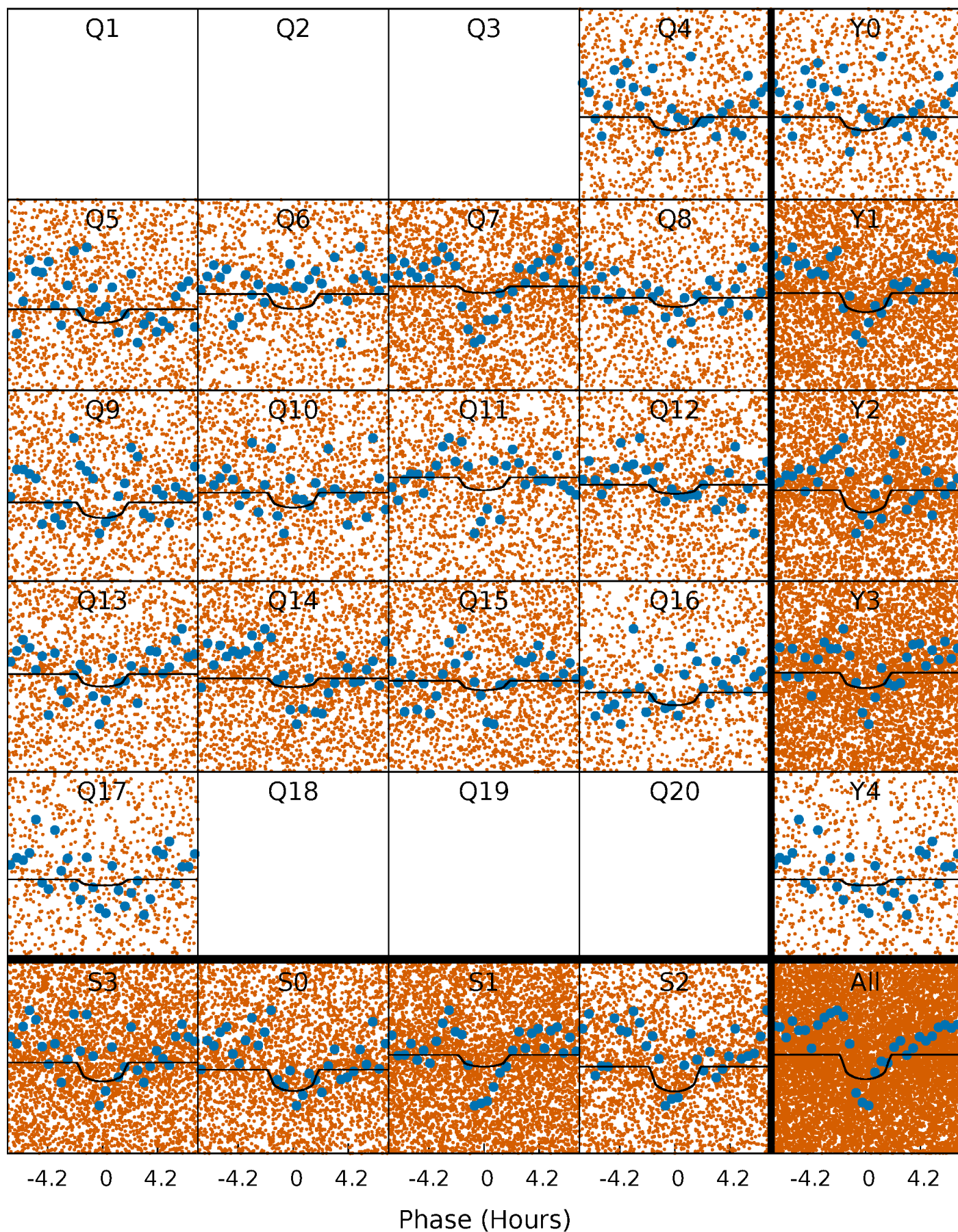
PDC Quarter-Phased Transit Curves

TCE 007116849-01 P= 0.566759 Days $T_0=131.867464$ (BKJD)



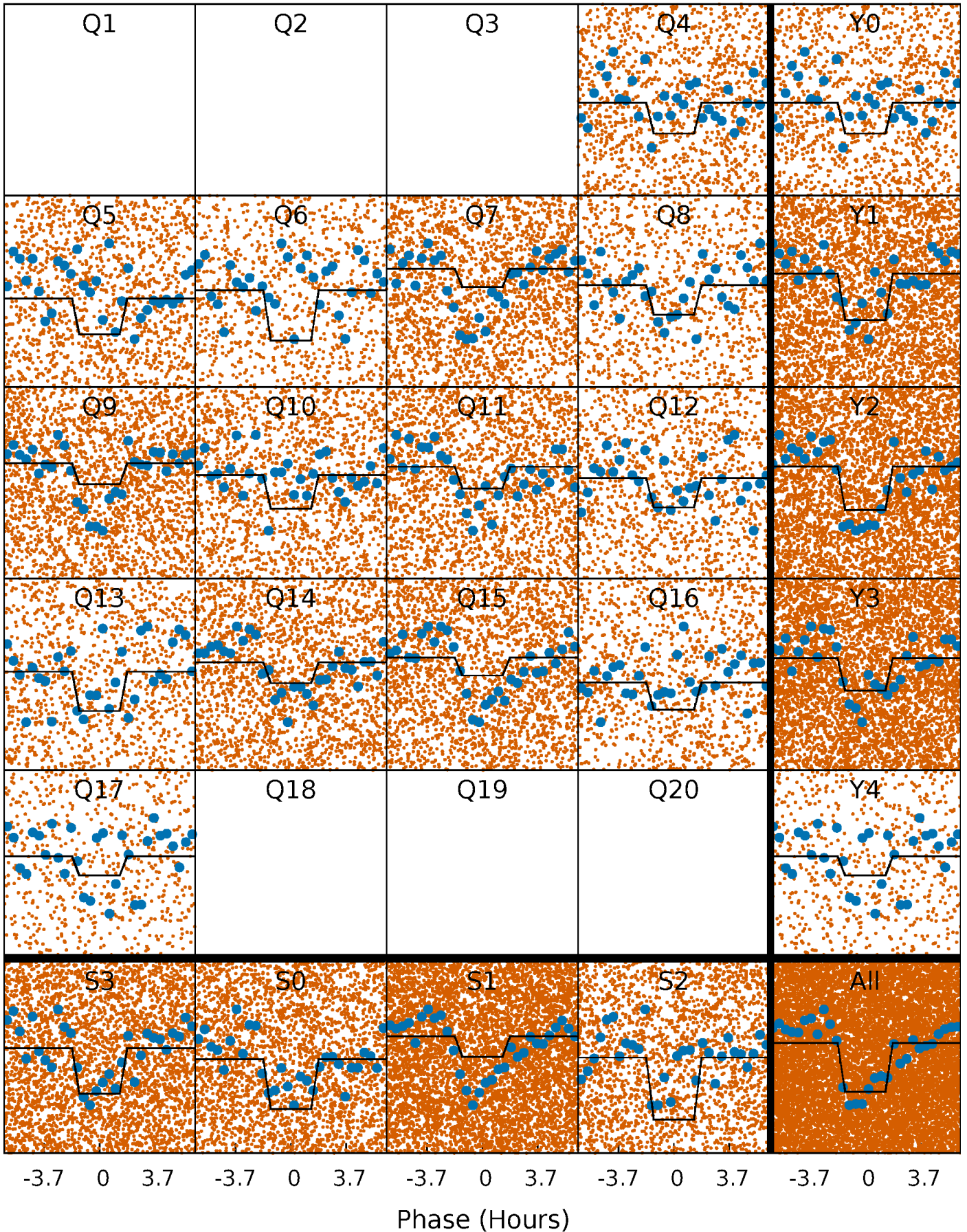
DV Quarter-Phased Transit Curves

TCE 007116849-01 P= 0.566759 Days $T_0=131.867464$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

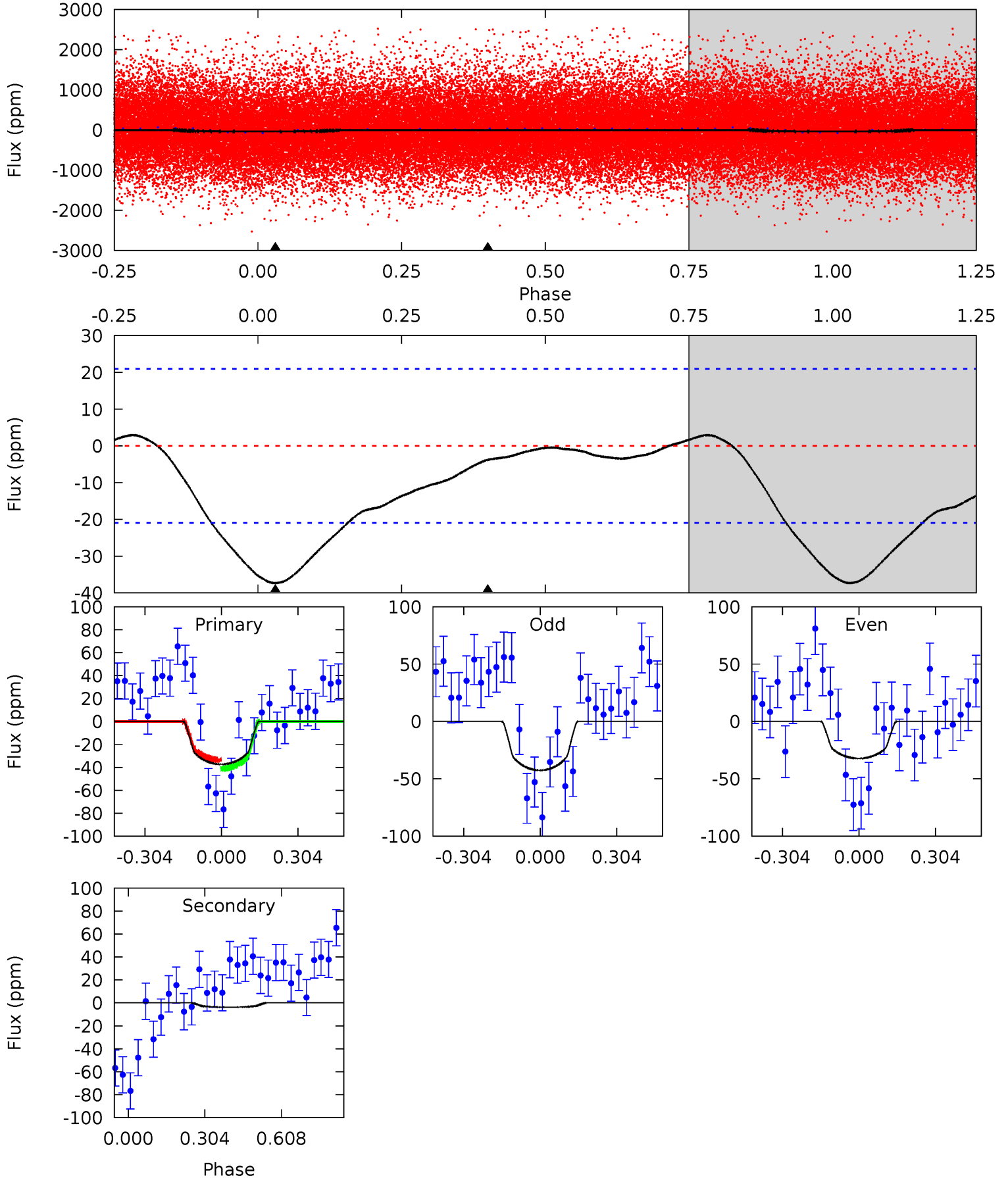
TCE 007116849-01 P= 0.566769 Days $T_0=131.875131$ (BKJD)



DV Model-Shift Uniqueness Test

007116849-01, P = 0.566759 Days, E = 131.867464 Days

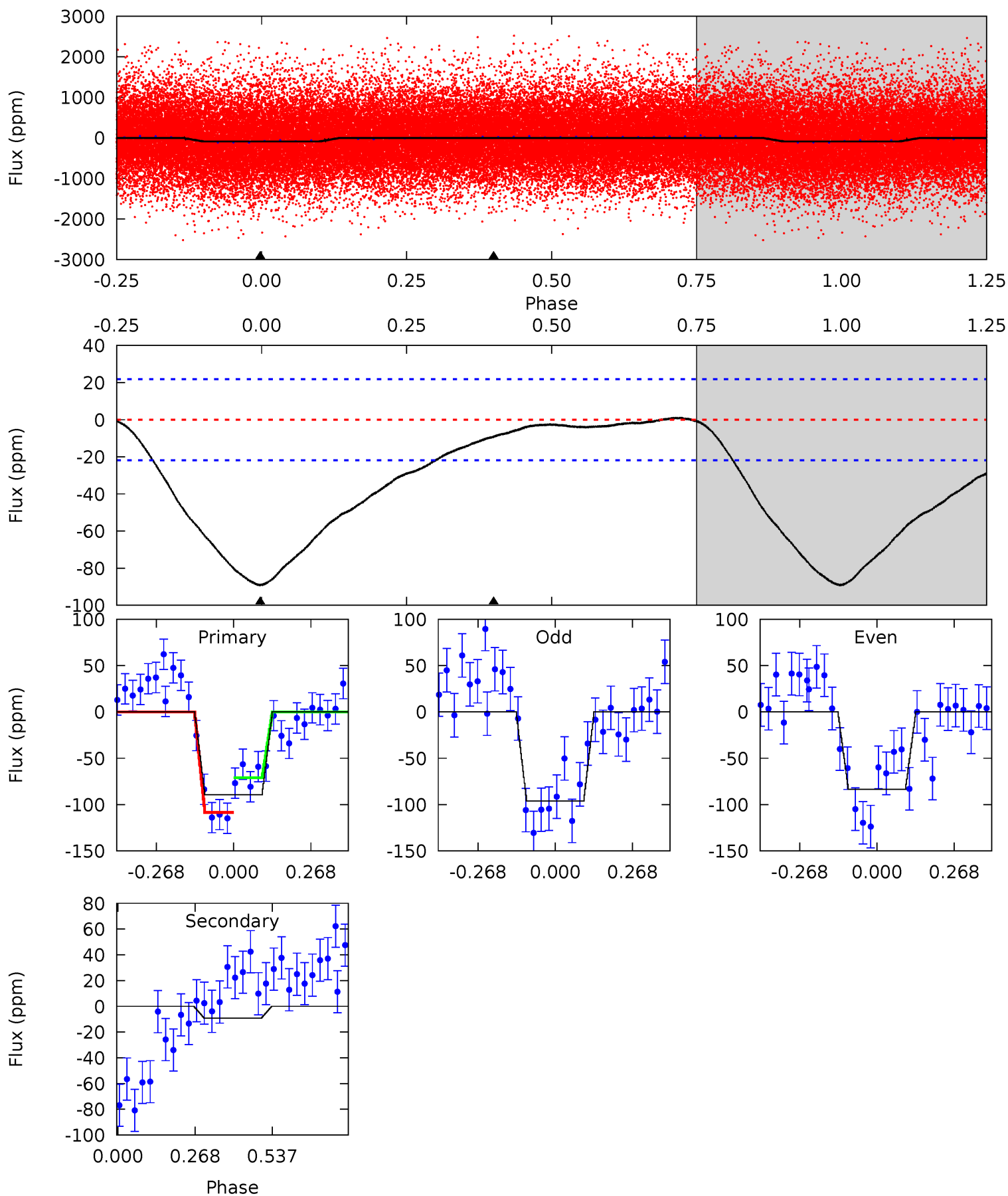
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.70	0.79	0	0	4.33	1.03	0.33	7.70	7.70	0.79	0.79	1.06	0.85	0.07	0.79



Alt Model-Shift Uniqueness Test

007116849-01, P = 0.566769 Days, E = 131.875131 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	1.83	0	0	4.35	1.11	0.18	17.8	17.8	1.83	1.83	1.26	0.92	0.01	3.70



Stellar Parameters For KIC 007116849

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4486^{+158}_{-158}	$4.632^{+0.021}_{-0.045}$	$0.340^{+0.100}_{-0.300}$	$0.693^{+0.046}_{-0.042}$	$0.770^{+0.032}_{-0.070}$	$3.260^{+0.329}_{-0.533}$
	+4%/-4%	+0%/-1%	+29%/-88%	+7%/-6%	+4%/-9%	+10%/-16%
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 007116849-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 5	$0.72^{+0.59}_{-0.49}$	2099^{+76}_{-72}	2347^{+1451}_{-4948}	$0.485^{+5.207}_{-0.577}$
Alt.	-9 ± 5	$0.83^{+0.66}_{-0.51}$	2101^{+82}_{-74}	2744^{+1244}_{-4850}	$0.936^{+6.466}_{-0.703}$

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

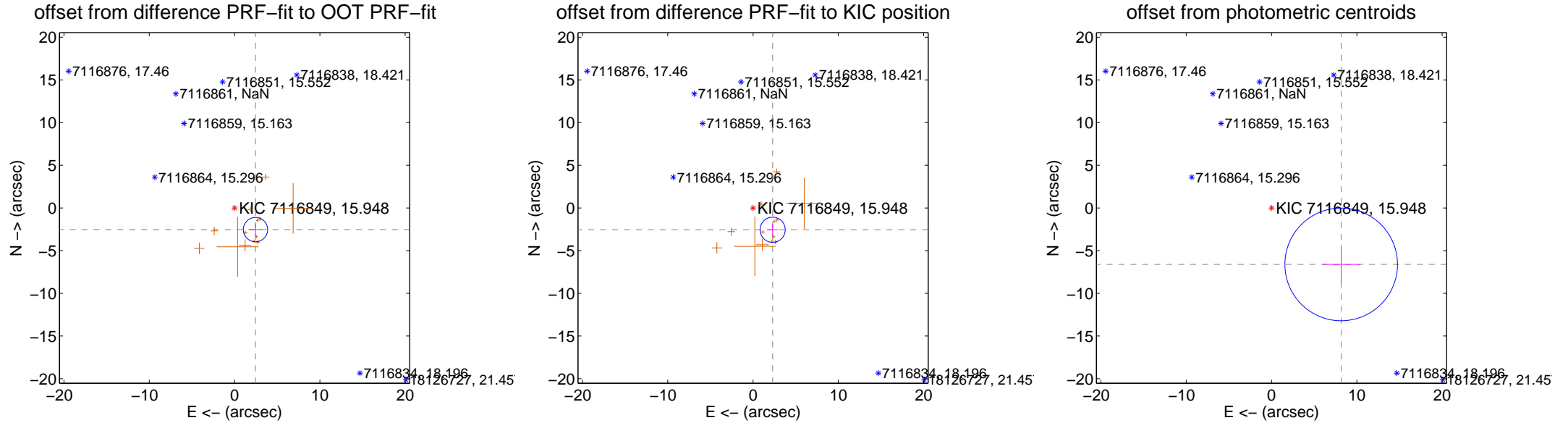
DV Centroid Data

Supplemental centroid analysis for 007116849-01. Kepler magnitude: 15.95. Transit SNR 4.20

There are 0 quarters with good PRF difference image offsets

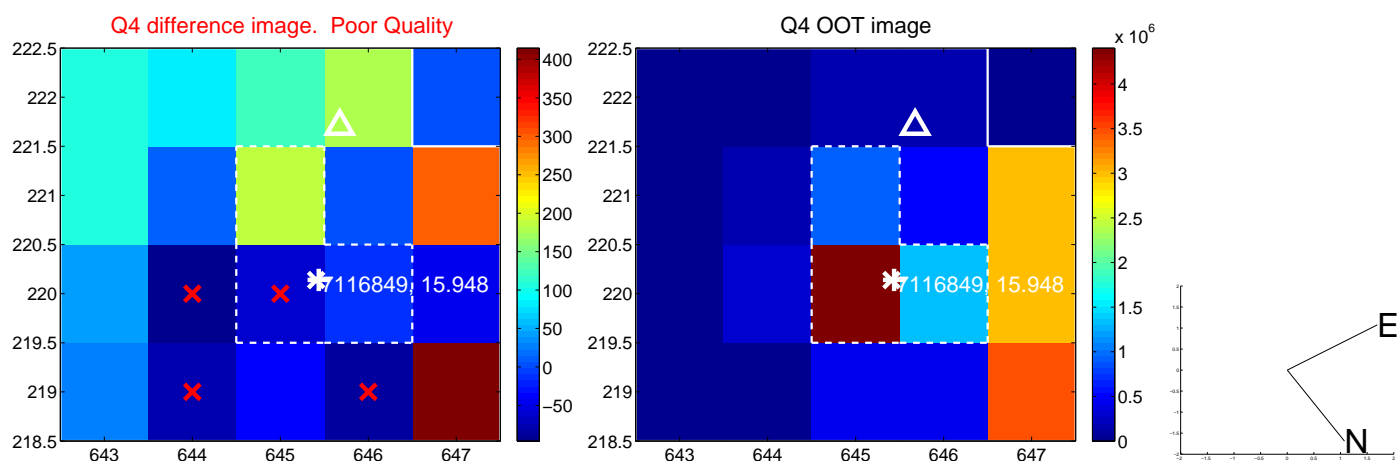
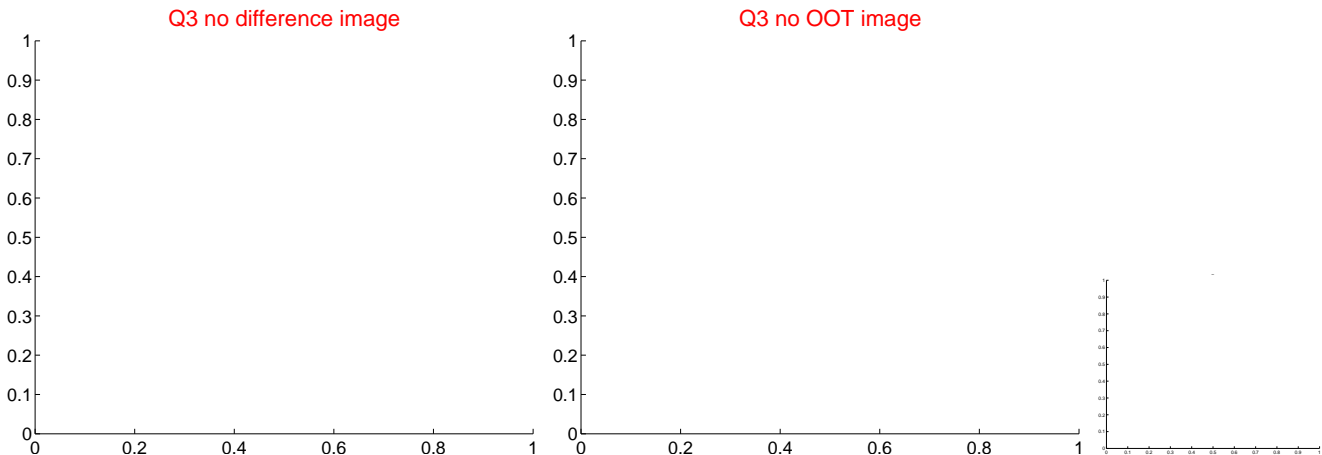
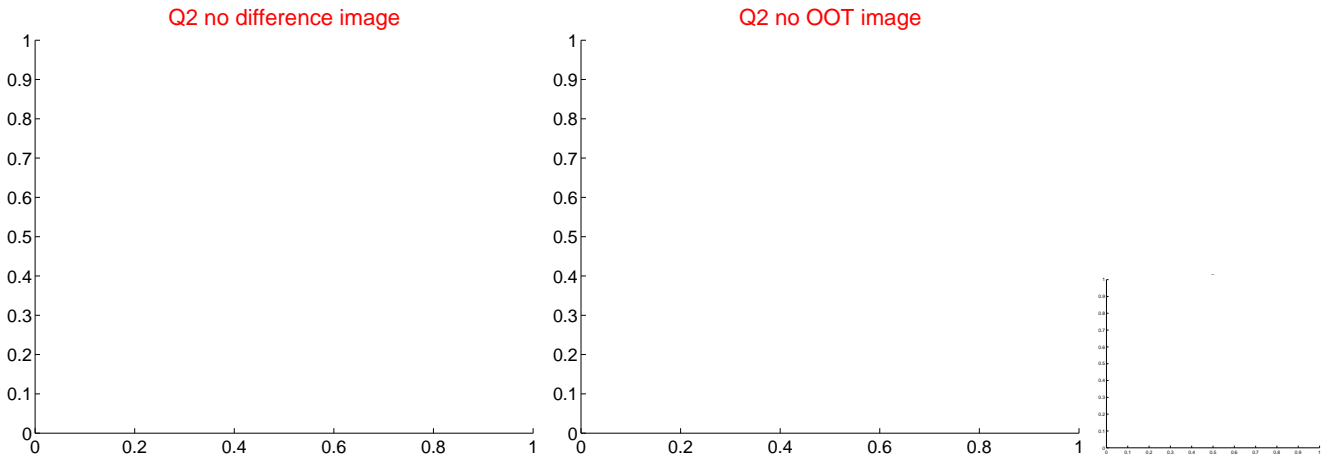
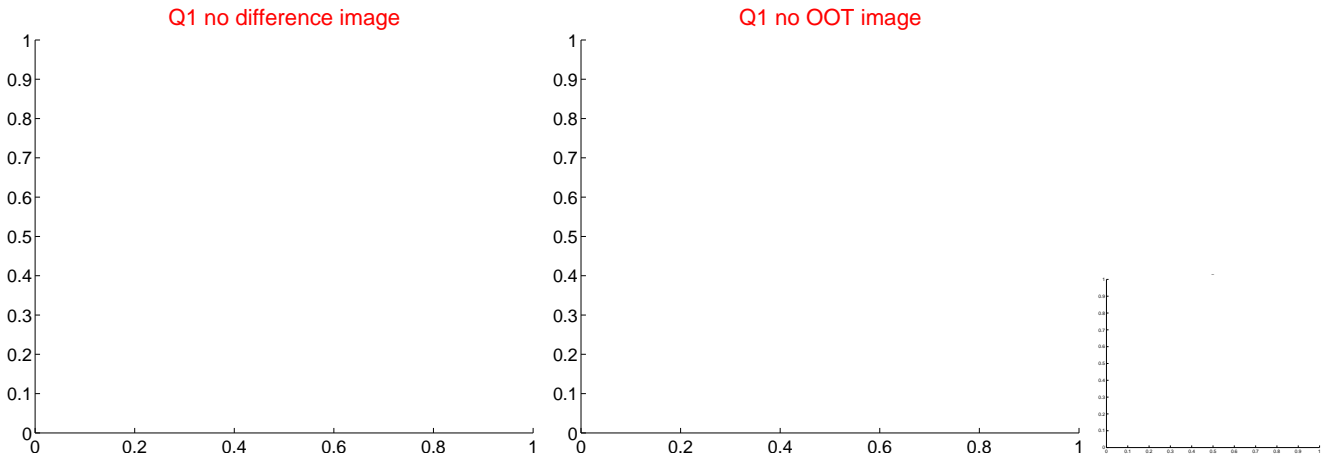
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.525 ± 0.475	7.43	-2.451 ± 0.742	-2.534 ± 0.716
PRF-fit source offset from KIC position	3.435 ± 0.492	6.99	-2.297 ± 0.612	-2.554 ± 0.719
photometric centroid source offset	10.51 ± 2.20	4.78	-8.17 ± 2.20	-6.61 ± 2.20

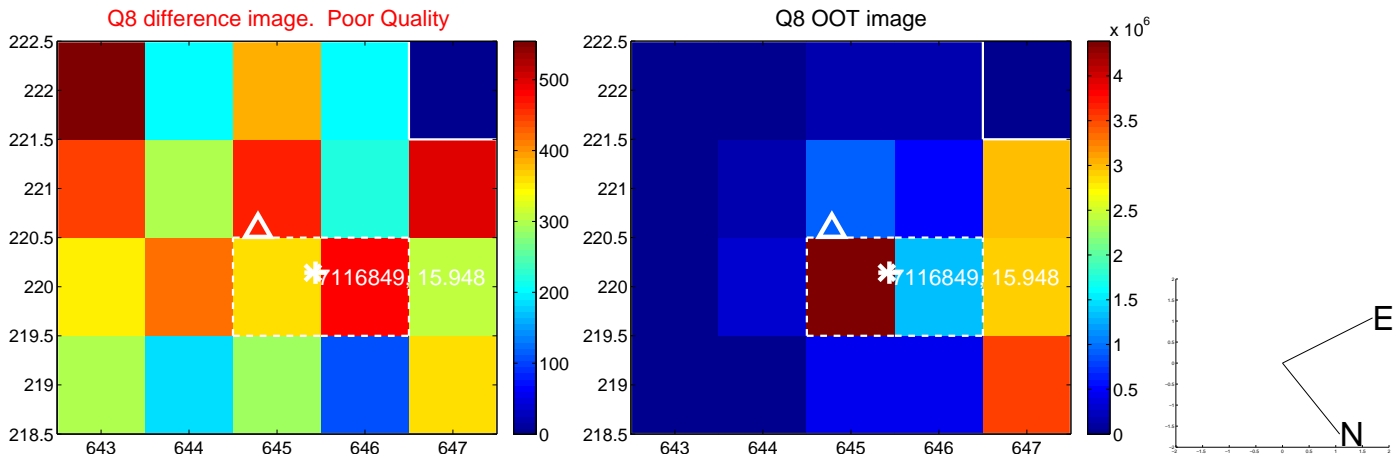
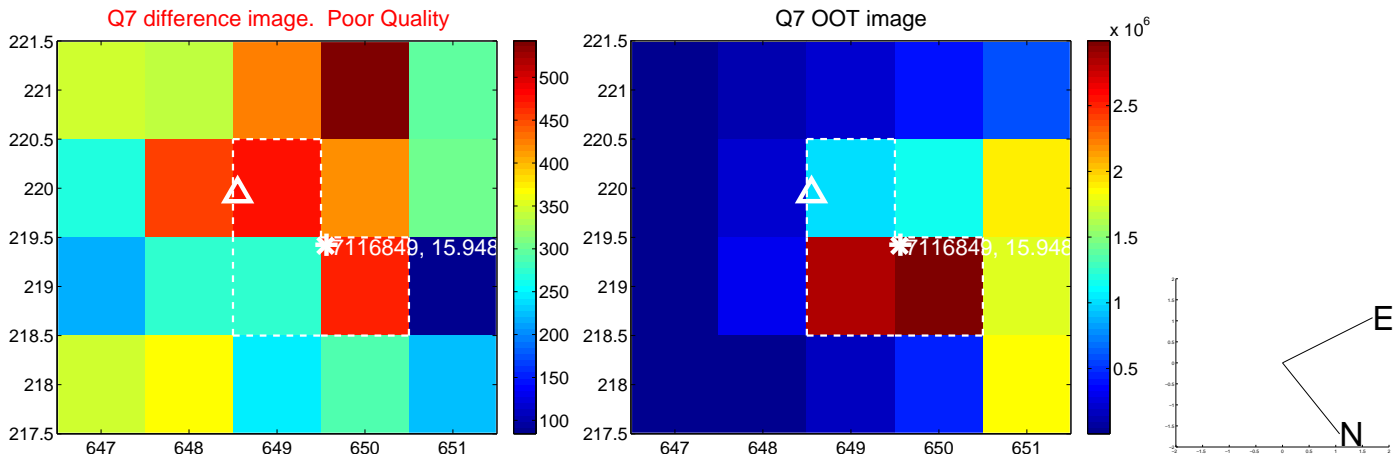
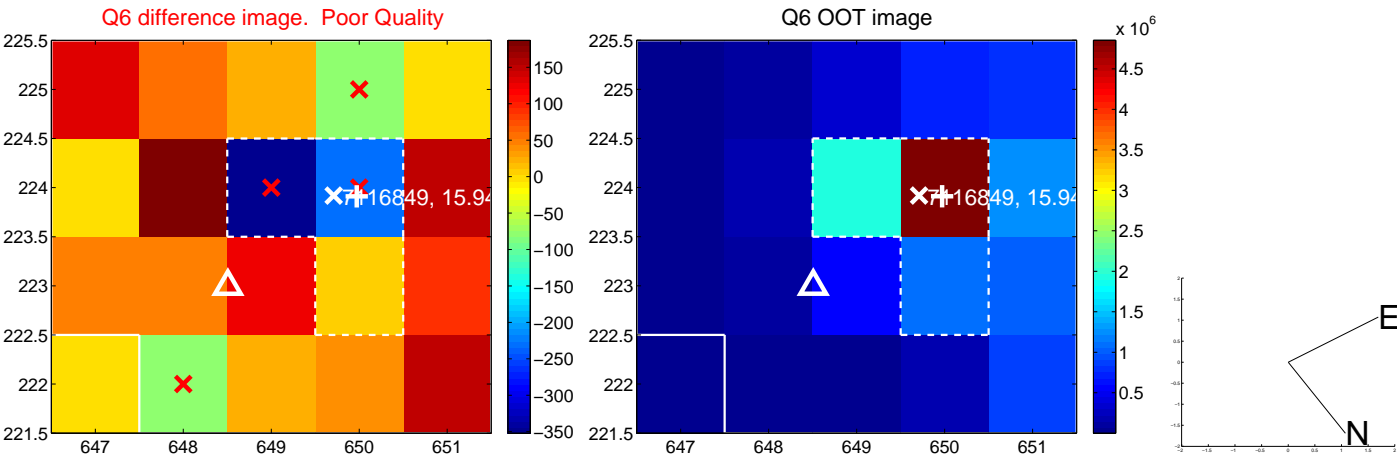
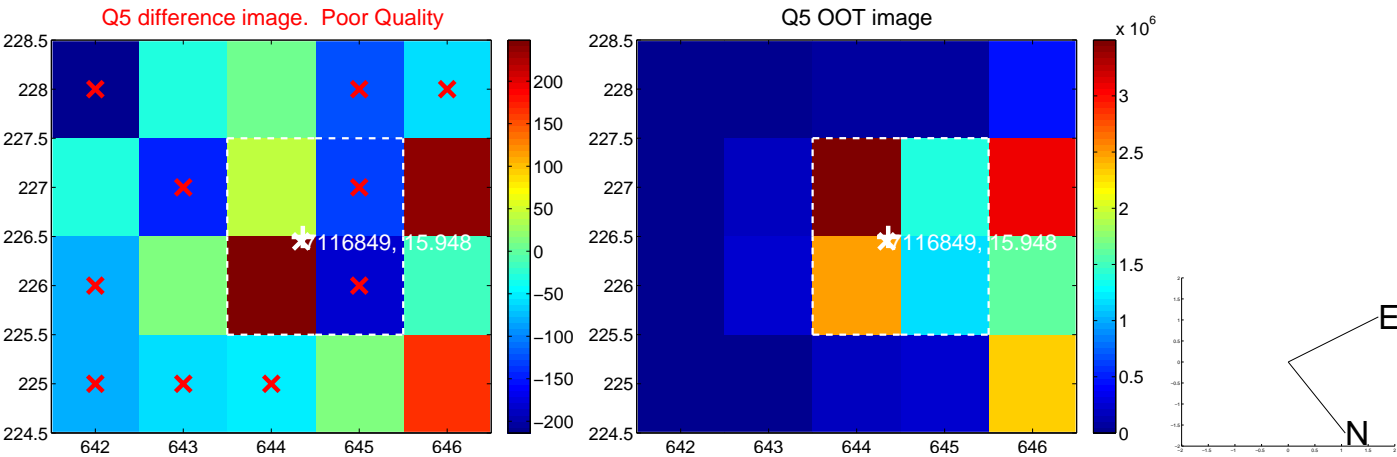


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

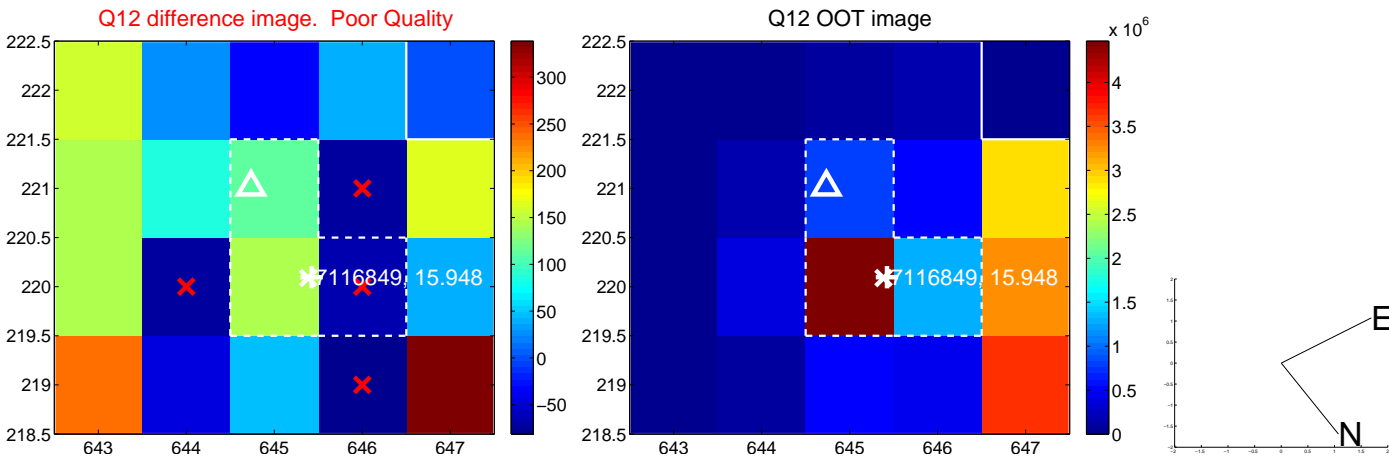
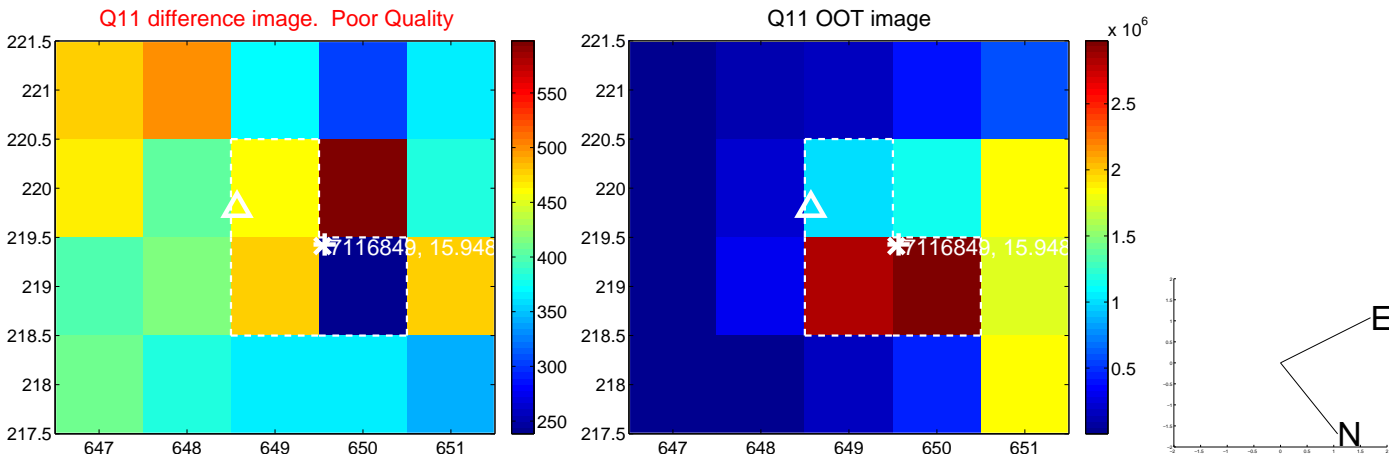
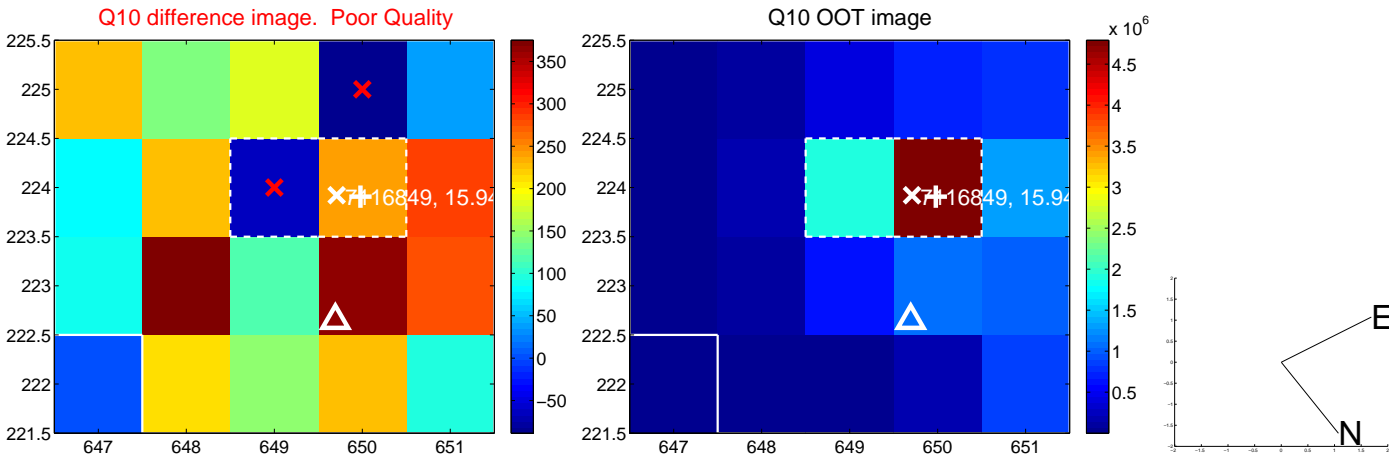
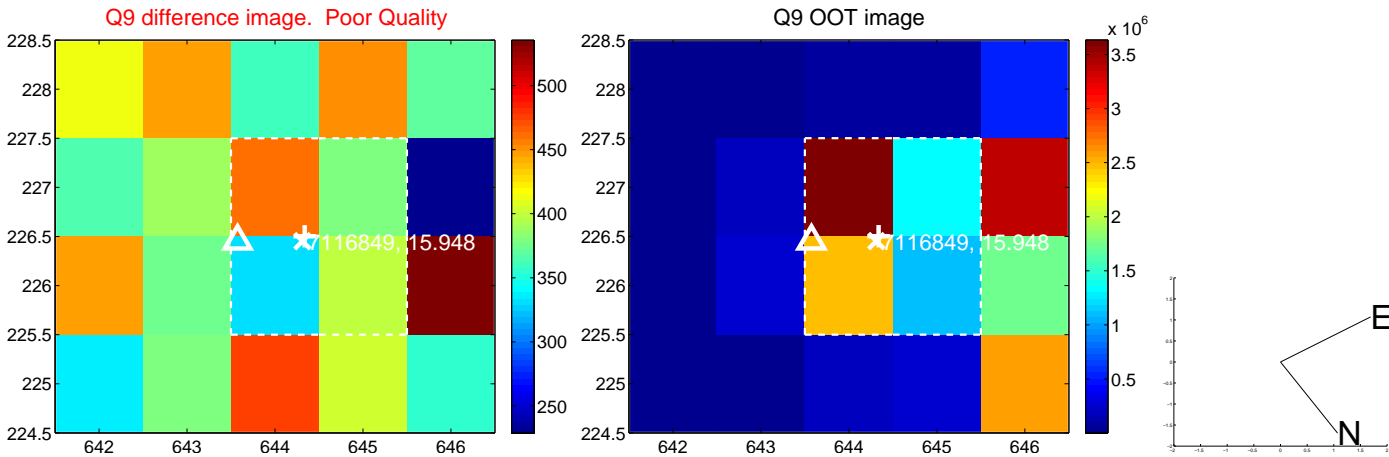
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



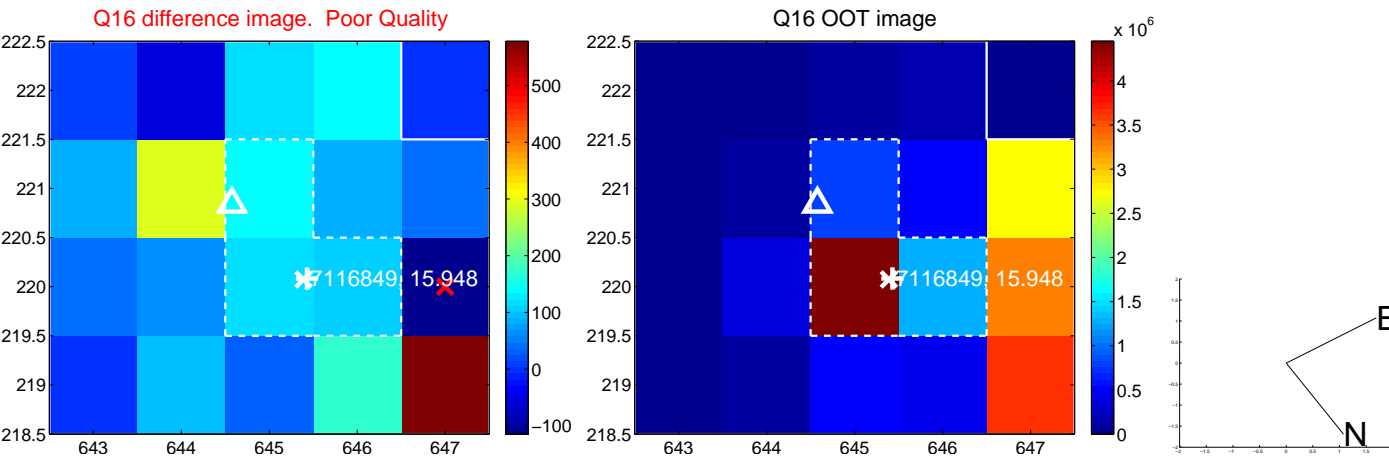
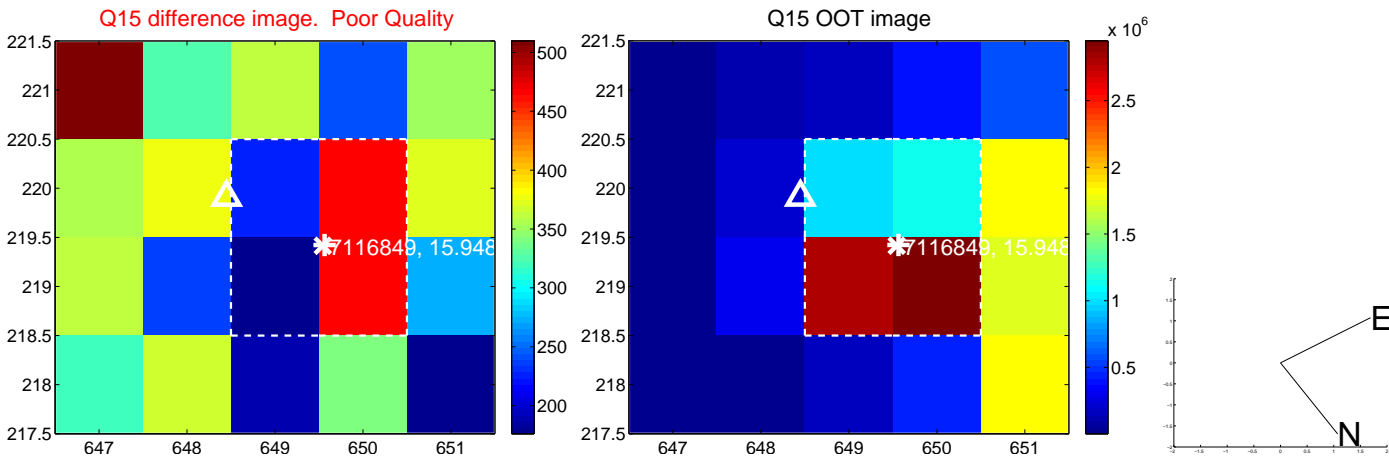
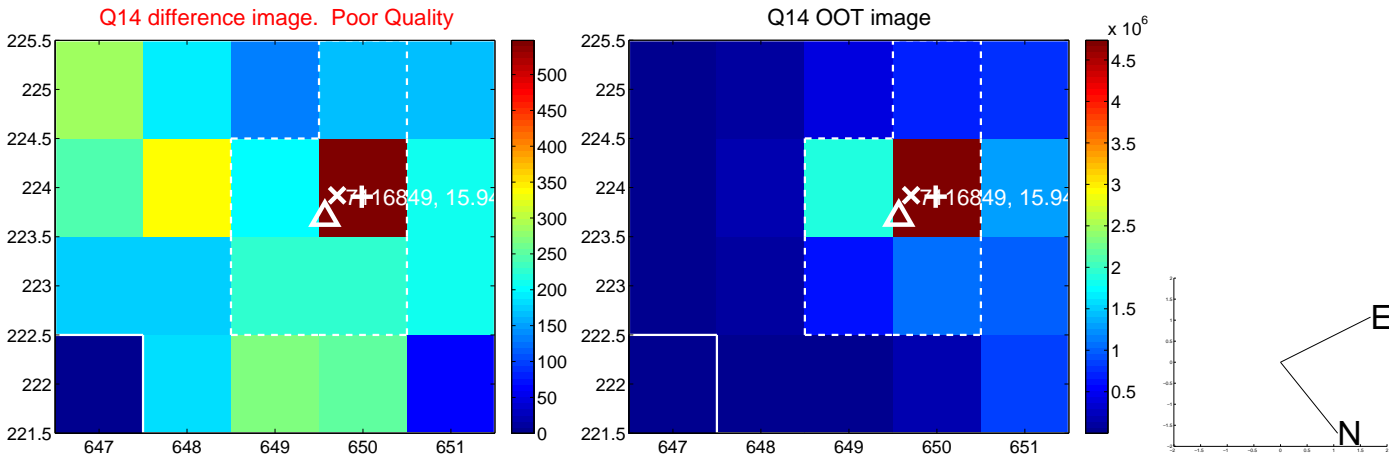
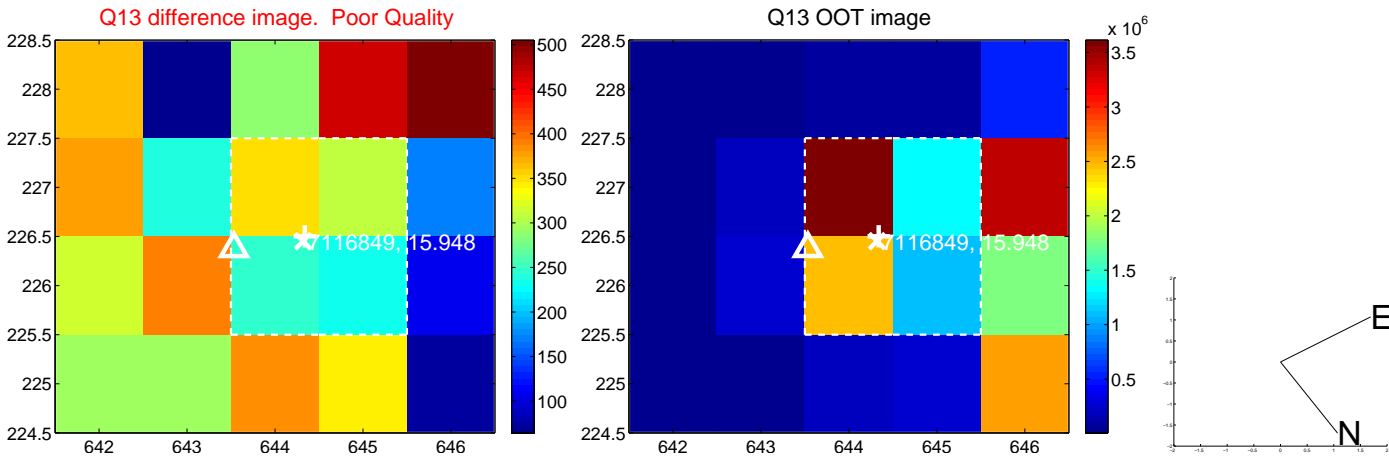
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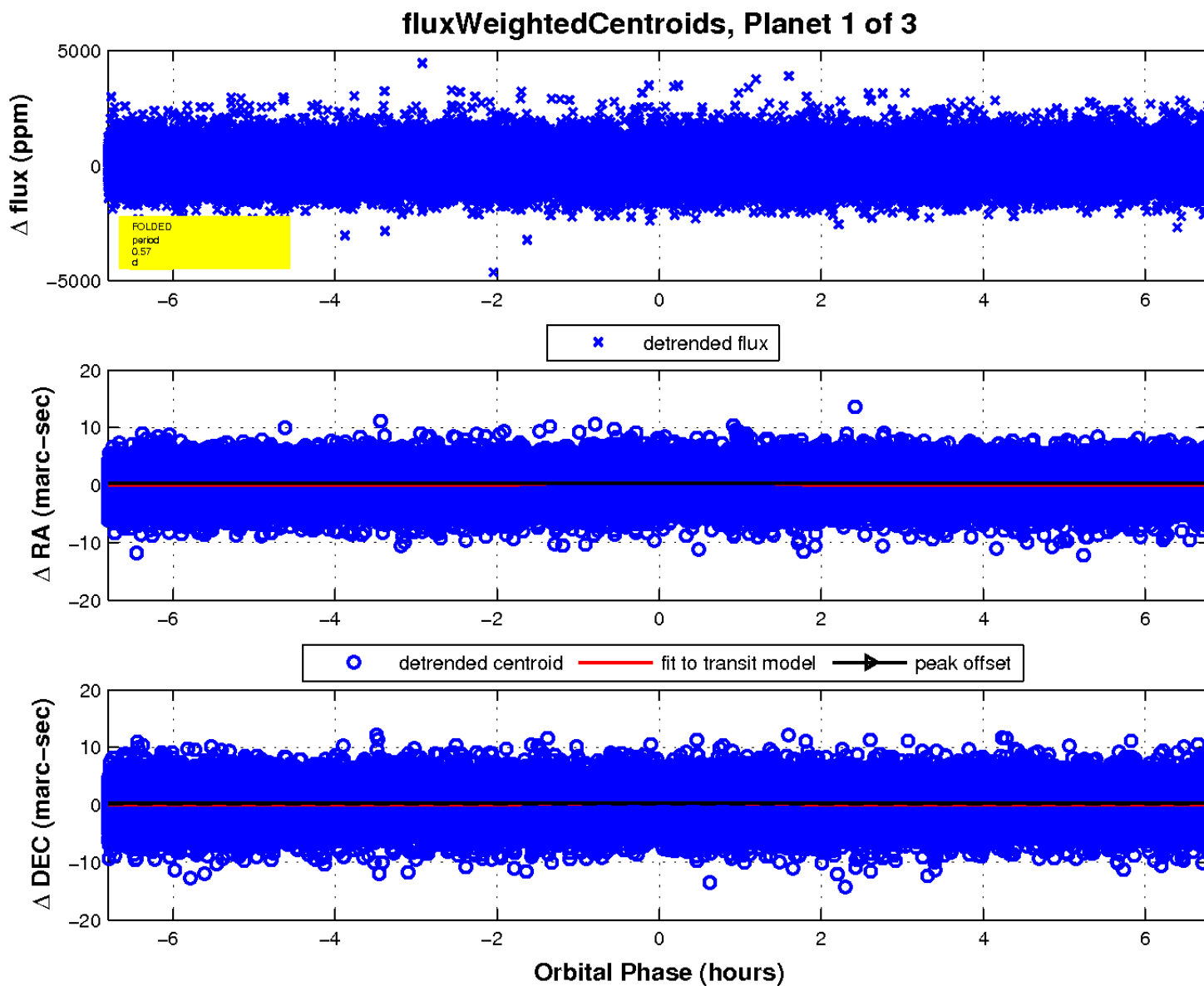
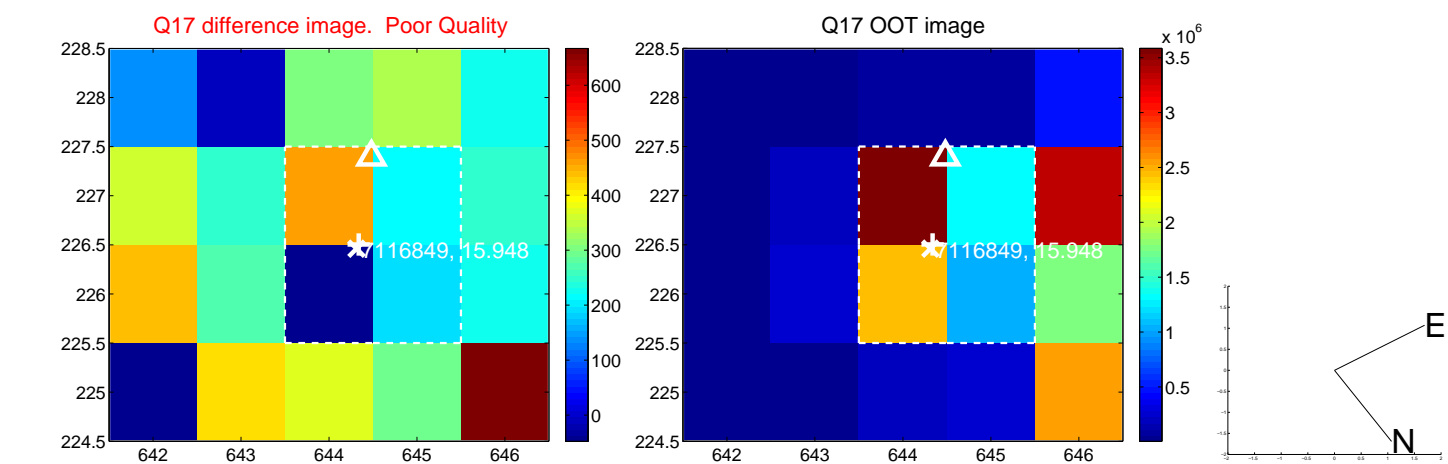
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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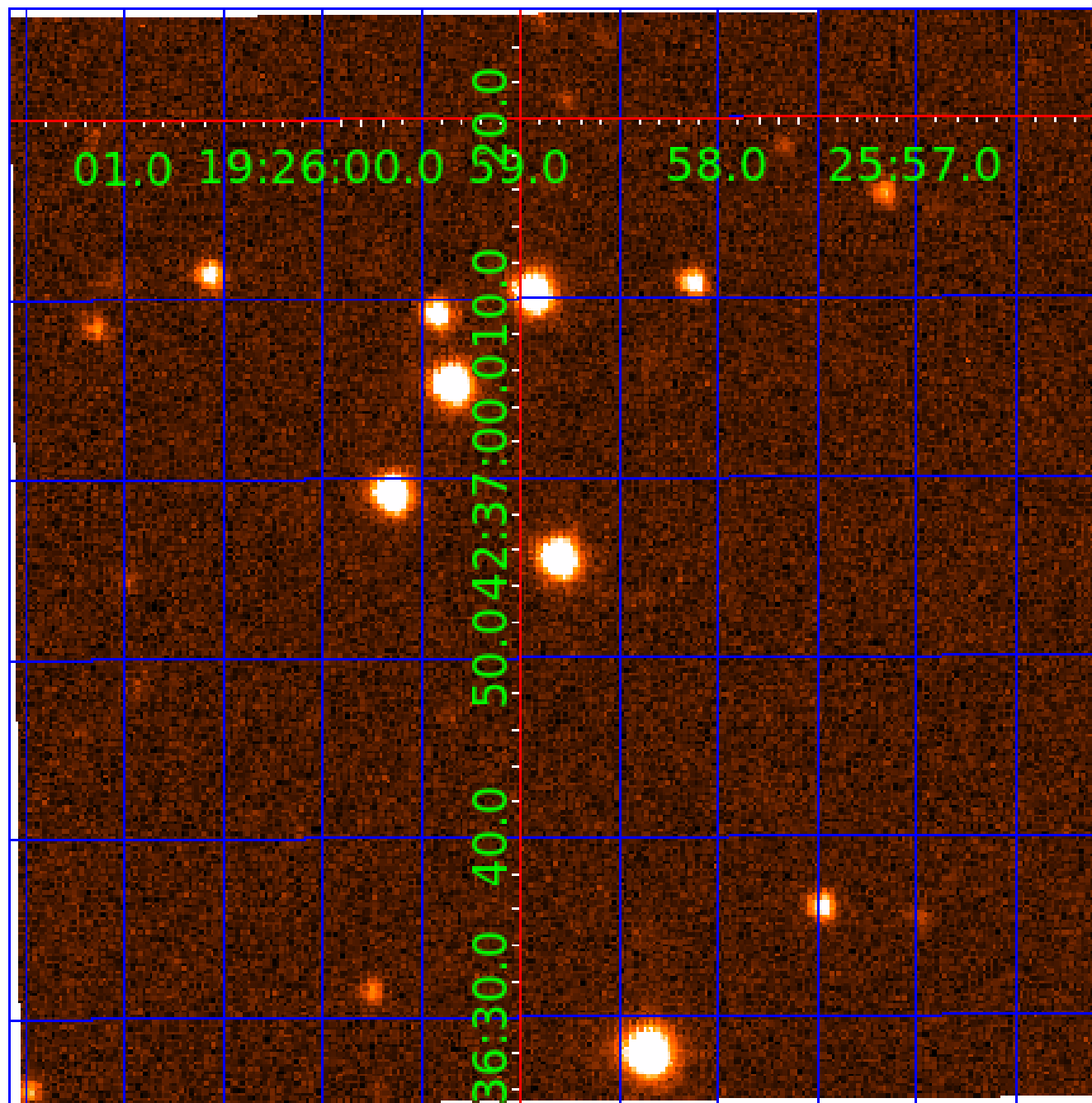


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007116849

Q1-17 DR25 TCE Parameters

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Robovetter Results

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007116849-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007116849-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

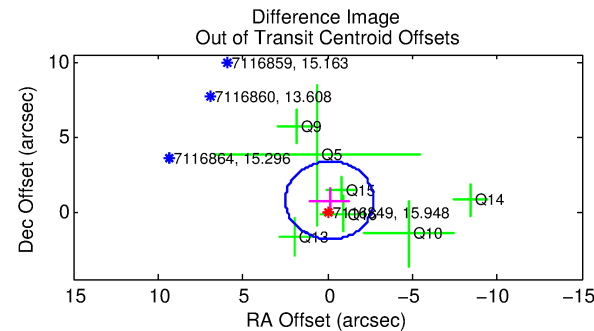
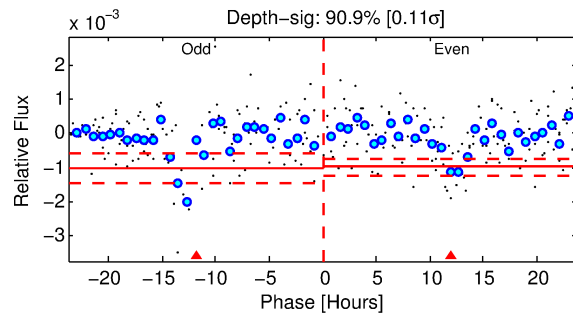
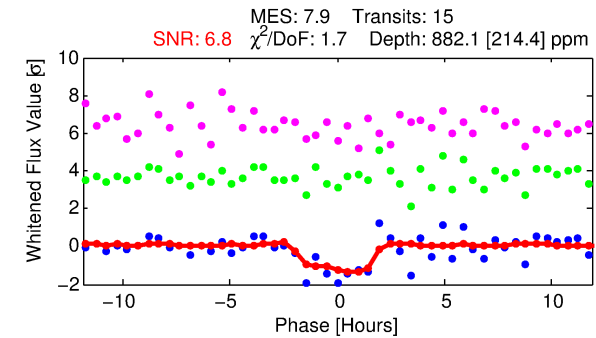
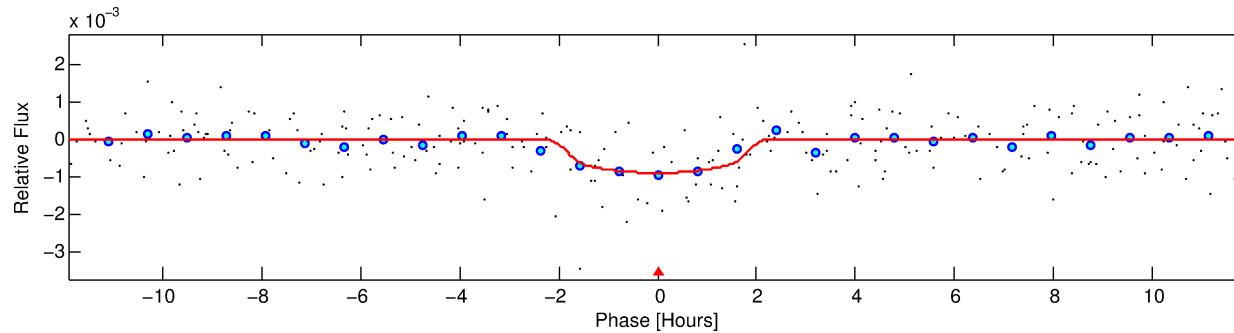
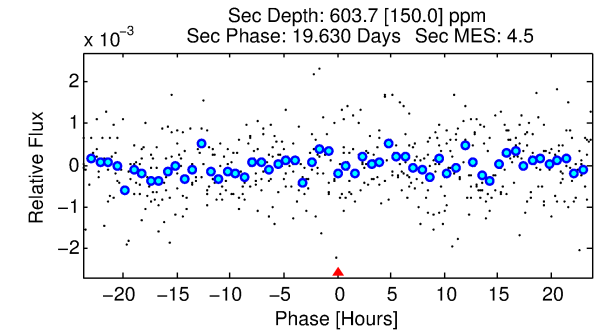
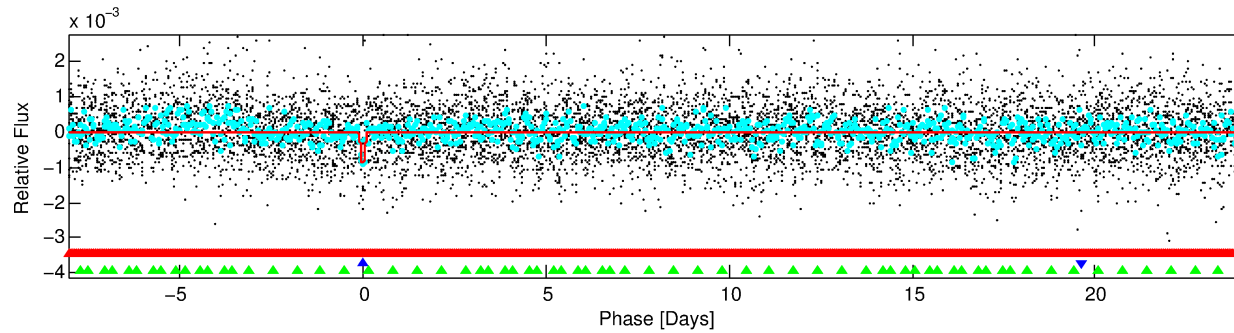
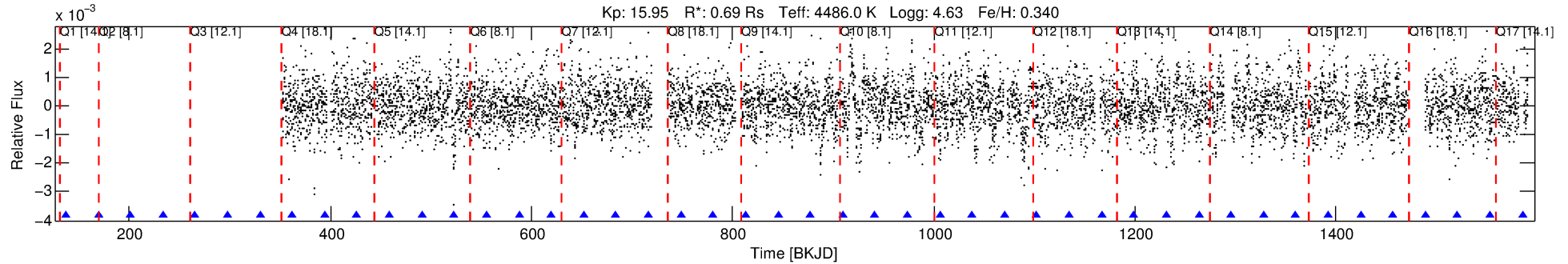
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007116849-02

No Significant Match Found

DV One-Page Summary

KIC: 7116849 Candidate: 2 of 3 Period: 32.186 d



DV Fit Results:

Period = 32.18646 [0.00073] d
Epoch = 137.0335 [0.0176] BKJD
Rp/R* = 0.0289 [0.0541]
a/R* = 47.43 [268.58]
b = 0.69 [4.47]
Seff = 5.38 [0.88]
Teq = 388 [16] K
Rp = 2.19 [4.10] Re
a = 0.1800 [0.0101] AU
Ag = 2252.87 [8457.98] [0.27σ]
Teffp = 4136 [3884] K [0.96σ]

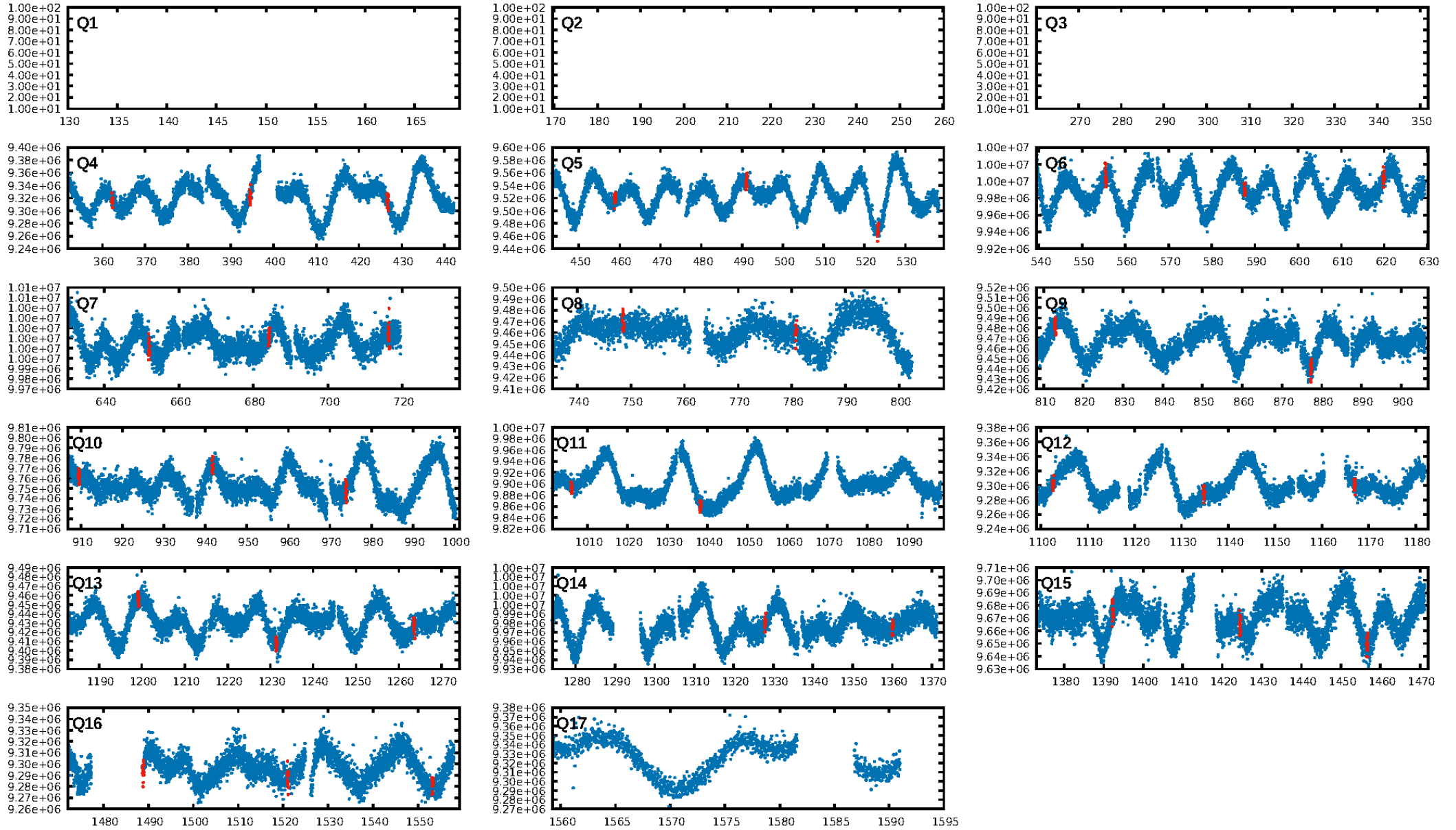
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [46.55σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.95e-09
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 0.2507
Centroid-sig: 56.6%
Centroid-so: 1.943 arcsec [3.27σ]
OotOffset-rm: 0.751 arcsec [0.87σ]
KicOffset-rm: 0.722 arcsec [0.68σ]
OotOffset-st: 2/1/1/3 [7]
KicOffset-st: 2/1/1/3 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.00 [0/13]

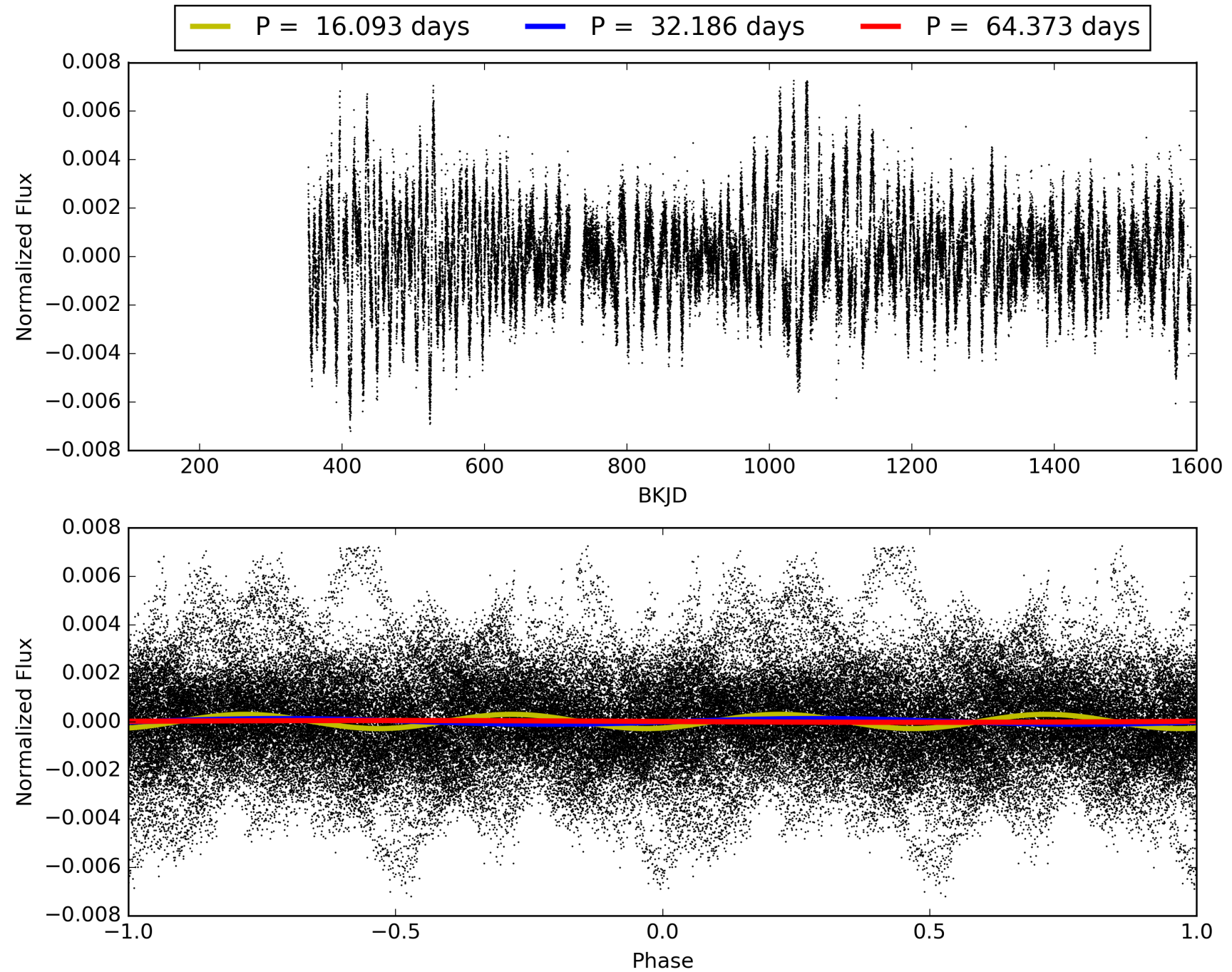
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007116849-02, PDC Light Curves

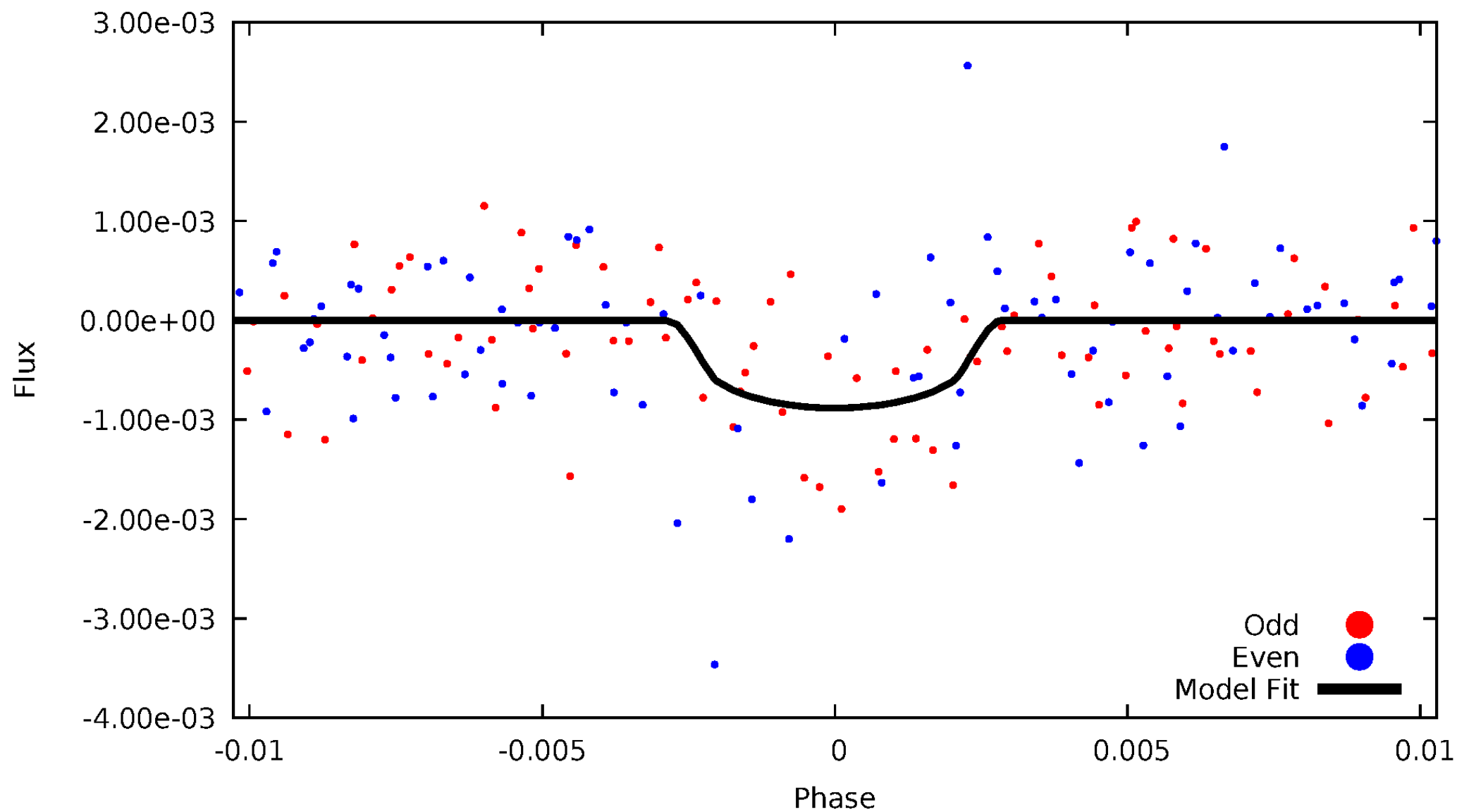


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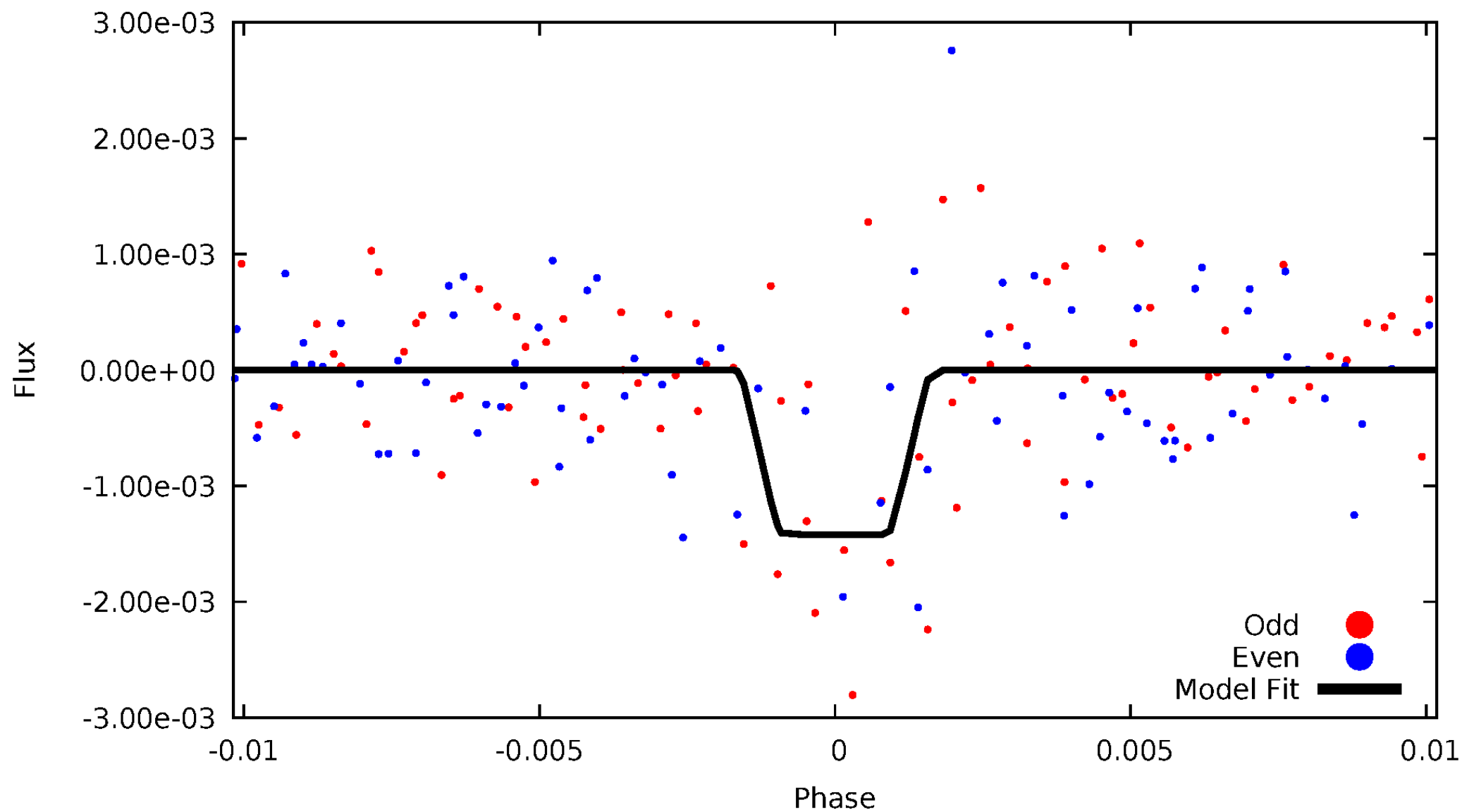
DV Odd/Even

TCE 007116849-02



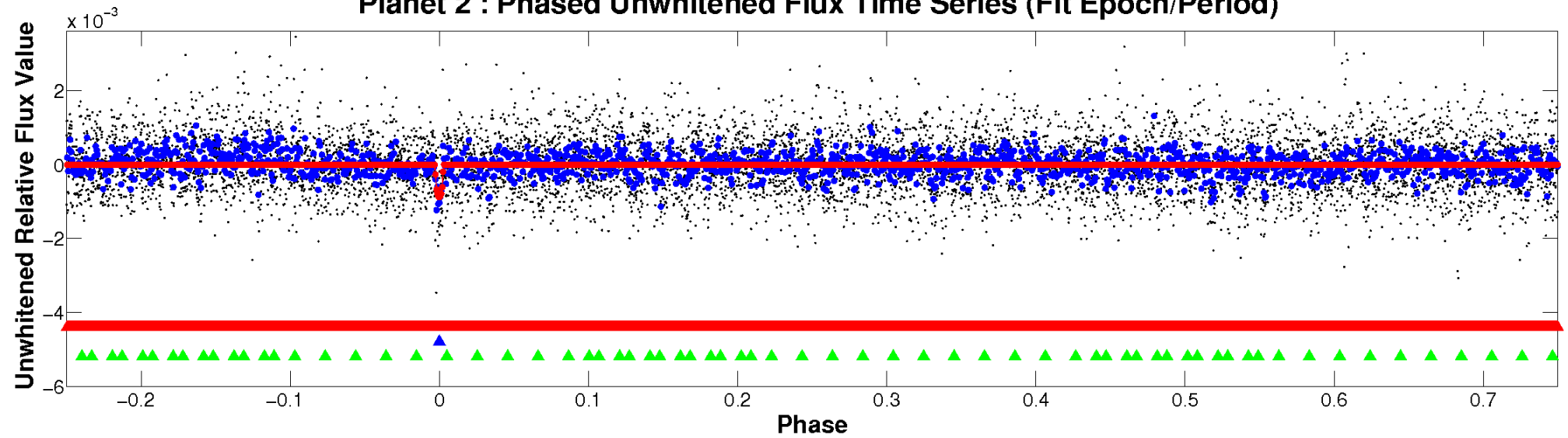
ALT Odd/Even

TCE 007116849-02

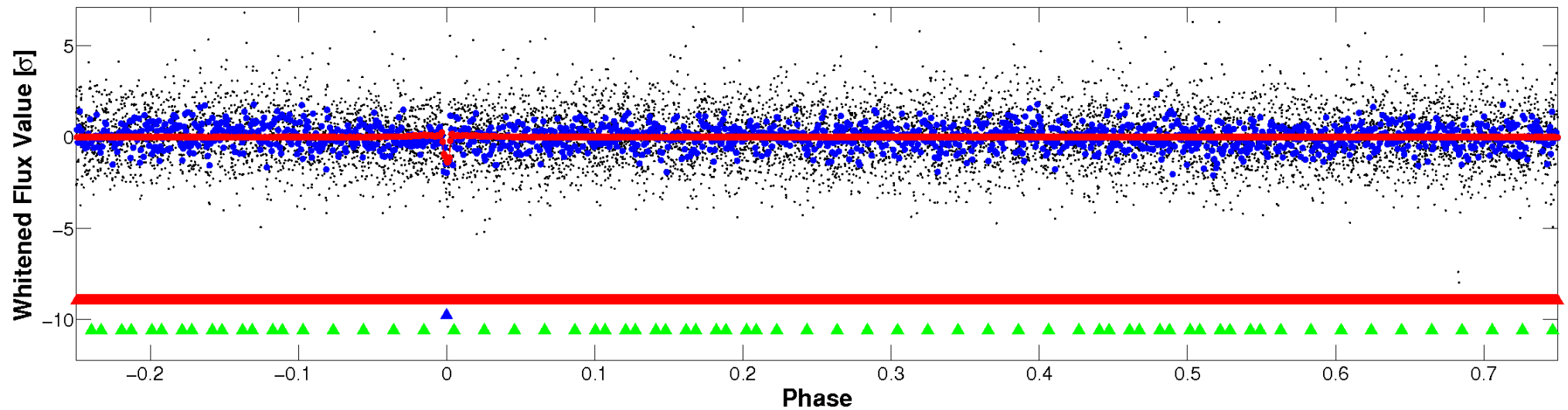


Non-Whitened Vs. Whitened Light Curve

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

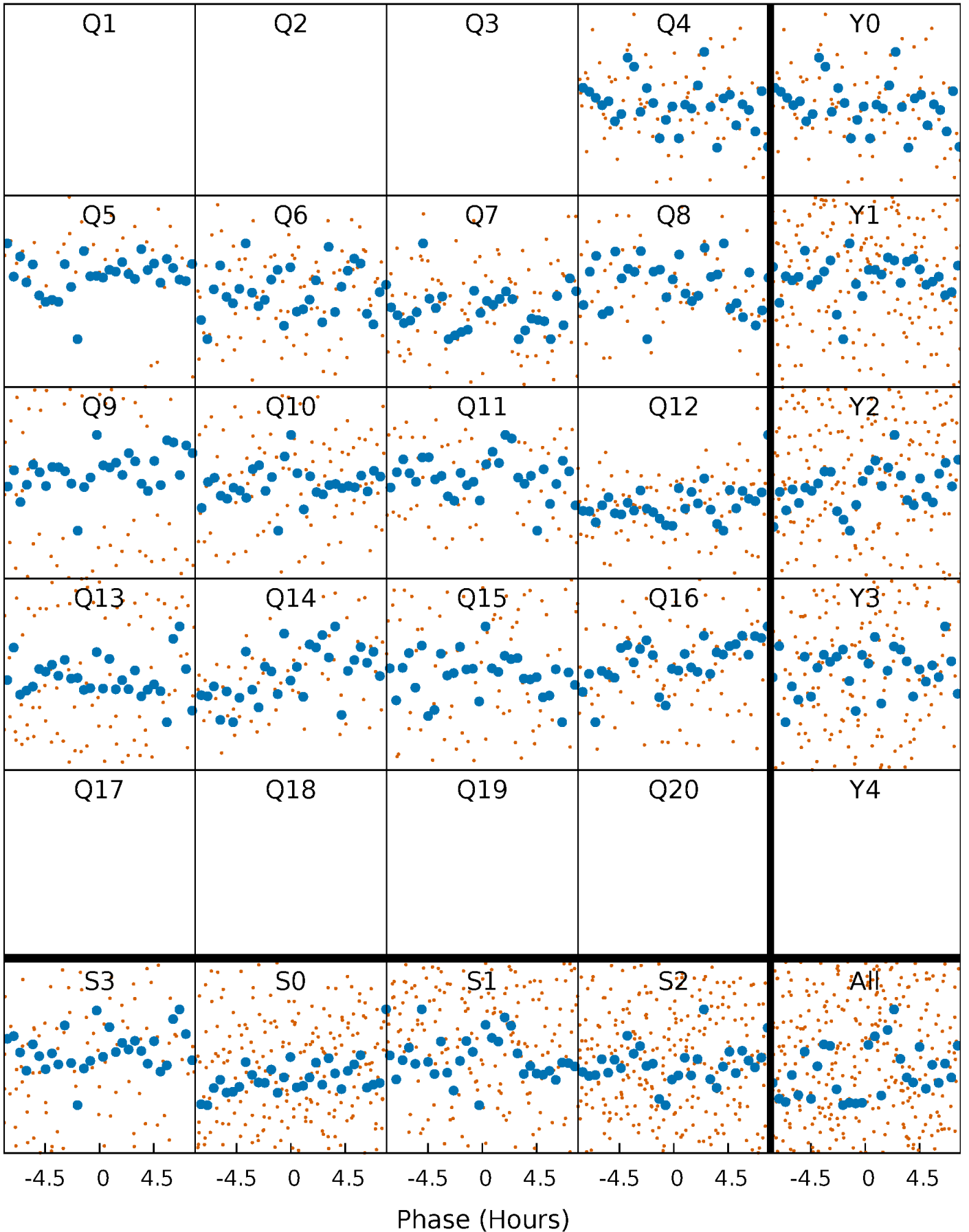


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



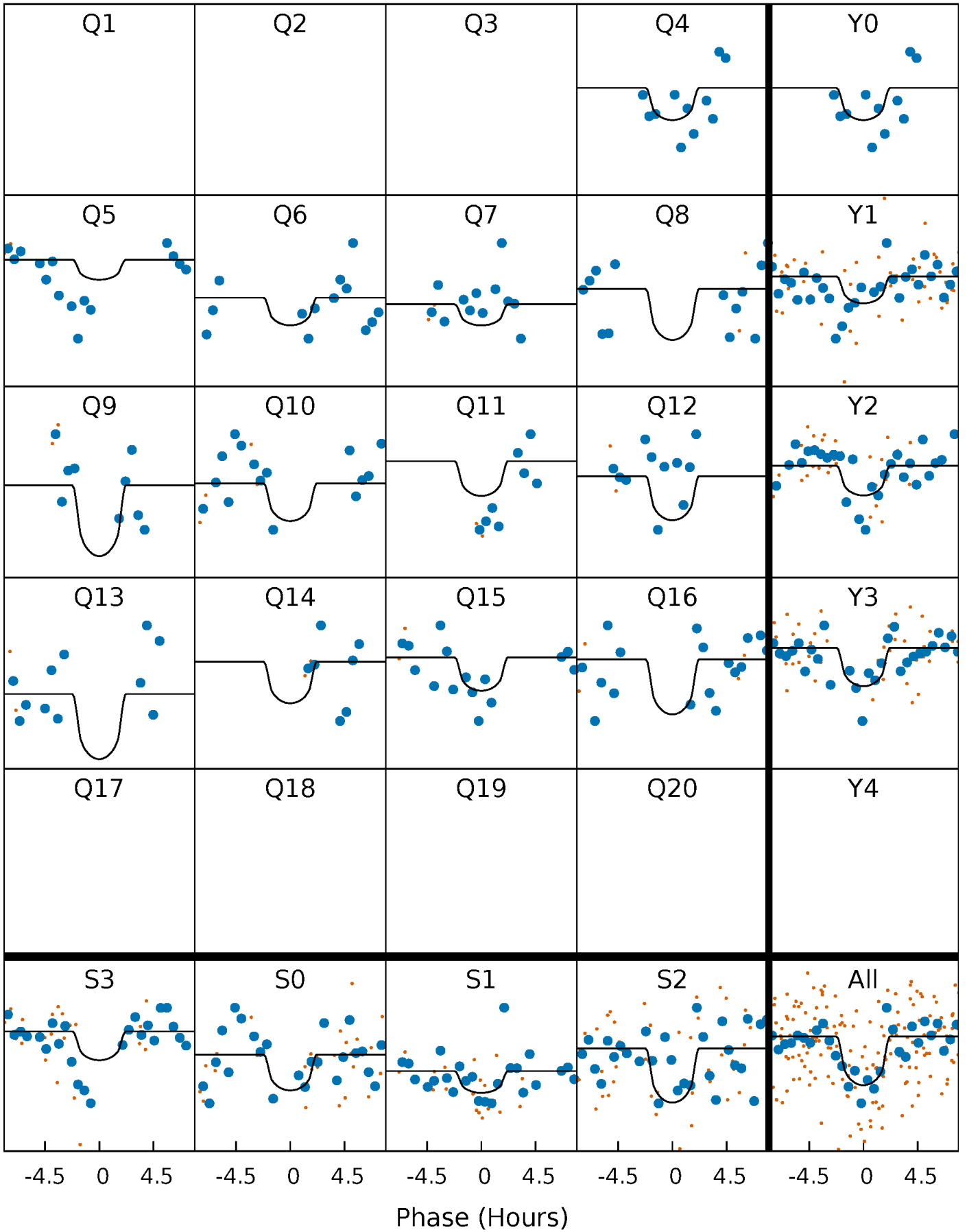
PDC Quarter-Phased Transit Curves

TCE 007116849-02 P= 32.186463 Days $T_0=137.033456$ (BKJD)



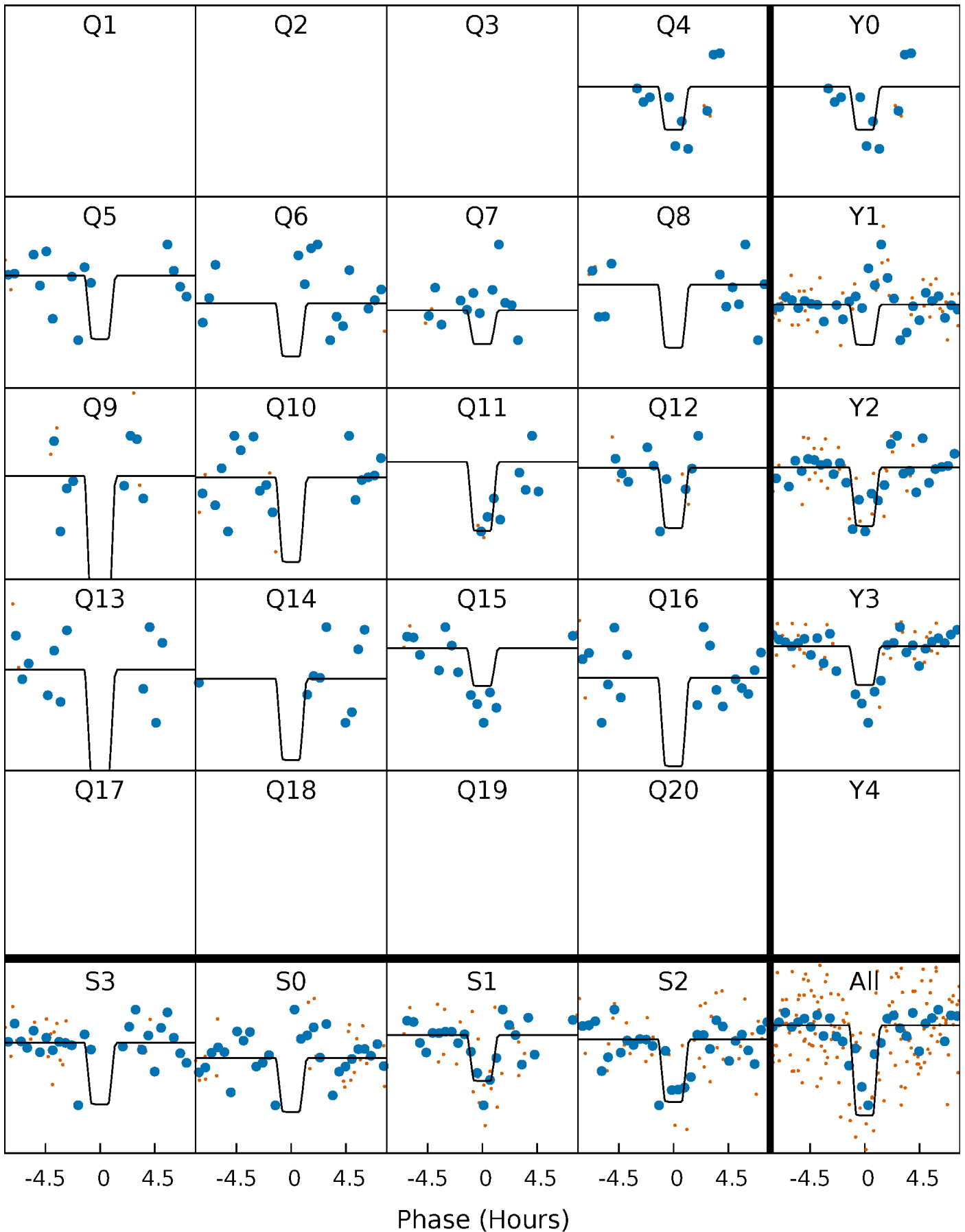
DV Quarter-Phased Transit Curves

TCE 007116849-02 P= 32.186463 Days $T_0=137.033456$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

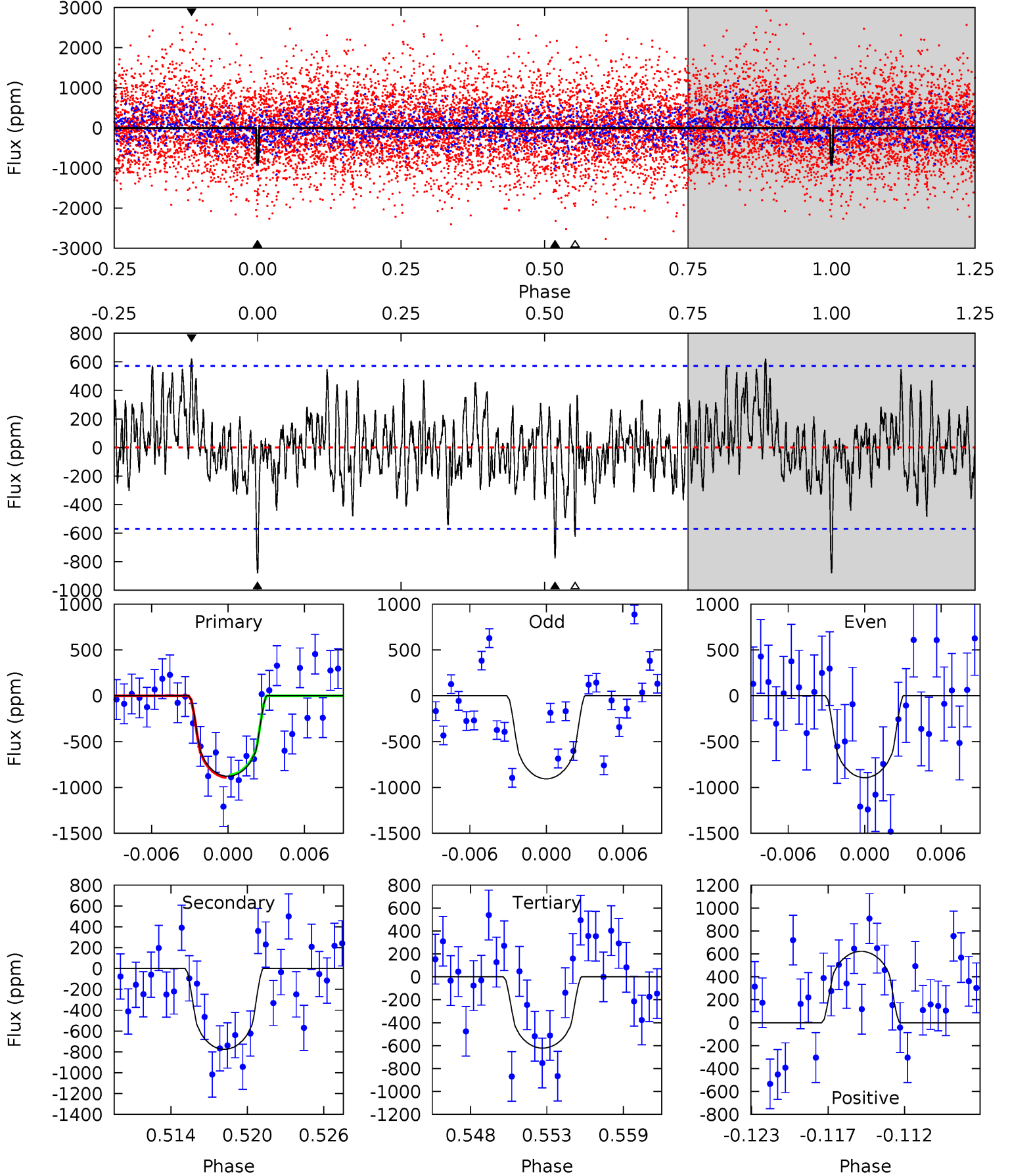
TCE 007116849-02 P= 32.185269 Days $T_0=137.064353$ (BKJD)



DV Model-Shift Uniqueness Test

007116849-02, $P = 32.186463$ Days, $E = 137.033456$ Days

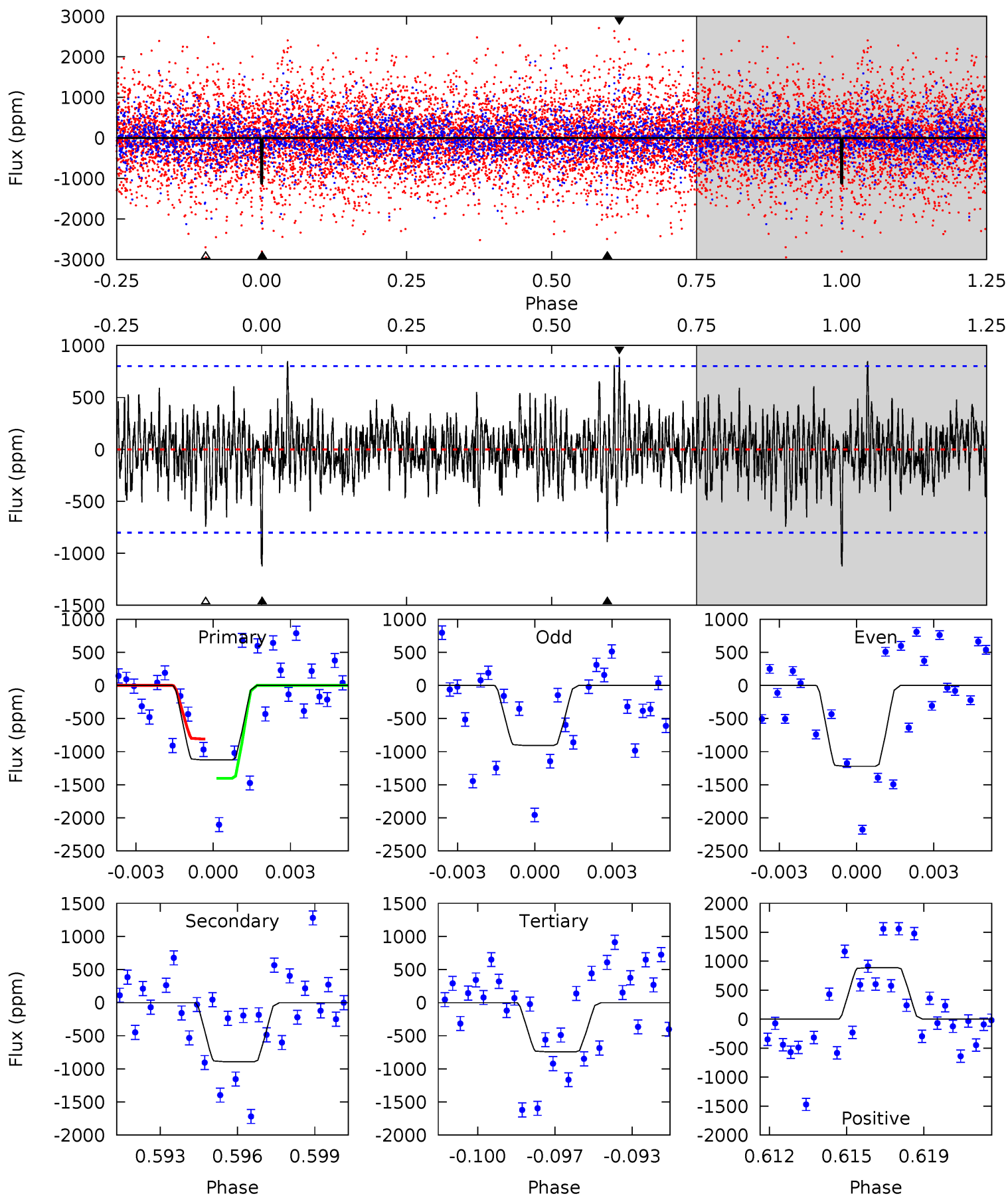
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.90	6.98	5.60	5.60	5.14	2.77	1.72	2.30	2.30	1.38	1.38	0.05	0.73	0.41	0.11



Alt Model-Shift Uniqueness Test

007116849-02, P = 32.185269 Days, E = 137.064353 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.35	5.82	4.85	5.81	5.24	2.95	1.40	2.50	1.54	0.97	0.02	1.01	1.45	0.44	1.94



Stellar Parameters For KIC 007116849

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4486^{+158}_{-158}	$4.632^{+0.021}_{-0.045}$	$0.340^{+0.100}_{-0.300}$	$0.693^{+0.046}_{-0.042}$	$0.770^{+0.032}_{-0.070}$	$3.260^{+0.329}_{-0.533}$
	+4%/-4%	+0%/-1%	+29%/-88%	+7%/-6%	+4%/-9%	+10%/-16%
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 007116849-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-775 ± 111	$3.93^{+3.42}_{-2.76}$	547^{+22}_{-21}	3625^{+2224}_{-654}	907^{+9084}_{-660}
Alt.	-891 ± 153	$4.16^{+3.82}_{-2.68}$	545^{+22}_{-19}	3626^{+1771}_{-661}	939^{+6447}_{-690}

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

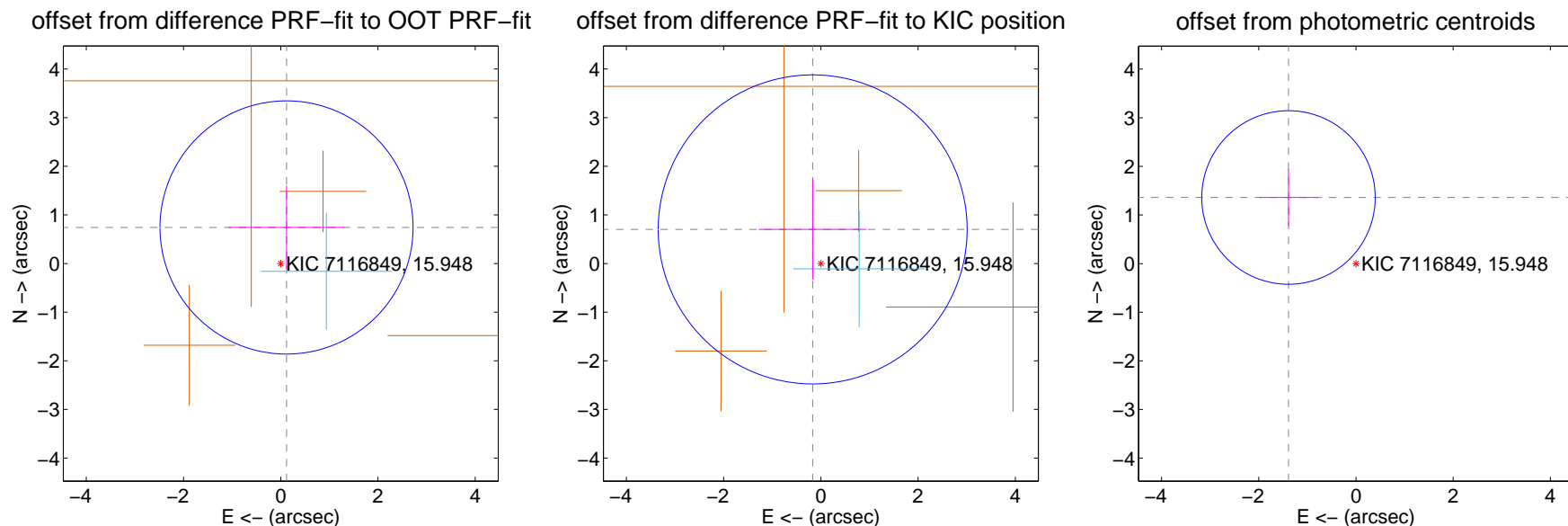
DV Centroid Data

Supplemental centroid analysis for 007116849-02. Kepler magnitude: 15.95. Transit SNR 6.81

There are 1 quarters with good PRF difference image offsets

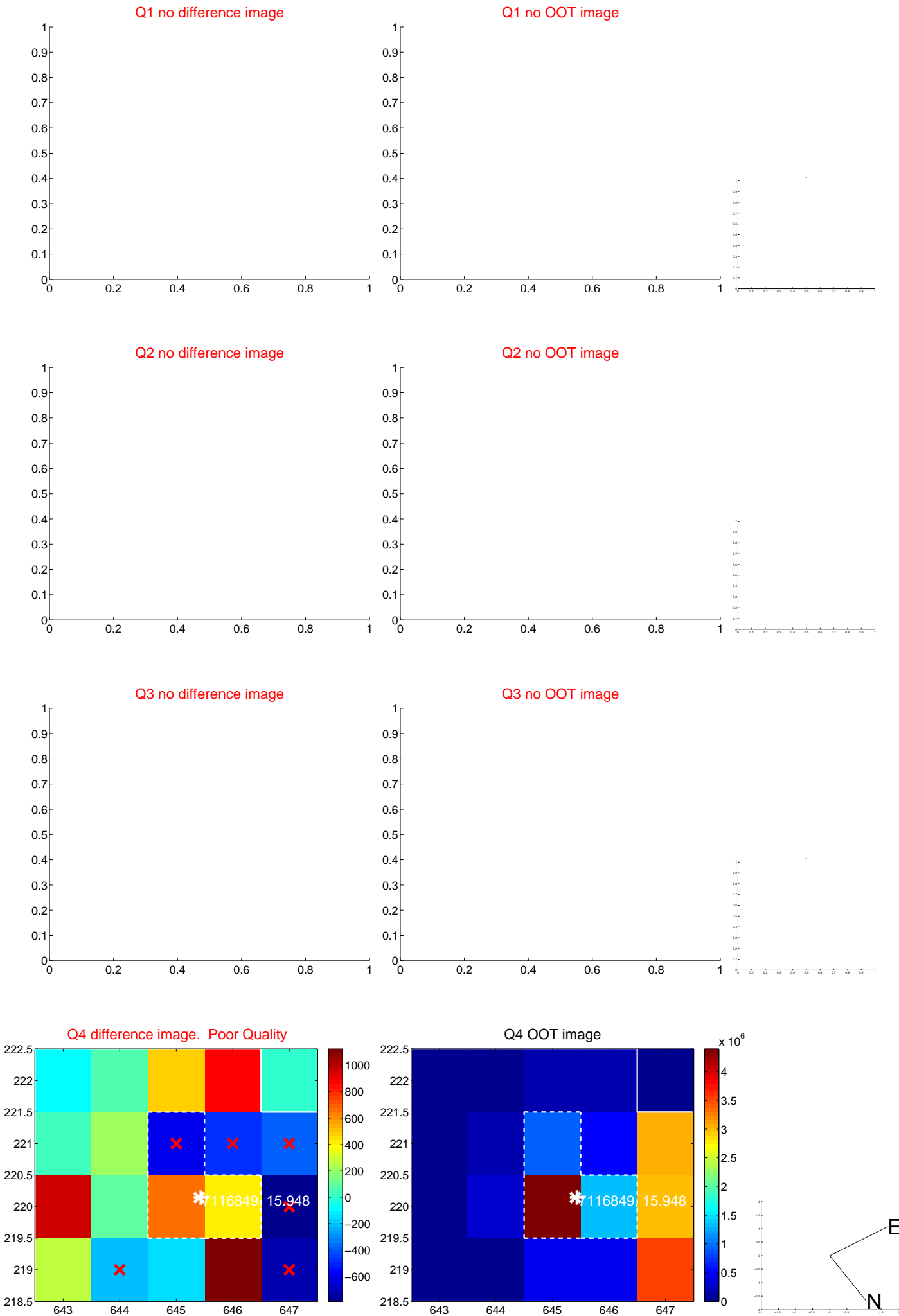
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.751 ± 0.868	0.87	-0.119 ± 1.188	0.742 ± 0.858
PRF-fit source offset from KIC position	0.722 ± 1.059	0.68	0.168 ± 1.111	0.702 ± 1.031
photometric centroid source offset	1.94 ± 0.59	3.27	1.39 ± 0.60	1.36 ± 0.59

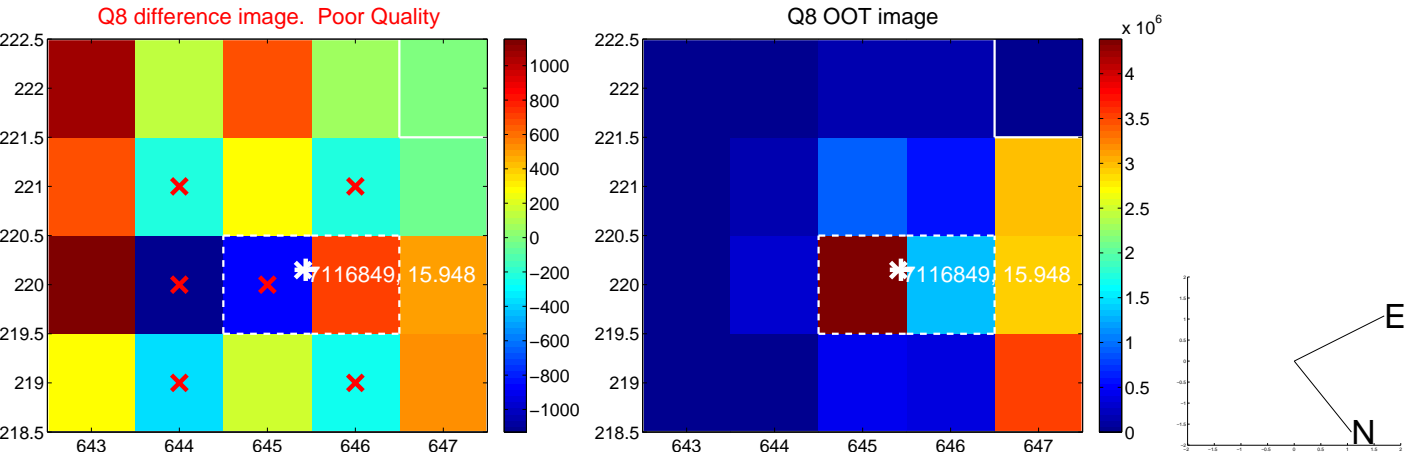
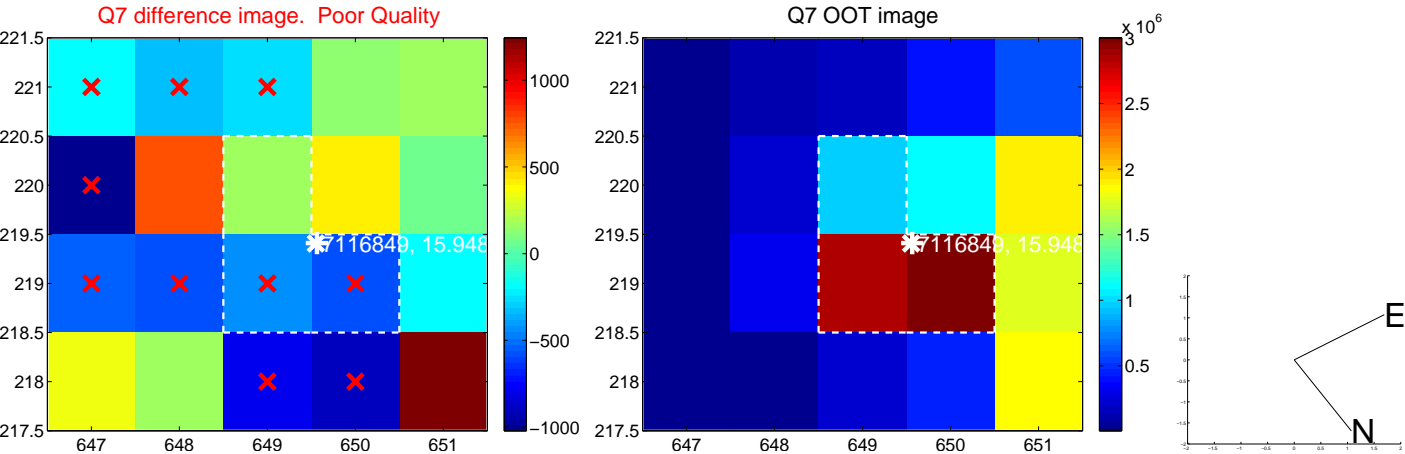
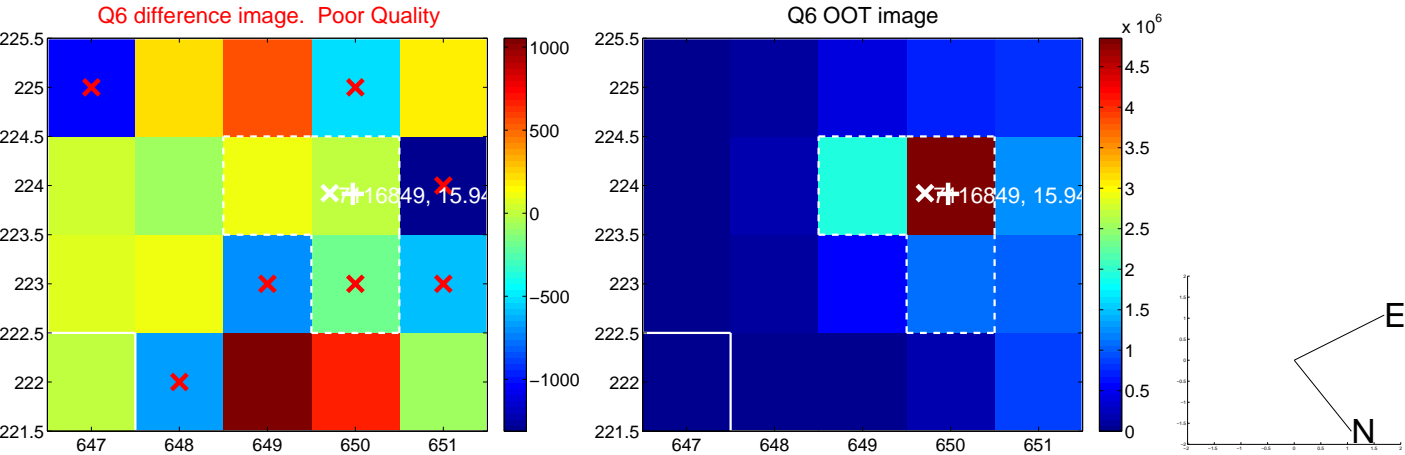
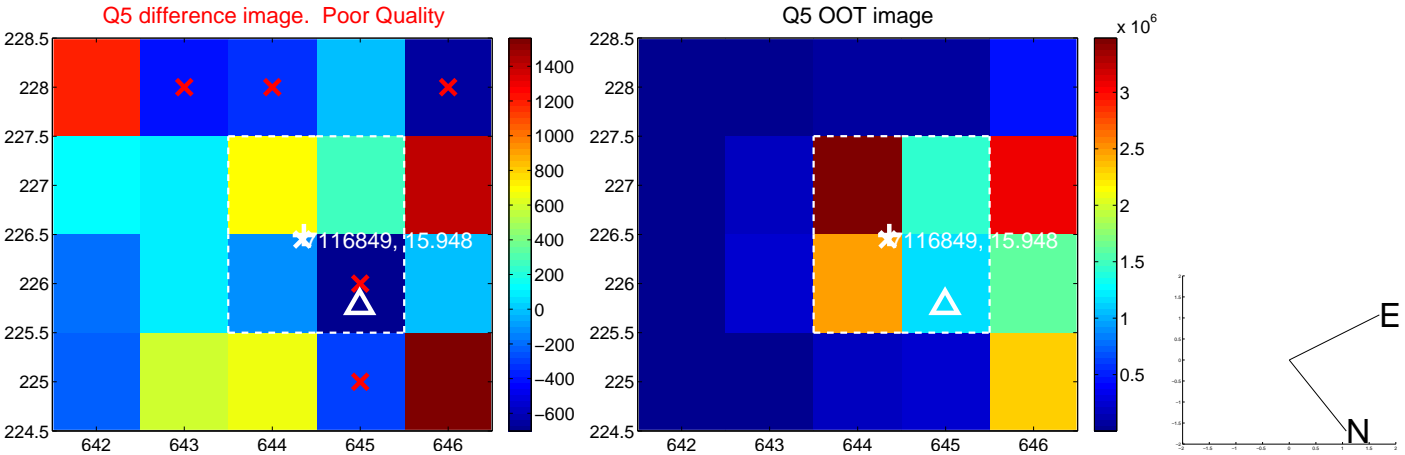


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

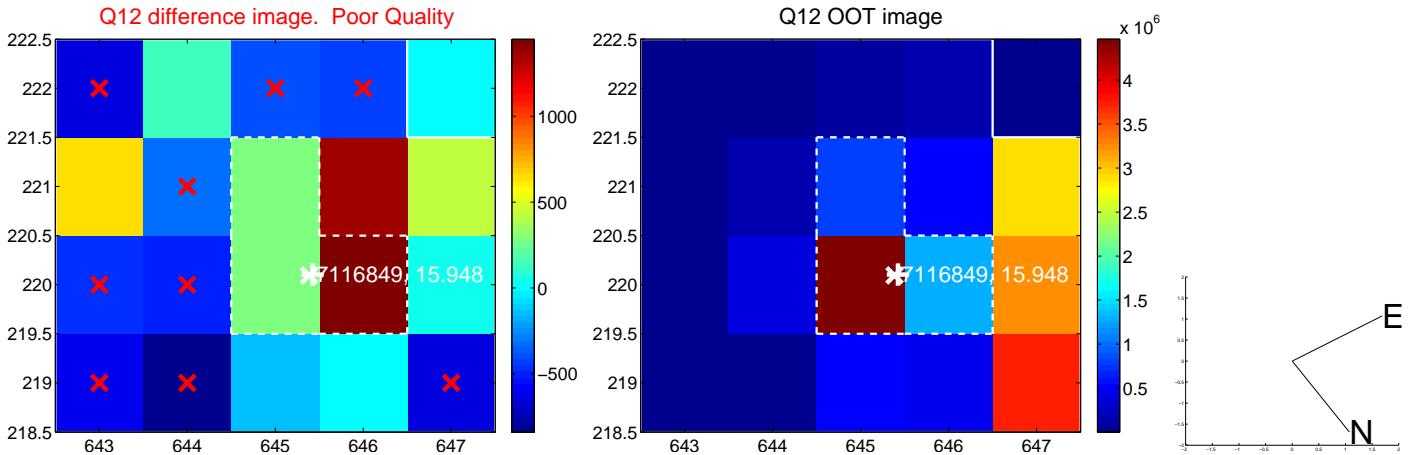
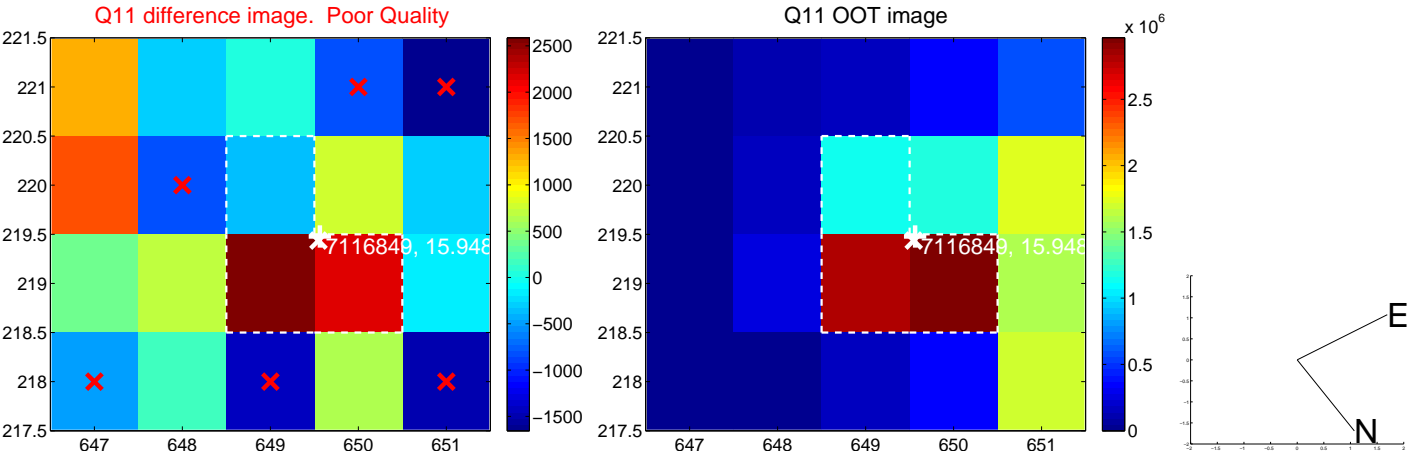
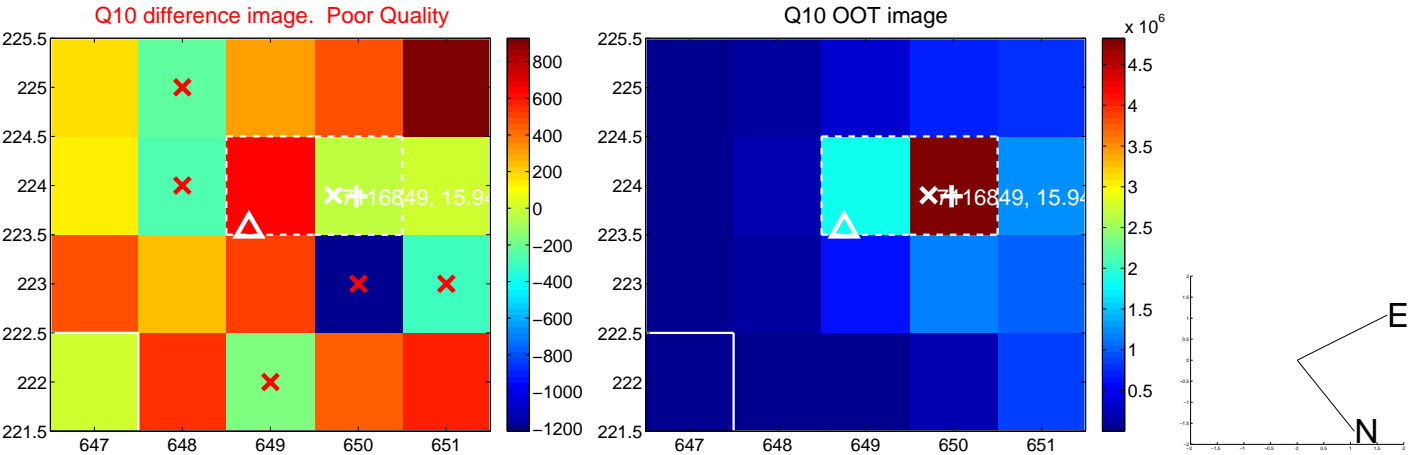
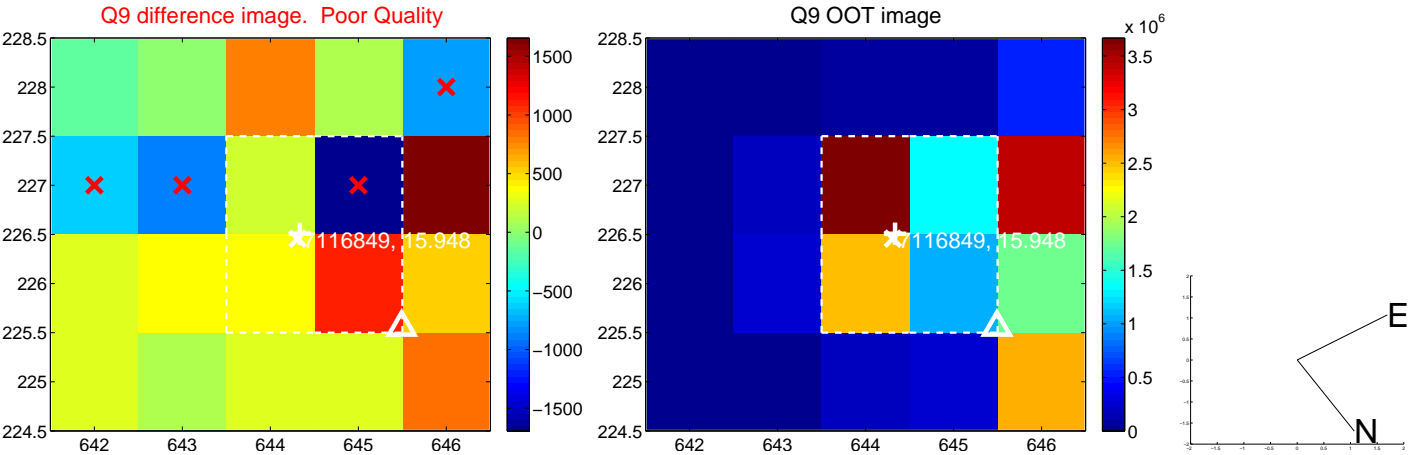
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



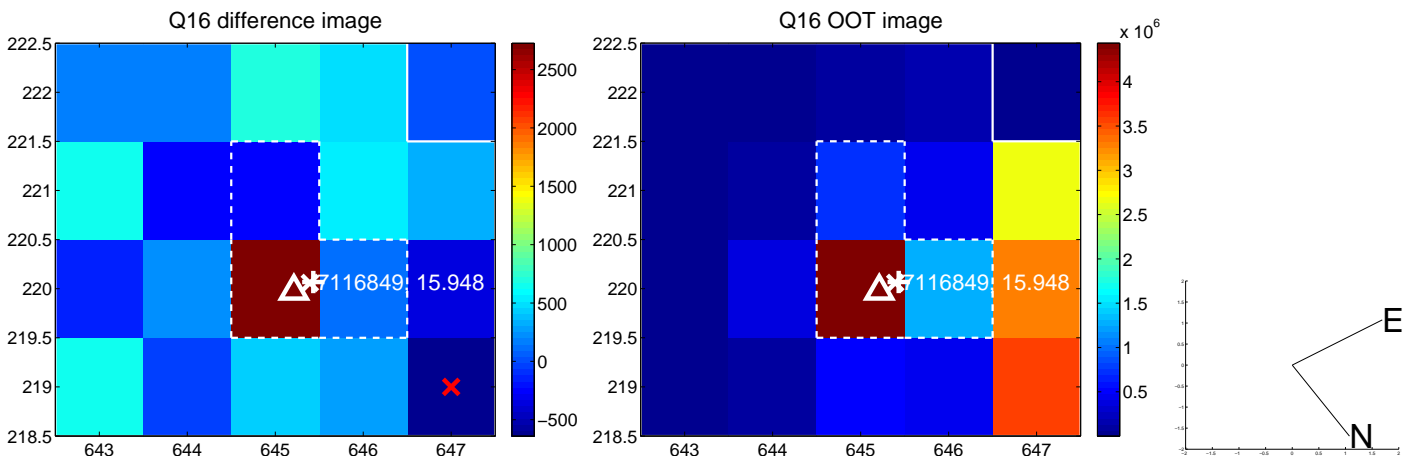
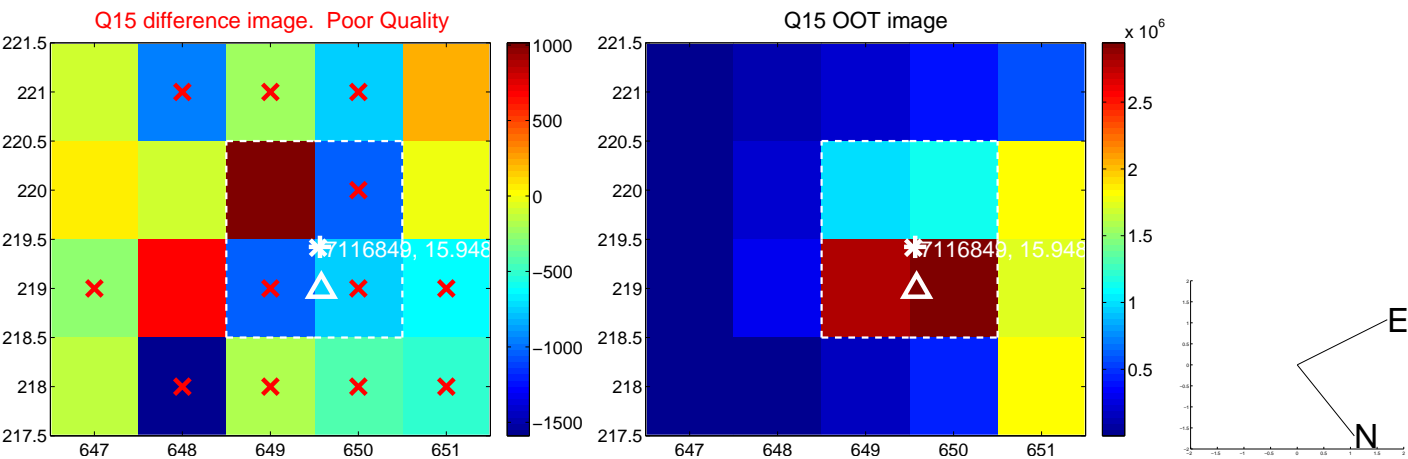
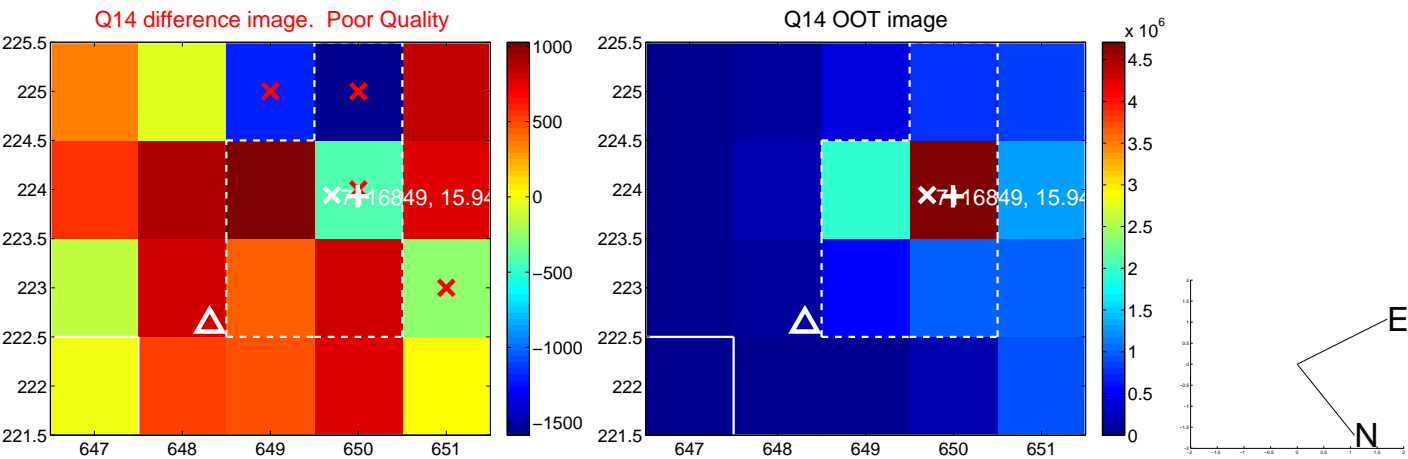
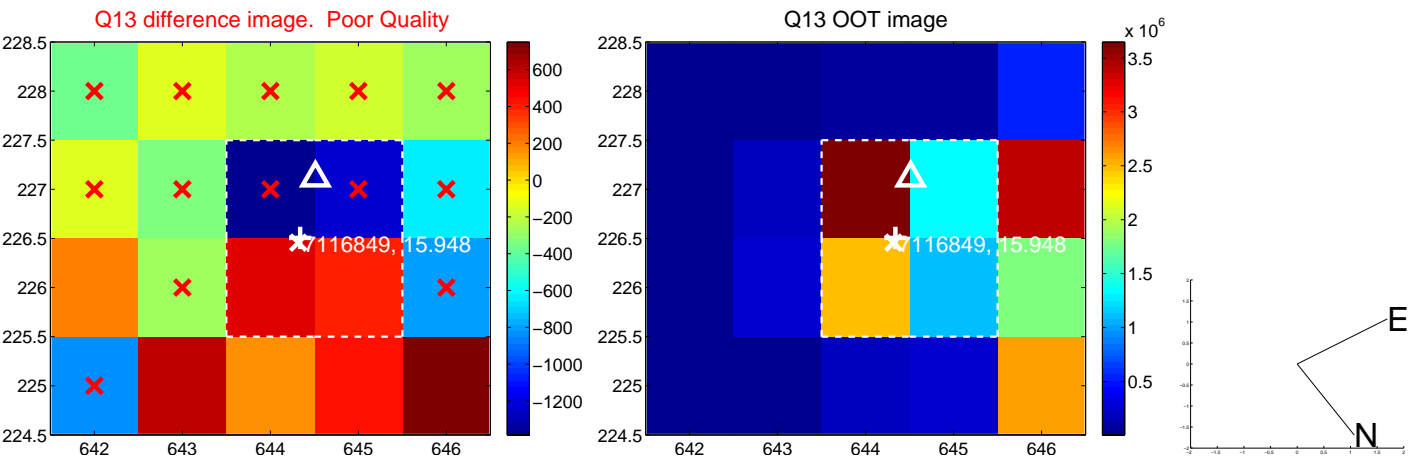
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



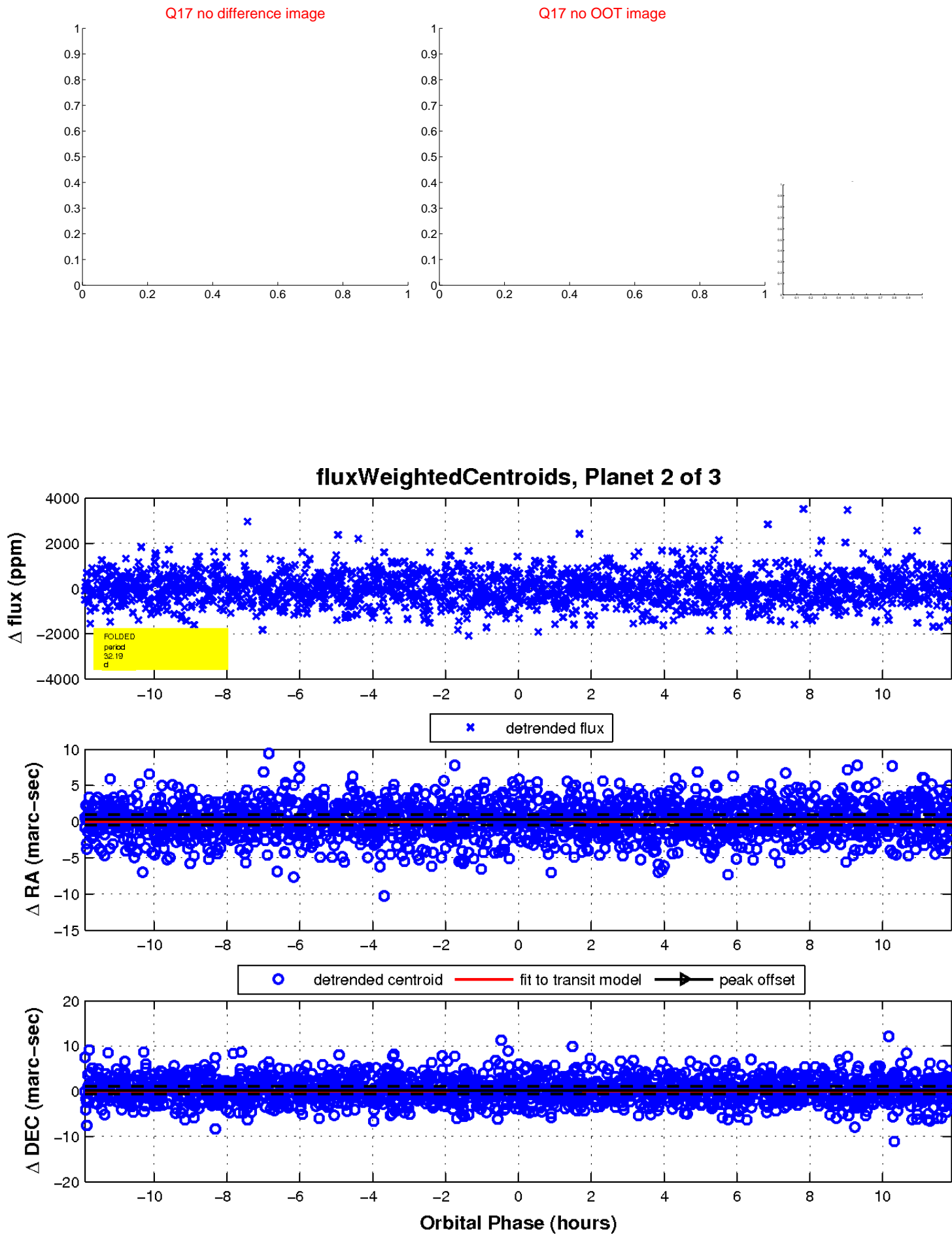
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

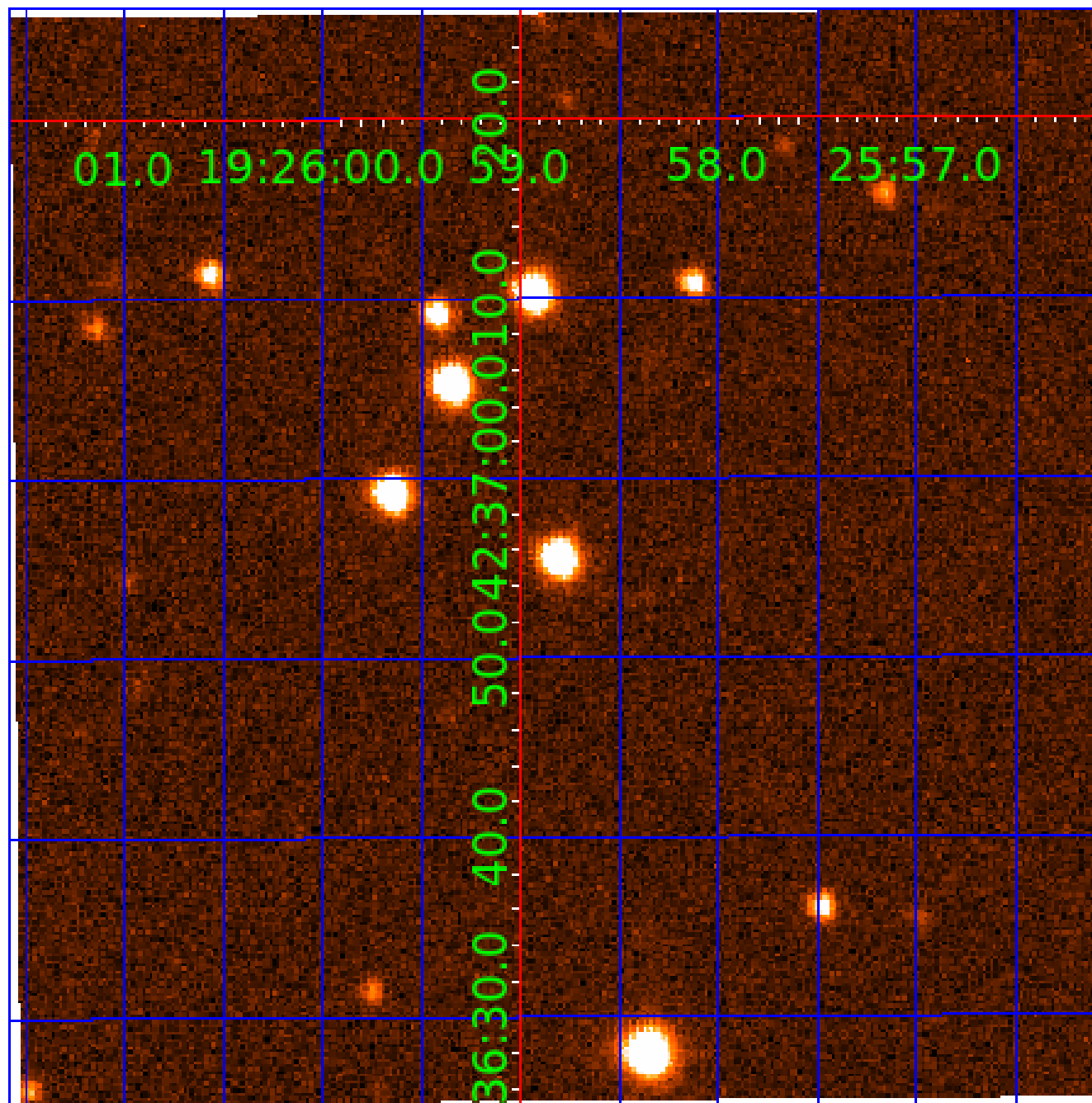


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007116849

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})
007116849-01	OBS	No	0.566759	131.867463	31.4	3.647	8.0	4.2	0.69	4486	0.48	1173.88
007116849-02	OBS	No	32.186463	137.033456	882.1	3.968	7.9	6.8	0.69	4486	2.19	5.38
007116849-03	OBS	No	21.238883	133.467051	829.7	4.015	8.4	9.6	0.69	4486	2.38	9.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116849-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007116849-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007116849-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

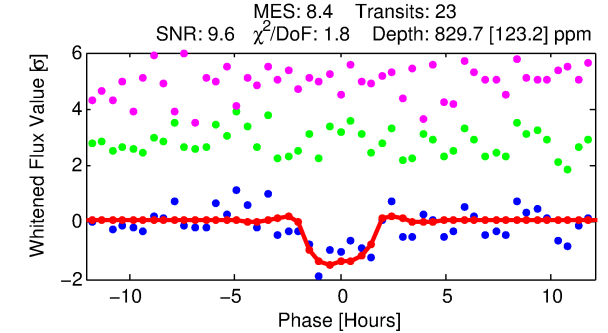
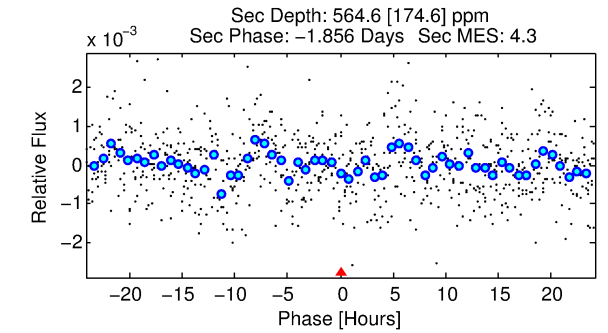
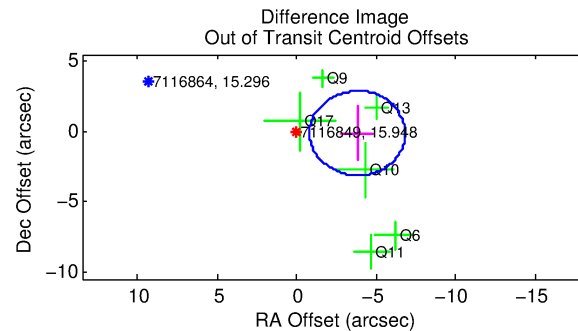
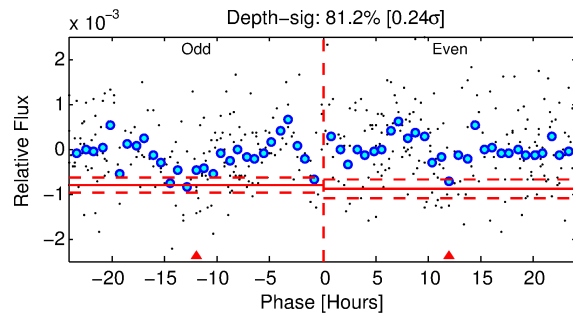
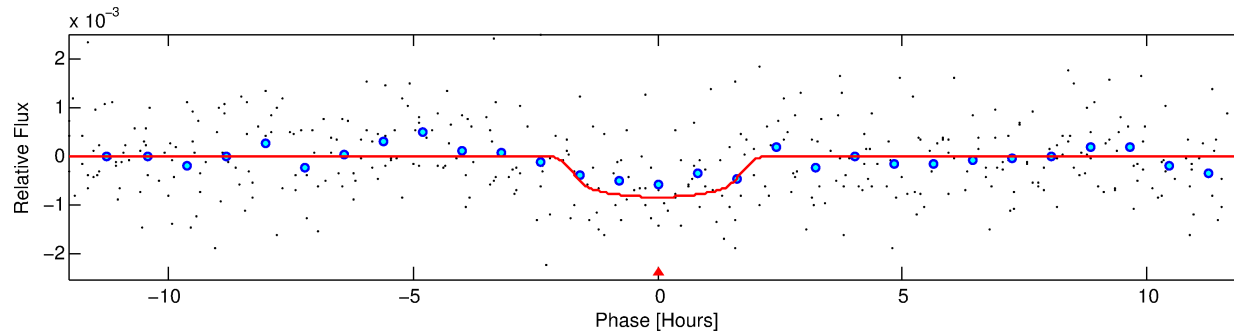
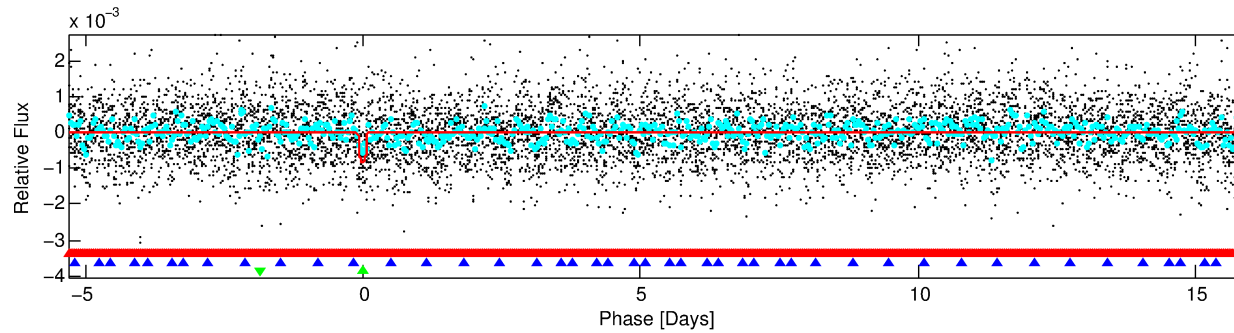
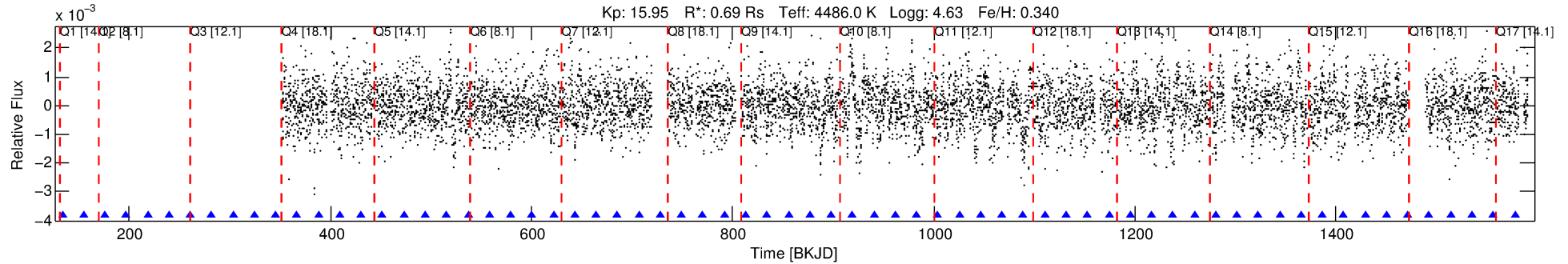
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007116849-03

No Significant Match Found

DV One-Page Summary

KIC: 7116849 Candidate: 3 of 3 Period: 21.239 d



DV Fit Results:

Period = 21.23888 [0.00043] d
Epoch = 133.4671 [0.0180] BKJD
Rp/R* = 0.0315 [0.0198]
a/R* = 22.69 [47.62]
b = 0.87 [0.63]
Seff = 9.36 [1.53]
Teq = 446 [18] K
Rp = 2.38 [1.51] Re
a = 0.1364 [0.0077] AU
Ag = 1020.29 [1327.11] [0.77 σ]
Teffp = 3897 [1272] K [2.71 σ]

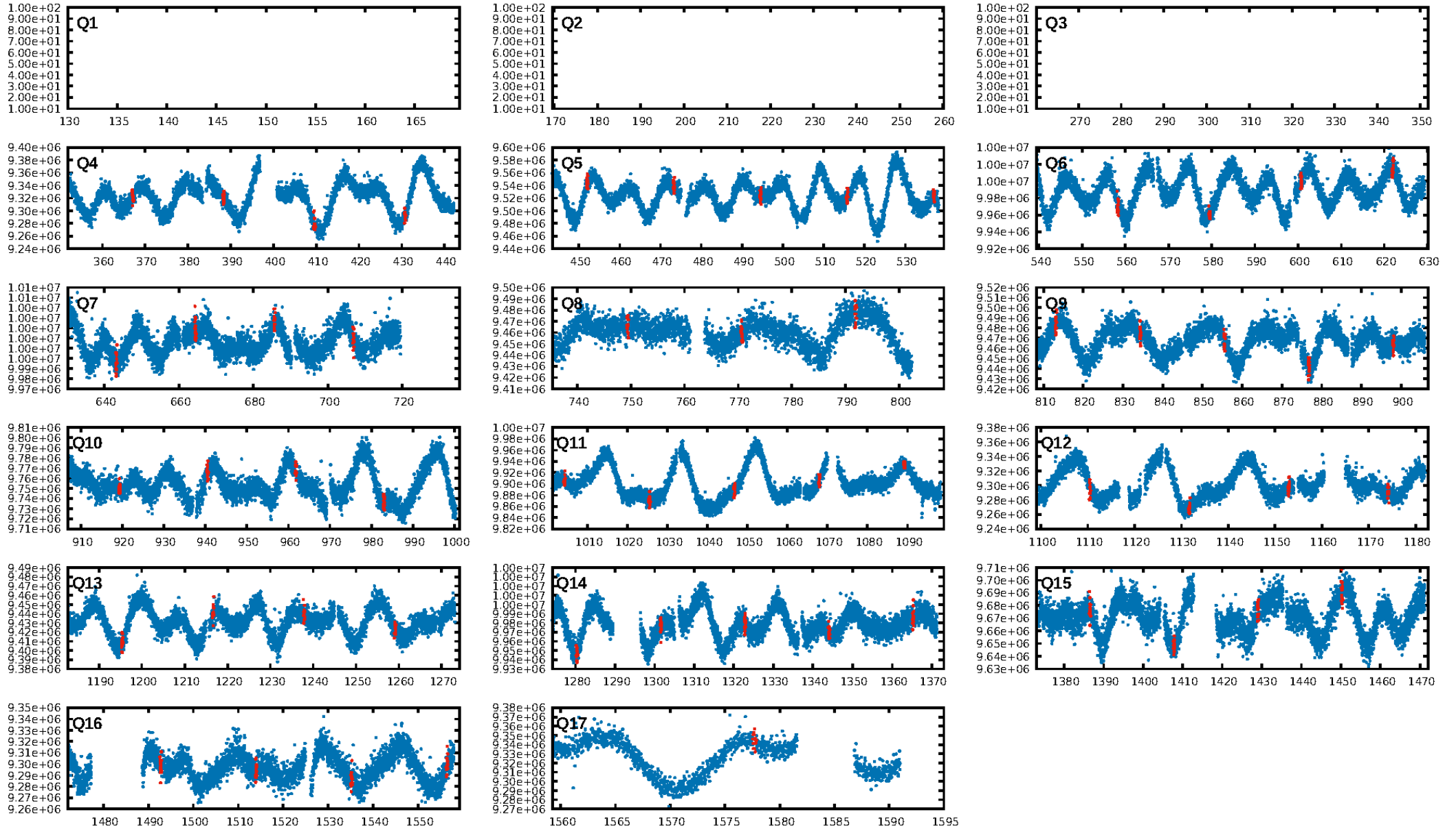
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [91.47 σ]
LongPeriod-sig: 100.0% [46.55 σ]
ModelChiSquare2-sig: 30.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.39e-10
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: 16.14
Centroid-sig: 88.3%
Centroid-so: 2.477 arcsec [4.95 σ]
OotOffset-rm: 3.807 arcsec [3.80 σ]
KicOffset-rm: 3.558 arcsec [4.08 σ]
OotOffset-st: 2/1/0/3 [6]
KicOffset-st: 2/1/0/3 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 0.00 [0/14]

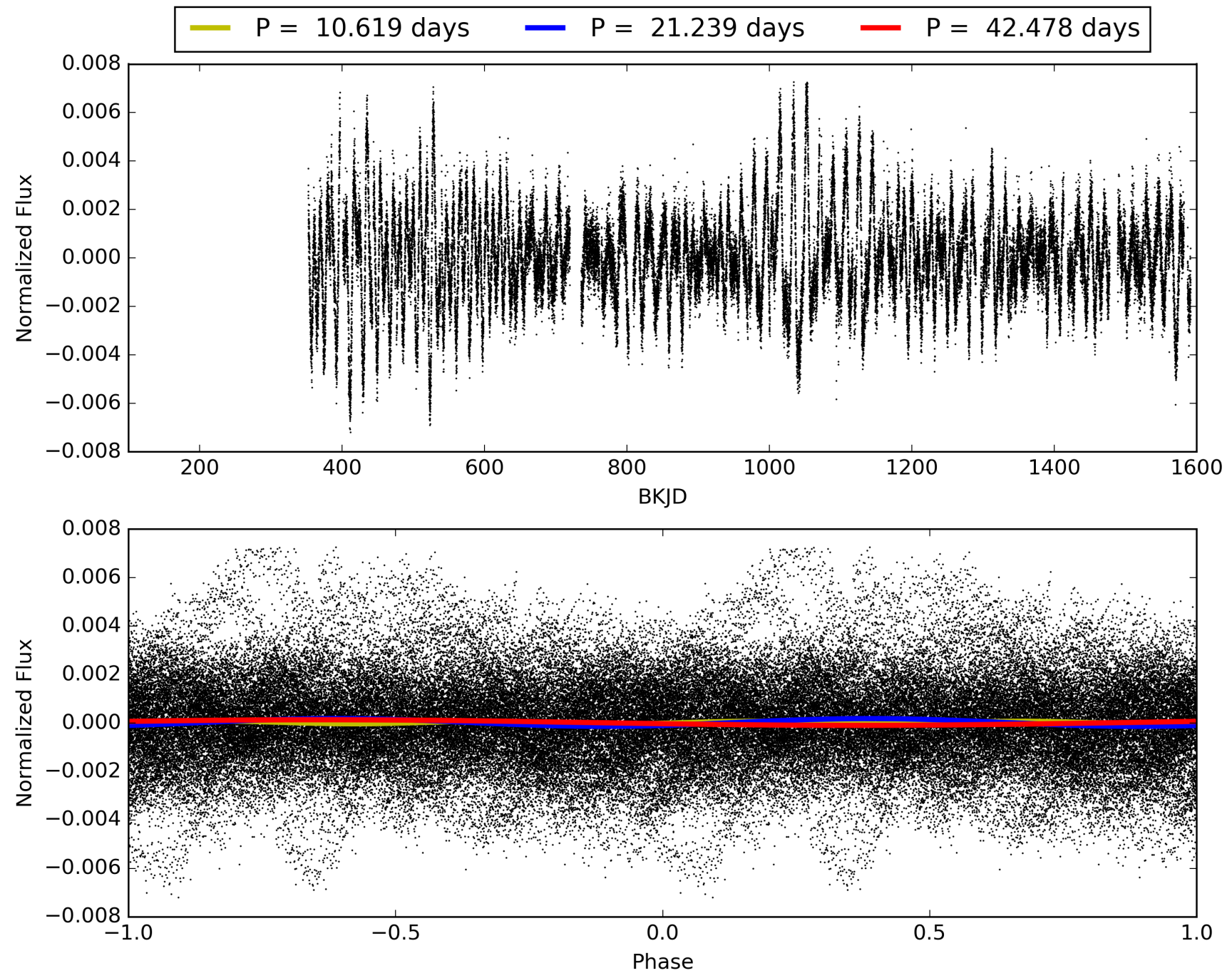
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:01:28 Z

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

TCE 007116849-03, PDC Light Curves

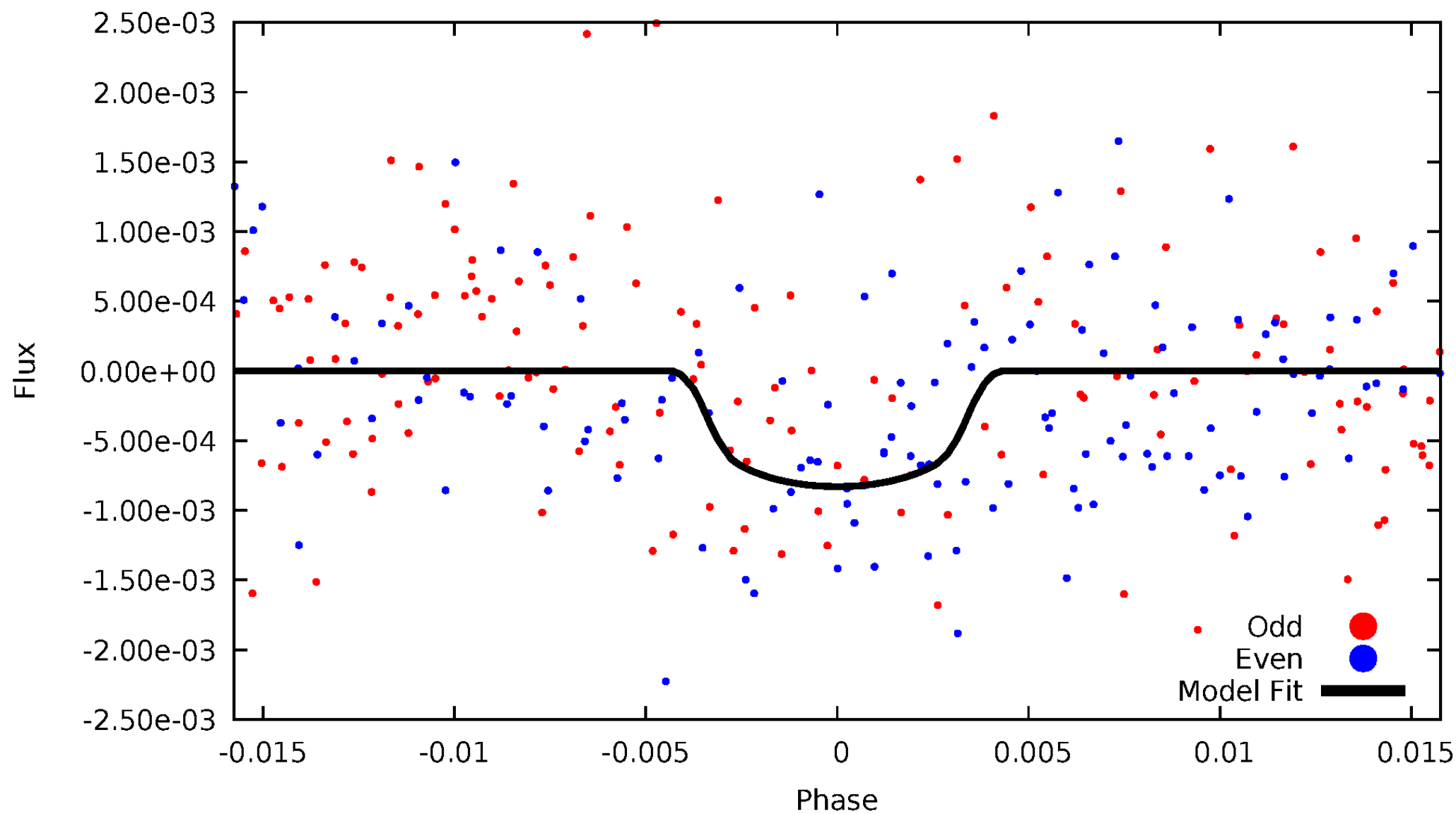


TCE 007116849-03



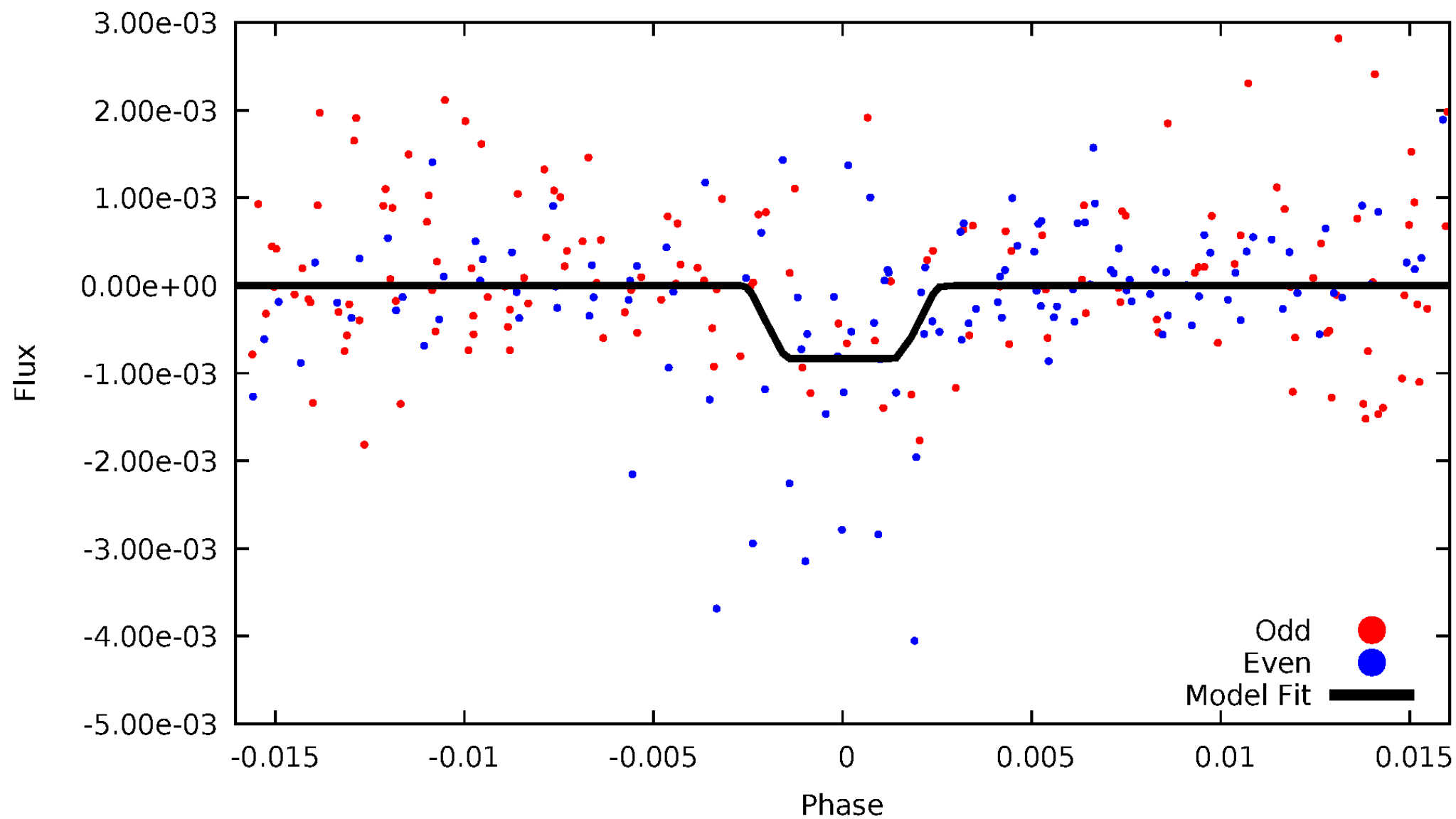
DV Odd/Even

TCE 007116849-03



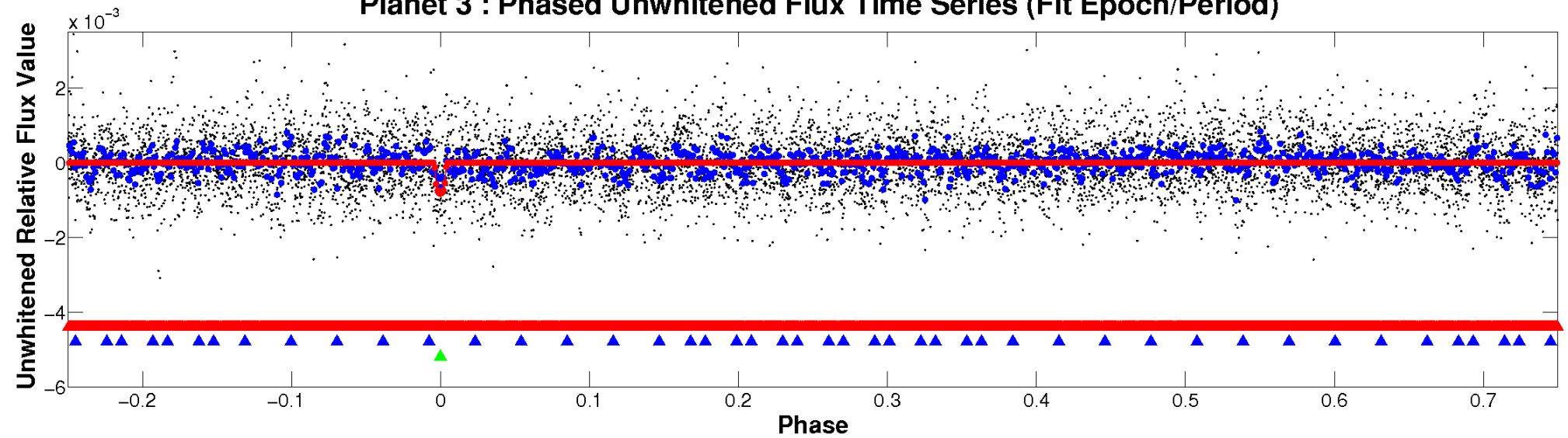
ALT Odd/Even

TCE 007116849-03

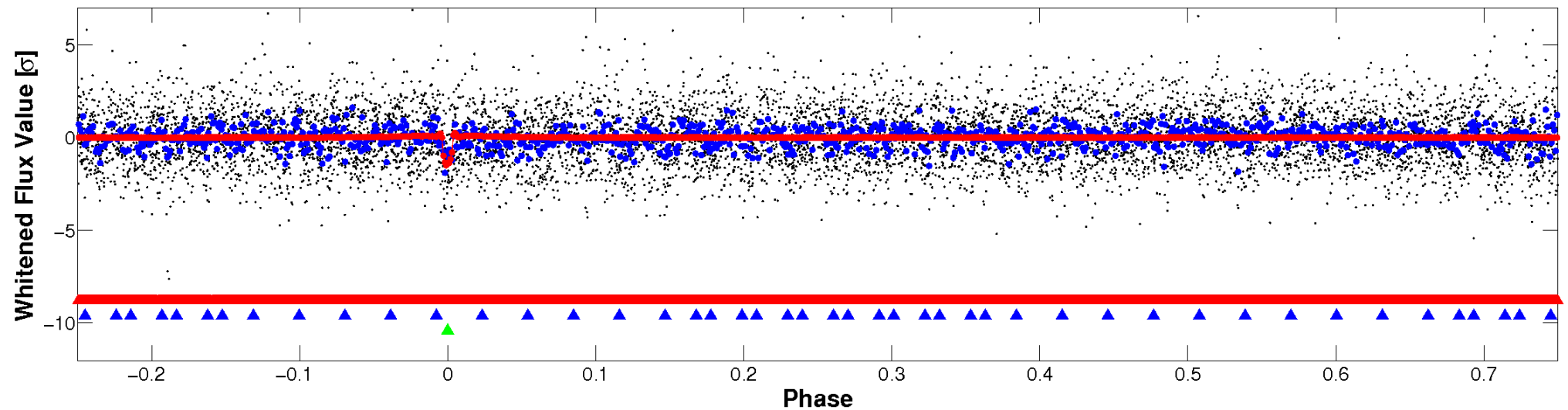


Non-Whitened Vs. Whitened Light Curve

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

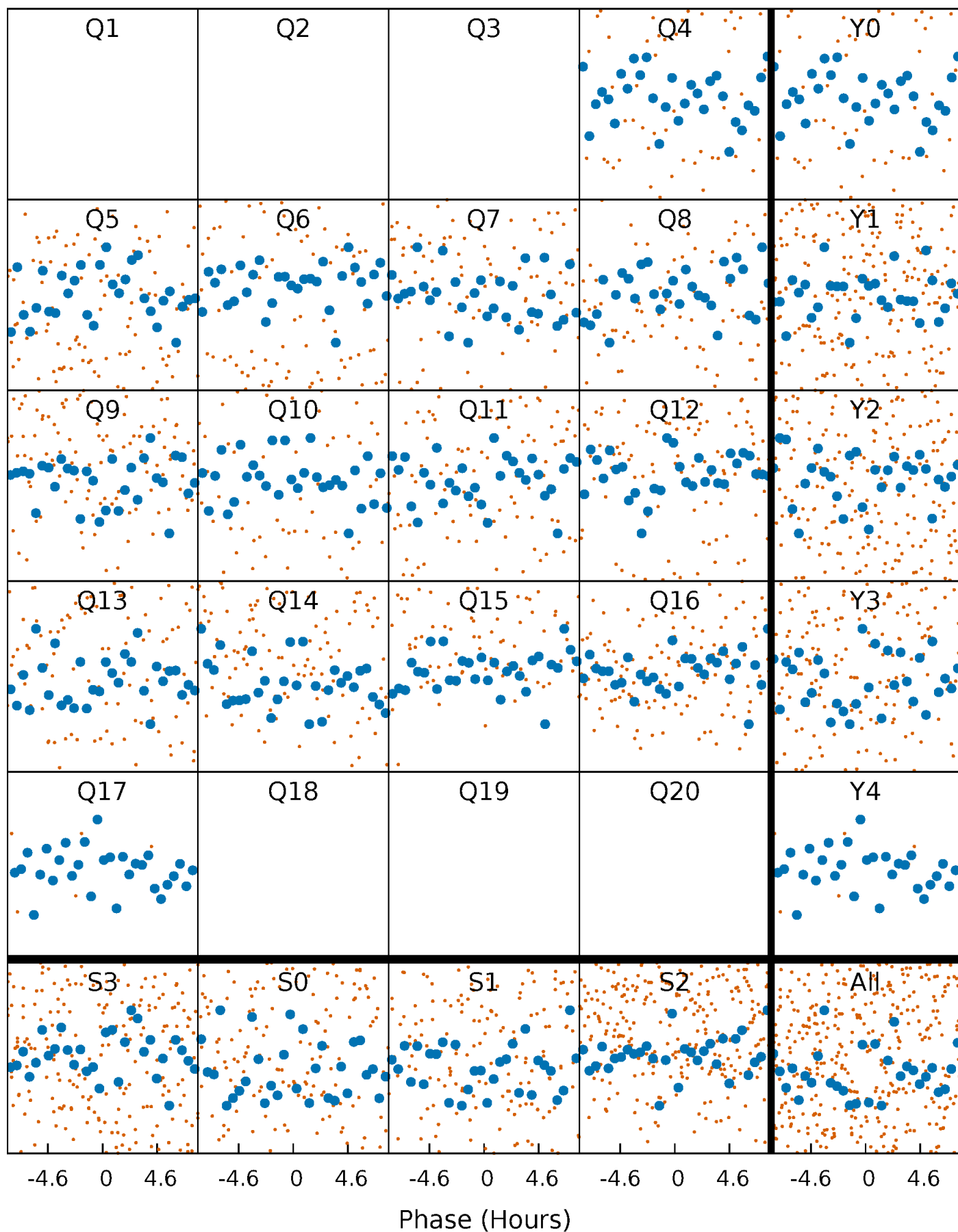


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



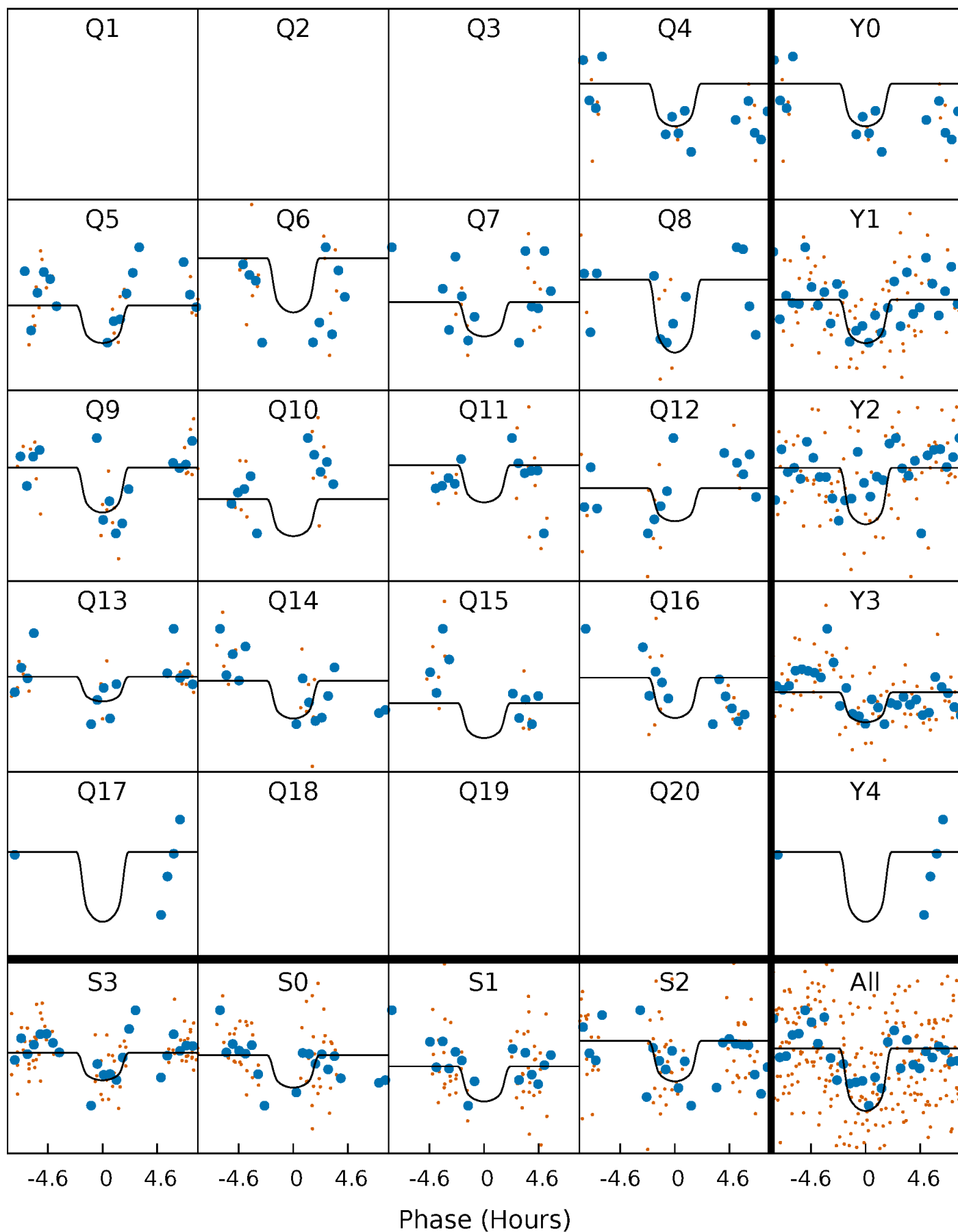
PDC Quarter-Phased Transit Curves

TCE 007116849-03 P= 21.238883 Days $T_0=133.467051$ (BKJD)



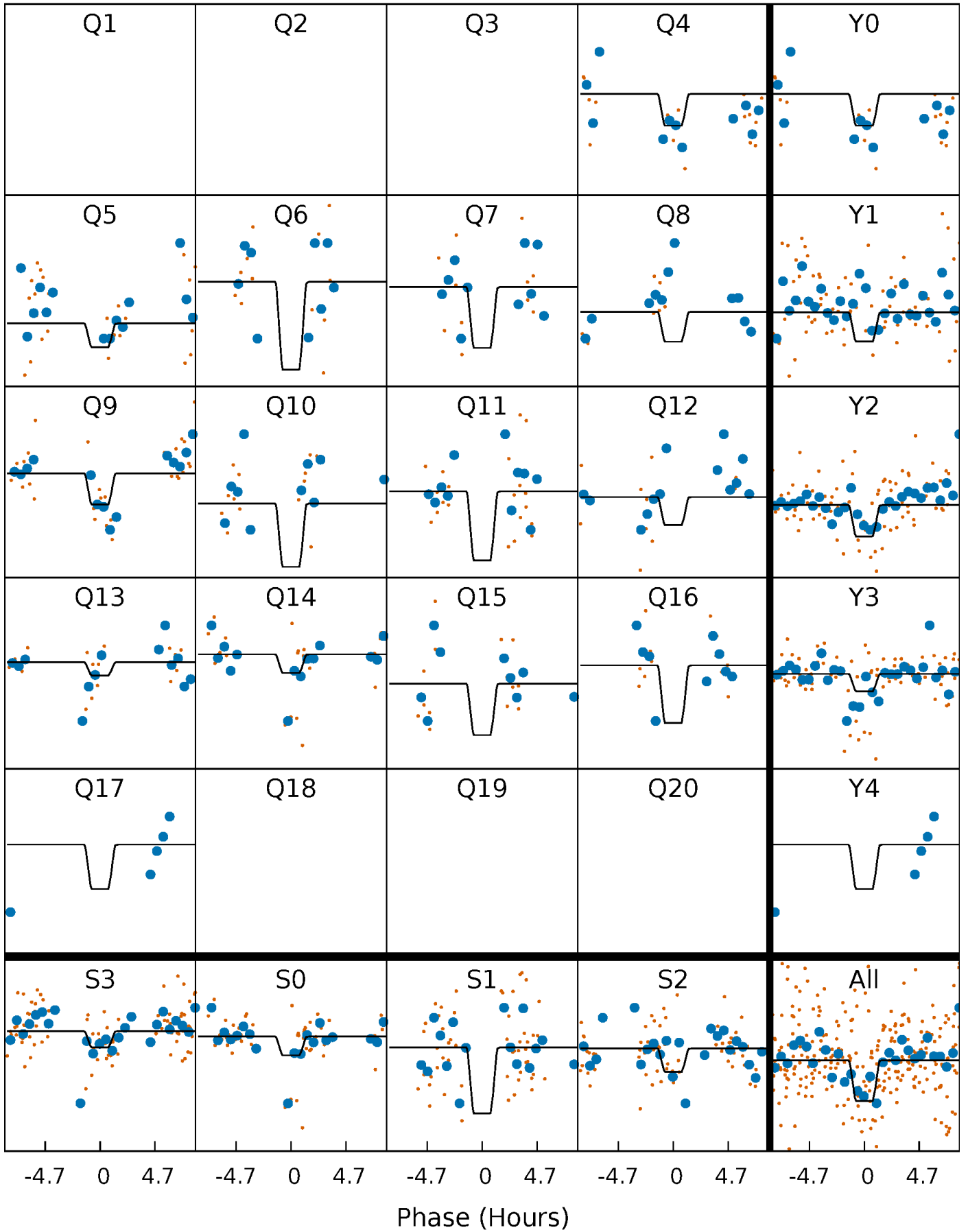
DV Quarter-Phased Transit Curves

TCE 007116849-03 P= 21.238883 Days $T_0=133.467051$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

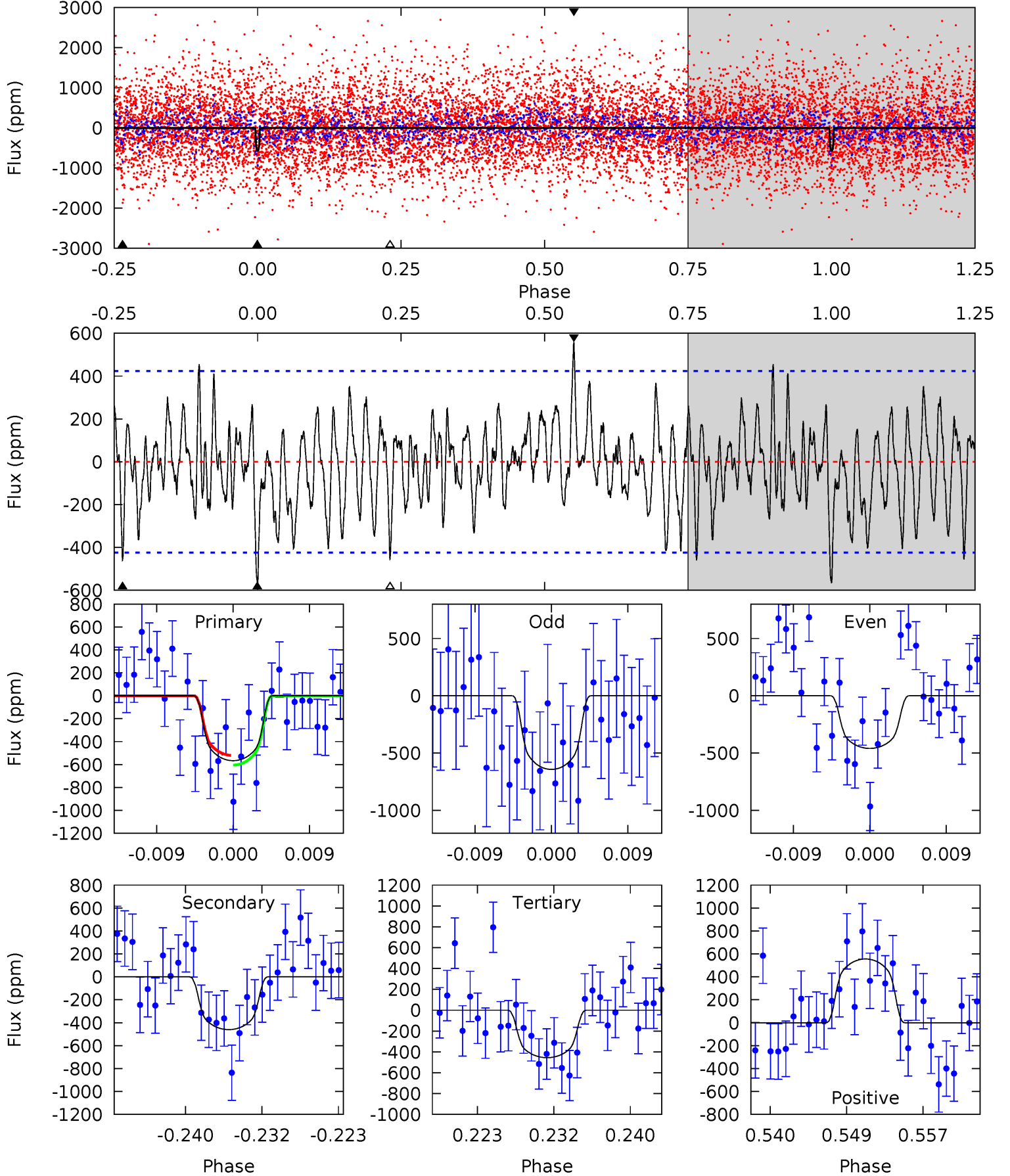
TCE 007116849-03 P= 21.239319 Days $T_0=133.469918$ (BKJD)



DV Model-Shift Uniqueness Test

007116849-03, P = 21.238883 Days, E = 133.467051 Days

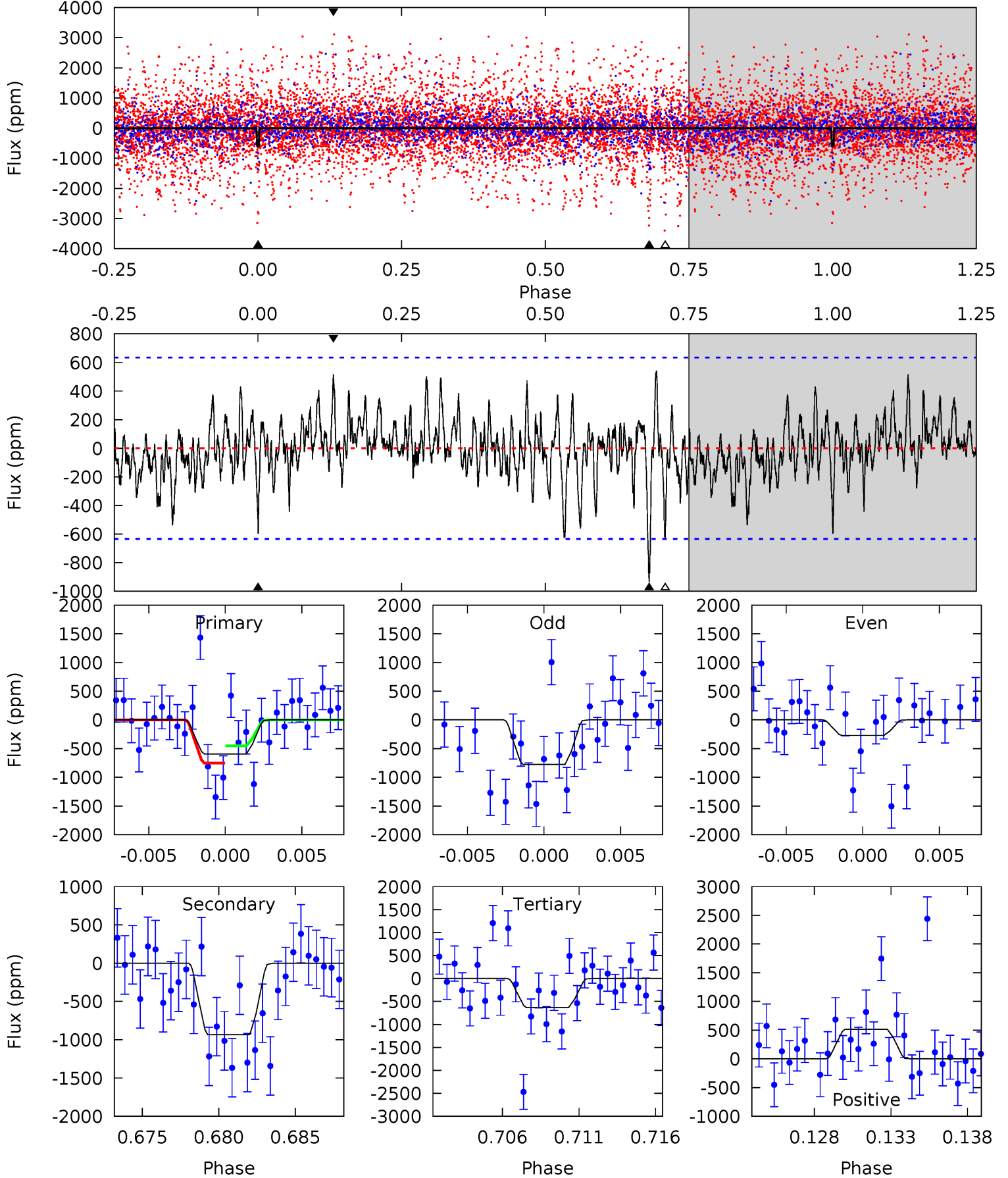
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.76	5.49	5.44	6.63	5.06	2.63	1.95	1.32	0.13	0.06	-1.14	1.09	0.70	0.50	0.50



Alt Model-Shift Uniqueness Test

007116849-03, P = 21.239319 Days, E = 133.469918 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.82	7.60	5.15	4.19	5.15	2.80	1.36	-0.33	0.63	2.45	3.40	2.00	1.62	0.37	1.23



Stellar Parameters For KIC 007116849

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4486^{+158}_{-158}	$4.632^{+0.021}_{-0.045}$	$0.340^{+0.100}_{-0.300}$	$0.693^{+0.046}_{-0.042}$	$0.770^{+0.032}_{-0.070}$	$3.260^{+0.329}_{-0.533}$
	+4%/-4%	+0%/-1%	+29%/-88%	+7%/-6%	+4%/-9%	+10%/-16%
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 007116849-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-460 ± 84	$2.62^{+1.53}_{-1.47}$	628^{+24}_{-23}	3827^{+1354}_{-568}	709^{+2813}_{-433}
Alt.	-934 ± 123	$2.25^{+1.56}_{-1.25}$	627^{+24}_{-24}	4573^{+1960}_{-823}	1835^{+7701}_{-1174}

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

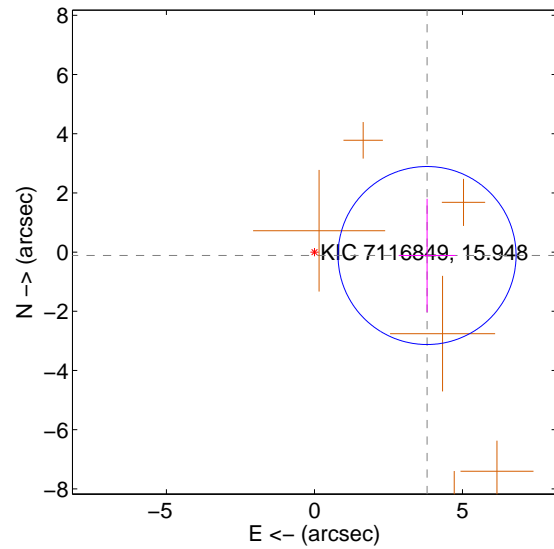
Supplemental centroid analysis for 007116849-03. Kepler magnitude: 15.95. Transit SNR 9.63

There are 0 quarters with good PRF difference image offsets

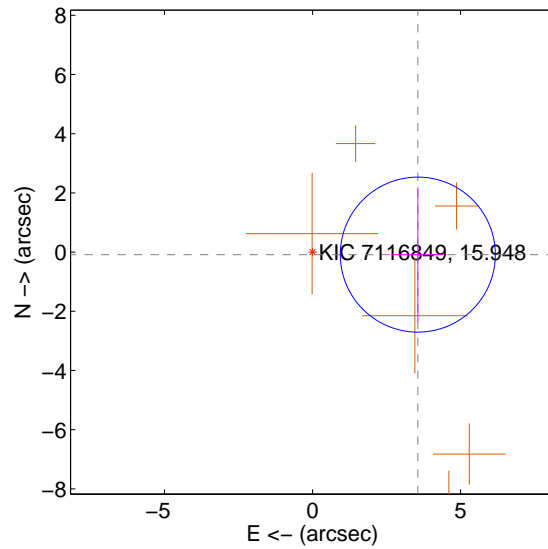
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.807 ± 1.002	3.80	-3.805 ± 0.960	-0.115 ± 1.915
PRF-fit source offset from KIC position	3.558 ± 0.873	4.08	-3.557 ± 0.871	-0.085 ± 2.274
photometric centroid source offset	2.48 ± 0.50	4.95	1.88 ± 0.50	1.61 ± 0.50

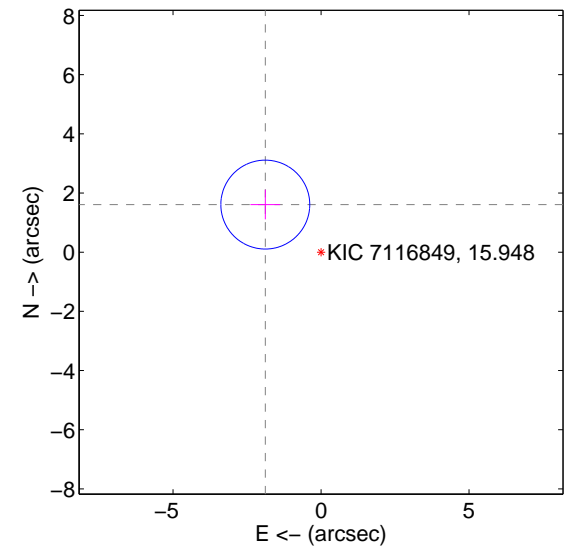
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

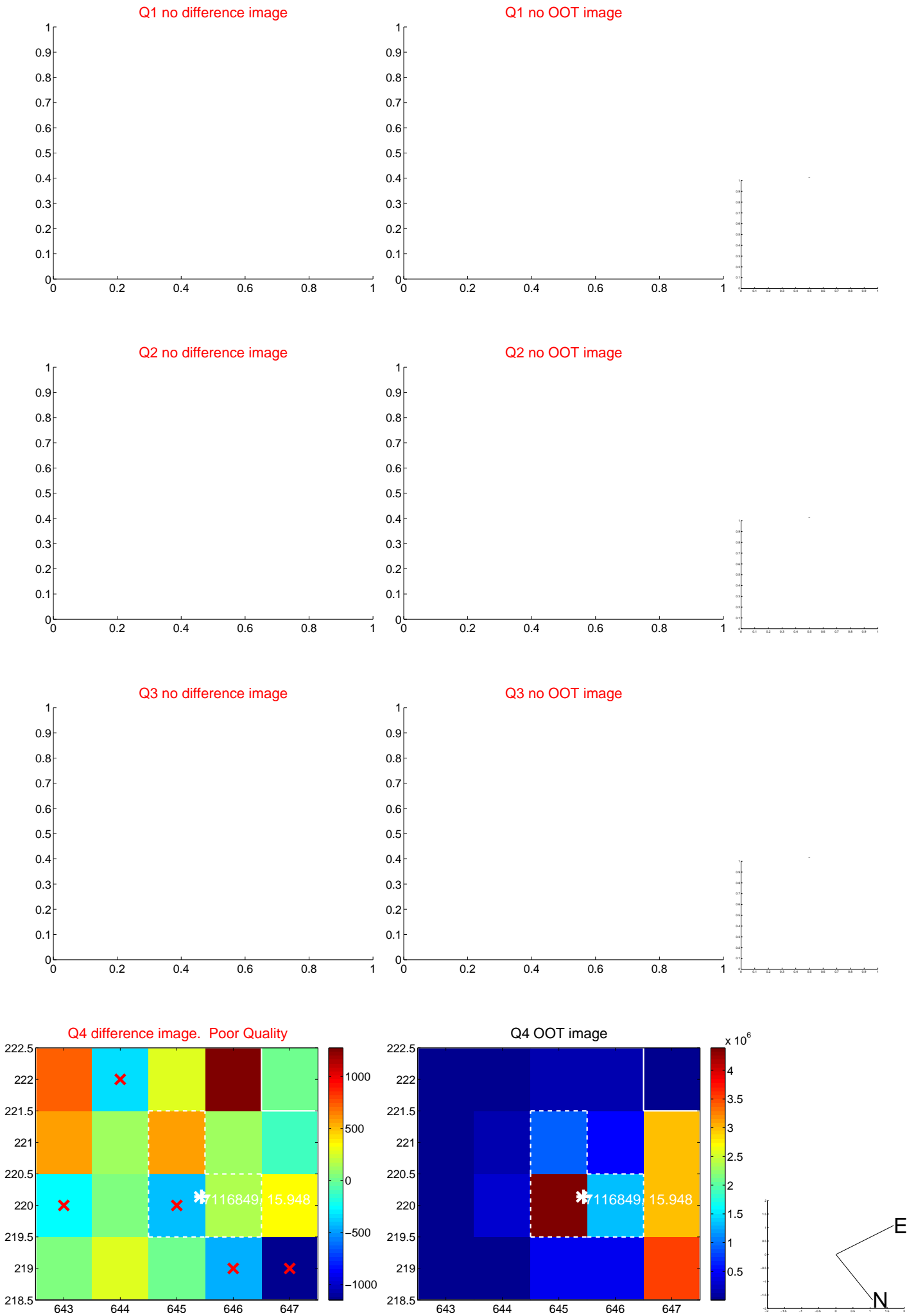


offset from photometric centroids

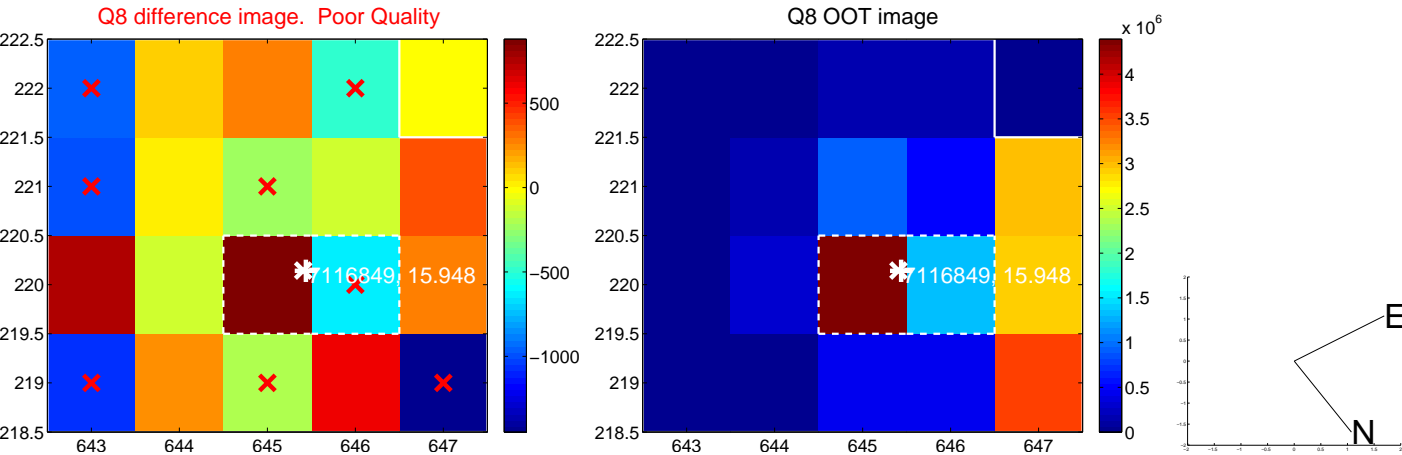
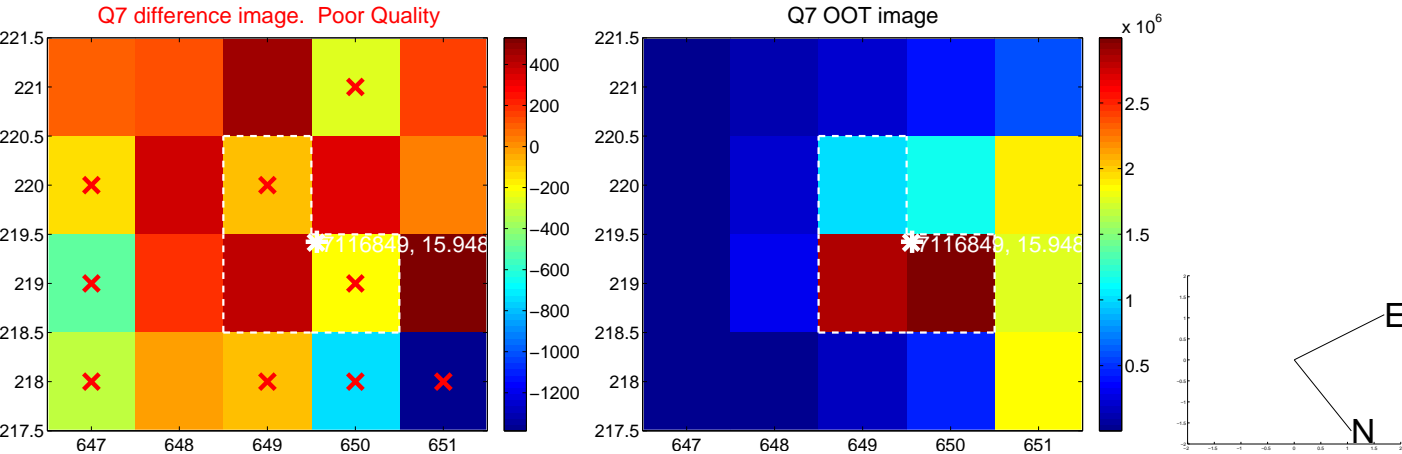
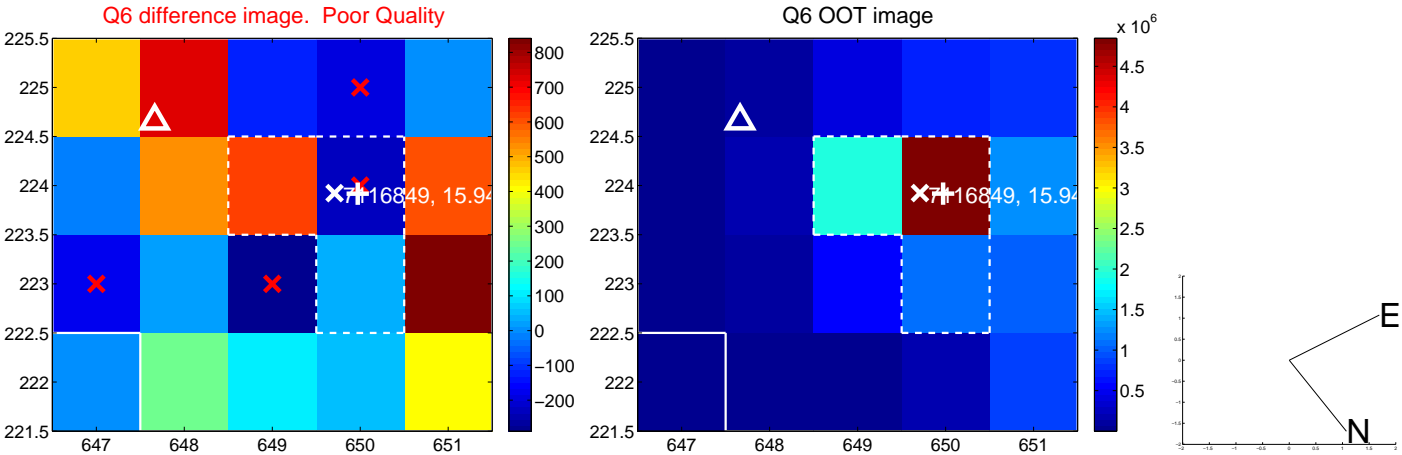
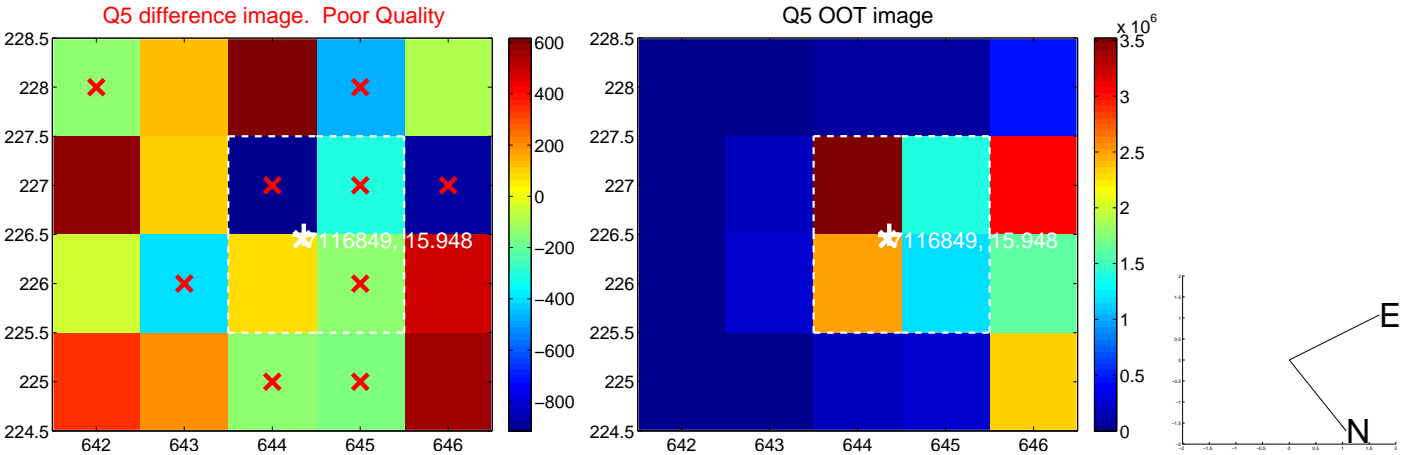


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

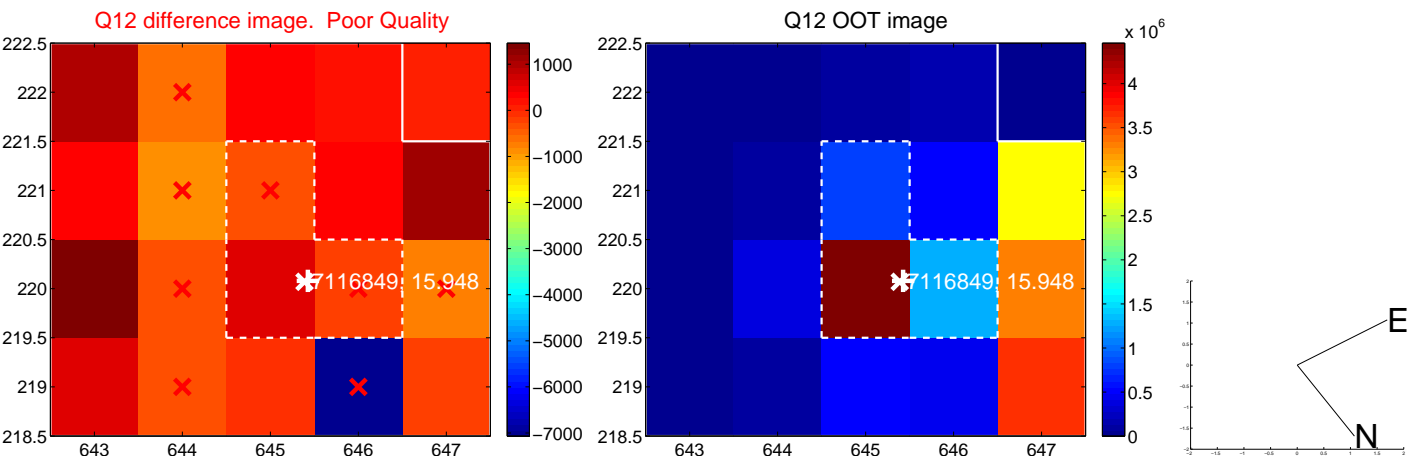
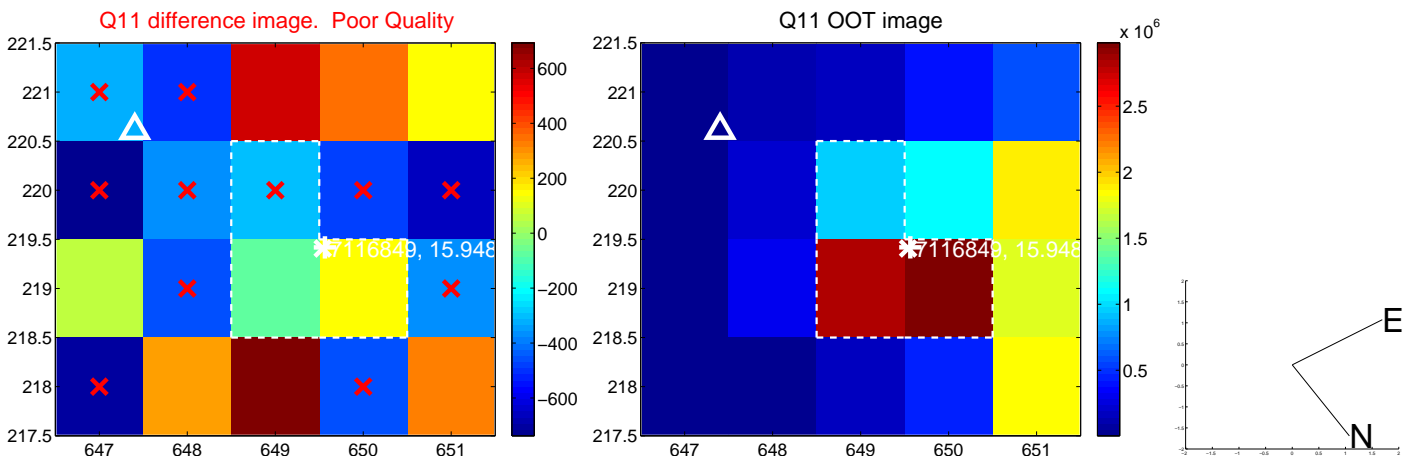
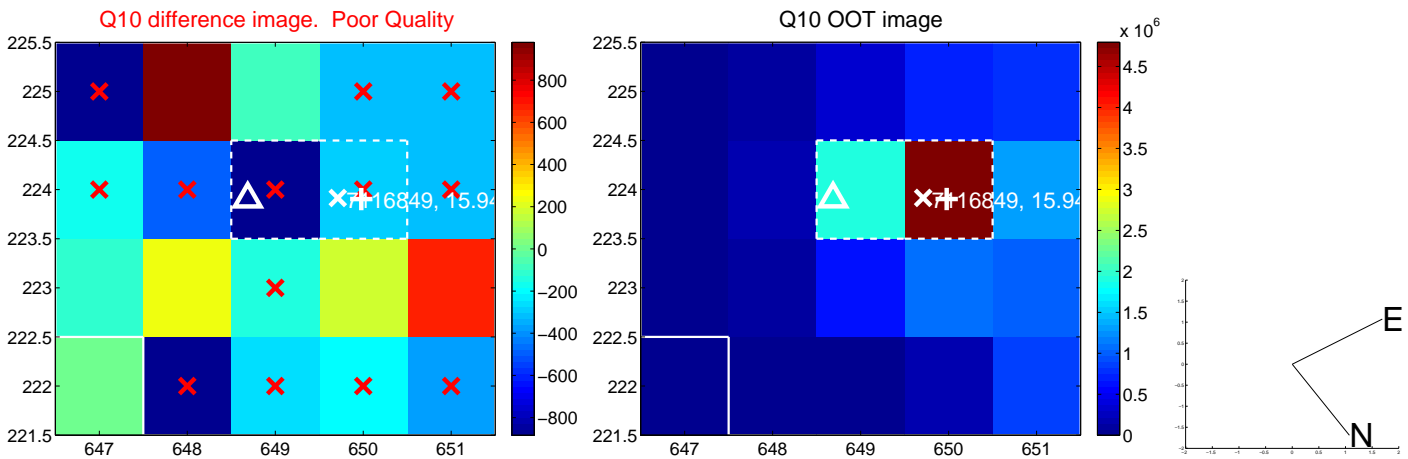
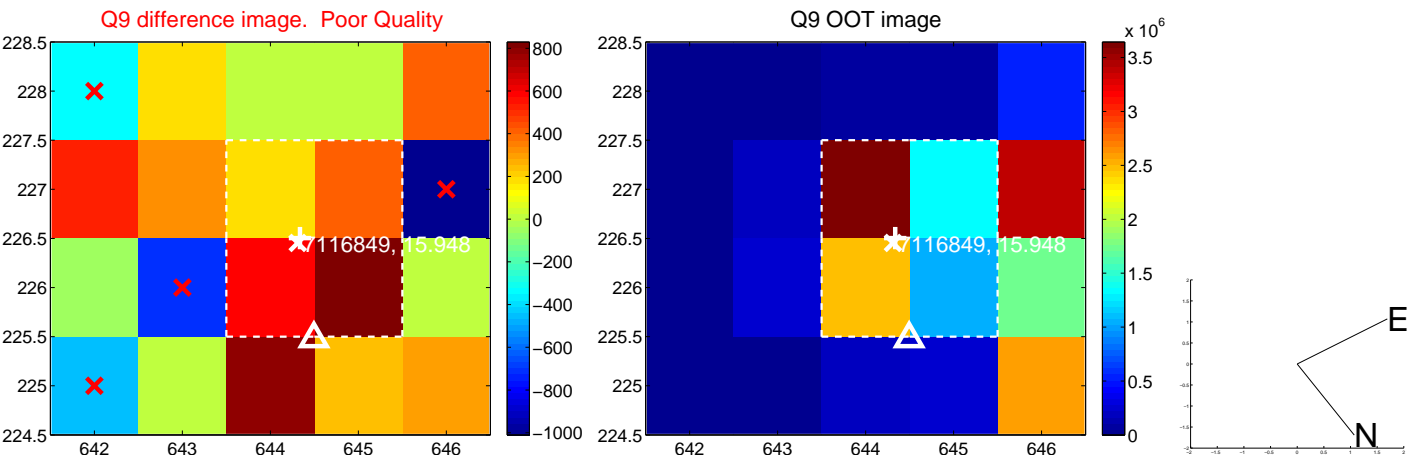
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



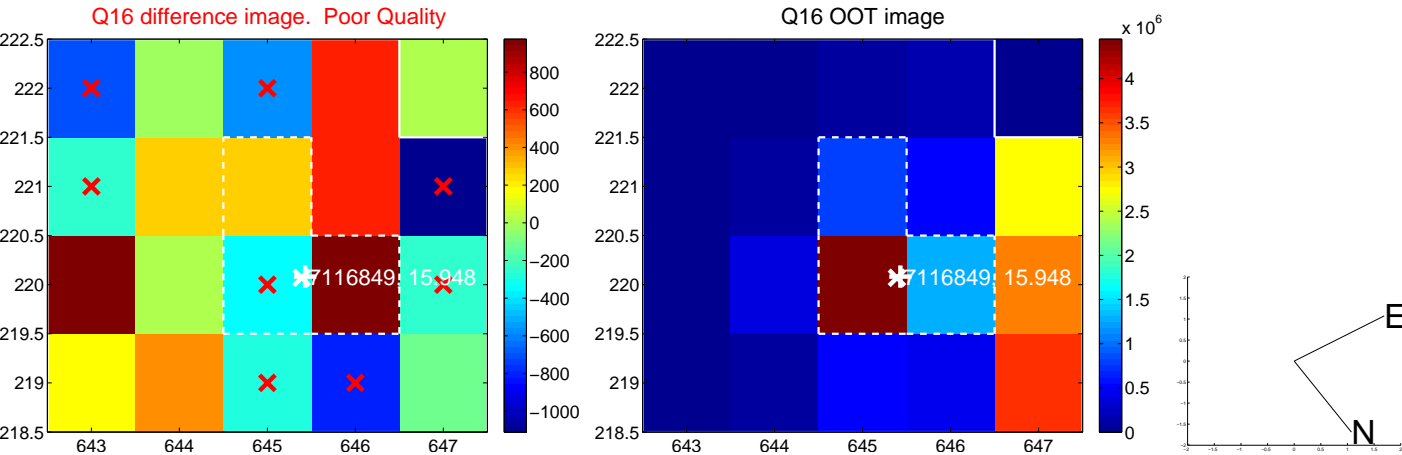
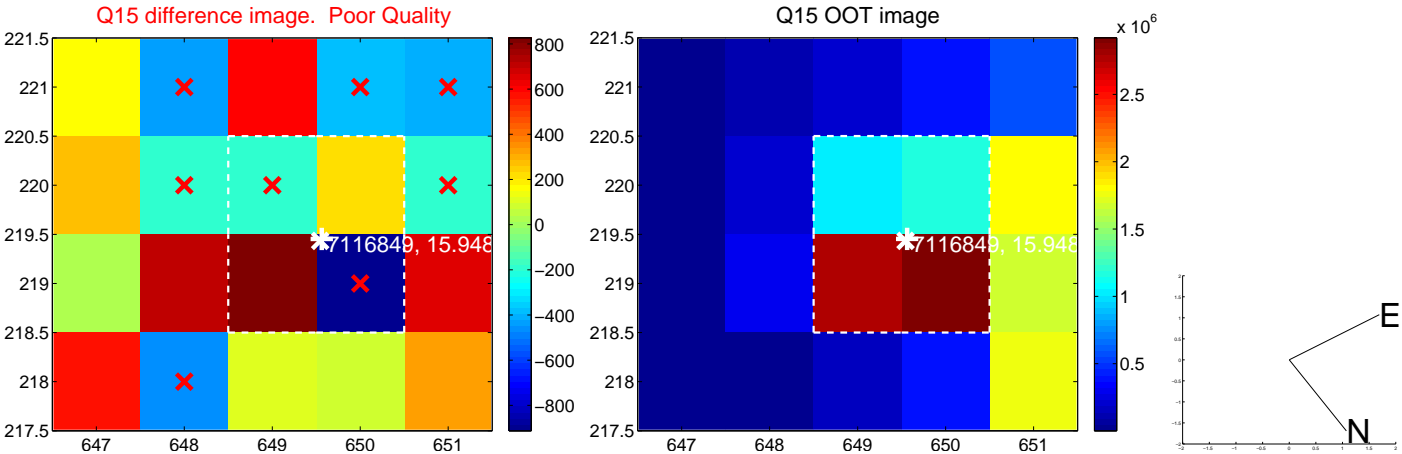
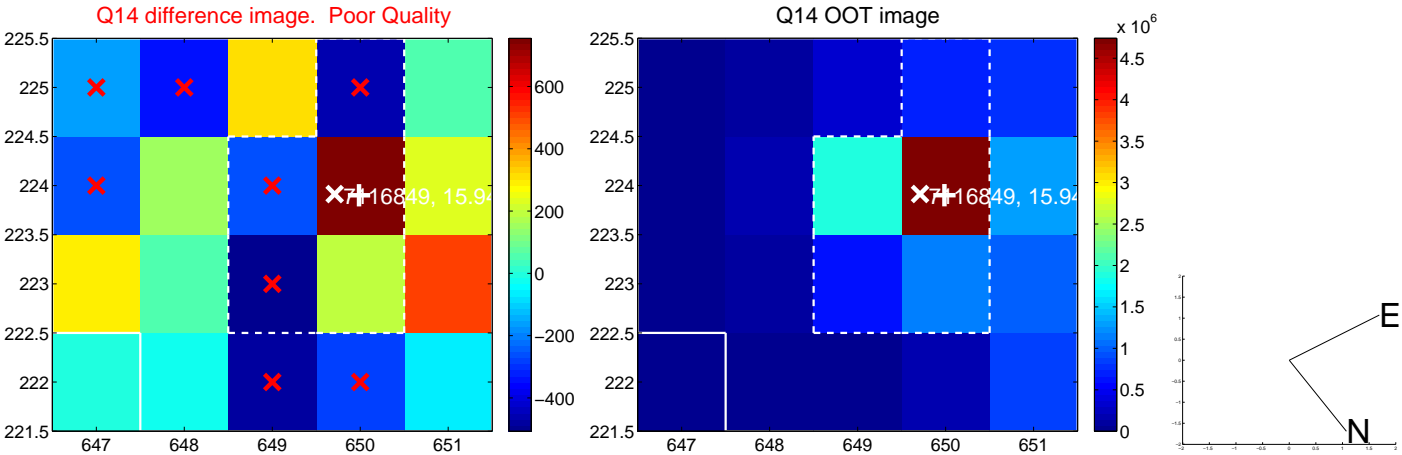
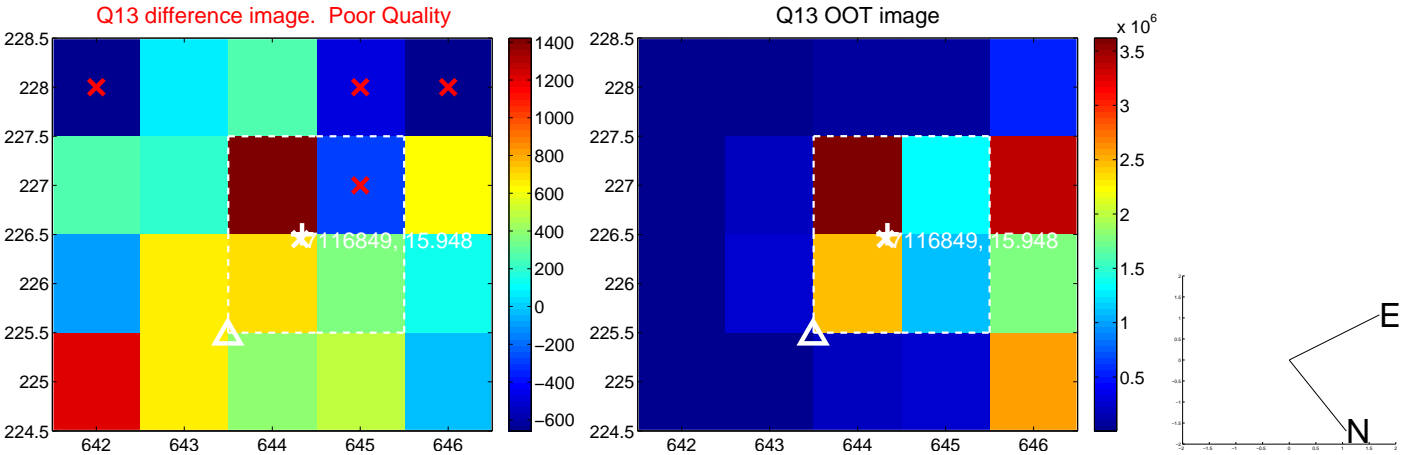
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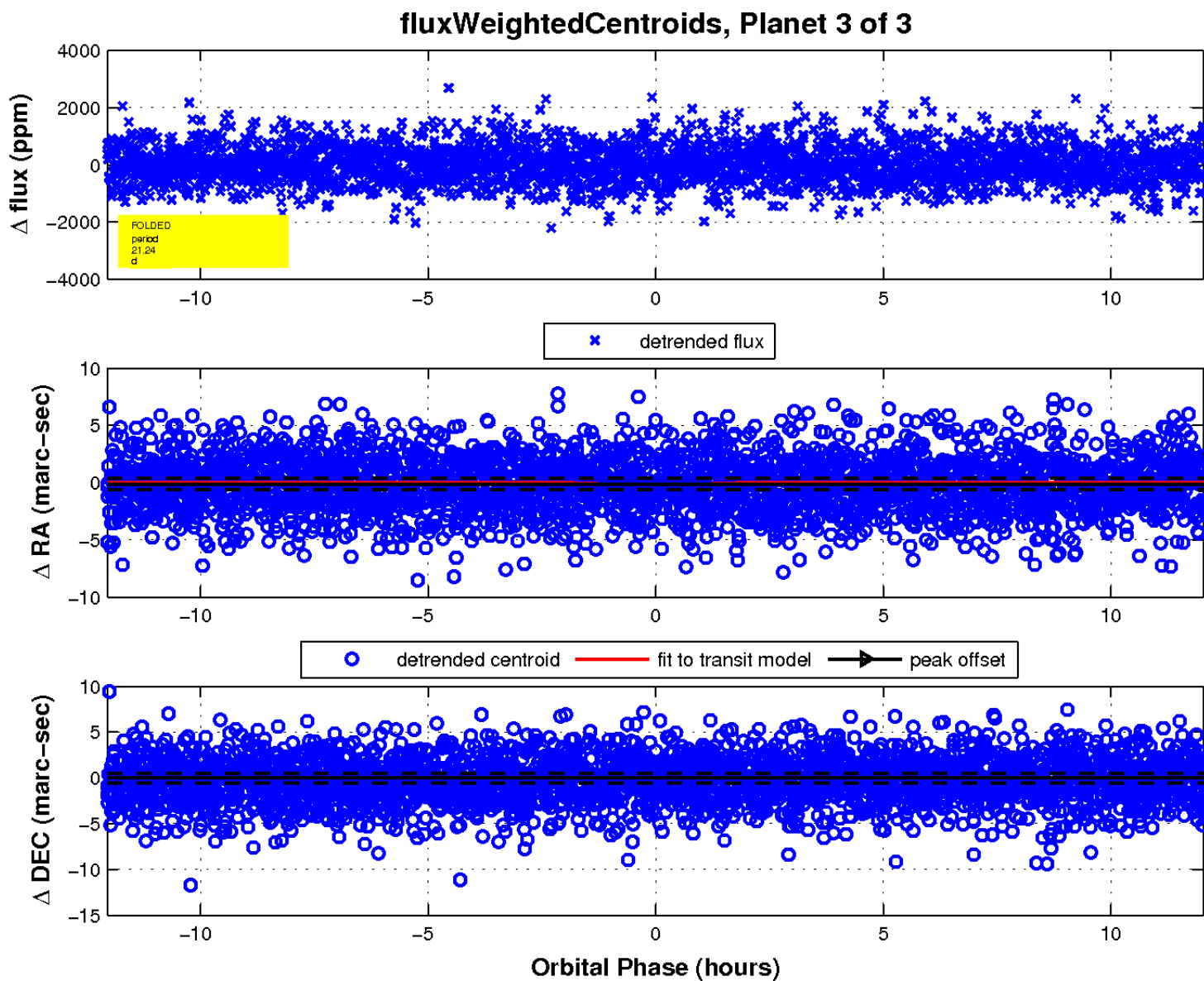
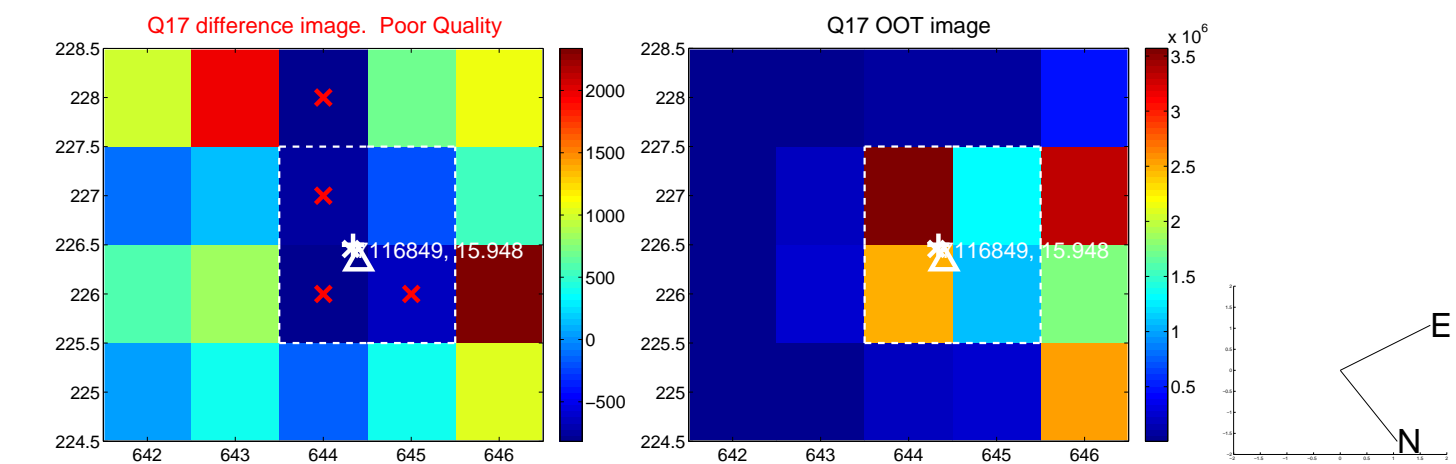
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

