

KIC 005905878

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})
005905878-01	OBS	No	0.798204	132.217849	2.9	5.554	9.5	7.4	2.24	8554	0.50	52464.27
005905878-02	OBS	No	31.811079	150.668863	86.3	1.954	12.1	12.1	2.24	8554	2.21	385.40
005905878-03	OBS	No	22.453278	150.086866	47.8	1.427	9.5	9.2	2.24	8554	1.66	613.26
005905878-04	OBS	No	66.094076	157.976294	65.4	2.714	9.5	9.8	2.24	8554	2.12	145.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005905878-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
005905878-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

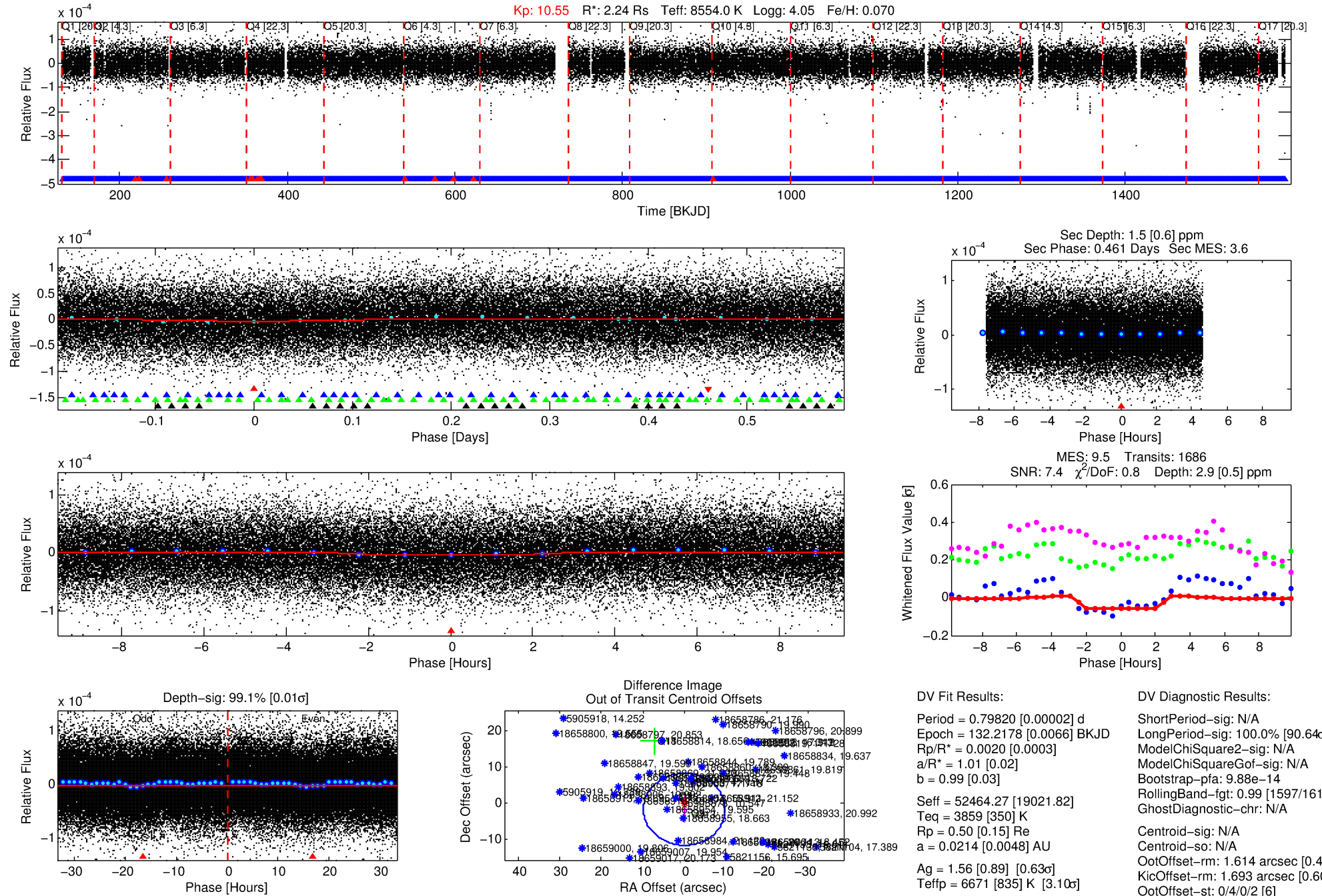
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005905878-01

No Significant Match Found

DV One-Page Summary

KIC: 5905878 Candidate: 1 of 4 Period: 0.798 d



DV Fit Results:

Period = 0.79820 [0.00002] d
Epoch = 132.2178 [0.0066] BKJD
Rp/R* = 0.0020 [0.0003]
a/R* = 1.01 [0.02]
b = 0.99 [0.03]
Seff = 52464.27 [19021.82]
Teff = 3859 [350] K
Rp = 0.50 [0.15] Re
a = 0.0214 [0.0048] AU
Ag = 1.56 [0.89] [0.63 σ]
Teffp = 6671 [835] K [3.10 σ]

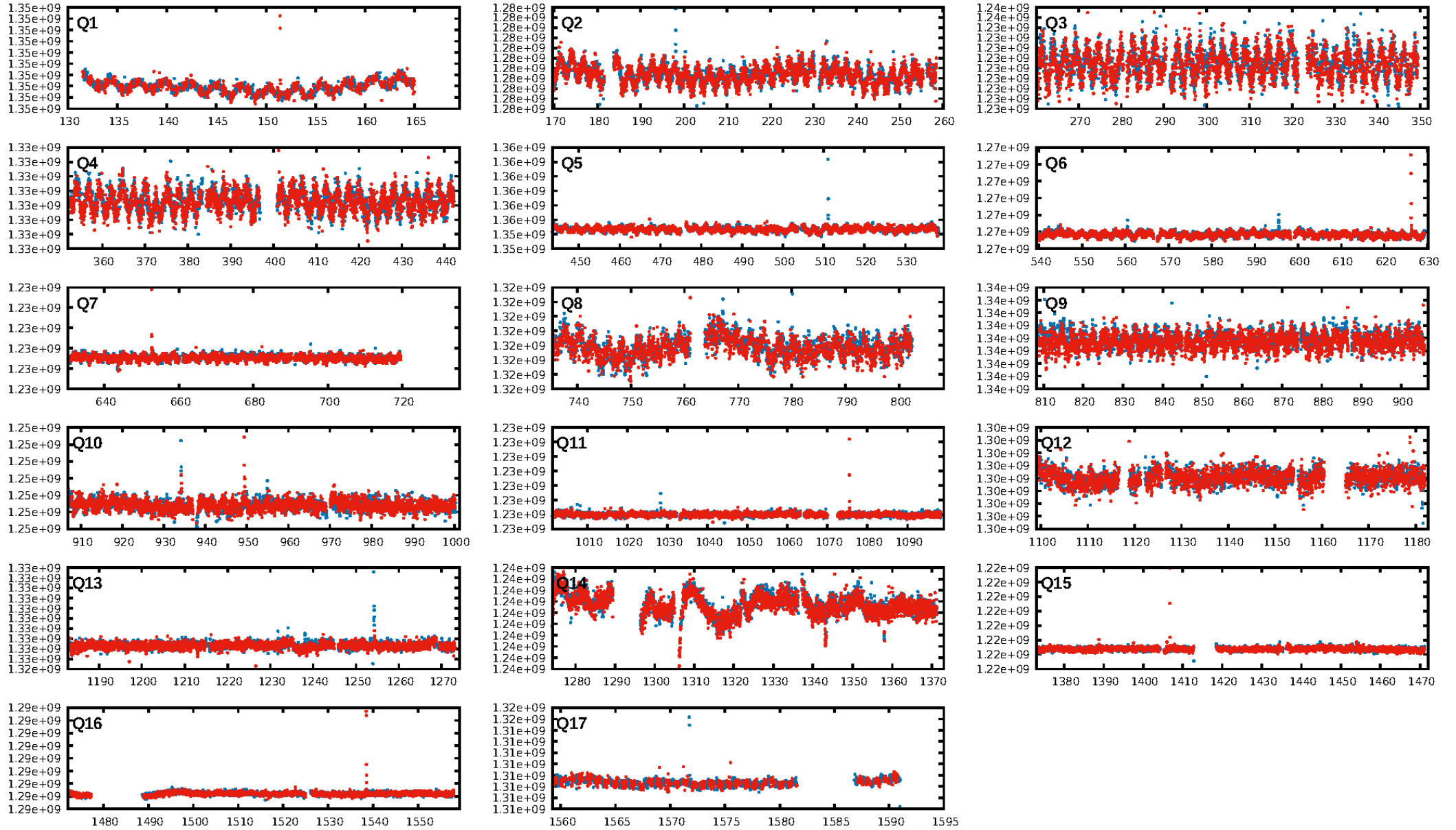
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [90.64 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.88e-14
RollingBand-fgt: 0.99 [1597/1610]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.614 arcsec [0.49 σ]
KicOffset-rm: 1.693 arcsec [0.60 σ]
OotOffset-st: 0/4/0/2 [6]
KicOffset-st: 0/4/0/2 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 1.00 [17/17]

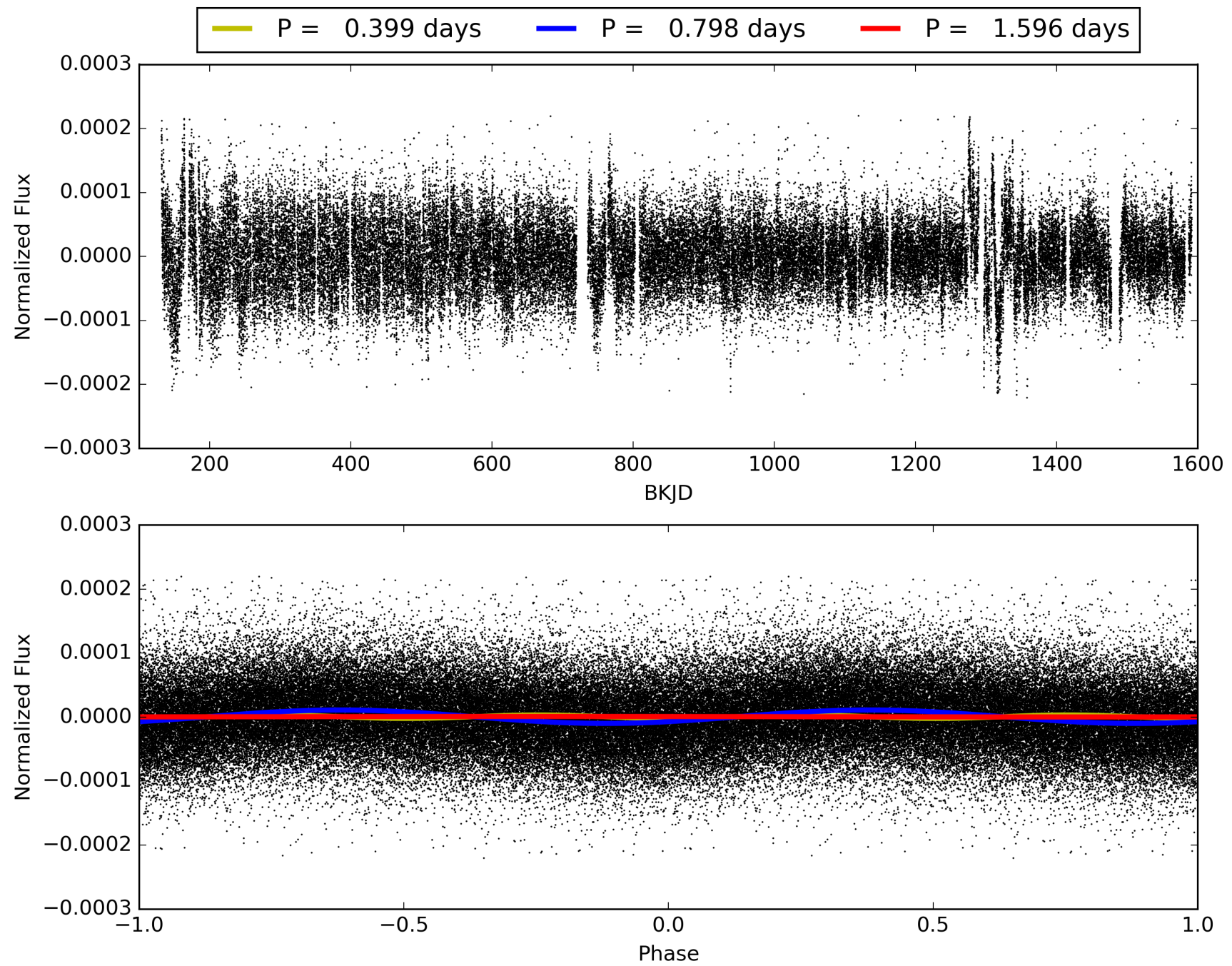
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:06:16 Z

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

TCE 005905878-01, PDC Light Curves

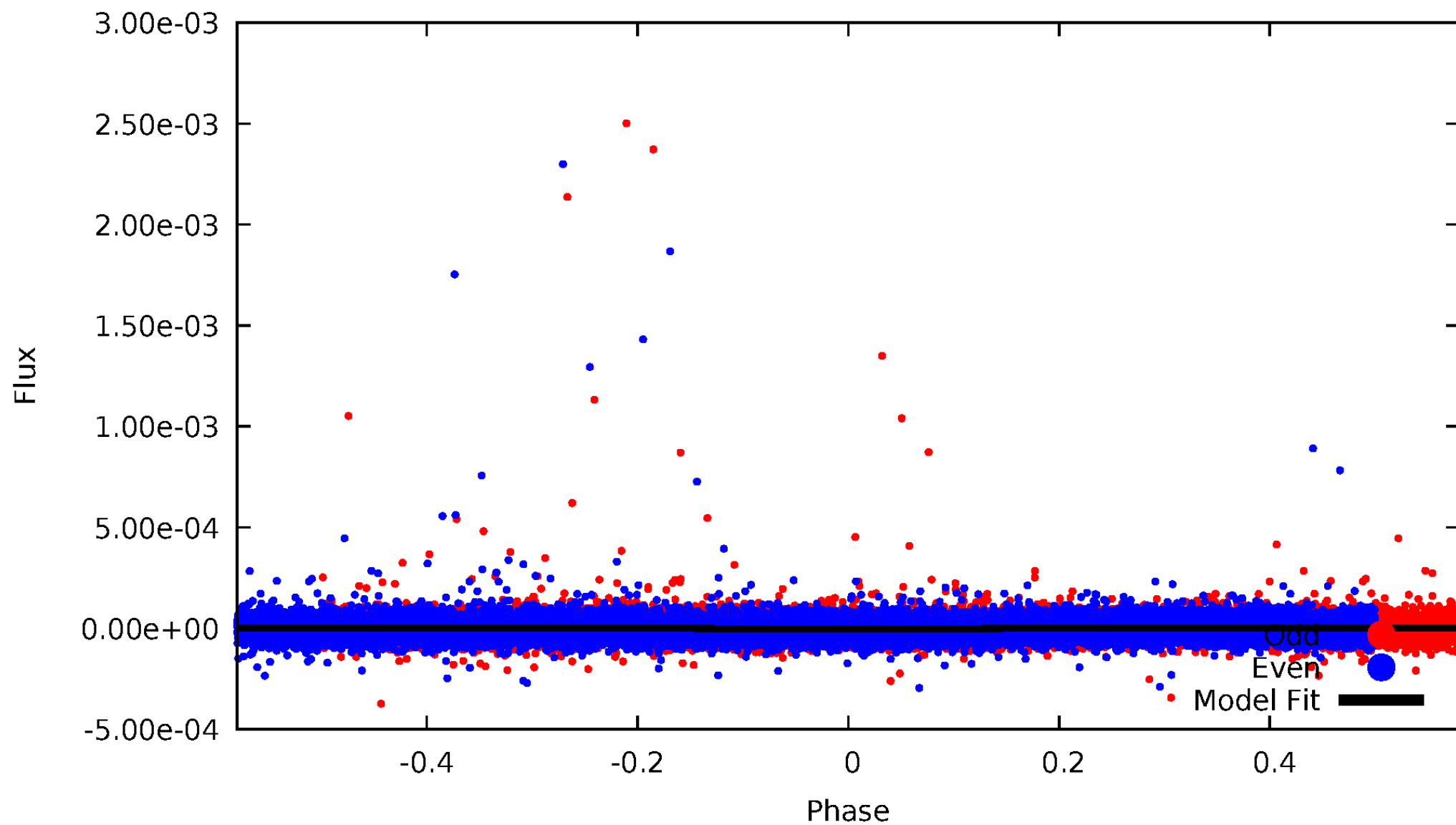


TCE 005905878-01



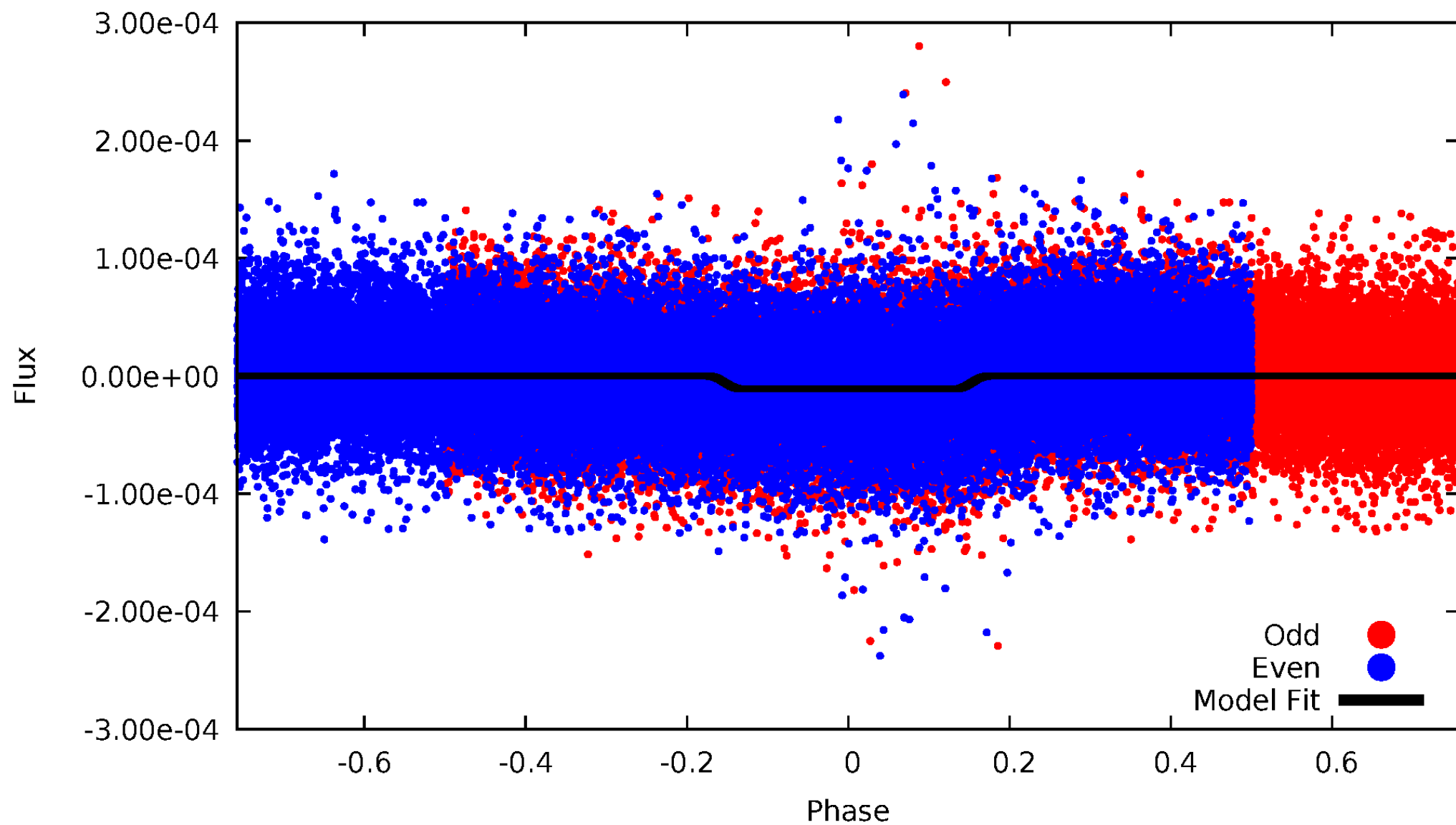
DV Odd/Even

TCE 005905878-01



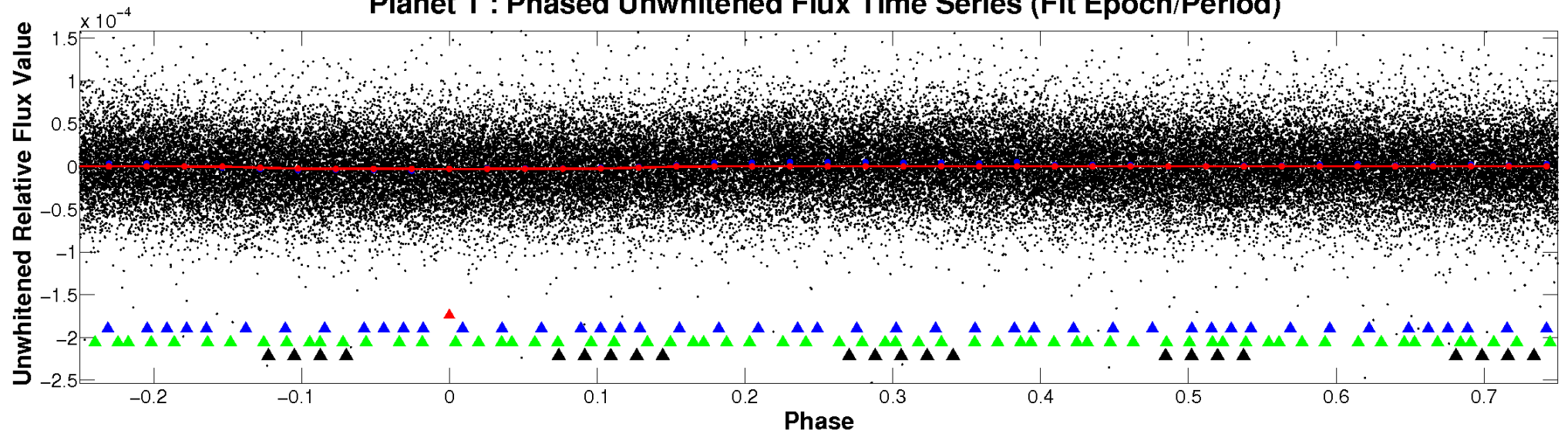
ALT Odd/Even

TCE 005905878-01

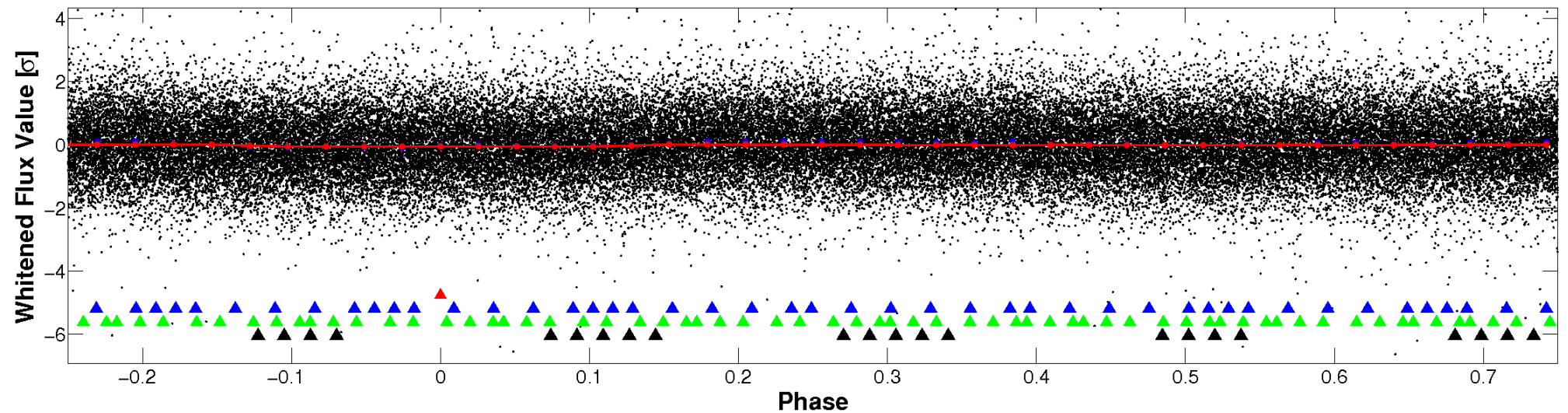


Non-Whitened Vs. Whitened Light Curve

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

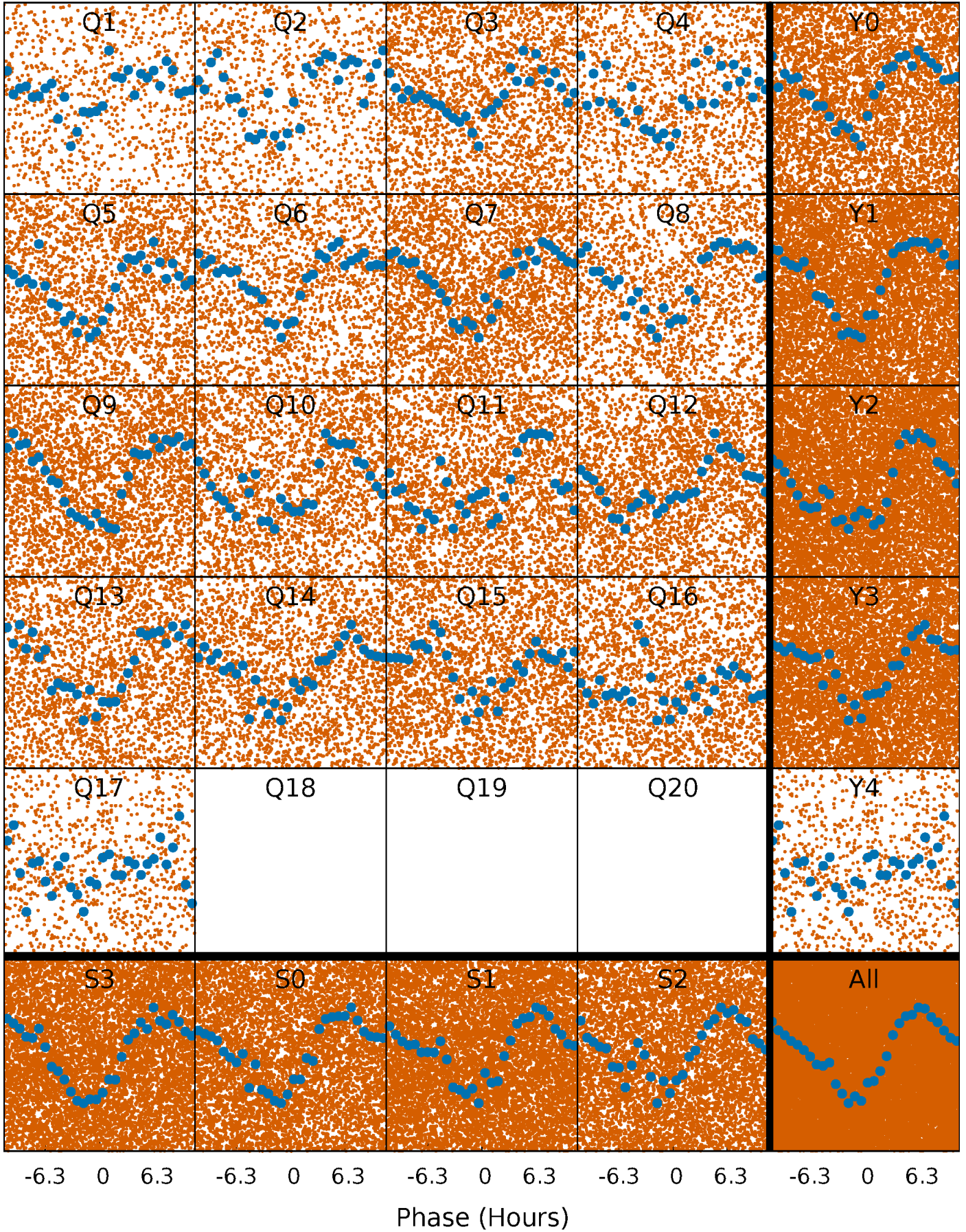


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



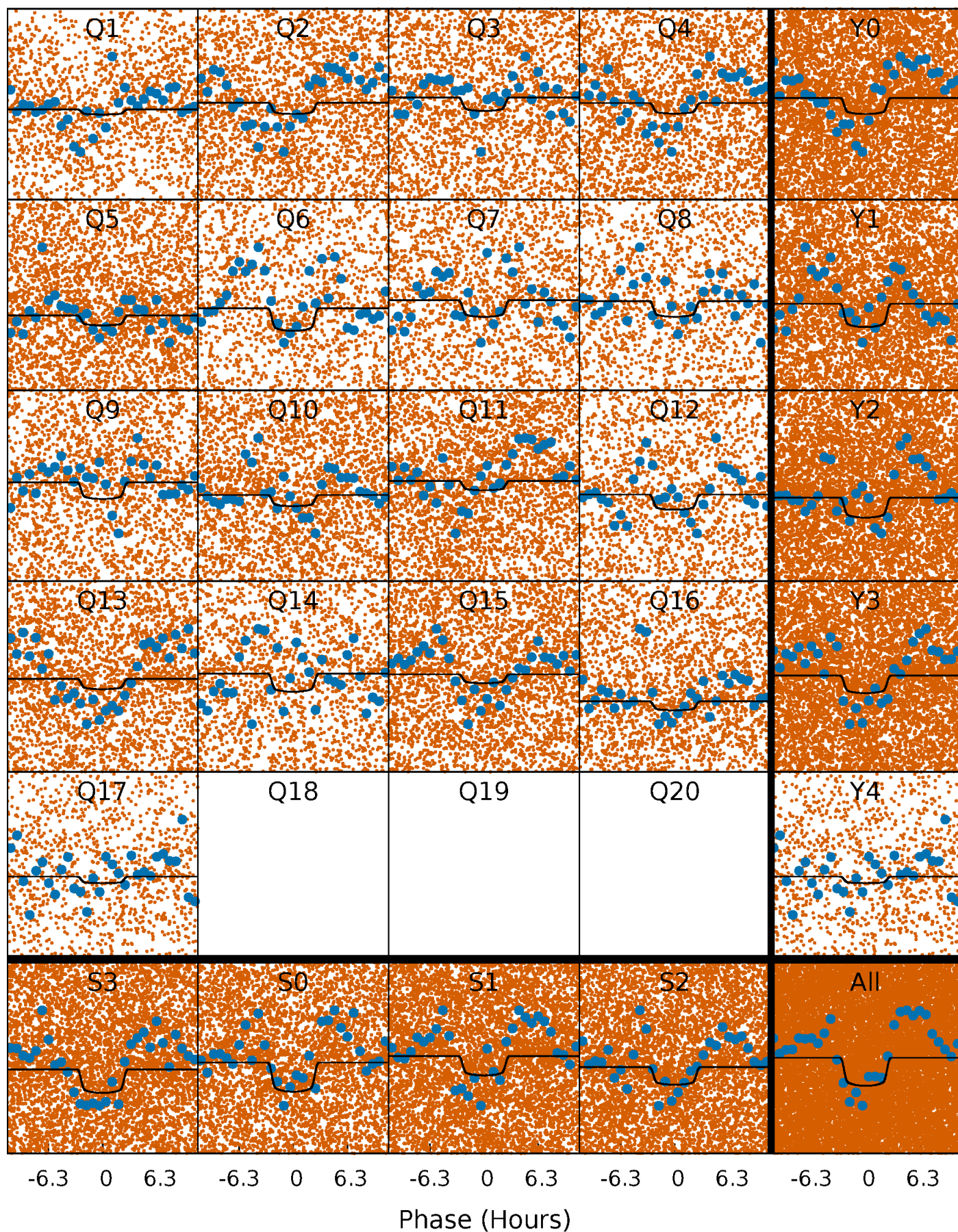
PDC Quarter-Phased Transit Curves

TCE 005905878-01 P= 0.798204 Days $T_0=132.217849$ (BKJD)



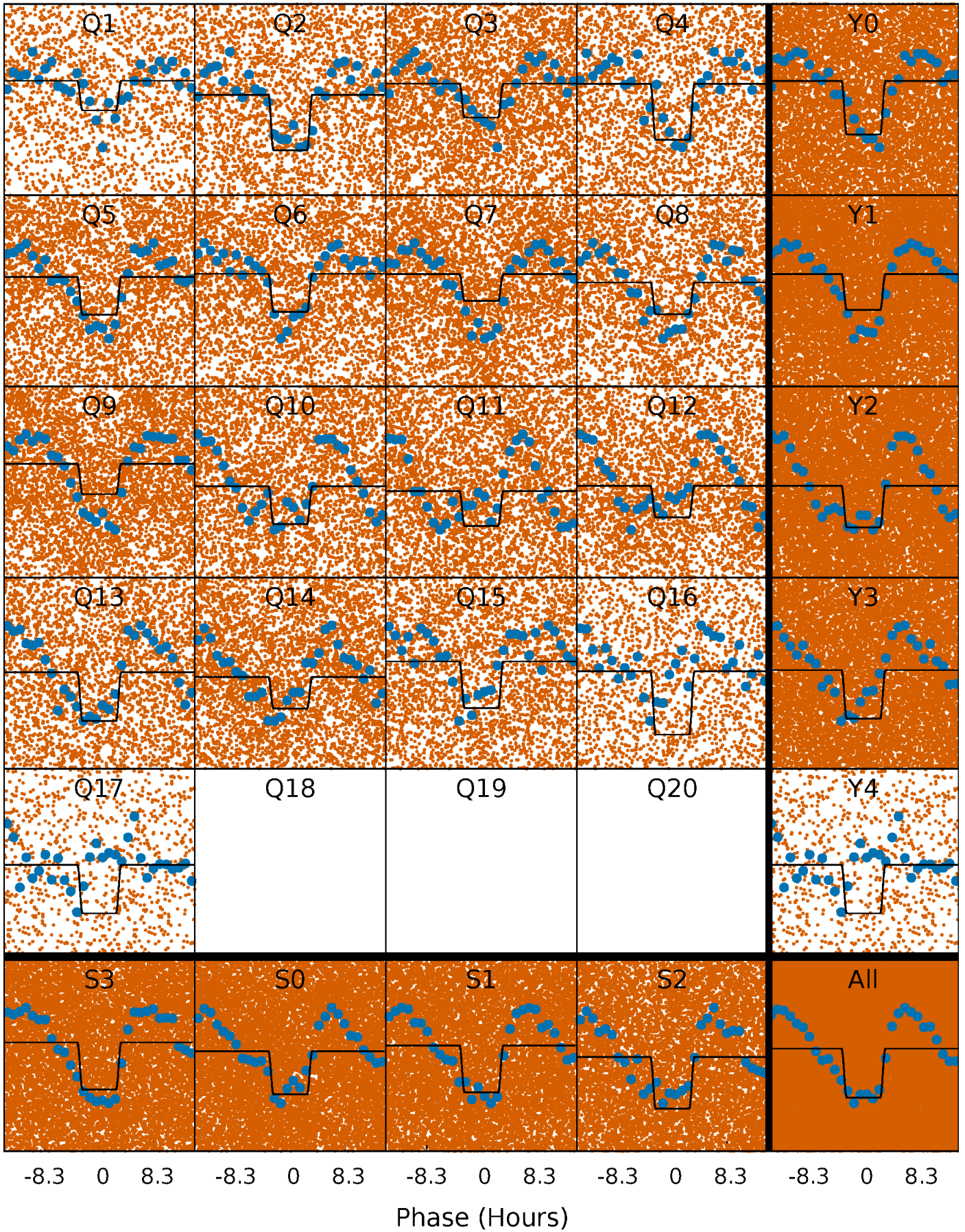
DV Quarter-Phased Transit Curves

TCE 005905878-01 P= 0.798204 Days $T_0=132.217849$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

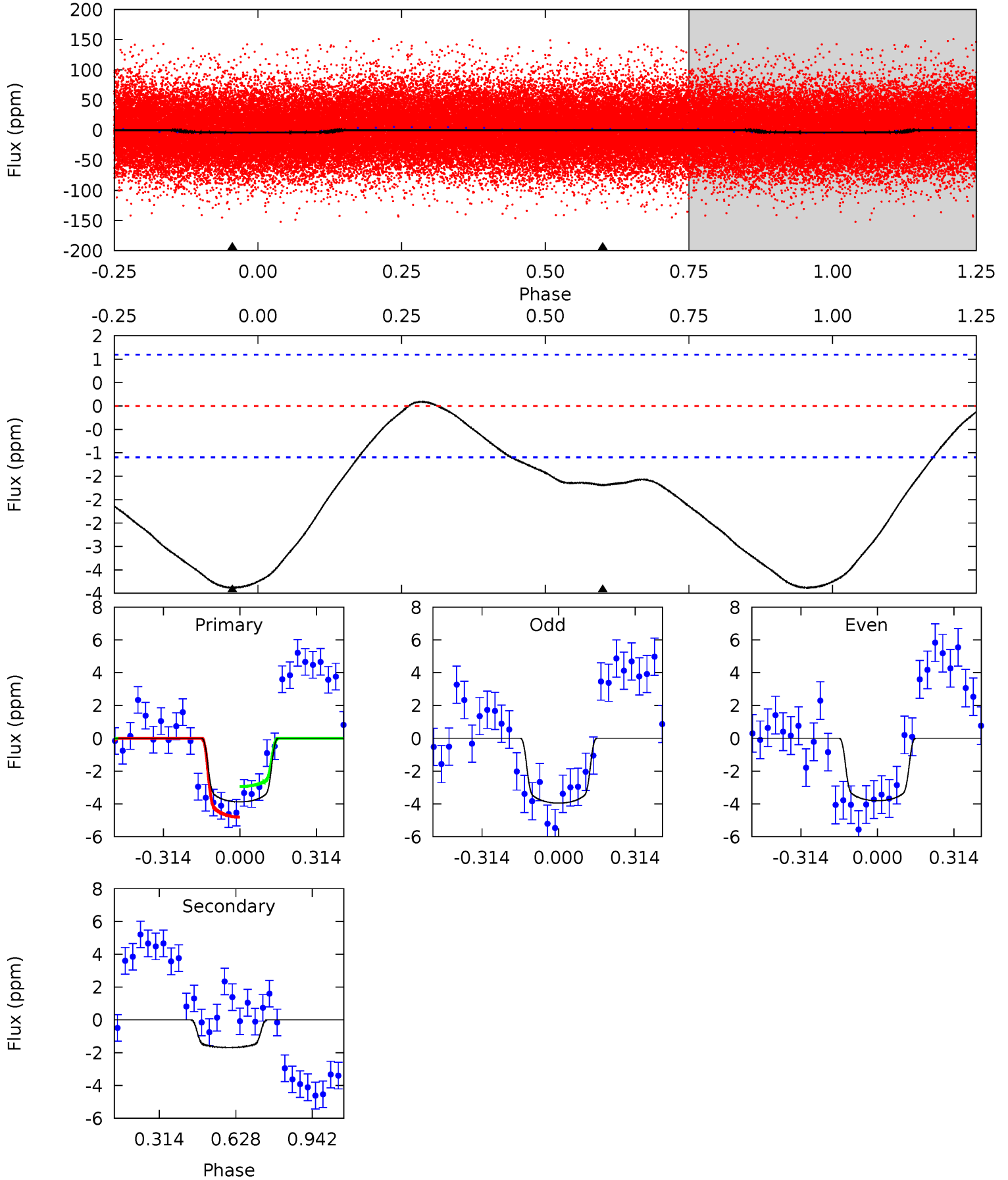
TCE 005905878-01 P= 0.798317 Days $T_0=132.083803$ (BKJD)



DV Model-Shift Uniqueness Test

005905878-01, P = 0.798204 Days, E = 131.419645 Days

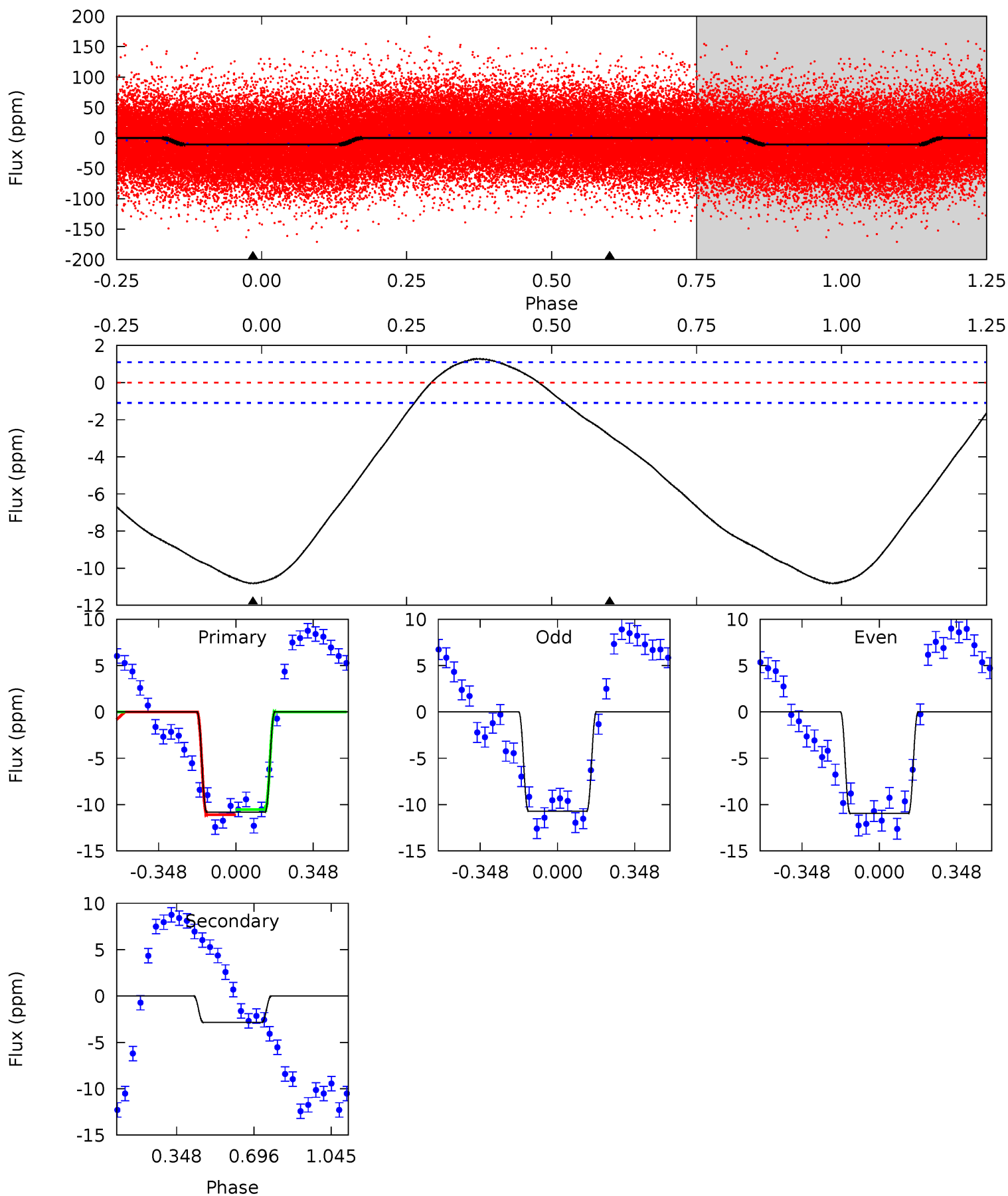
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	6.66	0	0	4.32	1.01	0.50	15.3	15.3	6.66	6.66	0.29	1.00	0.02	3.64



Alt Model-Shift Uniqueness Test

005905878-01, P = 0.798317 Days, E = 131.285486 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.3	11.1	0	0	4.30	0.94	3.63	42.3	42.3	11.1	11.1	0.49	1.01	0.11	1.08



Stellar Parameters For KIC 005905878

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8554^{+235}_{-370}	$4.050^{+0.171}_{-0.140}$	$0.070^{+0.250}_{-0.550}$	$2.237^{+0.496}_{-0.606}$	$2.049^{+0.331}_{-0.497}$	$0.258^{+0.271}_{-0.097}$
	+3%/-4%	+4%/-3%	+357%/-786%	+22%/-27%	+16%/-24%	+105%/-38%
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 005905878-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 0	$0.50^{+0.11}_{-0.09}$	5381^{+355}_{-377}	6171^{+755}_{-570}	$1.696^{+0.908}_{-0.576}$
Alt.	-3 ± 0	$0.80^{+0.13}_{-0.13}$	5351^{+370}_{-377}	5417^{+402}_{-327}	$1.121^{+0.406}_{-0.290}$

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 $A_{obs} \gg 1.0$

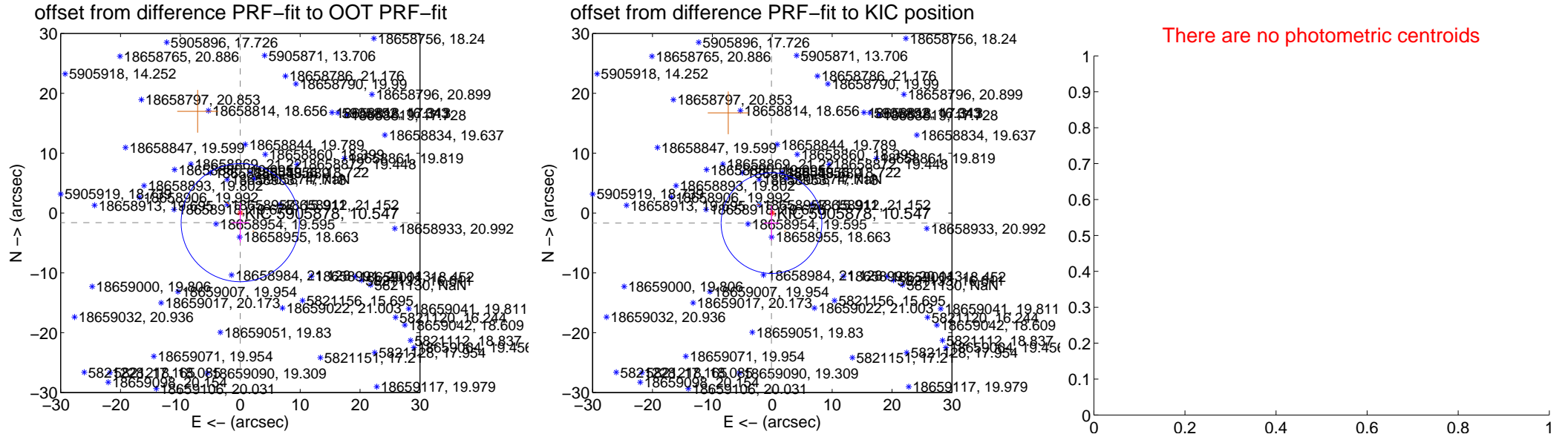
DV Centroid Data

Supplemental centroid analysis for 005905878-01. **Kepler magnitude: 10.55.** Transit SNR 7.37

There are 2 quarters with good PRF difference image offsets

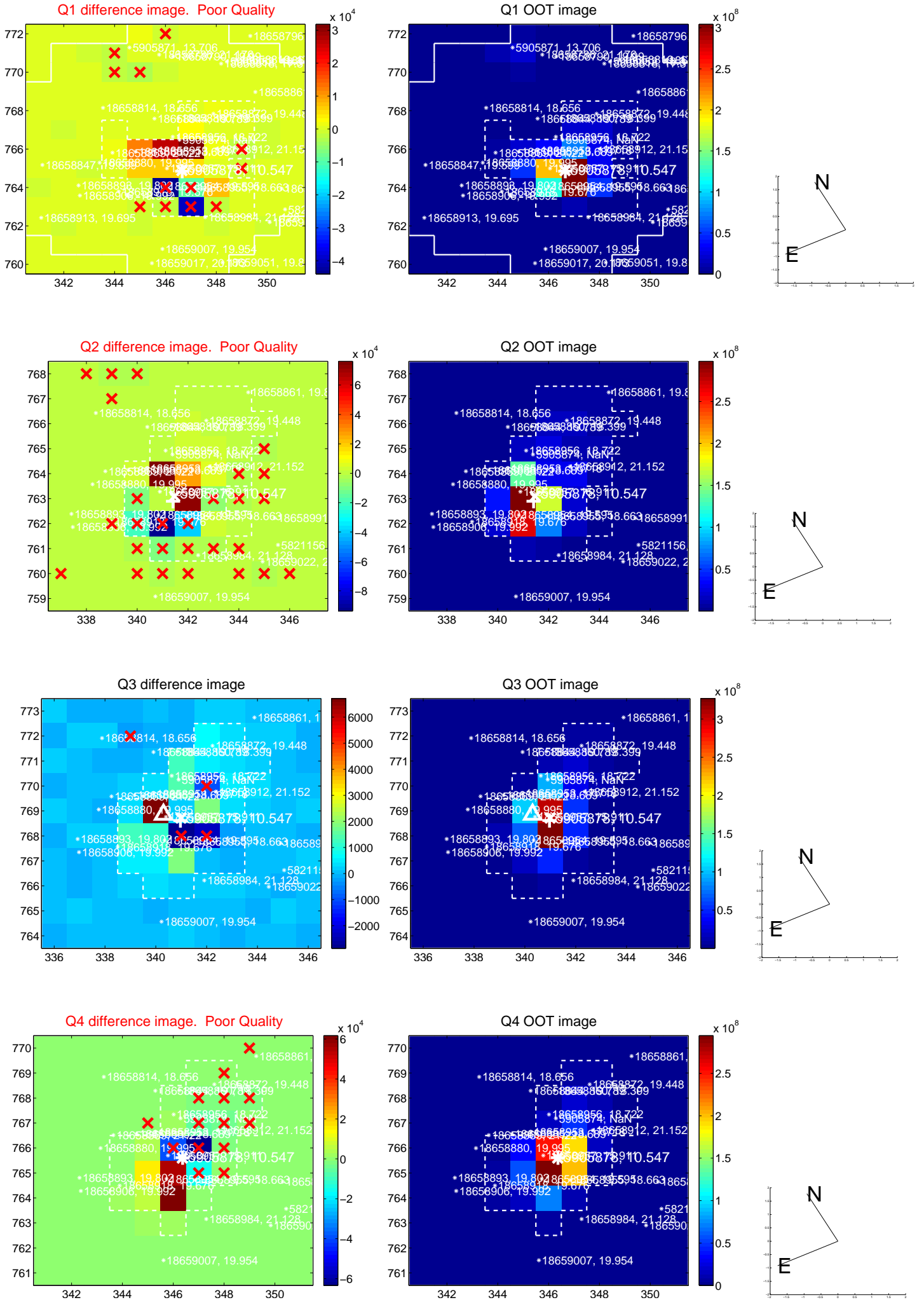
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.614 ± 3.289	0.49	0.010 ± 1.464	-1.614 ± 3.298
PRF-fit source offset from KIC position	1.693 ± 2.803	0.60	0.128 ± 1.280	-1.688 ± 2.904
photometric centroid source offset	—	—	—	—

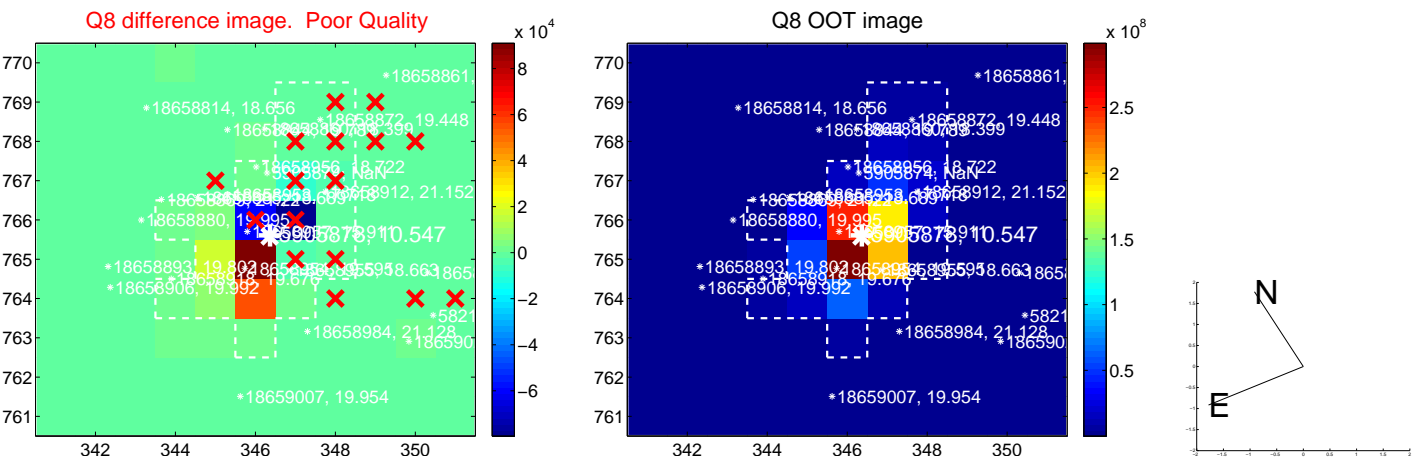
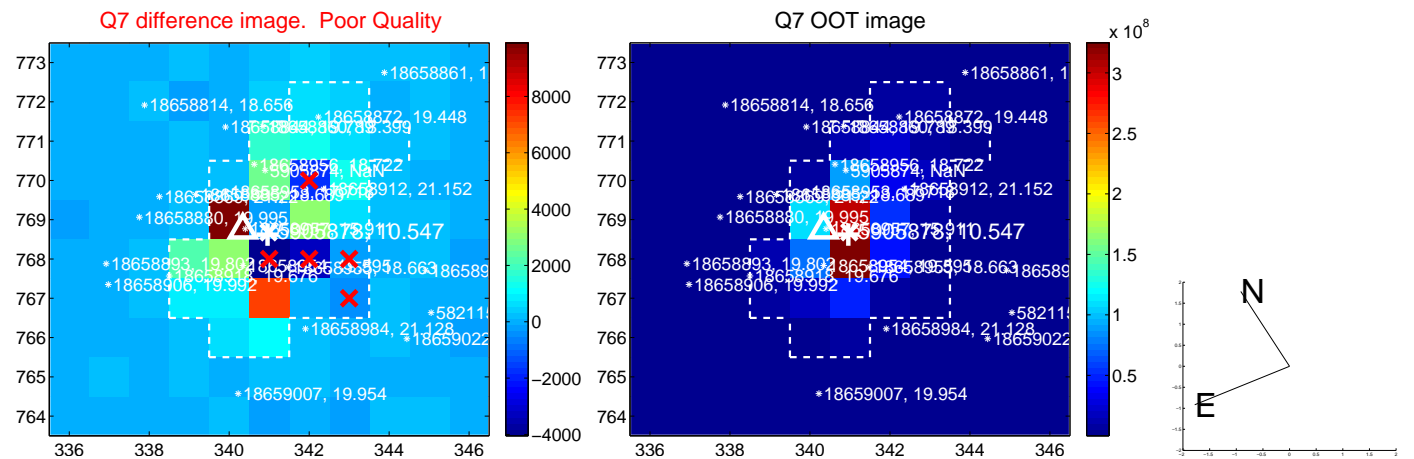
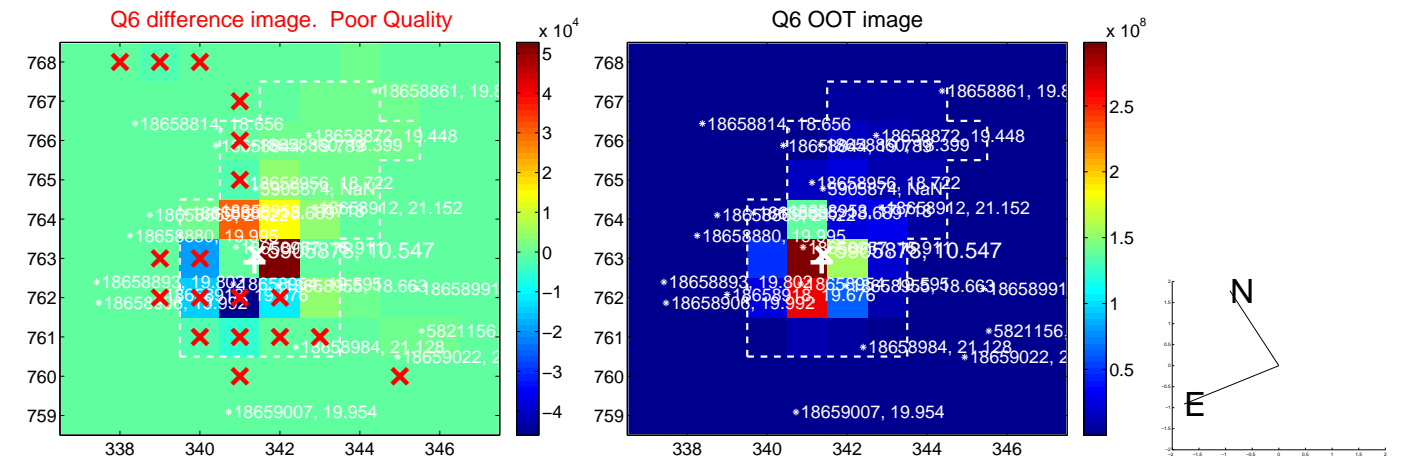
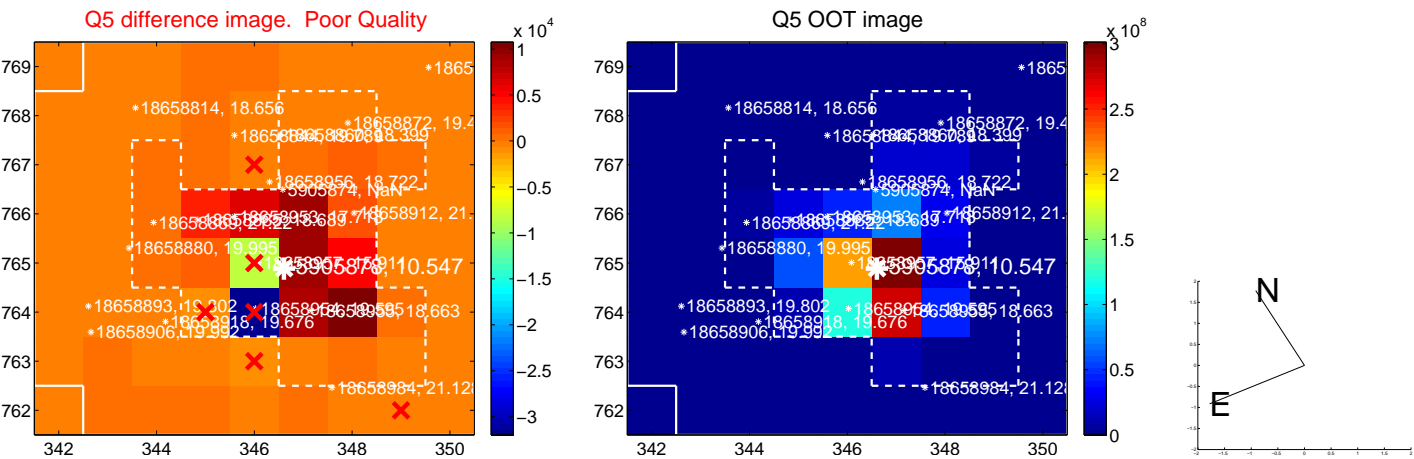


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

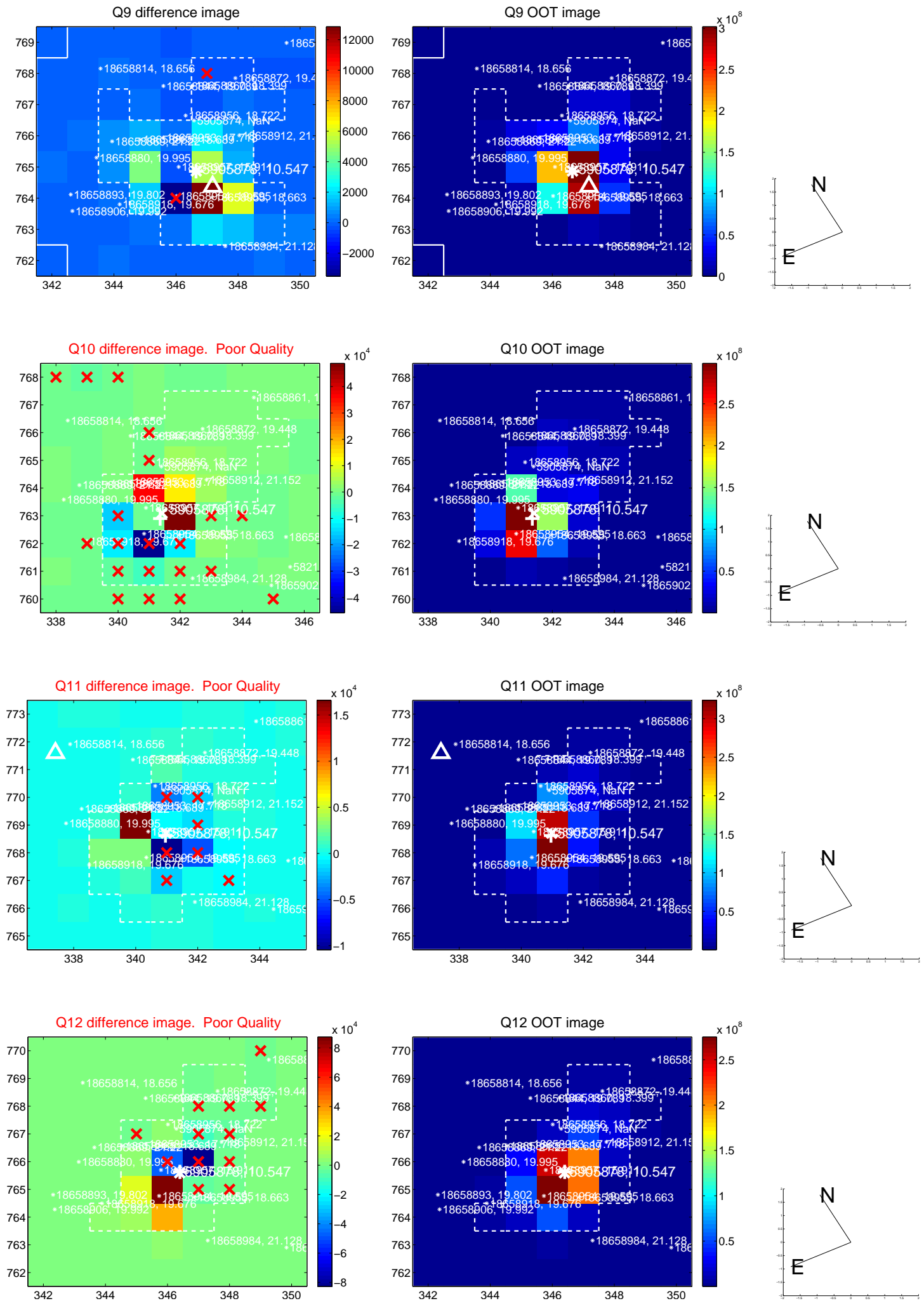
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



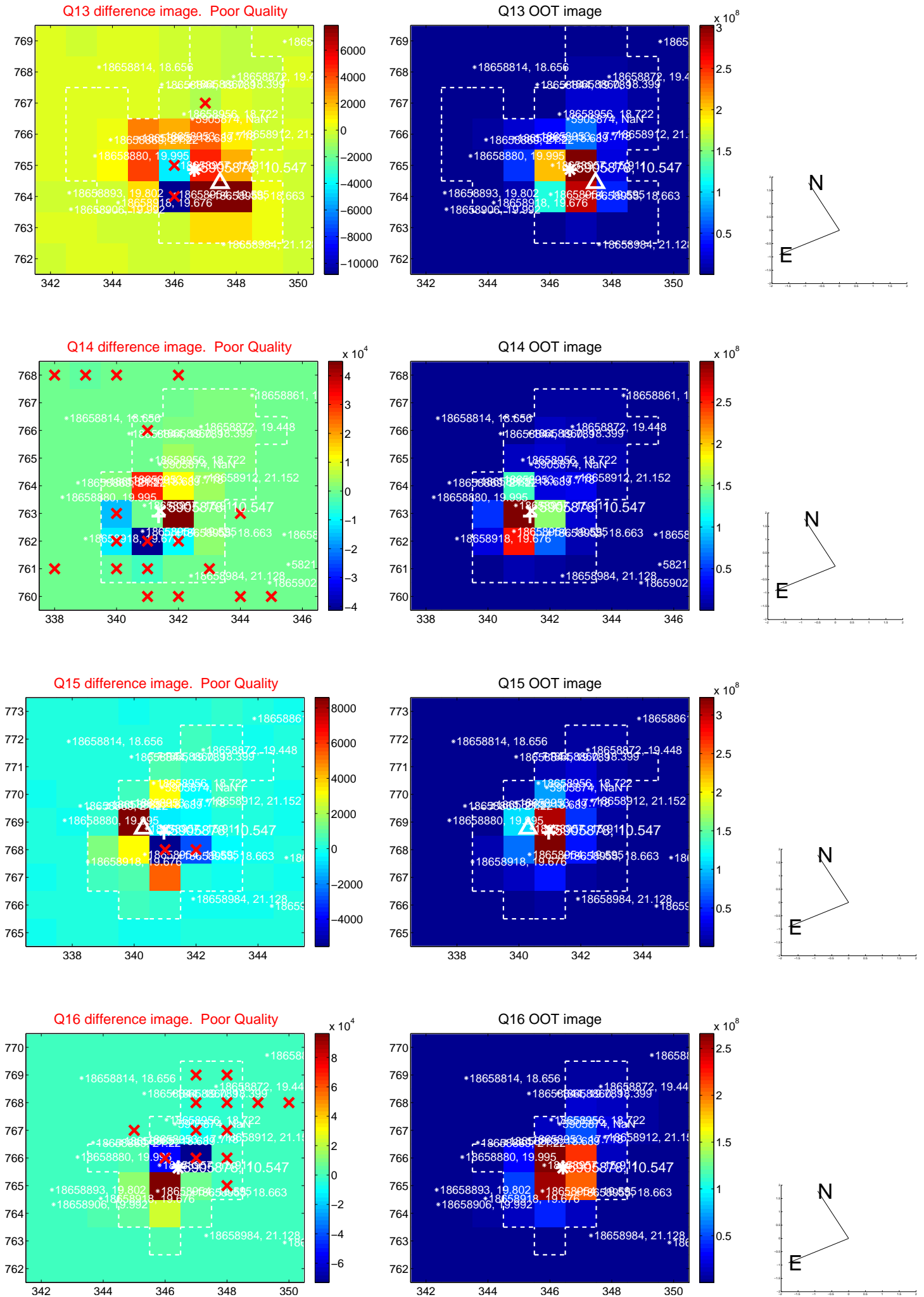
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



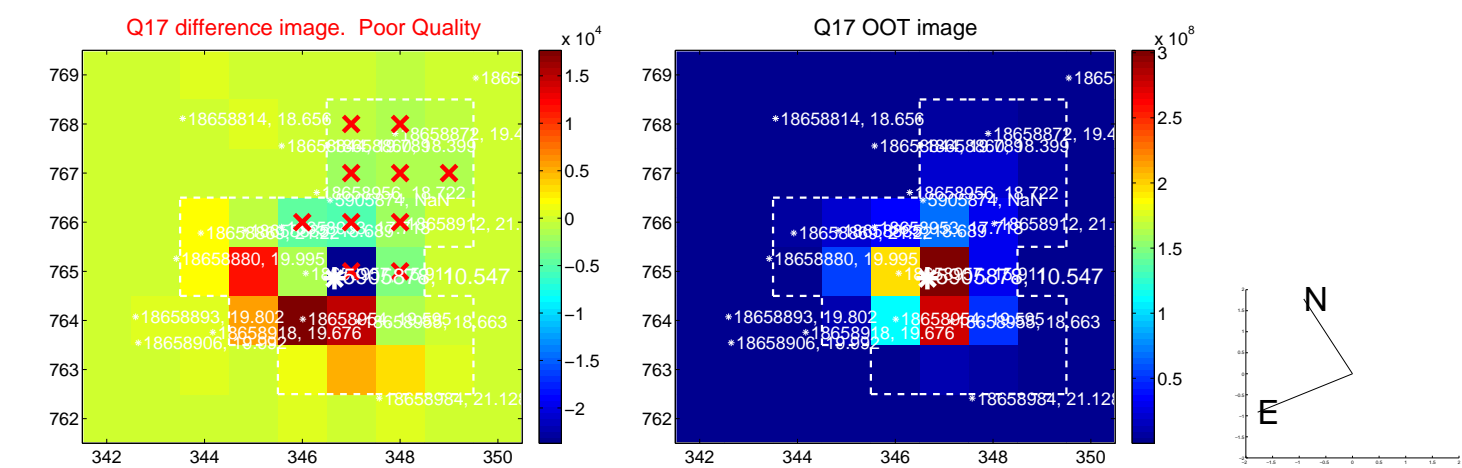
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



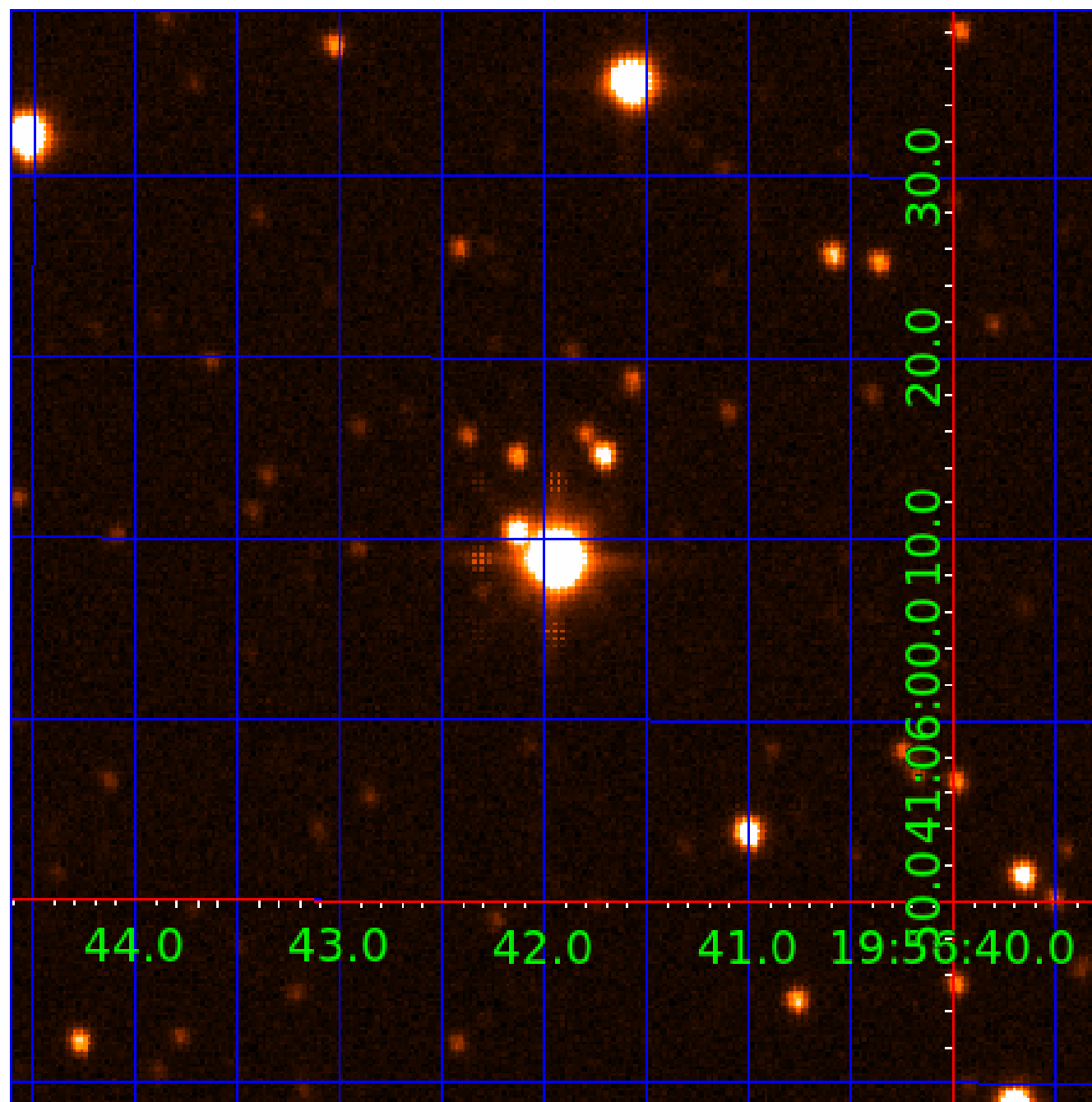
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 005905878

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})
005905878-01	OBS	No	0.798204	132.217849	2.9	5.554	9.5	7.4	2.24	8554	0.50	52464.27
005905878-02	OBS	No	31.811079	150.668863	86.3	1.954	12.1	12.1	2.24	8554	2.21	385.40
005905878-03	OBS	No	22.453278	150.086866	47.8	1.427	9.5	9.2	2.24	8554	1.66	613.26
005905878-04	OBS	No	66.094076	157.976294	65.4	2.714	9.5	9.8	2.24	8554	2.12	145.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005905878-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
005905878-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

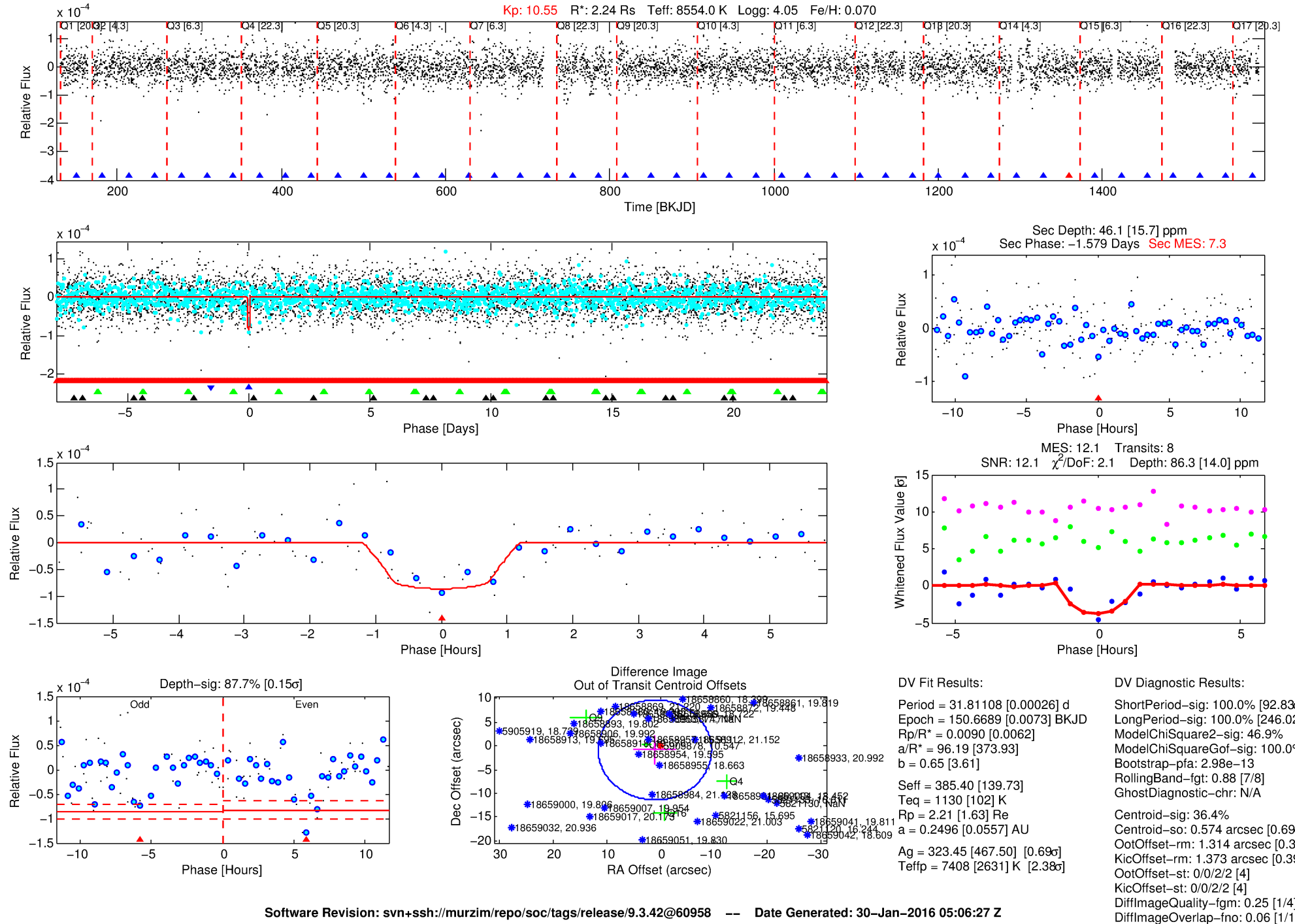
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005905878-02

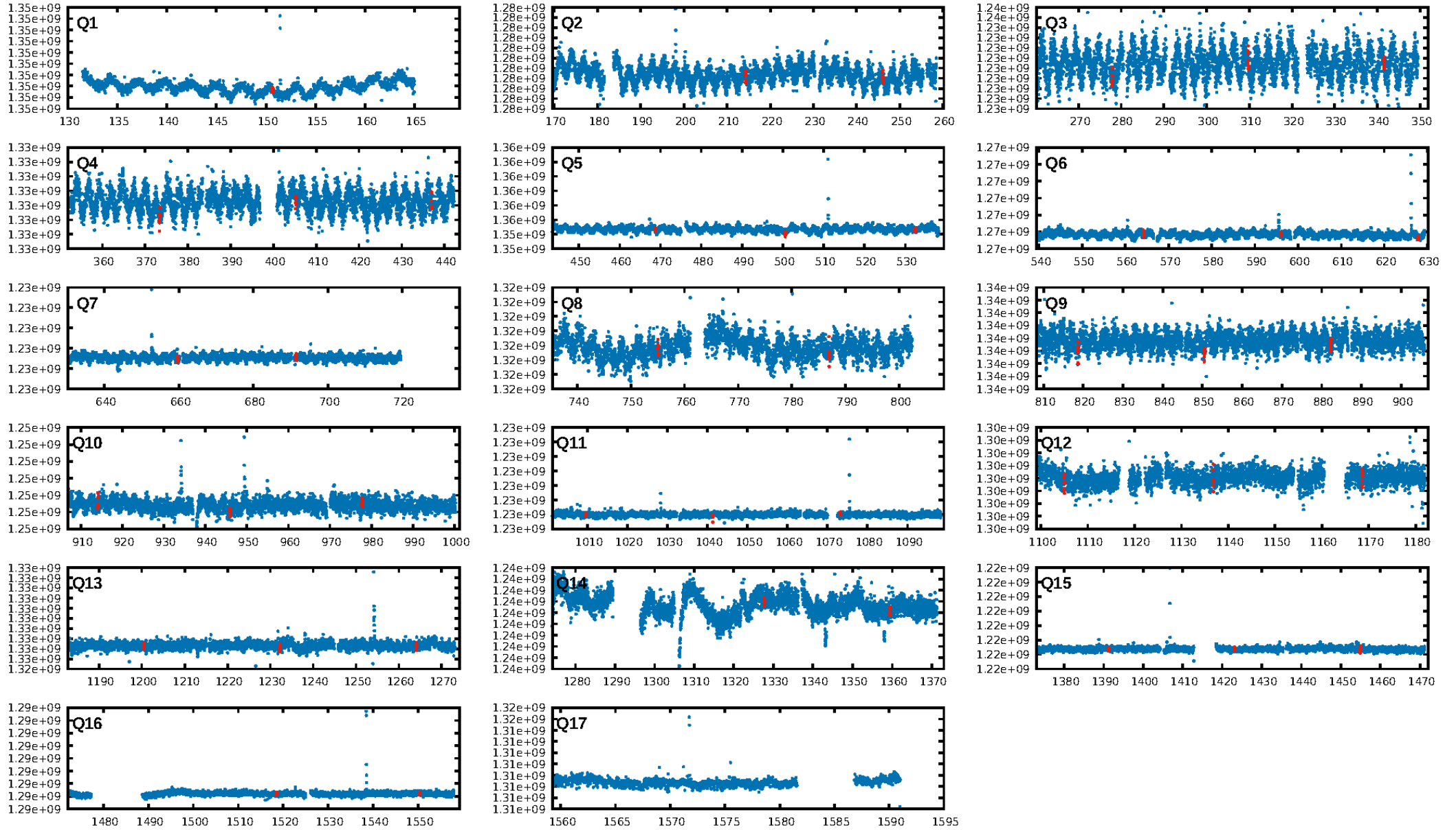
No Significant Match Found

DV One-Page Summary

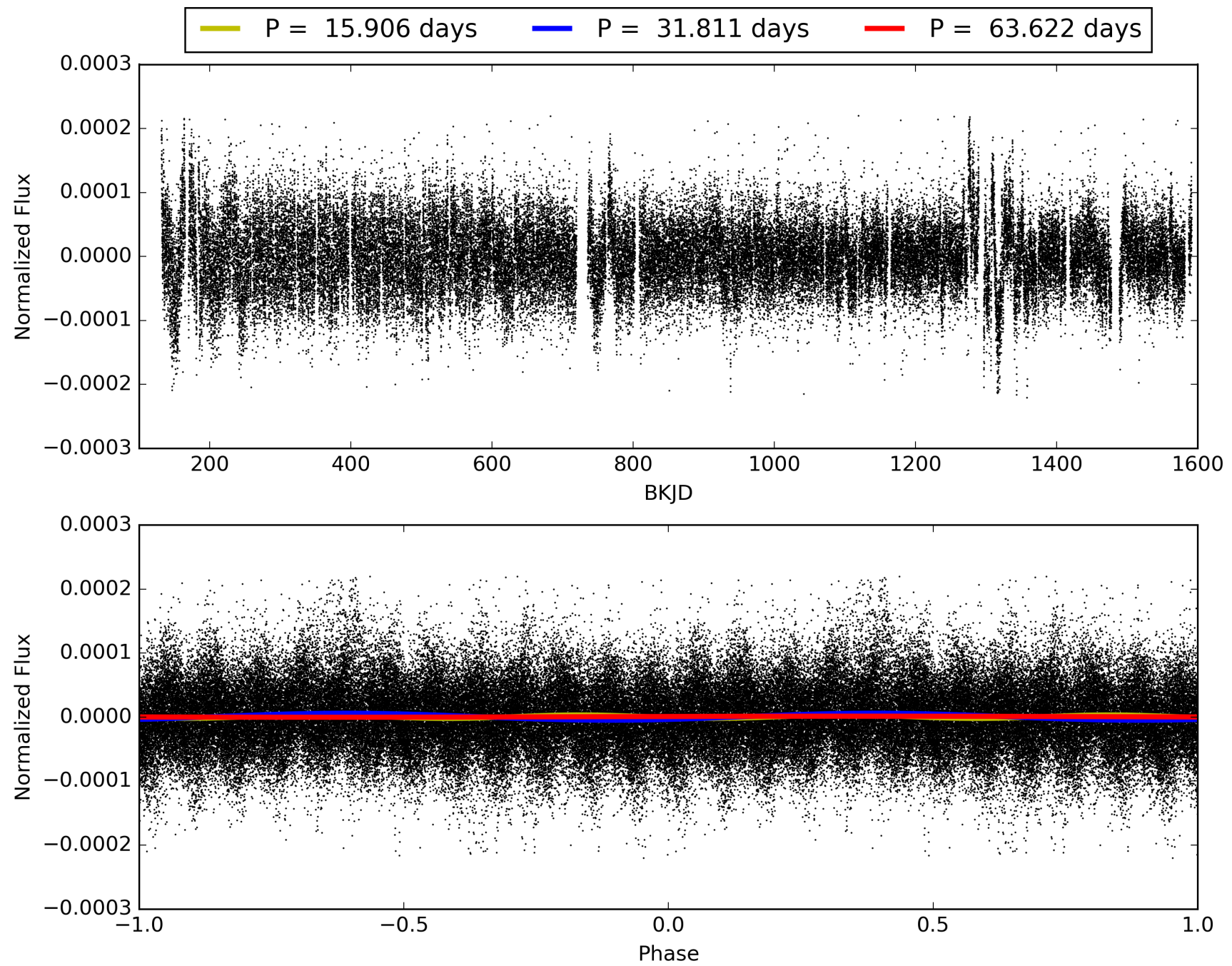
KIC: 5905878 Candidate: 2 of 4 Period: 31.811 d



TCE 005905878-02, PDC Light Curves

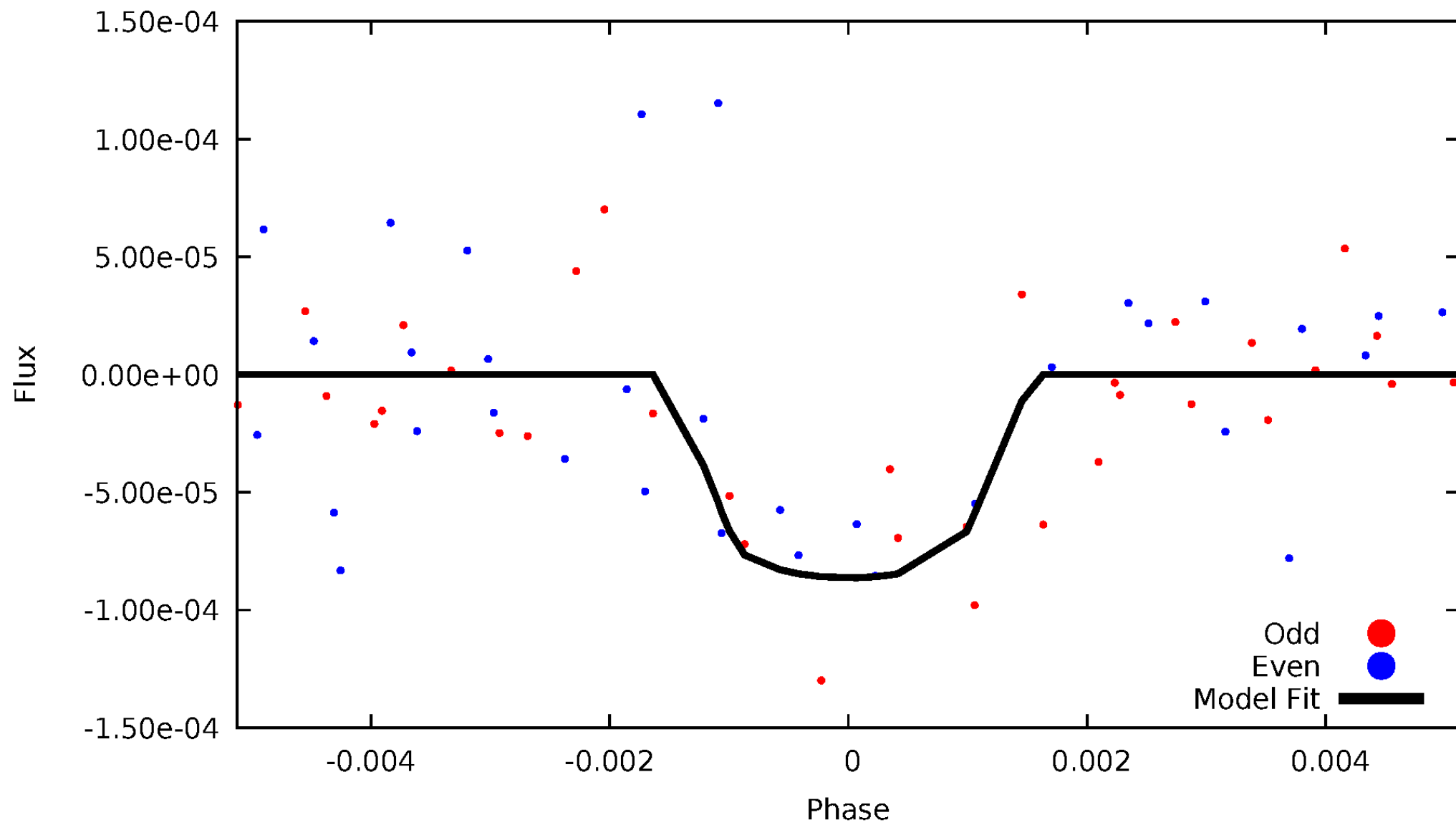


TCE 005905878-02



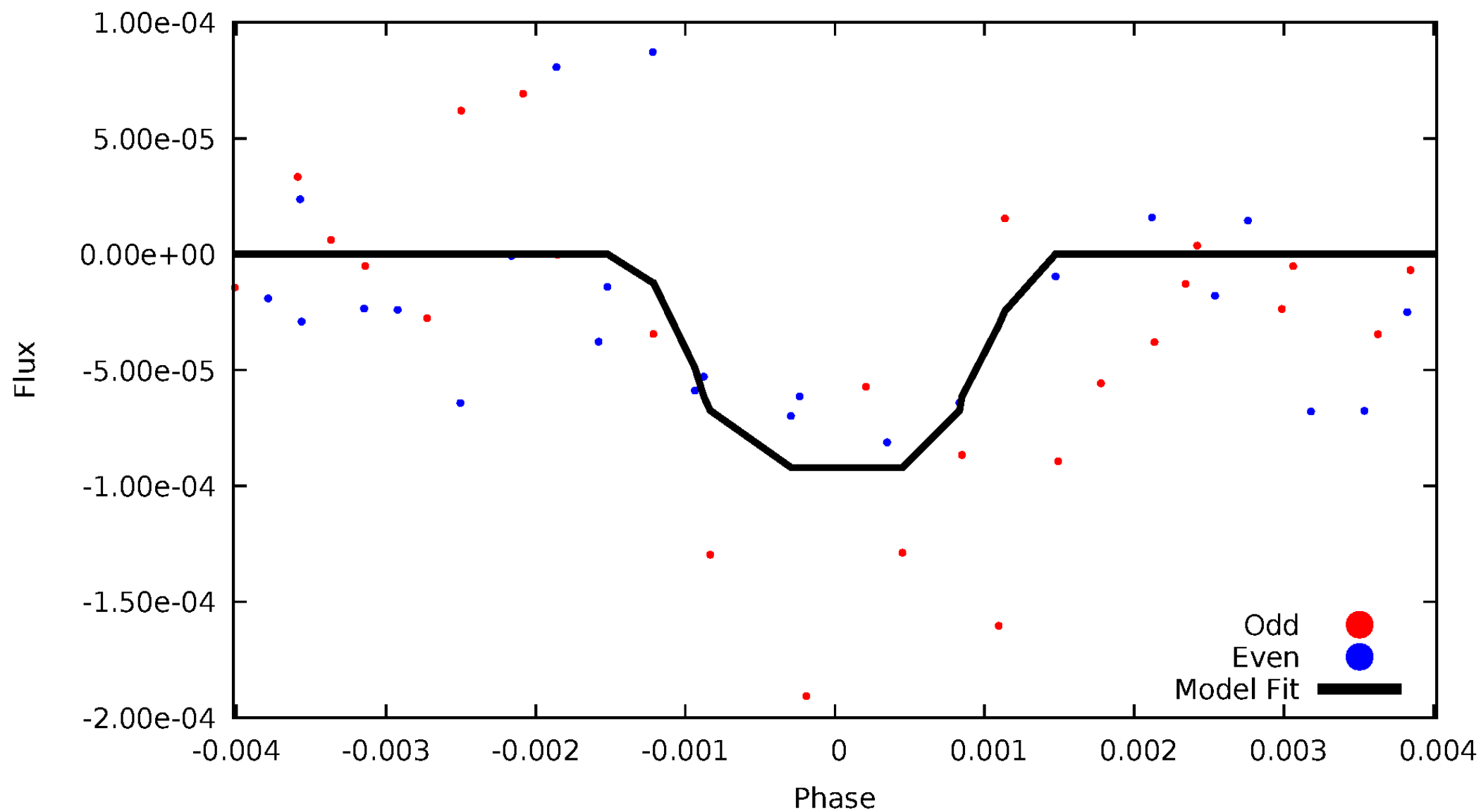
DV Odd/Even

TCE 005905878-02



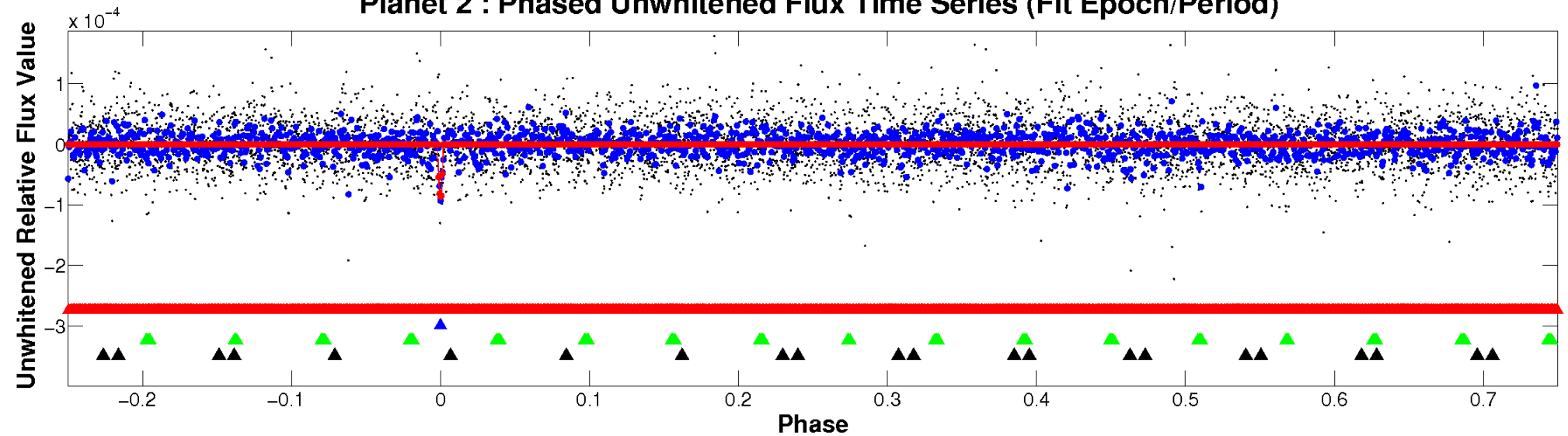
ALT Odd/Even

TCE 005905878-02

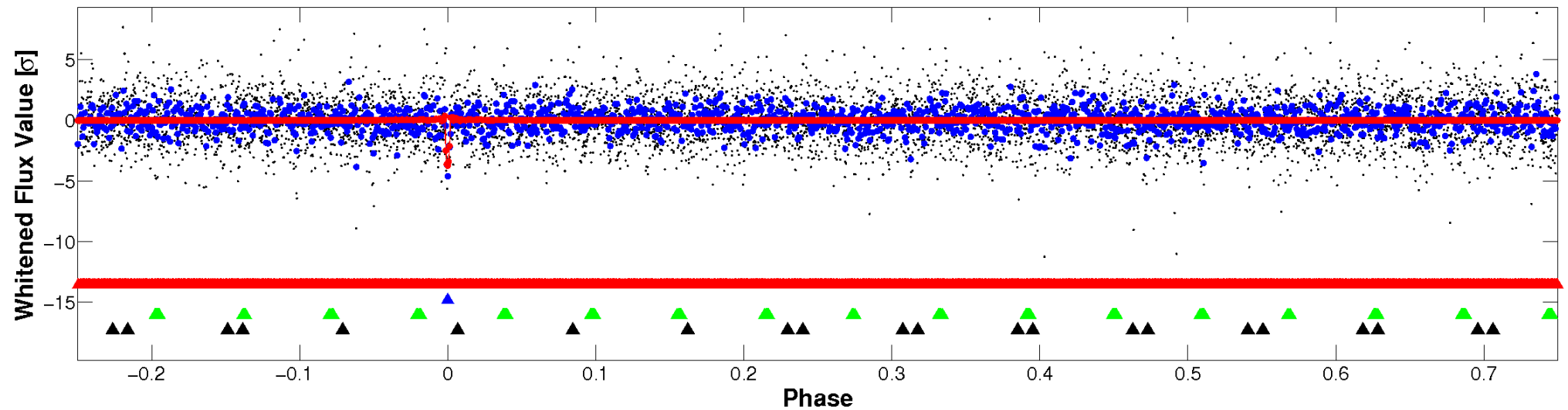


Non-Whitened Vs. Whitened Light Curve

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

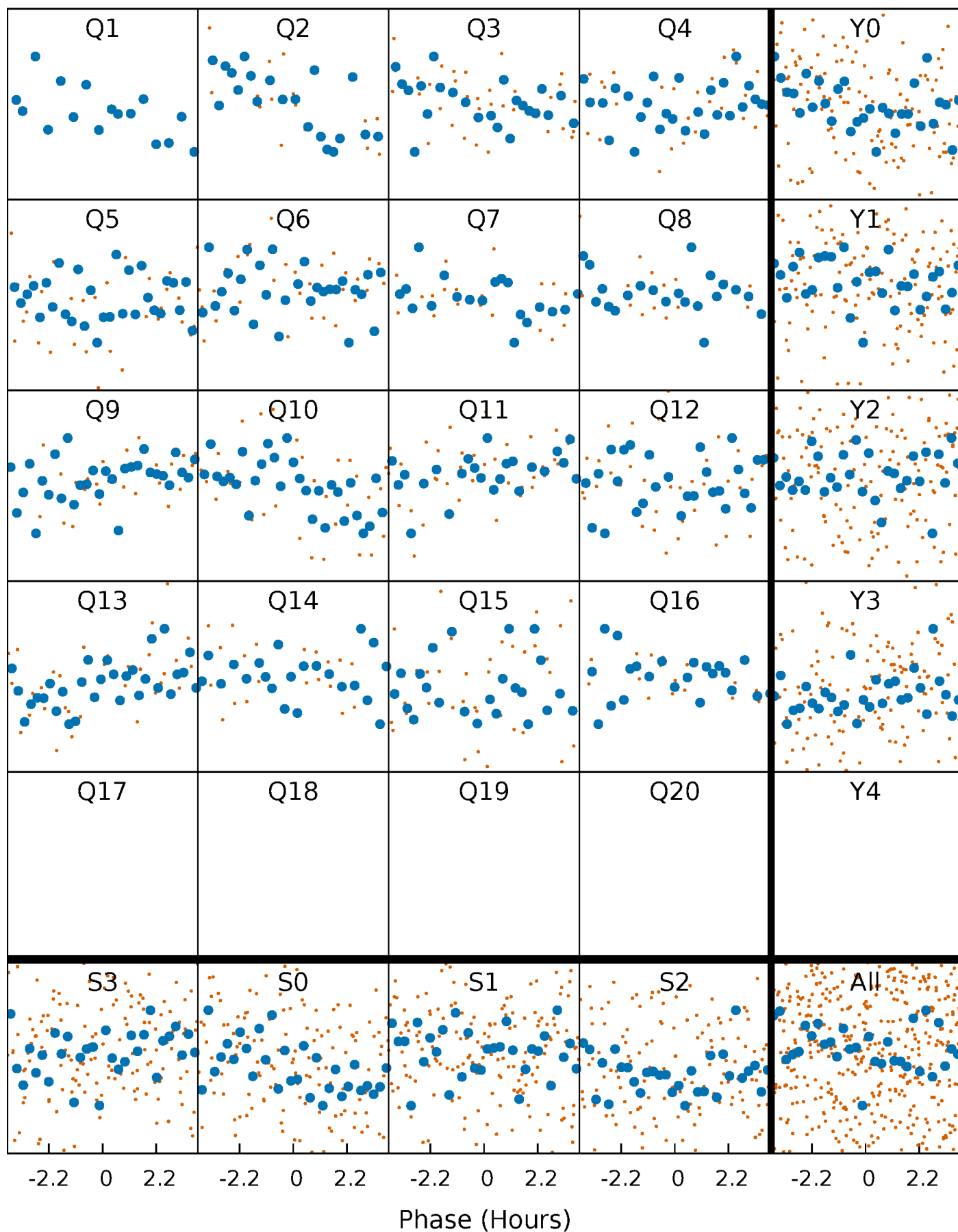


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



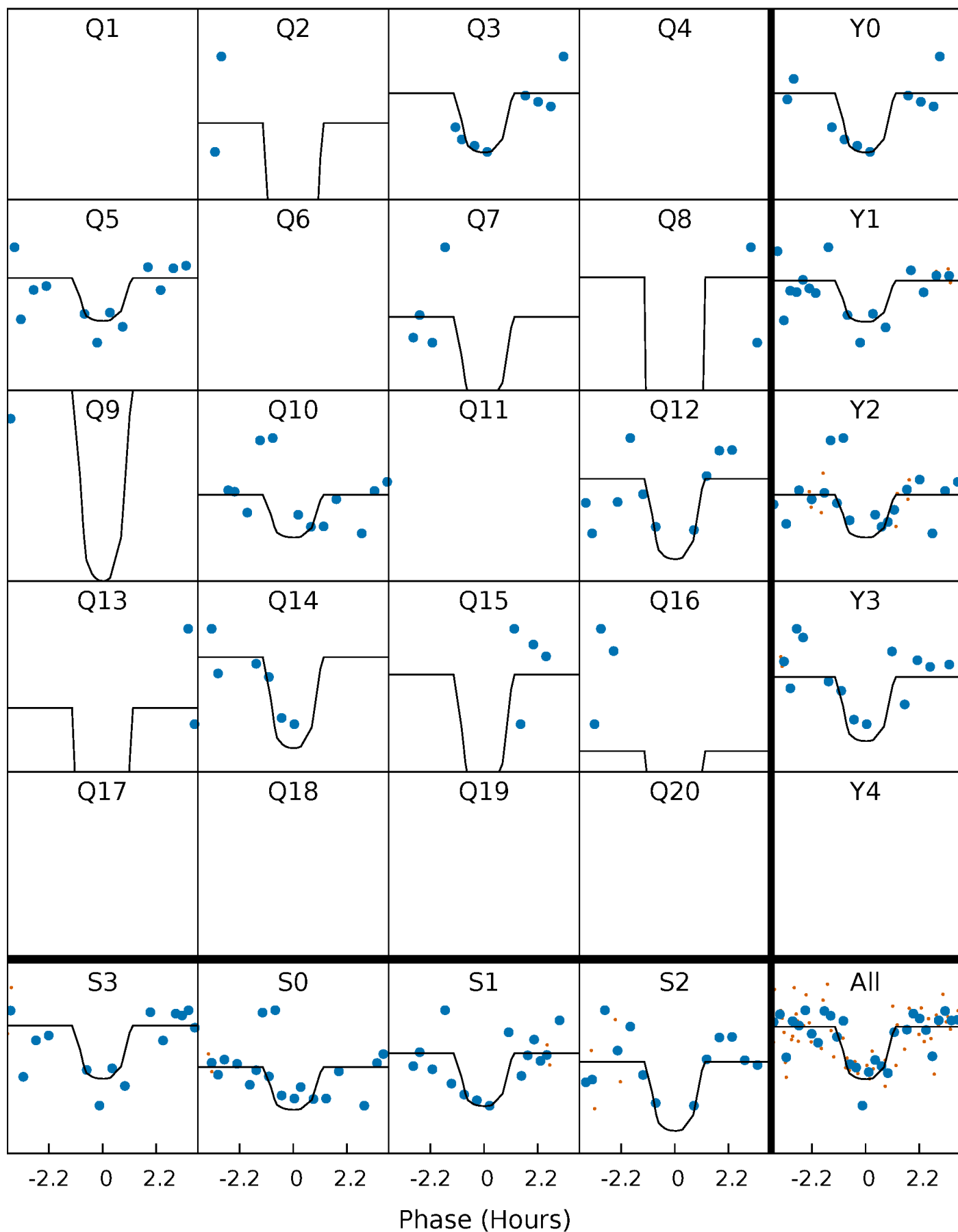
PDC Quarter-Phased Transit Curves

TCE 005905878-02 P= 31.811079 Days $T_0=150.668863$ (BKJD)



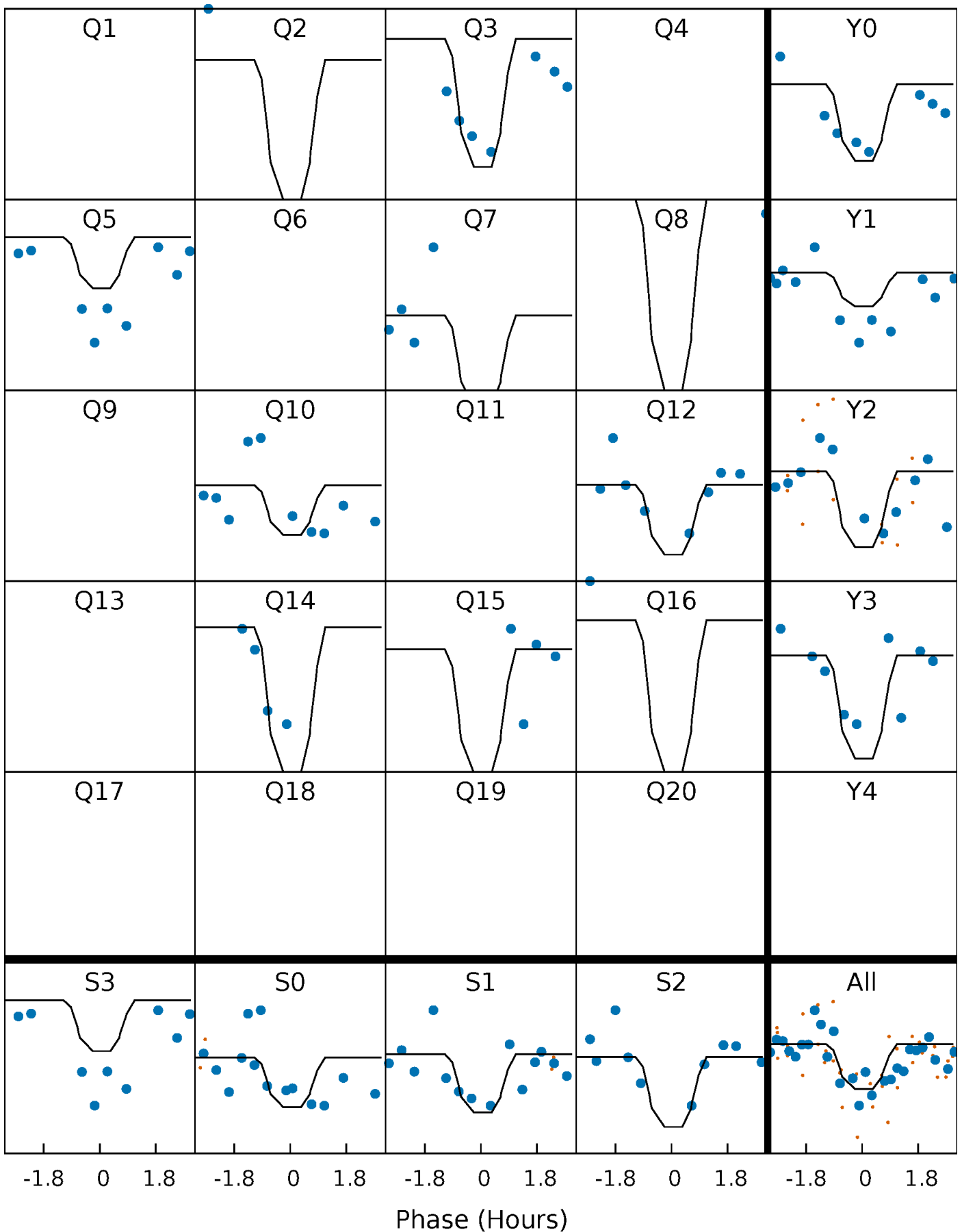
DV Quarter-Phased Transit Curves

TCE 005905878-02 P= 31.811079 Days $T_0=150.668863$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

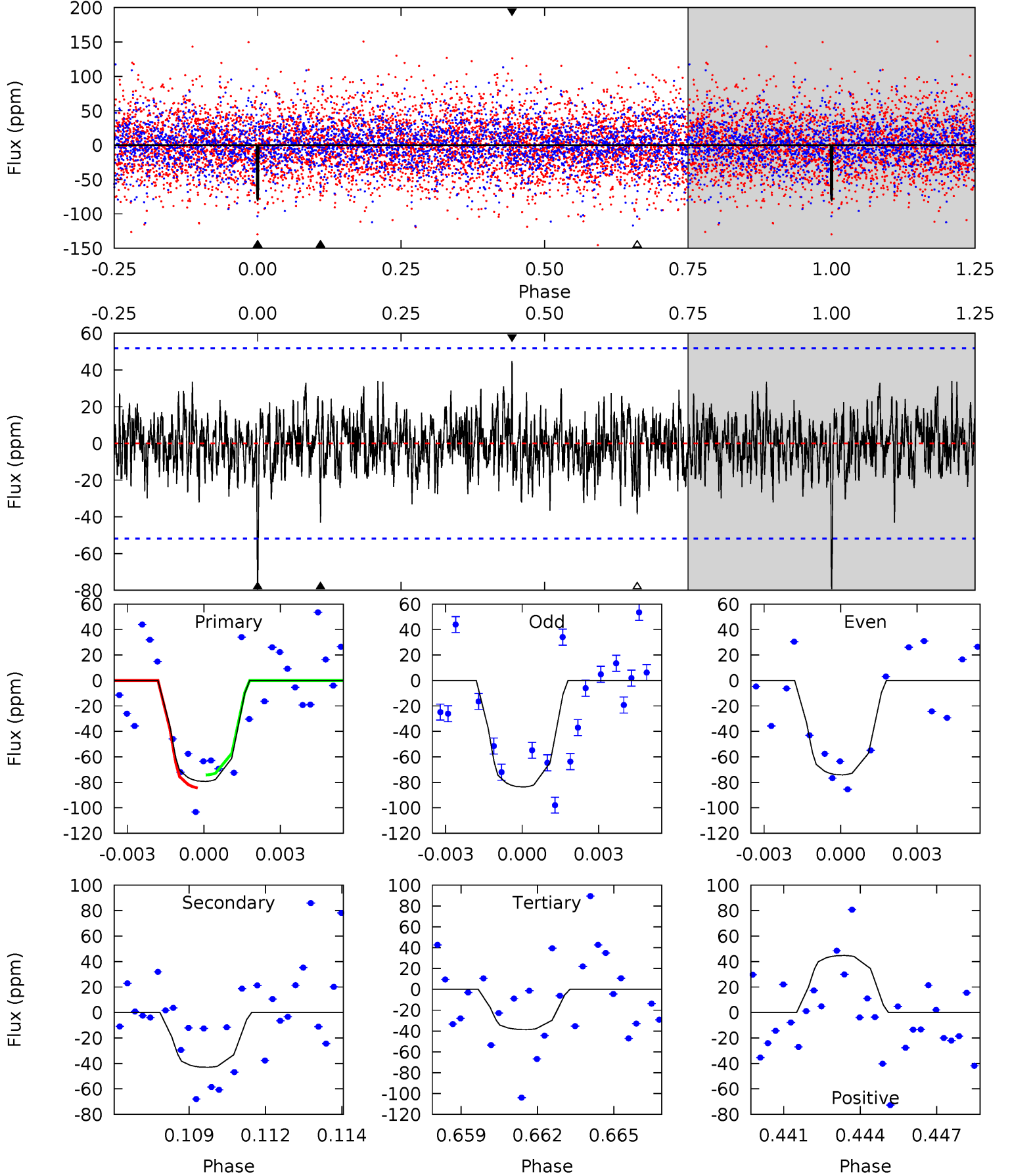
TCE 005905878-02 P= 31.811481 Days $T_0=150.663309$ (BKJD)



DV Model-Shift Uniqueness Test

005905878-02, P = 31.811079 Days, E = 118.857784 Days

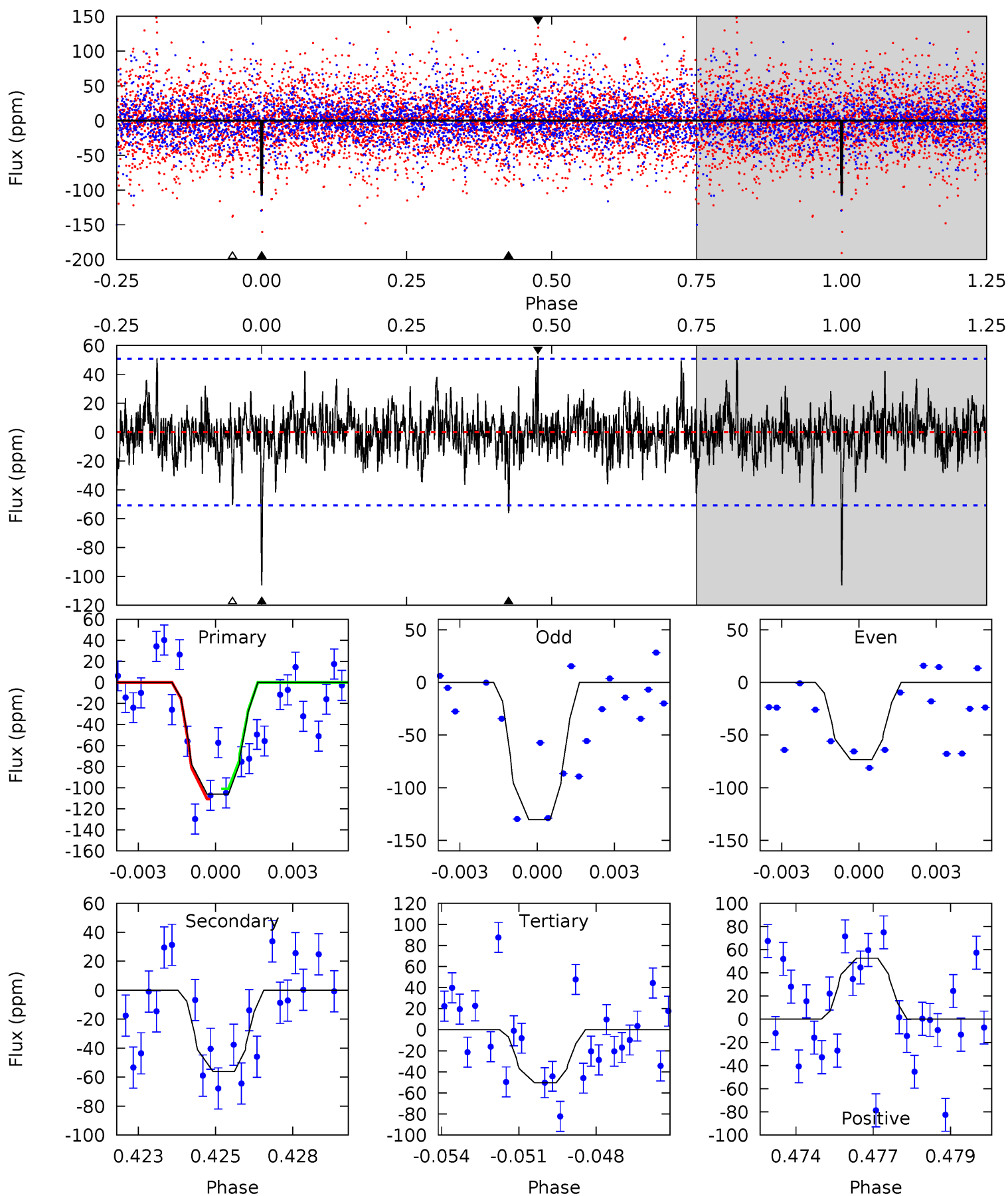
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.05	4.37	3.92	4.55	5.27	3.00	1.16	4.14	3.51	0.45	-0.18	0.48	1.05	0.36	0.51



Alt Model-Shift Uniqueness Test

005905878-02, $P = 31.811481$ Days, $E = 118.851828$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	5.83	5.23	5.46	5.27	3.00	1.30	5.78	5.55	0.59	0.37	2.82	1.26	0.33	0.50



Stellar Parameters For KIC 005905878

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8554^{+235}_{-370}	$4.050^{+0.171}_{-0.140}$	$0.070^{+0.250}_{-0.550}$	$2.237^{+0.496}_{-0.606}$	$2.049^{+0.331}_{-0.497}$	$0.258^{+0.271}_{-0.097}$
	+3%/-4%	+4%/-3%	+357%/-786%	+22%/-27%	+16%/-24%	+105%/-38%
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 005905878-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-43 ± 10	$2.30^{+1.50}_{-1.27}$	1571^{+100}_{-117}	6791^{+4377}_{-1512}	274^{+982}_{-178}
Alt.	-56 ± 10	$2.48^{+1.57}_{-1.33}$	1569^{+110}_{-108}	7024^{+4519}_{-1522}	308^{+1108}_{-195}

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

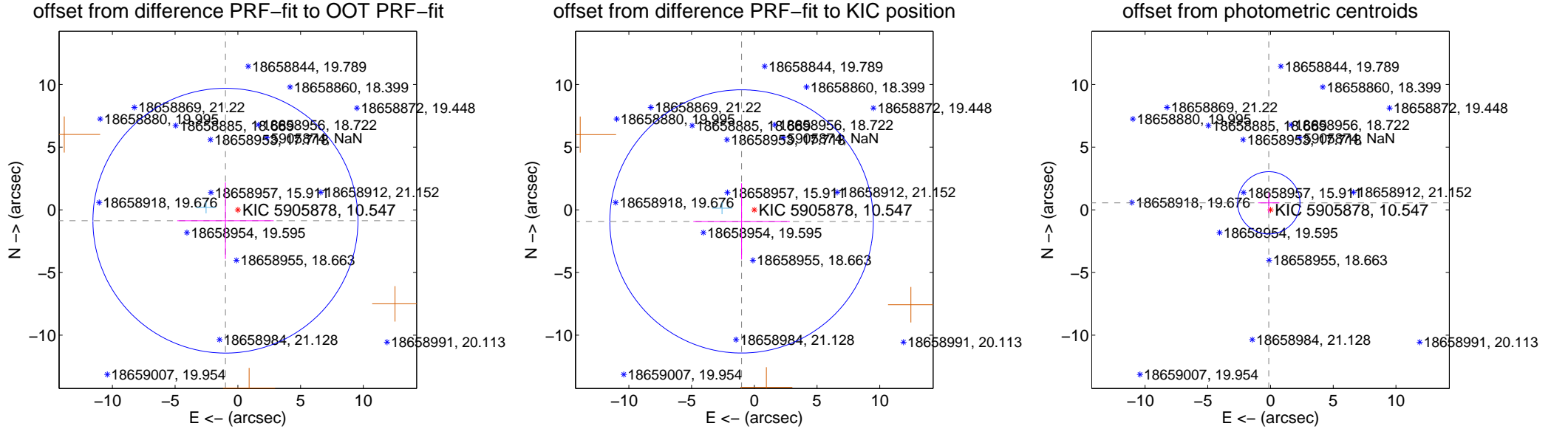
DV Centroid Data

Supplemental centroid analysis for 005905878-02. **Kepler magnitude: 10.55.** Transit SNR 12.14

There are 1 quarters with good PRF difference image offsets

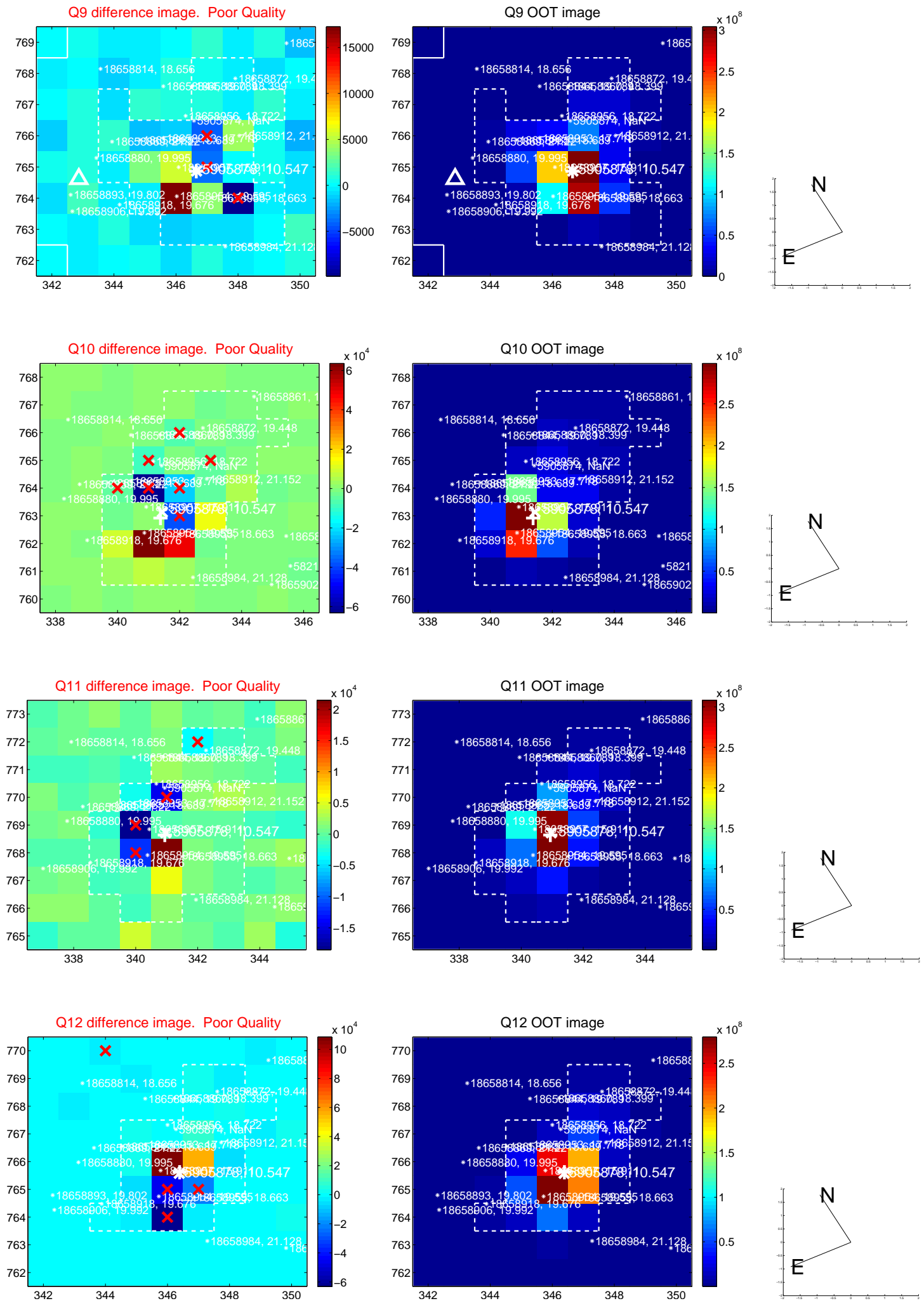
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.314 ± 3.521	0.37	0.988 ± 3.843	-0.866 ± 3.054
PRF-fit source offset from KIC position	1.373 ± 3.501	0.39	1.015 ± 3.843	-0.924 ± 3.037
photometric centroid source offset	0.57 ± 0.83	0.69	0.14 ± 0.85	0.56 ± 0.83

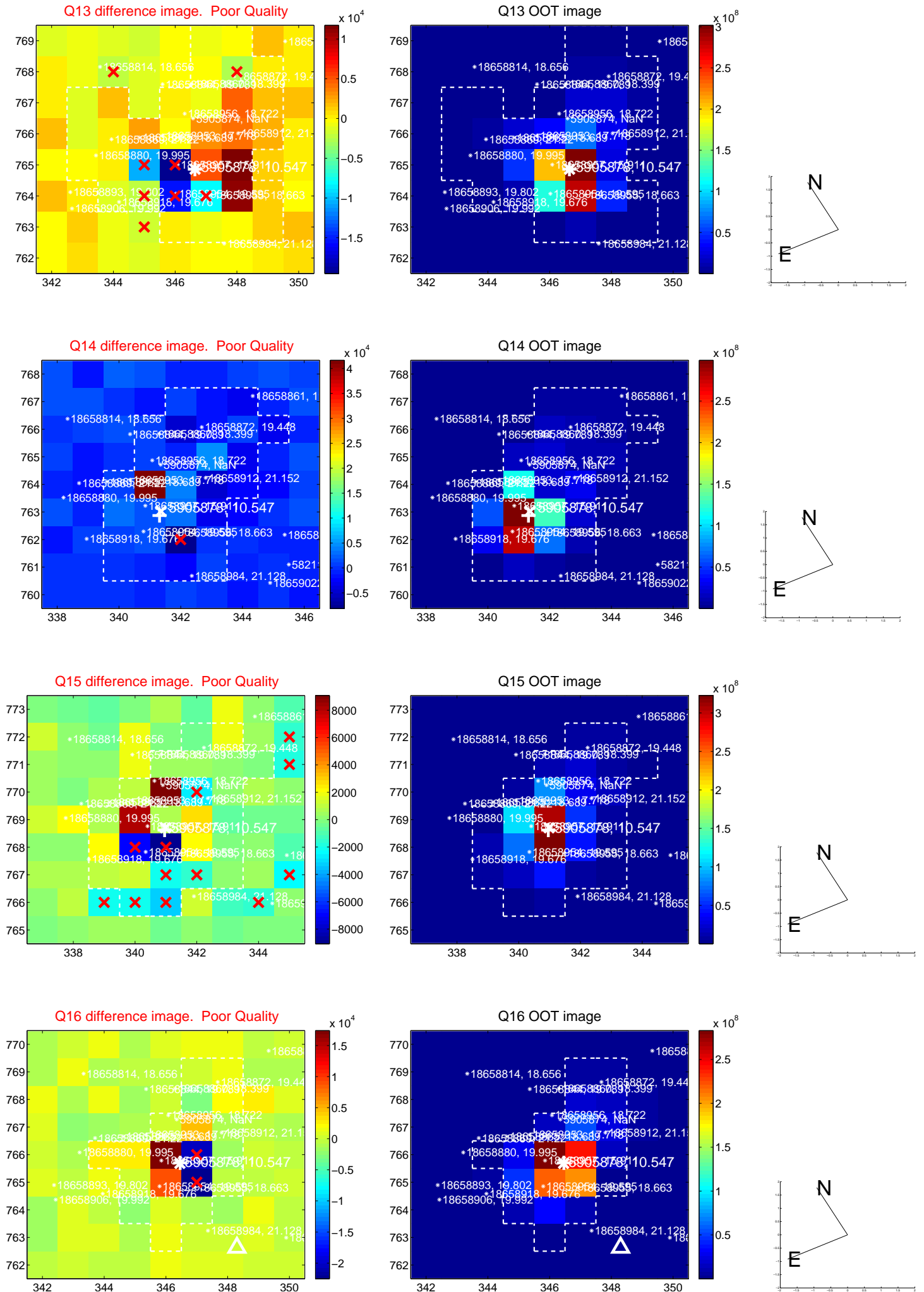


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

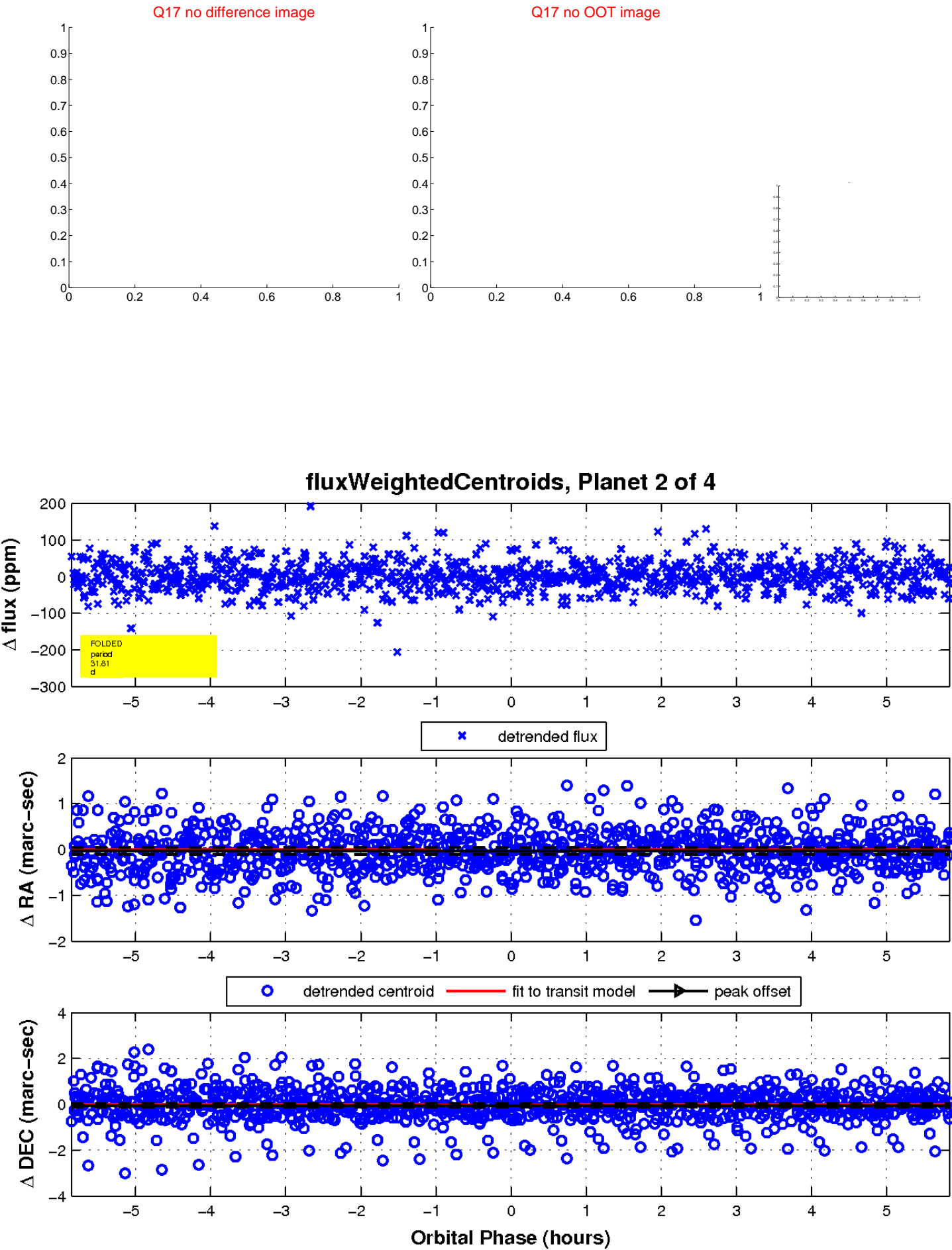
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

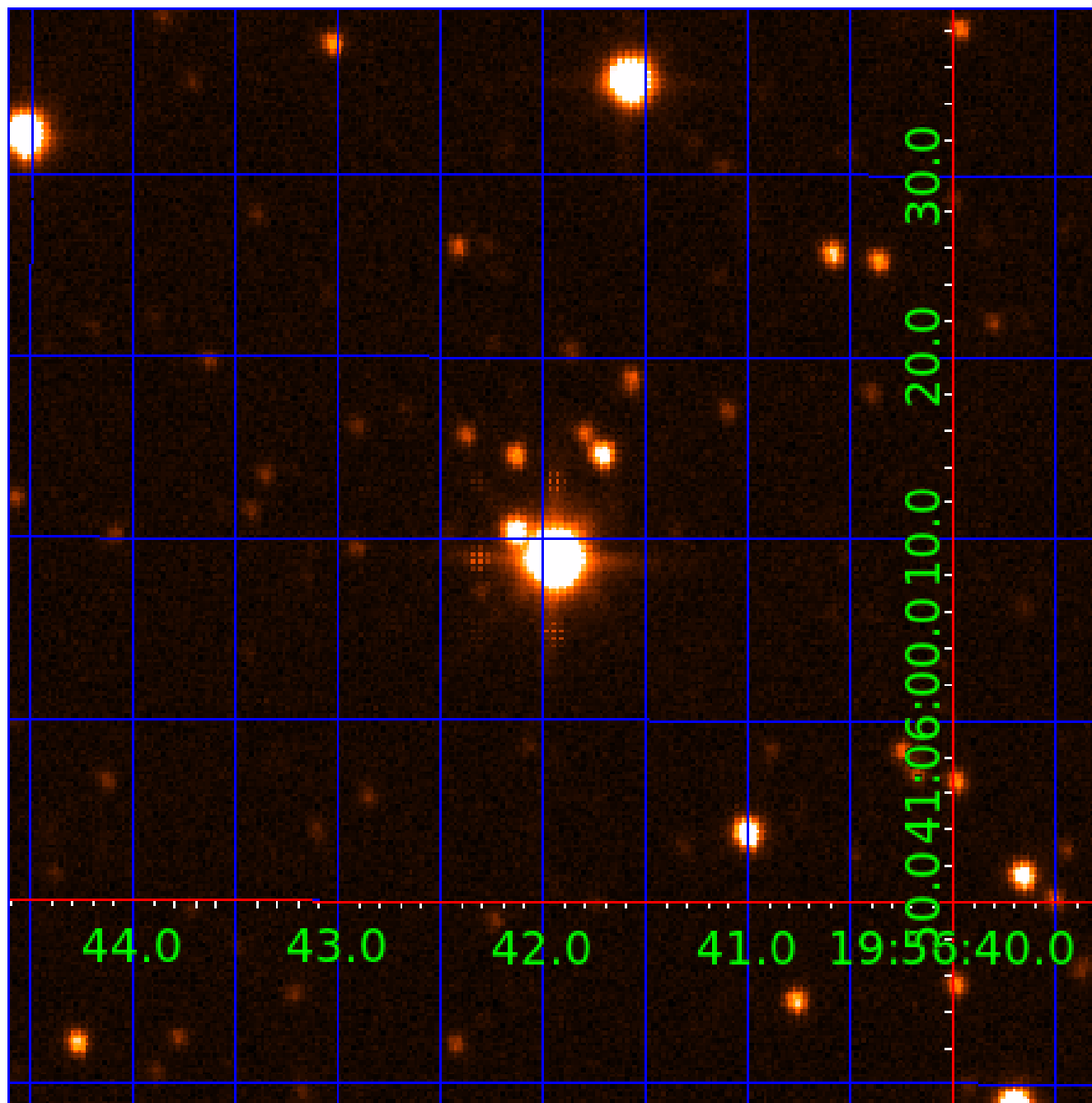


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005905878

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})
005905878-01	OBS	No	0.798204	132.217849	2.9	5.554	9.5	7.4	2.24	8554	0.50	52464.27
005905878-02	OBS	No	31.811079	150.668863	86.3	1.954	12.1	12.1	2.24	8554	2.21	385.40
005905878-03	OBS	No	22.453278	150.086866	47.8	1.427	9.5	9.2	2.24	8554	1.66	613.26
005905878-04	OBS	No	66.094076	157.976294	65.4	2.714	9.5	9.8	2.24	8554	2.12	145.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005905878-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
005905878-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

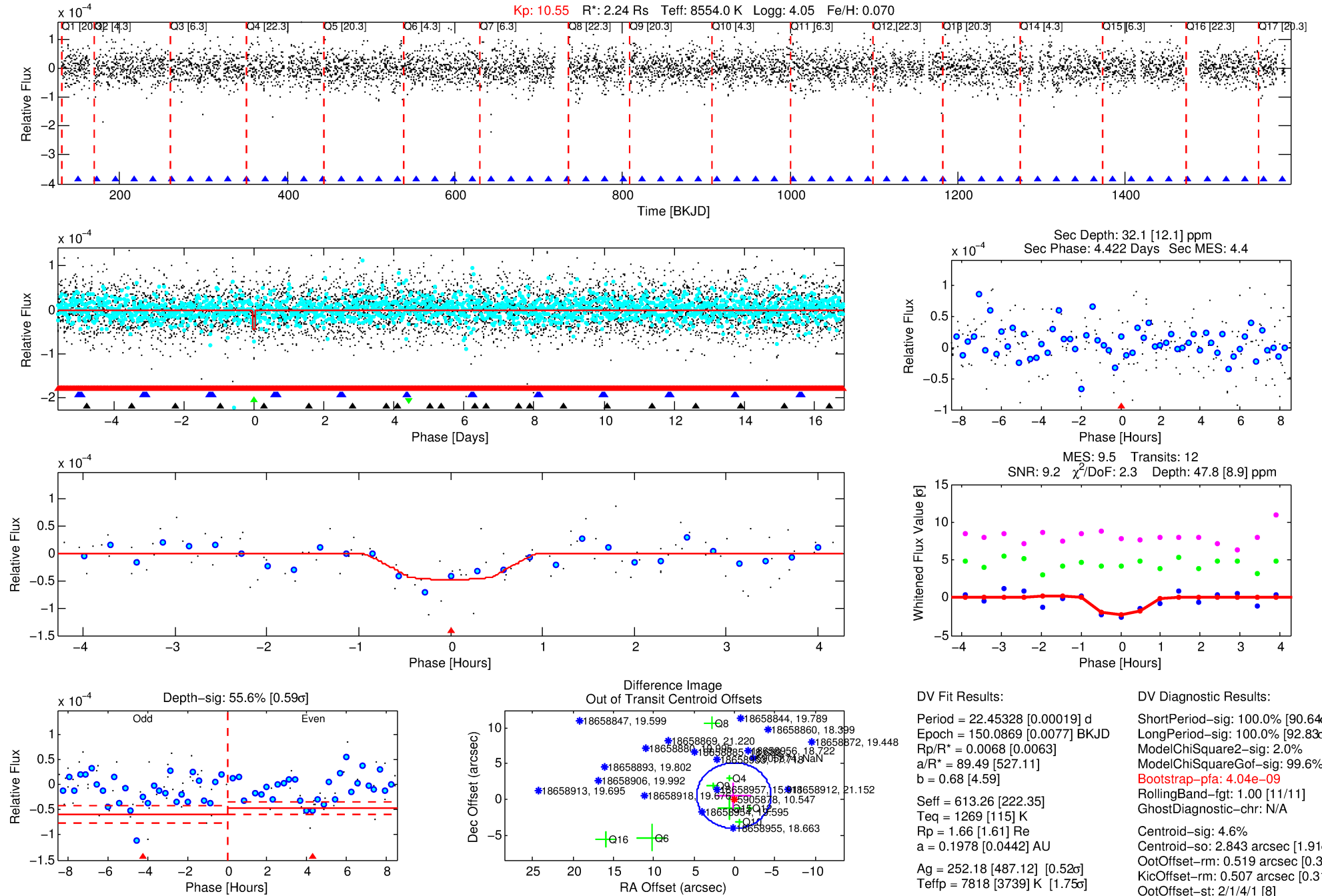
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005905878-03

No Significant Match Found

DV One-Page Summary

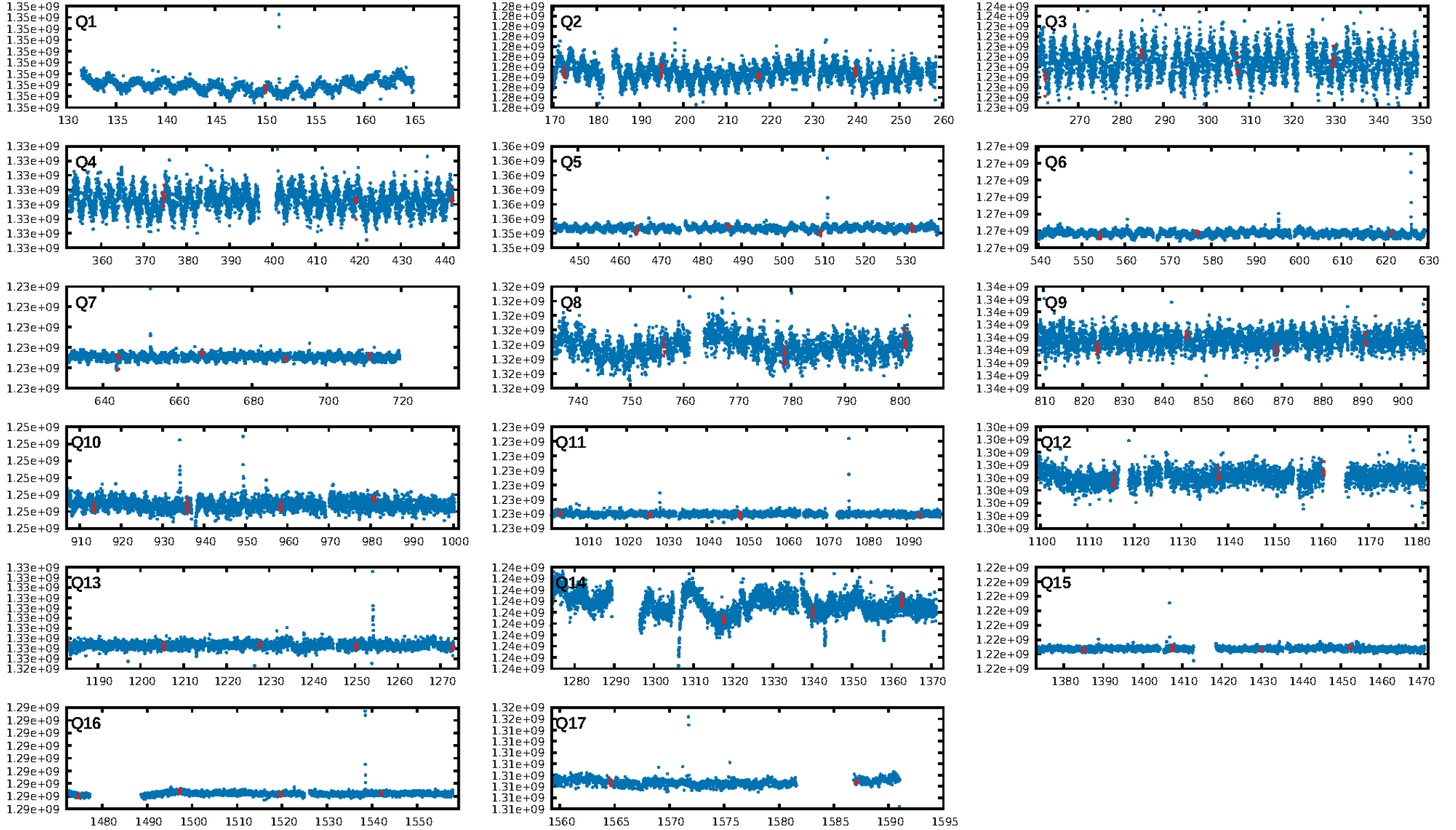
KIC: 5905878 Candidate: 3 of 4 Period: 22.453 d



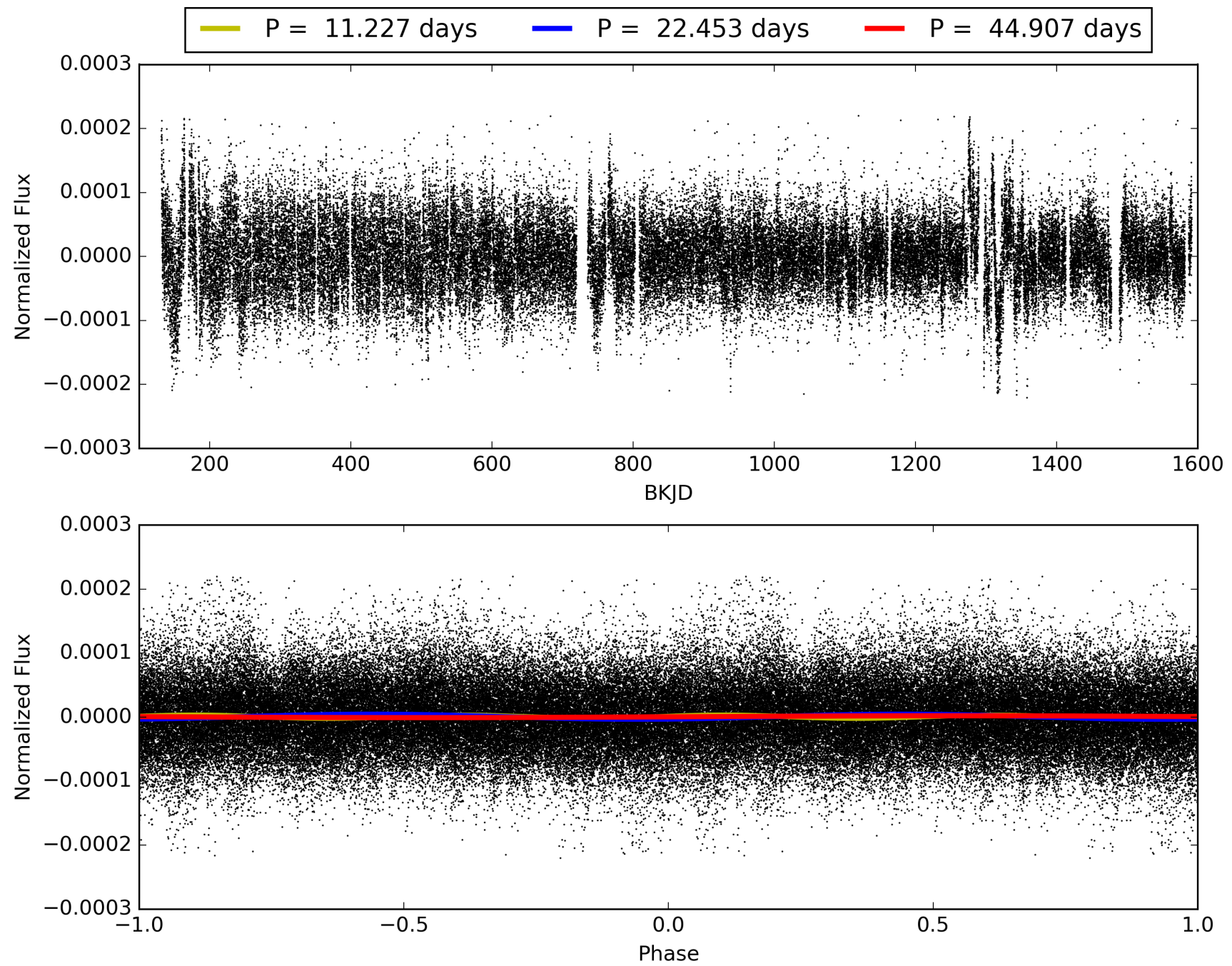
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:06:31 Z

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

TCE 005905878-03, PDC Light Curves

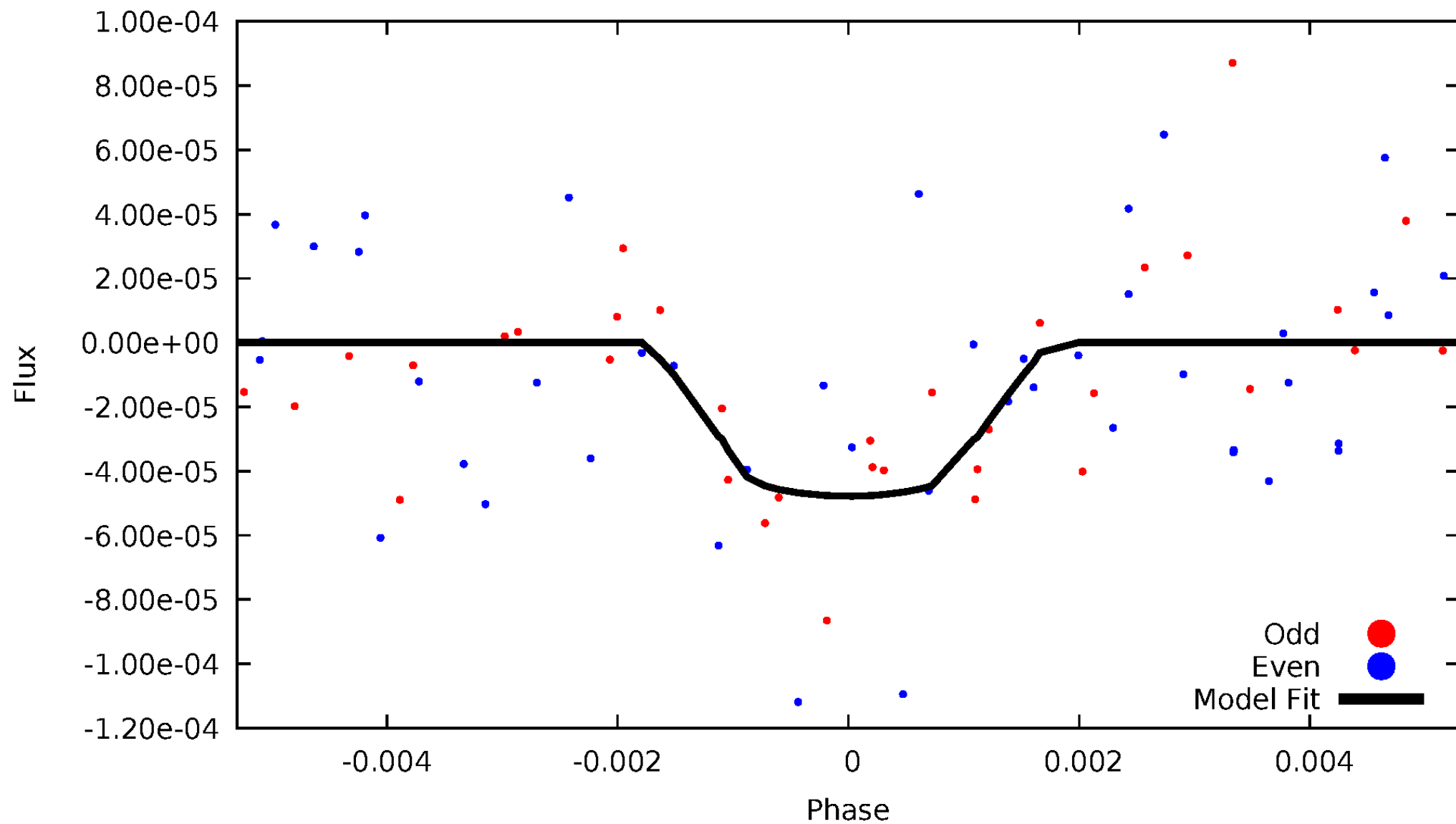


TCE 005905878-03



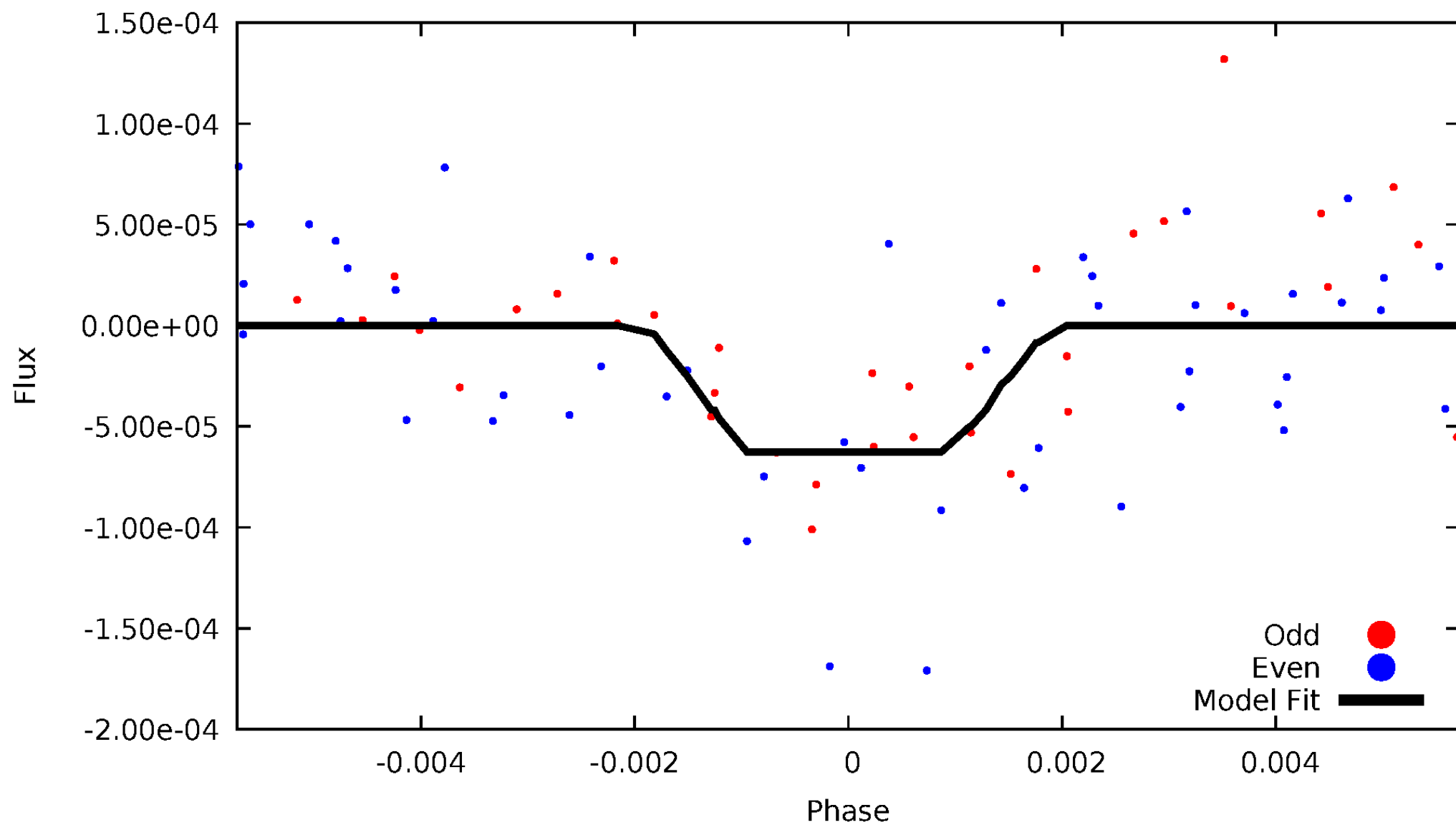
DV Odd/Even

TCE 005905878-03



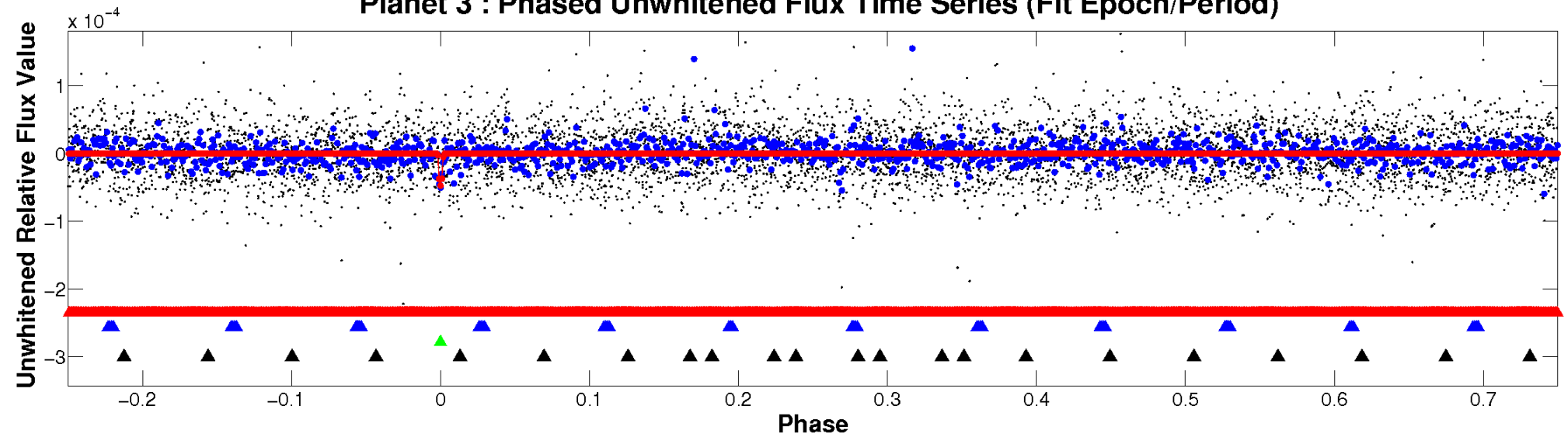
ALT Odd/Even

TCE 005905878-03

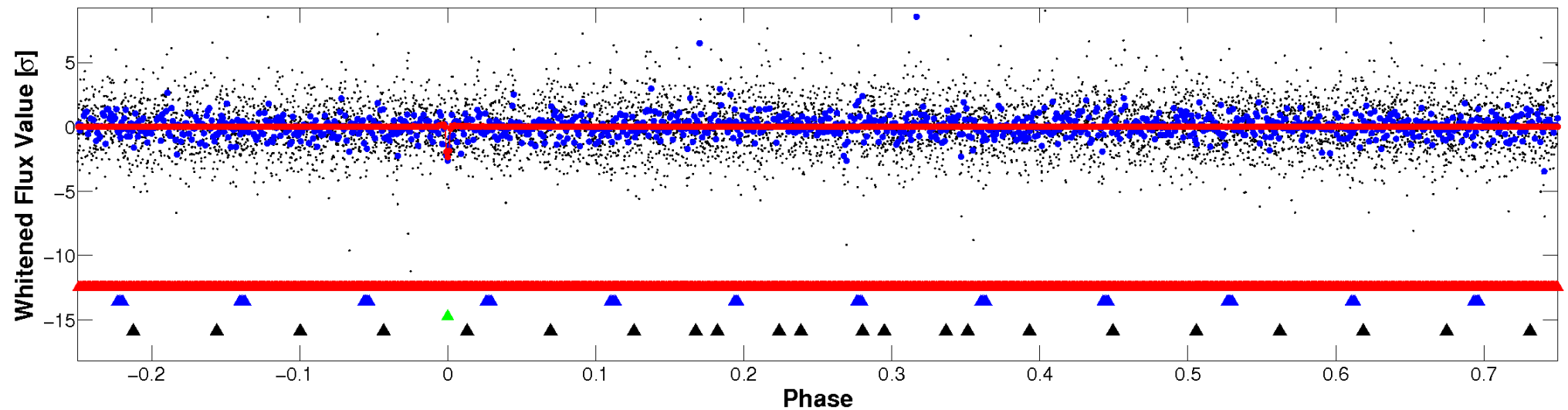


Non-Whitened Vs. Whitened Light Curve

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

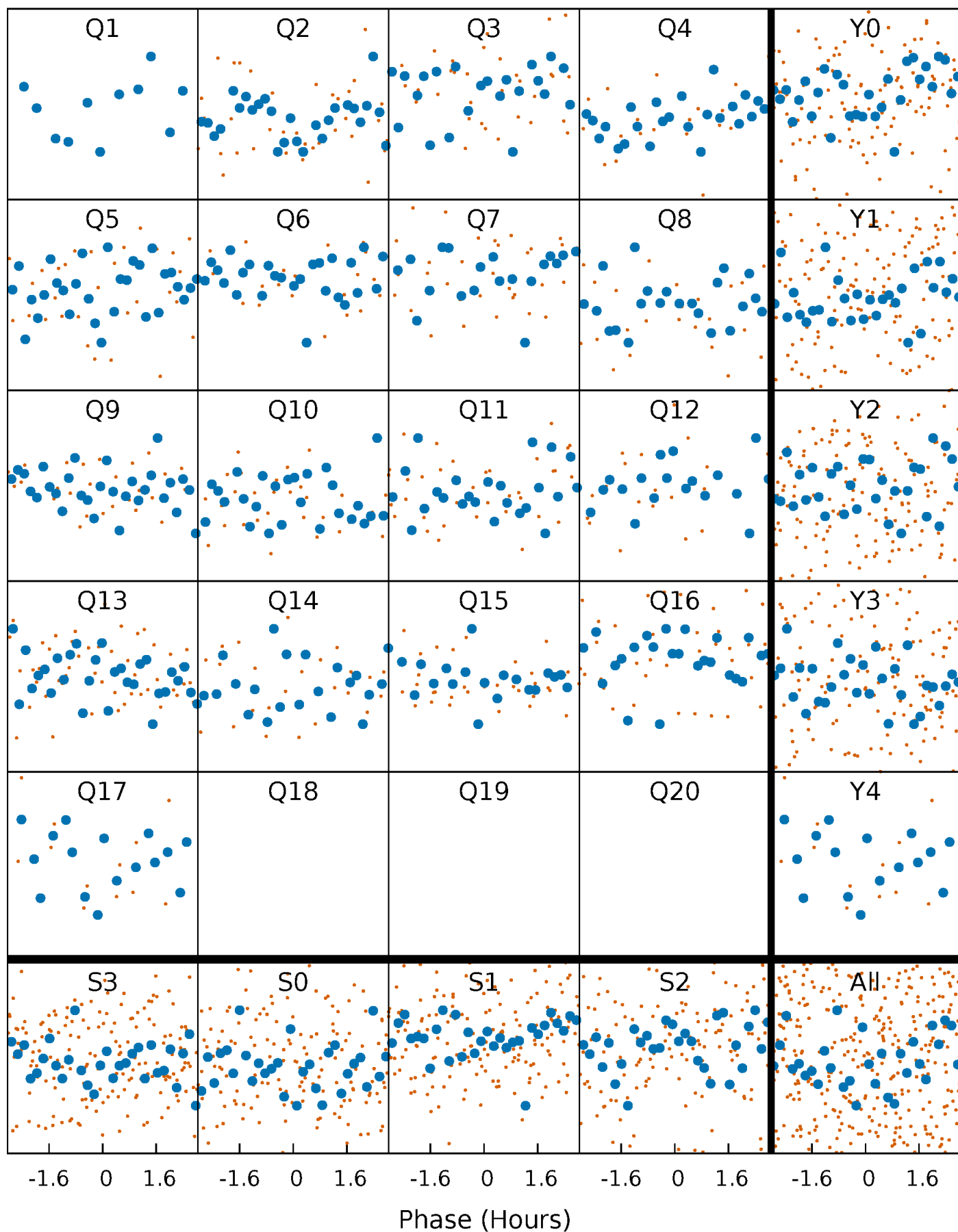


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



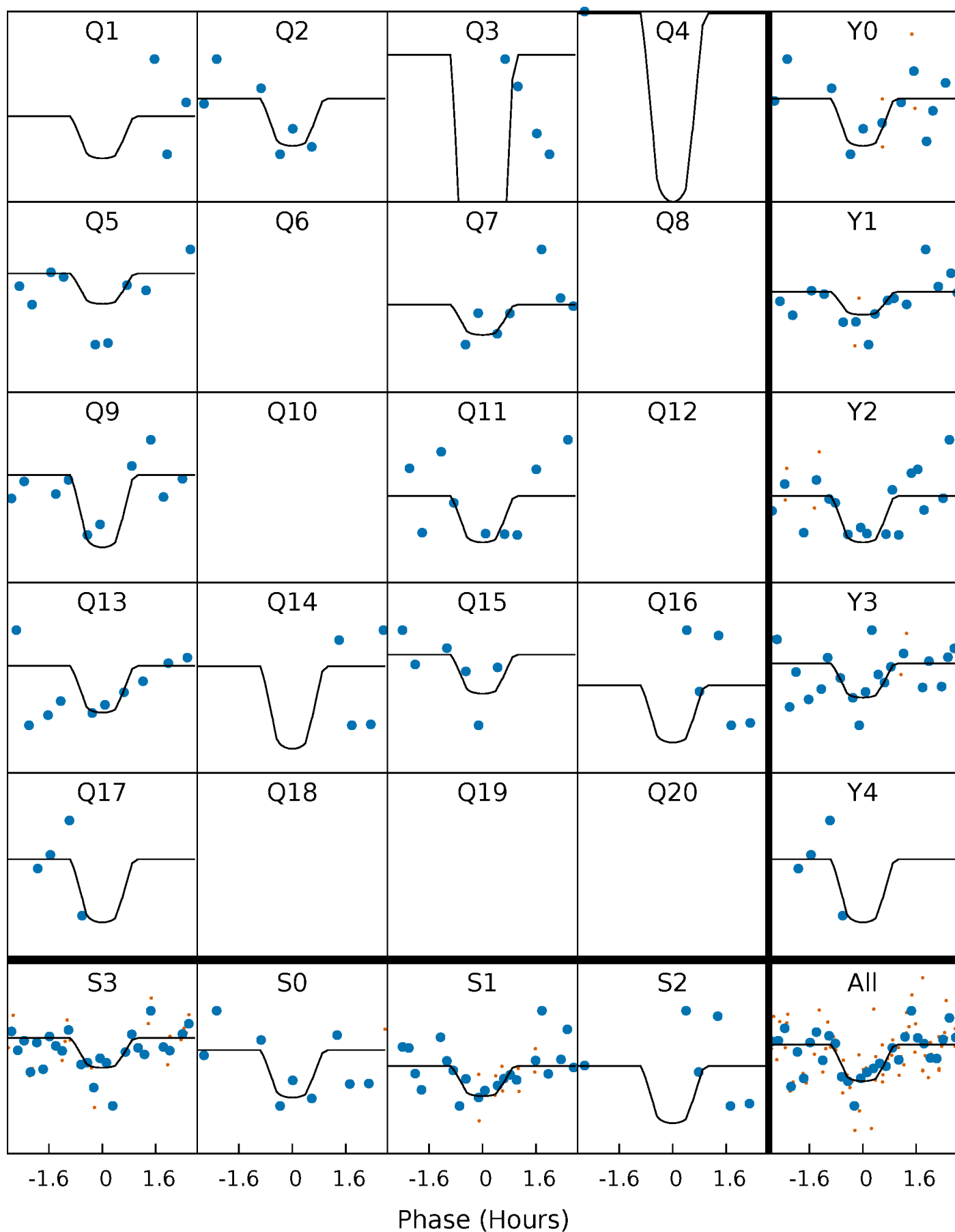
PDC Quarter-Phased Transit Curves

TCE 005905878-03 P= 22.453278 Days $T_0=150.086866$ (BKJD)



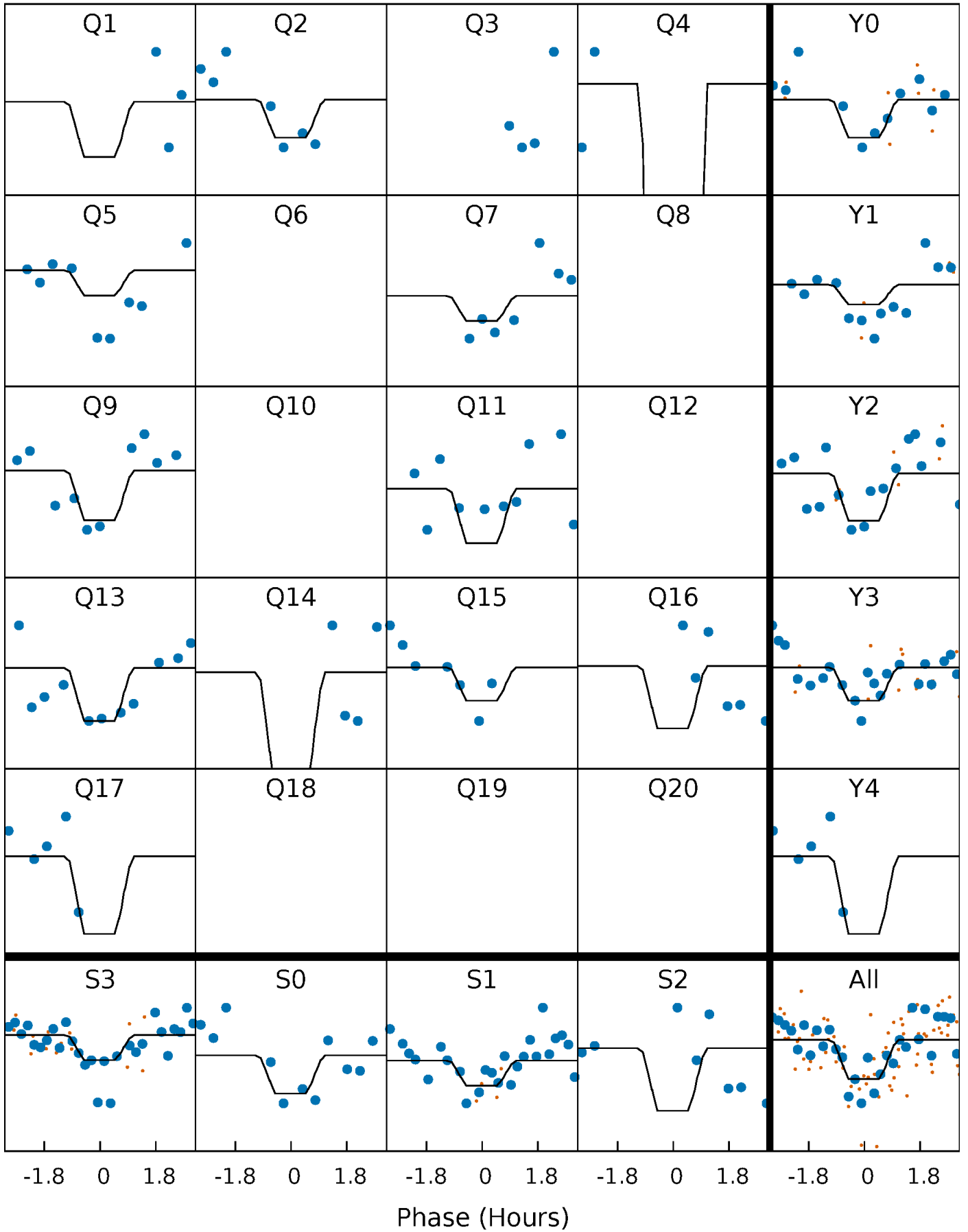
DV Quarter-Phased Transit Curves

TCE 005905878-03 P= 22.453278 Days $T_0=150.086866$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

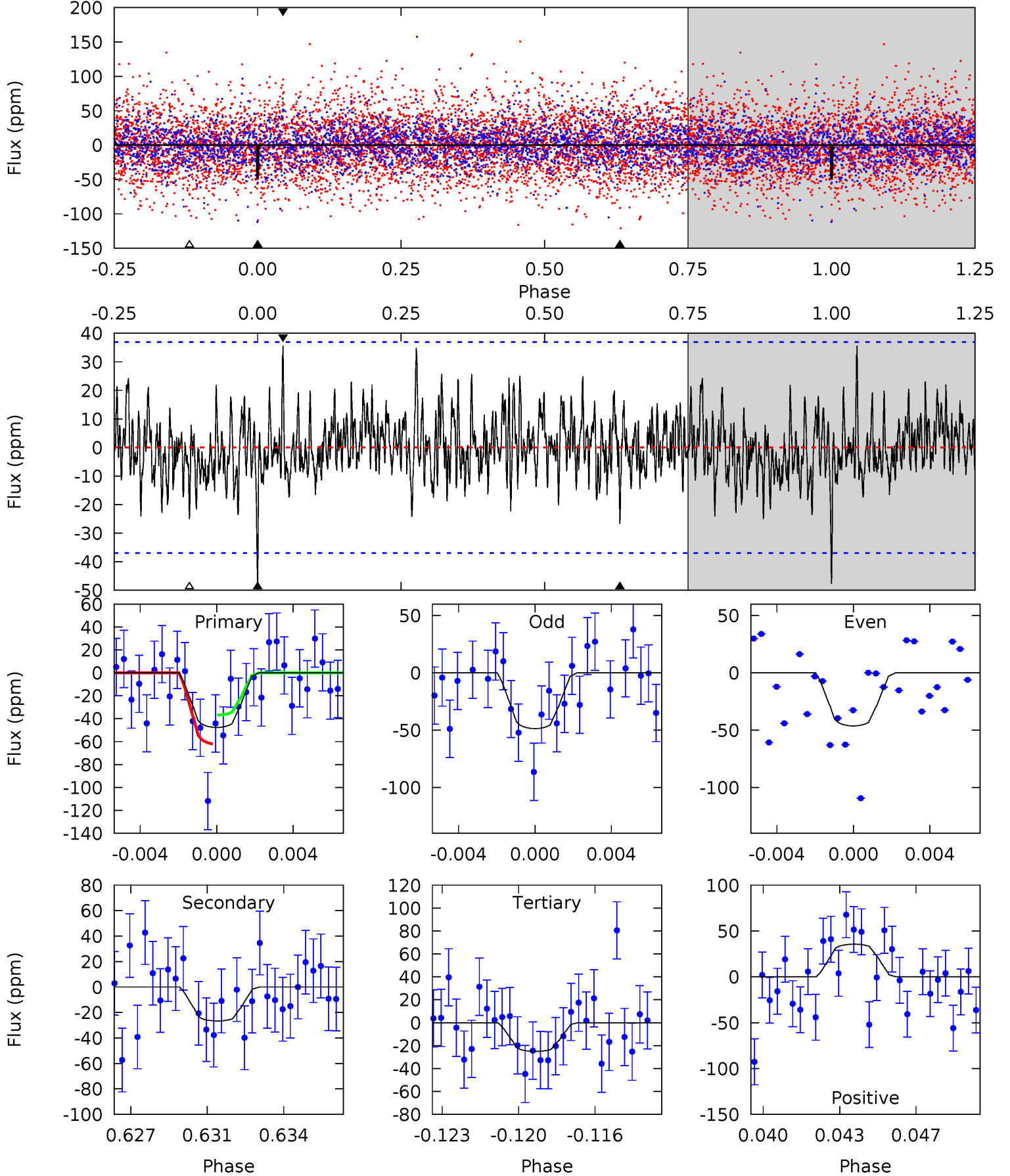
TCE 005905878-03 P= 22.453518 Days $T_0=150.077175$ (BKJD)



DV Model-Shift Uniqueness Test

005905878-03, $P = 22.453278$ Days, $E = 127.633588$ Days

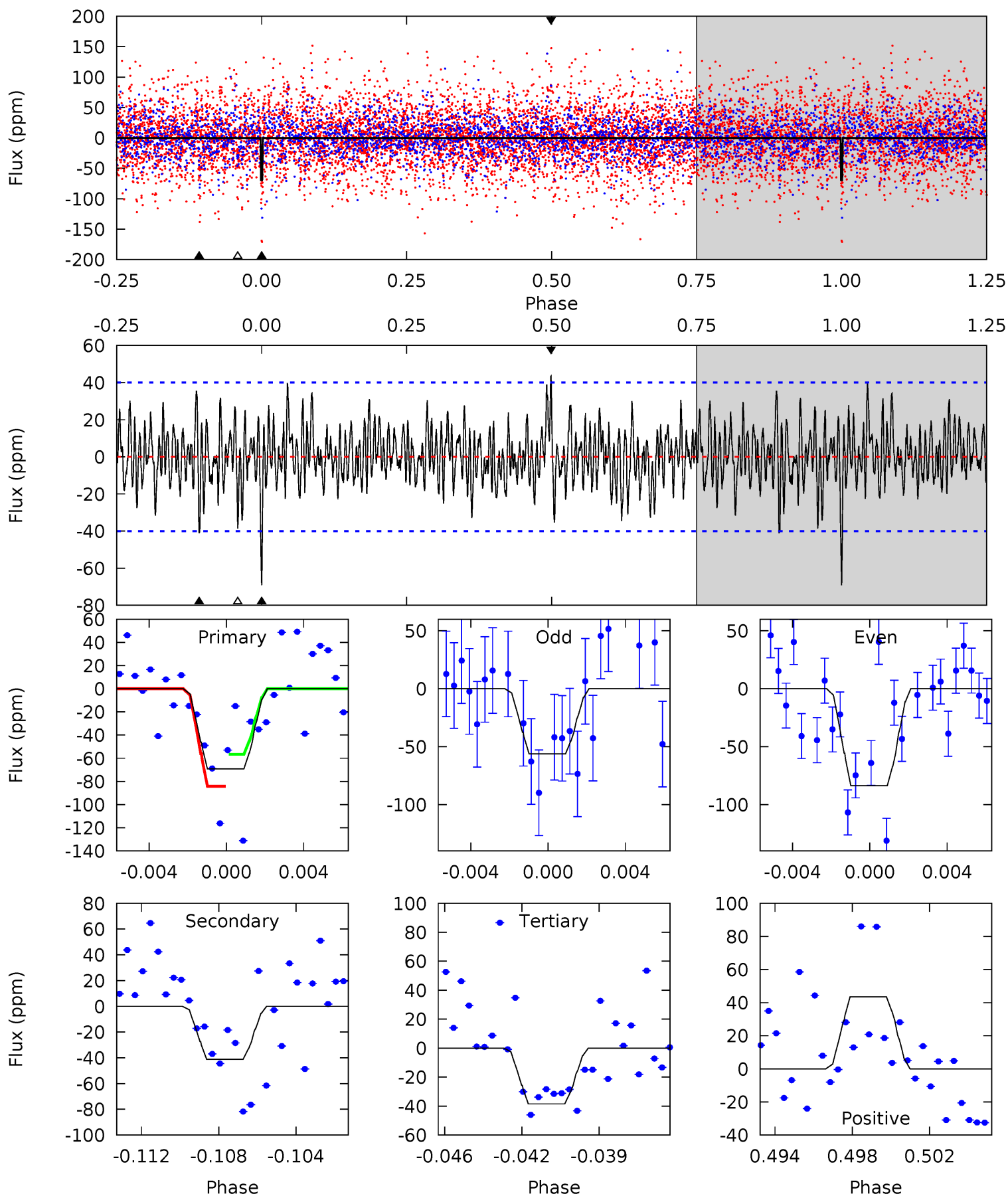
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.74	3.77	3.54	5.04	5.22	2.91	1.27	3.20	1.70	0.23	-1.27	0.17	0.92	0.43	1.74



Alt Model-Shift Uniqueness Test

005905878-03, P = 22.453518 Days, E = 127.623657 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.00	5.36	5.00	5.65	5.21	2.89	1.69	4.00	3.35	0.36	-0.30	1.79	1.04	0.39	1.78



Stellar Parameters For KIC 005905878

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8554^{+235}_{-370}	$4.050^{+0.171}_{-0.140}$	$0.070^{+0.250}_{-0.550}$	$2.237^{+0.496}_{-0.606}$	$2.049^{+0.331}_{-0.497}$	$0.258^{+0.271}_{-0.097}$
	+3%/-4%	+4%/-3%	+357%/-786%	+22%/-27%	+16%/-24%	+105%/-38%
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 005905878-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-27 ± 7	$1.94^{+1.57}_{-1.23}$	1769^{+124}_{-133}	6547^{+6318}_{-1604}	146^{+950}_{-104}
Alt.	-41 ± 8	$2.09^{+1.41}_{-1.30}$	1766^{+110}_{-121}	7155^{+7075}_{-1701}	210^{+1216}_{-140}

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

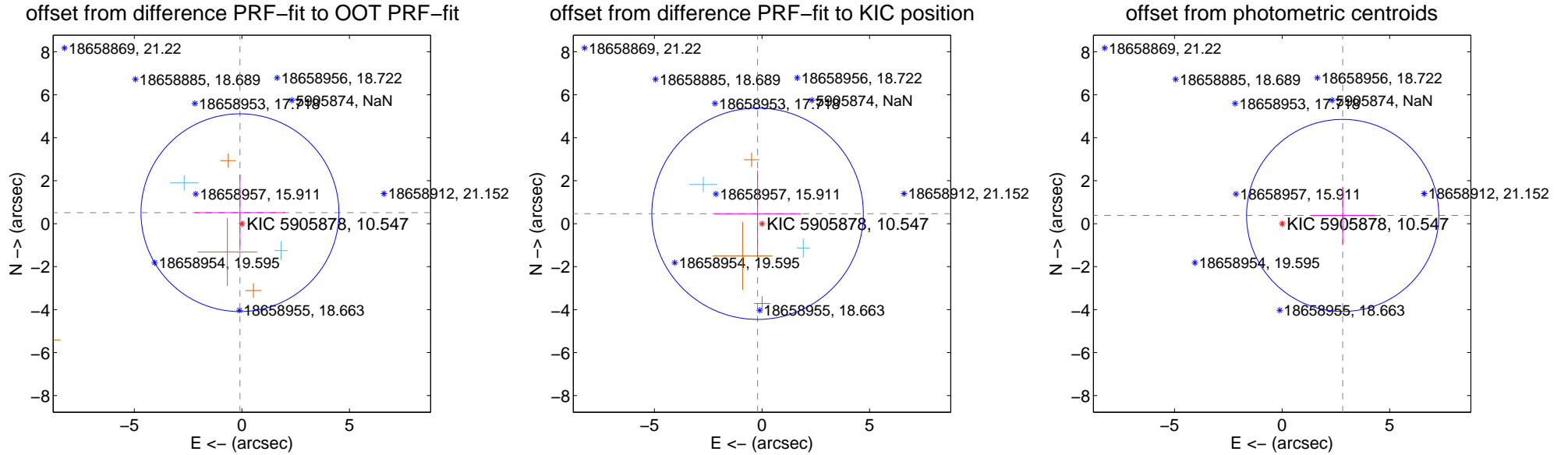
DV Centroid Data

Supplemental centroid analysis for 005905878-03. **Kepler magnitude: 10.55.** Transit SNR 9.22

There are 2 quarters with good PRF difference image offsets

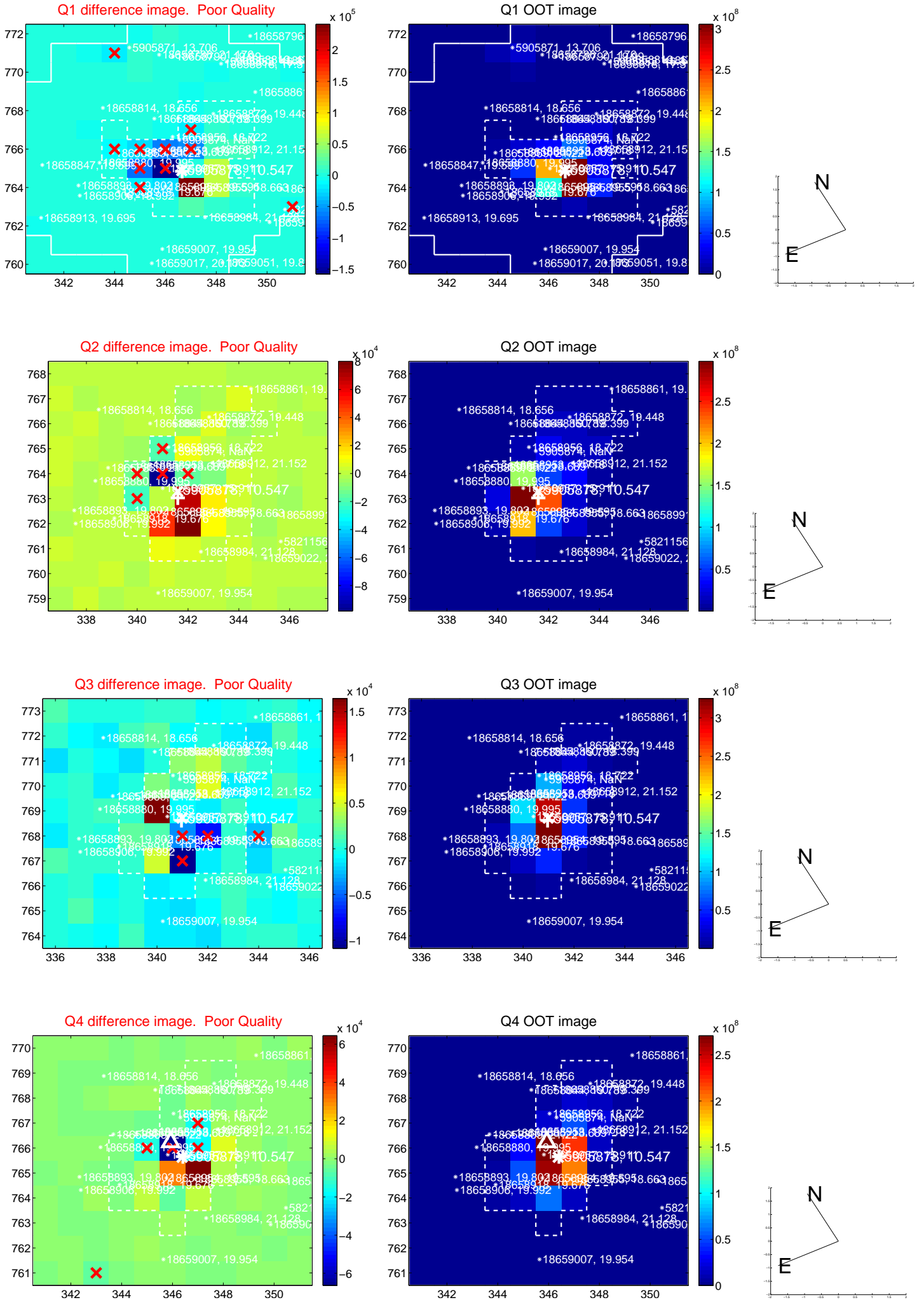
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.519 ± 1.534	0.34	0.090 ± 2.098	0.511 ± 1.773
PRF-fit source offset from KIC position	0.507 ± 1.639	0.31	0.205 ± 2.008	0.464 ± 2.019
photometric centroid source offset	2.84 ± 1.49	1.91	-2.82 ± 1.49	0.38 ± 1.34

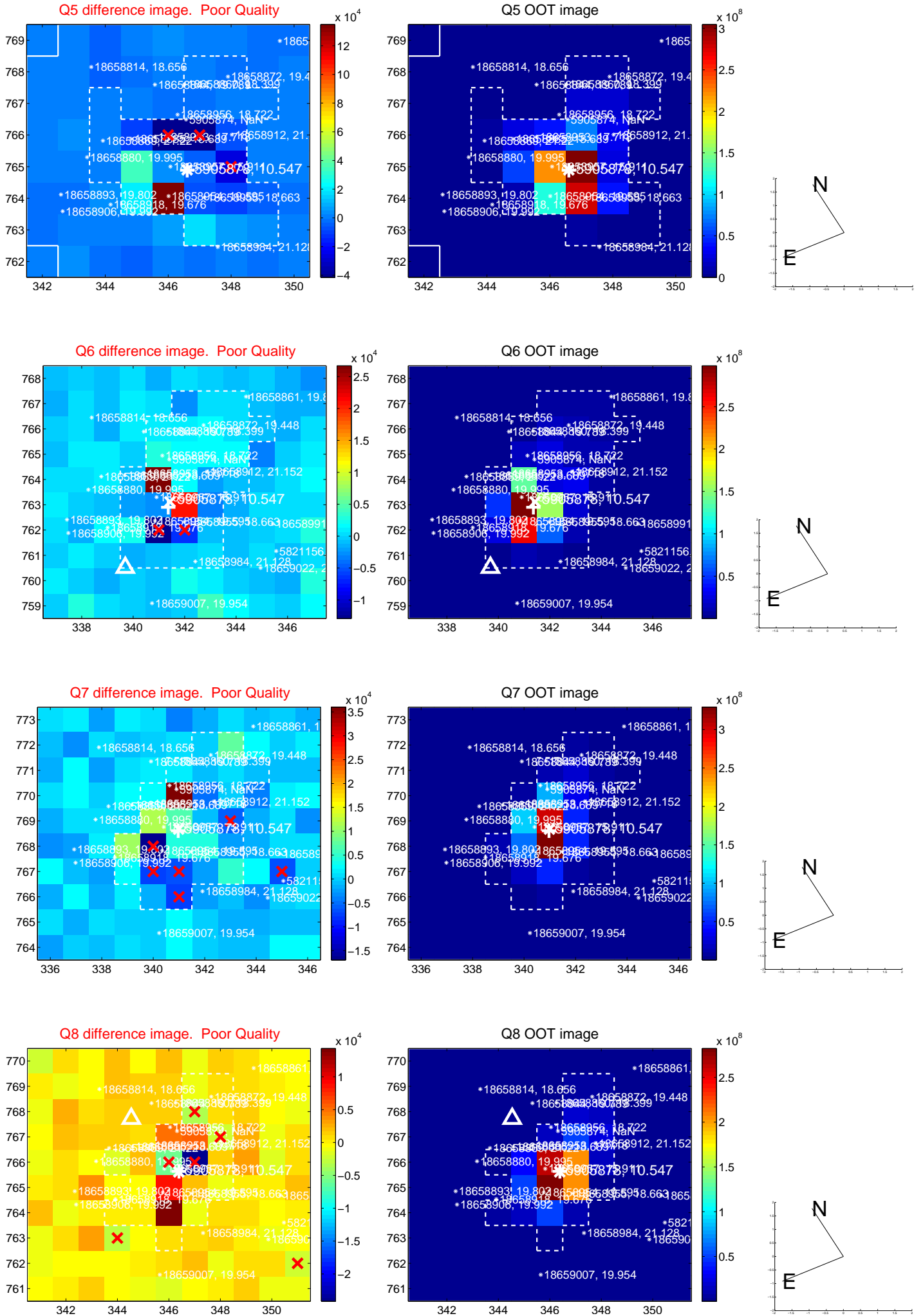


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

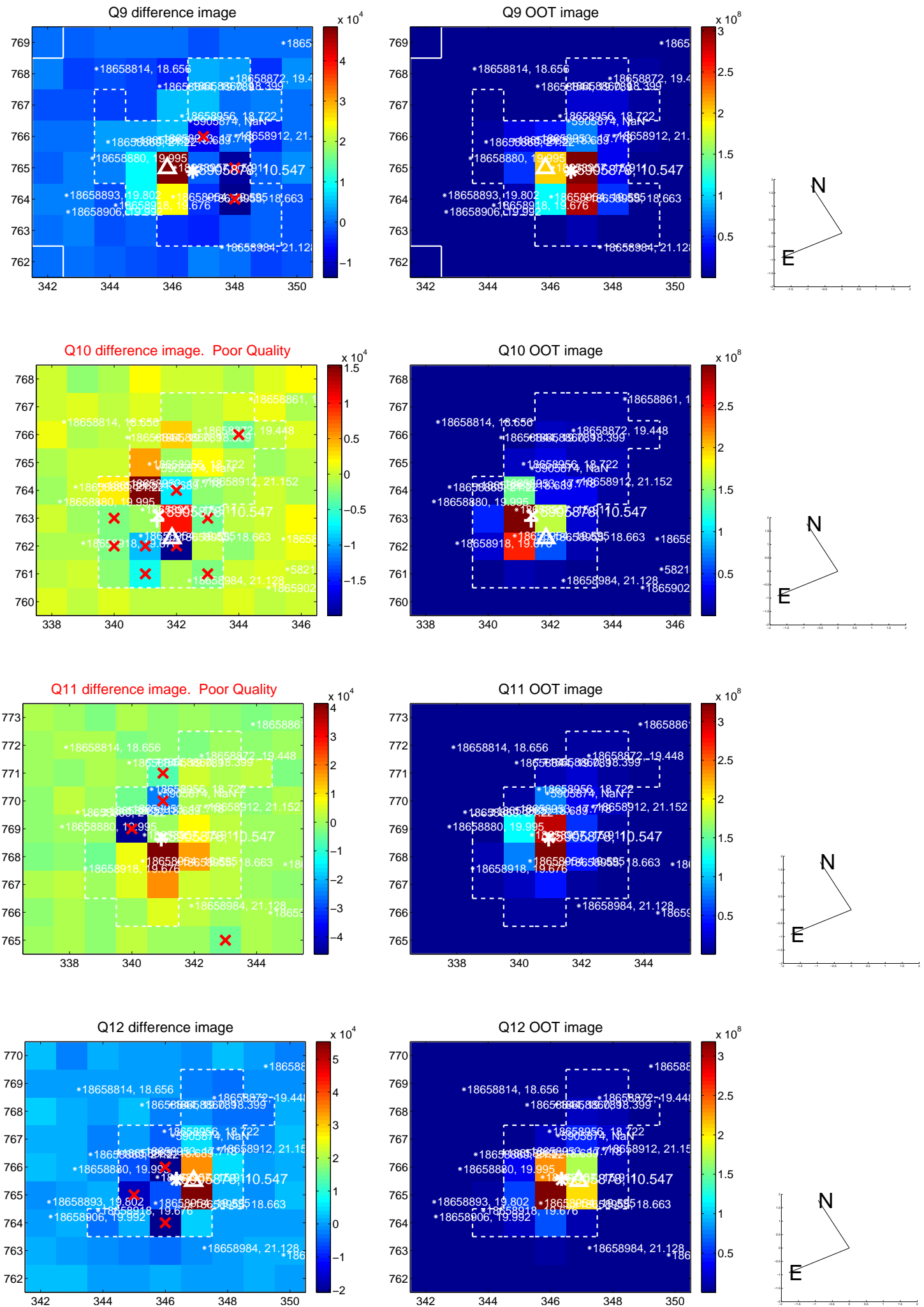
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



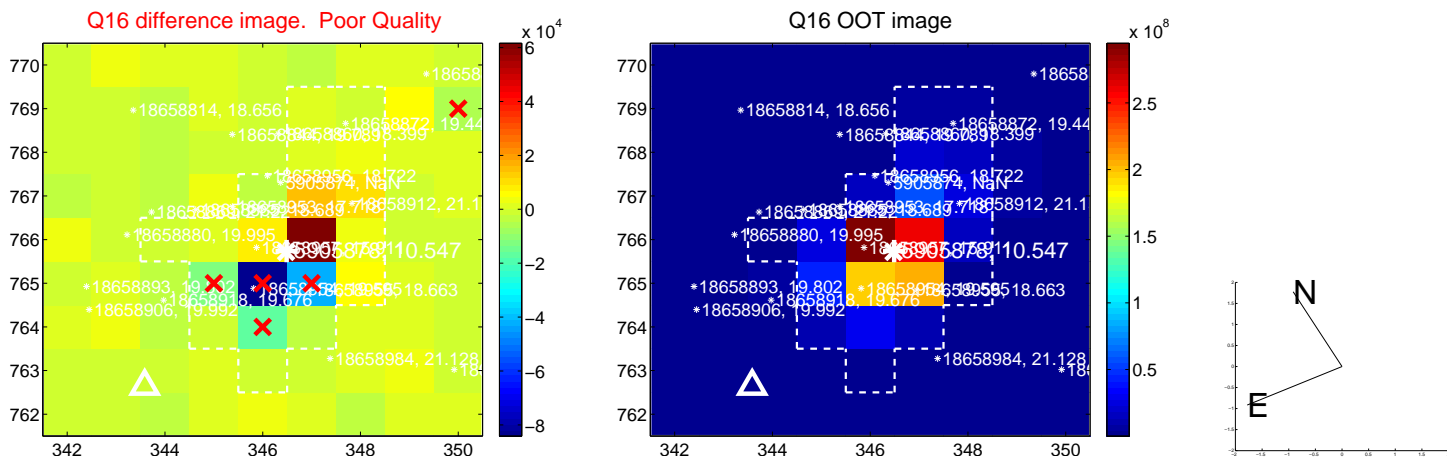
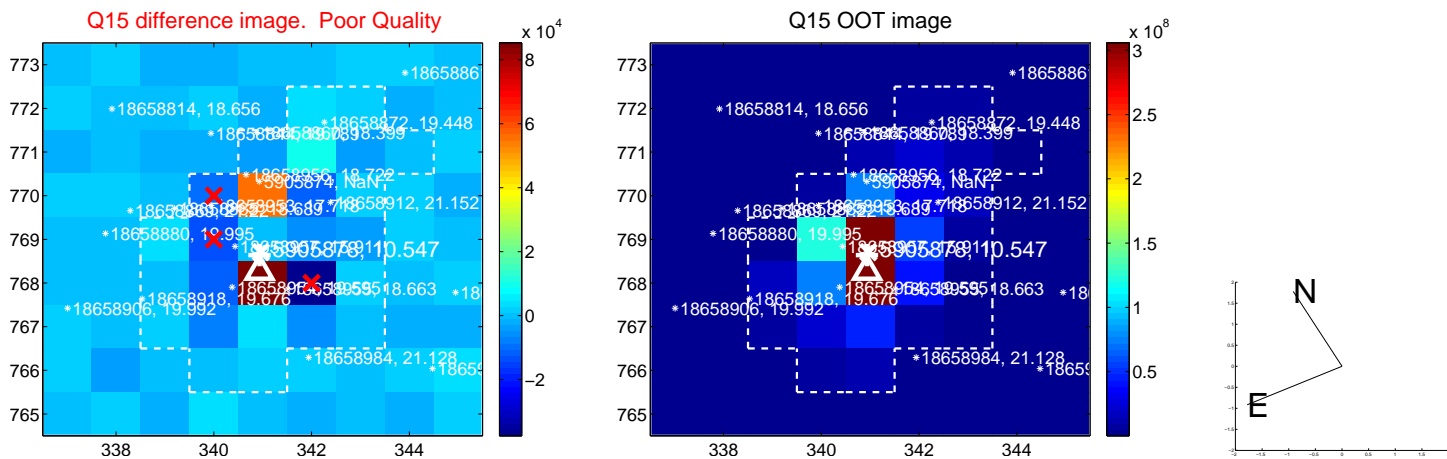
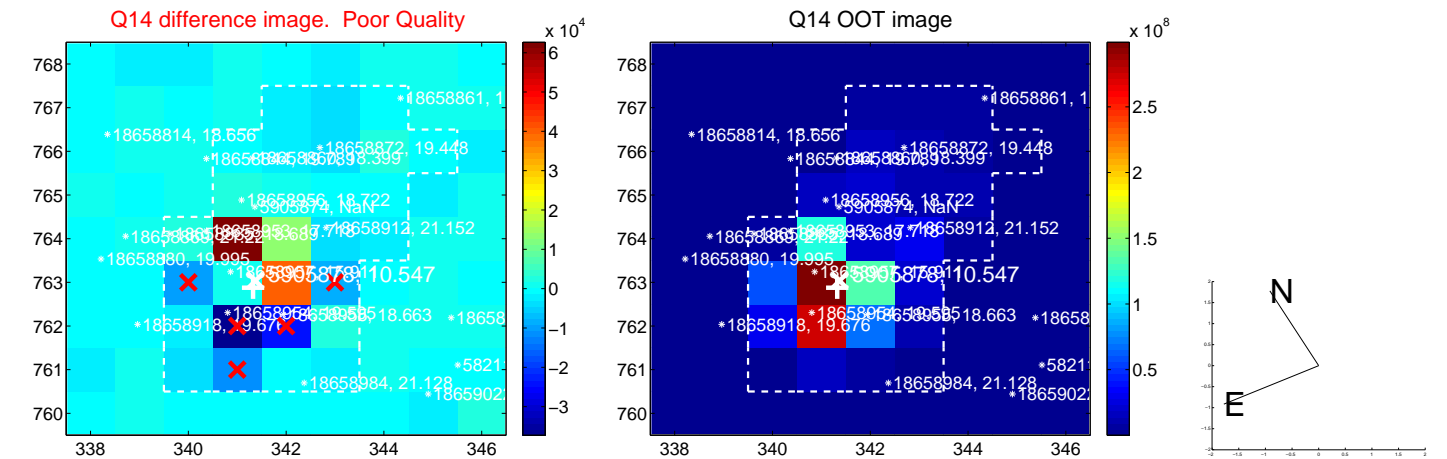
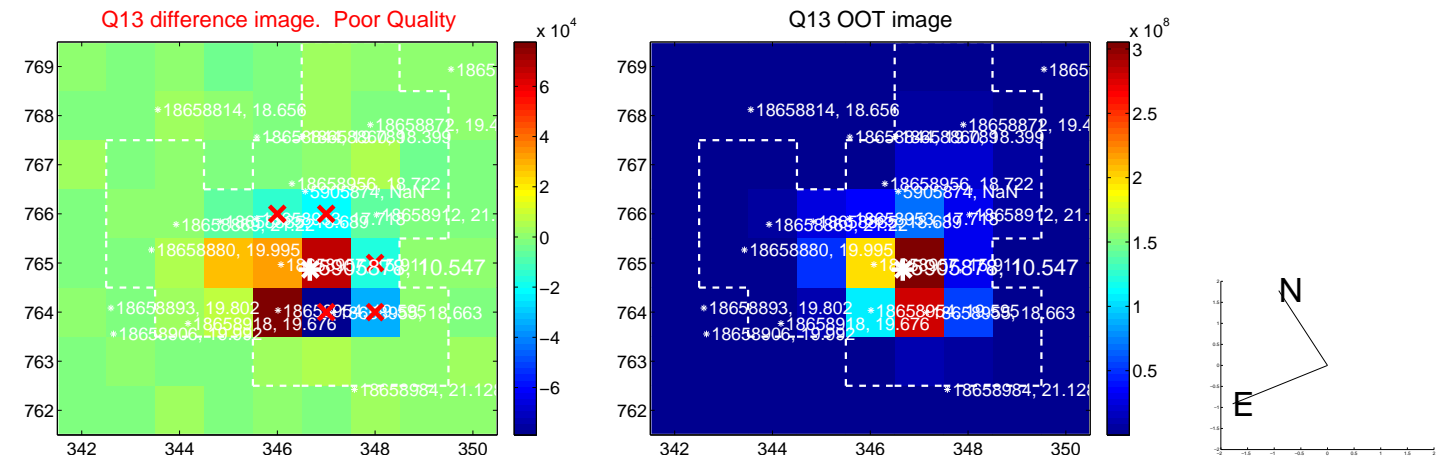
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



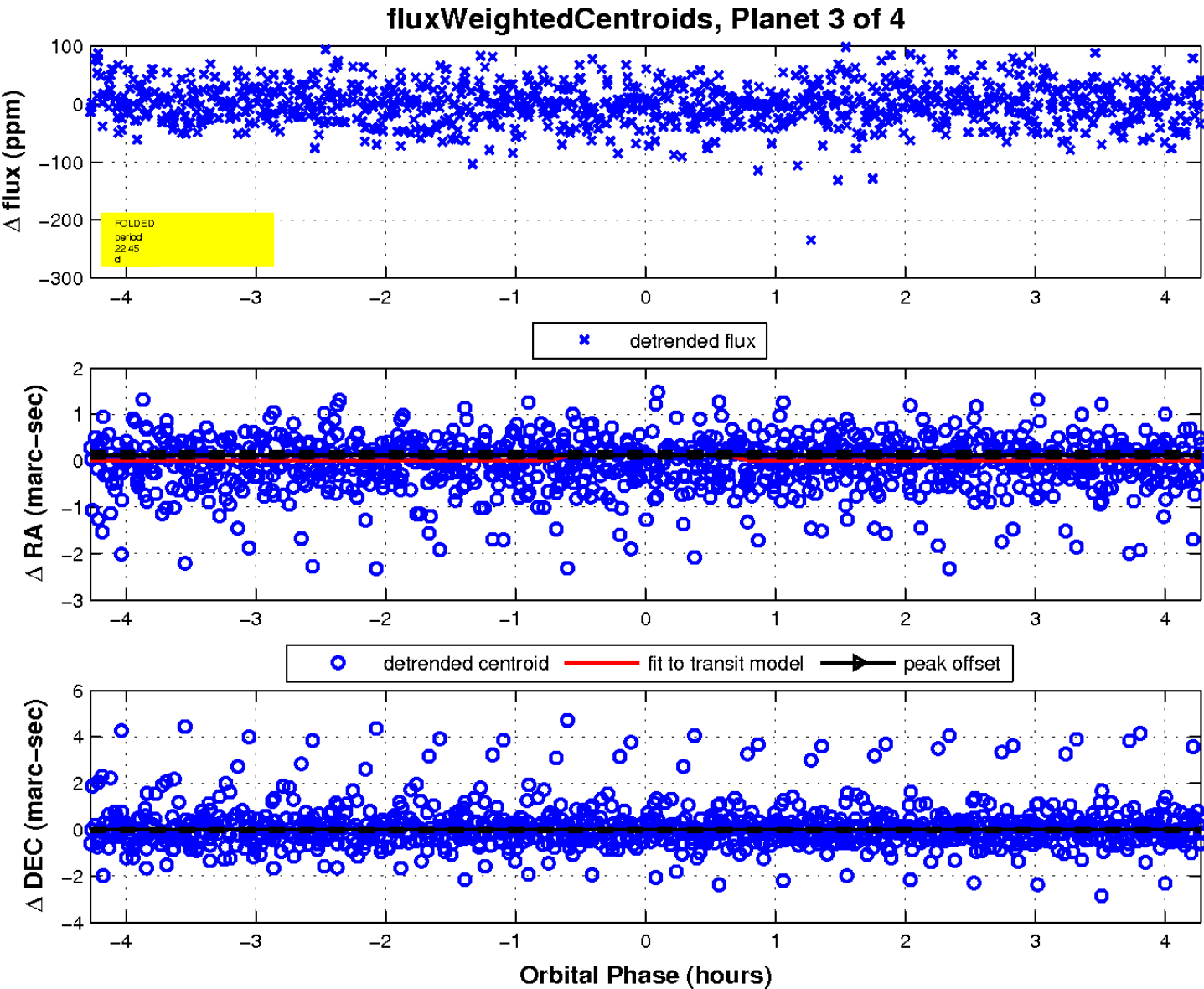
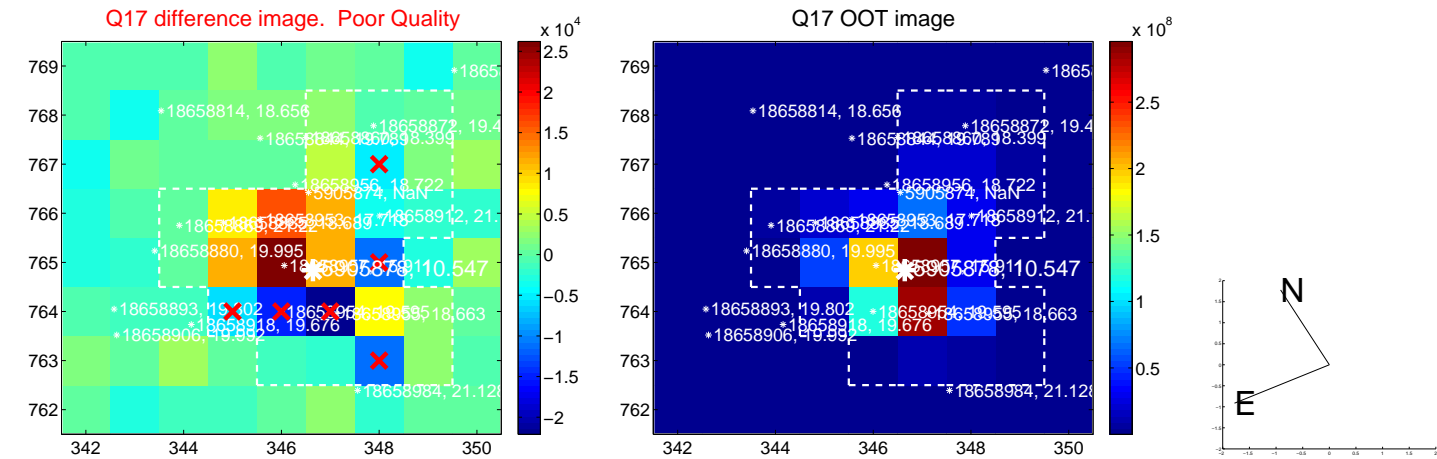
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

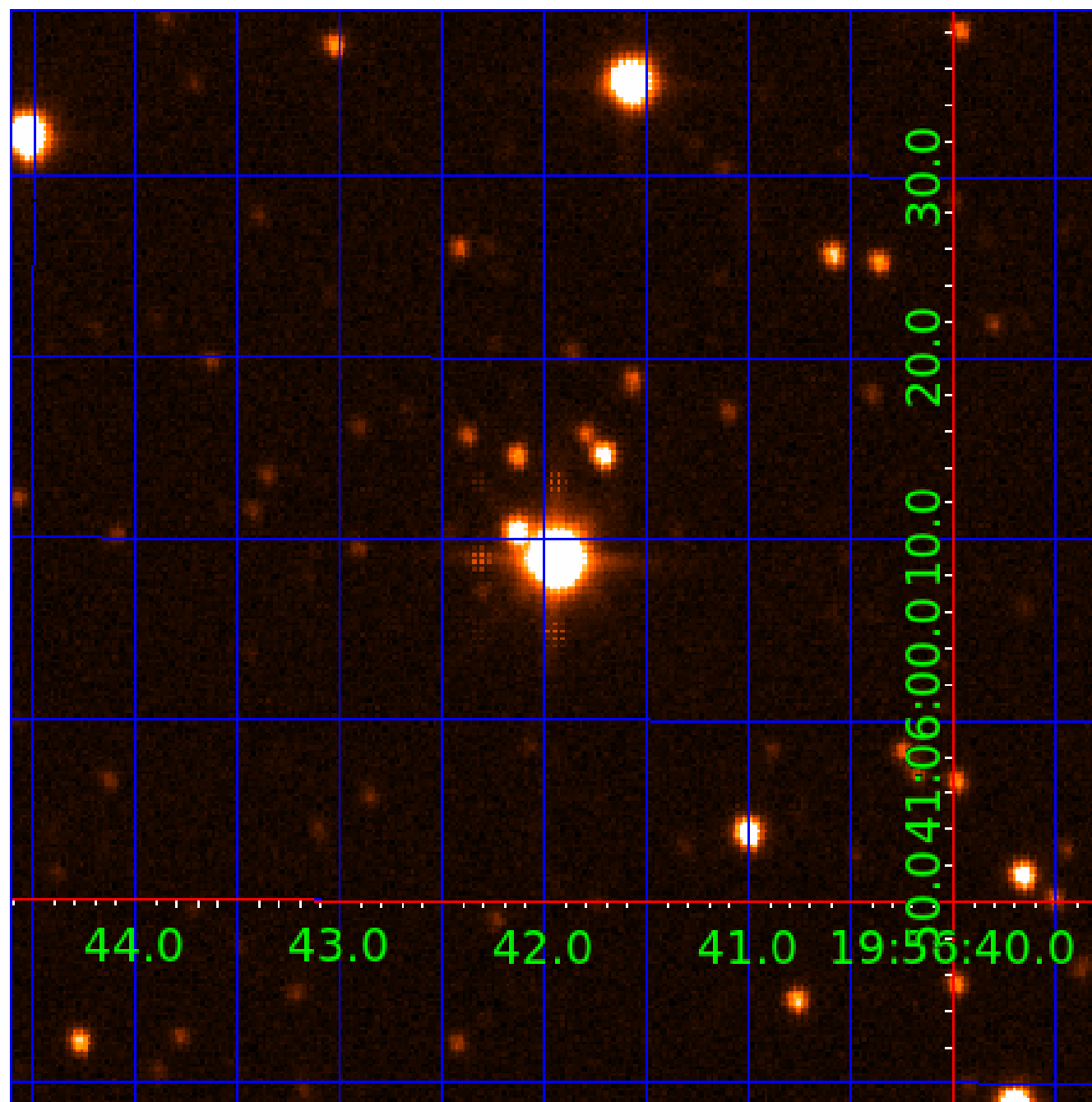


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005905878

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})
005905878-01	OBS	No	0.798204	132.217849	2.9	5.554	9.5	7.4	2.24	8554	0.50	52464.27
005905878-02	OBS	No	31.811079	150.668863	86.3	1.954	12.1	12.1	2.24	8554	2.21	385.40
005905878-03	OBS	No	22.453278	150.086866	47.8	1.427	9.5	9.2	2.24	8554	1.66	613.26
005905878-04	OBS	No	66.094076	157.976294	65.4	2.714	9.5	9.8	2.24	8554	2.12	145.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005905878-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
005905878-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
005905878-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

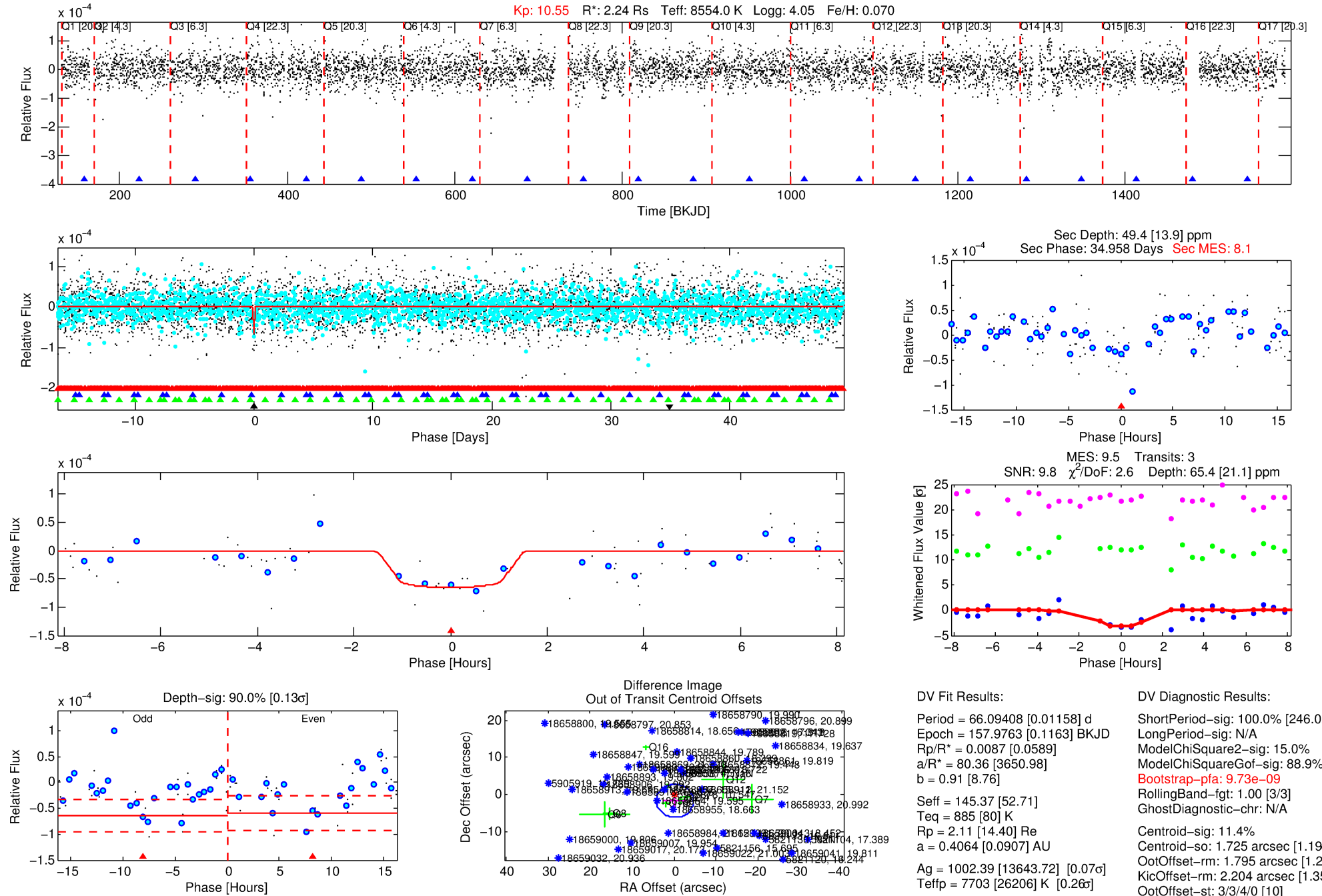
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005905878-04

No Significant Match Found

DV One-Page Summary

KIC: 5905878 Candidate: 4 of 4 Period: 66.094 d



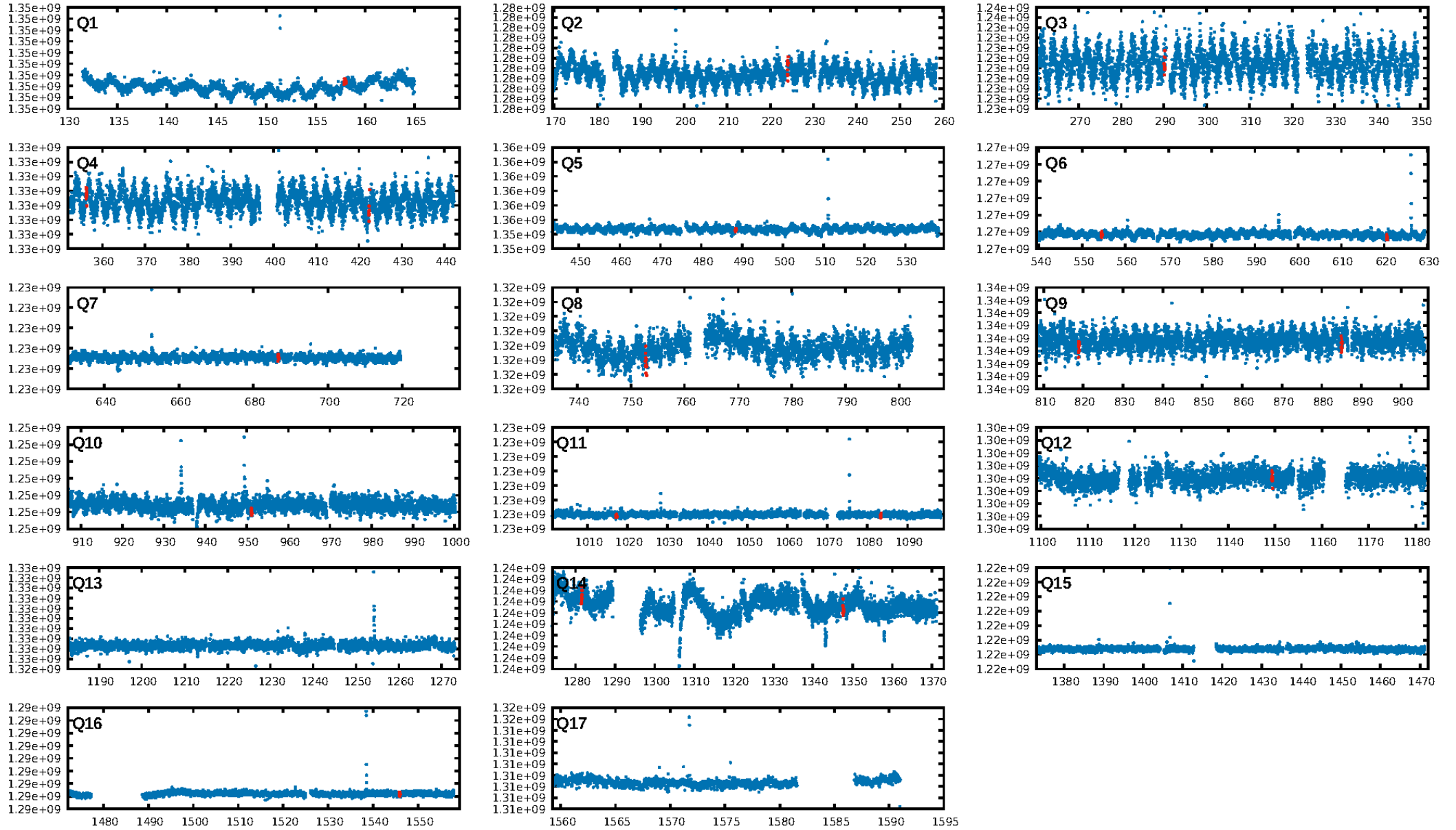
DV Fit Results:

Period = 66.09408 [0.01158] d
Epoch = 157.9763 [0.1163] BKJD
 $R_p/R^* = 0.0087$ [0.0589]
 $a/R^* = 80.36$ [3650.98]
 $b = 0.91$ [8.76]
 $\text{Seff} = 145.37$ [52.71]
 $T_{\text{eq}} = 885$ [80] K
 $R_p = 2.11$ [14.40] R_e
 $a = 0.4064$ [0.0907] AU
 $\text{Ag} = 1002.39$ [13643.72] [0.07σ]
 $T_{\text{eff}} = 7703$ [26206] K [0.26σ]

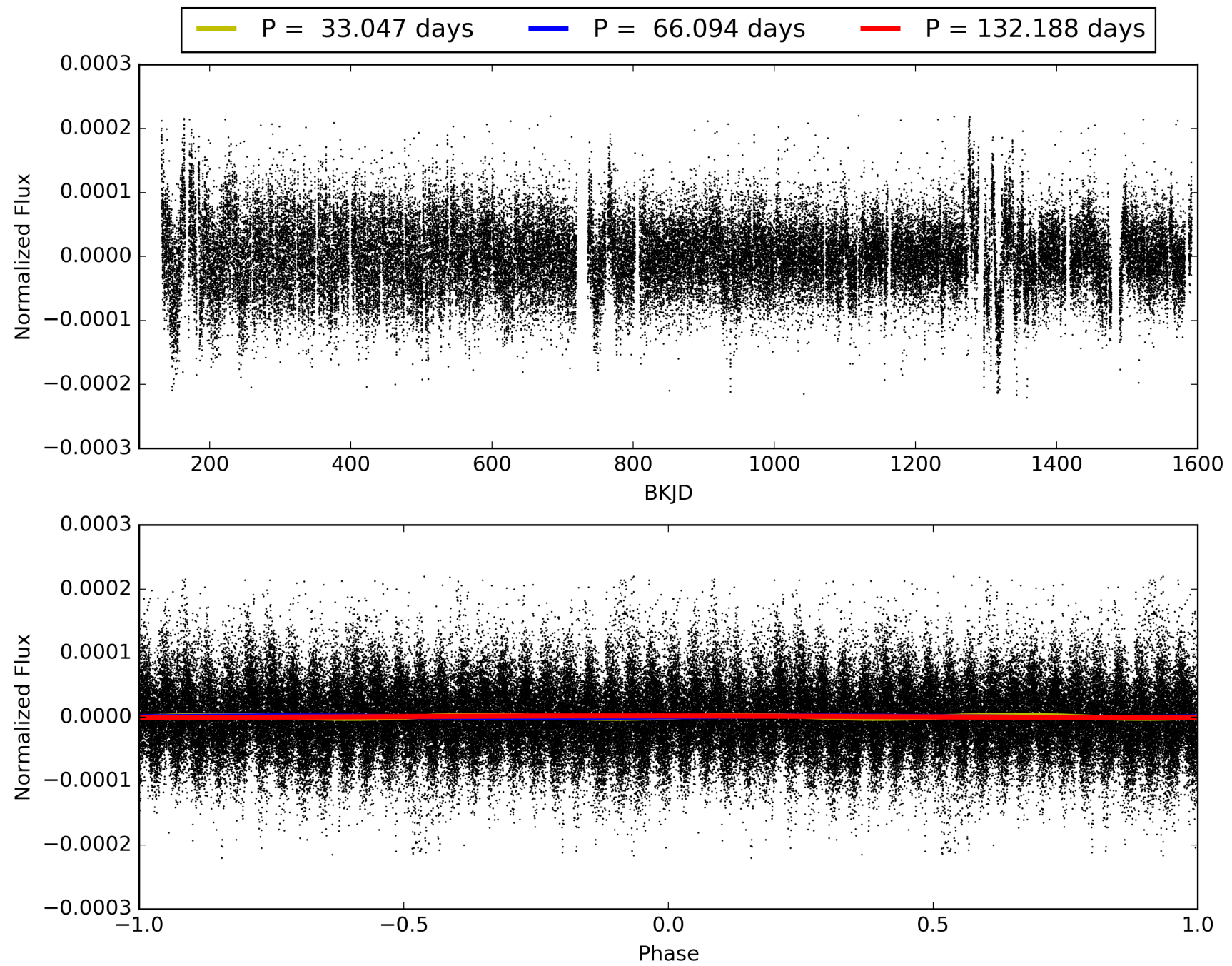
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [246.02σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.0%
ModelChiSquareGof-sig: 88.9%
Bootstrap-pfa: 9.73e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 11.4%
Centroid-so: 1.725 arcsec [1.19σ]
OotOffset-rm: 1.795 arcsec [1.21σ]
OotOffset-st: 3/3/4/0 [10]
KicOffset-rm: 2.204 arcsec [1.35σ]
KicOffset-st: 3/3/4/0 [10]
DiffImageQuality-fgm: 0.30 [3/10]
DiffImageOverlap-fno: 0.00 [0/13]

TCE 005905878-04, PDC Light Curves

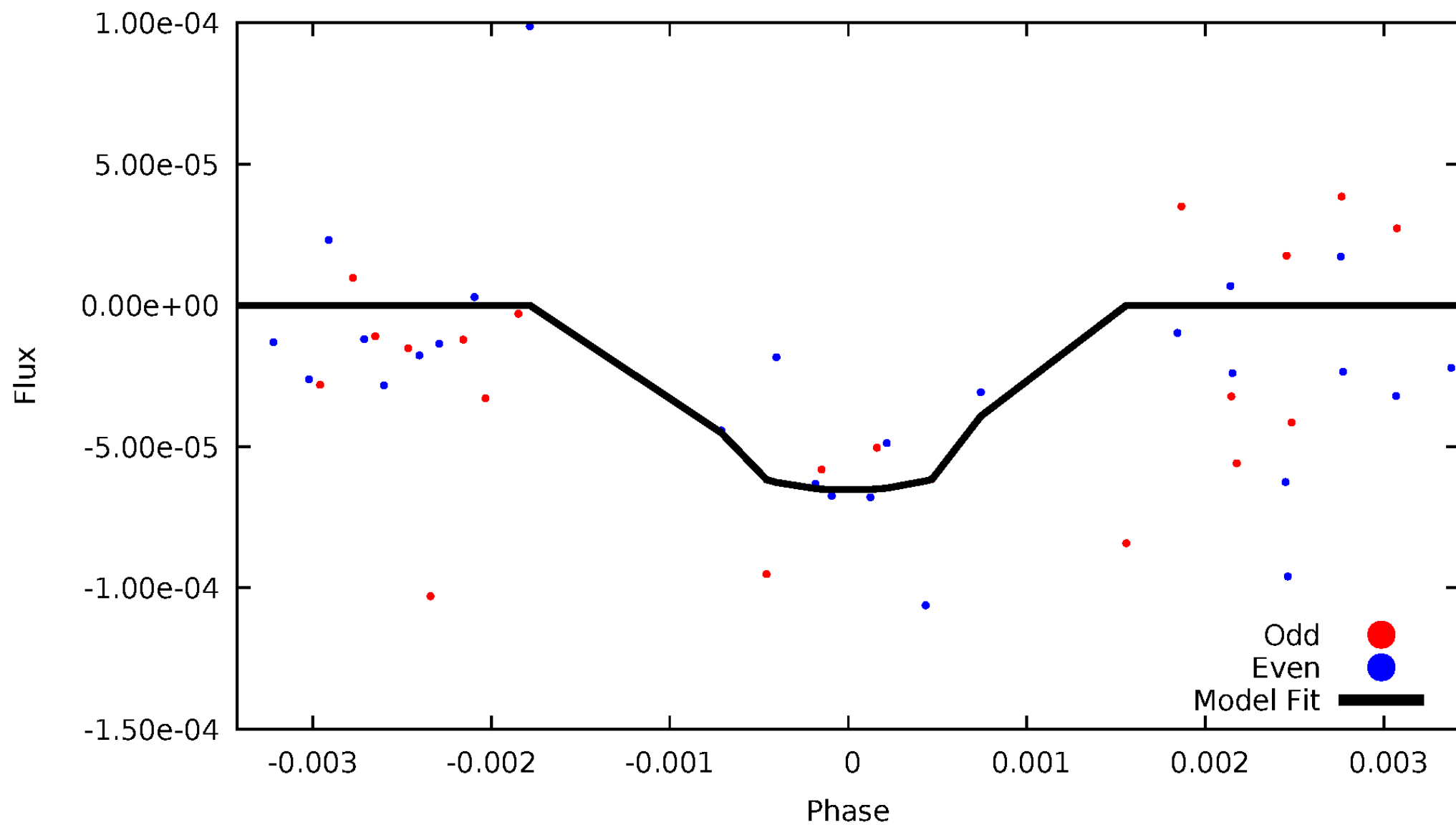


TCE 005905878-04



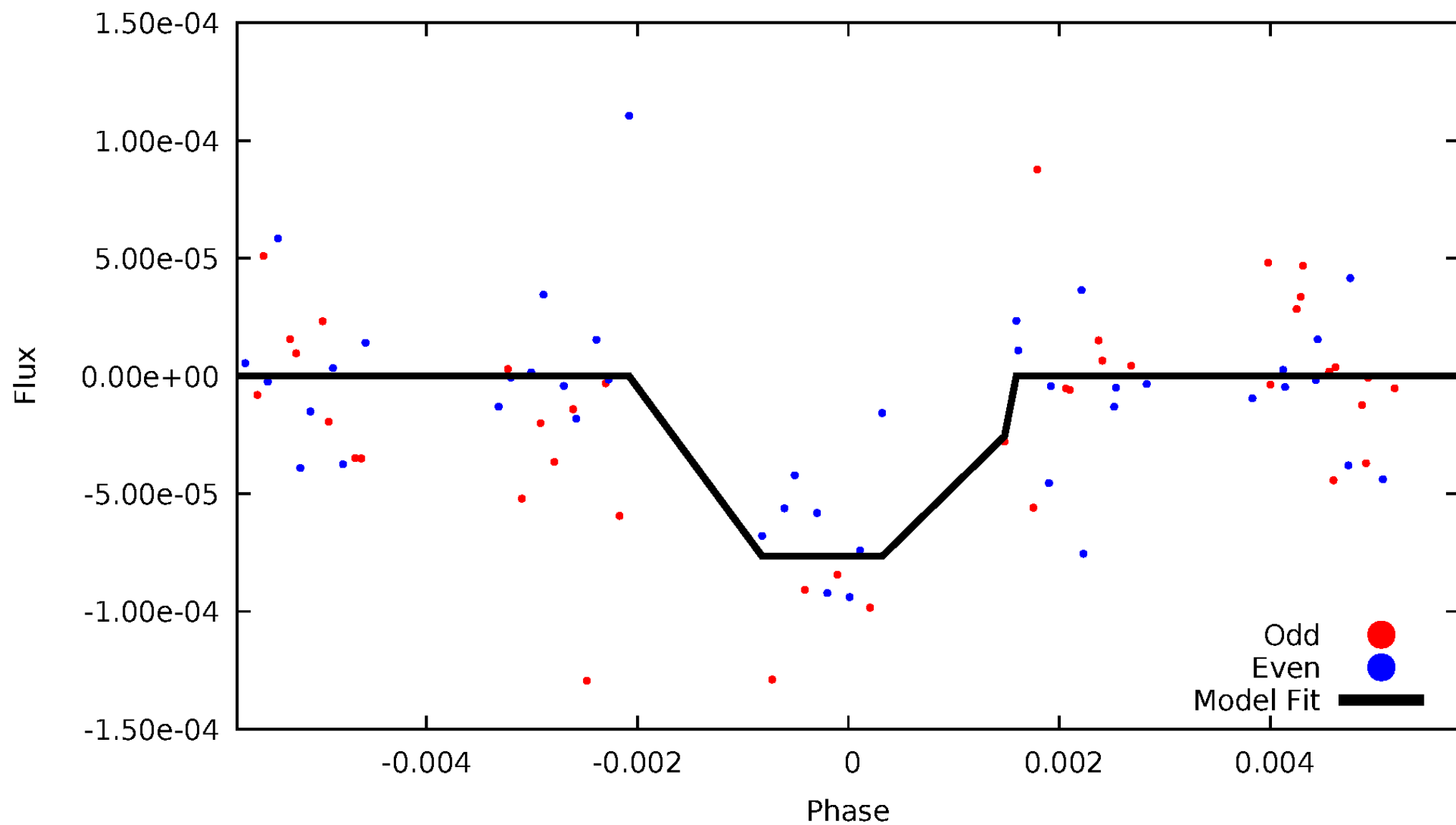
DV Odd/Even

TCE 005905878-04



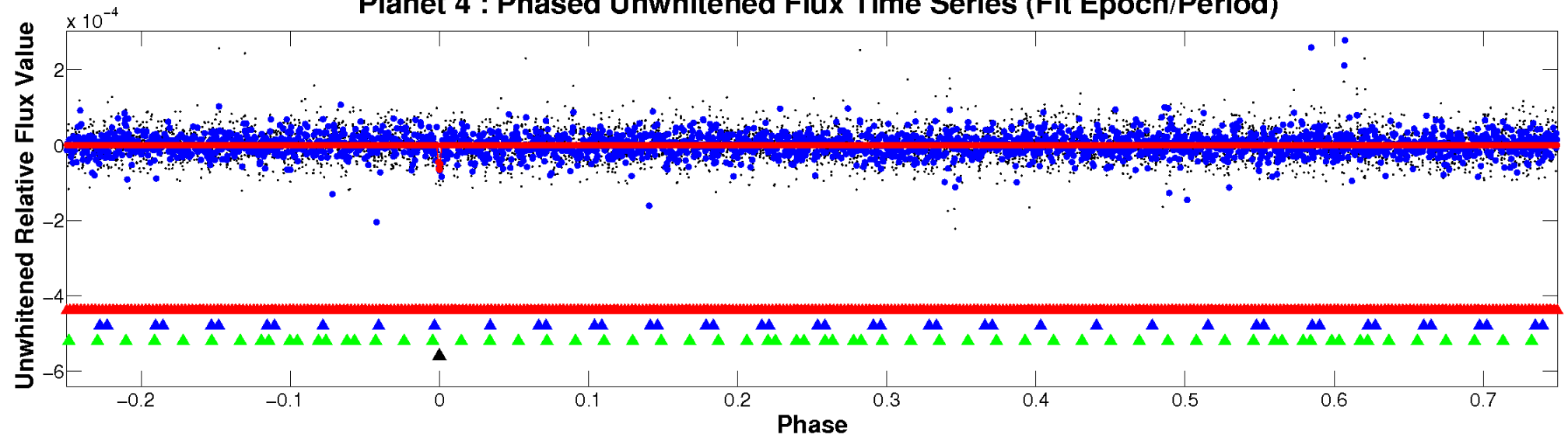
ALT Odd/Even

TCE 005905878-04

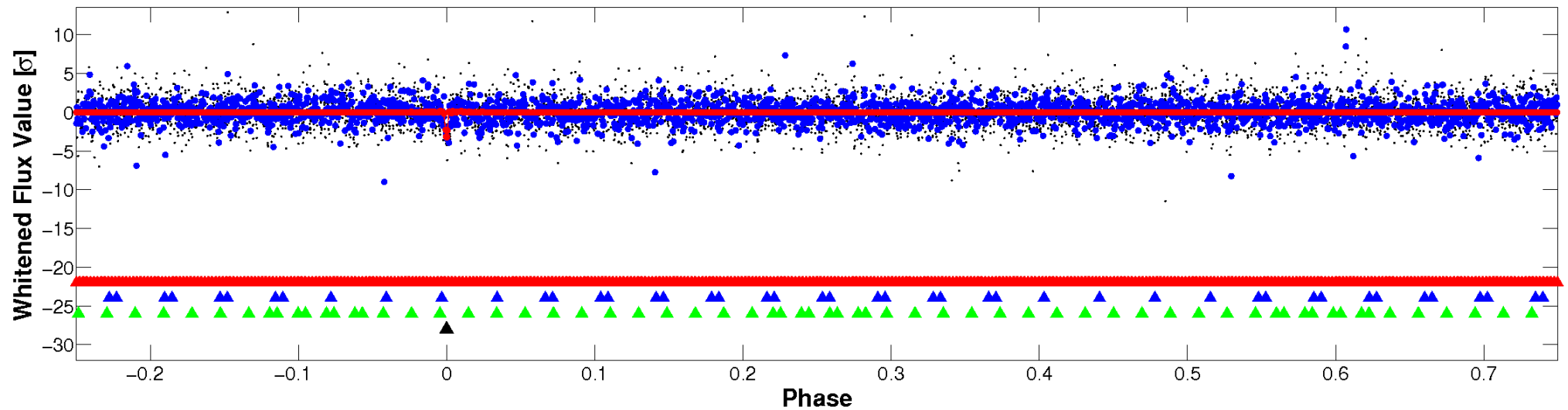


Non-Whitened Vs. Whitened Light Curve

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

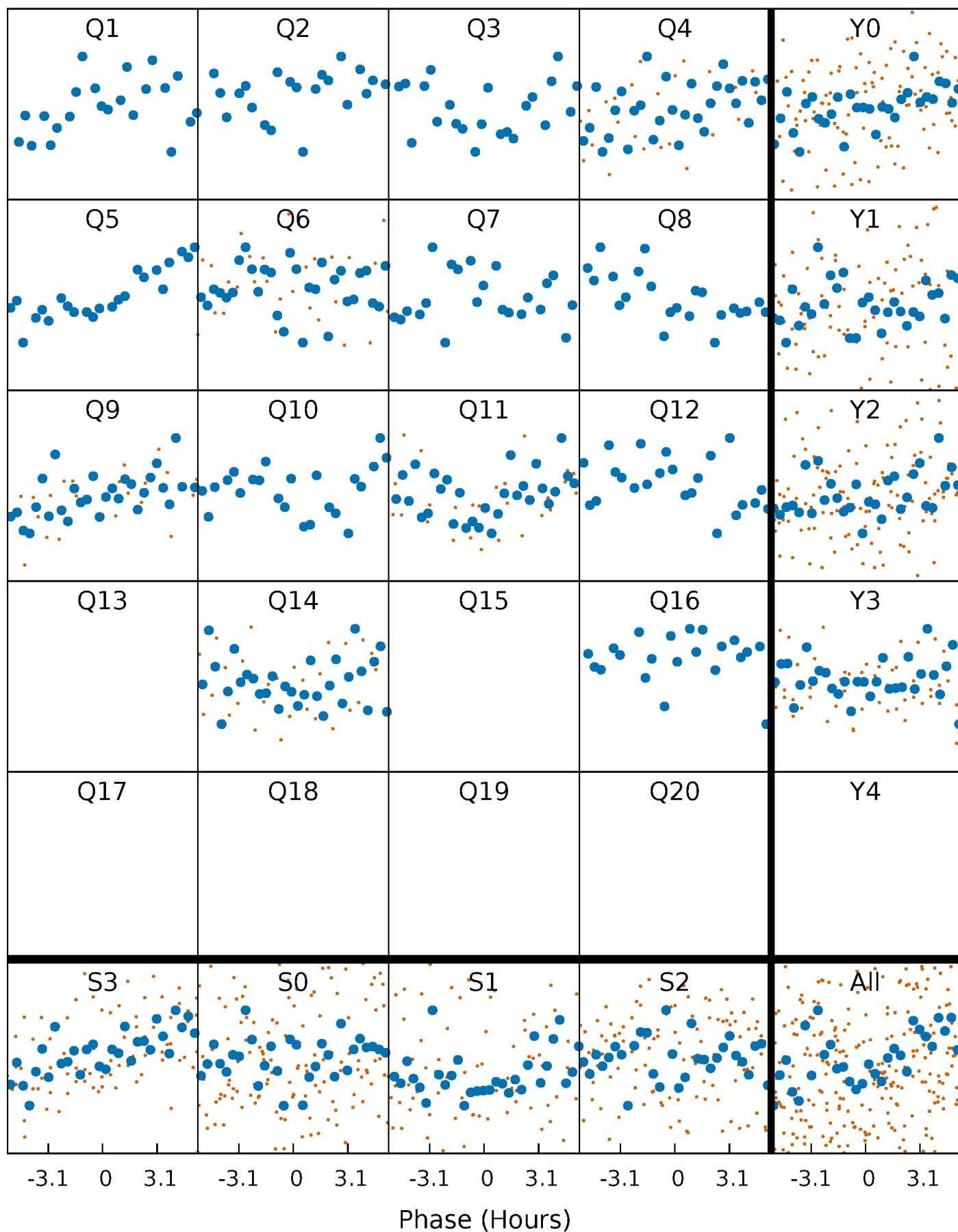


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



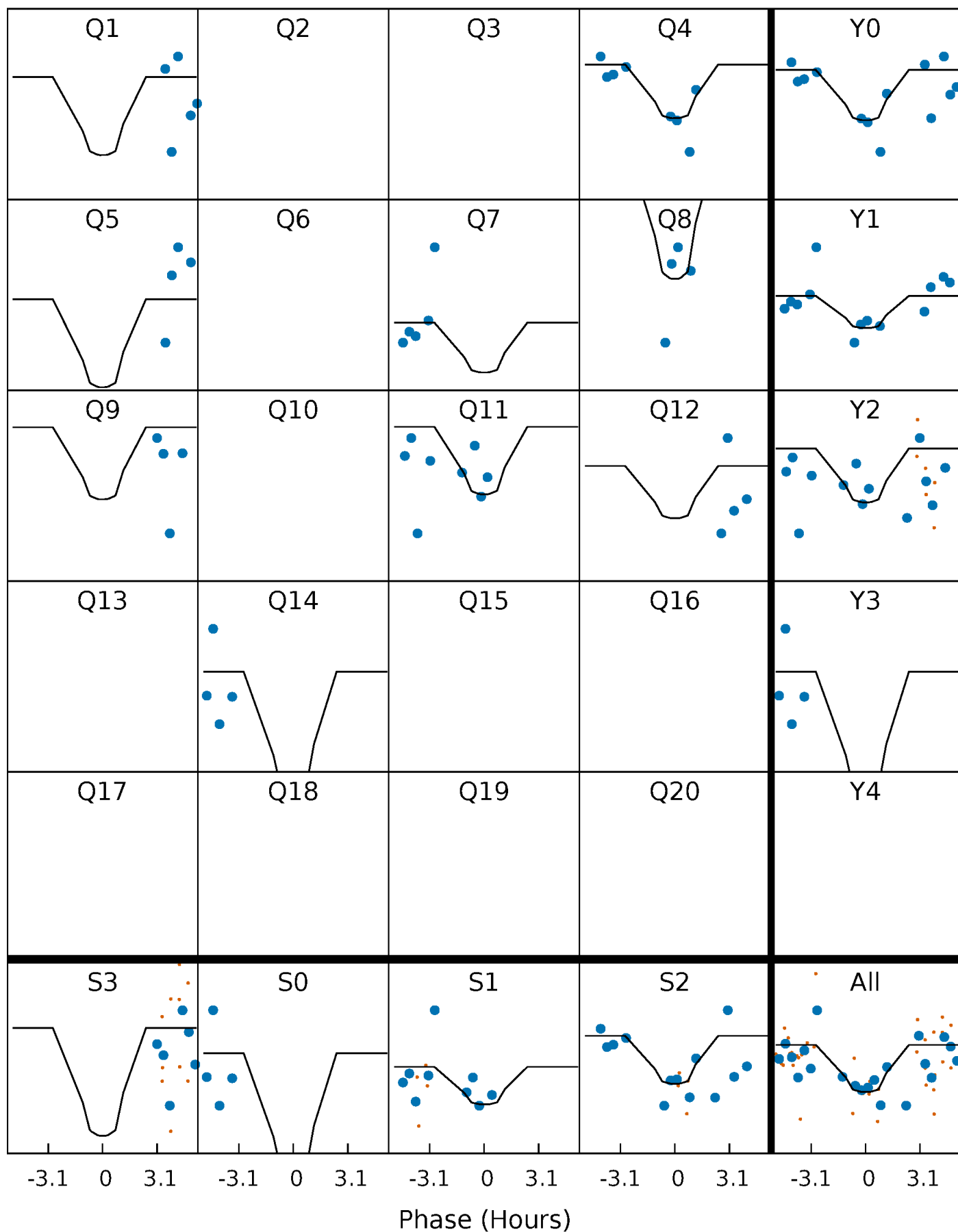
PDC Quarter-Phased Transit Curves

TCE 005905878-04 P= 66.094076 Days $T_0=157.976294$ (BKJD)



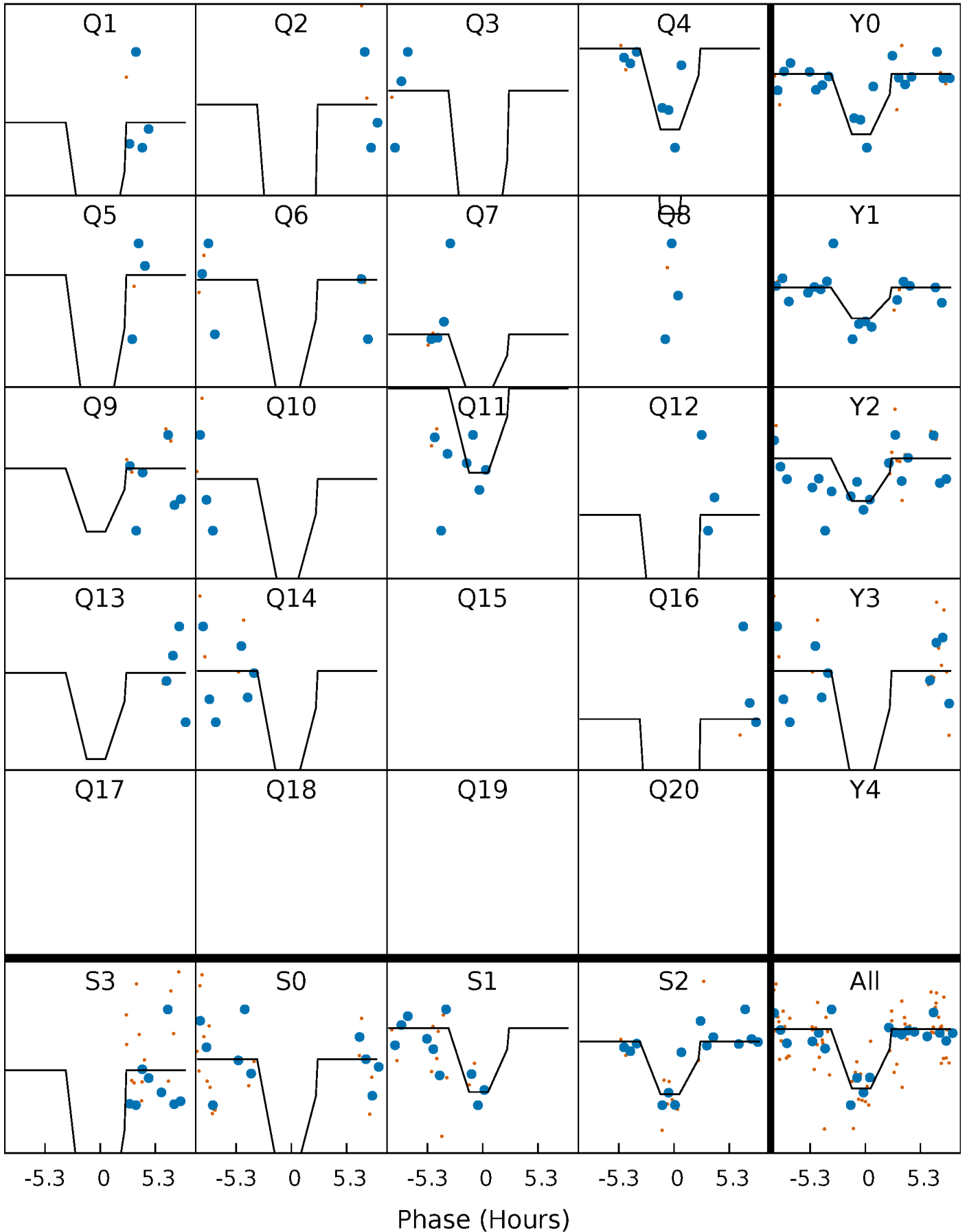
DV Quarter-Phased Transit Curves

TCE 005905878-04 P= 66.094076 Days $T_0=157.976294$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

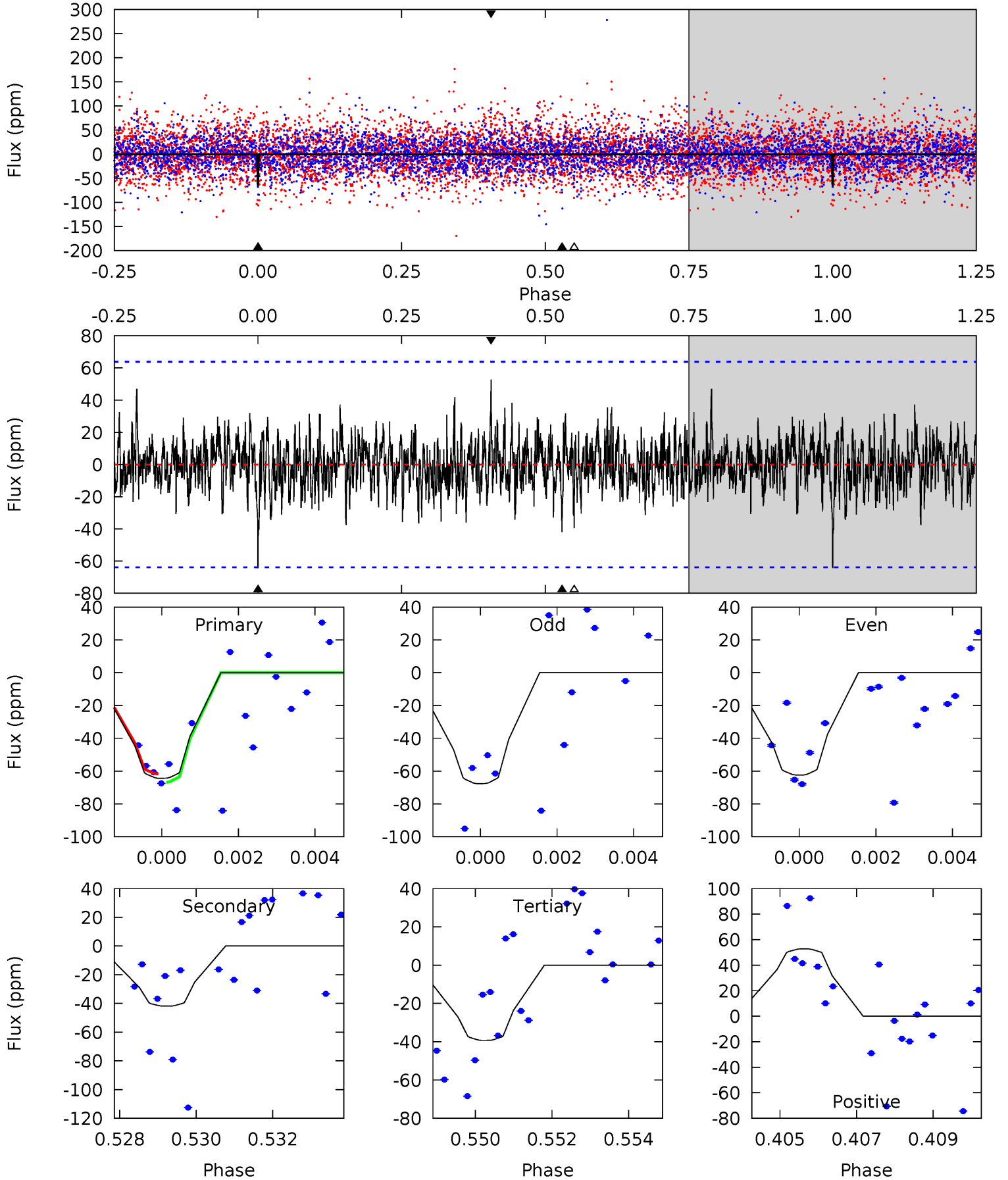
TCE 005905878-04 P= 66.091997 Days $T_0=158.012442$ (BKJD)



DV Model-Shift Uniqueness Test

005905878-04, P = 66.094076 Days, E = 91.882218 Days

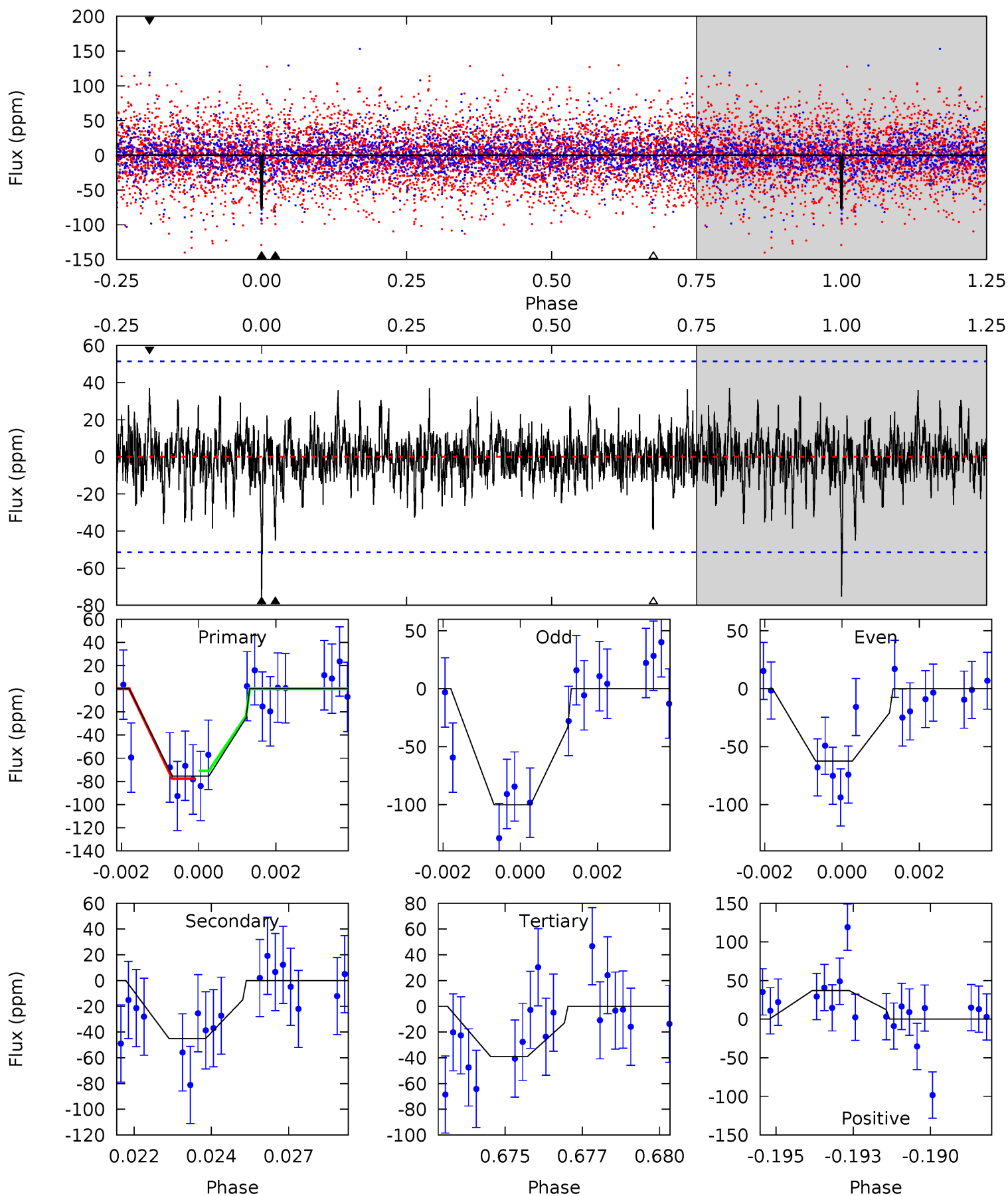
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.37	3.49	3.28	4.40	5.33	3.09	1.05	2.09	0.97	0.21	-0.91	0.20	0.95	0.45	0.21



Alt Model-Shift Uniqueness Test

005905878-04, P = 66.091997 Days, E = 91.920445 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.75	4.63	4.02	3.83	5.29	3.03	1.04	3.72	3.92	0.61	0.80	1.91	1.09	0.33	0.35



Stellar Parameters For KIC 005905878

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8554^{+235}_{-370}	$4.050^{+0.171}_{-0.140}$	$0.070^{+0.250}_{-0.550}$	$2.237^{+0.496}_{-0.606}$	$2.049^{+0.331}_{-0.497}$	$0.258^{+0.271}_{-0.097}$
	+3%/-4%	+4%/-3%	+357%/-786%	+22%/-27%	+16%/-24%	+105%/-38%
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 005905878-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-42 ± 12	$10.96^{+10.39}_{-7.78}$	1229^{+75}_{-78}	3539^{+2052}_{-662}	31^{+295}_{-23}
Alt.	-45 ± 10	$9.99^{+10.64}_{-7.11}$	1230^{+84}_{-92}	3709^{+2460}_{-790}	41^{+439}_{-32}

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

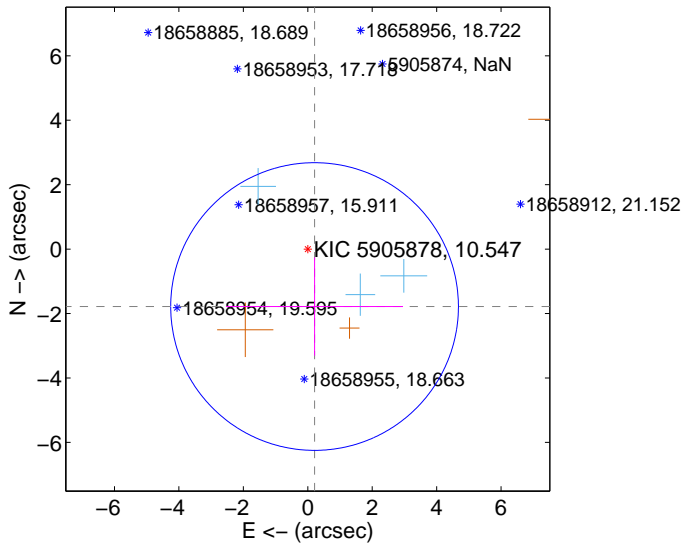
Supplemental centroid analysis for 005905878-04. **Kepler magnitude: 10.55.** Transit SNR 9.83

There are 3 quarters with good PRF difference image offsets

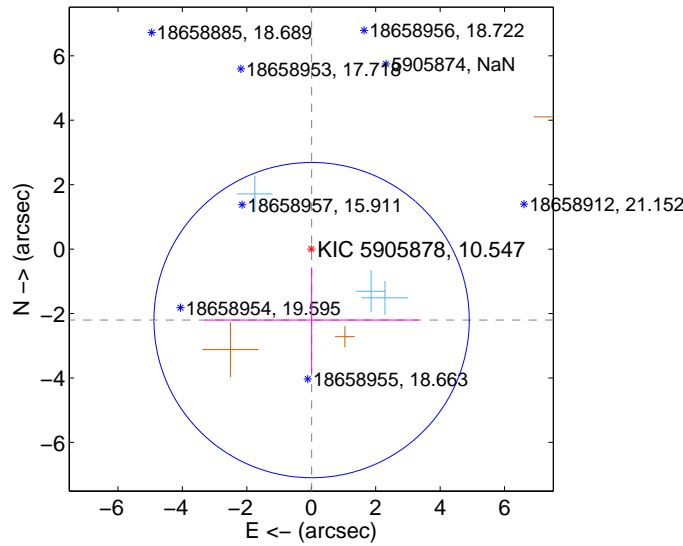
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.795 ± 1.488	1.21	-0.211 ± 2.746	-1.782 ± 1.525
PRF-fit source offset from KIC position	2.204 ± 1.631	1.35	-0.011 ± 3.315	-2.204 ± 1.634
photometric centroid source offset	1.72 ± 1.44	1.19	1.72 ± 1.44	-0.16 ± 1.35

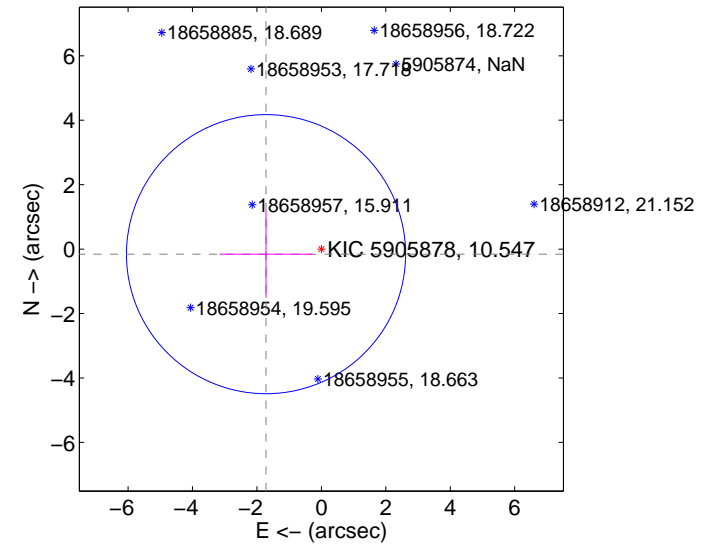
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

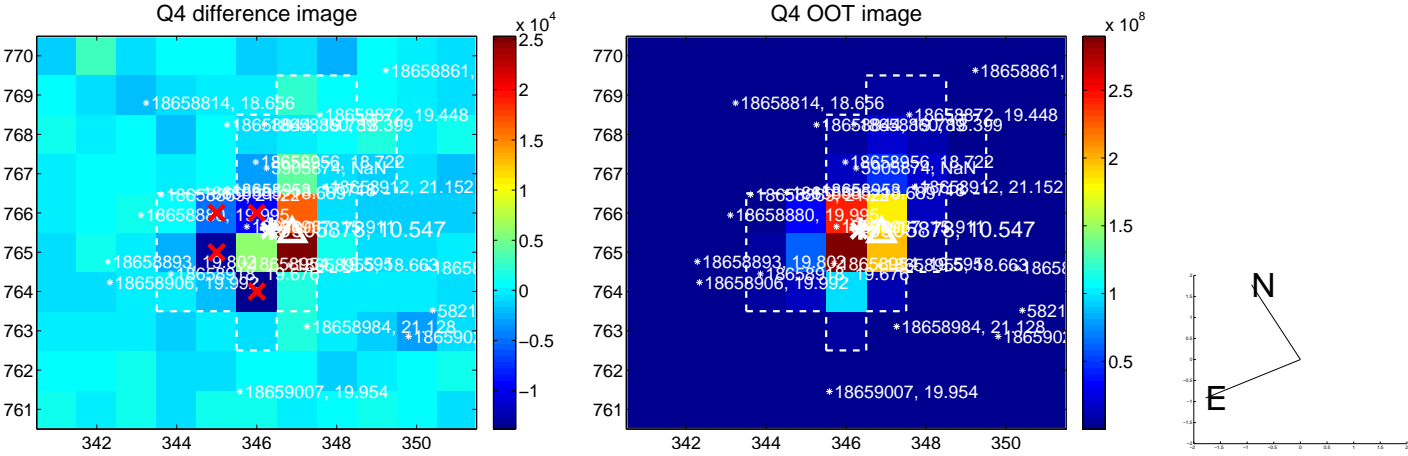
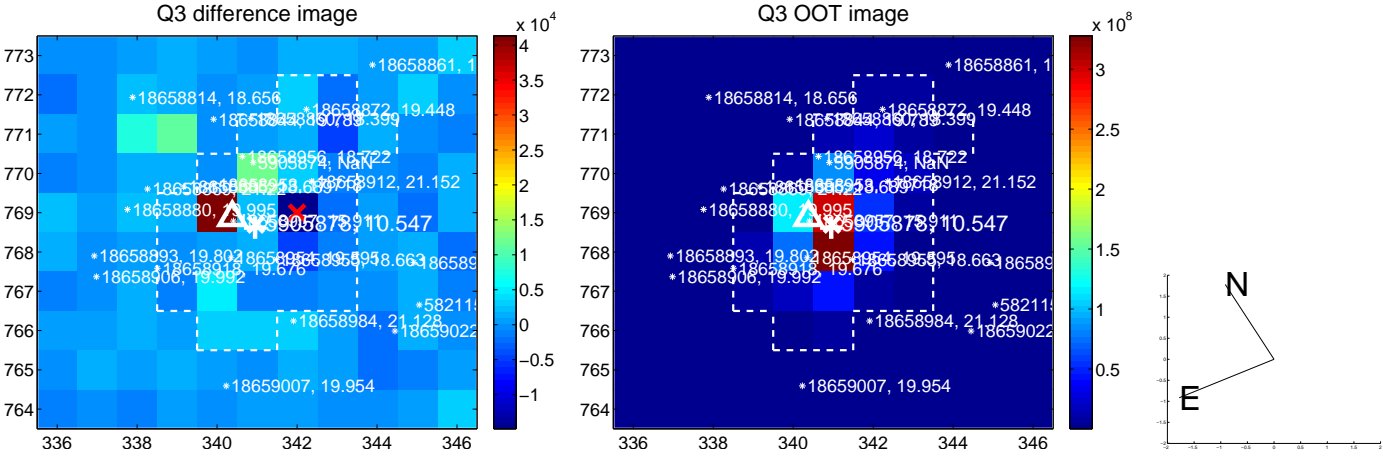
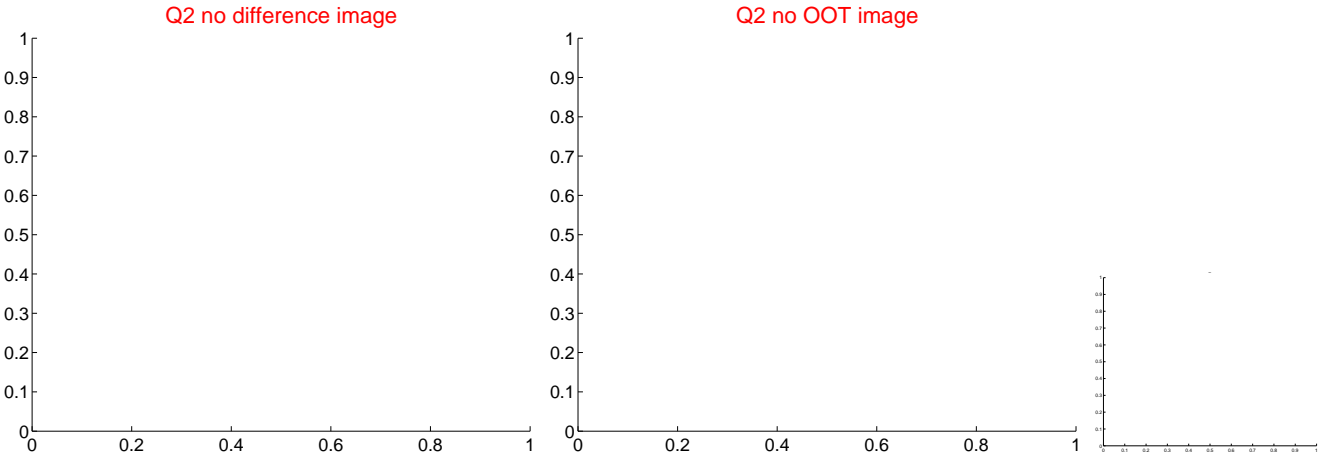
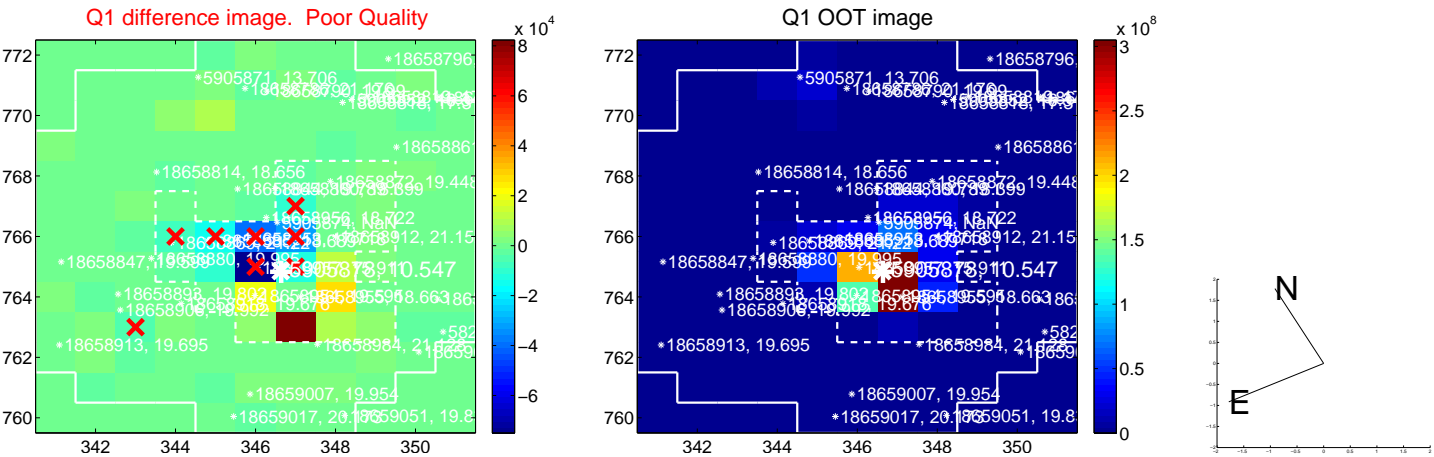


offset from photometric centroids

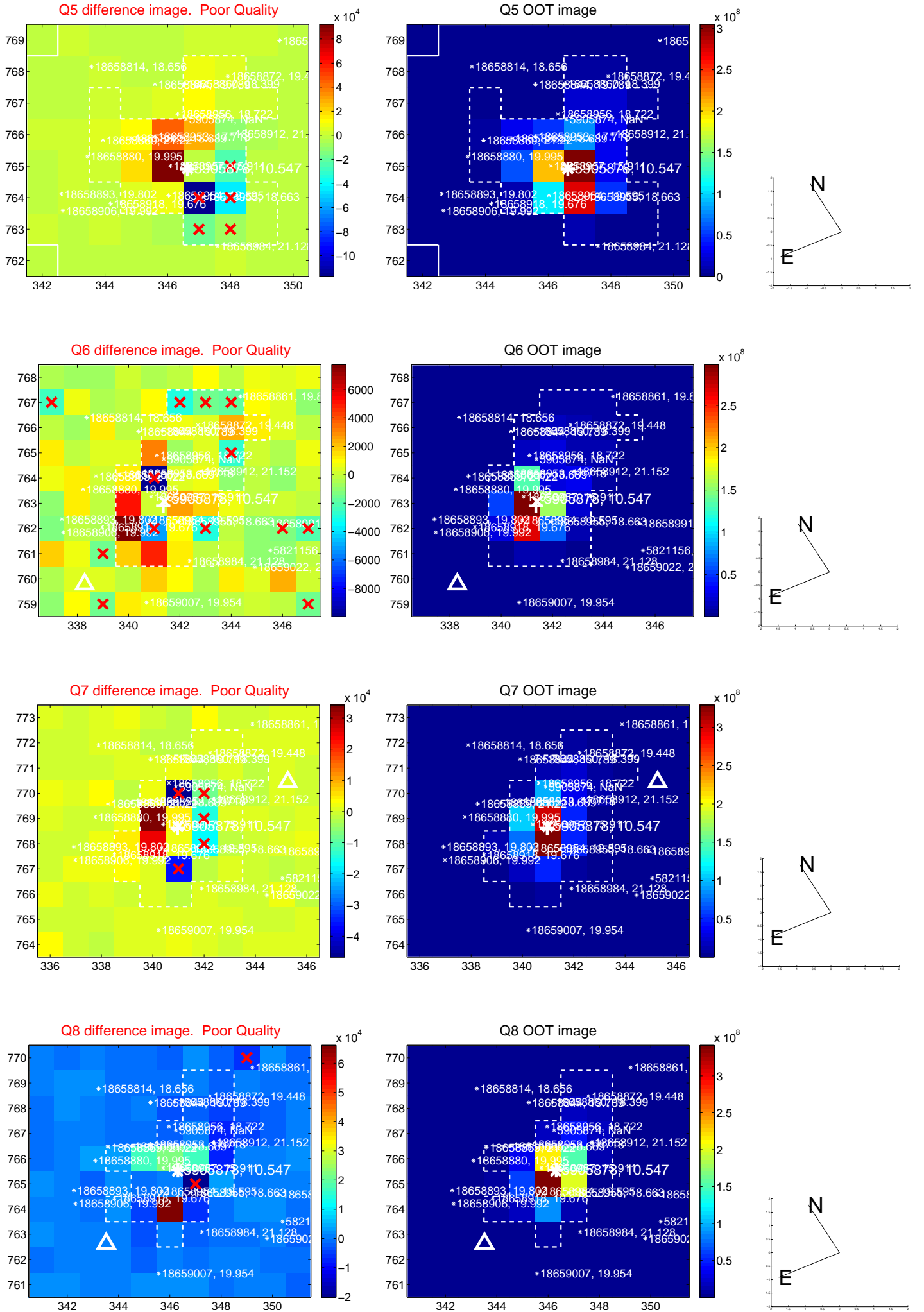


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

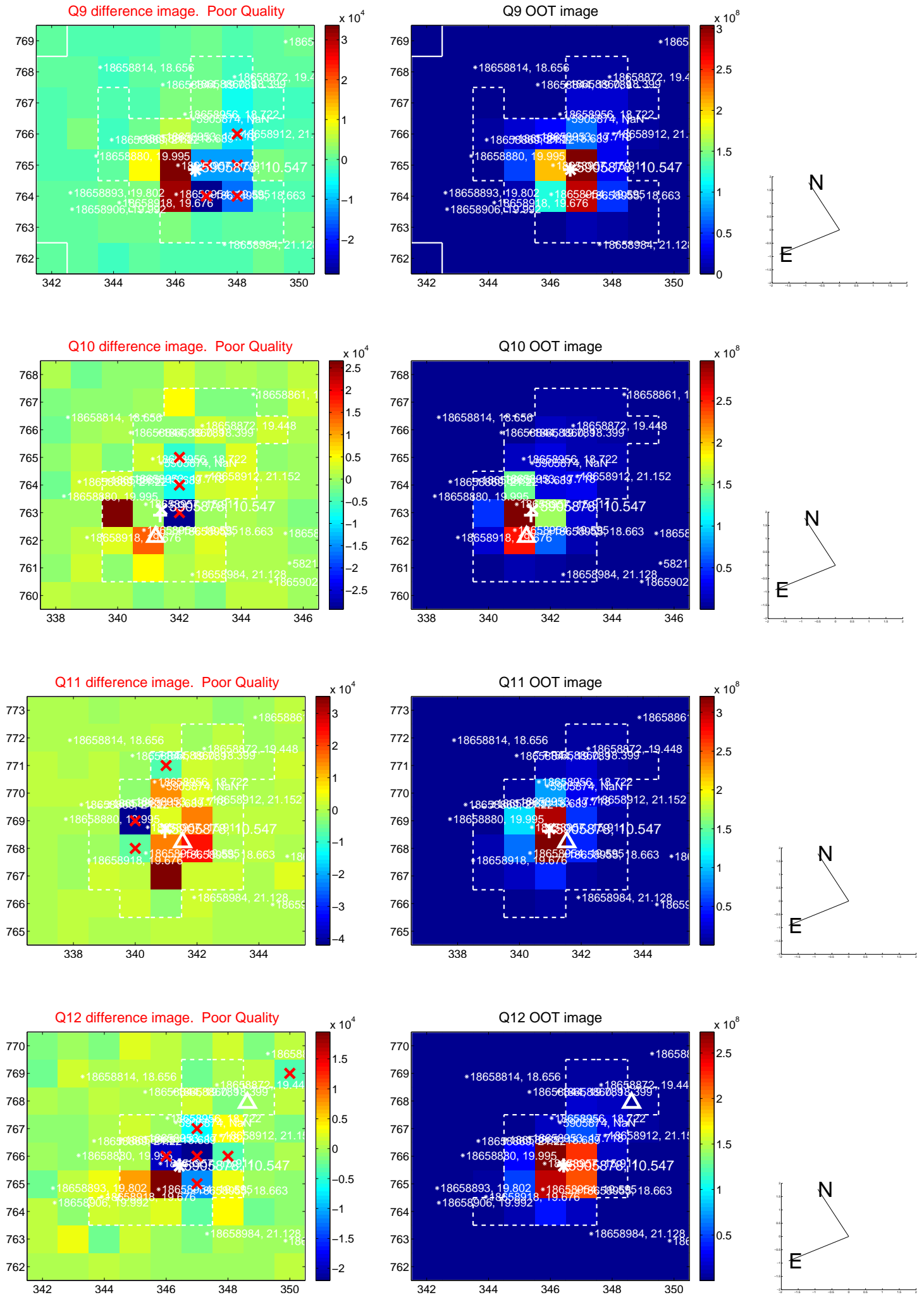
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



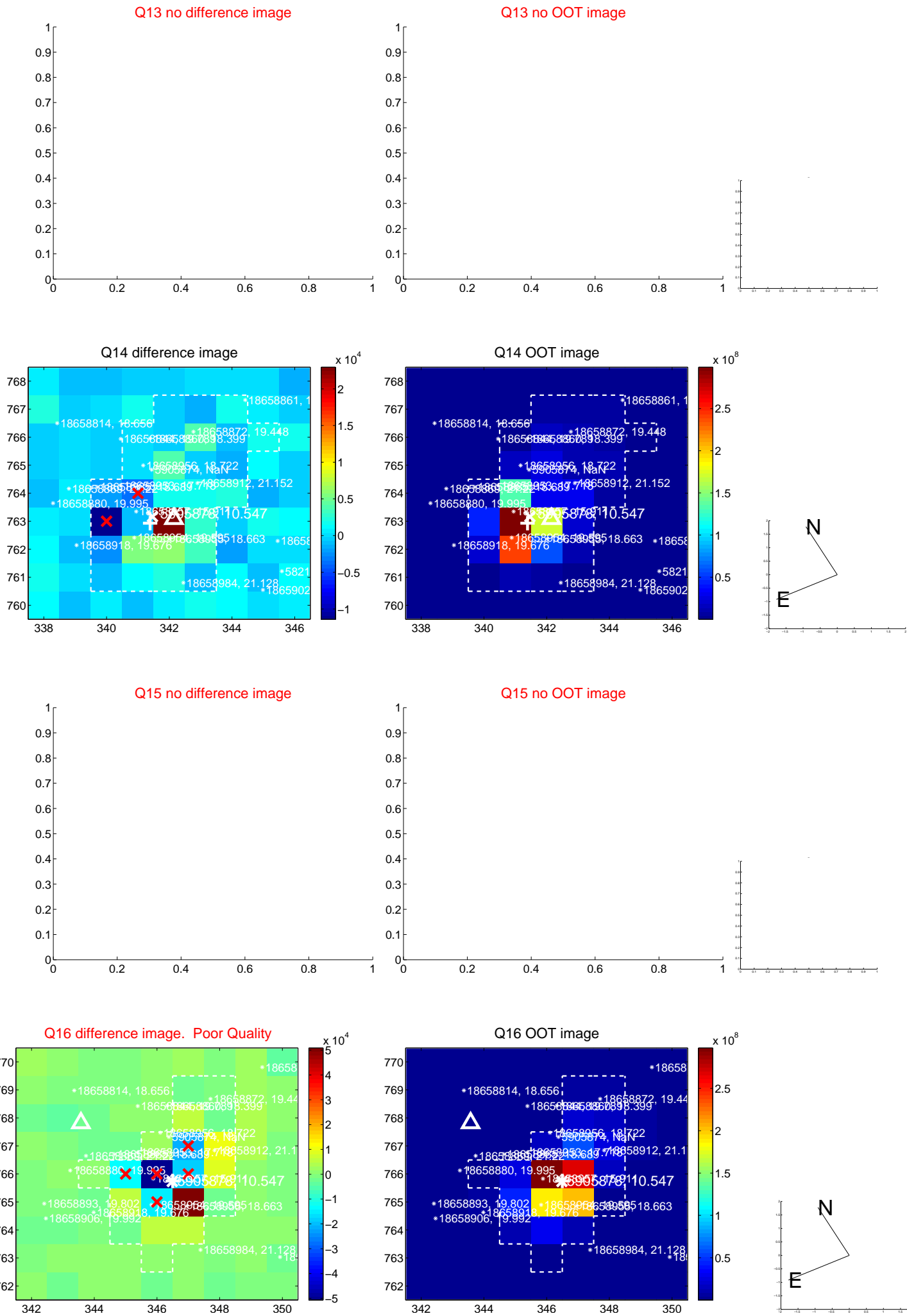
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



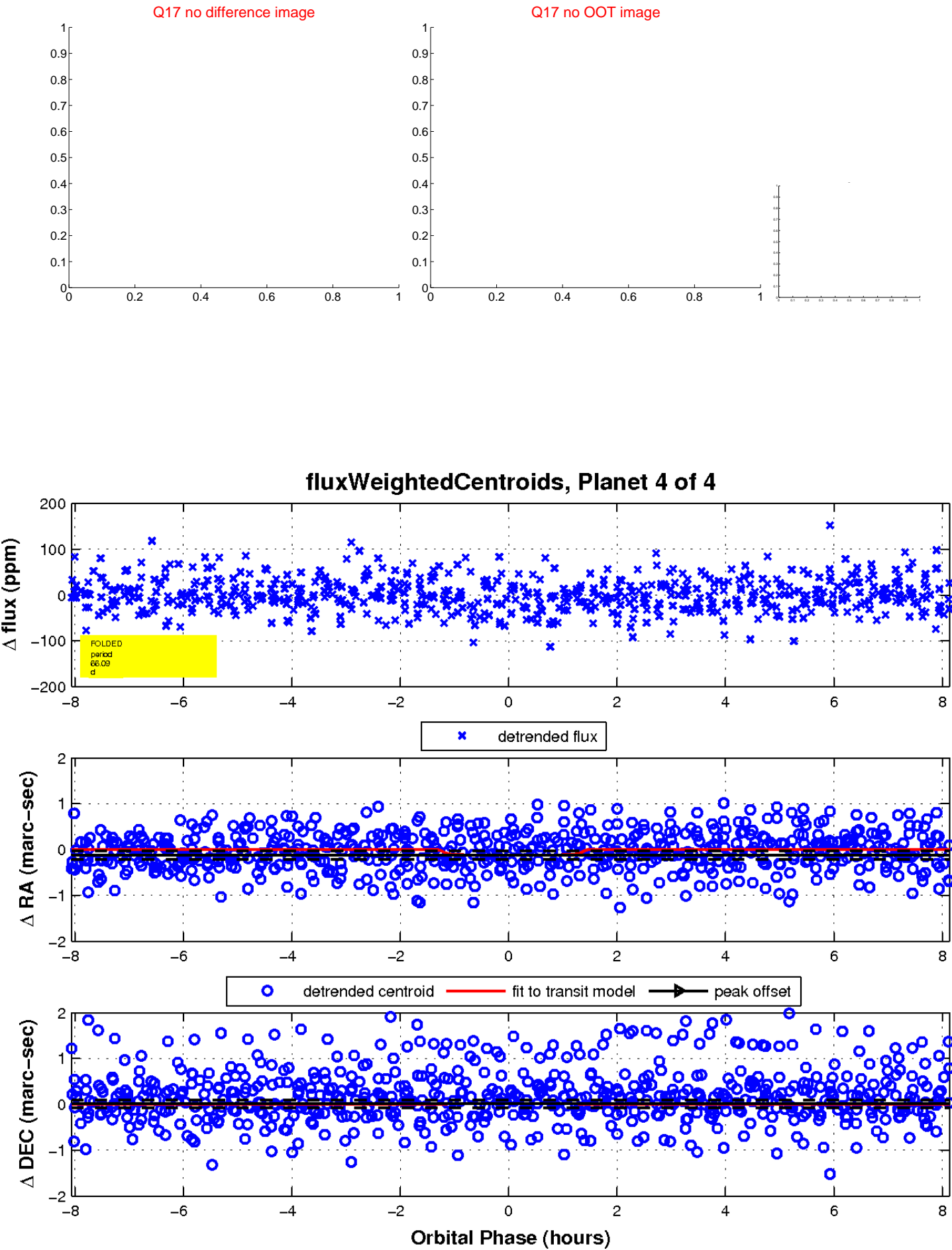
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

