

KIC 005866001

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})
005866001-01	OBS	No	1.744680	131.650216	26.5	6.422	14.8	11.9	2.41	6493	1.25	9434.21
005866001-02	OBS	No	2.615489	131.691944	24.3	10.396	9.6	8.4	2.41	6493	1.40	5498.65
005866001-03	OBS	No	123.524417	210.137397	170.4	5.200	8.0	7.5	2.41	6493	3.76	32.21
005866001-04	OBS	No	120.878503	214.585956	157.3	6.727	7.9	7.8	2.41	6493	3.39	33.15
005866001-05	OBS	No	144.543591	166.144546	82.4	12.583	7.9	4.8	2.41	6493	2.41	26.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005866001-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005866001-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005866001-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

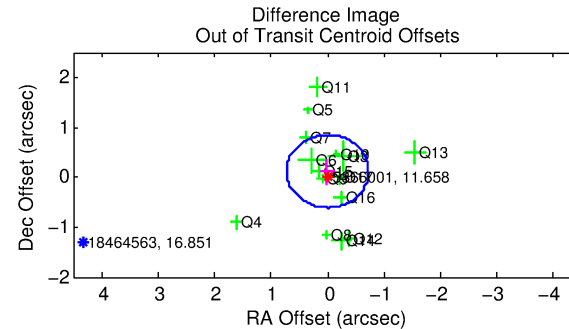
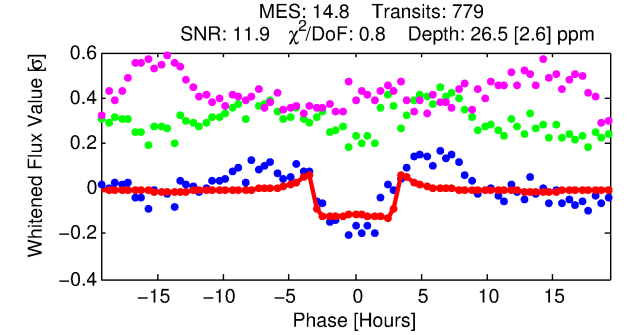
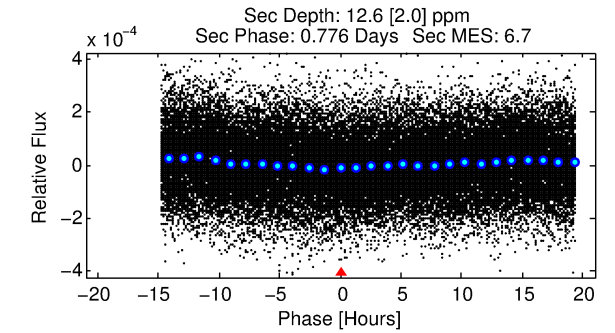
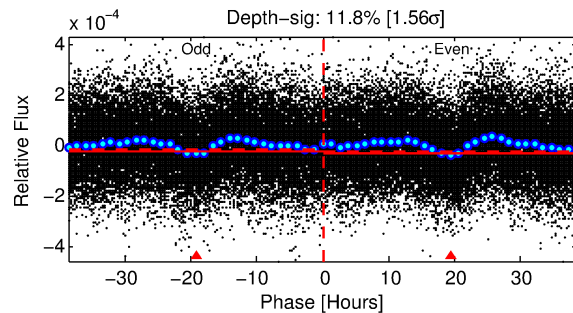
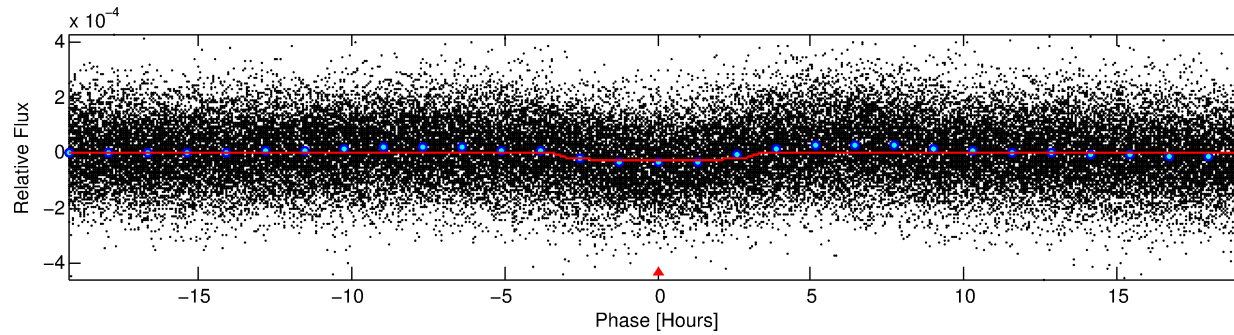
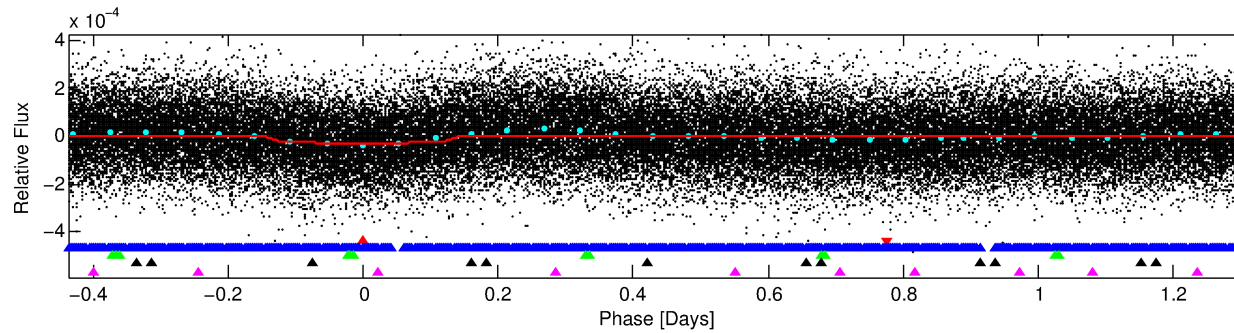
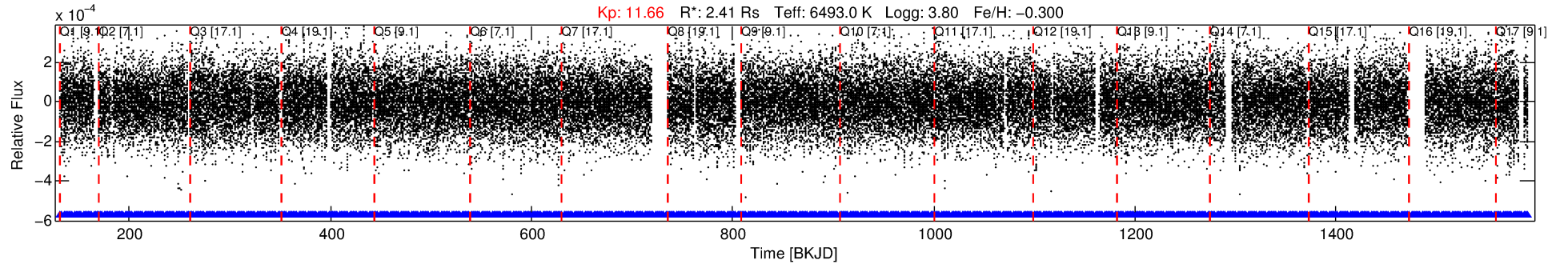
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005866001-01

No Significant Match Found

DV One-Page Summary

KIC: 5866001 Candidate: 1 of 5 Period: 1.745 d



DV Fit Results:

Period = 1.74468 [0.00001] d
Epoch = 131.6502 [0.0029] BKJD
Rp/R* = 0.0047 [0.0026]
a/R* = 2.16 [4.95]
b = 0.07 [43.80]
Seff = 9434.21 [4883.25]
Teq = 2513 [325] K
Rp = 1.25 [0.81] Re
a = 0.0313 [0.0101] AU
Ag = 4.37 [5.31] [0.63σ]
Teffp = 5617 [1560] K [1.95σ]

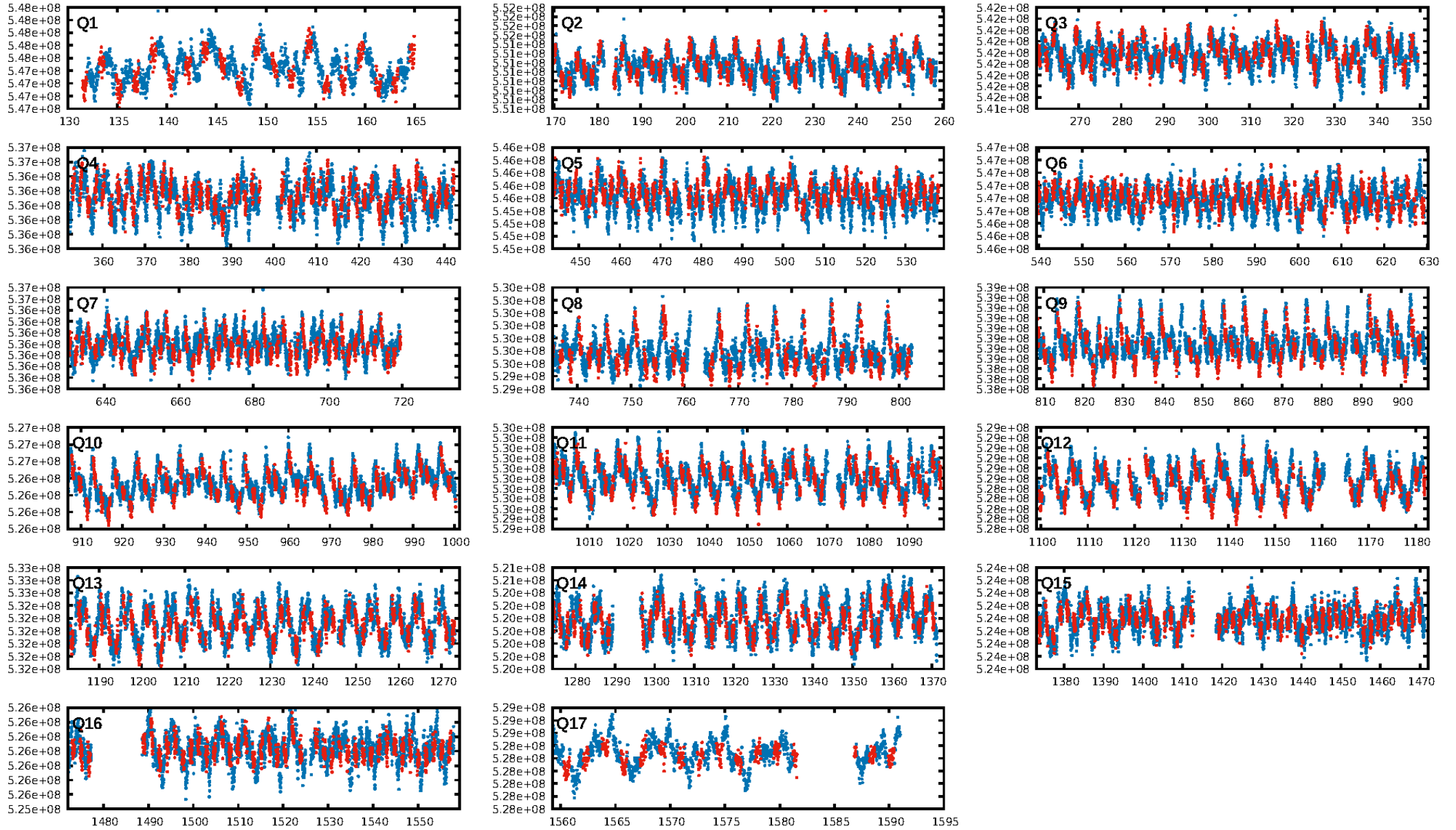
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 91.3% [1.71σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.91e-21
RollingBand-fgt: 1.00 [743/743]
GhostDiagnostic-chr: 1.784
Centroid-sig: 63.9%
Centroid-so: 0.174 arcsec [0.58σ]
OotOffset-rm: 0.114 arcsec [0.47σ]
KicOffset-rm: 0.075 arcsec [0.30σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.80 [12/15]
DiffImageOverlap-fno: 1.00 [17/17]

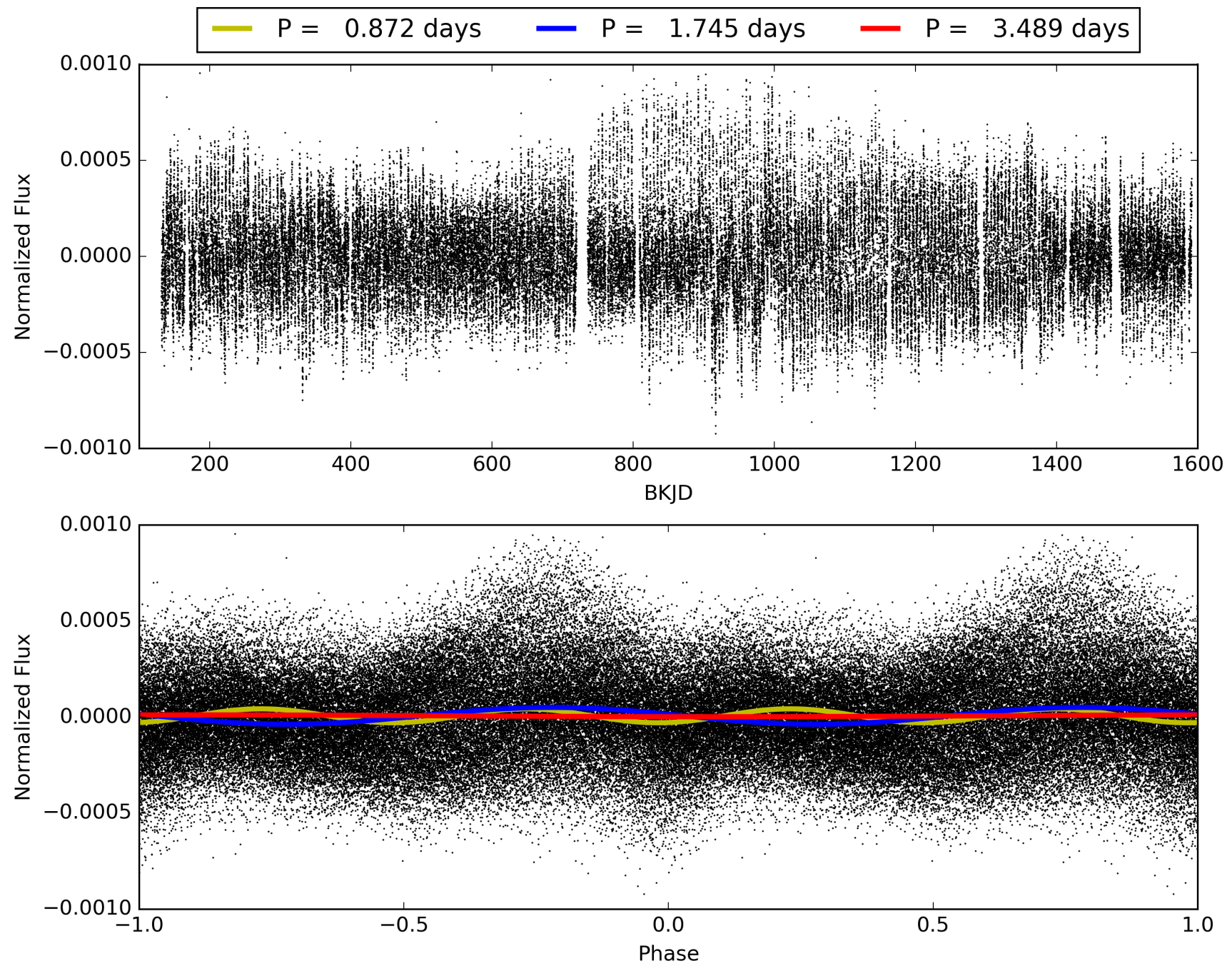
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005866001-01, PDC Light Curves

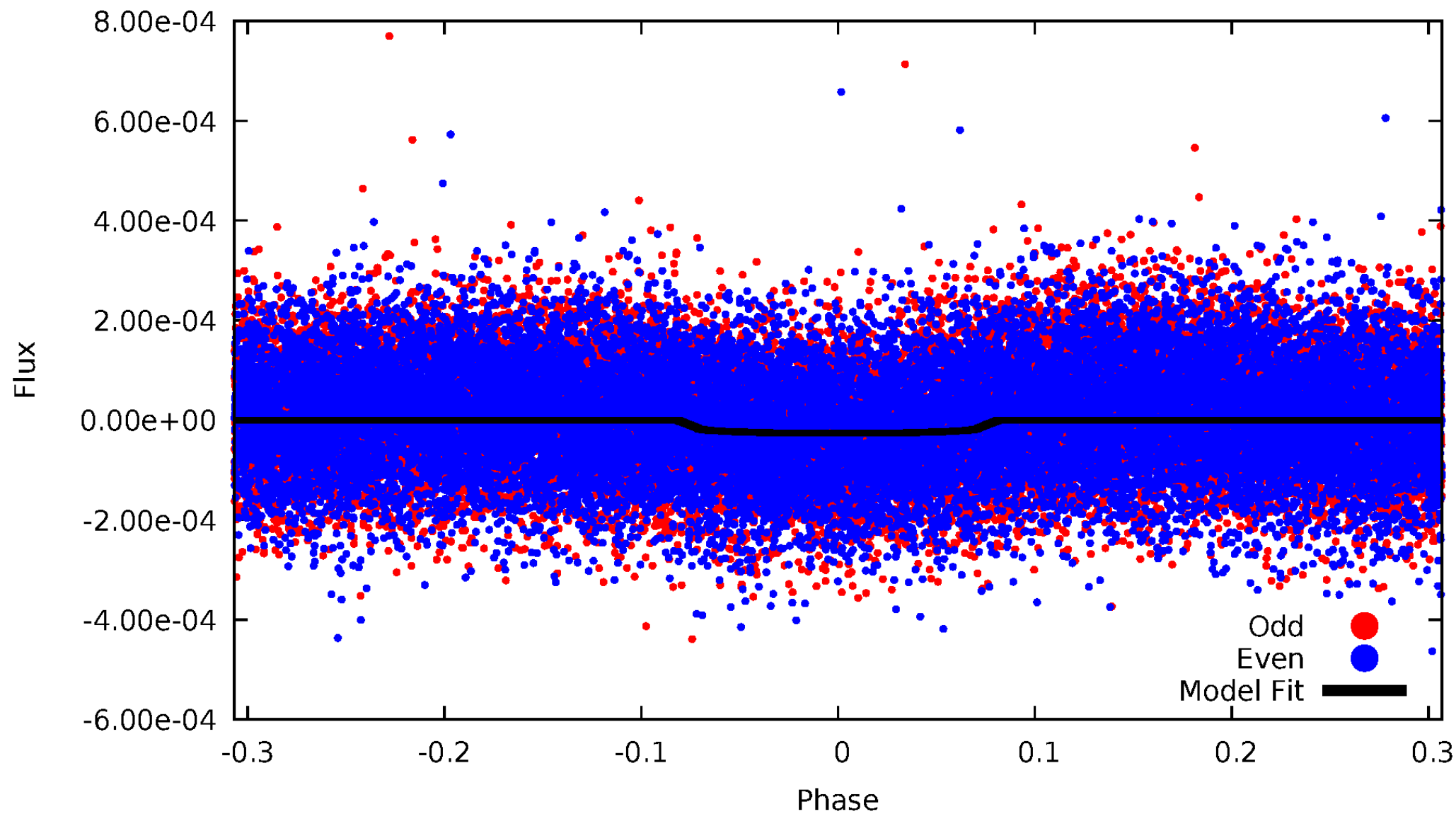


TCE 005866001-01



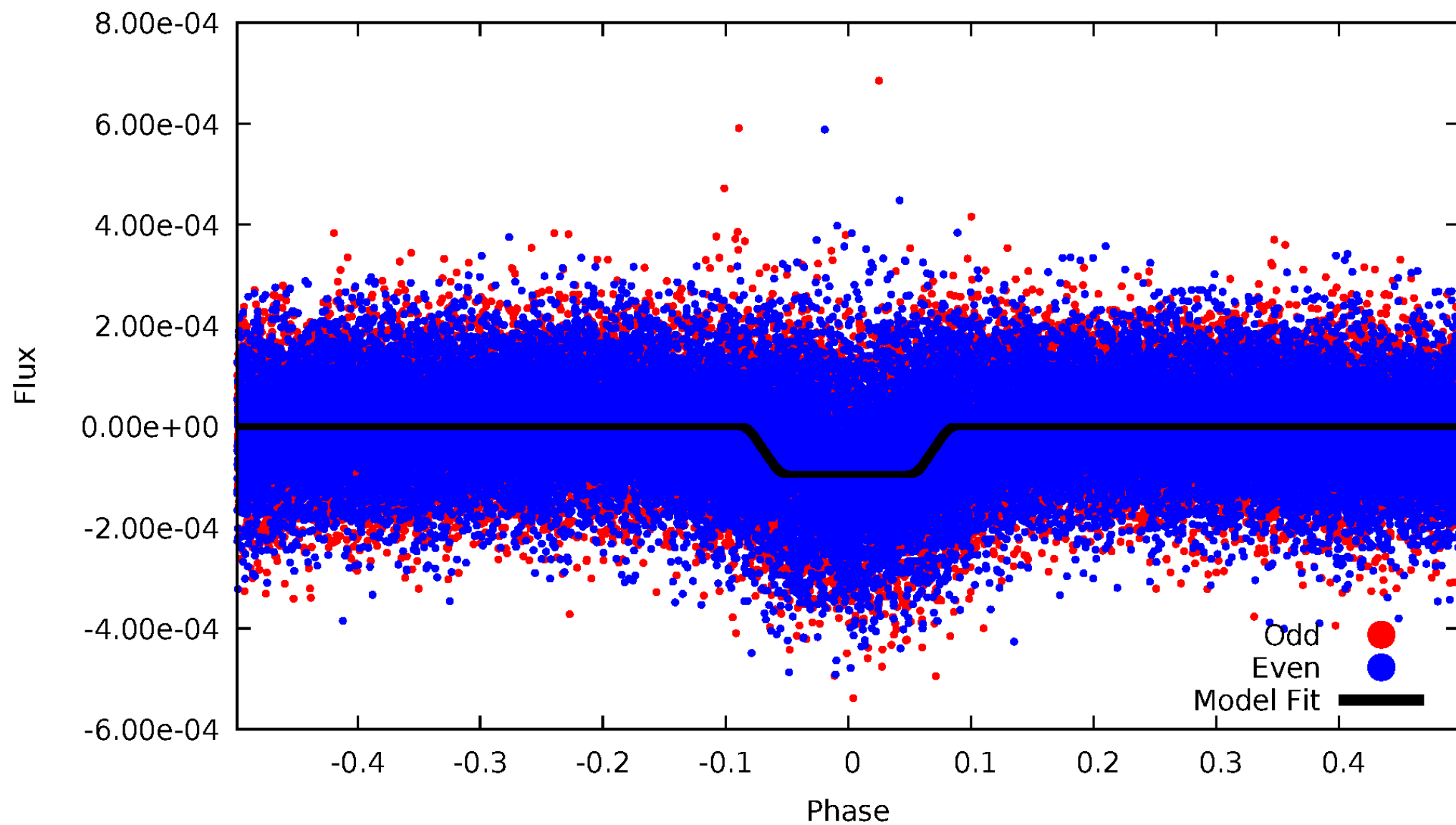
DV Odd/Even

TCE 005866001-01



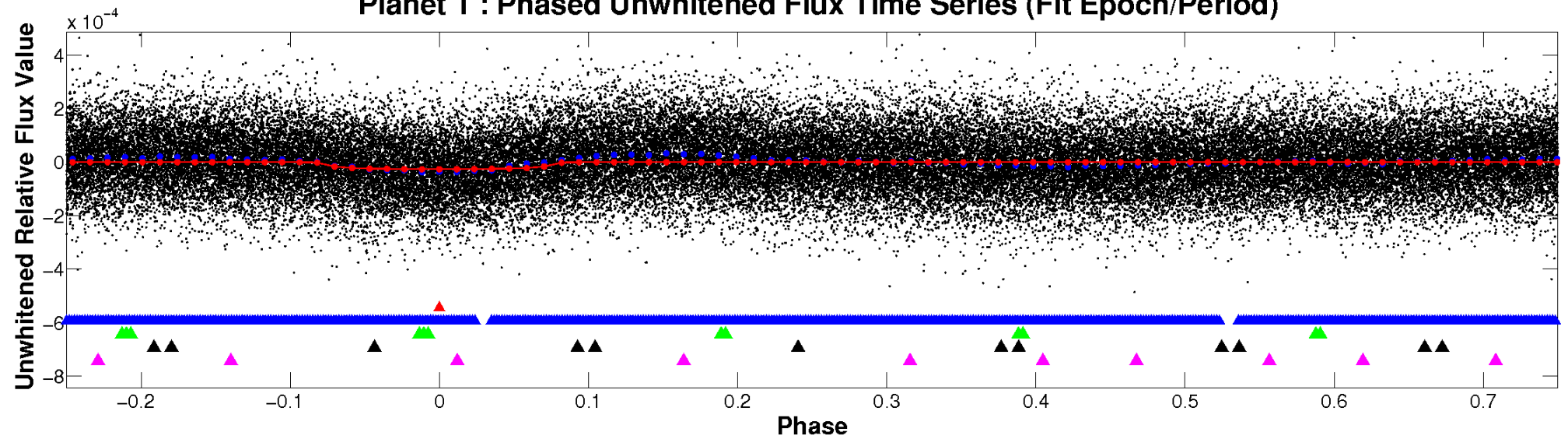
ALT Odd/Even

TCE 005866001-01

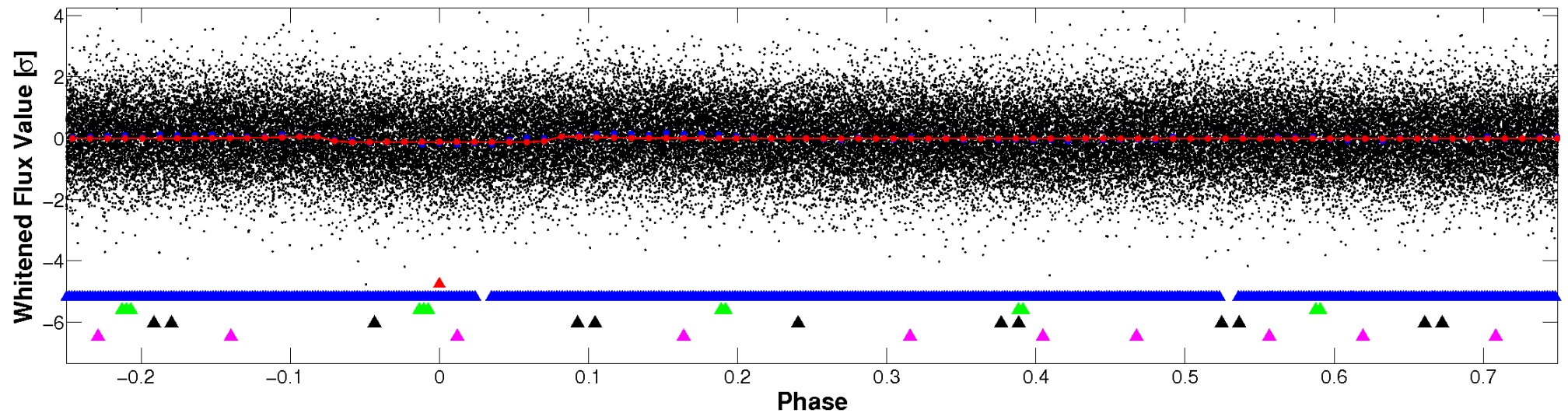


Non-Whitened Vs. Whitened Light Curve

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

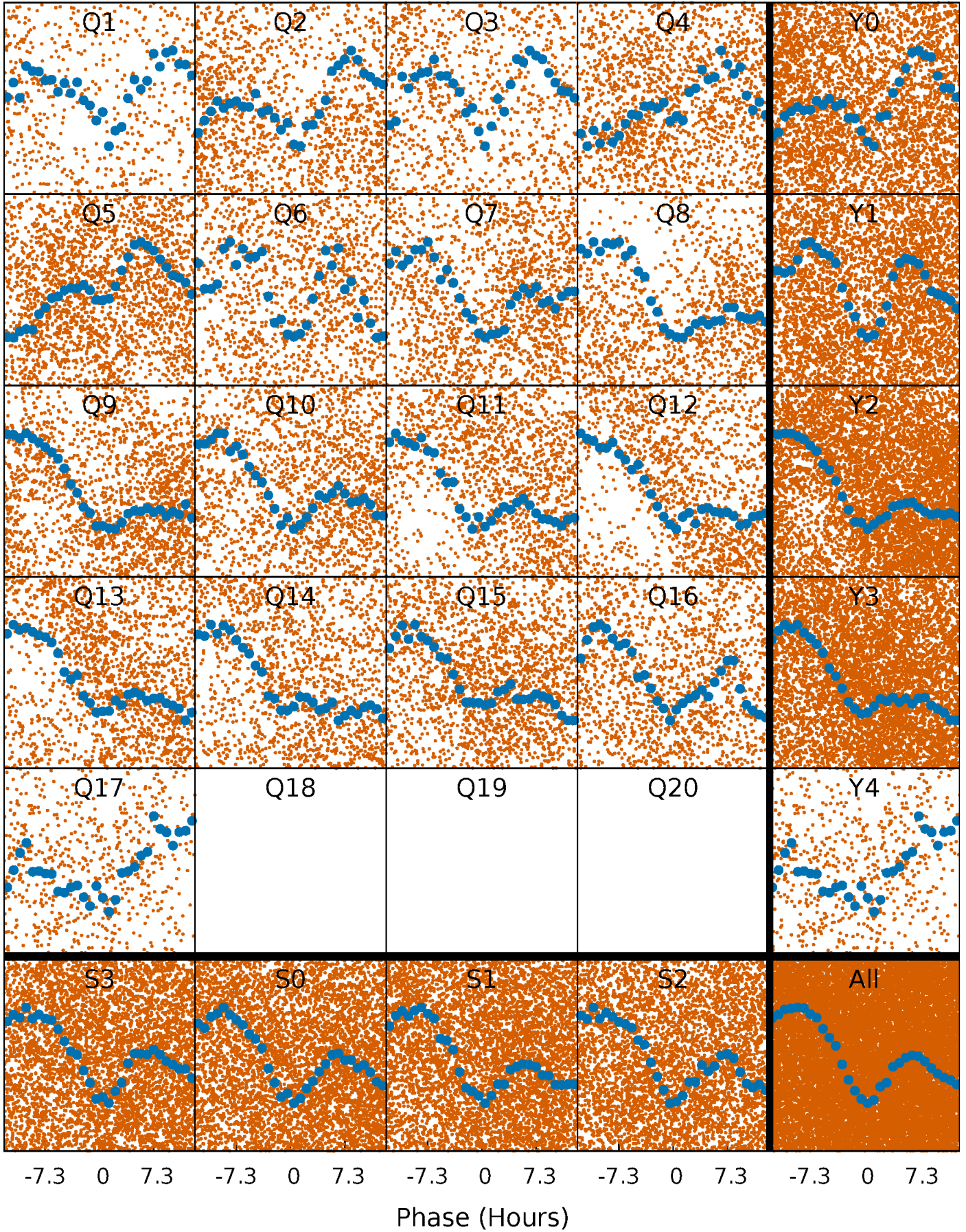


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



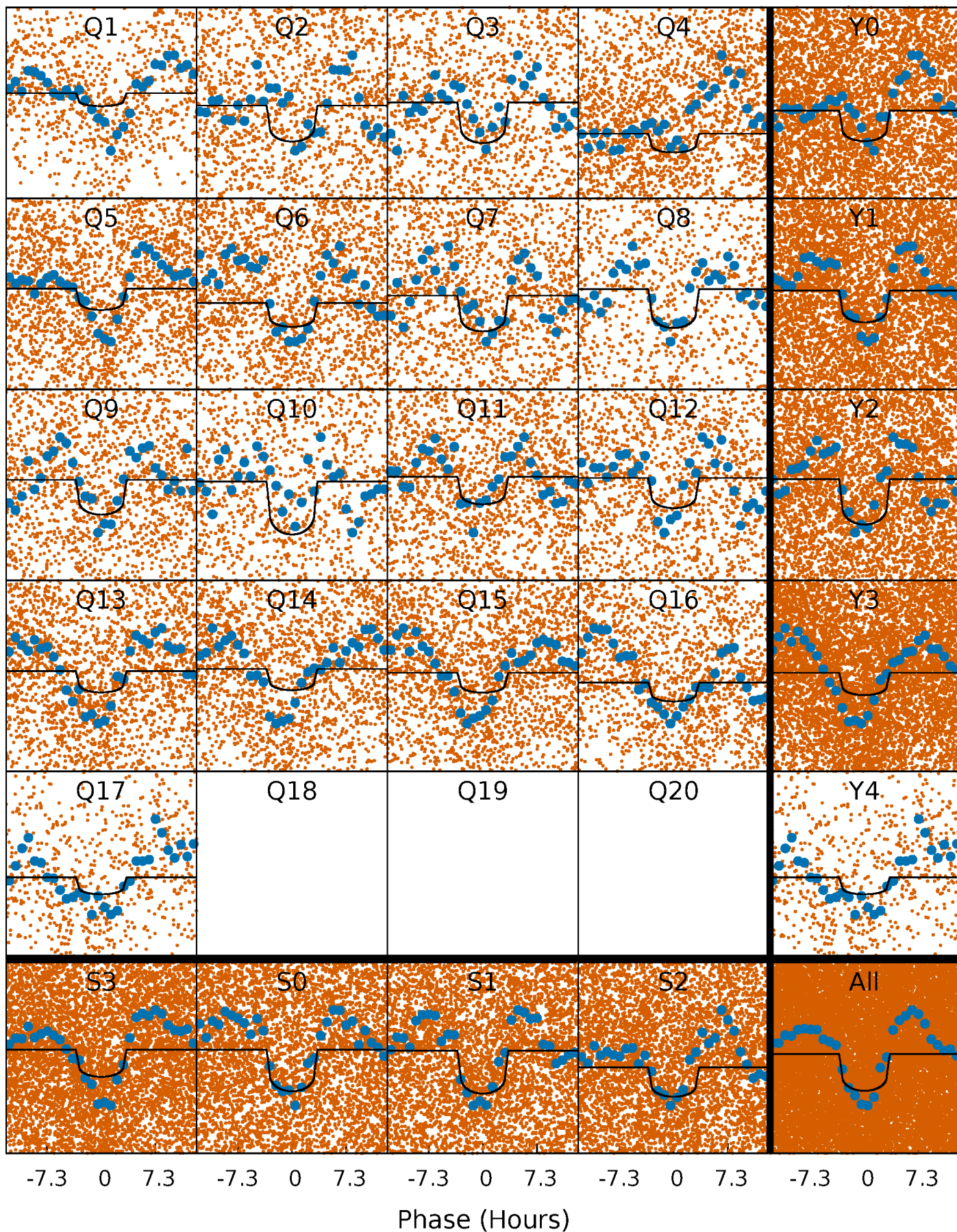
PDC Quarter-Phased Transit Curves

TCE 005866001-01 P= 1.744680 Days $T_0=131.650216$ (BKJD)



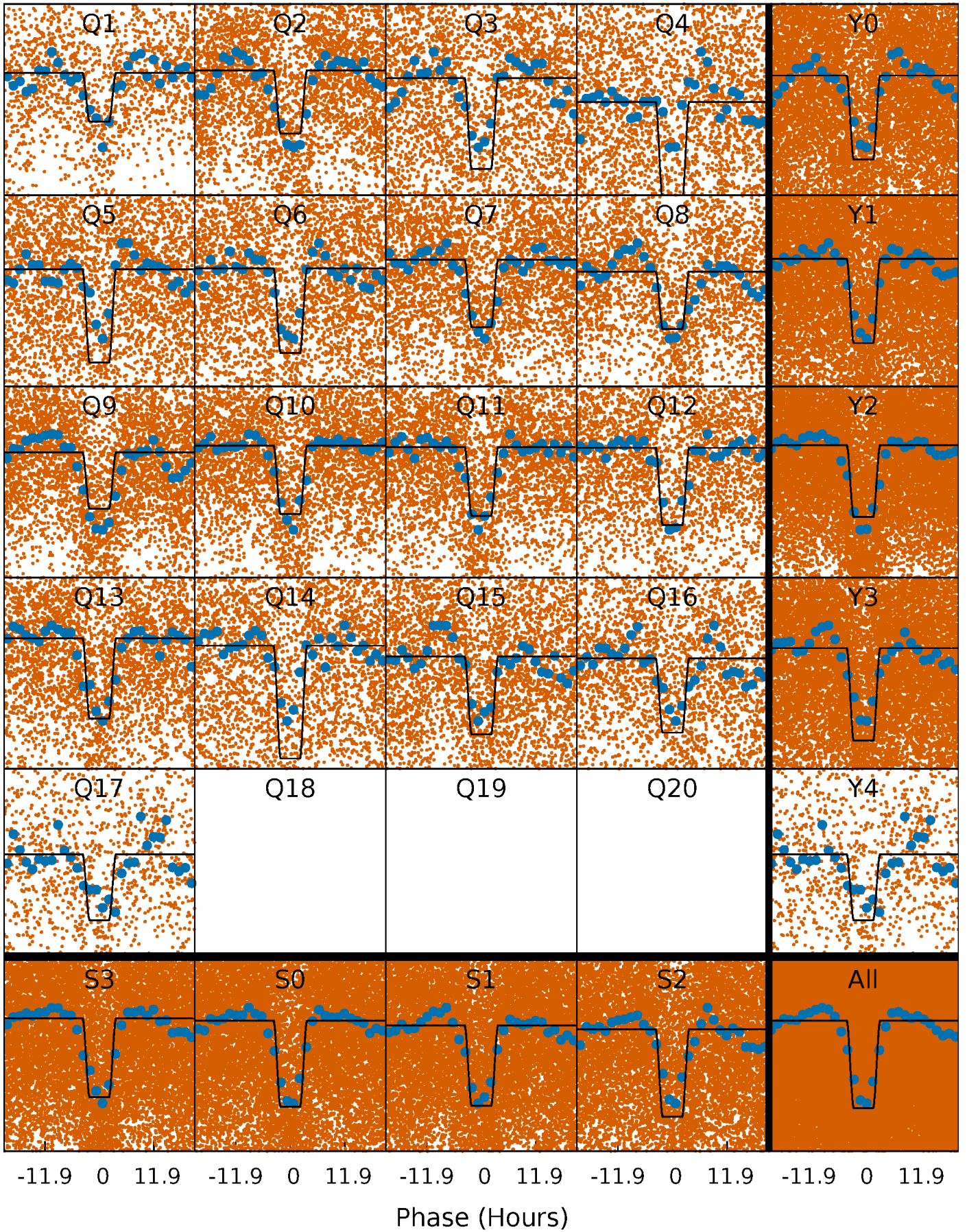
DV Quarter-Phased Transit Curves

TCE 005866001-01 P= 1.744680 Days $T_0=131.650216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

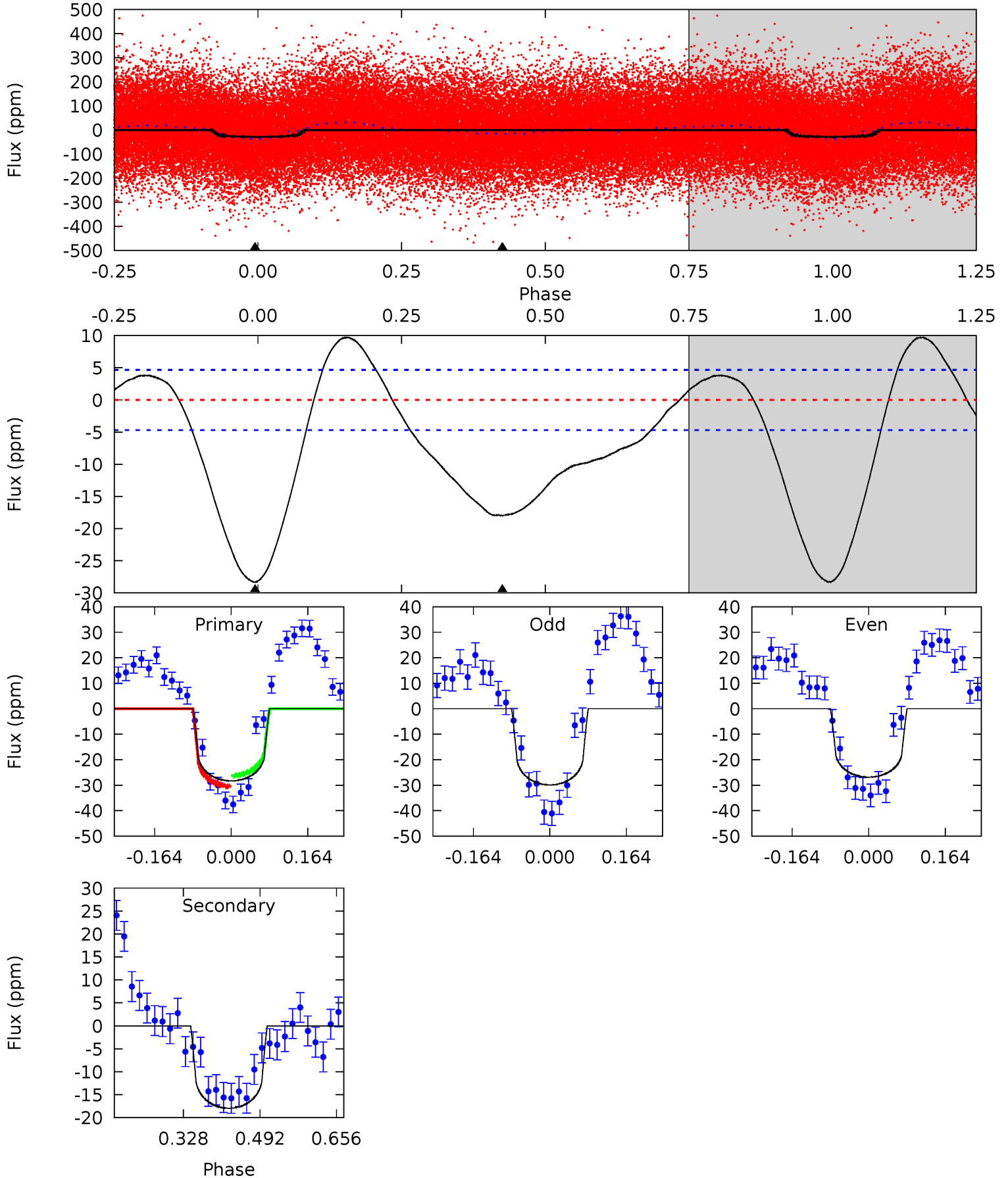
TCE 005866001-01 P= 1.744556 Days $T_0=131.693789$ (BKJD)



DV Model-Shift Uniqueness Test

005866001-01, P = 1.744680 Days, E = 129.905536 Days

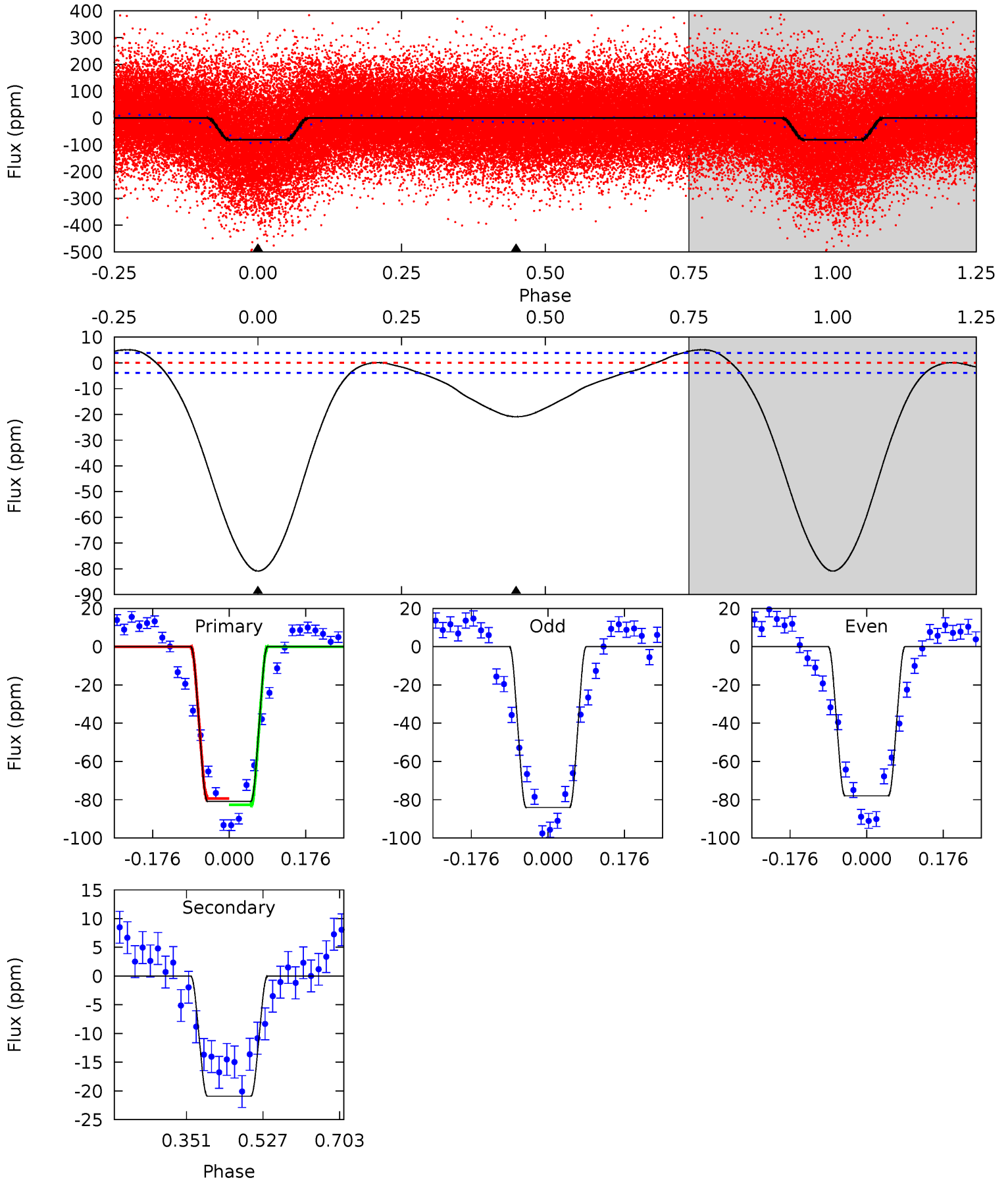
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	17.1	0	0	4.46	1.39	5.04	26.9	26.9	17.1	17.1	1.46	0.98	0.26	1.99



Alt Model-Shift Uniqueness Test

005866001-01, P = 1.744556 Days, E = 129.949233 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
93.1	24.1	0	0	4.45	1.35	3.28	93.1	93.1	24.1	24.1	3.50	0.94	0.06	1.91



Stellar Parameters For KIC 005866001

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6493^{+176}_{-176}	$3.802^{+0.293}_{-0.098}$	$-0.300^{+0.300}_{-0.250}$	$2.407^{+0.451}_{-0.838}$	$1.341^{+0.247}_{-0.247}$	$0.136^{+0.275}_{-0.042}$
	+3%/-3%	+8%/-3%	+100%/-83%	+19%/-35%	+18%/-18%	+203%/-31%
Source	PHO1	FLK73	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 005866001-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 1	$1.21^{+0.70}_{-0.67}$	3431^{+230}_{-262}	5996^{+3429}_{-1129}	$6.721^{+26.262}_{-3.970}$
Alt.	-21 ± 1	$2.40^{+0.84}_{-0.71}$	3446^{+218}_{-243}	4485^{+676}_{-500}	$1.955^{+1.976}_{-0.846}$

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 $A_{obs} \gg 1.0$

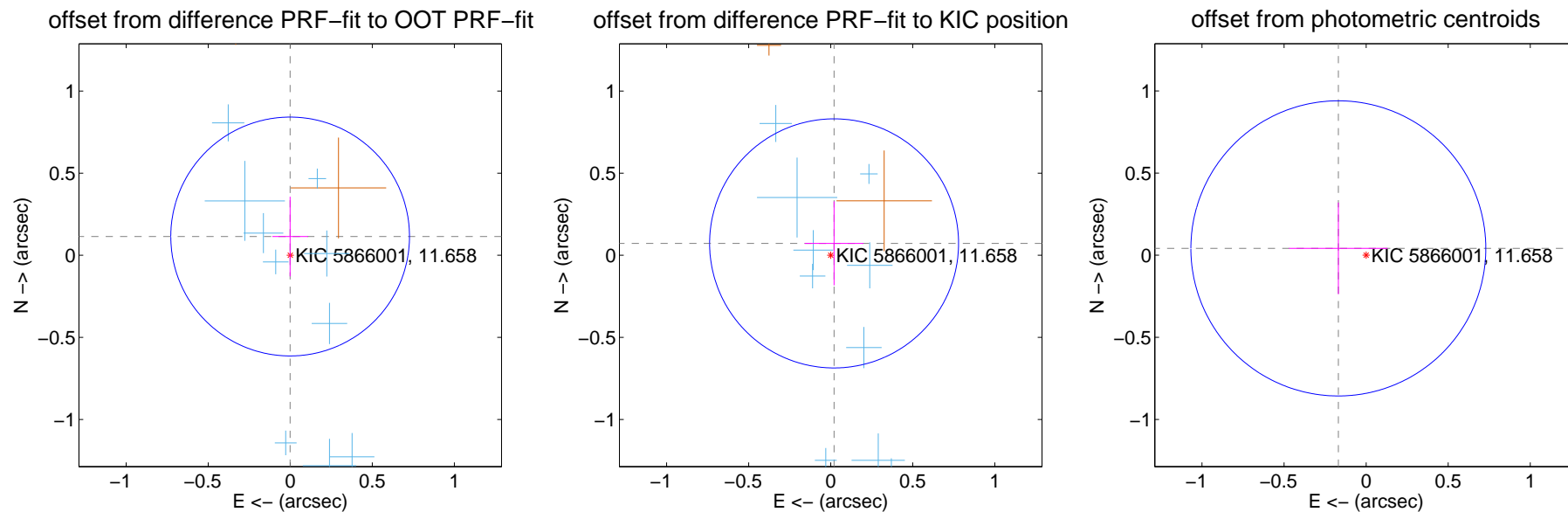
DV Centroid Data

Supplemental centroid analysis for 005866001-01. **Kepler magnitude: 11.66.** Transit SNR 11.88

There are 12 quarters with good PRF difference image offsets

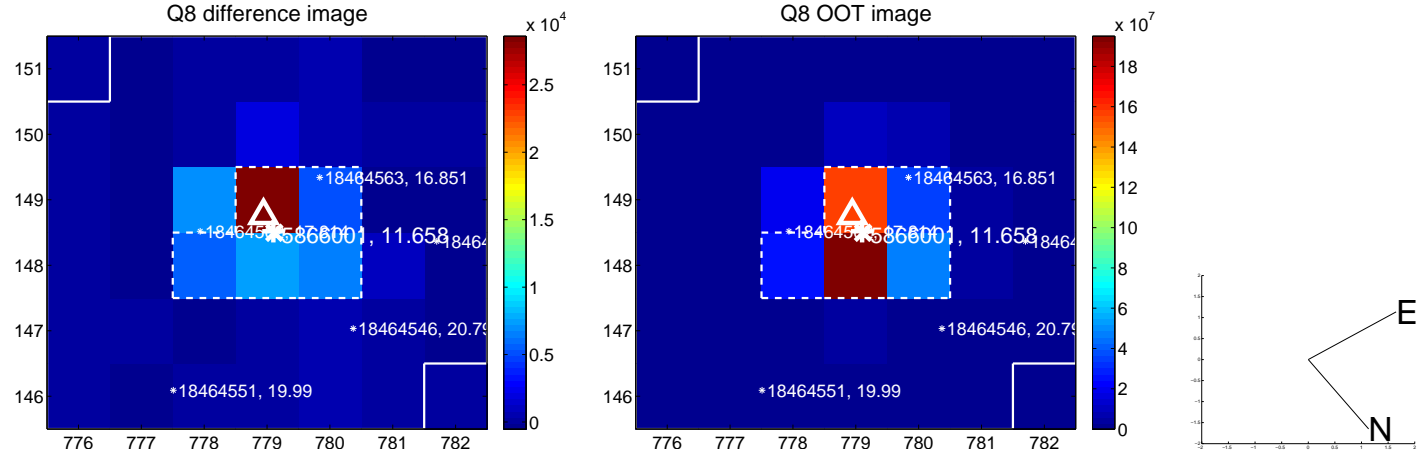
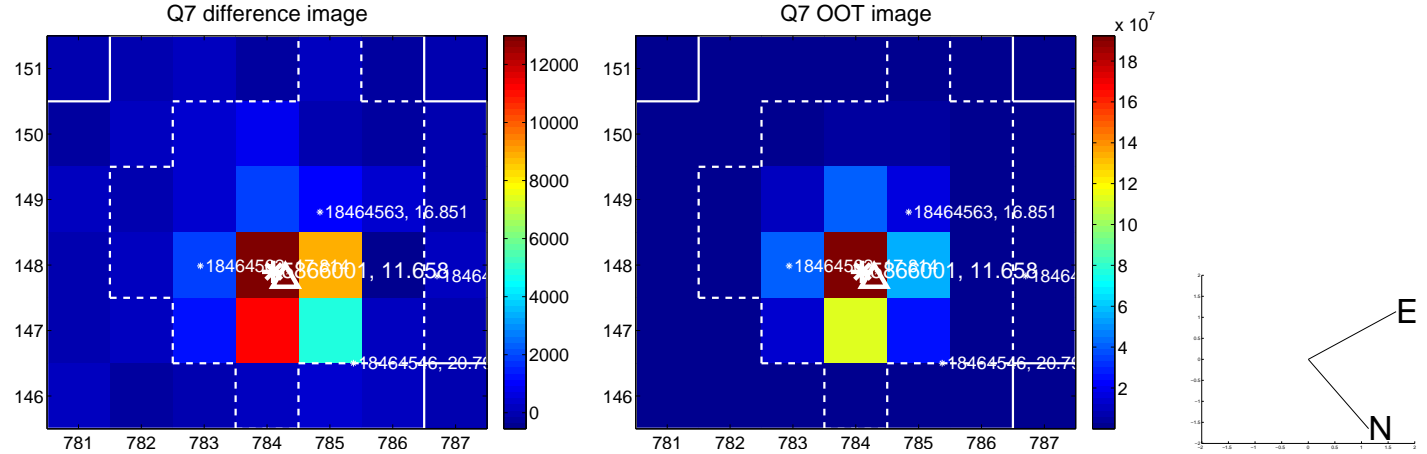
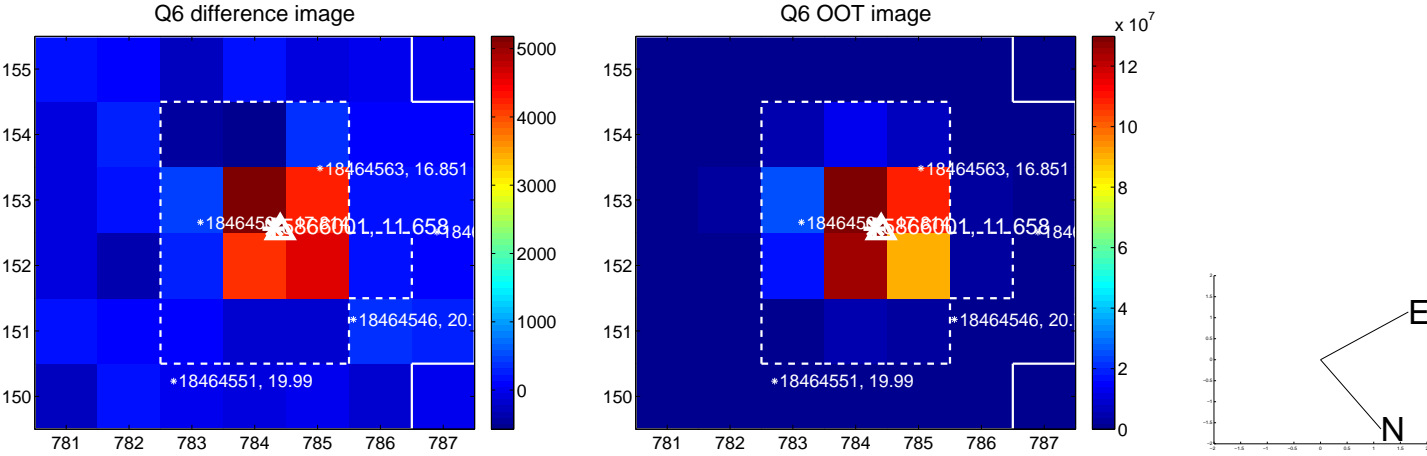
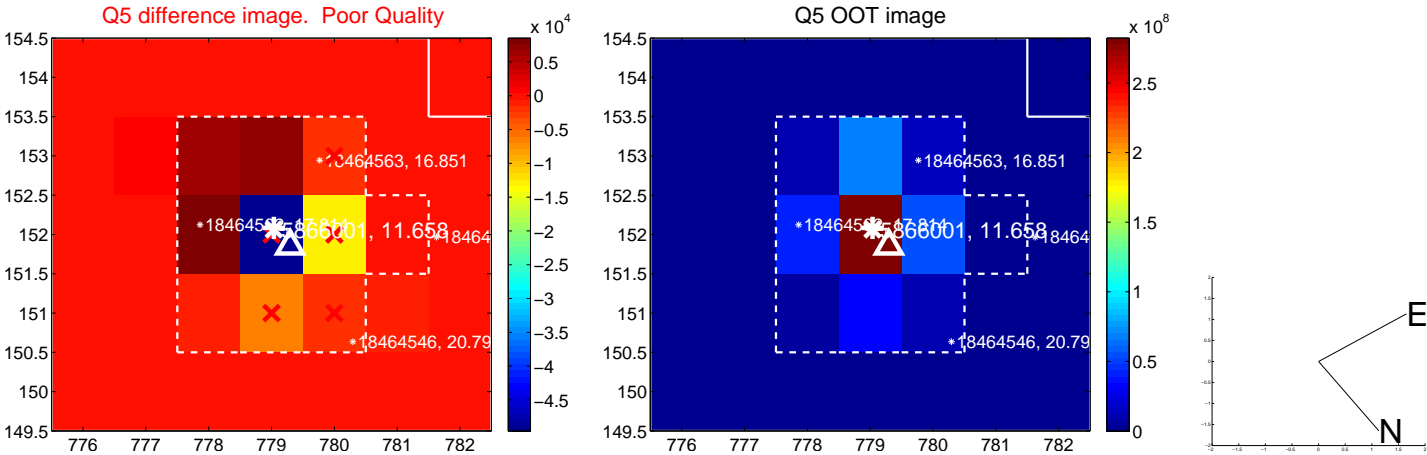
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.114 ± 0.242	0.47	0.001 ± 0.109	0.114 ± 0.242
PRF-fit source offset from KIC position	0.075 ± 0.253	0.30	-0.020 ± 0.179	0.072 ± 0.255
photometric centroid source offset	0.17 ± 0.30	0.58	0.17 ± 0.30	0.04 ± 0.28

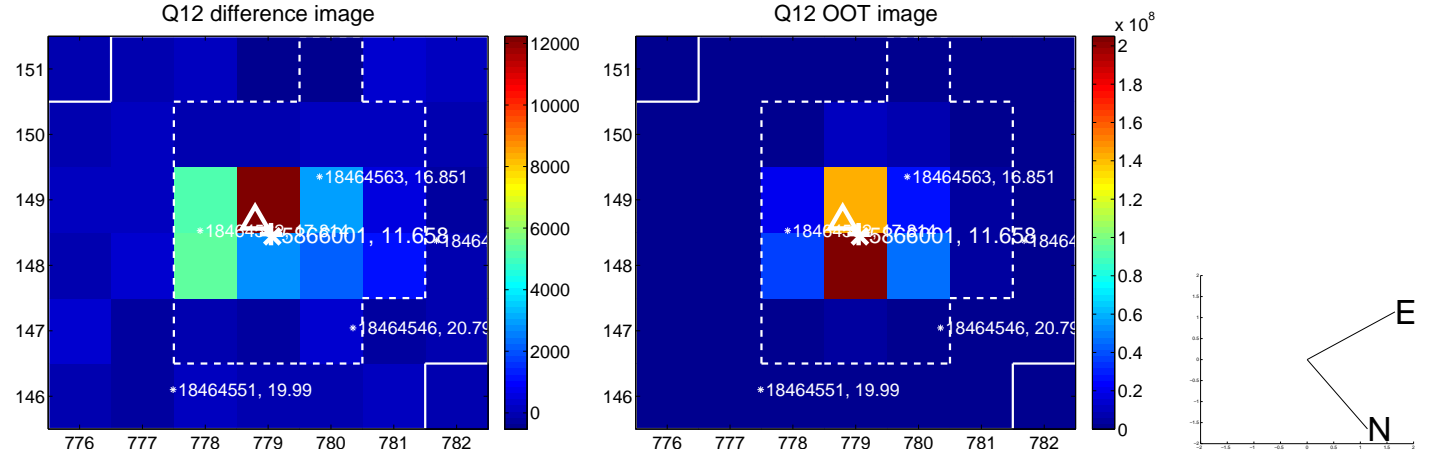
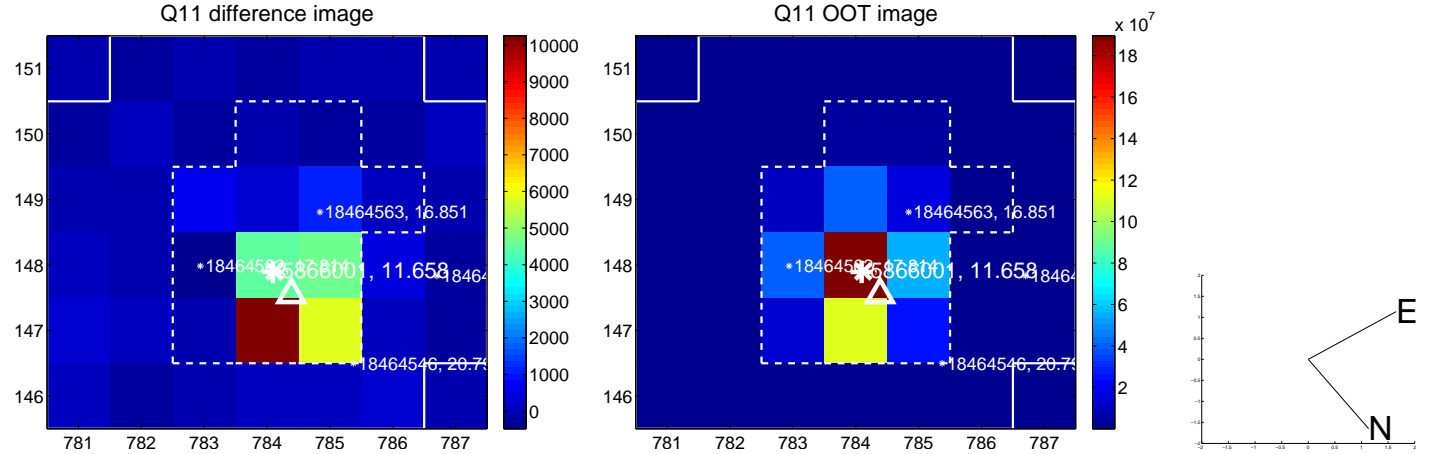
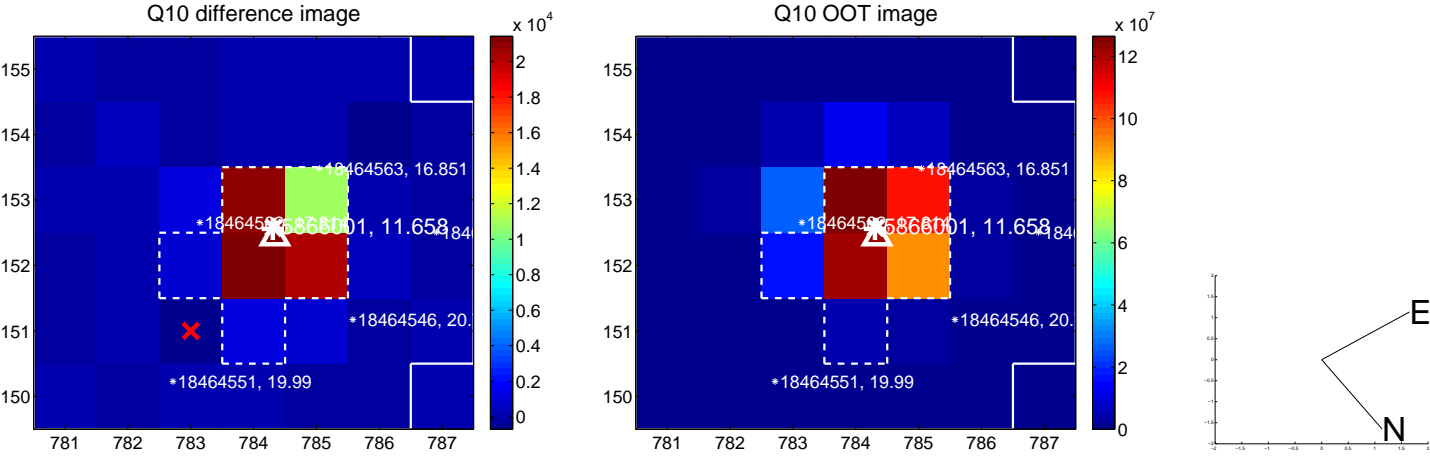
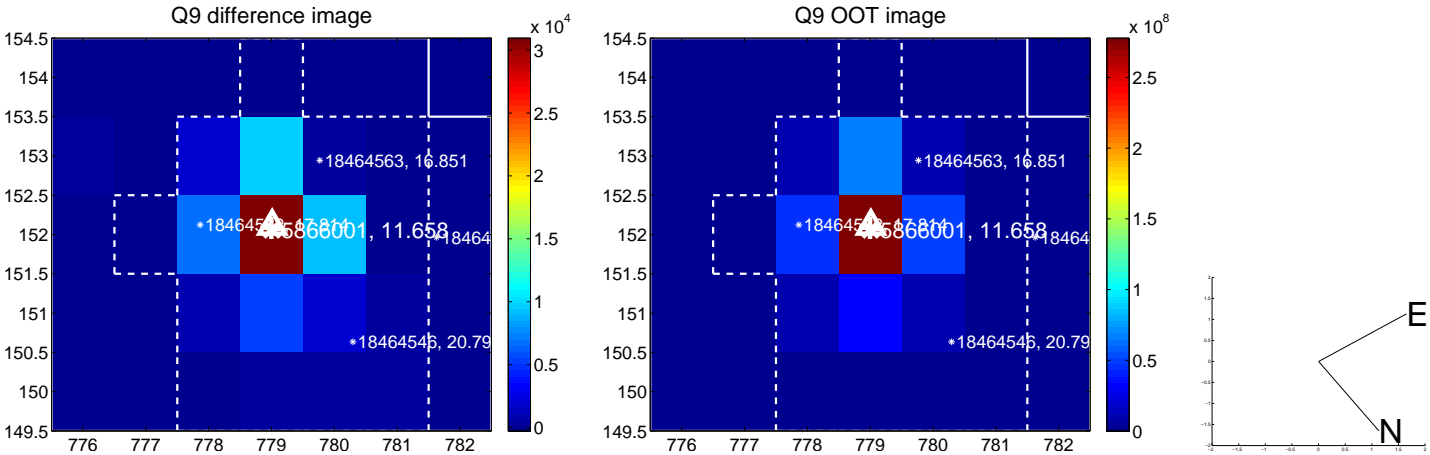


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

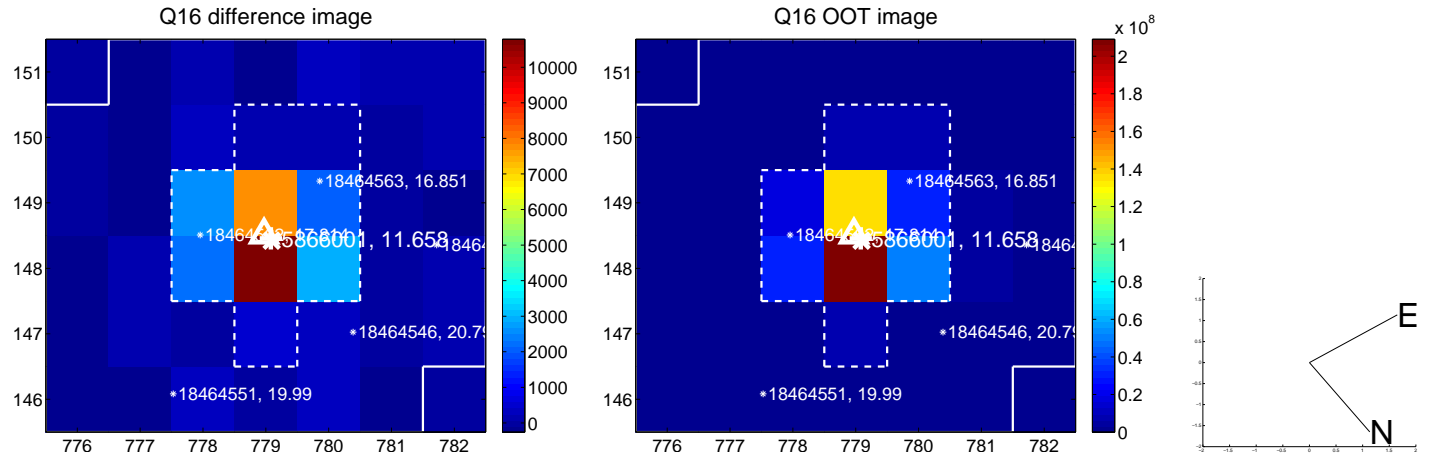
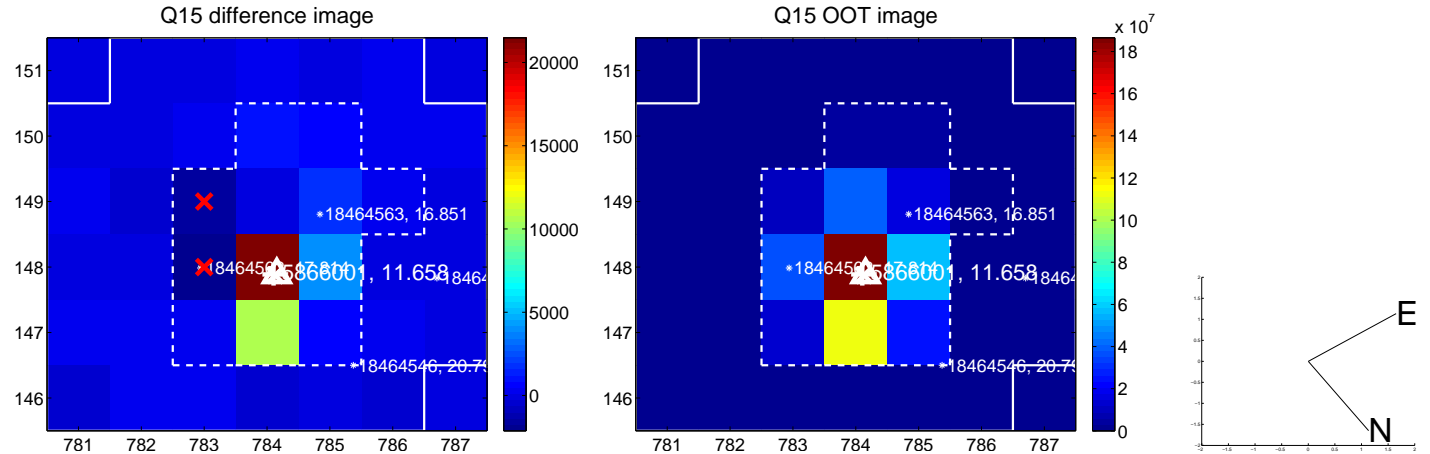
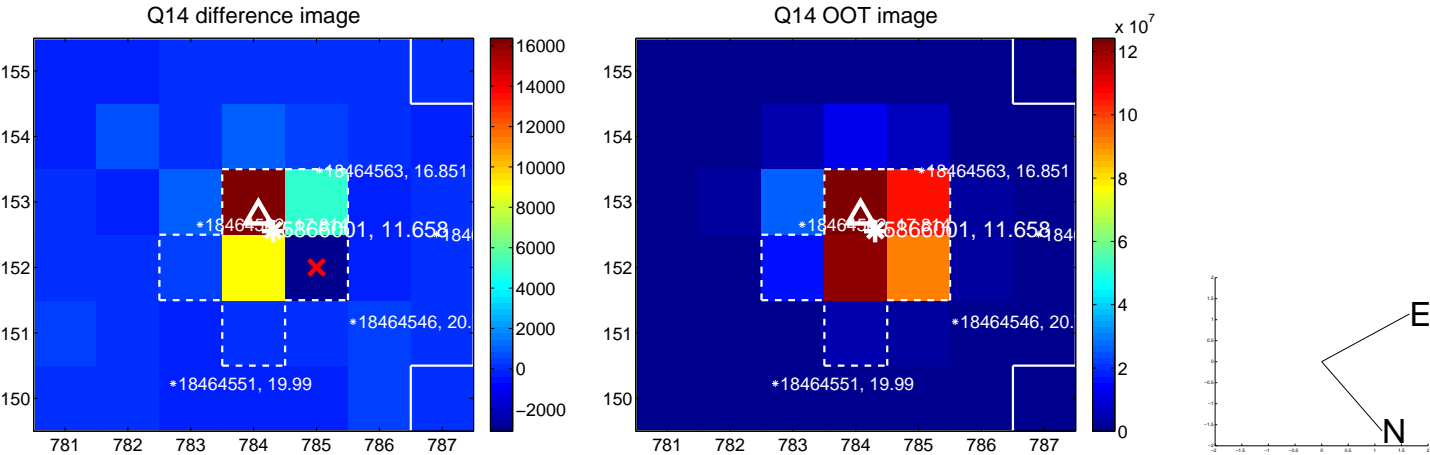
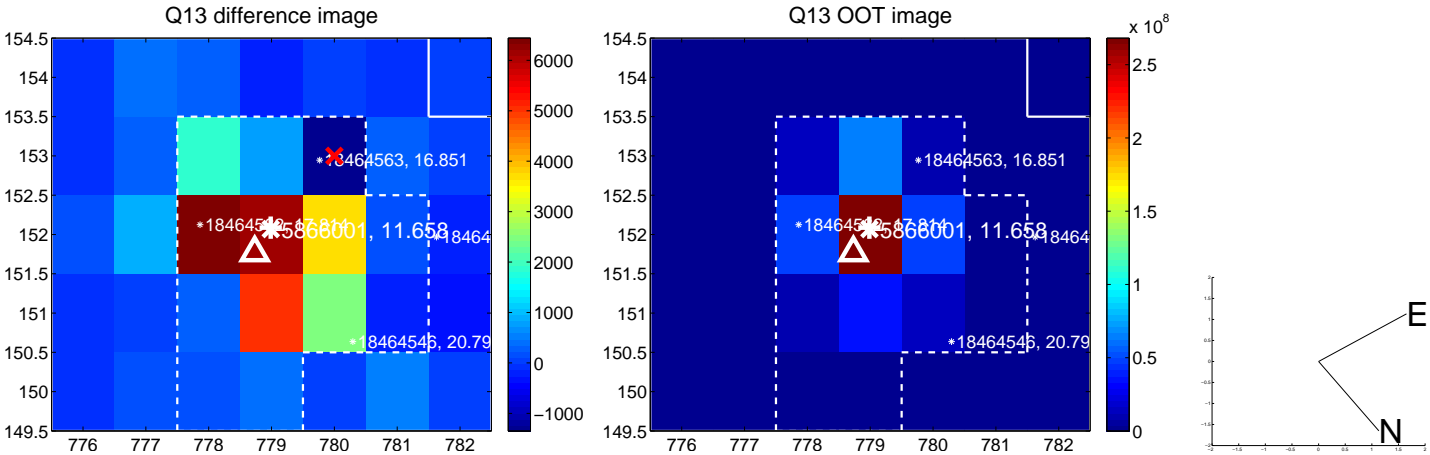
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



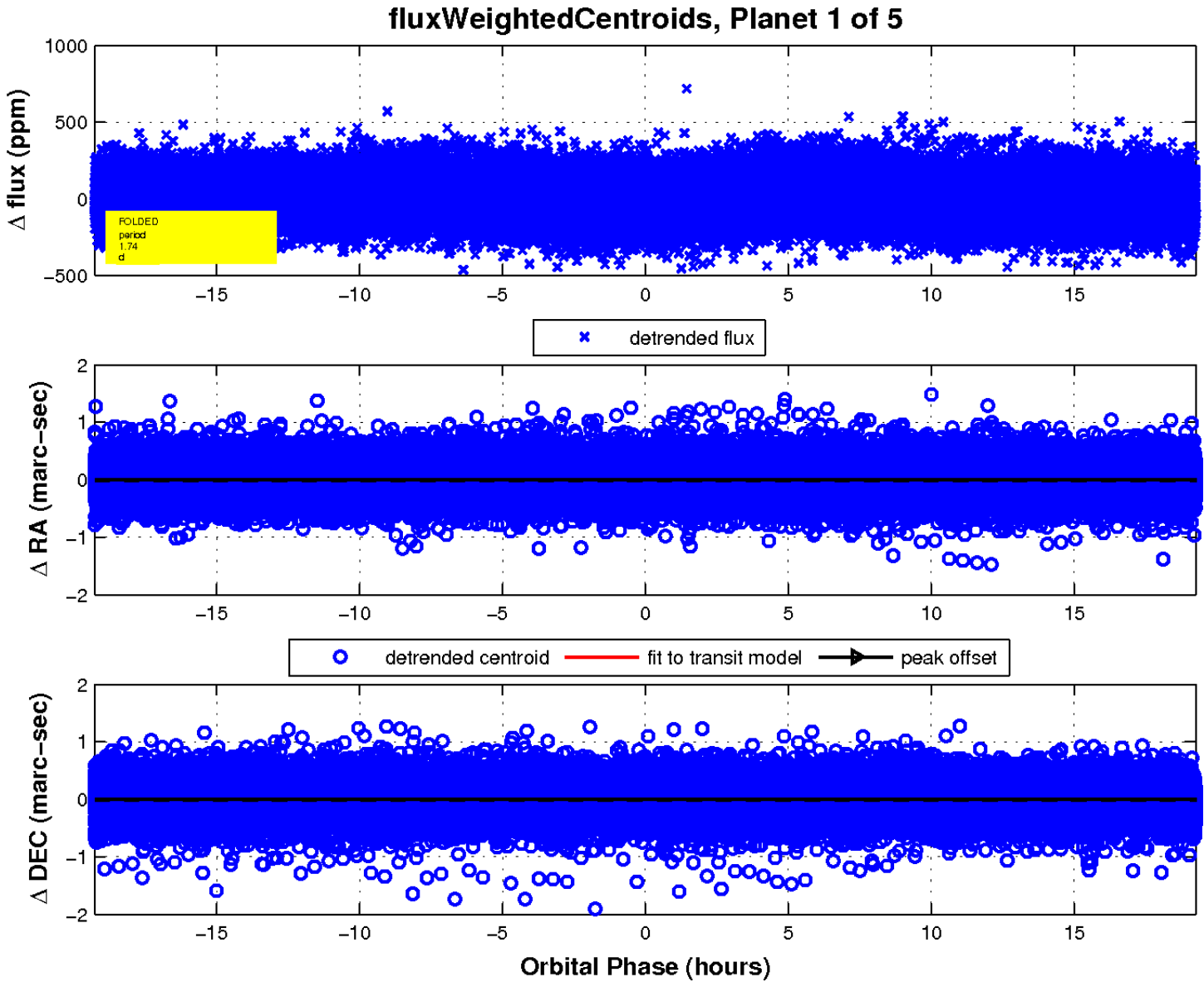
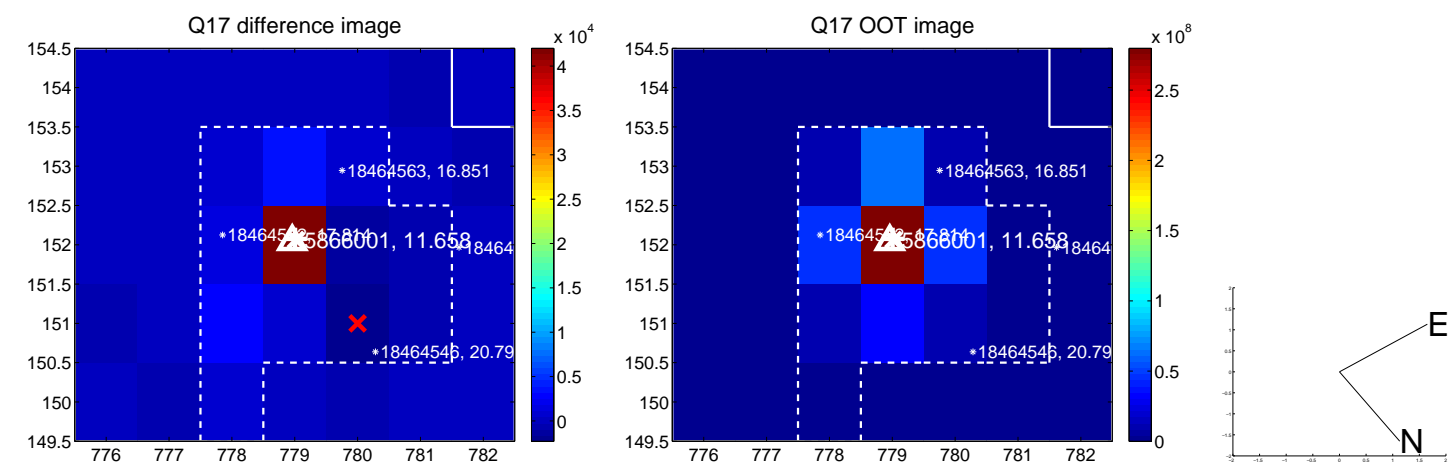
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

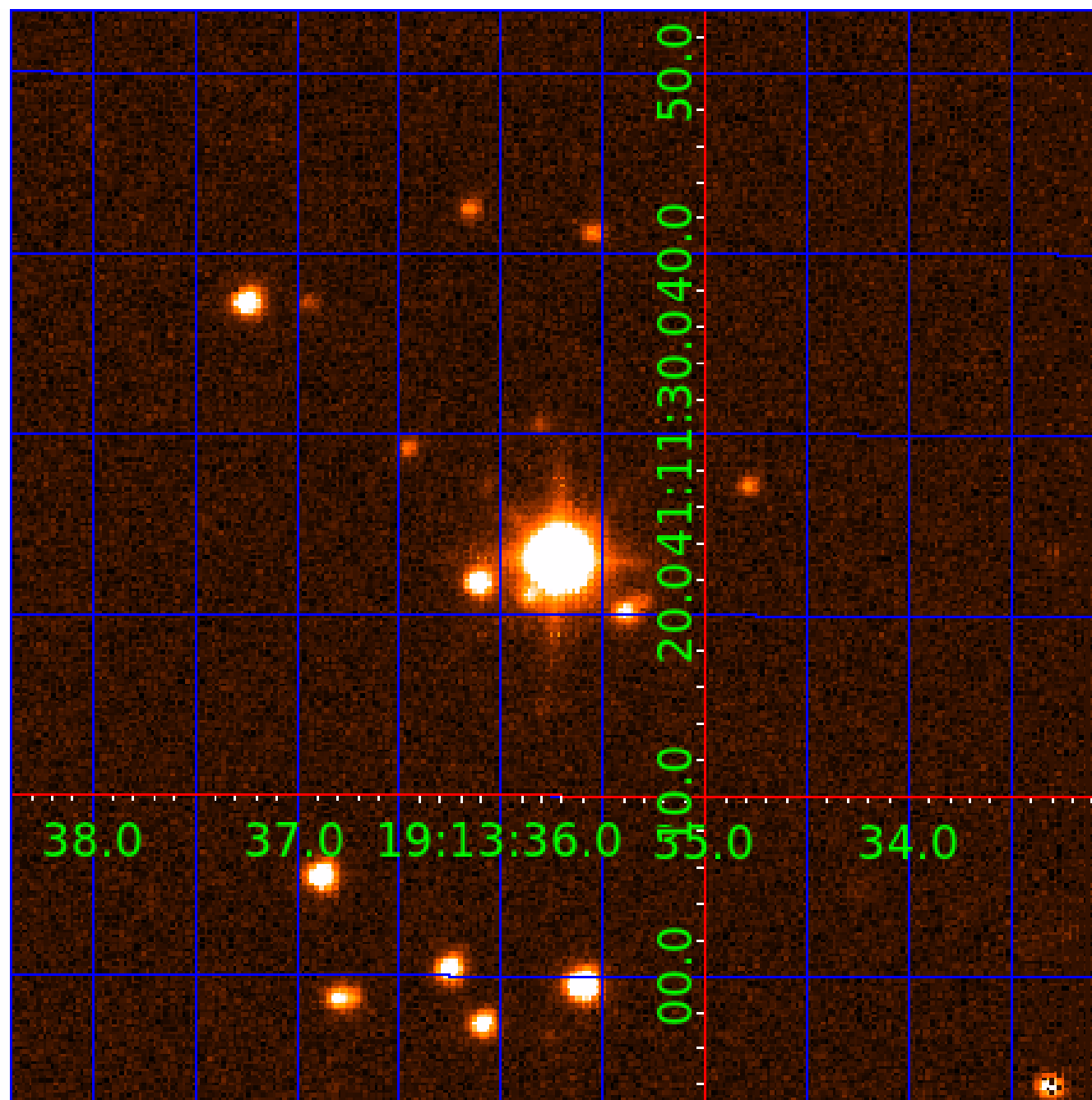


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005866001

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})
005866001-01	OBS	No	1.744680	131.650216	26.5	6.422	14.8	11.9	2.41	6493	1.25	9434.21
005866001-02	OBS	No	2.615489	131.691944	24.3	10.396	9.6	8.4	2.41	6493	1.40	5498.65
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005866001-04	OBS	No	120.878503	214.585956	157.3	6.727	7.9	7.8	2.41	6493	3.39	33.15
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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005866001-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005866001-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

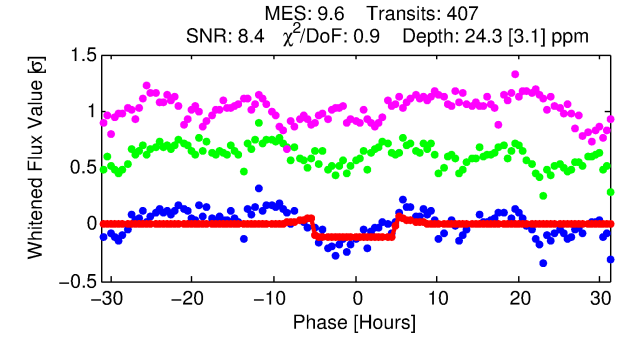
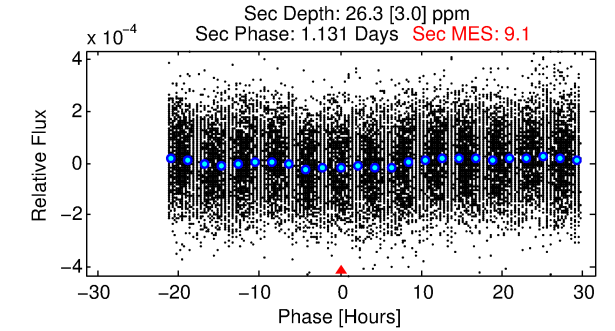
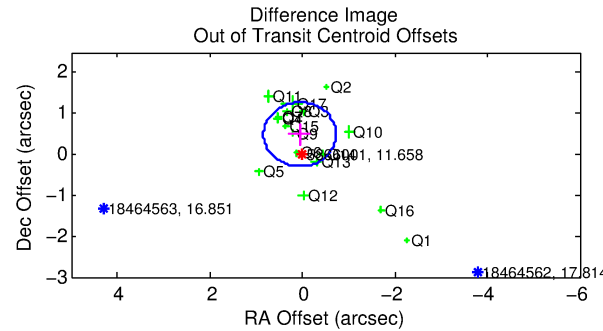
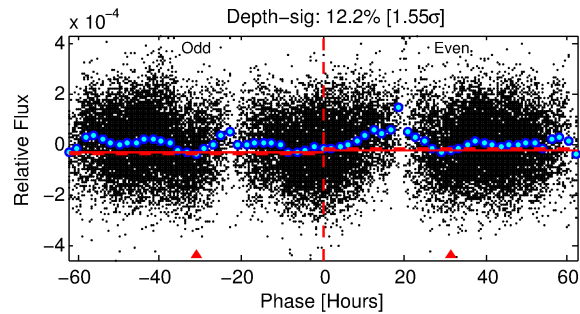
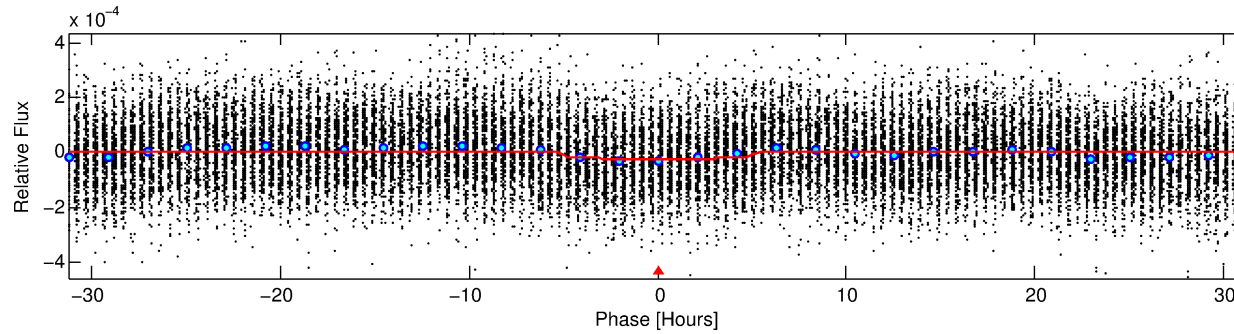
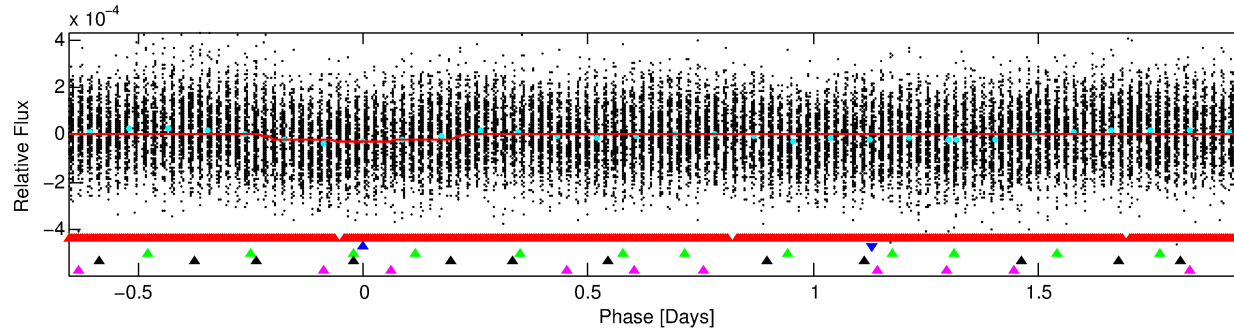
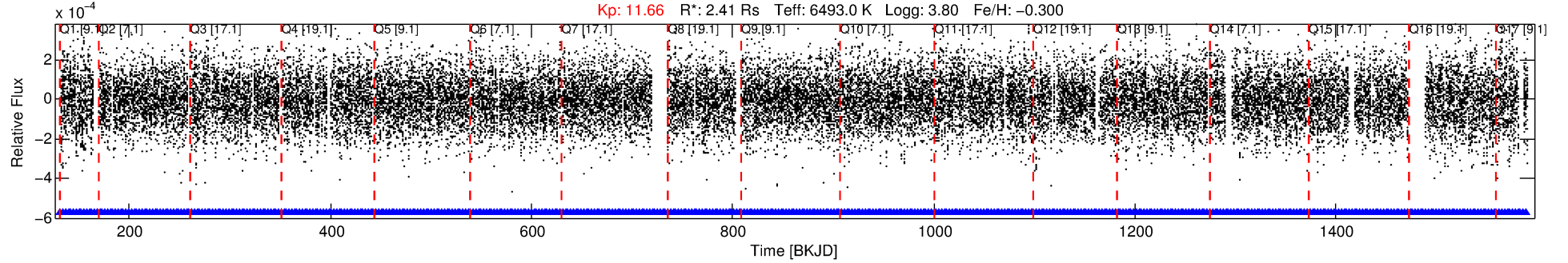
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005866001-02

No Significant Match Found

DV One-Page Summary

KIC: 5866001 Candidate: 2 of 5 Period: 2.615 d



DV Fit Results:

Period = 2.61549 [0.00003] d
Epoch = 131.6919 [0.0068] BKJD
Rp/R* = 0.0053 [0.0009]
a/R* = 1.25 [0.38]
b = 0.91 [0.16]
Seff = 5498.65 [2846.16]
Teq = 2196 [284] K
Rp = 1.40 [0.54] Re
a = 0.0410 [0.0132] AU
Ag = 12.40 [7.59] [1.50 σ]
Teffp = 6370 [576] K [6.50 σ]

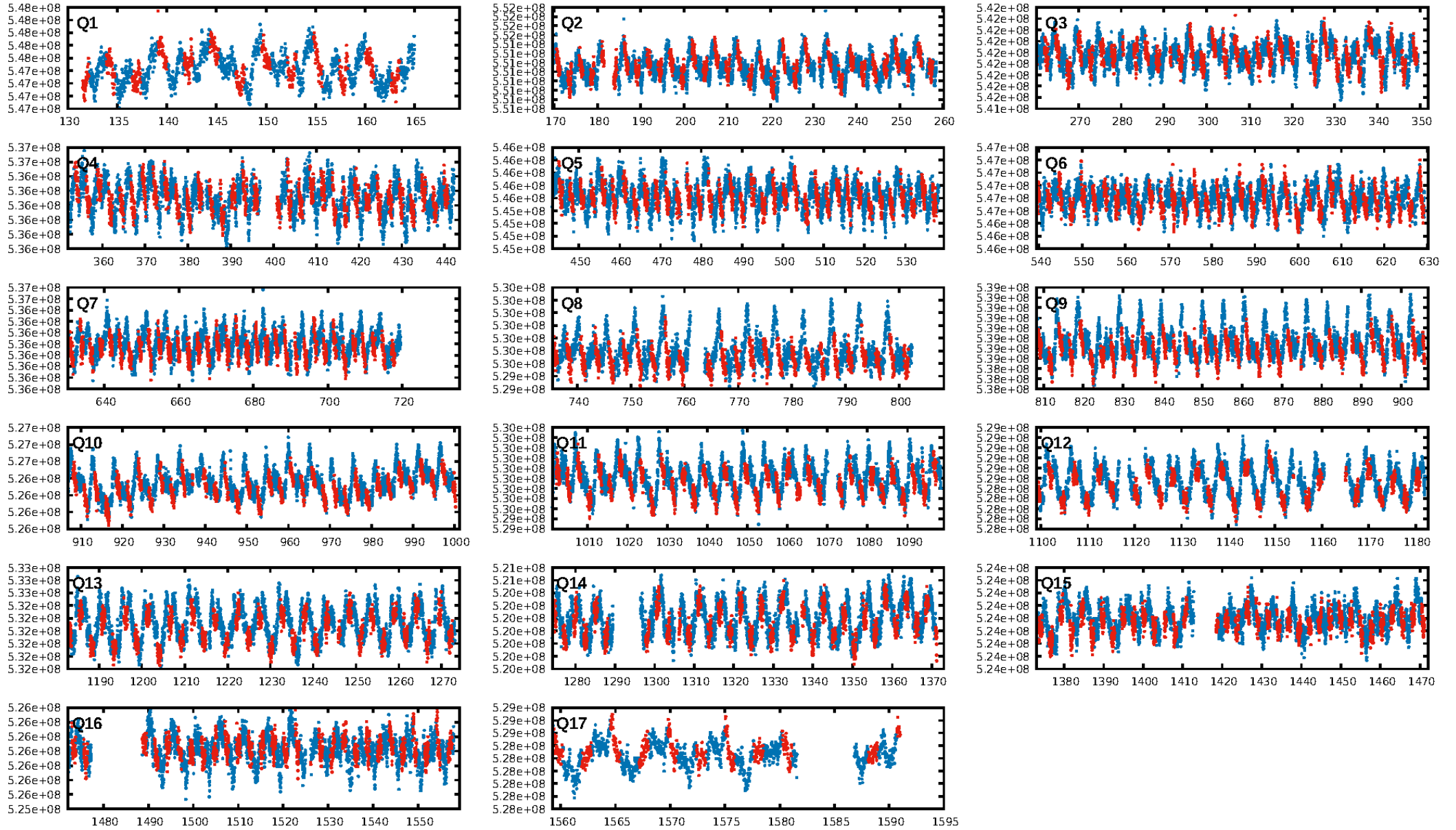
DV Diagnostic Results:

ShortPeriod-sig: 91.3% [1.71 σ]
LongPeriod-sig: 100.0% [229.21 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.17e-10
RollingBand-fgt: 1.00 [395/395]
GhostDiagnostic-chr: 2.65
Centroid-sig: 32.8%
Centroid-so: 0.261 arcsec [0.80 σ]
OotOffset-rm: 0.495 arcsec [1.90 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.408 arcsec [1.65 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

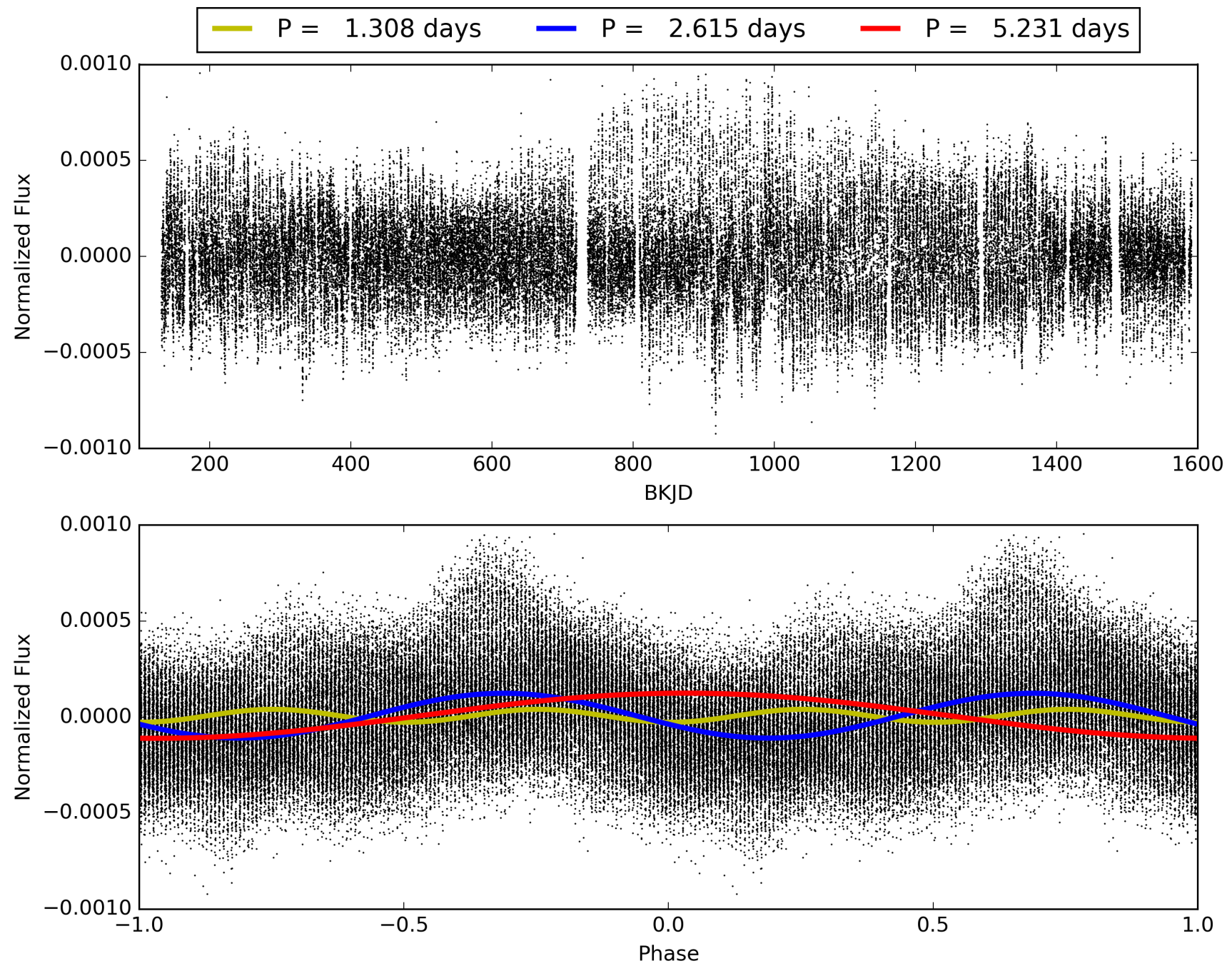
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005866001-02, PDC Light Curves

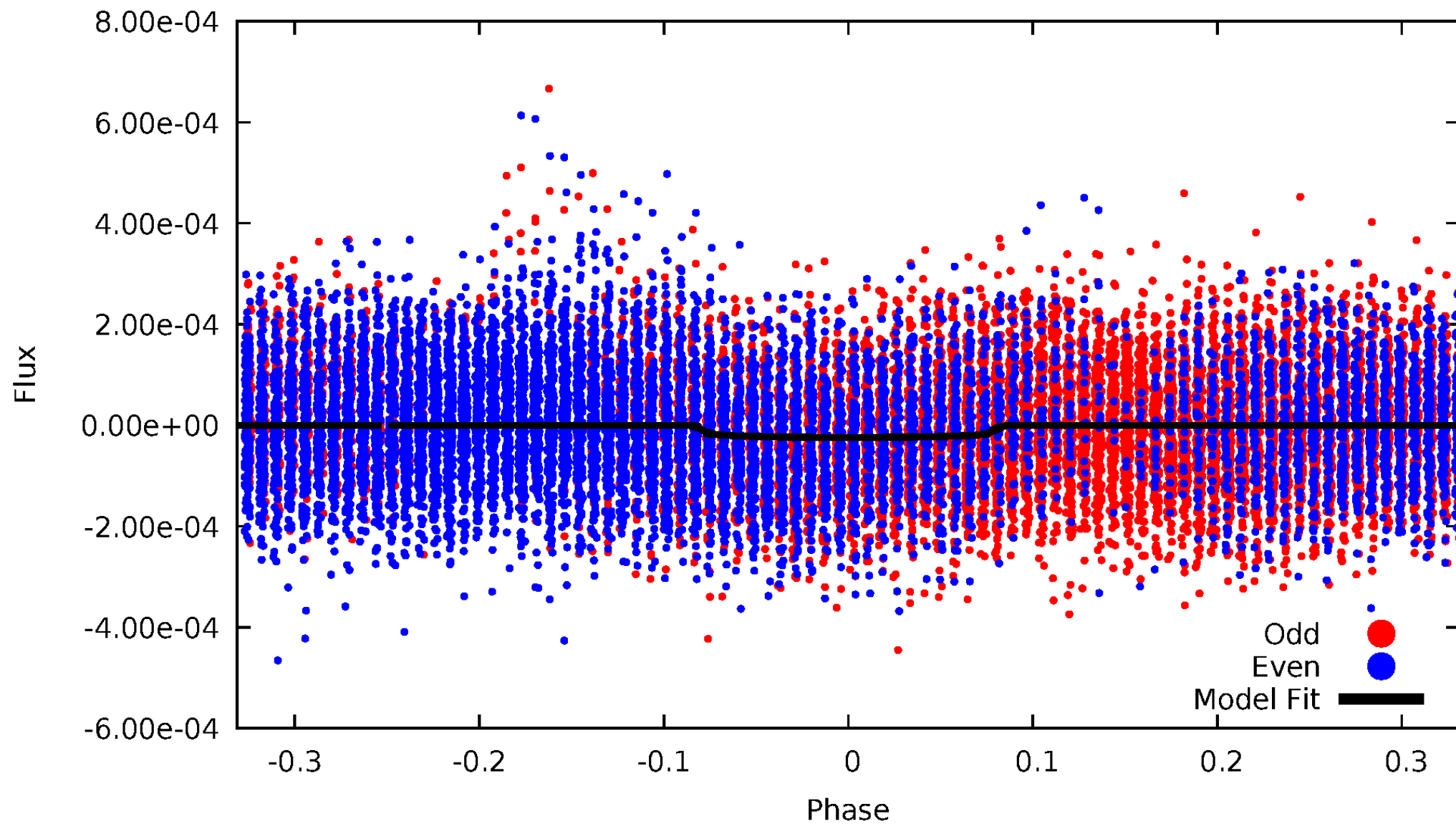


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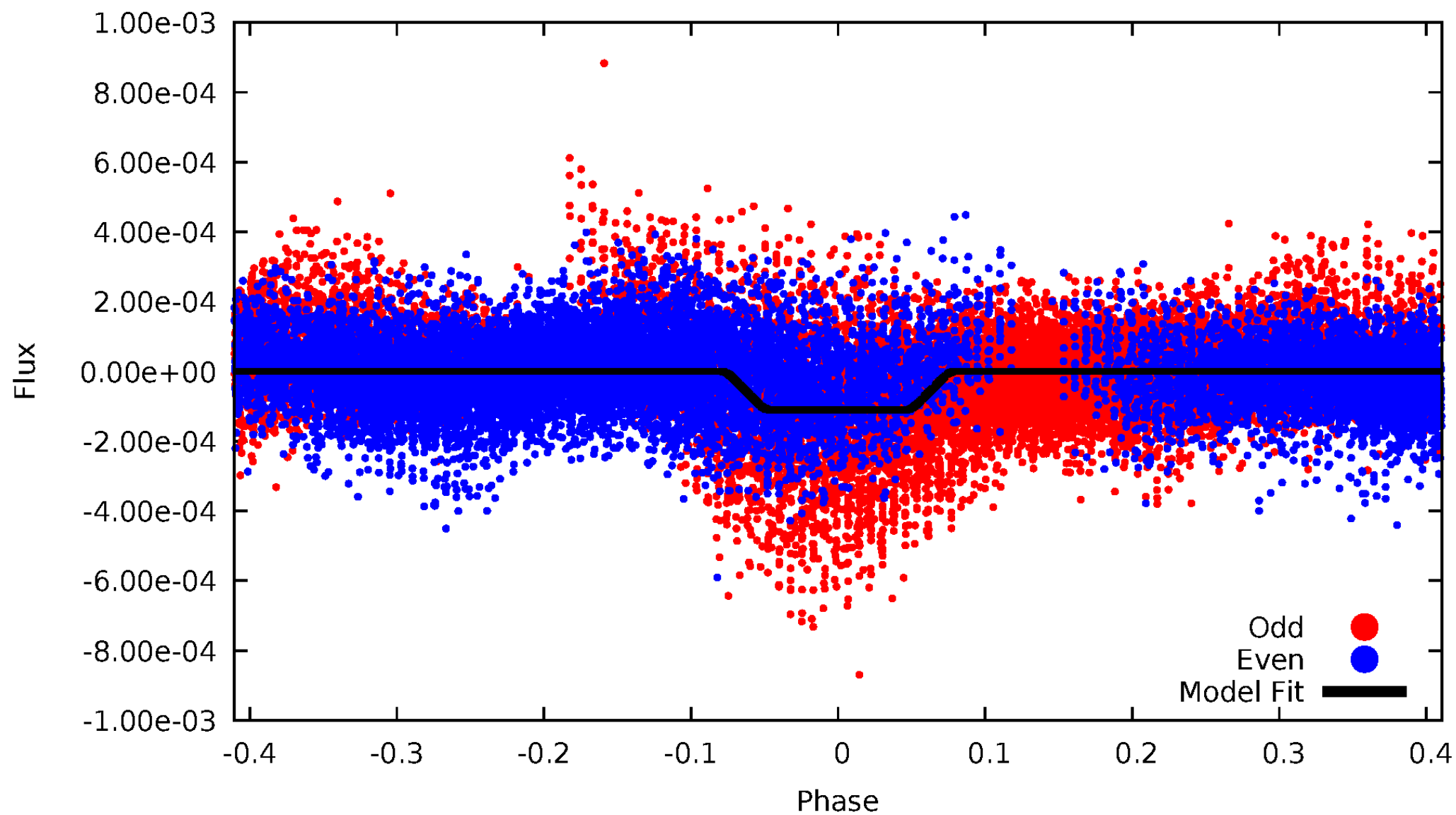
DV Odd/Even

TCE 005866001-02



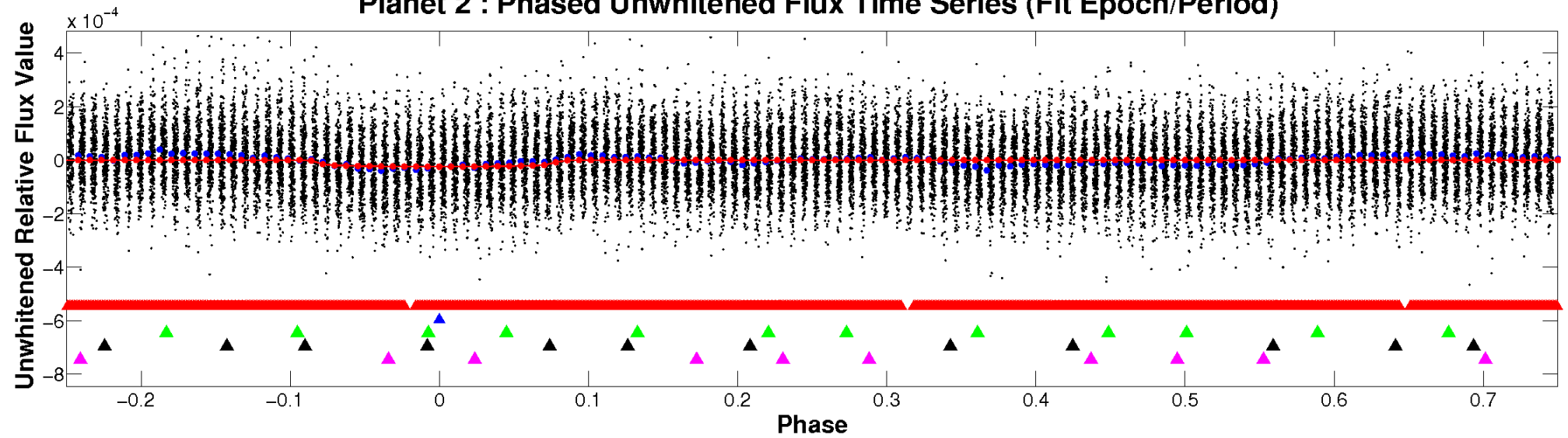
ALT Odd/Even

TCE 005866001-02

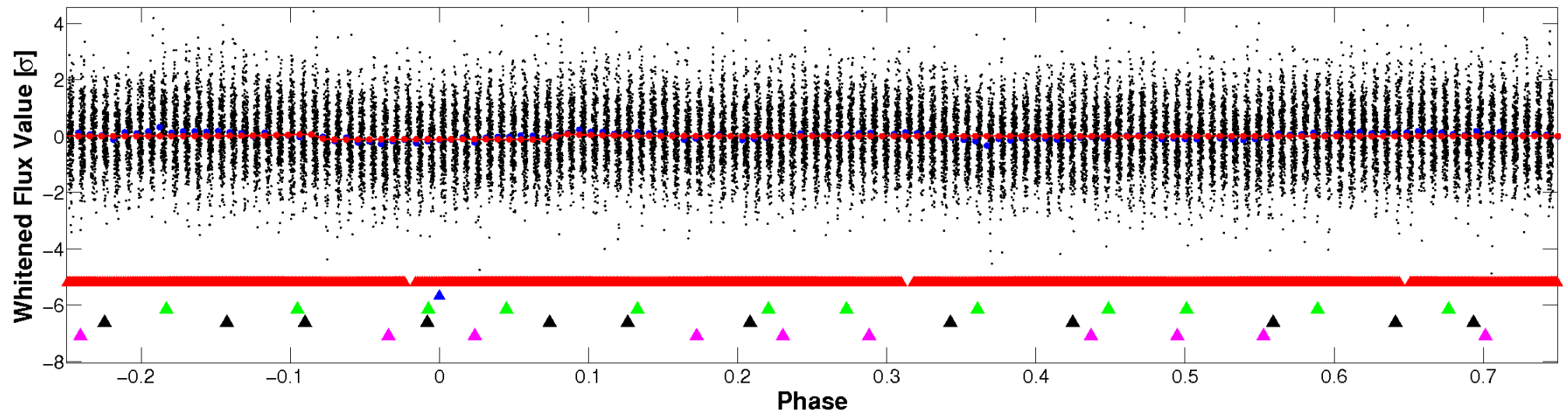


Non-Whitened Vs. Whitened Light Curve

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

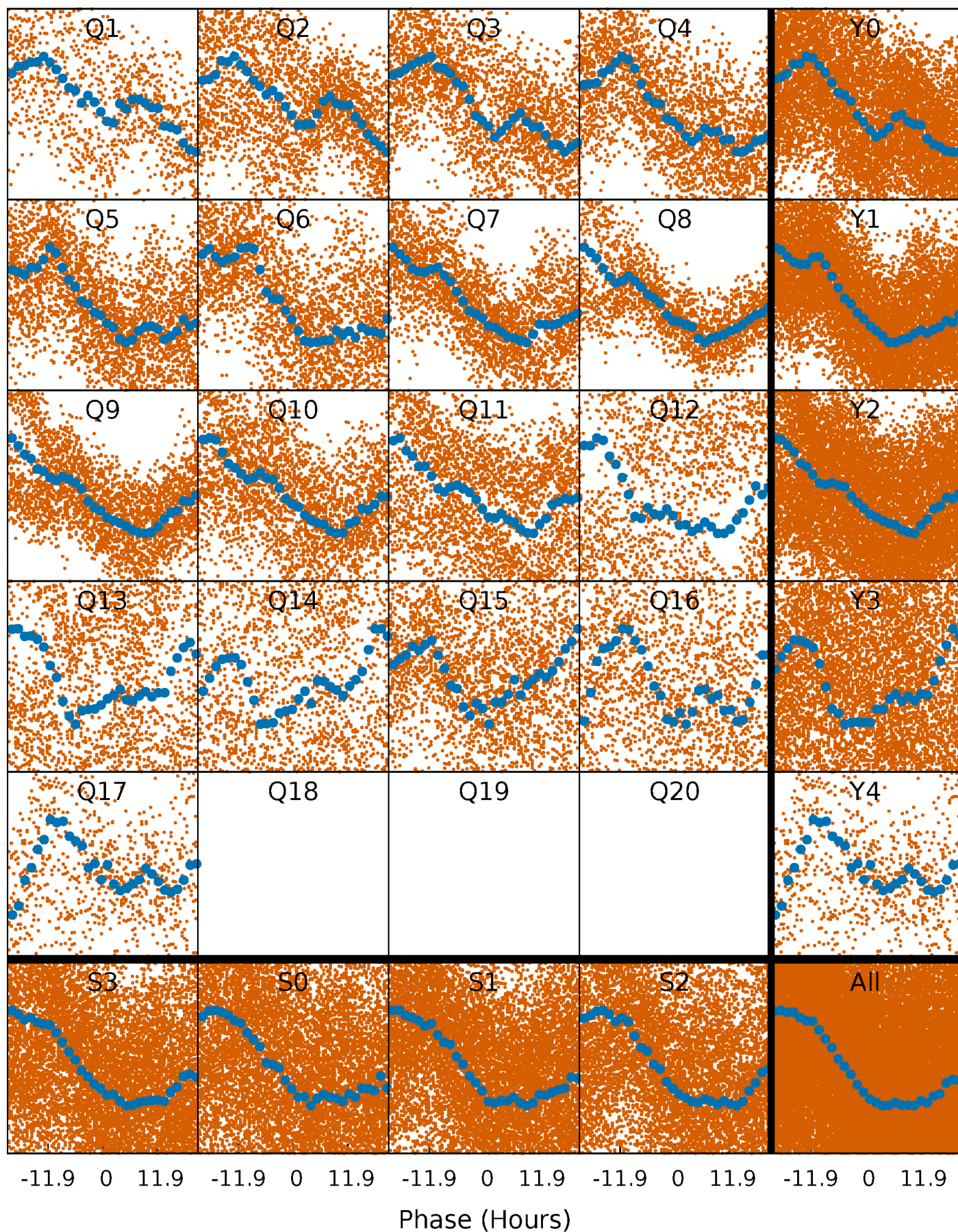


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



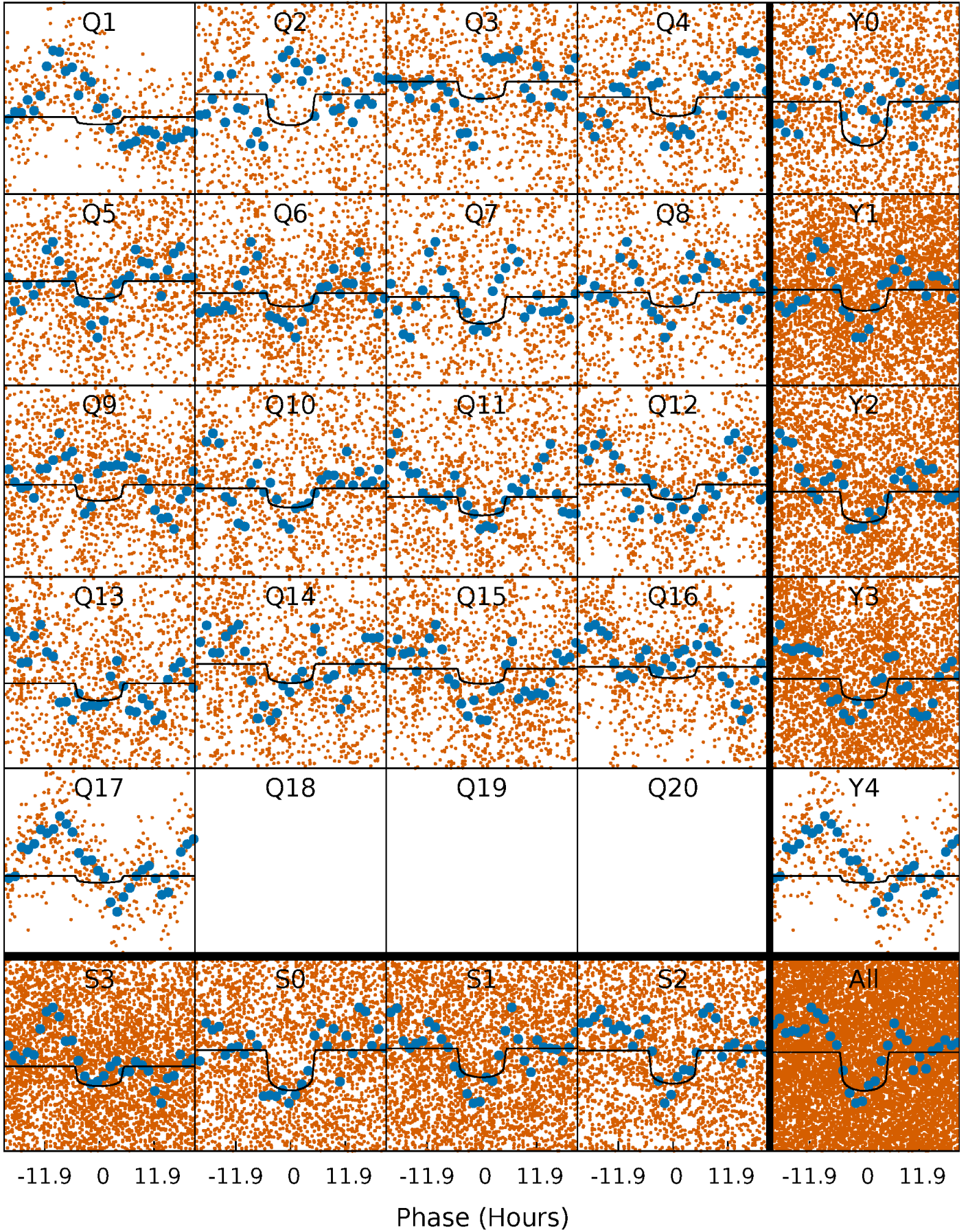
PDC Quarter-Phased Transit Curves

TCE 005866001-02 $P = 2.615489$ Days $T_0 = 131.691944$ (BKJD)



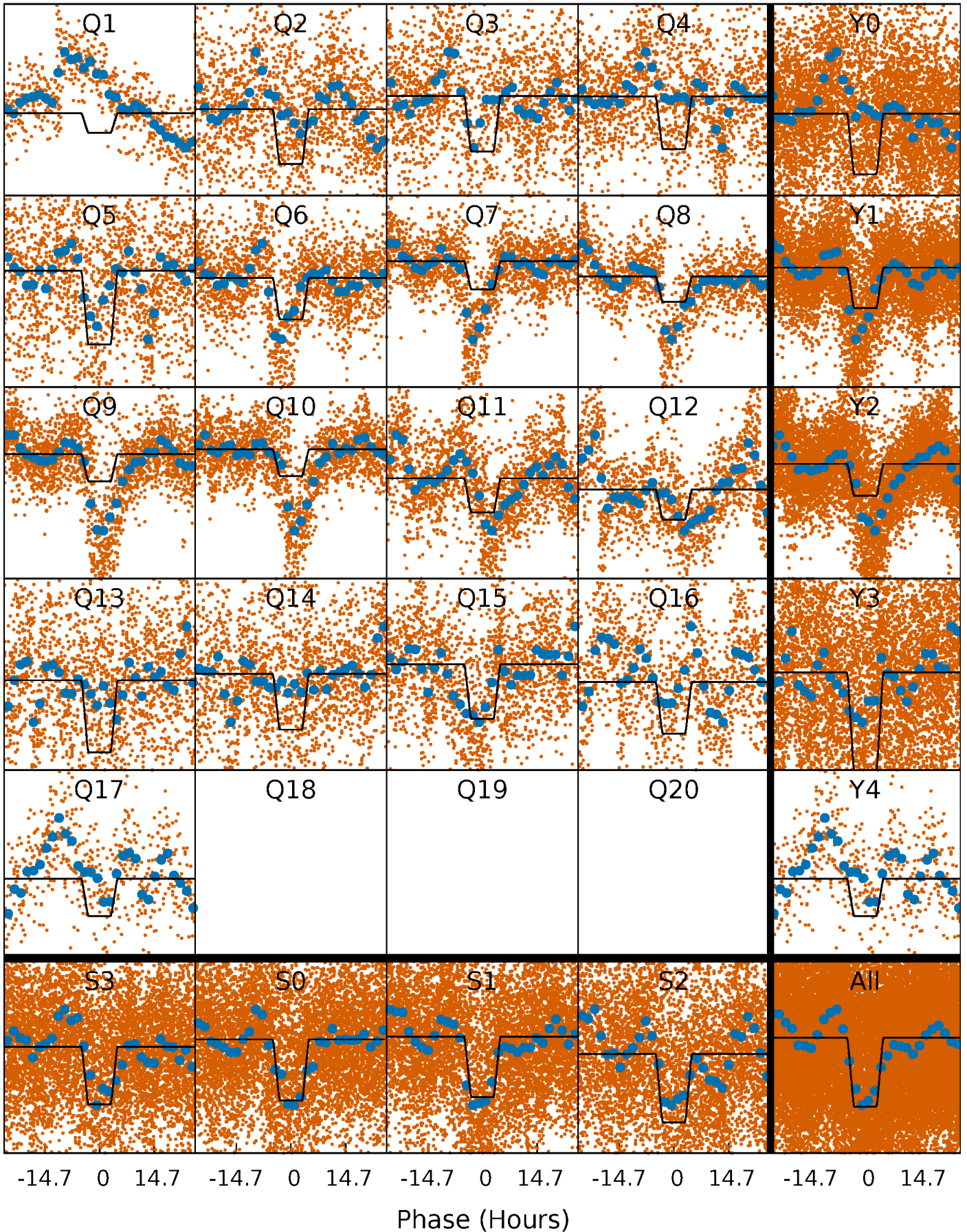
DV Quarter-Phased Transit Curves

TCE 005866001-02 P= 2.615489 Days $T_0=131.691944$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

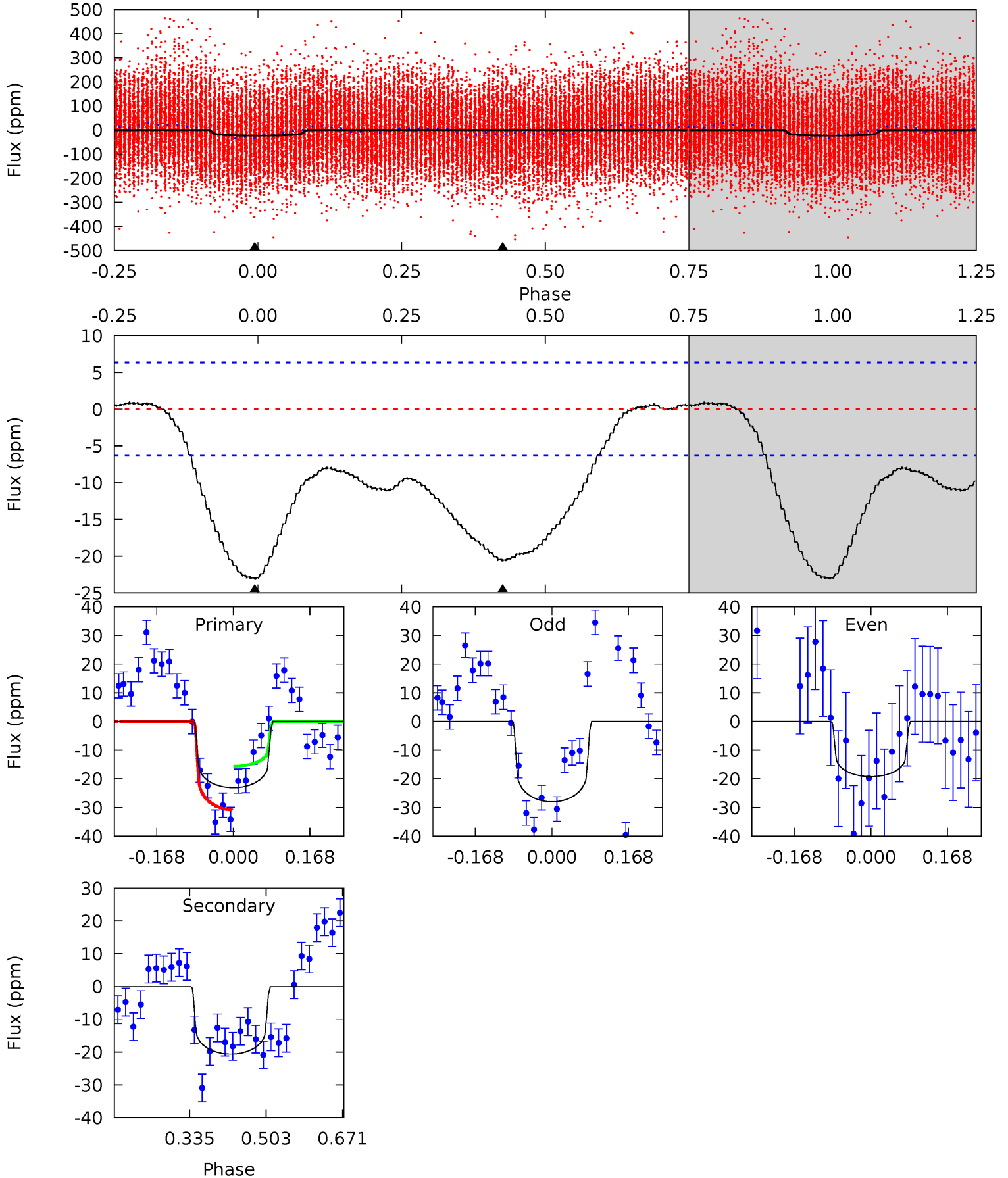
TCE 005866001-02 $P = 2.615629$ Days $T_0 = 131.683211$ (BKJD)



DV Model-Shift Uniqueness Test

005866001-02, P = 2.615489 Days, E = 131.691944 Days

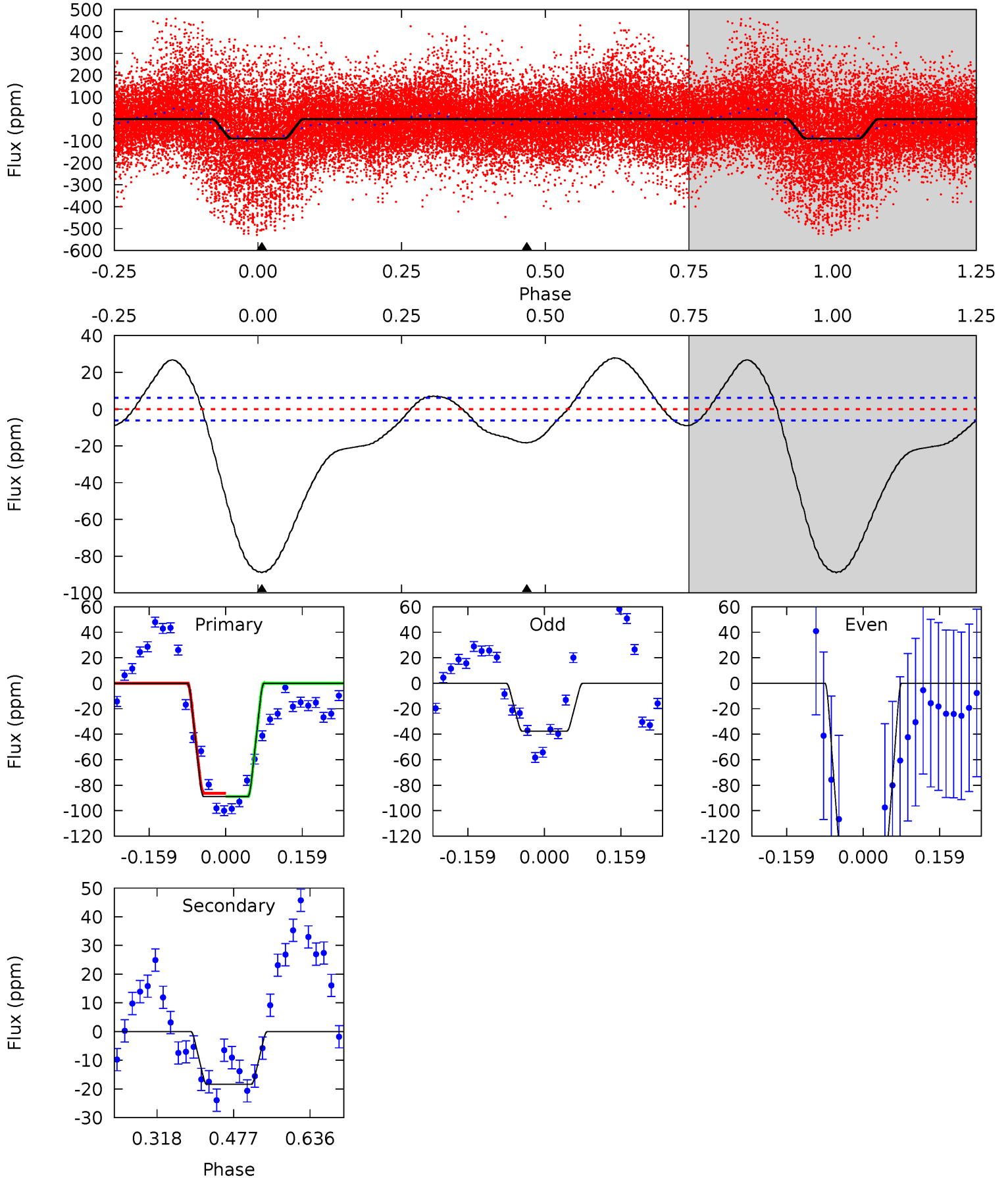
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	14.5	0	0	4.46	1.38	3.37	16.2	16.2	14.5	14.5	3.07	0.91	0.04	5.38



Alt Model-Shift Uniqueness Test

005866001-02, P = 2.615629 Days, E = 131.683211 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.3	13.3	0	0	4.47	1.41	9.94	64.3	64.3	13.3	13.3	32.9	1.31	0.24	0.90



Stellar Parameters For KIC 005866001

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6493^{+176}_{-176}	$3.802^{+0.293}_{-0.098}$	$-0.300^{+0.300}_{-0.250}$	$2.407^{+0.451}_{-0.838}$	$1.341^{+0.247}_{-0.247}$	$0.136^{+0.275}_{-0.042}$
	+3%/-3%	+8%/-3%	+100%/-83%	+19%/-35%	+18%/-18%	+203%/-31%
Source	PHO1	FLK73	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 005866001-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-21 ± 1	$1.33^{+0.33}_{-0.31}$	3018^{+181}_{-259}	5966^{+637}_{-479}	11^{+7}_{-4}
Alt.	-18 ± 1	$2.68^{+0.41}_{-0.53}$	3008^{+178}_{-264}	4243^{+201}_{-170}	$2.416^{+1.111}_{-0.562}$

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

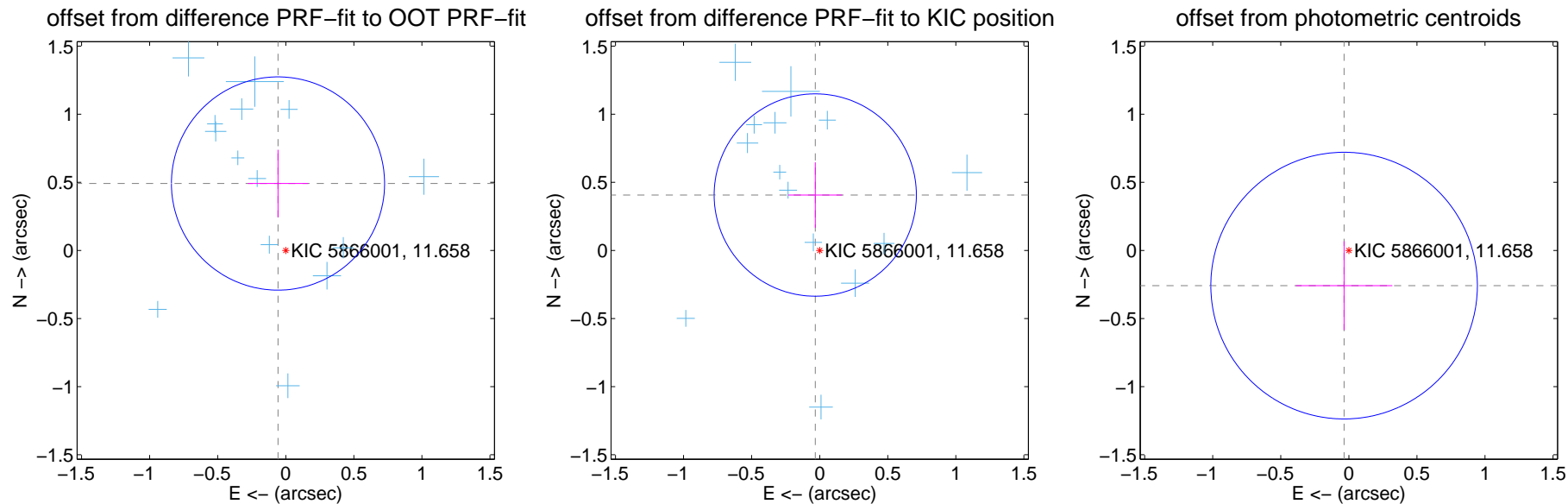
DV Centroid Data

Supplemental centroid analysis for 005866001-02. **Kepler magnitude: 11.66.** Transit SNR 8.42

There are 17 quarters with good PRF difference image offsets

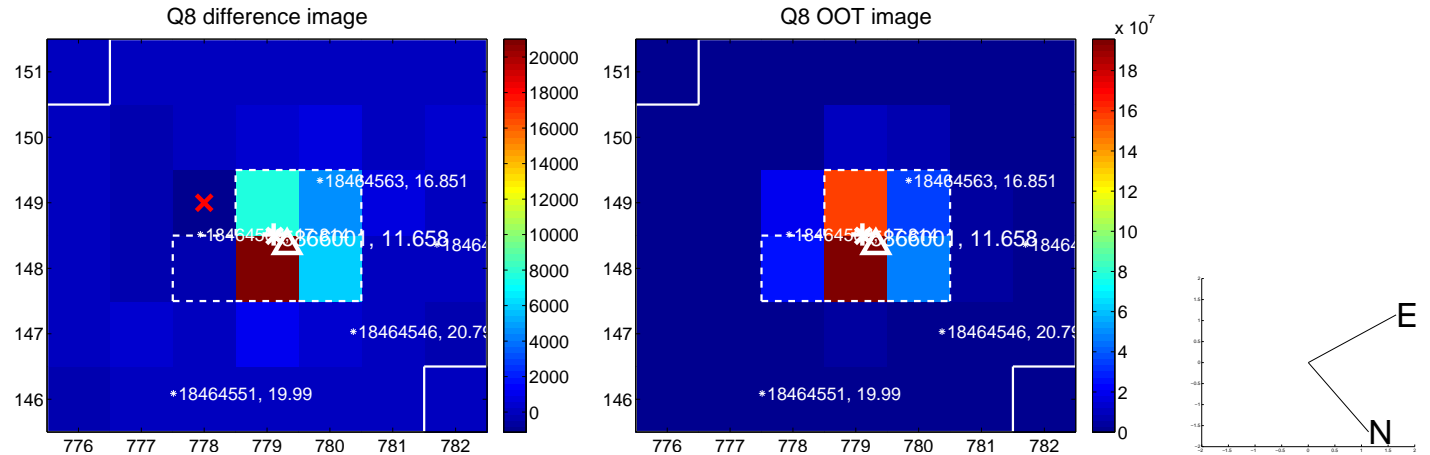
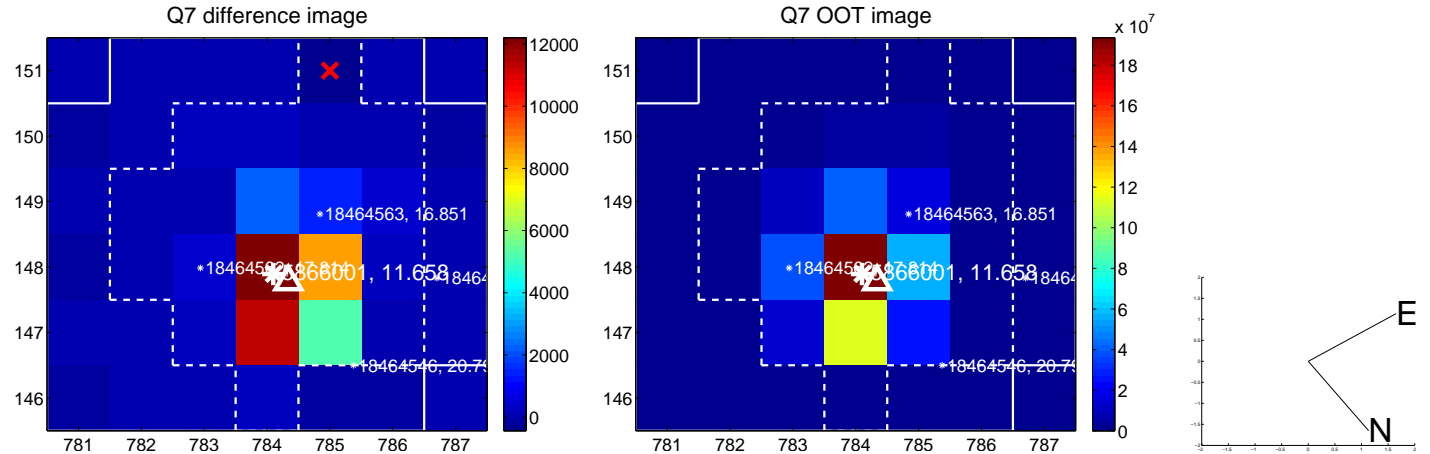
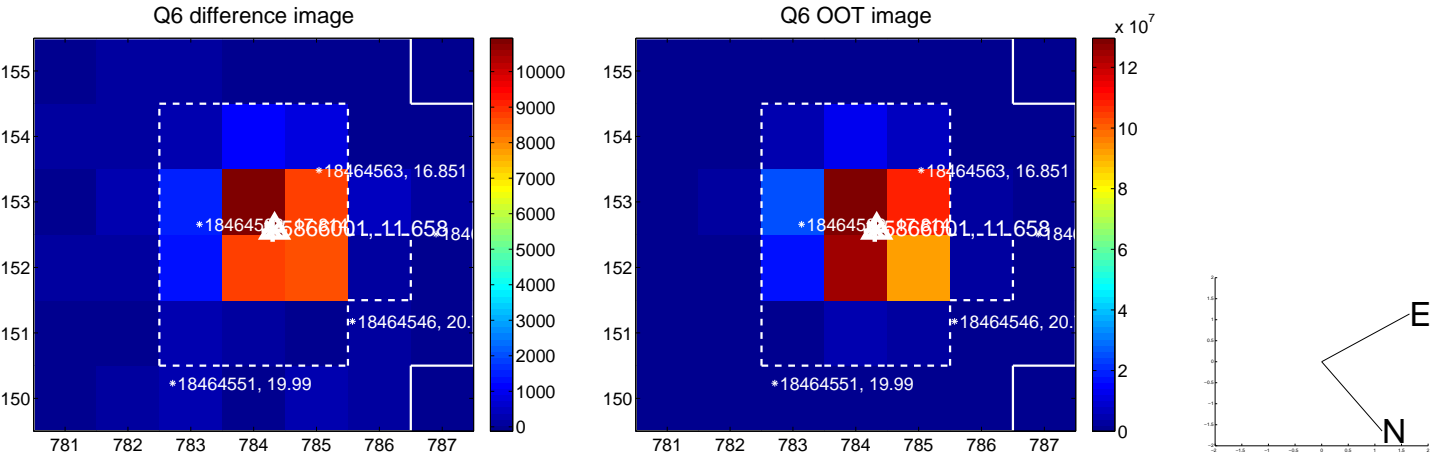
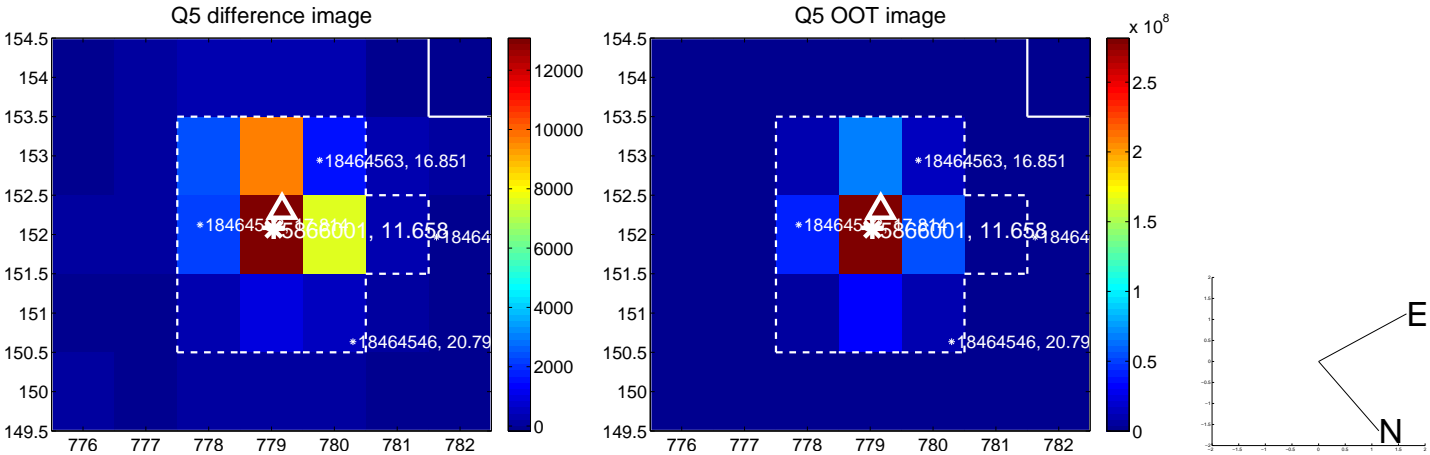
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.495 ± 0.261	1.90	0.057 ± 0.221	0.491 ± 0.247
PRF-fit source offset from KIC position	0.408 ± 0.248	1.65	0.033 ± 0.198	0.407 ± 0.240
photometric centroid source offset	0.26 ± 0.33	0.80	0.04 ± 0.35	-0.26 ± 0.33

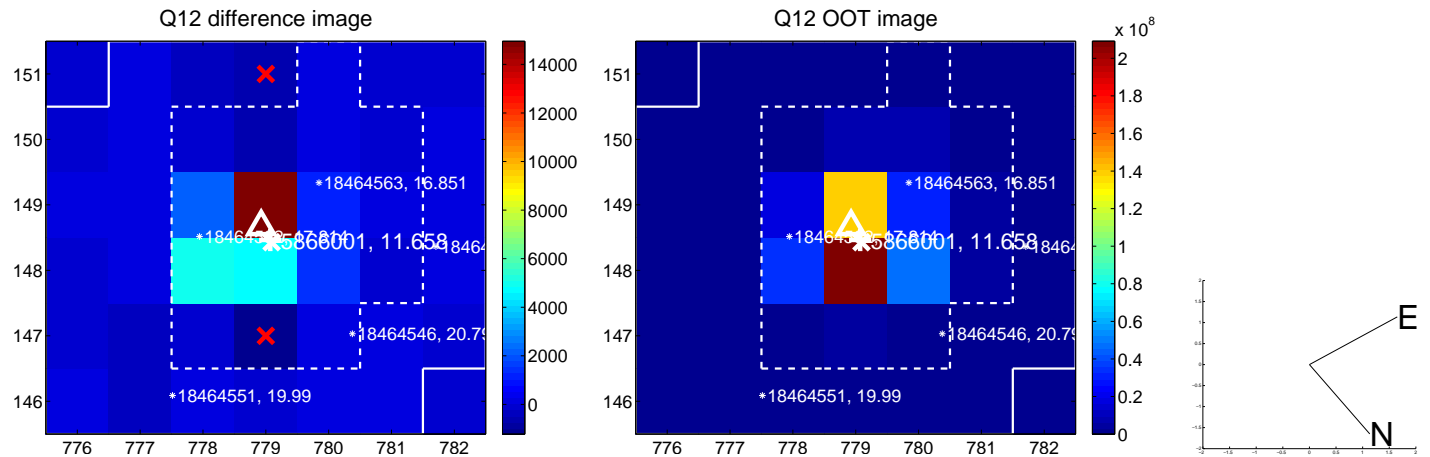
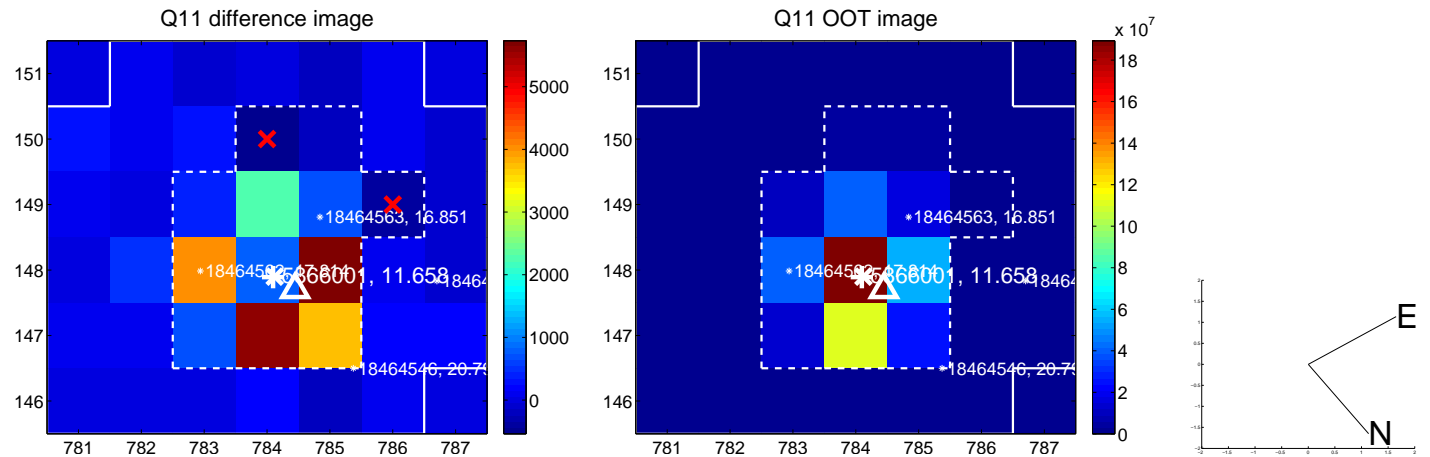
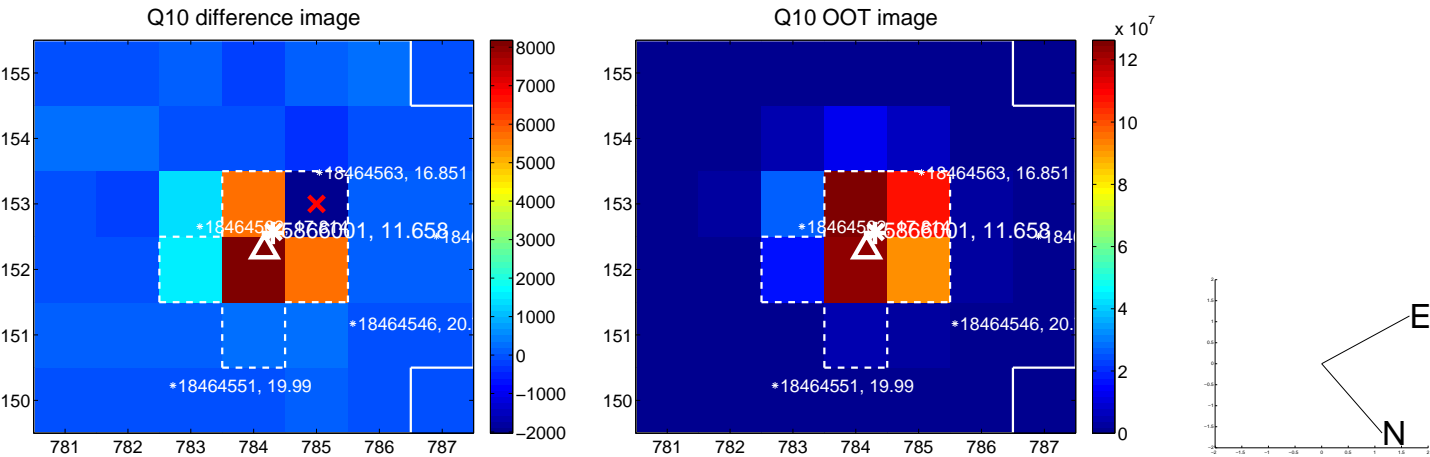
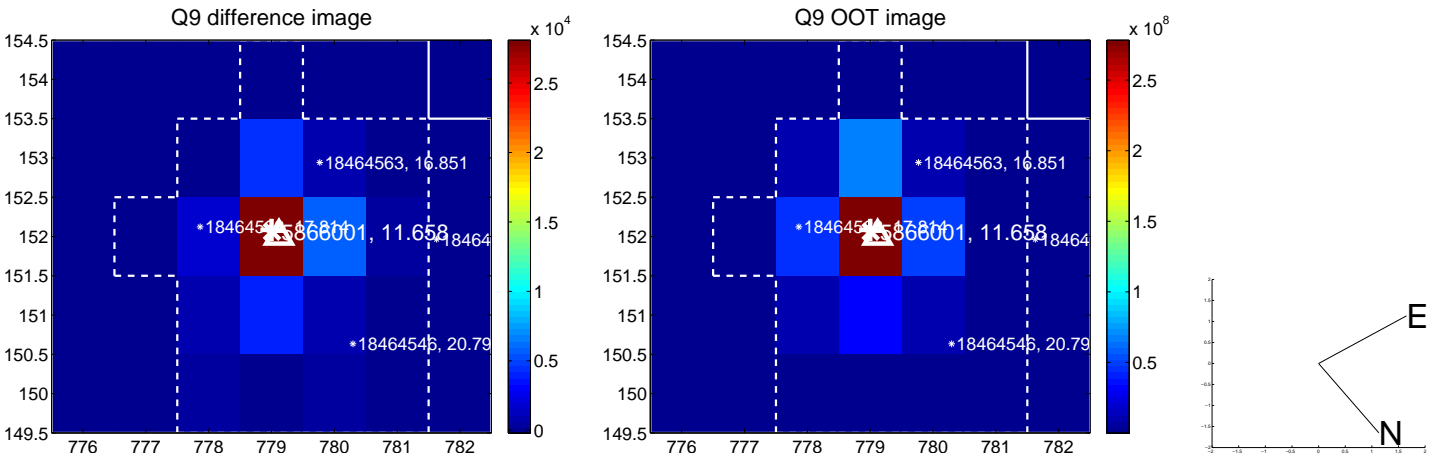


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

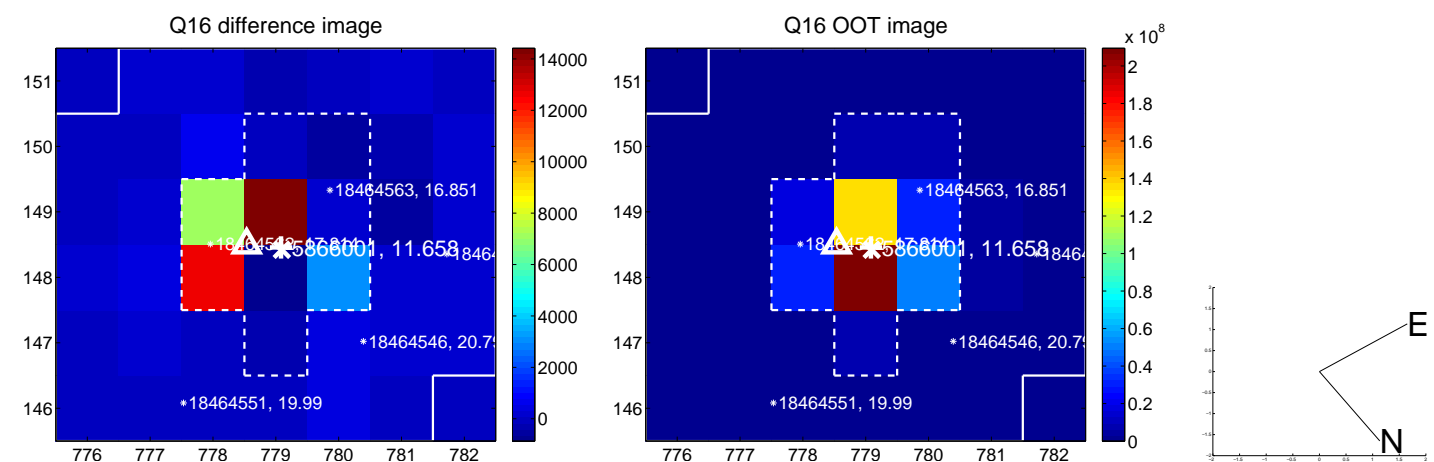
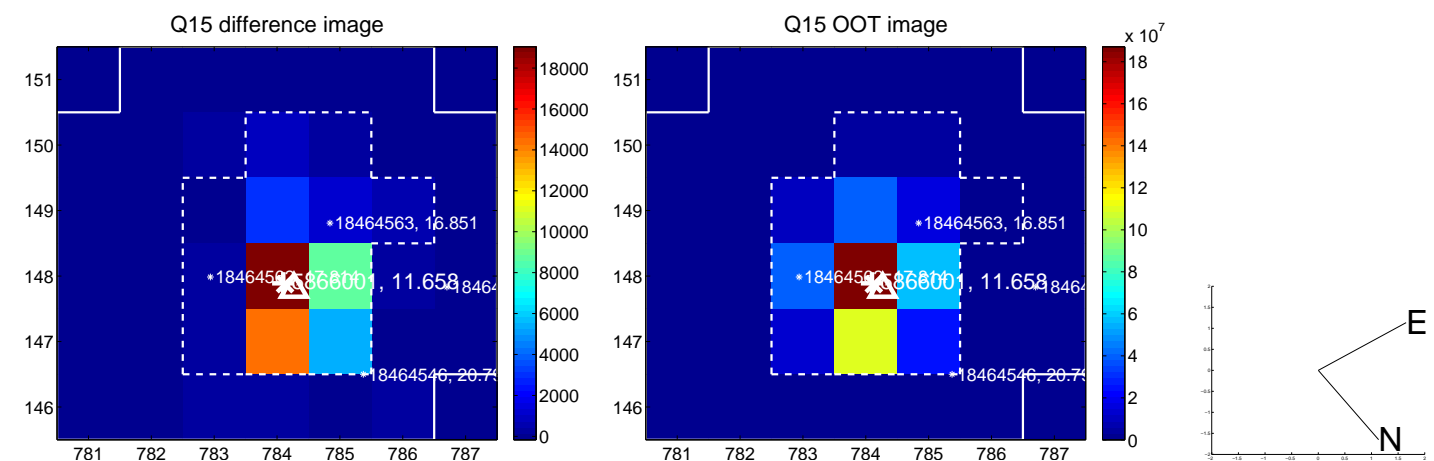
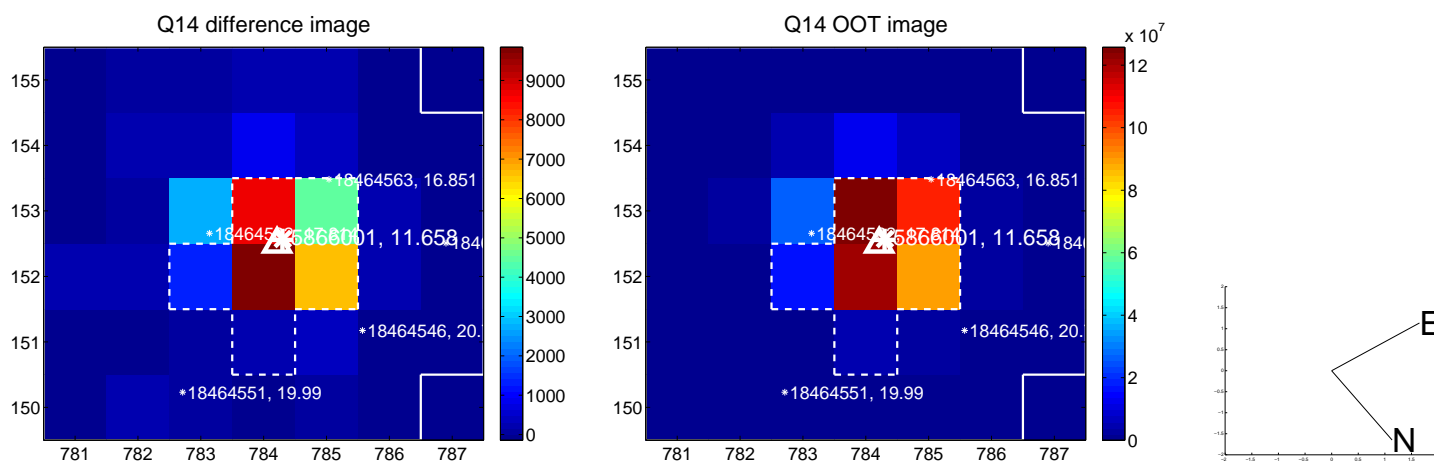
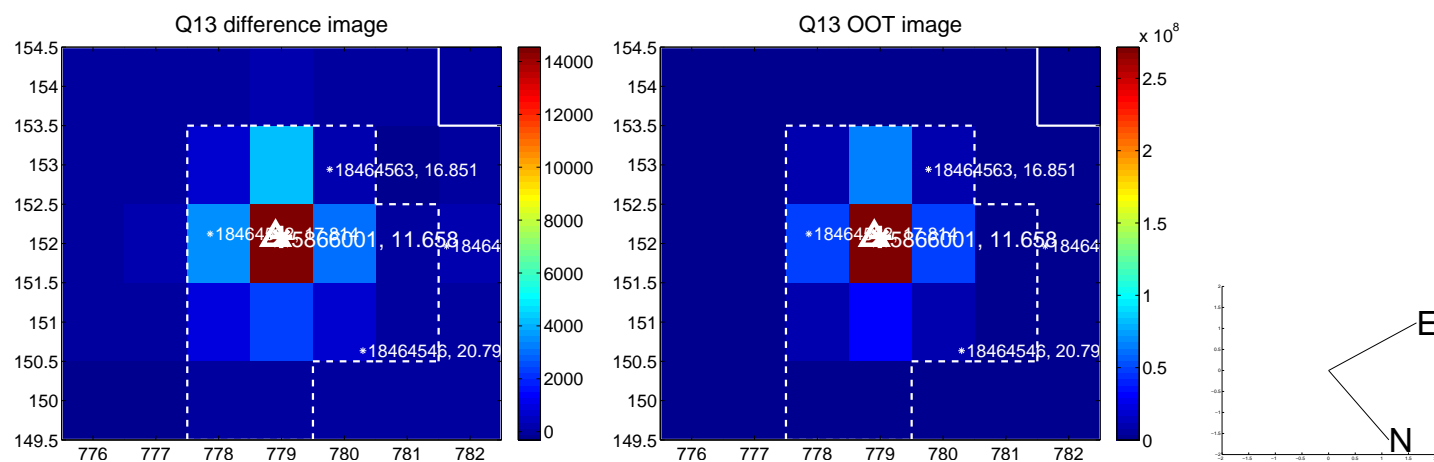
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



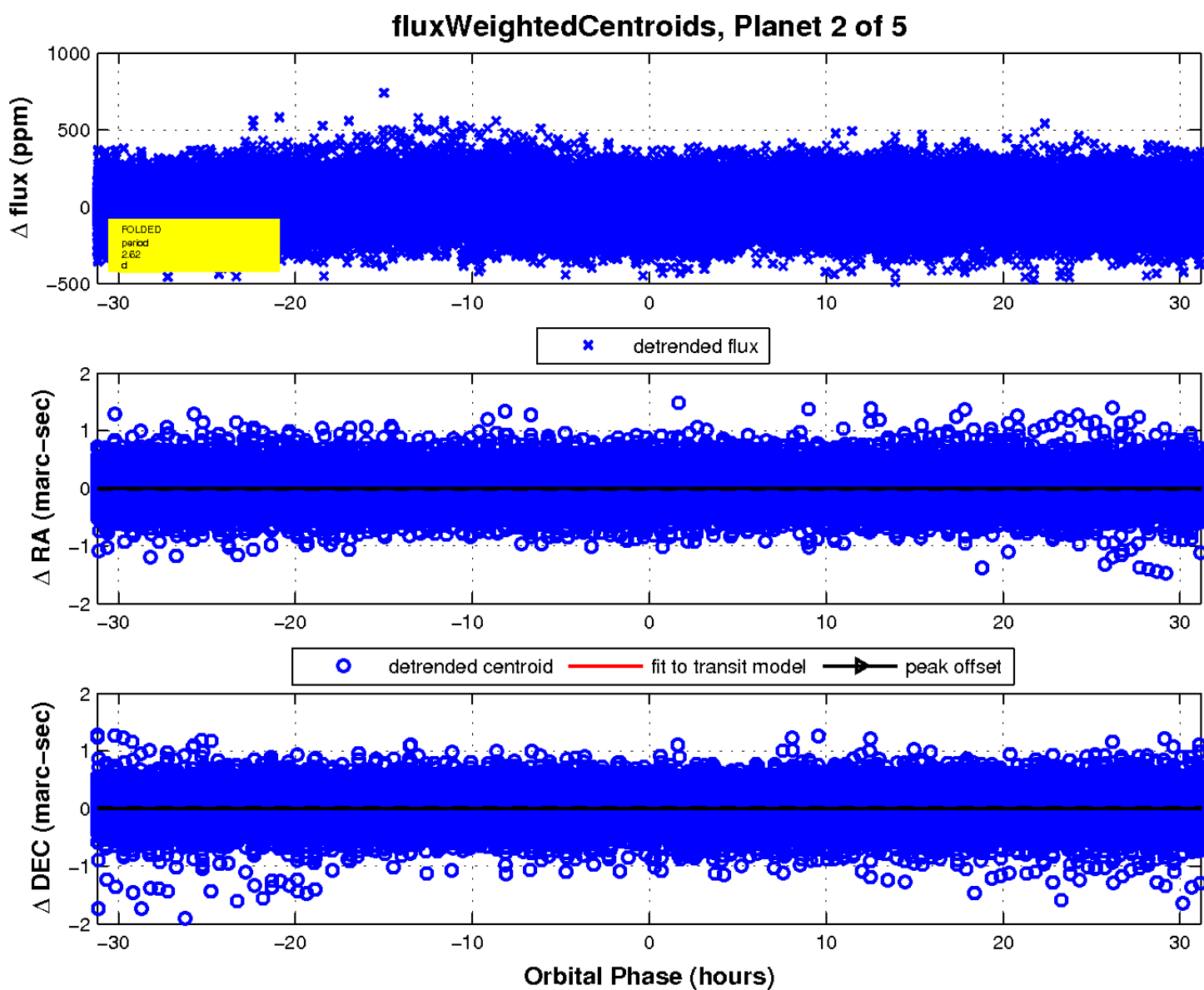
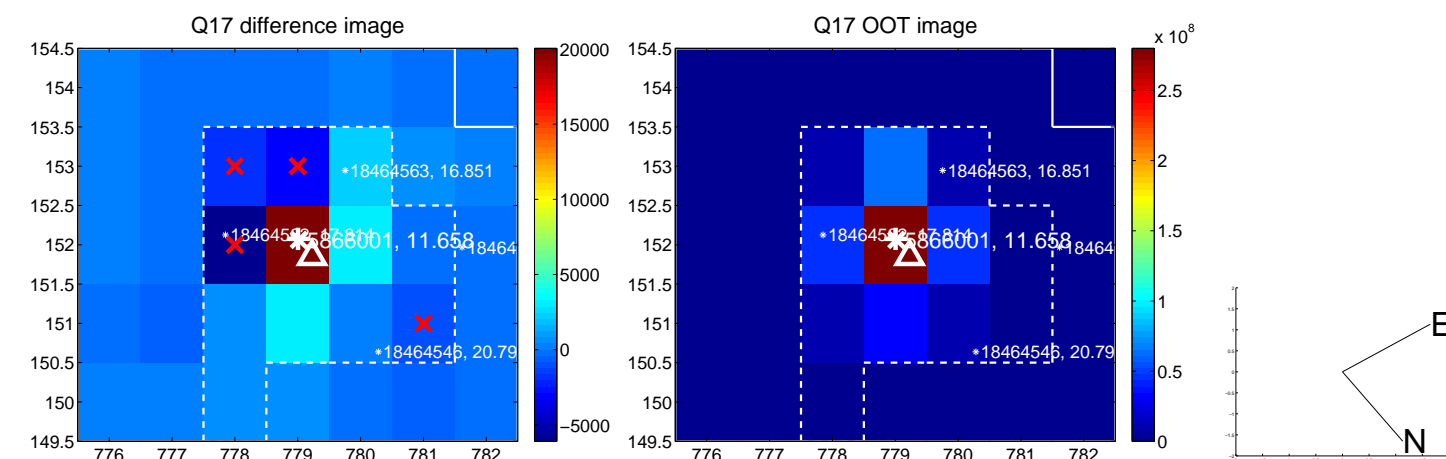
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

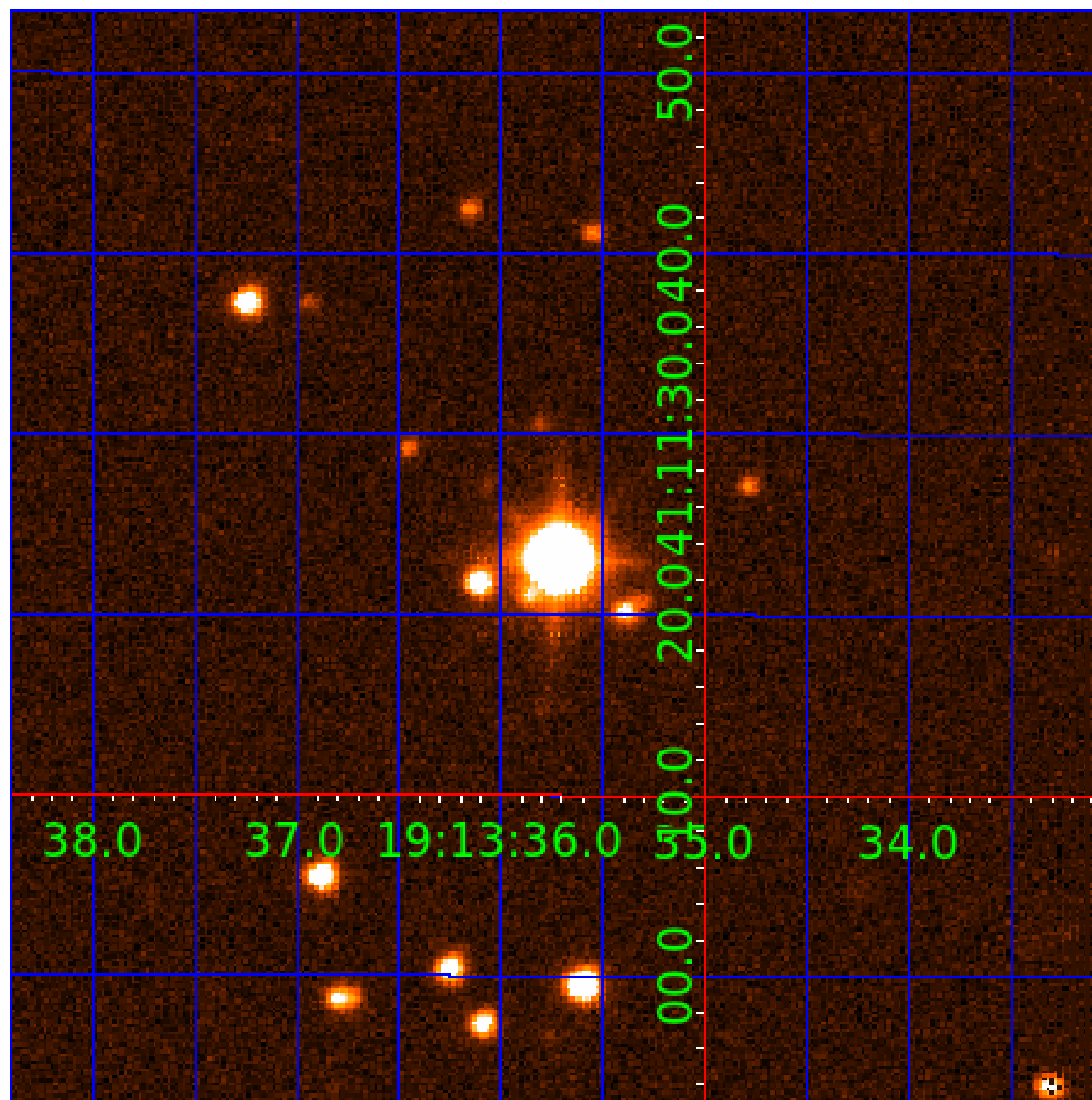


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005866001

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})
005866001-01	OBS	No	1.744680	131.650216	26.5	6.422	14.8	11.9	2.41	6493	1.25	9434.21
005866001-02	OBS	No	2.615489	131.691944	24.3	10.396	9.6	8.4	2.41	6493	1.40	5498.65
005866001-03	OBS	No	123.524417	210.137397	170.4	5.200	8.0	7.5	2.41	6493	3.76	32.21
005866001-04	OBS	No	120.878503	214.585956	157.3	6.727	7.9	7.8	2.41	6493	3.39	33.15
005866001-05	OBS	No	144.543591	166.144546	82.4	12.583	7.9	4.8	2.41	6493	2.41	26.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005866001-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005866001-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005866001-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

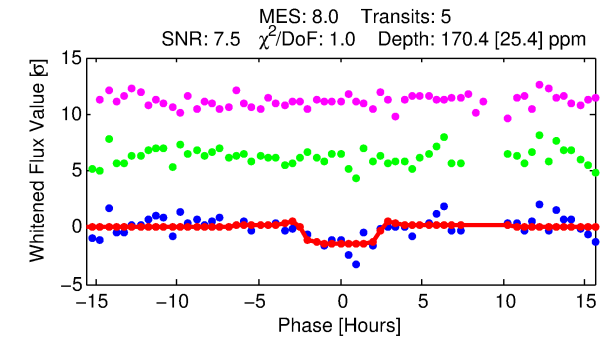
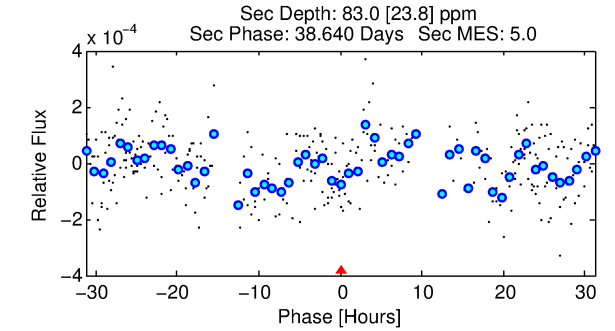
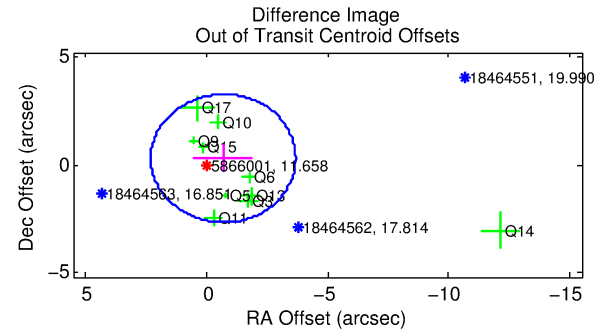
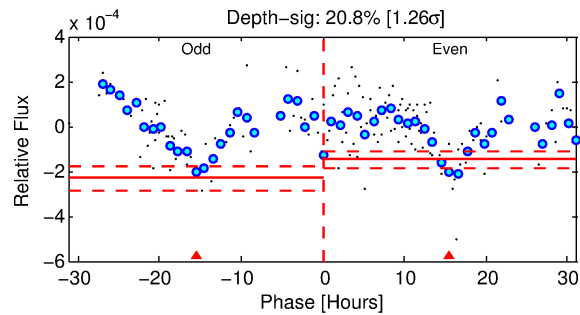
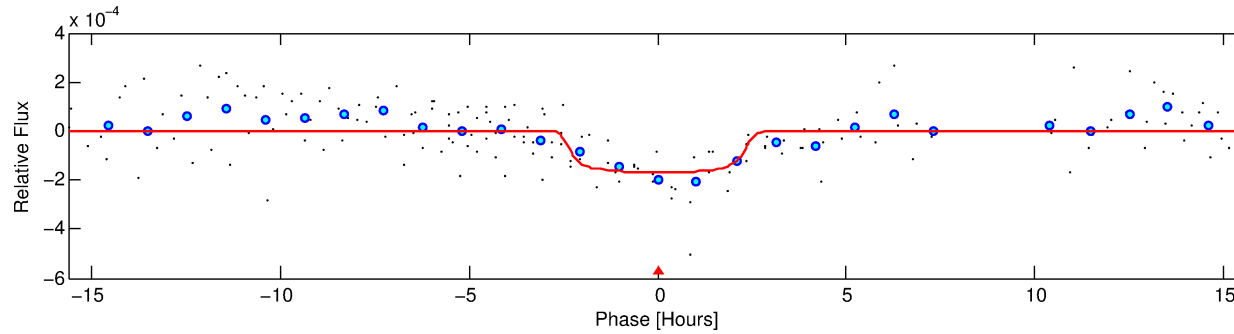
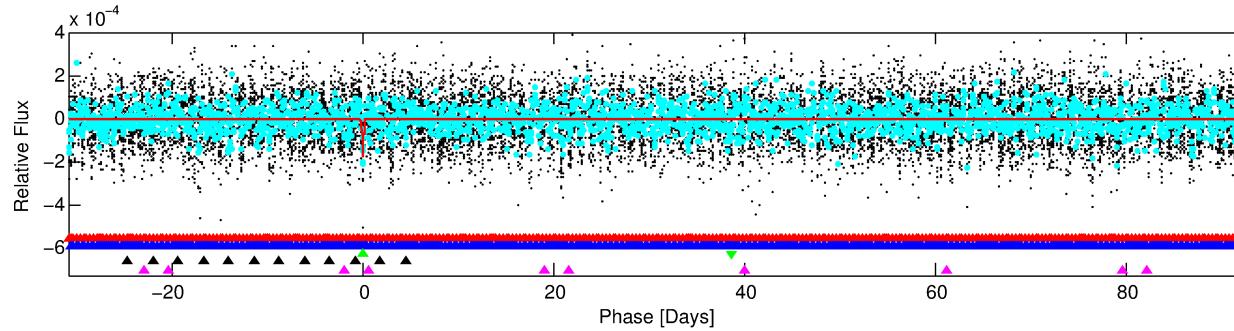
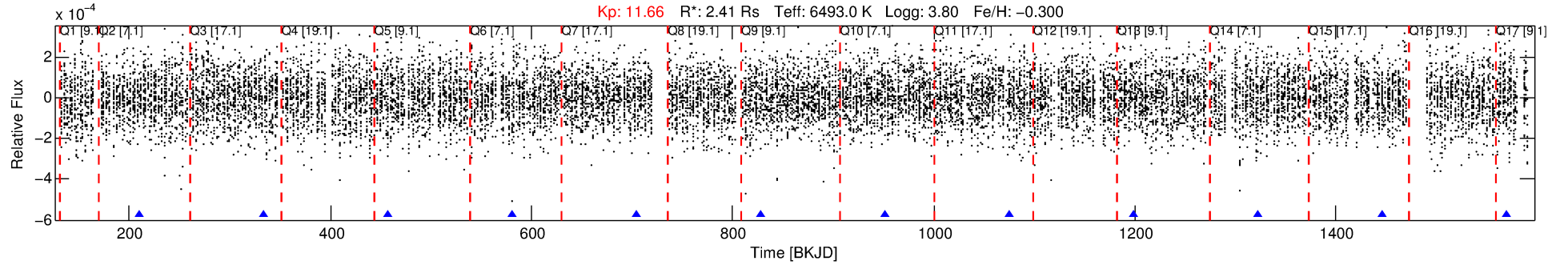
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005866001-03

No Significant Match Found

DV One-Page Summary

KIC: 5866001 Candidate: 3 of 5 Period: 123.524 d



DV Fit Results:

Period = 123.52442 [0.00192] d
Epoch = 210.1374 [0.0110] BKJD
Rp/R* = 0.0143 [0.0030]
a/R* = 75.29 [81.93]
b = 0.93 [0.17]
Seff = 32.21 [16.67]
Teq = 607 [79] K
Rp = 3.76 [1.52] Re
a = 0.5352 [0.1730] AU
Ag = 927.76 [664.29] [1.40 σ]
Teffp = 5183 [671] K [6.77 σ]

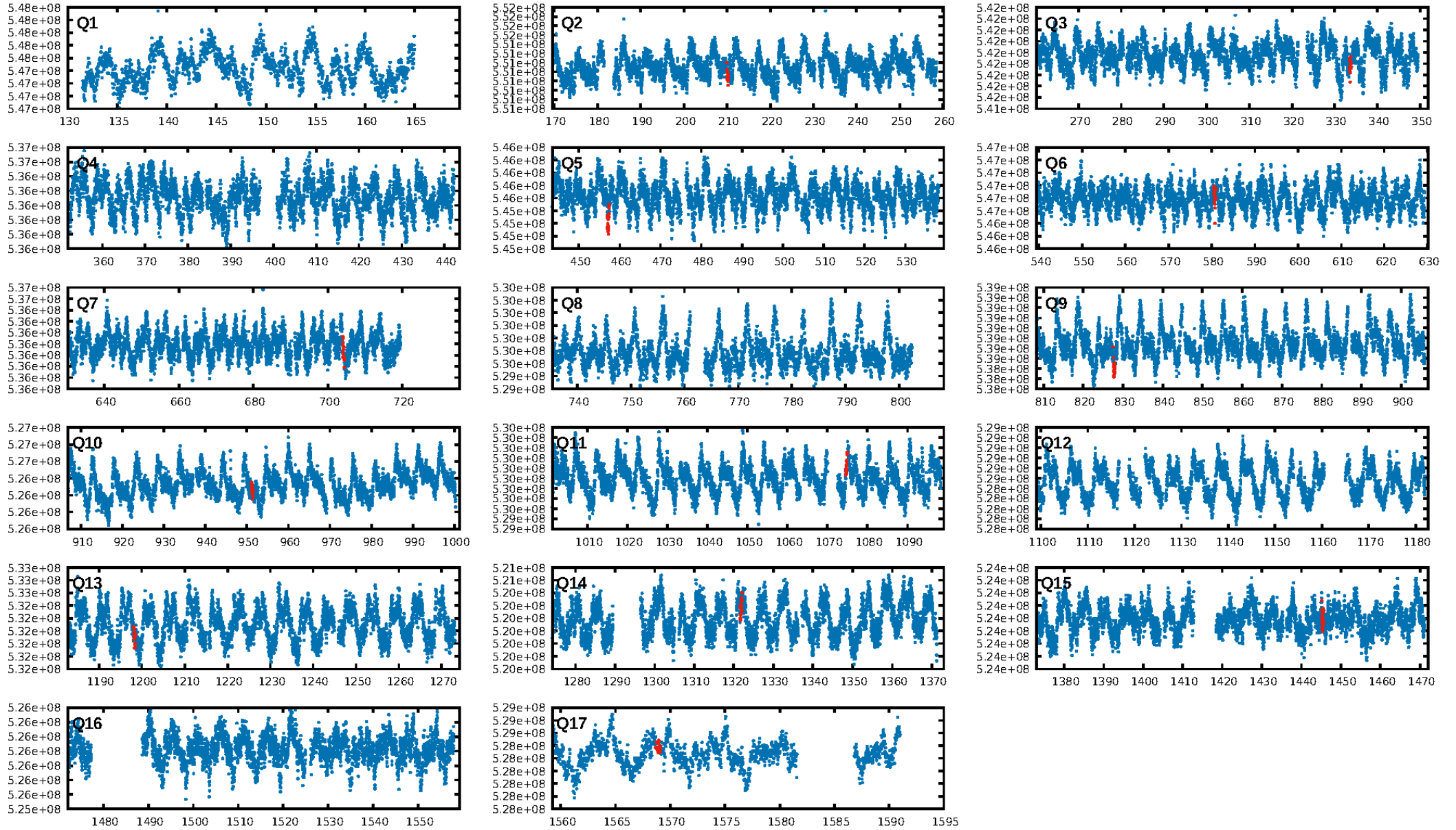
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.47 σ]
LongPeriod-sig: 100.0% [37.05 σ]
ModelChiSquare2-sig: 45.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.46e-07
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.669
Centroid-sig: 2.8%
Centroid-so: 0.609 arcsec [1.49 σ]
OotOffset-rm: 0.756 arcsec [0.76 σ]
OotOffset-st: 3/3/0/4 [10]
KicOffset-rm: 0.723 arcsec [0.69 σ]
KicOffset-st: 3/3/0/4 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.25 [3/12]

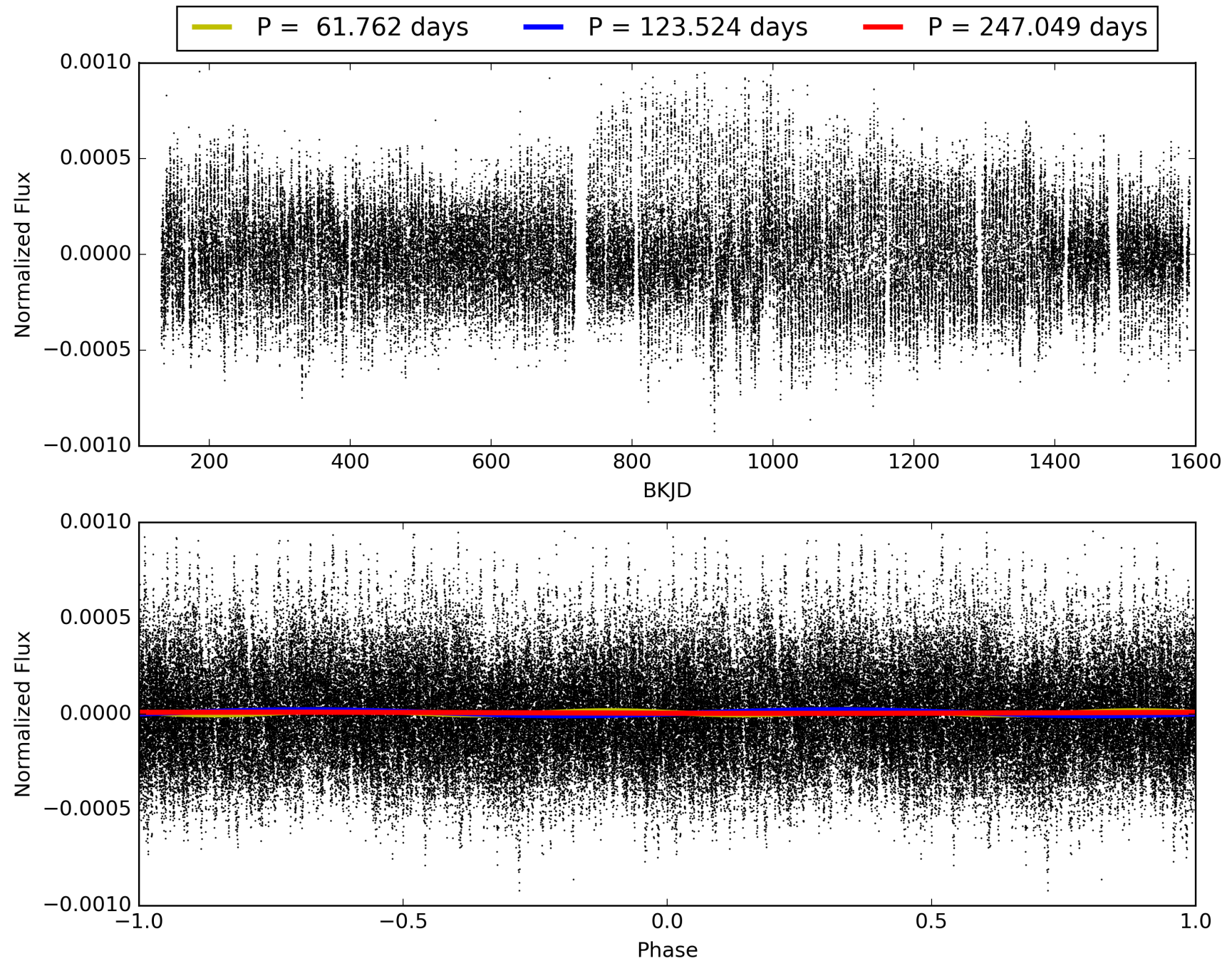
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:38:11 Z

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

TCE 005866001-03, PDC Light Curves

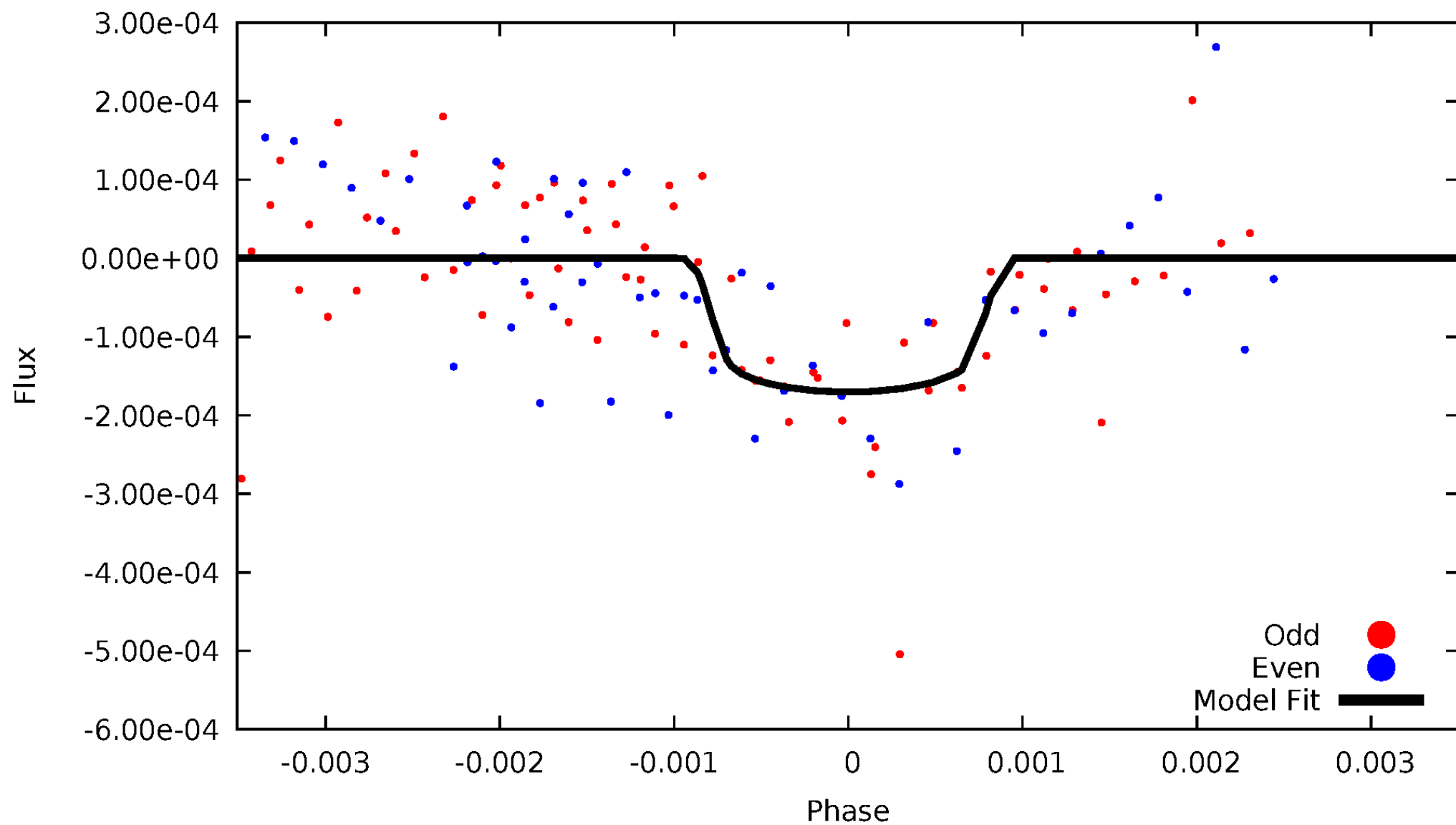


TCE 005866001-03



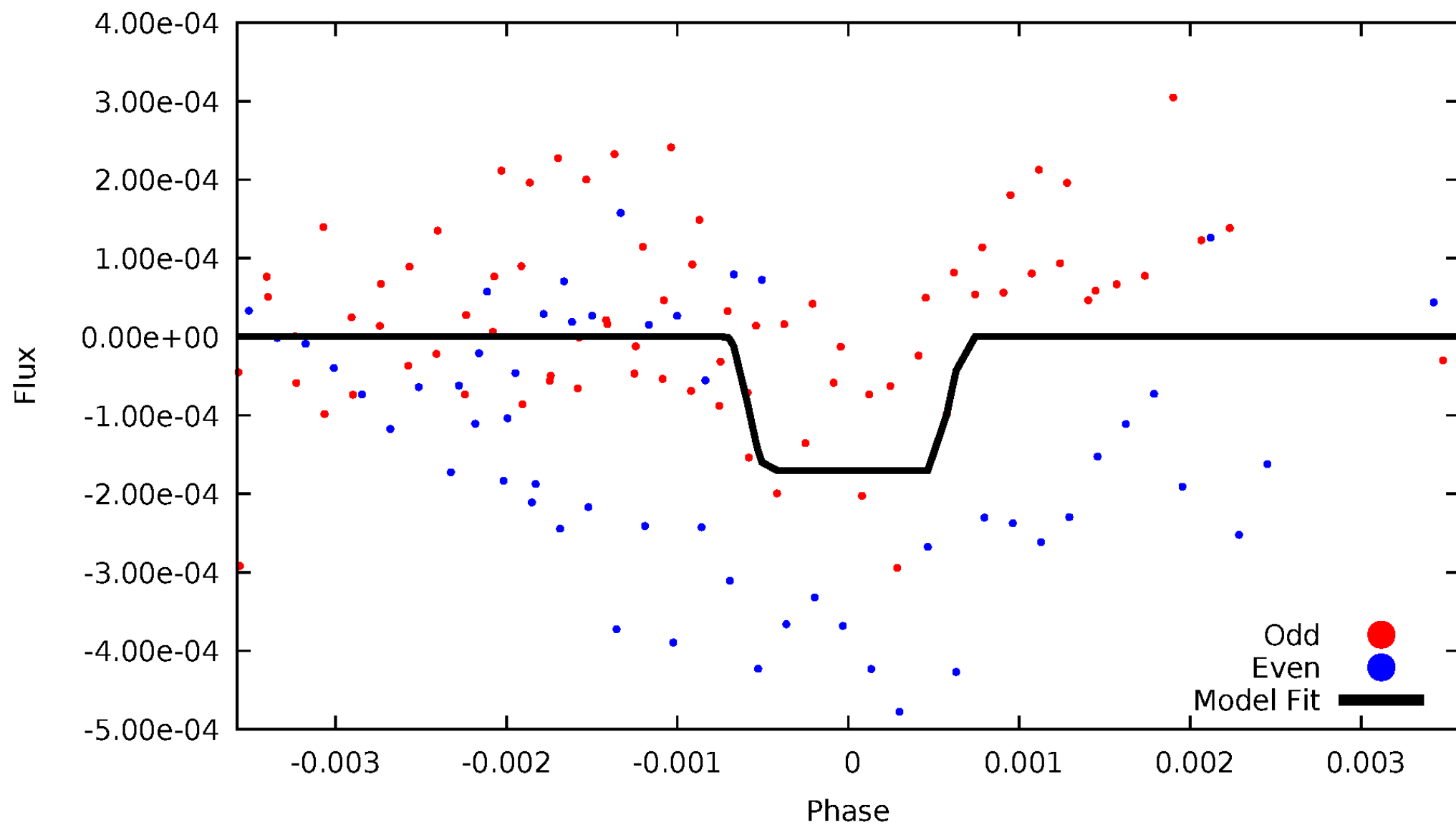
DV Odd/Even

TCE 005866001-03

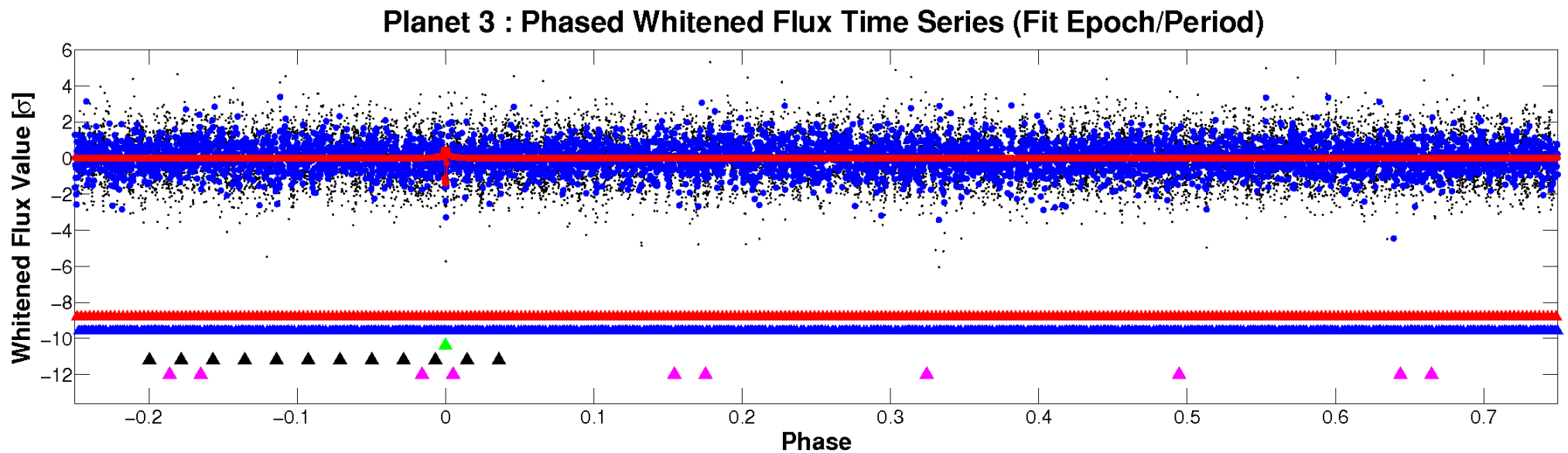
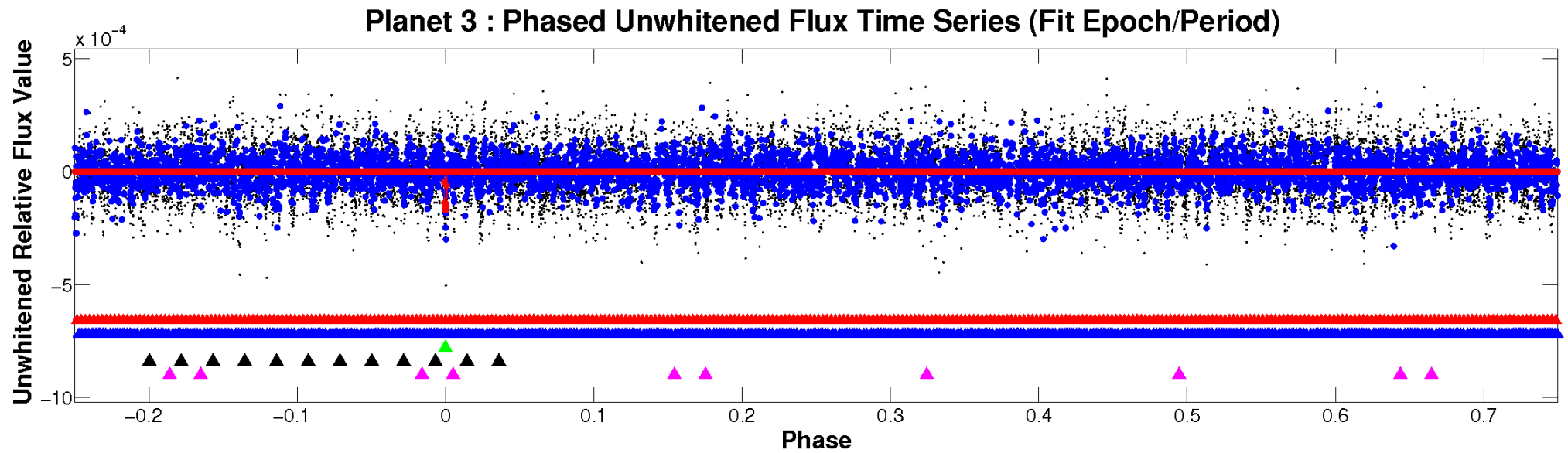


ALT Odd/Even

TCE 005866001-03

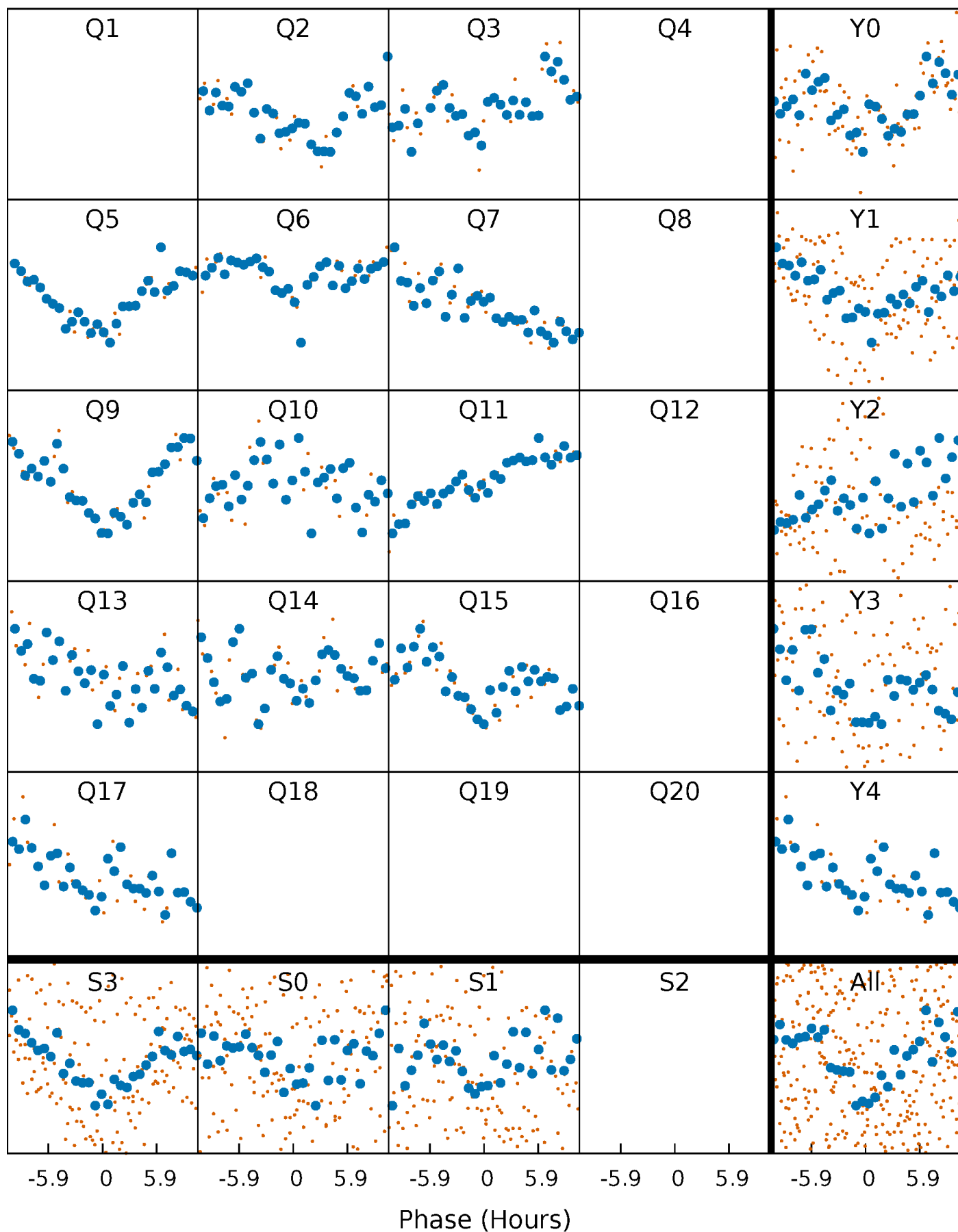


Non-Whitened Vs. Whitened Light Curve



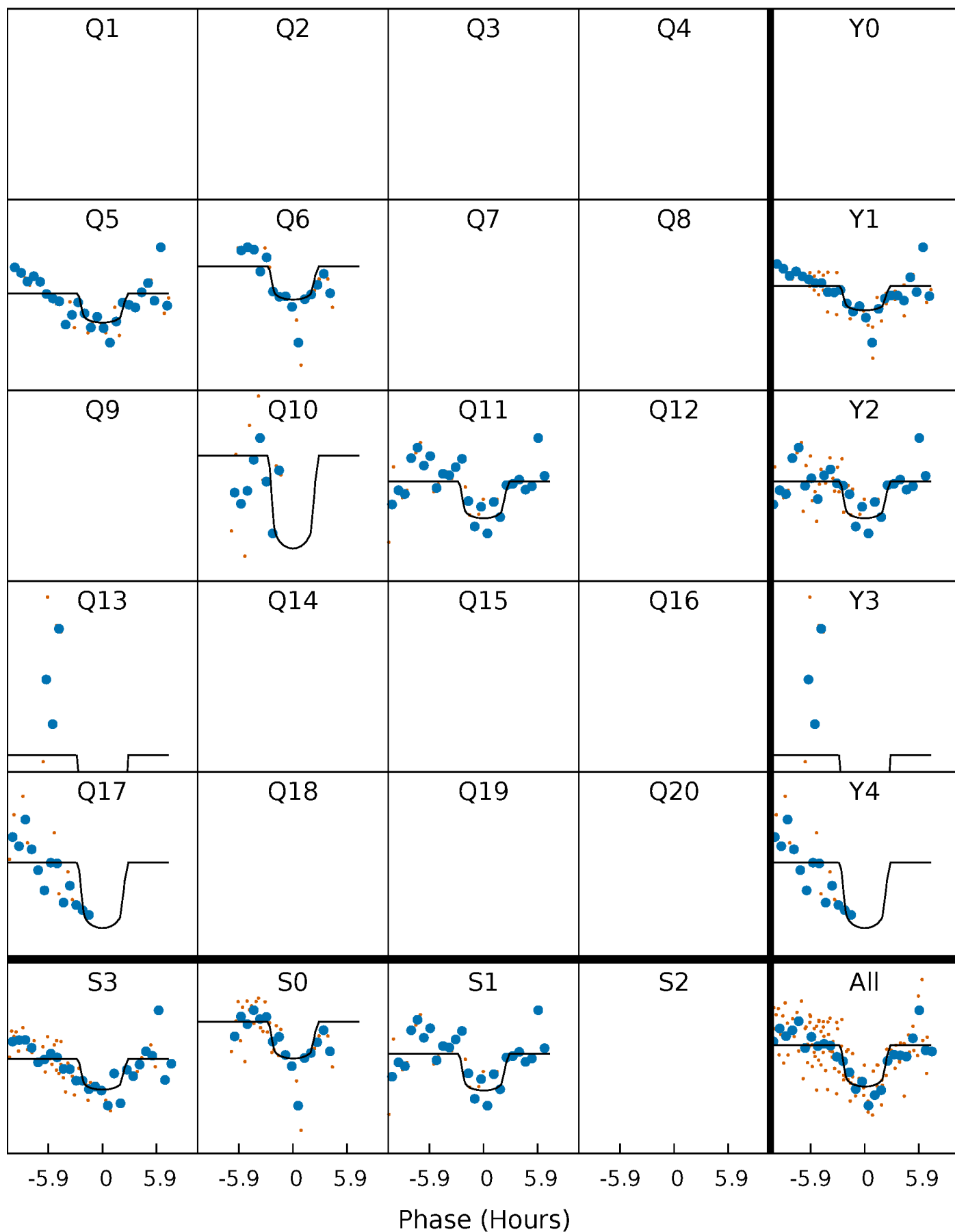
PDC Quarter-Phased Transit Curves

TCE 005866001-03 P=123.524417 Days $T_0=210.137397$ (BKJD)



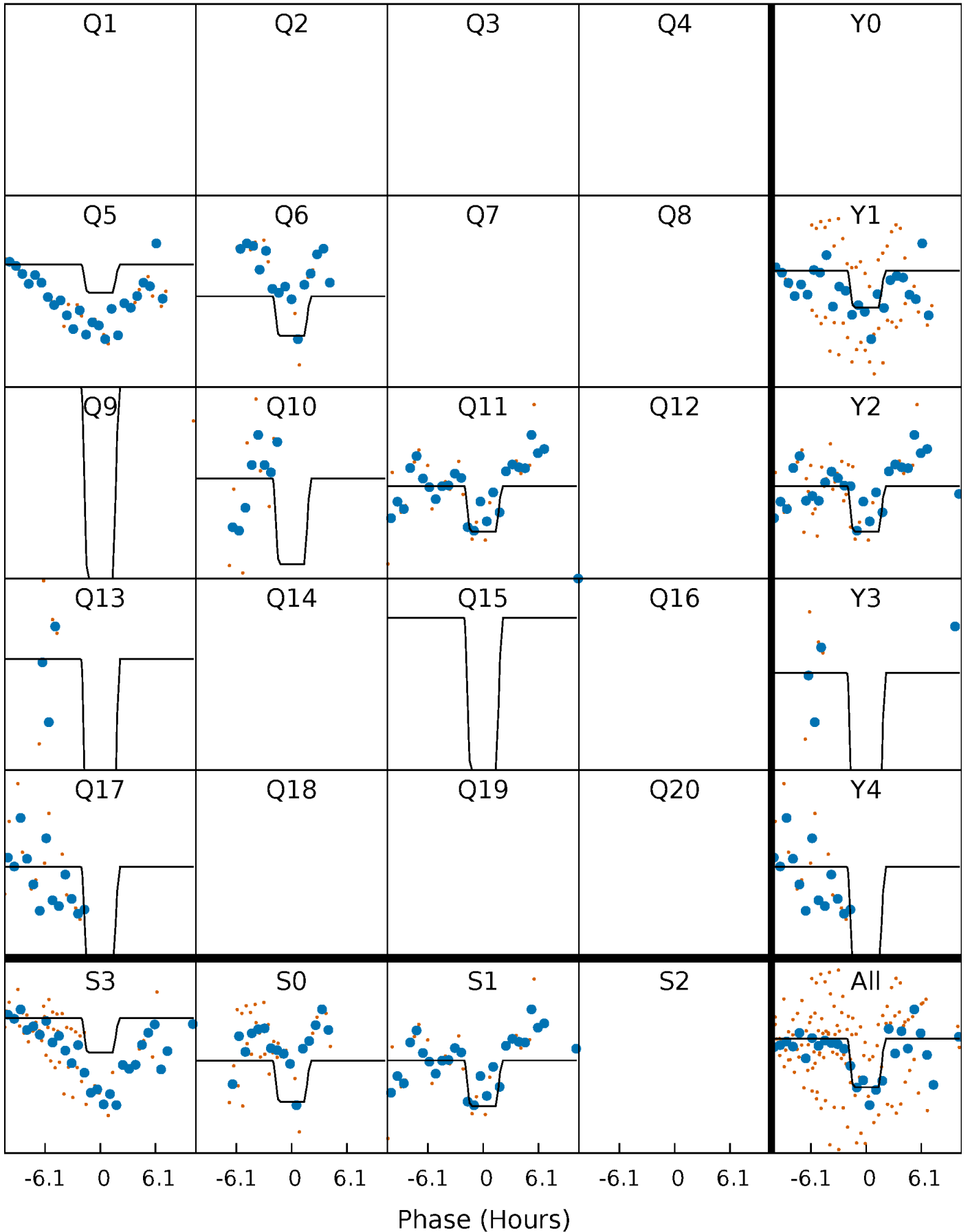
DV Quarter-Phased Transit Curves

TCE 005866001-03 P=123.524417 Days $T_0=210.137397$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

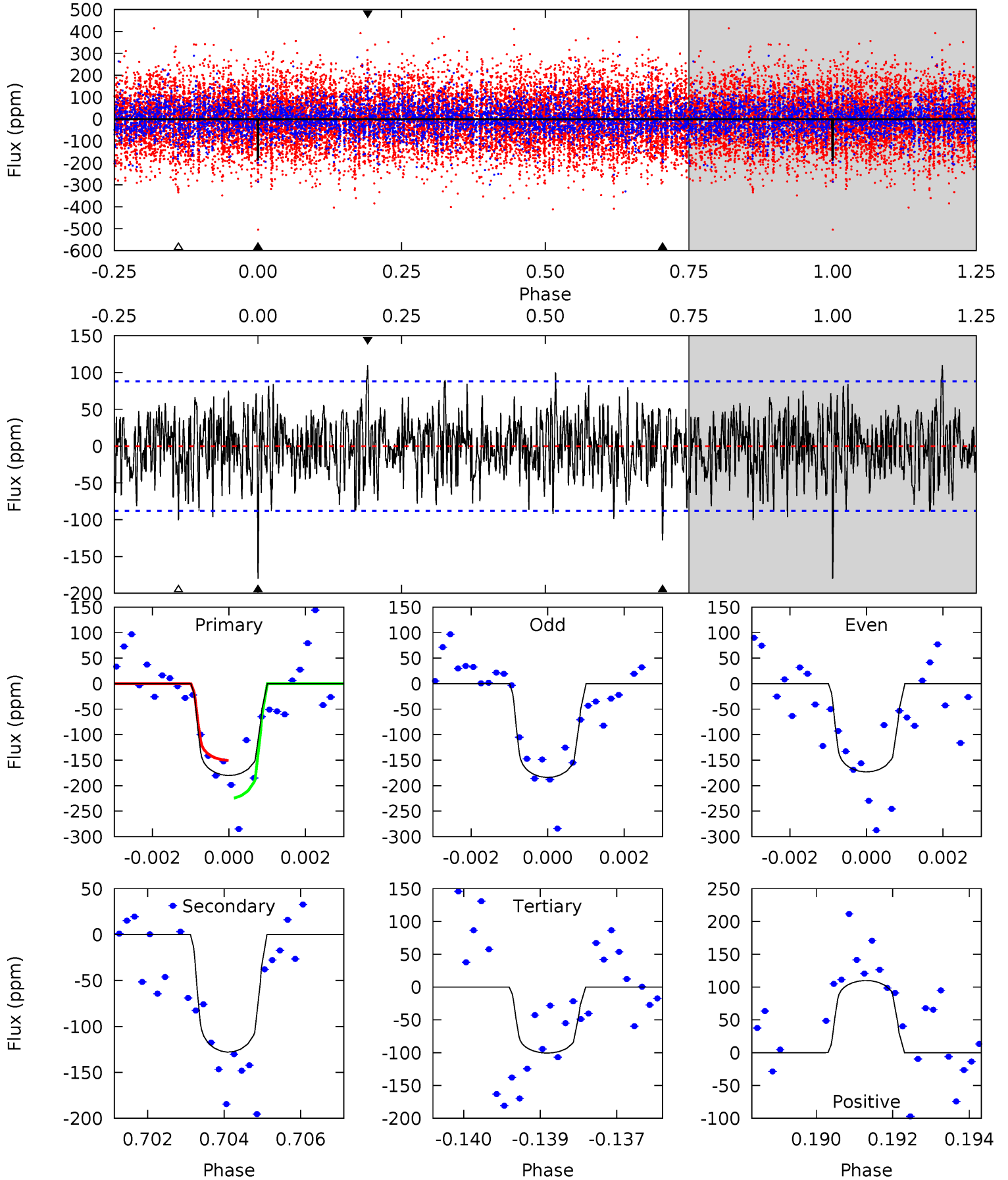
TCE 005866001-03 P=123.526464 Days $T_0=210.132351$ (BKJD)



DV Model-Shift Uniqueness Test

005866001-03, P = 123.524417 Days, E = 86.612980 Days

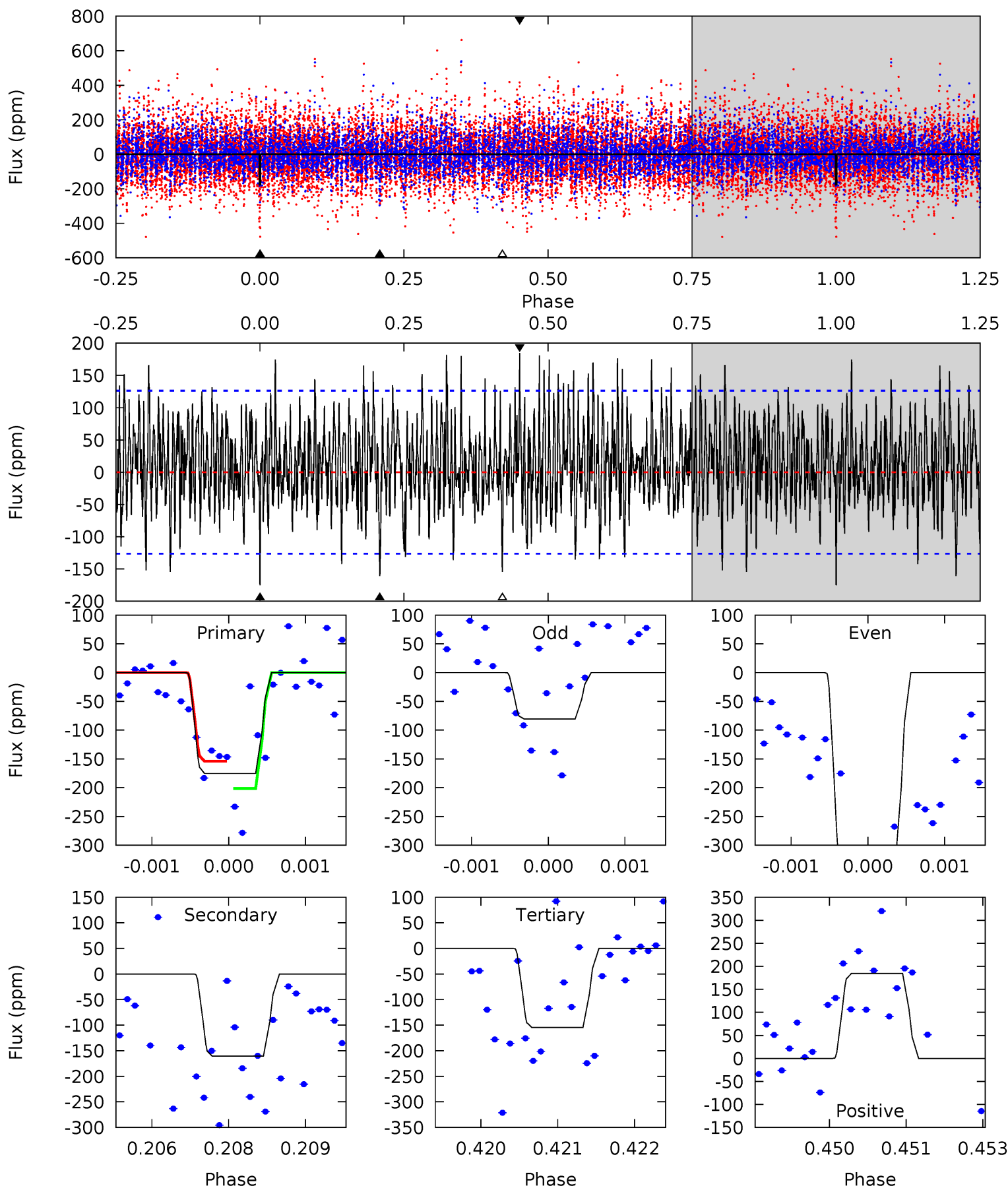
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	7.76	6.10	6.67	5.34	3.11	1.98	4.82	4.25	1.66	1.09	0.32	0.97	0.38	2.17



Alt Model-Shift Uniqueness Test

005866001-03, P = 123.526464 Days, E = 86.605887 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.49	6.86	6.60	7.89	5.40	3.21	2.25	0.89	-0.40	0.26	-1.02	5.48	1.49	0.51	1.00



Stellar Parameters For KIC 005866001

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6493^{+176}_{-176}	$3.802^{+0.293}_{-0.098}$	$-0.300^{+0.300}_{-0.250}$	$2.407^{+0.451}_{-0.838}$	$1.341^{+0.247}_{-0.247}$	$0.136^{+0.275}_{-0.042}$
	+3%/-3%	+8%/-3%	+100%/-83%	+19%/-35%	+18%/-18%	+203%/-31%
Source	PHO1	FLK73	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 005866001-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-128 ± 16	$3.53^{+0.95}_{-0.90}$	833^{+48}_{-68}	5820^{+765}_{-575}	1647^{+1245}_{-654}
Alt.	-161 ± 23	$3.21^{+0.99}_{-0.90}$	834^{+50}_{-73}	6369^{+1054}_{-660}	2390^{+2312}_{-930}

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

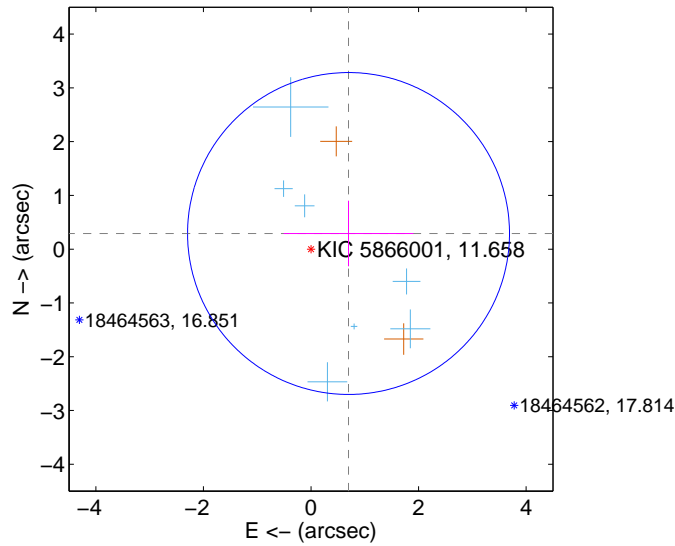
Supplemental centroid analysis for 005866001-03. **Kepler magnitude: 11.66.** Transit SNR 7.50

There are 7 quarters with good PRF difference image offsets

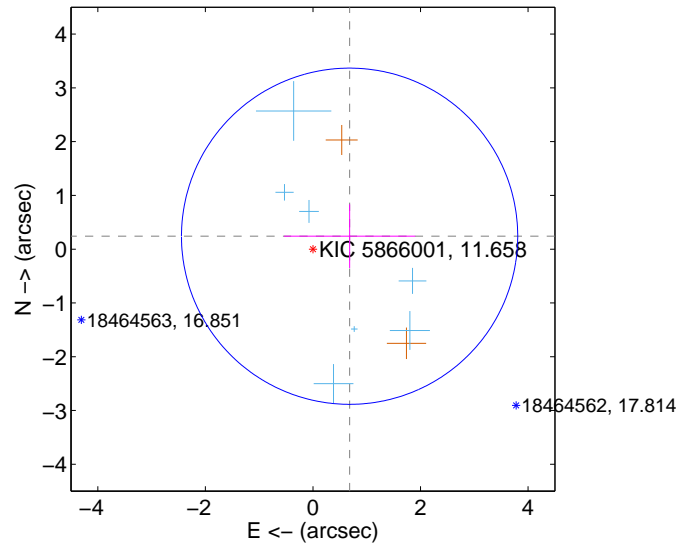
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.756 ± 0.998	0.76	-0.698 ± 1.206	0.291 ± 0.610
PRF-fit source offset from KIC position	0.723 ± 1.042	0.69	-0.681 ± 1.221	0.241 ± 0.593
photometric centroid source offset	0.61 ± 0.41	1.49	-0.21 ± 0.41	0.57 ± 0.41

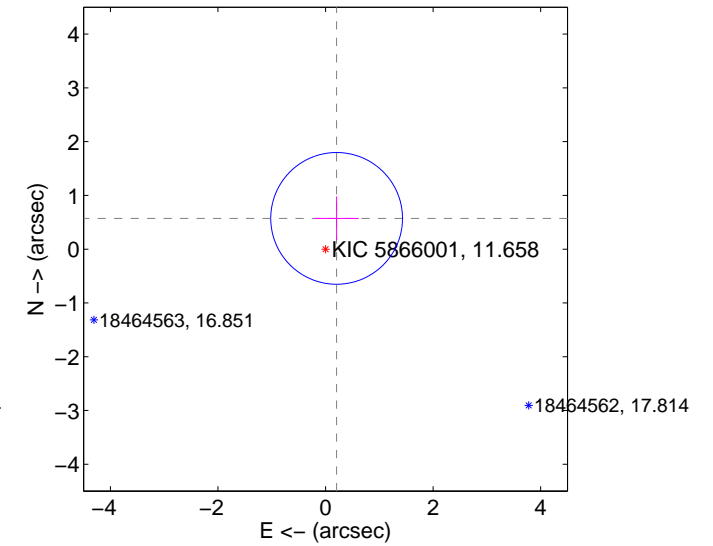
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

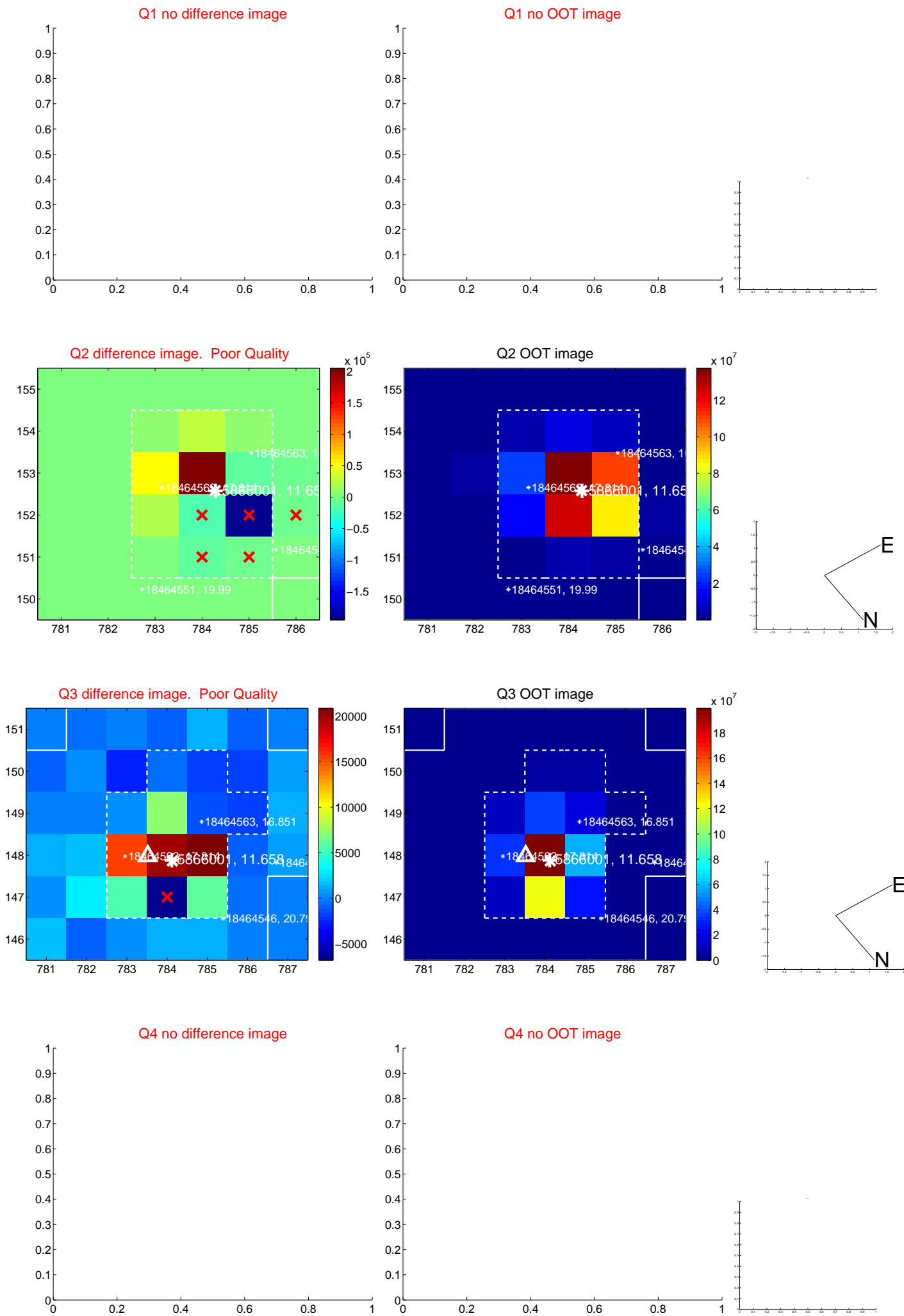


offset from photometric centroids

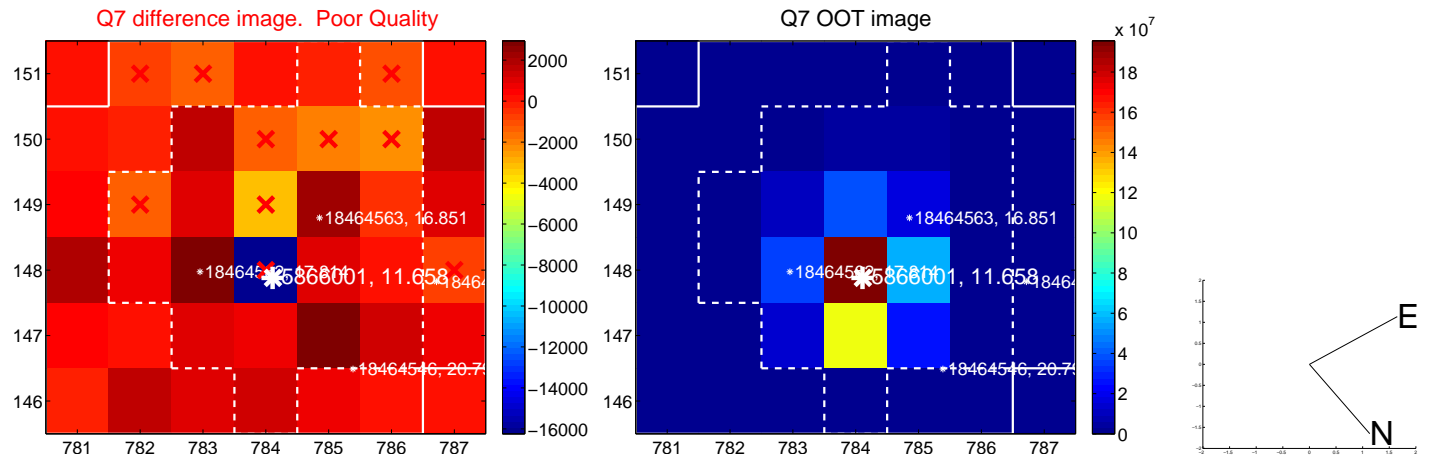
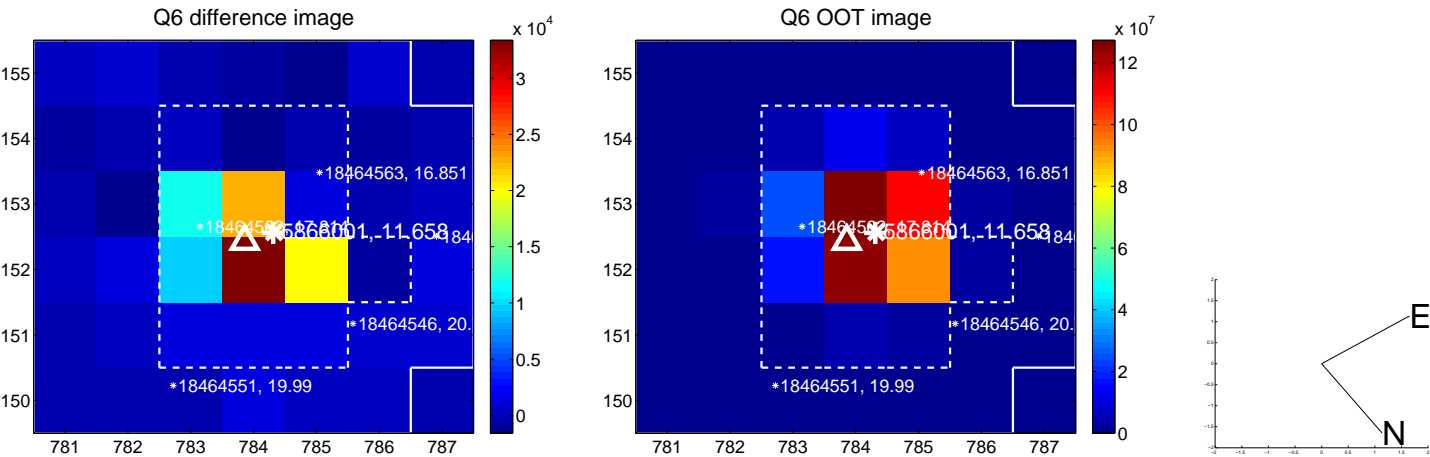
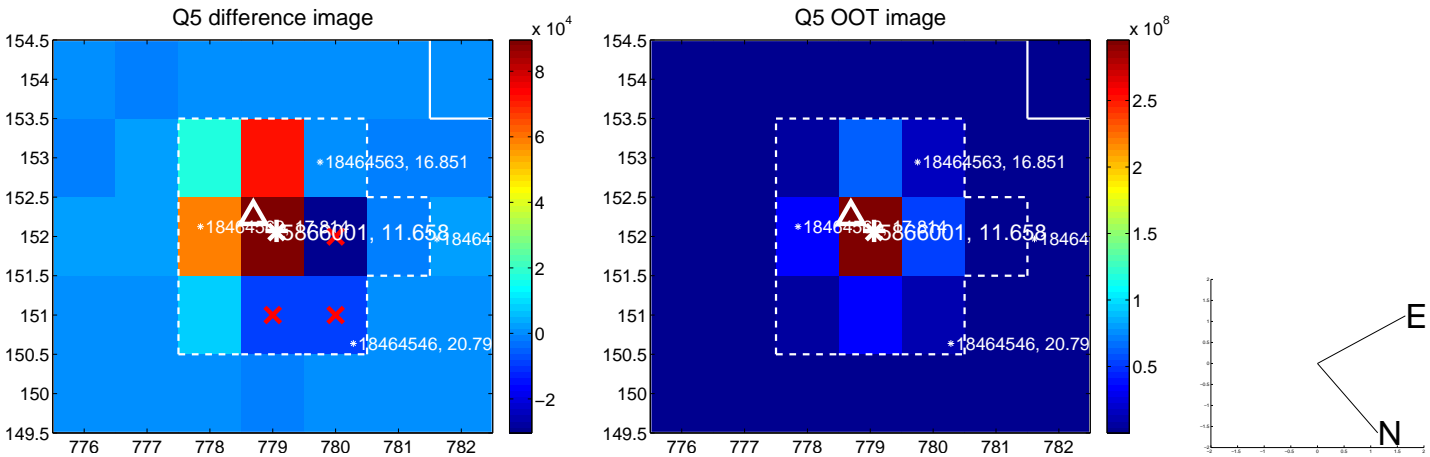


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

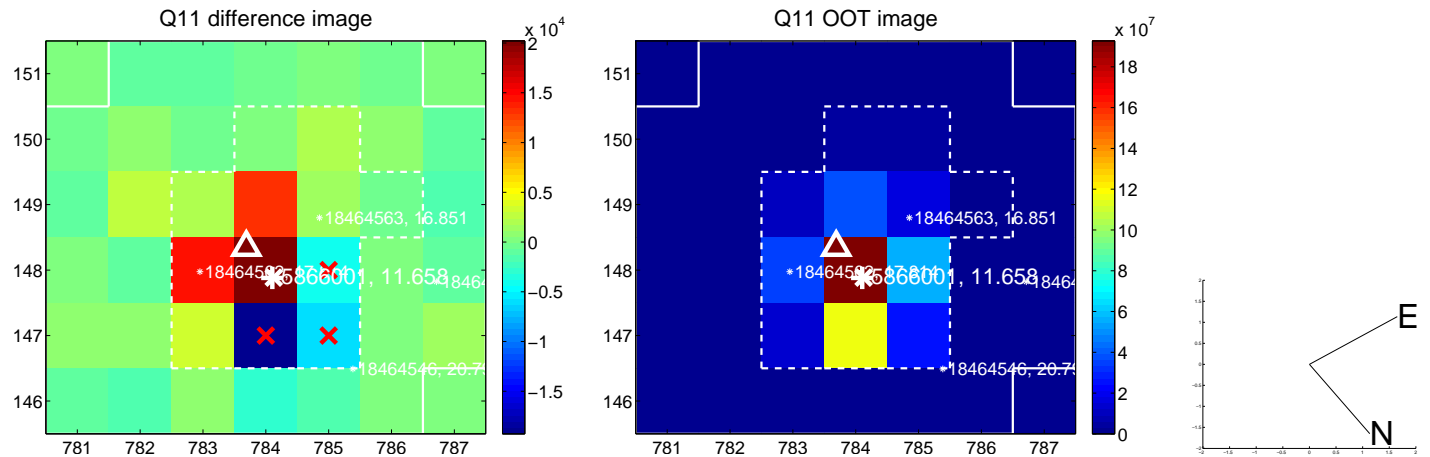
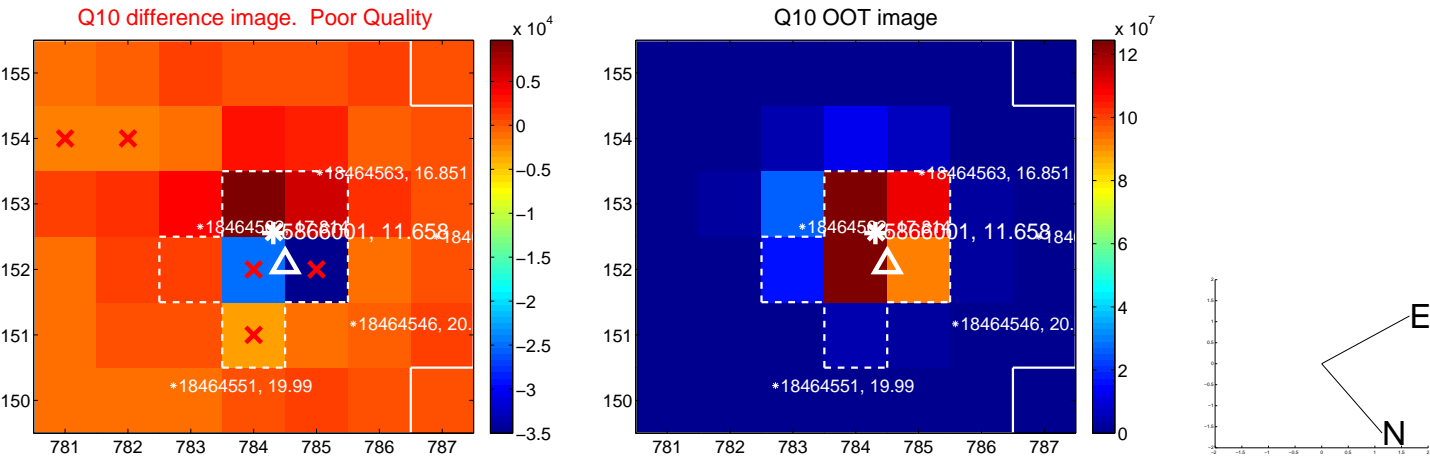
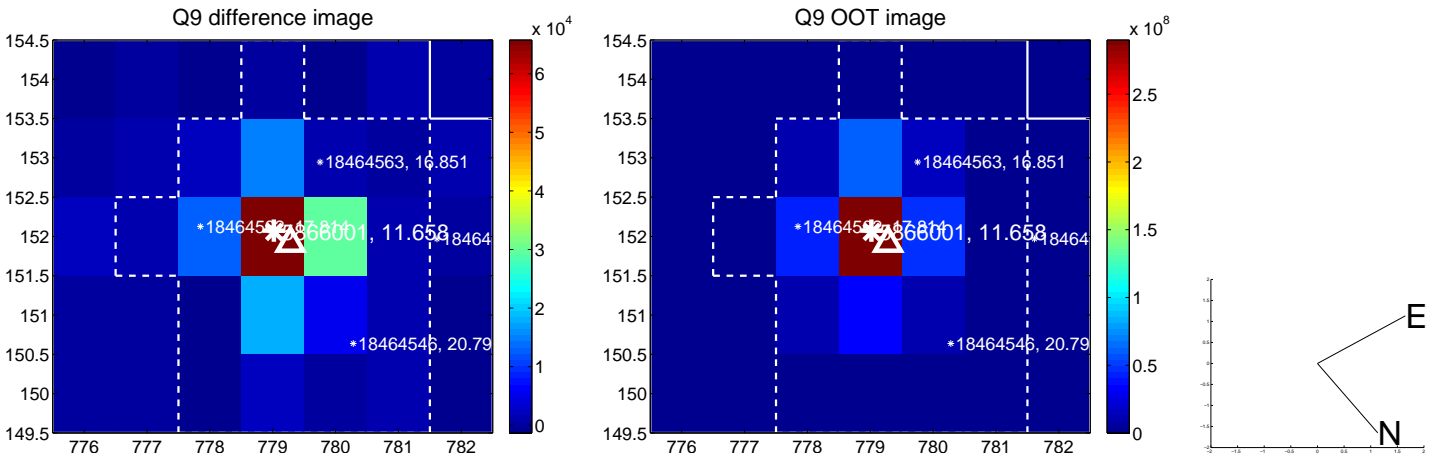
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



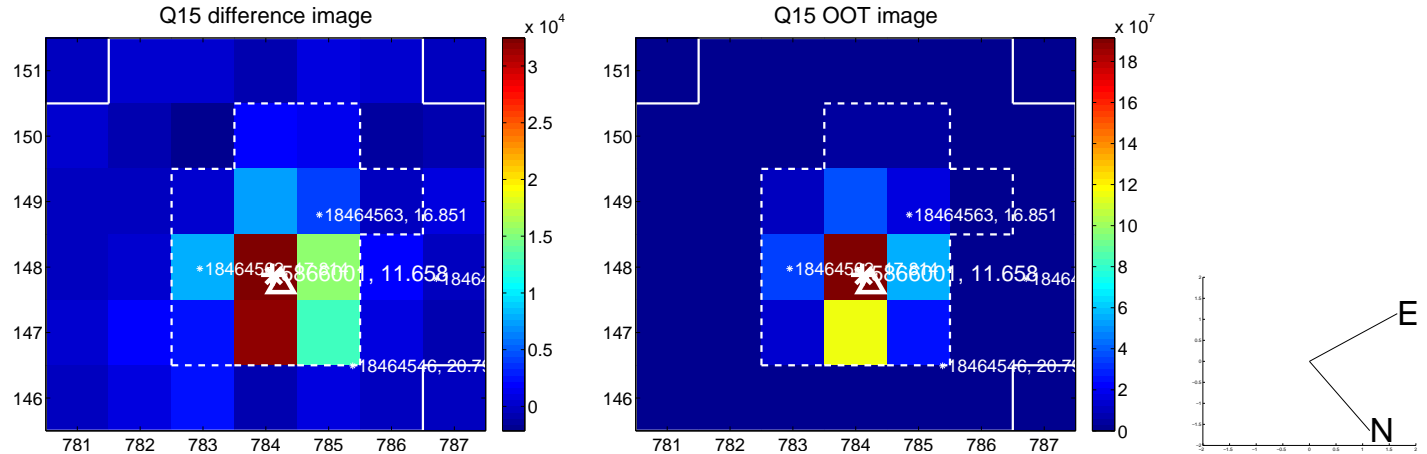
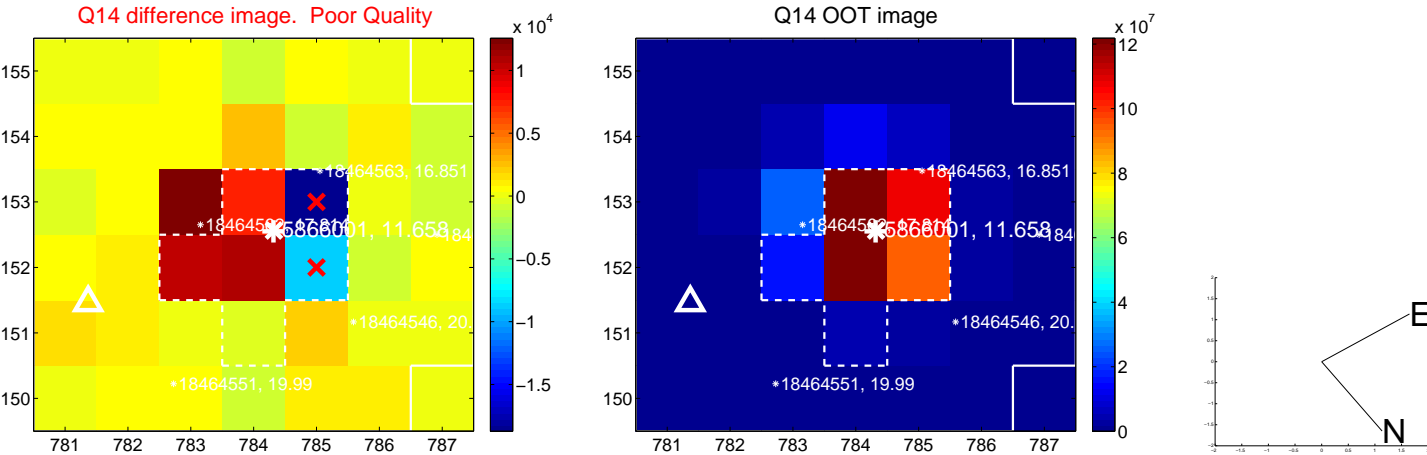
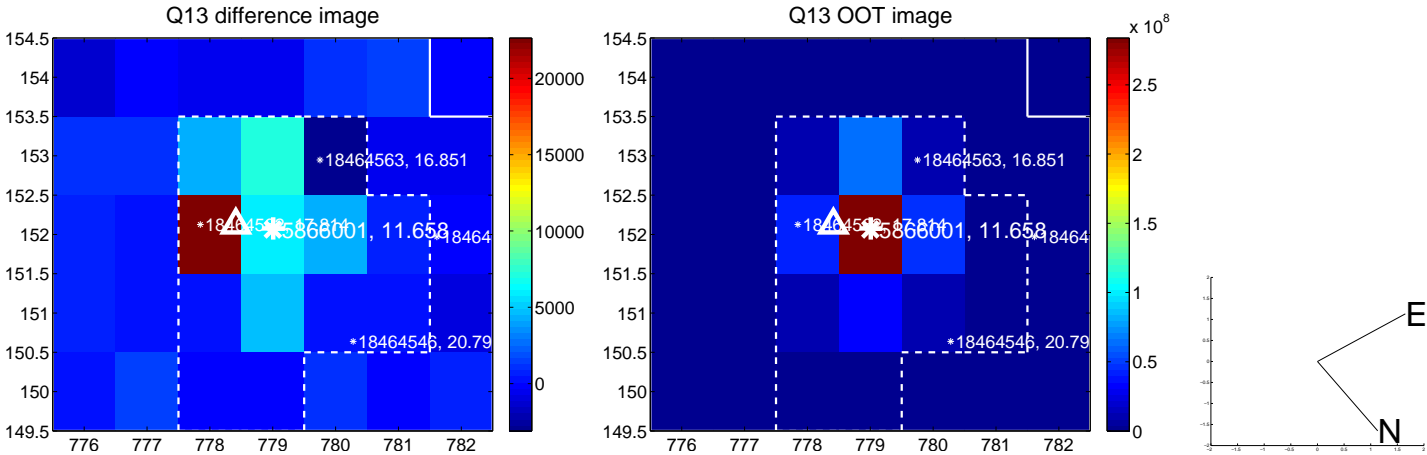
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

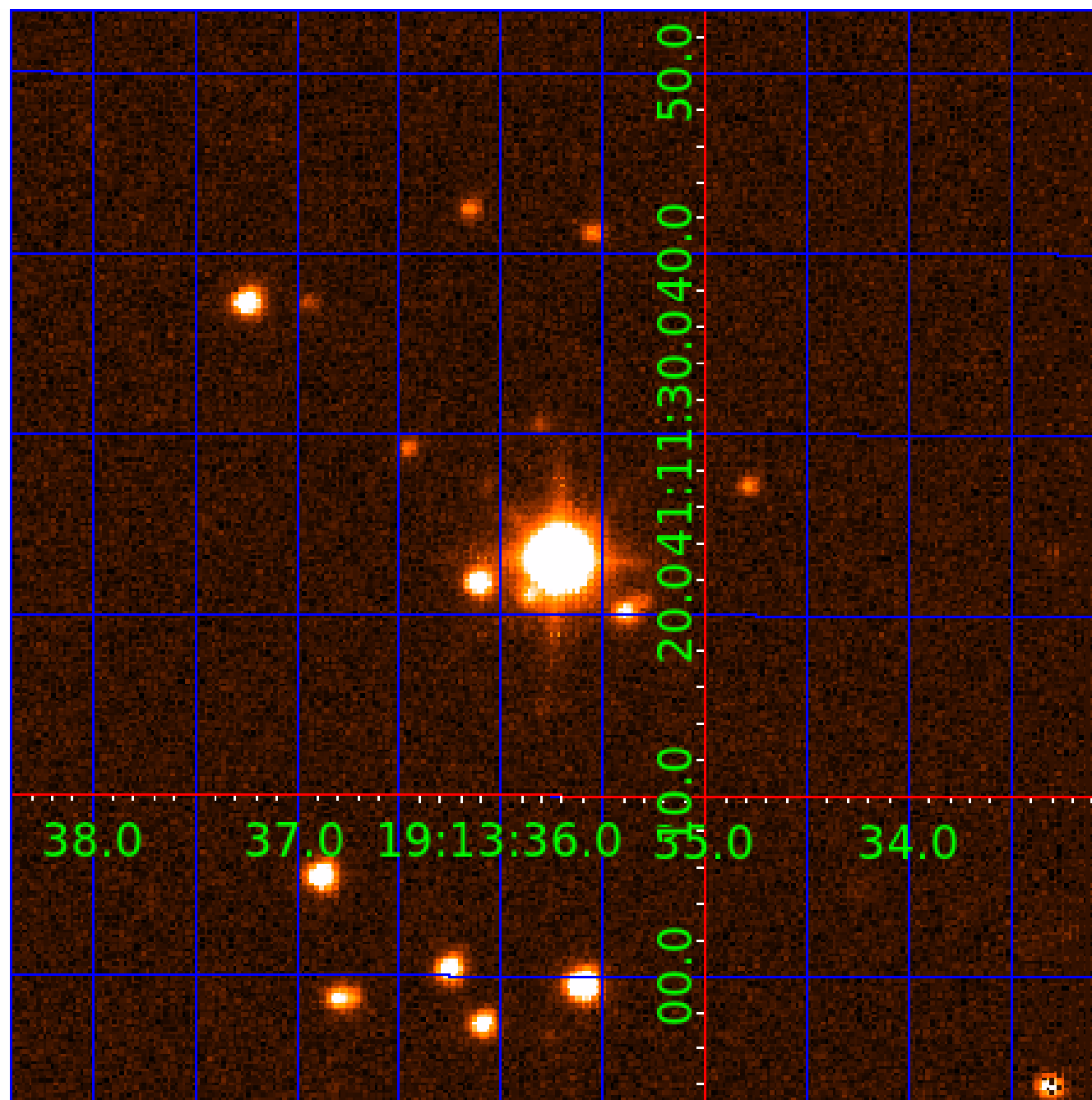


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005866001

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})
005866001-01	OBS	No	1.744680	131.650216	26.5	6.422	14.8	11.9	2.41	6493	1.25	9434.21
005866001-02	OBS	No	2.615489	131.691944	24.3	10.396	9.6	8.4	2.41	6493	1.40	5498.65
005866001-03	OBS	No	123.524417	210.137397	170.4	5.200	8.0	7.5	2.41	6493	3.76	32.21
005866001-04	OBS	No	120.878503	214.585956	157.3	6.727	7.9	7.8	2.41	6493	3.39	33.15
005866001-05	OBS	No	144.543591	166.144546	82.4	12.583	7.9	4.8	2.41	6493	2.41	26.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005866001-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005866001-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005866001-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

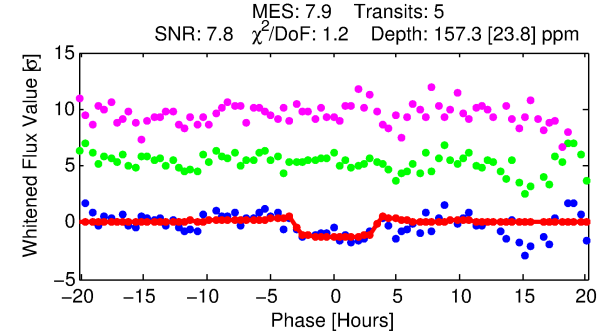
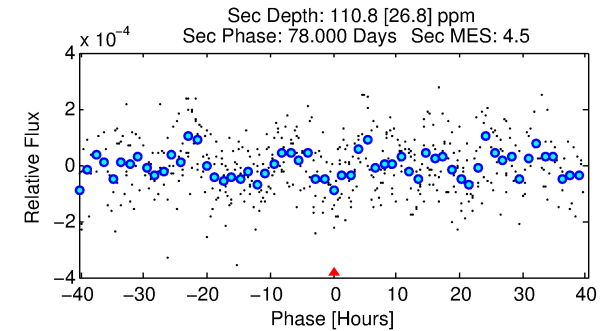
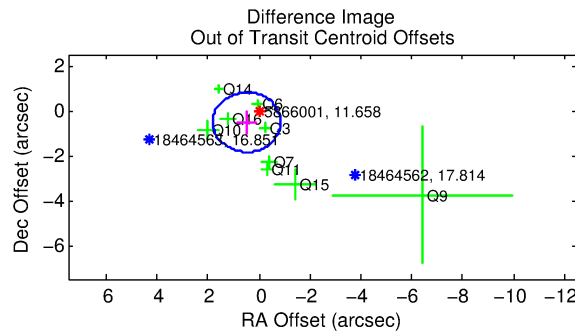
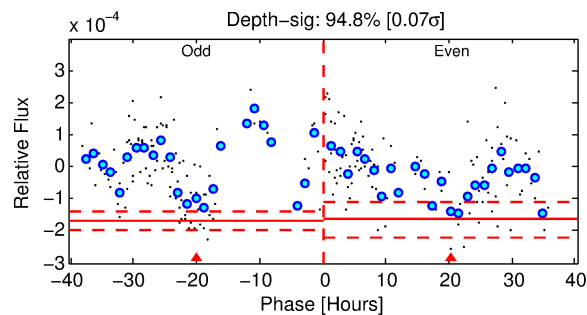
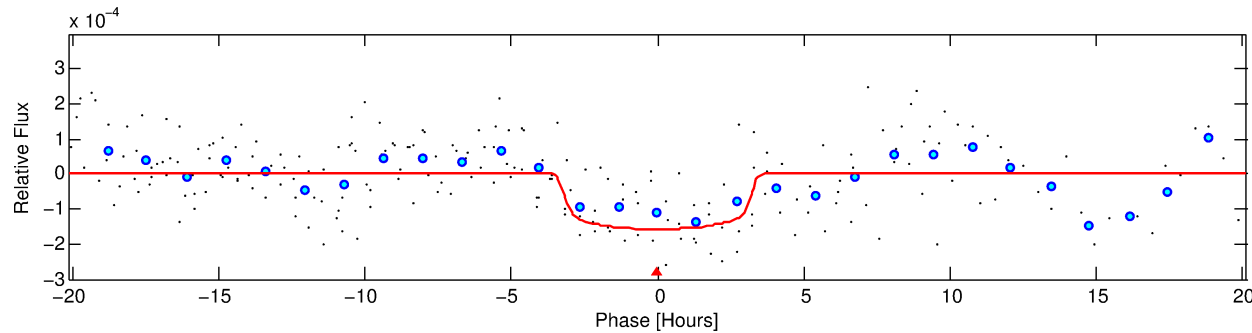
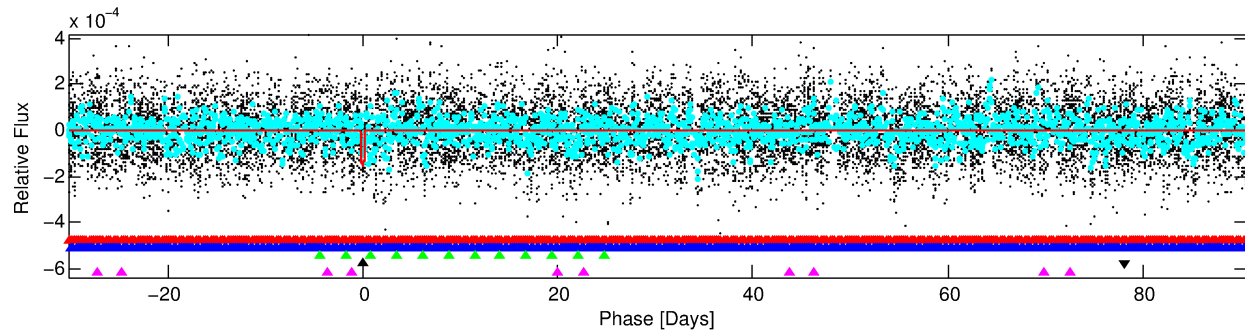
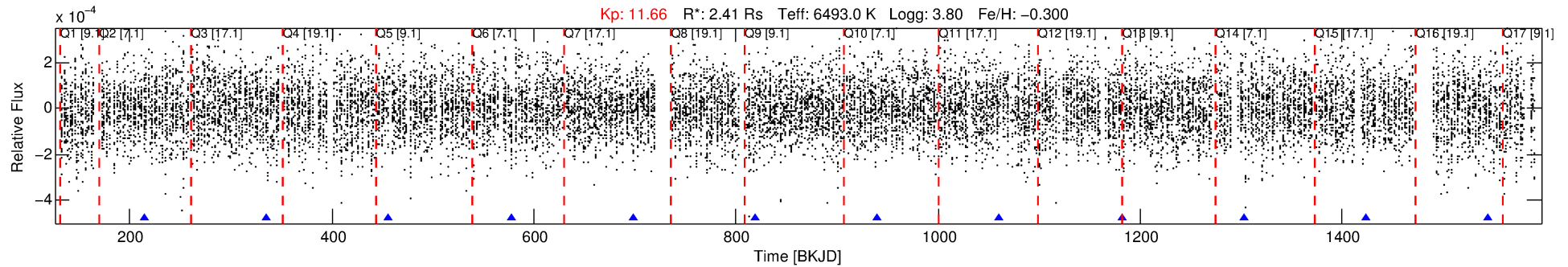
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005866001-04

No Significant Match Found

DV One-Page Summary

KIC: 5866001 Candidate: 4 of 5 Period: 120.879 d



DV Fit Results:

Period = 120.87850 [0.00249] d
Epoch = 214.5860 [0.0104] BKJD
Rp/R* = 0.0129 [0.0092]
a/R* = 77.84 [318.33]
b = 0.84 [1.45]
Seff = 33.15 [17.16]
Teq = 612 [79] K
Rp = 3.39 [2.70] Re
a = 0.5275 [0.1705] AU
Ag = 1474.71 [2267.40] [0.65 σ]
Teffp = 5862 [2134] K [2.46 σ]

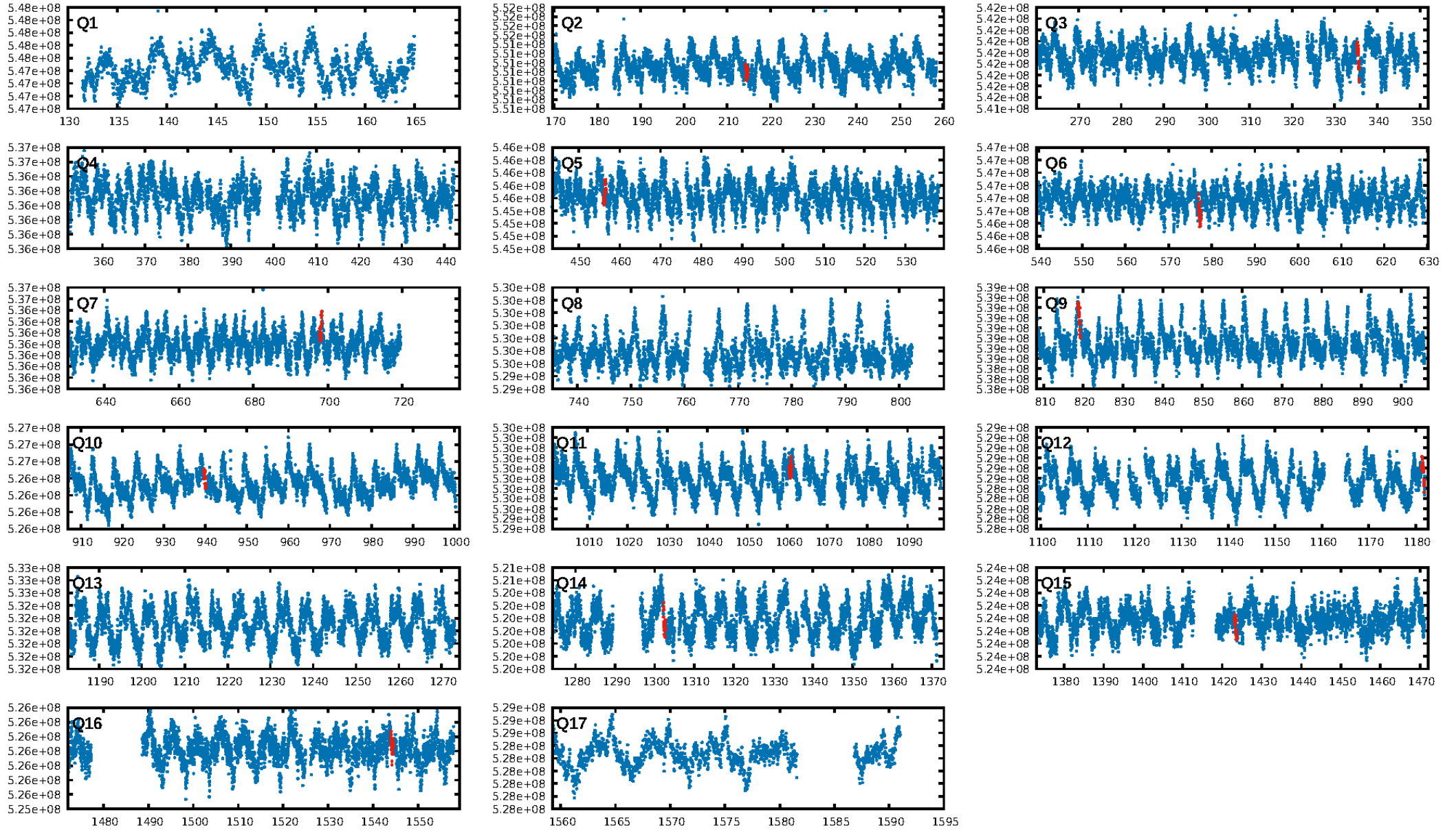
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [229.21 σ]
LongPeriod-sig: 100.0% [7.47 σ]
ModelChiSquare2-sig: 3.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 6.30e-07
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -4.075
Centroid-sig: 18.9%
Centroid-so: 0.570 arcsec [1.29 σ]
OotOffset-rm: 0.717 arcsec [1.62 σ]
KicOffset-rm: 0.711 arcsec [1.55 σ]
OotOffset-st: 3/4/1/1 [9]
KicOffset-st: 3/4/1/1 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 0.09 [1/11]

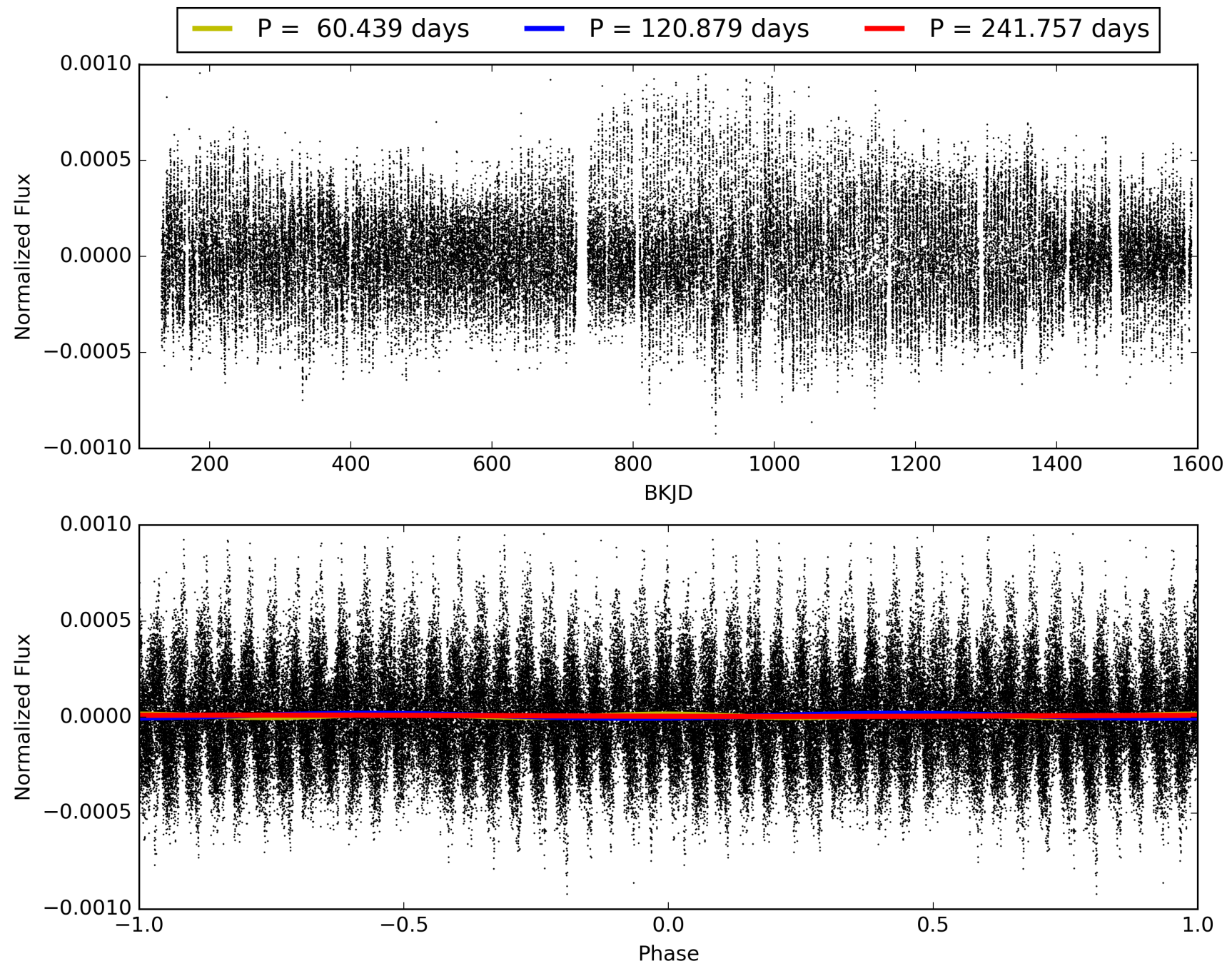
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:38:15 Z

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

TCE 005866001-04, PDC Light Curves

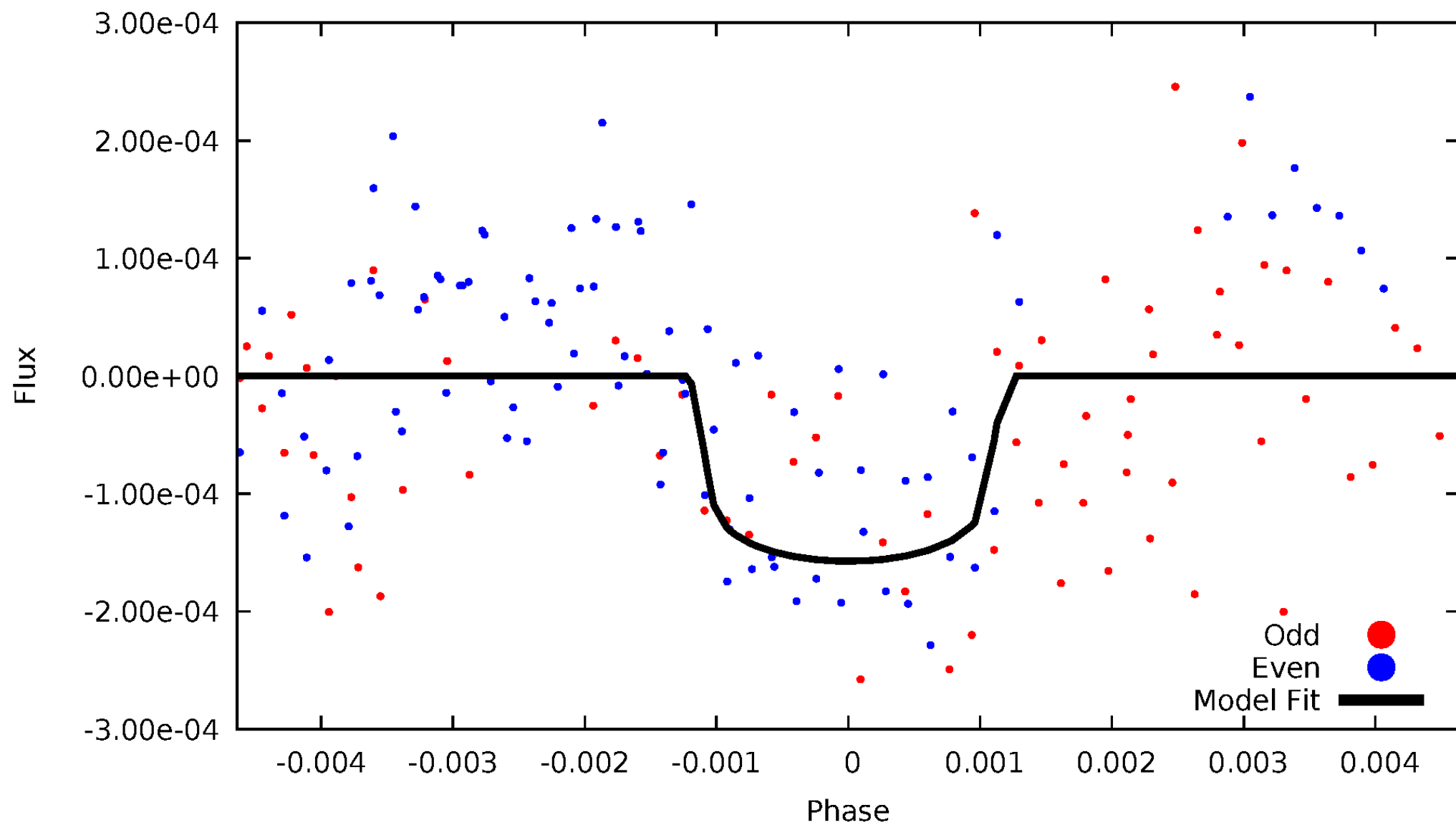


TCE 005866001-04



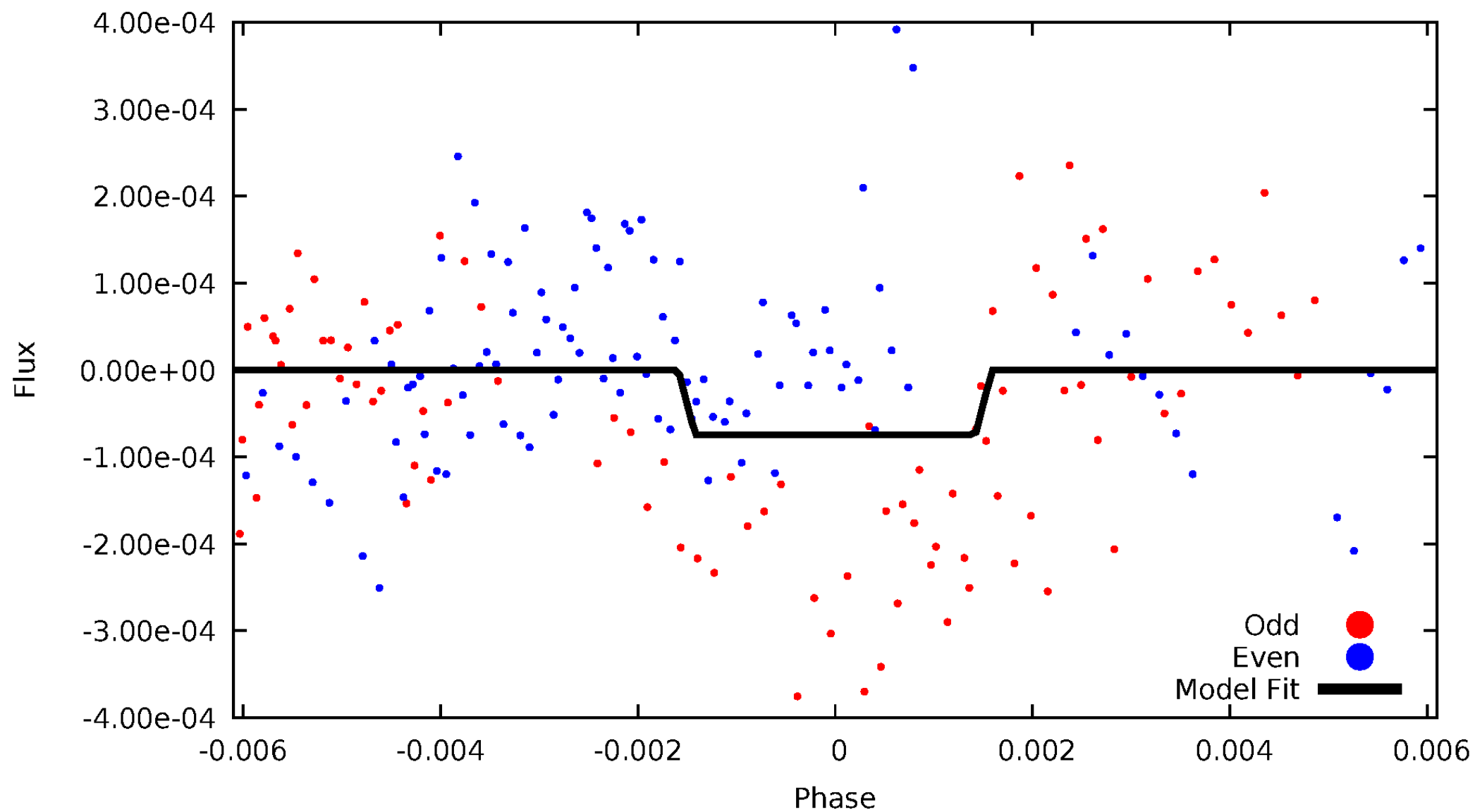
DV Odd/Even

TCE 005866001-04



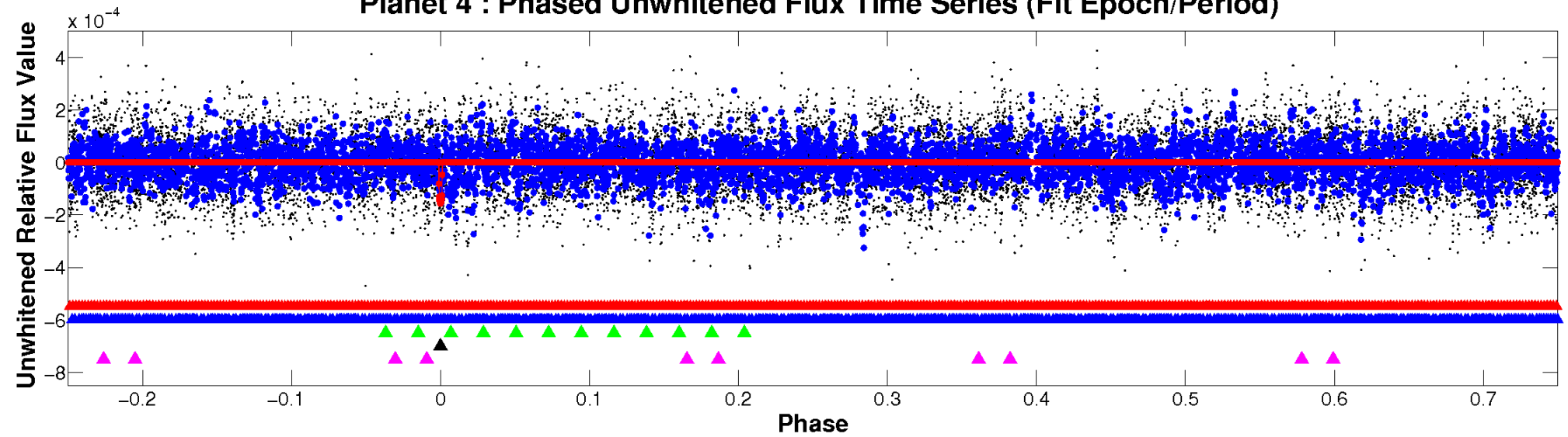
ALT Odd/Even

TCE 005866001-04

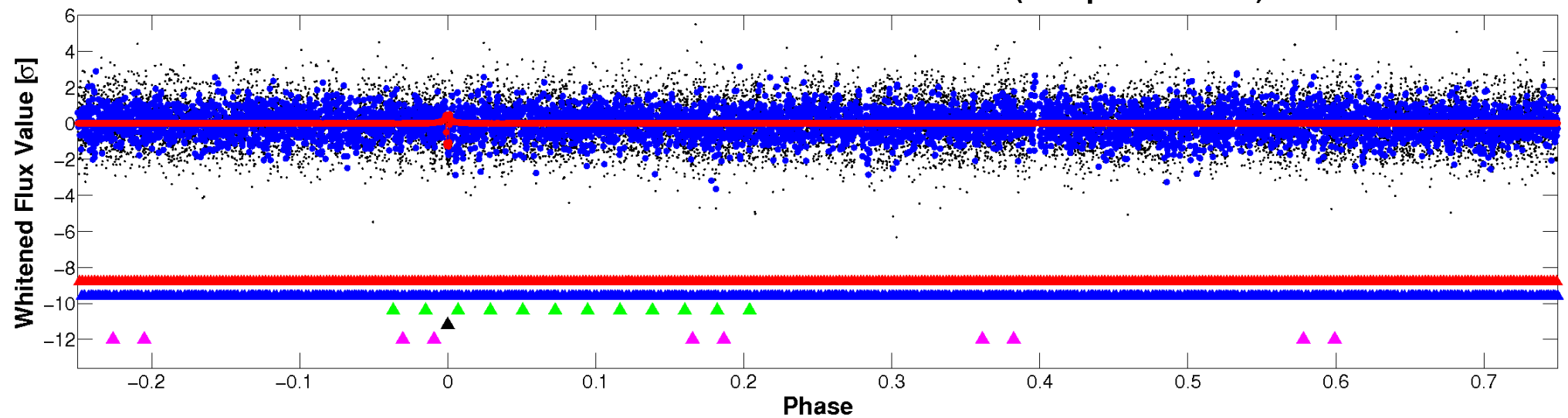


Non-Whitened Vs. Whitened Light Curve

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

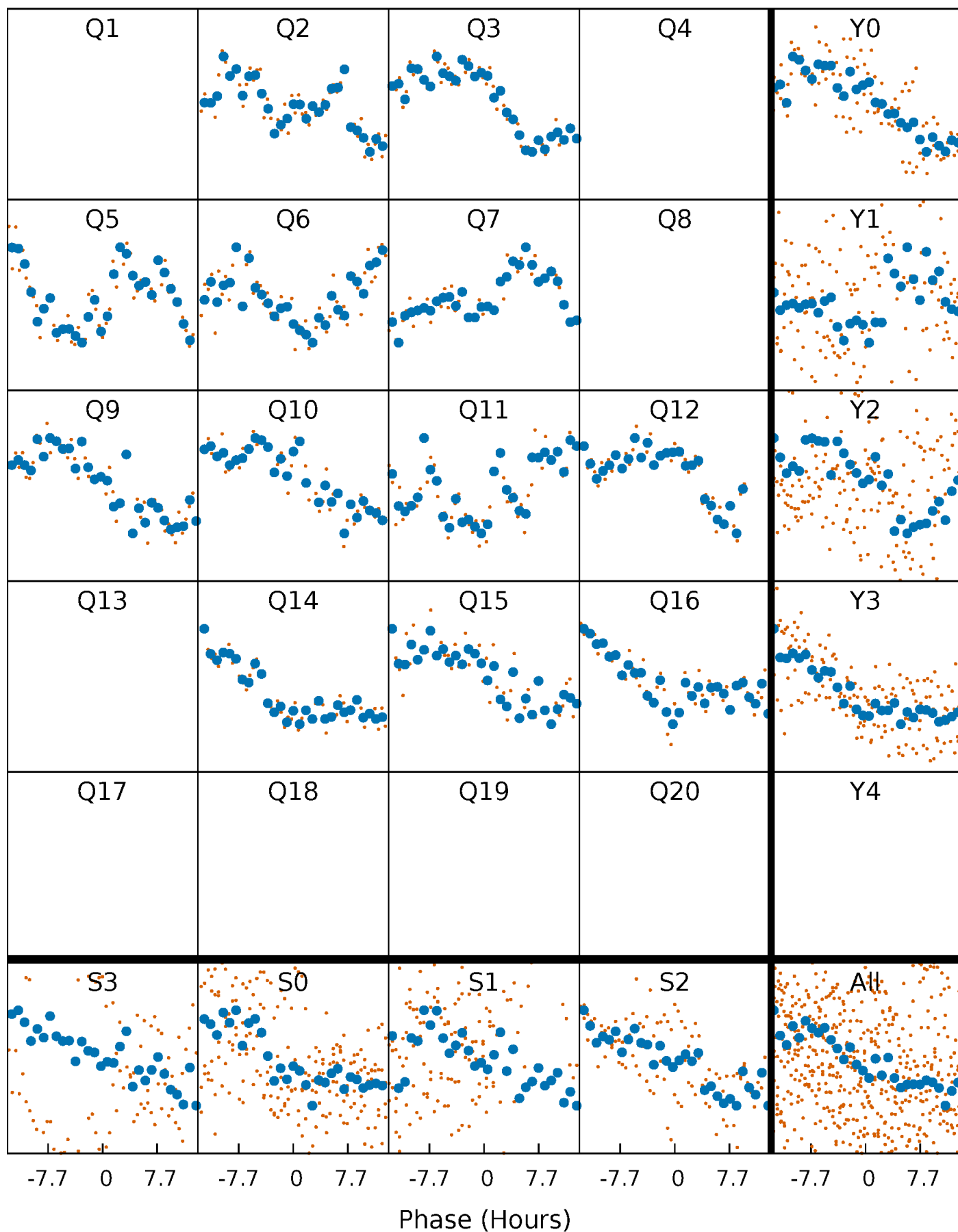


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



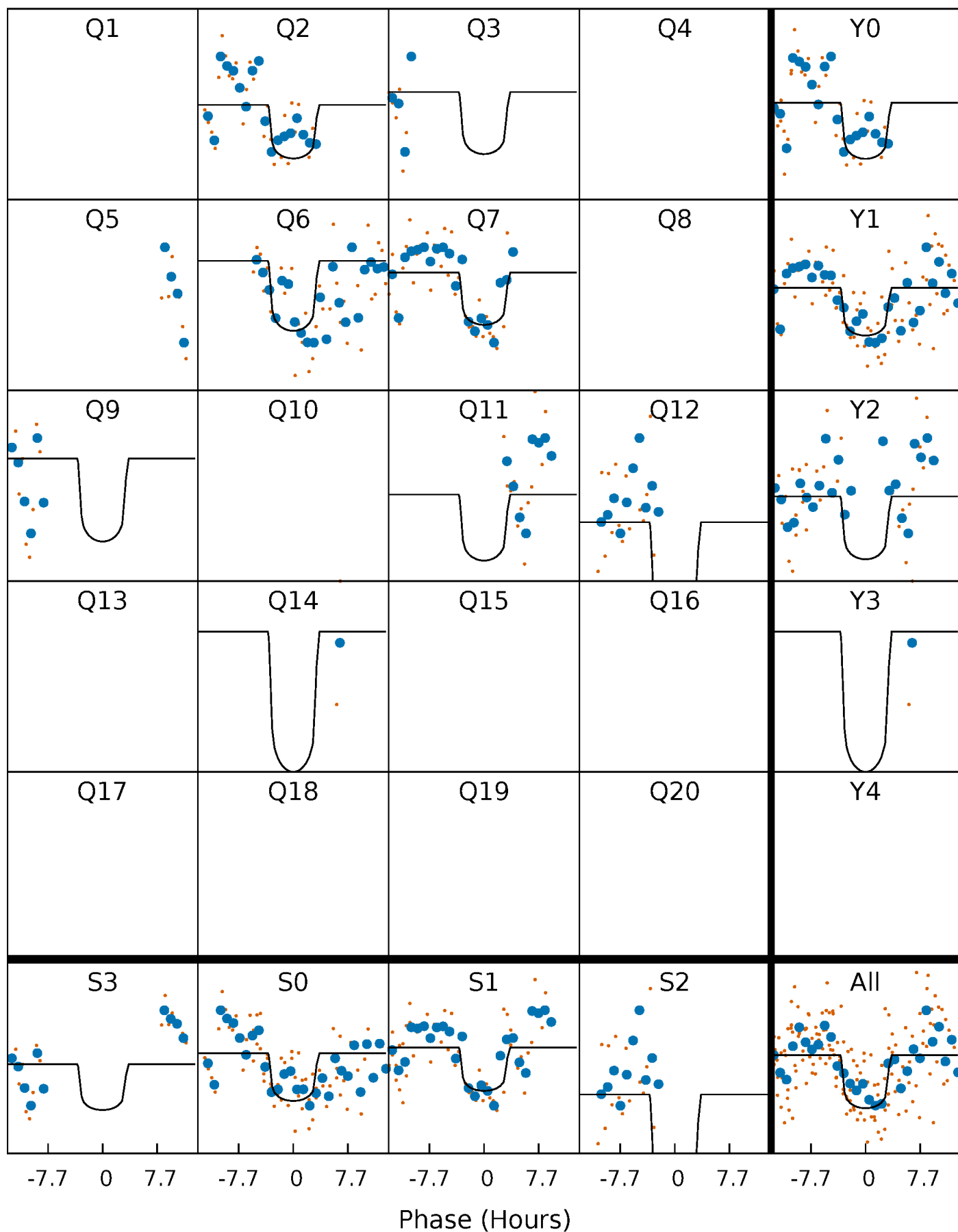
PDC Quarter-Phased Transit Curves

TCE 005866001-04 P=120.878503 Days $T_0=214.585956$ (BKJD)



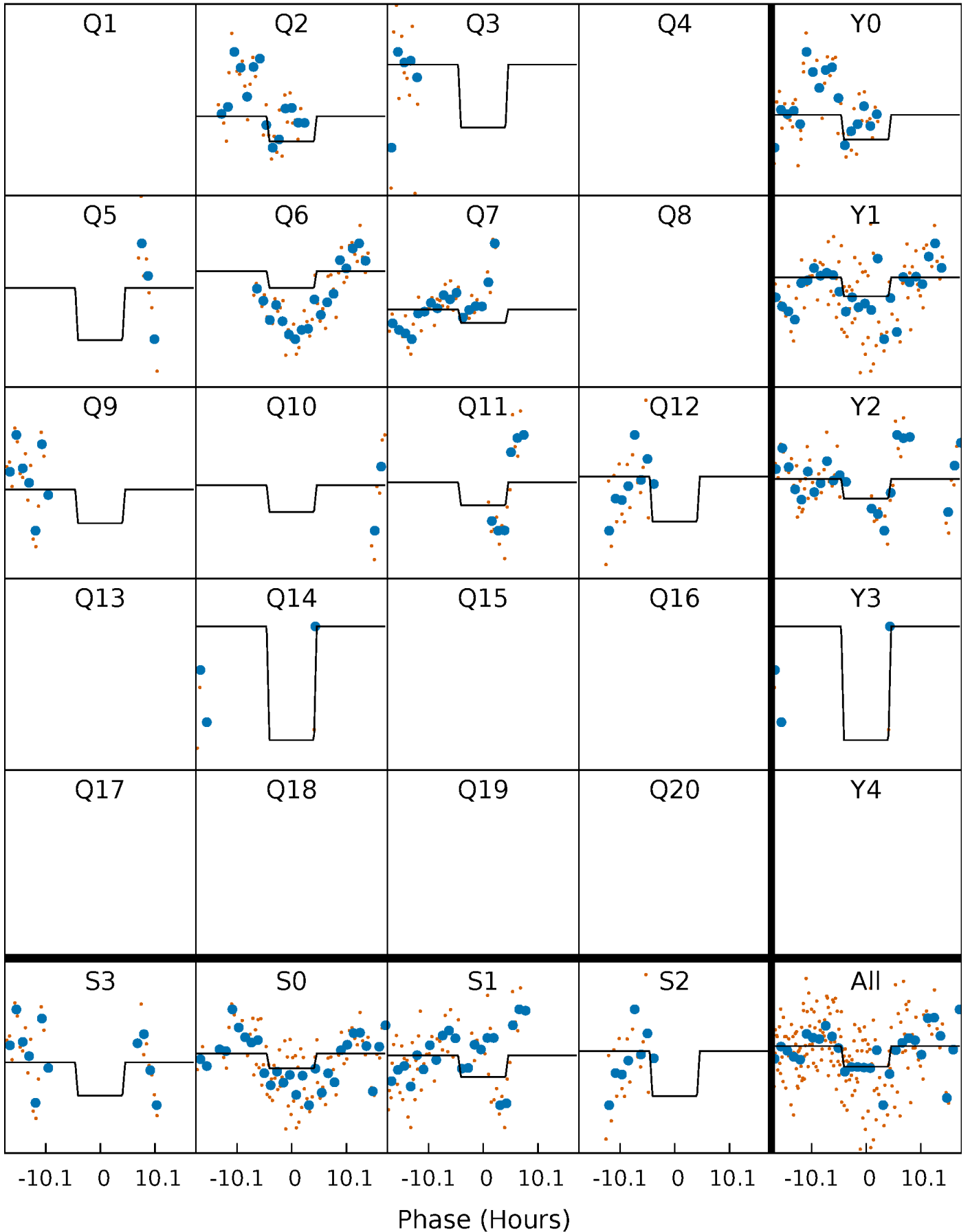
DV Quarter-Phased Transit Curves

TCE 005866001-04 P=120.878503 Days $T_0=214.585956$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

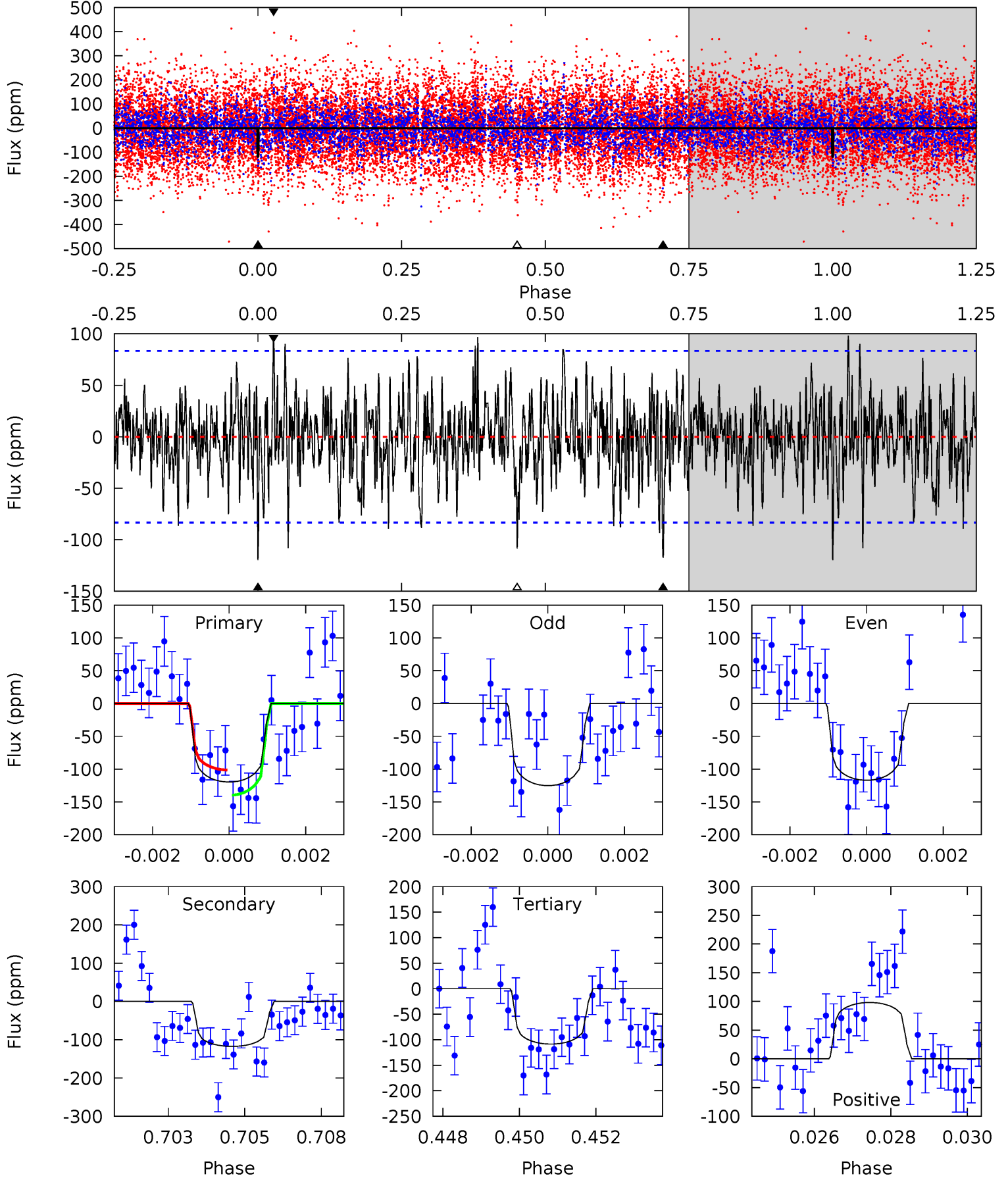
TCE 005866001-04 P=120.882744 Days $T_0=214.630438$ (BKJD)



DV Model-Shift Uniqueness Test

005866001-04, P = 120.878503 Days, E = 93.707453 Days

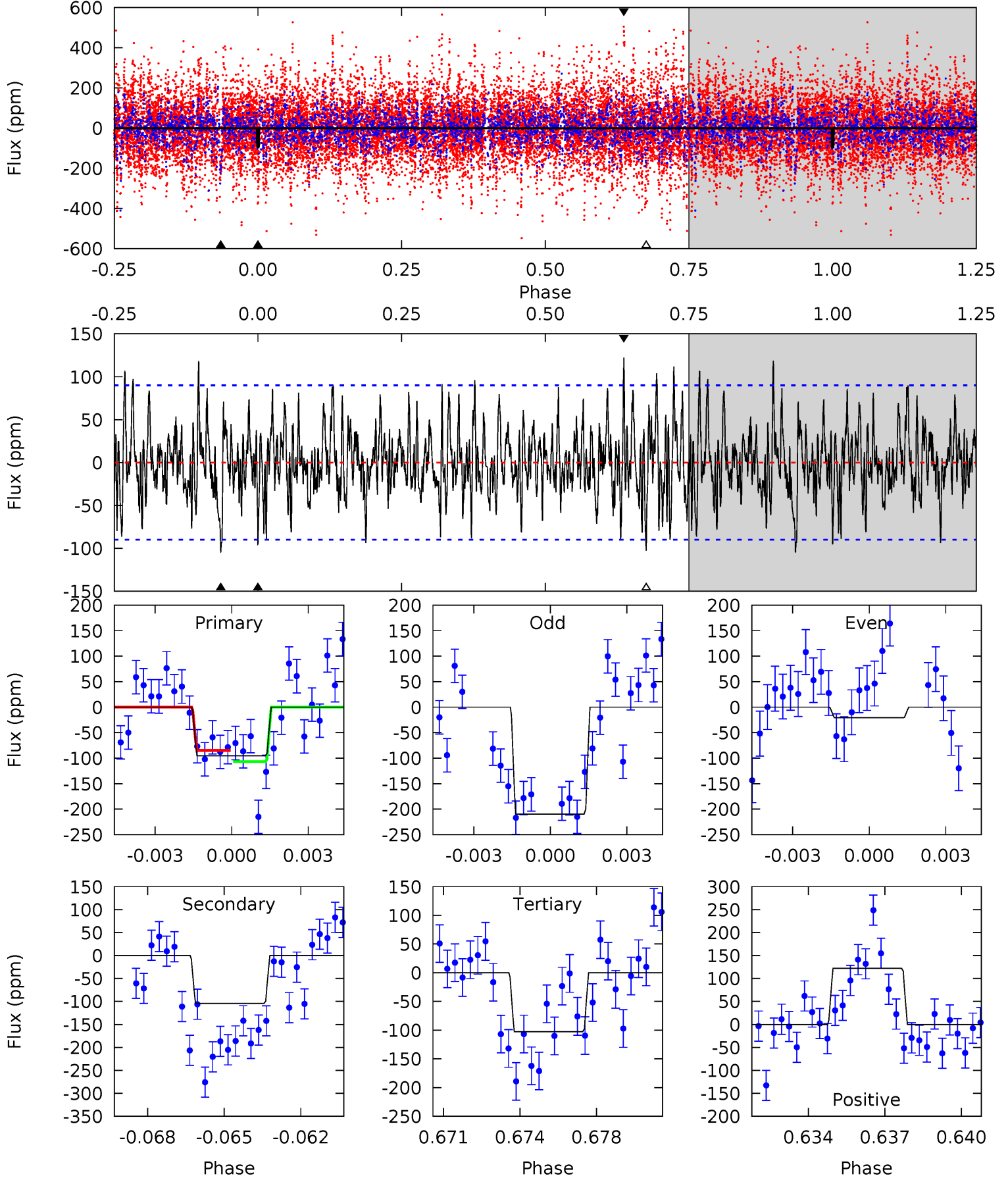
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.61	7.47	6.90	6.25	5.30	3.05	1.94	0.71	1.37	0.57	1.22	0.25	0.46	0.45	1.22



Alt Model-Shift Uniqueness Test

005866001-04, P = 120.882744 Days, E = 93.747694 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.56	6.09	5.99	7.13	5.25	2.96	2.04	-0.42	-1.57	0.10	-1.04	5.53	2.37	0.54	0.64



Stellar Parameters For KIC 005866001

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6493^{+176}_{-176}	$3.802^{+0.293}_{-0.098}$	$-0.300^{+0.300}_{-0.250}$	$2.407^{+0.451}_{-0.838}$	$1.341^{+0.247}_{-0.247}$	$0.136^{+0.275}_{-0.042}$
	+3%/-3%	+8%/-3%	+100%/-83%	+19%/-35%	+18%/-18%	+203%/-31%
Source	PHO1	FLK73	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 005866001-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-117 ± 16	$3.38^{+2.64}_{-1.89}$	839^{+53}_{-68}	5723^{+3466}_{-1080}	1507^{+6853}_{-984}
Alt.	-104 ± 17	$2.53^{+2.33}_{-1.58}$	841^{+51}_{-77}	6550^{+5474}_{-1752}	2578^{+14586}_{-1921}

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

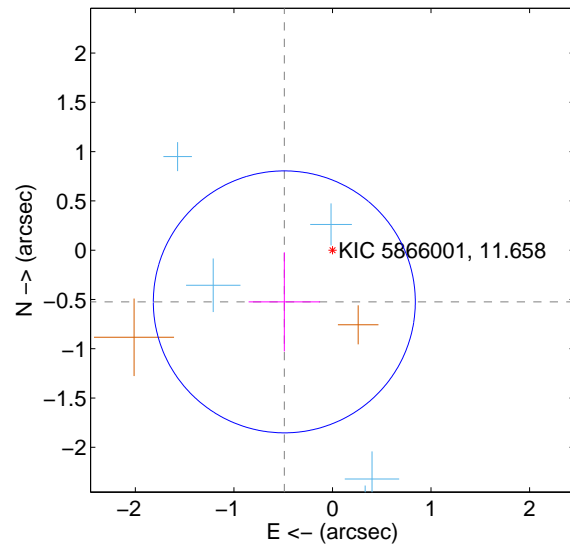
Supplemental centroid analysis for 005866001-04. **Kepler magnitude: 11.66.** Transit SNR 7.81

There are 5 quarters with good PRF difference image offsets

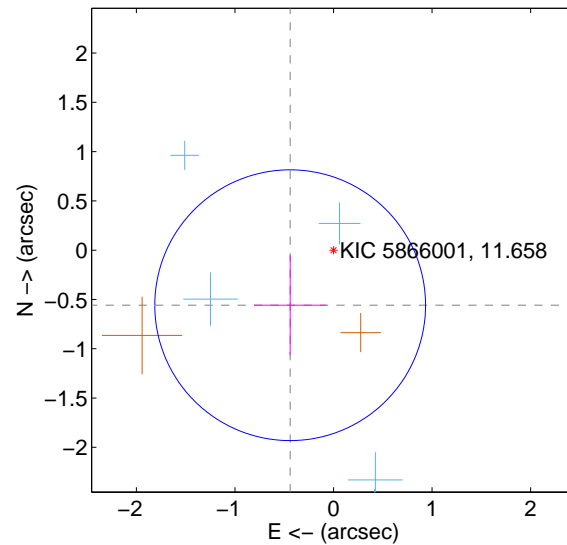
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.717 ± 0.443	1.62	0.489 ± 0.362	-0.524 ± 0.503
PRF-fit source offset from KIC position	0.711 ± 0.458	1.55	0.440 ± 0.366	-0.558 ± 0.507
photometric centroid source offset	0.57 ± 0.44	1.29	0.57 ± 0.44	0.02 ± 0.43

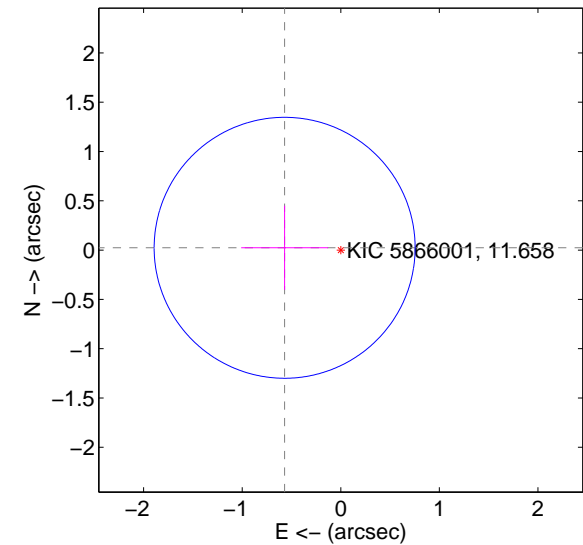
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

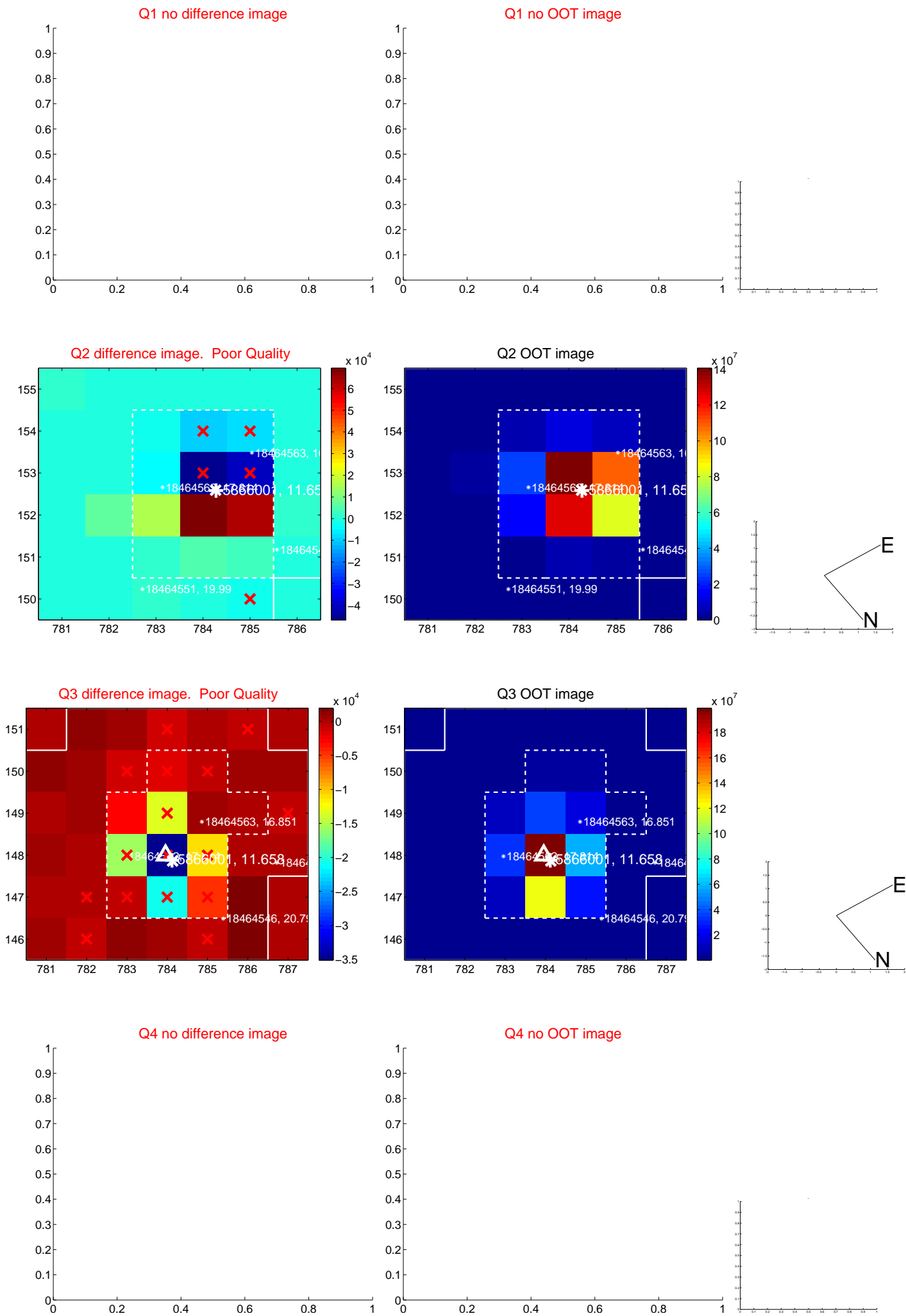


offset from photometric centroids

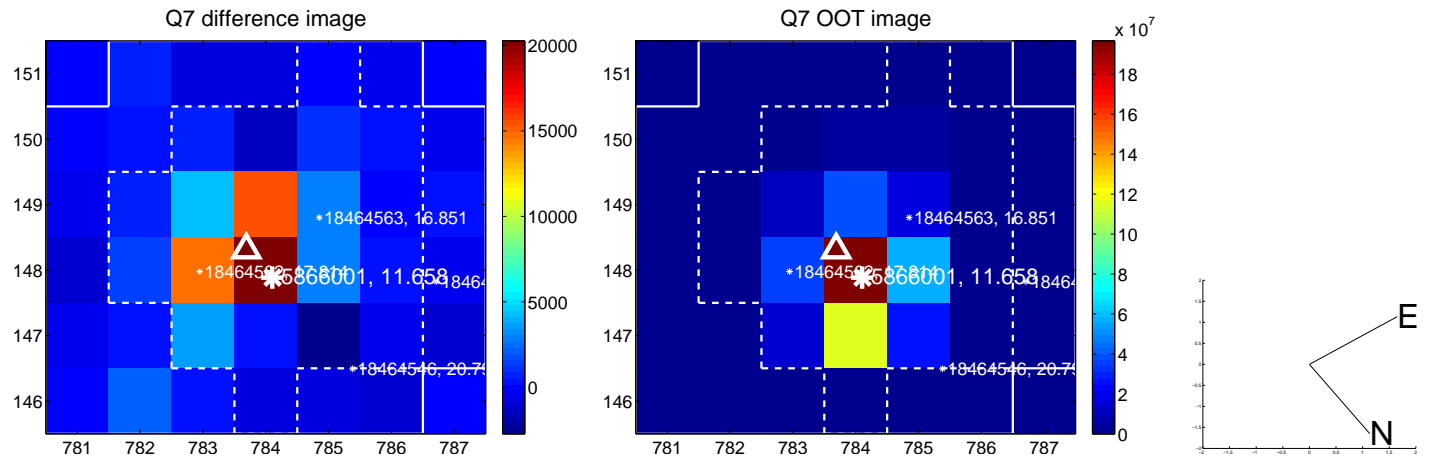
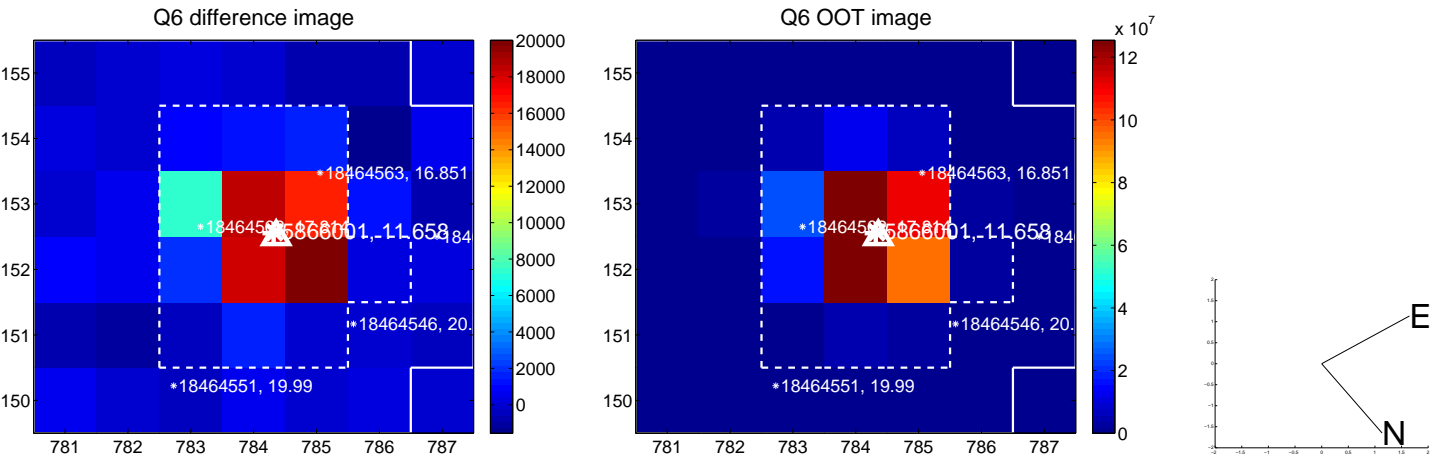
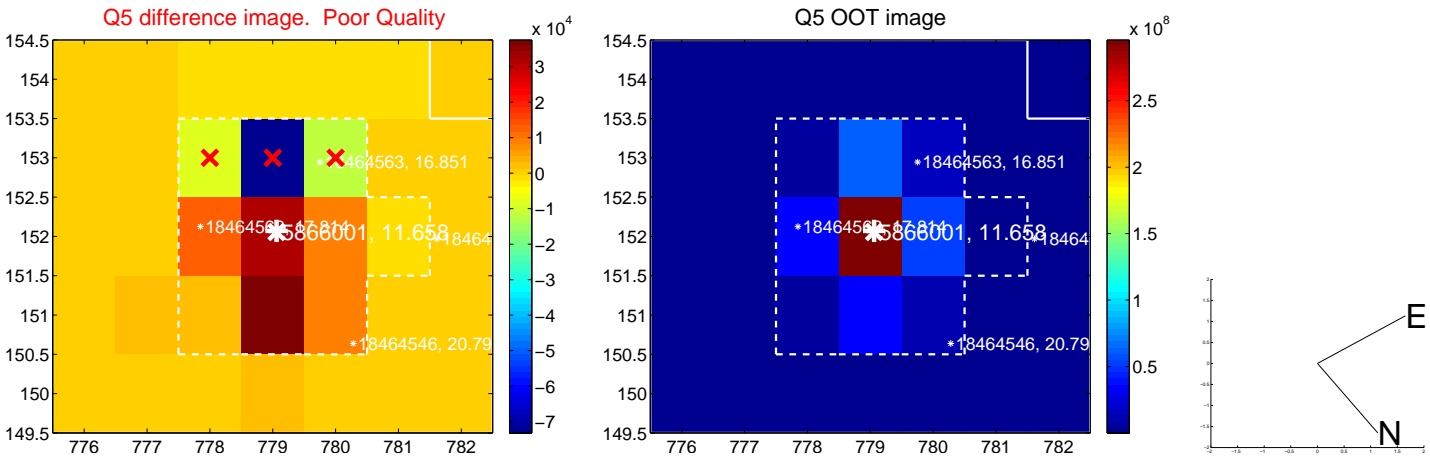


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

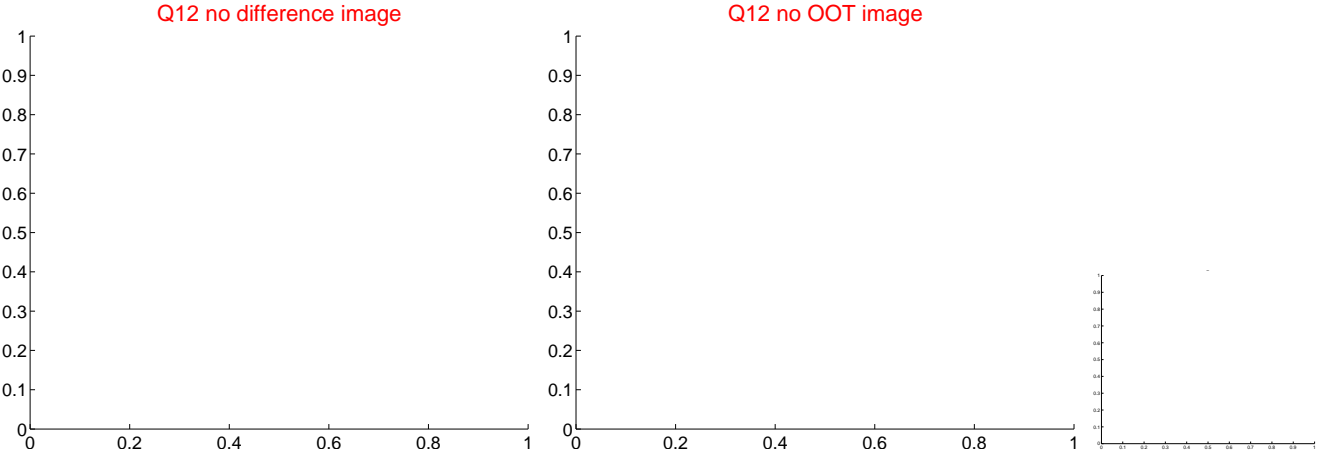
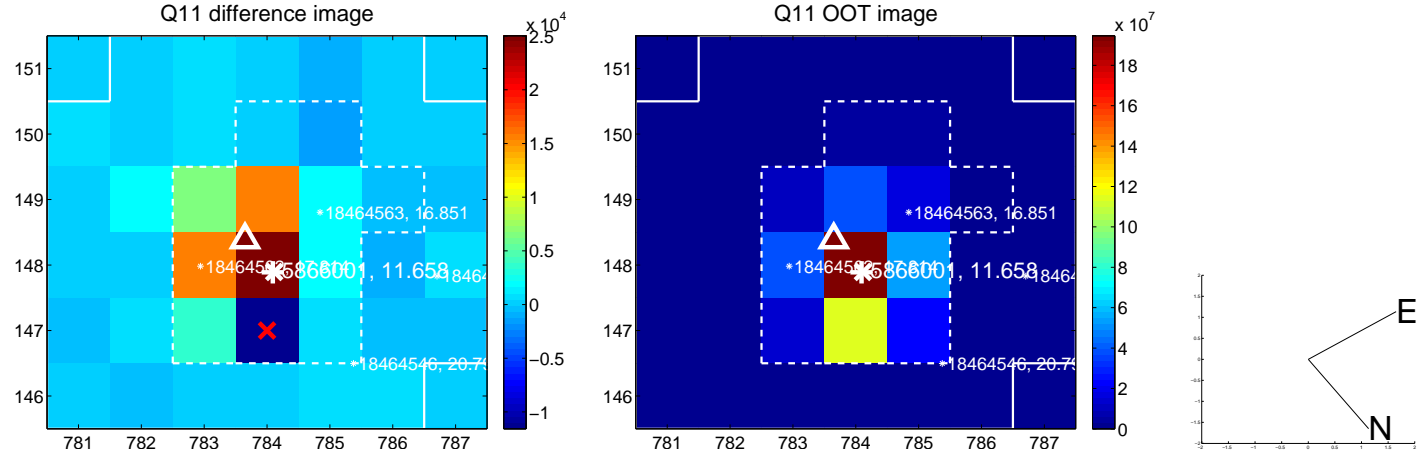
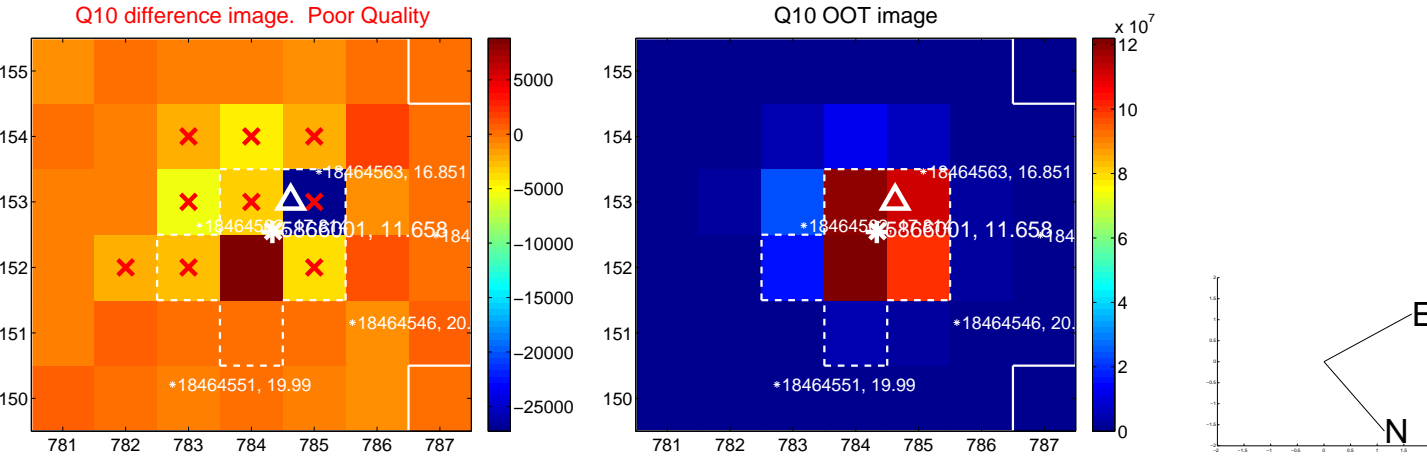
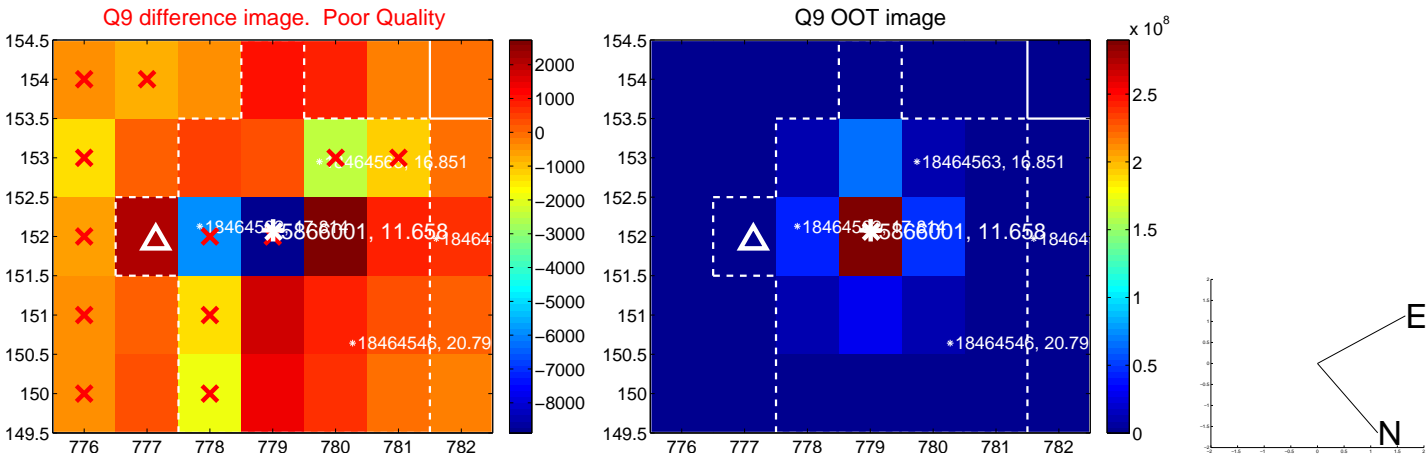
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



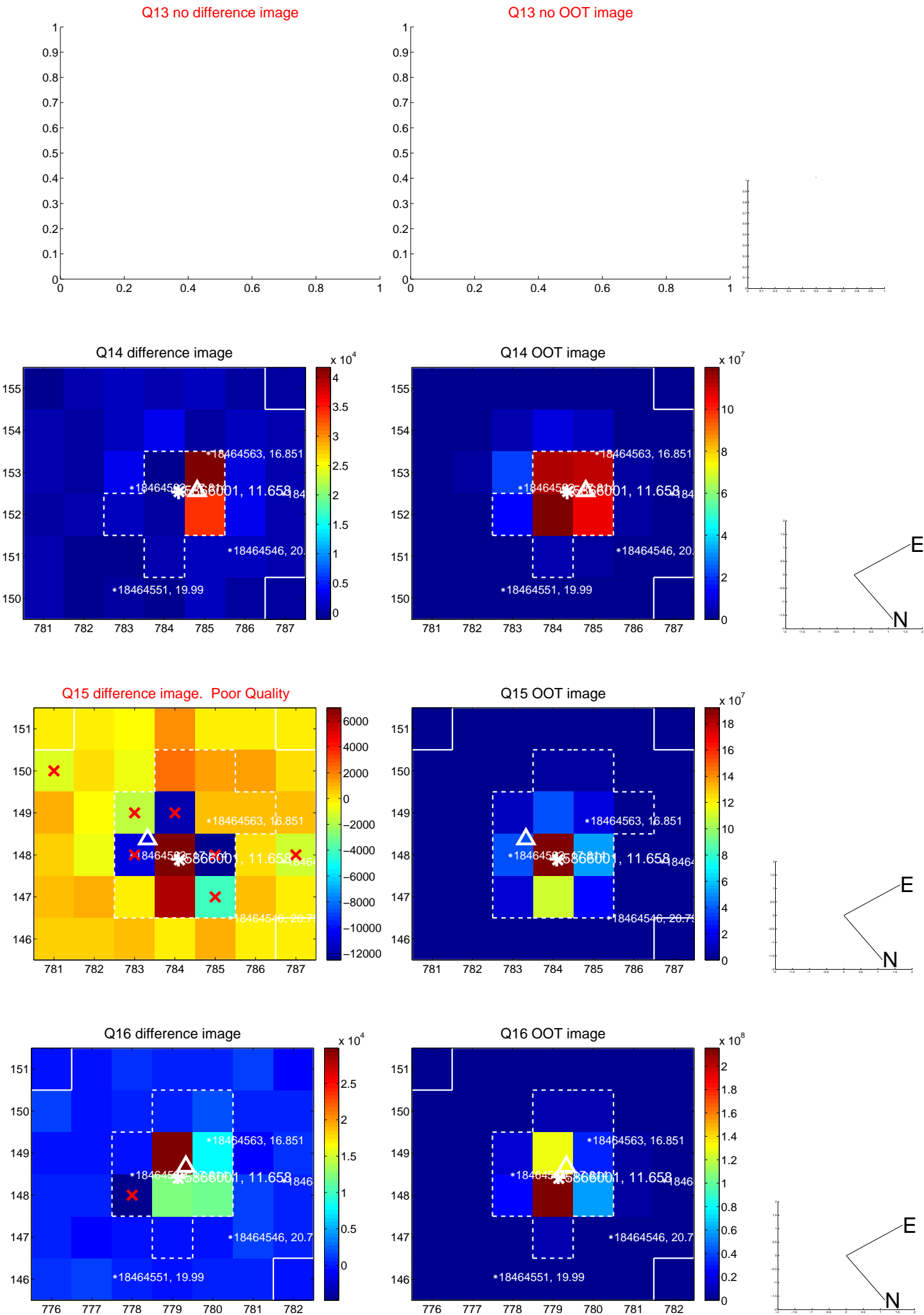
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



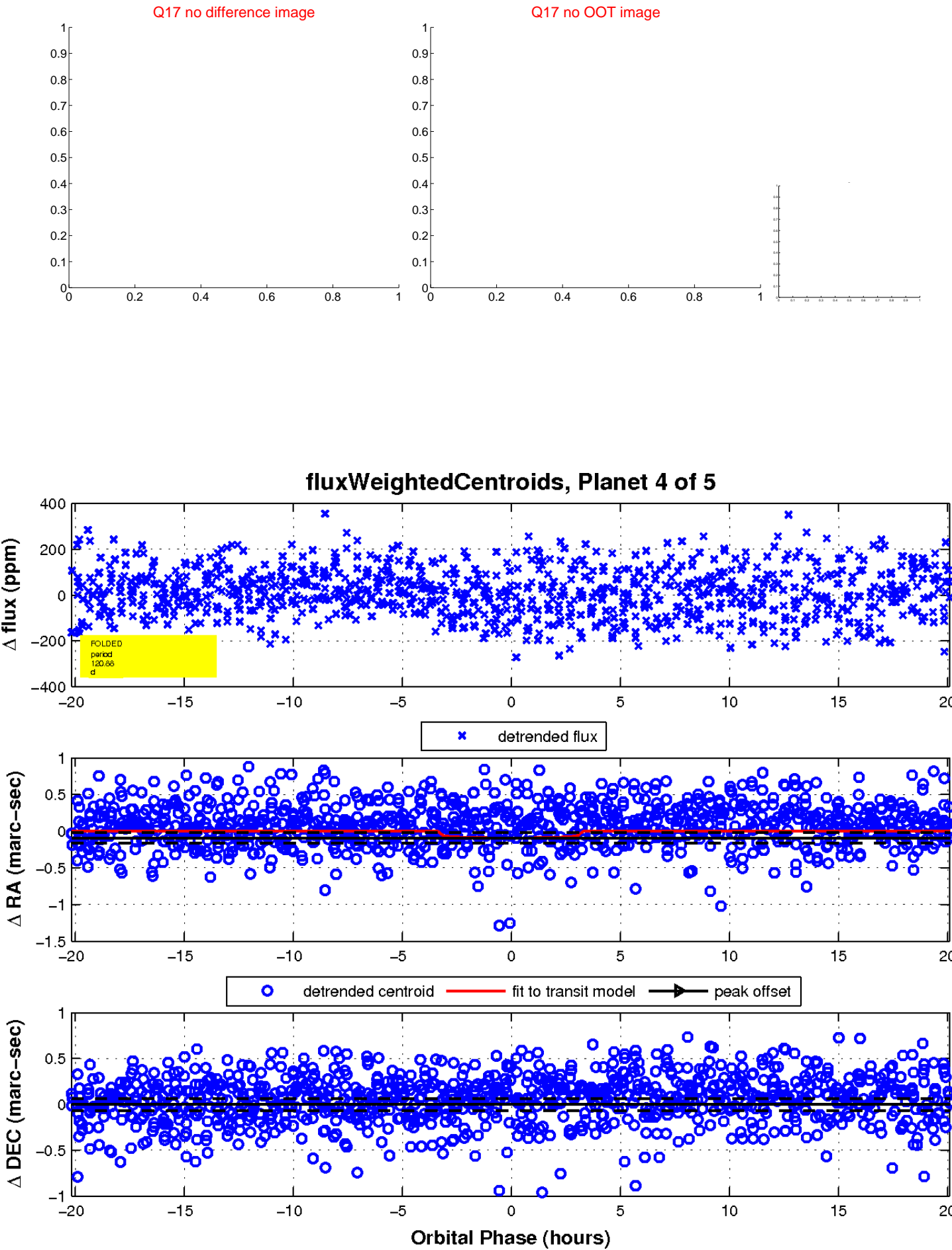
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

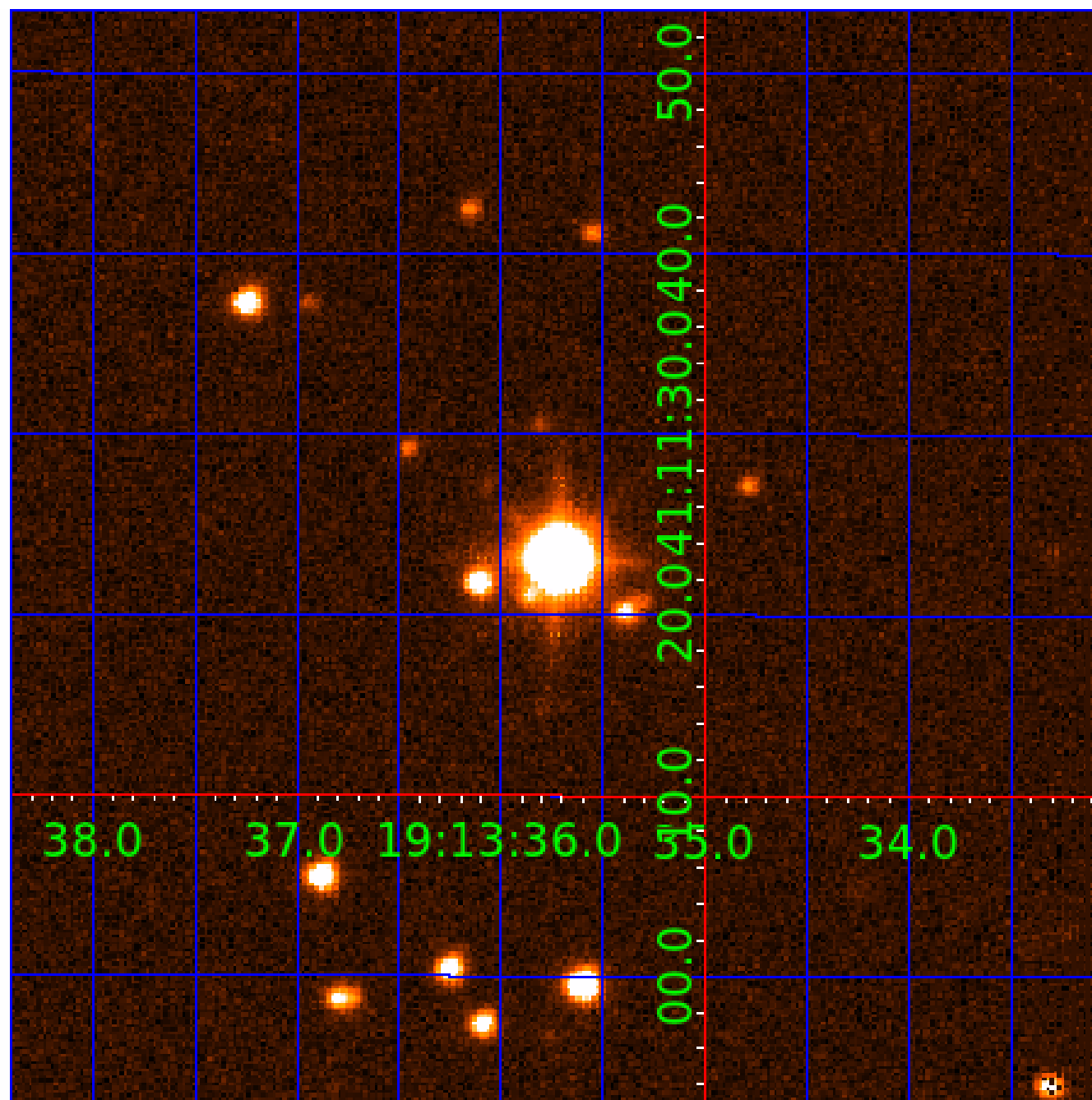


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005866001

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})
005866001-01	OBS	No	1.744680	131.650216	26.5	6.422	14.8	11.9	2.41	6493	1.25	9434.21
005866001-02	OBS	No	2.615489	131.691944	24.3	10.396	9.6	8.4	2.41	6493	1.40	5498.65
005866001-03	OBS	No	123.524417	210.137397	170.4	5.200	8.0	7.5	2.41	6493	3.76	32.21
005866001-04	OBS	No	120.878503	214.585956	157.3	6.727	7.9	7.8	2.41	6493	3.39	33.15
005866001-05	OBS	No	144.543591	166.144546	82.4	12.583	7.9	4.8	2.41	6493	2.41	26.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005866001-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005866001-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
005866001-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005866001-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

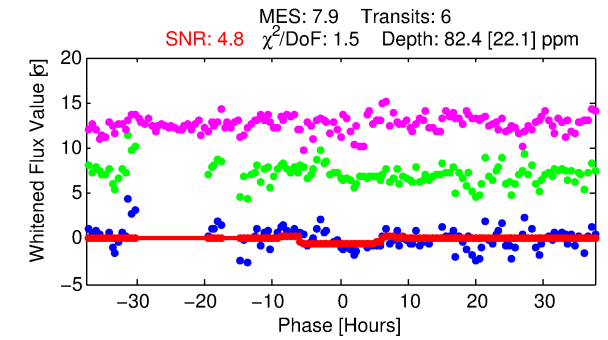
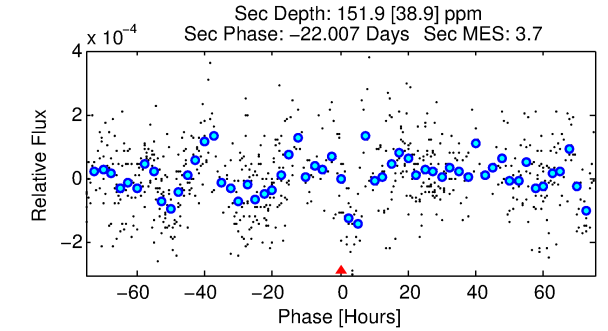
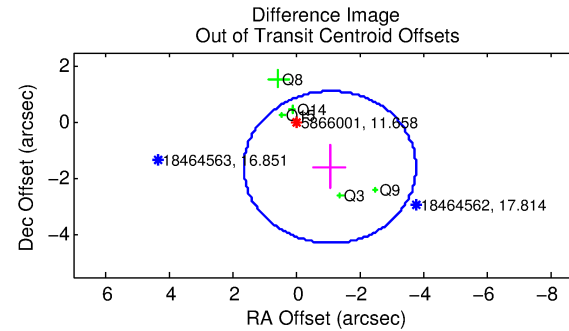
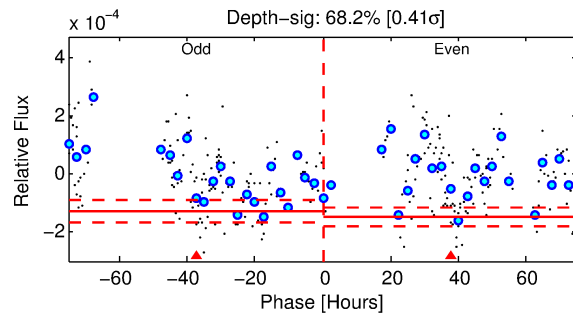
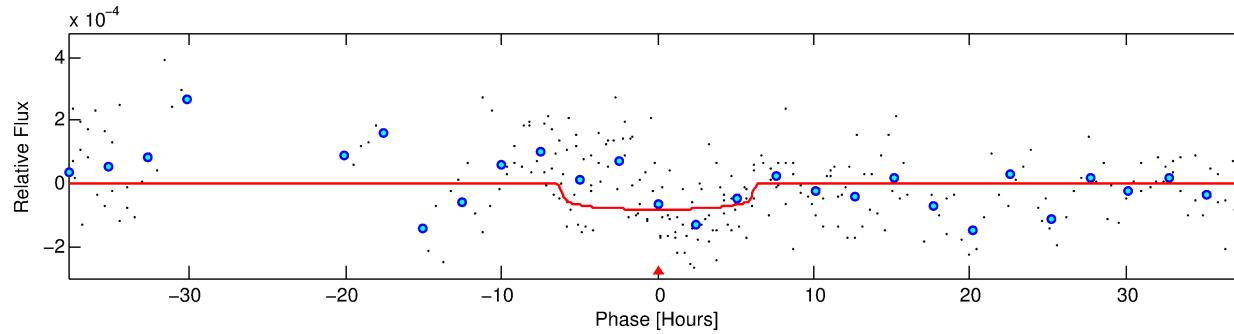
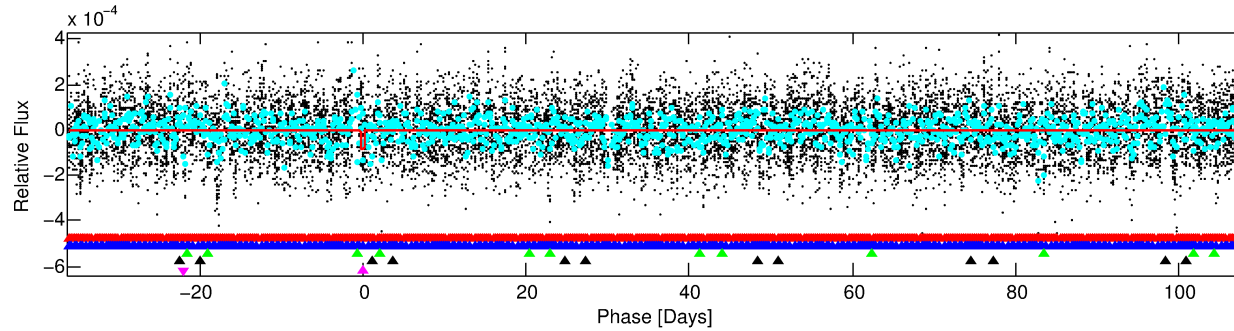
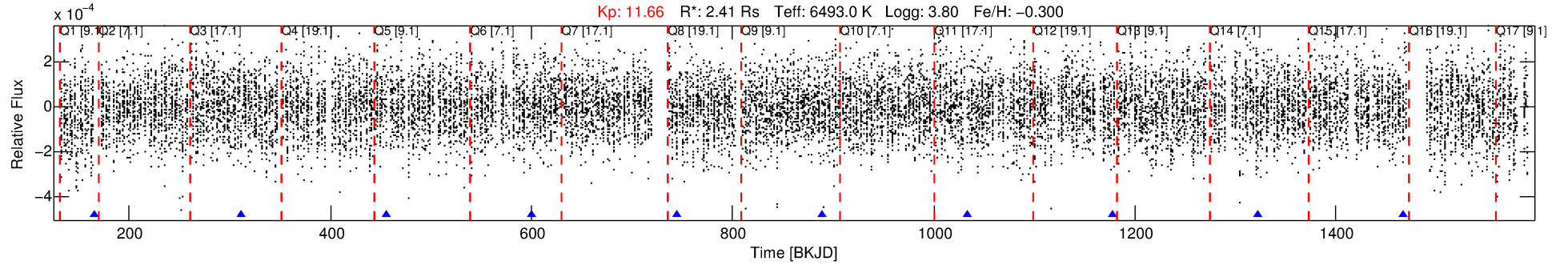
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005866001-05

No Significant Match Found

DV One-Page Summary

KIC: 5866001 Candidate: 5 of 5 Period: 144.544 d



DV Fit Results:

Period = 144.54359 [0.00453] d
Epoch = 166.1445 [0.0283] BKJD
Rp/R* = 0.0092 [0.0094]
a/R* = 54.68 [314.29]
b = 0.79 [2.71]
Seff = 26.12 [13.52]
Teq = 576 [75] K
Rp = 2.41 [2.62] Re
a = 0.5943 [0.1921] AU
Ag = 5094.02 [10887.91] [0.47 σ]
Teffp = 7530 [3914] K [1.78 σ]

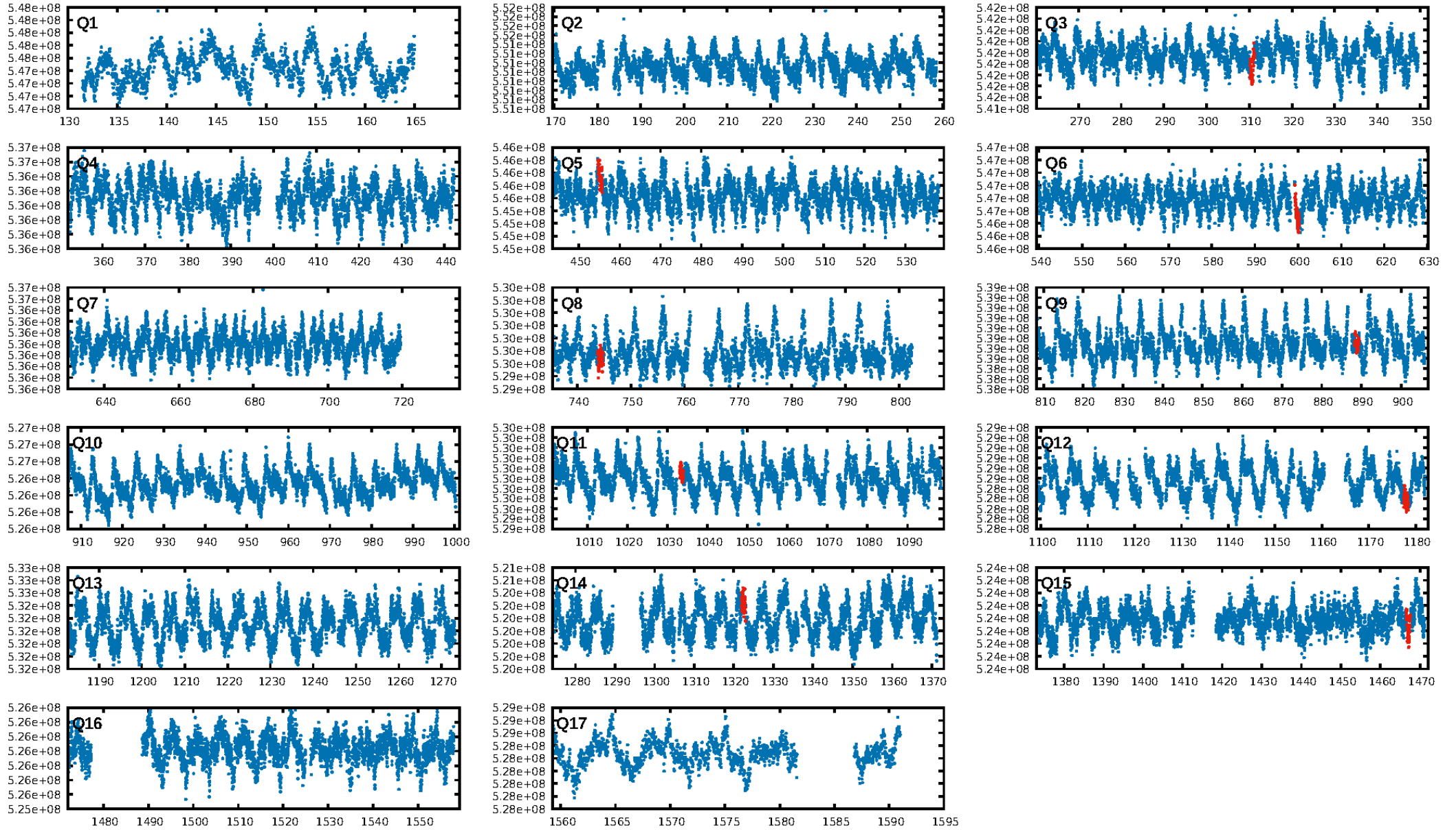
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [37.05 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 23.8%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 6.49e-07
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.6262
Centroid-sig: 7.5%
Centroid-so: 0.934 arcsec [1.24 σ]
OotOffset-rm: 1.921 arcsec [2.13 σ]
OotOffset-st: 1/2/1/1 [5]
KicOffset-rm: 2.016 arcsec [2.13 σ]
KicOffset-st: 1/2/1/1 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/6]

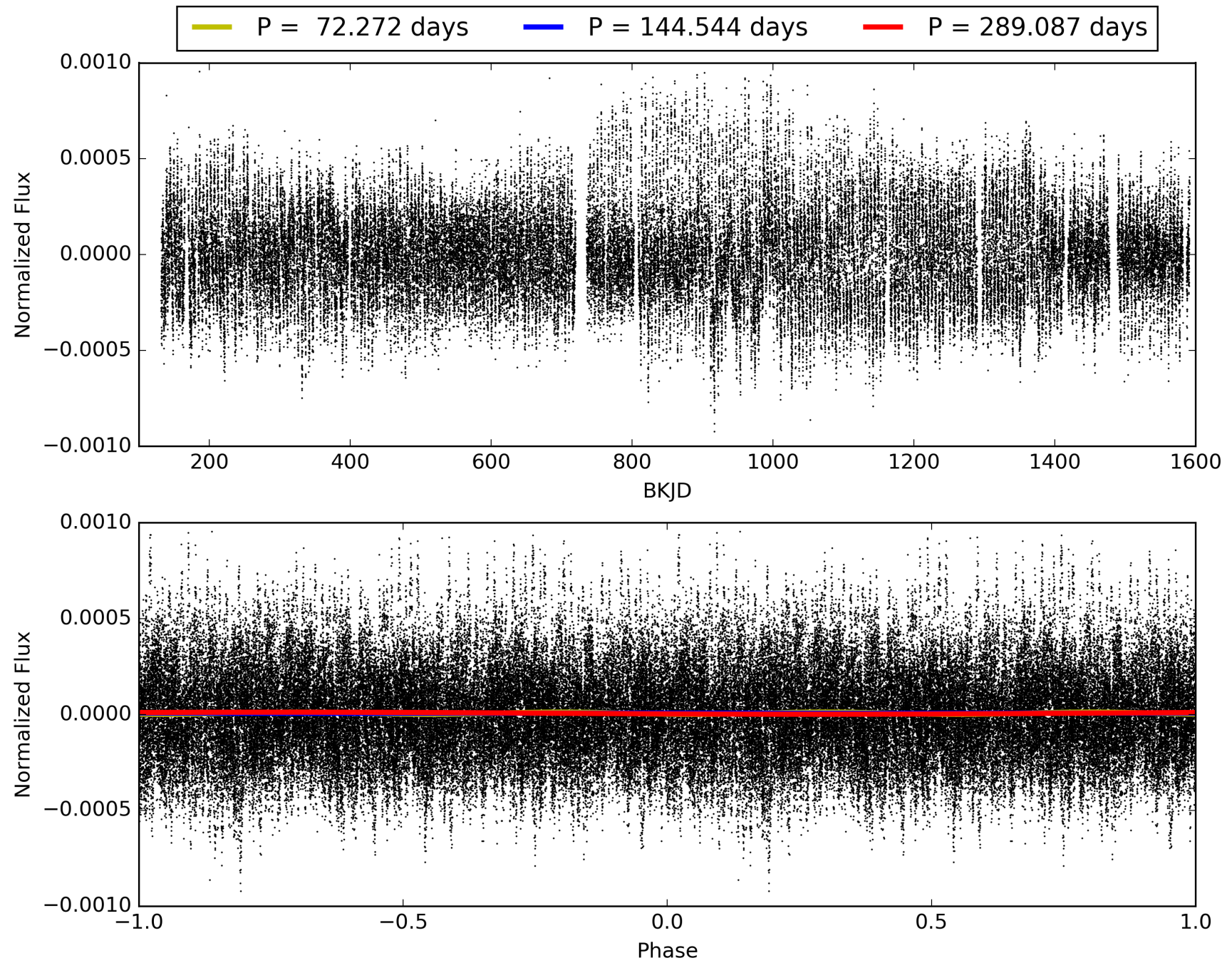
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:38:20 Z

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

TCE 005866001-05, PDC Light Curves

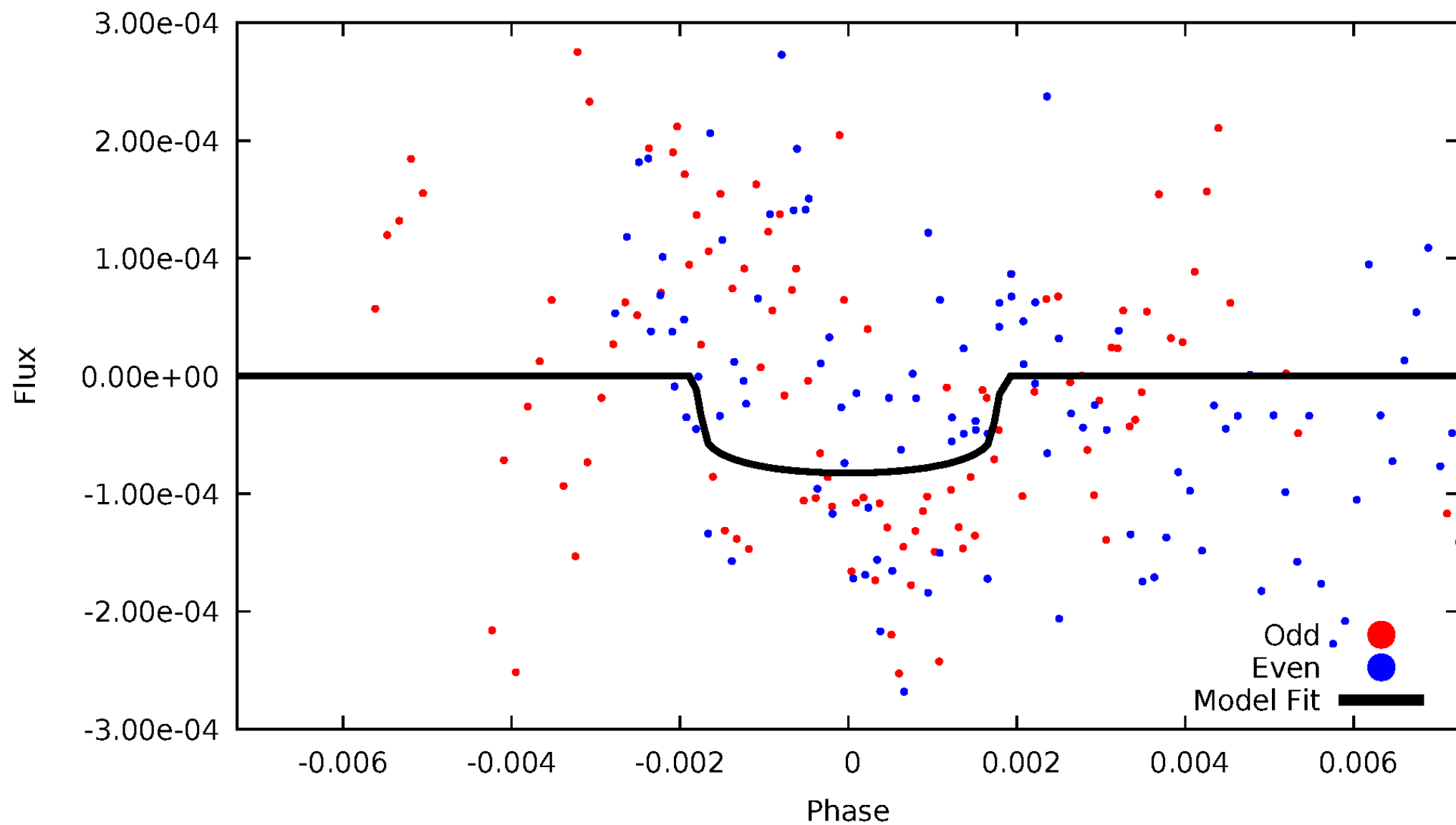


TCE 005866001-05



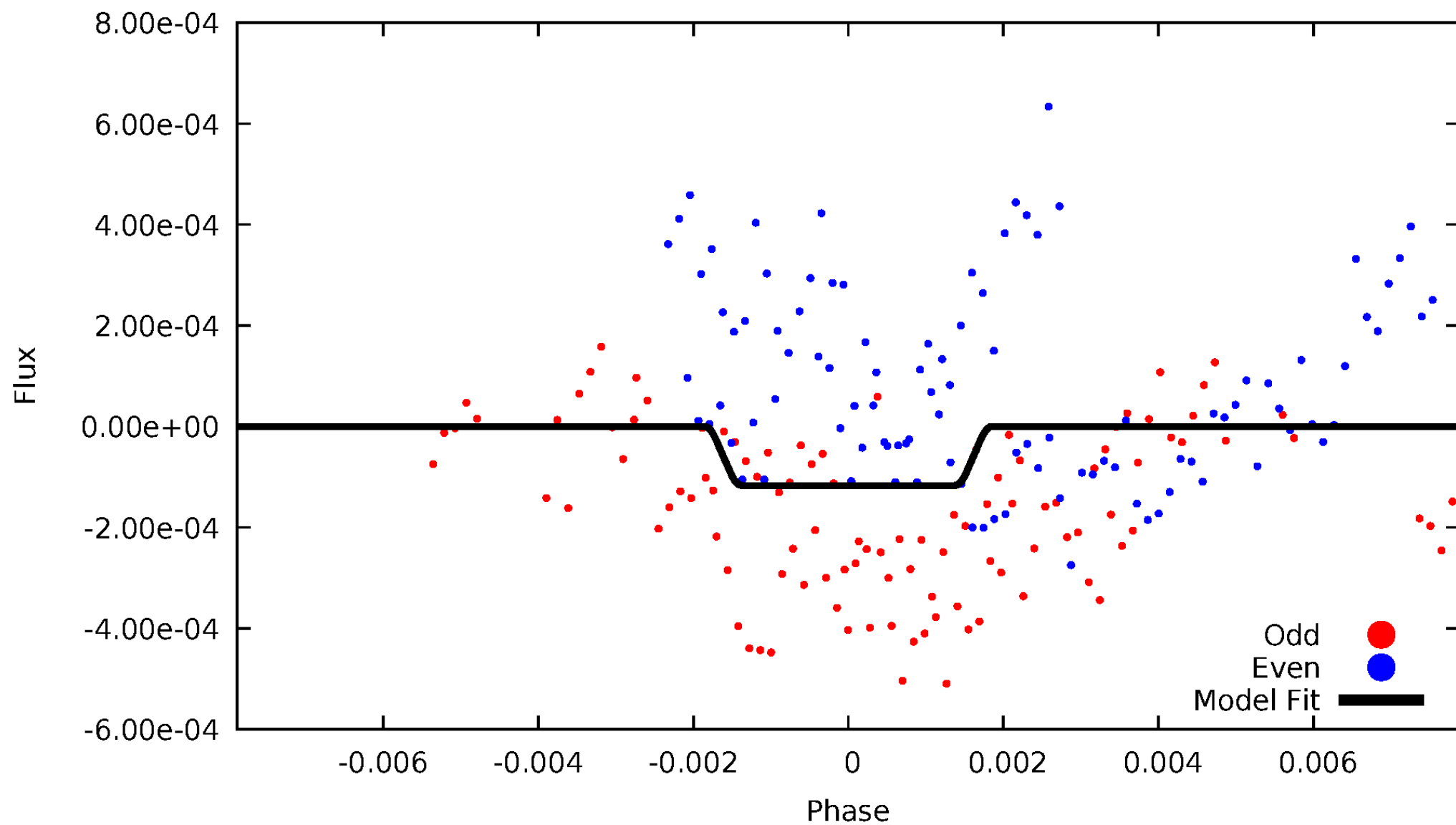
DV Odd/Even

TCE 005866001-05



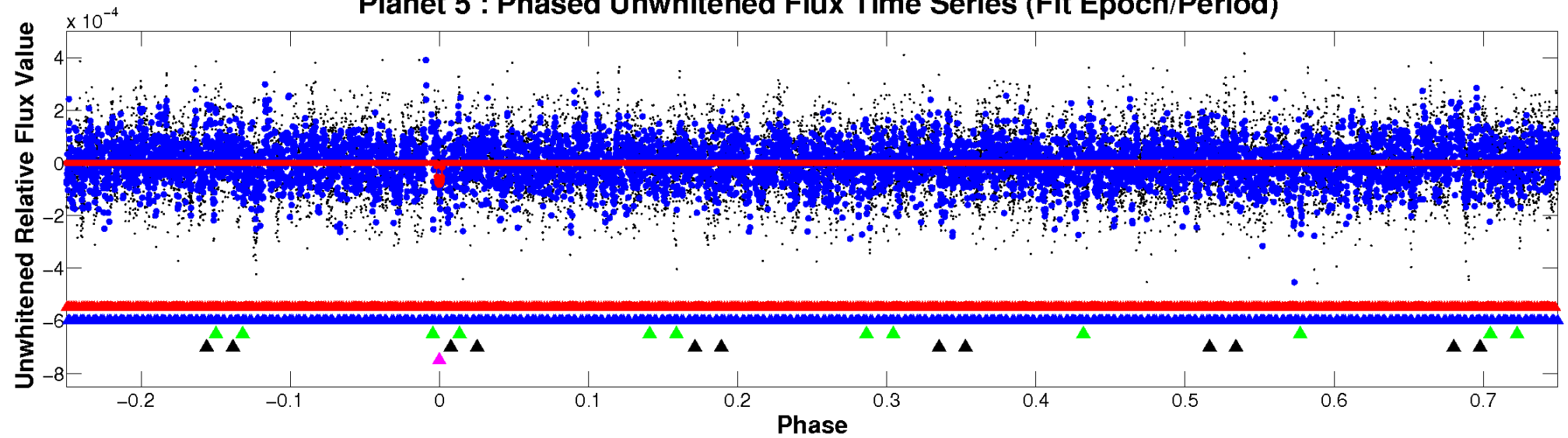
ALT Odd/Even

TCE 005866001-05

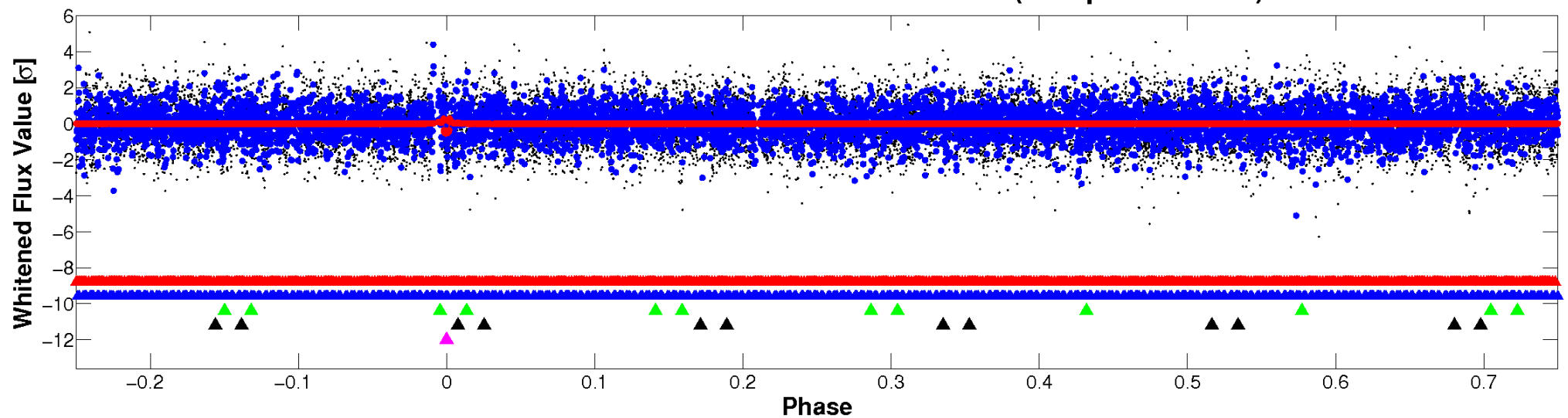


Non-Whitened Vs. Whitened Light Curve

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

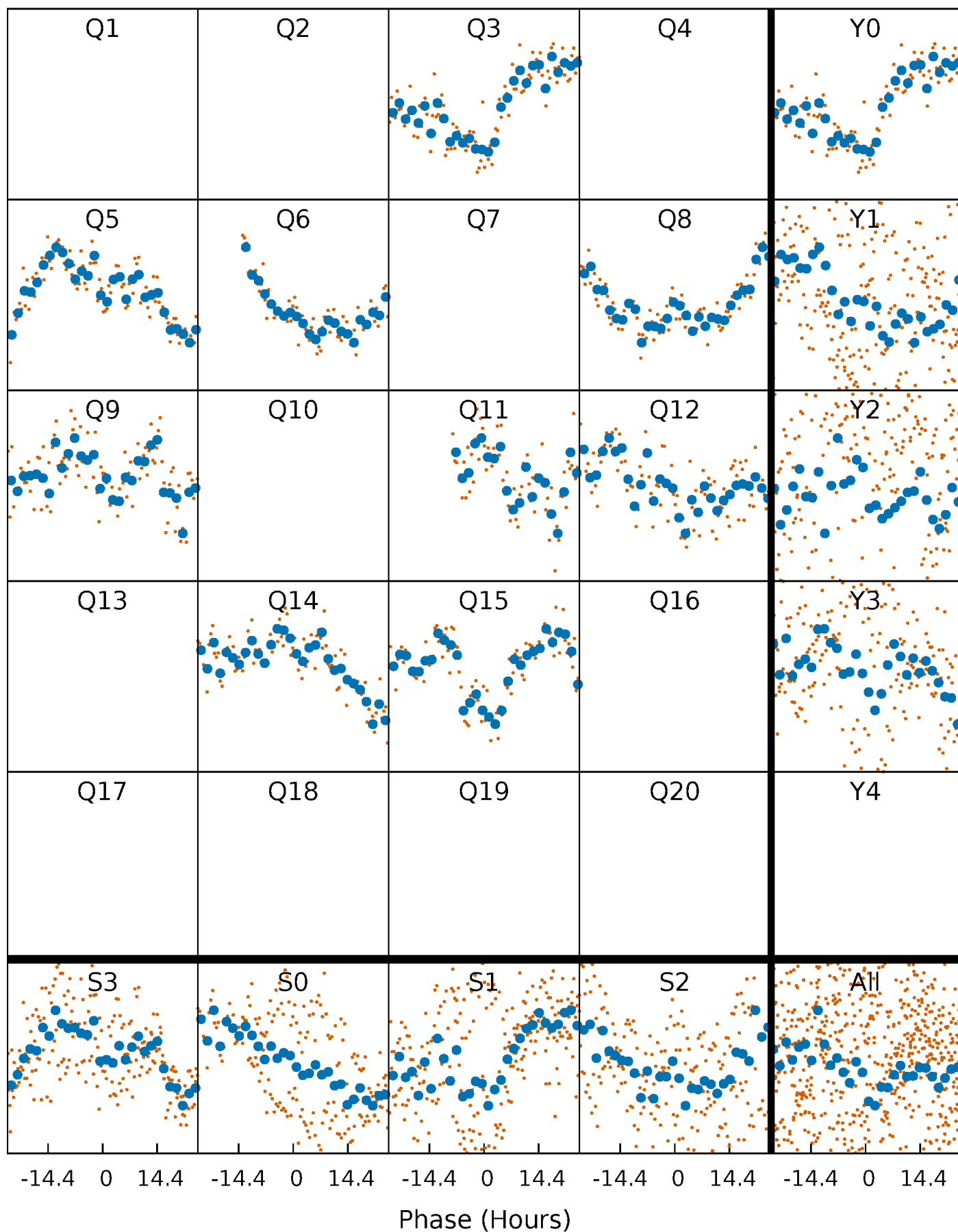


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



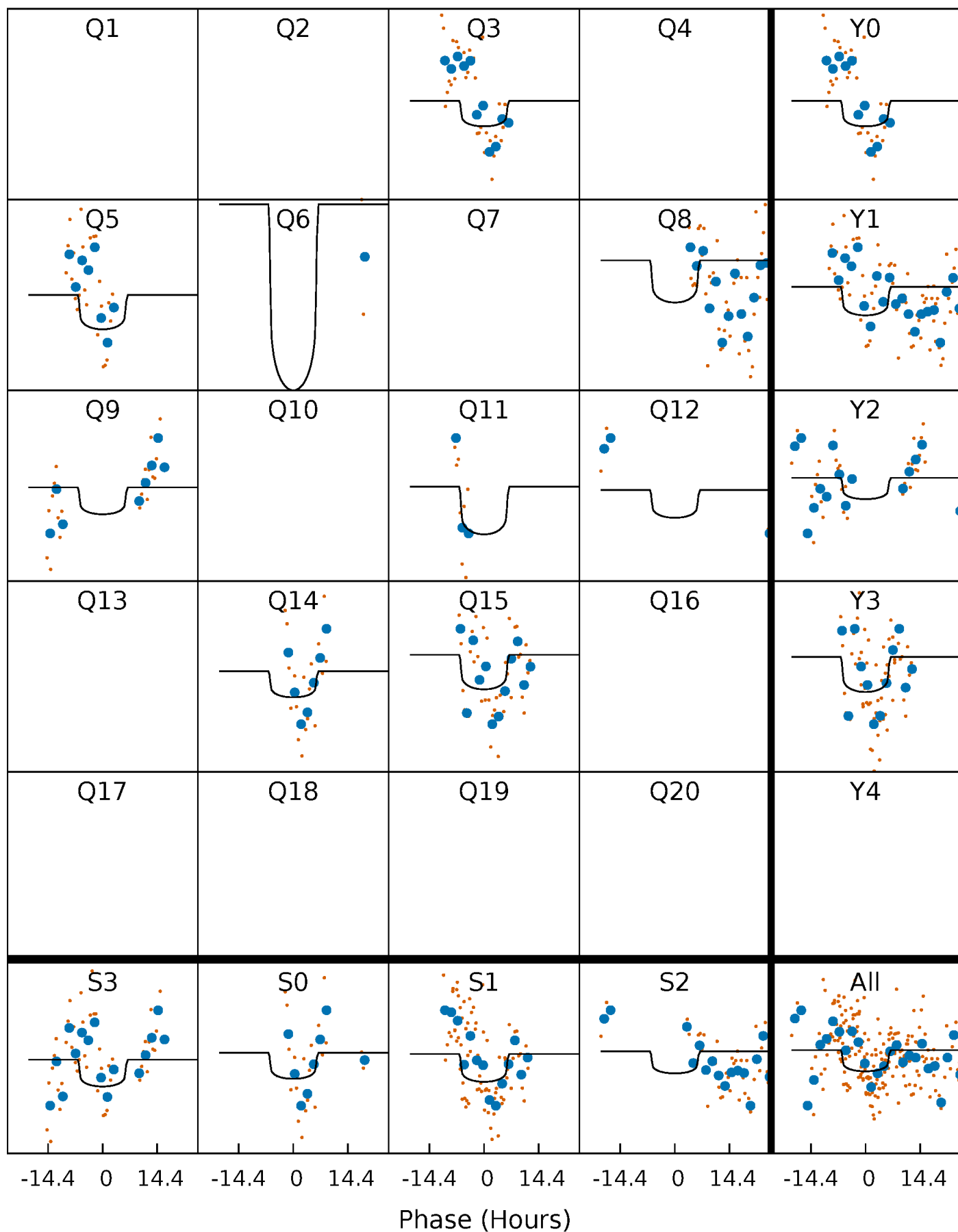
PDC Quarter-Phased Transit Curves

TCE 005866001-05 $P=144.543591$ Days $T_0=166.144546$ (BKJD)



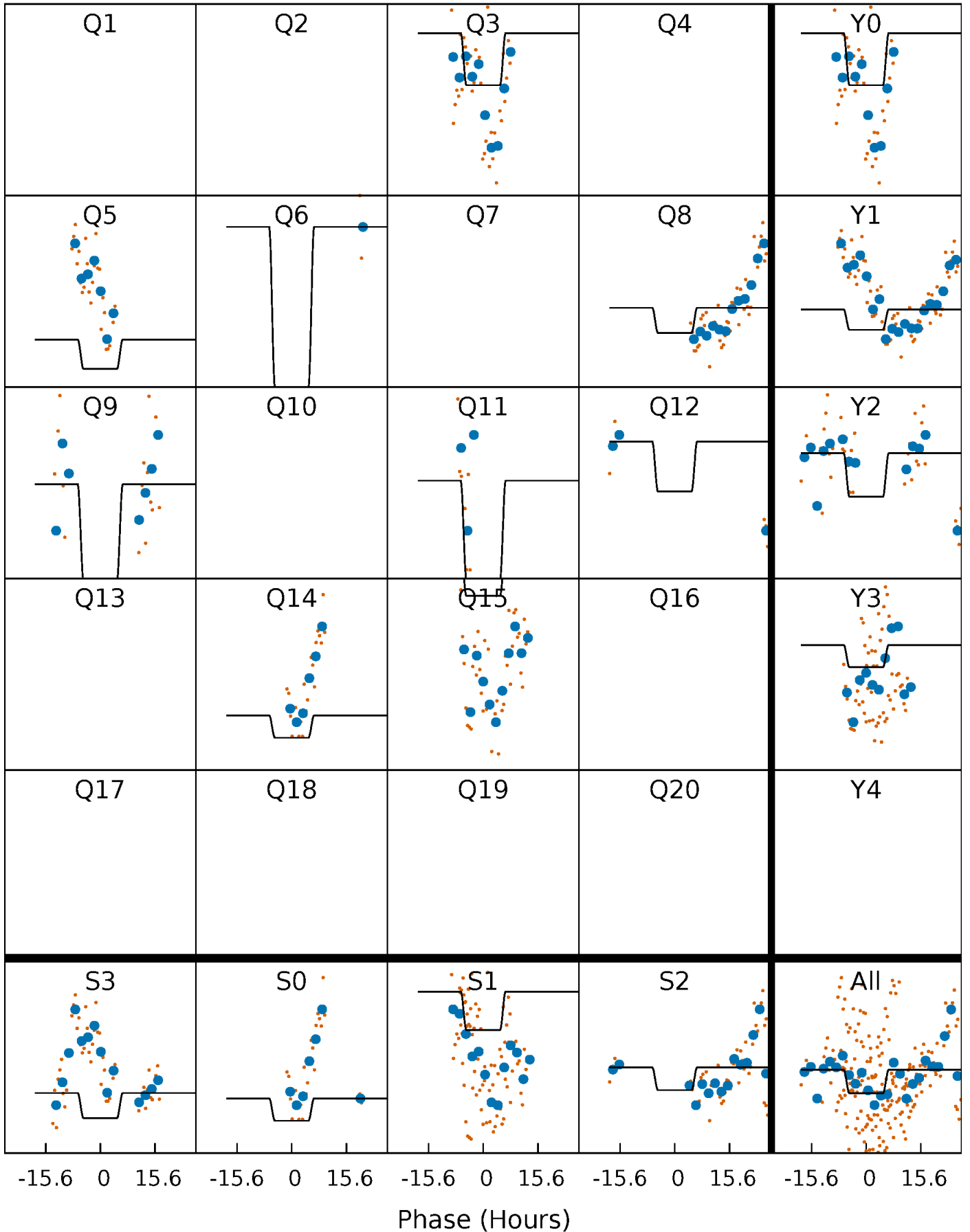
DV Quarter-Phased Transit Curves

TCE 005866001-05 $P=144.543591$ Days $T_0=166.144546$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

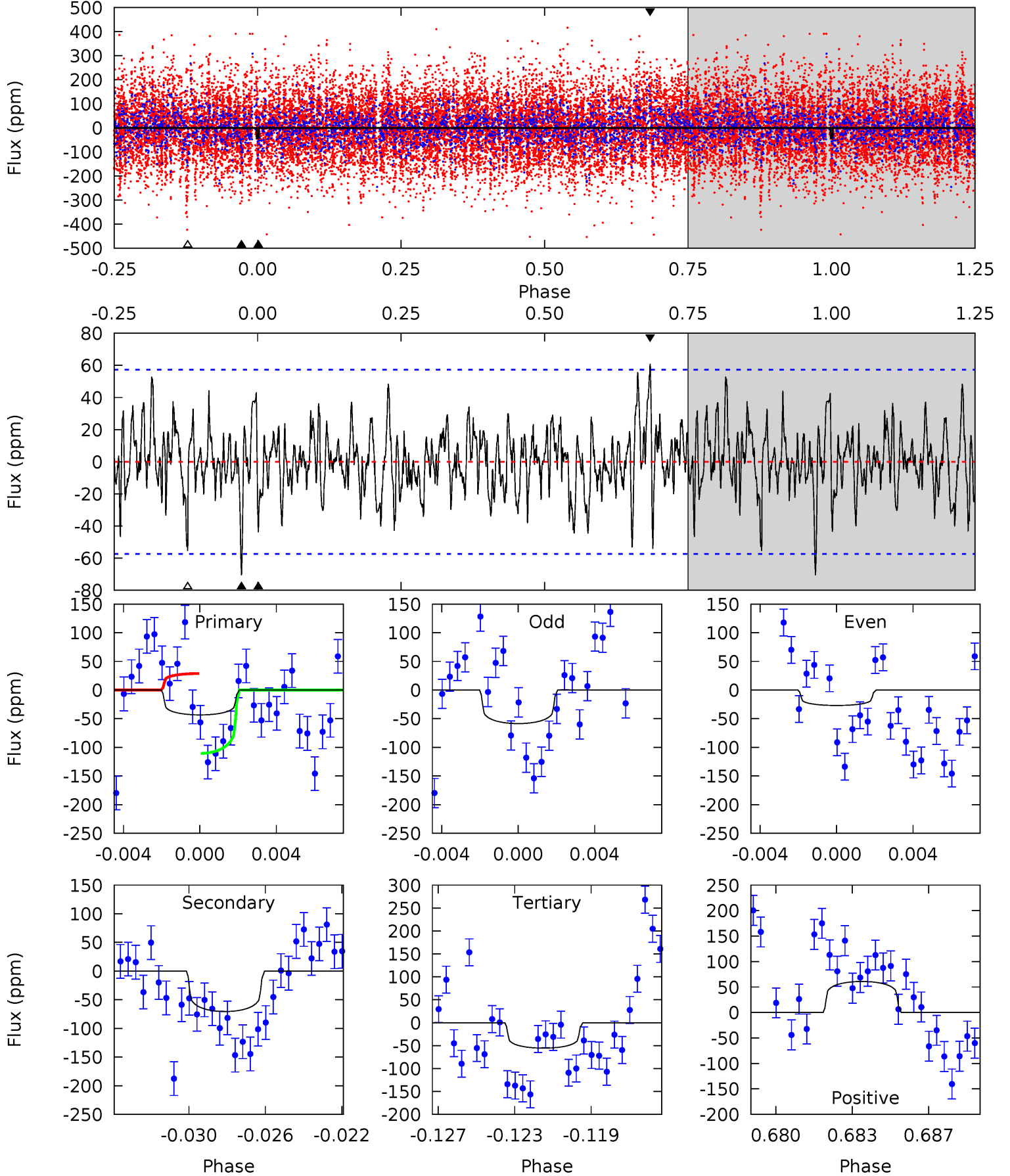
TCE 005866001-05 P=144.548870 Days $T_0=166.069814$ (BKJD)



DV Model-Shift Uniqueness Test

005866001-05, $P = 144.543591$ Days, $E = 21.600955$ Days

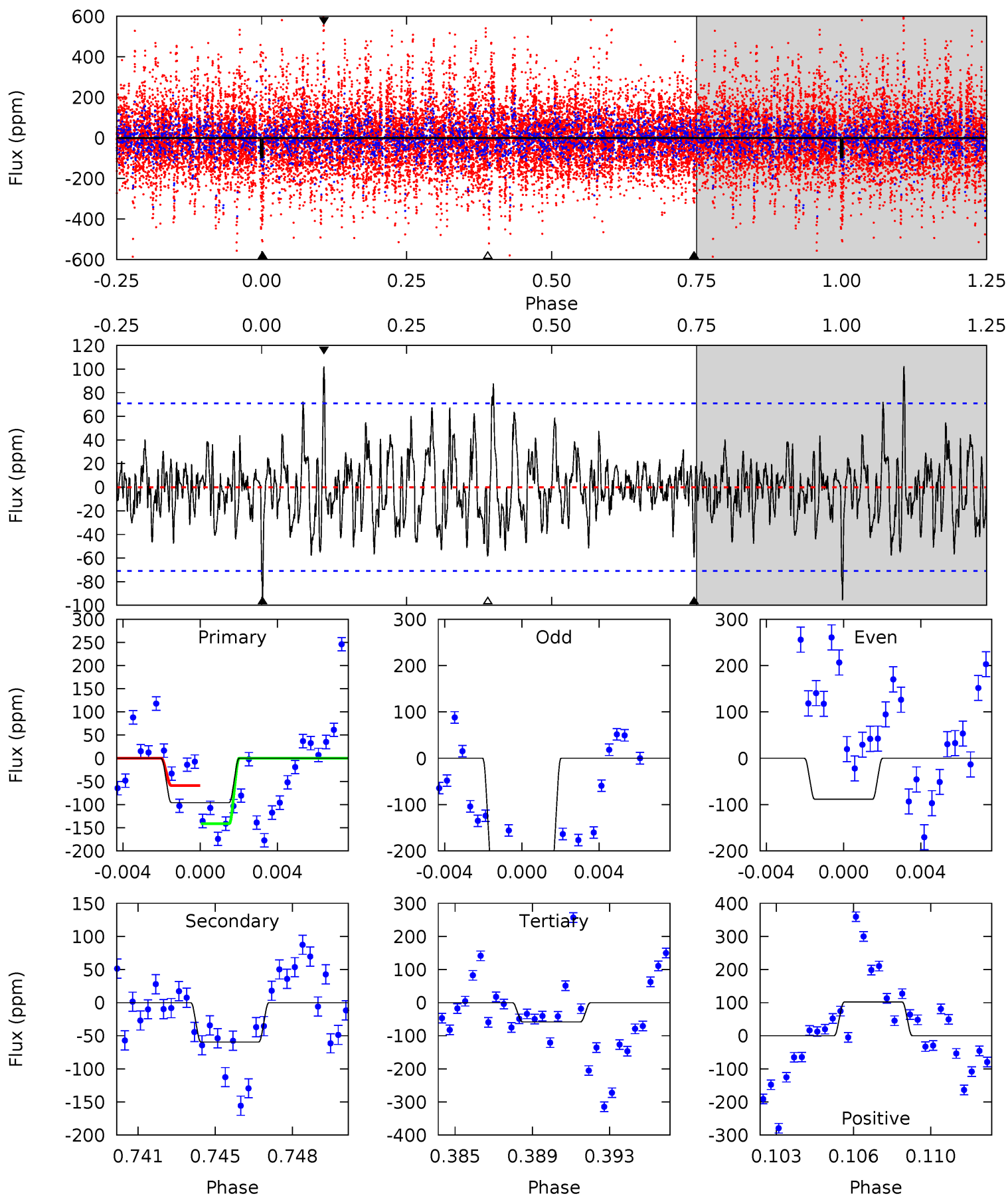
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.94	6.41	5.04	5.53	5.21	2.90	1.58	-1.10	-1.59	1.37	0.88	1.44	0.81	0.46	3.72



Alt Model-Shift Uniqueness Test

005866001-05, P = 144.548870 Days, E = 21.520944 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.04	4.37	4.28	7.50	5.22	2.91	1.79	2.76	-0.46	0.09	-3.13	6.56	0.94	0.52	3.04



Stellar Parameters For KIC 005866001

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6493^{+176}_{-176}	$3.802^{+0.293}_{-0.098}$	$-0.300^{+0.300}_{-0.250}$	$2.407^{+0.451}_{-0.838}$	$1.341^{+0.247}_{-0.247}$	$0.136^{+0.275}_{-0.042}$
	+3%/-3%	+8%/-3%	+100%/-83%	+19%/-35%	+18%/-18%	+203%/-31%
Source	PHO1	FLK73	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 005866001-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-71 ± 11	$2.72^{+2.37}_{-1.68}$	796^{+46}_{-67}	5659^{+4332}_{-1260}	1900^{+10762}_{-1373}
Alt.	-59 ± 14	$3.03^{+2.27}_{-1.85}$	791^{+50}_{-66}	5208^{+3563}_{-1053}	1252^{+7394}_{-869}

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 $A_{obs} \gg 1.0$

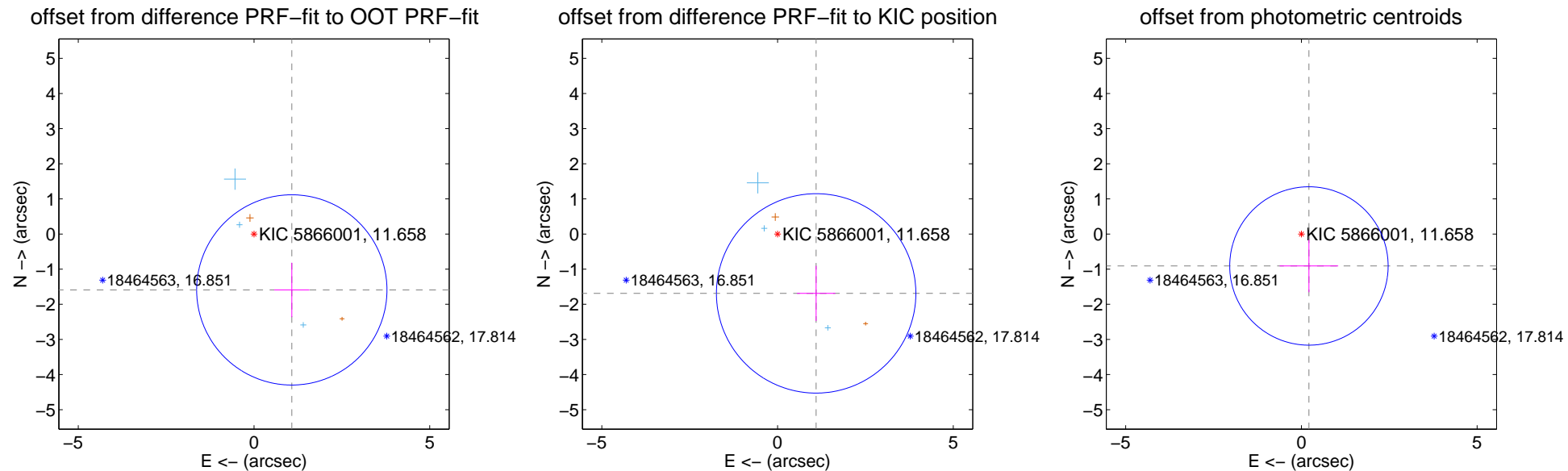
DV Centroid Data

Supplemental centroid analysis for 005866001-05. **Kepler magnitude: 11.66.** Transit SNR 4.80

There are 3 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.921 ± 0.902	2.13	-1.076 ± 0.498	-1.591 ± 0.774
PRF-fit source offset from KIC position	2.016 ± 0.946	2.13	-1.098 ± 0.546	-1.690 ± 0.785
photometric centroid source offset	0.93 ± 0.75	1.24	-0.21 ± 0.83	-0.91 ± 0.75



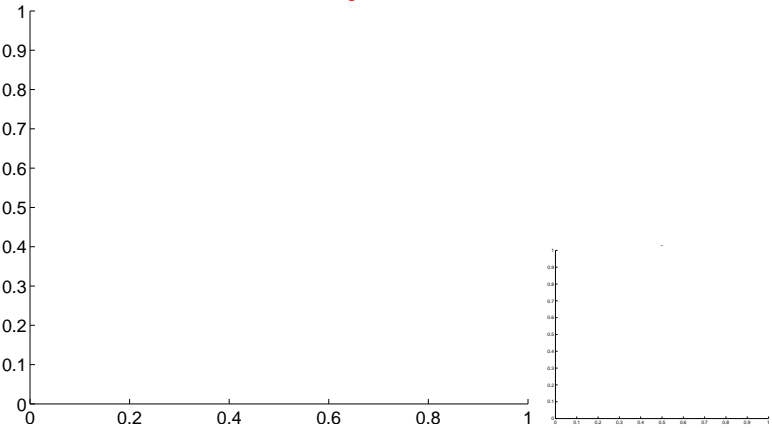
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

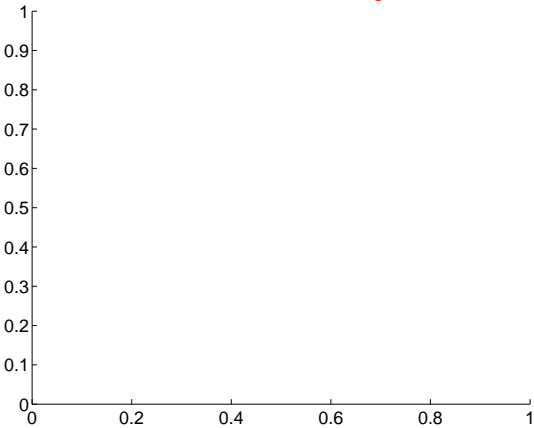
Q1 no difference image



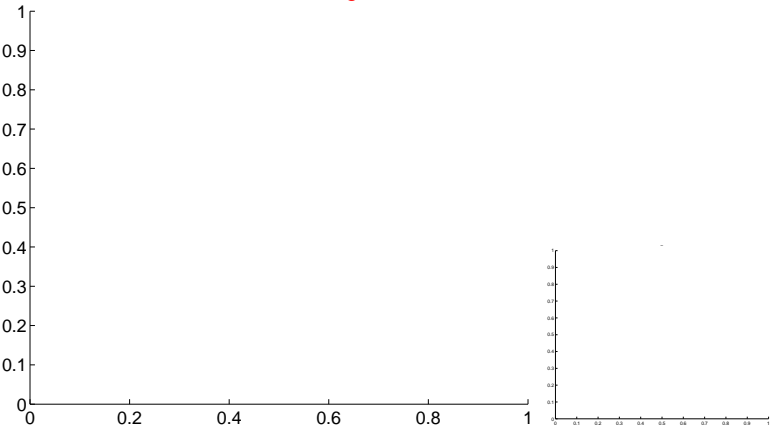
Q1 no OOT image



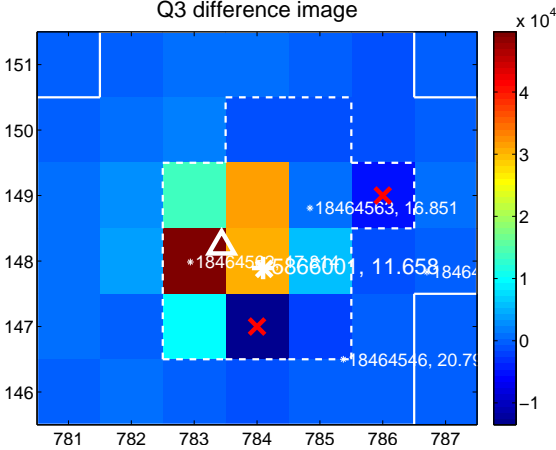
Q2 no difference image



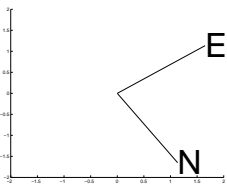
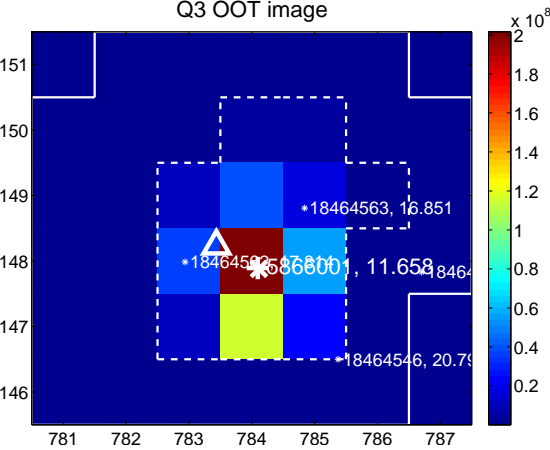
Q2 no OOT image



Q3 difference image



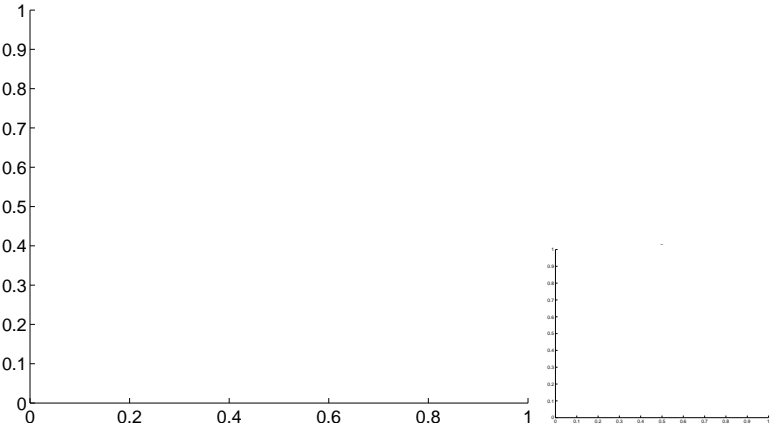
Q3 OOT image



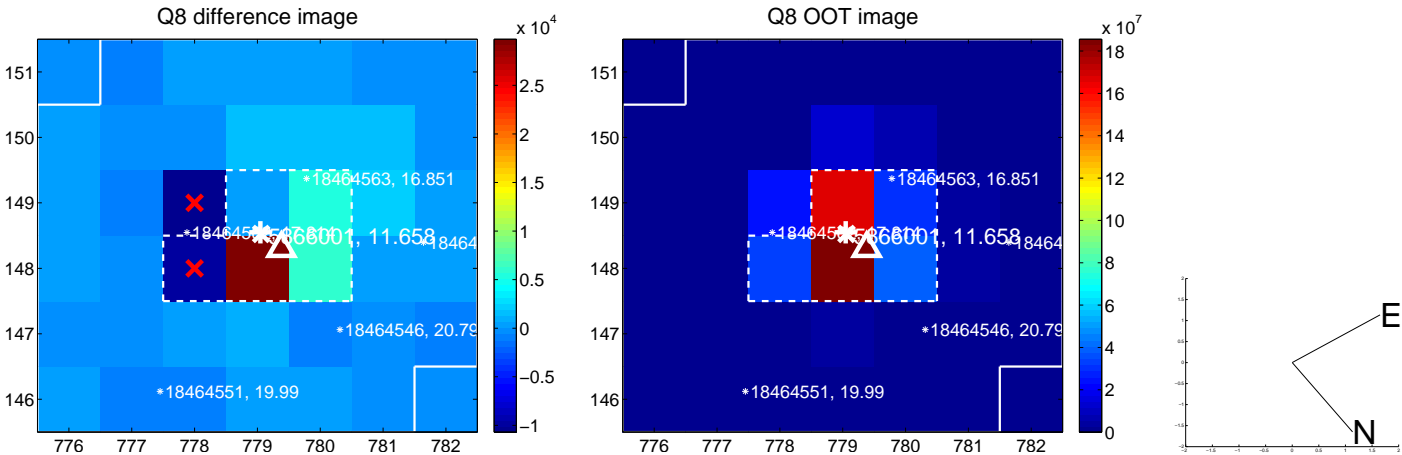
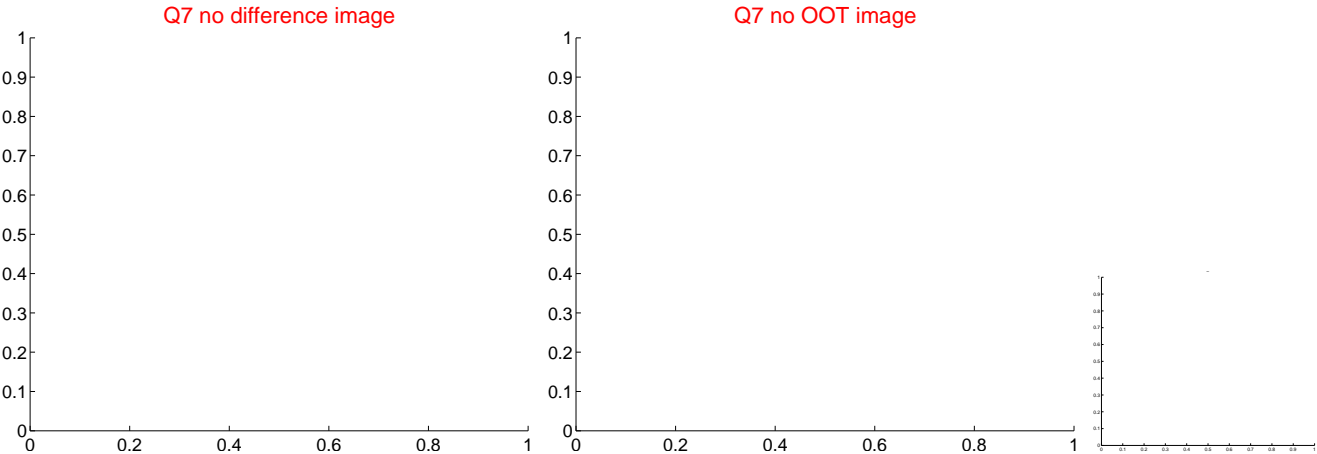
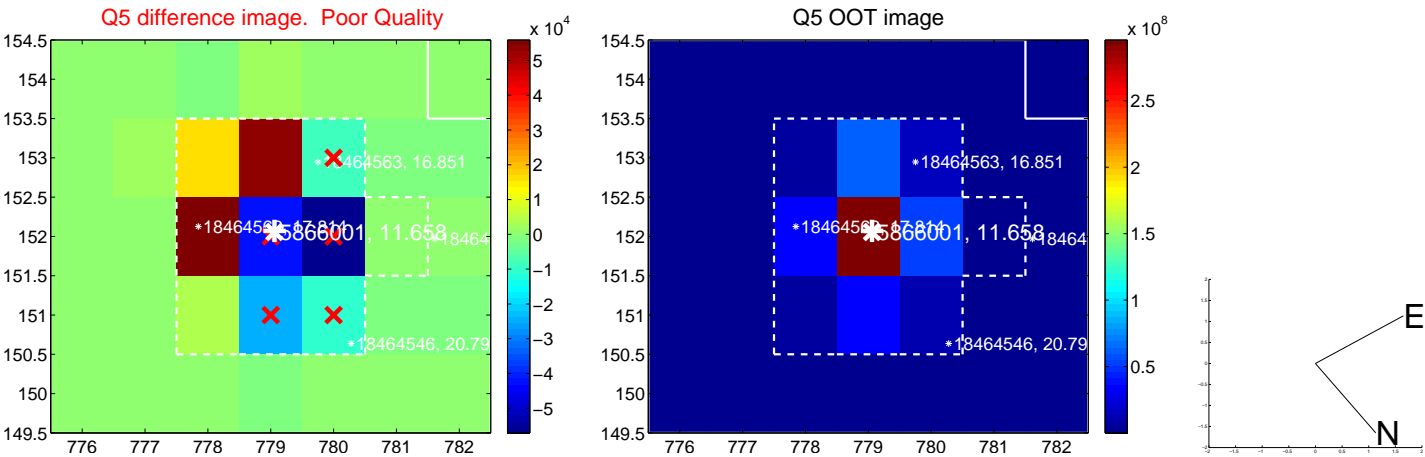
Q4 no difference image



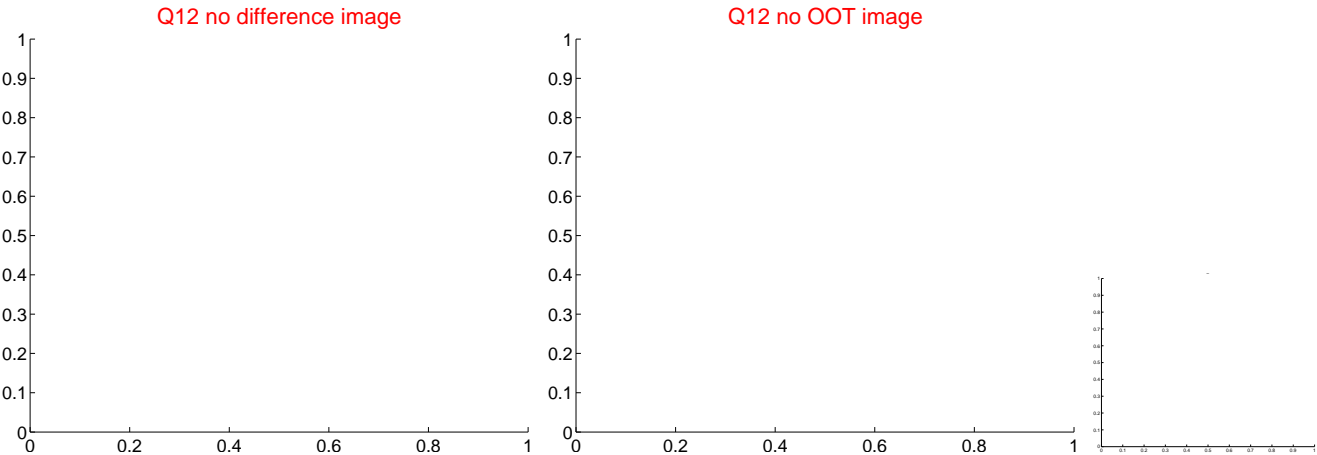
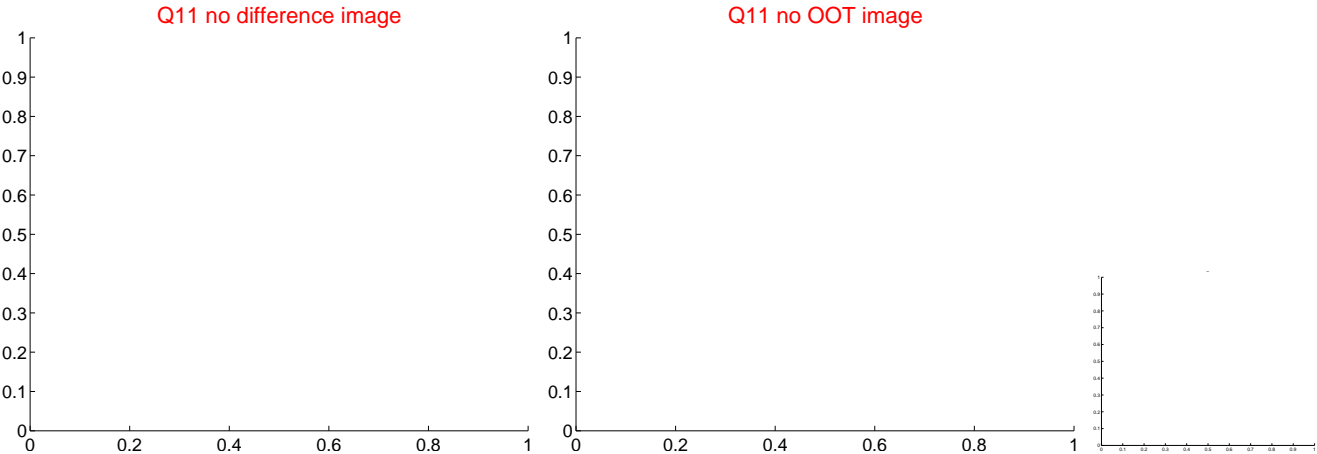
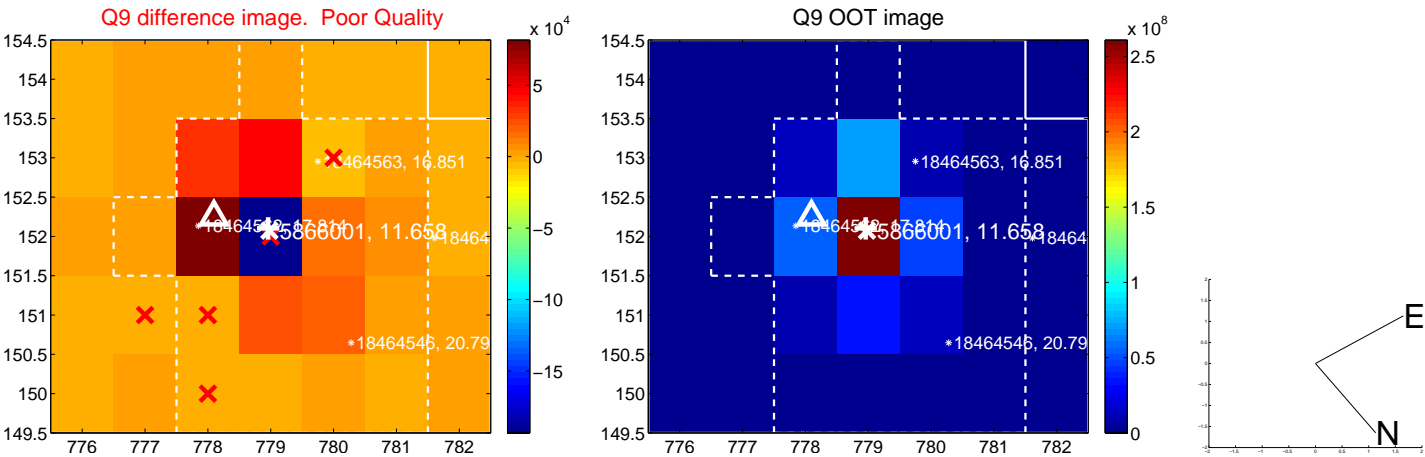
Q4 no OOT image



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



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

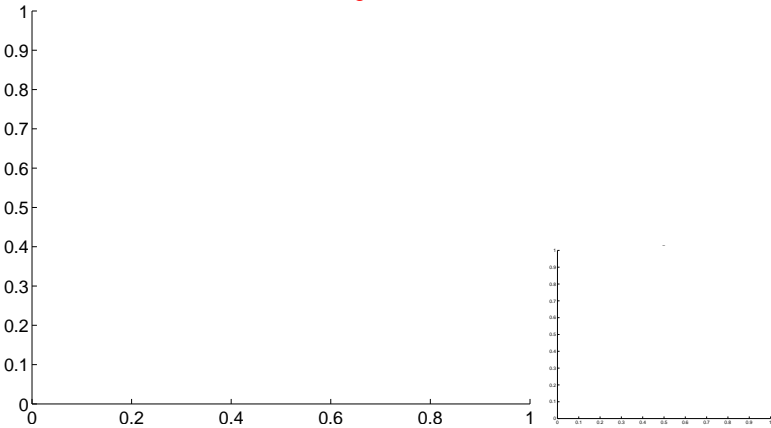


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

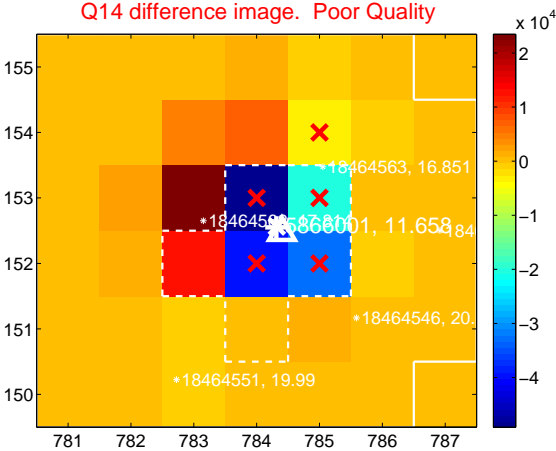
Q13 no difference image



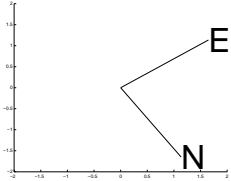
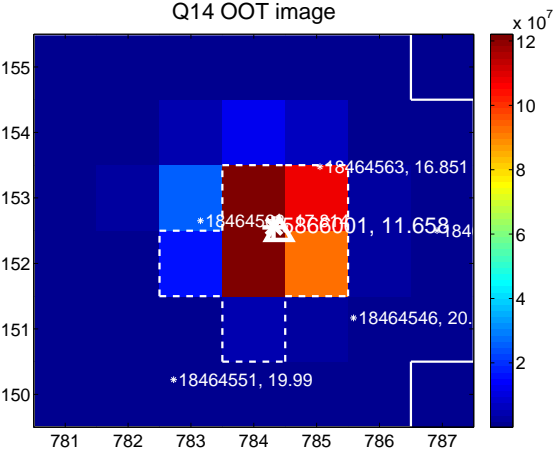
Q13 no OOT image



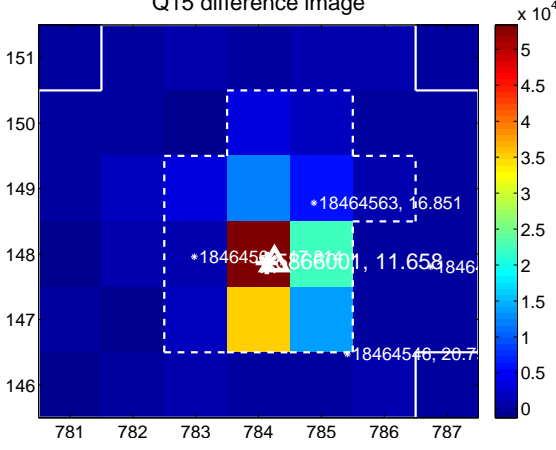
Q14 difference image. Poor Quality



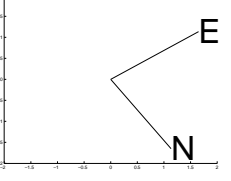
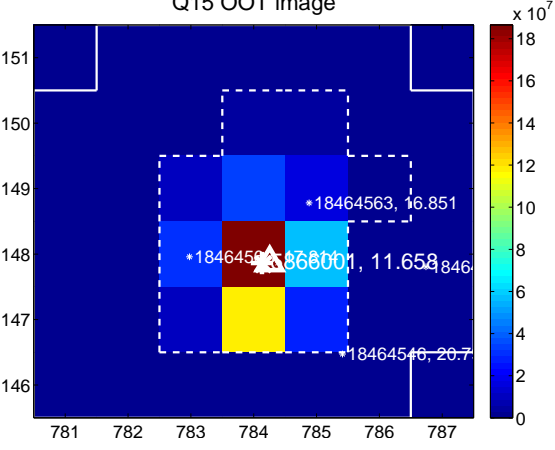
Q14 OOT image



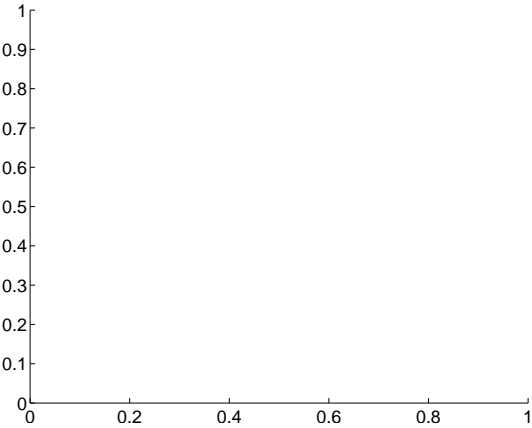
Q15 difference image



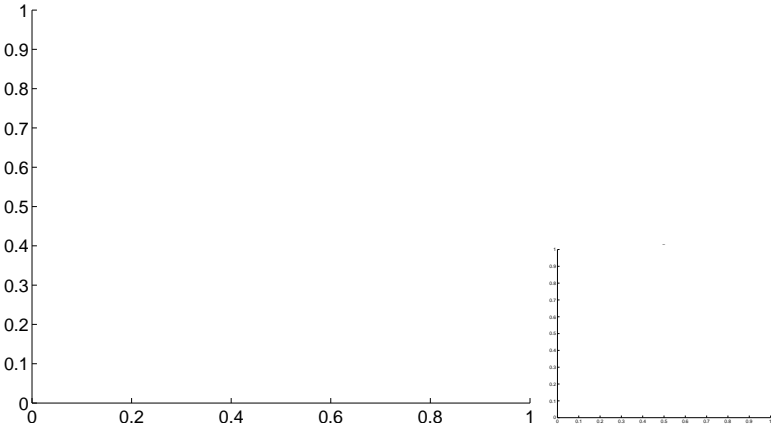
Q15 OOT image



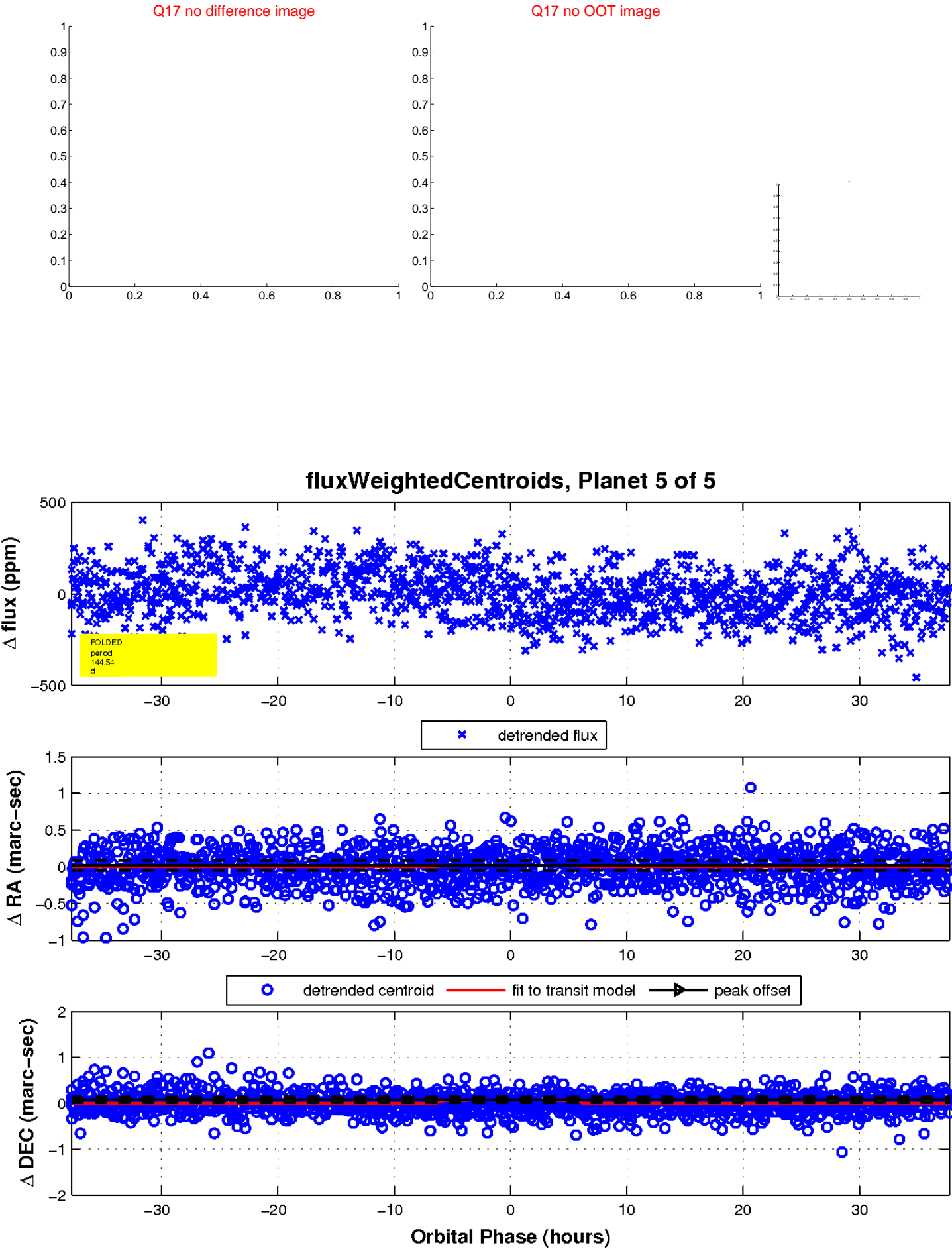
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

