

KIC 011027270

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})
011027270-01	OBS	No	0.530231	131.514837	7.9	3.593	9.3	3.4	2.18	7163	0.62	54520.48
011027270-02	OBS	No	34.954028	155.006074	93.3	0.541	12.8	1.0	2.18	7163	2.22	204.73
011027270-03	OBS	No	33.513391	163.471012	364.9	1.140	11.8	7.2	2.18	7163	4.33	216.55
011027270-04	OBS	No	56.329769	140.140948	492.4	2.418	11.6	8.9	2.18	7163	5.50	108.36
011027270-05	OBS	No	49.902113	172.829311	543.0	1.679	12.6	9.8	2.18	7163	5.17	127.36
011027270-06	OBS	No	27.816400	147.681992	315.8	3.313	10.7	8.3	2.18	7163	4.17	277.62
011027270-07	OBS	No	41.236838	159.131901	390.7	2.185	9.1	7.6	2.18	7163	4.88	164.24
011027270-08	OBS	No	109.932102	159.887063	468.4	1.620	9.0	7.6	2.18	7163	4.81	44.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011027270-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
011027270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
011027270-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
011027270-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-07	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_SATURATED
011027270-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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 011027270-01

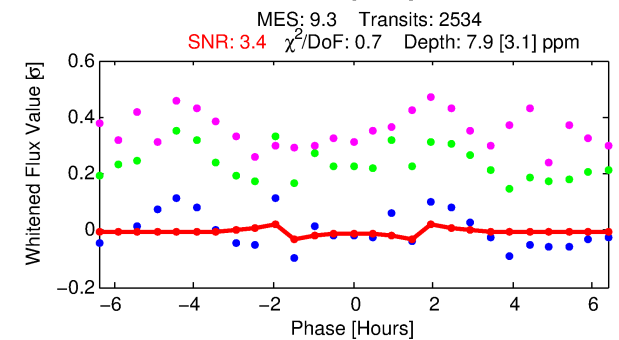
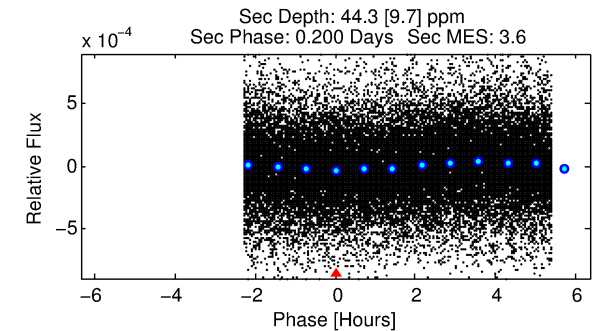
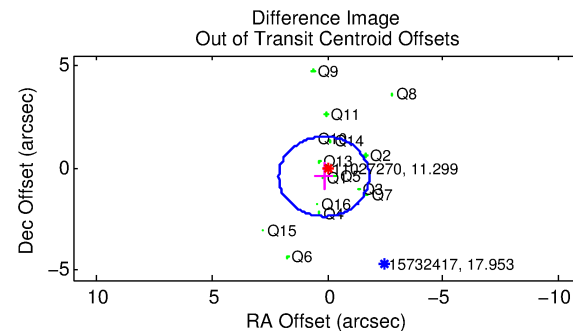
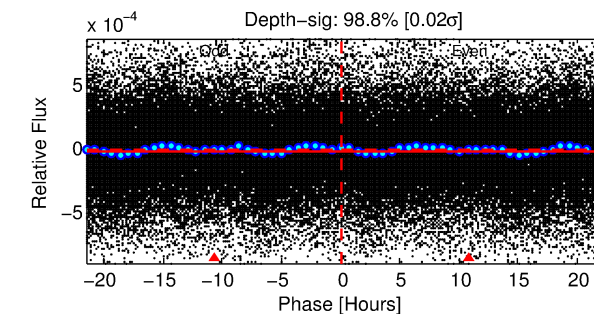
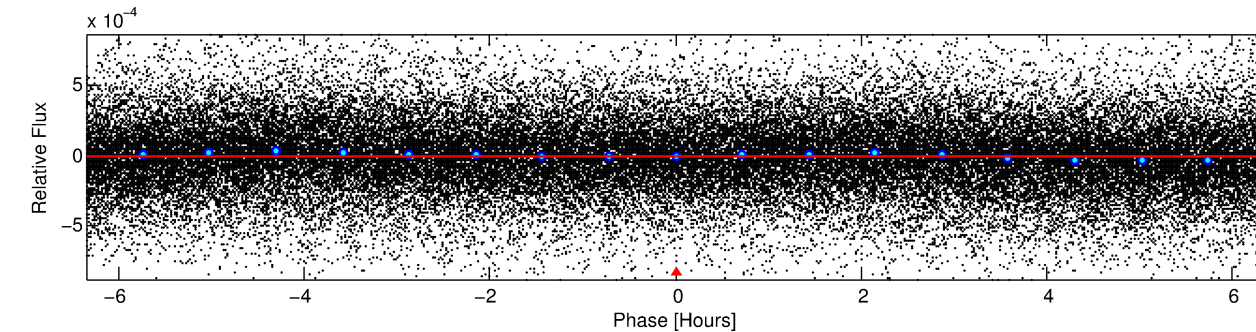
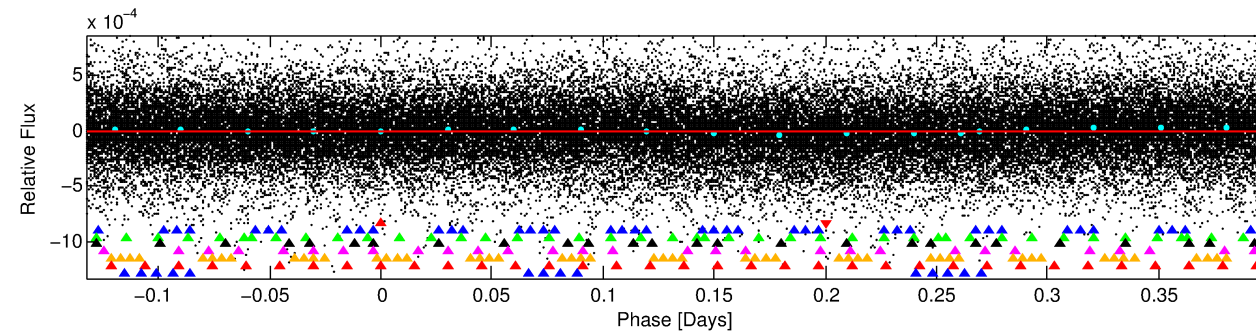
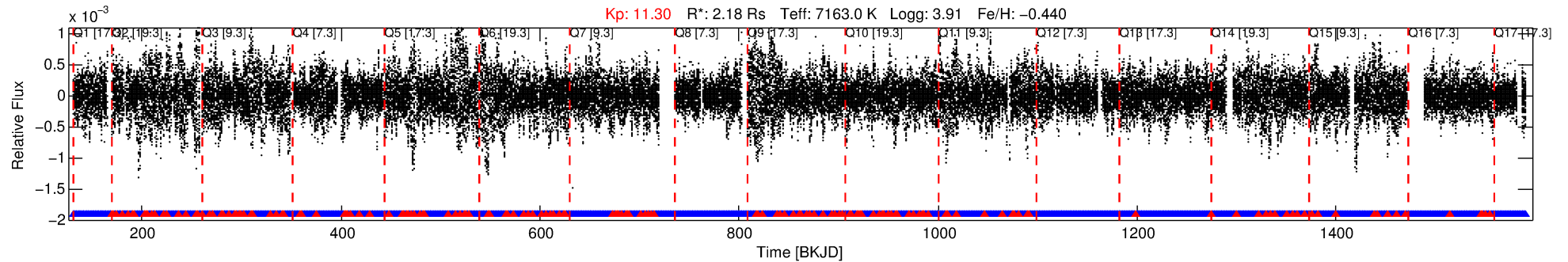
No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 1 of 8 Period: 0.530 d

KOI: K07401 Corr: No Ephemeris Match

Kp: 11.30 R*: 2.18 Rs Teff: 7163.0 K Logg: 3.91 Fe/H: -0.440



DV Fit Results:

Period = 0.53023 [0.00003] d
Epoch = 131.5148 [0.0036] BKJD
Rp/R* = 0.0026 [0.0027]
a/R* = 1.29 [3.11]
b = 0.06 [103.53]
Seff = 54520.48 [34560.07]
Teff = 3896 [617] K
Rp = 0.62 [0.67] Re
a = 0.0143 [0.0054] AU
Ag = 13.14 [28.32] [0.43σ]
Teffp = 11469 [5936] K [1.27σ]

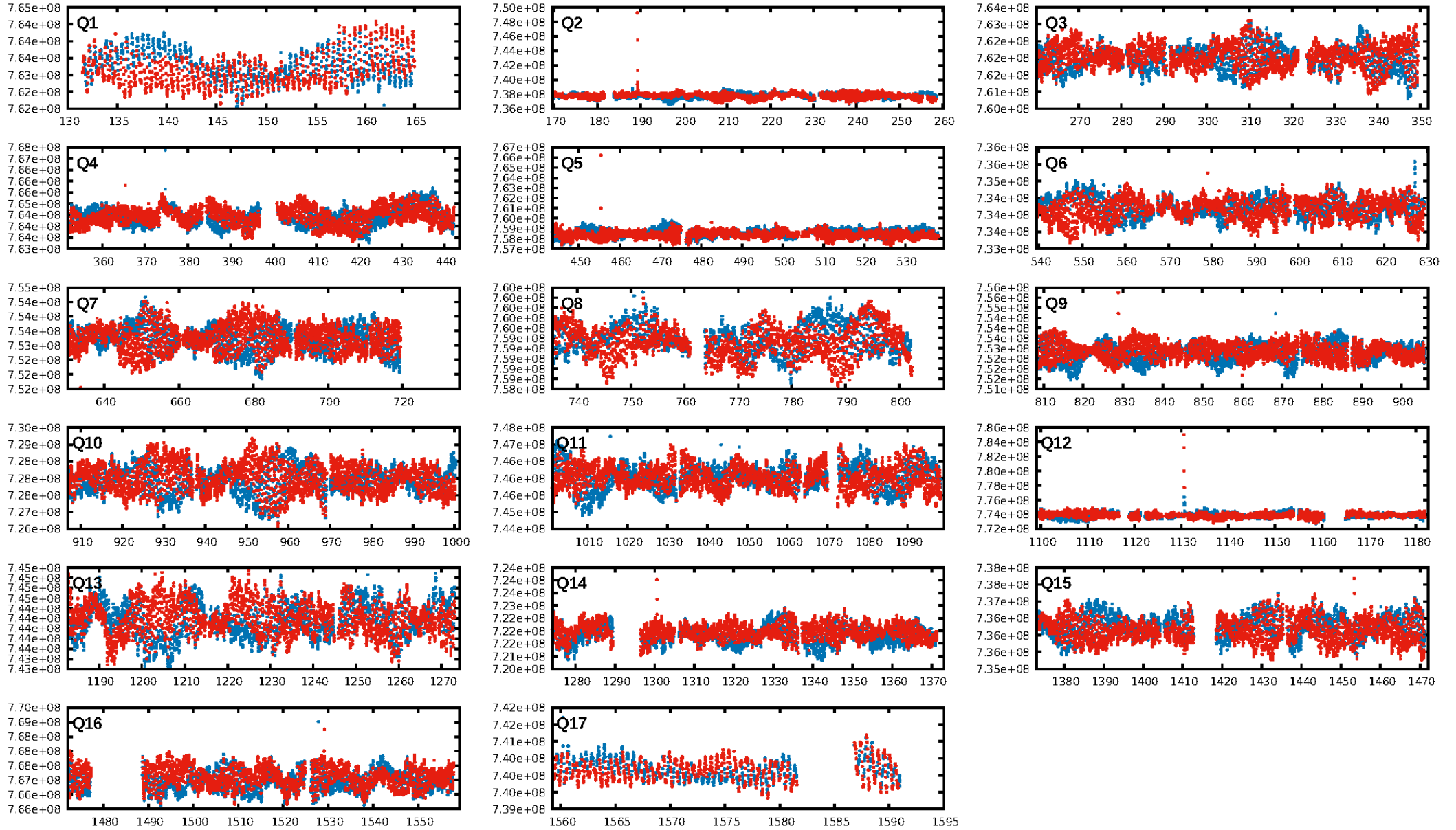
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [133.99σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.20e-08
RollingBand-fgt: 0.93 [2245/2420]
GhostDiagnostic-chr: 0.1952
Centroid-sig: 0.1%
Centroid-so: 1.987 arcsec [2.40σ]
OotOffset-rm: 0.459 arcsec [0.70σ]
KicOffset-rm: 0.441 arcsec [0.65σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.27 [4/15]
DiffImageOverlap-fno: 1.00 [17/17]

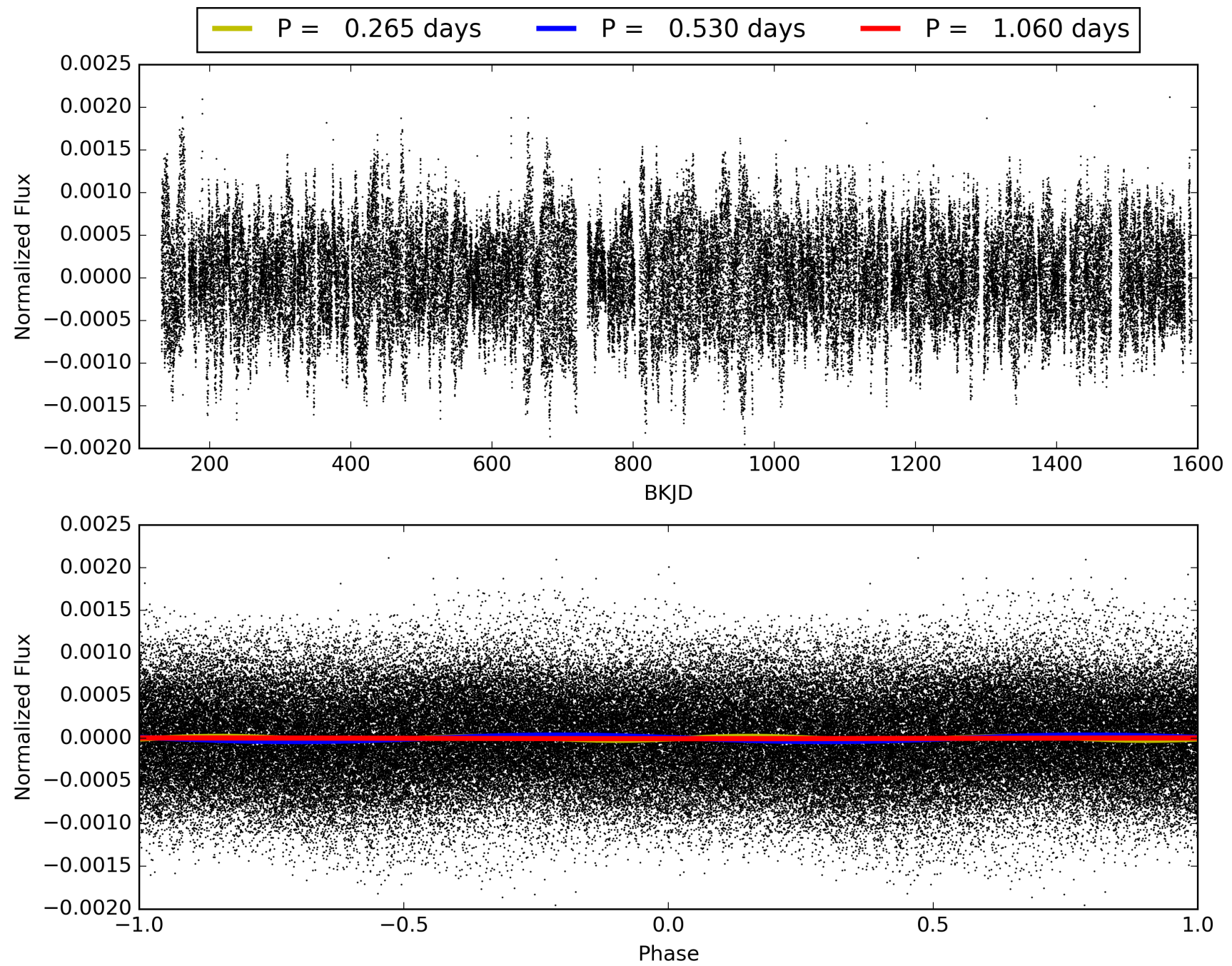
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011027270-01, PDC Light Curves

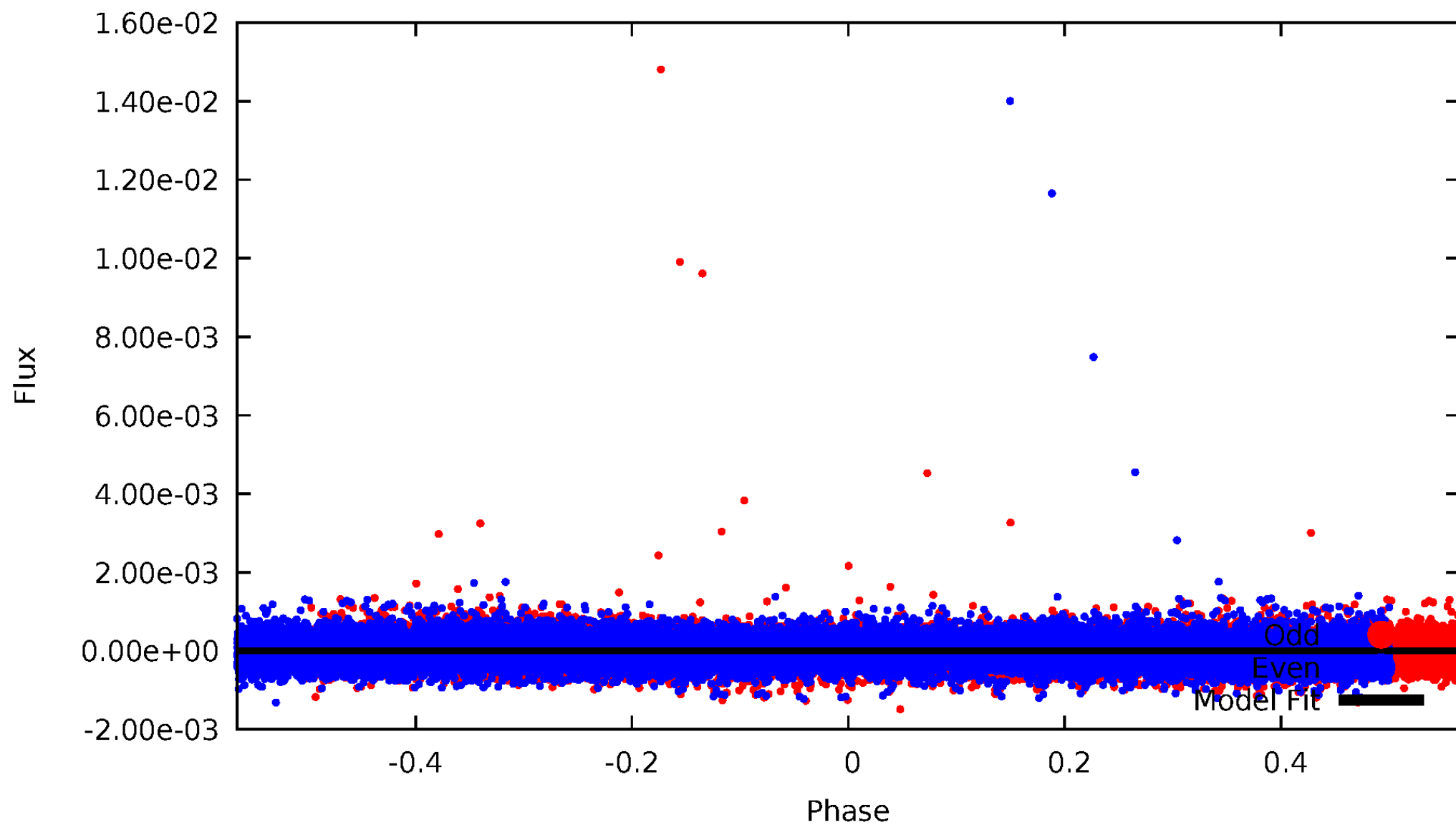


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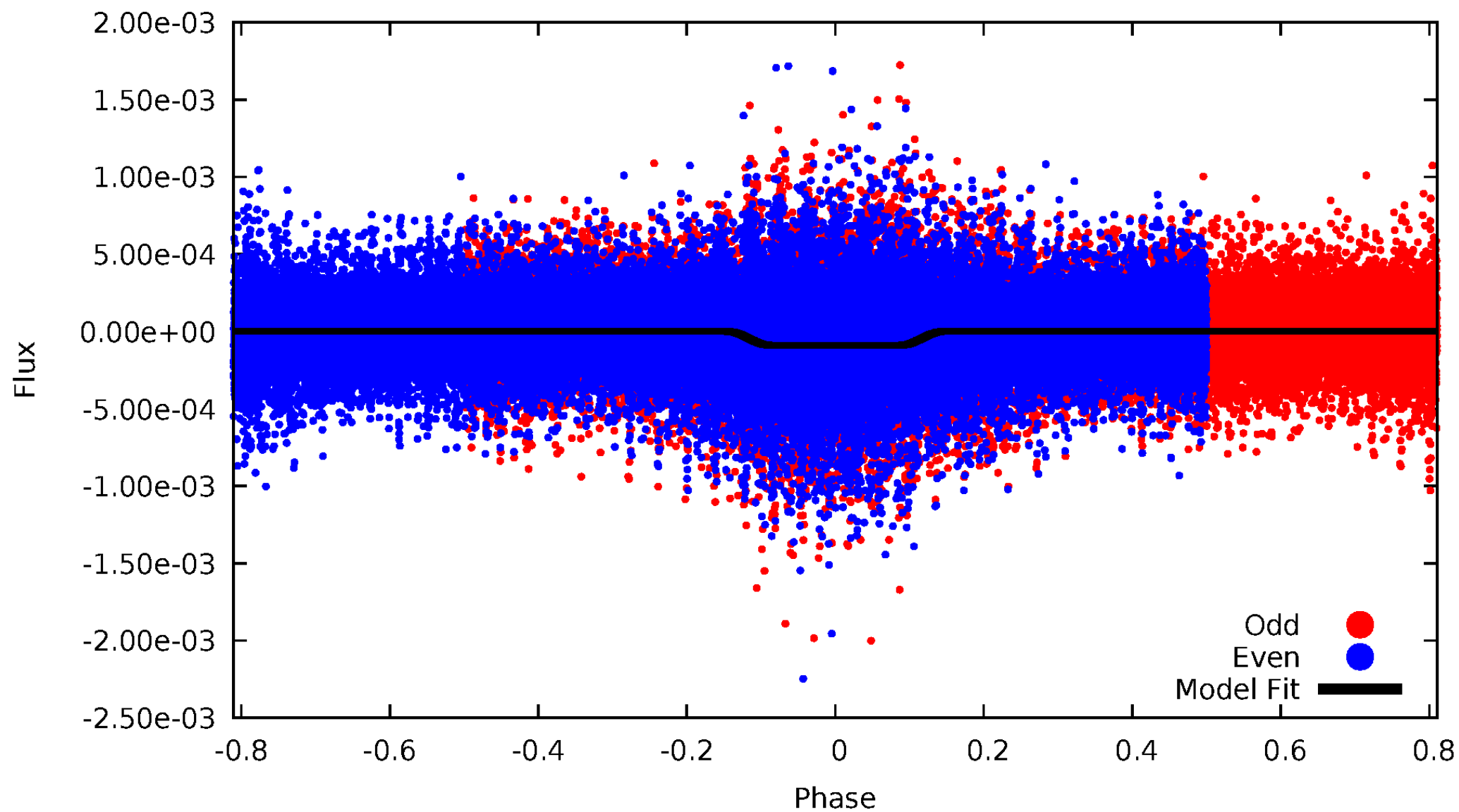
DV Odd/Even

TCE 011027270-01



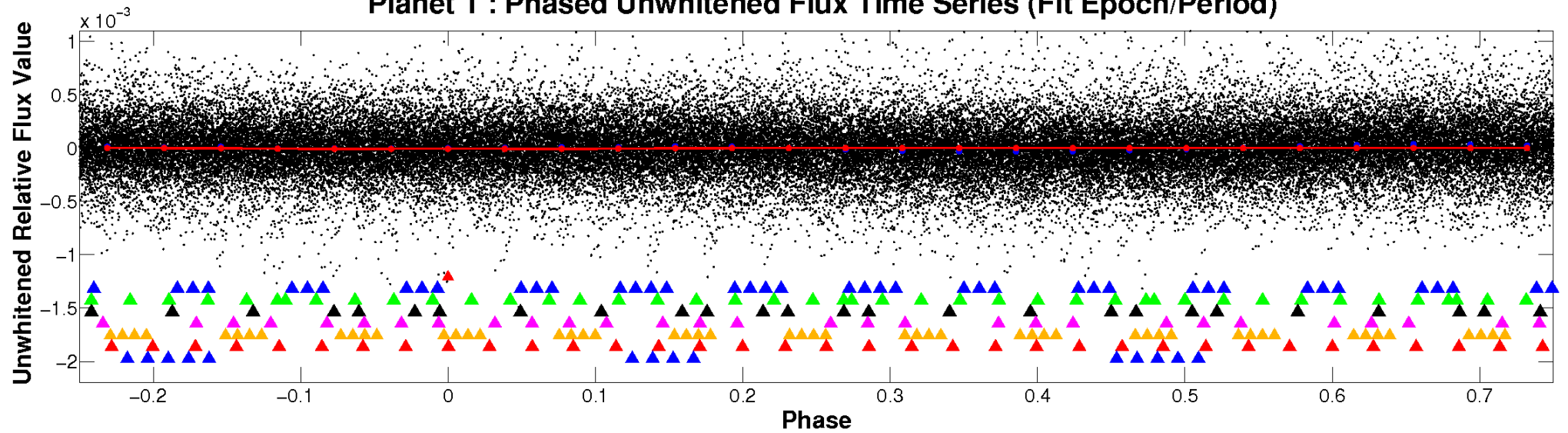
ALT Odd/Even

TCE 011027270-01

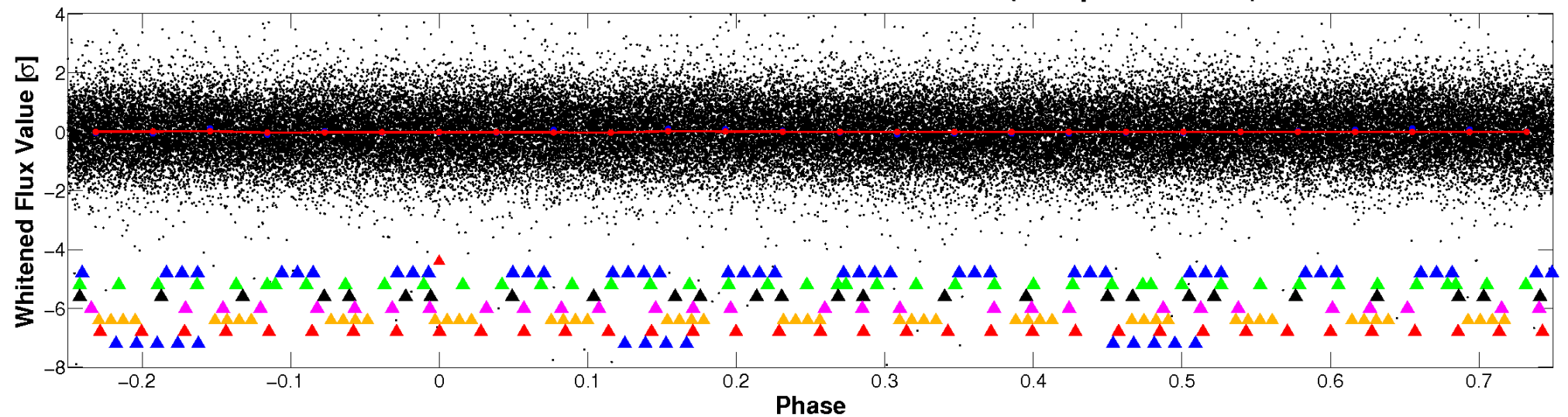


Non-Whitened Vs. Whitened Light Curve

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

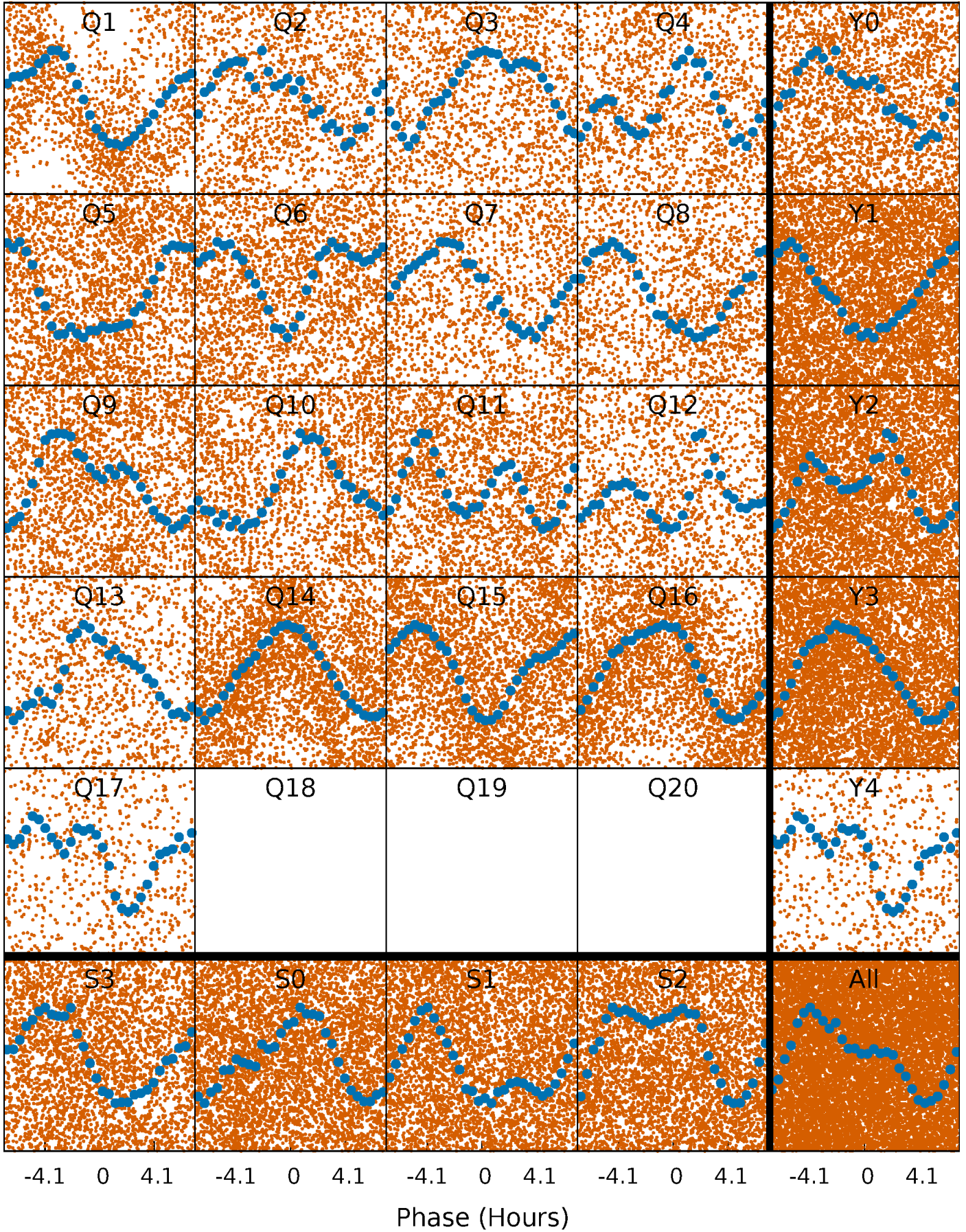


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



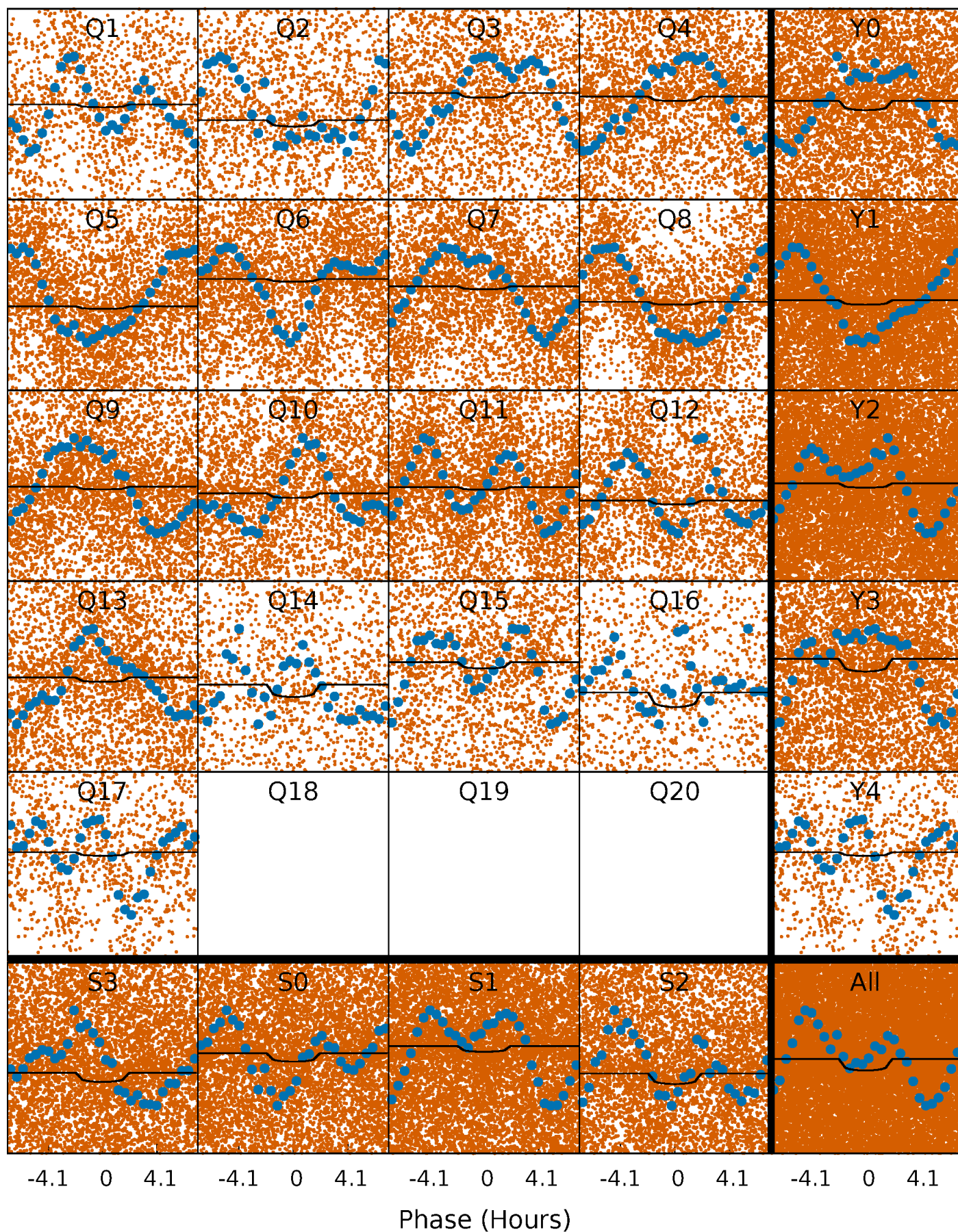
PDC Quarter-Phased Transit Curves

TCE 011027270-01 P= 0.530231 Days $T_0=131.514837$ (BKJD)



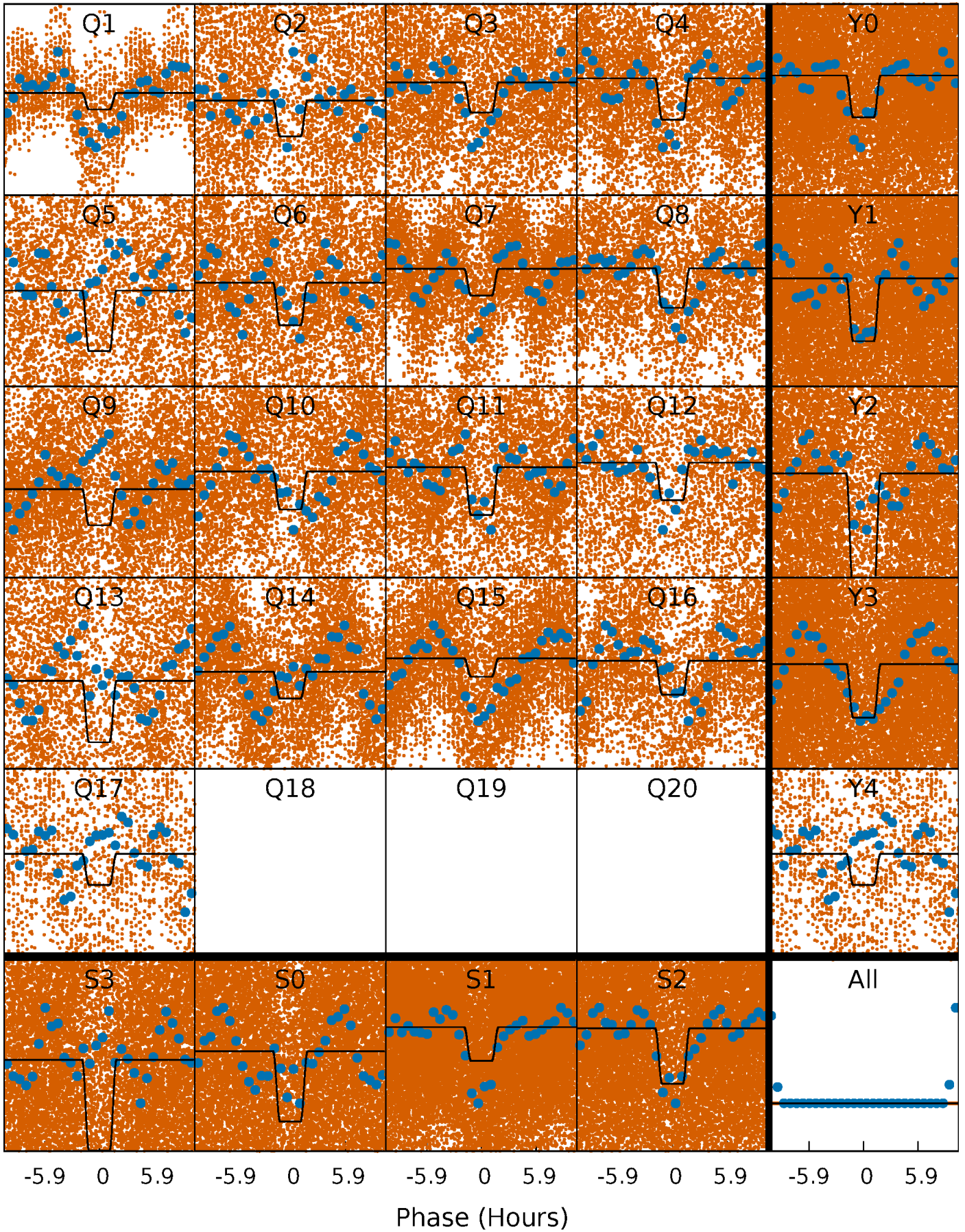
DV Quarter-Phased Transit Curves

TCE 011027270-01 P= 0.530231 Days $T_0=131.514837$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

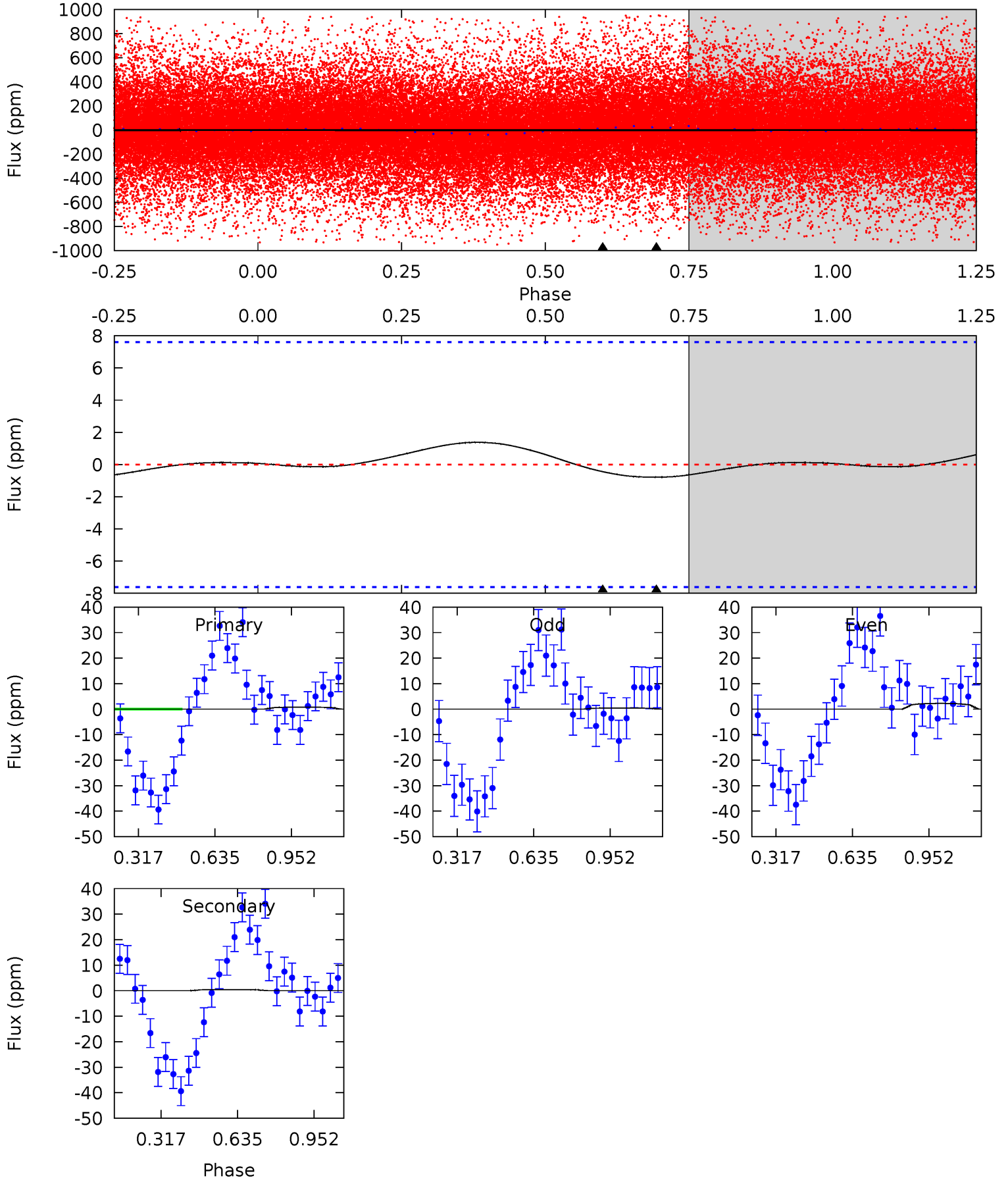
TCE 011027270-01 P= 0.531084 Days $T_0=131.536138$ (BKJD)



DV Model-Shift Uniqueness Test

011027270-01, P = 0.530231 Days, E = 130.984606 Days

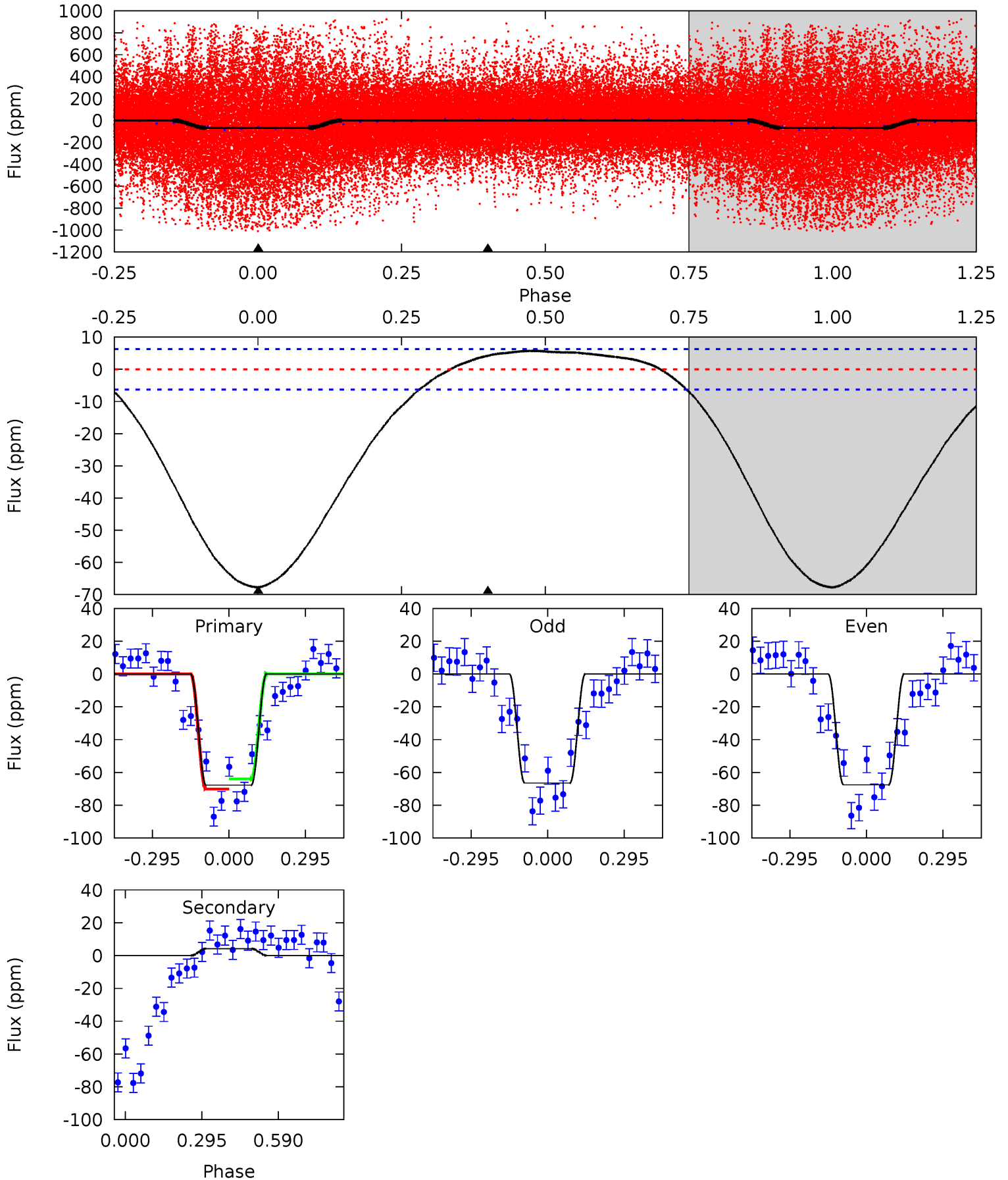
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.45	0.25	0	0	4.32	1.00	0.17	0.45	0.45	0.25	0.25	0.52	0.33	0.64	0.53



Alt Model-Shift Uniqueness Test

011027270-01, P = 0.531084 Days, E = 131.005054 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.8	-2.90	0	0	4.33	1.05	2.09	46.8	46.8	-2.90	-2.90	0.38	1.13	0.08	1.99



Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-0 ± 2	$0.67^{+0.58}_{-0.42}$	5296^{+385}_{-578}	-4194^{+9655}_{-1063}	$0.076^{+1.025}_{-0.442}$
Alt.	4 ± 1	$2.05^{+0.73}_{-0.65}$	5294^{+399}_{-525}	-4798^{+306}_{-321}	$-0.111^{+0.058}_{-0.141}$

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

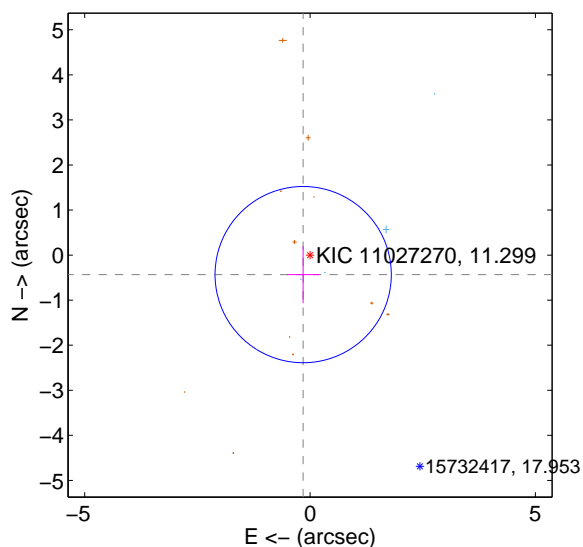
Supplemental centroid analysis for 011027270-01. **Kepler magnitude: 11.30.** Transit SNR 3.44

There are 4 quarters with good PRF difference image offsets

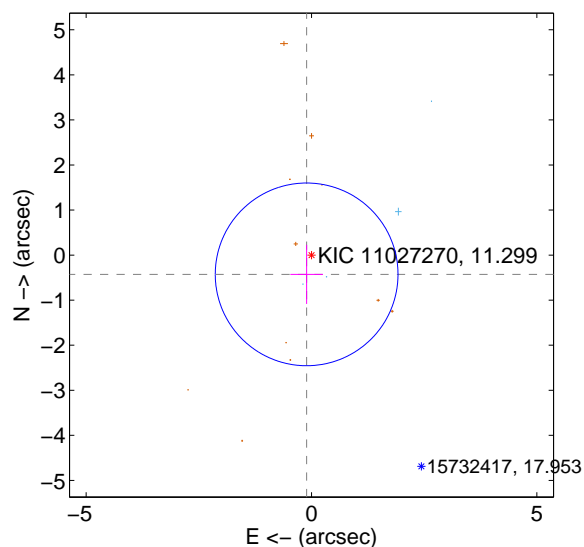
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.459 ± 0.652	0.70	0.153 ± 0.357	-0.433 ± 0.632
PRF-fit source offset from KIC position	0.441 ± 0.676	0.65	0.108 ± 0.361	-0.428 ± 0.656
photometric centroid source offset	1.99 ± 0.83	2.40	1.61 ± 0.73	1.17 ± 0.99

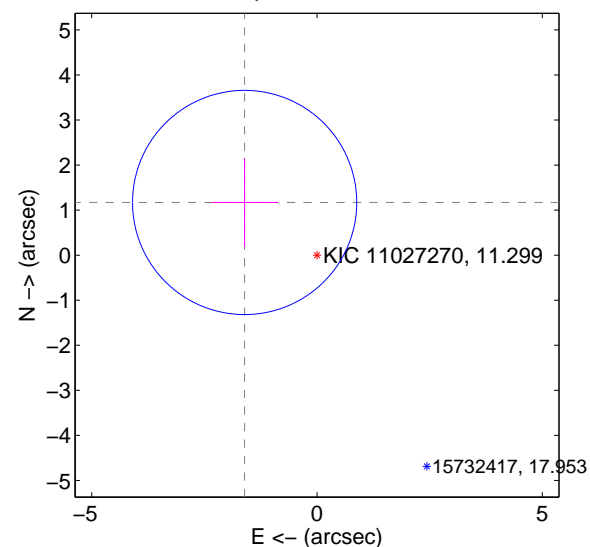
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

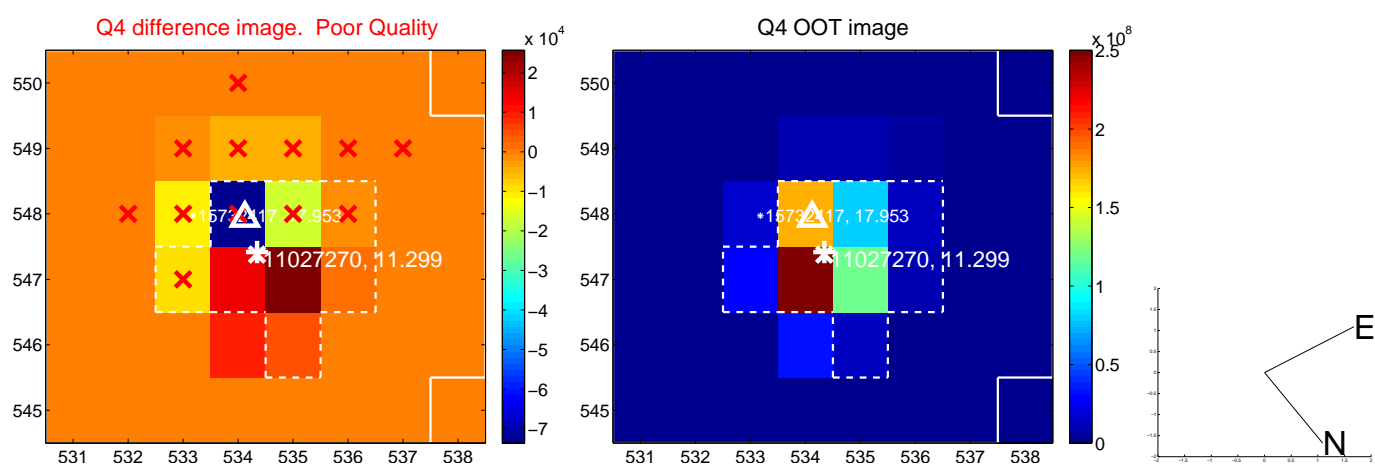
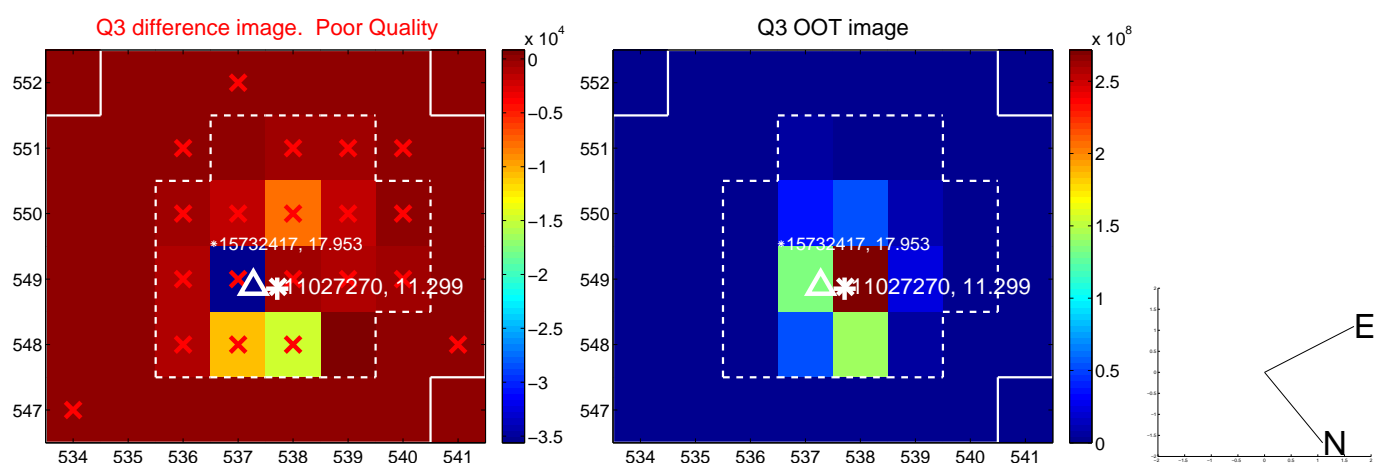
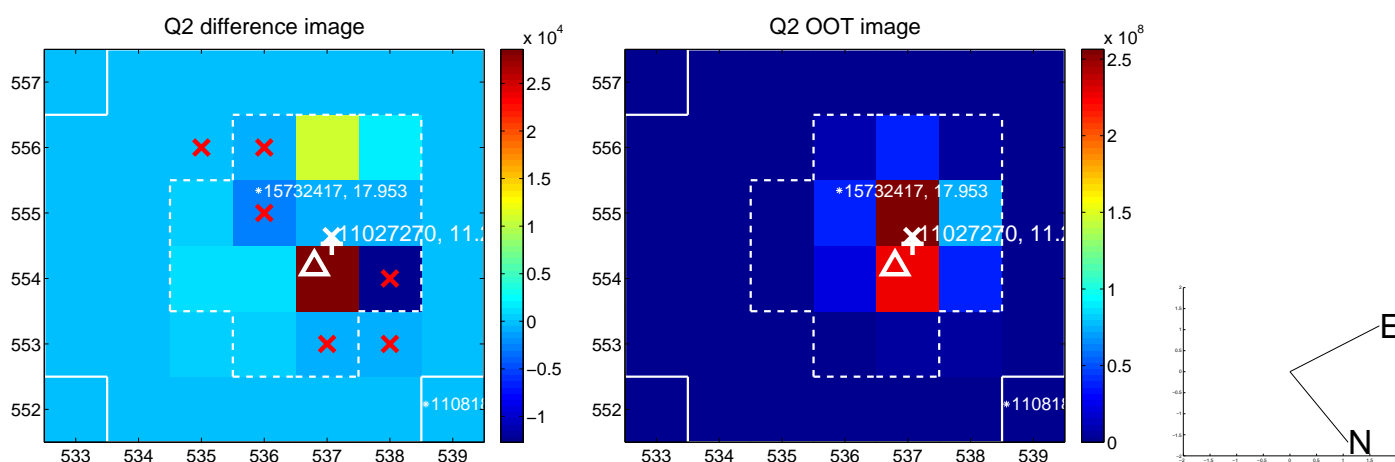
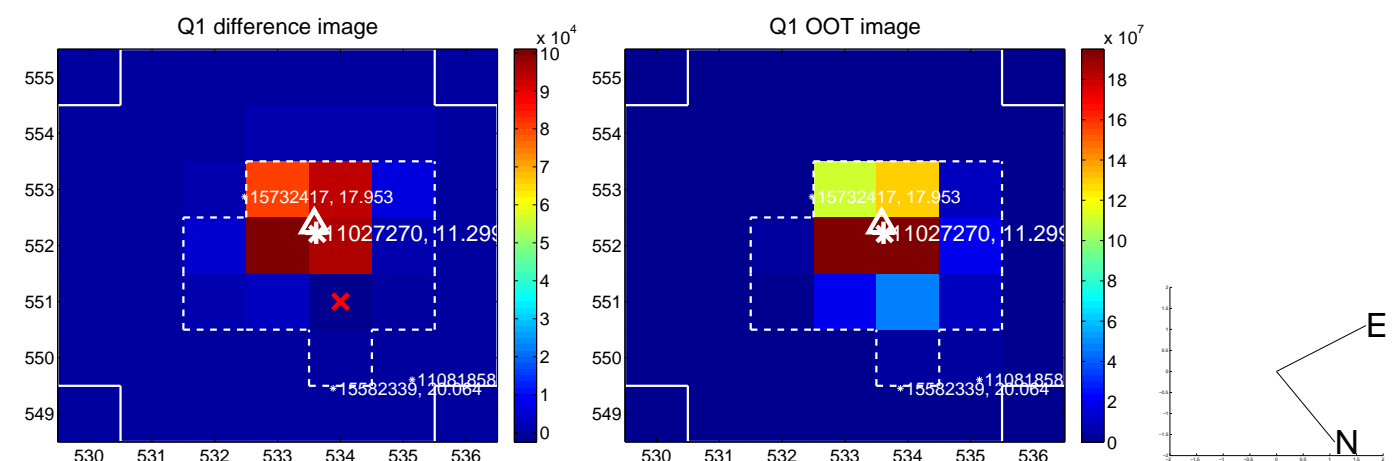


offset from photometric centroids

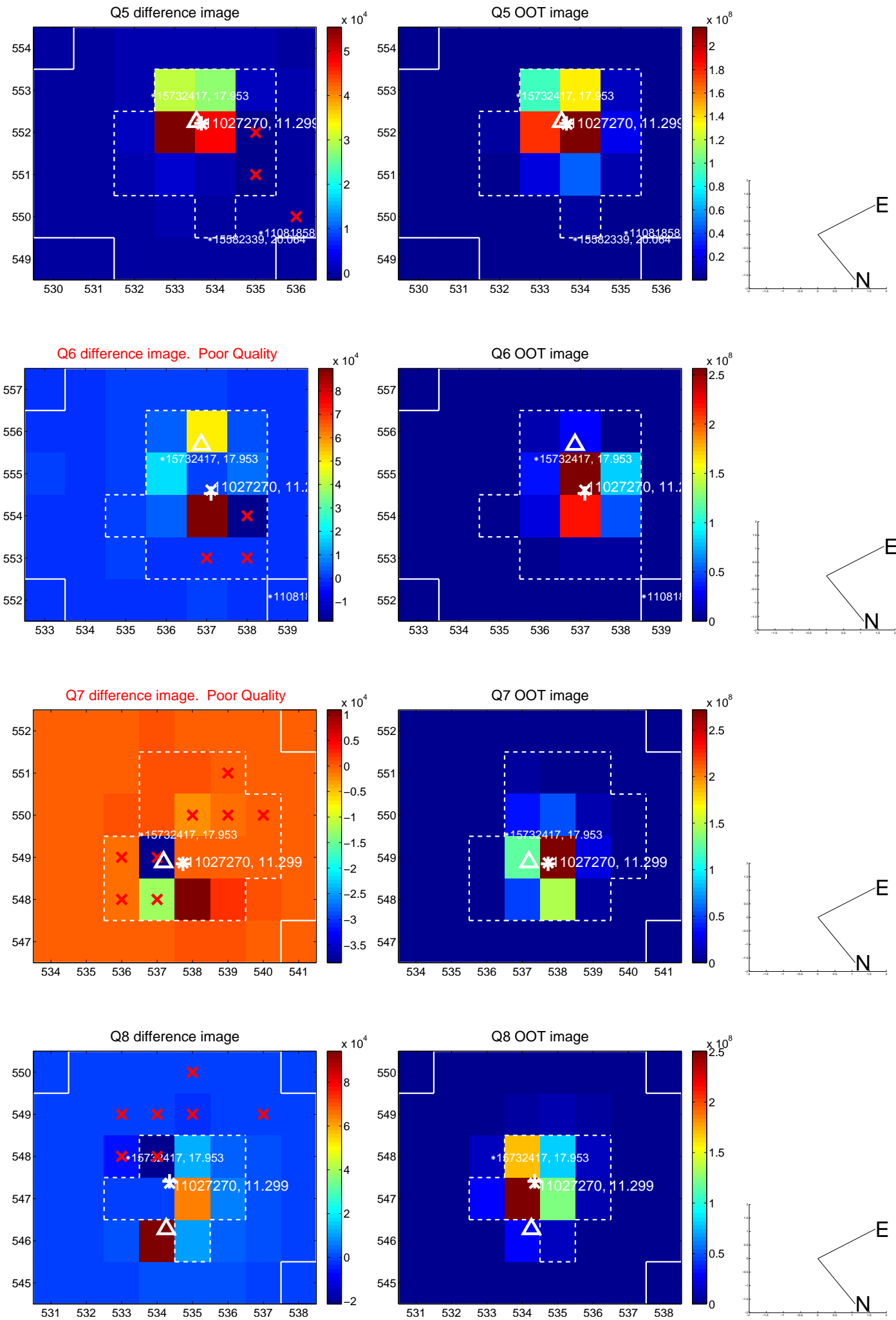


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

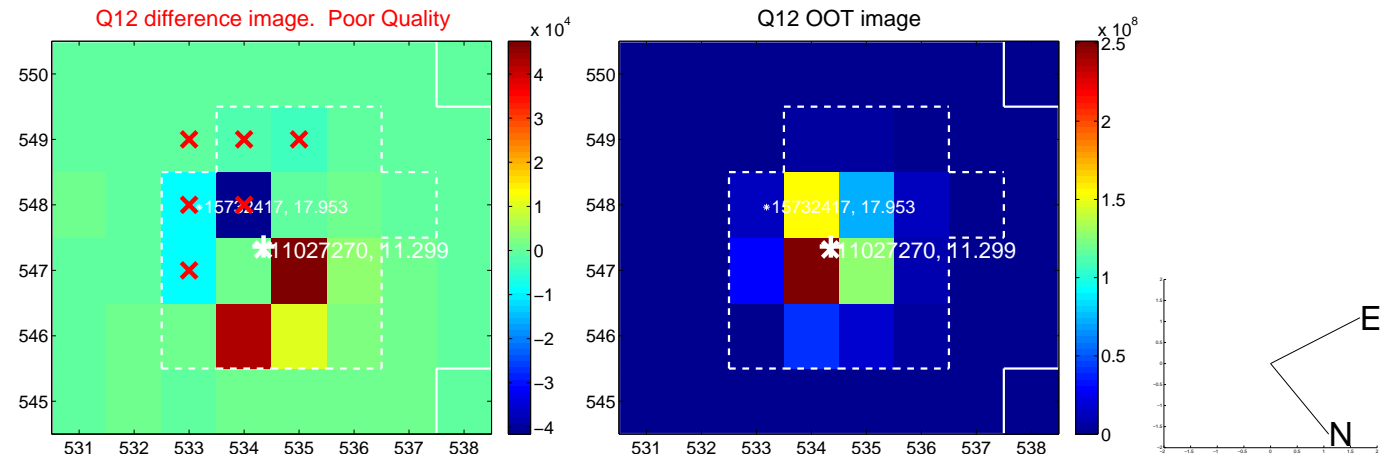
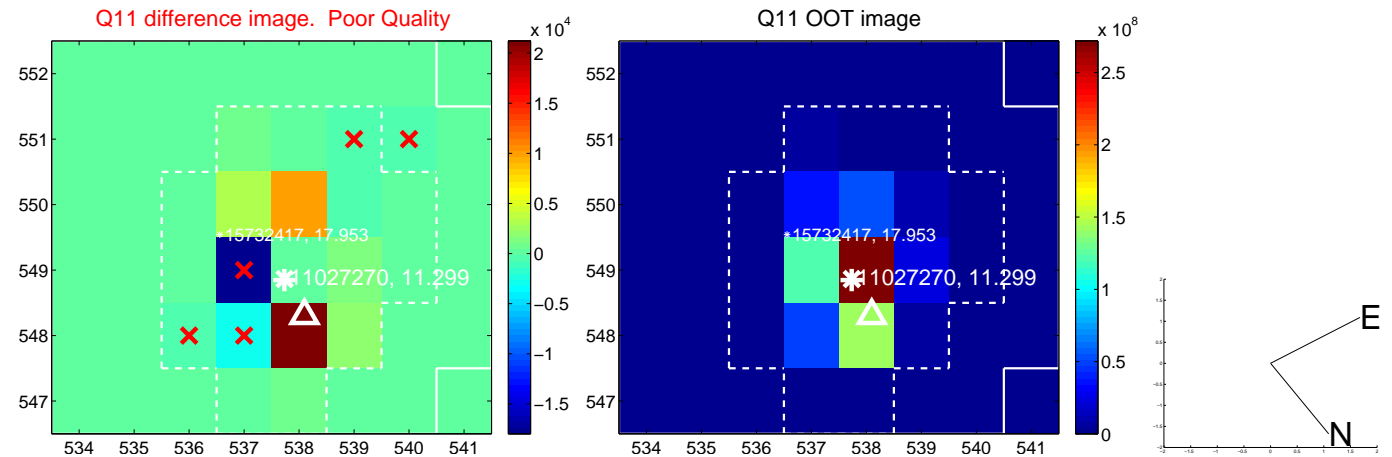
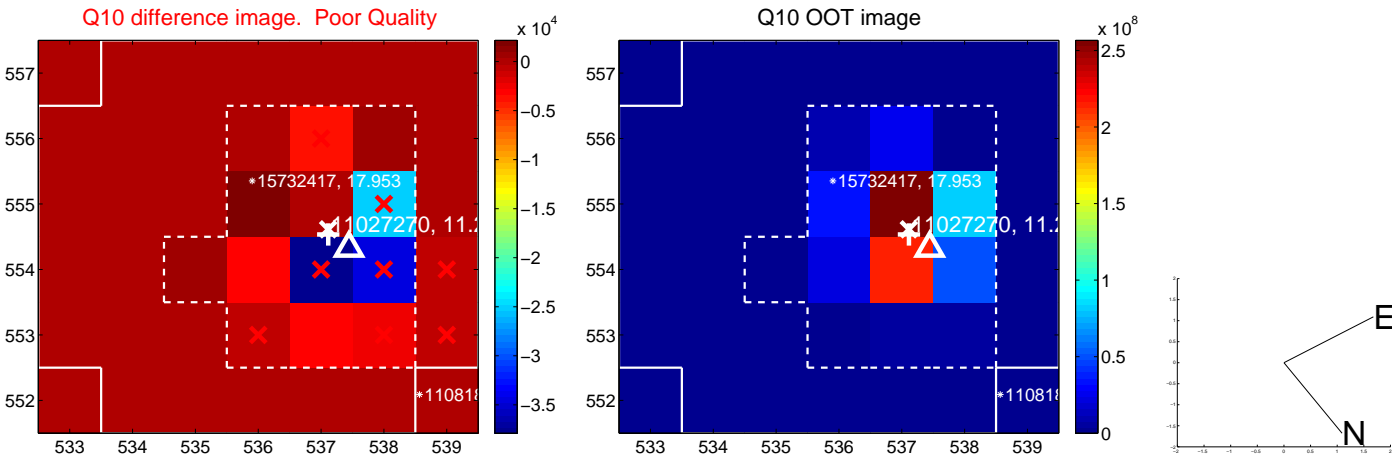
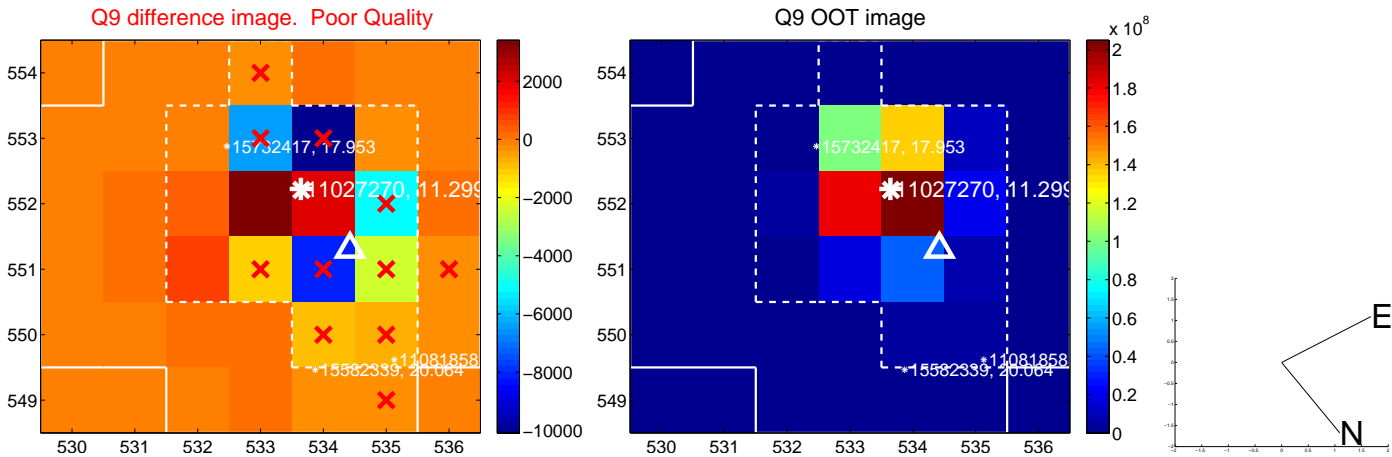
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



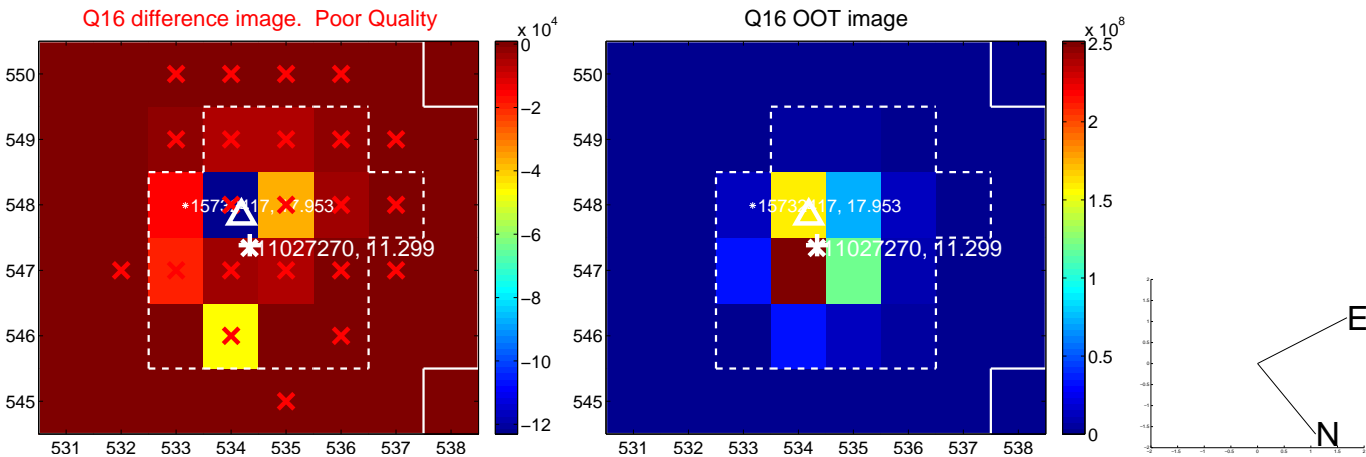
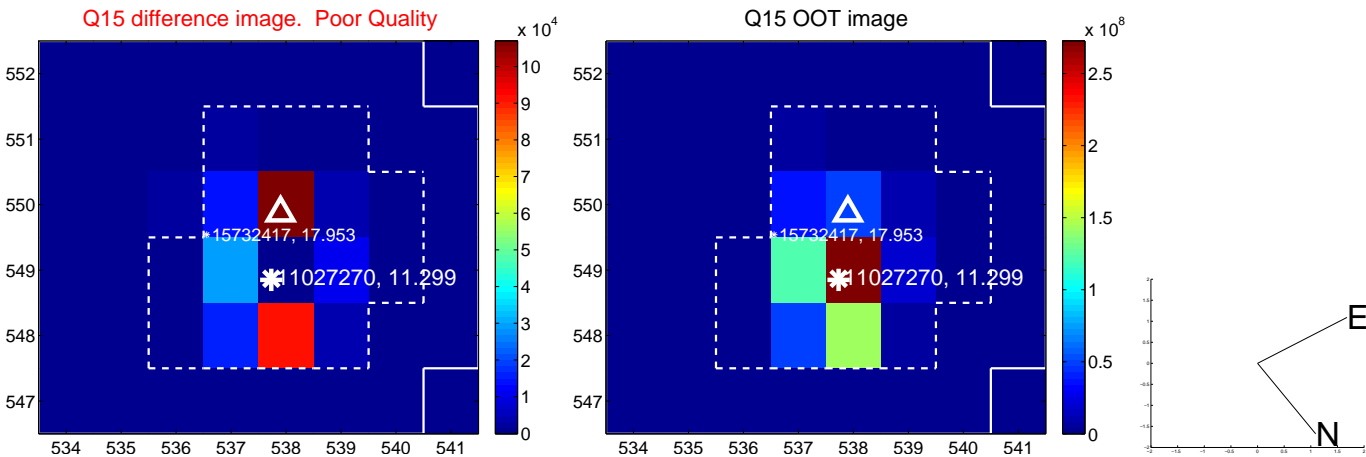
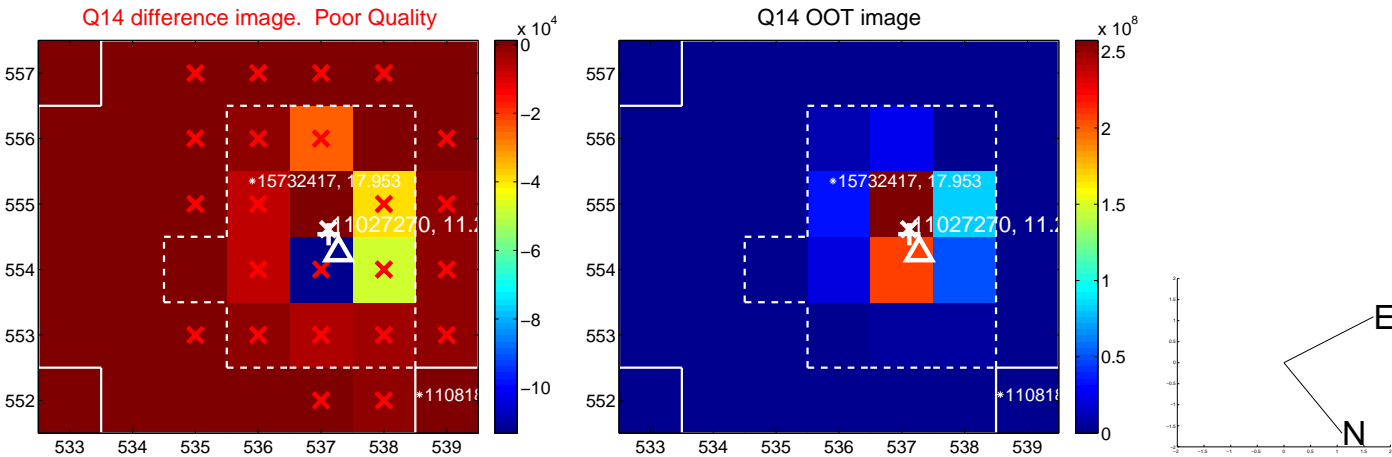
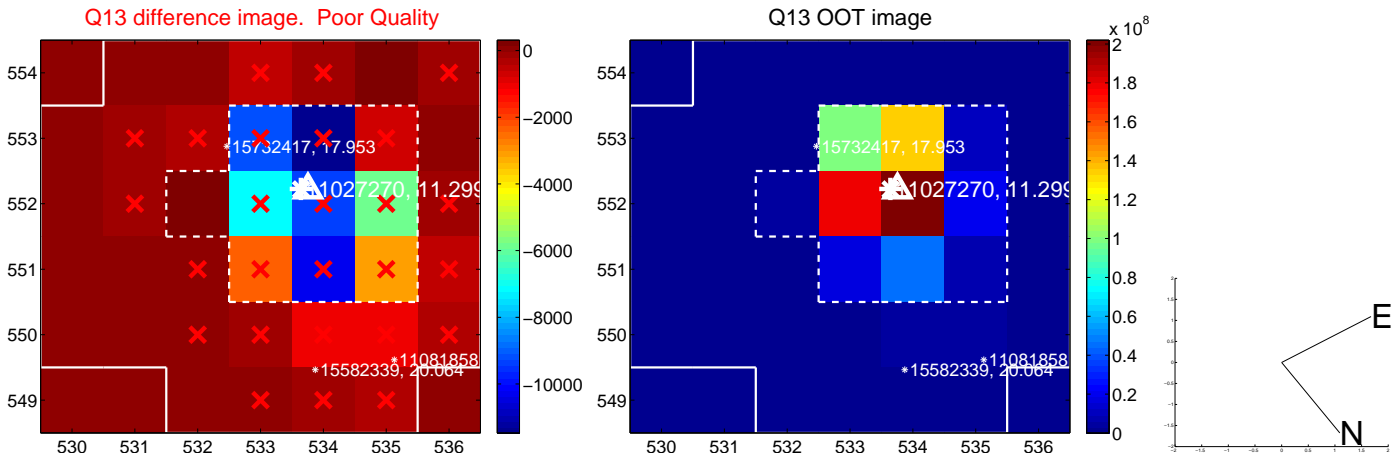
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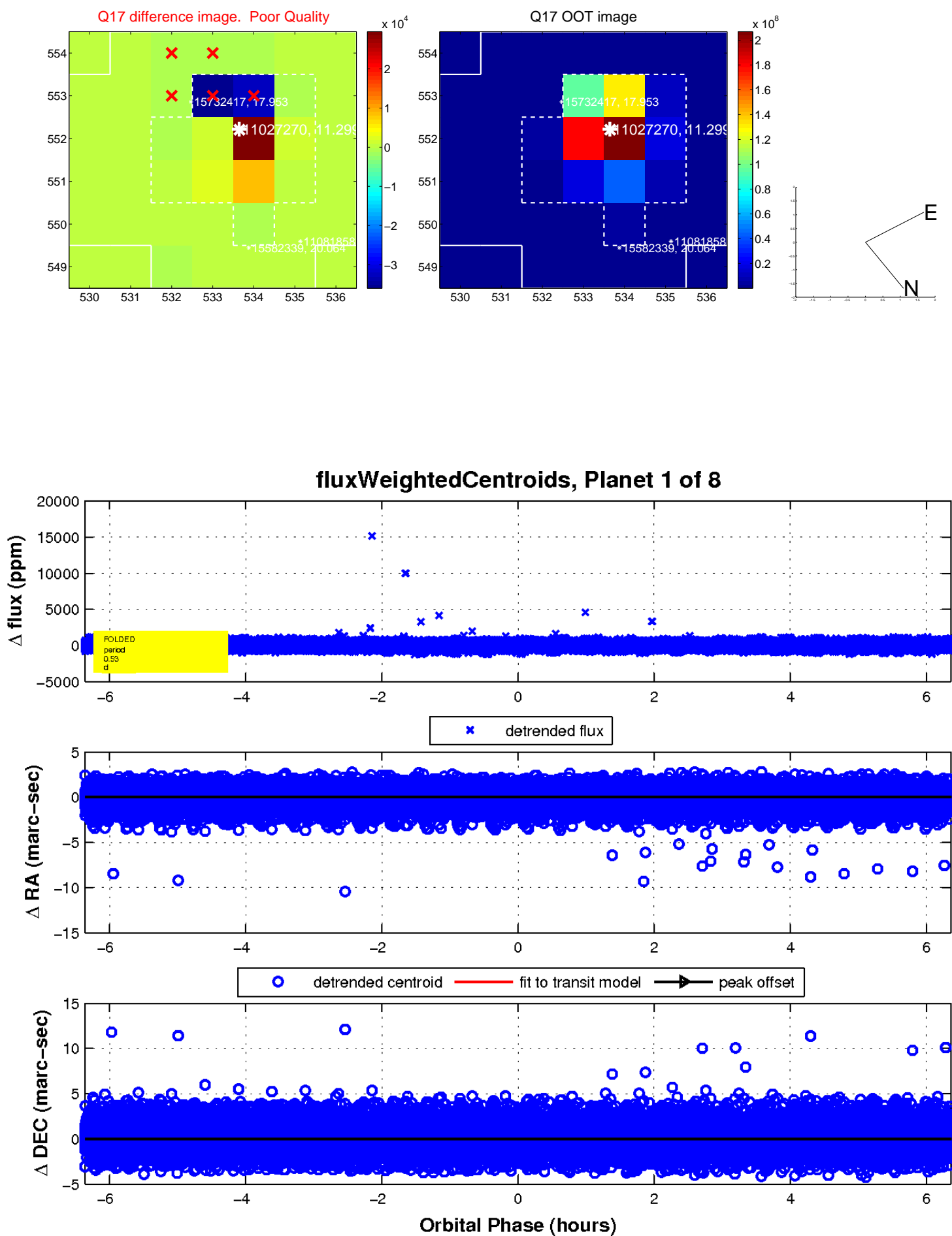
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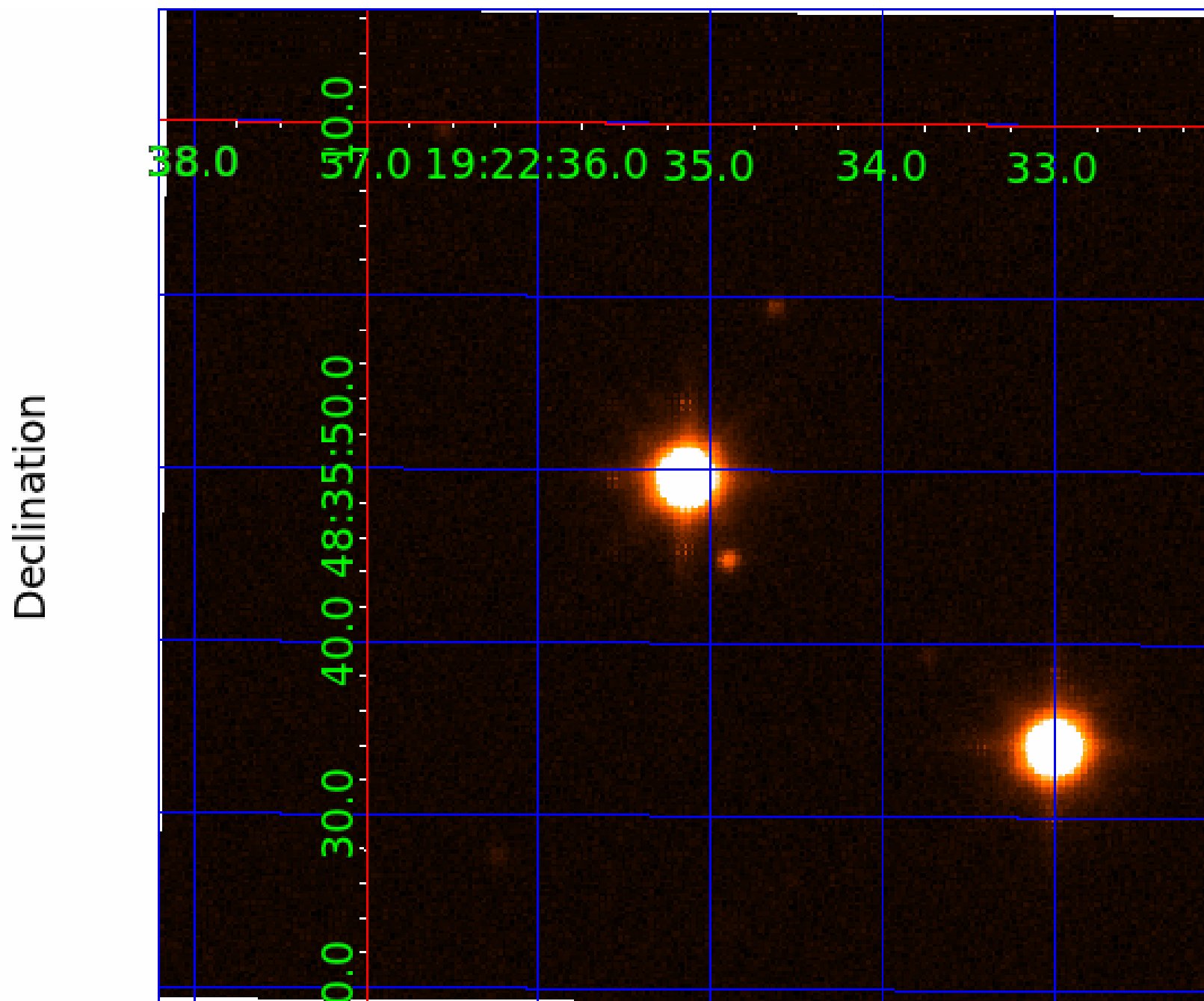
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UKIRT Image



KIC 011027270

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011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
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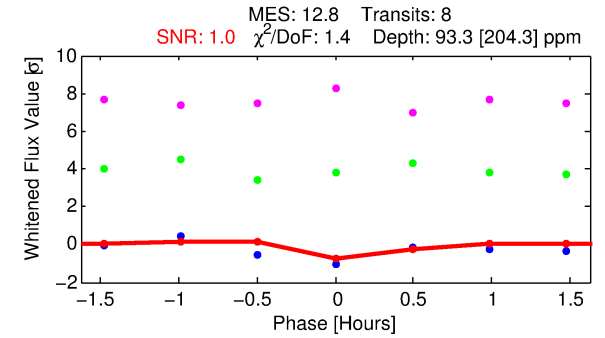
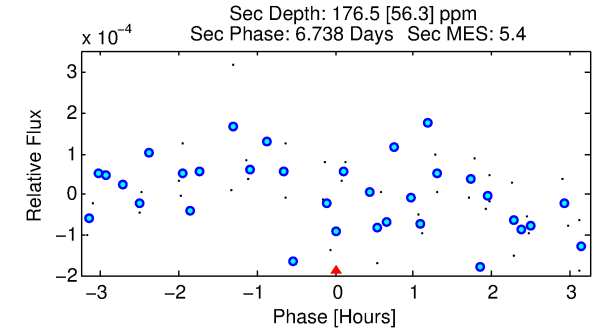
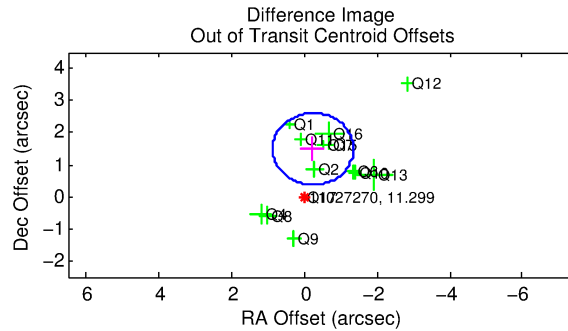
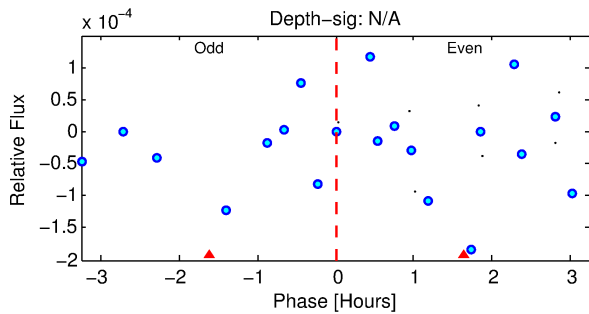
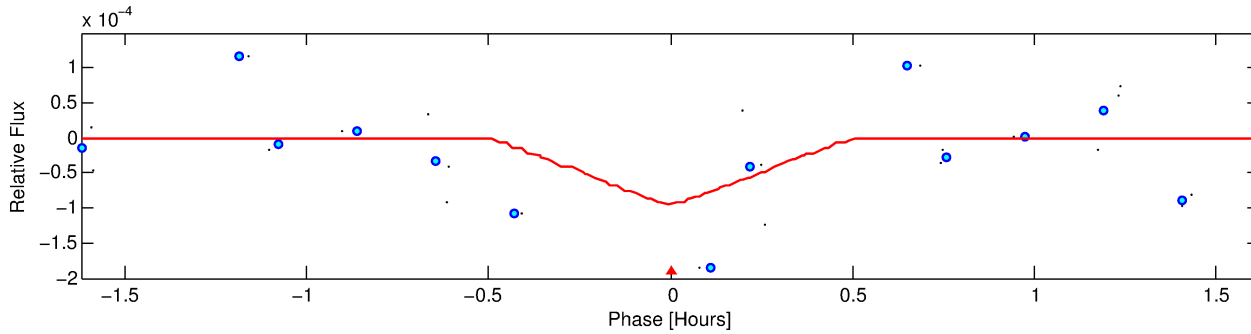
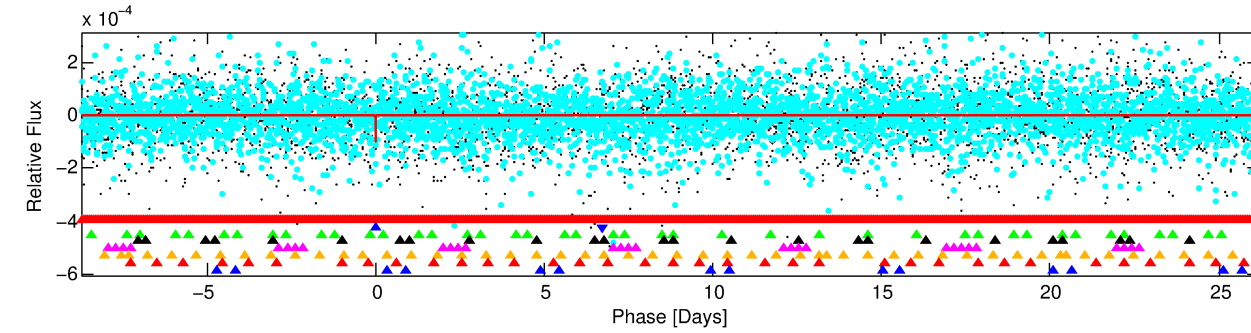
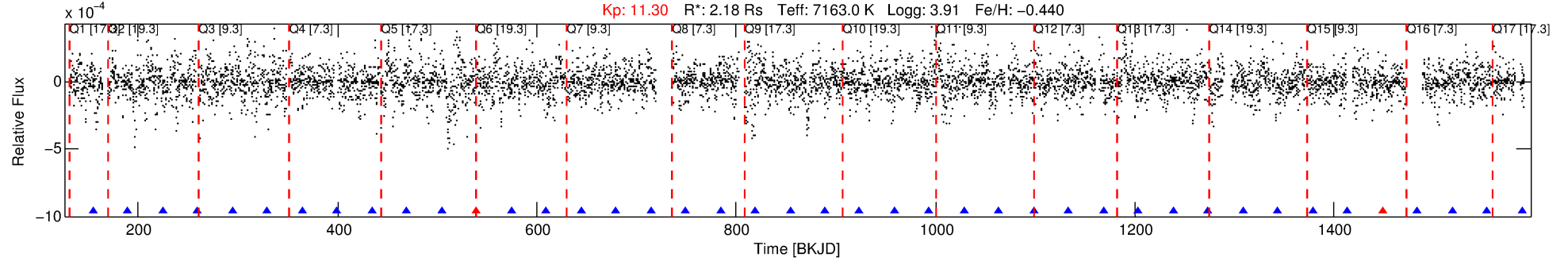
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011027270-02

No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 2 of 8 Period: 34.954 d
KOI: K07401 Corr: No Ephemeris Match



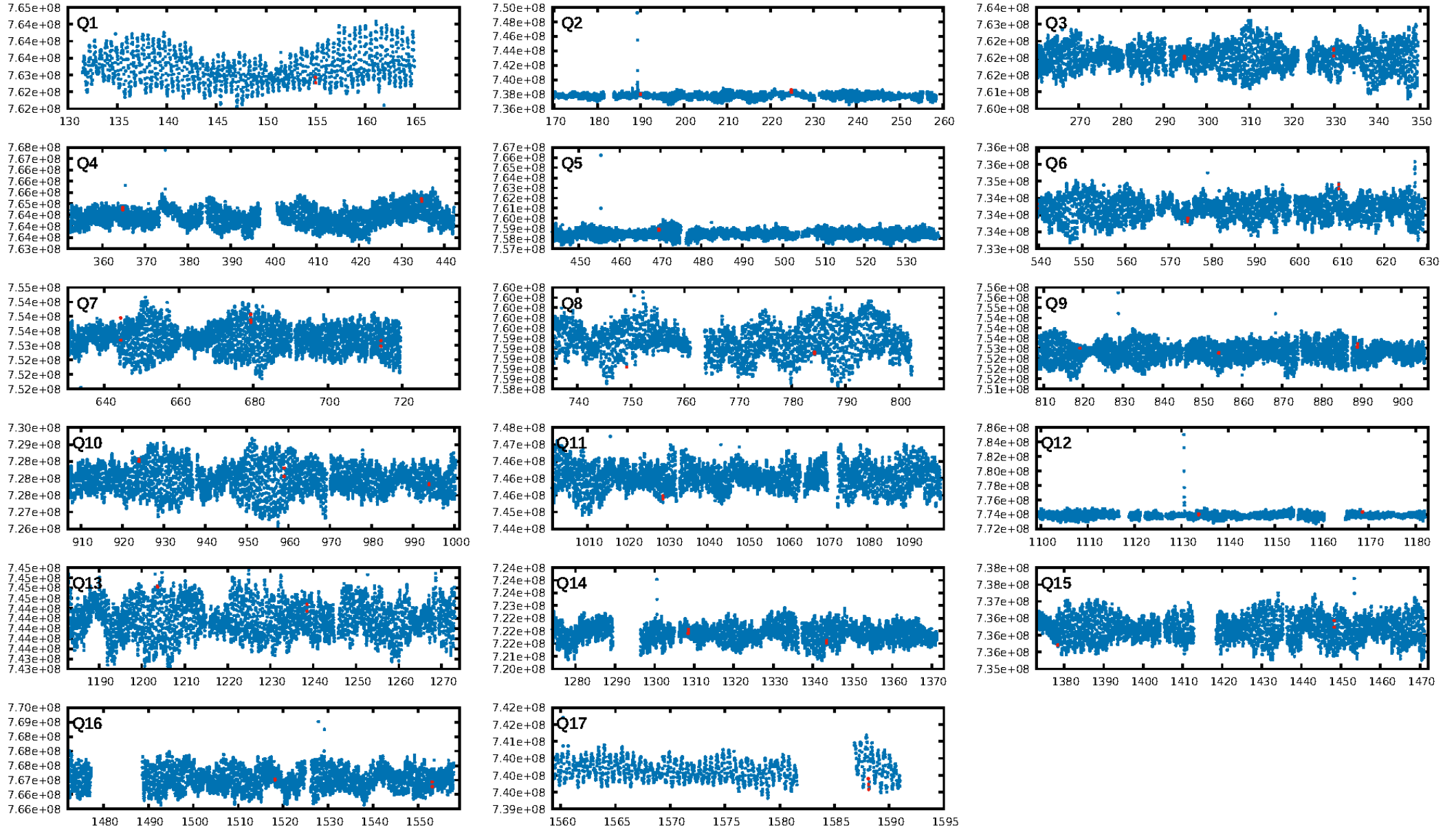
DV Fit Results:

Period = 34.95403 [0.00152] d
Epoch = 155.0061 [0.0369] BKJD
Rp/R* = 0.0093 [0.6574]
a/R* = 472.94 [190774.07]
b = 0.32 [1147.06]
Seff = 204.73 [129.78]
Teq = 965 [153] K
Rp = 2.22 [156.17] Re
a = 0.2337 [0.0883] AU
Ag = 1079.75 [152217.76] [0.01σ]
Teff = 8549 [301282] K [0.03σ]

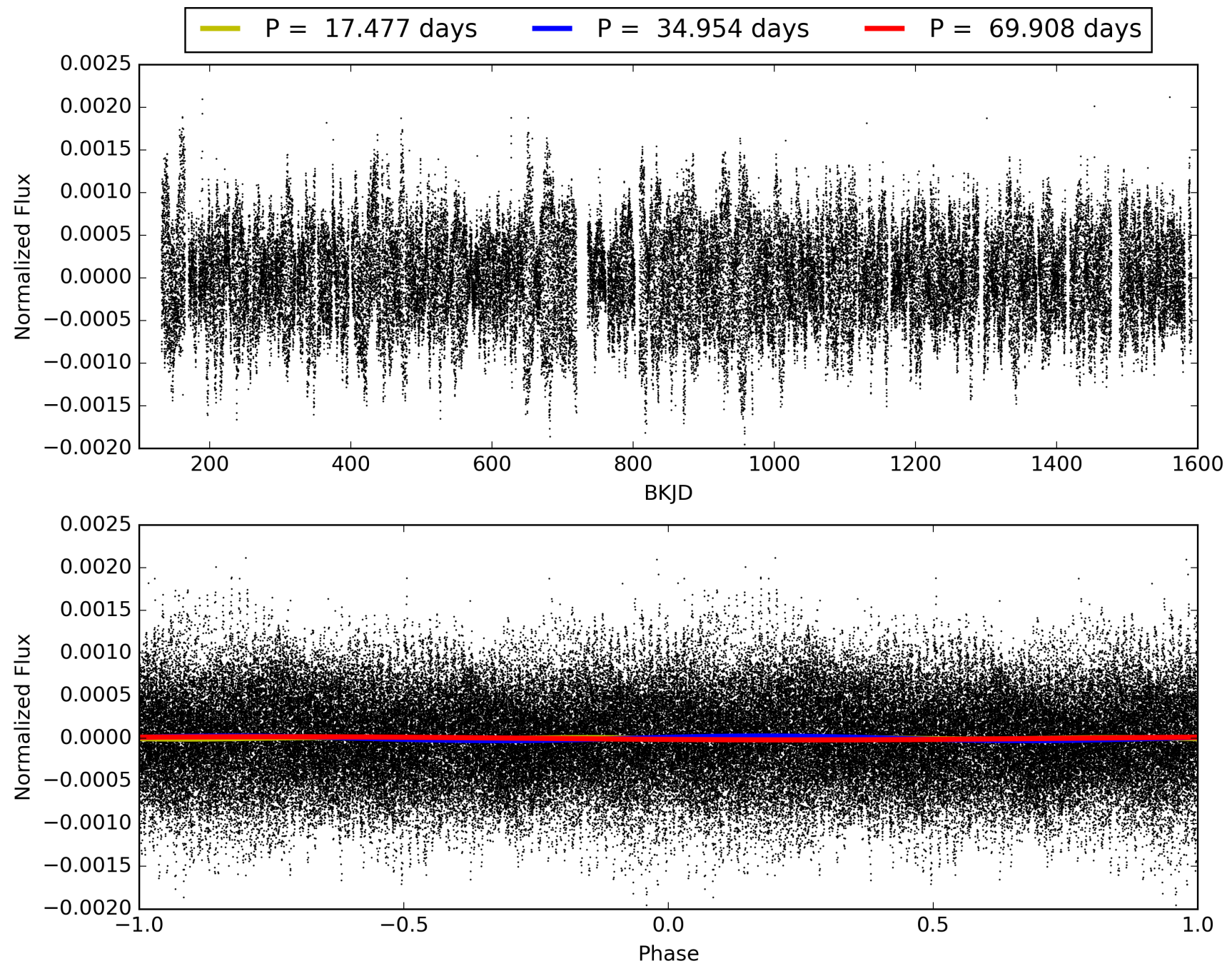
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.40σ]
LongPeriod-sig: 100.0% [67.00σ]
ModelChiSquare2-sig: 58.6%
ModelChiSquareGof-sig: 92.3%
Bootstrap-pfa: 1.76e-19
RollingBand-fgt: 0.75 [6/8]
GhostDiagnostic-chr: 5.074
Centroid-sig: 19.8%
Centroid-so: 1.435 arcsec [1.09σ]
OotOffset-rm: 1.508 arcsec [4.05σ]
KicOffset-rm: 1.636 arcsec [4.60σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/16]

TCE 011027270-02, PDC Light Curves

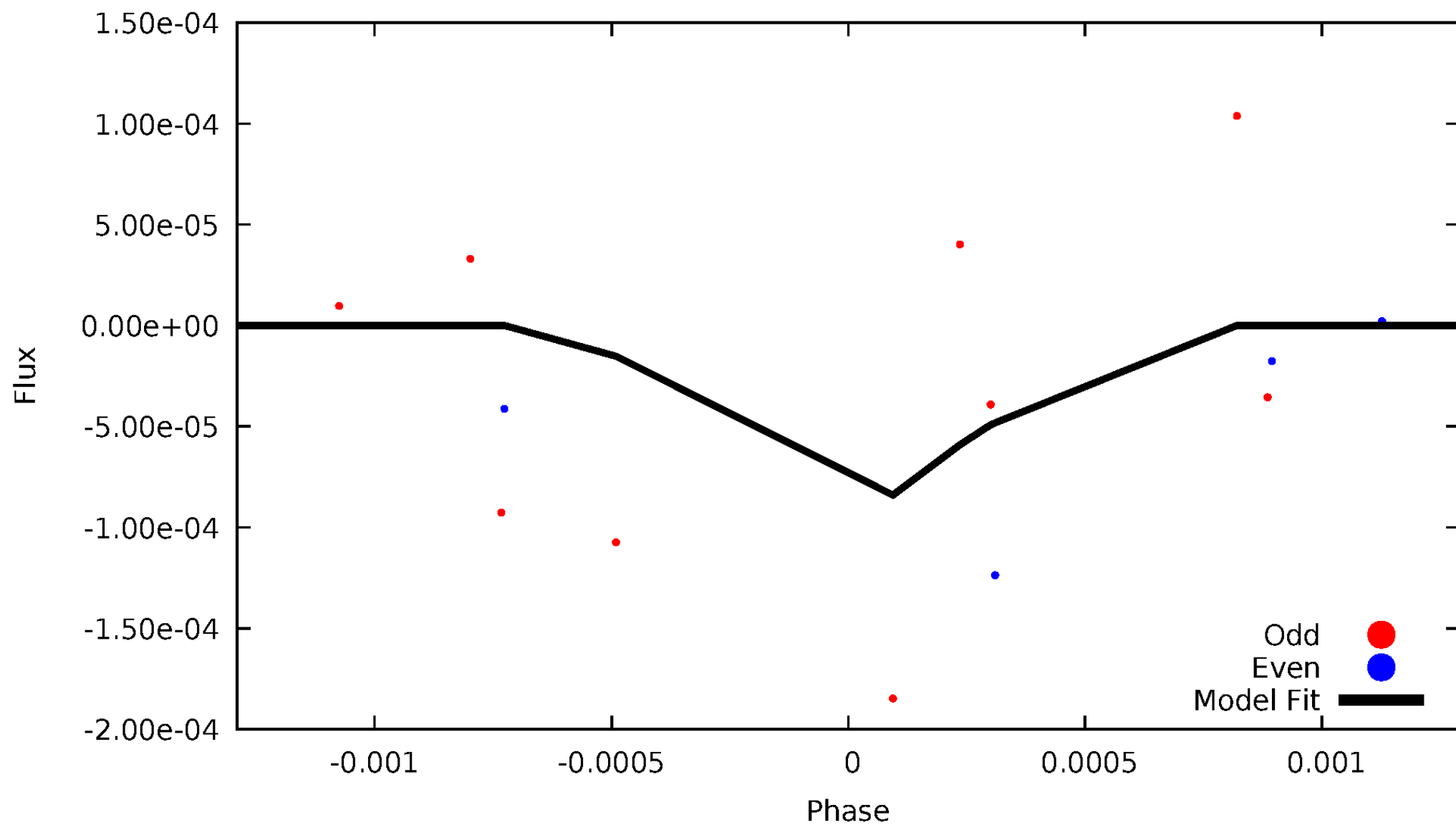


TCE 011027270-02



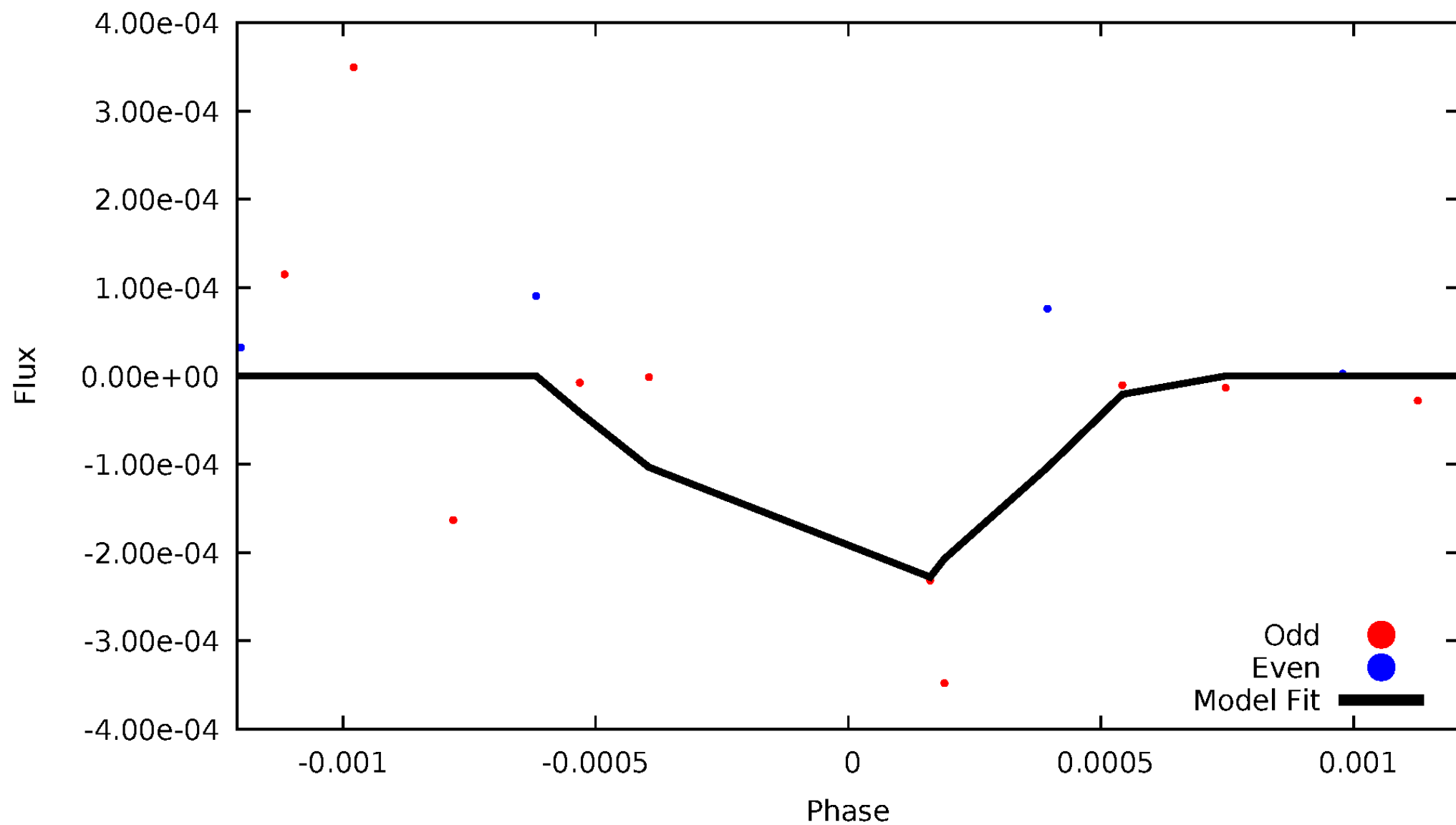
DV Odd/Even

TCE 011027270-02



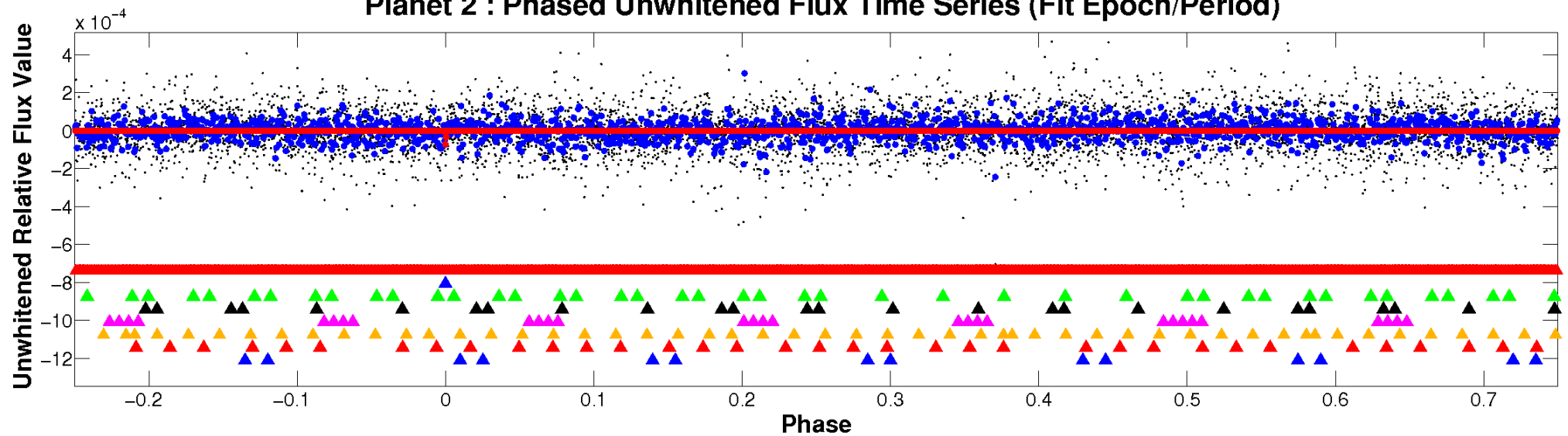
ALT Odd/Even

TCE 011027270-02

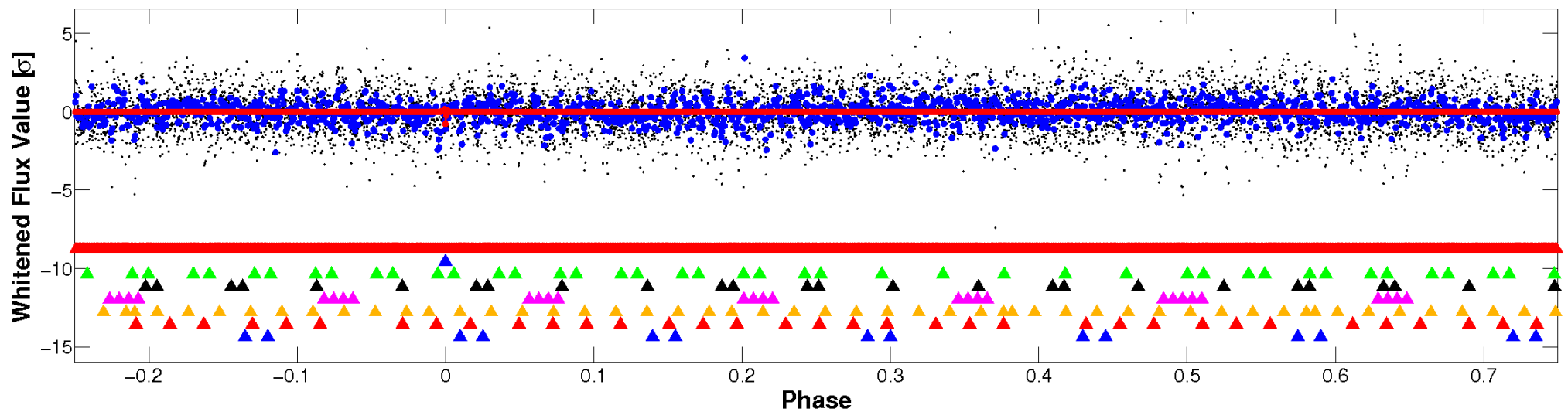


Non-Whitened Vs. Whitened Light Curve

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

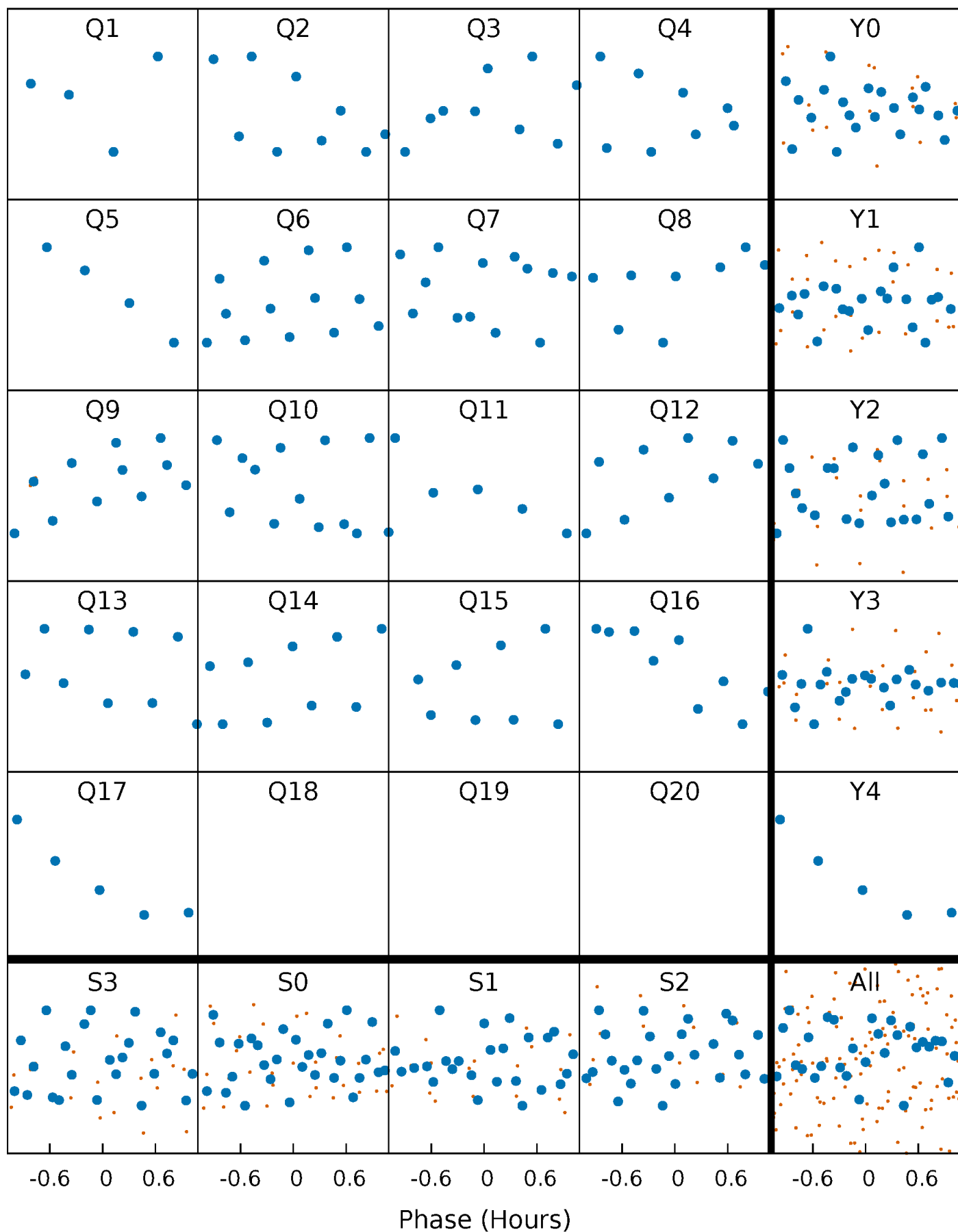


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



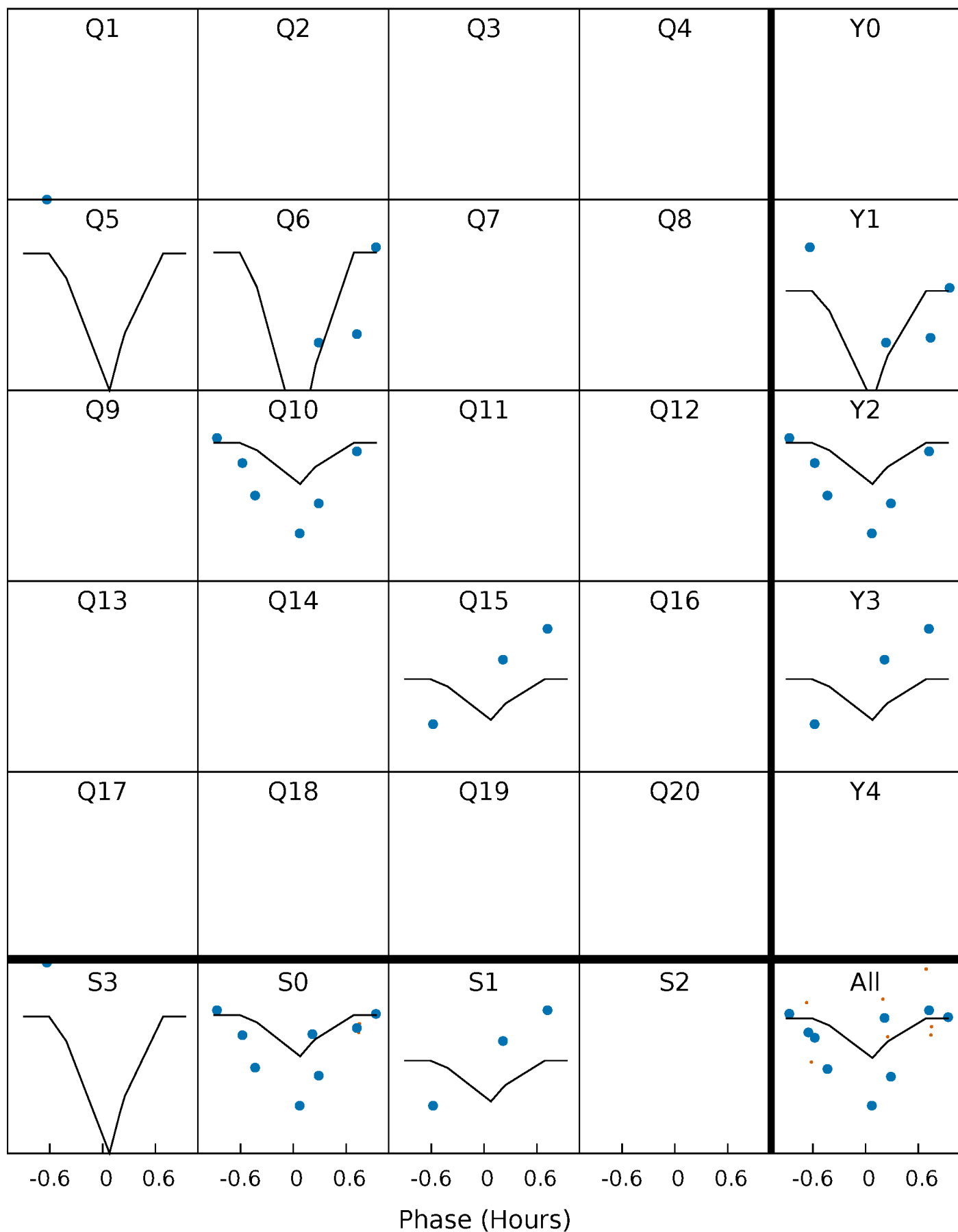
PDC Quarter-Phased Transit Curves

TCE 011027270-02 P= 34.954028 Days $T_0=155.006074$ (BKJD)



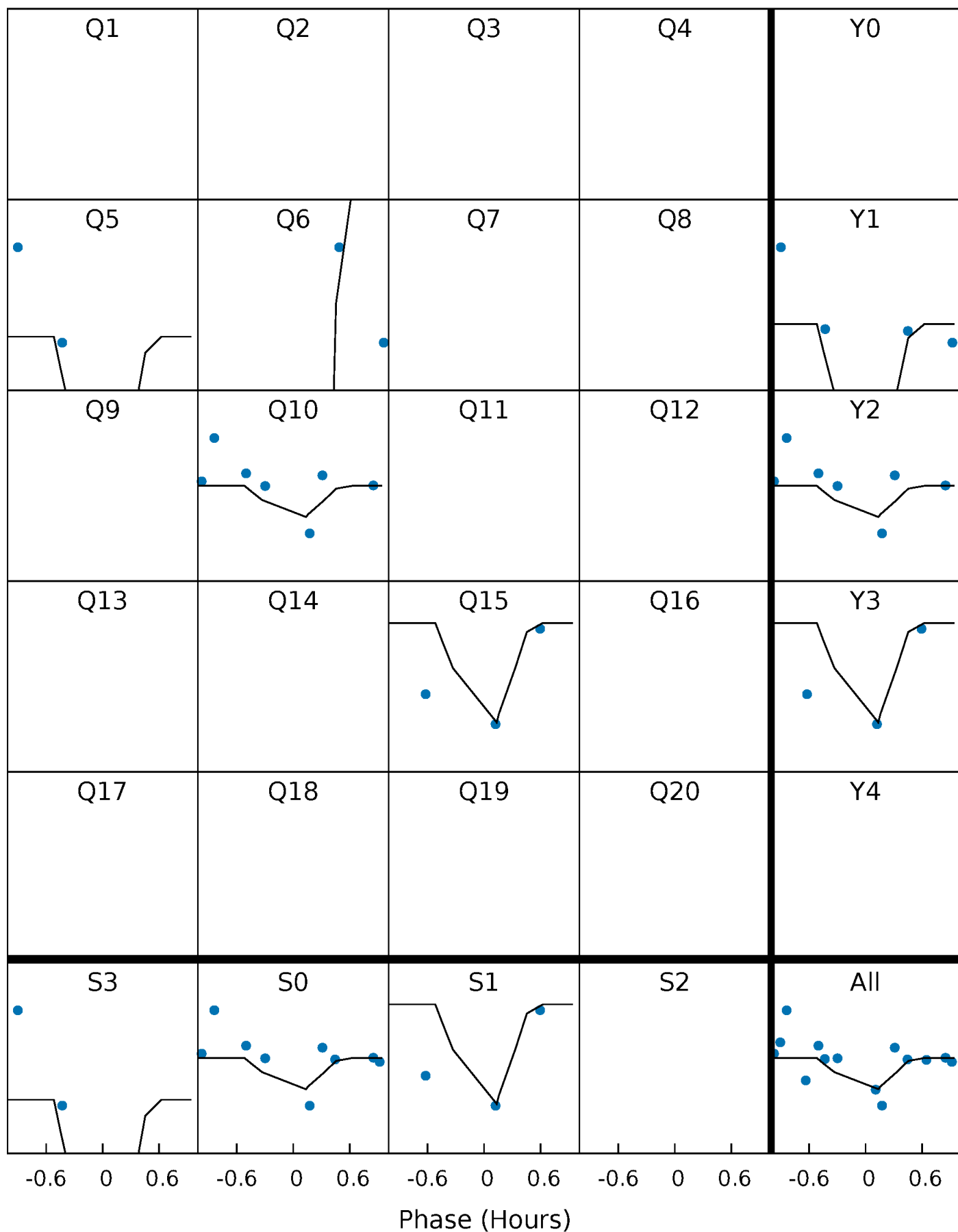
DV Quarter-Phased Transit Curves

TCE 011027270-02 P= 34.954028 Days $T_0=155.006074$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

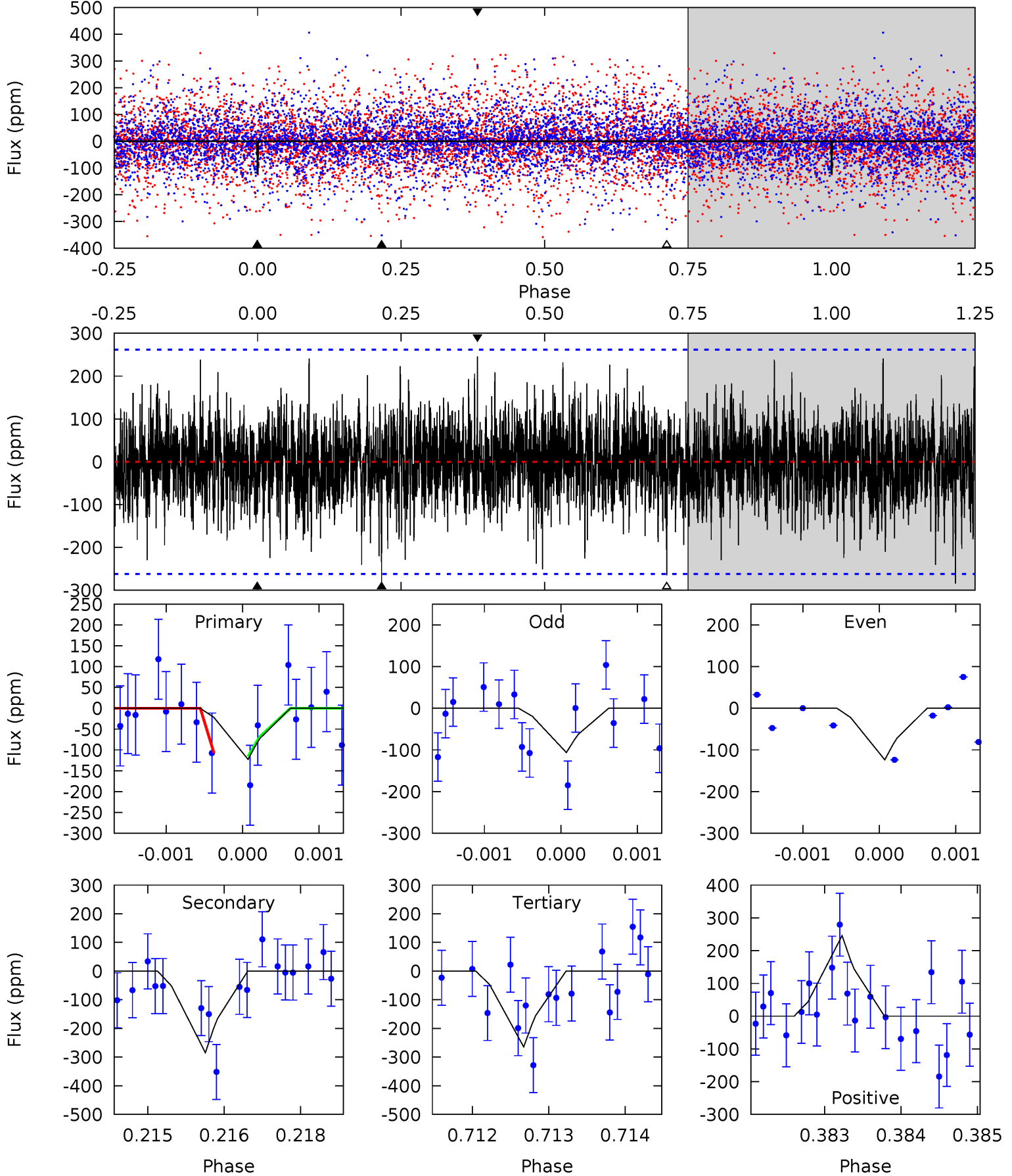
TCE 011027270-02 P= 34.954453 Days $T_0=154.992946$ (BKJD)



DV Model-Shift Uniqueness Test

011027270-02, P = 34.954028 Days, E = 120.052046 Days

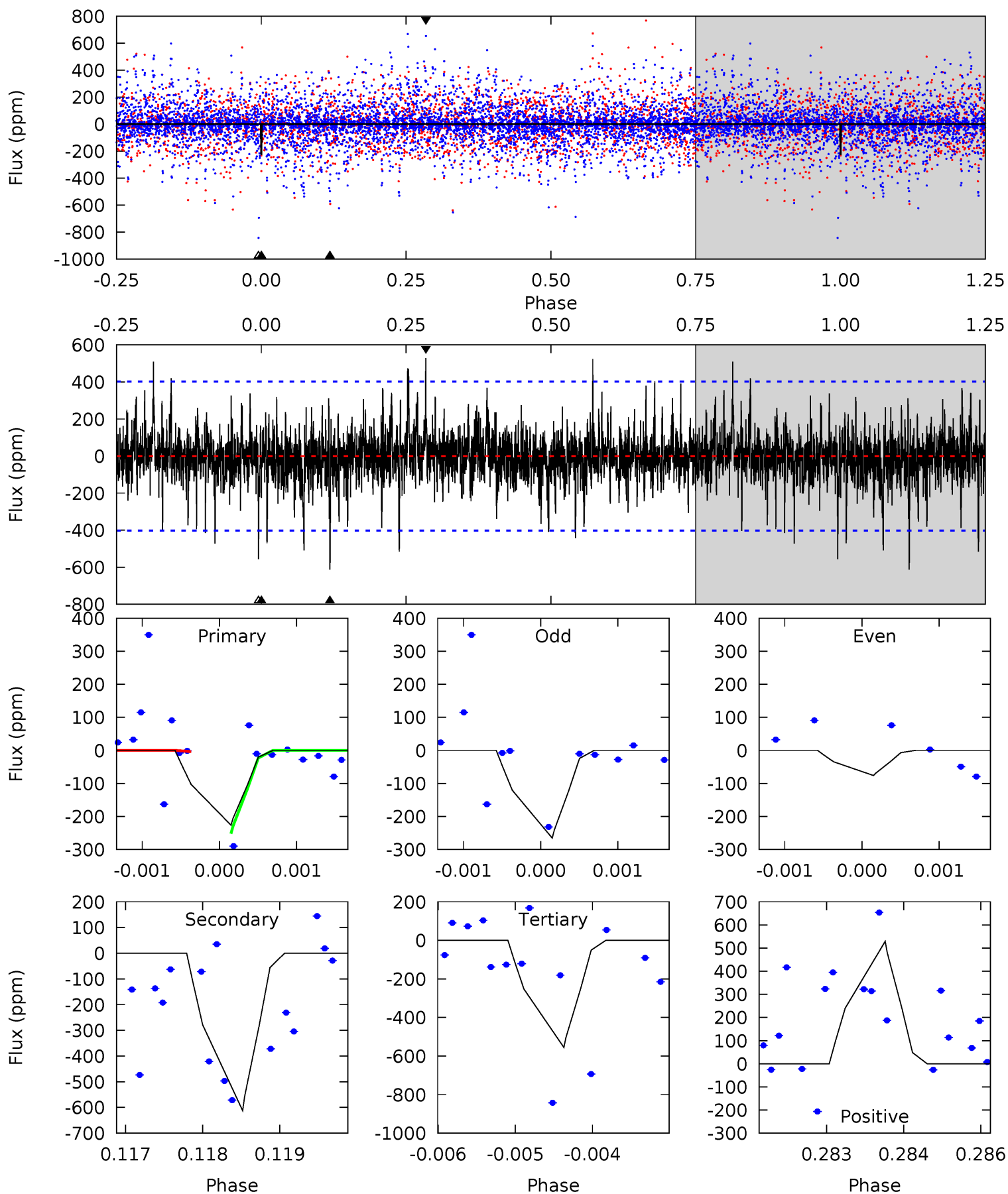
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.53	5.87	5.46	5.07	5.40	3.21	1.35	-2.93	-2.54	0.41	0.80	0.15	1.00	0.46	0.00



Alt Model-Shift Uniqueness Test

011027270-02, P = 34.954453 Days, E = 120.038493 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.06	8.27	7.50	7.14	5.44	3.27	1.42	-4.44	-4.09	0.77	1.13	0.91	1.00	0.46	1.52



Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-284 ± 48	$101.30^{+99.47}_{-70.35}$	1304^{+99}_{-130}	2155^{+935}_{-3996}	$0.817^{+7.956}_{-0.615}$
Alt.	-612 ± 74	$100.70^{+111.80}_{-67.35}$	1313^{+90}_{-133}	2440^{+906}_{-642}	$1.770^{+14.509}_{-1.377}$

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 $A_{obs} \gg 1.0$

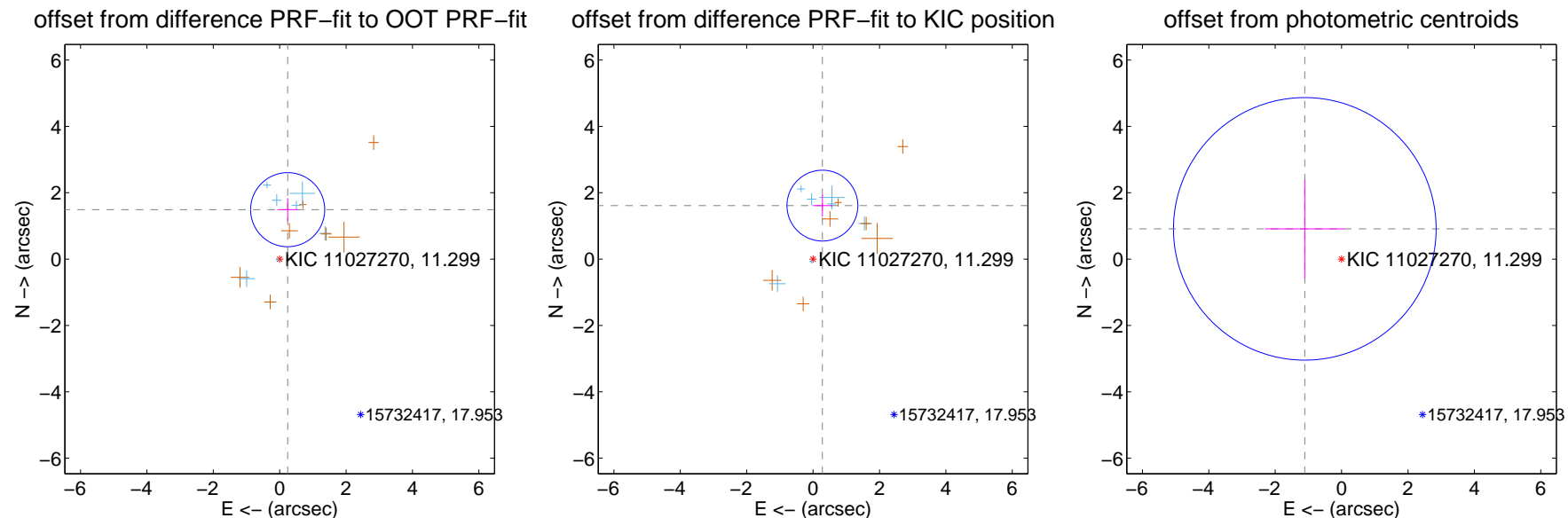
DV Centroid Data

Supplemental centroid analysis for 011027270-02. **Kepler magnitude: 11.30.** Transit SNR 1.04

There are 7 quarters with good PRF difference image offsets

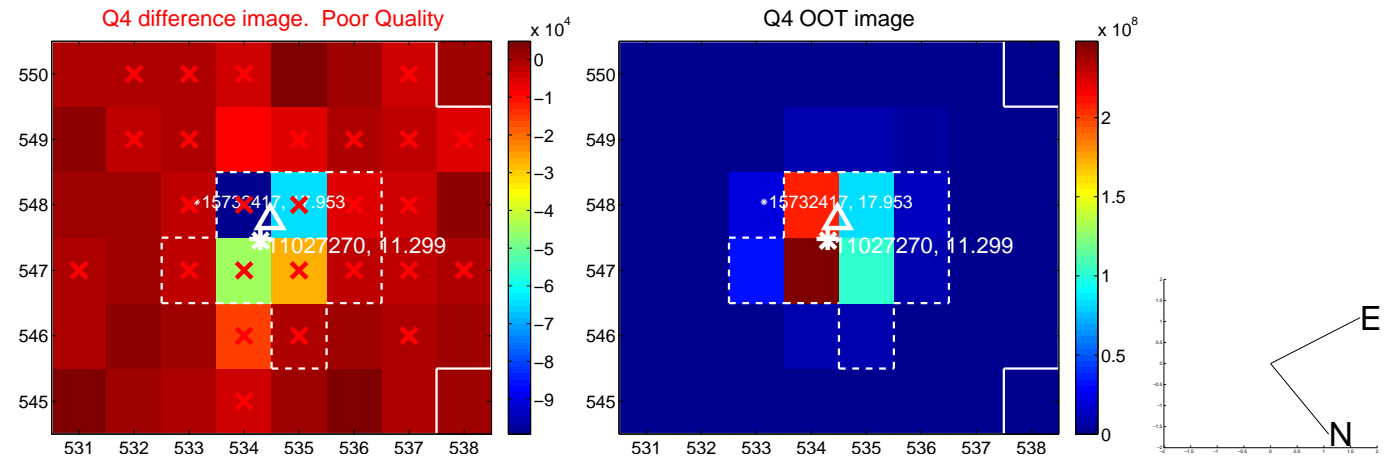
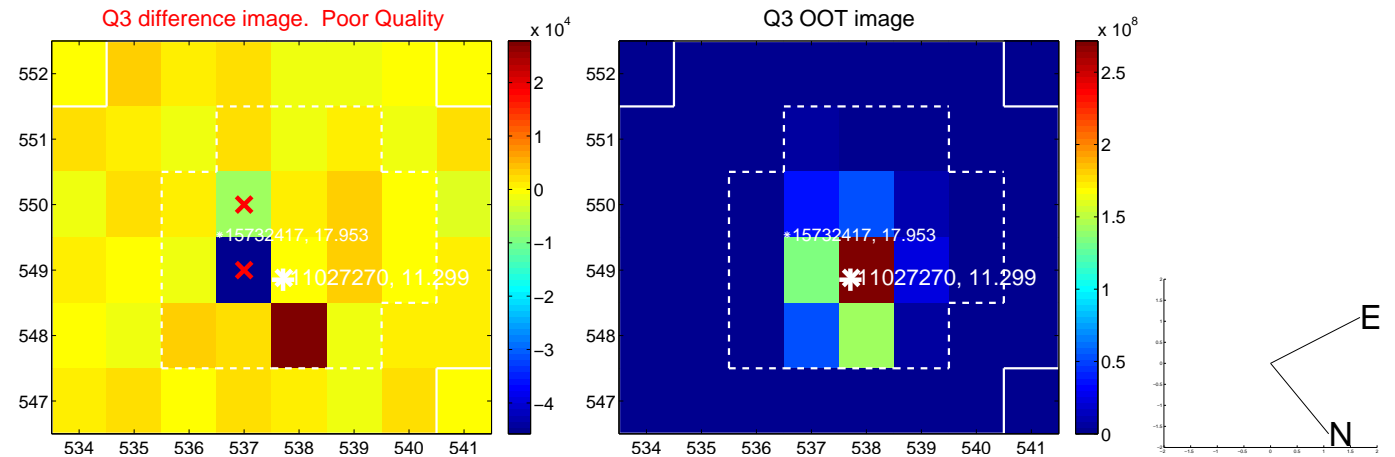
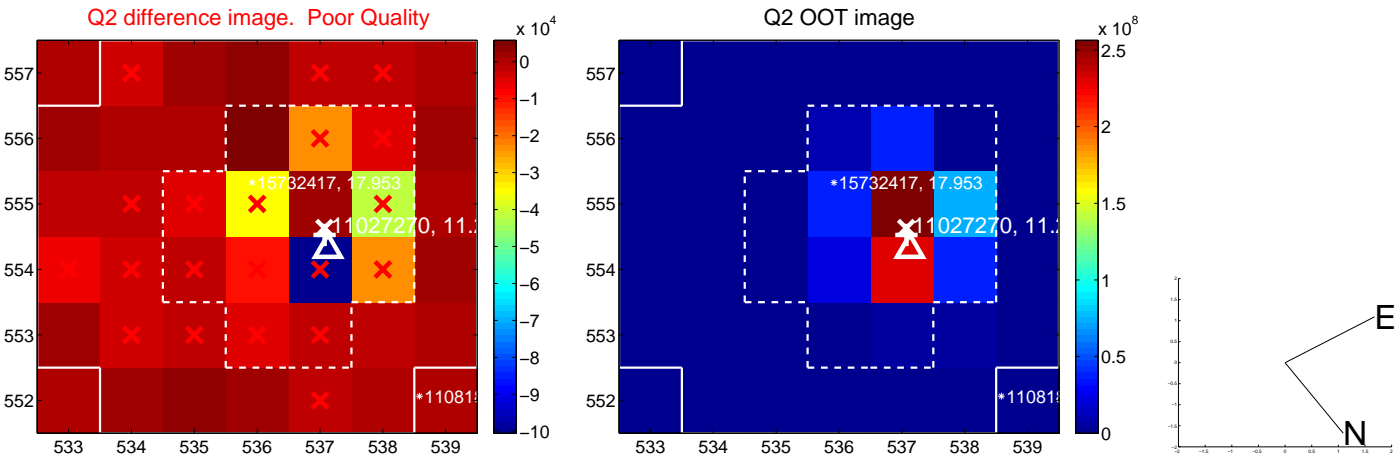
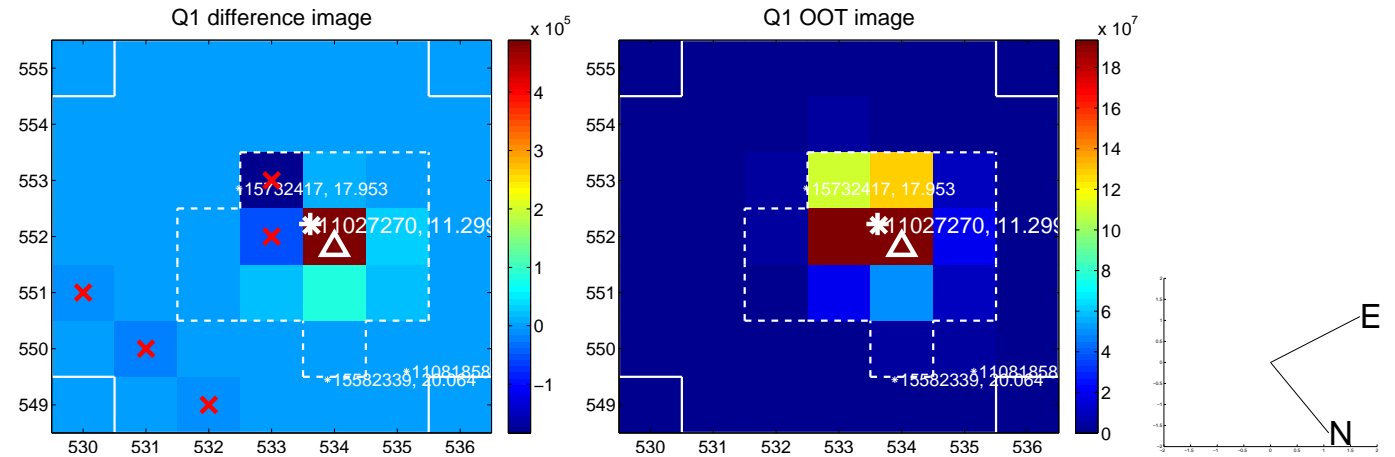
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.508 ± 0.372	4.05	-0.239 ± 0.312	1.489 ± 0.345
PRF-fit source offset from KIC position	1.636 ± 0.356	4.60	-0.280 ± 0.297	1.611 ± 0.327
photometric centroid source offset	1.43 ± 1.32	1.09	1.11 ± 1.20	0.91 ± 1.47

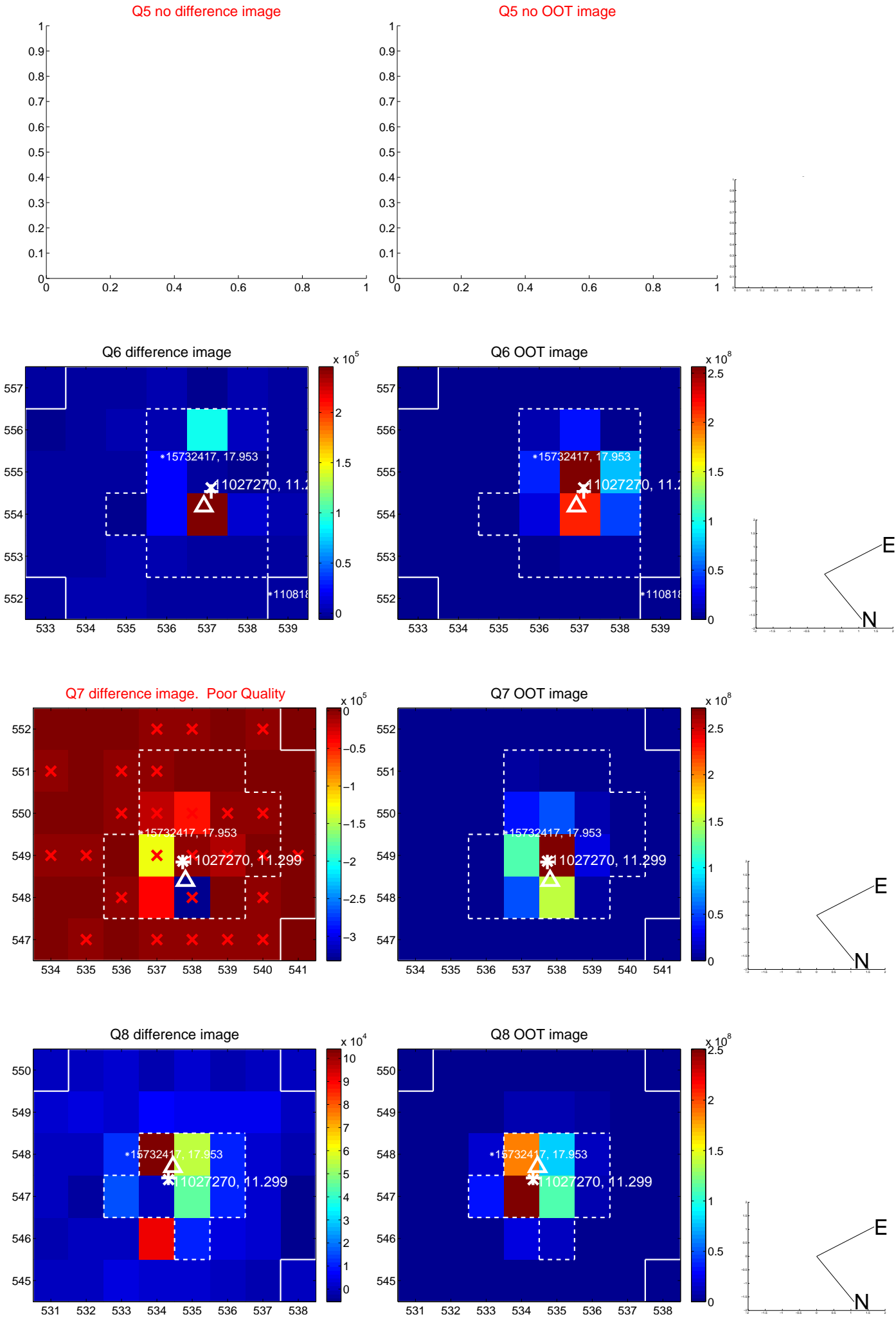


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

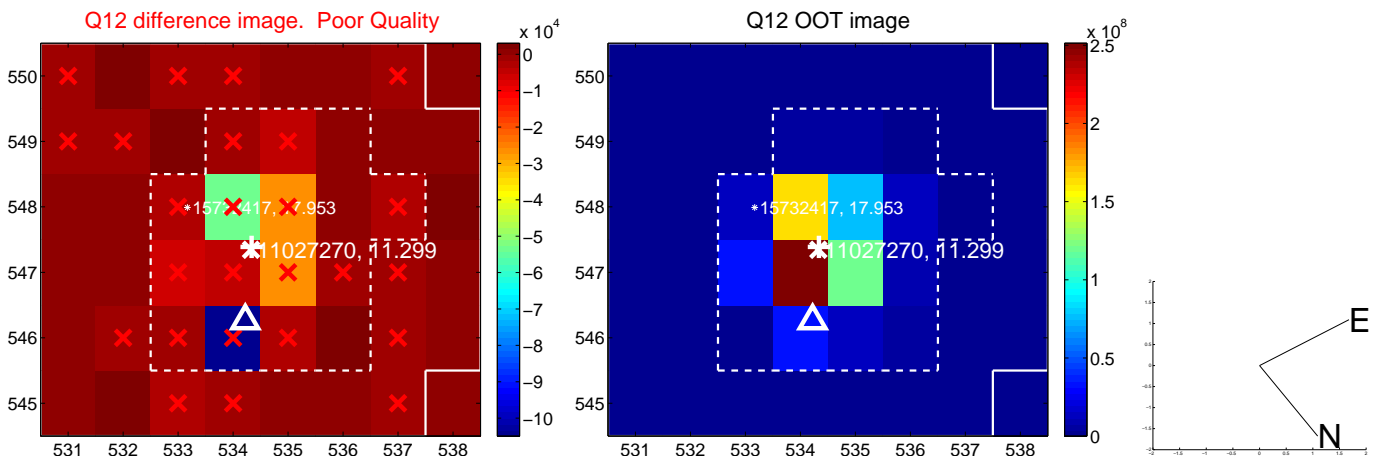
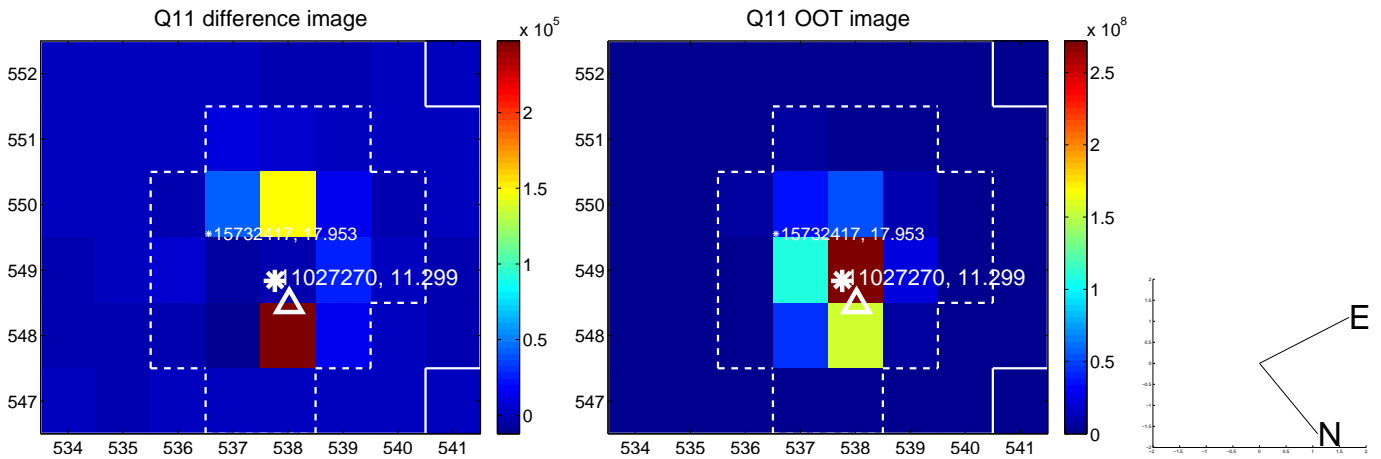
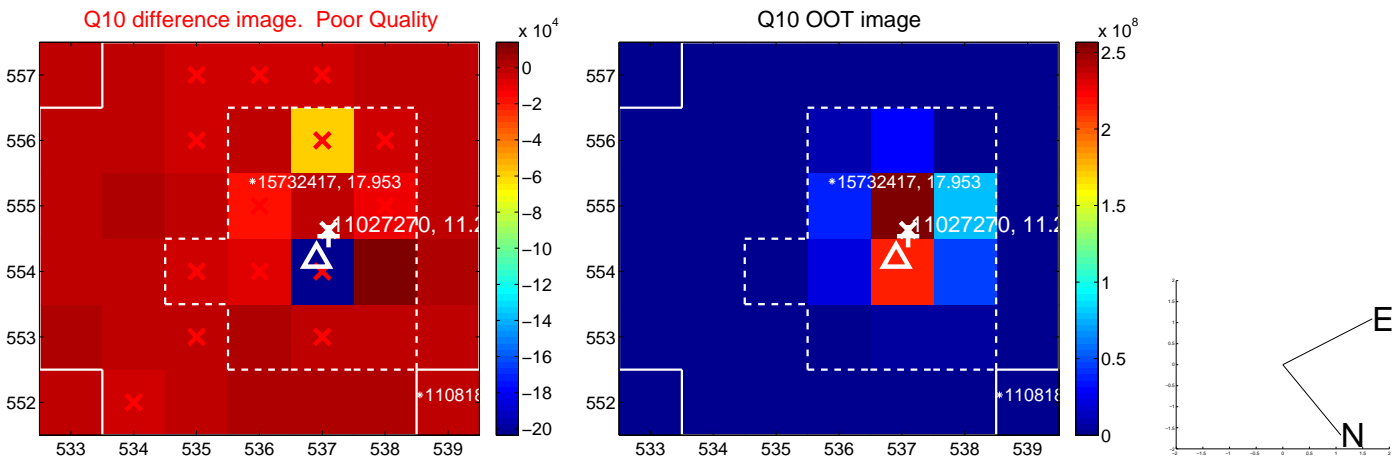
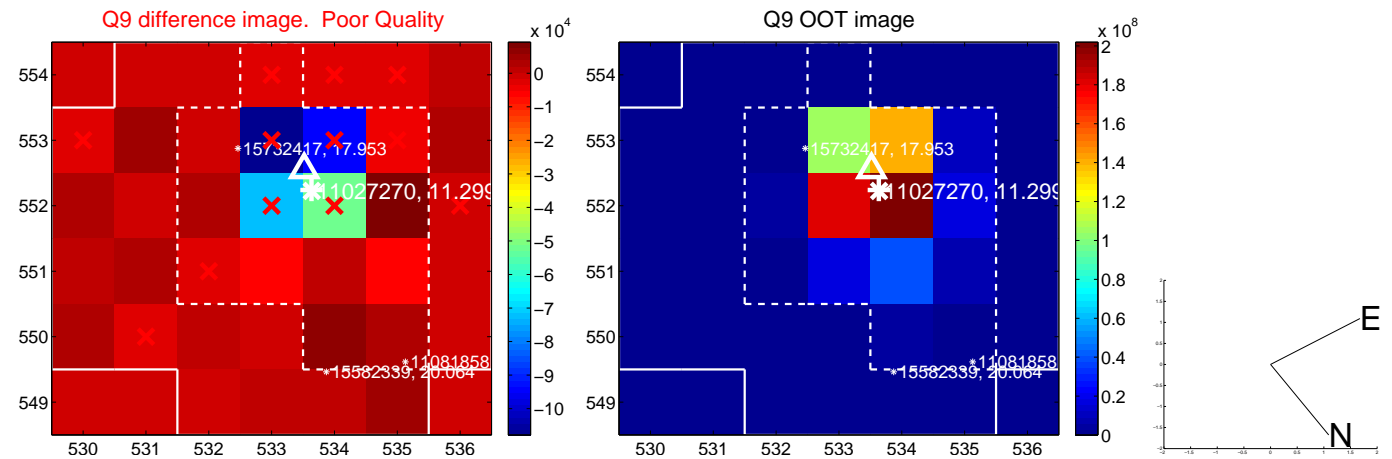
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



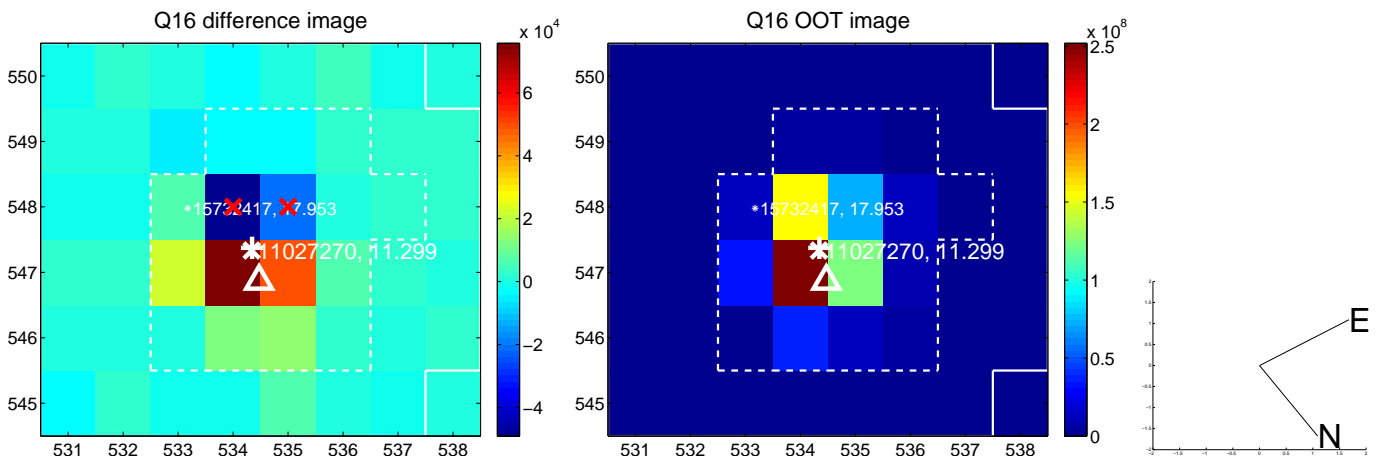
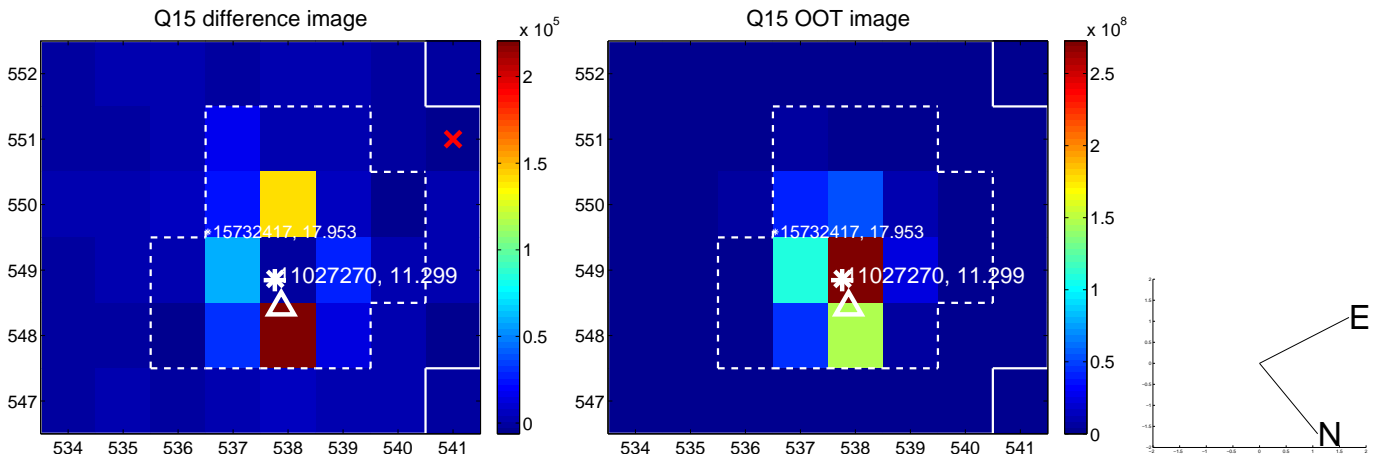
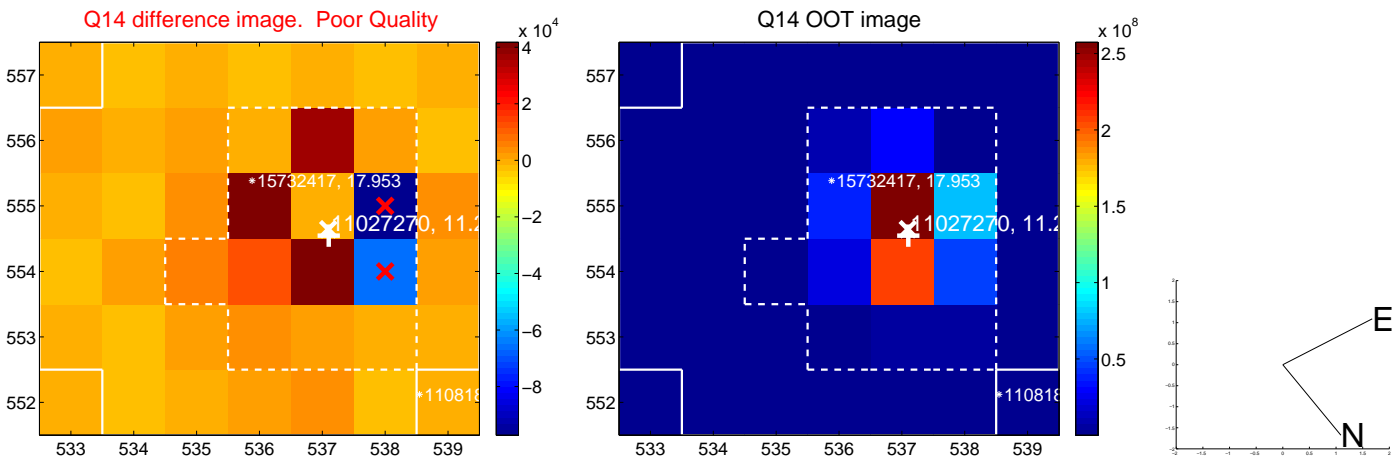
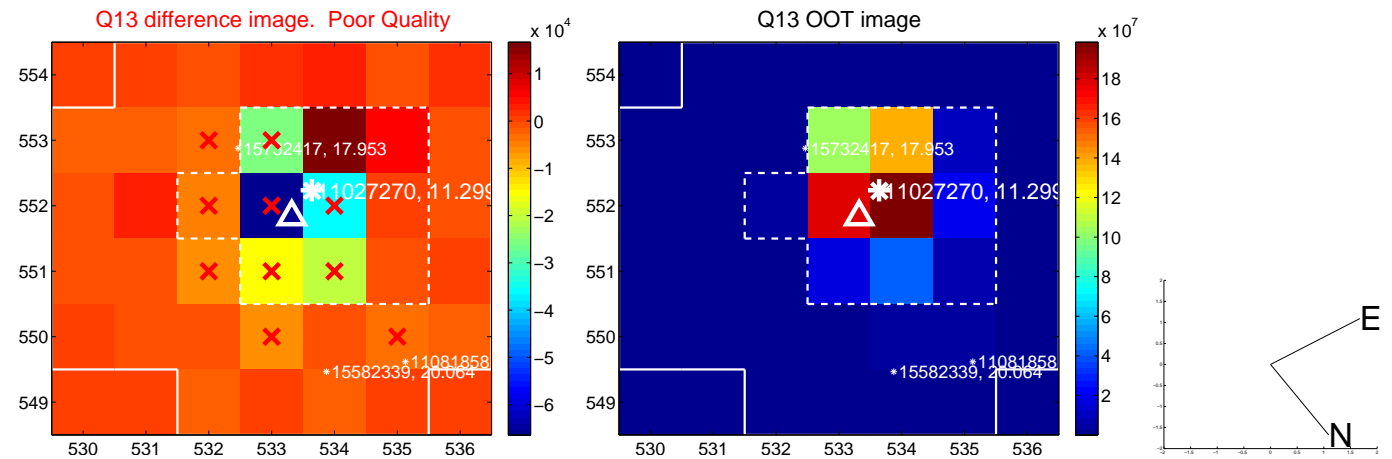
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



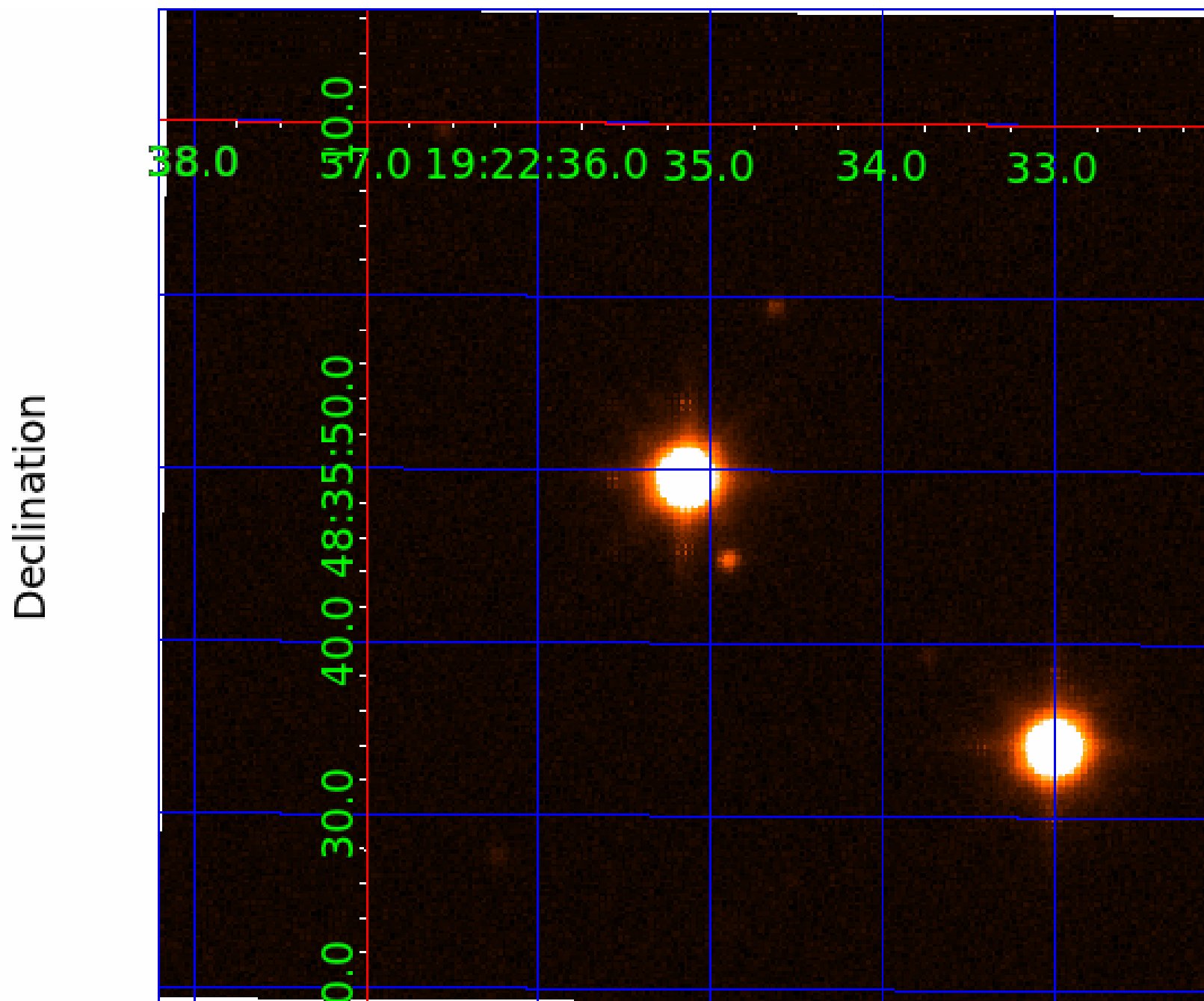
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011027270

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})
011027270-01	OBS	No	0.530231	131.514837	7.9	3.593	9.3	3.4	2.18	7163	0.62	54520.48
011027270-02	OBS	No	34.954028	155.006074	93.3	0.541	12.8	1.0	2.18	7163	2.22	204.73
011027270-03	OBS	No	33.513391	163.471012	364.9	1.140	11.8	7.2	2.18	7163	4.33	216.55
011027270-04	OBS	No	56.329769	140.140948	492.4	2.418	11.6	8.9	2.18	7163	5.50	108.36
011027270-05	OBS	No	49.902113	172.829311	543.0	1.679	12.6	9.8	2.18	7163	5.17	127.36
011027270-06	OBS	No	27.816400	147.681992	315.8	3.313	10.7	8.3	2.18	7163	4.17	277.62
011027270-07	OBS	No	41.236838	159.131901	390.7	2.185	9.1	7.6	2.18	7163	4.88	164.24
011027270-08	OBS	No	109.932102	159.887063	468.4	1.620	9.0	7.6	2.18	7163	4.81	44.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011027270-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
011027270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
011027270-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
011027270-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-07	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_SATURATED
011027270-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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.

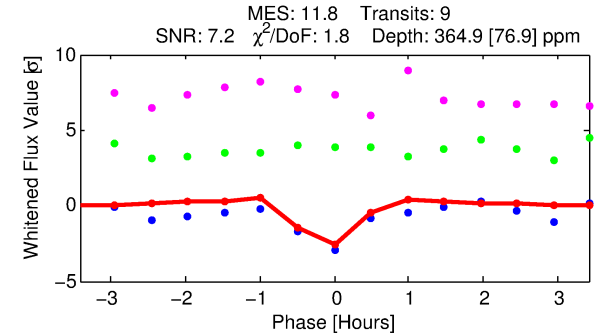
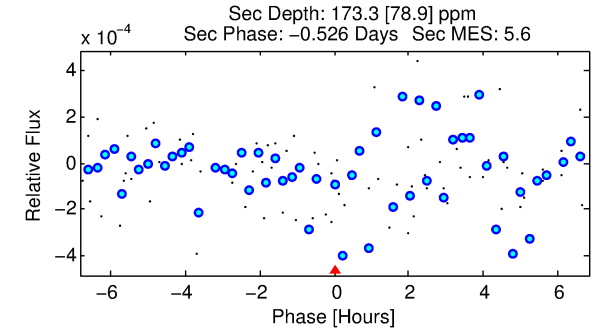
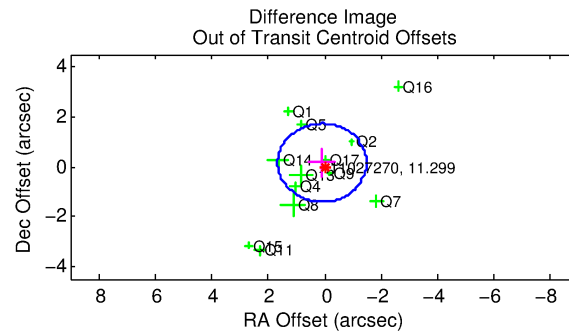
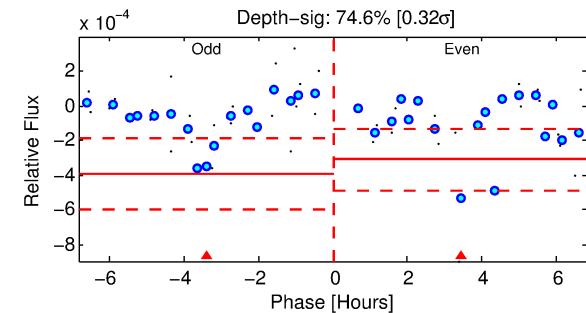
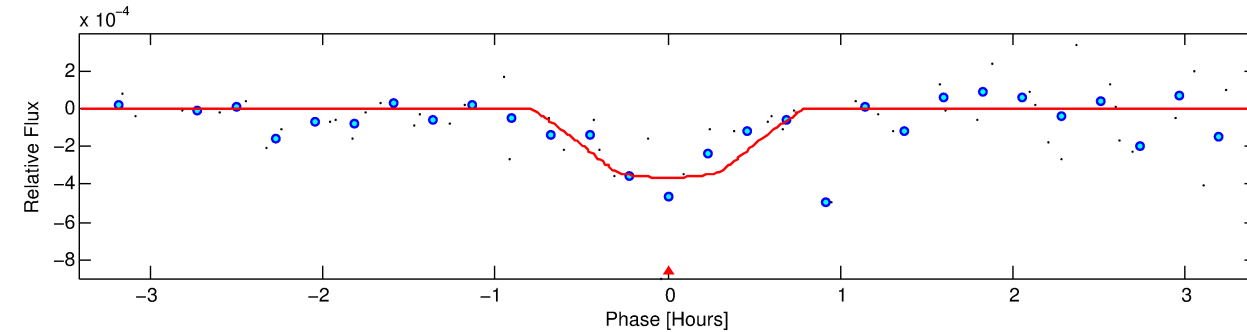
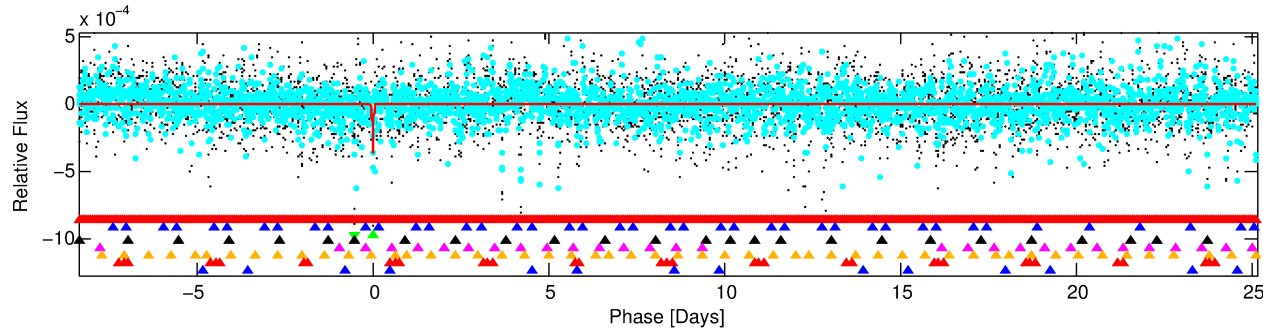
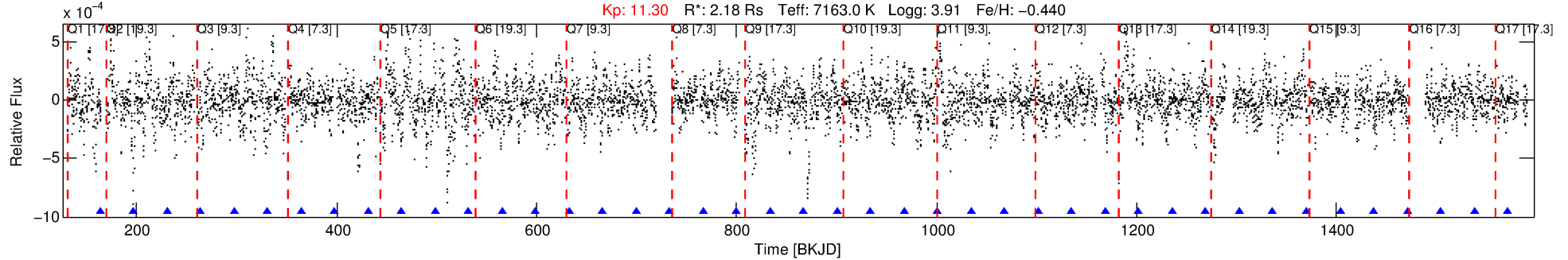
Ephemeris Match Information For 011027270-03

No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 3 of 8 Period: 33.513 d
KOI: K07401 Corr: No Ephemeris Match

Kp: 11.30 R*: 2.18 Rs Teff: 7163.0 K Logg: 3.91 Fe/H: -0.440



DV Fit Results:

Period = 33.51339 [0.00023] d
Epoch = 163.4710 [0.0062] BKJD
Rp/R* = 0.0182 [0.0279]
a/R* = 200.32 [1758.38]
b = 0.49 [13.67]
Seff = 216.55 [137.27]
Teq = 978 [155] K
Rp = 4.33 [6.83] Re
a = 0.2272 [0.0858] AU
Ag = 262.97 [830.75] [0.32σ]
Teffp = 6090 [4722] K [1.08σ]

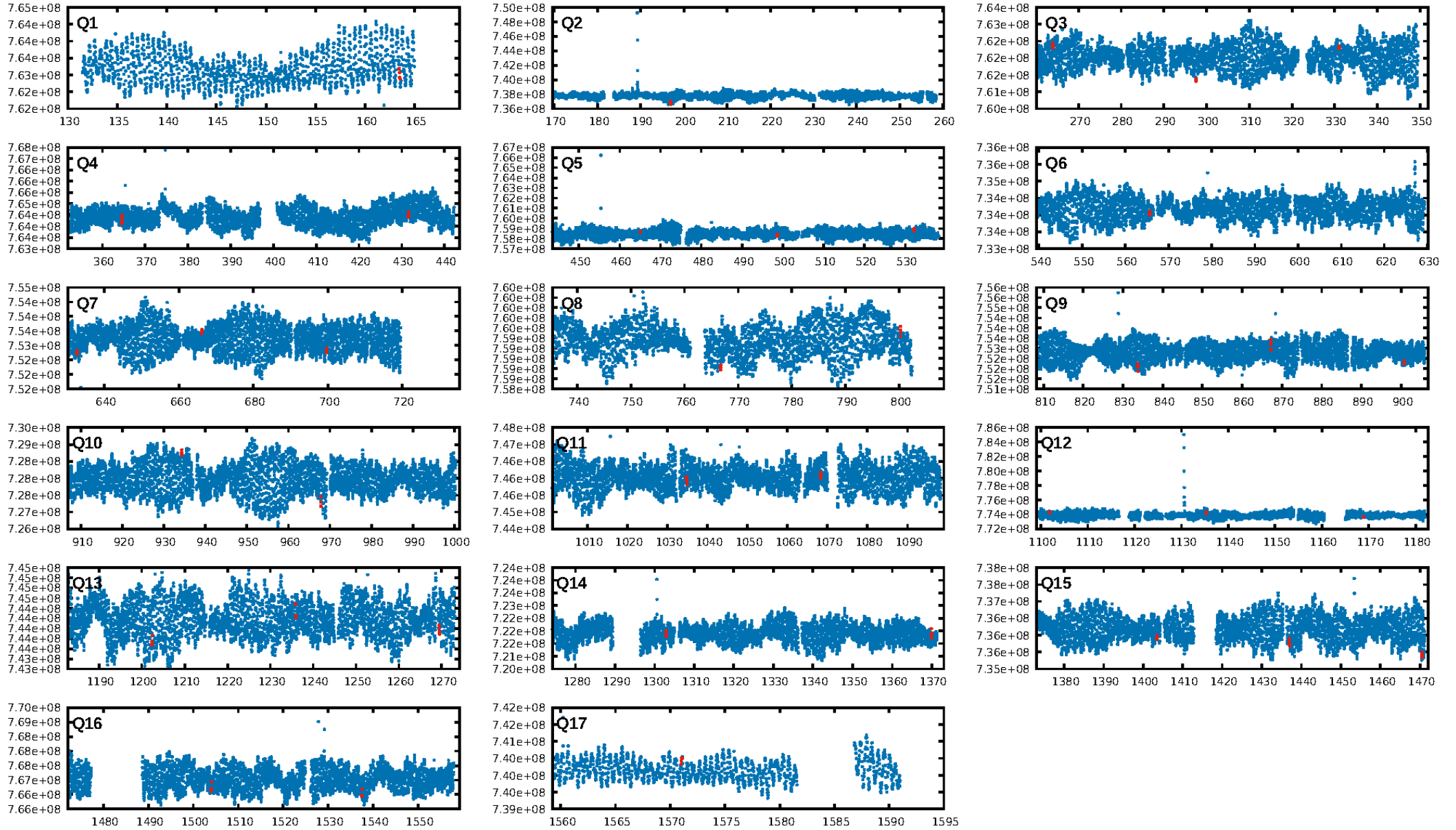
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [39.02σ]
LongPeriod-sig: 100.0% [27.40σ]
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 88.4%
Bootstrap-pfa: 1.25e-17
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 0.9566
Centroid-sig: 0.1%
Centroid-so: 0.474 arcsec [2.00σ]
OotOffset-rm: 0.182 arcsec [0.35σ]
KicOffset-rm: 0.199 arcsec [0.35σ]
OotOffset-st: 2/3/3/5 [13]
KicOffset-st: 2/3/3/5 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 0.00 [0/17]

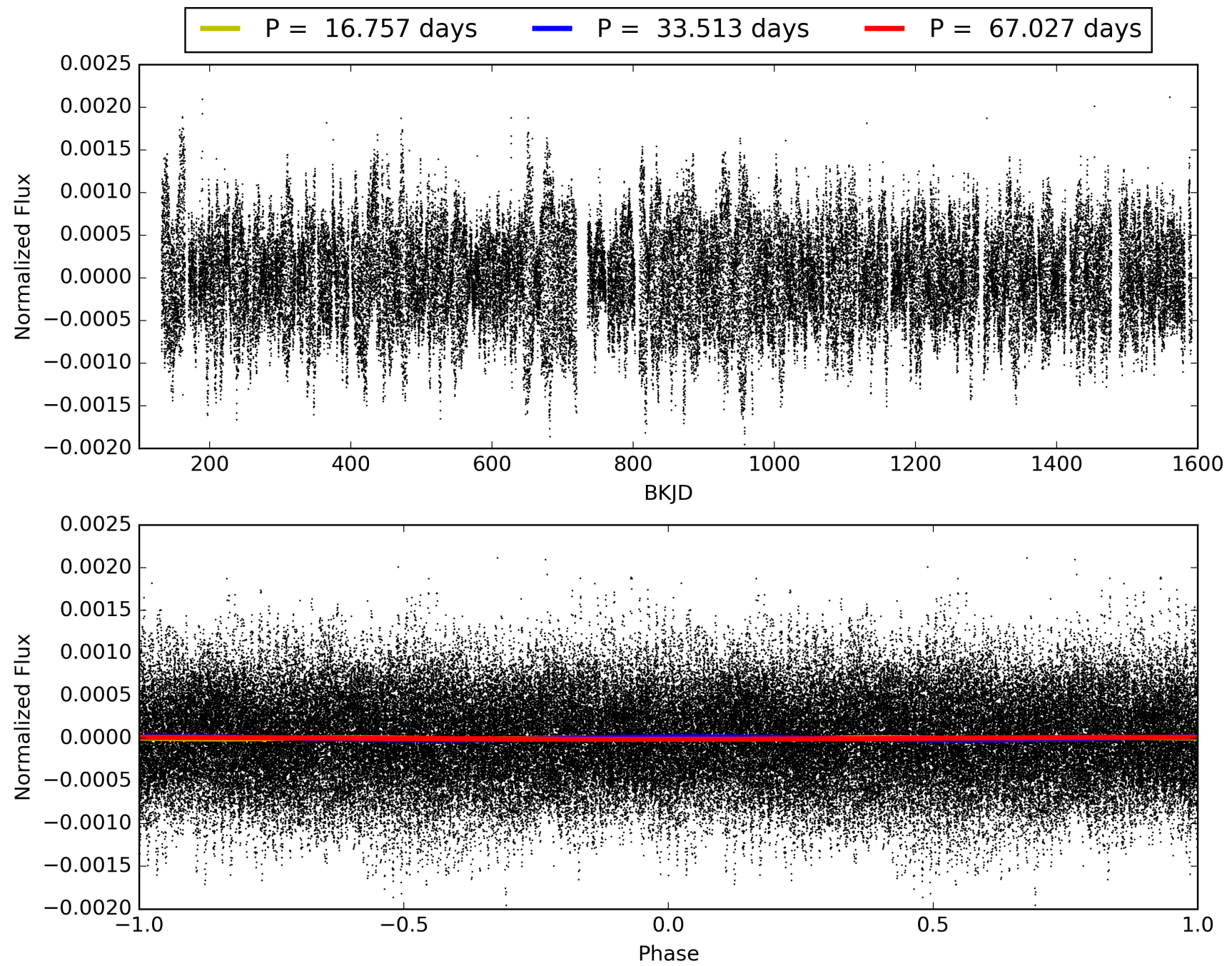
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:12:32 Z

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

TCE 011027270-03, PDC Light Curves

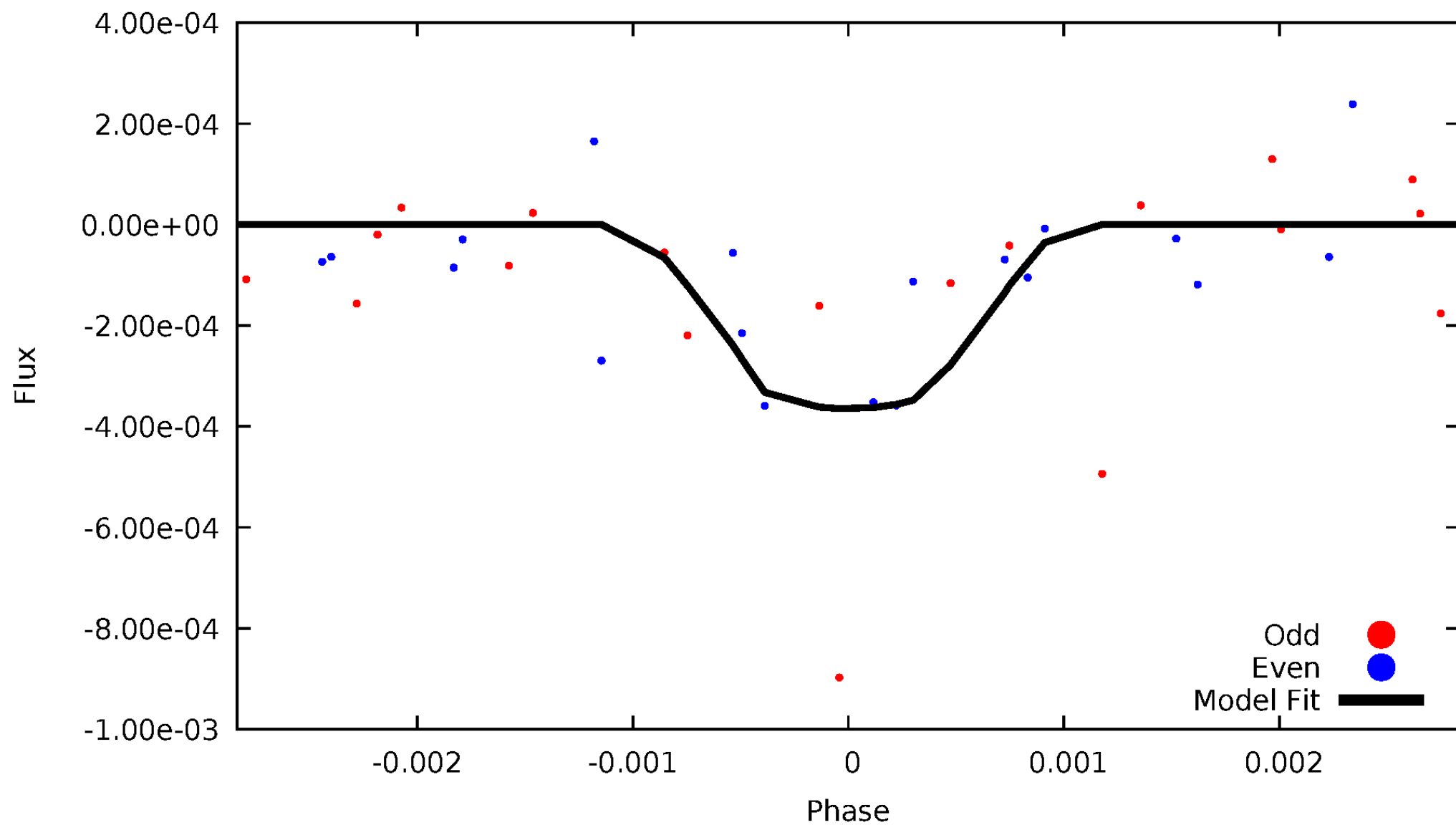


TCE 011027270-03



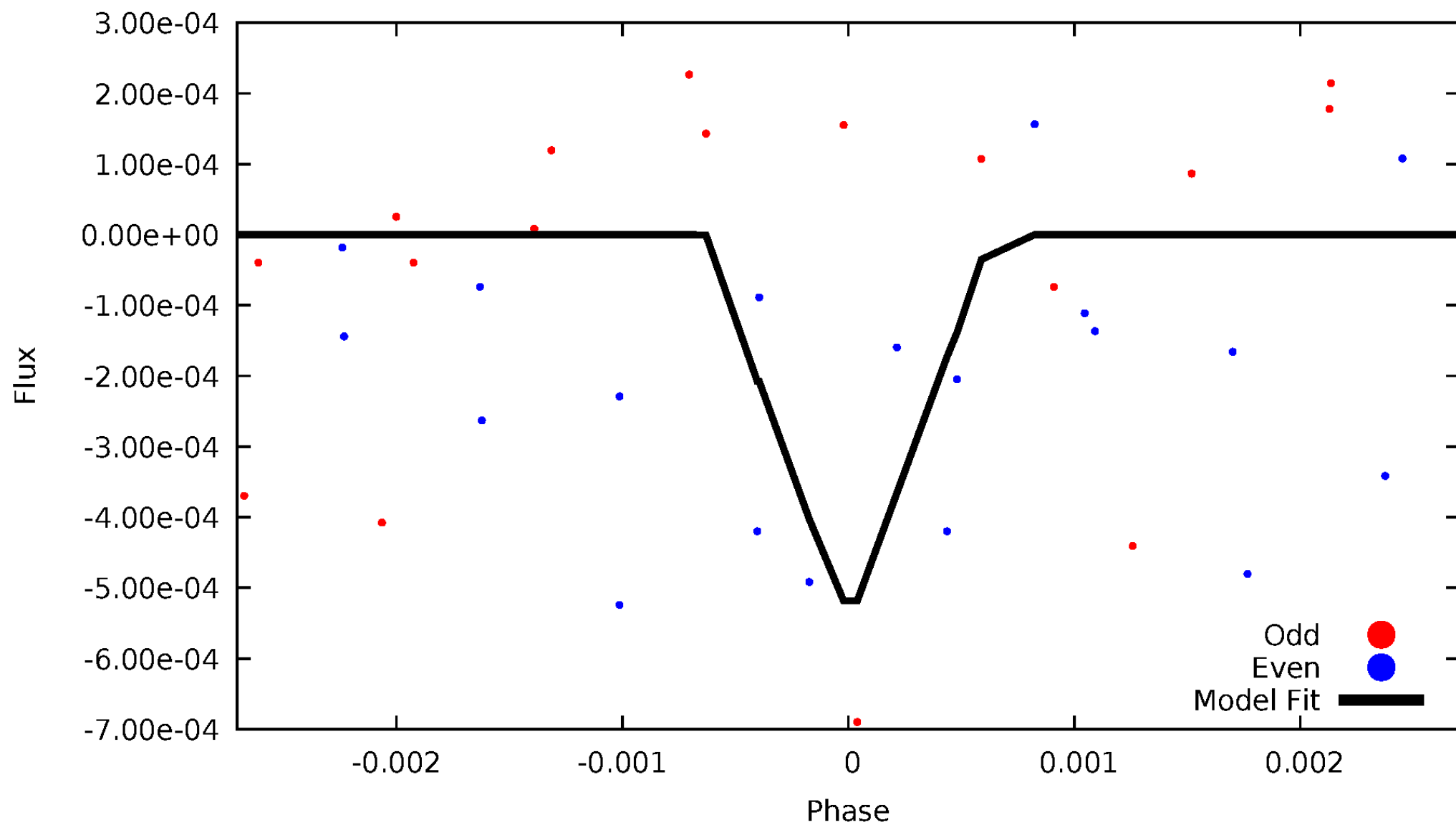
DV Odd/Even

TCE 011027270-03



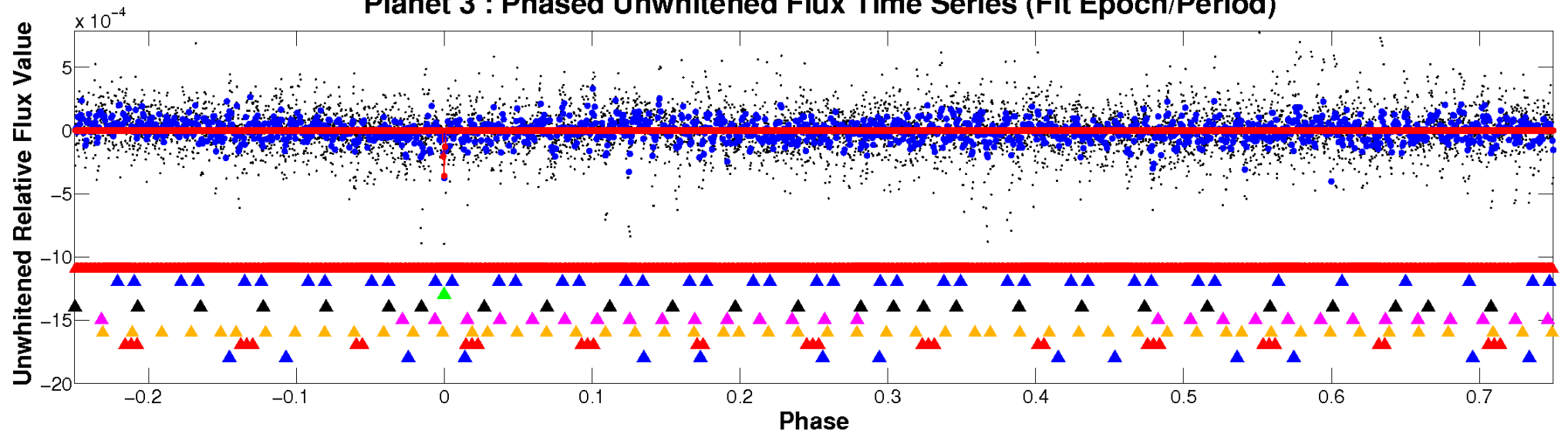
ALT Odd/Even

TCE 011027270-03

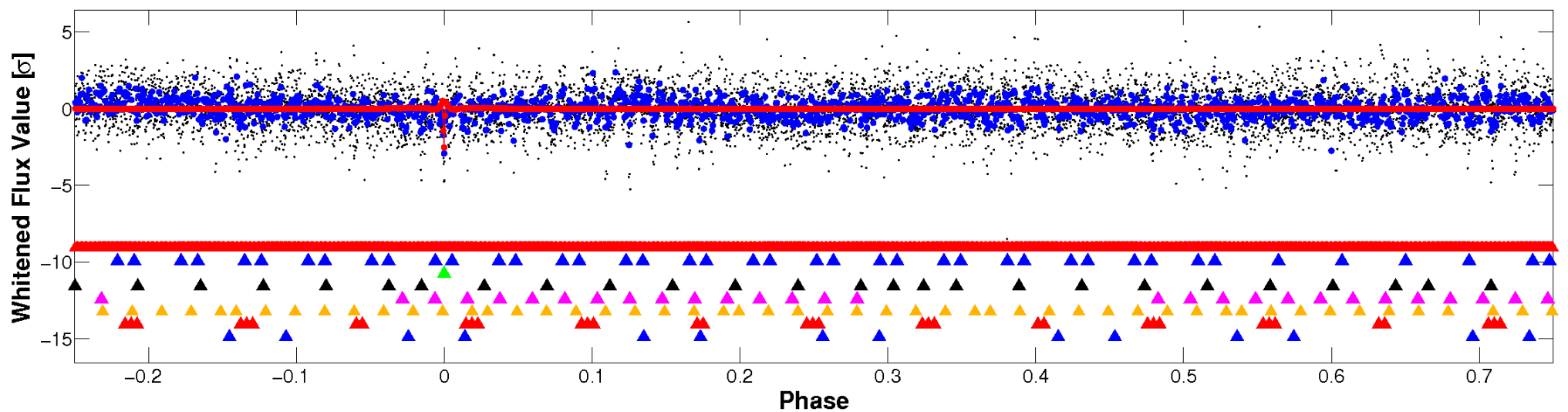


Non-Whitened Vs. Whitened Light Curve

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

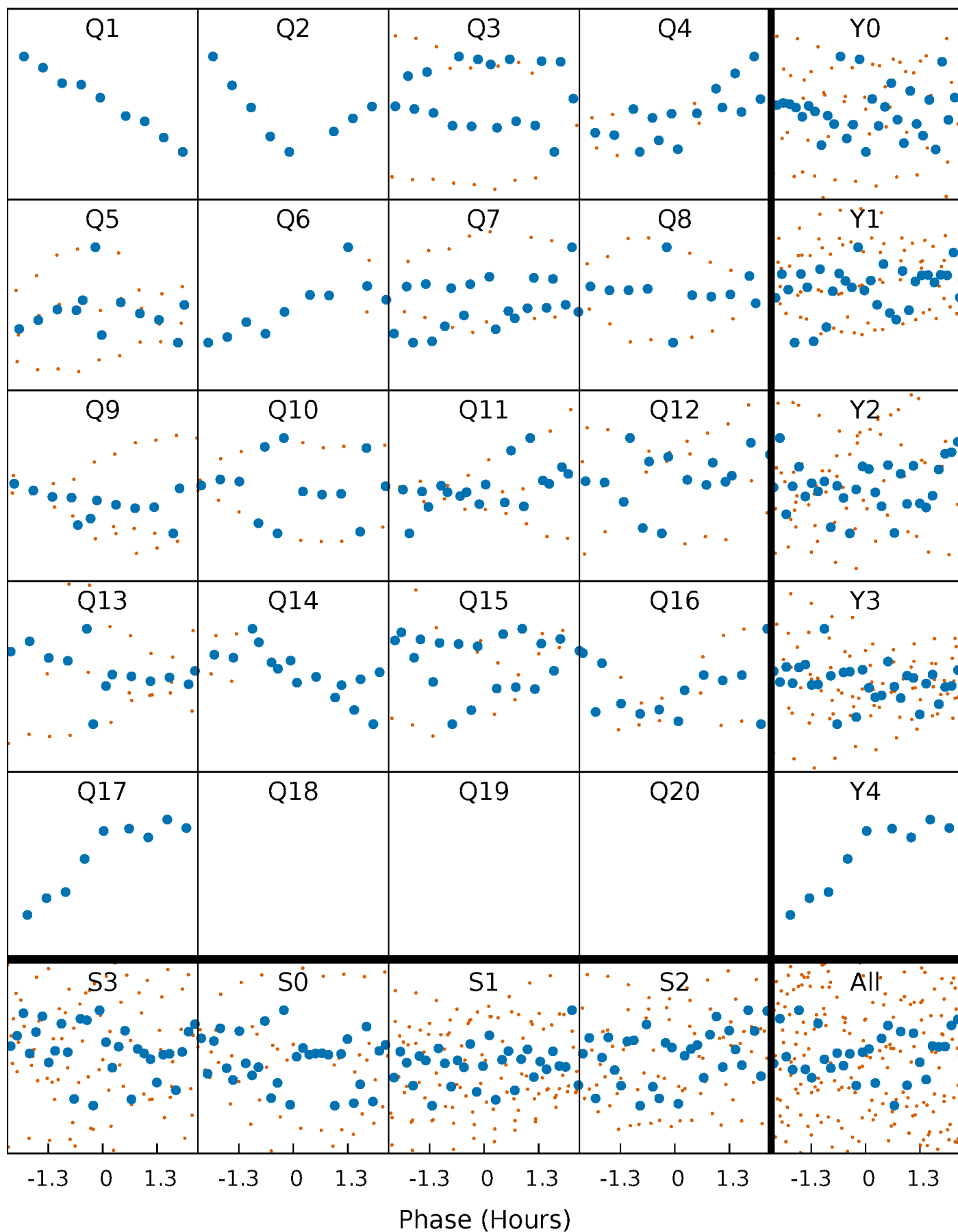


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



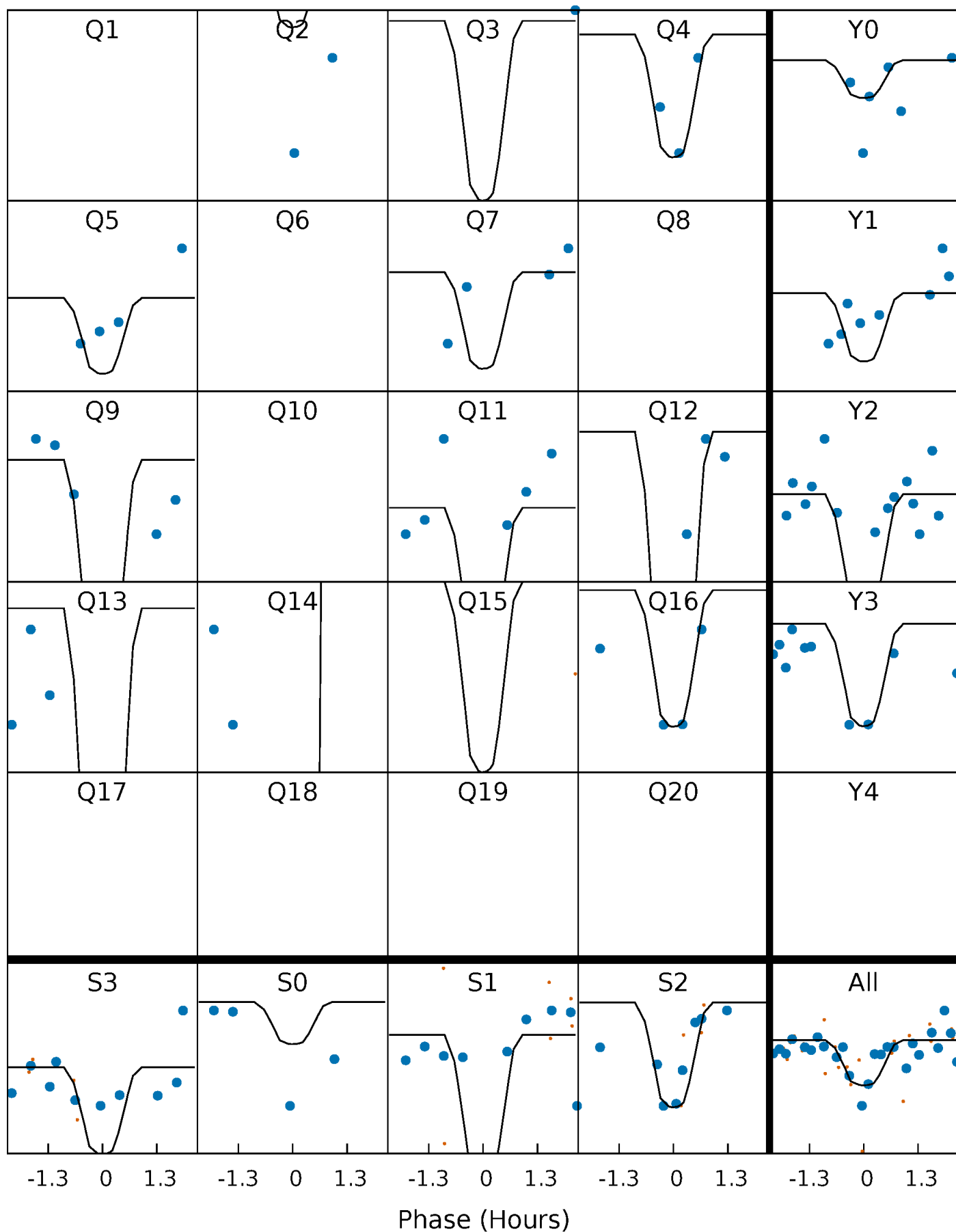
PDC Quarter-Phased Transit Curves

TCE 011027270-03 P= 33.513391 Days $T_0=163.471012$ (BKJD)



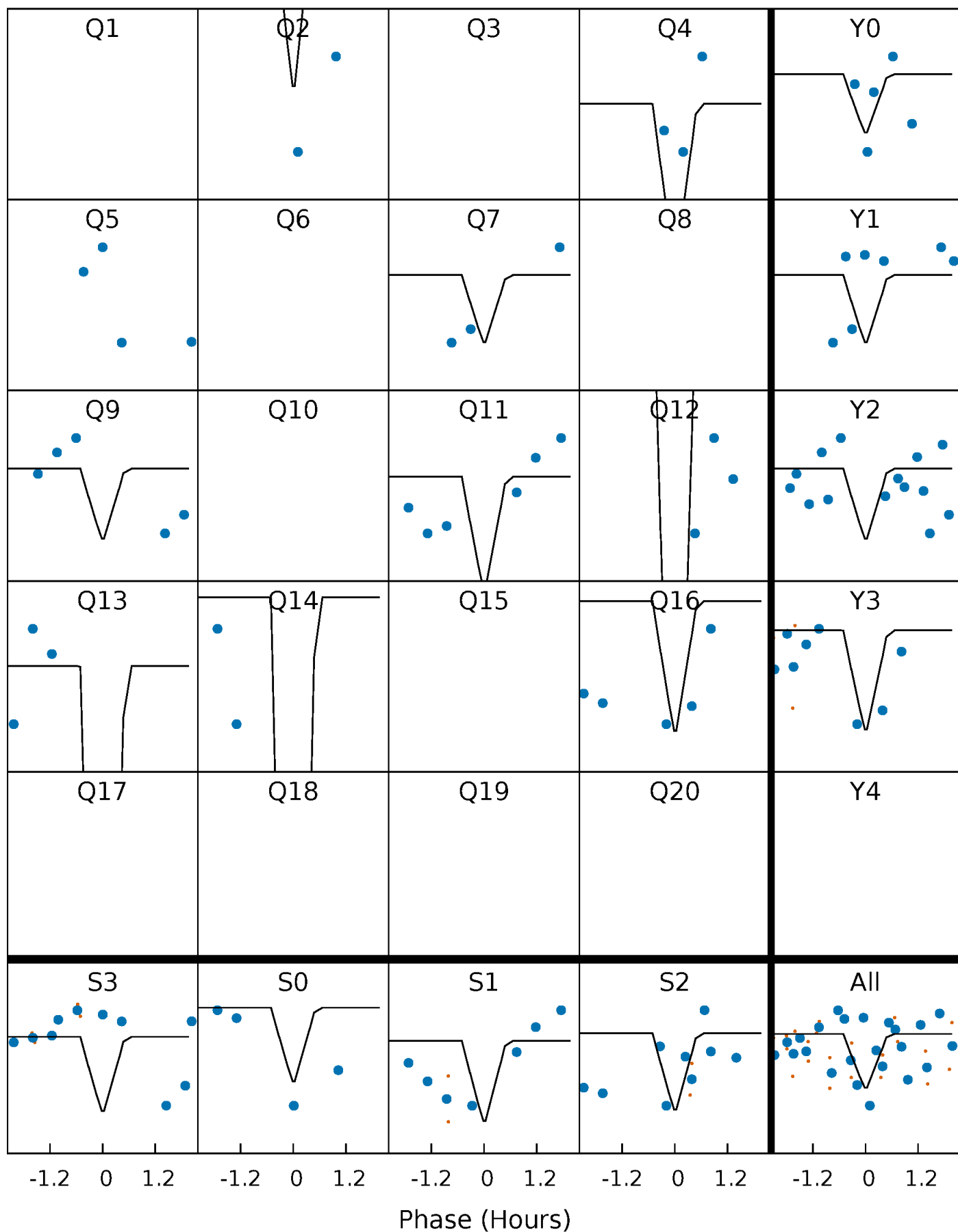
DV Quarter-Phased Transit Curves

TCE 011027270-03 P= 33.513391 Days $T_0=163.471012$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

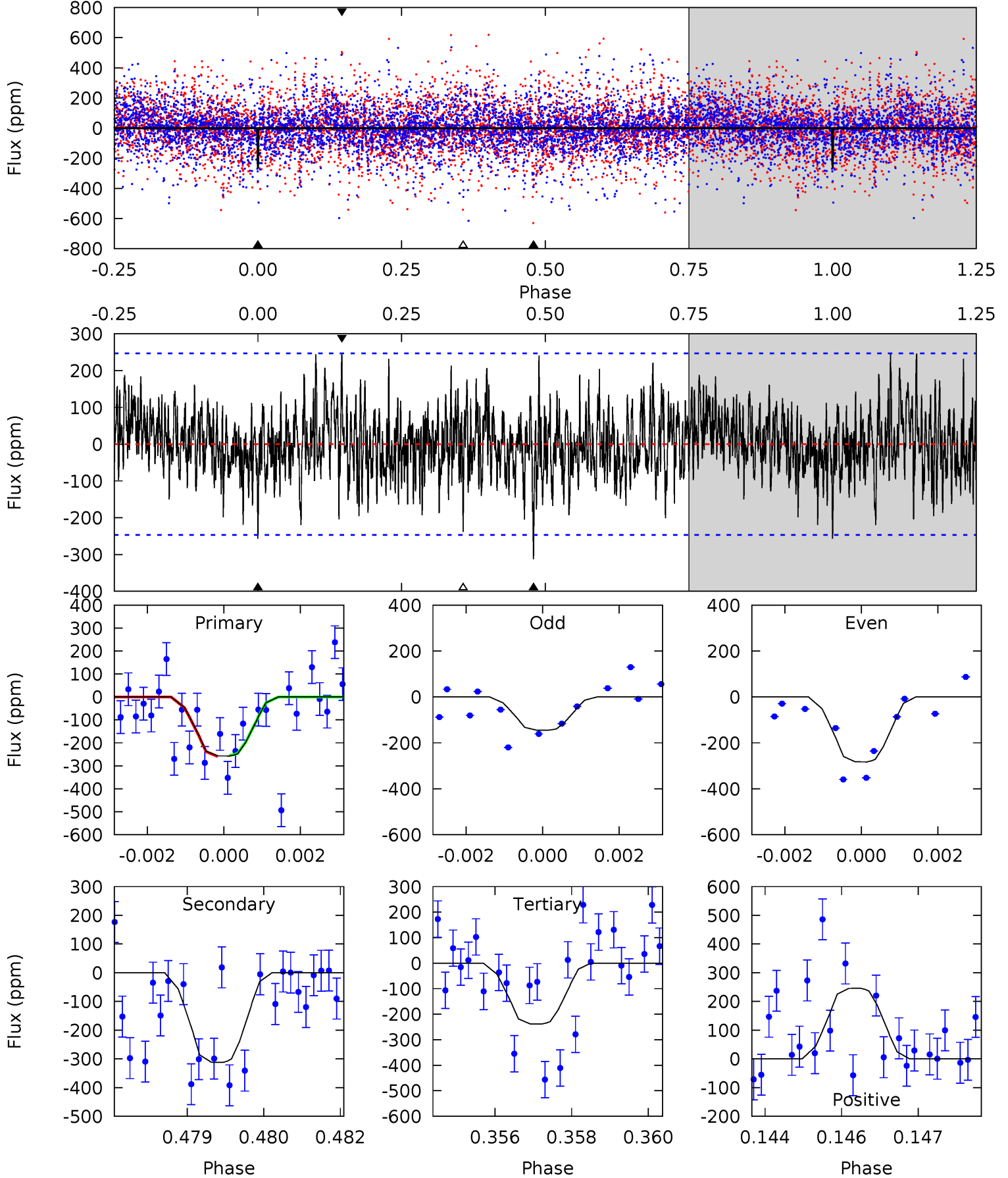
TCE 011027270-03 P= 33.513277 Days $T_0=163.468385$ (BKJD)



DV Model-Shift Uniqueness Test

011027270-03, $P = 33.513391$ Days, $E = 129.957621$ Days

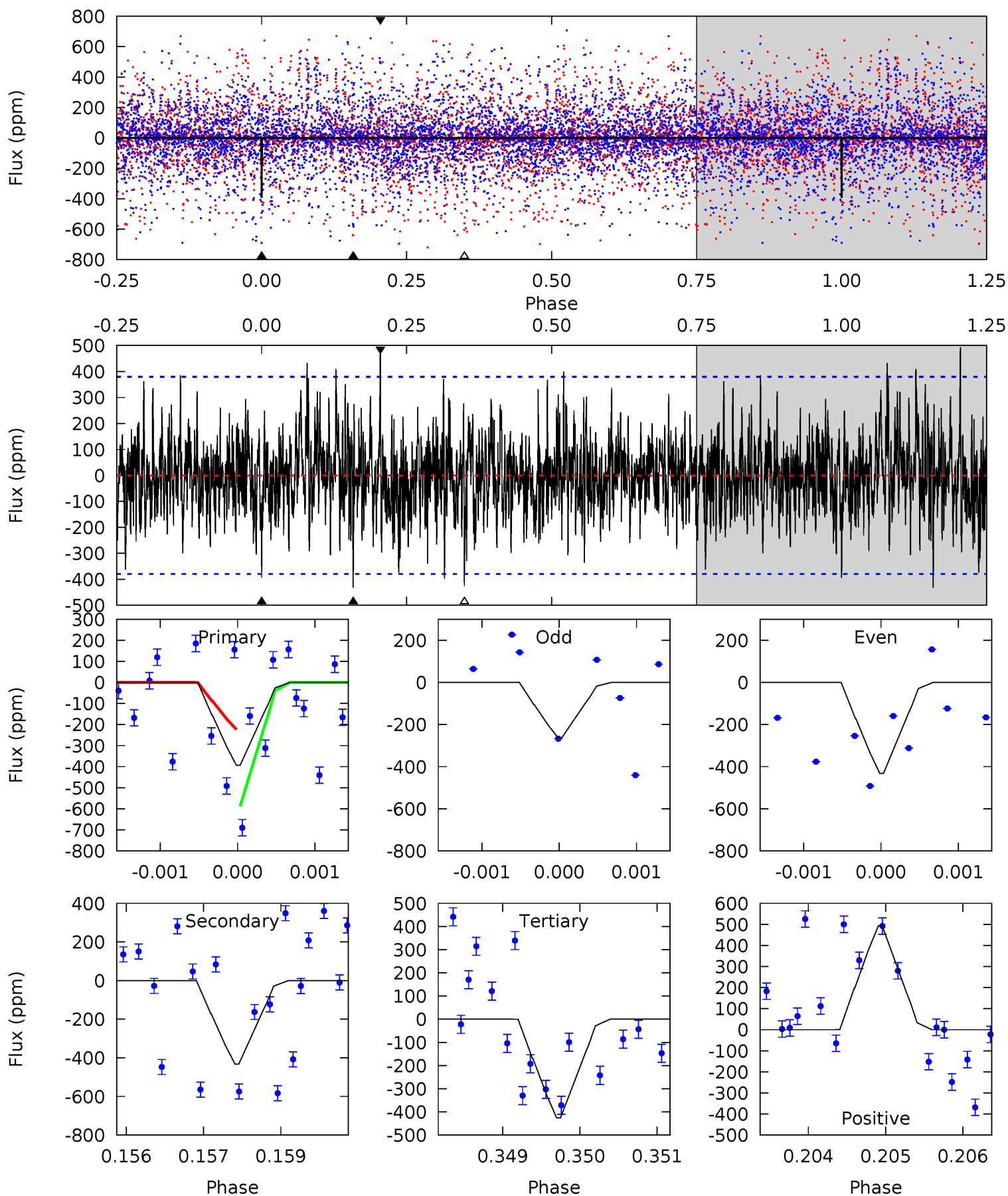
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.59	6.79	5.18	5.35	5.36	3.15	1.62	0.41	0.25	1.61	1.45	1.28	0.99	0.44	0



Alt Model-Shift Uniqueness Test

011027270-03, P = 33.513277 Days, E = 129.955108 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.61	6.17	6.08	7.04	5.42	3.23	1.68	-0.47	-1.42	0.09	-0.87	0.93	1.18	0.53	2.67



Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-313 ± 46	$5.87^{+5.45}_{-3.80}$	1325^{+108}_{-150}	5645^{+5145}_{-1272}	254^{+1694}_{-185}
Alt.	-432 ± 70	$6.54^{+6.30}_{-4.29}$	1327^{+99}_{-132}	5898^{+5180}_{-1418}	286^{+2102}_{-217}

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 $A_{obs} \gg 1.0$

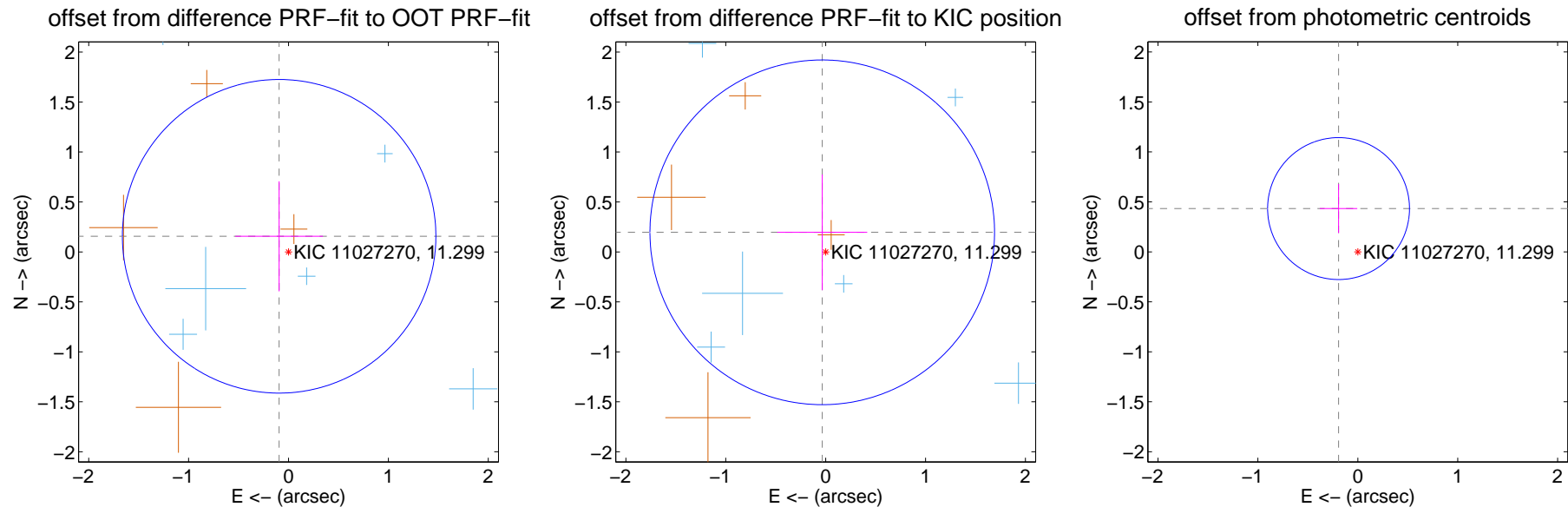
DV Centroid Data

Supplemental centroid analysis for 011027270-03. **Kepler magnitude: 11.30.** Transit SNR 7.20

There are 7 quarters with good PRF difference image offsets

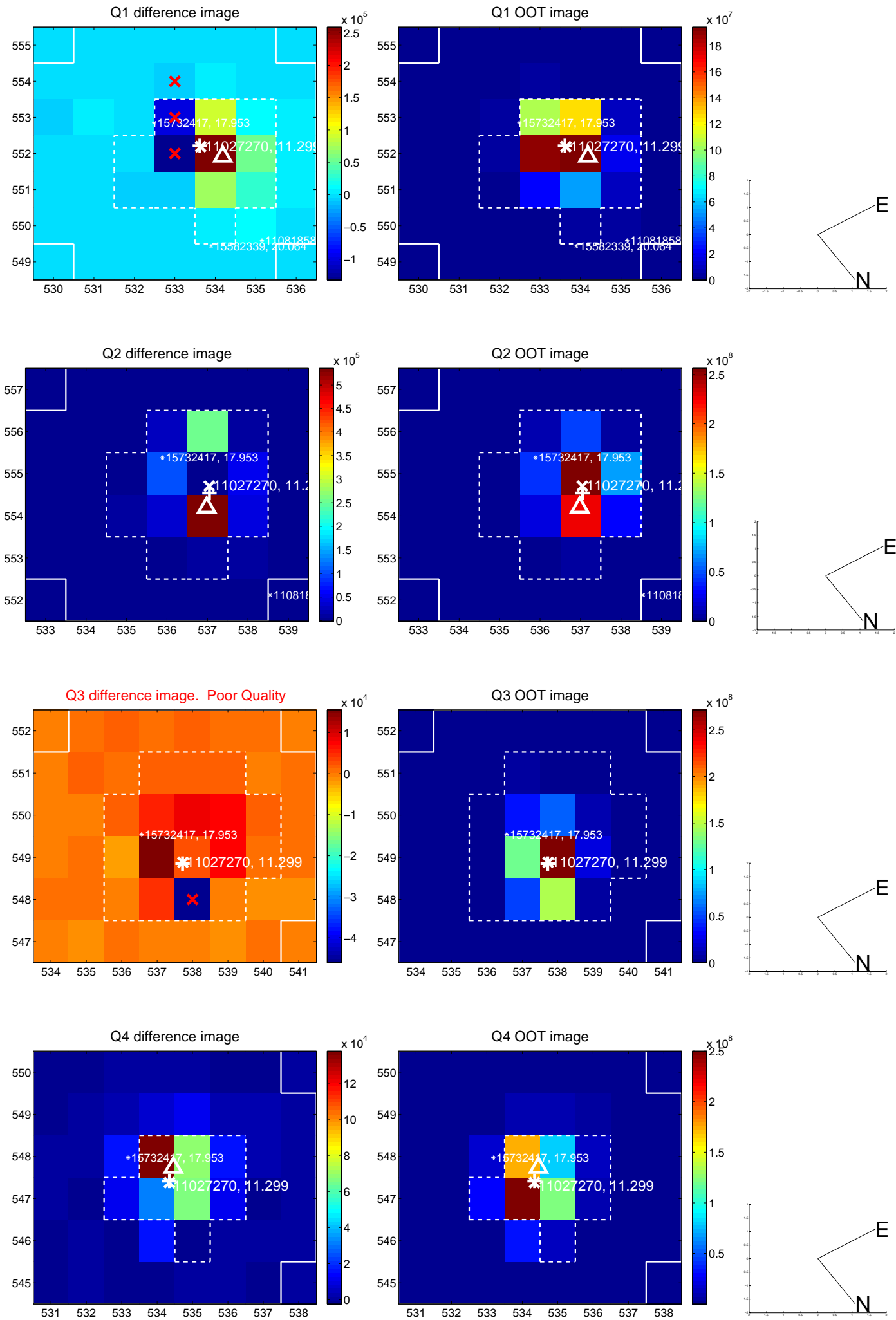
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.182 ± 0.523	0.35	0.094 ± 0.439	0.156 ± 0.550
PRF-fit source offset from KIC position	0.199 ± 0.575	0.35	0.034 ± 0.451	0.196 ± 0.578
photometric centroid source offset	0.47 ± 0.24	2.00	0.19 ± 0.19	0.43 ± 0.25

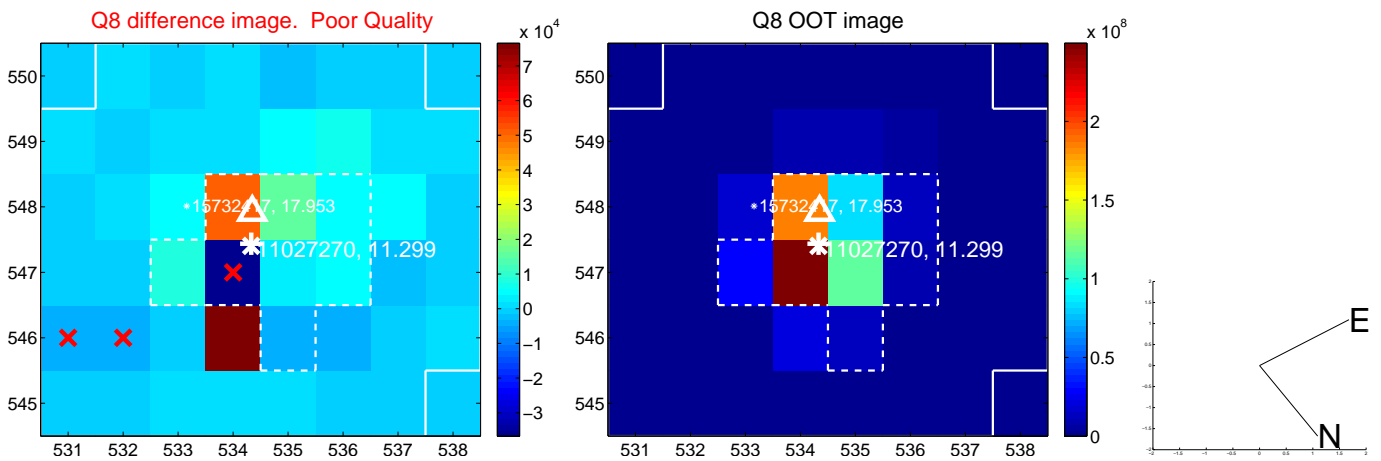
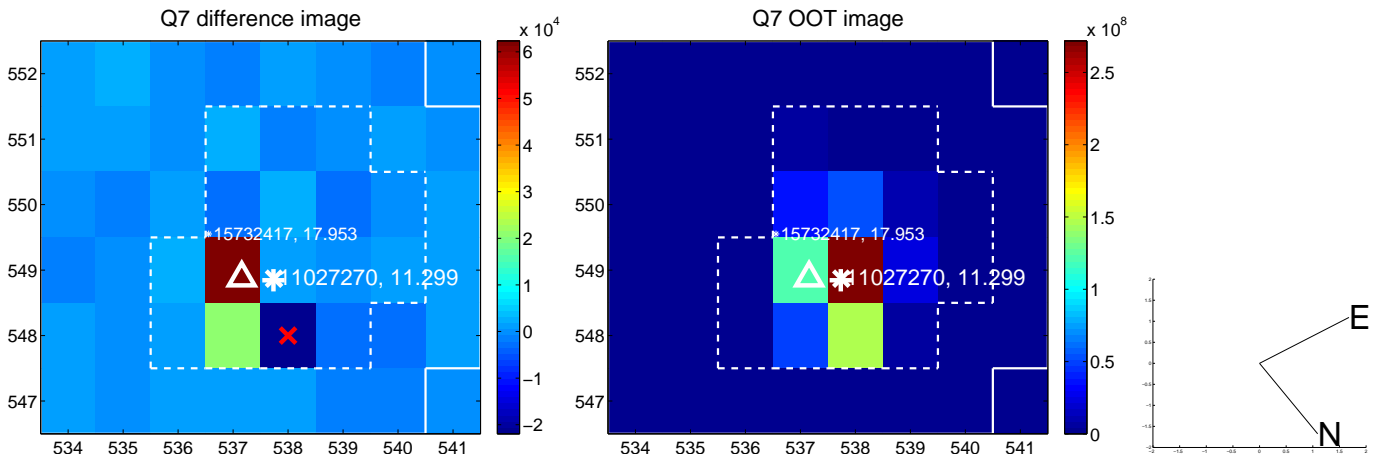
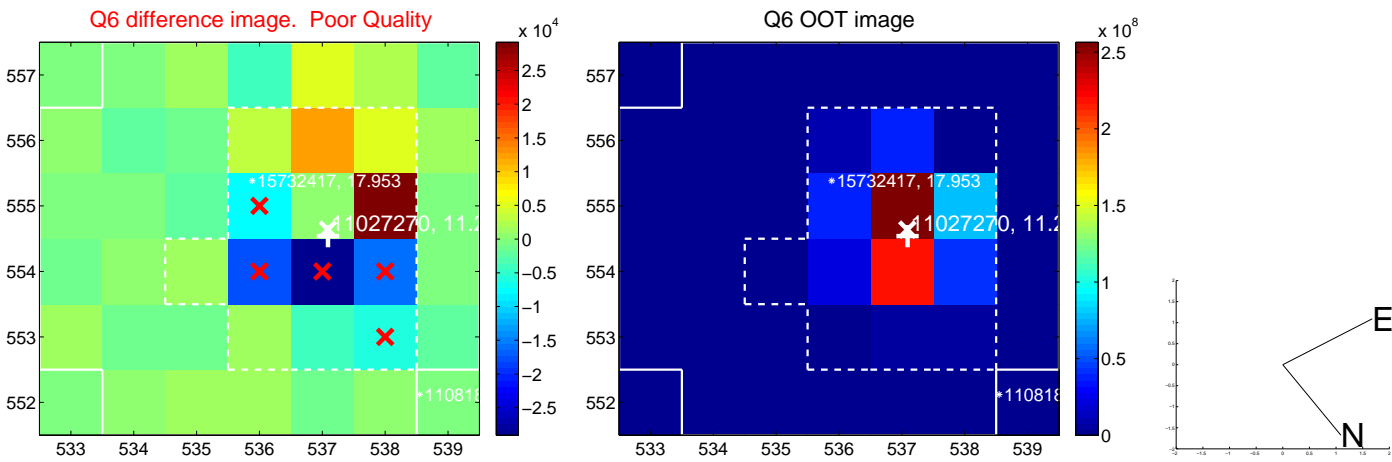
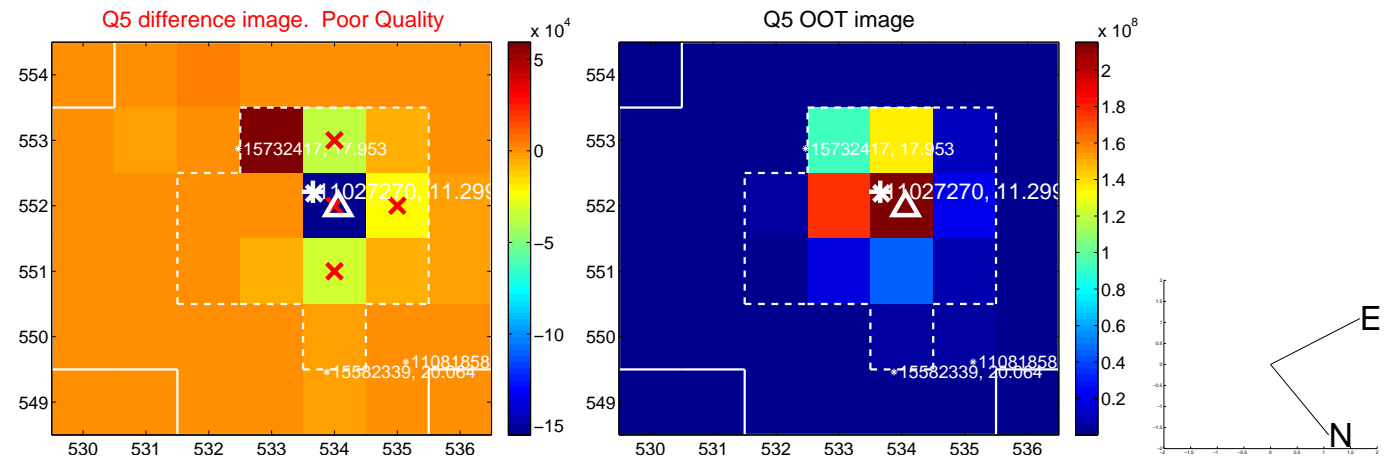


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

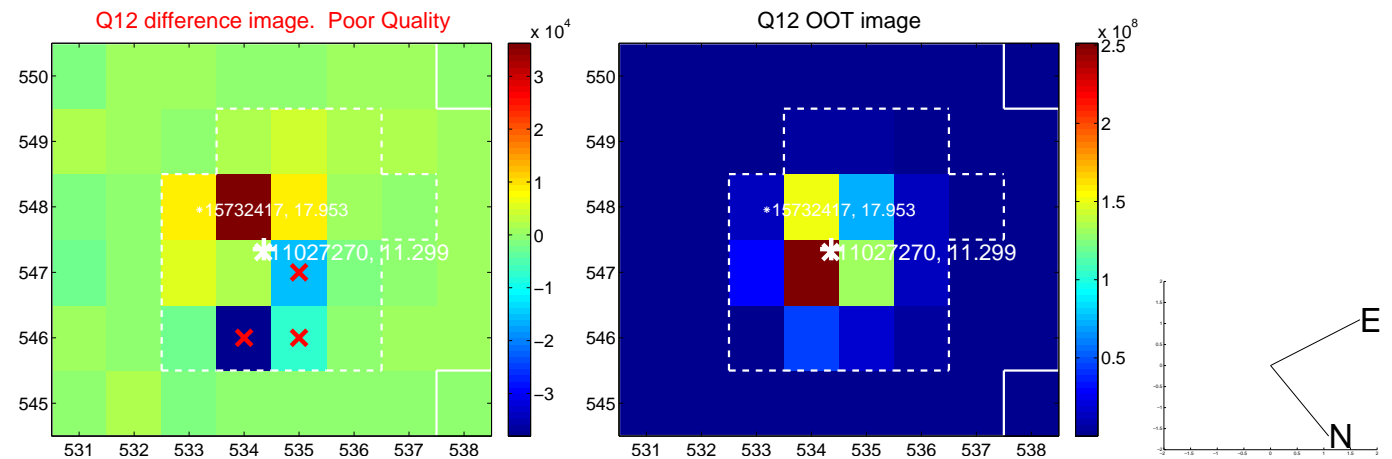
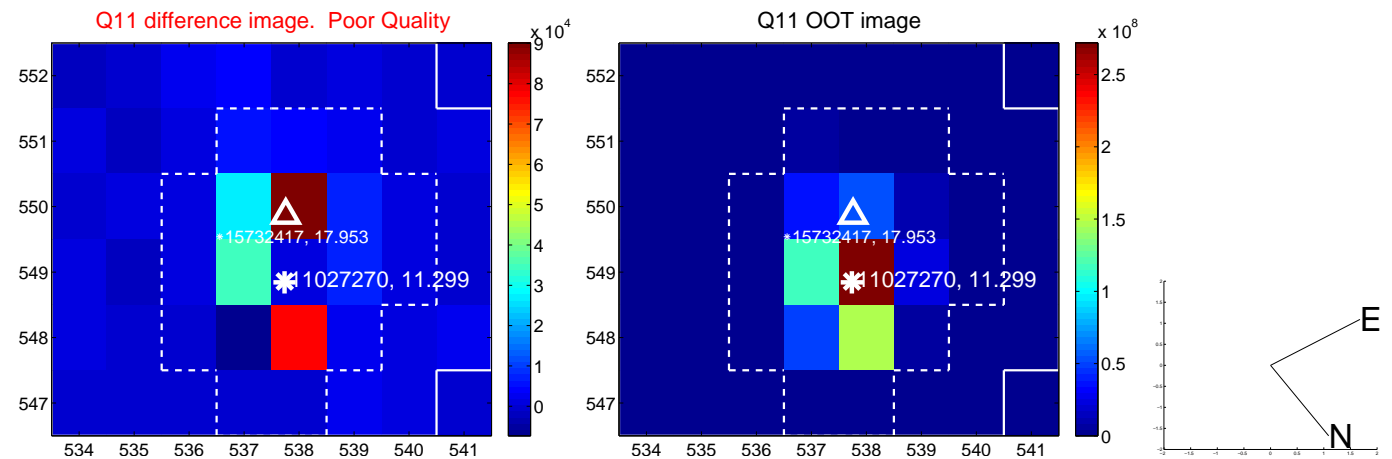
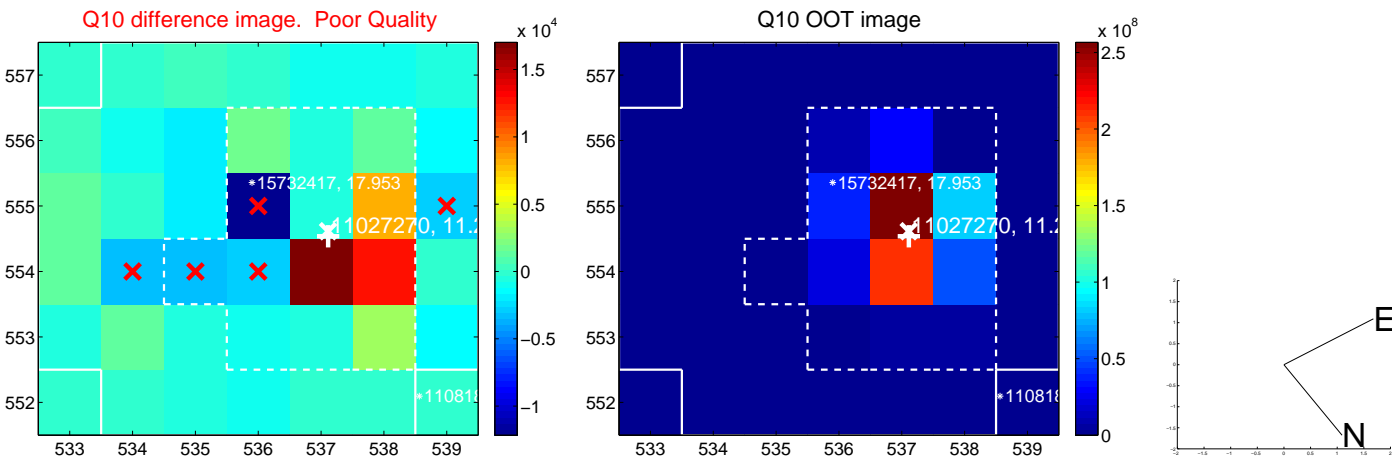
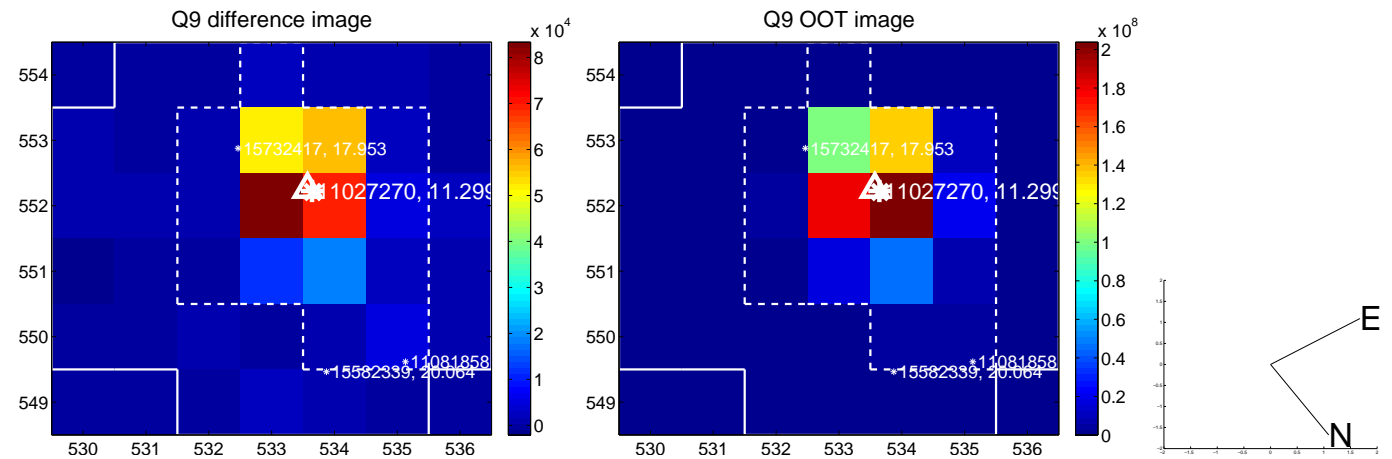
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



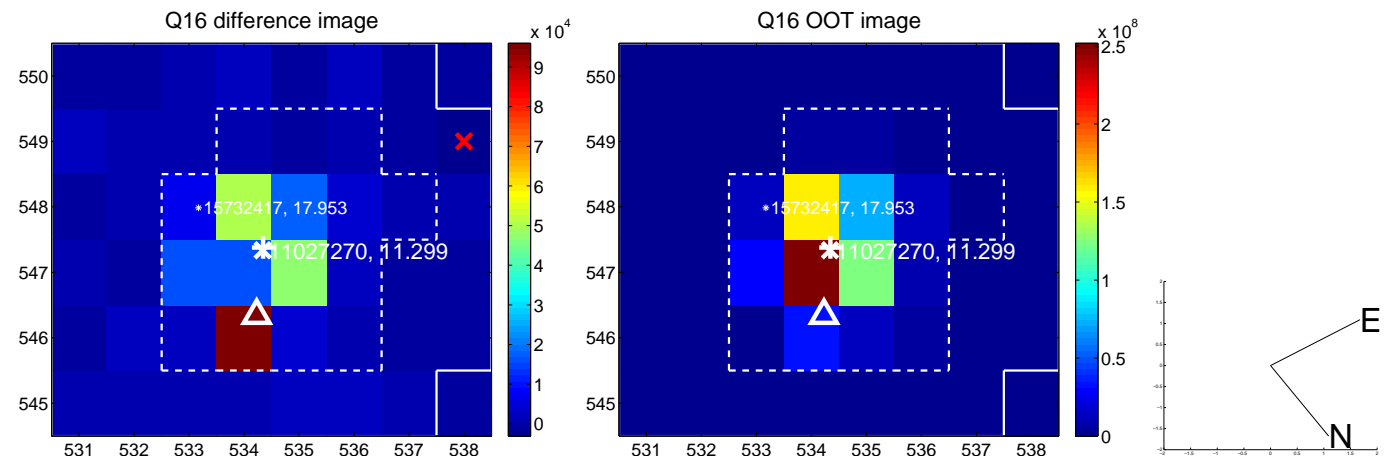
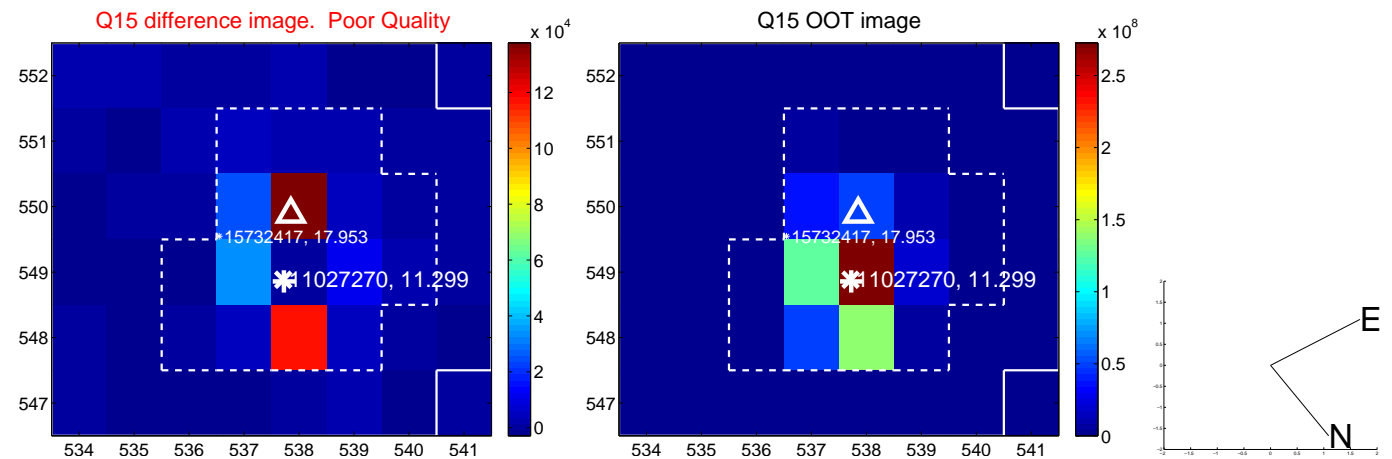
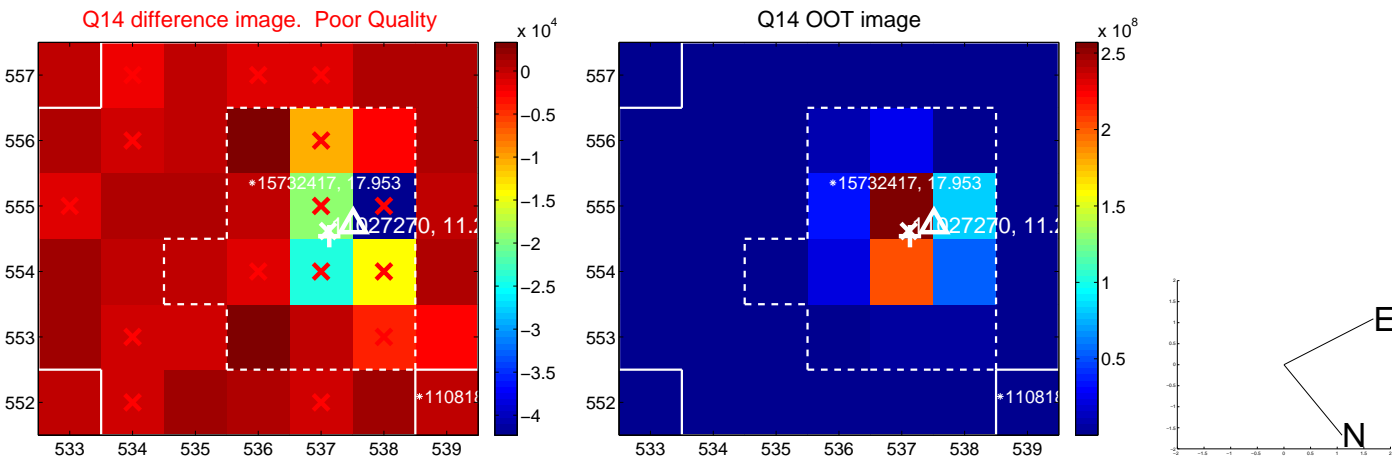
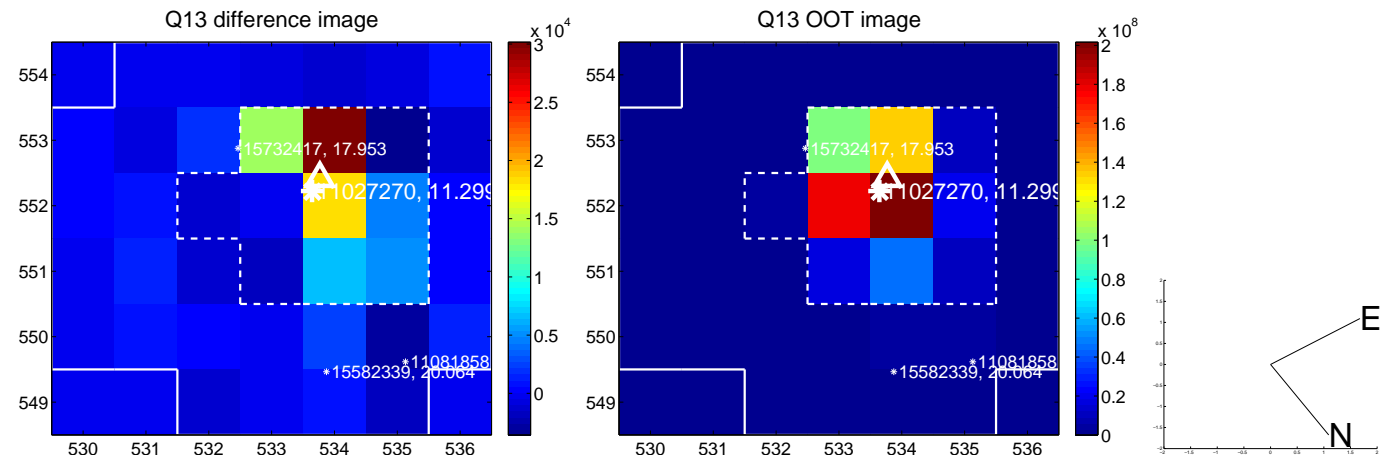
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



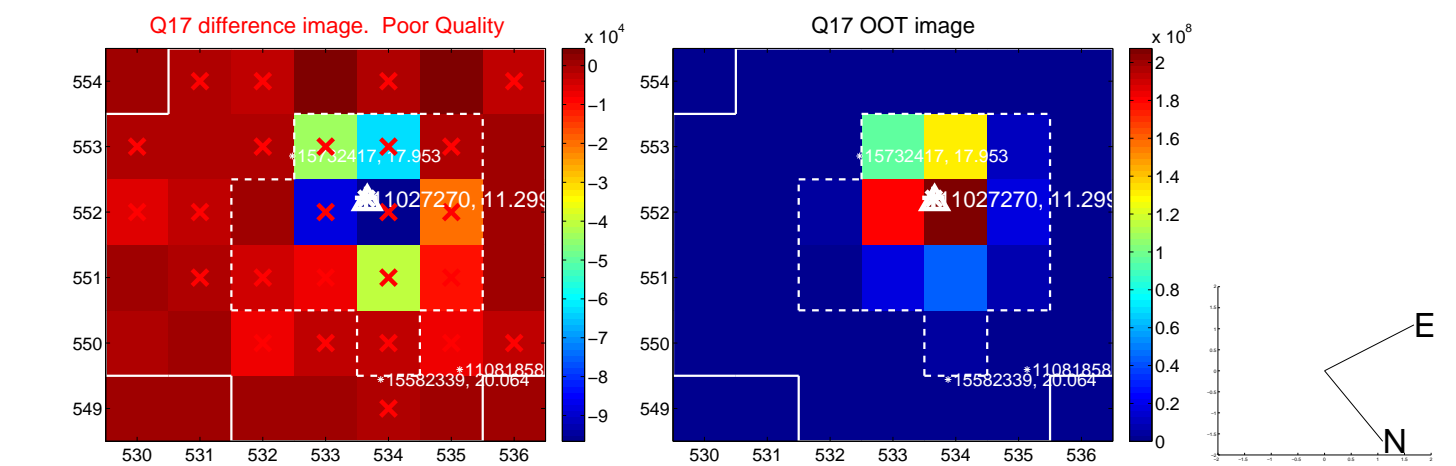
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



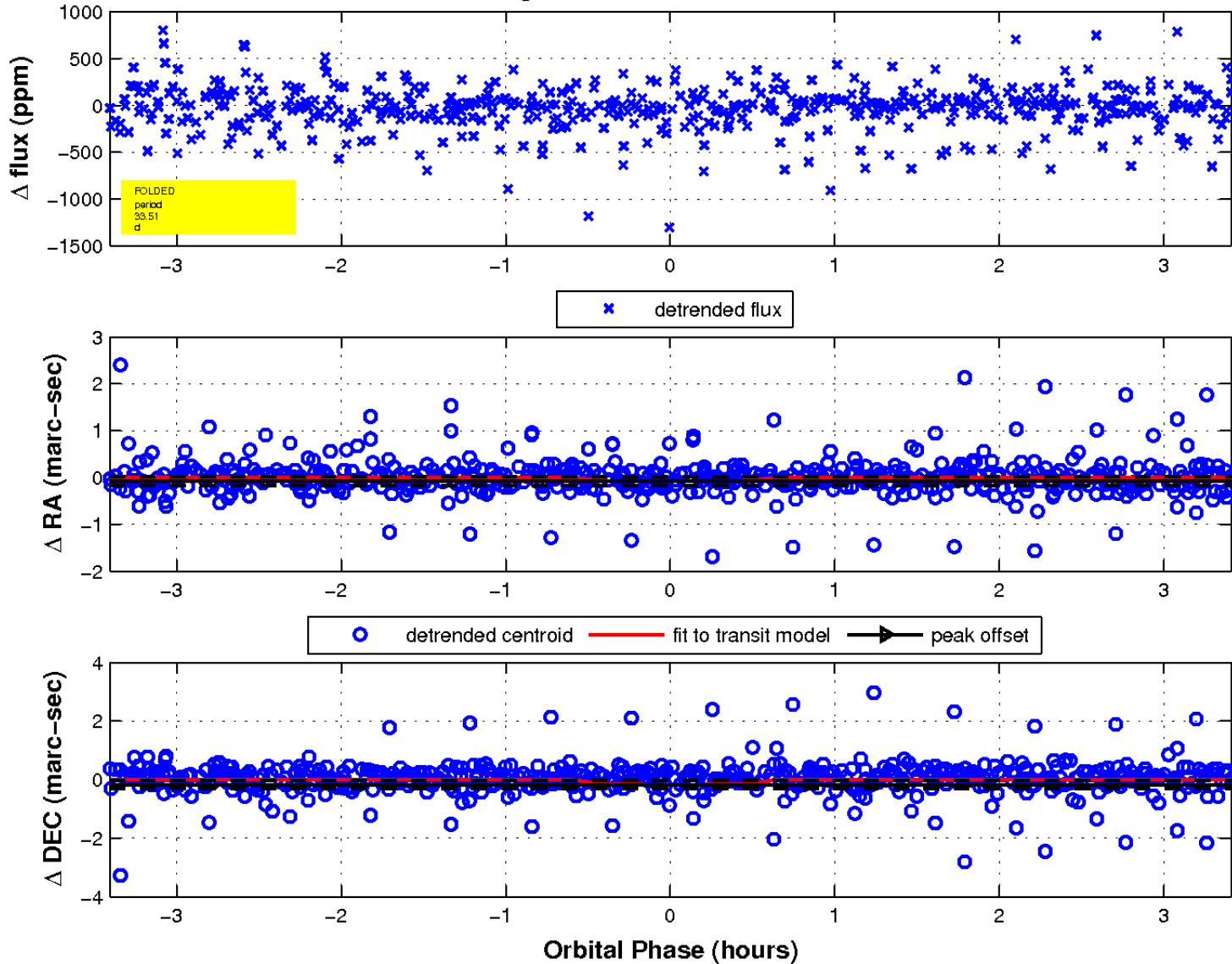
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



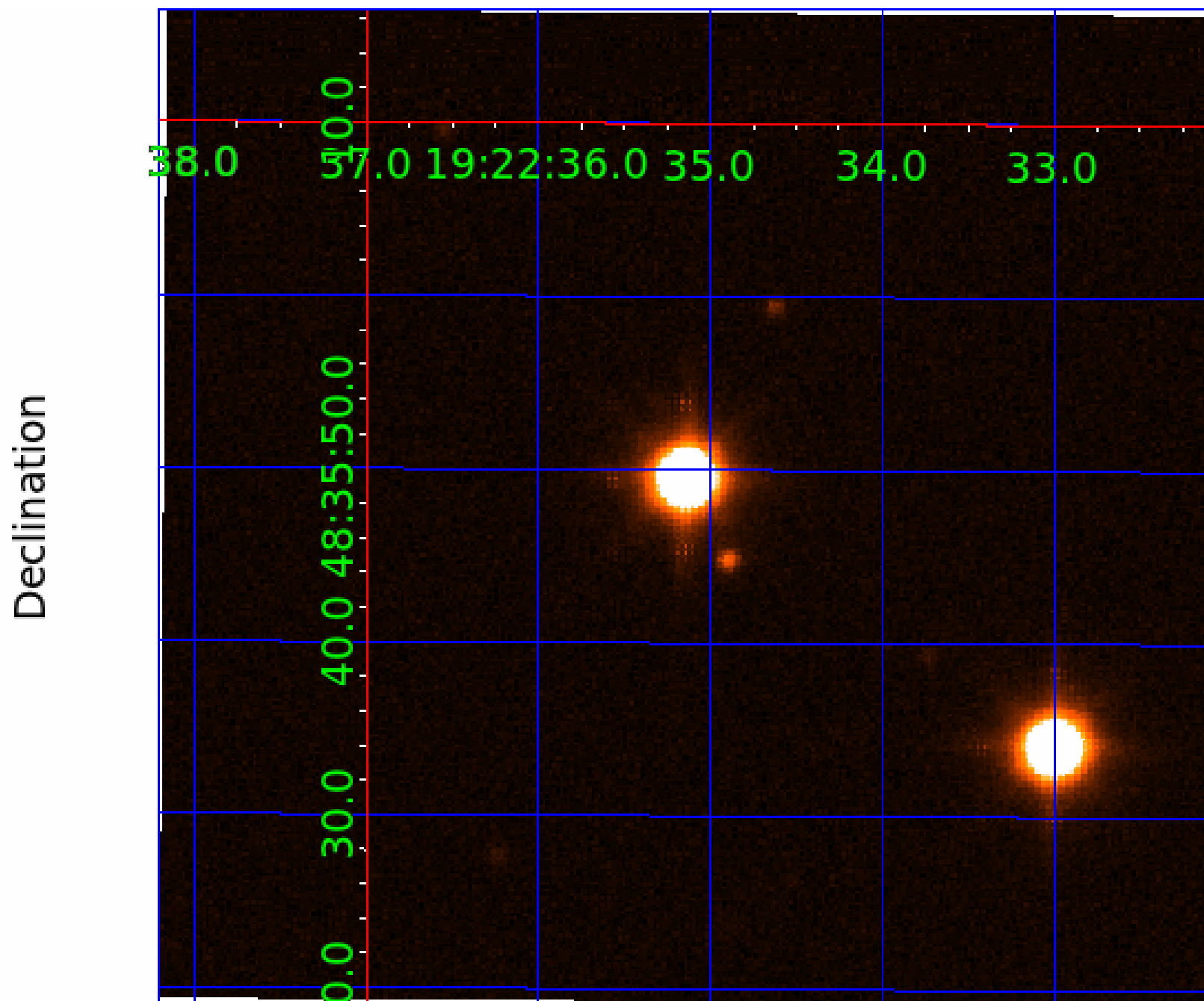
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 8



UKIRT Image



KIC 011027270

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})
011027270-01	OBS	No	0.530231	131.514837	7.9	3.593	9.3	3.4	2.18	7163	0.62	54520.48
011027270-02	OBS	No	34.954028	155.006074	93.3	0.541	12.8	1.0	2.18	7163	2.22	204.73
011027270-03	OBS	No	33.513391	163.471012	364.9	1.140	11.8	7.2	2.18	7163	4.33	216.55
011027270-04	OBS	No	56.329769	140.140948	492.4	2.418	11.6	8.9	2.18	7163	5.50	108.36
011027270-05	OBS	No	49.902113	172.829311	543.0	1.679	12.6	9.8	2.18	7163	5.17	127.36
011027270-06	OBS	No	27.816400	147.681992	315.8	3.313	10.7	8.3	2.18	7163	4.17	277.62
011027270-07	OBS	No	41.236838	159.131901	390.7	2.185	9.1	7.6	2.18	7163	4.88	164.24
011027270-08	OBS	No	109.932102	159.887063	468.4	1.620	9.0	7.6	2.18	7163	4.81	44.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011027270-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
011027270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
011027270-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
011027270-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-07	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_SATURATED
011027270-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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 011027270-04

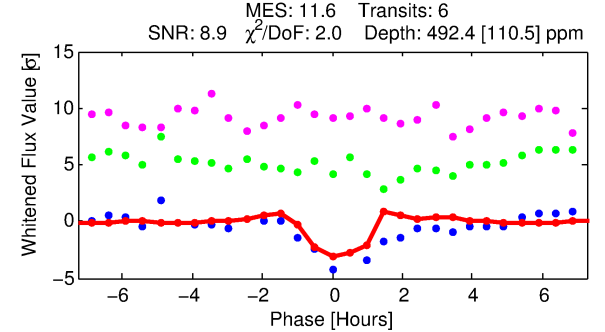
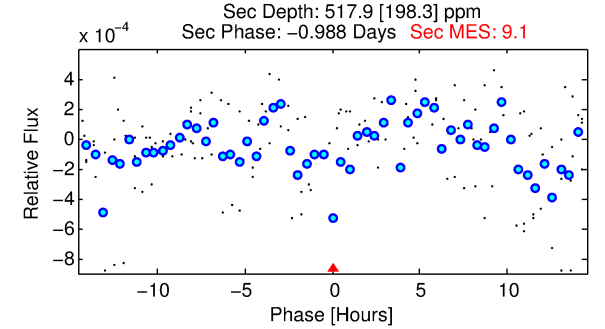
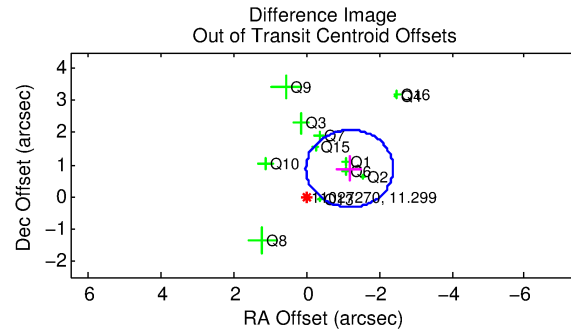
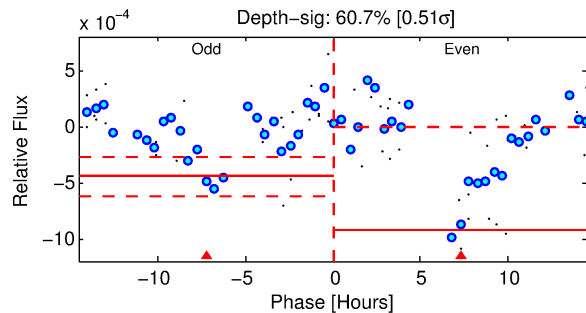
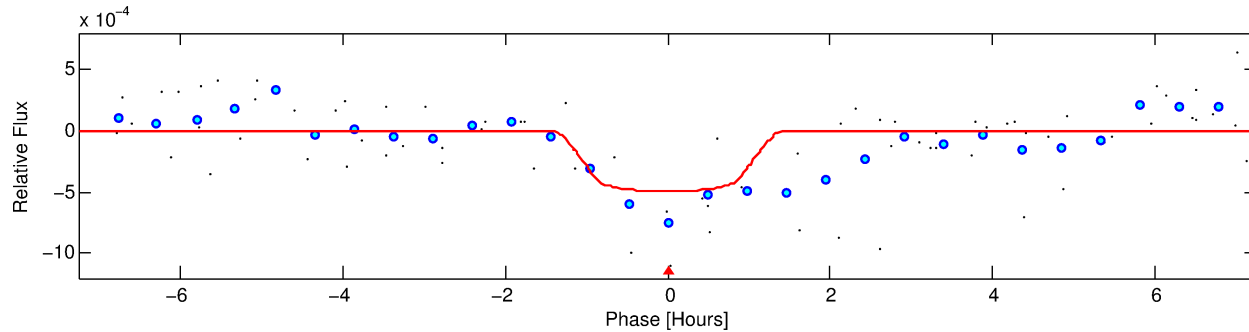
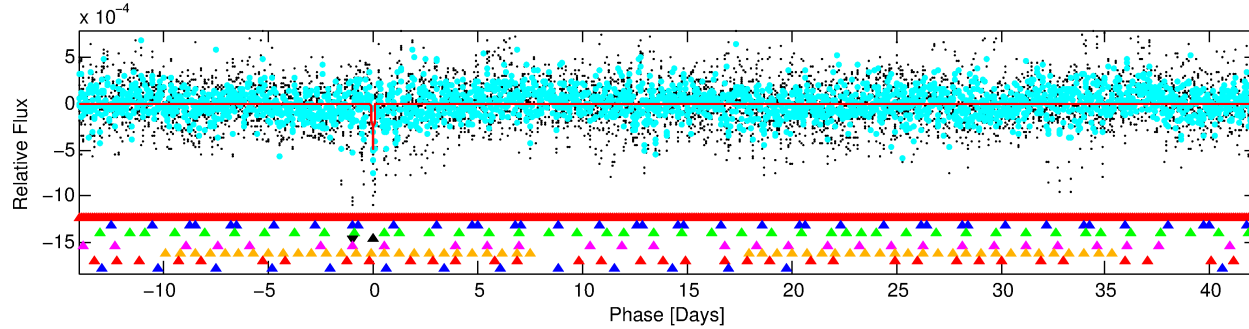
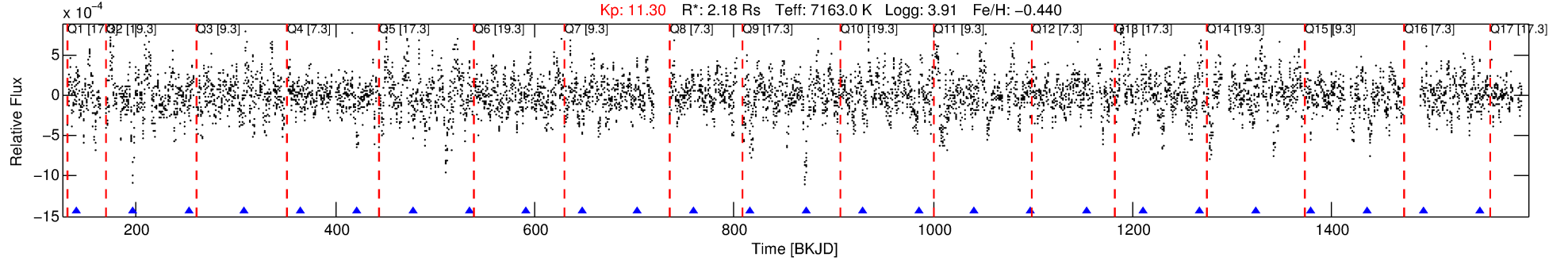
No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 4 of 8 Period: 56.330 d

KOI: K07401 Corr: No Ephemeris Match

Kp: 11.30 R*: 2.18 Rs Teff: 7163.0 K Logg: 3.91 Fe/H: -0.440



DV Fit Results:

Period = 56.32977 [0.00203] d
Epoch = 140.1409 [0.0228] BKJD
Rp/R* = 0.0231 [0.0744]
a/R* = 97.24 [1874.88]
b = 0.86 [5.64]
Seff = 108.36 [68.69]
Teq = 823 [130] K
Rp = 5.50 [17.79] Re
a = 0.3212 [0.1213] AU
Ag = 971.94 [6283.78] [0.15σ]
Teffp = 7102 [11429] K [0.55σ]

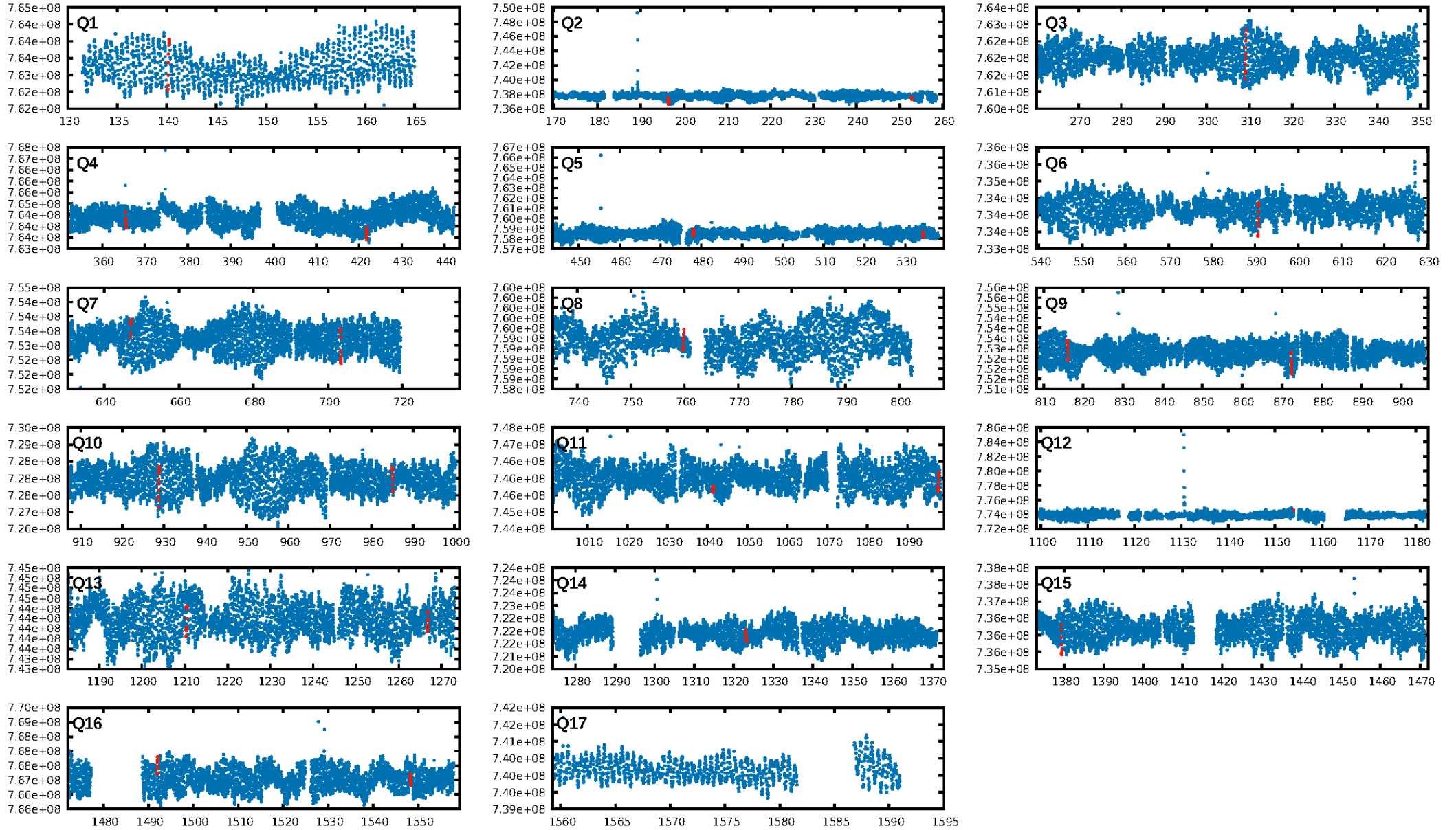
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [52.40σ]
LongPeriod-sig: 100.0% [441.96σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 96.0%
Bootstrap-pfa: 6.58e-17
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -9.94
Centroid-sig: 28.8%
Centroid-so: 0.185 arcsec [0.99σ]
OotOffset-rm: 1.474 arcsec [3.68σ]
KicOffset-rm: 1.878 arcsec [4.53σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 0.00 [0/15]

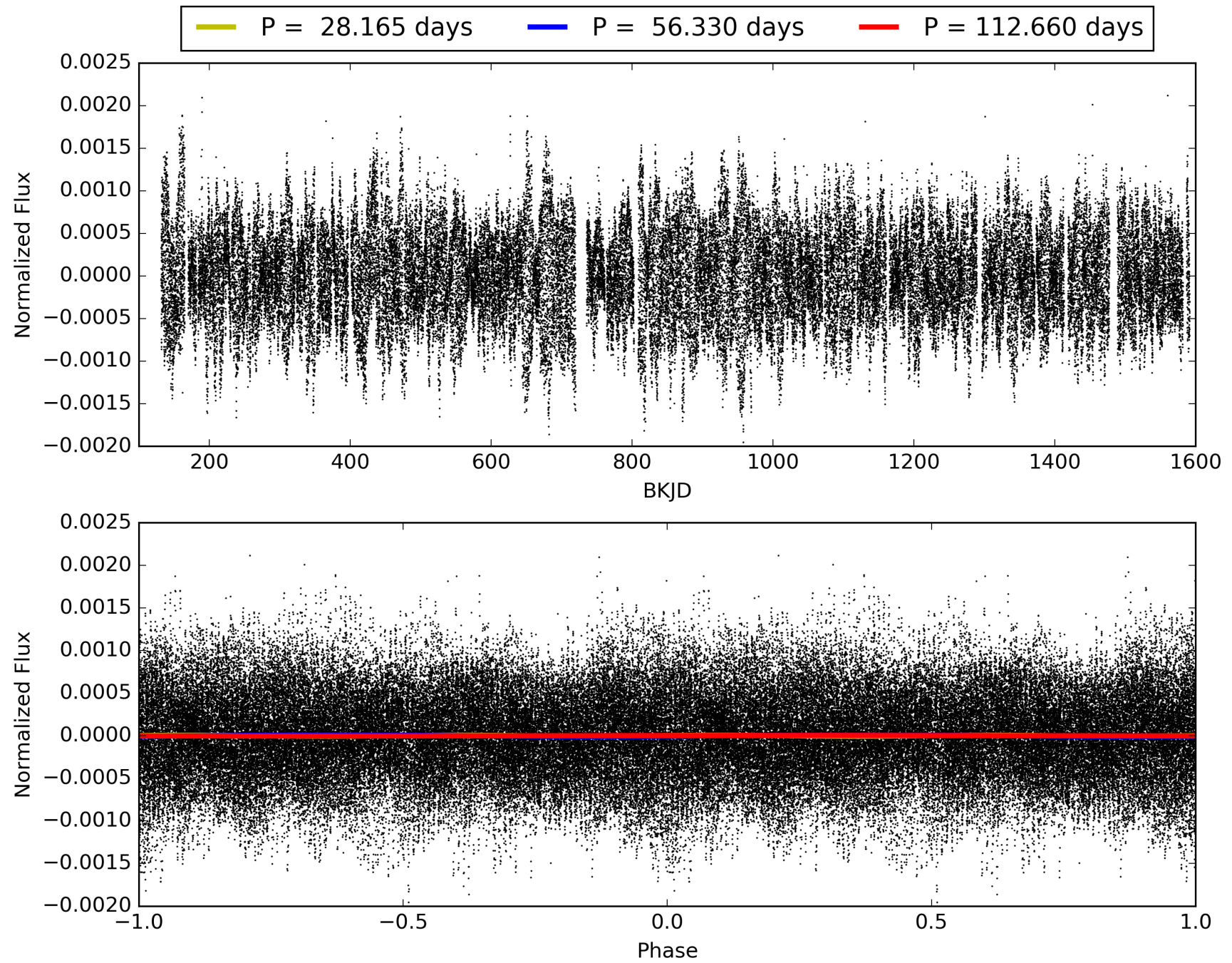
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:12:36 Z

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

TCE 011027270-04, PDC Light Curves

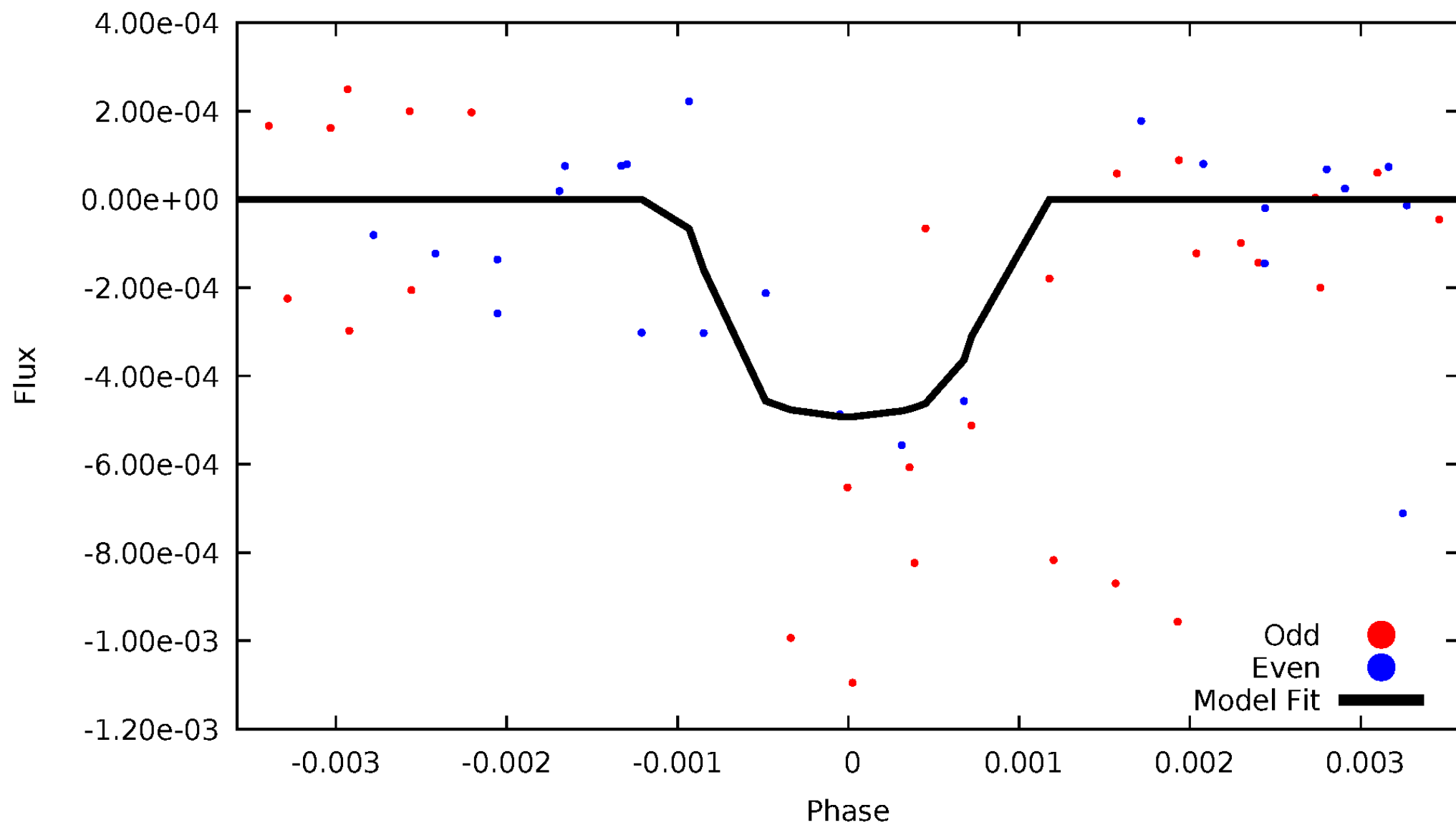


TCE 011027270-04



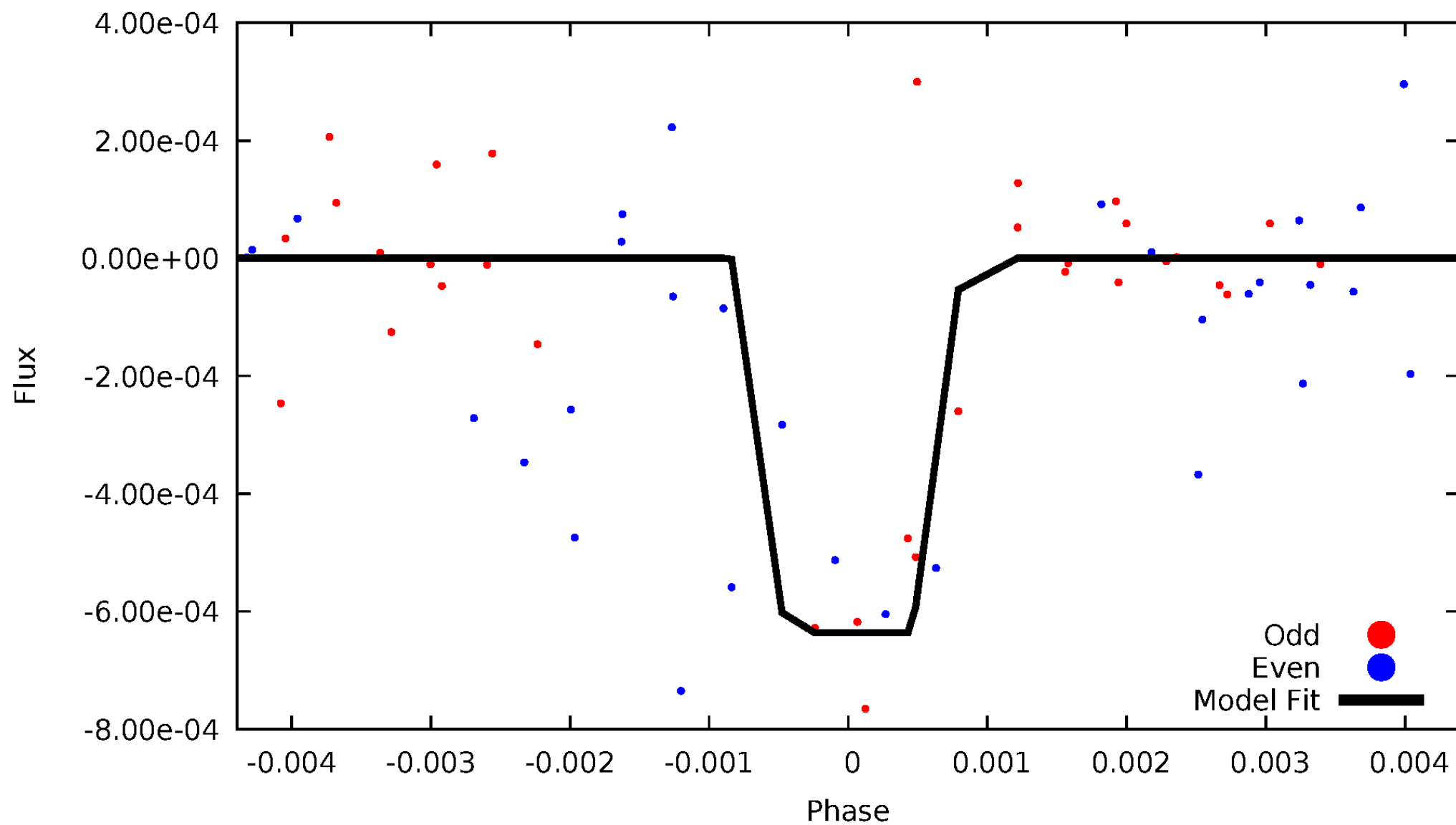
DV Odd/Even

TCE 011027270-04



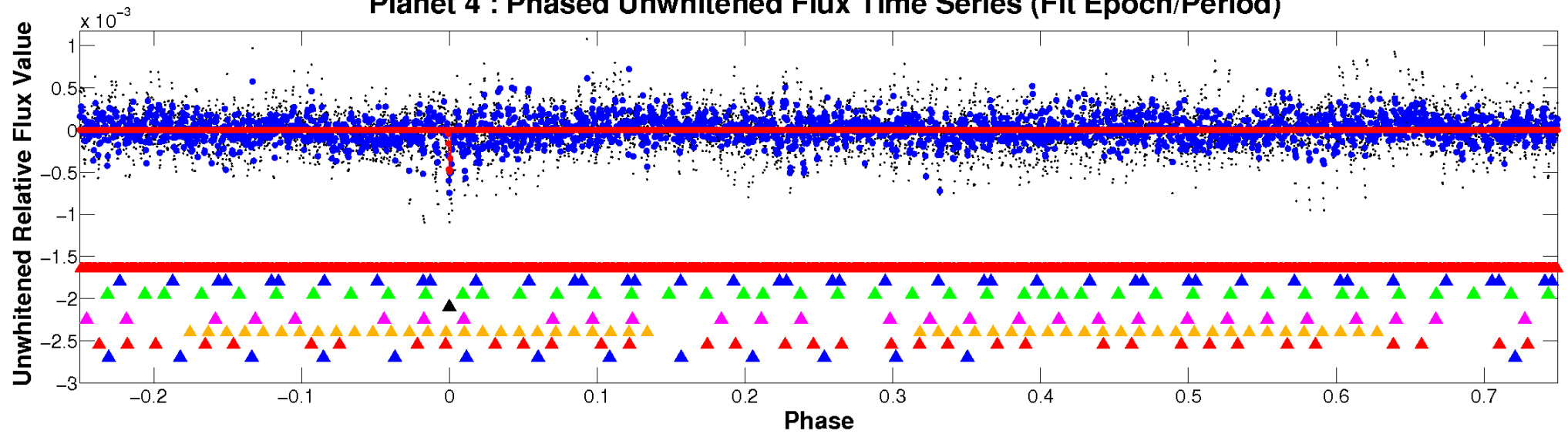
ALT Odd/Even

TCE 011027270-04

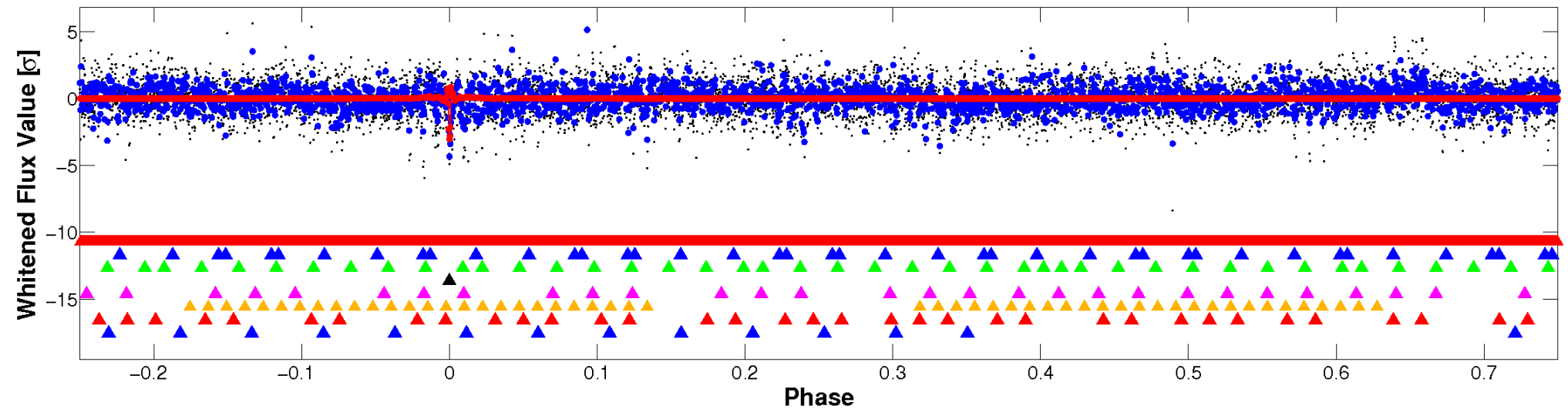


Non-Whitened Vs. Whitened Light Curve

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

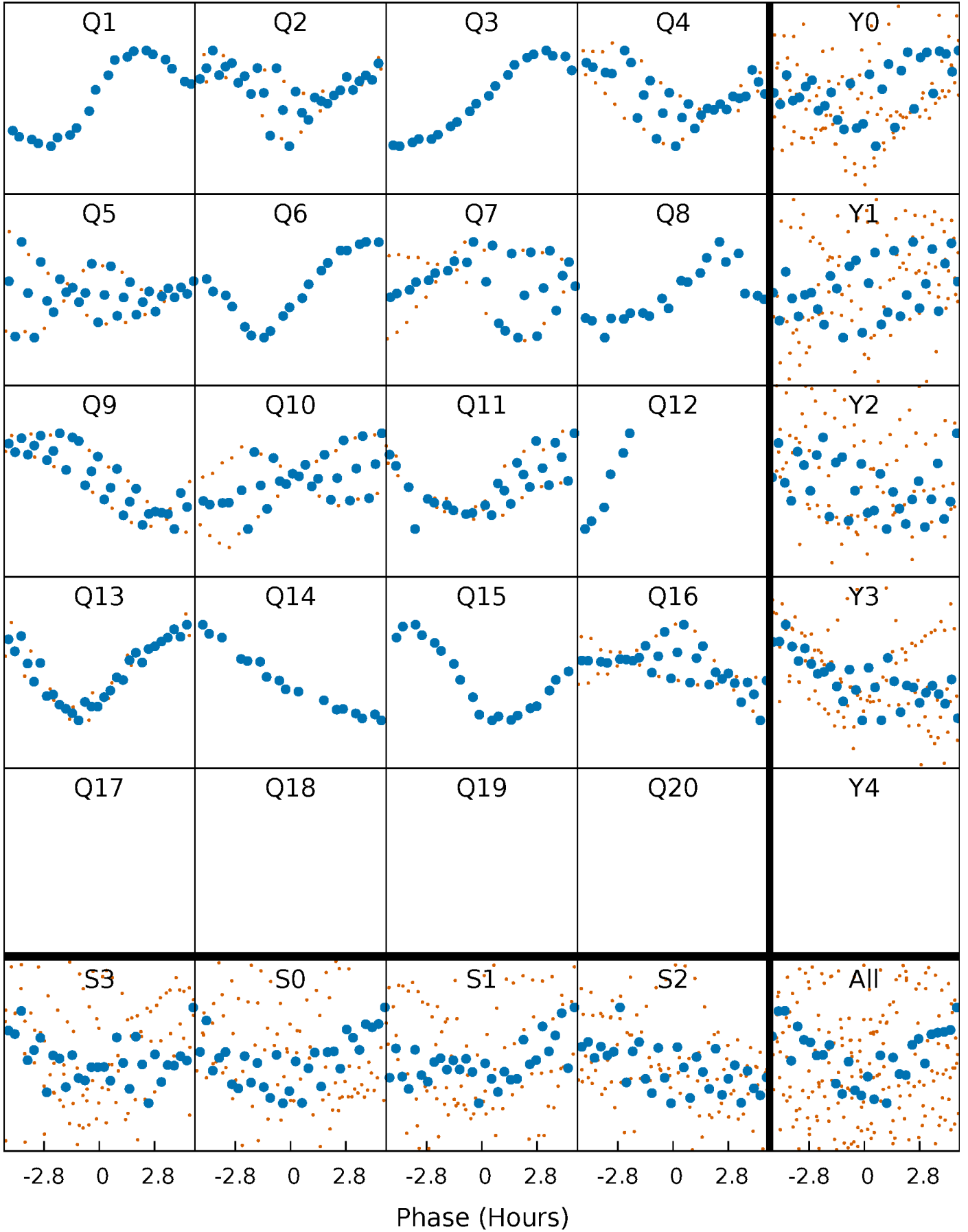


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



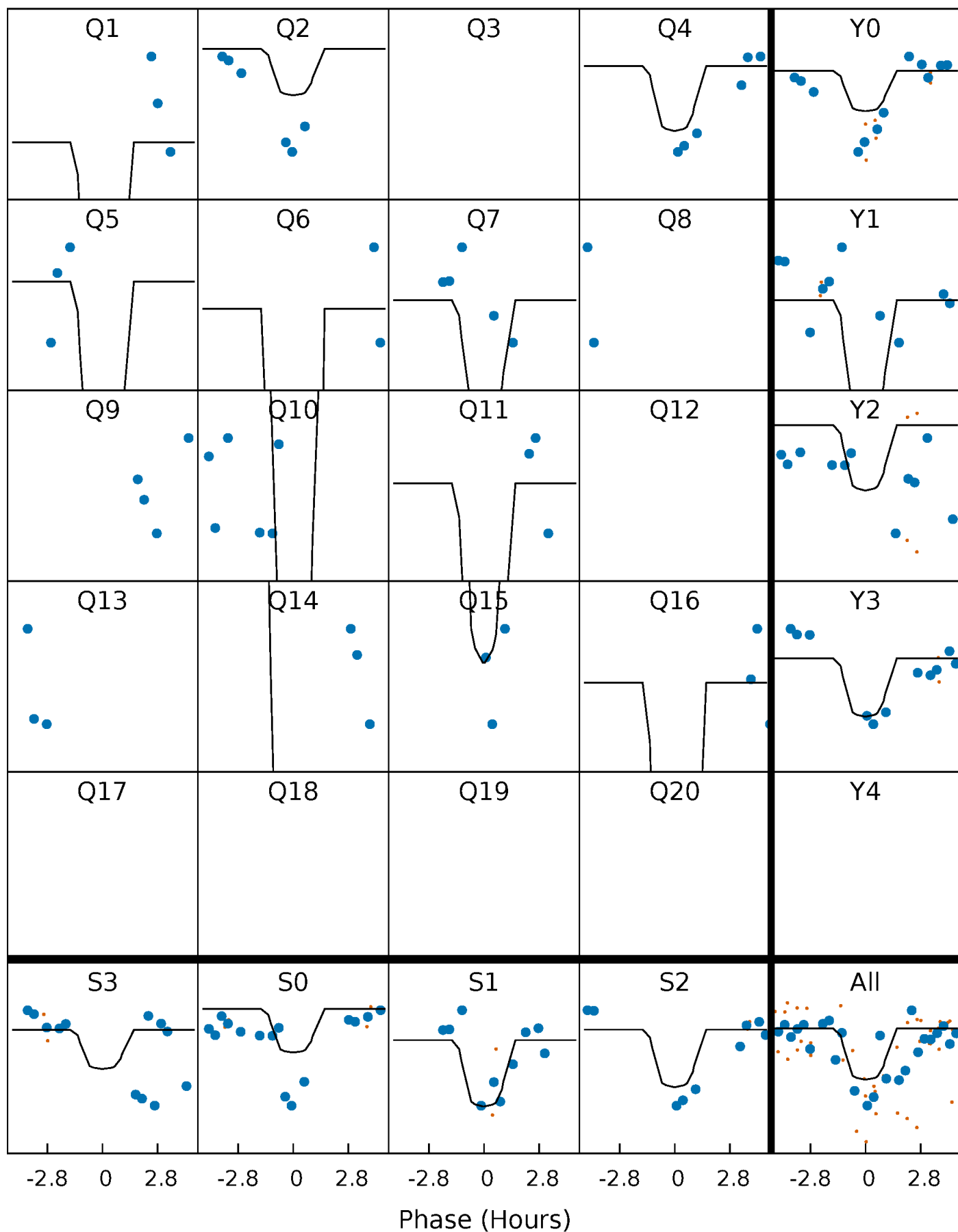
PDC Quarter-Phased Transit Curves

TCE 011027270-04 P= 56.329769 Days $T_0=140.140948$ (BKJD)



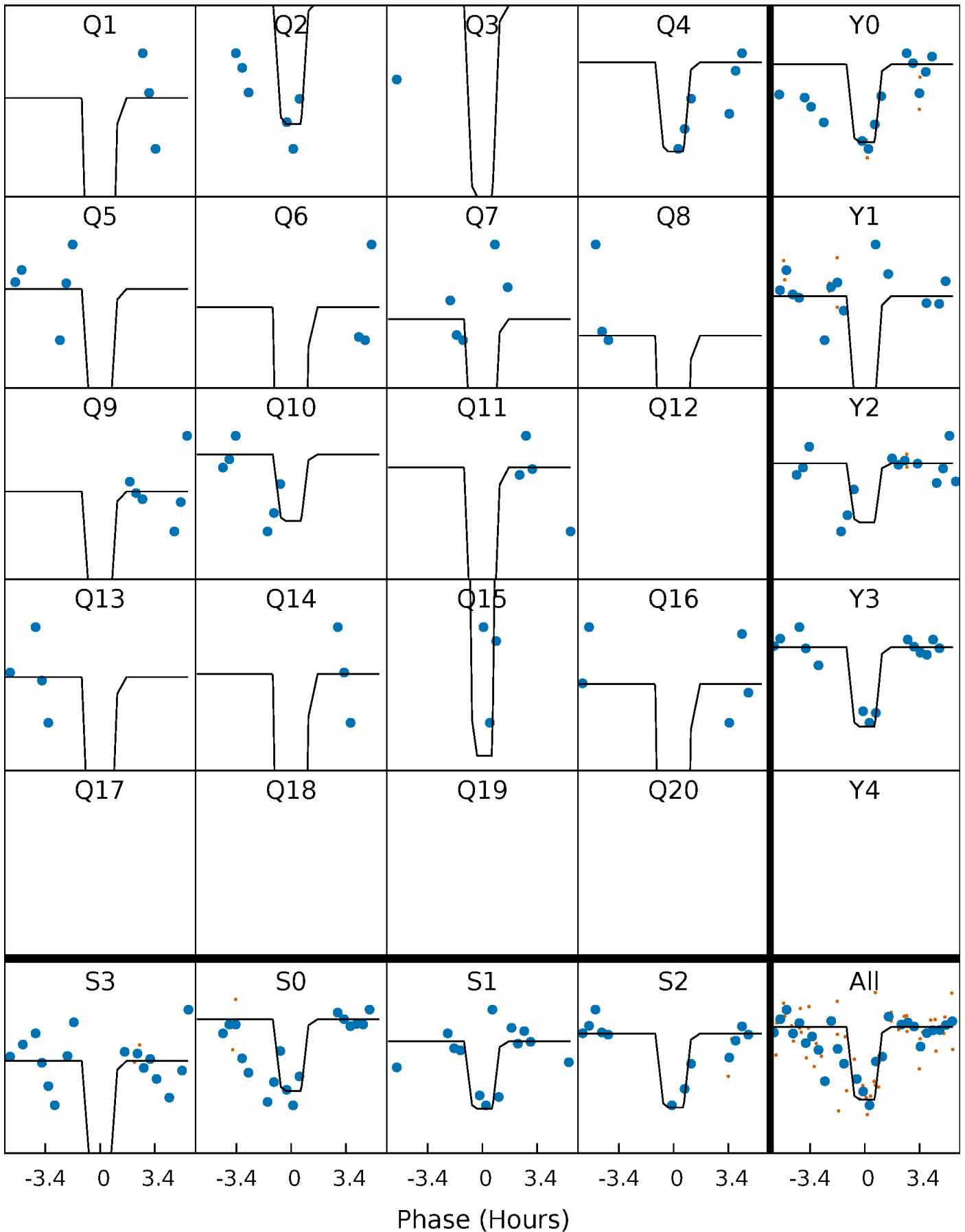
DV Quarter-Phased Transit Curves

TCE 011027270-04 P= 56.329769 Days $T_0=140.140948$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

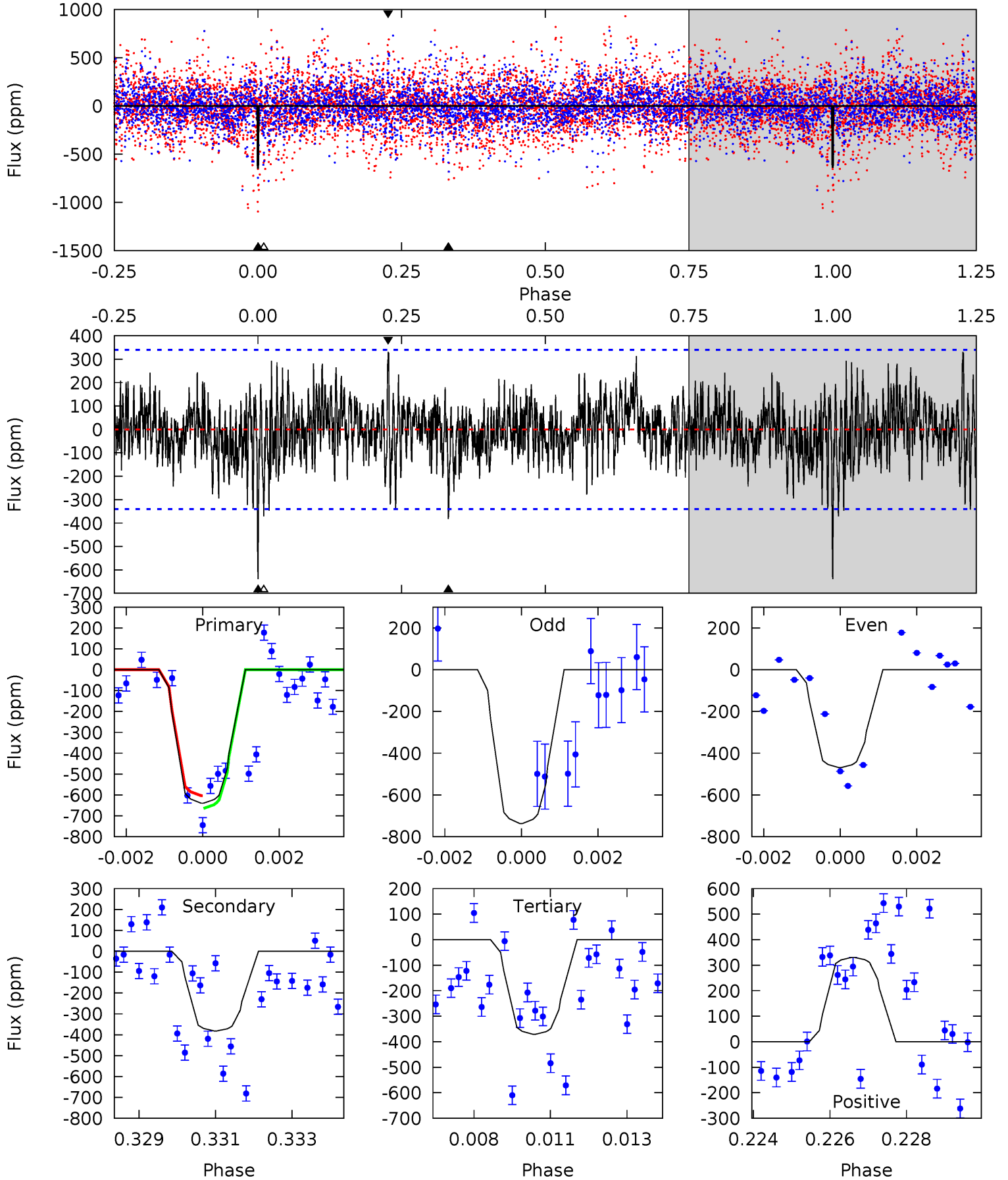
TCE 011027270-04 P= 56.330155 Days $T_0=140.135123$ (BKJD)



DV Model-Shift Uniqueness Test

011027270-04, P = 56.329769 Days, E = 83.811179 Days

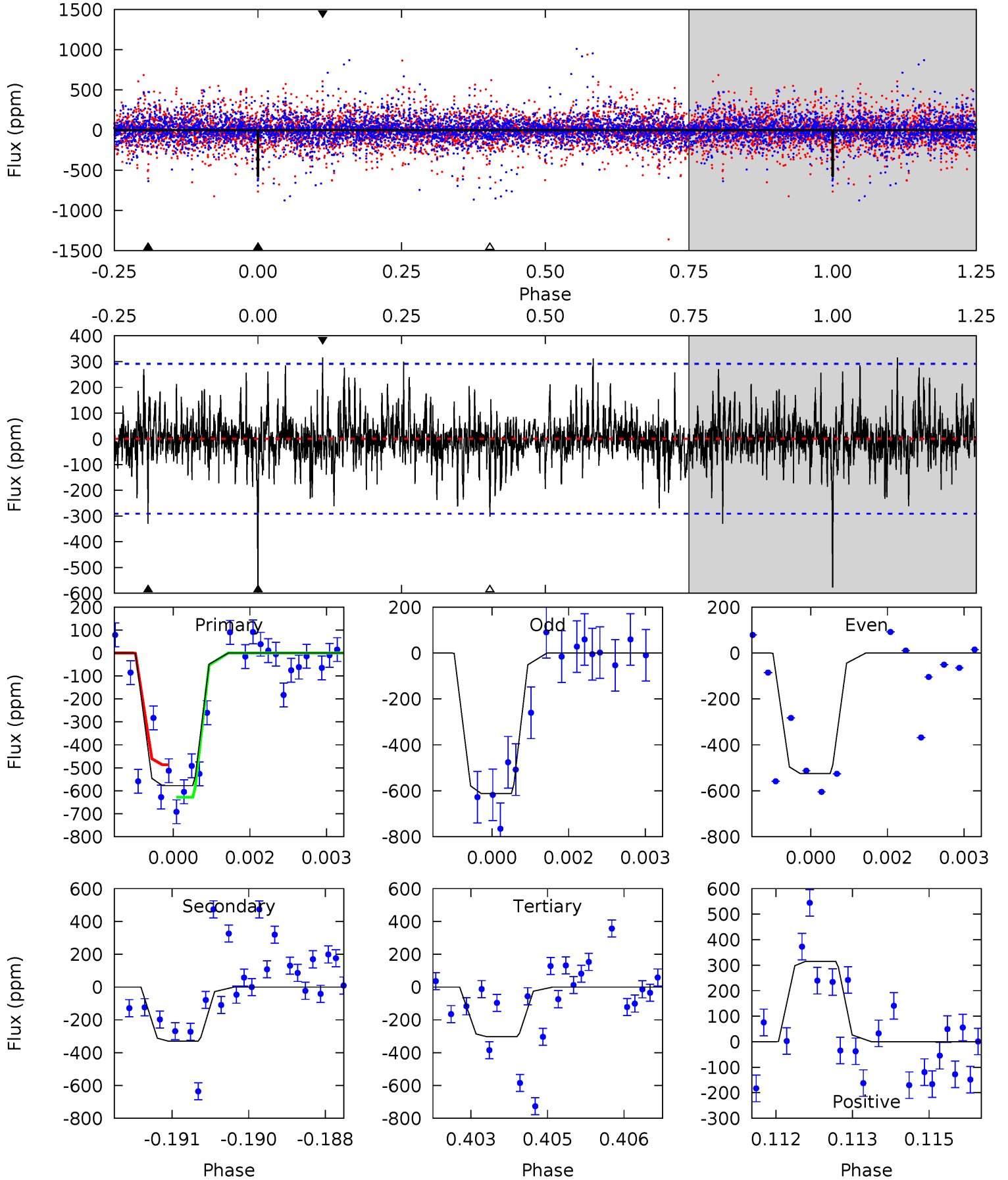
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.99	5.96	5.79	5.17	5.32	3.07	1.55	4.20	4.82	0.17	0.80	2.09	1.03	0.34	0.47



Alt Model-Shift Uniqueness Test

011027270-04, P = 56.330155 Days, E = 83.804968 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	6.06	5.56	5.80	5.36	3.14	1.27	5.06	4.83	0.50	0.26	0.72	0.91	0.35	1.10



Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-382 ± 64	$13.48^{+14.06}_{-9.24}$	1126^{+83}_{-116}	4204^{+3049}_{-844}	119^{+1187}_{-91}
Alt.	-329 ± 54	$14.02^{+14.22}_{-9.38}$	1119^{+86}_{-112}	4046^{+2699}_{-802}	94^{+786}_{-71}

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

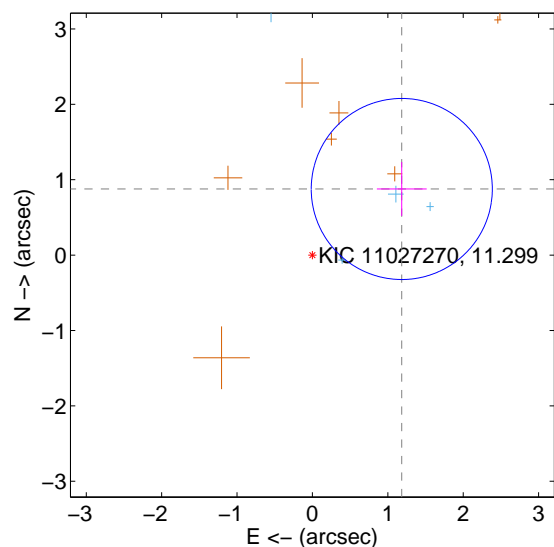
Supplemental centroid analysis for 011027270-04. **Kepler magnitude: 11.30.** Transit SNR 8.95

There are 4 quarters with good PRF difference image offsets

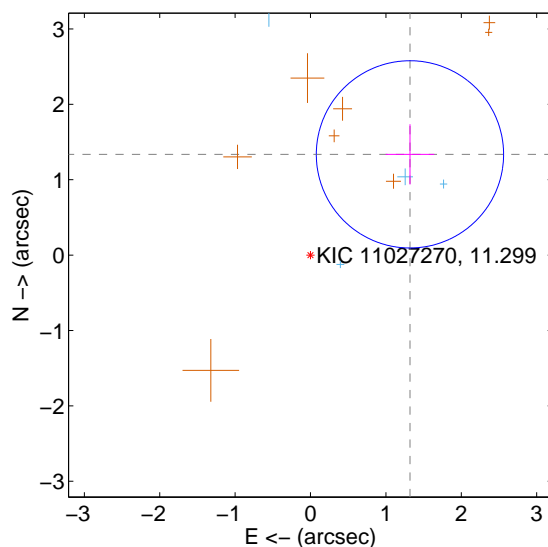
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.474 ± 0.400	3.68	-1.185 ± 0.331	0.877 ± 0.357
PRF-fit source offset from KIC position	1.878 ± 0.414	4.53	-1.319 ± 0.323	1.336 ± 0.400
photometric centroid source offset	0.19 ± 0.19	0.99	0.06 ± 0.14	-0.18 ± 0.19

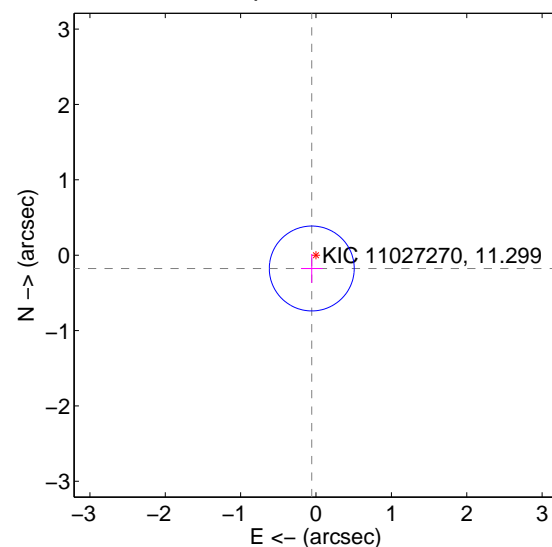
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

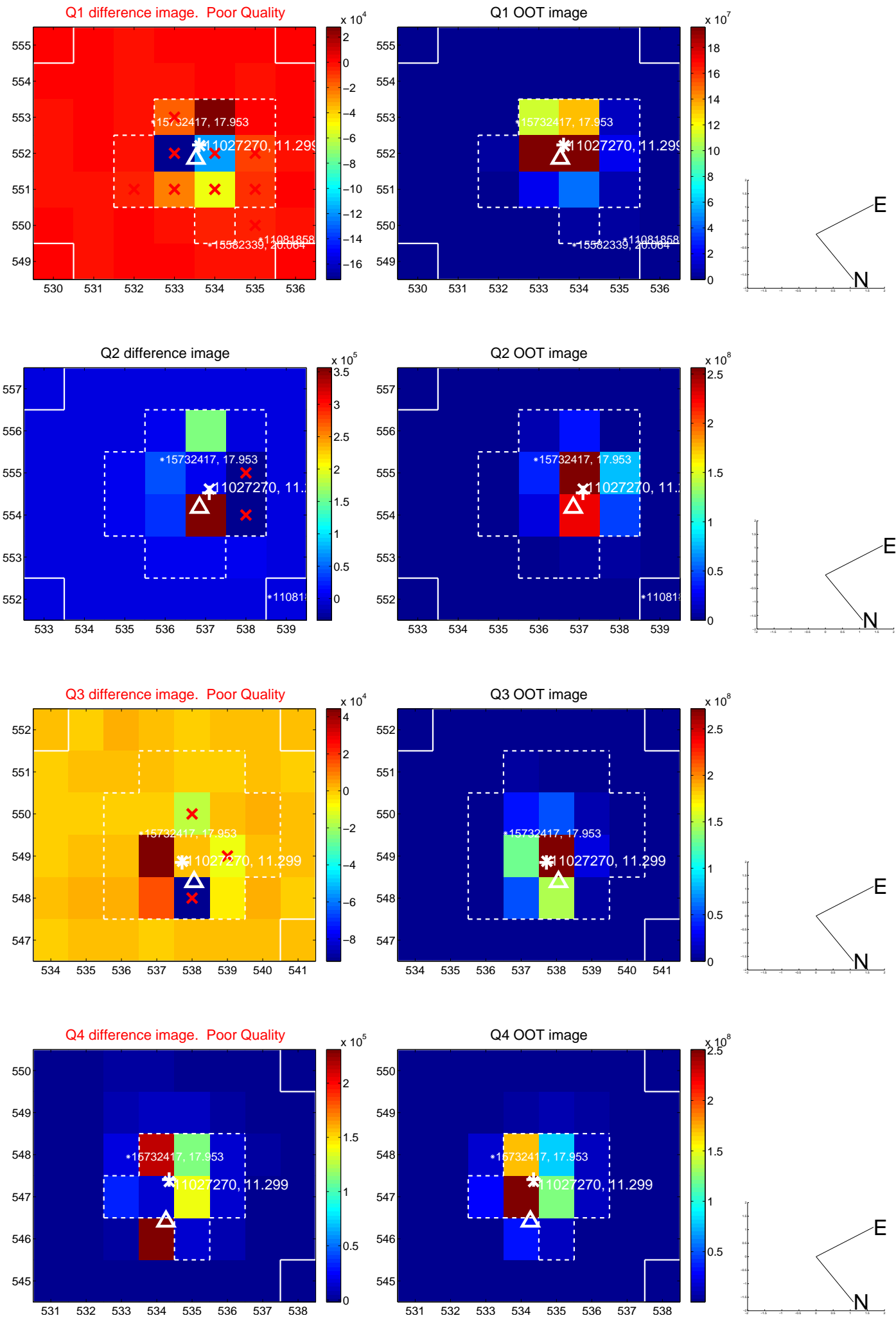


offset from photometric centroids

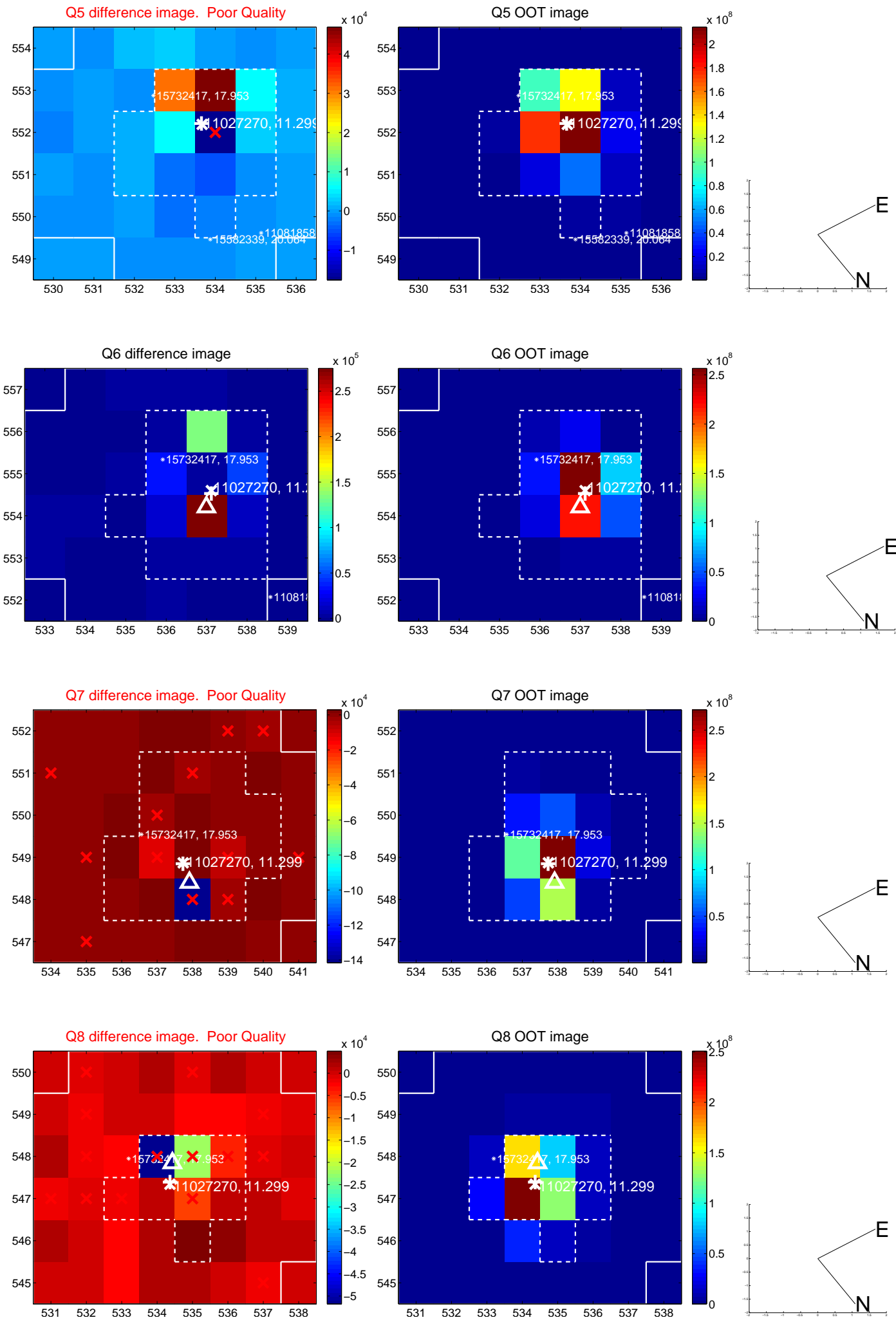


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

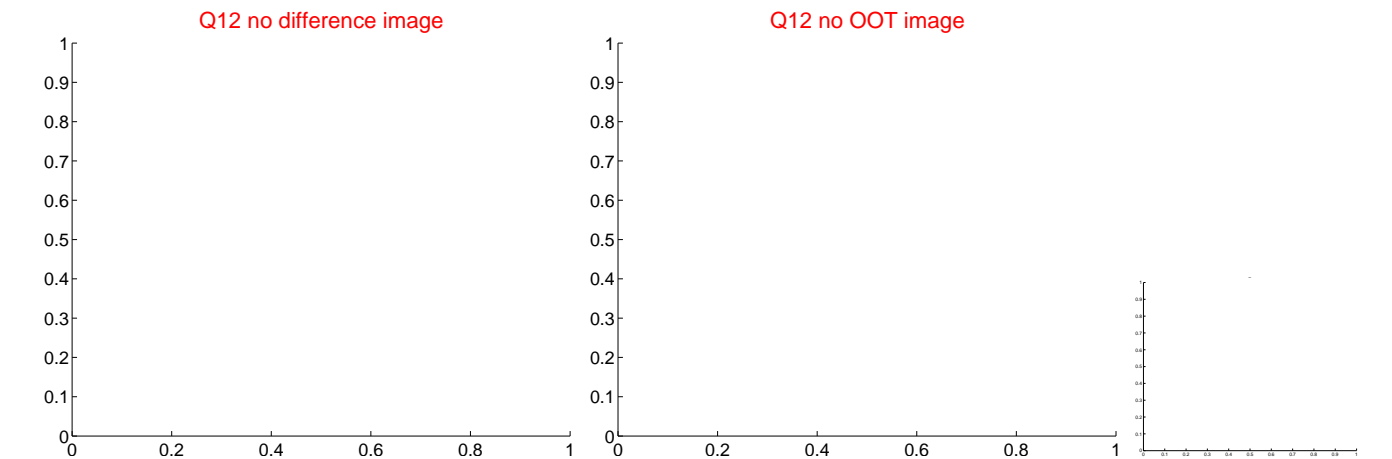
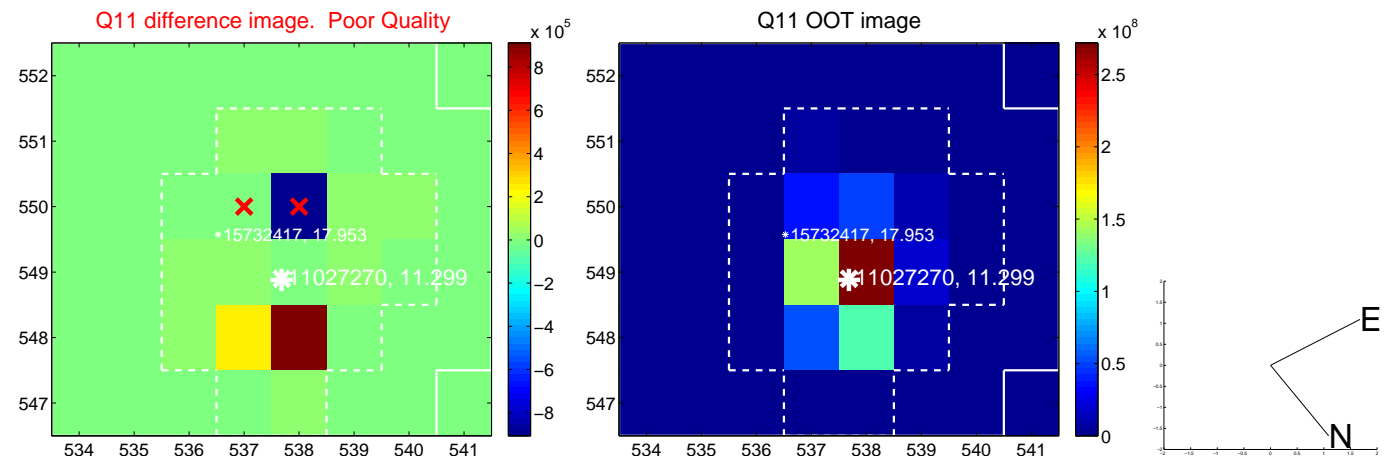
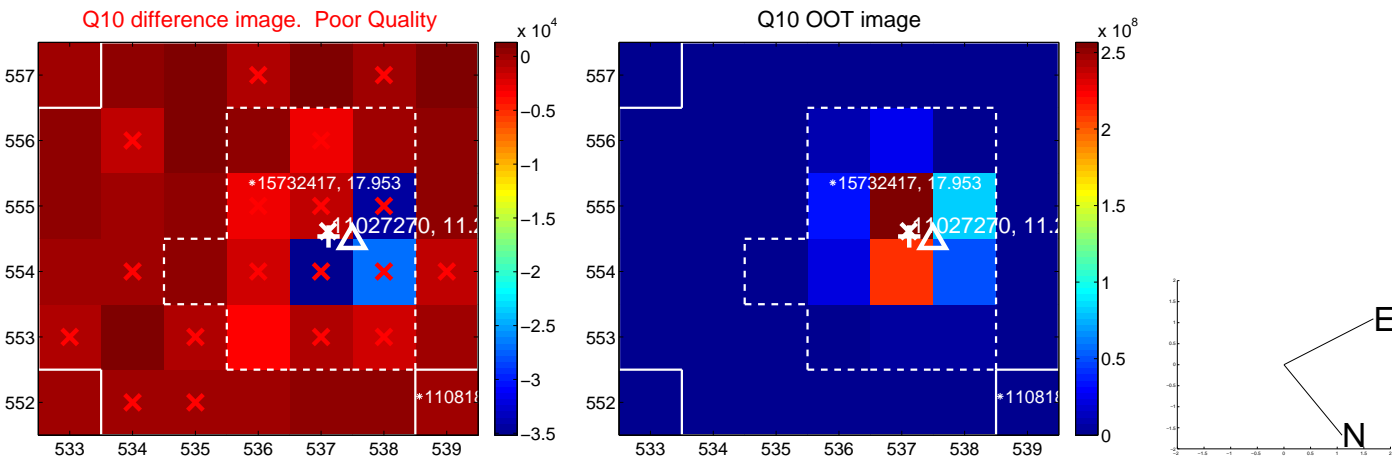
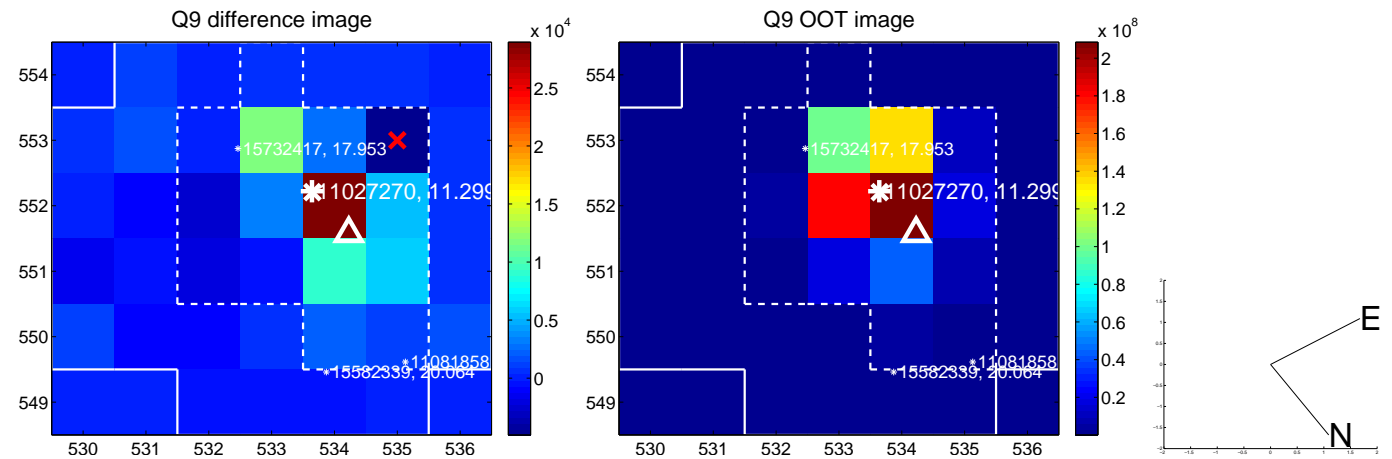
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



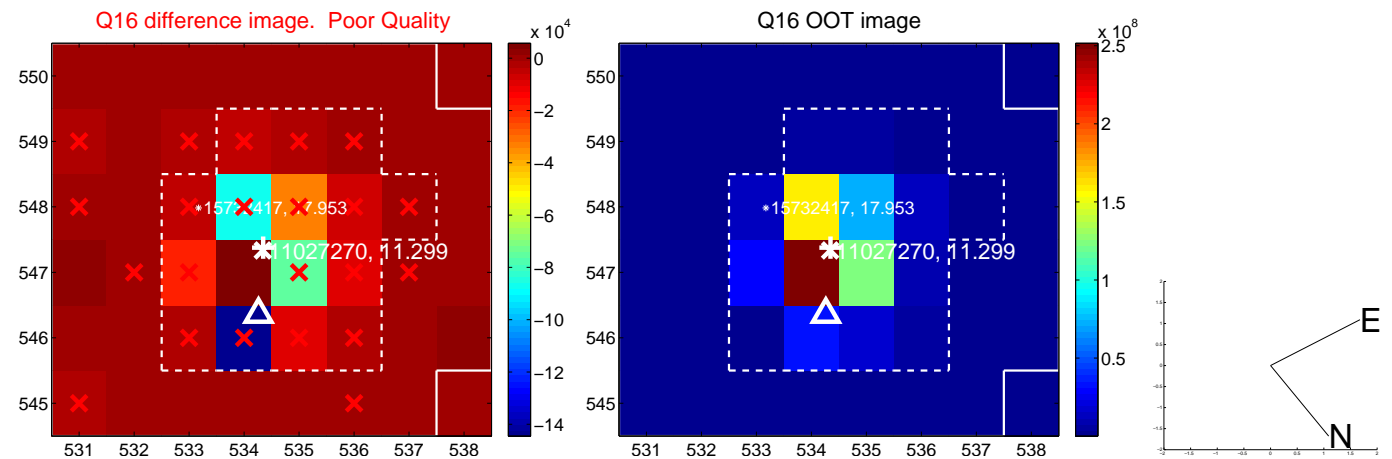
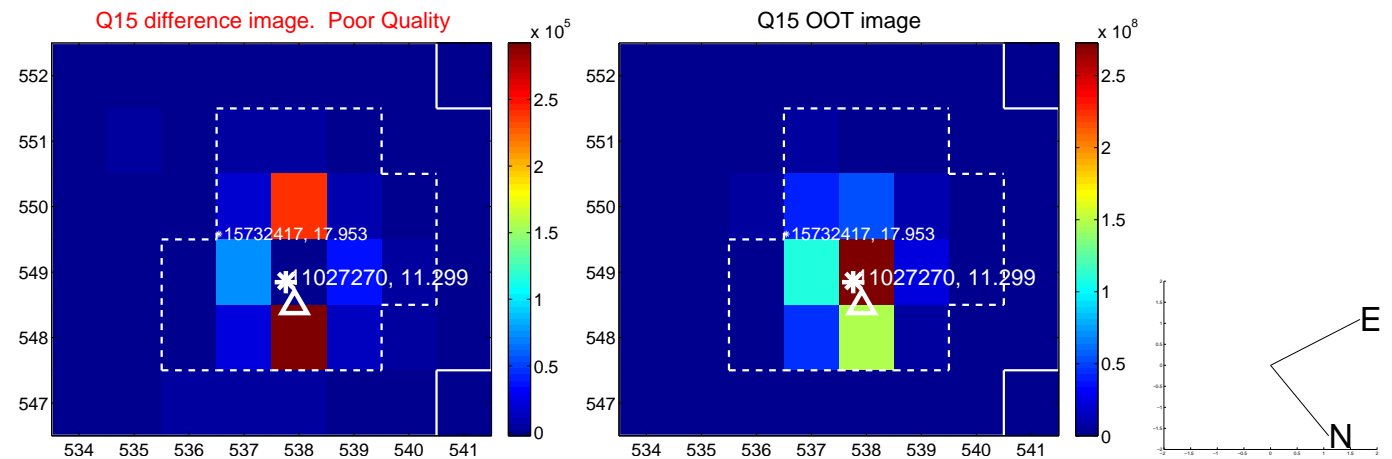
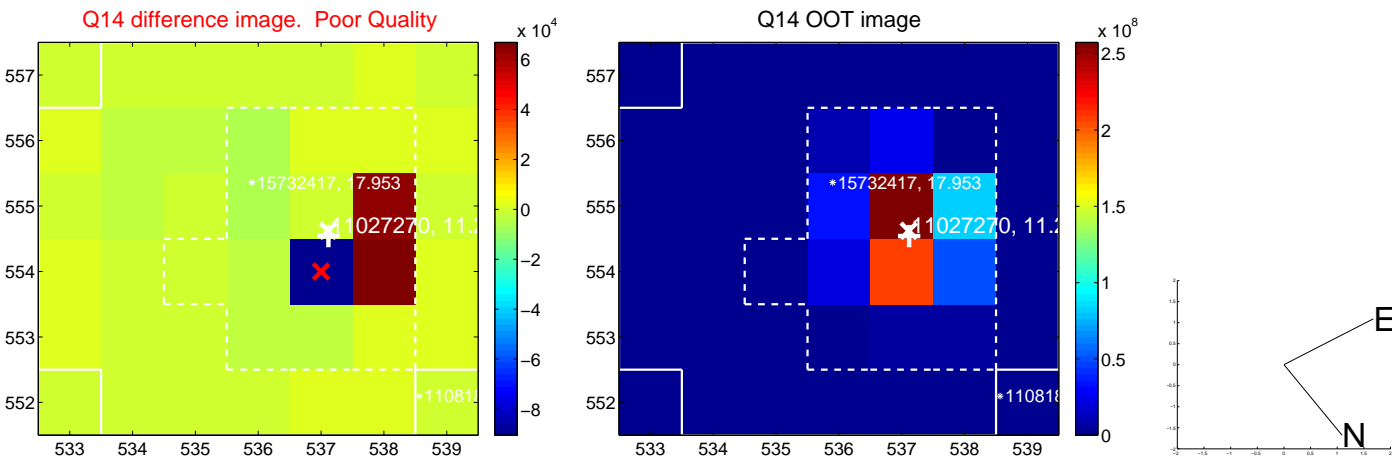
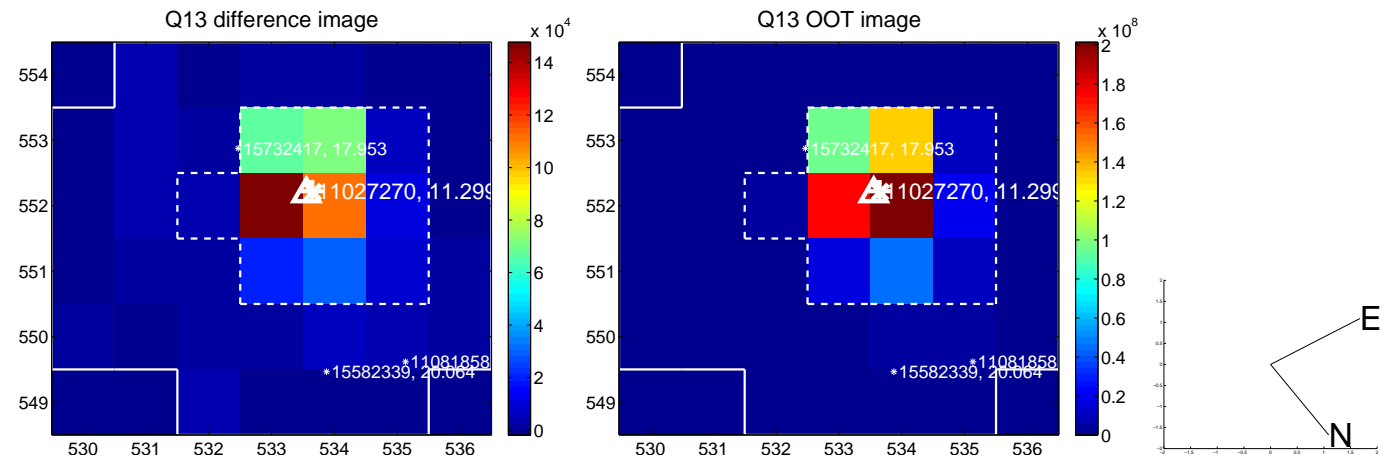
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



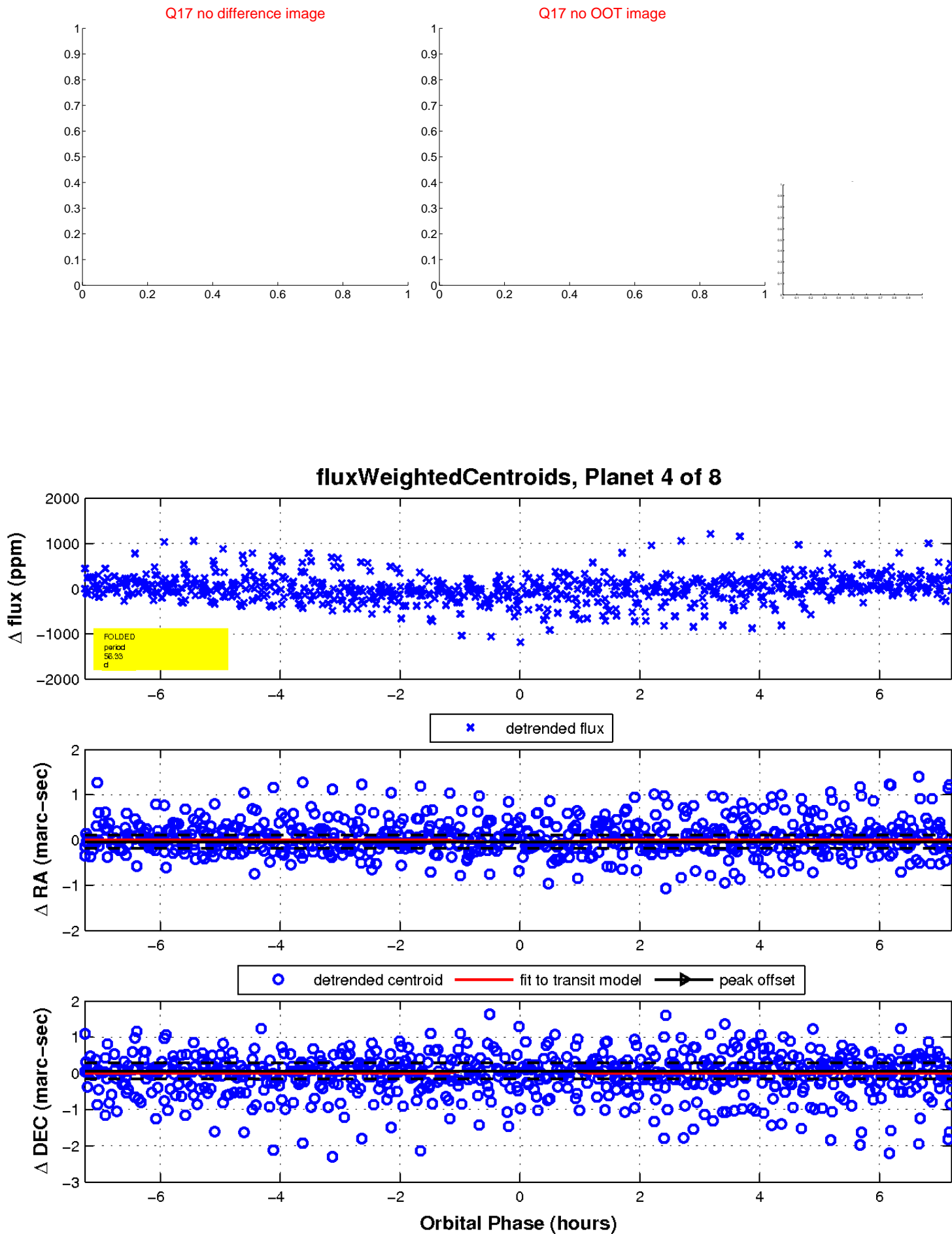
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



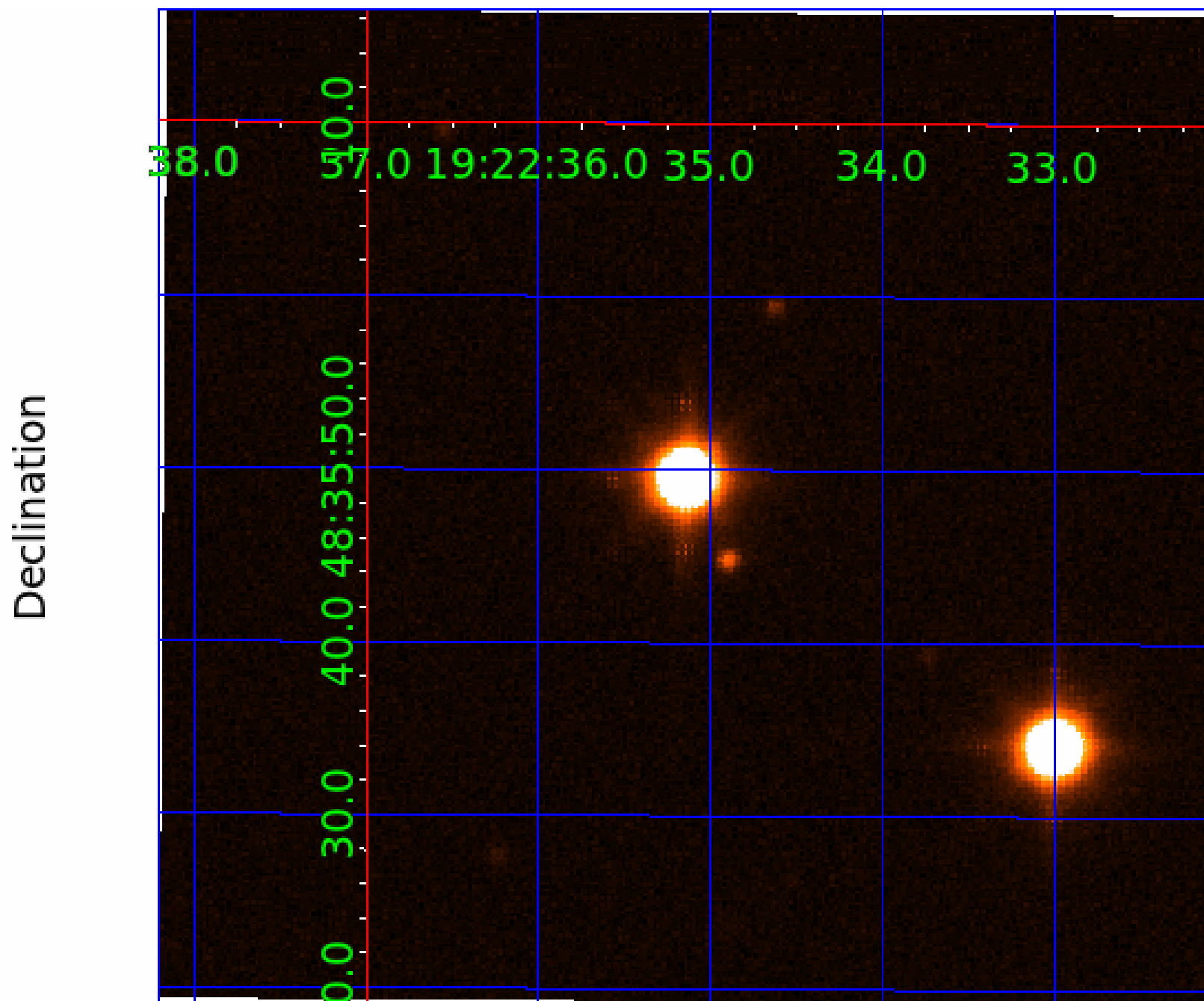
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011027270

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})
011027270-01	OBS	No	0.530231	131.514837	7.9	3.593	9.3	3.4	2.18	7163	0.62	54520.48
011027270-02	OBS	No	34.954028	155.006074	93.3	0.541	12.8	1.0	2.18	7163	2.22	204.73
011027270-03	OBS	No	33.513391	163.471012	364.9	1.140	11.8	7.2	2.18	7163	4.33	216.55
011027270-04	OBS	No	56.329769	140.140948	492.4	2.418	11.6	8.9	2.18	7163	5.50	108.36
011027270-05	OBS	No	49.902113	172.829311	543.0	1.679	12.6	9.8	2.18	7163	5.17	127.36
011027270-06	OBS	No	27.816400	147.681992	315.8	3.313	10.7	8.3	2.18	7163	4.17	277.62
011027270-07	OBS	No	41.236838	159.131901	390.7	2.185	9.1	7.6	2.18	7163	4.88	164.24
011027270-08	OBS	No	109.932102	159.887063	468.4	1.620	9.0	7.6	2.18	7163	4.81	44.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011027270-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
011027270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
011027270-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
011027270-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-07	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_SATURATED
011027270-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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 011027270-05

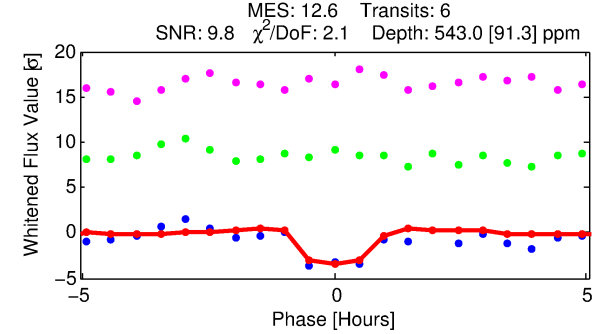
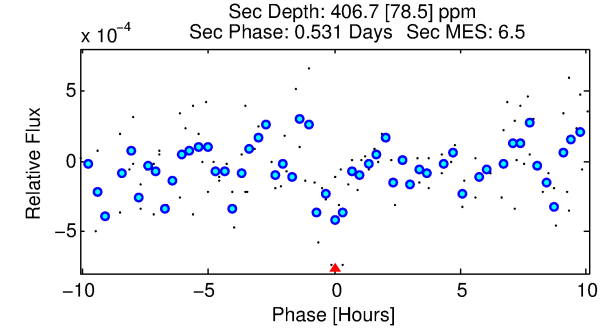
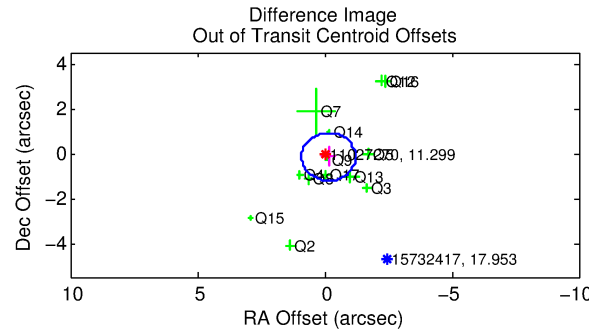
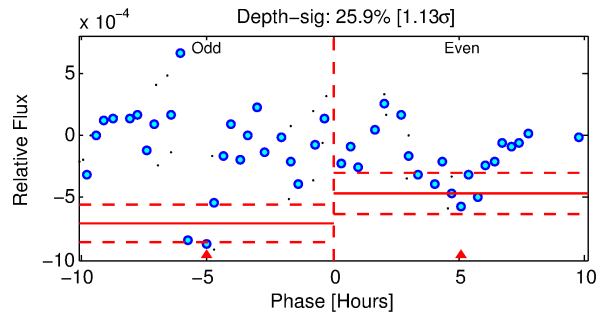
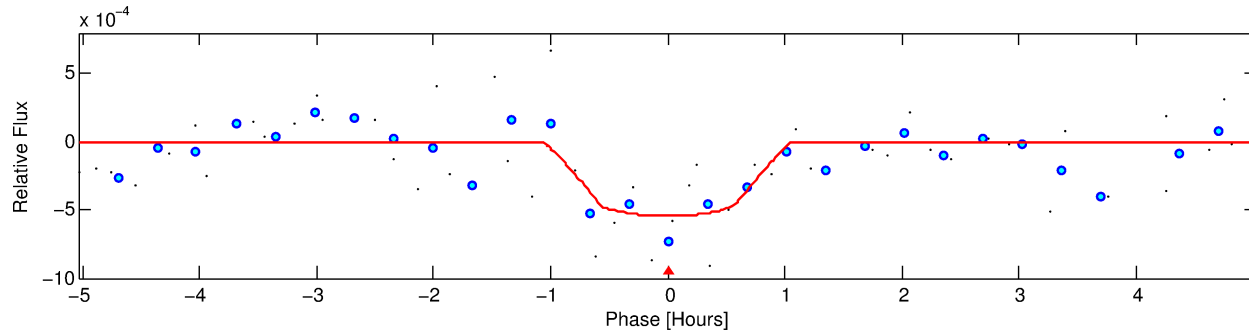
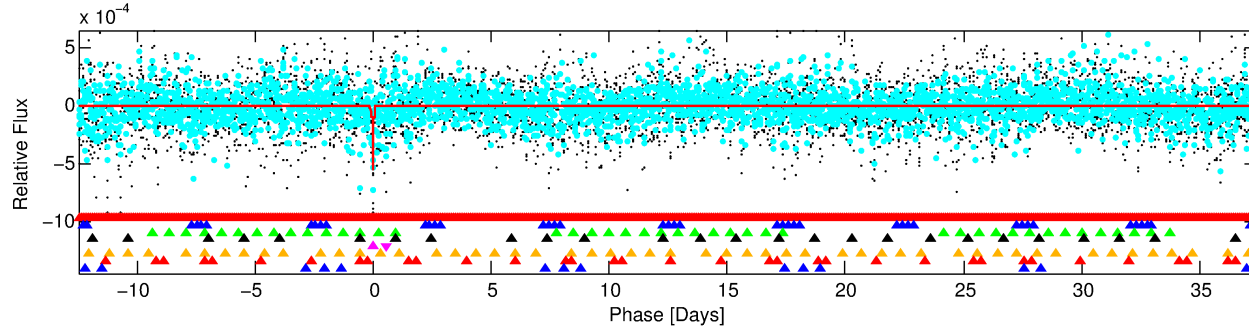
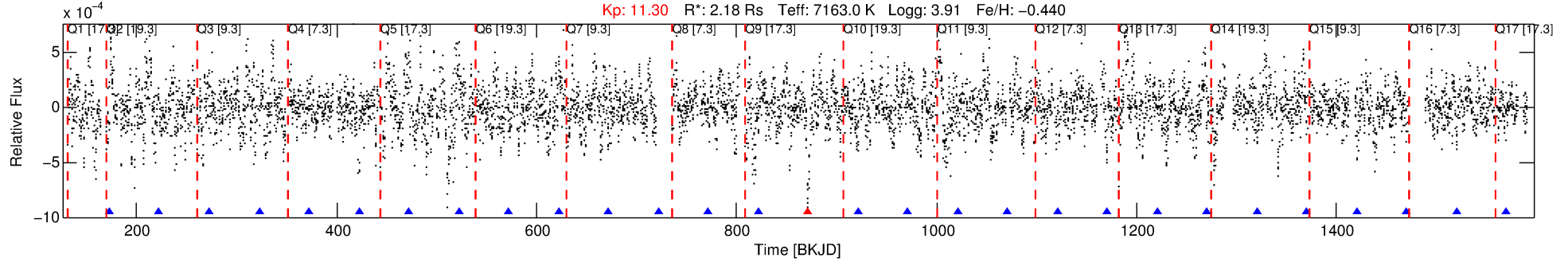
No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 5 of 8 Period: 49.902 d

KOI: K07401 Corr: No Ephemeris Match

Kp: 11.30 R*: 2.18 Rs Teff: 7163.0 K Logg: 3.91 Fe/H: -0.440



DV Fit Results:

Period = 49.90211 [0.00060] d
Epoch = 172.8293 [0.0111] BKJD
Rp/R* = 0.0218 [0.0287]
a/R* = 222.02 [1624.14]
b = 0.30 [22.85]
Seff = 127.36 [80.73]
Teq = 857 [136] K
Rp = 5.18 [7.09] Re
a = 0.2963 [0.1119] AU
Ag = 733.22 [1989.56] [0.37σ]
Teffp = 6892 [4559] K [1.32σ]

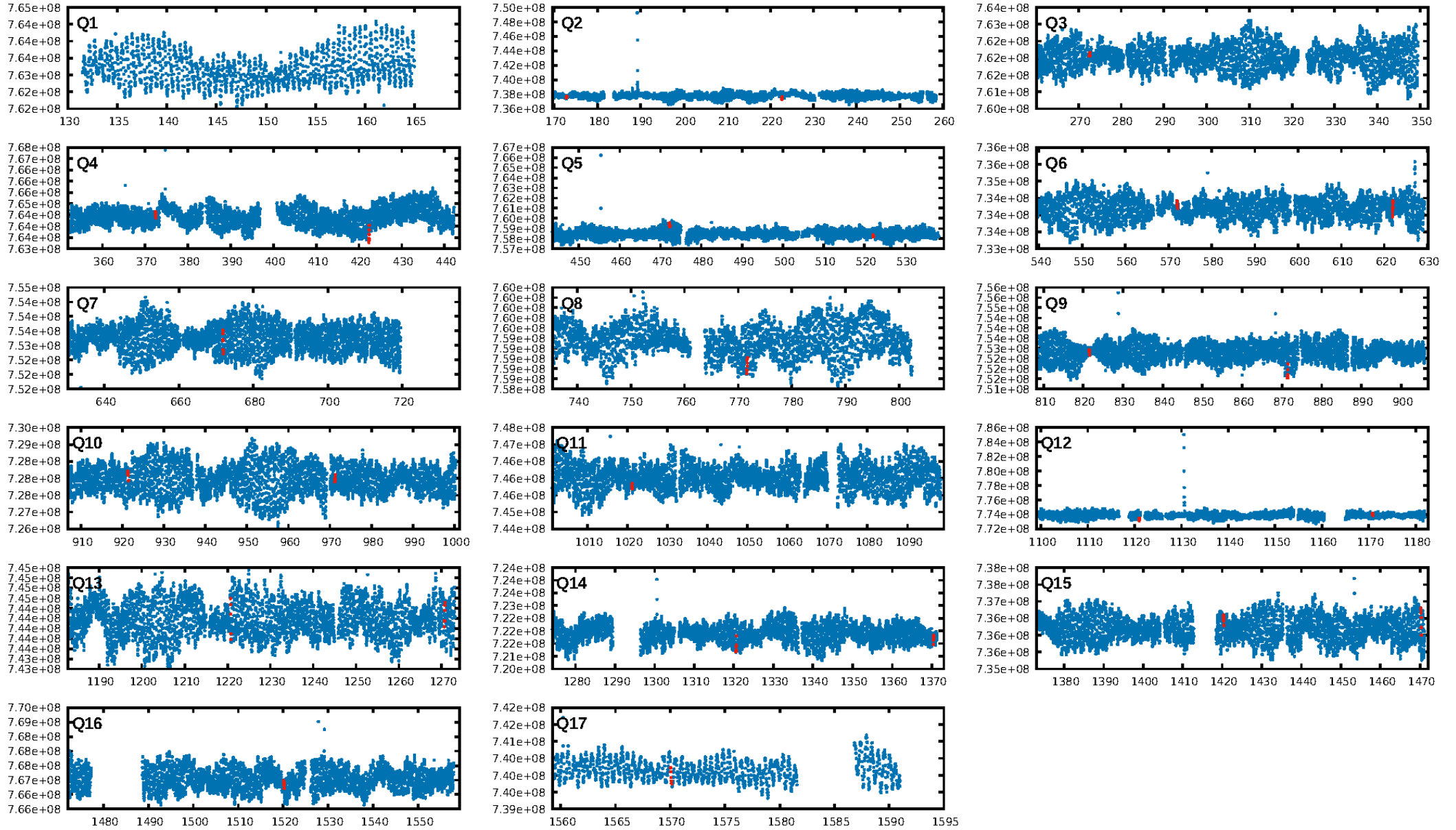
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [75.48σ]
LongPeriod-sig: 100.0% [52.40σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 80.9%
Bootstrap-pfa: 8.03e-19
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 40
Centroid-sig: 3.4%
Centroid-so: 0.217 arcsec [1.26σ]
OotOffset-rm: 0.215 arcsec [0.61σ]
KicOffset-rm: 0.585 arcsec [1.28σ]
OotOffset-st: 2/3/4/4 [13]
KicOffset-st: 2/3/4/4 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 0.00 [0/15]

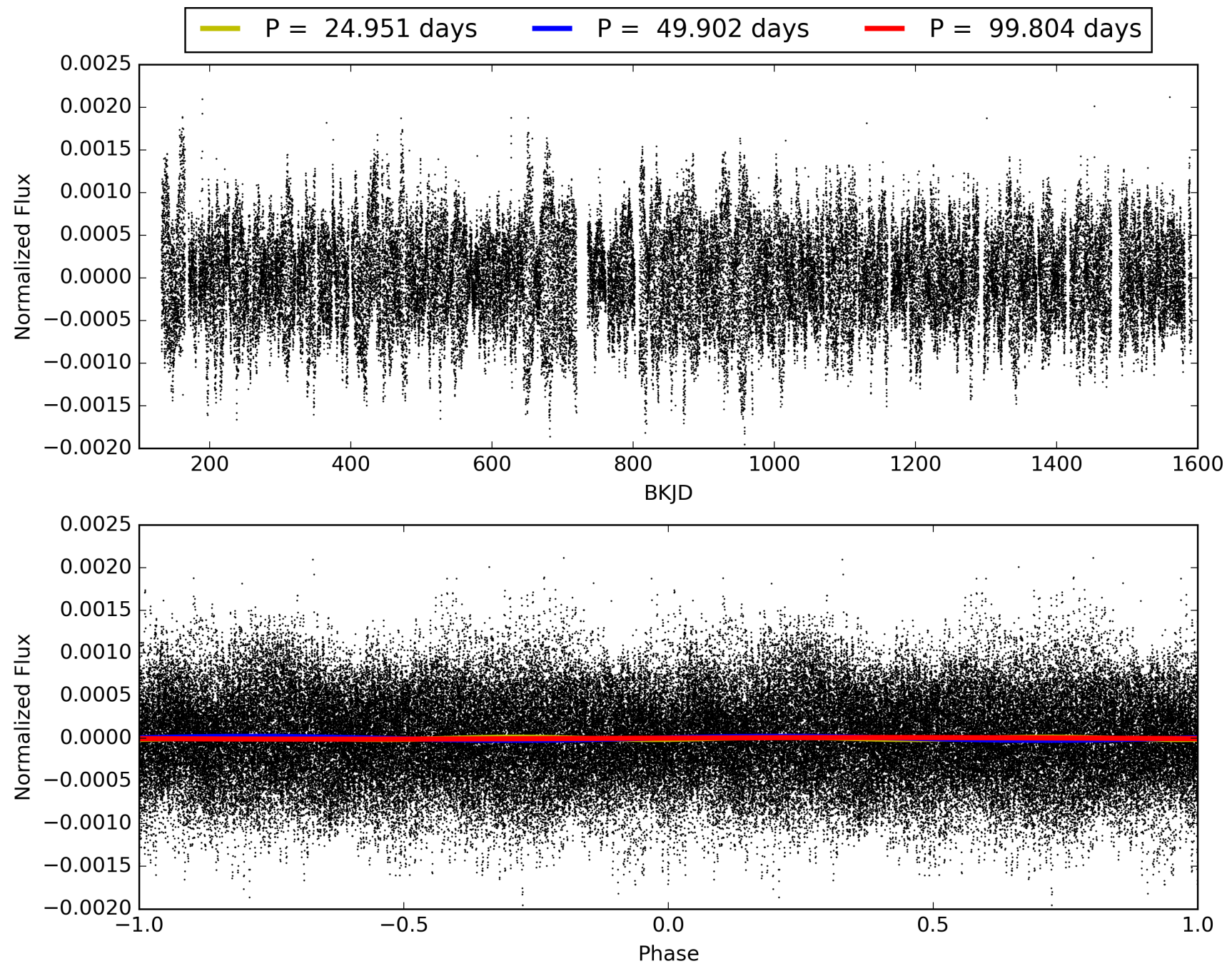
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:12:39 Z

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

TCE 011027270-05, PDC Light Curves

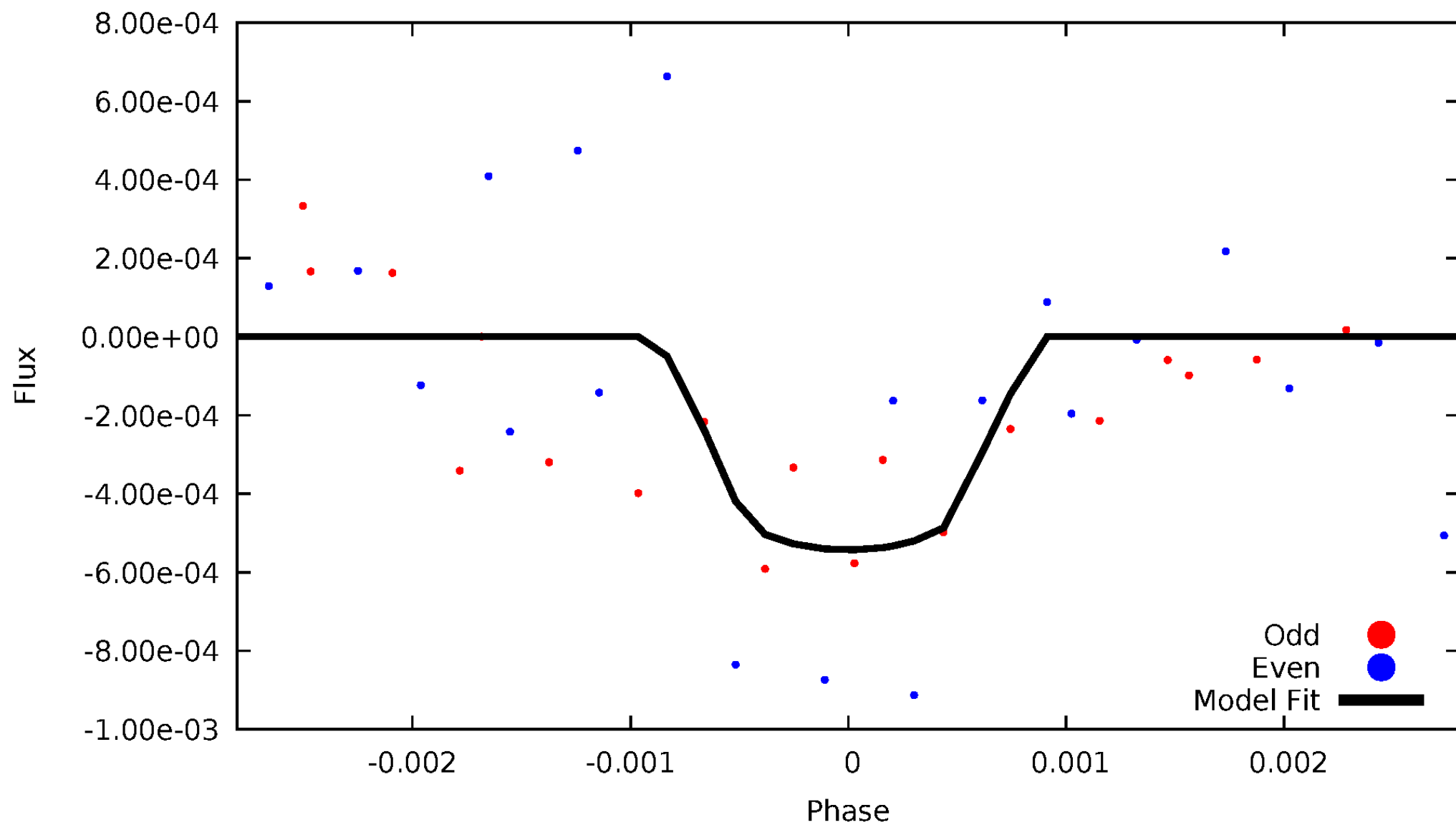


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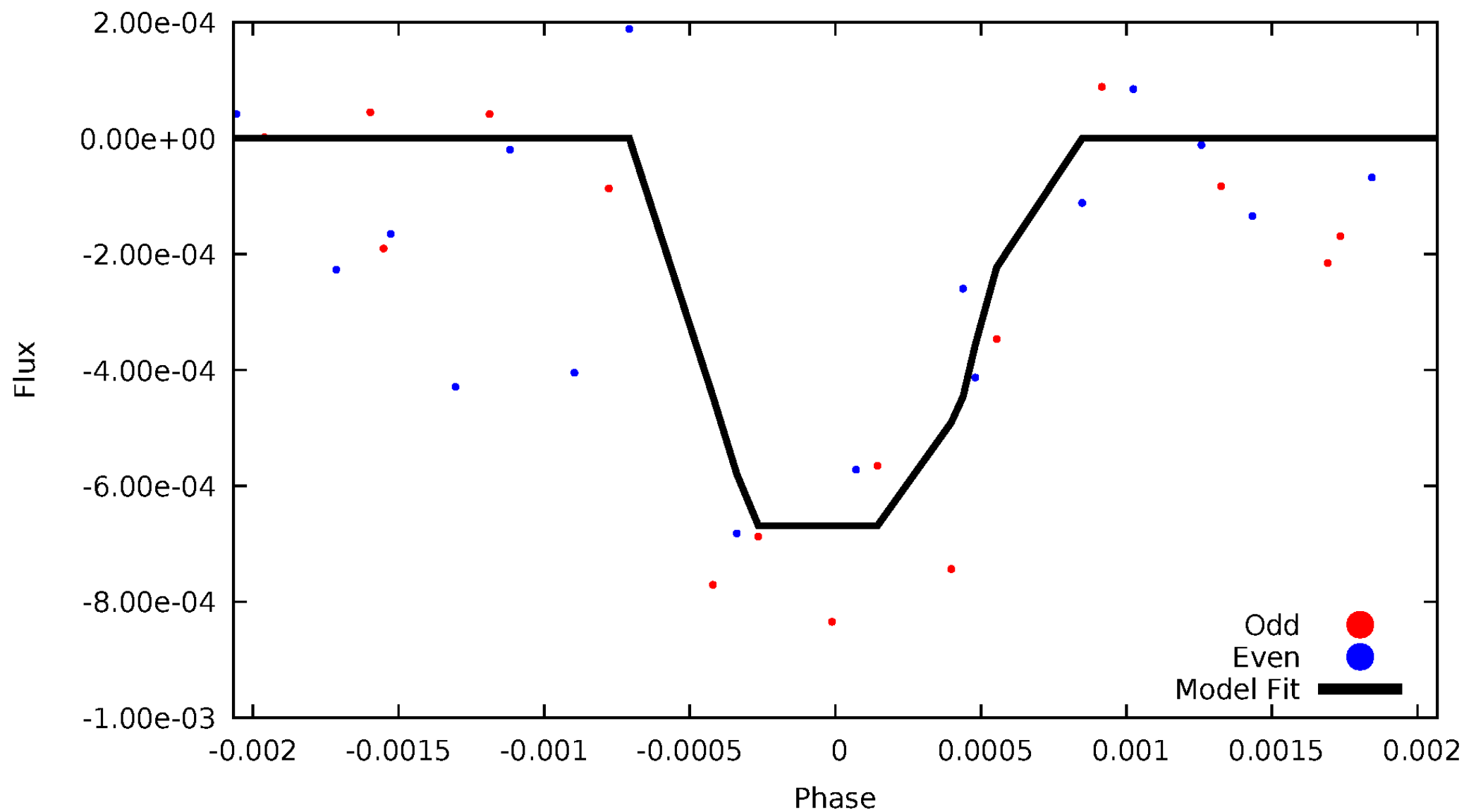
DV Odd/Even

TCE 011027270-05



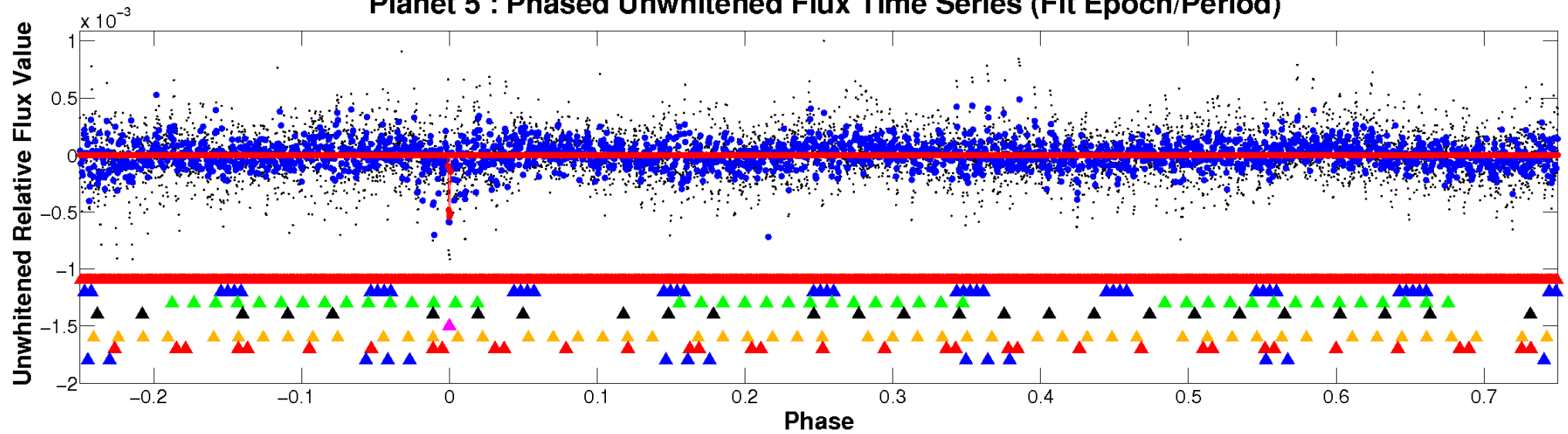
ALT Odd/Even

TCE 011027270-05

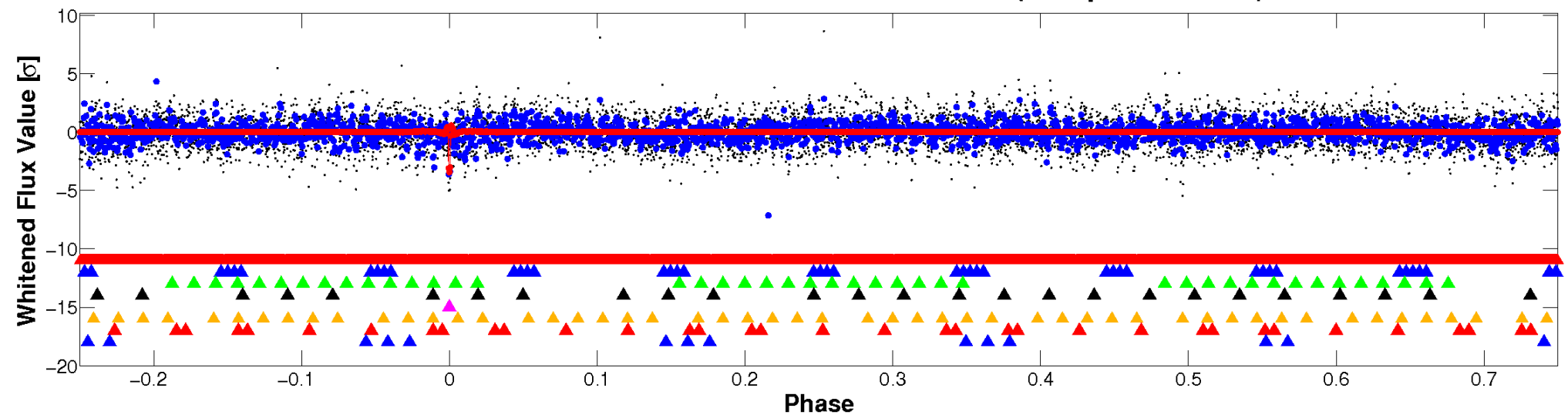


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

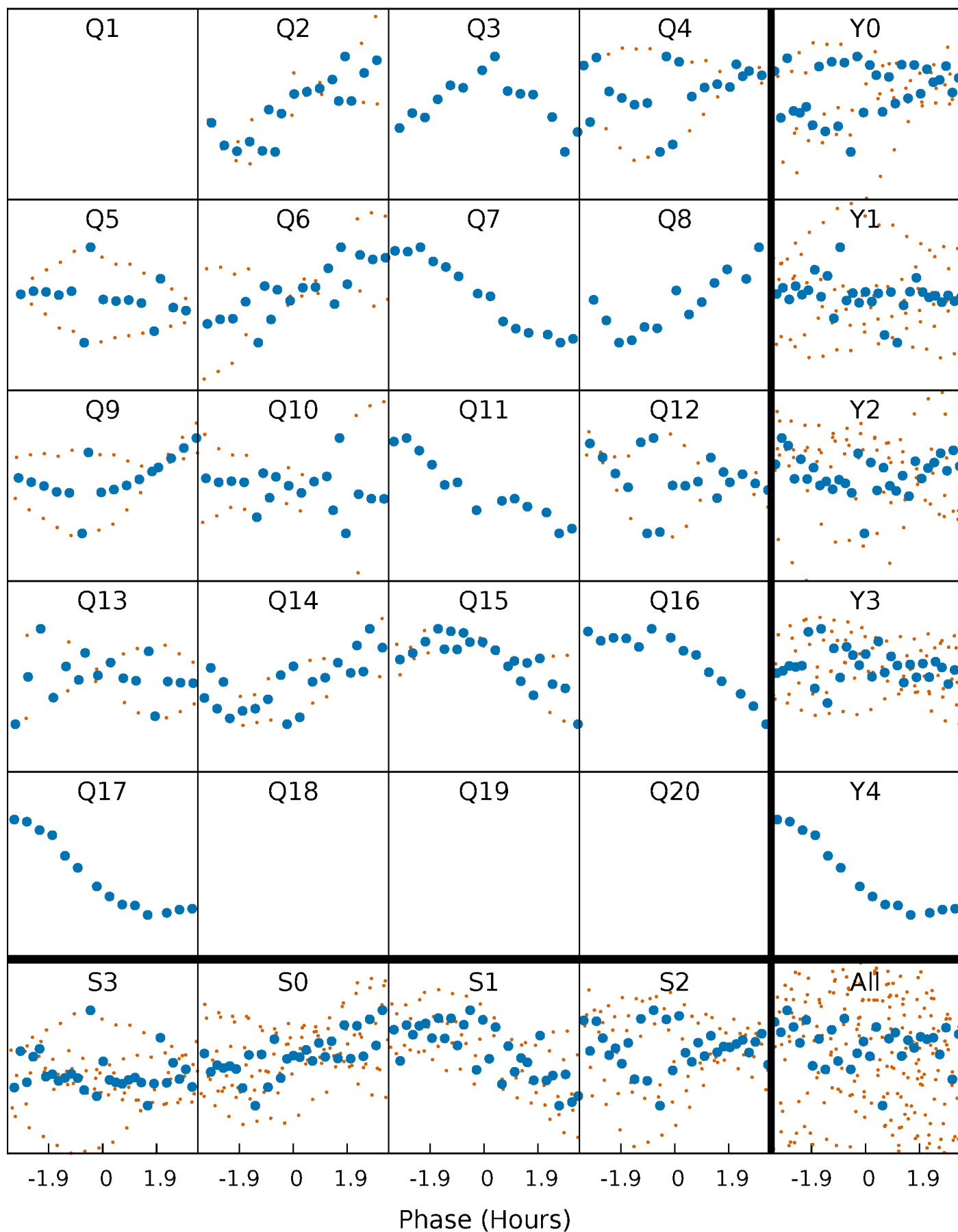


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



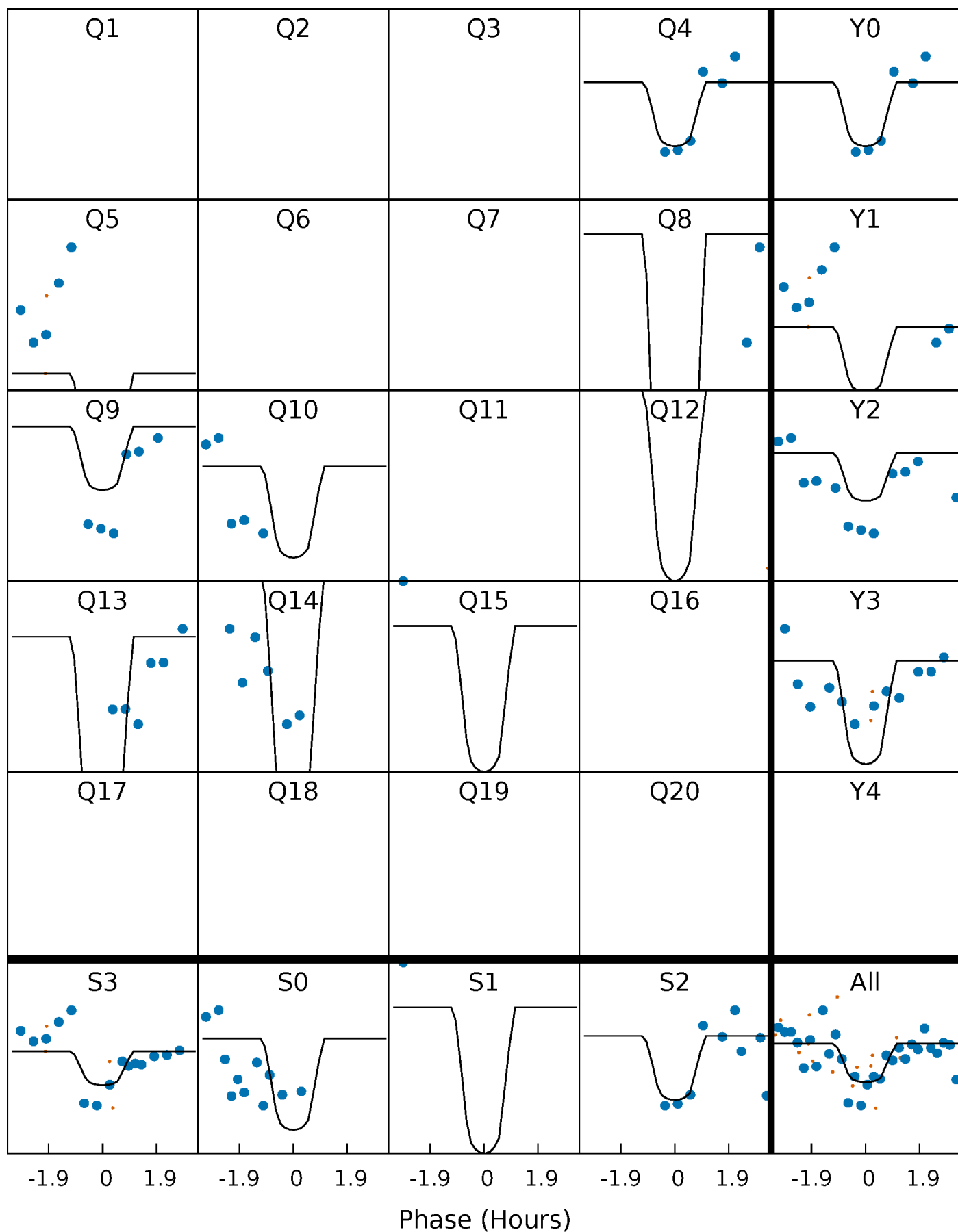
PDC Quarter-Phased Transit Curves

TCE 011027270-05 $P = 49.902113$ Days $T_0 = 172.829311$ (BKJD)



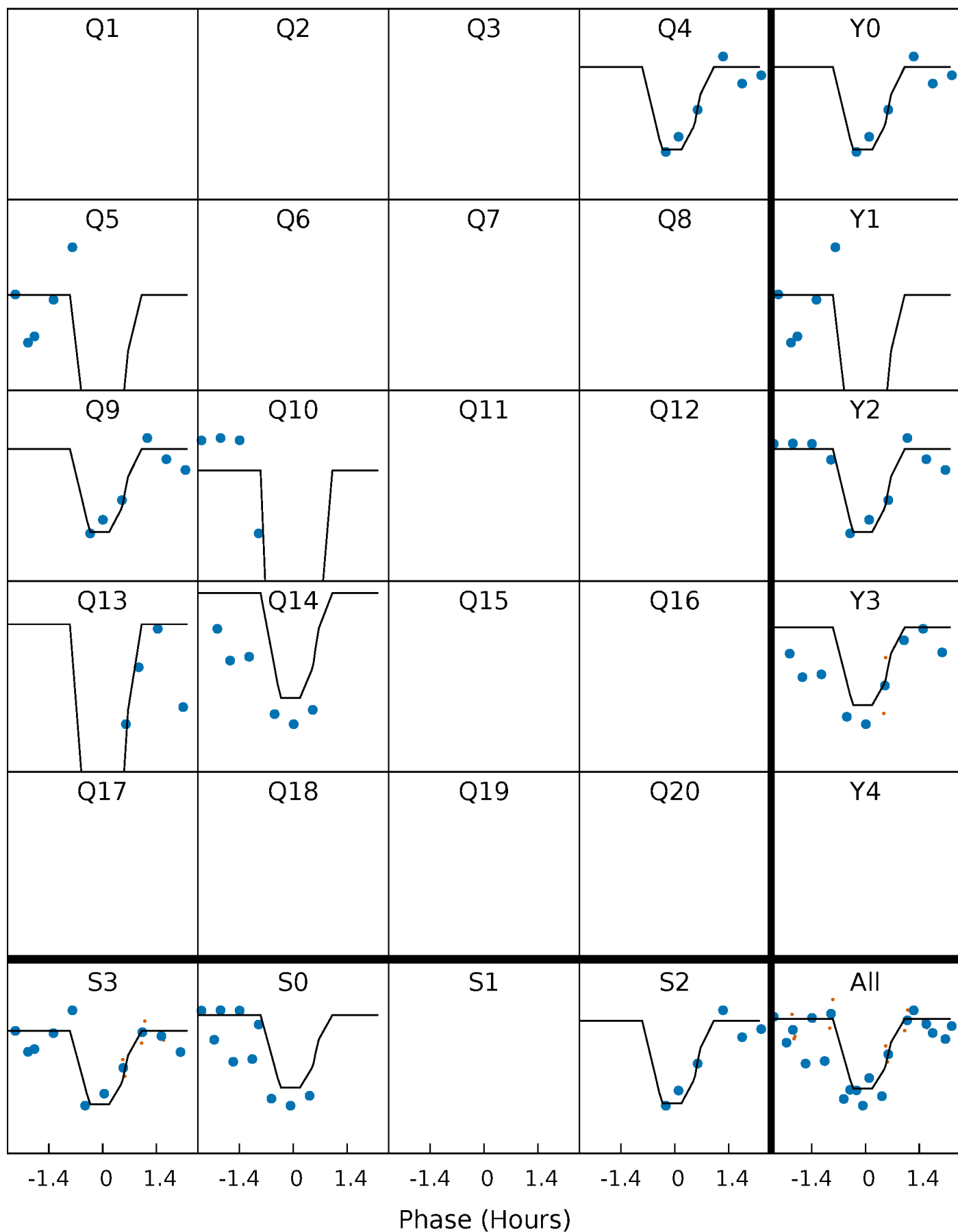
DV Quarter-Phased Transit Curves

TCE 011027270-05 $P = 49.902113$ Days $T_0 = 172.829311$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

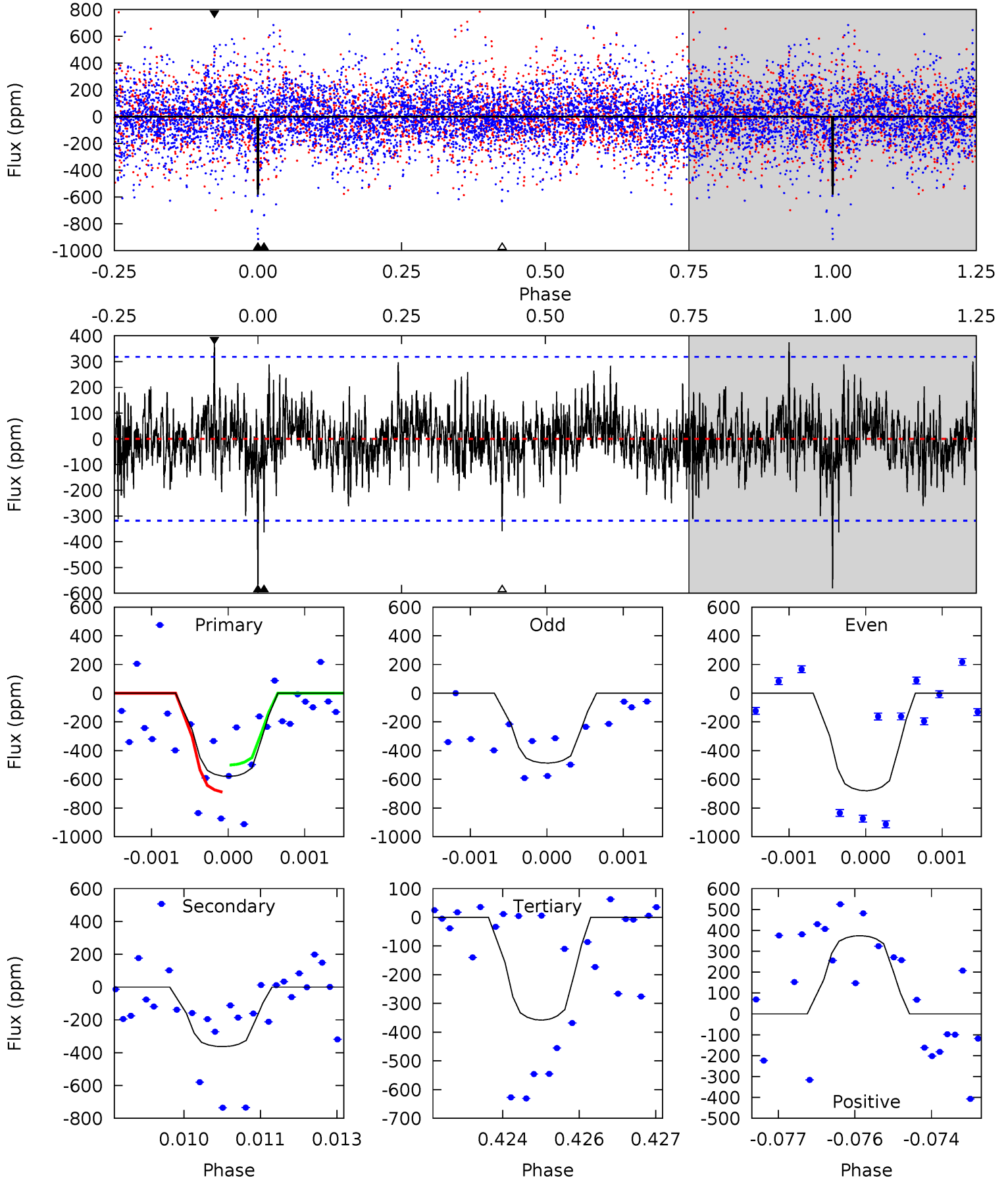
TCE 011027270-05 P= 49.901772 Days $T_0=172.825164$ (BKJD)



DV Model-Shift Uniqueness Test

011027270-05, P = 49.902113 Days, E = 122.927198 Days

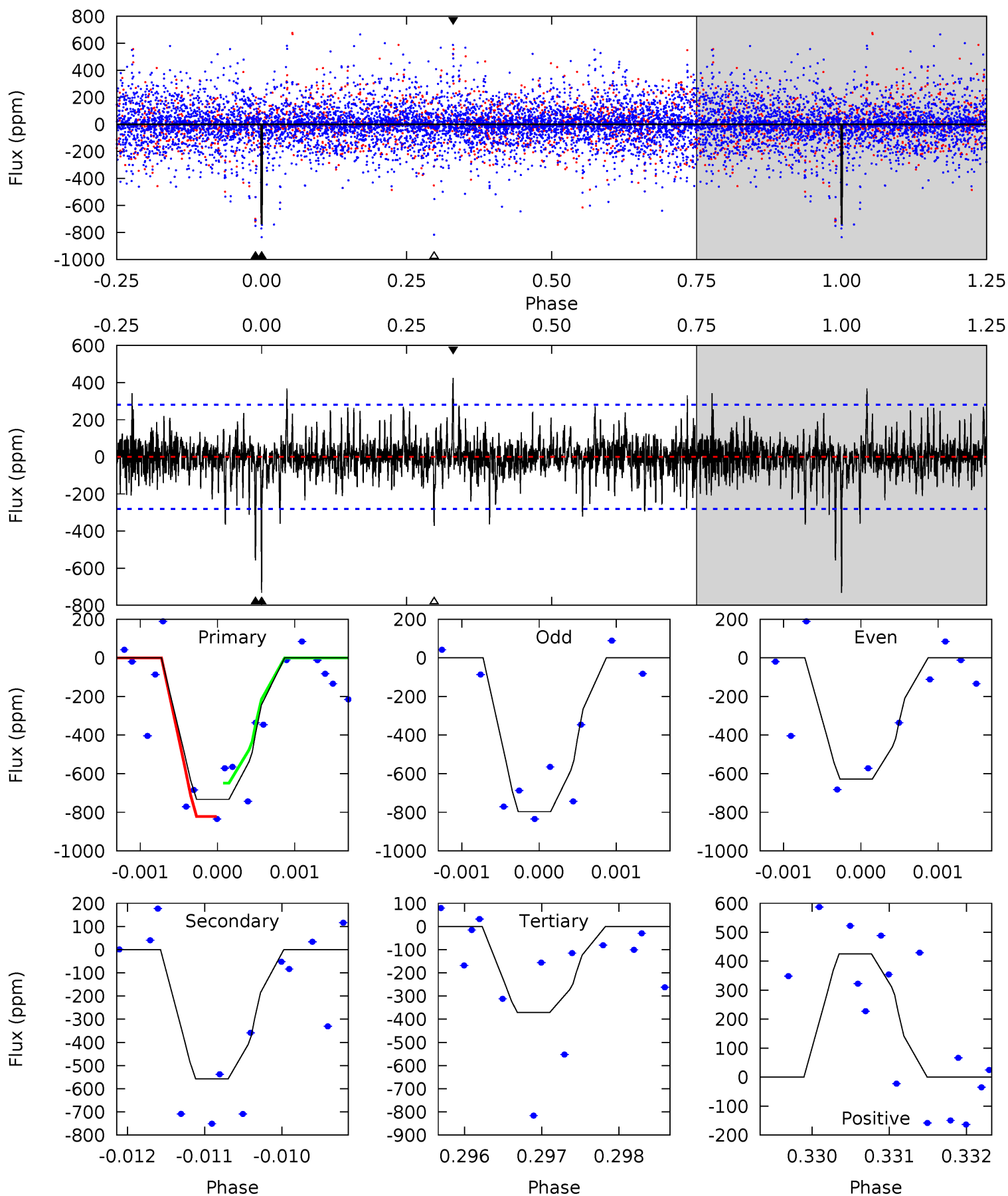
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.83	6.15	6.06	6.34	5.39	3.19	1.43	3.77	3.48	0.09	-0.19	1.60	1.12	0.39	1.56



Alt Model-Shift Uniqueness Test

011027270-05, P = 49.901772 Days, E = 122.923392 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	10.8	7.19	8.24	5.46	3.30	1.54	7.02	5.96	3.62	2.57	1.50	1.12	0.37	1.64



Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-363 ± 59	$6.48^{+6.38}_{-4.02}$	1171^{+83}_{-125}	5702^{+4397}_{-1346}	414^{+2468}_{-306}
Alt.	-558 ± 52	$6.77^{+6.52}_{-4.55}$	1166^{+75}_{-115}	6150^{+6215}_{-1489}	589^{+4720}_{-428}

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 $A_{obs} \gg 1.0$

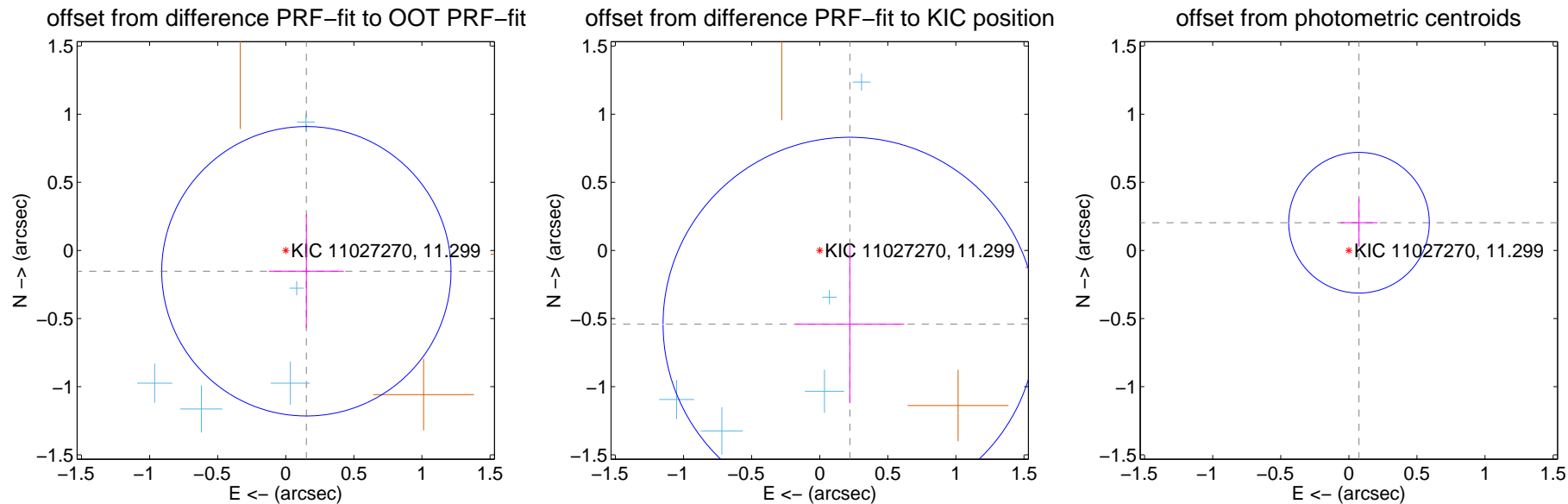
DV Centroid Data

Supplemental centroid analysis for 011027270-05. **Kepler magnitude: 11.30.** Transit SNR 9.78

There are 5 quarters with good PRF difference image offsets

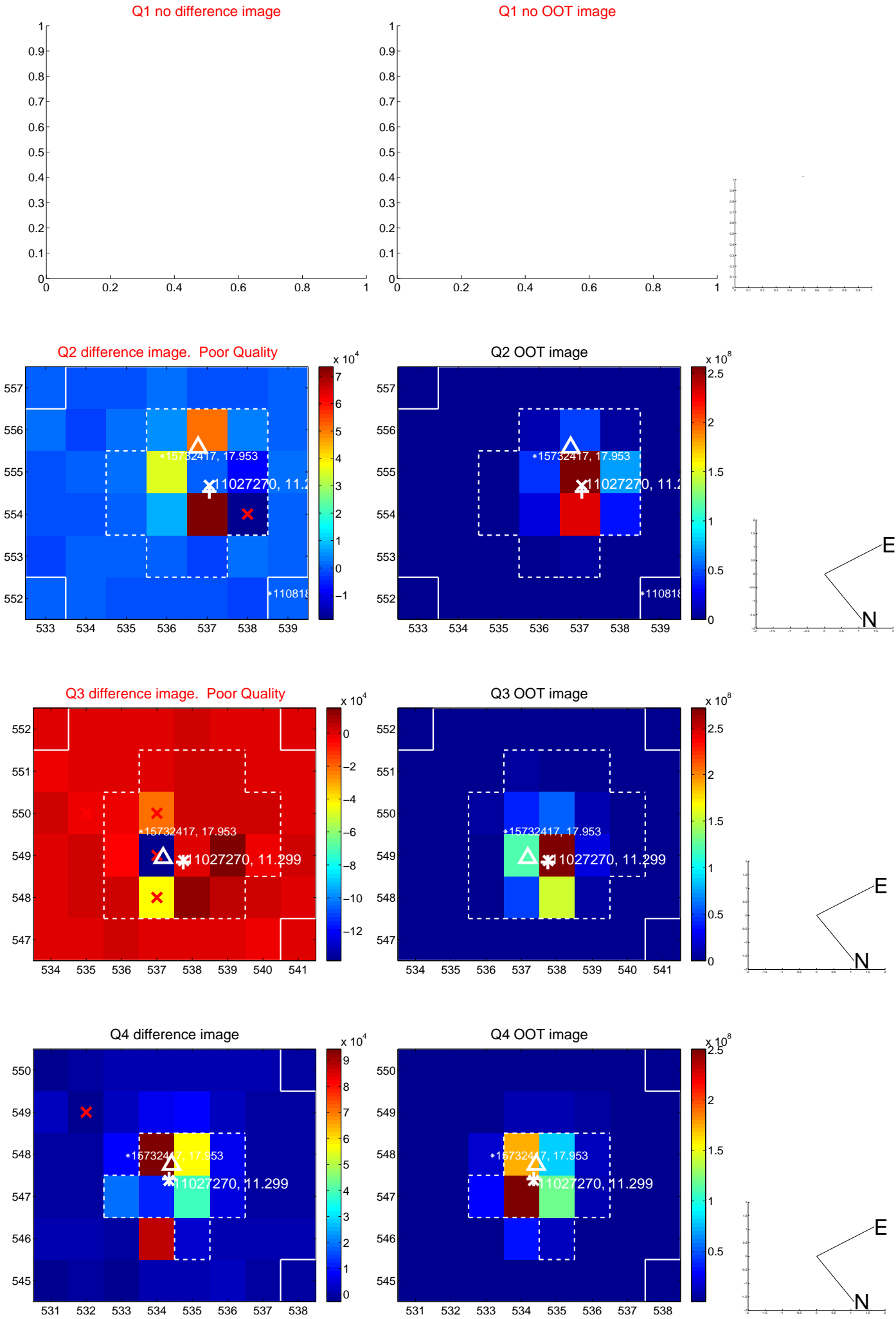
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.215 ± 0.354	0.61	-0.151 ± 0.275	-0.153 ± 0.417
PRF-fit source offset from KIC position	0.585 ± 0.457	1.28	-0.222 ± 0.399	-0.541 ± 0.580
photometric centroid source offset	0.22 ± 0.17	1.26	-0.07 ± 0.14	0.20 ± 0.18

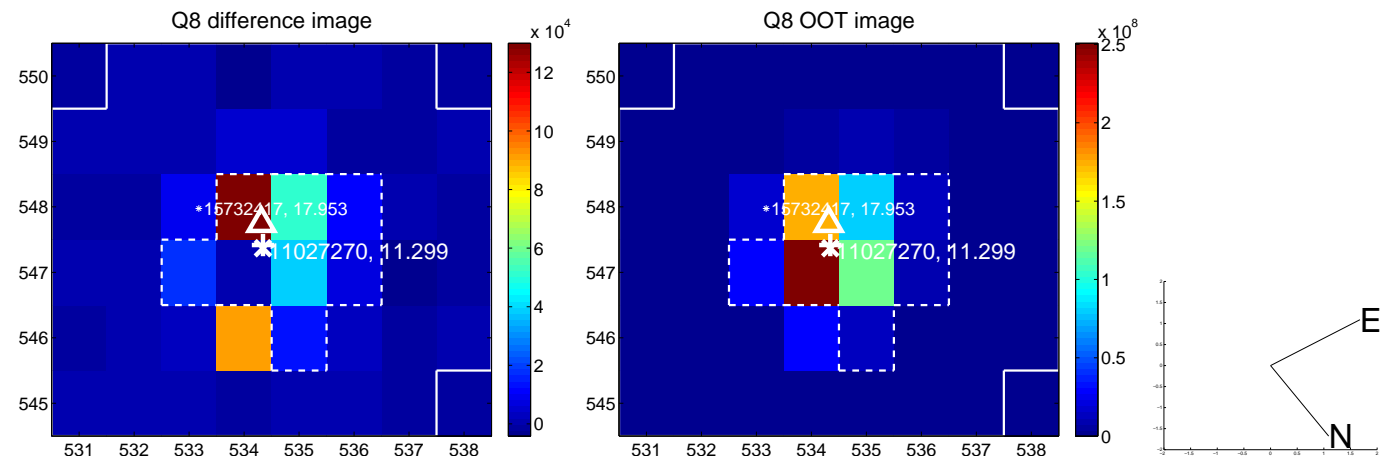
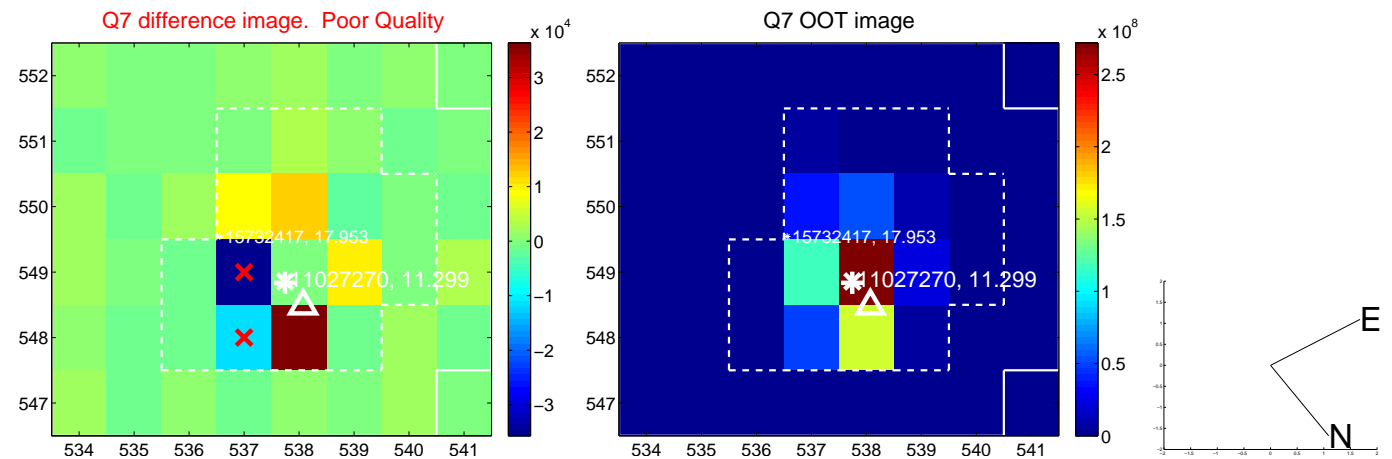
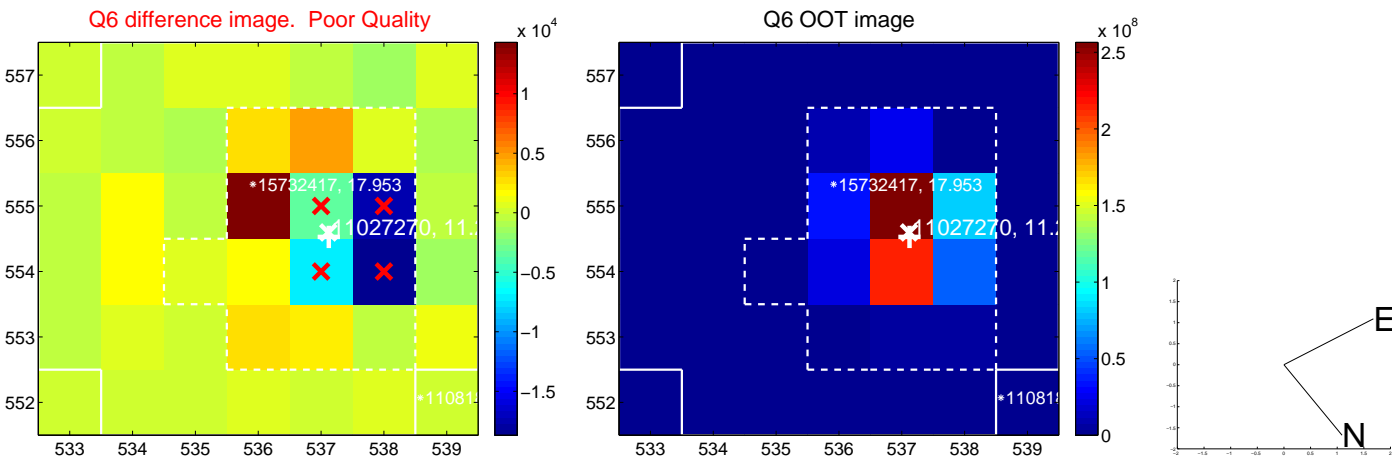
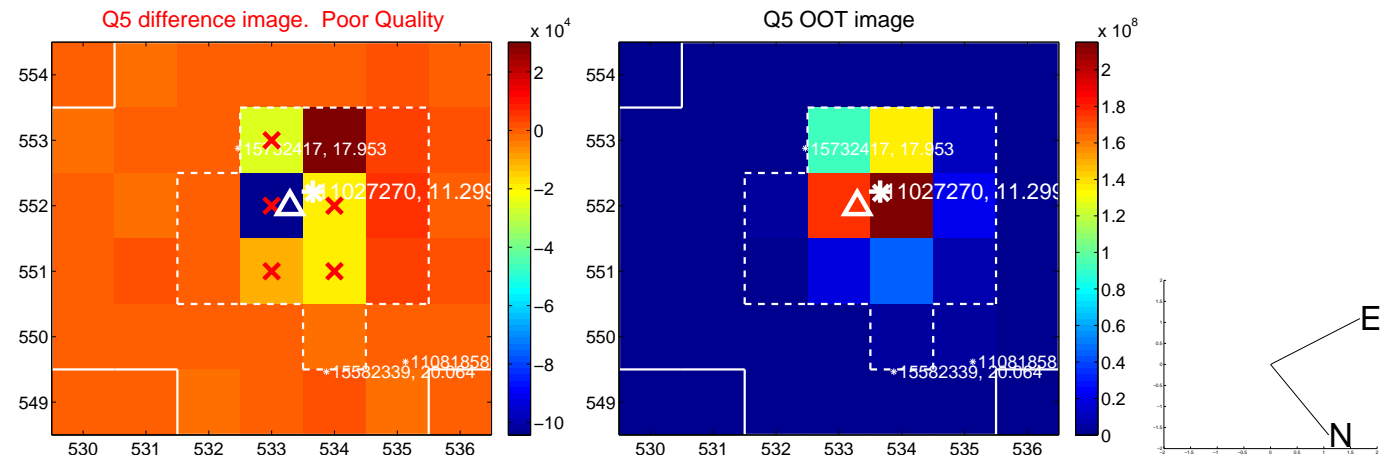


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

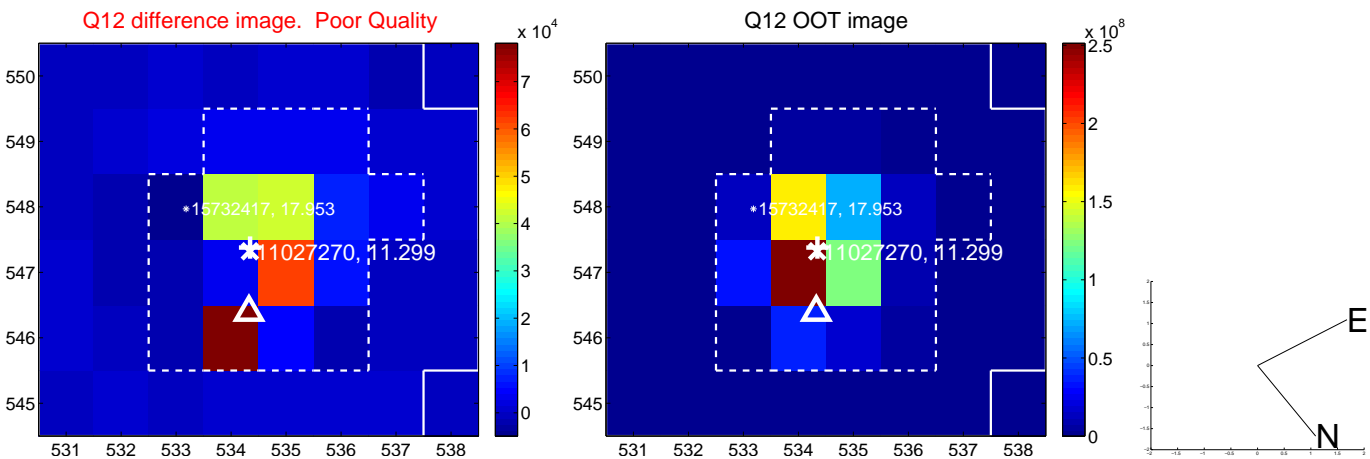
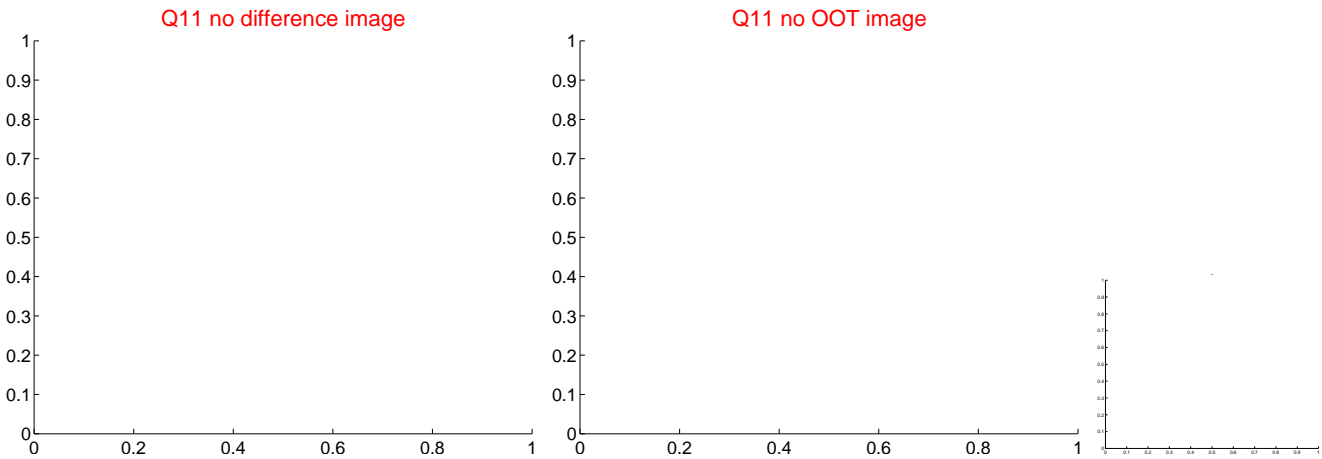
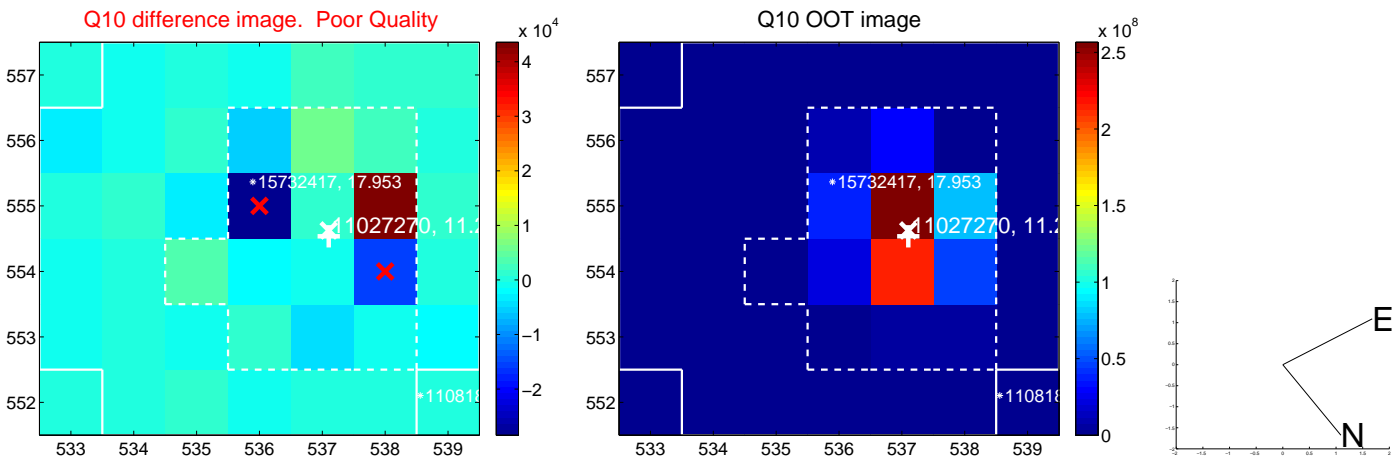
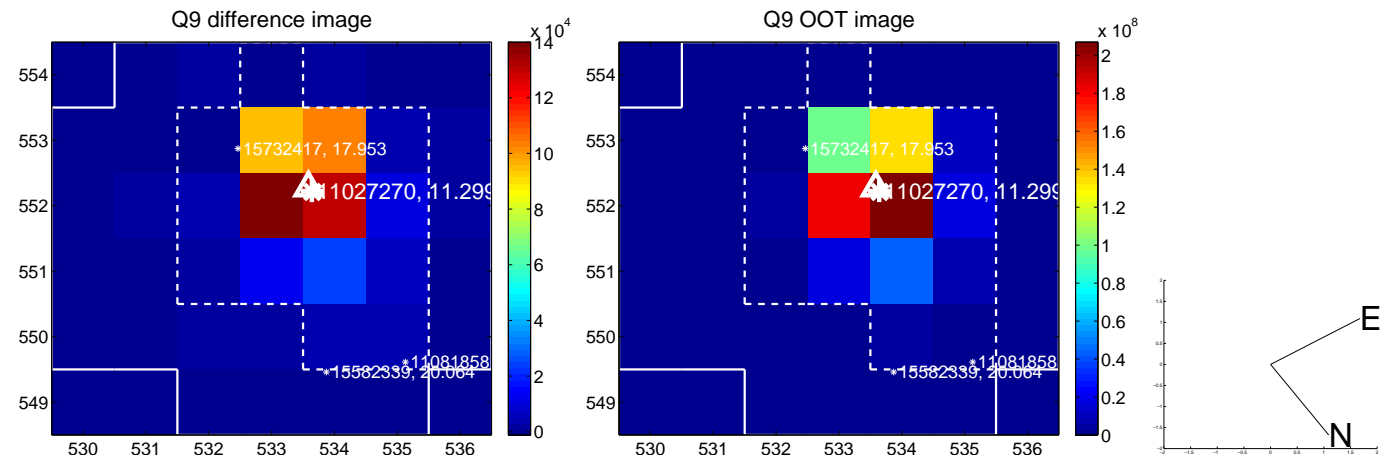
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



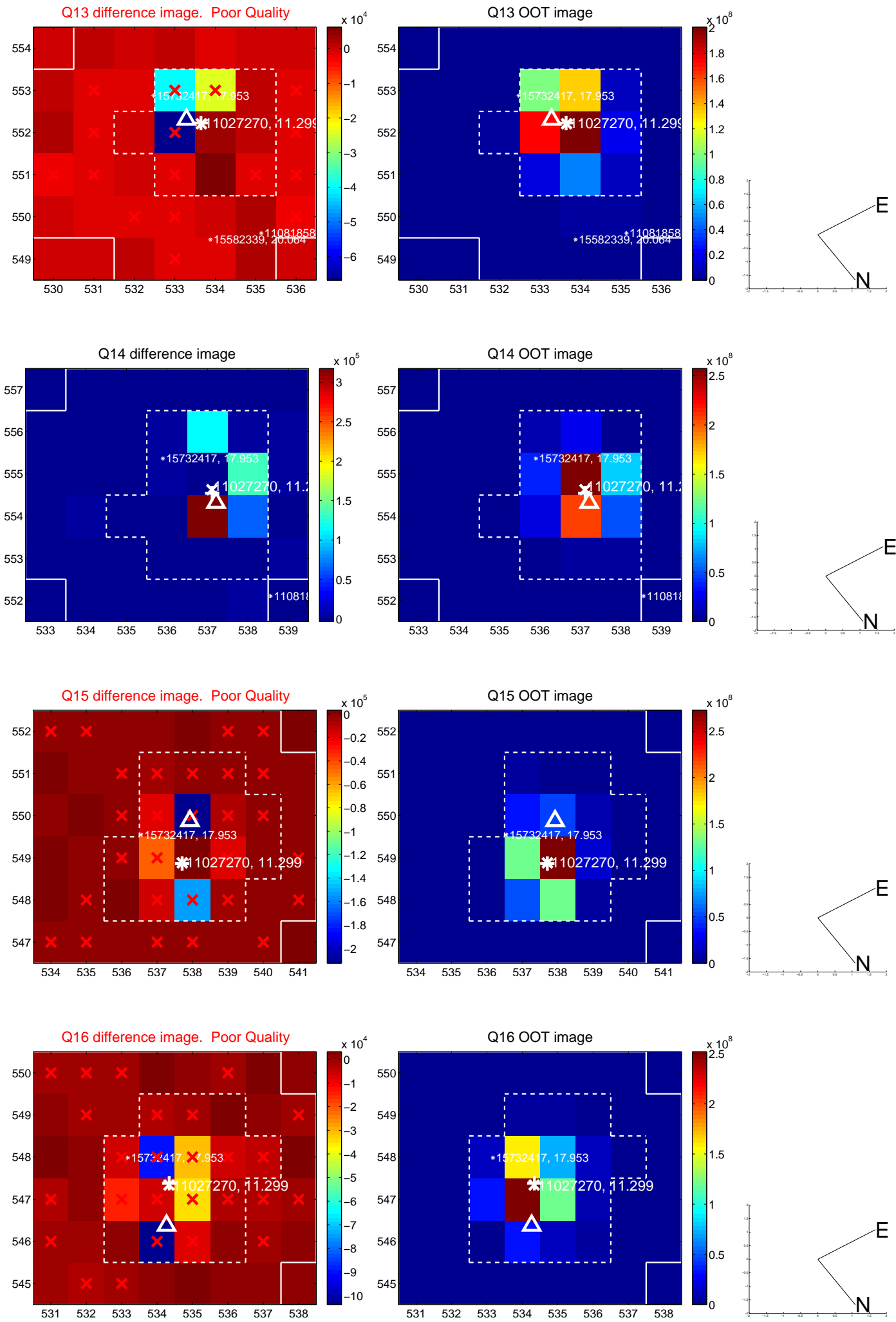
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



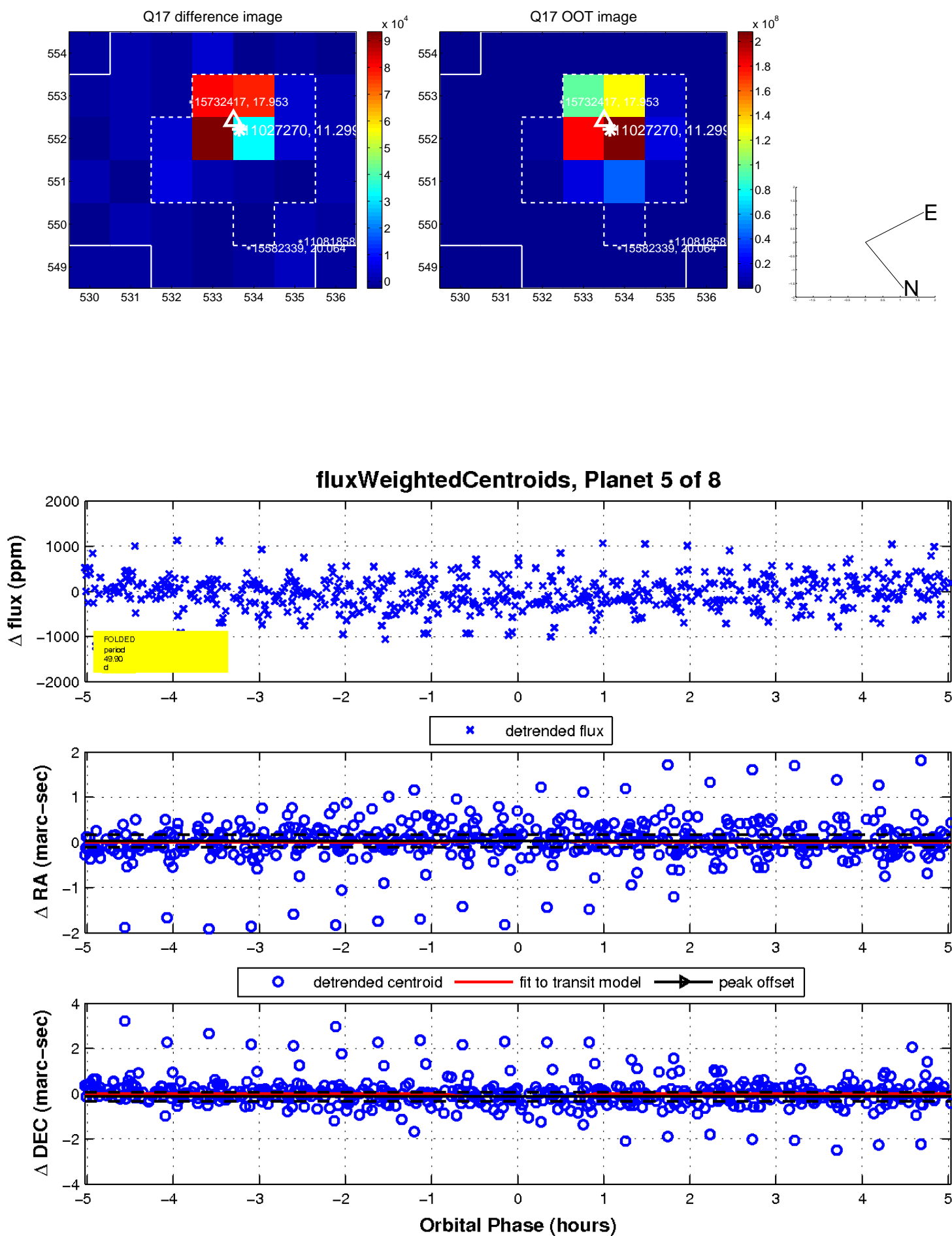
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



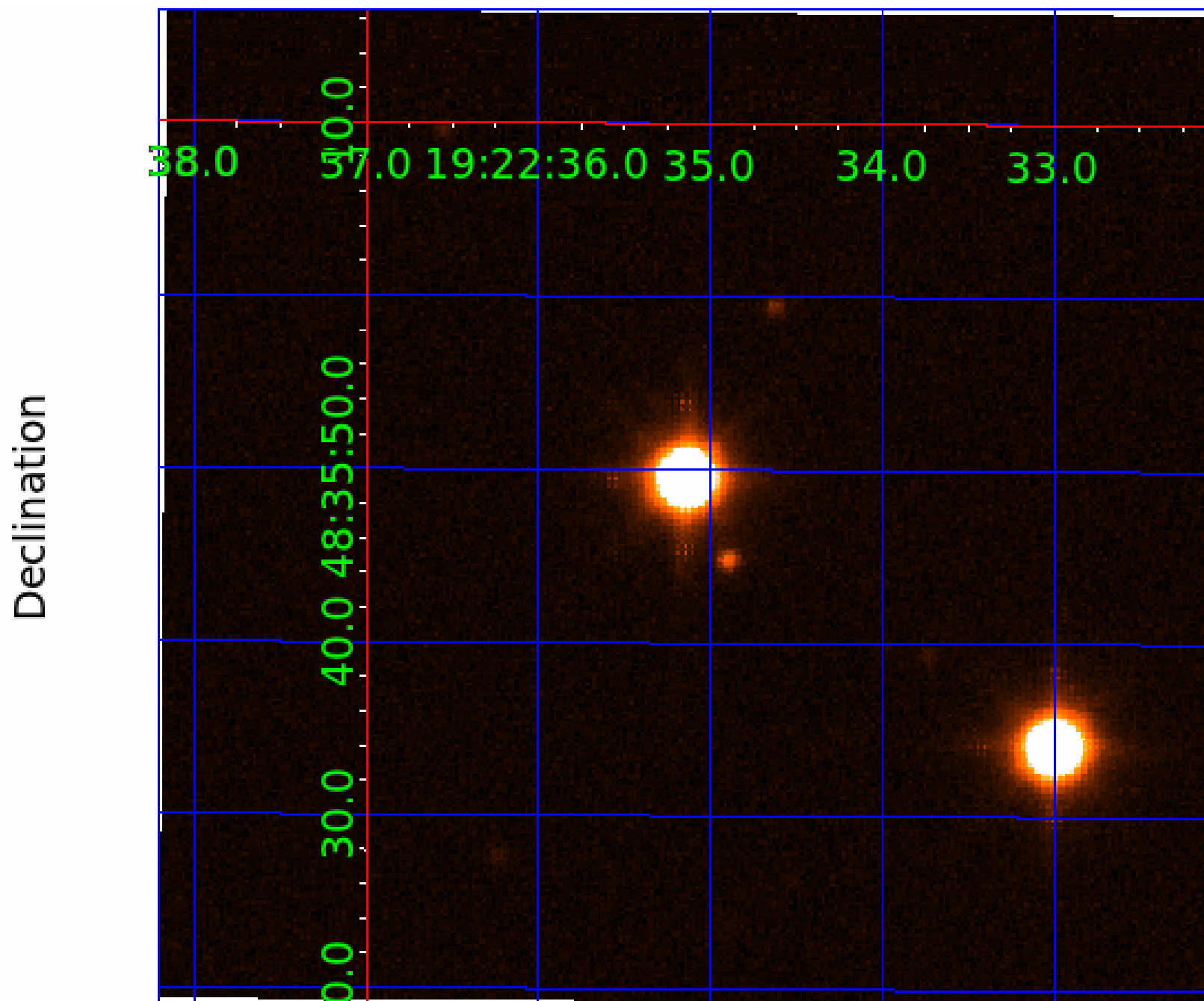
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011027270

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})
011027270-01	OBS	No	0.530231	131.514837	7.9	3.593	9.3	3.4	2.18	7163	0.62	54520.48
011027270-02	OBS	No	34.954028	155.006074	93.3	0.541	12.8	1.0	2.18	7163	2.22	204.73
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011027270-04	OBS	No	56.329769	140.140948	492.4	2.418	11.6	8.9	2.18	7163	5.50	108.36
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011027270-06	OBS	No	27.816400	147.681992	315.8	3.313	10.7	8.3	2.18	7163	4.17	277.62
011027270-07	OBS	No	41.236838	159.131901	390.7	2.185	9.1	7.6	2.18	7163	4.88	164.24
011027270-08	OBS	No	109.932102	159.887063	468.4	1.620	9.0	7.6	2.18	7163	4.81	44.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011027270-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
011027270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
011027270-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
011027270-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-07	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_SATURATED
011027270-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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 011027270-06

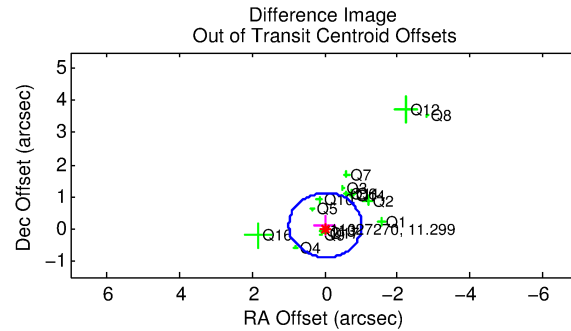
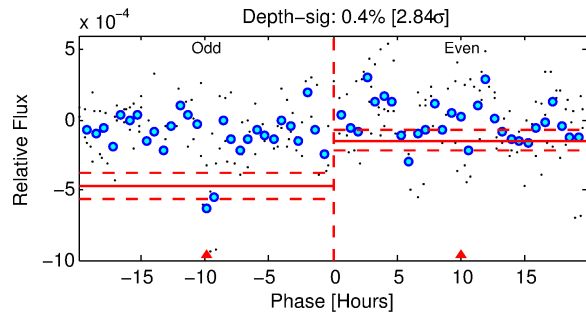
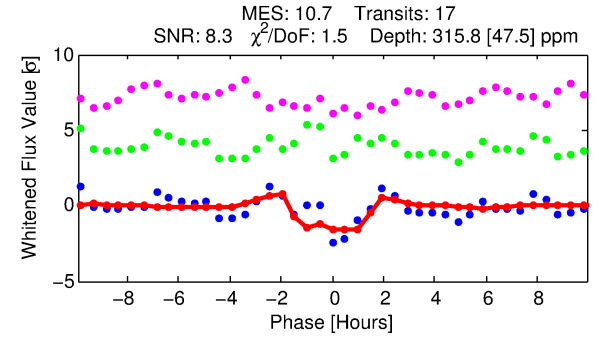
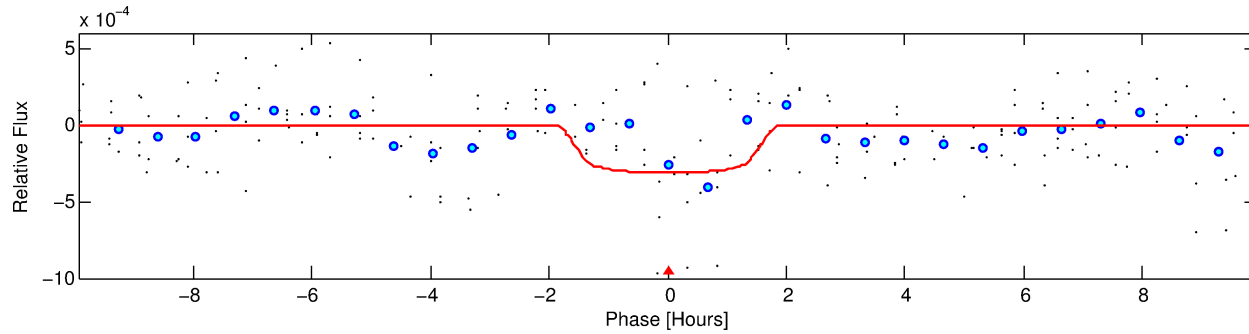
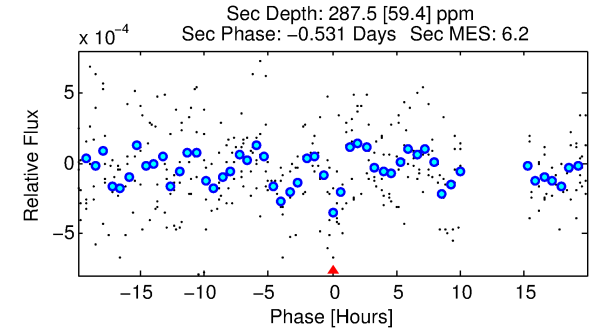
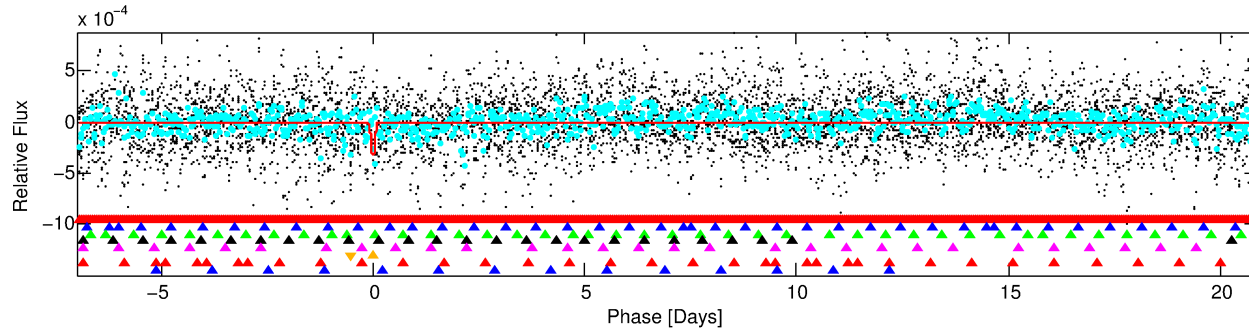
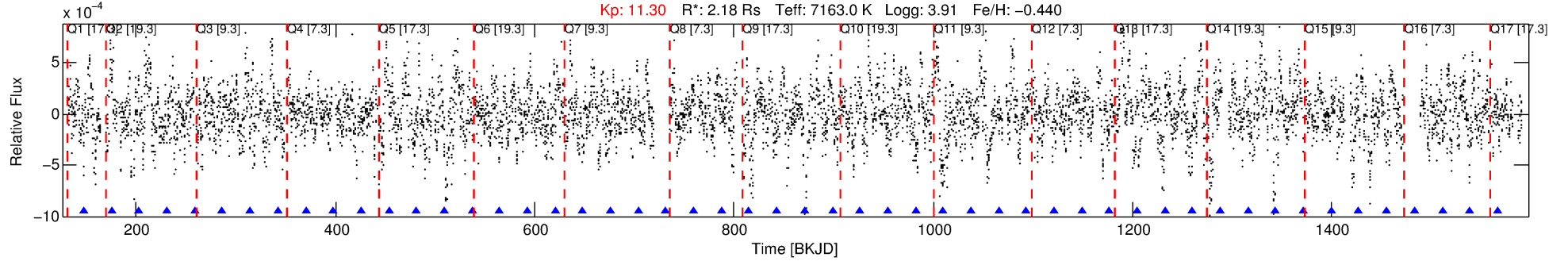
No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 6 of 8 Period: 27.816 d

KOI: K07401 Corr: No Ephemeris Match

Kp: 11.30 R*: 2.18 Rs Teff: 7163.0 K Logg: 3.91 Fe/H: -0.440



DV Fit Results:

Period = 27.81640 [0.00030] d
Epoch = 147.6820 [0.0086] BKJD
Rp/R* = 0.0175 [0.0178]
a/R* = 46.18 [271.42]
b = 0.72 [3.98]
Seff = 277.62 [175.98]
Teq = 1041 [165] K
Rp = 4.17 [4.50] Re
a = 0.2007 [0.0758] AU
Ag = 367.18 [781.90] [0.47σ]
Teffp = 7044 [3597] K [1.67σ]

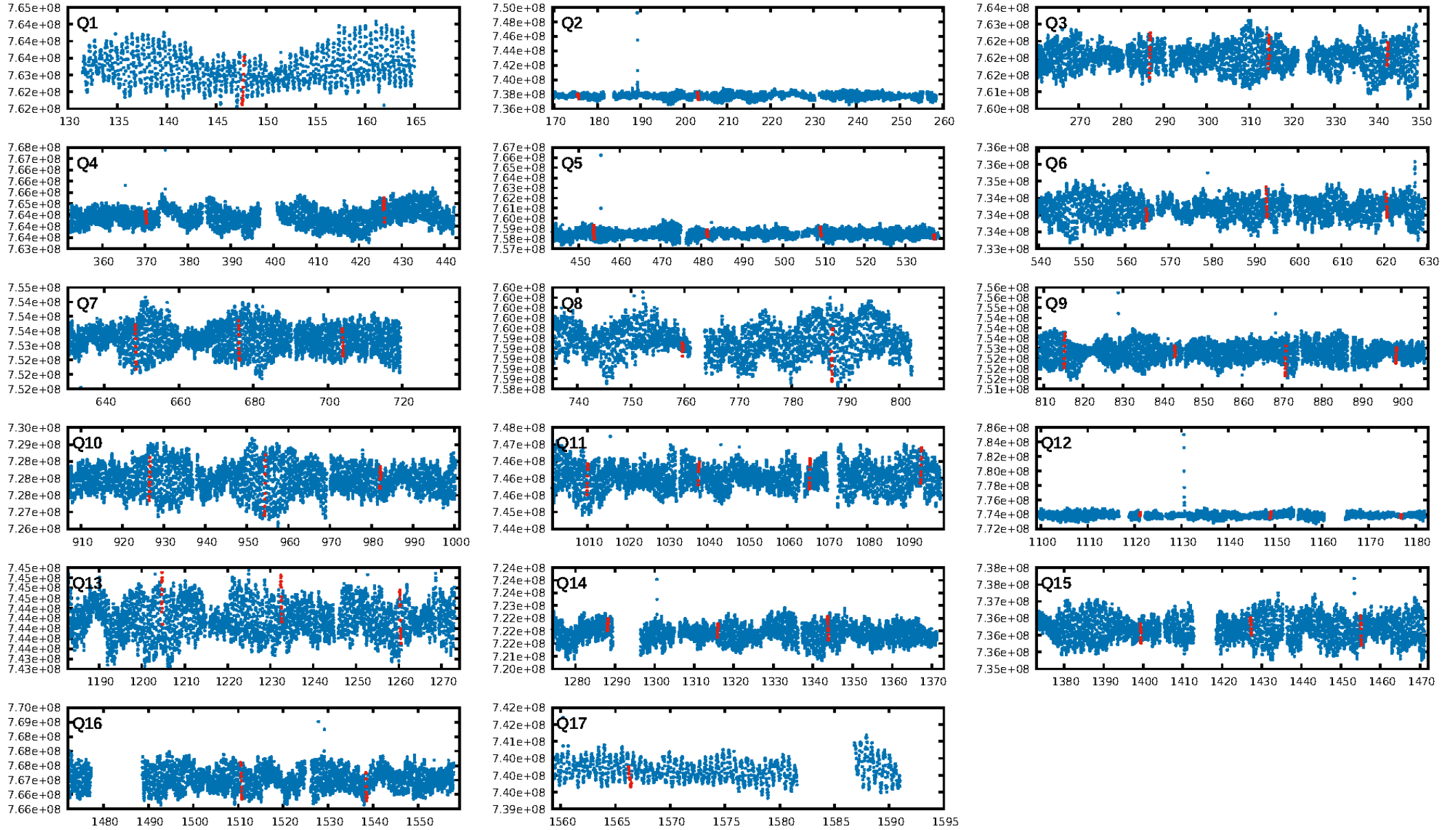
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [133.99σ]
LongPeriod-sig: 100.0% [39.02σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.65e-15
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 0.2983
Centroid-sig: 6.0%
Centroid-so: 0.223 arcsec [1.21σ]
OotOffset-rm: 0.117 arcsec [0.35σ]
KicOffset-rm: 0.095 arcsec [0.24σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

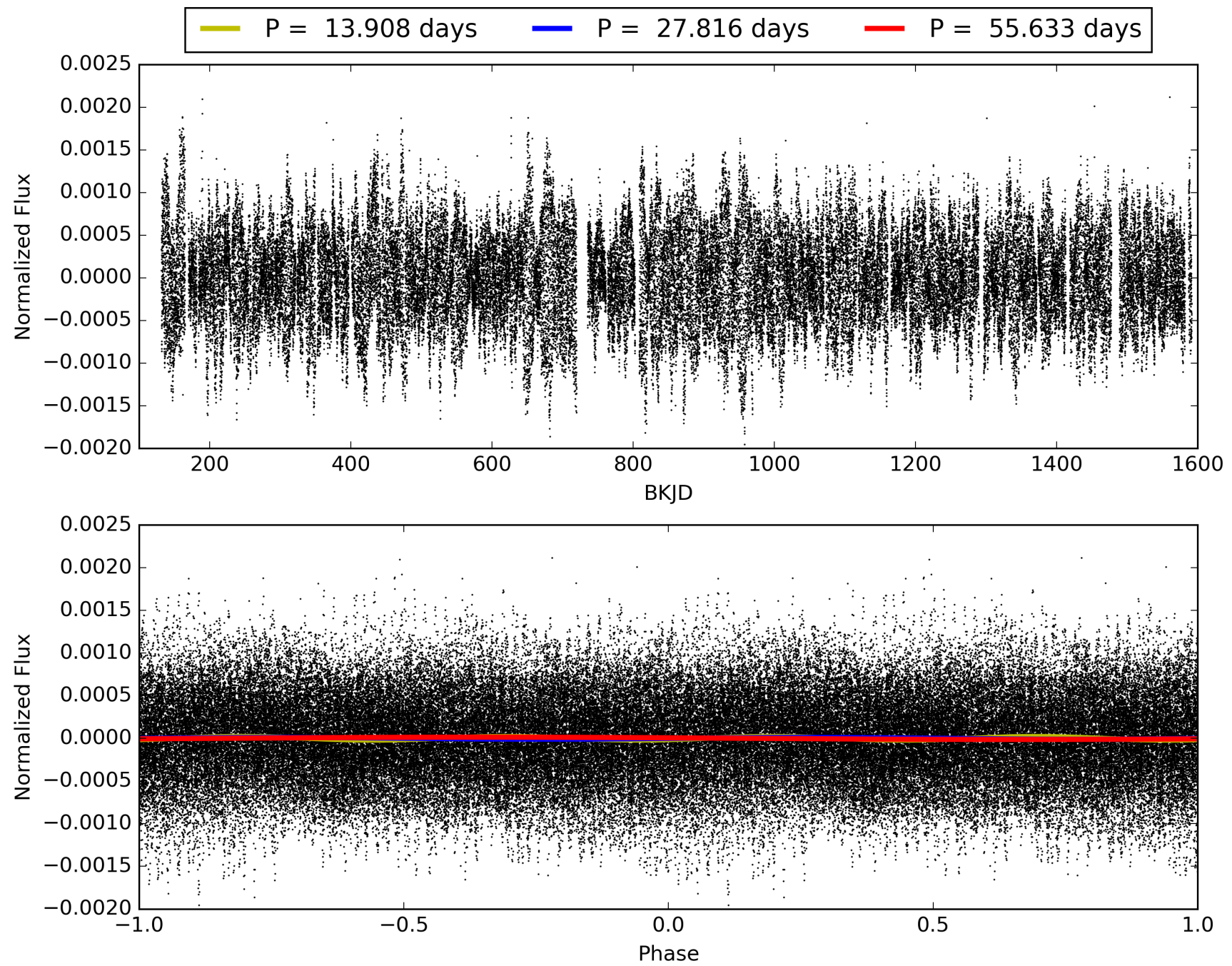
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:12:43 Z

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

TCE 011027270-06, PDC Light Curves

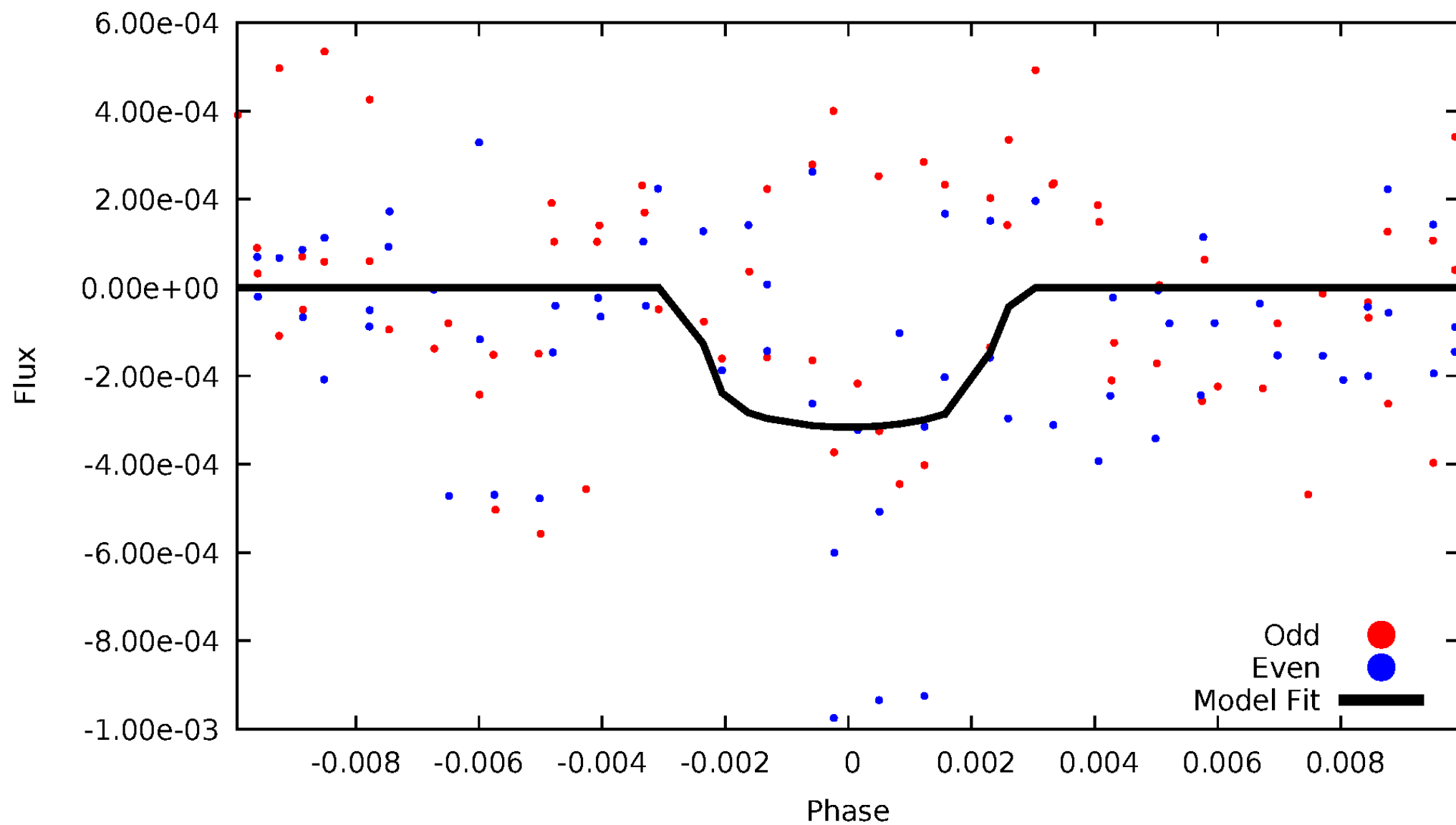


TCE 011027270-06



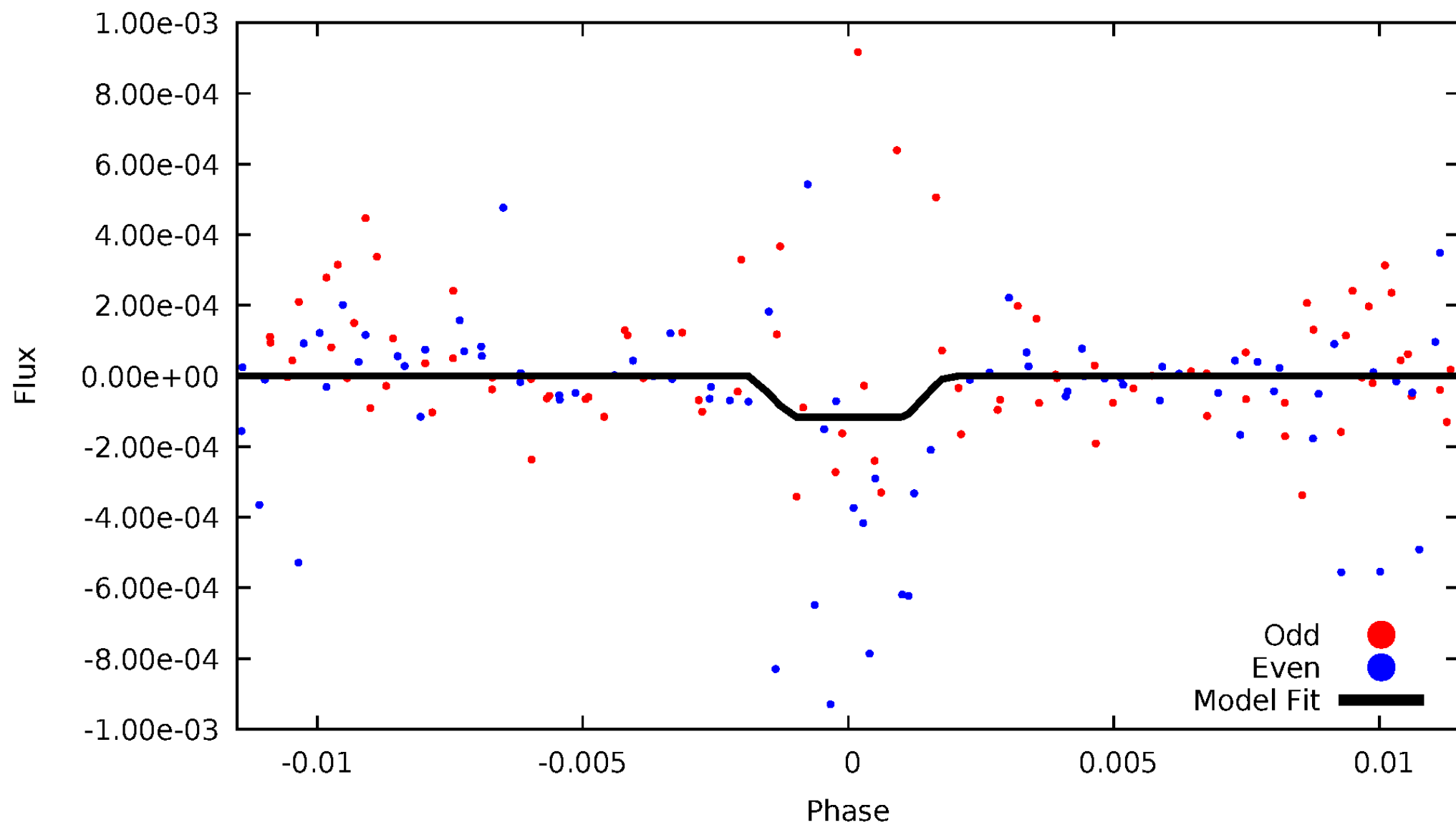
DV Odd/Even

TCE 011027270-06



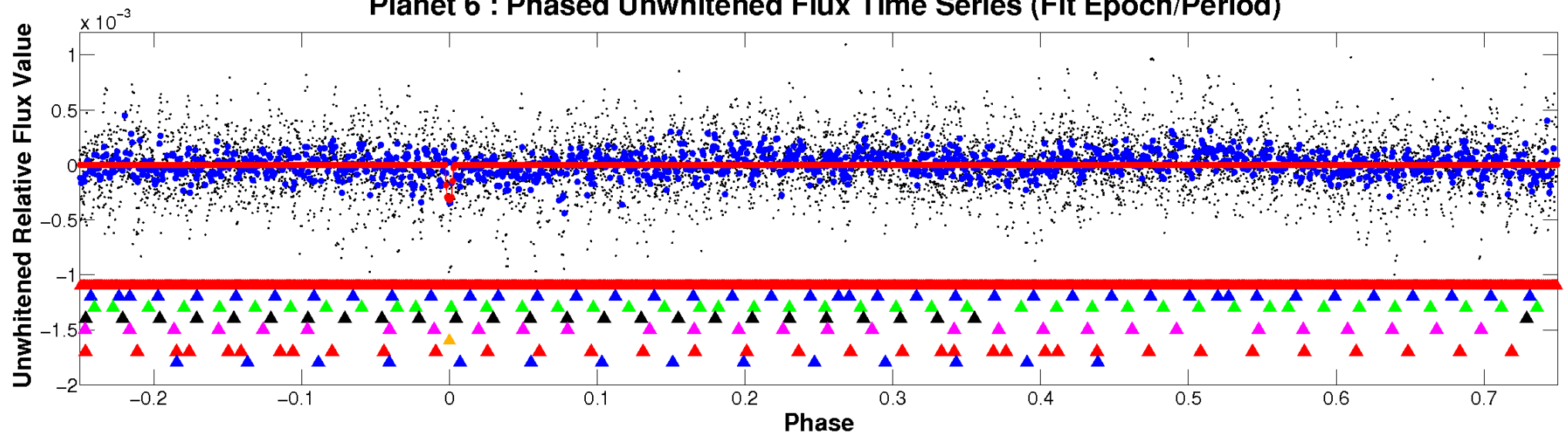
ALT Odd/Even

TCE 011027270-06

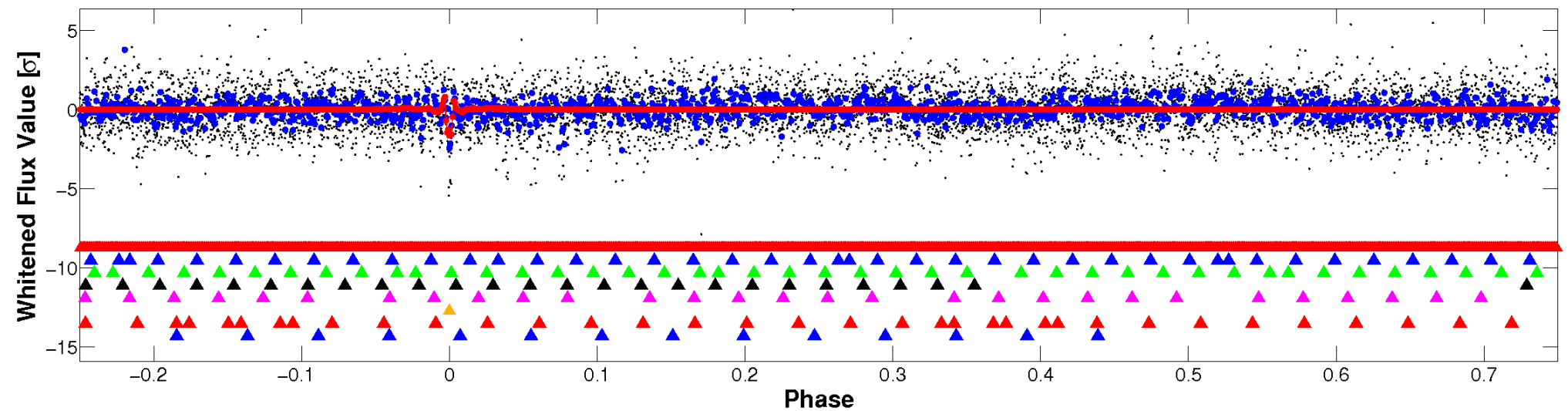


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

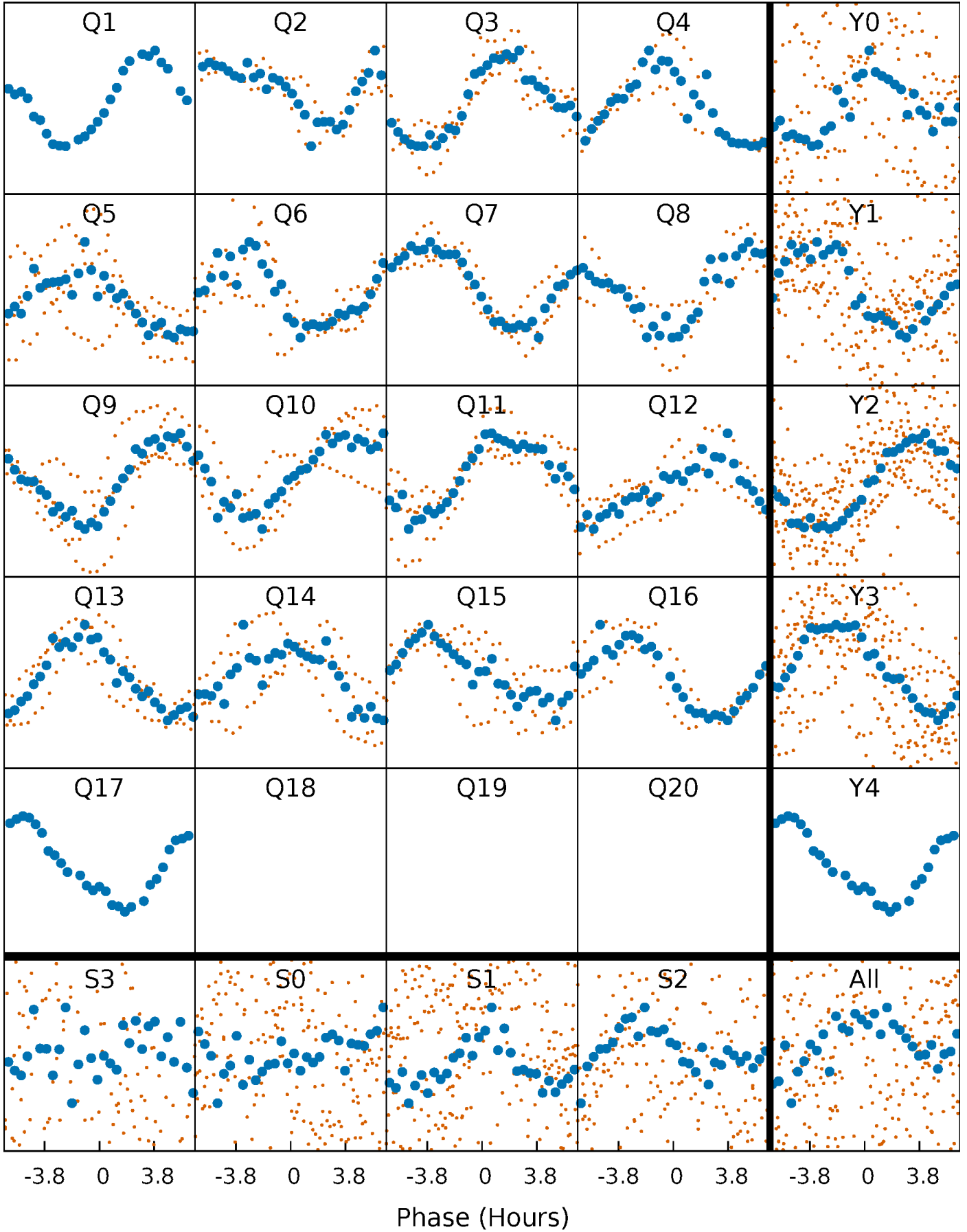


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



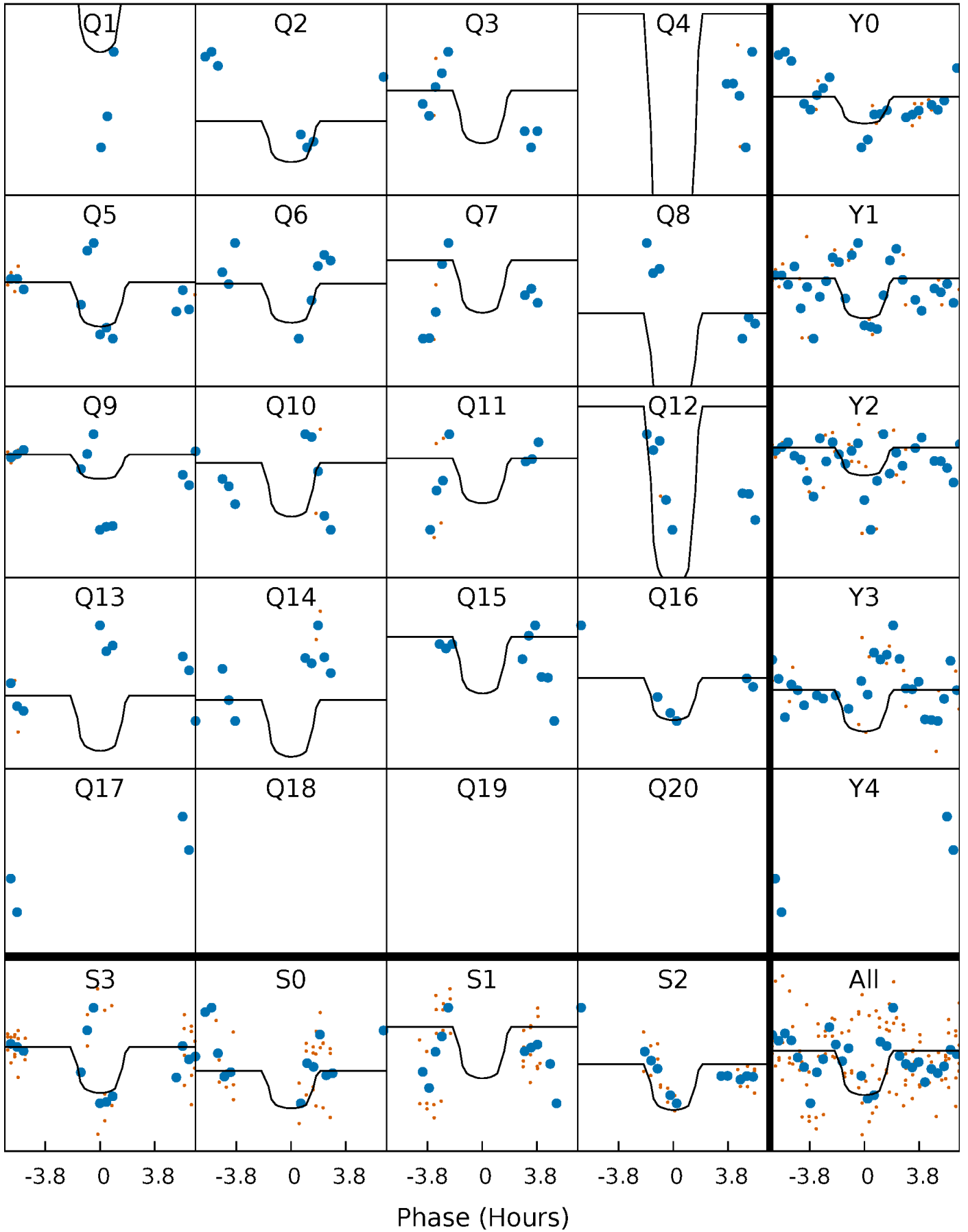
PDC Quarter-Phased Transit Curves

TCE 011027270-06 P= 27.816400 Days $T_0=147.681992$ (BKJD)



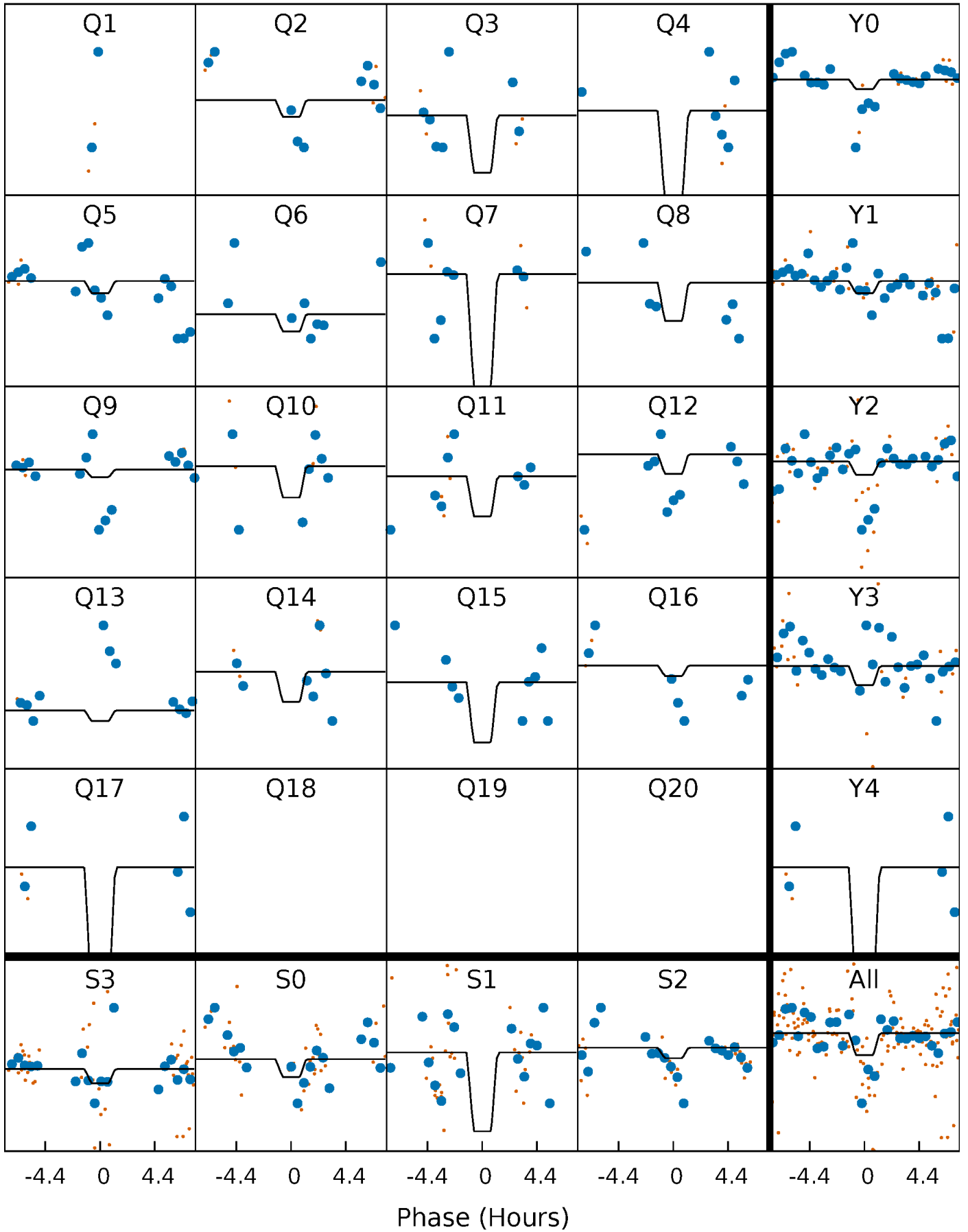
DV Quarter-Phased Transit Curves

TCE 011027270-06 P= 27.816400 Days $T_0=147.681992$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

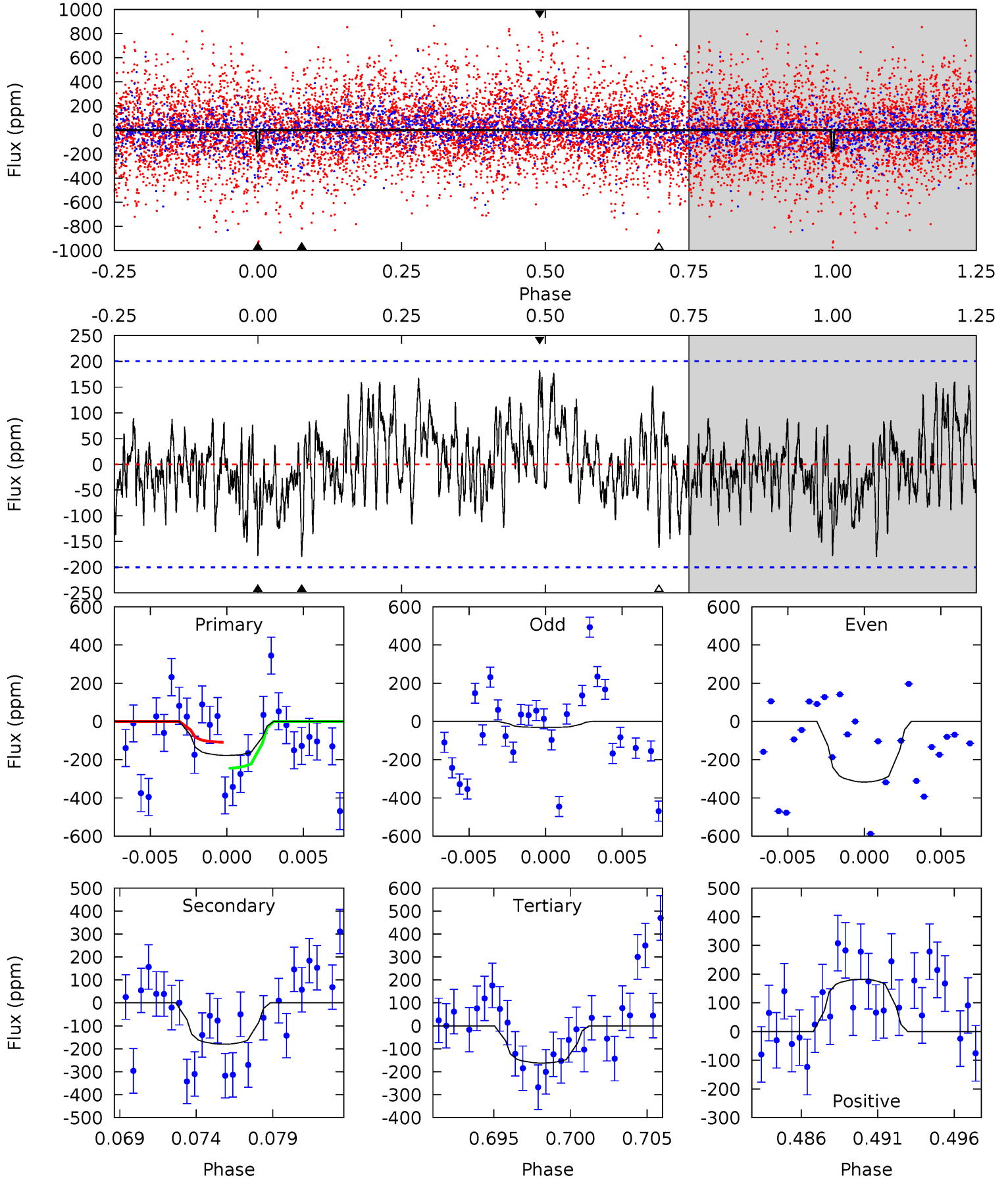
TCE 011027270-06 P= 27.815284 Days $T_0=147.713712$ (BKJD)



DV Model-Shift Uniqueness Test

011027270-06, $P = 27.816400$ Days, $E = 119.865592$ Days

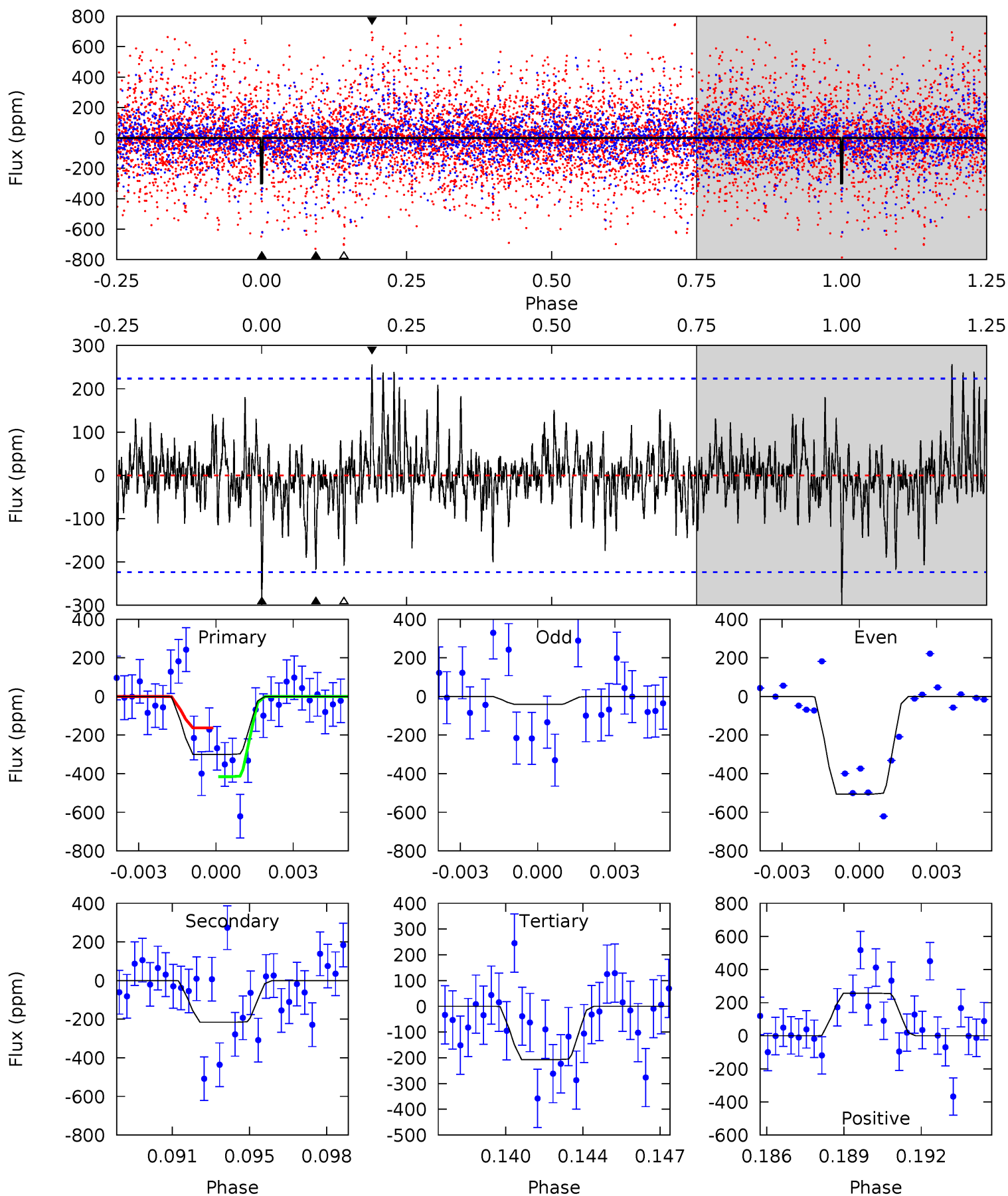
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.57	4.63	4.17	4.70	5.16	2.81	1.54	0.40	-0.13	0.46	-0.07	3.65	1.32	0.50	1.75



Alt Model-Shift Uniqueness Test

011027270-06, $P = 27.815284$ Days, $E = 119.898428$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.03	5.05	4.85	6.01	5.24	2.94	1.32	2.19	1.02	0.21	-0.96	5.82	0.58	0.46	3.00



Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-180 ± 39	$4.51^{+3.95}_{-2.70}$	1413^{+106}_{-151}	5587^{+4058}_{-1214}	184^{+1005}_{-130}
Alt.	-215 ± 43	$3.65^{+3.85}_{-2.44}$	1417^{+106}_{-142}	6657^{+7652}_{-1856}	346^{+2934}_{-261}

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 $A_{obs} \gg 1.0$

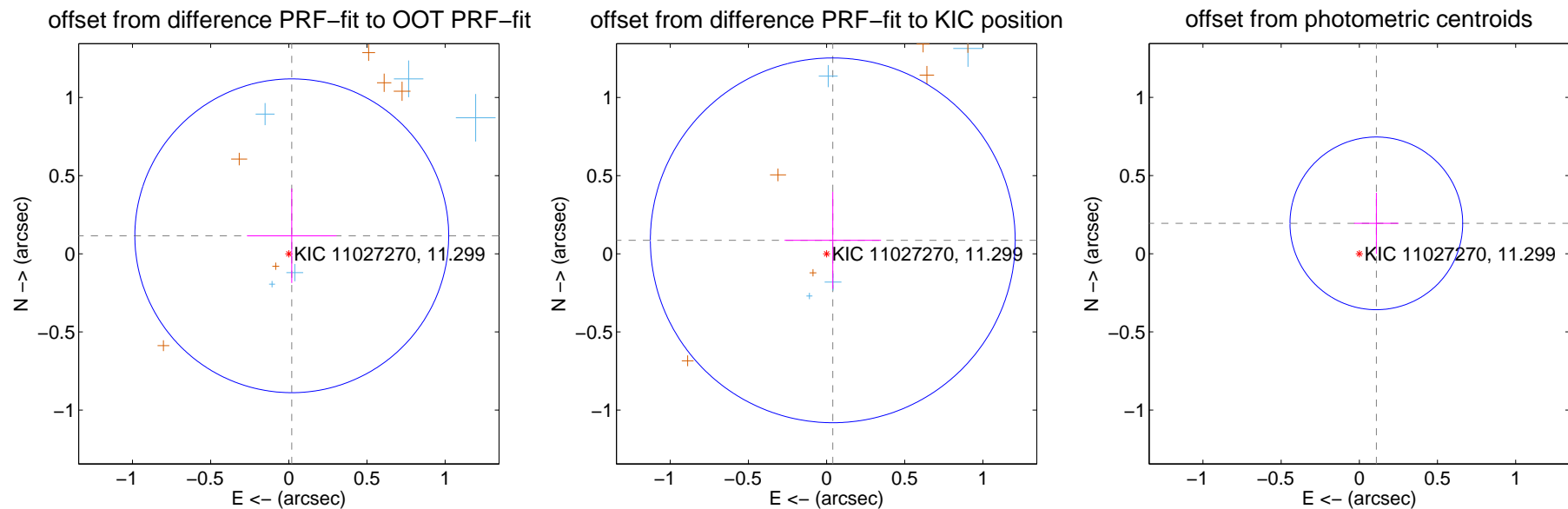
DV Centroid Data

Supplemental centroid analysis for 011027270-06. **Kepler magnitude: 11.30.** Transit SNR 8.30

There are 8 quarters with good PRF difference image offsets

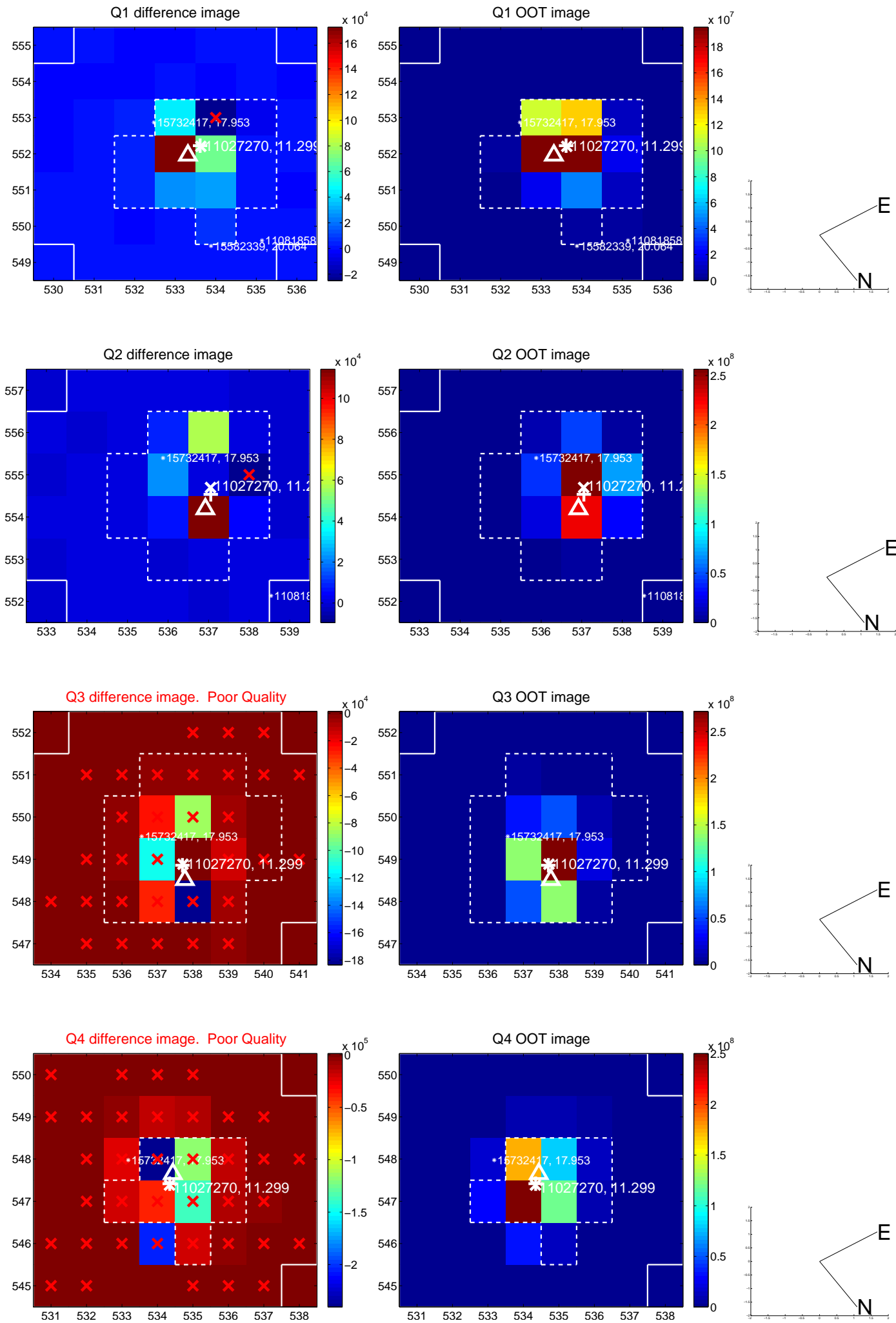
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.335	0.35	-0.019 ± 0.287	0.115 ± 0.302
PRF-fit source offset from KIC position	0.095 ± 0.389	0.24	-0.040 ± 0.309	0.086 ± 0.310
photometric centroid source offset	0.22 ± 0.18	1.21	-0.11 ± 0.14	0.19 ± 0.20

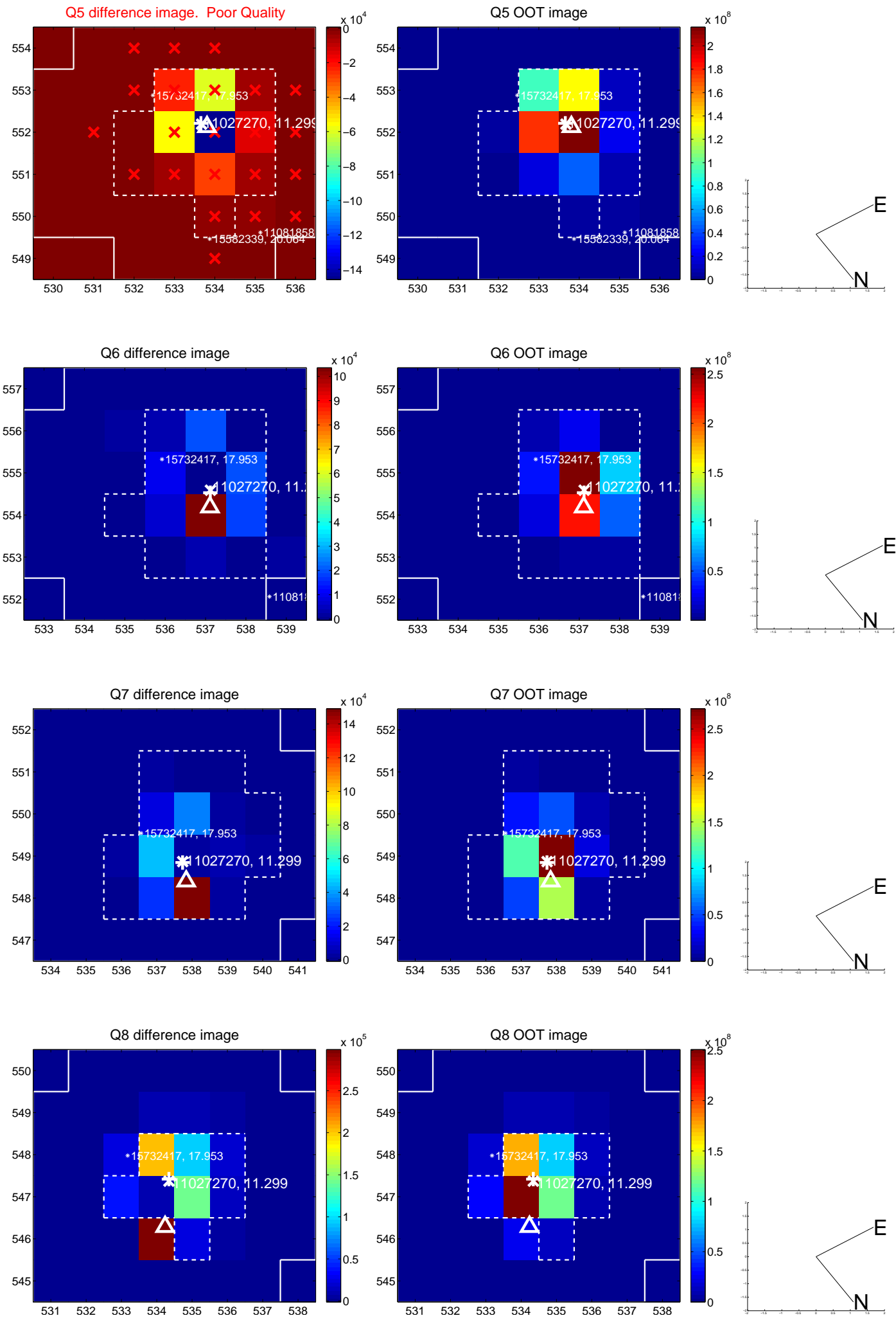


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

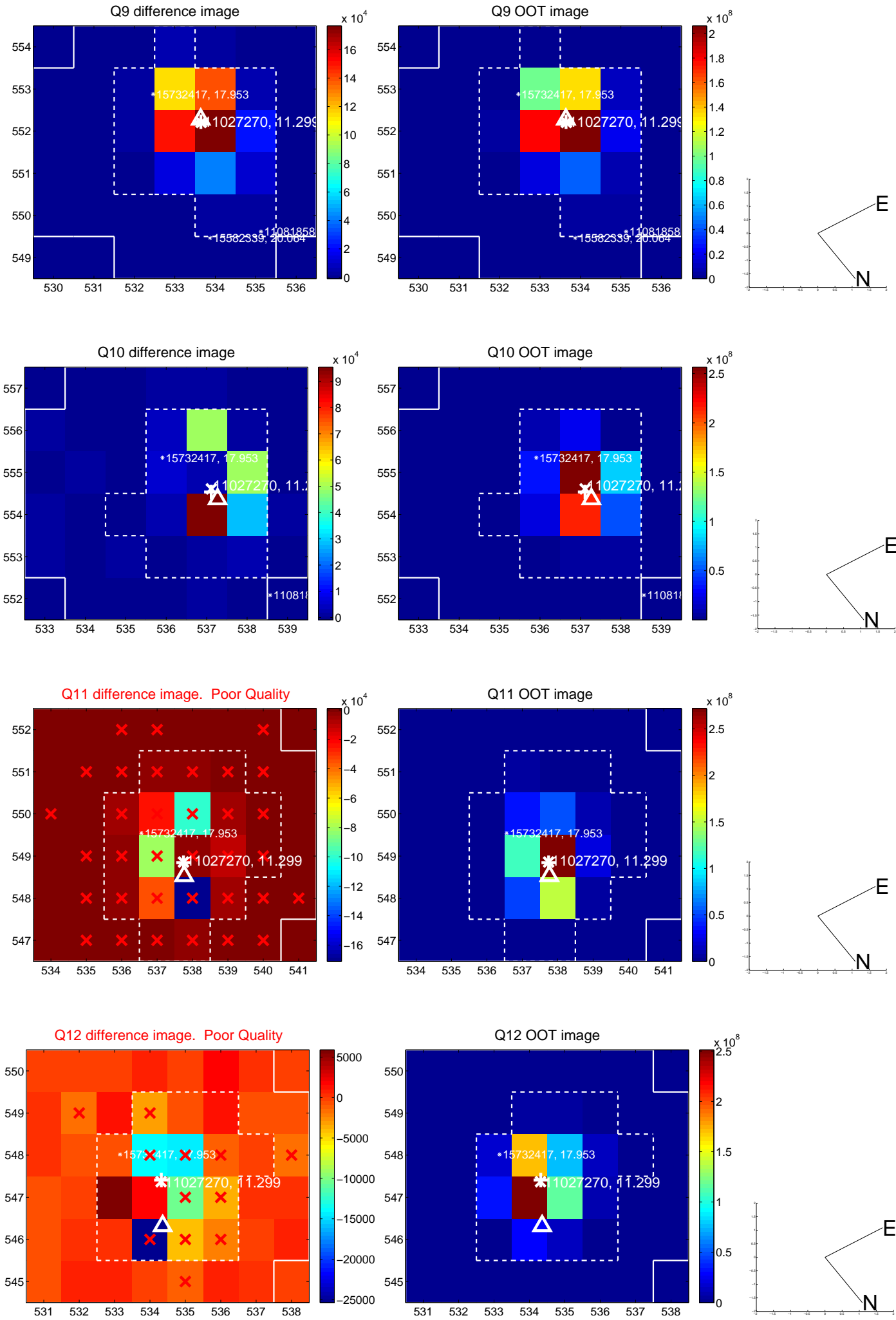
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



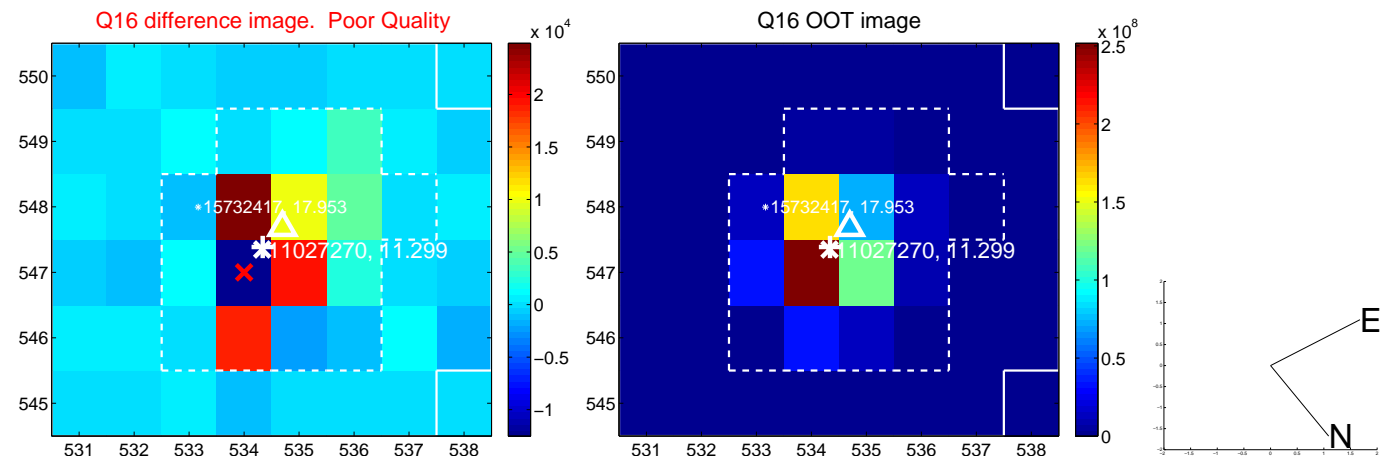
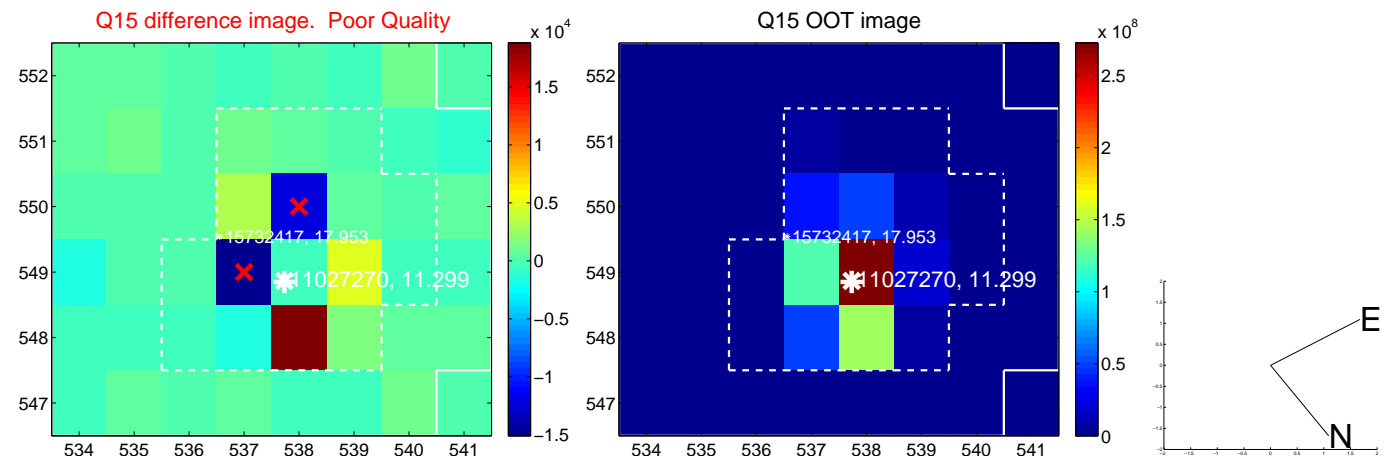
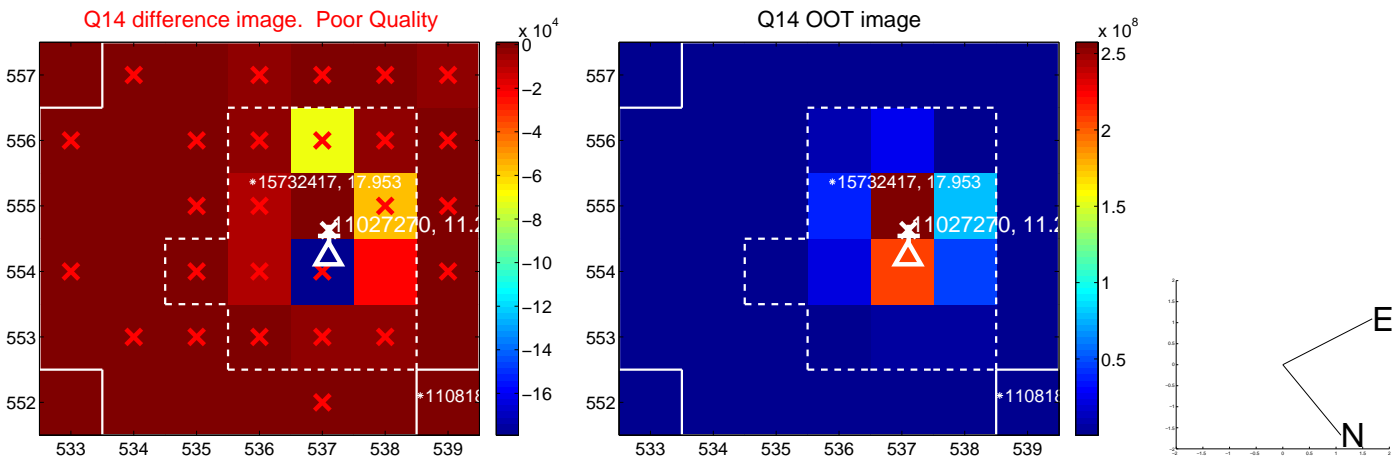
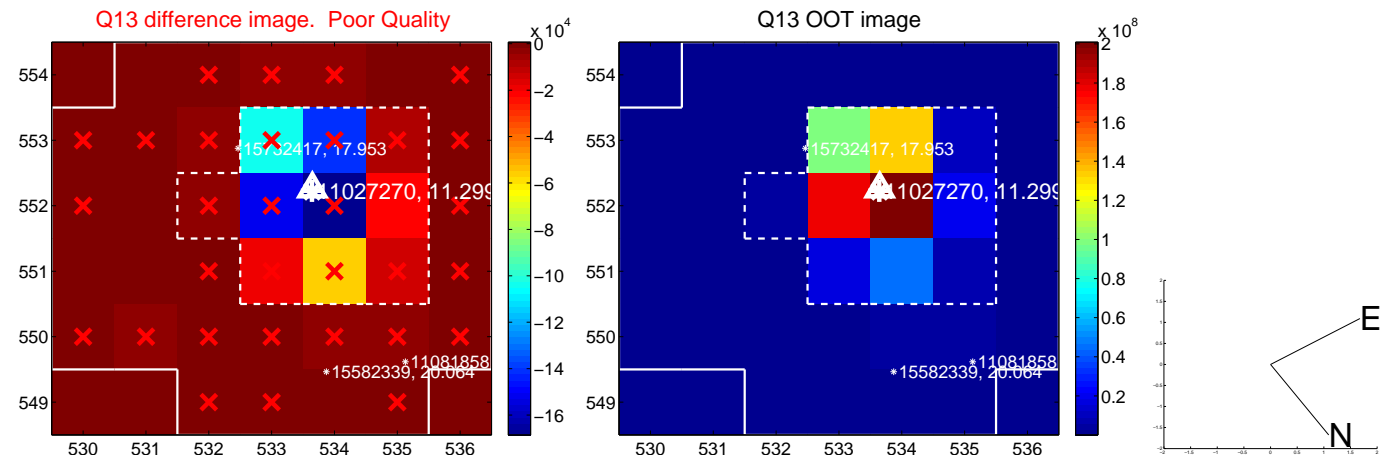
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



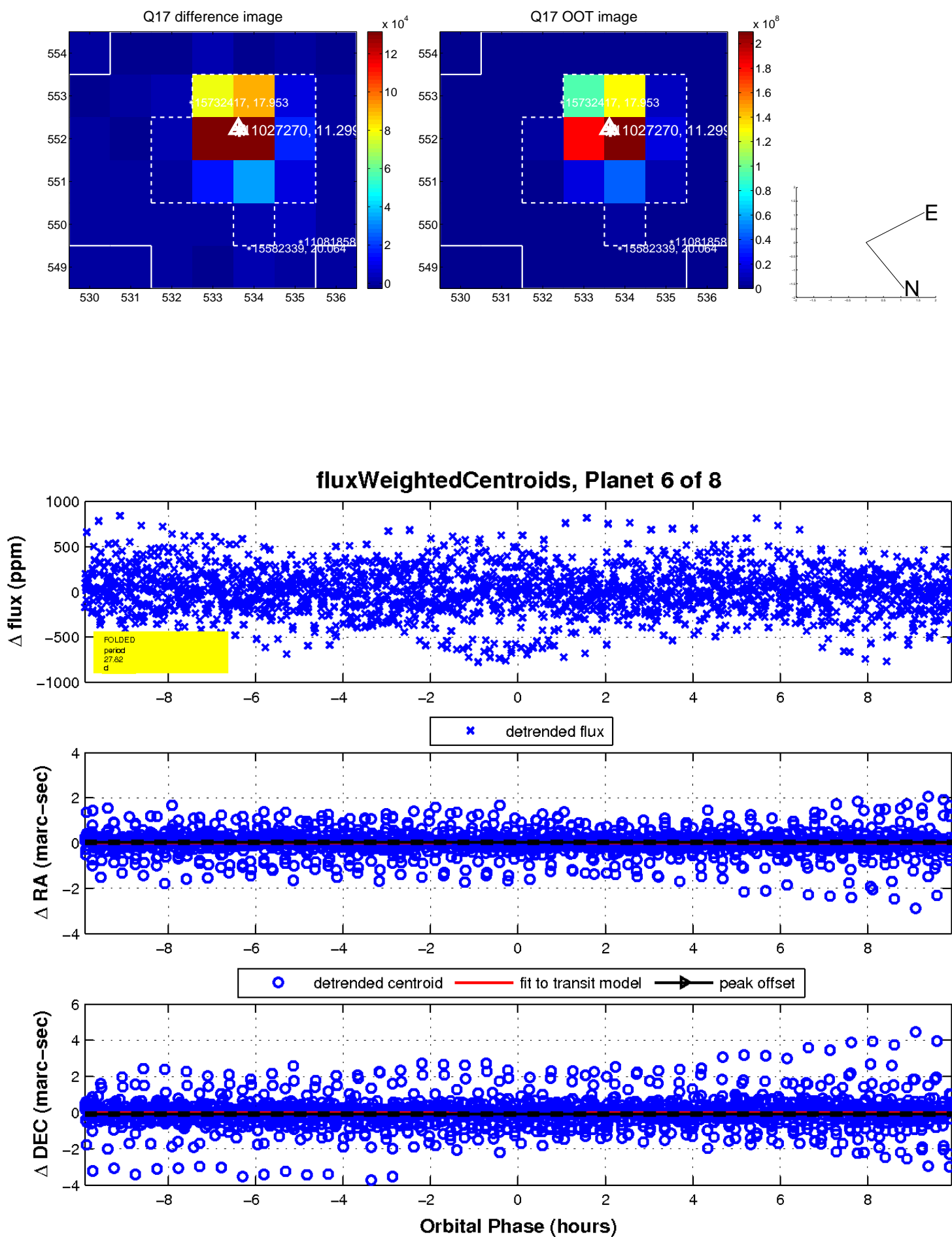
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



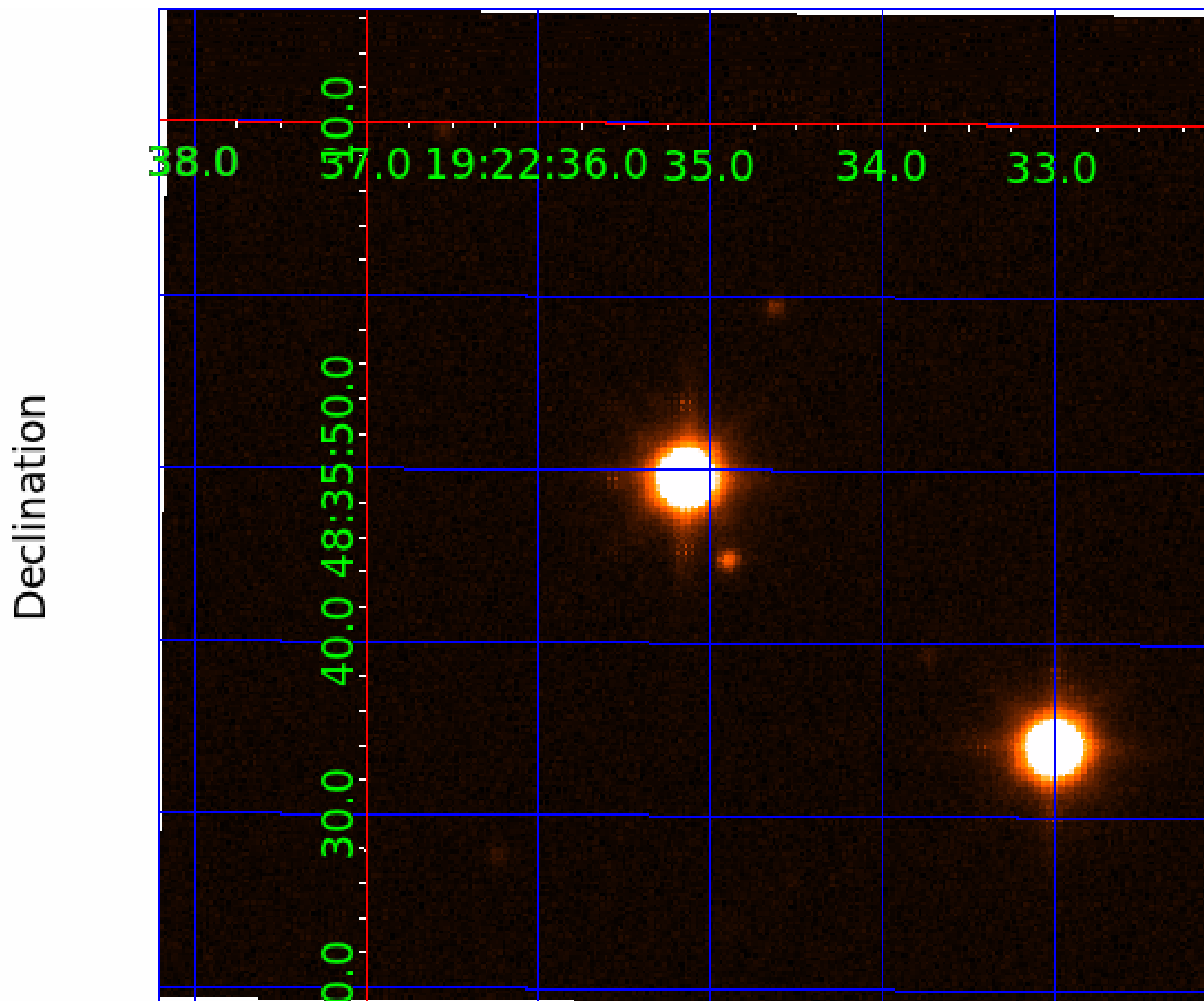
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011027270

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})
011027270-01	OBS	No	0.530231	131.514837	7.9	3.593	9.3	3.4	2.18	7163	0.62	54520.48
011027270-02	OBS	No	34.954028	155.006074	93.3	0.541	12.8	1.0	2.18	7163	2.22	204.73
011027270-03	OBS	No	33.513391	163.471012	364.9	1.140	11.8	7.2	2.18	7163	4.33	216.55
011027270-04	OBS	No	56.329769	140.140948	492.4	2.418	11.6	8.9	2.18	7163	5.50	108.36
011027270-05	OBS	No	49.902113	172.829311	543.0	1.679	12.6	9.8	2.18	7163	5.17	127.36
011027270-06	OBS	No	27.816400	147.681992	315.8	3.313	10.7	8.3	2.18	7163	4.17	277.62
011027270-07	OBS	No	41.236838	159.131901	390.7	2.185	9.1	7.6	2.18	7163	4.88	164.24
011027270-08	OBS	No	109.932102	159.887063	468.4	1.620	9.0	7.6	2.18	7163	4.81	44.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011027270-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
011027270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
011027270-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
011027270-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-07	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_SATURATED
011027270-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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 011027270-07

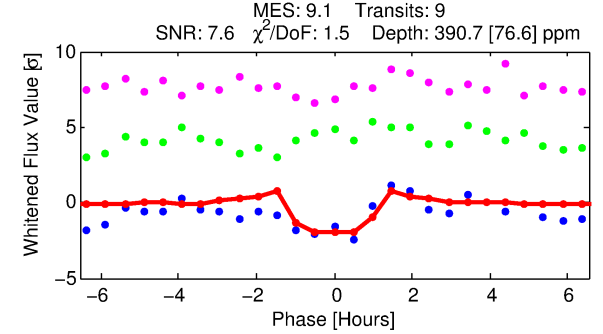
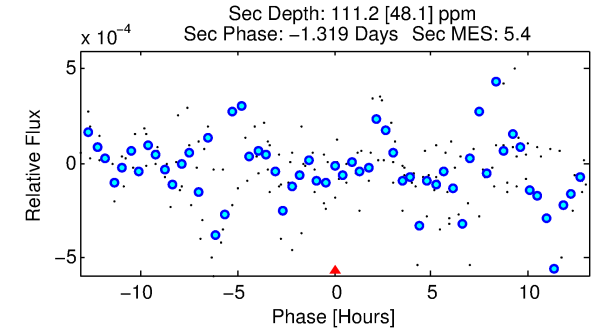
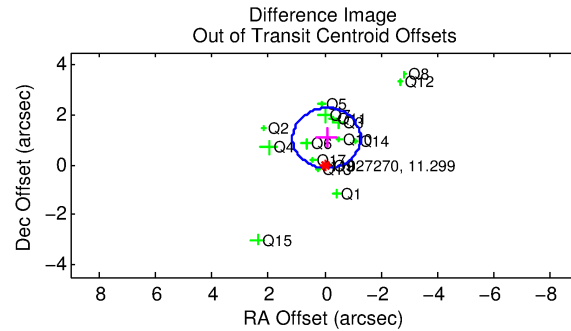
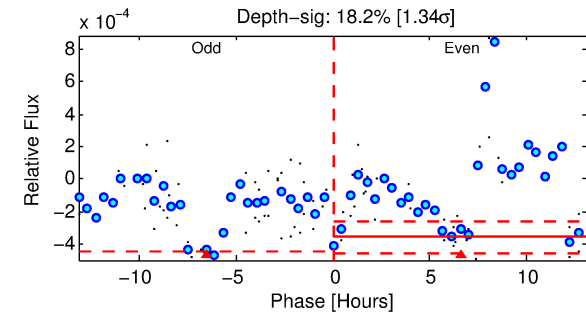
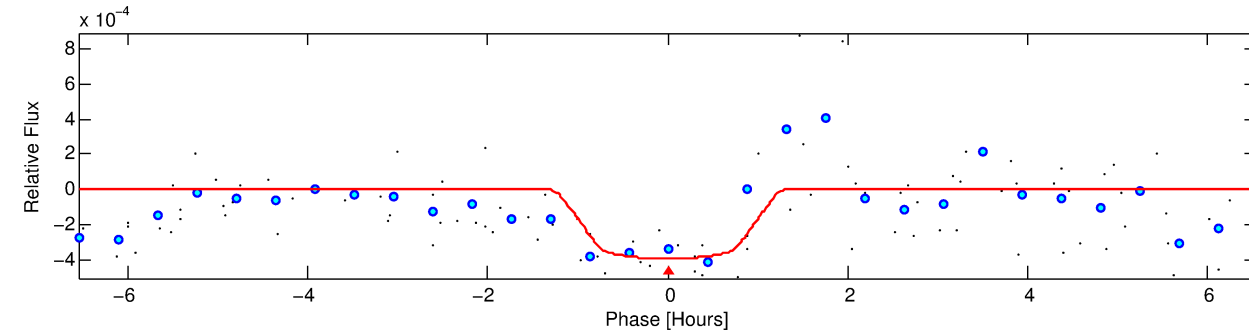
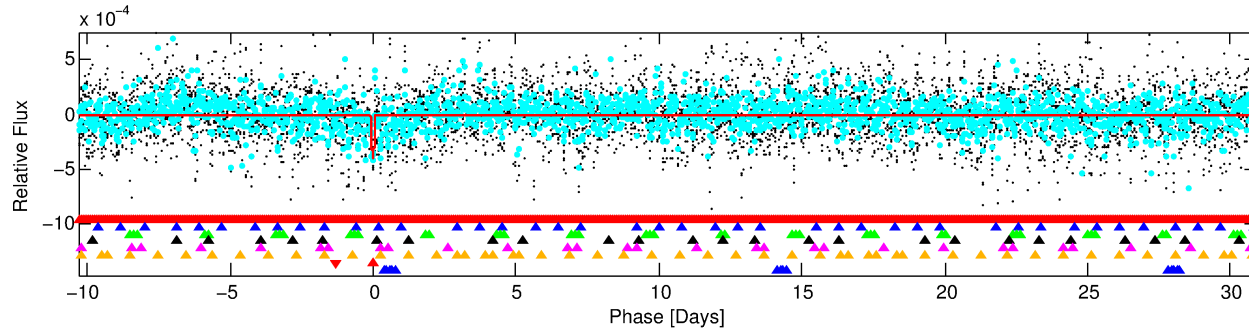
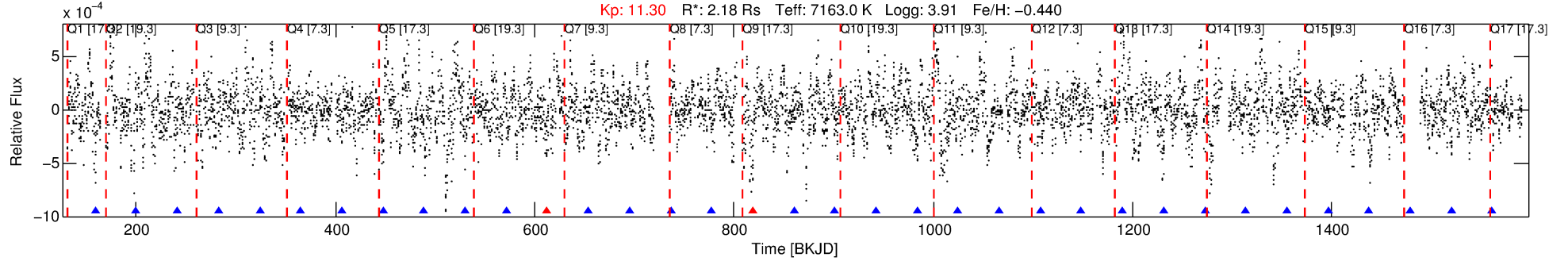
No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 7 of 8 Period: 41.237 d

KOI: K07401 Corr: No Ephemeris Match

Kp: 11.30 R*: 2.18 Rs Teff: 7163.0 K Logg: 3.91 Fe/H: -0.440



DV Fit Results:

Period = 41.23684 [0.00036] d
Epoch = 159.1319 [0.0086] BKJD
Rp/R* = 0.0205 [0.0190]
a/R* = 79.87 [432.94]
b = 0.86 [1.69]
Seff = 164.24 [104.11]
Teq = 913 [145] K
Rp = 4.88 [4.86] Re
a = 0.2609 [0.0985] AU
Ag = 174.88 [348.69] [0.50σ]
Teffp = 5132 [2439] K [1.73σ]

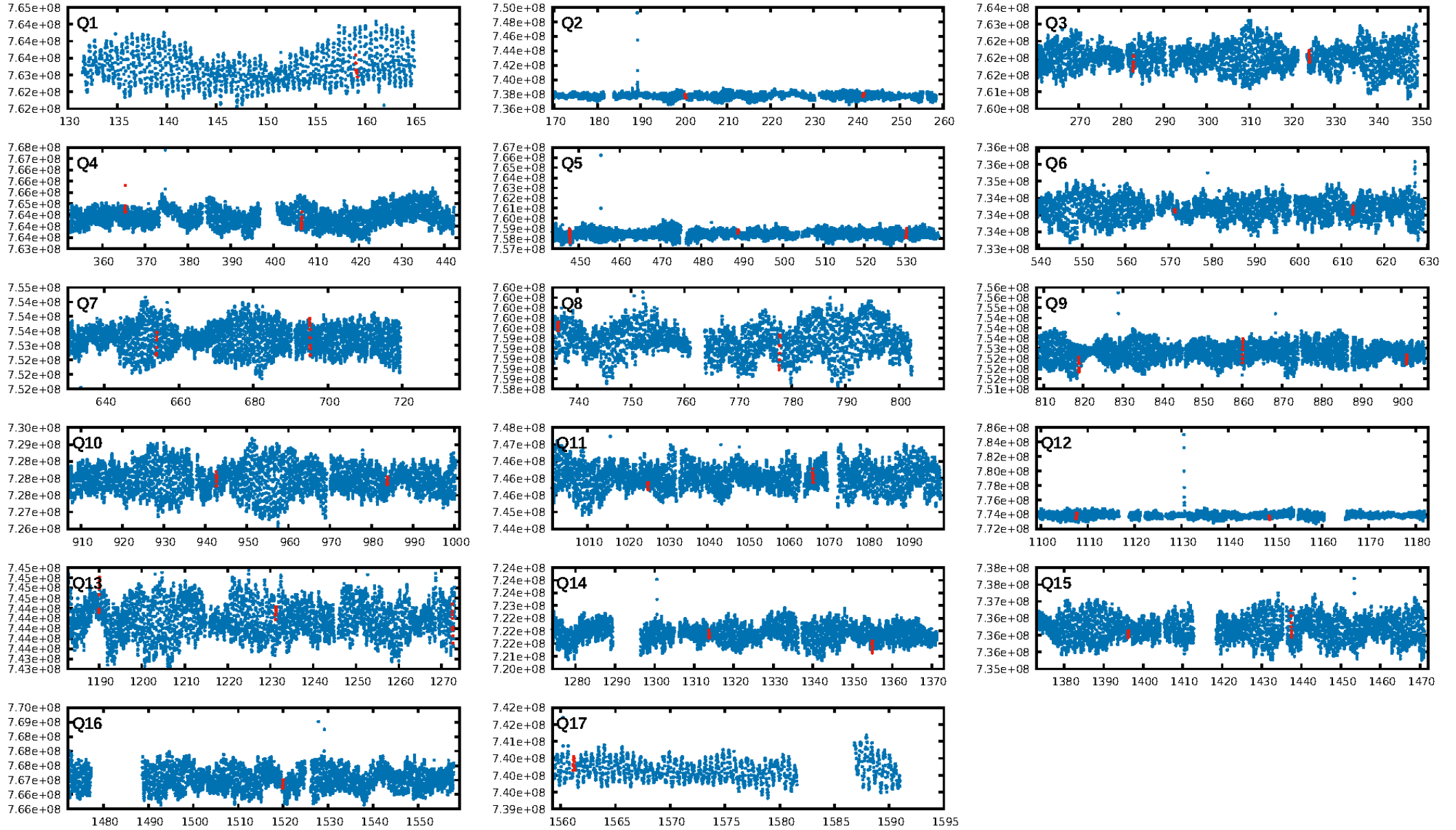
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [67.00σ]
LongPeriod-sig: 100.0% [75.48σ]
ModelChiSquare2-sig: 10.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.26e-11
RollingBand-fgt: 0.78 [7/9]
GhostDiagnostic-chr: 2.274
Centroid-sig: 1.5%
Centroid-so: 0.346 arcsec [1.87σ]
OotOffset-rm: 1.065 arcsec [2.65σ]
KicOffset-rm: 1.173 arcsec [2.78σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 0.00 [0/17]

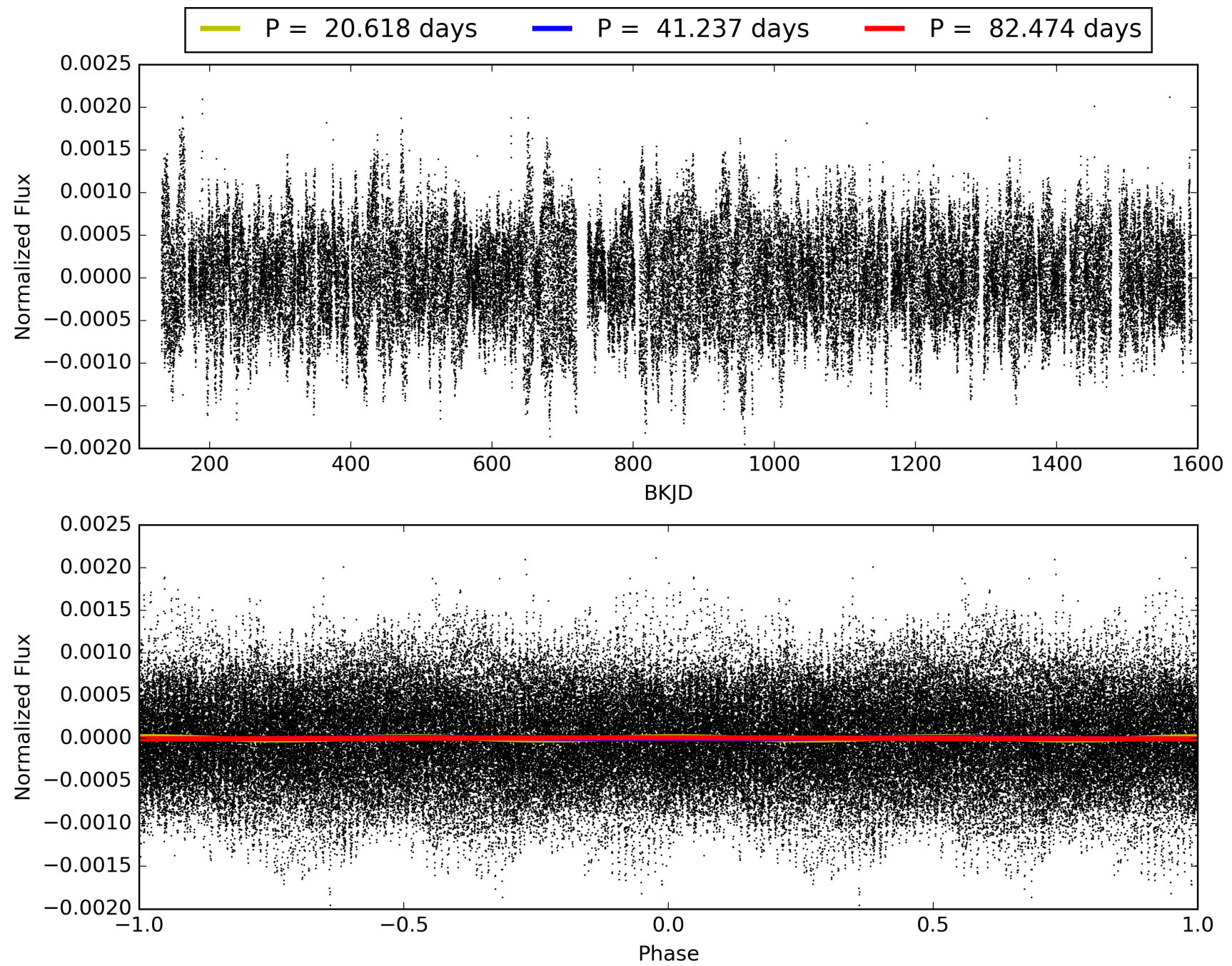
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:12:46 Z

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

TCE 011027270-07, PDC Light Curves

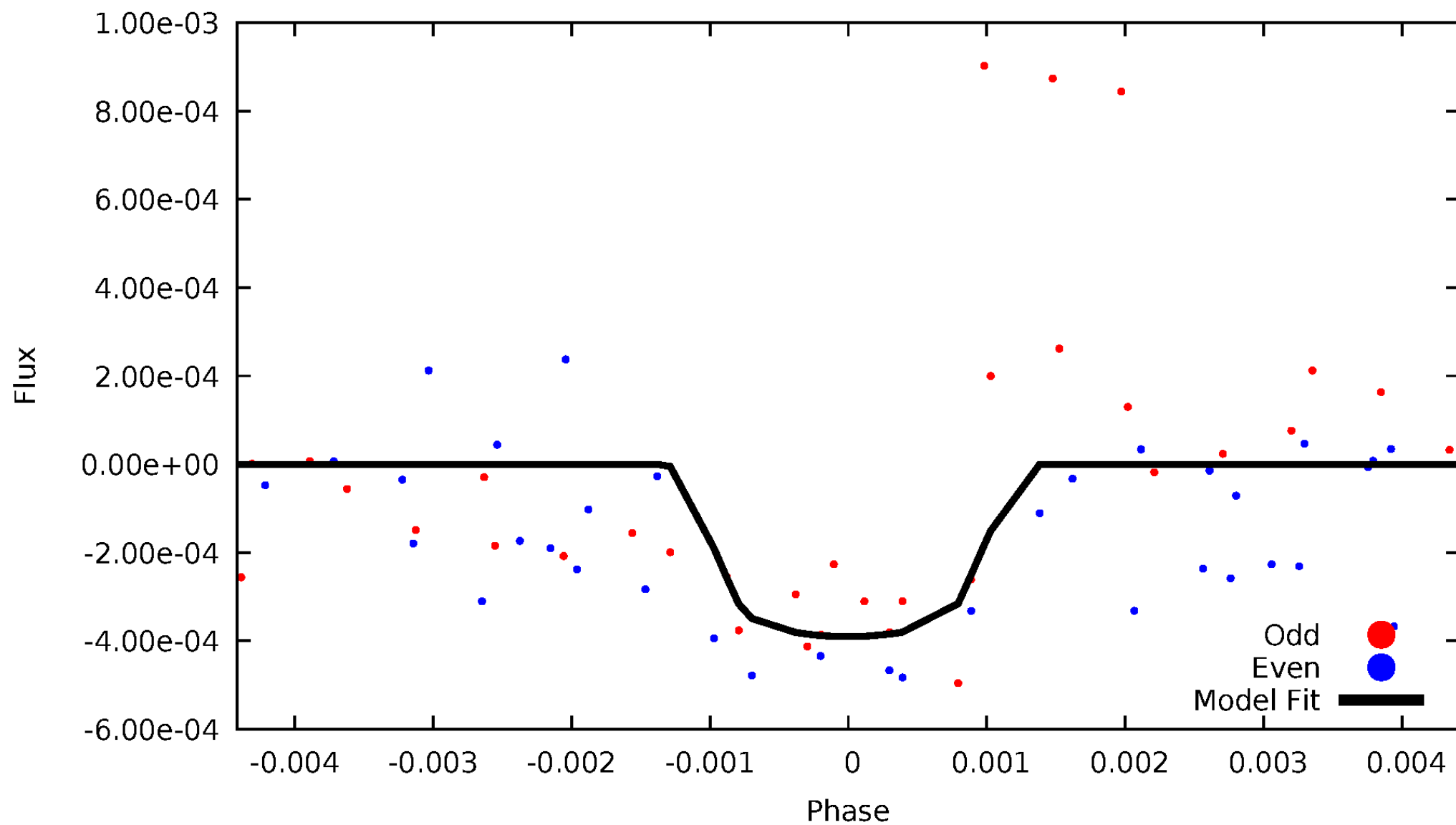


TCE 011027270-07



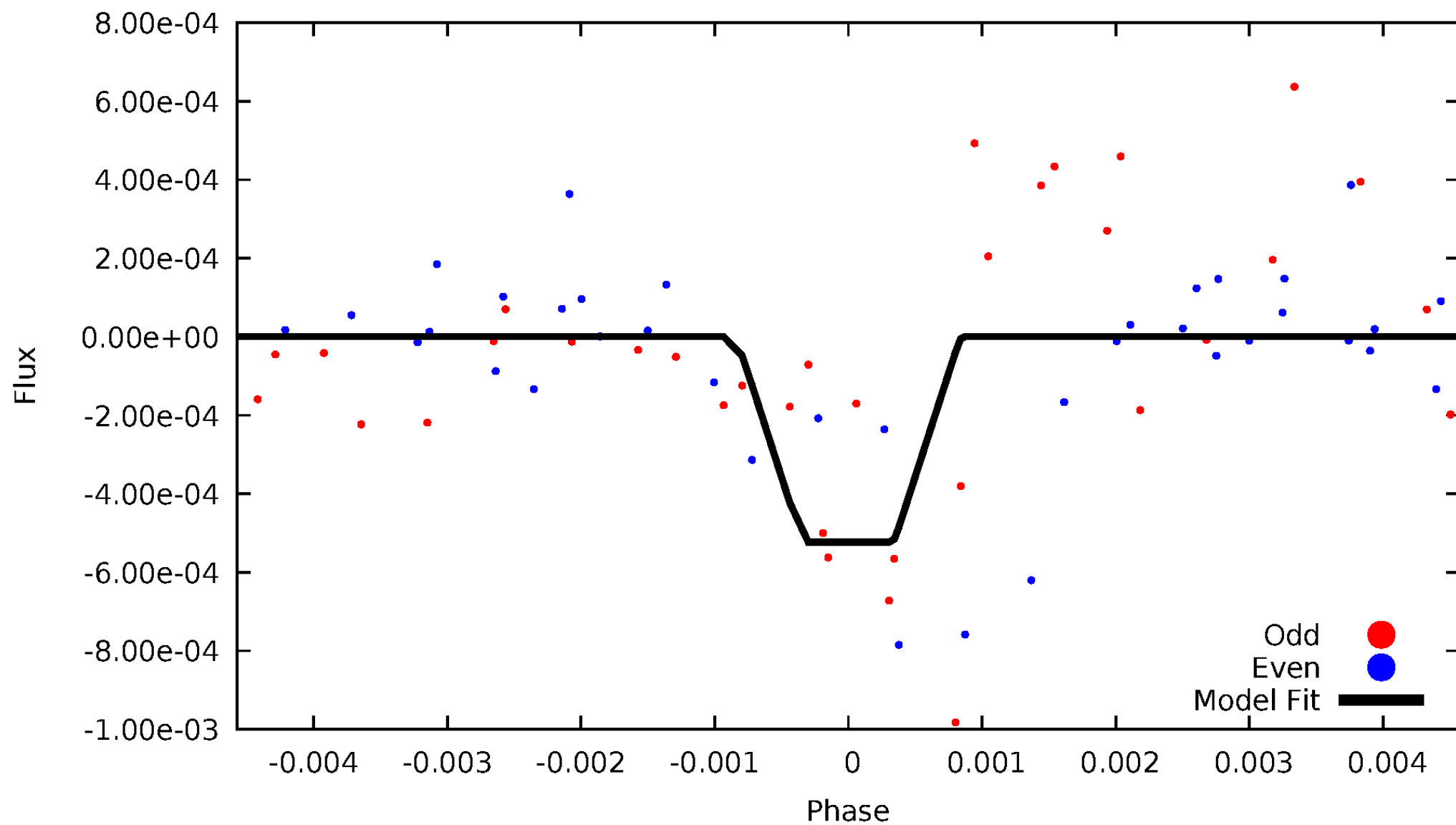
DV Odd/Even

TCE 011027270-07



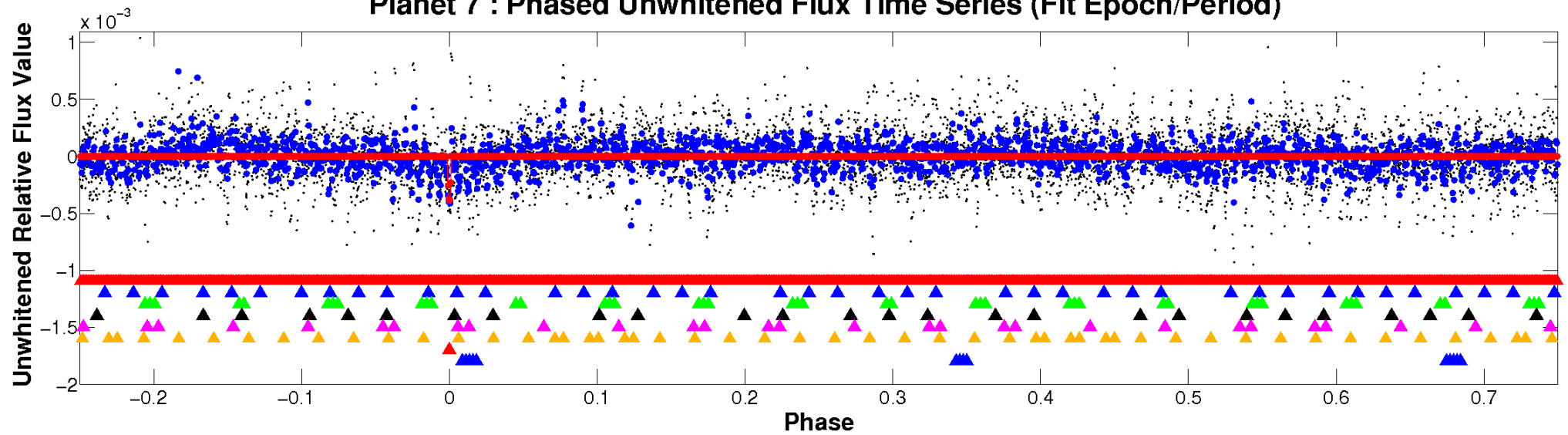
ALT Odd/Even

TCE 011027270-07

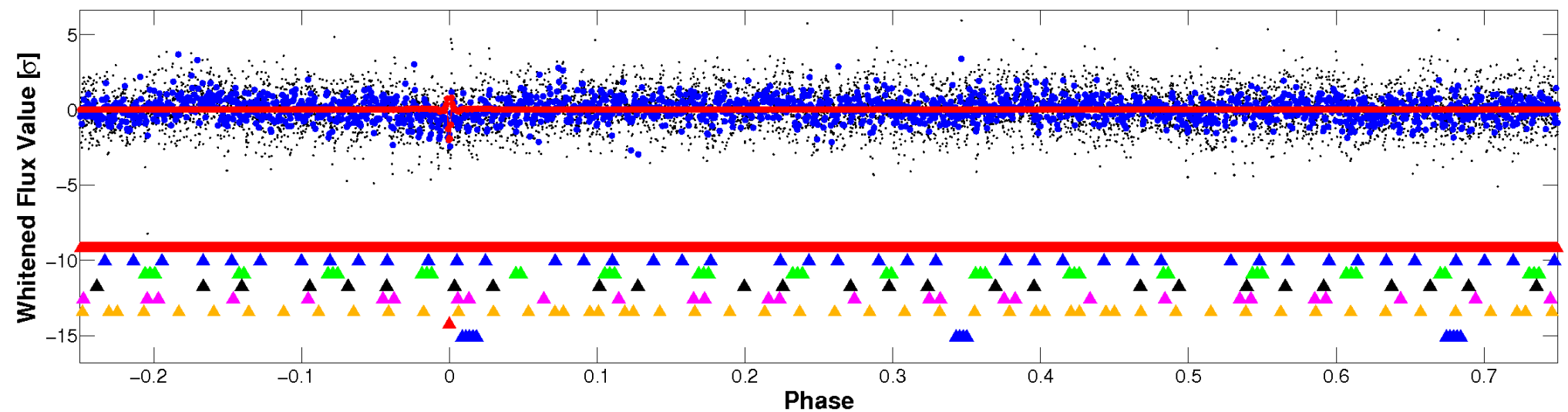


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

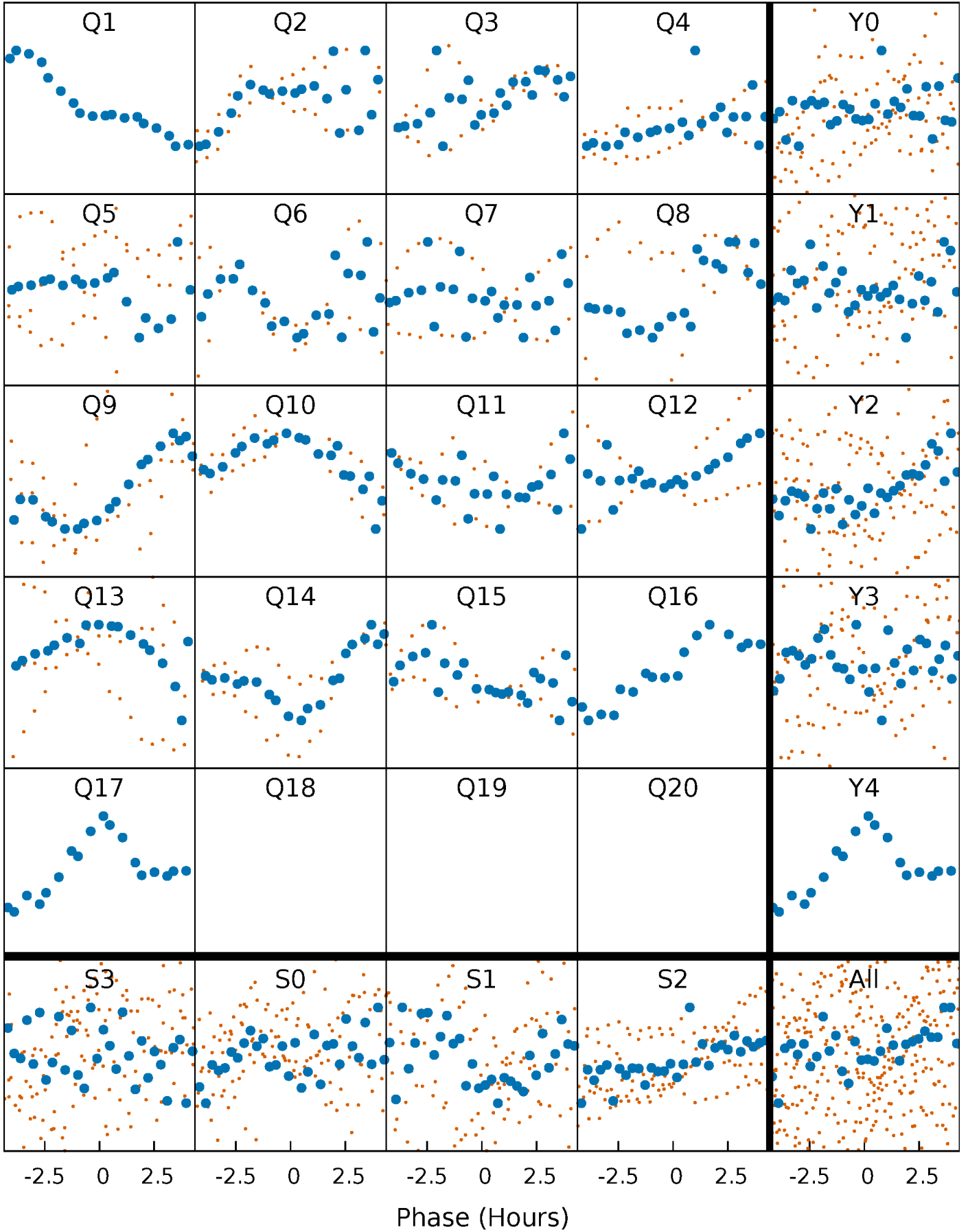


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



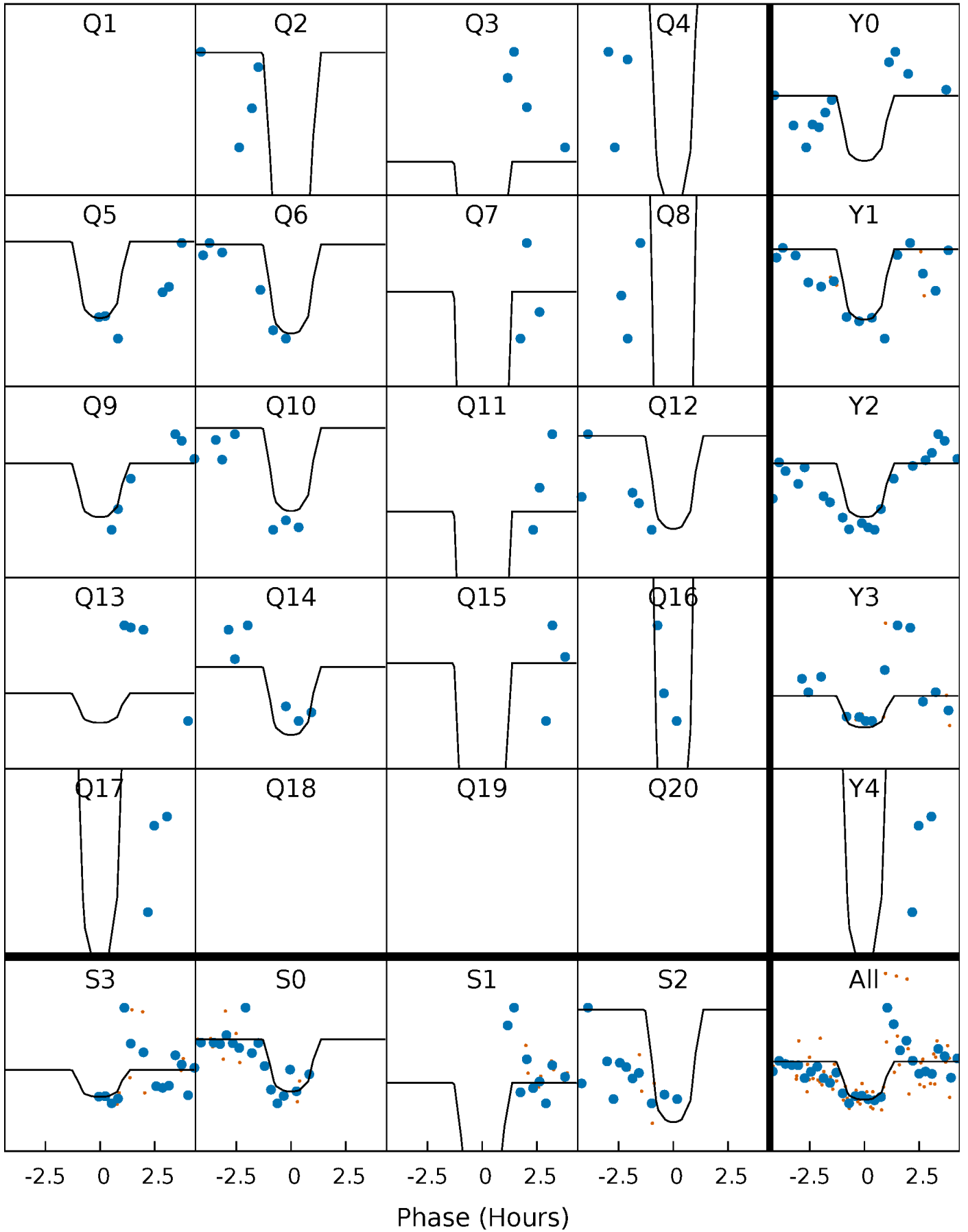
PDC Quarter-Phased Transit Curves

TCE 011027270-07 $P = 41.236838$ Days $T_0 = 159.131901$ (BKJD)



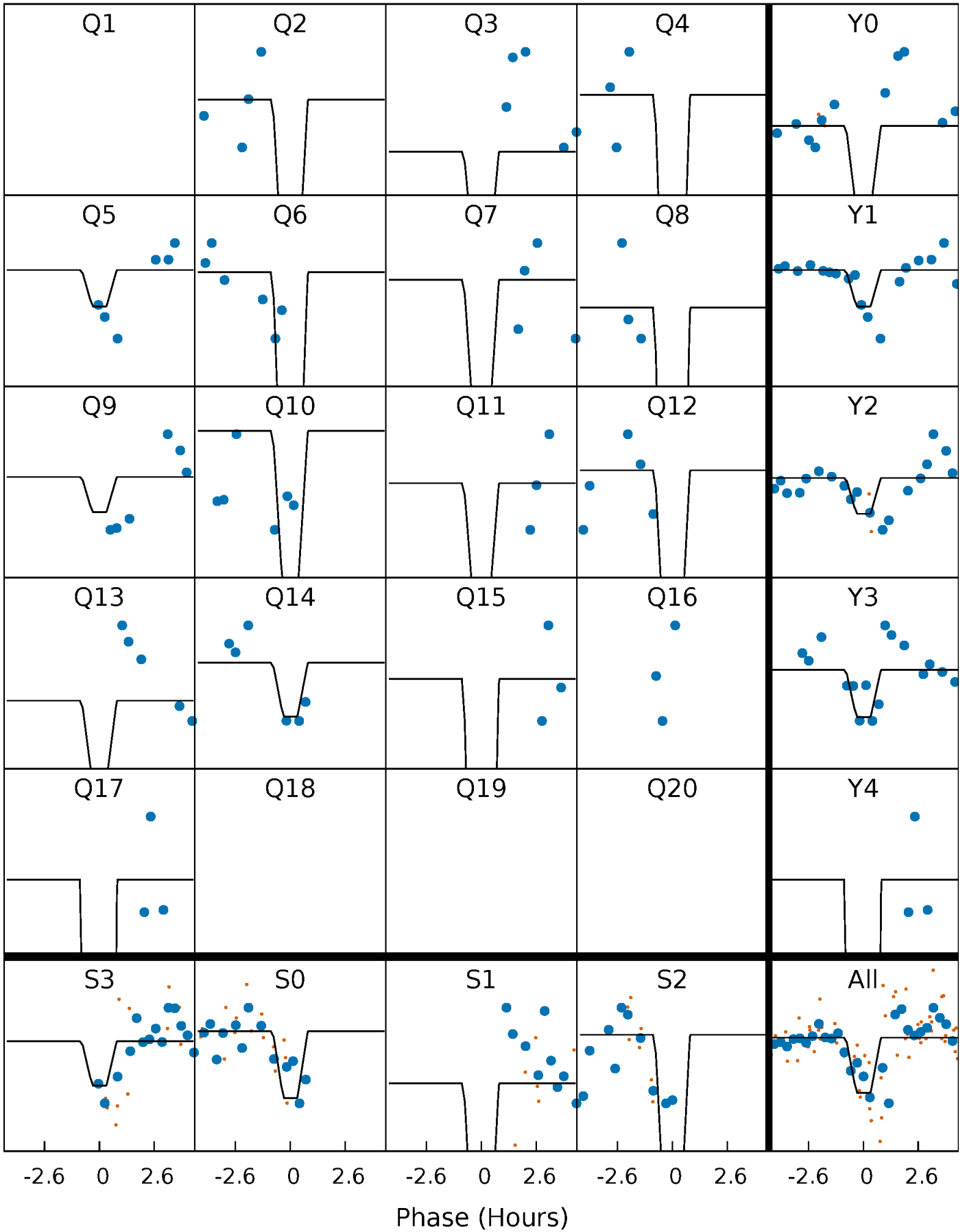
DV Quarter-Phased Transit Curves

TCE 011027270-07 P= 41.236838 Days $T_0=159.131901$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

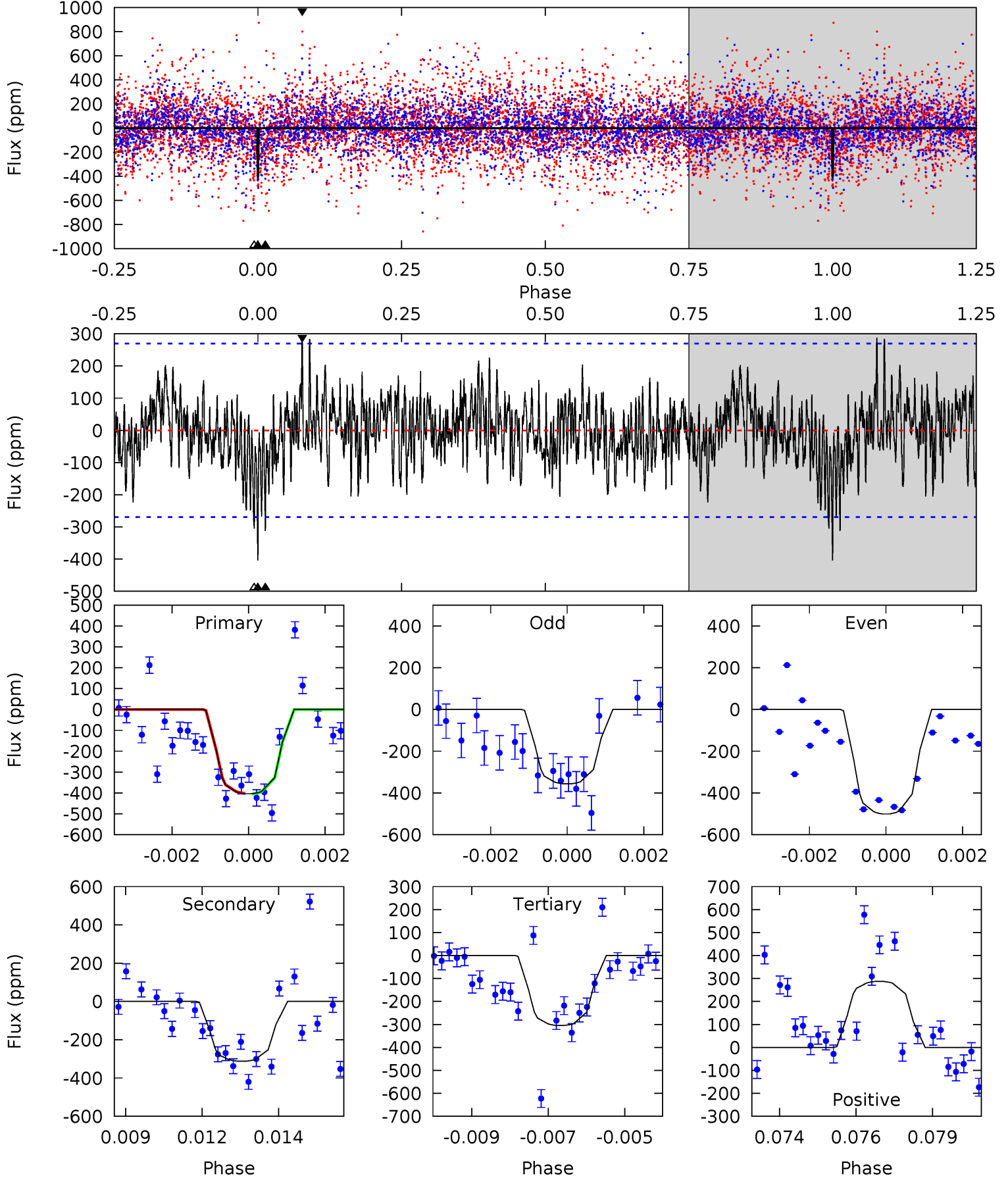
TCE 011027270-07 $P = 41.236939$ Days $T_0 = 159.130877$ (BKJD)



DV Model-Shift Uniqueness Test

011027270-07, P = 41.236838 Days, E = 117.895063 Days

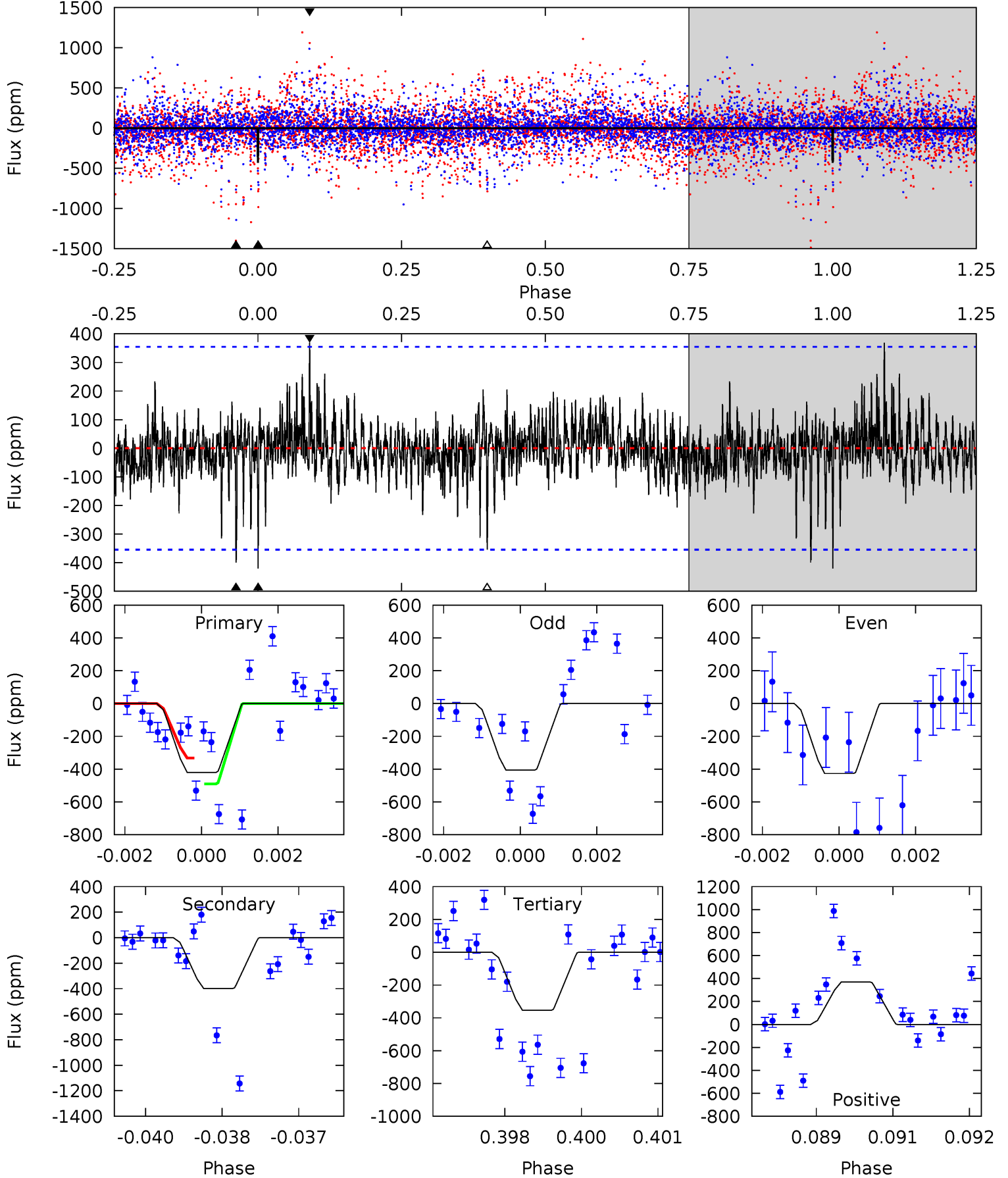
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.94	6.14	5.99	5.65	5.30	3.05	1.62	1.95	2.29	0.15	0.49	1.35	0.94	0.42	0.02



Alt Model-Shift Uniqueness Test

011027270-07, P = 41.236939 Days, E = 117.893938 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.36	6.04	5.35	5.58	5.37	3.16	1.12	1.00	0.77	0.68	0.45	0.15	1.36	0.47	1.16



Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-312 ± 51	$5.25^{+4.34}_{-3.21}$	1248^{+95}_{-125}	6048^{+4868}_{-1334}	431^{+2345}_{-301}
Alt.	-399 ± 66	$5.61^{+4.53}_{-3.29}$	1244^{+95}_{-140}	6245^{+4797}_{-1443}	468^{+2391}_{-323}

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 $A_{obs} \gg 1.0$

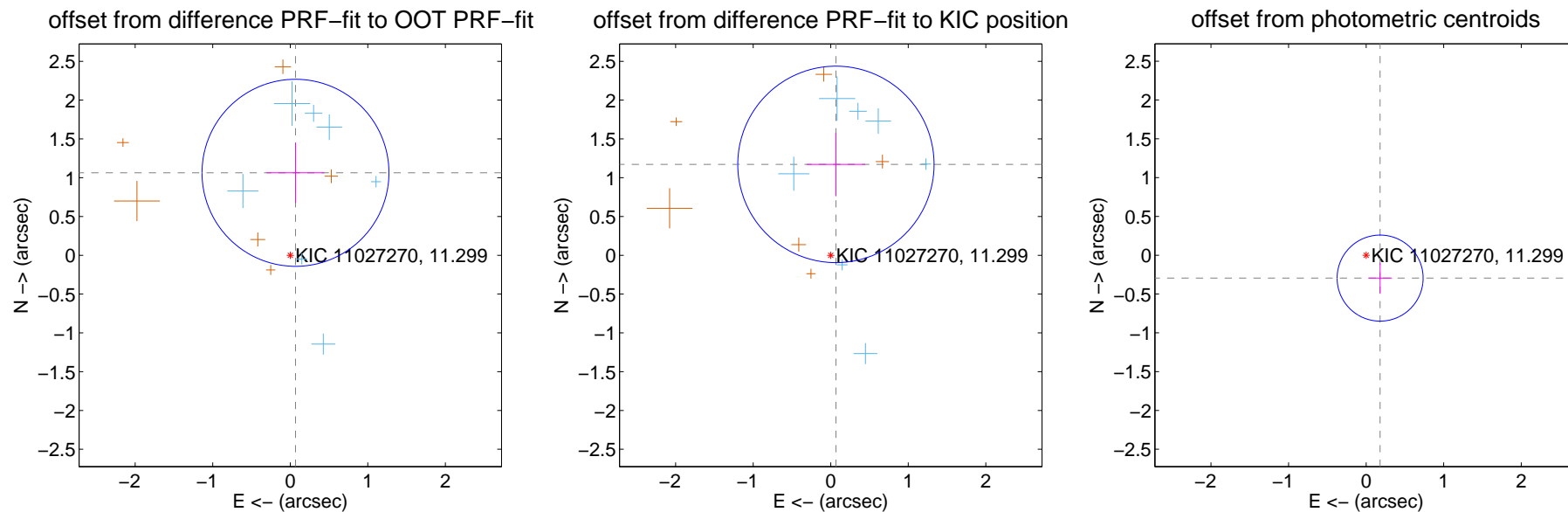
DV Centroid Data

Supplemental centroid analysis for 011027270-07. **Kepler magnitude: 11.30.** Transit SNR 7.56

There are 9 quarters with good PRF difference image offsets

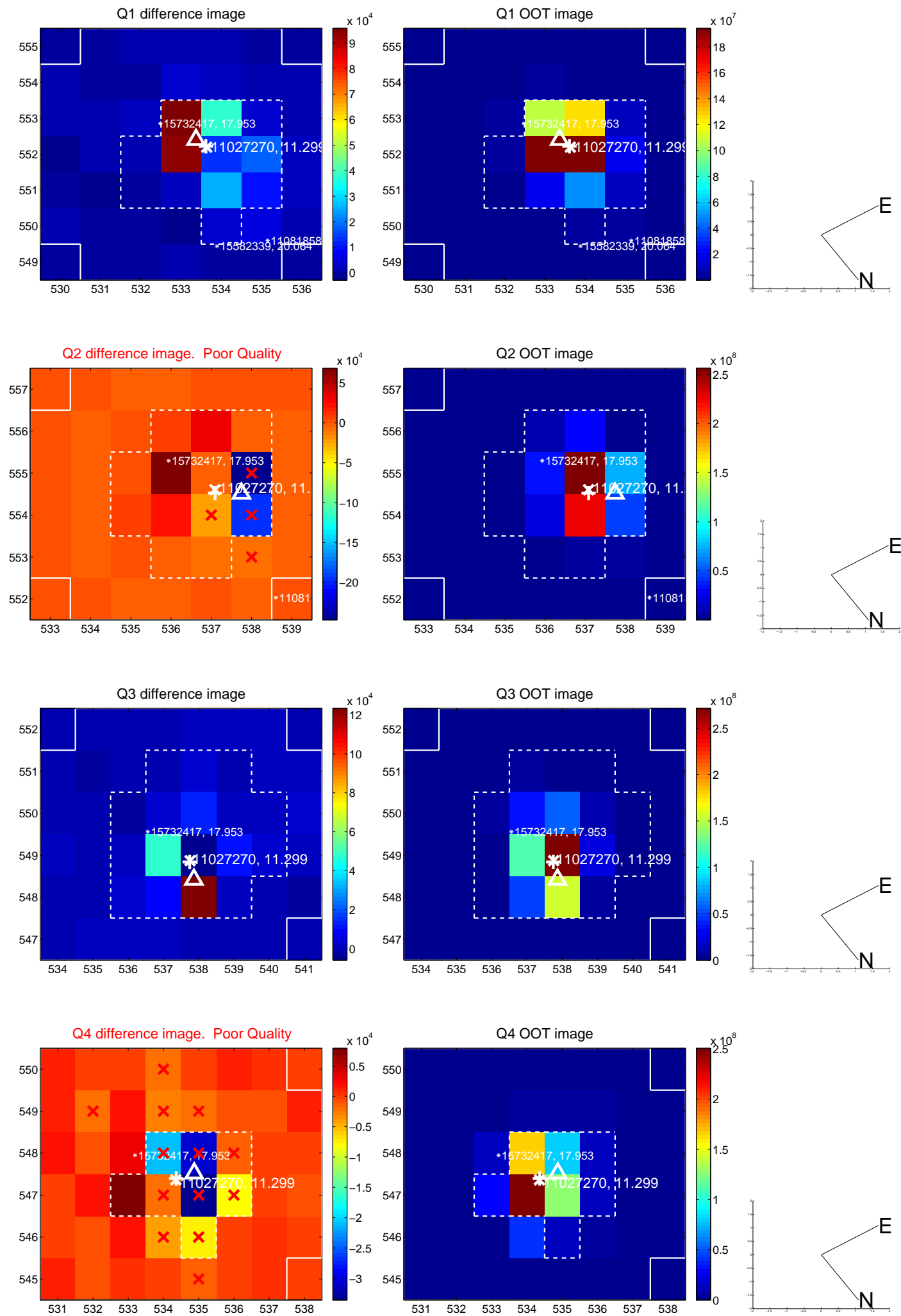
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.065 ± 0.402	2.65	-0.067 ± 0.372	1.063 ± 0.388
PRF-fit source offset from KIC position	1.173 ± 0.422	2.78	-0.067 ± 0.377	1.171 ± 0.409
photometric centroid source offset	0.35 ± 0.18	1.87	-0.18 ± 0.15	-0.29 ± 0.20

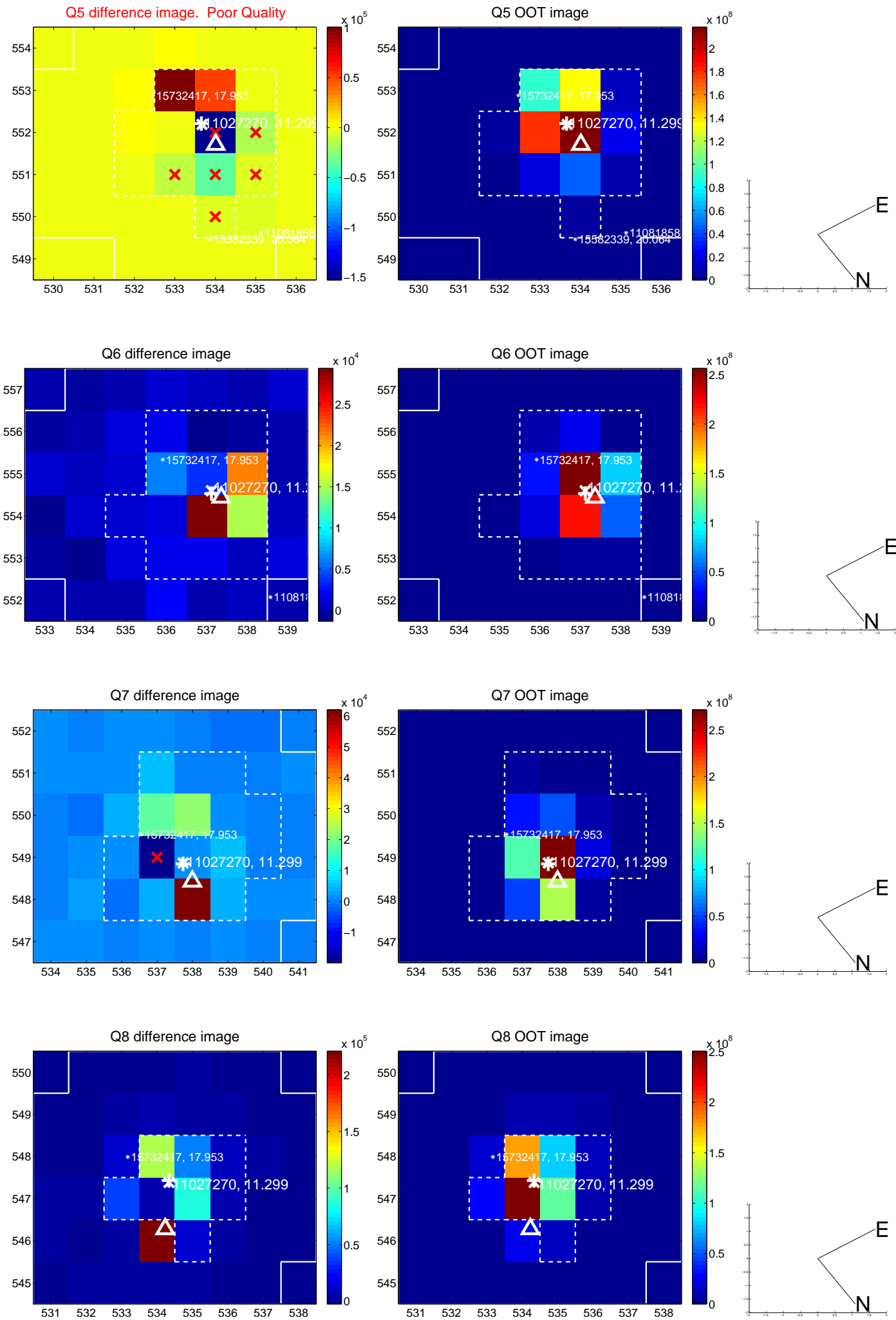


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

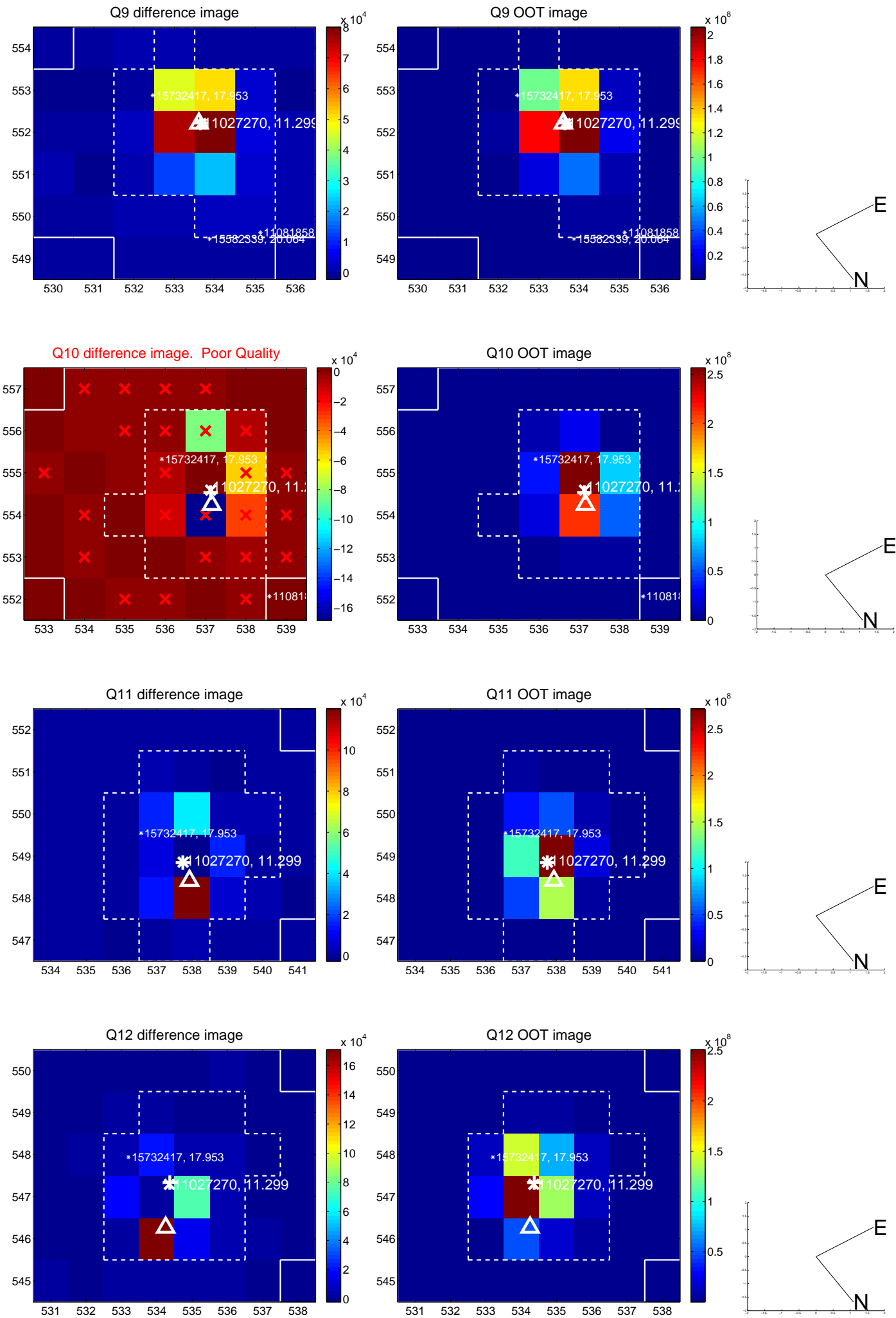
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



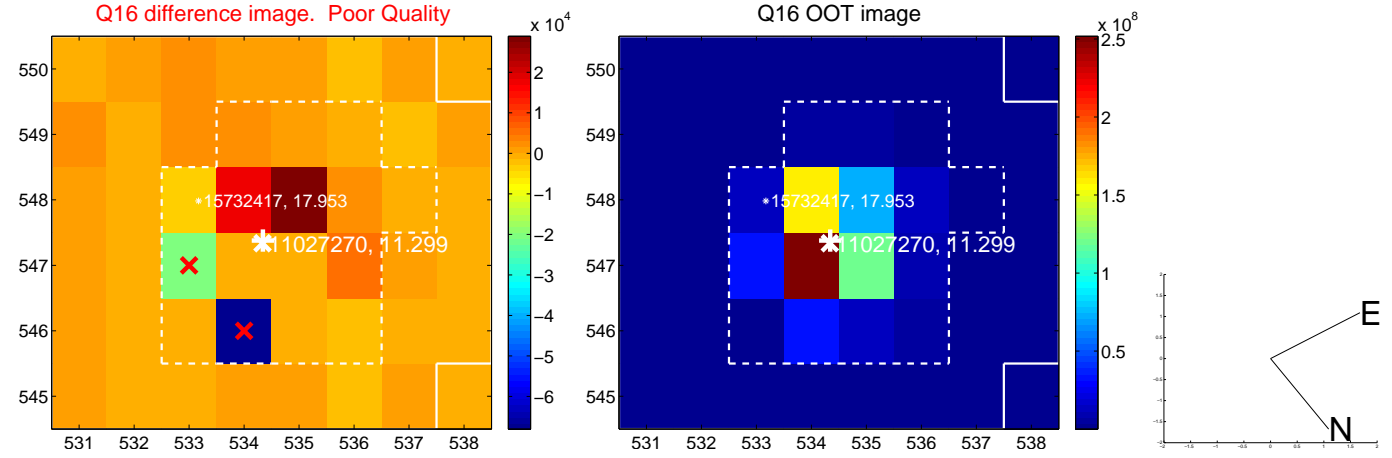
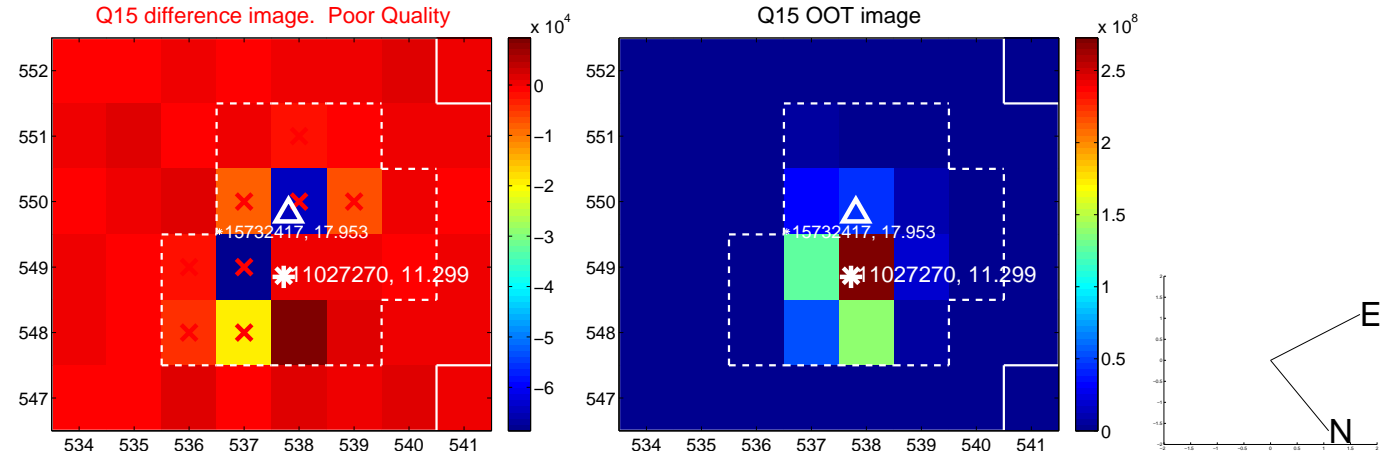
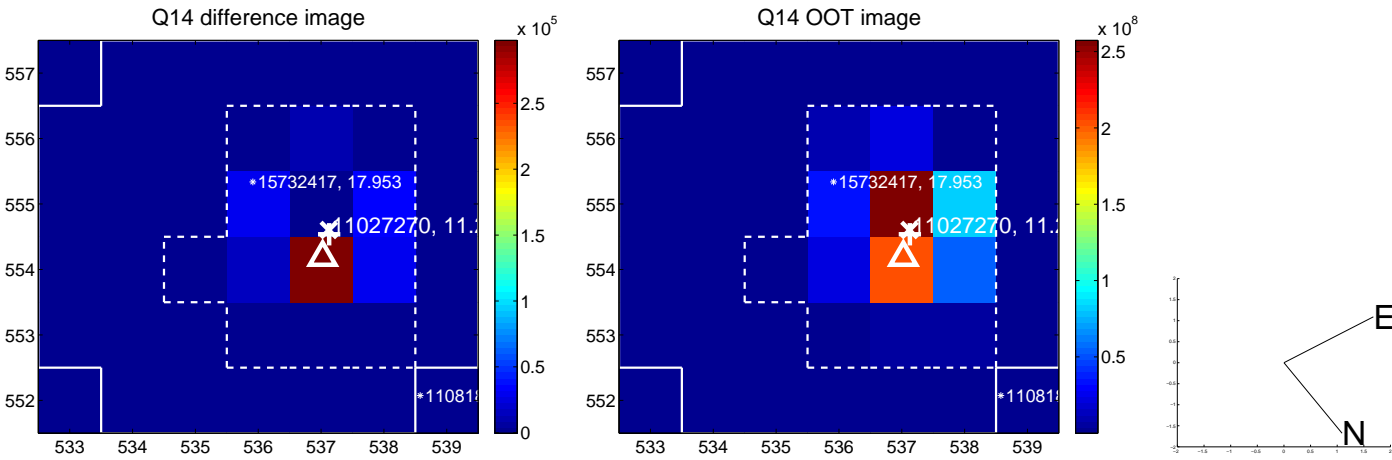
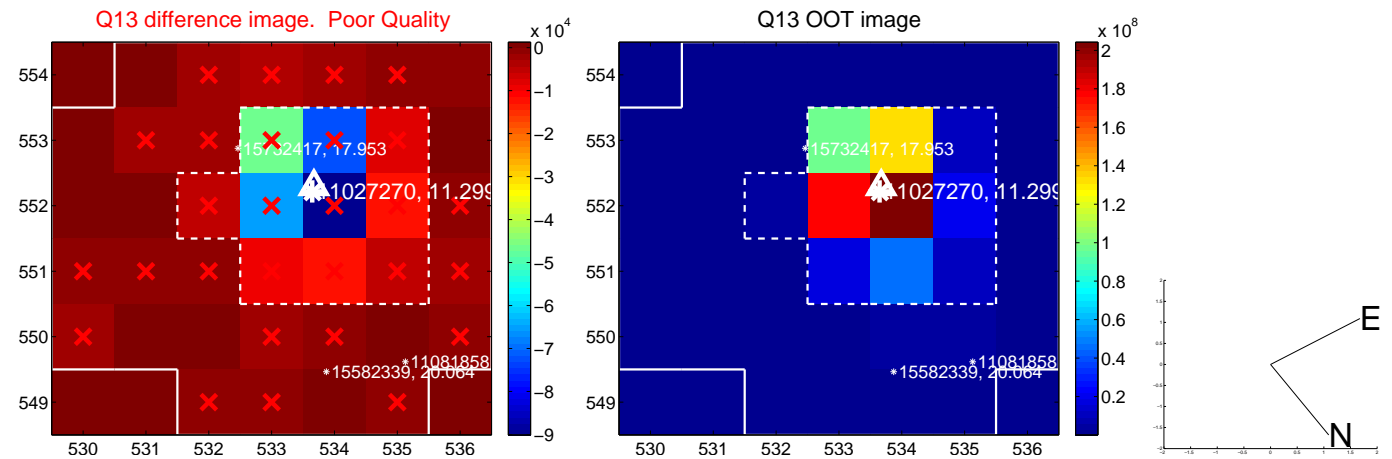
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



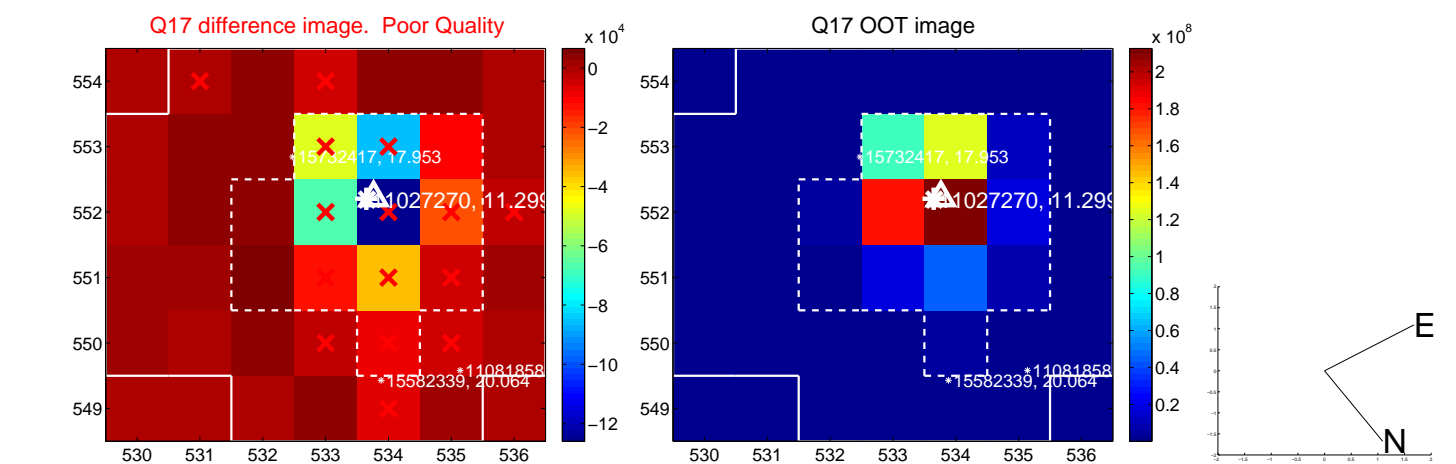
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



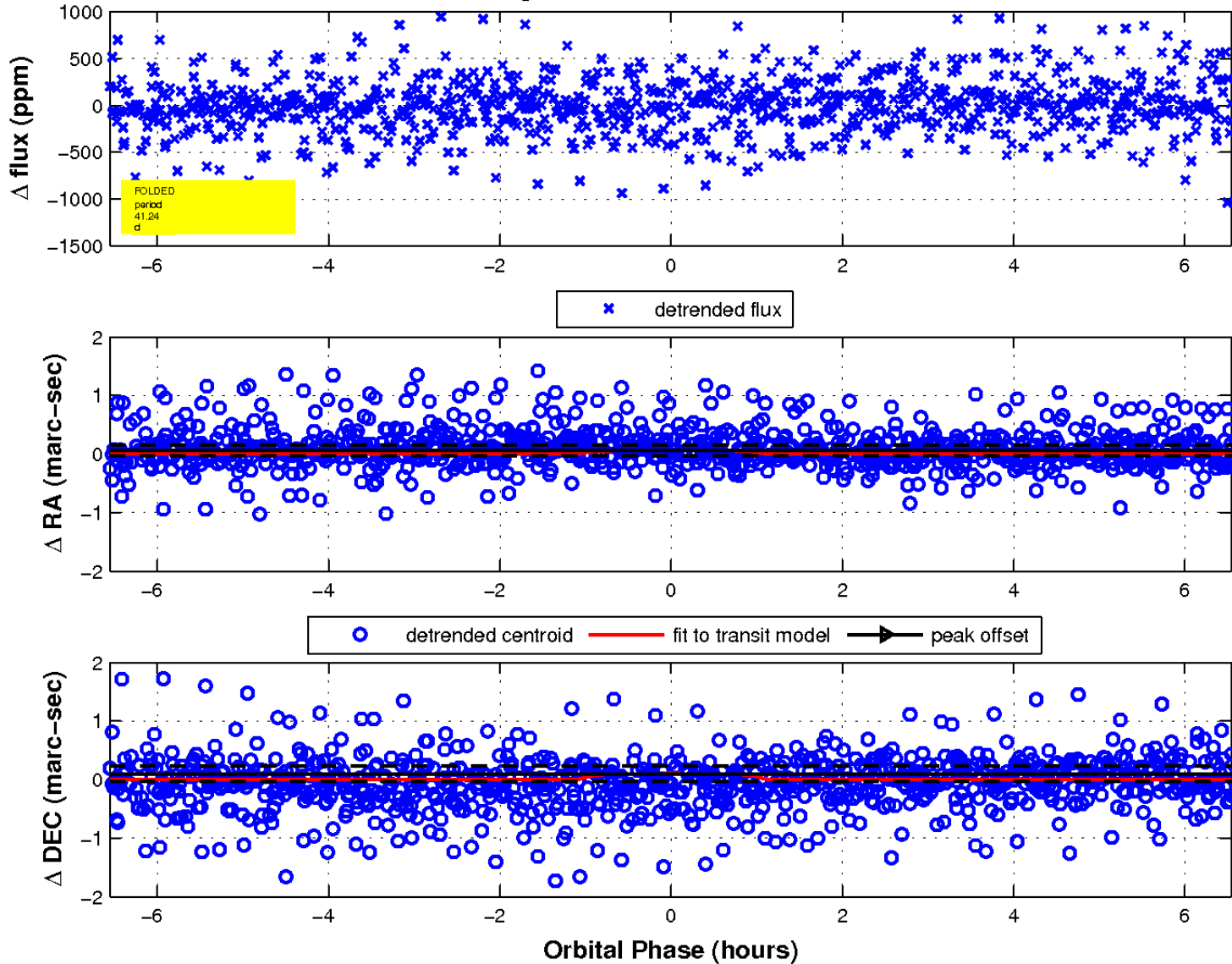
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



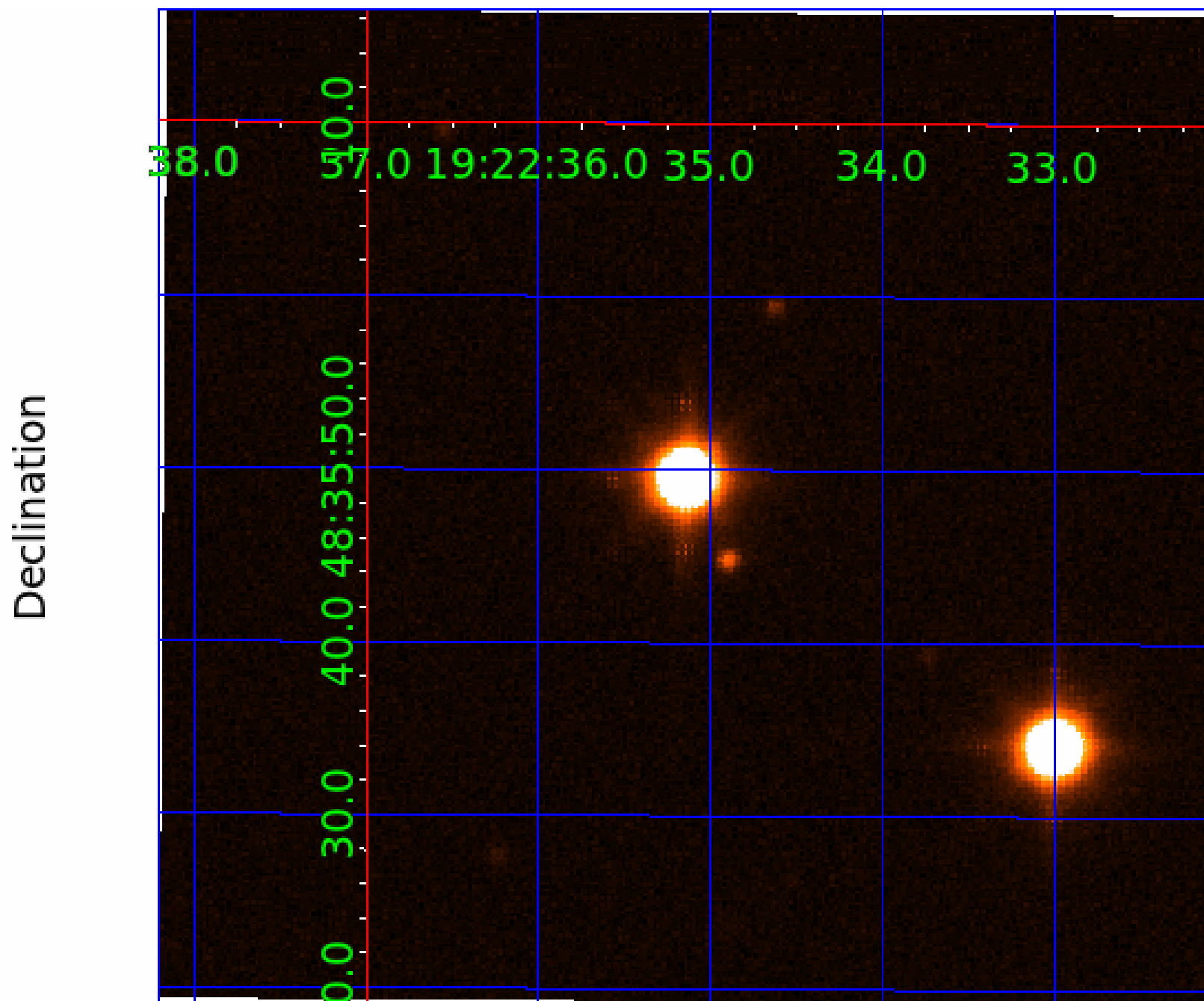
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 7 of 8



UKIRT Image



KIC 011027270

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})
011027270-01	OBS	No	0.530231	131.514837	7.9	3.593	9.3	3.4	2.18	7163	0.62	54520.48
011027270-02	OBS	No	34.954028	155.006074	93.3	0.541	12.8	1.0	2.18	7163	2.22	204.73
011027270-03	OBS	No	33.513391	163.471012	364.9	1.140	11.8	7.2	2.18	7163	4.33	216.55
011027270-04	OBS	No	56.329769	140.140948	492.4	2.418	11.6	8.9	2.18	7163	5.50	108.36
011027270-05	OBS	No	49.902113	172.829311	543.0	1.679	12.6	9.8	2.18	7163	5.17	127.36
011027270-06	OBS	No	27.816400	147.681992	315.8	3.313	10.7	8.3	2.18	7163	4.17	277.62
011027270-07	OBS	No	41.236838	159.131901	390.7	2.185	9.1	7.6	2.18	7163	4.88	164.24
011027270-08	OBS	No	109.932102	159.887063	468.4	1.620	9.0	7.6	2.18	7163	4.81	44.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011027270-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
011027270-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED
011027270-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—CENT_SATURATED
011027270-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
011027270-07	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_SATURATED
011027270-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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.

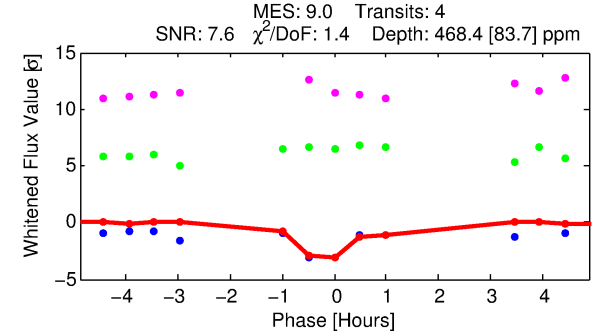
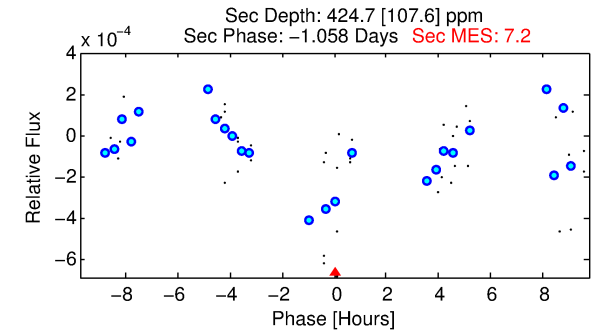
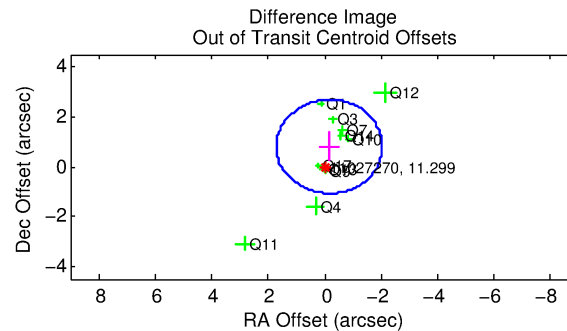
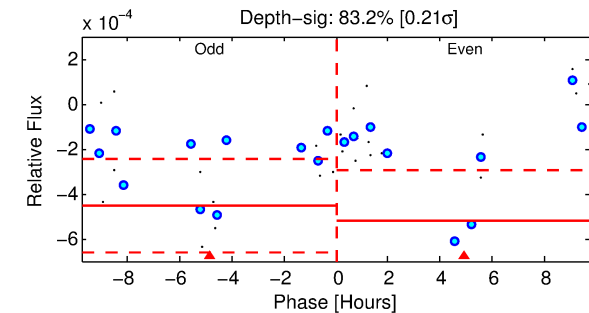
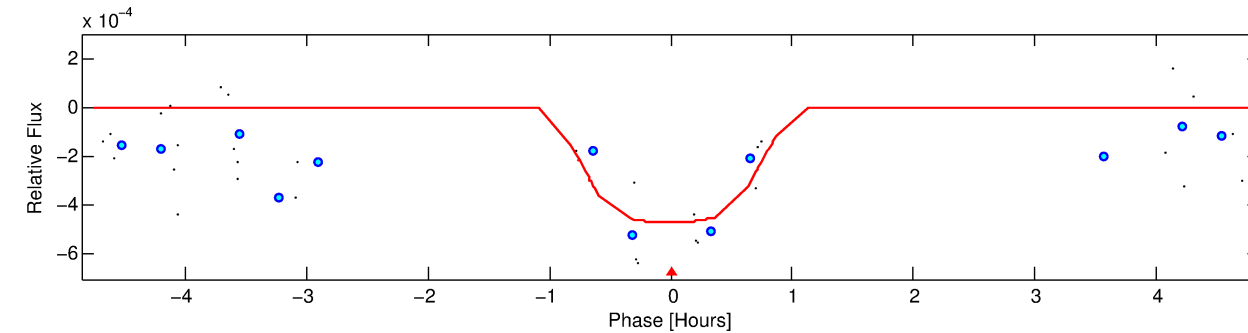
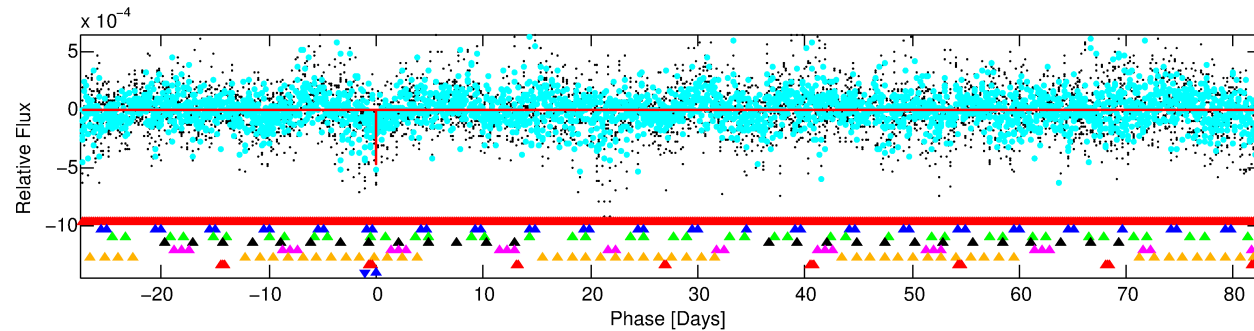
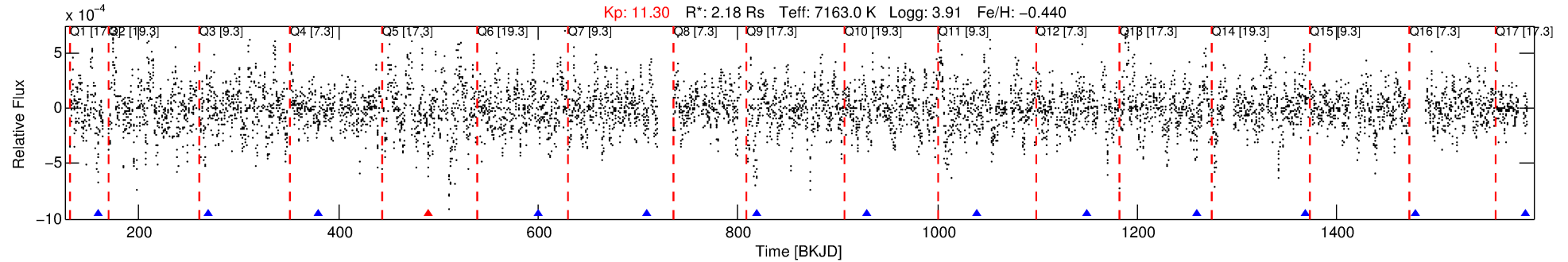
Ephemeris Match Information For 011027270-08

No Significant Match Found

DV One-Page Summary

KIC: 11027270 Candidate: 8 of 8 Period: 109.932 d
KOI: K07401 Corr: No Ephemeris Match

Kp: 11.30 R*: 2.18 Rs Teff: 7163.0 K Logg: 3.91 Fe/H: -0.440



DV Fit Results:

Period = 109.93210 [0.00205] d
Epoch = 159.8871 [0.0086] BKJD
Rp/R* = 0.0203 [0.0807]
a/R* = 507.77 [11362.92]
b = 0.29 [71.84]
Seff = 44.43 [28.16]
Teq = 658 [104] K
Rp = 4.81 [19.26] Re
a = 0.5016 [0.1895] AU
Ag = 2537.41 [20285.74] [0.13σ]
Teffp = 7224 [14398] K [0.46σ]

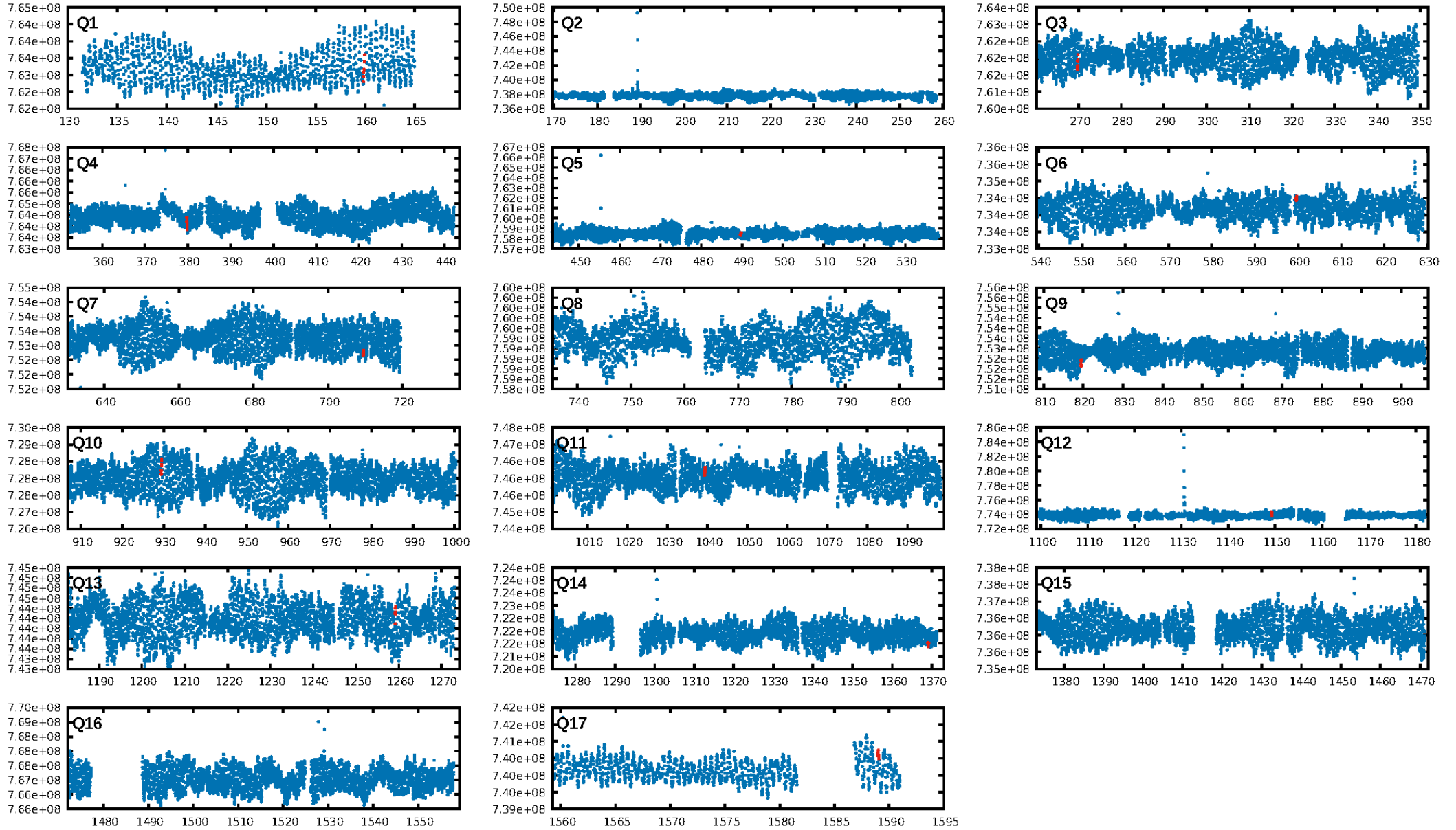
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [441.96σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 43.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 9.11e-11
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 1.108
Centroid-sig: 31.1%
Centroid-so: 0.256 arcsec [1.07σ]
OotOffset-rm: 0.822 arcsec [1.32σ]
OotOffset-st: 2/3/2/4 [11]
KicOffset-rm: 0.876 arcsec [1.50σ]
KicOffset-st: 2/3/2/4 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/12]

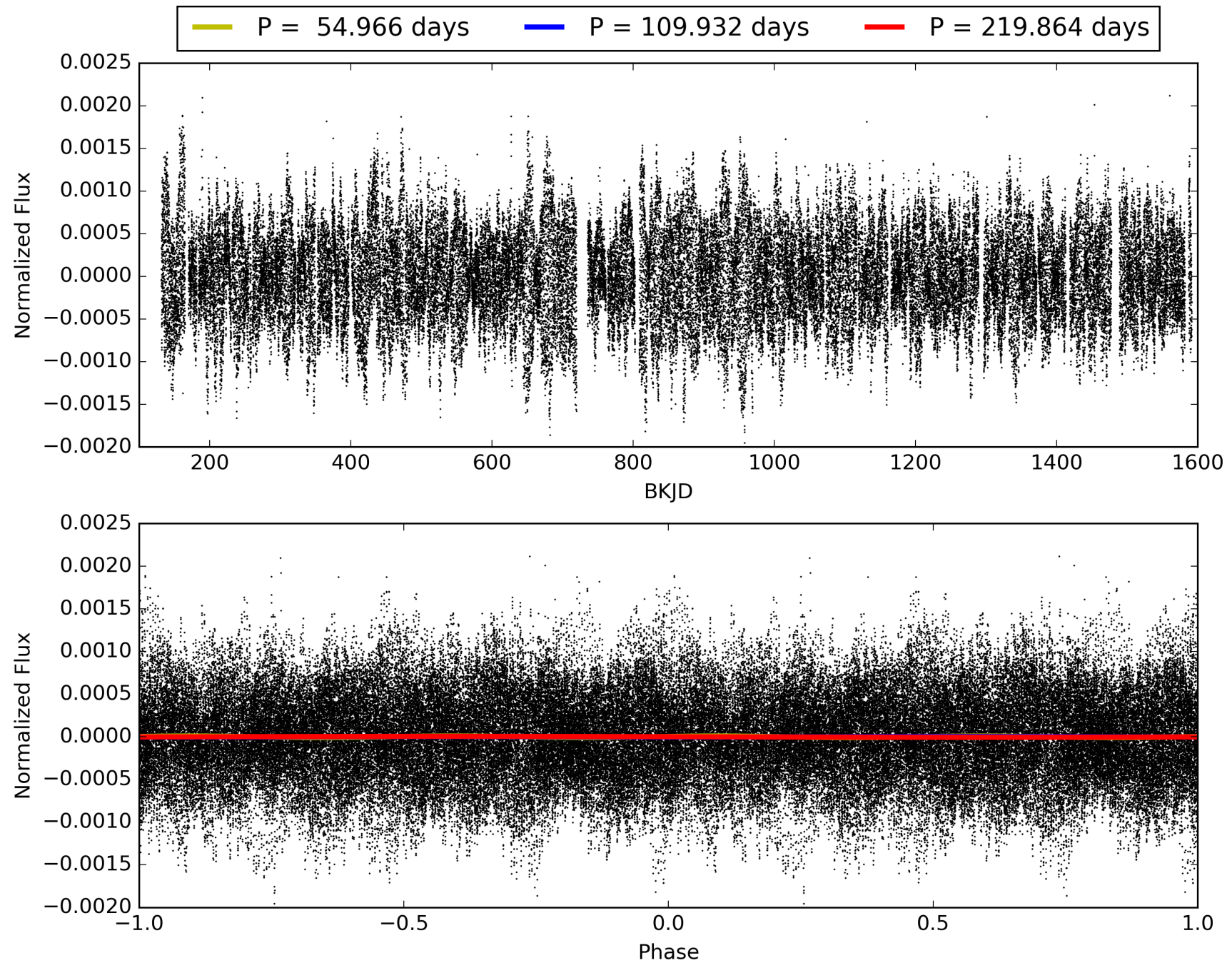
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:12:50 Z

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

TCE 011027270-08, PDC Light Curves

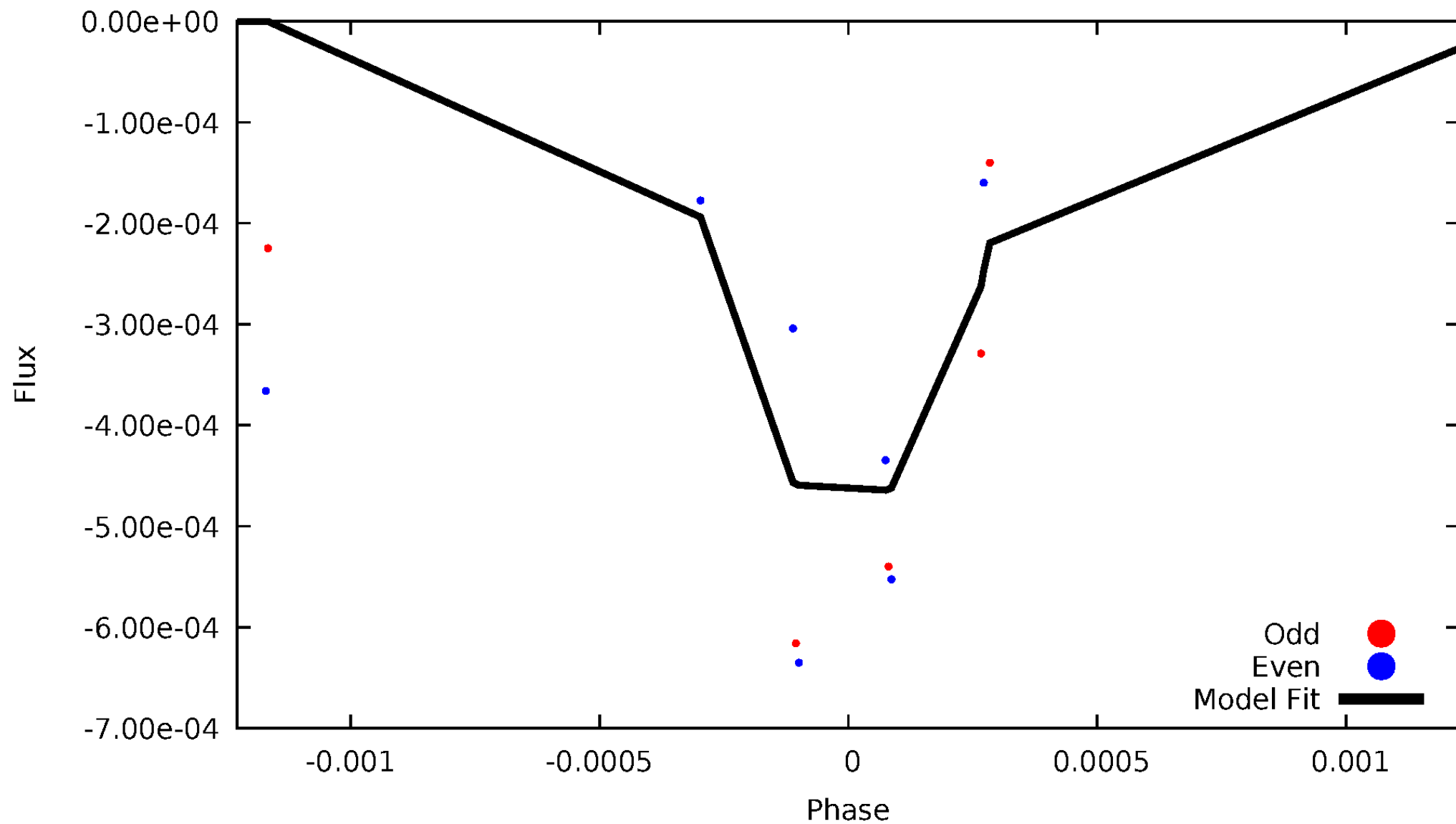


TCE 011027270-08



DV Odd/Even

TCE 011027270-08

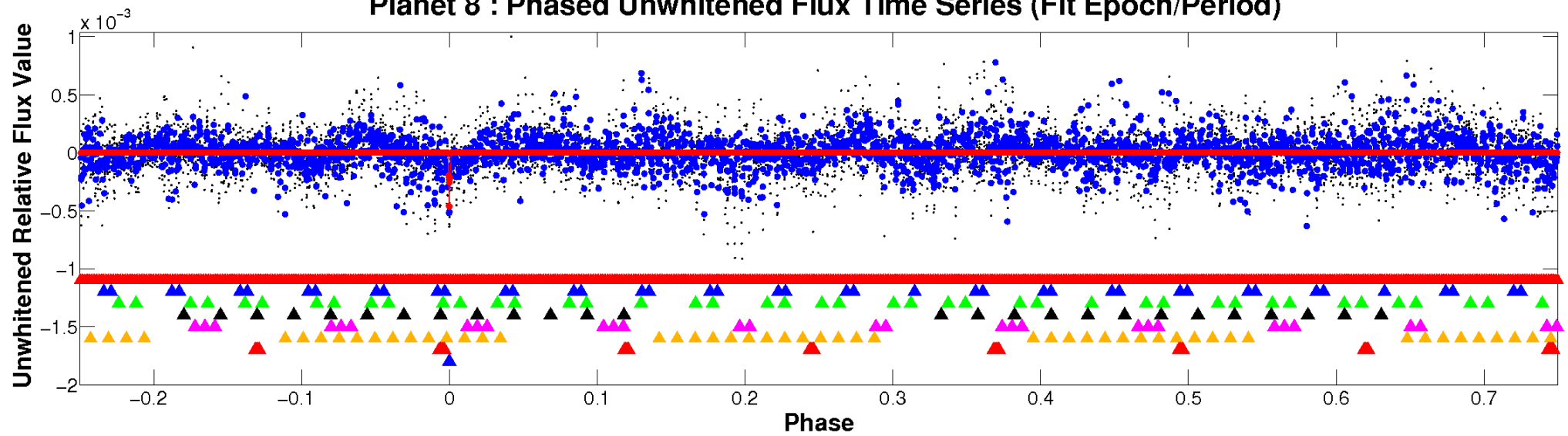


ALT Odd/Even

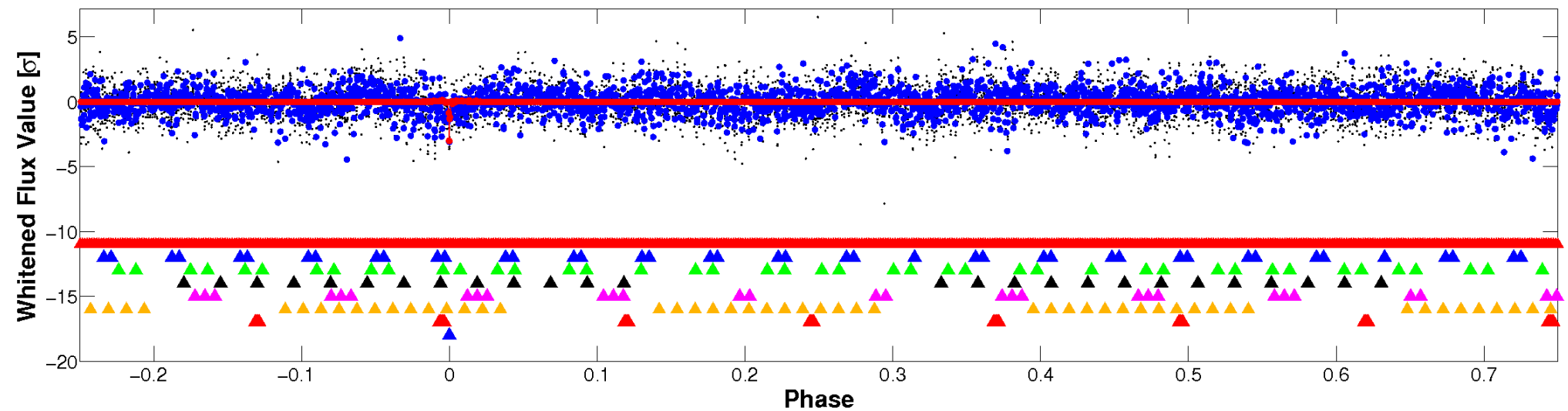
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

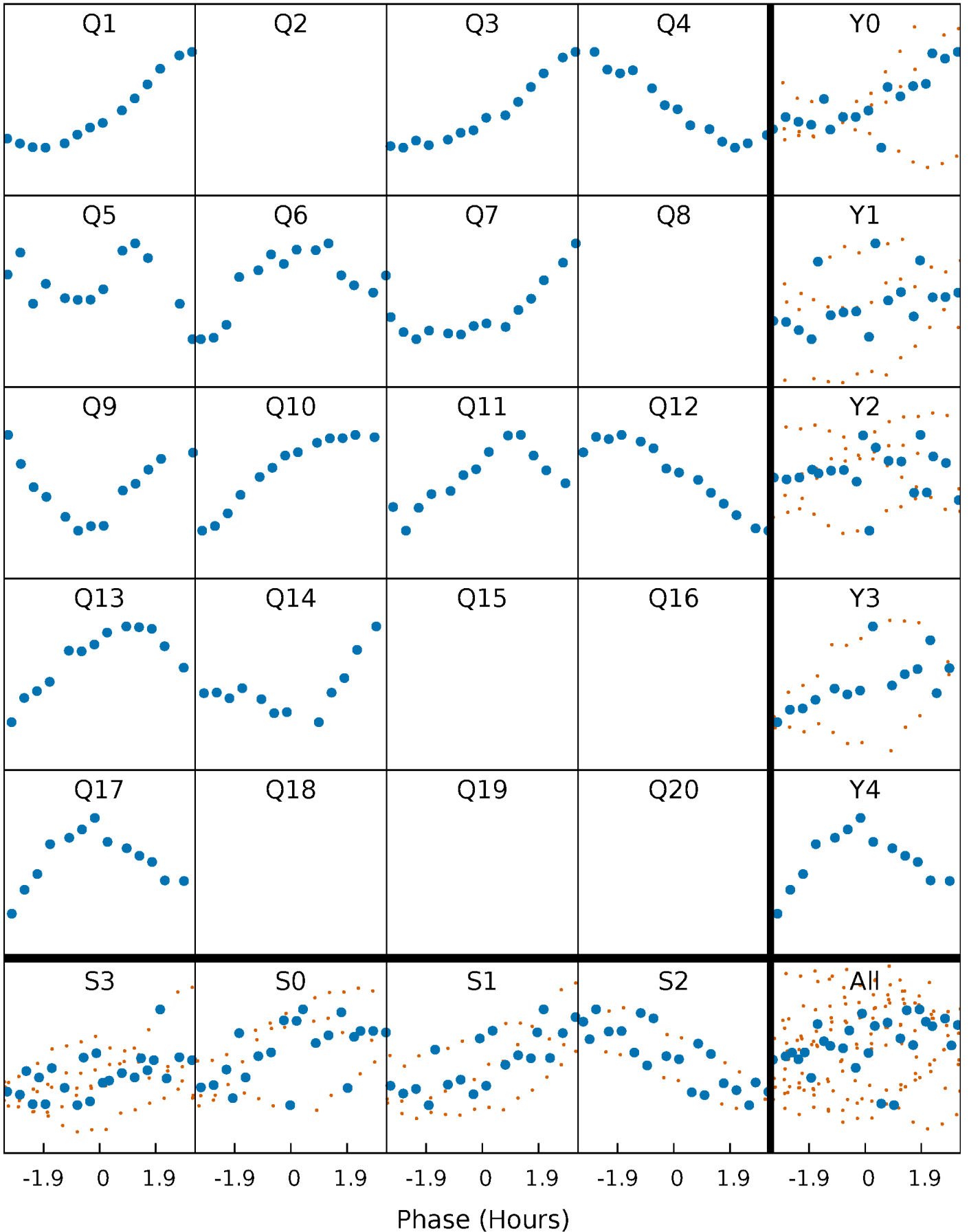


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



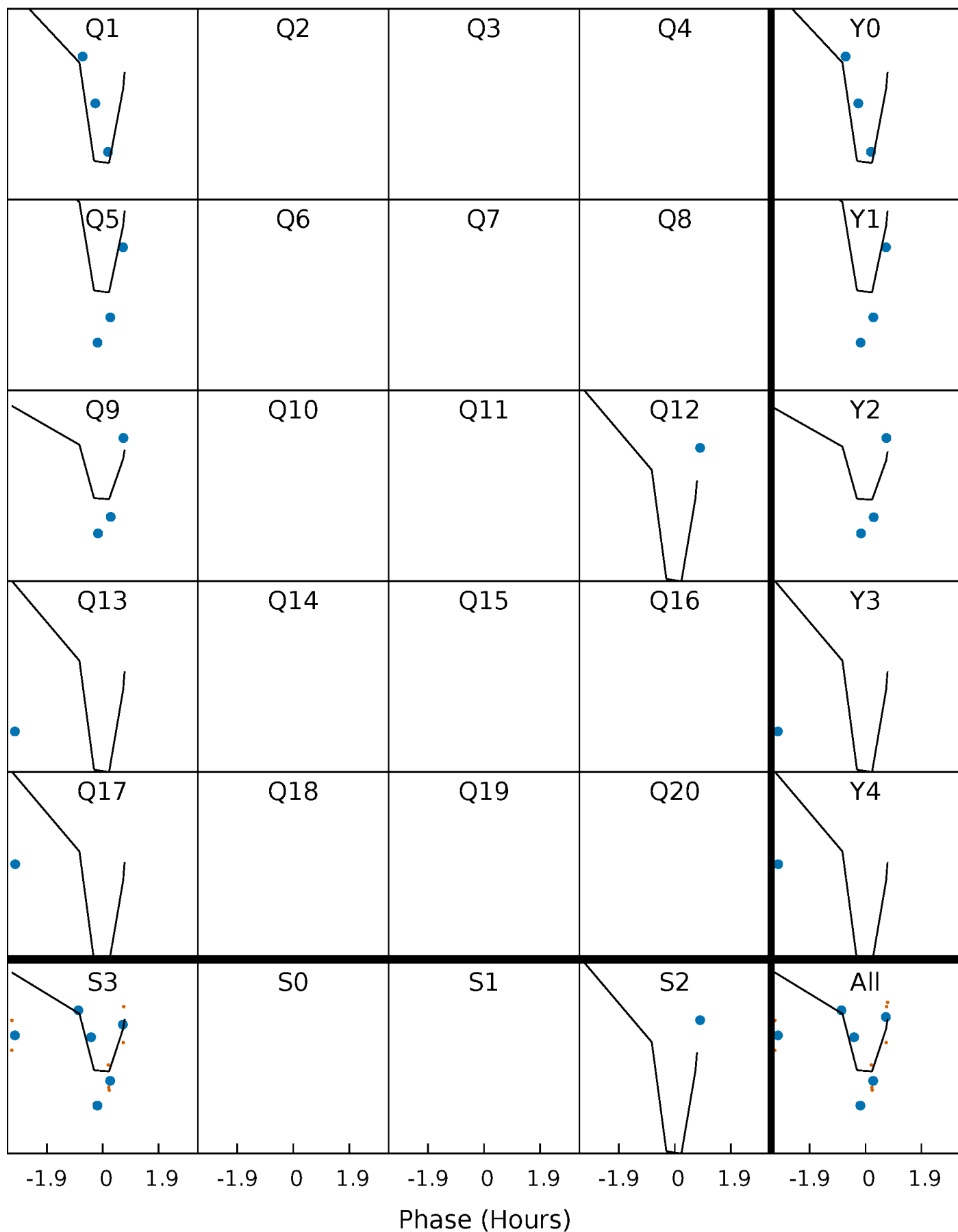
PDC Quarter-Phased Transit Curves

TCE 011027270-08 P=109.932102 Days $T_0=159.887063$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011027270-08 $P=109.932102$ Days $T_0=159.887063$ (BKJD)

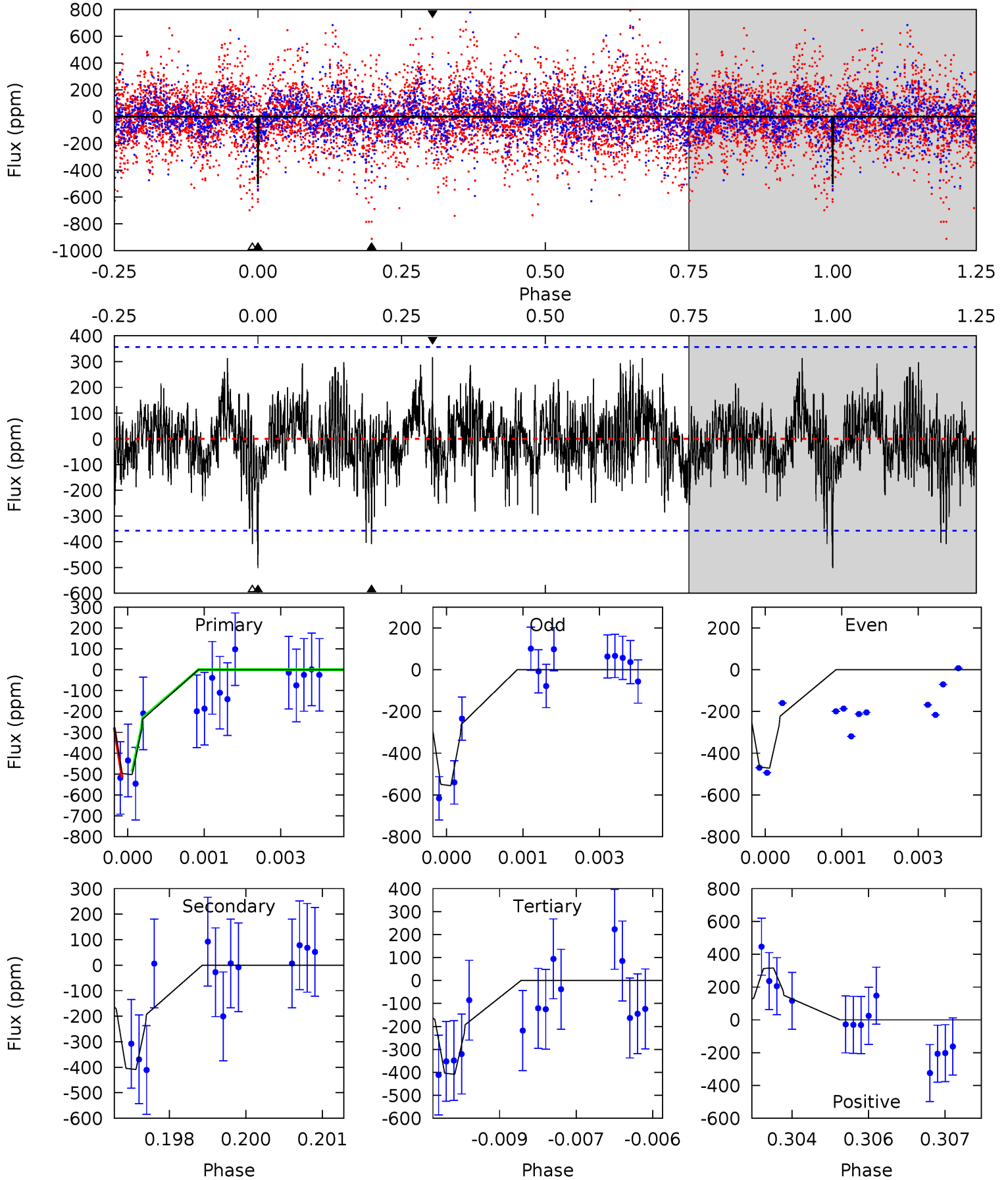


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

011027270-08, P = 109.932102 Days, E = 49.954961 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	6.17	6.16	4.78	5.38	3.18	1.50	1.42	2.81	0.01	1.39	0.63	0.90	0.39	0.17



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 011027270

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7163^{+176}_{-252}	$3.906^{+0.368}_{-0.123}$	$-0.440^{+0.300}_{-0.300}$	$2.177^{+0.546}_{-0.819}$	$1.392^{+0.206}_{-0.251}$	$0.190^{+0.506}_{-0.071}$
	+2%/-4%	+9%/-3%	+68%/-68%	+25%/-38%	+15%/-18%	+266%/-37%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011027270-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-409 ± 66	$14.52^{+15.11}_{-10.24}$	899^{+70}_{-93}	4190^{+3090}_{-860}	266^{+2946}_{-202}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

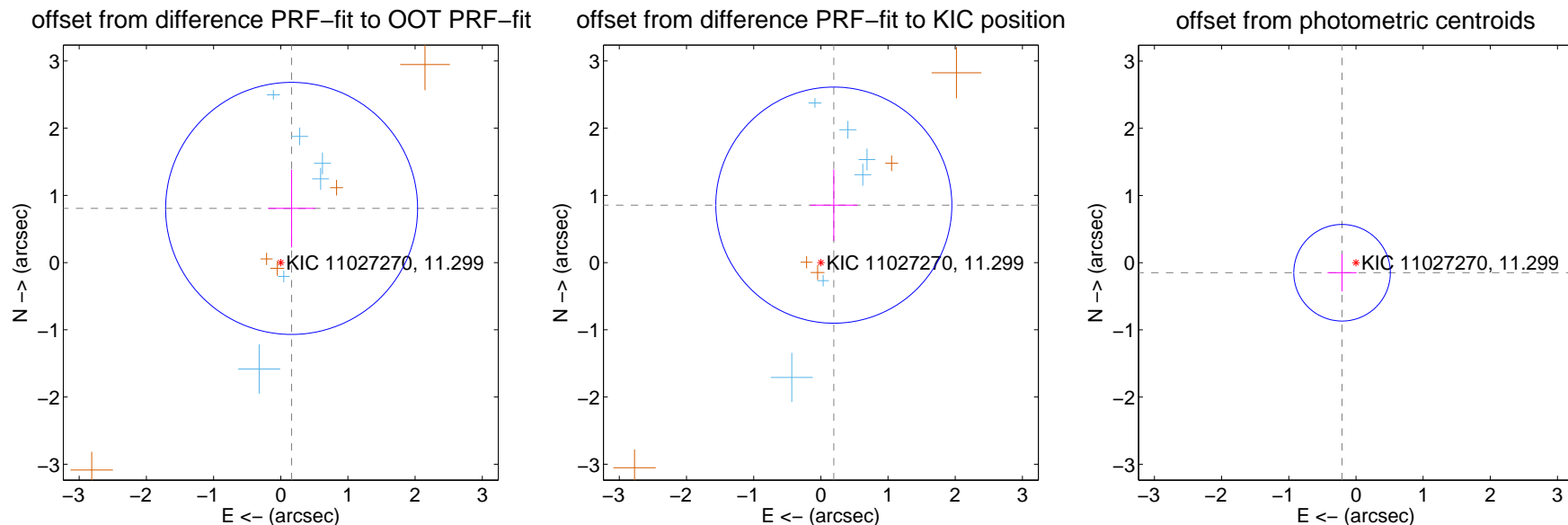
DV Centroid Data

Supplemental centroid analysis for 011027270-08. **Kepler magnitude: 11.30.** Transit SNR 7.64

There are 6 quarters with good PRF difference image offsets

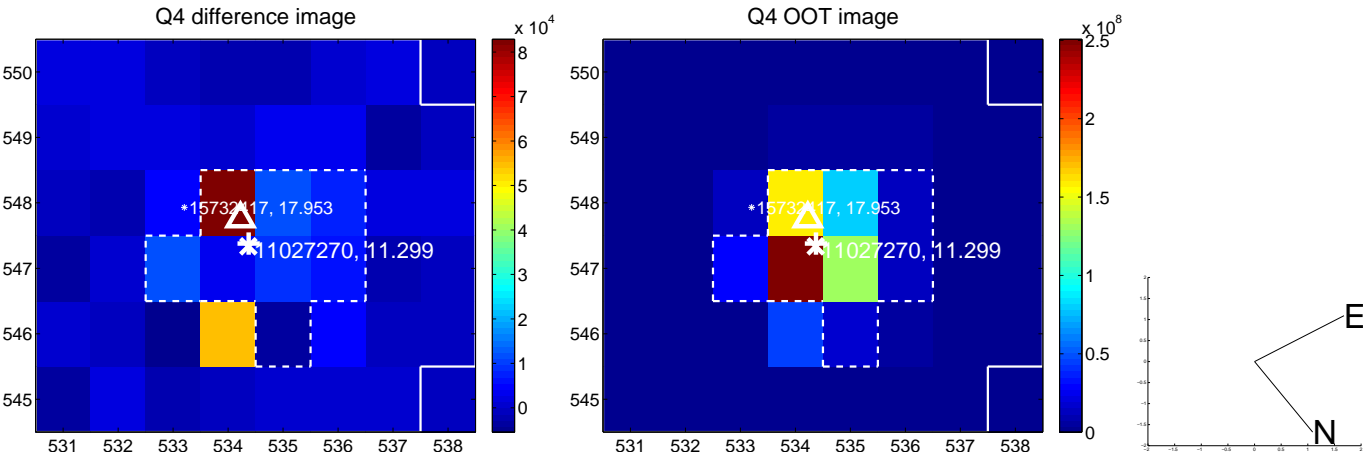
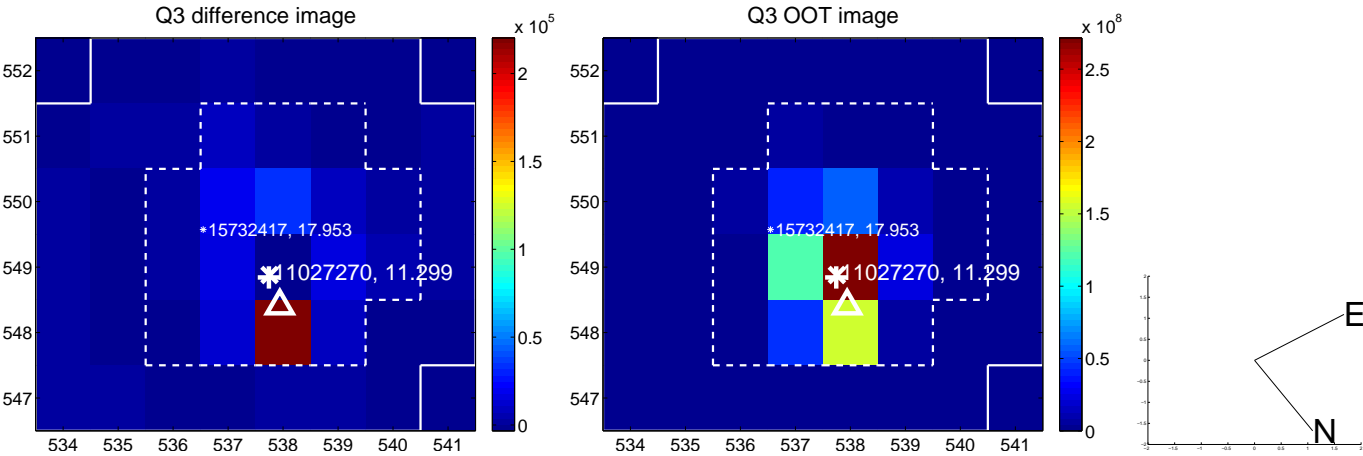
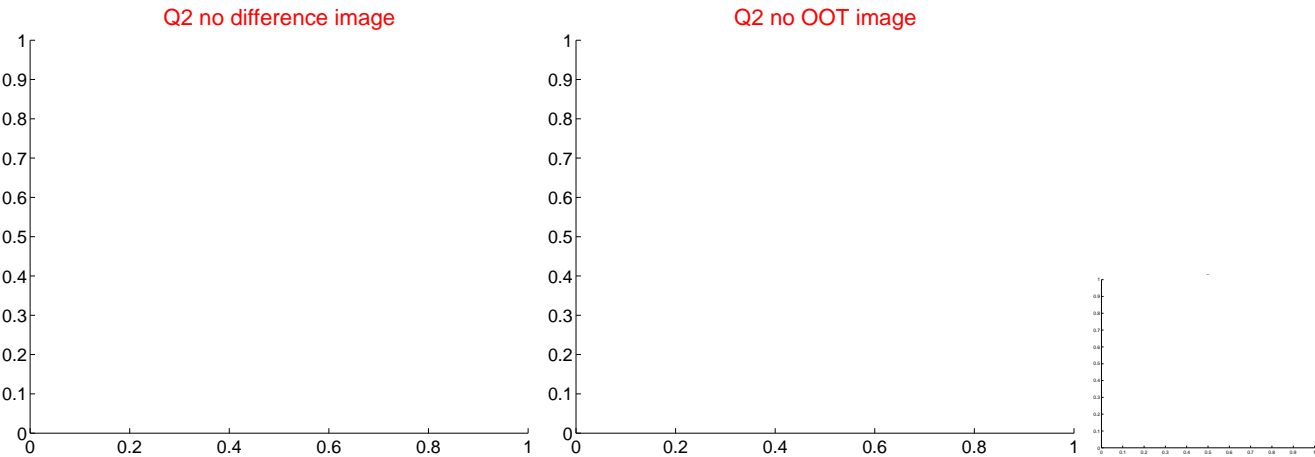
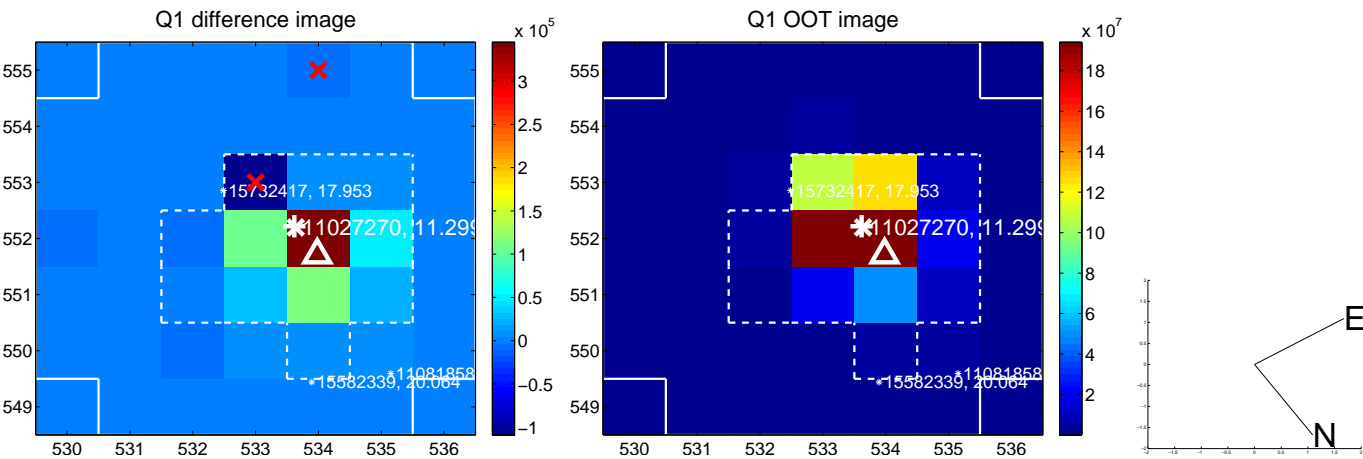
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.822 ± 0.625	1.32	-0.162 ± 0.351	0.806 ± 0.578
PRF-fit source offset from KIC position	0.876 ± 0.586	1.50	-0.193 ± 0.351	0.855 ± 0.532
photometric centroid source offset	0.26 ± 0.24	1.07	0.21 ± 0.22	-0.15 ± 0.28

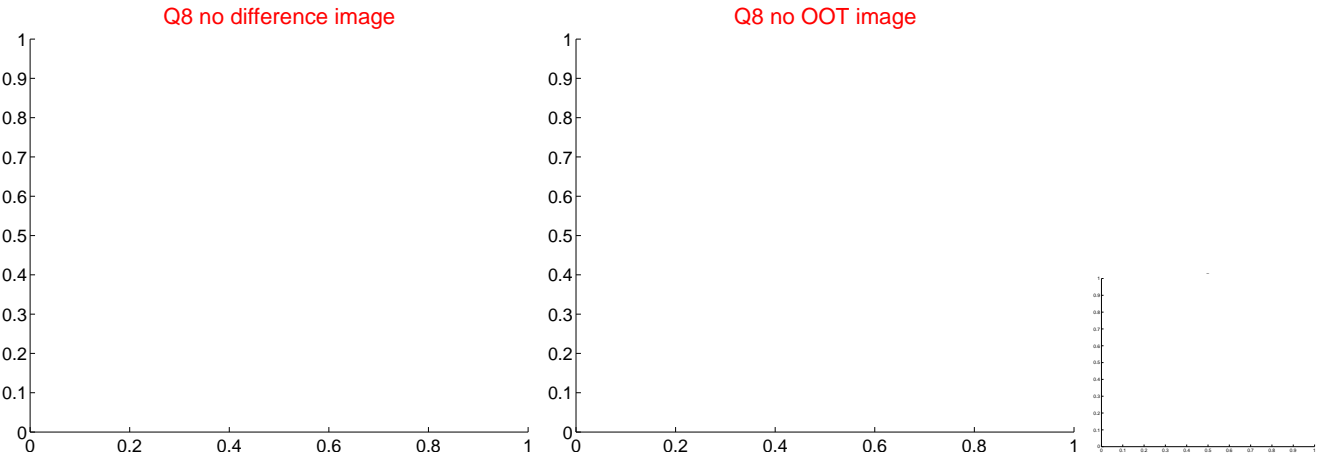
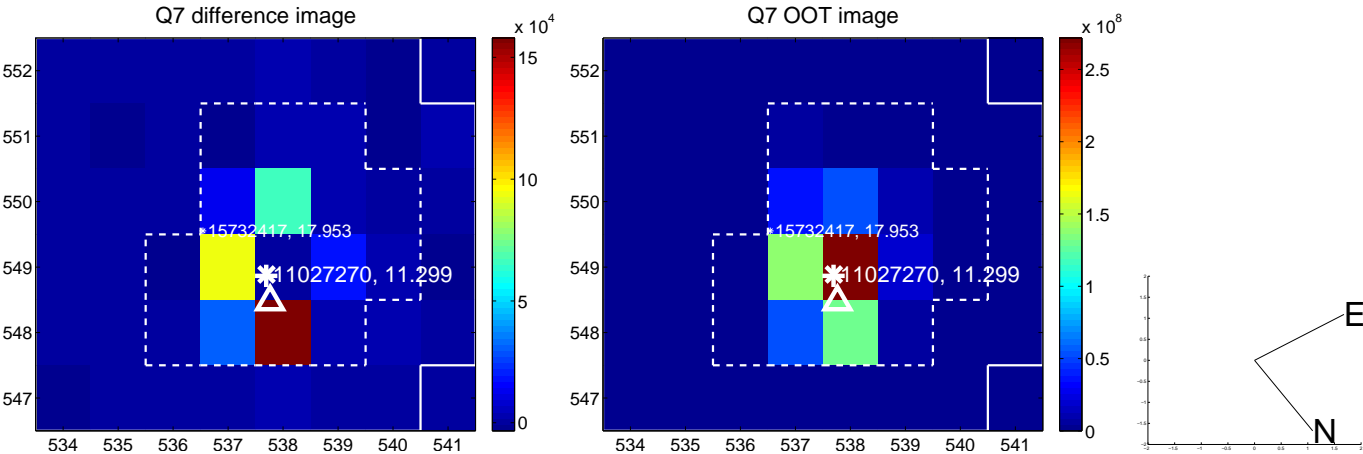
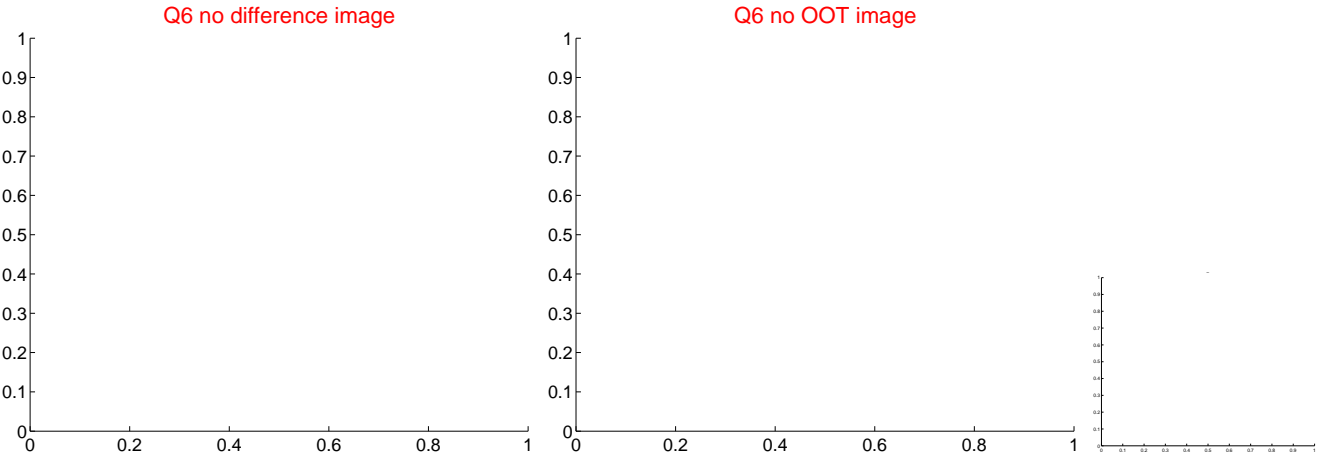
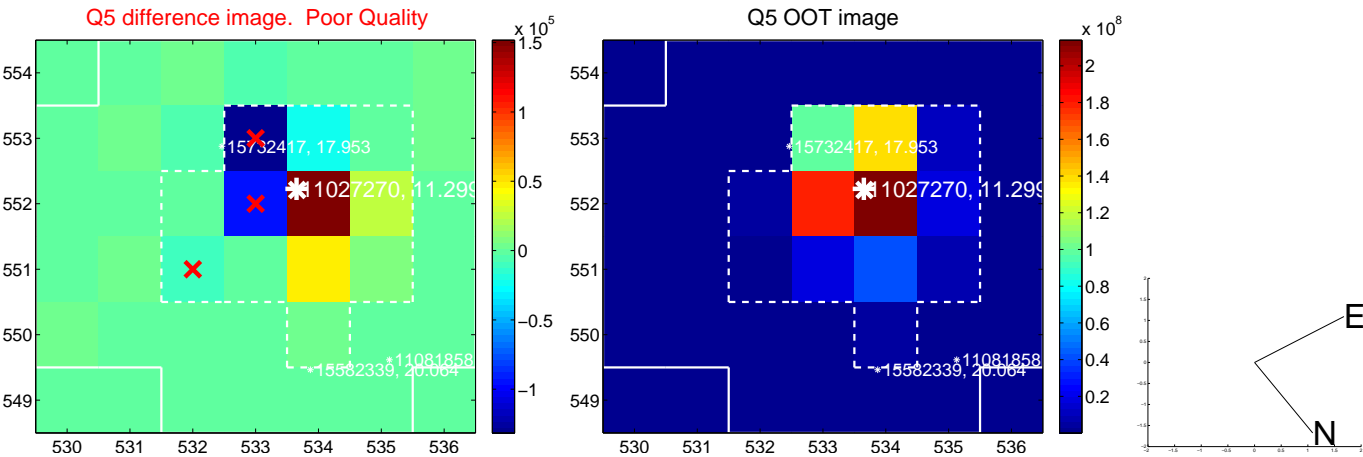


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

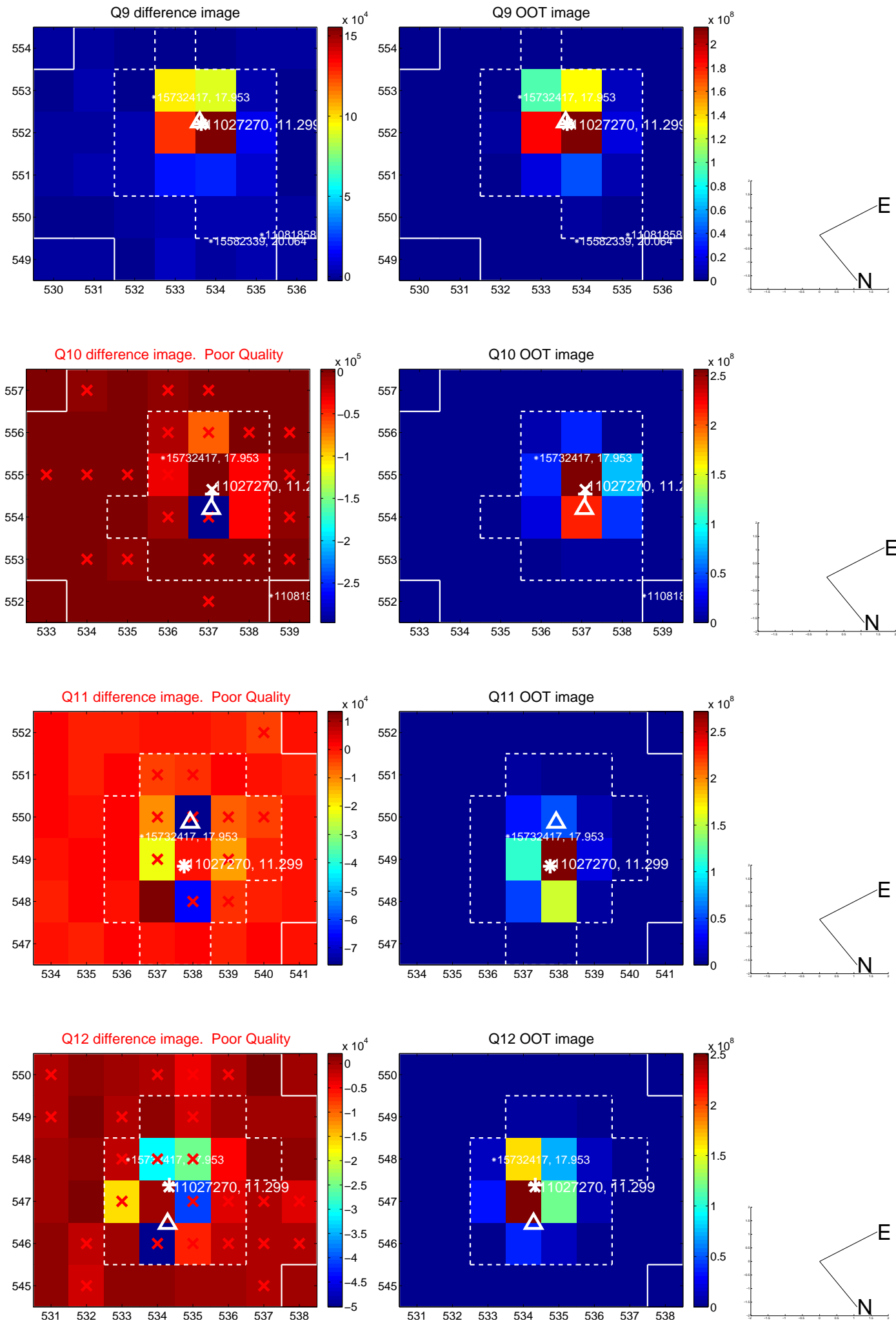
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



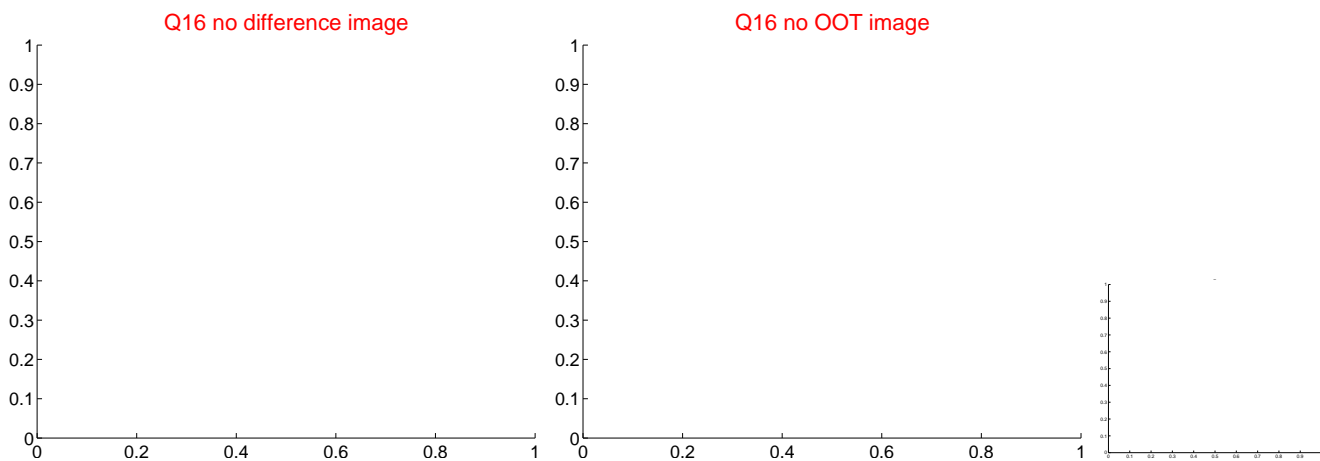
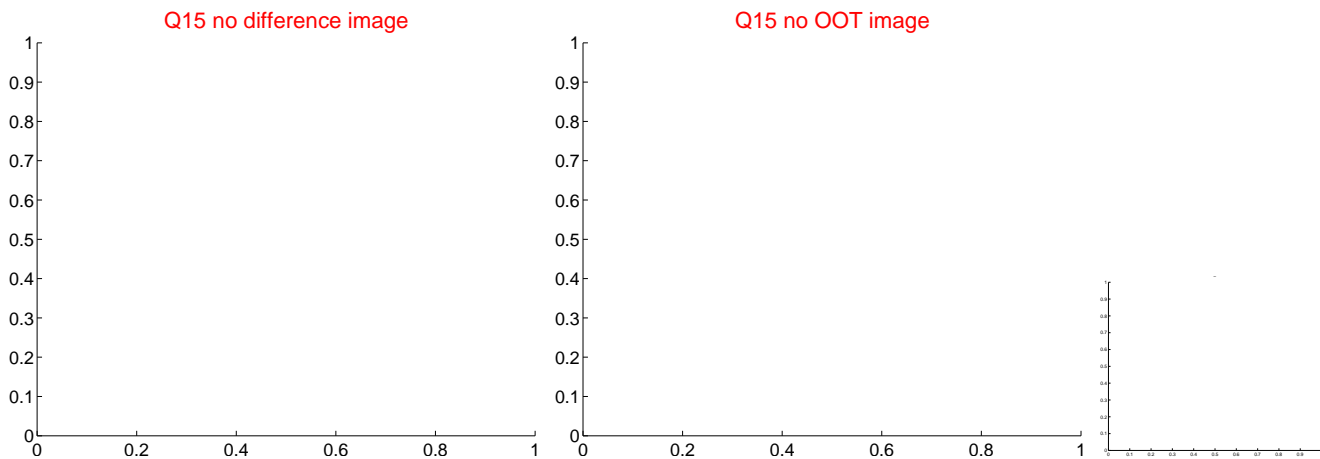
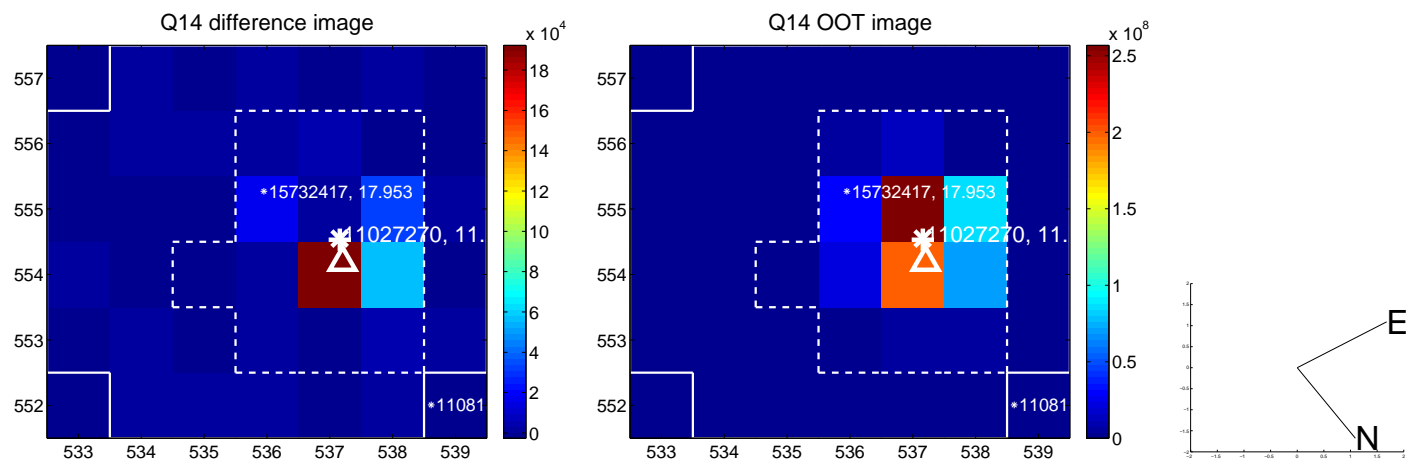
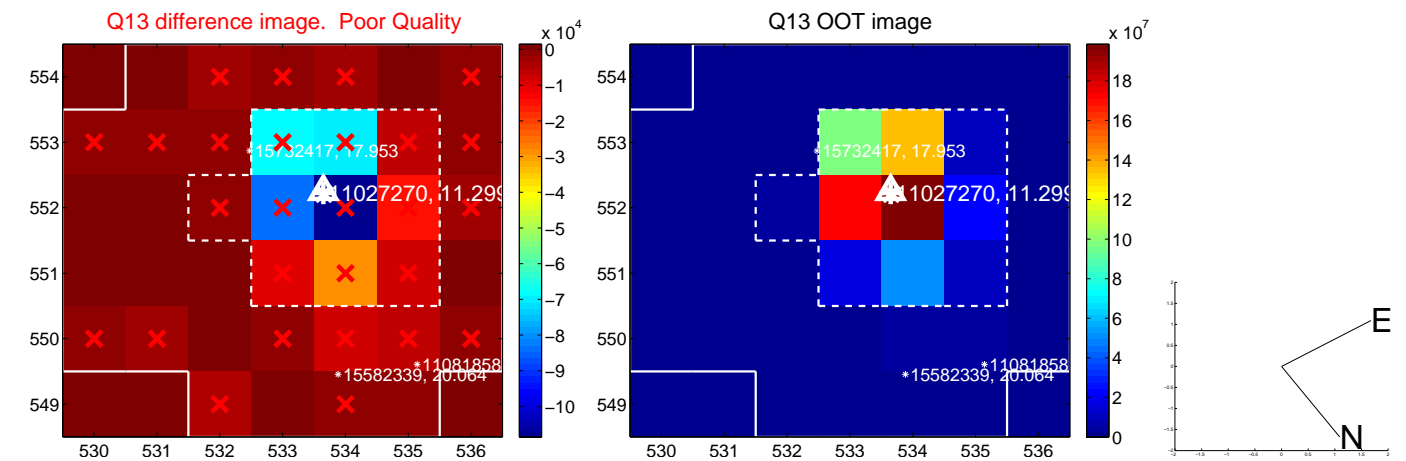
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



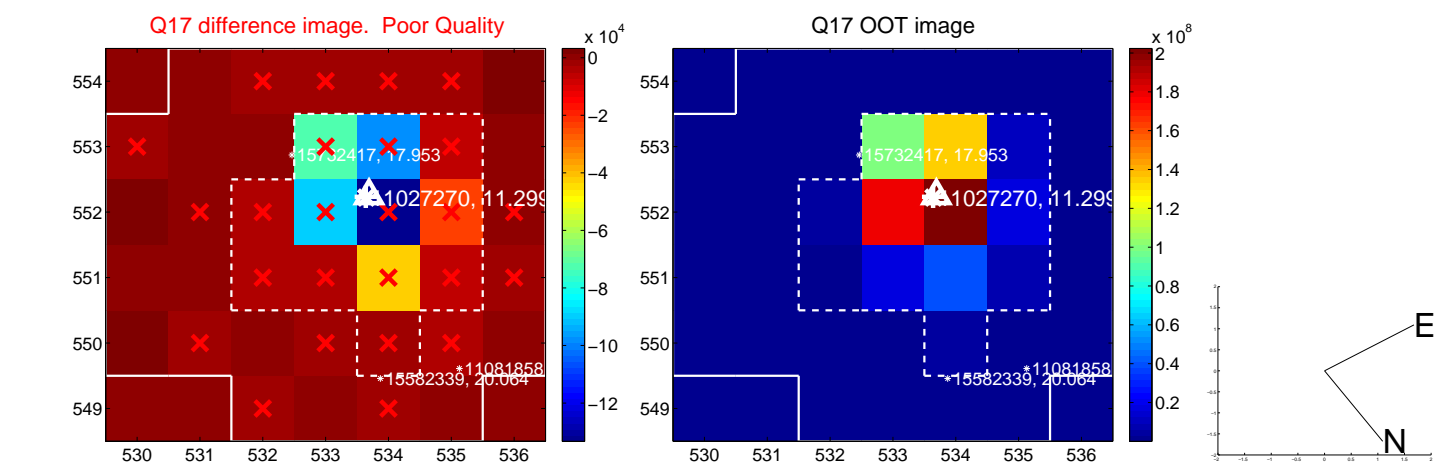
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



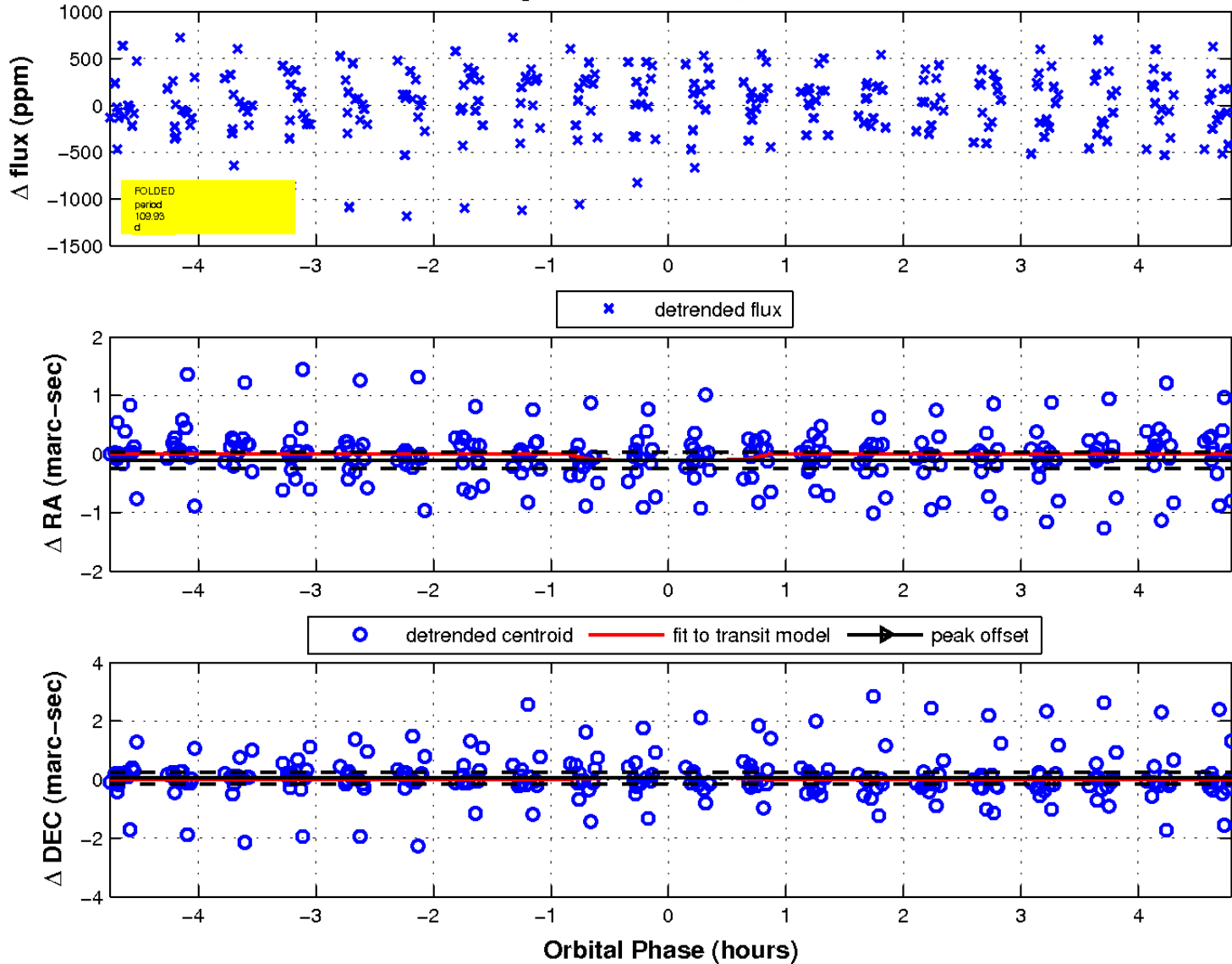
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 8 of 8



UKIRT Image

