

KIC 005615879

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})
005615879-01	OBS	No	364.992301	276.525646	834.5	13.226	8.2	7.7	0.96	5966	3.46	1.02
005615879-02	OBS	No	370.906082	261.627340	971.8	9.531	10.1	8.7	0.96	5966	3.13	1.00
005615879-03	OBS	No	374.000590	261.438879	1124.8	8.966	9.3	9.2	0.96	5966	3.45	0.99
005615879-04	OBS	No	373.792151	264.830565	861.5	21.848	9.5	8.9	0.96	5966	3.41	0.99
005615879-05	OBS	No	370.981583	279.515516	772.3	13.209	8.2	8.0	0.96	5966	3.08	1.00
005615879-06	OBS	No	365.086417	294.124670	784.6	5.000	7.8	-1.0	0.96	5966	2.67	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005615879-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
005615879-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005615879-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005615879-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—SAME_NTL_PERIOD—CENT_NOFITS

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

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

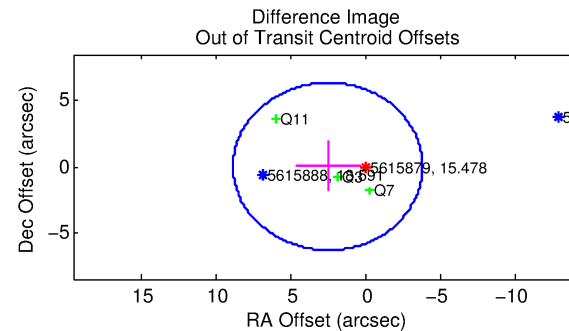
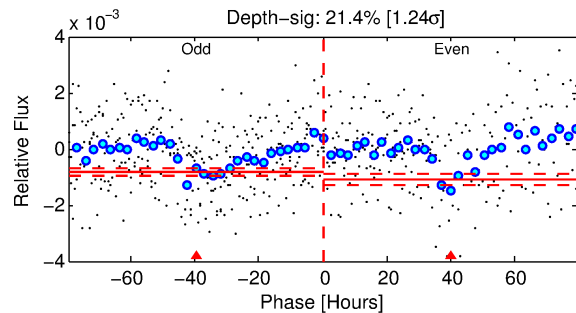
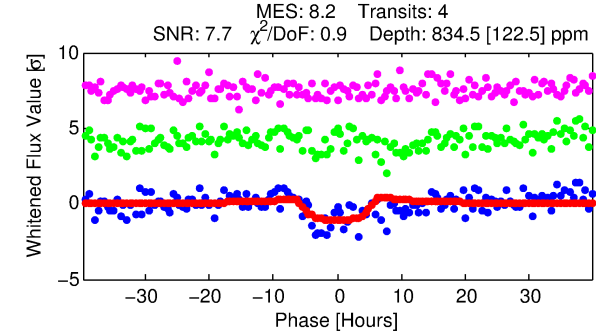
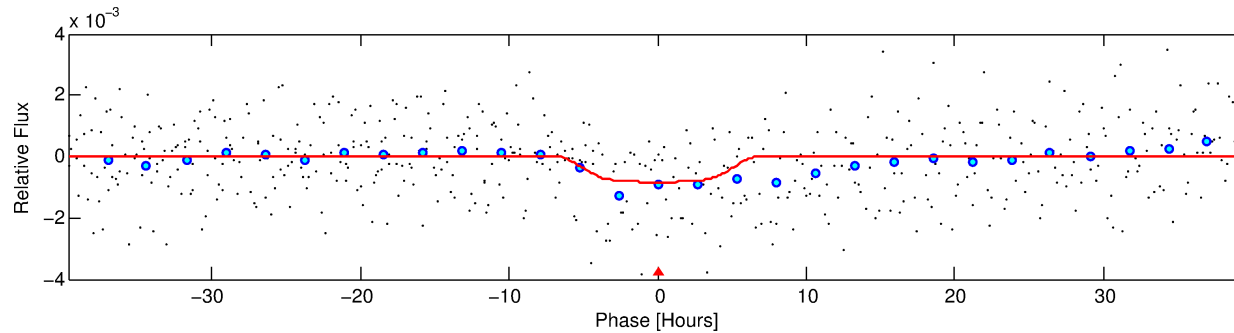
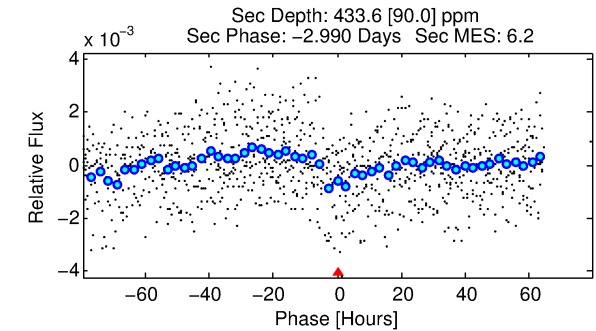
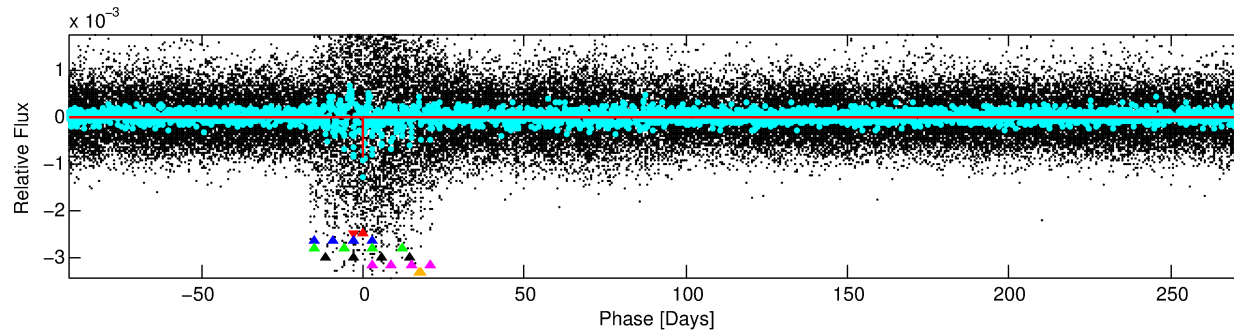
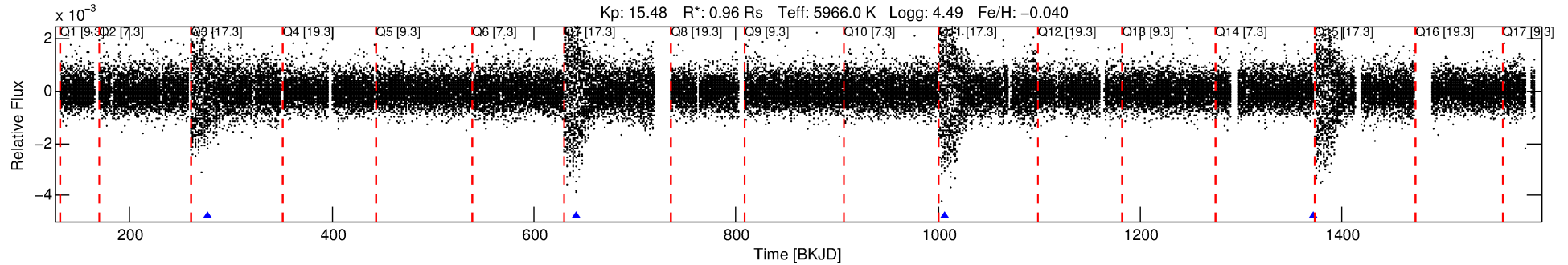
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005615879-01

No Significant Match Found

DV One-Page Summary

KIC: 5615879 Candidate: 1 of 6 Period: 364.992 d



DV Fit Results:

Period = 364.99230 [0.01422] d
Epoch = 276.5256 [0.0232] BKJD
Rp/R* = 0.0330 [0.0035]
a/R* = 88.70 [25.01]
b = 0.94 [0.03]
Seff = 1.02 [0.41]
Teq = 256 [26] K
Rp = 3.46 [1.14] Re
a = 1.0126 [0.2654] AU
Ag = 20465.86 [9869.03] [2.07σ]
Teff = 4737 [389] K [11.50σ]

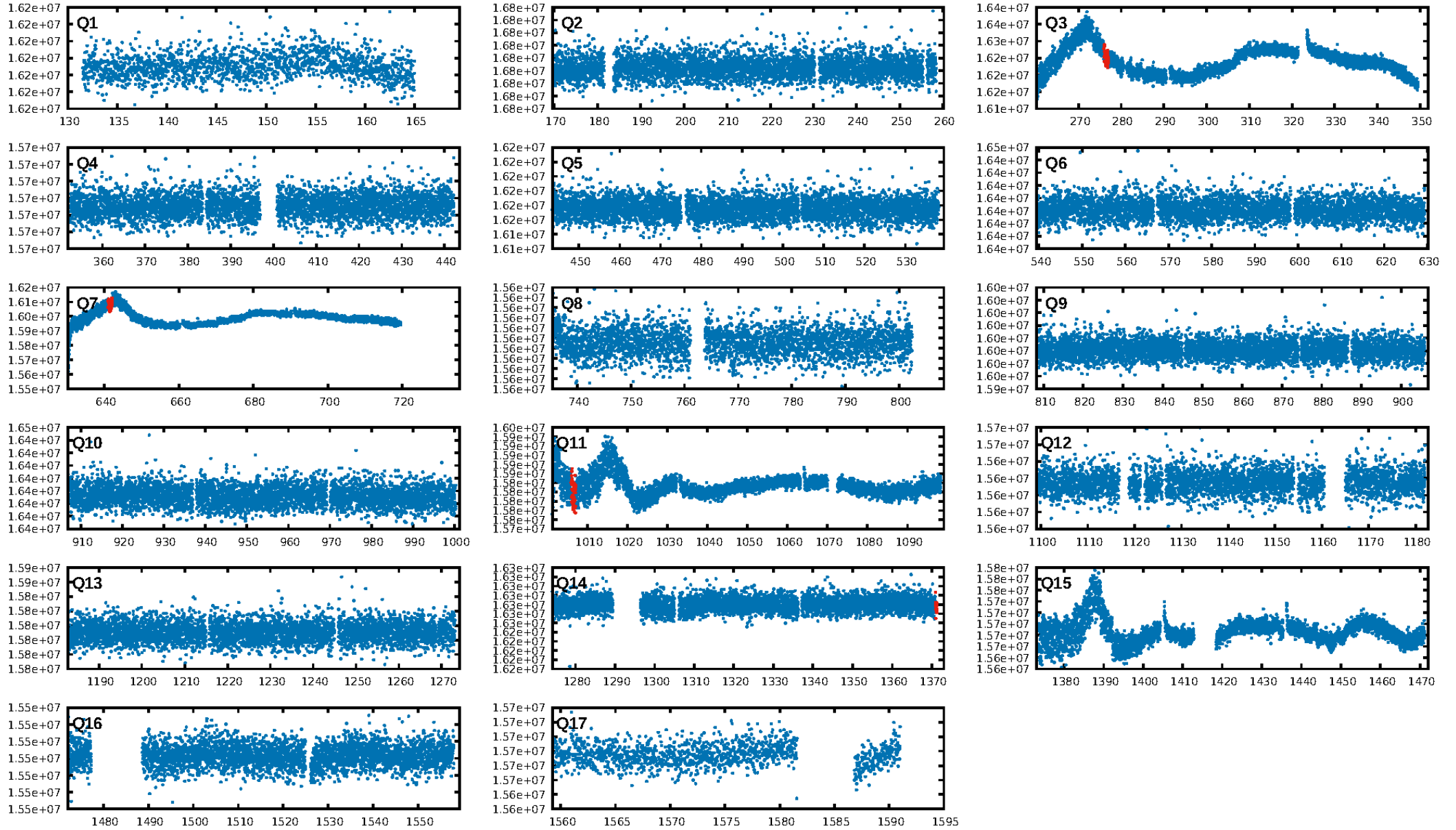
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 12.7% [0.16σ]
ModelChiSquare2-sig: 49.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.813
Centroid-sig: 4.7%
Centroid-so: 3.705 arcsec [1.32σ]
OotOffset-rm: 2.475 arcsec [1.17σ]
KicOffset-rm: 2.732 arcsec [1.29σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

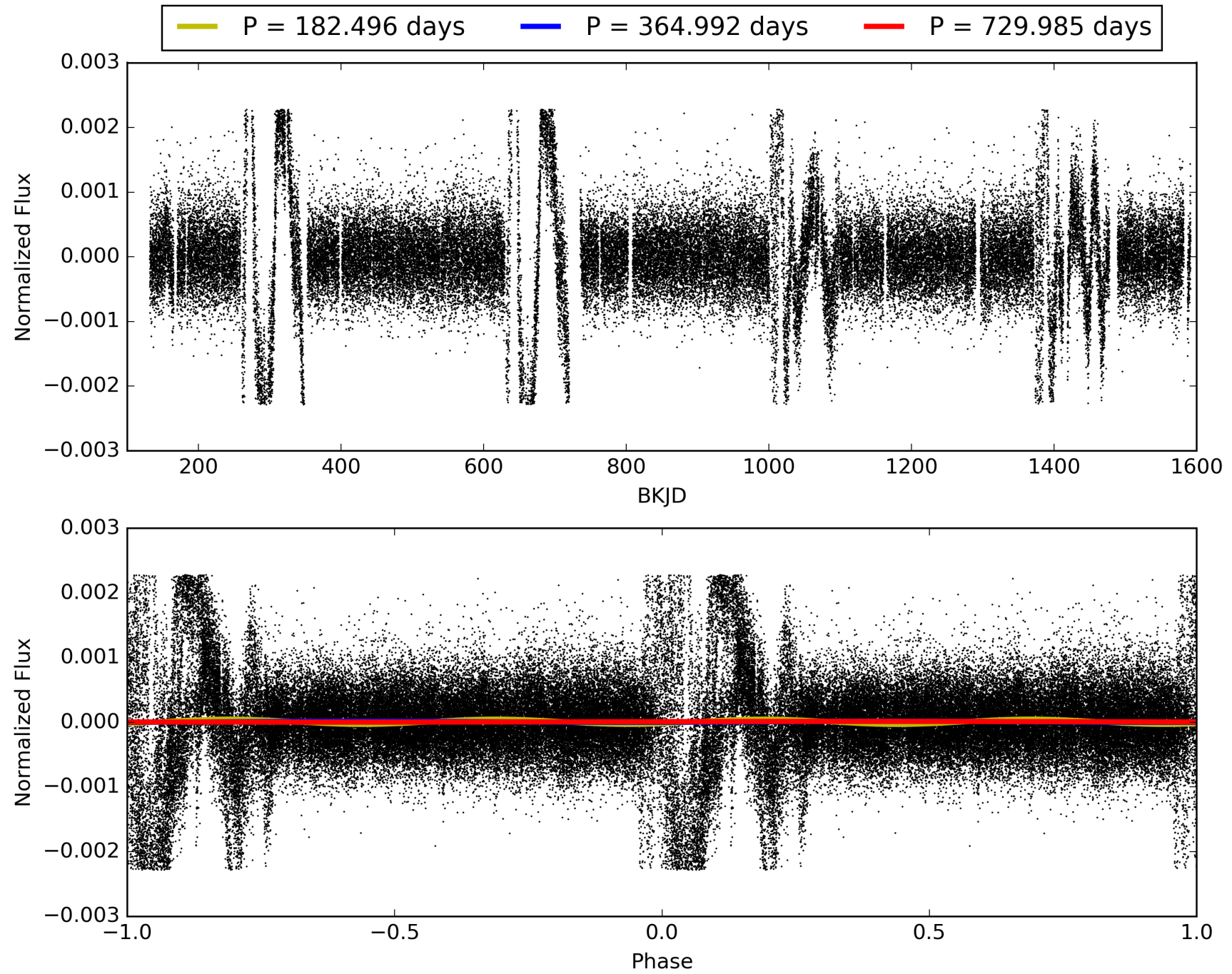
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005615879-01, PDC Light Curves

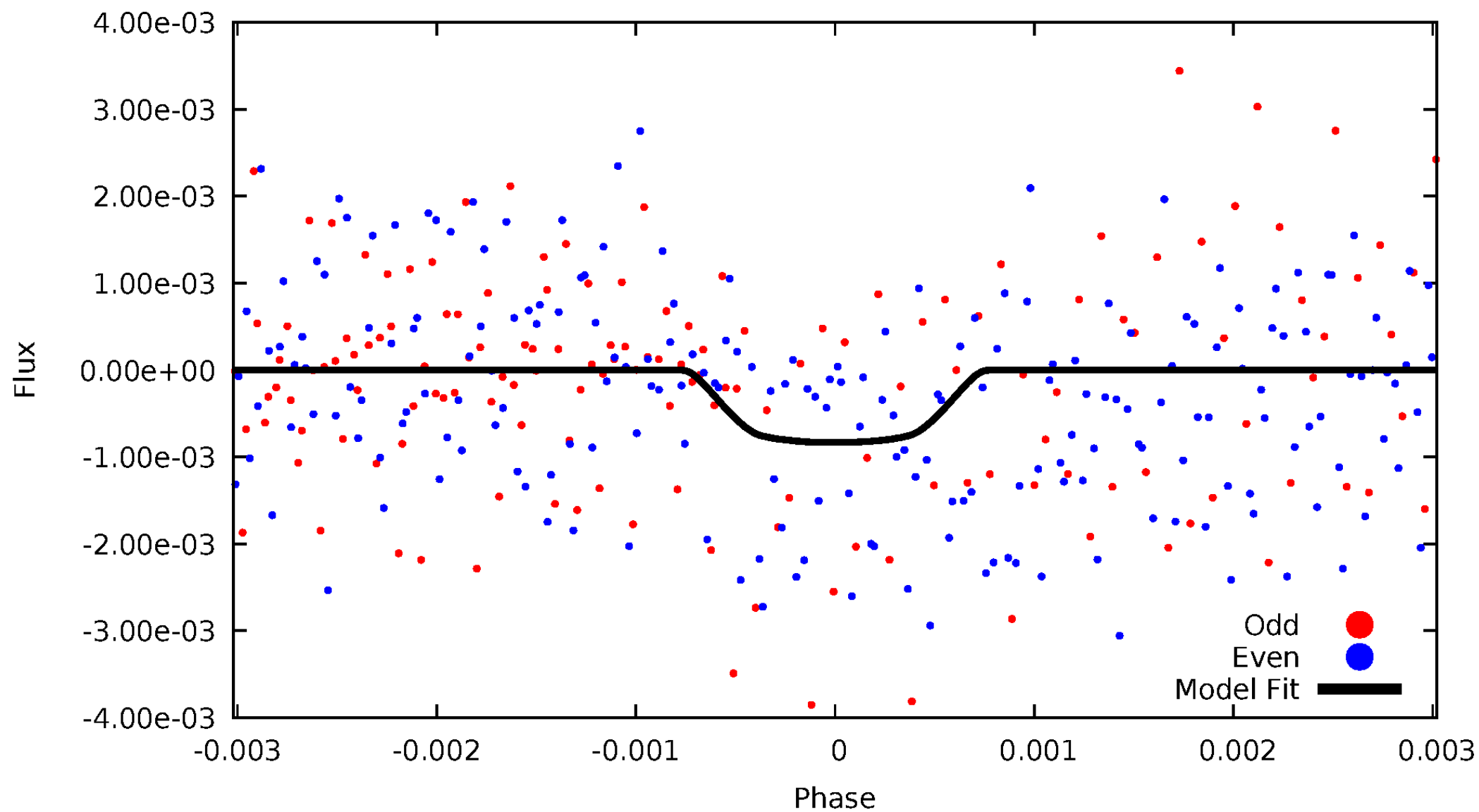


TCE 005615879-01



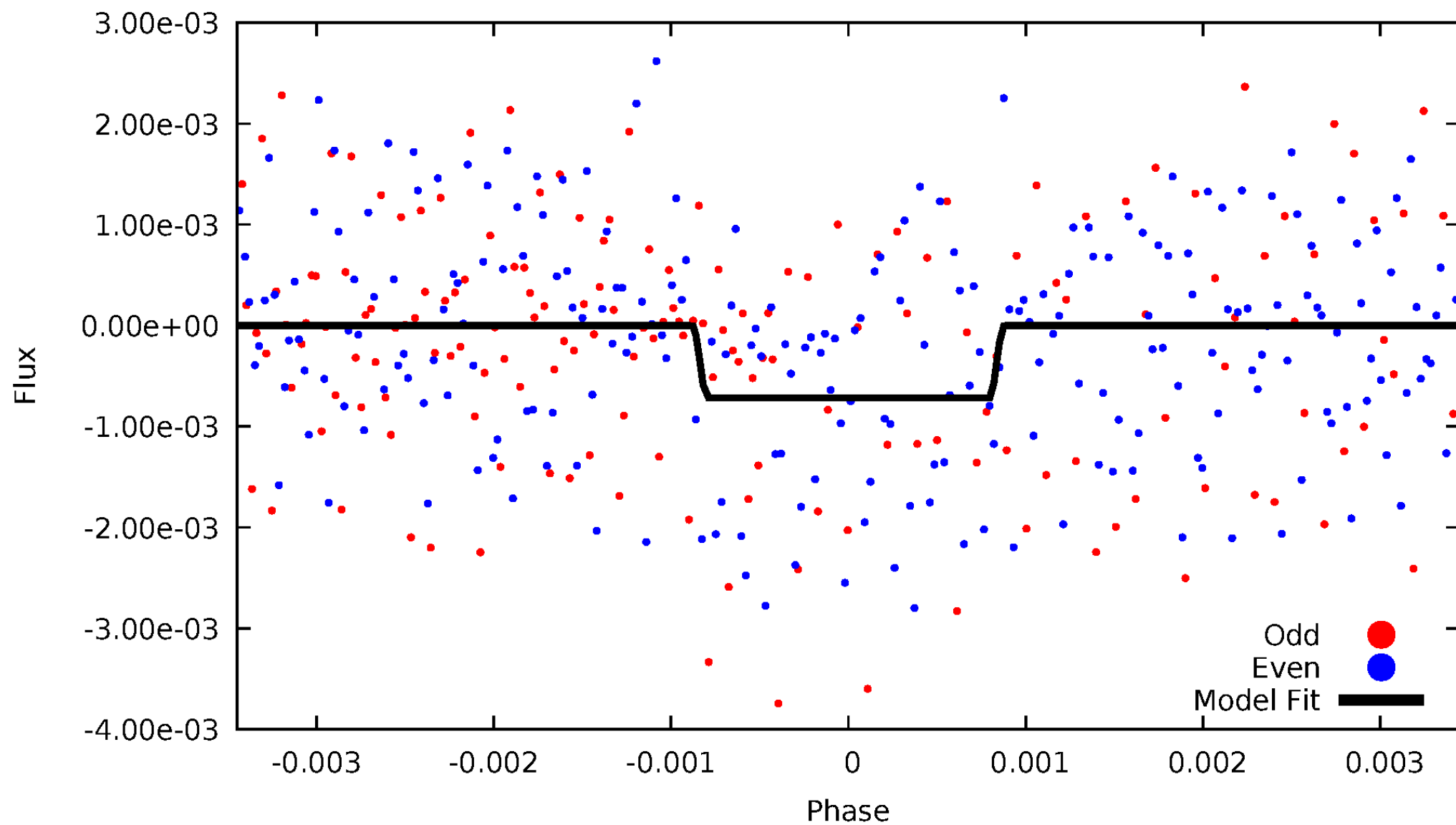
DV Odd/Even

TCE 005615879-01



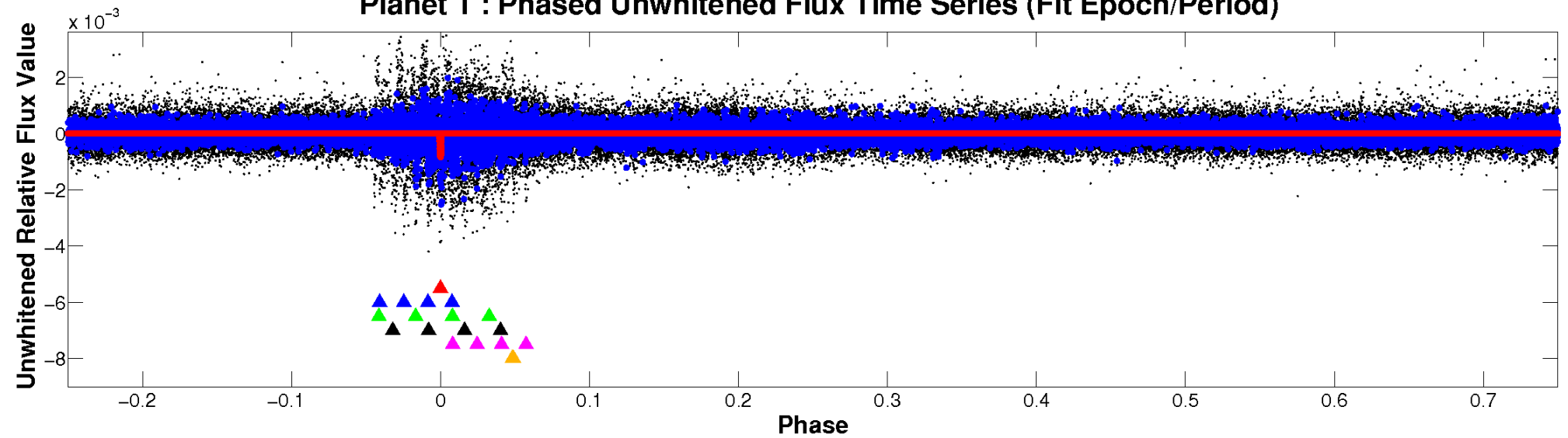
ALT Odd/Even

TCE 005615879-01

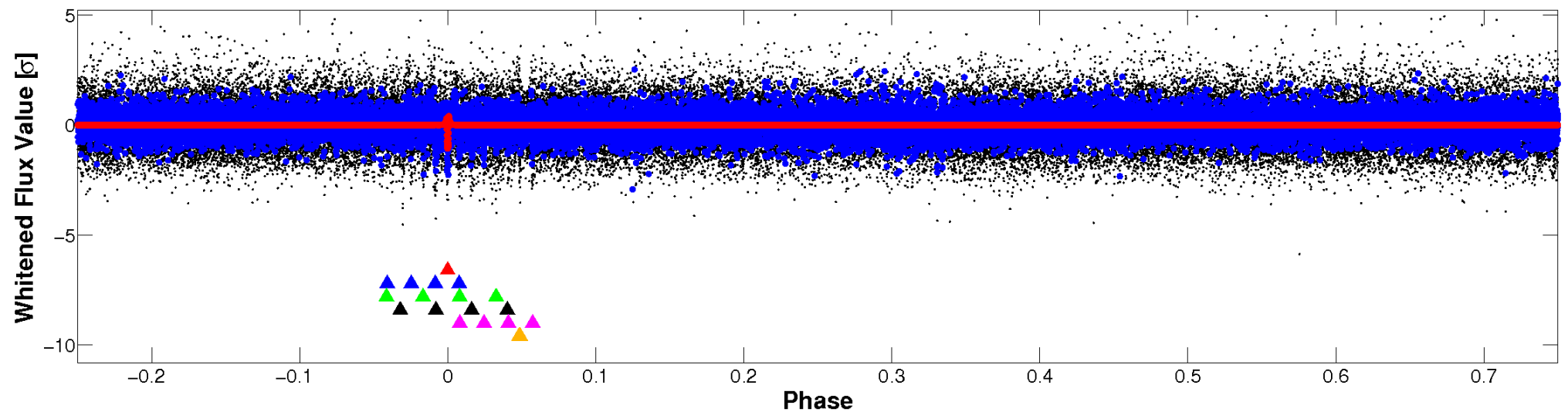


Non-Whitened Vs. Whitened Light Curve

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

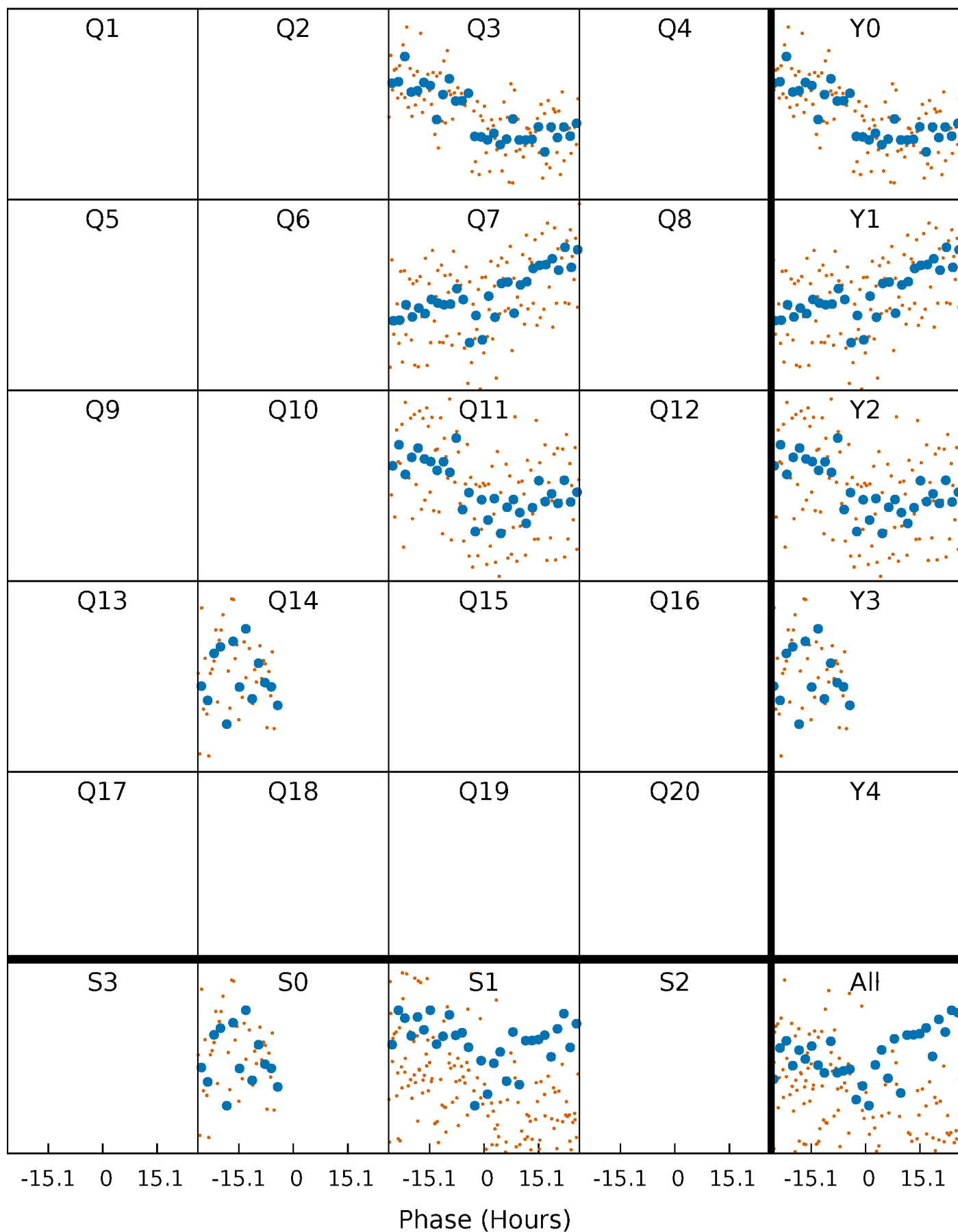


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



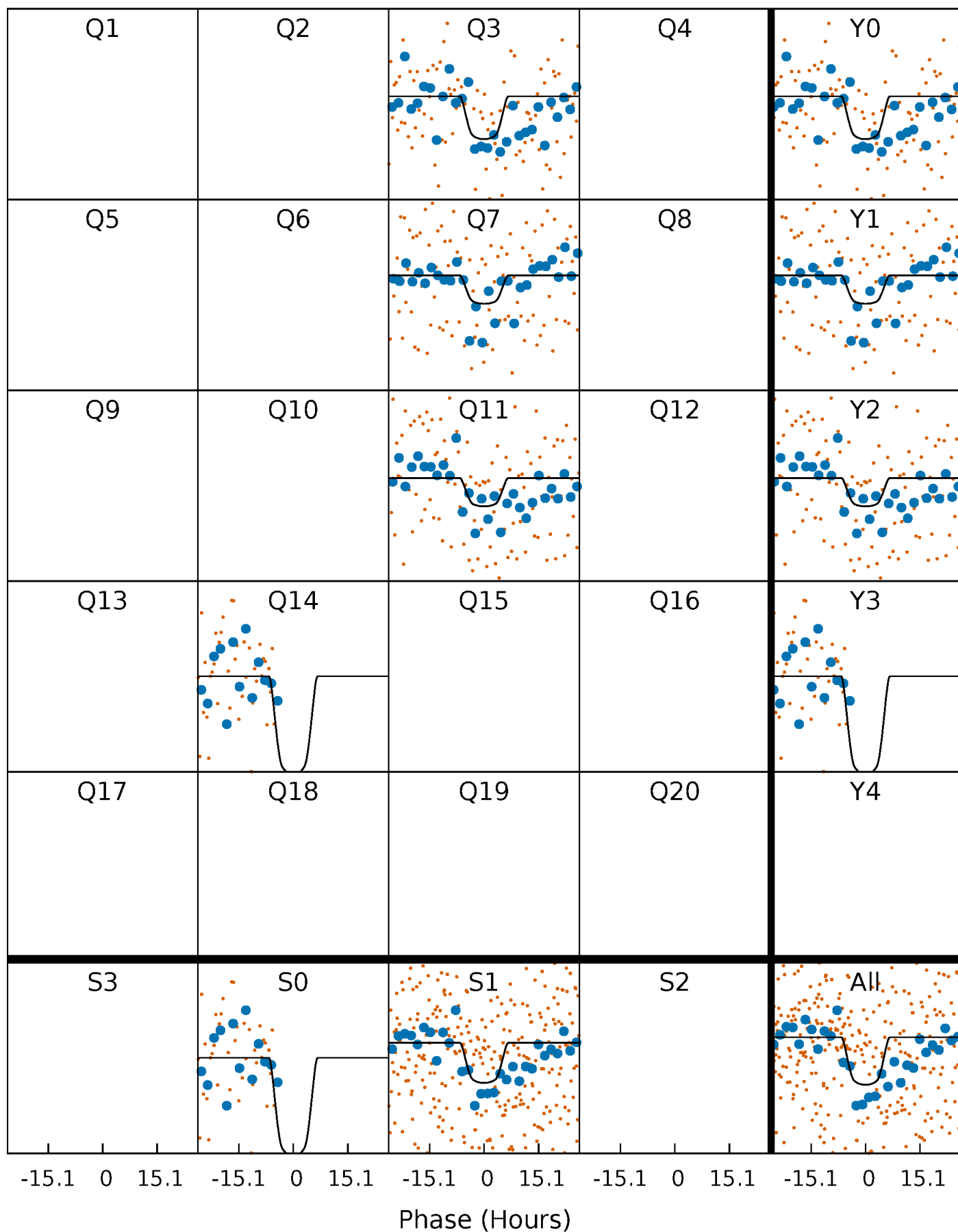
PDC Quarter-Phased Transit Curves

TCE 005615879-01 P=364.992301 Days $T_0=276.525646$ (BKJD)



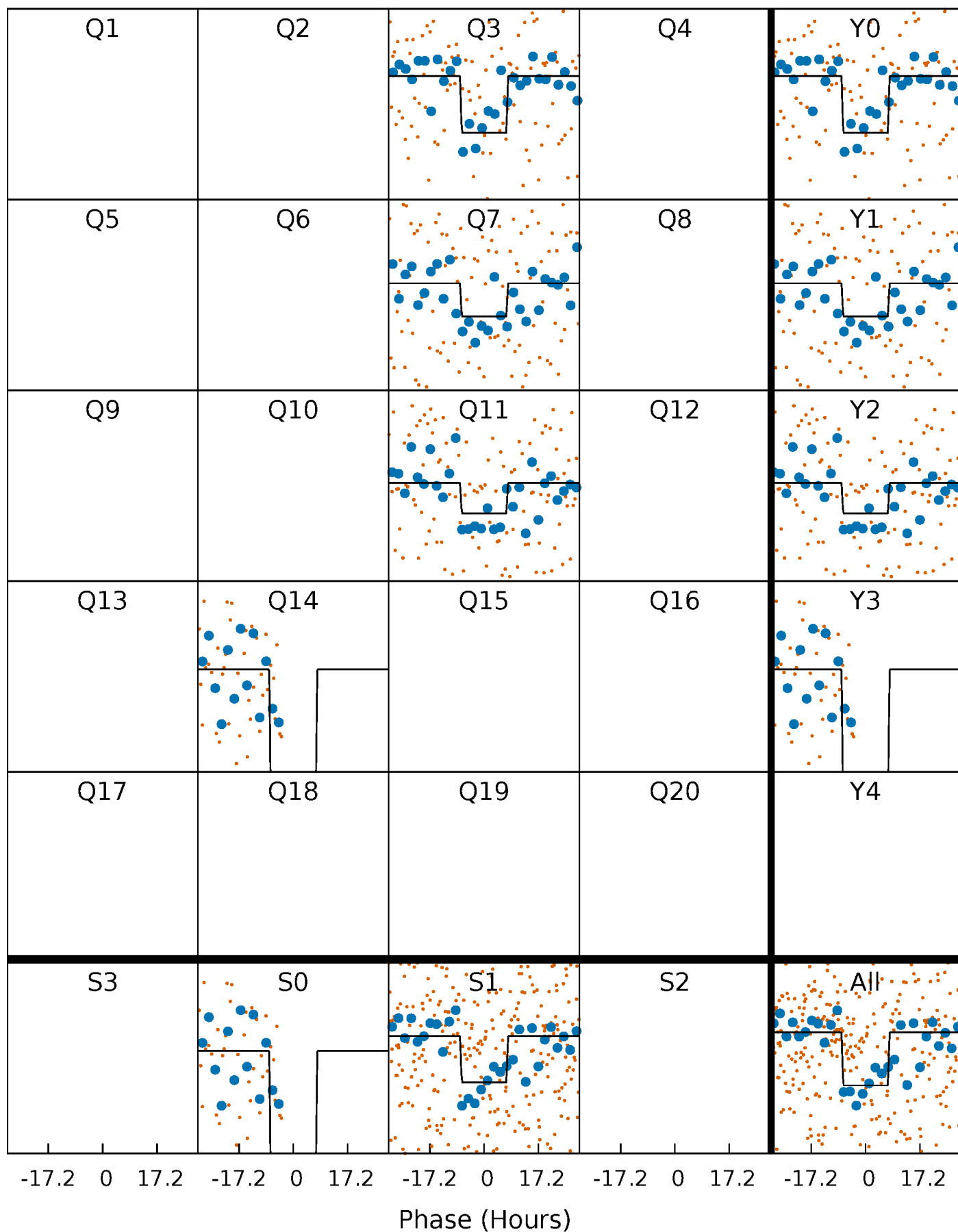
DV Quarter-Phased Transit Curves

TCE 005615879-01 P=364.992301 Days $T_0=276.525646$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

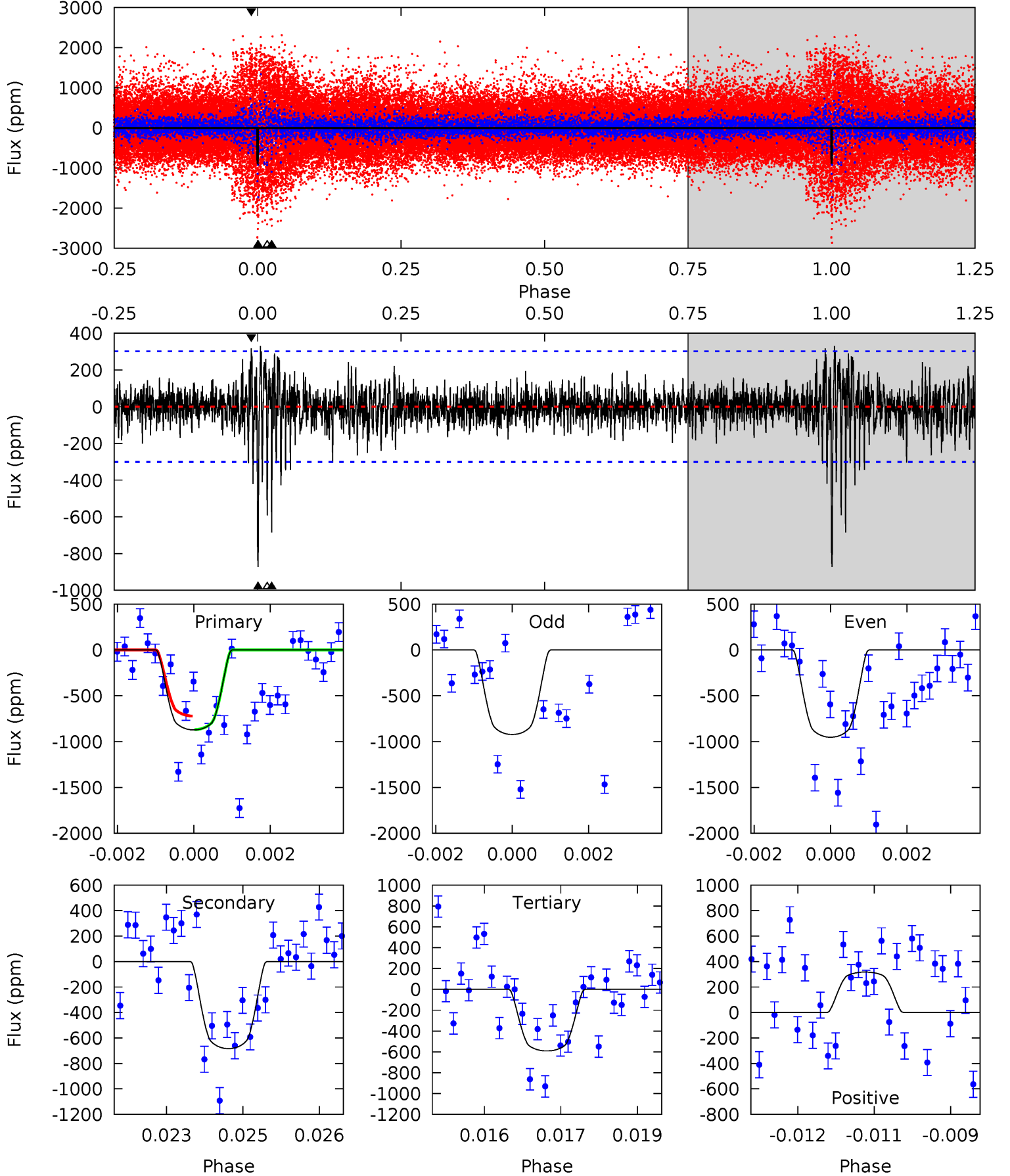
TCE 005615879-01 P=364.929759 Days $T_0=276.689075$ (BKJD)



DV Model-Shift Uniqueness Test

005615879-01, P = 364.992301 Days, E = 276.525646 Days

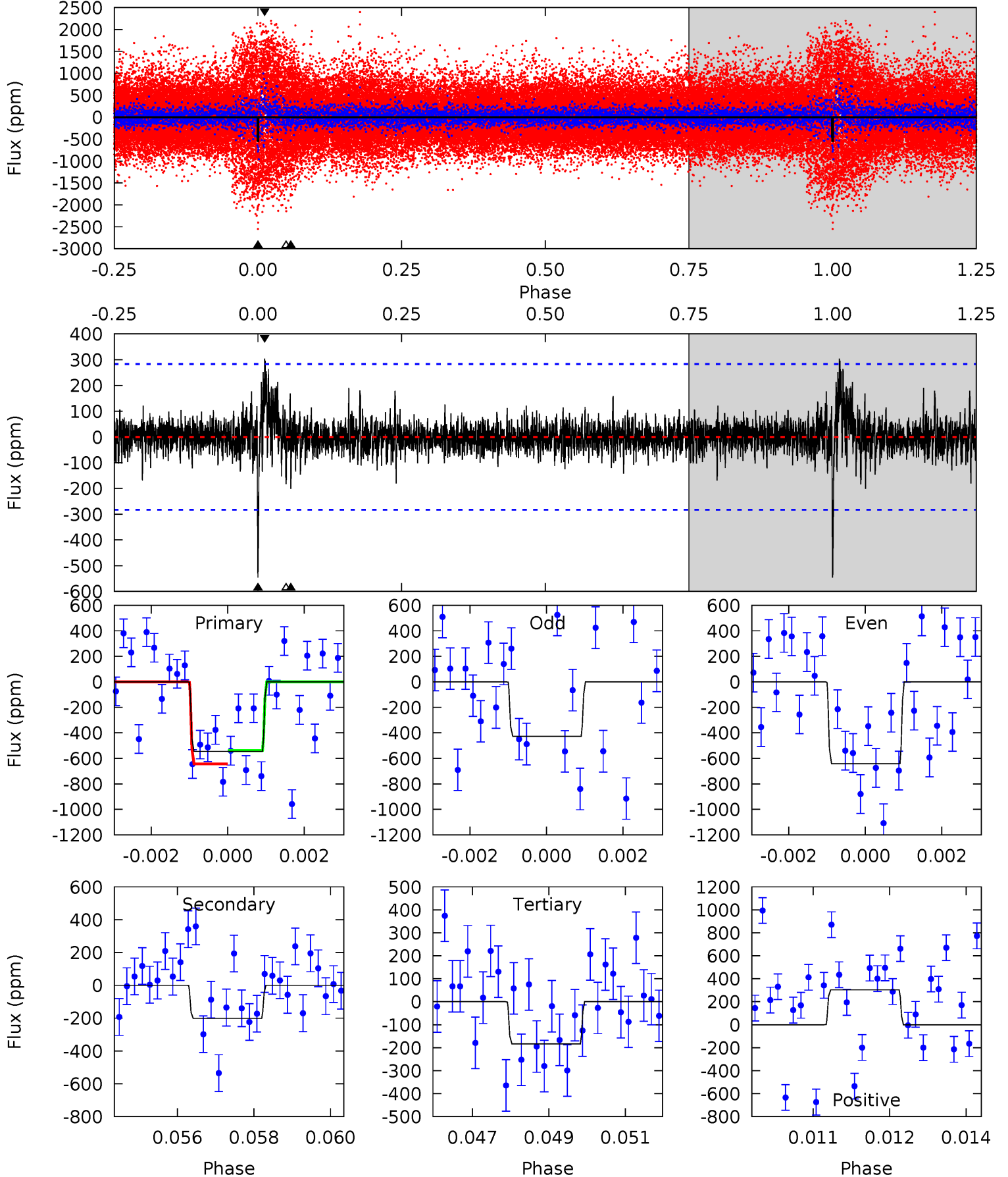
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	12.2	10.5	5.66	5.37	3.17	1.37	5.02	9.90	1.65	6.53	0.23	0.90	0.27	0



Alt Model-Shift Uniqueness Test

005615879-01, P = 364.929759 Days, E = 276.689075 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	3.82	3.47	5.75	5.35	3.13	0.86	6.85	4.57	0.36	-1.93	1.86	0.93	0.36	0.98



Stellar Parameters For KIC 005615879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5966^{+177}_{-213}	$4.491^{+0.052}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$0.959^{+0.299}_{-0.100}$	$1.040^{+0.129}_{-0.142}$	$1.662^{+0.460}_{-0.858}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005615879-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-684 ± 56	$3.59^{+0.61}_{-0.46}$	366^{+27}_{-19}	5348^{+320}_{-315}	28631^{+9956}_{-7434}
Alt.	-202 ± 53	$2.95^{+0.58}_{-0.47}$	366^{+26}_{-19}	4515^{+353}_{-377}	12844^{+6225}_{-4895}

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

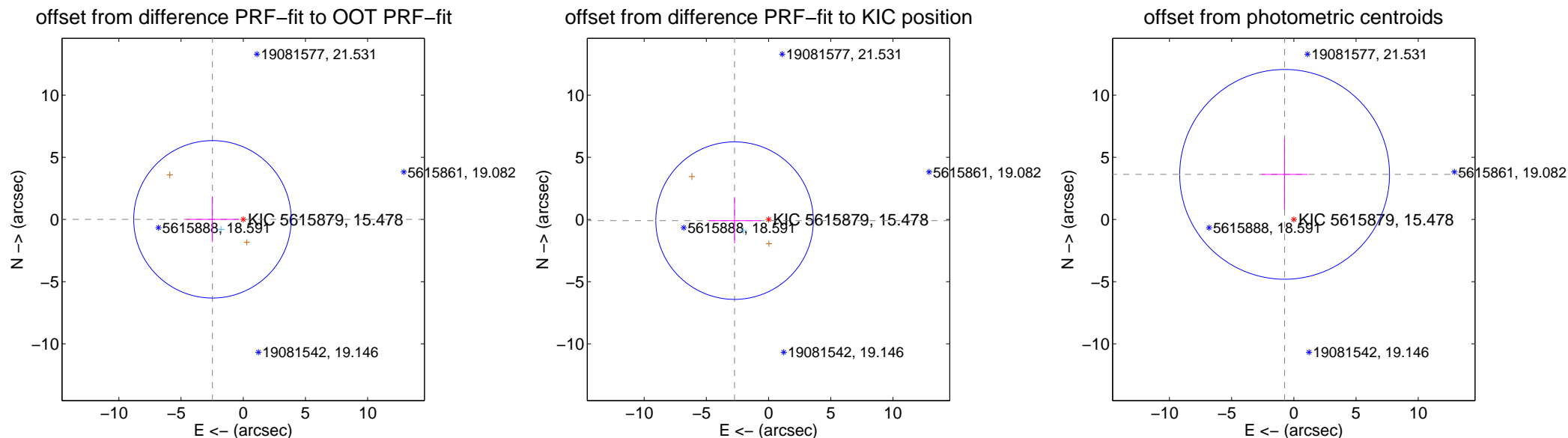
DV Centroid Data

Supplemental centroid analysis for 005615879-01. Kepler magnitude: 15.48. Transit SNR 7.68

There are 1 quarters with good PRF difference image offsets

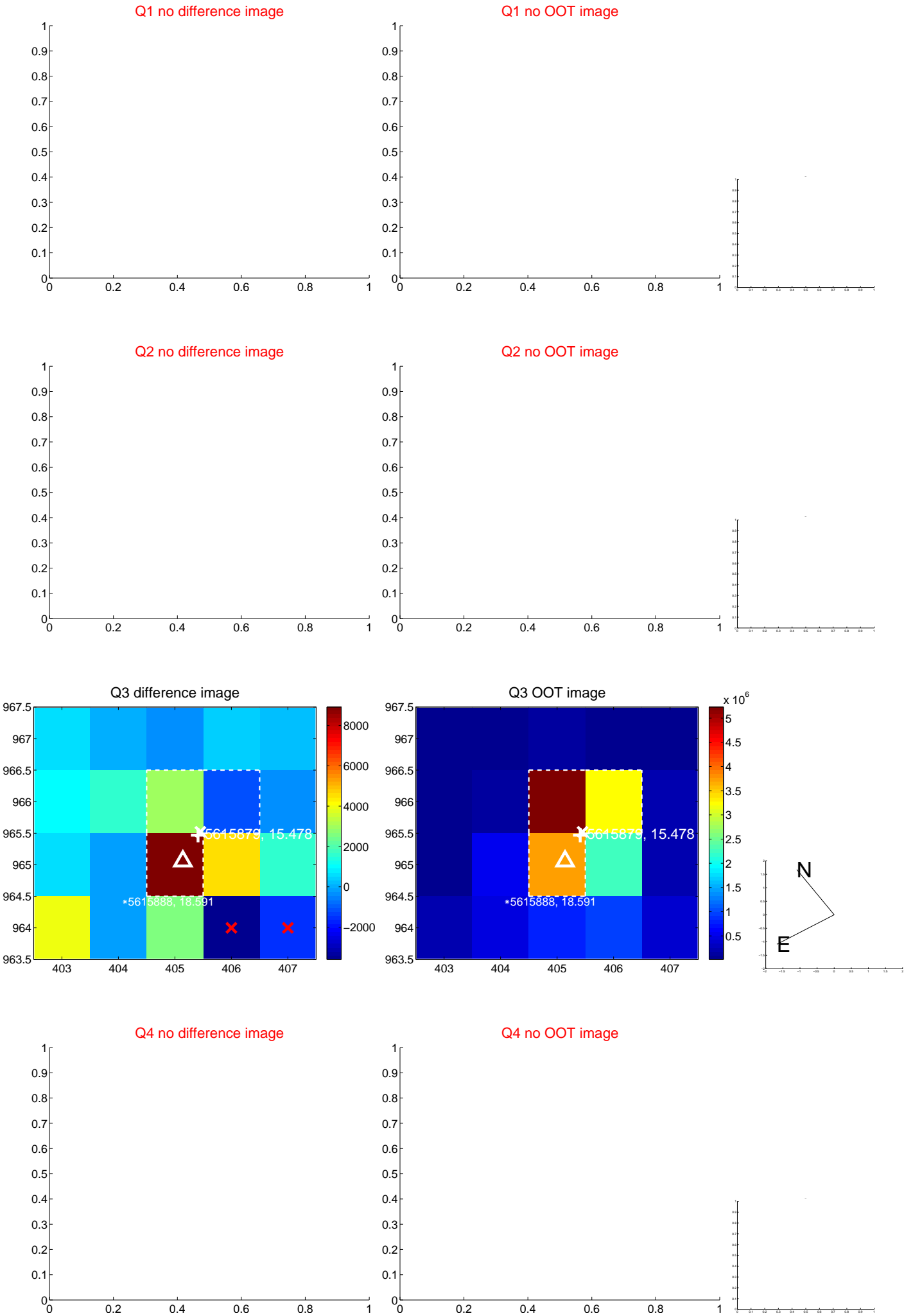
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.475 ± 2.110	1.17	2.475 ± 2.110	0.014 ± 1.841
PRF-fit source offset from KIC position	2.732 ± 2.111	1.29	2.731 ± 2.111	-0.090 ± 1.827
photometric centroid source offset	3.70 ± 2.81	1.32	0.74 ± 1.85	3.63 ± 2.84

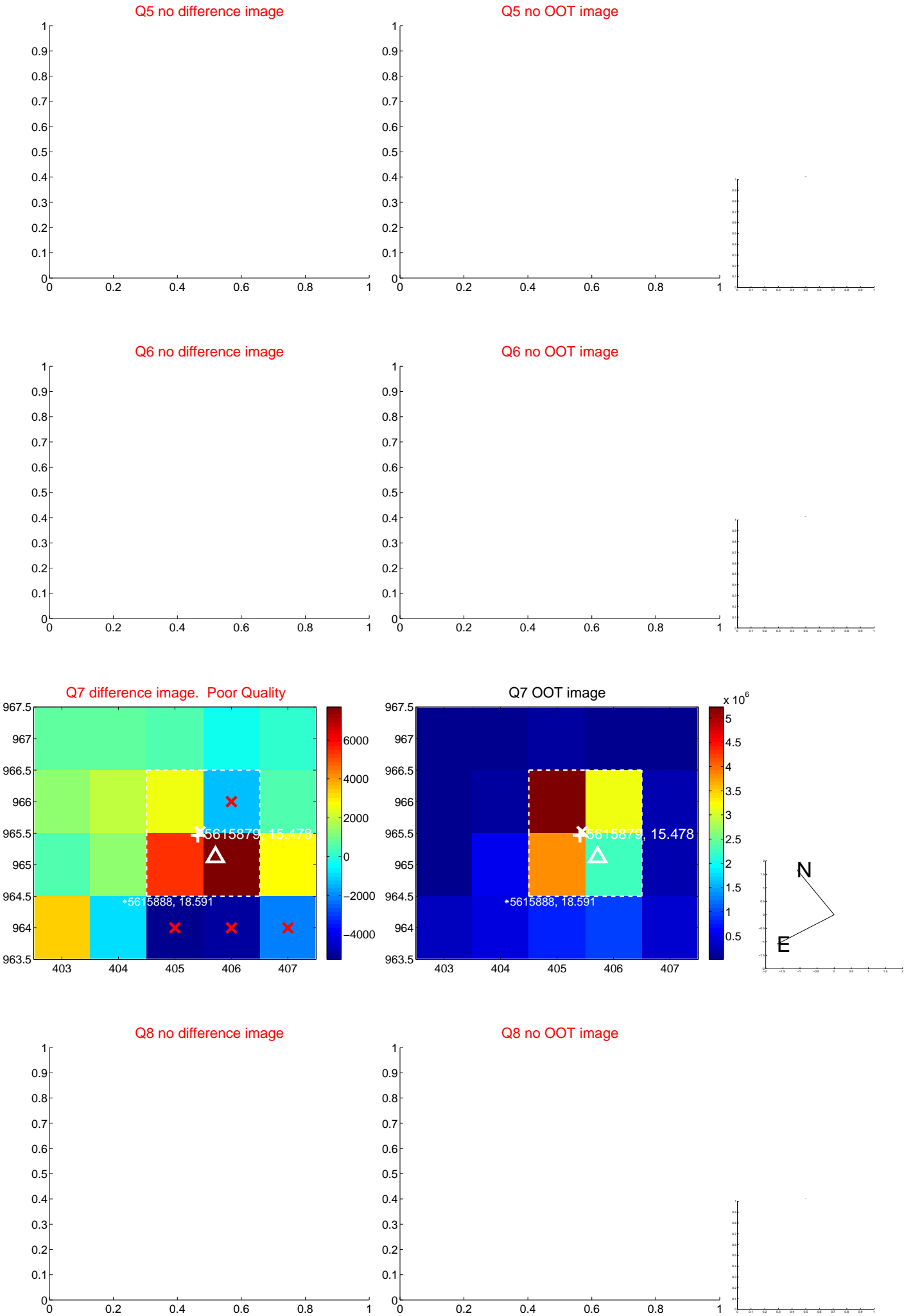


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

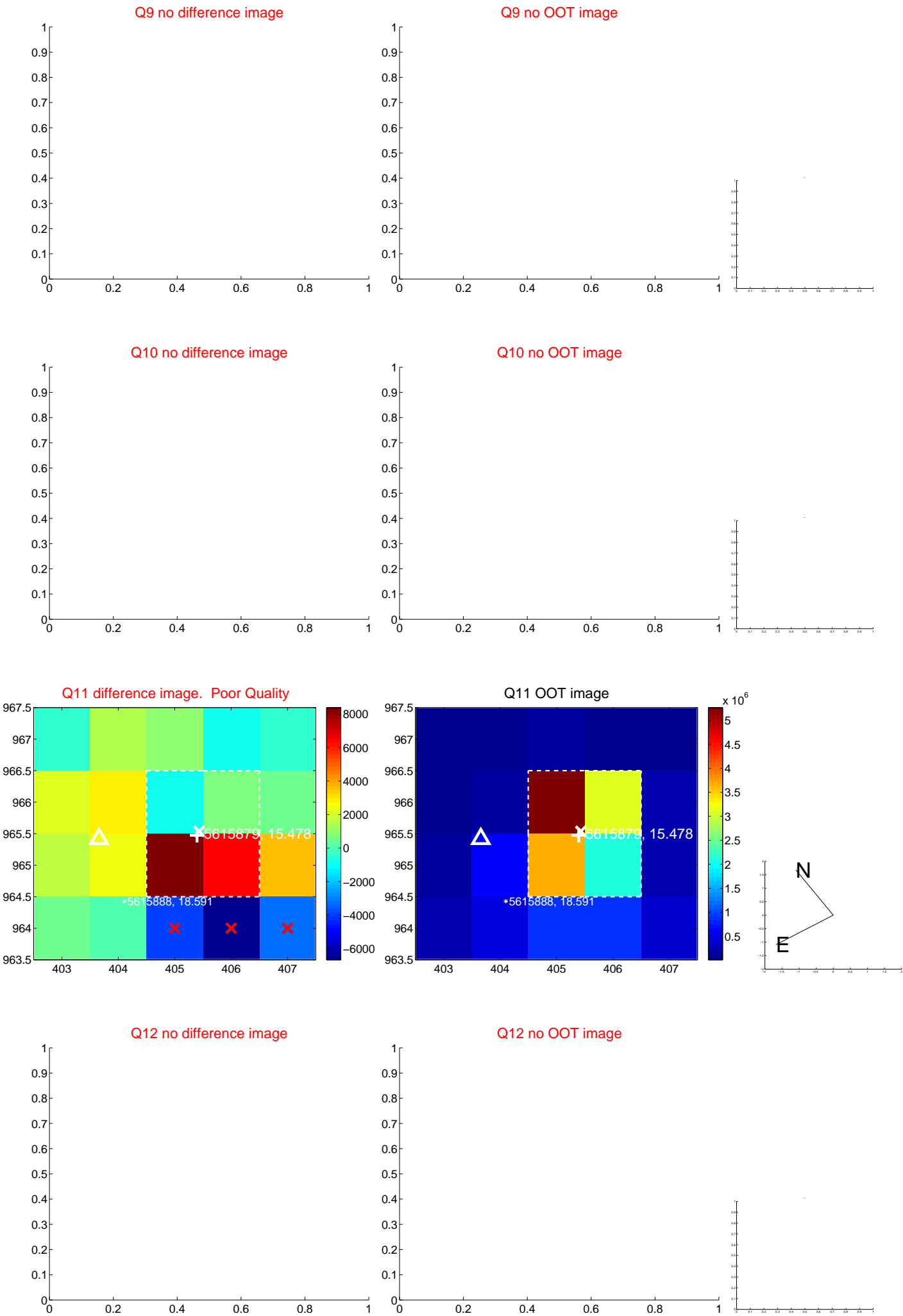
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



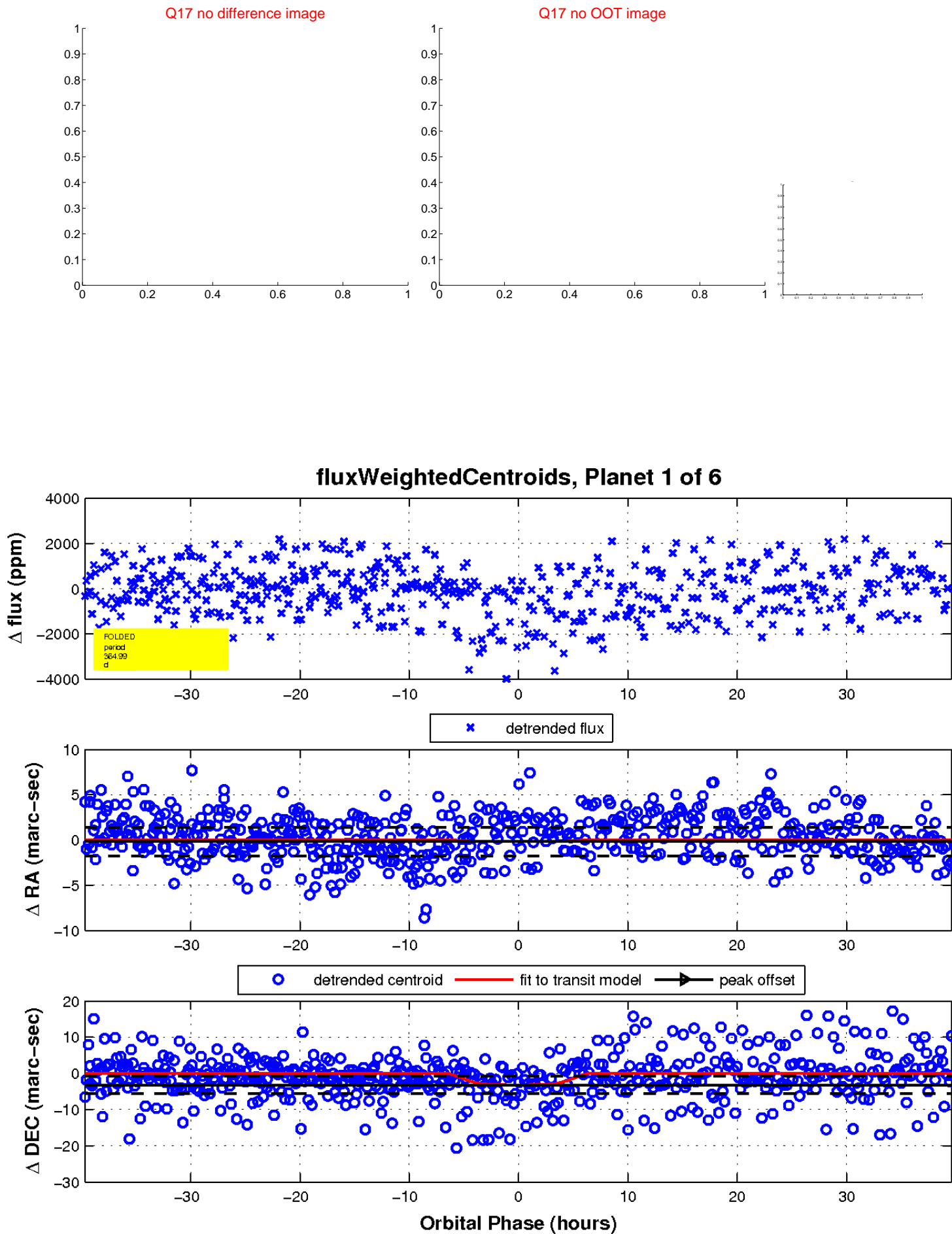
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

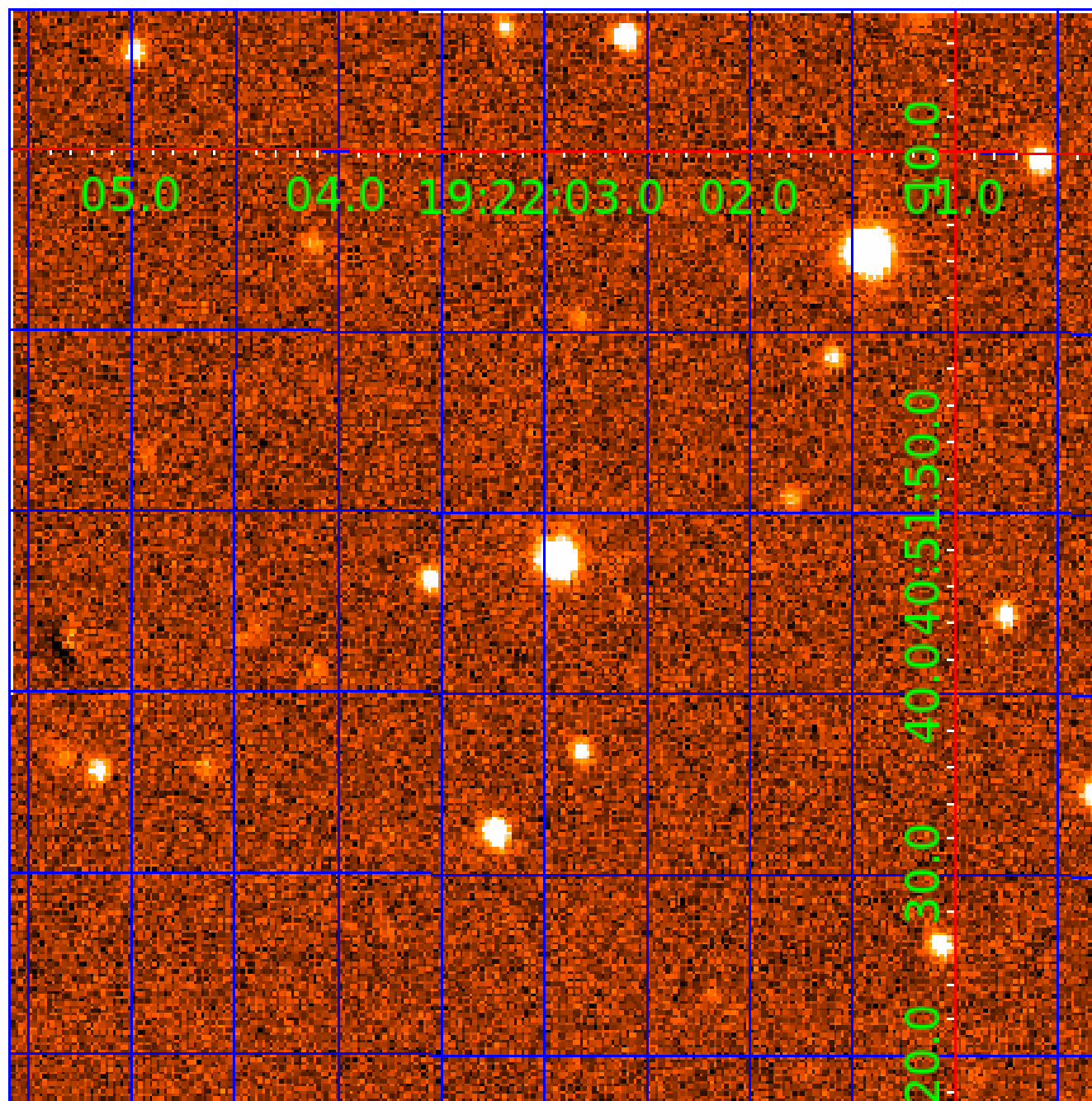


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005615879

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})
005615879-01	OBS	No	364.992301	276.525646	834.5	13.226	8.2	7.7	0.96	5966	3.46	1.02
005615879-02	OBS	No	370.906082	261.627340	971.8	9.531	10.1	8.7	0.96	5966	3.13	1.00
005615879-03	OBS	No	374.000590	261.438879	1124.8	8.966	9.3	9.2	0.96	5966	3.45	0.99
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005615879-06	OBS	No	365.086417	294.124670	784.6	5.000	7.8	-1.0	0.96	5966	2.67	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005615879-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
005615879-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005615879-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005615879-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—SAME_NTL_PERIOD—CENT_NOFITS

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

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

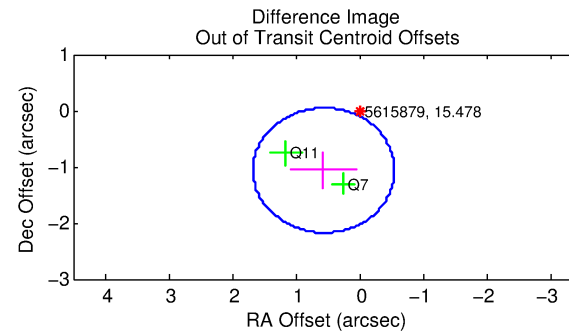
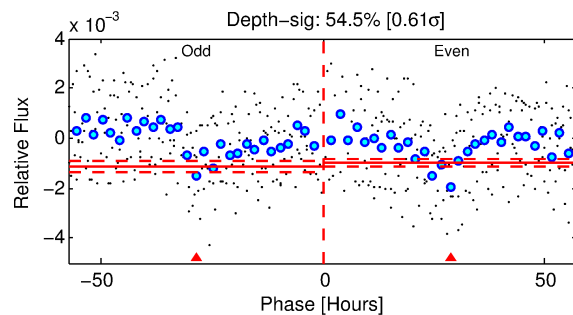
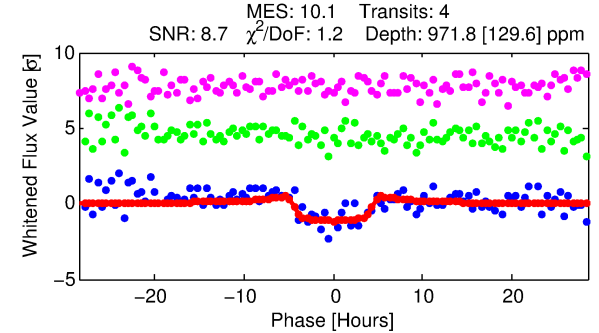
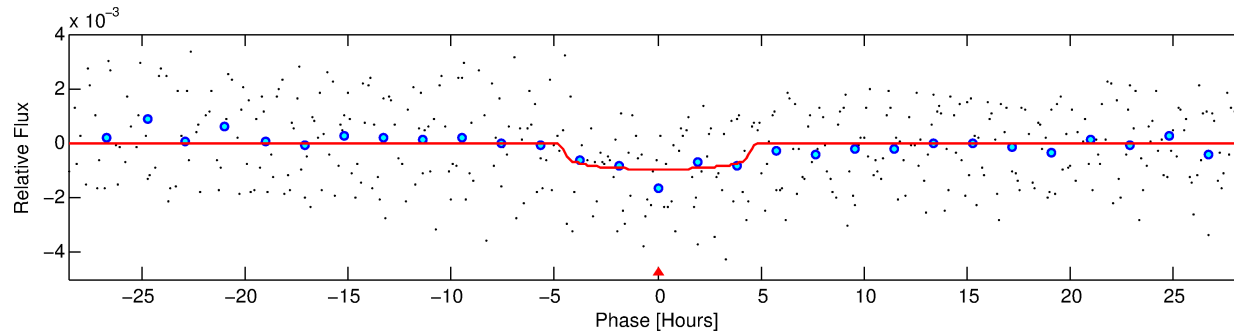
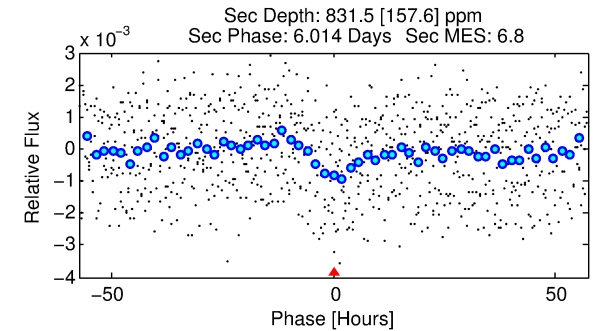
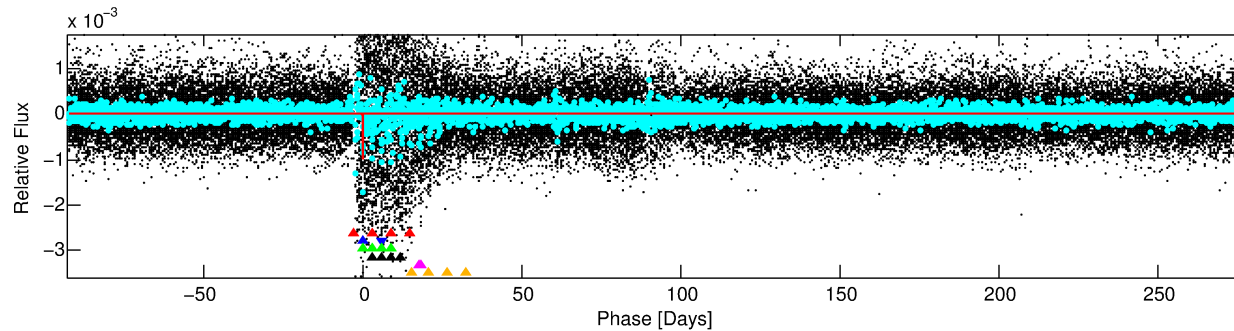
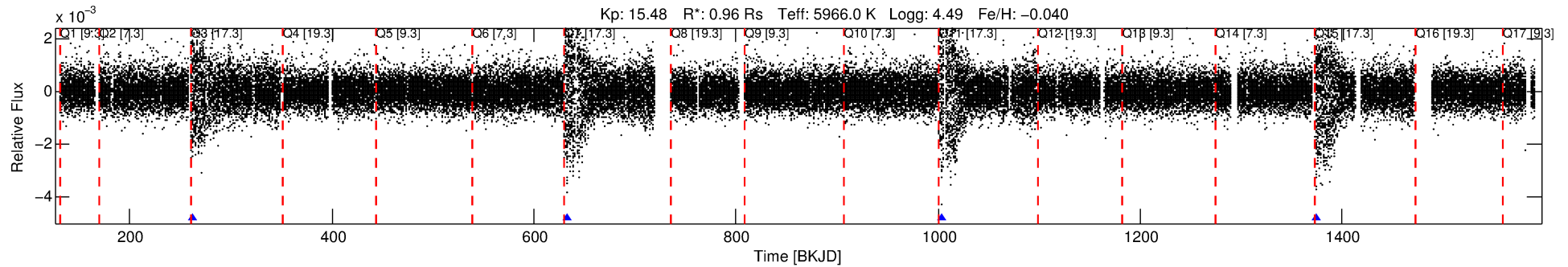
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005615879-02

No Significant Match Found

DV One-Page Summary

KIC: 5615879 Candidate: 2 of 6 Period: 370.906 d



DV Fit Results:

Period = 370.90608 [0.00899] d
Epoch = 261.6273 [0.0172] BKJD
Rp/R* = 0.0299 [0.0335]
a/R* = 245.32 [1267.75]
b = 0.62 [5.26]
Seff = 1.00 [0.41]
Teq = 255 [26] K
Rp = 3.13 [3.64] Re
a = 1.0235 [0.2682] AU
Ag = 48990.96 [111883.63] [0.44σ]
Teffp = 5860 [3306] K [1.70σ]

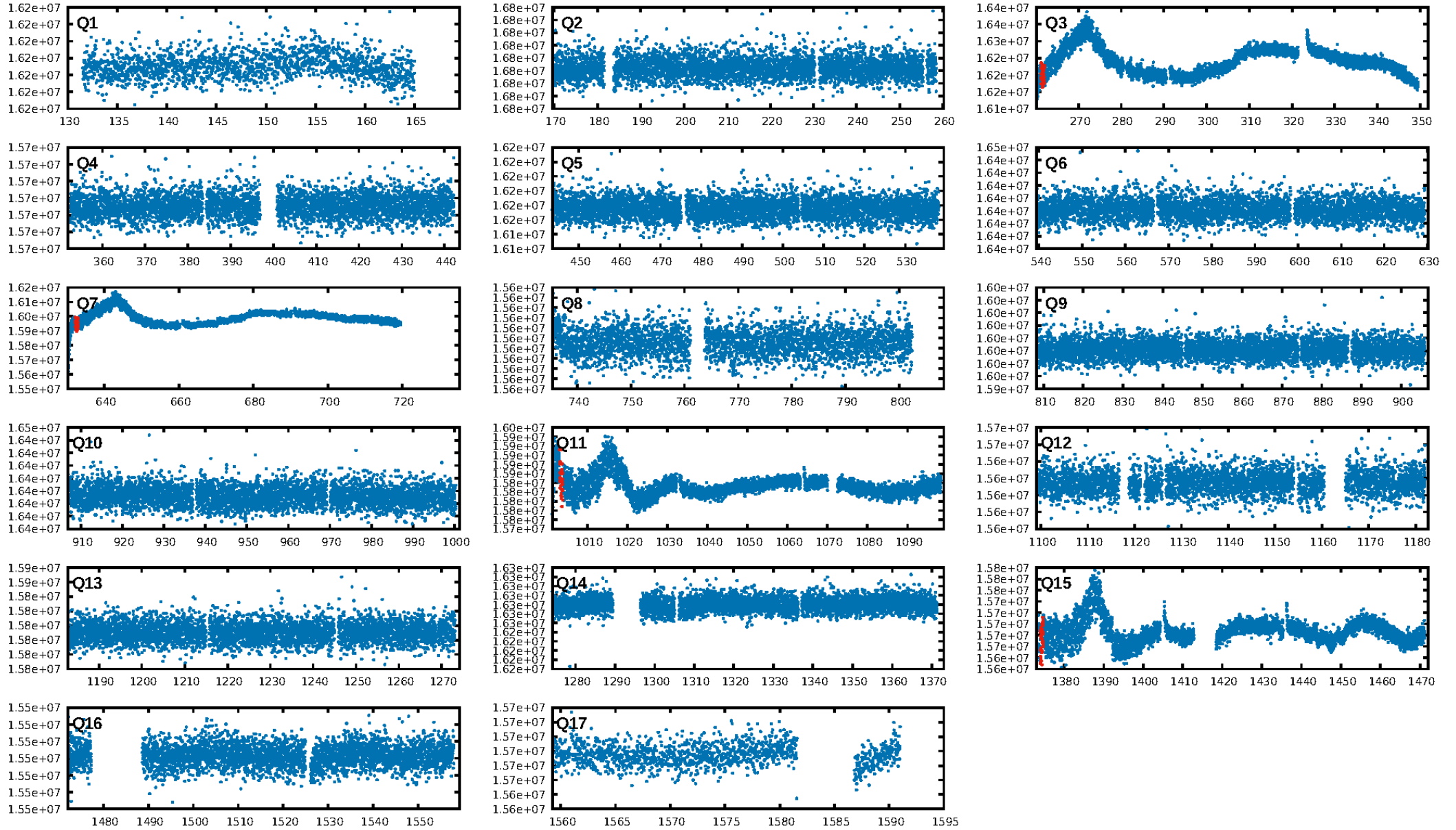
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.98σ]
LongPeriod-sig: 8.9% [0.11σ]
ModelChiSquare2-sig: 50.6%
ModelChiSquareGof-sig: 97.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.644
Centroid-sig: 9.5%
Centroid-so: 2.135 arcsec [1.03σ]
OotOffset-rm: 1.203 arcsec [3.25σ]
KicOffset-rm: 1.446 arcsec [3.78σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

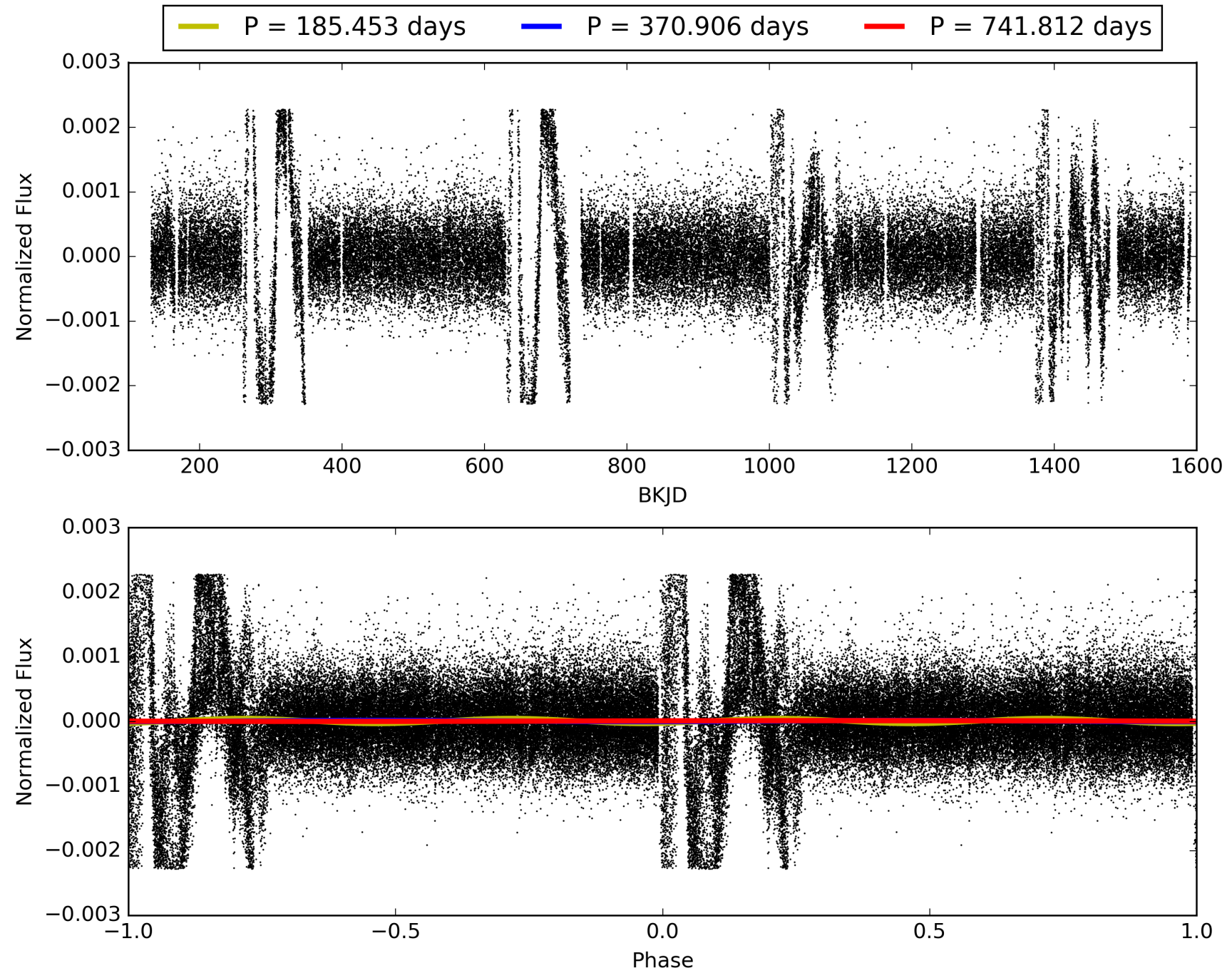
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:49:36 Z

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

TCE 005615879-02, PDC Light Curves

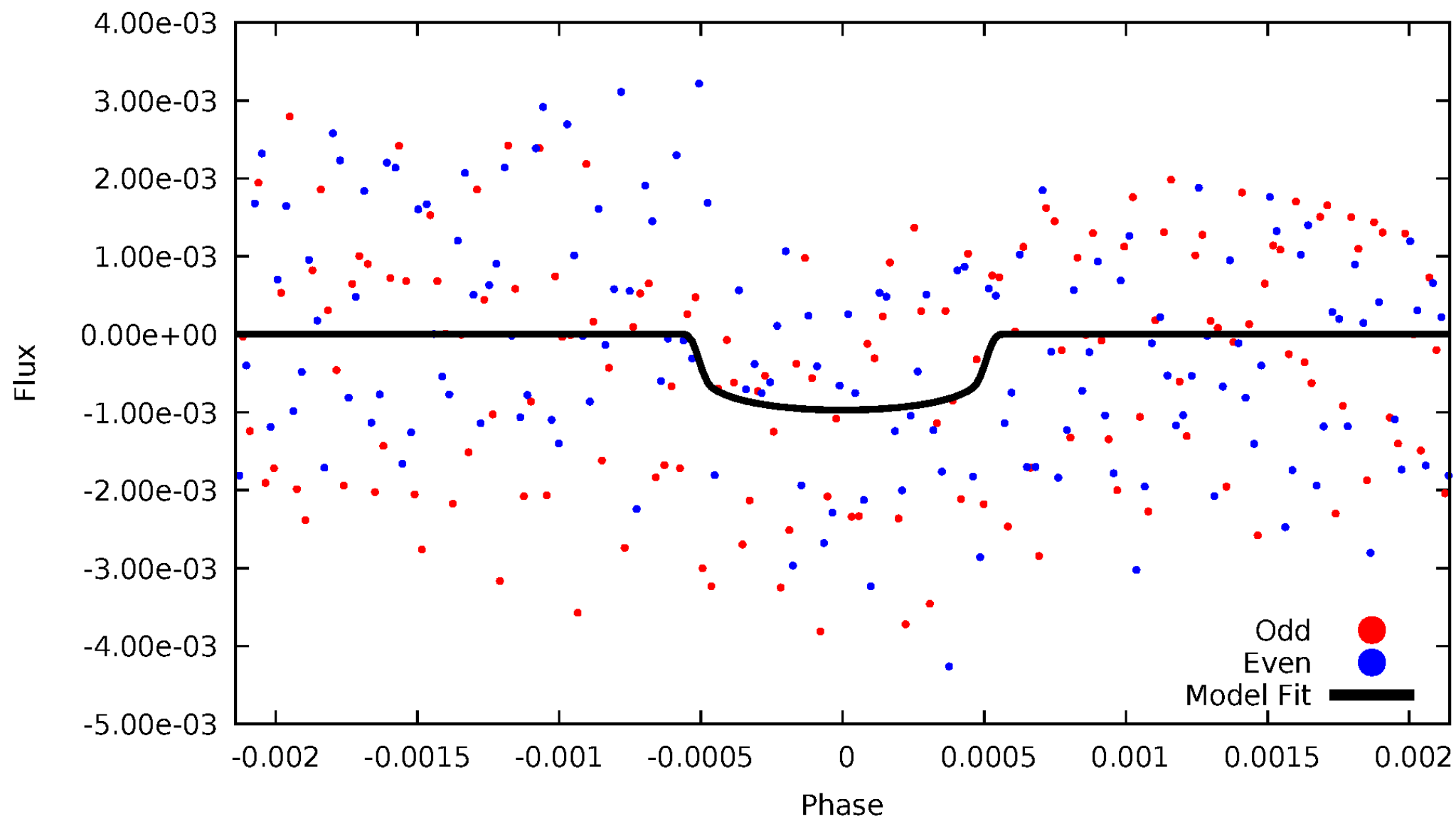


TCE 005615879-02



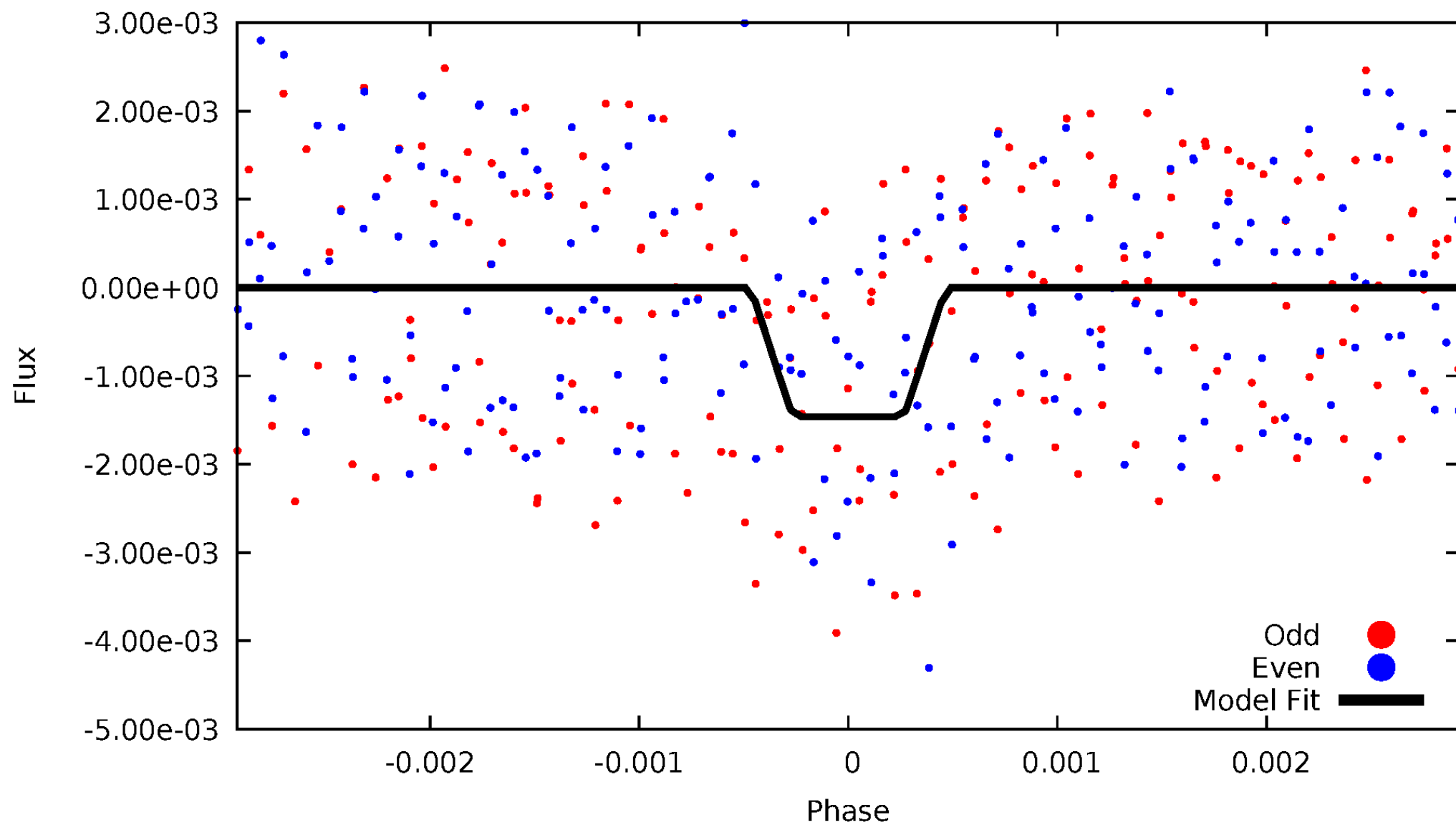
DV Odd/Even

TCE 005615879-02



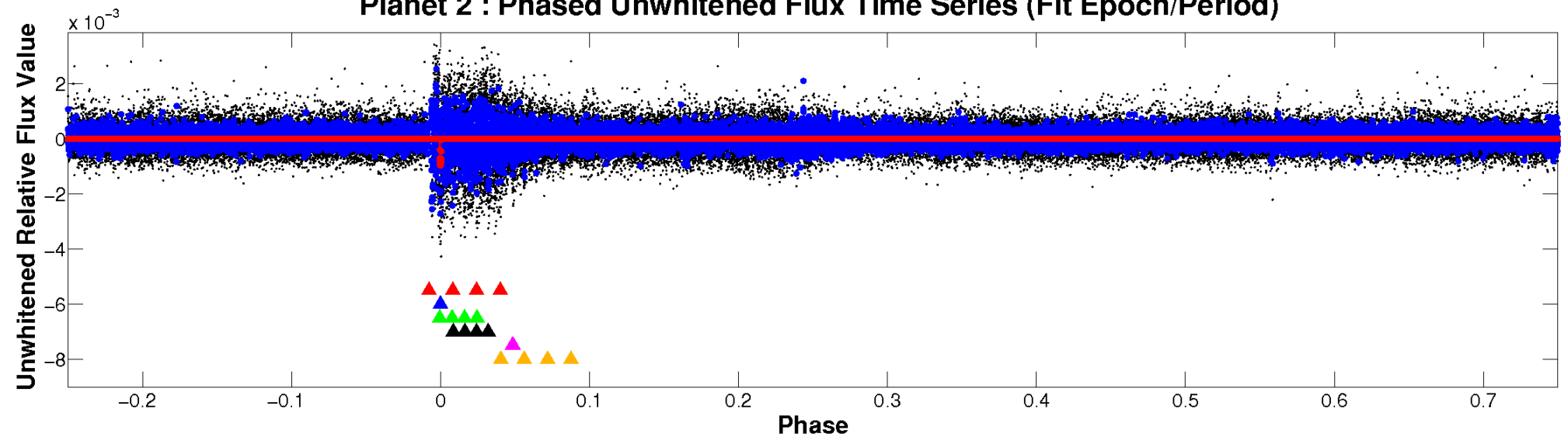
ALT Odd/Even

TCE 005615879-02

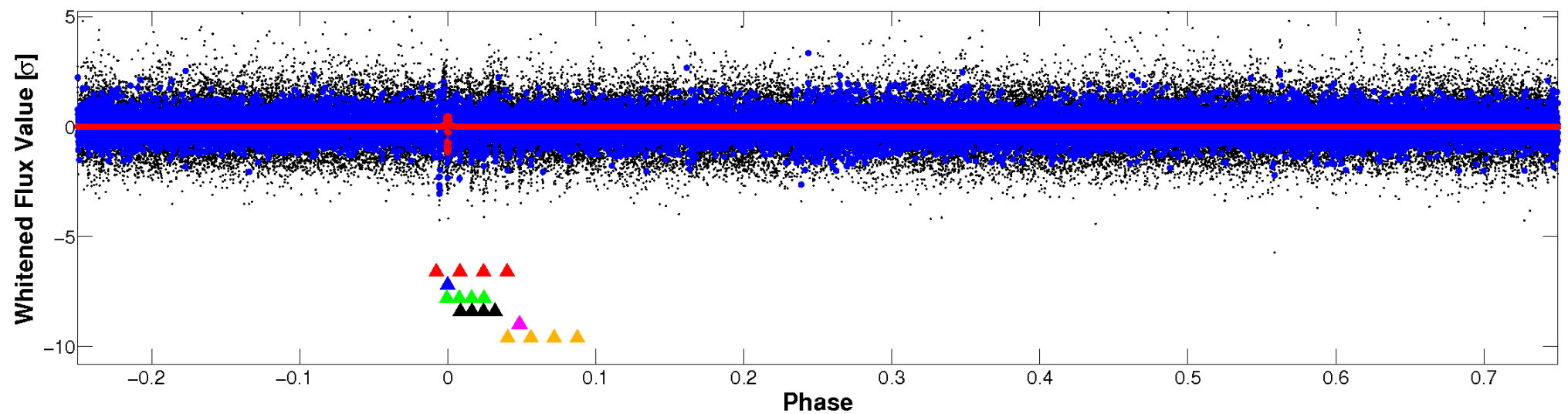


Non-Whitened Vs. Whitened Light Curve

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

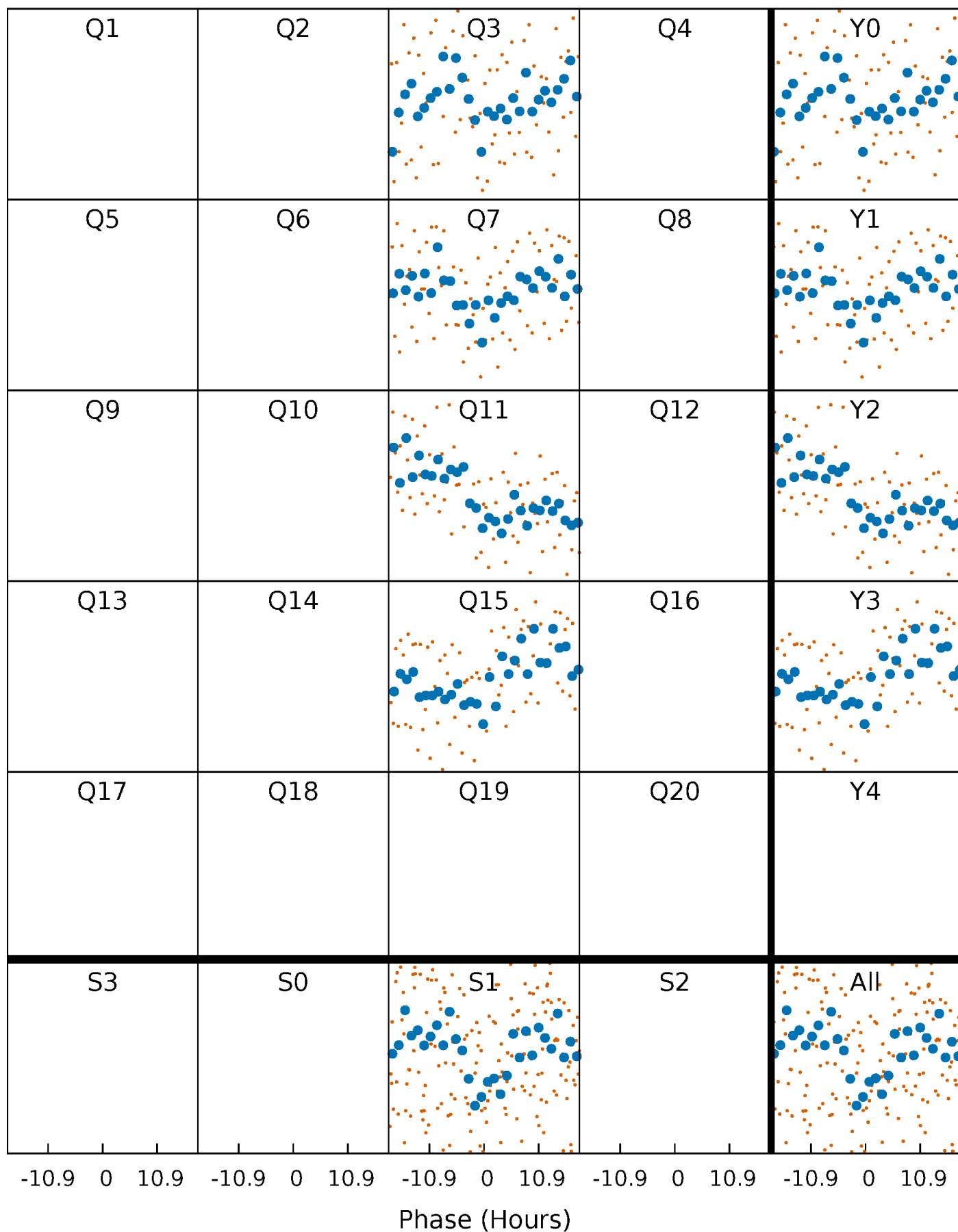


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



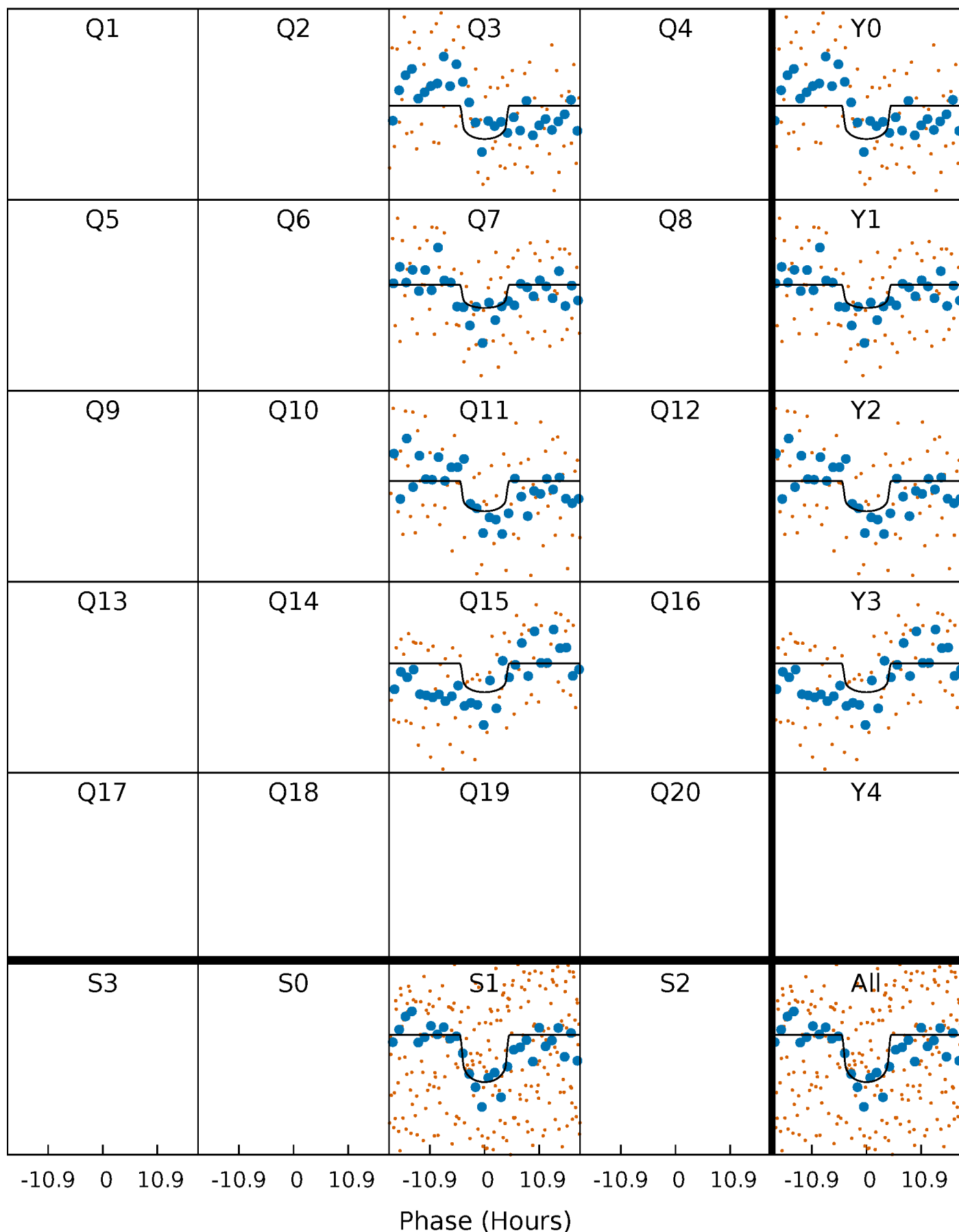
PDC Quarter-Phased Transit Curves

TCE 005615879-02 P=370.906082 Days $T_0=261.627340$ (BKJD)



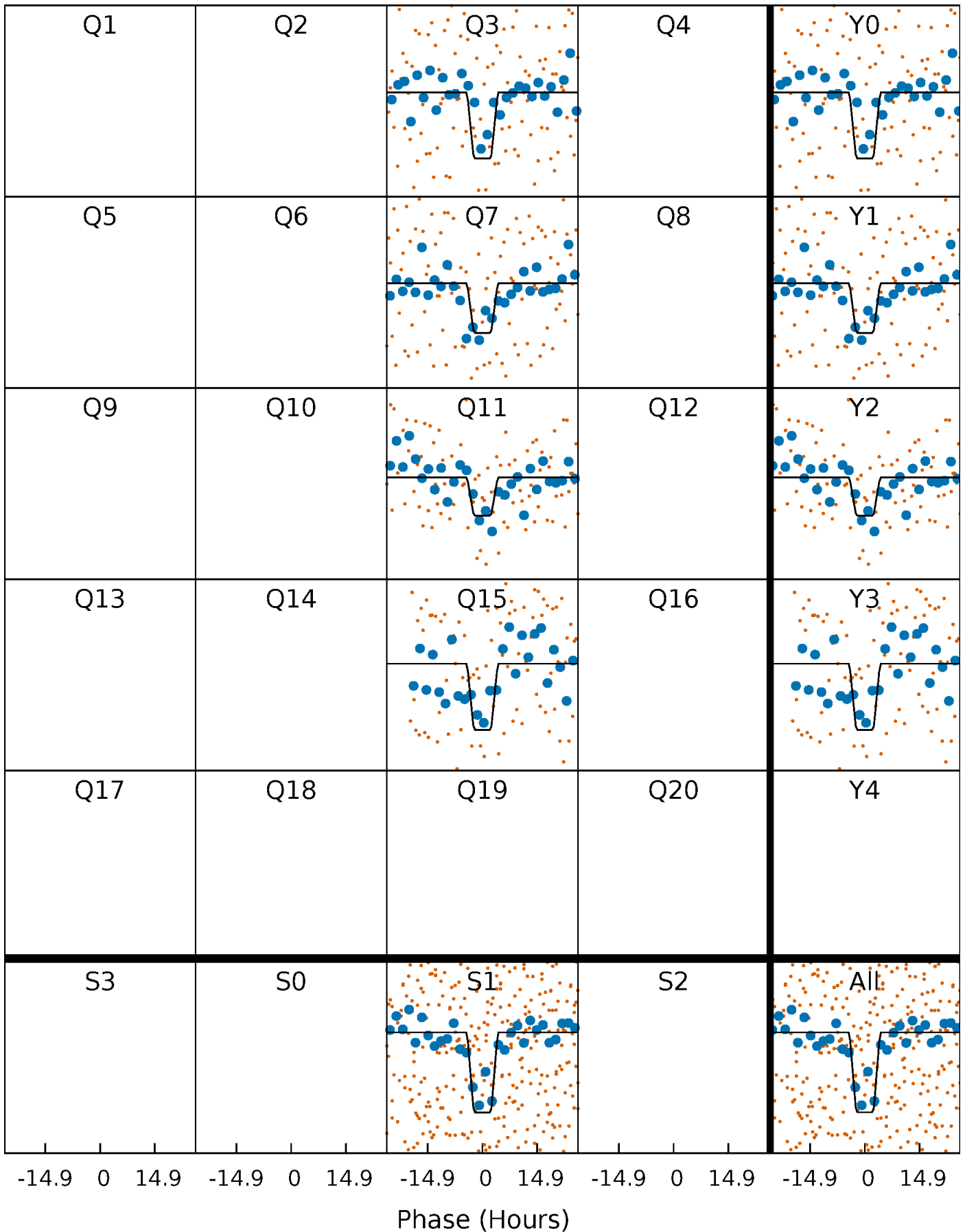
DV Quarter-Phased Transit Curves

TCE 005615879-02 $P=370.906082$ Days $T_0=261.627340$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

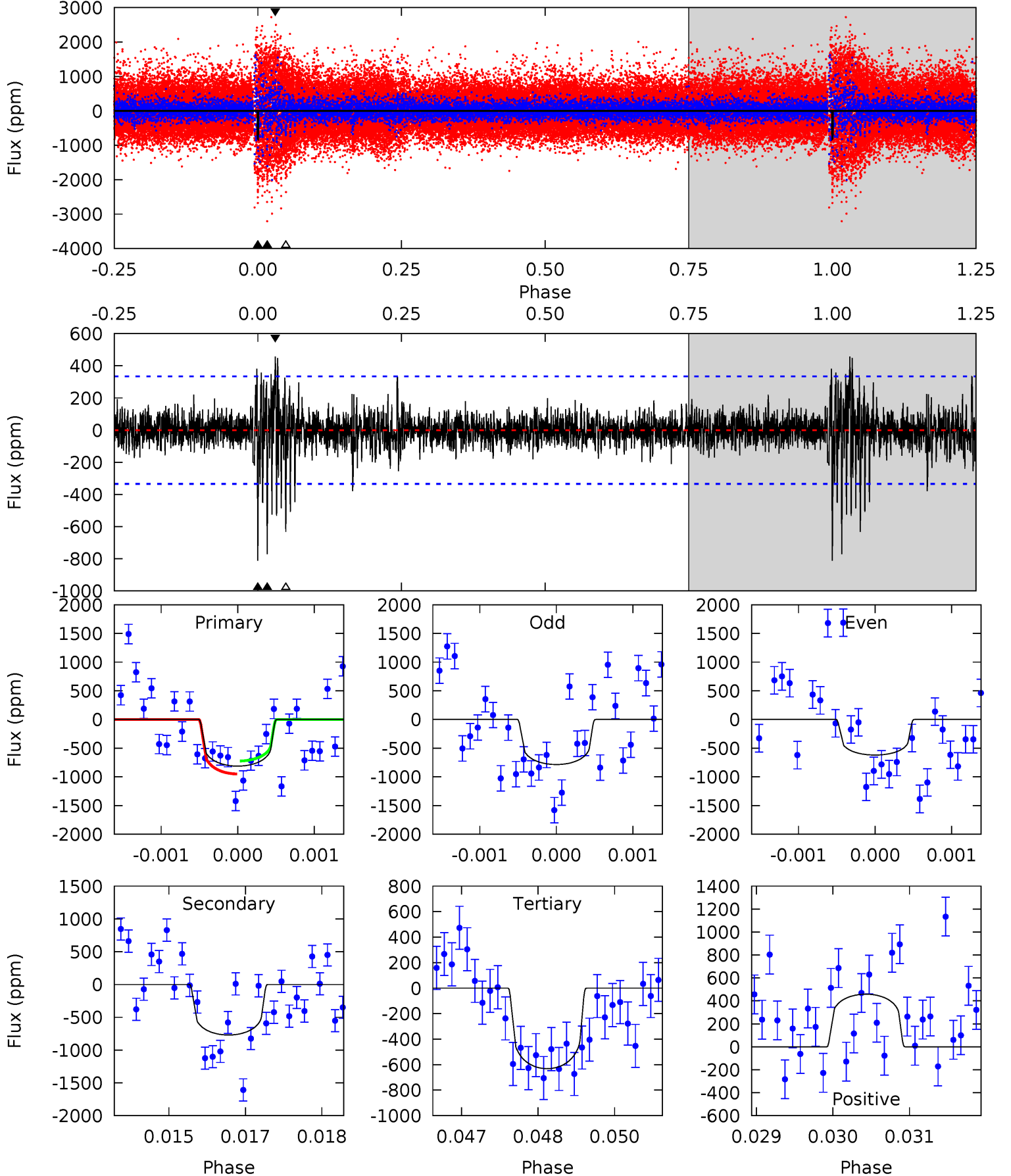
TCE 005615879-02 P=370.909981 Days $T_0=261.615900$ (BKJD)



DV Model-Shift Uniqueness Test

005615879-02, P = 370.906082 Days, E = 261.627340 Days

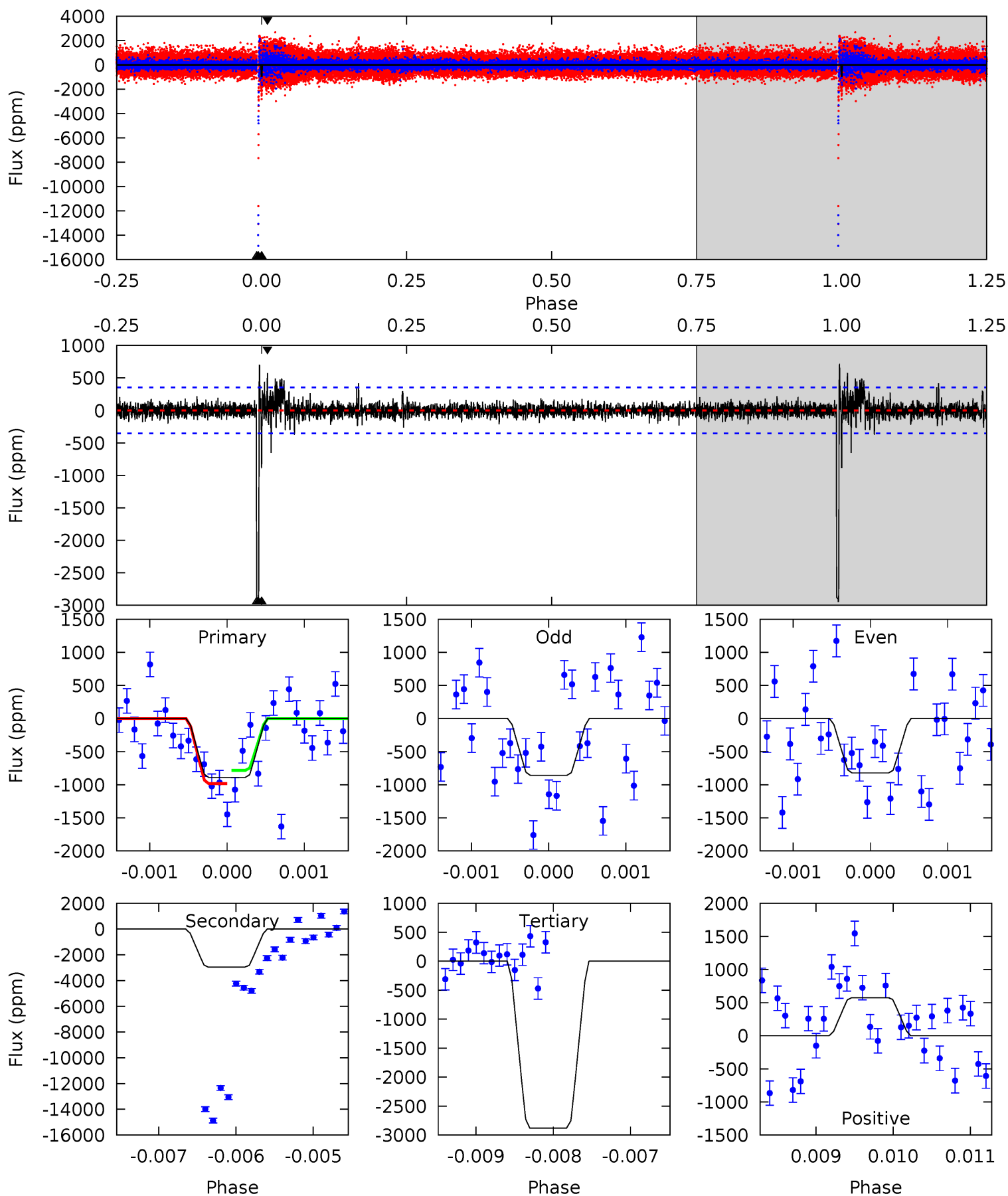
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	12.5	10.3	7.44	5.43	3.26	1.29	2.93	5.75	2.26	5.07	1.27	0.87	0.36	1.81



Alt Model-Shift Uniqueness Test

005615879-02, P = 370.909981 Days, E = 261.615900 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	45.5	44.5	8.86	5.46	3.31	1.34	-30.7	4.86	1.07	36.7	0.28	0.96	0.19	1.50



Stellar Parameters For KIC 005615879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5966^{+177}_{-213}	$4.491^{+0.052}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$0.959^{+0.299}_{-0.100}$	$1.040^{+0.129}_{-0.142}$	$1.662^{+0.460}_{-0.858}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005615879-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-771 ± 62	$4.12^{+3.45}_{-2.63}$	363^{+24}_{-18}	5174^{+3785}_{-1083}	$26131^{+175280}_{-18609}$
Alt.	-2950 ± 65	$4.73^{+3.61}_{-2.86}$	365^{+26}_{-19}	6732^{+5635}_{-1633}	$77056^{+386712}_{-52960}$

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 $A_{obs} \gg 1.0$

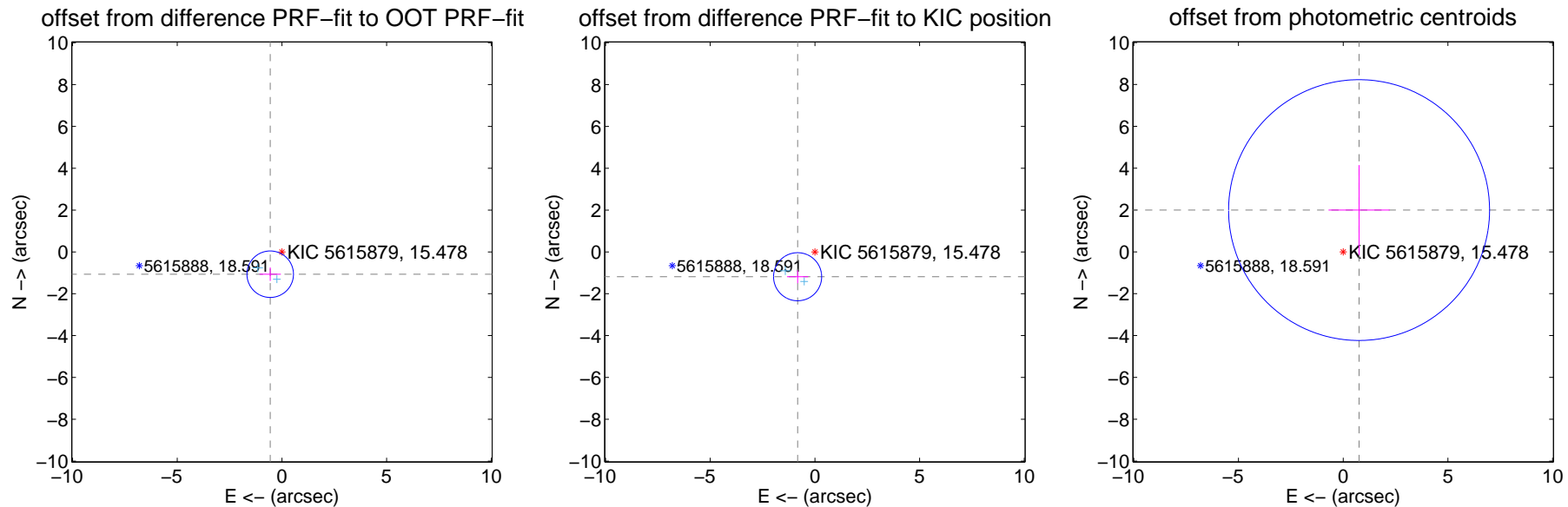
DV Centroid Data

Supplemental centroid analysis for 005615879-02. Kepler magnitude: 15.48. Transit SNR 8.71

There are 2 quarters with good PRF difference image offsets

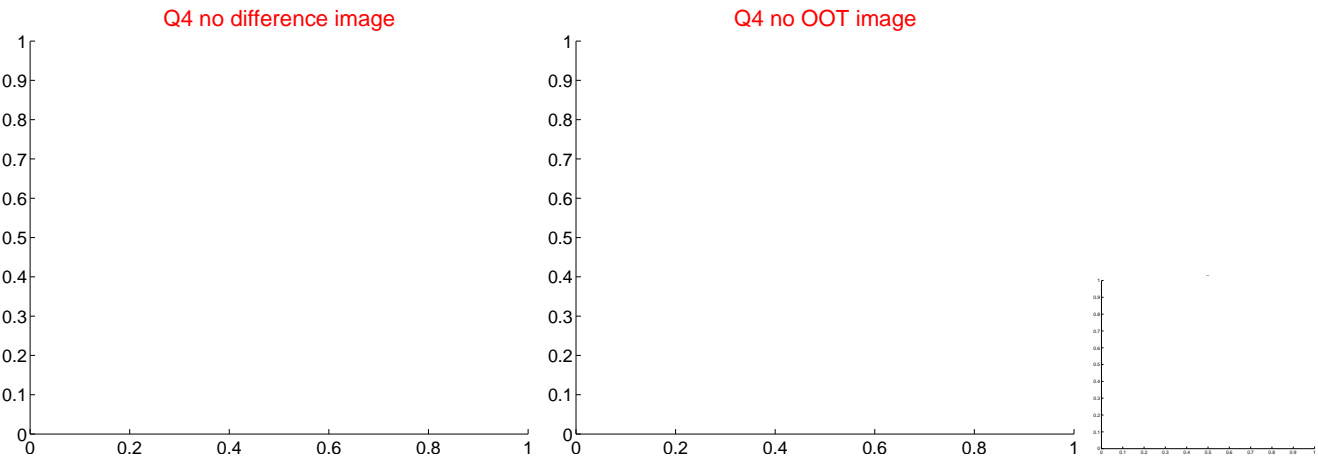
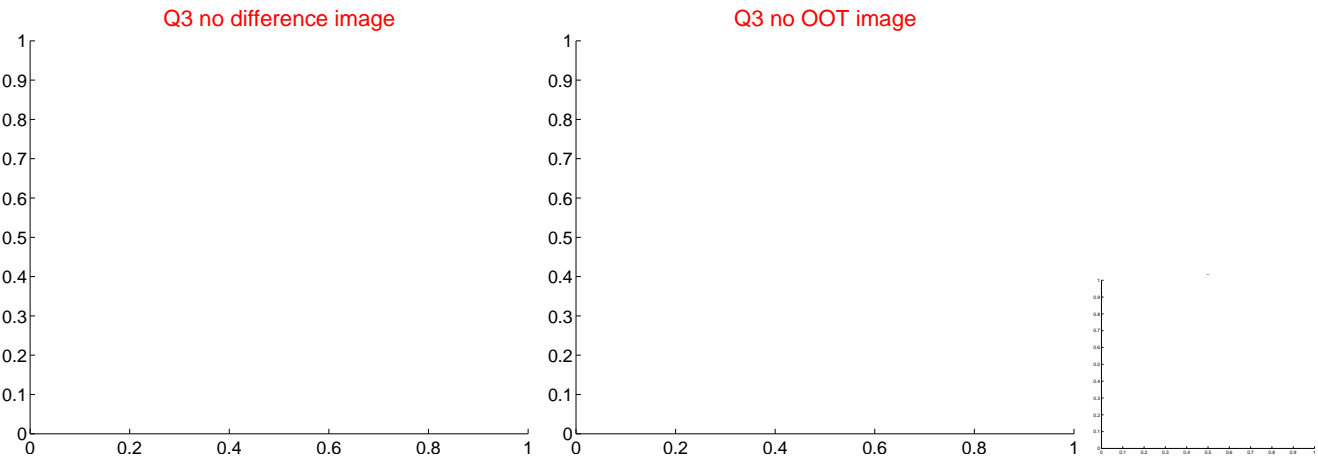
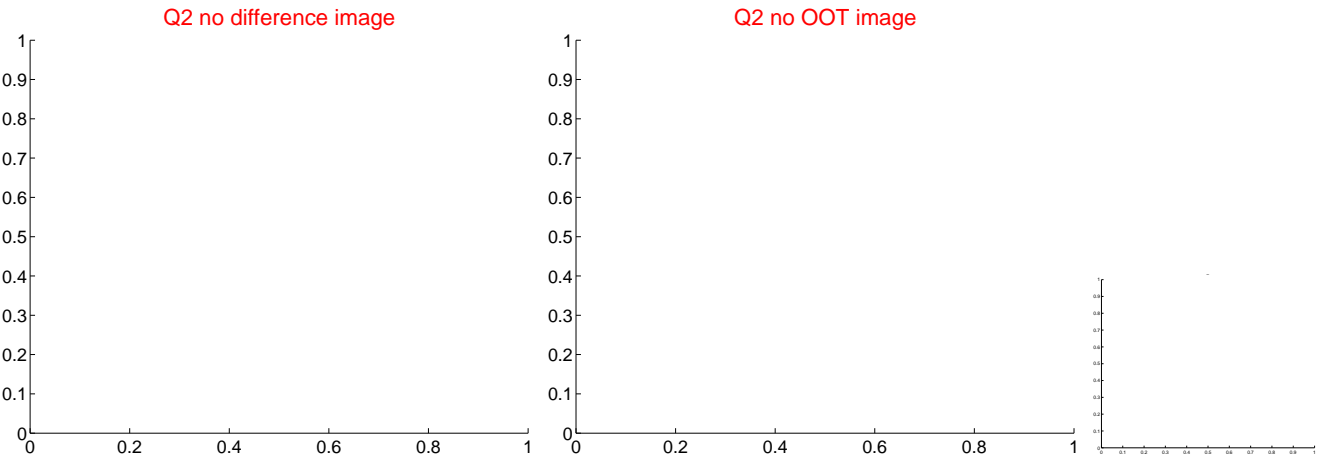
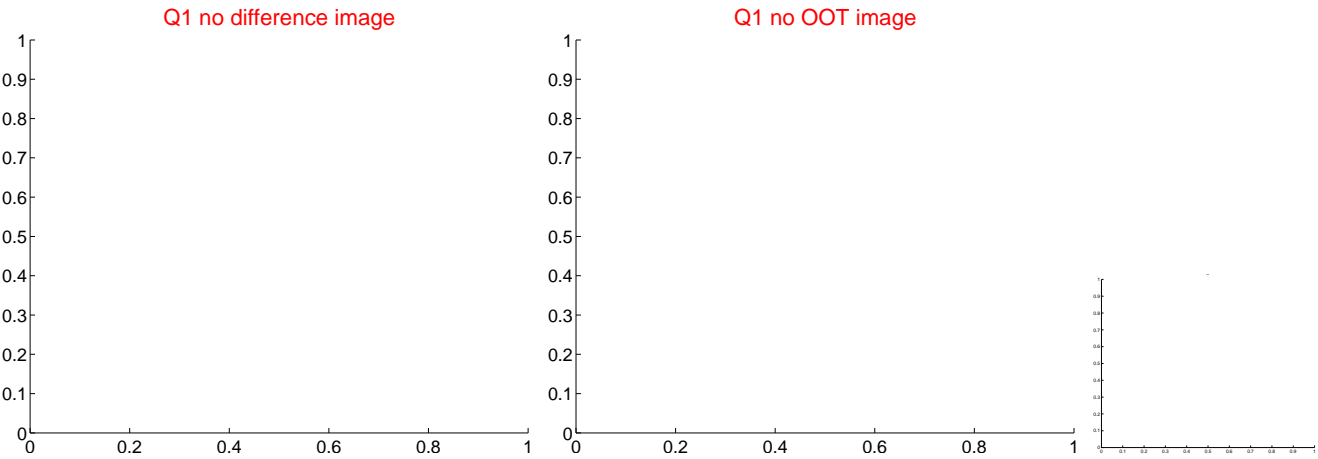
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.203 ± 0.370	3.25	0.559 ± 0.511	-1.065 ± 0.321
PRF-fit source offset from KIC position	1.446 ± 0.383	3.78	0.826 ± 0.505	-1.186 ± 0.306
photometric centroid source offset	2.14 ± 2.08	1.03	-0.76 ± 1.46	2.00 ± 2.15

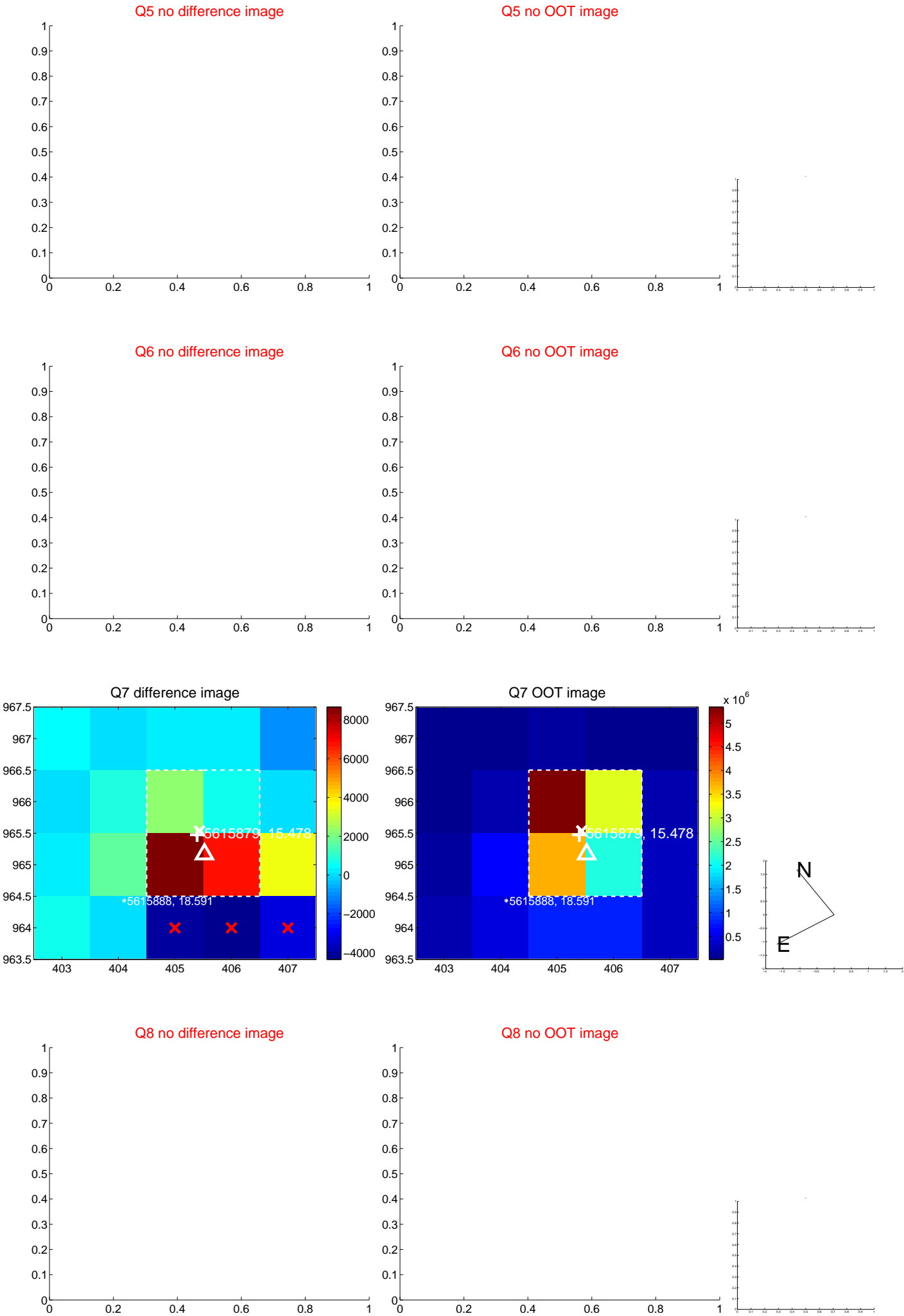


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

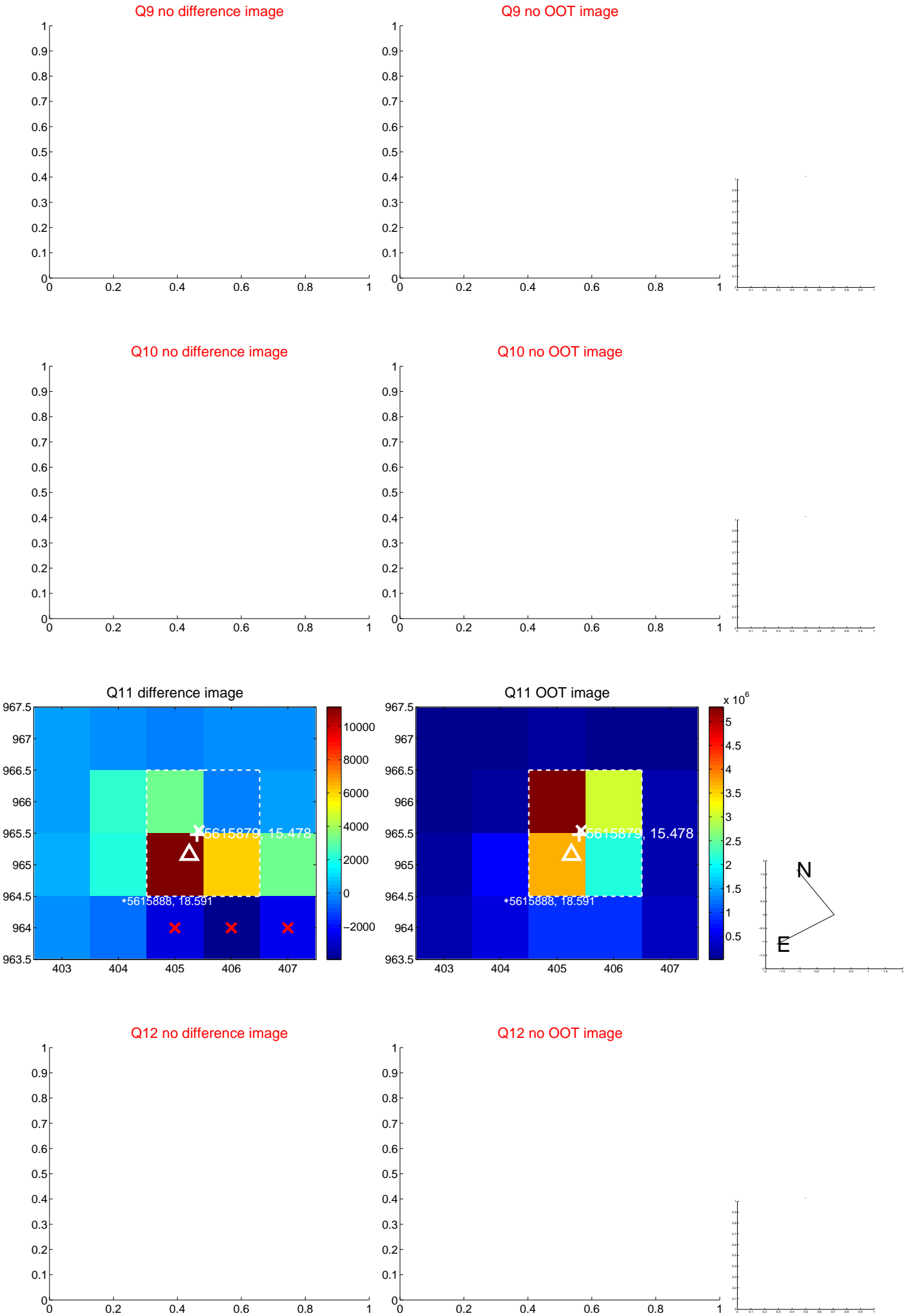
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



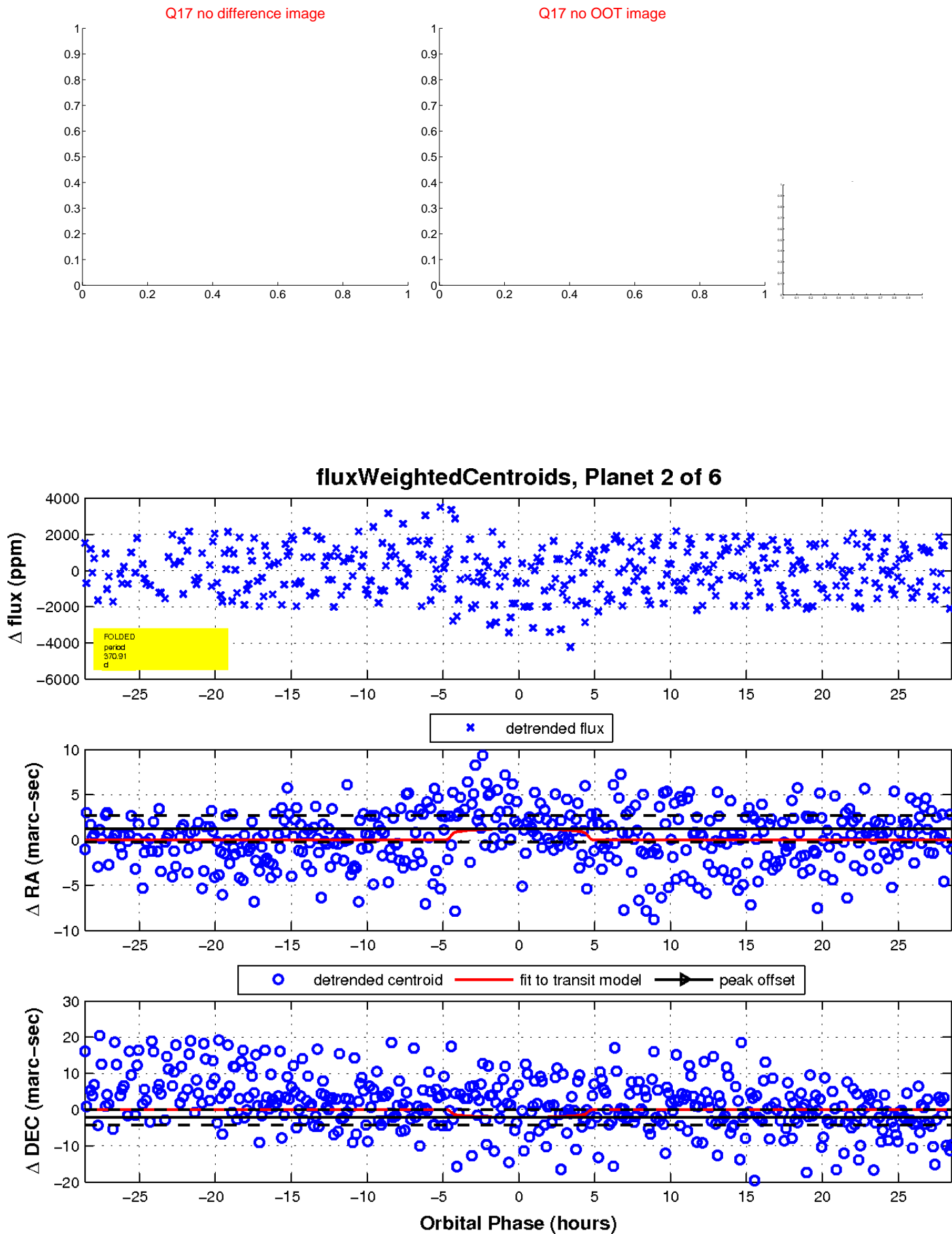
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

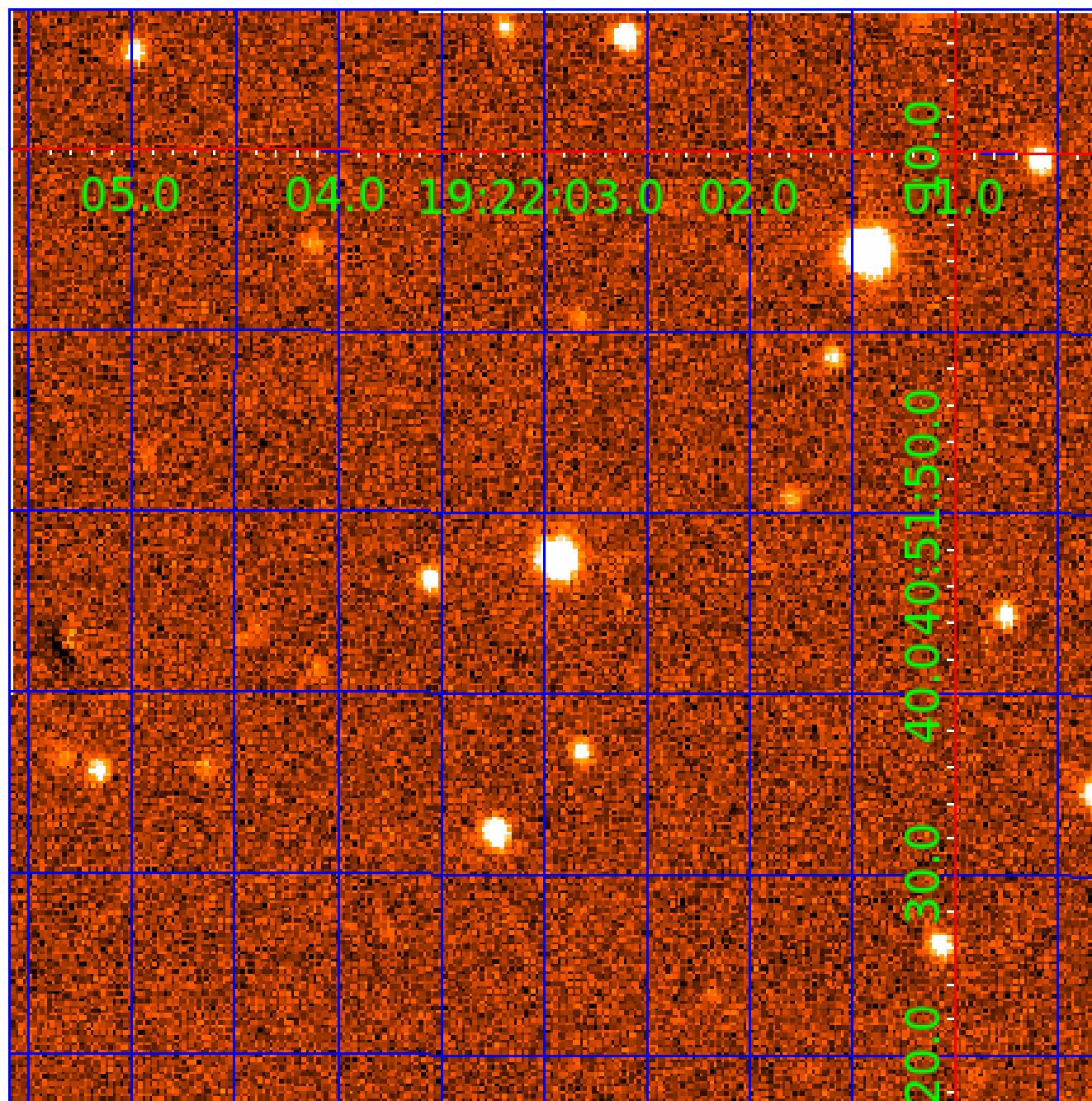


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005615879

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})
005615879-01	OBS	No	364.992301	276.525646	834.5	13.226	8.2	7.7	0.96	5966	3.46	1.02
005615879-02	OBS	No	370.906082	261.627340	971.8	9.531	10.1	8.7	0.96	5966	3.13	1.00
005615879-03	OBS	No	374.000590	261.438879	1124.8	8.966	9.3	9.2	0.96	5966	3.45	0.99
005615879-04	OBS	No	373.792151	264.830565	861.5	21.848	9.5	8.9	0.96	5966	3.41	0.99
005615879-05	OBS	No	370.981583	279.515516	772.3	13.209	8.2	8.0	0.96	5966	3.08	1.00
005615879-06	OBS	No	365.086417	294.124670	784.6	5.000	7.8	-1.0	0.96	5966	2.67	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005615879-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
005615879-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005615879-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005615879-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—SAME_NTL_PERIOD—CENT_NOFITS

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

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

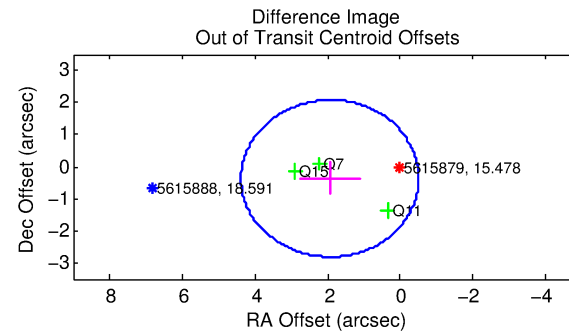
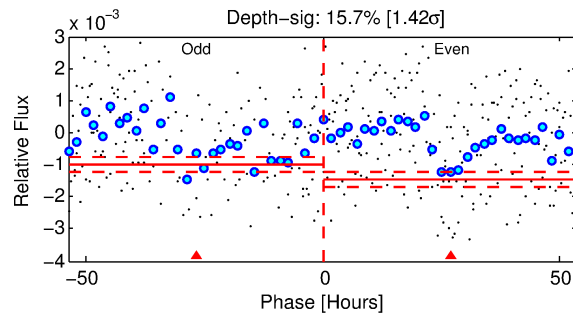
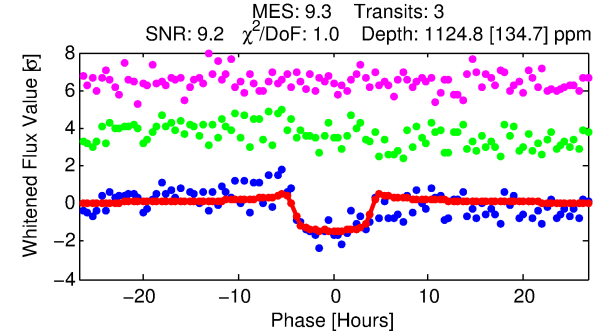
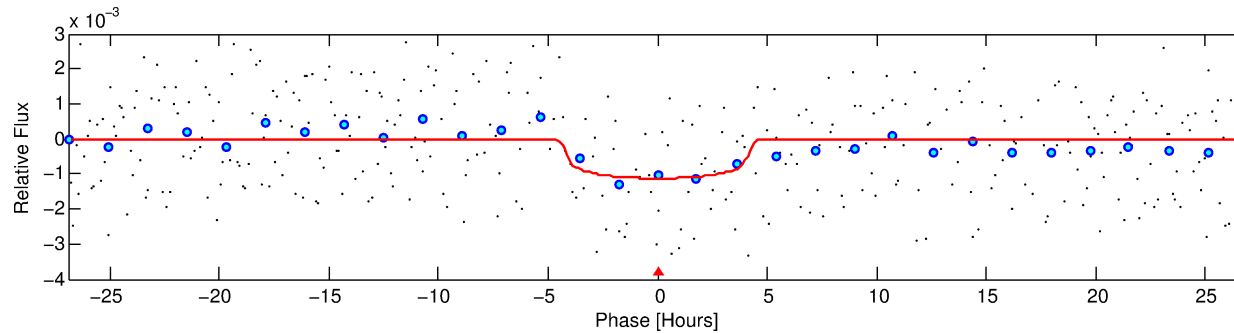
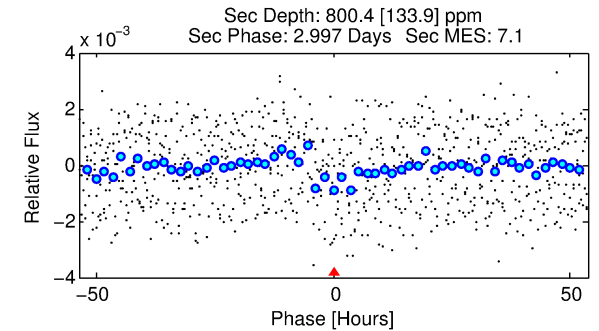
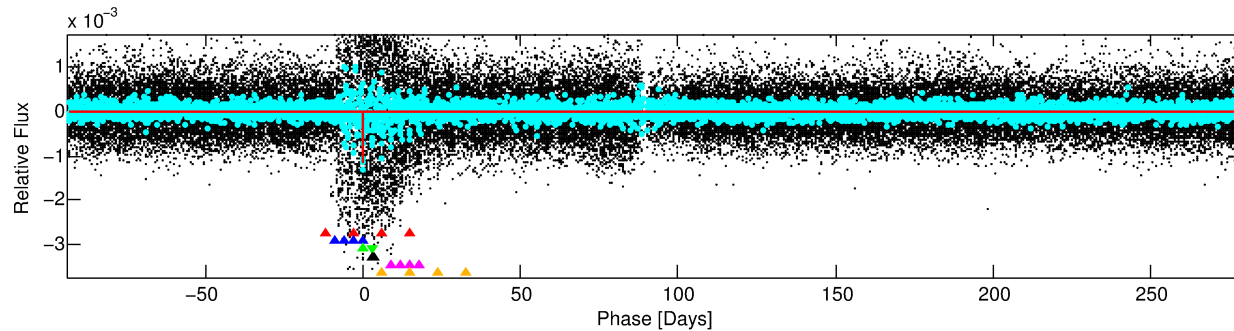
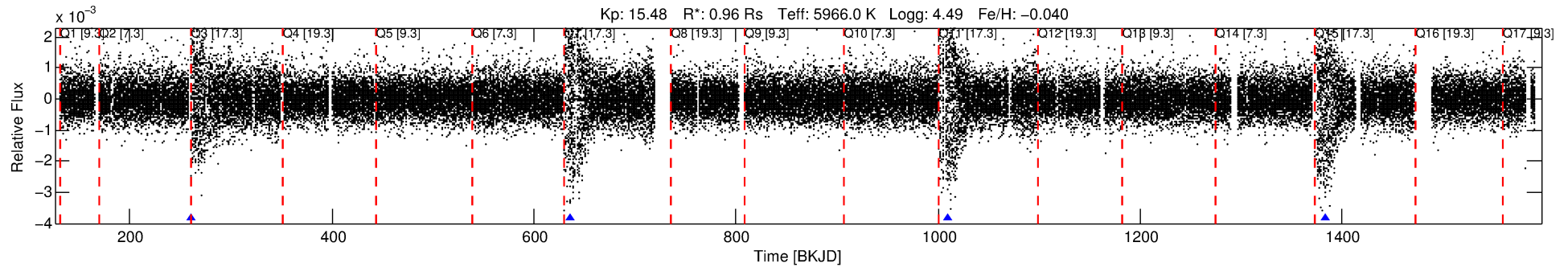
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005615879-03

No Significant Match Found

DV One-Page Summary

KIC: 5615879 Candidate: 3 of 6 Period: 374.001 d



DV Fit Results:

Period = 374.00059 [0.01136] d
Epoch = 261.4389 [0.0252] BKJD
Rp/R* = 0.0330 [0.0184]
a/R* = 237.44 [604.69]
b = 0.72 [1.76]
Seff = 0.99 [0.40]
Teq = 254 [26] K
Rp = 3.45 [2.20] Re
a = 1.0292 [0.2697] AU
Ag = 39143.25 [46502.22] [0.84σ]
Teffp = 5525 [1567] K [3.36σ]

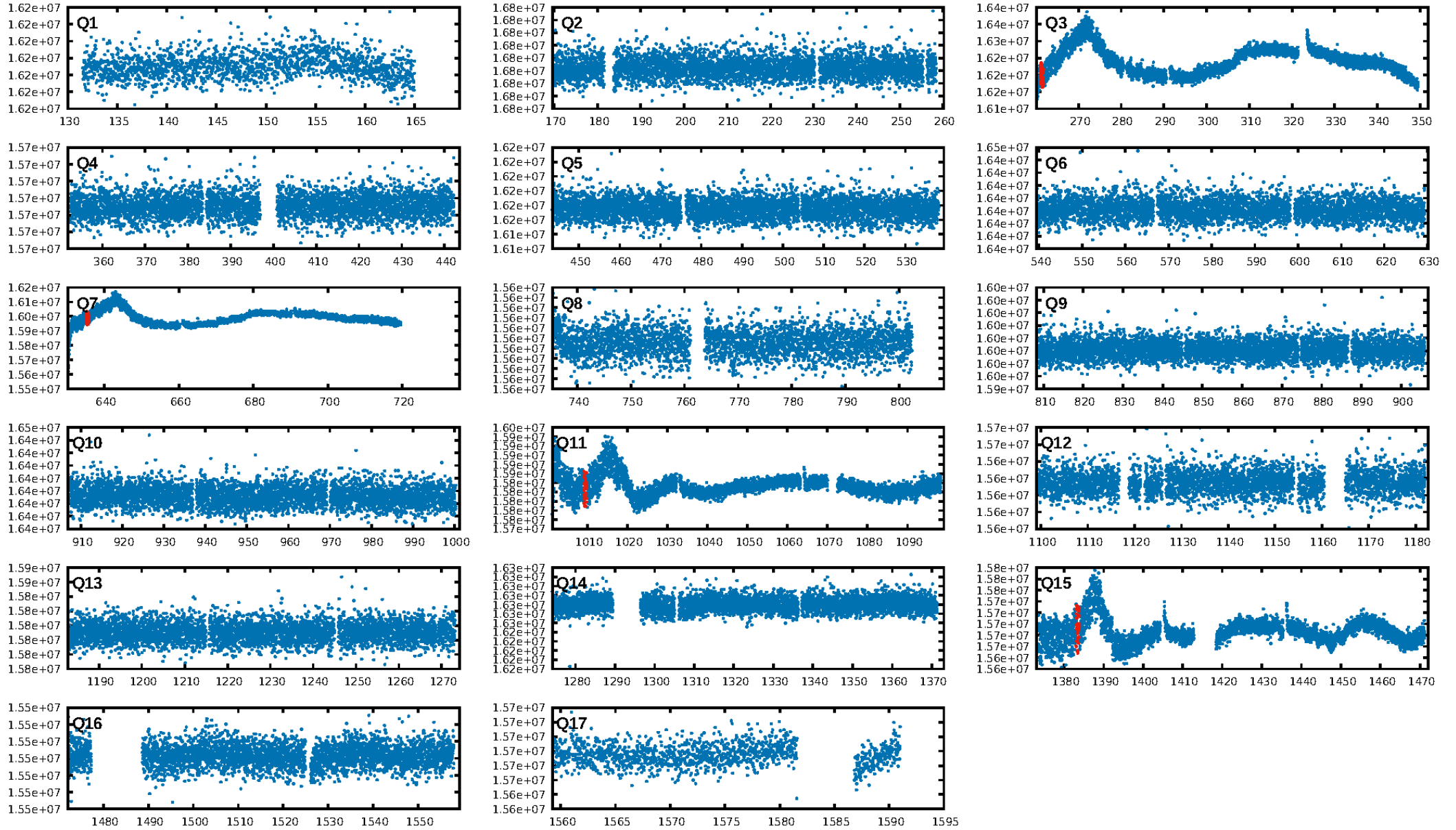
DV Diagnostic Results:

ShortPeriod-sig: 16.8% [0.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 32.5%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -9.334
Centroid-sig: 71.2%
Centroid-so: 0.768 arcsec [0.44σ]
OotOffset-rm: 1.969 arcsec [2.42σ]
KicOffset-rm: 2.252 arcsec [2.75σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

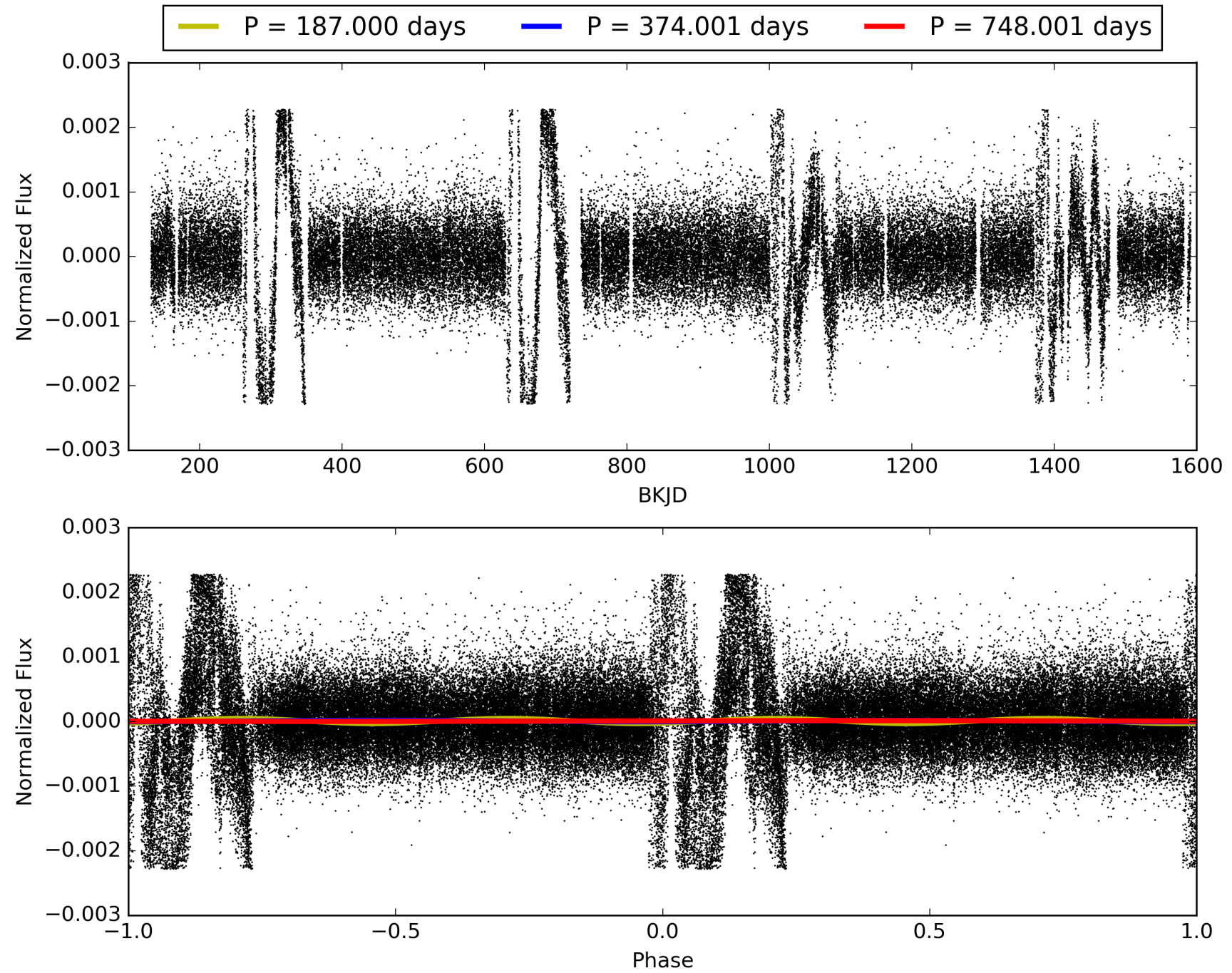
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:49:46 Z

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

TCE 005615879-03, PDC Light Curves

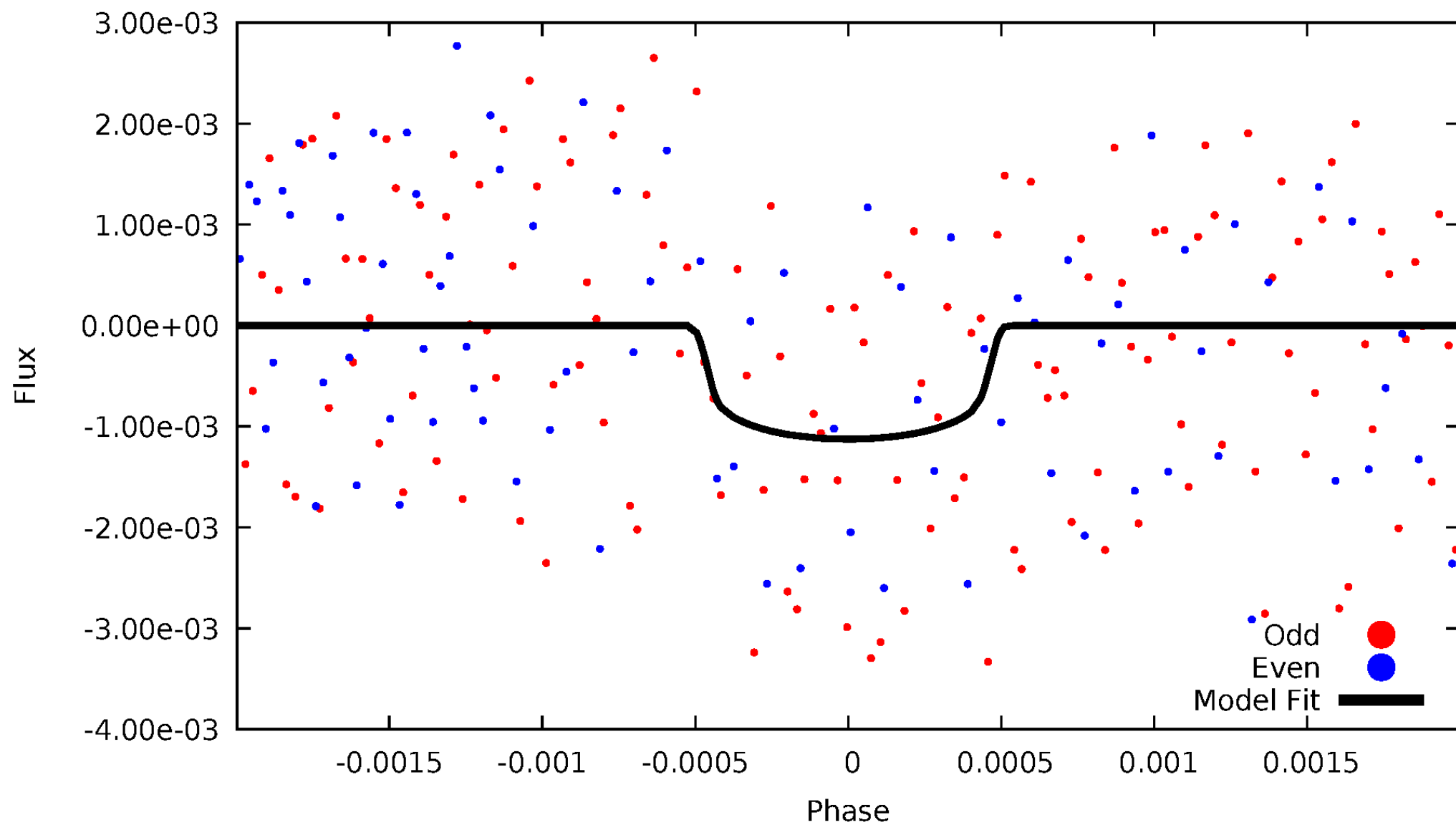


TCE 005615879-03



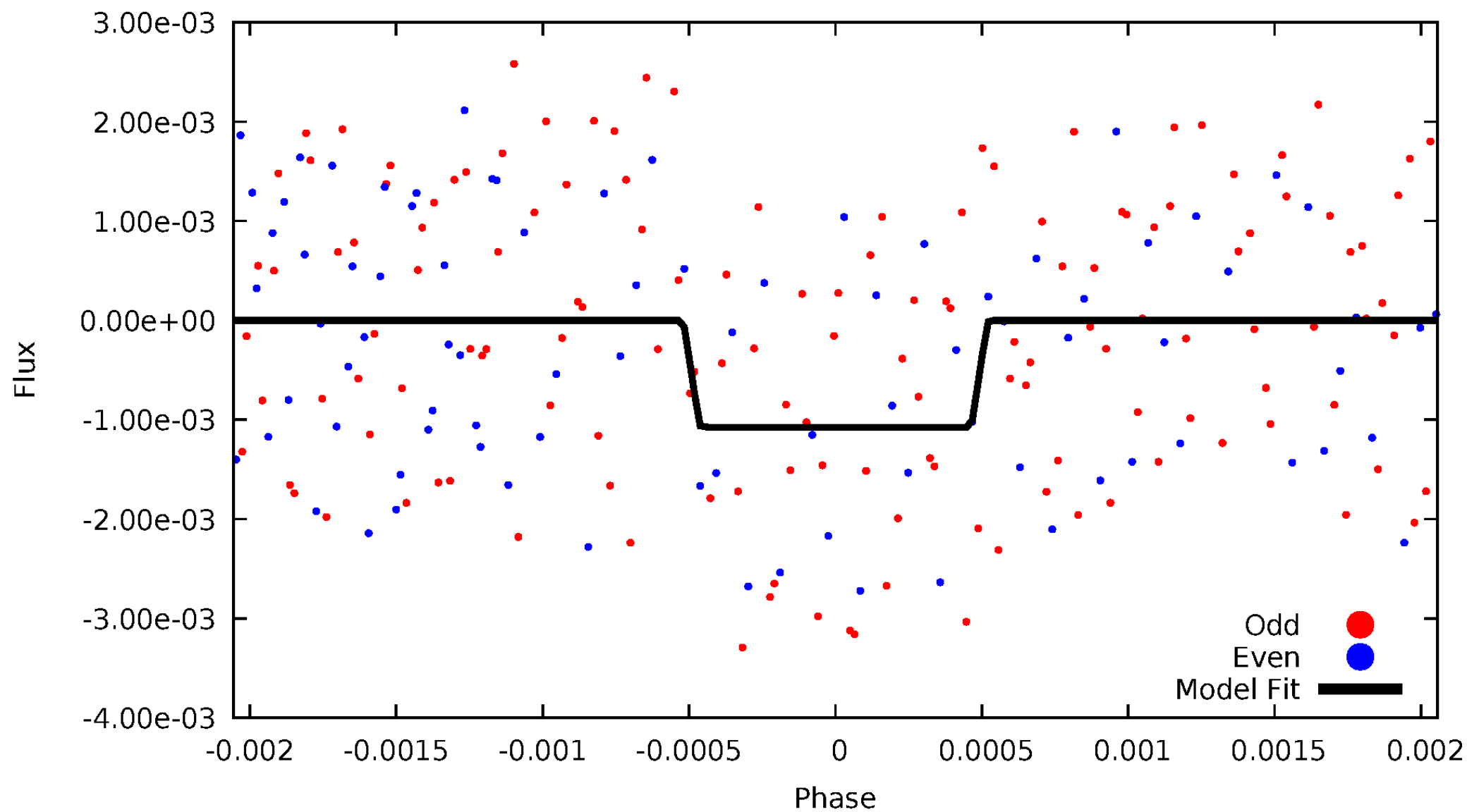
DV Odd/Even

TCE 005615879-03



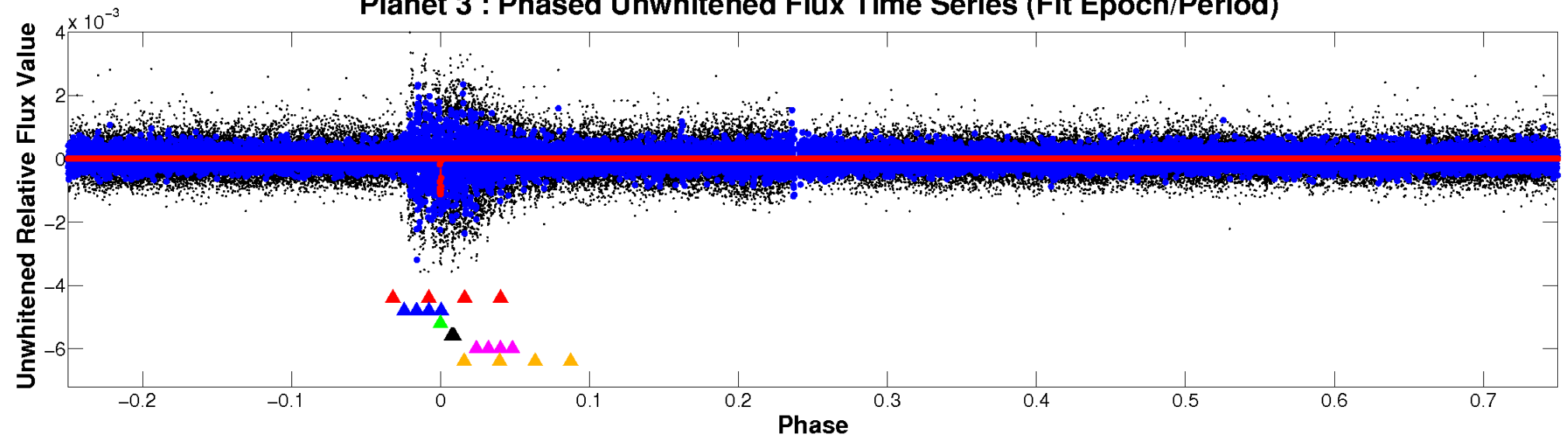
ALT Odd/Even

TCE 005615879-03

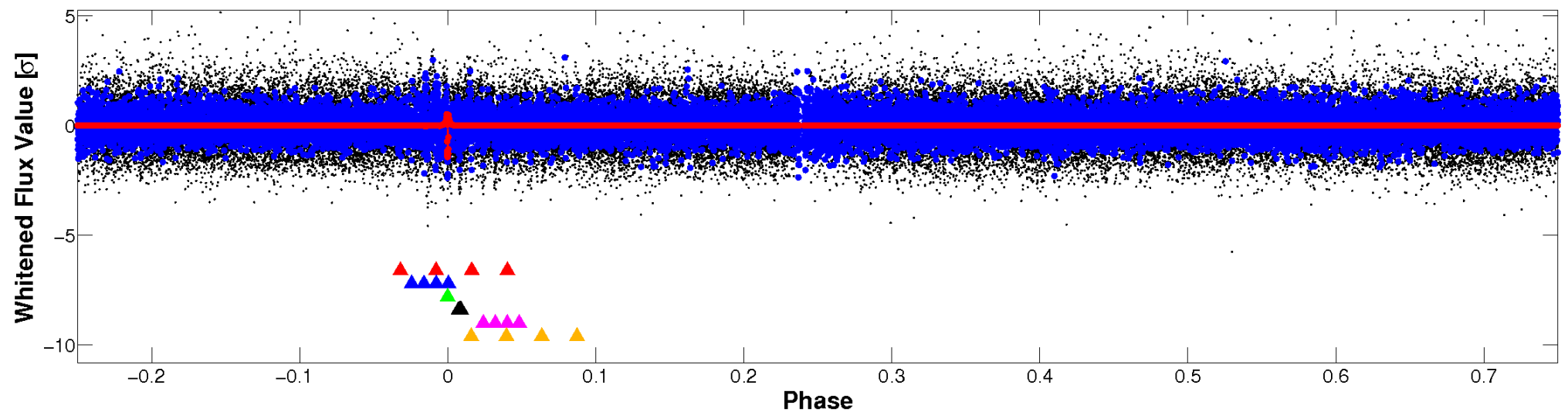


Non-Whitened Vs. Whitened Light Curve

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

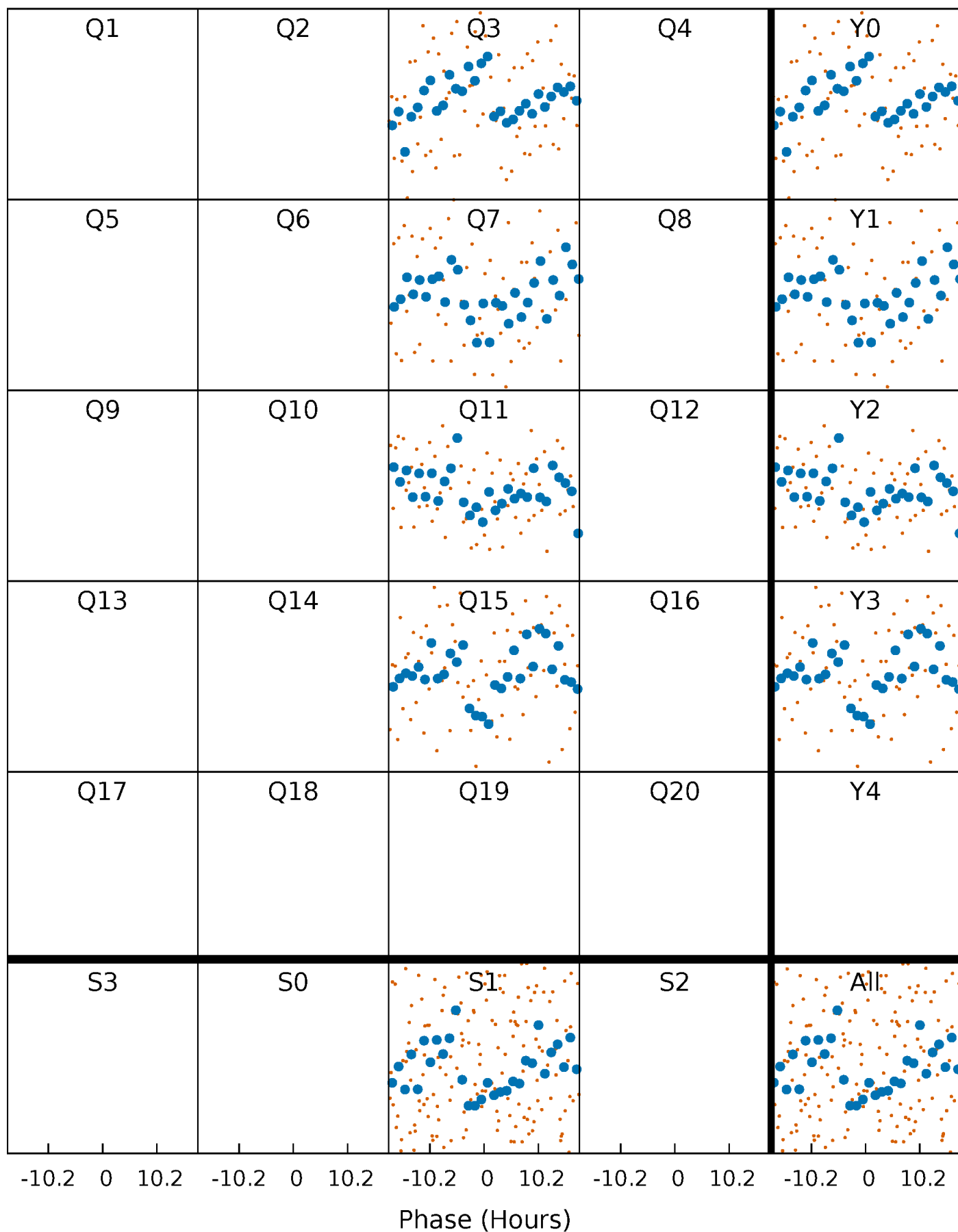


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



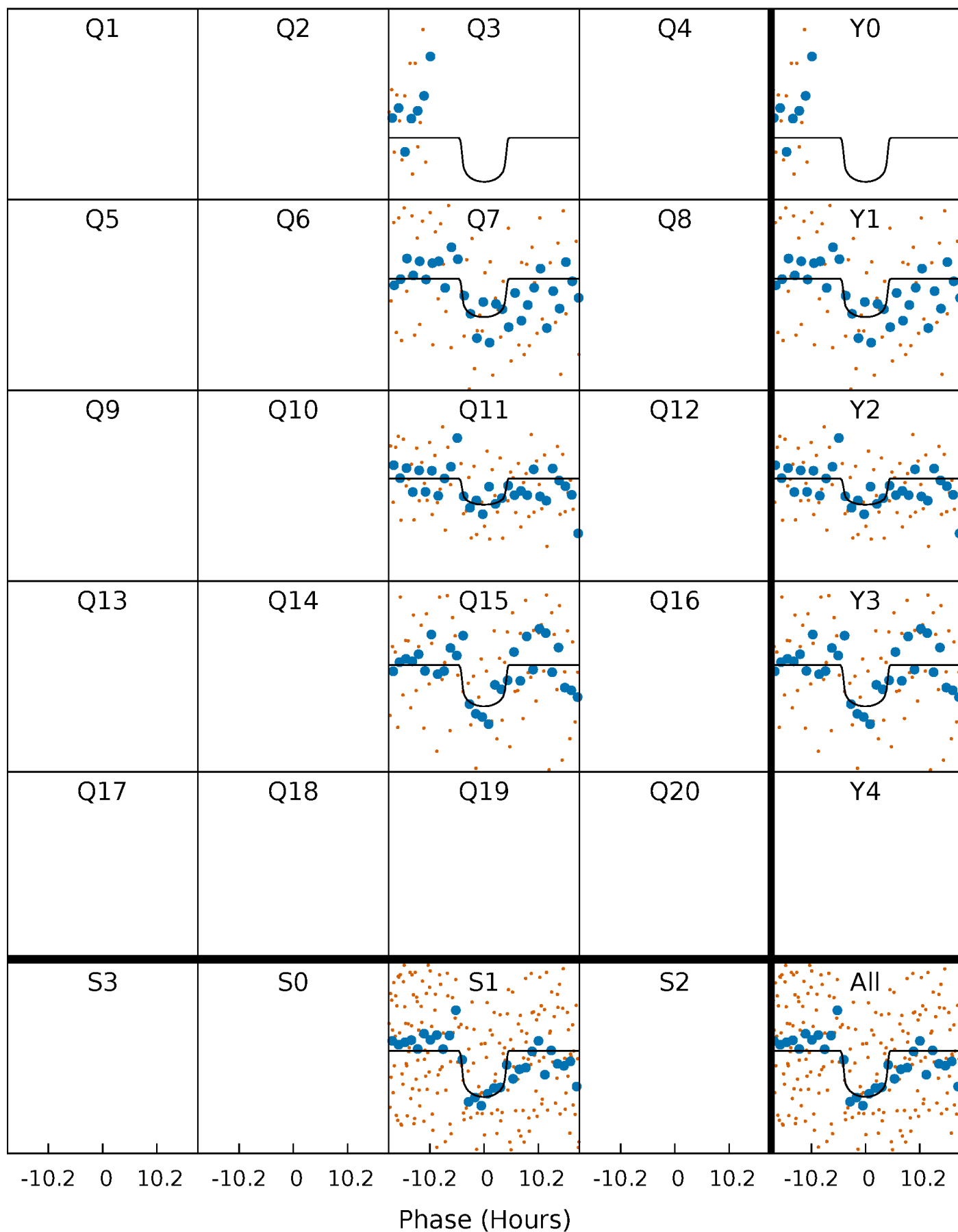
PDC Quarter-Phased Transit Curves

TCE 005615879-03 $P=374.000590$ Days $T_0=261.438878$ (BKJD)



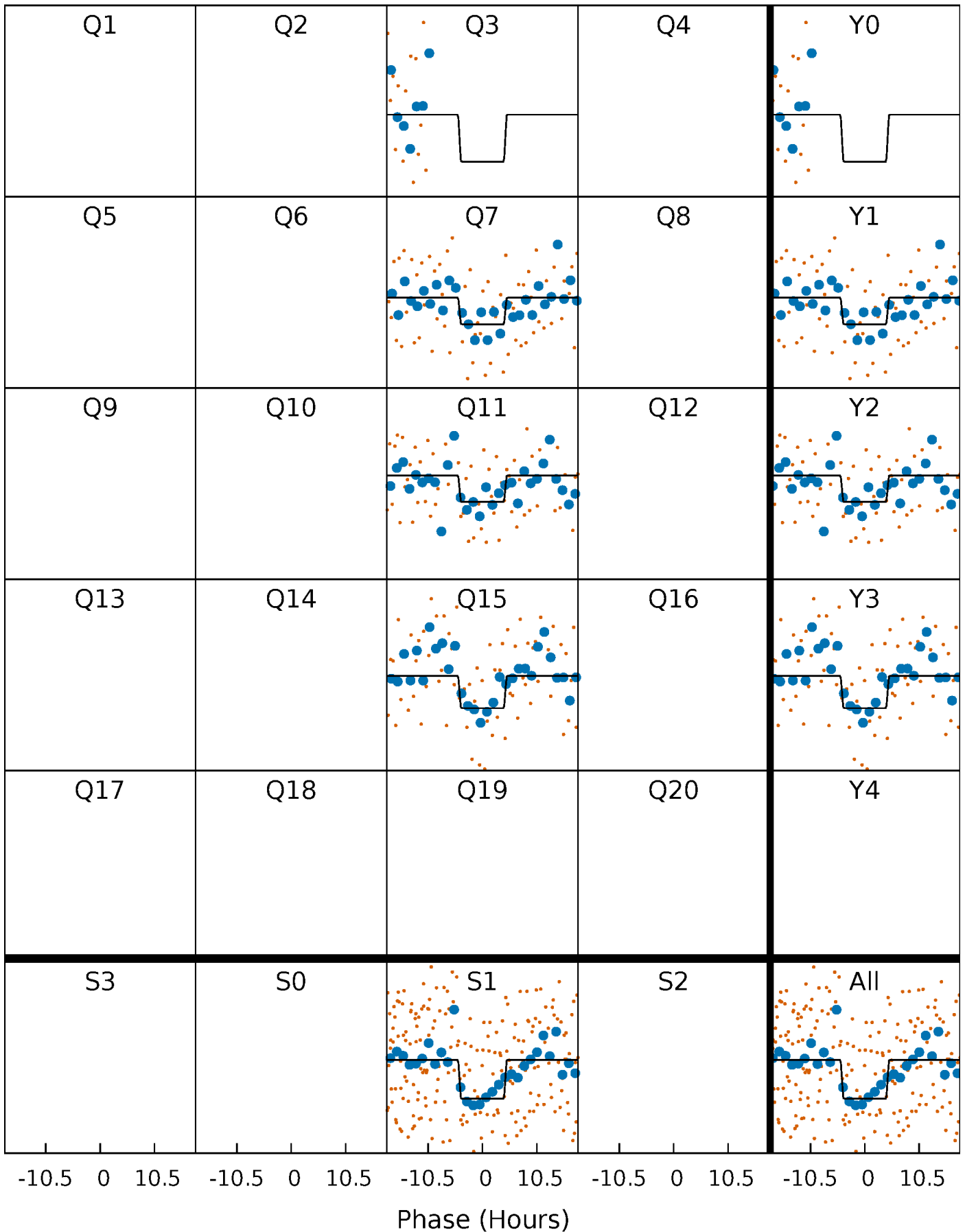
DV Quarter-Phased Transit Curves

TCE 005615879-03 $P=374.000590$ Days $T_0=261.438878$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

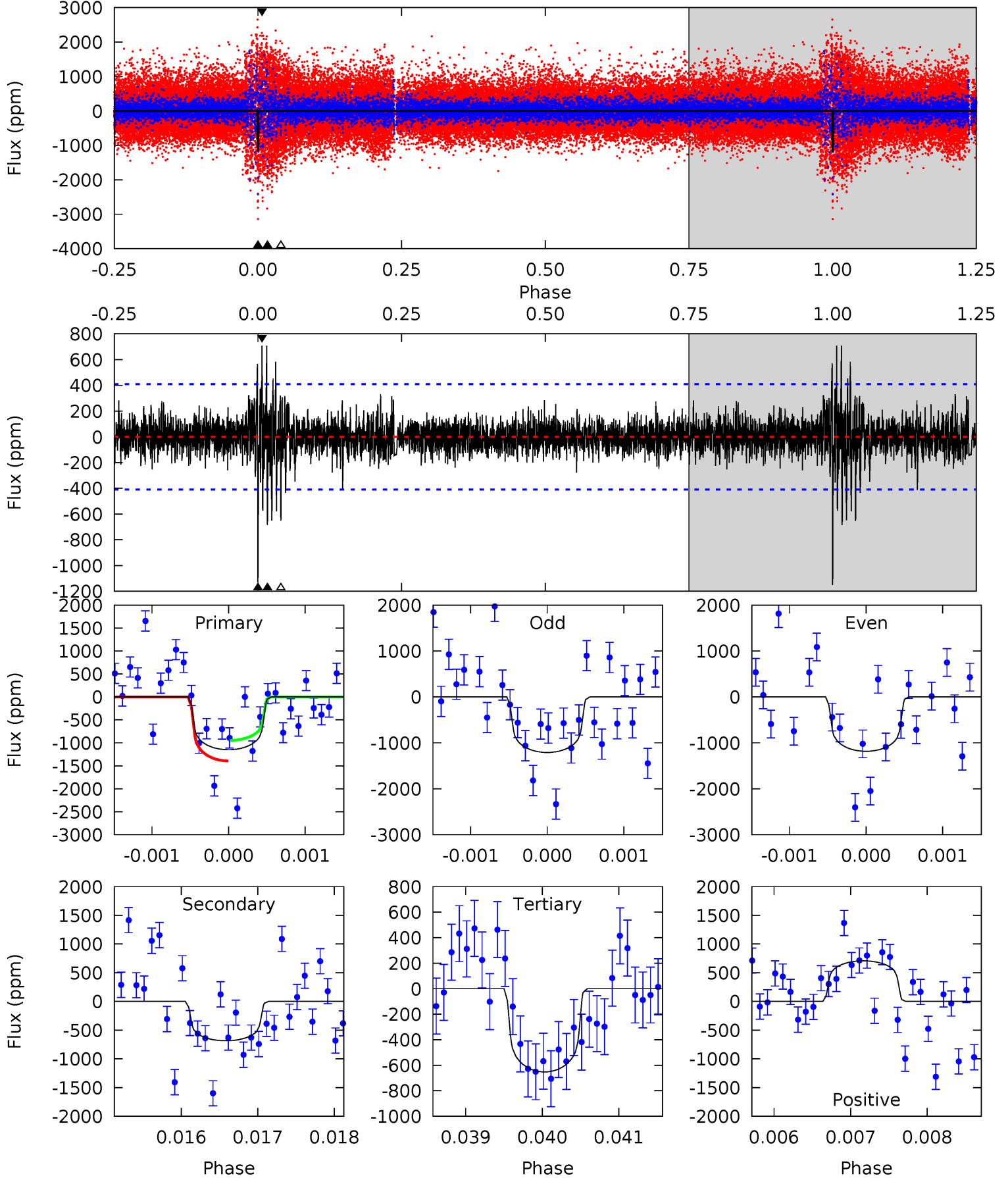
TCE 005615879-03 P=374.009071 Days $T_0=261.434071$ (BKJD)



DV Model-Shift Uniqueness Test

005615879-03, P = 374.000590 Days, E = 261.438878 Days

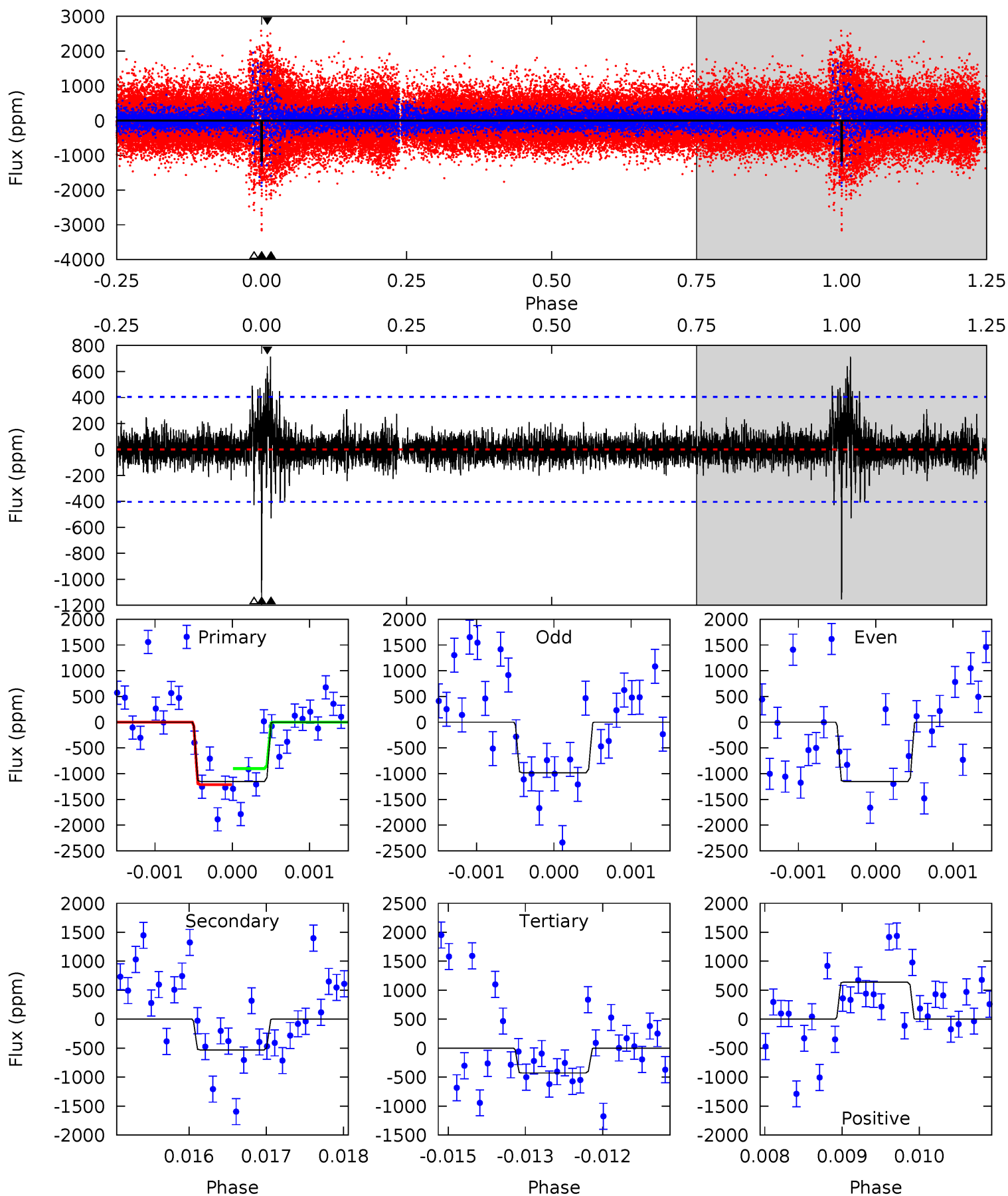
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	9.12	8.69	9.42	5.45	3.29	1.27	6.62	5.89	0.43	-0.30	0.15	1.02	0.38	2.97



Alt Model-Shift Uniqueness Test

005615879-03, P = 374.009071 Days, E = 261.434071 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	7.13	5.78	8.62	5.44	3.28	1.04	9.76	6.92	1.35	-1.49	1.04	0.98	0.38	2.12



Stellar Parameters For KIC 005615879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5966^{+177}_{-213}	$4.491^{+0.052}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$0.959^{+0.299}_{-0.100}$	$1.040^{+0.129}_{-0.142}$	$1.662^{+0.460}_{-0.858}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005615879-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-684 ± 75	$3.76^{+2.06}_{-1.99}$	364^{+26}_{-20}	5254^{+2304}_{-831}	27202^{+90179}_{-15684}
Alt.	-529 ± 74	$3.59^{+2.19}_{-1.94}$	363^{+27}_{-18}	5060^{+2384}_{-852}	22824^{+84346}_{-14116}

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 $A_{obs} \gg 1.0$

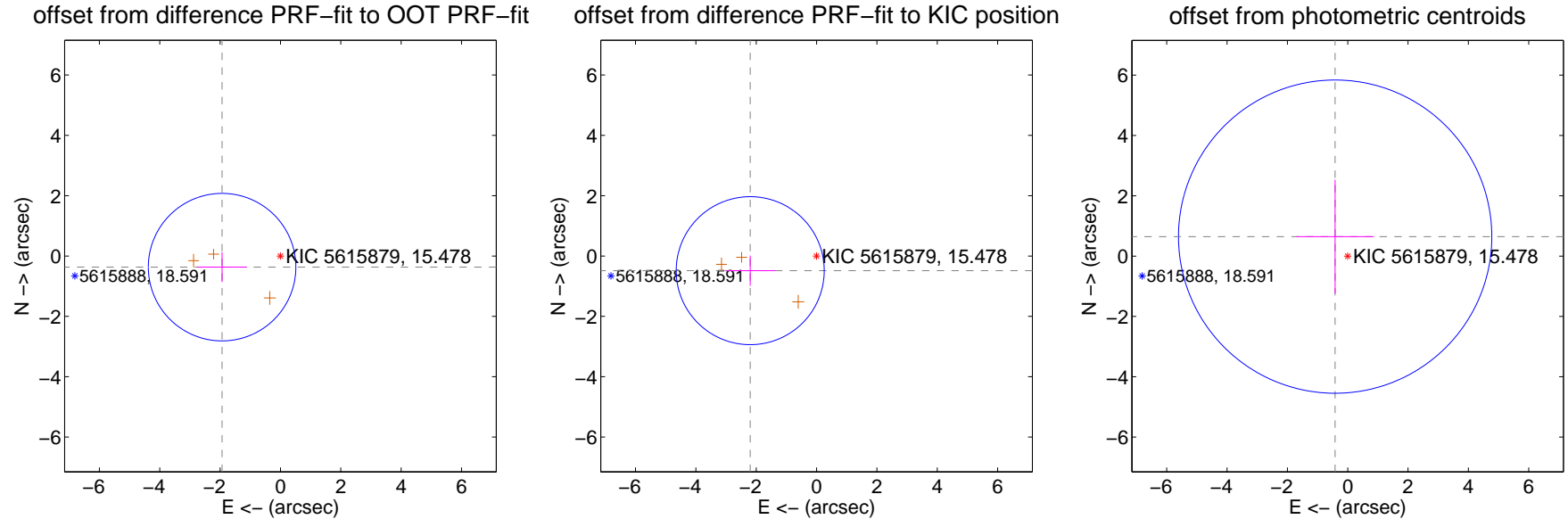
DV Centroid Data

Supplemental centroid analysis for 005615879-03. Kepler magnitude: 15.48. Transit SNR 9.17

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.969 ± 0.815	2.42	1.934 ± 0.824	-0.369 ± 0.496
PRF-fit source offset from KIC position	2.252 ± 0.817	2.75	2.199 ± 0.830	-0.485 ± 0.501
photometric centroid source offset	0.77 ± 1.73	0.44	0.42 ± 1.29	0.65 ± 1.89

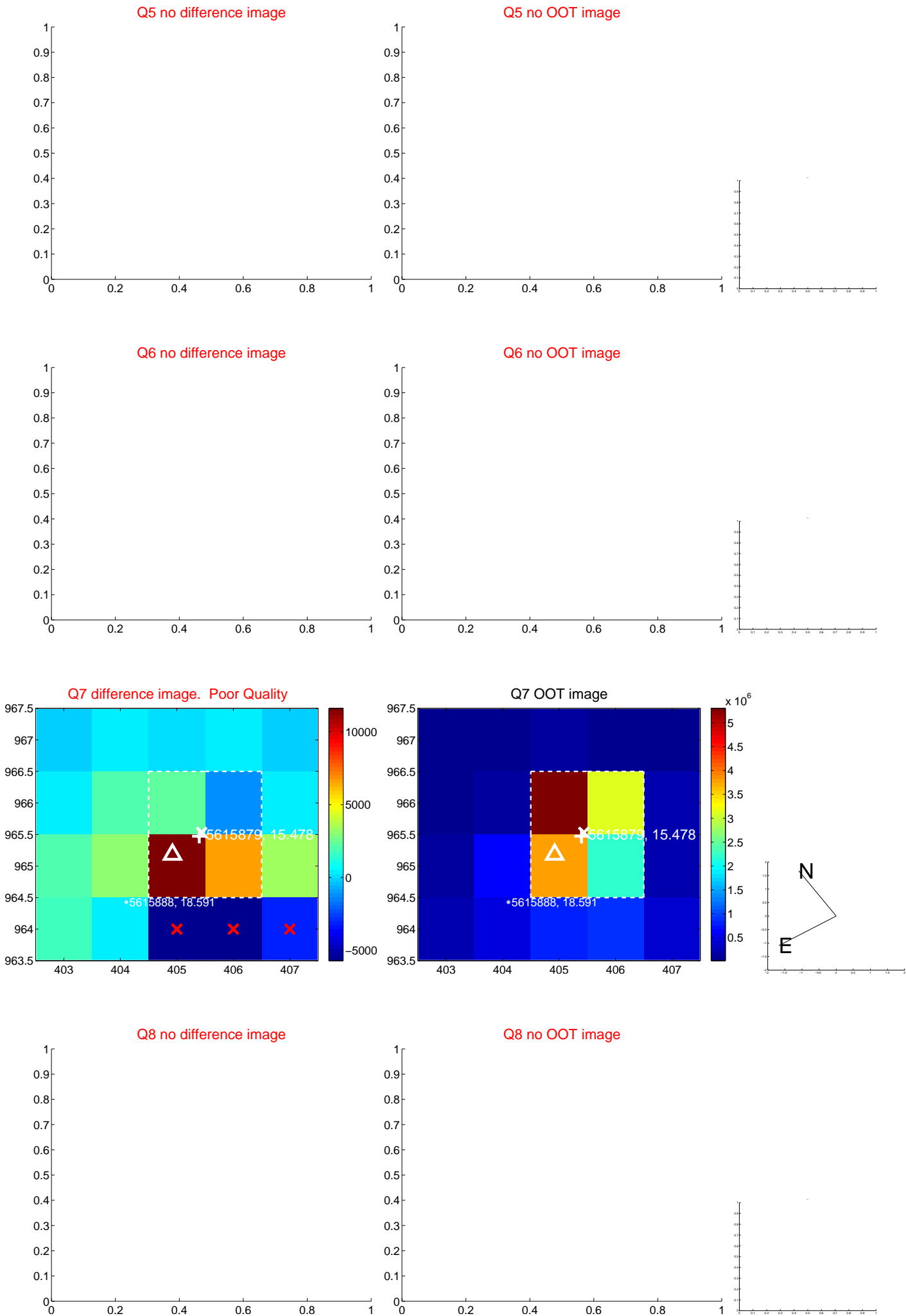


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

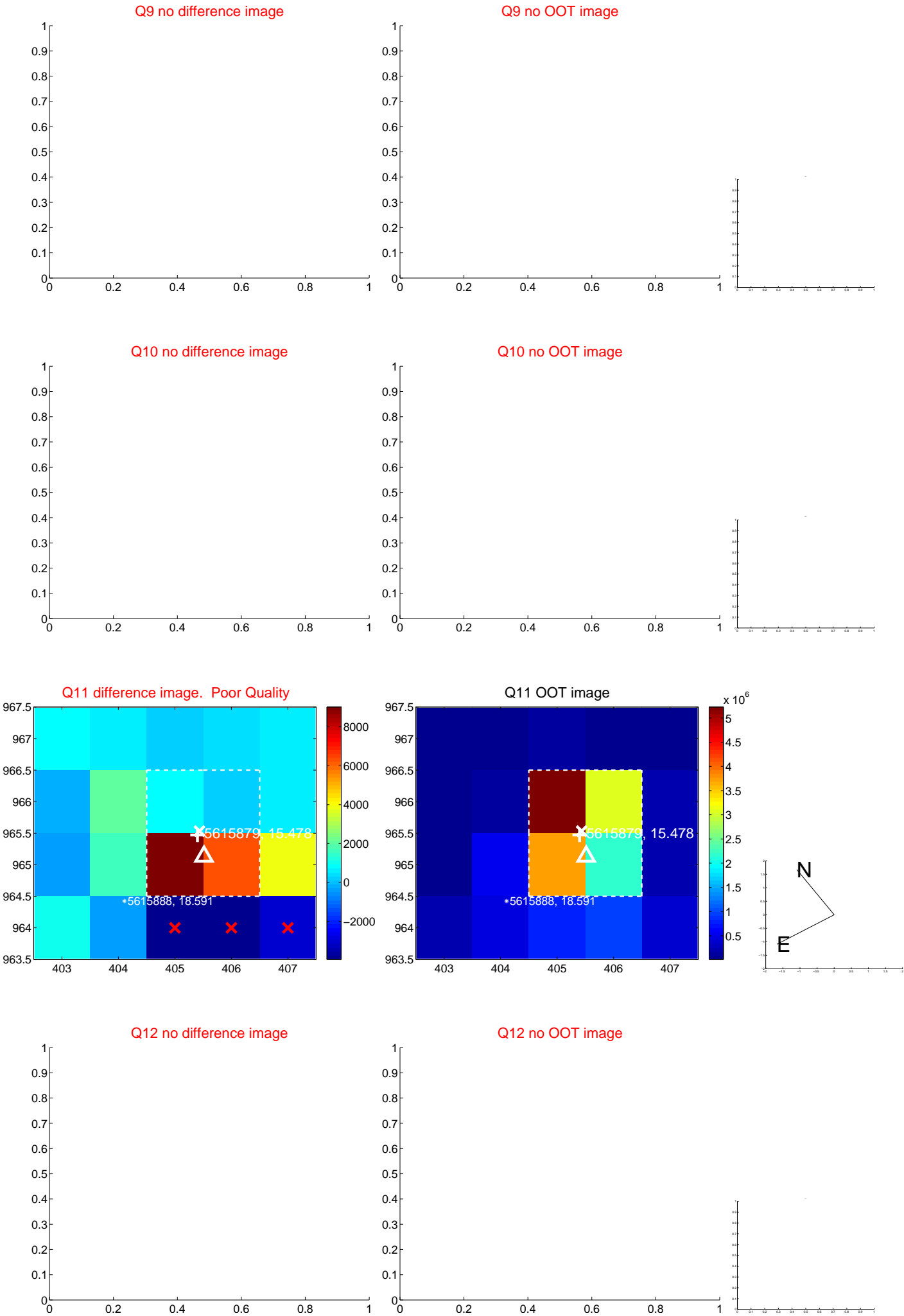
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



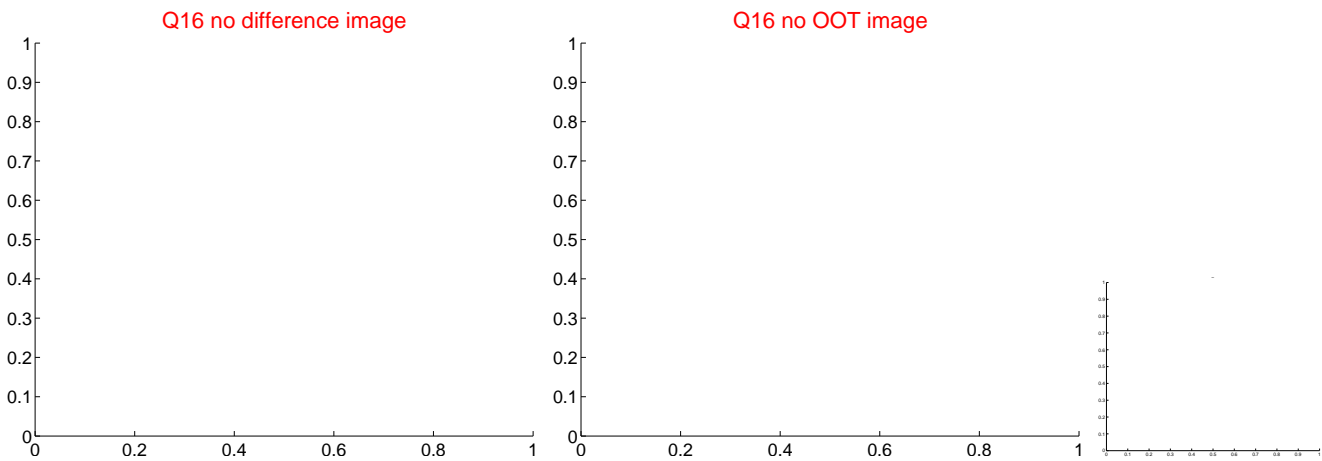
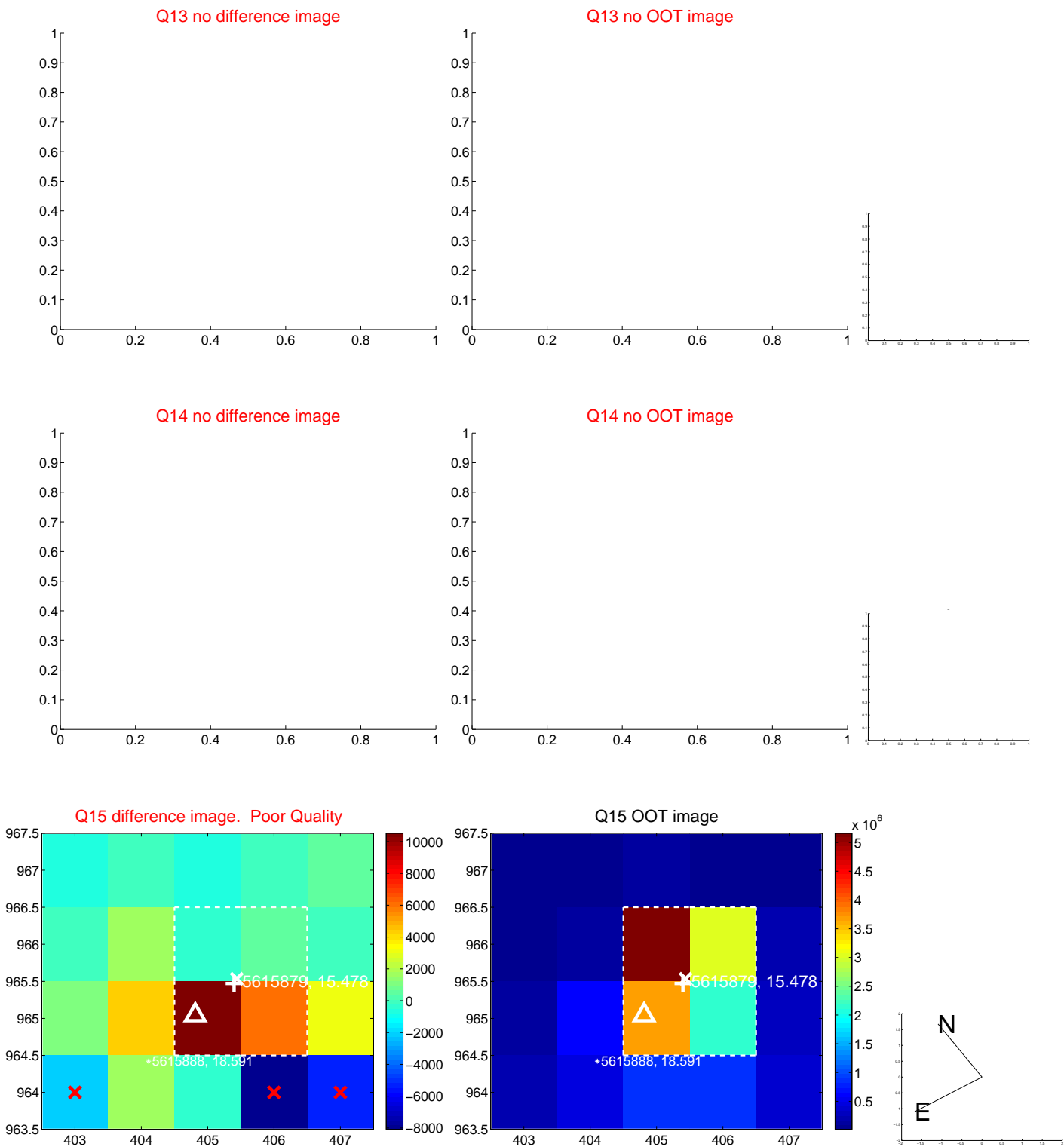
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



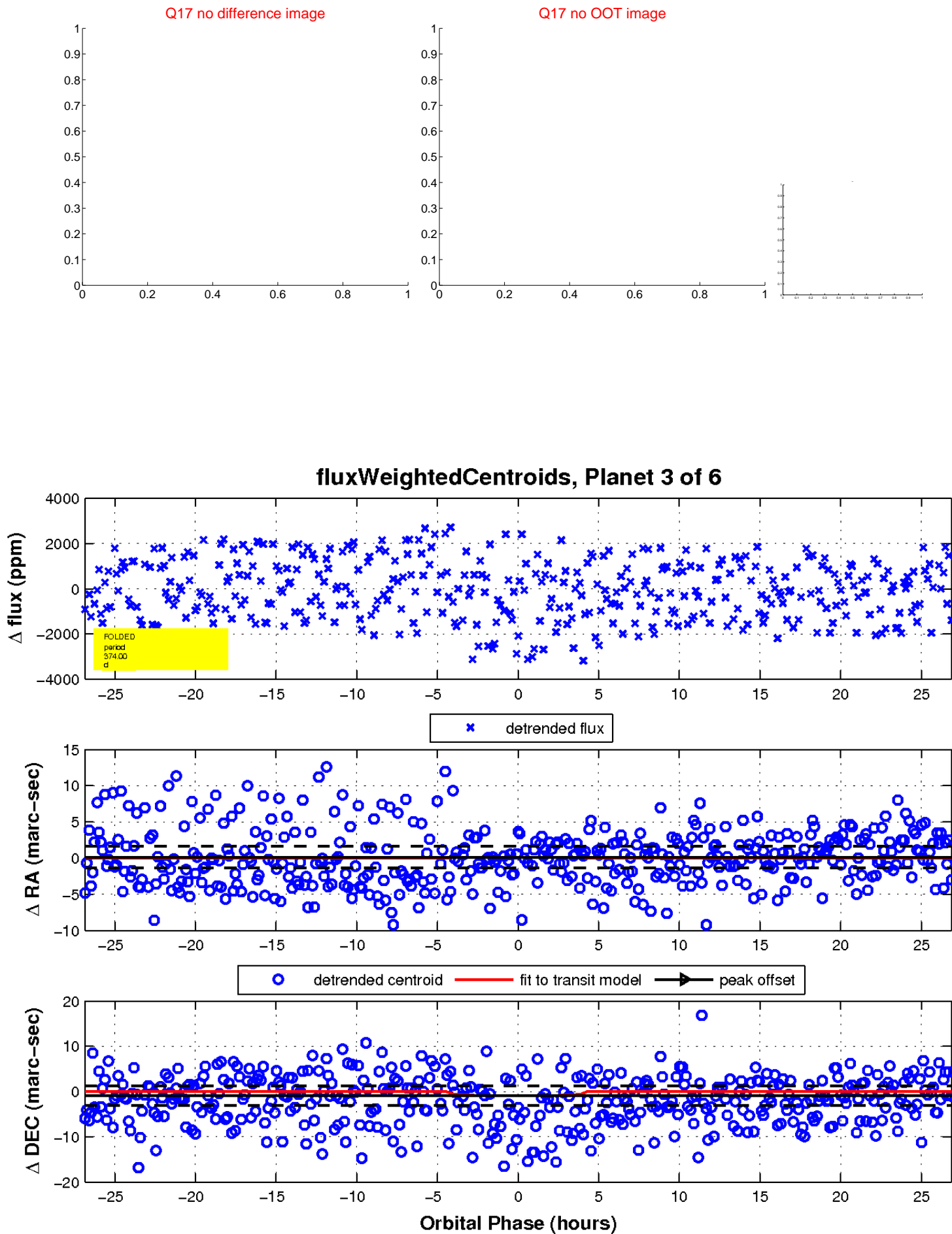
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

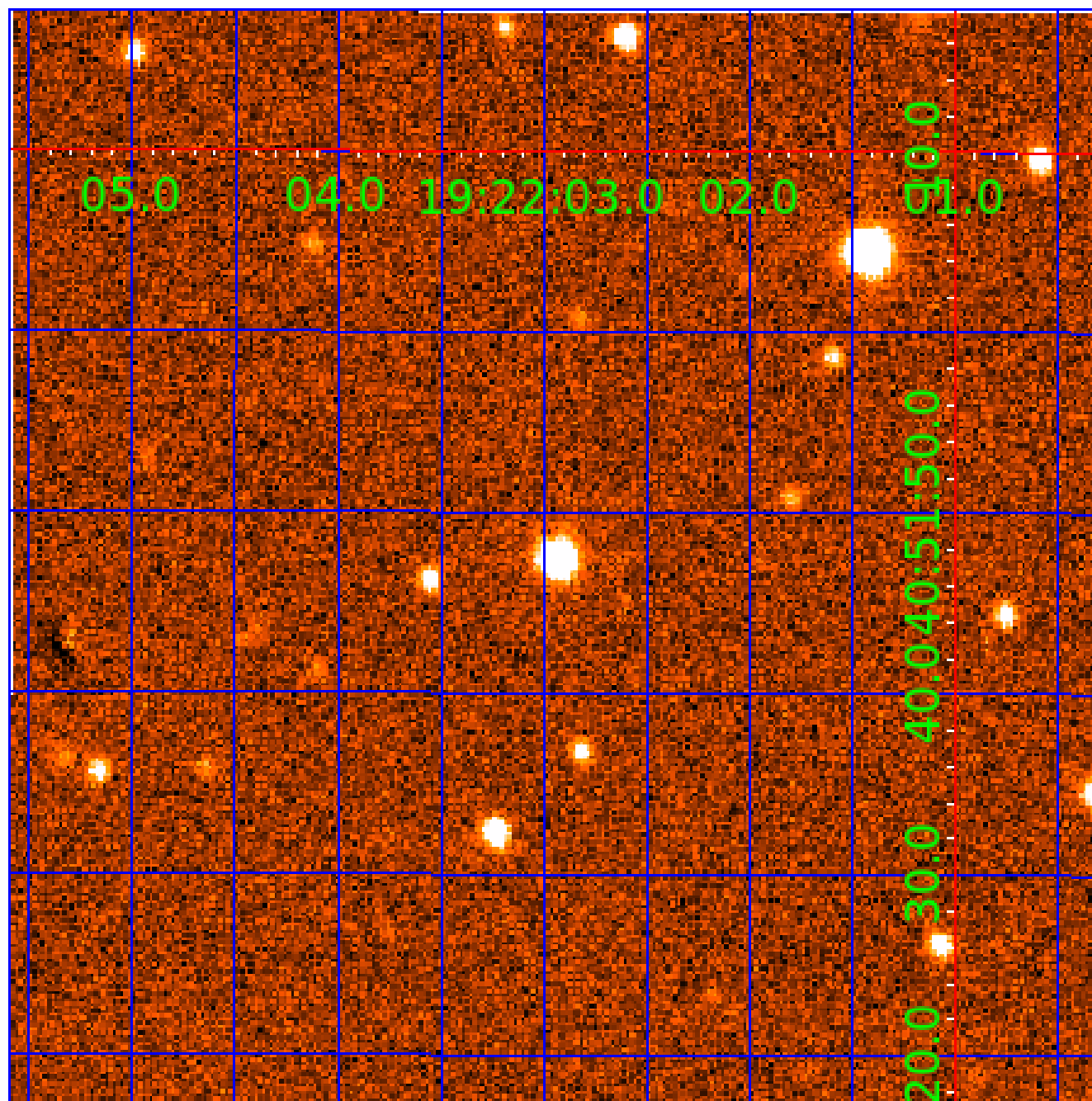


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005615879

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})
005615879-01	OBS	No	364.992301	276.525646	834.5	13.226	8.2	7.7	0.96	5966	3.46	1.02
005615879-02	OBS	No	370.906082	261.627340	971.8	9.531	10.1	8.7	0.96	5966	3.13	1.00
005615879-03	OBS	No	374.000590	261.438879	1124.8	8.966	9.3	9.2	0.96	5966	3.45	0.99
005615879-04	OBS	No	373.792151	264.830565	861.5	21.848	9.5	8.9	0.96	5966	3.41	0.99
005615879-05	OBS	No	370.981583	279.515516	772.3	13.209	8.2	8.0	0.96	5966	3.08	1.00
005615879-06	OBS	No	365.086417	294.124670	784.6	5.000	7.8	-1.0	0.96	5966	2.67	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005615879-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
005615879-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005615879-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005615879-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—SAME_NTL_PERIOD—CENT_NOFITS

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

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

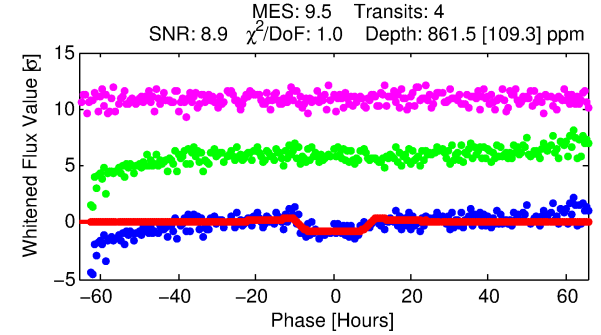
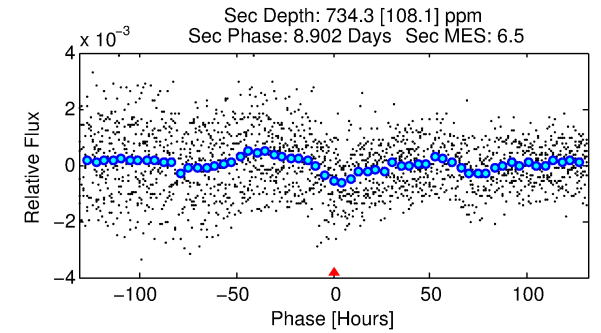
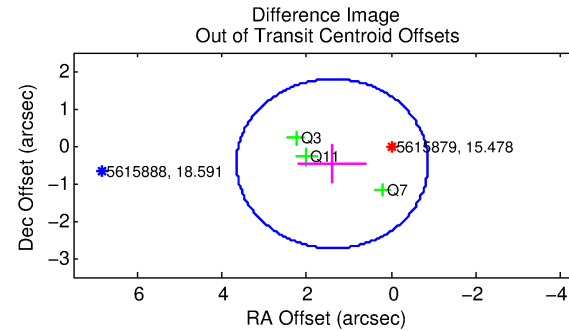
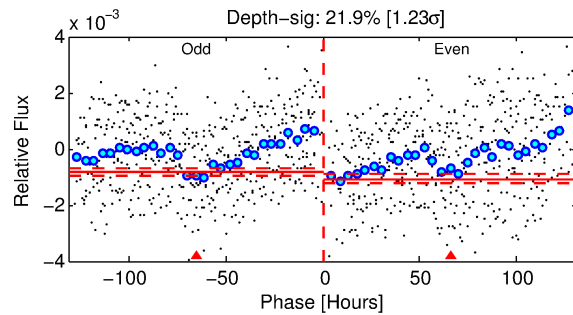
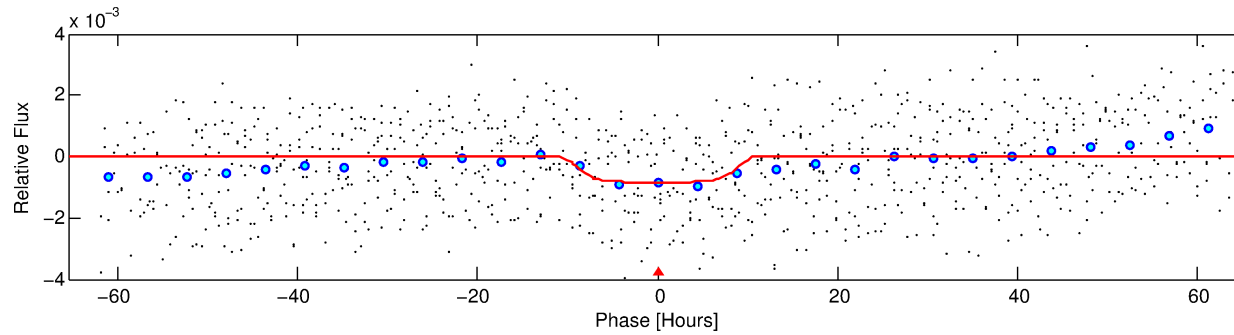
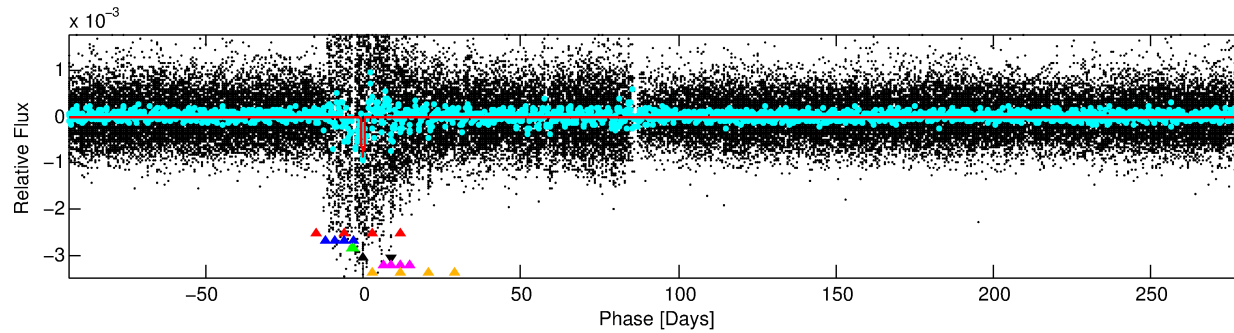
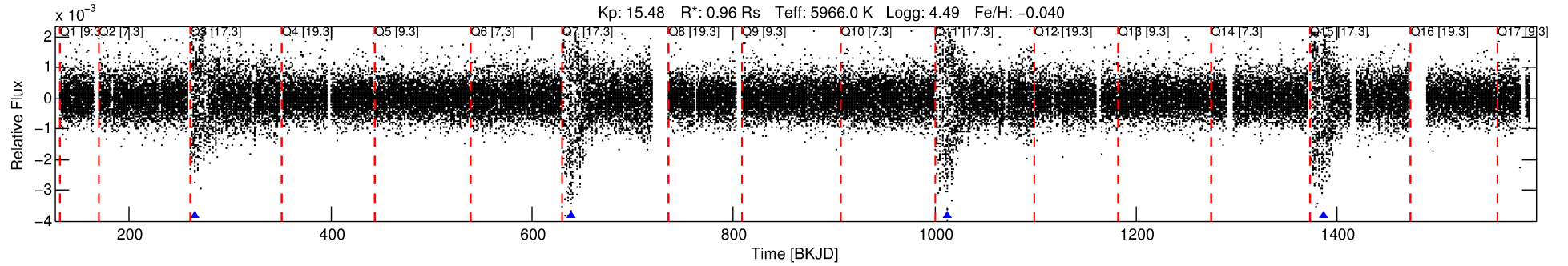
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005615879-04

No Significant Match Found

DV One-Page Summary

KIC: 5615879 Candidate: 4 of 6 Period: 373.792 d



DV Fit Results:

Period = 373.79215 [0.01681] d
Epoch = 264.8306 [0.0334] BKJD
Rp/R* = 0.0326 [0.0029]
a/R* = 60.45 [15.06]
b = 0.92 [0.04]
Seff = 0.99 [0.40]
Teq = 254 [26] K
Rp = 3.41 [1.11] Re
a = 1.0288 [0.2696] AU
Ag = 36703.39 [16339.88] [2.25 σ]
Teffp = 5438 [368] K [14.04 σ]

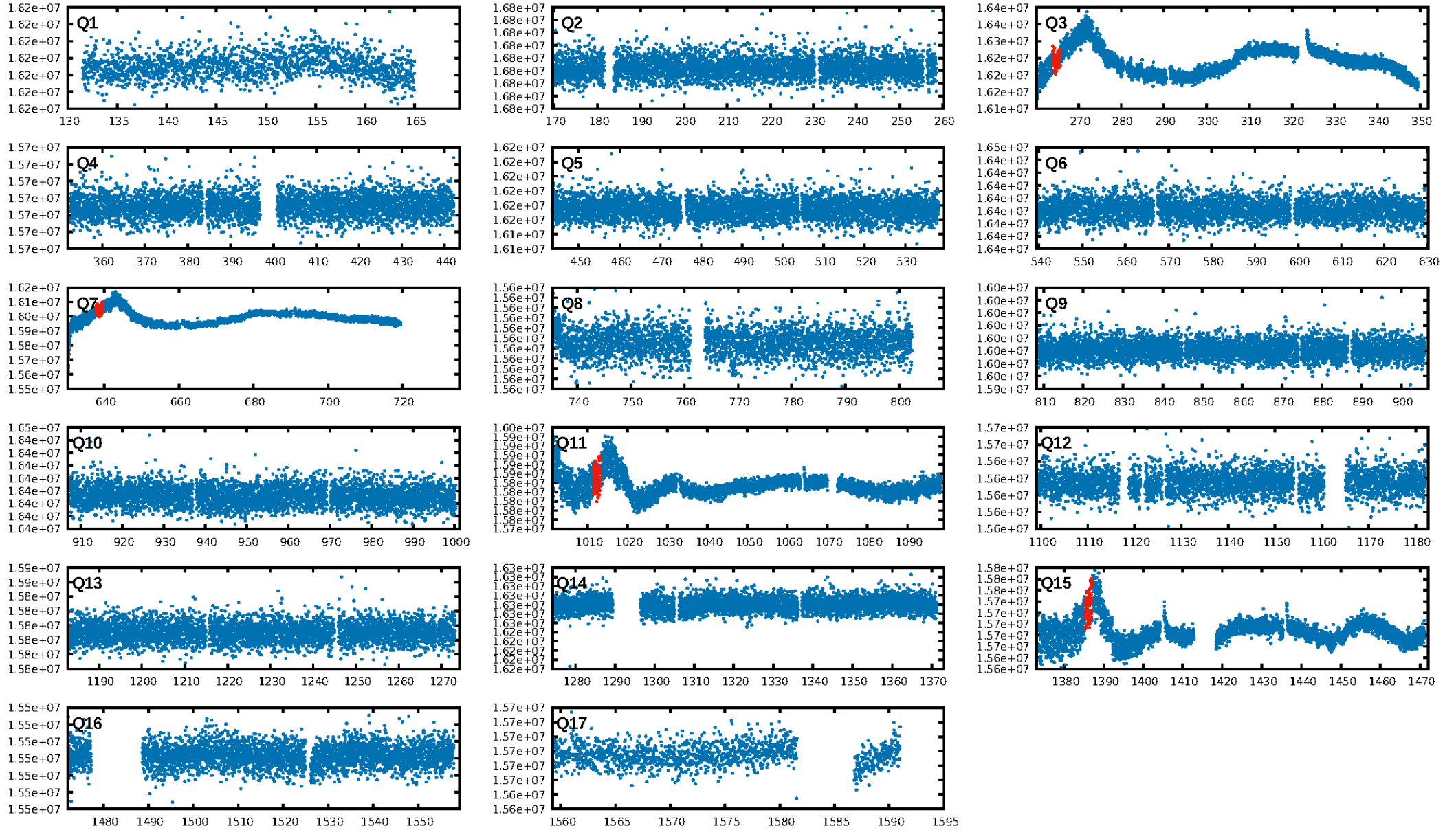
DV Diagnostic Results:

ShortPeriod-sig: 99.2% [2.64 σ]
LongPeriod-sig: 16.8% [0.21 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.454
Centroid-sig: 5.8%
Centroid-so: 3.582 arcsec [1.62 σ]
OotOffset-rm: 1.464 arcsec [1.94 σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-rm: 1.748 arcsec [2.33 σ]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

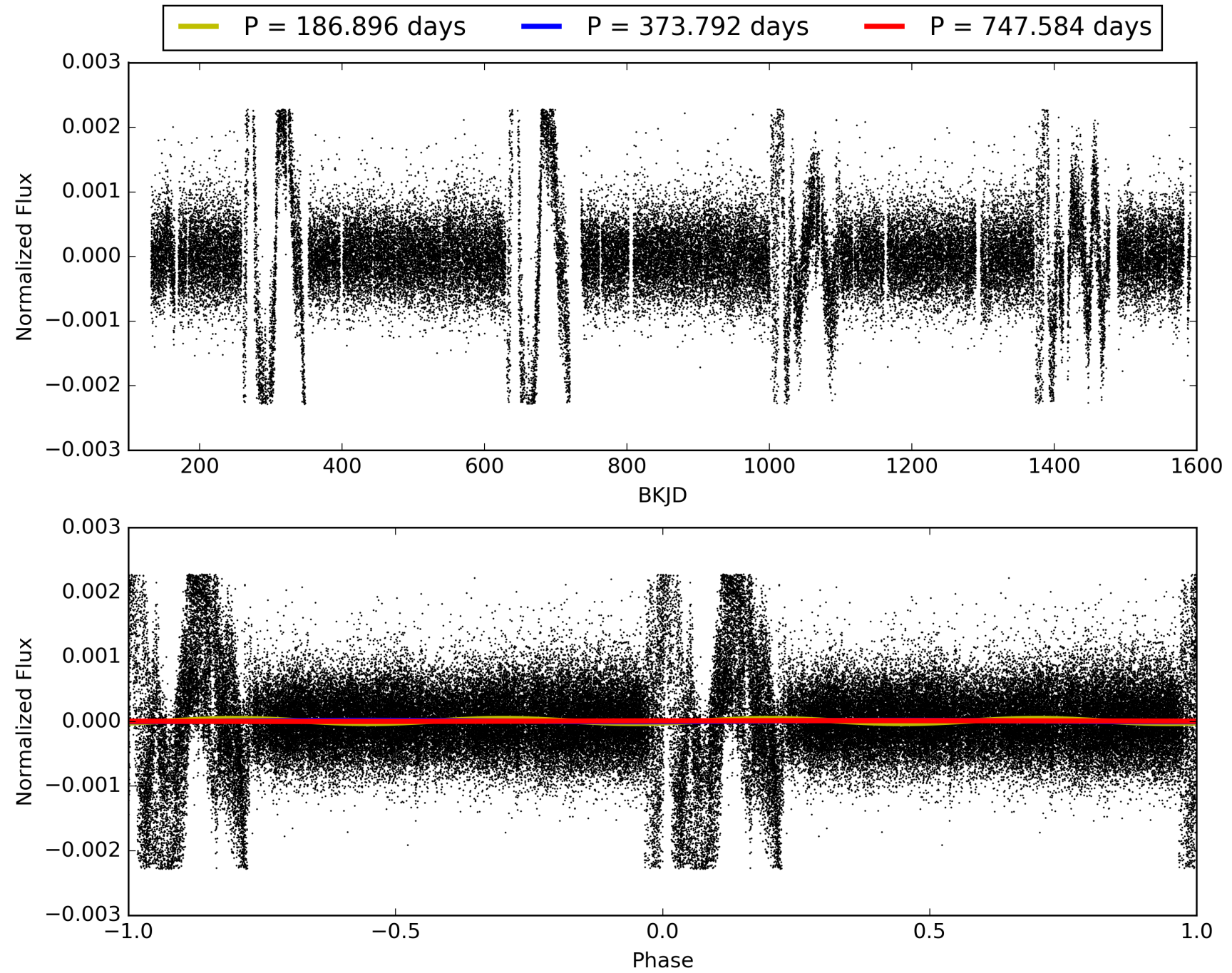
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:49:54 Z

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

TCE 005615879-04, PDC Light Curves

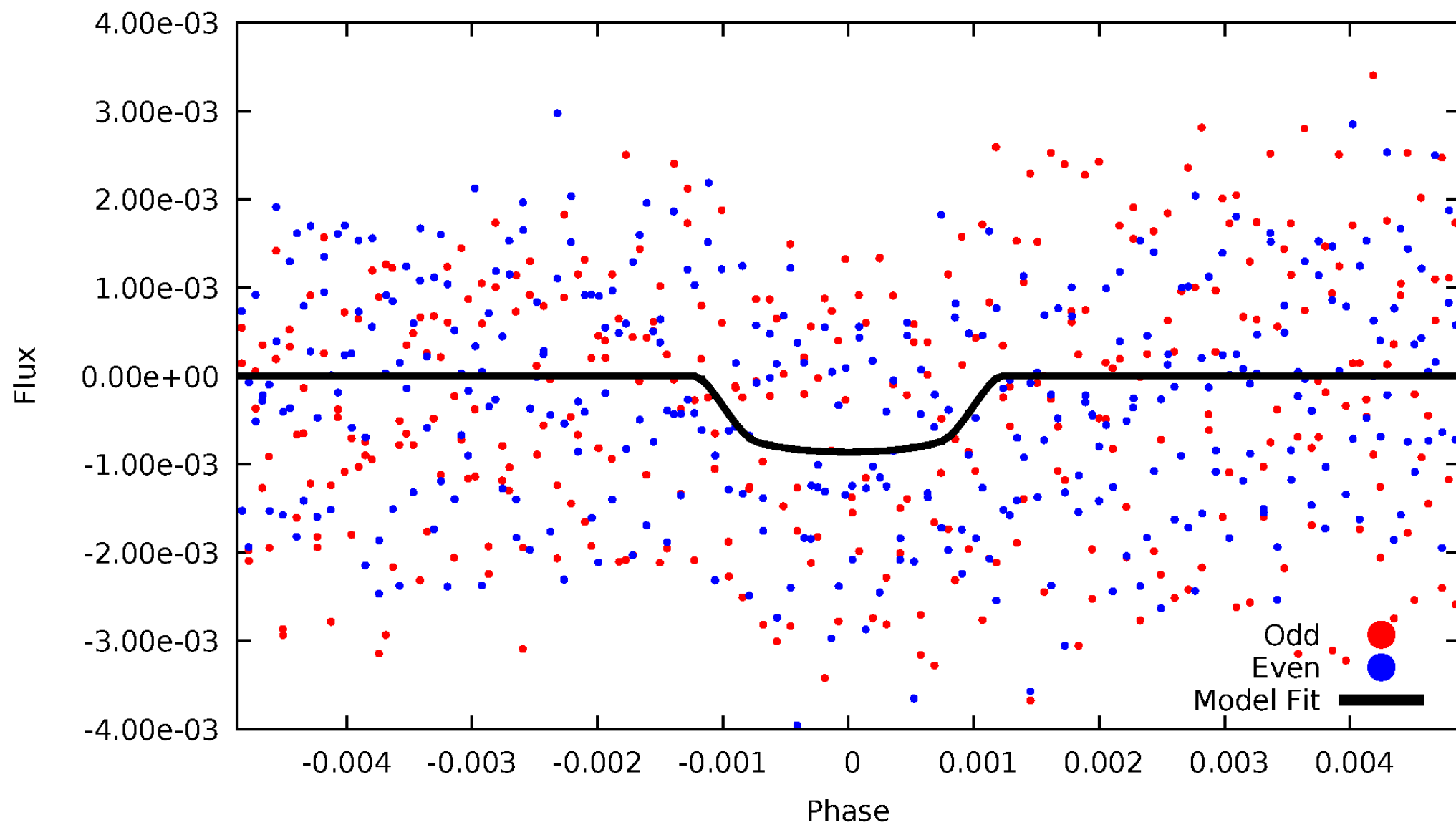


TCE 005615879-04



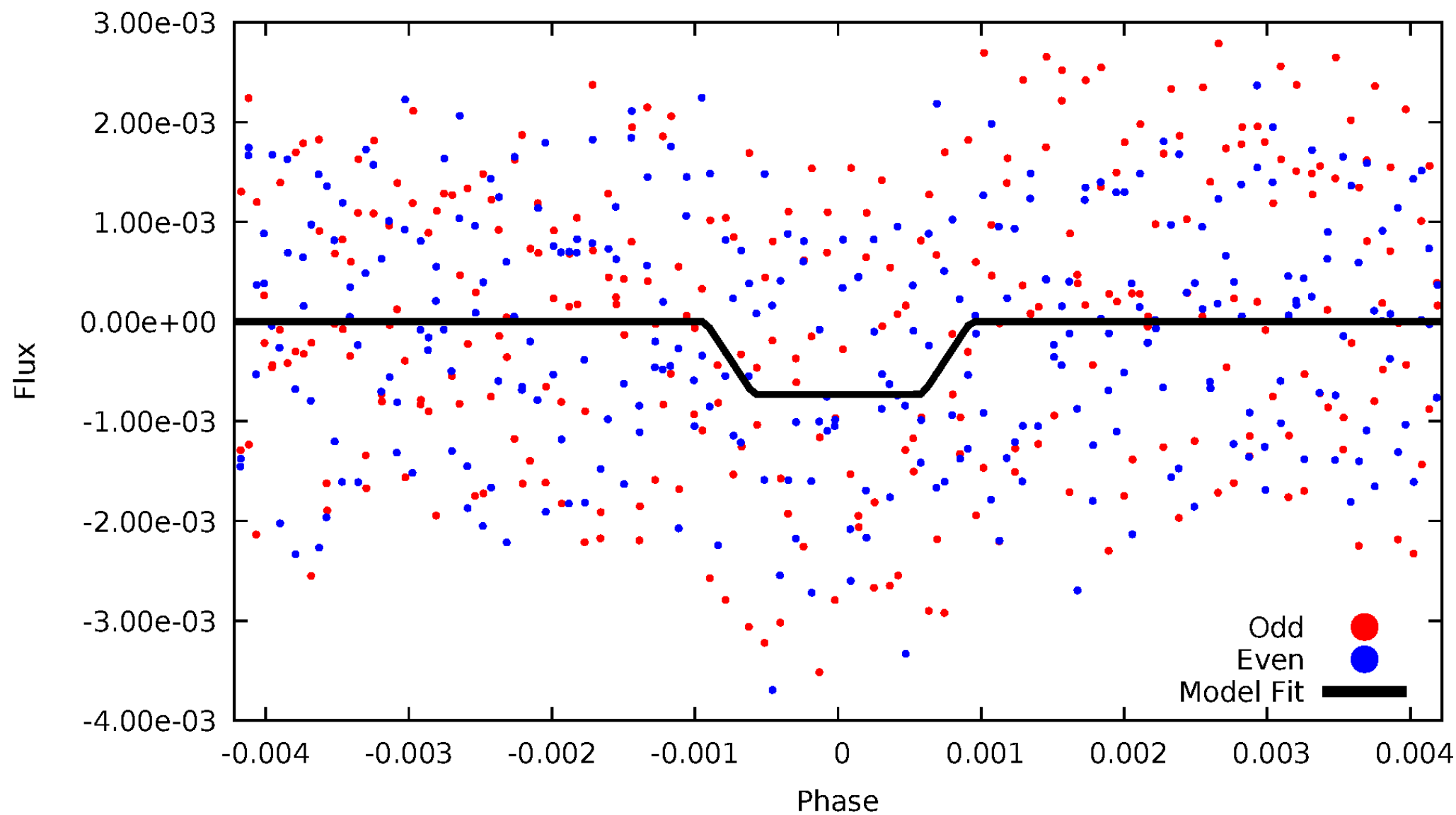
DV Odd/Even

TCE 005615879-04



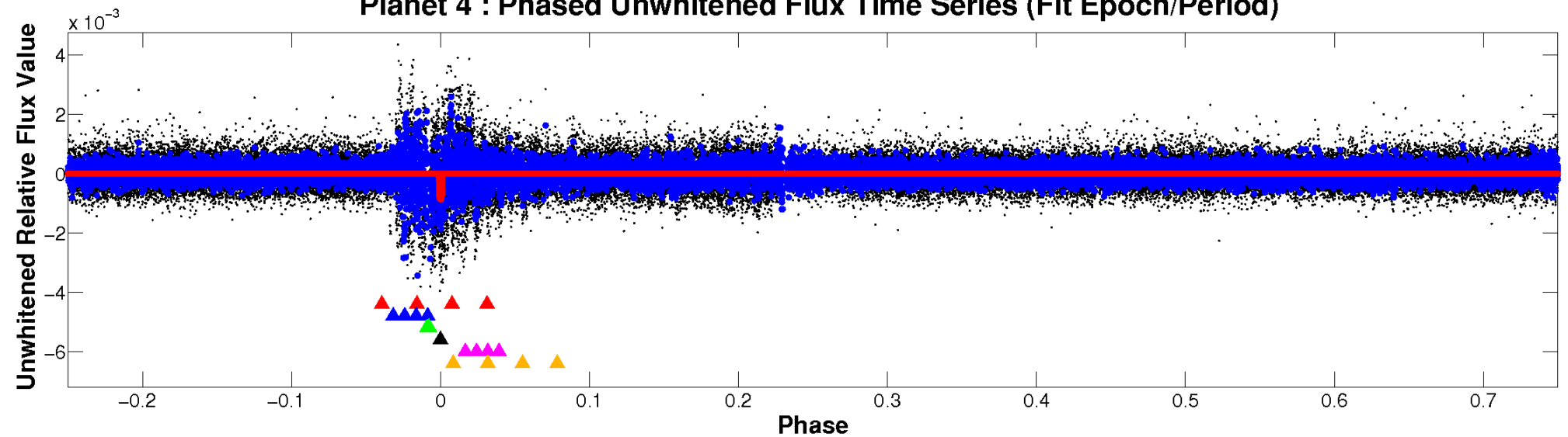
ALT Odd/Even

TCE 005615879-04

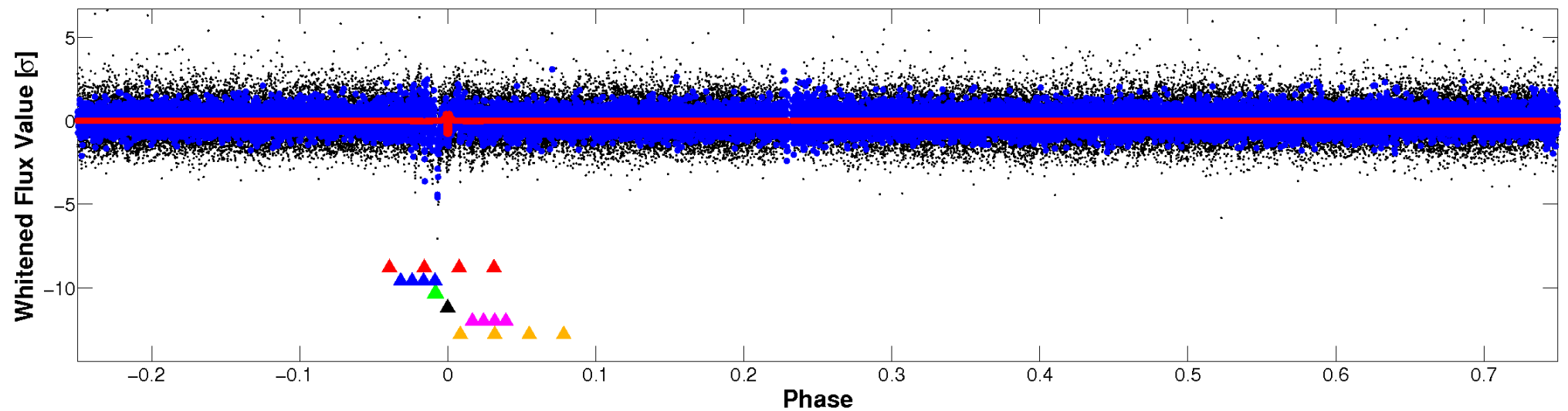


Non-Whitened Vs. Whitened Light Curve

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

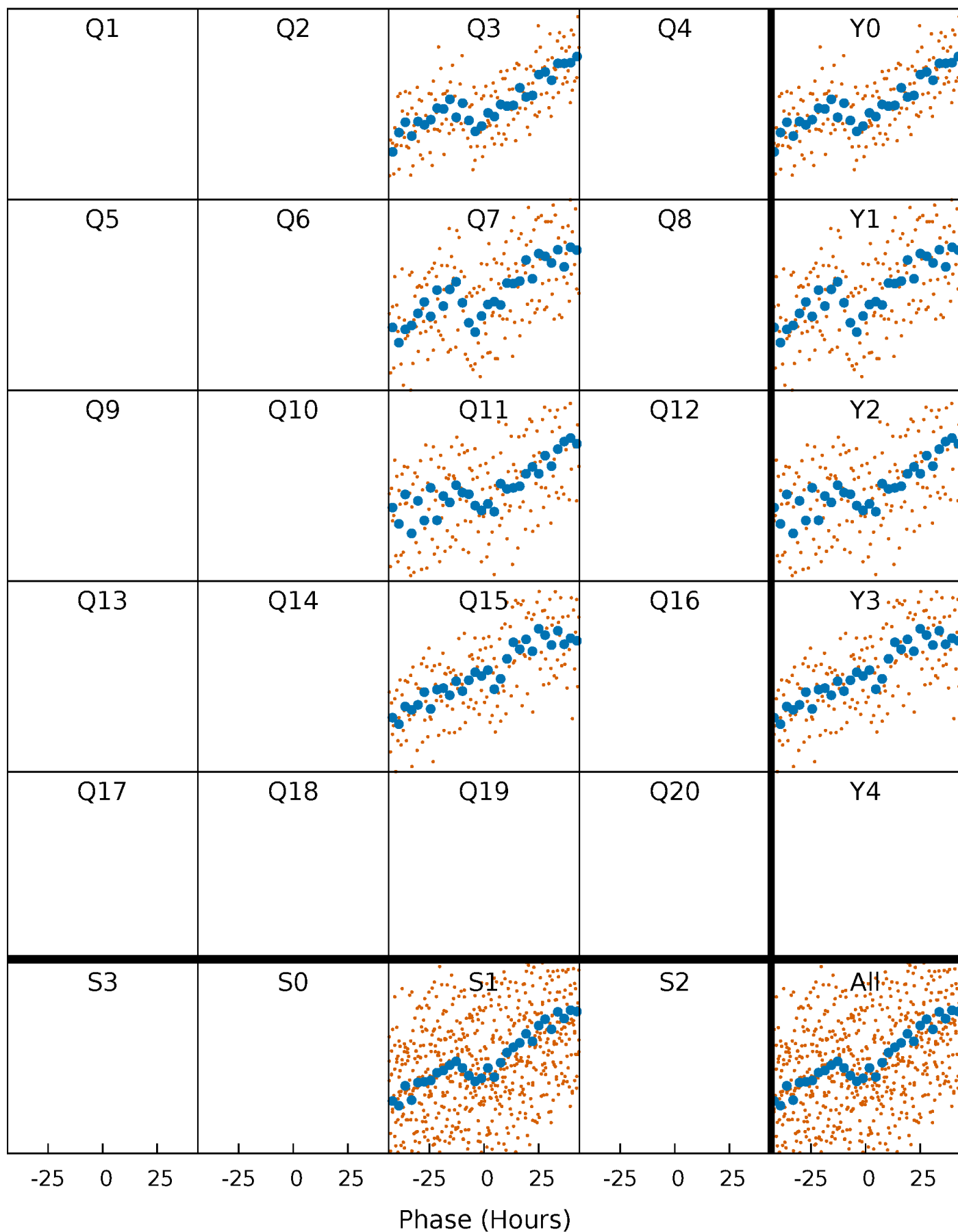


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 005615879-04 $P=373.792151$ Days $T_0=264.830565$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005615879-04 $P=373.792151$ Days $T_0=264.830565$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

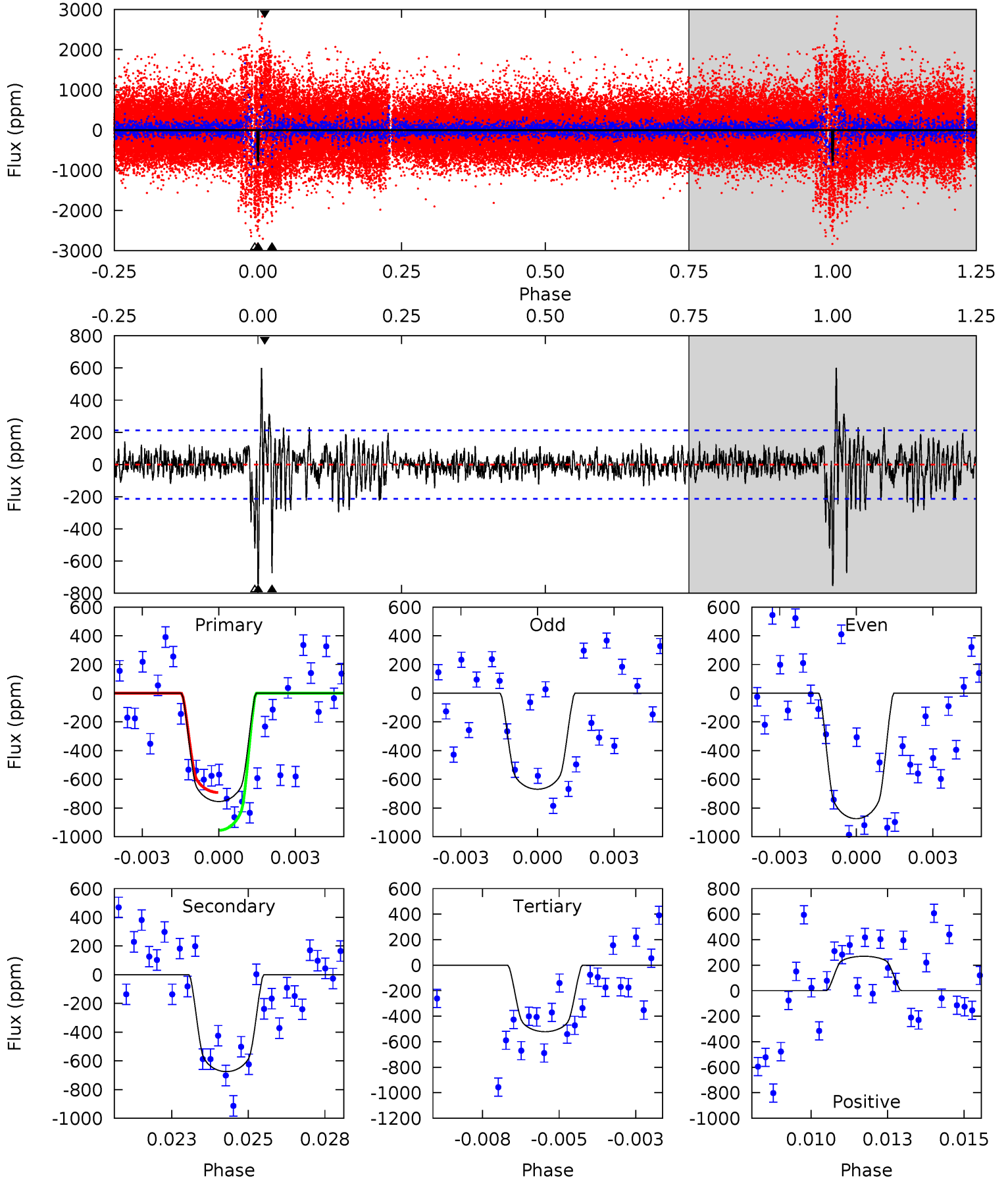
TCE 005615879-04 P=373.831980 Days $T_0=264.769723$ (BKJD)



DV Model-Shift Uniqueness Test

005615879-04, P = 373.792151 Days, E = 264.830565 Days

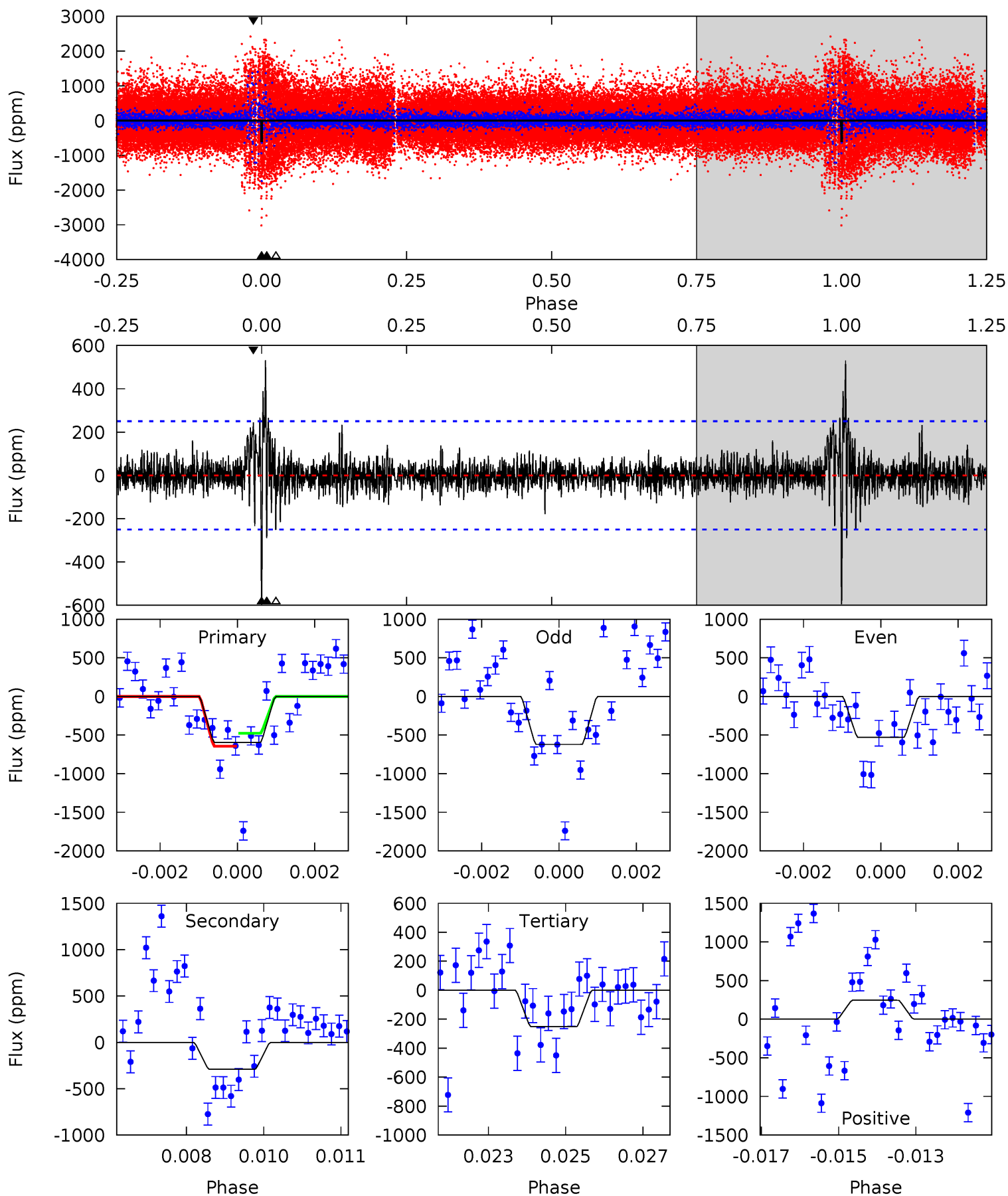
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	16.8	13.0	6.71	5.29	3.02	1.80	5.79	12.1	3.81	10.1	2.45	0.94	0.44	3.23



Alt Model-Shift Uniqueness Test

005615879-04, P = 373.831980 Days, E = 264.769723 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	6.18	5.36	5.22	5.33	3.10	1.09	7.32	7.46	0.82	0.96	0.93	1.06	0.47	1.75



Stellar Parameters For KIC 005615879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5966^{+177}_{-213}	$4.491^{+0.052}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$0.959^{+0.299}_{-0.100}$	$1.040^{+0.129}_{-0.142}$	$1.662^{+0.460}_{-0.858}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005615879-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-675 ± 40	$3.53^{+0.61}_{-0.47}$	362^{+26}_{-19}	5350^{+293}_{-247}	30836^{+8734}_{-7937}
Alt.	-290 ± 47	$2.95^{+0.56}_{-0.43}$	363^{+27}_{-19}	4832^{+316}_{-294}	18606^{+7407}_{-5586}

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

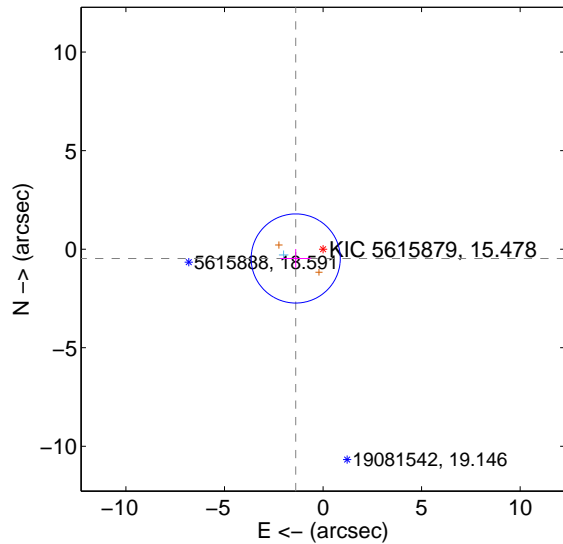
Supplemental centroid analysis for 005615879-04. Kepler magnitude: 15.48. Transit SNR 8.90

There are 1 quarters with good PRF difference image offsets

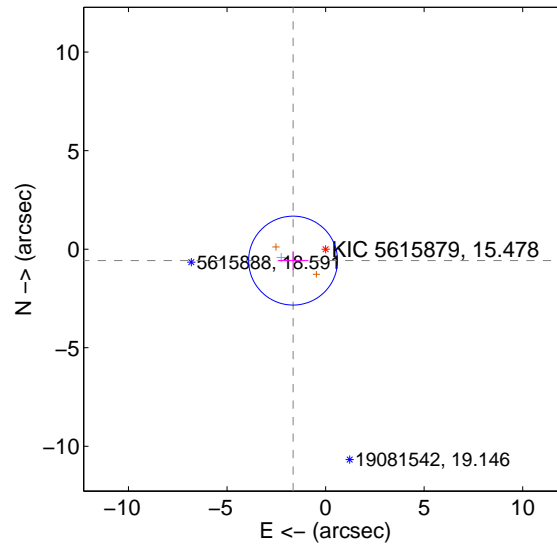
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.464 ± 0.754	1.94	1.386 ± 0.779	-0.472 ± 0.478
PRF-fit source offset from KIC position	1.748 ± 0.752	2.33	1.649 ± 0.779	-0.580 ± 0.478
photometric centroid source offset	3.58 ± 2.22	1.62	2.84 ± 1.65	-2.18 ± 2.94

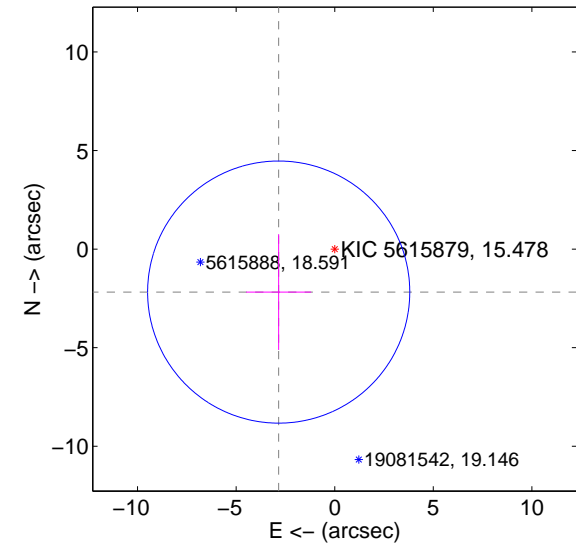
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

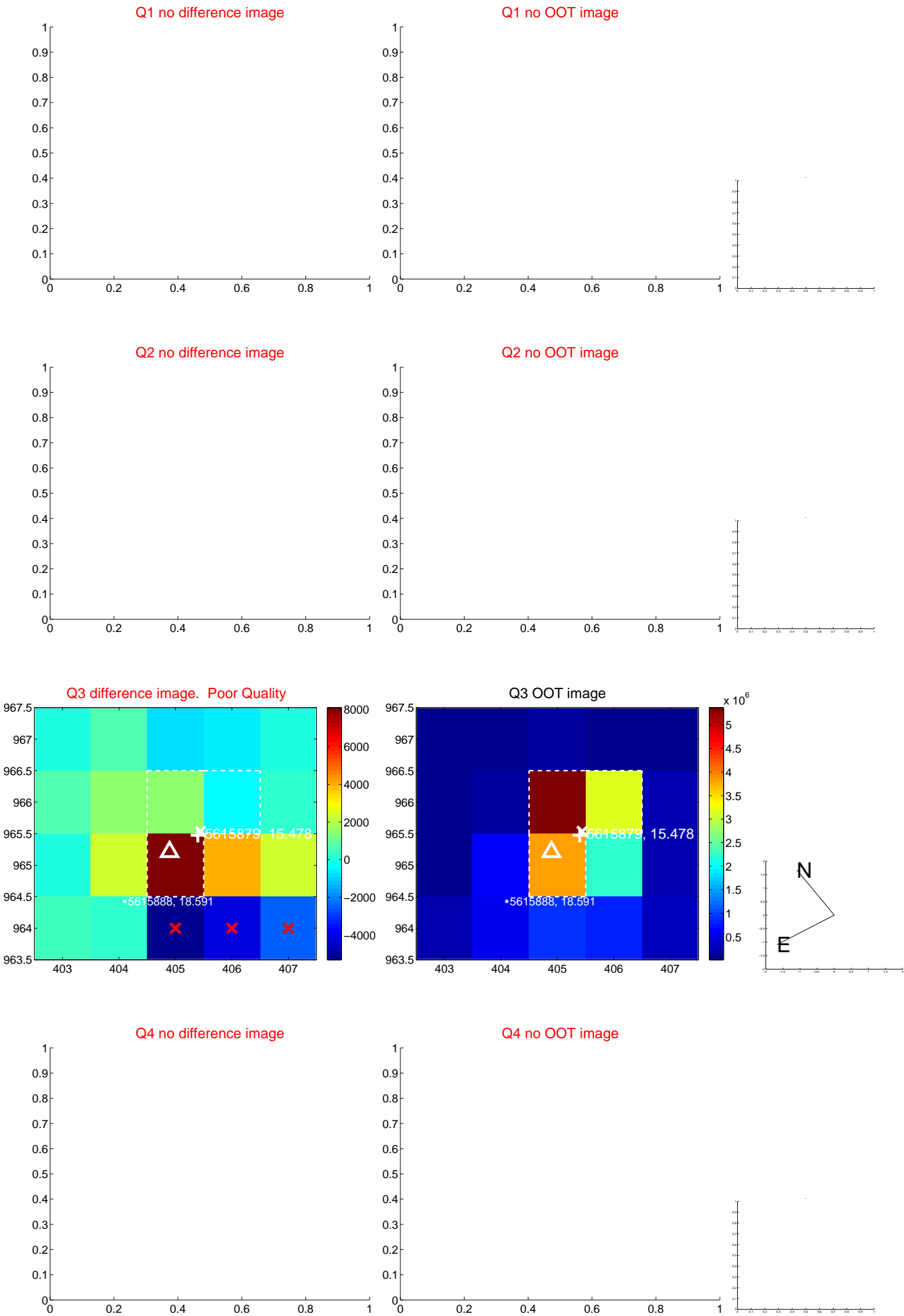


offset from photometric centroids

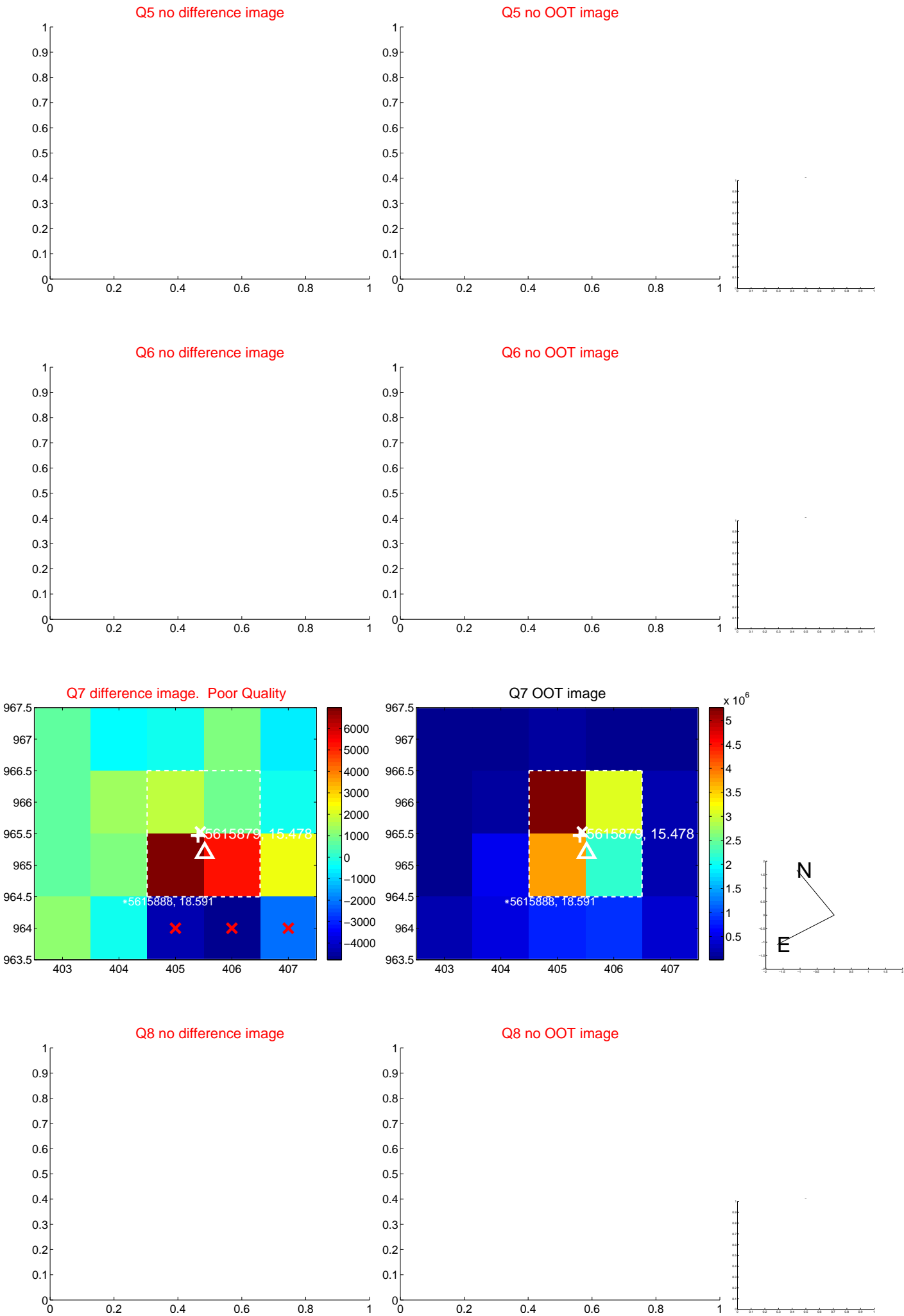


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

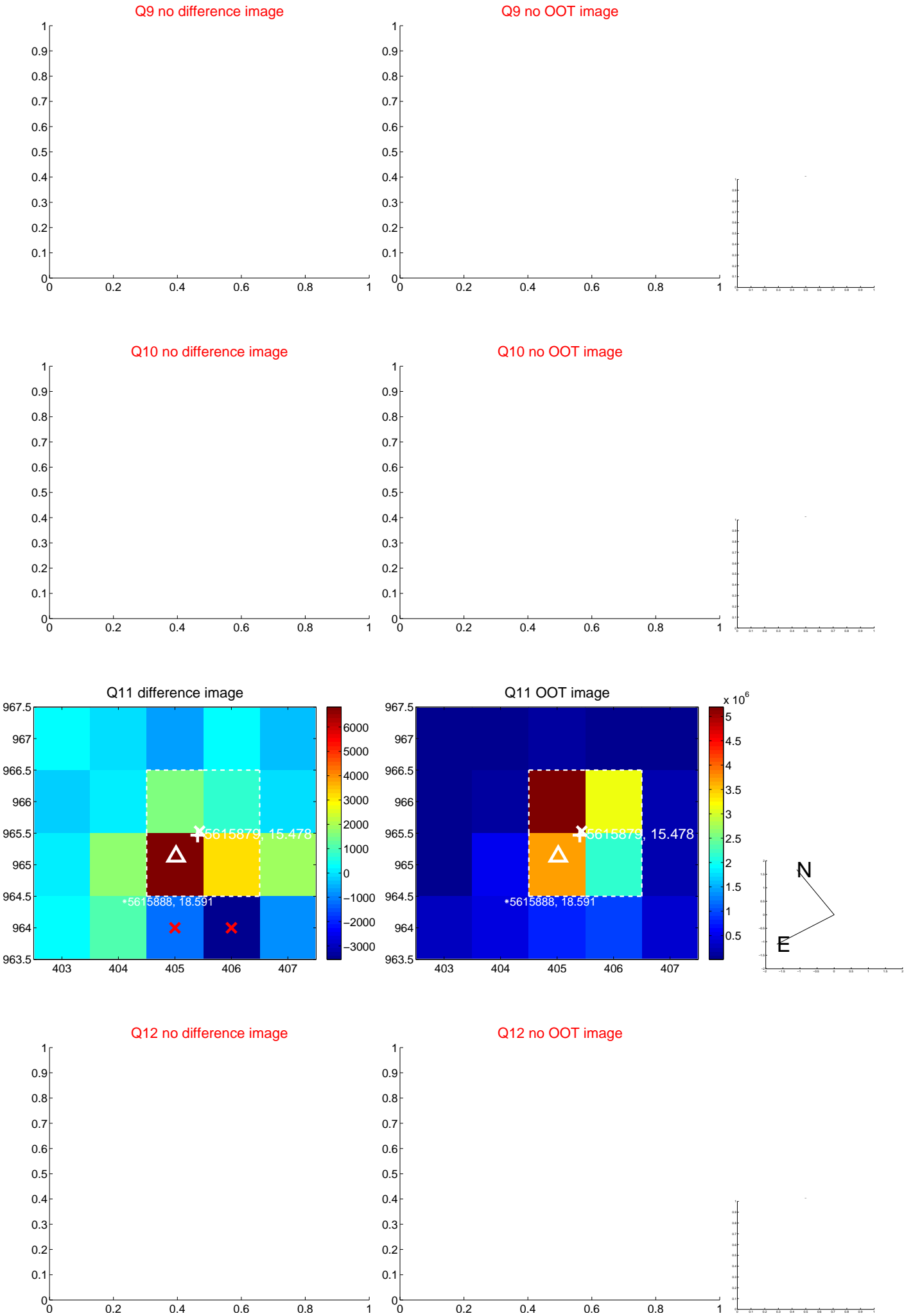
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



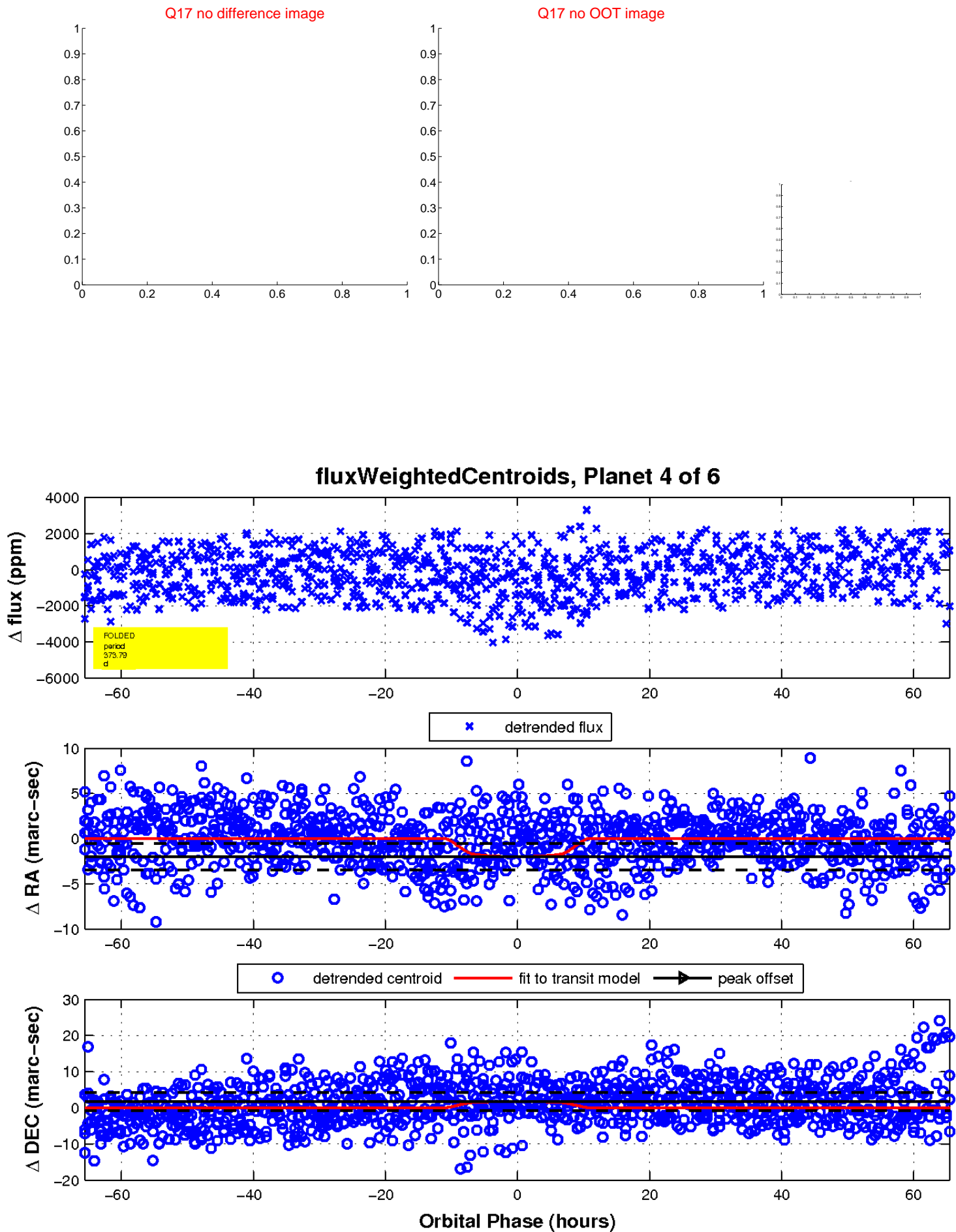
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

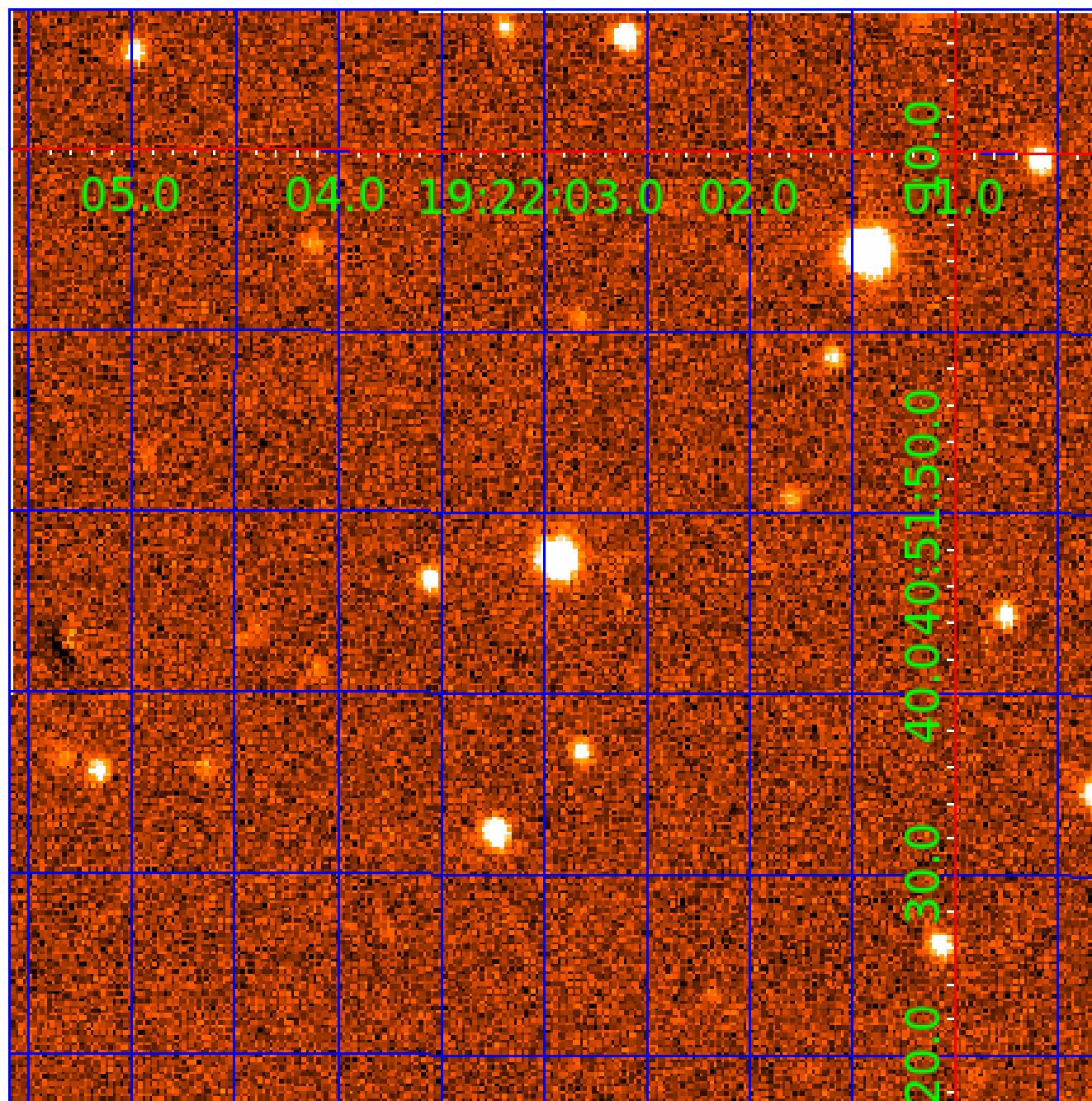


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005615879

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})
005615879-01	OBS	No	364.992301	276.525646	834.5	13.226	8.2	7.7	0.96	5966	3.46	1.02
005615879-02	OBS	No	370.906082	261.627340	971.8	9.531	10.1	8.7	0.96	5966	3.13	1.00
005615879-03	OBS	No	374.000590	261.438879	1124.8	8.966	9.3	9.2	0.96	5966	3.45	0.99
005615879-04	OBS	No	373.792151	264.830565	861.5	21.848	9.5	8.9	0.96	5966	3.41	0.99
005615879-05	OBS	No	370.981583	279.515516	772.3	13.209	8.2	8.0	0.96	5966	3.08	1.00
005615879-06	OBS	No	365.086417	294.124670	784.6	5.000	7.8	-1.0	0.96	5966	2.67	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005615879-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
005615879-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005615879-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005615879-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—SAME_NTL_PERIOD—CENT_NOFITS

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

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

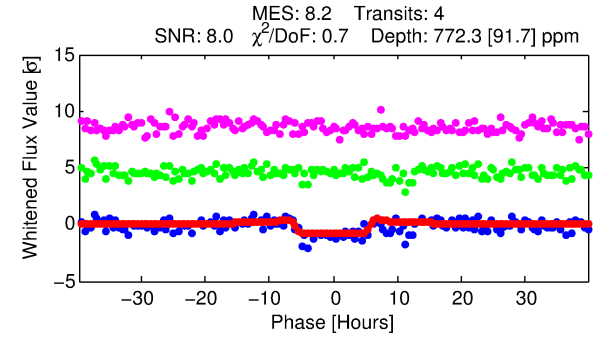
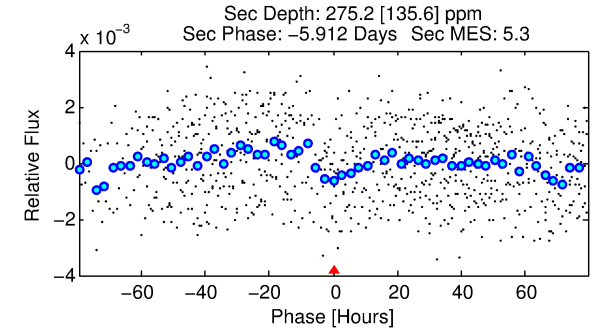
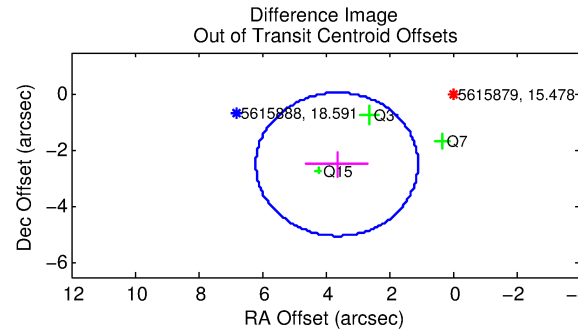
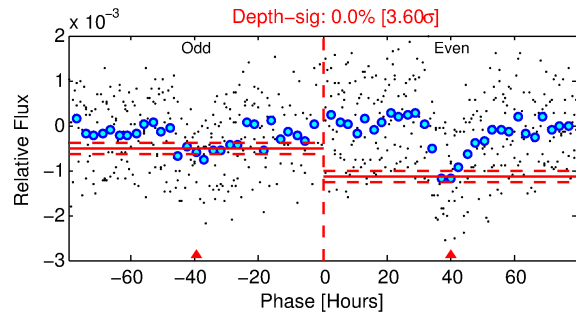
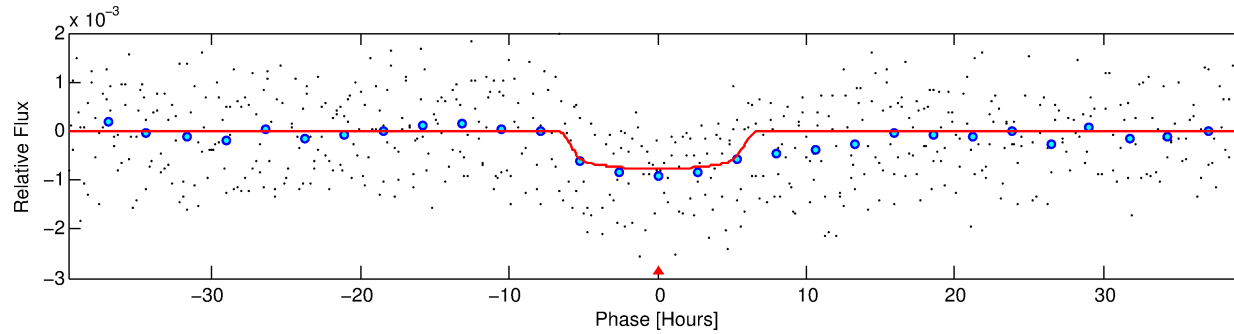
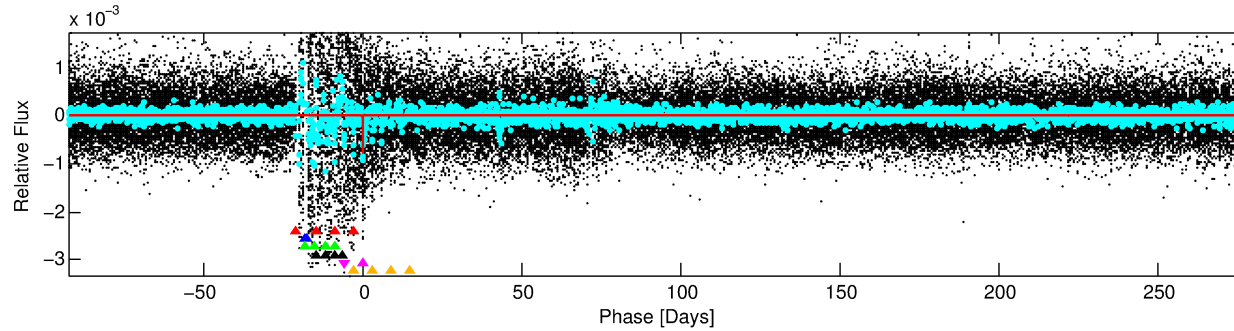
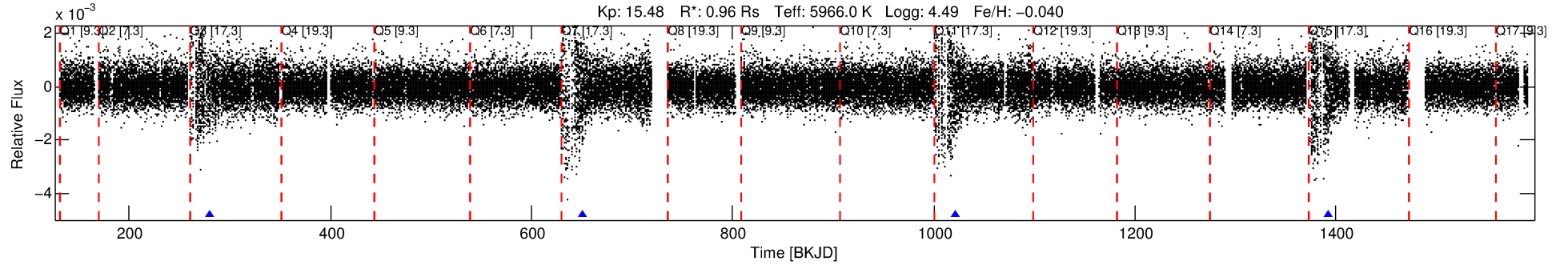
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005615879-05

No Significant Match Found

DV One-Page Summary

KIC: 5615879 Candidate: 5 of 6 Period: 370.982 d



DV Fit Results:

Period = 370.98158 [0.00868] d
Epoch = 279.5155 [0.0153] BKJD
Rp/R* = 0.0294 [0.0037]
a/R* = 117.21 [56.74]
b = 0.87 [0.13]
Seff = 1.00 [0.41]
Teq = 255 [26] K
Rp = 3.08 [1.03] Re
a = 1.0236 [0.2683] AU
Ag = 16717.01 [11221.39] [1.49 σ]
Teffp = 4479 [639] K [6.60 σ]

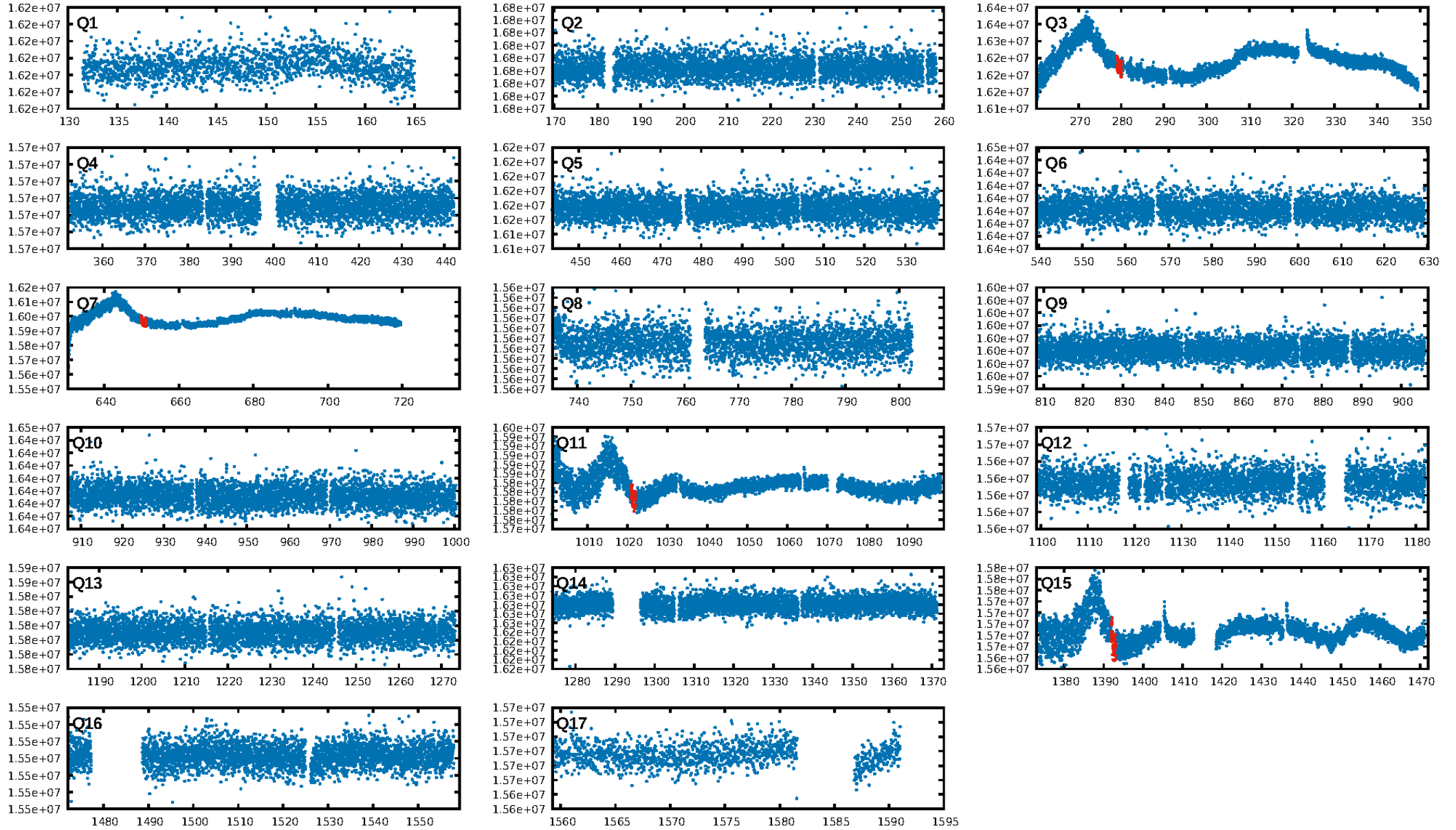
DV Diagnostic Results:

ShortPeriod-sig: 8.9% [0.11 σ]
LongPeriod-sig: 99.2% [2.64 σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -6.7
Centroid-sig: 30.5%
Centroid-so: 2.345 arcsec [0.86 σ]
OotOffset-rm: 4.409 arcsec [5.19 σ]
KicOffset-rm: 4.662 arcsec [4.05 σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

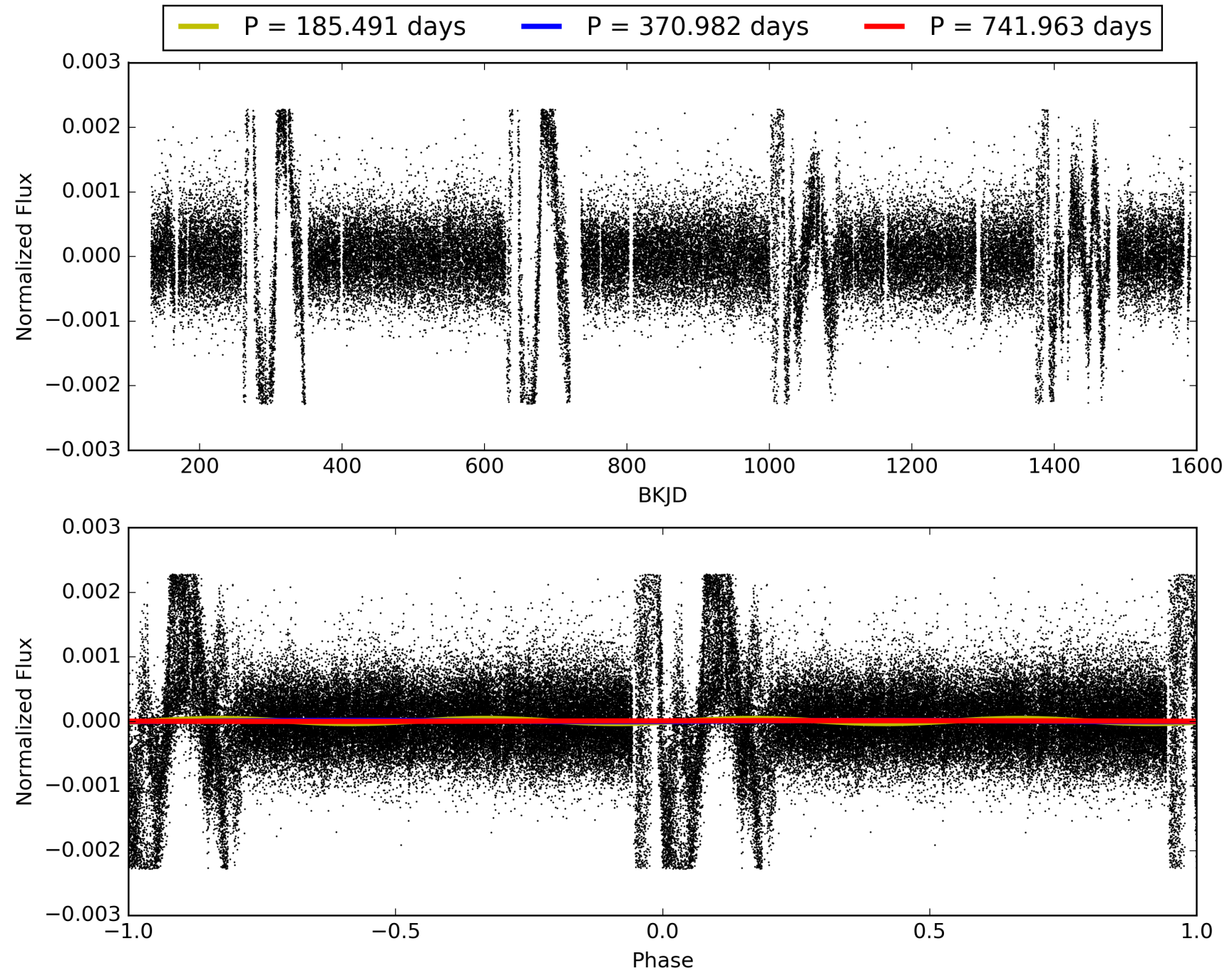
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:50:03 Z

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

TCE 005615879-05, PDC Light Curves

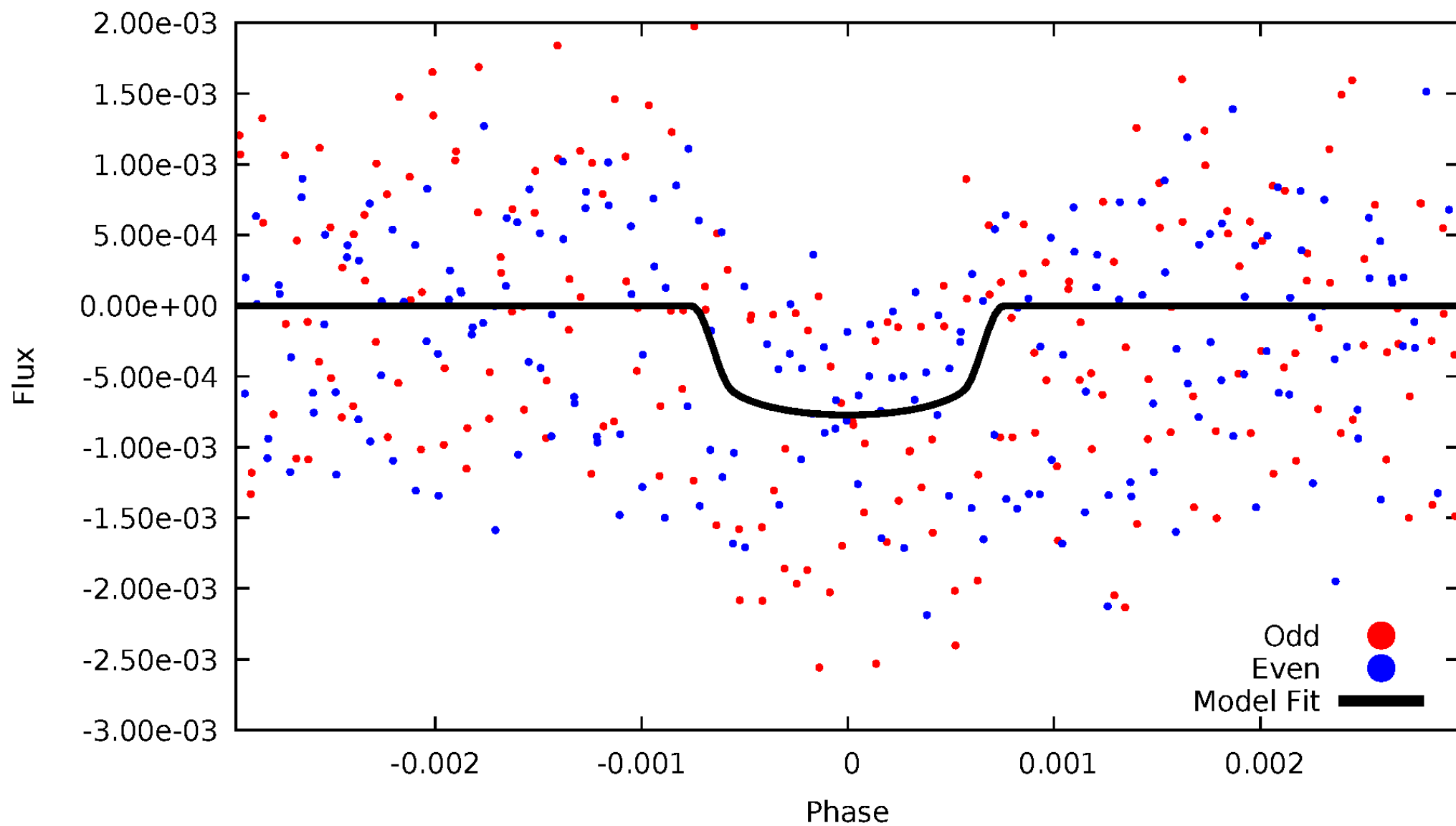


TCE 005615879-05



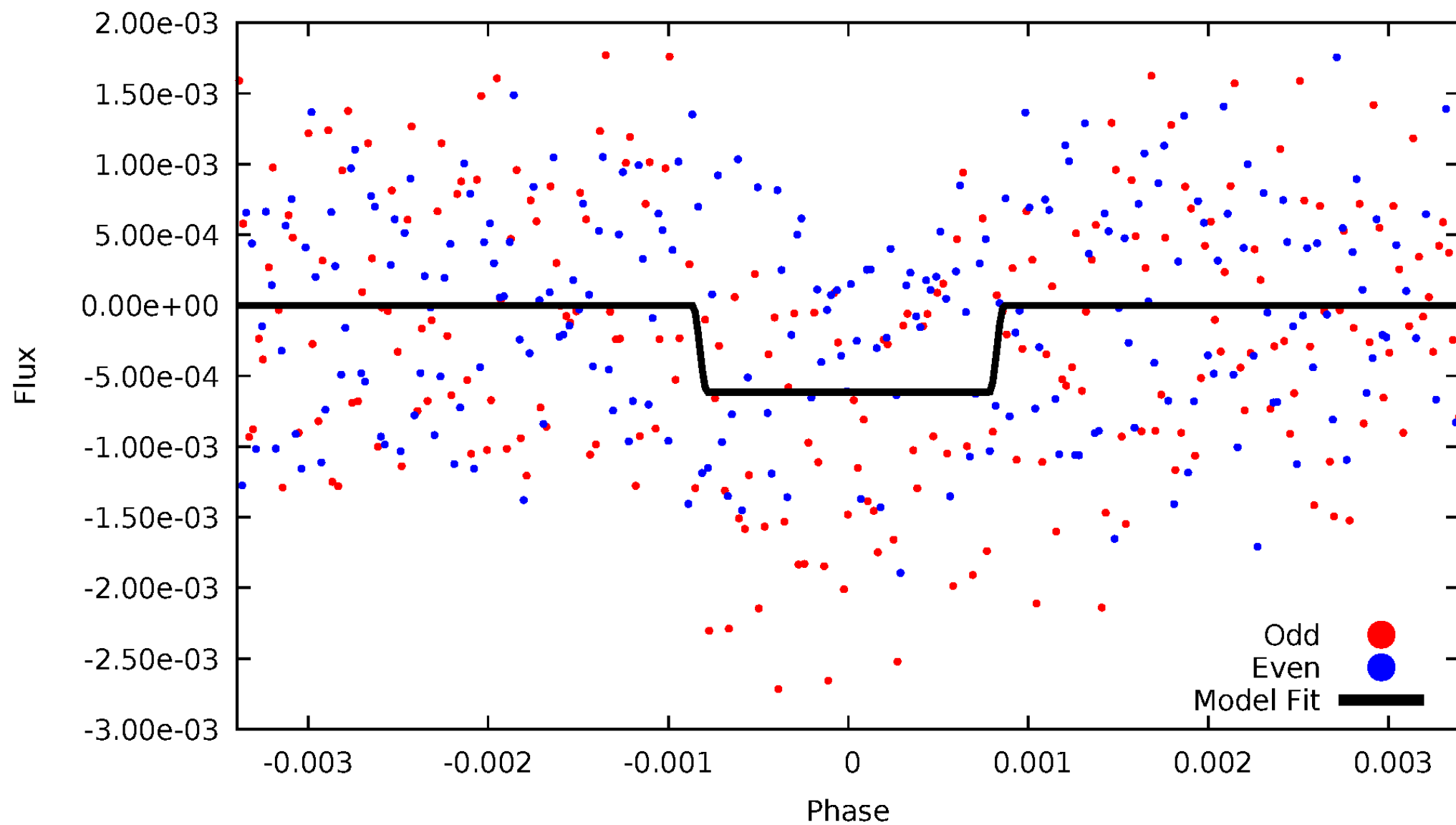
DV Odd/Even

TCE 005615879-05



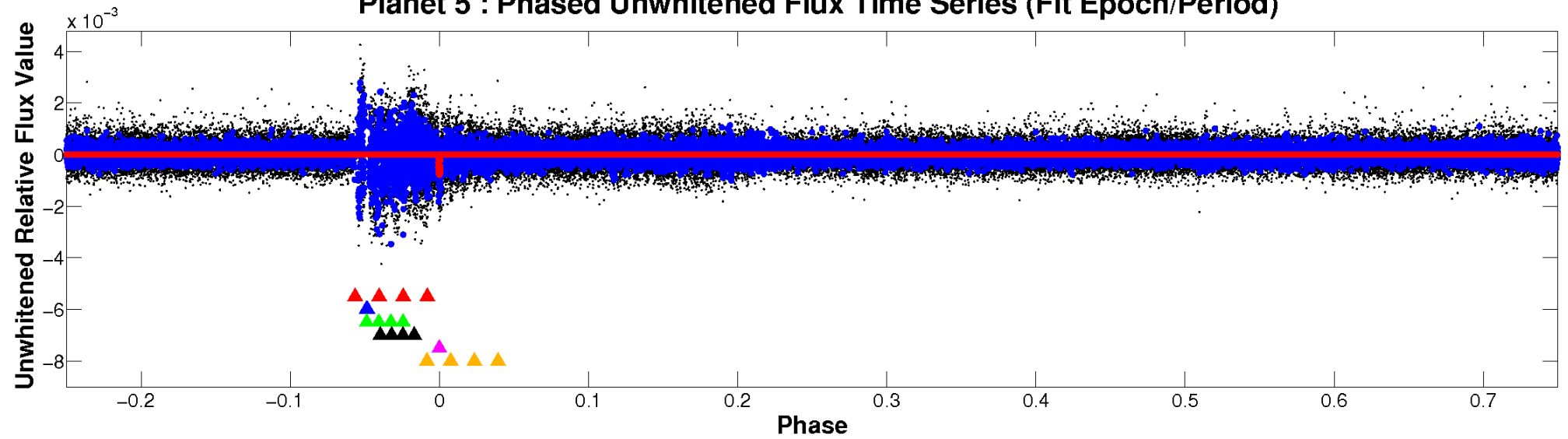
ALT Odd/Even

TCE 005615879-05

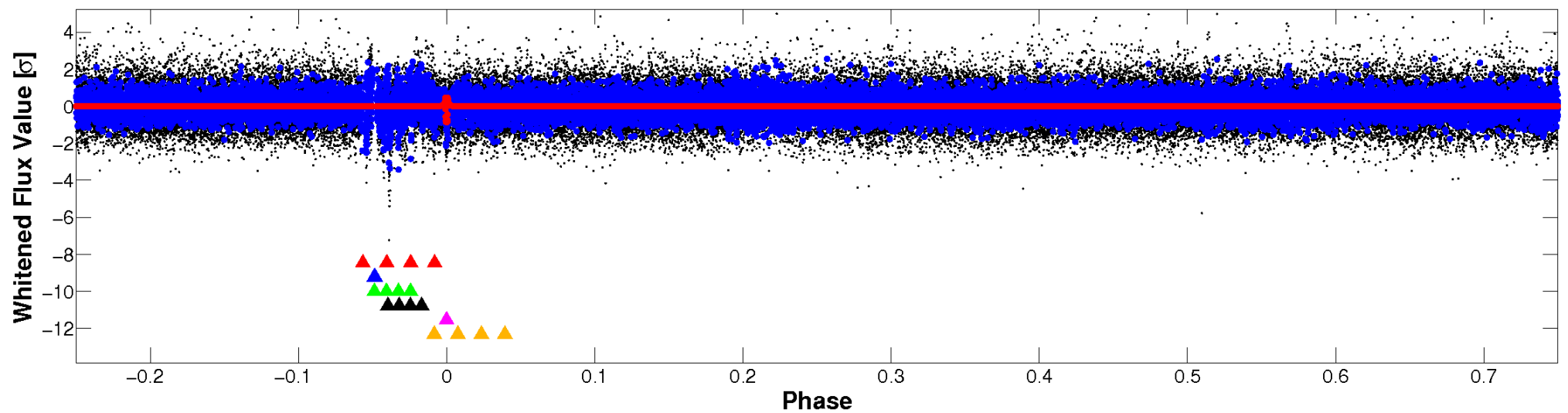


Non-Whitened Vs. Whitened Light Curve

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

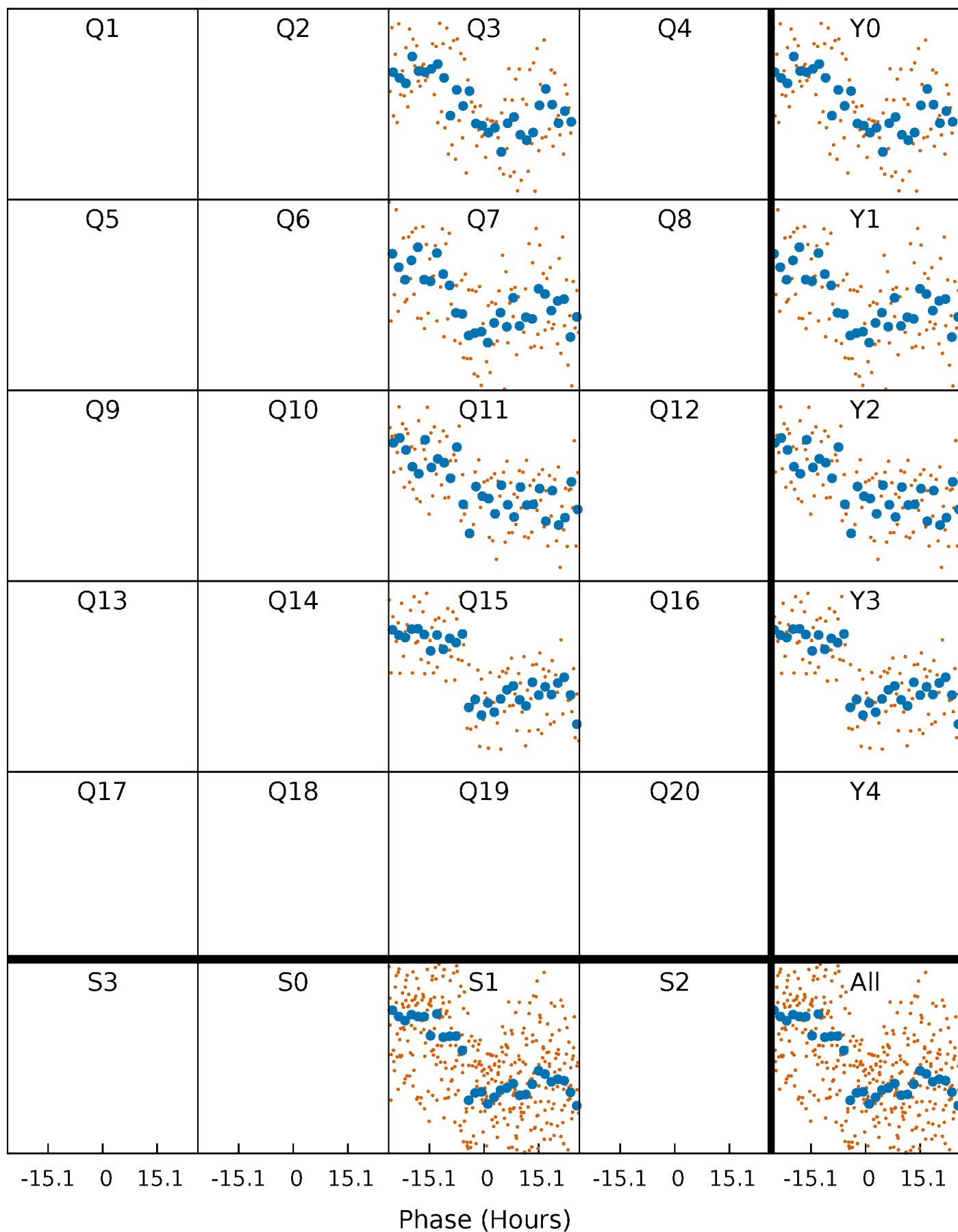


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 005615879-05 $P=370.981583$ Days $T_0=279.515516$ (BKJD)



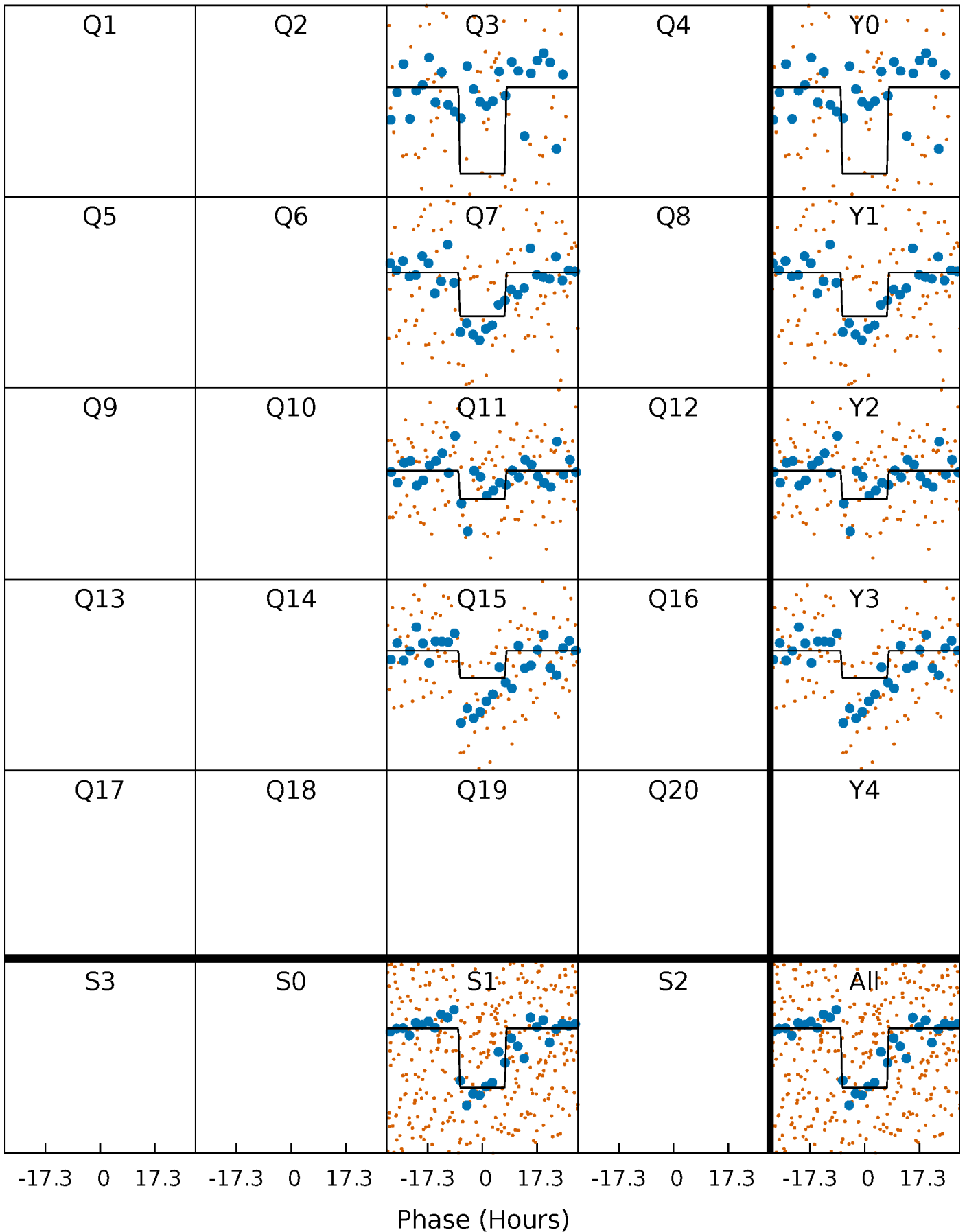
DV Quarter-Phased Transit Curves

TCE 005615879-05 $P=370.981583$ Days $T_0=279.515516$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

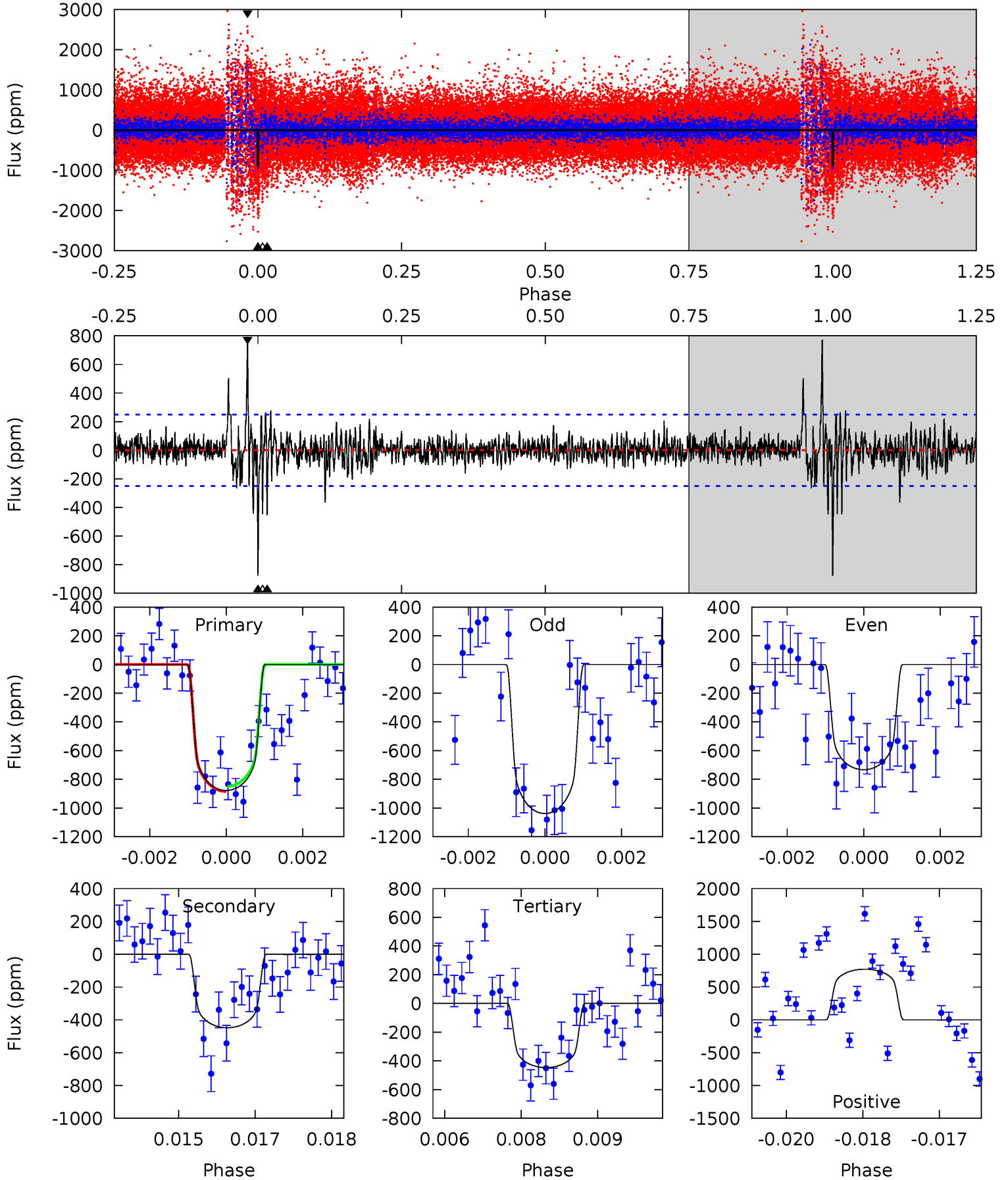
TCE 005615879-05 $P=371.039394$ Days $T_0=279.434638$ (BKJD)



DV Model-Shift Uniqueness Test

005615879-05, P = 370.981583 Days, E = 279.515516 Days

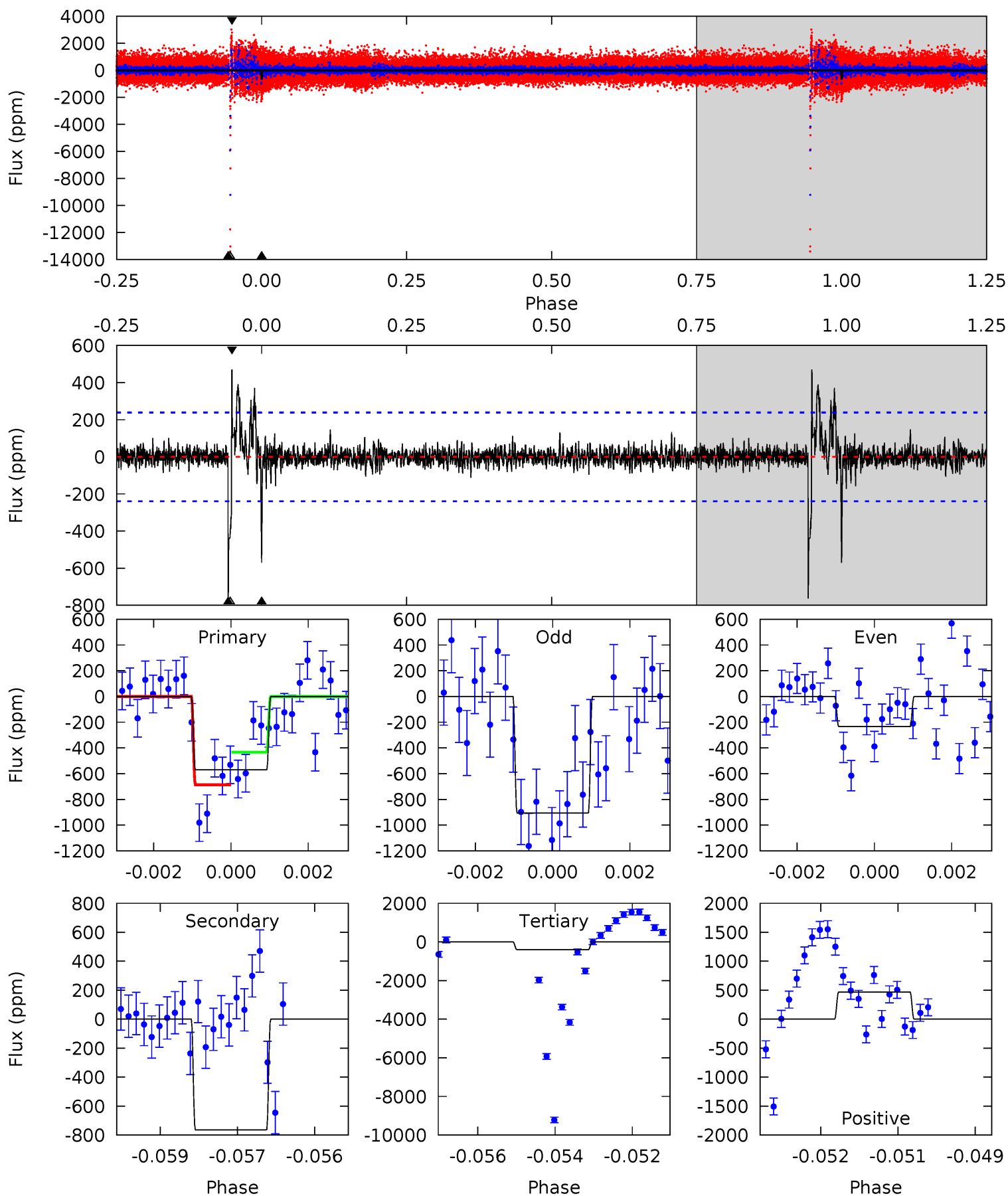
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	9.65	9.62	16.6	5.38	3.17	1.50	9.29	2.28	0.03	-6.98	3.28	1.11	0.47	0.38



Alt Model-Shift Uniqueness Test

005615879-05, P = 371.039394 Days, E = 279.434638 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	17.1	8.94	10.5	5.36	3.14	0.96	3.82	2.24	8.16	6.58	7.39	1.03	0.38	2.93



Stellar Parameters For KIC 005615879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5966^{+177}_{-213}	$4.491^{+0.052}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$0.959^{+0.299}_{-0.100}$	$1.040^{+0.129}_{-0.142}$	$1.662^{+0.460}_{-0.858}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005615879-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-448 ± 46	$3.22^{+0.59}_{-0.52}$	364^{+27}_{-17}	5123^{+355}_{-302}	24802^{+9283}_{-7455}
Alt.	-764 ± 45	$2.69^{+0.59}_{-0.47}$	365^{+25}_{-19}	6322^{+638}_{-509}	59600^{+27423}_{-18991}

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

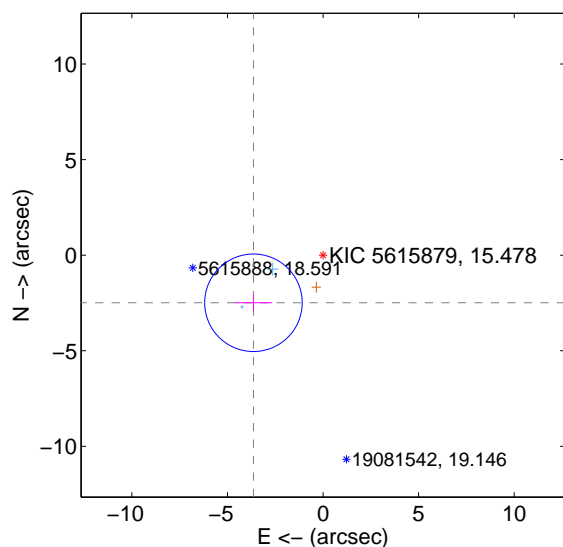
Supplemental centroid analysis for 005615879-05. Kepler magnitude: 15.48. Transit SNR 7.97

There are 2 quarters with good PRF difference image offsets

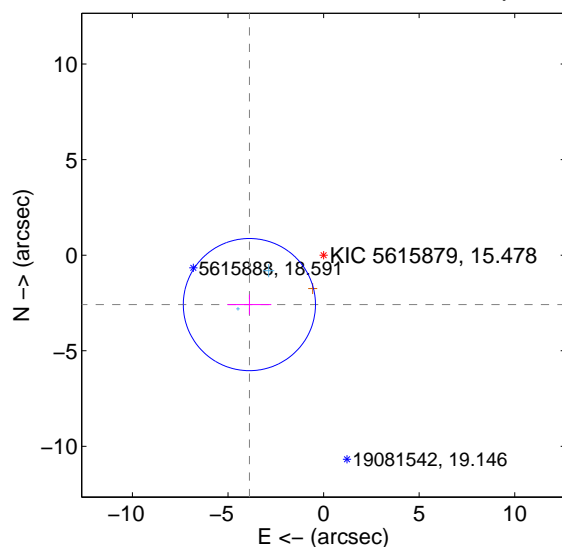
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.409 \pm 0.850	5.19	3.640 \pm 0.987	-2.489 \pm 0.430
PRF-fit source offset from KIC position	4.662 \pm 1.152	4.05	3.880 \pm 1.145	-2.585 \pm 0.520
photometric centroid source offset	2.35 \pm 2.73	0.86	0.85 \pm 1.80	2.18 \pm 2.85

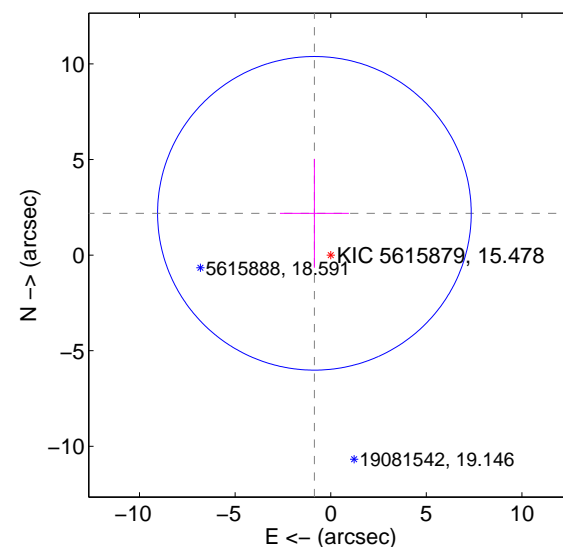
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

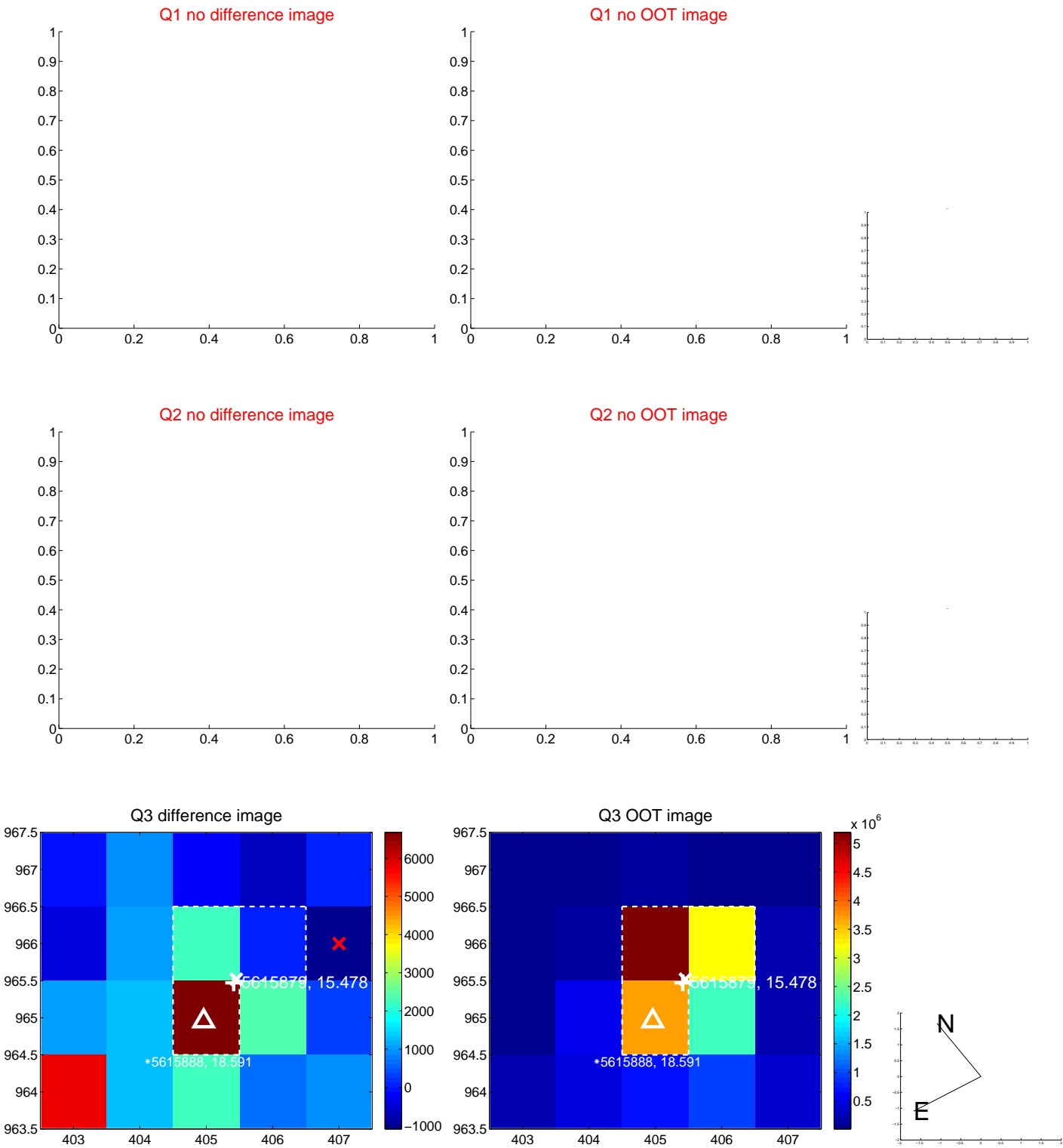


offset from photometric centroids



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

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



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

Q5 no difference image



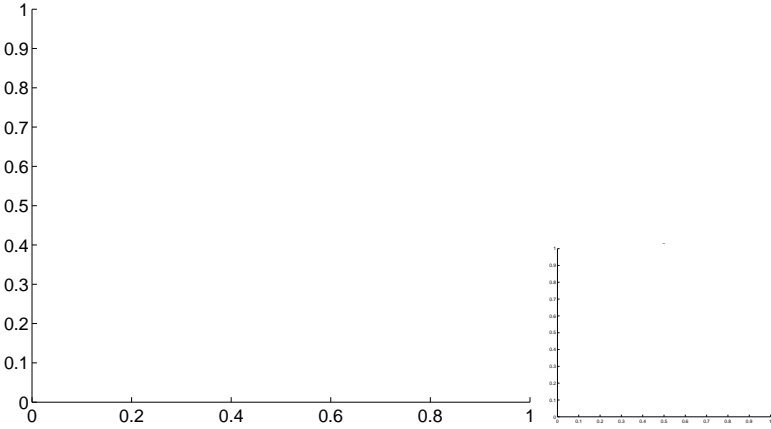
Q5 no OOT image



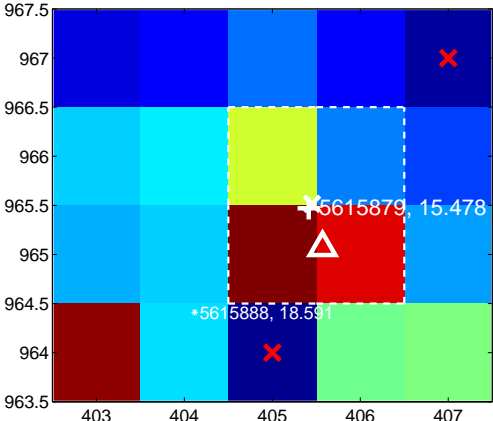
Q6 no difference image



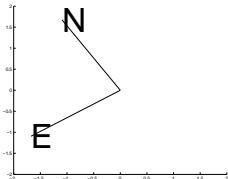
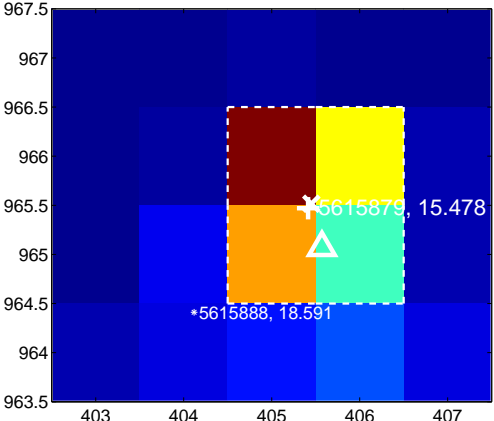
Q6 no OOT image



Q7 difference image. Poor Quality



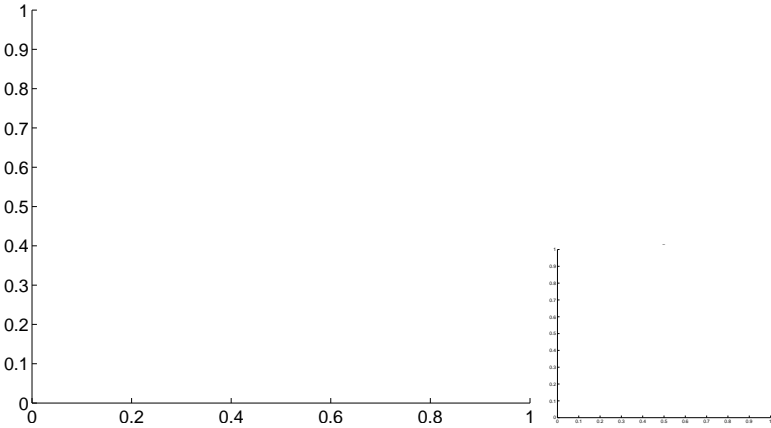
Q7 OOT image



Q8 no difference image



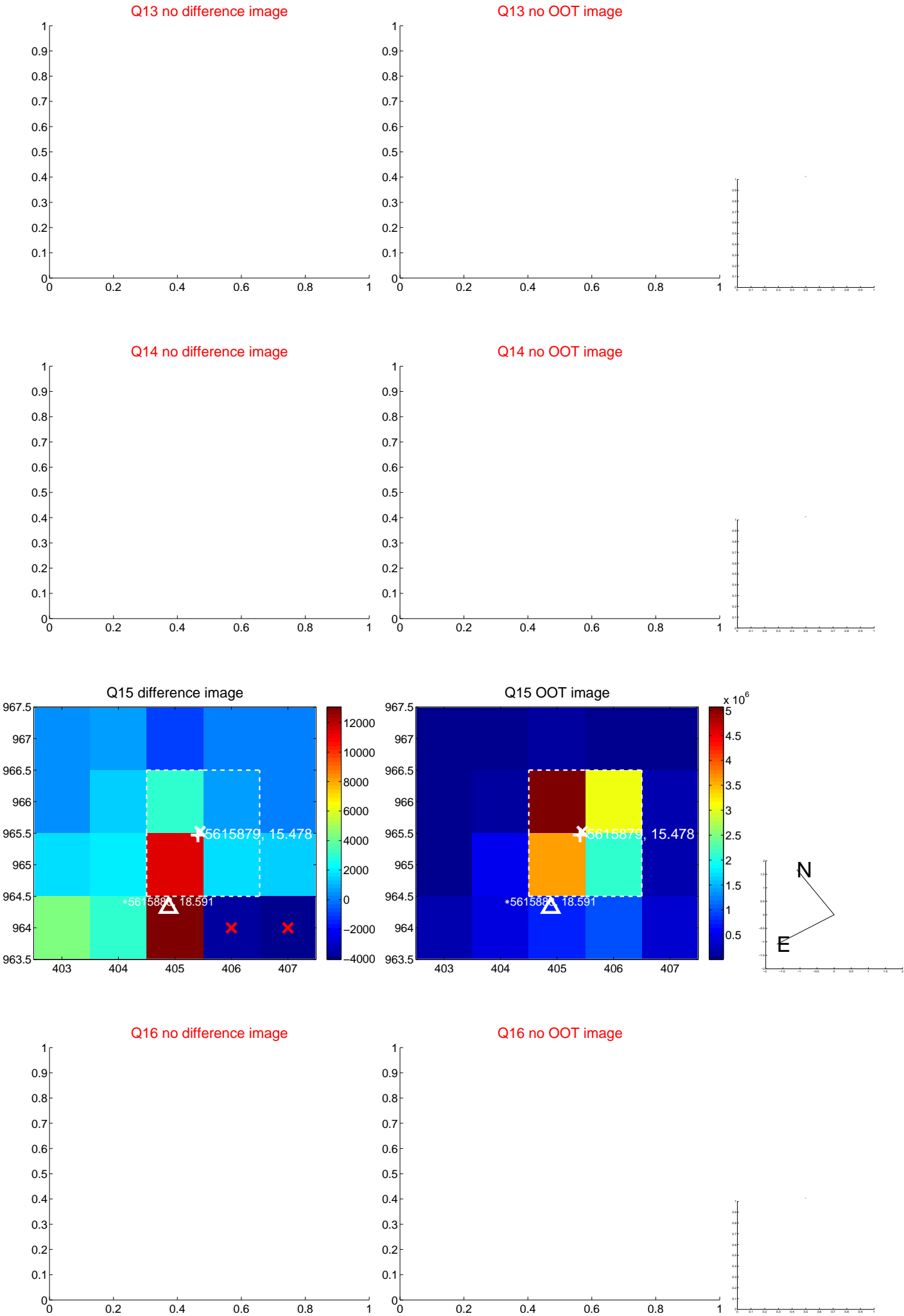
Q8 no OOT image



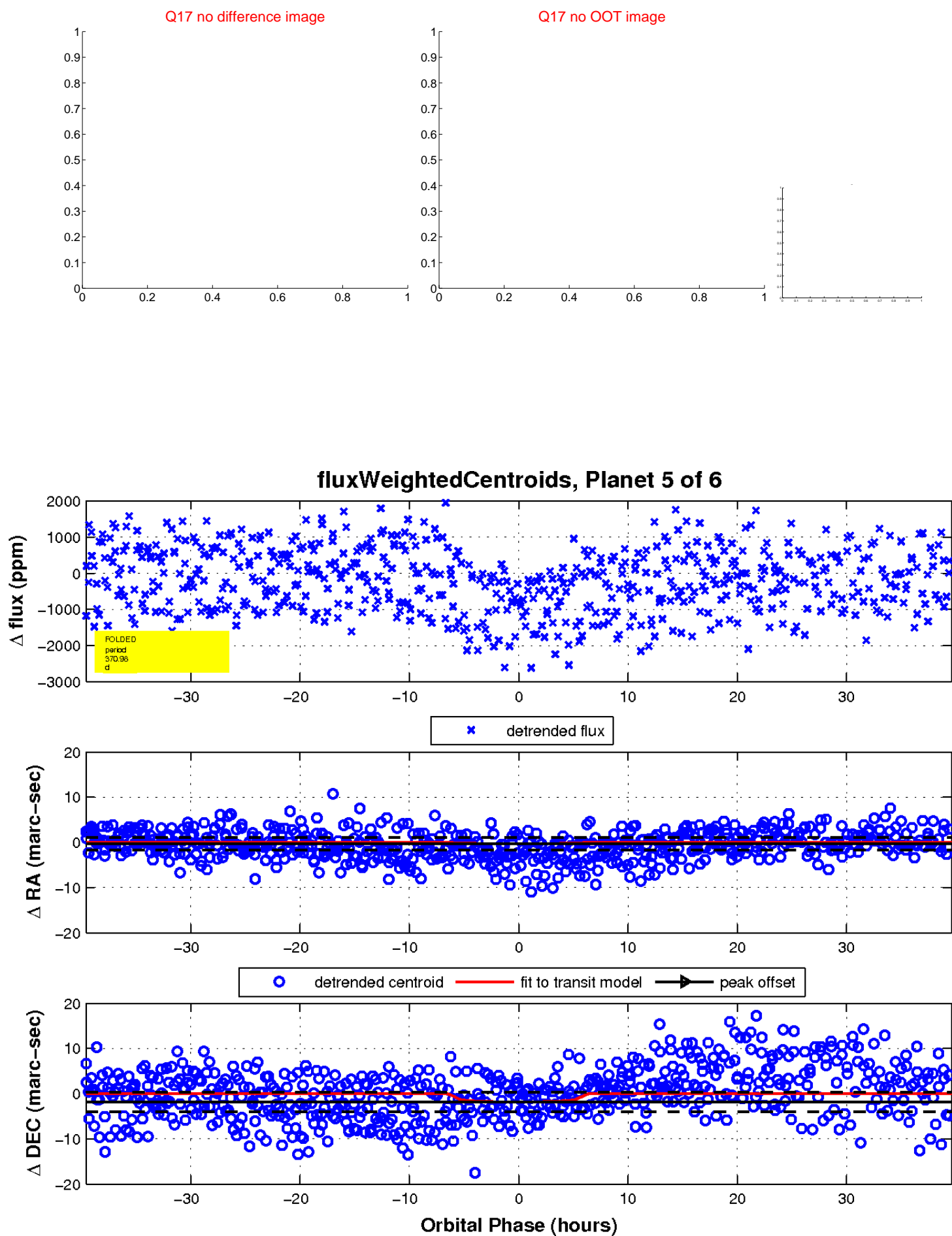
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

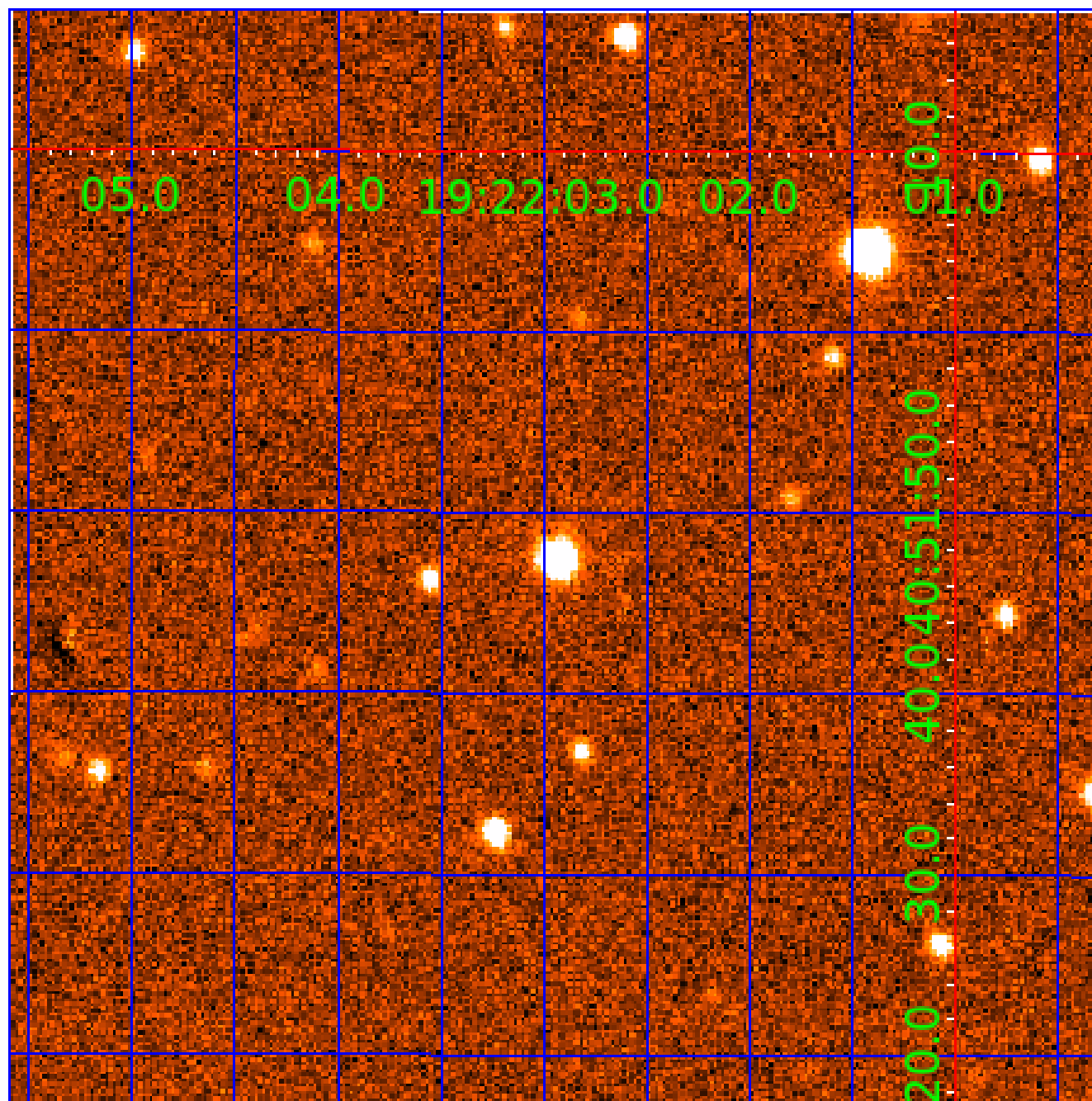


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005615879

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})
005615879-01	OBS	No	364.992301	276.525646	834.5	13.226	8.2	7.7	0.96	5966	3.46	1.02
005615879-02	OBS	No	370.906082	261.627340	971.8	9.531	10.1	8.7	0.96	5966	3.13	1.00
005615879-03	OBS	No	374.000590	261.438879	1124.8	8.966	9.3	9.2	0.96	5966	3.45	0.99
005615879-04	OBS	No	373.792151	264.830565	861.5	21.848	9.5	8.9	0.96	5966	3.41	0.99
005615879-05	OBS	No	370.981583	279.515516	772.3	13.209	8.2	8.0	0.96	5966	3.08	1.00
005615879-06	OBS	No	365.086417	294.124670	784.6	5.000	7.8	-1.0	0.96	5966	2.67	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005615879-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
005615879-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
005615879-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005615879-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD—CENT_FEW_DIFFS
005615879-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—SAME_NTL_PERIOD—CENT_NOFITS

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

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

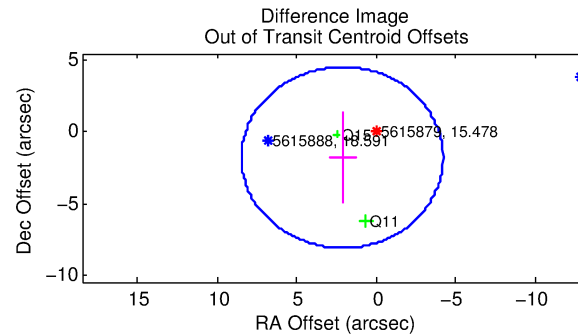
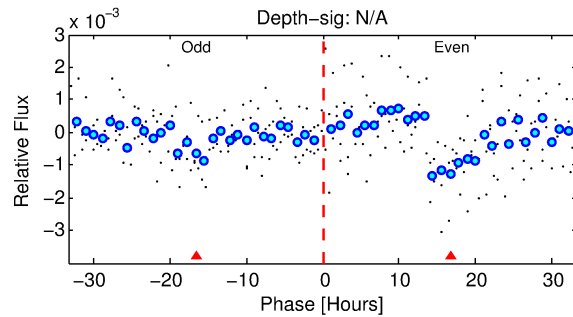
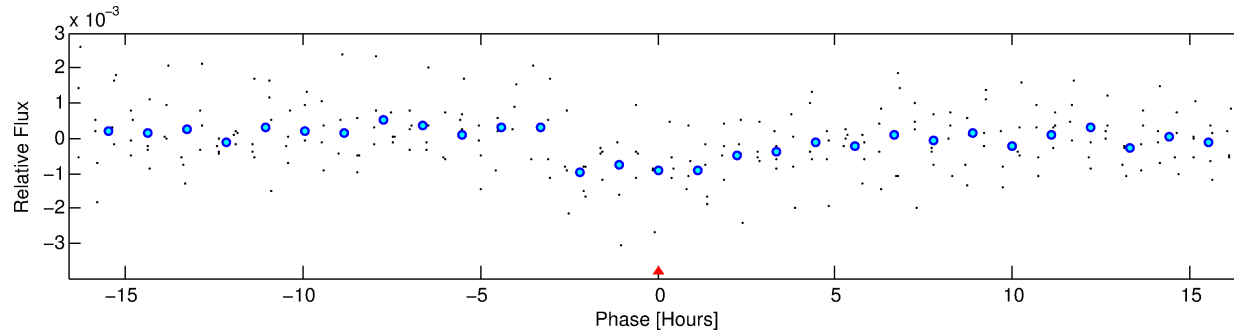
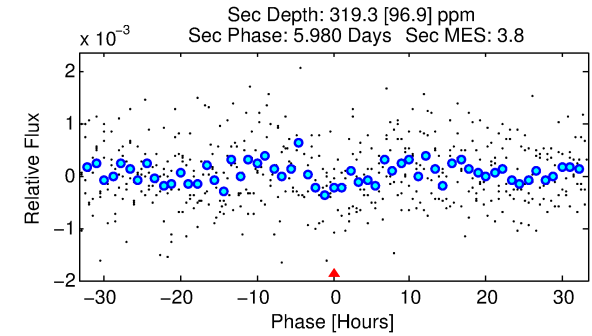
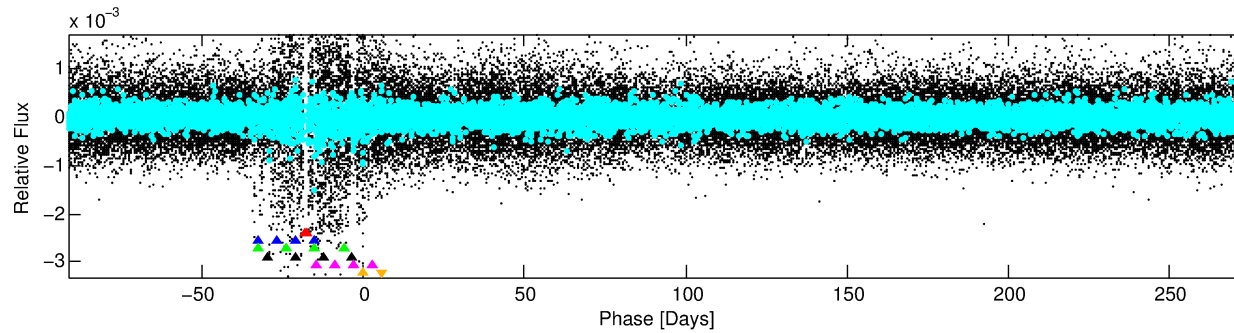
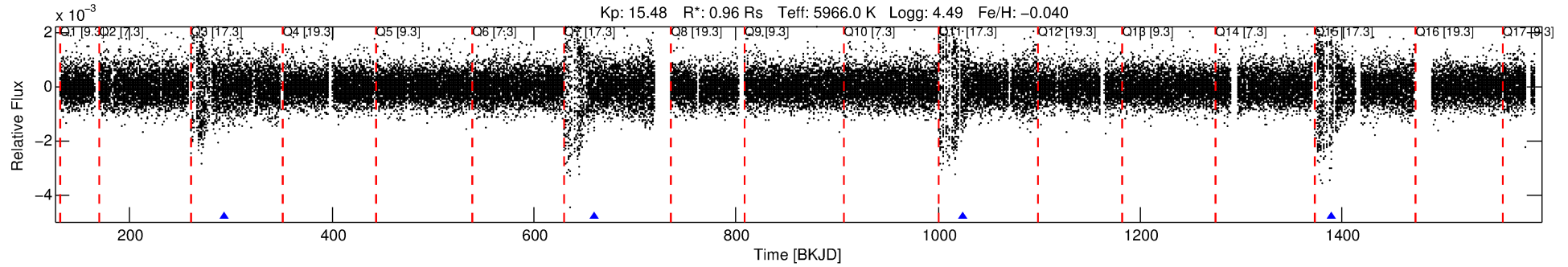
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005615879-06

No Significant Match Found

DV One-Page Summary

KIC: 5615879 Candidate: 6 of 6 Period: 365.086 d



TPS TCE Results:

Period = 365.08642 d
Epoch = 294.1247 BKJD

DV fit results are unavailable

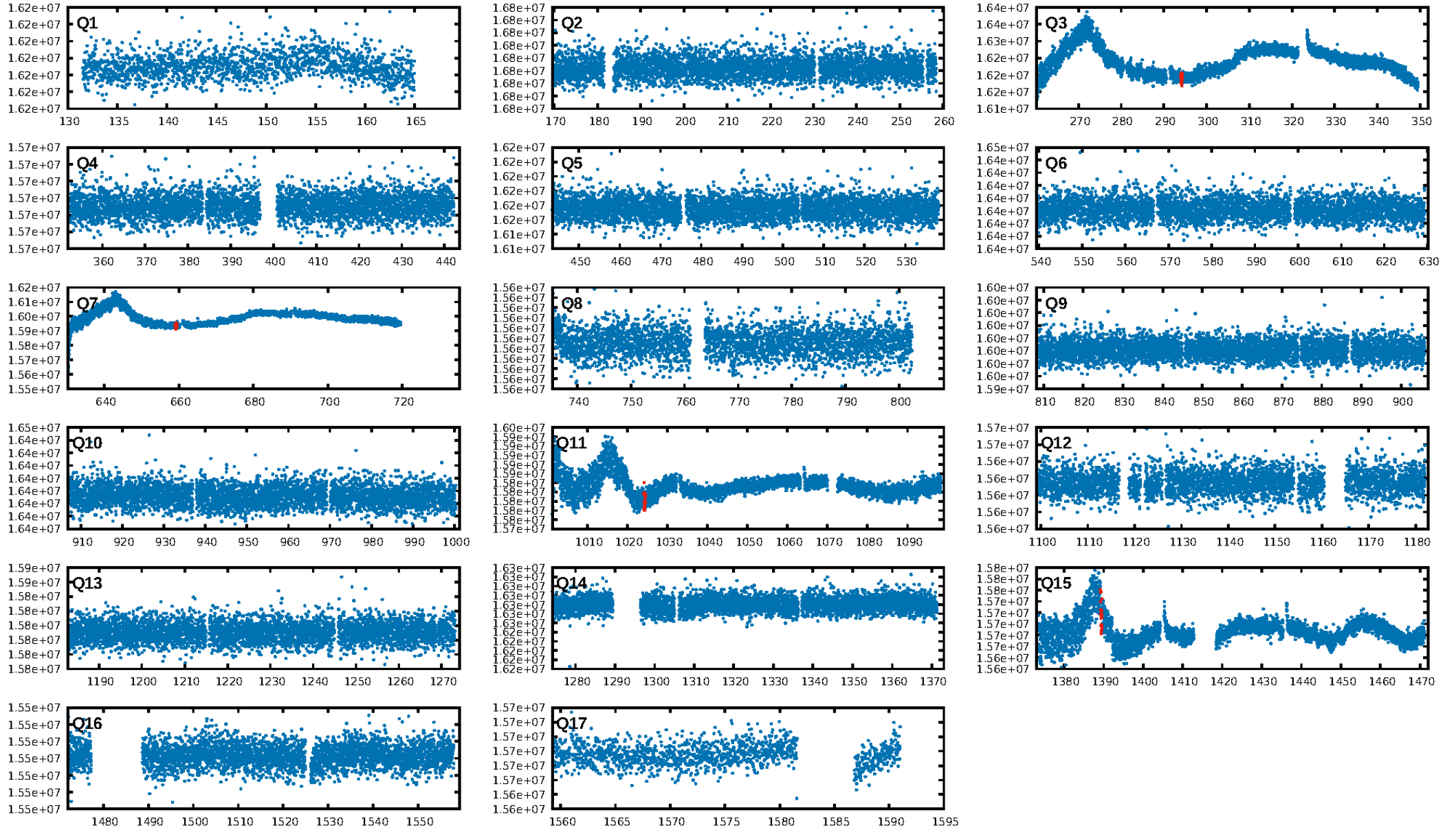
DV Diagnostic Results:

ShortPeriod-sig: 12.7% [0.16 σ]
LongPeriod-sig: 100.0% [12.98 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.605
Centroid-sig: 29.4%
Centroid-so: 2.468 arcsec [1.32 σ]
OotOffset-rm: 2.779 arcsec [1.31 σ]
KicOffset-rm: 3.040 arcsec [1.48 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

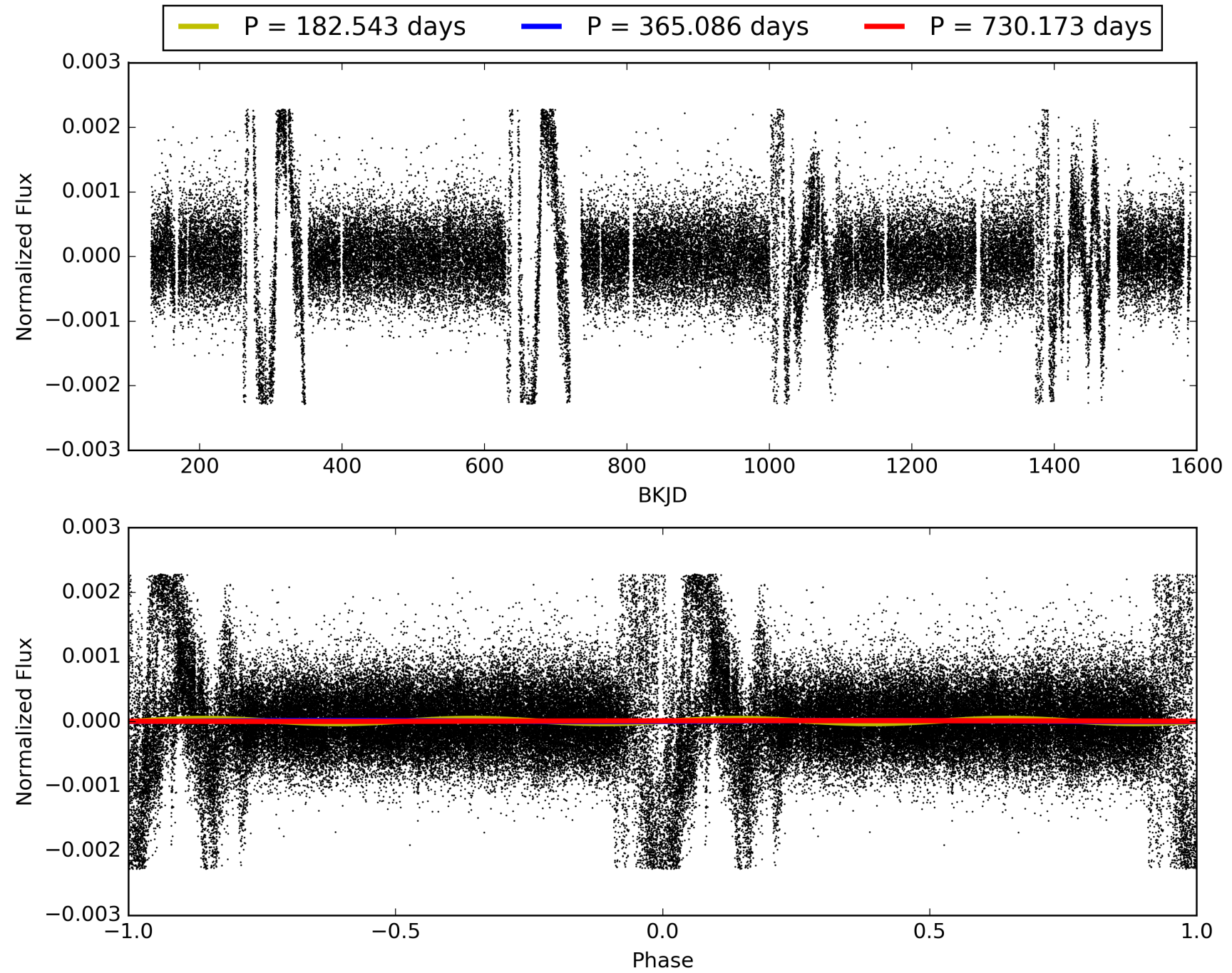
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:50:15 Z

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

TCE 005615879-06, PDC Light Curves

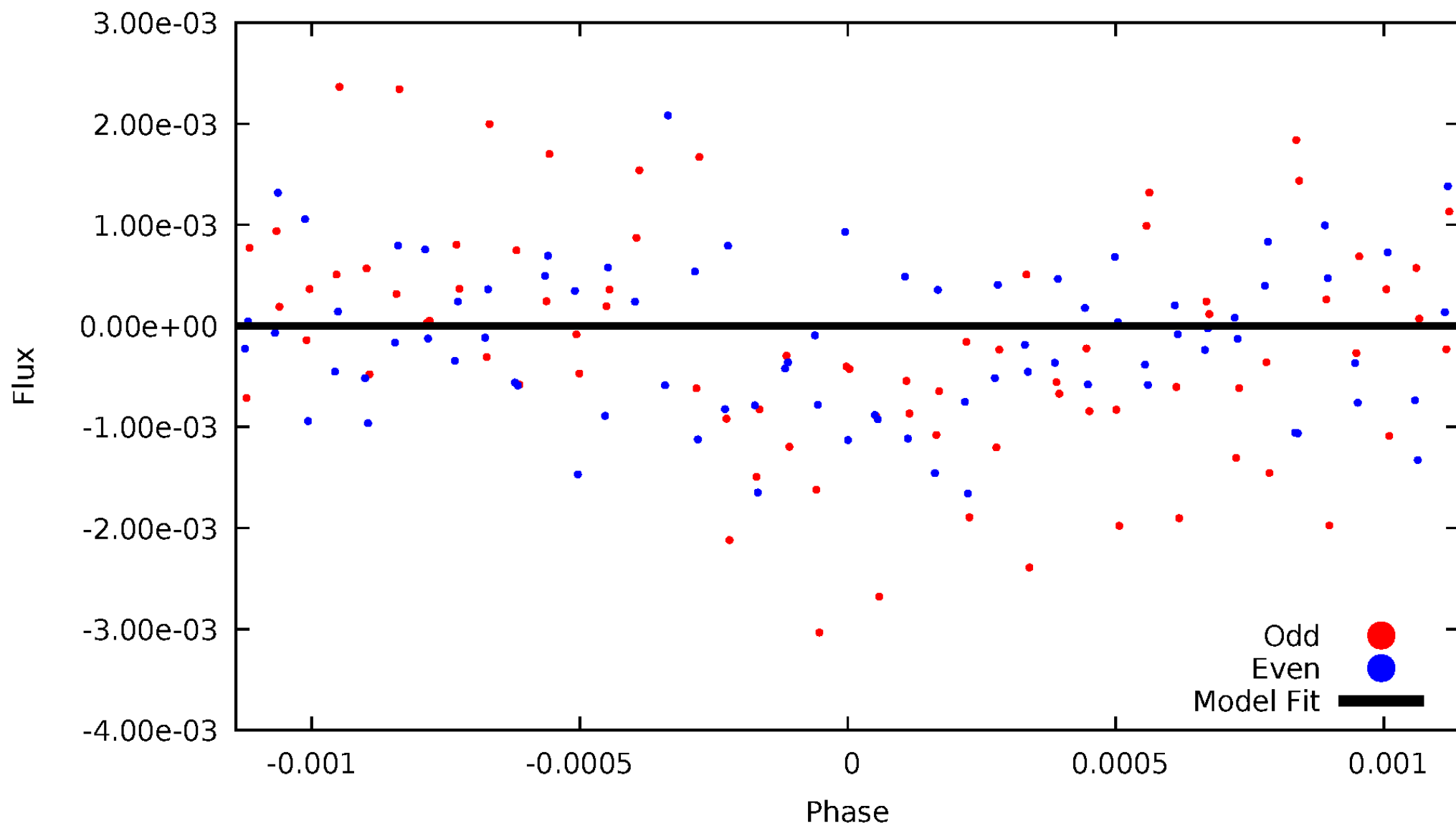


TCE 005615879-06



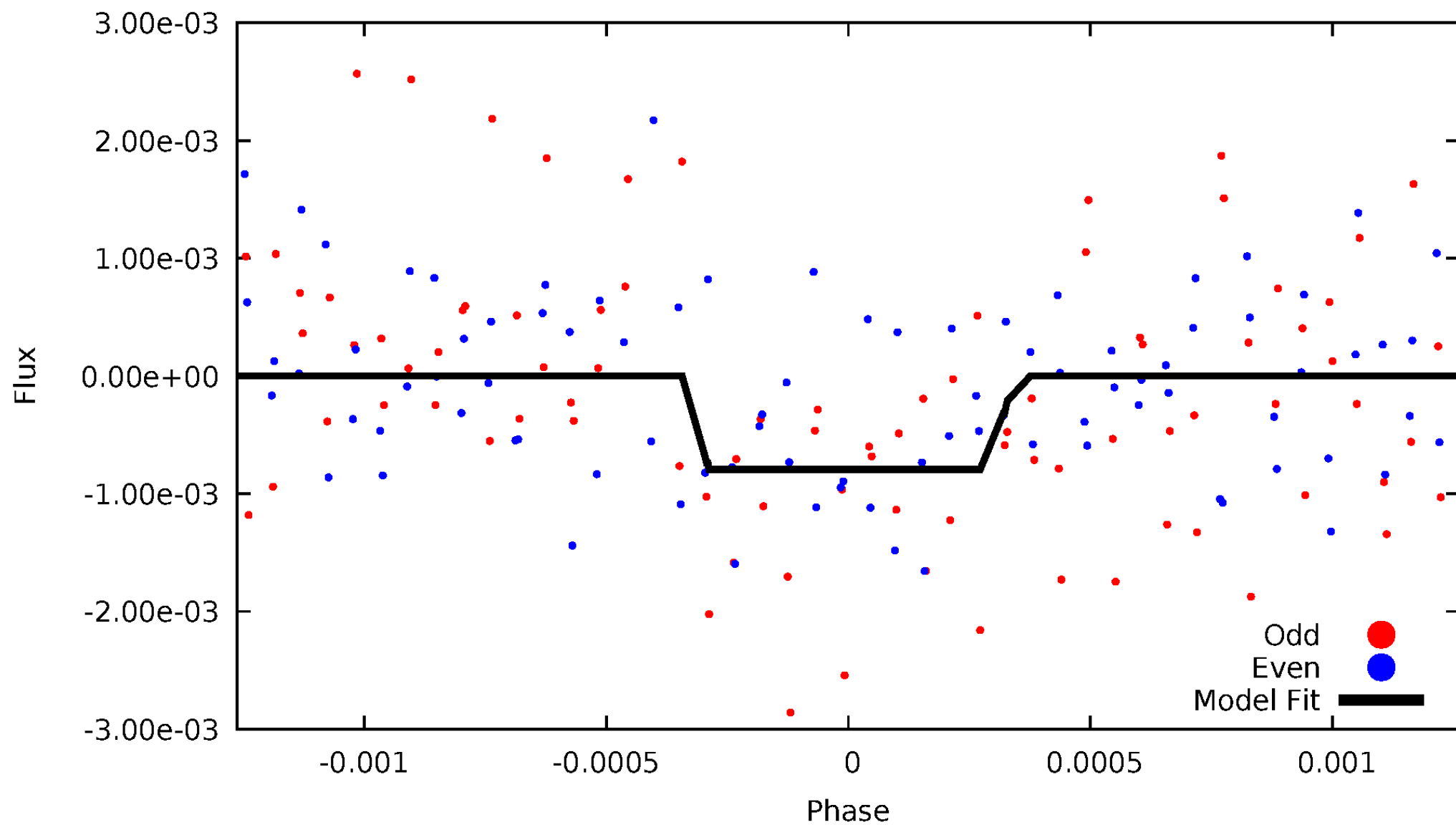
DV Odd/Even

TCE 005615879-06



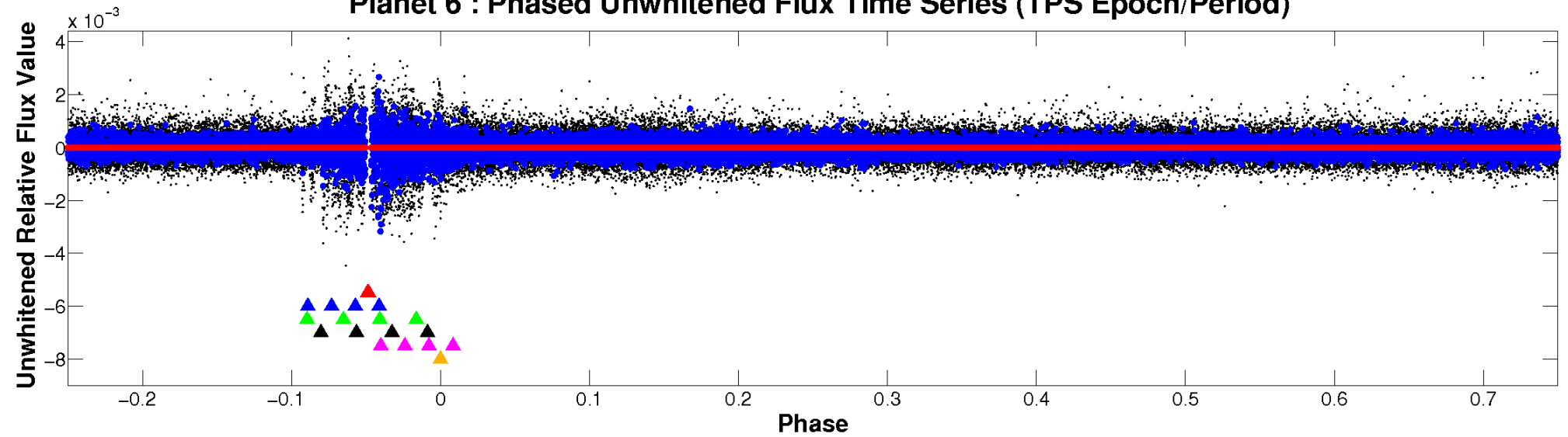
ALT Odd/Even

TCE 005615879-06

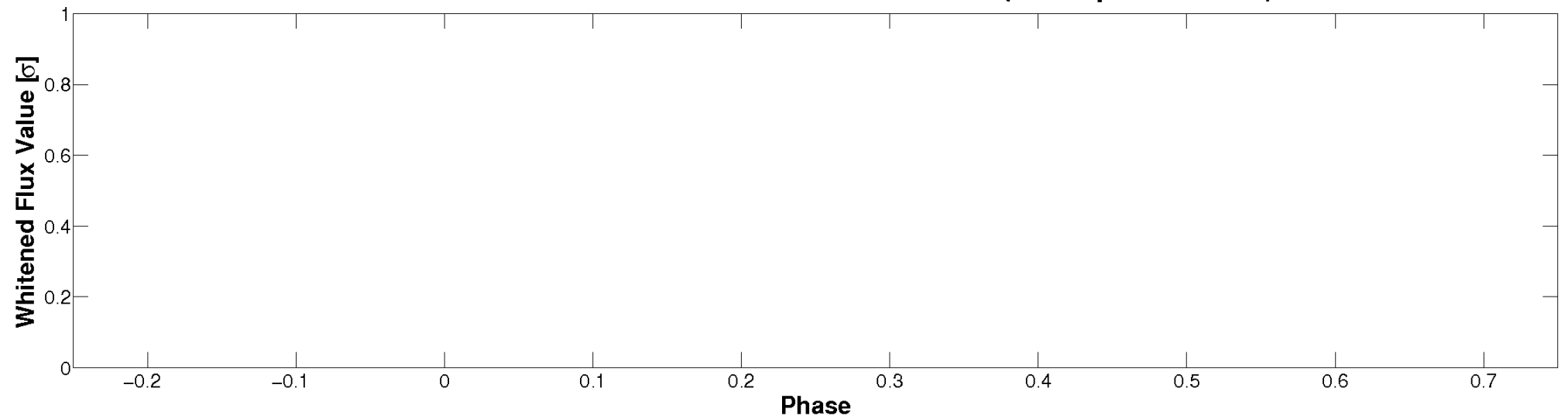


Non-Whitened Vs. Whitened Light Curve

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

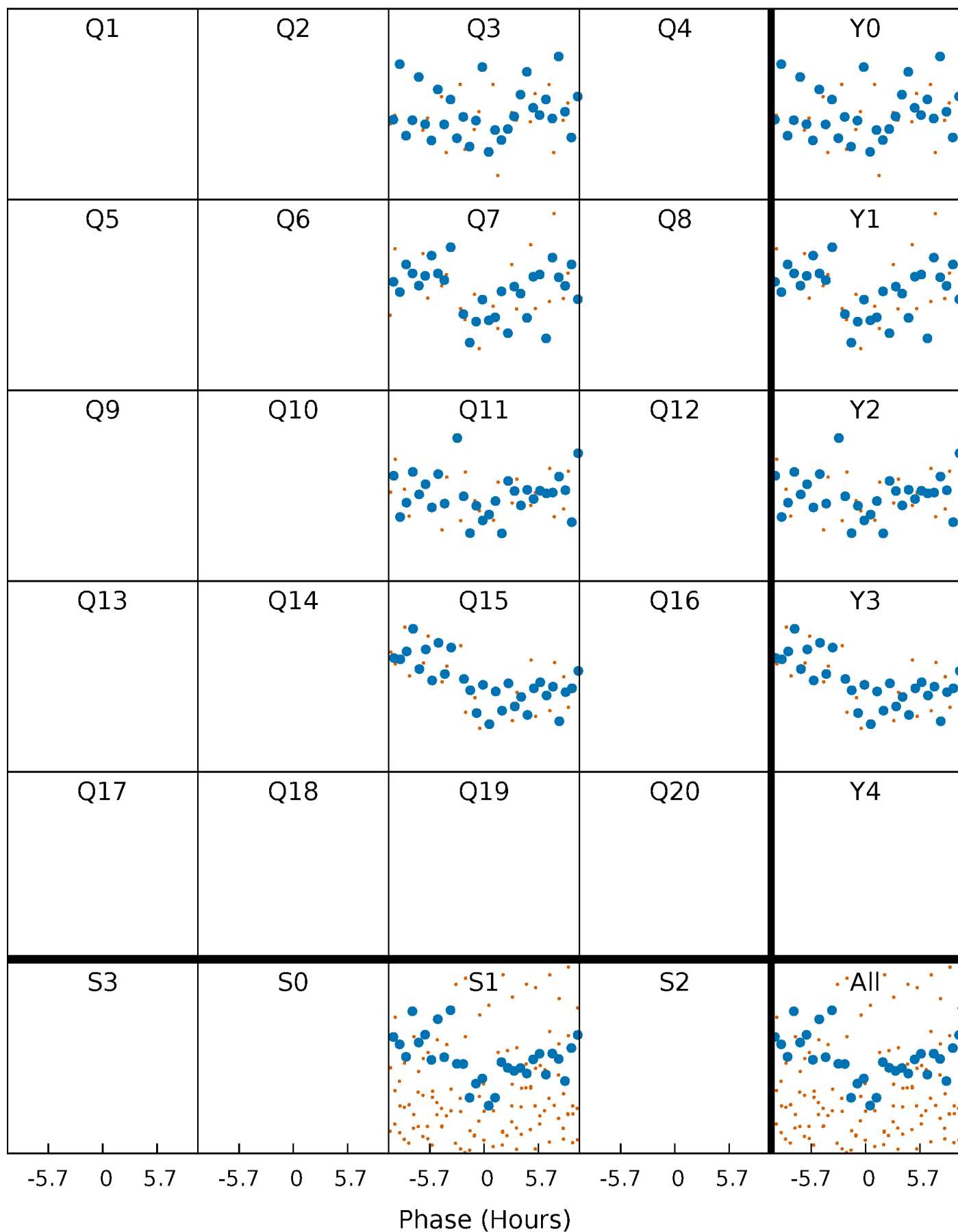


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



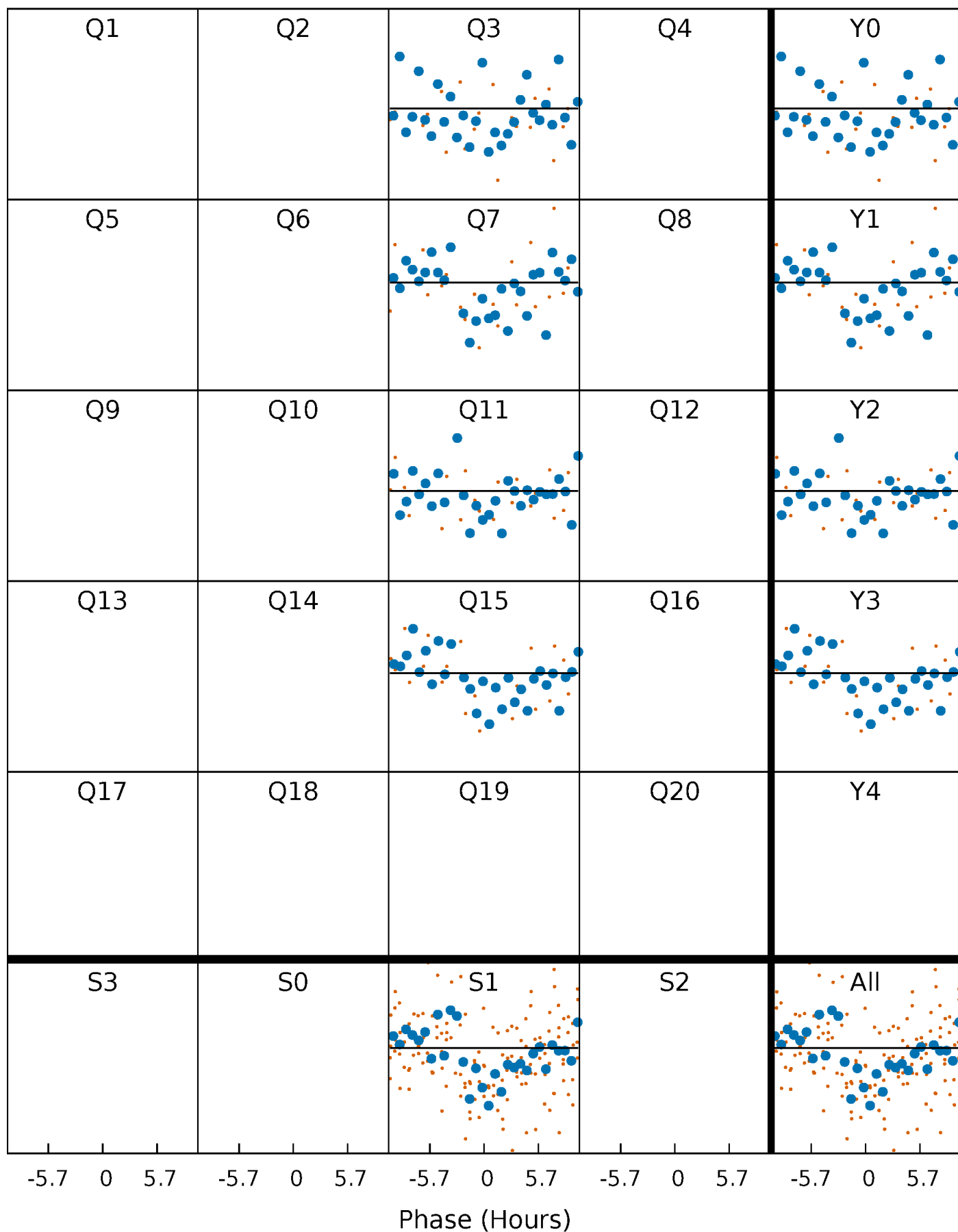
PDC Quarter-Phased Transit Curves

TCE 005615879-06 P=365.086416 Days $T_0=294.124670$ (BKJD)



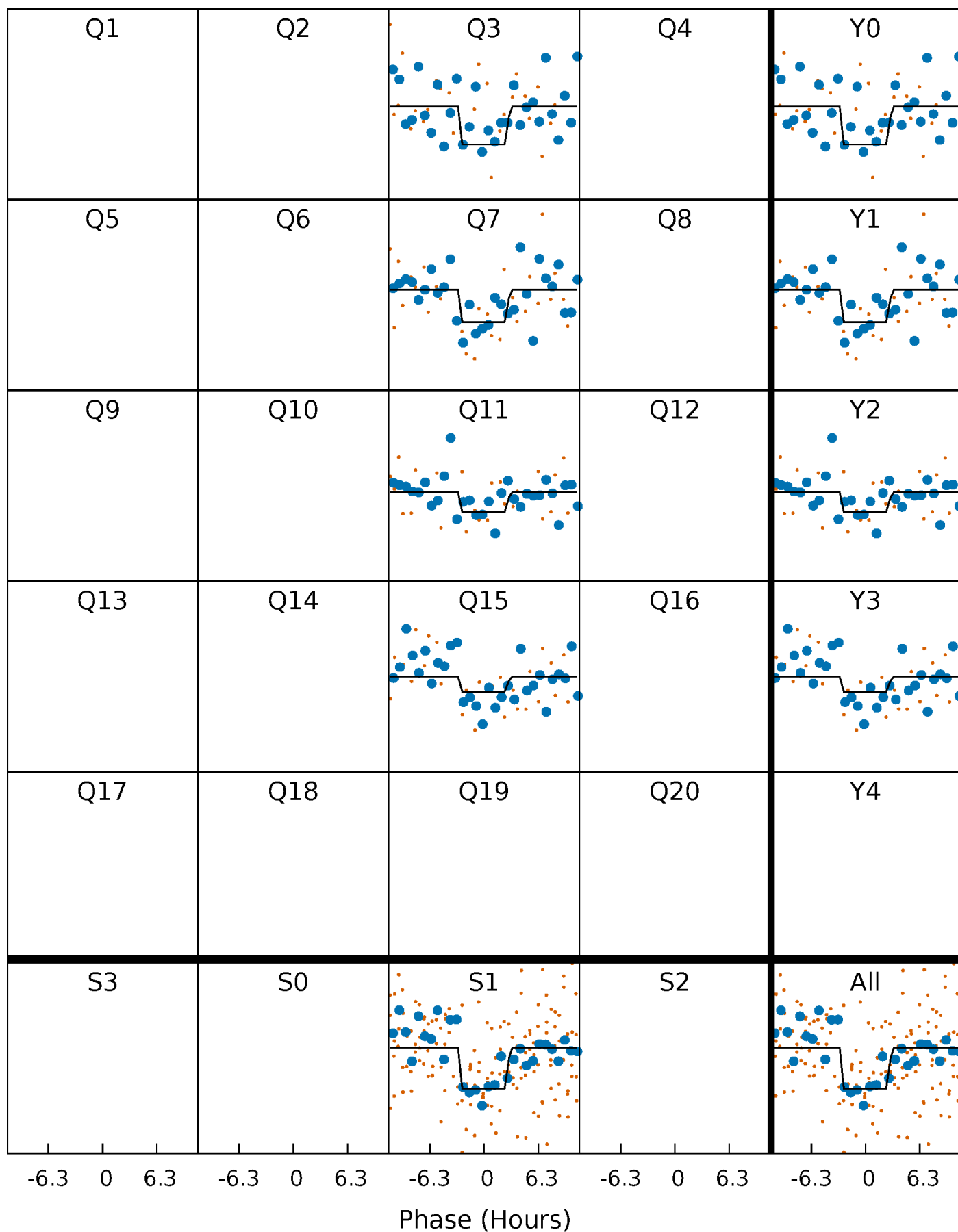
DV Quarter-Phased Transit Curves

TCE 005615879-06 P=365.086416 Days $T_0=294.124670$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

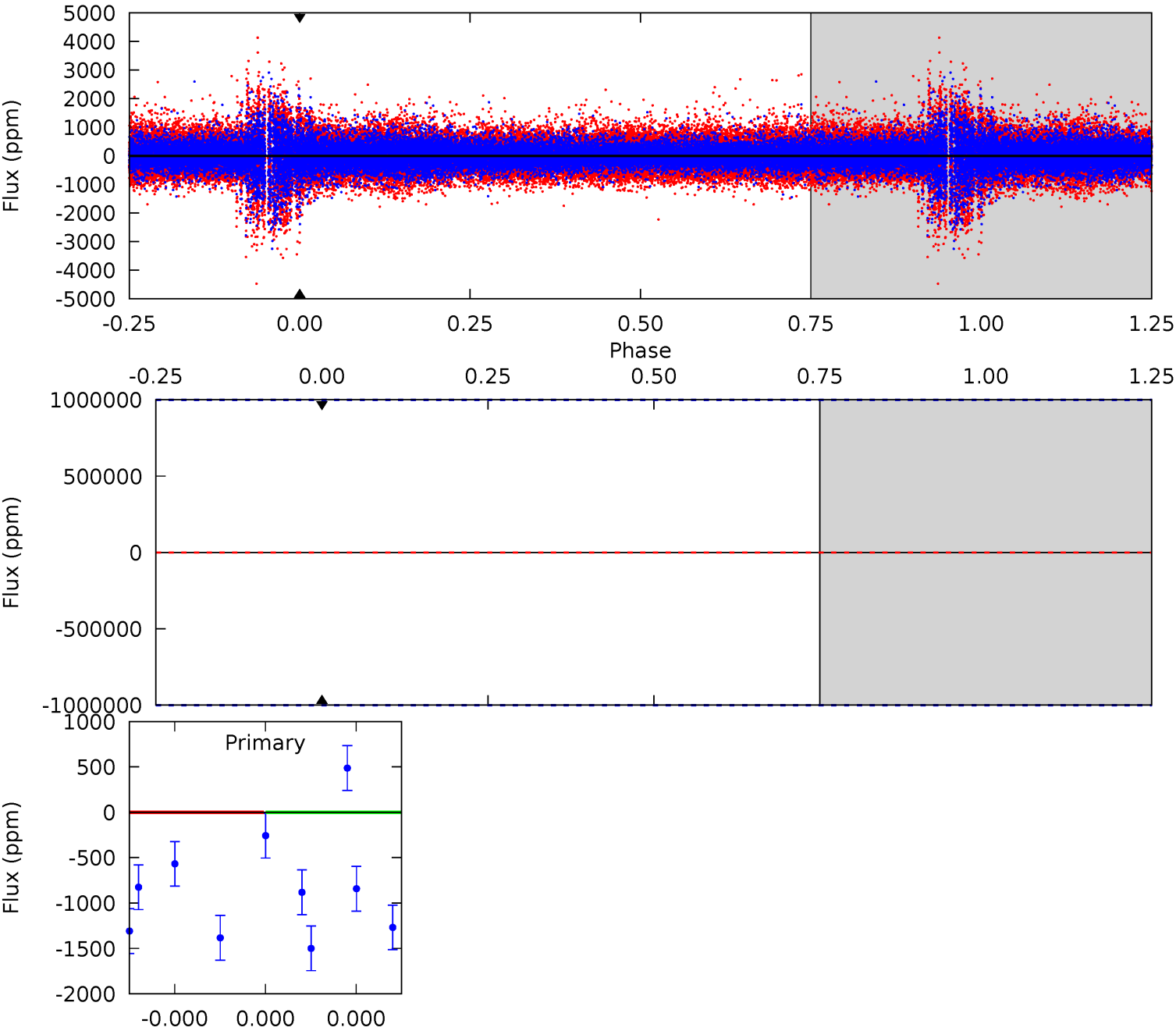
TCE 005615879-06 P=365.086416 Days $T_0=294.148991$ (BKJD)



DV Model-Shift Uniqueness Test

005615879-06, P = 365.086416 Days, E = 294.124670 Days

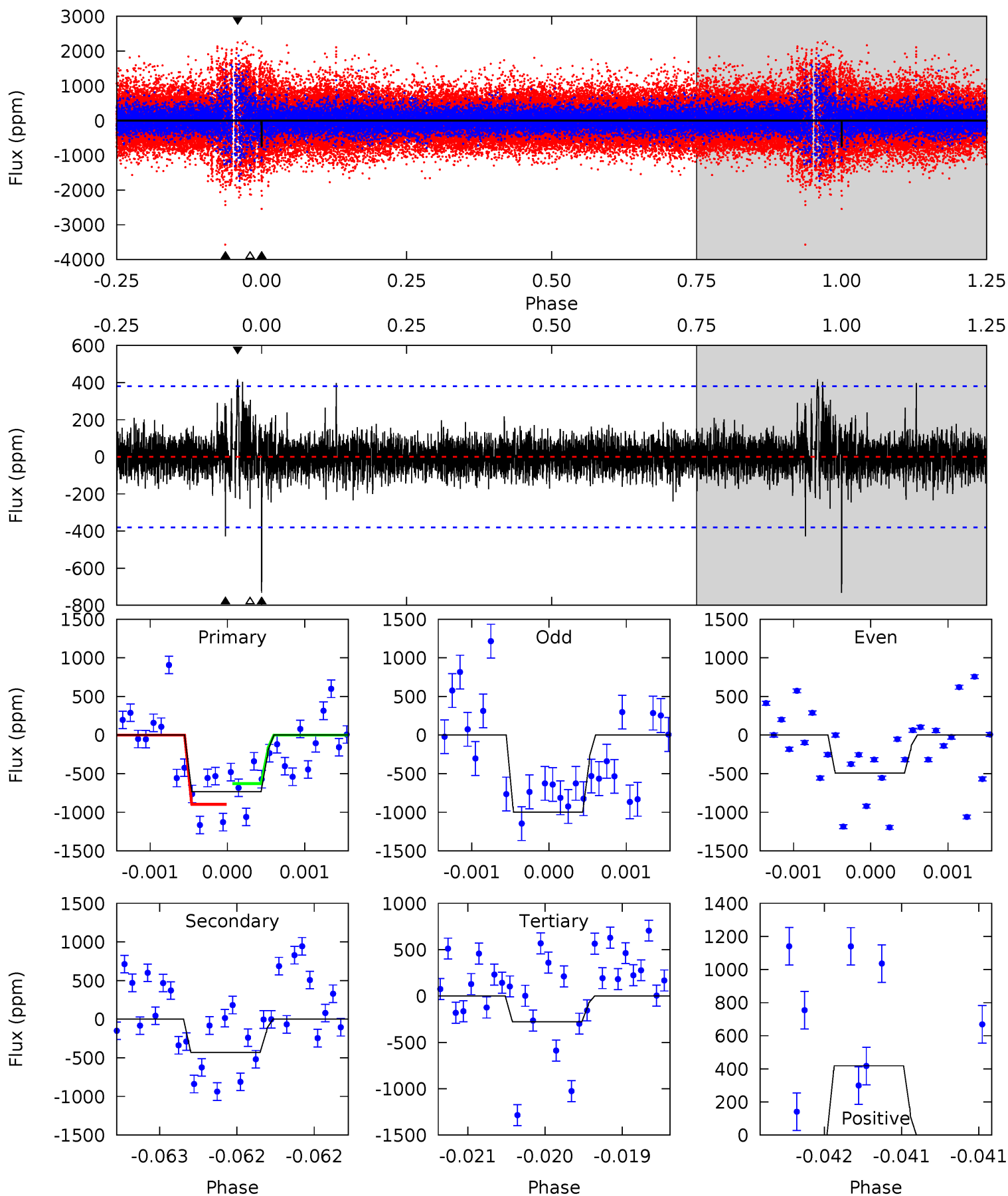
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005615879-06, P = 365.086416 Days, E = 294.148991 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	6.24	4.05	6.10	5.53	3.42	0.93	6.62	4.57	2.19	0.14	3.71	1.13	0.36	1.94



Stellar Parameters For KIC 005615879

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5966^{+177}_{-213}	$4.491^{+0.052}_{-0.208}$	$-0.040^{+0.250}_{-0.300}$	$0.959^{+0.299}_{-0.100}$	$1.040^{+0.129}_{-0.142}$	$1.662^{+0.460}_{-0.858}$
	+3%/-4%	+1%/-5%	+625%/-750%	+31%/-10%	+12%/-14%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005615879-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$8.14^{+8.67}_{-5.54}$	366^{+25}_{-19}	4205^{+21466}_{-22400}	$8385^{+1742728}_{-999747}$
Alt.	-428 ± 69	$8.32^{+8.63}_{-5.82}$	365^{+24}_{-19}	3554^{+1945}_{-673}	3359^{+32754}_{-2541}

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

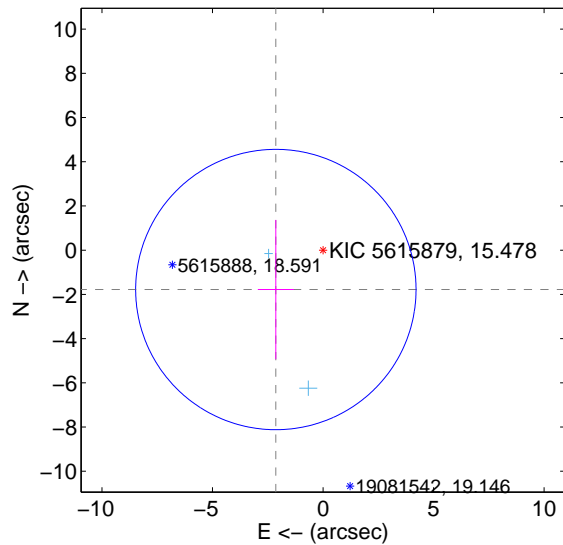
Supplemental centroid analysis for 005615879-06. Kepler magnitude: 15.48. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

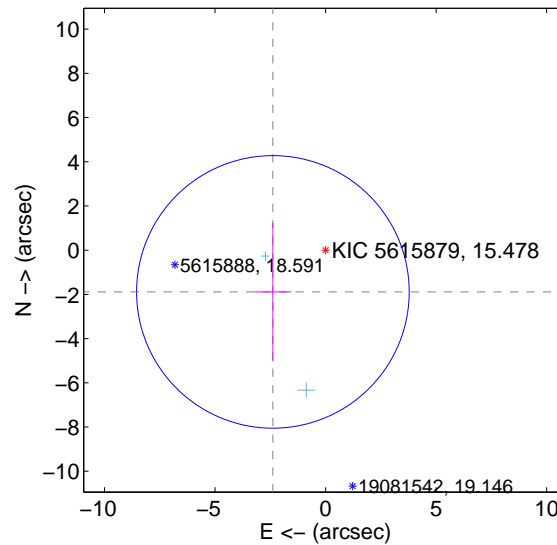
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.779 ± 2.113	1.31	2.134 ± 0.816	-1.780 ± 3.151
PRF-fit source offset from KIC position	3.040 ± 2.055	1.48	2.383 ± 0.838	-1.888 ± 3.135
photometric centroid source offset	2.47 ± 1.87	1.32	2.30 ± 1.76	-0.90 ± 2.48

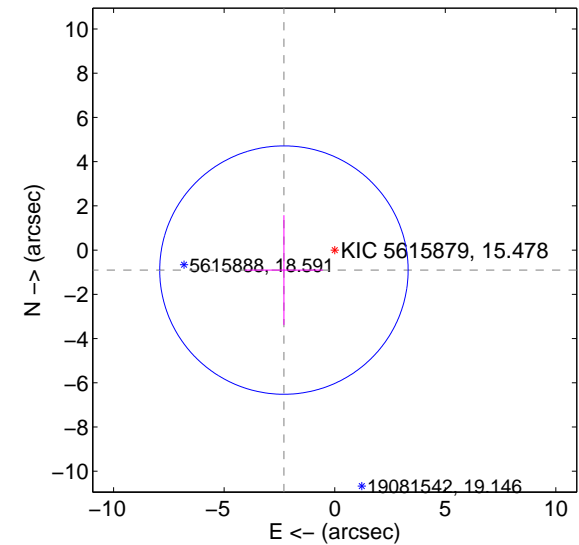
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

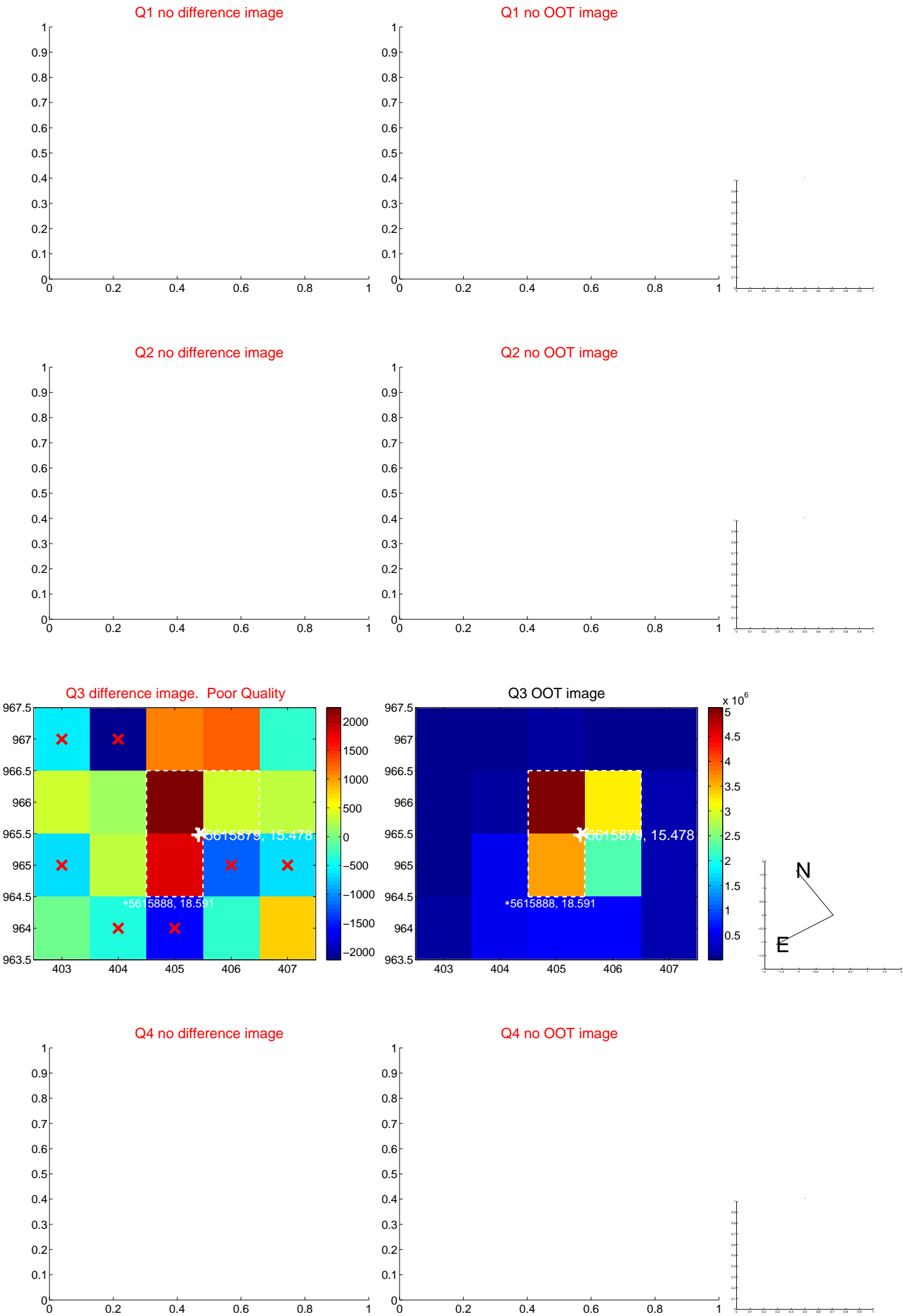


offset from photometric centroids

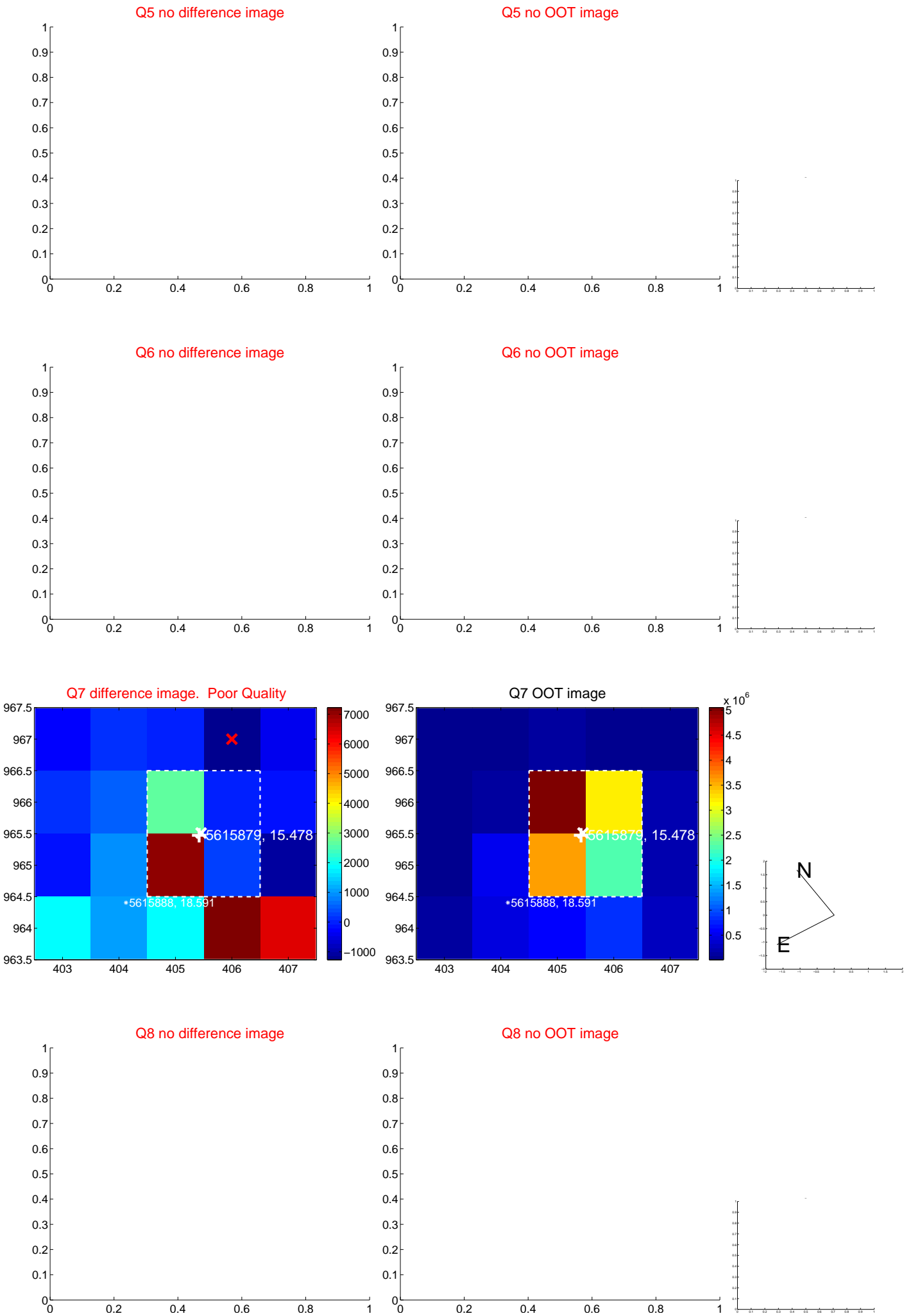


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

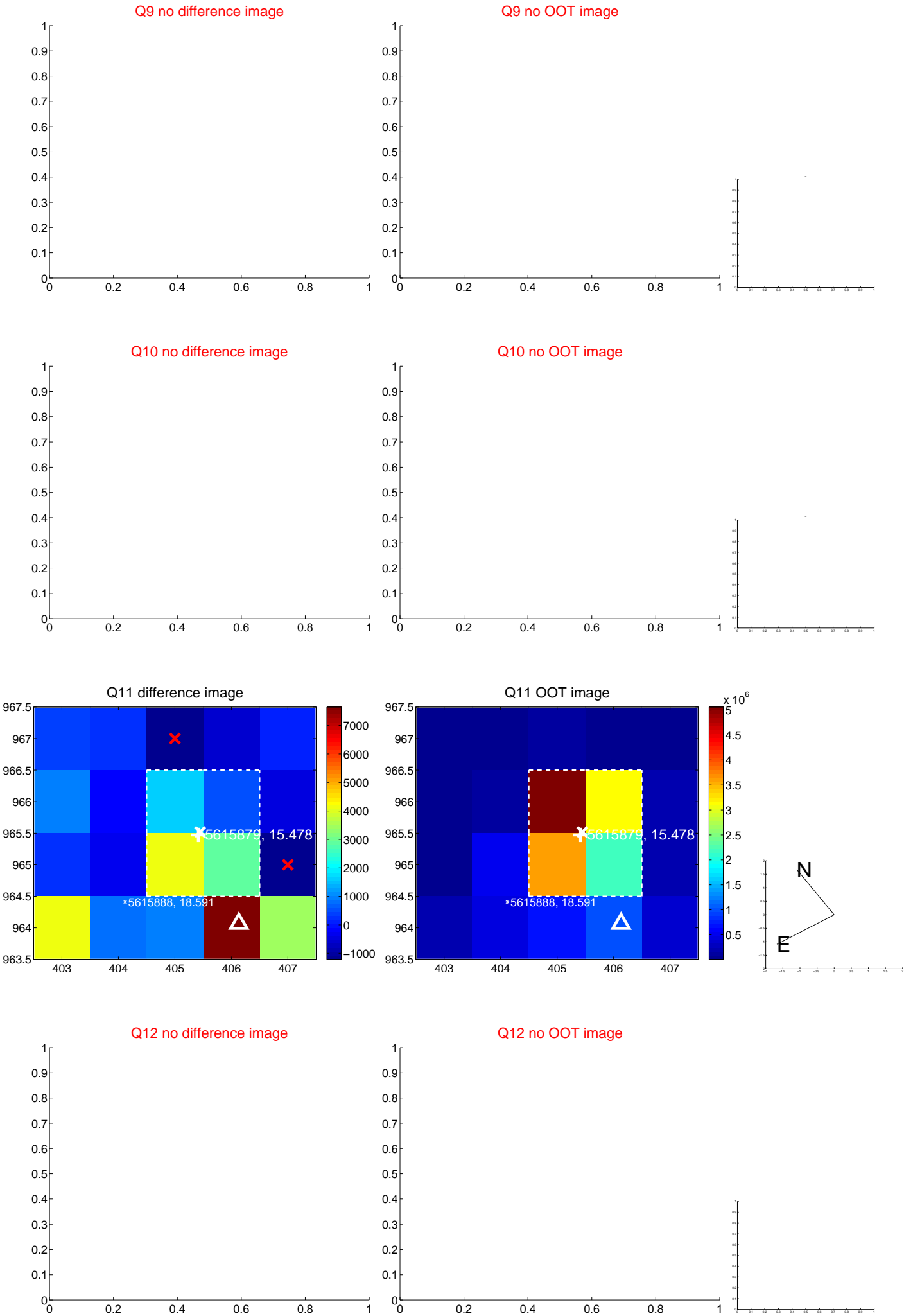
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



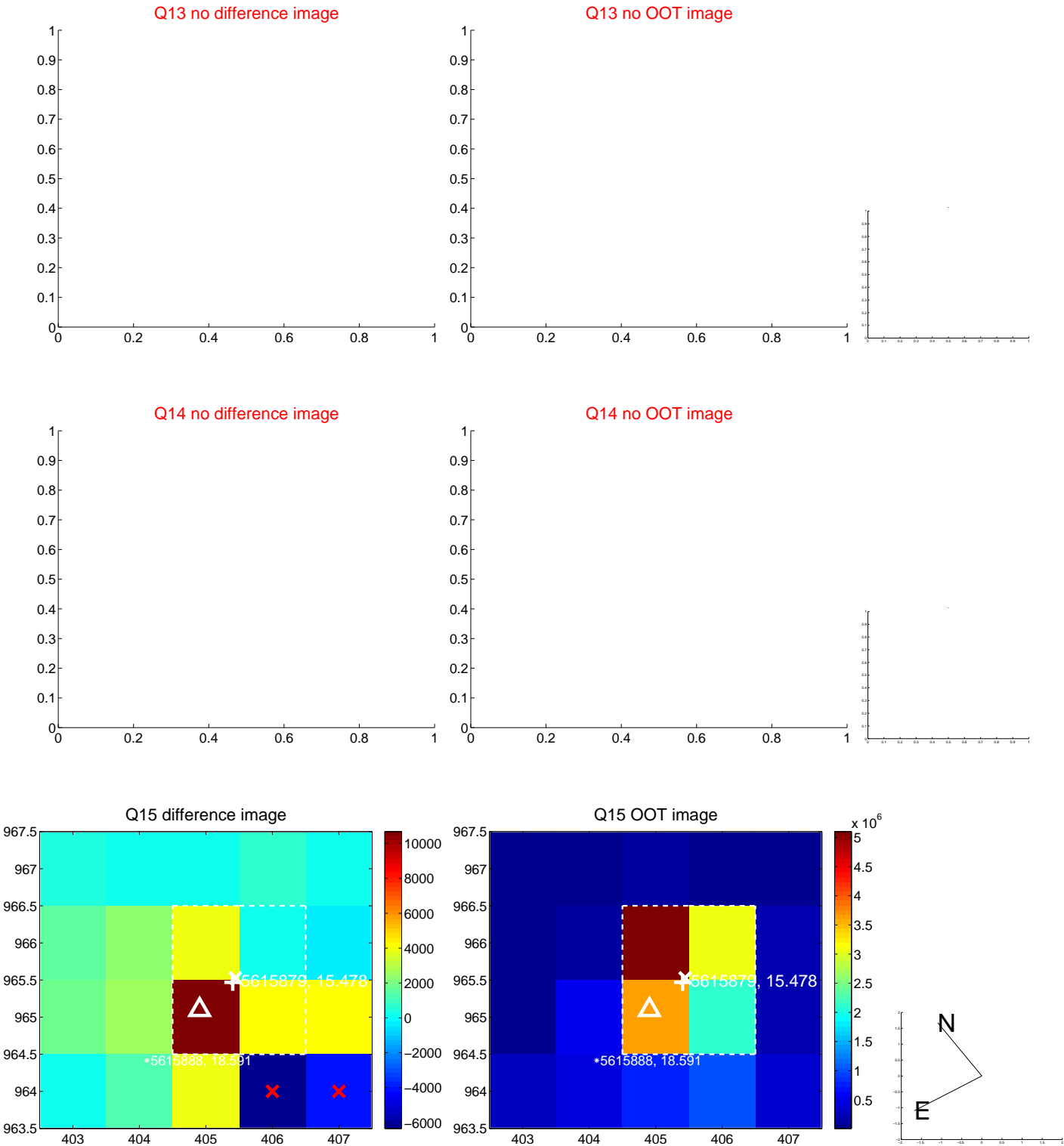
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



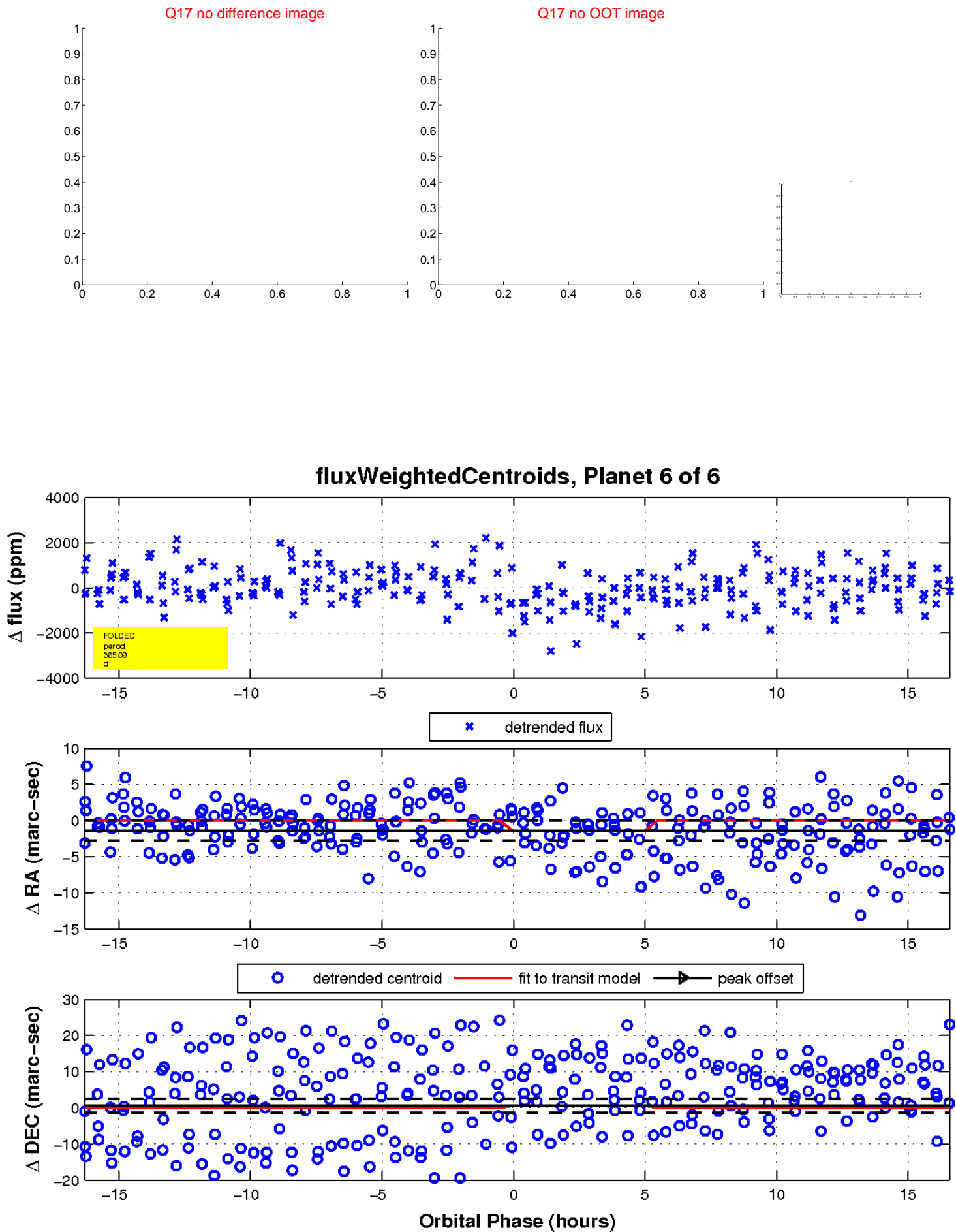
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

