

KIC 005648562

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})
005648562-01	OBS	No	1.420629	132.452510	239.9	7.740	9.8	12.2	2.70	6842	7.54	16198.16
005648562-02	OBS	No	298.334488	426.486967	1653.9	41.343	11.4	4.8	2.70	6842	11.97	12.98
005648562-03	OBS	No	347.887166	268.447066	3020.8	9.883	8.7	7.8	2.70	6842	26.89	10.57
005648562-04	OBS	No	154.442774	279.472527	2424.5	7.448	8.3	8.5	2.70	6842	24.25	31.22
005648562-05	OBS	No	204.327394	167.551979	3727.4	12.330	7.5	8.9	2.70	6842	19.75	21.50
005648562-06	OBS	No	3.808446	134.675179	539.4	8.257	9.2	10.3	2.70	6842	11.41	4349.53
005648562-07	OBS	No	281.369834	157.050783	662.2	3.000	9.1	-1.0	2.70	6842	7.01	14.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005648562-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005648562-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005648562-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
005648562-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005648562-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005648562-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005648562-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

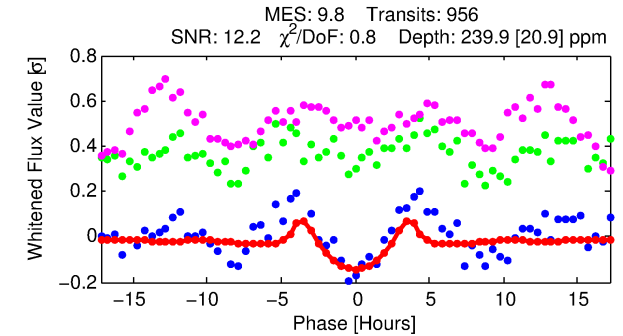
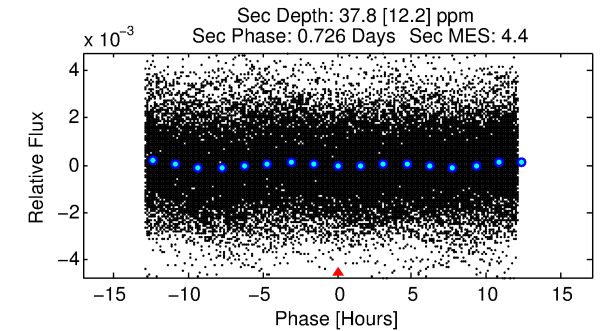
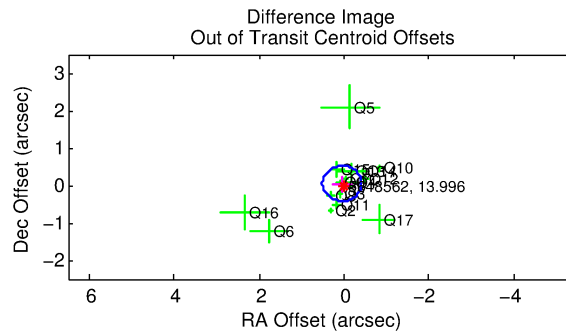
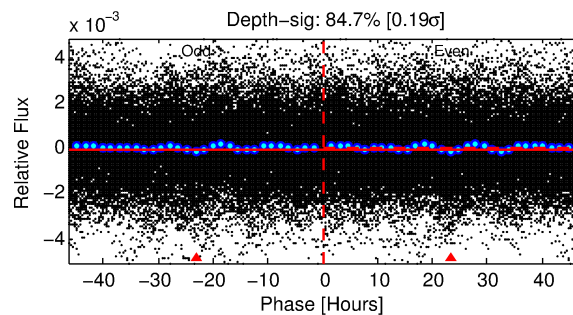
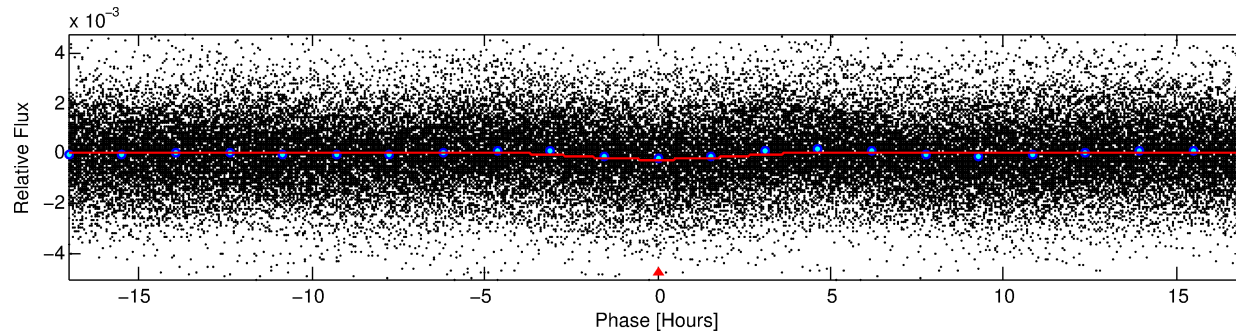
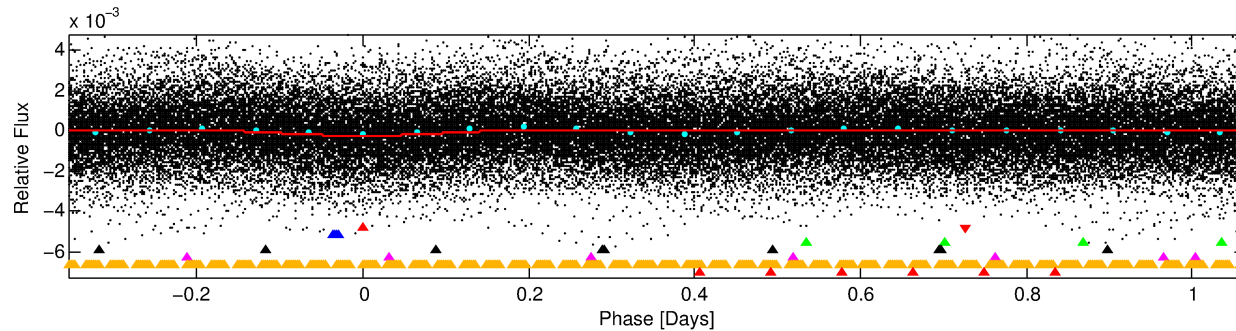
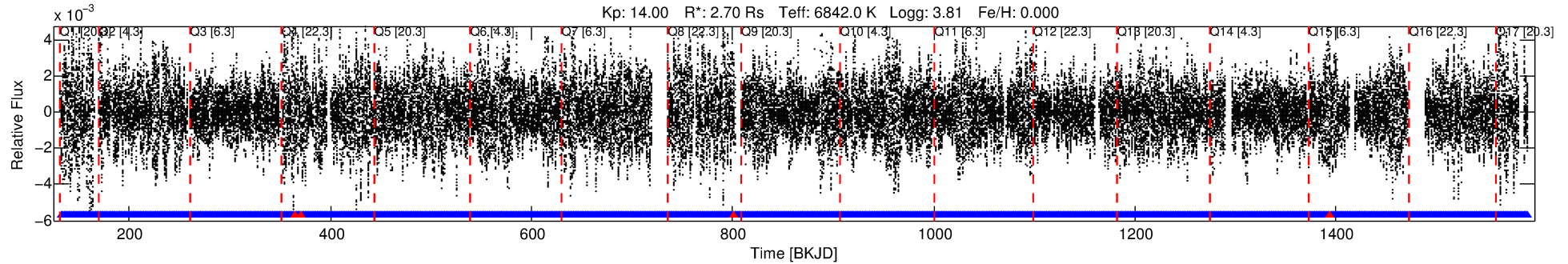
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005648562-01

No Significant Match Found

DV One-Page Summary

KIC: 5648562 Candidate: 1 of 7 Period: 1.421 d



DV Fit Results:

Period = 1.42063 [0.00001] d
Epoch = 132.4525 [0.0051] BKJD
Rp/R* = 0.0256 [0.0118]
a/R* = 1.06 [0.00]
b = 1.00 [0.02]
Seff = 16198.16 [11340.94]
Teq = 2877 [504] K
Rp = 7.54 [4.92] Re
a = 0.0297 [0.0128] AU
Ag = 0.32 [0.38] [-1.78 σ]
Teffp = 3351 [831] K [0.49 σ]

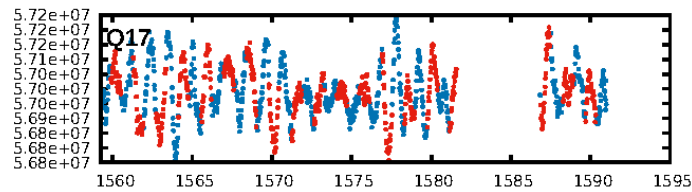
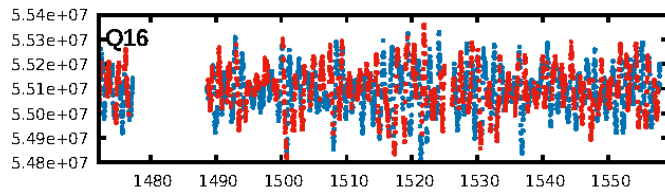
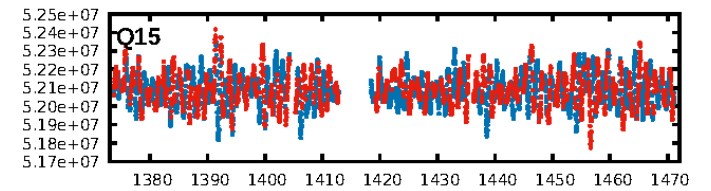
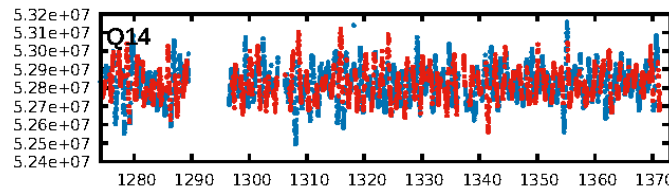
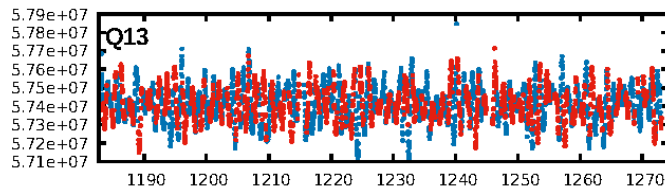
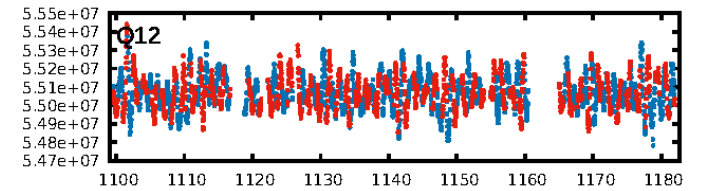
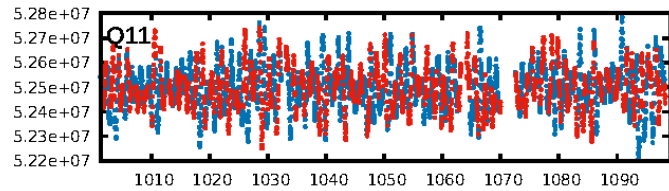
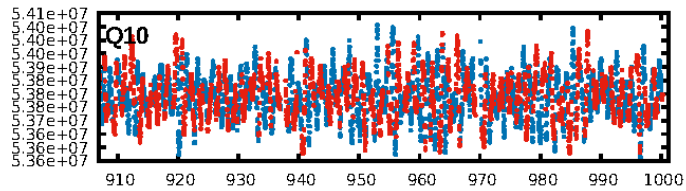
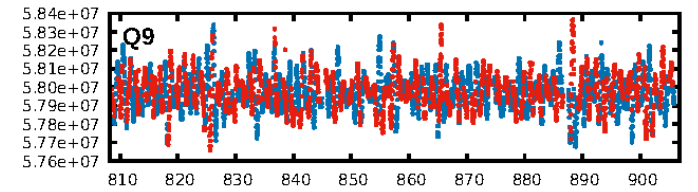
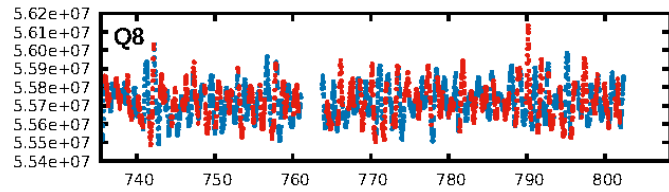
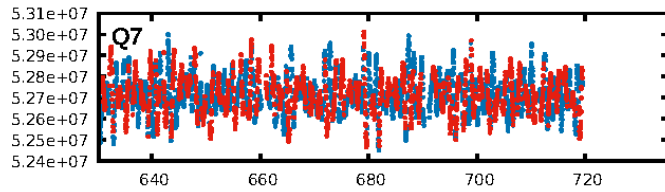
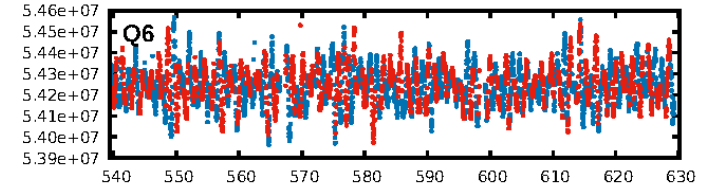
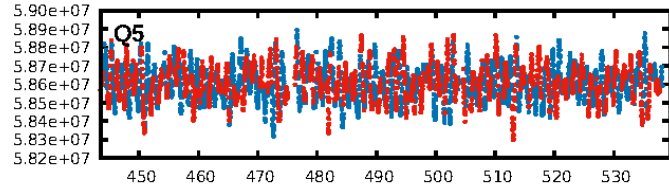
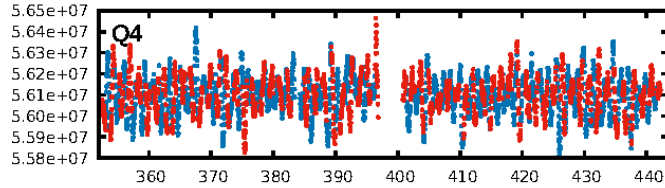
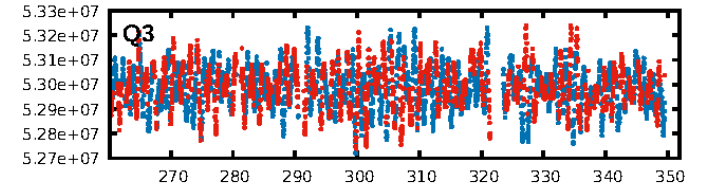
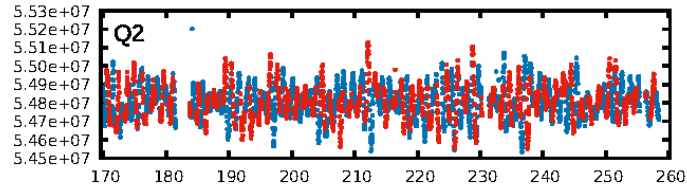
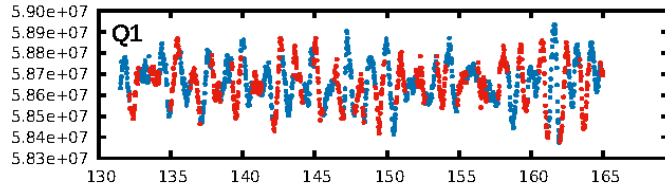
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.06 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [909/913]
GhostDiagnostic-chr: 1.647
Centroid-sig: 1.0%
Centroid-so: 0.548 arcsec [2.55 σ]
OotOffset-rm: 0.065 arcsec [0.42 σ]
KicOffset-rm: 0.160 arcsec [0.70 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 1.00 [17/17]

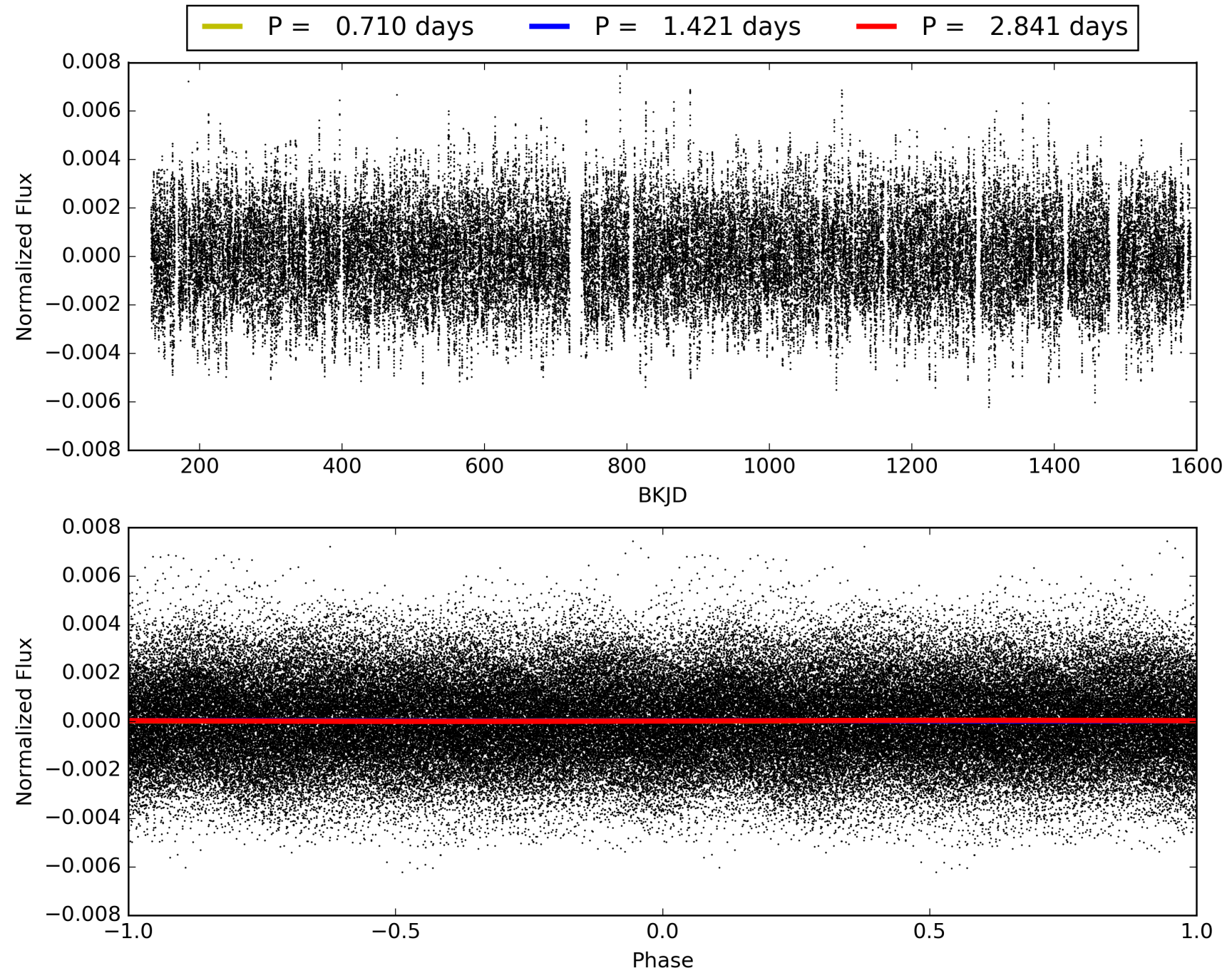
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:29:33 Z

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

TCE 005648562-01, PDC Light Curves

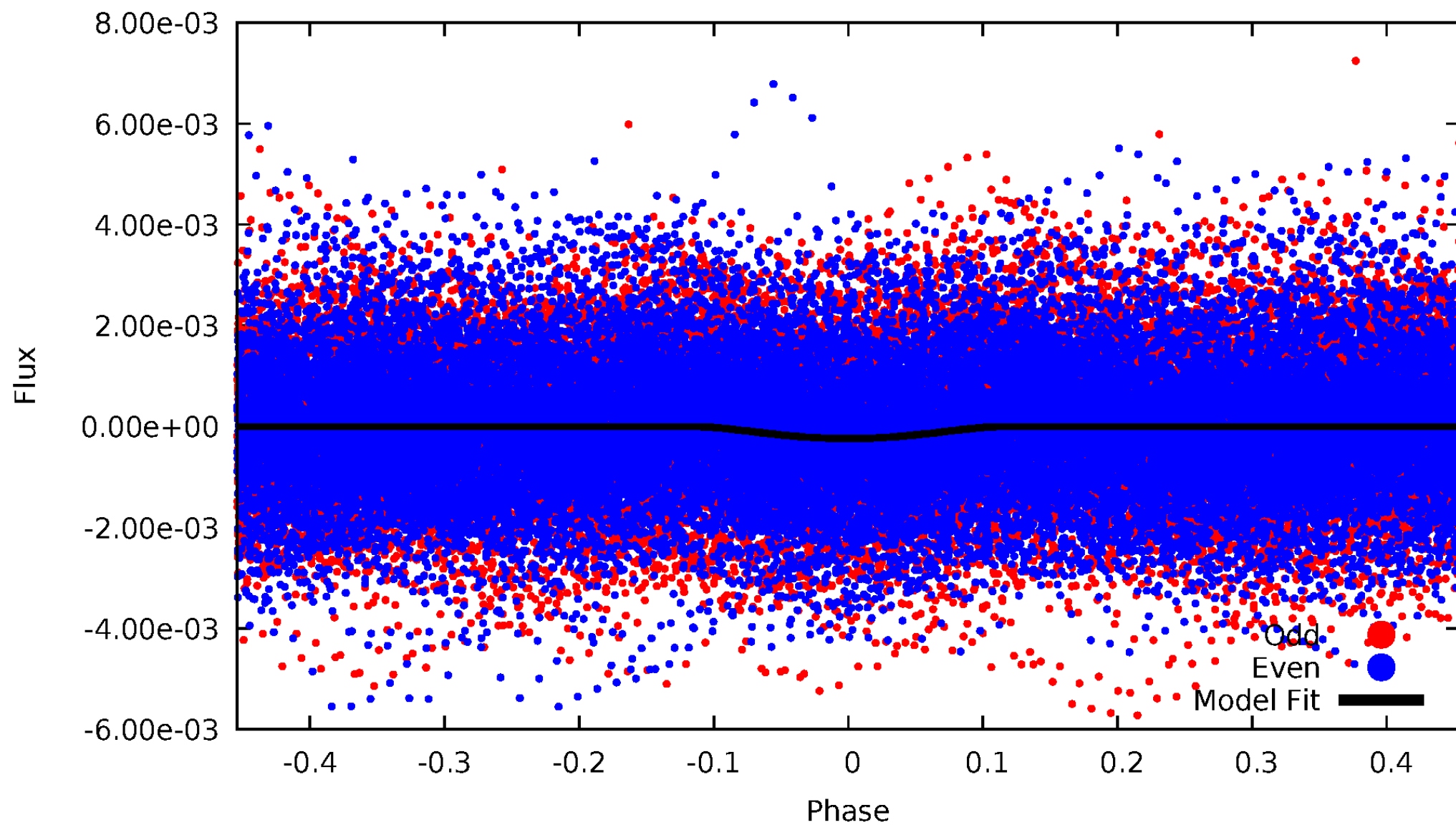


TCE 005648562-01



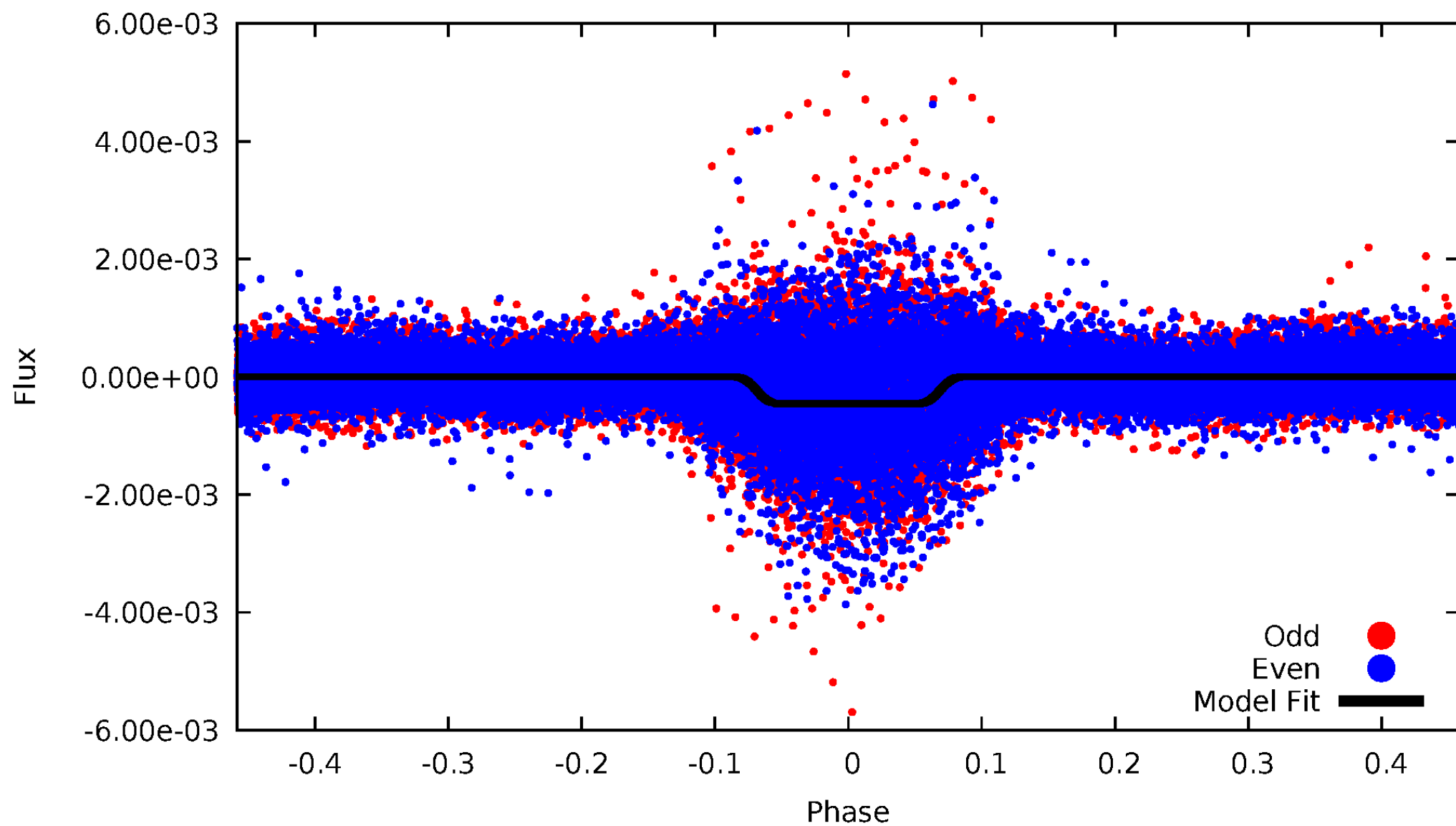
DV Odd/Even

TCE 005648562-01

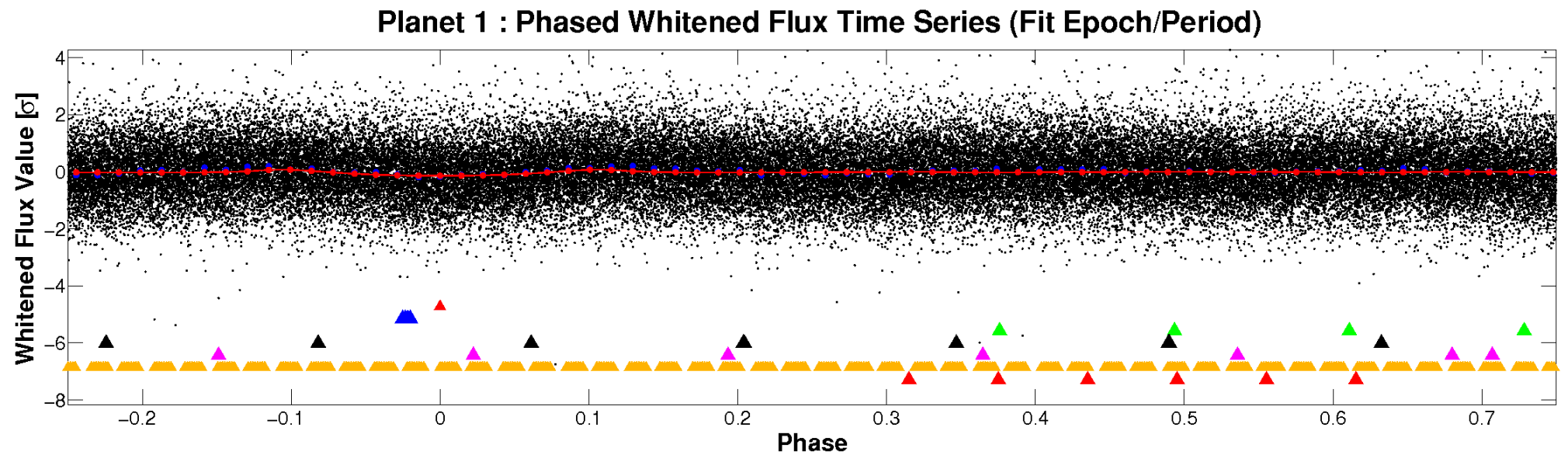
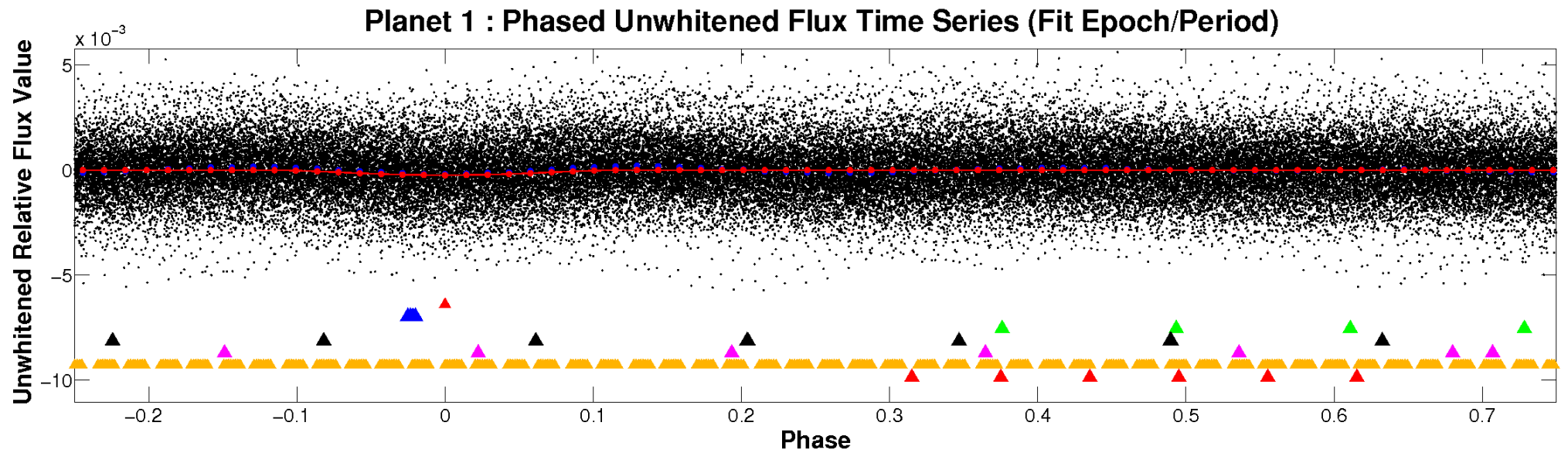


ALT Odd/Even

TCE 005648562-01

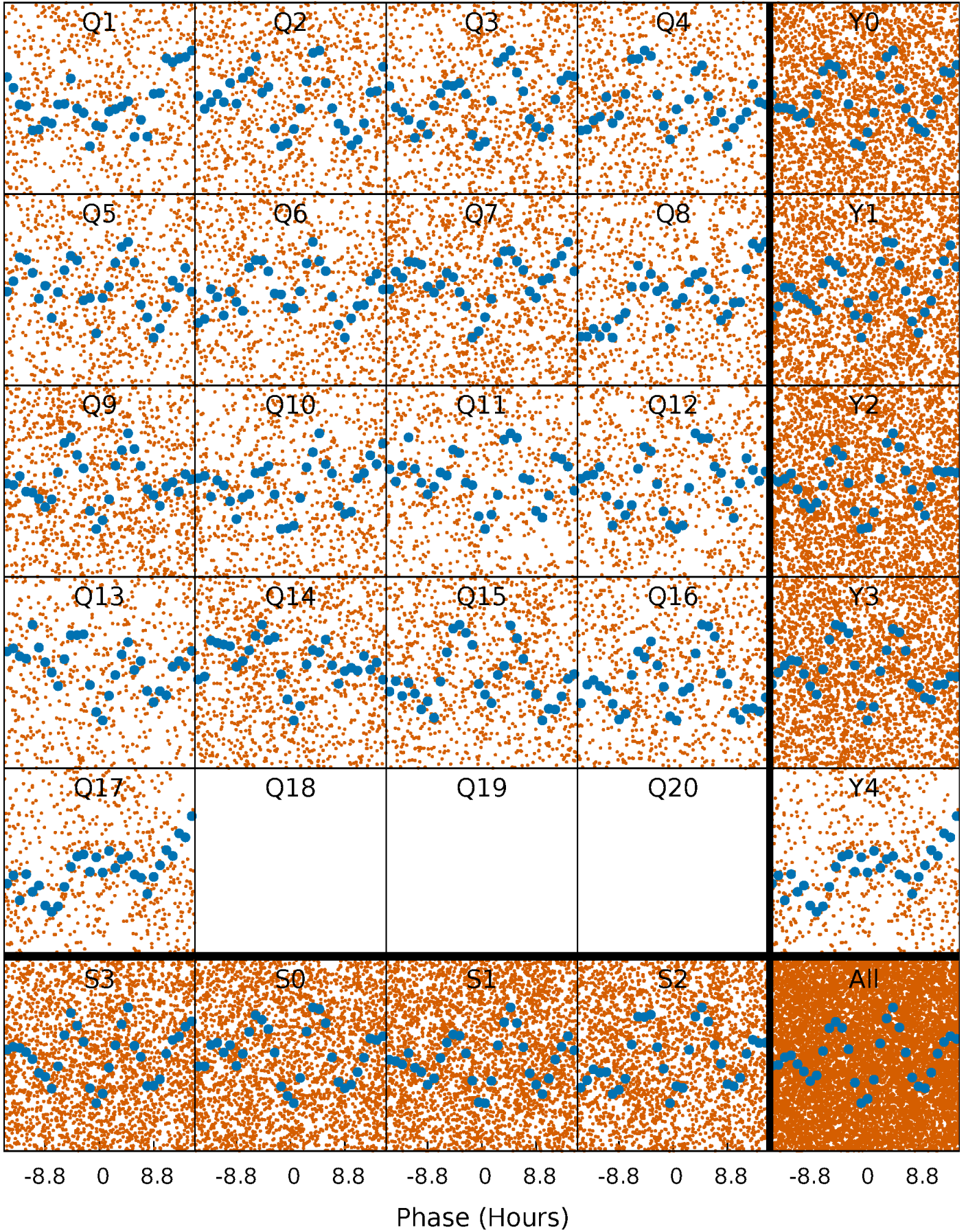


Non-Whitened Vs. Whitened Light Curve



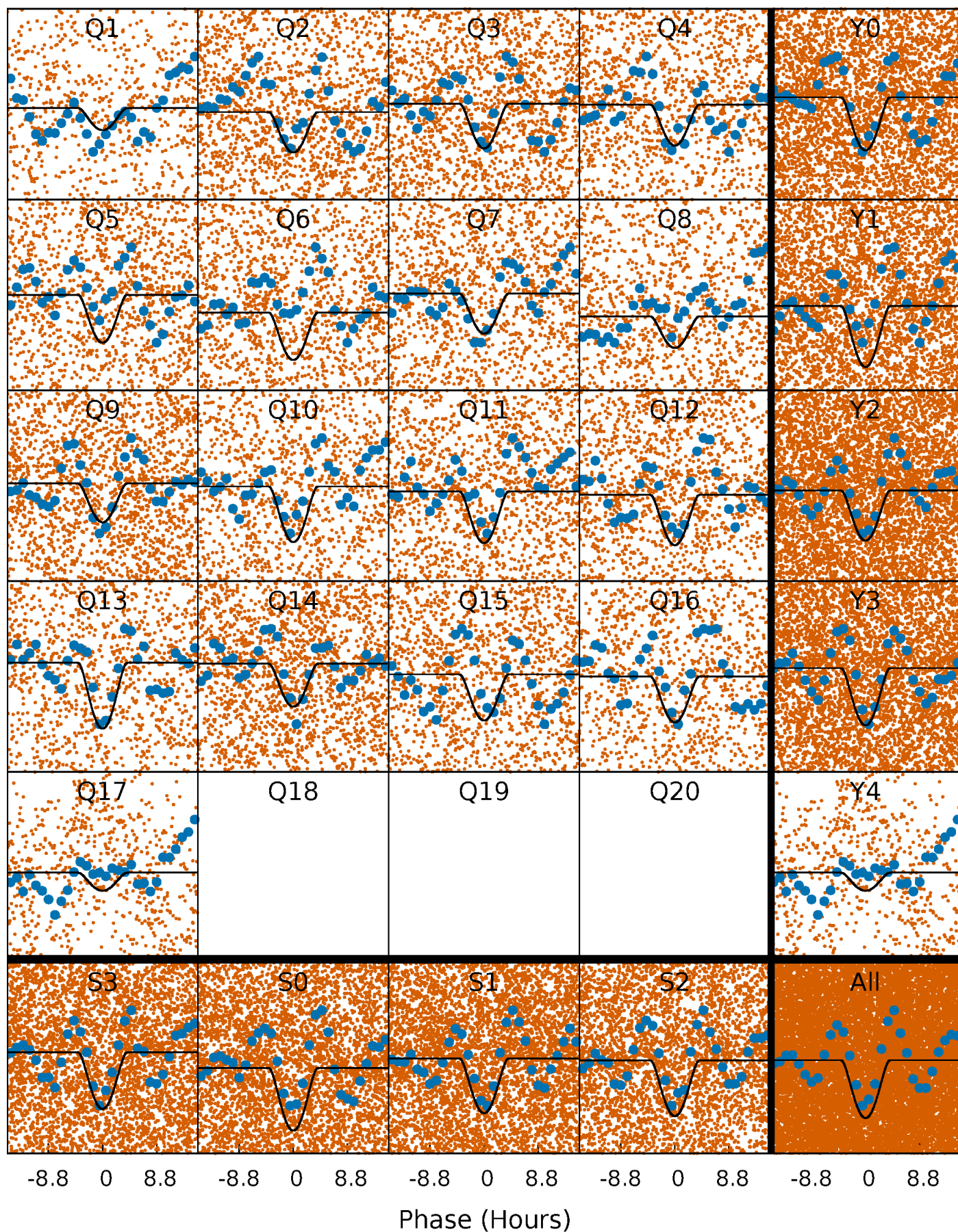
PDC Quarter-Phased Transit Curves

TCE 005648562-01 P= 1.420629 Days $T_0=132.452510$ (BKJD)



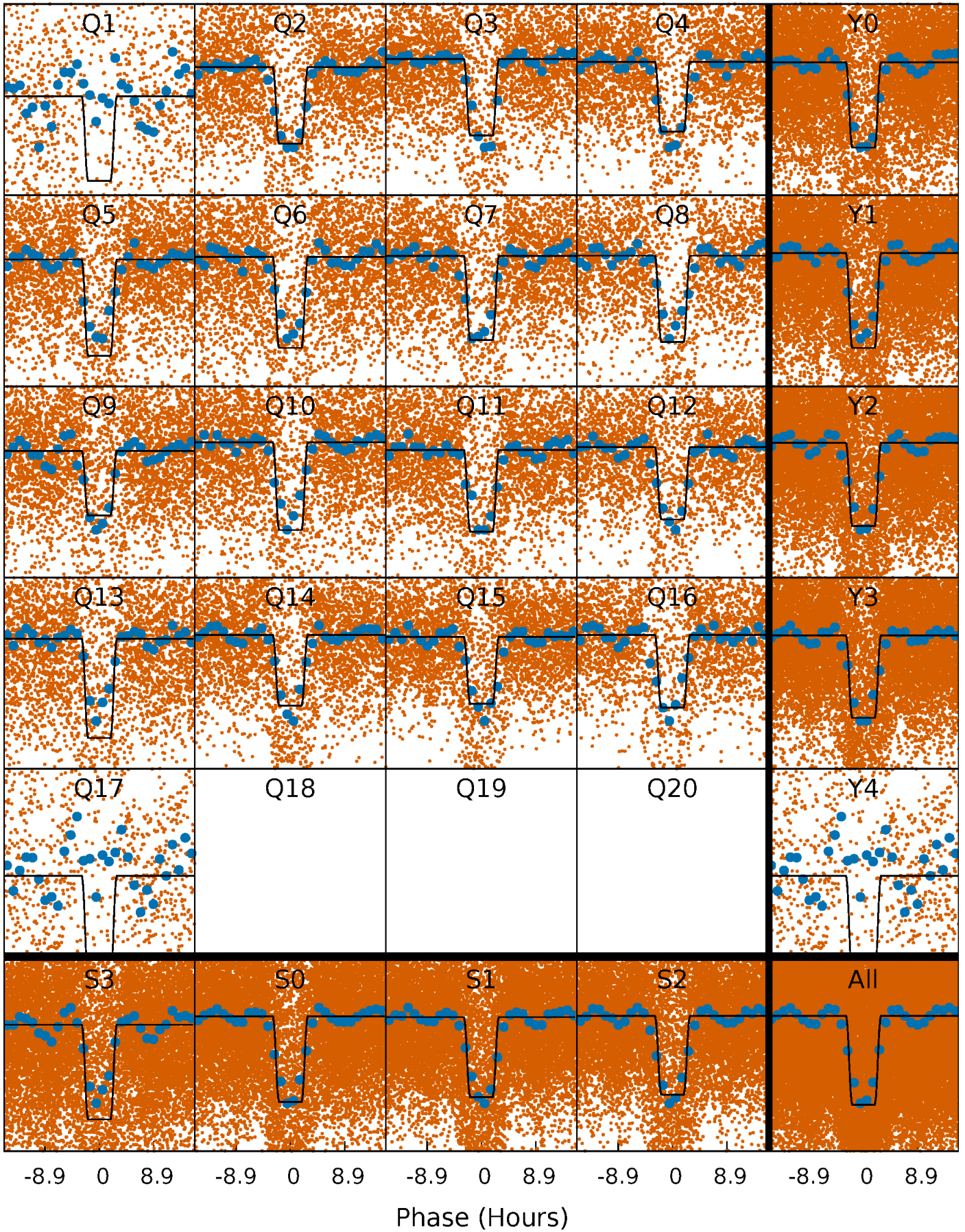
DV Quarter-Phased Transit Curves

TCE 005648562-01 P= 1.420629 Days $T_0=132.452510$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

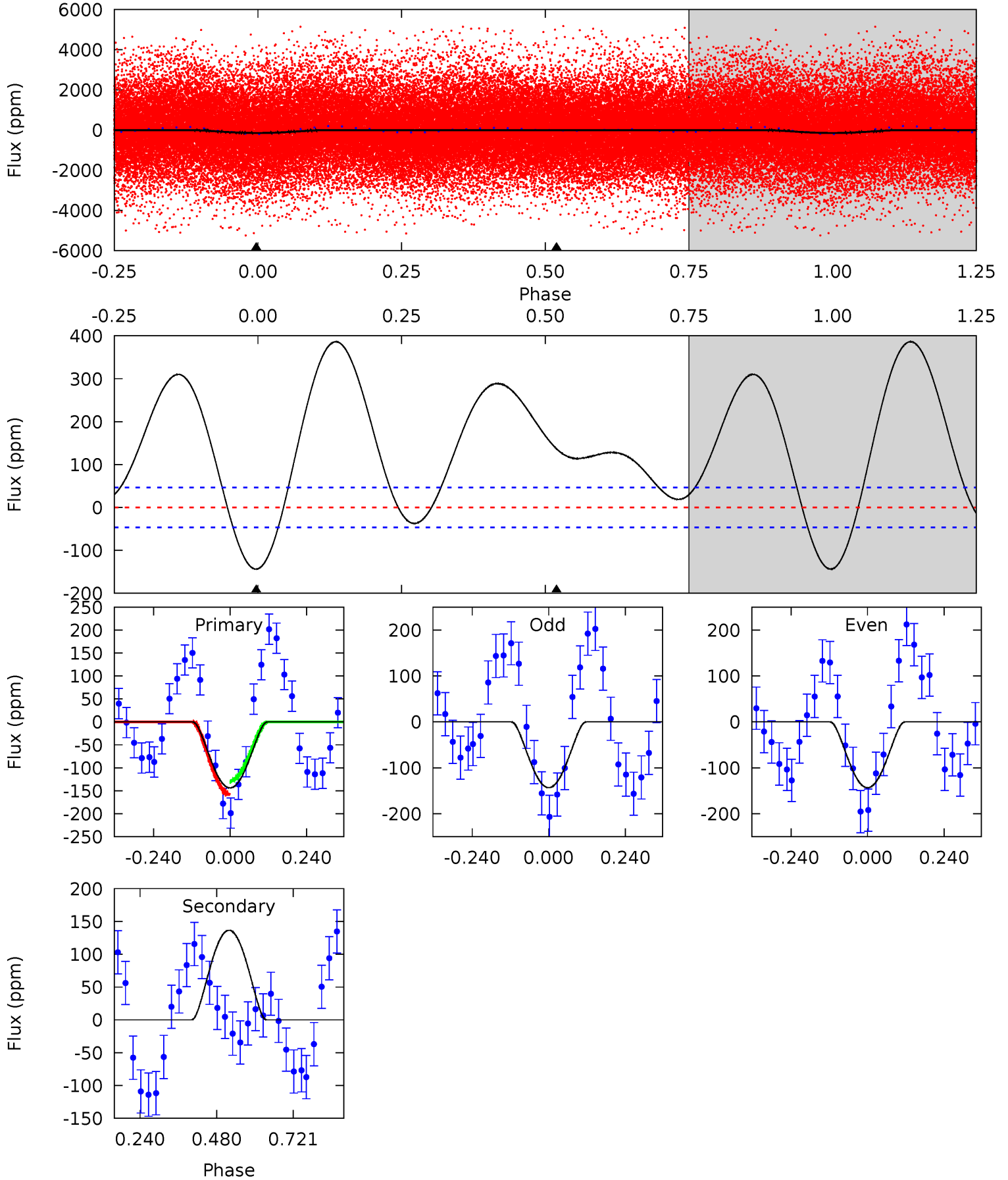
TCE 005648562-01 P= 1.420685 Days $T_0=132.424219$ (BKJD)



DV Model-Shift Uniqueness Test

005648562-01, P = 1.420629 Days, E = 131.031881 Days

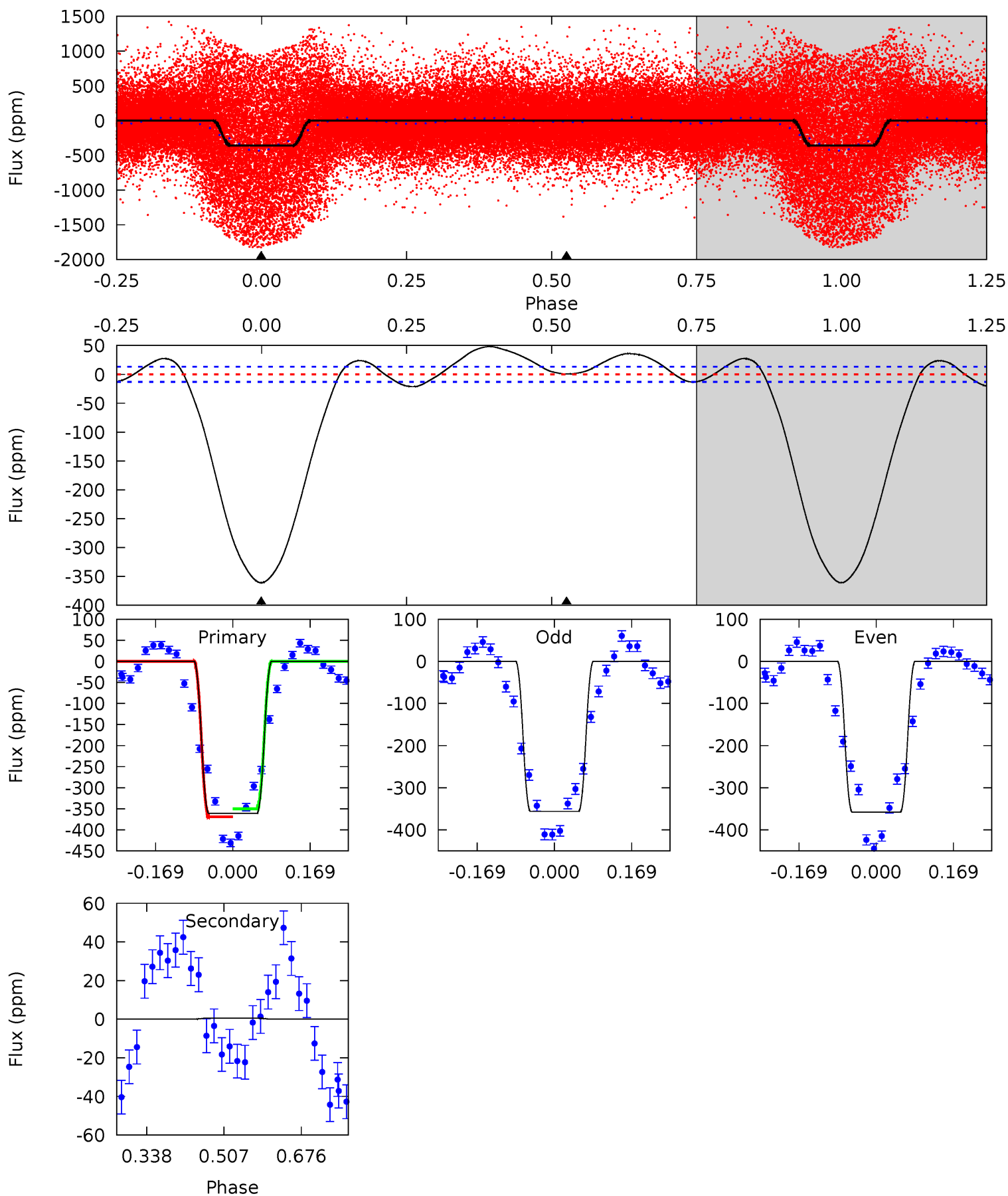
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	-12.8	0	0	4.38	1.17	3.51	13.5	13.5	-12.8	-12.8	0.01	1.41	0.73	1.39



Alt Model-Shift Uniqueness Test

005648562-01, P = 1.420685 Days, E = 131.003534 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
122.2	-0.19	0	0	4.45	1.38	5.21	122.2	122.2	-0.19	-0.19	0.26	1.04	0.12	0



Stellar Parameters For KIC 005648562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+218}_{-327}	$3.814^{+0.390}_{-0.130}$	$0.000^{+0.250}_{-0.300}$	$2.696^{+0.535}_{-1.248}$	$1.728^{+0.164}_{-0.460}$	$0.124^{+0.472}_{-0.039}$
	+3%/-5%	+10%/-3%	+inf%/-inf%	+20%/-46%	+9%/-27%	+380%/-32%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005648562-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	137 ± 11	$6.95^{+4.16}_{-3.47}$	3940^{+288}_{-438}	-4886^{+517}_{-1425}	$-1.308^{+0.770}_{-3.448}$
Alt.	1 ± 3	$5.76^{+3.82}_{-2.83}$	3924^{+324}_{-429}	-3664^{+296}_{-234}	$-0.004^{+0.035}_{-0.075}$

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 $A_{obs} \gg 1.0$

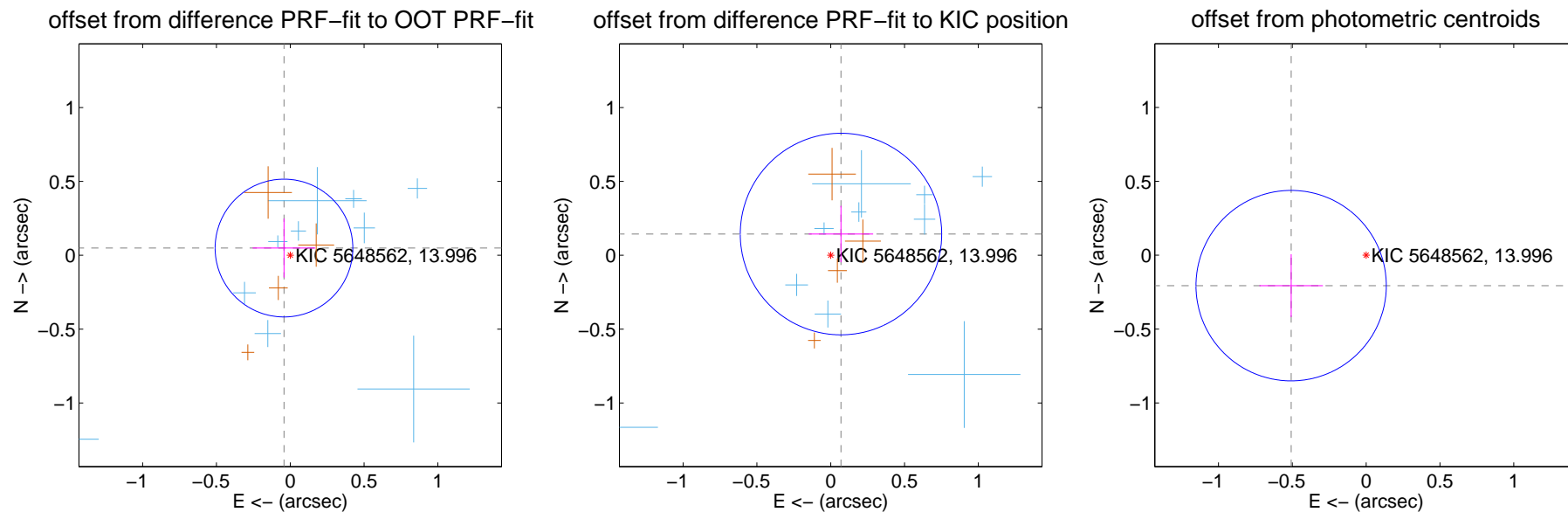
DV Centroid Data

Supplemental centroid analysis for 005648562-01. Kepler magnitude: 14.00. Transit SNR 12.20

There are 10 quarters with good PRF difference image offsets

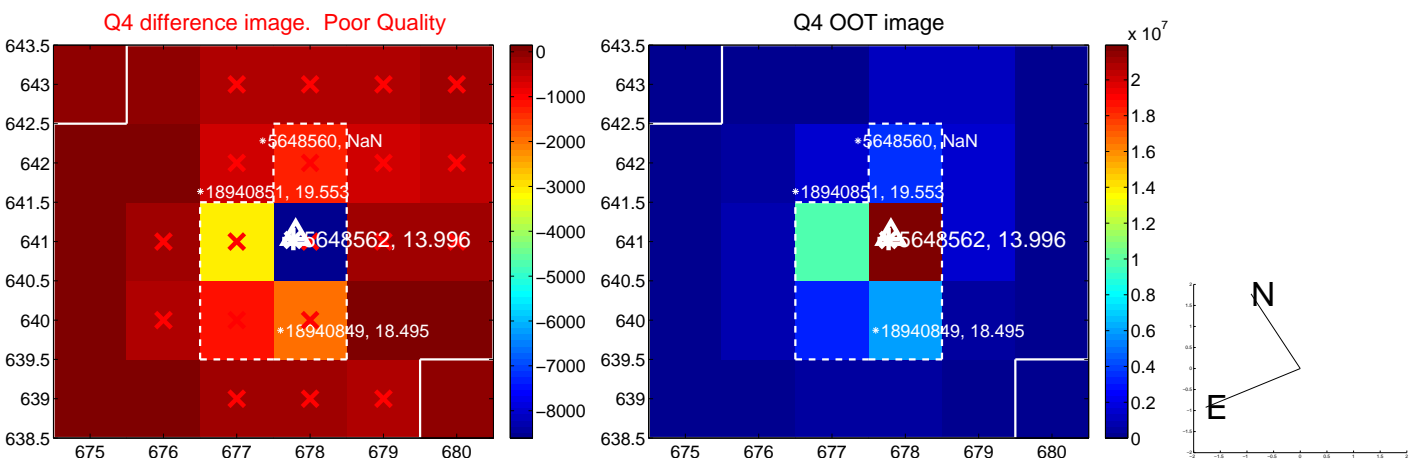
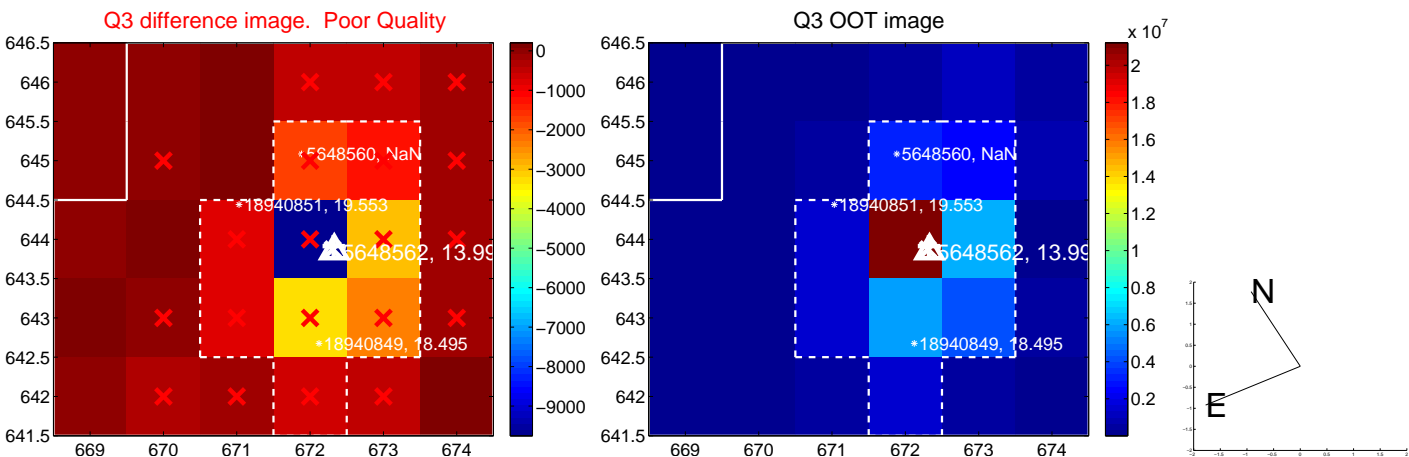
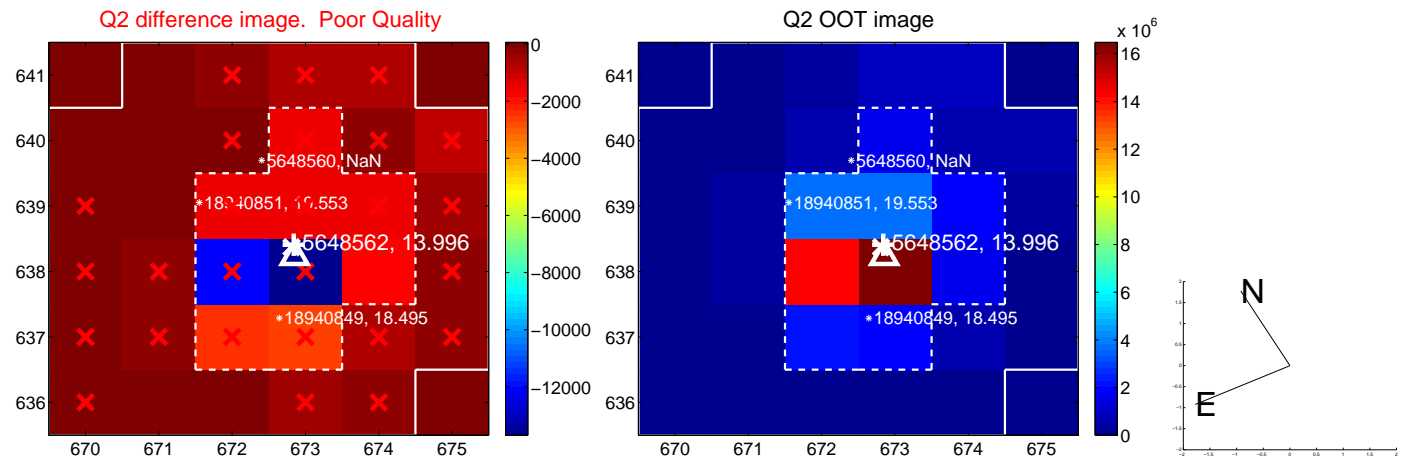
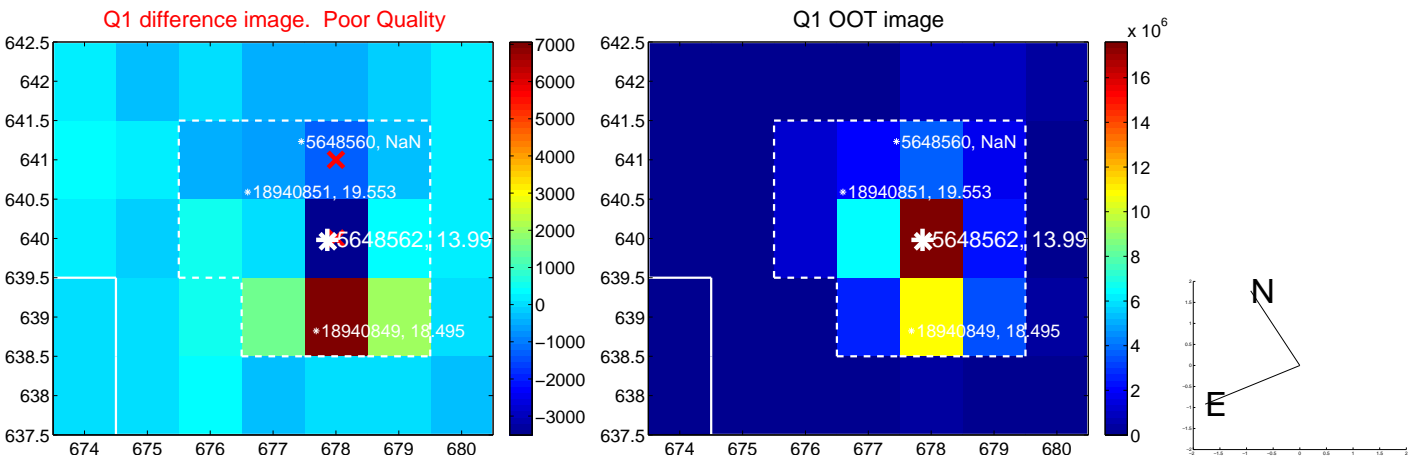
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.065 ± 0.155	0.42	0.043 ± 0.212	0.049 ± 0.200
PRF-fit source offset from KIC position	0.160 ± 0.227	0.70	-0.070 ± 0.218	0.144 ± 0.191
photometric centroid source offset	0.55 ± 0.21	2.55	0.51 ± 0.22	-0.21 ± 0.21

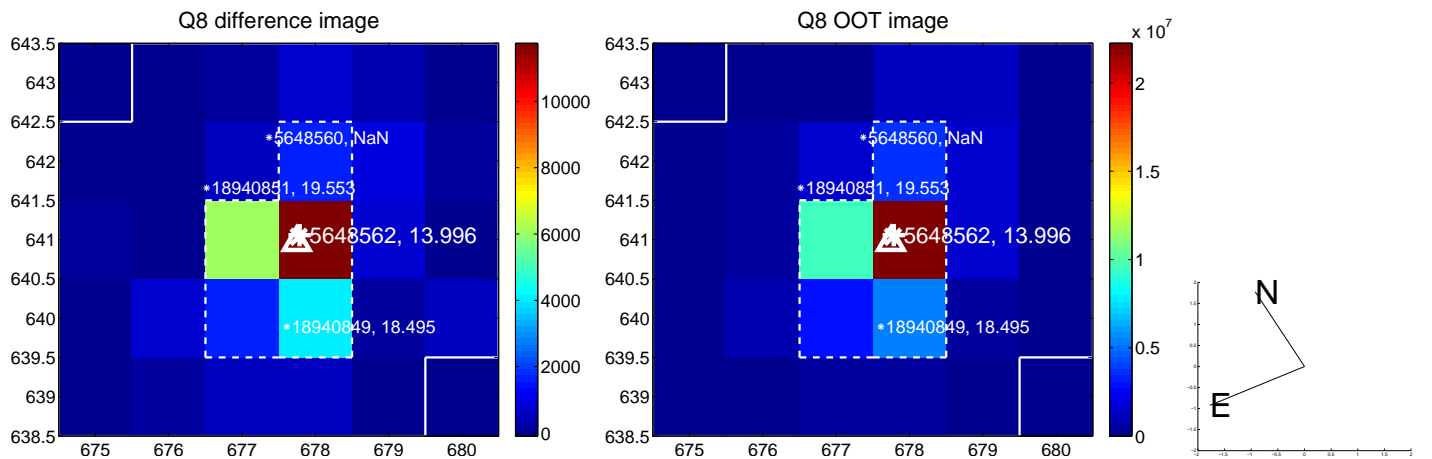
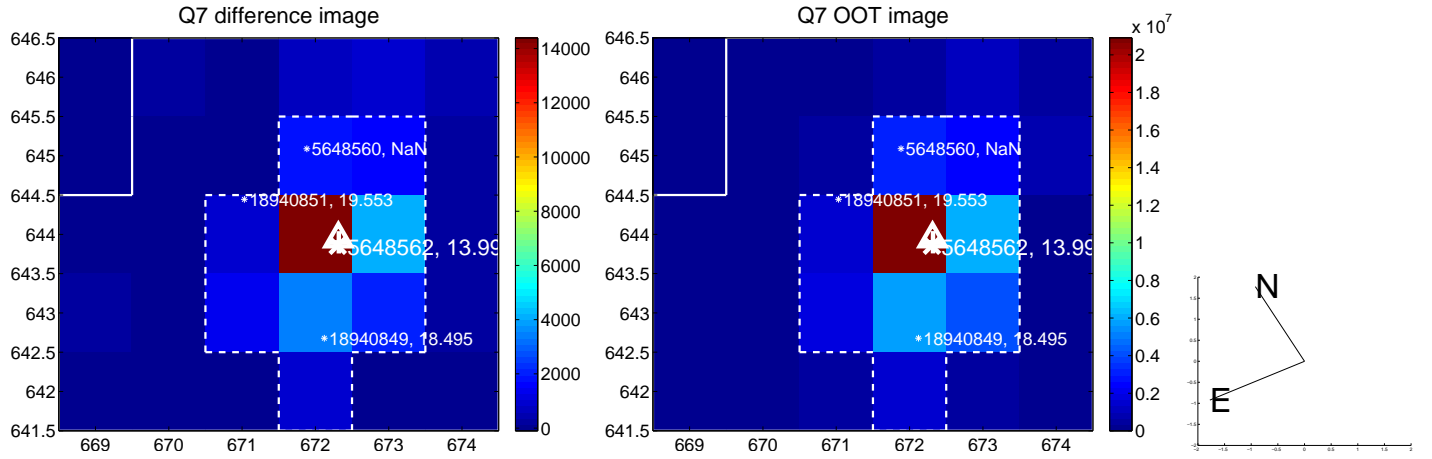
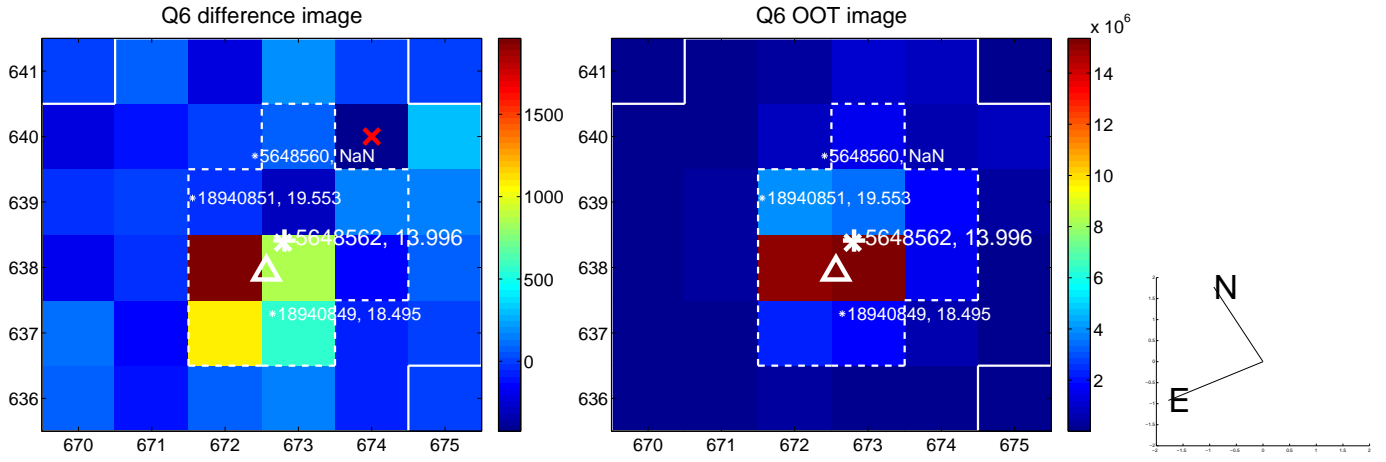
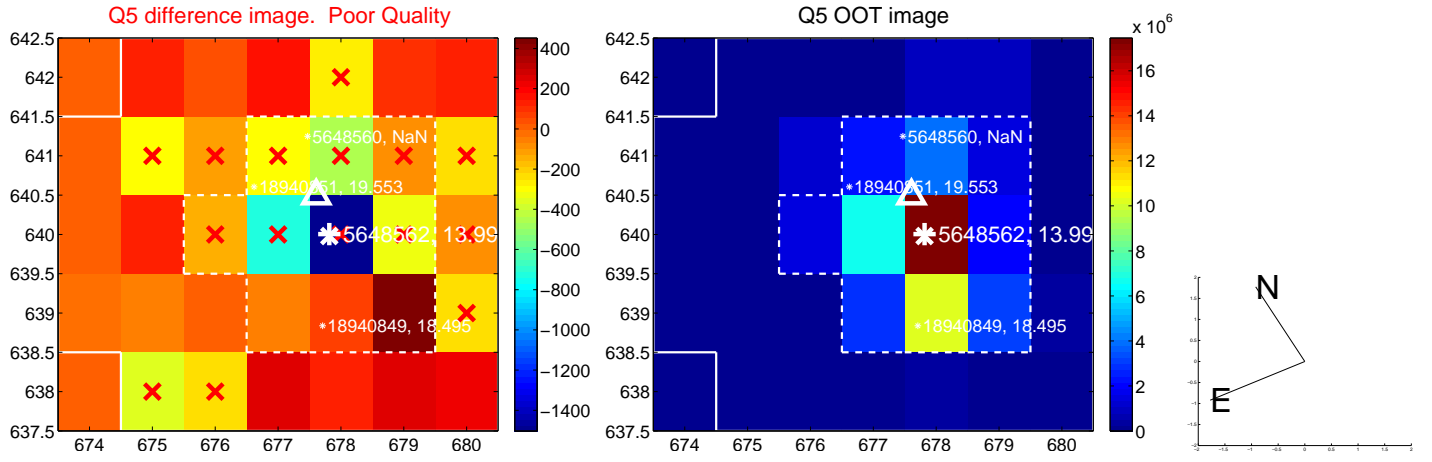


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

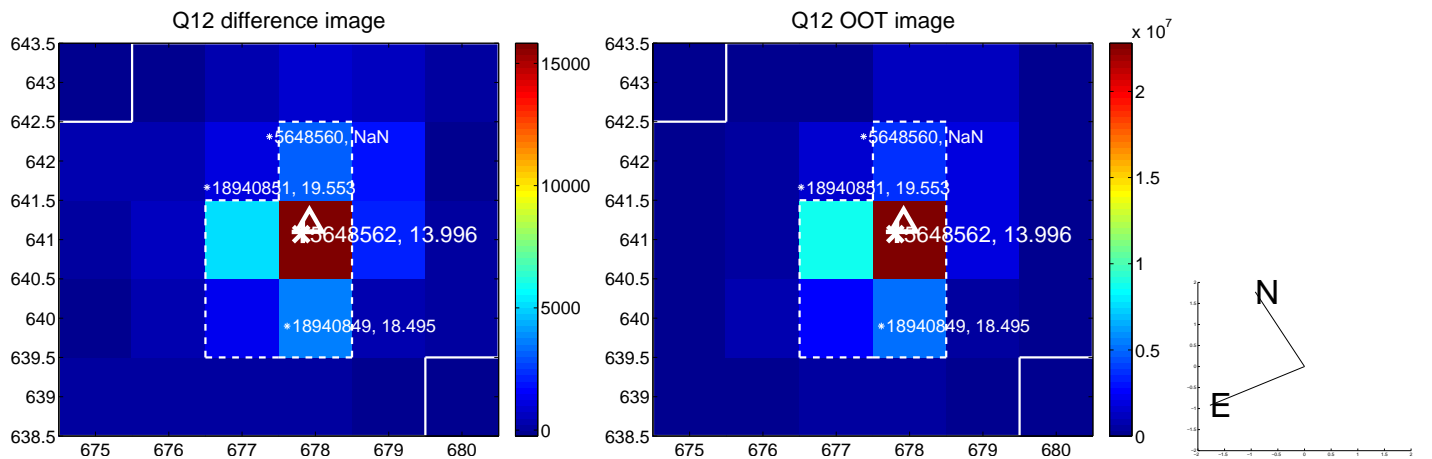
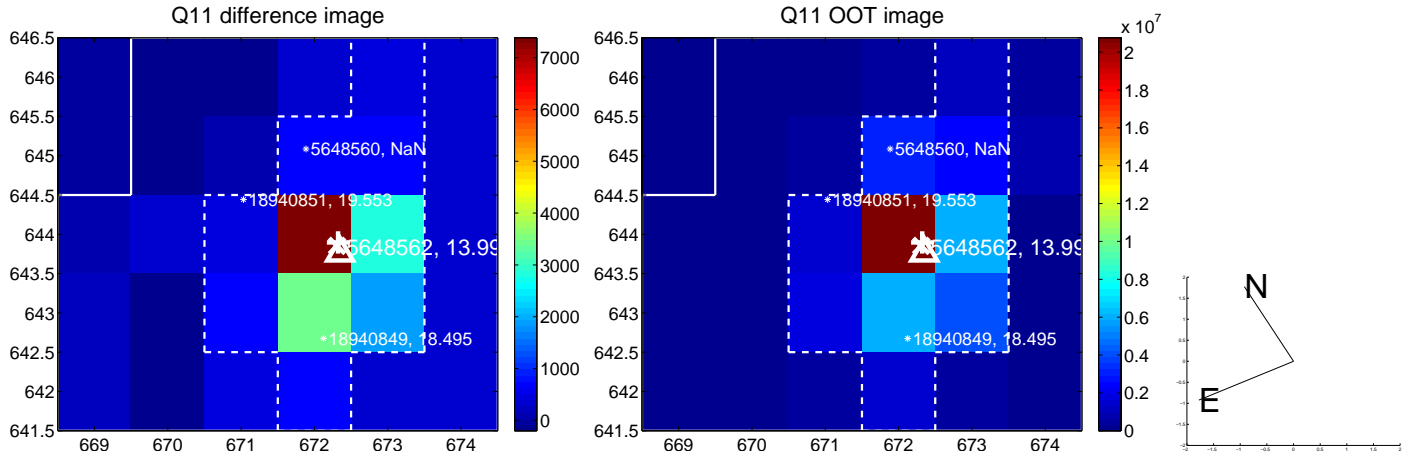
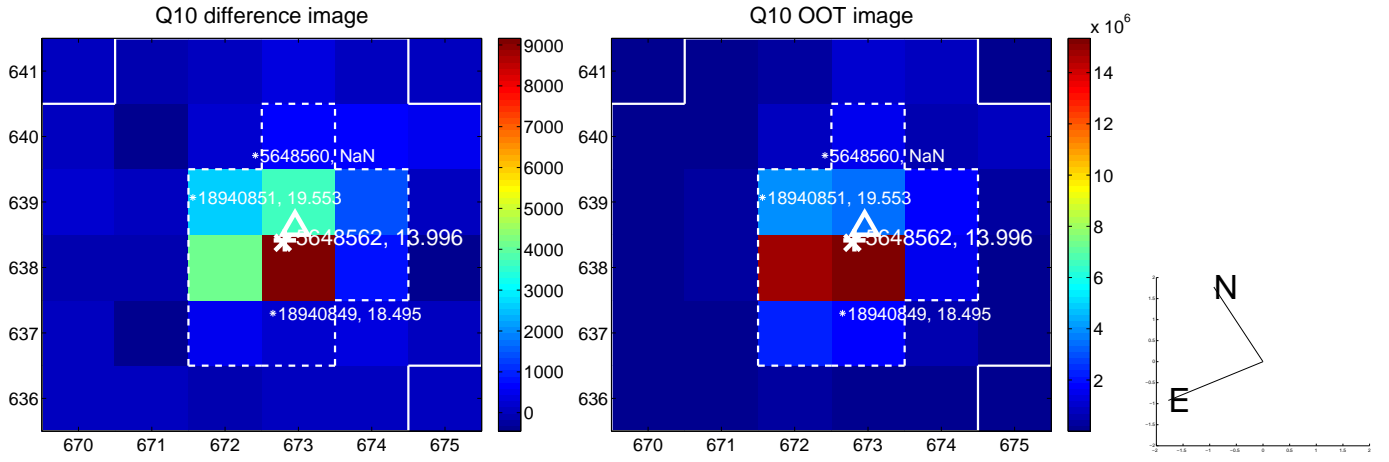
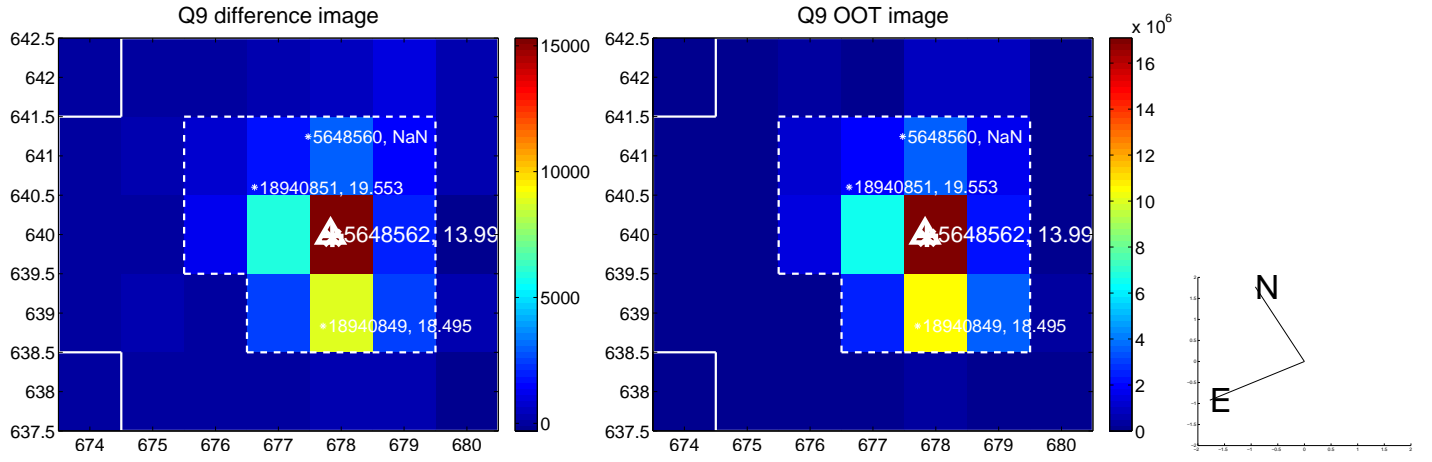
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



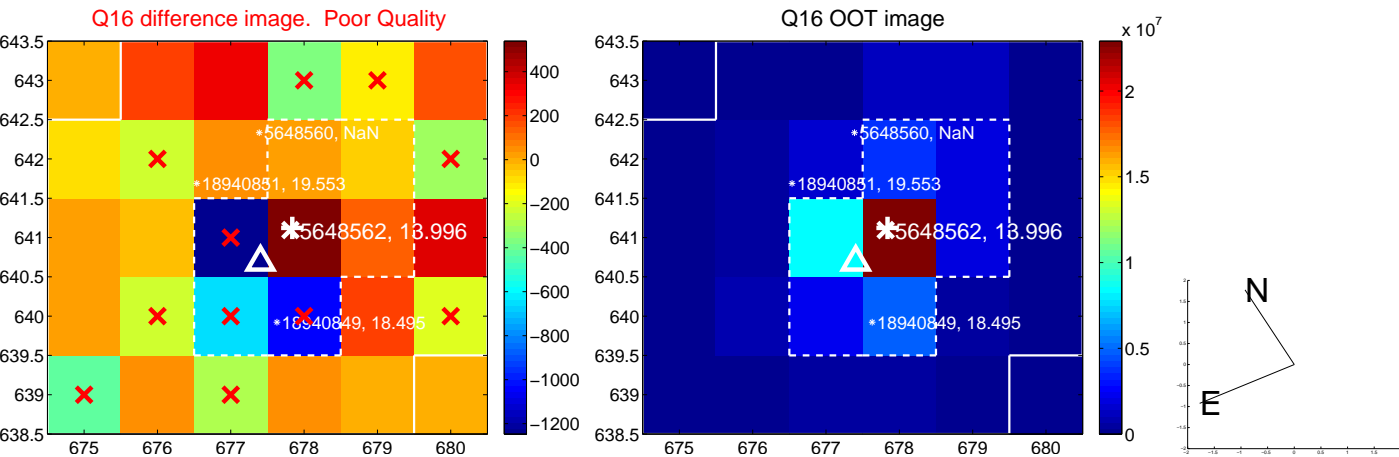
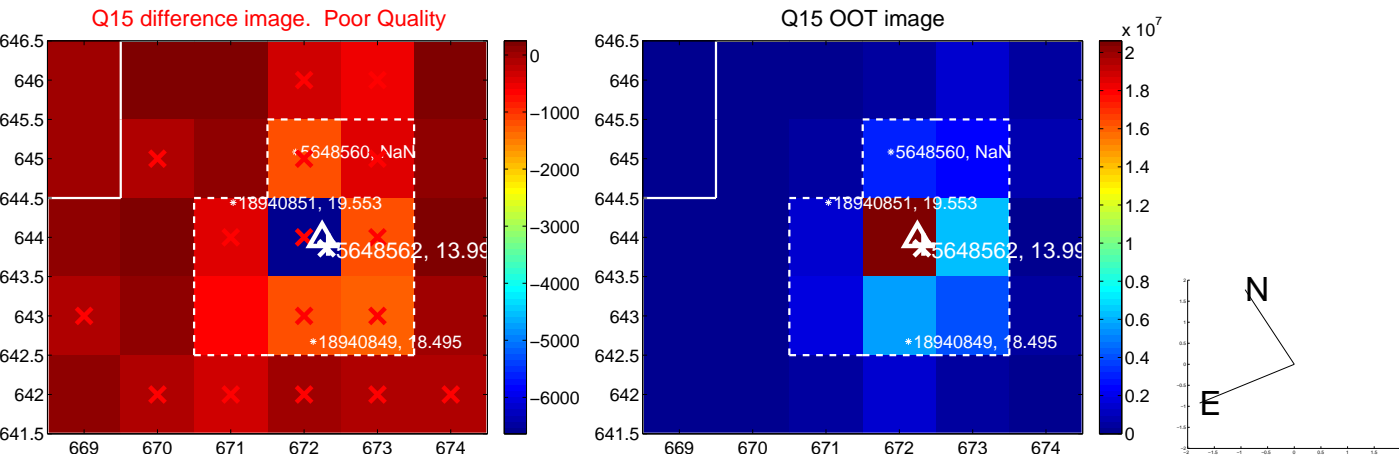
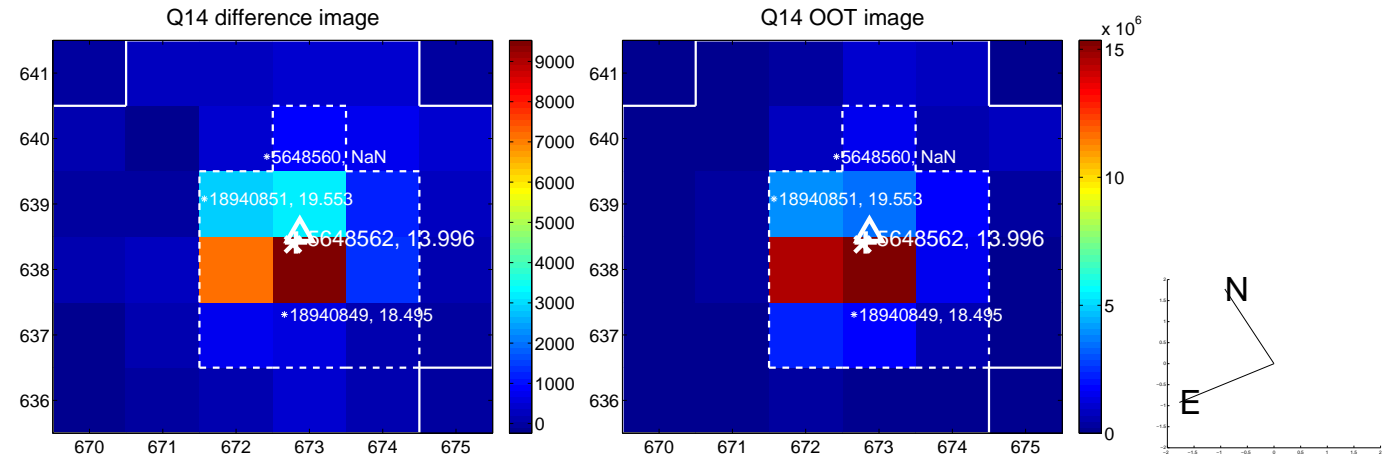
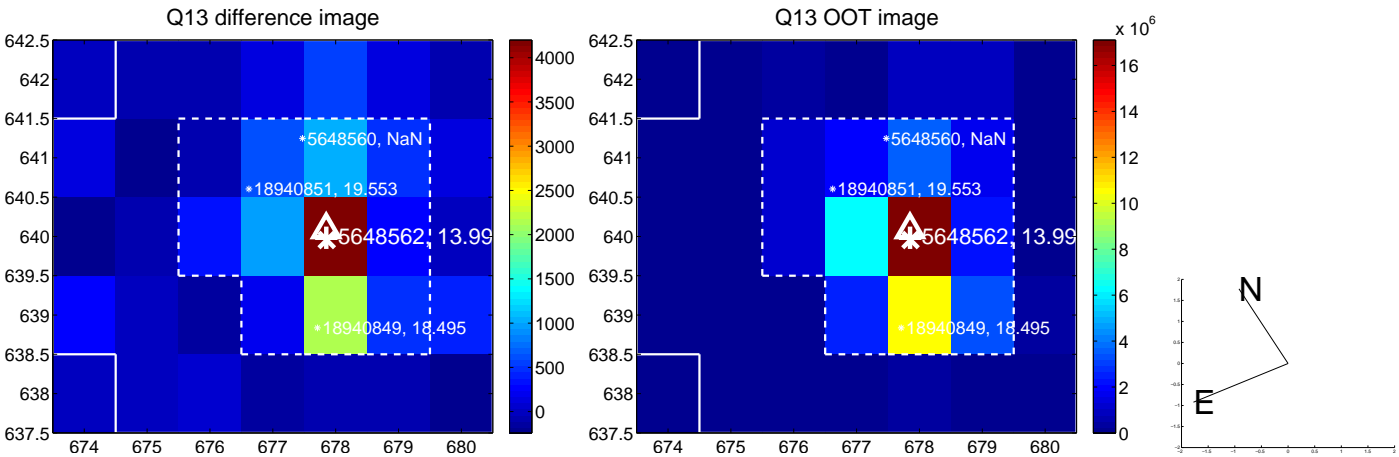
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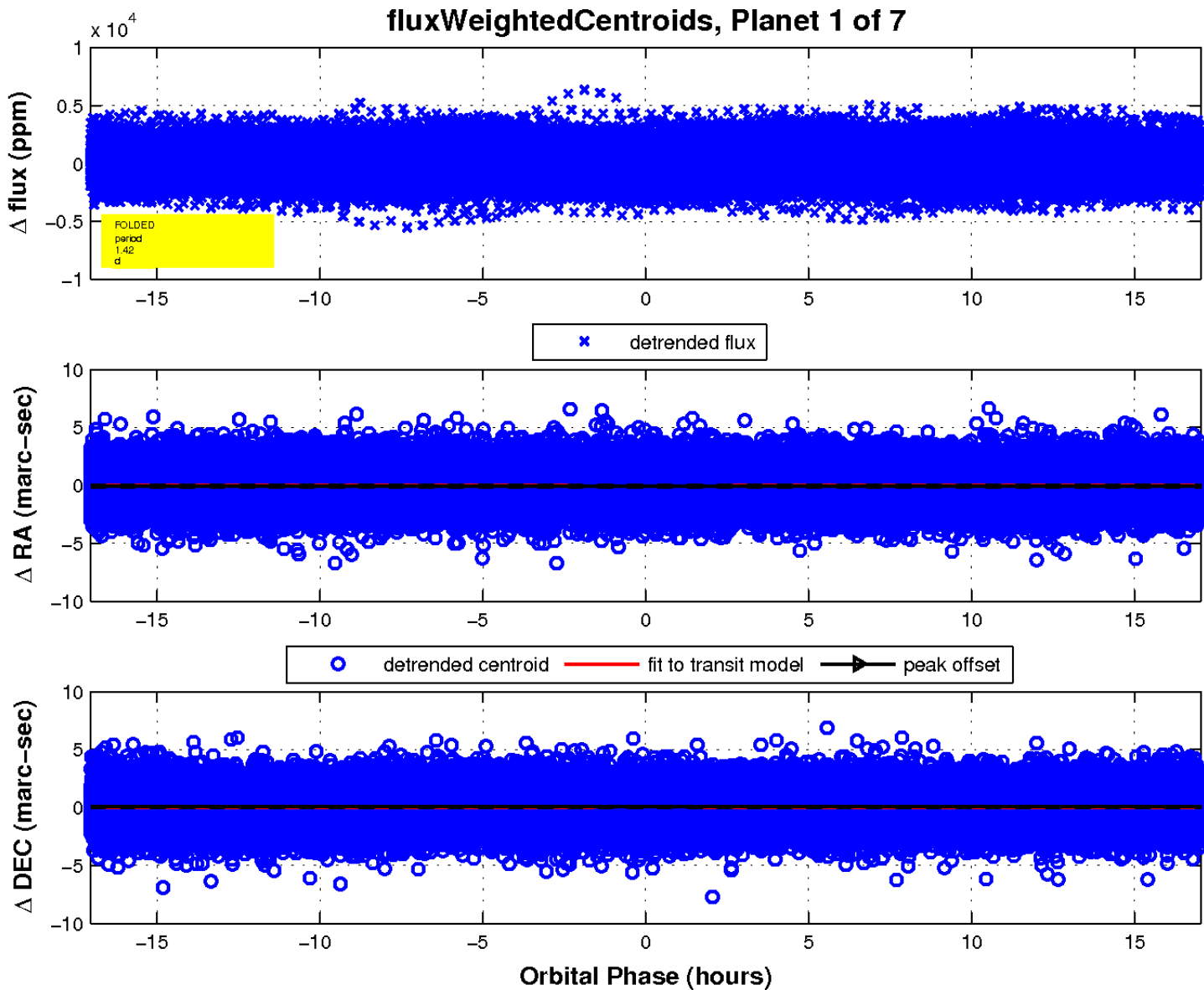
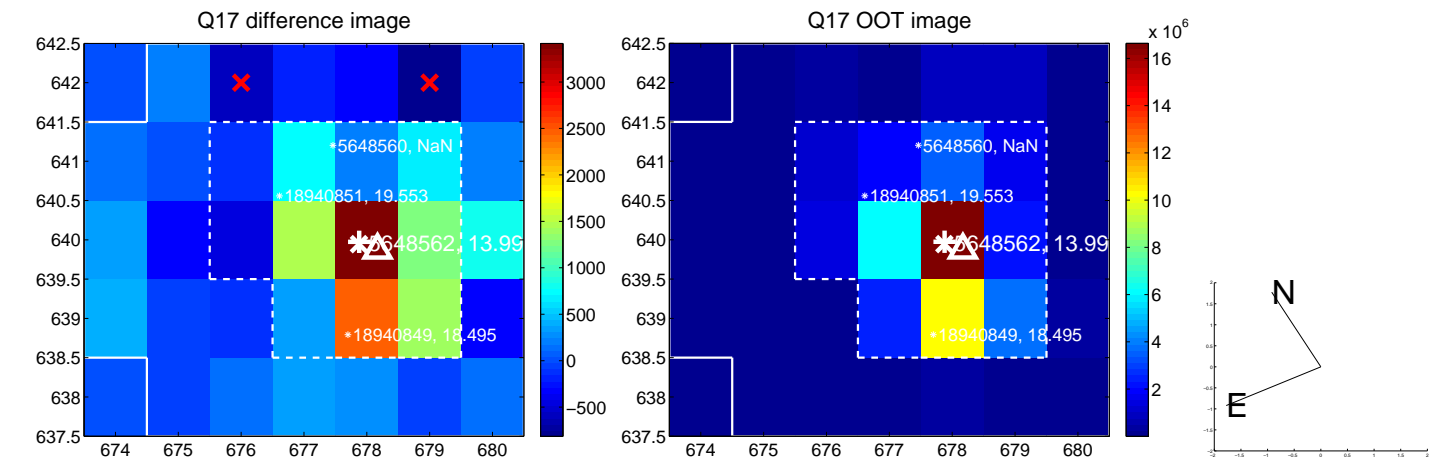
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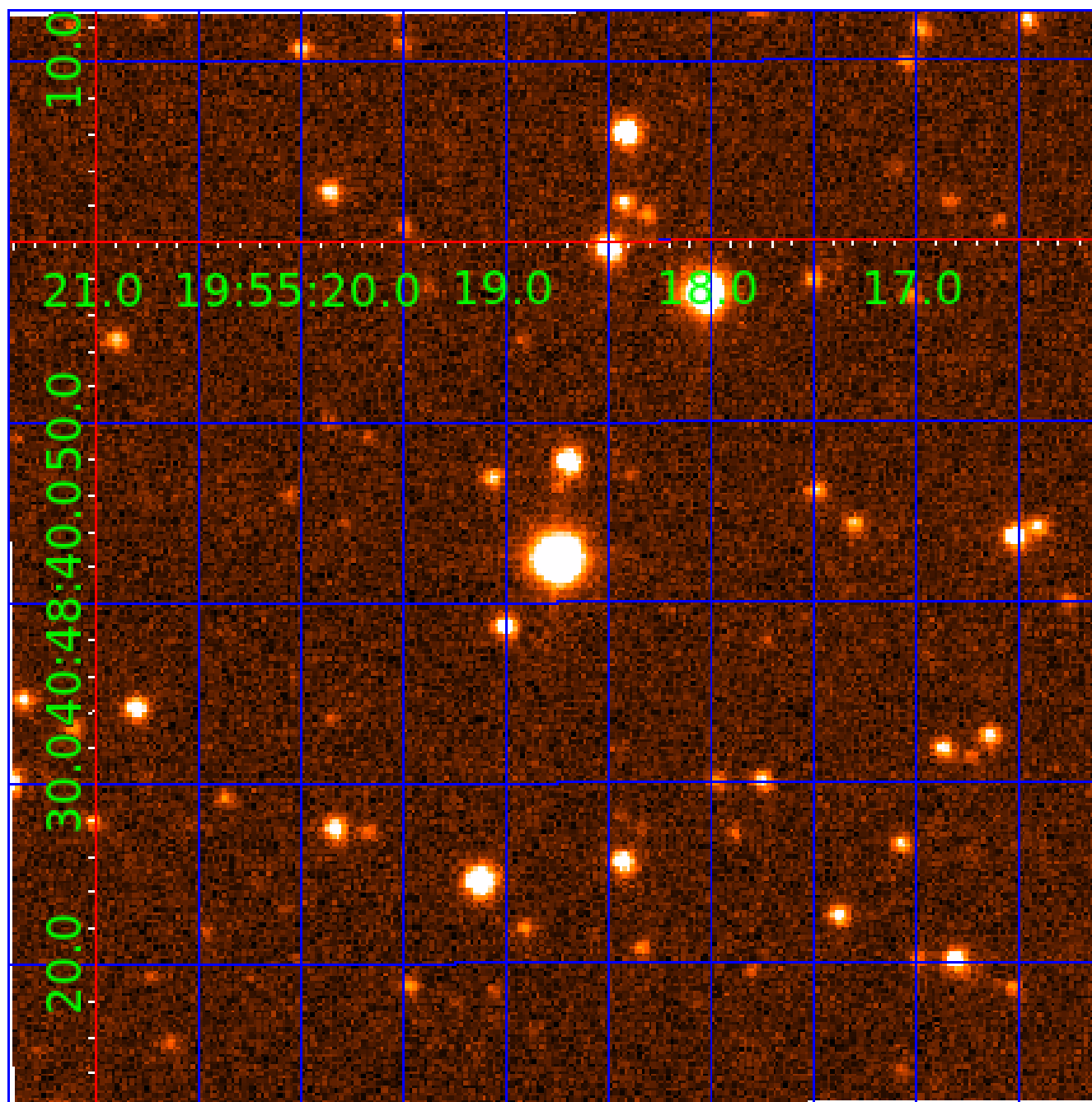


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005648562

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})
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005648562-07	OBS	No	281.369834	157.050783	662.2	3.000	9.1	-1.0	2.70	6842	7.01	14.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005648562-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005648562-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005648562-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
005648562-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005648562-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005648562-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005648562-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

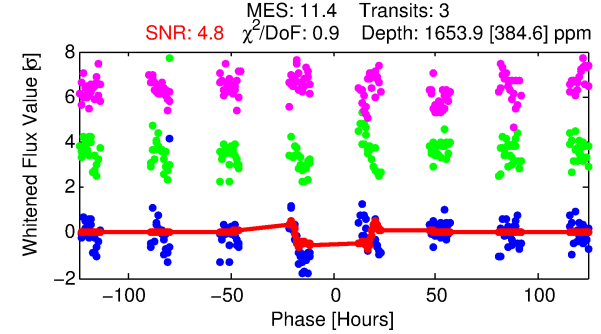
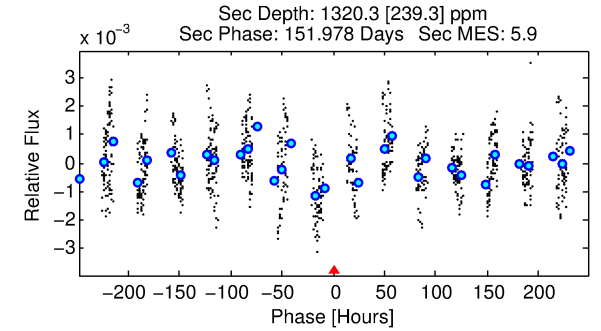
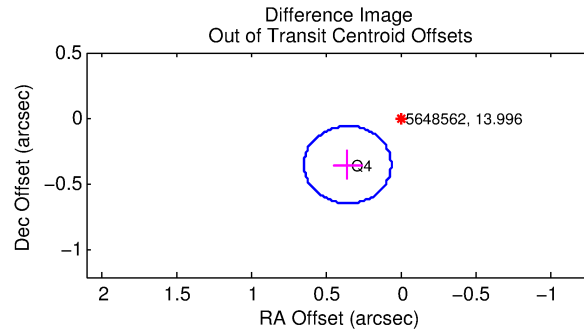
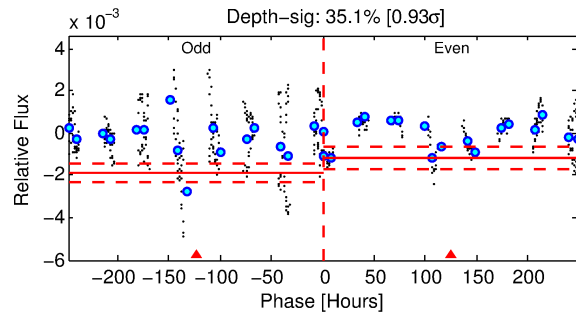
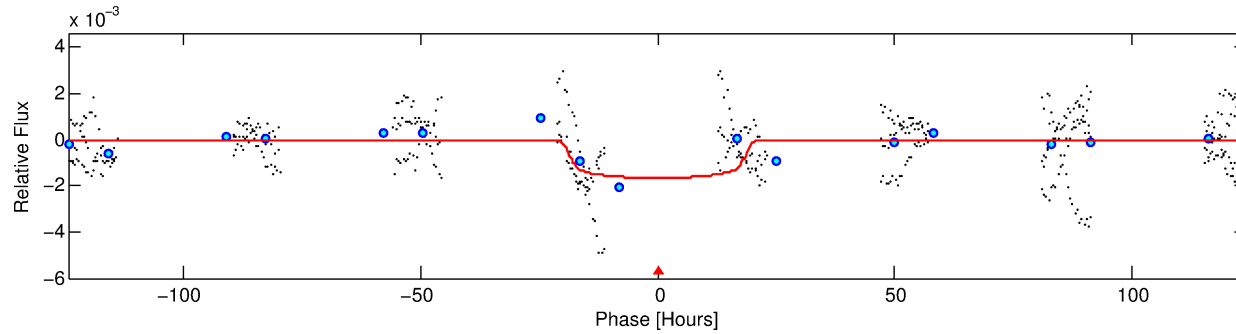
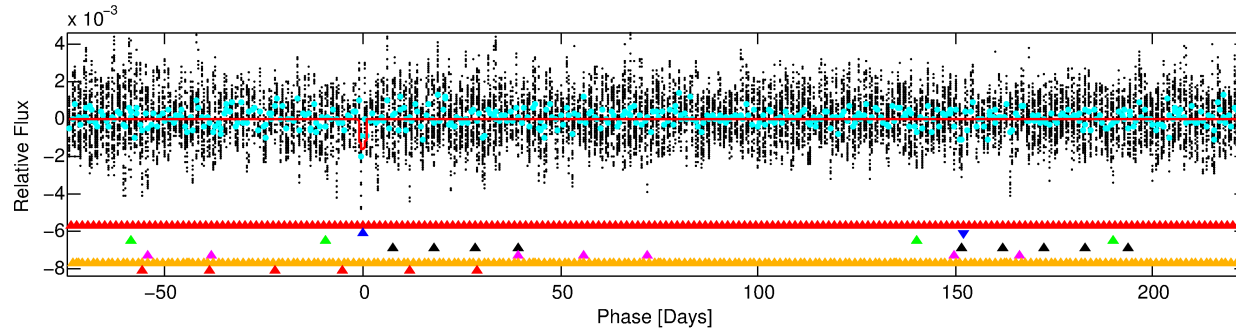
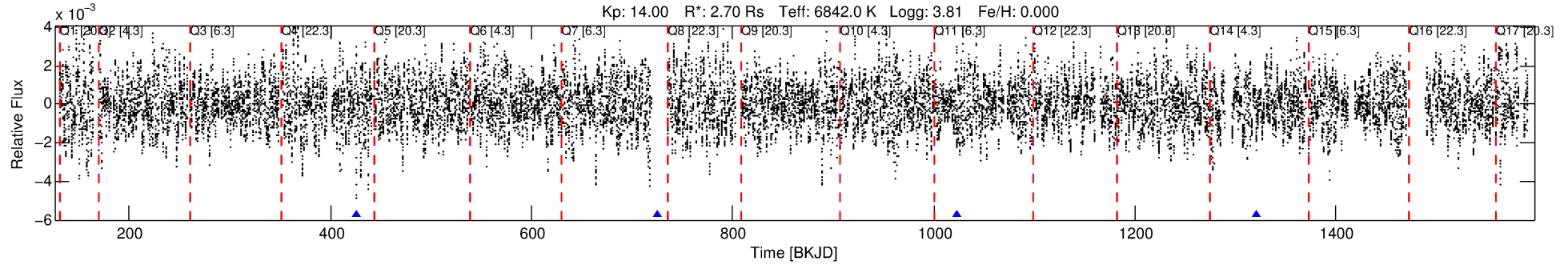
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005648562-02

No Significant Match Found

DV One-Page Summary

KIC: 5648562 Candidate: 2 of 7 Period: 298.334 d



DV Fit Results:

Period = 298.33449 [0.01345] d
Epoch = 426.4870 [0.0303] BKJD
Rp/R* = 0.0407 [0.0048]
a/R* = 38.57 [4.59]
b = 0.77 [0.06]
Seff = 12.98 [9.09]
Teq = 484 [85] K
Rp = 11.98 [5.72] Re
a = 1.0487 [0.4509] AU
Ag = 5570.37 [4104.33] [1.36 σ]
Teffp = 6464 [573] K [10.32 σ]

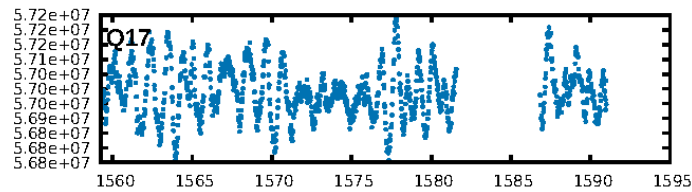
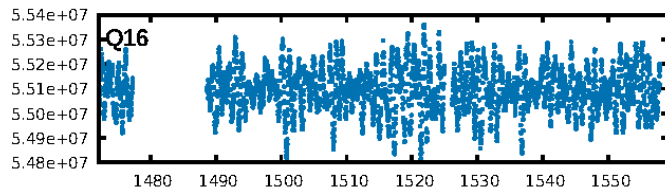
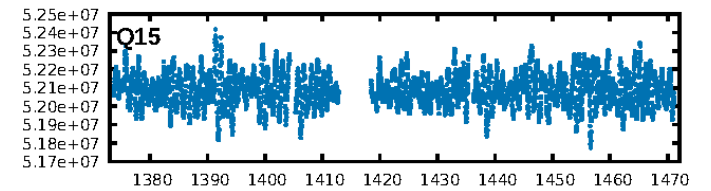
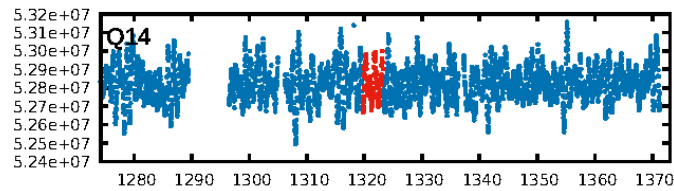
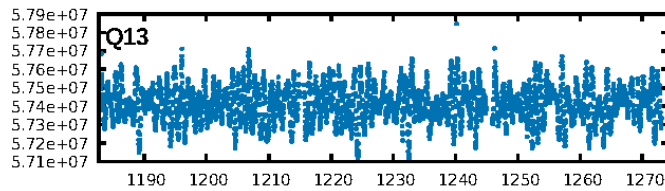
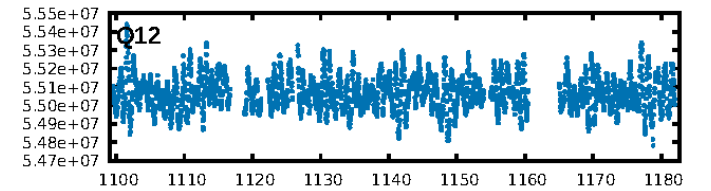
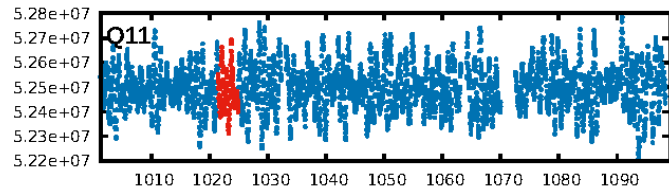
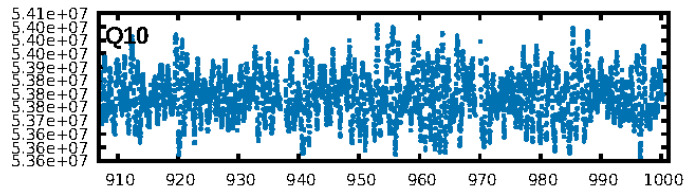
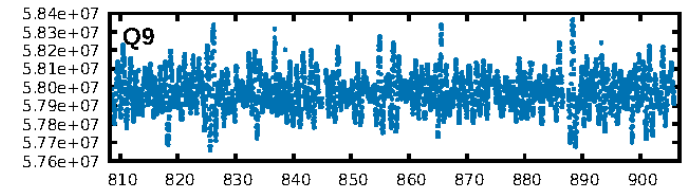
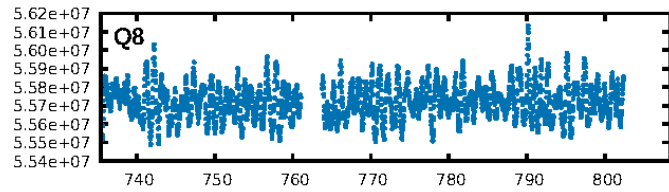
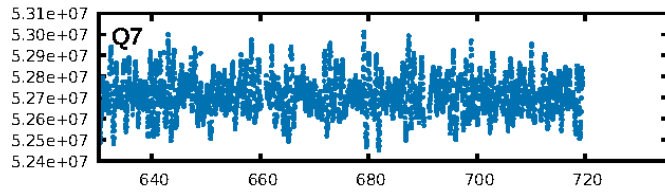
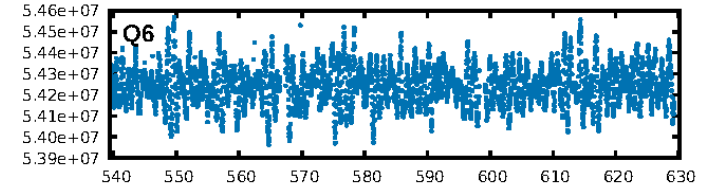
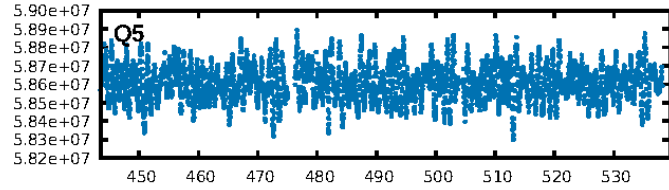
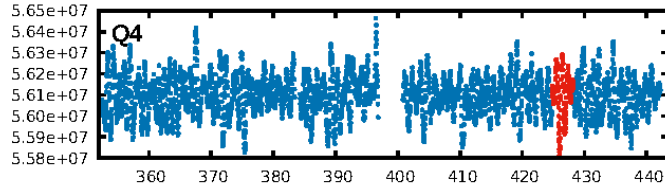
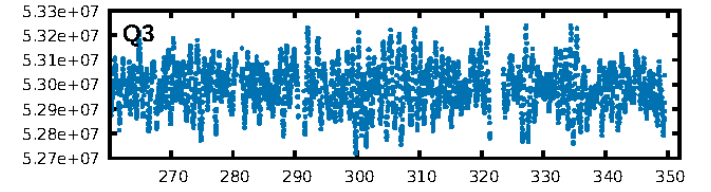
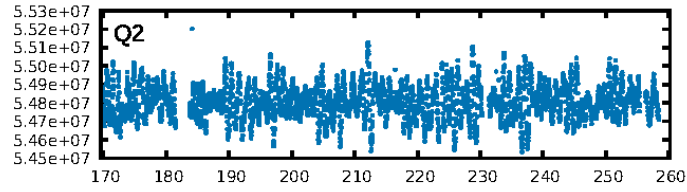
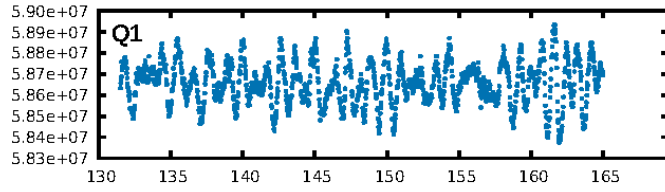
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.82 σ]
LongPeriod-sig: 100.0% [27.98 σ]
ModelChiSquare2-sig: 63.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.648
Centroid-sig: 68.1%
Centroid-so: 0.219 arcsec [0.83 σ]
OotOffset-rm: 0.498 arcsec [5.11 σ]
KicOffset-rm: 0.282 arcsec [2.95 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/2]

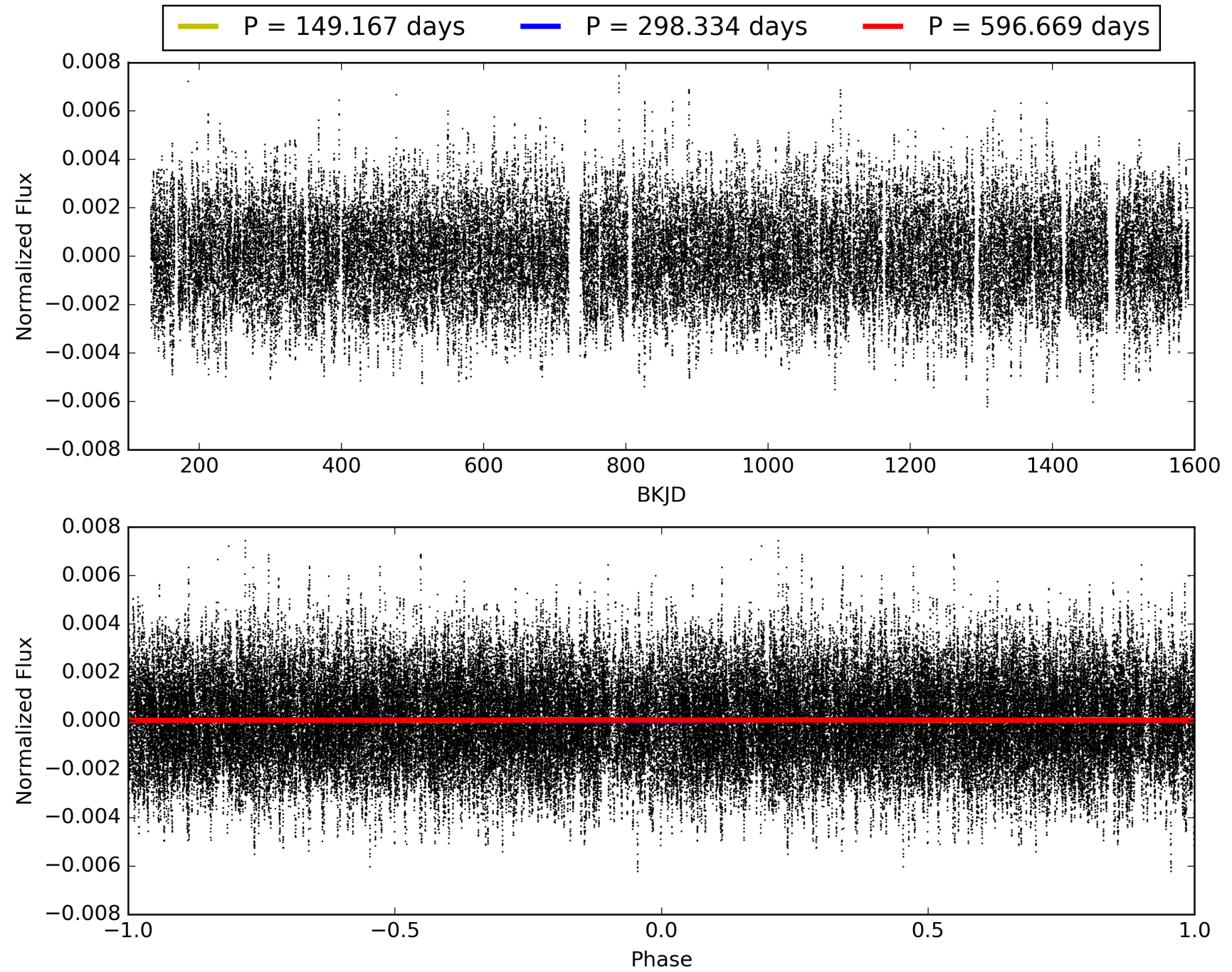
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:29:45 Z

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

TCE 005648562-02, PDC Light Curves

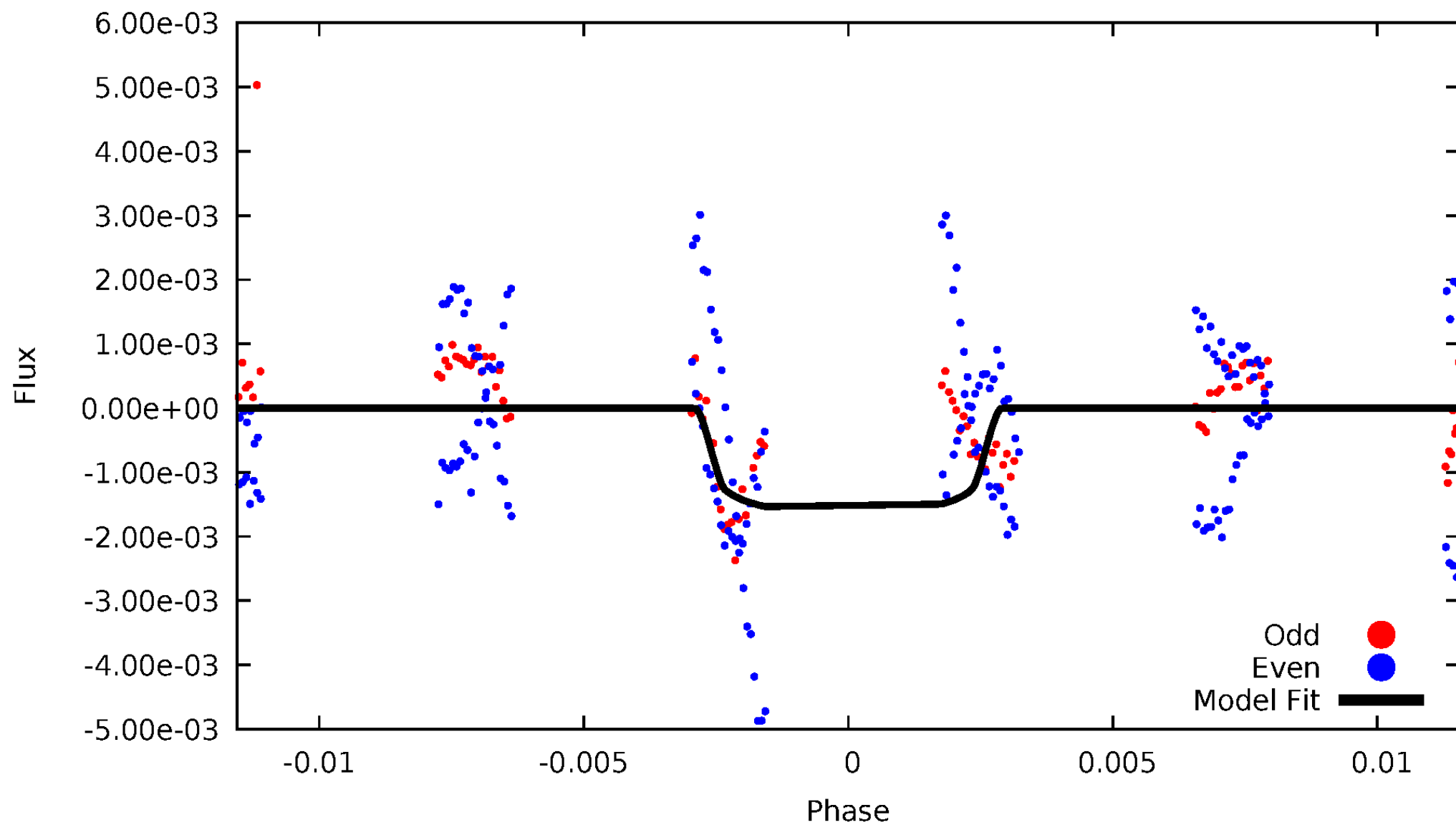


TCE 005648562-02



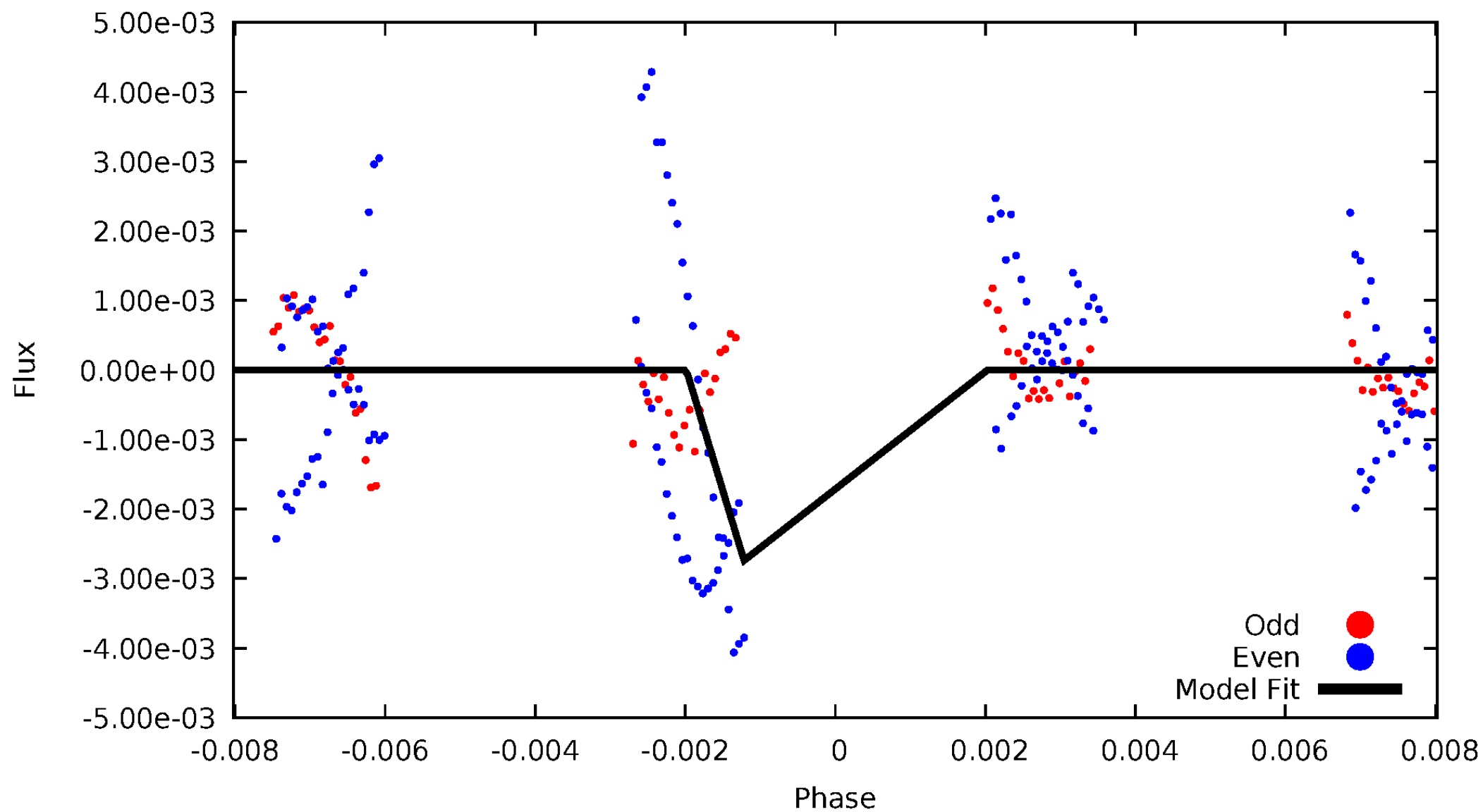
DV Odd/Even

TCE 005648562-02



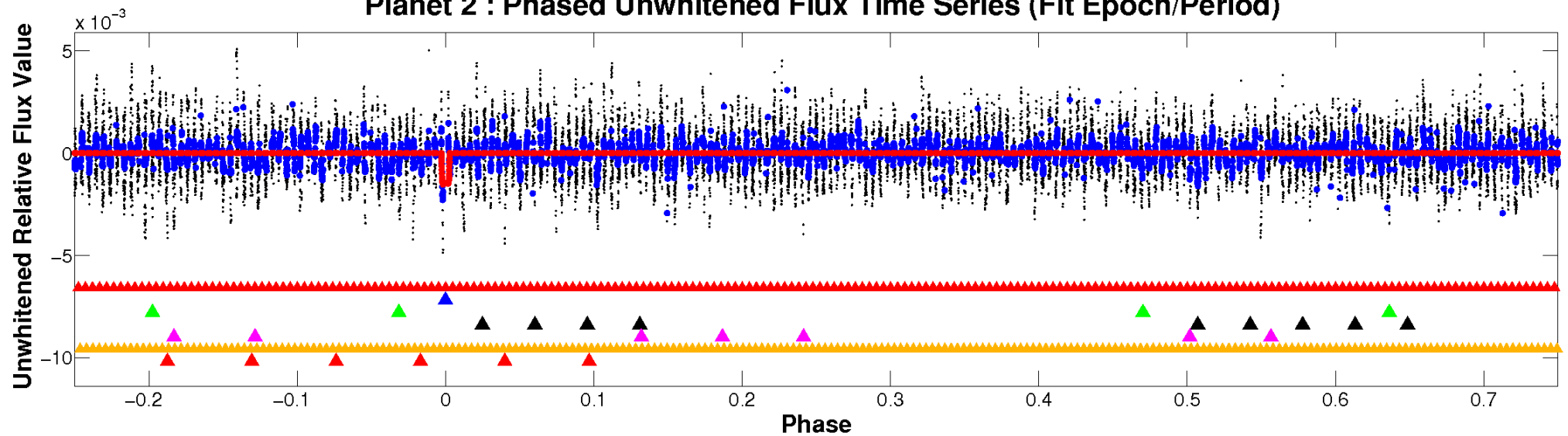
ALT Odd/Even

TCE 005648562-02

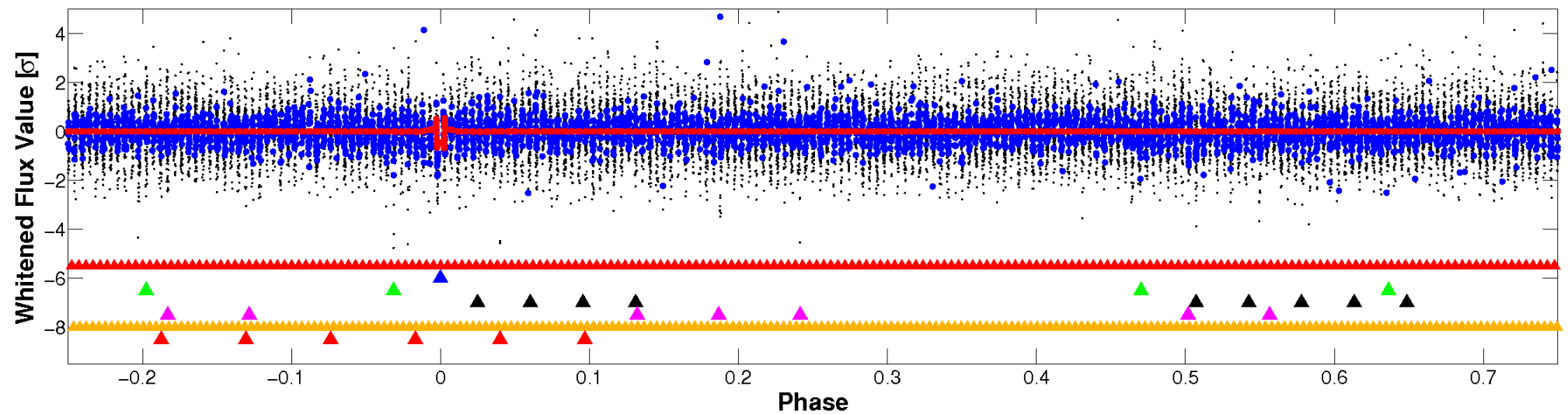


Non-Whitened Vs. Whitened Light Curve

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

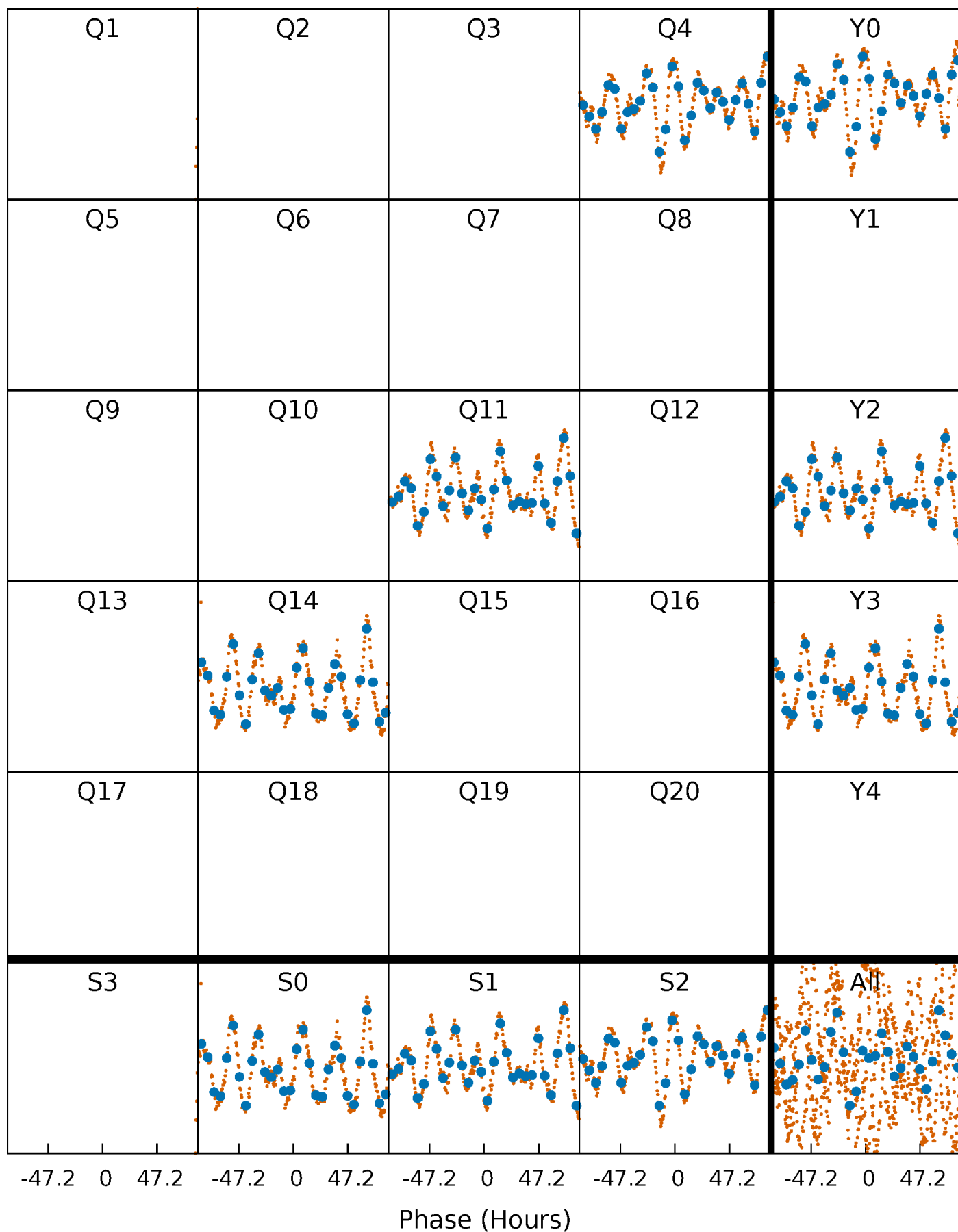


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



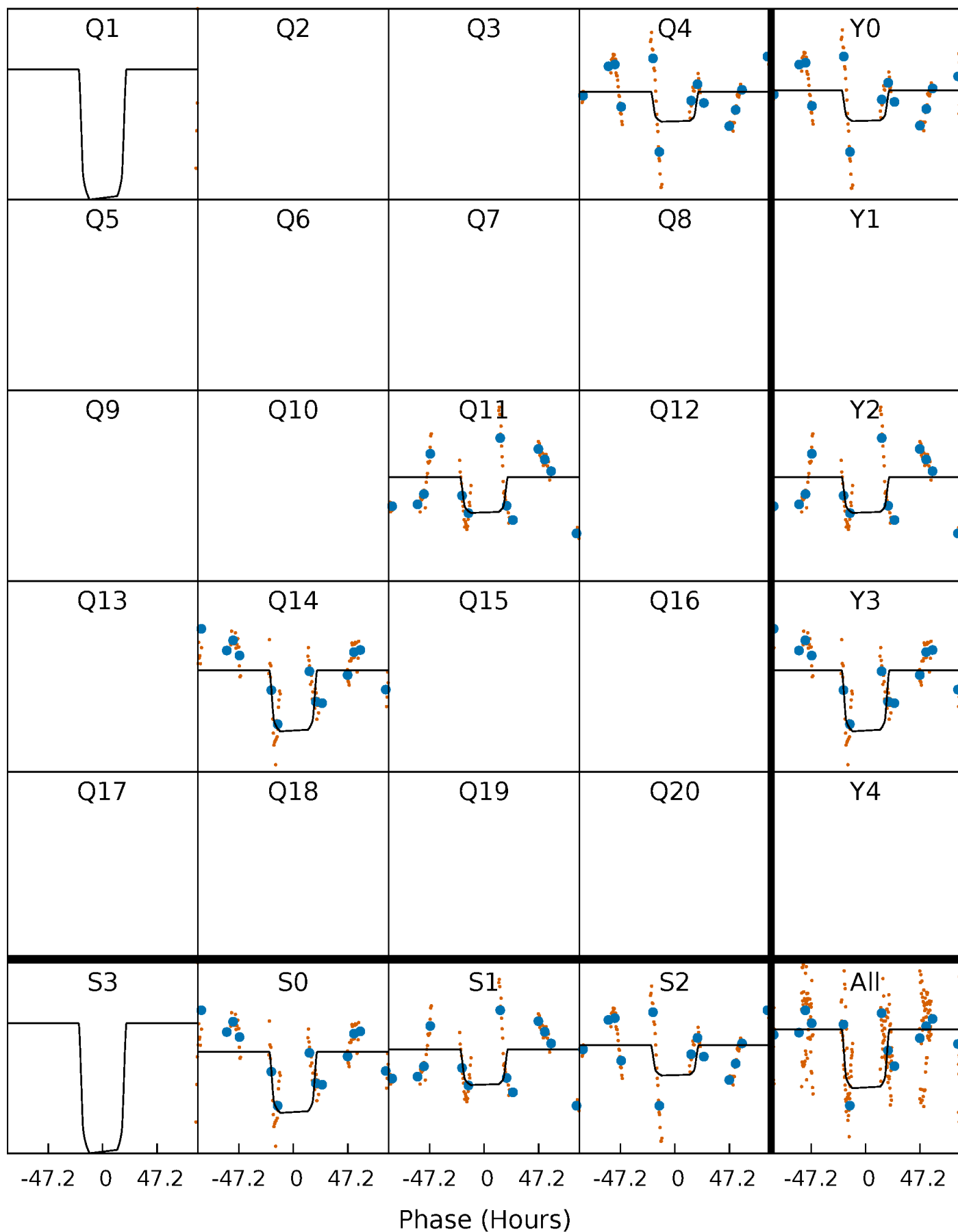
PDC Quarter-Phased Transit Curves

TCE 005648562-02 $P=298.334488$ Days $T_0=426.486967$ (BKJD)



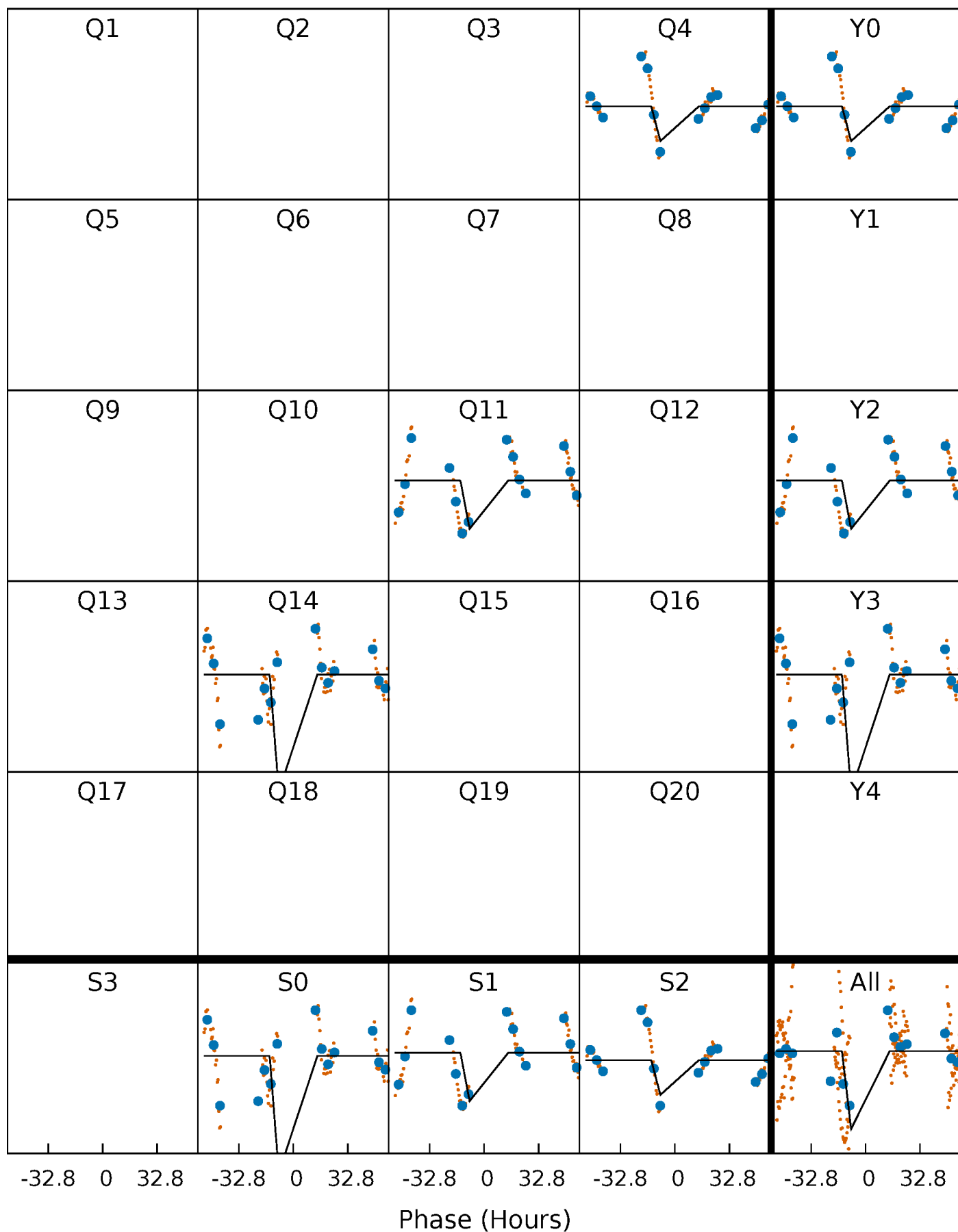
DV Quarter-Phased Transit Curves

TCE 005648562-02 P=298.334488 Days $T_0=426.486967$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

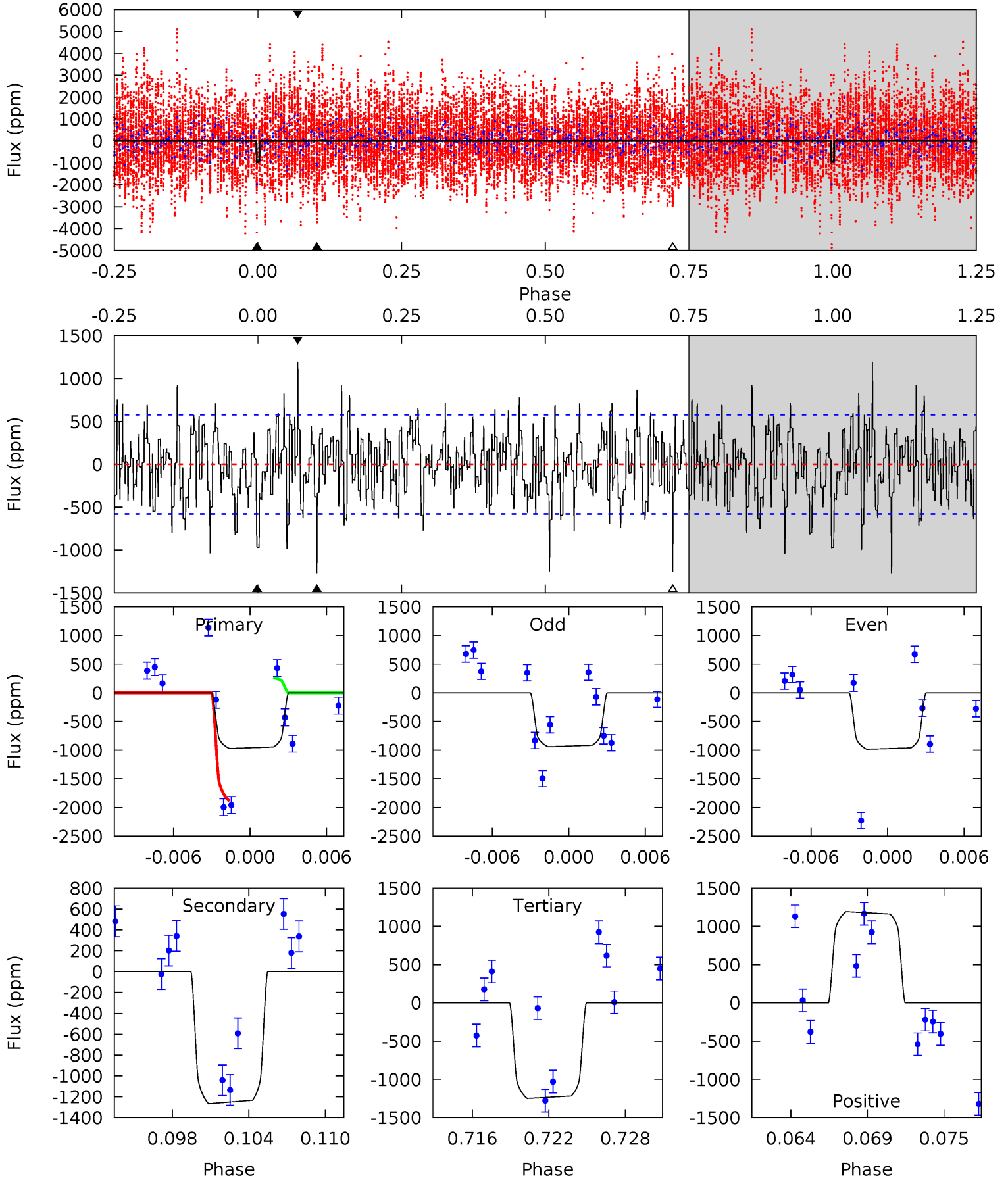
TCE 005648562-02 P=298.343598 Days $T_0=426.380868$ (BKJD)



DV Model-Shift Uniqueness Test

005648562-02, P = 298.334488 Days, E = 128.152479 Days

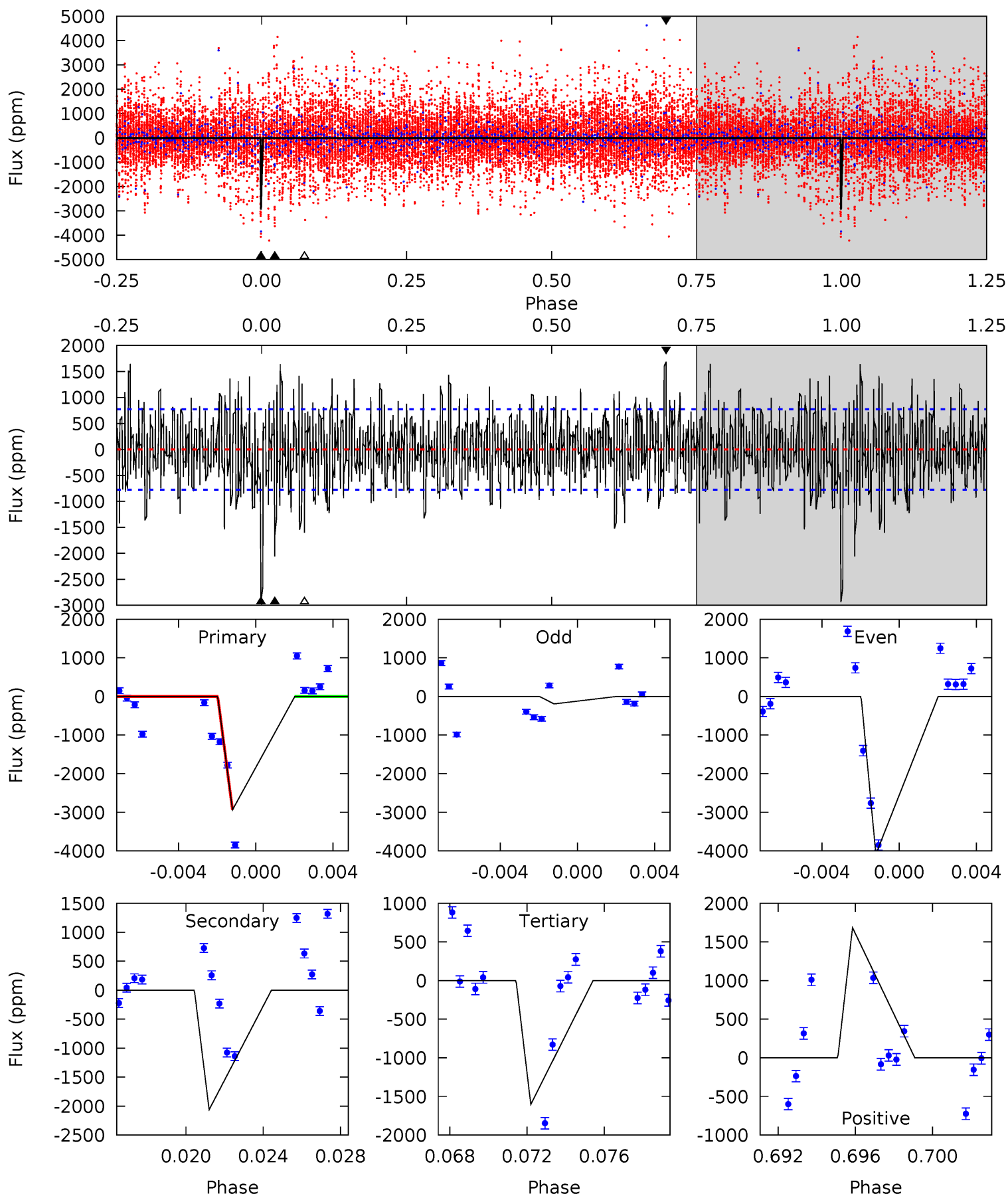
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.60	11.2	11.1	10.6	5.13	2.76	3.03	-2.48	-1.97	0.15	0.66	0.19	1.04	0.48	7.20



Alt Model-Shift Uniqueness Test

005648562-02, P = 298.343598 Days, E = 128.037270 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	13.8	10.8	11.3	5.20	2.88	2.88	8.95	8.40	3.08	2.53	11.8	0	0.36	0



Stellar Parameters For KIC 005648562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+218}_{-327}	$3.814^{+0.390}_{-0.130}$	$0.000^{+0.250}_{-0.300}$	$2.696^{+0.535}_{-1.248}$	$1.728^{+0.164}_{-0.460}$	$0.124^{+0.472}_{-0.039}$
	+3%/-5%	+10%/-3%	+inf%/-inf%	+20%/-46%	+9%/-27%	+380%/-32%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005648562-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1267 ± 113	$11.55^{+2.30}_{-2.72}$	663^{+53}_{-71}	6326^{+522}_{-441}	5744^{+3628}_{-1841}
Alt.	-2060 ± 149	$14.93^{+2.83}_{-3.29}$	660^{+53}_{-73}	6275^{+416}_{-393}	5570^{+3162}_{-1582}

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 $A_{obs} \gg 1.0$

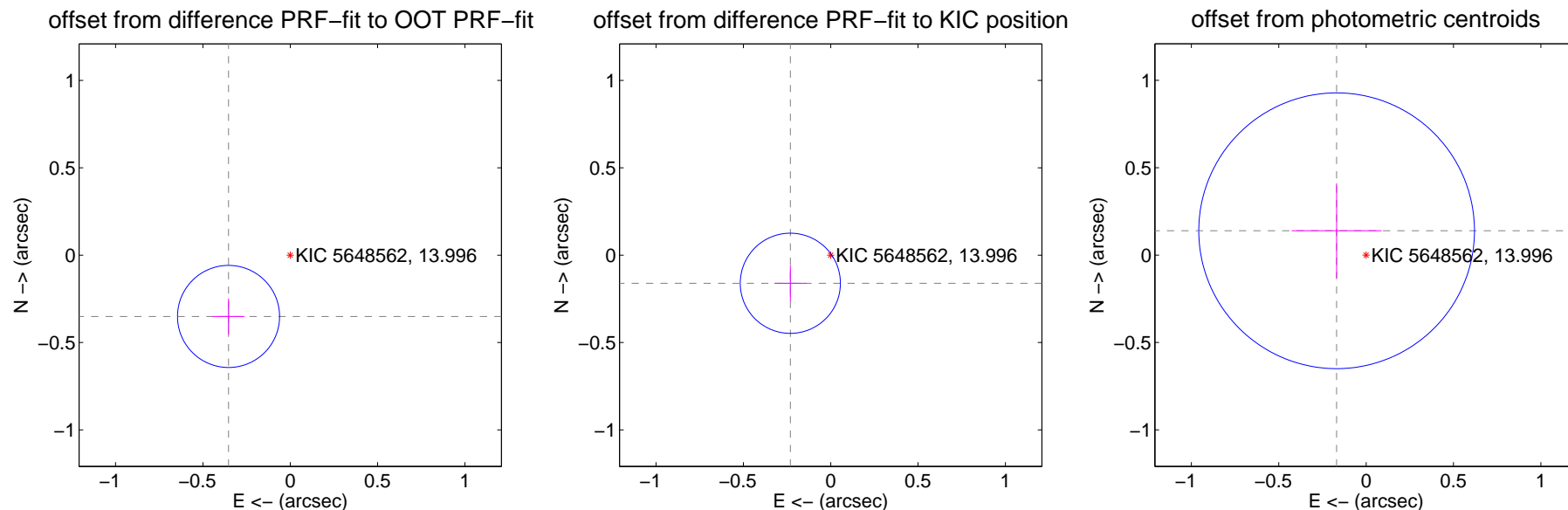
DV Centroid Data

Supplemental centroid analysis for 005648562-02. Kepler magnitude: 14.00. Transit SNR 4.80

There are 1 quarters with good PRF difference image offsets

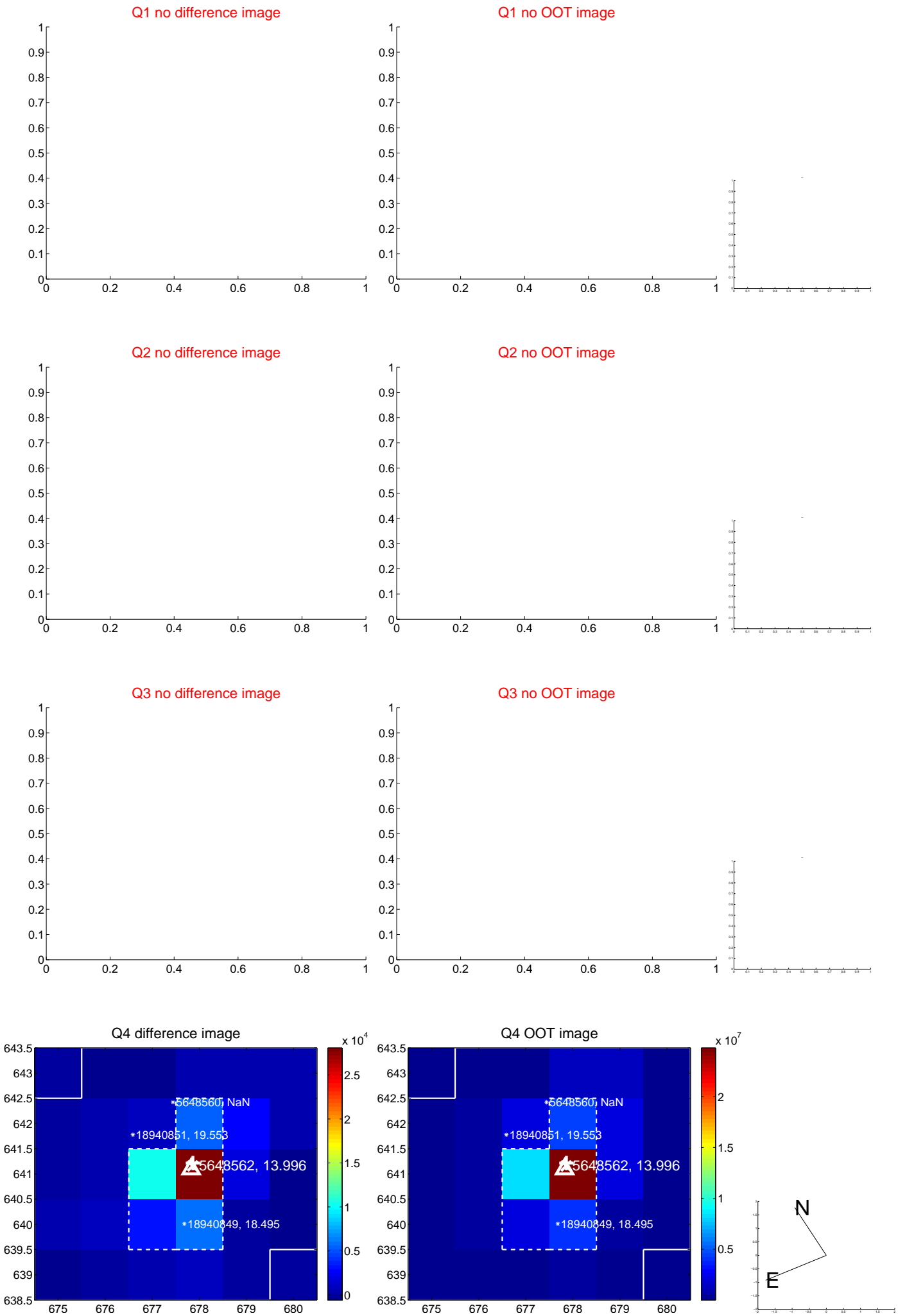
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.498 ± 0.097	5.11	0.353 ± 0.092	-0.351 ± 0.103
PRF-fit source offset from KIC position	0.282 ± 0.096	2.95	0.231 ± 0.092	-0.161 ± 0.103
photometric centroid source offset	0.22 ± 0.26	0.83	0.17 ± 0.26	0.14 ± 0.27



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.



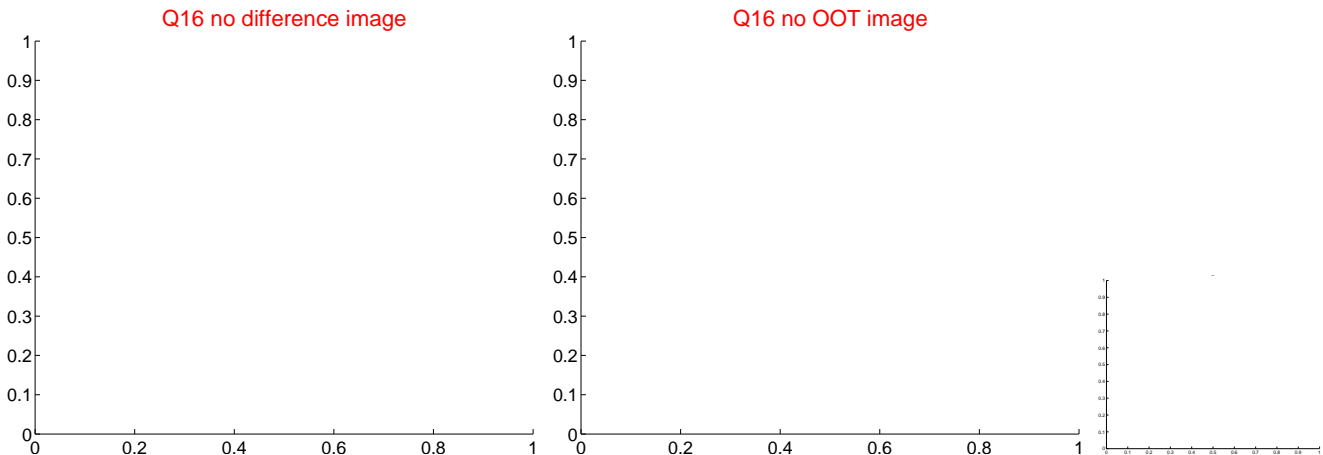
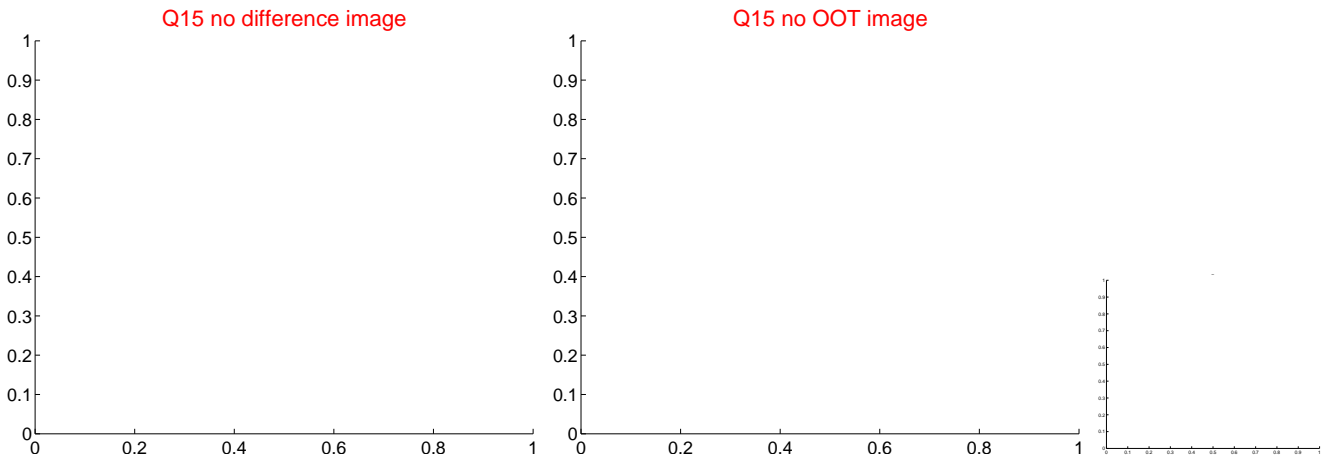
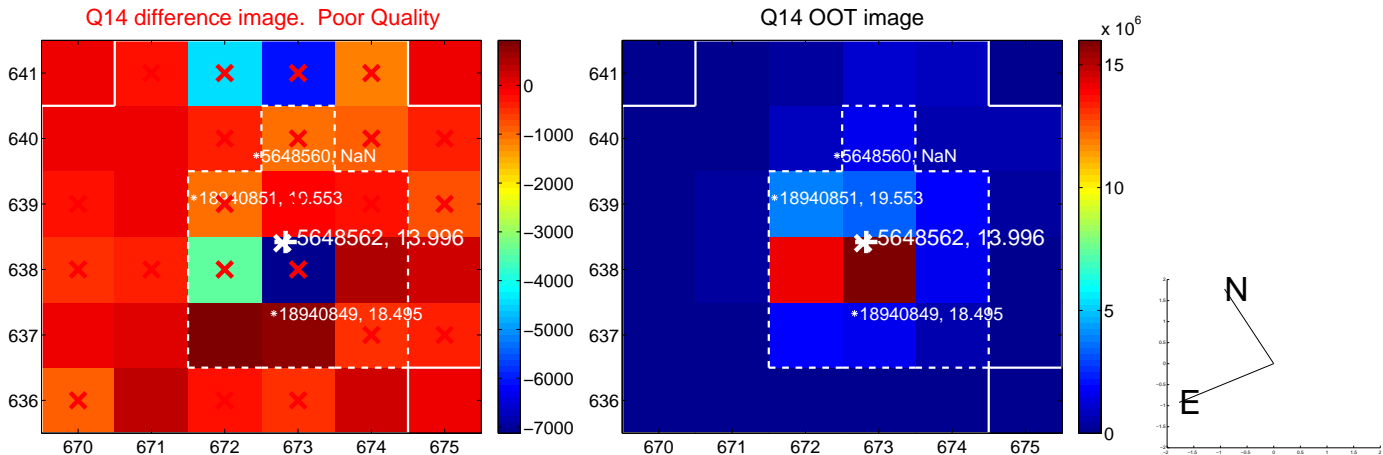
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



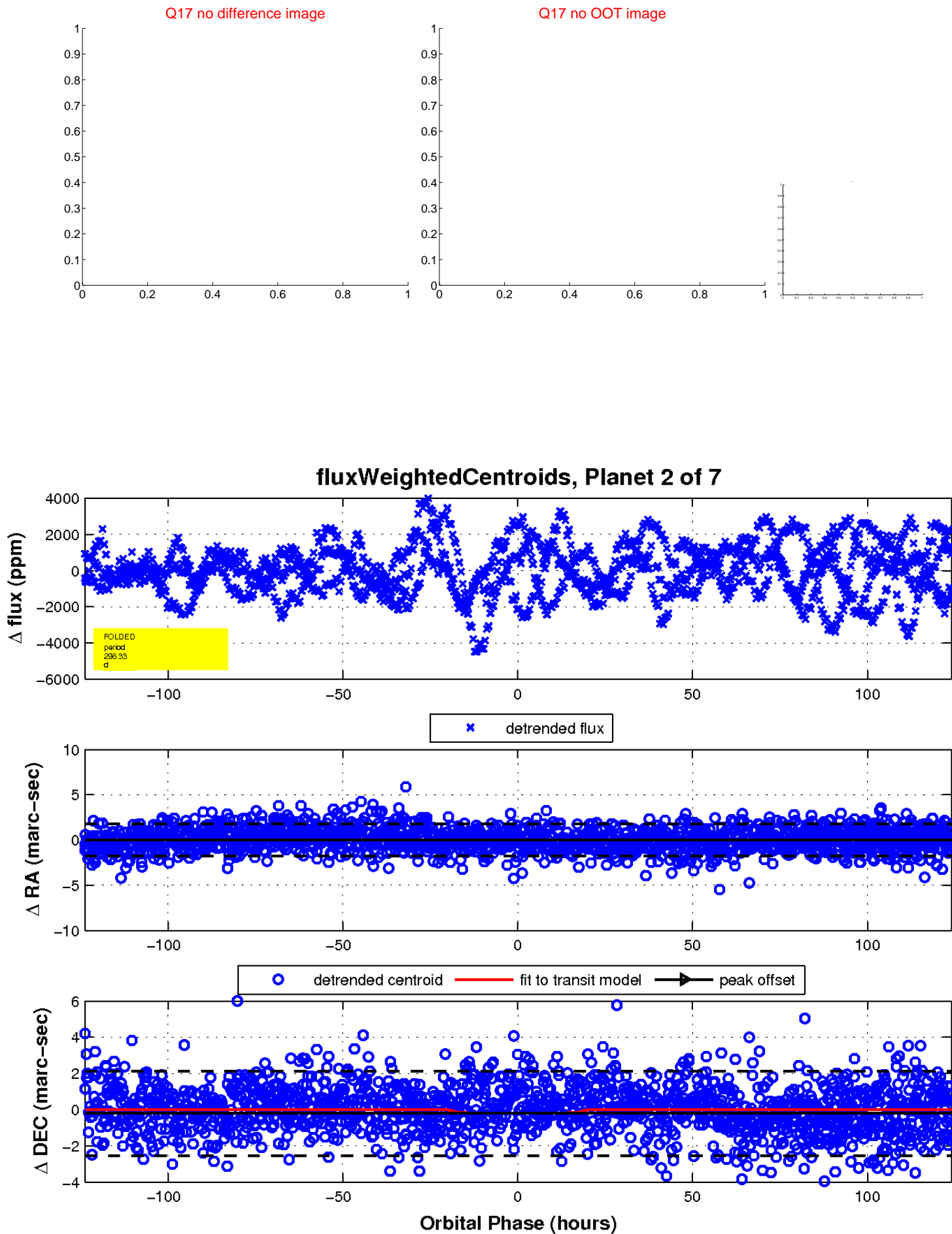
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

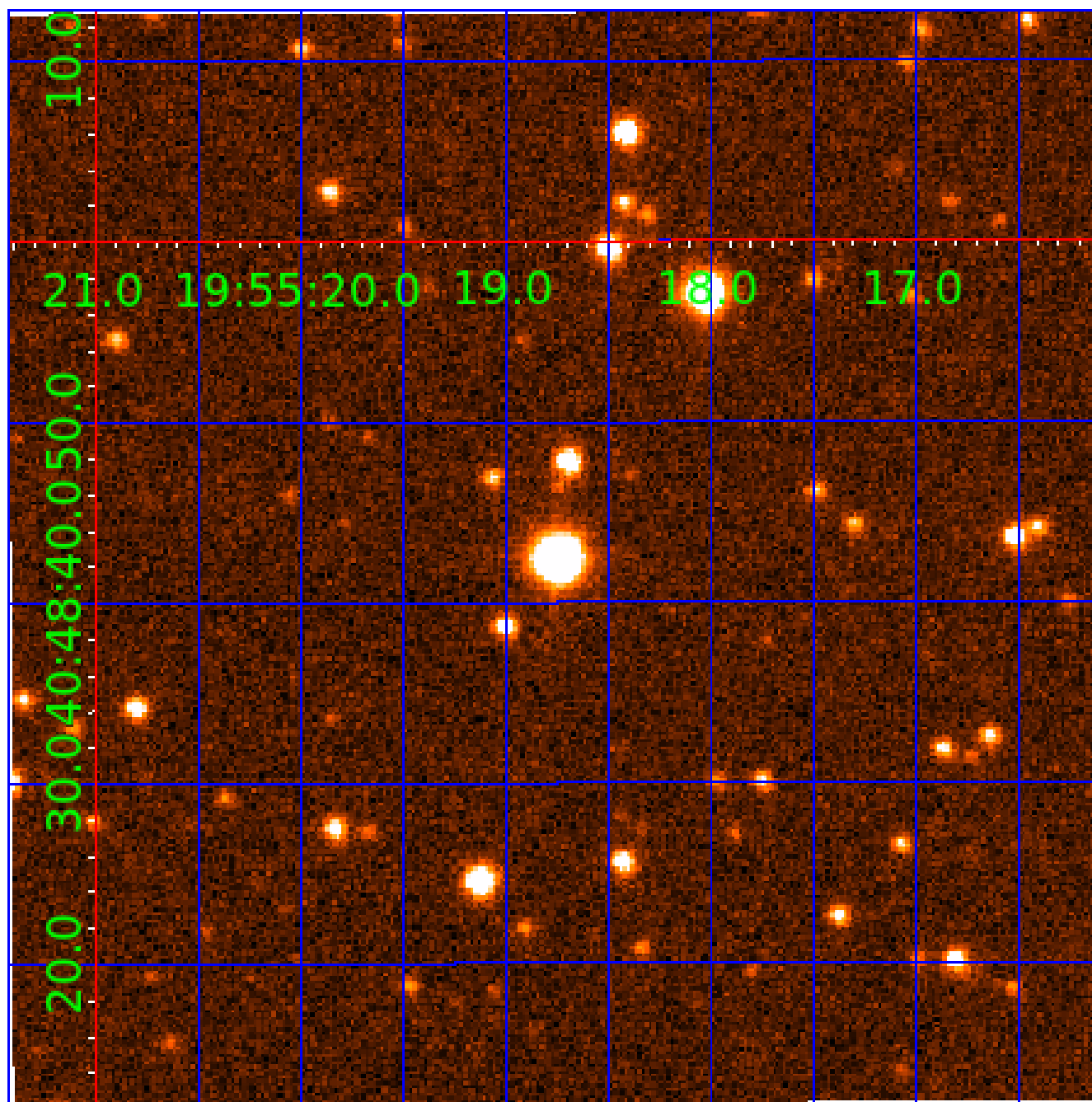


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005648562

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})
005648562-01	OBS	No	1.420629	132.452510	239.9	7.740	9.8	12.2	2.70	6842	7.54	16198.16
005648562-02	OBS	No	298.334488	426.486967	1653.9	41.343	11.4	4.8	2.70	6842	11.97	12.98
005648562-03	OBS	No	347.887166	268.447066	3020.8	9.883	8.7	7.8	2.70	6842	26.89	10.57
005648562-04	OBS	No	154.442774	279.472527	2424.5	7.448	8.3	8.5	2.70	6842	24.25	31.22
005648562-05	OBS	No	204.327394	167.551979	3727.4	12.330	7.5	8.9	2.70	6842	19.75	21.50
005648562-06	OBS	No	3.808446	134.675179	539.4	8.257	9.2	10.3	2.70	6842	11.41	4349.53
005648562-07	OBS	No	281.369834	157.050783	662.2	3.000	9.1	-1.0	2.70	6842	7.01	14.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005648562-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005648562-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005648562-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
005648562-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005648562-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005648562-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005648562-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

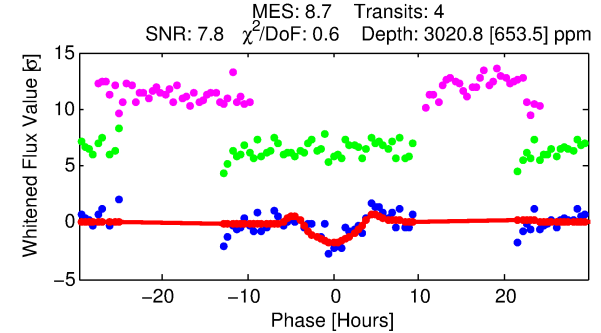
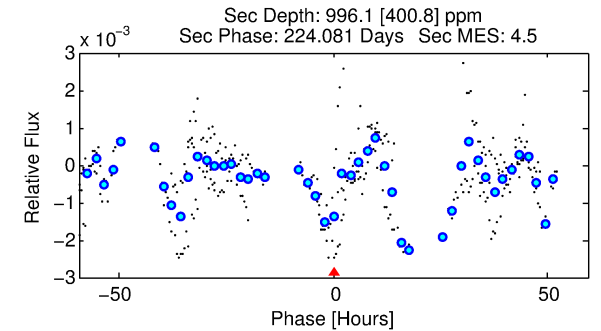
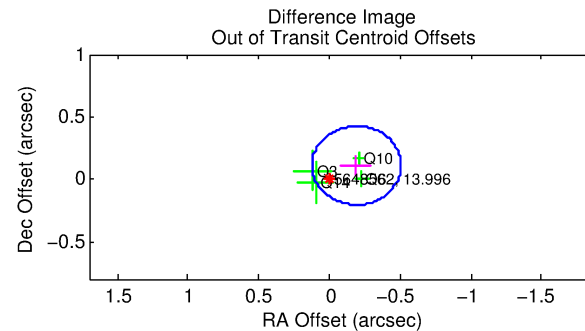
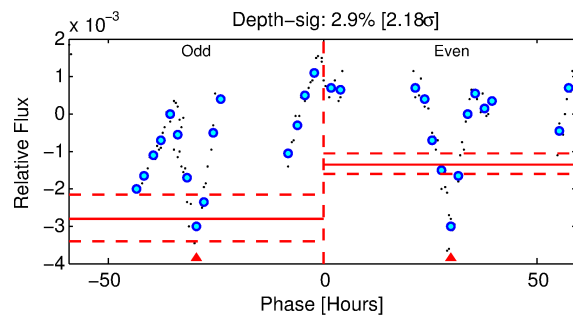
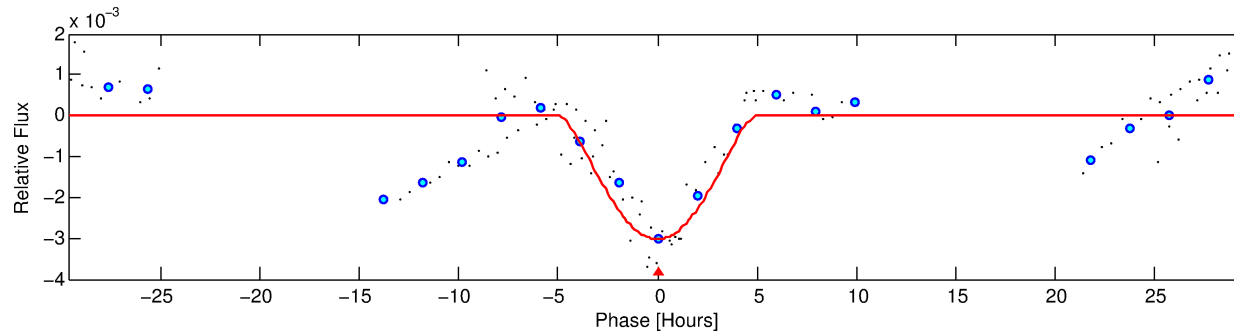
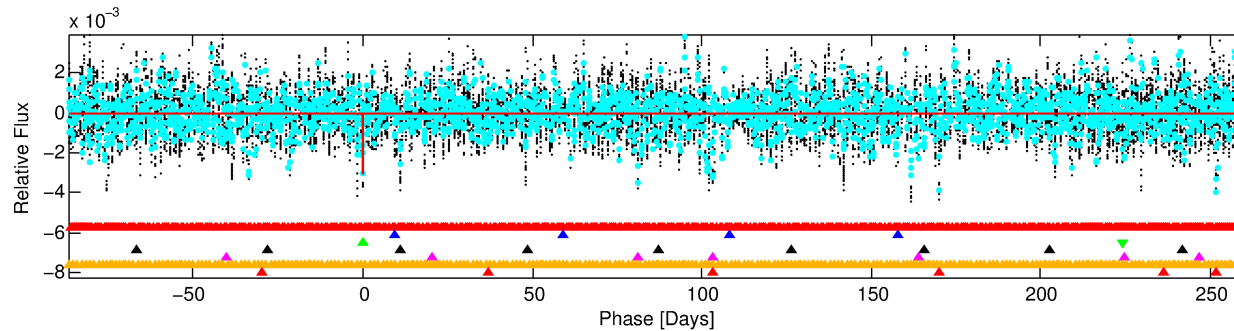
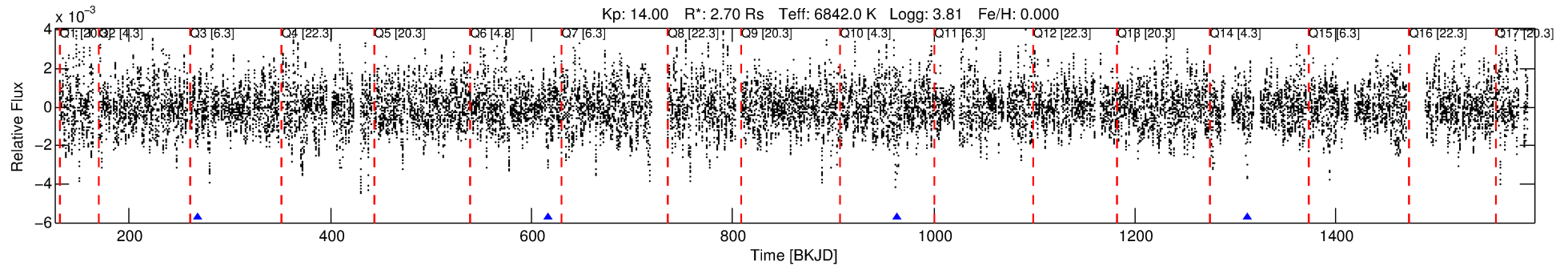
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005648562-03

No Significant Match Found

DV One-Page Summary

KIC: 5648562 Candidate: 3 of 7 Period: 347.887 d



DV Fit Results:

Period = 347.88717 [0.01090] d
Epoch = 268.4471 [0.0207] BKJD
Rp/R* = 0.0914 [0.1094]
a/R* = 117.62 [29.03]
b = 1.00 [0.15]
Seff = 10.57 [7.40]
Teq = 460 [80] K
Rp = 26.89 [34.52] Re
a = 1.1618 [0.4995] AU
Ag = 1022.76 [2576.70] [0.40 σ]
Teff = 4020 [2448] K [1.45 σ]

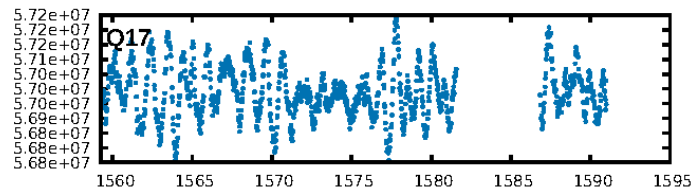
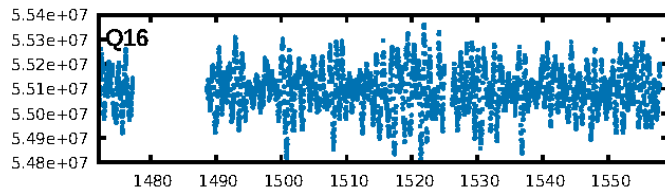
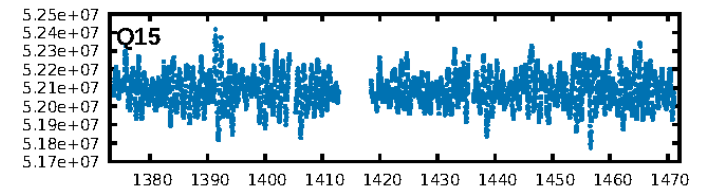
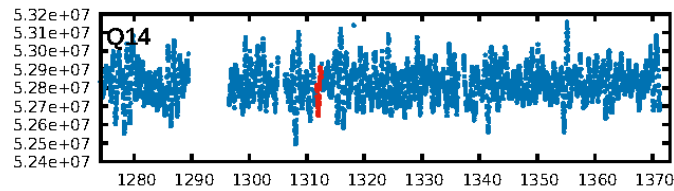
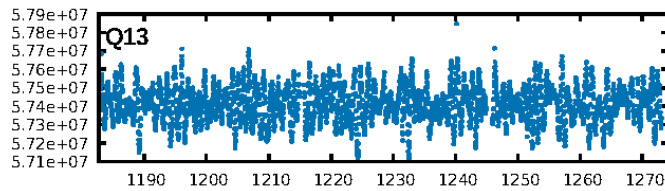
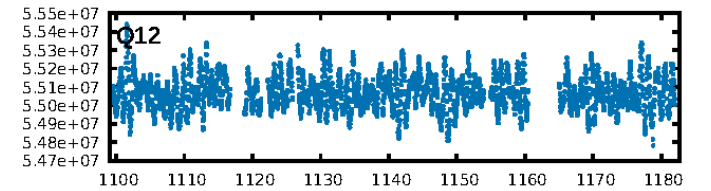
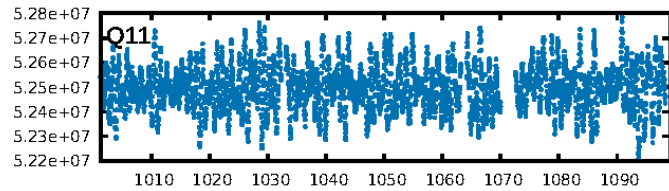
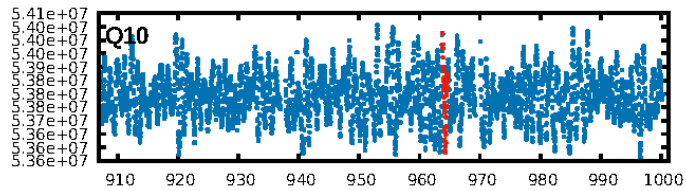
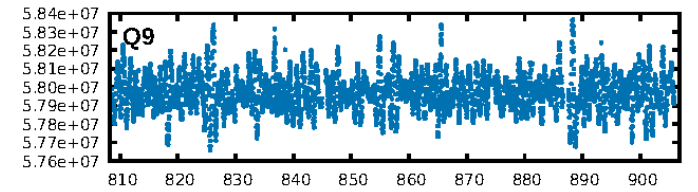
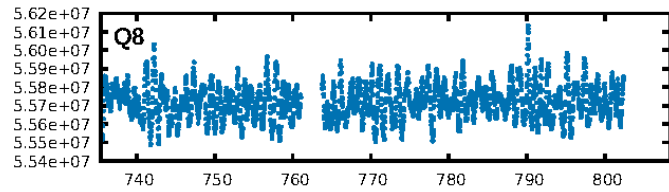
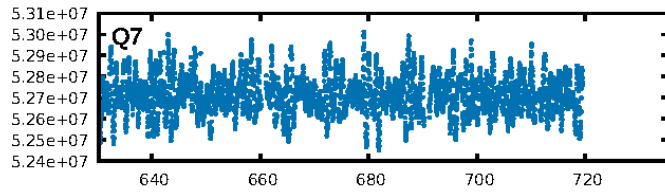
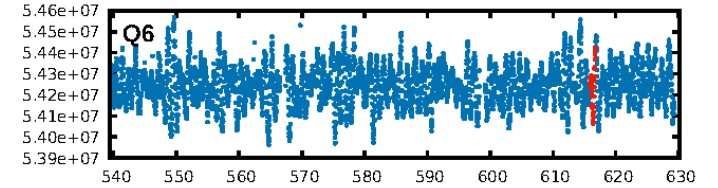
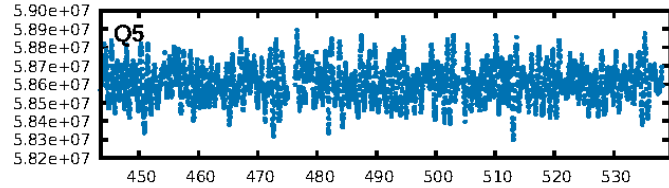
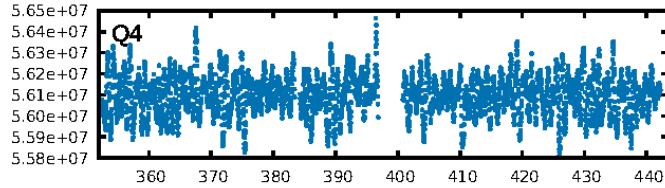
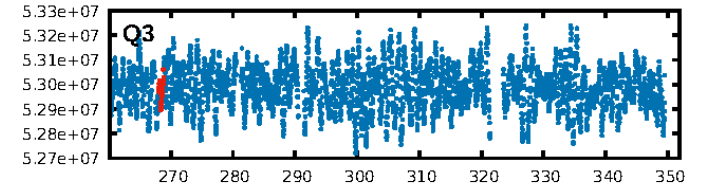
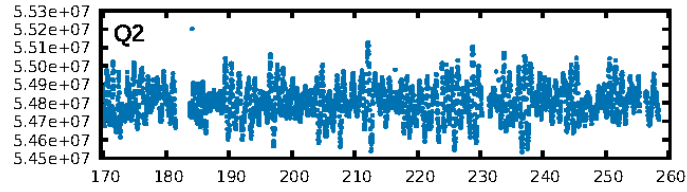
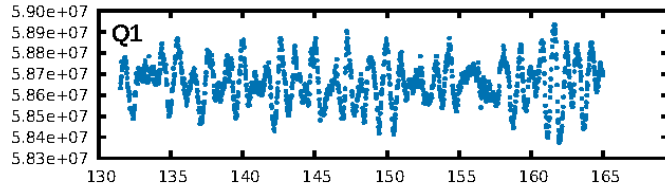
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.98 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.843
Centroid-sig: 78.3%
Centroid-so: 0.267 arcsec [1.02 σ]
OotOffset-rm: 0.220 arcsec [2.10 σ]
OotOffset-st: 3/1/0/0 [4]
KicOffset-rm: **0.352 arcsec [3.83 σ]**
KicOffset-st: 3/1/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.00 [0/4]

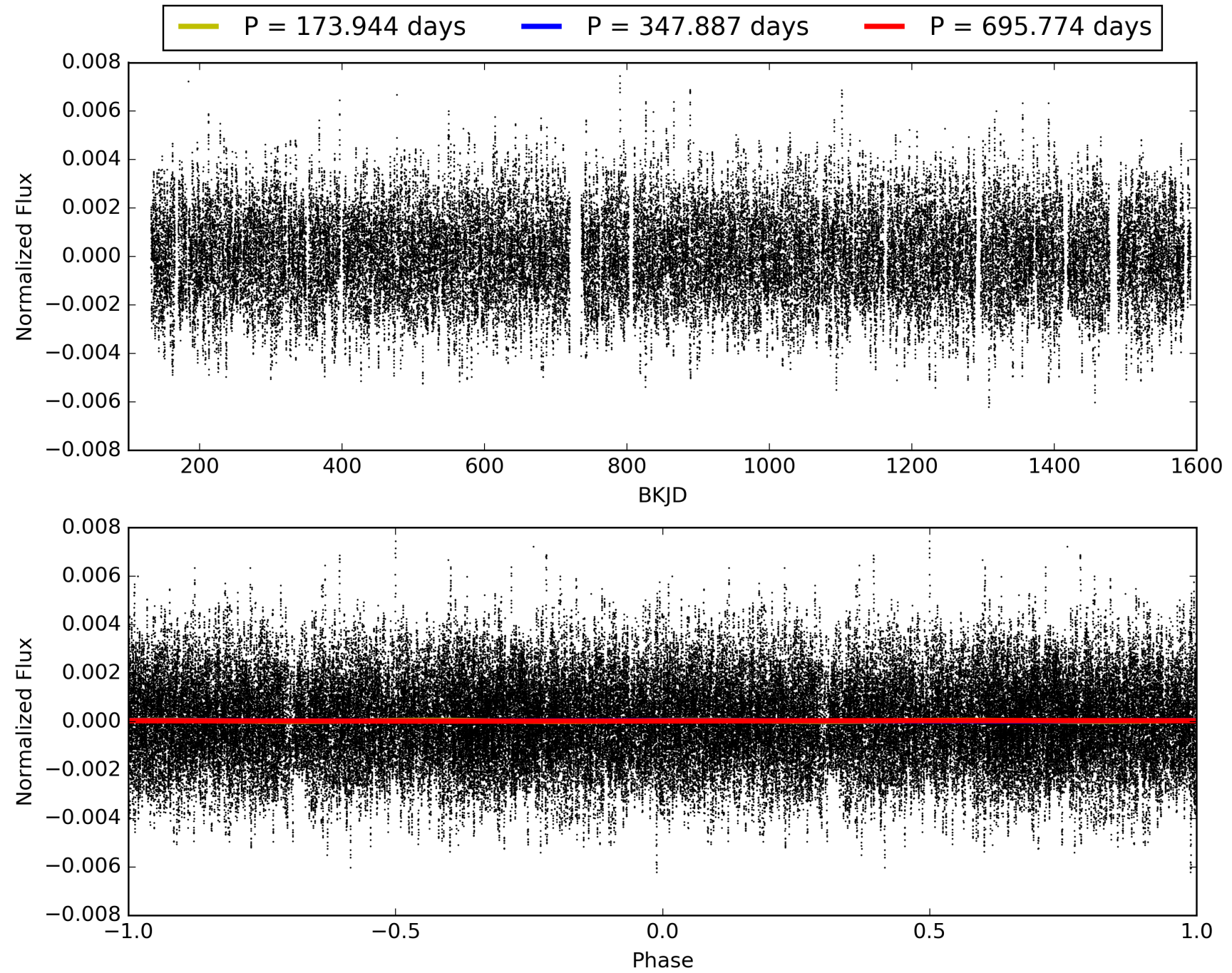
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:29:50 Z

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

TCE 005648562-03, PDC Light Curves

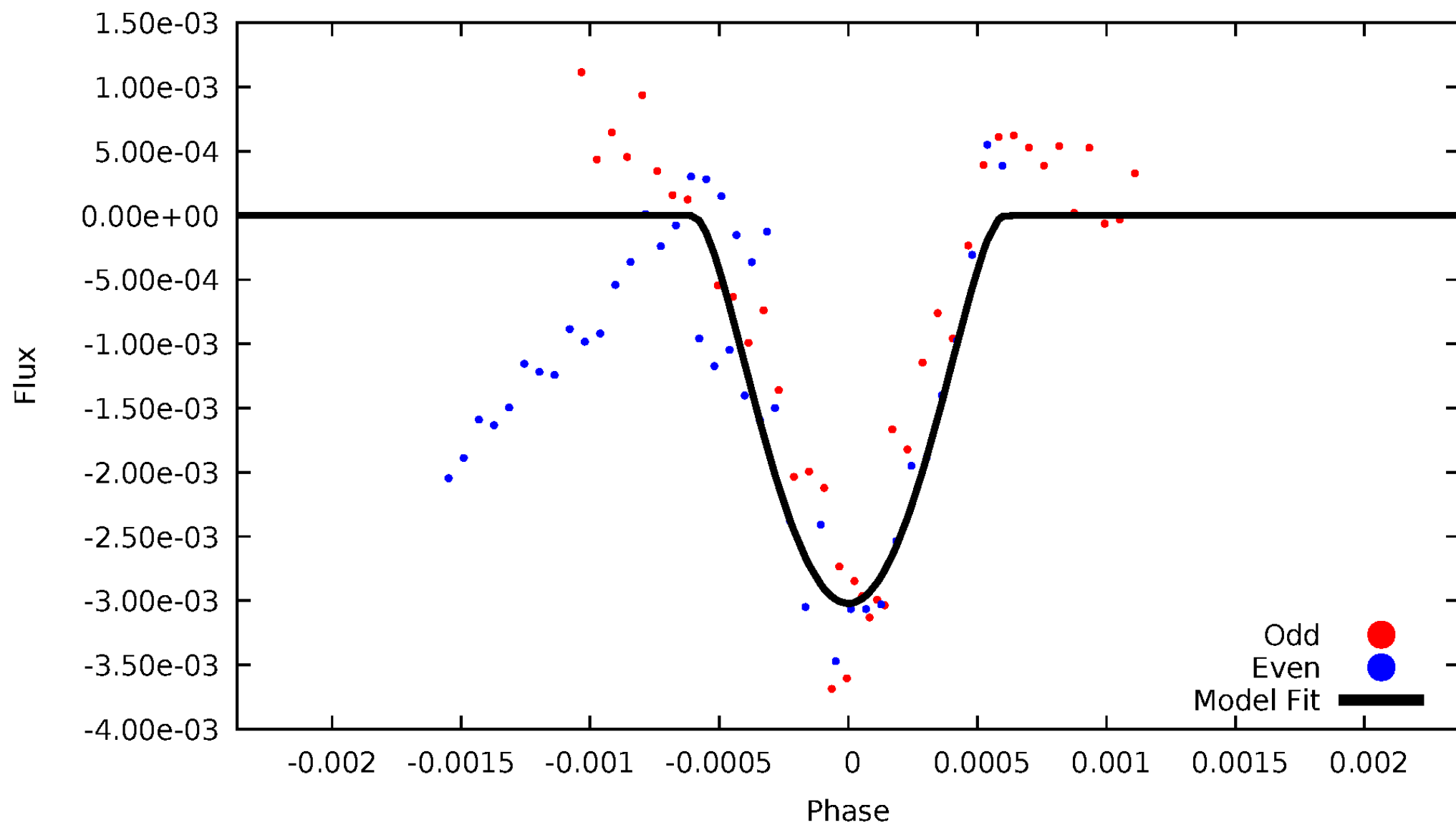


TCE 005648562-03



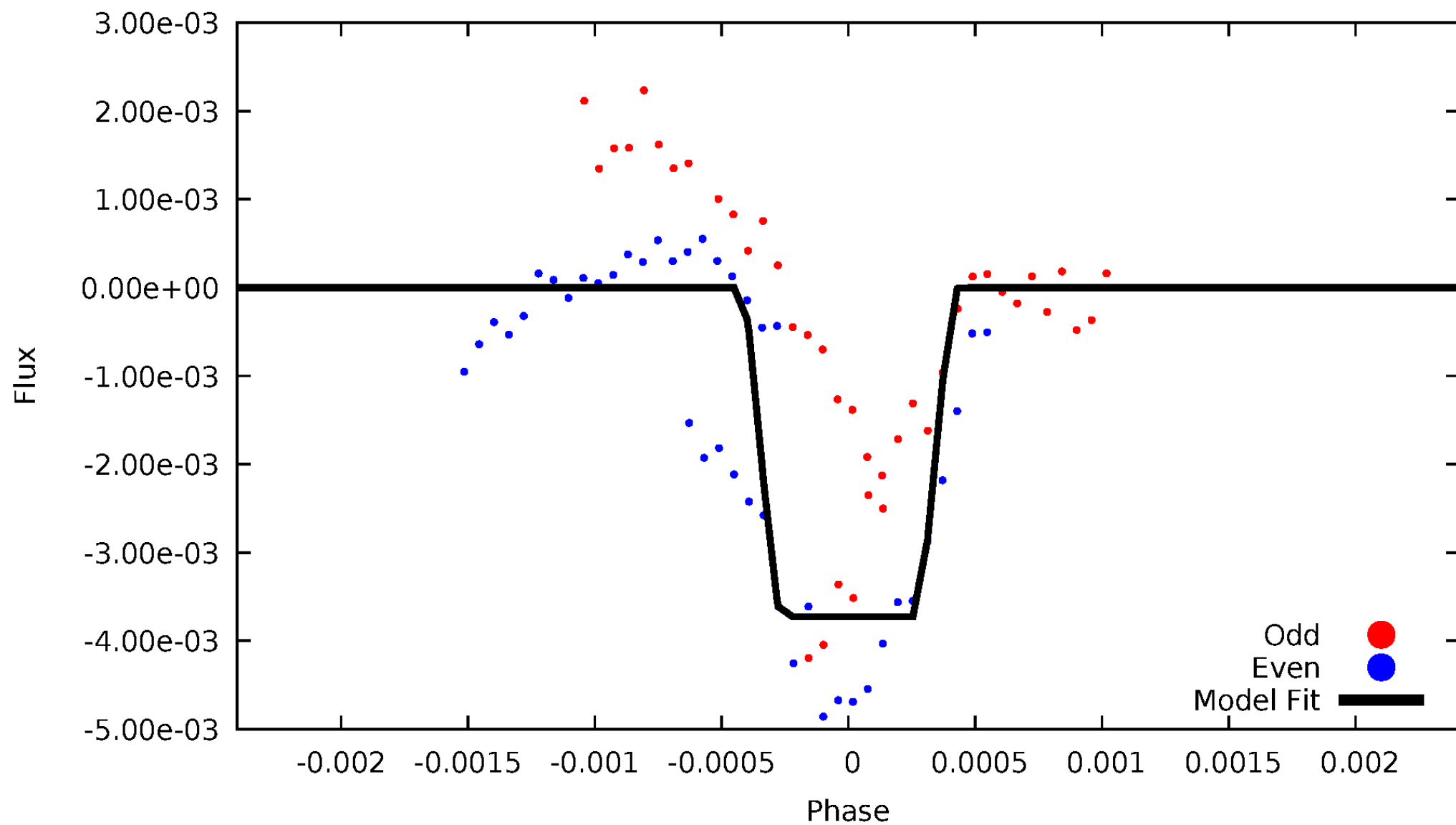
DV Odd/Even

TCE 005648562-03



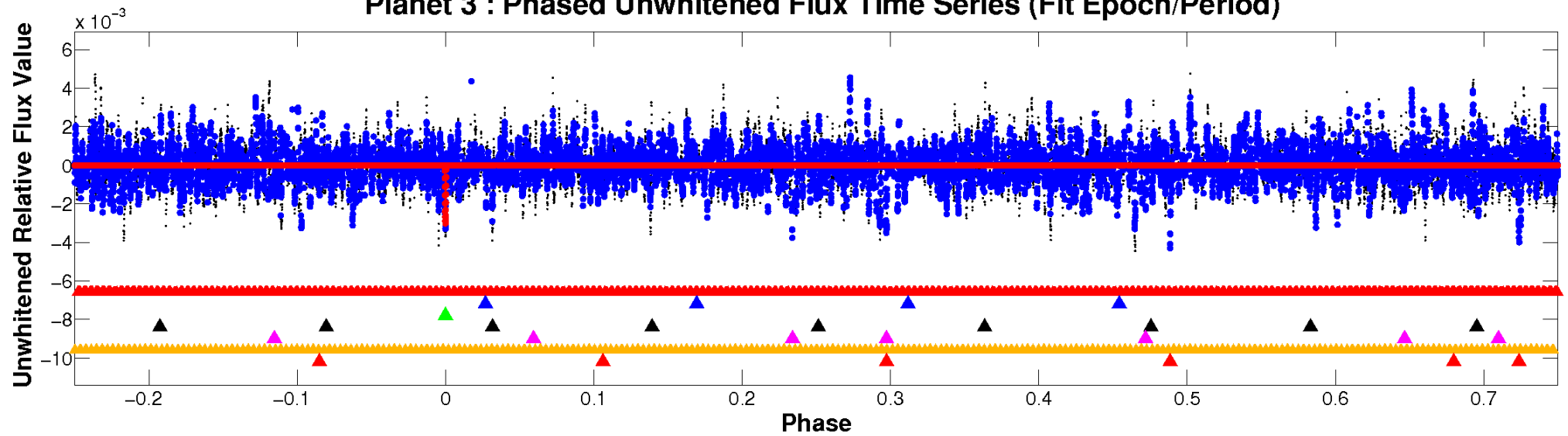
ALT Odd/Even

TCE 005648562-03

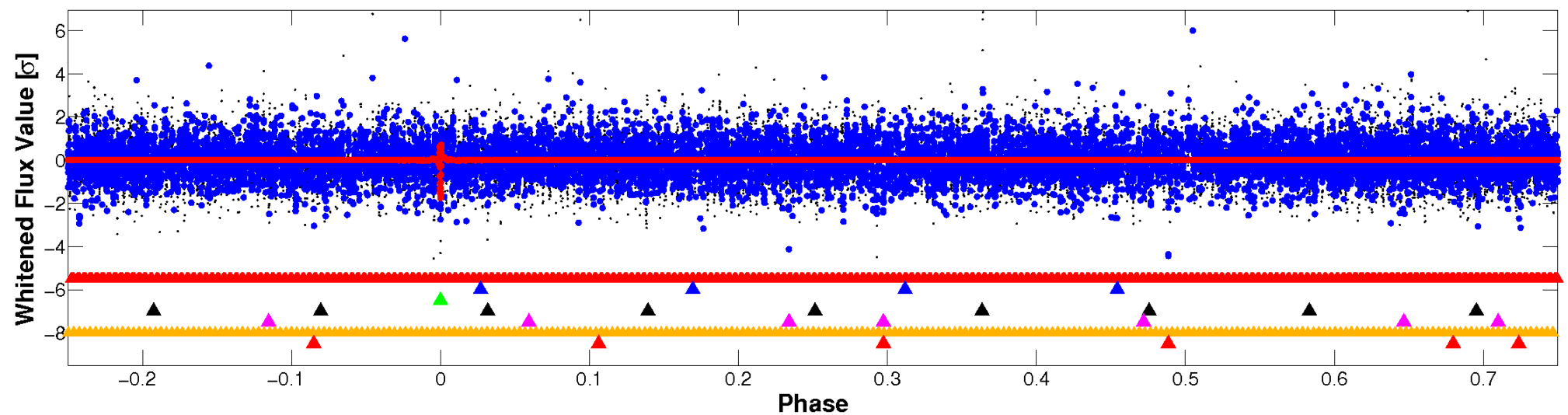


Non-Whitened Vs. Whitened Light Curve

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

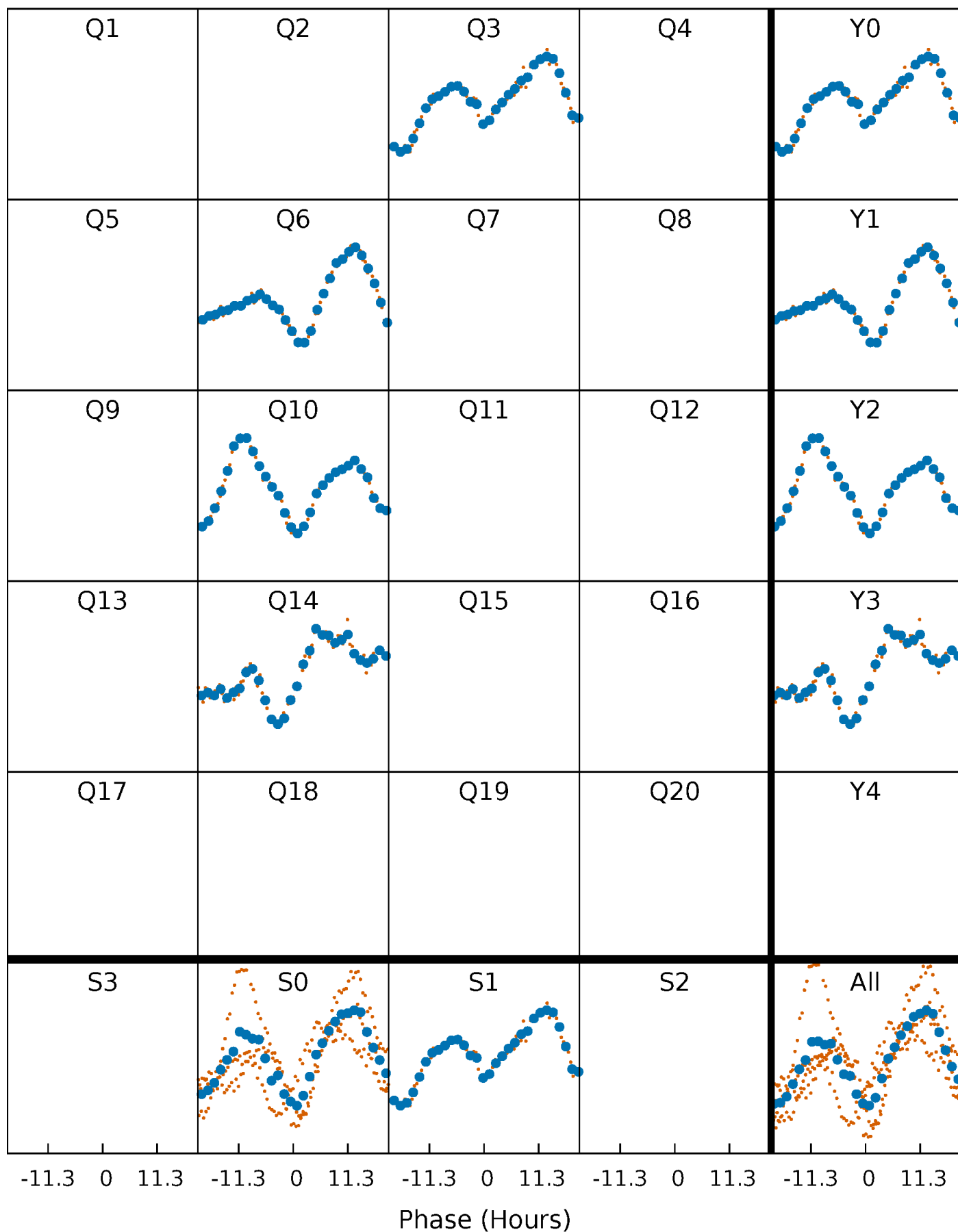


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



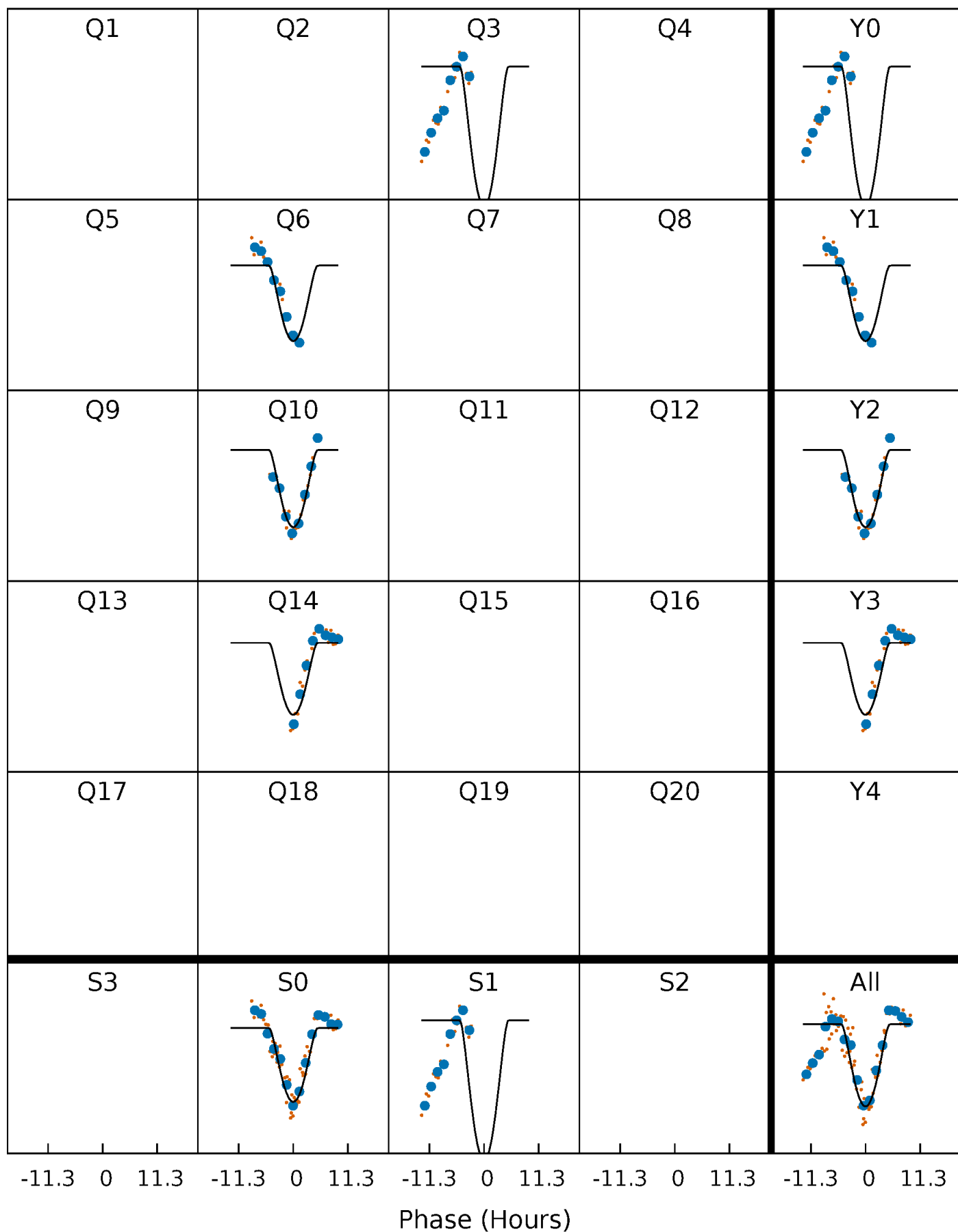
PDC Quarter-Phased Transit Curves

TCE 005648562-03 $P=347.887166$ Days $T_0=268.447066$ (BKJD)



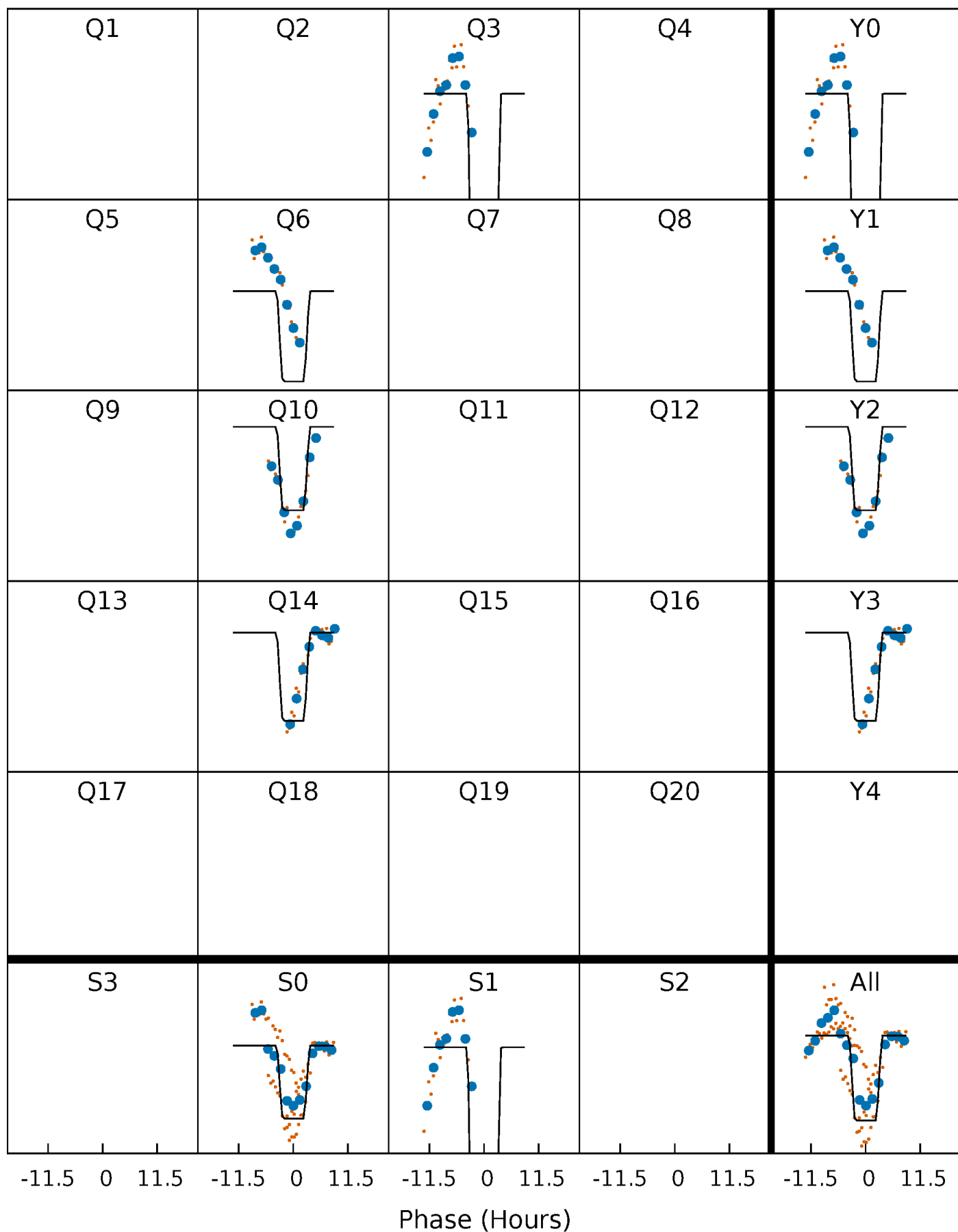
DV Quarter-Phased Transit Curves

TCE 005648562-03 P=347.887166 Days $T_0=268.447066$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

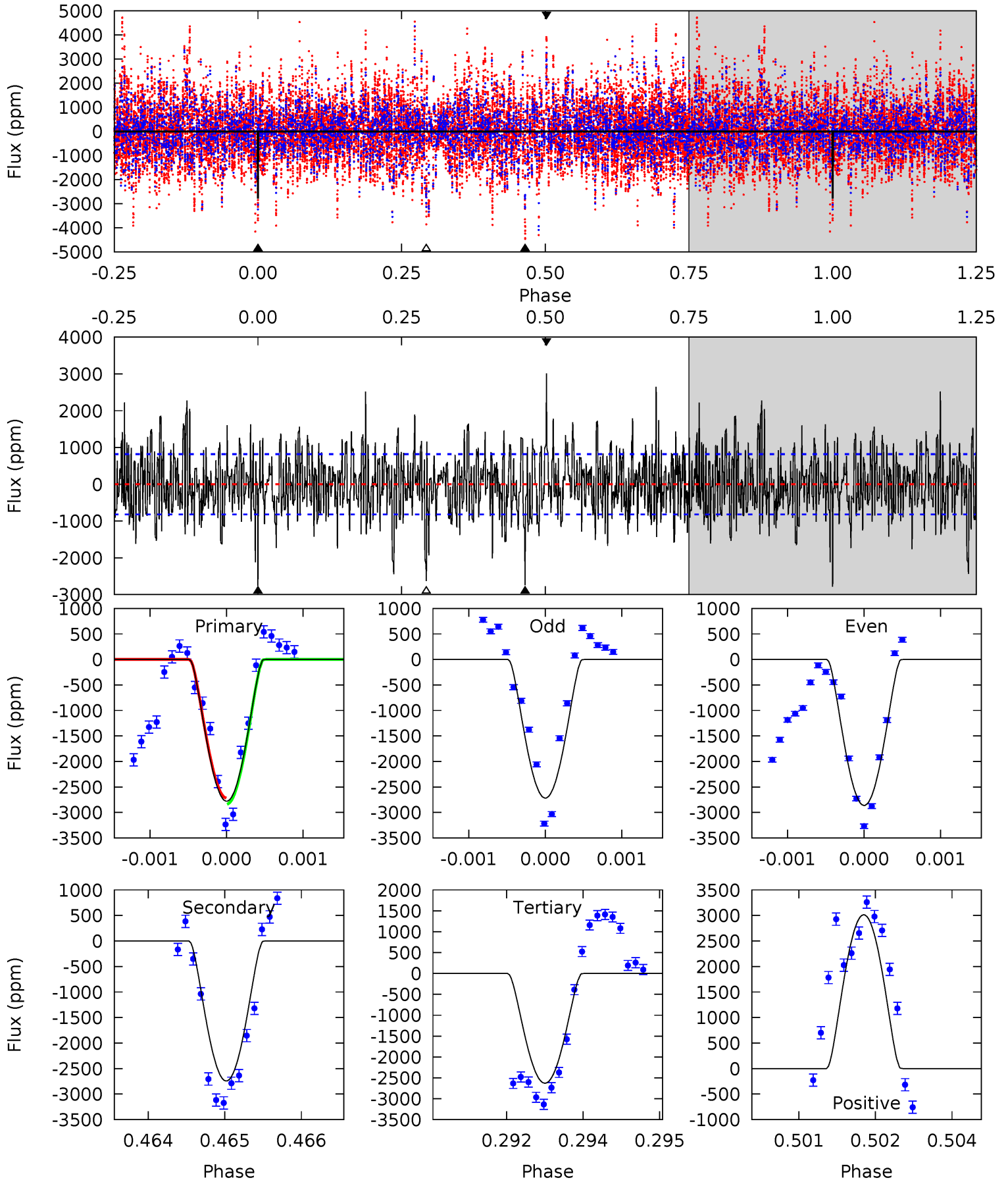
TCE 005648562-03 P=347.901792 Days $T_0=268.435136$ (BKJD)



DV Model-Shift Uniqueness Test

005648562-03, P = 347.887166 Days, E = 268.447066 Days

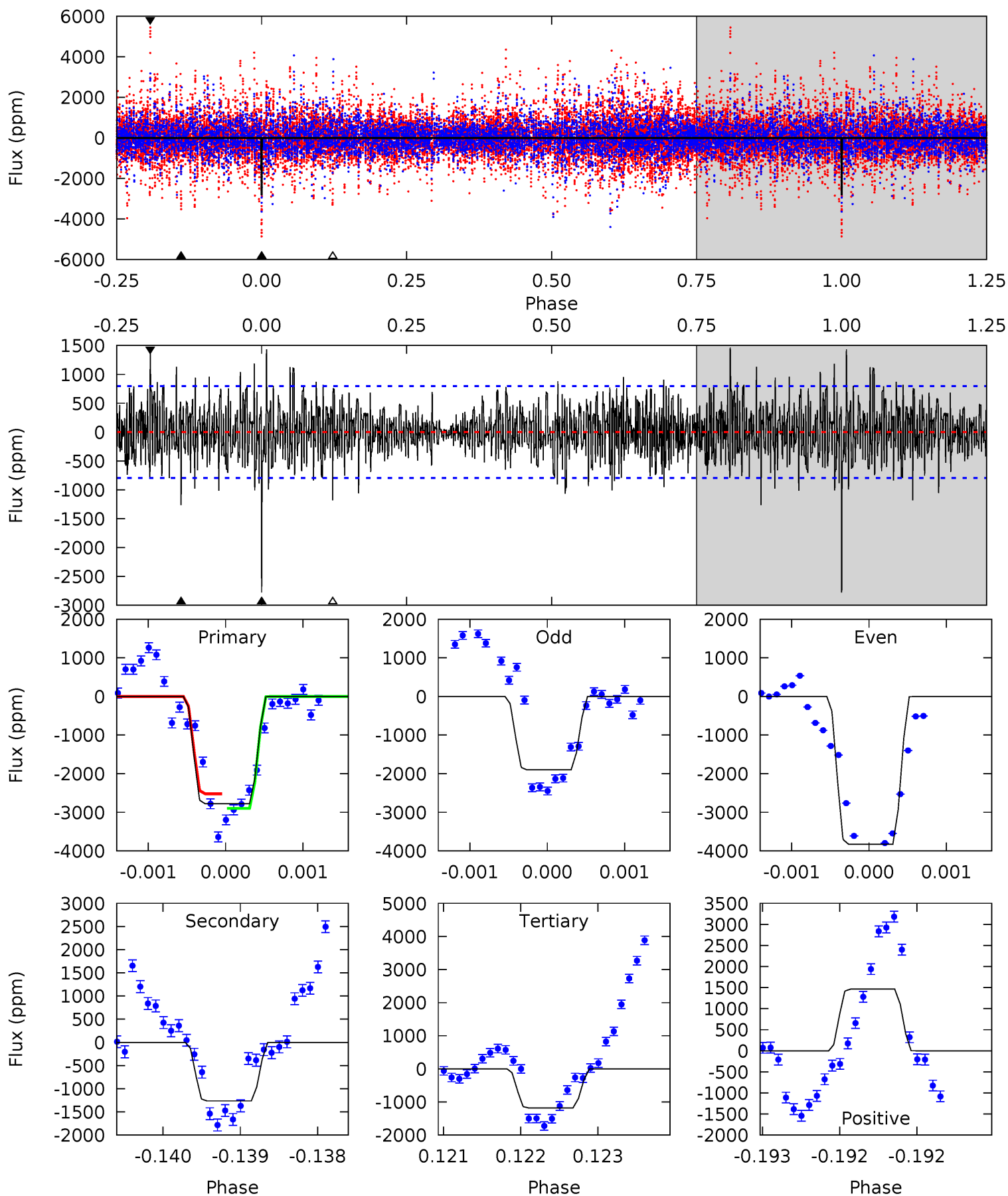
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.3	18.1	17.4	19.9	5.41	3.23	4.49	1.00	-1.55	0.76	-1.78	0.48	0.81	0.52	0.40



Alt Model-Shift Uniqueness Test

005648562-03, P = 347.901792 Days, E = 268.435136 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	8.70	8.13	10.1	5.49	3.34	2.30	11.0	9.06	0.58	-1.38	6.60	1.13	0.34	1.33



Stellar Parameters For KIC 005648562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+218}_{-327}	$3.814^{+0.390}_{-0.130}$	$0.000^{+0.250}_{-0.300}$	$2.696^{+0.535}_{-1.248}$	$1.728^{+0.164}_{-0.460}$	$0.124^{+0.472}_{-0.039}$
	+3%/-5%	+10%/-3%	+inf%/-inf%	+20%/-46%	+9%/-27%	+380%/-32%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005648562-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2743 ± 151	$32.26^{+29.35}_{-21.16}$	629^{+51}_{-71}	4618^{+3037}_{-925}	1921^{+15565}_{-1404}
Alt.	-1263 ± 145	$28.18^{+25.50}_{-19.53}$	626^{+51}_{-68}	4215^{+3052}_{-843}	1143^{+10919}_{-819}

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 $A_{obs} \gg 1.0$

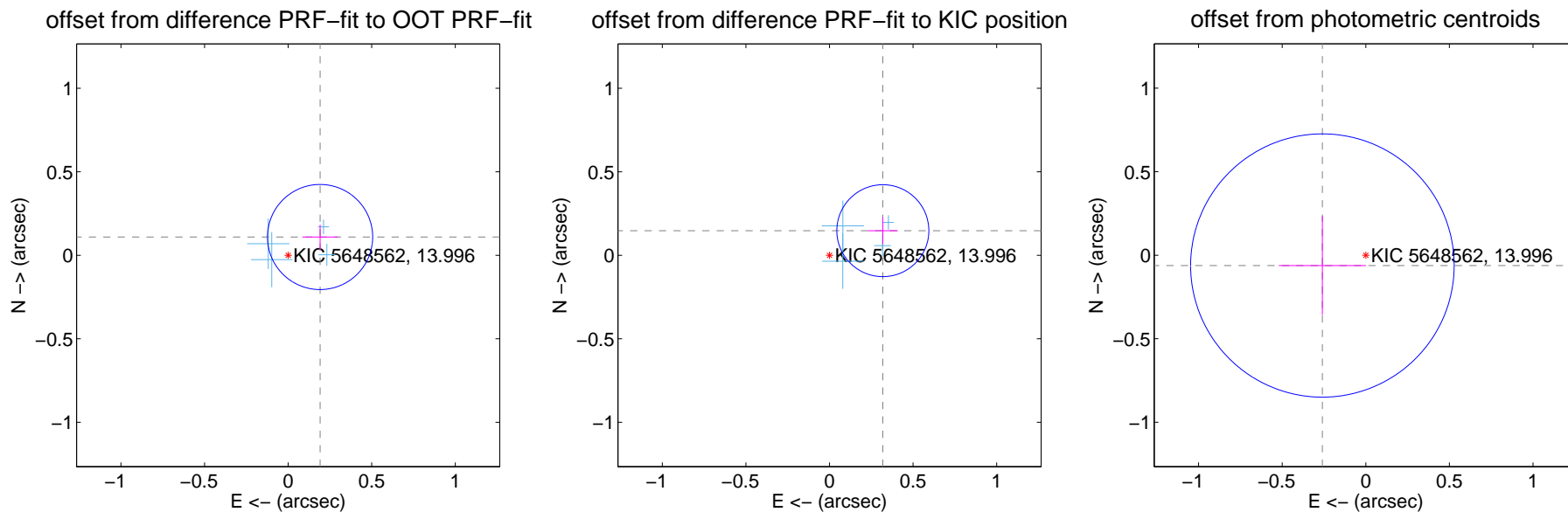
DV Centroid Data

Supplemental centroid analysis for 005648562-03. Kepler magnitude: 14.00. Transit SNR 7.83

There are 4 quarters with good PRF difference image offsets

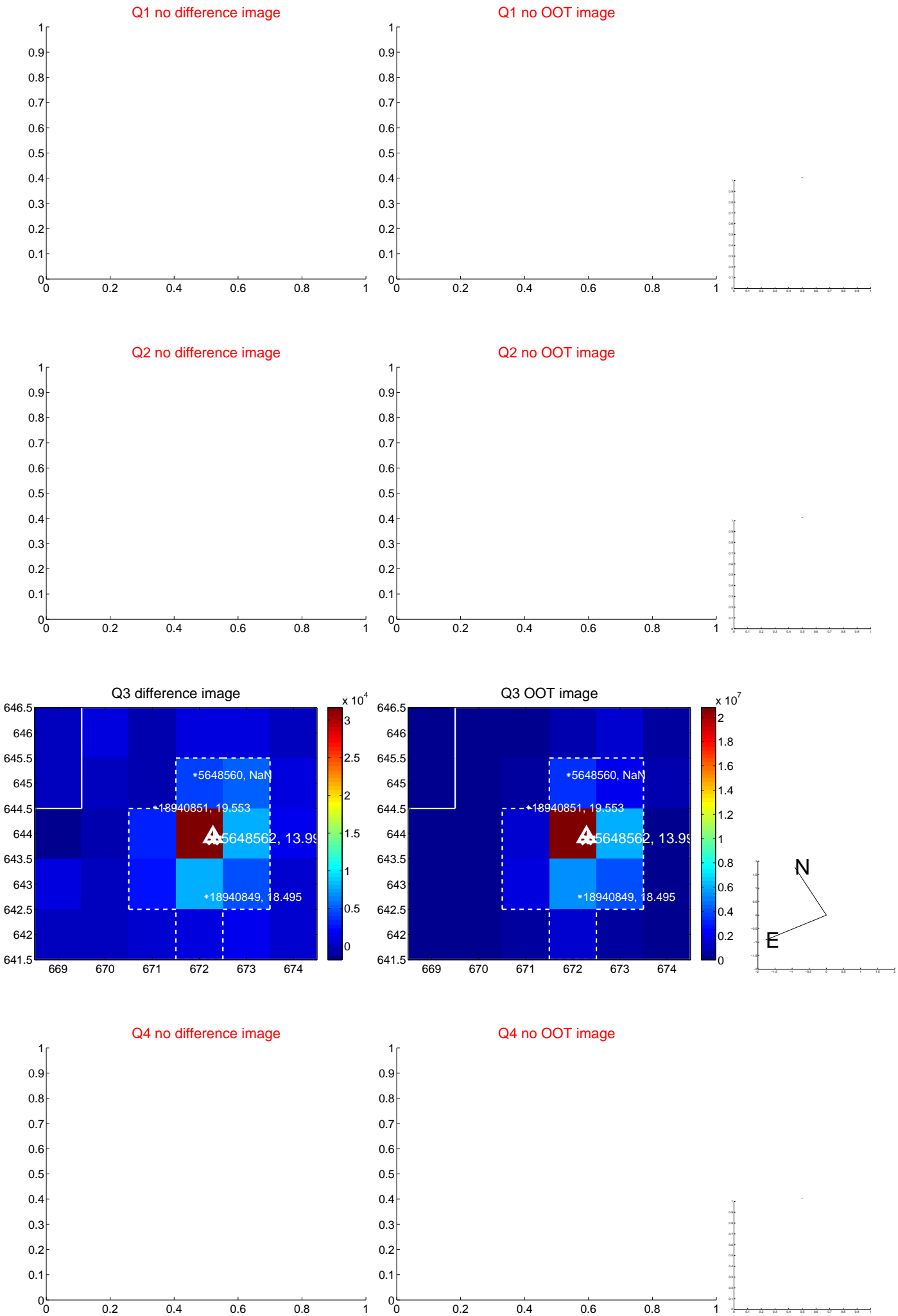
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.220 ± 0.105	2.10	-0.191 ± 0.106	0.109 ± 0.074
PRF-fit source offset from KIC position	0.352 ± 0.092	3.83	-0.319 ± 0.089	0.147 ± 0.080
photometric centroid source offset	0.27 ± 0.26	1.02	0.26 ± 0.26	-0.06 ± 0.30

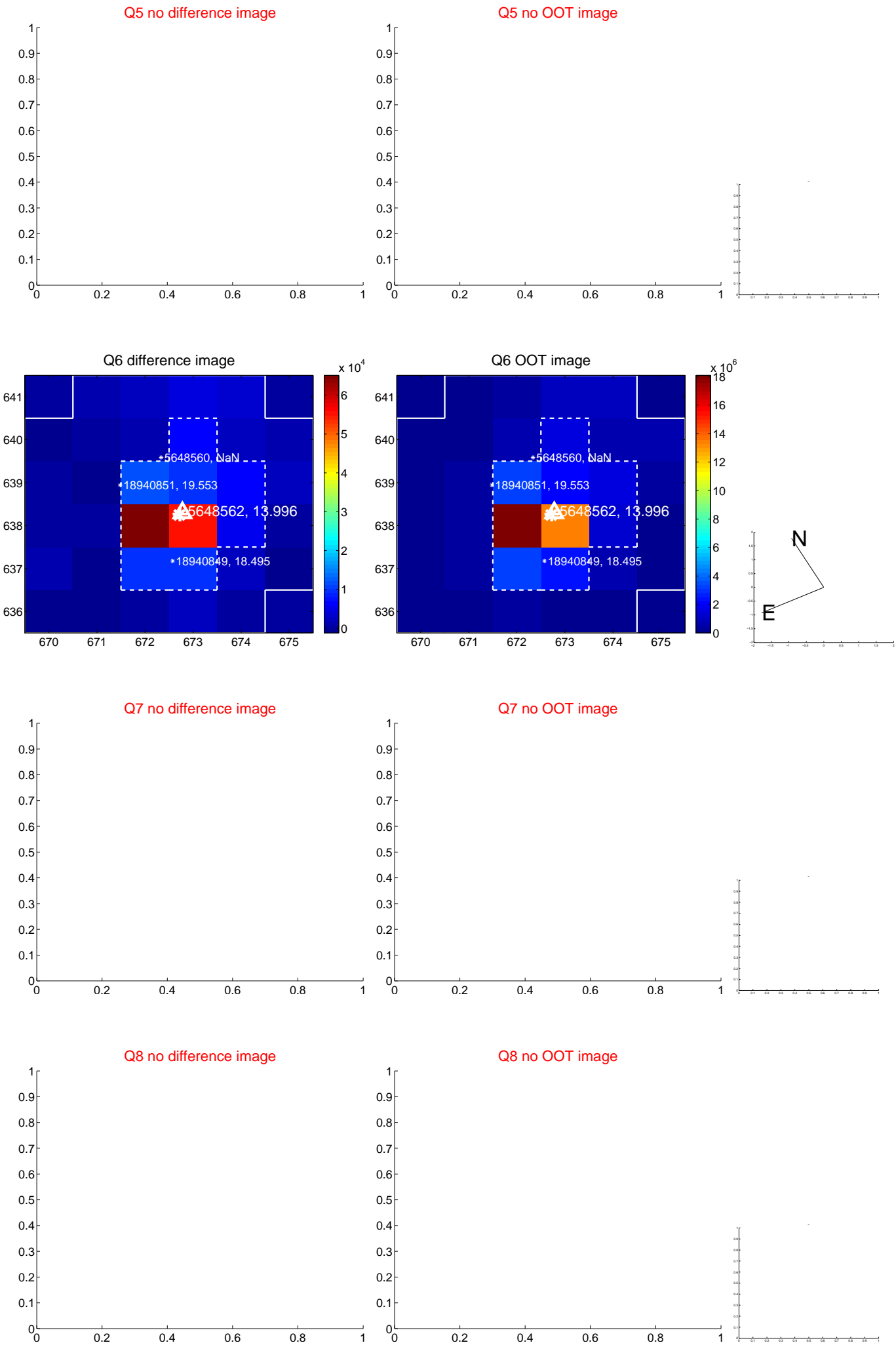


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

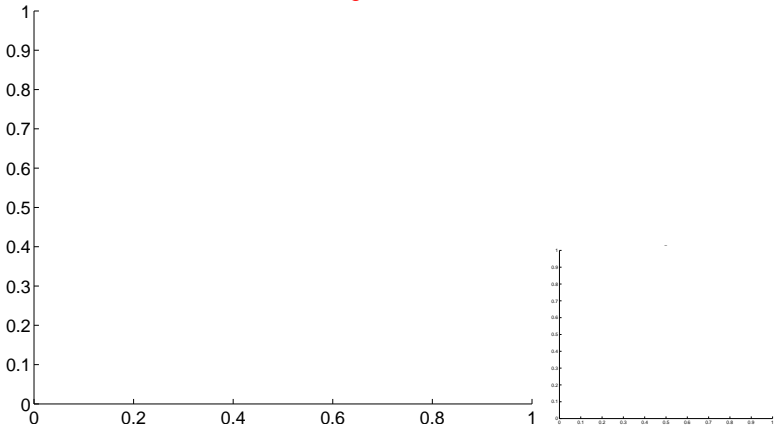


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

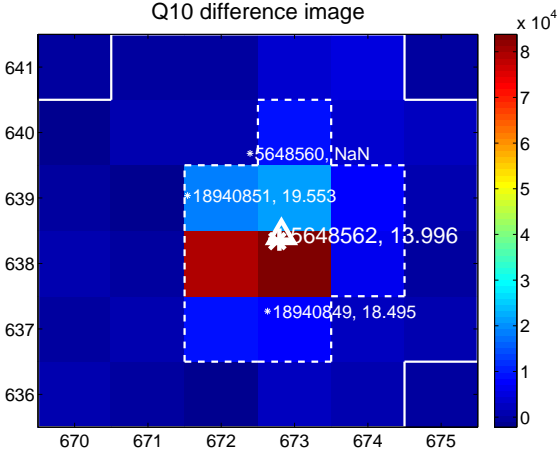
Q9 no difference image



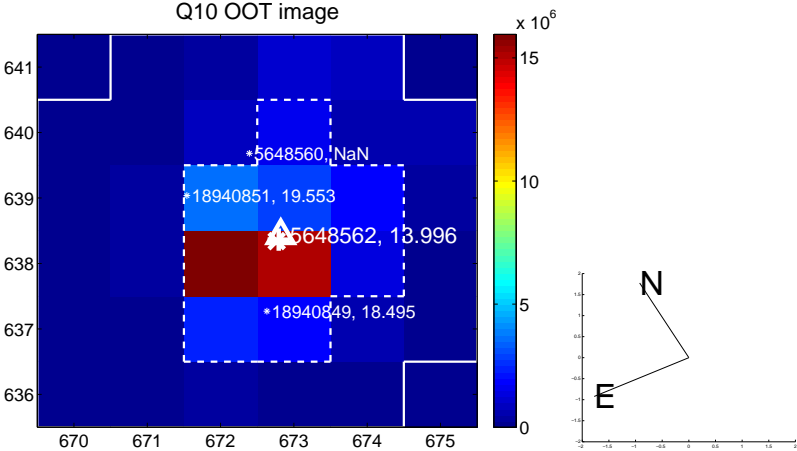
Q9 no OOT image



Q10 difference image



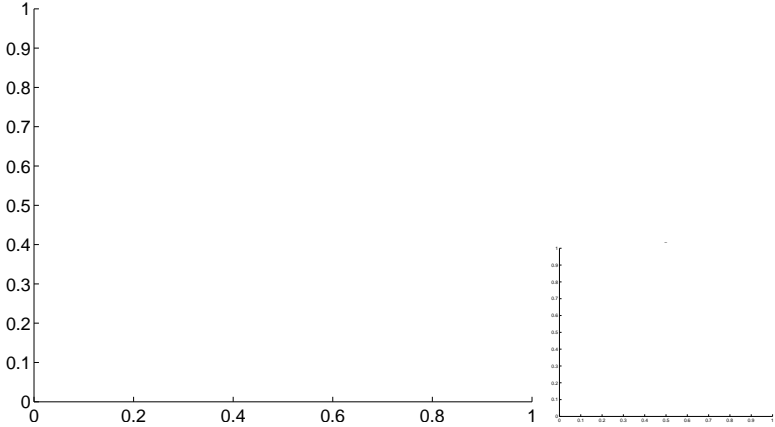
Q10 OOT image



Q11 no difference image



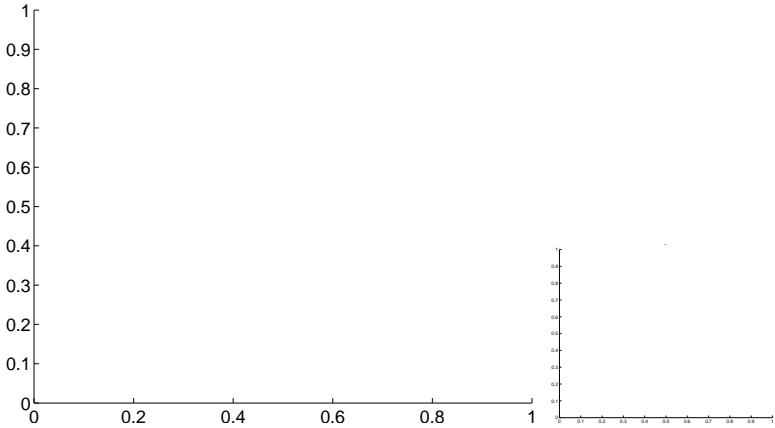
Q11 no OOT image



Q12 no difference image

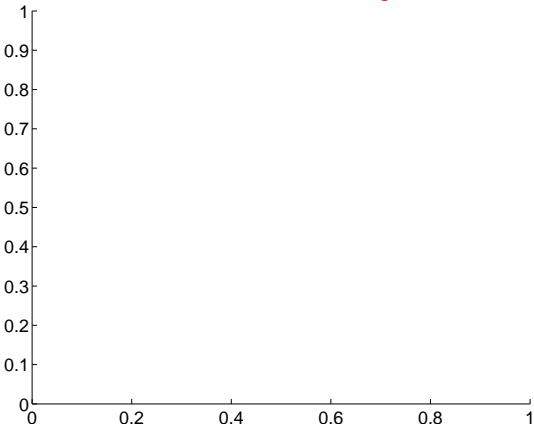


Q12 no OOT image

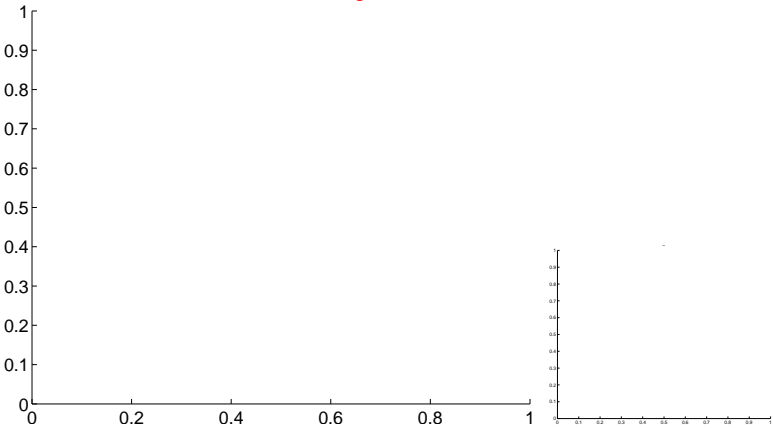


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

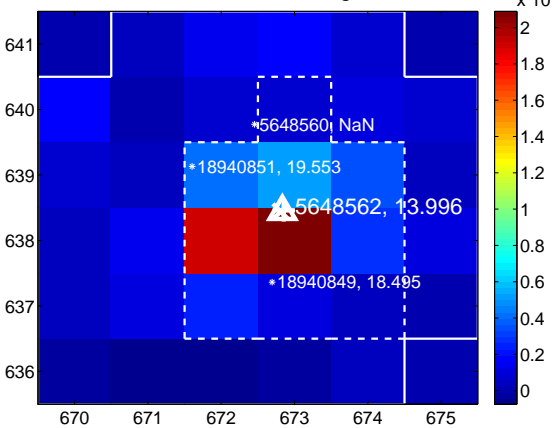
Q13 no difference image



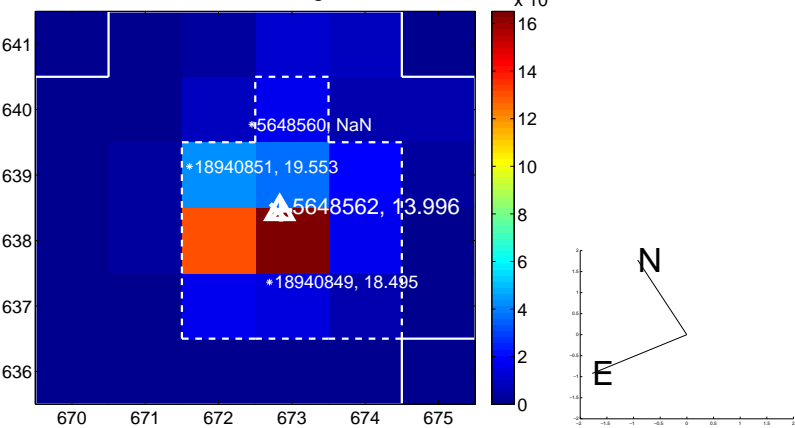
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



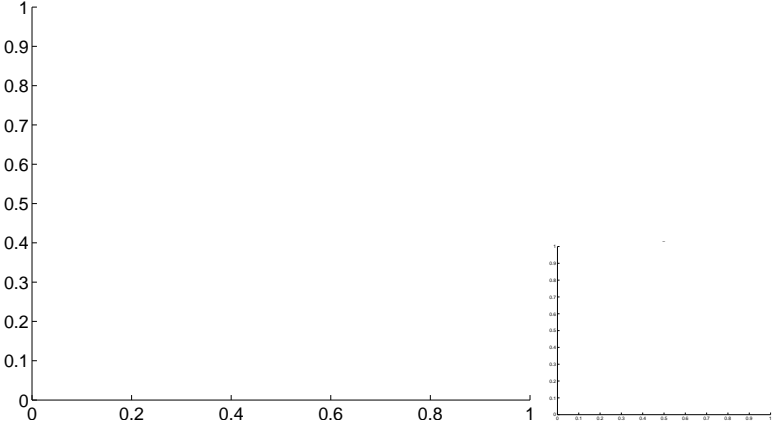
Q15 no OOT image



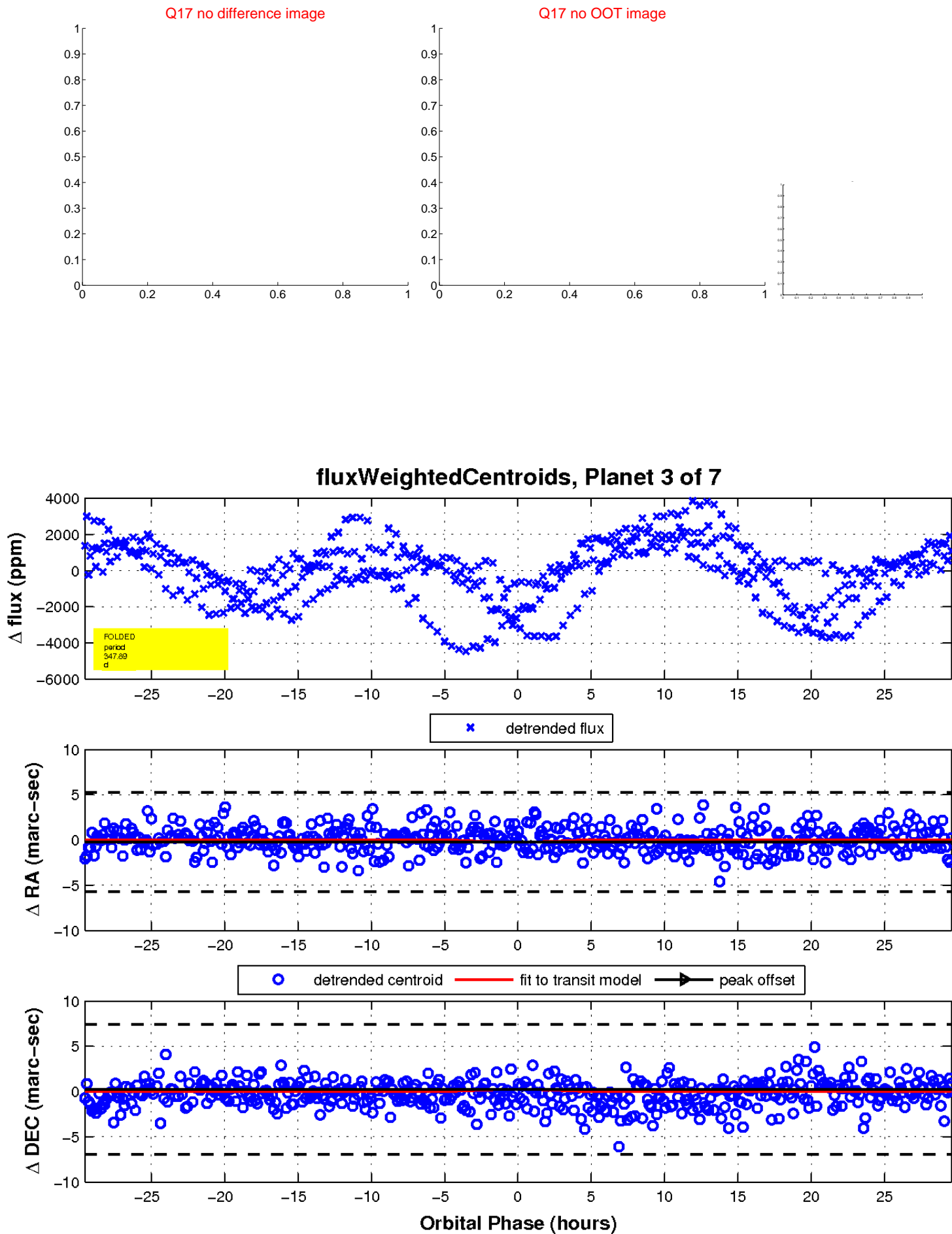
Q16 no difference image



Q16 no OOT image

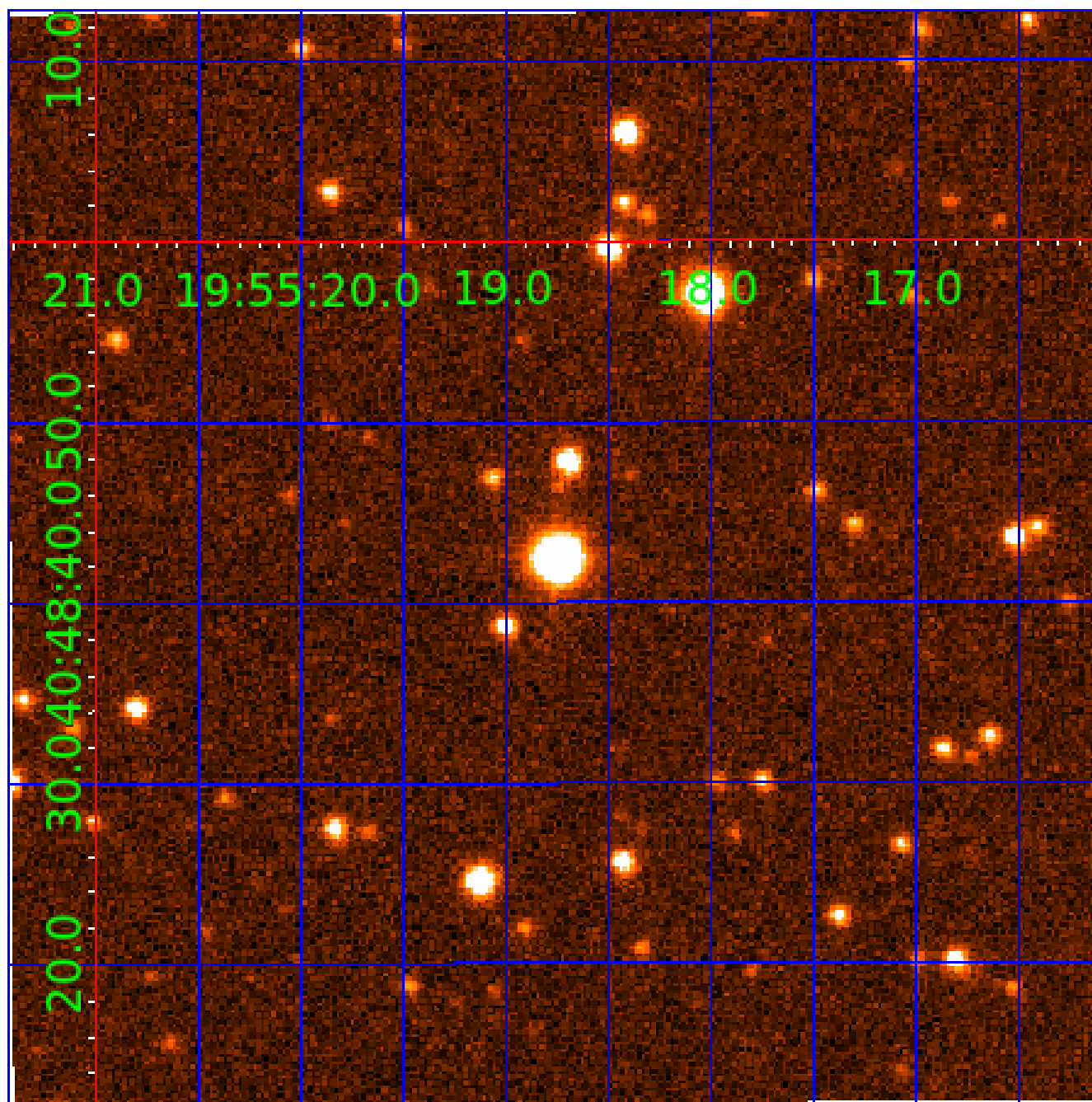


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005648562

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})
005648562-01	OBS	No	1.420629	132.452510	239.9	7.740	9.8	12.2	2.70	6842	7.54	16198.16
005648562-02	OBS	No	298.334488	426.486967	1653.9	41.343	11.4	4.8	2.70	6842	11.97	12.98
005648562-03	OBS	No	347.887166	268.447066	3020.8	9.883	8.7	7.8	2.70	6842	26.89	10.57
005648562-04	OBS	No	154.442774	279.472527	2424.5	7.448	8.3	8.5	2.70	6842	24.25	31.22
005648562-05	OBS	No	204.327394	167.551979	3727.4	12.330	7.5	8.9	2.70	6842	19.75	21.50
005648562-06	OBS	No	3.808446	134.675179	539.4	8.257	9.2	10.3	2.70	6842	11.41	4349.53
005648562-07	OBS	No	281.369834	157.050783	662.2	3.000	9.1	-1.0	2.70	6842	7.01	14.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005648562-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005648562-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005648562-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
005648562-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005648562-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005648562-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005648562-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

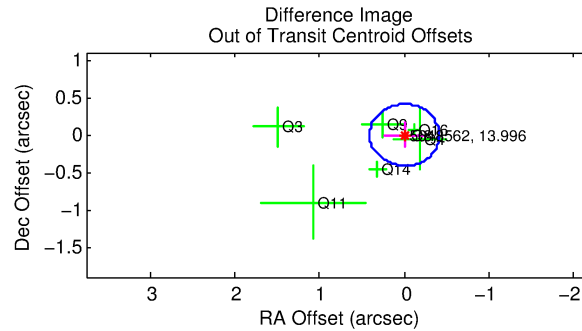
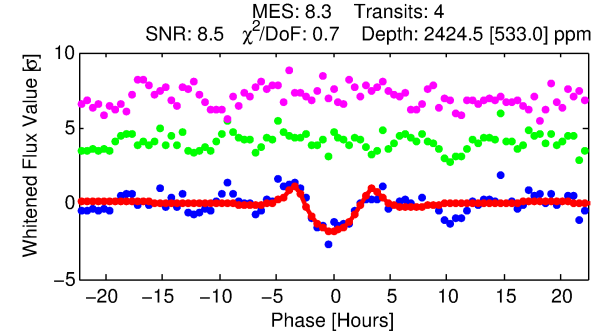
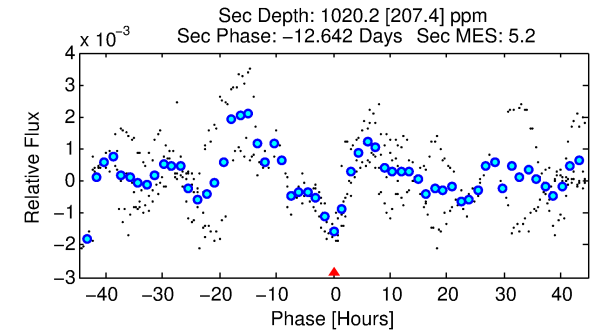
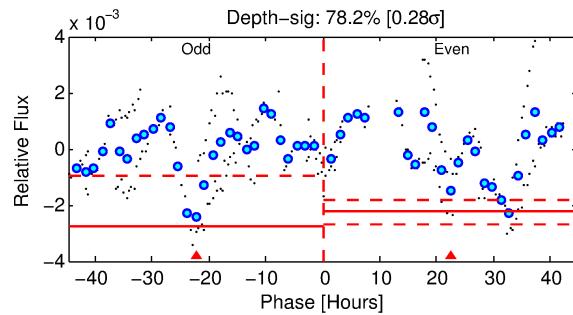
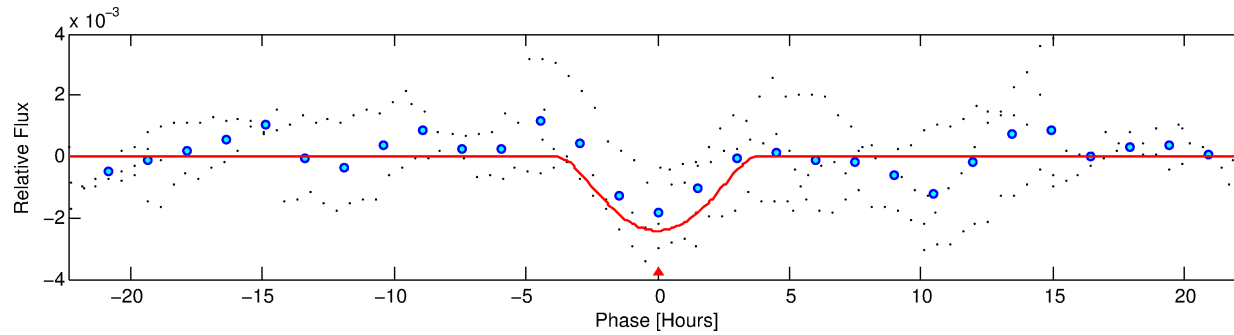
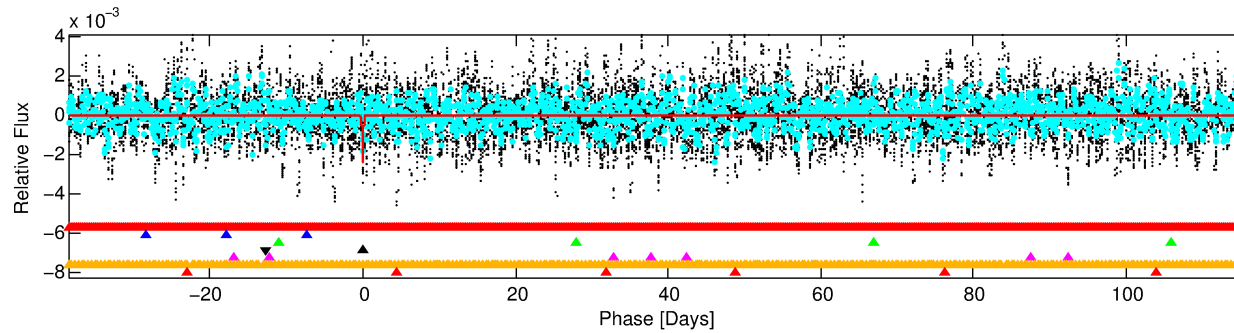
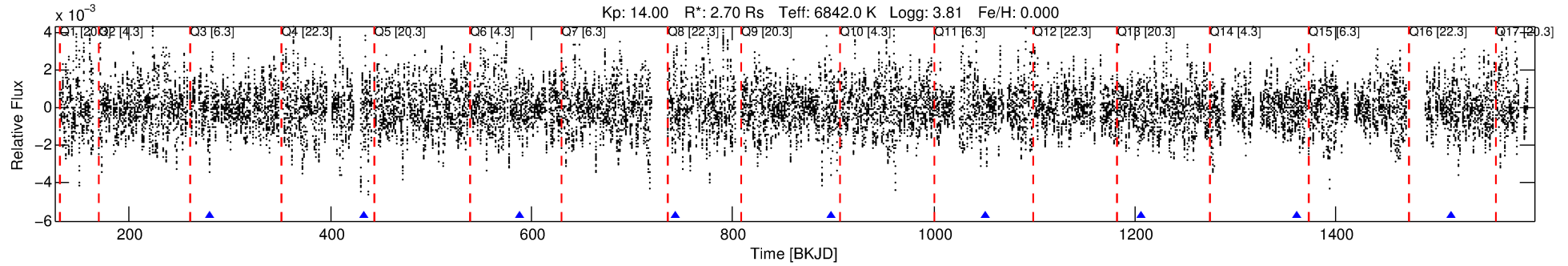
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005648562-04

No Significant Match Found

DV One-Page Summary

KIC: 5648562 Candidate: 4 of 7 Period: 154.443 d



DV Fit Results:

Period = 154.44277 [0.00203] d
Epoch = 279.4725 [0.0105] BKJD
Rp/R* = 0.0824 [0.1102]
a/R* = 65.66 [18.91]
b = 1.00 [0.15]
Seff = 31.22 [21.86]
Teq = 603 [106] K
Rp = 24.25 [34.32] Re
a = 0.6761 [0.2907] AU
Ag = 436.28 [1206.52] [0.36 σ]
Teffp = 4259 [2863] K [1.28 σ]

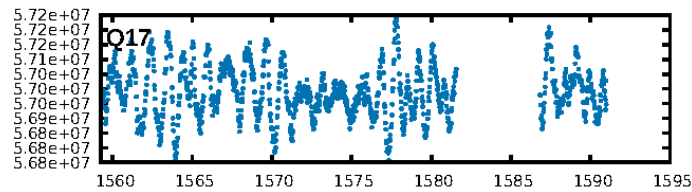
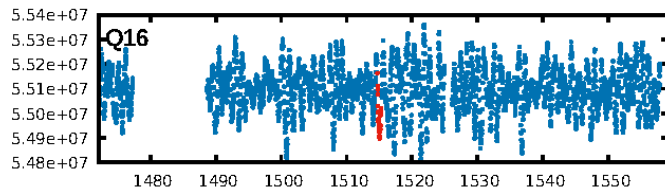
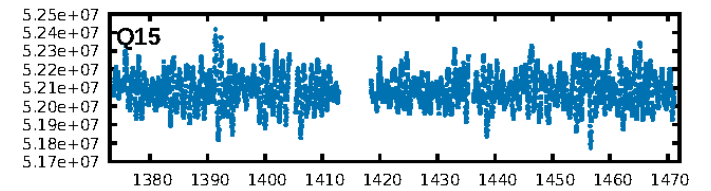
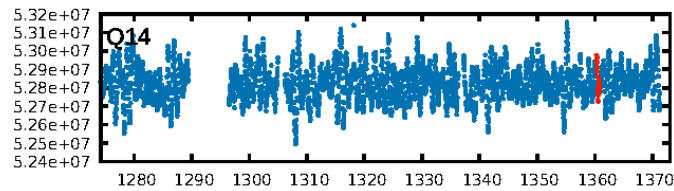
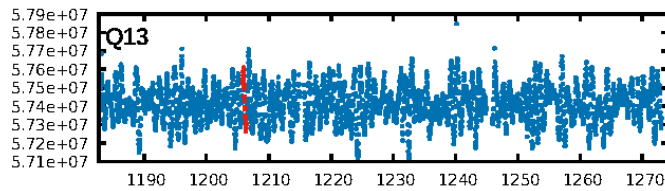
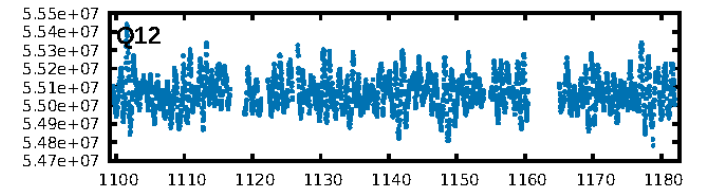
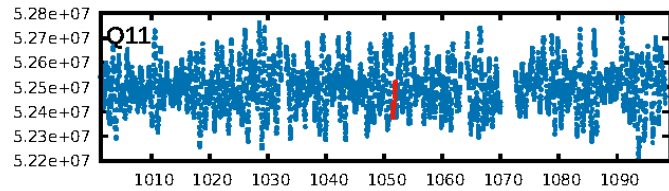
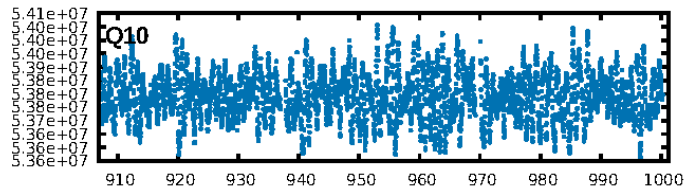
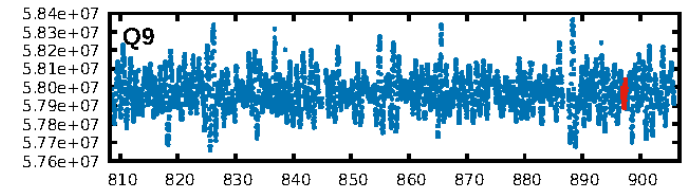
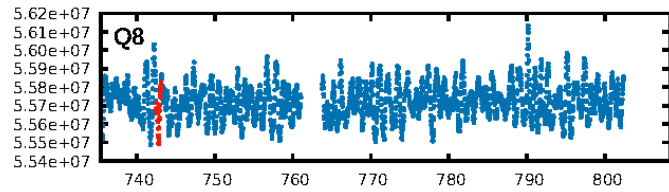
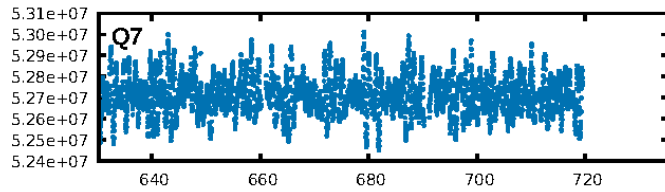
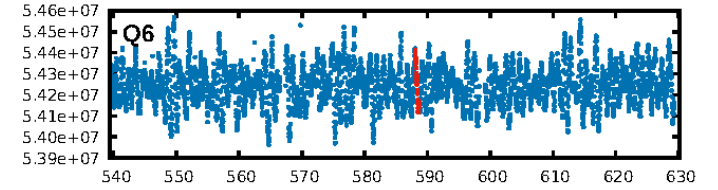
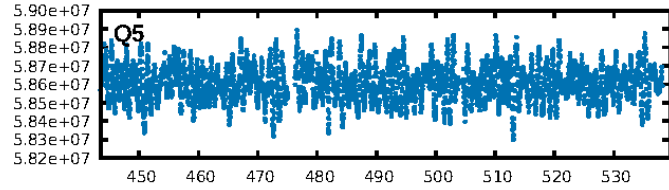
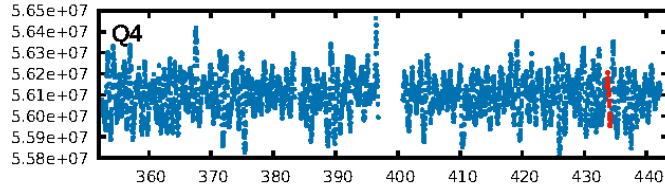
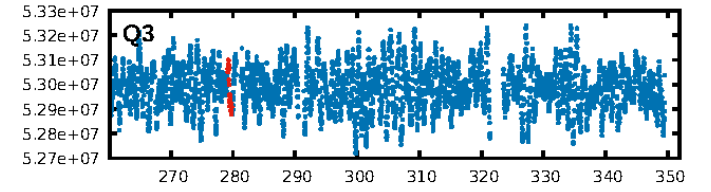
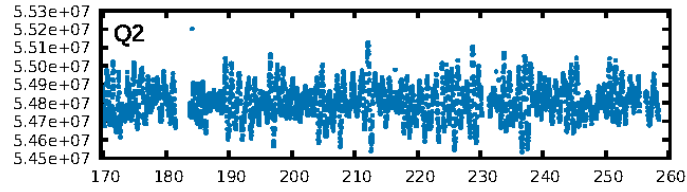
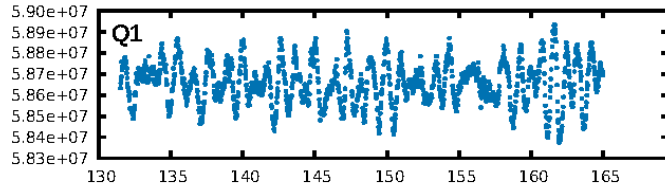
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [325.12 σ]
LongPeriod-sig: 100.0% [83.11 σ]
ModelChiSquare2-sig: 59.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 4.464
Centroid-sig: 92.9%
Centroid-so: 0.144 arcsec [0.65 σ]
OotOffset-rm: 0.005 arcsec [0.03 σ]
KicOffset-rm: 0.103 arcsec [0.41 σ]
OotOffset-st: 1/2/3/1 [7]
KicOffset-st: 1/2/3/1 [7]
DiffImageQuality-fgm: 0.86 [6/7]
DiffImageOverlap-fno: 0.00 [0/8]

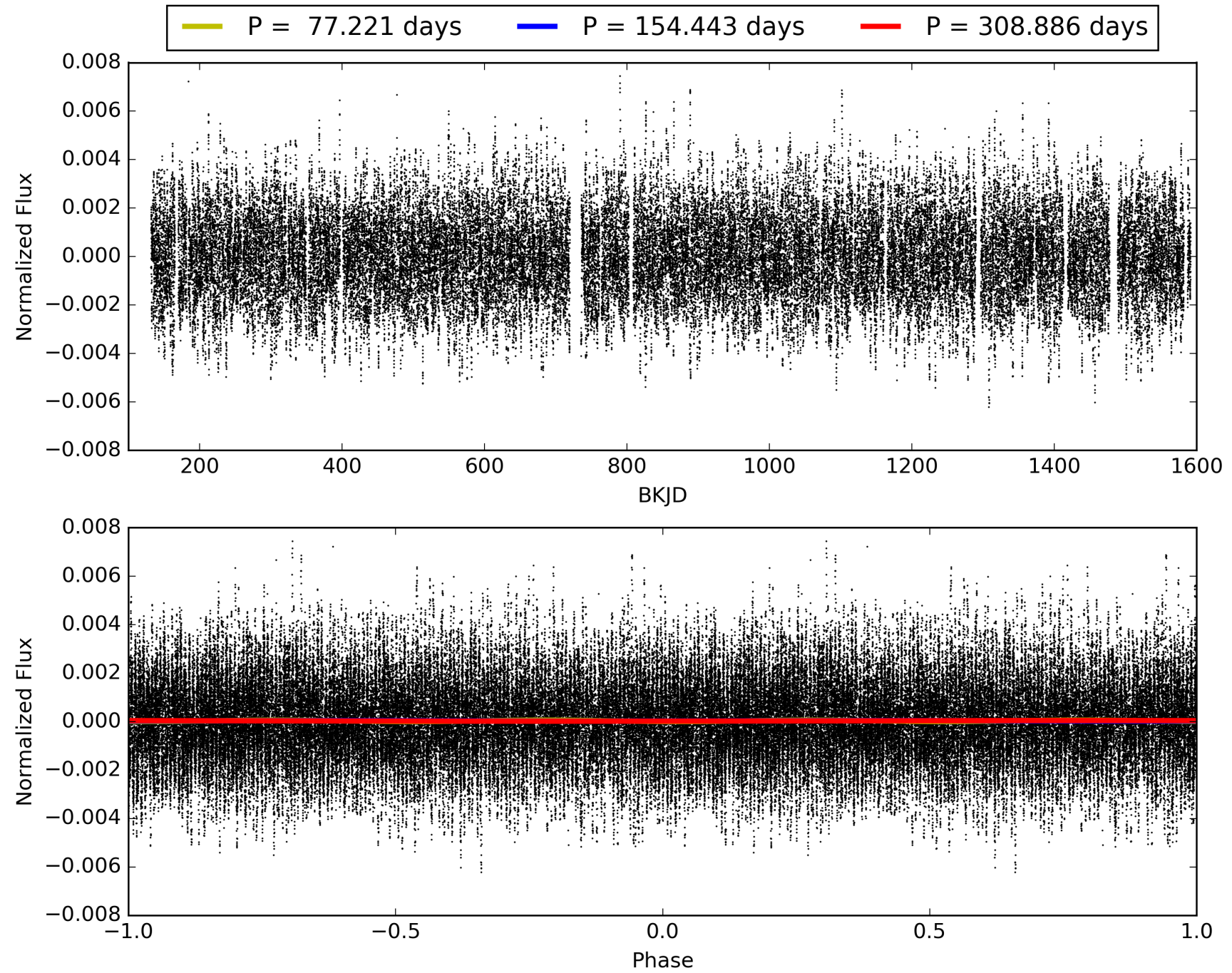
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:29:54 Z

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

TCE 005648562-04, PDC Light Curves

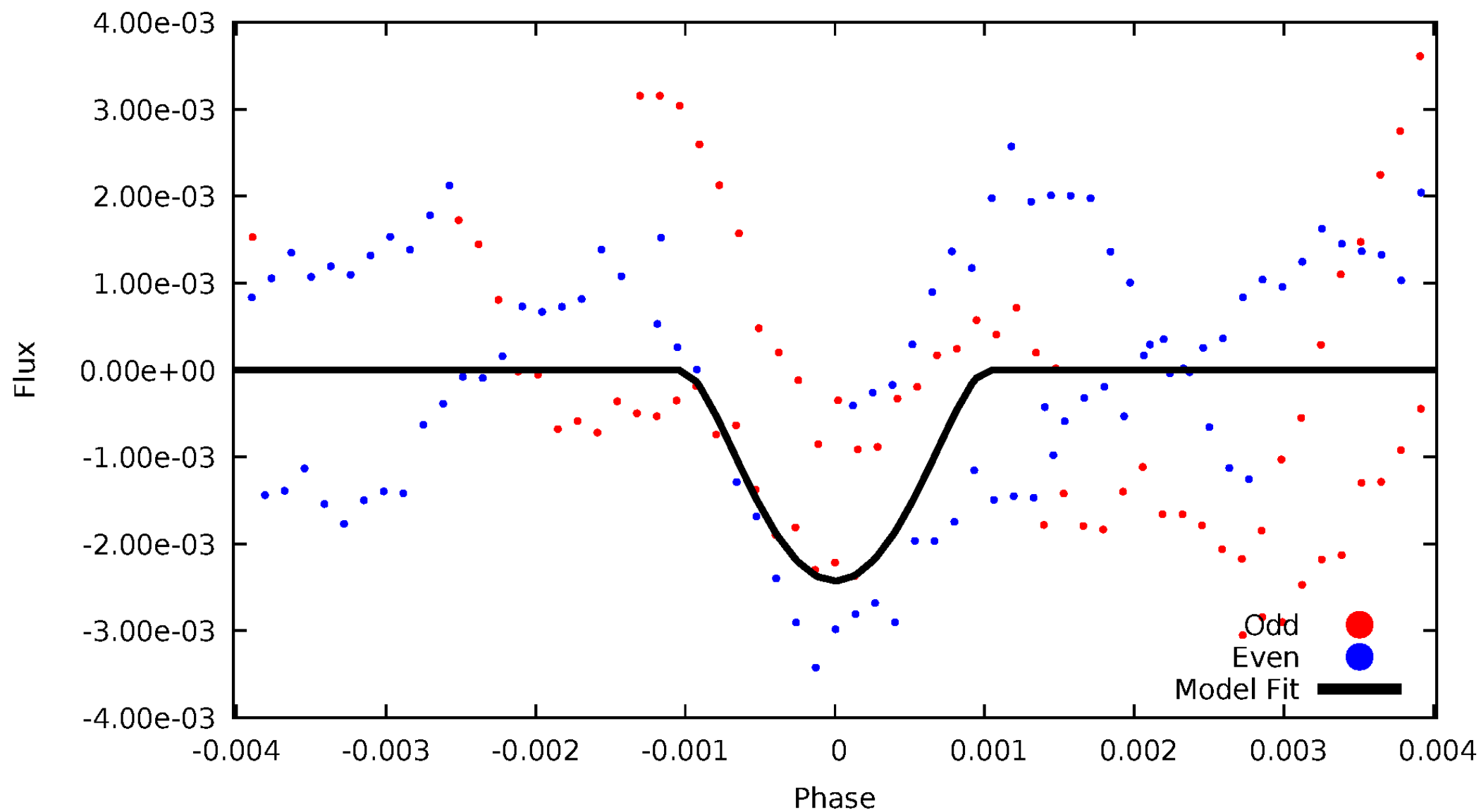


TCE 005648562-04



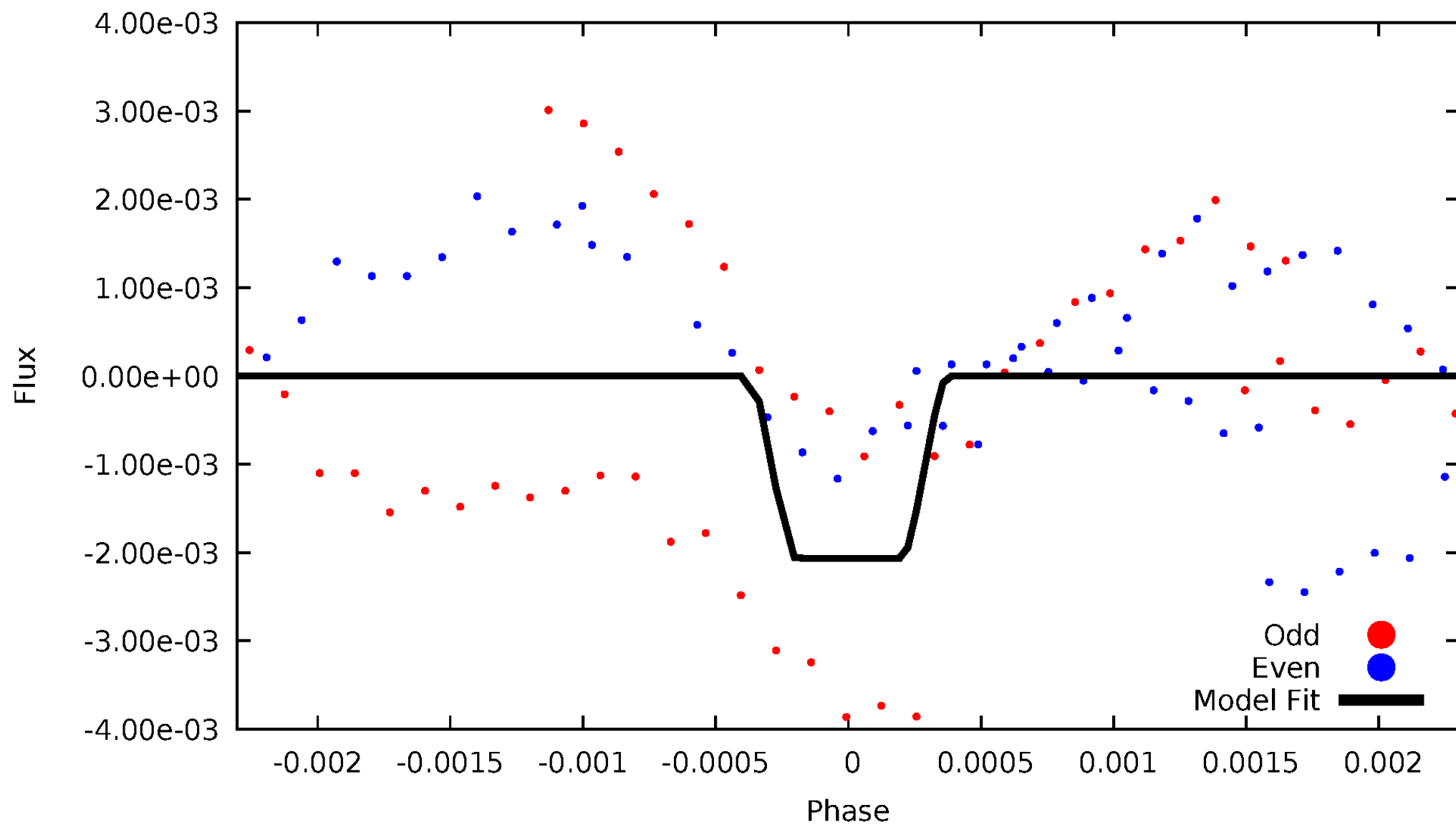
DV Odd/Even

TCE 005648562-04



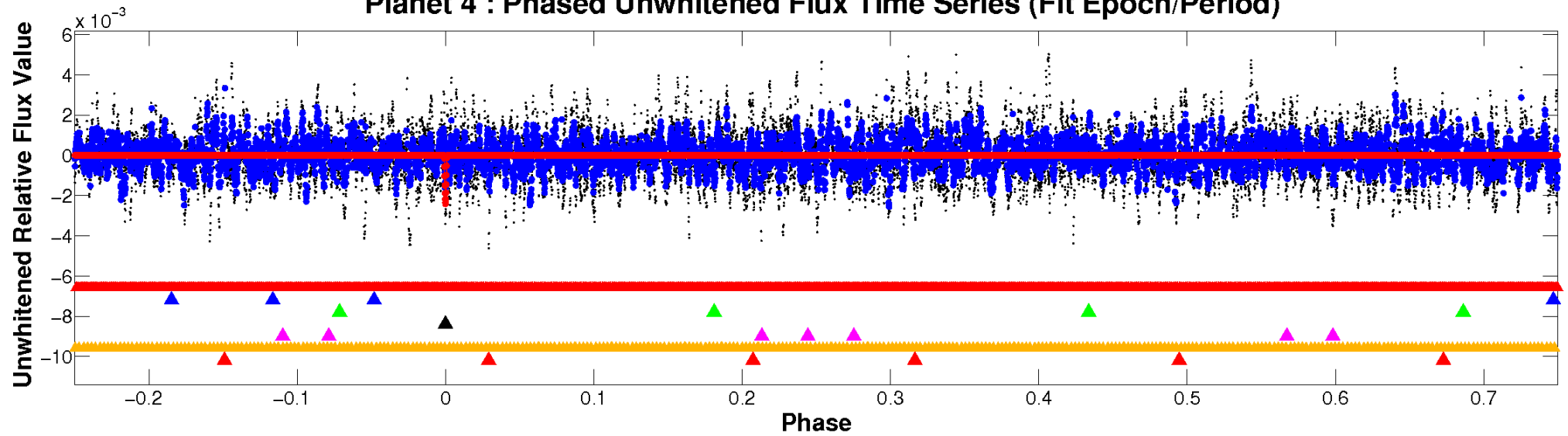
ALT Odd/Even

TCE 005648562-04

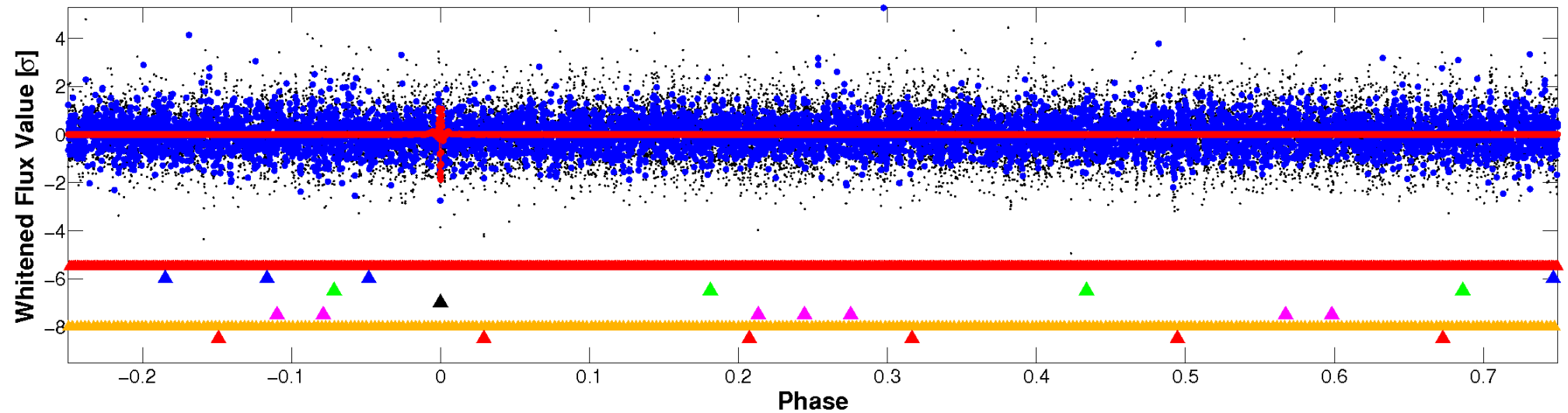


Non-Whitened Vs. Whitened Light Curve

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

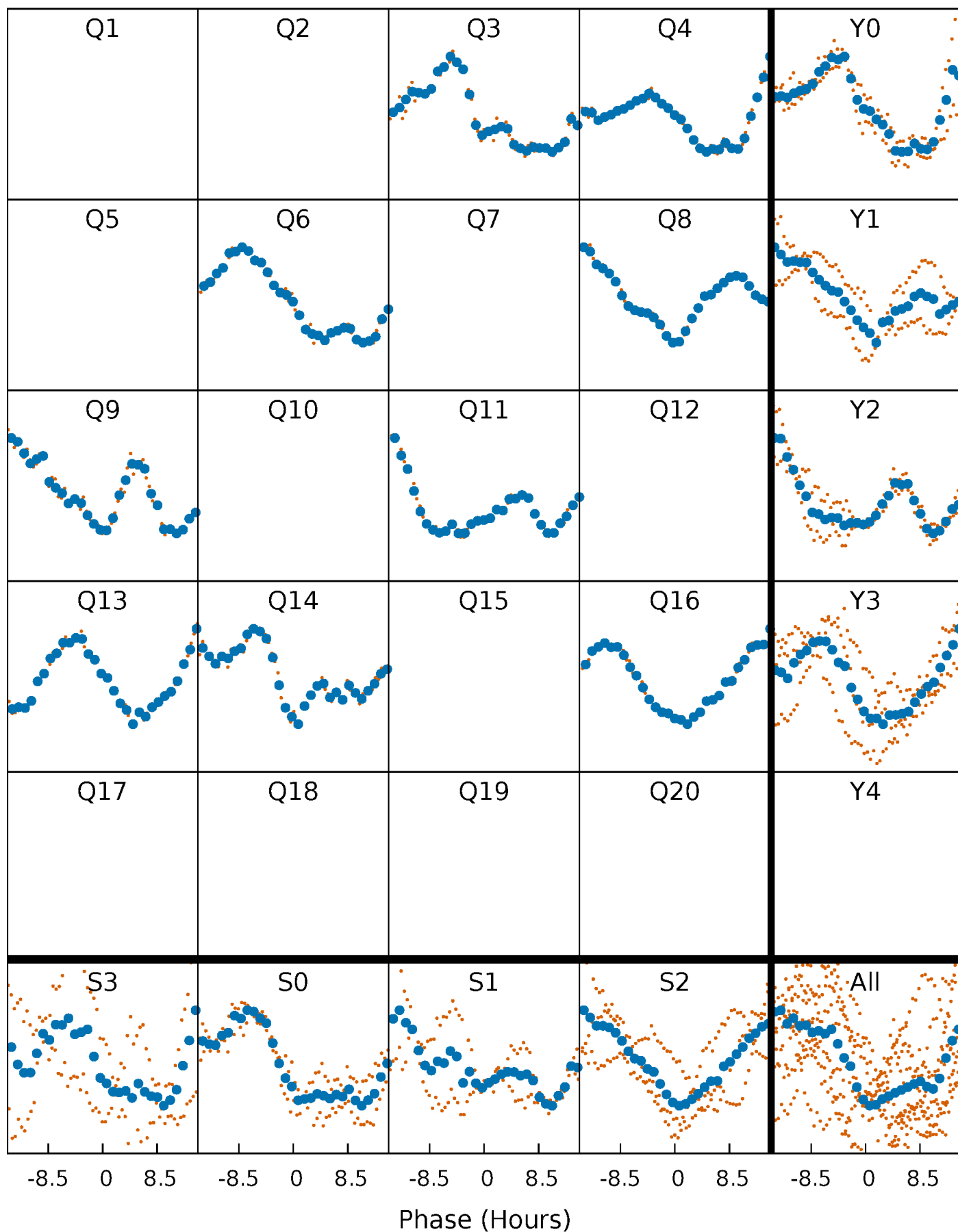


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



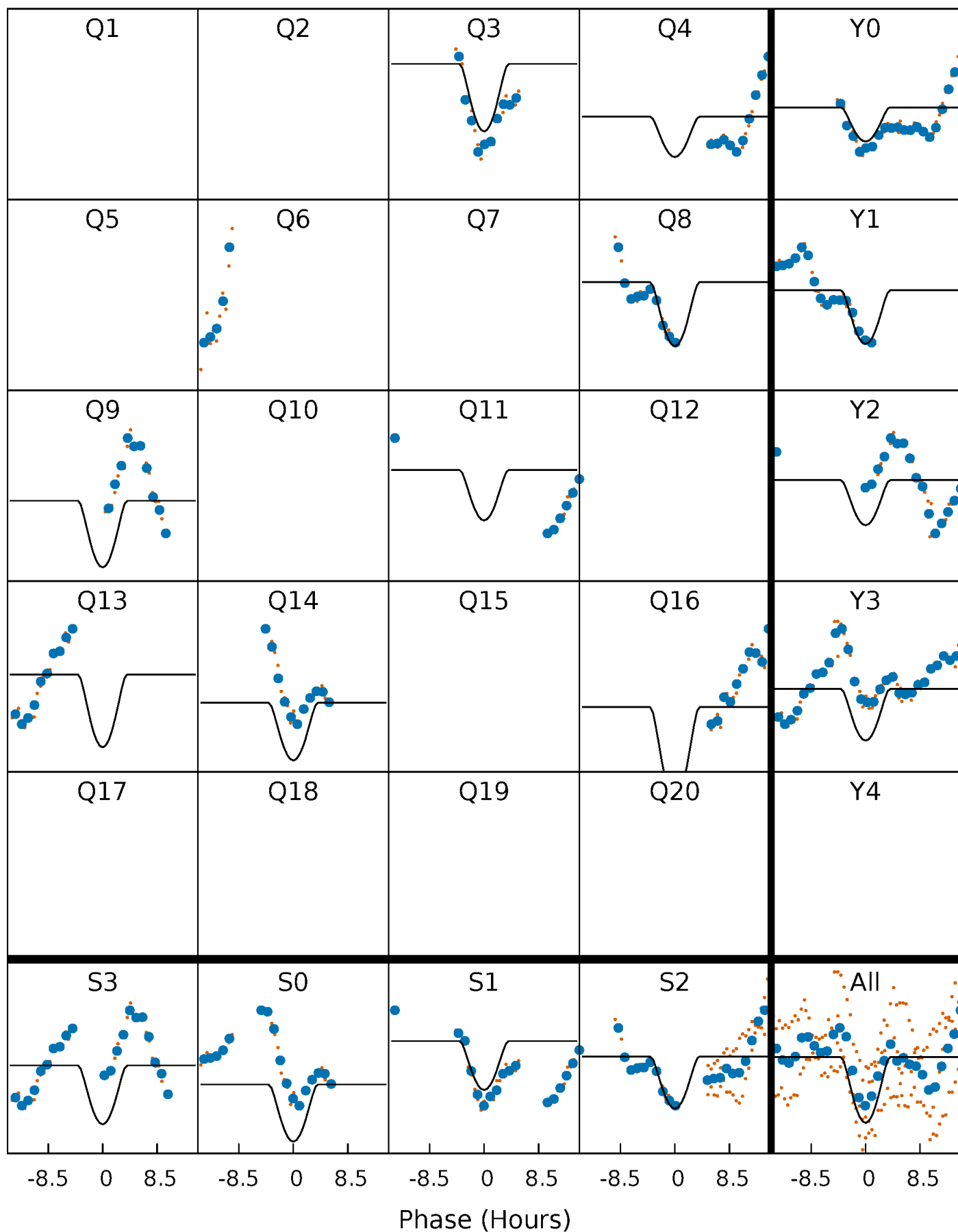
PDC Quarter-Phased Transit Curves

TCE 005648562-04 P=154.442774 Days $T_0=279.472527$ (BKJD)



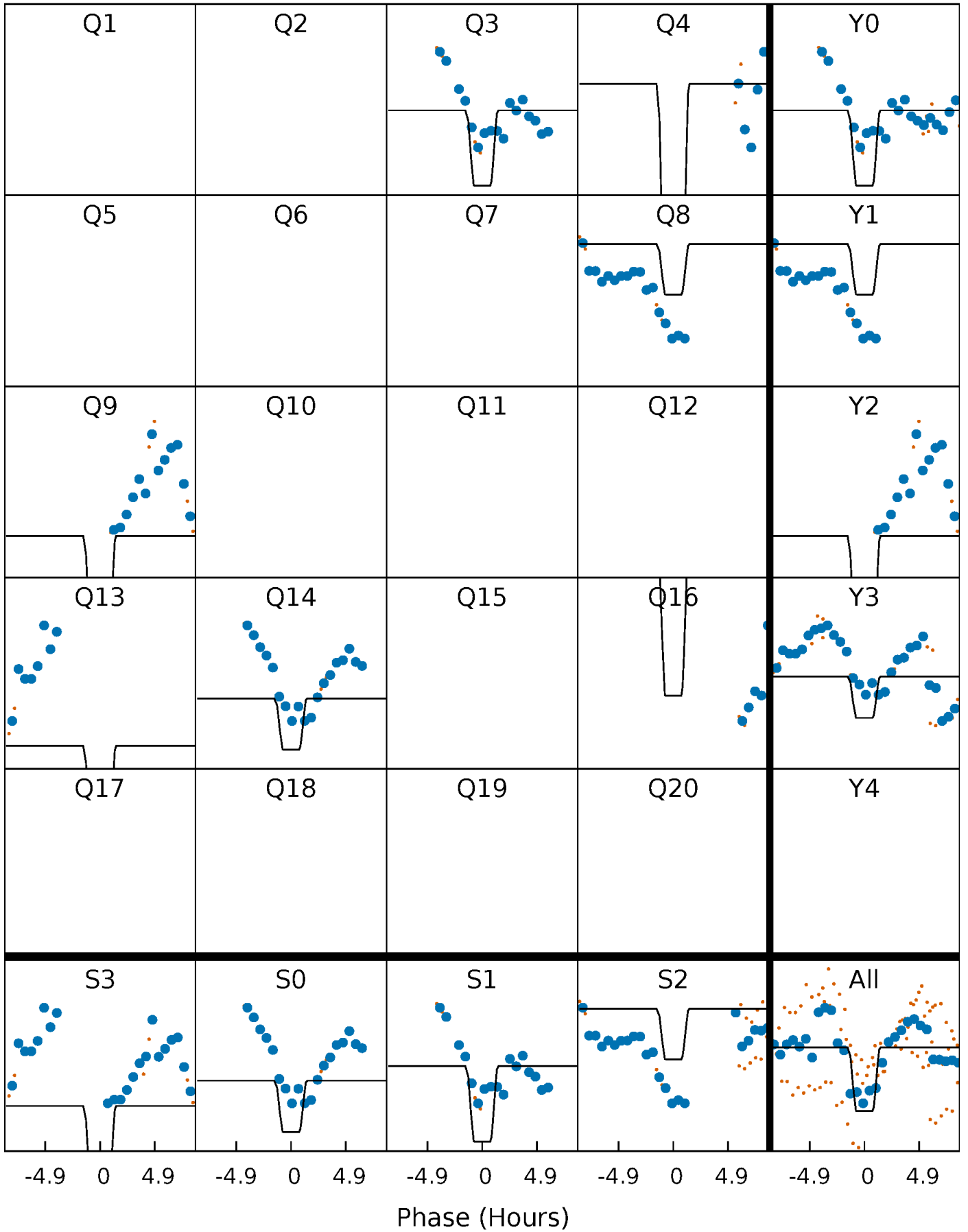
DV Quarter-Phased Transit Curves

TCE 005648562-04 $P=154.442774$ Days $T_0=279.472527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

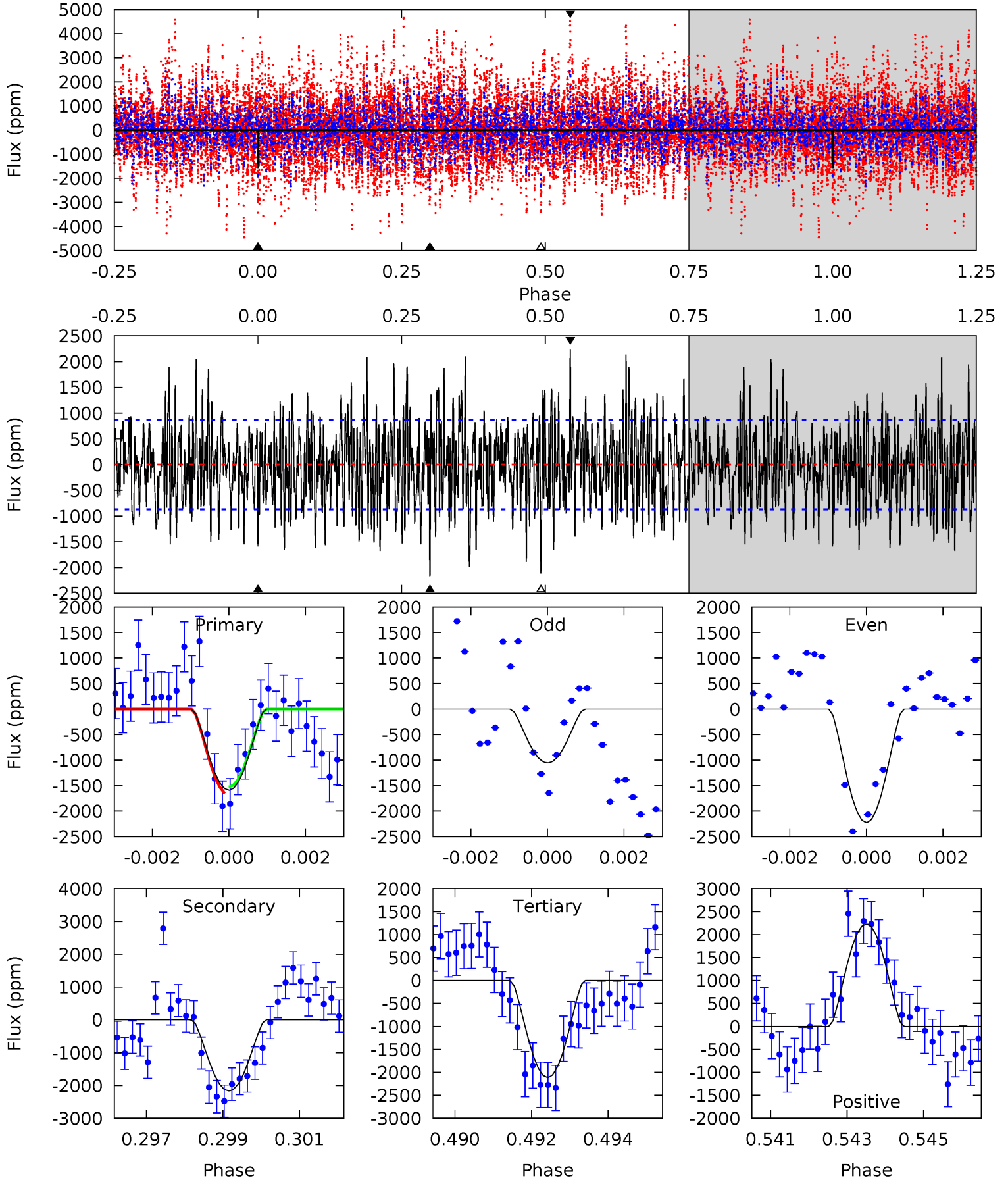
TCE 005648562-04 P=154.440904 Days $T_0=279.458970$ (BKJD)



DV Model-Shift Uniqueness Test

005648562-04, P = 154.442774 Days, E = 125.029753 Days

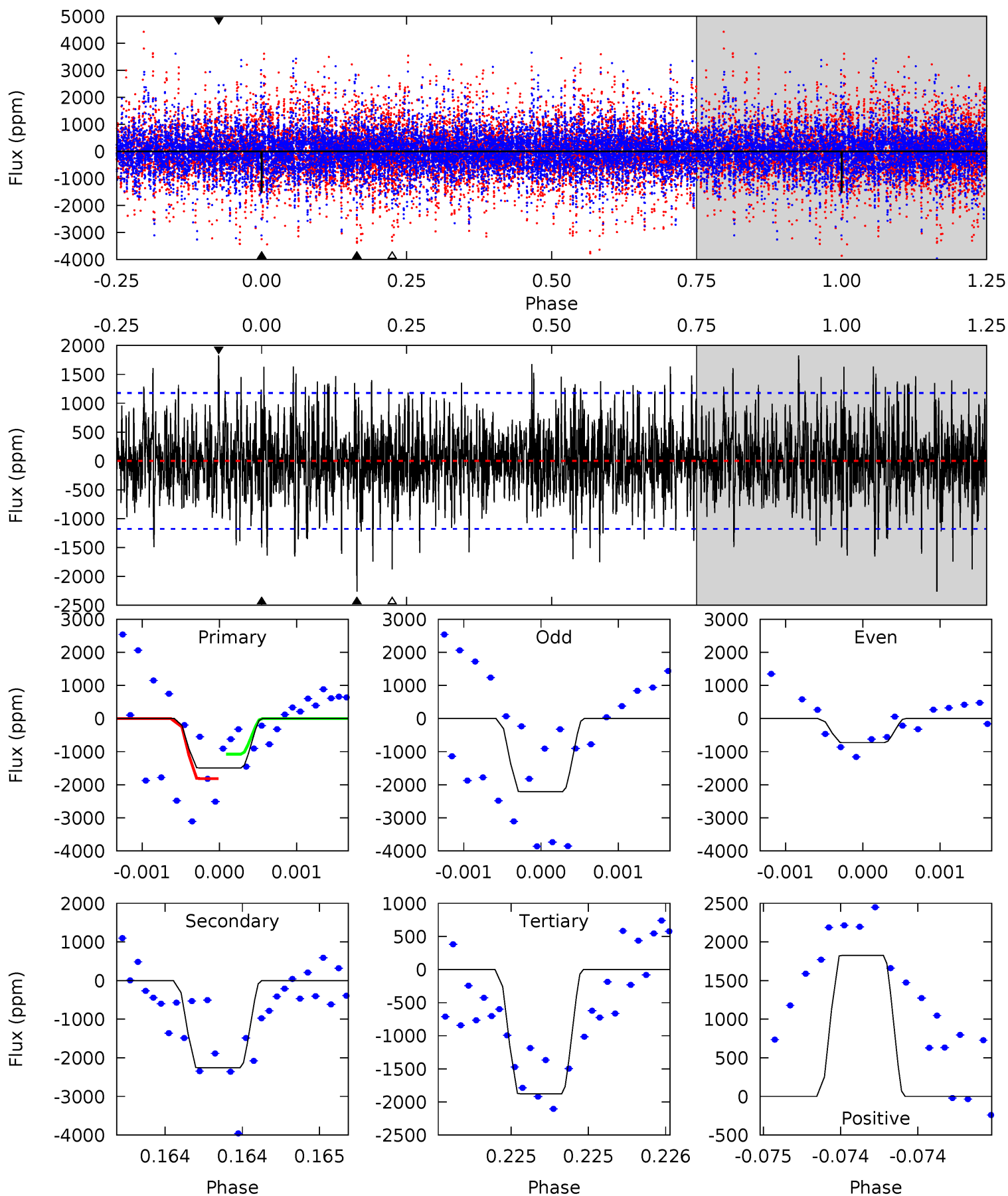
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.69	13.2	12.9	13.6	5.32	3.07	4.20	-3.20	-3.91	0.32	-0.39	3.55	1.14	0.51	0.38



Alt Model-Shift Uniqueness Test

005648562-04, P = 154.440904 Days, E = 125.018066 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.01	10.6	8.81	8.57	5.52	3.39	2.30	-1.80	-1.56	1.79	2.03	3.53	2.12	0.45	1.74



Stellar Parameters For KIC 005648562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+218}_{-327}	$3.814^{+0.390}_{-0.130}$	$0.000^{+0.250}_{-0.300}$	$2.696^{+0.535}_{-1.248}$	$1.728^{+0.164}_{-0.460}$	$0.124^{+0.472}_{-0.039}$
	+3%/-5%	+10%/-3%	+inf%/-inf%	+20%/-46%	+9%/-27%	+380%/-32%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005648562-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2166 ± 164	$31.02^{+28.27}_{-20.45}$	827^{+64}_{-95}	4515^{+2835}_{-895}	550^{+3919}_{-401}
Alt.	-2260 ± 213	$25.40^{+23.65}_{-17.51}$	818^{+68}_{-85}	4938^{+3861}_{-1077}	875^{+7889}_{-641}

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 $A_{obs} \gg 1.0$

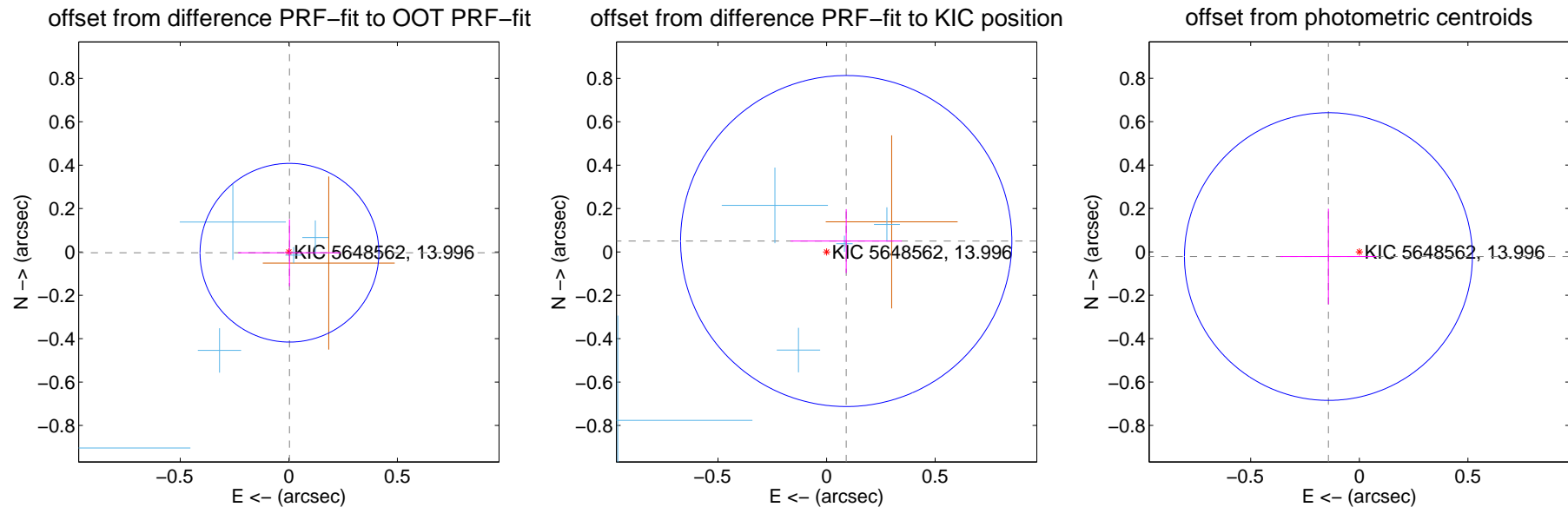
DV Centroid Data

Supplemental centroid analysis for 005648562-04. Kepler magnitude: 14.00. Transit SNR 8.46

There are 6 quarters with good PRF difference image offsets

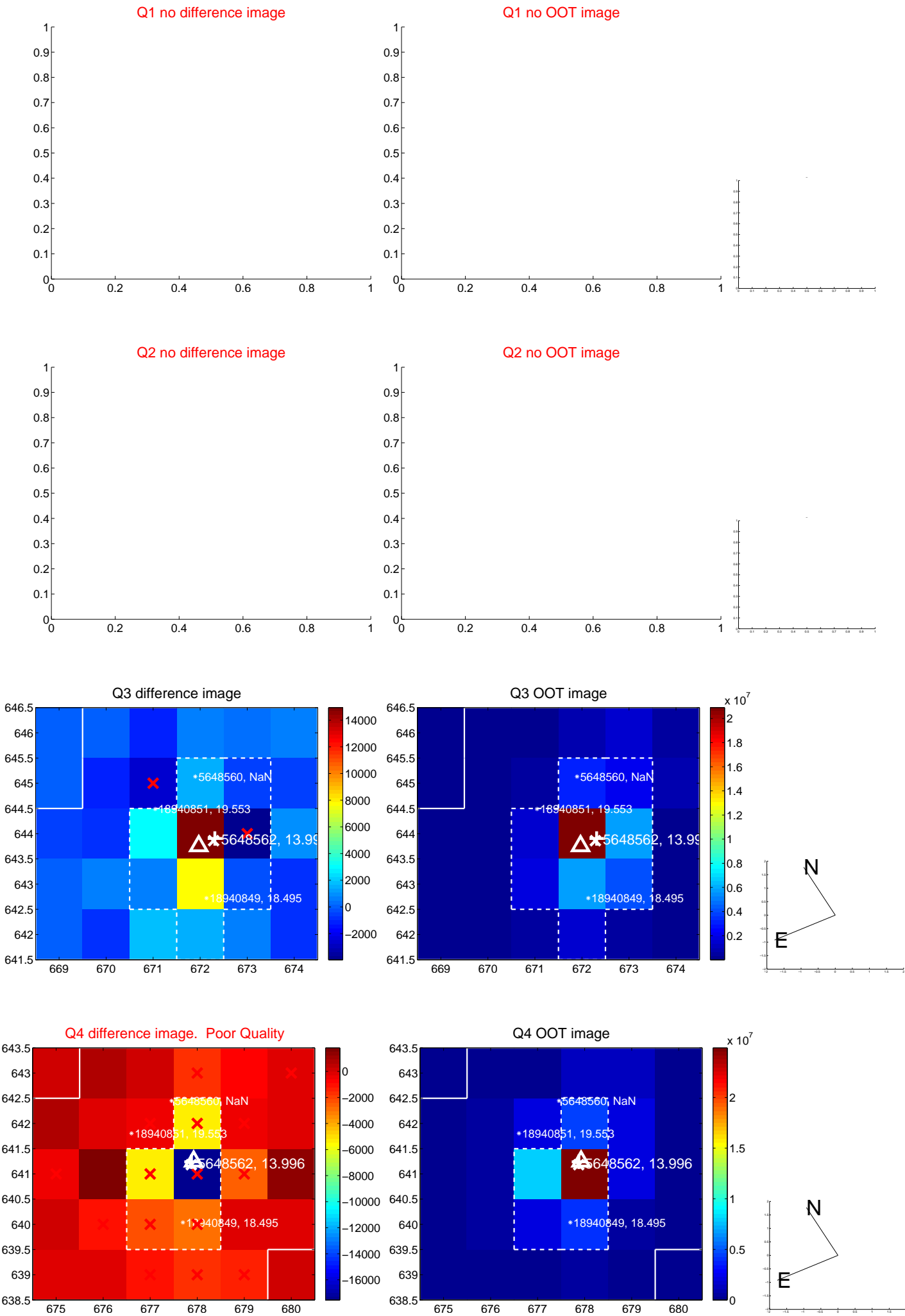
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.137	0.03	-0.003 ± 0.236	-0.004 ± 0.154
PRF-fit source offset from KIC position	0.103 ± 0.254	0.41	-0.090 ± 0.257	0.050 ± 0.147
photometric centroid source offset	0.14 ± 0.22	0.65	0.14 ± 0.22	-0.02 ± 0.22



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

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



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

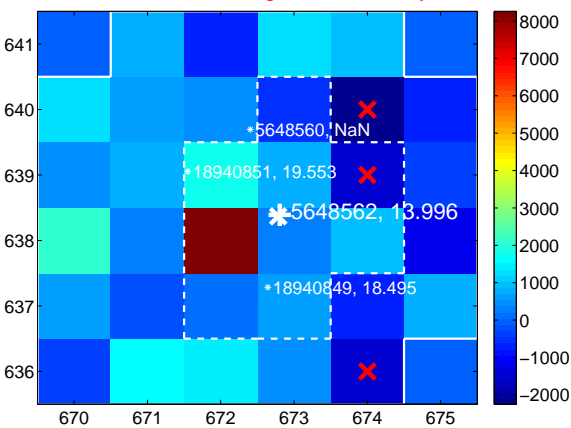
Q5 no difference image



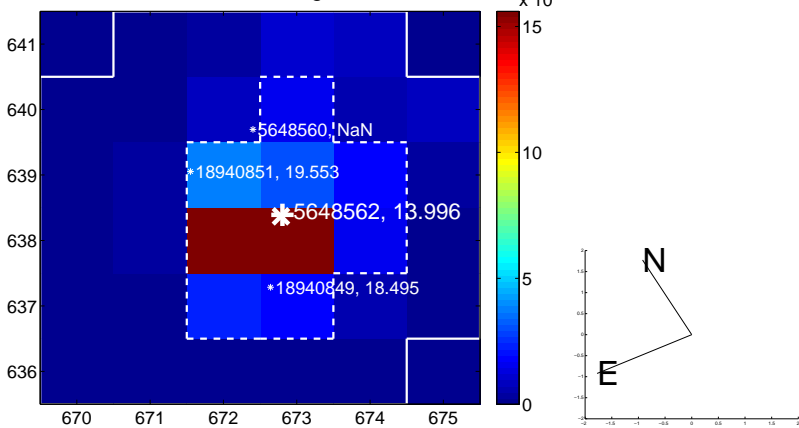
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



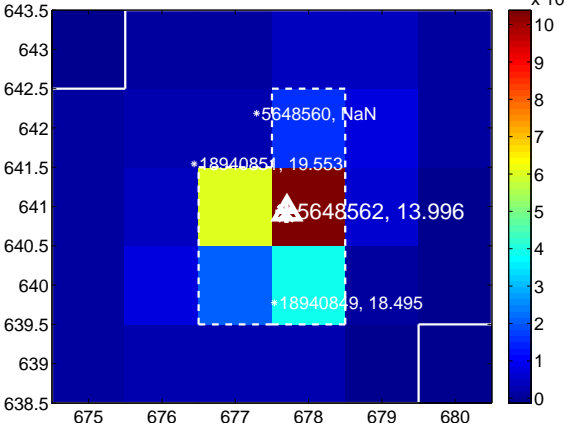
Q7 no difference image



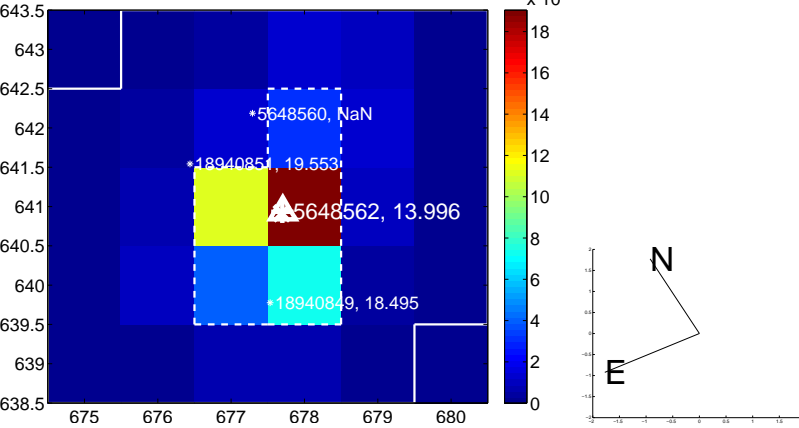
Q7 no OOT image



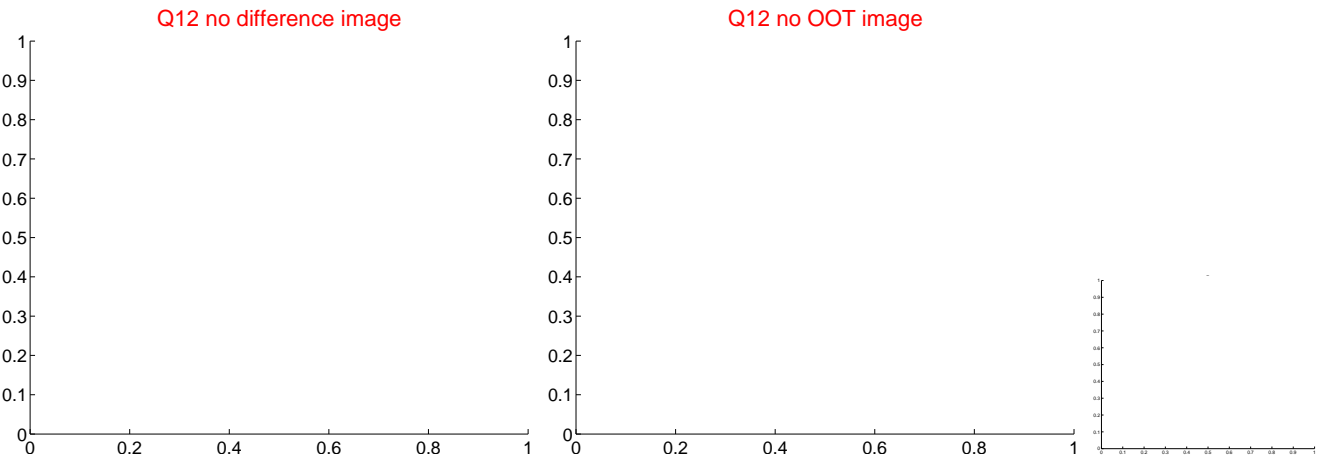
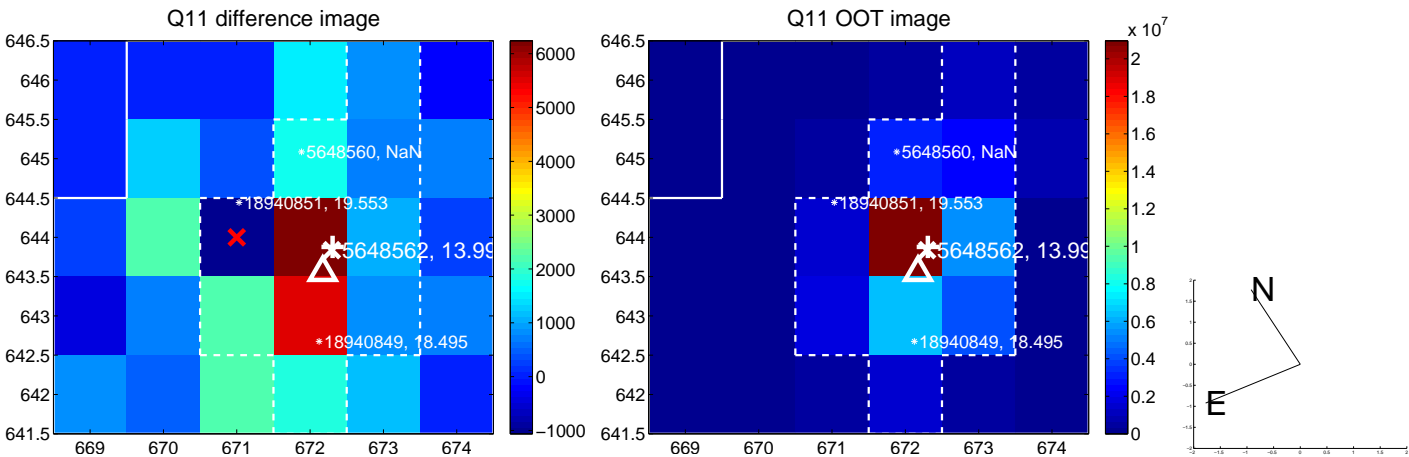
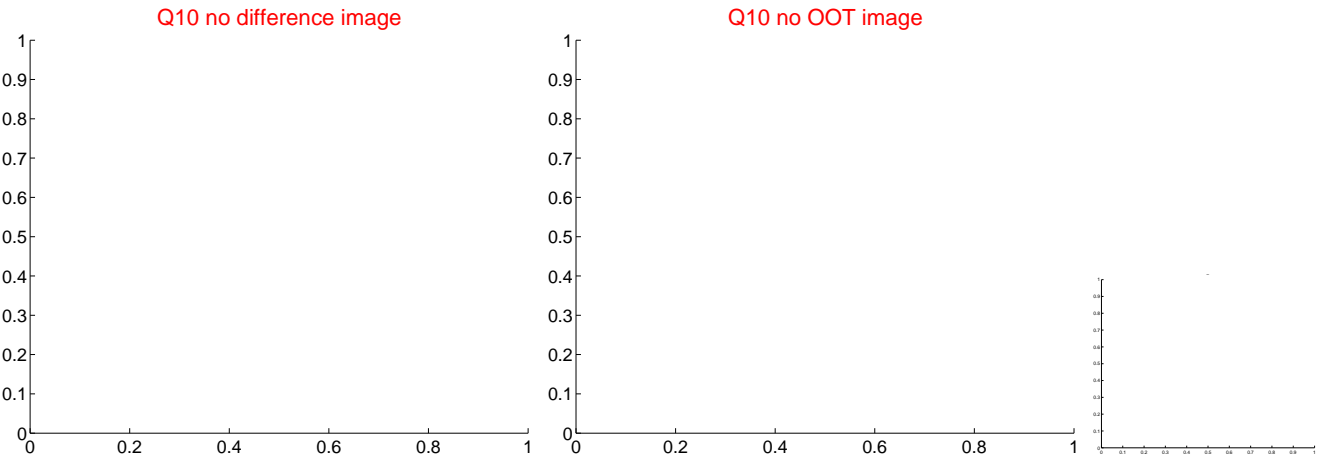
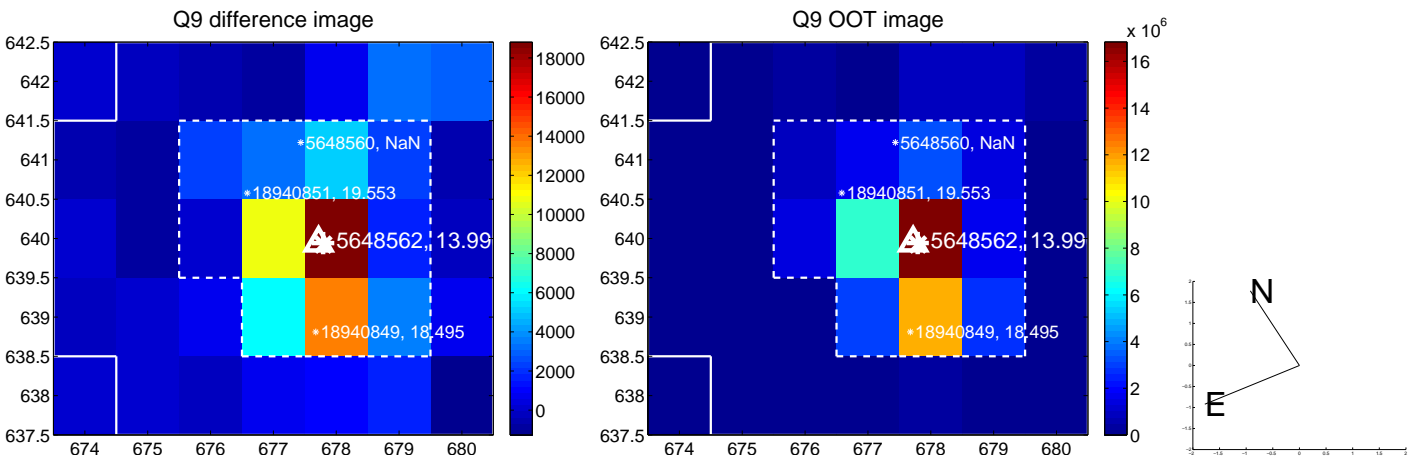
Q8 difference image



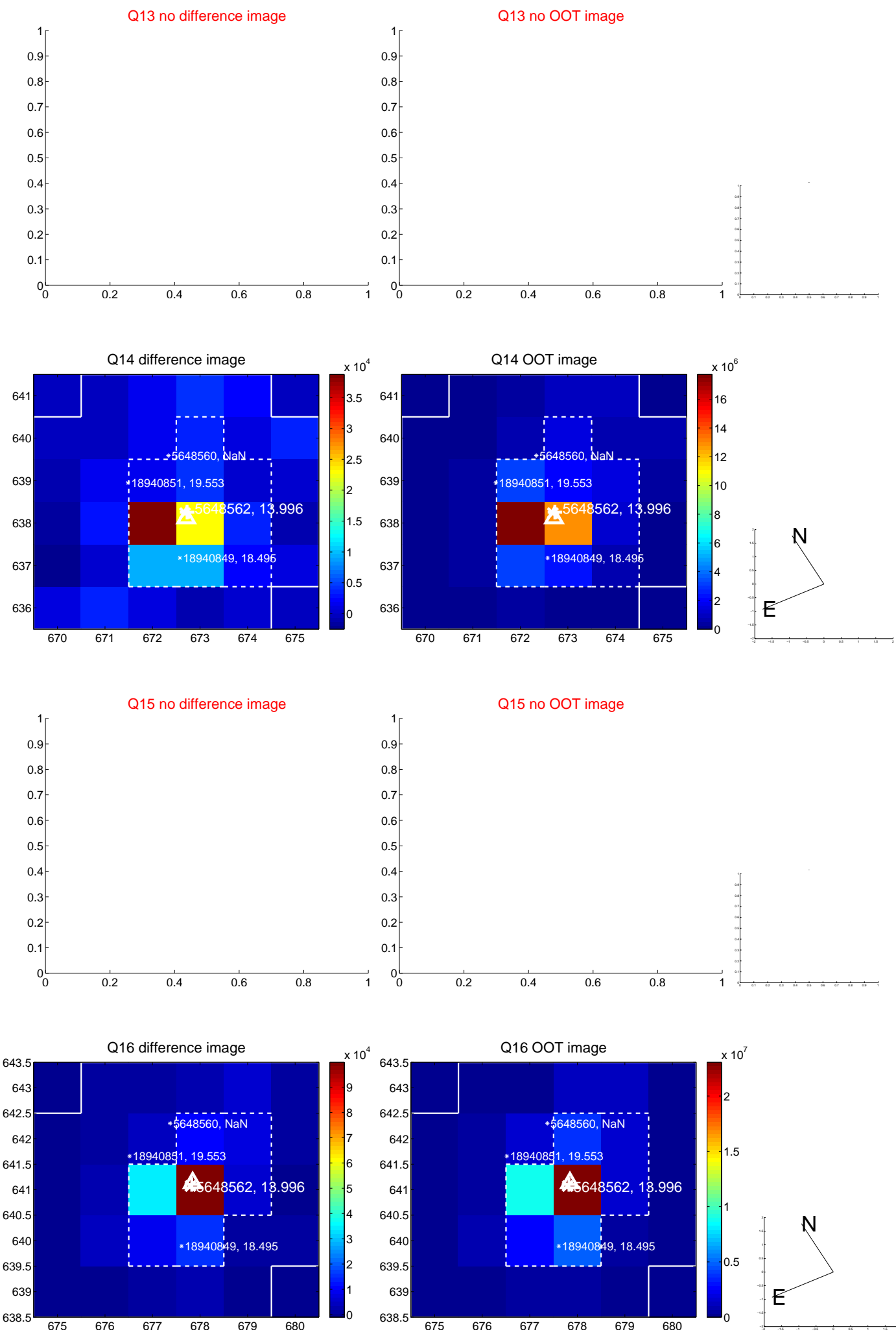
Q8 OOT image



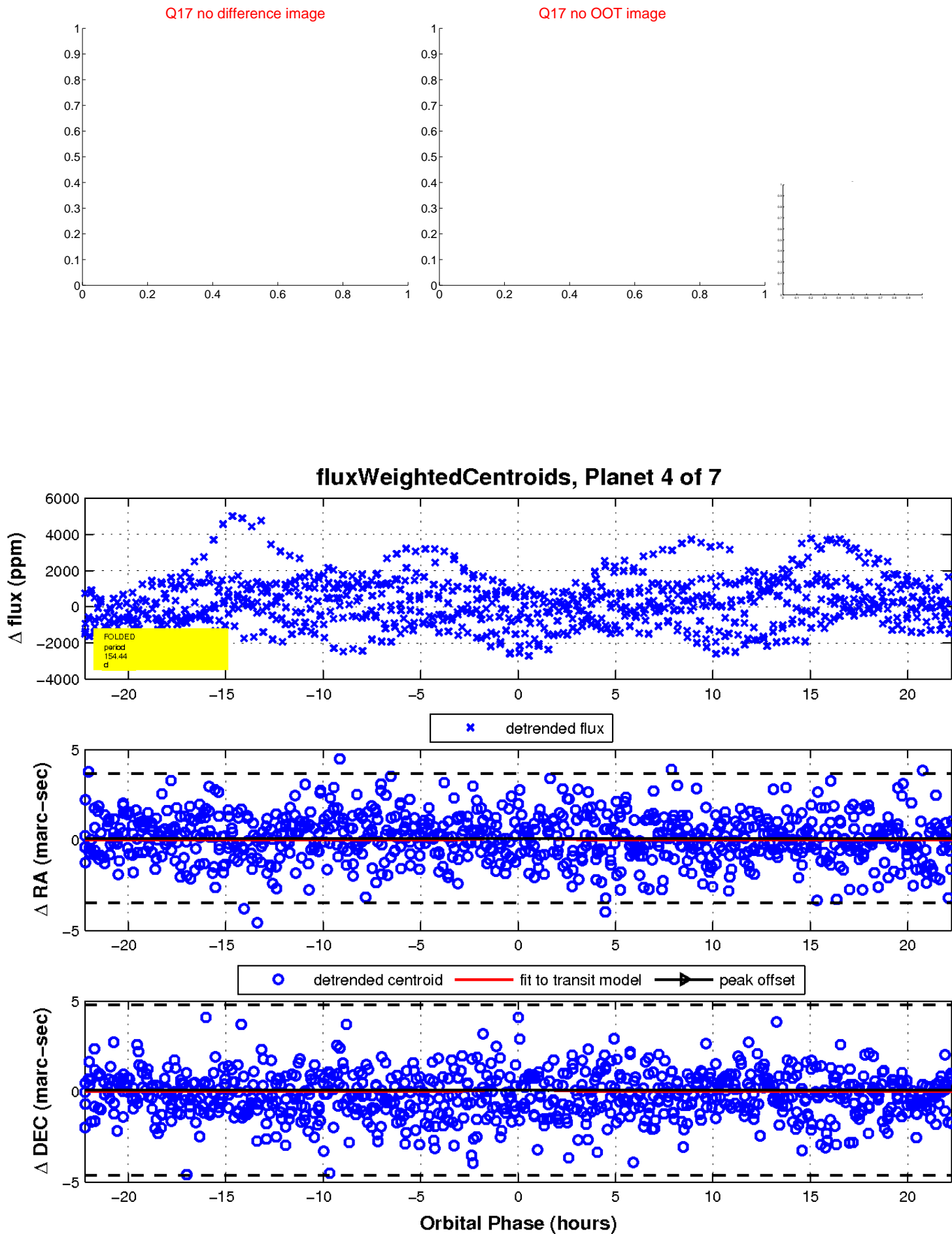
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

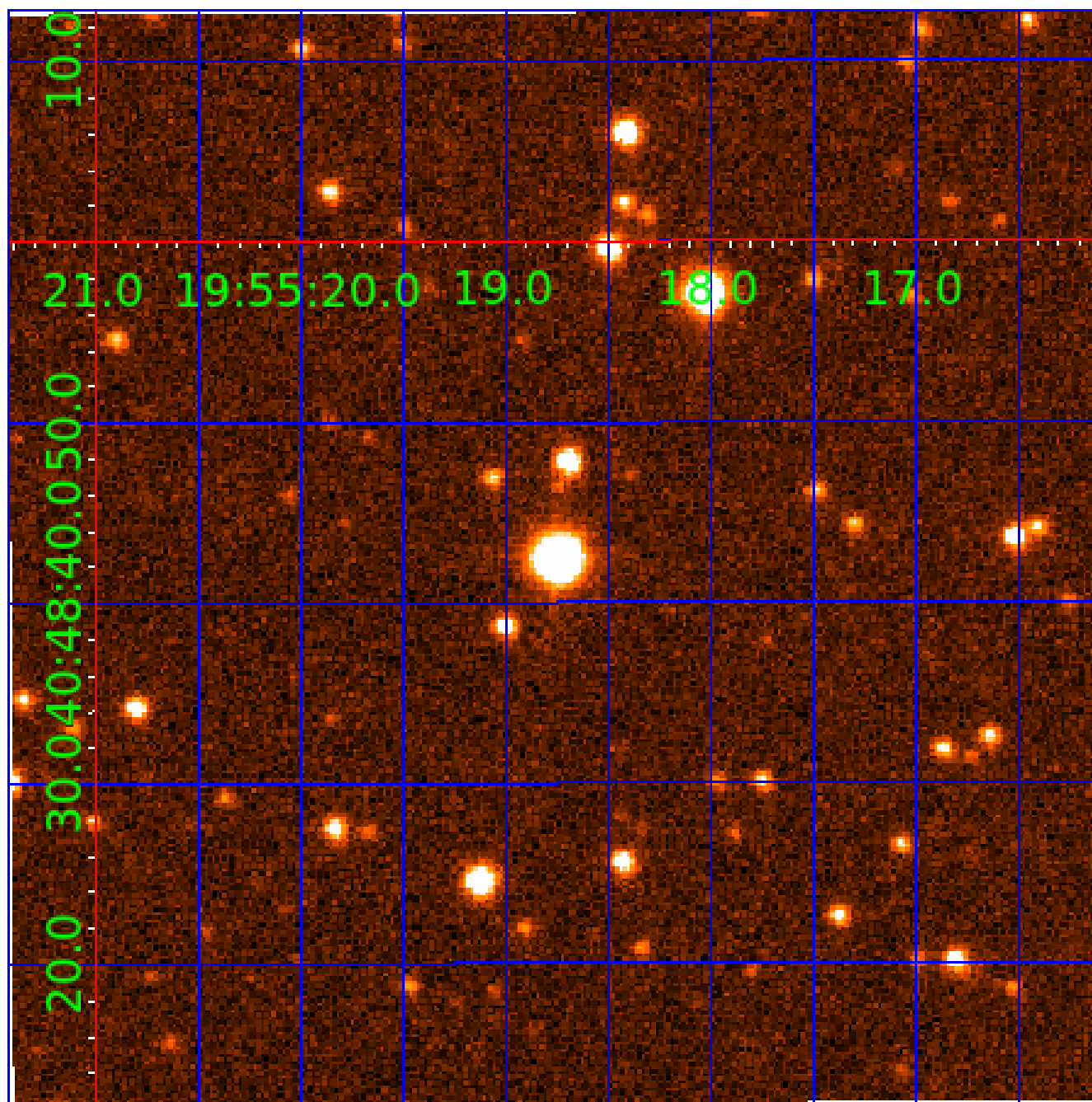


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005648562

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})
005648562-01	OBS	No	1.420629	132.452510	239.9	7.740	9.8	12.2	2.70	6842	7.54	16198.16
005648562-02	OBS	No	298.334488	426.486967	1653.9	41.343	11.4	4.8	2.70	6842	11.97	12.98
005648562-03	OBS	No	347.887166	268.447066	3020.8	9.883	8.7	7.8	2.70	6842	26.89	10.57
005648562-04	OBS	No	154.442774	279.472527	2424.5	7.448	8.3	8.5	2.70	6842	24.25	31.22
005648562-05	OBS	No	204.327394	167.551979	3727.4	12.330	7.5	8.9	2.70	6842	19.75	21.50
005648562-06	OBS	No	3.808446	134.675179	539.4	8.257	9.2	10.3	2.70	6842	11.41	4349.53
005648562-07	OBS	No	281.369834	157.050783	662.2	3.000	9.1	-1.0	2.70	6842	7.01	14.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005648562-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005648562-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005648562-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
005648562-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005648562-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005648562-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005648562-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

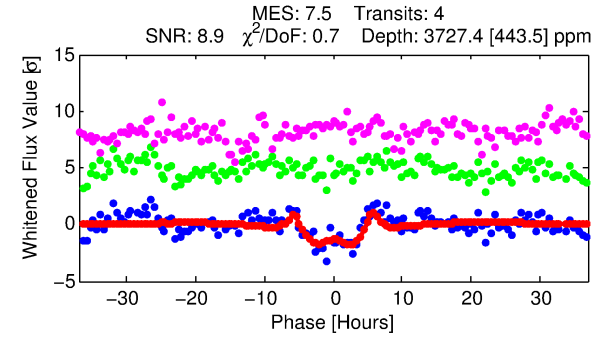
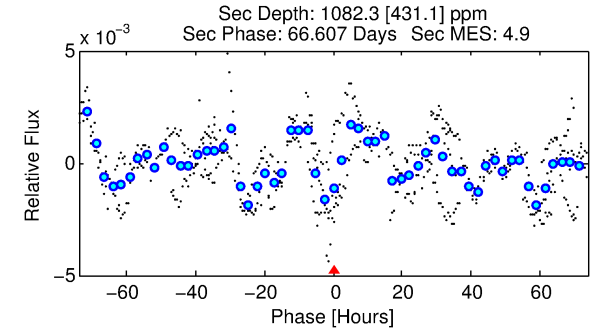
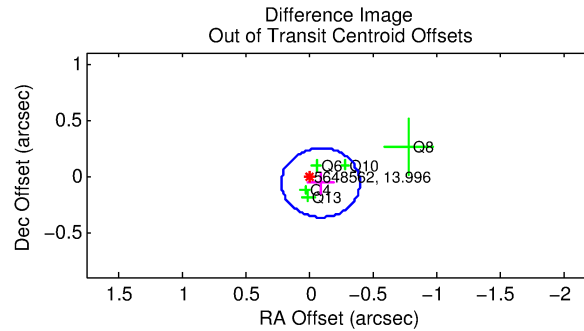
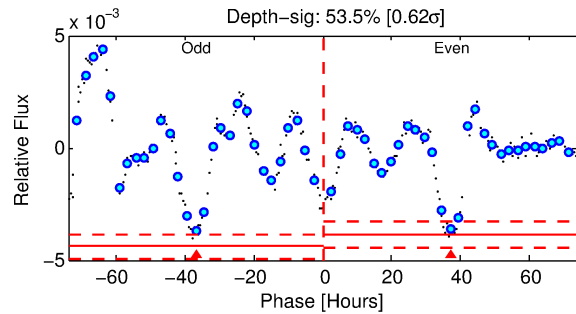
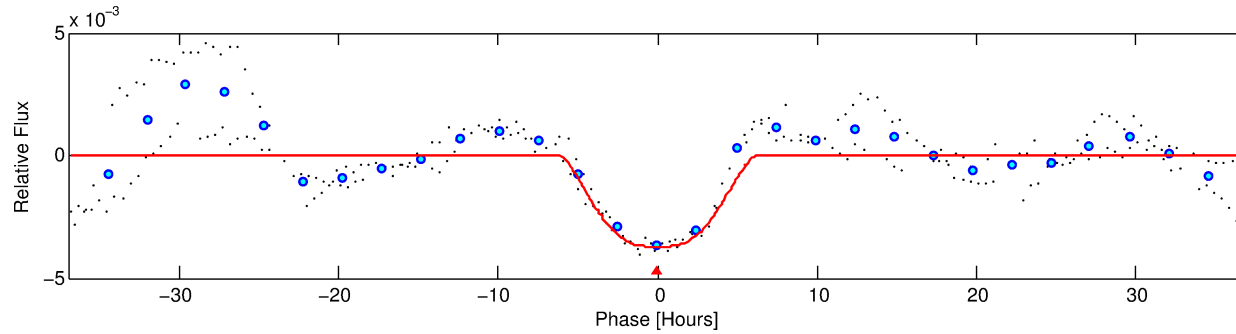
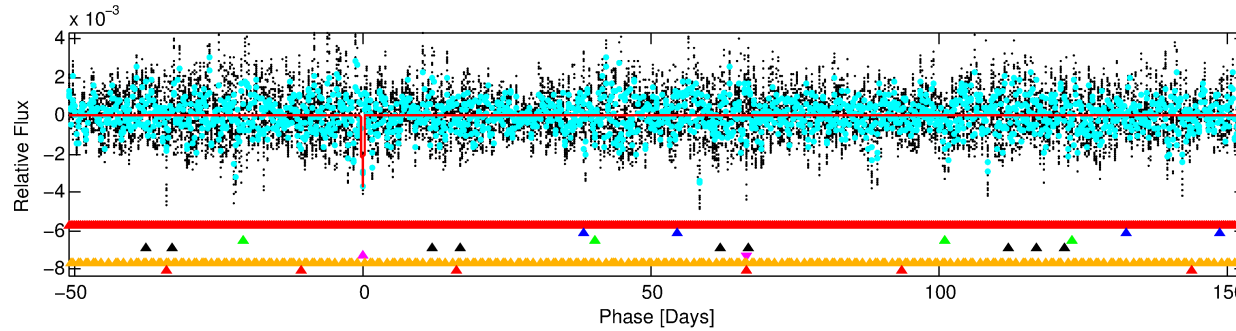
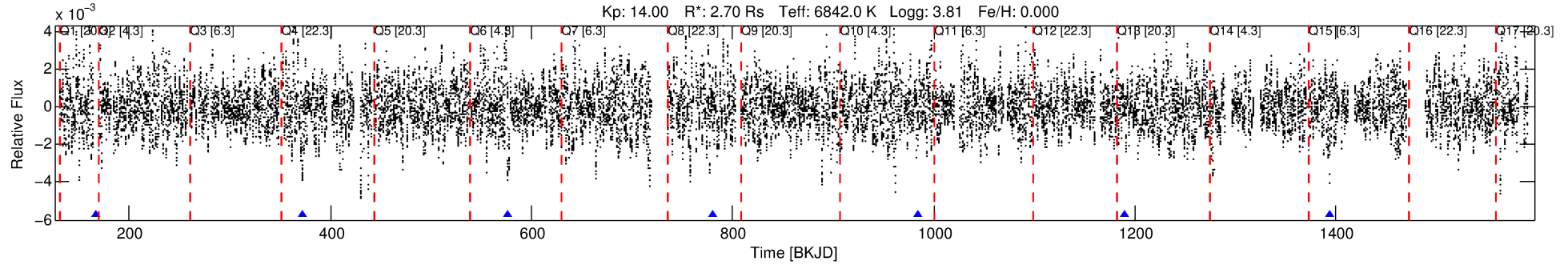
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005648562-05

No Significant Match Found

DV One-Page Summary

KIC: 5648562 Candidate: 5 of 7 Period: 204.327 d



DV Fit Results:

Period = 204.32739 [0.00443] d
Epoch = 167.5520 [0.0149] BKJD
Rp/R* = 0.0671 [0.0043]
a/R* = 67.32 [3.85]
b = 0.93 [0.01]
Seff = 21.50 [15.05]
Teq = 549 [96] K
Rp = 19.75 [9.23] Re
a = 0.8148 [0.3503] AU
Ag = 1013.90 [804.13] [1.26σ]
Teffp = 4790 [551] K [7.58σ]

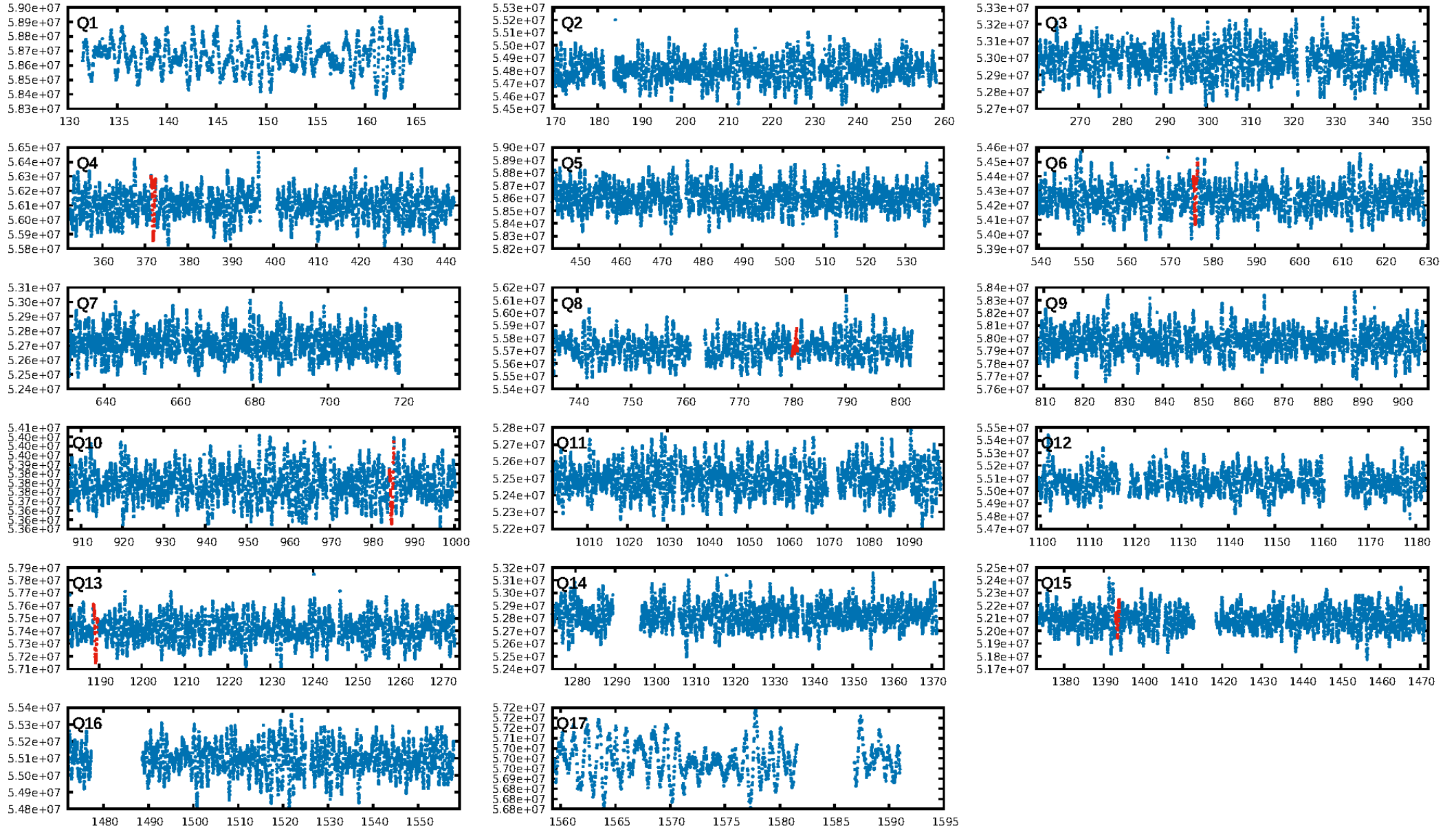
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [83.11σ]
LongPeriod-sig: 100.0% [145.71σ]
ModelChiSquare2-sig: 82.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.197
Centroid-sig: 0.1%
Centroid-so: 0.346 arcsec [2.45σ]
OotOffset-rm: 0.112 arcsec [1.09σ]
KicOffset-rm: 0.181 arcsec [1.02σ]
OotOffset-st: 2/0/2/1 [5]
KicOffset-st: 2/0/2/1 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.00 [0/5]

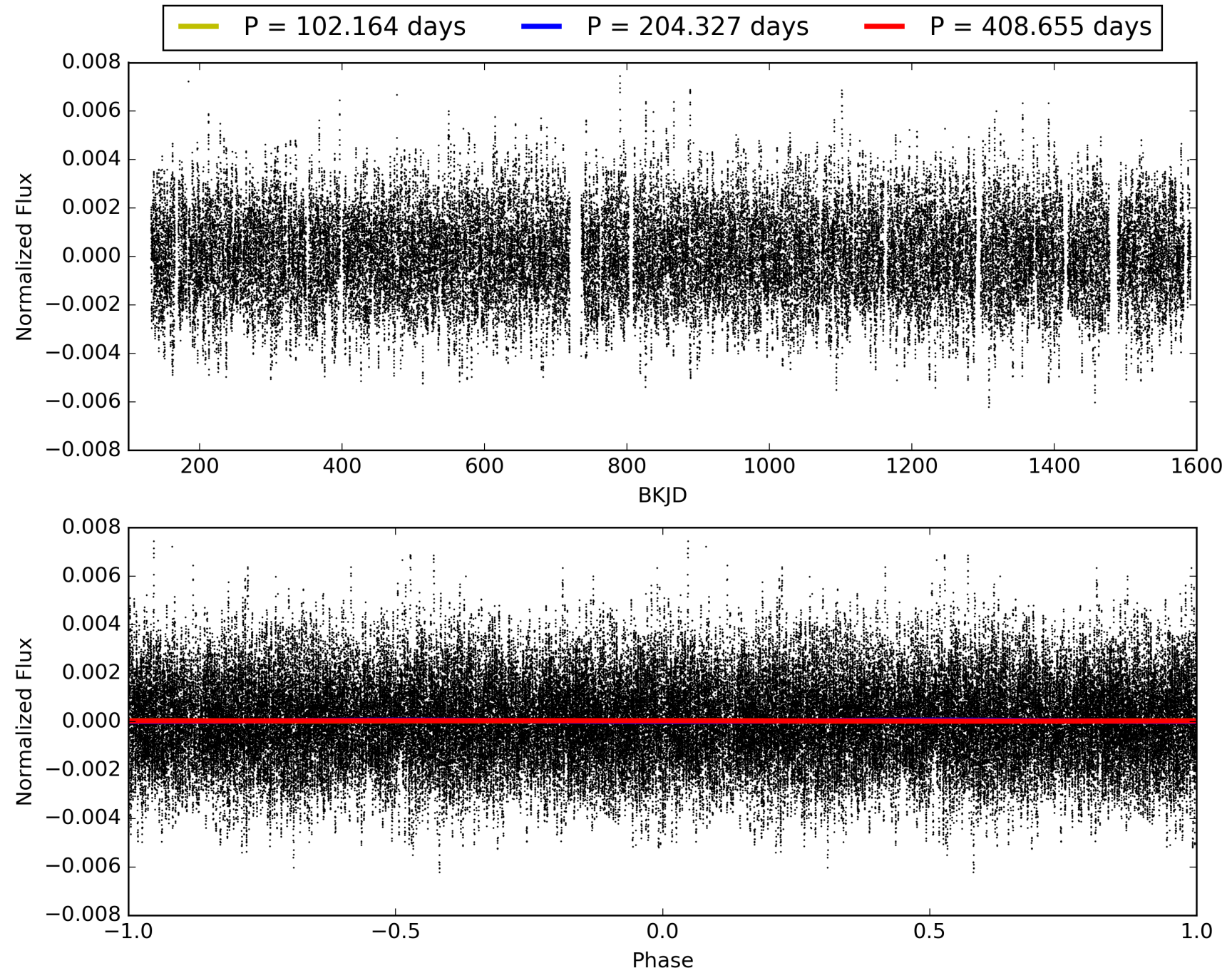
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:29:59 Z

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

TCE 005648562-05, PDC Light Curves

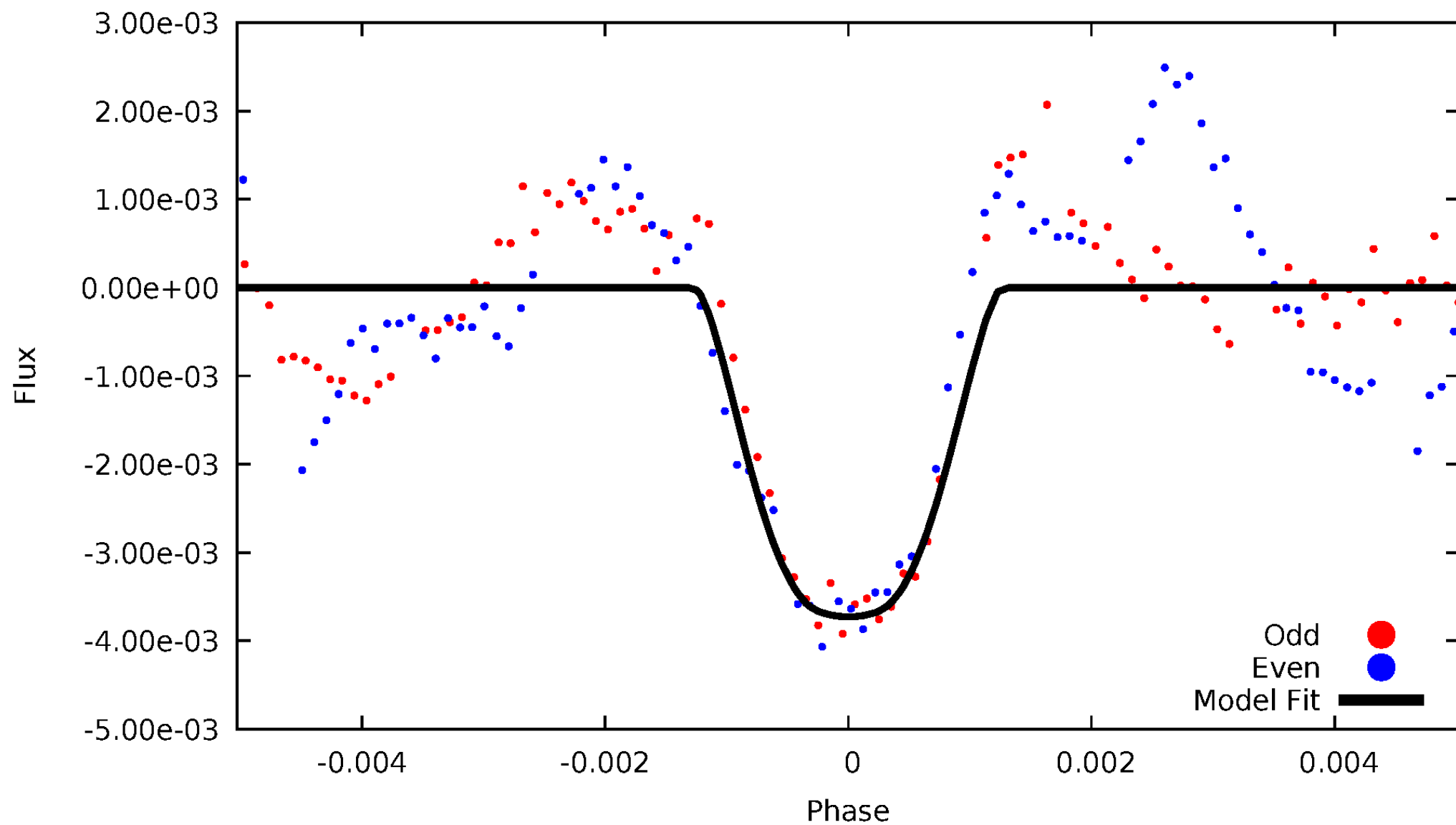


TCE 005648562-05



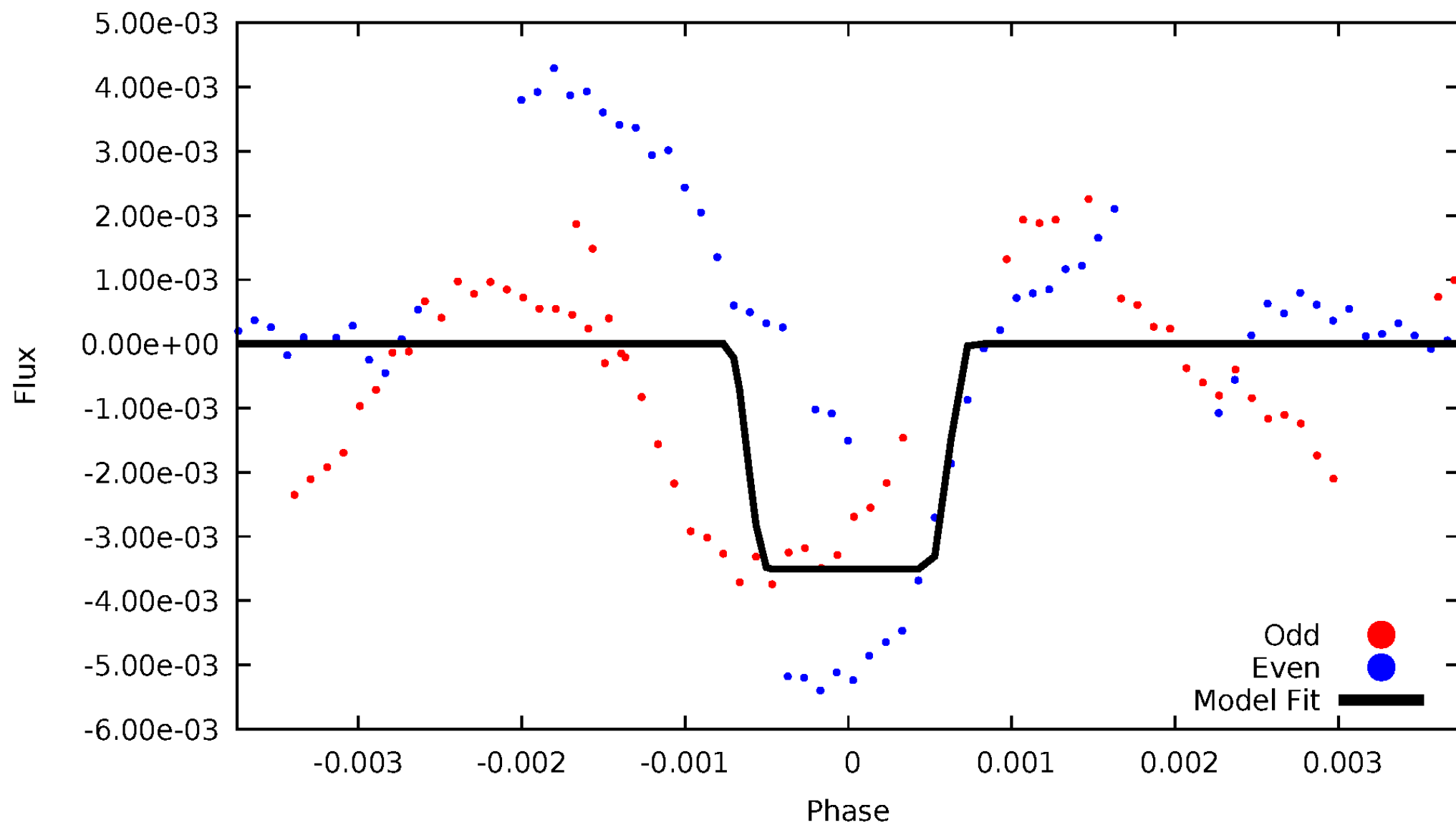
DV Odd/Even

TCE 005648562-05



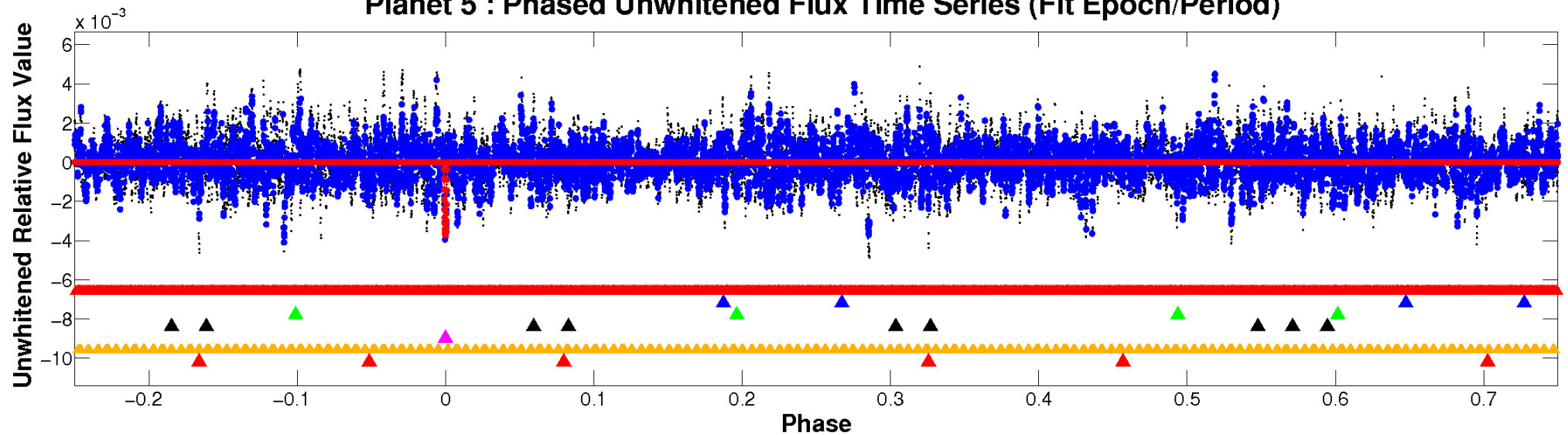
ALT Odd/Even

TCE 005648562-05

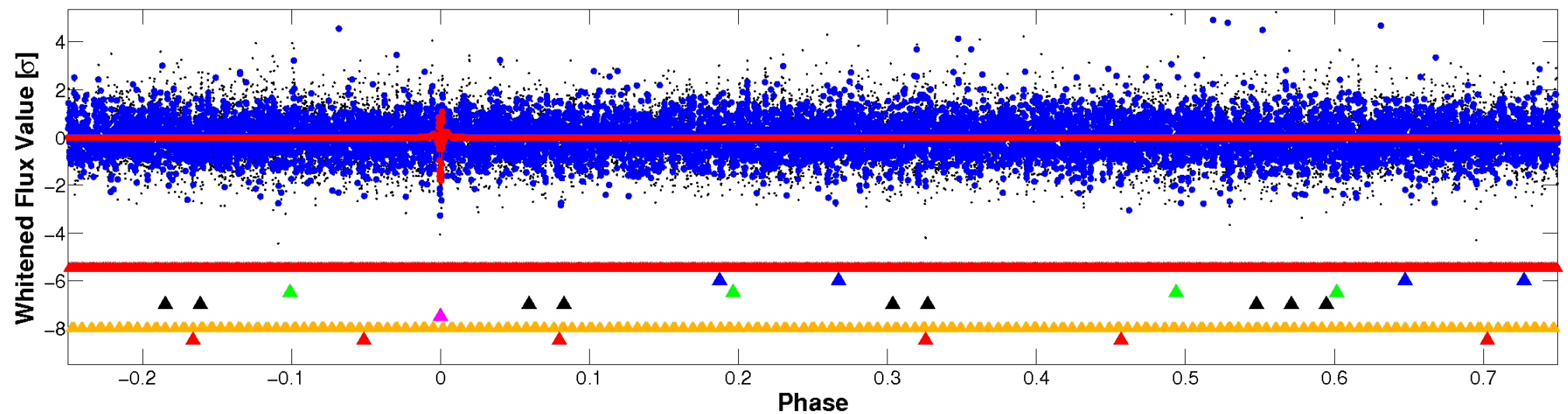


Non-Whitened Vs. Whitened Light Curve

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

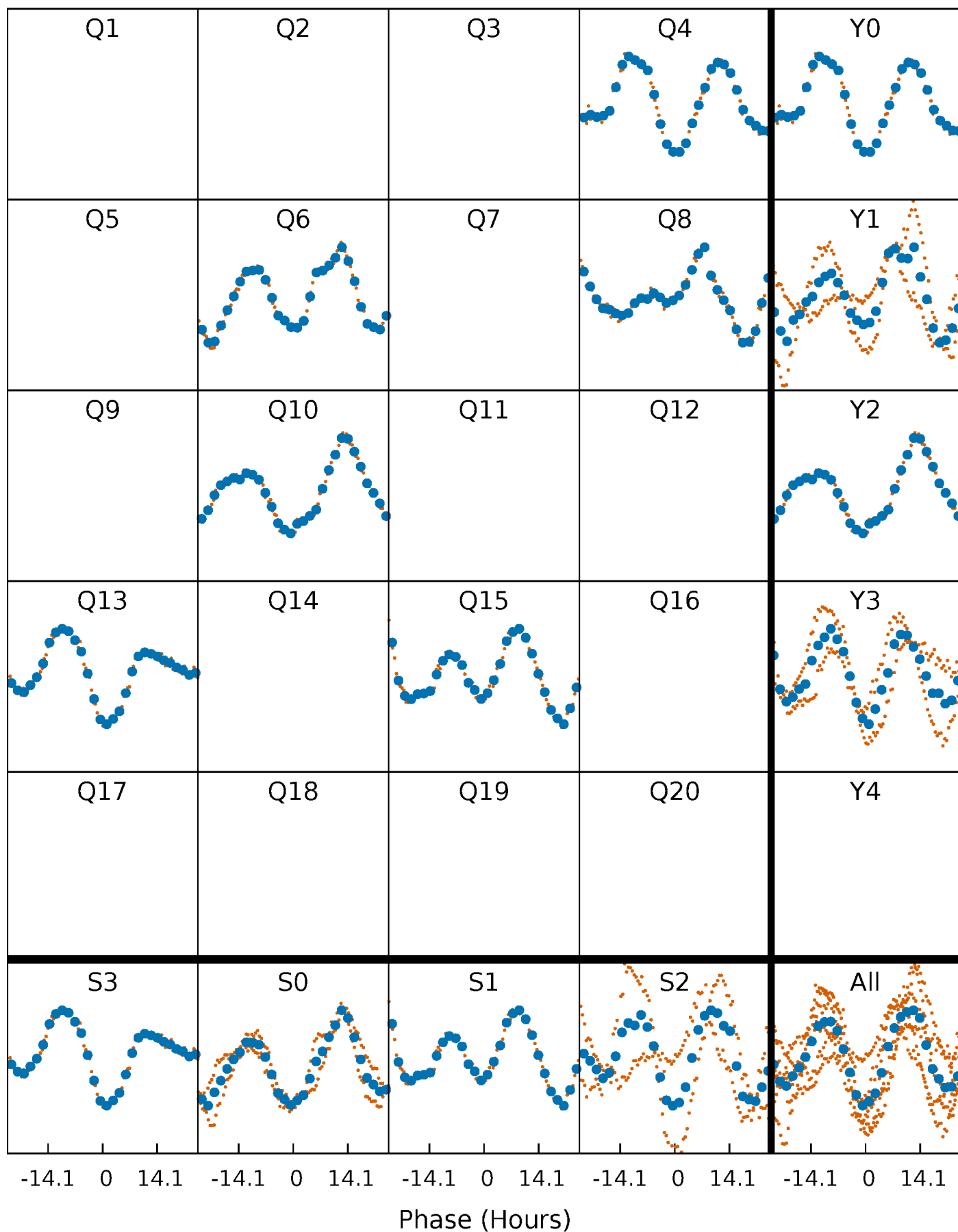


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



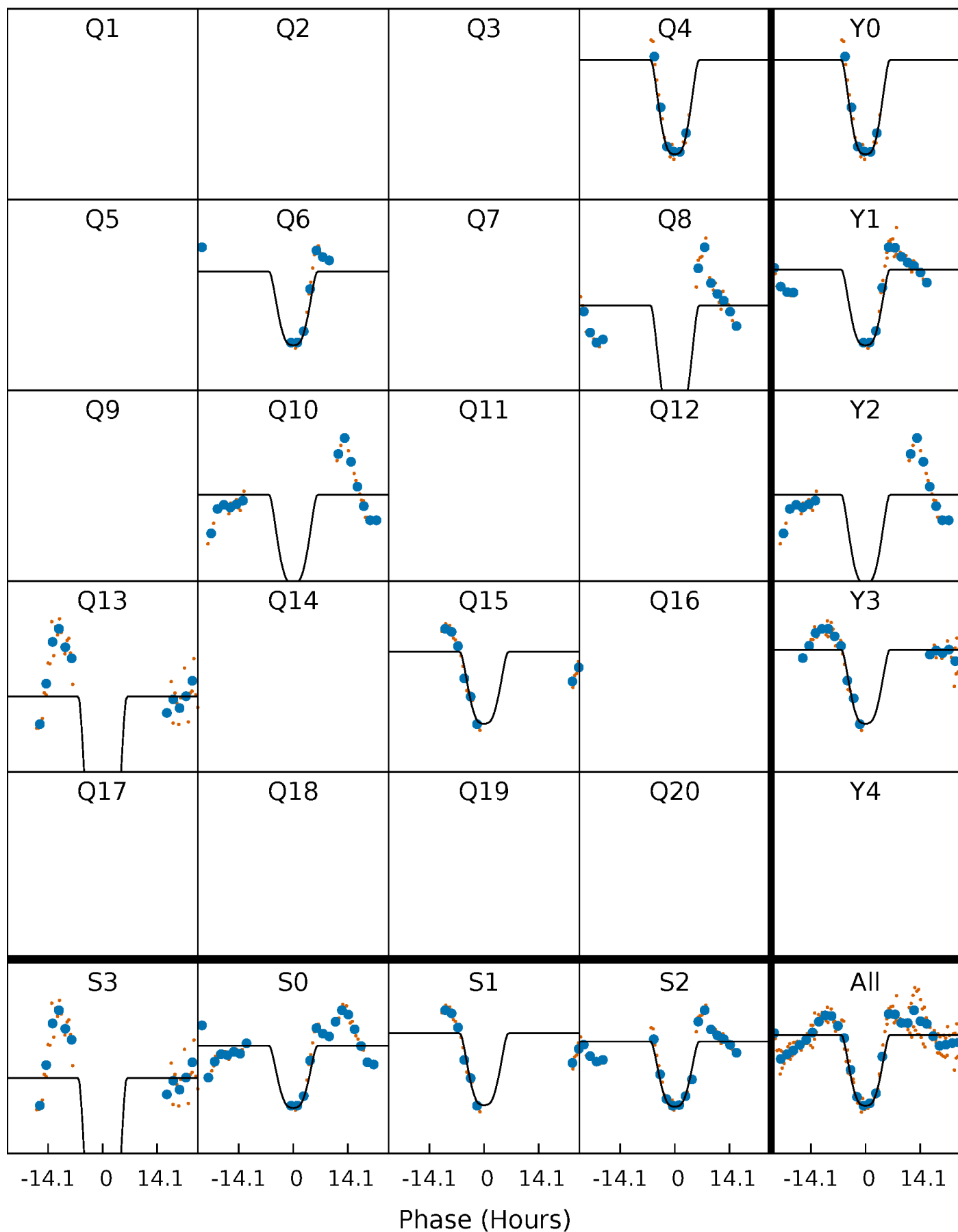
PDC Quarter-Phased Transit Curves

TCE 005648562-05 $P=204.327394$ Days $T_0=167.551979$ (BKJD)



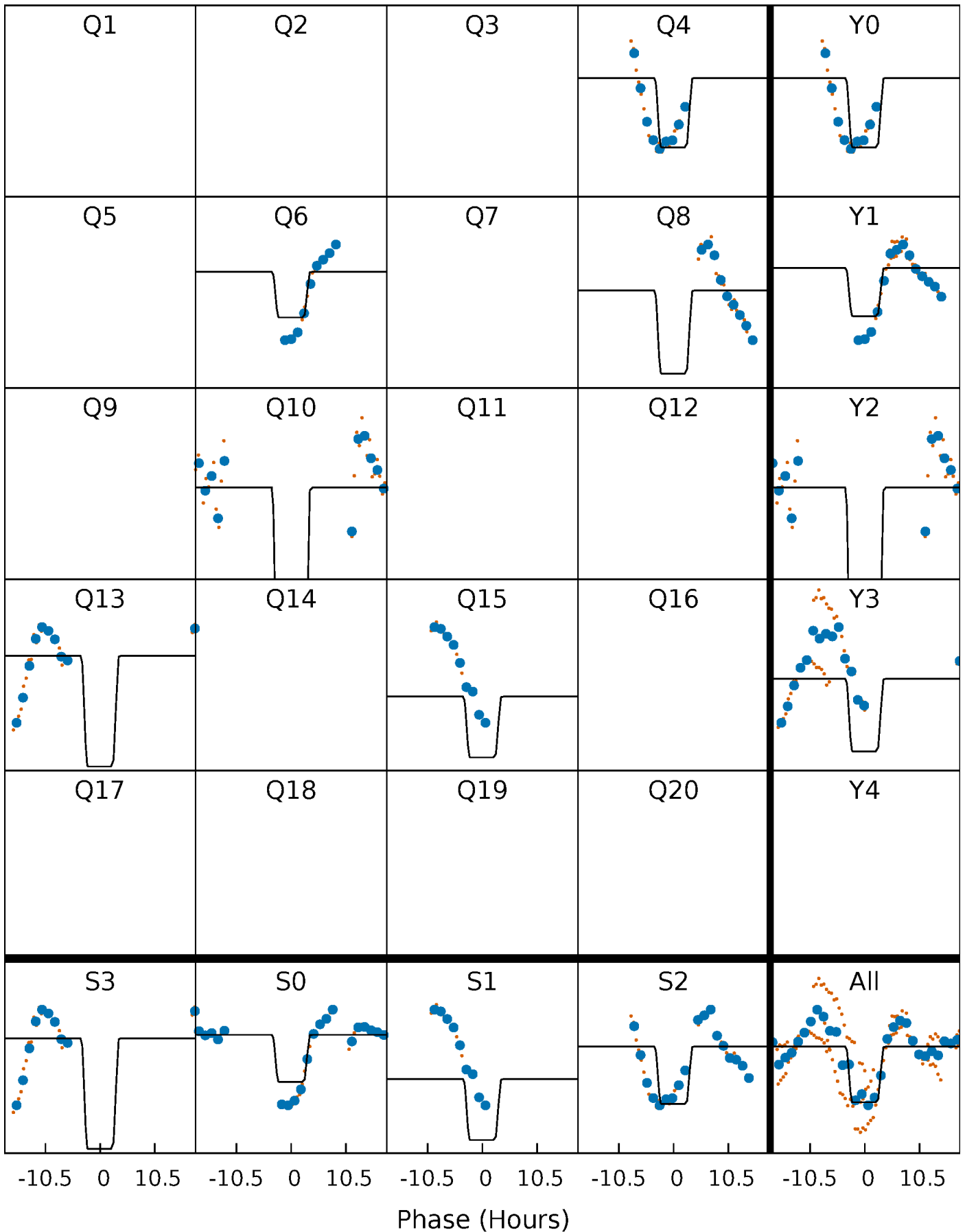
DV Quarter-Phased Transit Curves

TCE 005648562-05 $P=204.327394$ Days $T_0=167.551979$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

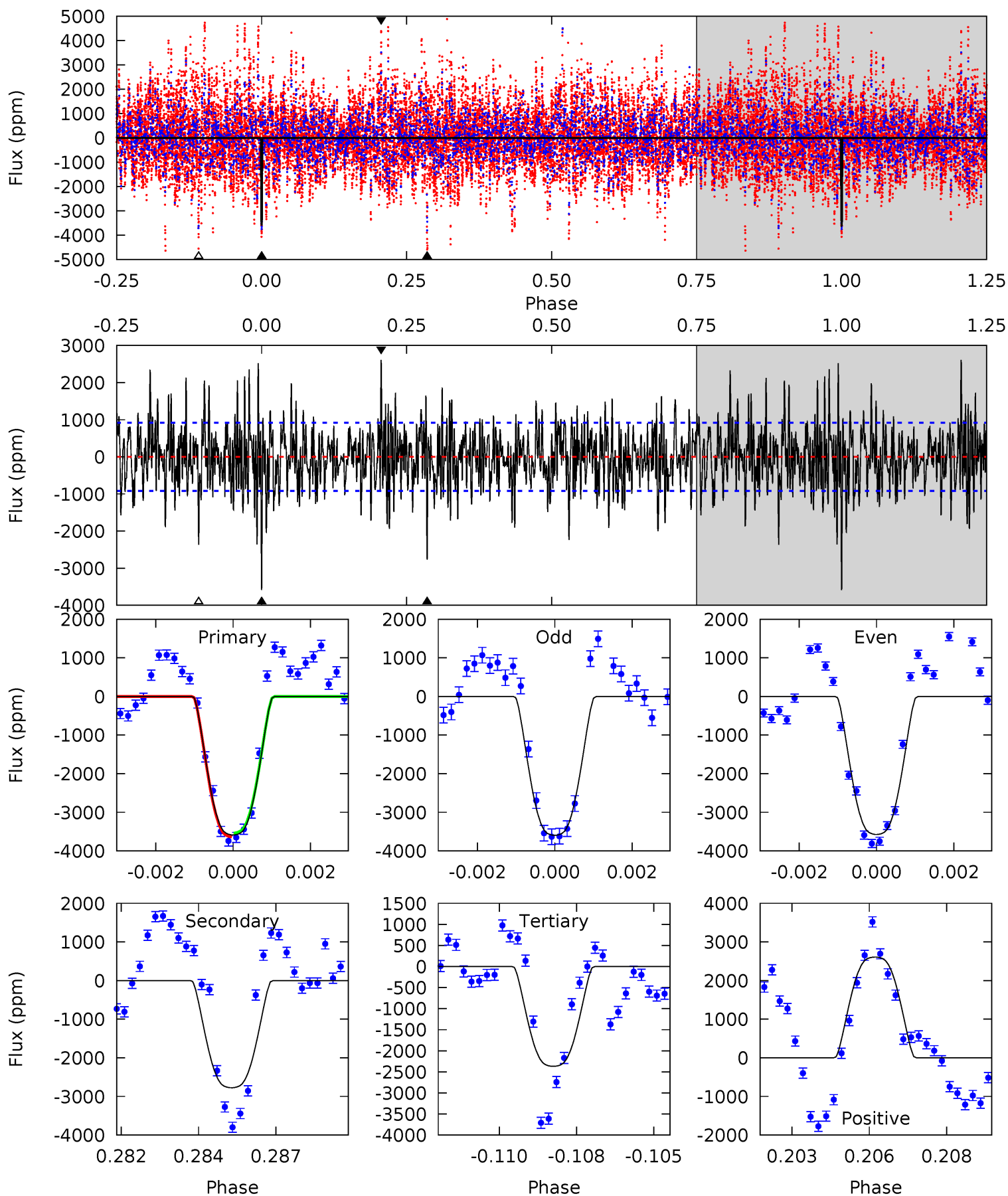
TCE 005648562-05 $P=204.301544$ Days $T_0=167.663279$ (BKJD)



DV Model-Shift Uniqueness Test

005648562-05, P = 204.327394 Days, E = 167.551979 Days

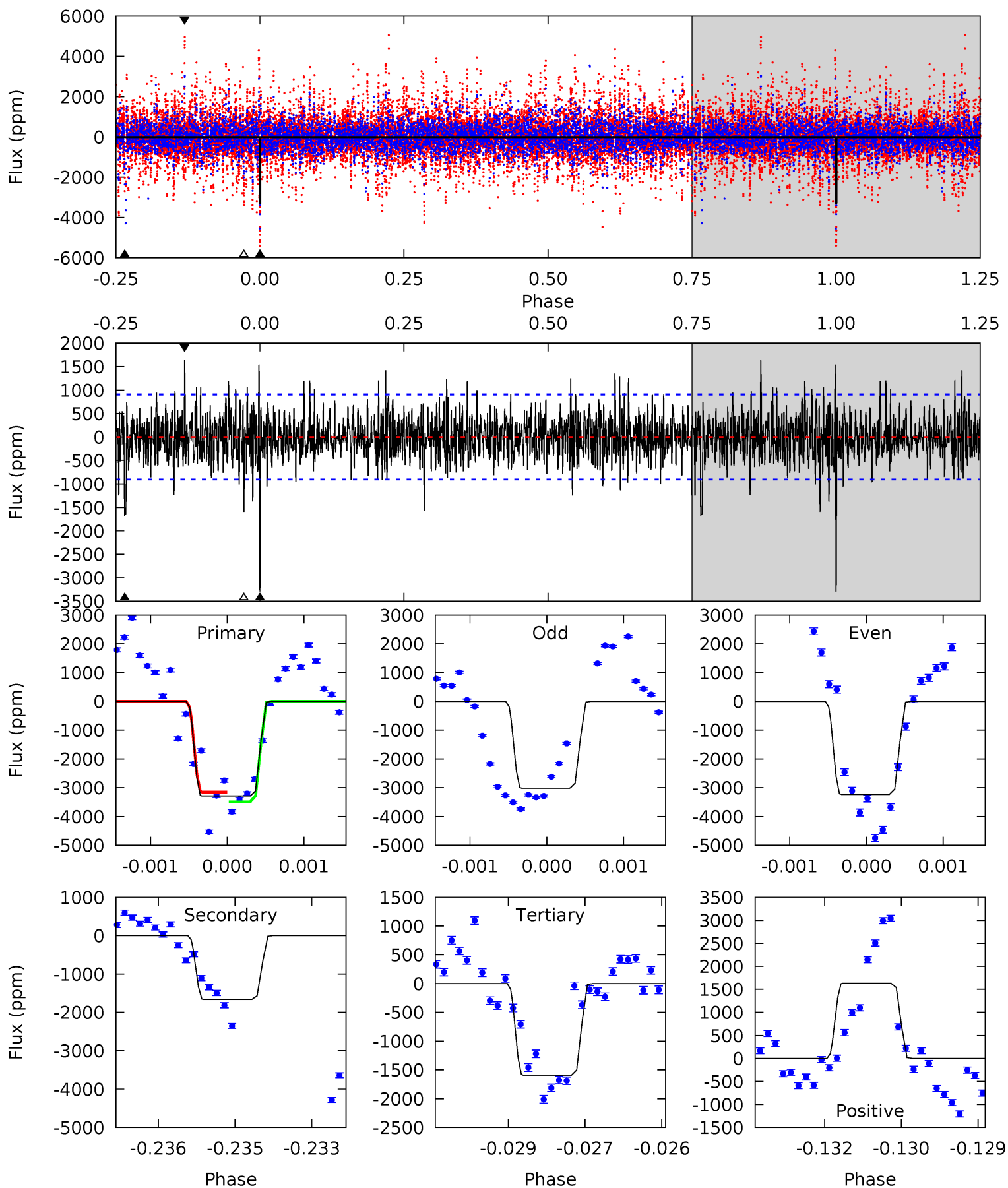
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	16.0	13.7	15.0	5.29	3.03	4.00	7.02	5.64	2.34	0.96	0.06	0.23	0.42	0.29



Alt Model-Shift Uniqueness Test

005648562-05, P = 204.301544 Days, E = 167.663279 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	9.92	9.49	9.73	5.39	3.19	2.34	10.1	9.89	0.43	0.19	0.63	0.91	0.33	0.98



Stellar Parameters For KIC 005648562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+218}_{-327}	$3.814^{+0.390}_{-0.130}$	$0.000^{+0.250}_{-0.300}$	$2.696^{+0.535}_{-1.248}$	$1.728^{+0.164}_{-0.460}$	$0.124^{+0.472}_{-0.039}$
	+3%/-5%	+10%/-3%	+inf%/-inf%	+20%/-46%	+9%/-27%	+380%/-32%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005648562-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2775 ± 173	$19.32^{+2.86}_{-4.69}$	754^{+58}_{-90}	6021^{+318}_{-314}	2698^{+1732}_{-630}
Alt.	-1665 ± 168	$16.73^{+2.69}_{-4.08}$	748^{+60}_{-79}	5660^{+315}_{-296}	2145^{+1362}_{-579}

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 $A_{obs} \gg 1.0$

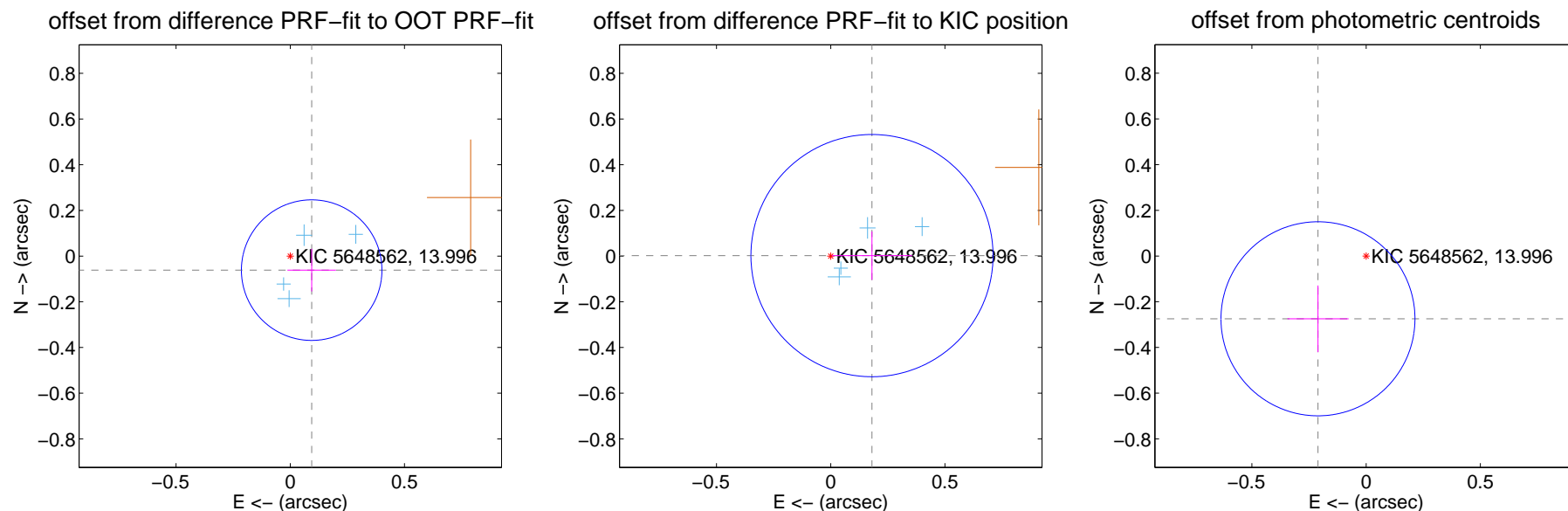
DV Centroid Data

Supplemental centroid analysis for 005648562-05. Kepler magnitude: 14.00. Transit SNR 8.91

There are 4 quarters with good PRF difference image offsets

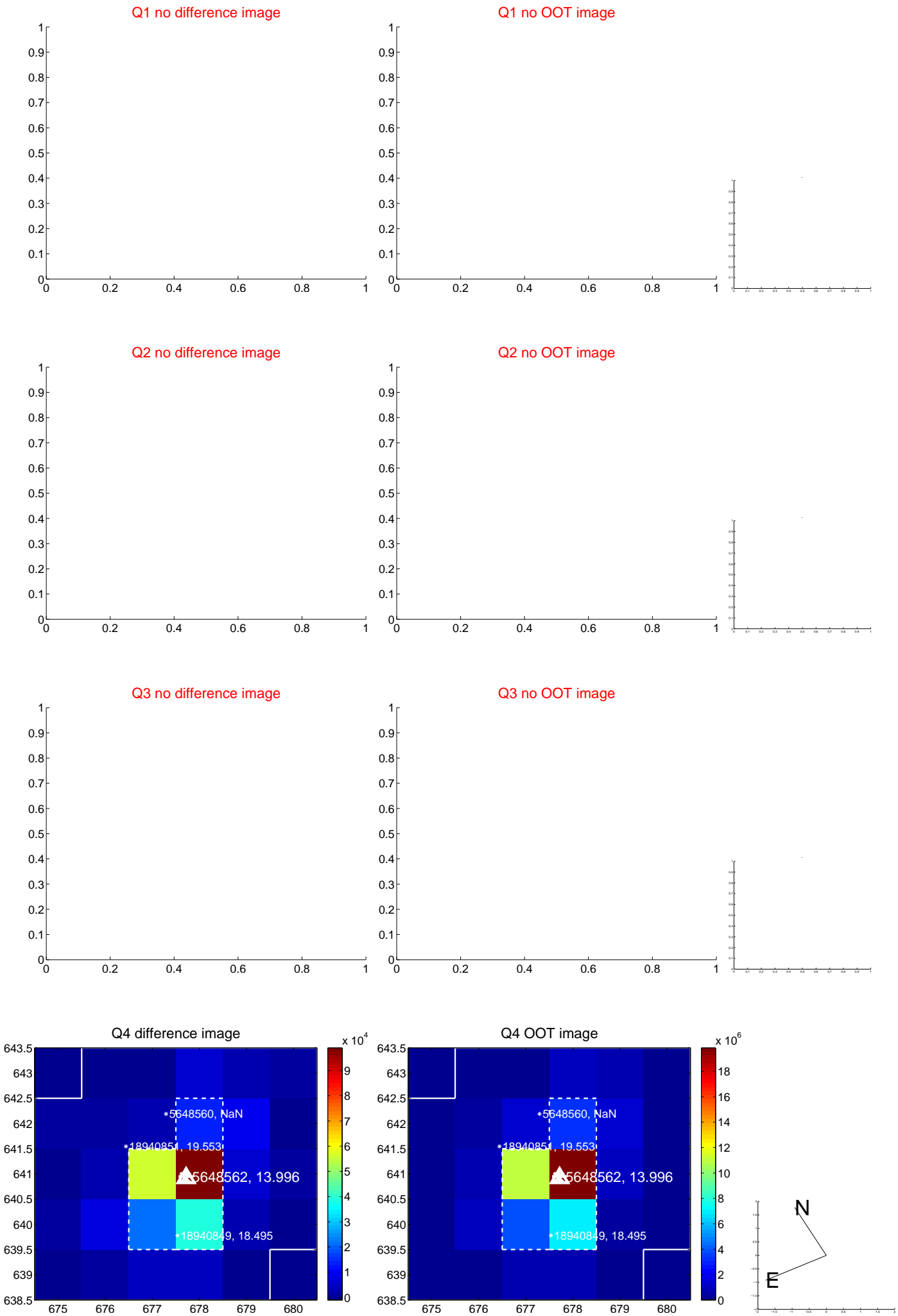
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.112 ± 0.103	1.09	-0.094 ± 0.106	-0.061 ± 0.093
PRF-fit source offset from KIC position	0.181 ± 0.177	1.02	-0.181 ± 0.176	0.002 ± 0.106
photometric centroid source offset	0.35 ± 0.14	2.45	0.21 ± 0.13	-0.27 ± 0.15

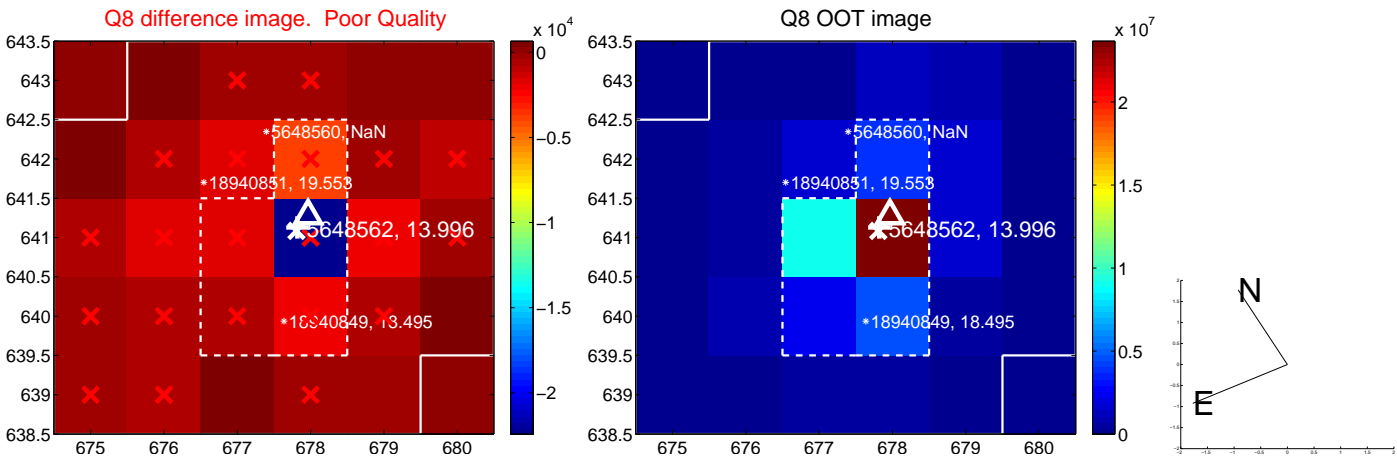
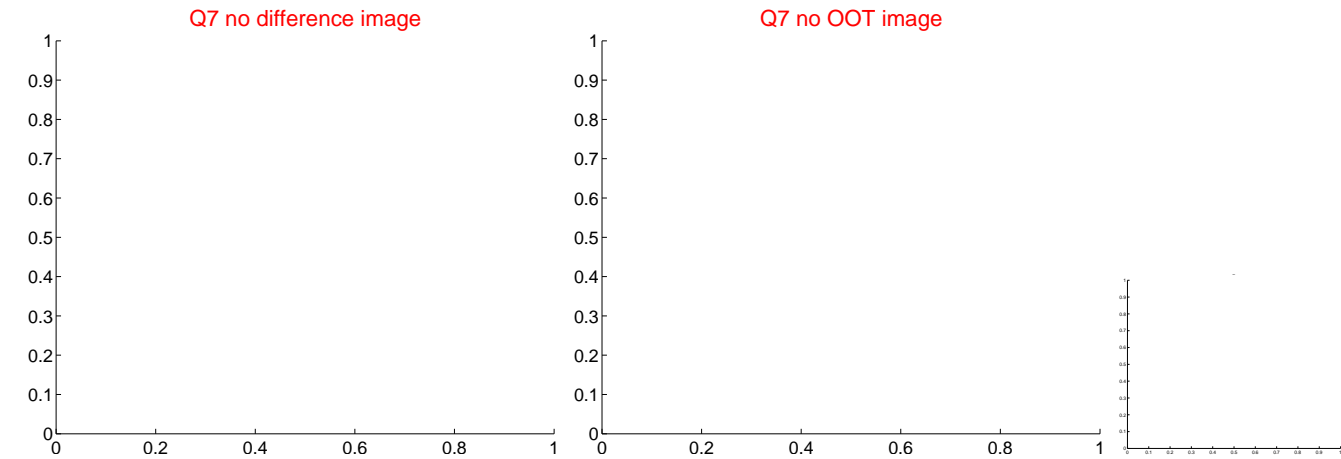
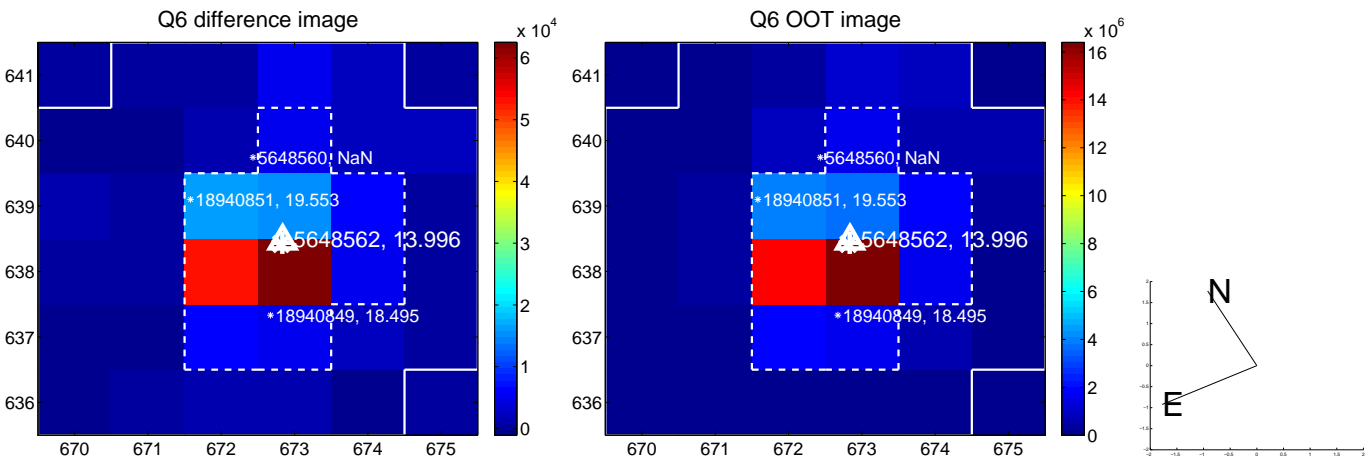


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

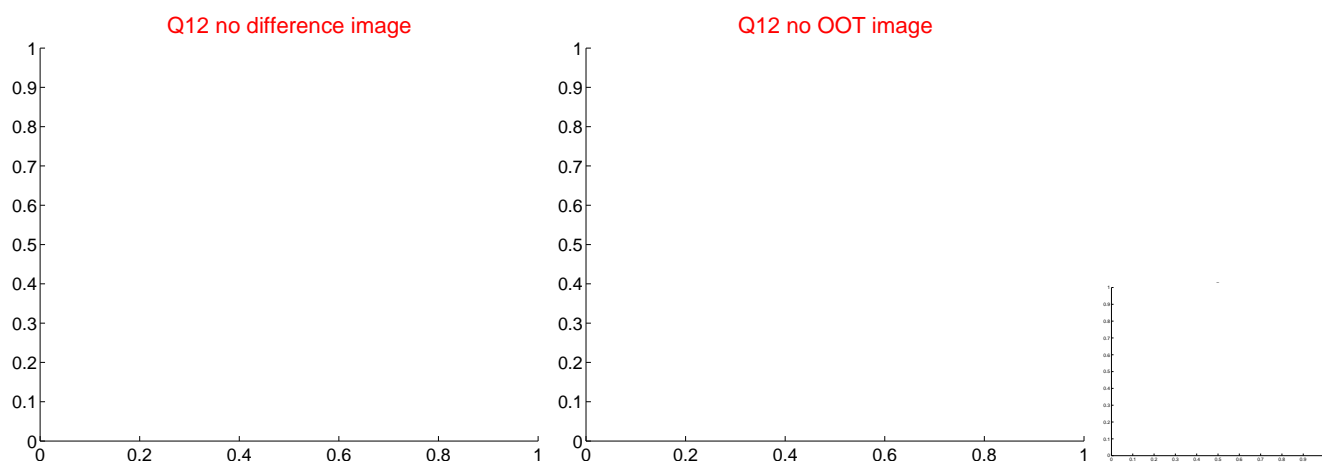
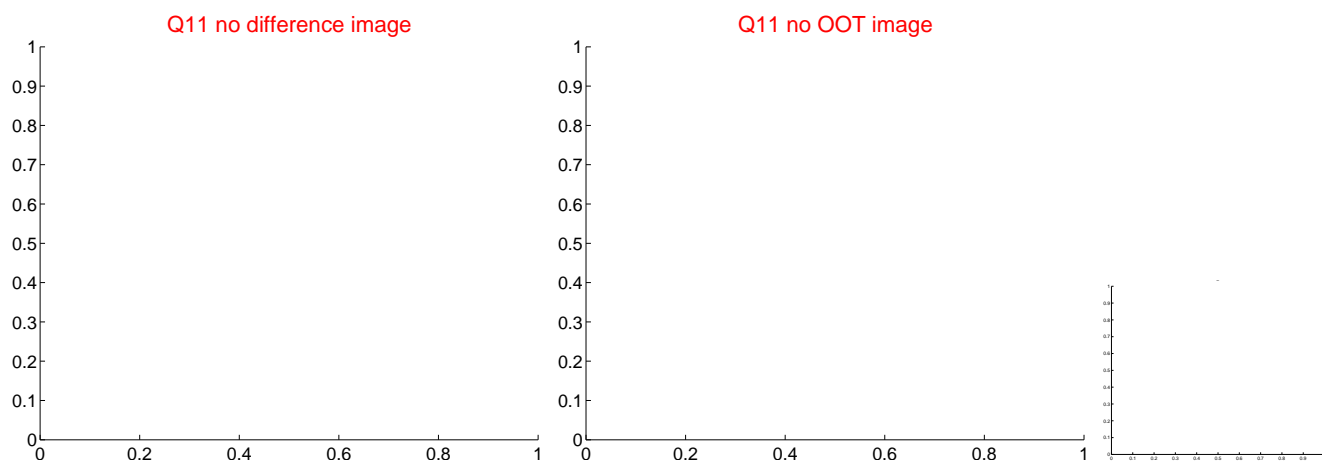
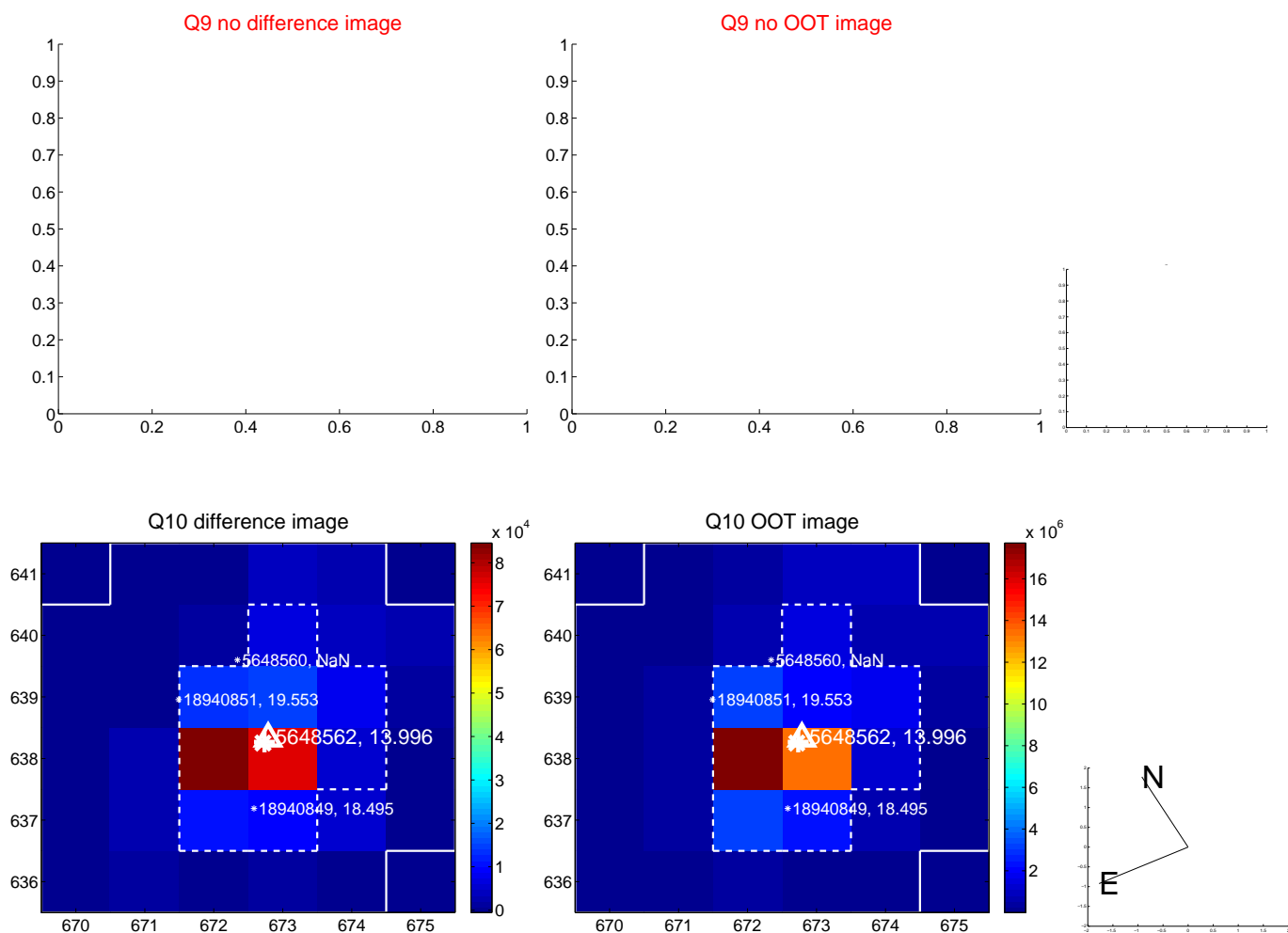
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



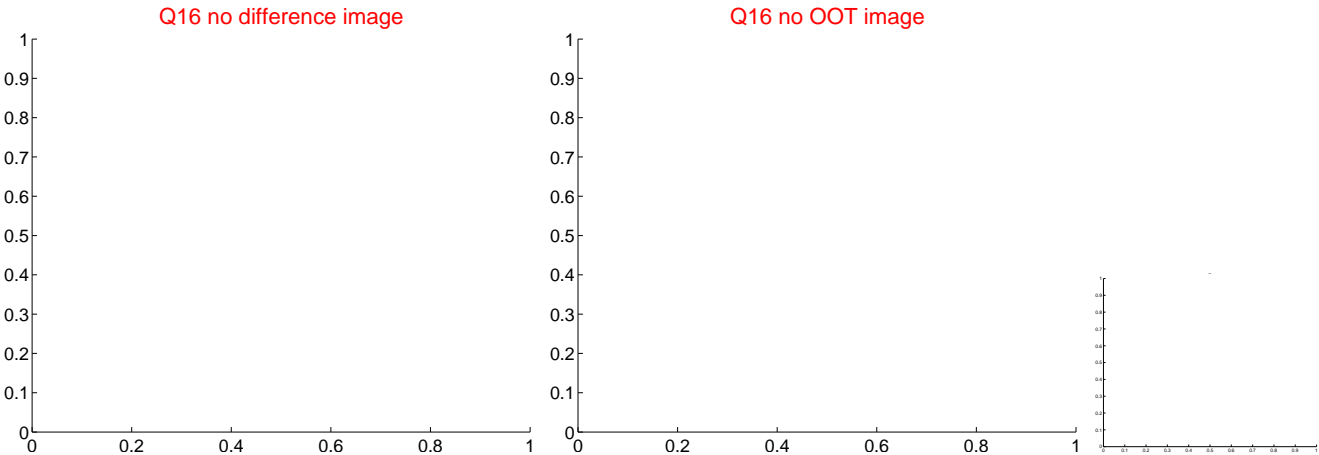
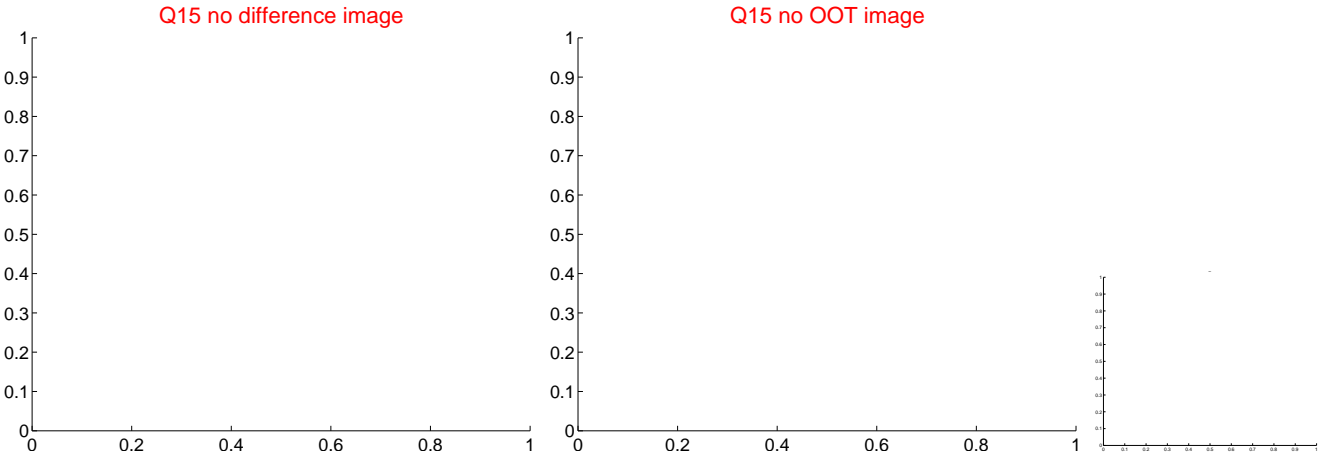
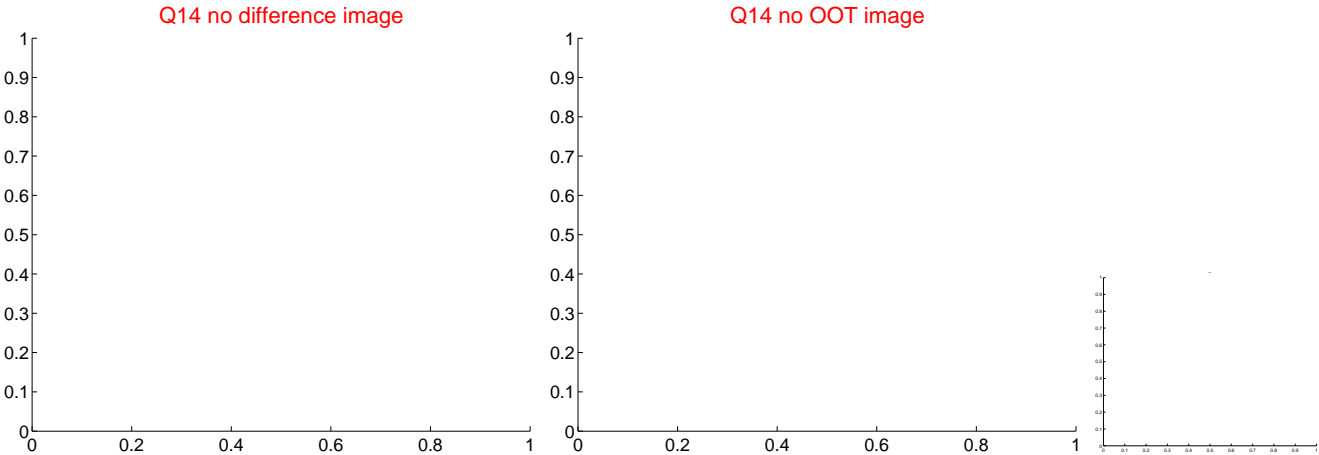
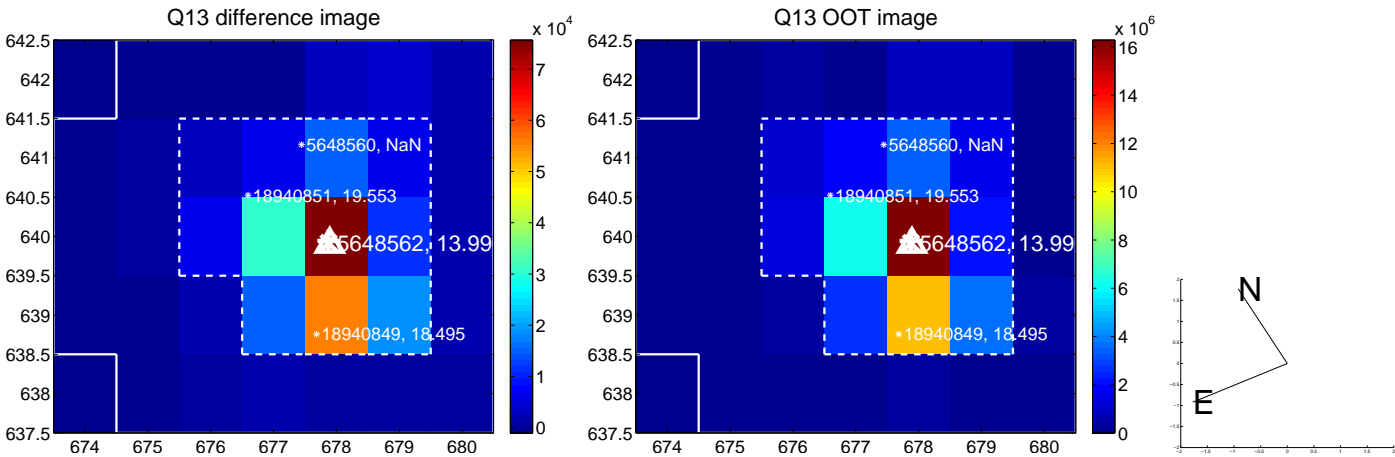
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



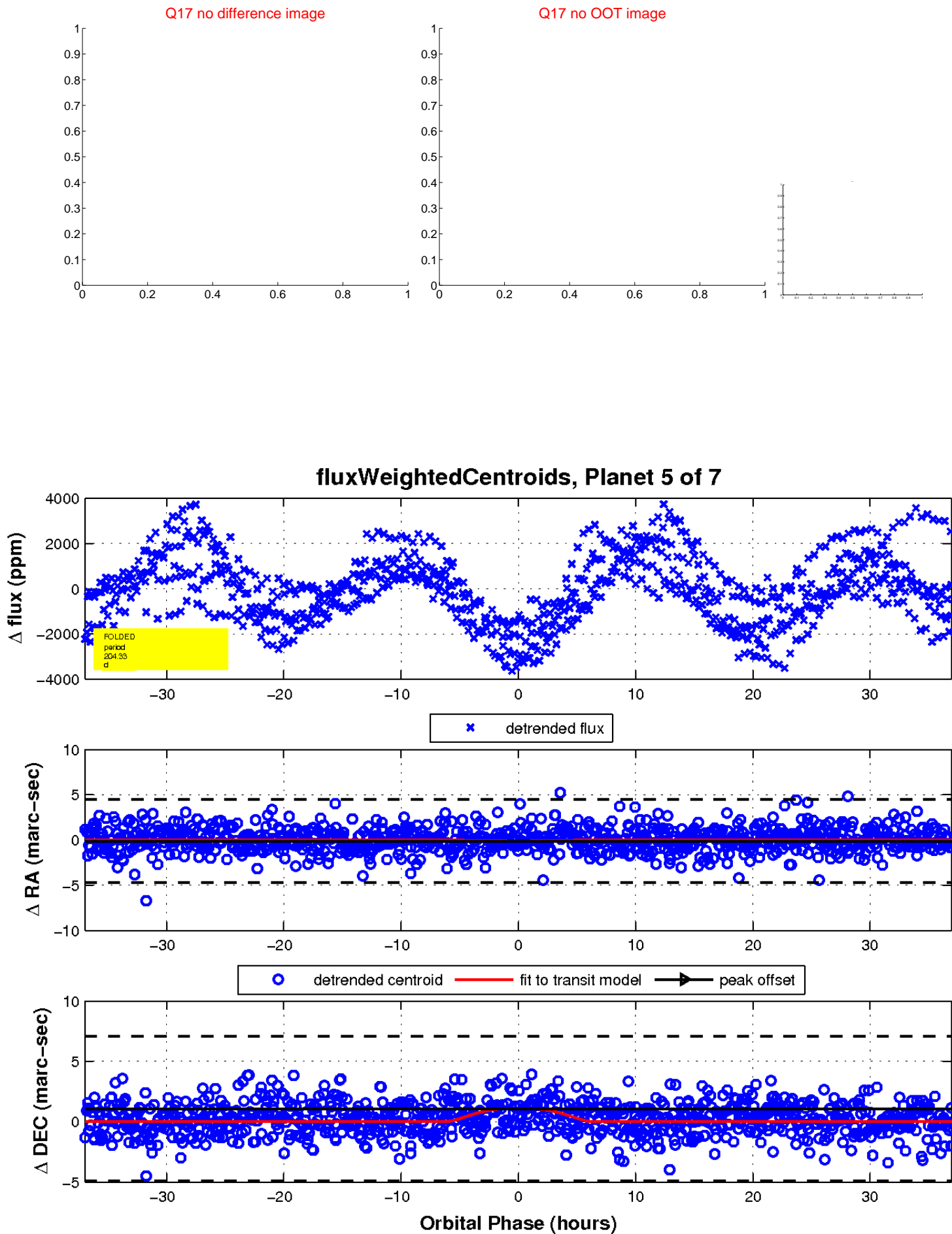
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

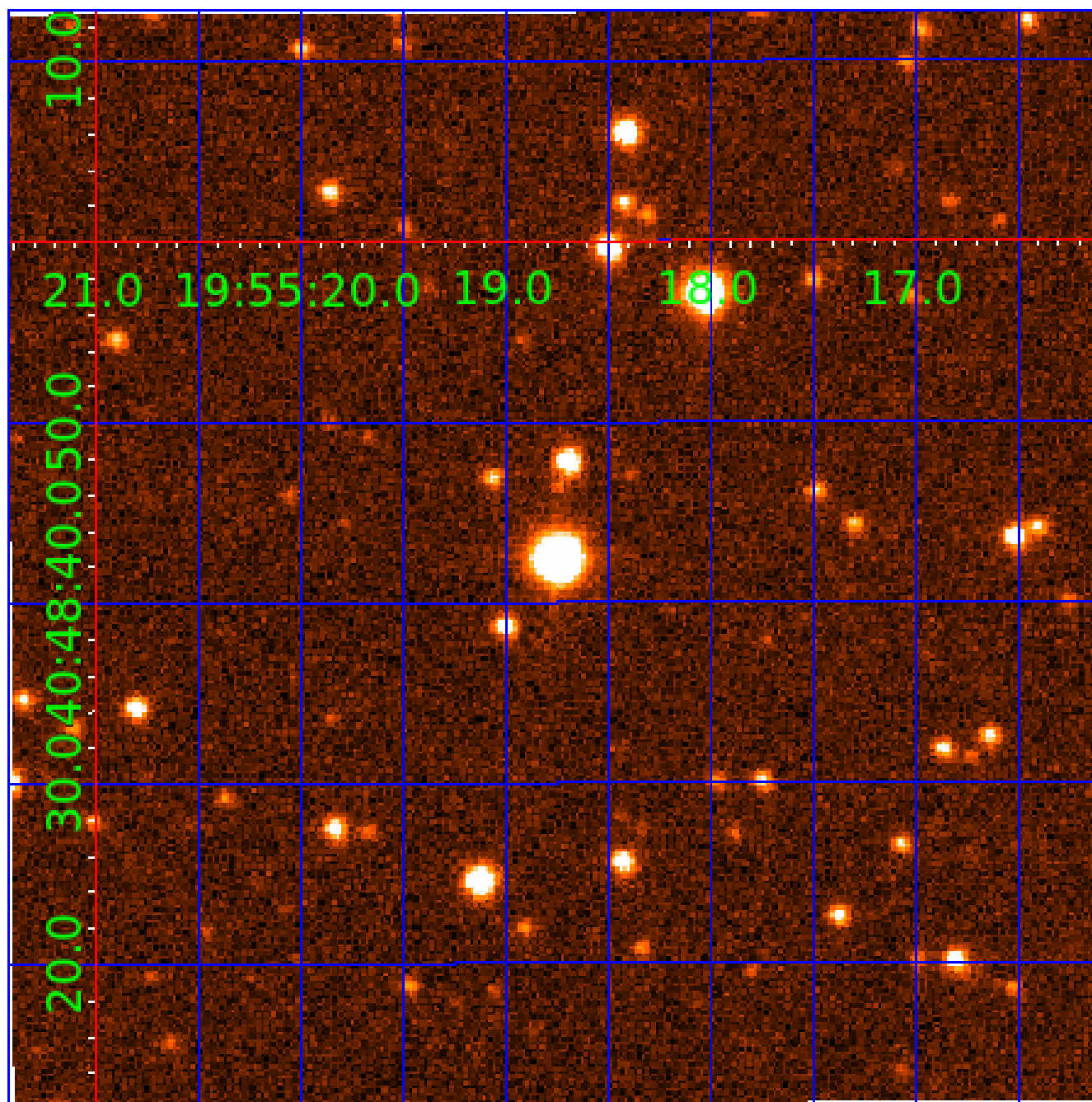


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005648562

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})
005648562-01	OBS	No	1.420629	132.452510	239.9	7.740	9.8	12.2	2.70	6842	7.54	16198.16
005648562-02	OBS	No	298.334488	426.486967	1653.9	41.343	11.4	4.8	2.70	6842	11.97	12.98
005648562-03	OBS	No	347.887166	268.447066	3020.8	9.883	8.7	7.8	2.70	6842	26.89	10.57
005648562-04	OBS	No	154.442774	279.472527	2424.5	7.448	8.3	8.5	2.70	6842	24.25	31.22
005648562-05	OBS	No	204.327394	167.551979	3727.4	12.330	7.5	8.9	2.70	6842	19.75	21.50
005648562-06	OBS	No	3.808446	134.675179	539.4	8.257	9.2	10.3	2.70	6842	11.41	4349.53
005648562-07	OBS	No	281.369834	157.050783	662.2	3.000	9.1	-1.0	2.70	6842	7.01	14.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005648562-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005648562-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005648562-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
005648562-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005648562-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005648562-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005648562-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

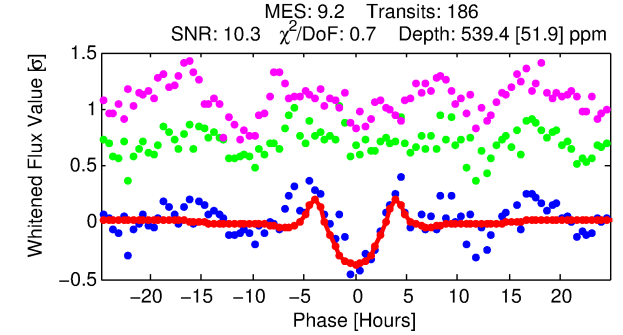
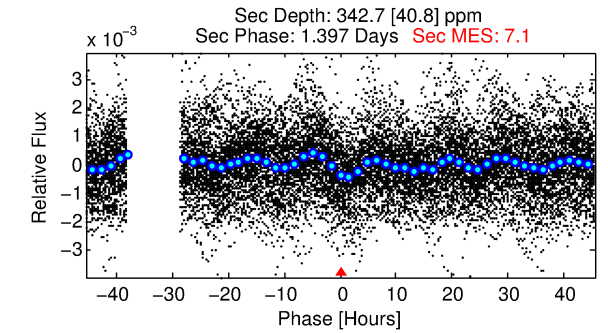
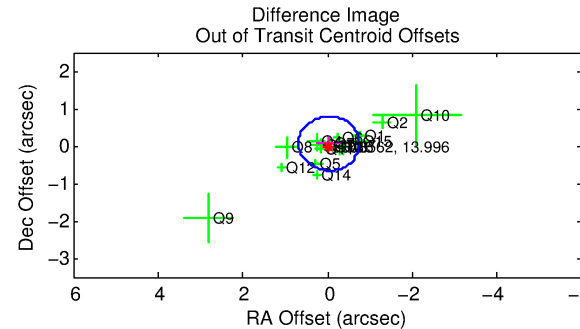
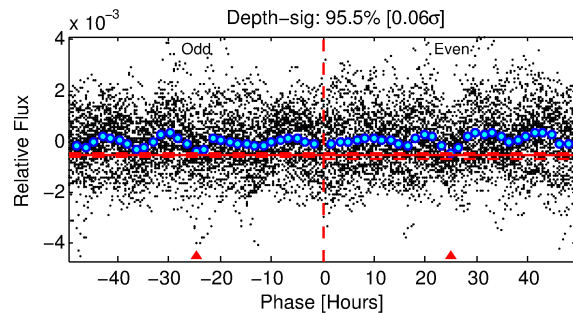
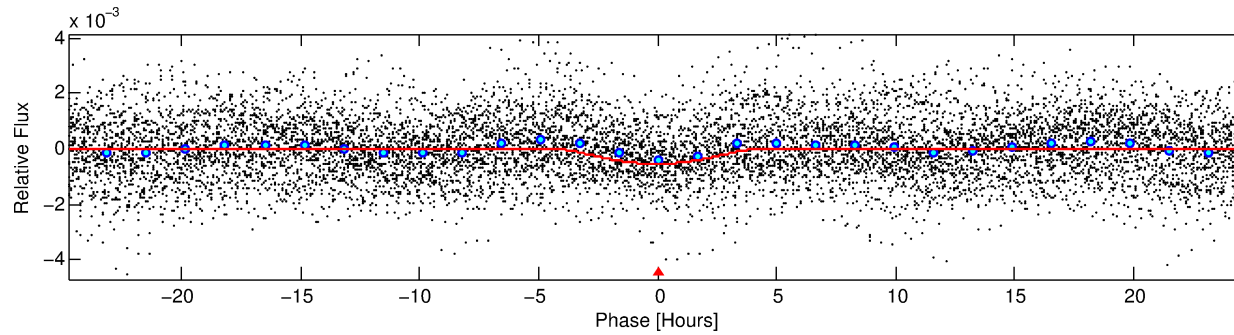
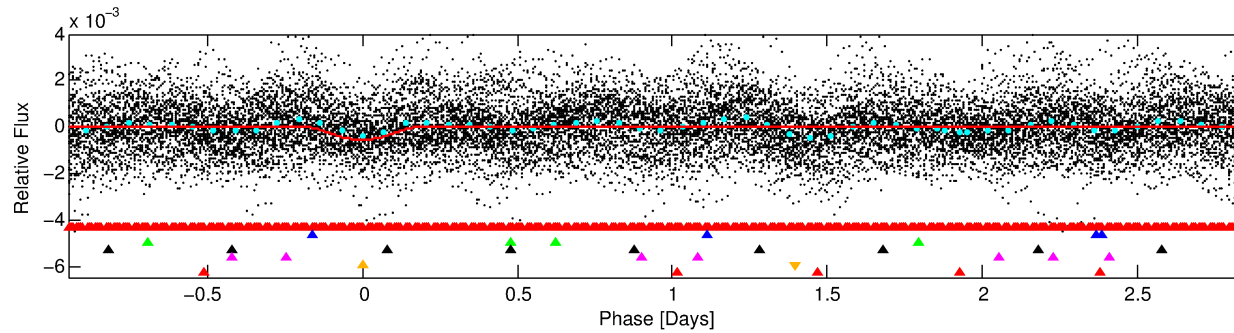
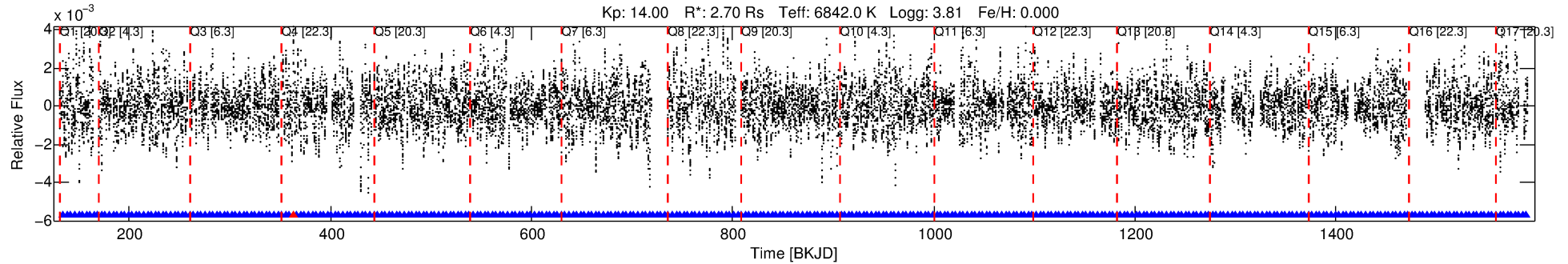
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005648562-06

No Significant Match Found

DV One-Page Summary

KIC: 5648562 Candidate: 6 of 7 Period: 3.808 d



DV Fit Results:

Period = 3.80845 [0.00004] d
Epoch = 134.6752 [0.0092] BKJD
Rp/R* = 0.0388 [0.0312]
a/R* = 1.44 [0.13]
b = 1.00 [0.05]
Seff = 4349.53 [3045.27]
Teff = 2071 [362] K
Rp = 11.41 [10.59] Re
a = 0.0573 [0.0246] AU
Ag = 4.75 [8.30] [0.45 σ]
Teffp = 4726 [1919] K [1.36 σ]

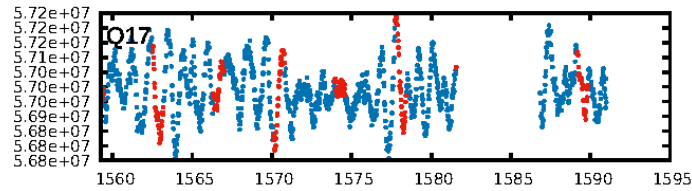
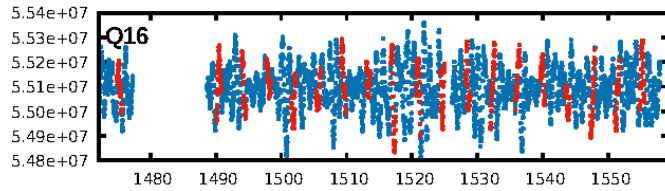
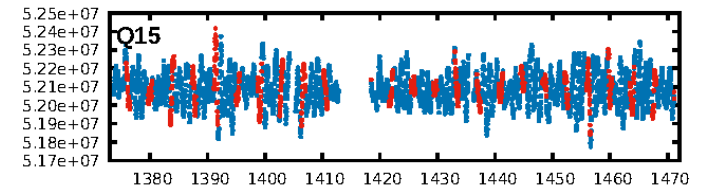
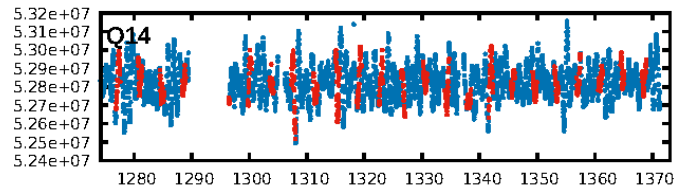
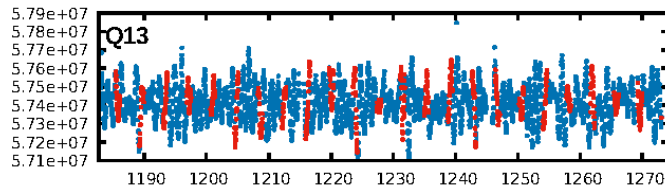
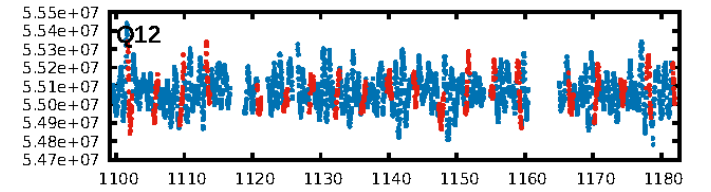
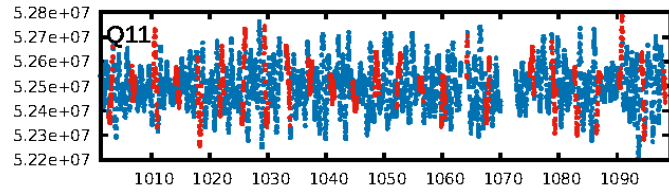
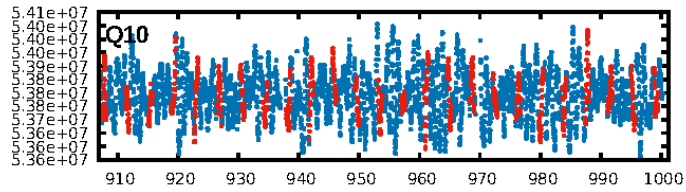
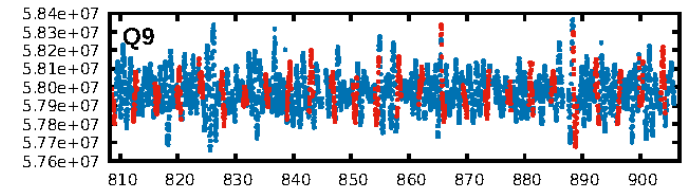
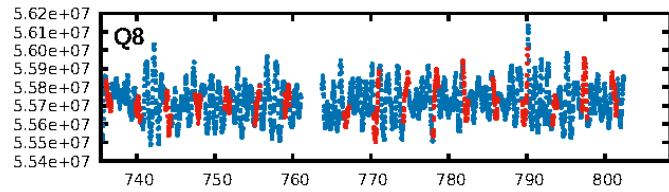
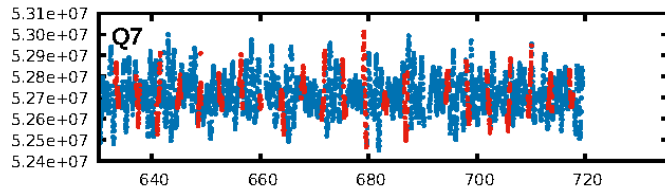
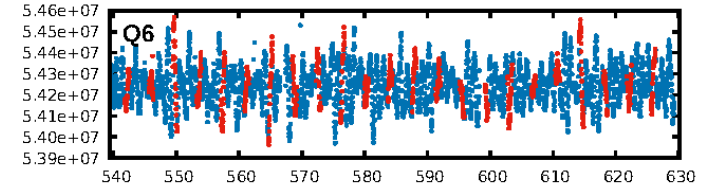
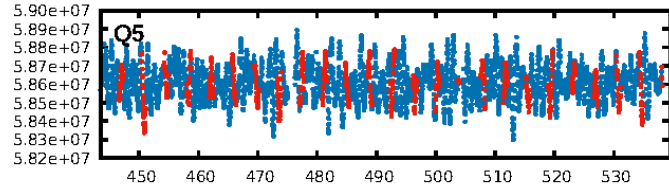
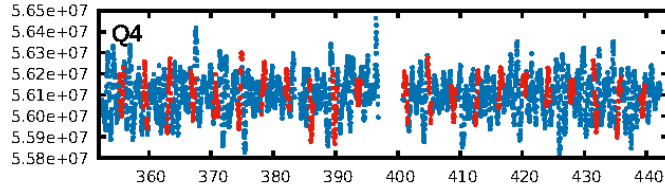
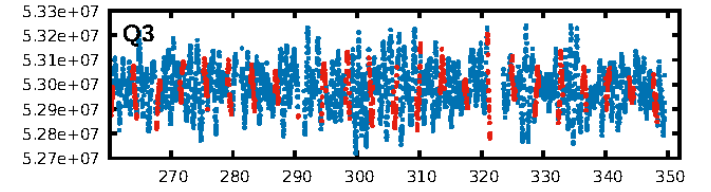
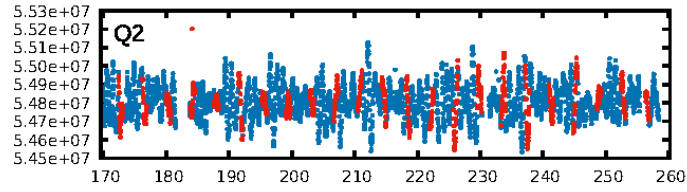
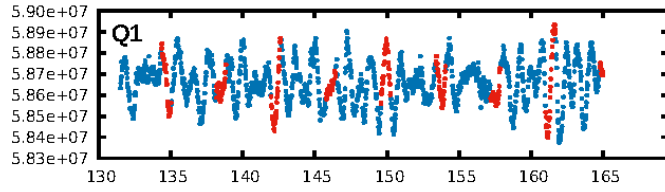
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.06 σ]
LongPeriod-sig: 100.0% [325.12 σ]
ModelChiSquare2-sig: 4.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [175/176]
GhostDiagnostic-chr: 1.948
Centroid-sig: 76.6%
Centroid-so: 0.104 arcsec [0.68 σ]
OotOffset-rm: 0.071 arcsec [0.29 σ]
KicOffset-rm: 0.228 arcsec [0.83 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

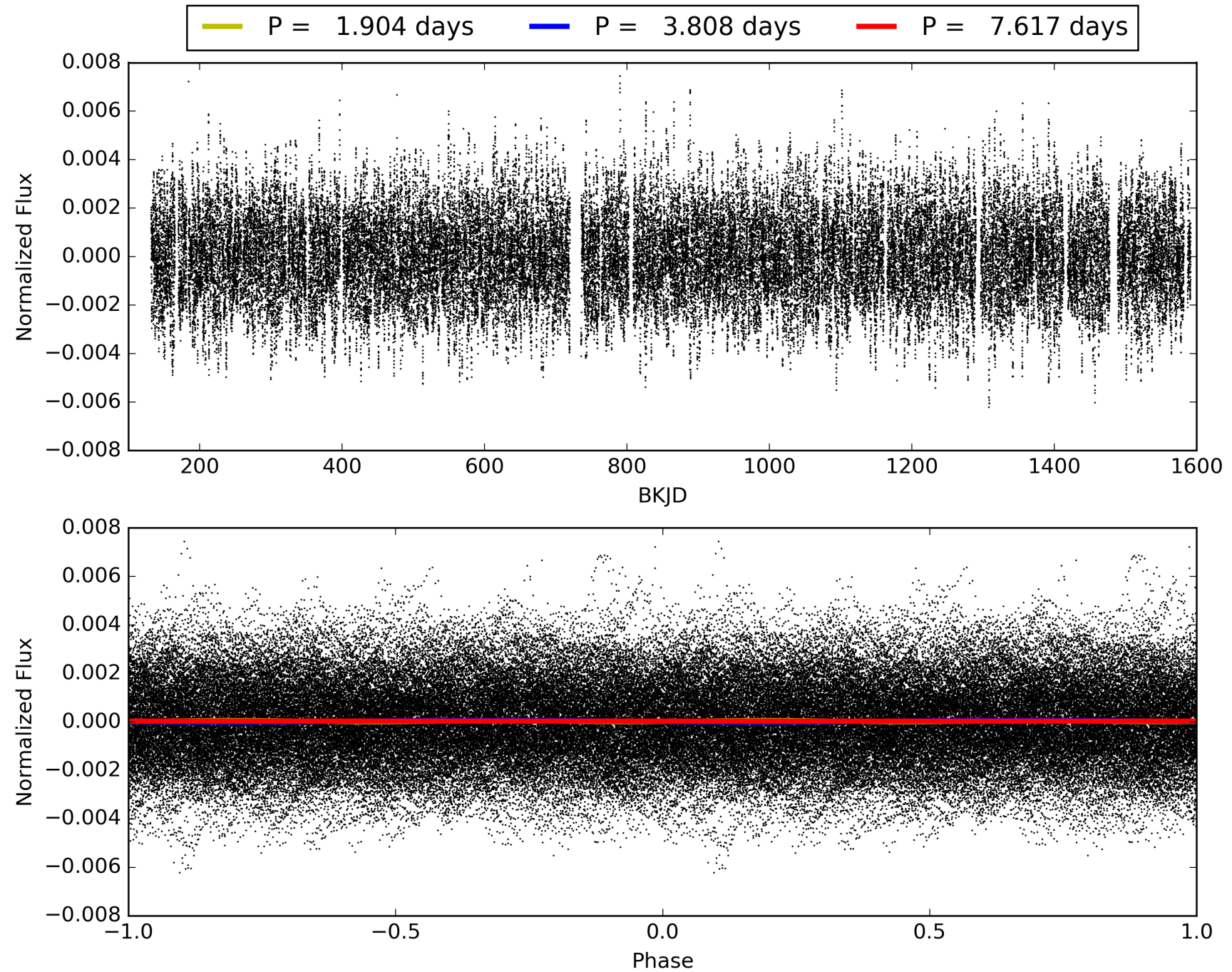
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:30:04 Z

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

TCE 005648562-06, PDC Light Curves

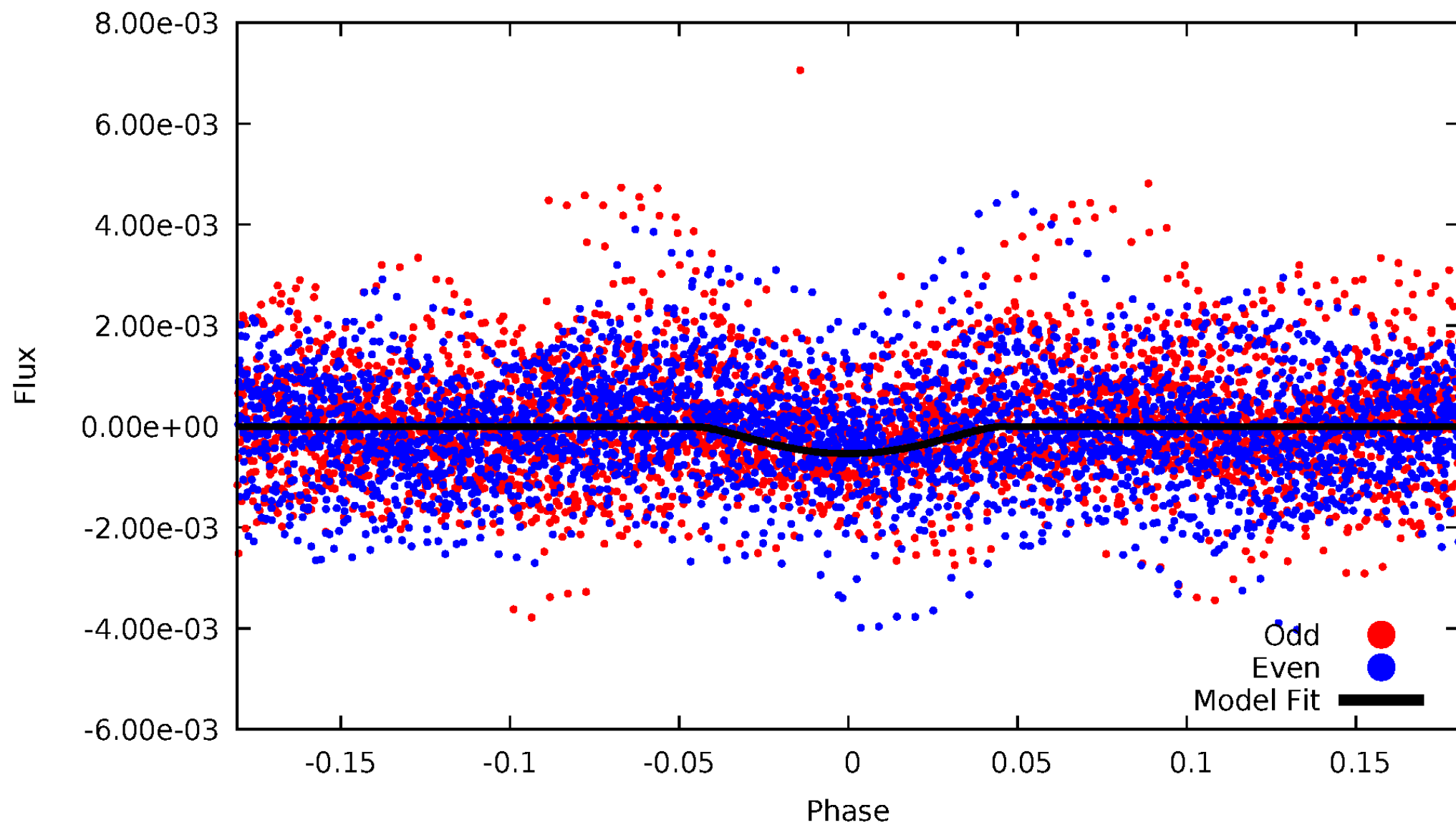


TCE 005648562-06



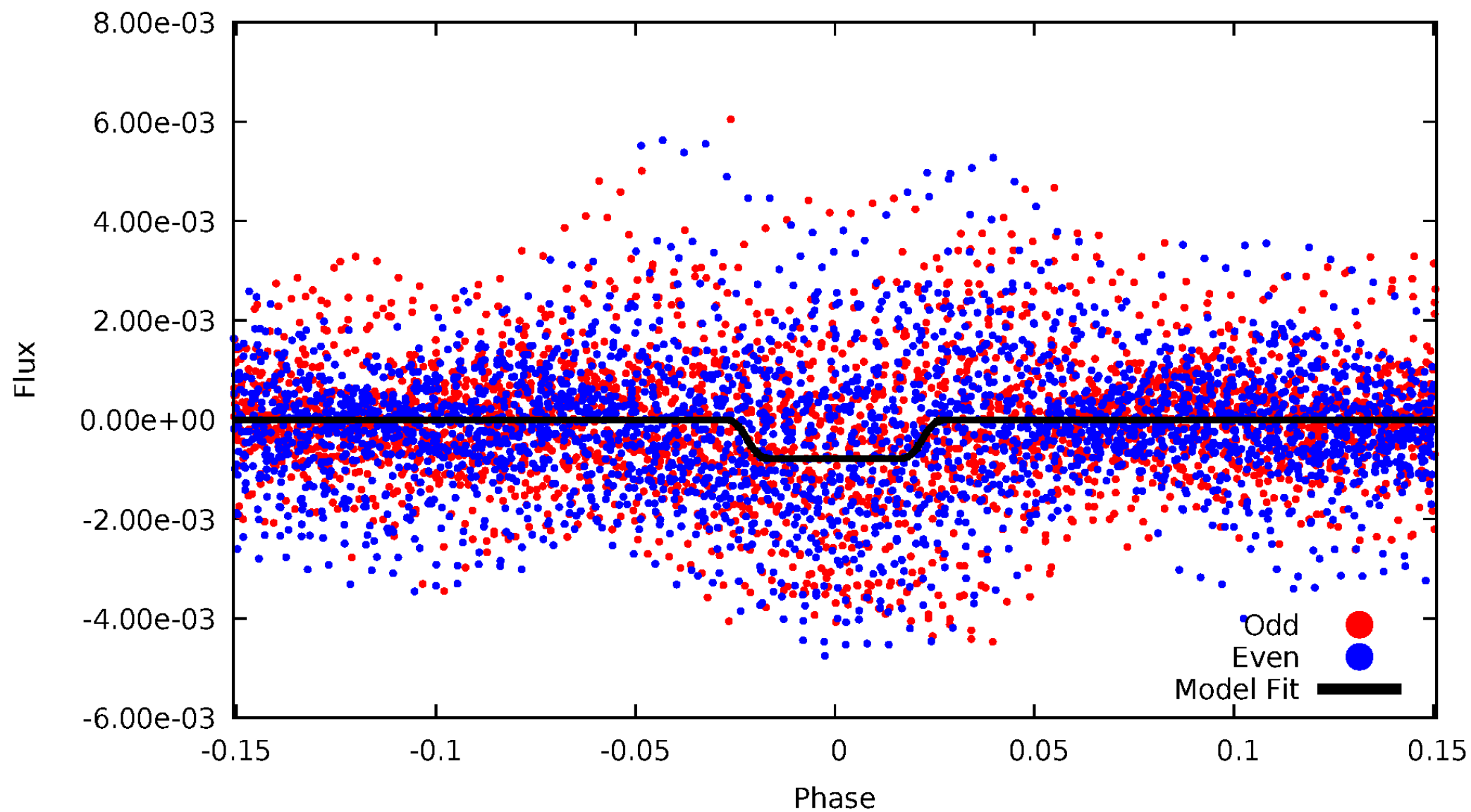
DV Odd/Even

TCE 005648562-06



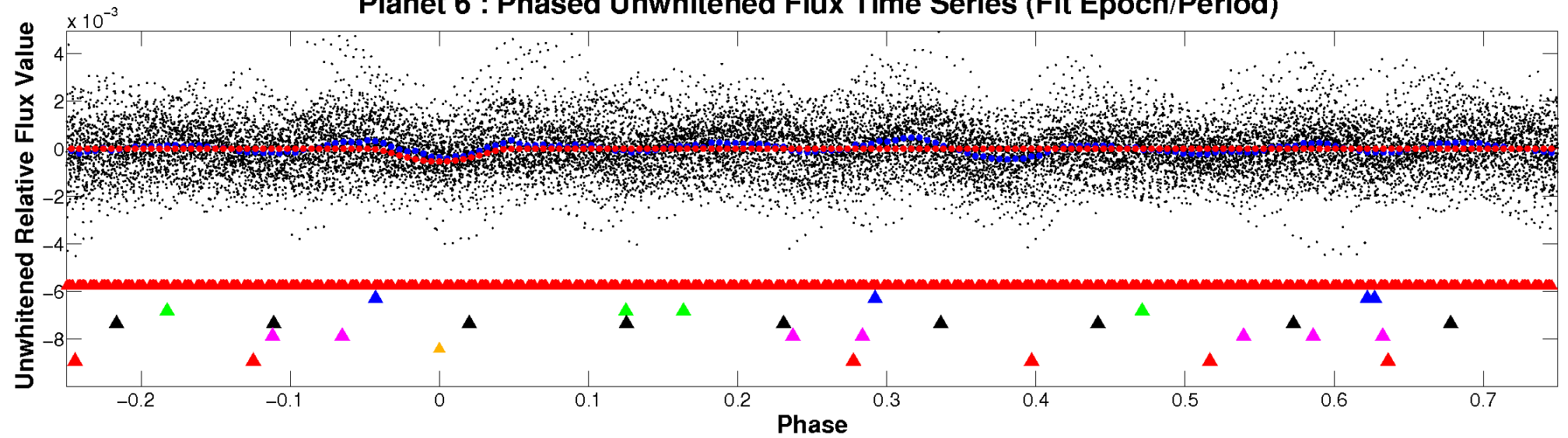
ALT Odd/Even

TCE 005648562-06

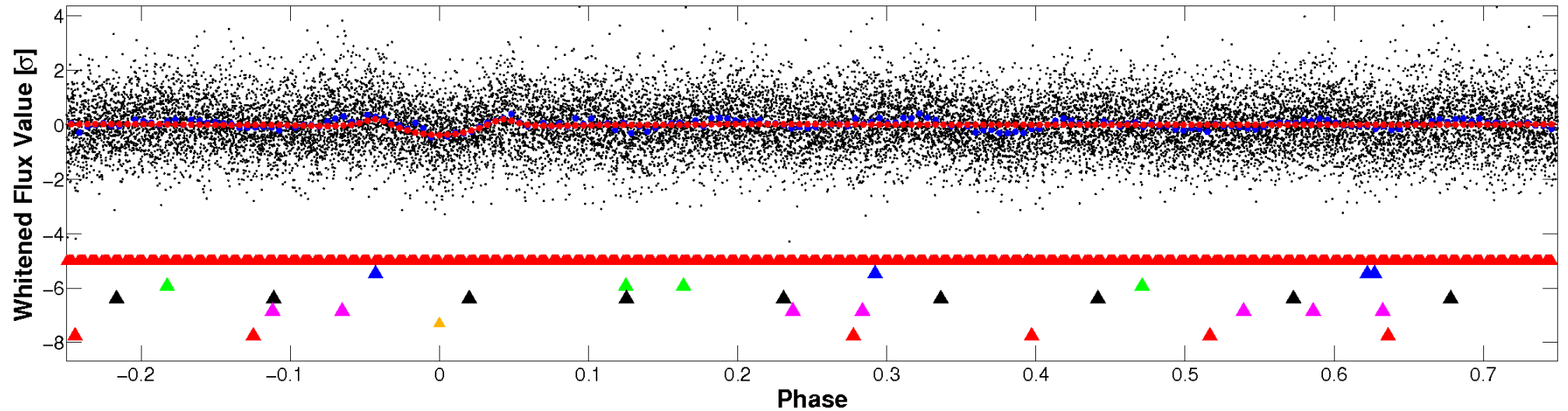


Non-Whitened Vs. Whitened Light Curve

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

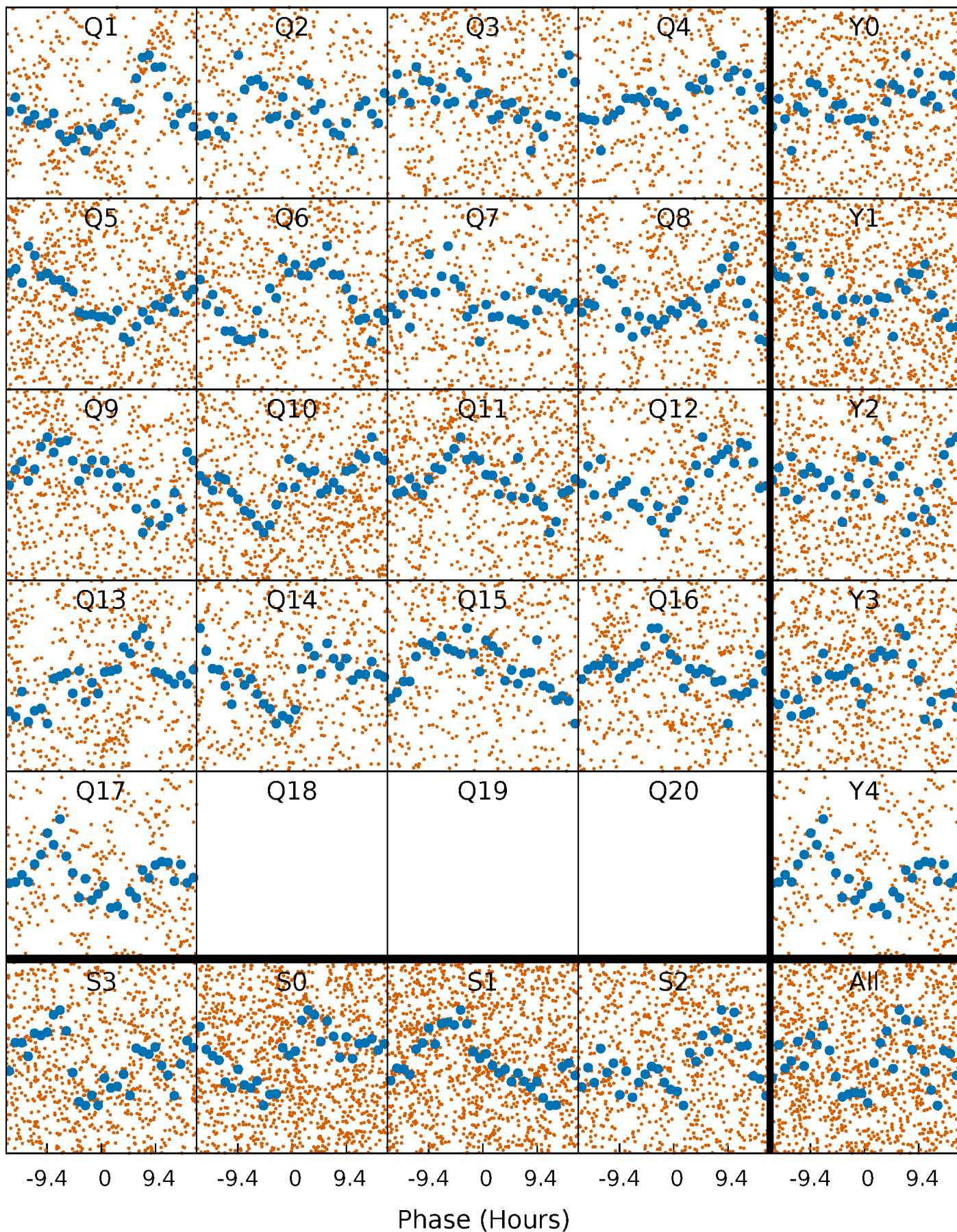


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



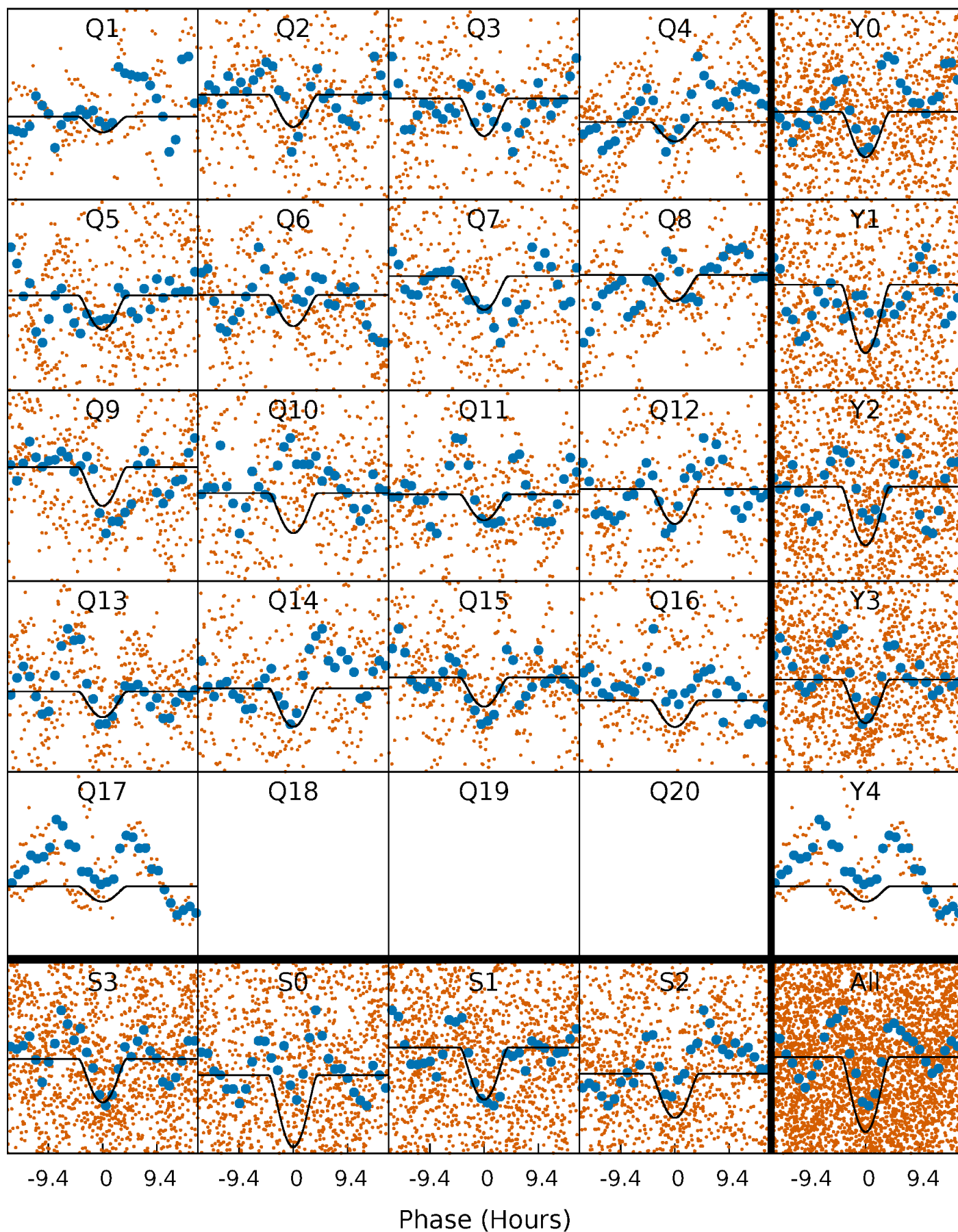
PDC Quarter-Phased Transit Curves

TCE 005648562-06 P= 3.808446 Days $T_0=134.675179$ (BKJD)



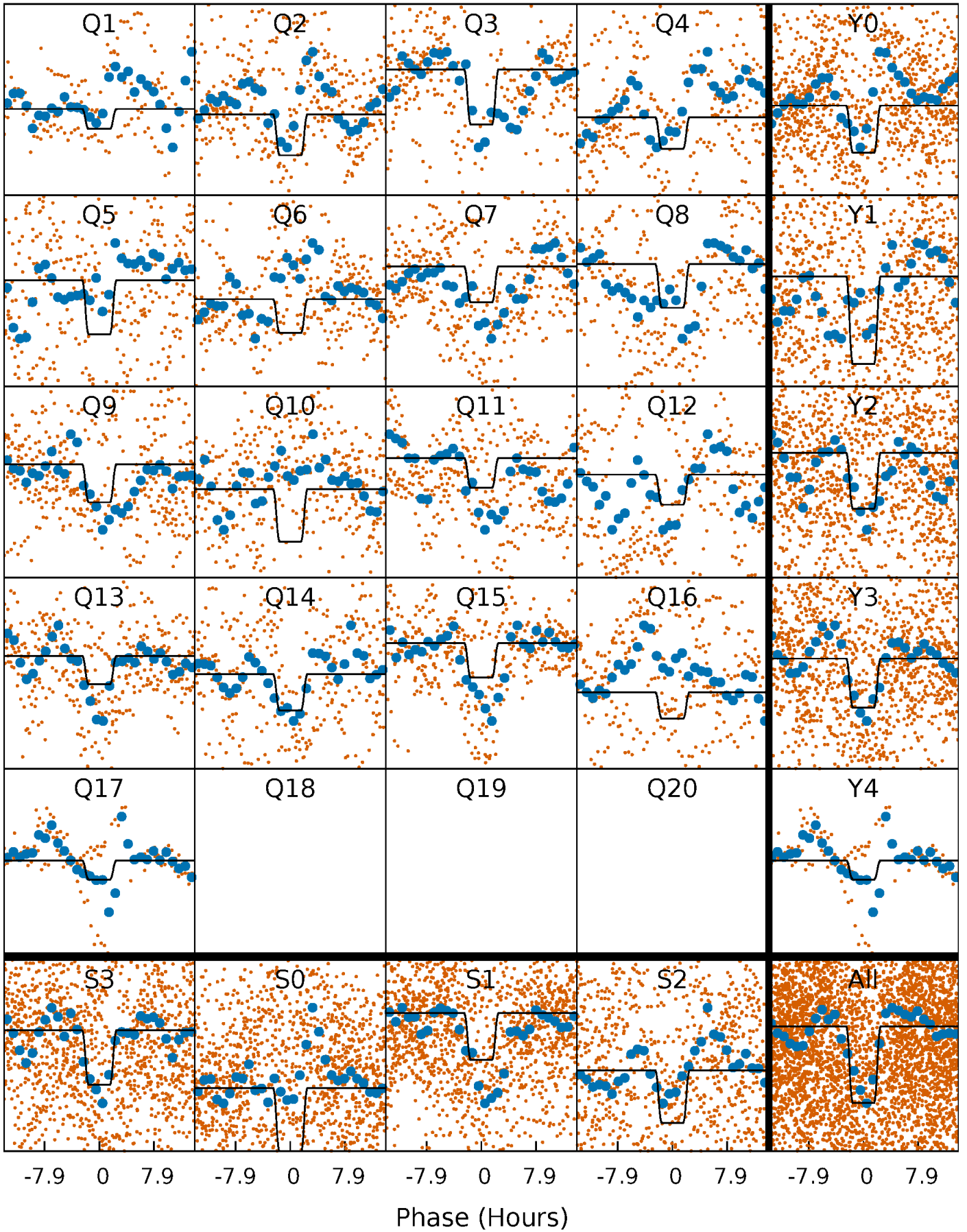
DV Quarter-Phased Transit Curves

TCE 005648562-06 P= 3.808446 Days $T_0=134.675179$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

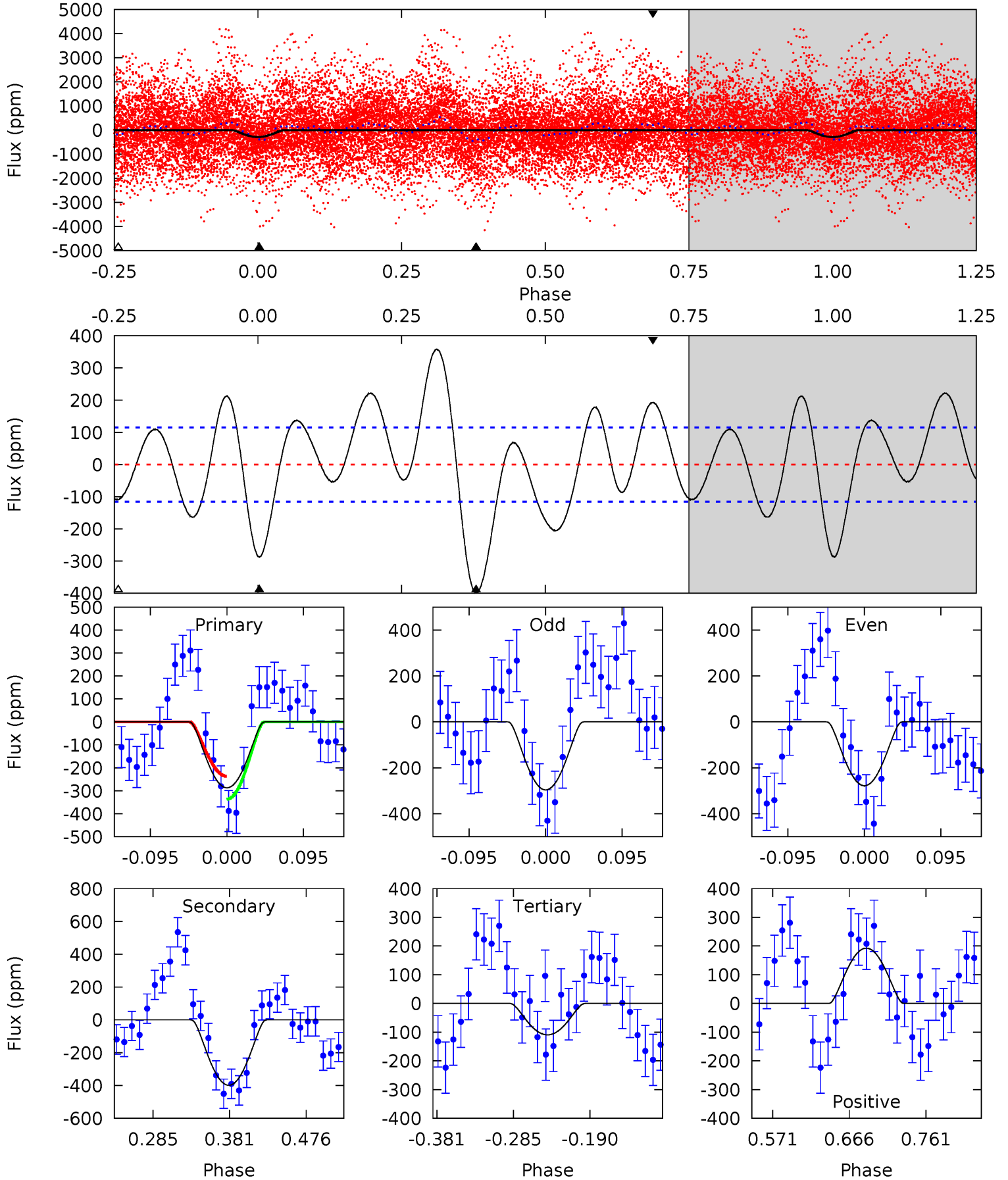
TCE 005648562-06 P= 3.808263 Days $T_0=134.722703$ (BKJD)



DV Model-Shift Uniqueness Test

005648562-06, P = 3.808446 Days, E = 130.866733 Days

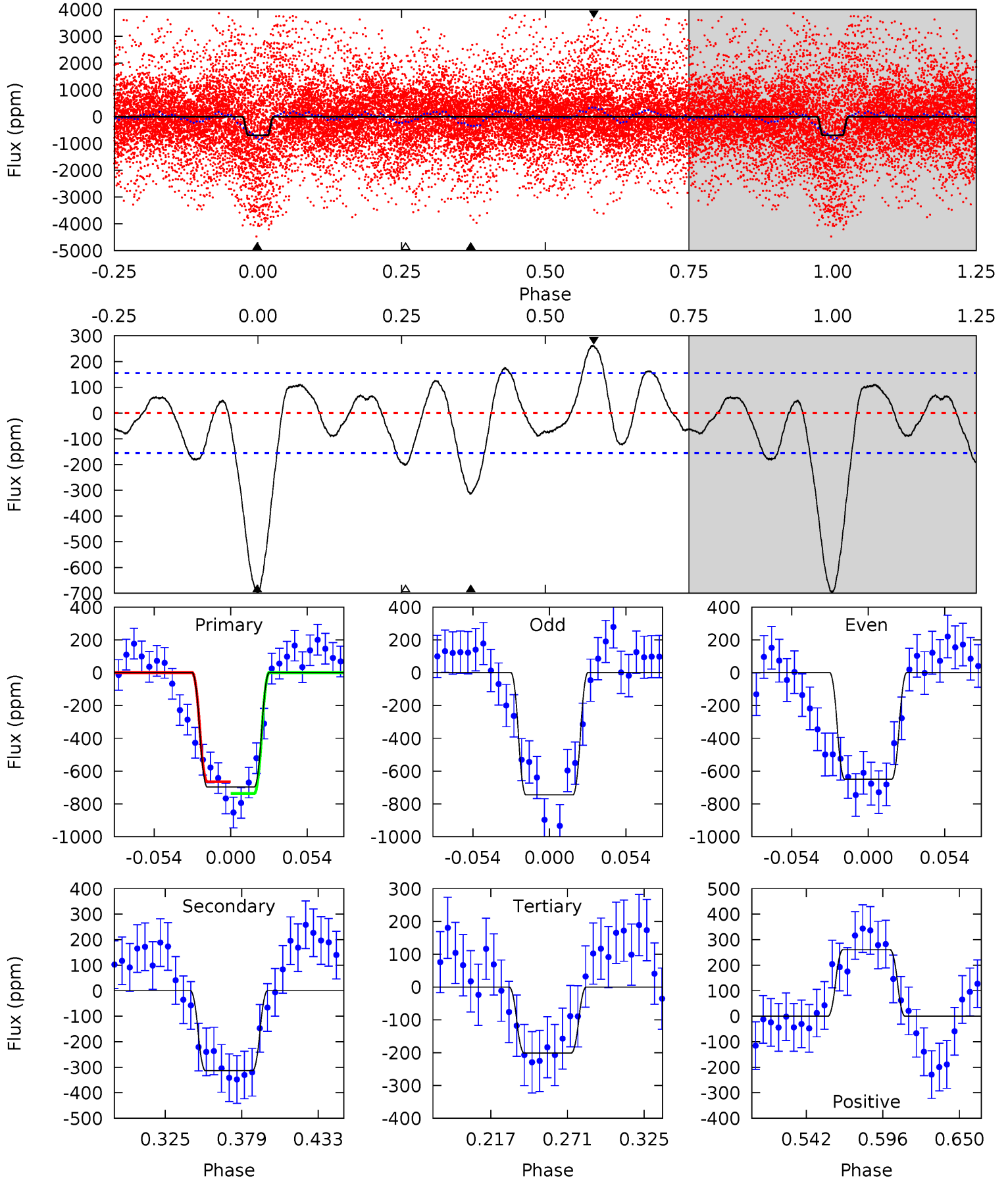
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	15.8	4.34	7.65	4.58	1.67	4.54	7.06	3.75	11.5	8.19	0.36	0.49	0.47	1.97



Alt Model-Shift Uniqueness Test

005648562-06, P = 3.808263 Days, E = 130.914440 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	9.42	6.05	7.84	4.69	1.93	3.06	14.9	13.1	3.38	1.58	1.45	1.22	0.27	1.09



Stellar Parameters For KIC 005648562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+218}_{-327}	$3.814^{+0.390}_{-0.130}$	$0.000^{+0.250}_{-0.300}$	$2.696^{+0.535}_{-1.248}$	$1.728^{+0.164}_{-0.460}$	$0.124^{+0.472}_{-0.039}$
	+3%/-5%	+10%/-3%	+inf%/-inf%	+20%/-46%	+9%/-27%	+380%/-32%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005648562-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-399 ± 25	$11.94^{+9.22}_{-7.03}$	2832^{+232}_{-318}	4639^{+2504}_{-886}	$5.129^{+24.464}_{-3.527}$
Alt.	-314 ± 33	$9.82^{+8.31}_{-6.21}$	2834^{+218}_{-314}	4810^{+2990}_{-1024}	$5.779^{+34.254}_{-4.053}$

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

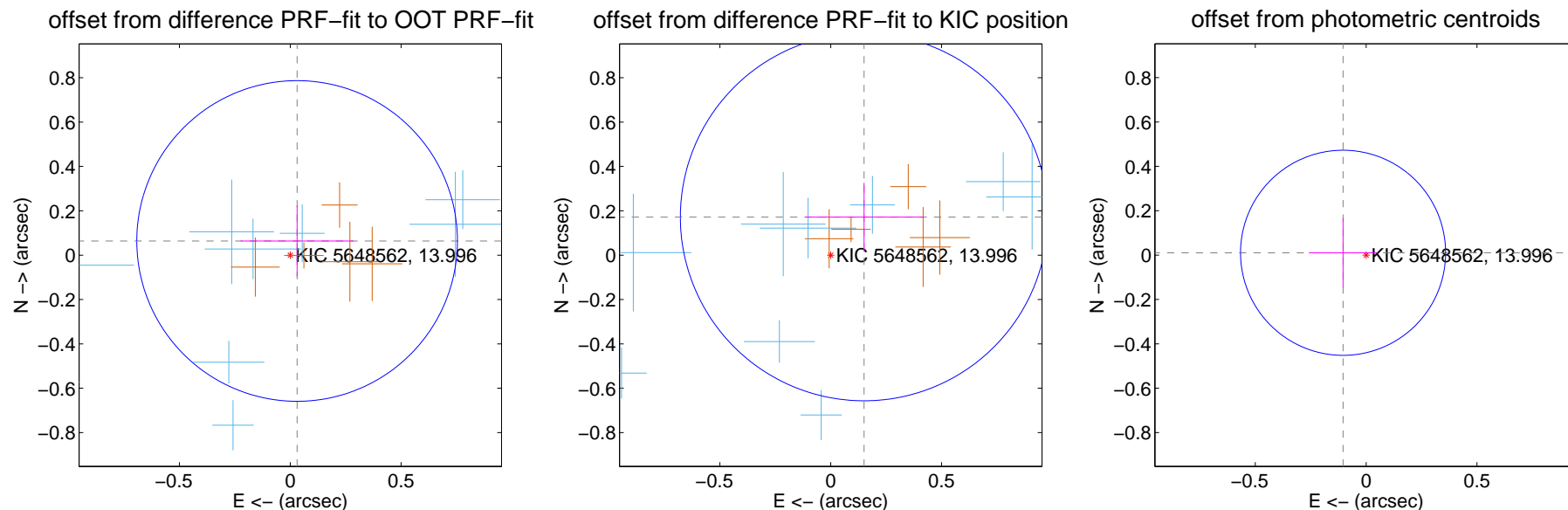
DV Centroid Data

Supplemental centroid analysis for 005648562-06. Kepler magnitude: 14.00. Transit SNR 10.25

There are 10 quarters with good PRF difference image offsets

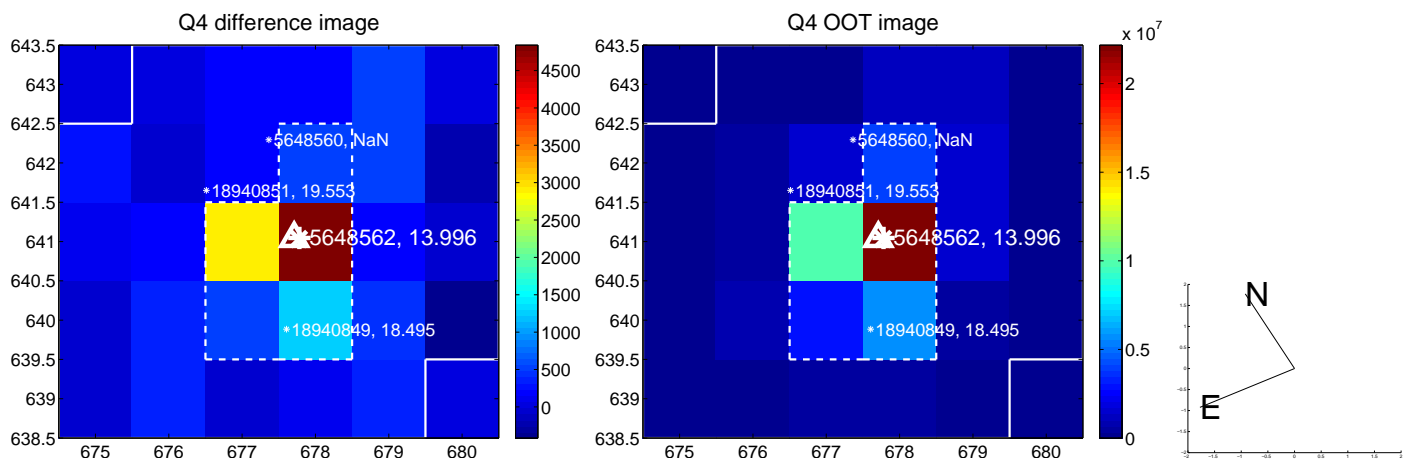
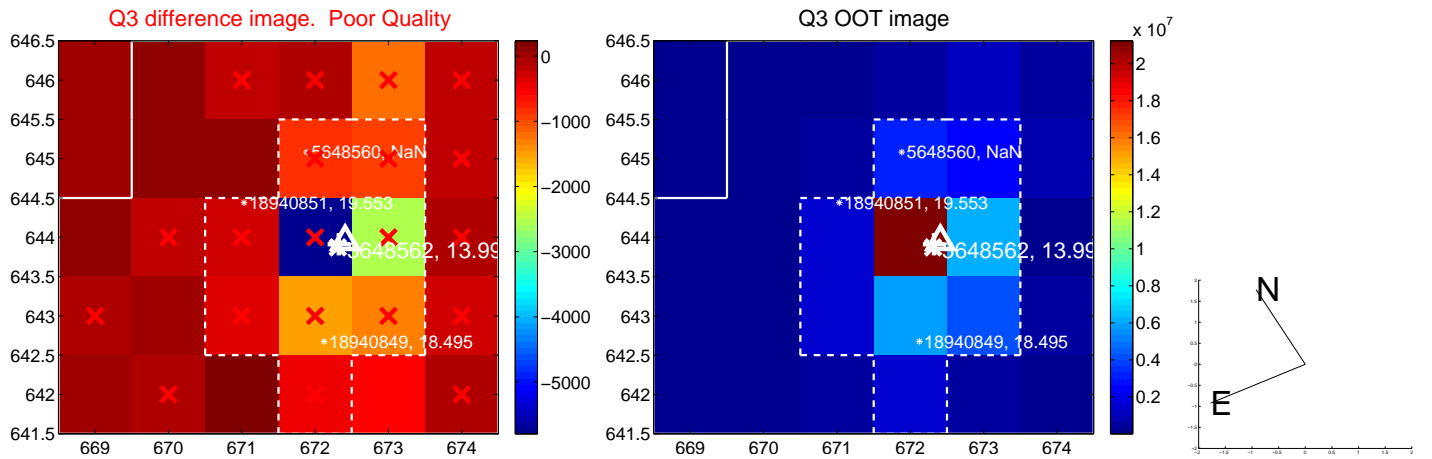
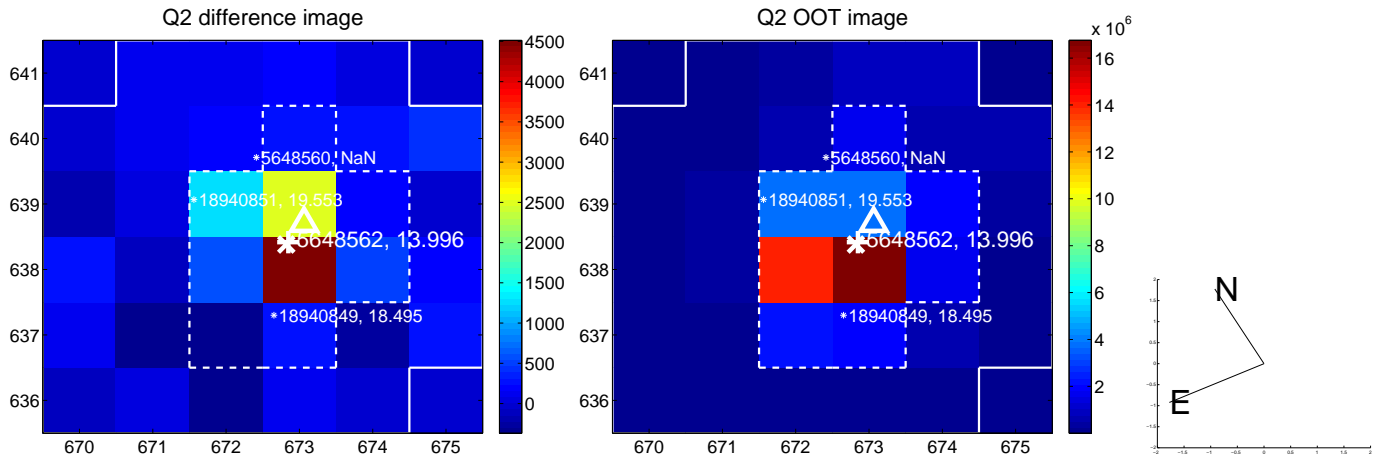
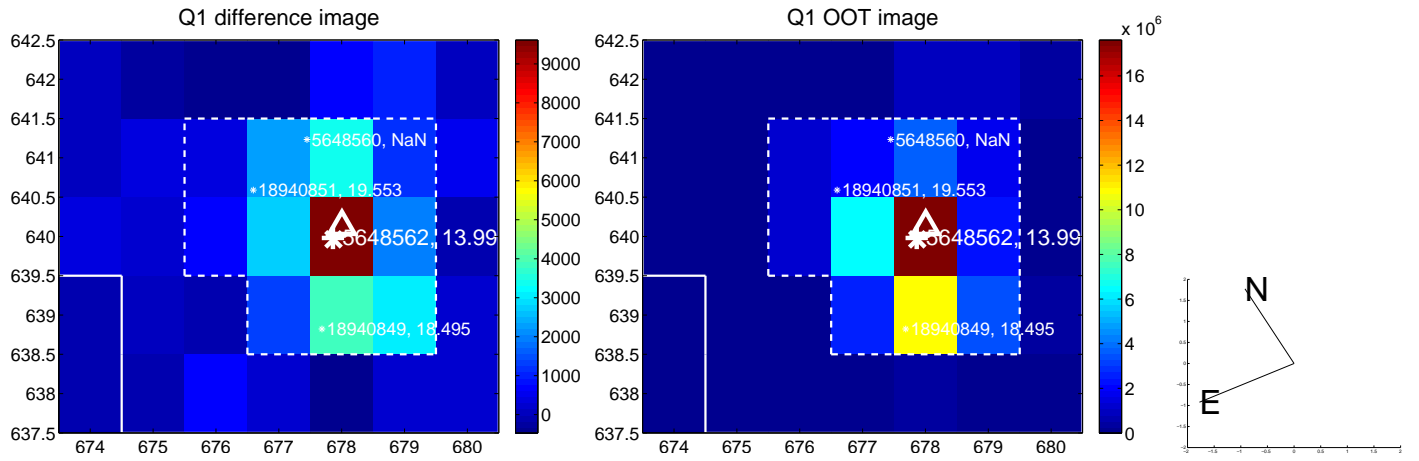
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.071 ± 0.241	0.29	-0.031 ± 0.254	0.064 ± 0.160
PRF-fit source offset from KIC position	0.228 ± 0.276	0.83	-0.150 ± 0.267	0.172 ± 0.155
photometric centroid source offset	0.10 ± 0.15	0.68	0.10 ± 0.15	0.01 ± 0.16

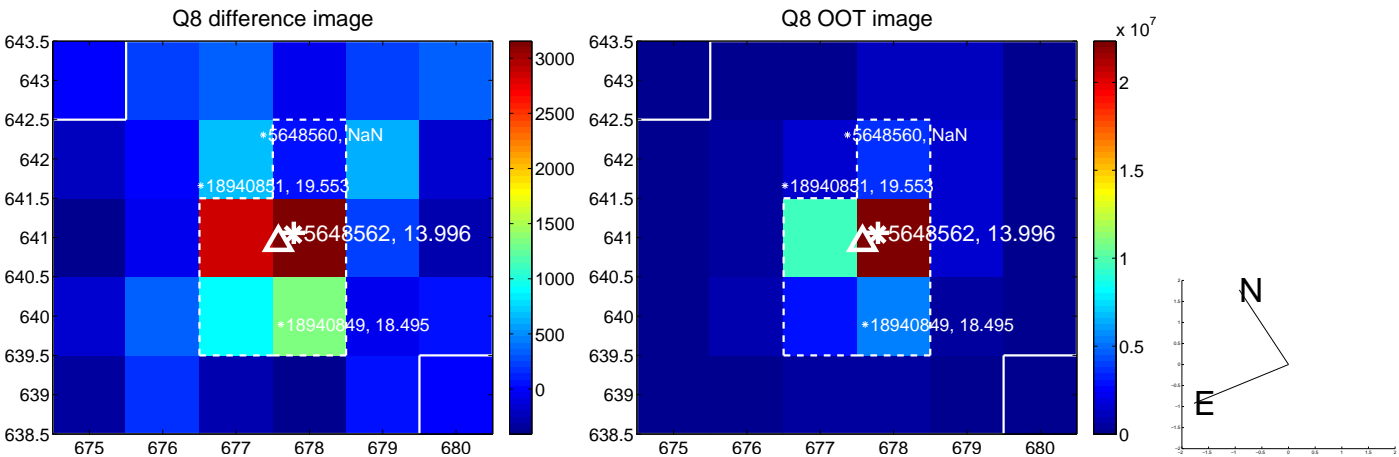
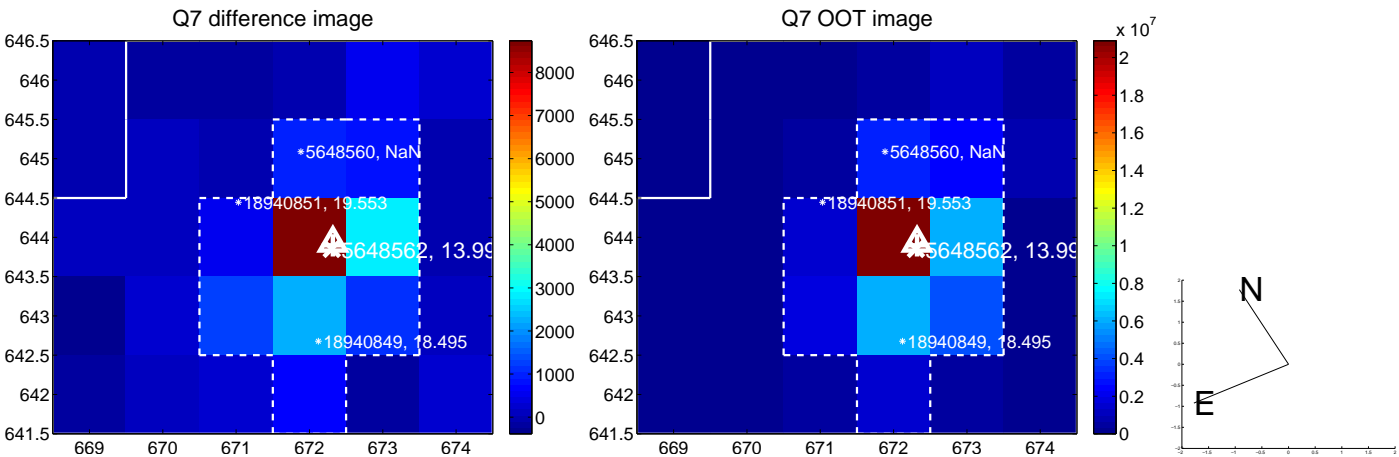
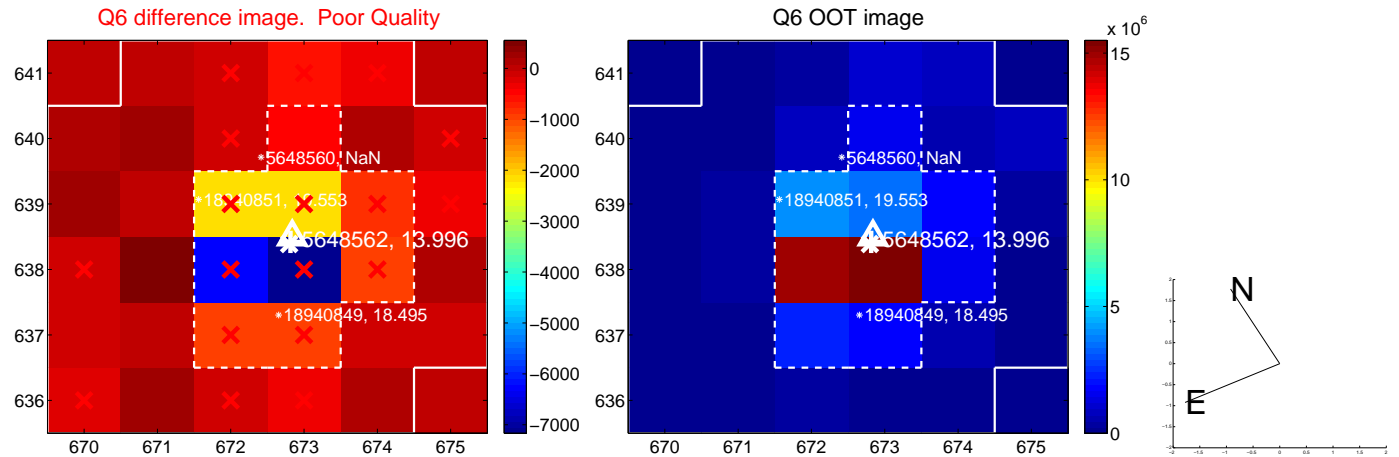
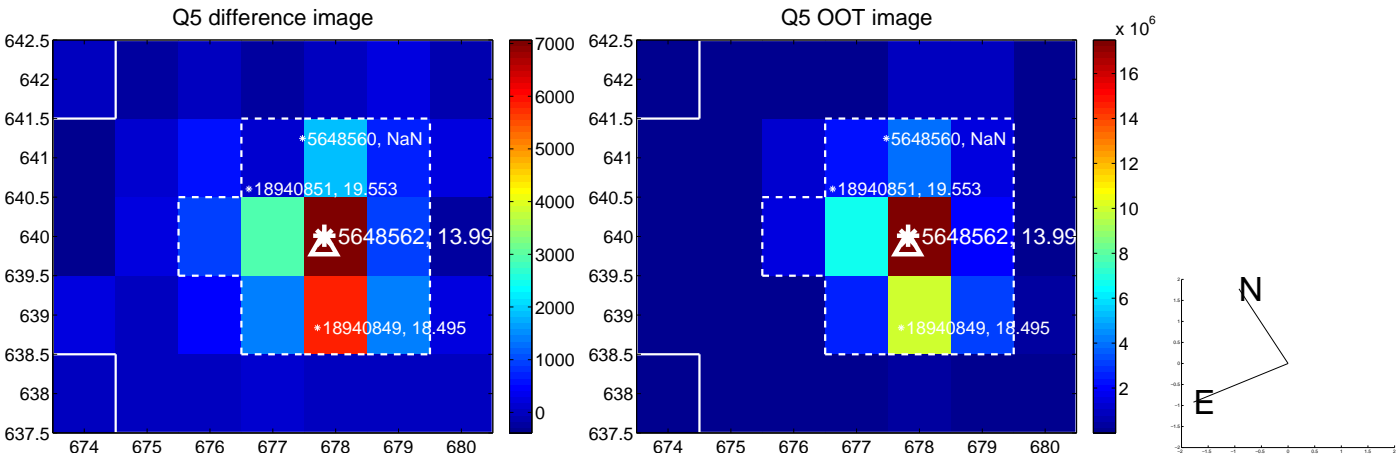


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

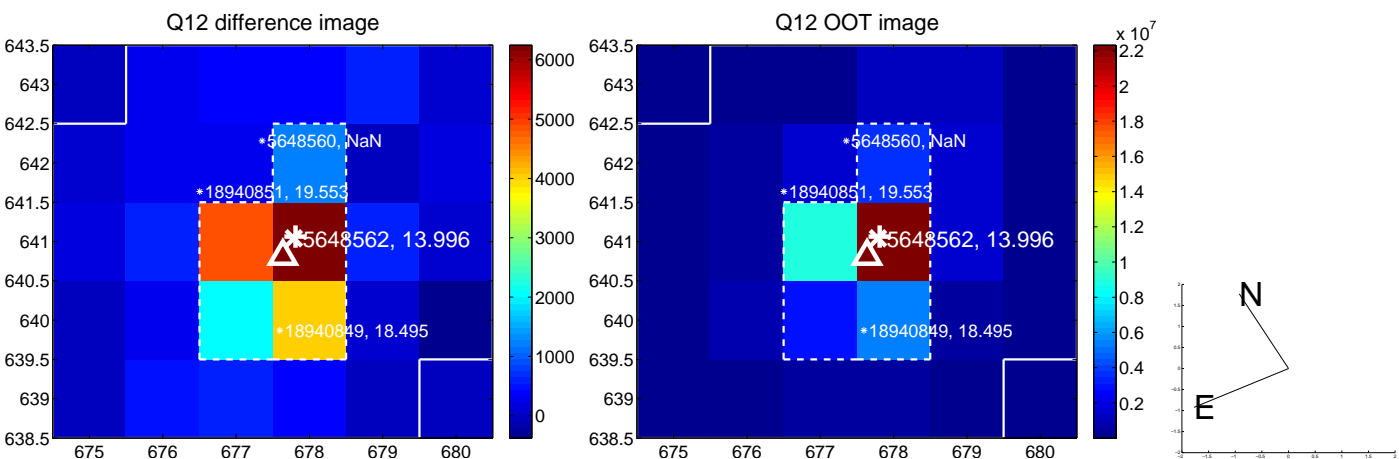
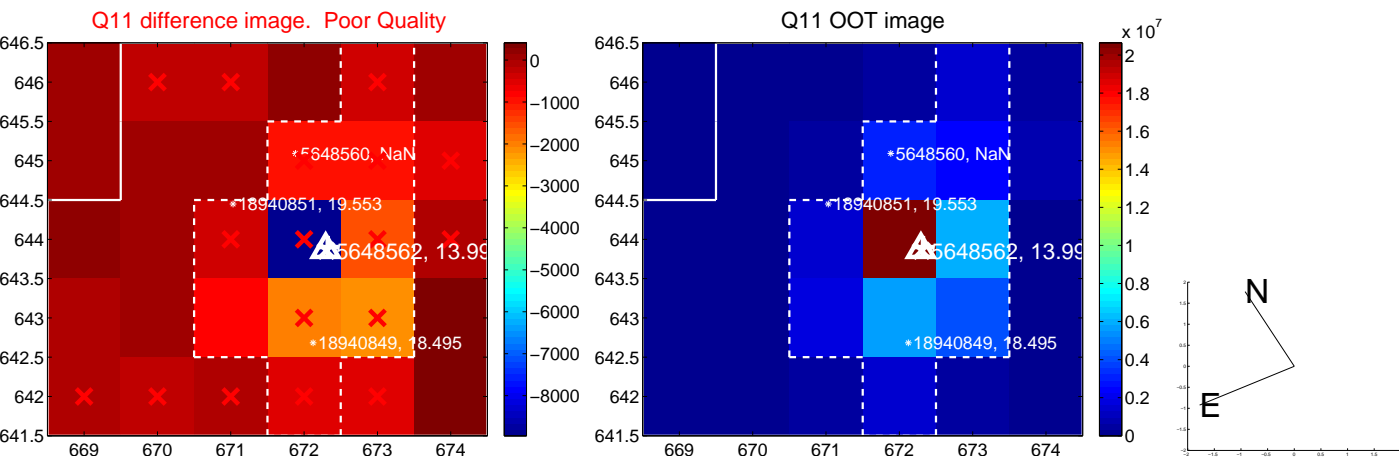
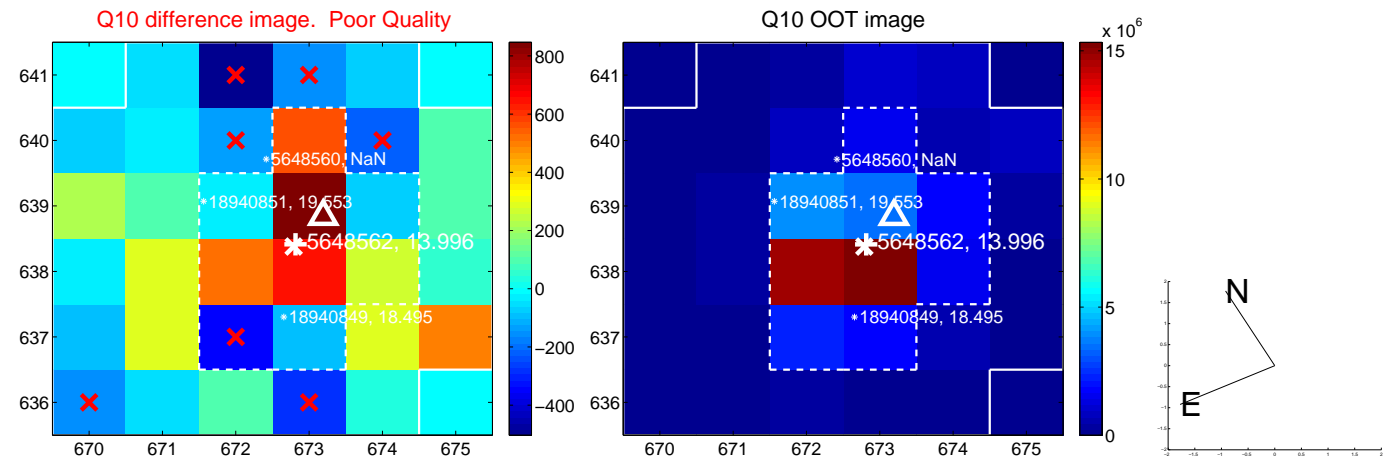
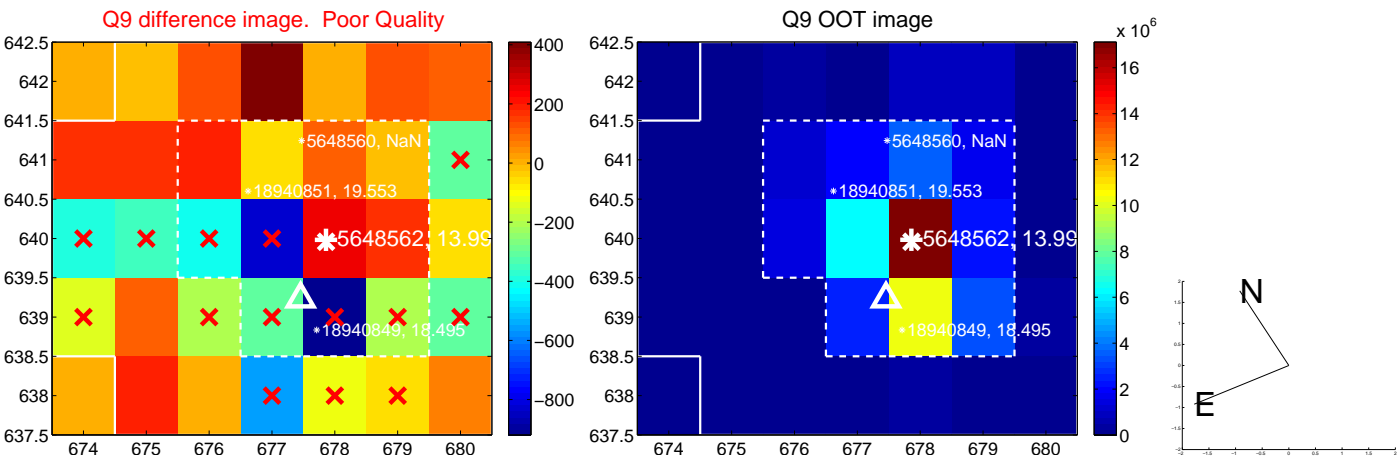
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



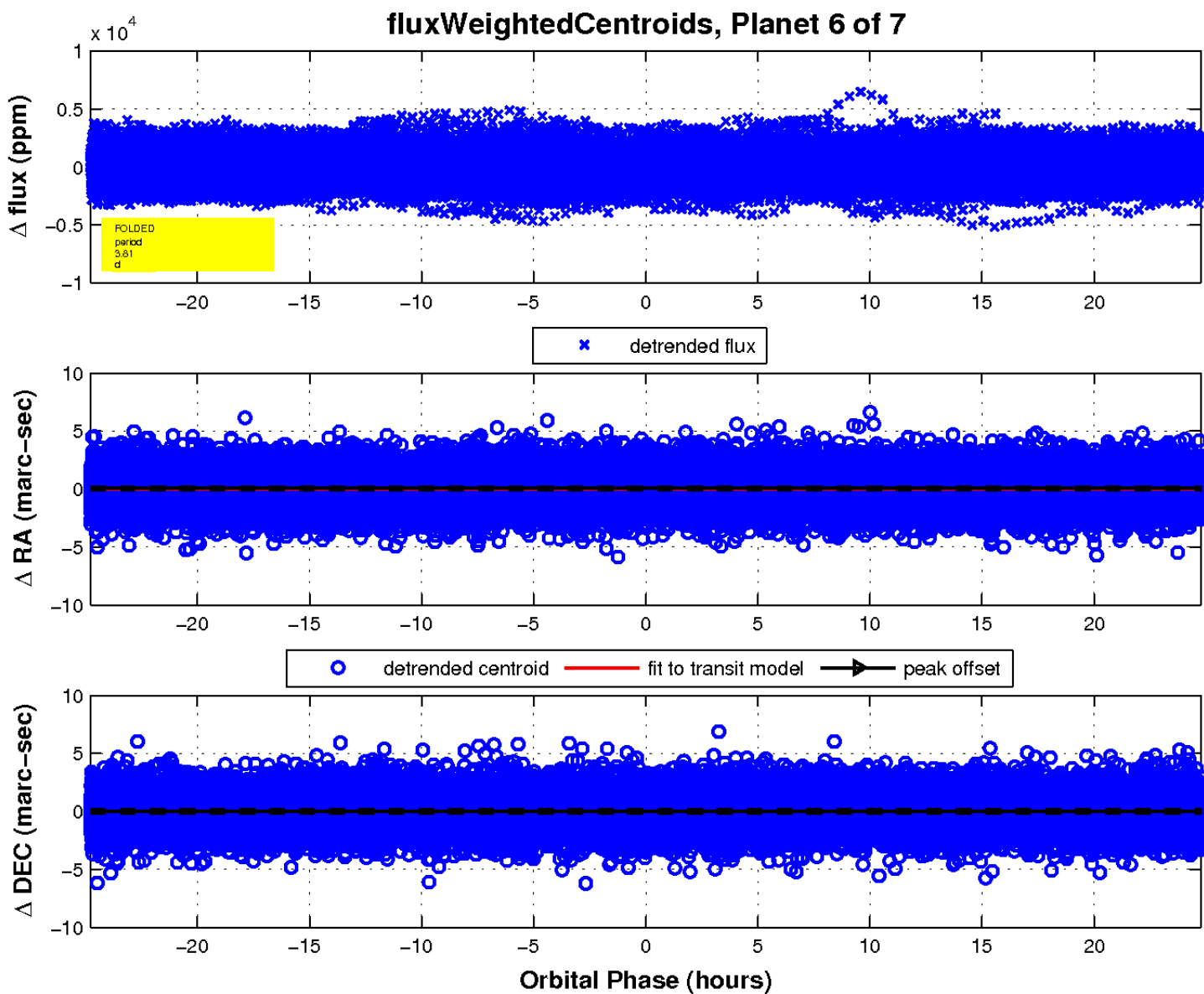
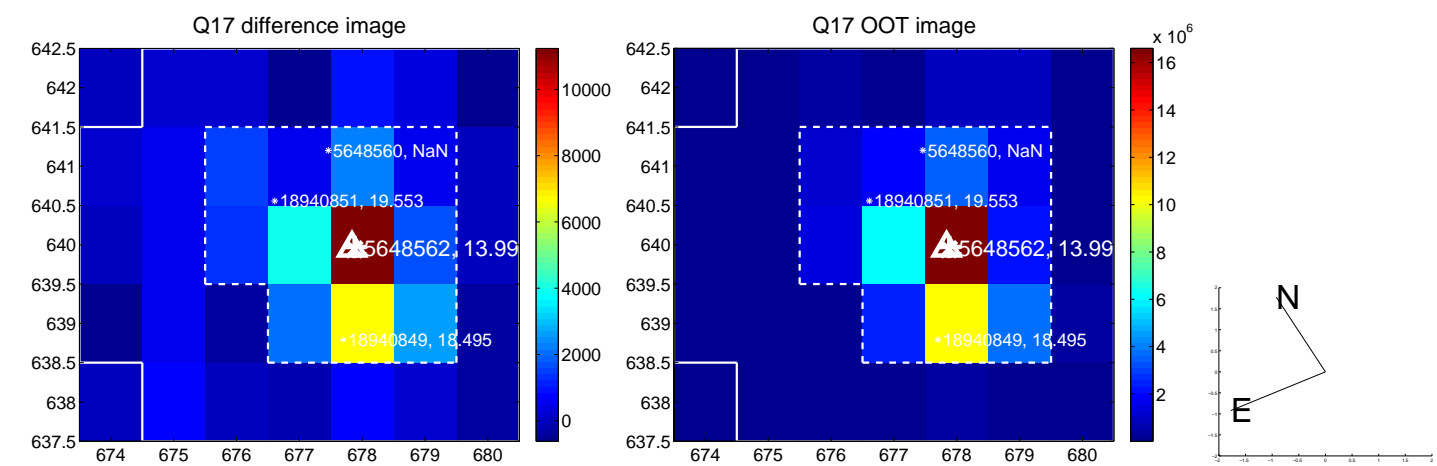
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

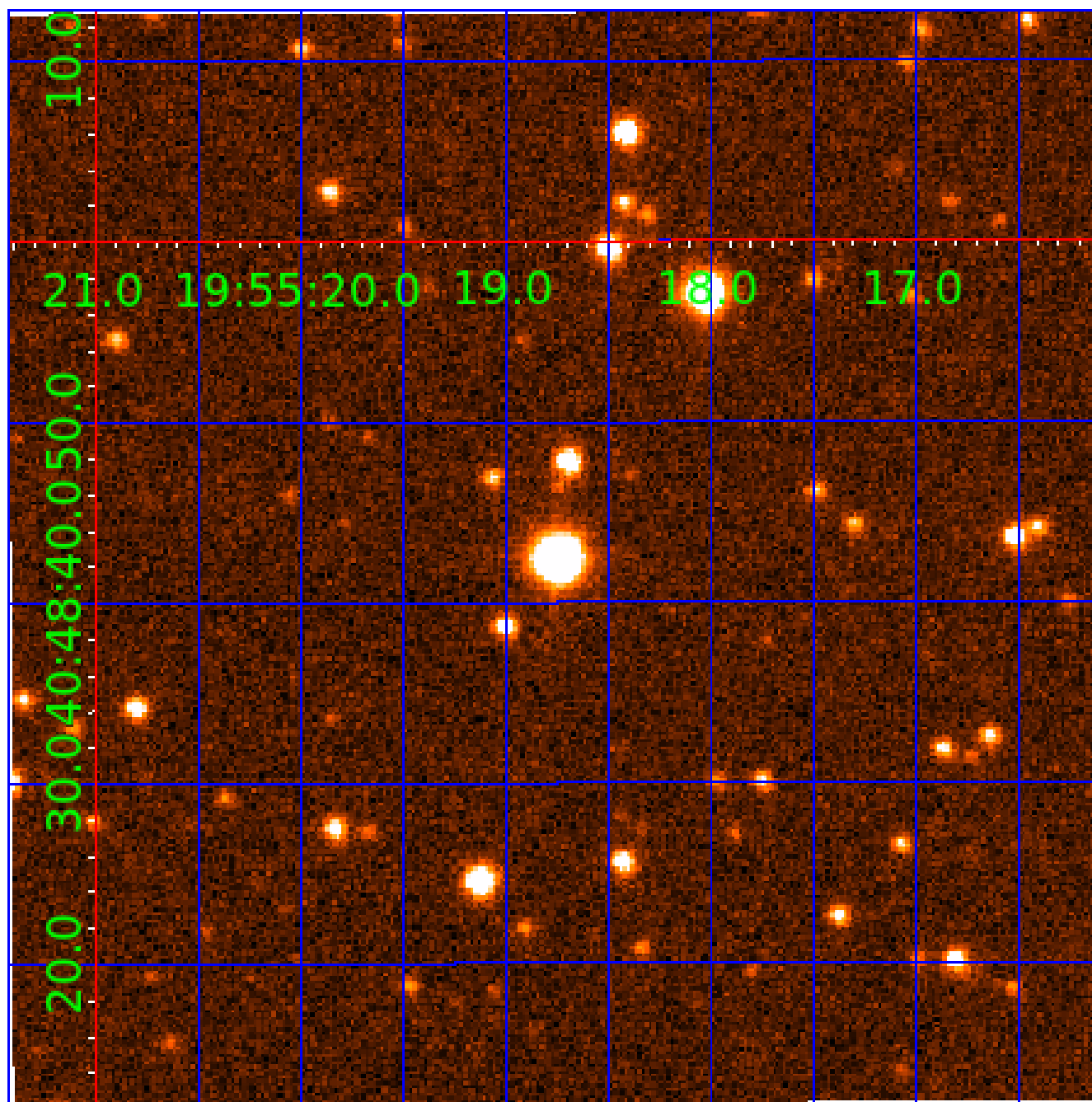


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005648562

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})
005648562-01	OBS	No	1.420629	132.452510	239.9	7.740	9.8	12.2	2.70	6842	7.54	16198.16
005648562-02	OBS	No	298.334488	426.486967	1653.9	41.343	11.4	4.8	2.70	6842	11.97	12.98
005648562-03	OBS	No	347.887166	268.447066	3020.8	9.883	8.7	7.8	2.70	6842	26.89	10.57
005648562-04	OBS	No	154.442774	279.472527	2424.5	7.448	8.3	8.5	2.70	6842	24.25	31.22
005648562-05	OBS	No	204.327394	167.551979	3727.4	12.330	7.5	8.9	2.70	6842	19.75	21.50
005648562-06	OBS	No	3.808446	134.675179	539.4	8.257	9.2	10.3	2.70	6842	11.41	4349.53
005648562-07	OBS	No	281.369834	157.050783	662.2	3.000	9.1	-1.0	2.70	6842	7.01	14.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005648562-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005648562-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005648562-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
005648562-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005648562-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT
005648562-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005648562-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

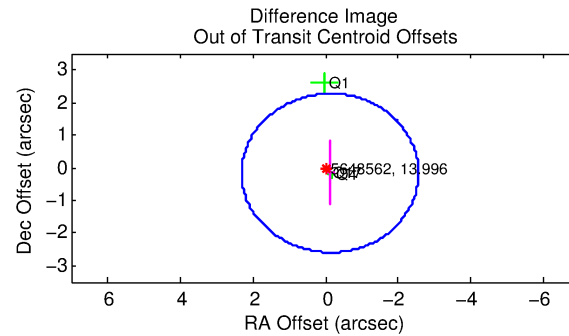
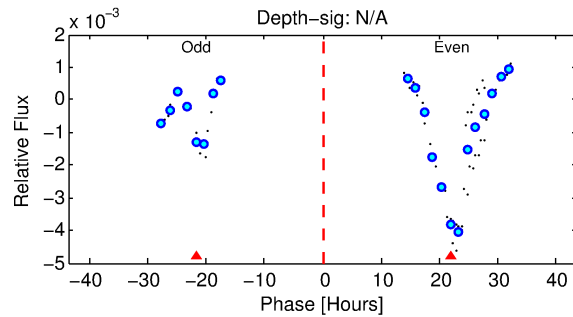
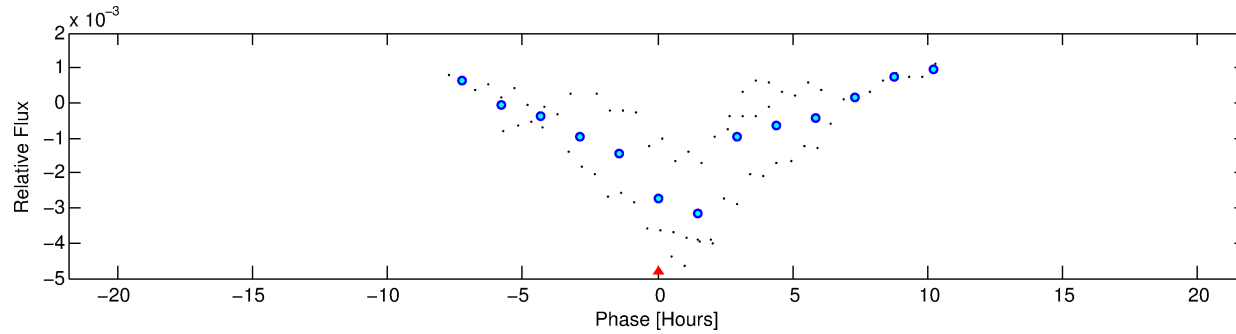
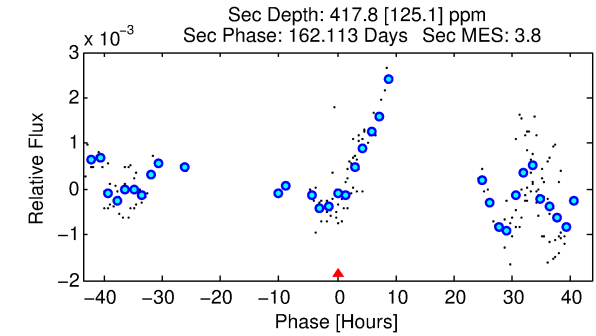
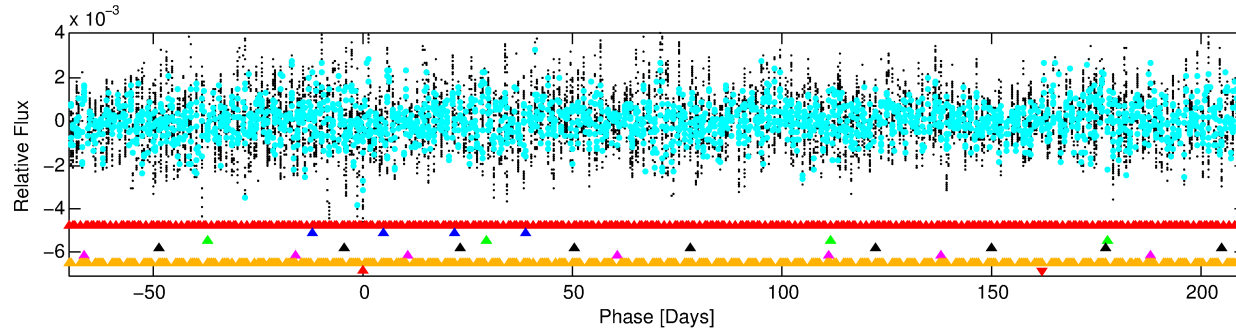
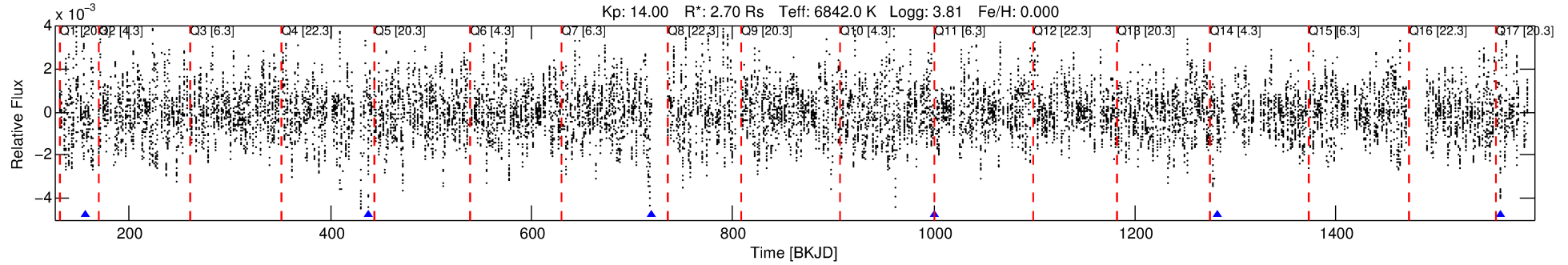
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005648562-07

No Significant Match Found

DV One-Page Summary

KIC: 5648562 Candidate: 7 of 7 Period: 281.370 d



TPS TCE Results:

Period = 281.36983 d
Epoch = 157.0508 BKJD

DV fit results are unavailable

DV Diagnostic Results:

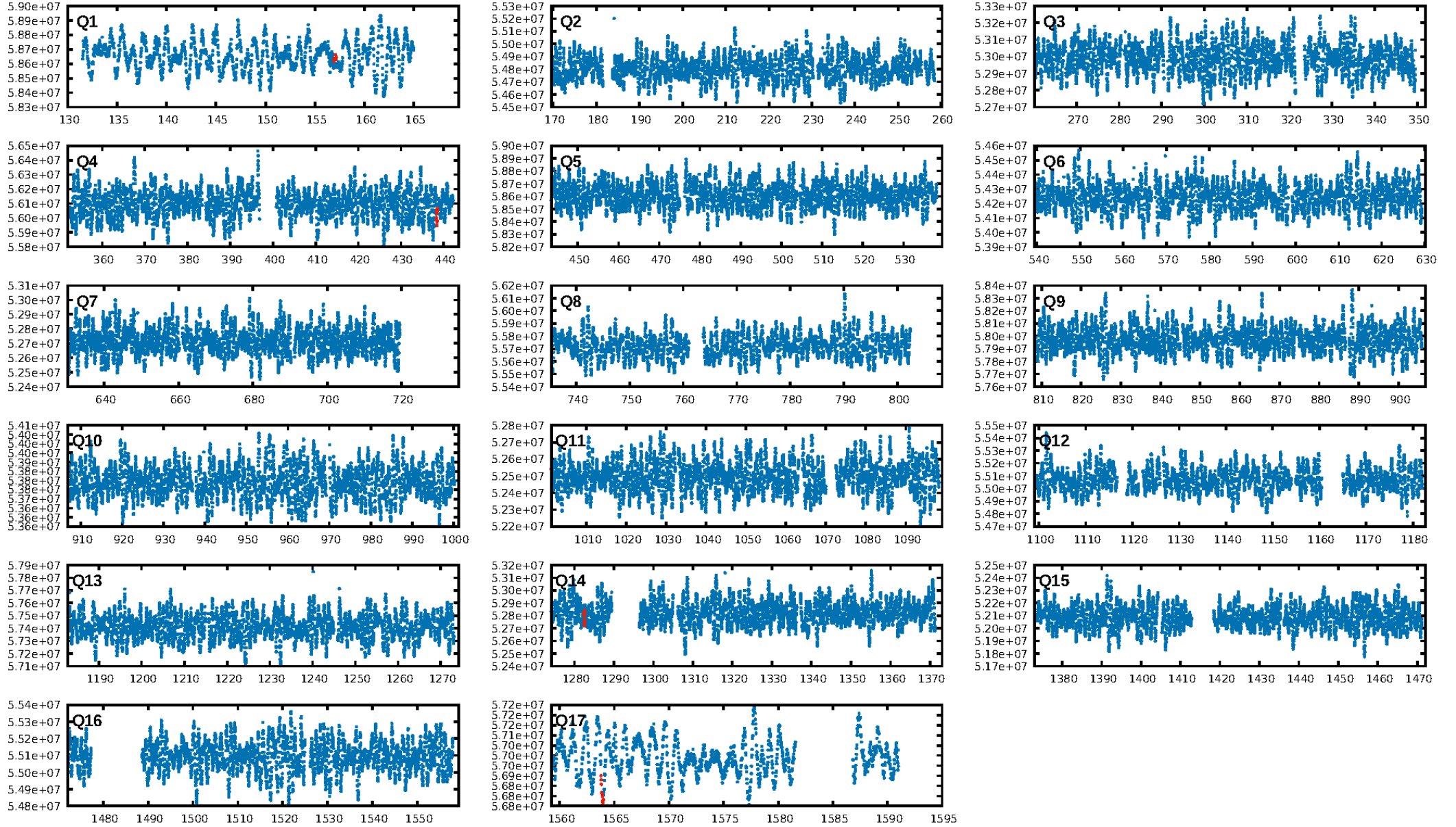
ShortPeriod-sig: 100.0% [145.71 σ]
LongPeriod-sig: 100.0% [9.82 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3749

Centroid-sig: 2.5%
Centroid-so: 0.177 arcsec [1.03 σ]
OotOffset-rm: 0.206 arcsec [0.25 σ]
KicOffset-rm: 0.220 arcsec [0.79 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

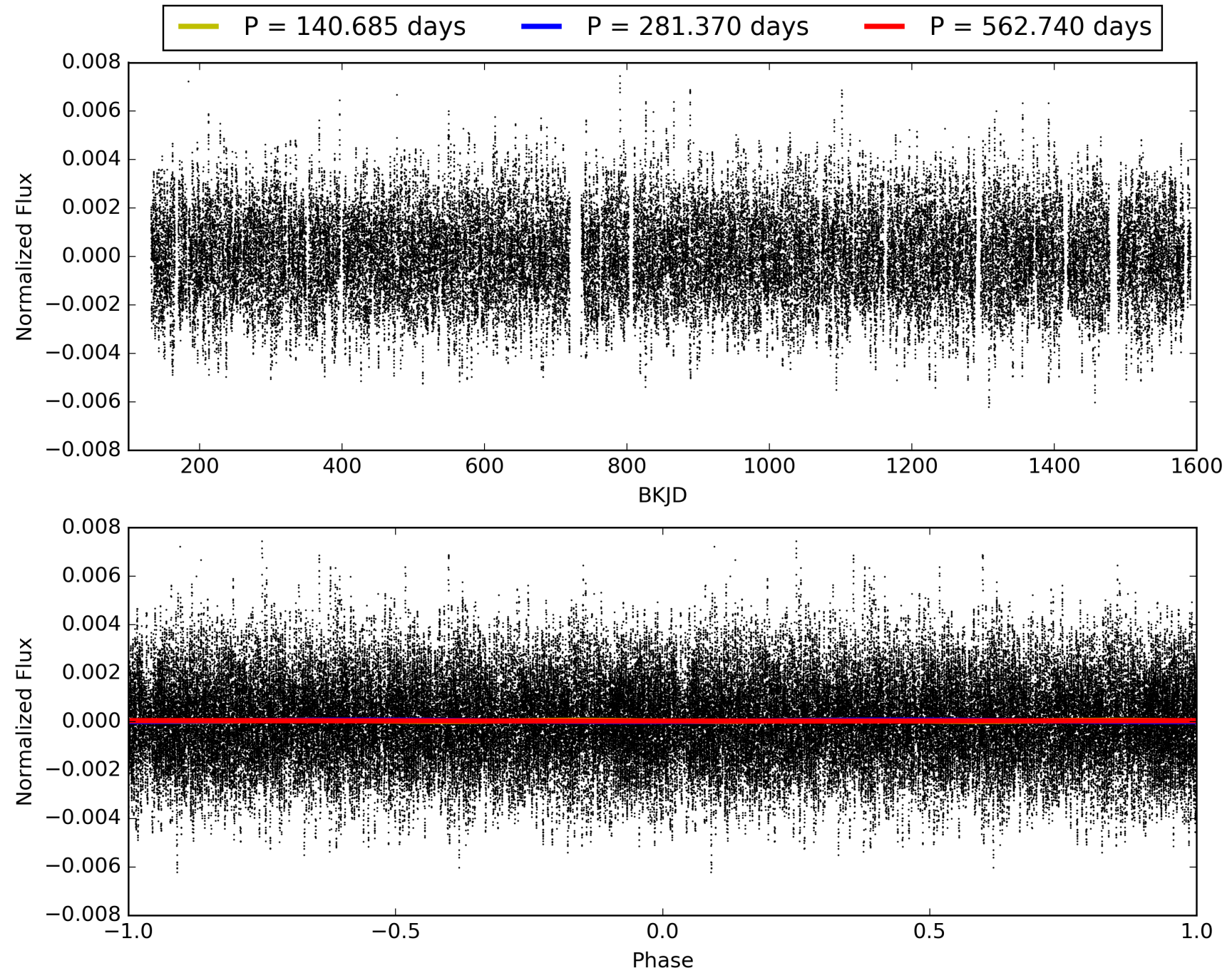
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:30:09 Z

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

TCE 005648562-07, PDC Light Curves

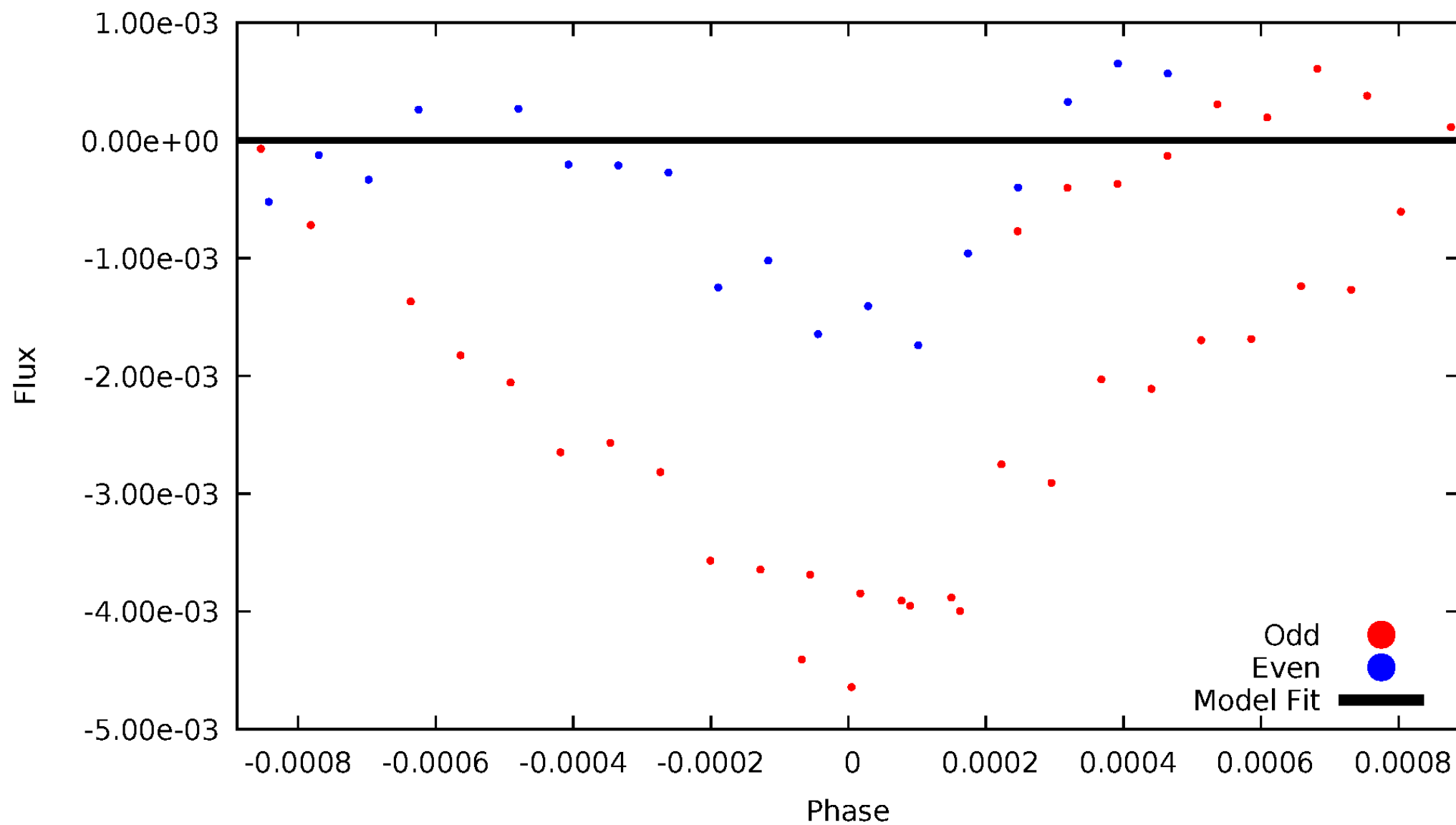


TCE 005648562-07



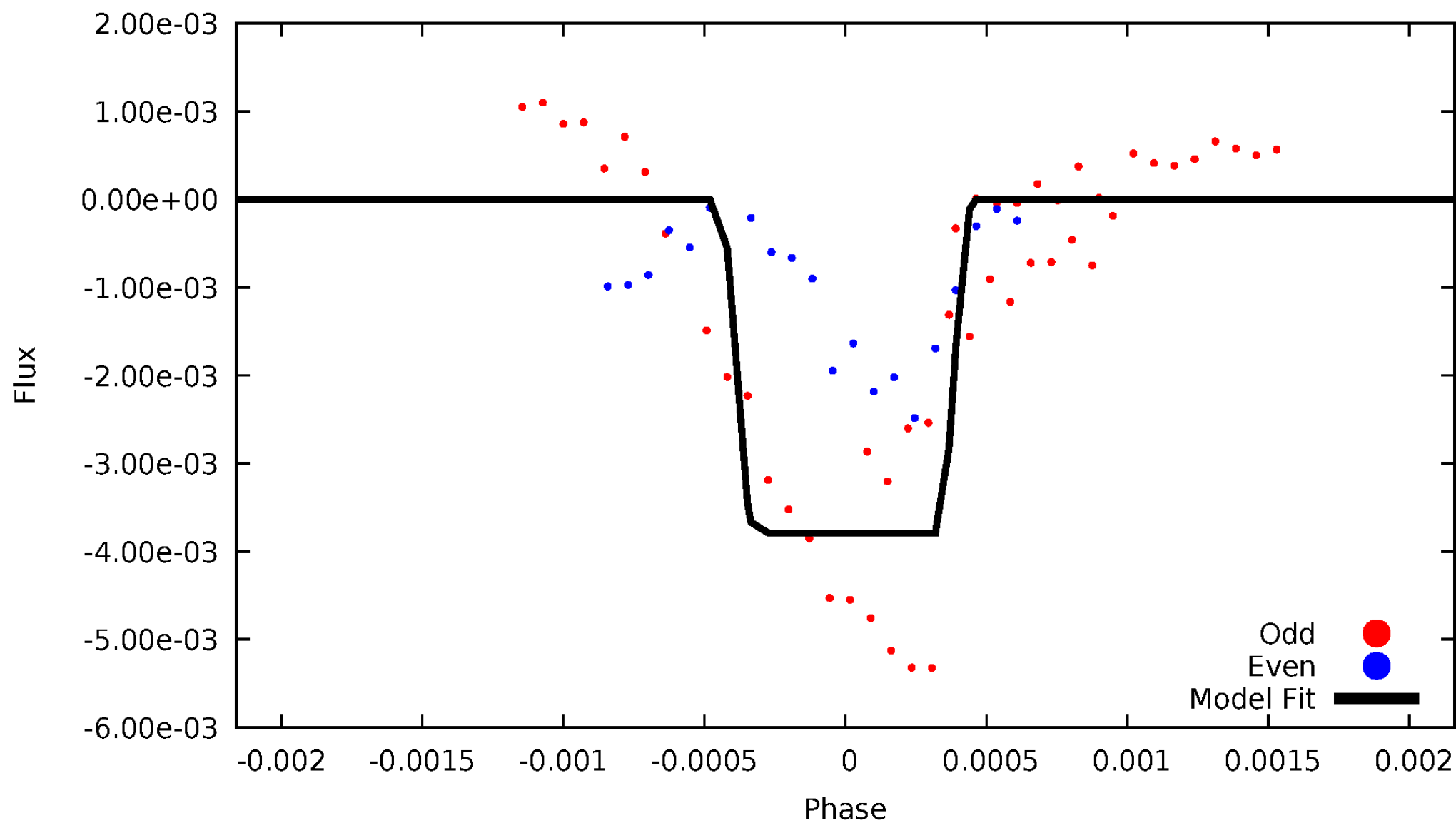
DV Odd/Even

TCE 005648562-07

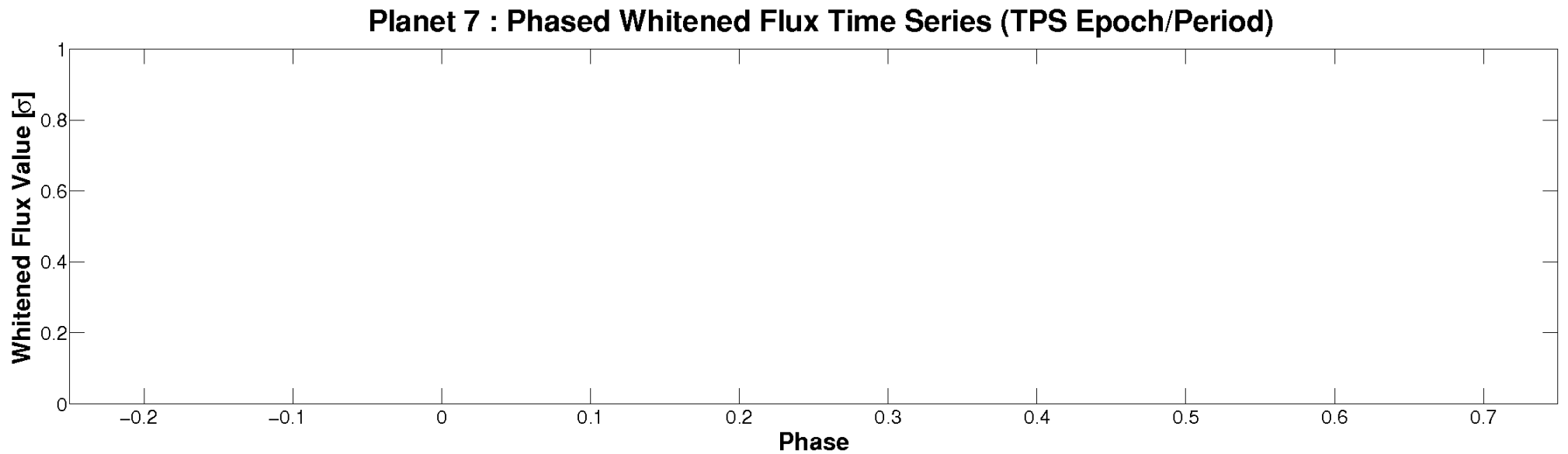
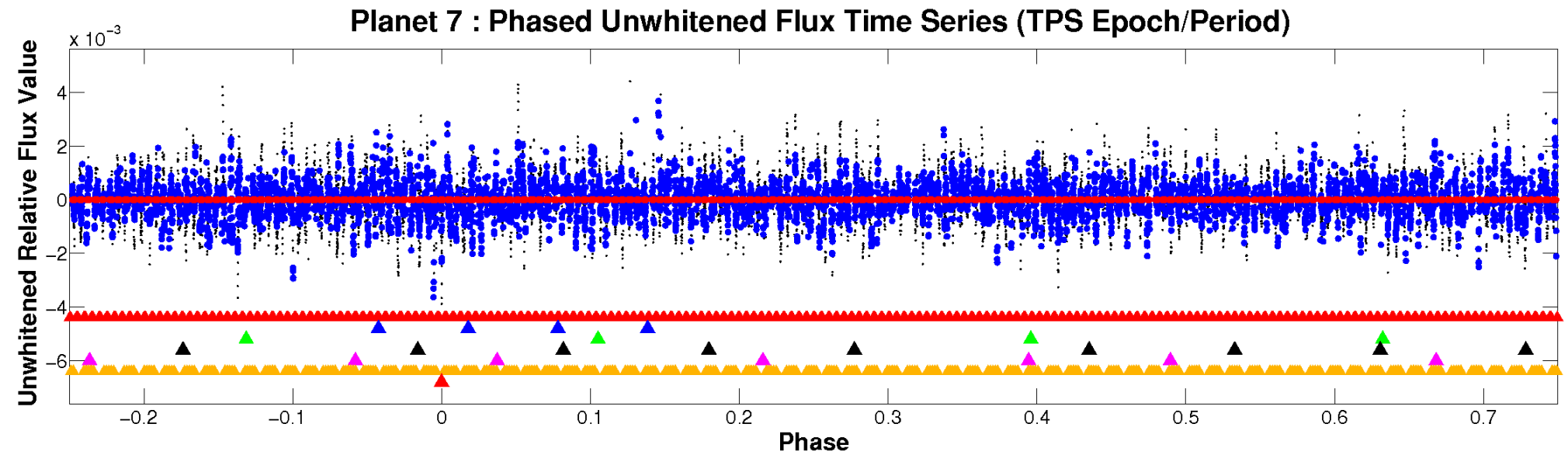


ALT Odd/Even

TCE 005648562-07

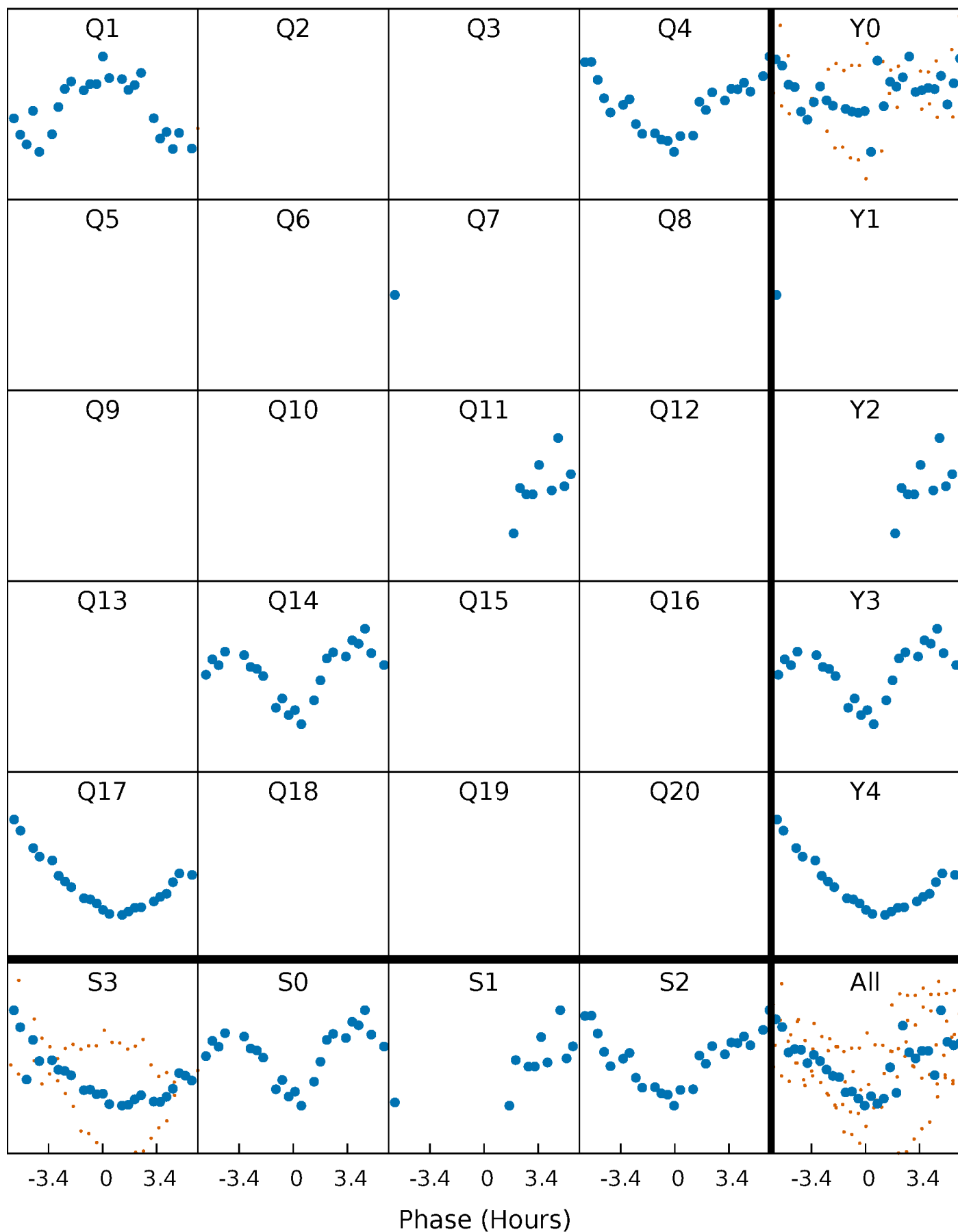


Non-Whitened Vs. Whitened Light Curve



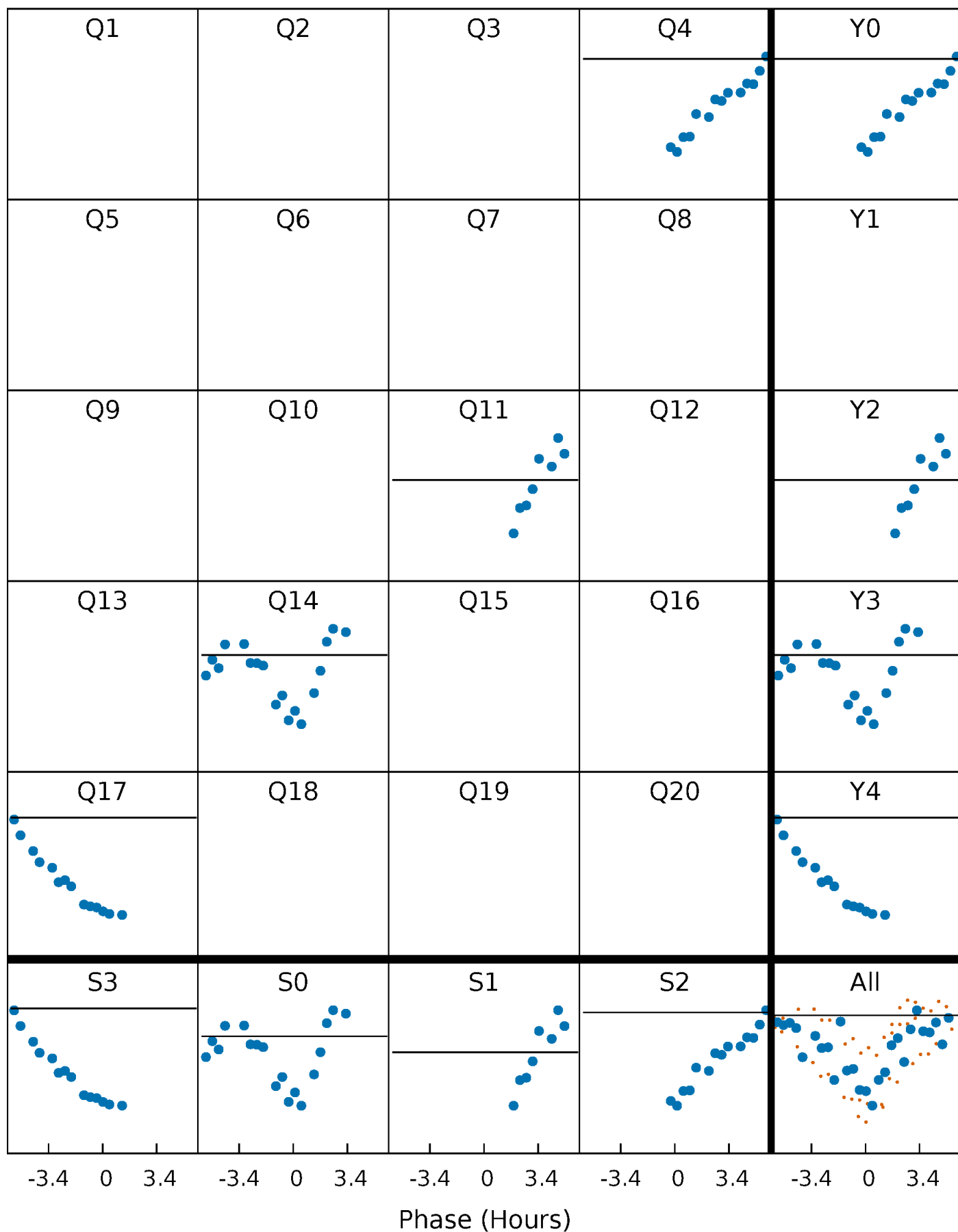
PDC Quarter-Phased Transit Curves

TCE 005648562-07 $P=281.369834$ Days $T_0=157.050783$ (BKJD)



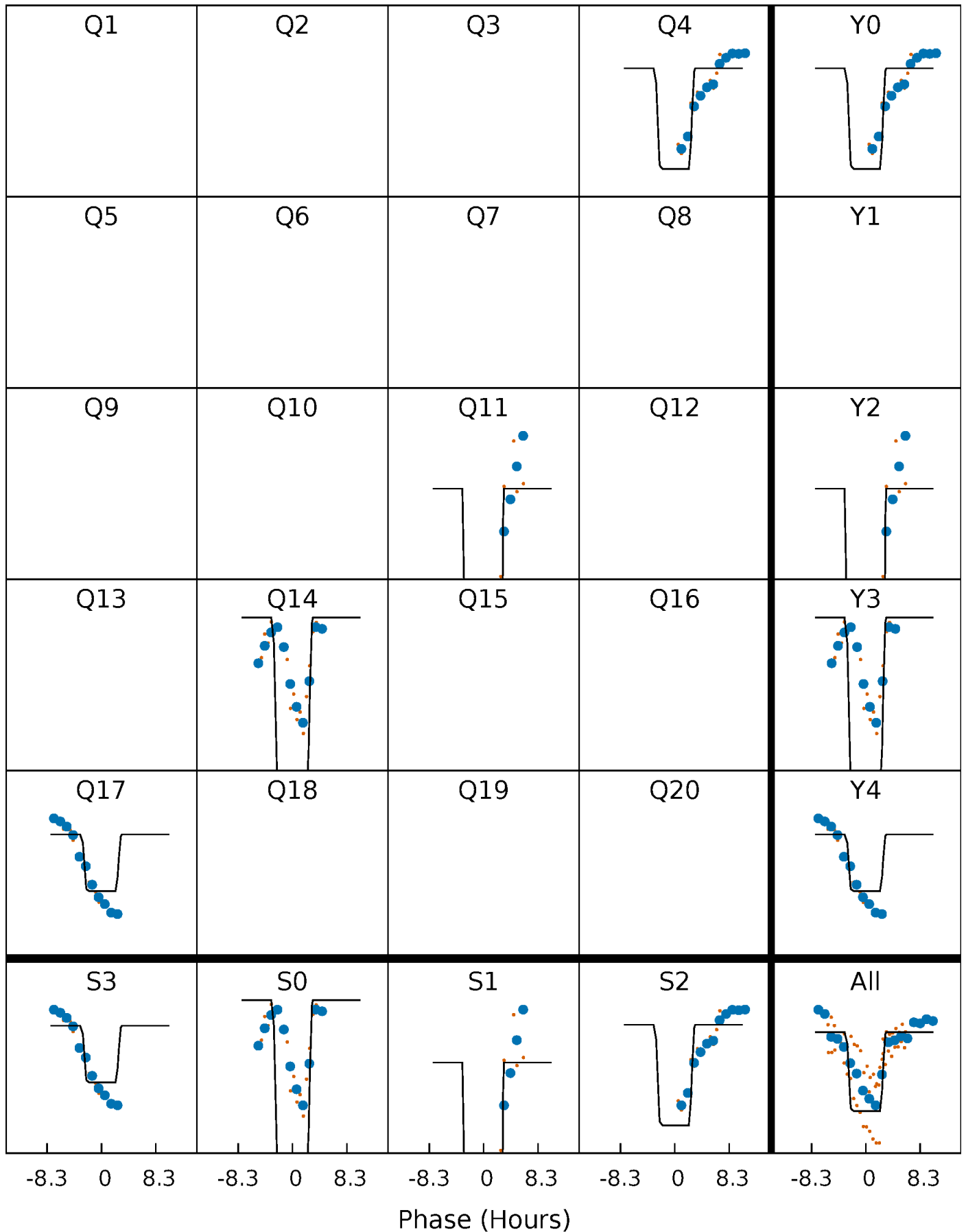
DV Quarter-Phased Transit Curves

TCE 005648562-07 P=281.369834 Days $T_0=157.050783$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

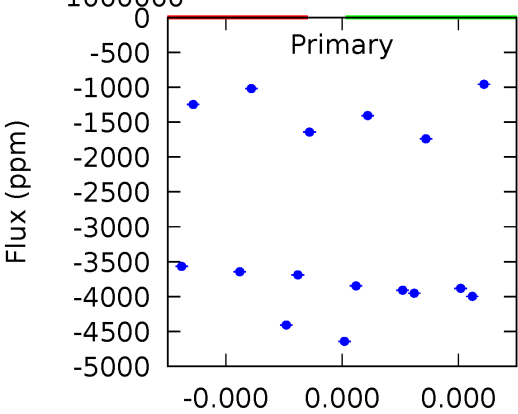
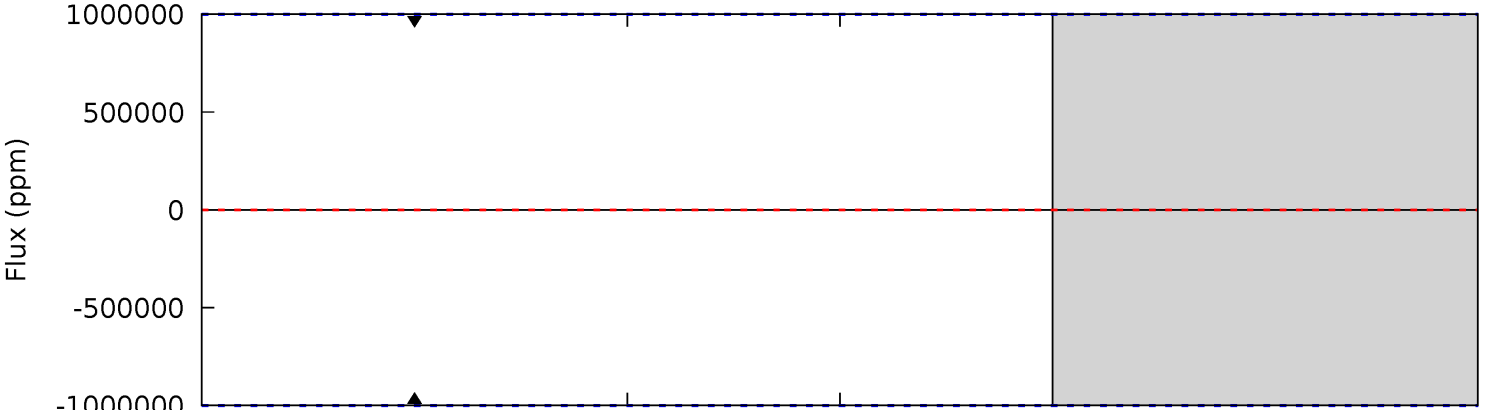
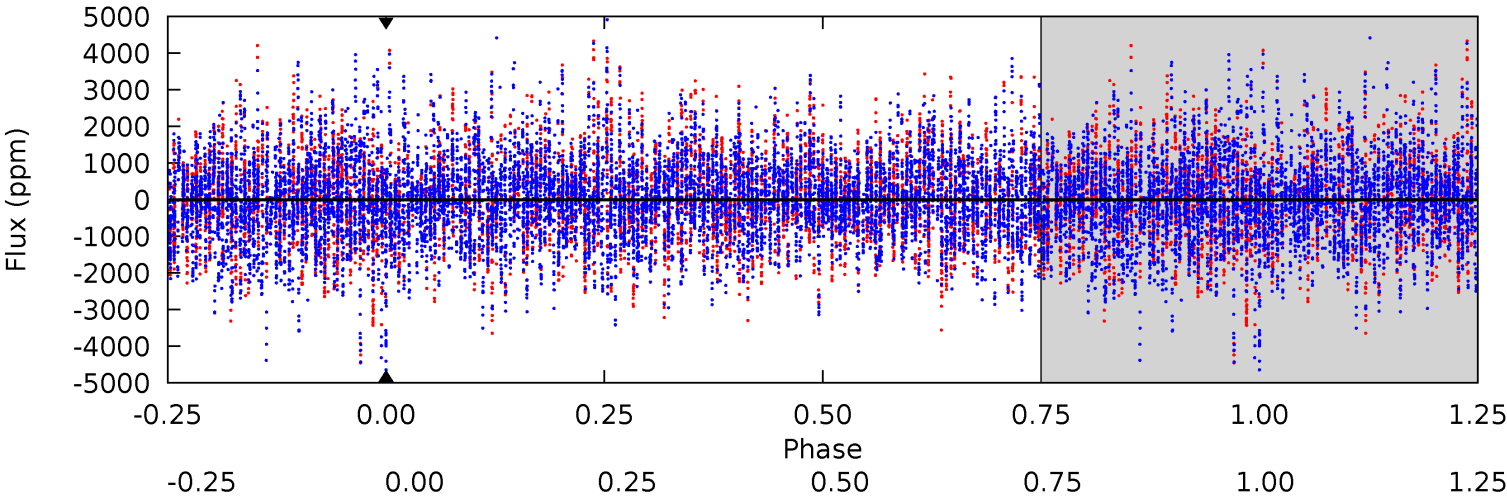
TCE 005648562-07 P=281.369834 Days $T_0=157.010131$ (BKJD)



DV Model-Shift Uniqueness Test

005648562-07, P = 281.369834 Days, E = 157.050783 Days

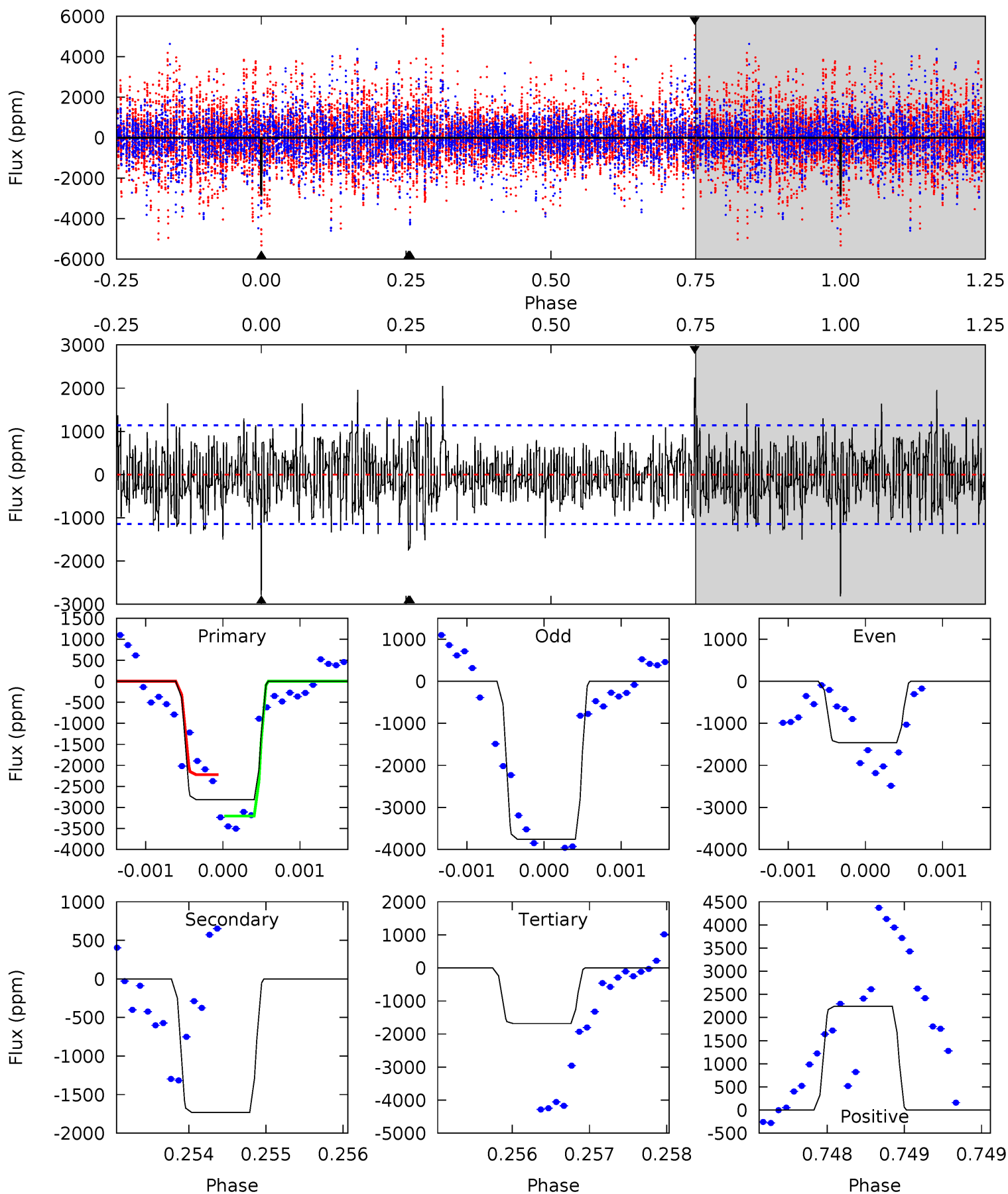
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005648562-07, P = 281.369834 Days, E = 157.010131 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	8.33	8.09	10.8	5.49	3.36	2.33	5.46	2.75	0.24	-2.47	5.35	1.05	0.44	2.29



Stellar Parameters For KIC 005648562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6842^{+218}_{-327}	$3.814^{+0.390}_{-0.130}$	$0.000^{+0.250}_{-0.300}$	$2.696^{+0.535}_{-1.248}$	$1.728^{+0.164}_{-0.460}$	$0.124^{+0.472}_{-0.039}$
	+3%/-5%	+10%/-3%	+inf%/-inf%	+20%/-46%	+9%/-27%	+380%/-32%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005648562-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$21.24^{+23.03}_{-14.43}$	674^{+50}_{-75}	5479^{+26500}_{-34505}	$2783^{+271916}_{-208672}$
Alt.	-1731 ± 208	$23.99^{+27.16}_{-14.99}$	676^{+47}_{-76}	4727^{+2959}_{-1078}	1573^{+9540}_{-1195}

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 $A_{obs} \gg 1.0$

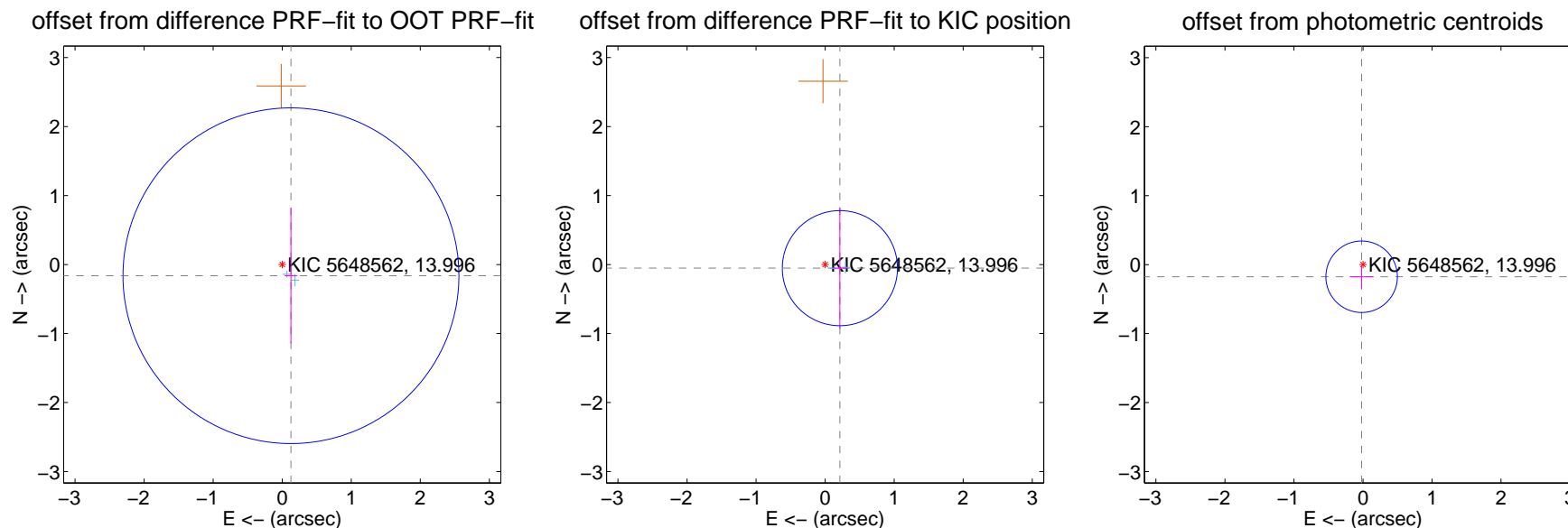
DV Centroid Data

Supplemental centroid analysis for 005648562-07. Kepler magnitude: 14.00. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

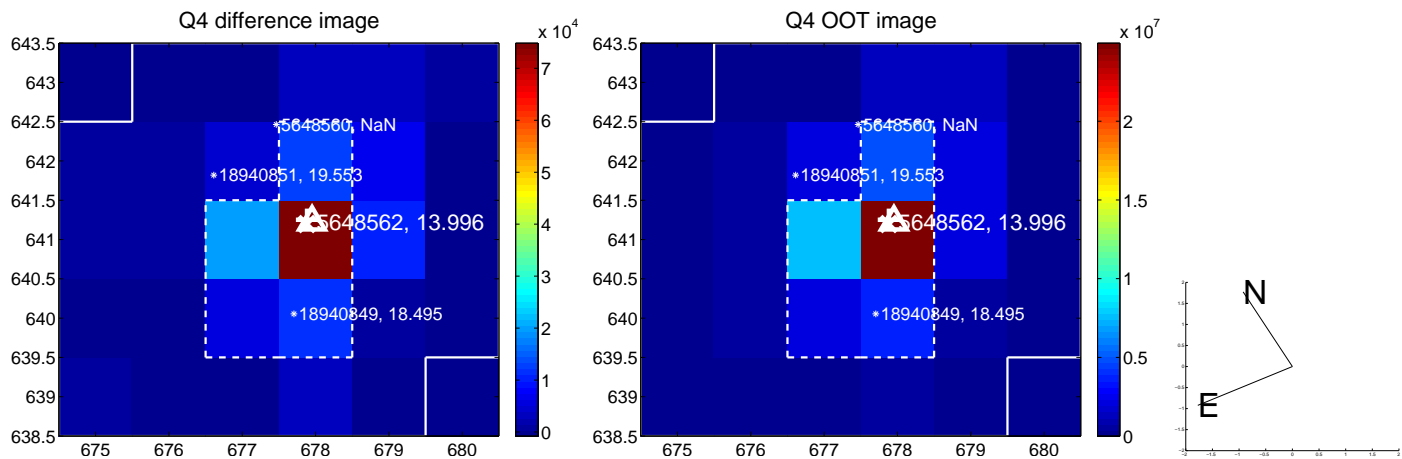
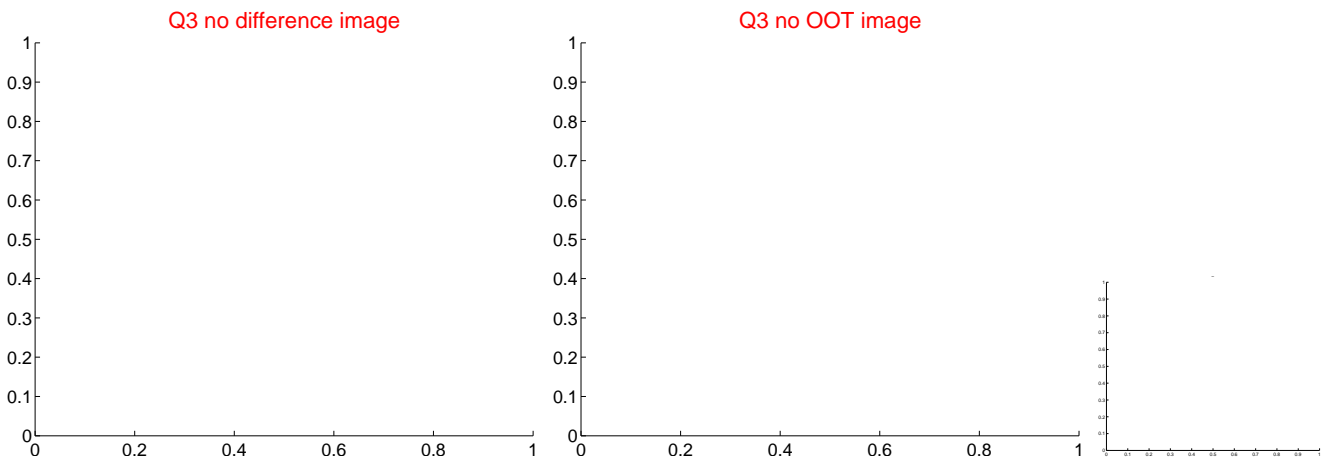
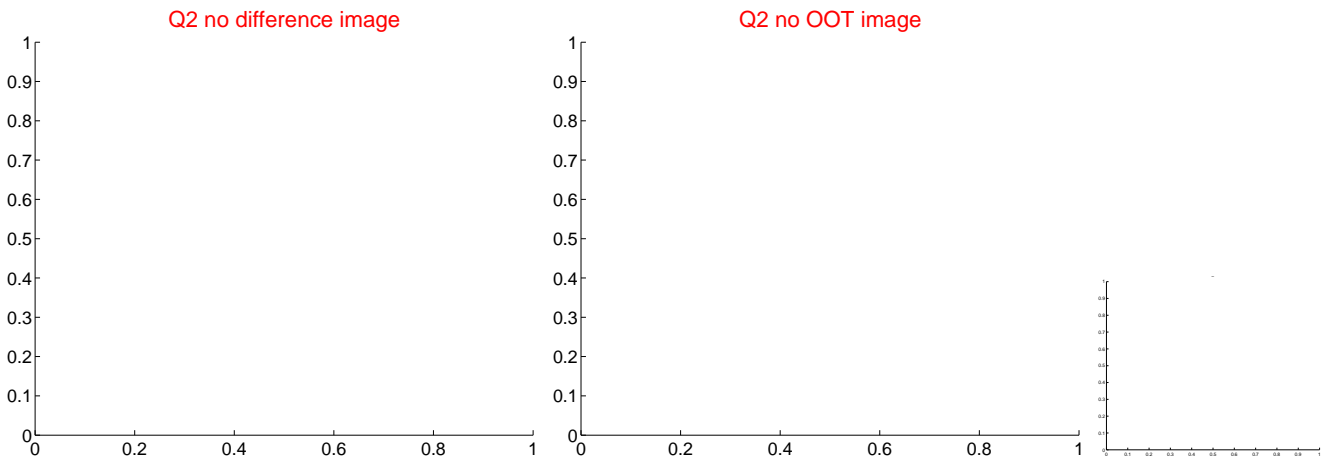
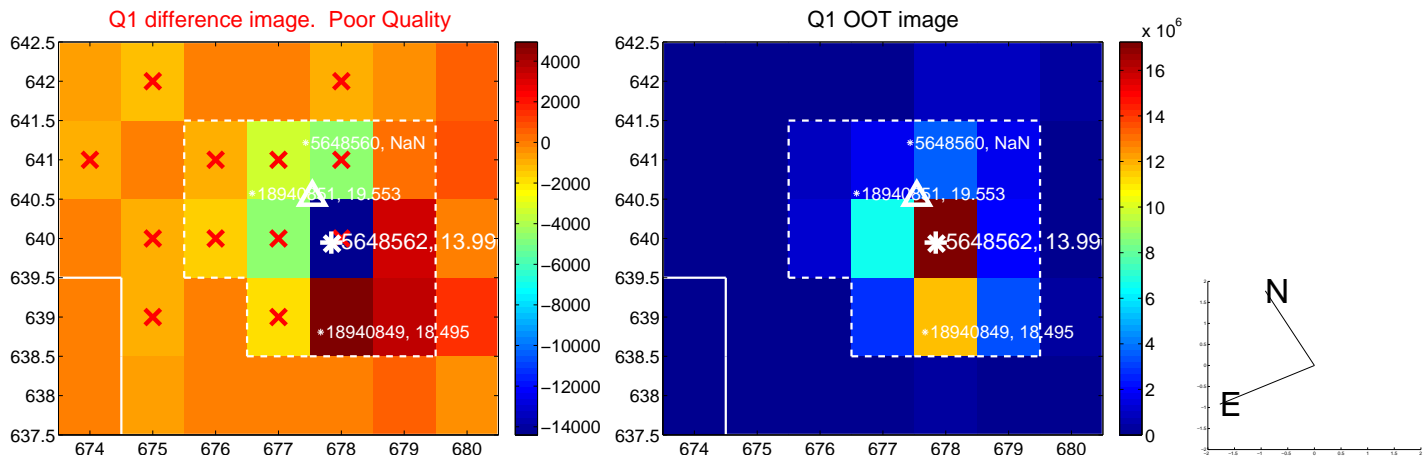
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.206 ± 0.811	0.25	-0.127 ± 0.092	-0.162 ± 0.982
PRF-fit source offset from KIC position	0.220 ± 0.278	0.79	-0.214 ± 0.097	-0.052 ± 0.881
photometric centroid source offset	0.18 ± 0.17	1.03	0.02 ± 0.17	-0.18 ± 0.17

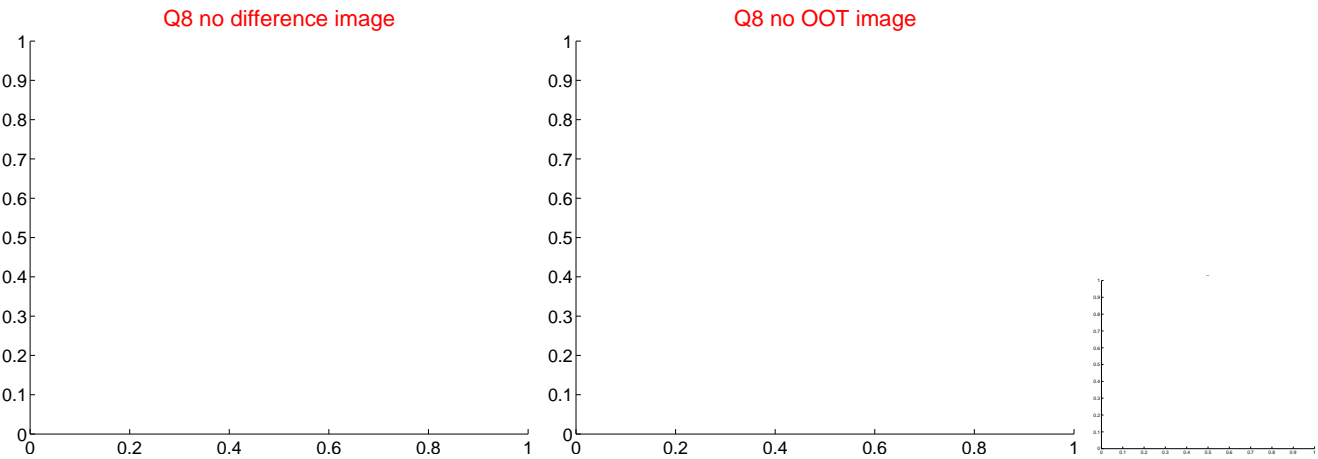
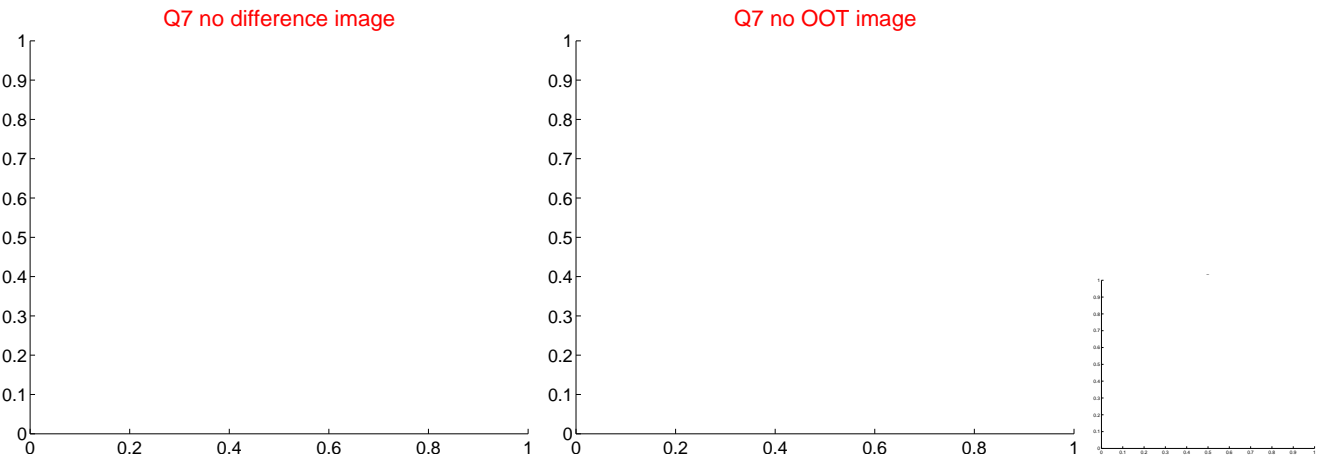
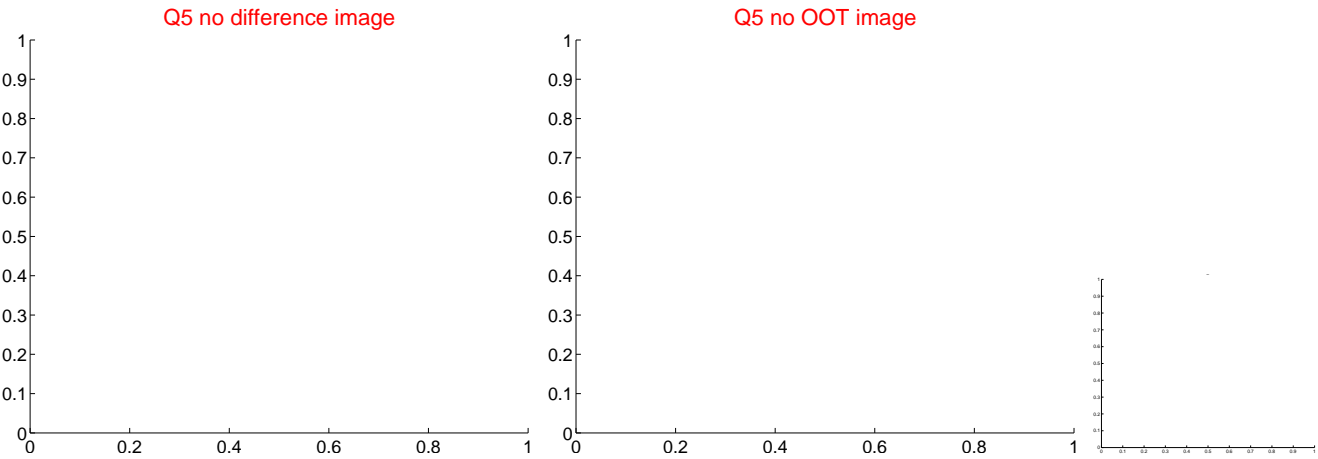


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



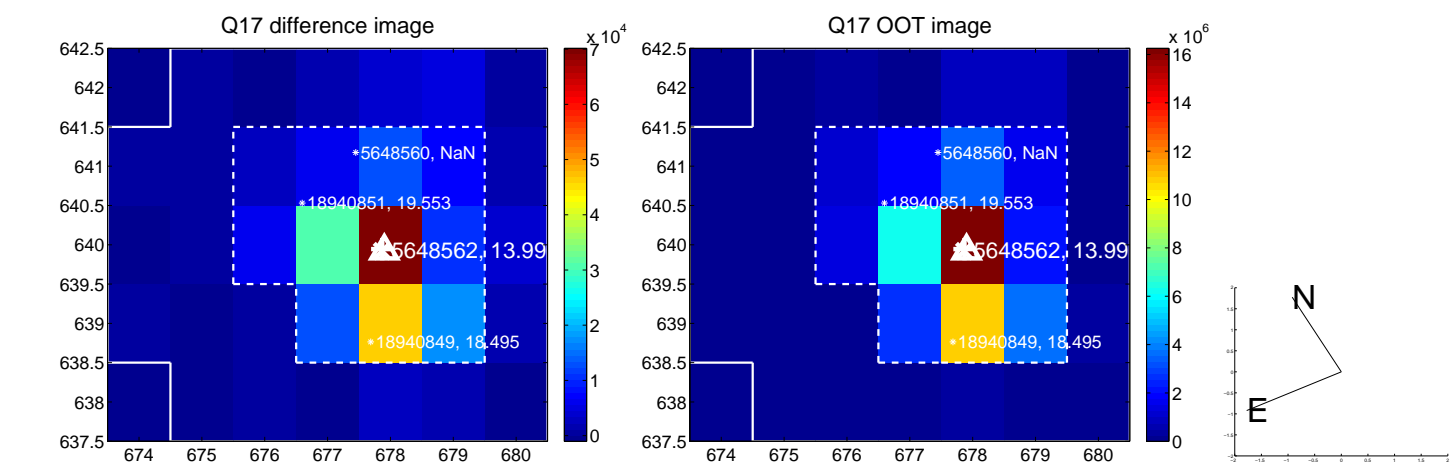
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



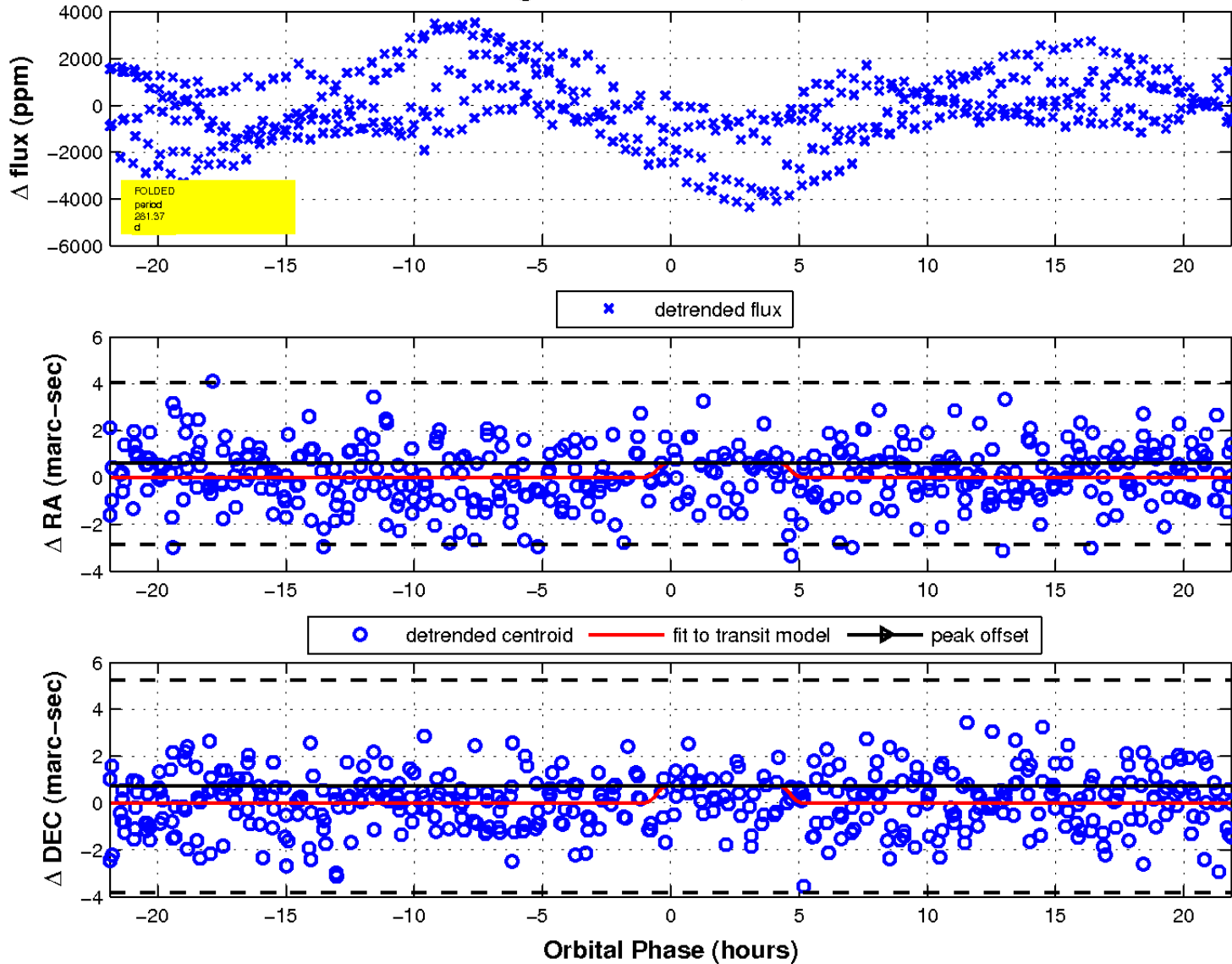
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 7 of 7



UKIRT Image

Declination

