

KIC 007461607

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})
007461607-01	OBS	No	0.860173	132.039608	40.4	1.428	13.1	8.0	1.82	7216	1.24	19306.14
007461607-02	OBS	No	0.860183	132.192459	68.0	1.974	12.6	12.6	1.82	7216	1.74	19305.85
007461607-03	OBS	No	0.860171	131.885731	51.5	1.483	10.6	10.2	1.82	7216	1.52	19306.19
007461607-04	OBS	No	112.529077	158.246441	990.0	3.411	8.3	8.1	1.82	7216	7.22	29.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461607-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007461607-02	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
007461607-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
007461607-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—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.

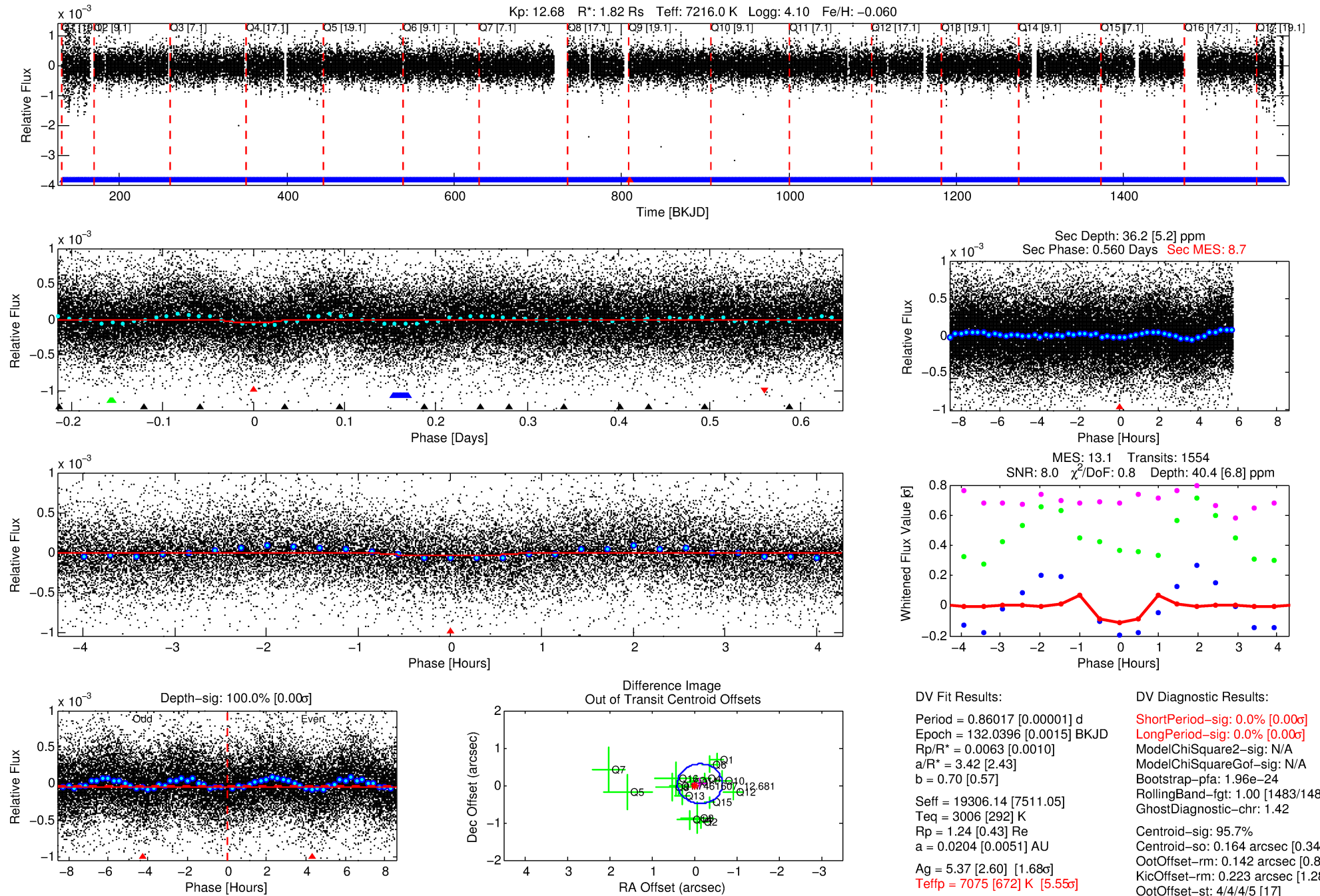
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461607-01

No Significant Match Found

DV One-Page Summary

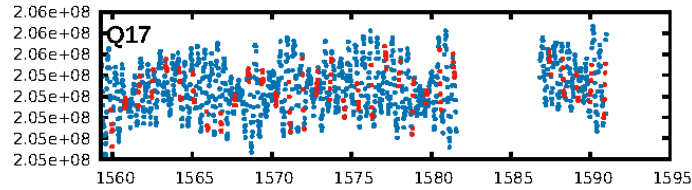
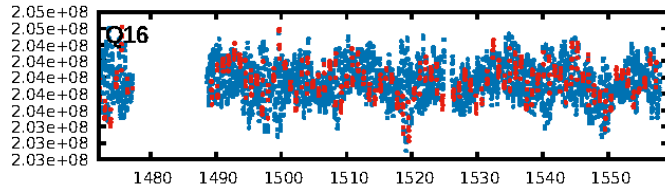
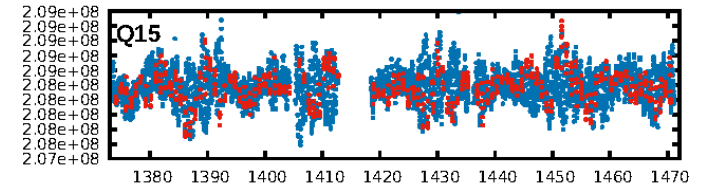
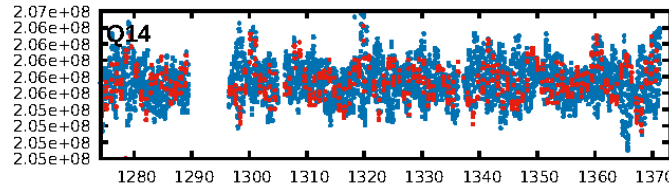
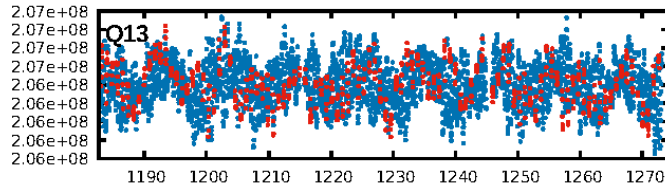
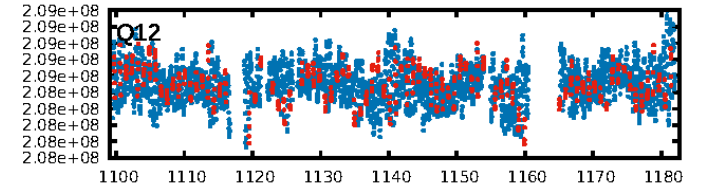
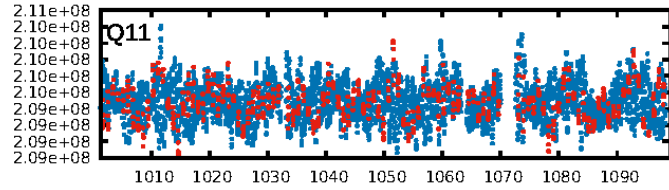
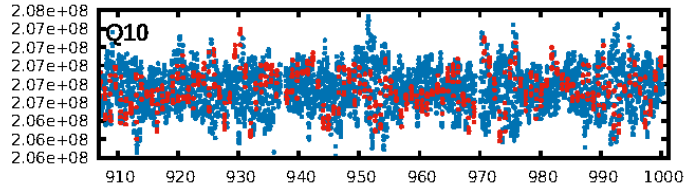
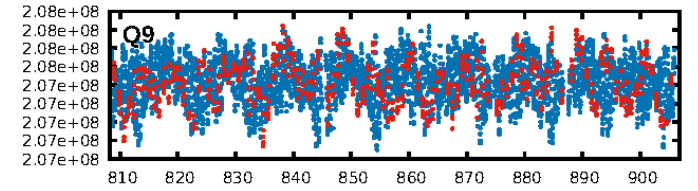
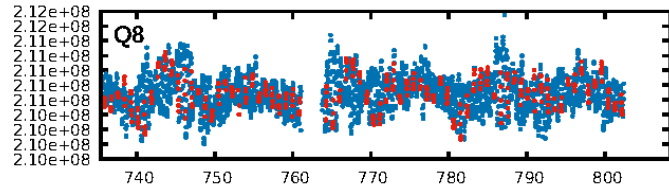
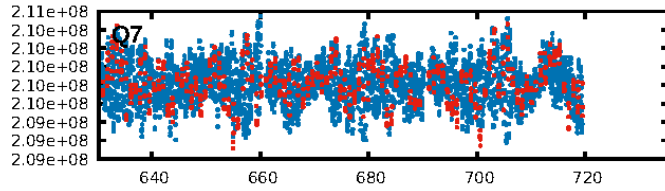
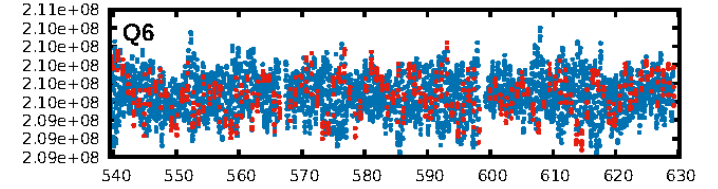
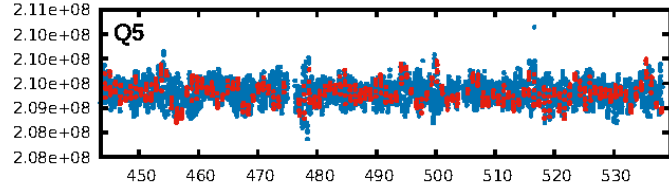
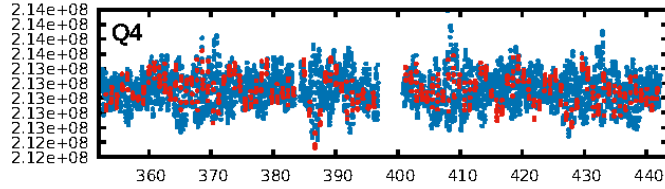
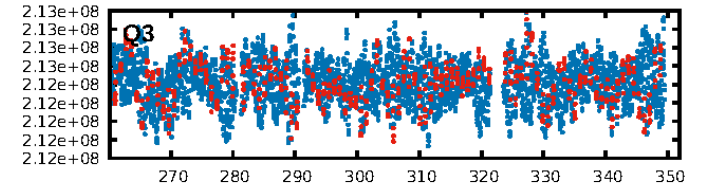
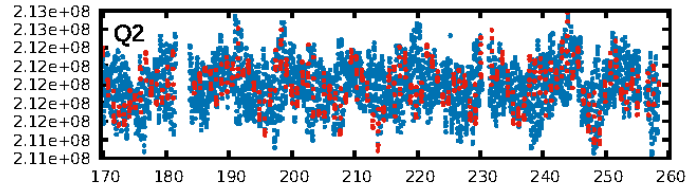
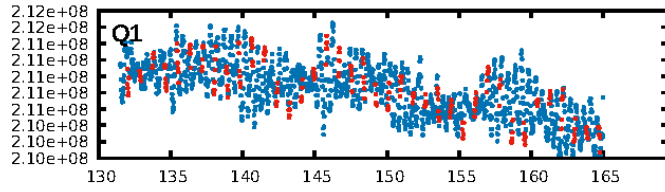
KIC: 7461607 Candidate: 1 of 4 Period: 0.860 d



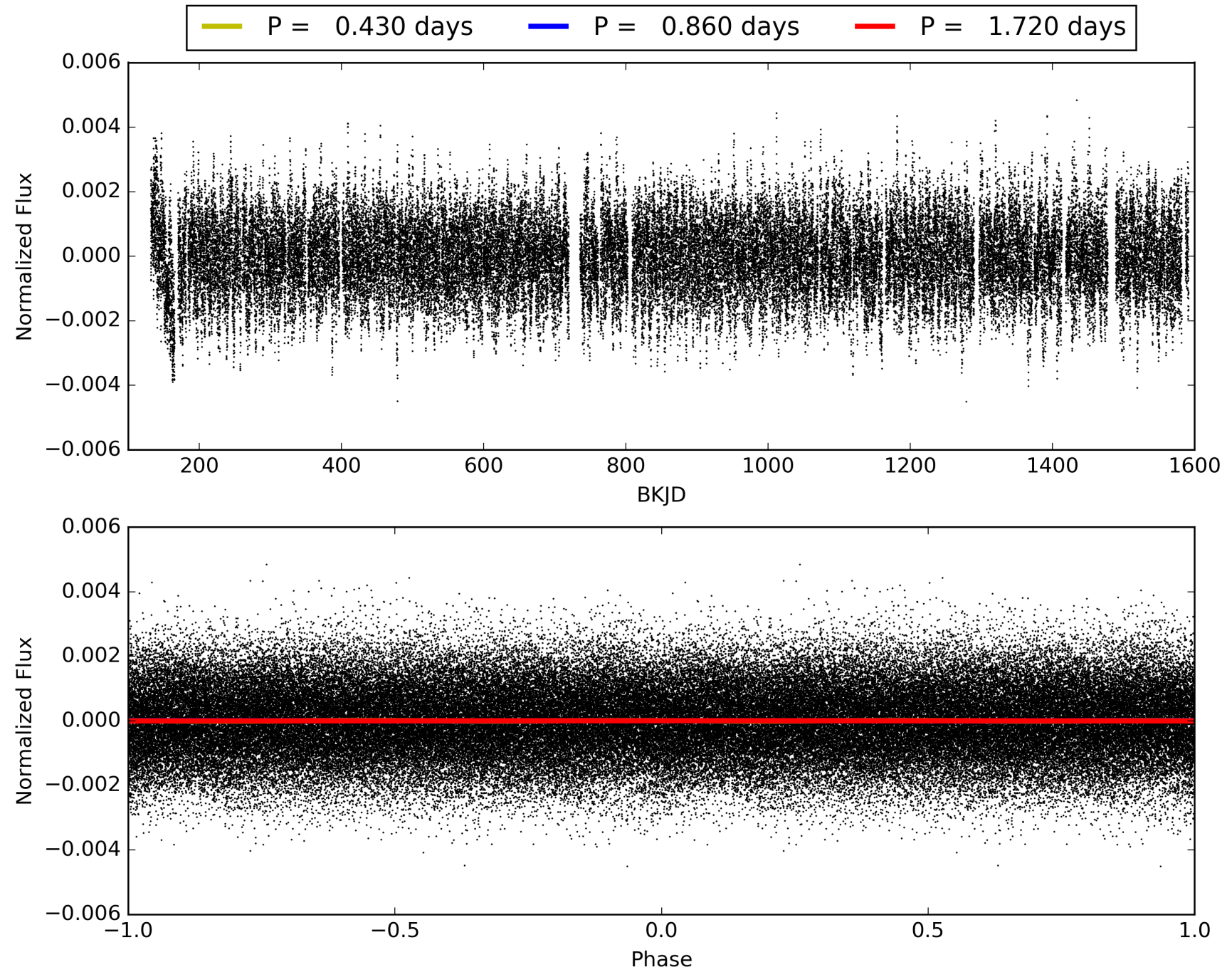
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 05:59:30 Z

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

TCE 007461607-01, PDC Light Curves

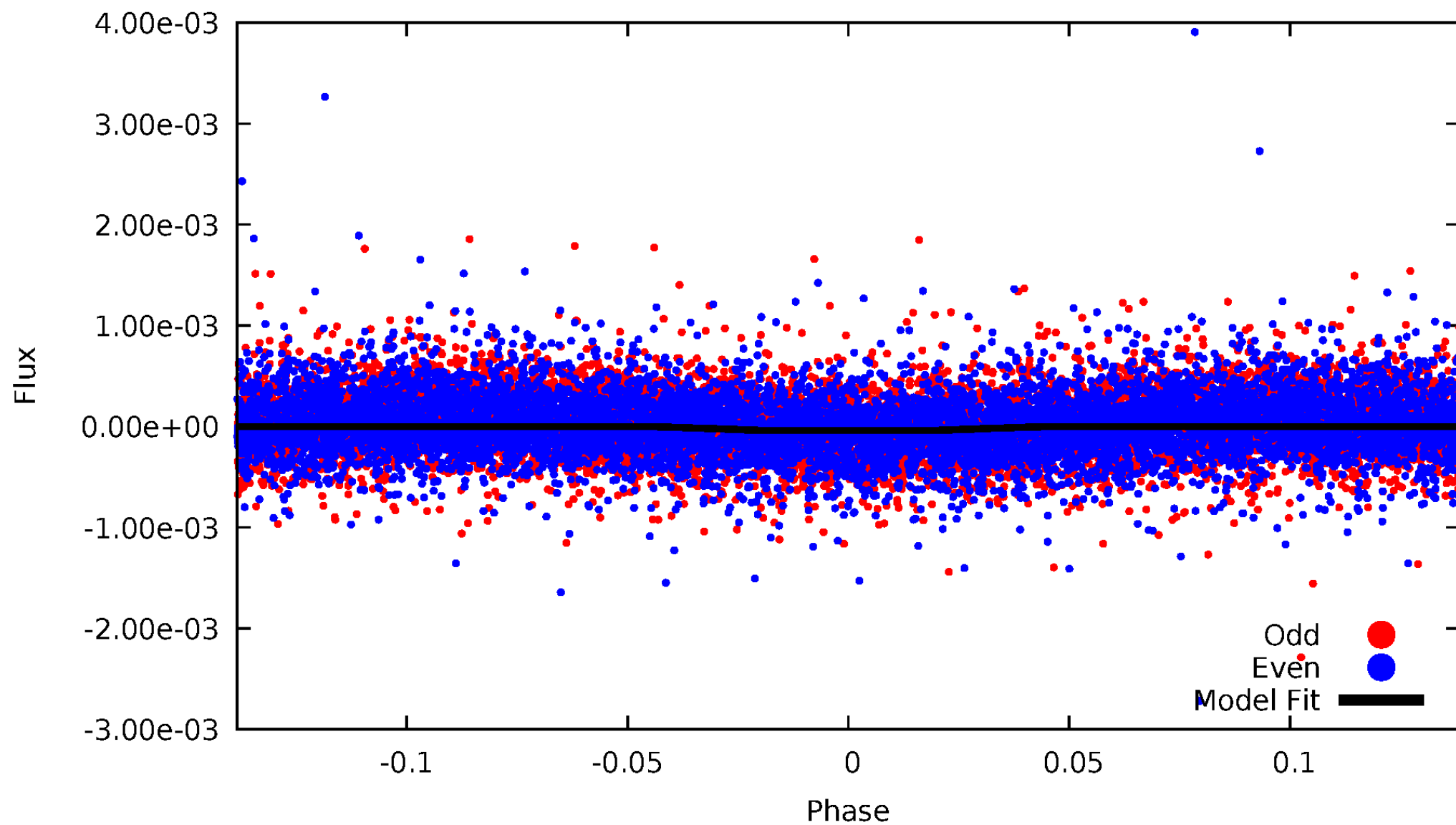


TCE 007461607-01



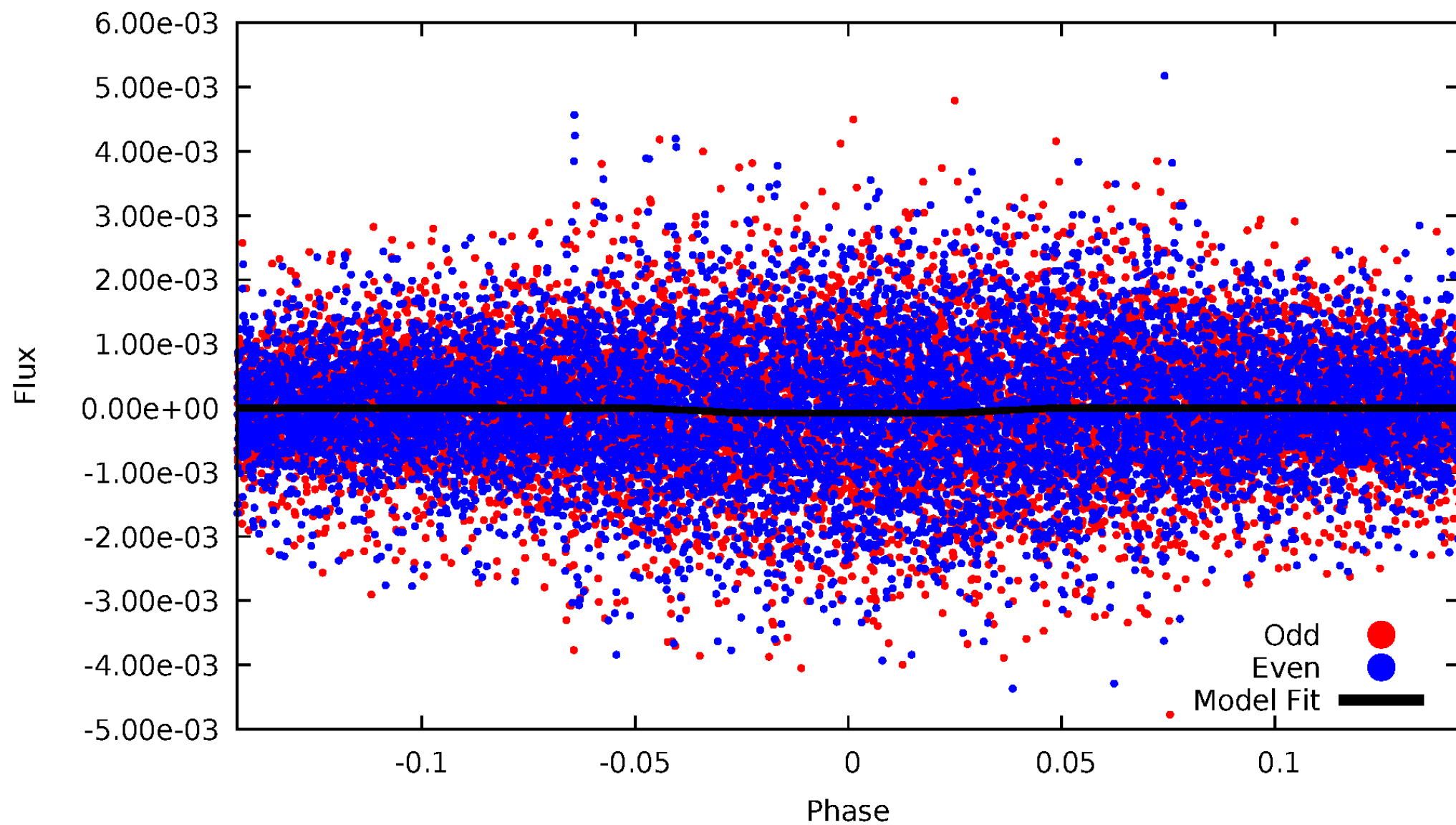
DV Odd/Even

TCE 007461607-01

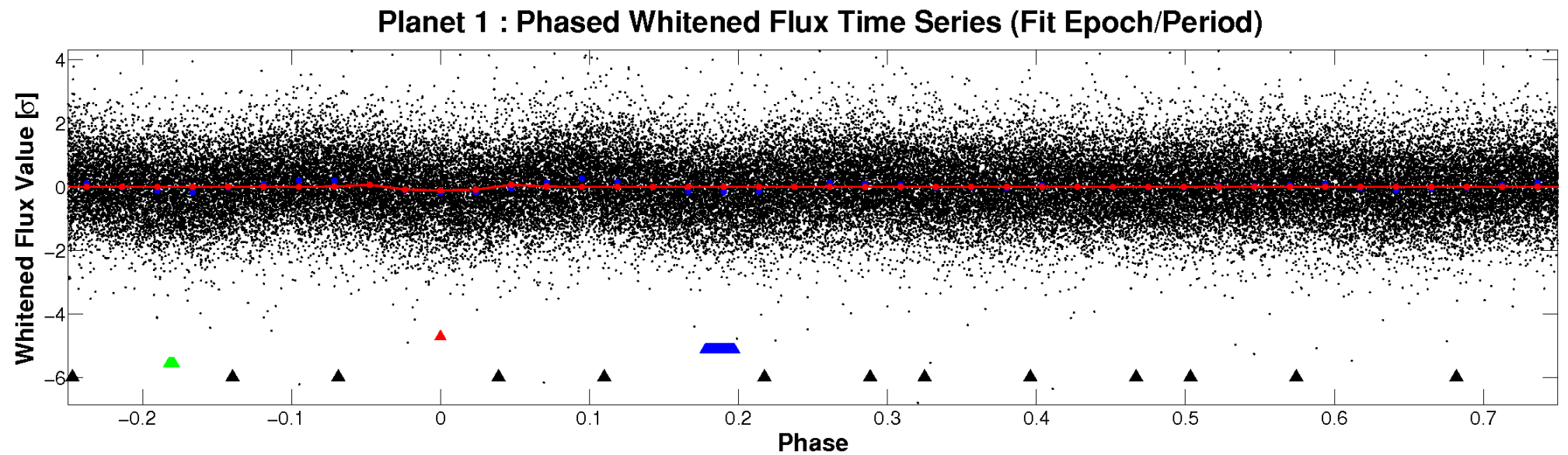
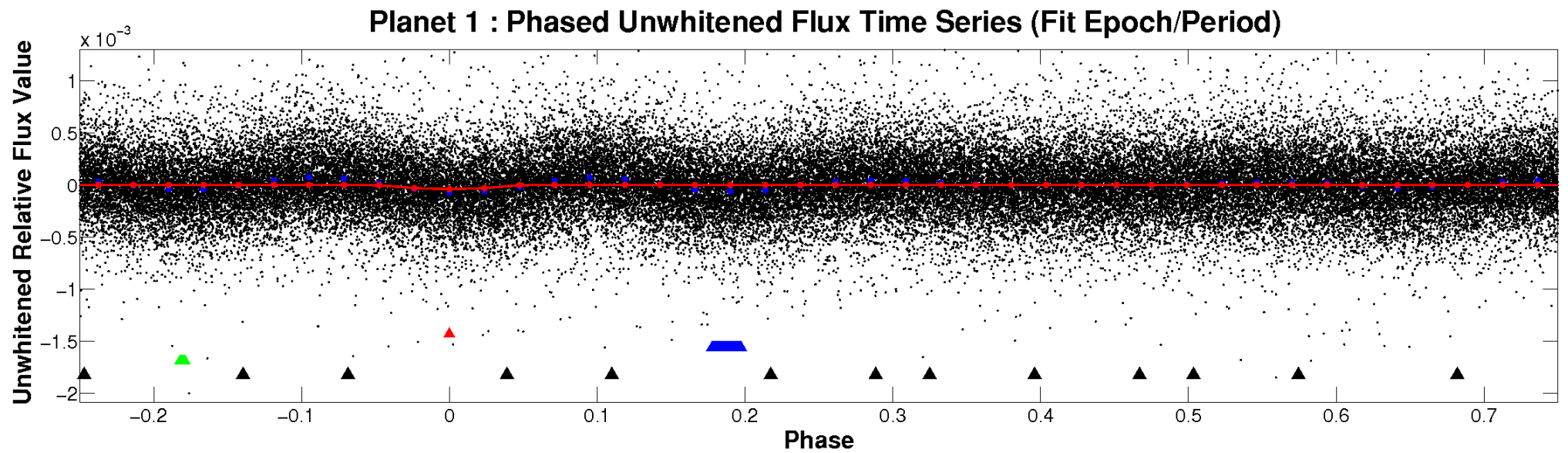


ALT Odd/Even

TCE 007461607-01

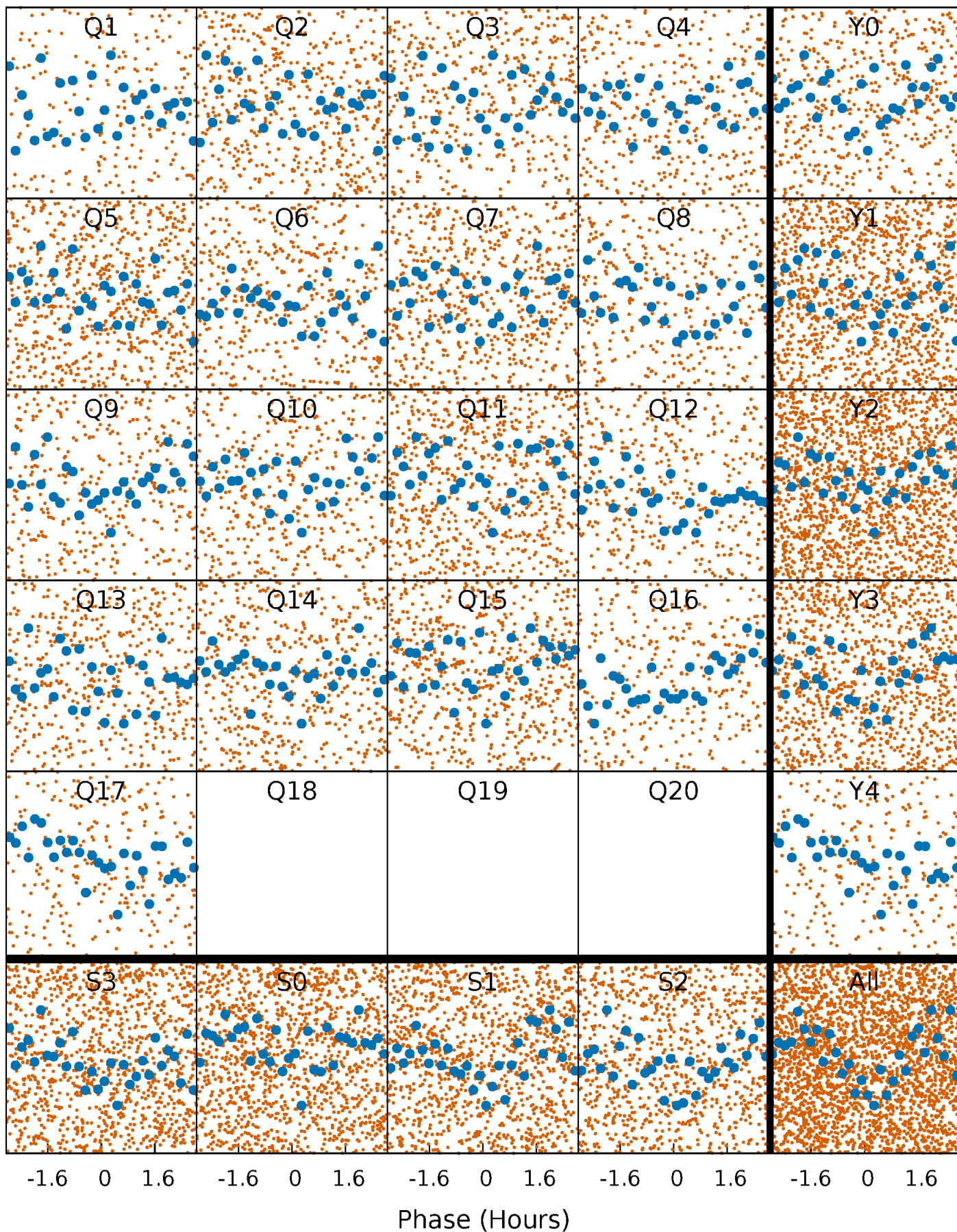


Non-Whitened Vs. Whitened Light Curve



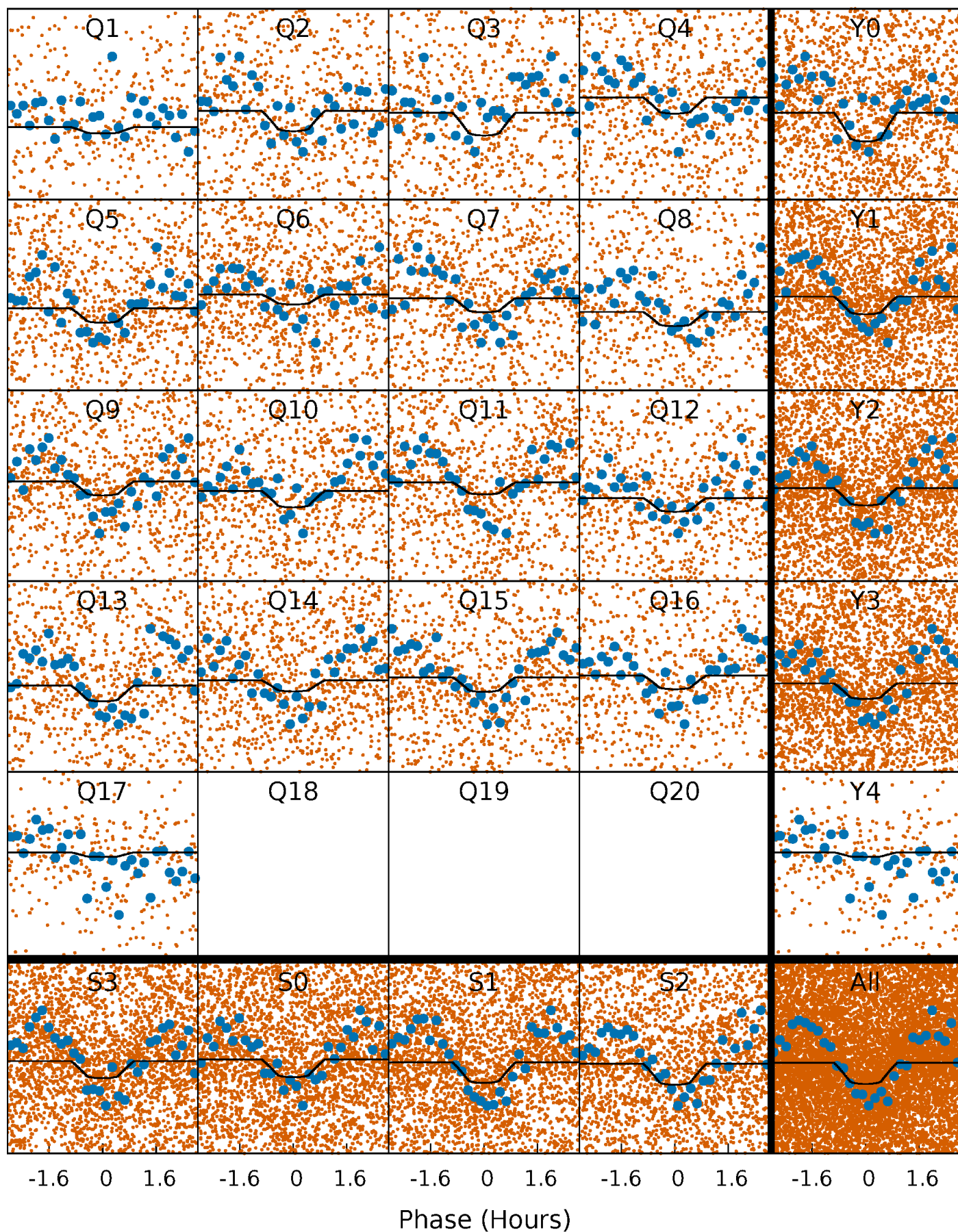
PDC Quarter-Phased Transit Curves

TCE 007461607-01 P= 0.860173 Days $T_0=132.039608$ (BKJD)



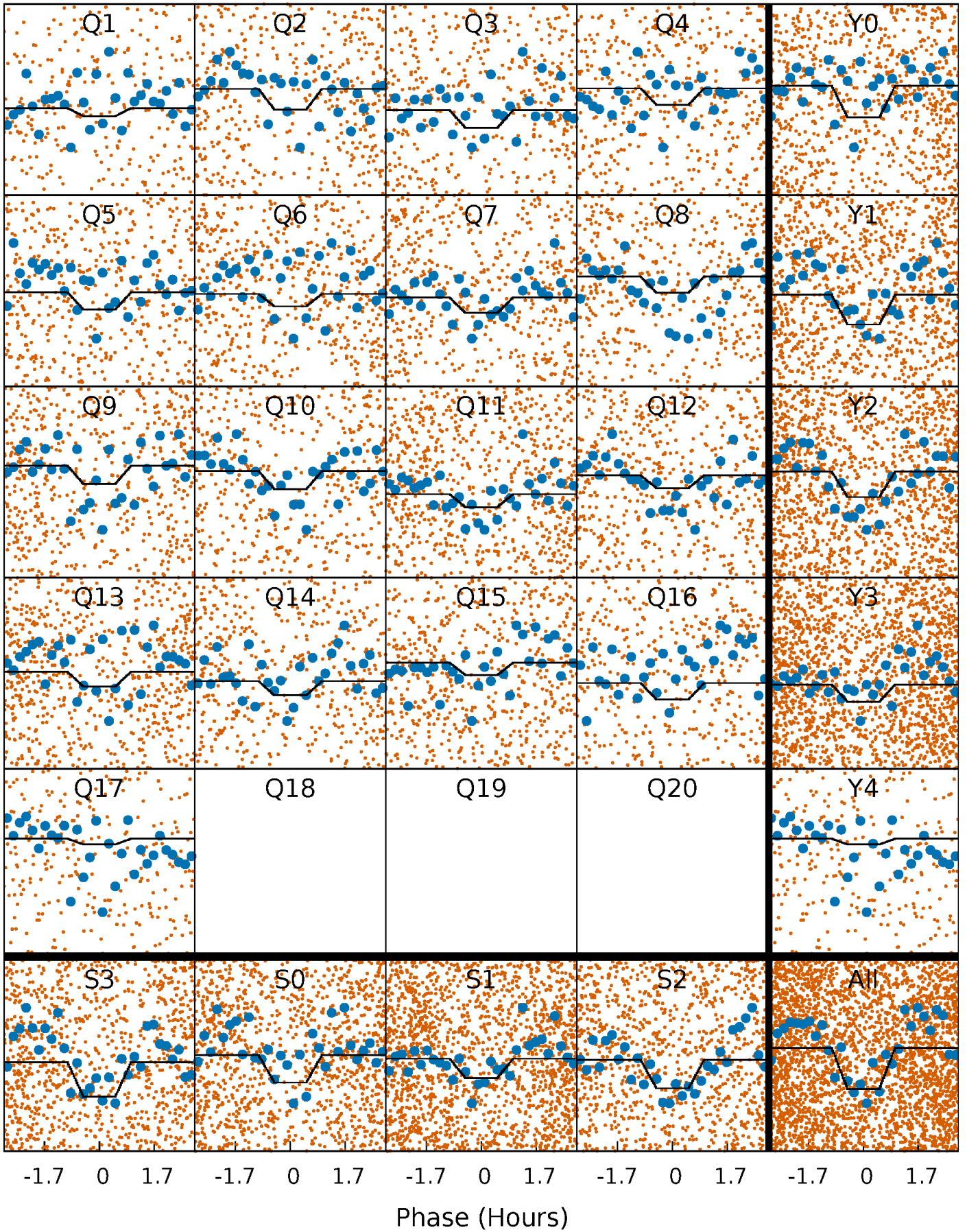
DV Quarter-Phased Transit Curves

TCE 007461607-01 P= 0.860173 Days $T_0=132.039608$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

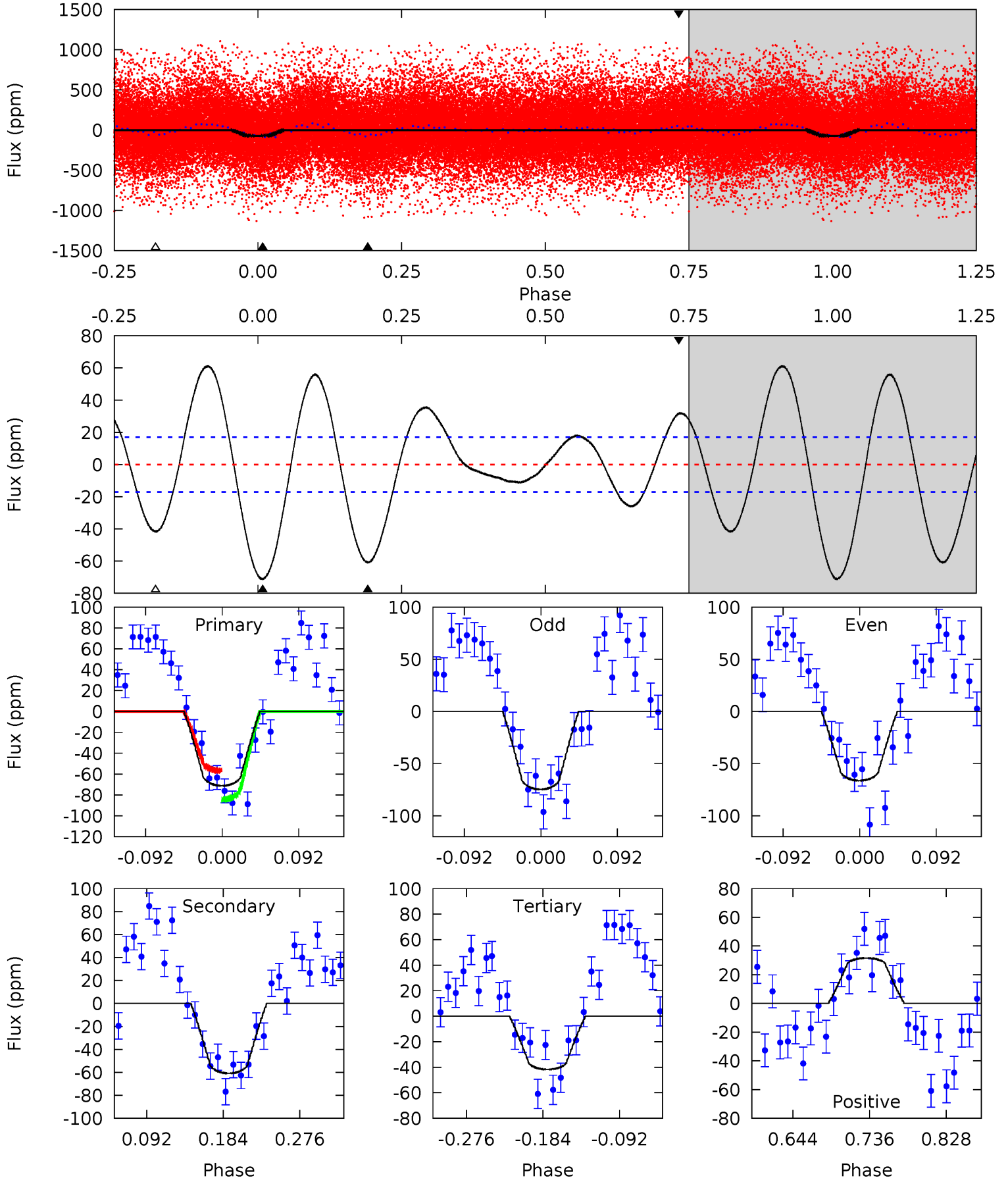
TCE 007461607-01 P= 0.860185 Days $T_0=132.037948$ (BKJD)



DV Model-Shift Uniqueness Test

007461607-01, P = 0.860173 Days, E = 131.179435 Days

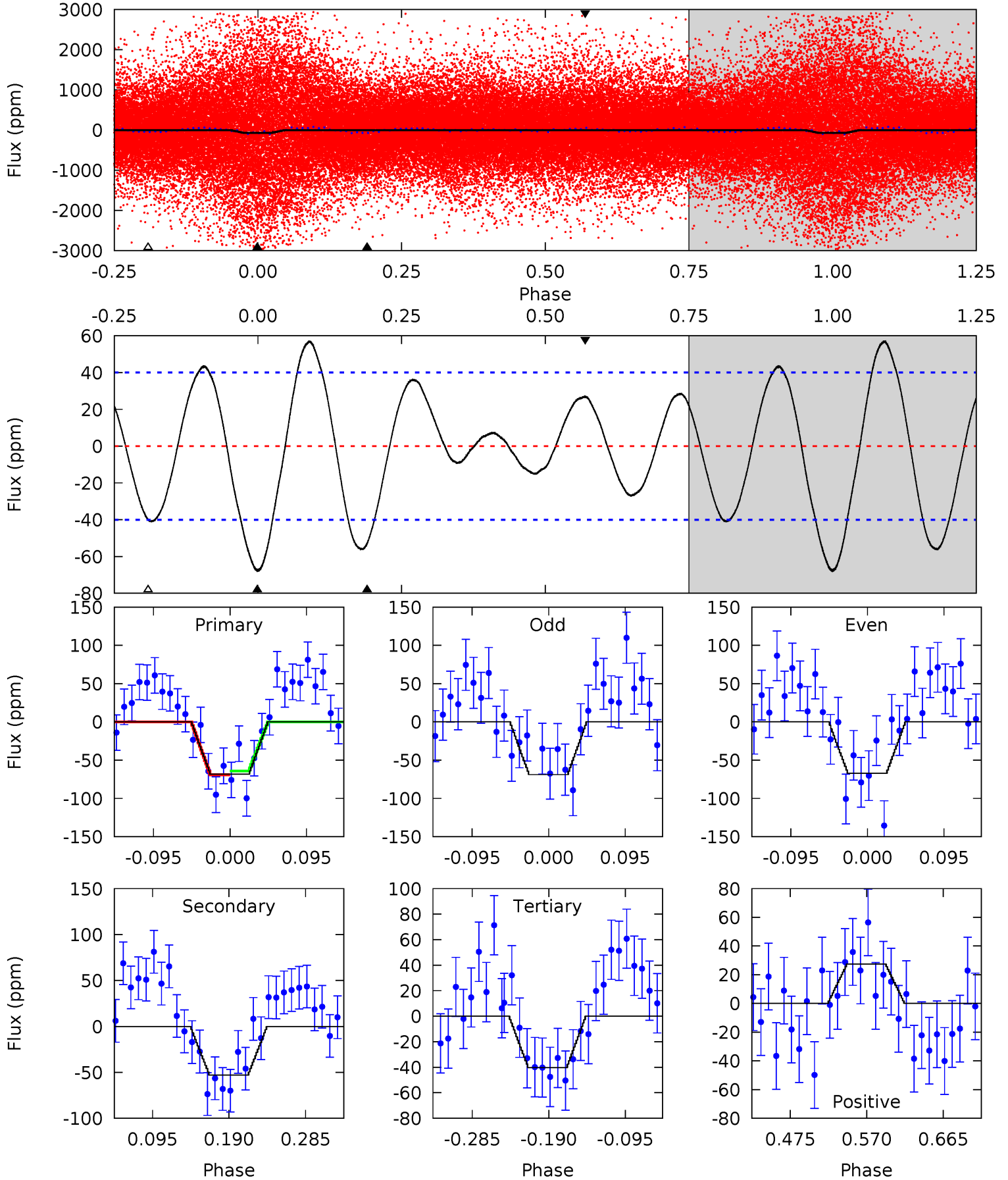
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	16.4	11.2	8.52	4.58	1.69	6.02	7.94	10.6	5.16	7.87	1.14	1.12	0.46	3.74



Alt Model-Shift Uniqueness Test

007461607-01, P = 0.860185 Days, E = 131.177763 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.80	6.05	4.59	3.13	4.58	1.67	2.23	3.21	4.67	1.46	2.92	0.10	2.01	0.46	0.25



Stellar Parameters For KIC 007461607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7216^{+230}_{-316}	$4.103^{+0.149}_{-0.182}$	$-0.060^{+0.200}_{-0.350}$	$1.818^{+0.563}_{-0.422}$	$1.525^{+0.212}_{-0.236}$	$0.358^{+0.277}_{-0.167}$
	+3%/-4%	+4%/-4%	+333%/-583%	+31%/-23%	+14%/-15%	+77%/-47%
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 007461607-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-61 ± 4	$1.24^{+0.27}_{-0.25}$	4196^{+344}_{-302}	8085^{+1058}_{-733}	$8.891^{+4.698}_{-2.809}$
Alt.	-53 ± 9	$1.78^{+0.37}_{-0.27}$	4210^{+334}_{-288}	6270^{+567}_{-514}	$3.670^{+1.605}_{-1.145}$

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 $A_{obs} \gg 1.0$

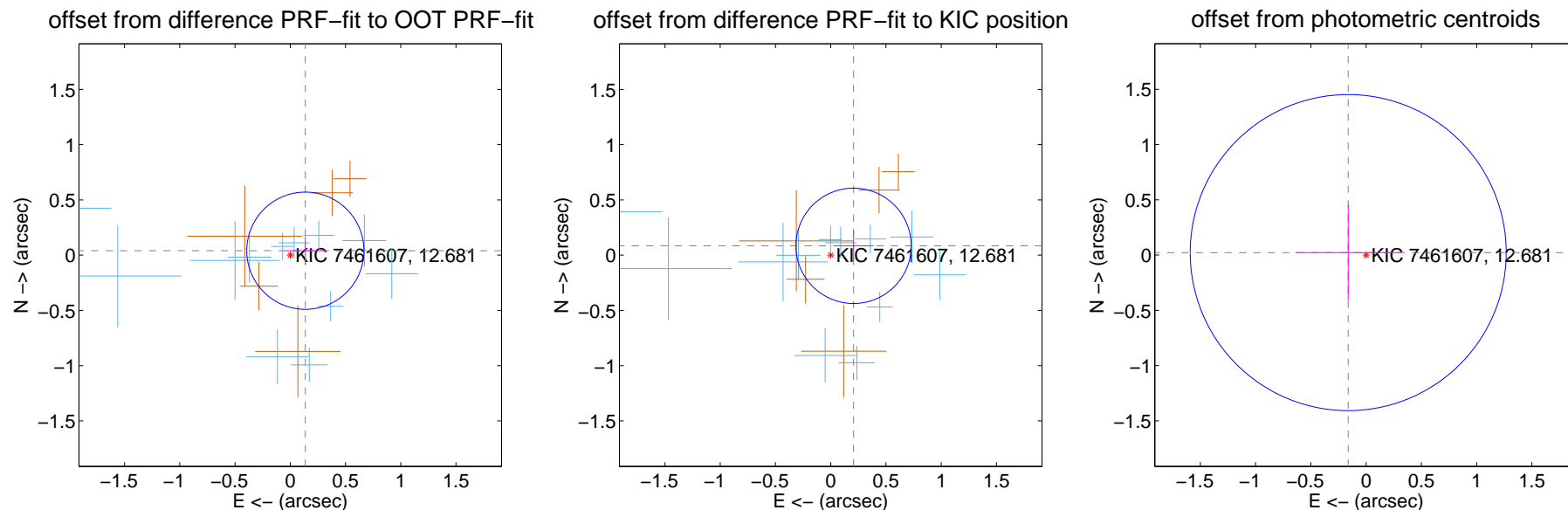
DV Centroid Data

Supplemental centroid analysis for 007461607-01. Kepler magnitude: 12.68. Transit SNR 7.96

There are 12 quarters with good PRF difference image offsets

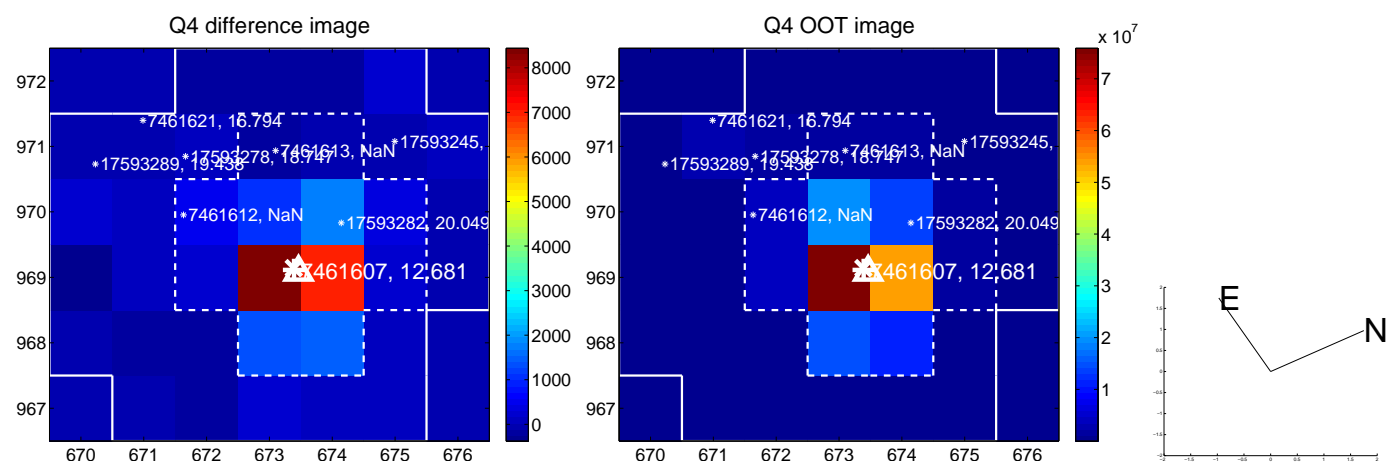
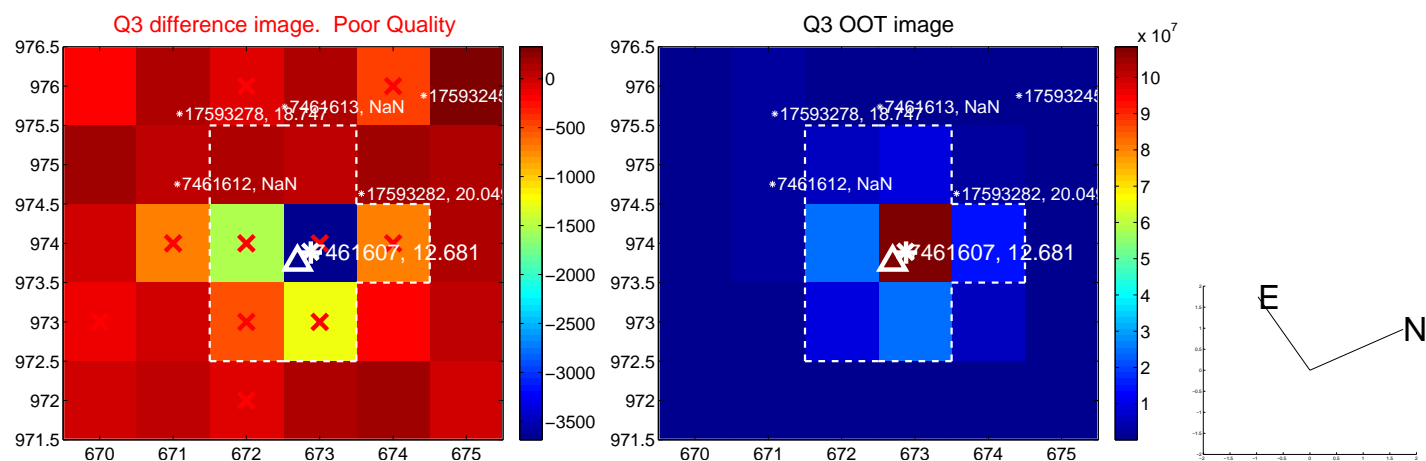
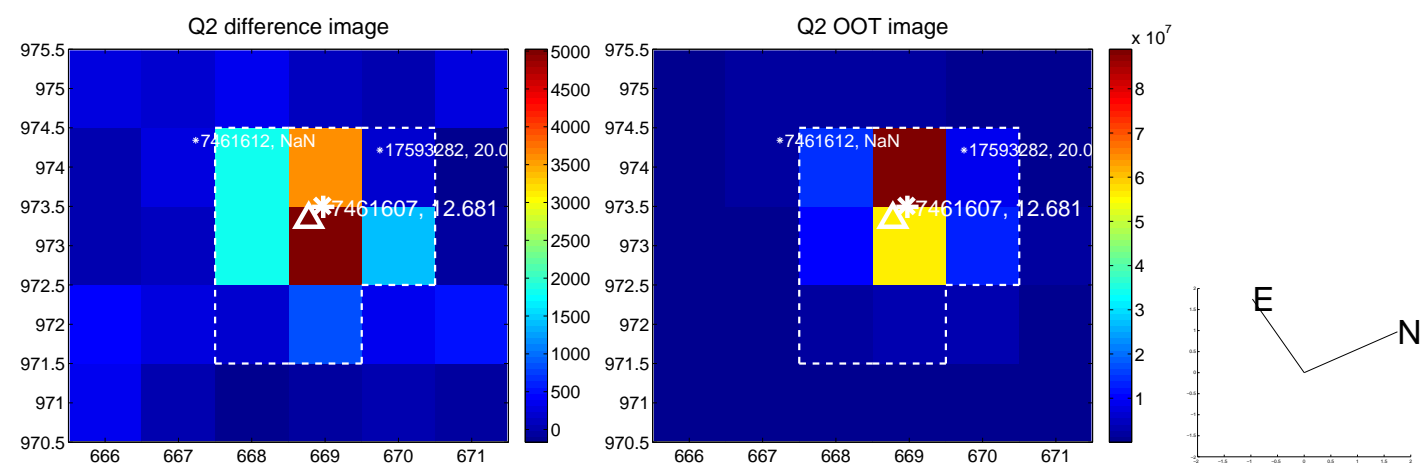
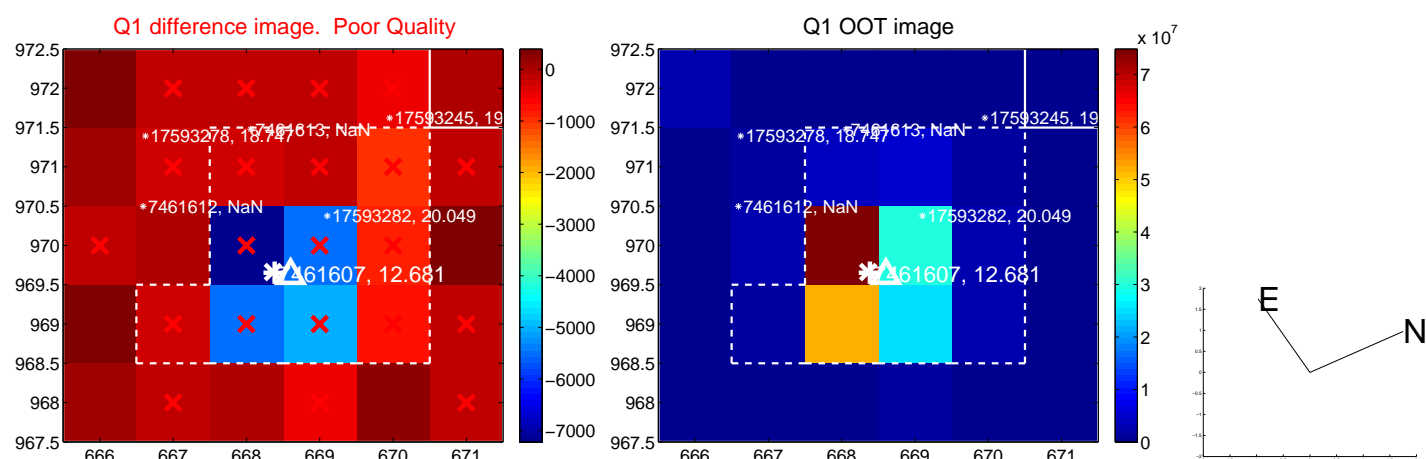
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.142 ± 0.177	0.81	-0.137 ± 0.180	0.040 ± 0.131
PRF-fit source offset from KIC position	0.223 ± 0.174	1.28	-0.207 ± 0.182	0.084 ± 0.139
photometric centroid source offset	0.16 ± 0.48	0.34	0.16 ± 0.48	0.02 ± 0.43

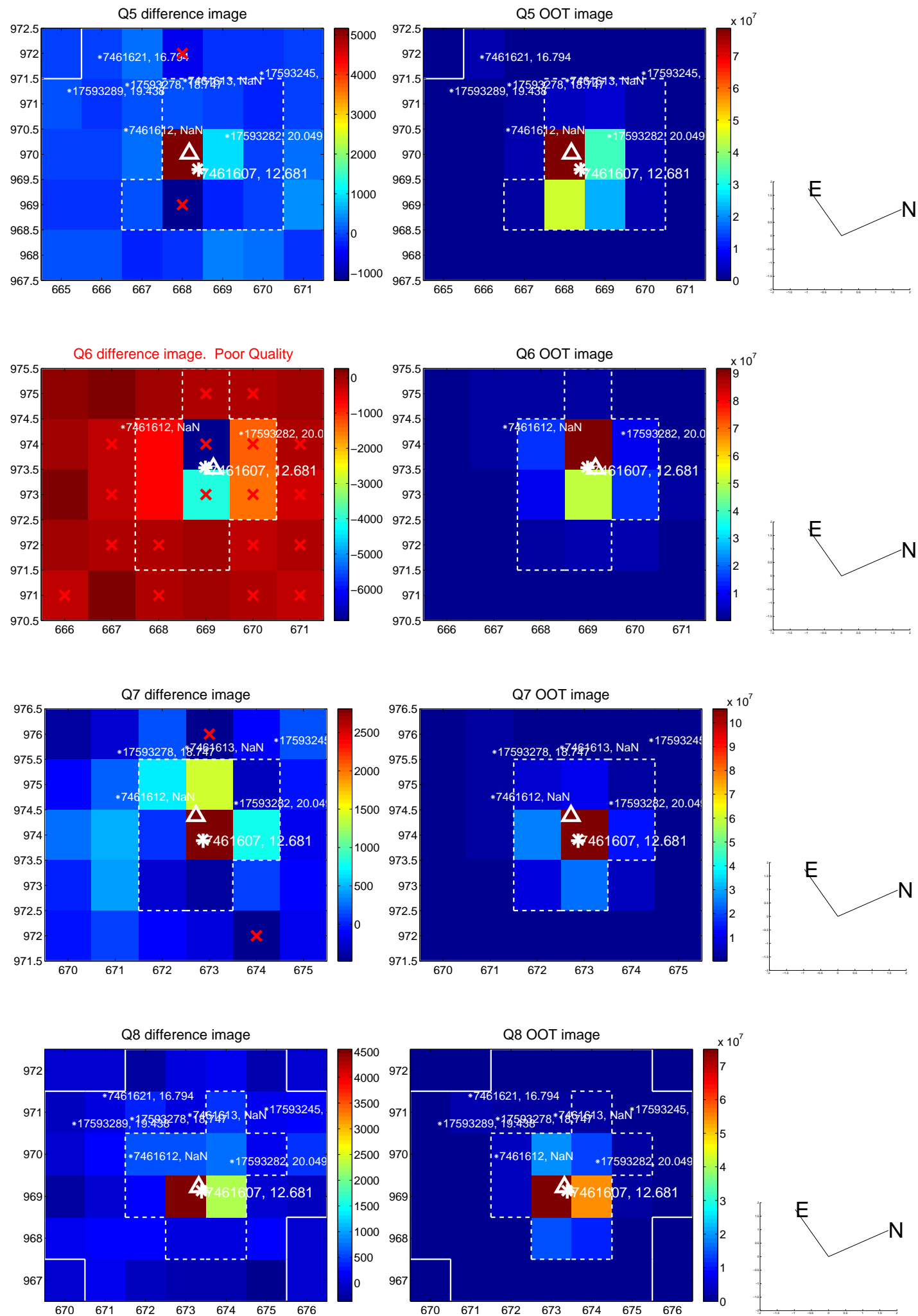


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

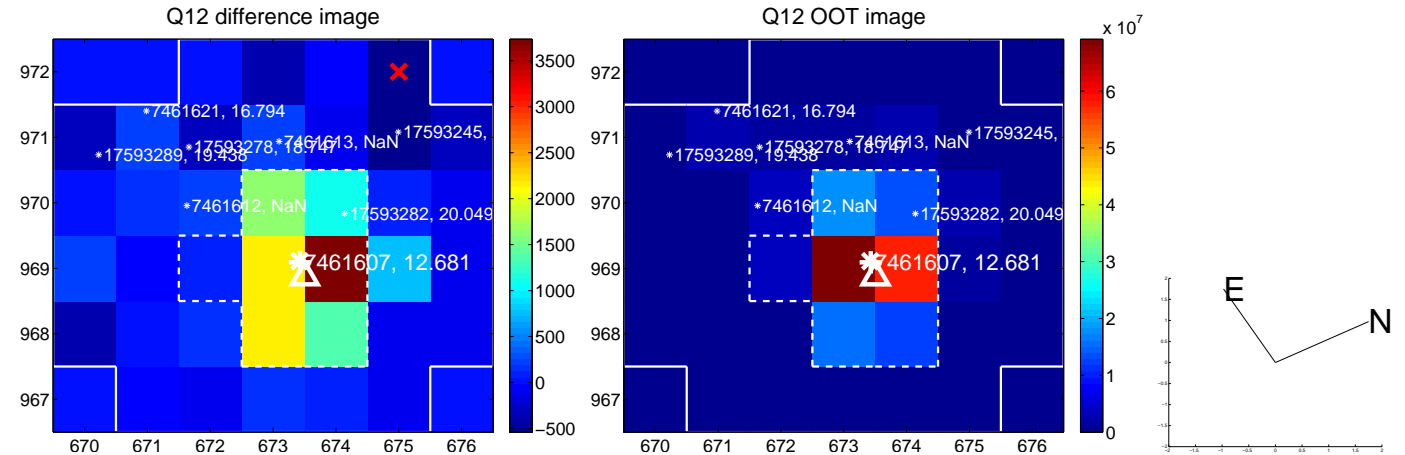
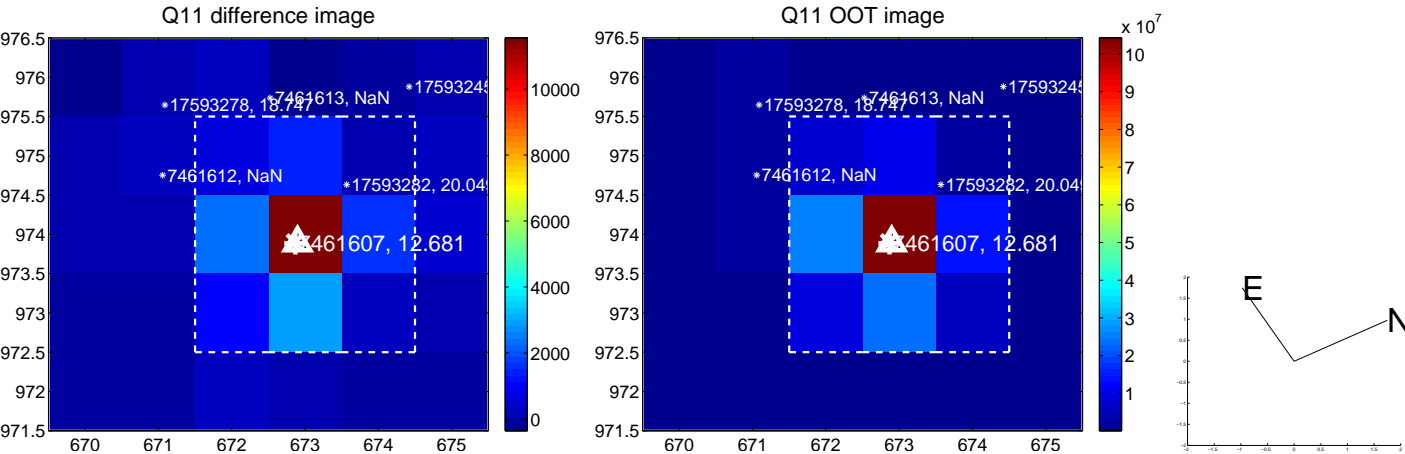
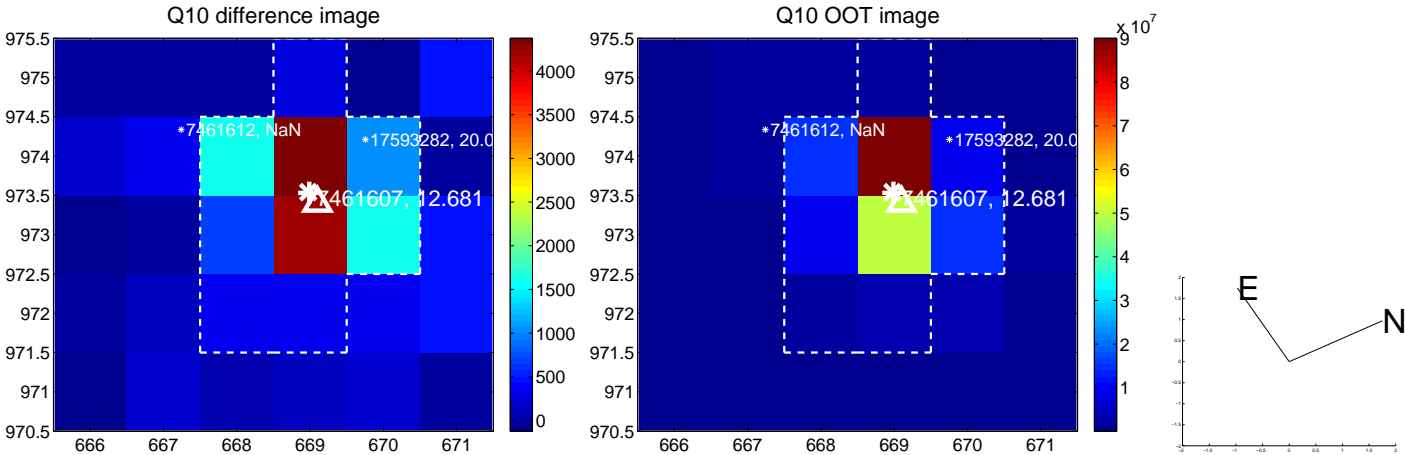
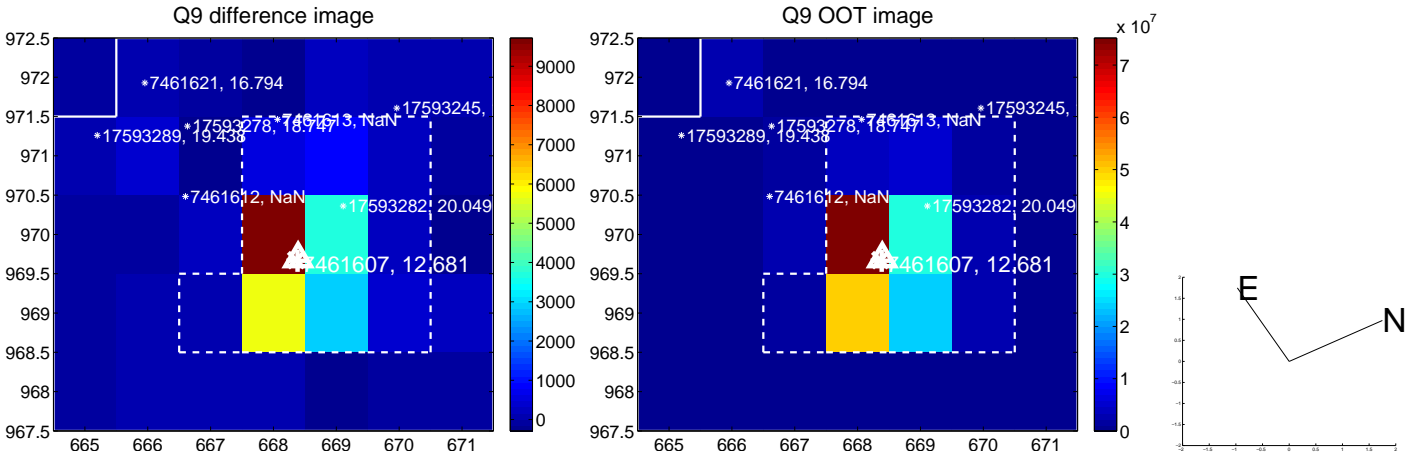
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



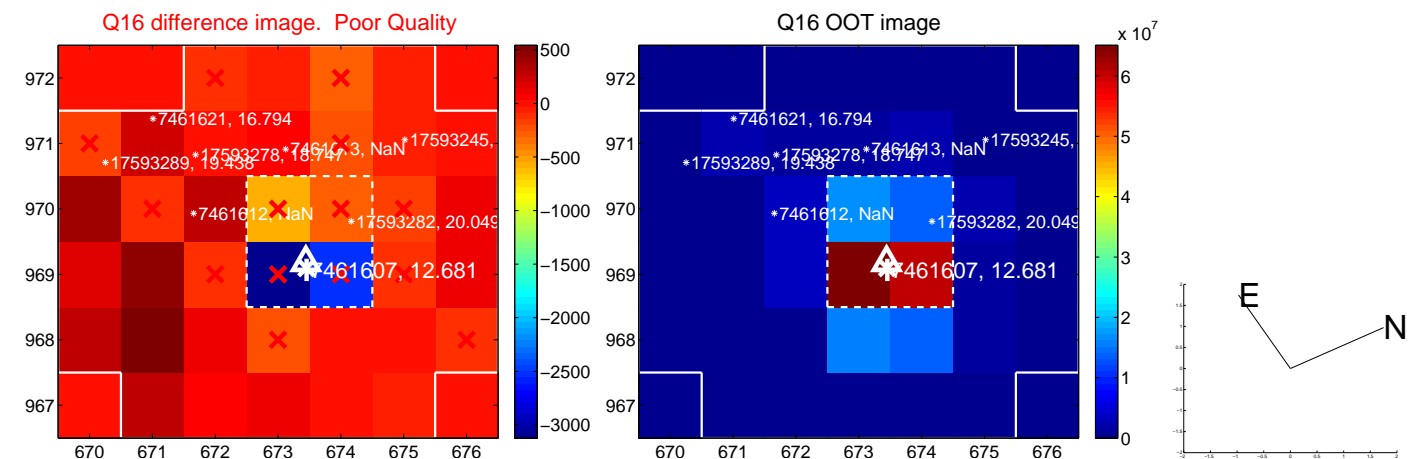
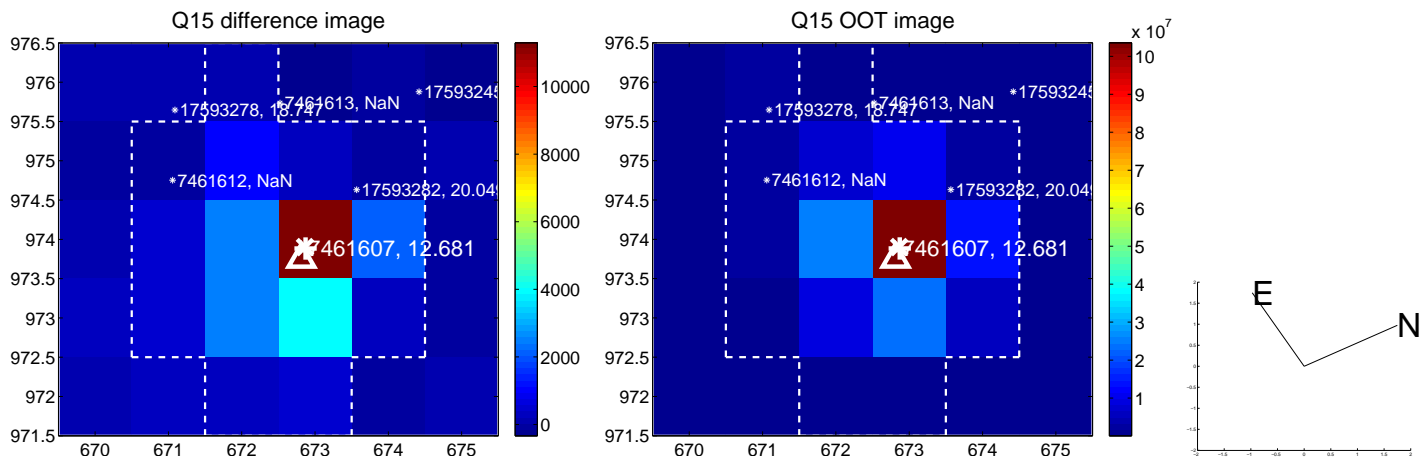
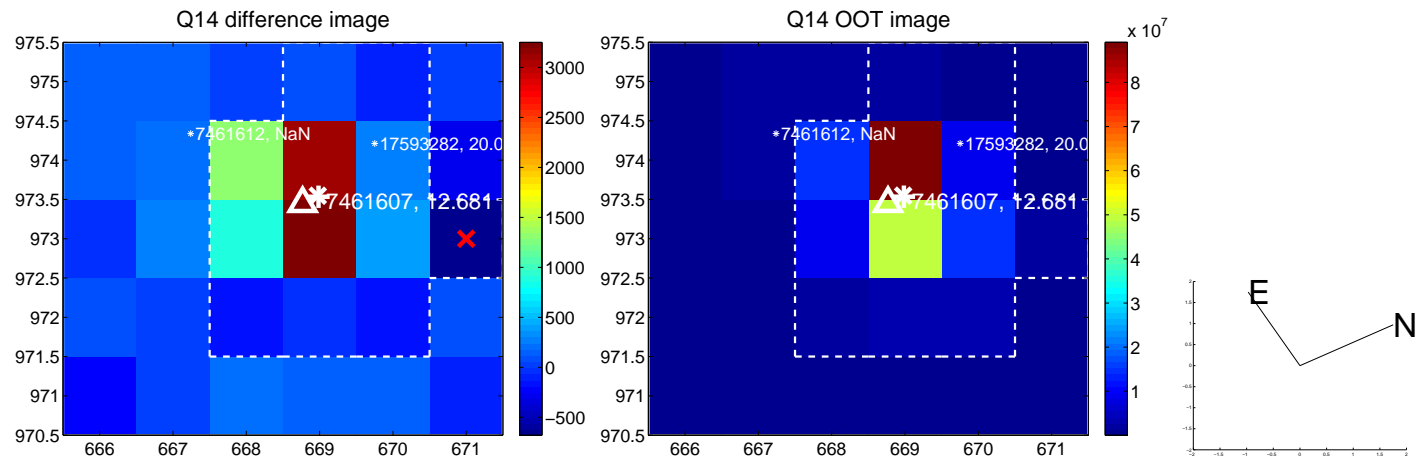
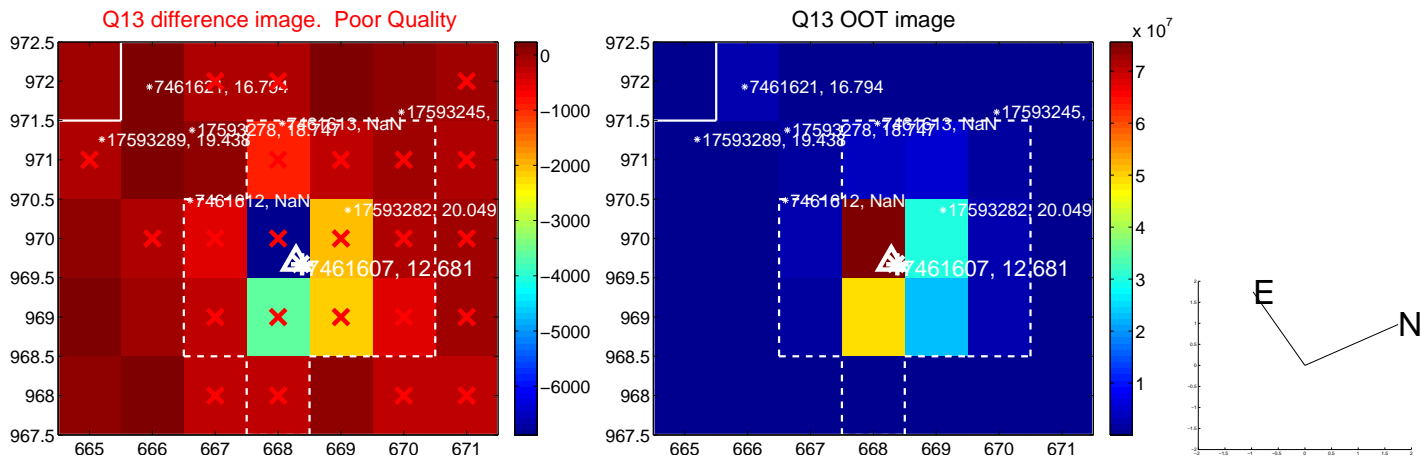
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



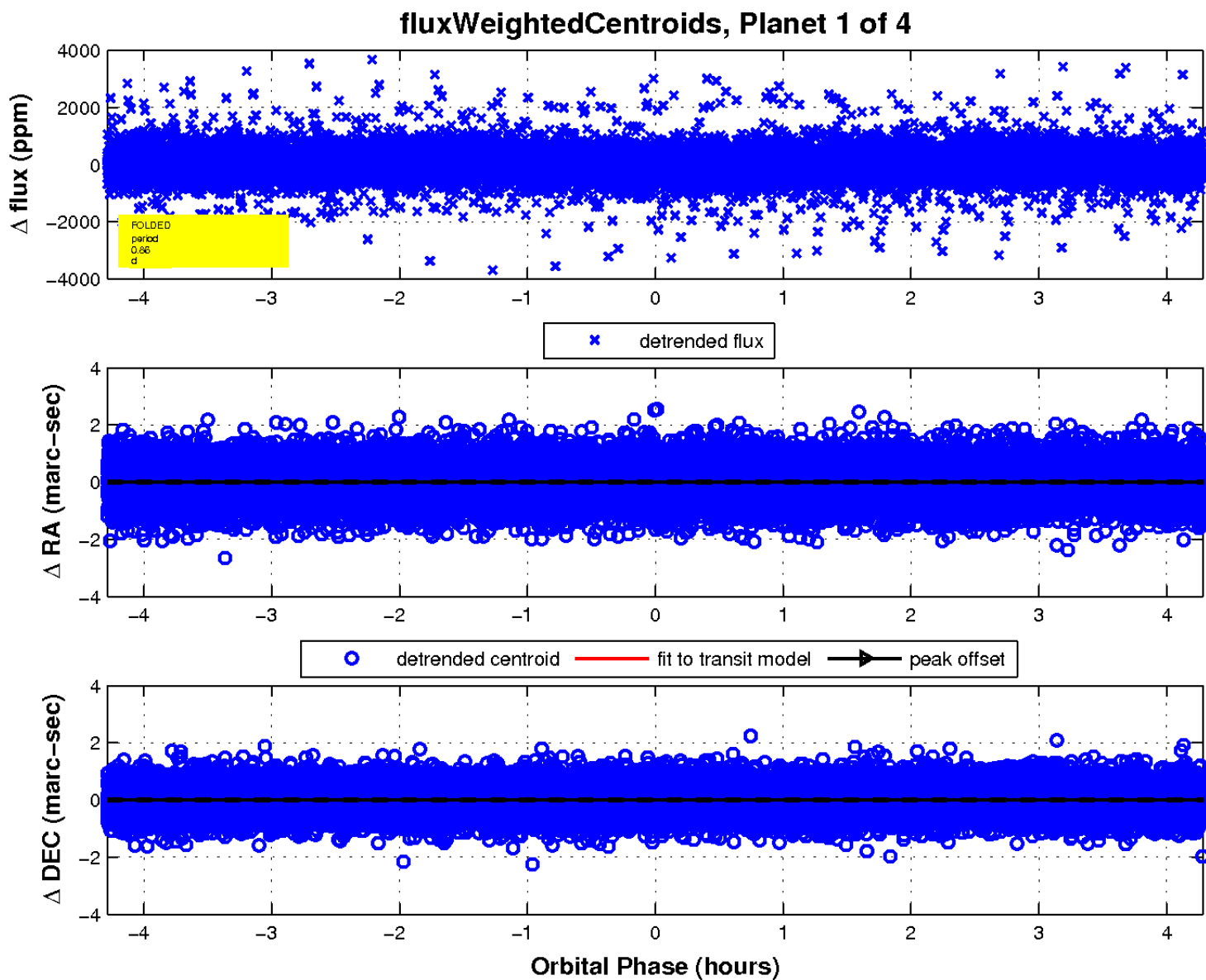
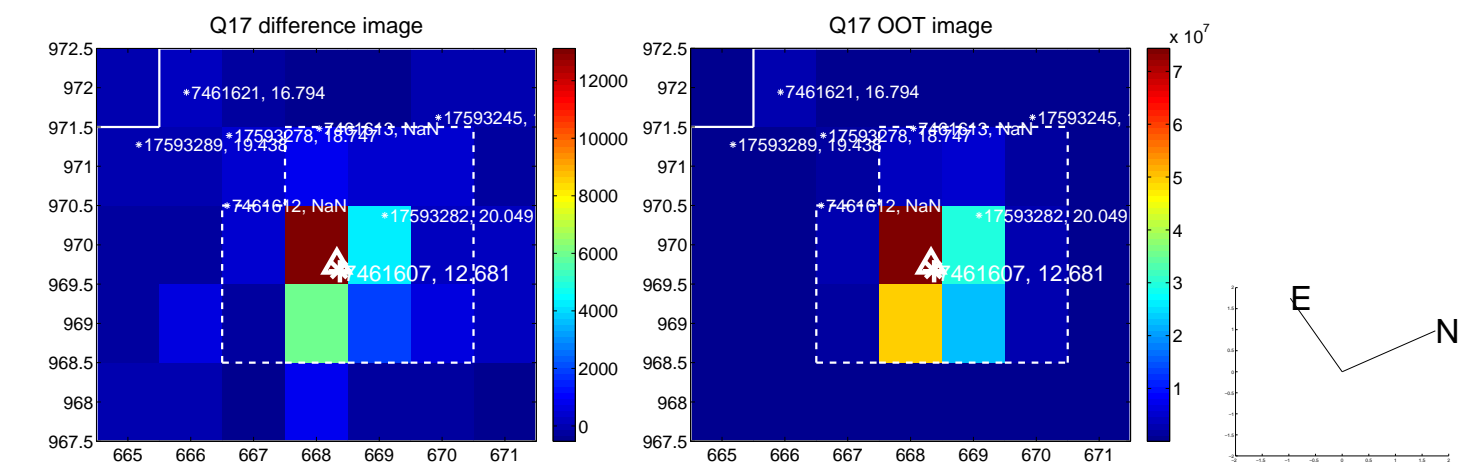
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



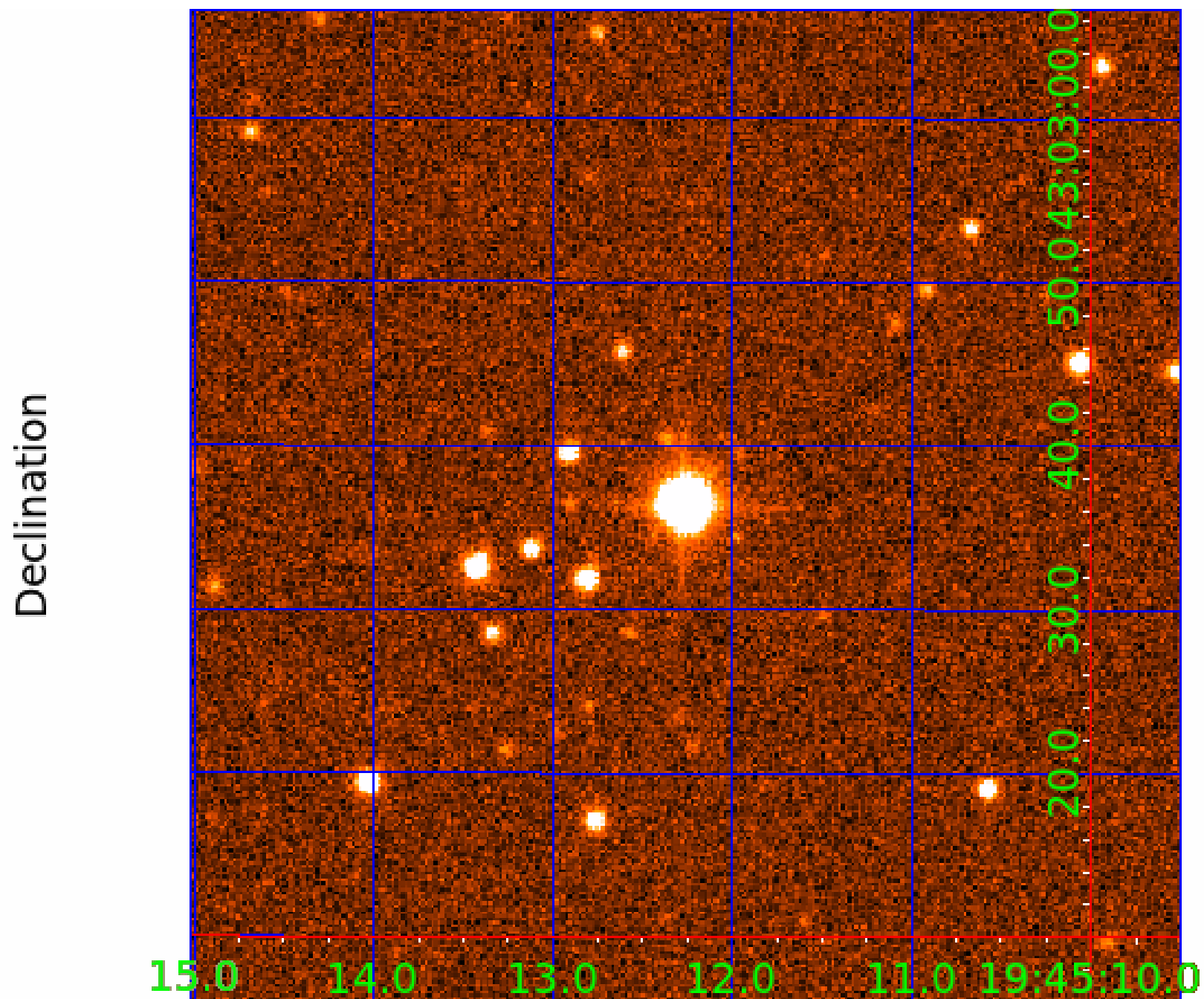
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UKIRT Image



KIC 007461607

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})
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007461607-02	OBS	No	0.860183	132.192459	68.0	1.974	12.6	12.6	1.82	7216	1.74	19305.85
007461607-03	OBS	No	0.860171	131.885731	51.5	1.483	10.6	10.2	1.82	7216	1.52	19306.19
007461607-04	OBS	No	112.529077	158.246441	990.0	3.411	8.3	8.1	1.82	7216	7.22	29.07

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007461607-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
007461607-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—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.

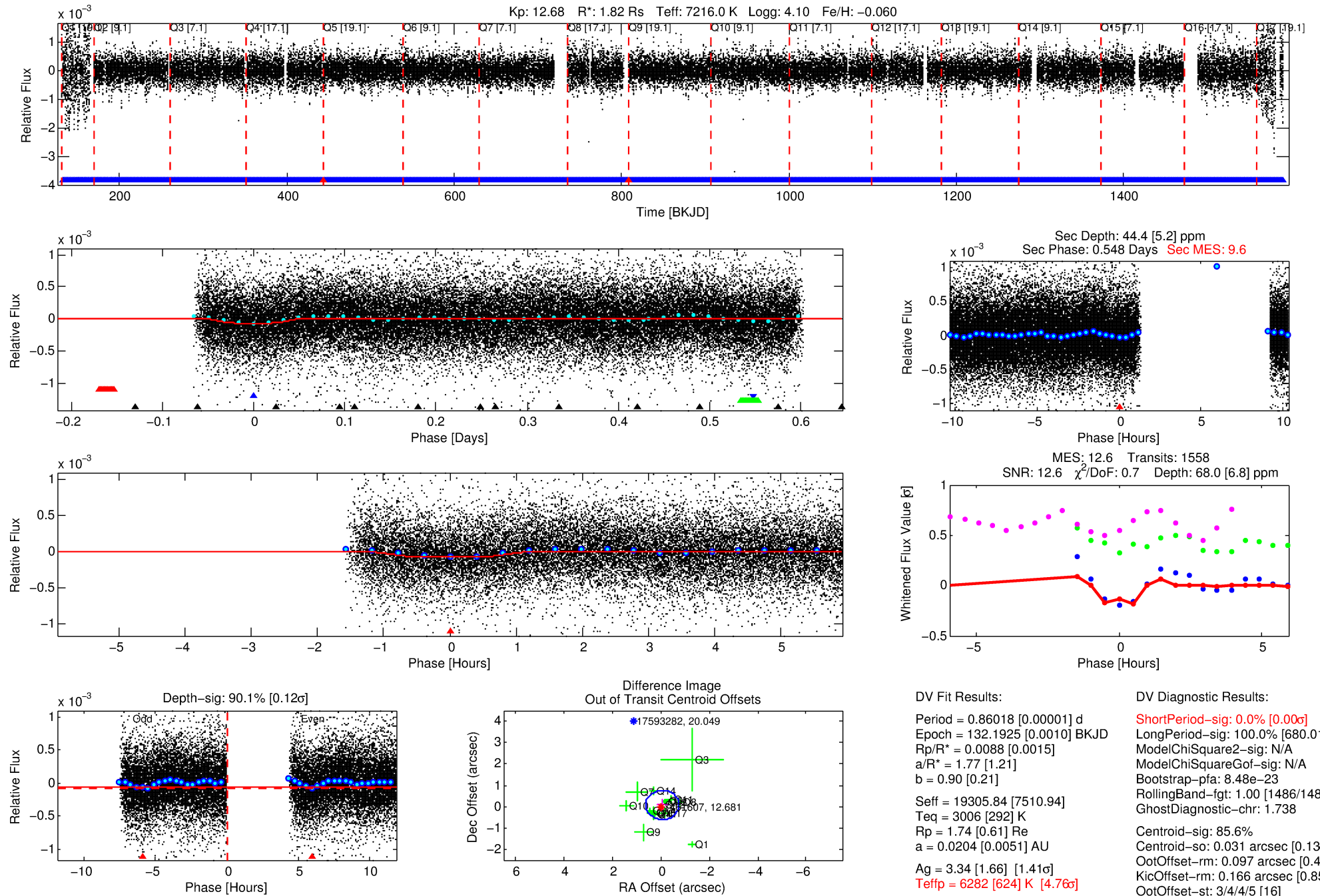
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461607-02

No Significant Match Found

DV One-Page Summary

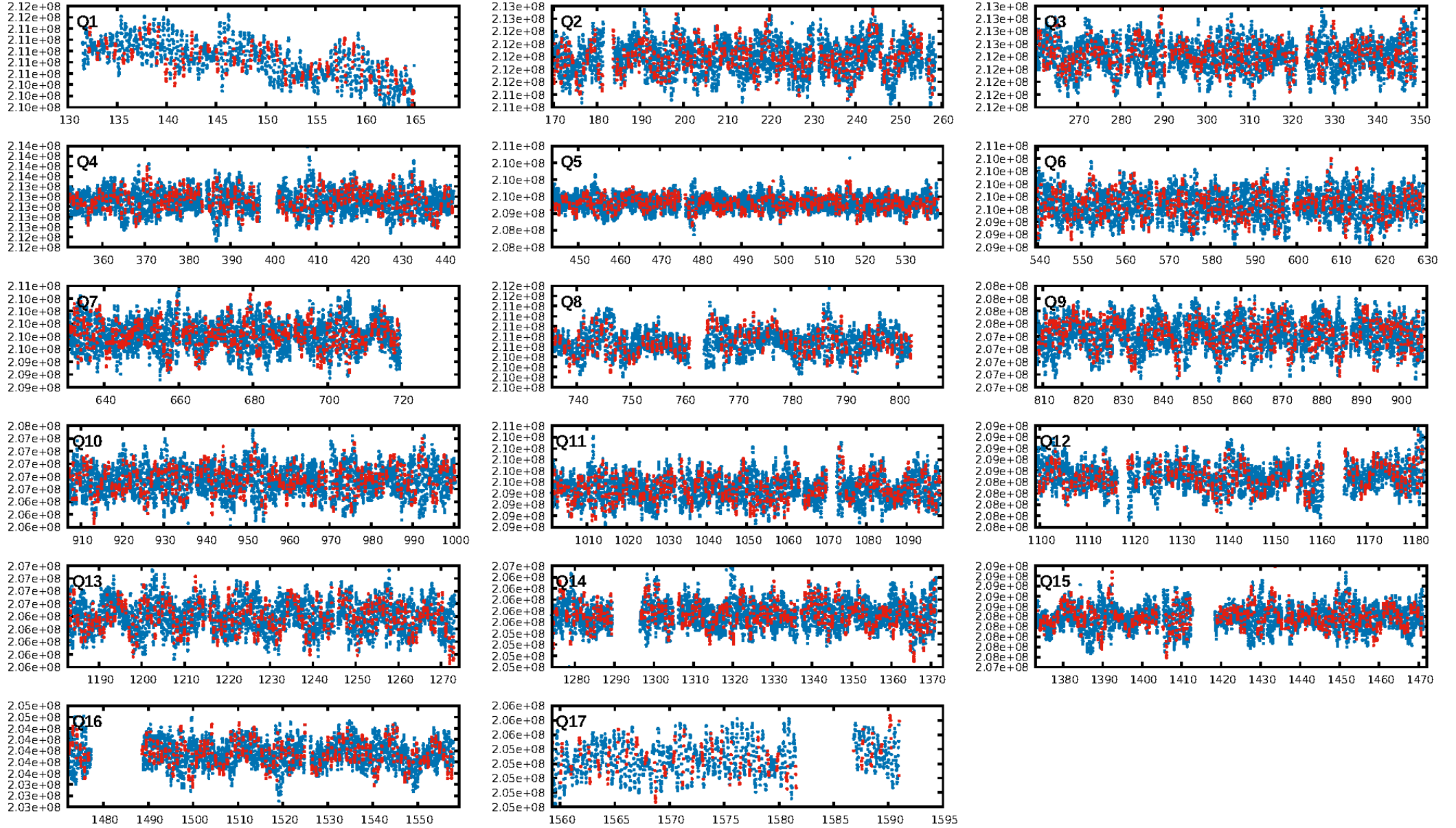
KIC: 7461607 Candidate: 2 of 4 Period: 0.860 d



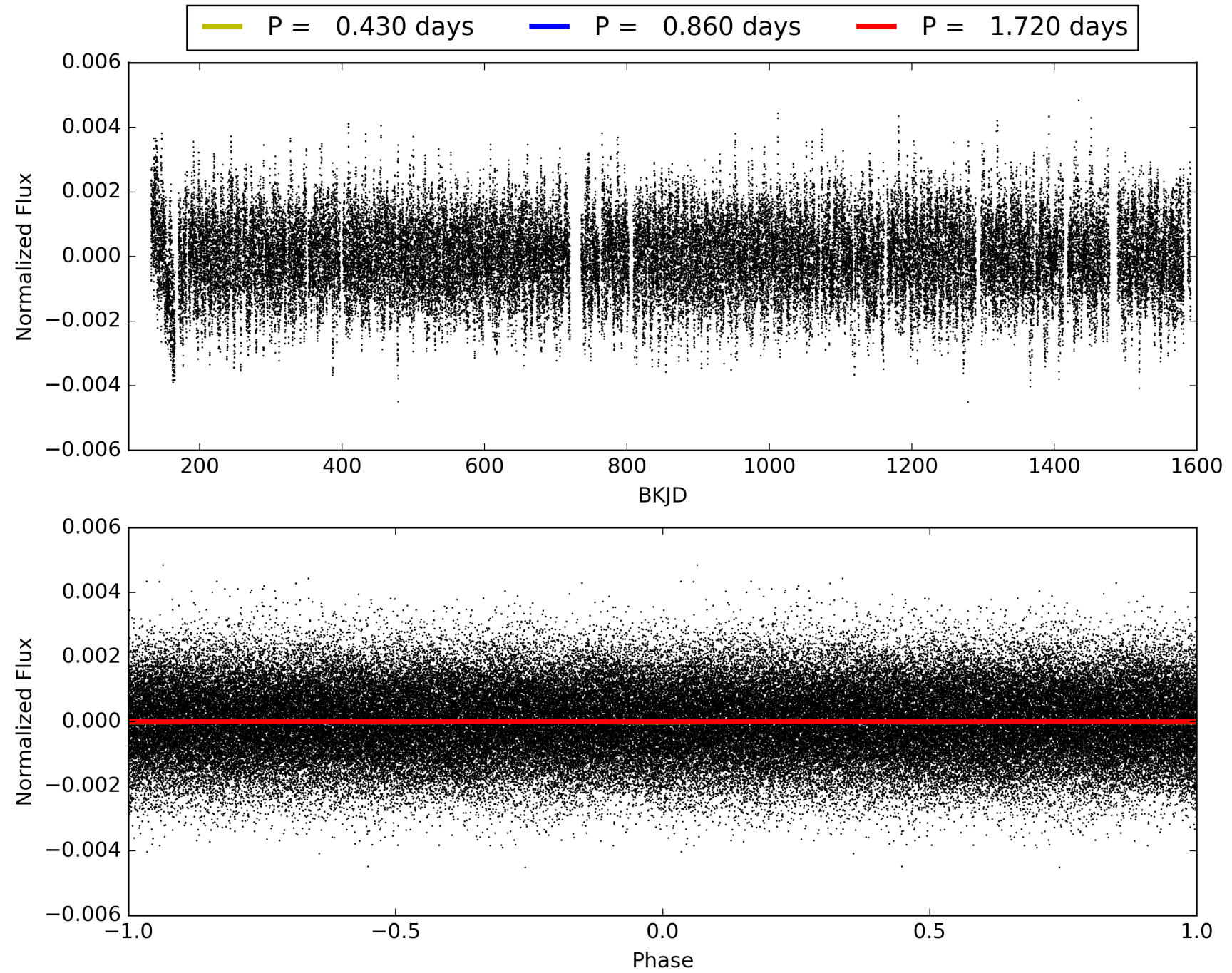
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007461607-02, PDC Light Curves

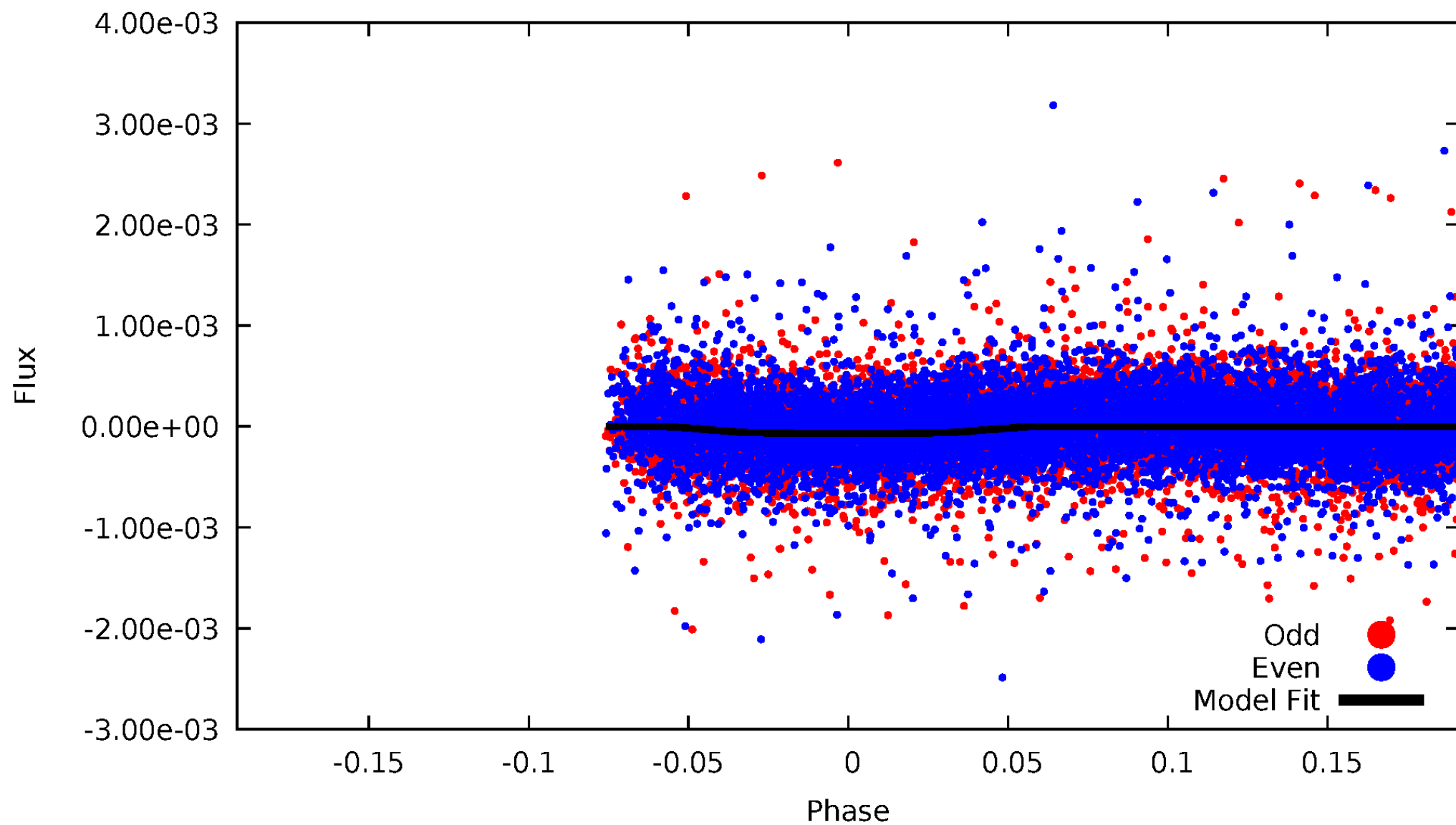


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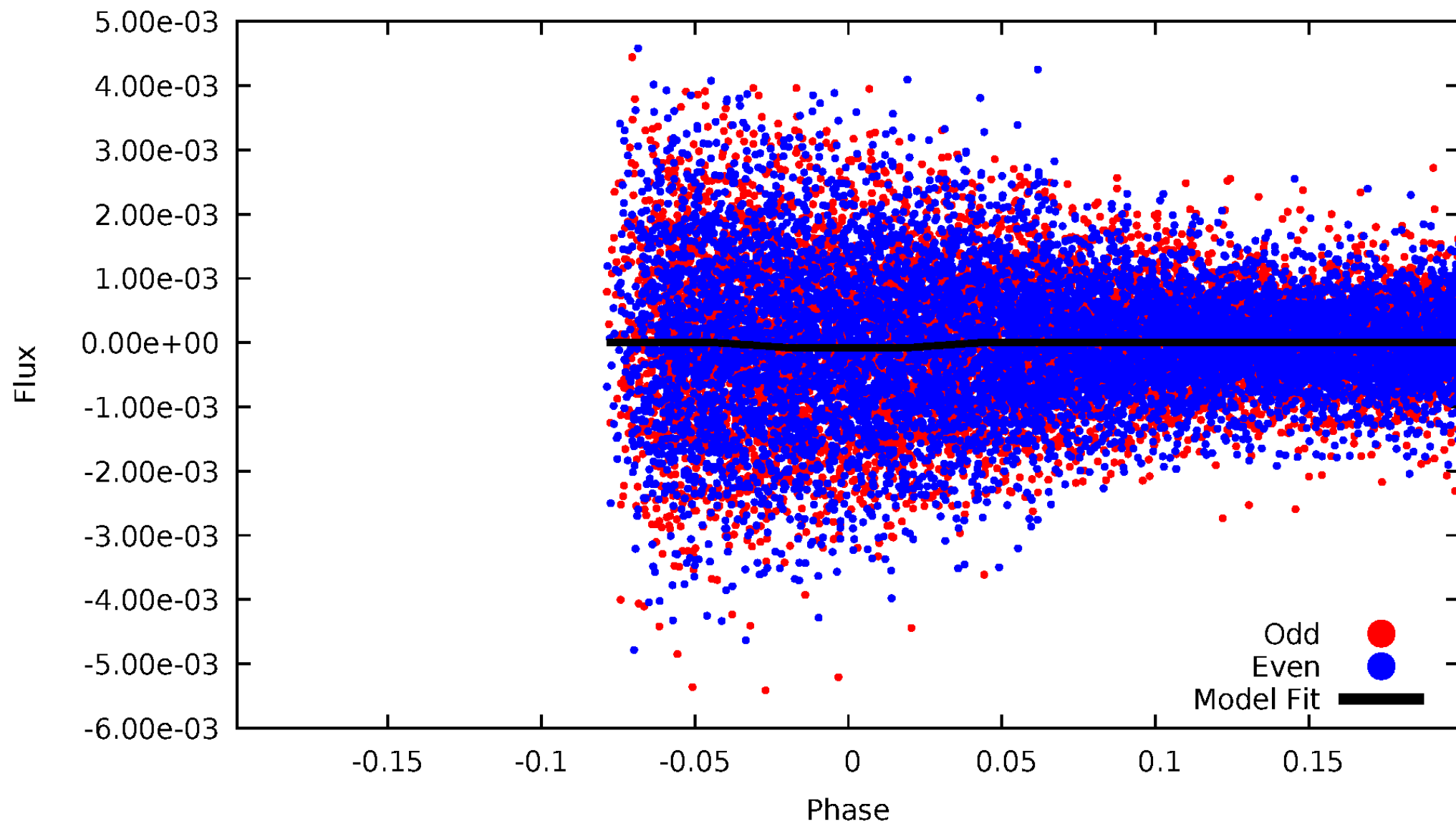
DV Odd/Even

TCE 007461607-02



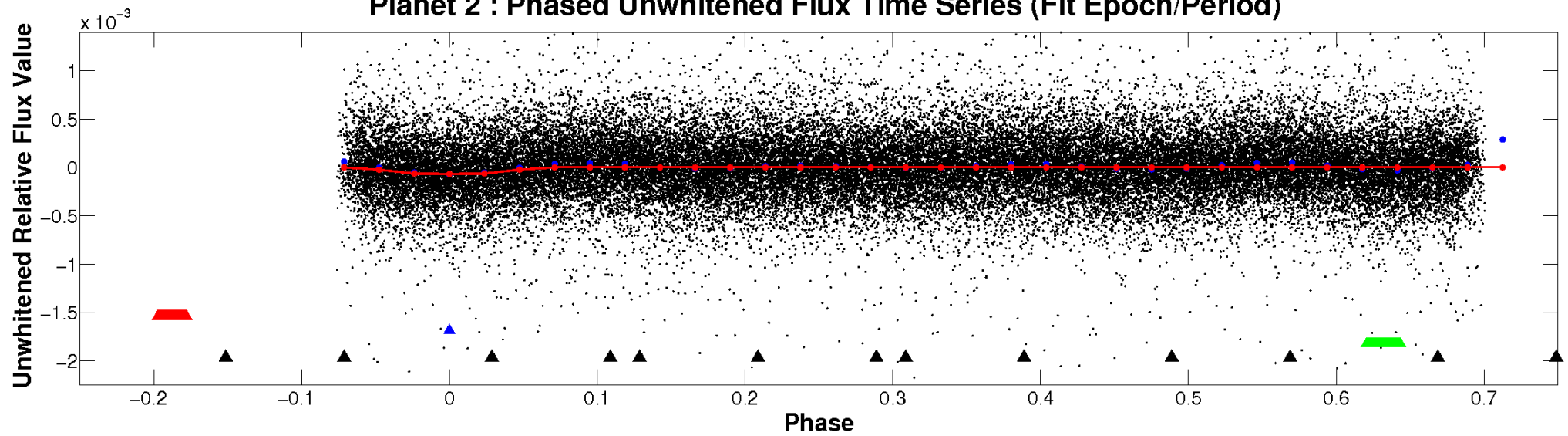
ALT Odd/Even

TCE 007461607-02

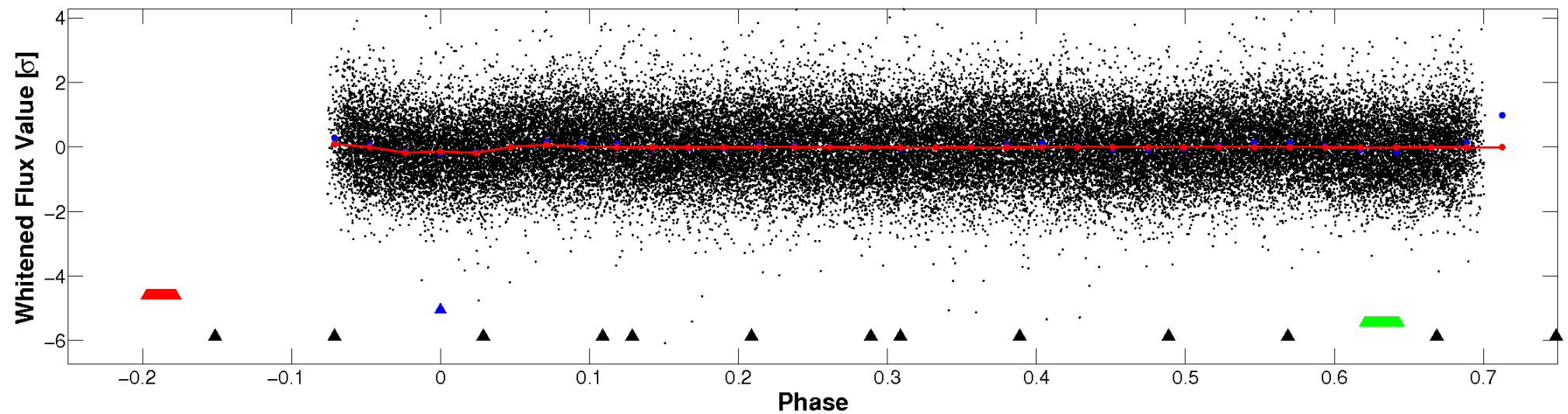


Non-Whitened Vs. Whitened Light Curve

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

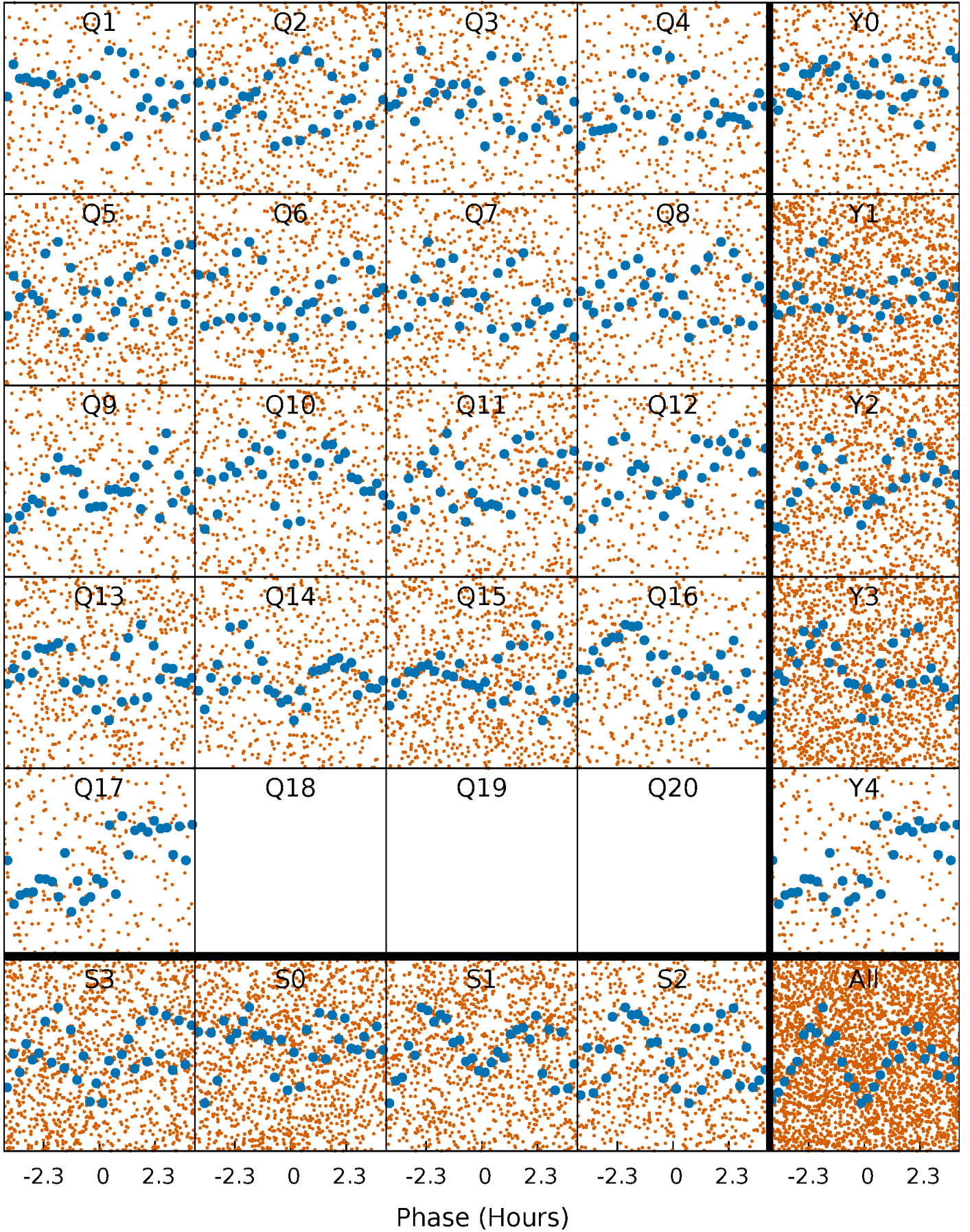


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



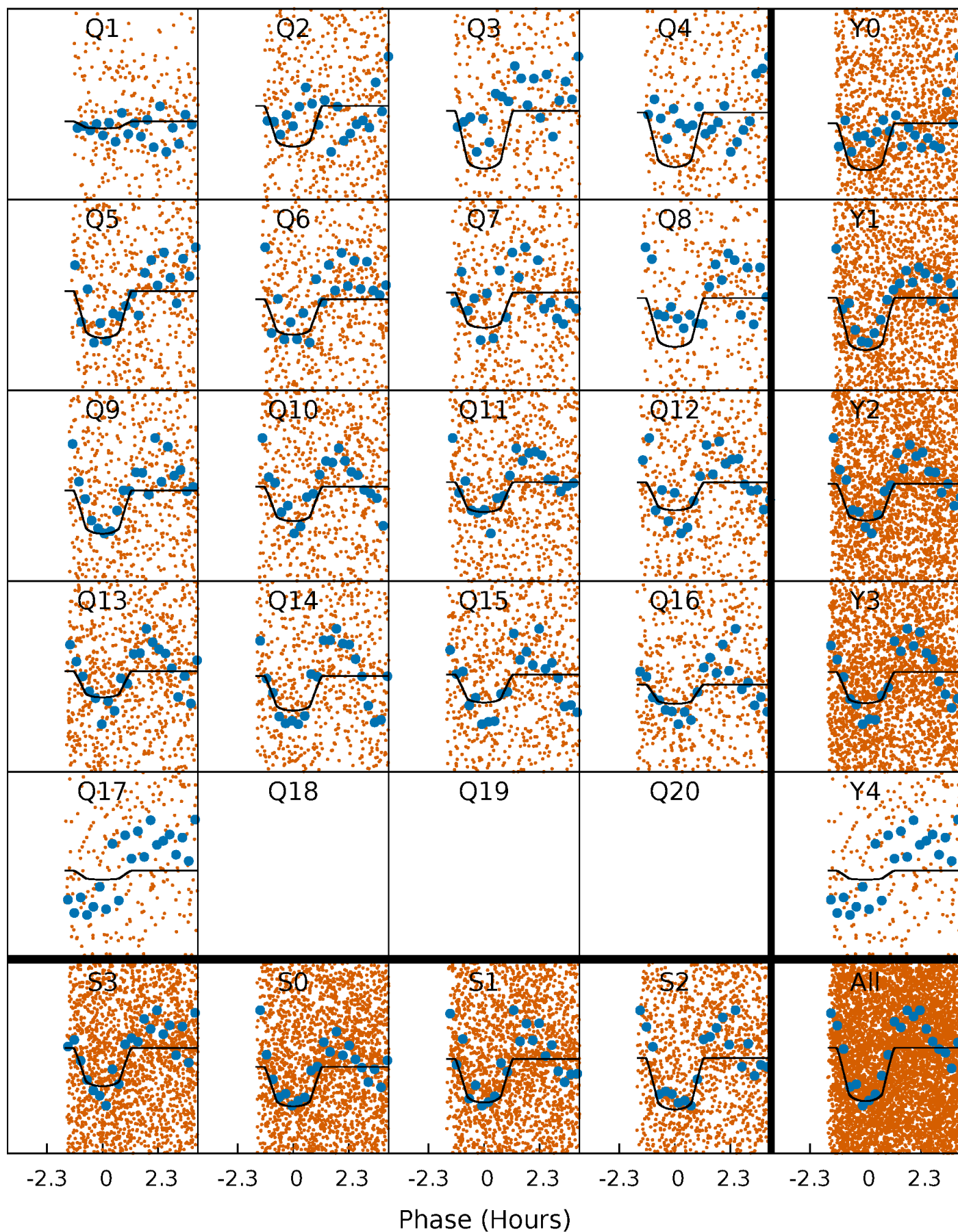
PDC Quarter-Phased Transit Curves

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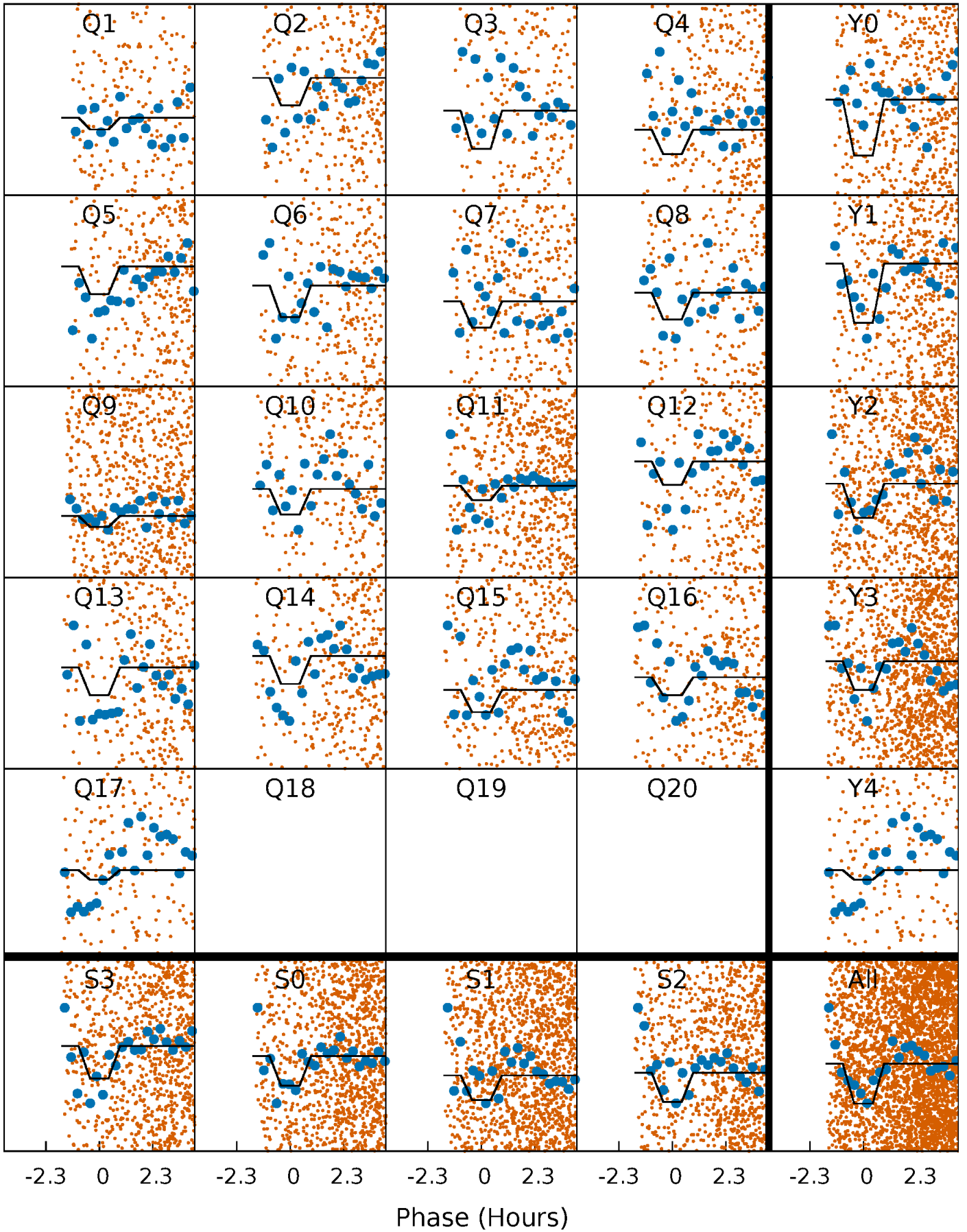
DV Quarter-Phased Transit Curves

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Alt. Detrend Quarter-Phased Transit Curves

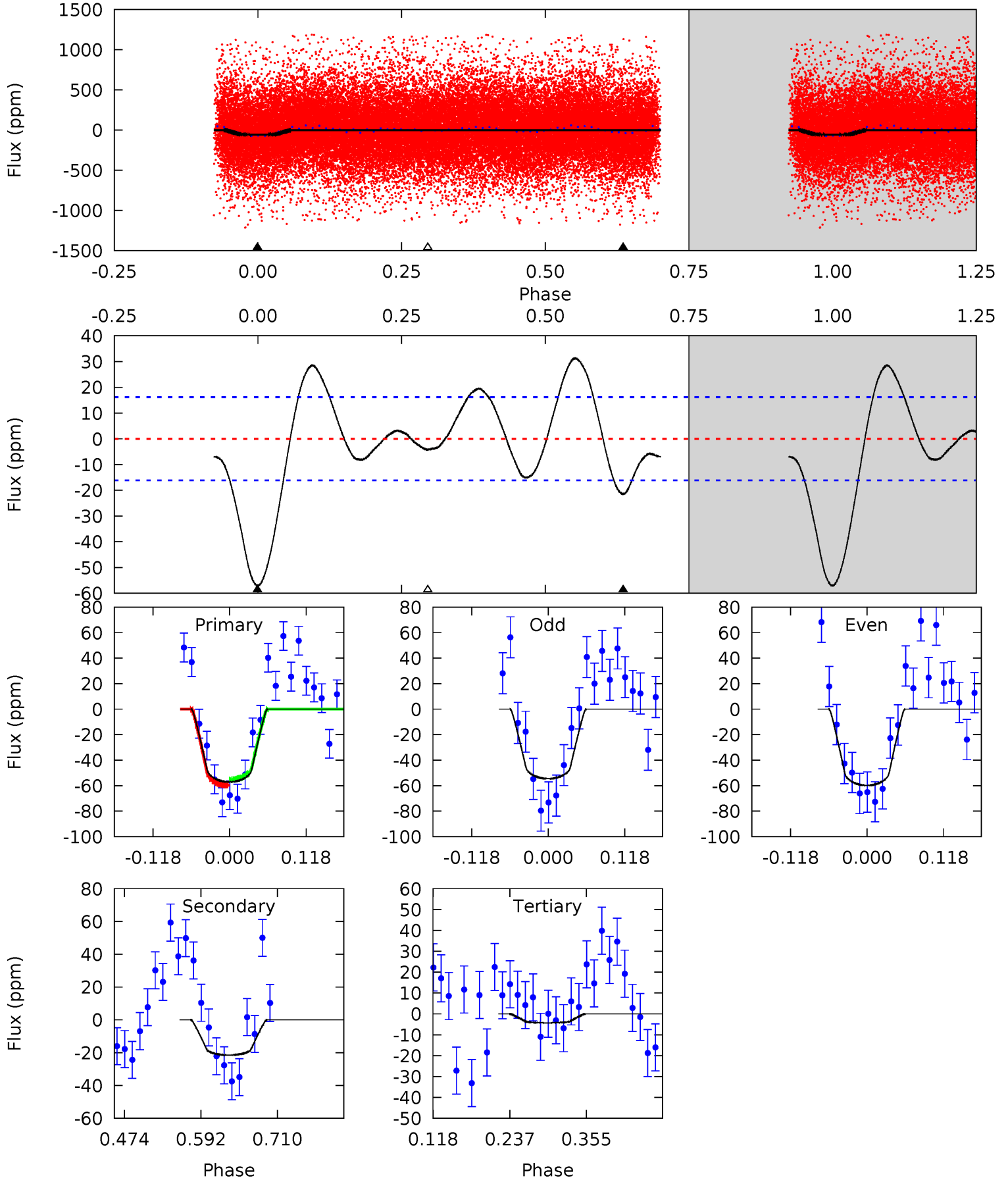
TCE 007461607-02 P= 0.860185 Days $T_0=132.191640$ (BKJD)



DV Model-Shift Uniqueness Test

007461607-02, P = 0.860183 Days, E = 131.332276 Days

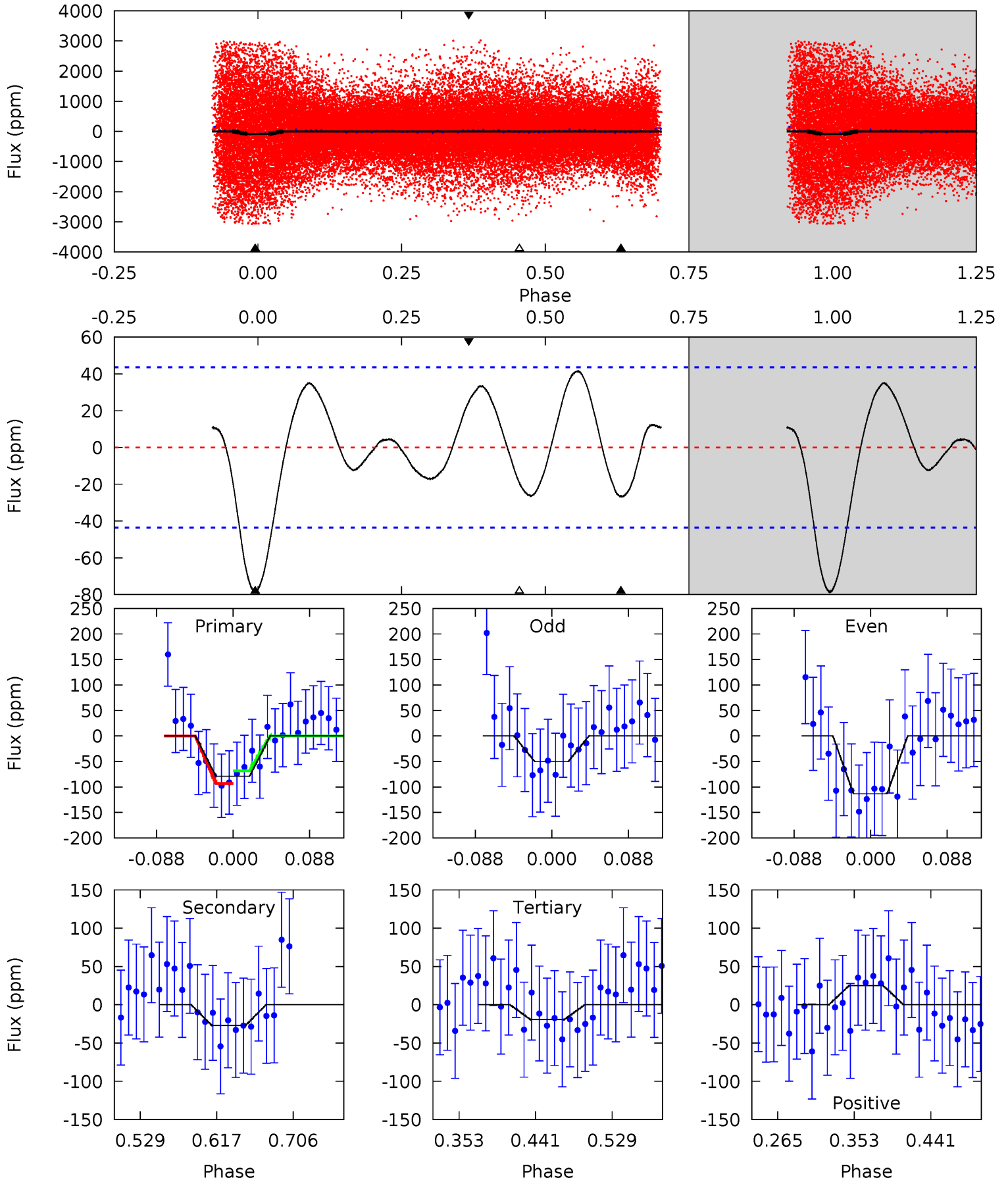
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	6.03	1.21	0	4.53	1.56	2.59	14.8	16.0	4.82	6.03	0.75	0.93	0.35	0.62



Alt Model-Shift Uniqueness Test

007461607-02, P = 0.860185 Days, E = 131.331455 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.32	2.84	2.05	2.65	4.59	1.71	1.86	6.28	5.67	0.80	0.19	3.38	0.77	0.35	1.33



Stellar Parameters For KIC 007461607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7216^{+230}_{-316}	$4.103^{+0.149}_{-0.182}$	$-0.060^{+0.200}_{-0.350}$	$1.818^{+0.563}_{-0.422}$	$1.525^{+0.212}_{-0.236}$	$0.358^{+0.277}_{-0.167}$
	+3%/-4%	+4%/-4%	+333%/-583%	+31%/-23%	+14%/-15%	+77%/-47%
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 007461607-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-21 ± 4	$1.77^{+0.46}_{-0.36}$	4215^{+343}_{-284}	4926^{+642}_{-466}	$1.516^{+0.949}_{-0.557}$
Alt.	-27 ± 9	$1.77^{+0.39}_{-0.37}$	4198^{+351}_{-293}	5286^{+769}_{-780}	$1.950^{+1.381}_{-0.916}$

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

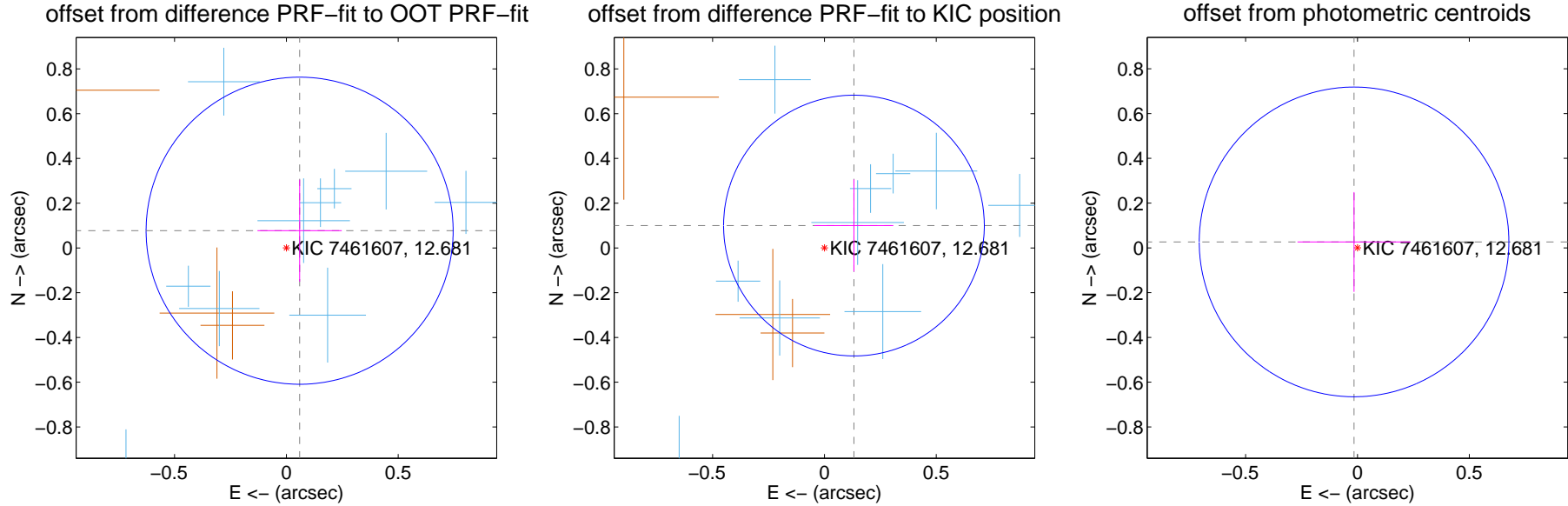
DV Centroid Data

Supplemental centroid analysis for 007461607-02. Kepler magnitude: 12.68. Transit SNR 12.64

There are 11 quarters with good PRF difference image offsets

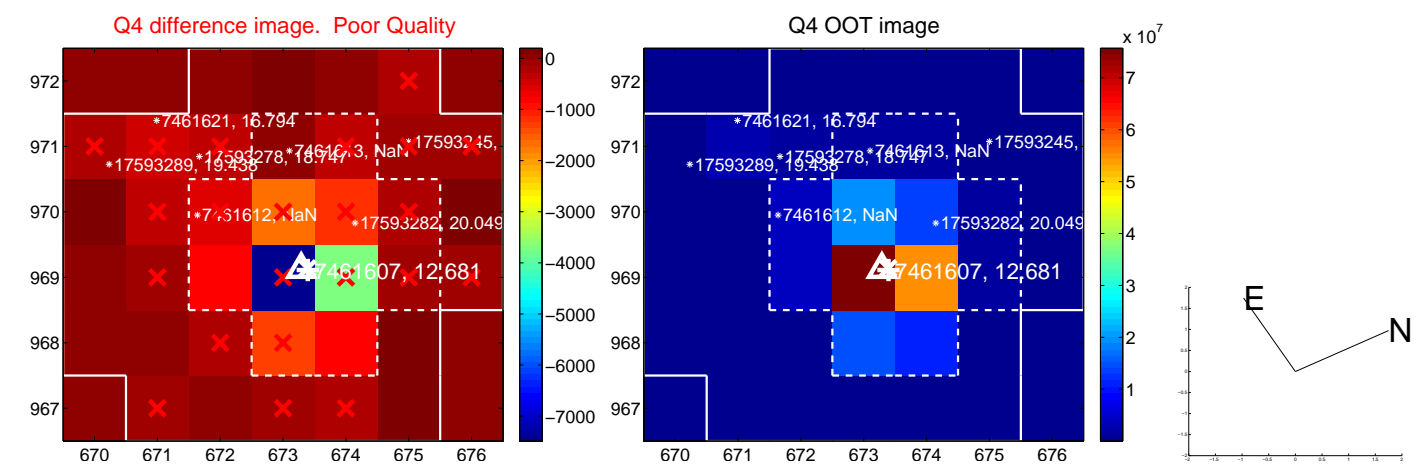
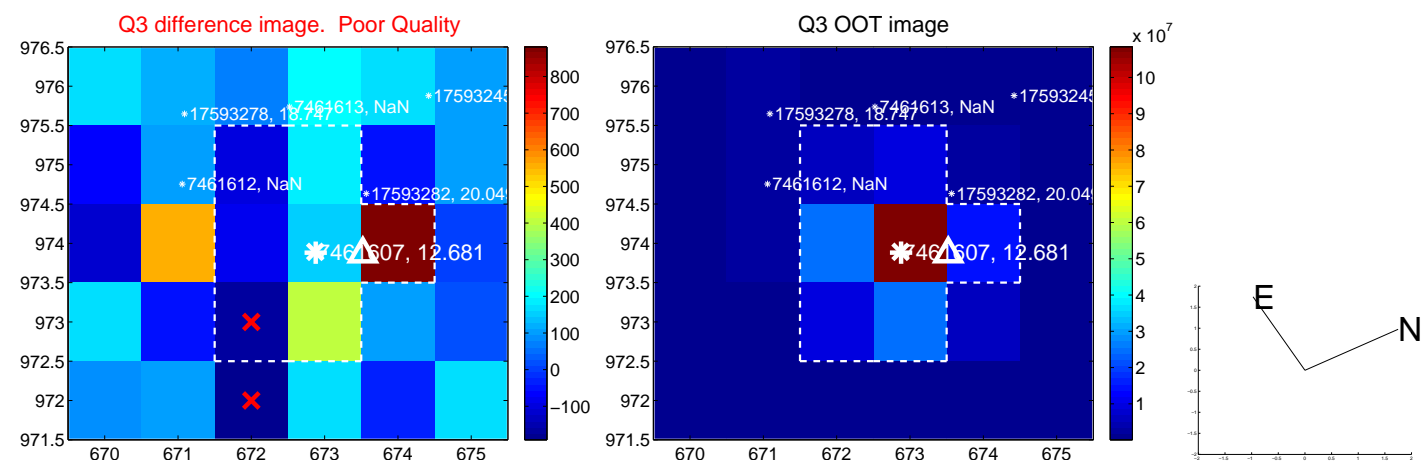
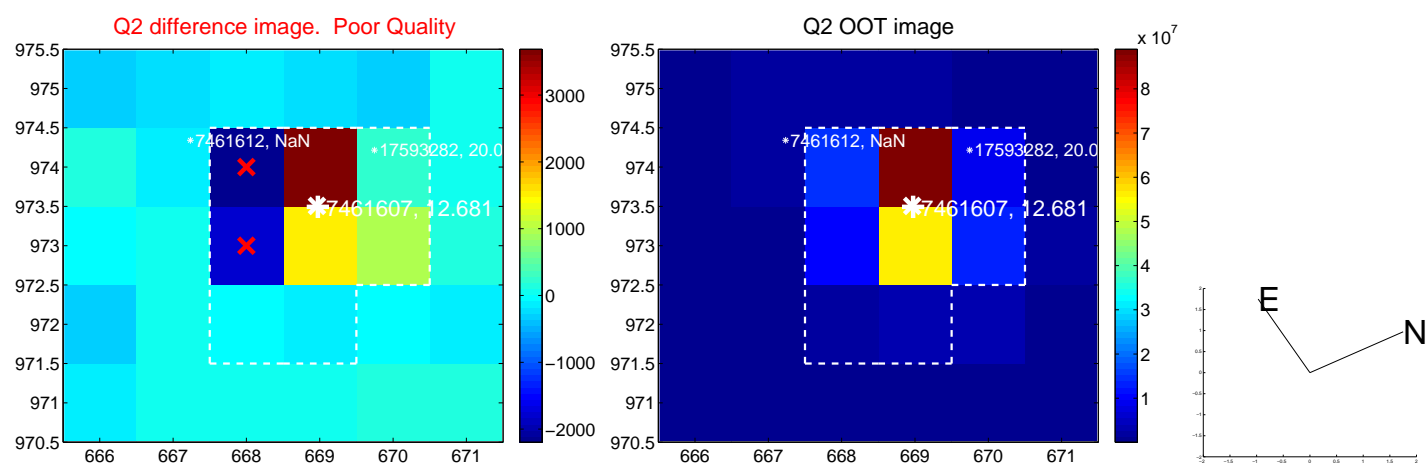
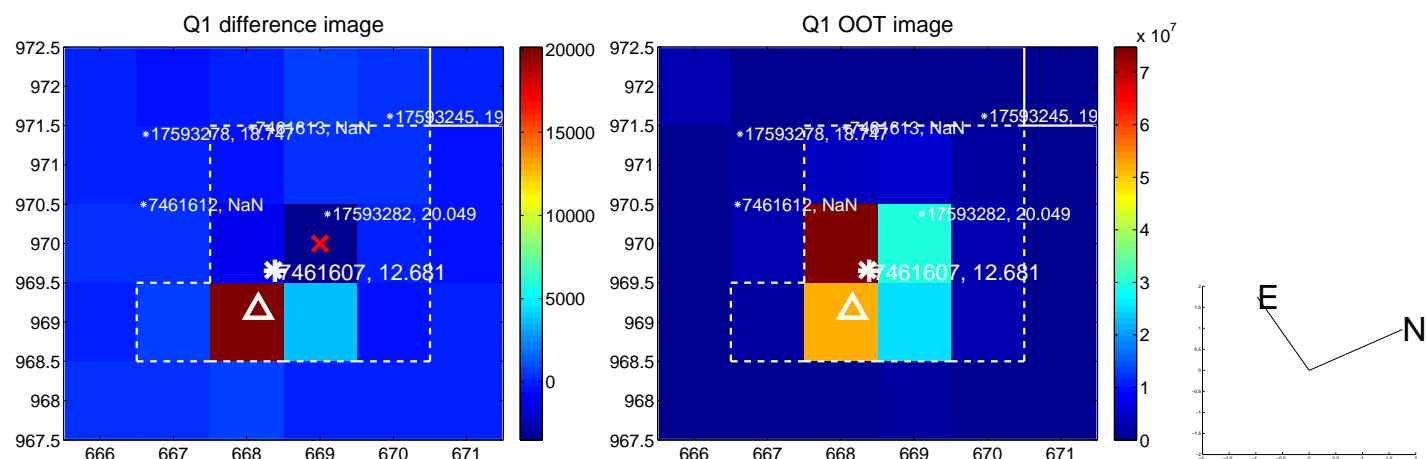
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.097 ± 0.229	0.42	-0.059 ± 0.188	0.077 ± 0.228
PRF-fit source offset from KIC position	0.166 ± 0.194	0.85	-0.132 ± 0.176	0.100 ± 0.206
photometric centroid source offset	0.03 ± 0.23	0.13	0.02 ± 0.25	0.03 ± 0.22

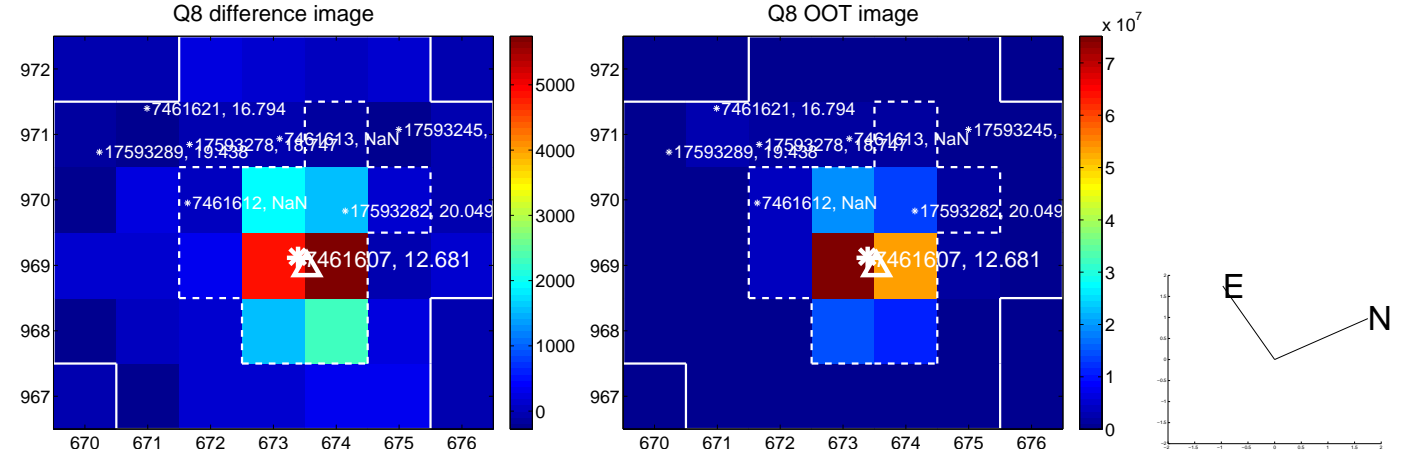
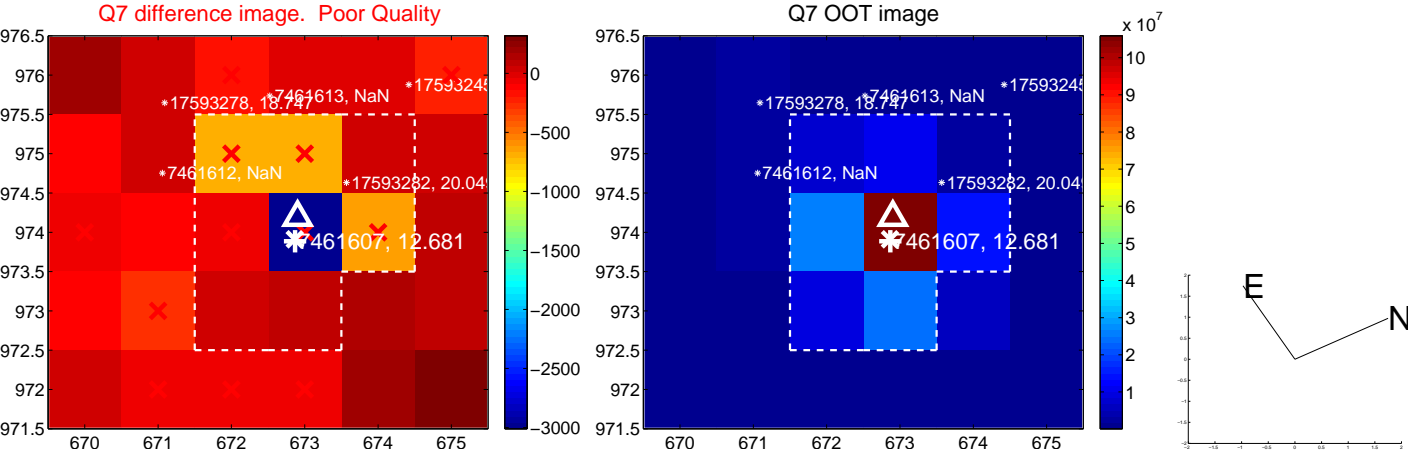
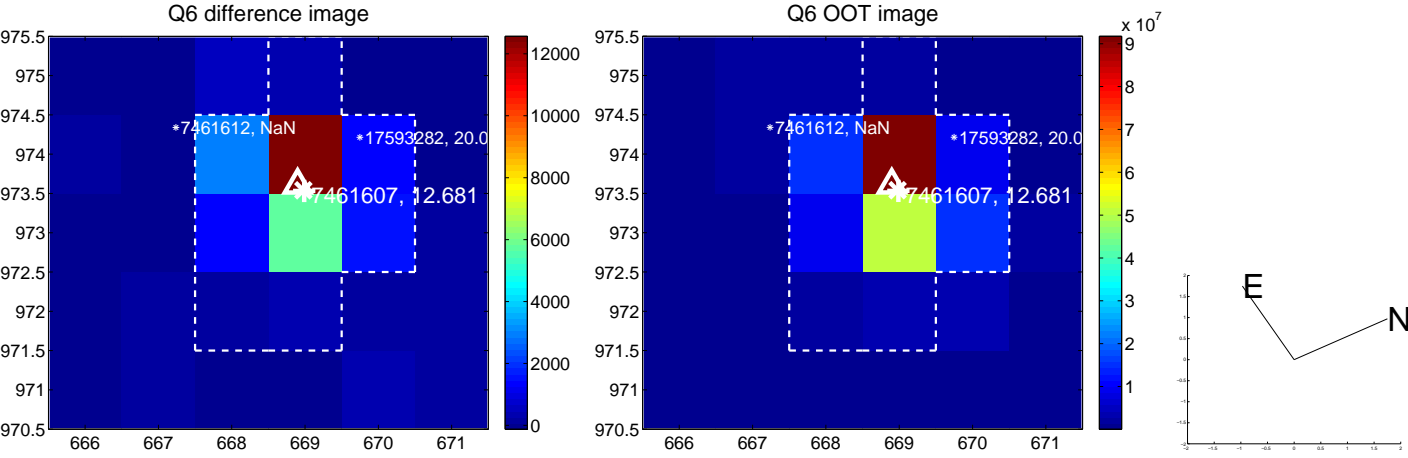
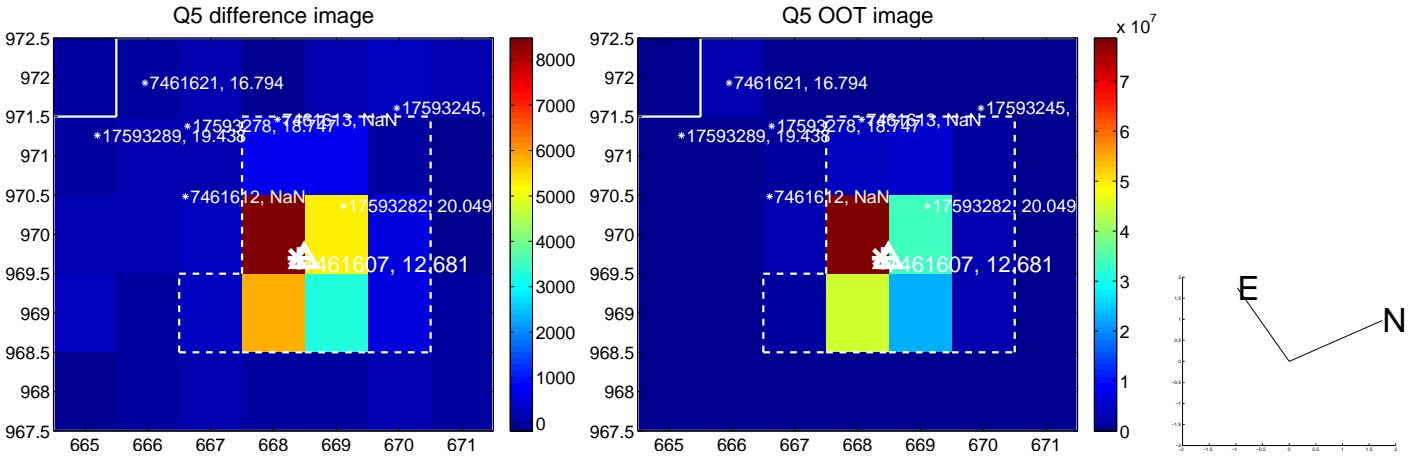


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

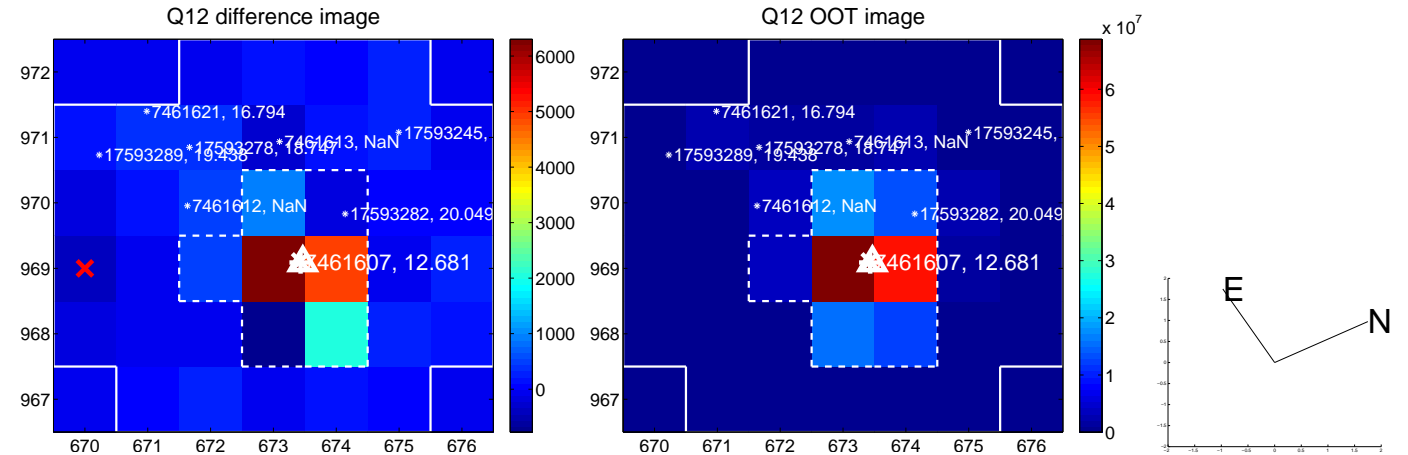
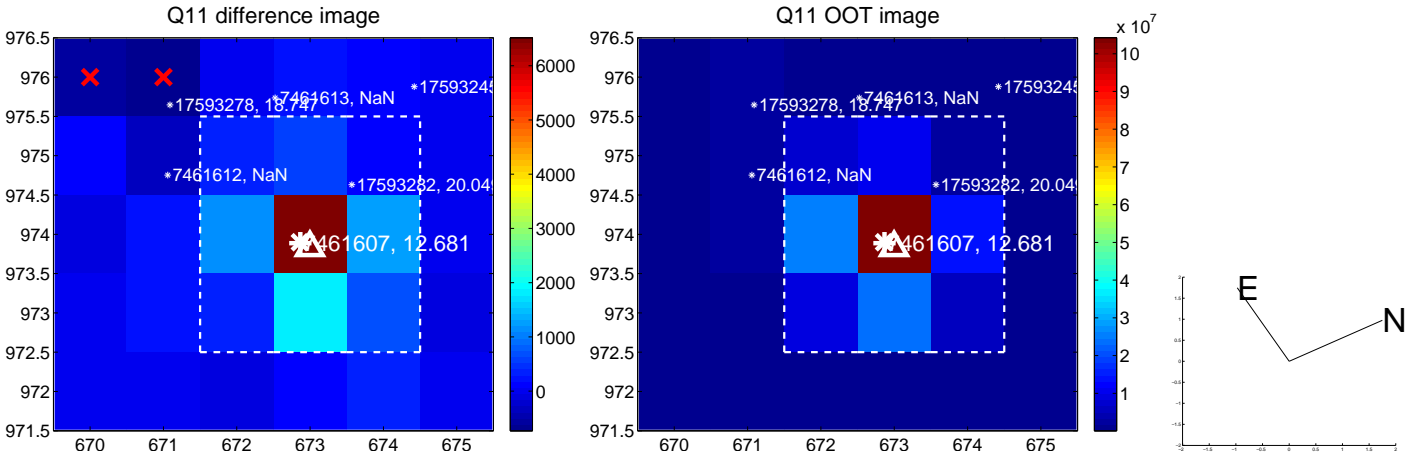
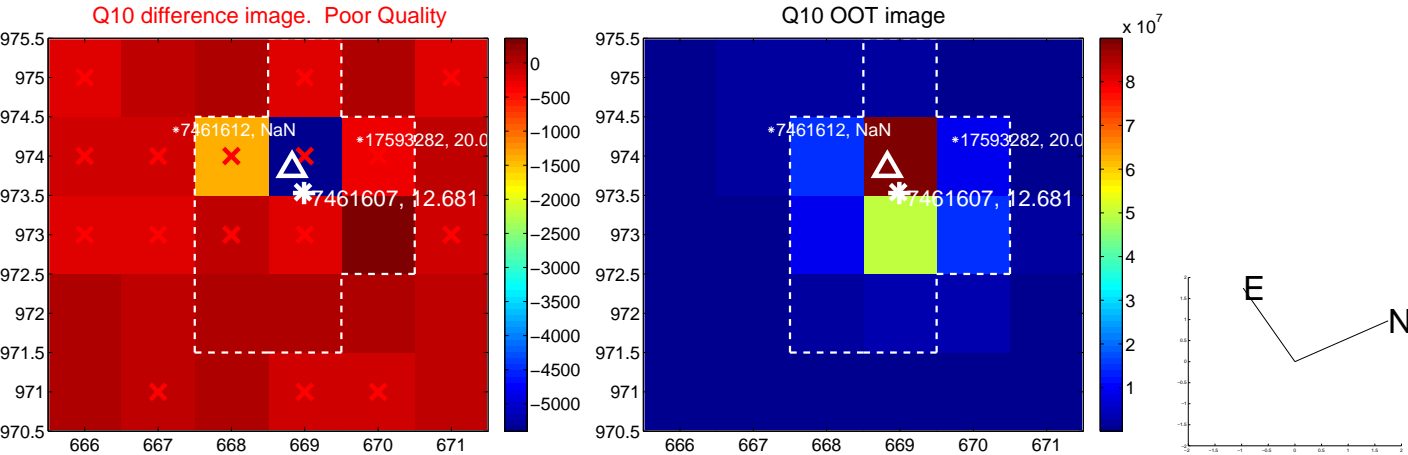
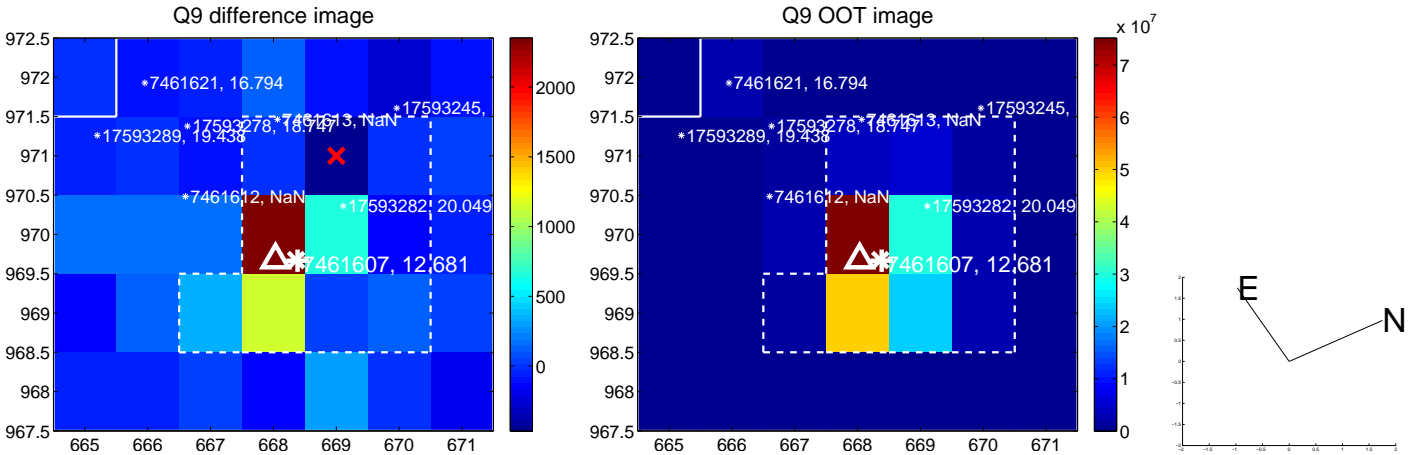
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



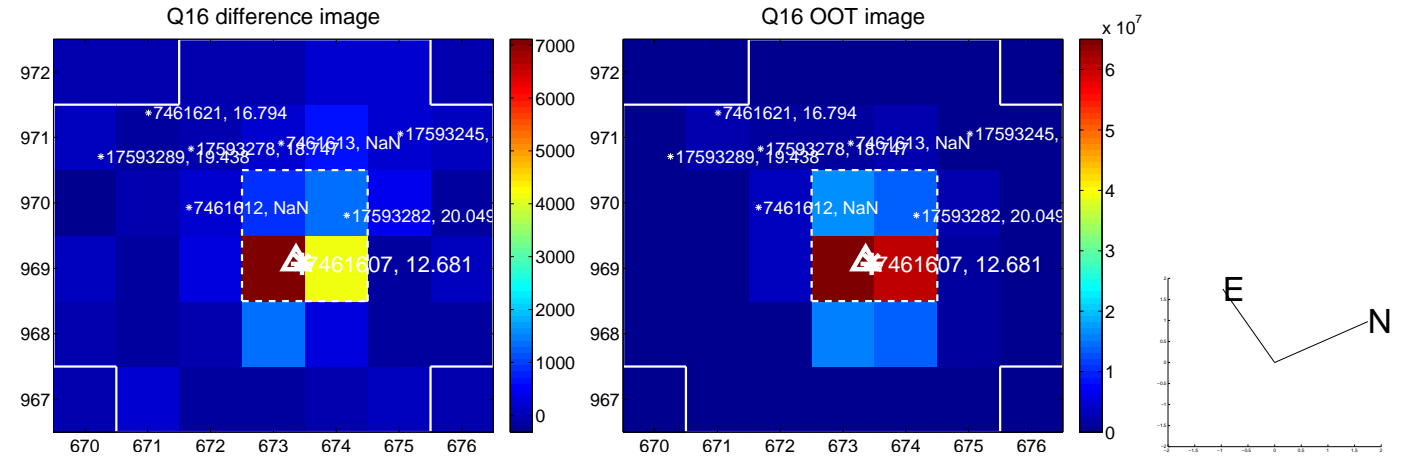
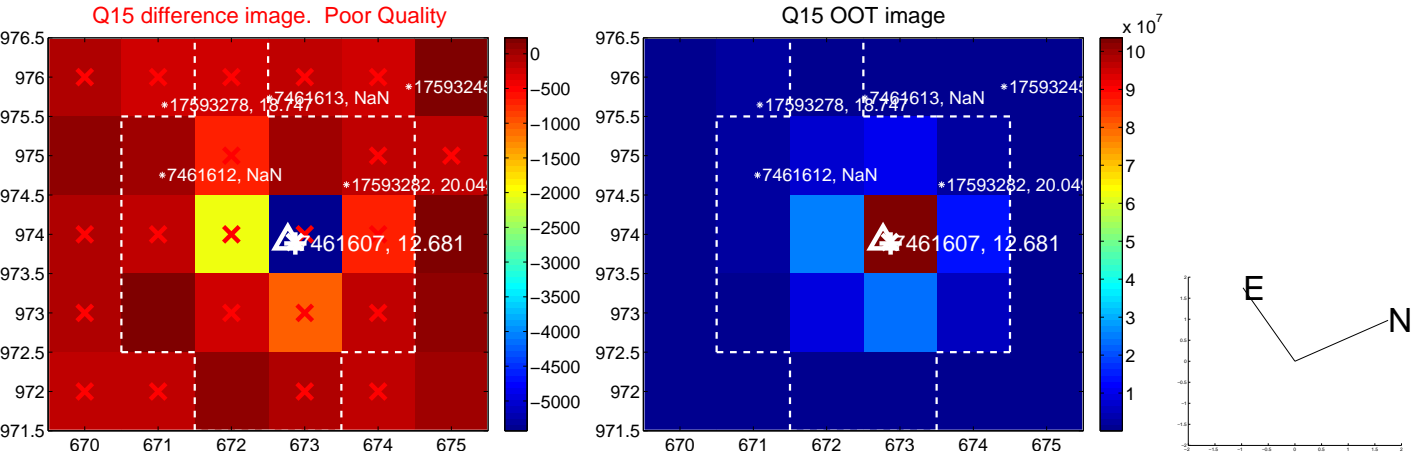
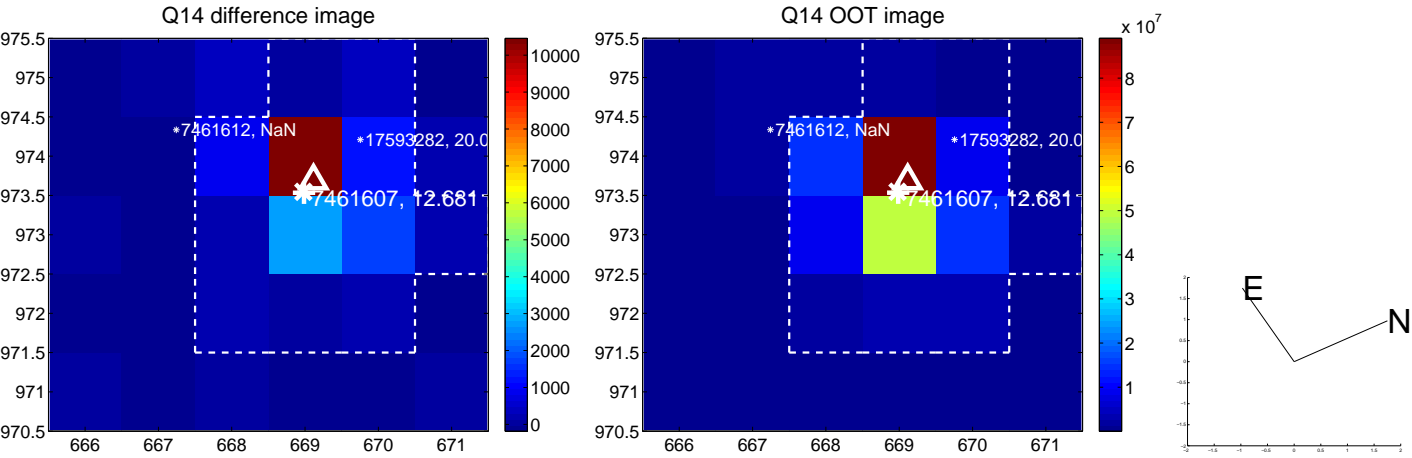
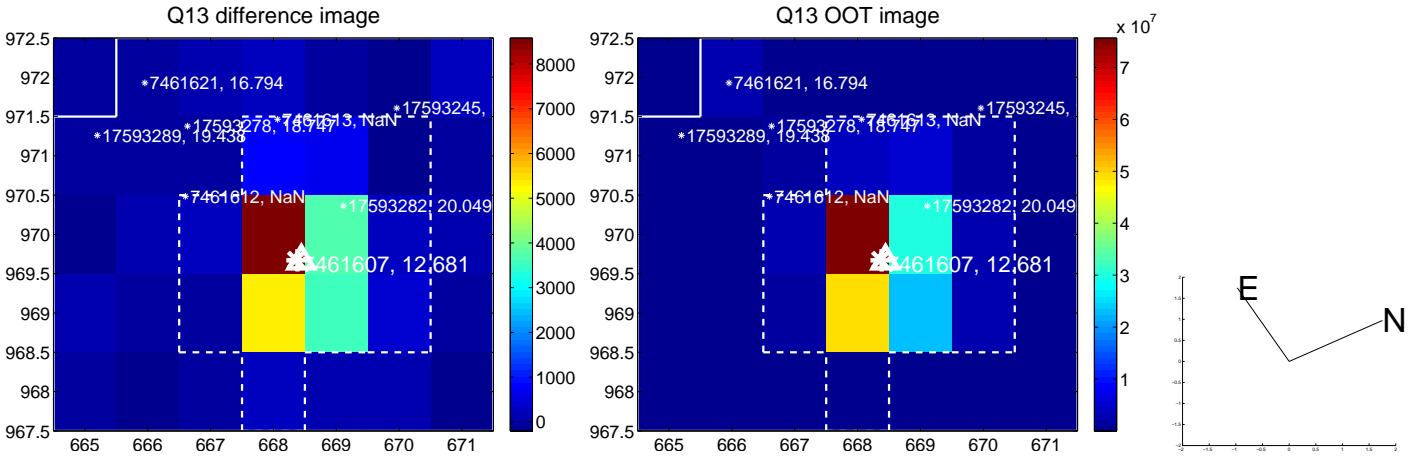
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



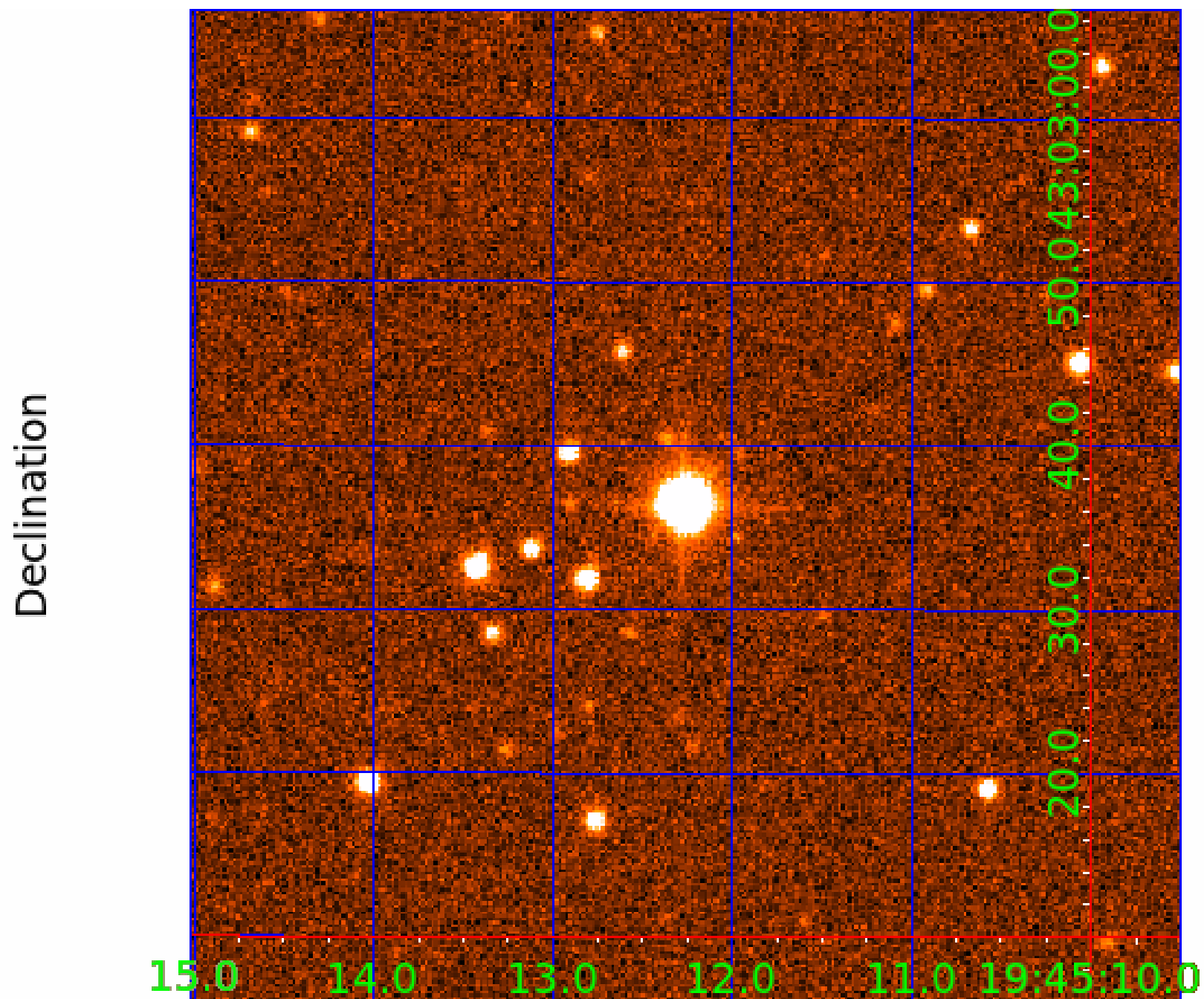
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007461607

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})
007461607-01	OBS	No	0.860173	132.039608	40.4	1.428	13.1	8.0	1.82	7216	1.24	19306.14
007461607-02	OBS	No	0.860183	132.192459	68.0	1.974	12.6	12.6	1.82	7216	1.74	19305.85
007461607-03	OBS	No	0.860171	131.885731	51.5	1.483	10.6	10.2	1.82	7216	1.52	19306.19
007461607-04	OBS	No	112.529077	158.246441	990.0	3.411	8.3	8.1	1.82	7216	7.22	29.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461607-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007461607-02	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
007461607-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
007461607-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—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.

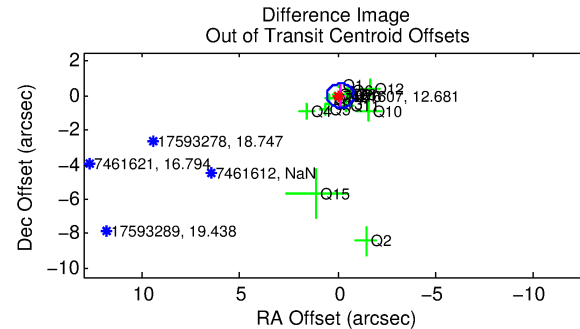
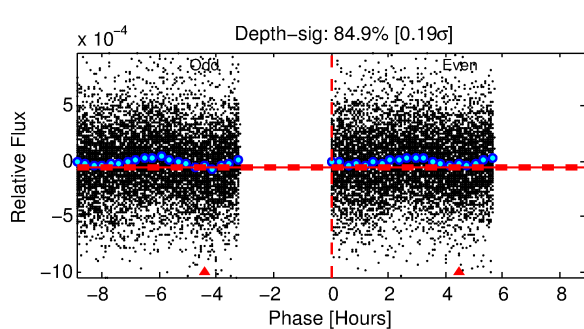
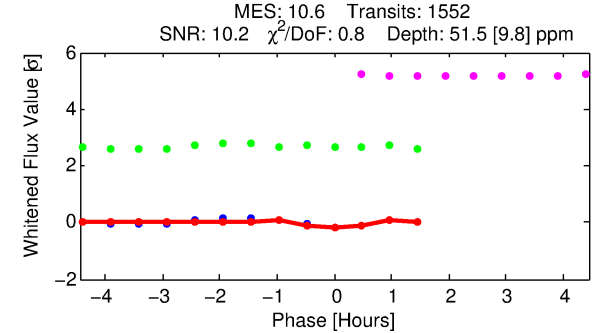
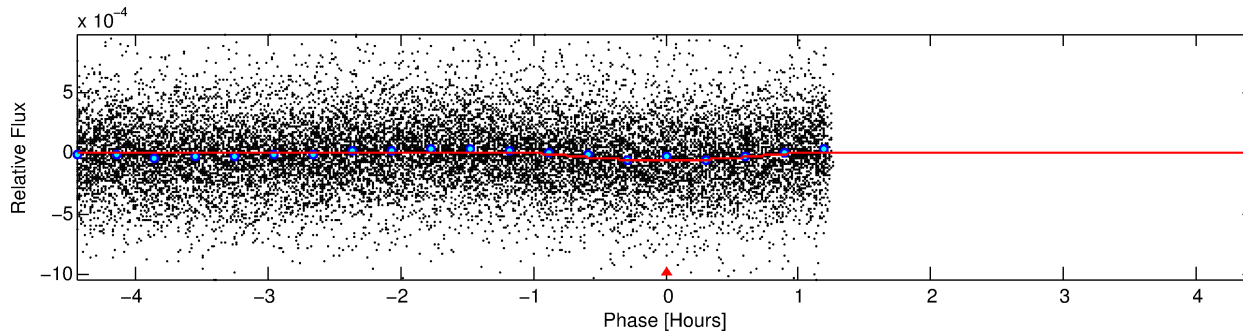
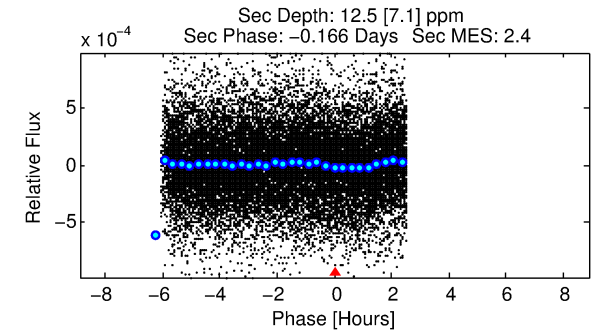
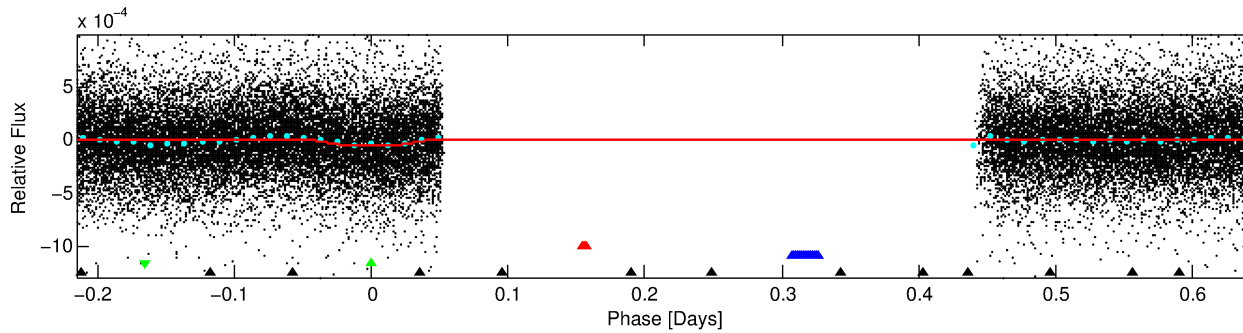
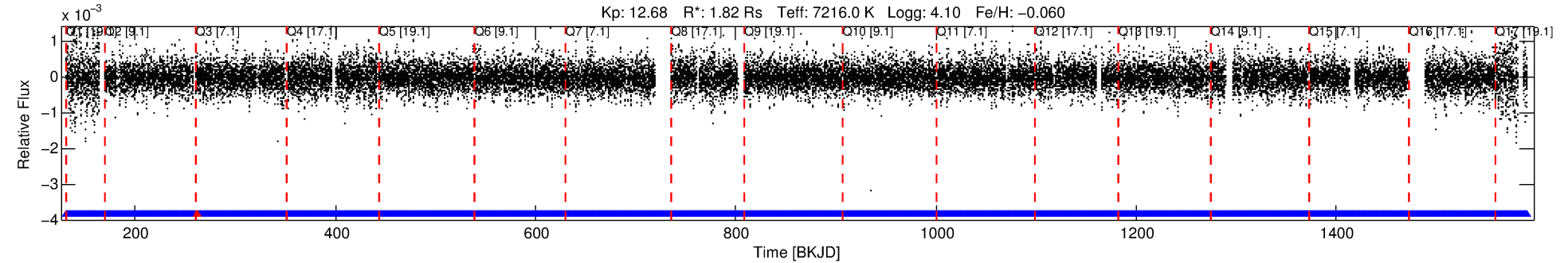
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461607-03

No Significant Match Found

DV One-Page Summary

KIC: 7461607 Candidate: 3 of 4 Period: 0.860 d



DV Fit Results:

Period = 0.86017 [0.00002] d
Epoch = 131.8857 [0.0014] BKJD
Rp/R* = 0.0076 [0.0020]
a/R* = 2.22 [2.73]
b = 0.90 [0.33]
Seff = 19306.19 [7511.07]
Teq = 3006 [292] K
Rp = 1.52 [0.62] Re
a = 0.0204 [0.0051] AU
Ag = 1.25 [1.06] [0.23σ]
Teffp = 4911 [972] K [1.88σ]

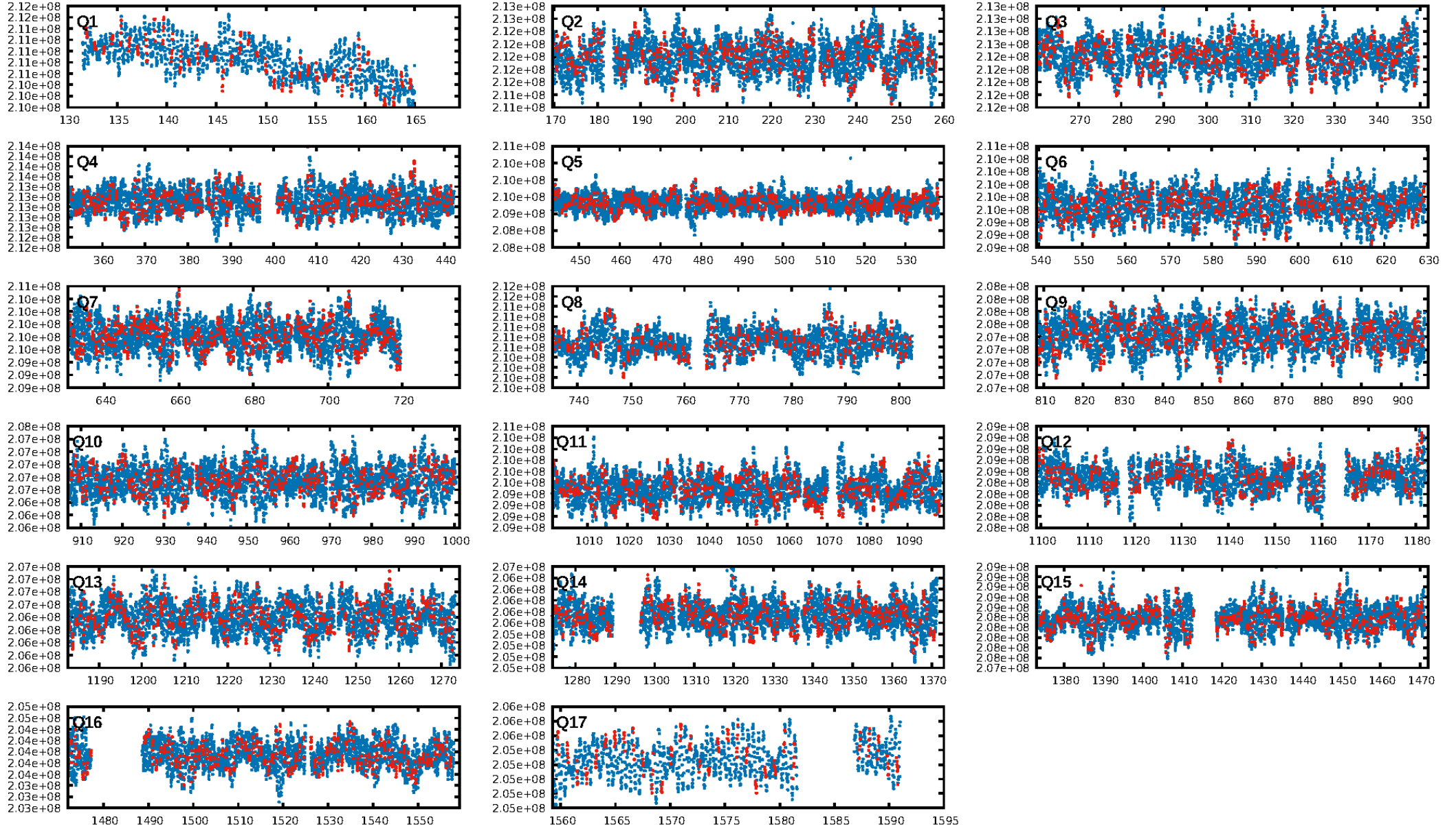
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.20e-19
RollingBand-fgt: 1.00 [1481/1482]
GhostDiagnostic-chr: 8.307
Centroid-sig: 32.2%
Centroid-so: 0.310 arcsec [0.88σ]
OotOffset-rm: 0.135 arcsec [0.58σ]
KicOffset-rm: 0.209 arcsec [0.79σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 0.00 [0/17]

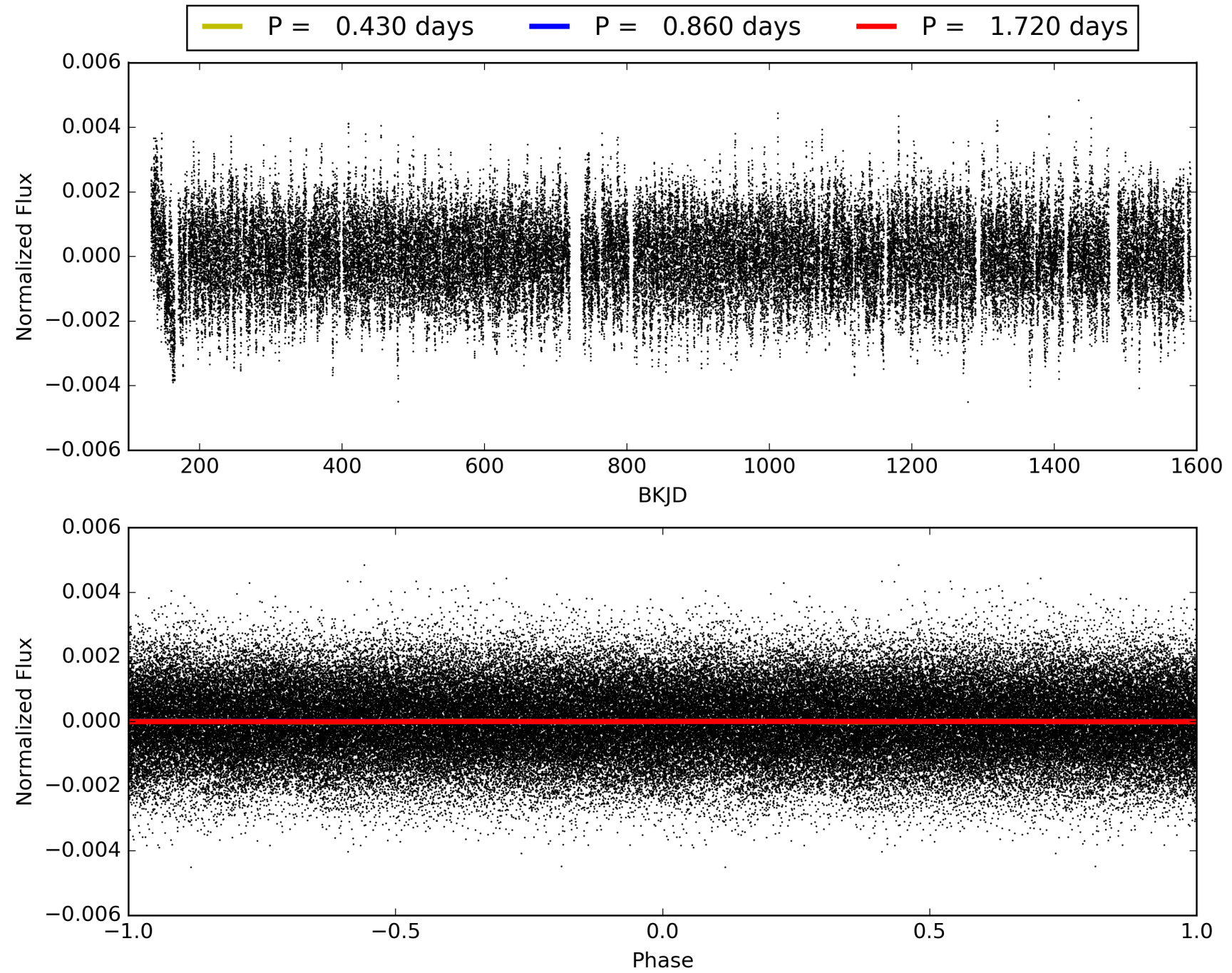
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 05:59:49 Z

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

TCE 007461607-03, PDC Light Curves

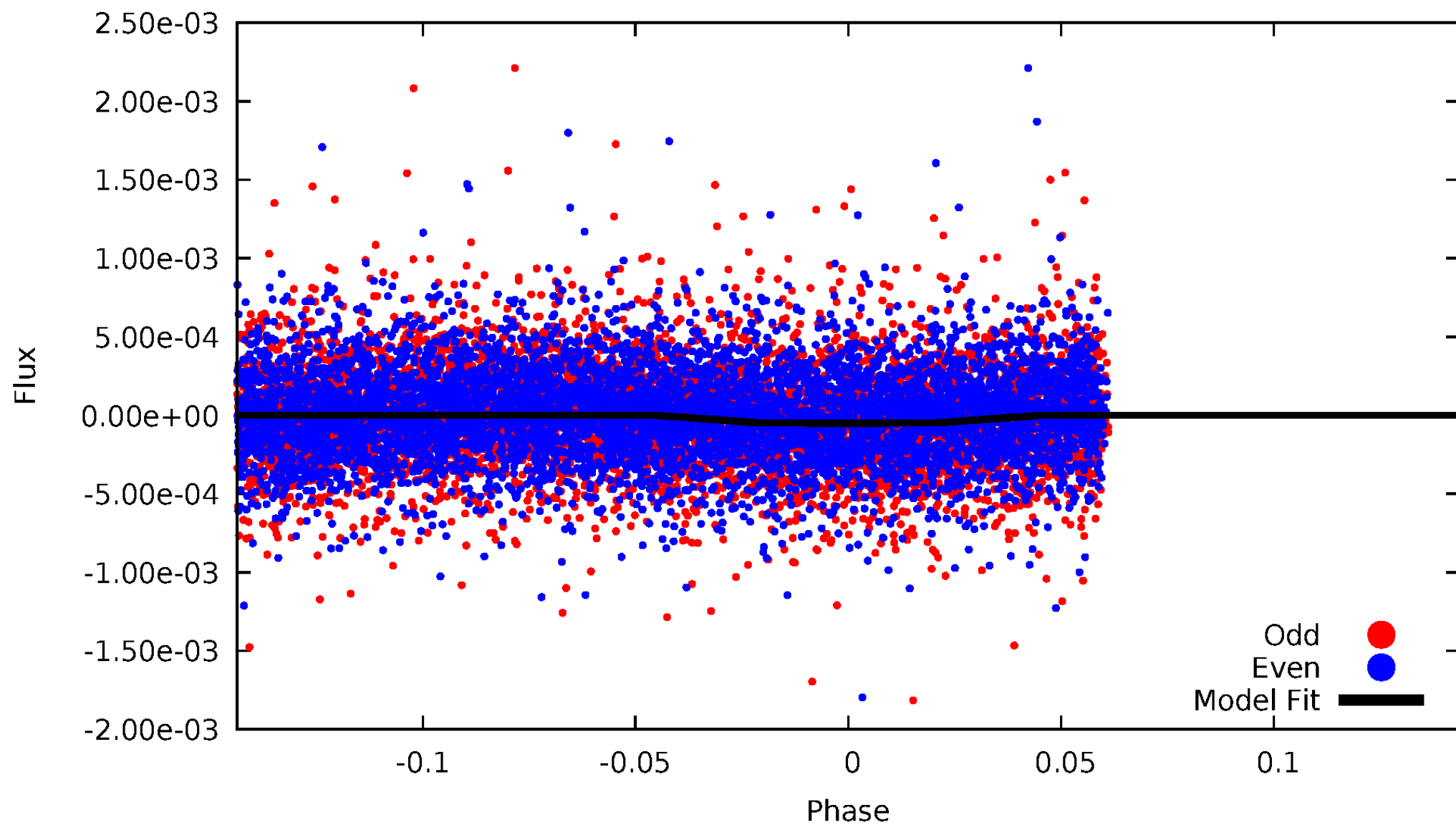


TCE 007461607-03



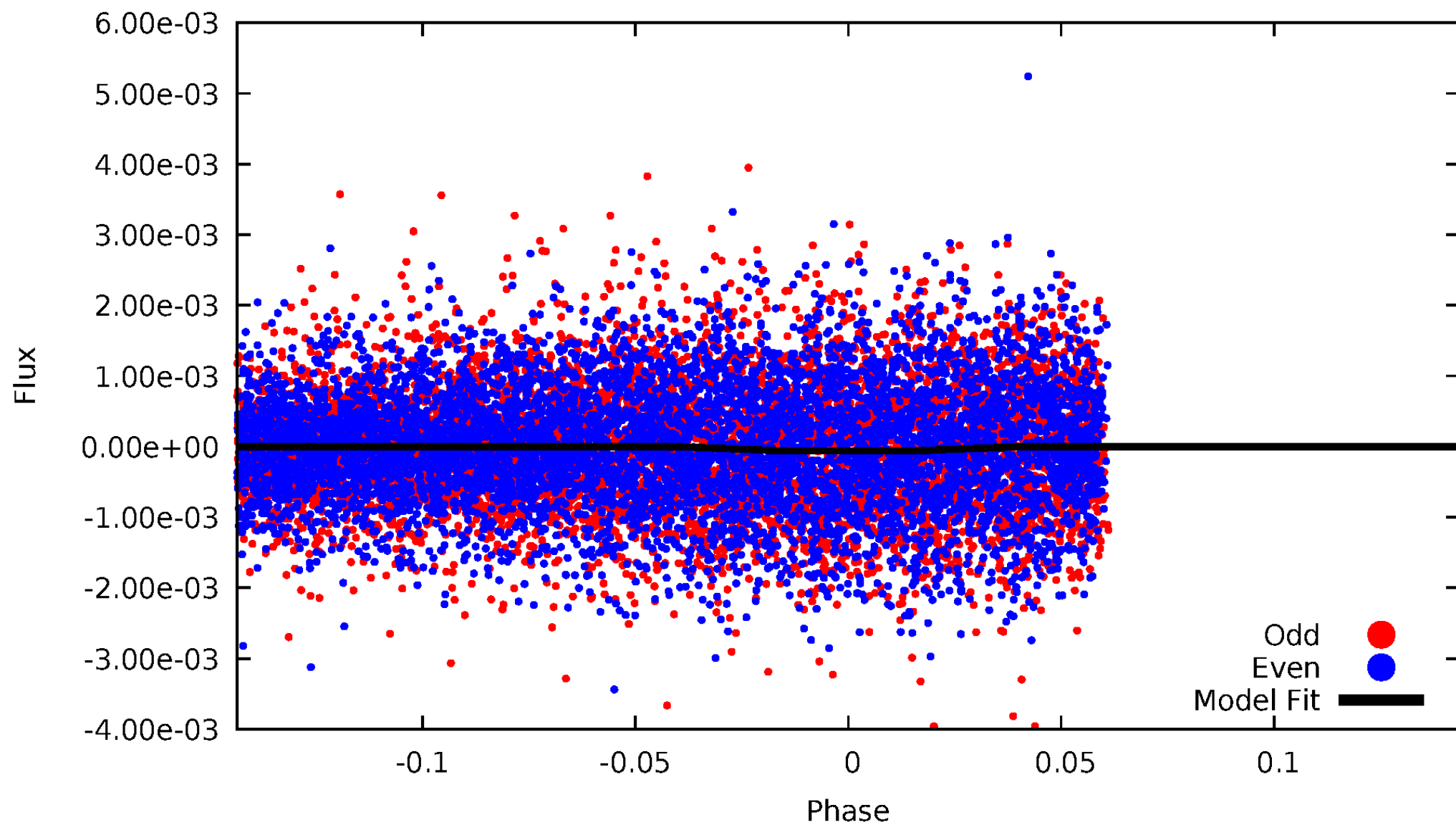
DV Odd/Even

TCE 007461607-03

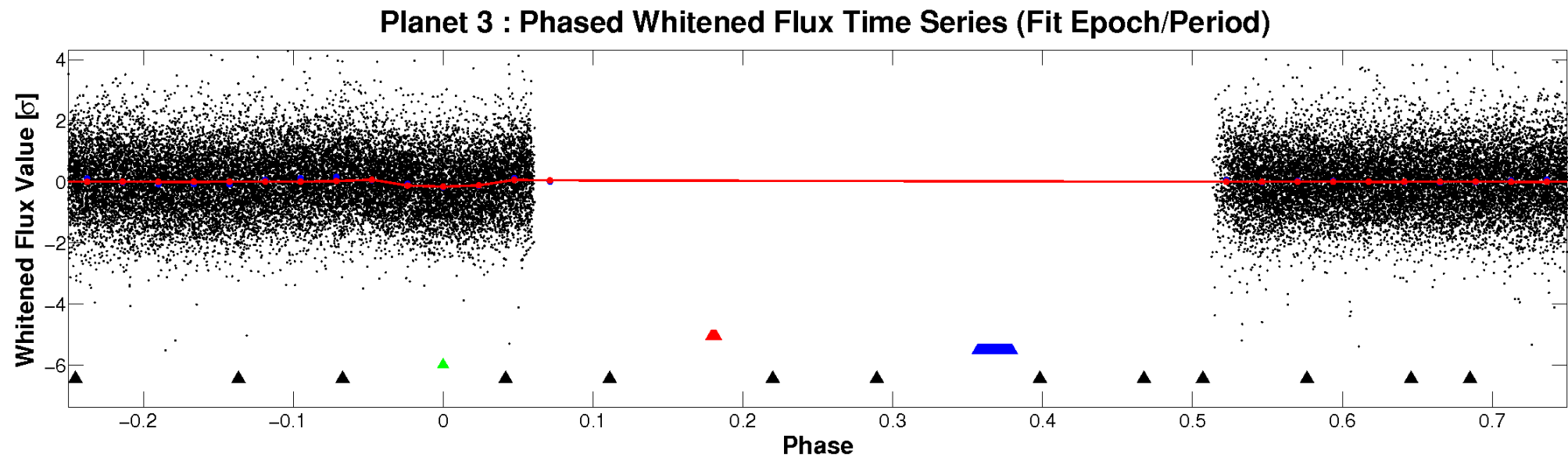
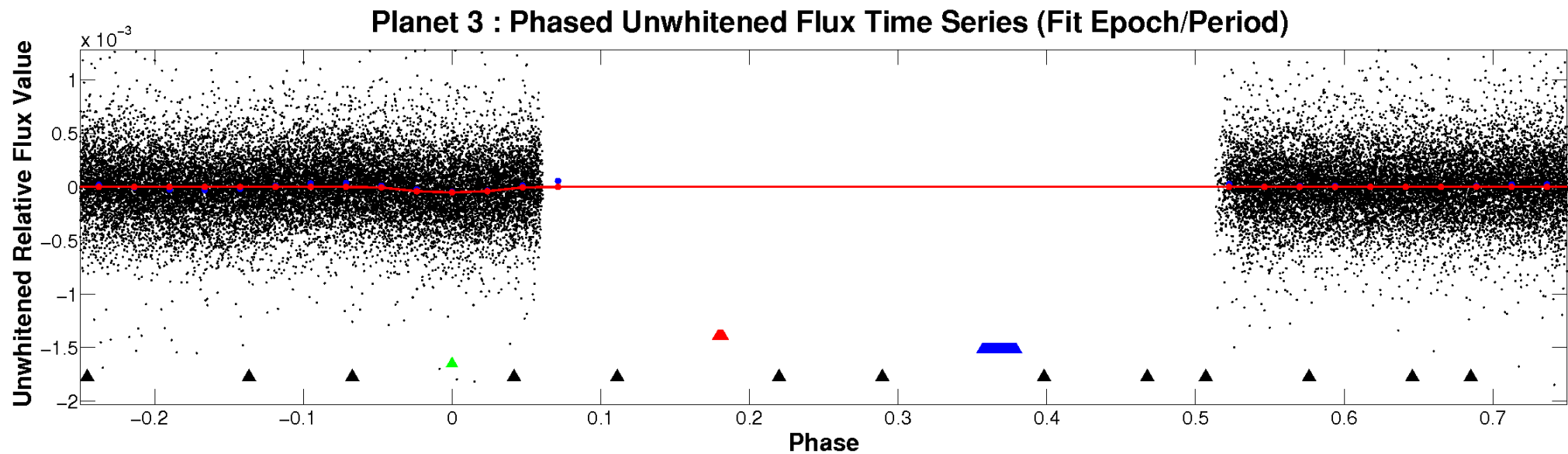


ALT Odd/Even

TCE 007461607-03

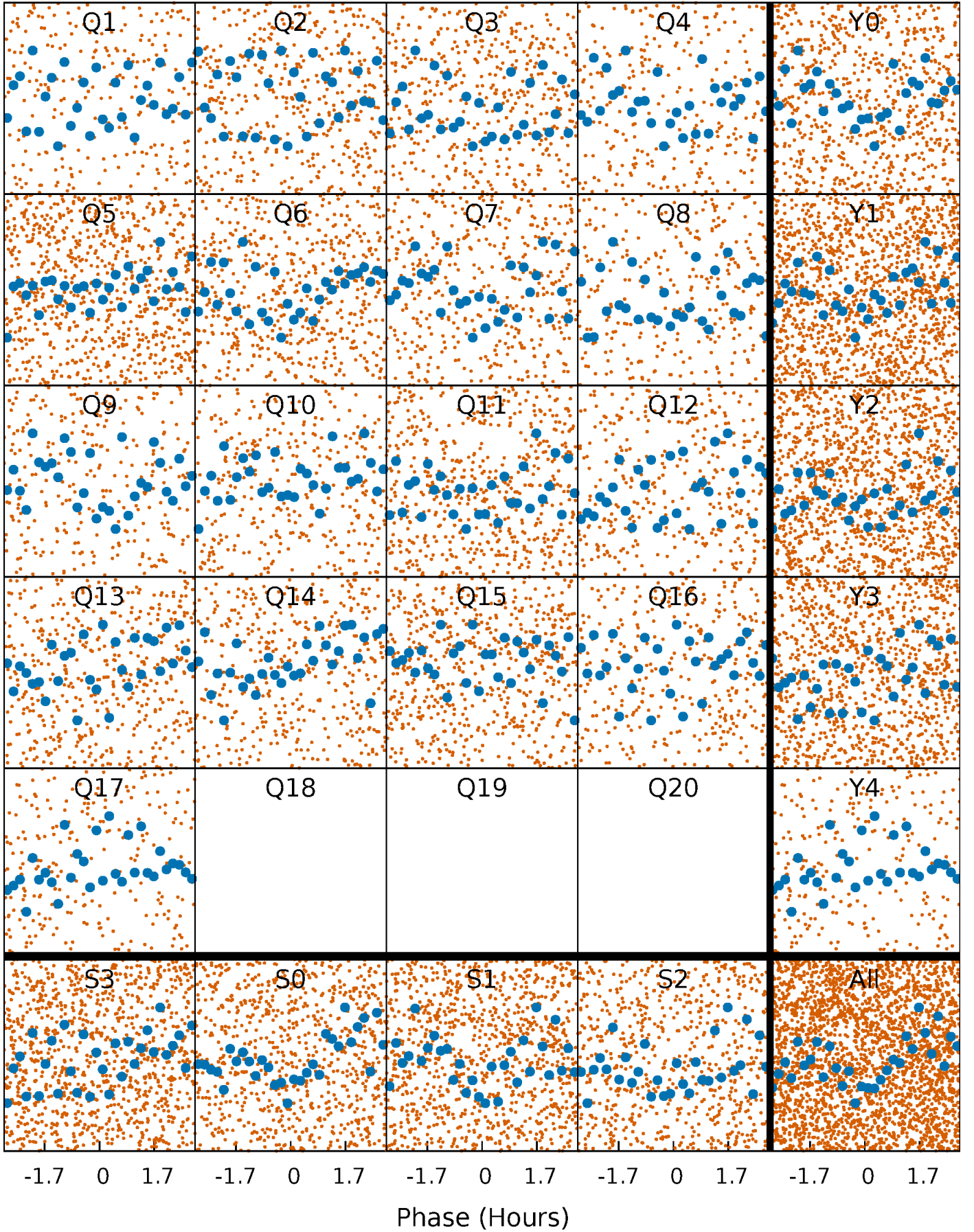


Non-Whitened Vs. Whitened Light Curve



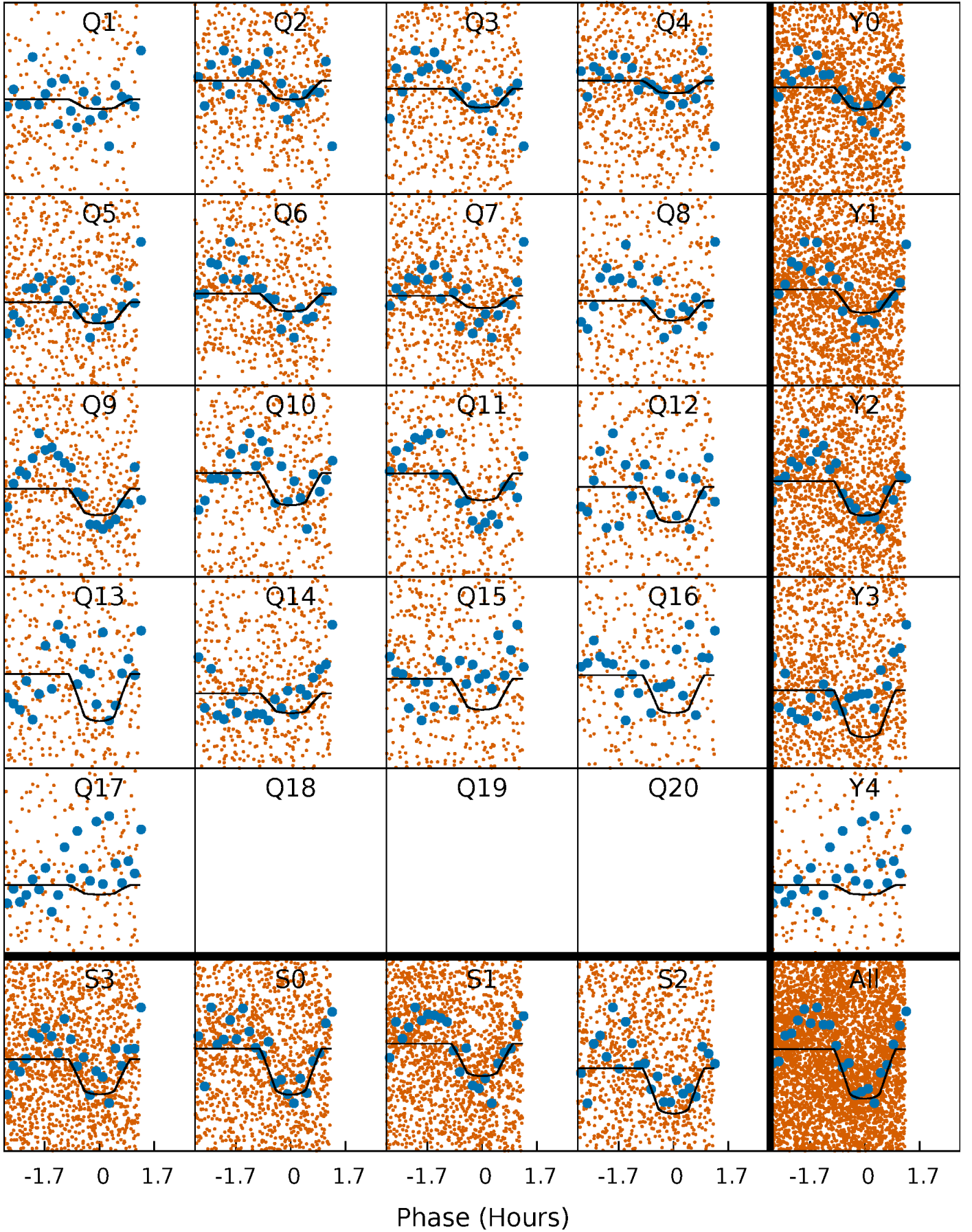
PDC Quarter-Phased Transit Curves

TCE 007461607-03 P= 0.860171 Days $T_0=131.885731$ (BKJD)



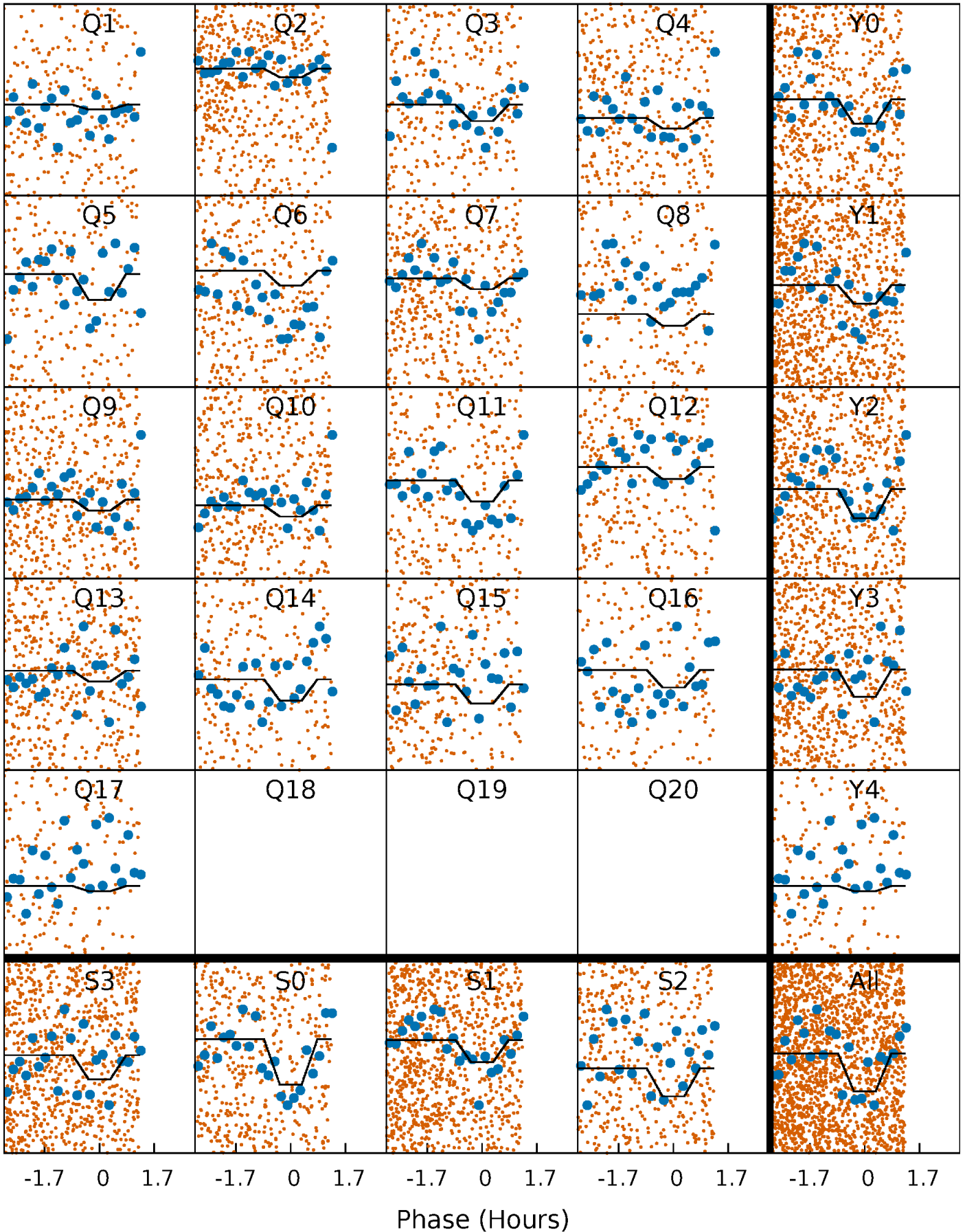
DV Quarter-Phased Transit Curves

TCE 007461607-03 P= 0.860171 Days $T_0=131.885731$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

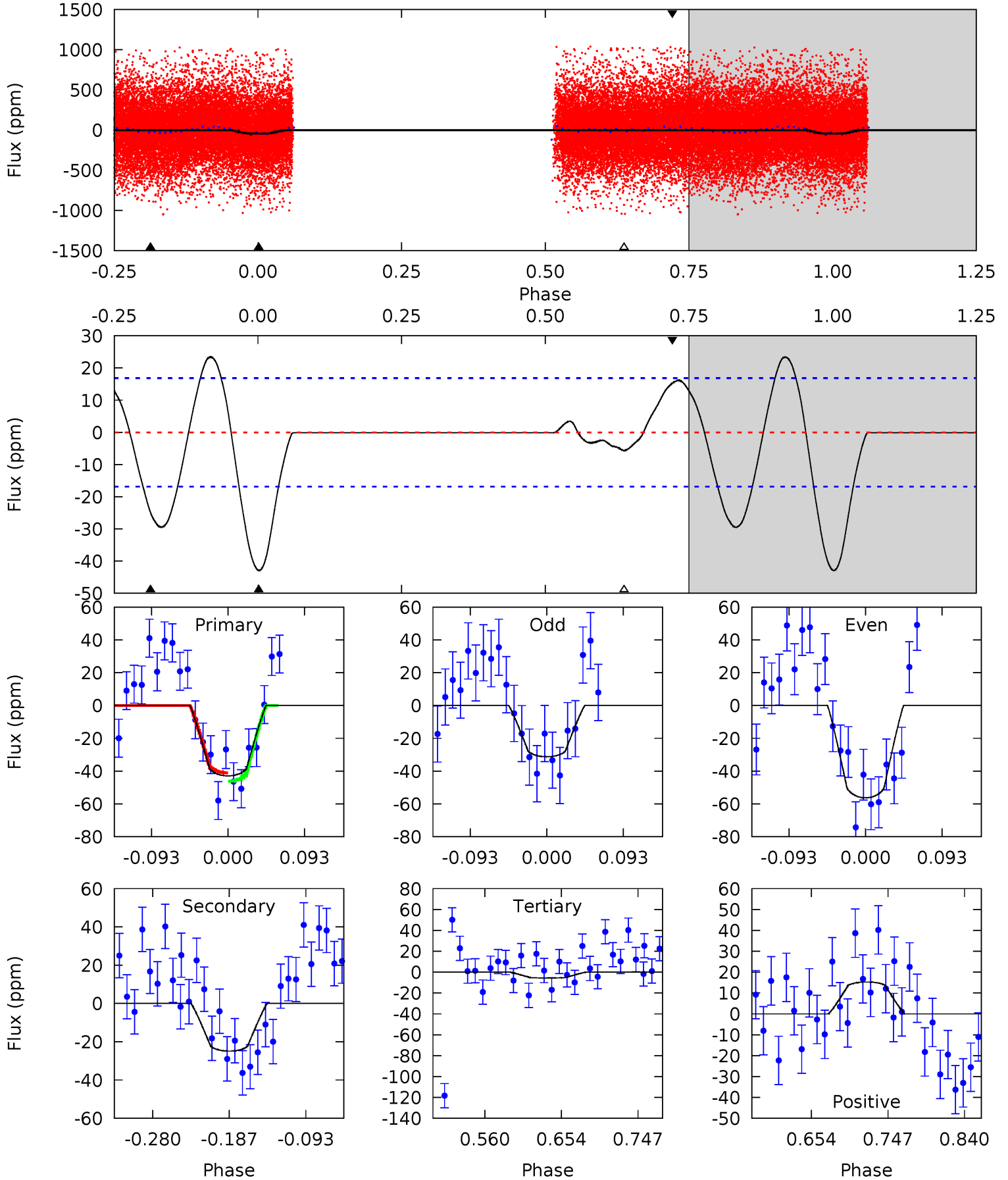
TCE 007461607-03 $P = 0.860171$ Days $T_0 = 131.885723$ (BKJD)



DV Model-Shift Uniqueness Test

007461607-03, P = 0.860171 Days, E = 131.025560 Days

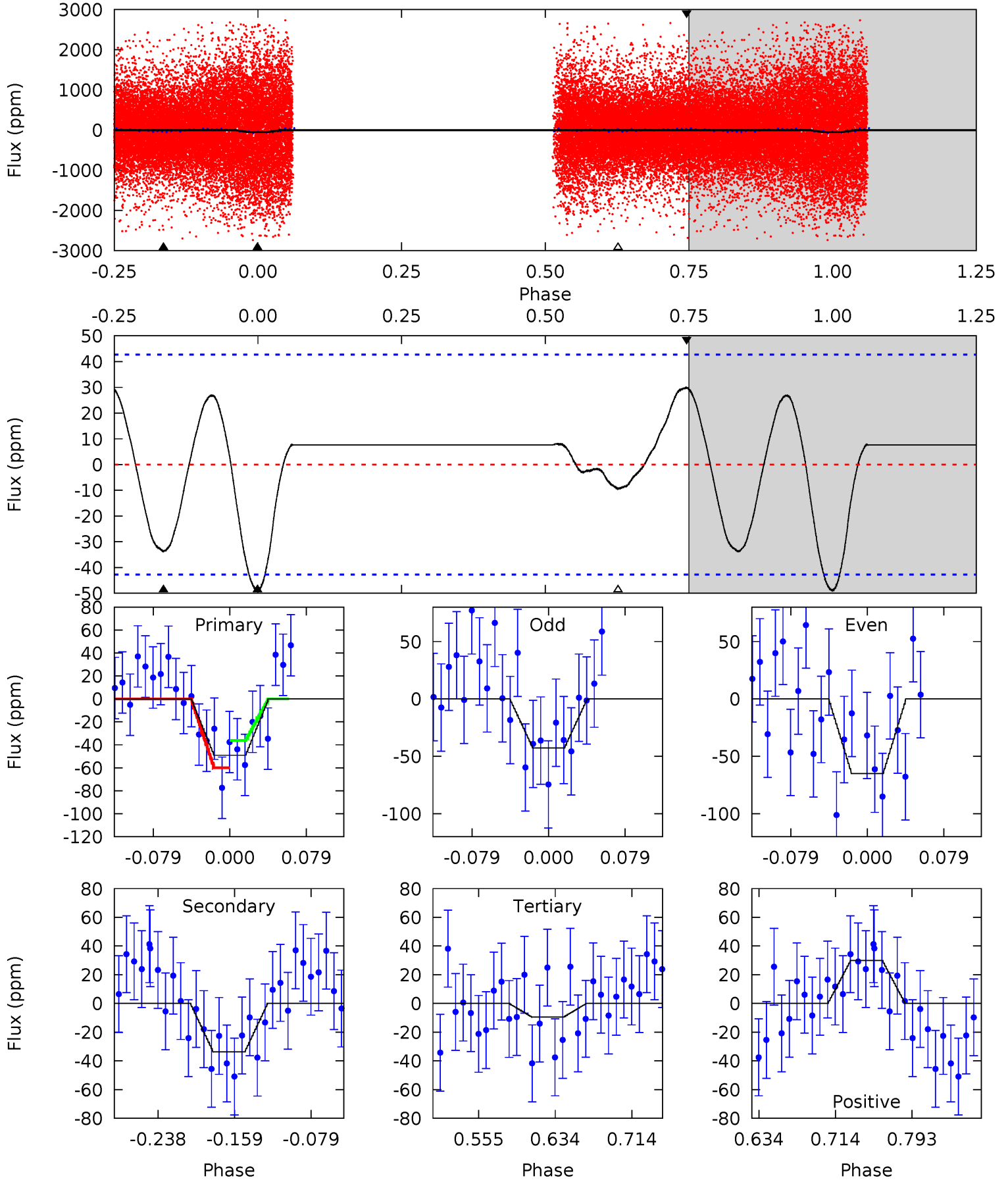
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	6.76	1.54	4.15	4.58	1.68	2.00	10.1	7.51	5.22	2.62	3.43	0.85	0.35	0.70



Alt Model-Shift Uniqueness Test

007461607-03, P = 0.860171 Days, E = 131.025552 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.30	3.64	1.03	3.24	4.61	1.75	1.36	4.27	2.06	2.62	0.41	1.20	1.14	0.38	1.17



Stellar Parameters For KIC 007461607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7216^{+230}_{-316}	$4.103^{+0.149}_{-0.182}$	$-0.060^{+0.200}_{-0.350}$	$1.818^{+0.563}_{-0.422}$	$1.525^{+0.212}_{-0.236}$	$0.358^{+0.277}_{-0.167}$
	+3%/-4%	+4%/-4%	+333%/-583%	+31%/-23%	+14%/-15%	+77%/-47%
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 007461607-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-25 ± 4	$1.51^{+0.46}_{-0.44}$	4228^{+323}_{-307}	5640^{+1083}_{-696}	$2.473^{+2.476}_{-1.046}$
Alt.	-34 ± 9	$1.54^{+0.48}_{-0.43}$	4237^{+300}_{-324}	6015^{+1238}_{-878}	$3.141^{+3.285}_{-1.469}$

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 $A_{obs} \gg 1.0$

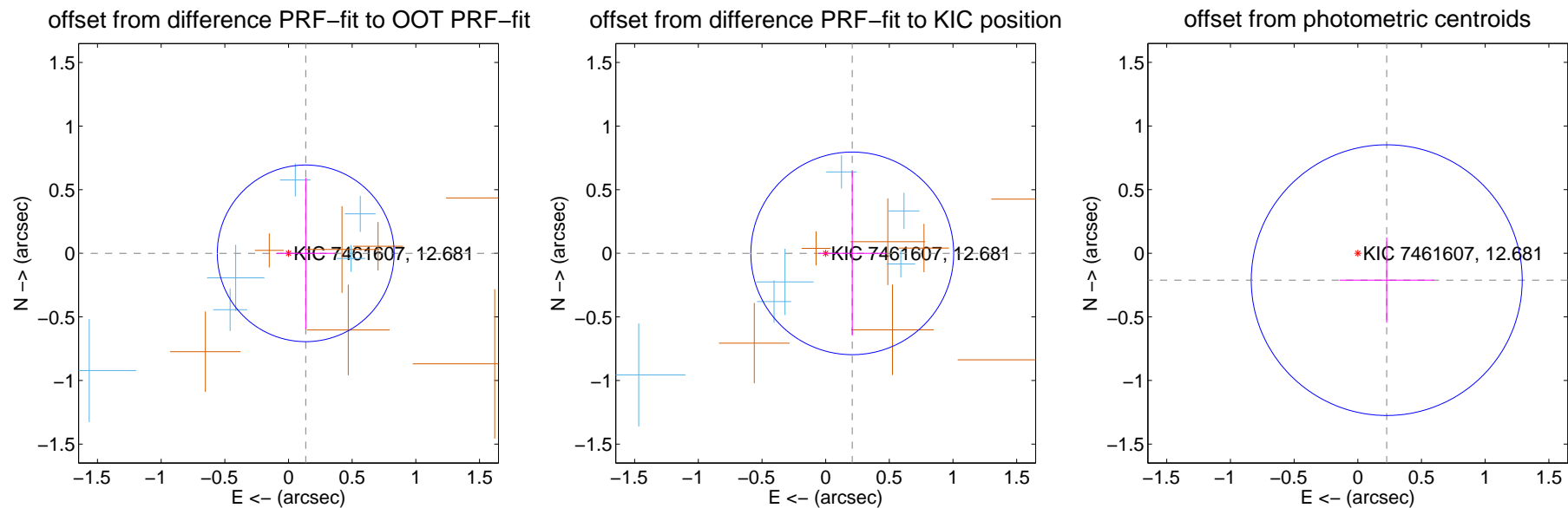
DV Centroid Data

Supplemental centroid analysis for 007461607-03. Kepler magnitude: 12.68. Transit SNR 10.22

There are 6 quarters with good PRF difference image offsets

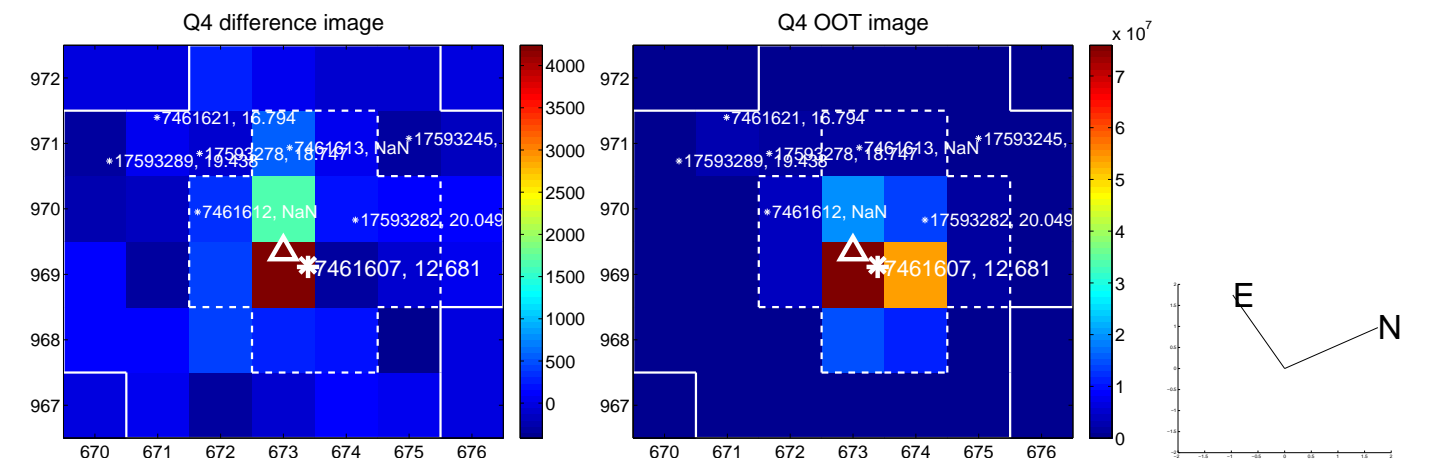
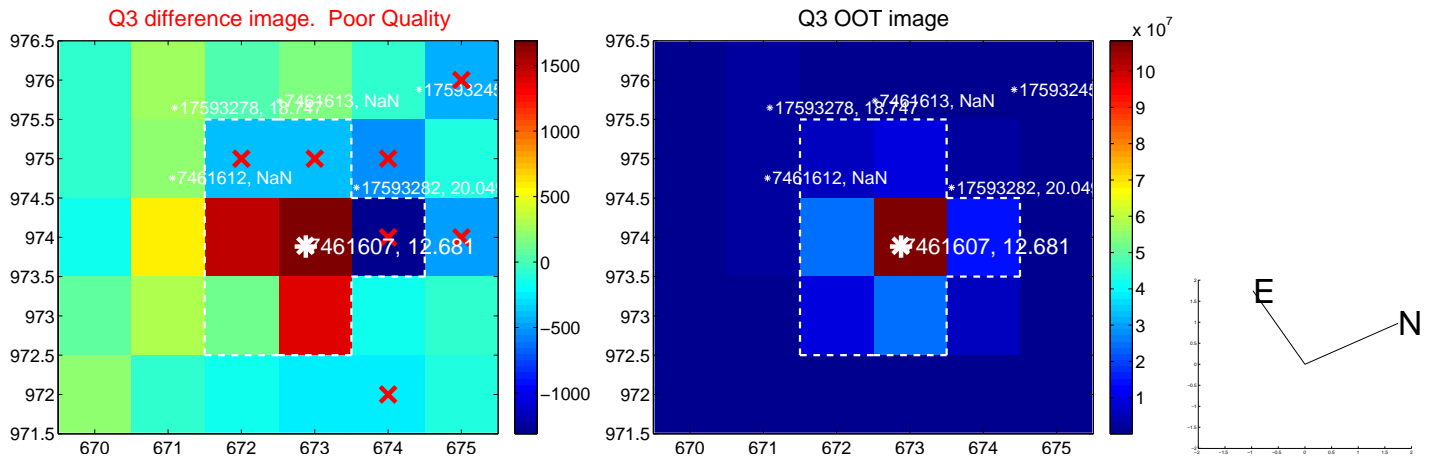
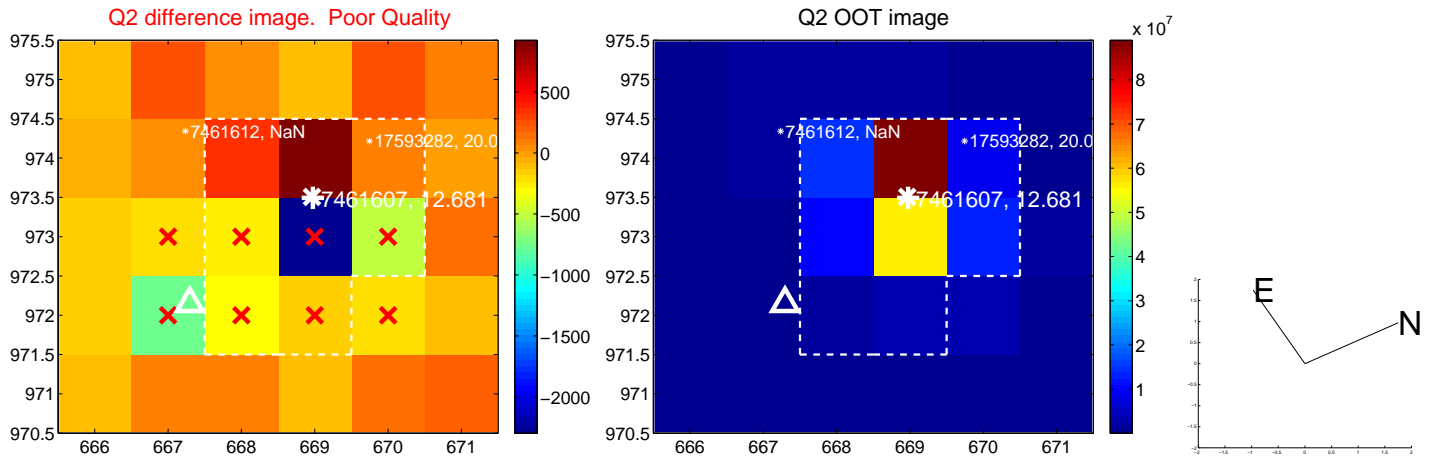
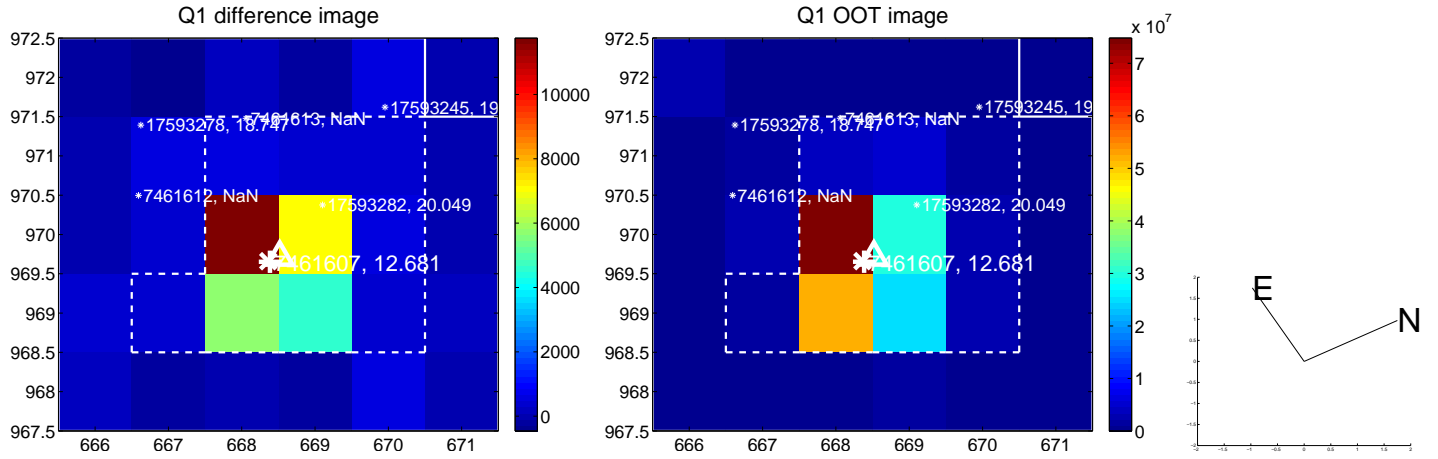
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.135 ± 0.231	0.58	-0.135 ± 0.231	-0.000 ± 0.593
PRF-fit source offset from KIC position	0.209 ± 0.265	0.79	-0.209 ± 0.265	-0.001 ± 0.646
photometric centroid source offset	0.31 ± 0.35	0.88	-0.23 ± 0.37	-0.21 ± 0.33

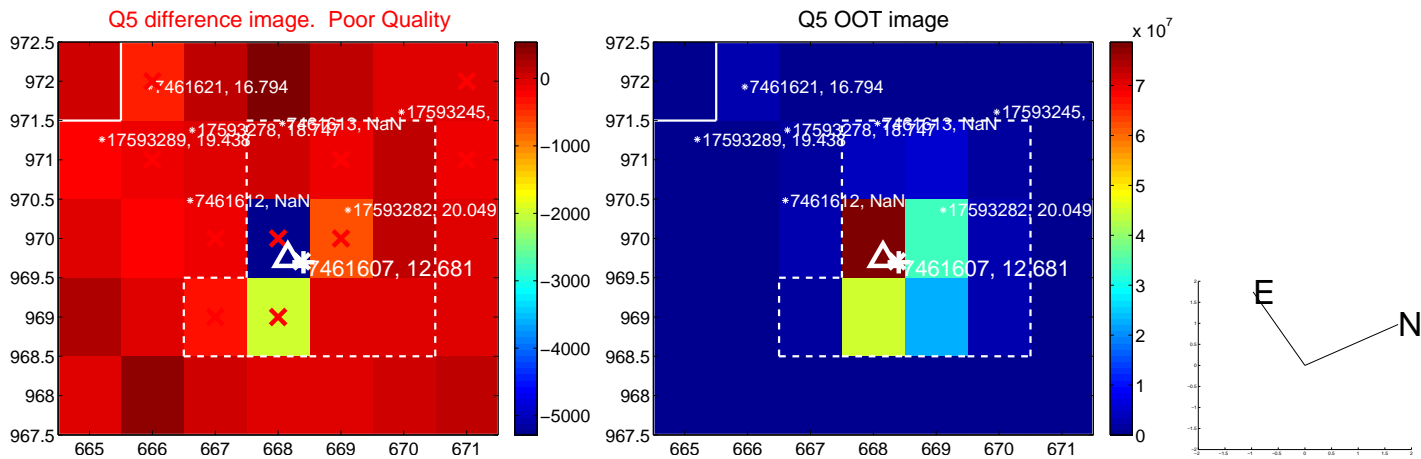


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

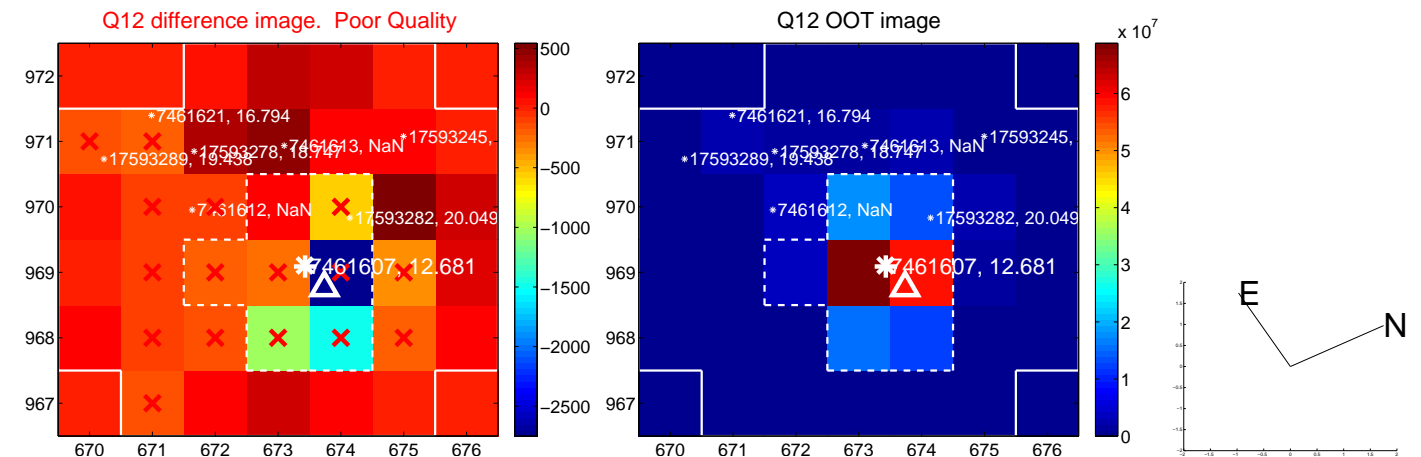
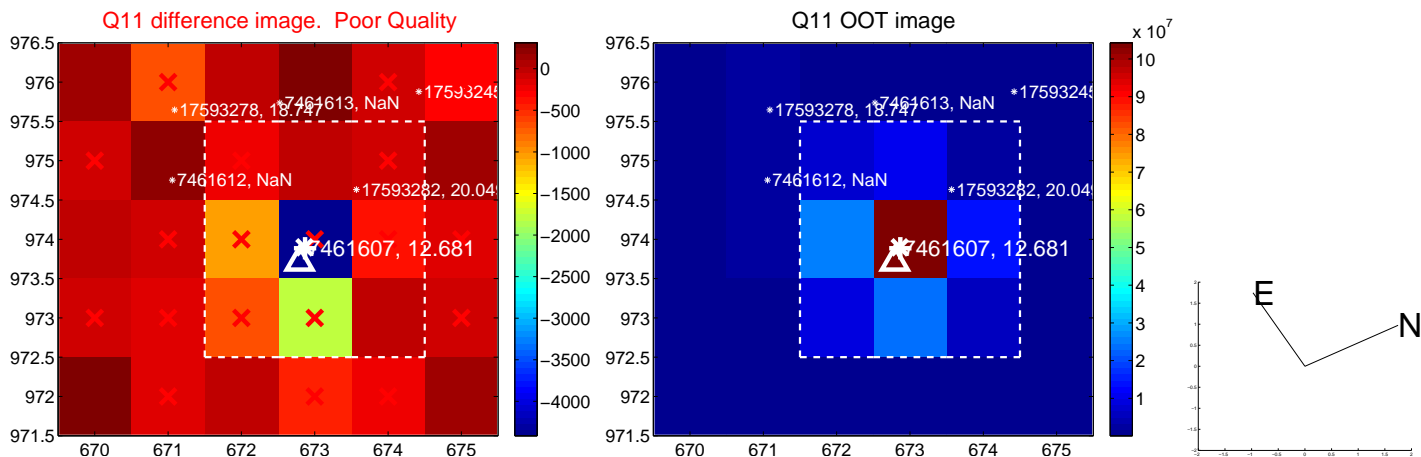
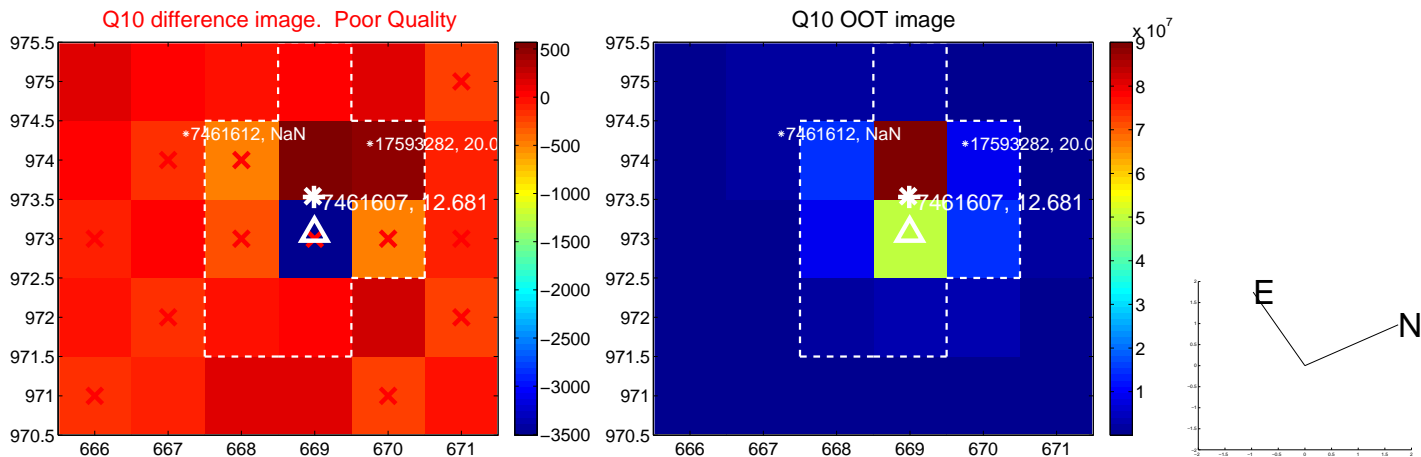
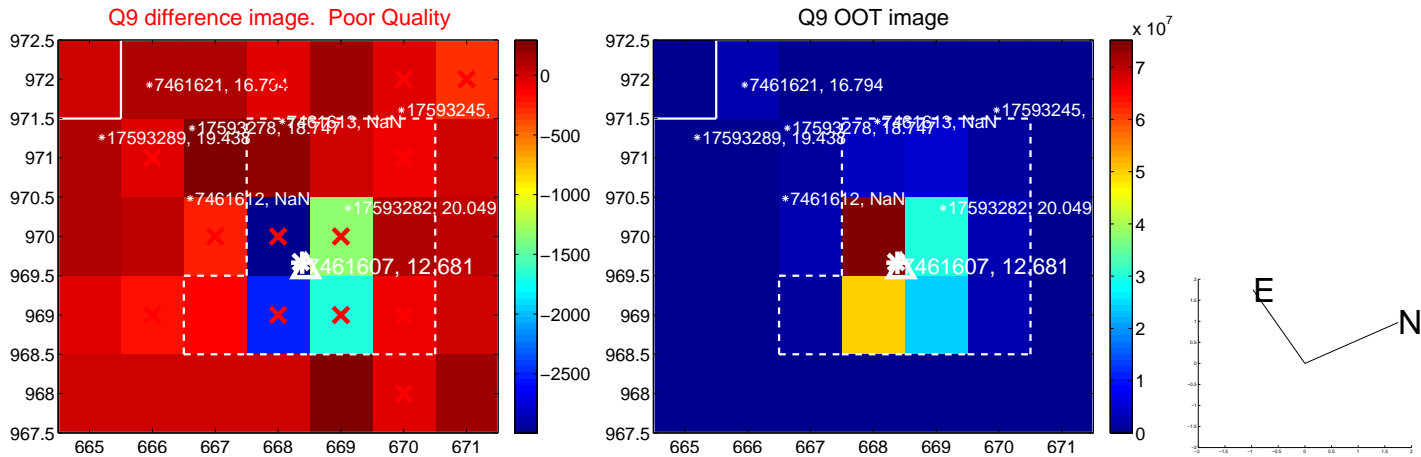
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



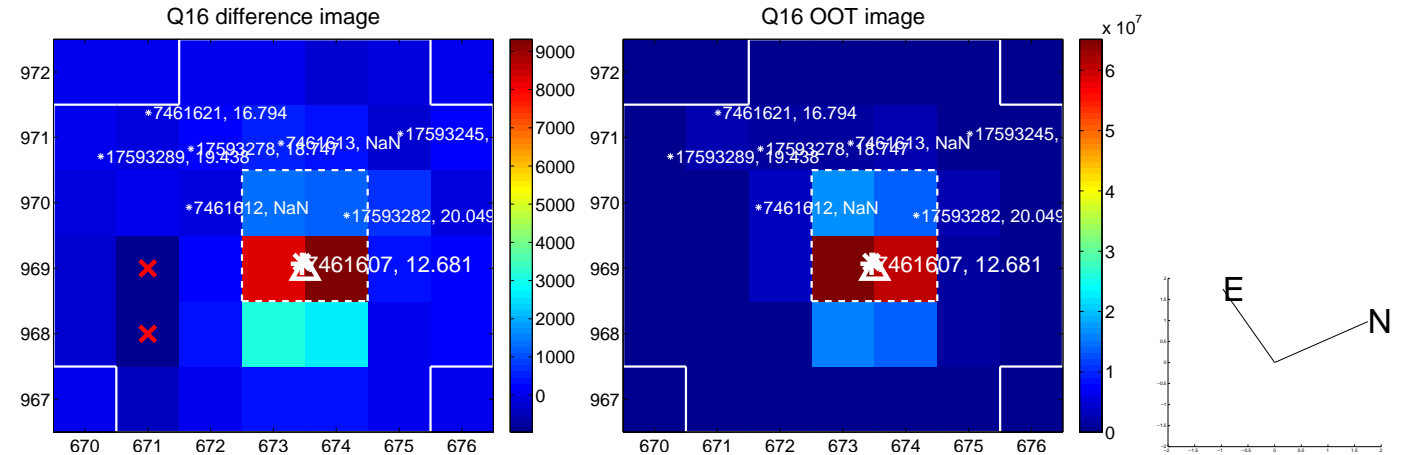
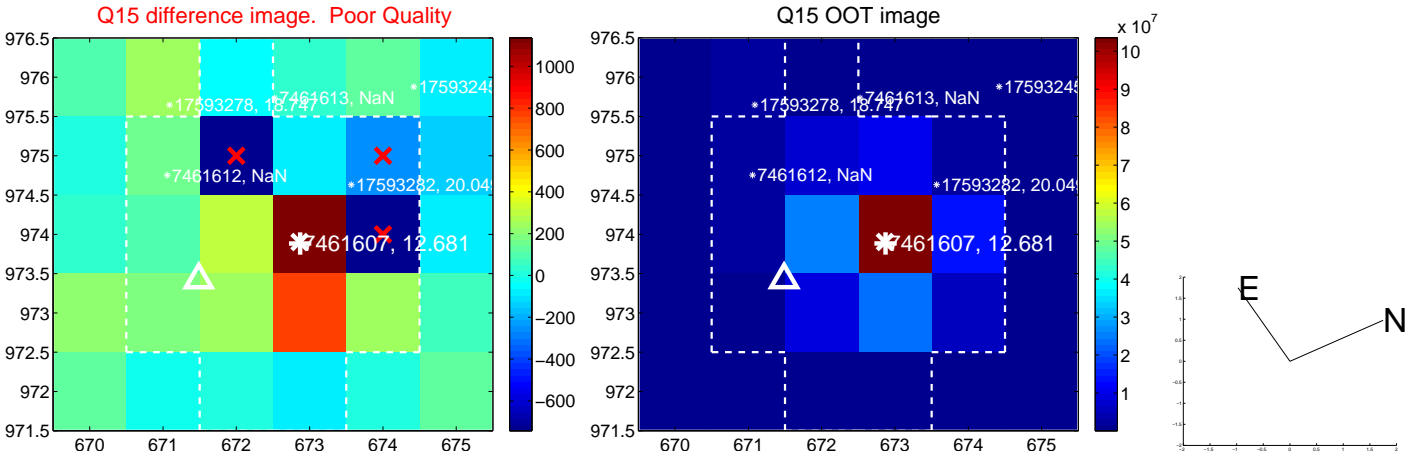
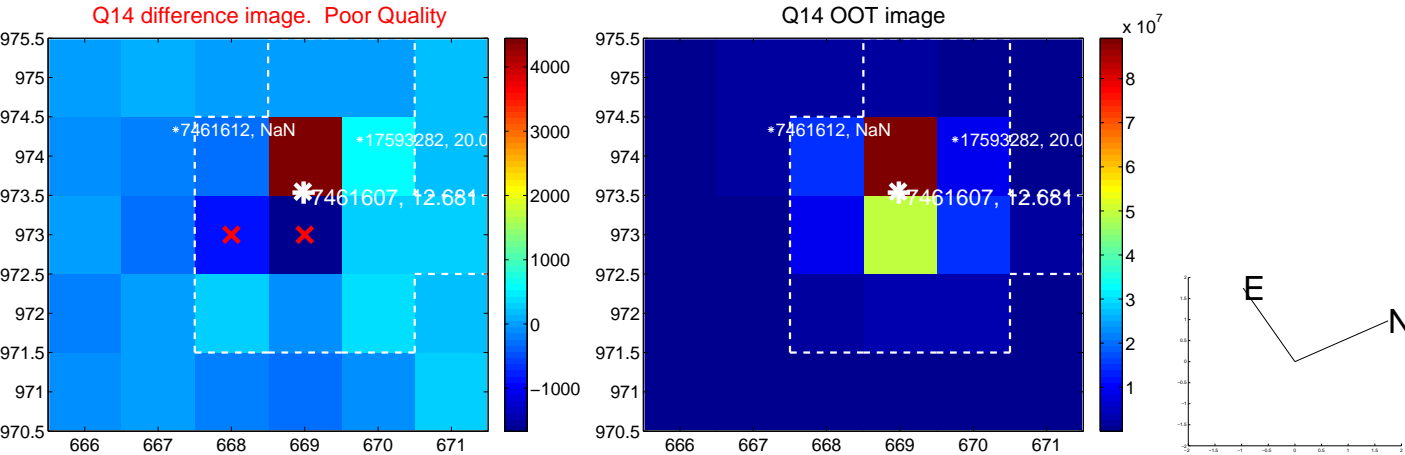
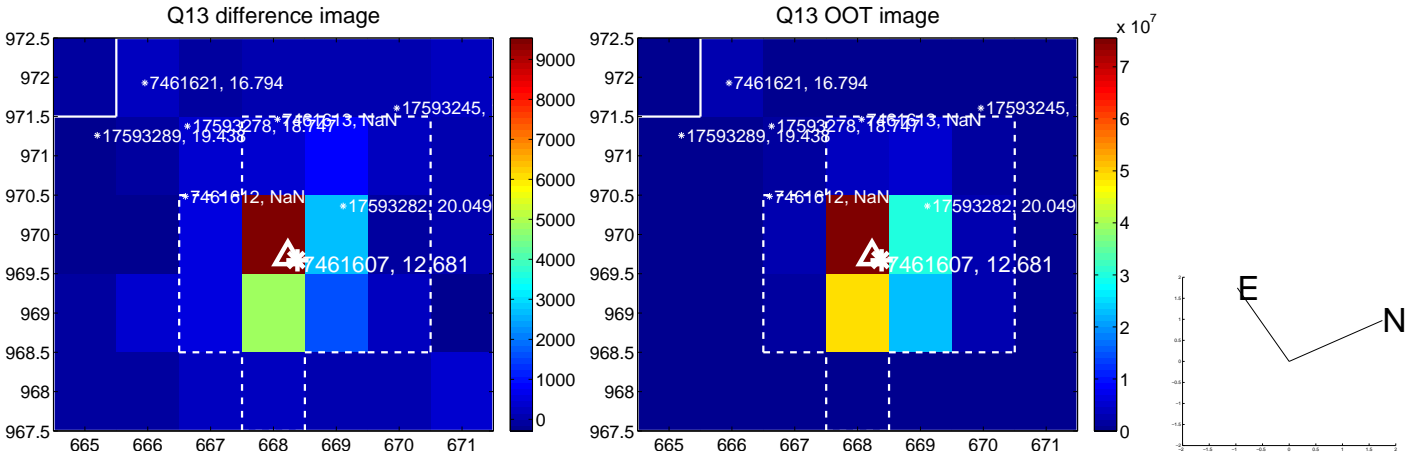
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



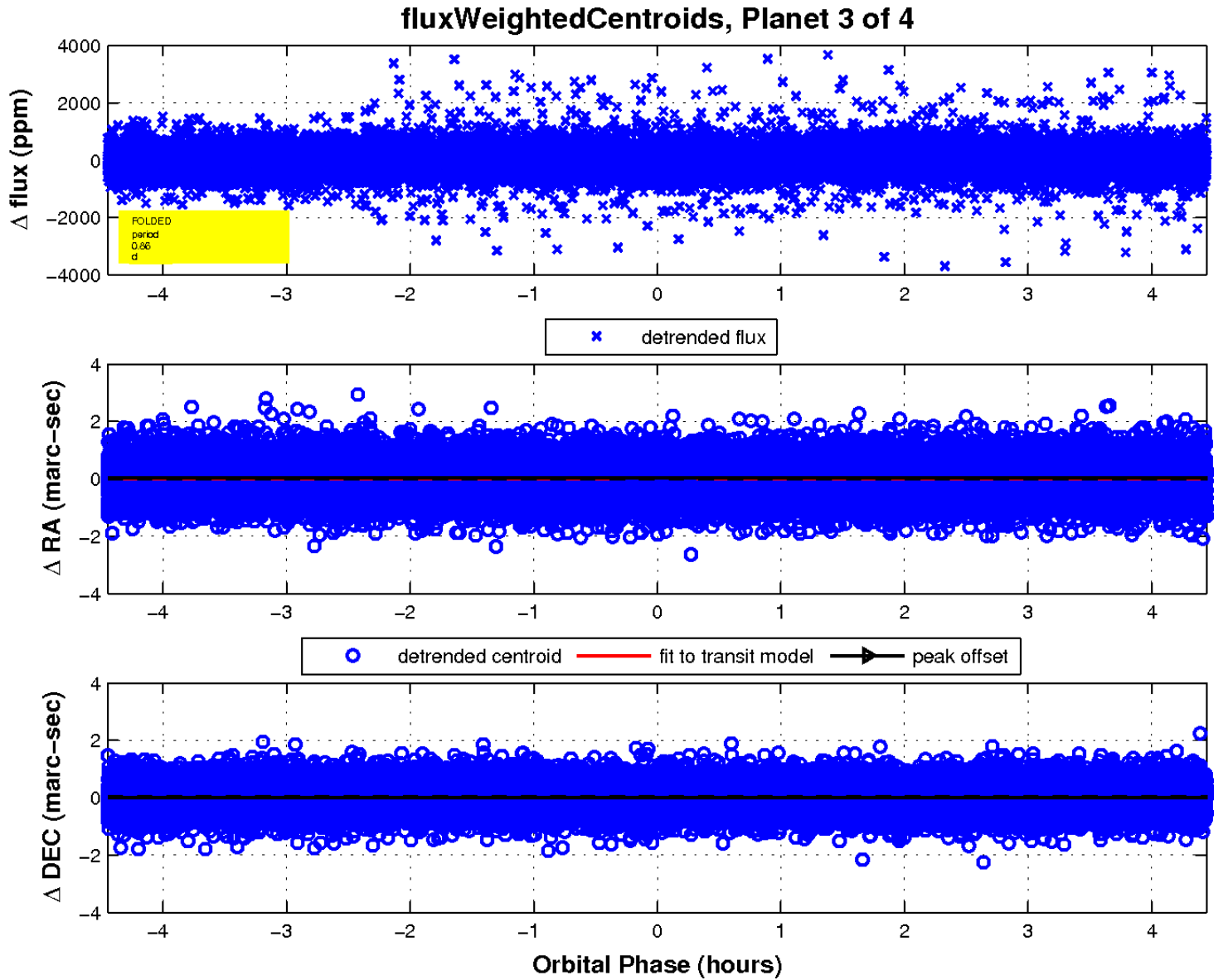
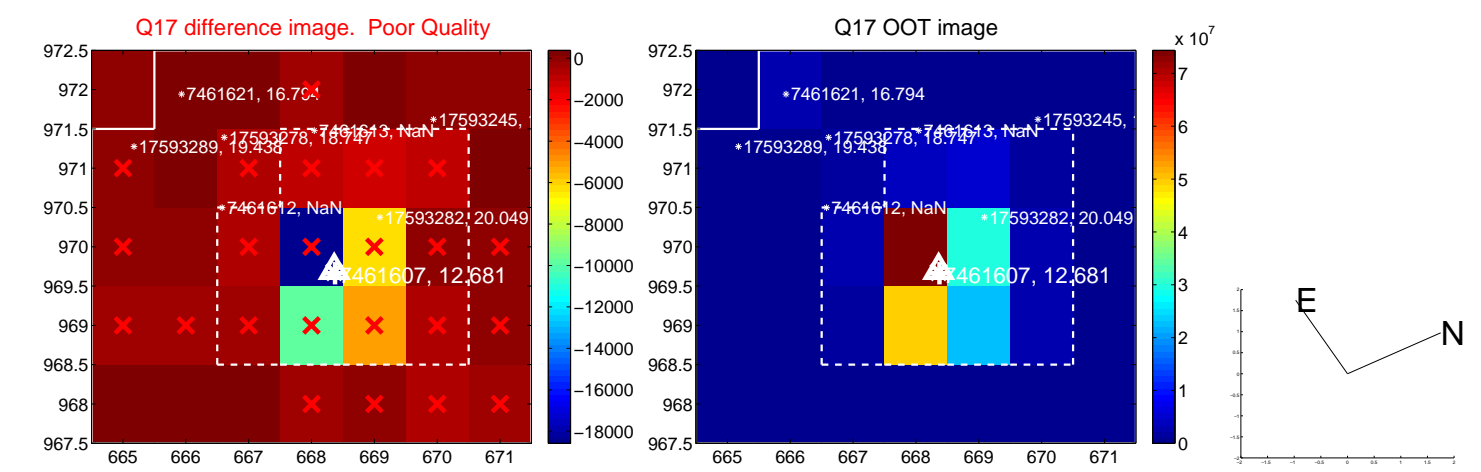
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



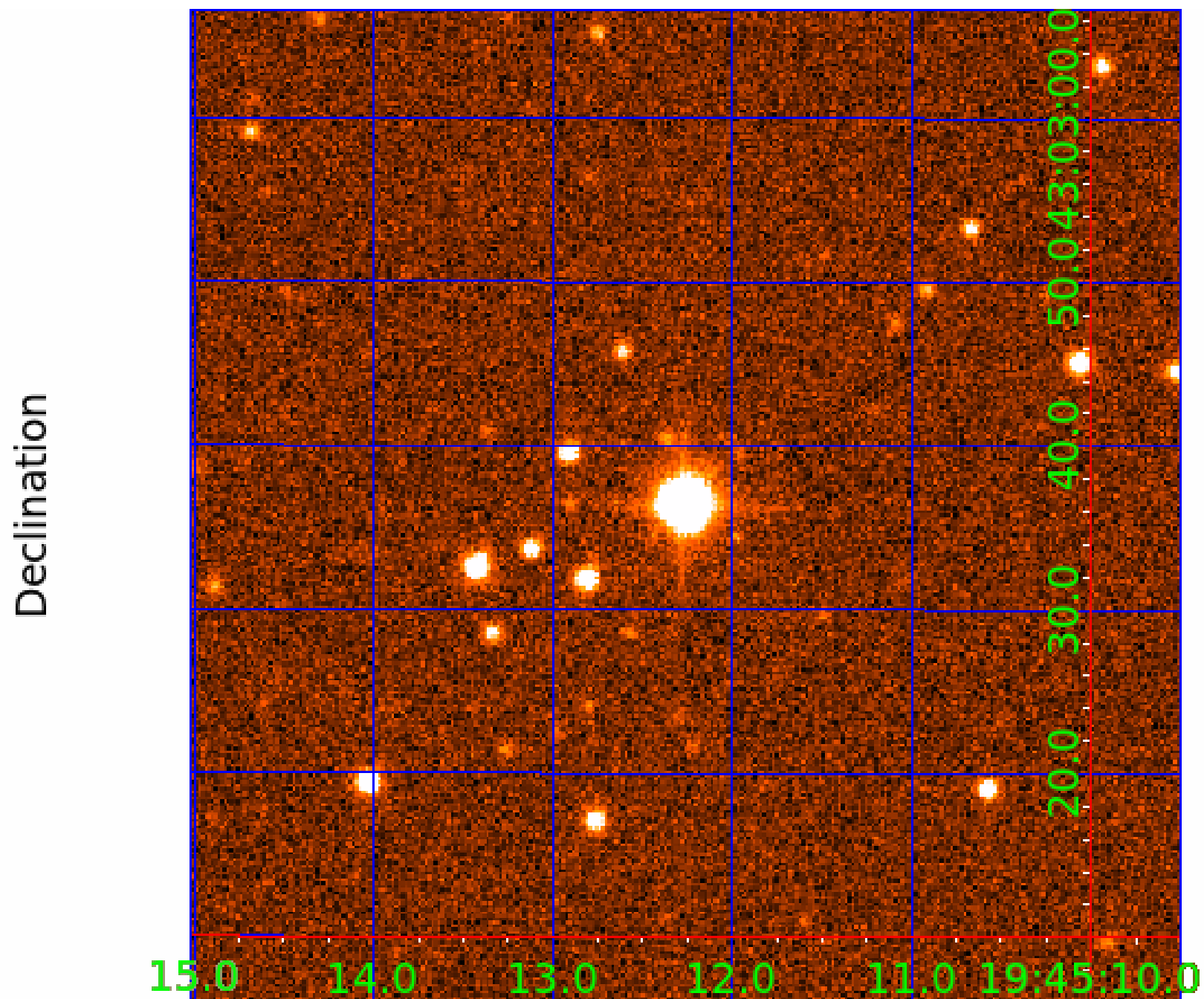
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007461607

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})
007461607-01	OBS	No	0.860173	132.039608	40.4	1.428	13.1	8.0	1.82	7216	1.24	19306.14
007461607-02	OBS	No	0.860183	132.192459	68.0	1.974	12.6	12.6	1.82	7216	1.74	19305.85
007461607-03	OBS	No	0.860171	131.885731	51.5	1.483	10.6	10.2	1.82	7216	1.52	19306.19
007461607-04	OBS	No	112.529077	158.246441	990.0	3.411	8.3	8.1	1.82	7216	7.22	29.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461607-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007461607-02	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
007461607-03	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
007461607-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—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.

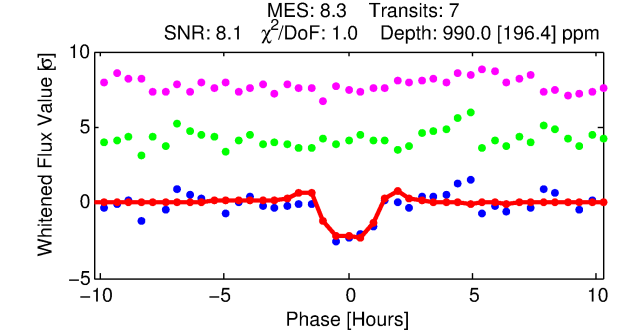
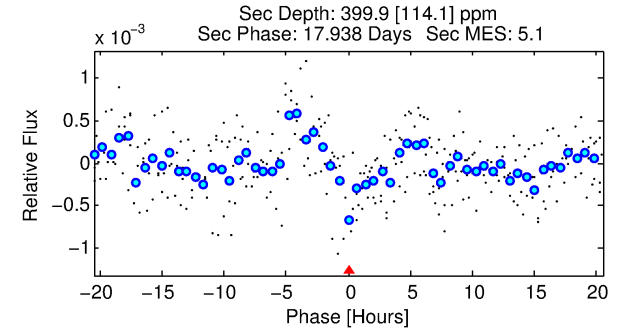
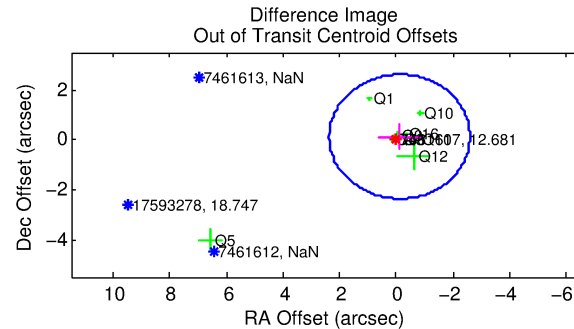
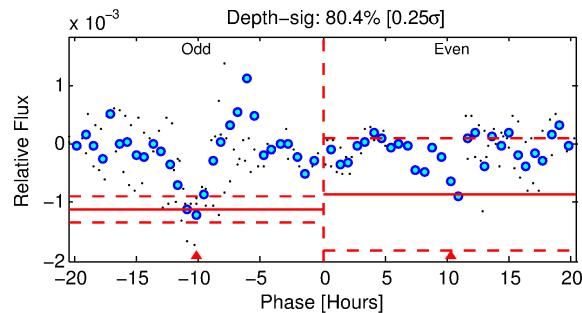
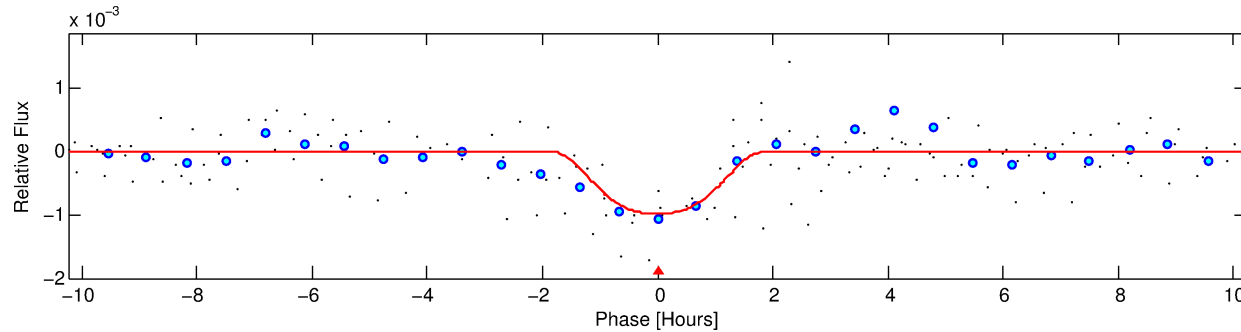
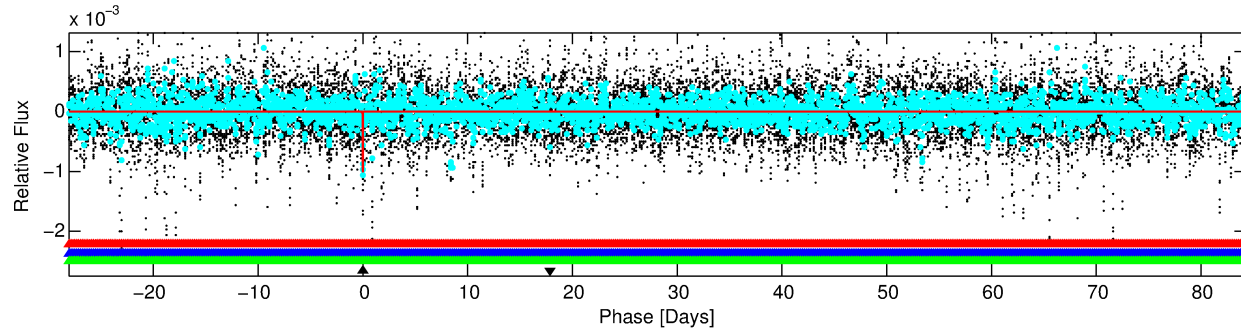
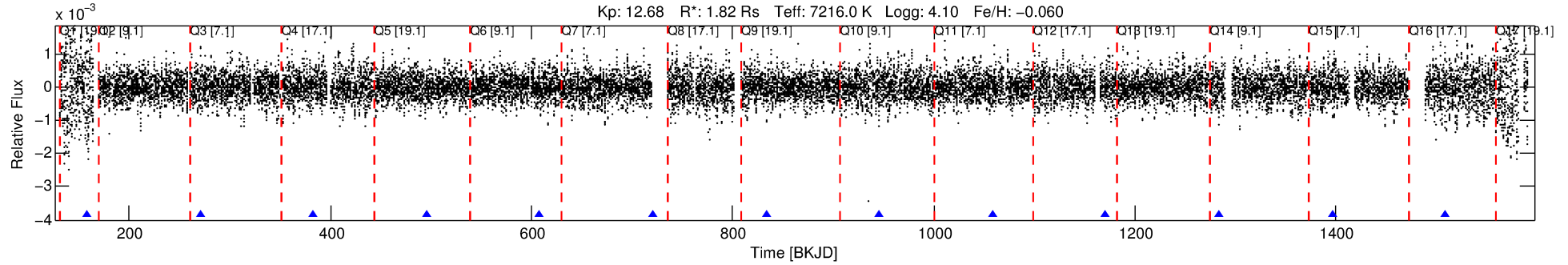
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461607-04

No Significant Match Found

DV One-Page Summary

KIC: 7461607 Candidate: 4 of 4 Period: 112.529 d



DV Fit Results:

Period = 112.52908 [0.00081] d
Epoch = 158.2464 [0.0061] BKJD
Rp/R* = 0.0364 [0.0051]
a/R* = 95.89 [14.73]
b = 0.96 [0.02]
Seff = 29.07 [11.31]
Teq = 592 [58] K
Rp = 7.23 [2.45] Re
a = 0.5255 [0.1310] AU
Ag = 1164.05 [616.14] [1.89 σ]
Teffp = 5347 [583] K [8.12 σ]

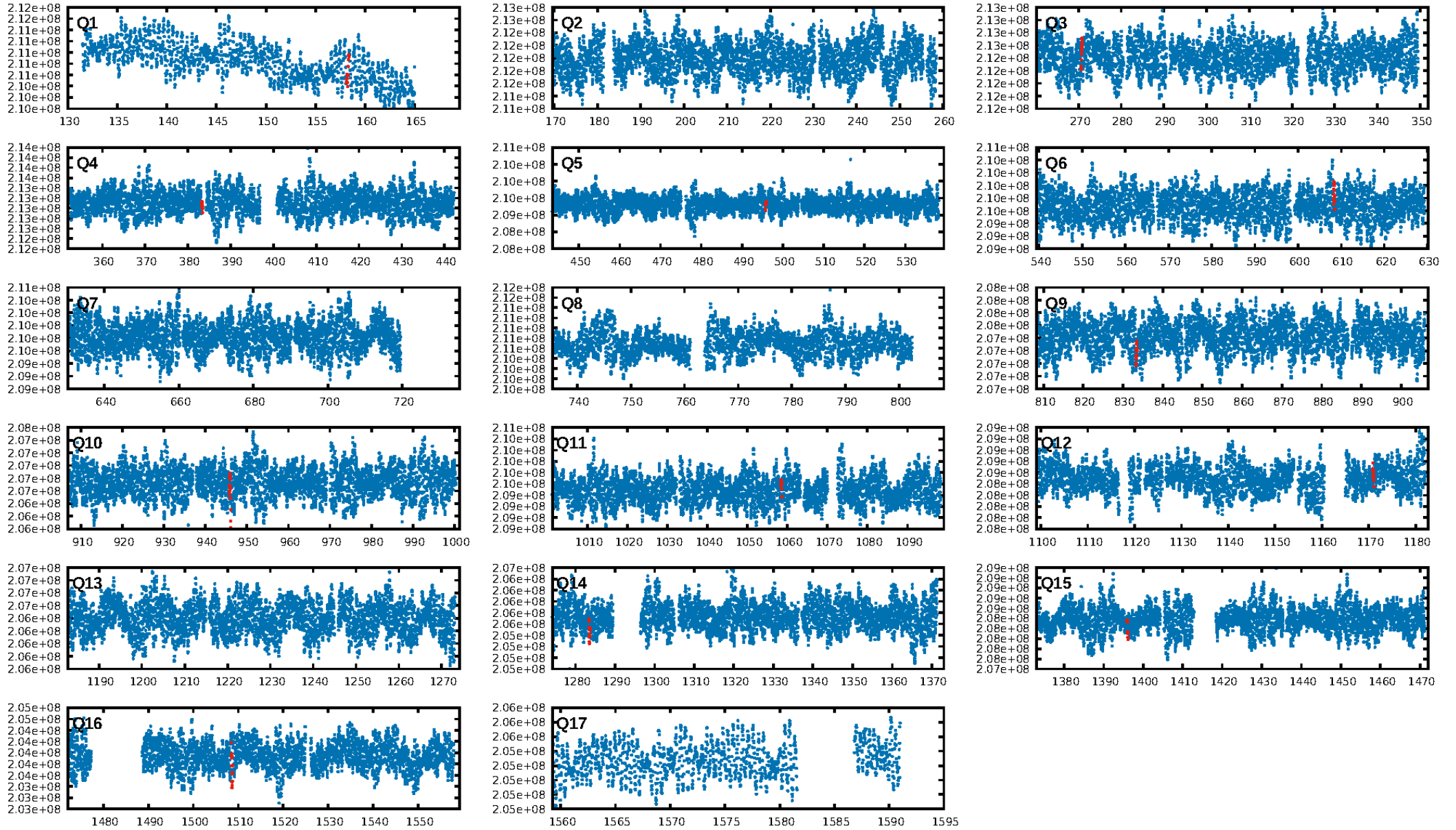
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [680.01 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.61e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.015
Centroid-sig: 96.9%
Centroid-so: 0.112 arcsec [0.54 σ]
OotOffset-rm: 0.170 arcsec [0.20 σ]
KicOffset-rm: 0.191 arcsec [0.23 σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 0.00 [0/9]

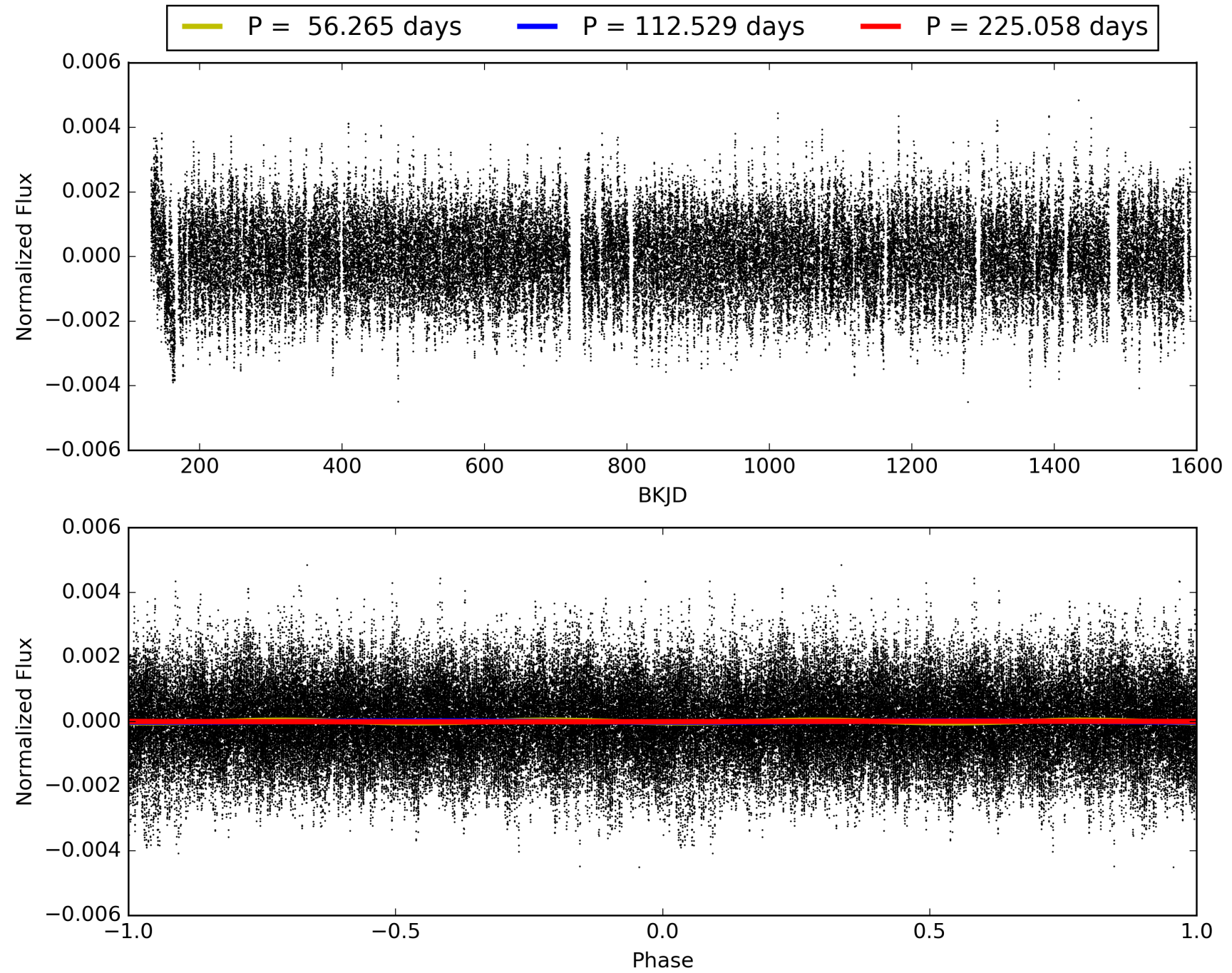
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 05:59:56 Z

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

TCE 007461607-04, PDC Light Curves

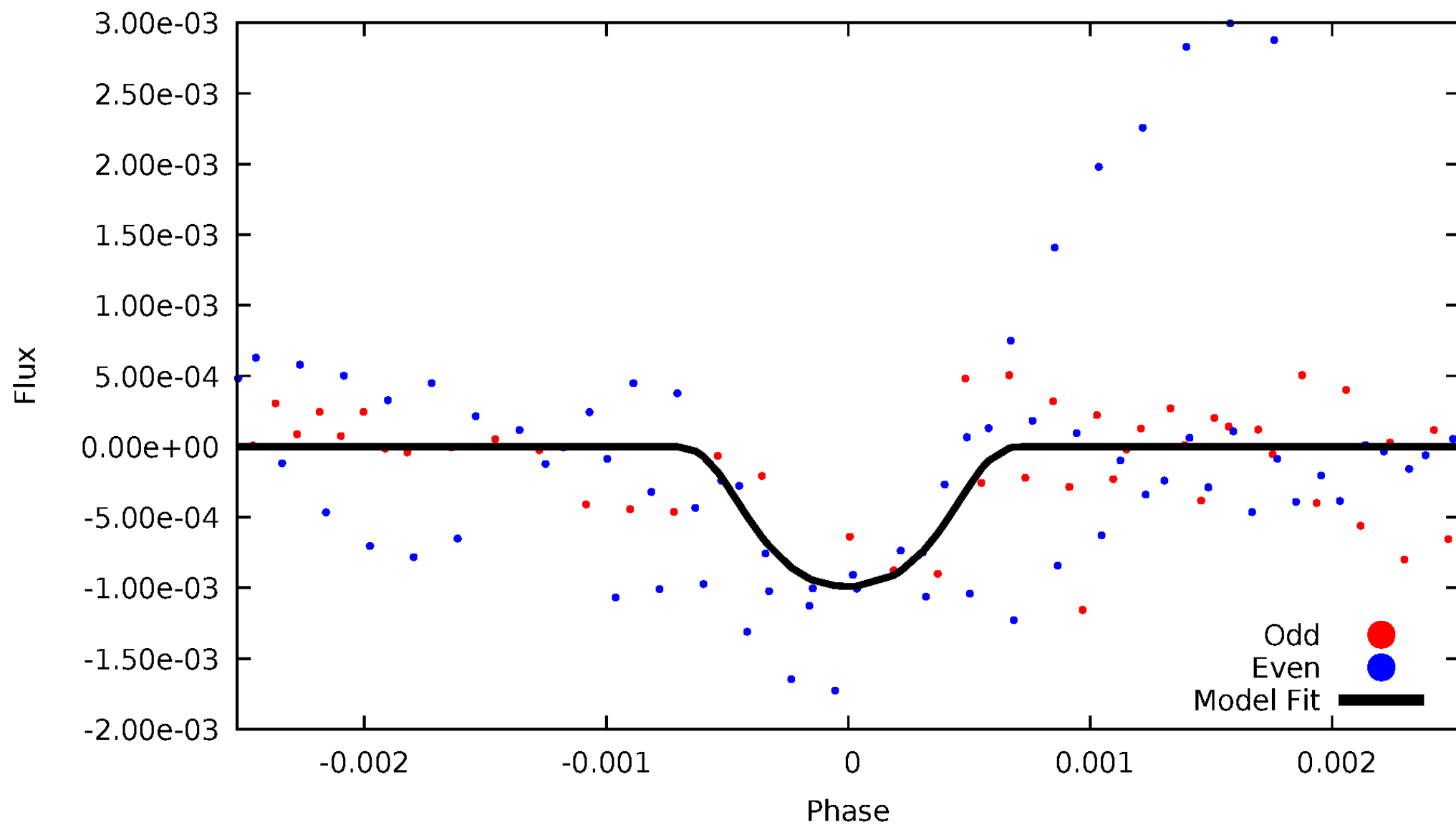


TCE 007461607-04



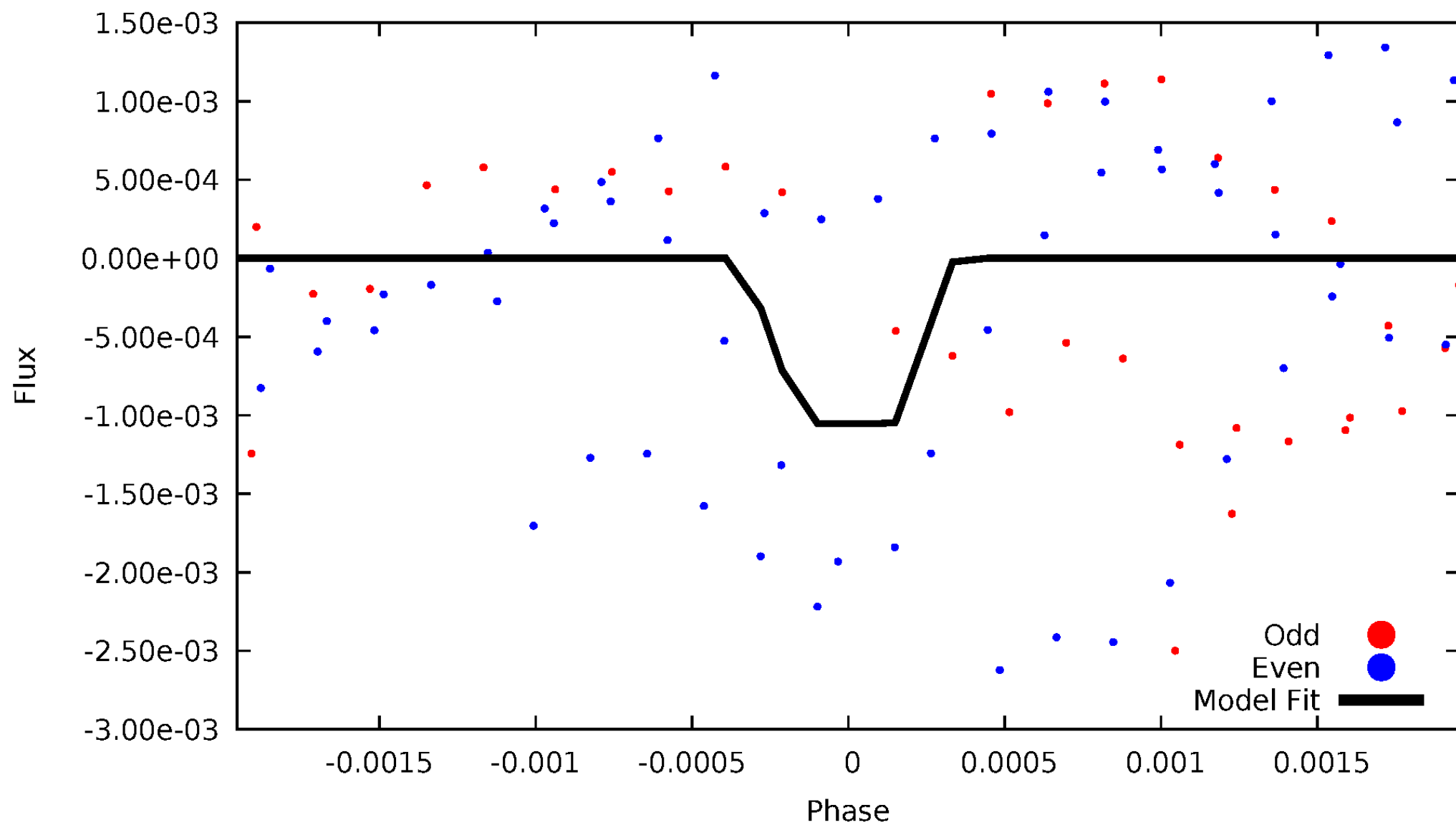
DV Odd/Even

TCE 007461607-04



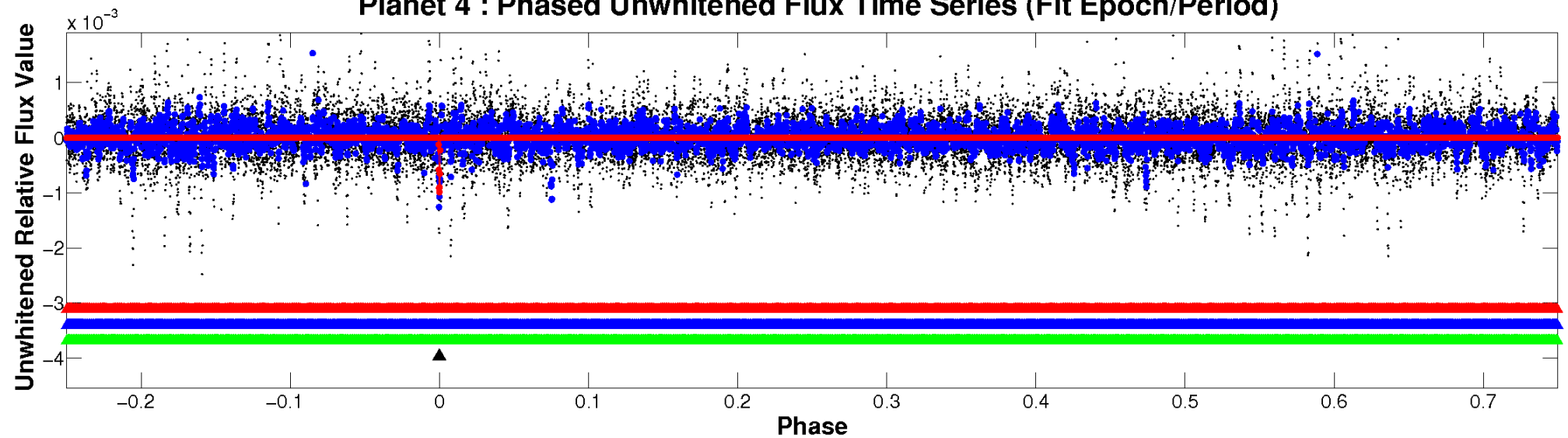
ALT Odd/Even

TCE 007461607-04

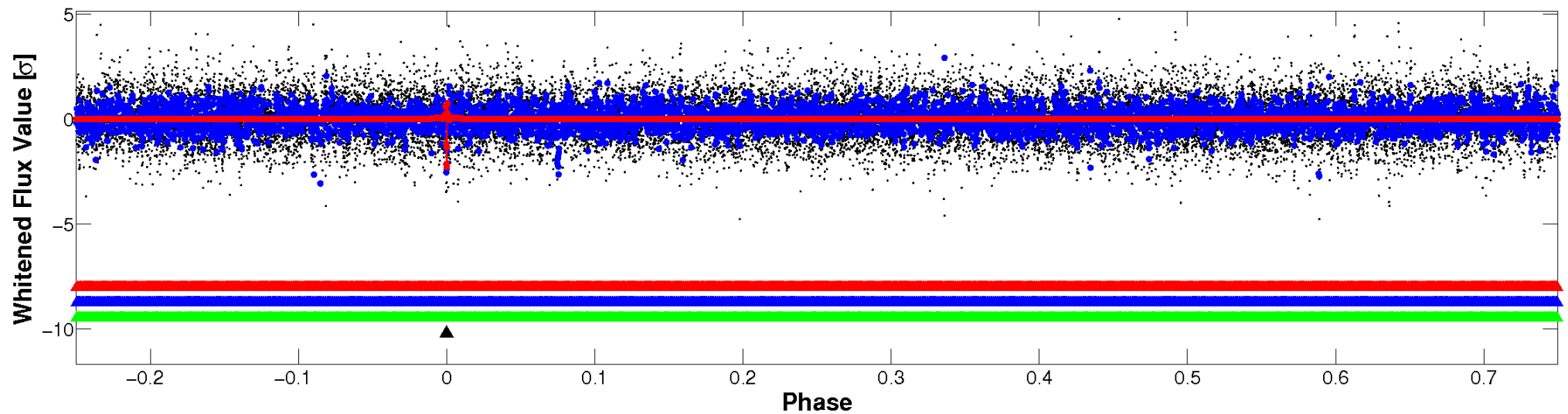


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

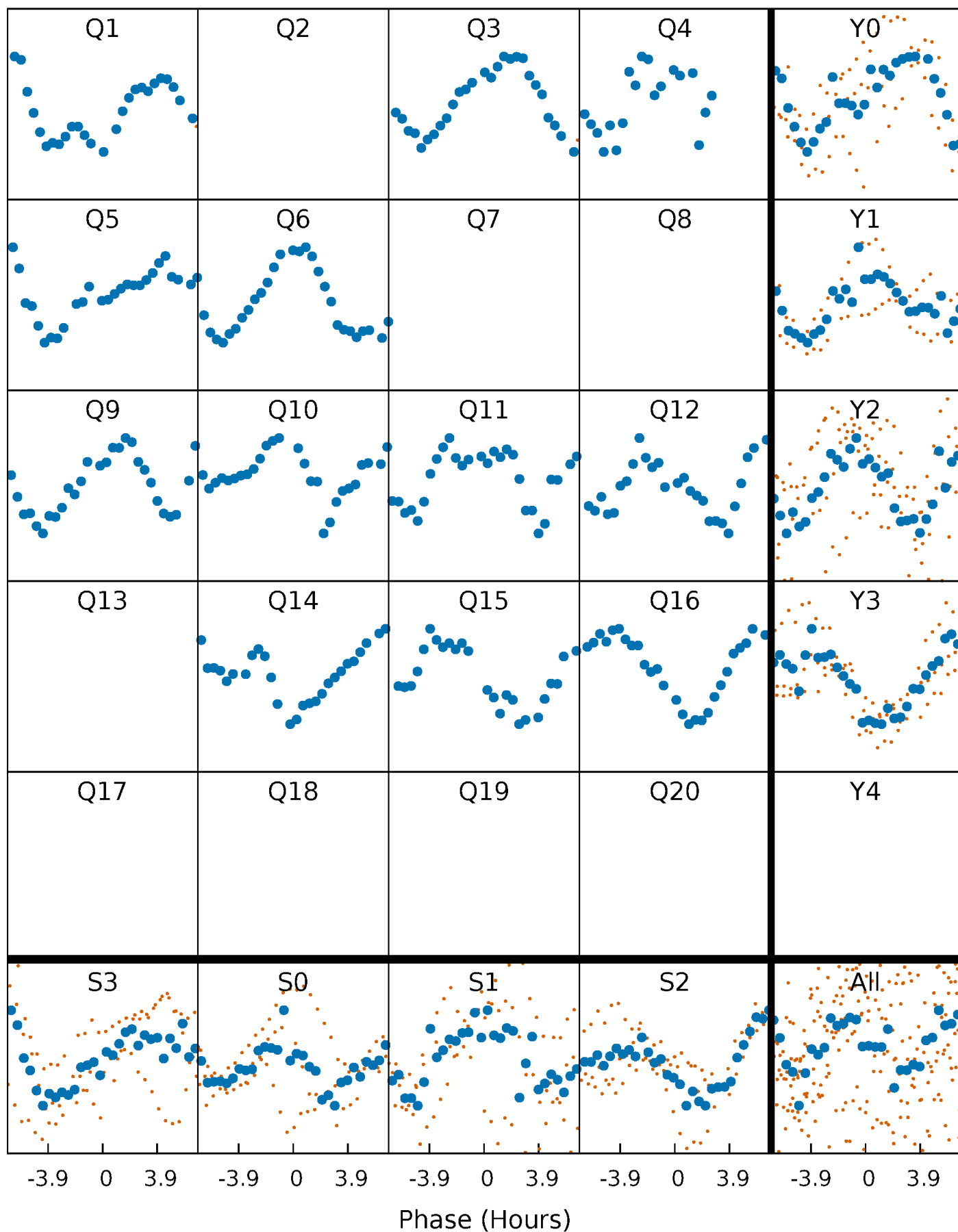


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



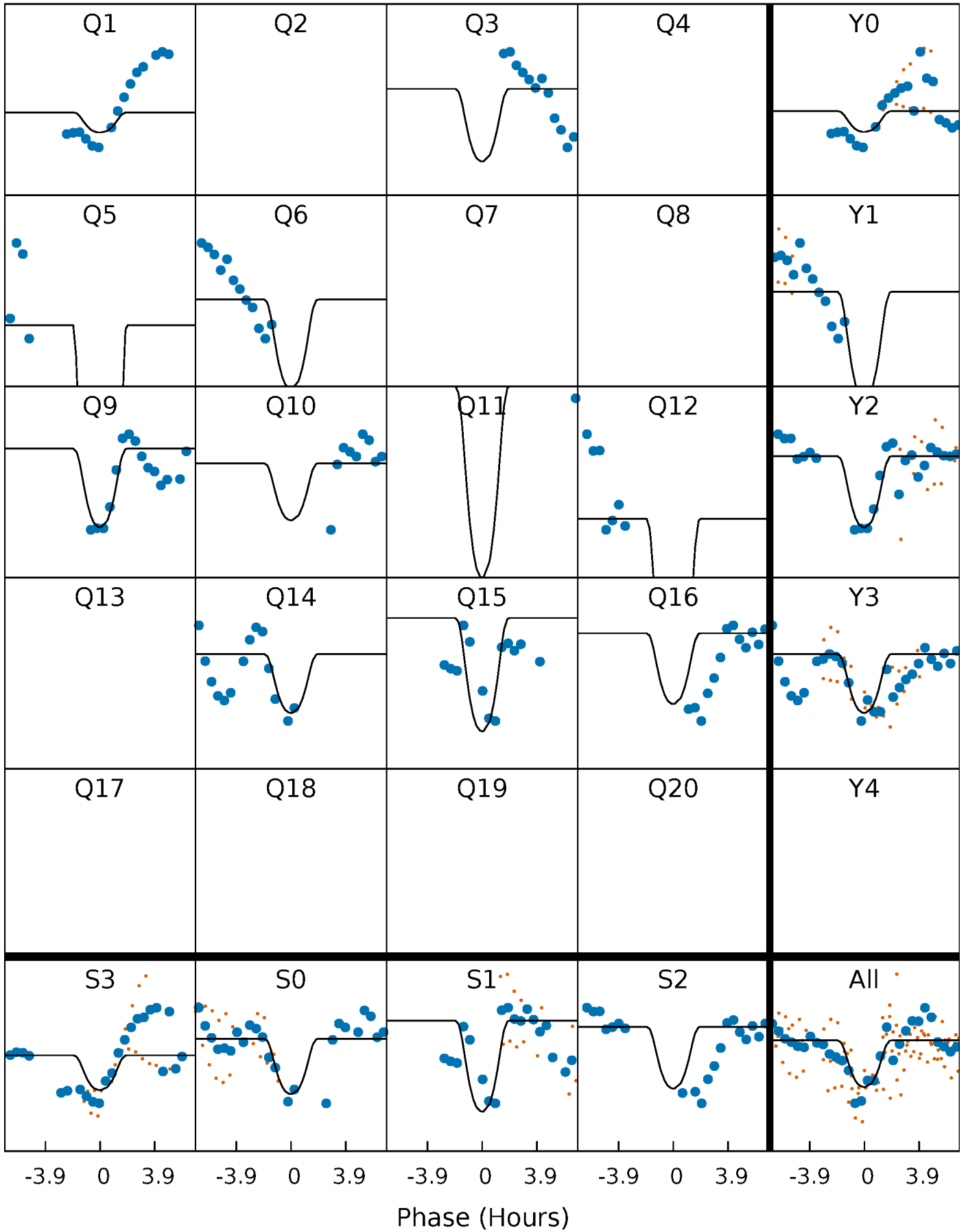
PDC Quarter-Phased Transit Curves

TCE 007461607-04 P=112.529077 Days $T_0=158.246441$ (BKJD)



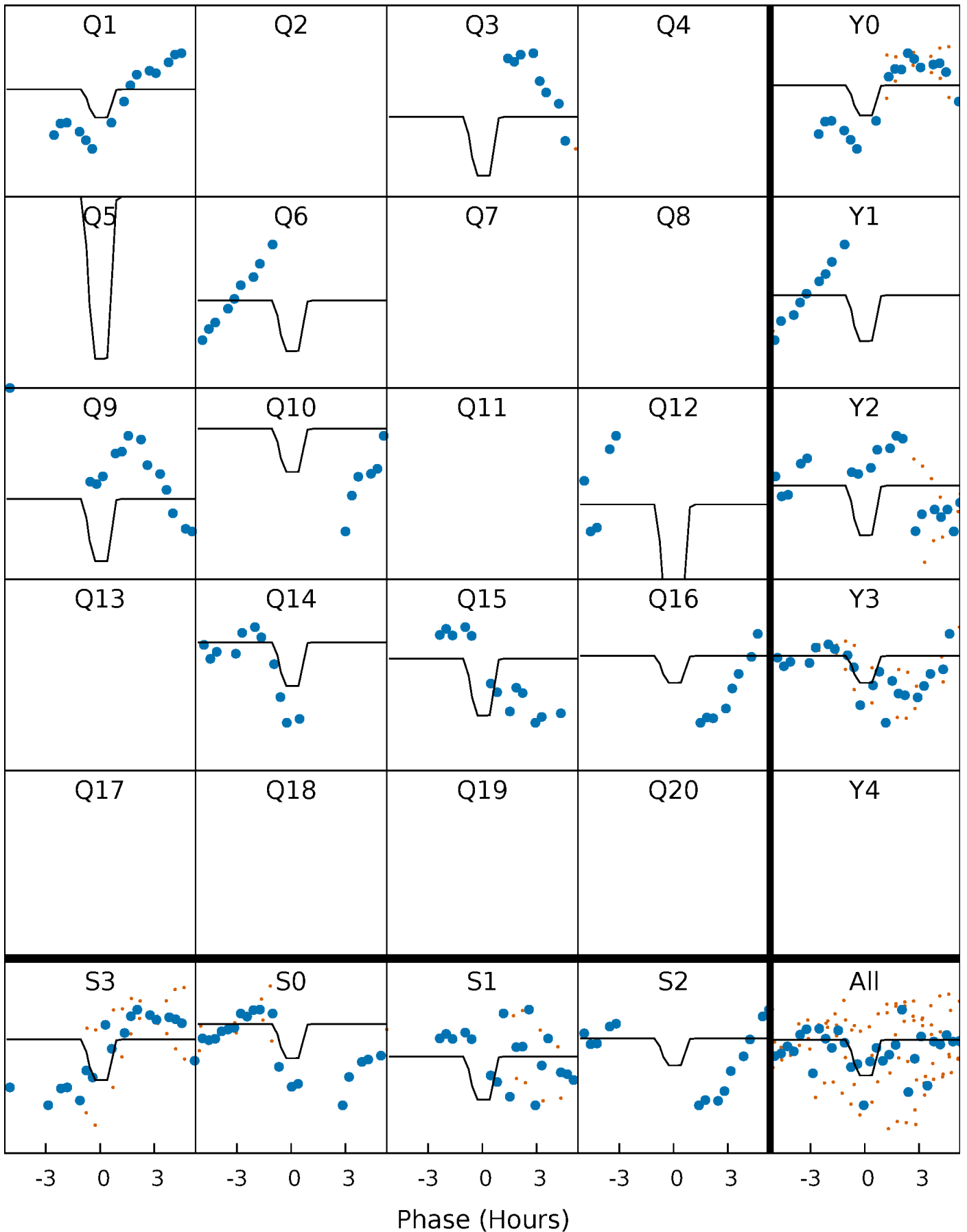
DV Quarter-Phased Transit Curves

TCE 007461607-04 P=112.529077 Days $T_0=158.246441$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

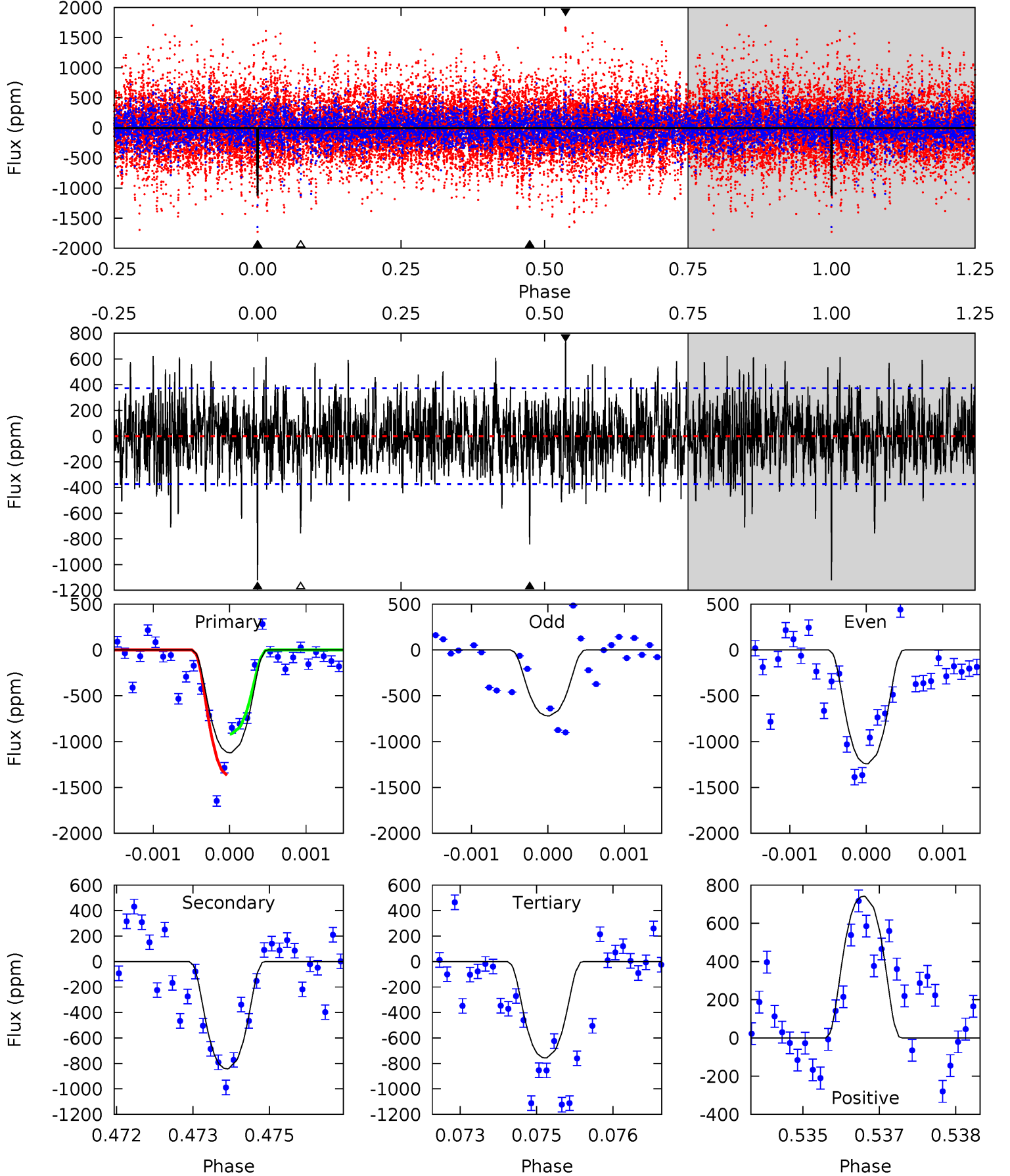
TCE 007461607-04 P=112.527129 Days $T_0=158.251428$ (BKJD)



DV Model-Shift Uniqueness Test

007461607-04, $P = 112.529077$ Days, $E = 45.717364$ Days

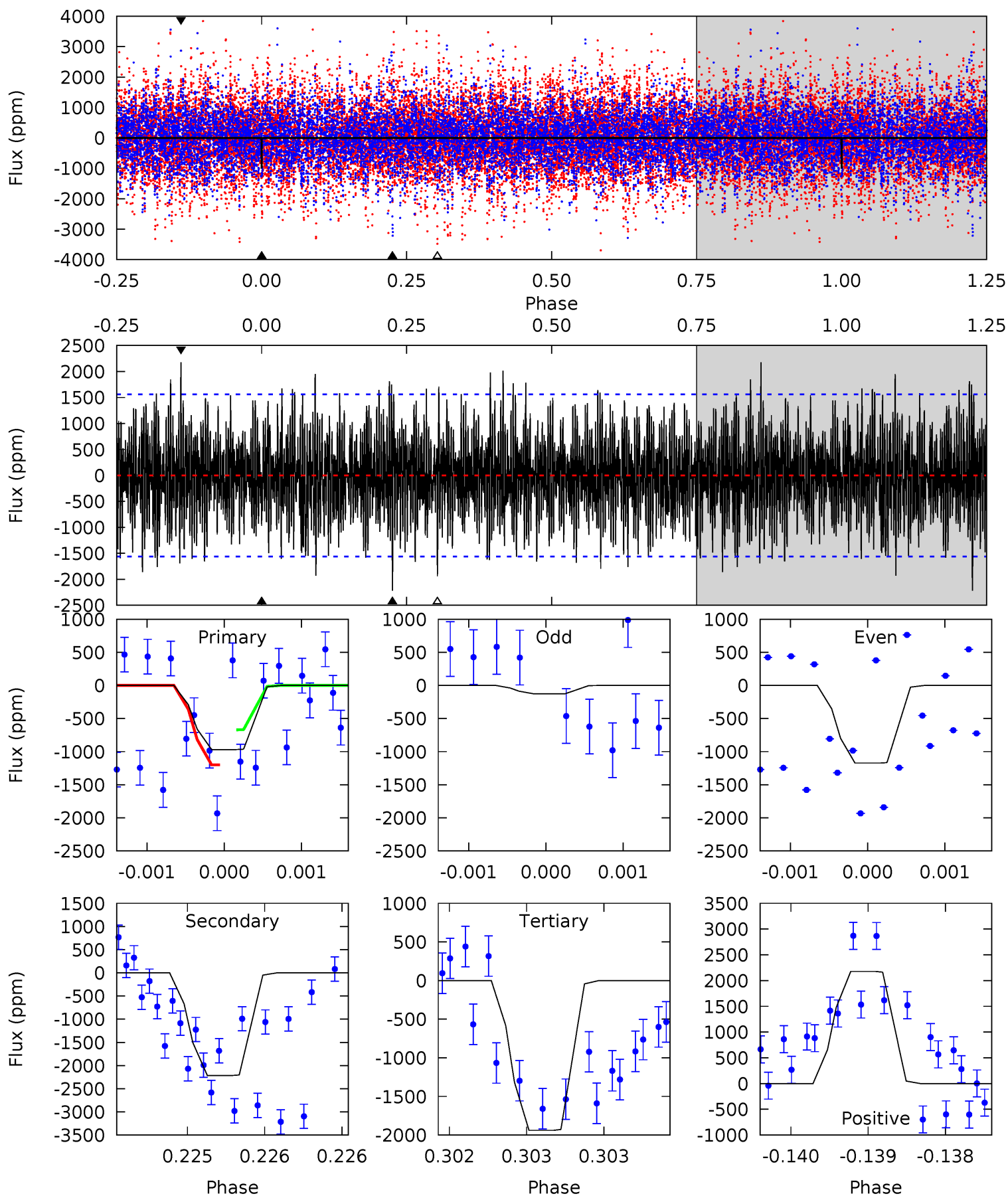
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	12.2	10.9	10.7	5.39	3.19	2.75	5.27	5.49	1.23	1.45	3.42	0.79	0.40	3.23



Alt Model-Shift Uniqueness Test

007461607-04, P = 112.527129 Days, E = 45.724299 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.44	7.86	6.88	7.72	5.54	3.43	2.35	-3.44	-4.29	0.98	0.14	1.49	1.04	0.50	0.94



Stellar Parameters For KIC 007461607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7216^{+230}_{-316}	$4.103^{+0.149}_{-0.182}$	$-0.060^{+0.200}_{-0.350}$	$1.818^{+0.563}_{-0.422}$	$1.525^{+0.212}_{-0.236}$	$0.358^{+0.277}_{-0.167}$
	+3%/-4%	+4%/-4%	+333%/-583%	+31%/-23%	+14%/-15%	+77%/-47%
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 007461607-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-842 ± 69	$7.31^{+1.48}_{-1.32}$	833^{+59}_{-61}	6347^{+553}_{-501}	2365^{+1071}_{-719}
Alt.	-2216 ± 282	$6.52^{+1.44}_{-1.28}$	833^{+62}_{-57}	9063^{+1337}_{-1001}	7782^{+4589}_{-2689}

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

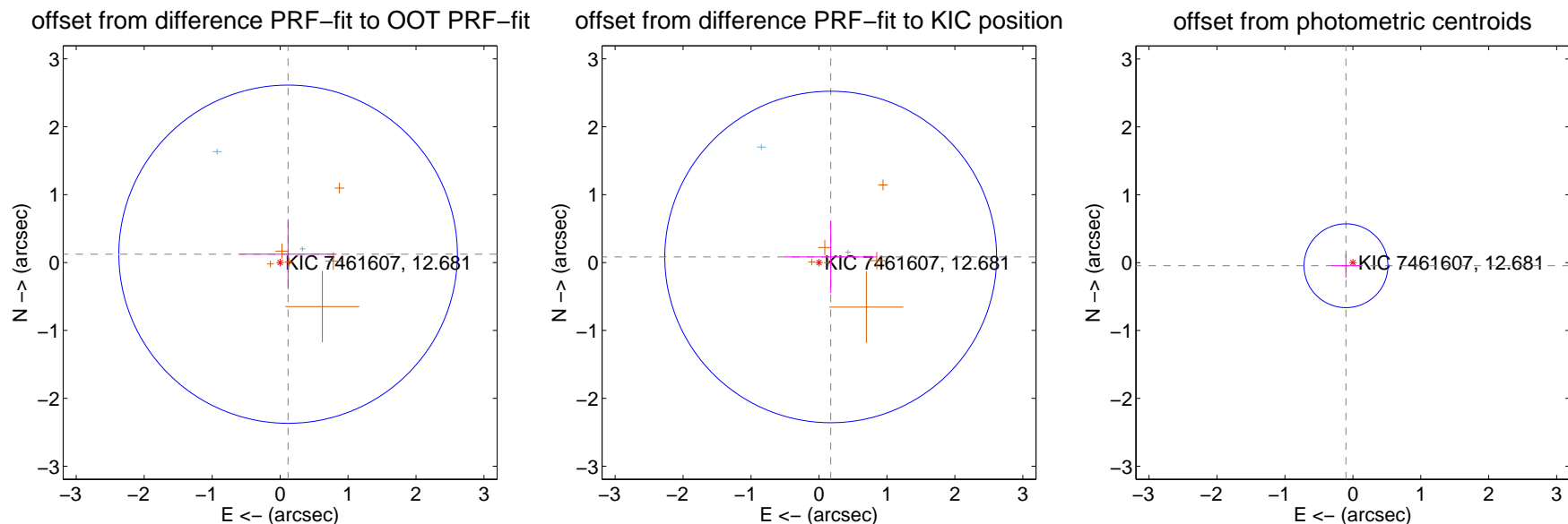
DV Centroid Data

Supplemental centroid analysis for 007461607-04. Kepler magnitude: 12.68. Transit SNR 8.11

There are 2 quarters with good PRF difference image offsets

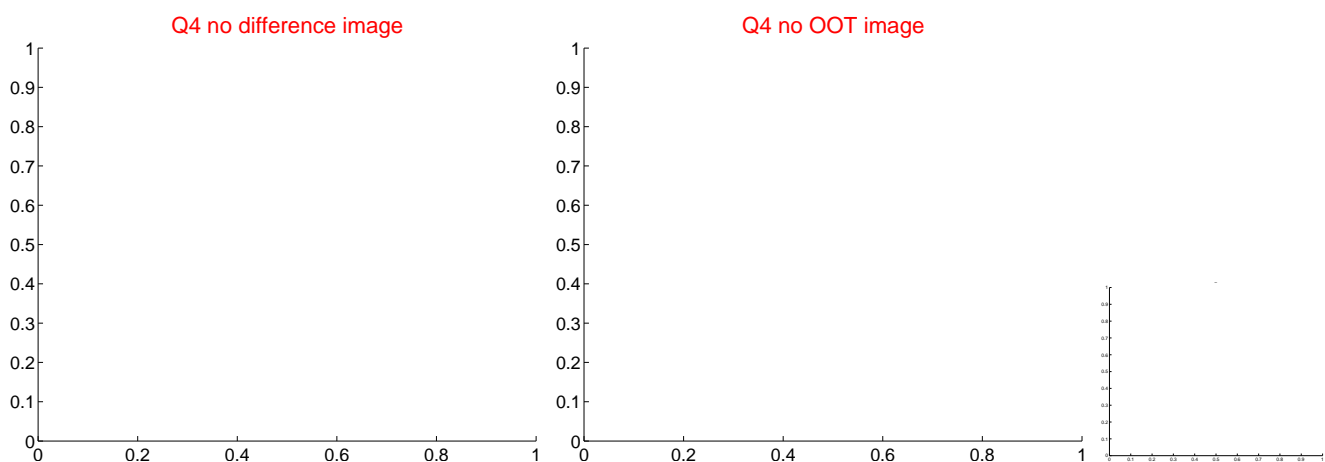
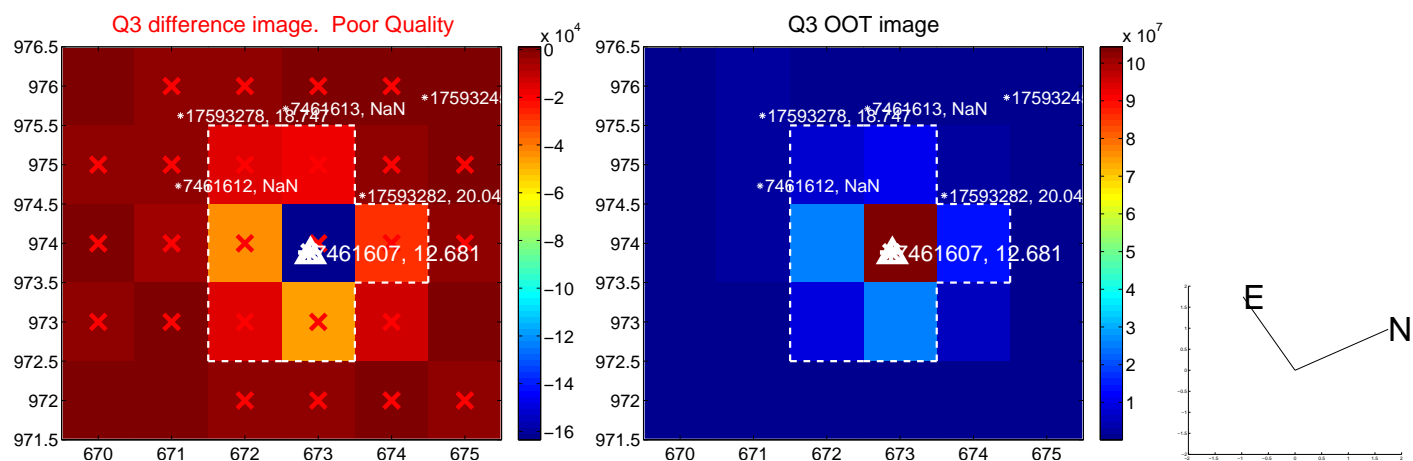
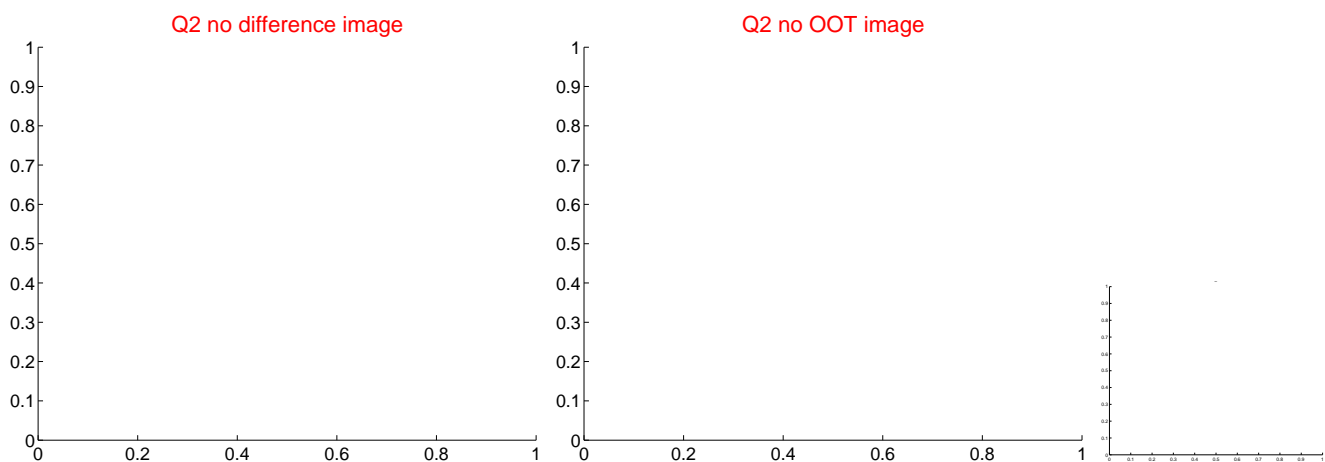
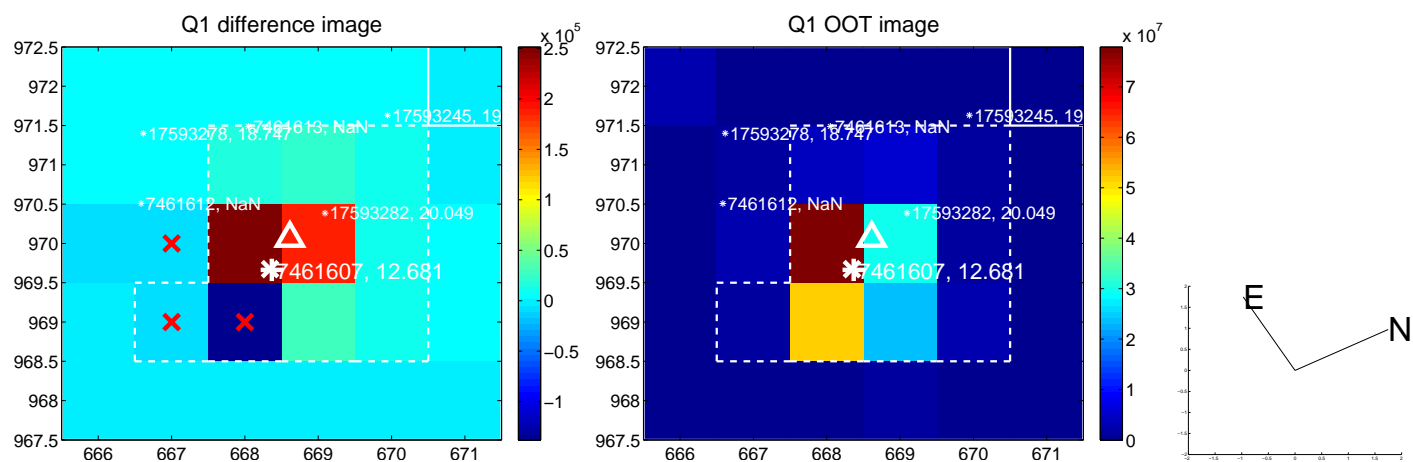
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.170 ± 0.830	0.20	-0.118 ± 0.716	0.123 ± 0.516
PRF-fit source offset from KIC position	0.191 ± 0.814	0.23	-0.172 ± 0.680	0.082 ± 0.531
photometric centroid source offset	0.11 ± 0.21	0.54	0.10 ± 0.21	-0.05 ± 0.18

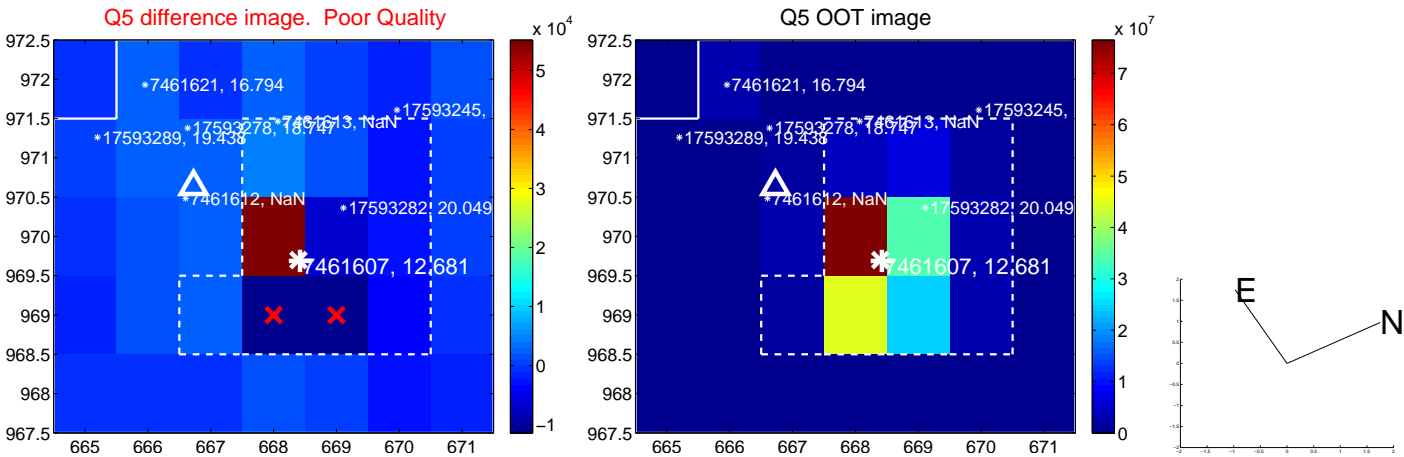


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

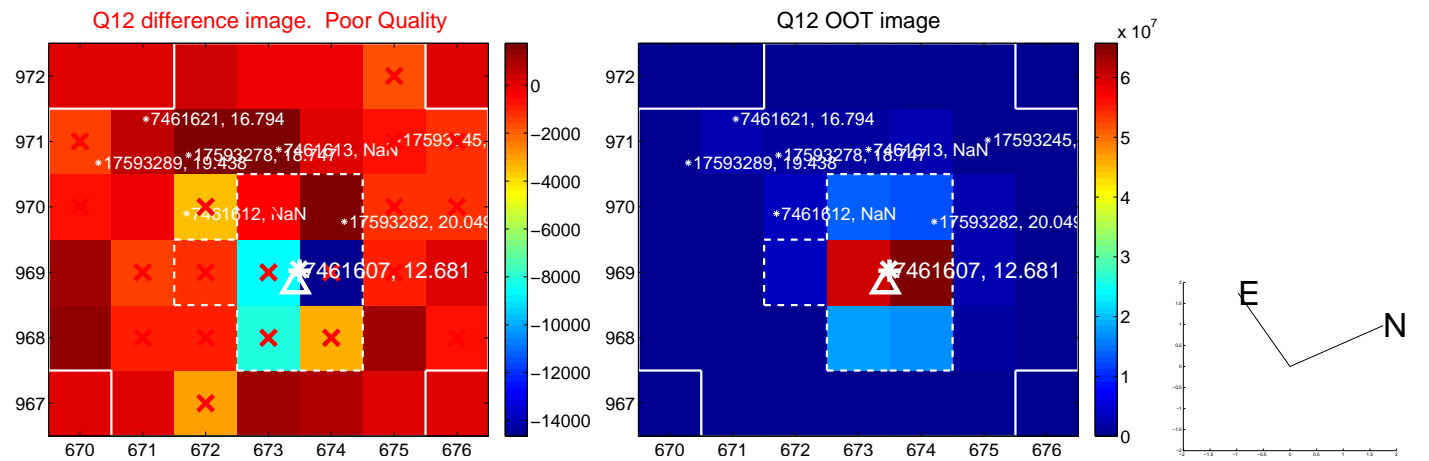
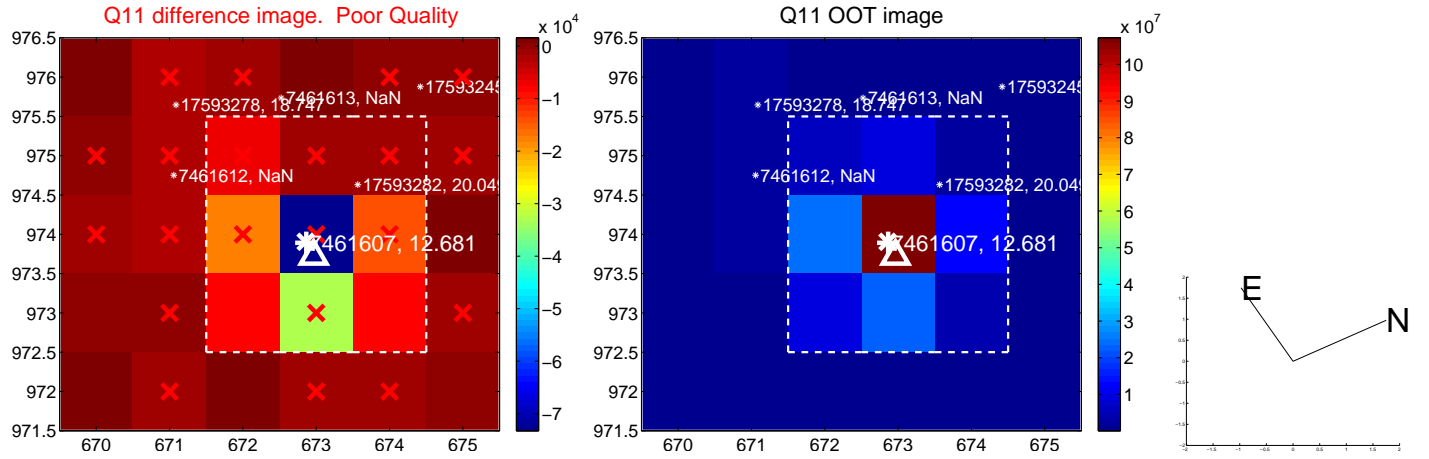
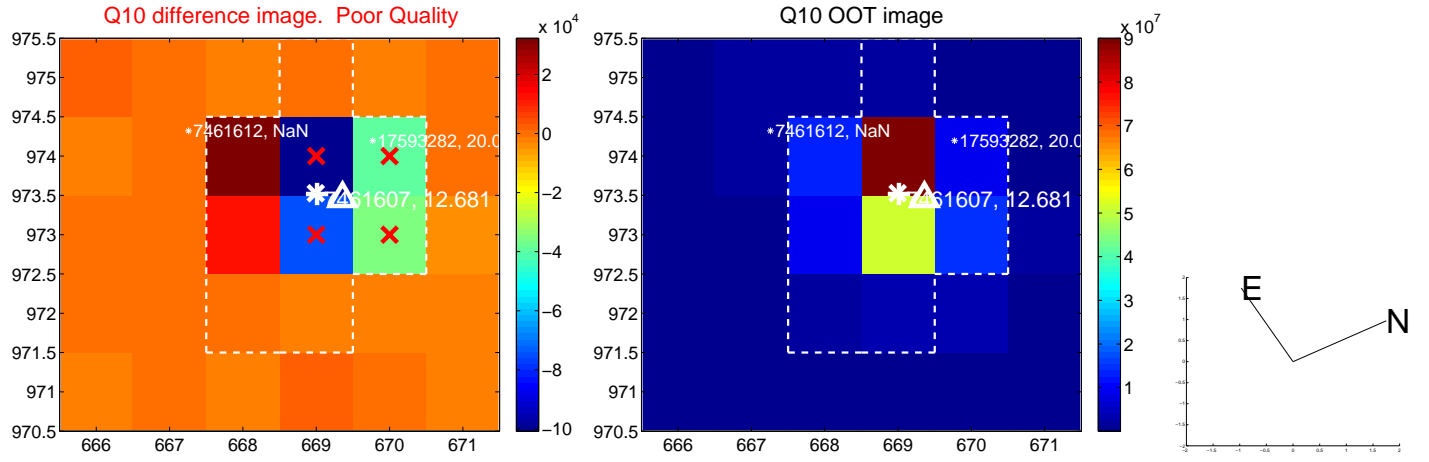
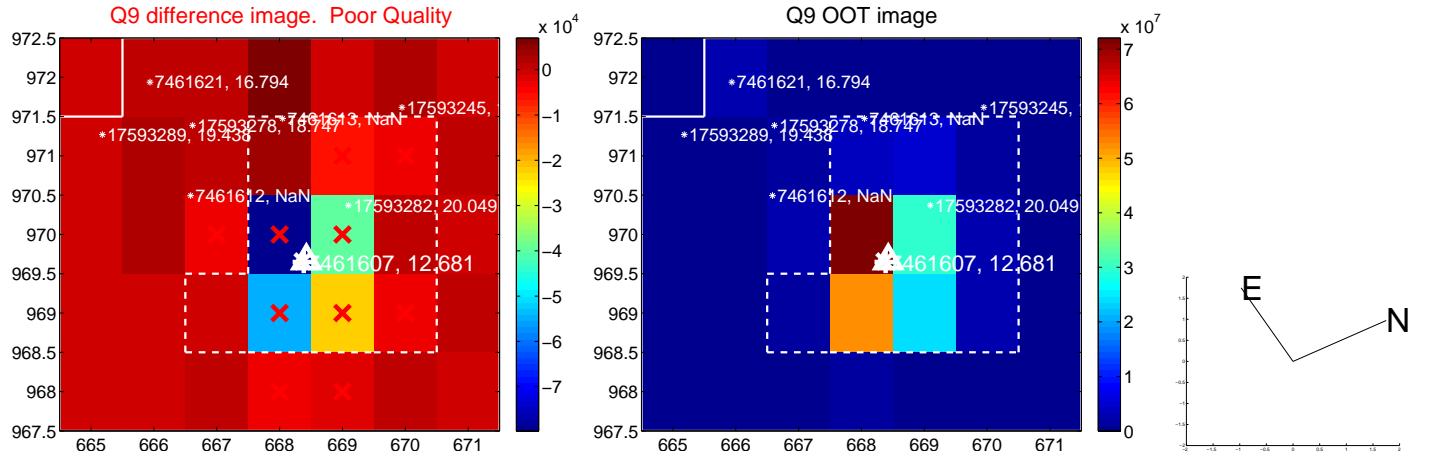
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



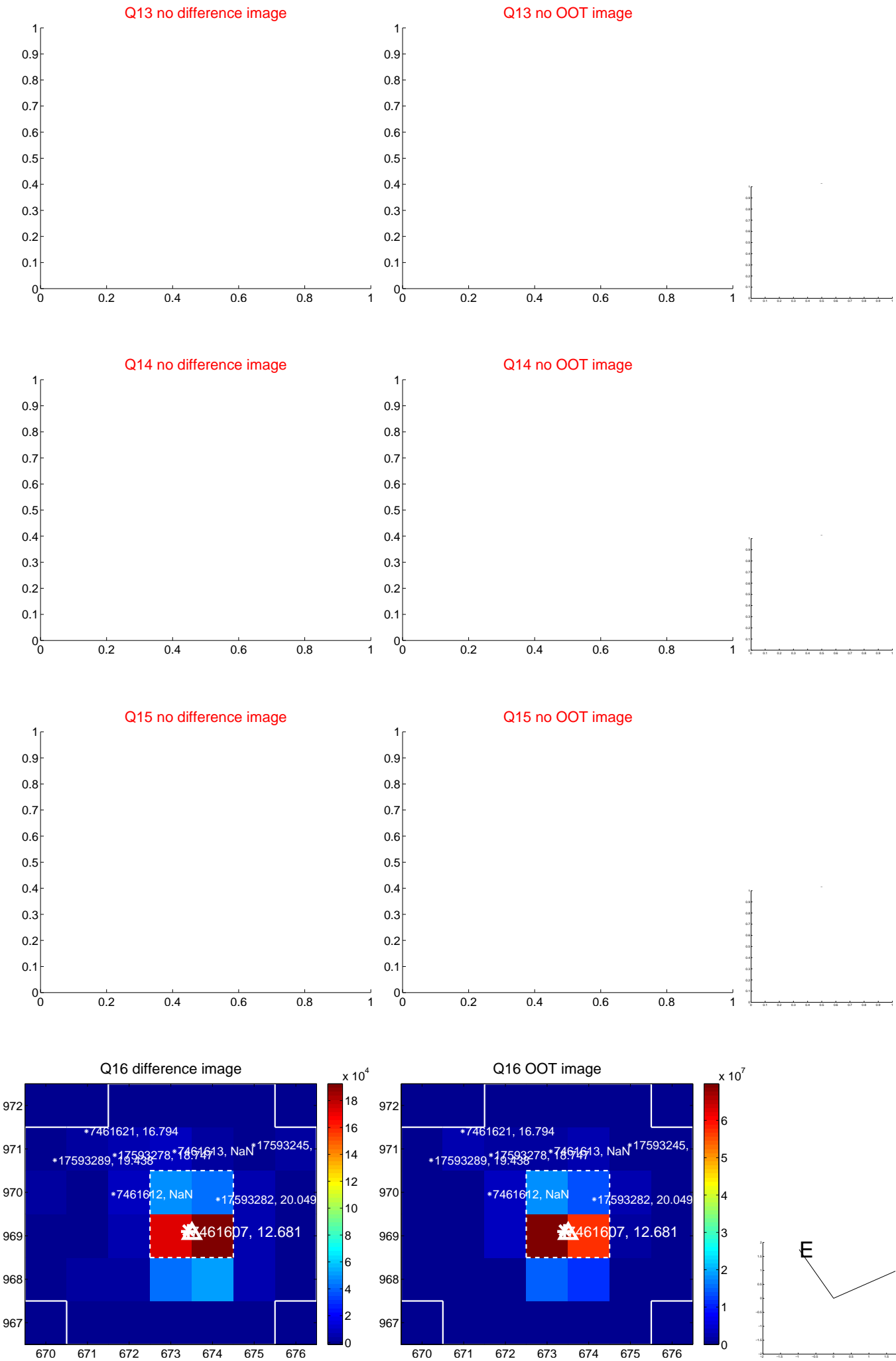
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



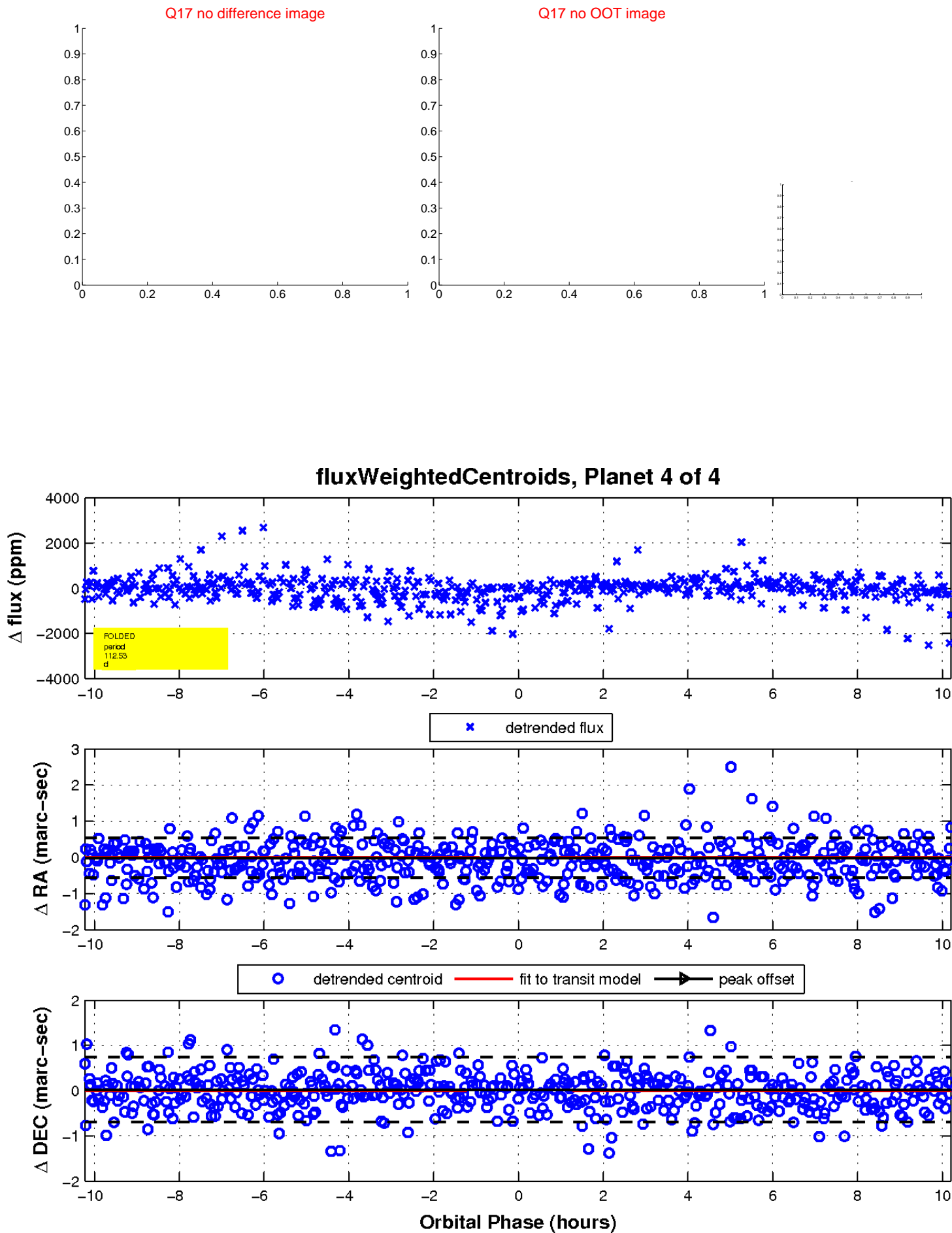
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

