

KIC 002018261

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})
002018261-01	OBS	No	2.536659	132.465297	18.4	11.775	9.8	8.5	2.94	7516	1.32	11773.28
002018261-02	OBS	No	171.774563	295.208989	260.4	1.025	21.2	5.2	2.94	7516	5.39	42.66
002018261-03	OBS	No	398.179919	242.460360	299.3	4.949	16.0	9.7	2.94	7516	5.67	13.90
002018261-04	OBS	No	140.937995	193.502931	228.1	3.954	8.9	7.9	2.94	7516	4.92	55.53
002018261-05	OBS	No	489.575661	277.705143	243.7	22.343	7.9	7.2	2.94	7516	5.08	10.56
002018261-06	OBS	No	92.340346	157.835262	177.7	3.637	8.0	8.5	2.94	7516	4.48	97.59
002018261-07	OBS	No	57.783258	162.296036	65.8	7.751	7.4	5.2	2.94	7516	2.60	182.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002018261-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002018261-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS
002018261-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002018261-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002018261-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002018261-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
002018261-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

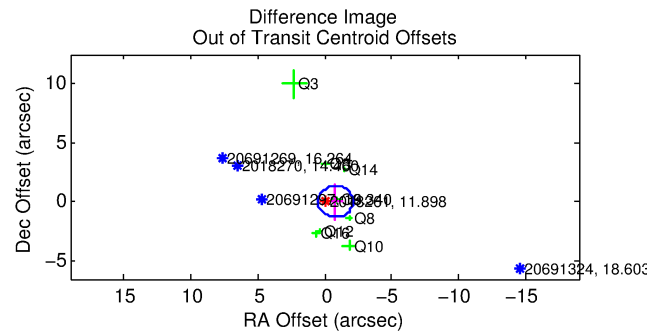
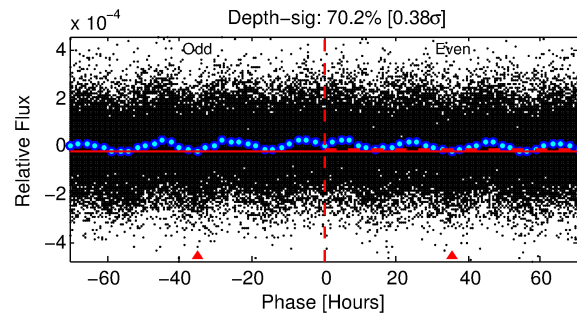
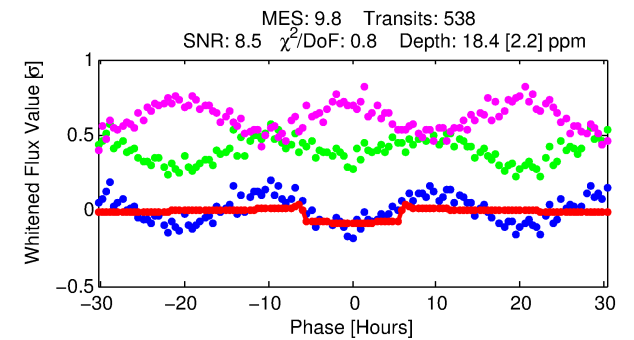
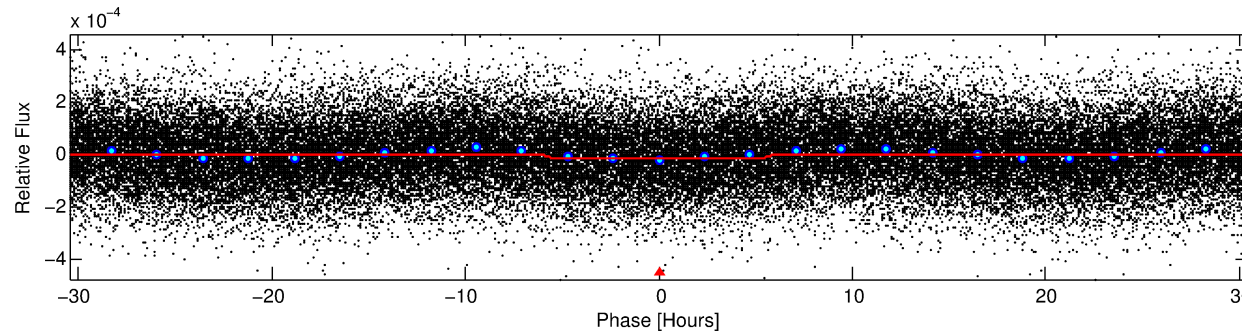
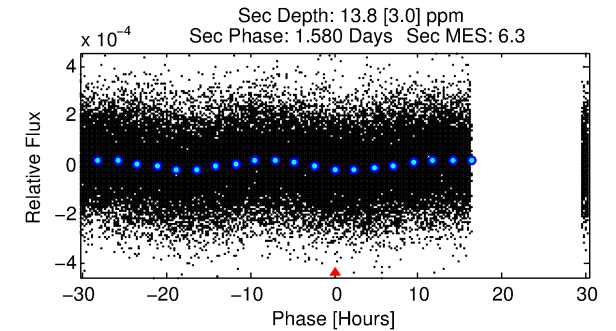
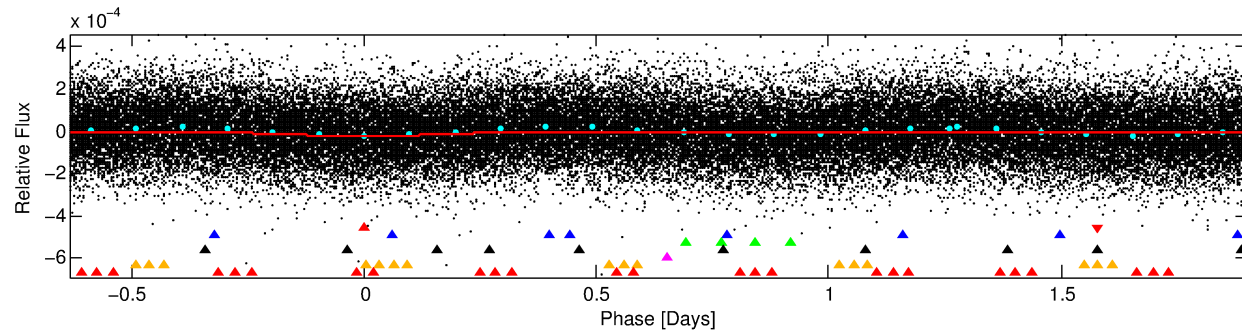
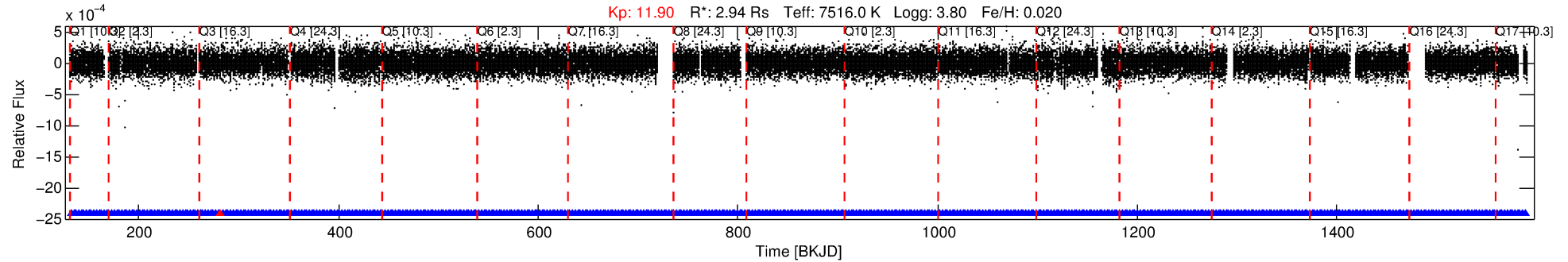
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018261-01

No Significant Match Found

DV One-Page Summary

KIC: 2018261 Candidate: 1 of 7 Period: 2.537 d



DV Fit Results:

Period = 2.53666 [0.00003] d
Epoch = 132.4653 [0.0061] BKJD
Rp/R* = 0.0041 [0.0009]
a/R* = 1.57 [1.27]
b = 0.55 [1.73]
Seff = 11773.28 [7606.30]
Teq = 2656 [429] K
Rp = 1.32 [0.64] Re
a = 0.0457 [0.0181] AU
Ag = 9.15 [7.35] [1.11 σ]
Teffp = 7142 [965] K [4.25 σ]

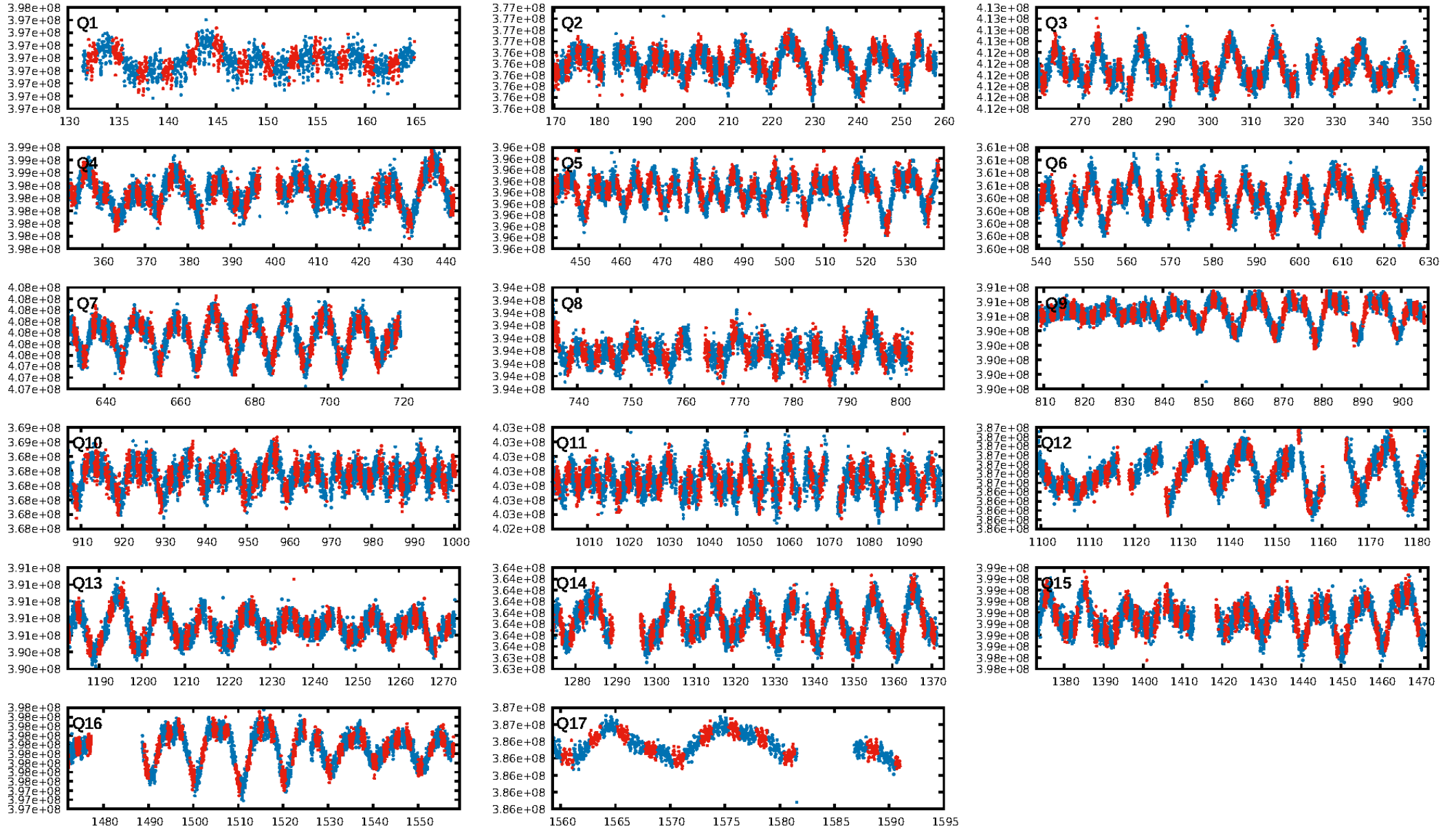
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [94.06 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.00e-15
RollingBand-fgt: 1.00 [513/514]
GhostDiagnostic-chr: 1.037
Centroid-sig: 1.0%
Centroid-so: 1.176 arcsec [1.56 σ]
OotOffset-rm: 0.830 arcsec [1.89 σ]
KicOffset-rm: 0.901 arcsec [1.91 σ]
OotOffset-st: 3/1/3/1 [8]
KicOffset-st: 3/1/3/1 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [17/17]

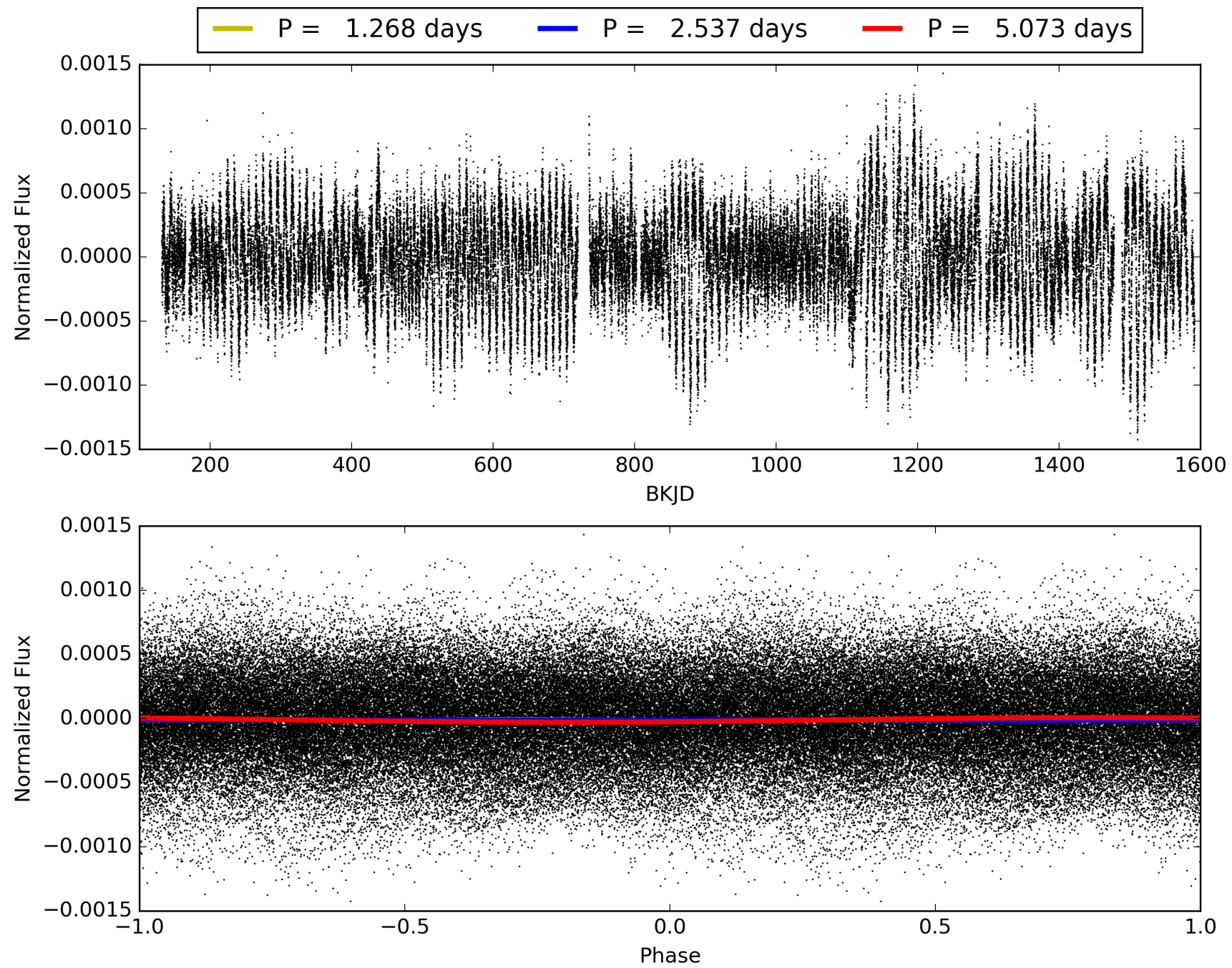
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:06:40 Z

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

TCE 002018261-01, PDC Light Curves

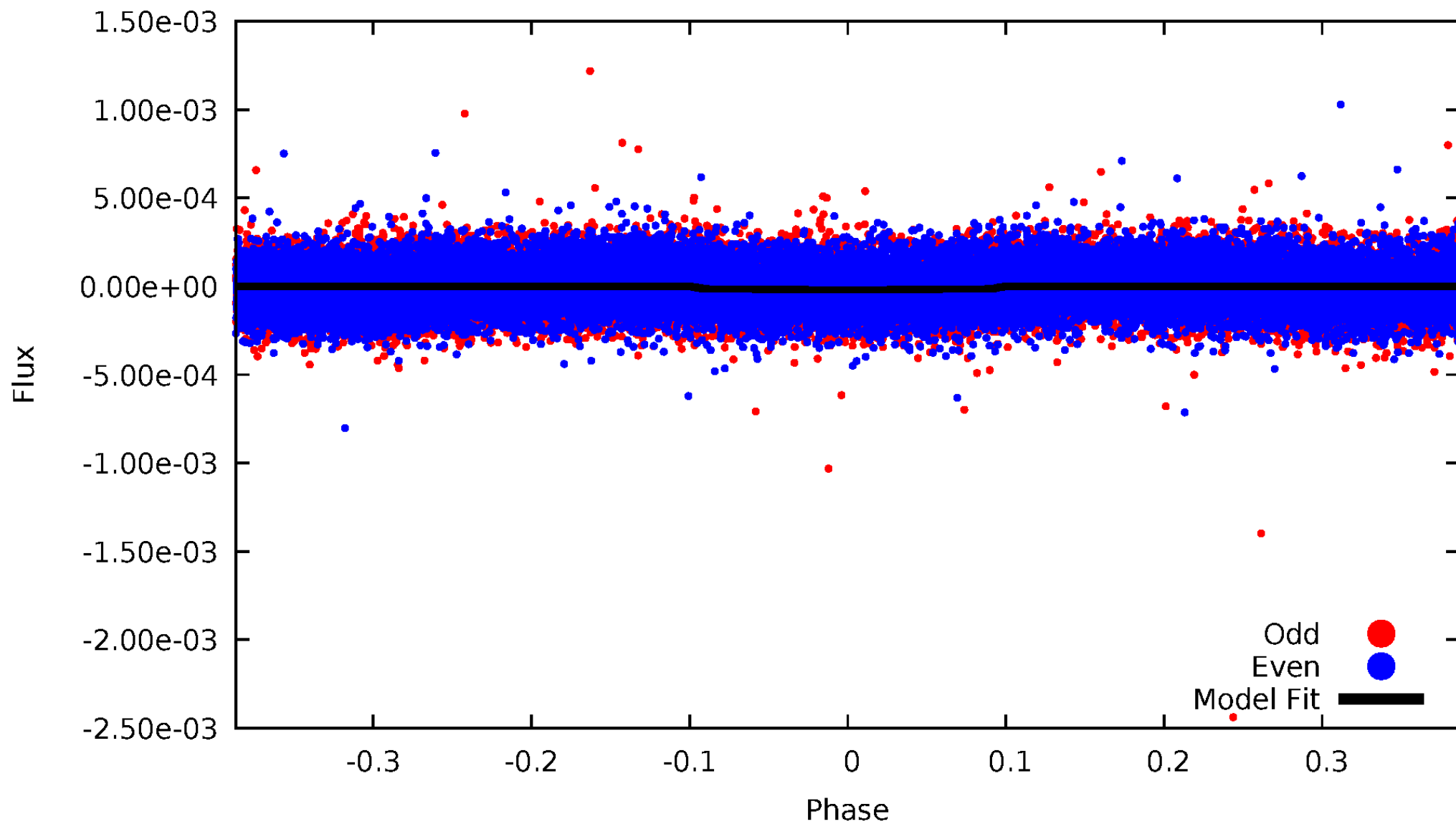


TCE 002018261-01



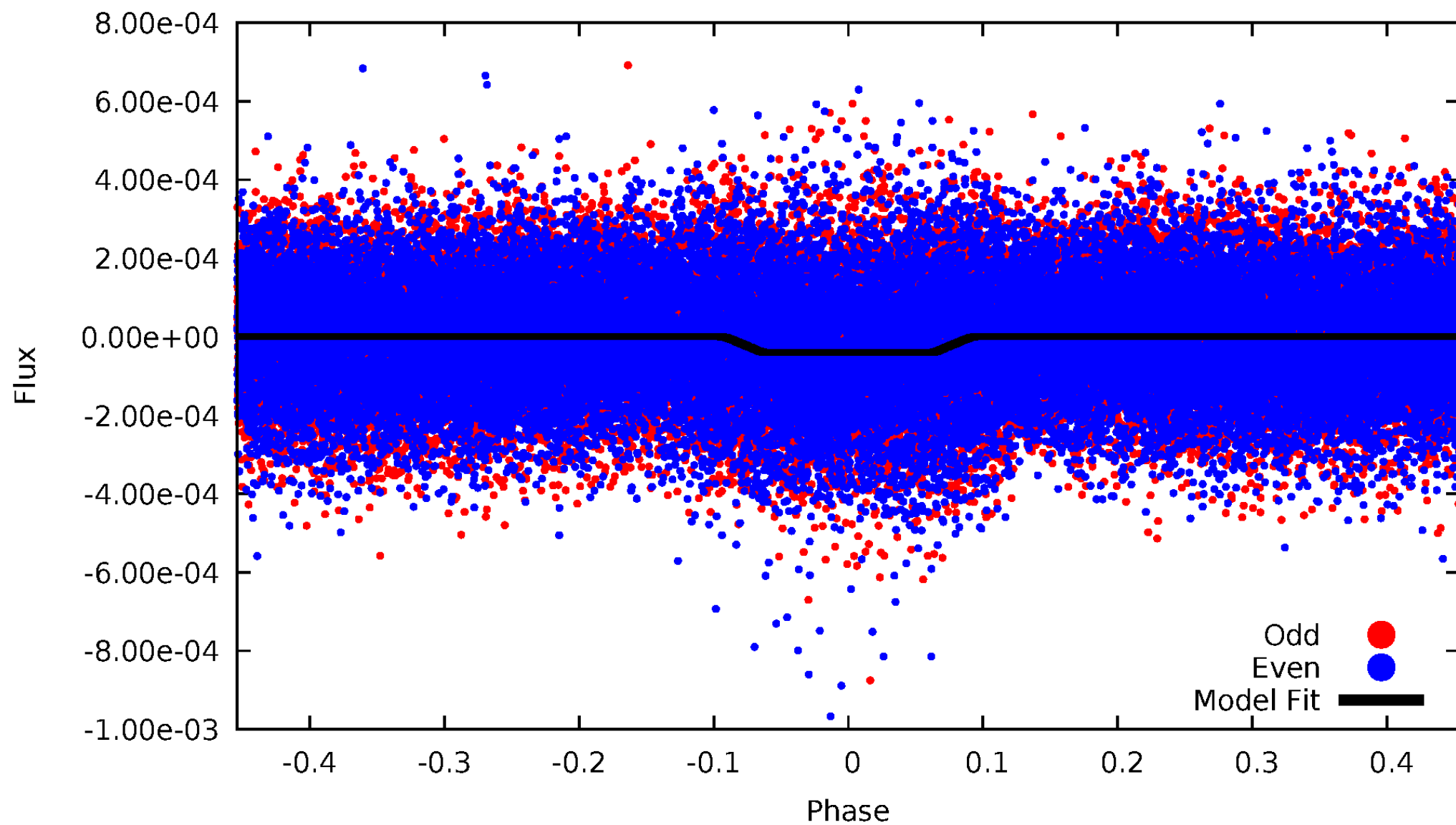
DV Odd/Even

TCE 002018261-01

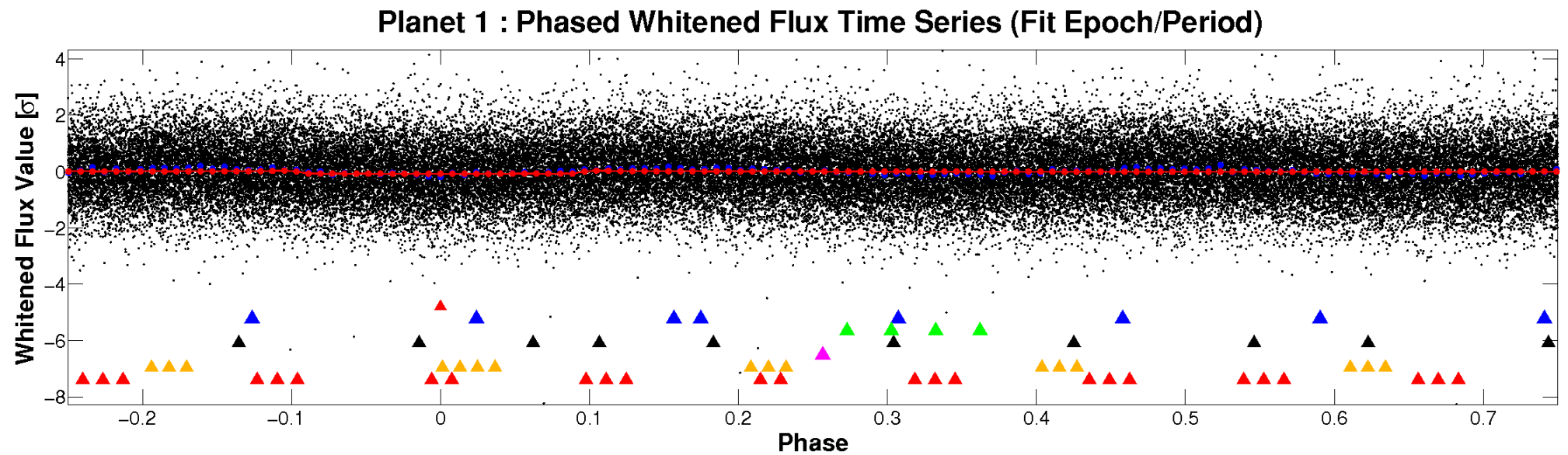
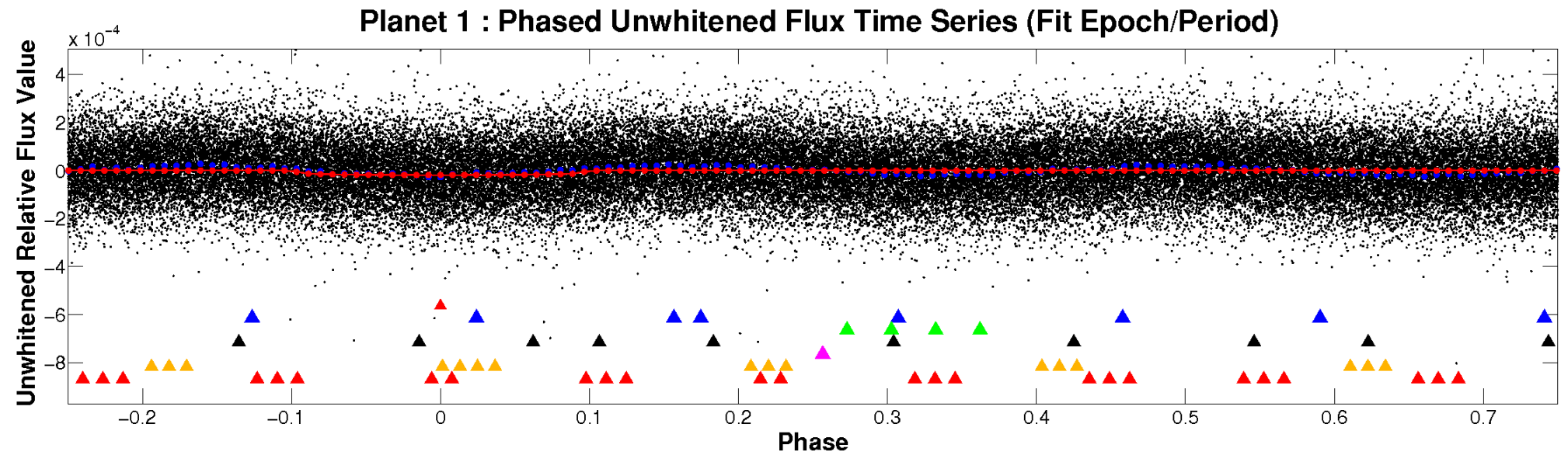


ALT Odd/Even

TCE 002018261-01

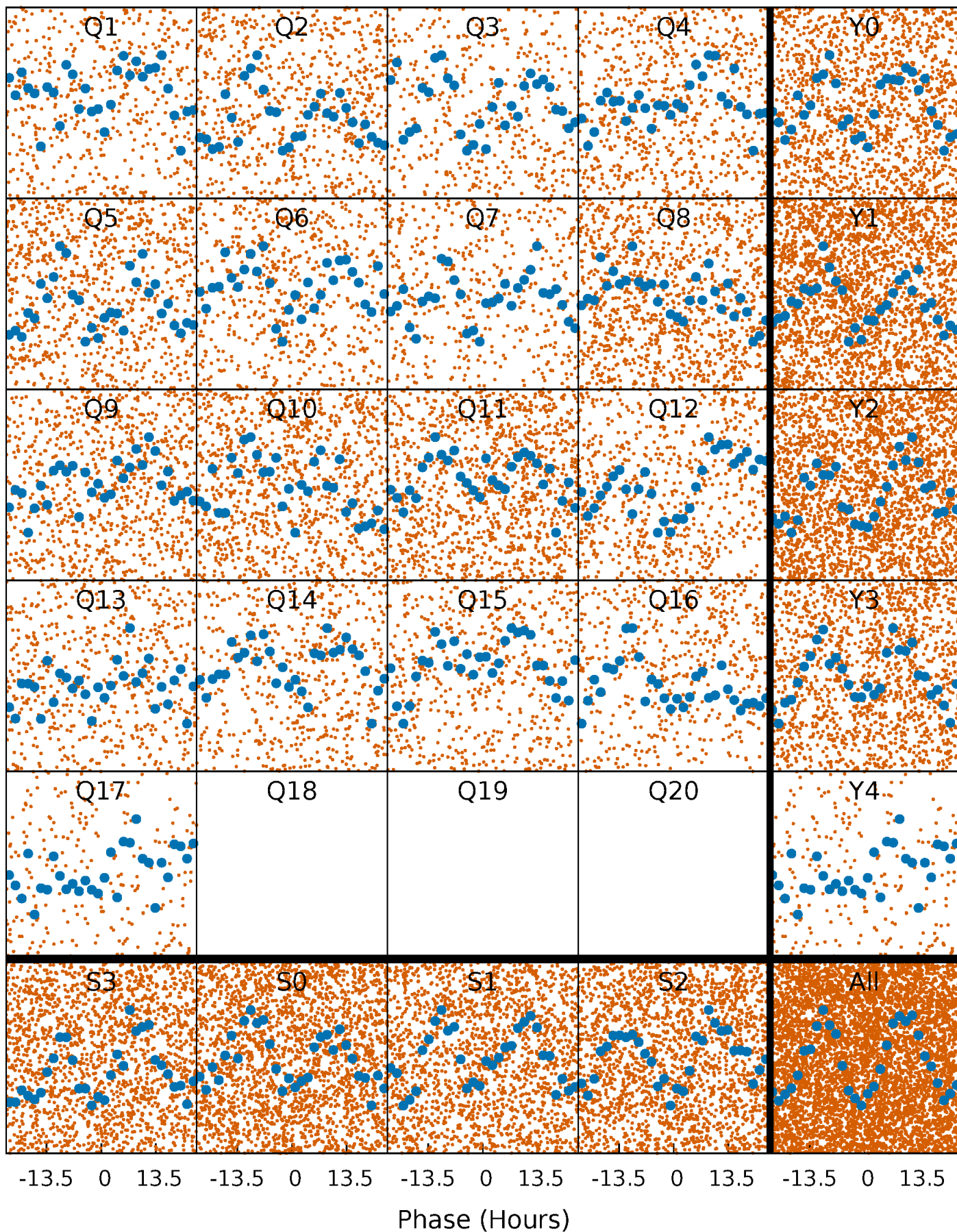


Non-Whitened Vs. Whitened Light Curve



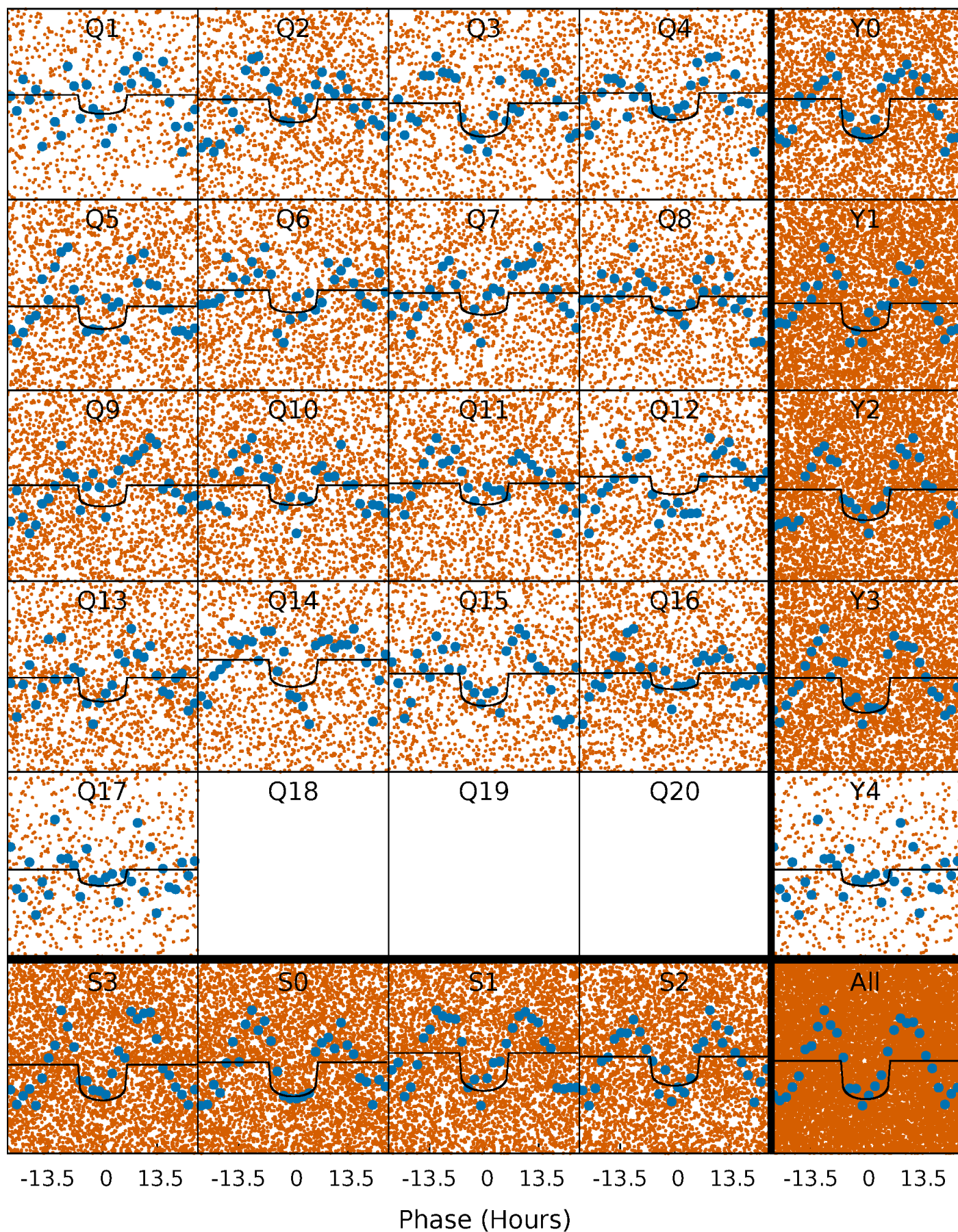
PDC Quarter-Phased Transit Curves

TCE 002018261-01 P= 2.536659 Days $T_0=132.465297$ (BKJD)



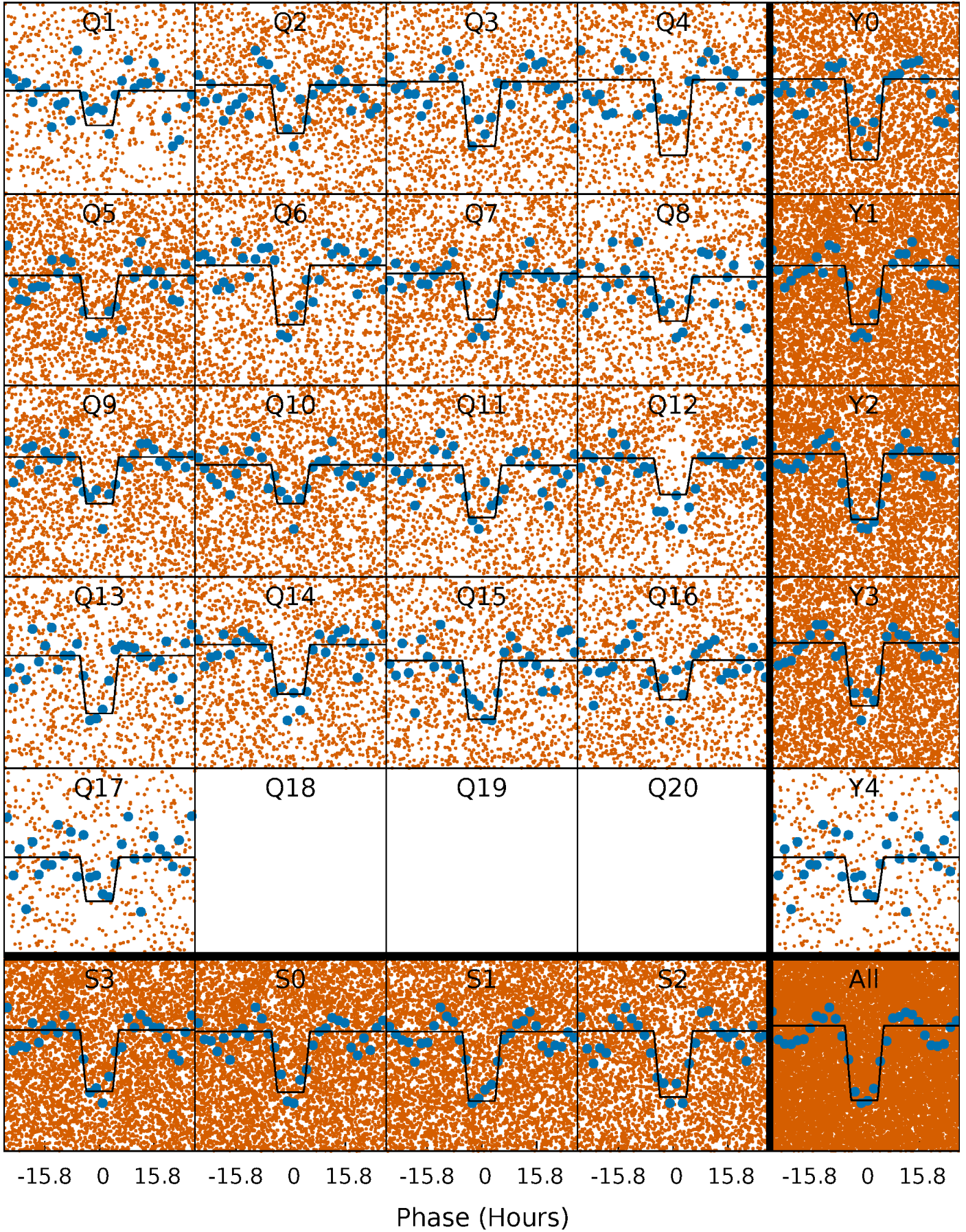
DV Quarter-Phased Transit Curves

TCE 002018261-01 P= 2.536659 Days $T_0=132.465297$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

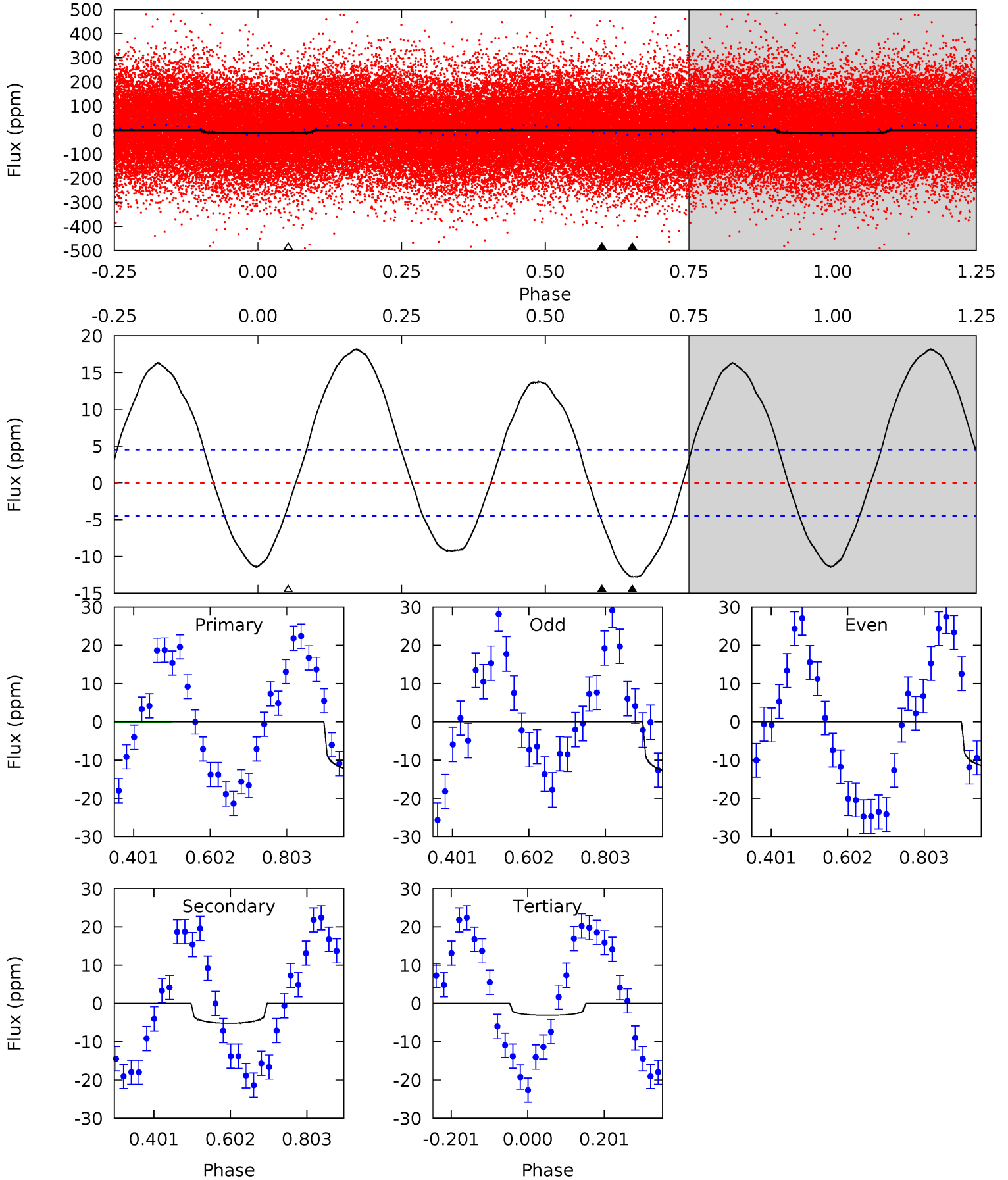
TCE 002018261-01 P= 2.536849 Days $T_0=132.389559$ (BKJD)



DV Model-Shift Uniqueness Test

002018261-01, P = 2.536659 Days, E = 129.928638 Days

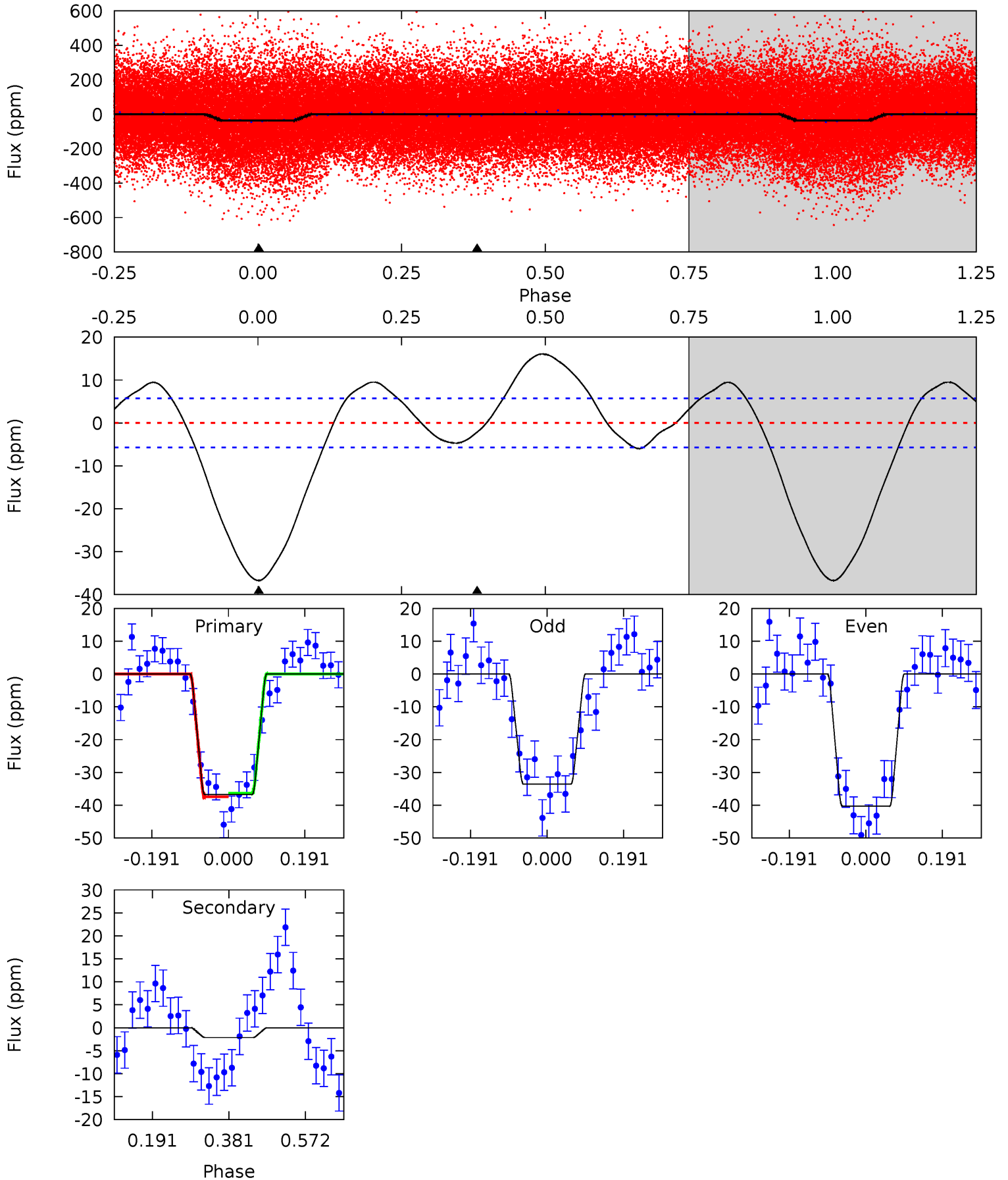
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	5.08	3.04	0	4.42	1.28	9.47	9.43	12.5	2.04	5.08	0.66	1.29	0.59	2.21



Alt Model-Shift Uniqueness Test

002018261-01, P = 2.536849 Days, E = 129.852710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	1.65	0	0	4.43	1.31	3.58	28.4	28.4	1.65	1.65	2.60	0.95	0.30	0.44



Stellar Parameters For KIC 002018261

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7516^{+207}_{-337}	$3.800^{+0.360}_{-0.090}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.415}_{-1.244}$	$1.978^{+0.112}_{-0.506}$	$0.110^{+0.312}_{-0.031}$
	+3%/-4%	+9%/-2%	+1000%/-1750%	+14%/-42%	+6%/-26%	+283%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002018261-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 1	$1.22^{+0.36}_{-0.38}$	3626^{+229}_{-362}	5423^{+875}_{-552}	$3.966^{+4.110}_{-1.603}$
Alt.	-2 ± 1	$1.88^{+0.43}_{-0.43}$	3591^{+243}_{-390}	3442^{+624}_{-6224}	$0.637^{+0.669}_{-0.401}$

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 $A_{obs} \gg 1.0$

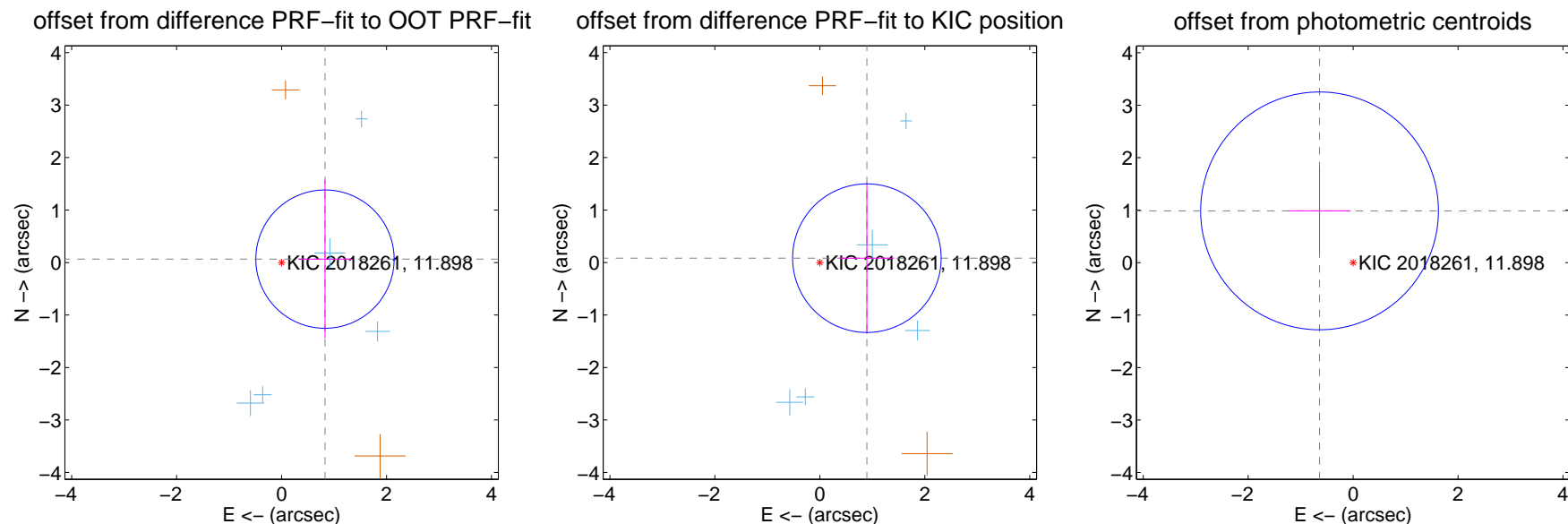
DV Centroid Data

Supplemental centroid analysis for 002018261-01. **Kepler magnitude: 11.90.** Transit SNR 8.48

There are 5 quarters with good PRF difference image offsets

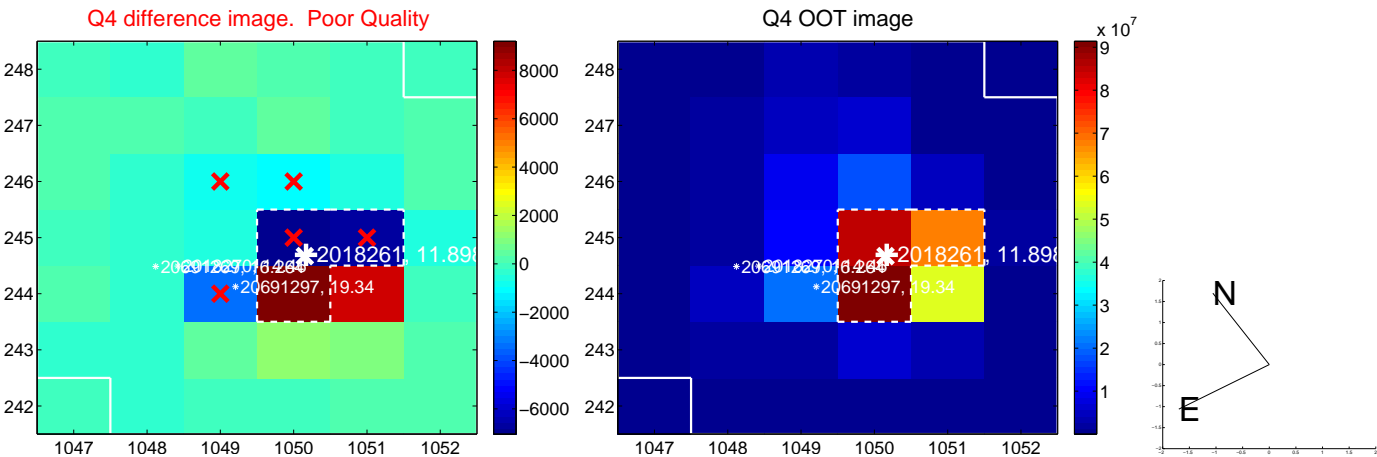
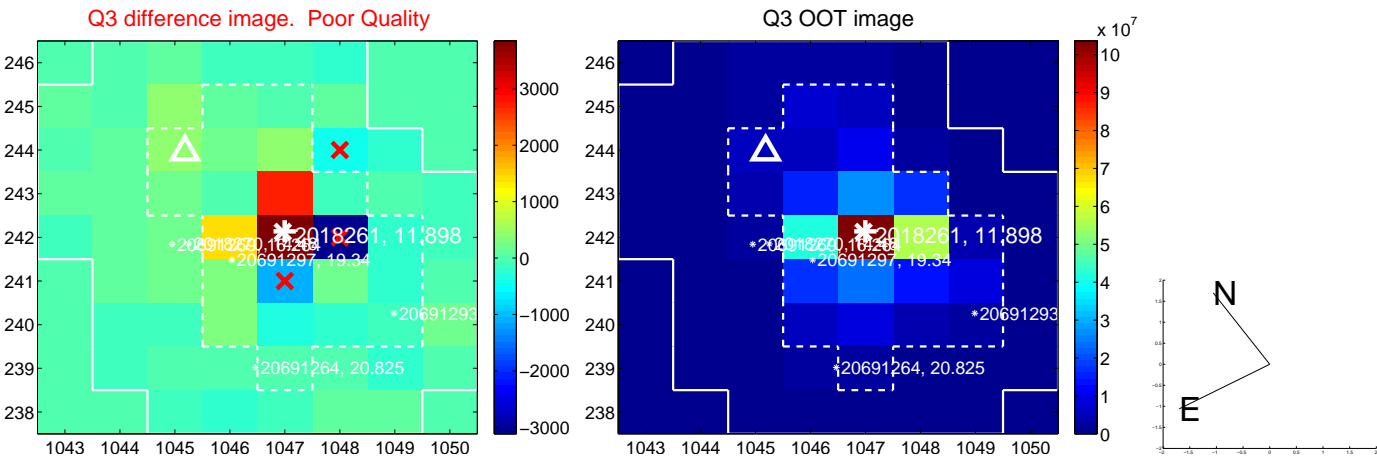
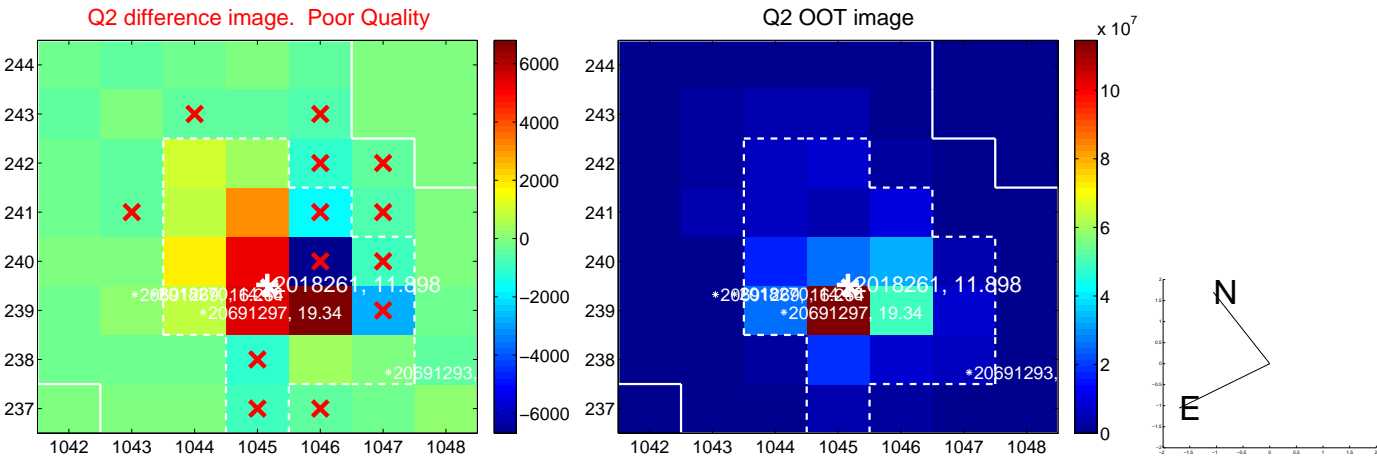
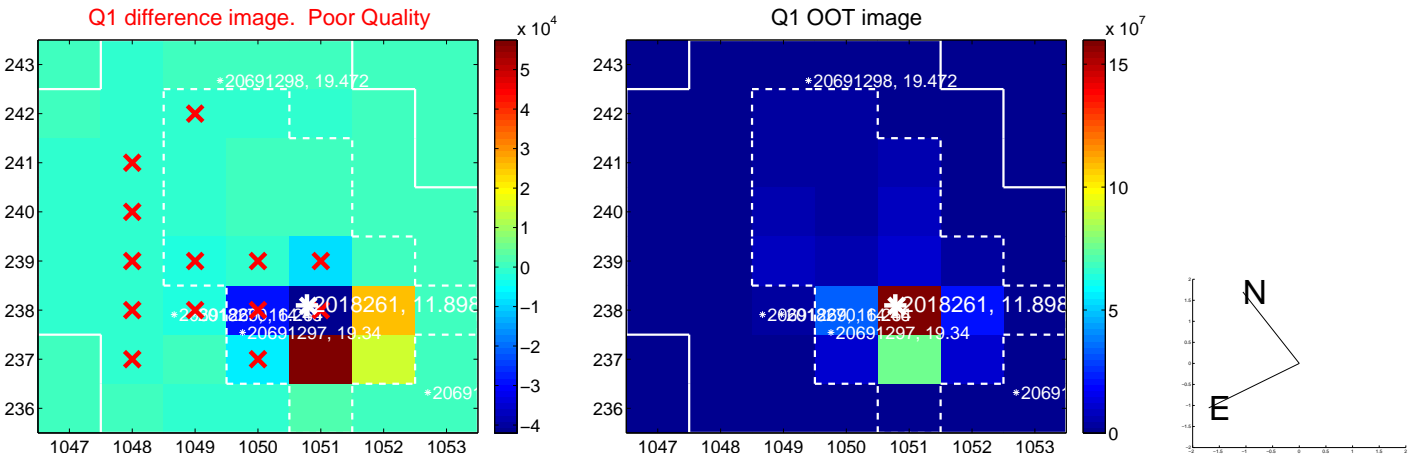
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.830 ± 0.439	1.89	-0.827 ± 0.512	0.065 ± 1.507
PRF-fit source offset from KIC position	0.901 ± 0.472	1.91	-0.897 ± 0.518	0.083 ± 1.444
photometric centroid source offset	1.18 ± 0.76	1.56	0.64 ± 0.60	0.99 ± 0.81

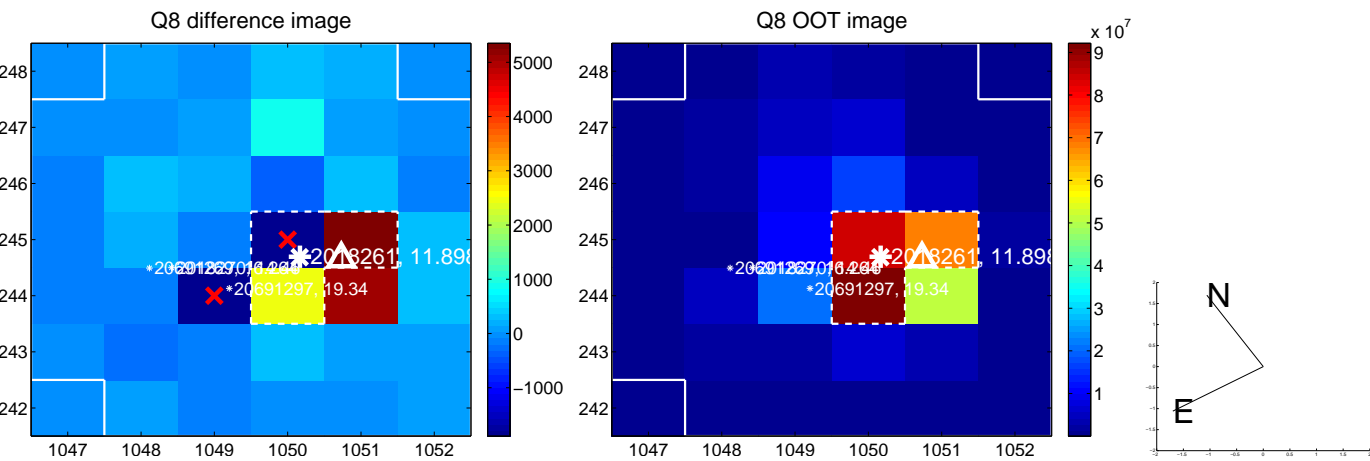
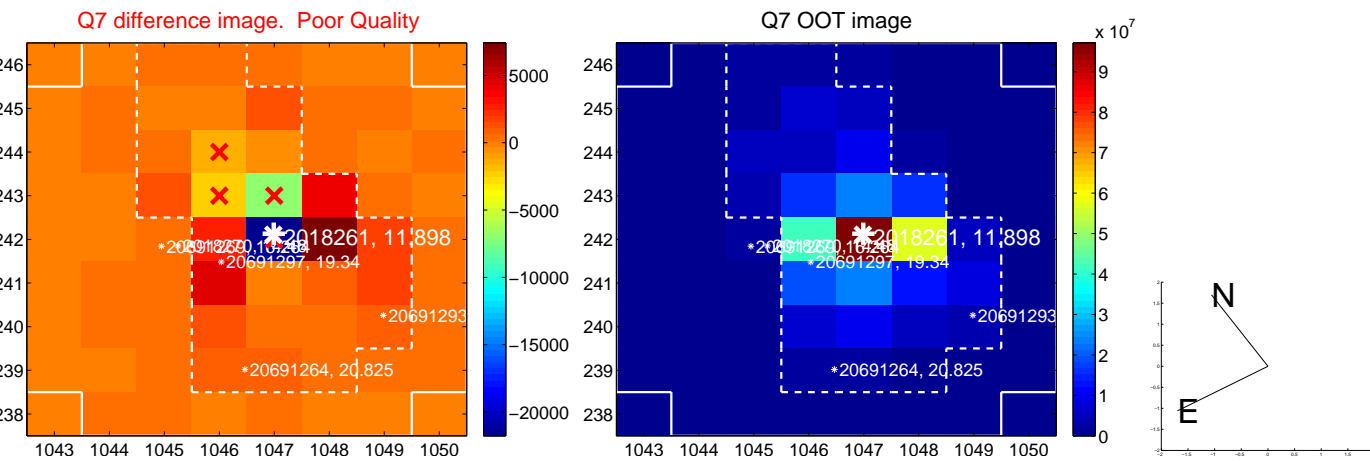
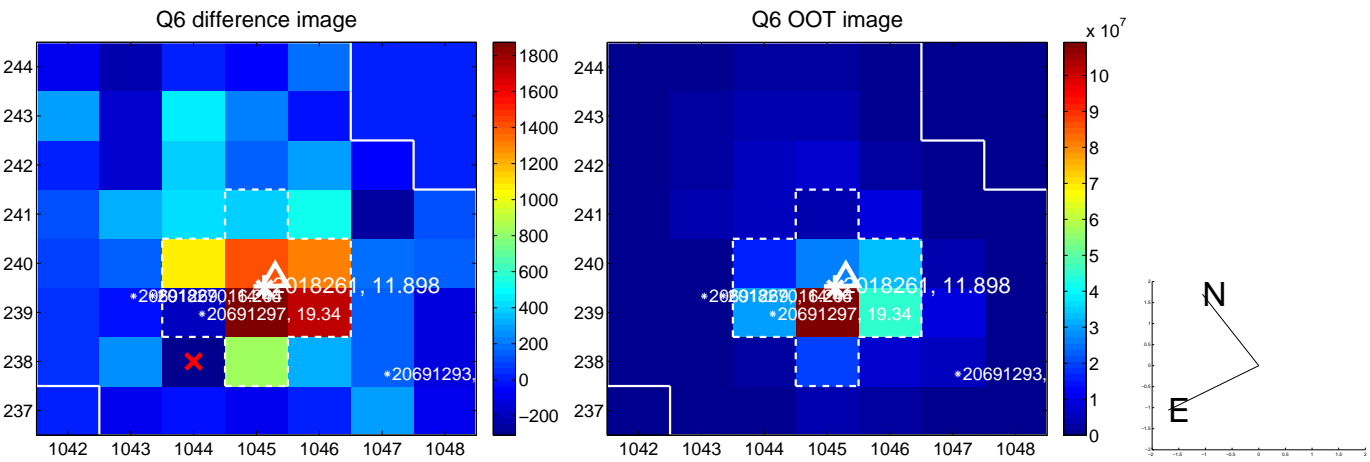
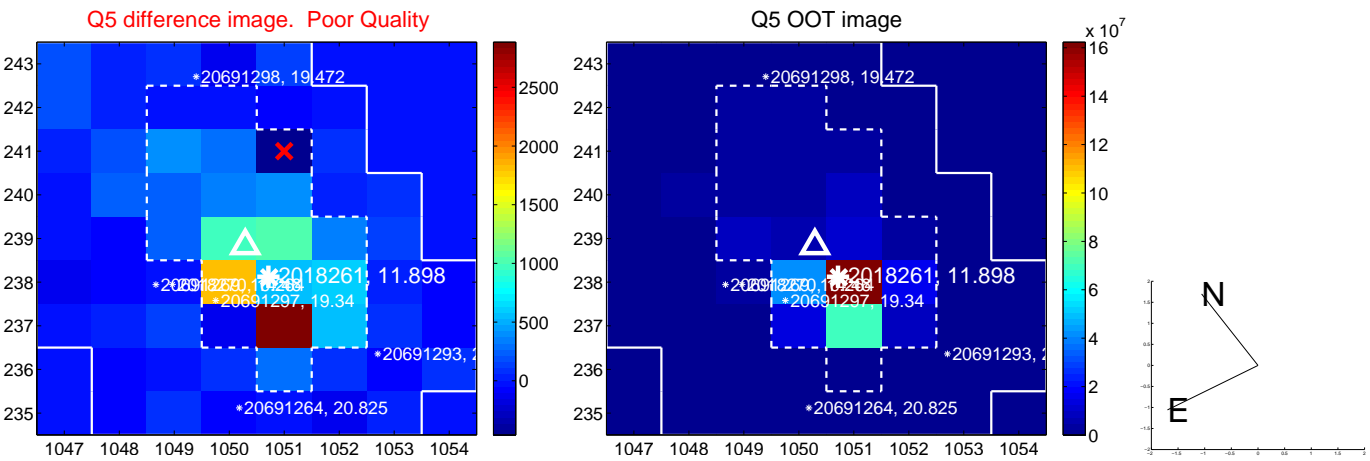


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

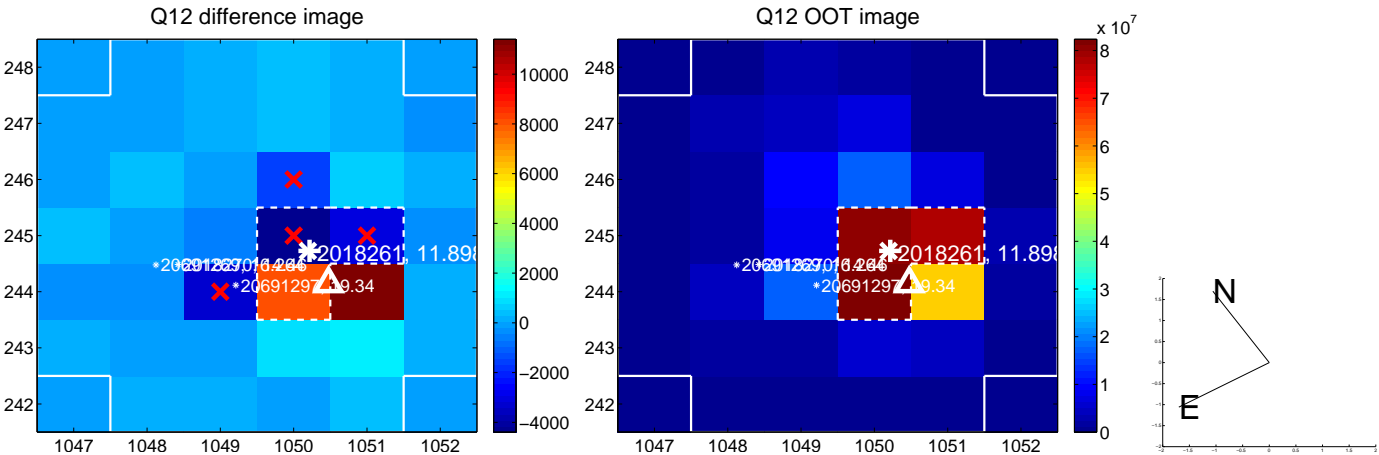
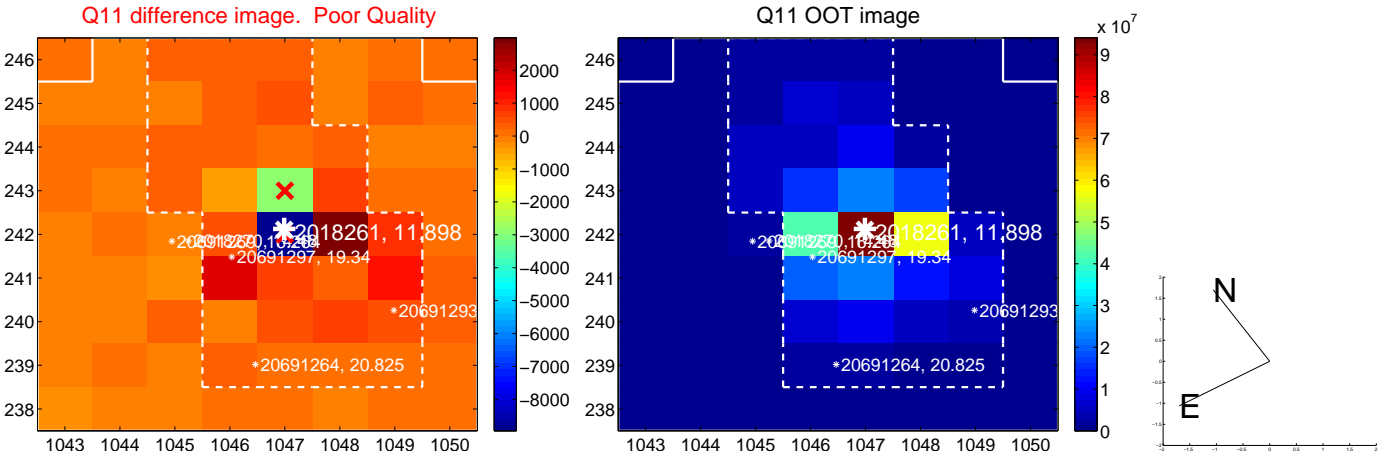
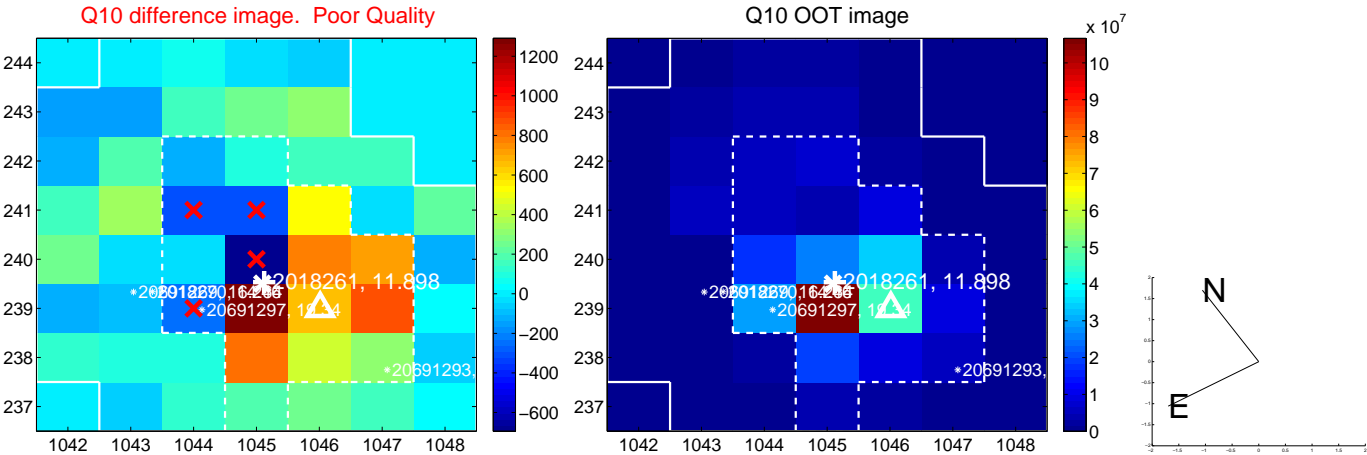
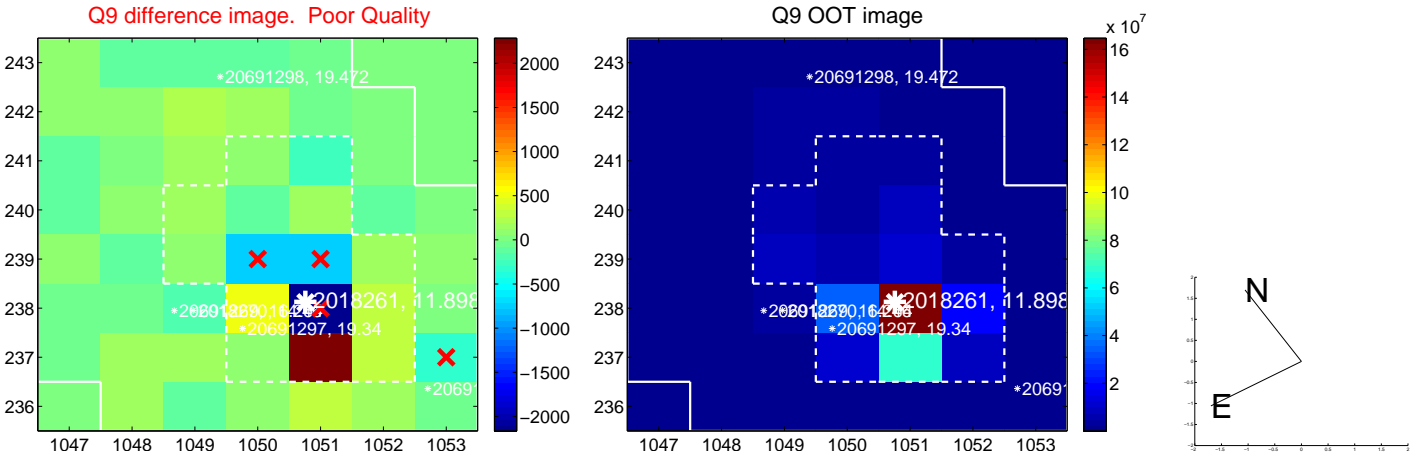
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



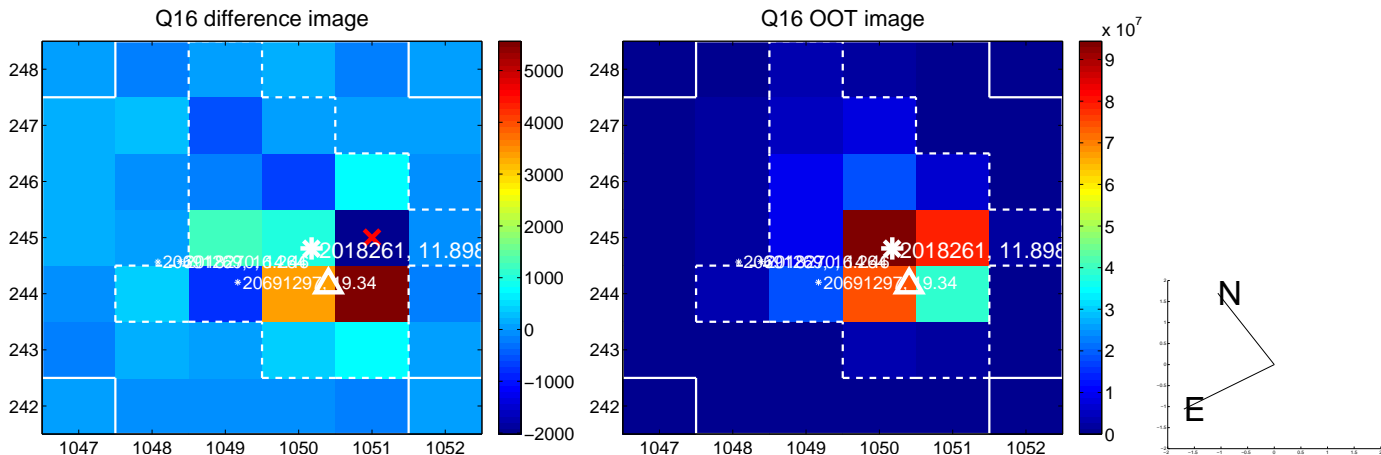
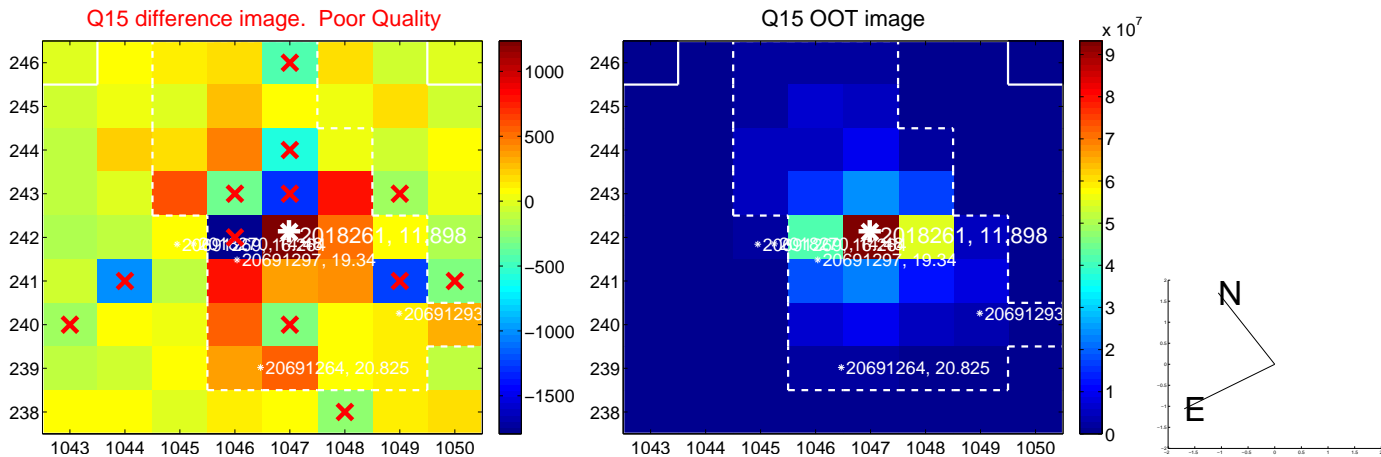
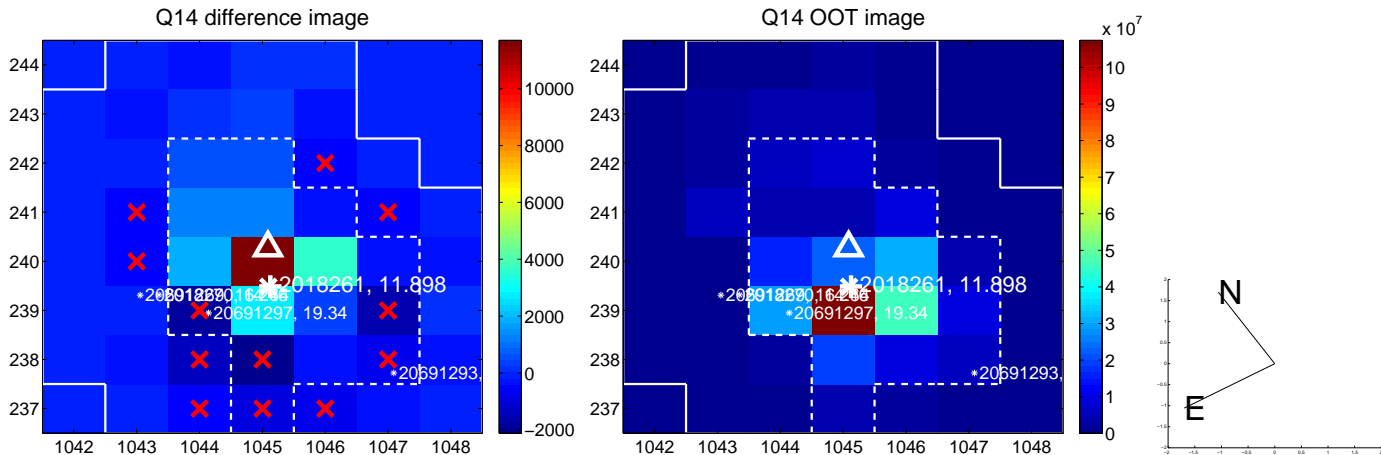
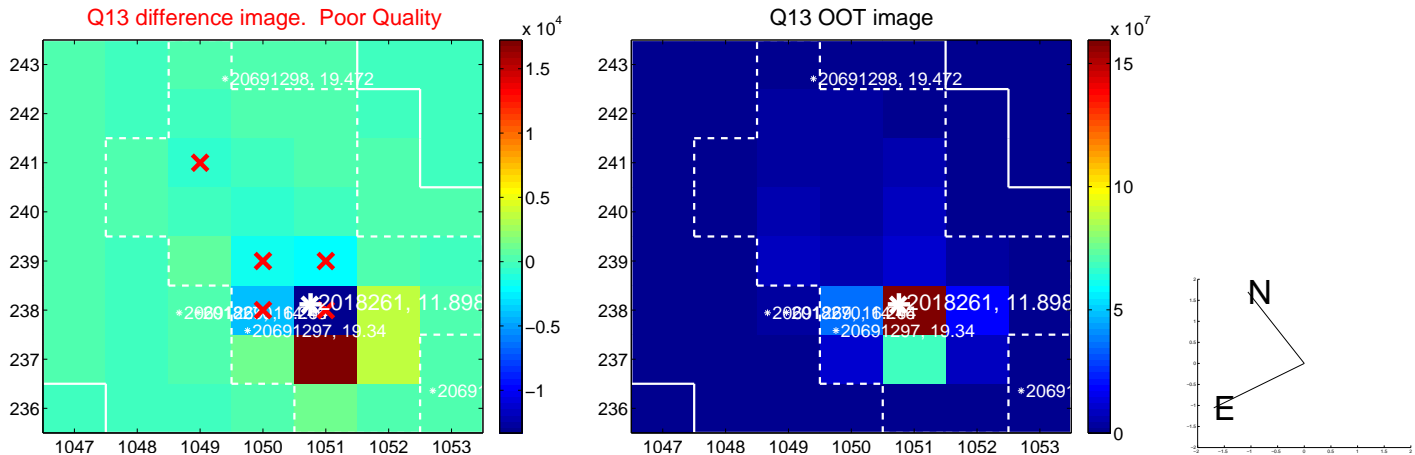
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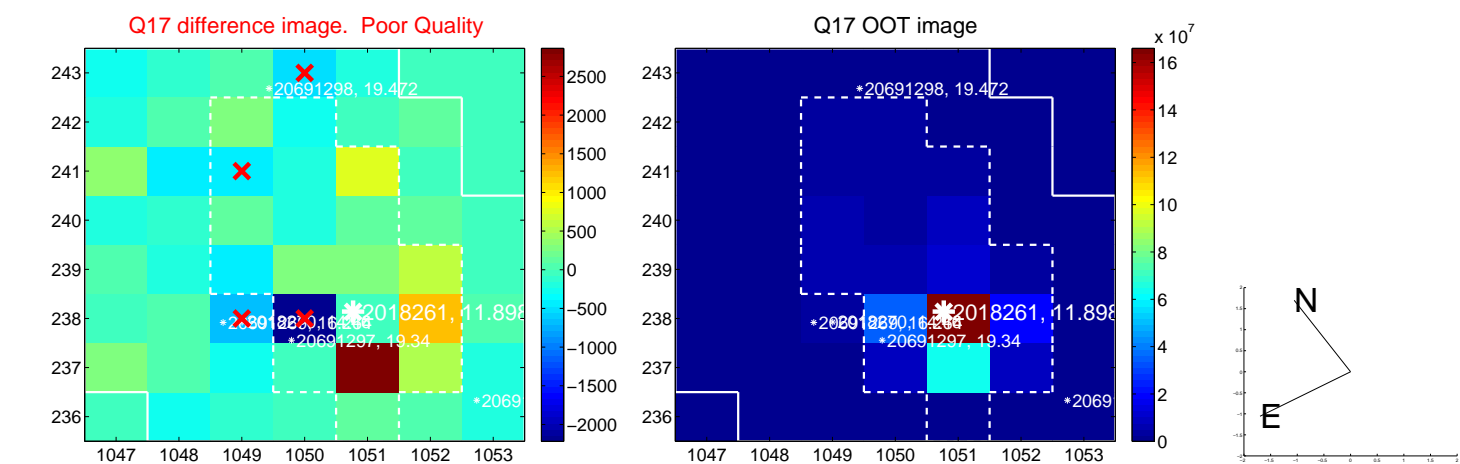
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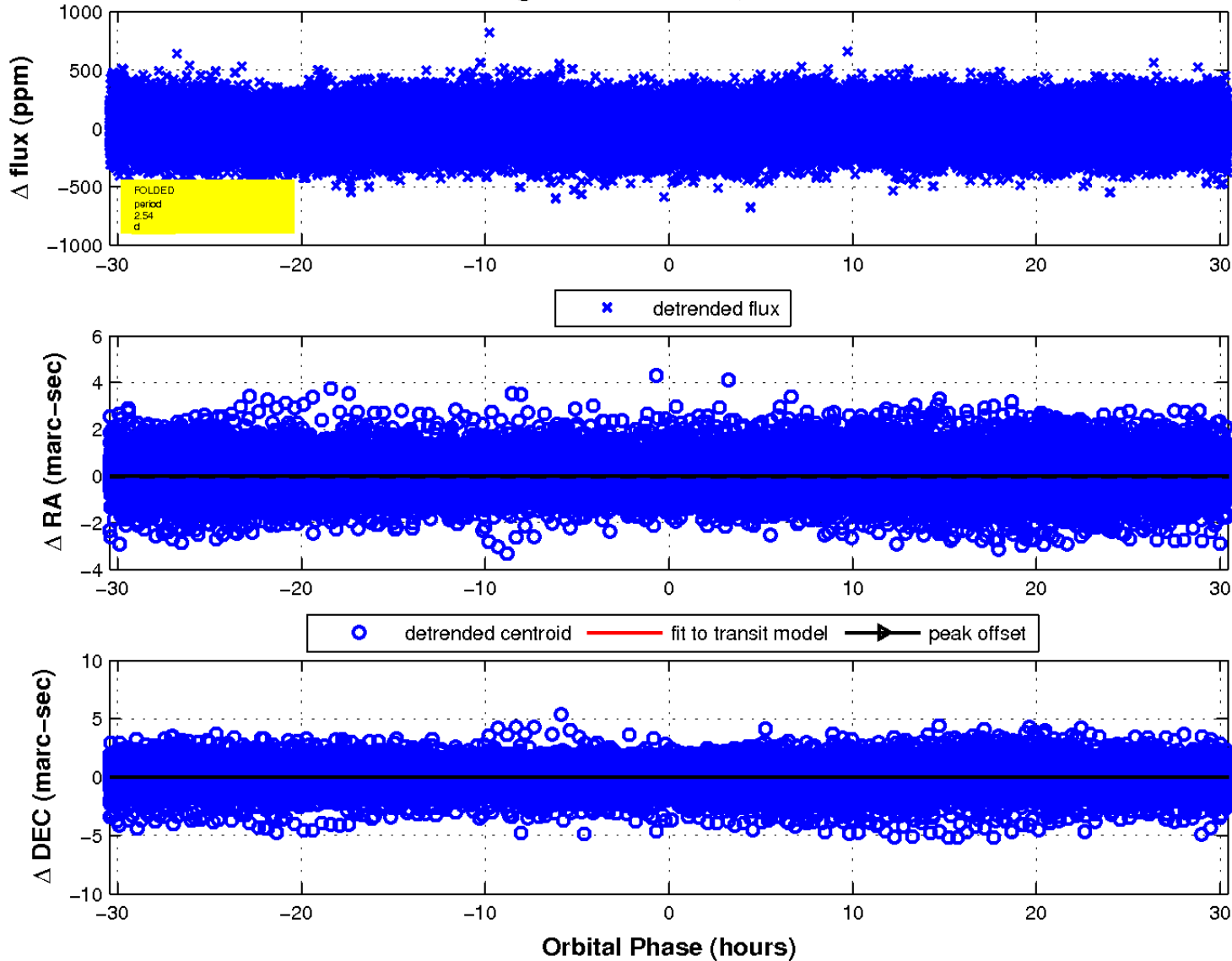
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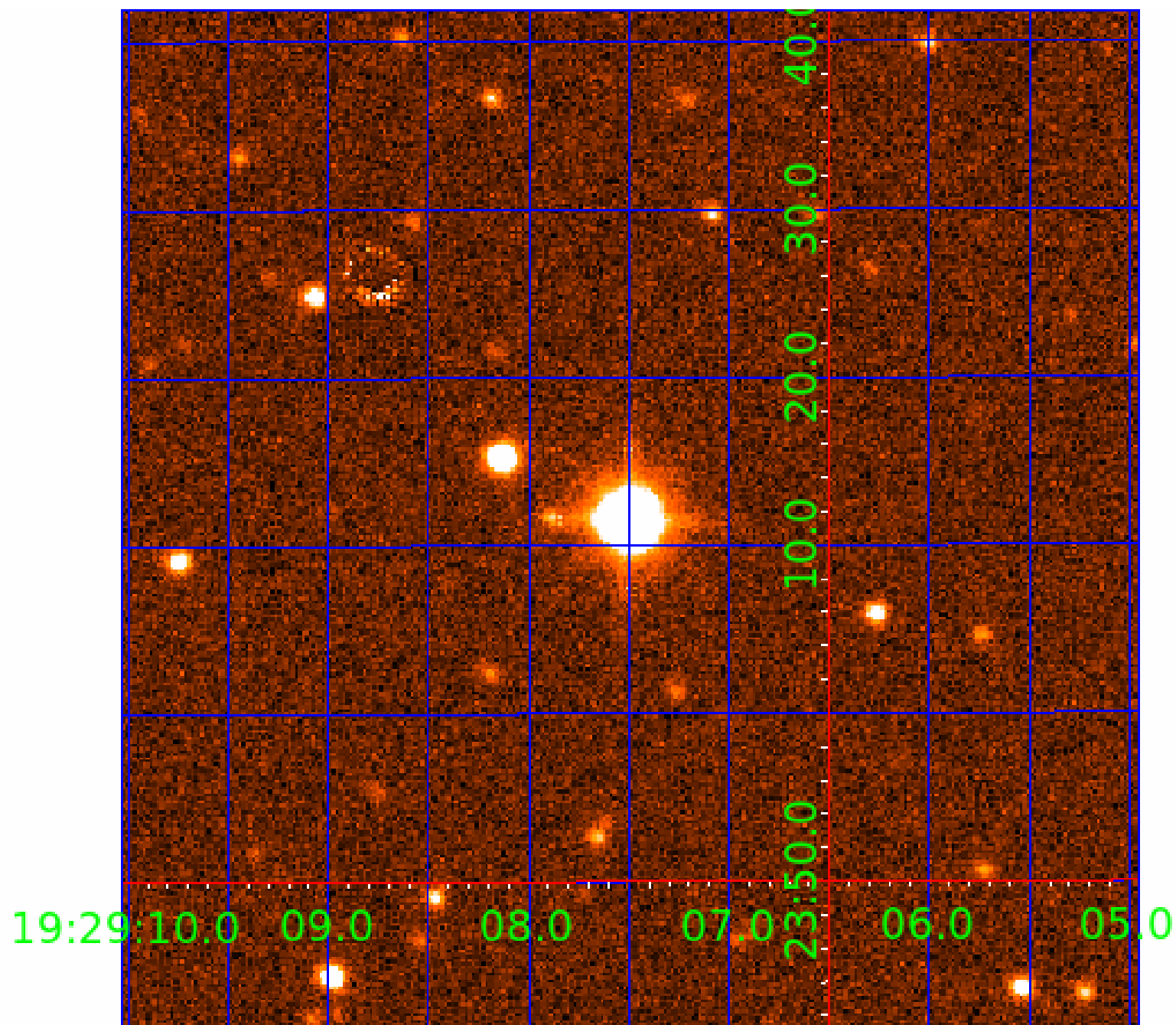


fluxWeightedCentroids, Planet 1 of 7



UKIRT Image

Declination



KIC 002018261

Q1-17 DR25 TCE Parameters

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002018261-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002018261-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002018261-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002018261-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
002018261-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

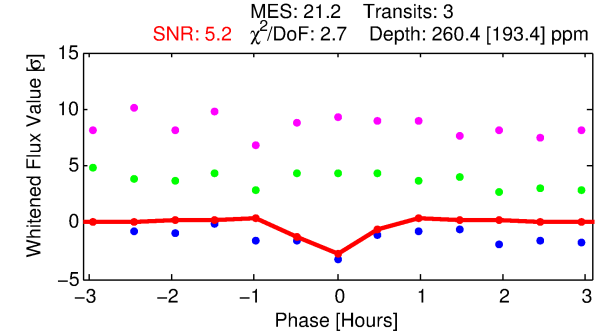
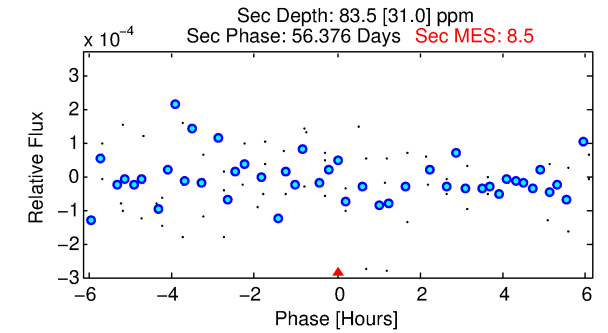
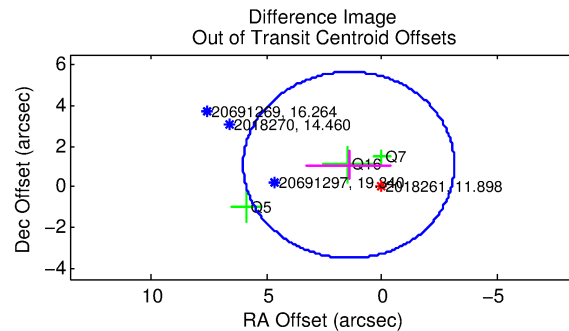
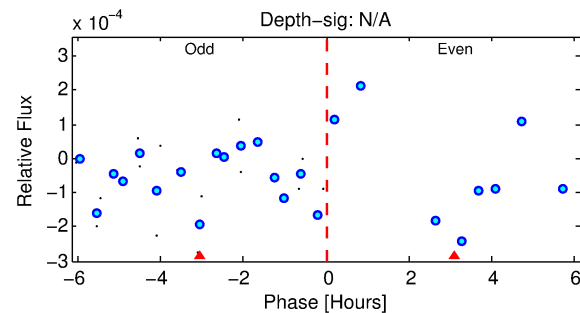
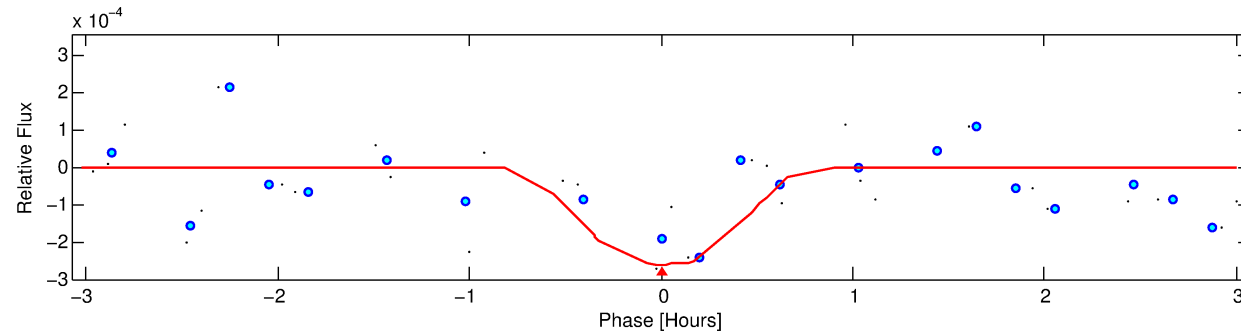
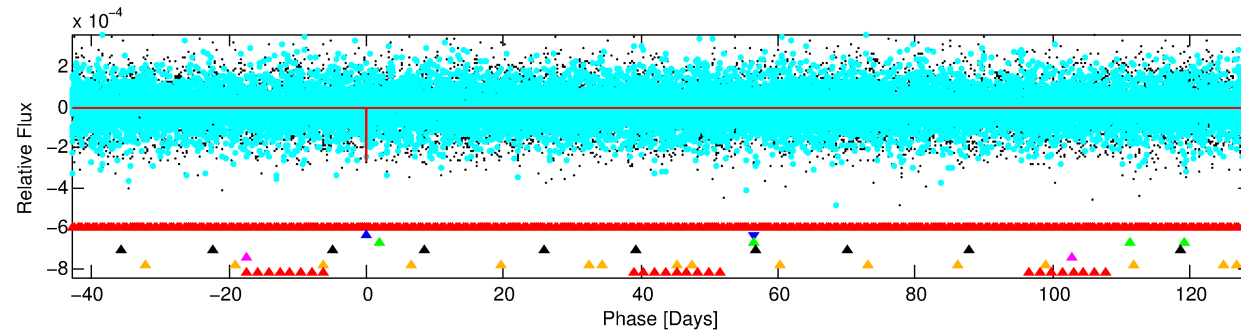
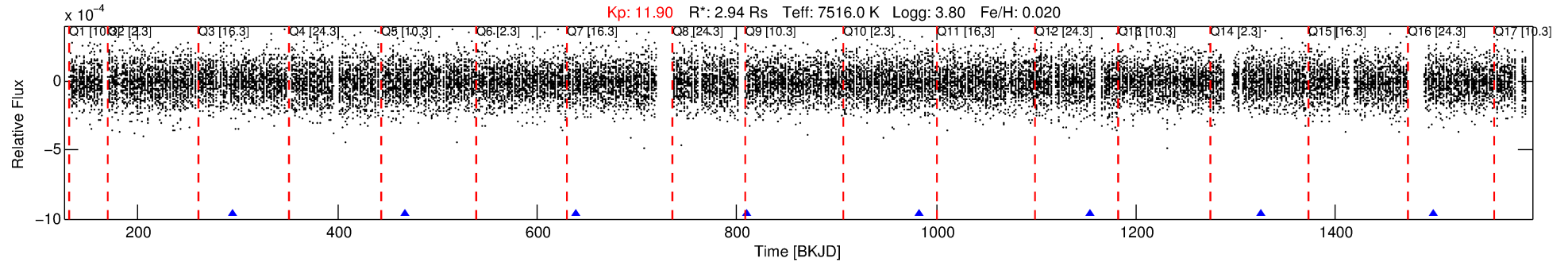
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018261-02

No Significant Match Found

DV One-Page Summary

KIC: 2018261 Candidate: 2 of 7 Period: 171.775 d



DV Fit Results:

Period = 171.77456 [0.00798] d
Epoch = 295.2090 [0.0409] BKJD
Rp/R* = 0.0168 [0.1884]
a/R* = 699.64 [49925.36]
b = 0.86 [22.14]
Seff = 42.65 [27.56]
Teq = 652 [105] K
Rp = 5.39 [60.39] Re
a = 0.7599 [0.3003] AU
Ag = 913.94 [20482.51] [0.04σ]
Teffp = 5540 [31027] K [0.1σ]

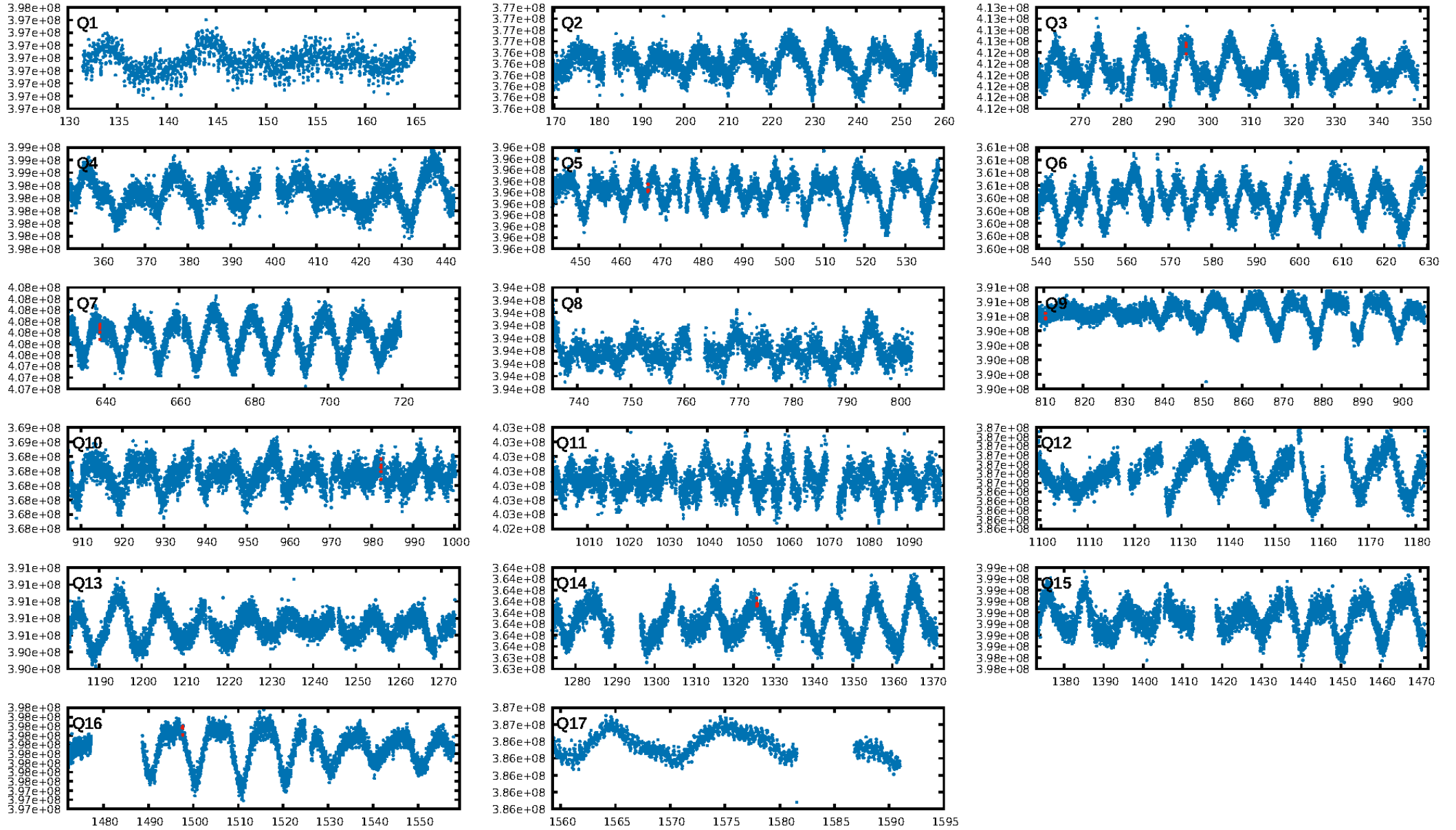
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [181.19σ]
LongPeriod-sig: 100.0% [1075.12σ]
ModelChiSquare2-sig: 2.4%
ModelChiSquareGof-sig: 33.0%
Bootstrap-pfa: 6.88e-39
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 73.98
Centroid-sig: 28.6%
Centroid-so: 1.322 arcsec [0.77σ]
OotOffset-rm: 1.792 arcsec [1.18σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 1.783 arcsec [1.19σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.43 [3/7]

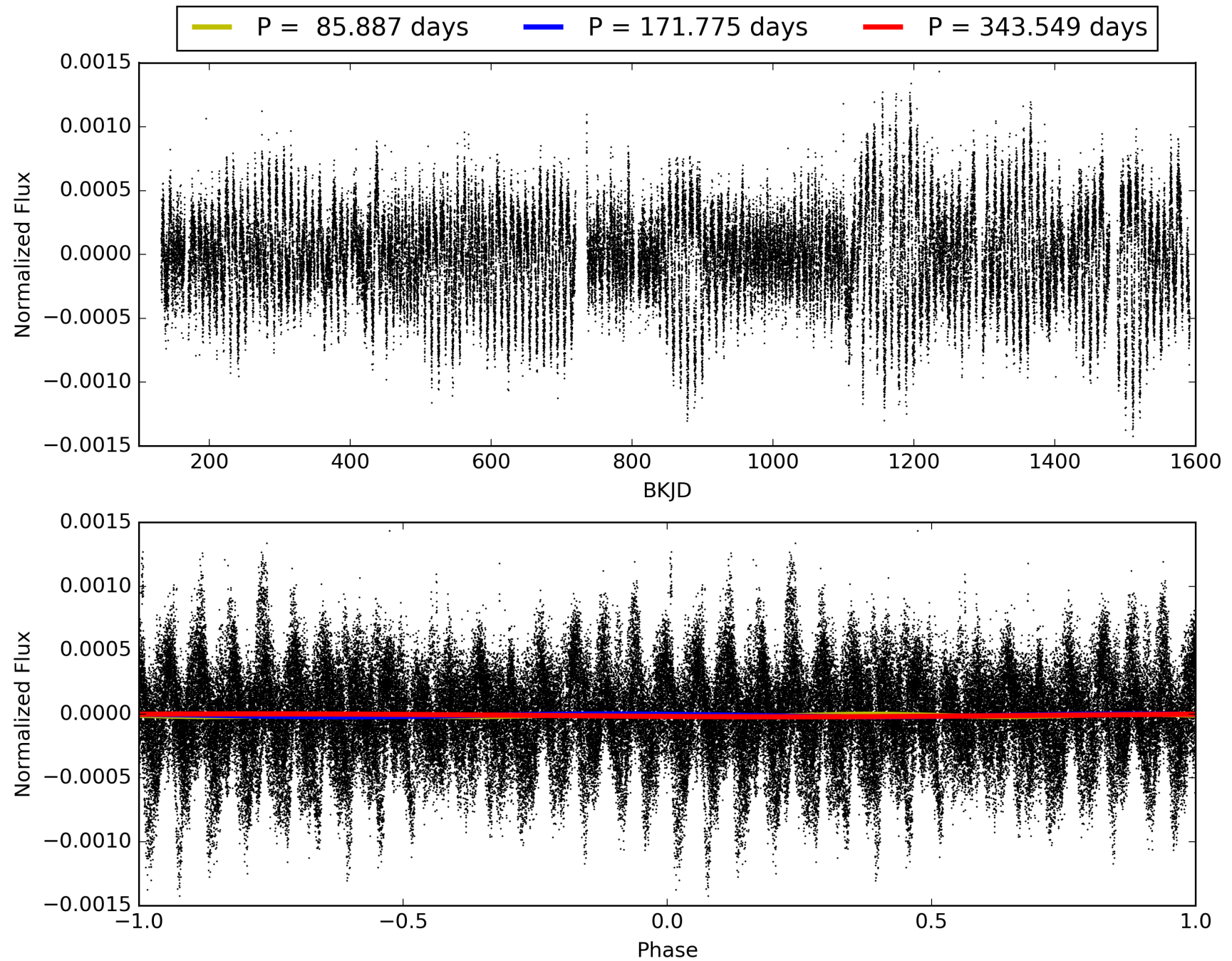
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:06:57 Z

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

TCE 002018261-02, PDC Light Curves

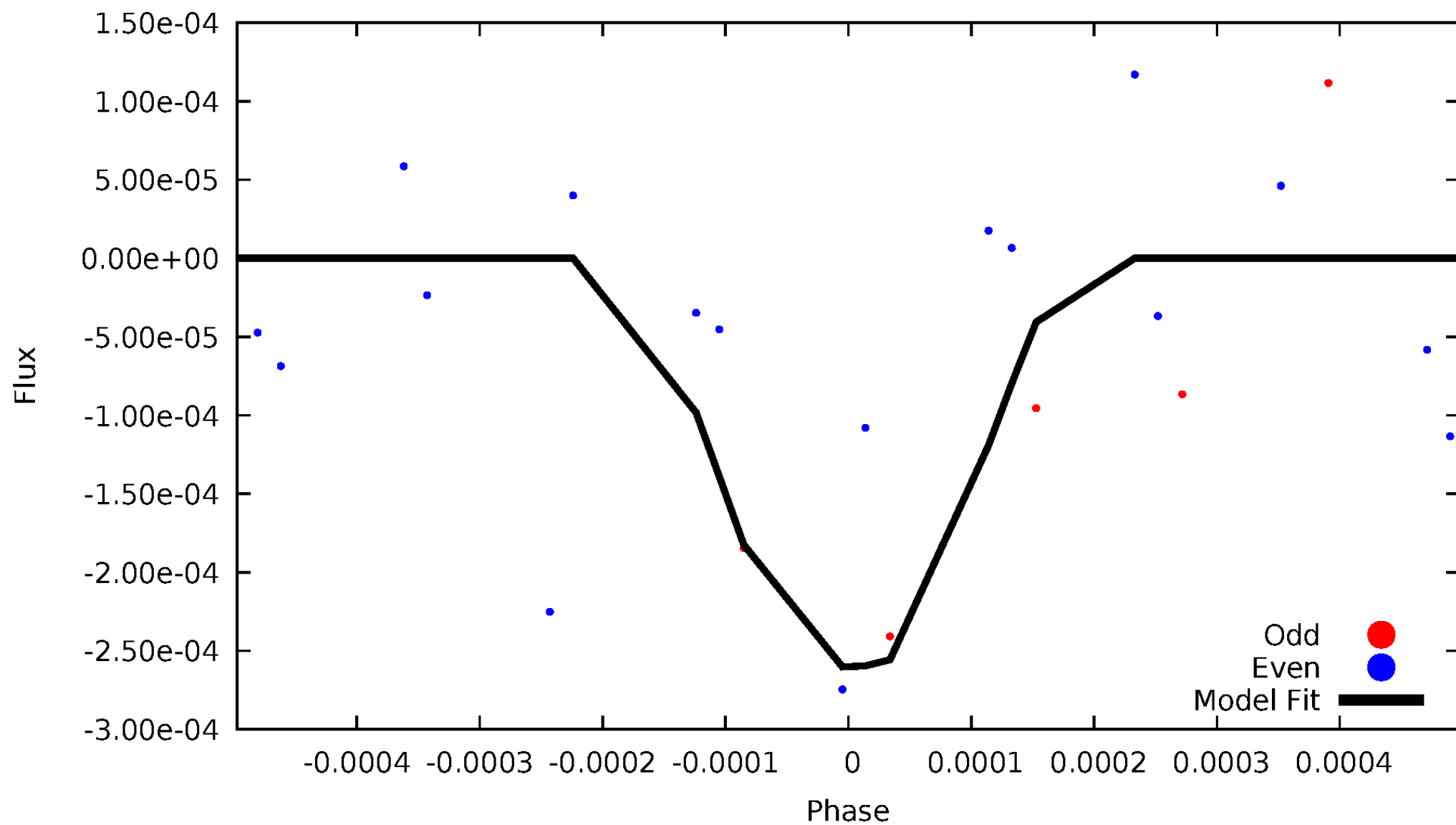


TCE 002018261-02



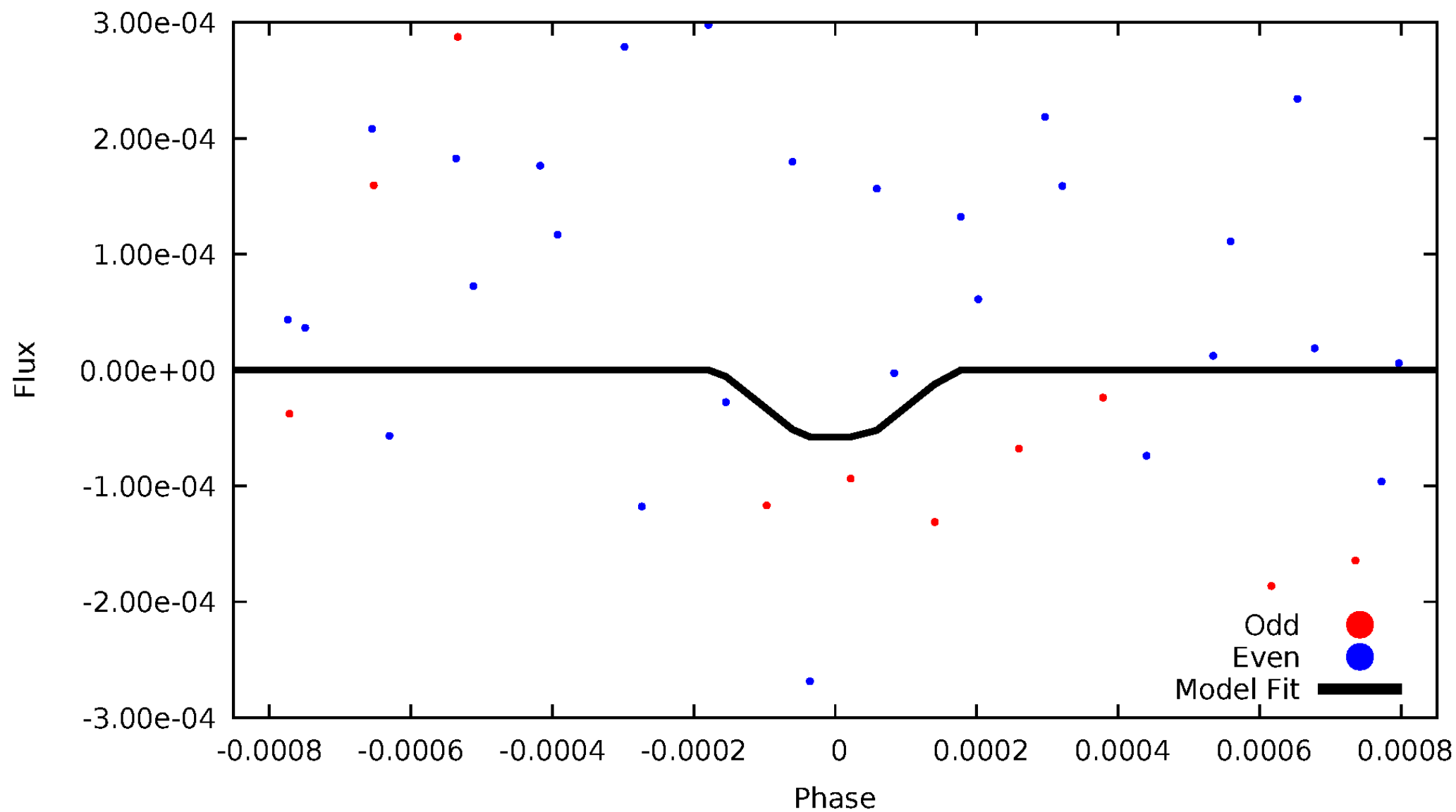
DV Odd/Even

TCE 002018261-02



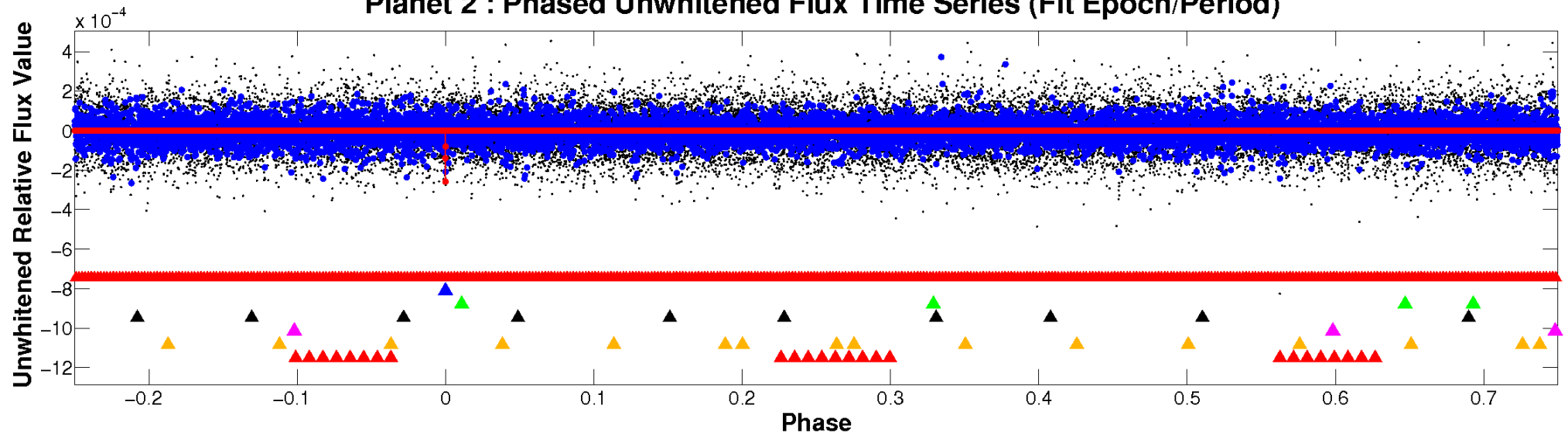
ALT Odd/Even

TCE 002018261-02

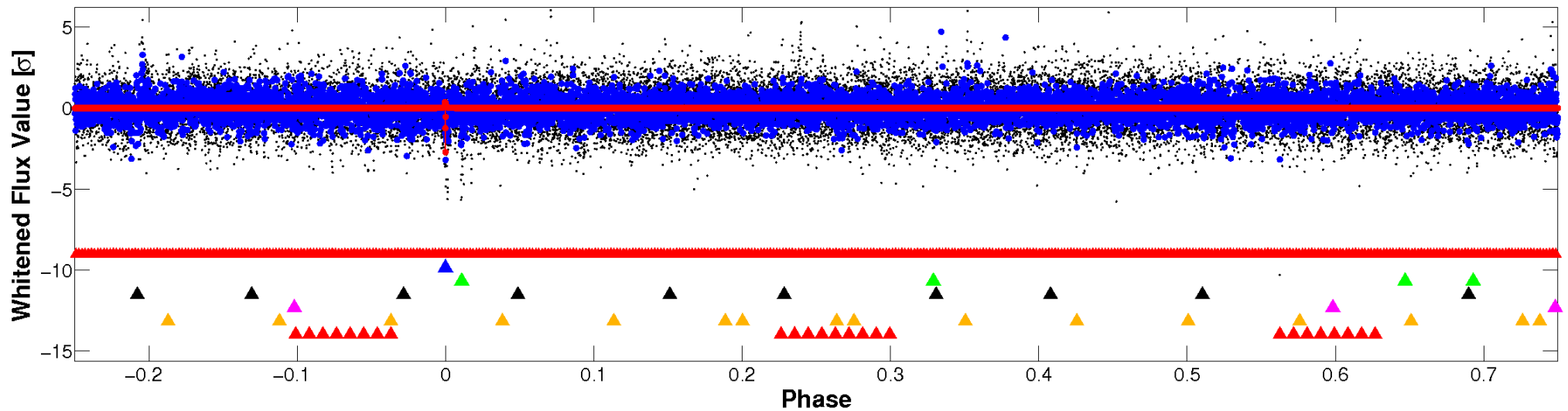


Non-Whitened Vs. Whitened Light Curve

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

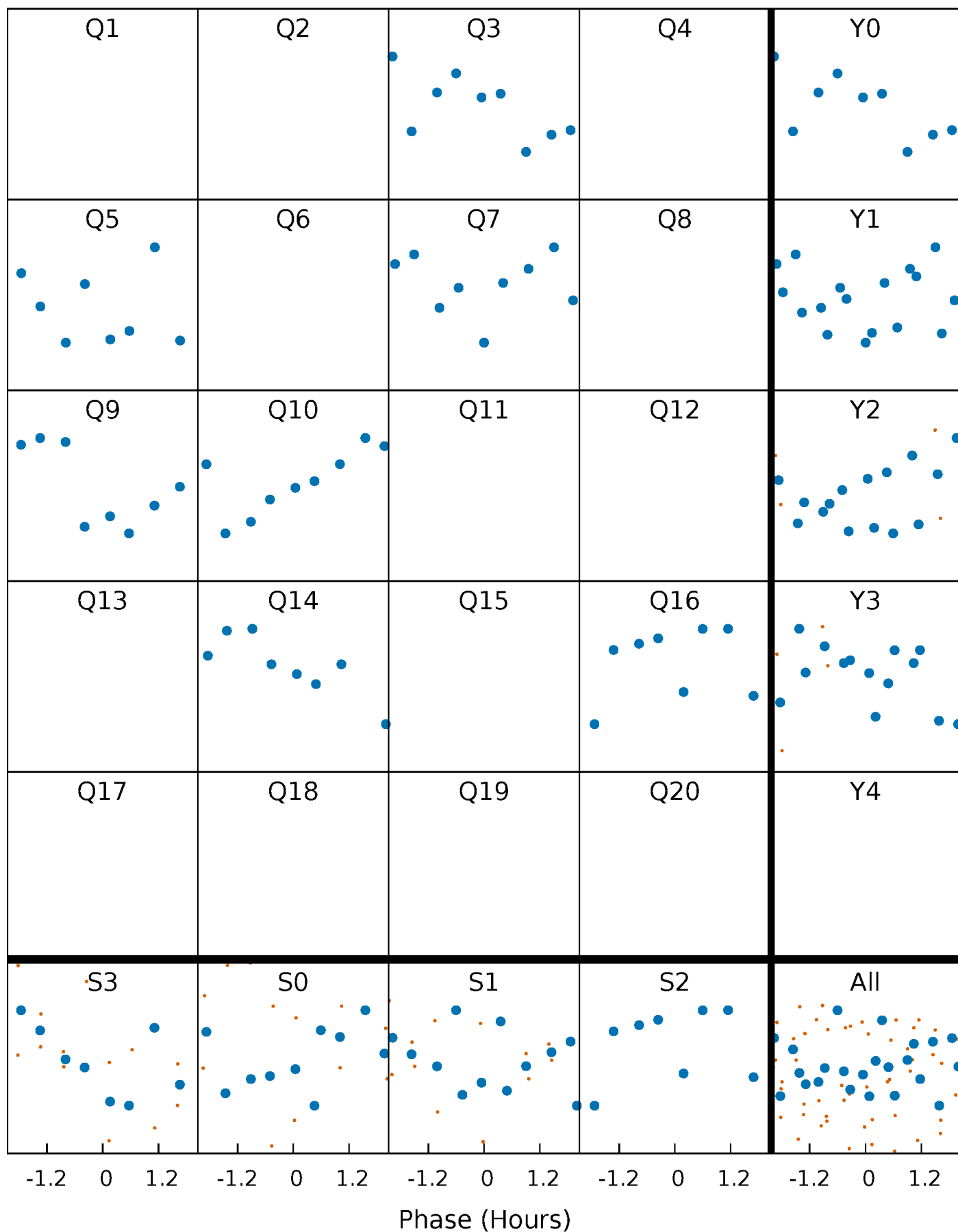


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



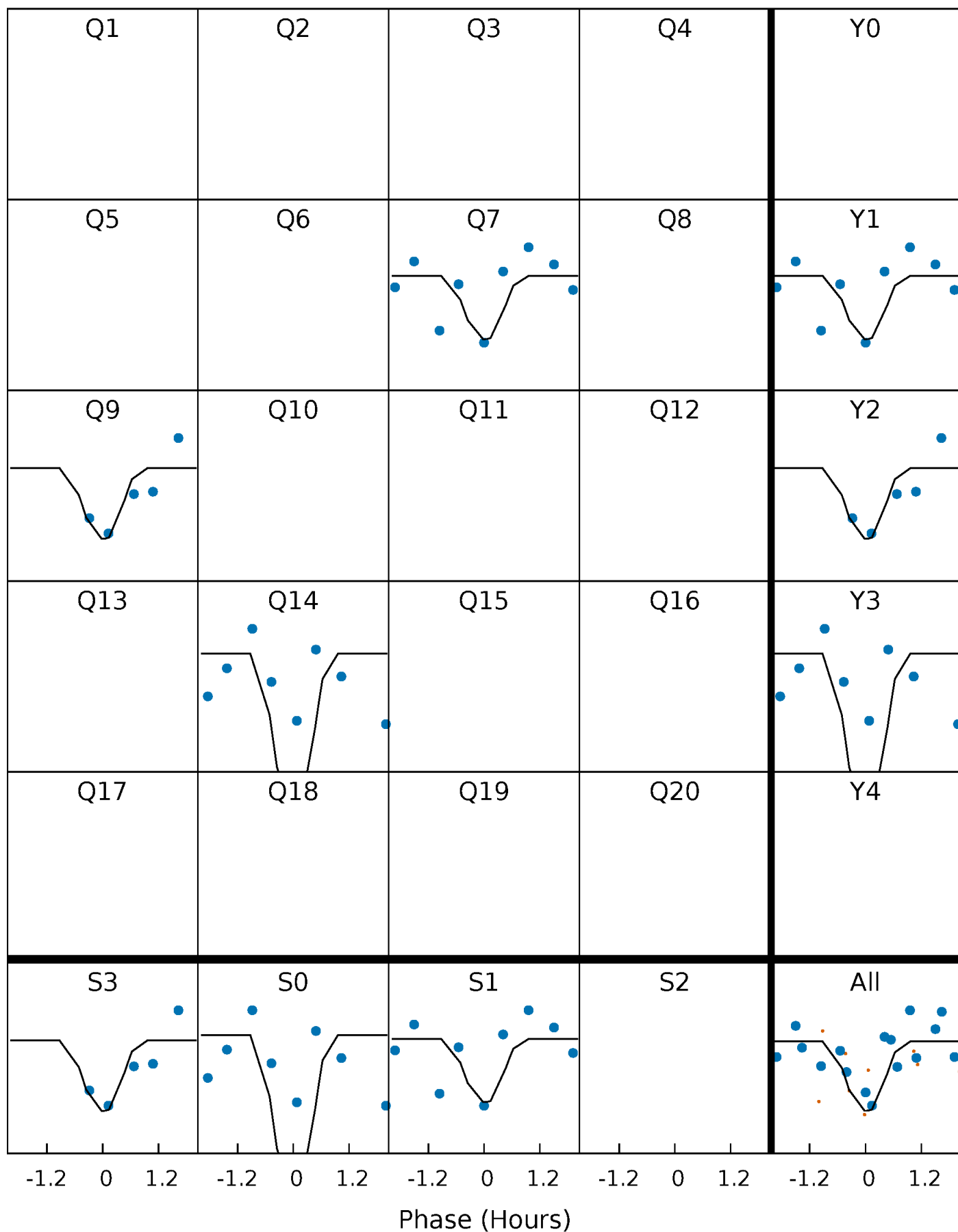
PDC Quarter-Phased Transit Curves

TCE 002018261-02 P=171.774563 Days $T_0=295.208989$ (BKJD)



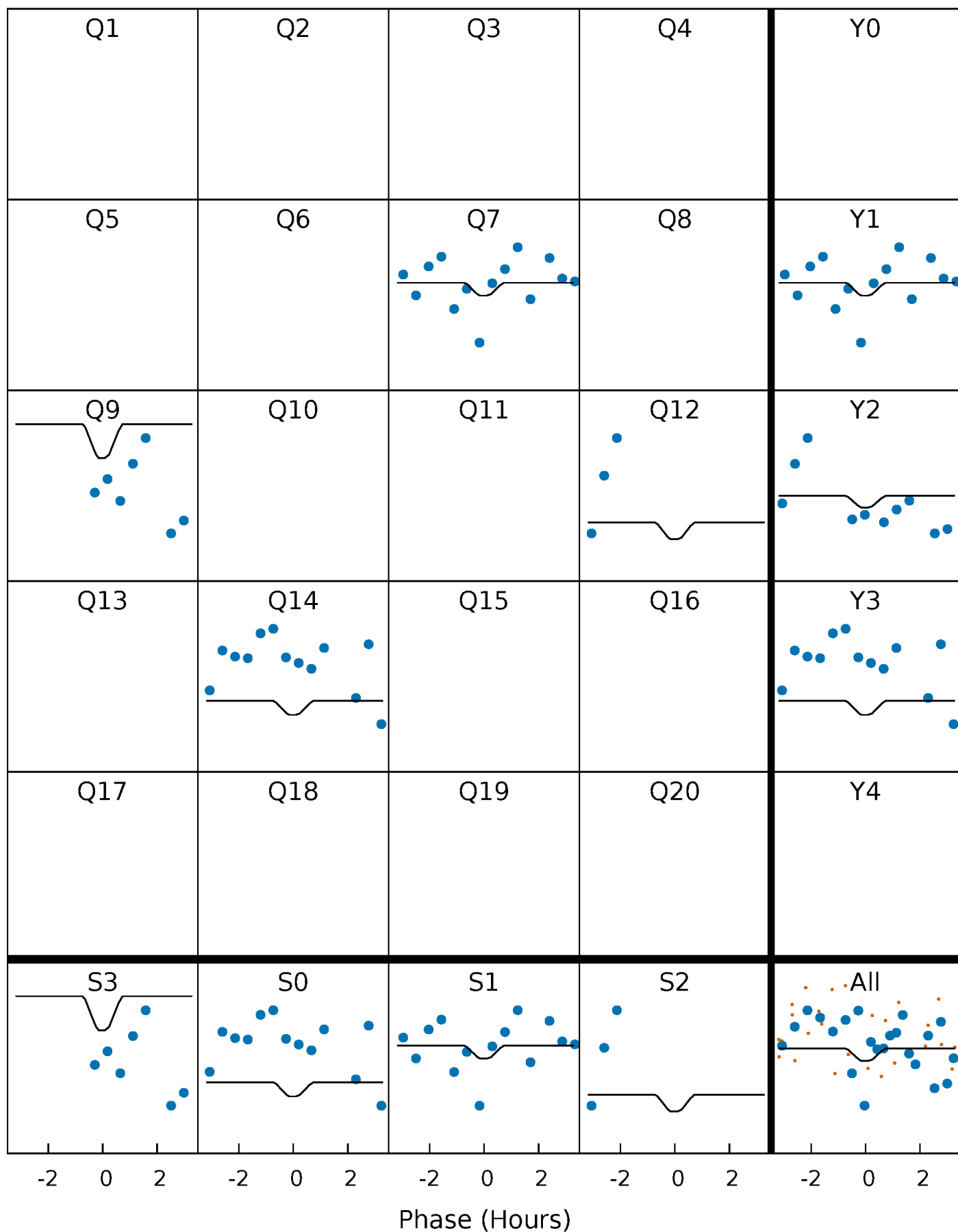
DV Quarter-Phased Transit Curves

TCE 002018261-02 P=171.774563 Days $T_0=295.208989$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

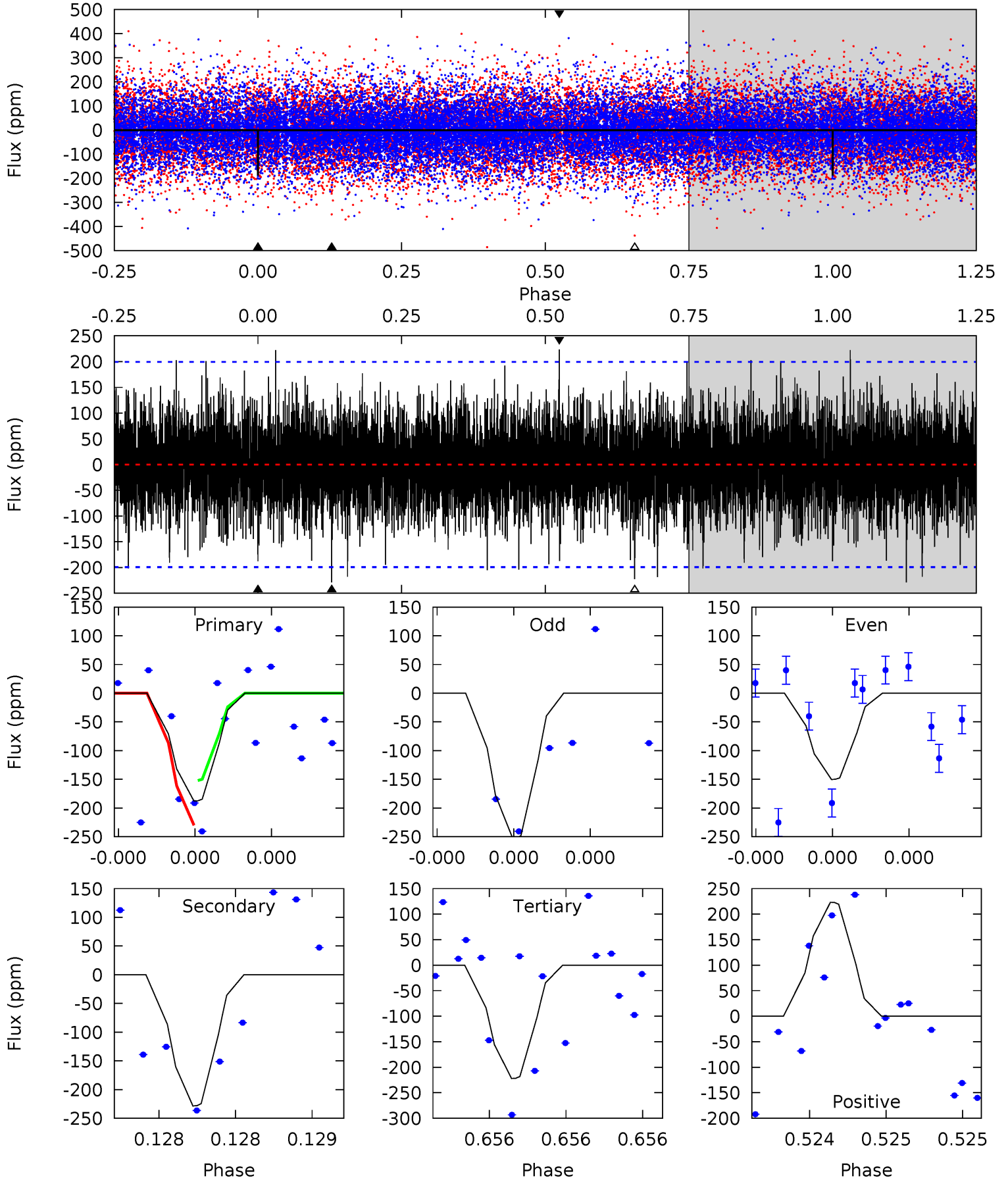
TCE 002018261-02 P=171.771317 Days $T_0=295.220766$ (BKJD)



DV Model-Shift Uniqueness Test

002018261-02, P = 171.774563 Days, E = 123.434426 Days

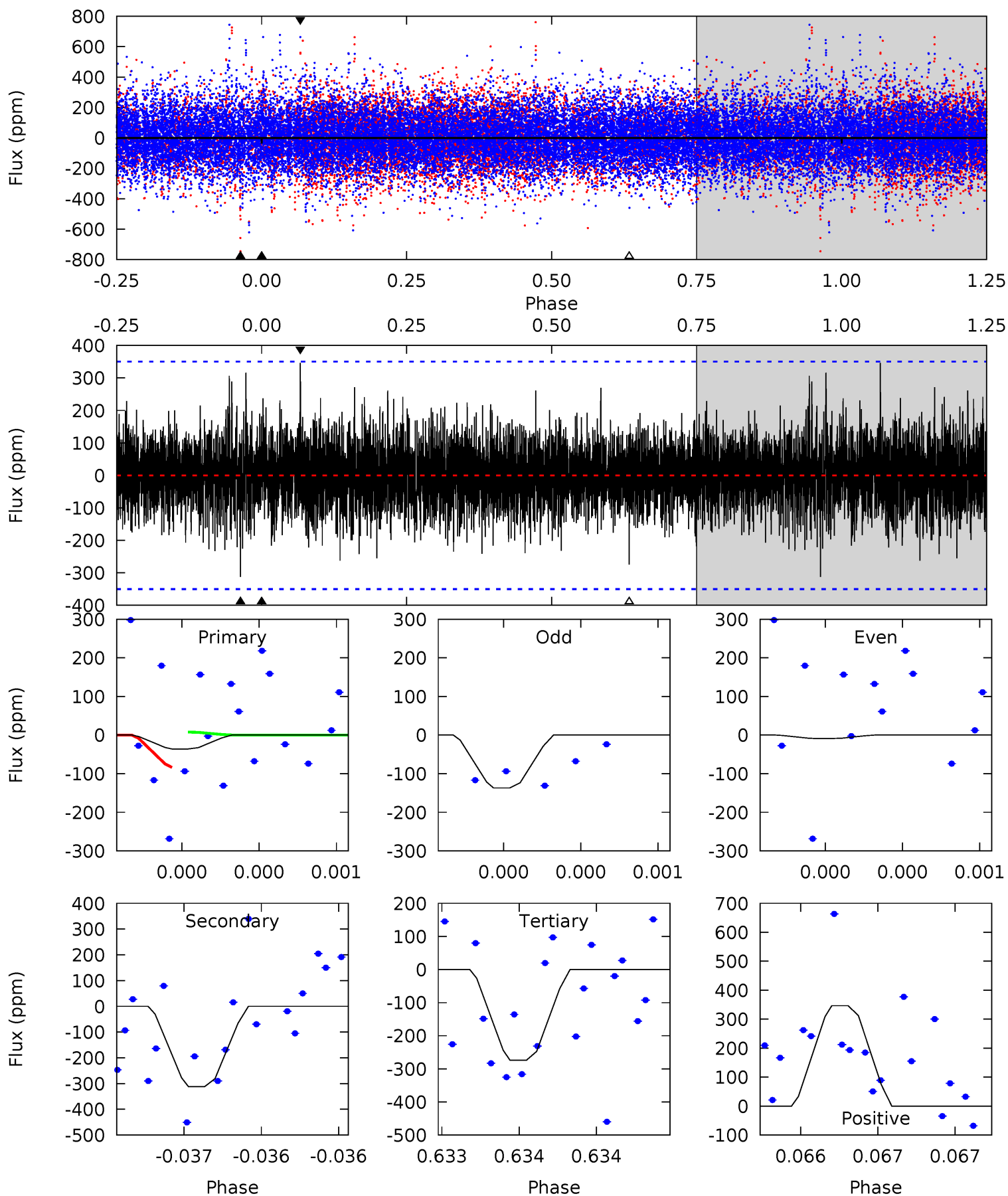
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.31	6.46	6.28	6.31	5.63	3.57	1.55	-0.97	-1.00	0.18	0.15	1.39	0.90	0.49	1.06



Alt Model-Shift Uniqueness Test

002018261-02, P = 171.771317 Days, E = 123.449449 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.58	5.05	4.44	5.62	5.68	3.64	1.18	-3.86	-5.03	0.61	-0.56	0.97	0.32	0.53	0.59



Stellar Parameters For KIC 002018261

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7516^{+207}_{-337}	$3.800^{+0.360}_{-0.090}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.415}_{-1.244}$	$1.978^{+0.112}_{-0.506}$	$0.110^{+0.312}_{-0.031}$
	+3%/-4%	+9%/-2%	+1000%/-1750%	+14%/-42%	+6%/-26%	+283%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002018261-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-229 ± 35	$39.43^{+44.16}_{-28.10}$	886^{+61}_{-96}	3071^{+1577}_{-540}	44^{+498}_{-34}
Alt.	-312 ± 62	$39.91^{+44.84}_{-29.29}$	881^{+63}_{-84}	3230^{+1905}_{-610}	64^{+834}_{-50}

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

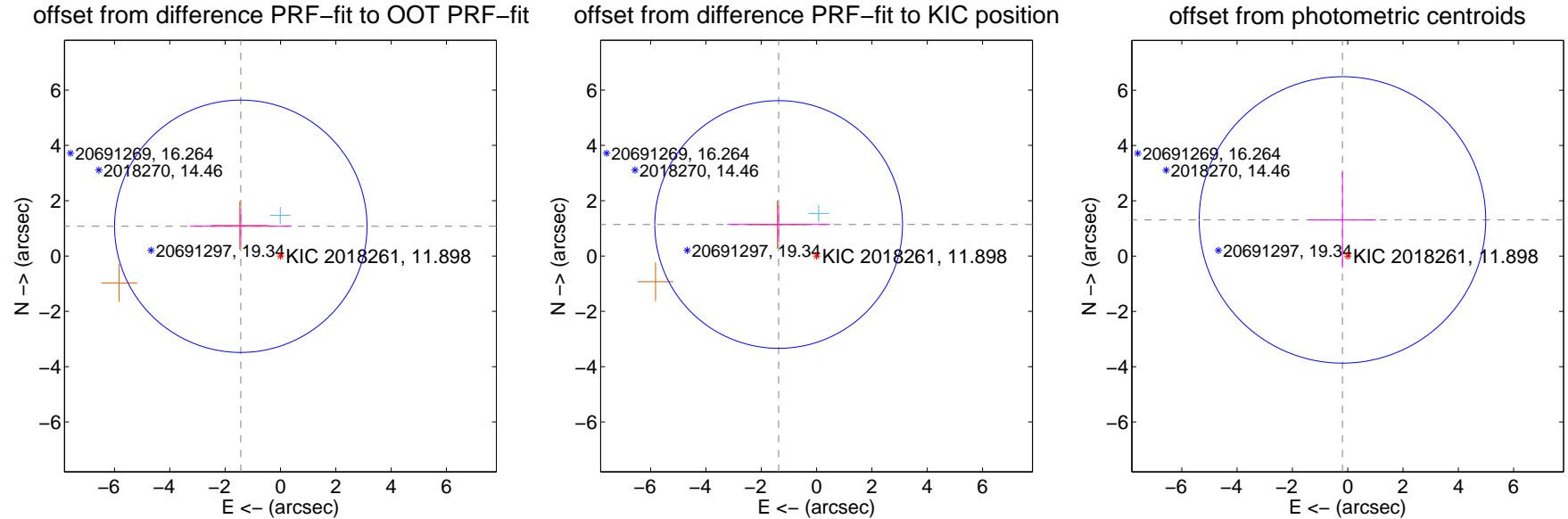
DV Centroid Data

Supplemental centroid analysis for 002018261-02. **Kepler magnitude: 11.90.** Transit SNR 5.15

There are 1 quarters with good PRF difference image offsets

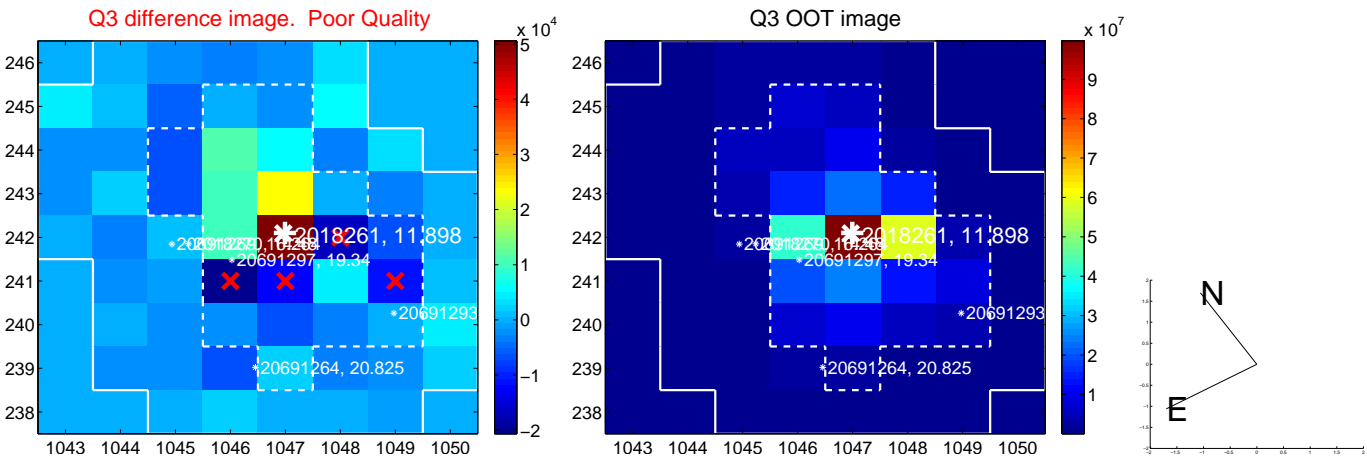
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.792 ± 1.521	1.18	1.434 ± 1.835	1.076 ± 0.666
PRF-fit source offset from KIC position	1.783 ± 1.493	1.19	1.371 ± 1.859	1.140 ± 0.674
photometric centroid source offset	1.32 ± 1.73	0.77	0.19 ± 1.22	1.31 ± 1.74

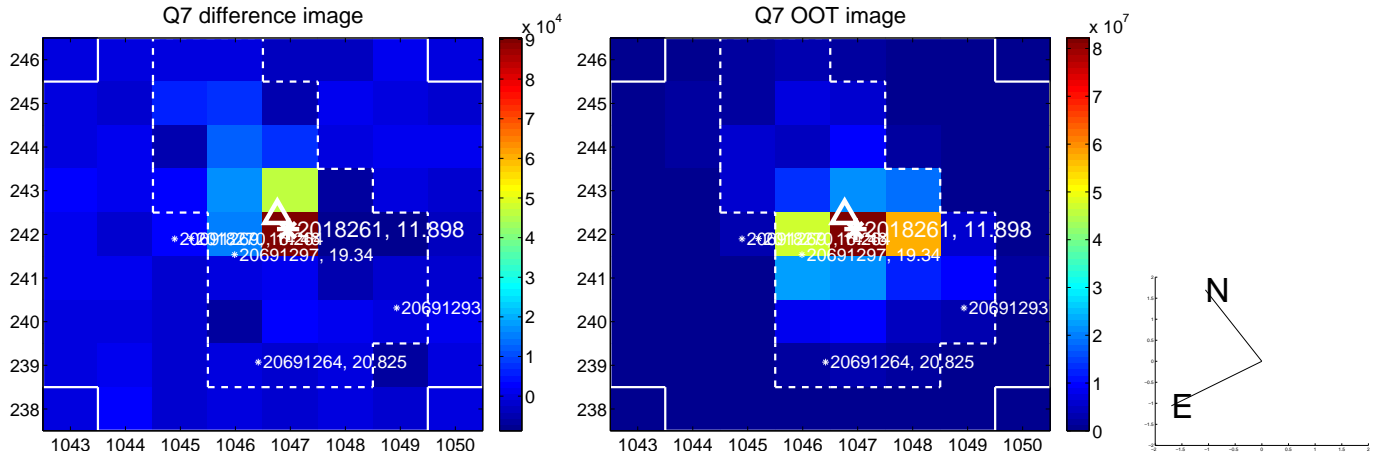
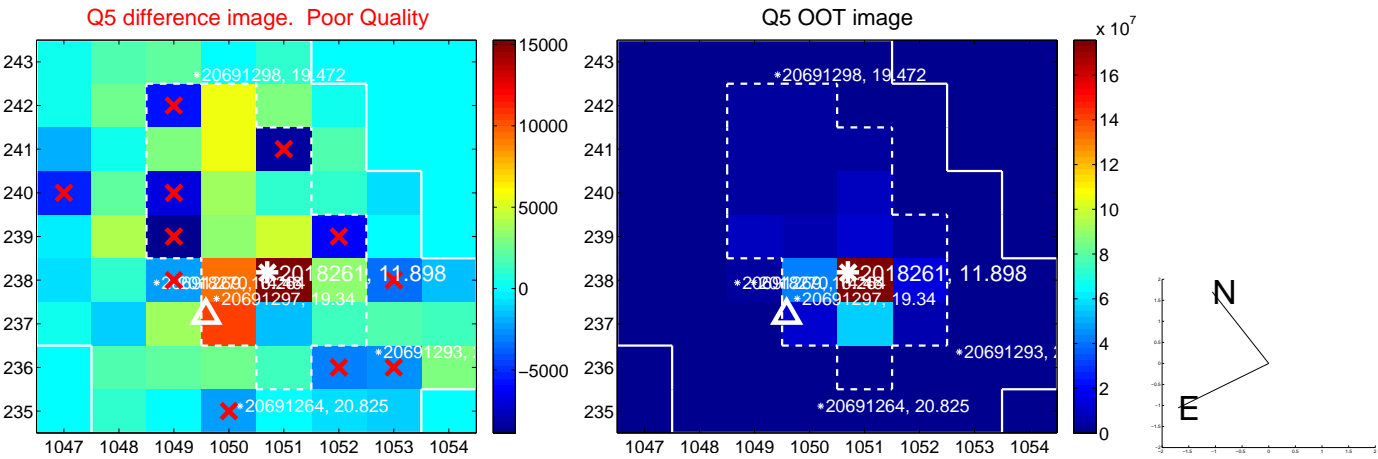


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

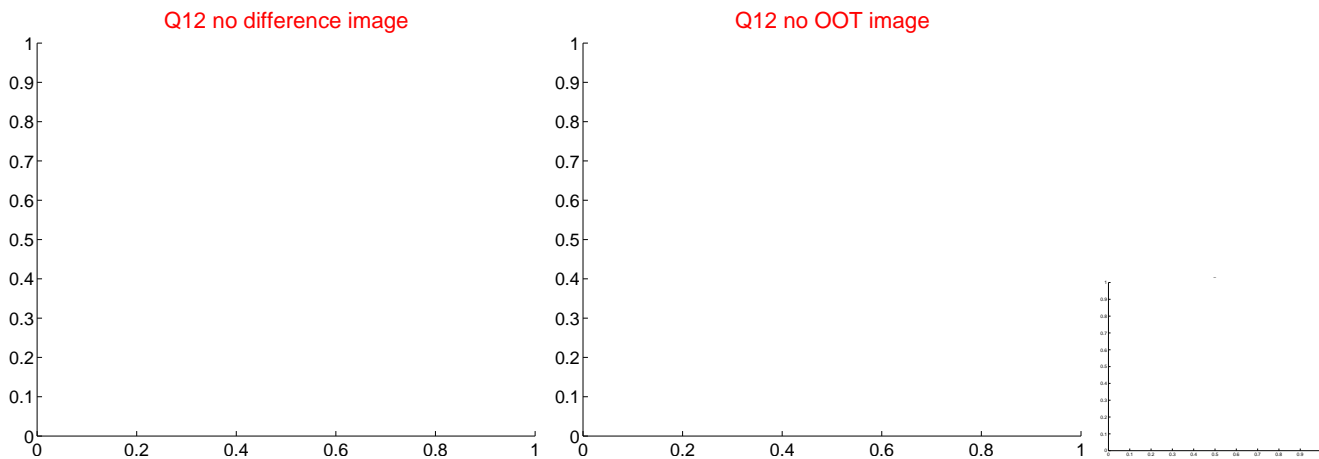
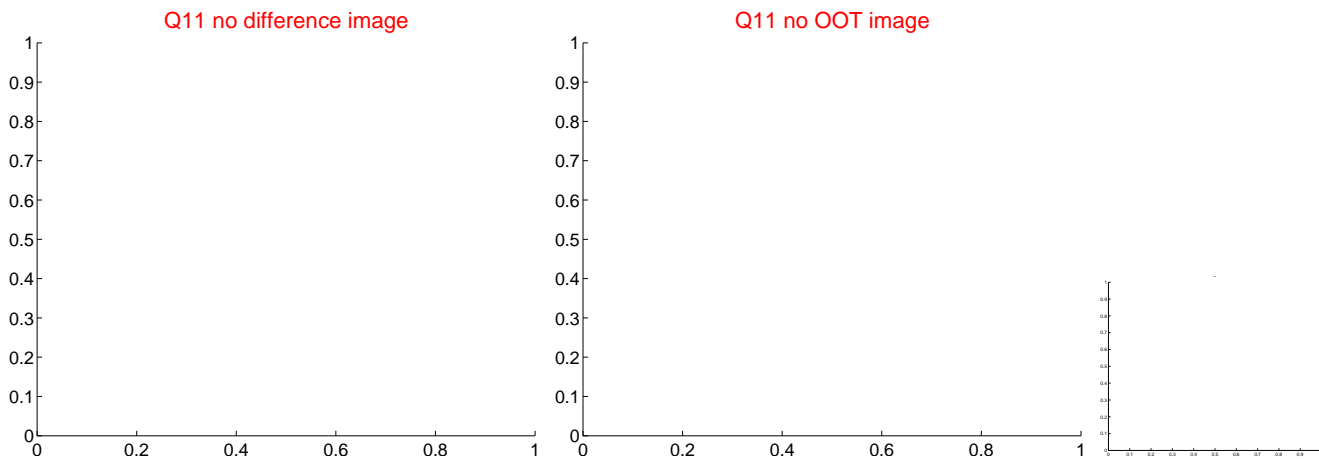
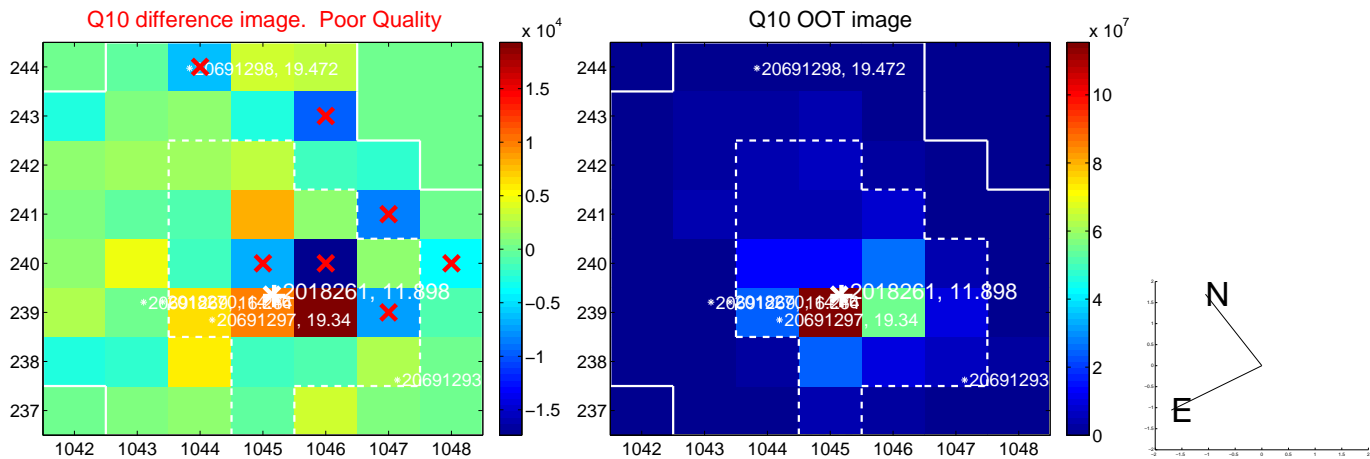
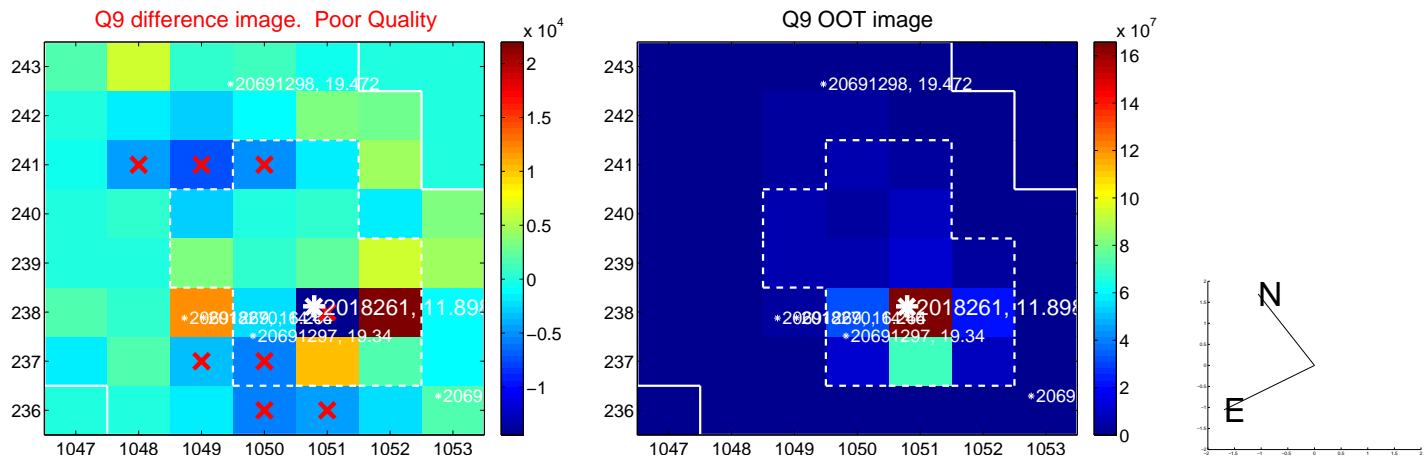
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



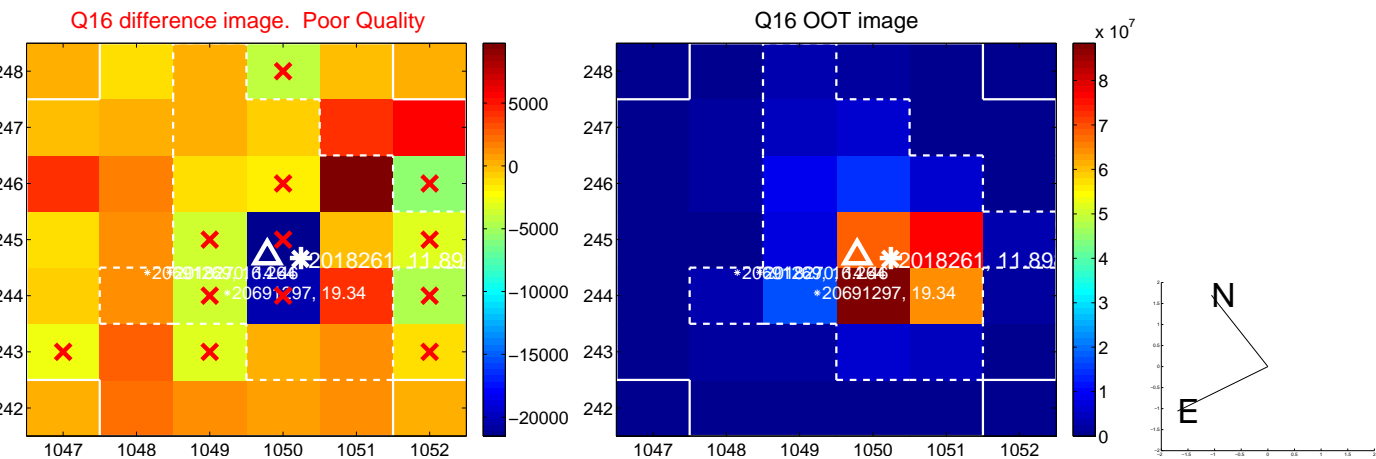
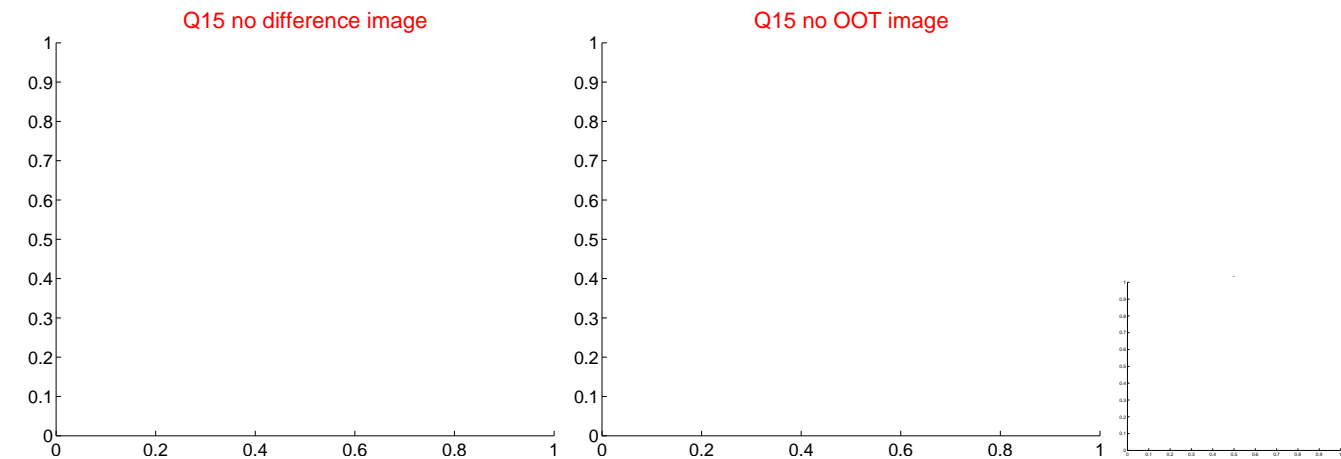
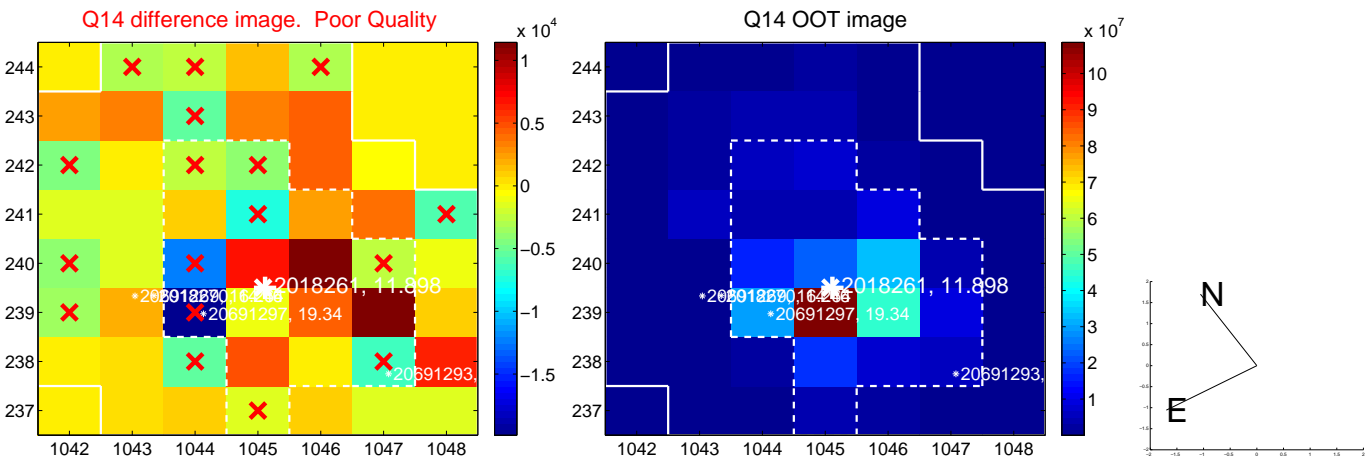
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



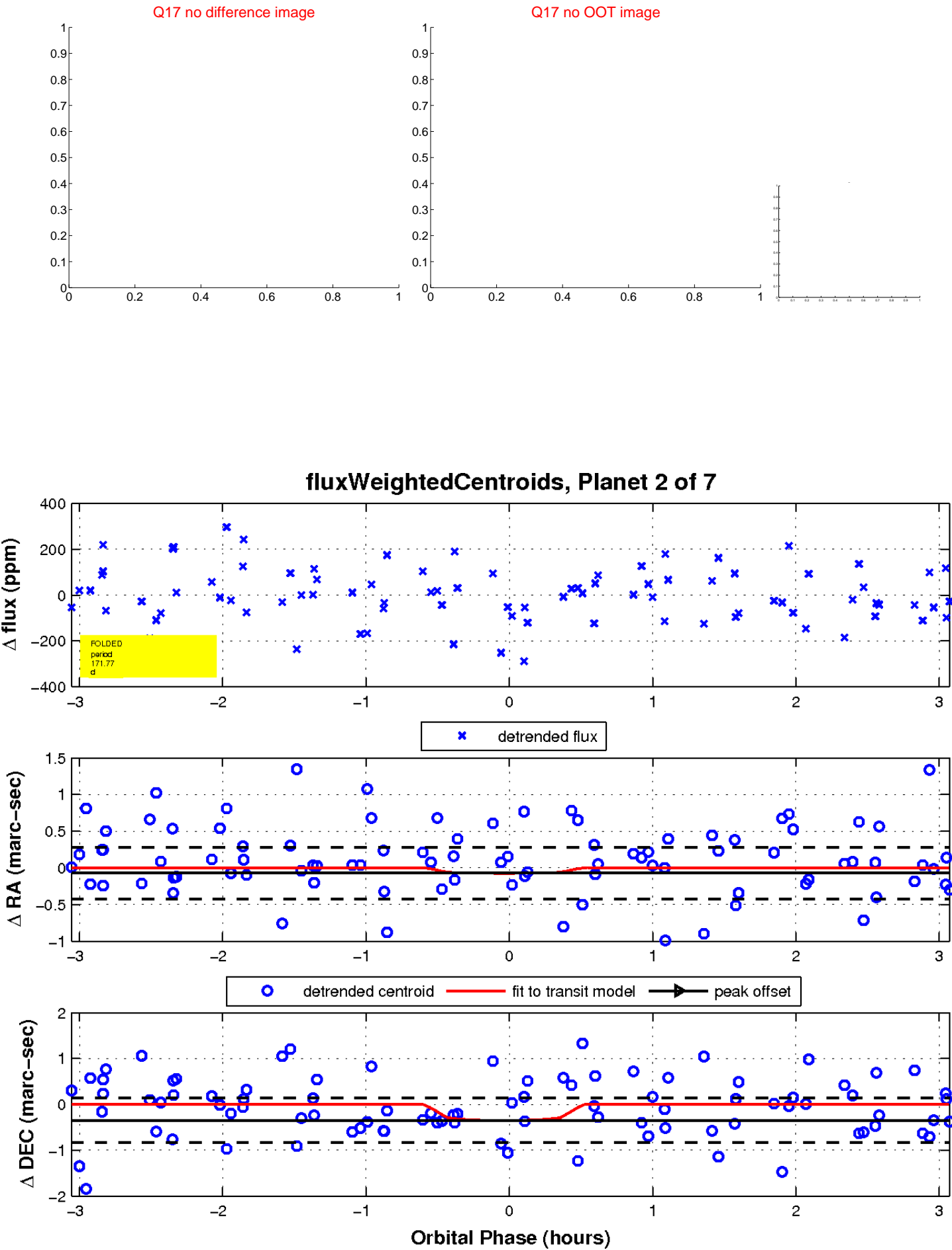
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

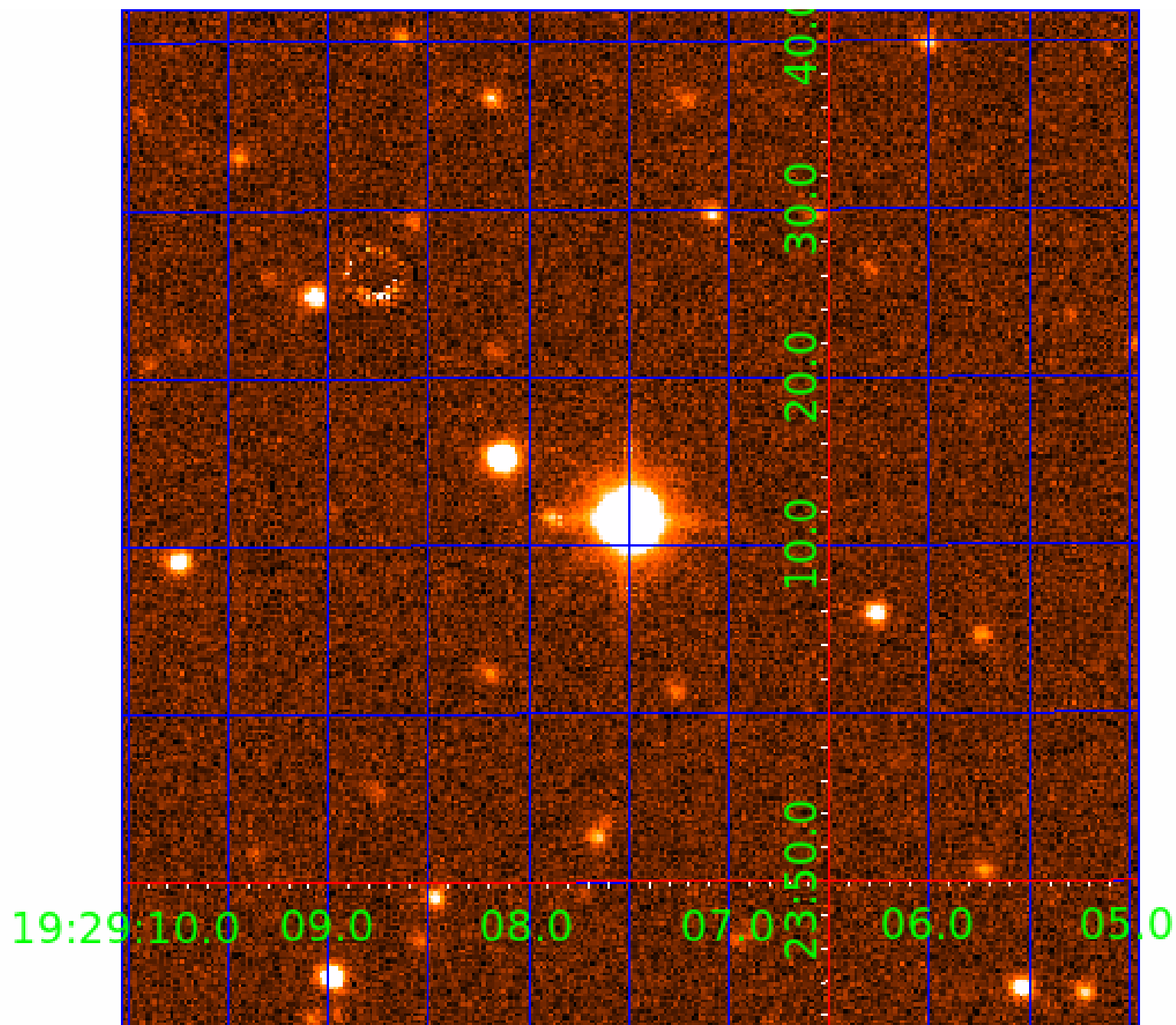


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002018261

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})
002018261-01	OBS	No	2.536659	132.465297	18.4	11.775	9.8	8.5	2.94	7516	1.32	11773.28
002018261-02	OBS	No	171.774563	295.208989	260.4	1.025	21.2	5.2	2.94	7516	5.39	42.66
002018261-03	OBS	No	398.179919	242.460360	299.3	4.949	16.0	9.7	2.94	7516	5.67	13.90
002018261-04	OBS	No	140.937995	193.502931	228.1	3.954	8.9	7.9	2.94	7516	4.92	55.53
002018261-05	OBS	No	489.575661	277.705143	243.7	22.343	7.9	7.2	2.94	7516	5.08	10.56
002018261-06	OBS	No	92.340346	157.835262	177.7	3.637	8.0	8.5	2.94	7516	4.48	97.59
002018261-07	OBS	No	57.783258	162.296036	65.8	7.751	7.4	5.2	2.94	7516	2.60	182.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002018261-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002018261-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS
002018261-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002018261-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002018261-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002018261-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
002018261-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

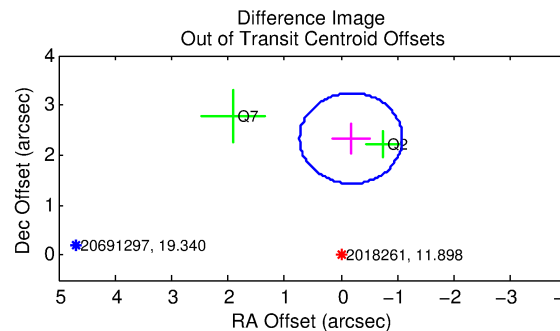
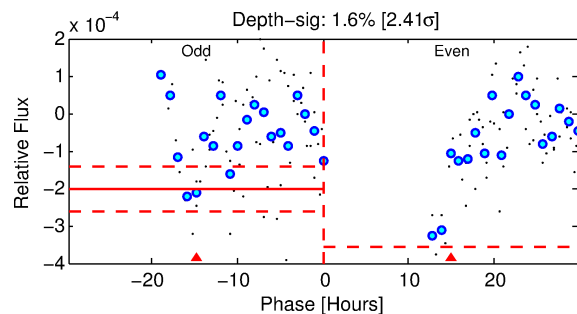
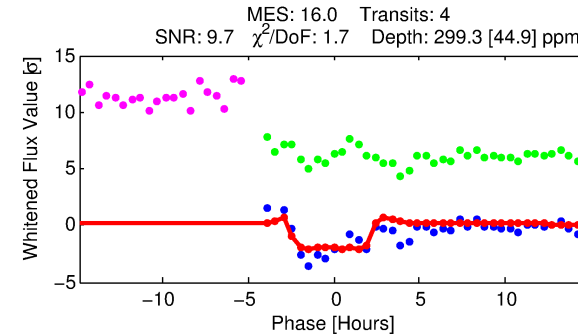
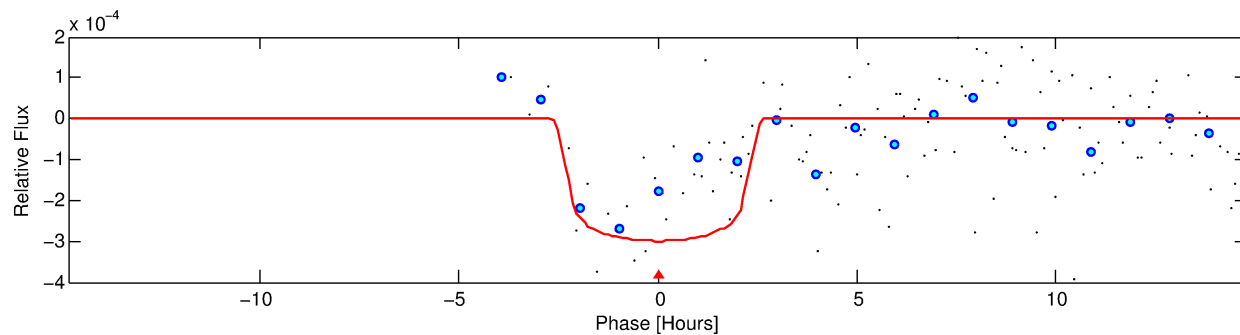
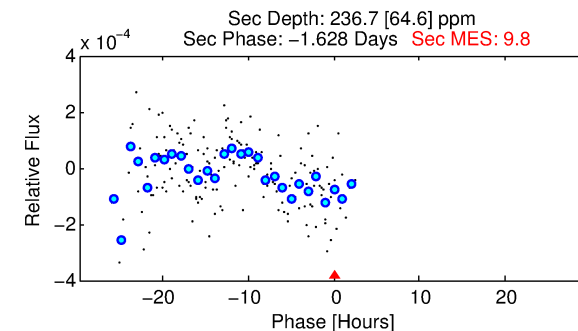
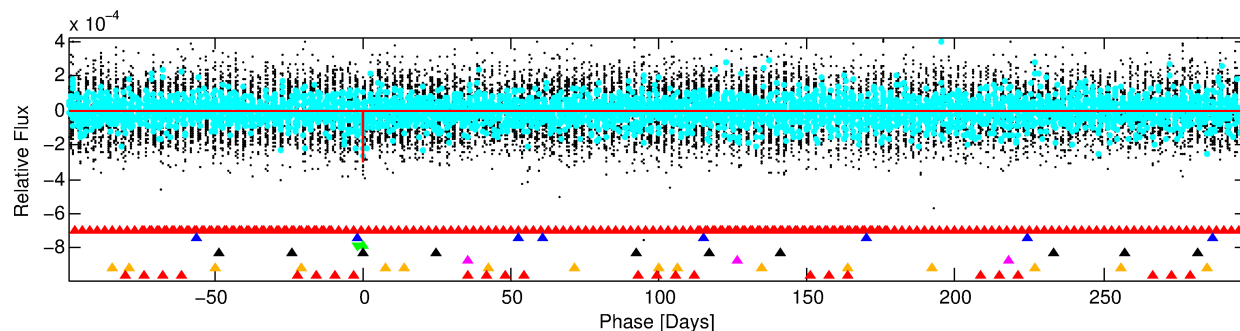
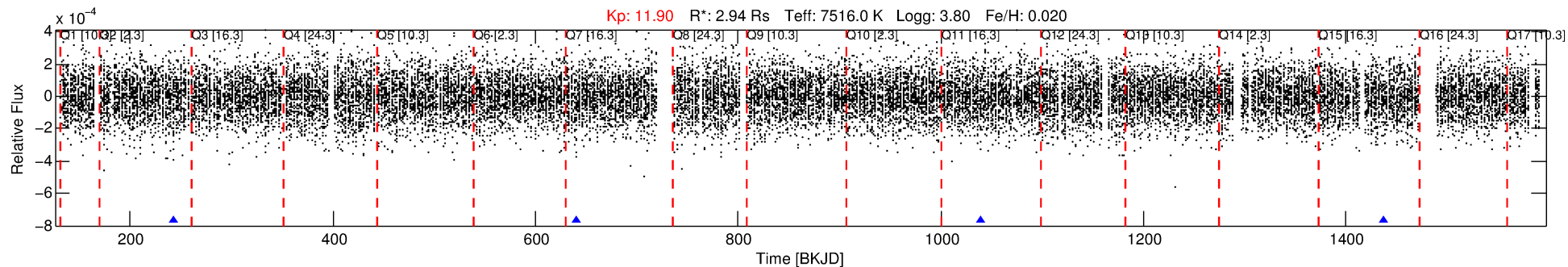
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018261-03

No Significant Match Found

DV One-Page Summary

KIC: 2018261 Candidate: 3 of 7 Period: 398.180 d



DV Fit Results:

Period = 398.17992 [0.00477] d
Epoch = 242.4604 [0.0073] BKJD
Rp/R* = 0.0177 [0.0061]
a/R* = 359.84 [737.67]
b = 0.83 [0.76]
Seff = 13.90 [8.98]
Teq = 492 [80] K
Rp = 5.67 [3.09] Re
a = 1.3309 [0.5260] AU
Ag = 7174.28 [6911.44] [1.04σ]
Teff = 7006 [1328] K [4.90σ]

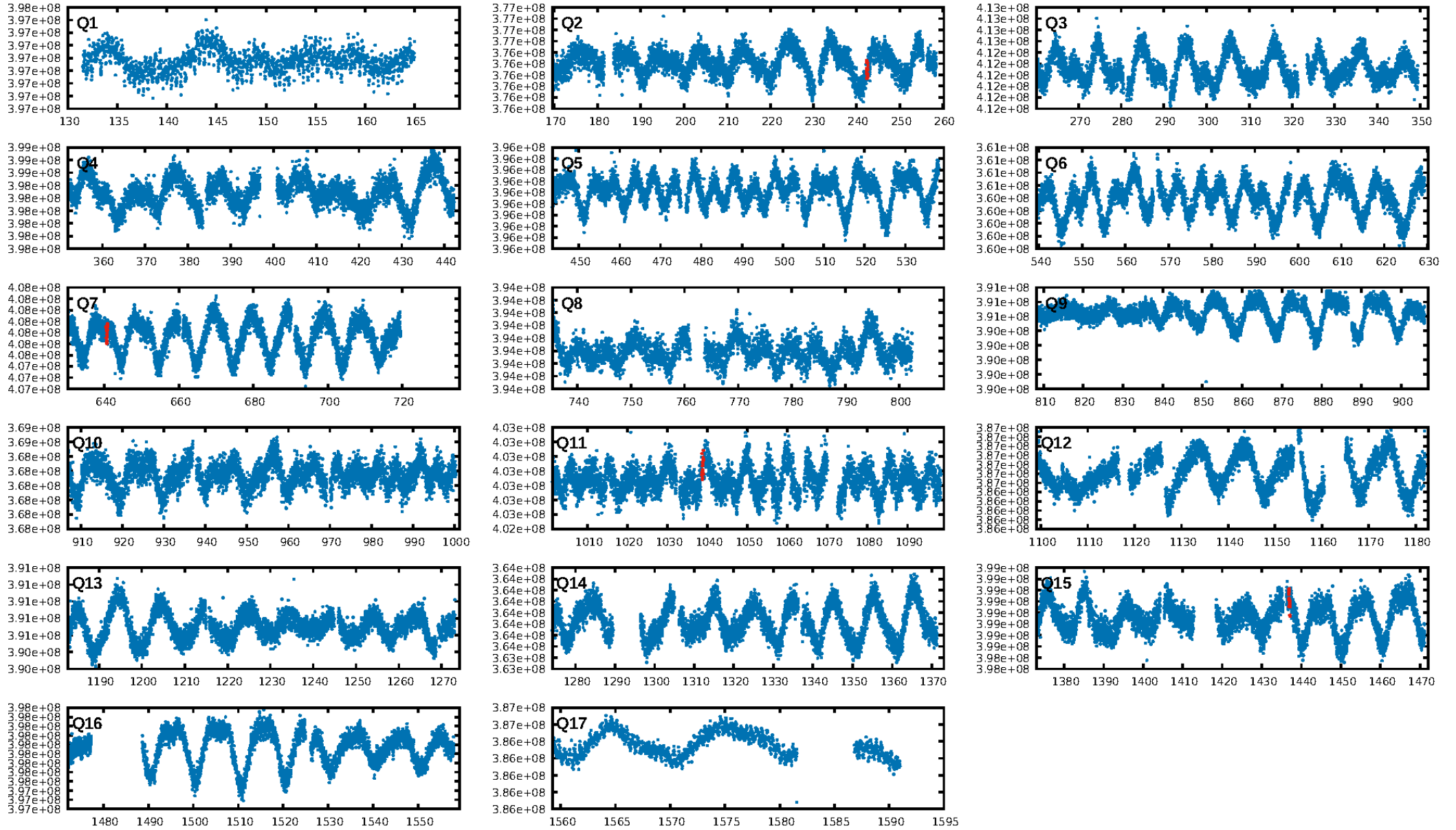
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1075.12σ]
LongPeriod-sig: 100.0% [95.85σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 88.3%
Bootstrap-pfa: 5.04e-26
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.471
Centroid-sig: 53.9%
Centroid-so: 0.775 arcsec [0.62σ]
OotOffset-rm: 2.343 arcsec [7.75σ]
KicOffset-rm: 2.452 arcsec [8.12σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.67 [2/3]

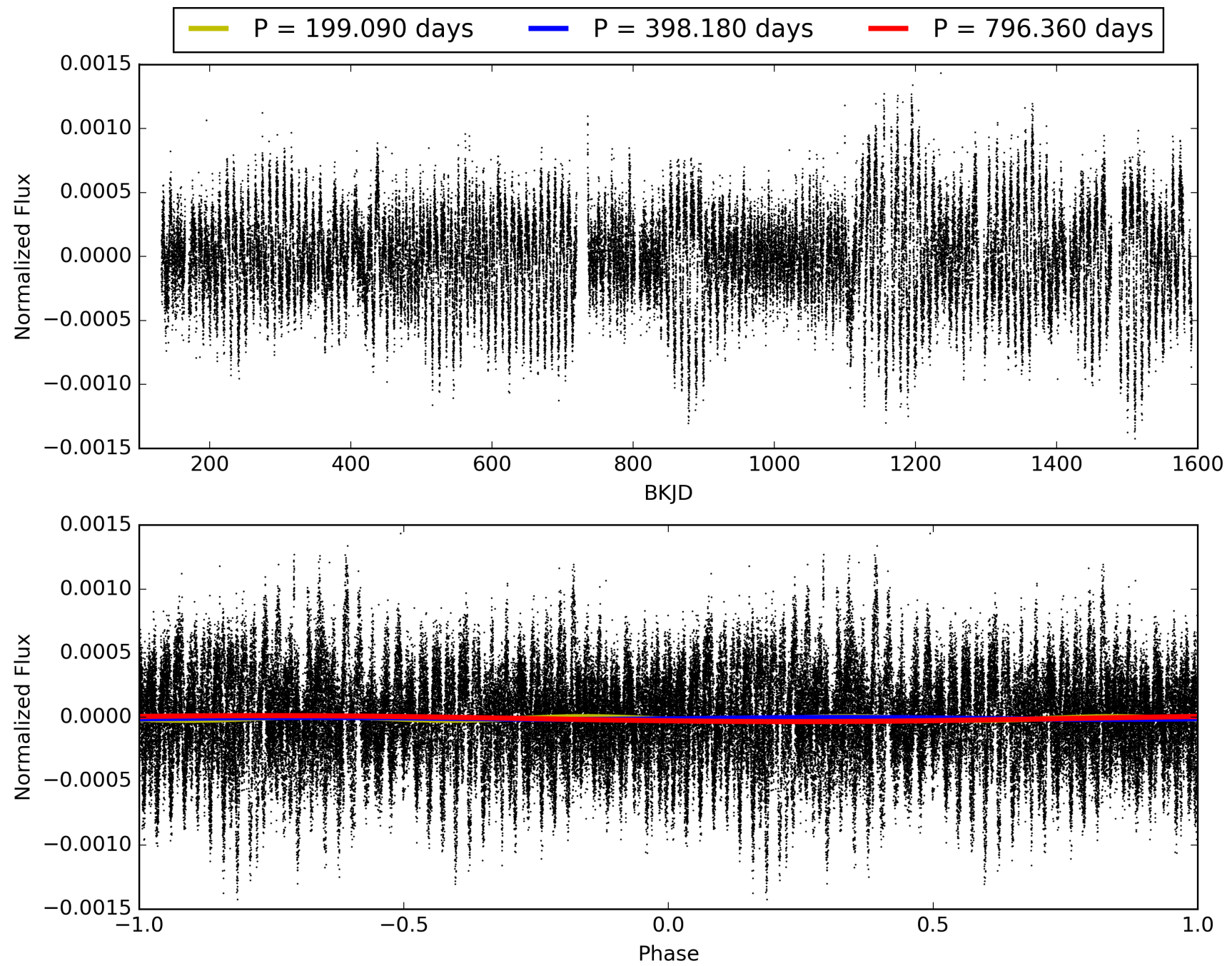
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:07:06 Z

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

TCE 002018261-03, PDC Light Curves

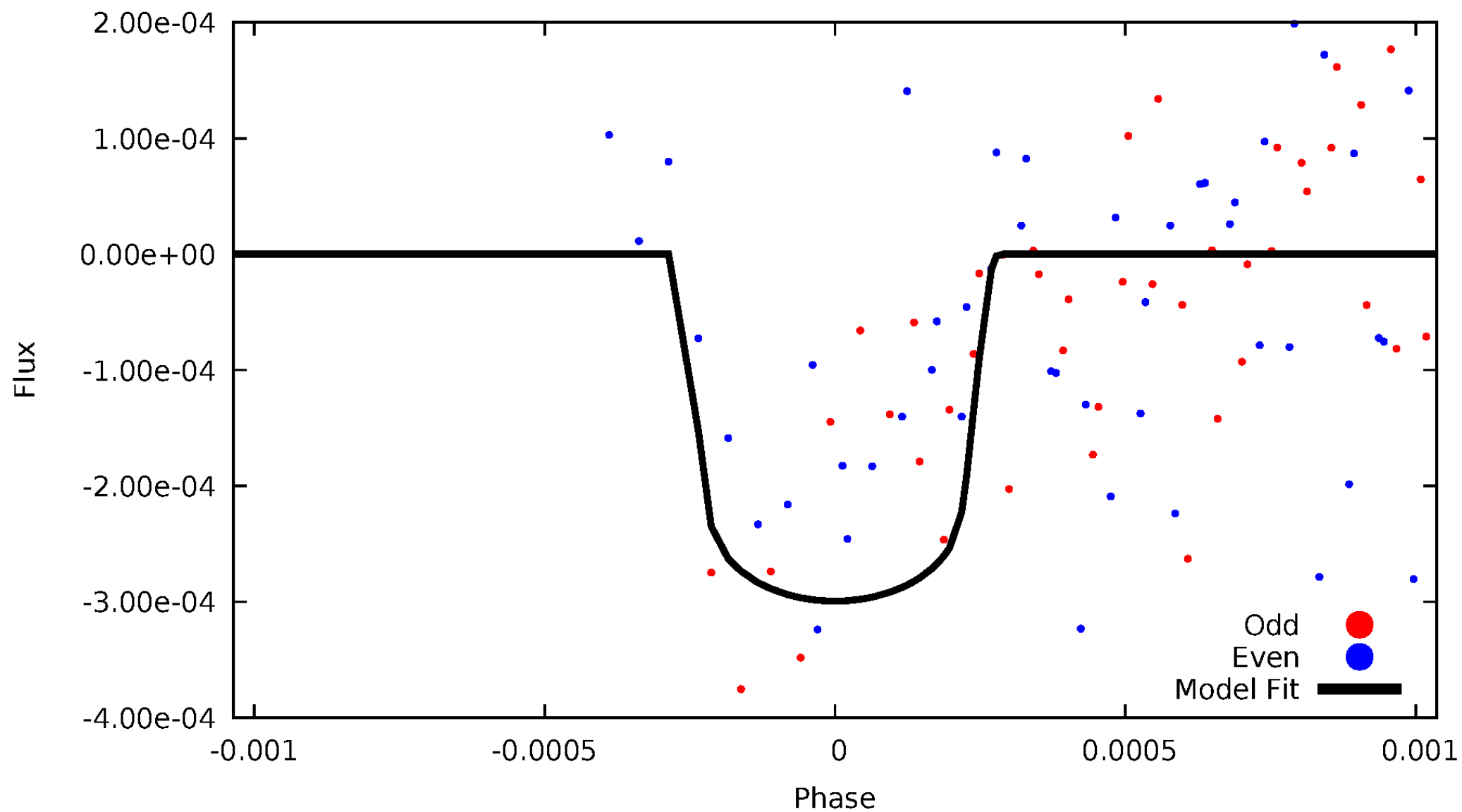


TCE 002018261-03



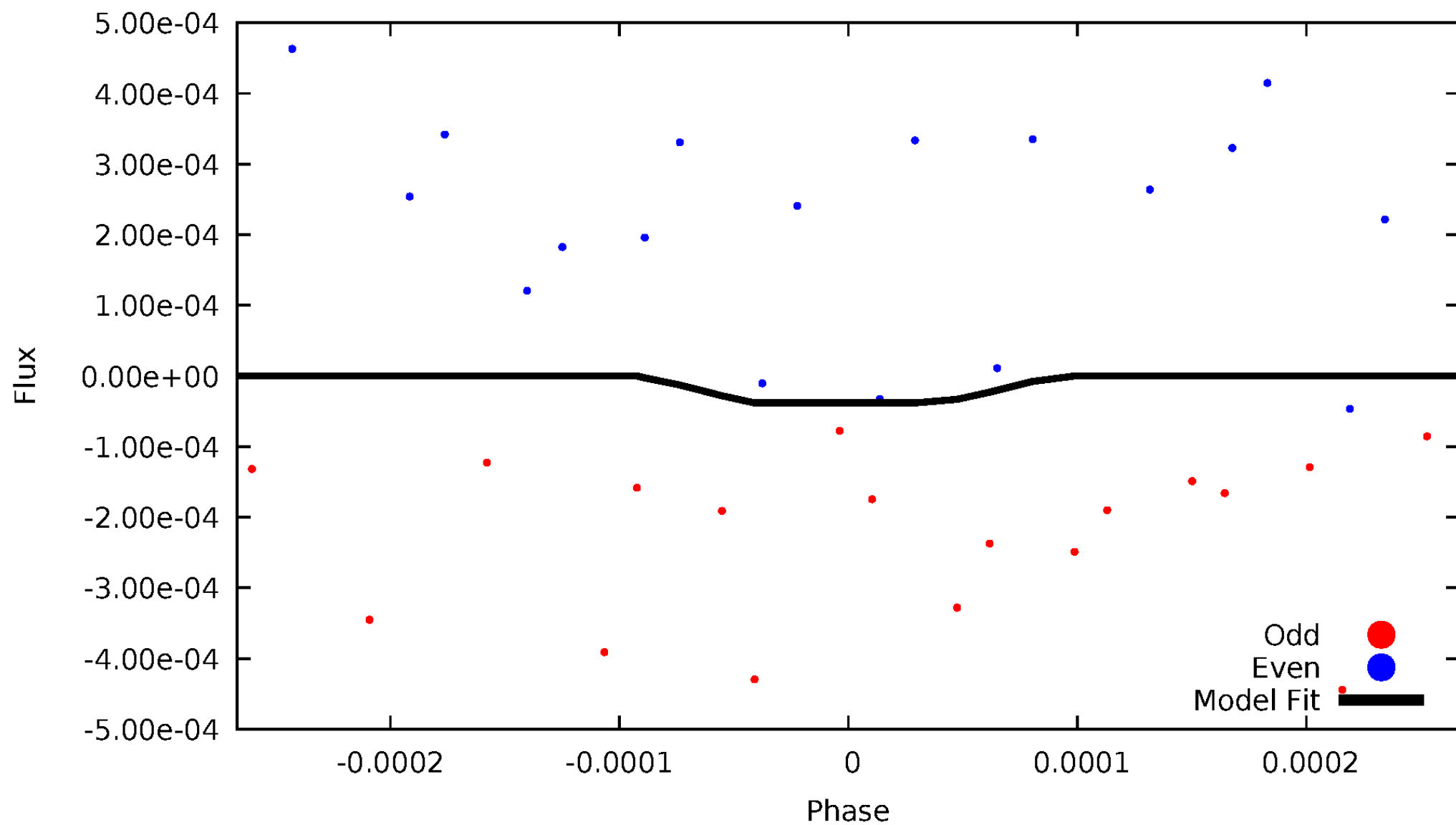
DV Odd/Even

TCE 002018261-03



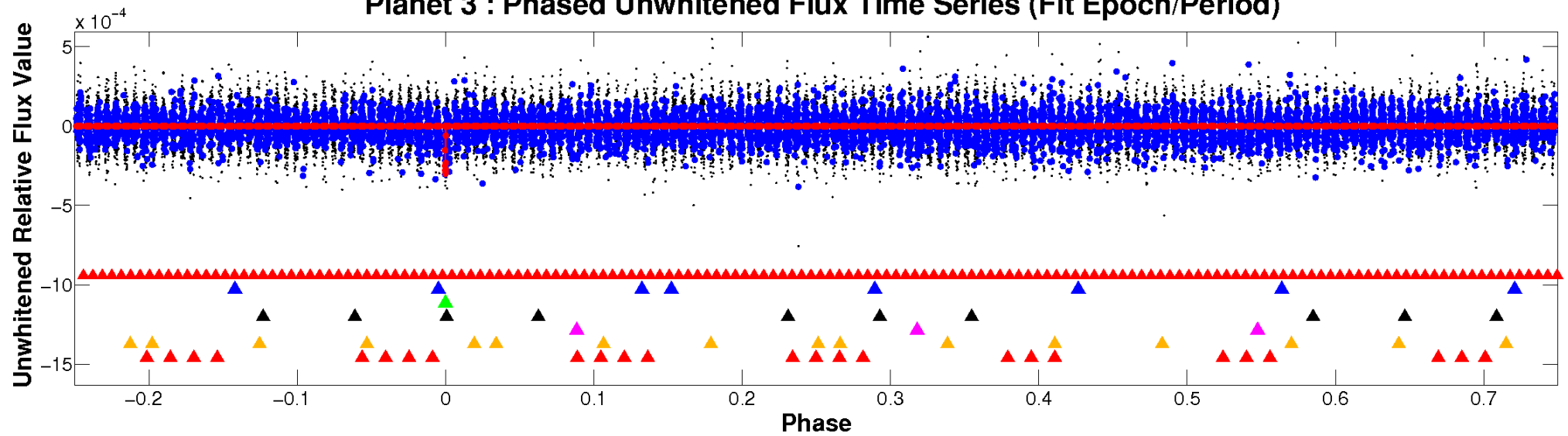
ALT Odd/Even

TCE 002018261-03

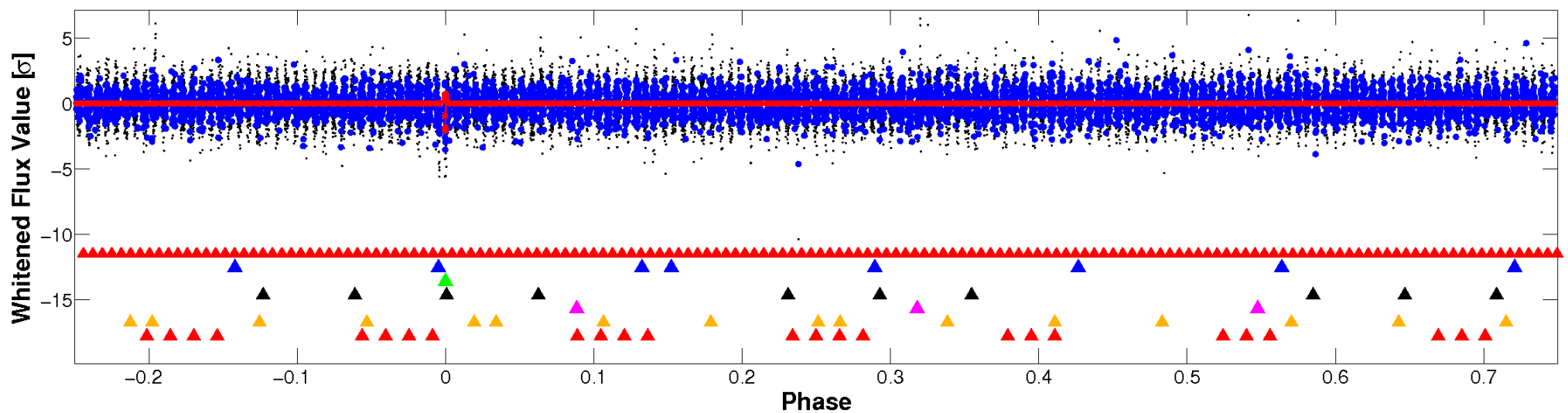


Non-Whitened Vs. Whitened Light Curve

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

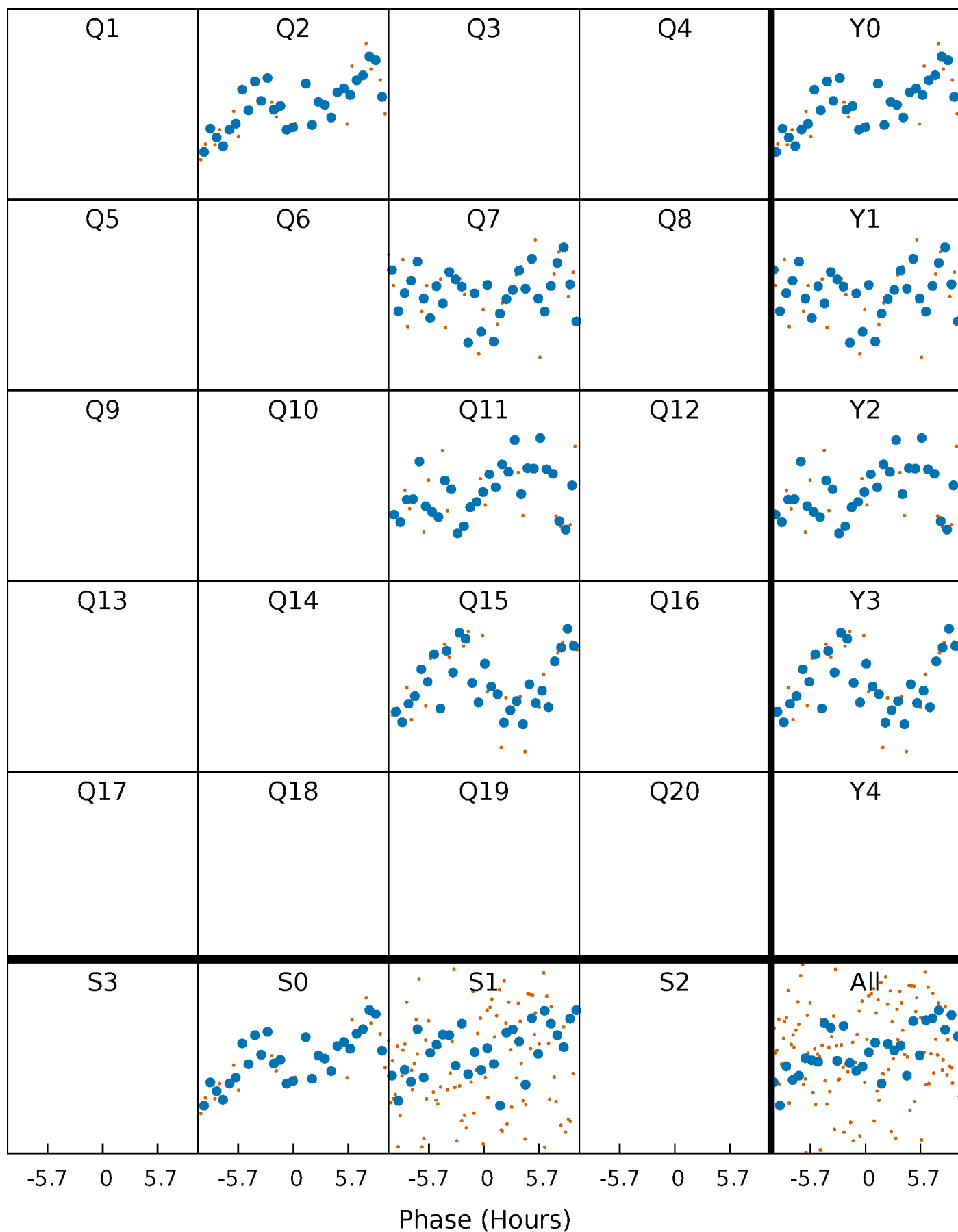


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



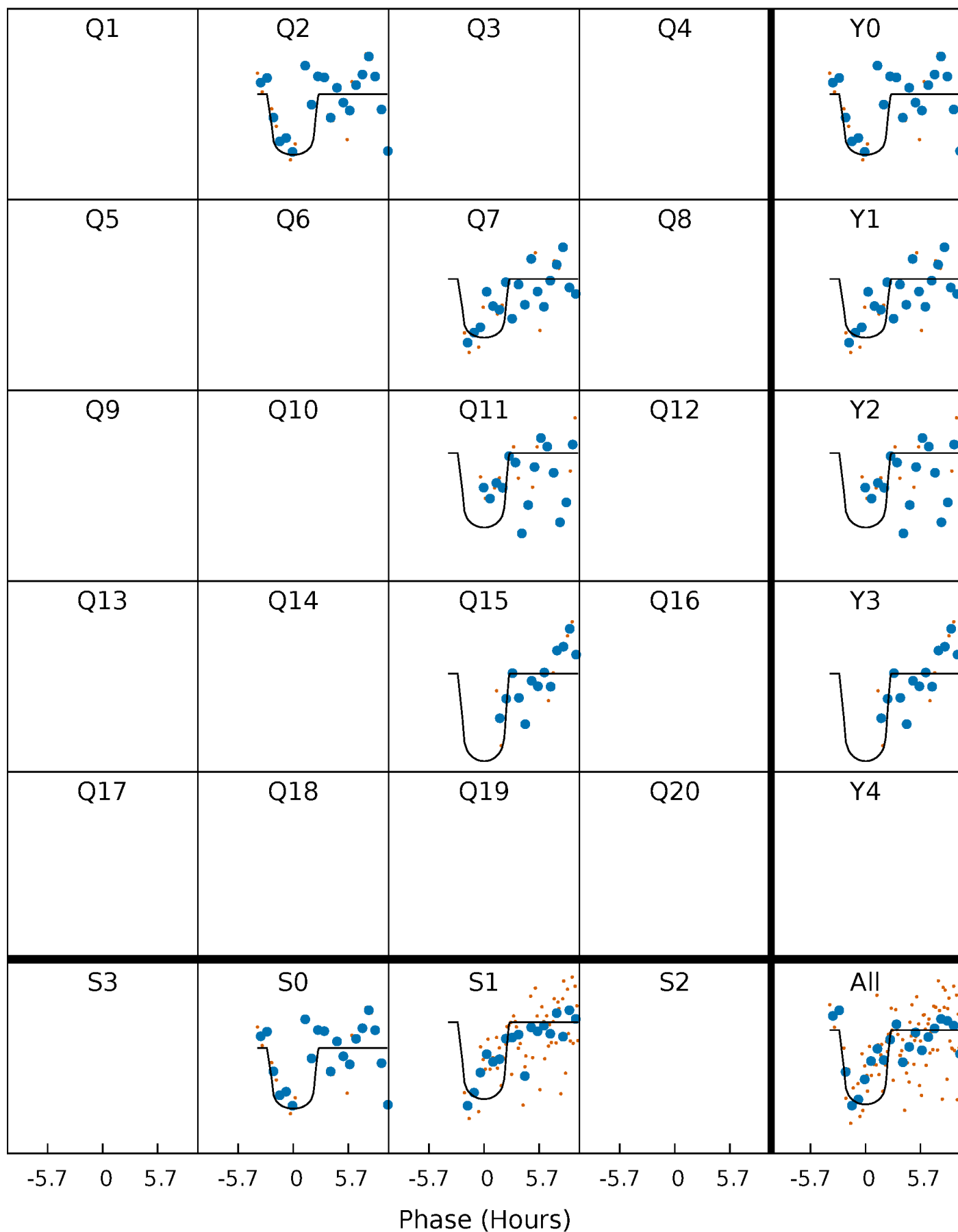
PDC Quarter-Phased Transit Curves

TCE 002018261-03 P=398.179919 Days $T_0=242.460361$ (BKJD)



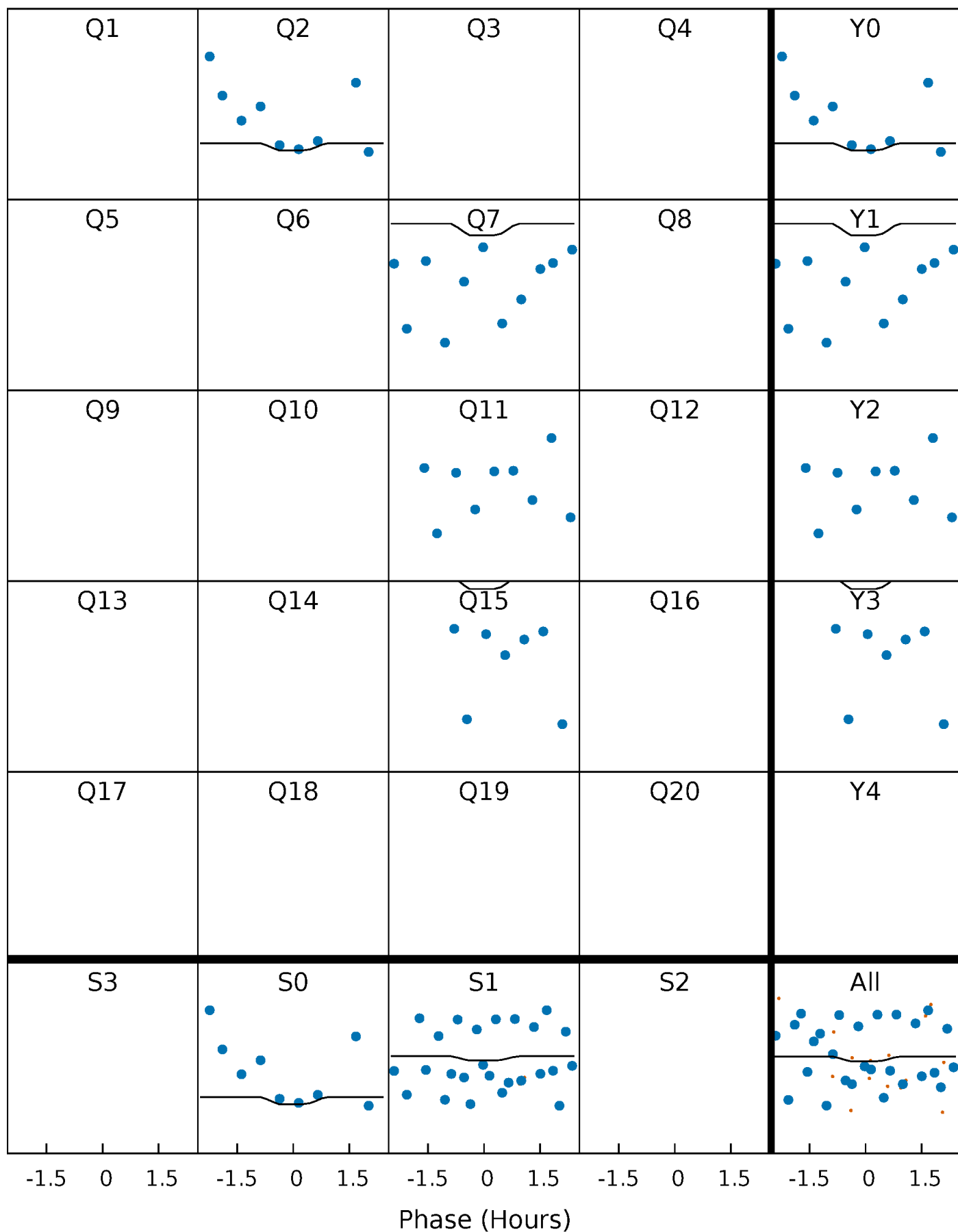
DV Quarter-Phased Transit Curves

TCE 002018261-03 $P=398.179919$ Days $T_0=242.460361$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

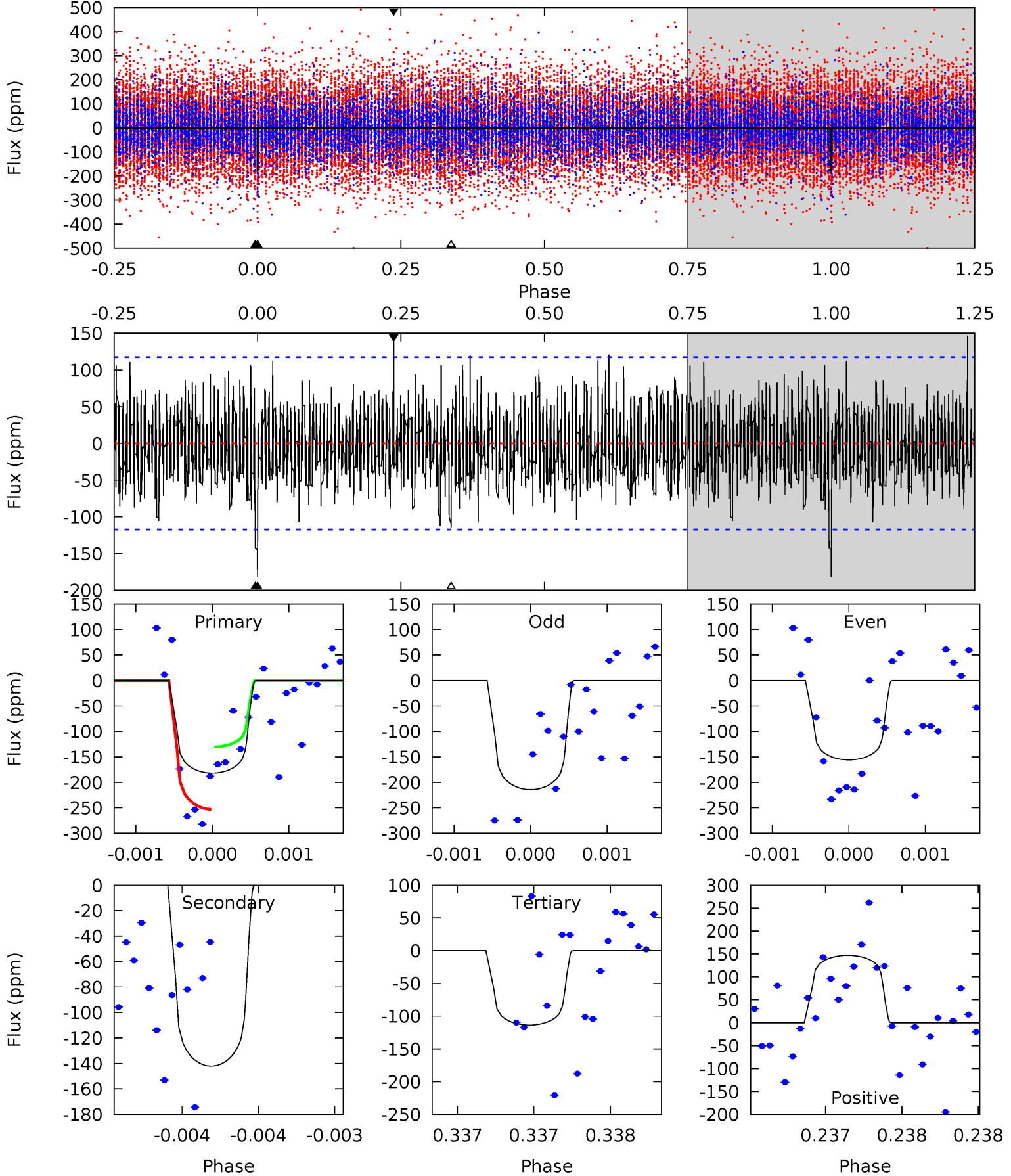
TCE 002018261-03 P=398.216028 Days $T_0=242.443027$ (BKJD)



DV Model-Shift Uniqueness Test

002018261-03, P = 398.179919 Days, E = 242.460361 Days

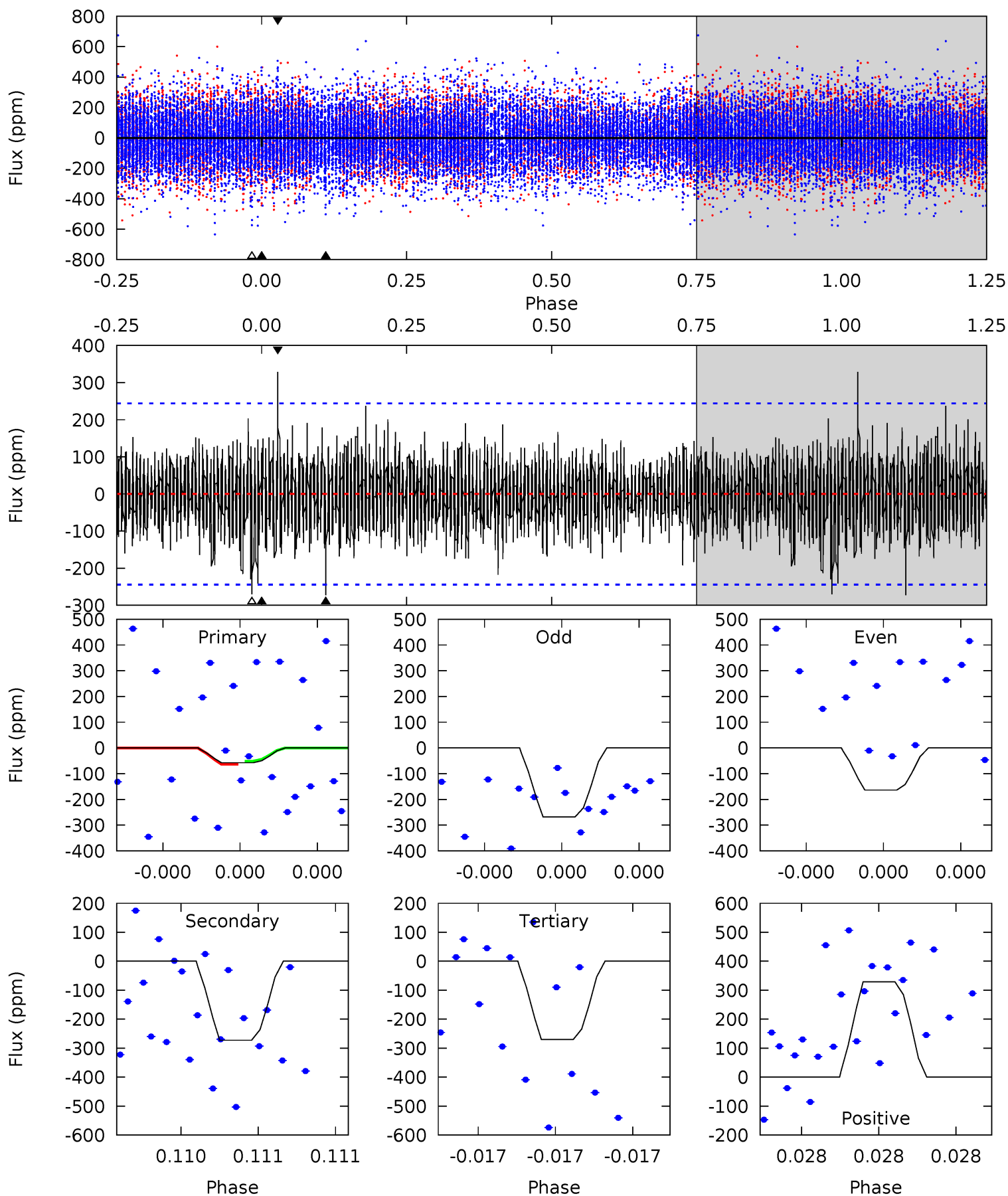
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	6.75	5.40	6.97	5.57	3.48	1.71	3.24	1.66	1.35	-0.23	1.37	1.07	0.45	2.74



Alt Model-Shift Uniqueness Test

002018261-03, P = 398.216028 Days, E = 242.443027 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.35	6.42	6.37	7.75	5.76	3.76	1.38	-5.02	-6.40	0.05	-1.32	1.23	0.43	0.55	0.14



Stellar Parameters For KIC 002018261

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+207}_{-337}	$3.800^{+0.360}_{-0.090}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.415}_{-1.244}$	$1.978^{+0.112}_{-0.506}$	$0.110^{+0.312}_{-0.031}$
	+3%/-4%	+9%/-2%	+1000%/-1750%	+14%/-42%	+6%/-26%	+283%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002018261-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-142 ± 21	$5.04^{+2.23}_{-1.86}$	669^{+44}_{-77}	6066^{+1600}_{-829}	5166^{+7379}_{-2644}
Alt.	-272 ± 42	$2.15^{+1.69}_{-1.29}$	667^{+46}_{-66}	13343^{+25896}_{-4886}	$54688^{+313712}_{-37684}$

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

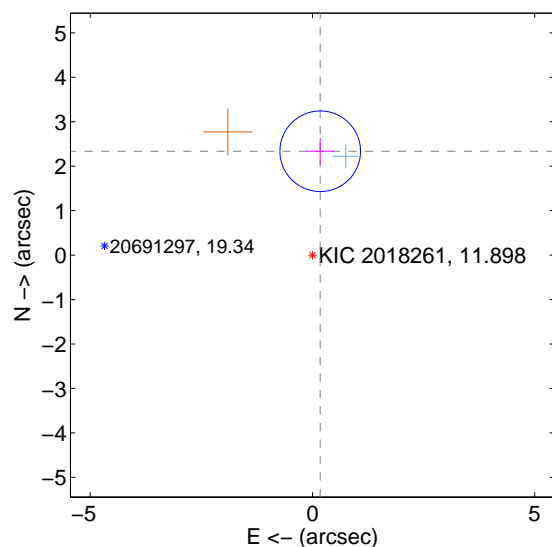
Supplemental centroid analysis for 002018261-03. **Kepler magnitude: 11.90.** Transit SNR 9.69

There are 1 quarters with good PRF difference image offsets

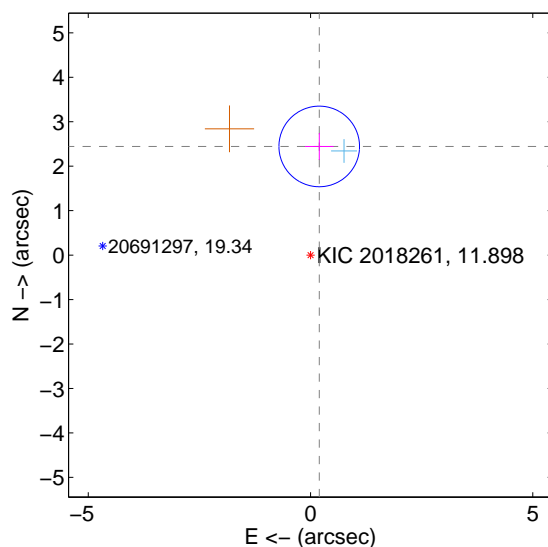
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.343 ± 0.302	7.75	-0.175 ± 0.320	2.336 ± 0.302
PRF-fit source offset from KIC position	2.452 ± 0.302	8.12	-0.196 ± 0.320	2.445 ± 0.302
photometric centroid source offset	0.78 ± 1.25	0.62	-0.08 ± 0.75	-0.77 ± 1.26

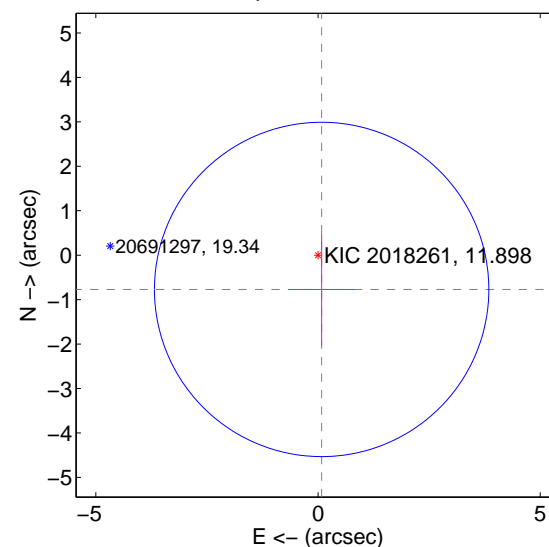
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

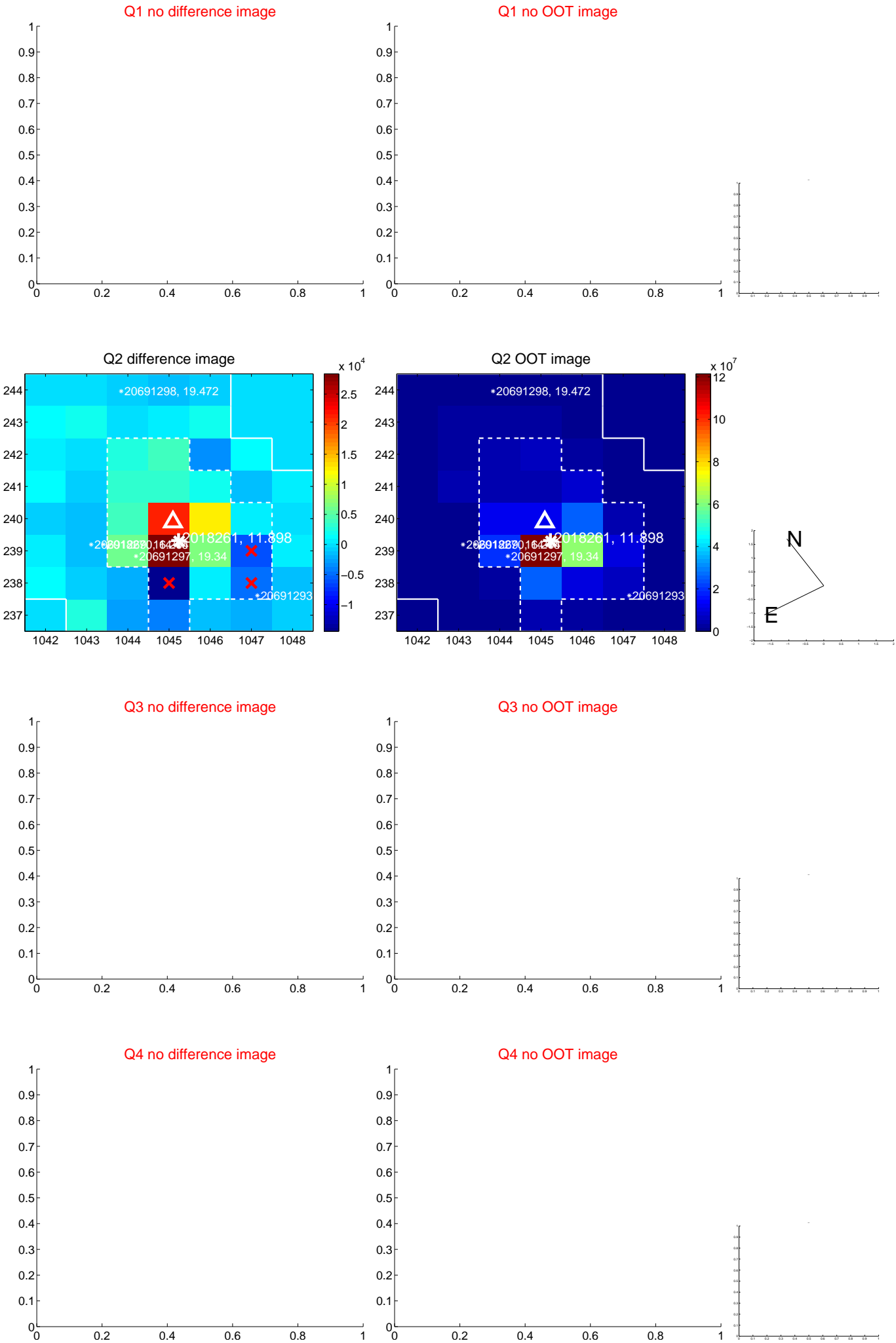


offset from photometric centroids

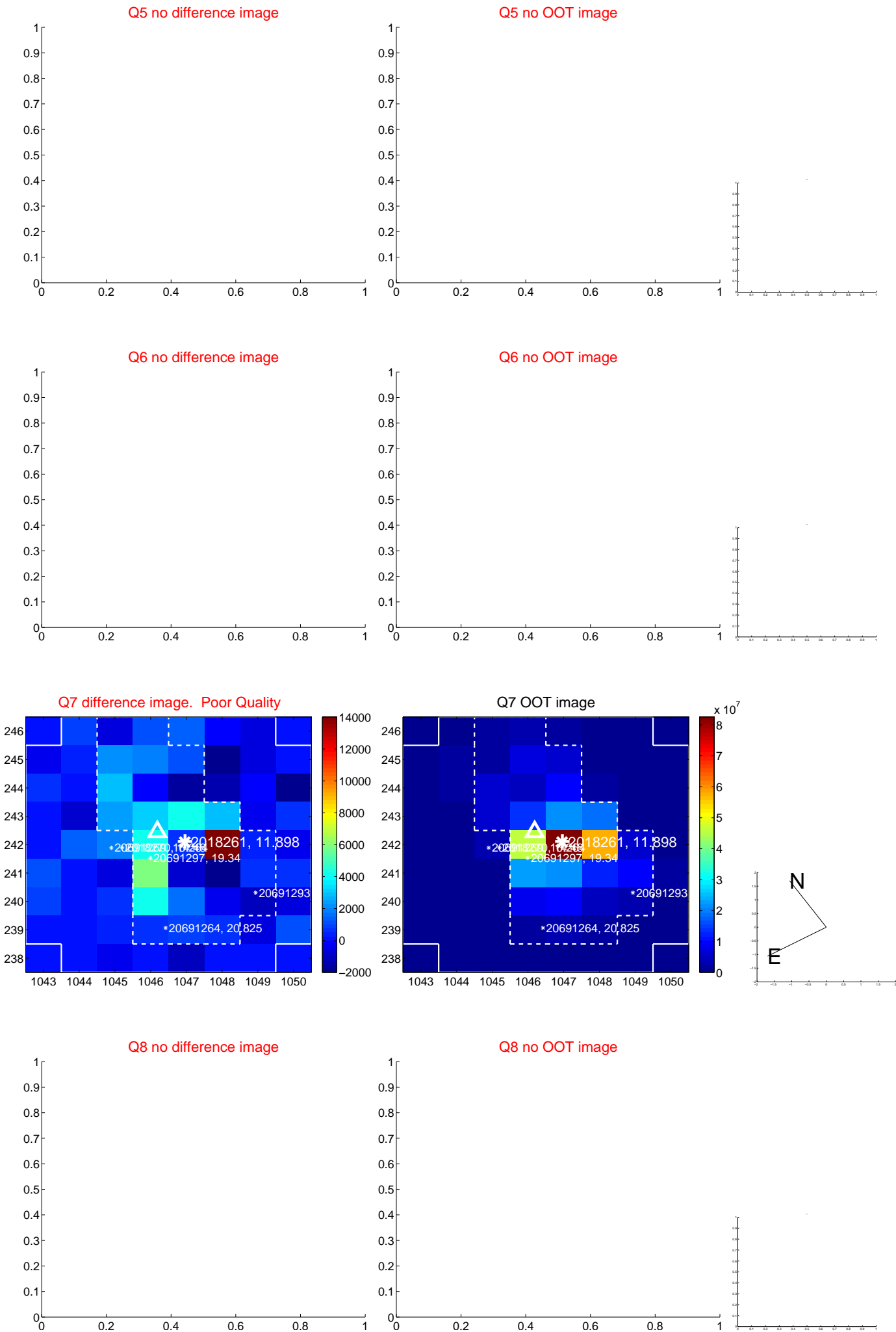


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

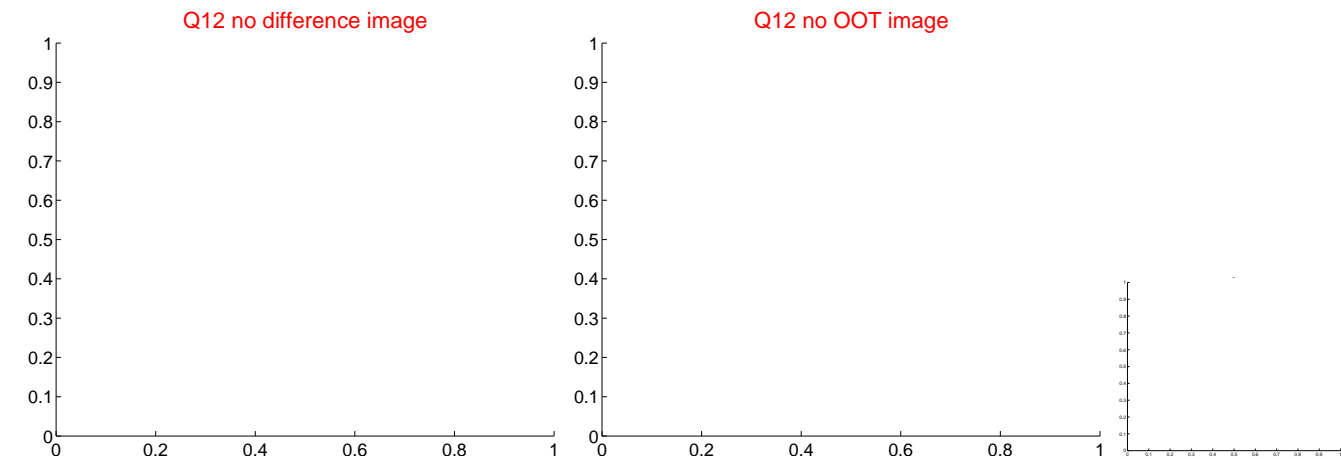
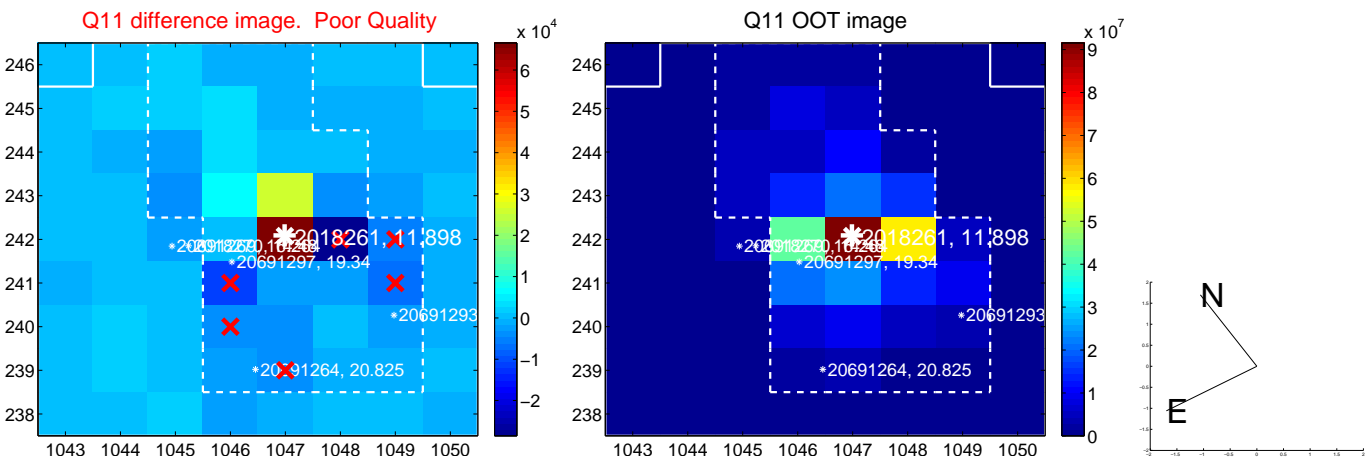
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



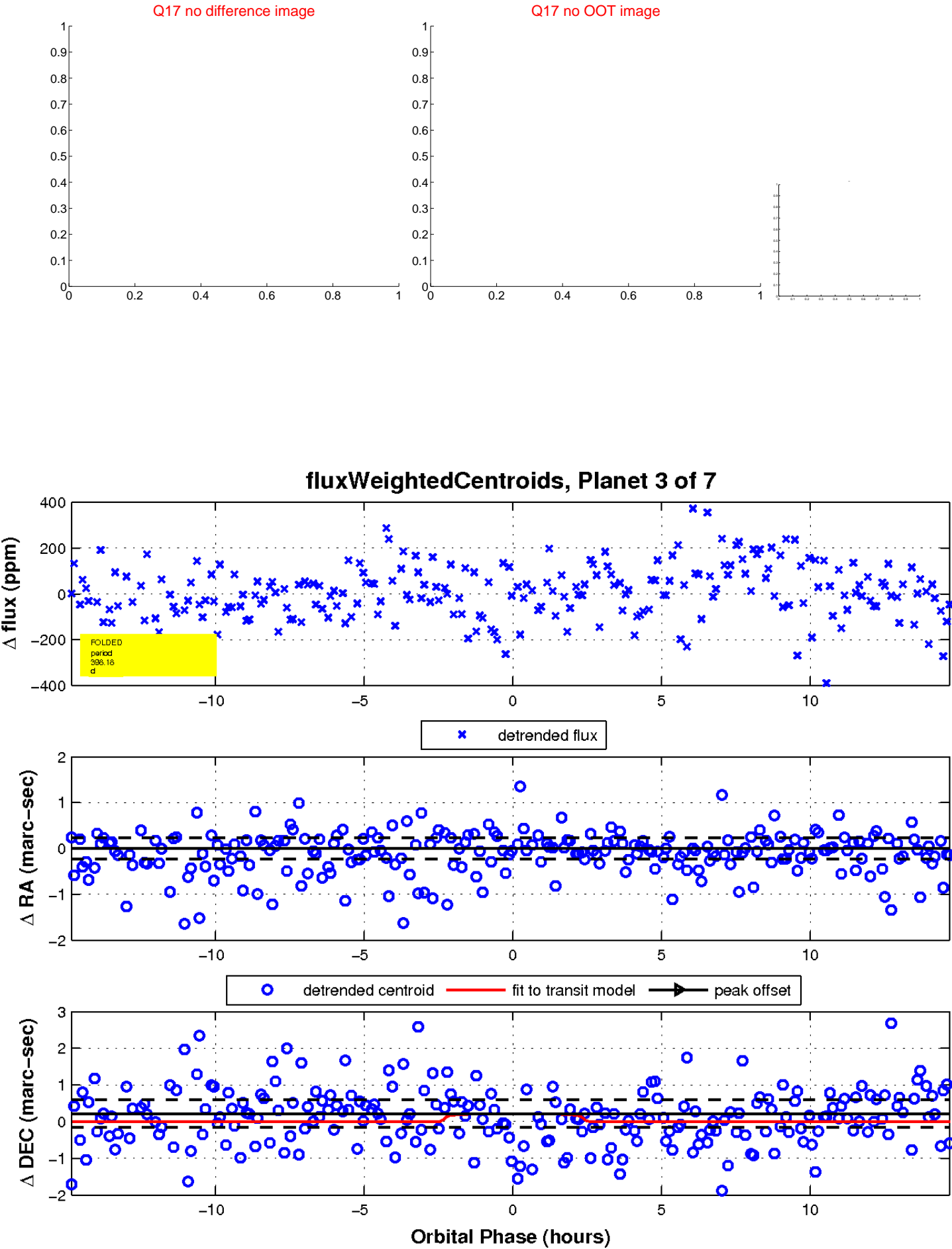
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

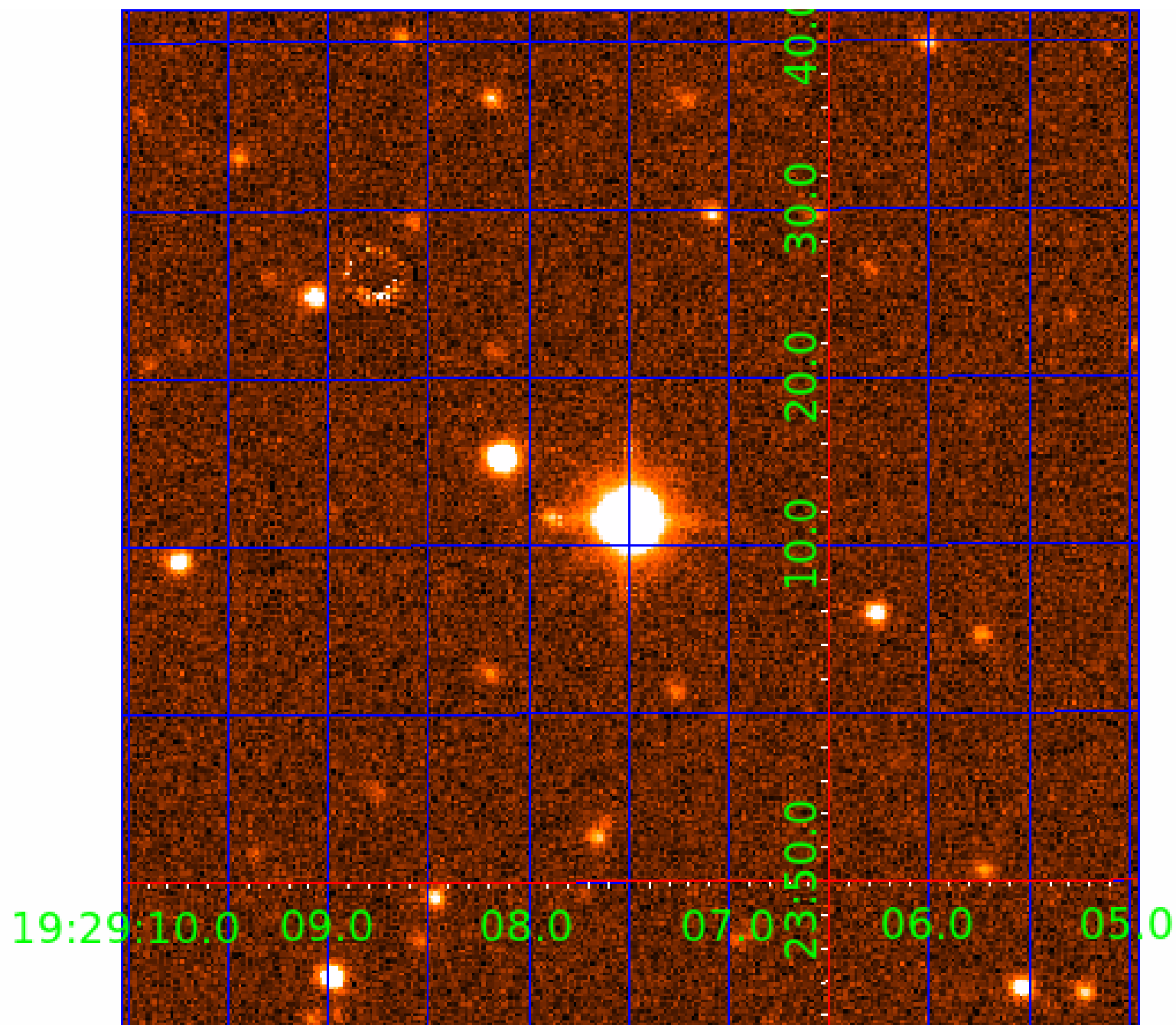


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002018261

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})
002018261-01	OBS	No	2.536659	132.465297	18.4	11.775	9.8	8.5	2.94	7516	1.32	11773.28
002018261-02	OBS	No	171.774563	295.208989	260.4	1.025	21.2	5.2	2.94	7516	5.39	42.66
002018261-03	OBS	No	398.179919	242.460360	299.3	4.949	16.0	9.7	2.94	7516	5.67	13.90
002018261-04	OBS	No	140.937995	193.502931	228.1	3.954	8.9	7.9	2.94	7516	4.92	55.53
002018261-05	OBS	No	489.575661	277.705143	243.7	22.343	7.9	7.2	2.94	7516	5.08	10.56
002018261-06	OBS	No	92.340346	157.835262	177.7	3.637	8.0	8.5	2.94	7516	4.48	97.59
002018261-07	OBS	No	57.783258	162.296036	65.8	7.751	7.4	5.2	2.94	7516	2.60	182.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002018261-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002018261-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS
002018261-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002018261-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002018261-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002018261-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
002018261-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

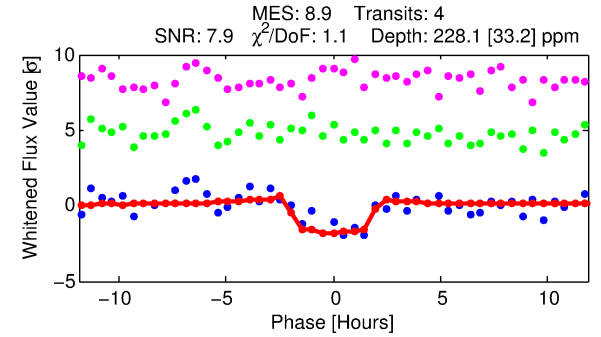
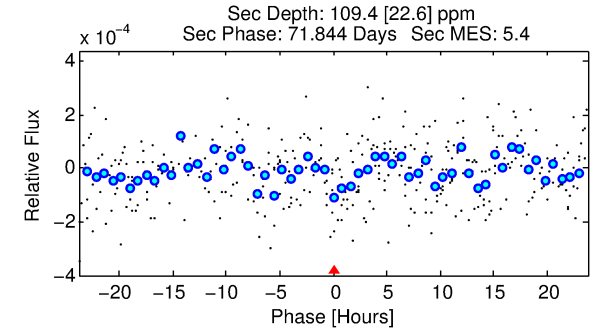
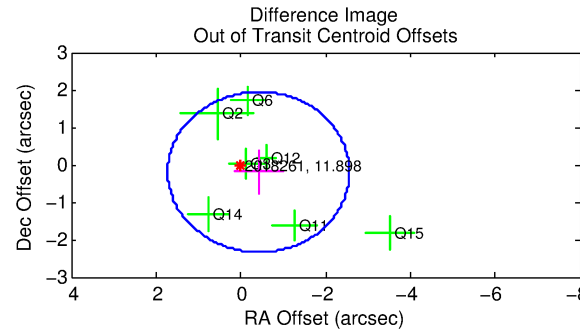
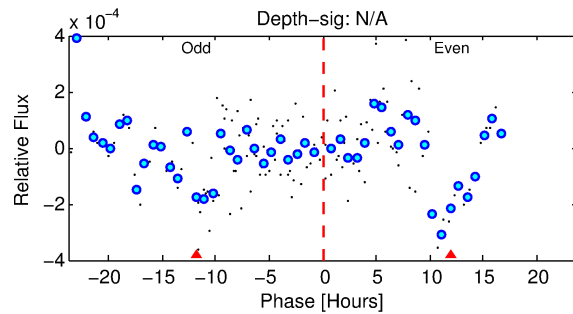
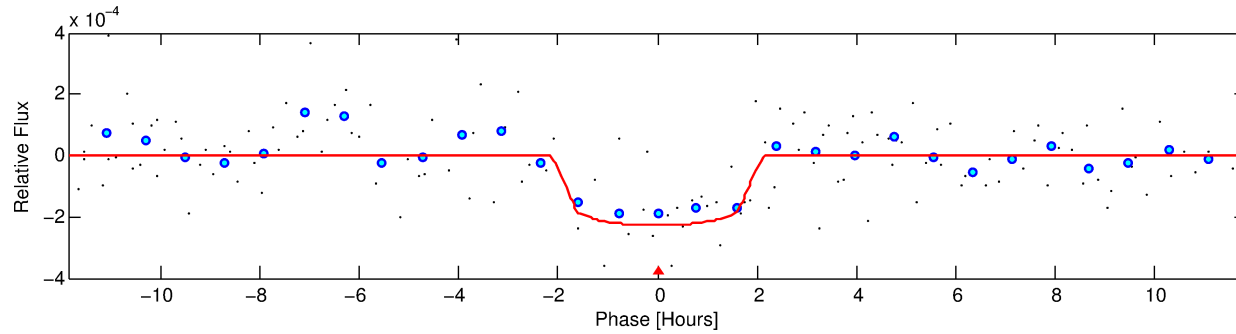
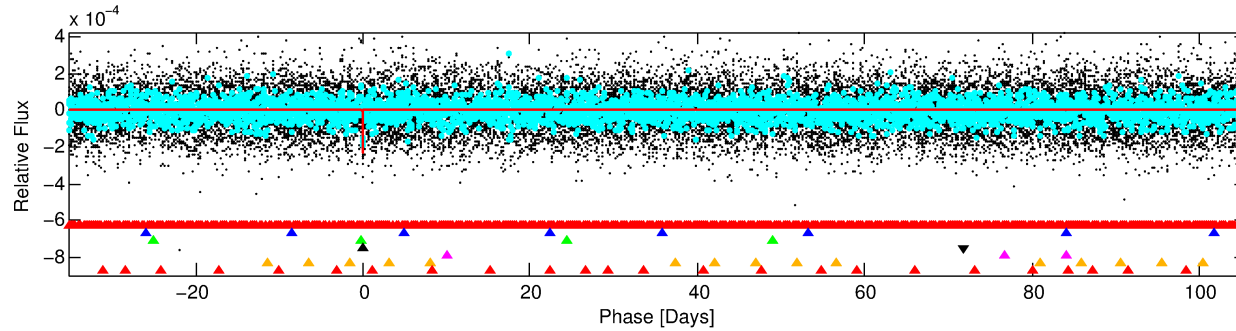
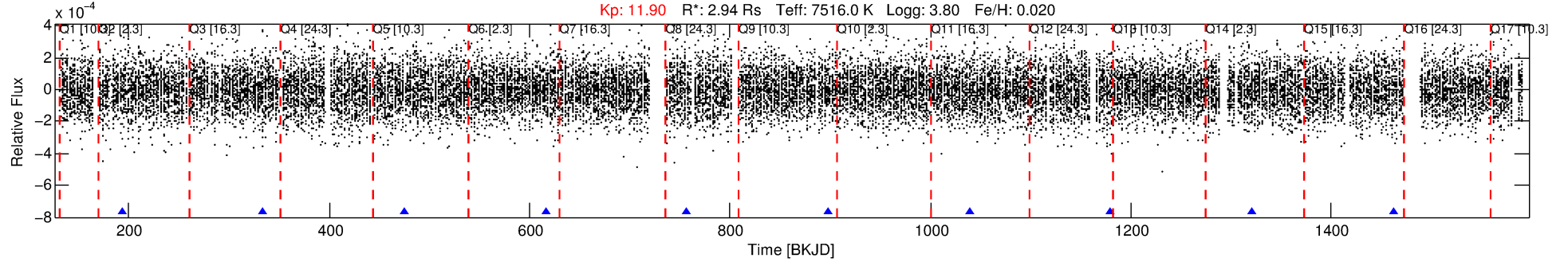
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018261-04

No Significant Match Found

DV One-Page Summary

KIC: 2018261 Candidate: 4 of 7 Period: 140.938 d



DV Fit Results:

Period = 140.93799 [0.00182] d
Epoch = 193.5029 [0.0102] BKJD
Rp/R* = 0.0154 [0.0132]
a/R* = 164.34 [885.55]
b = 0.82 [2.21]
Seff = 55.53 [35.88]
Teq = 696 [112] K
Rp = 4.92 [4.71] Re
a = 0.6660 [0.2632] AU
Ag = 1103.52 [2026.25] [0.54σ]
Teffp = 6203 [2694] K [2.04σ]

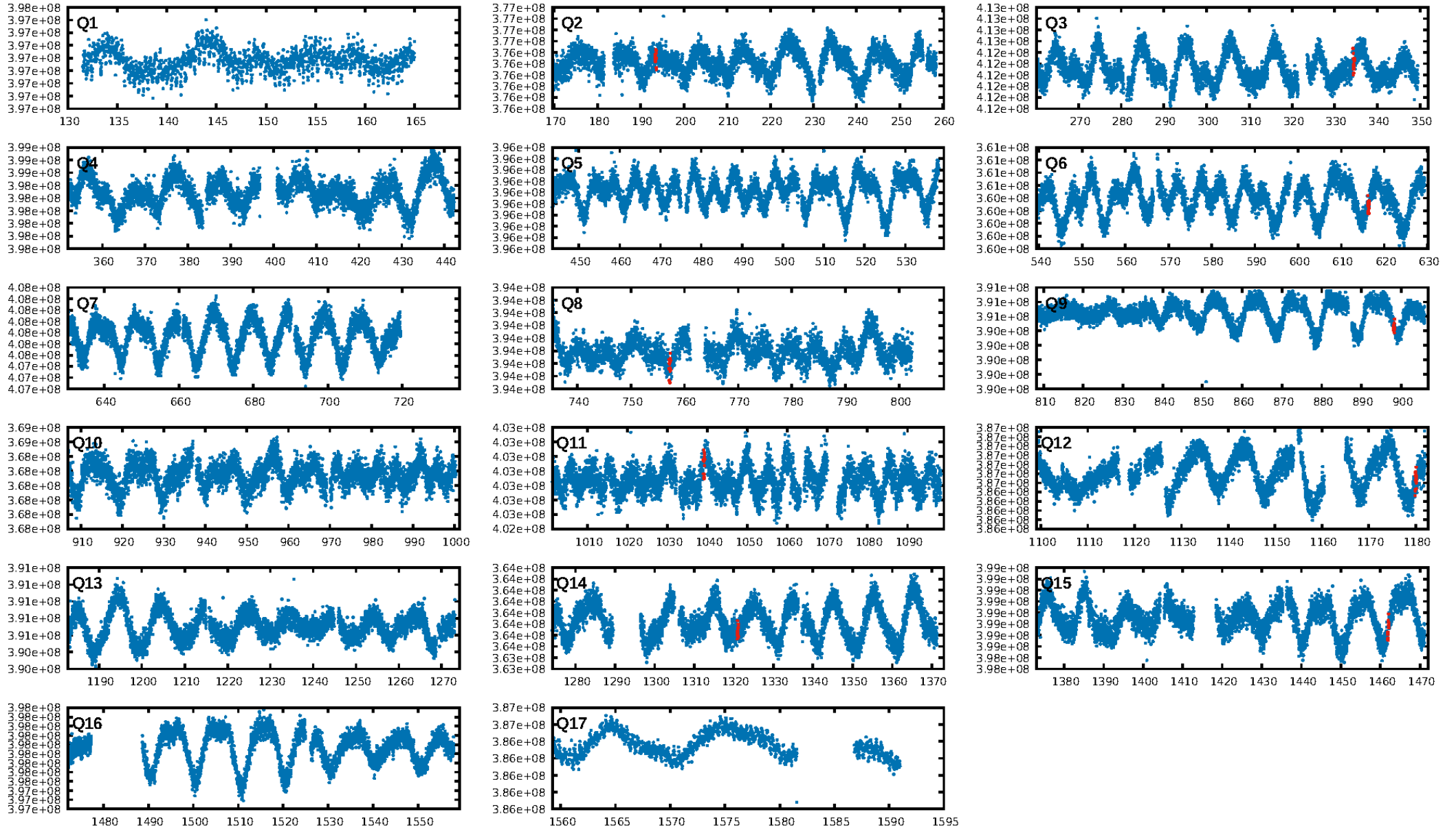
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [217.10σ]
LongPeriod-sig: 100.0% [181.19σ]
ModelChiSquare2-sig: 32.0%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 4.88e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.9661
Centroid-sig: 3.2%
Centroid-so: 0.982 arcsec [1.44σ]
OotOffset-rm: 0.467 arcsec [0.65σ]
OotOffset-st: 3/3/1/0 [7]
KicOffset-rm: 0.566 arcsec [1.02σ]
KicOffset-st: 3/3/1/0 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.44 [4/9]

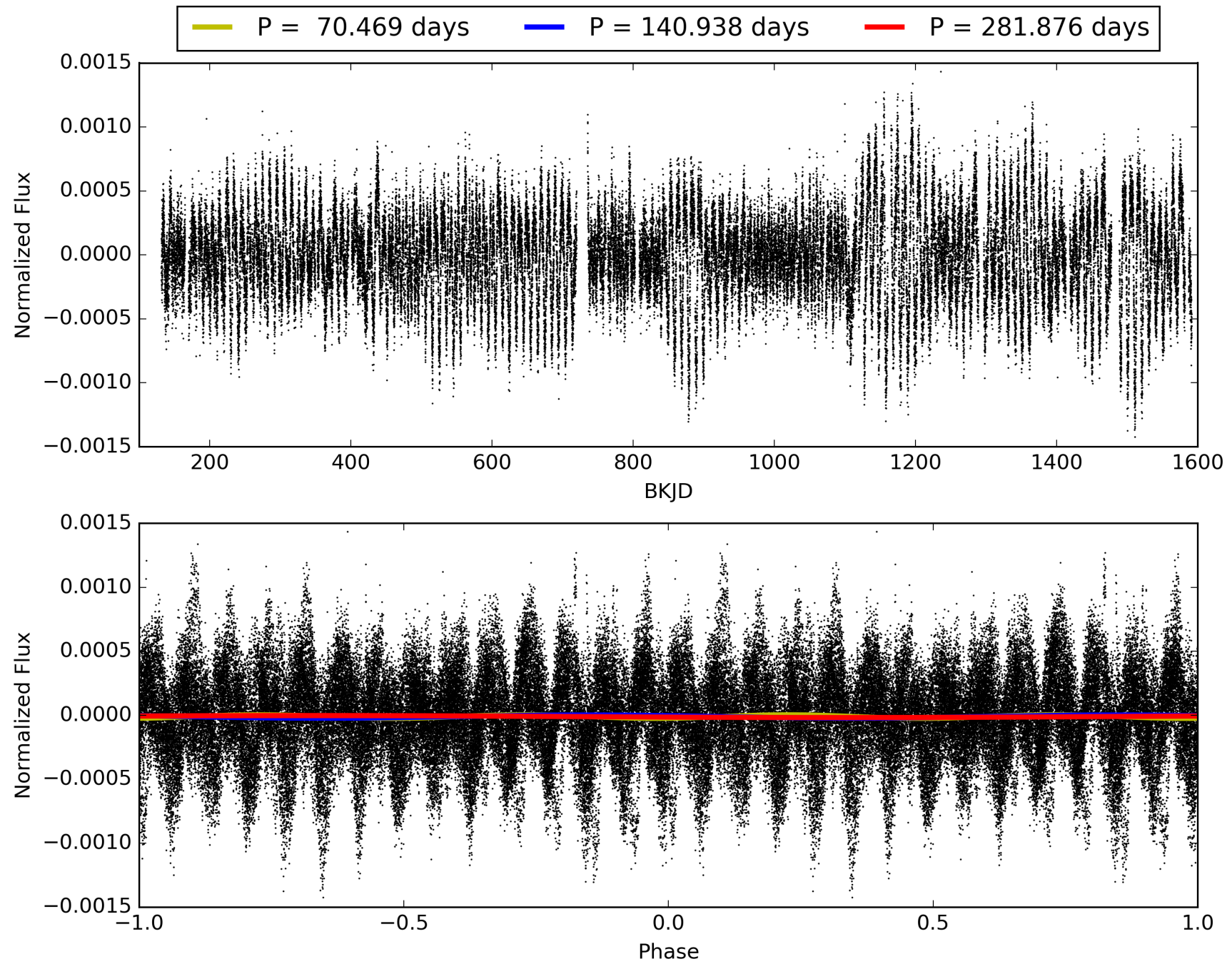
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:07:11 Z

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

TCE 002018261-04, PDC Light Curves

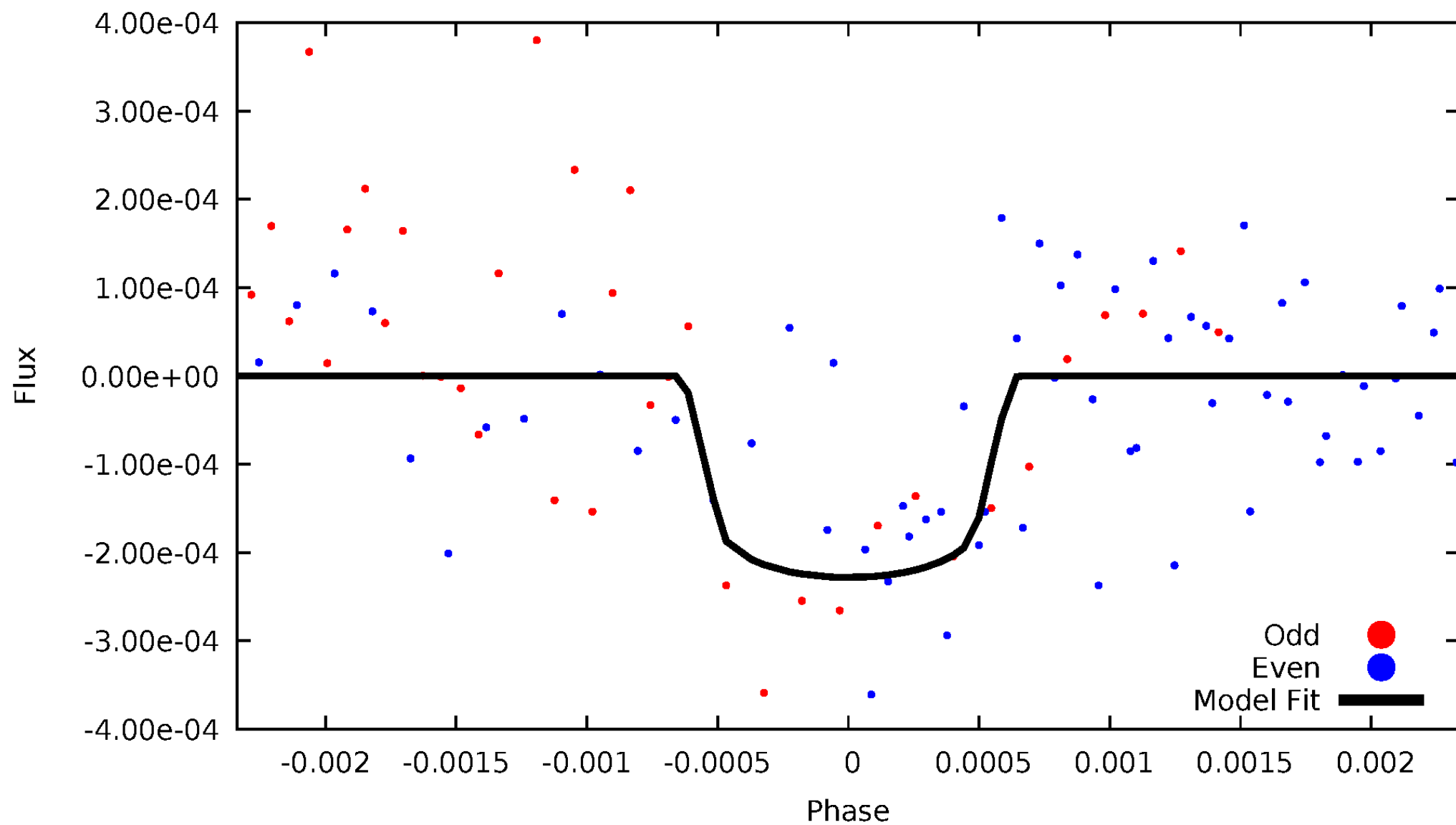


TCE 002018261-04



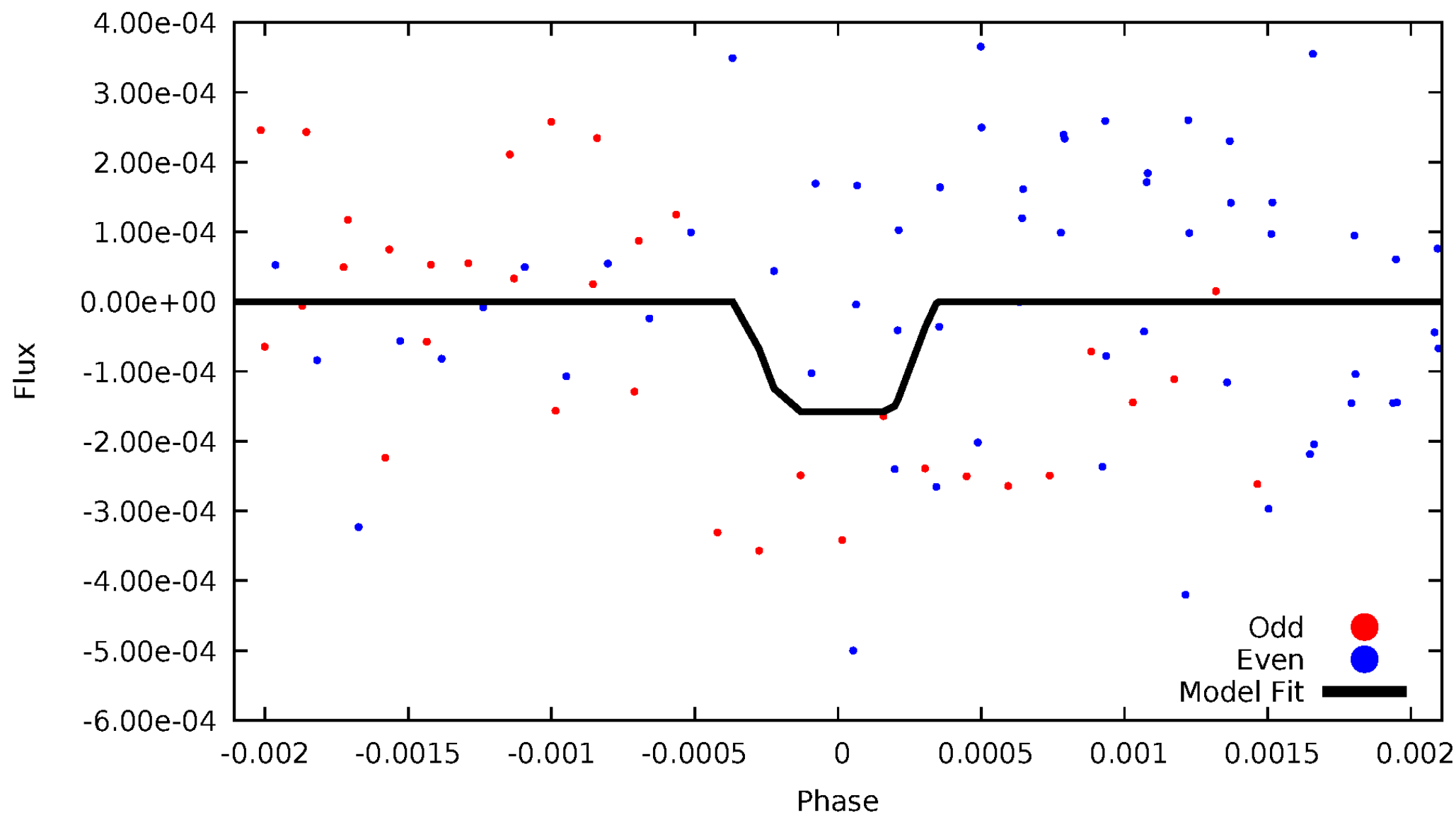
DV Odd/Even

TCE 002018261-04



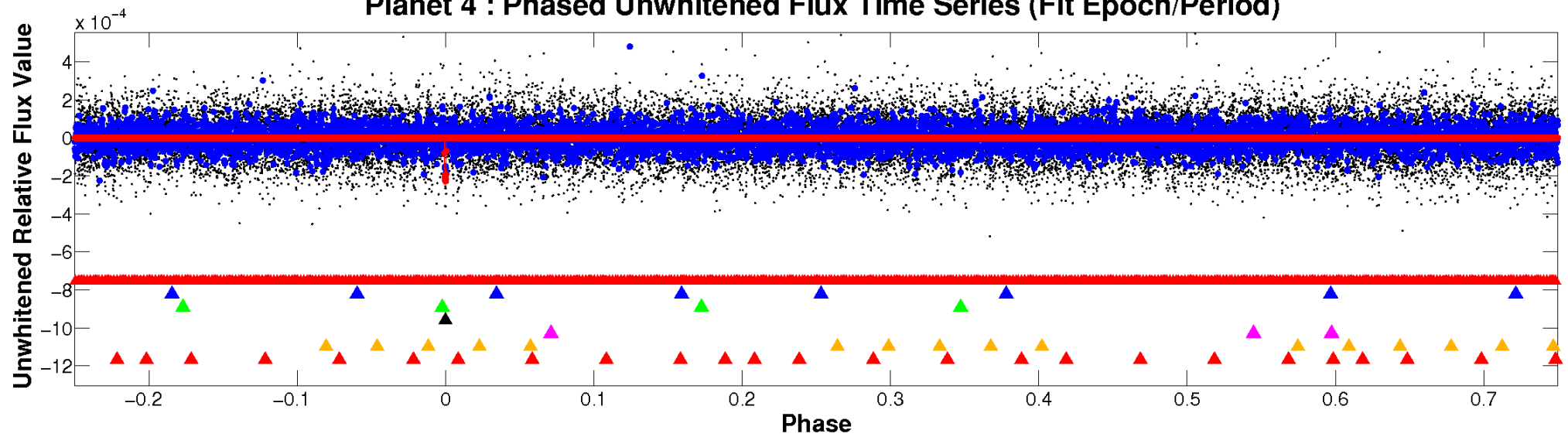
ALT Odd/Even

TCE 002018261-04

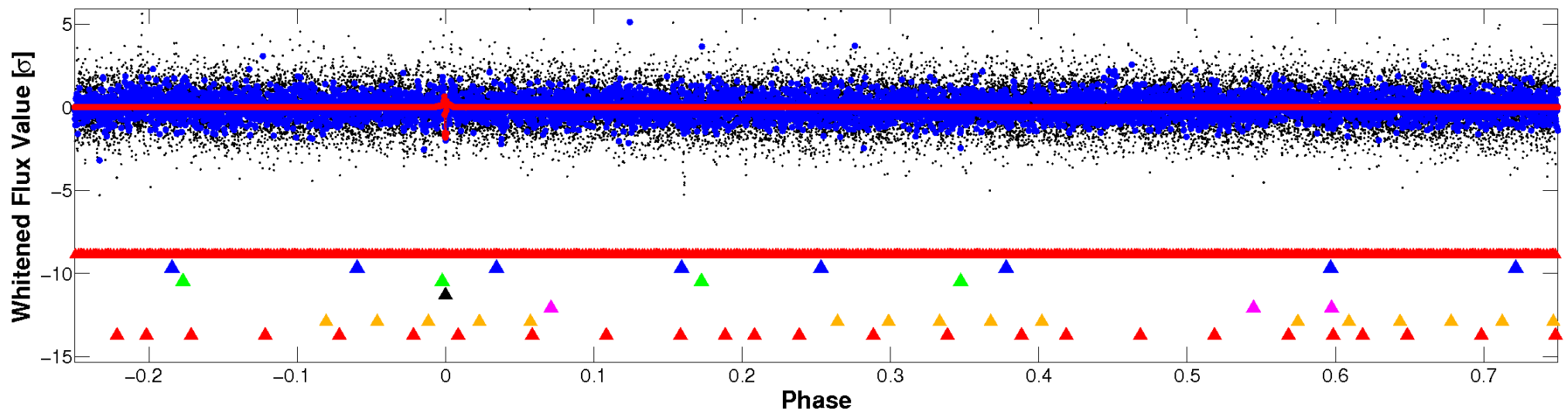


Non-Whitened Vs. Whitened Light Curve

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

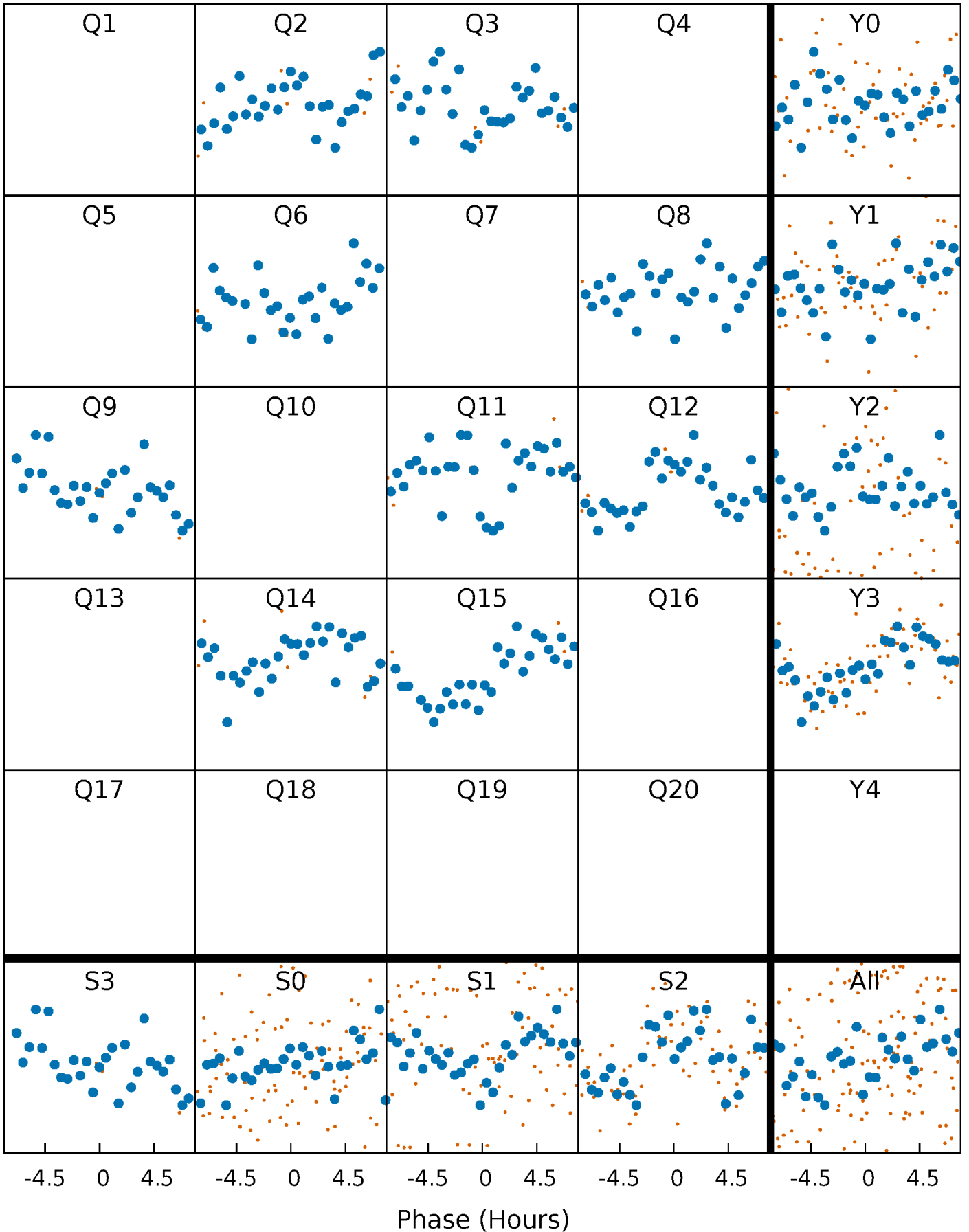


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



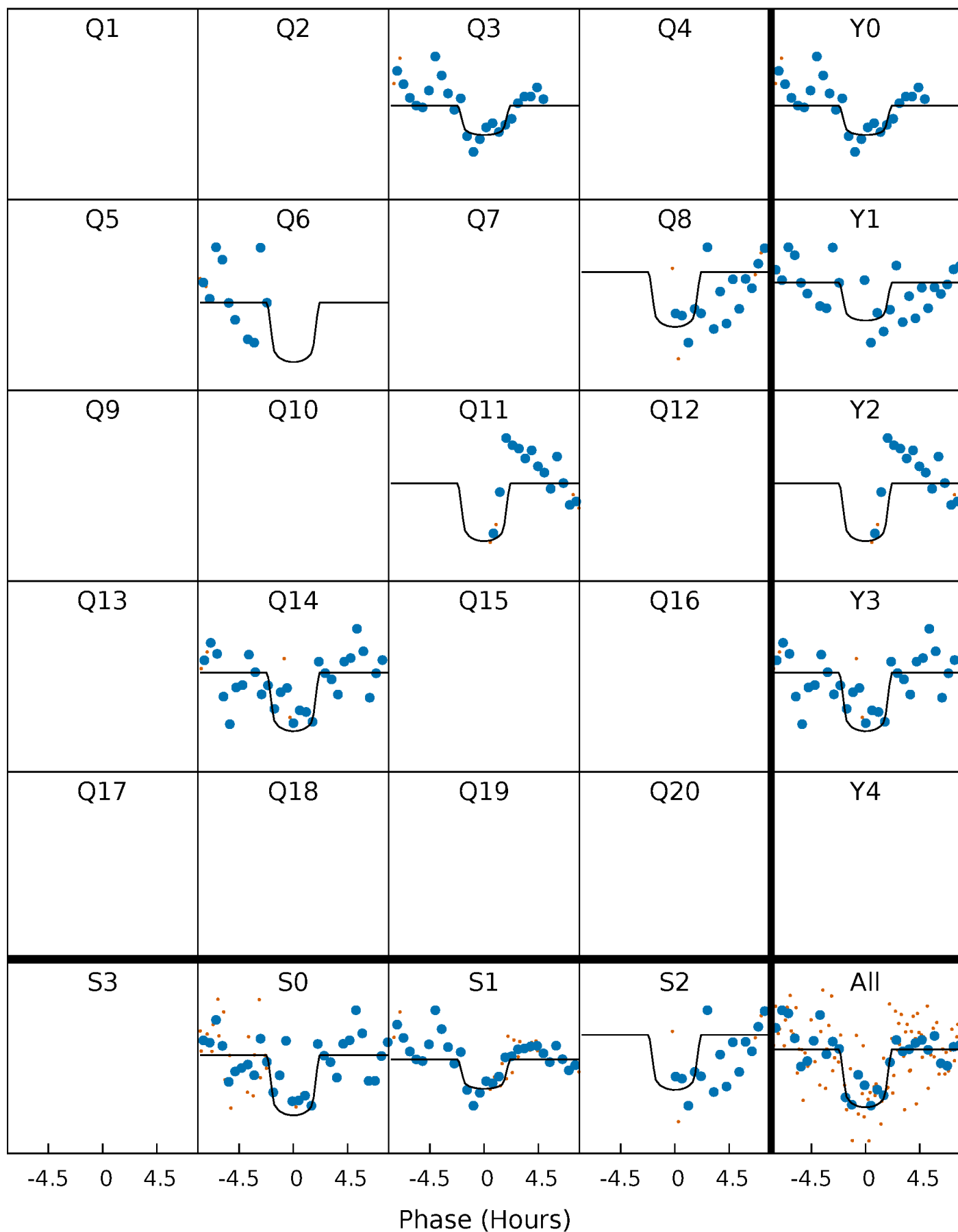
PDC Quarter-Phased Transit Curves

TCE 002018261-04 P=140.937995 Days $T_0=193.502931$ (BKJD)



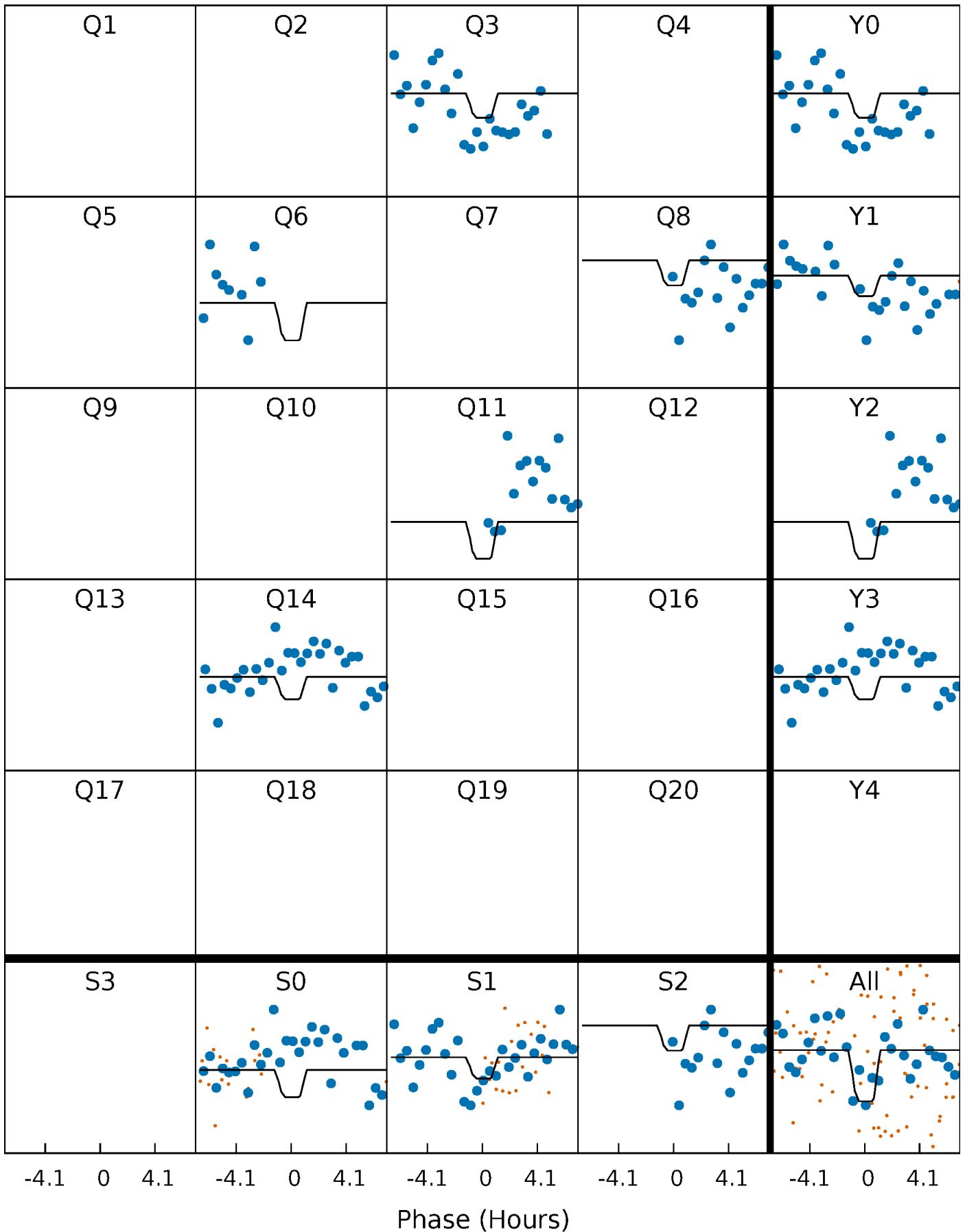
DV Quarter-Phased Transit Curves

TCE 002018261-04 P=140.937995 Days $T_0=193.502931$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

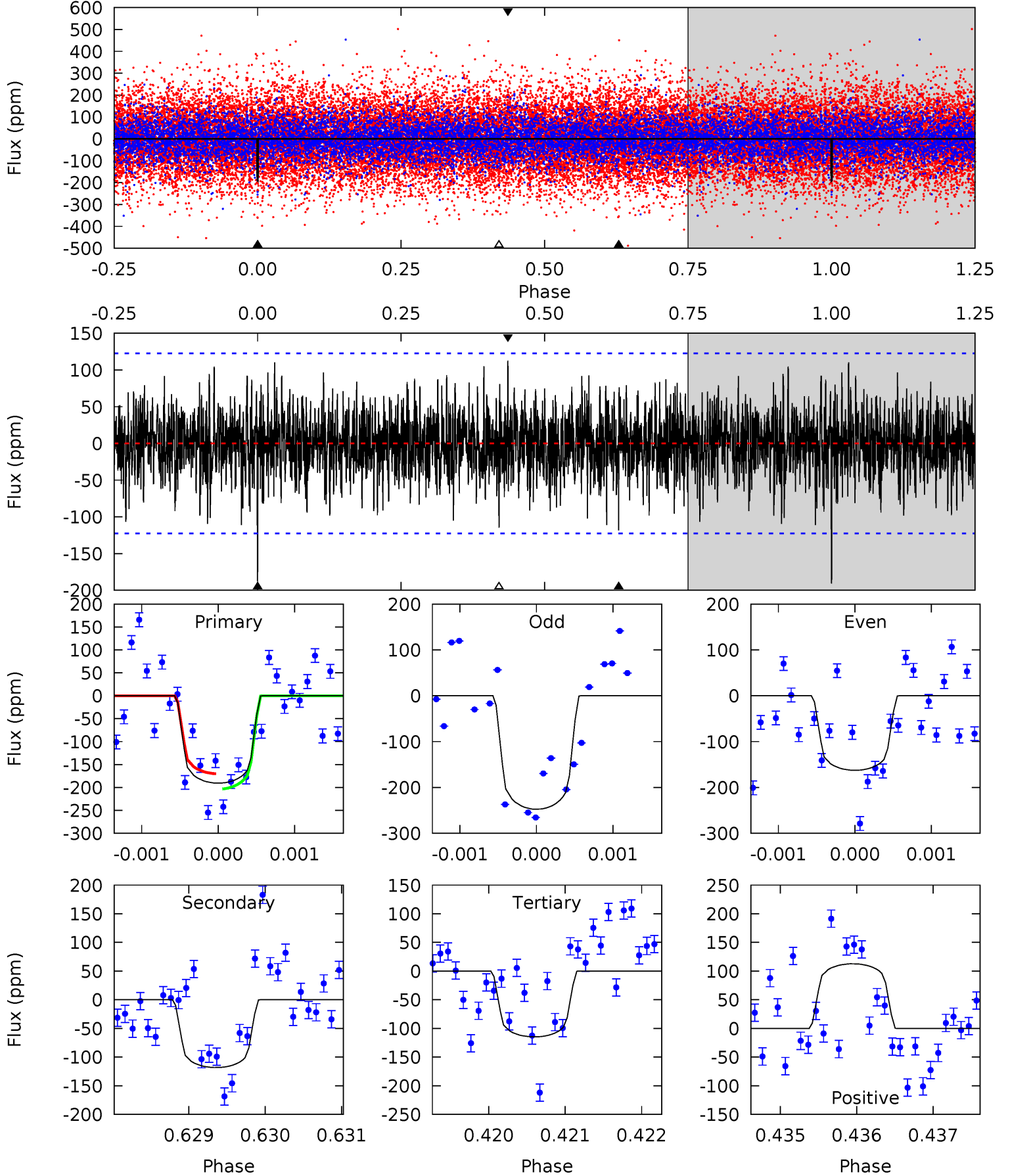
TCE 002018261-04 P=140.941820 Days $T_0=193.492498$ (BKJD)



DV Model-Shift Uniqueness Test

002018261-04, P = 140.937995 Days, E = 52.564936 Days

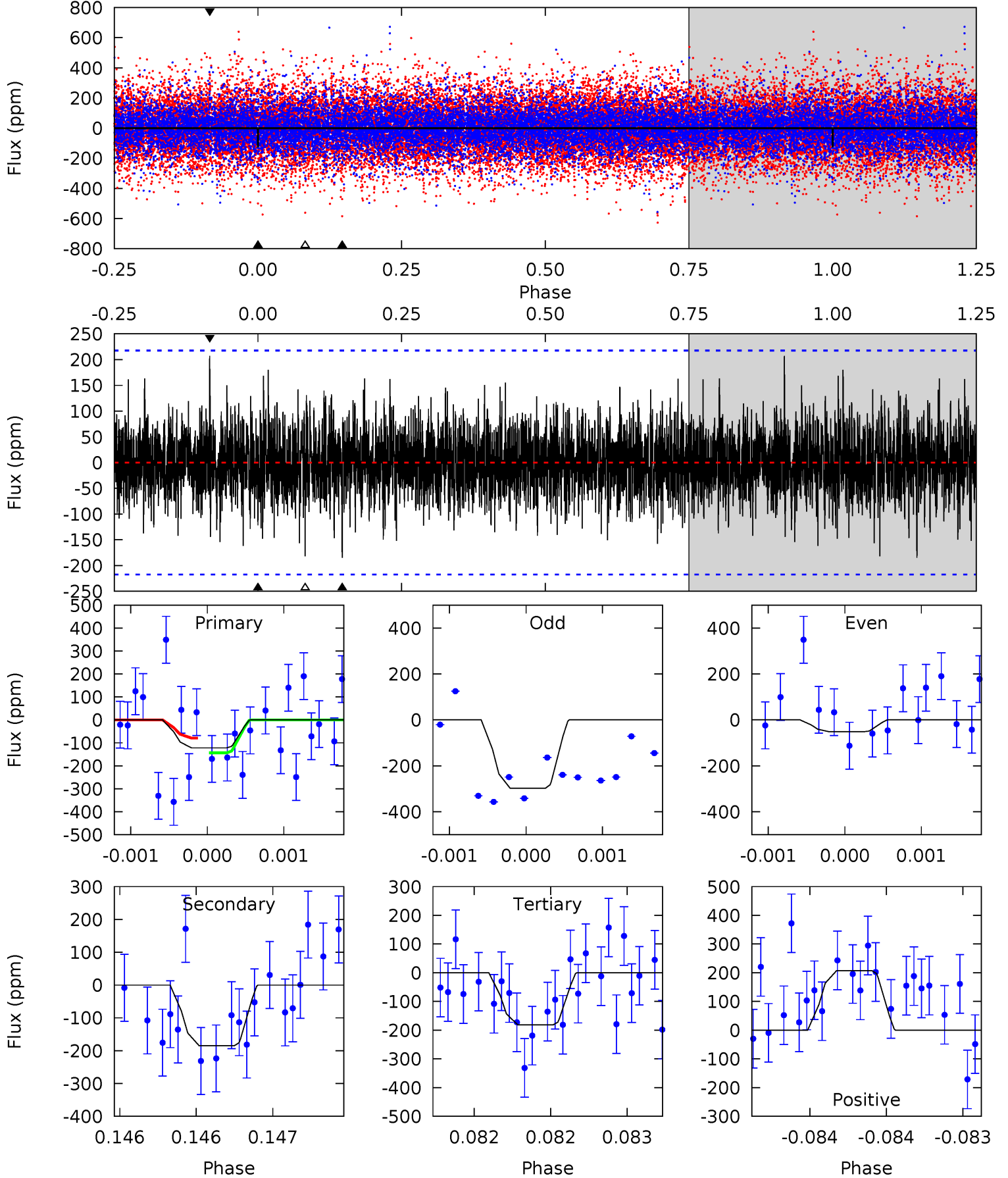
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.43	5.23	5.08	4.99	5.42	3.25	1.48	3.35	3.44	0.16	0.25	1.78	1.04	0.37	0.70



Alt Model-Shift Uniqueness Test

002018261-04, P = 140.941820 Days, E = 52.550678 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.10	4.71	4.62	5.28	5.53	3.42	1.25	-1.52	-2.18	0.08	-0.57	2.87	0.76	0.53	0.74



Stellar Parameters For KIC 002018261

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+207}_{-337}	$3.800^{+0.360}_{-0.090}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.415}_{-1.244}$	$1.978^{+0.112}_{-0.506}$	$0.110^{+0.312}_{-0.031}$
	+3%/-4%	+9%/-2%	+1000%/-1750%	+14%/-42%	+6%/-26%	+283%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002018261-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-118 ± 23	$5.05^{+3.71}_{-2.85}$	946^{+59}_{-100}	5745^{+3377}_{-1122}	1096^{+4537}_{-746}
Alt.	-185 ± 39	$4.36^{+3.56}_{-2.74}$	955^{+57}_{-101}	7066^{+7461}_{-1757}	2356^{+14588}_{-1662}

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 $A_{obs} \gg 1.0$

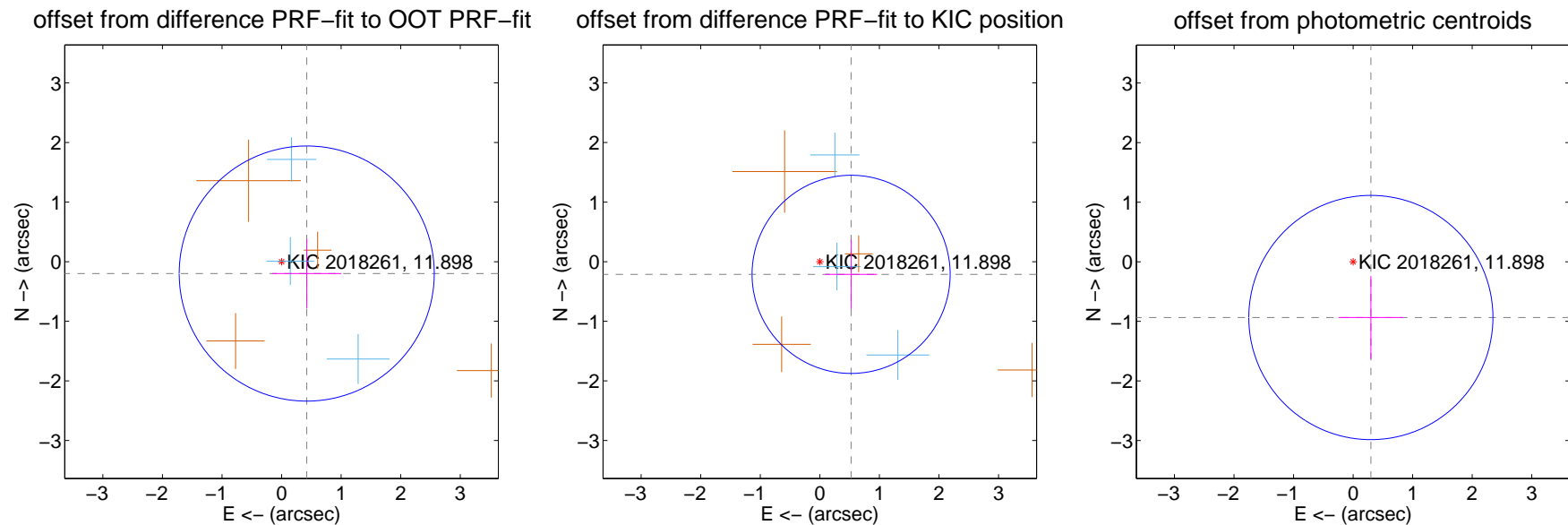
DV Centroid Data

Supplemental centroid analysis for 002018261-04. **Kepler magnitude: 11.90.** Transit SNR 7.95

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.467 ± 0.713	0.65	-0.422 ± 0.580	-0.199 ± 0.580
PRF-fit source offset from KIC position	0.566 ± 0.554	1.02	-0.525 ± 0.437	-0.212 ± 0.581
photometric centroid source offset	0.98 ± 0.68	1.44	-0.30 ± 0.54	-0.94 ± 0.70



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

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

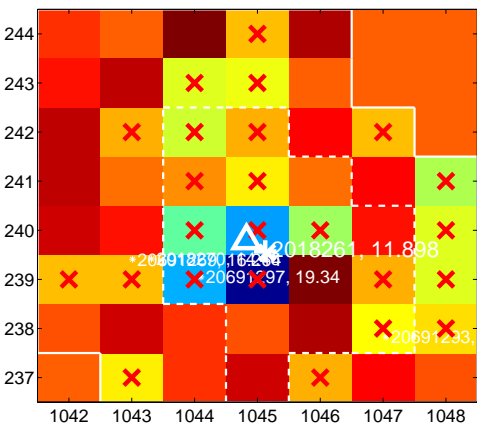
Q1 no difference image



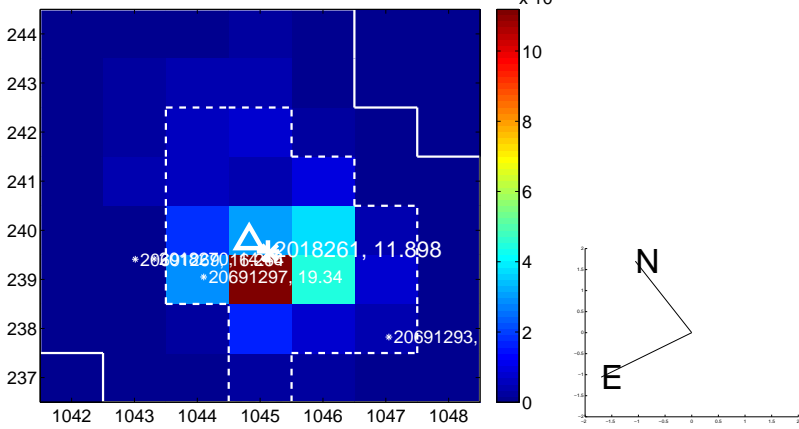
Q1 no OOT image



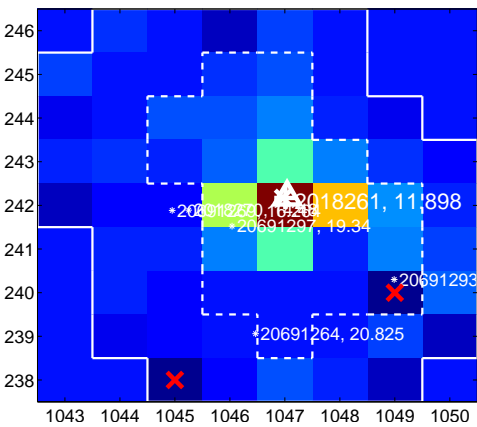
Q2 difference image. Poor Quality



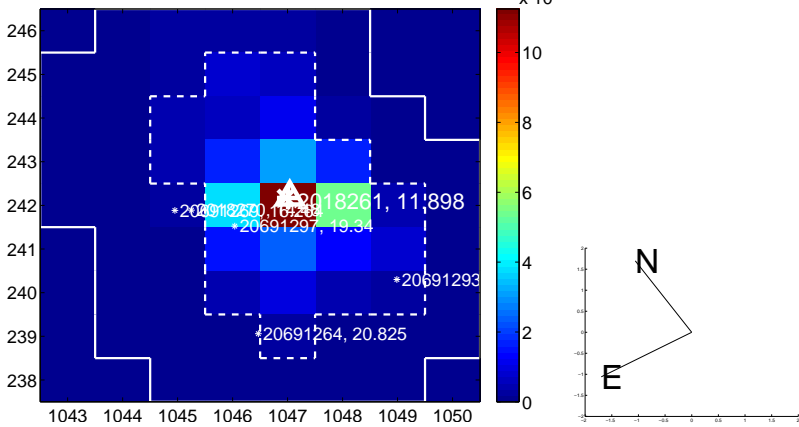
Q2 OOT image



Q3 difference image



Q3 OOT image



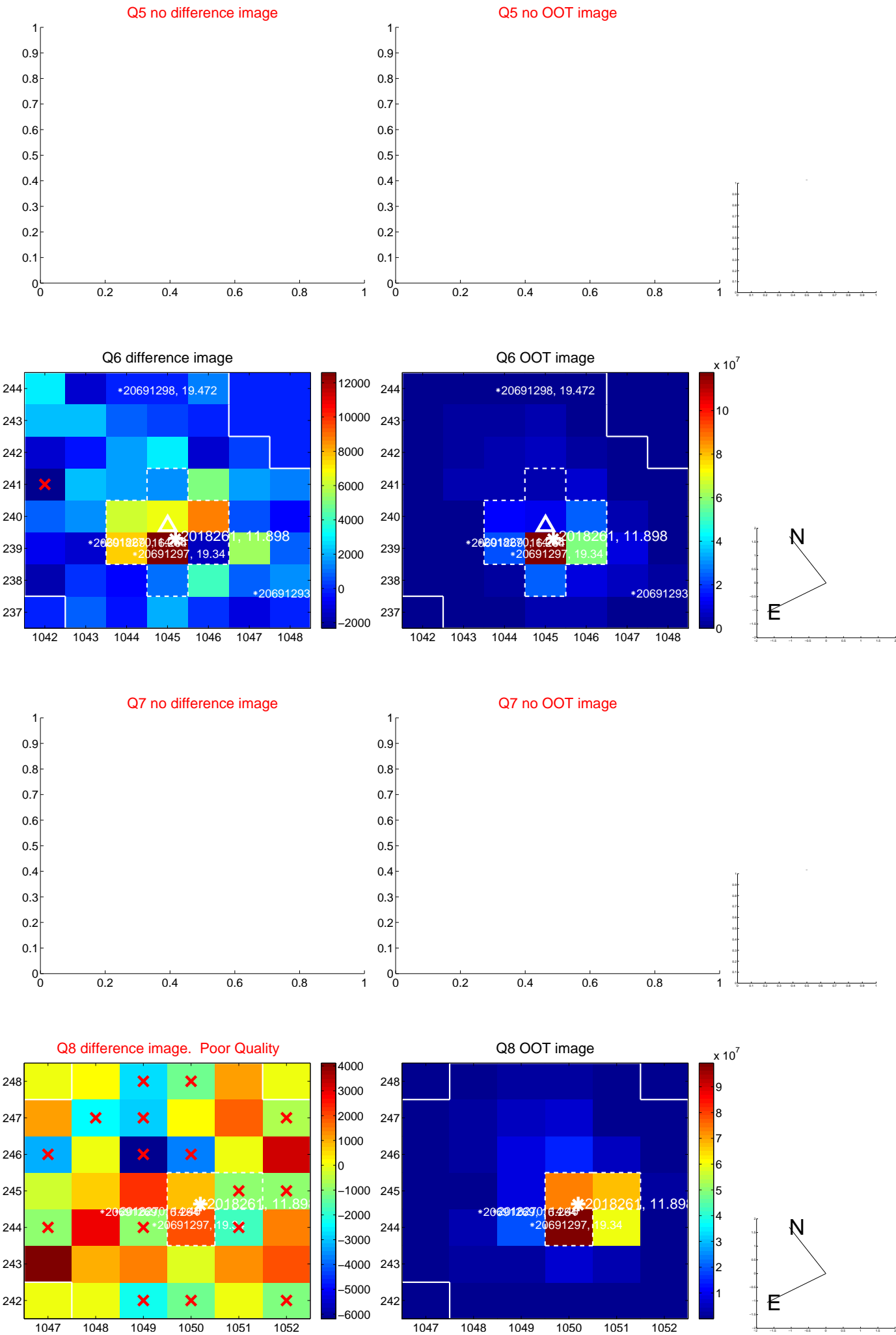
Q4 no difference image



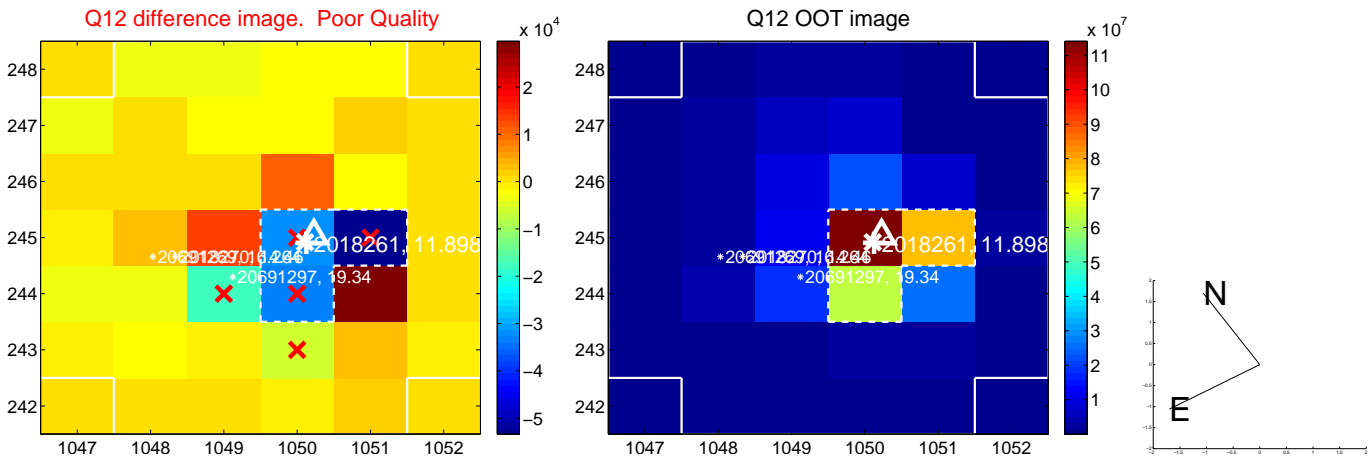
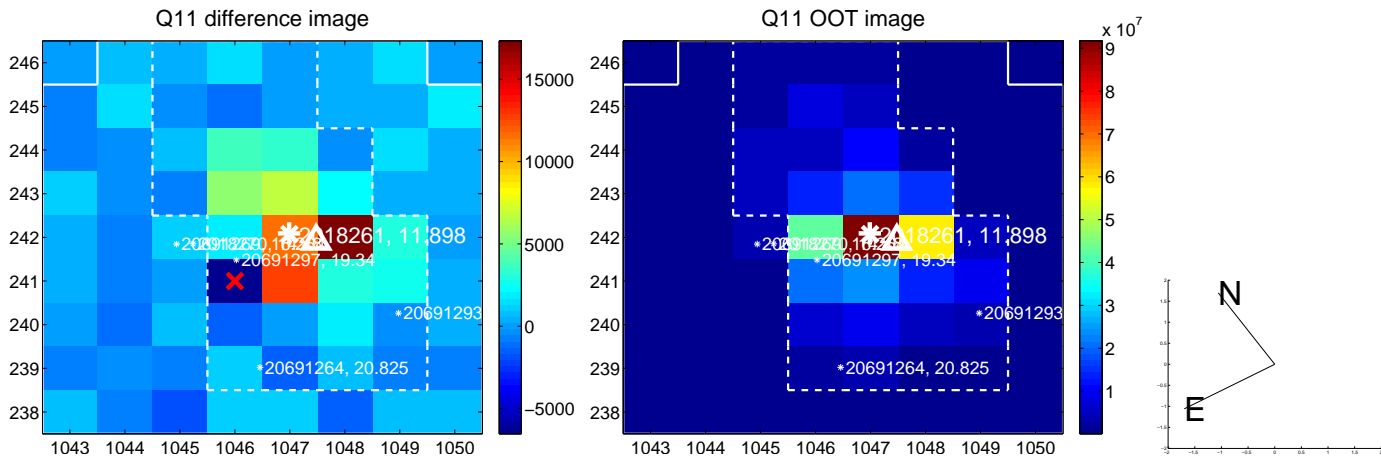
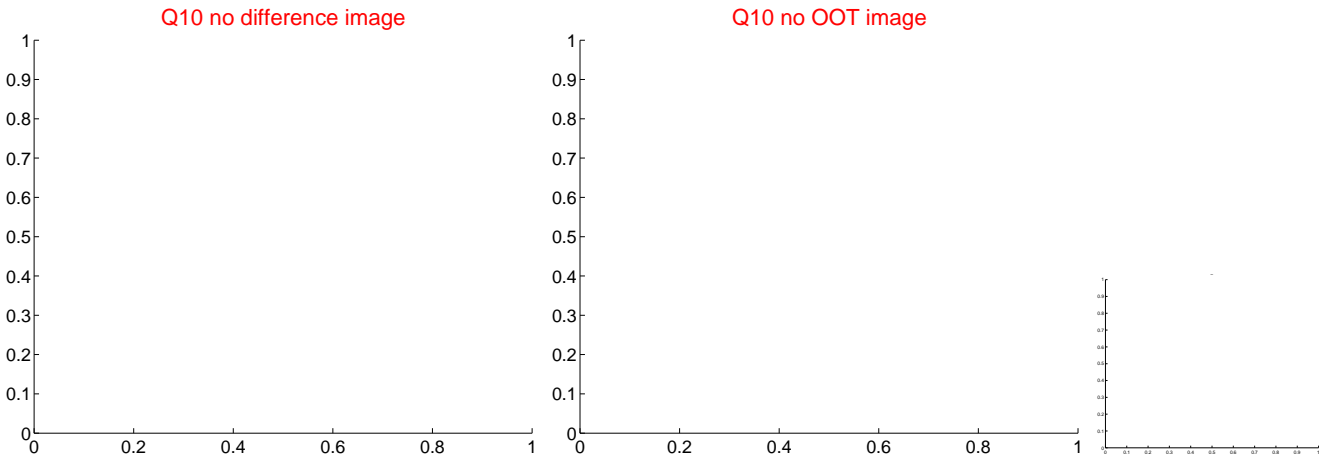
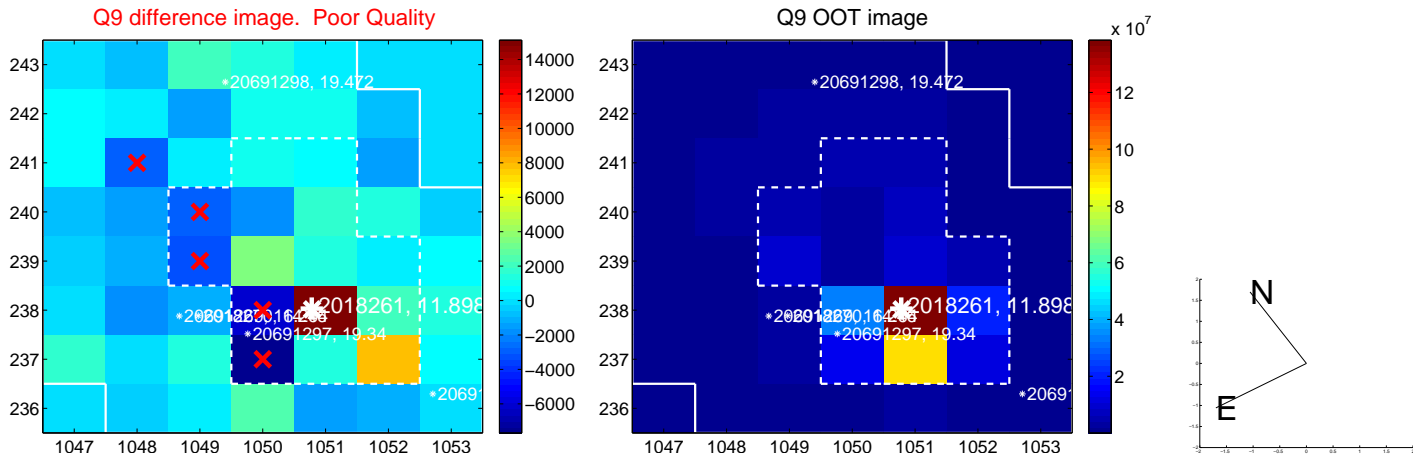
Q4 no OOT image



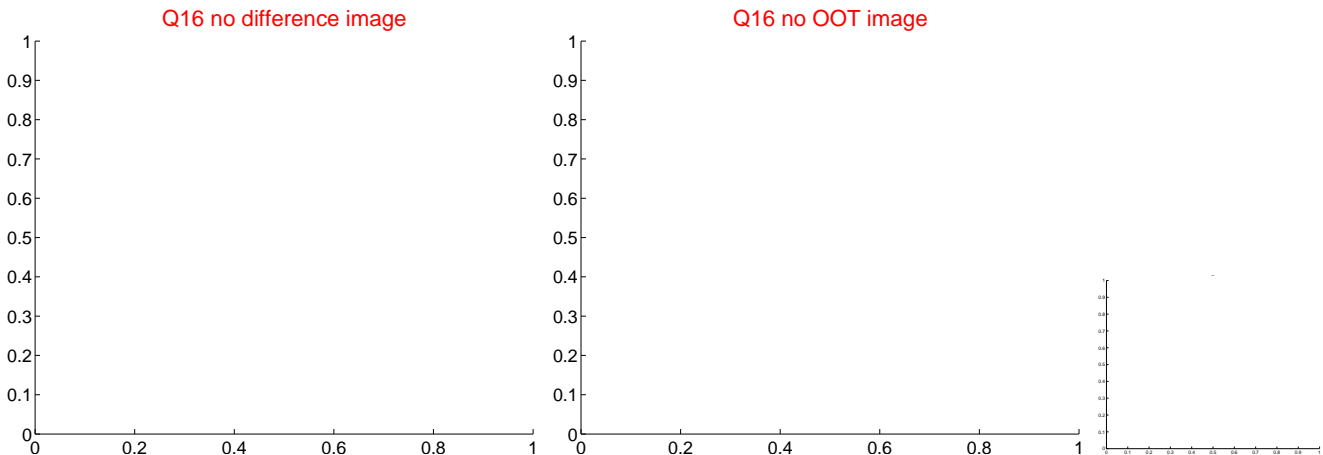
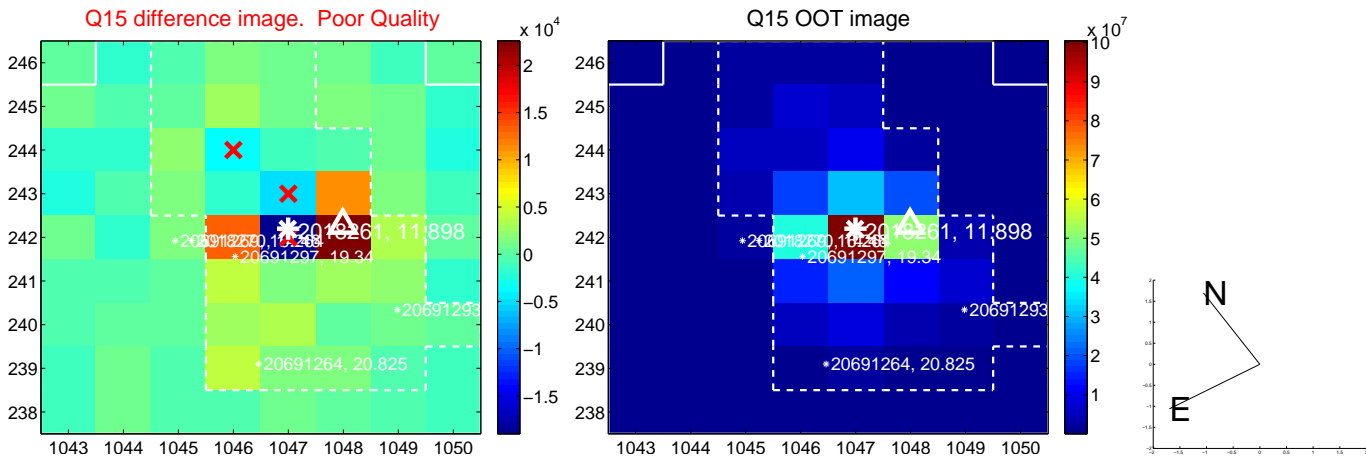
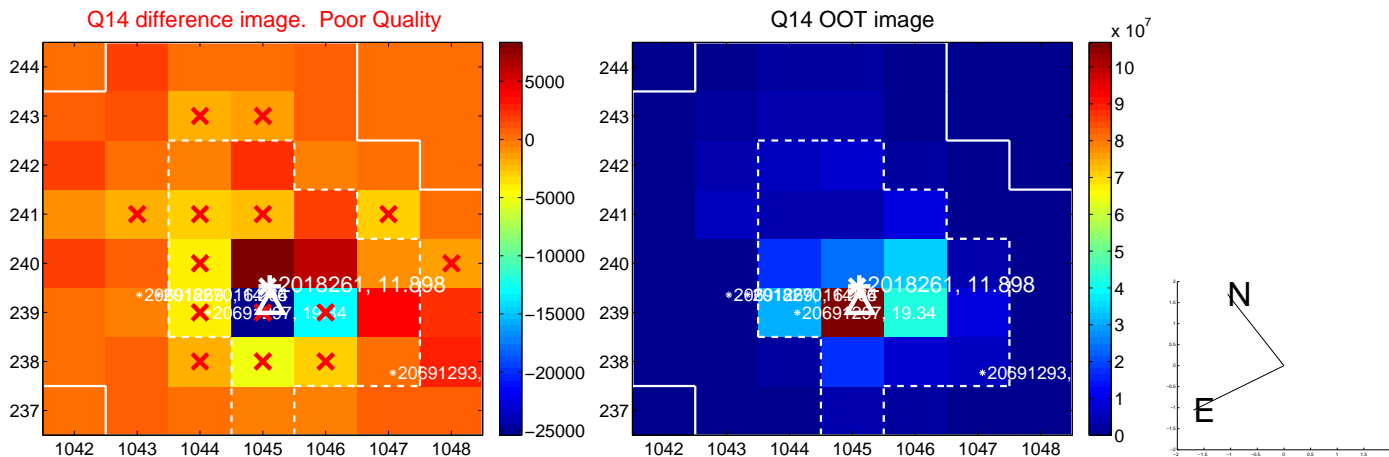
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



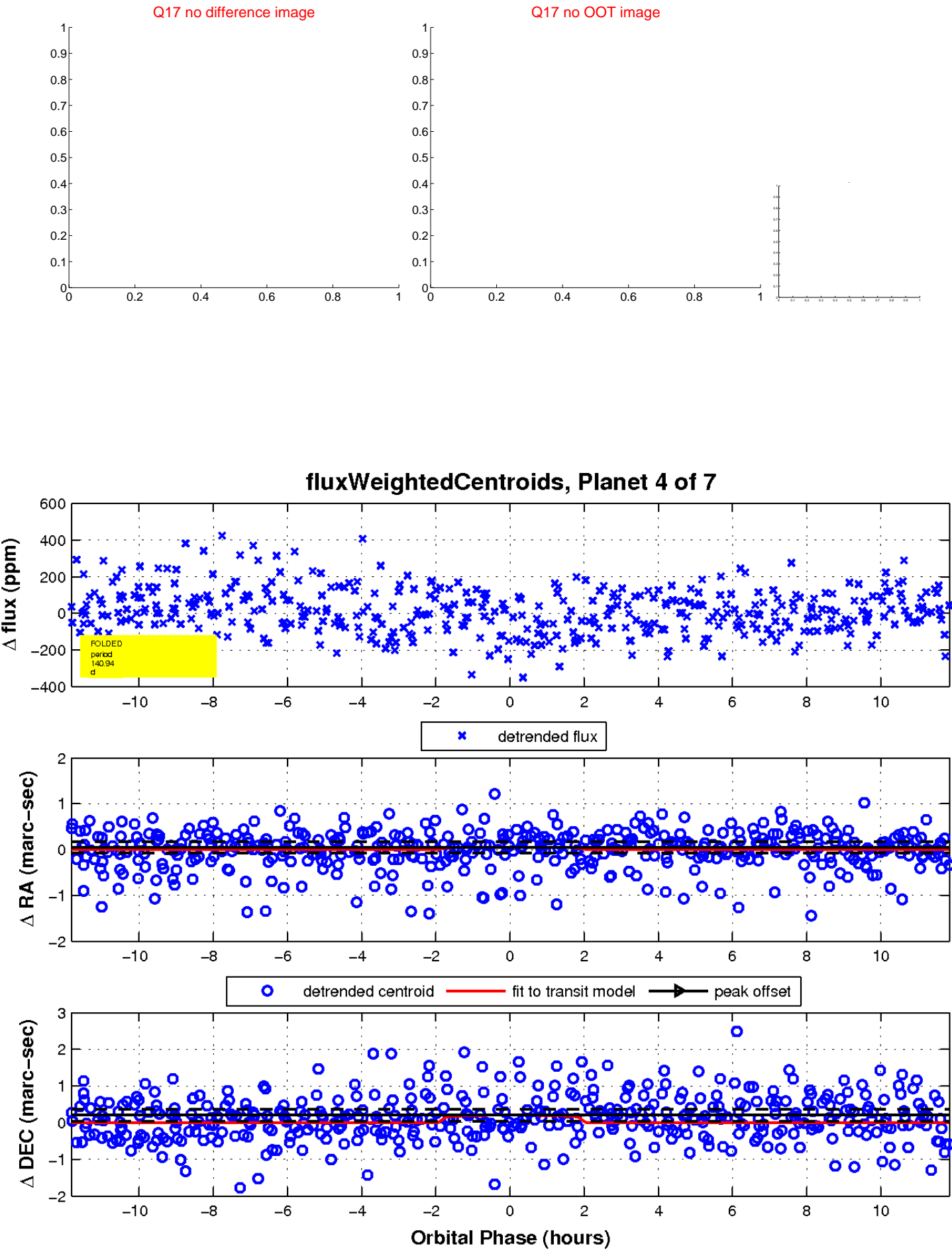
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

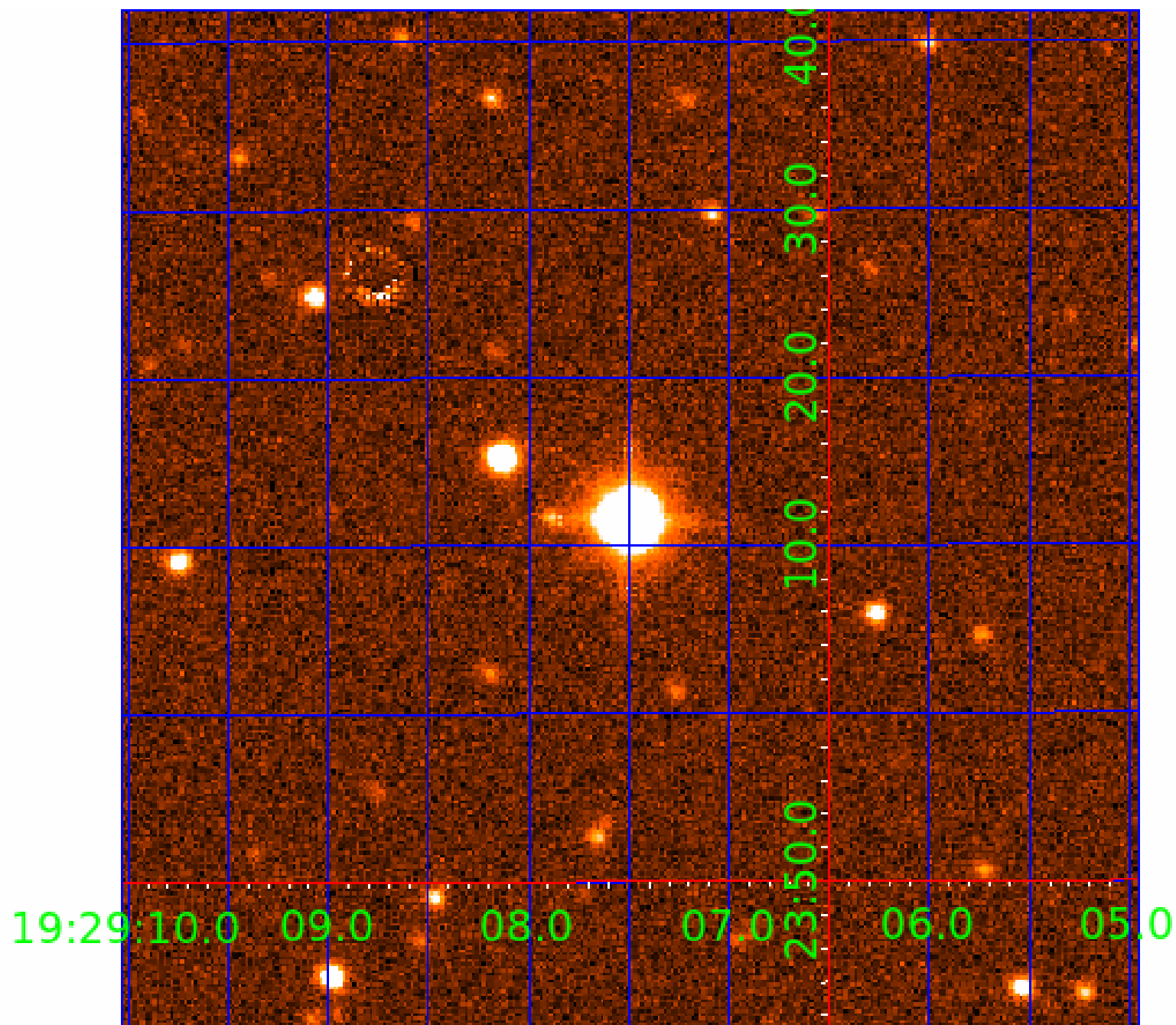


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002018261

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})
002018261-01	OBS	No	2.536659	132.465297	18.4	11.775	9.8	8.5	2.94	7516	1.32	11773.28
002018261-02	OBS	No	171.774563	295.208989	260.4	1.025	21.2	5.2	2.94	7516	5.39	42.66
002018261-03	OBS	No	398.179919	242.460360	299.3	4.949	16.0	9.7	2.94	7516	5.67	13.90
002018261-04	OBS	No	140.937995	193.502931	228.1	3.954	8.9	7.9	2.94	7516	4.92	55.53
002018261-05	OBS	No	489.575661	277.705143	243.7	22.343	7.9	7.2	2.94	7516	5.08	10.56
002018261-06	OBS	No	92.340346	157.835262	177.7	3.637	8.0	8.5	2.94	7516	4.48	97.59
002018261-07	OBS	No	57.783258	162.296036	65.8	7.751	7.4	5.2	2.94	7516	2.60	182.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002018261-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002018261-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS
002018261-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002018261-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002018261-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002018261-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
002018261-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

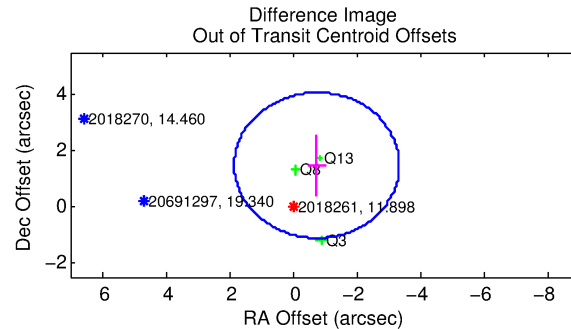
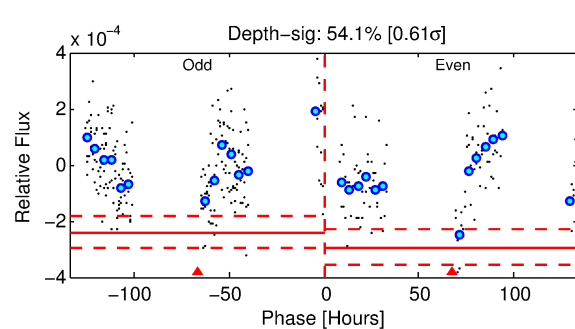
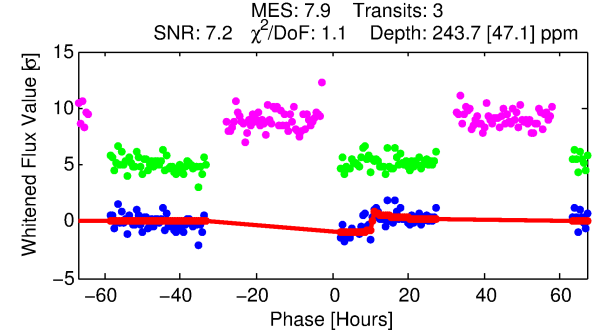
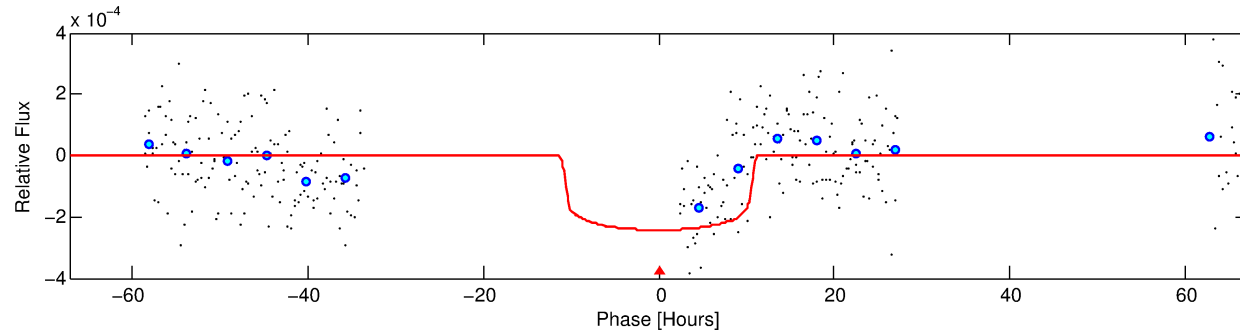
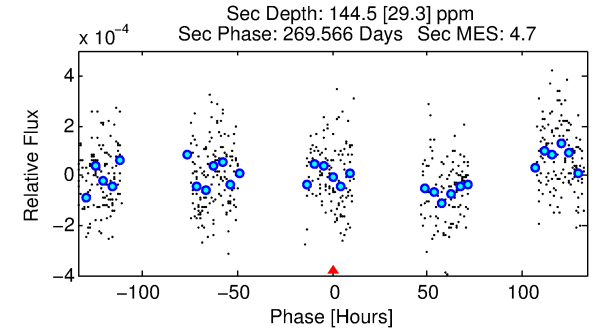
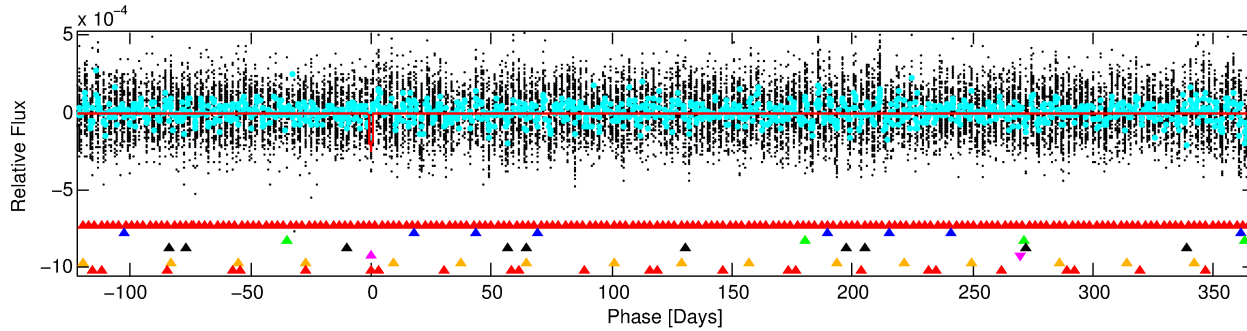
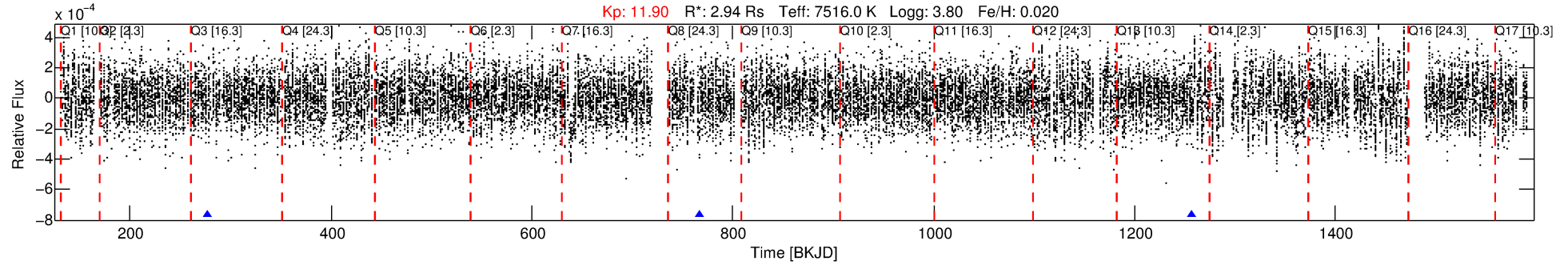
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018261-05

No Significant Match Found

DV One-Page Summary

KIC: 2018261 Candidate: 5 of 7 Period: 489.576 d



DV Fit Results:

Period = 489.57566 [0.01456] d
Epoch = 277.7051 [0.1472] BKJD
Rp/R* = 0.0158 [0.0033]
a/R* = 101.91 [121.05]
b = 0.81 [0.38]
Seff = 10.56 [6.82]
Teq = 460 [74] K
Rp = 5.07 [2.40] Re
a = 1.5275 [0.6037] AU
Ag = 7204.31 [5581.52] [1.29 σ]
Teffp = 6547 [814] K [7.45 σ]

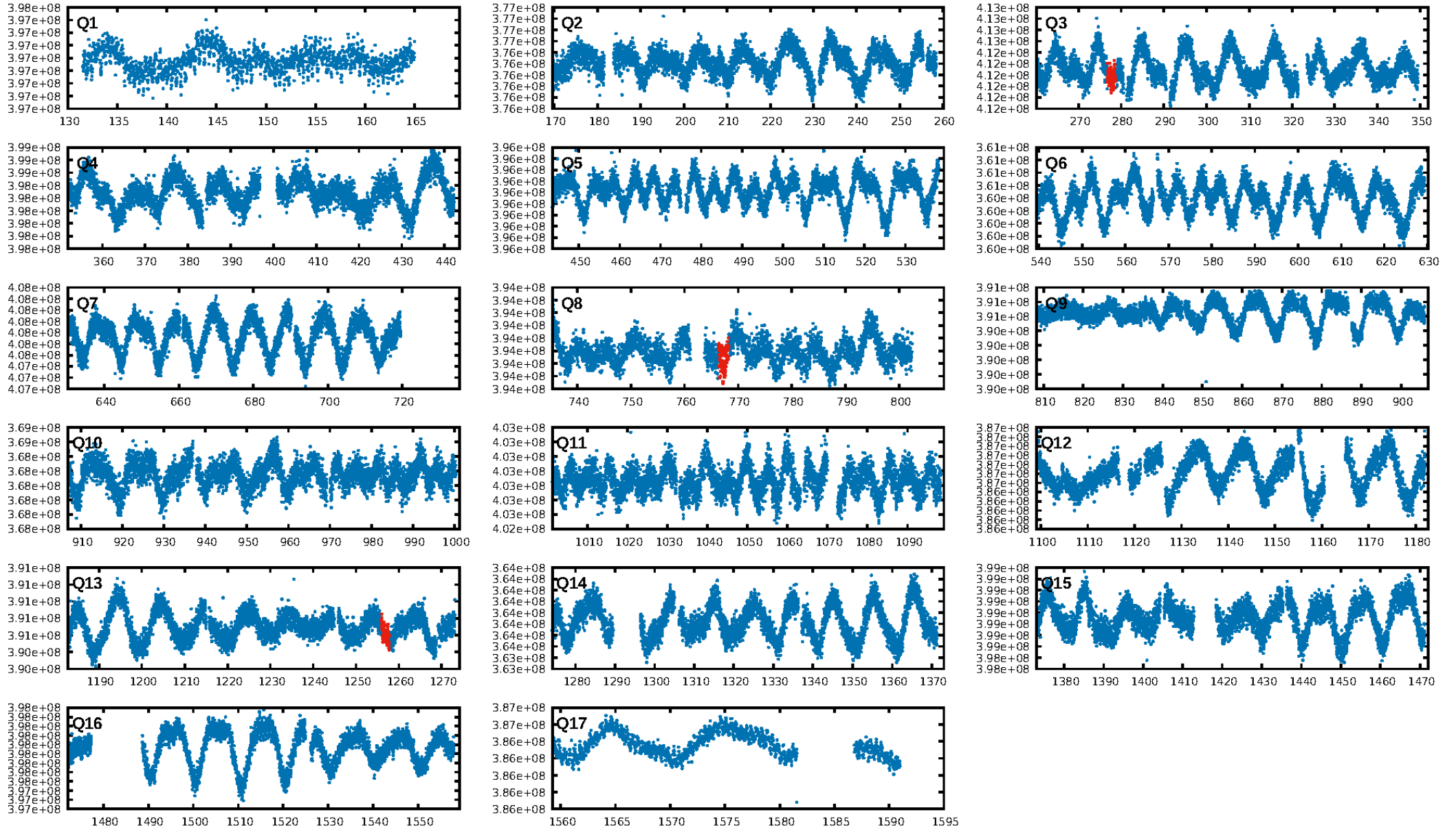
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [95.85 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.77e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.583
Centroid-sig: 23.6%
Centroid-so: 0.499 arcsec [1.16 σ]
OotOffset-rm: 1.655 arcsec [1.92 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 1.725 arcsec [2.80 σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

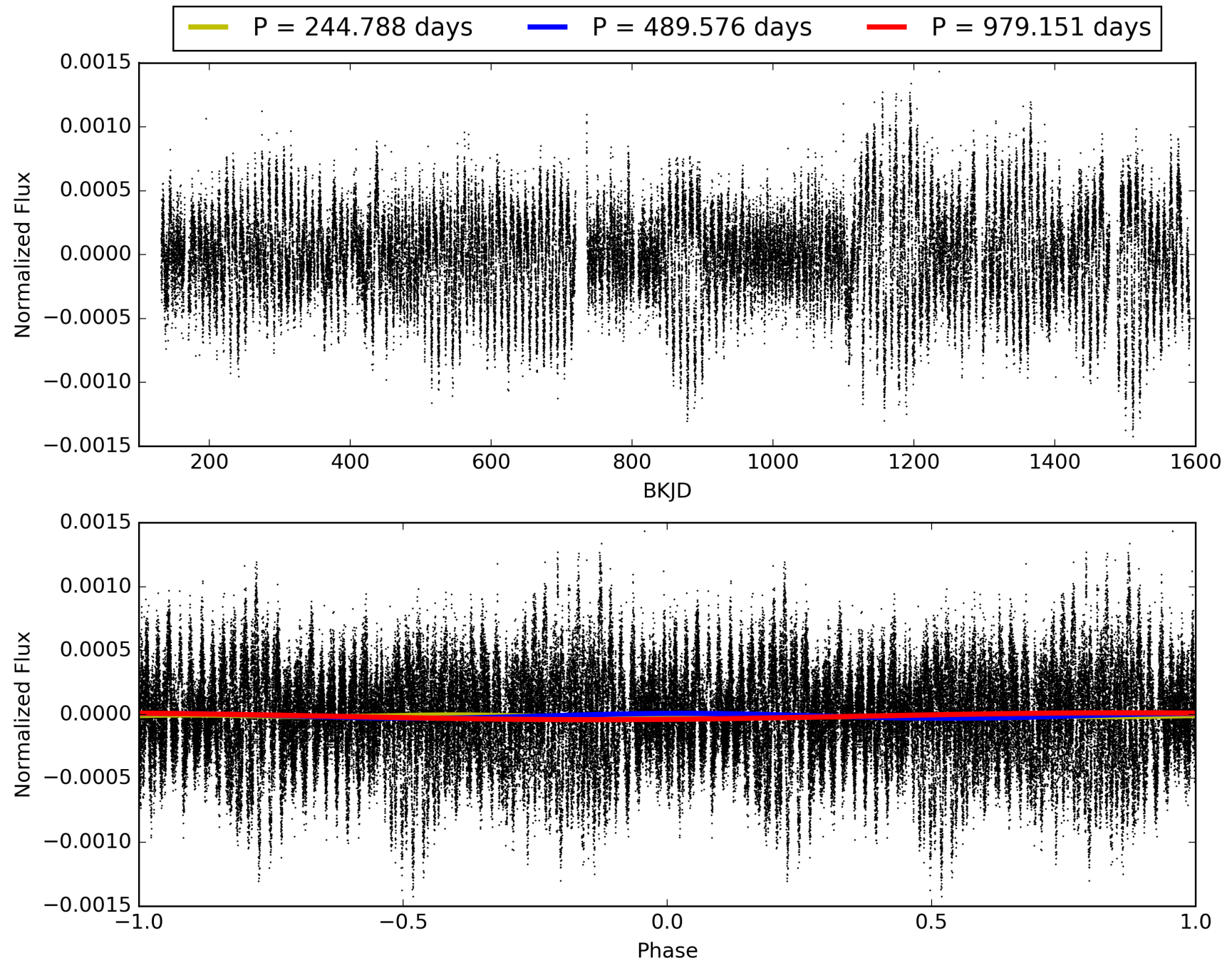
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:07:17 Z

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

TCE 002018261-05, PDC Light Curves

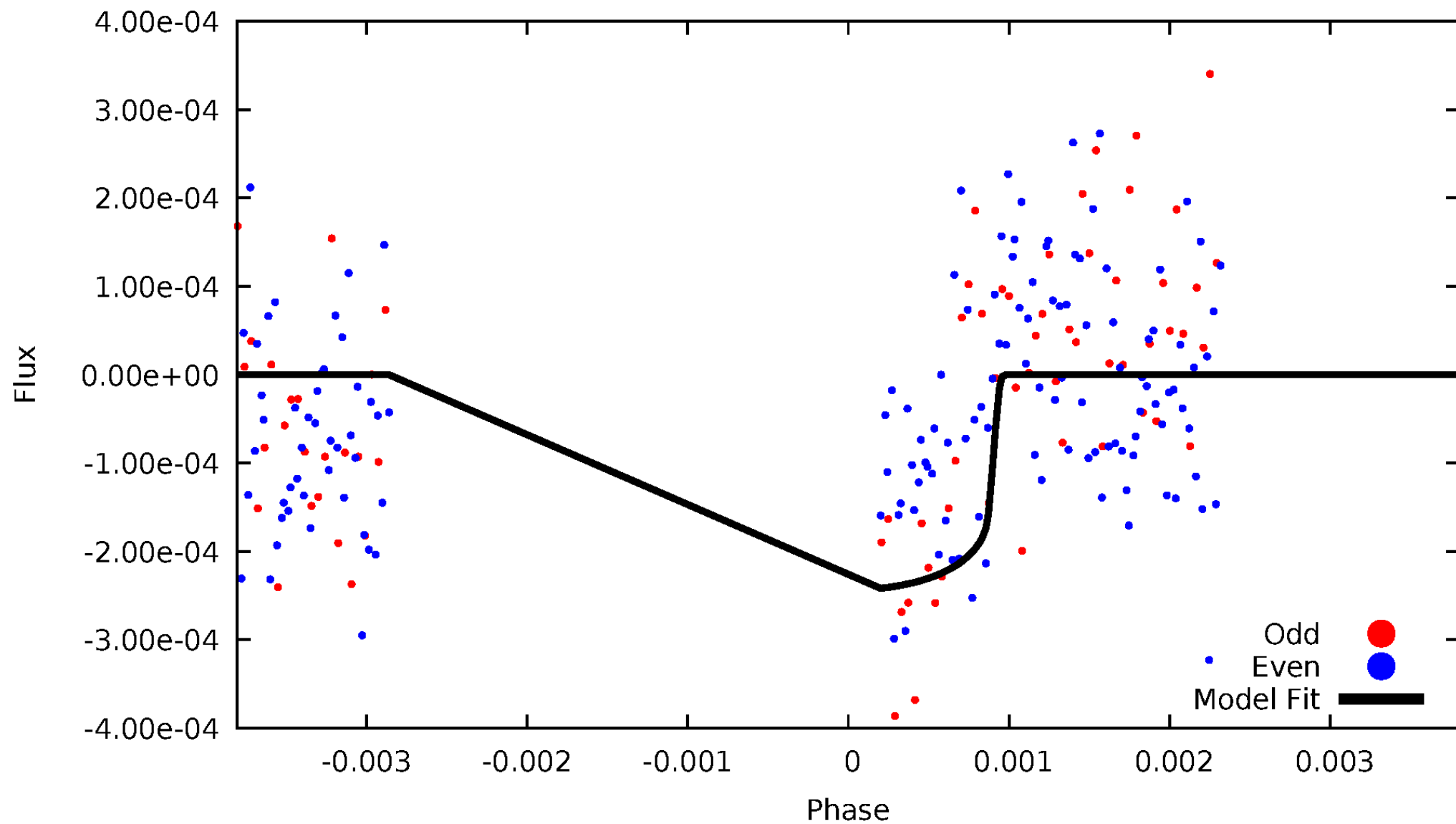


TCE 002018261-05



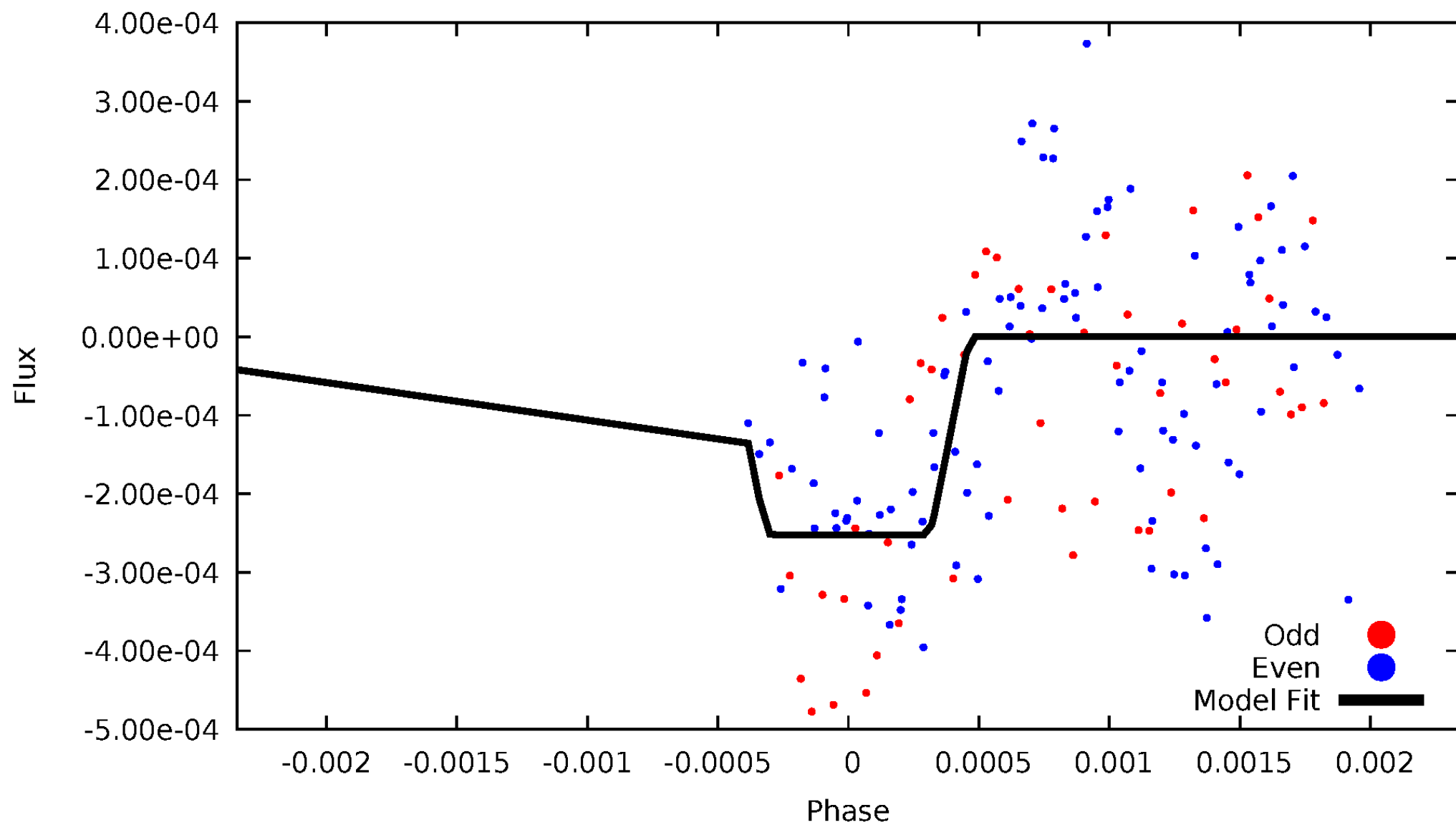
DV Odd/Even

TCE 002018261-05



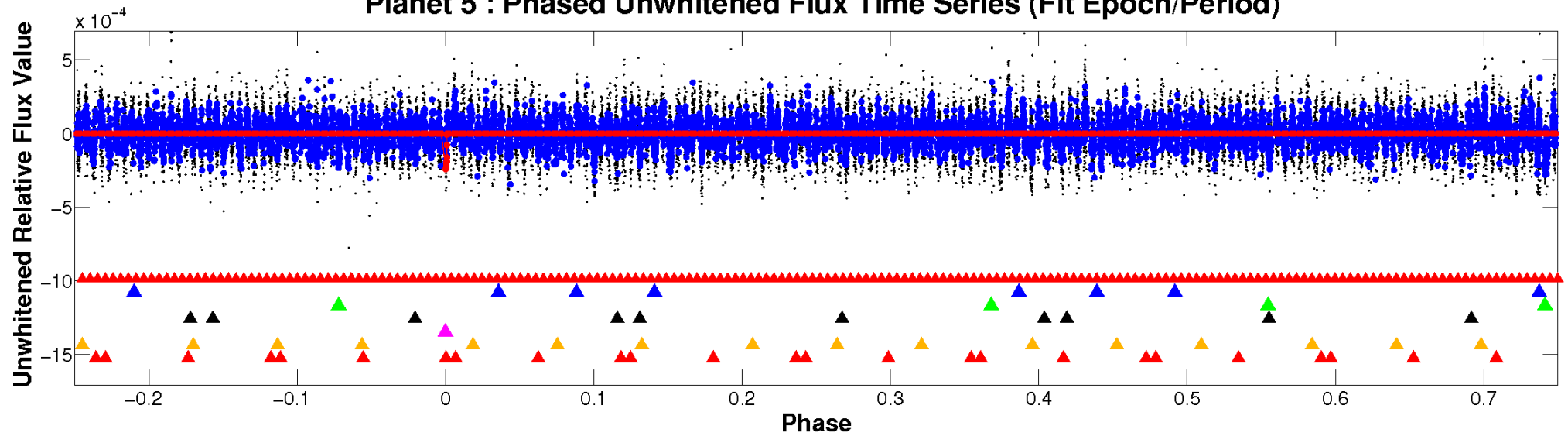
ALT Odd/Even

TCE 002018261-05

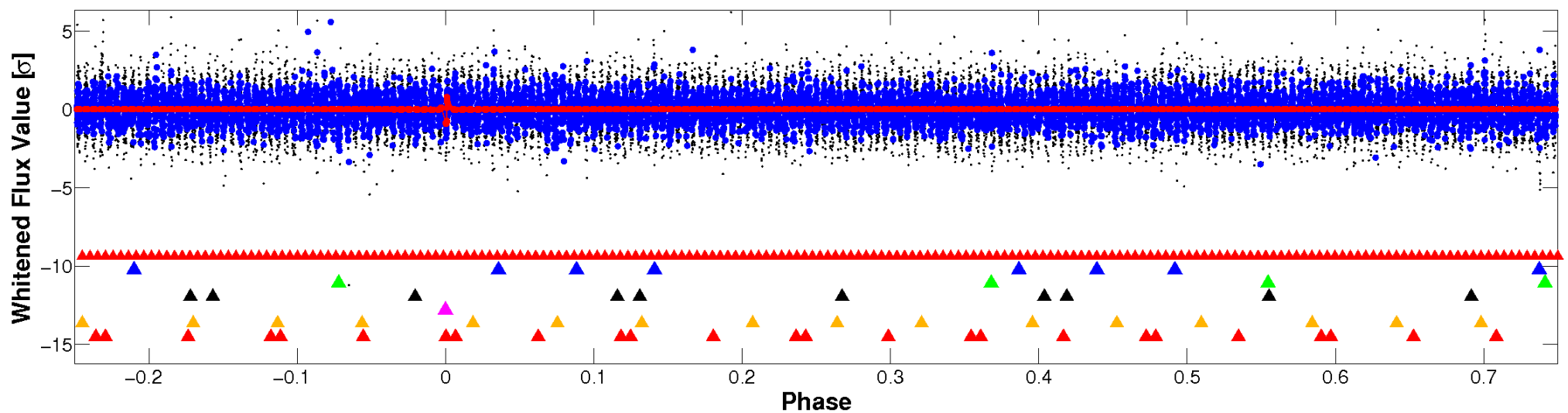


Non-Whitened Vs. Whitened Light Curve

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

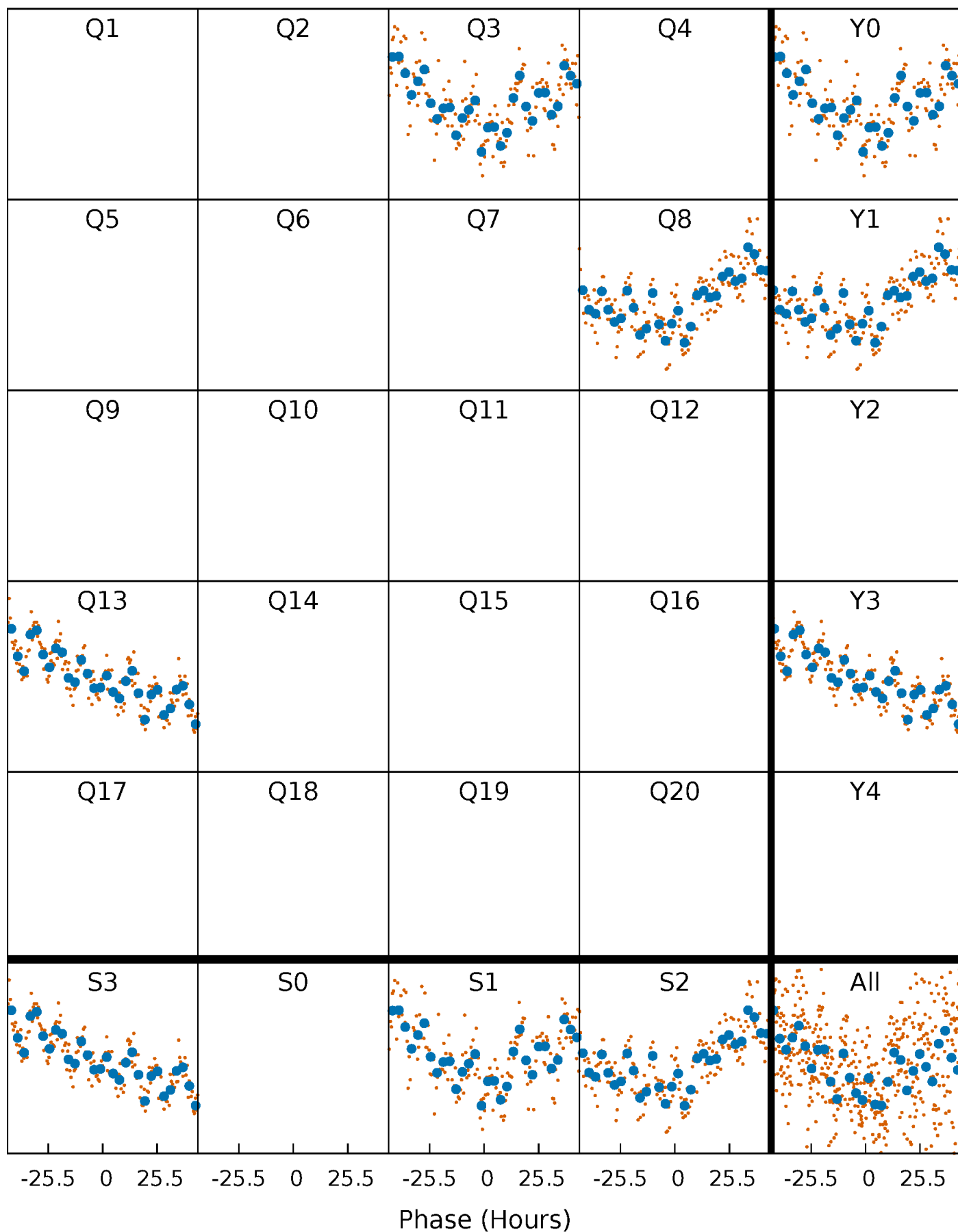


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



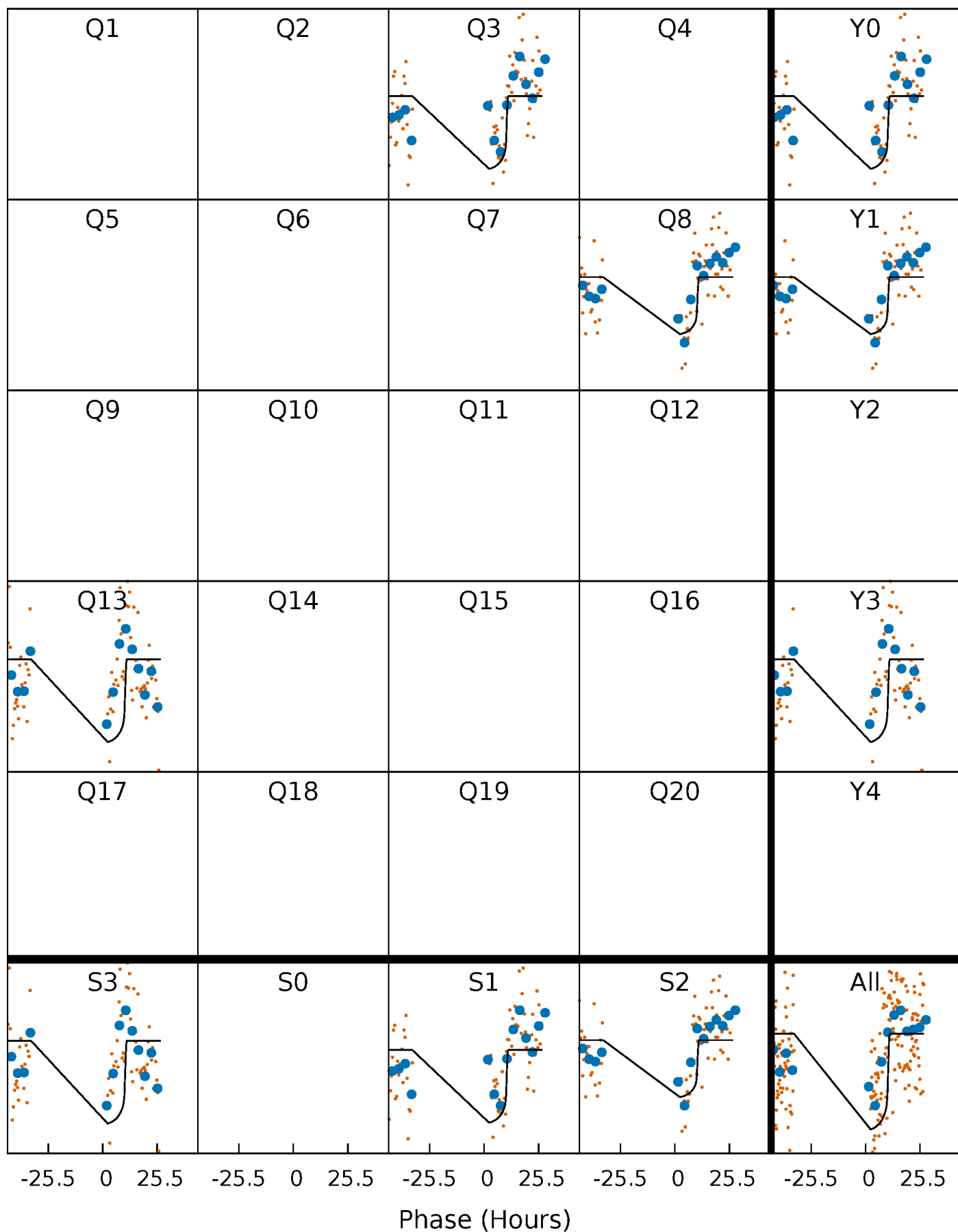
PDC Quarter-Phased Transit Curves

TCE 002018261-05 $P=489.575661$ Days $T_0=277.705143$ (BKJD)



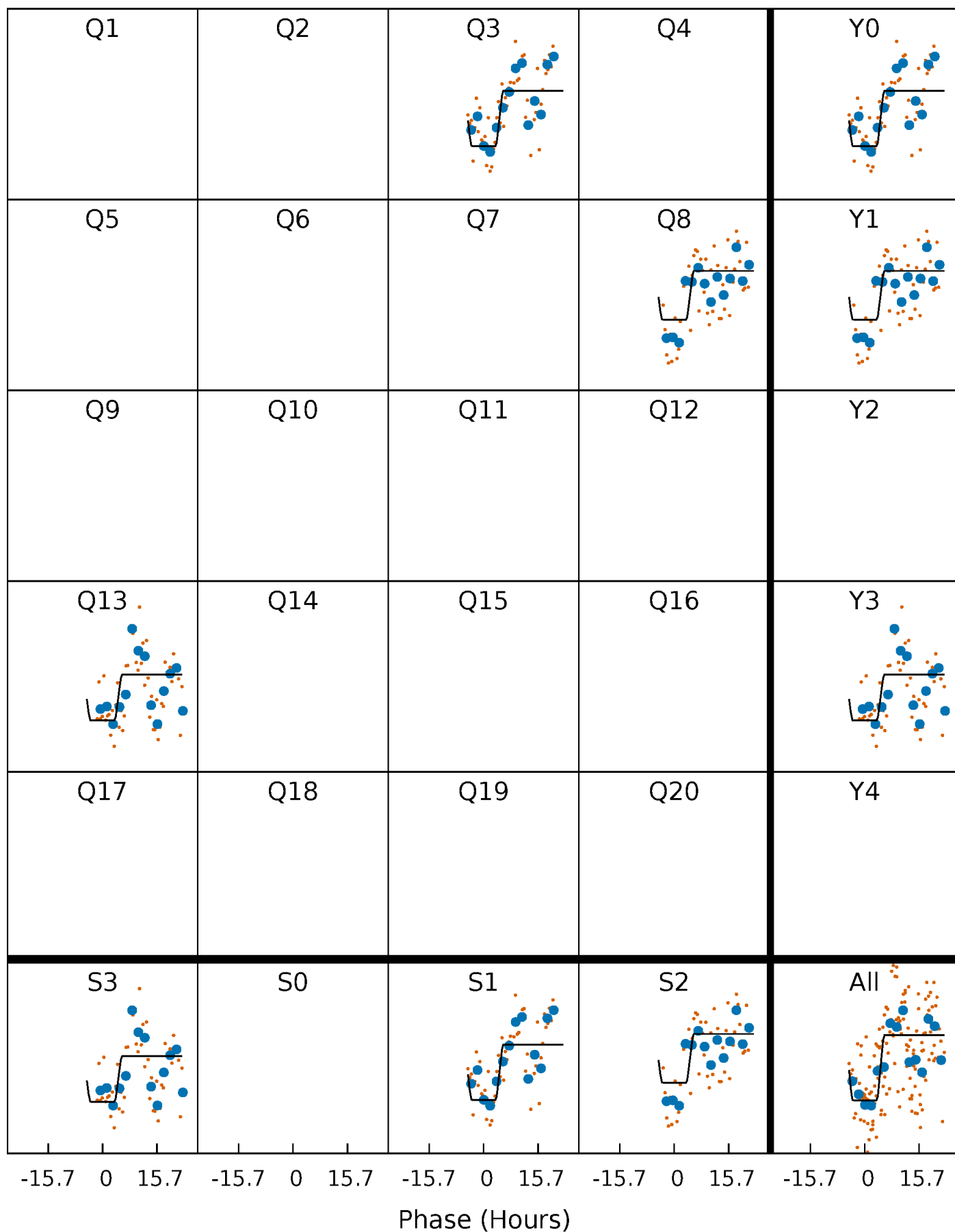
DV Quarter-Phased Transit Curves

TCE 002018261-05 $P=489.575661$ Days $T_0=277.705143$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

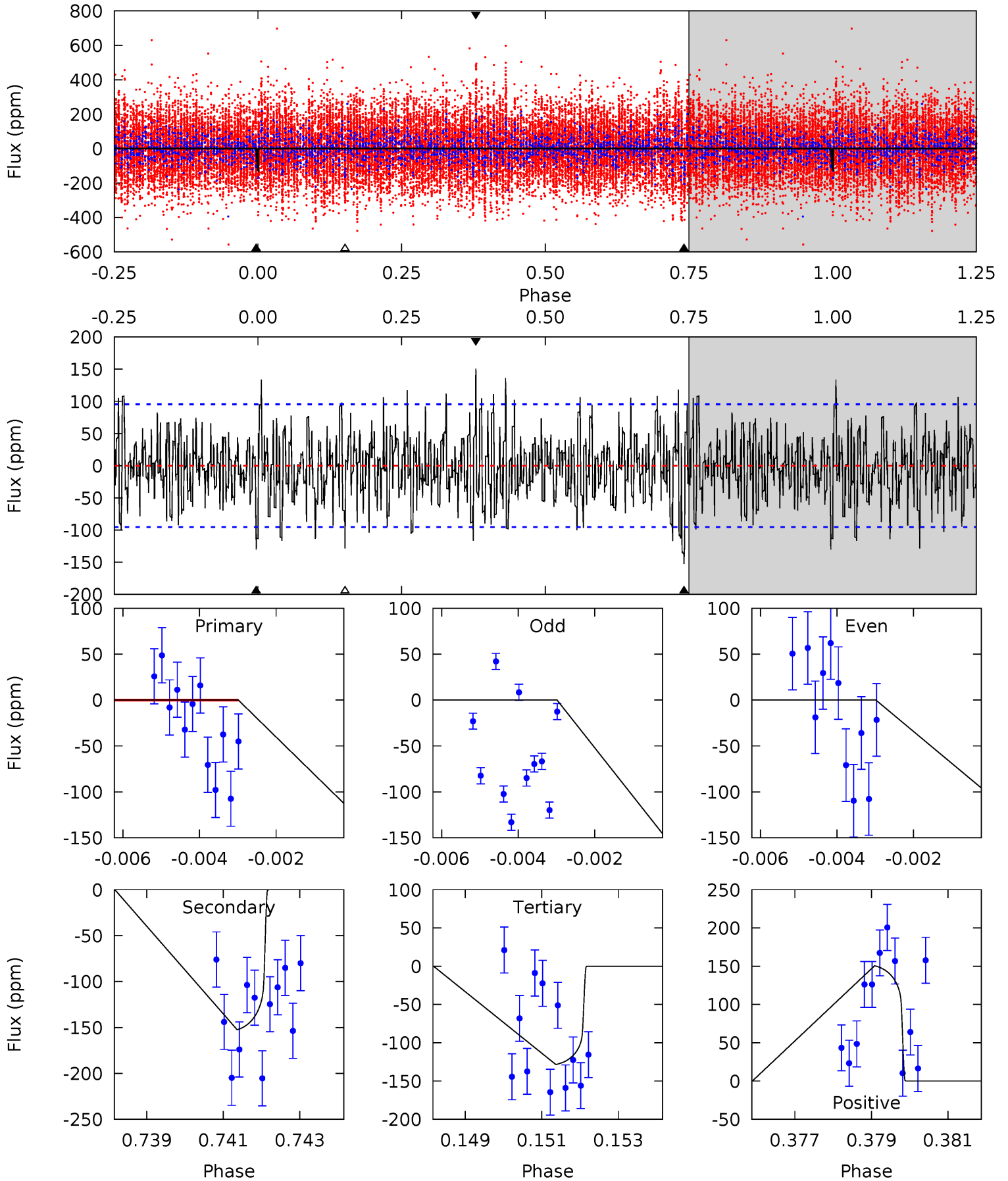
TCE 002018261-05 P=489.506363 Days $T_0=278.005561$ (BKJD)



DV Model-Shift Uniqueness Test

002018261-05, P = 489.575661 Days, E = 277.705143 Days

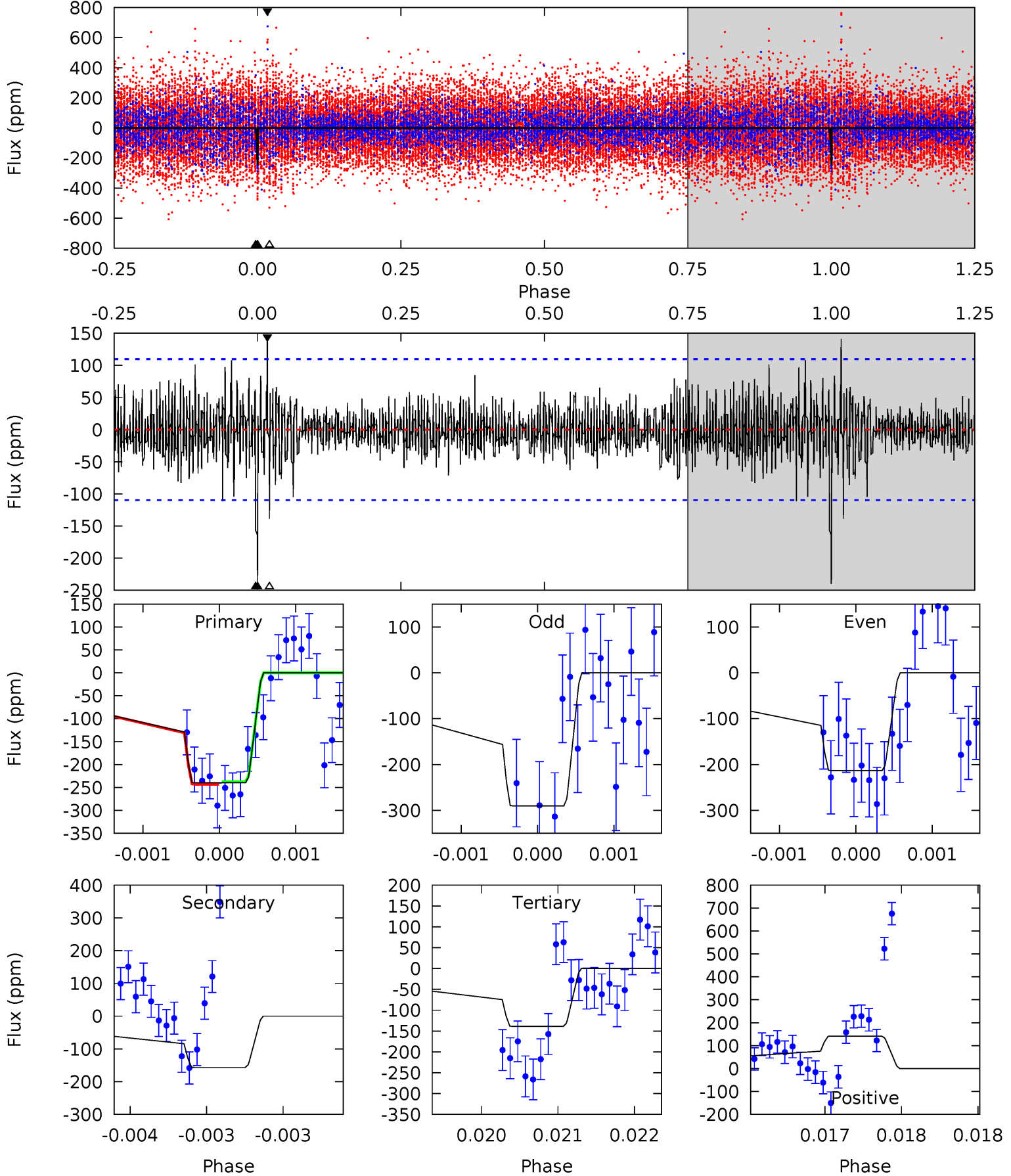
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.30	8.53	7.18	8.43	5.33	3.10	2.30	0.11	-1.13	1.35	0.10	1.55	0.82	0.50	0



Alt Model-Shift Uniqueness Test

002018261-05, P = 489.506363 Days, E = 278.005561 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	7.84	6.94	7.05	5.48	3.34	1.30	5.05	4.94	0.90	0.79	1.88	1.10	0.37	0.13



Stellar Parameters For KIC 002018261

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7516^{+207}_{-337}	$3.800^{+0.360}_{-0.090}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.415}_{-1.244}$	$1.978^{+0.112}_{-0.506}$	$0.110^{+0.312}_{-0.031}$
	+3%/-4%	+9%/-2%	+1000%/-1750%	+14%/-42%	+6%/-26%	+283%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002018261-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-152 ± 18	$4.65^{+1.39}_{-1.22}$	622^{+44}_{-68}	6467^{+932}_{-658}	8869^{+7562}_{-3625}
Alt.	-157 ± 20	$4.70^{+1.37}_{-1.28}$	627^{+41}_{-62}	6531^{+930}_{-694}	8632^{+7347}_{-3299}

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 $A_{obs} \gg 1.0$

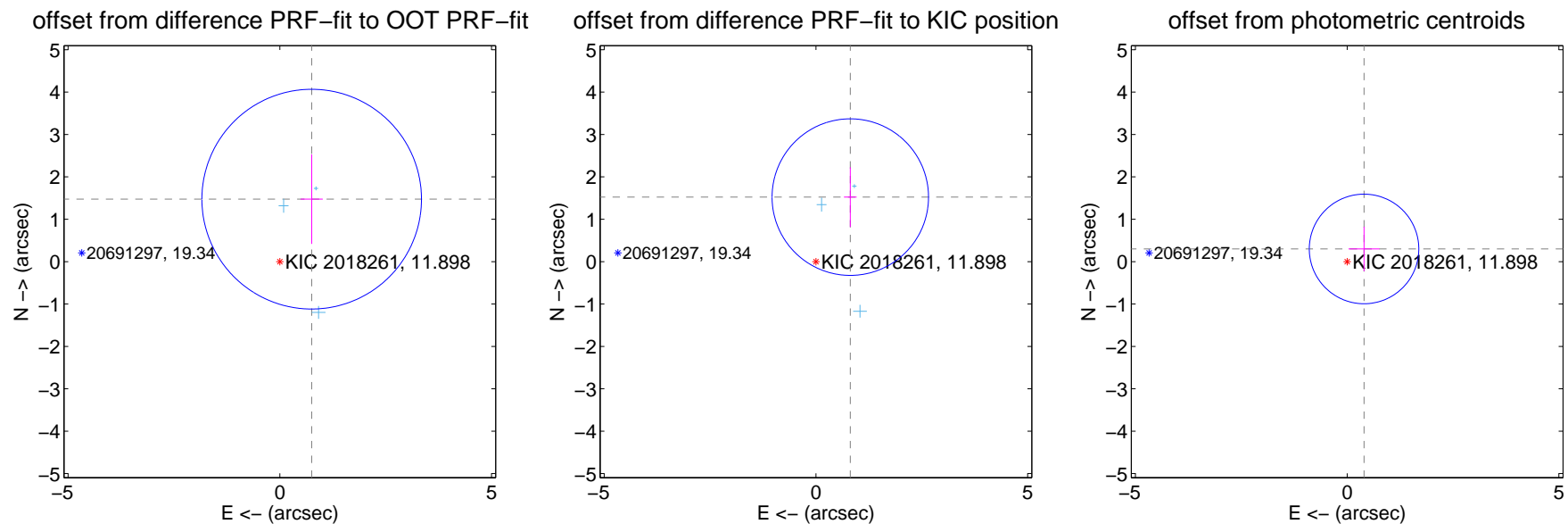
DV Centroid Data

Supplemental centroid analysis for 002018261-05. **Kepler magnitude: 11.90.** Transit SNR 7.24

There are 3 quarters with good PRF difference image offsets

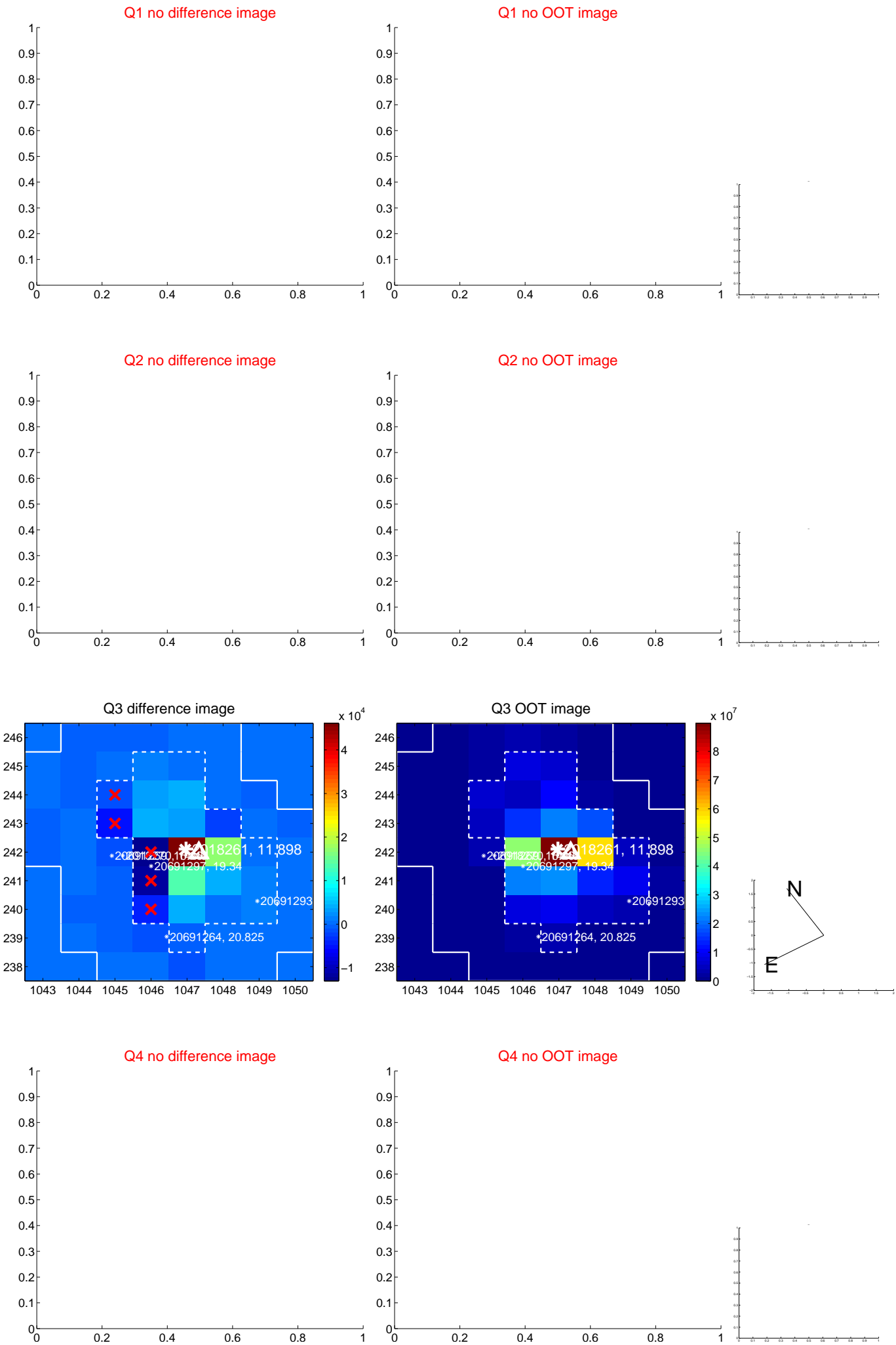
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.655 ± 0.864	1.92	-0.753 ± 0.263	1.474 ± 1.055
PRF-fit source offset from KIC position	1.725 ± 0.616	2.80	-0.811 ± 0.149	1.523 ± 0.702
photometric centroid source offset	0.50 ± 0.43	1.16	-0.40 ± 0.37	0.30 ± 0.53

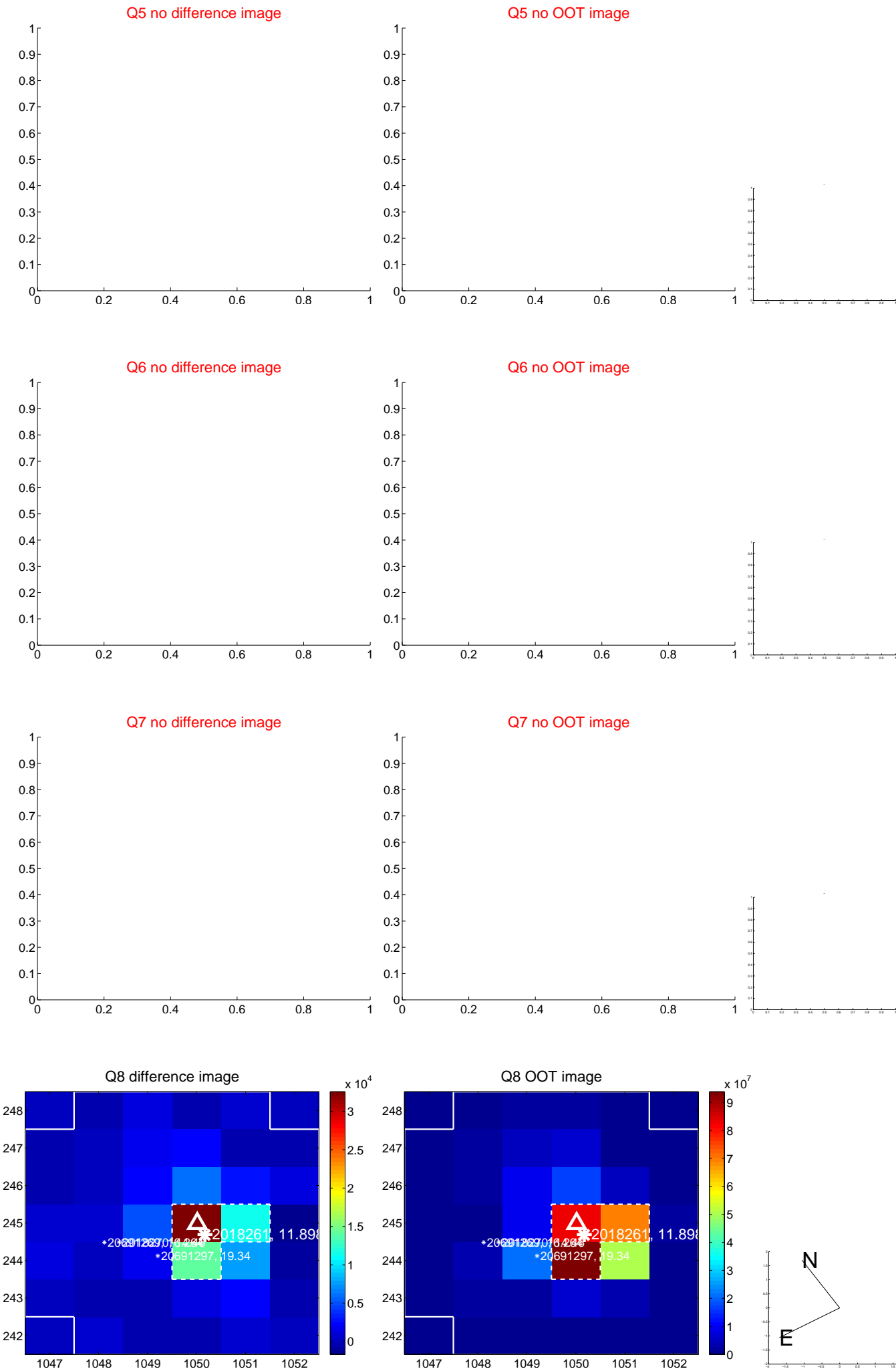


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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



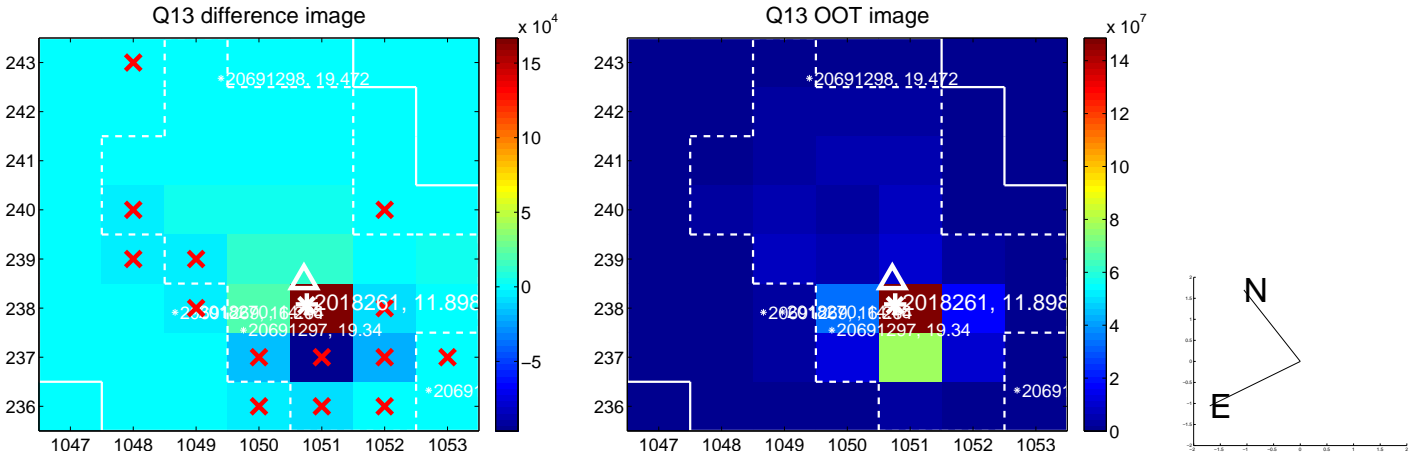
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



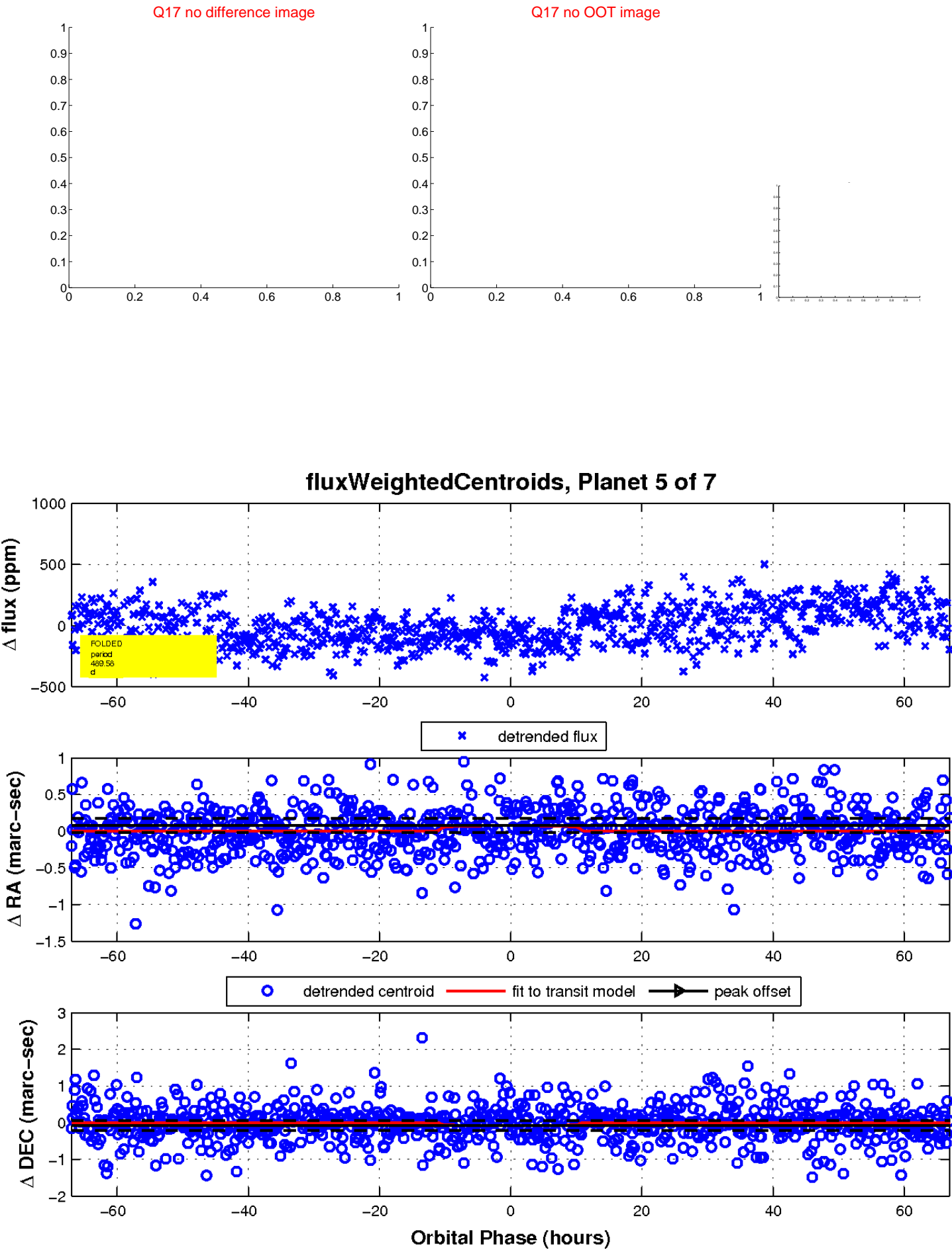
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

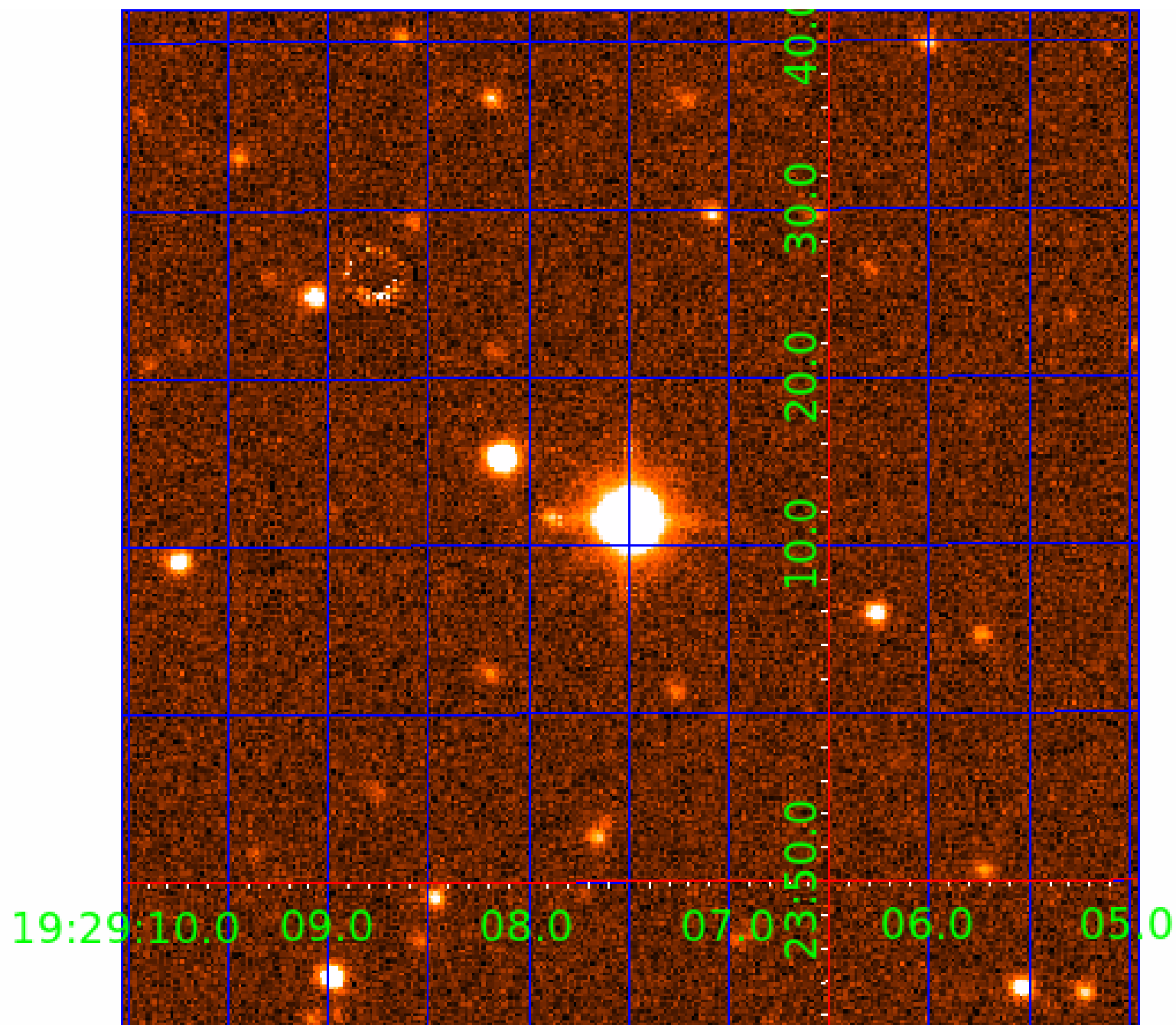


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002018261

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})
002018261-01	OBS	No	2.536659	132.465297	18.4	11.775	9.8	8.5	2.94	7516	1.32	11773.28
002018261-02	OBS	No	171.774563	295.208989	260.4	1.025	21.2	5.2	2.94	7516	5.39	42.66
002018261-03	OBS	No	398.179919	242.460360	299.3	4.949	16.0	9.7	2.94	7516	5.67	13.90
002018261-04	OBS	No	140.937995	193.502931	228.1	3.954	8.9	7.9	2.94	7516	4.92	55.53
002018261-05	OBS	No	489.575661	277.705143	243.7	22.343	7.9	7.2	2.94	7516	5.08	10.56
002018261-06	OBS	No	92.340346	157.835262	177.7	3.637	8.0	8.5	2.94	7516	4.48	97.59
002018261-07	OBS	No	57.783258	162.296036	65.8	7.751	7.4	5.2	2.94	7516	2.60	182.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002018261-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002018261-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS
002018261-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002018261-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002018261-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002018261-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
002018261-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

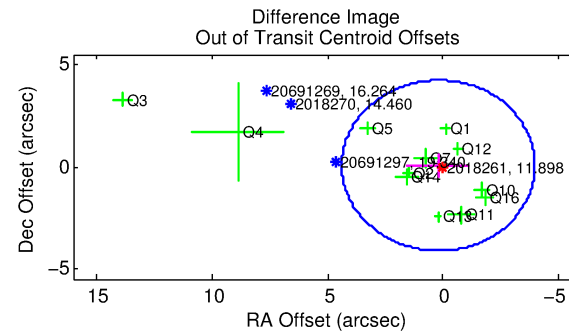
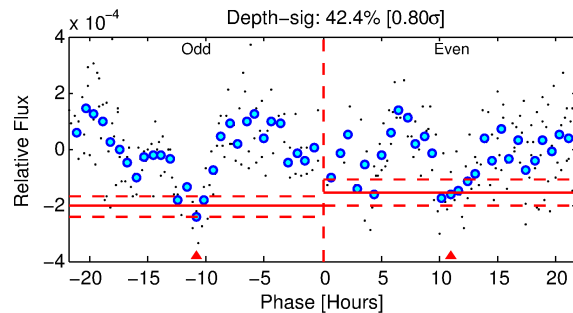
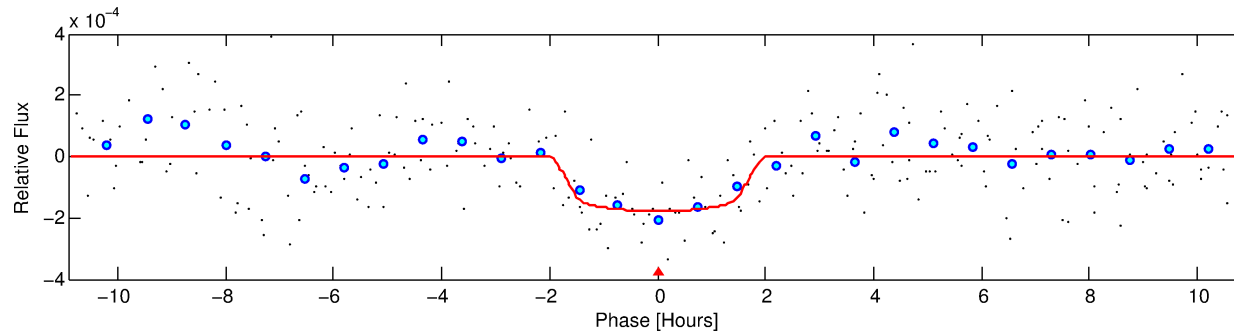
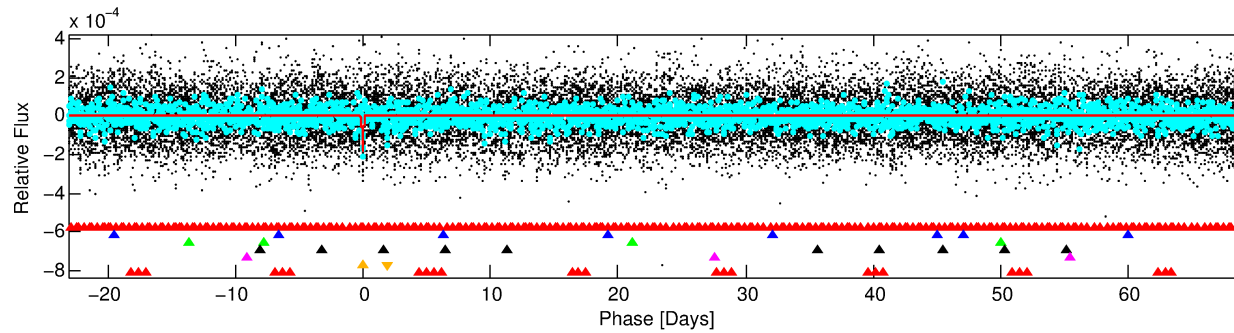
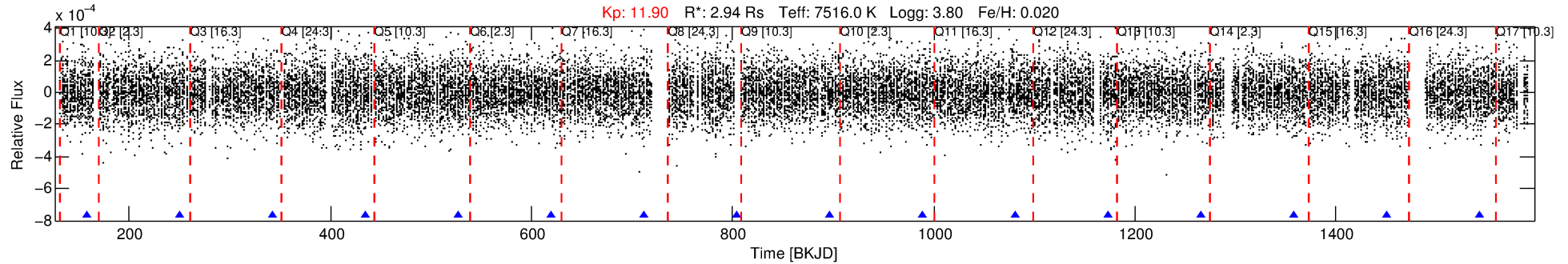
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018261-06

No Significant Match Found

DV One-Page Summary

KIC: 2018261 Candidate: 6 of 7 Period: 92.340 d



DV Fit Results:

Period = 92.34035 [0.00129] d
Epoch = 157.8353 [0.0096] BKJD
 R_p/R^* = 0.0140 [0.0080]
 a/R^* = 97.48 [348.22]
 b = 0.88 [0.92]
 Seff = 97.59 [63.05]
 T_{eq} = 801 [129] K
 R_p = 4.48 [3.19] R_e
 a = 0.5024 [0.1985] AU
 A_g = 906.50 [1188.41] [0.76 σ]
 T_{eff} = 6799 [1986] K [3.01 σ]

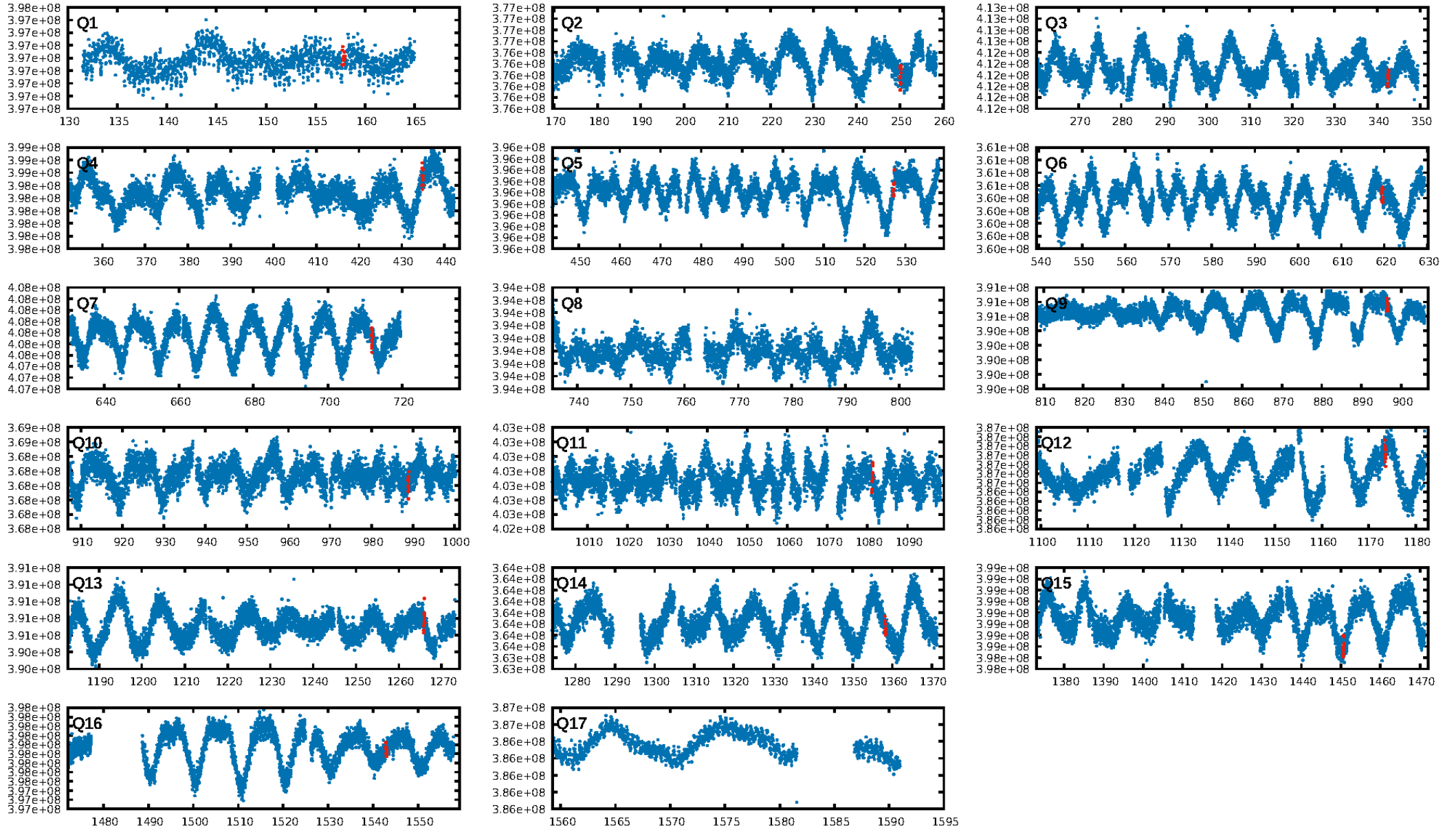
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [96.86 σ]
LongPeriod-sig: 100.0% [217.10 σ]
ModelChiSquare2-sig: 18.4%
ModelChiSquareGof-sig: 86.9%
Bootstrap-pfa: 1.63e-08
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -4.874
Centroid-sig: 81.9%
Centroid-so: 0.264 arcsec [0.34 σ]
OotOffset-rm: 0.216 arcsec [0.16 σ]
KicOffset-rm: 0.191 arcsec [0.14 σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.36 [5/14]

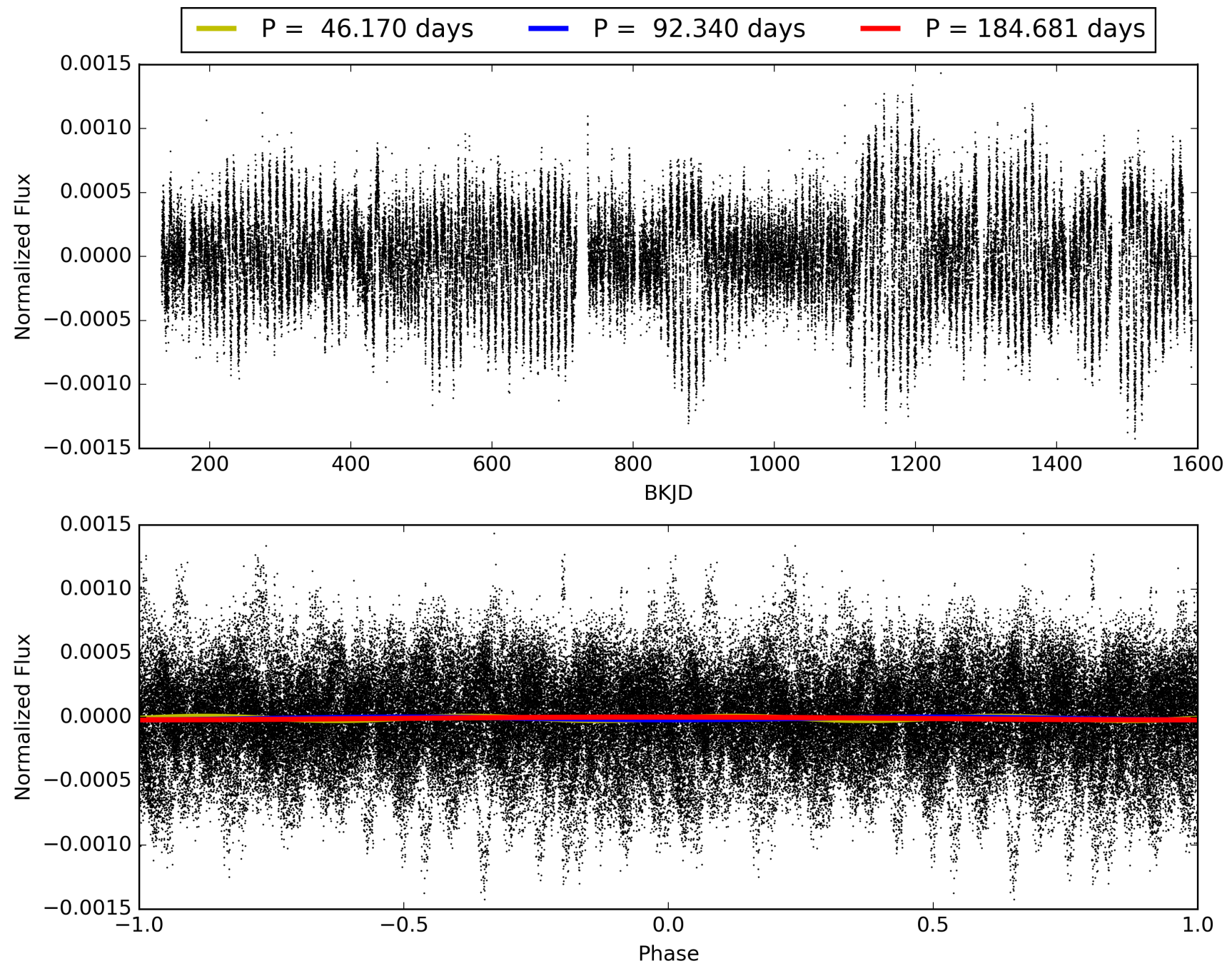
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:07:22 Z

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

TCE 002018261-06, PDC Light Curves

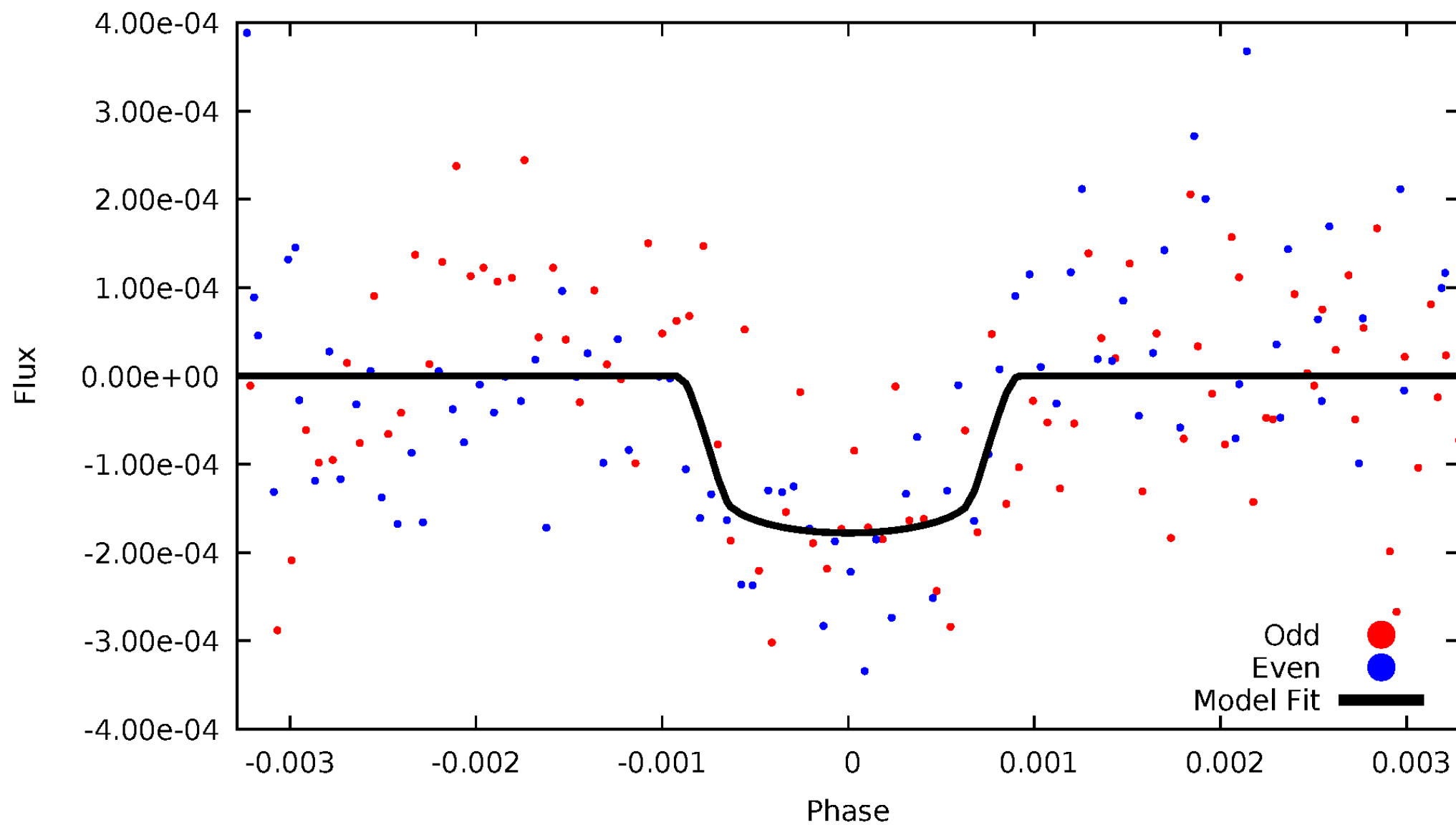


TCE 002018261-06



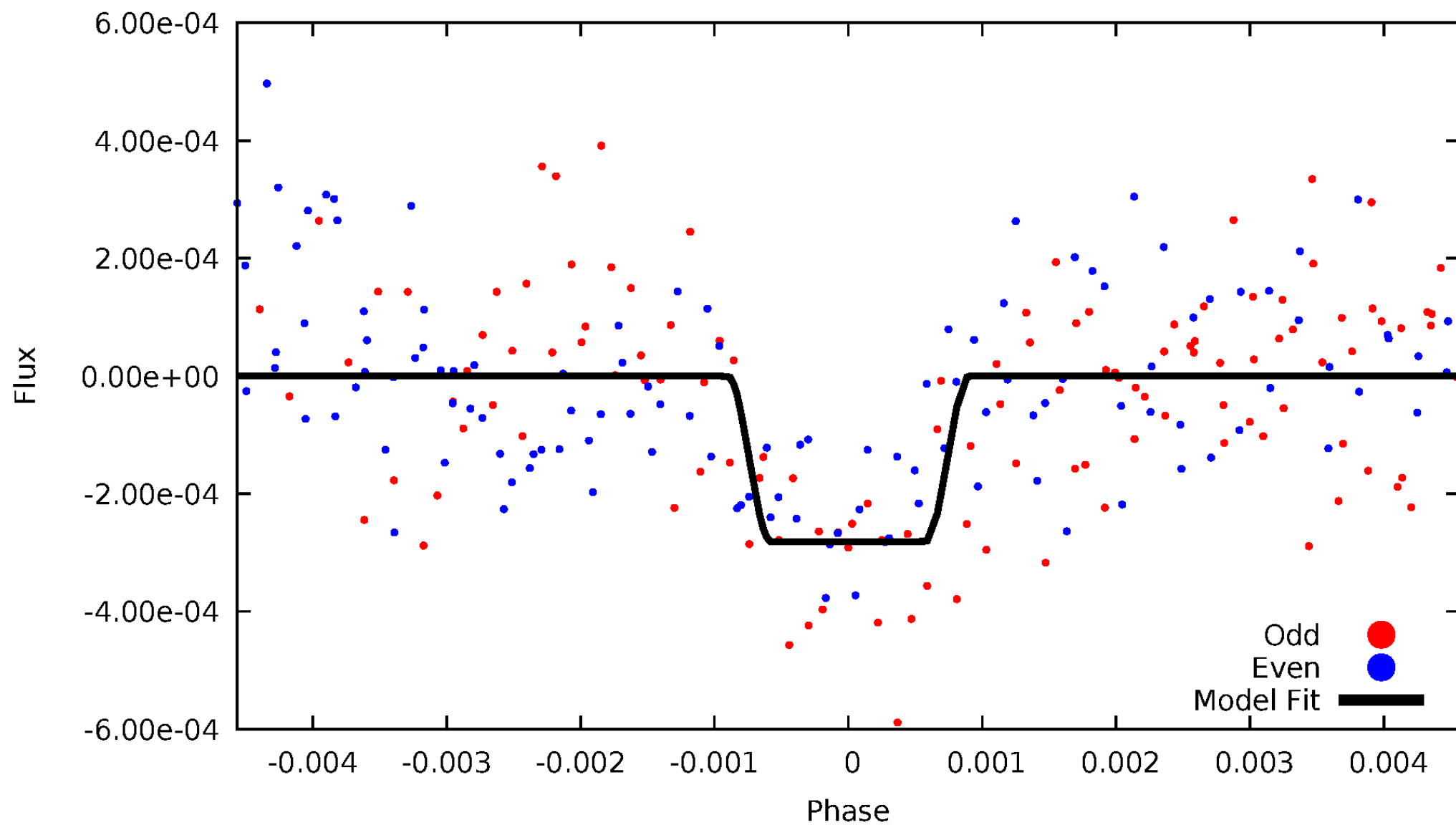
DV Odd/Even

TCE 002018261-06



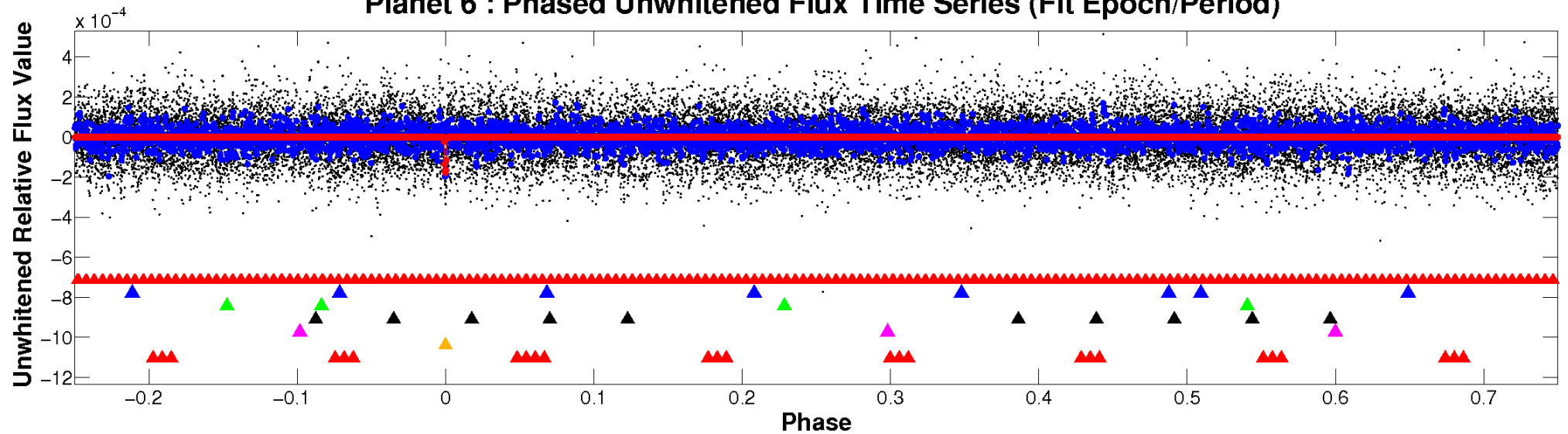
ALT Odd/Even

TCE 002018261-06

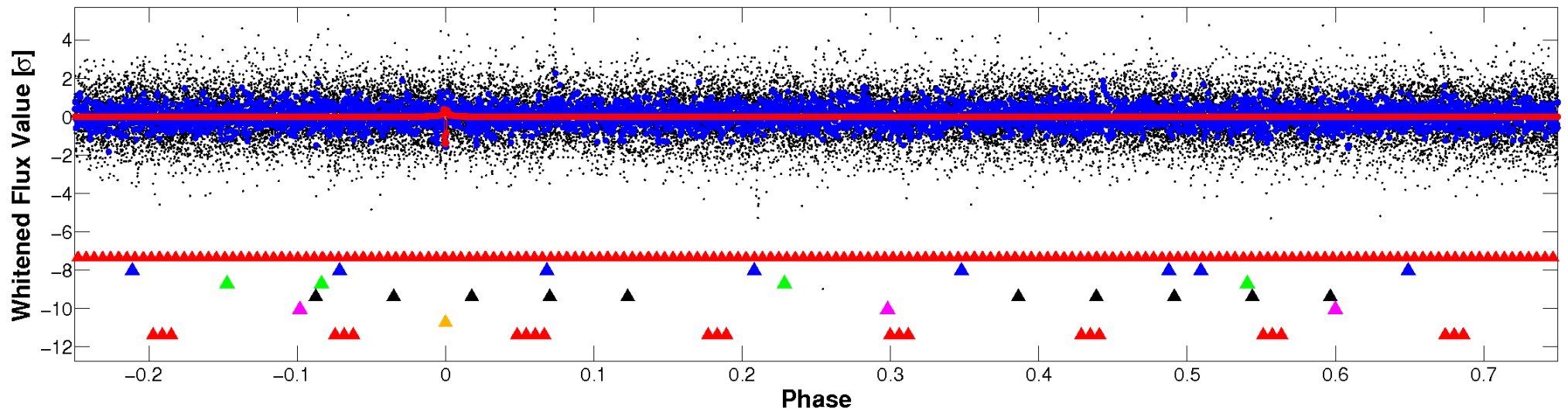


Non-Whitened Vs. Whitened Light Curve

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

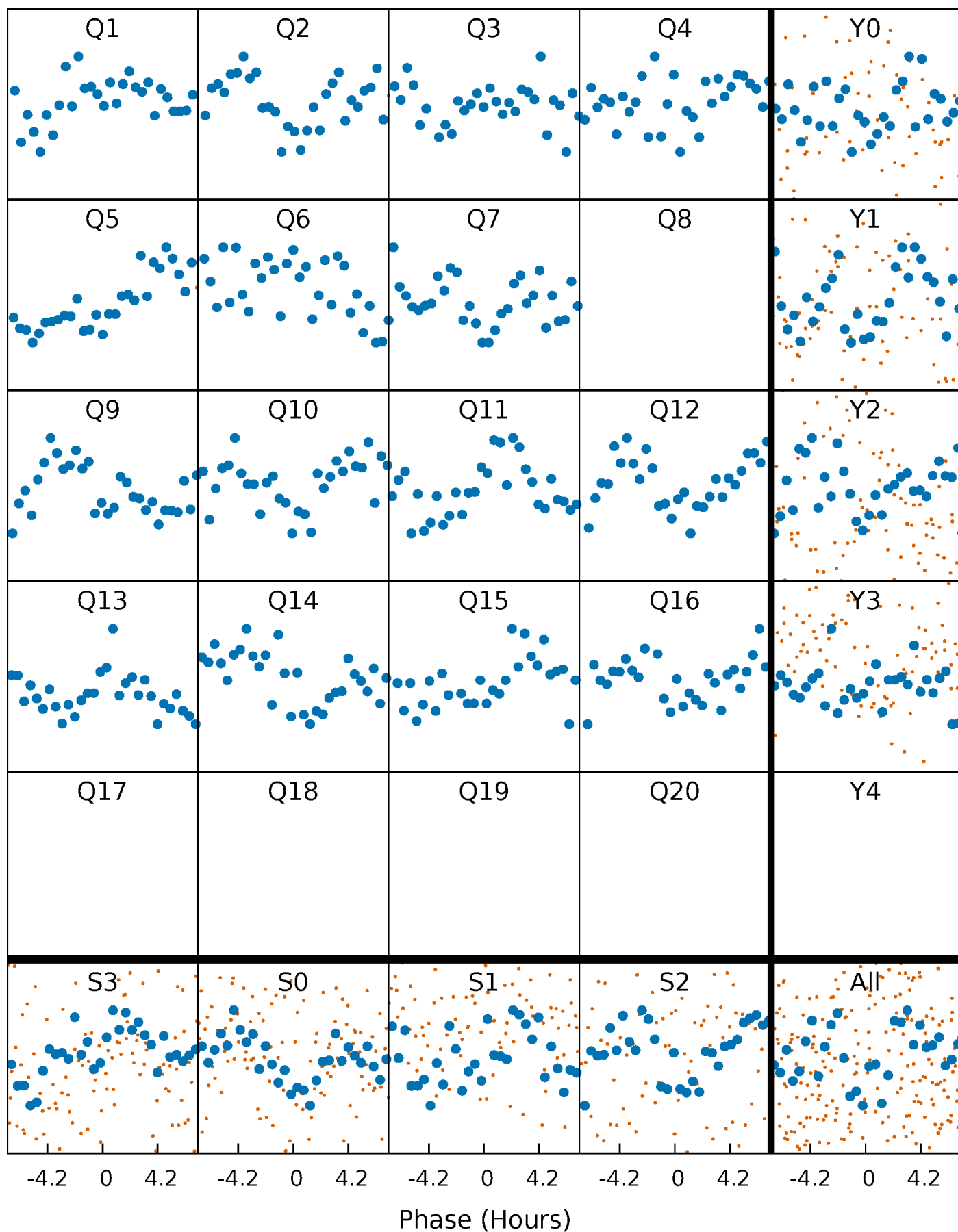


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



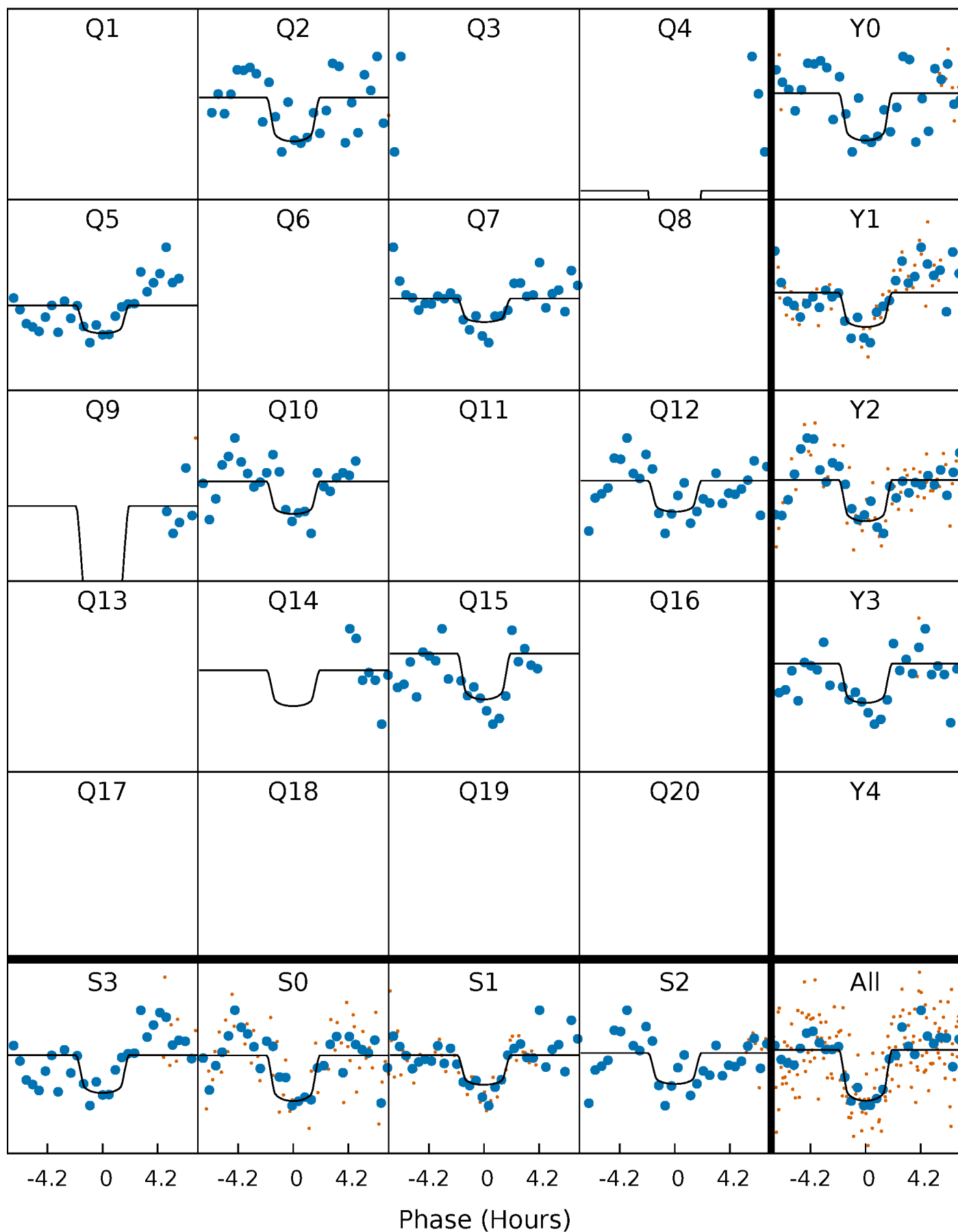
PDC Quarter-Phased Transit Curves

TCE 002018261-06 $P = 92.340346$ Days $T_0 = 157.835262$ (BKJD)



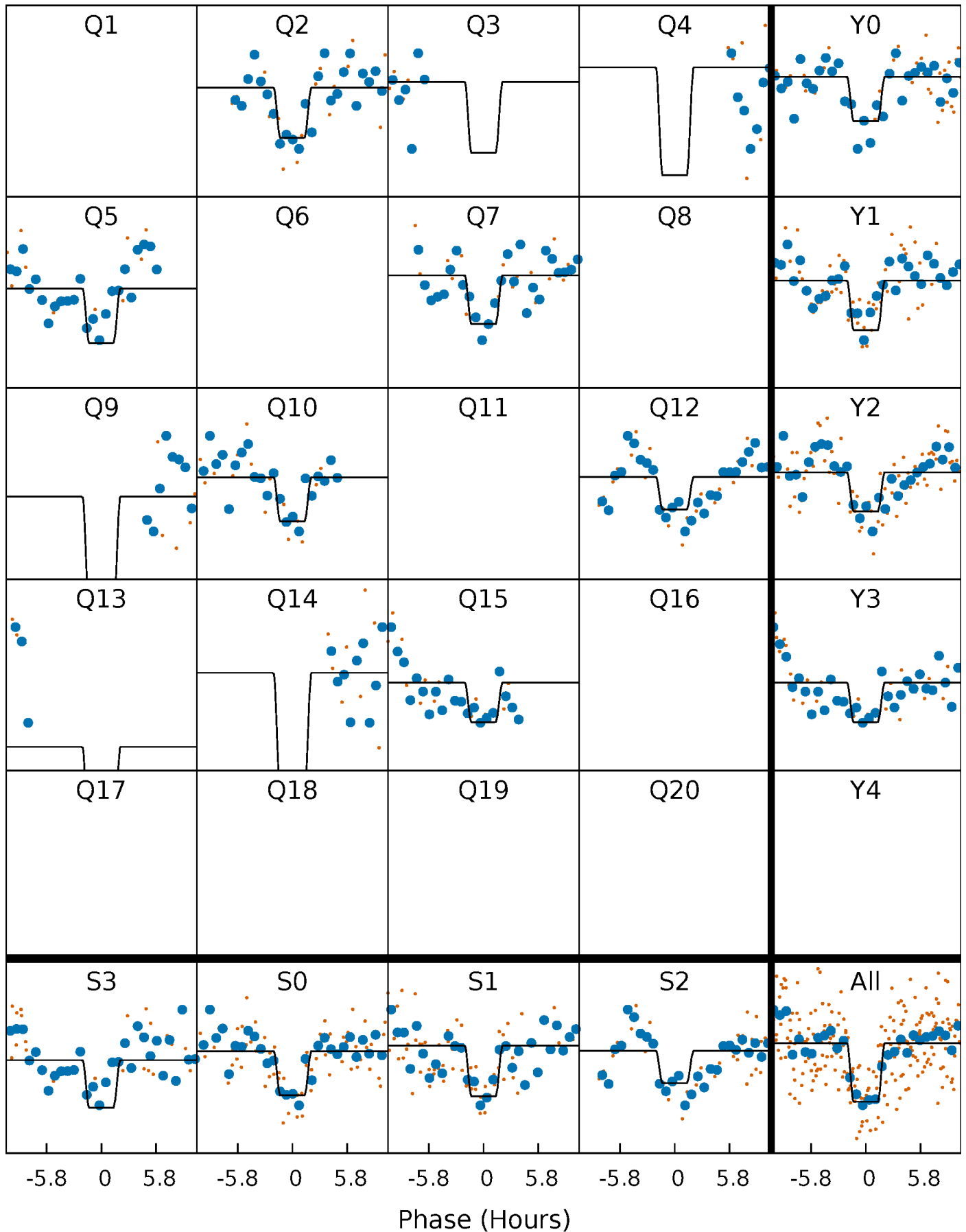
DV Quarter-Phased Transit Curves

TCE 002018261-06 P= 92.340346 Days $T_0=157.835262$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

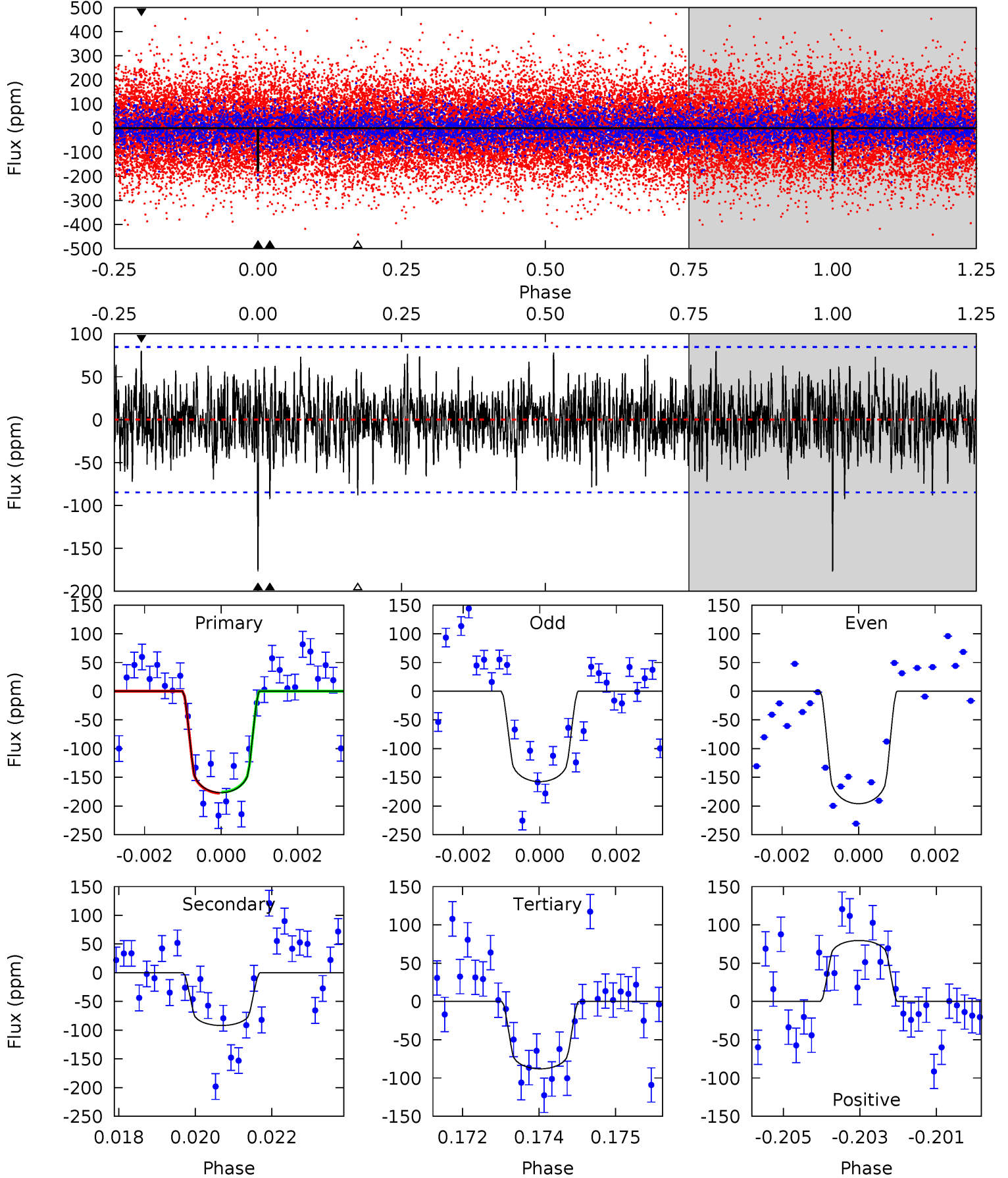
TCE 002018261-06 P= 92.341681 Days $T_0=157.830433$ (BKJD)



DV Model-Shift Uniqueness Test

002018261-06, P = 92.340346 Days, E = 65.494916 Days

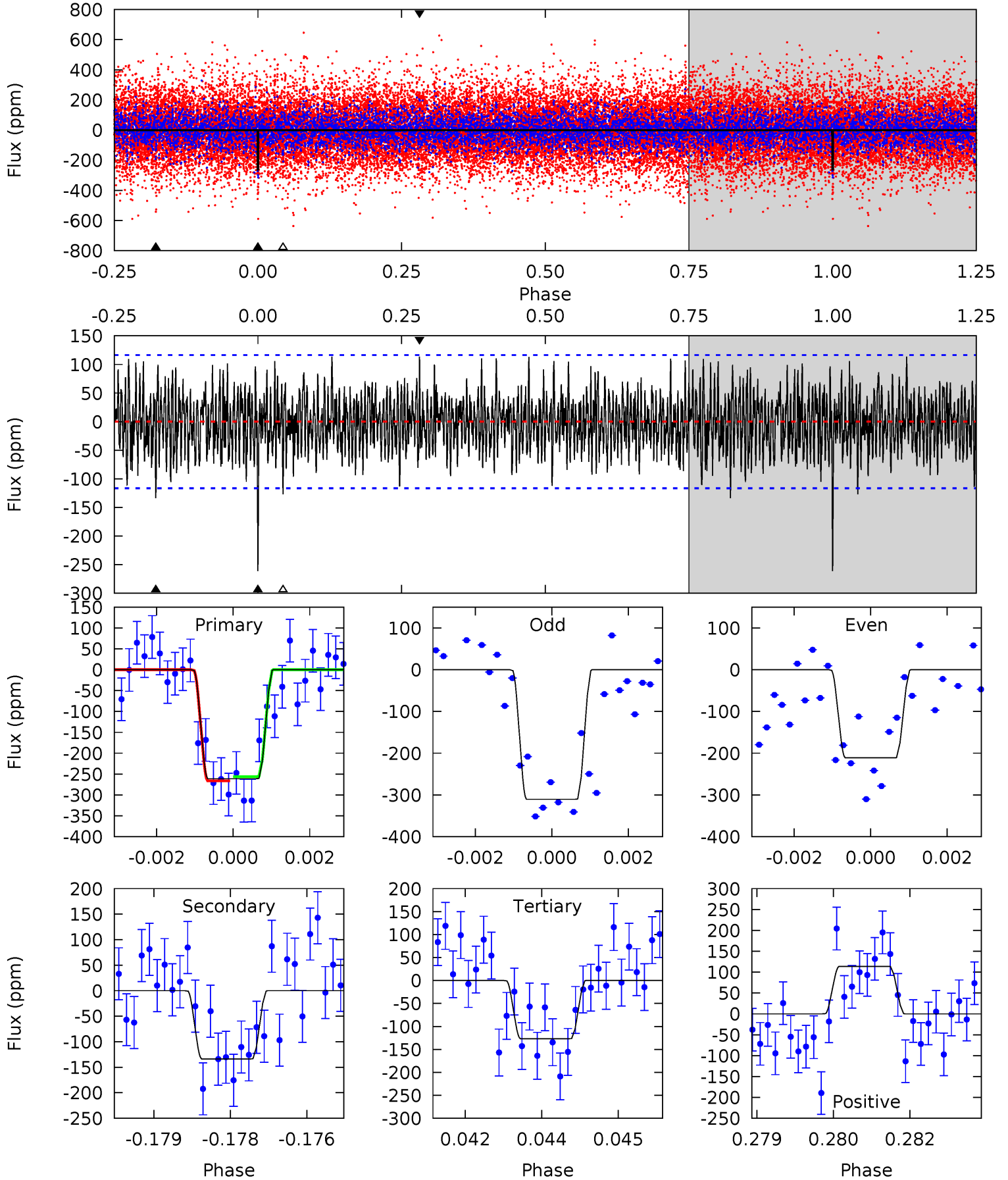
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	5.79	5.55	5.02	5.34	3.12	1.57	5.60	6.12	0.24	0.77	1.22	1.07	0.31	0.06



Alt Model-Shift Uniqueness Test

002018261-06, P = 92.341681 Days, E = 65.488752 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	6.15	5.83	5.24	5.35	3.13	1.87	6.18	6.78	0.32	0.91	2.28	1.00	0.30	0.23



Stellar Parameters For KIC 002018261

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7516^{+207}_{-337}	$3.800^{+0.360}_{-0.090}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.415}_{-1.244}$	$1.978^{+0.112}_{-0.506}$	$0.110^{+0.312}_{-0.031}$
	+3%/-4%	+9%/-2%	+1000%/-1750%	+14%/-42%	+6%/-26%	+283%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002018261-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-92 ± 16	$4.16^{+2.44}_{-2.19}$	1091^{+77}_{-111}	5997^{+3217}_{-1084}	700^{+2432}_{-431}
Alt.	-134 ± 22	$4.85^{+2.65}_{-2.39}$	1090^{+74}_{-120}	6102^{+2581}_{-1018}	777^{+1994}_{-455}

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 $A_{obs} \gg 1.0$

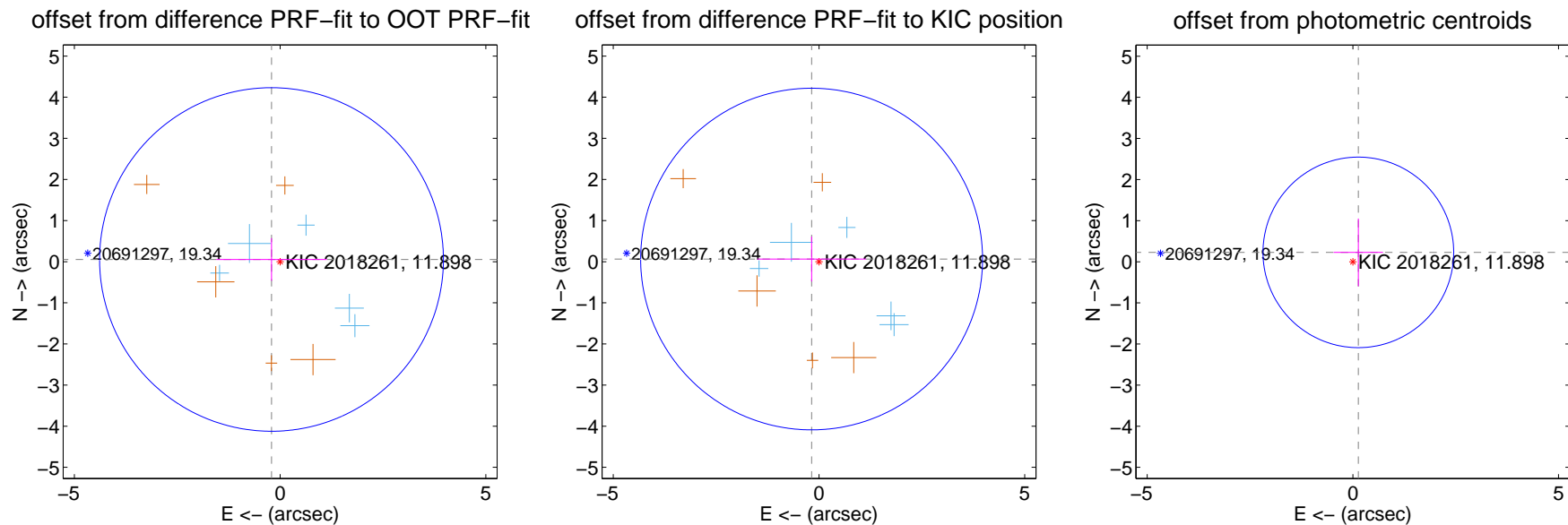
DV Centroid Data

Supplemental centroid analysis for 002018261-06. **Kepler magnitude: 11.90.** Transit SNR 8.54

There are 5 quarters with good PRF difference image offsets

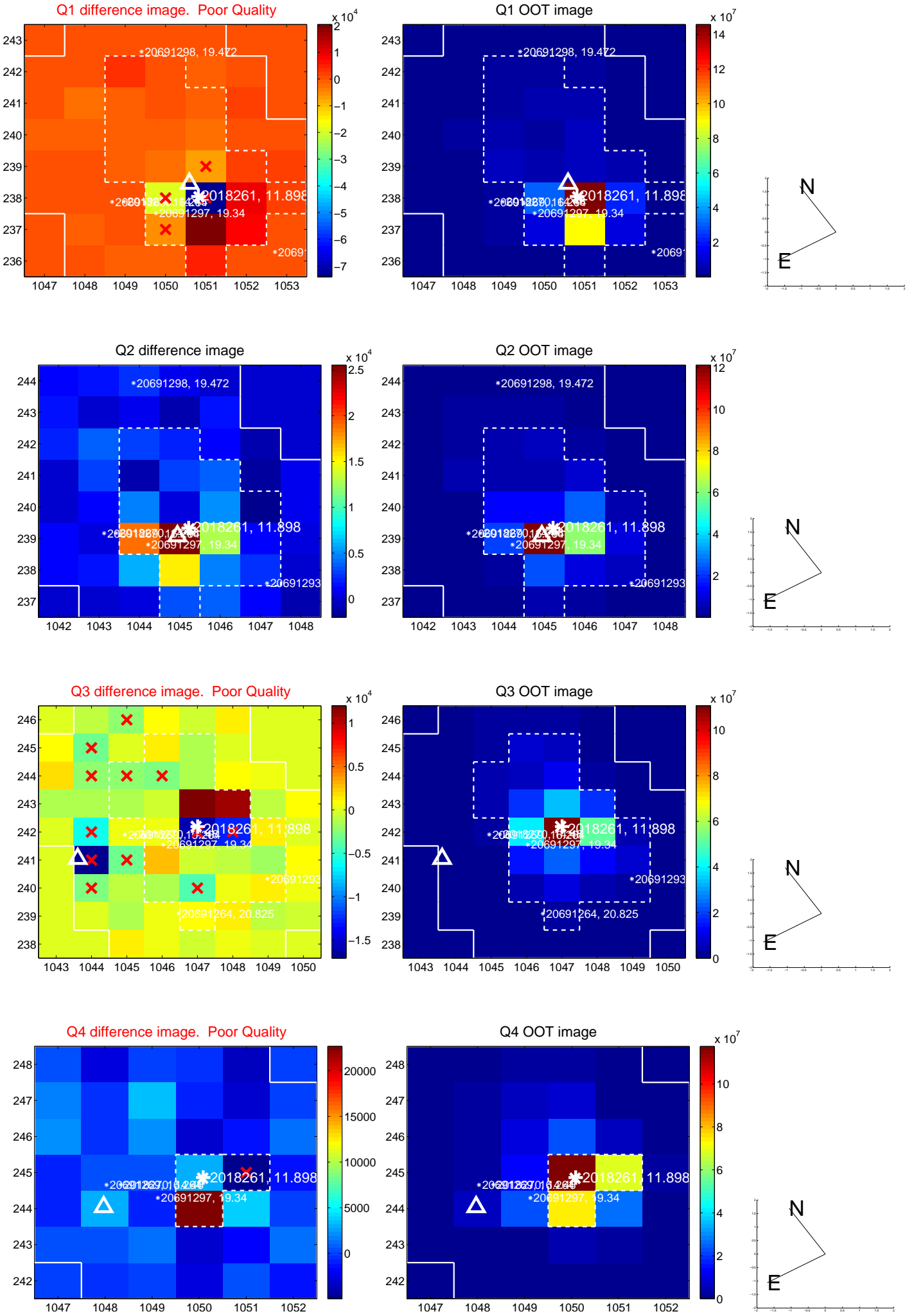
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.216 ± 1.393	0.16	0.209 ± 1.344	0.054 ± 0.519
PRF-fit source offset from KIC position	0.191 ± 1.385	0.14	0.179 ± 1.321	0.064 ± 0.546
photometric centroid source offset	0.26 ± 0.77	0.34	-0.13 ± 0.60	0.23 ± 0.82

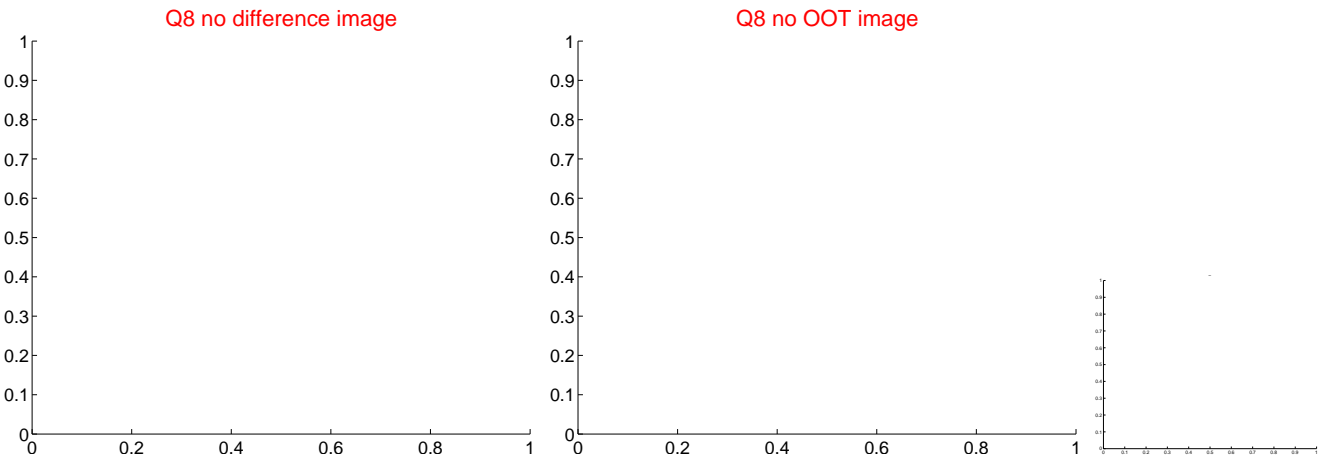
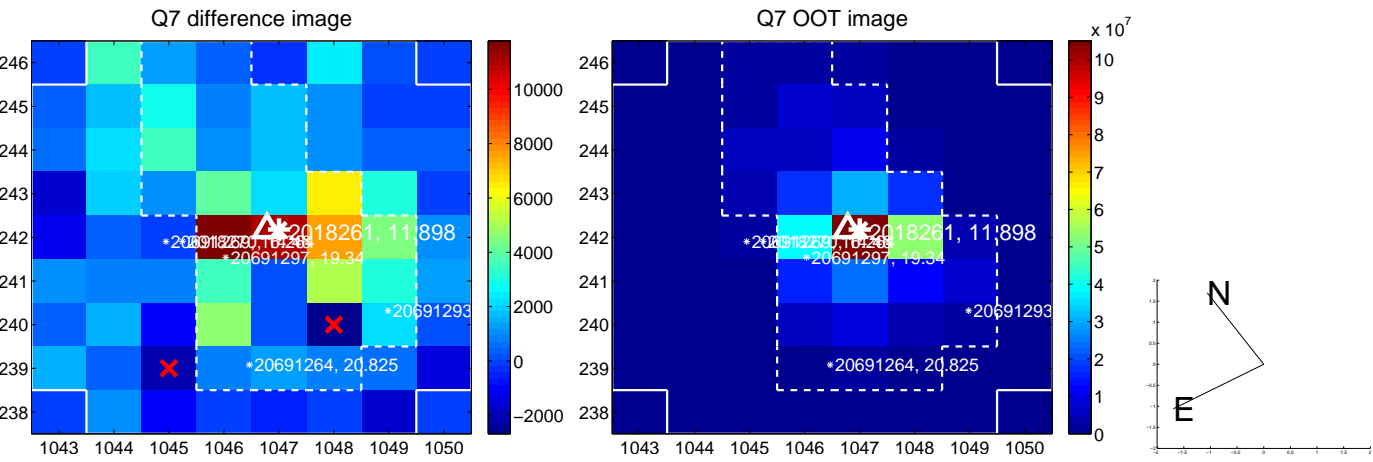
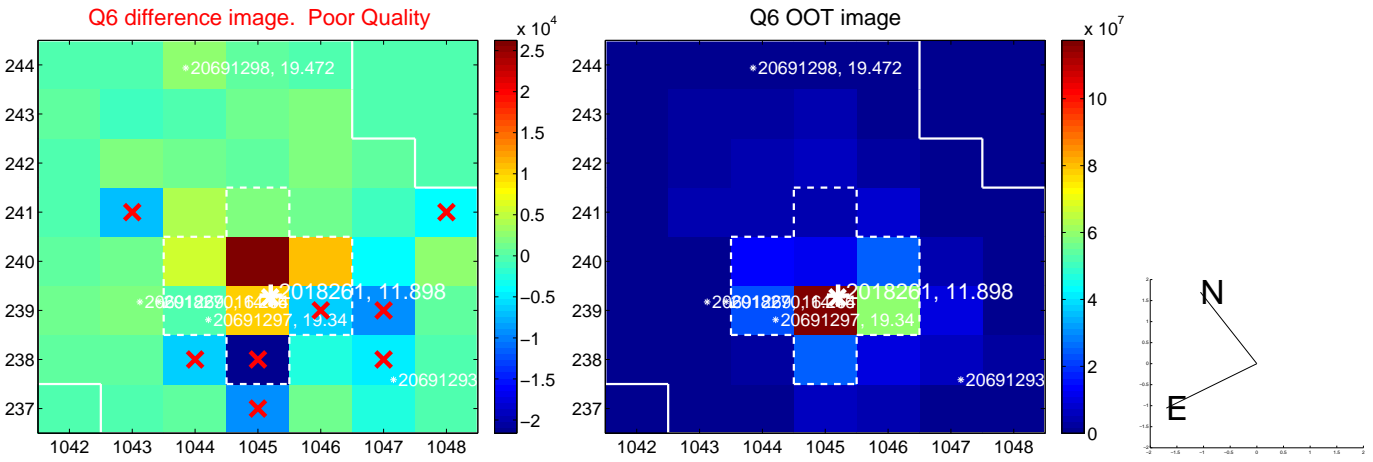
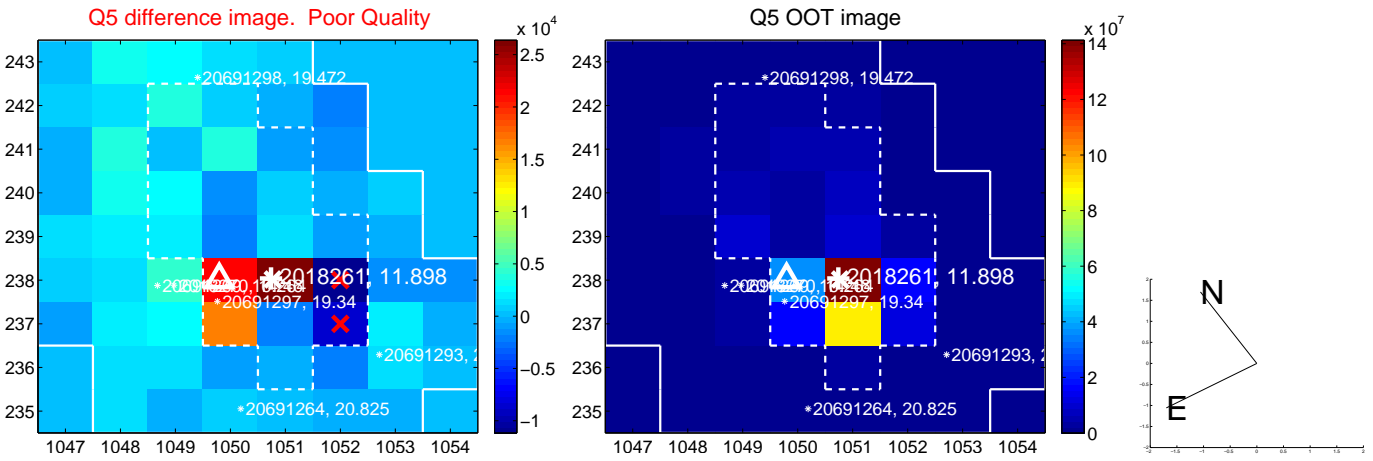


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

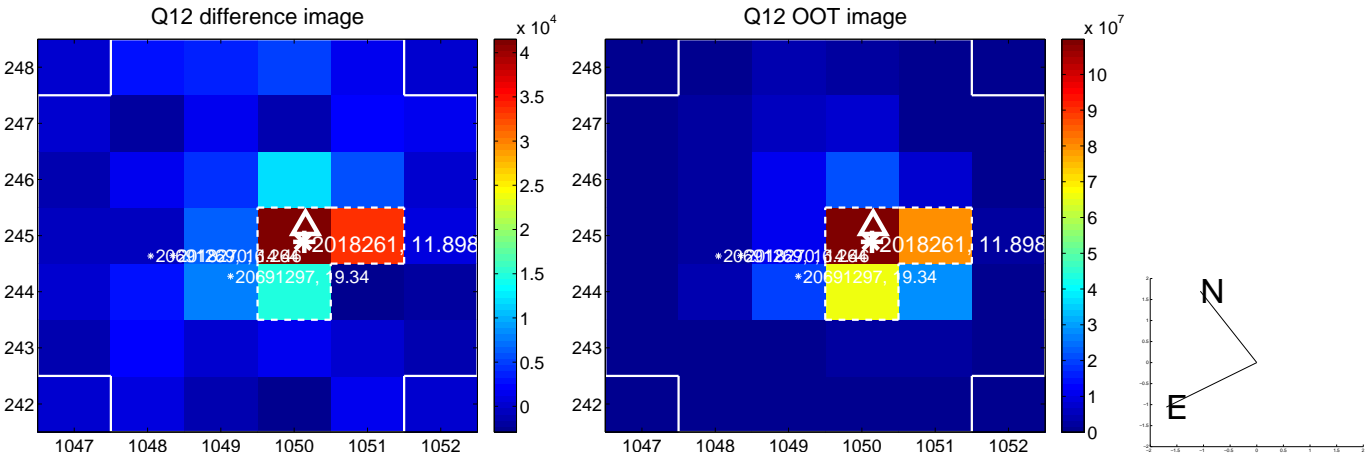
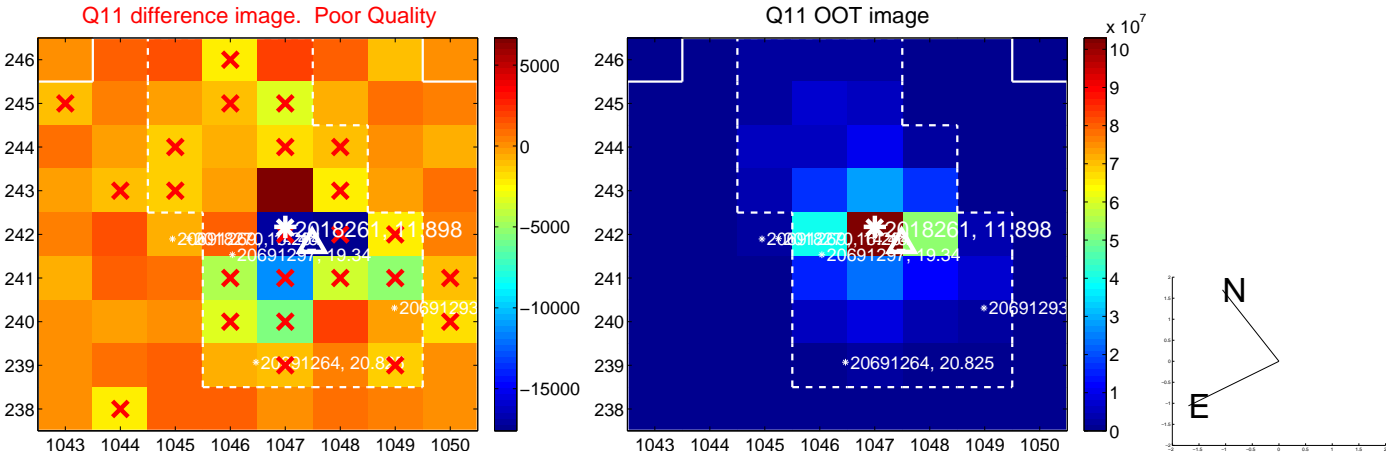
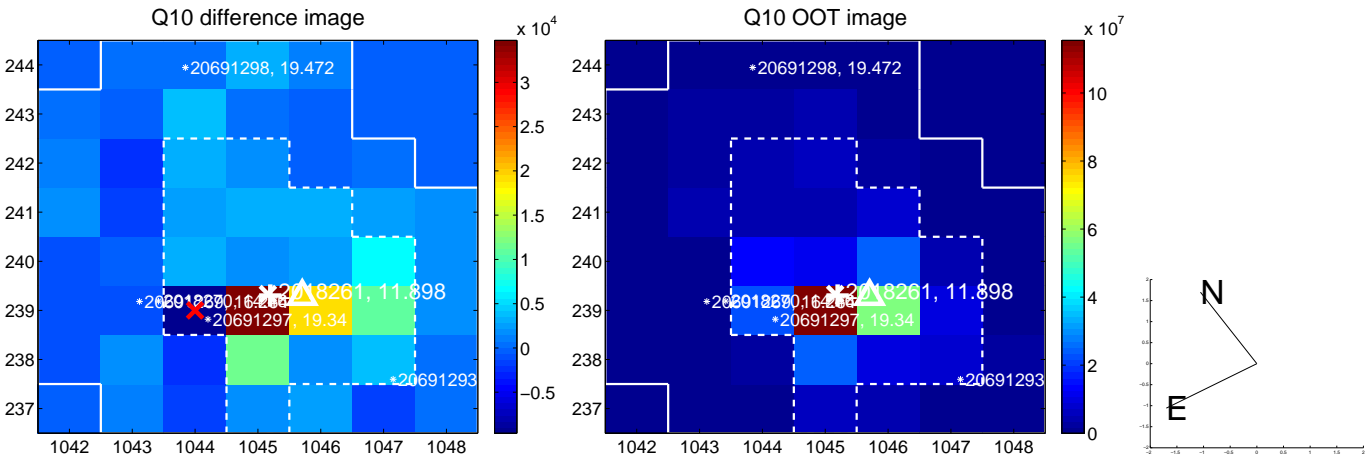
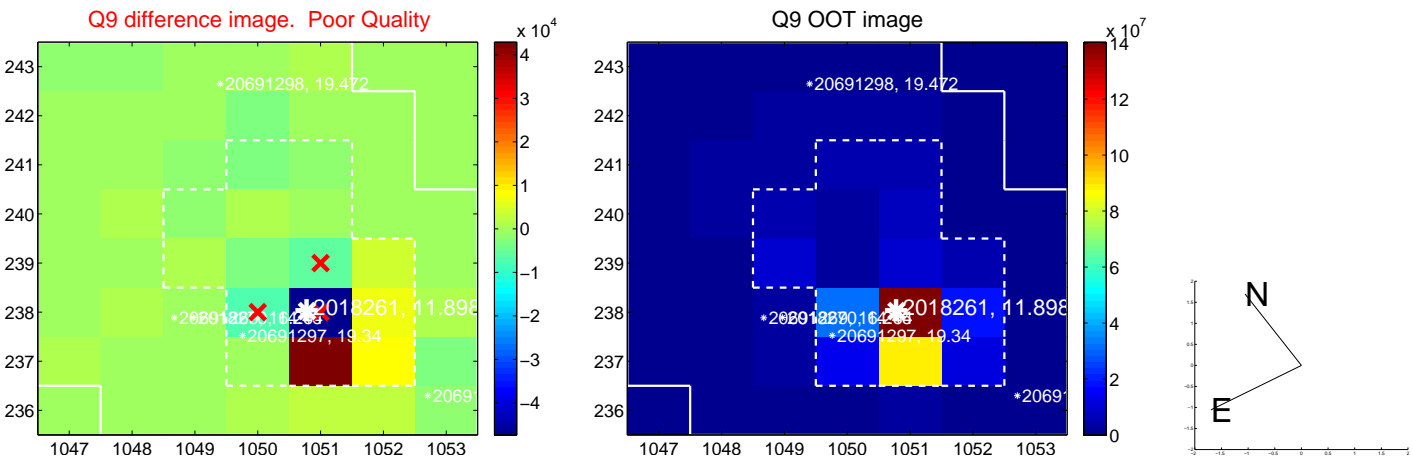
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



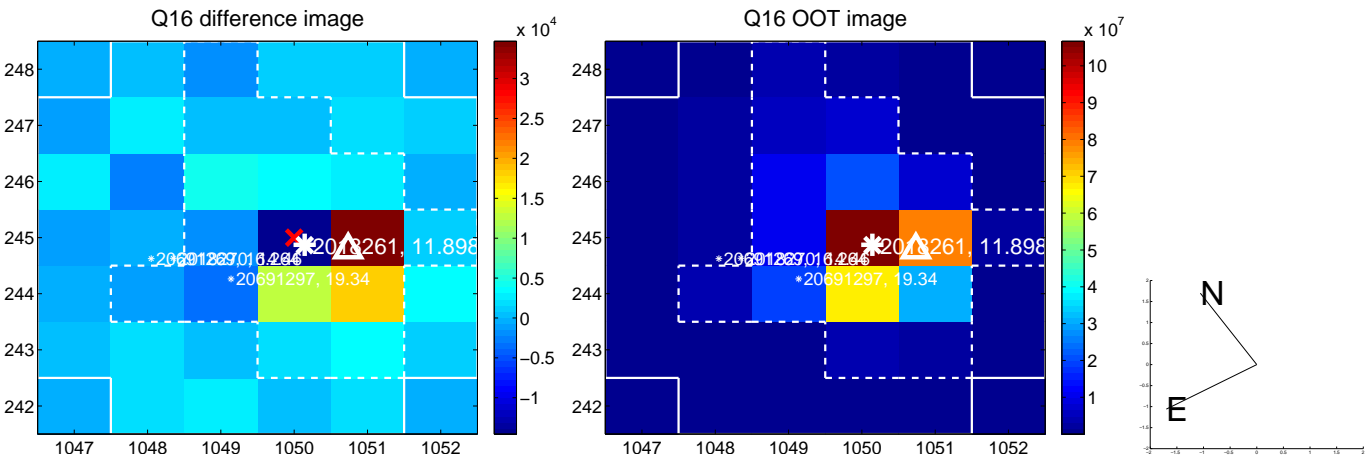
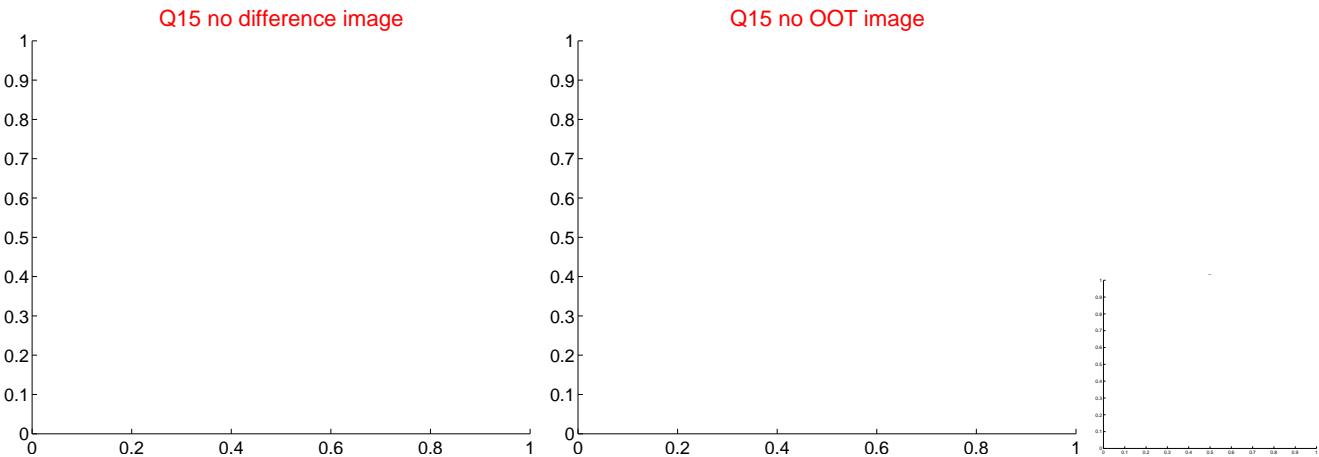
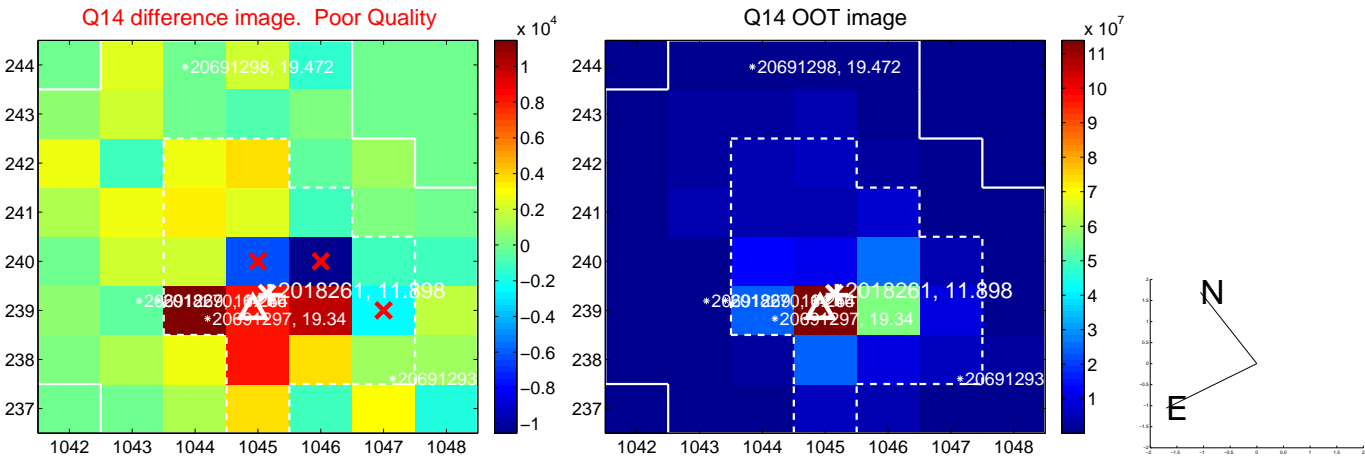
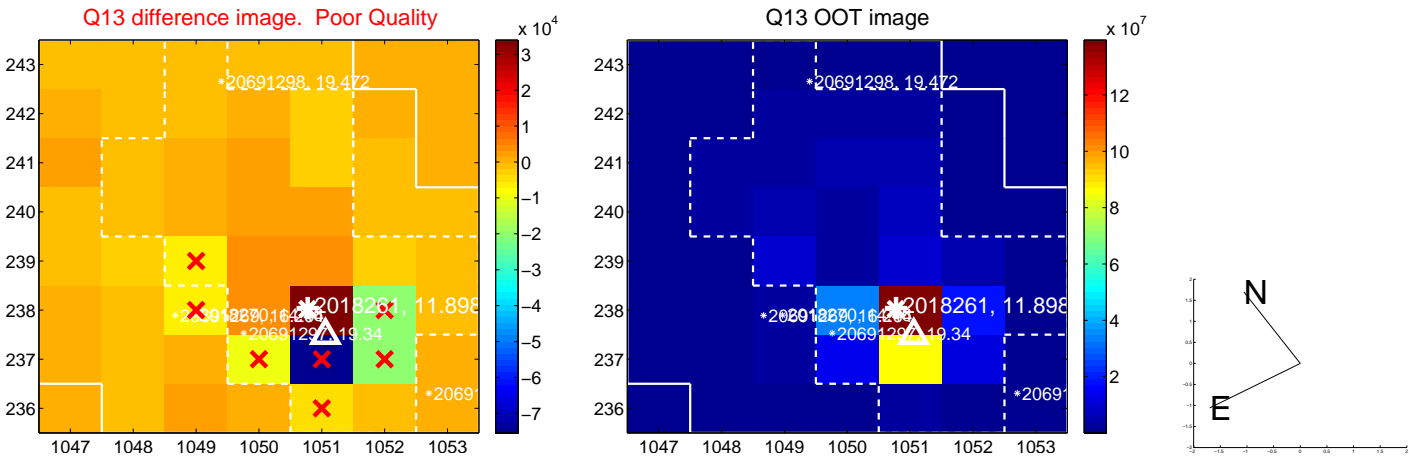
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



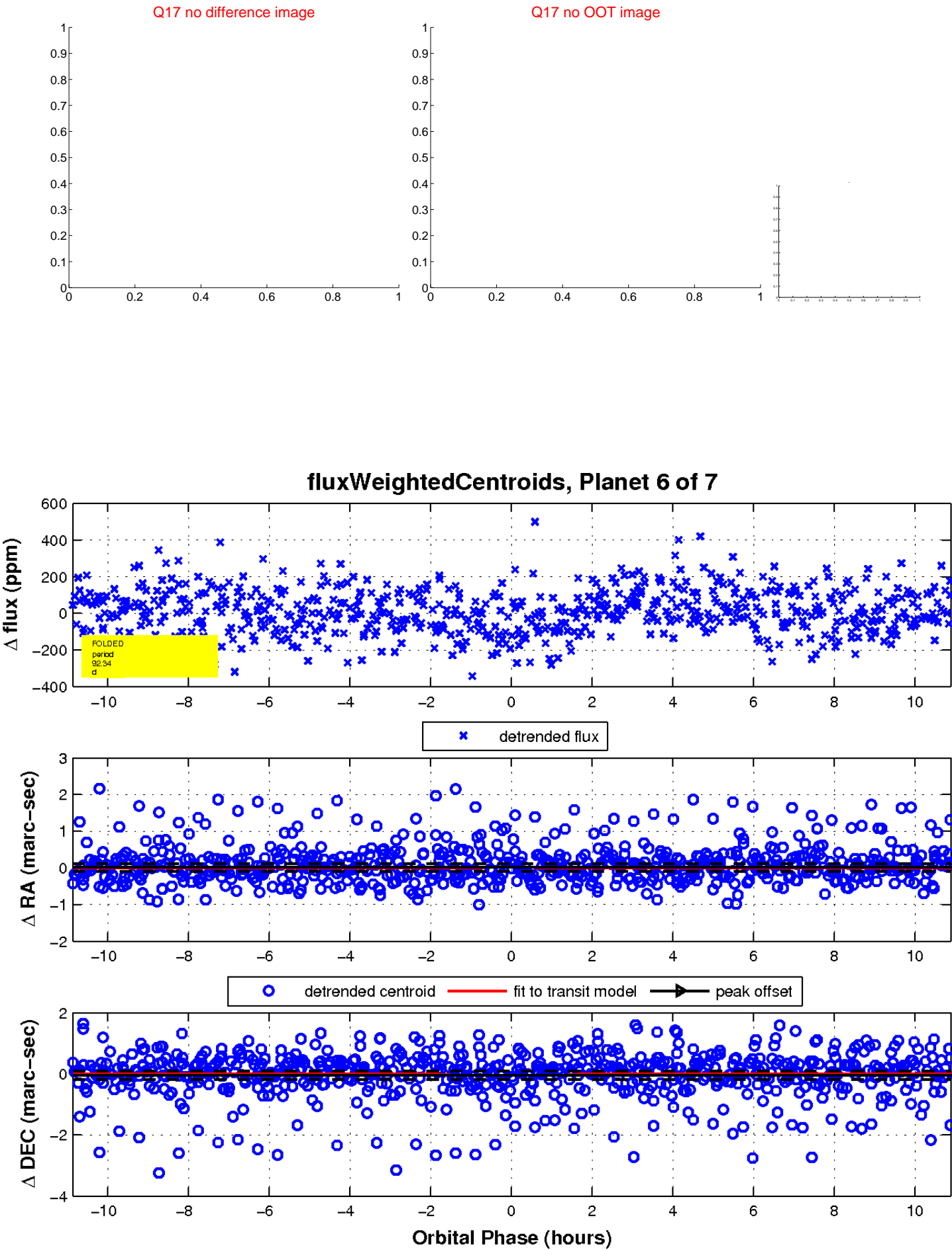
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

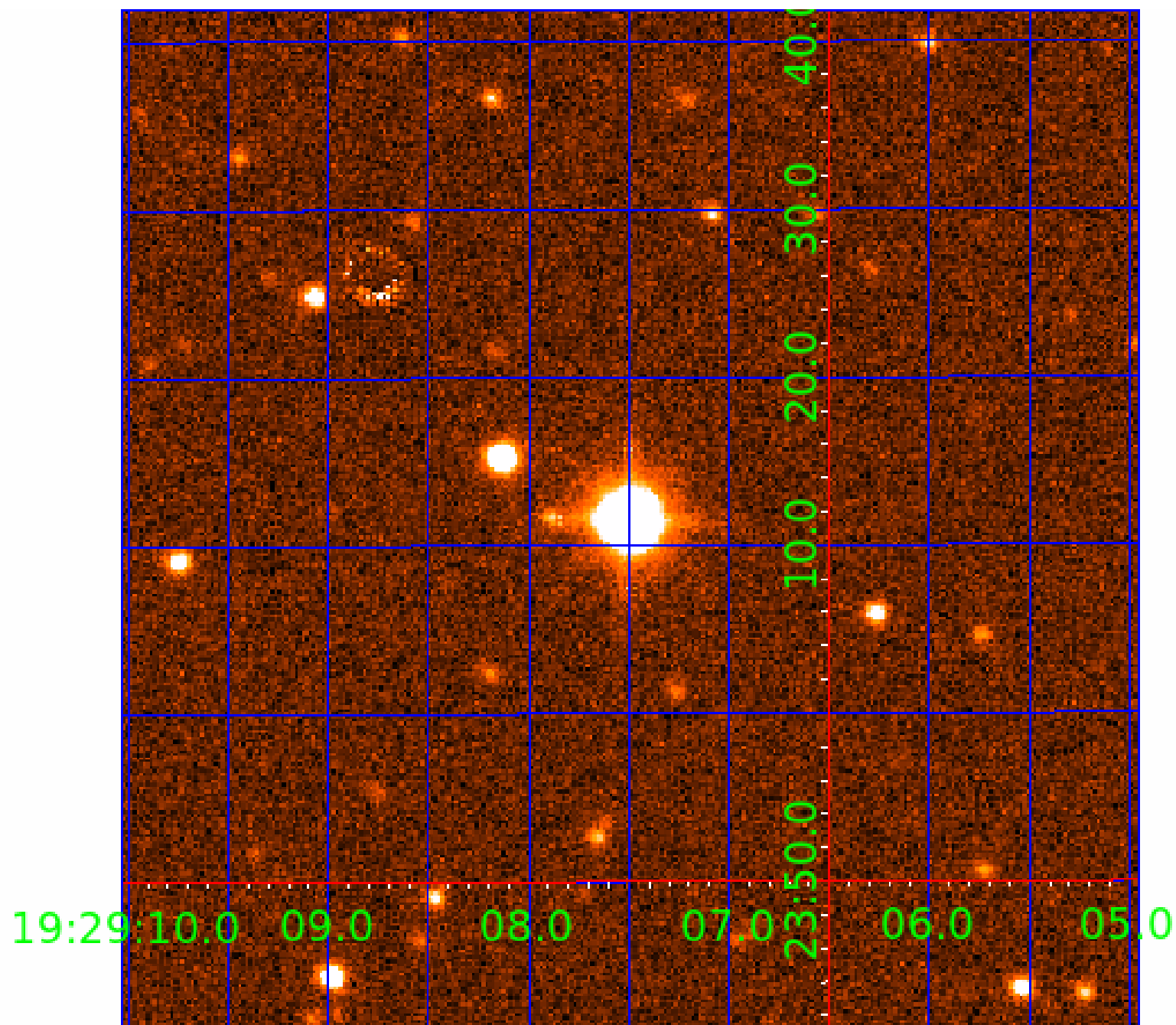


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002018261

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})
002018261-01	OBS	No	2.536659	132.465297	18.4	11.775	9.8	8.5	2.94	7516	1.32	11773.28
002018261-02	OBS	No	171.774563	295.208989	260.4	1.025	21.2	5.2	2.94	7516	5.39	42.66
002018261-03	OBS	No	398.179919	242.460360	299.3	4.949	16.0	9.7	2.94	7516	5.67	13.90
002018261-04	OBS	No	140.937995	193.502931	228.1	3.954	8.9	7.9	2.94	7516	4.92	55.53
002018261-05	OBS	No	489.575661	277.705143	243.7	22.343	7.9	7.2	2.94	7516	5.08	10.56
002018261-06	OBS	No	92.340346	157.835262	177.7	3.637	8.0	8.5	2.94	7516	4.48	97.59
002018261-07	OBS	No	57.783258	162.296036	65.8	7.751	7.4	5.2	2.94	7516	2.60	182.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002018261-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002018261-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_MEAS
002018261-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002018261-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002018261-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002018261-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT
002018261-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

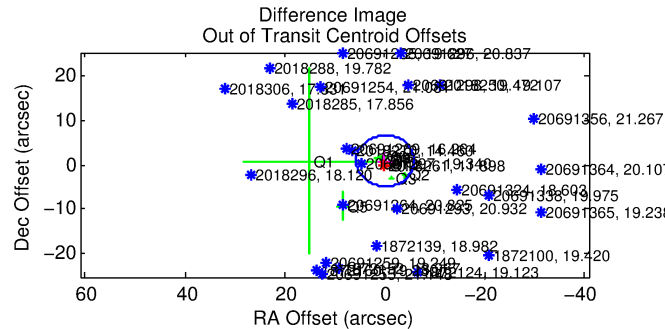
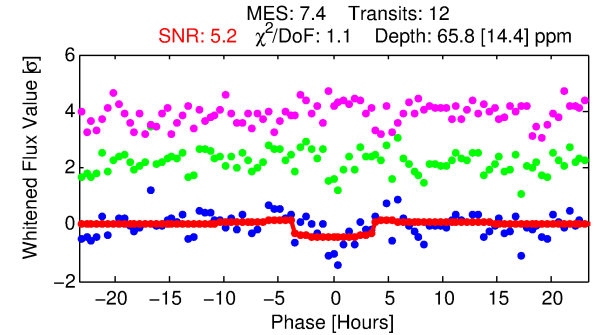
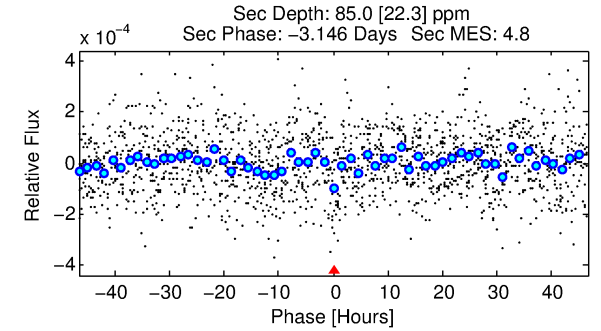
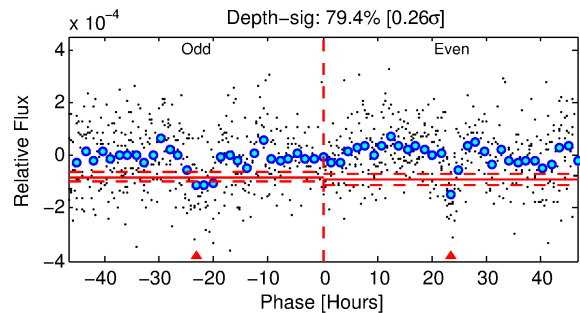
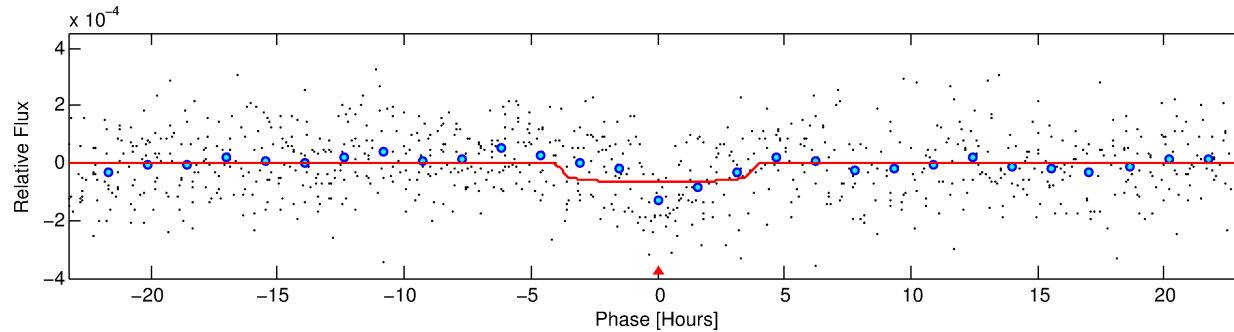
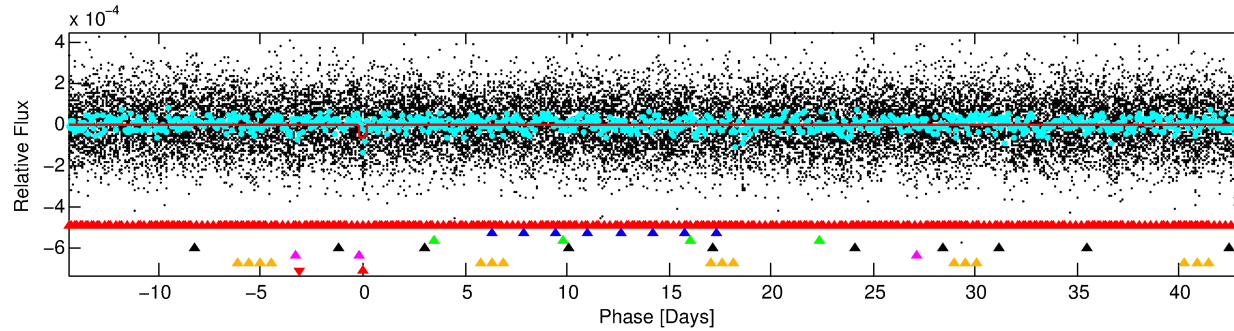
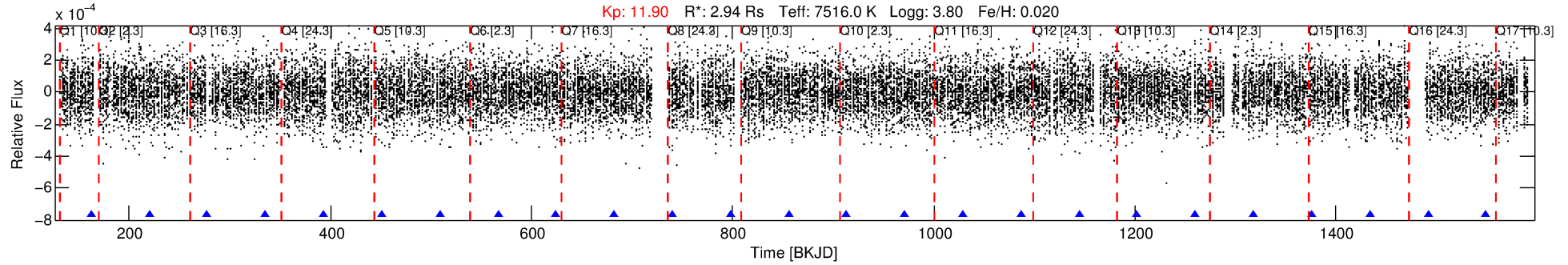
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002018261-07

No Significant Match Found

DV One-Page Summary

KIC: 2018261 Candidate: 7 of 7 Period: 57.783 d



DV Fit Results:

Period = 57.78326 [0.00136] d
Epoch = 162.2960 [0.0209] BKJD
Rp/R* = 0.0081 [0.0043]
a/R* = 36.59 [116.49]
b = 0.78 [1.64]
Seff = 182.32 [117.79]
Teq = 937 [151] K
Rp = 2.60 [1.76] Re
a = 0.3675 [0.1453] AU
Ag = 931.70 [1165.65] [0.80 σ]
Teffp = 8004 [2203] K [3.20 σ]

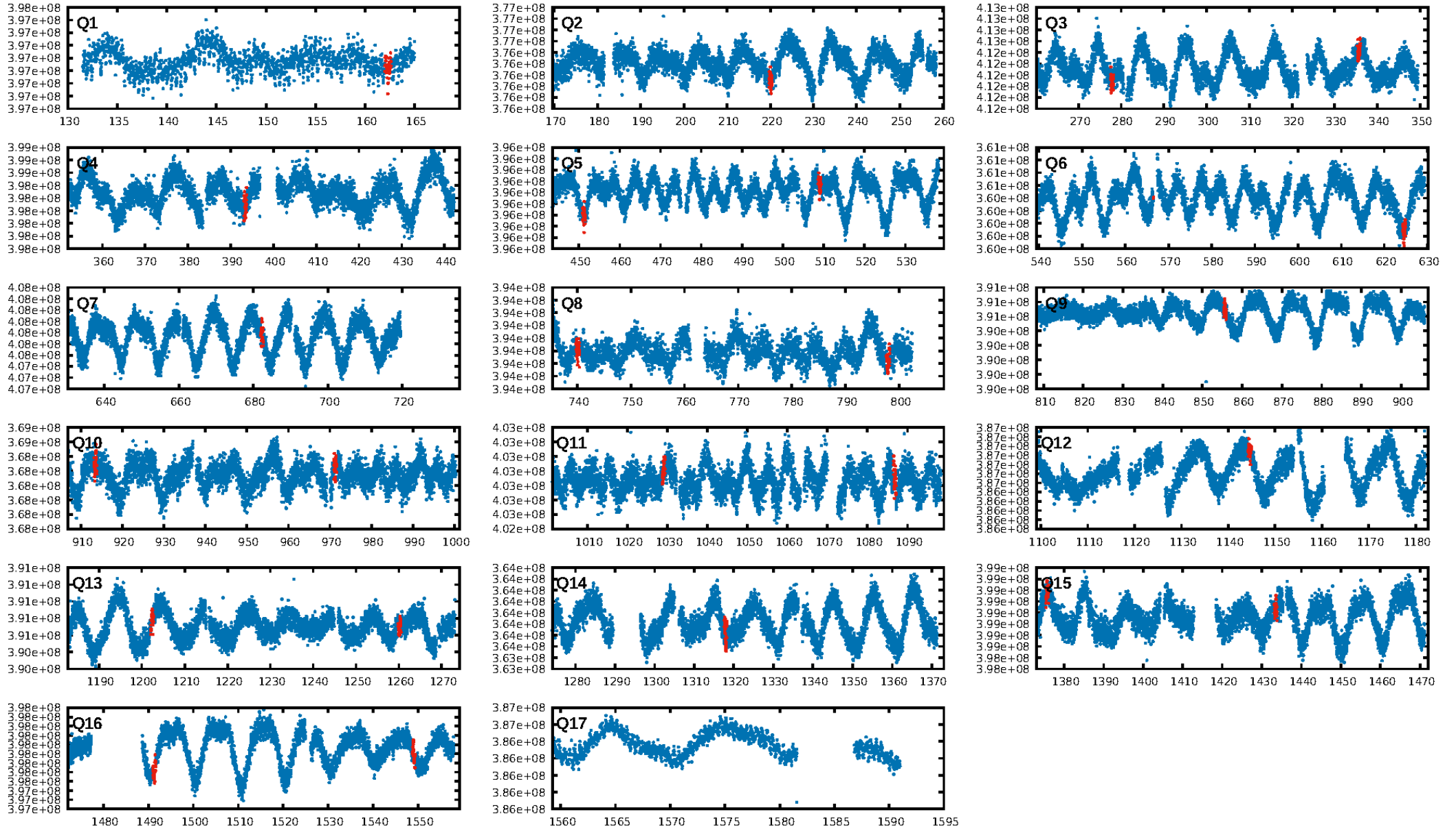
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [94.06 σ]
LongPeriod-sig: 100.0% [96.86 σ]
ModelChiSquare2-sig: 4.0%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 3.45e-08
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 0.03854
Centroid-sig: 11.8%
Centroid-so: 1.384 arcsec [1.51 σ]
OotOffset-rm: 0.848 arcsec [0.44 σ]
KicOffset-rm: 0.887 arcsec [0.46 σ]
OotOffset-st: 4/3/1/3 [11]
KicOffset-st: 4/3/1/3 [11]
DiffImageQuality-fgm: 0.27 [3/11]
DiffImageOverlap-fno: 0.38 [6/16]

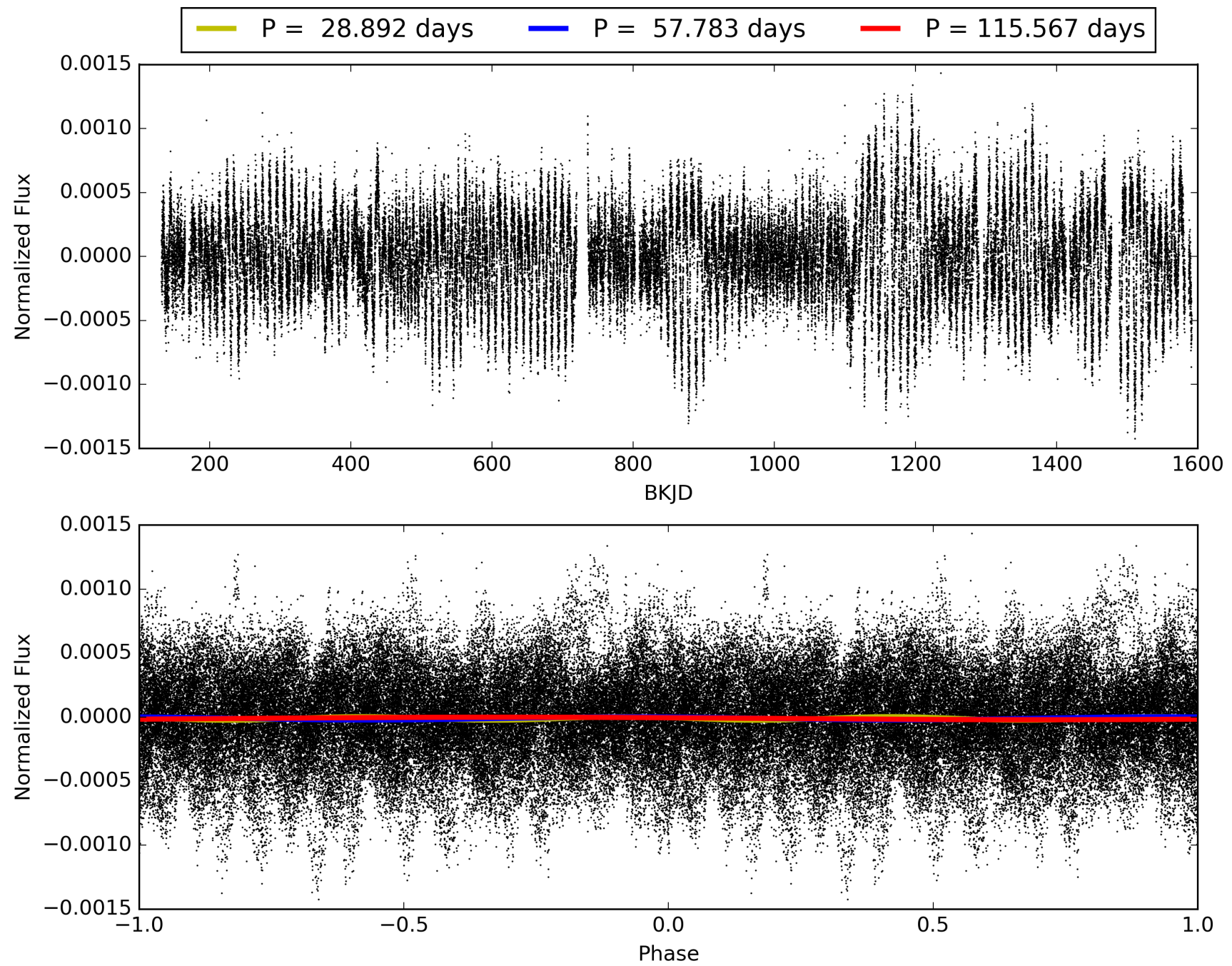
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:07:27 Z

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

TCE 002018261-07, PDC Light Curves

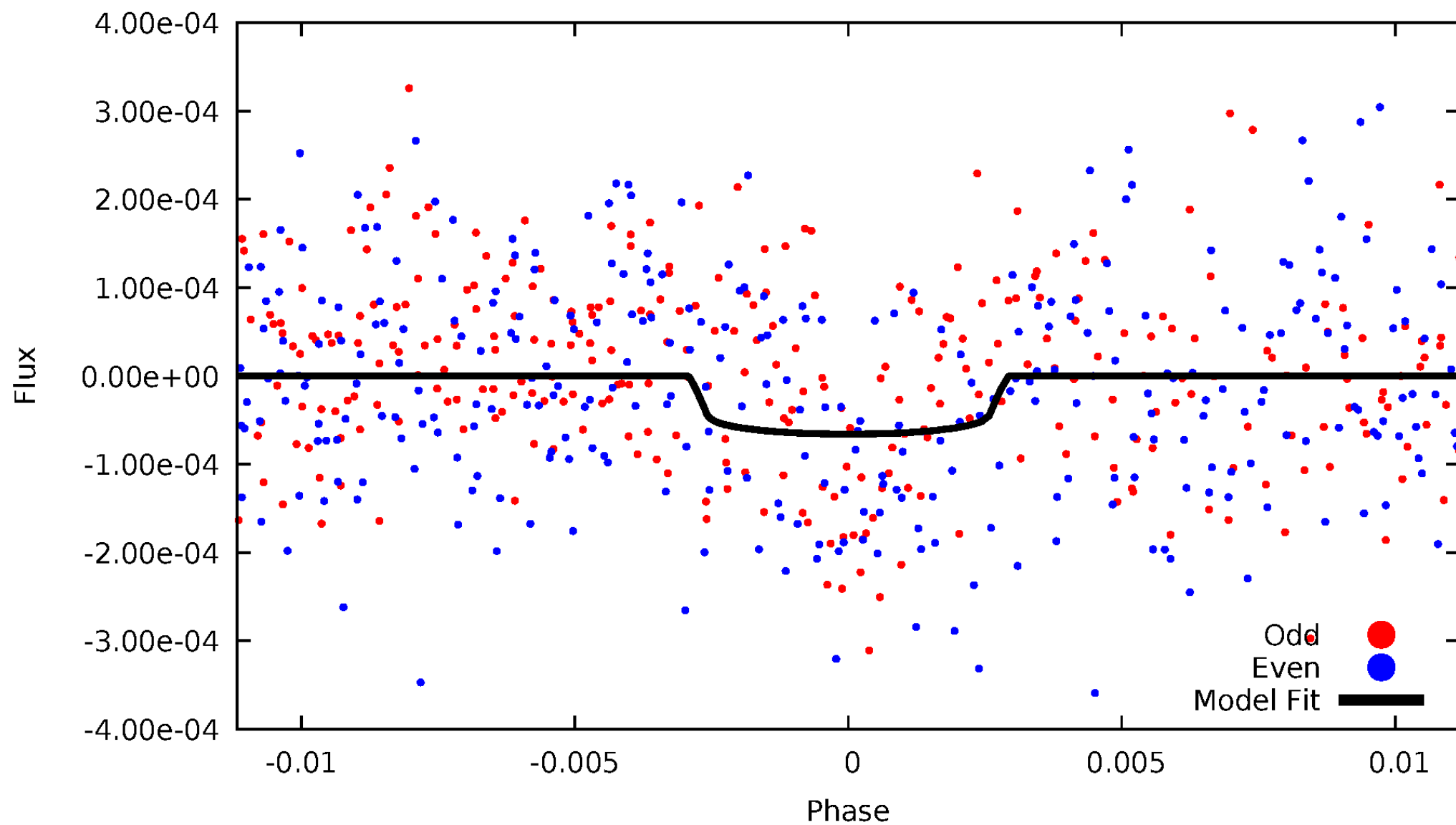


TCE 002018261-07



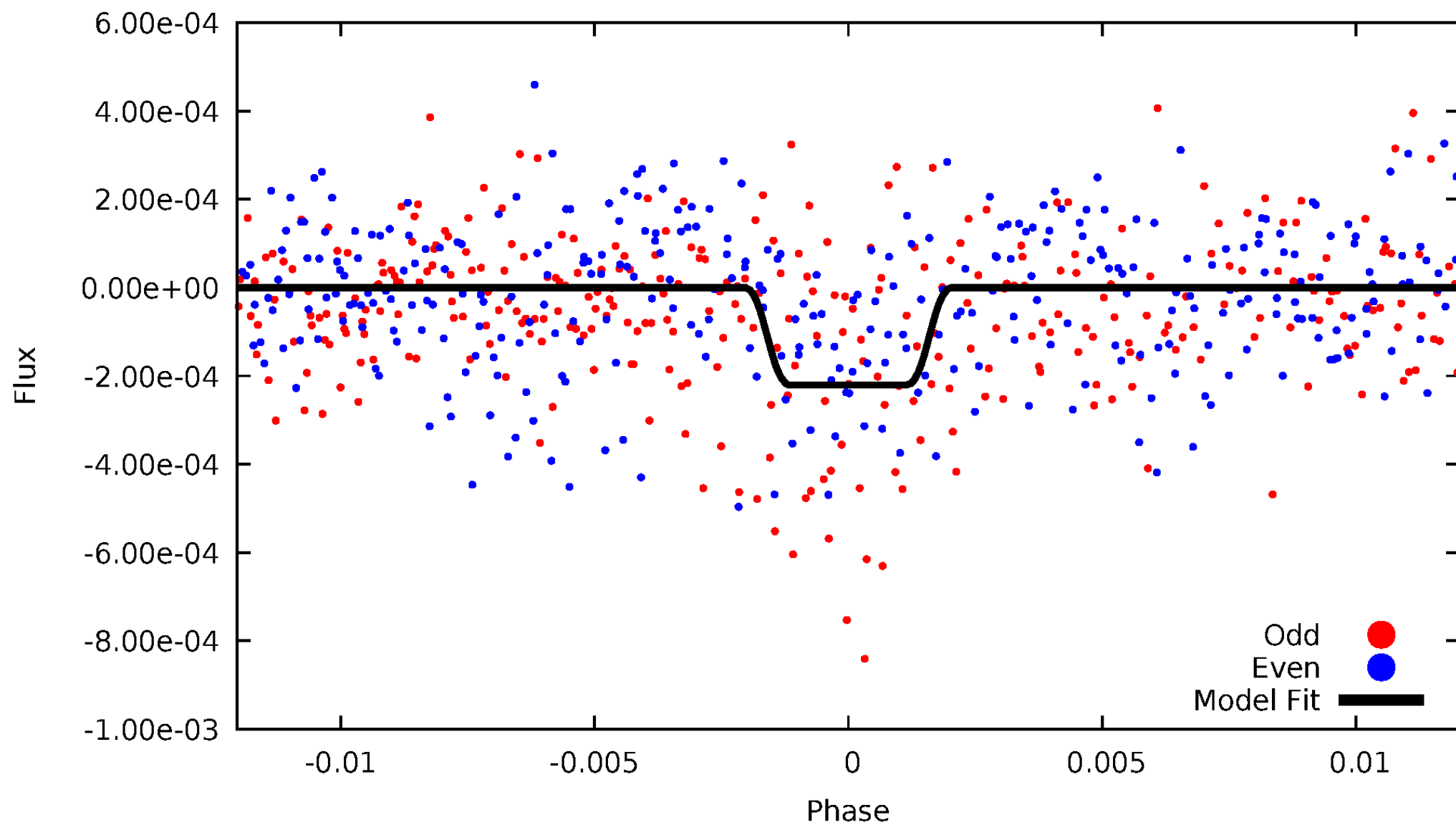
DV Odd/Even

TCE 002018261-07

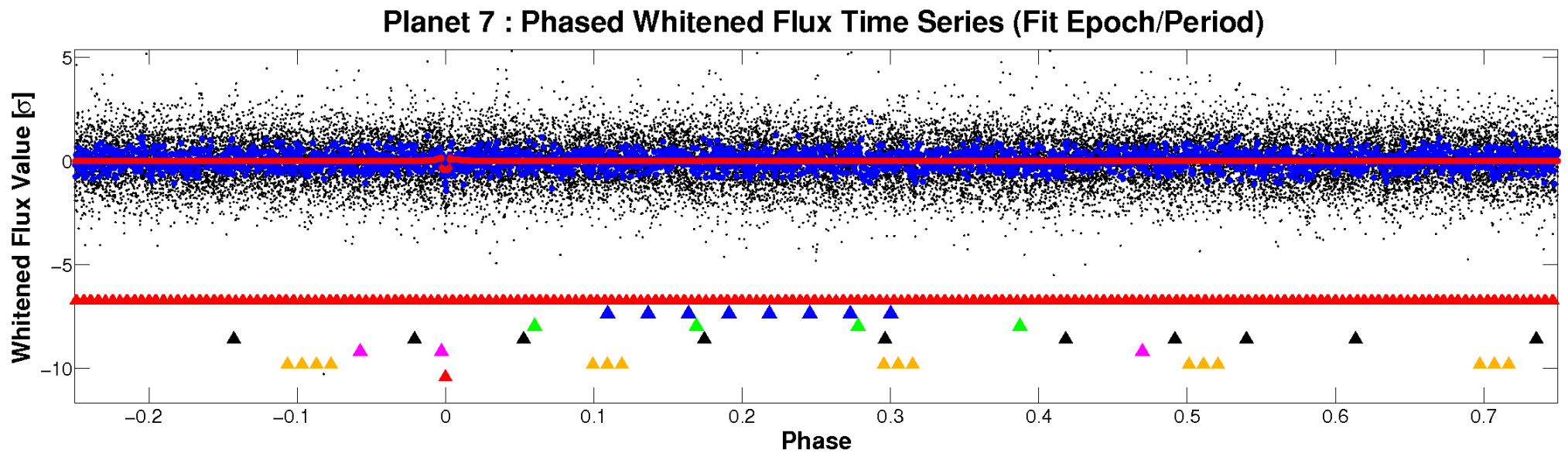
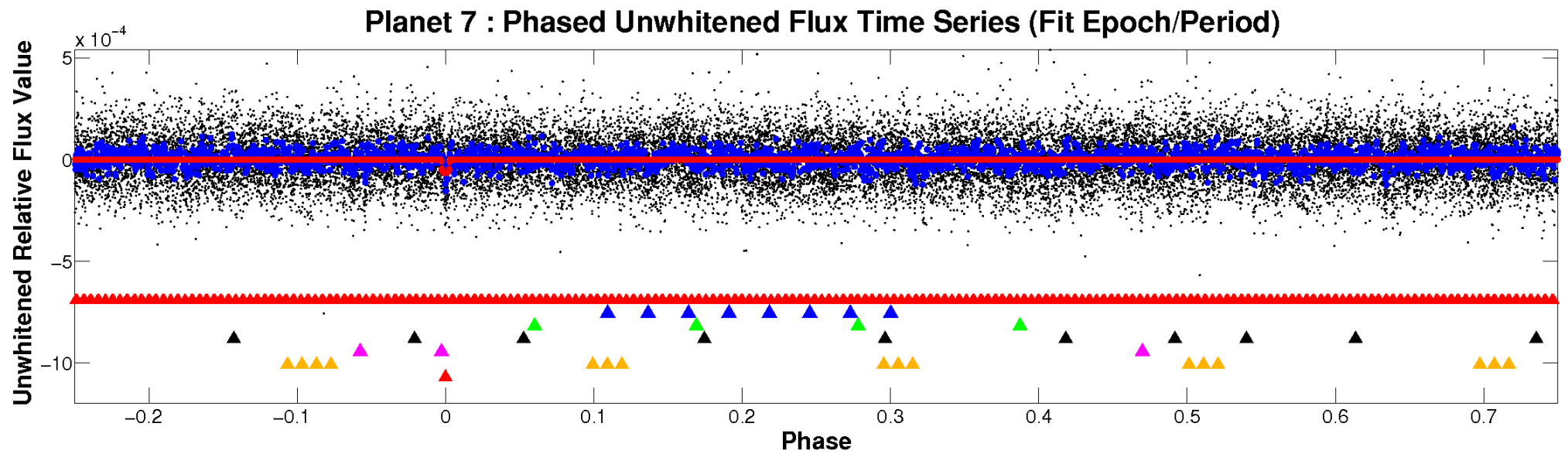


ALT Odd/Even

TCE 002018261-07

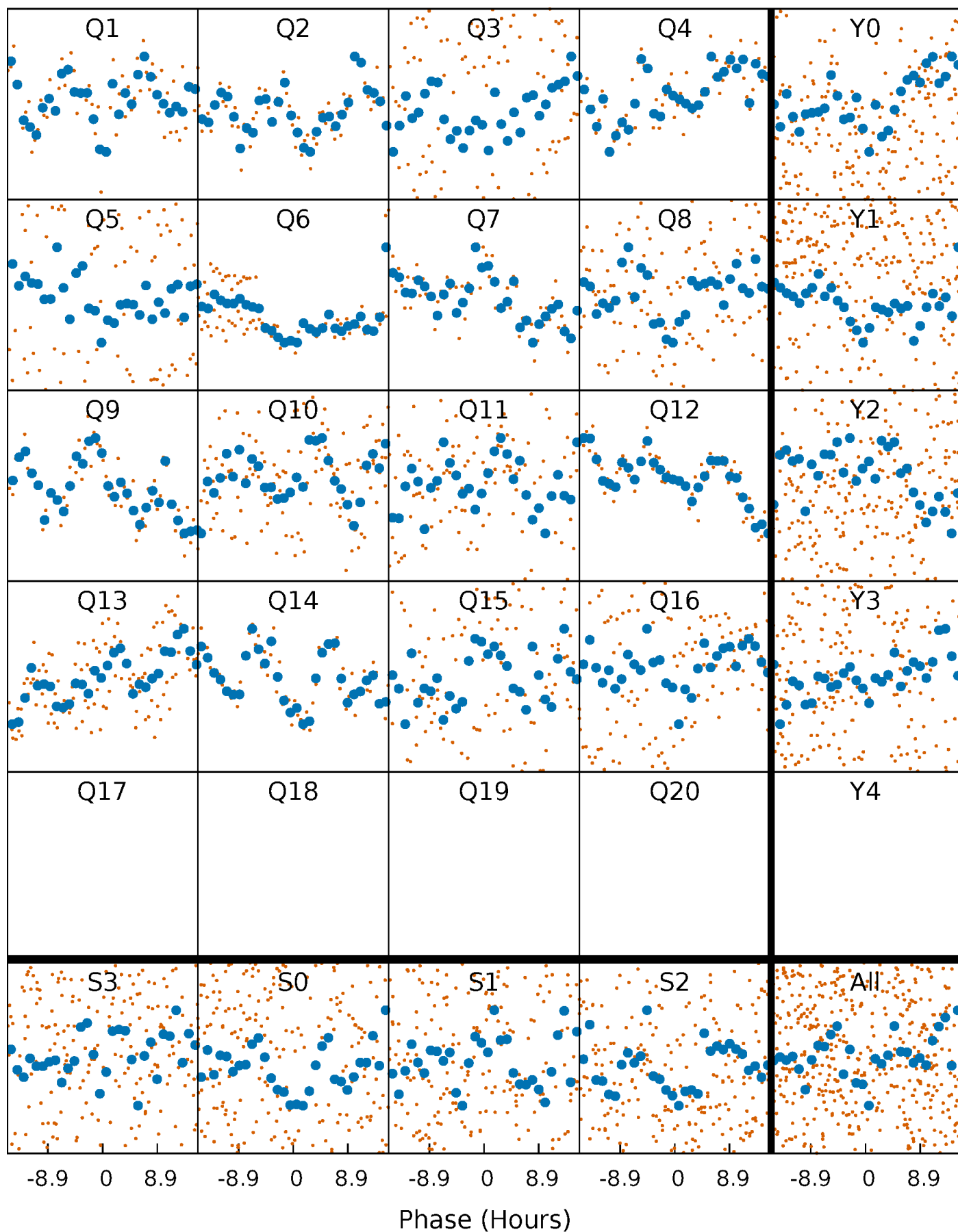


Non-Whitened Vs. Whitened Light Curve



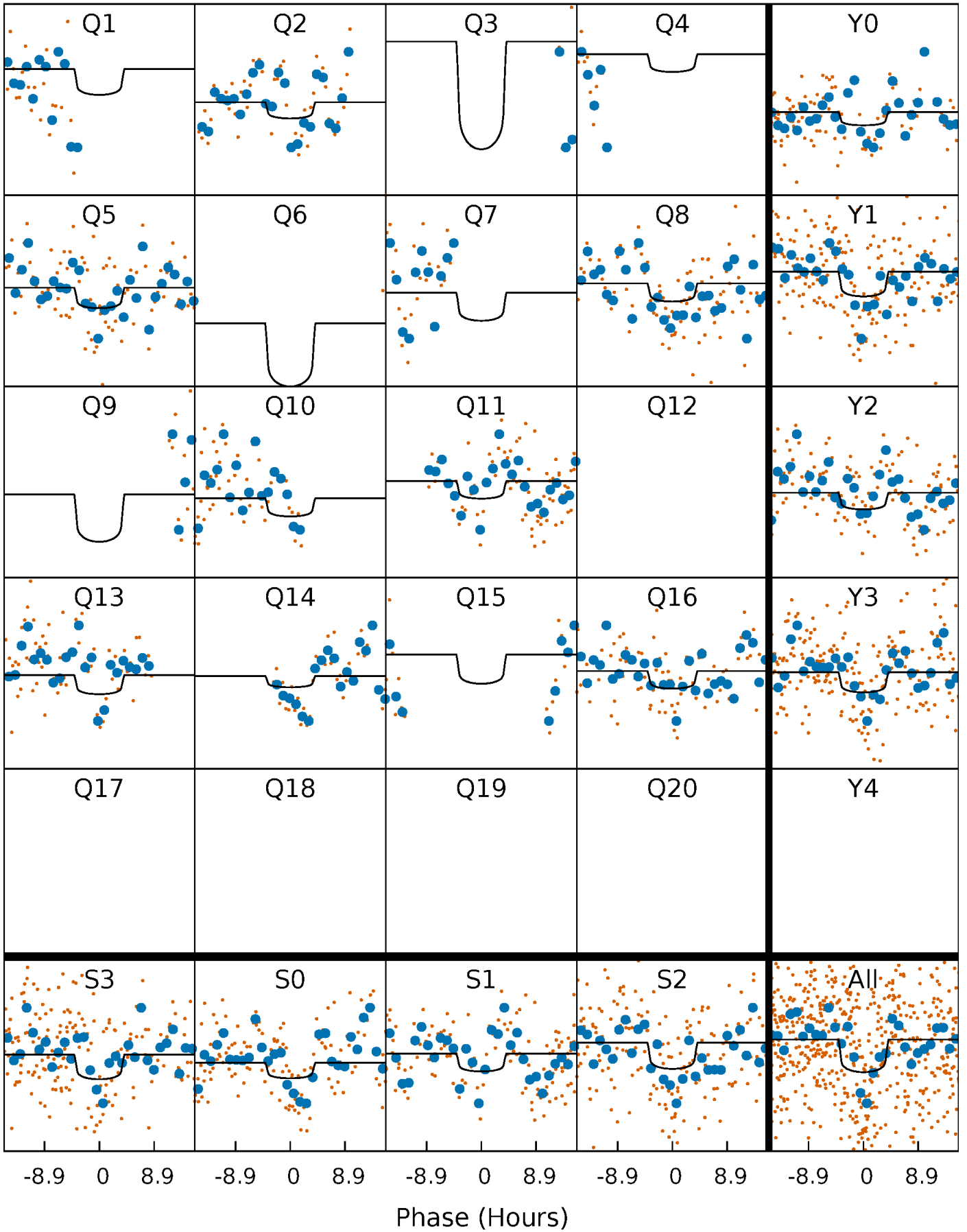
PDC Quarter-Phased Transit Curves

TCE 002018261-07 $P = 57.783258$ Days $T_0 = 162.296036$ (BKJD)



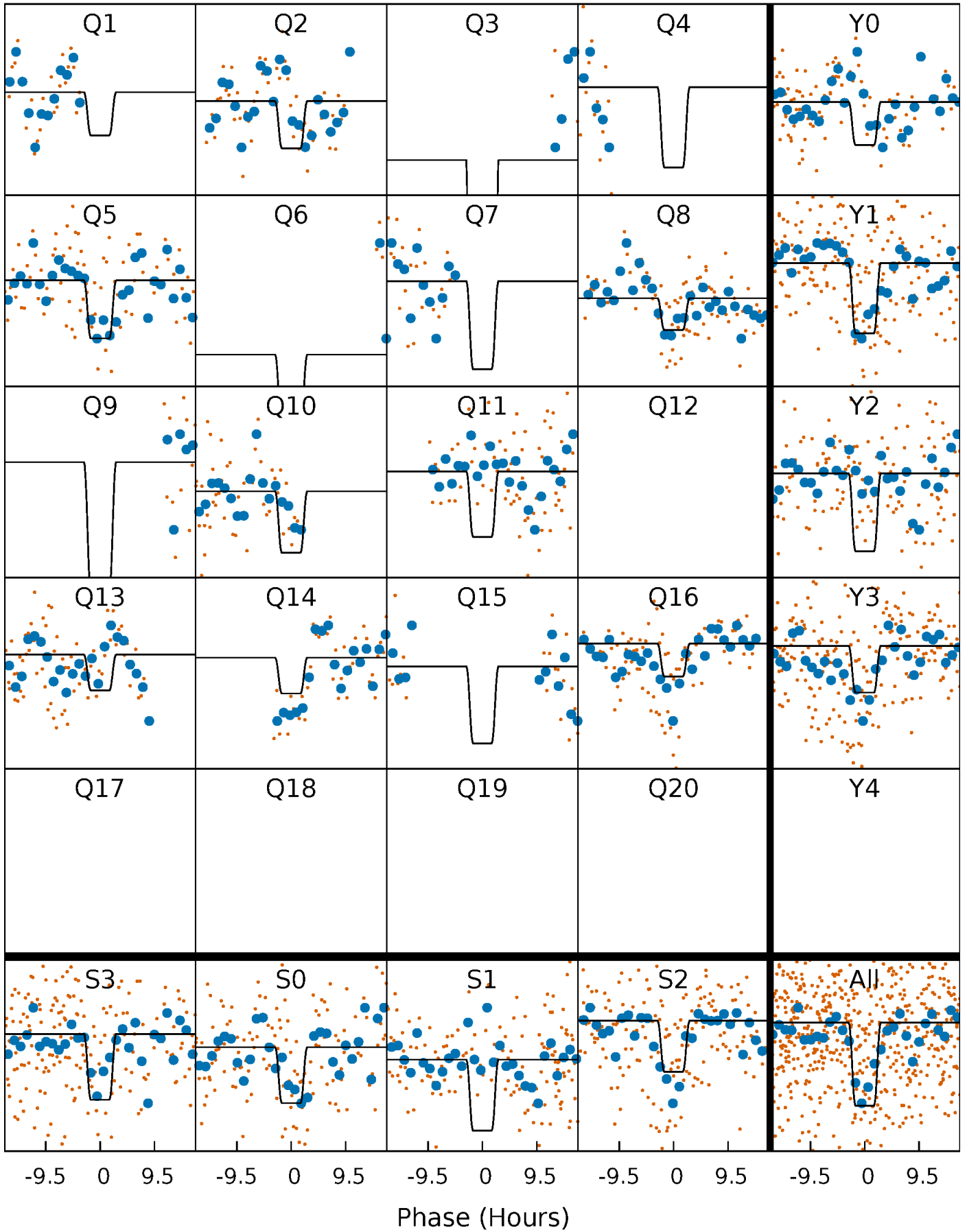
DV Quarter-Phased Transit Curves

TCE 002018261-07 $P = 57.783258$ Days $T_0 = 162.296036$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

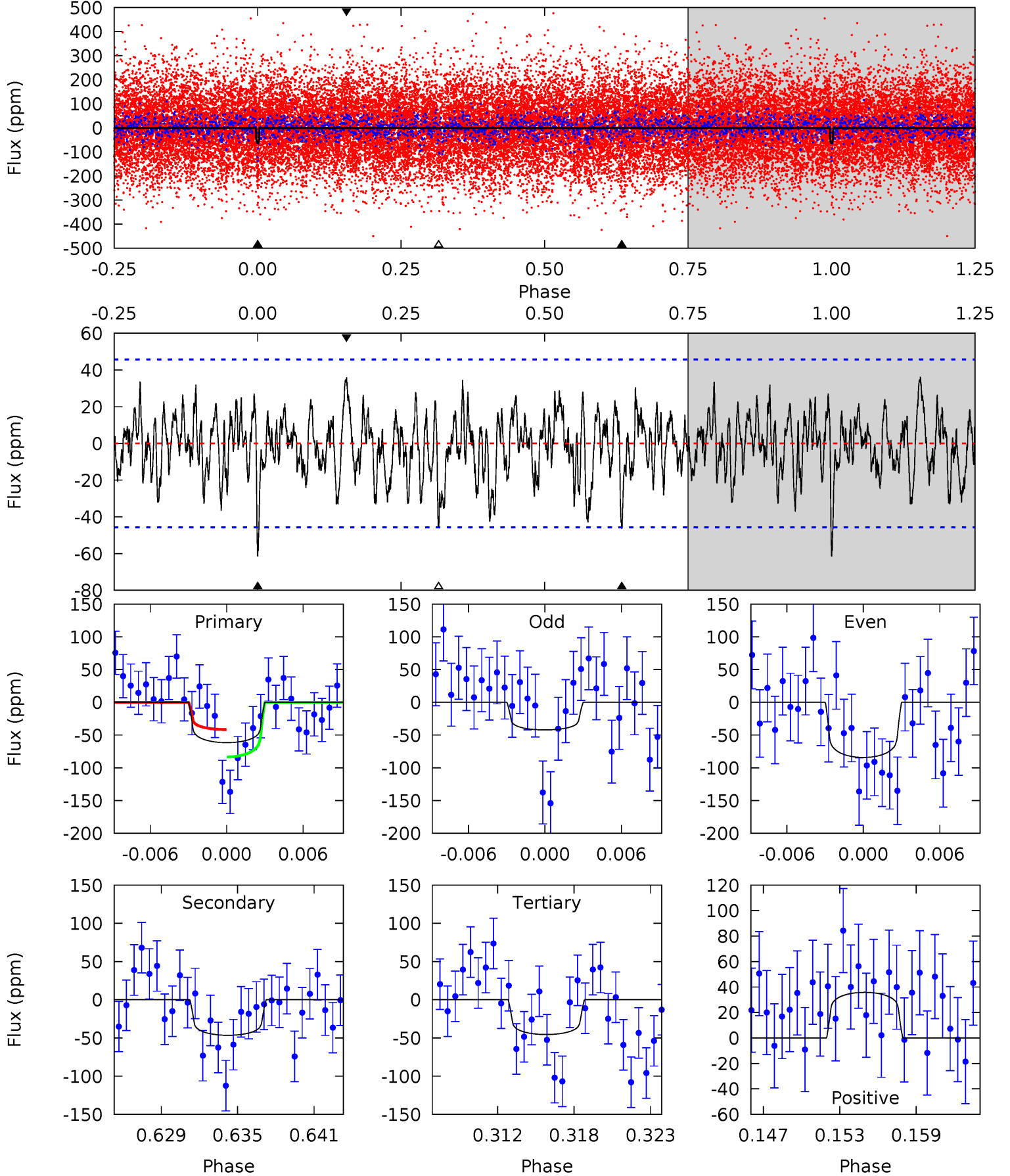
TCE 002018261-07 P= 57.784001 Days $T_0=162.293668$ (BKJD)



DV Model-Shift Uniqueness Test

002018261-07, P = 57.783258 Days, E = 104.512778 Days

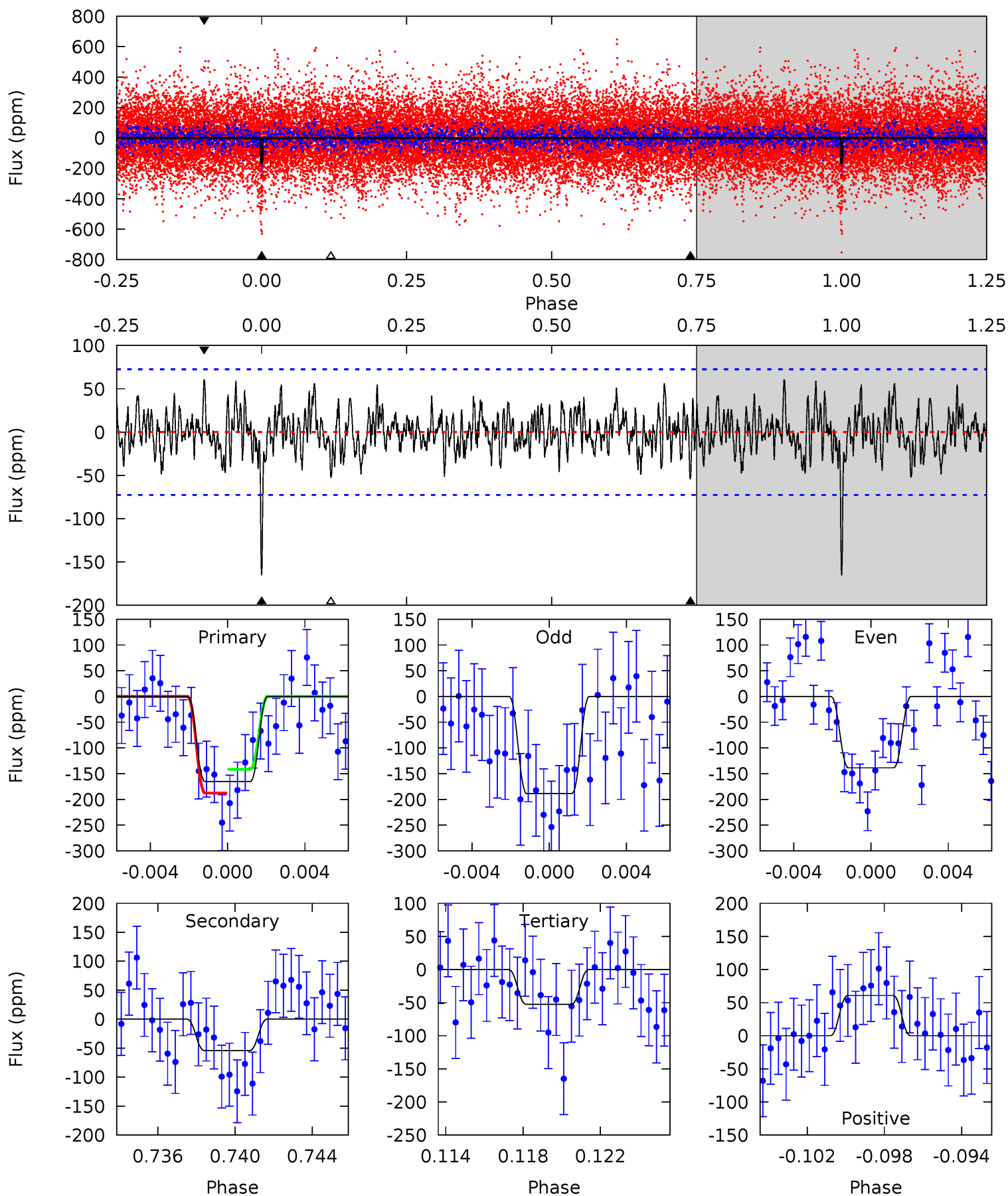
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.91	5.22	5.10	4.02	5.13	2.75	1.66	1.81	2.90	0.11	1.20	2.35	1.20	0.37	2.34



Alt Model-Shift Uniqueness Test

002018261-07, P = 57.784001 Days, E = 104.509667 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	3.88	3.76	4.36	5.20	2.88	1.40	8.10	7.50	0.12	-0.48	1.79	2.02	0.27	1.66



Stellar Parameters For KIC 002018261

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7516^{+207}_{-337}	$3.800^{+0.360}_{-0.090}$	$0.020^{+0.200}_{-0.350}$	$2.935^{+0.415}_{-1.244}$	$1.978^{+0.112}_{-0.506}$	$0.110^{+0.312}_{-0.031}$
	+3%/-4%	+9%/-2%	+1000%/-1750%	+14%/-42%	+6%/-26%	+283%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002018261-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-46 ± 9	$2.35^{+1.46}_{-1.15}$	1265^{+89}_{-134}	6631^{+3486}_{-1255}	594^{+1732}_{-365}
Alt.	-54 ± 14	$4.23^{+1.59}_{-1.41}$	1267^{+86}_{-132}	5257^{+987}_{-669}	212^{+266}_{-106}

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 $A_{obs} \gg 1.0$

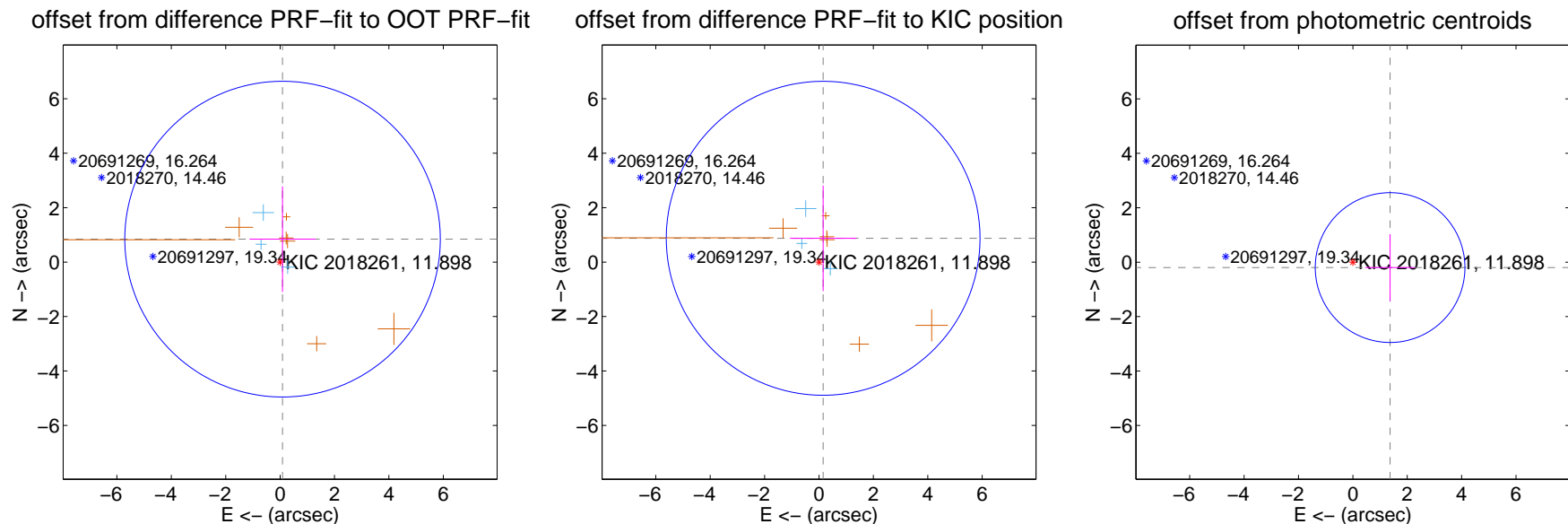
DV Centroid Data

Supplemental centroid analysis for 002018261-07. **Kepler magnitude: 11.90.** Transit SNR 5.16

There are 3 quarters with good PRF difference image offsets

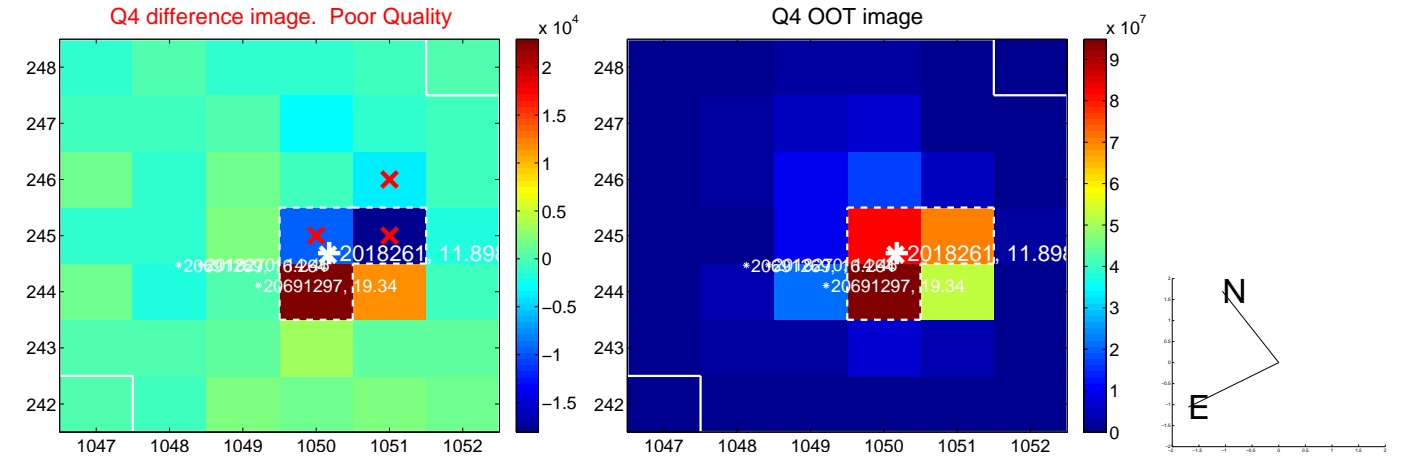
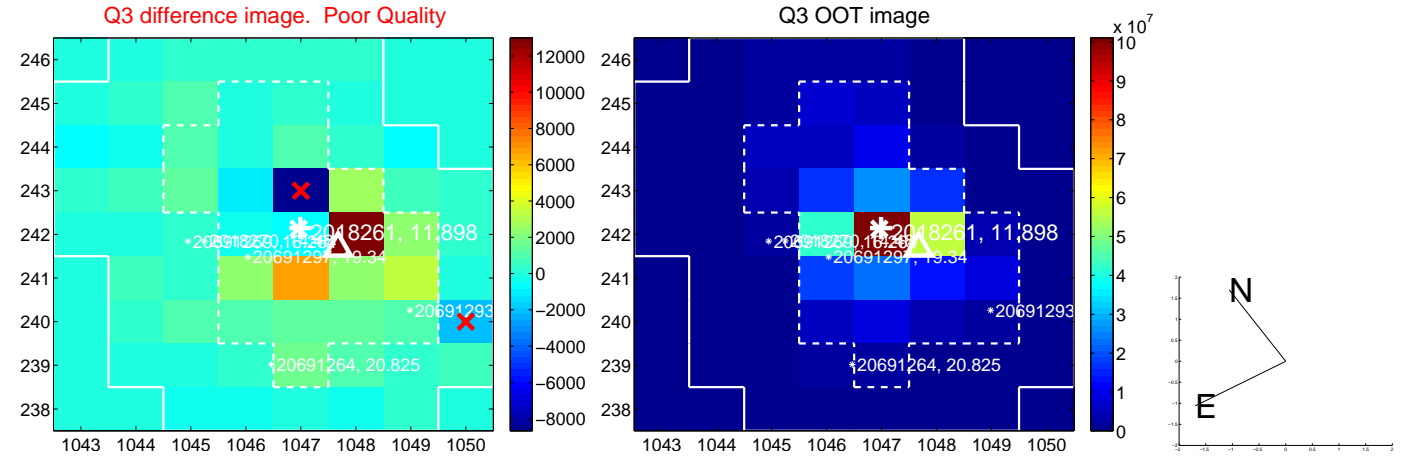
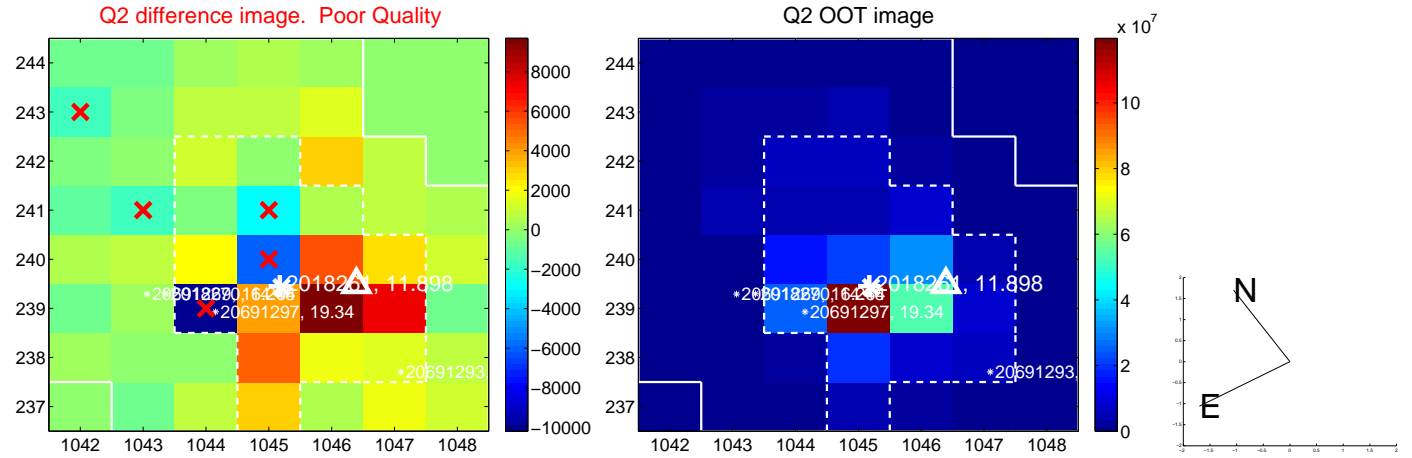
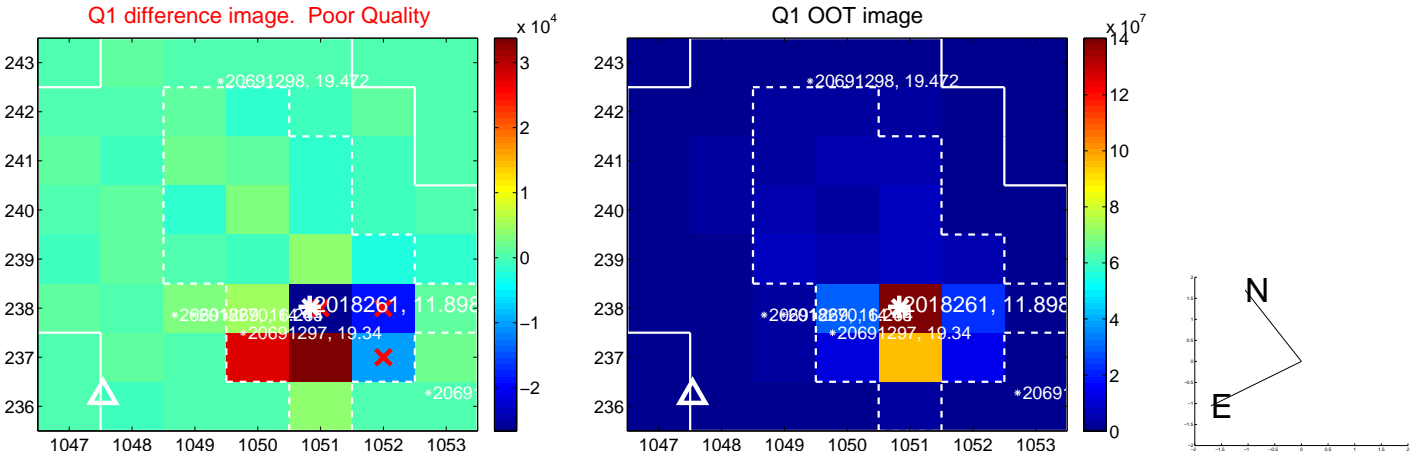
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.848 ± 1.933	0.44	-0.090 ± 1.215	0.843 ± 1.940
PRF-fit source offset from KIC position	0.887 ± 1.922	0.46	-0.153 ± 1.215	0.874 ± 1.940
photometric centroid source offset	1.38 ± 0.92	1.51	-1.37 ± 0.91	-0.20 ± 1.23

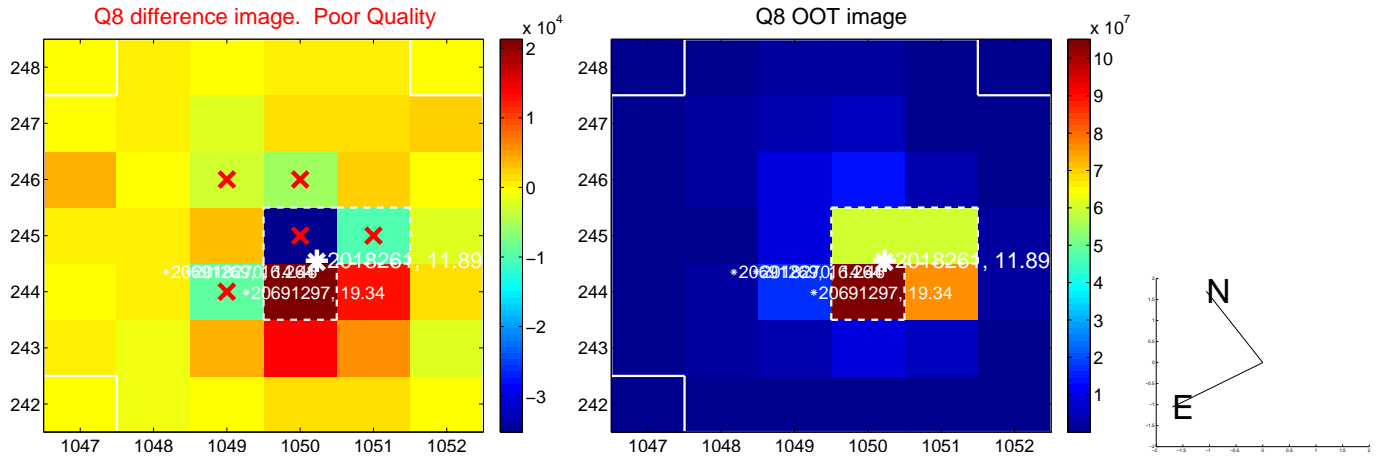
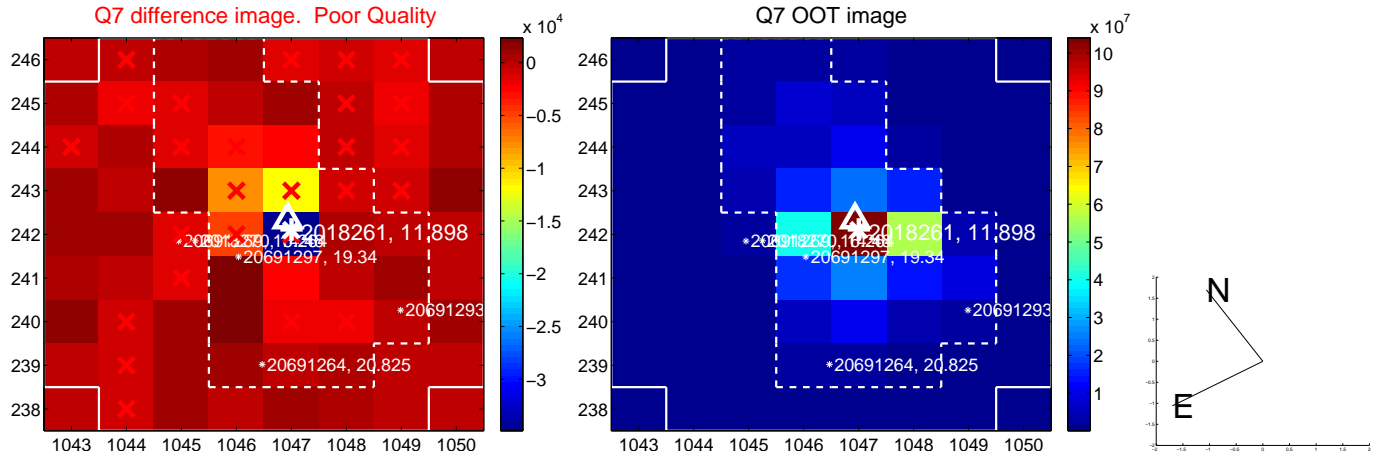
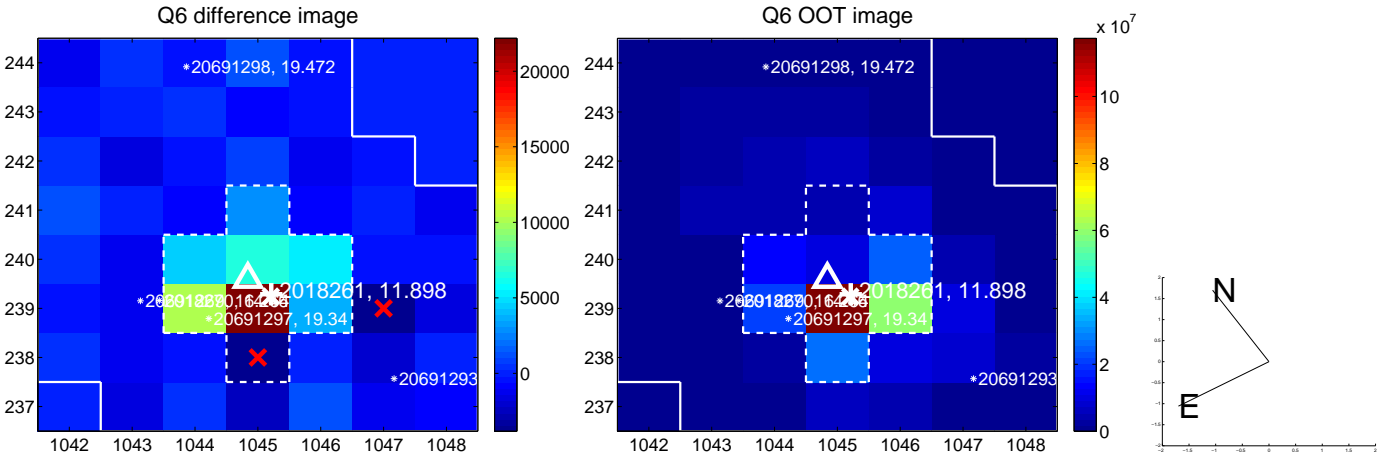
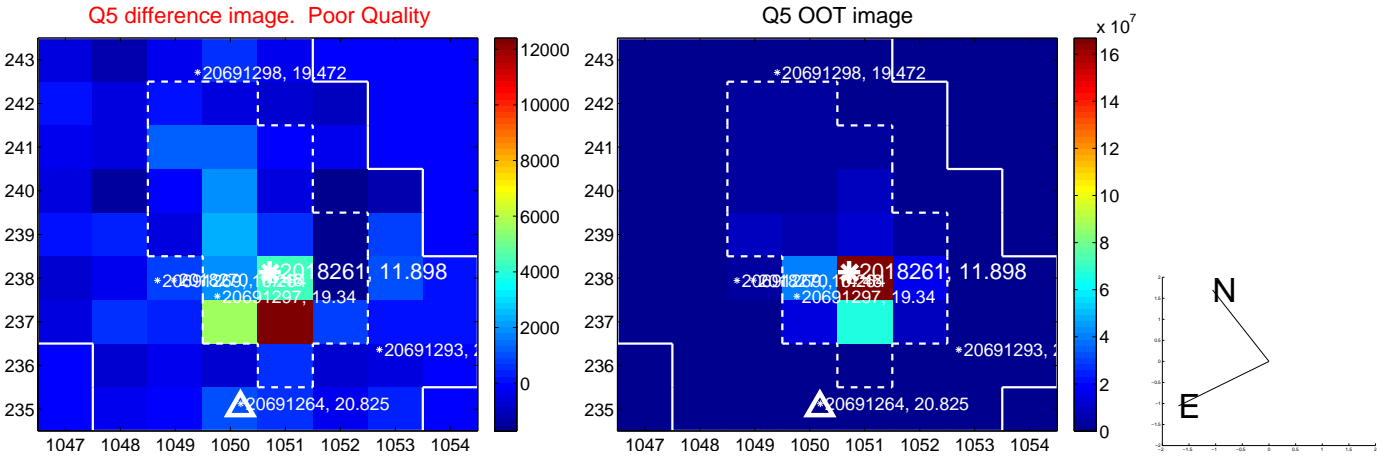


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

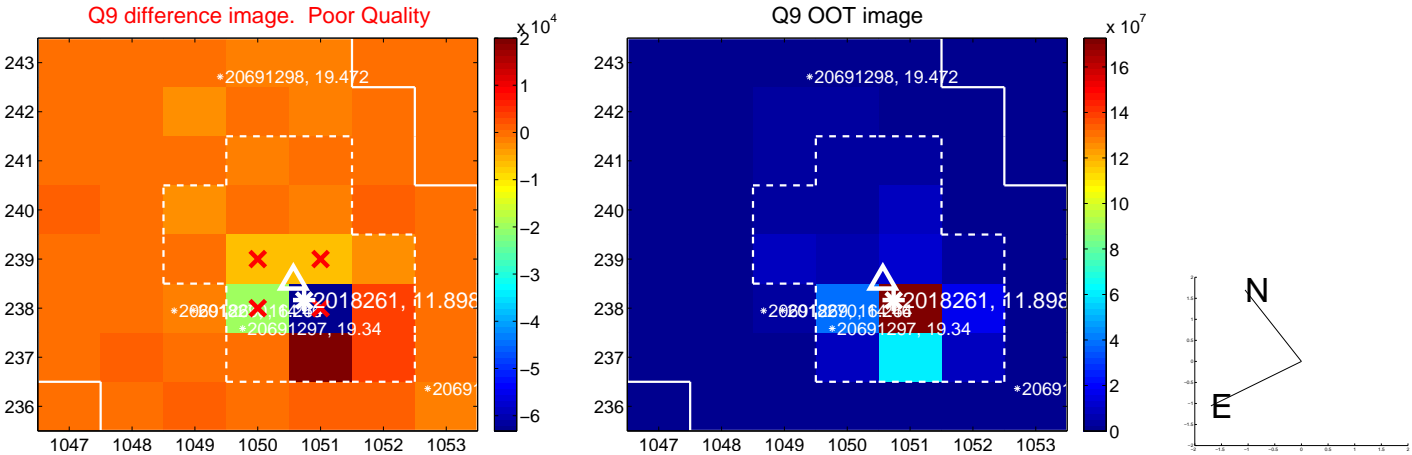
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



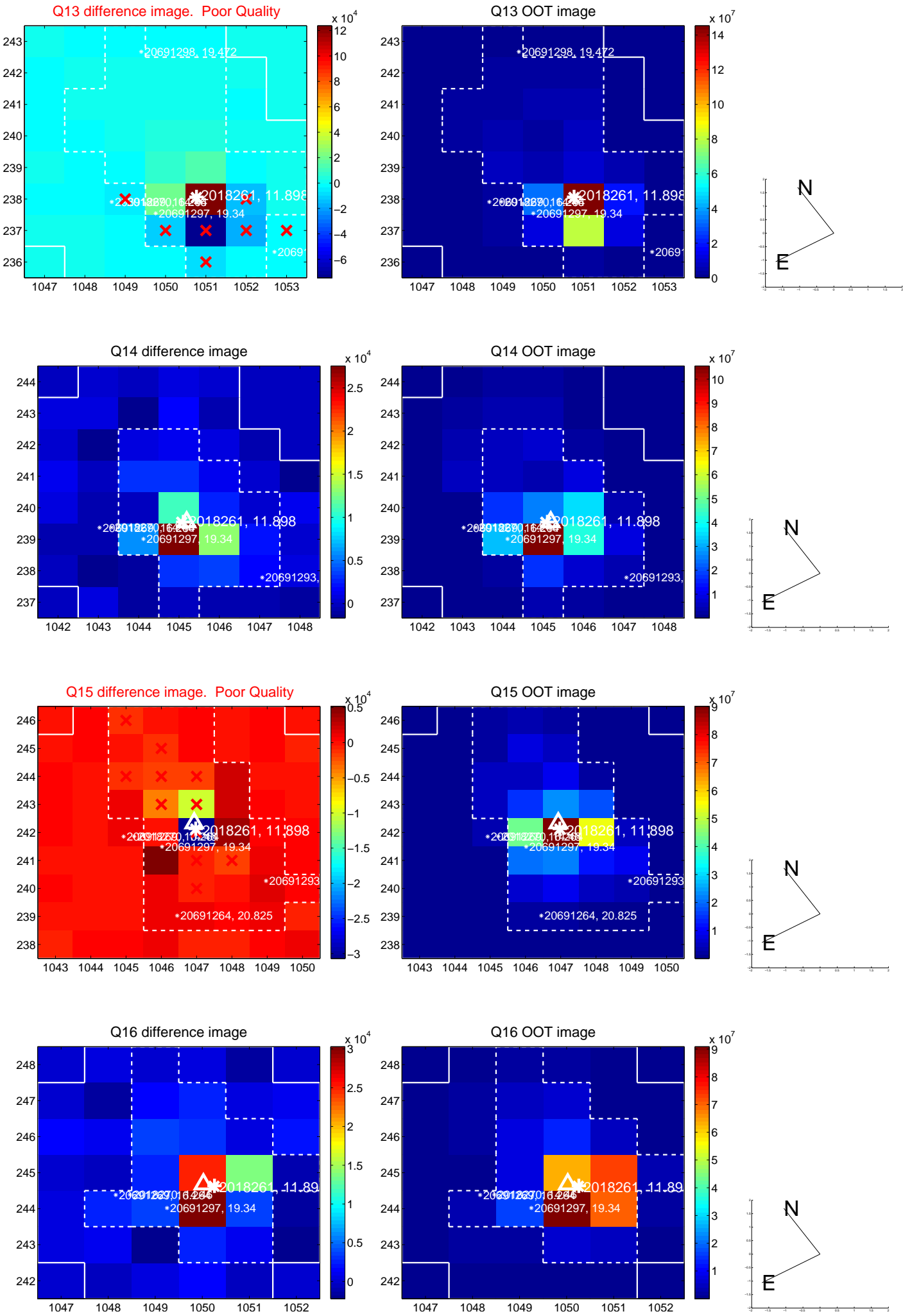
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



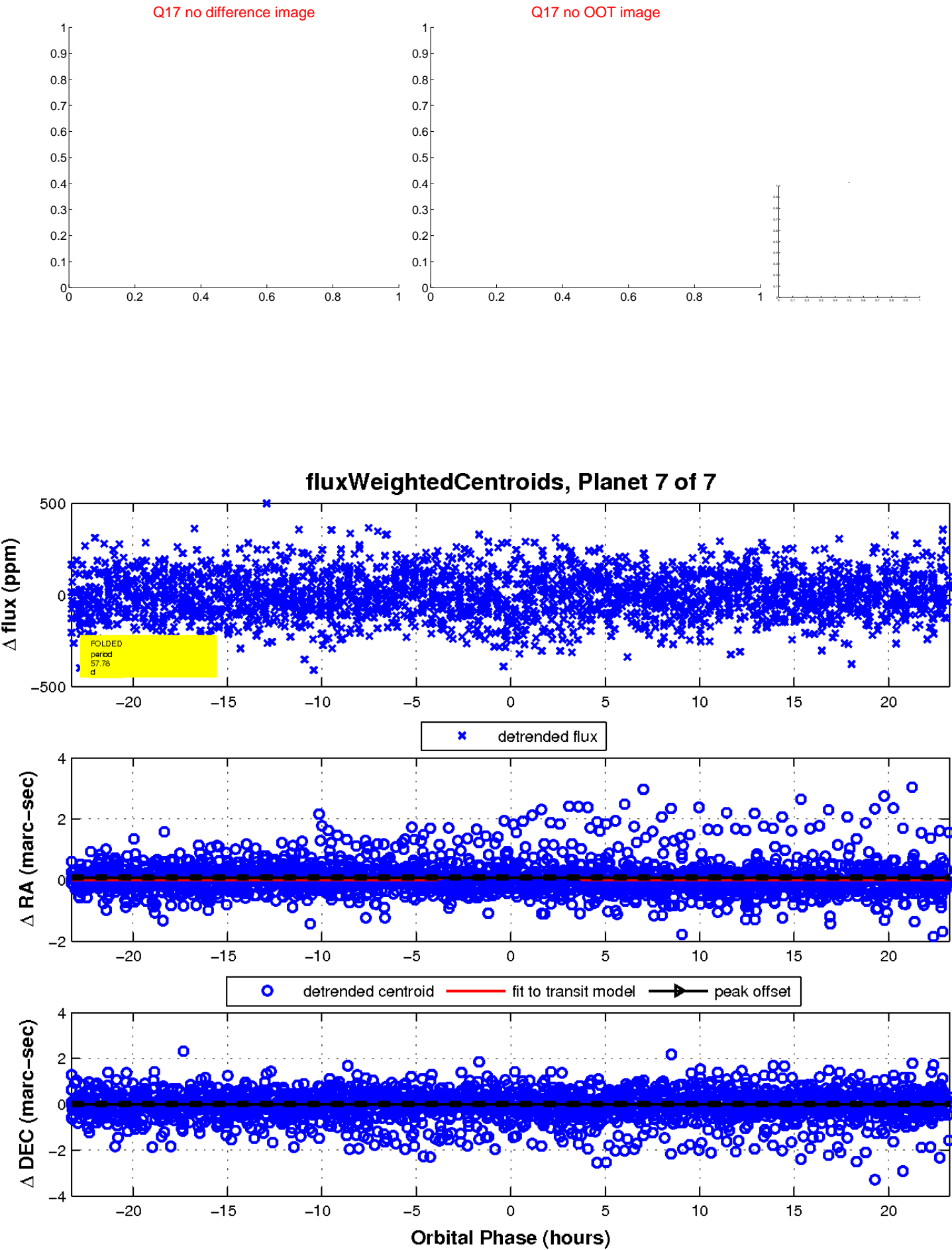
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

