

KIC 010812541

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})
010812541-01	OBS	No	668.612573	197.358439	2576.2	6.765	15.0	7.6	0.65	4137	4.38	0.07
010812541-02	OBS	No	558.645732	241.369831	2246.7	7.918	13.2	6.9	0.65	4137	3.81	0.08
010812541-03	OBS	No	447.340403	171.821794	2836.6	8.062	13.1	7.7	0.65	4137	3.30	0.11
010812541-04	OBS	7375.01	4.848501	131.905169	546.1	1.081	12.8	17.7	0.65	4137	1.88	46.86
010812541-05	OBS	No	216.318176	209.187800	1583.4	9.653	12.4	5.4	0.65	4137	2.65	0.30
010812541-06	OBS	No	252.979565	333.488781	1051.2	3.352	12.2	5.1	0.65	4137	2.40	0.24
010812541-07	OBS	No	331.622401	236.616663	1344.3	3.160	11.3	6.3	0.65	4137	2.67	0.17
010812541-08	OBS	No	227.094881	333.503546	1715.7	3.500	15.5	-1.0	0.65	4137	2.57	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010812541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010812541-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

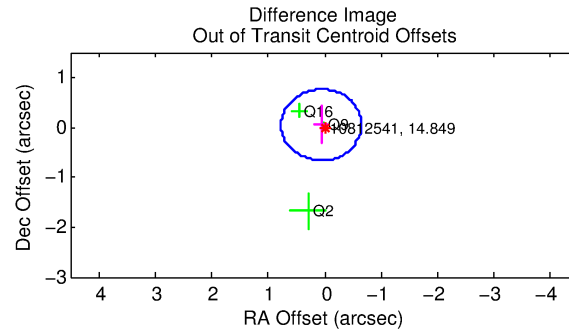
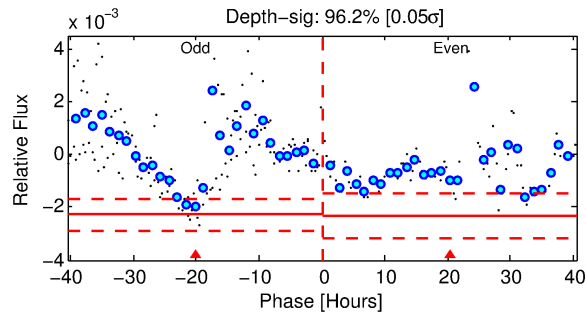
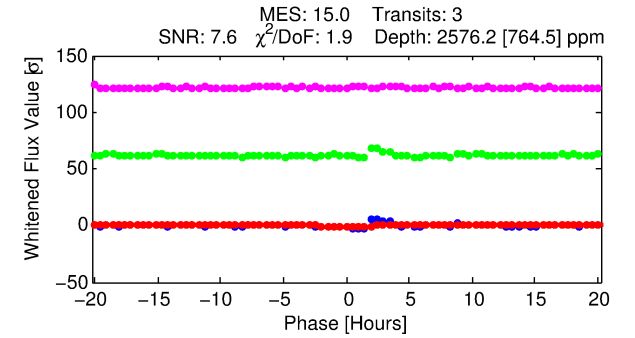
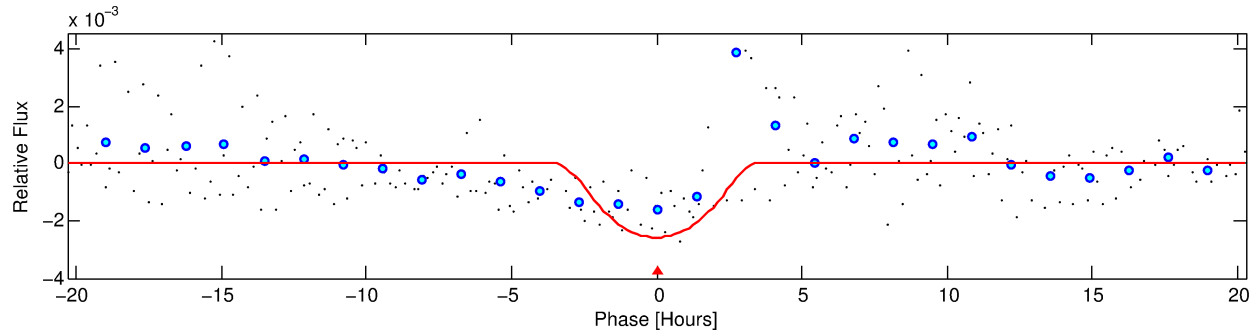
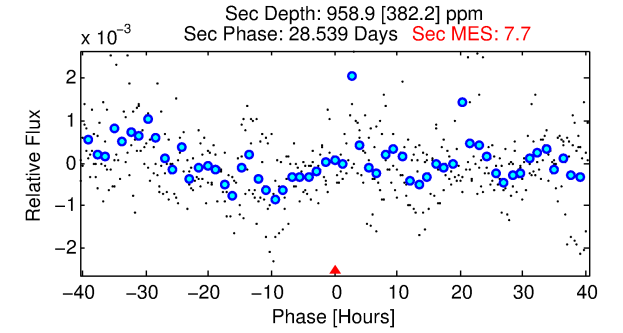
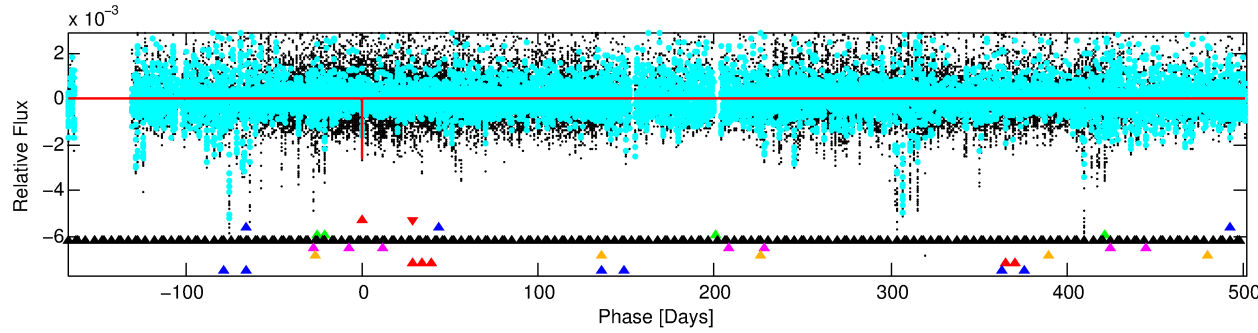
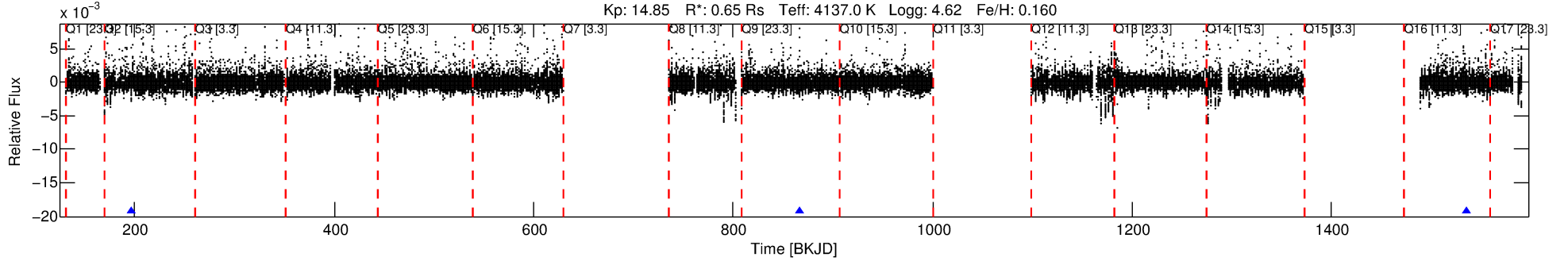
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010812541-01

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 1 of 8 Period: 668.613 d
KOI: K07375 Corr: No Ephemeris Match



DV Fit Results:

Period = 668.61257 [0.01357] d
Epoch = 197.3584 [0.0161] BKJD
Rp/R* = 0.0621 [0.0200]
a/R* = 369.71 [91.24]
b = 0.94 [0.06]
Seff = 0.07 [0.01]
Teq = 129 [6] K
Rp = 4.39 [1.47] Re
a = 1.2925 [0.0934] AU
Ag = 45825.43 [35009.41] [1.31 σ]
Teffp = 2921 [563] K [4.96 σ]

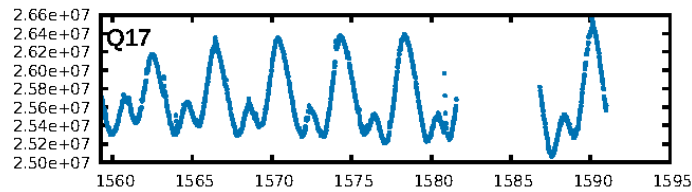
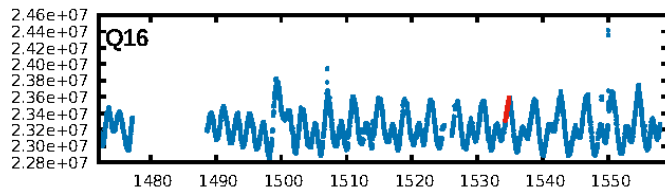
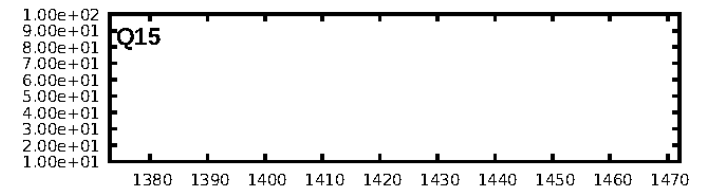
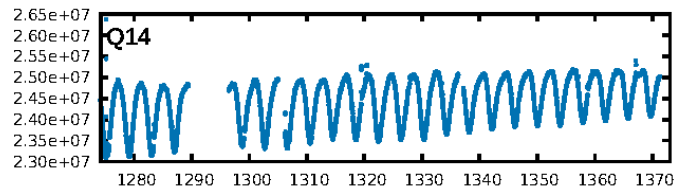
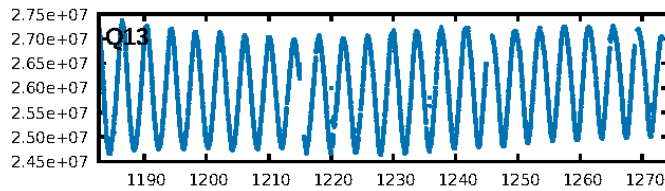
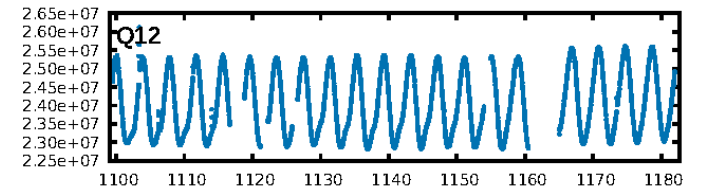
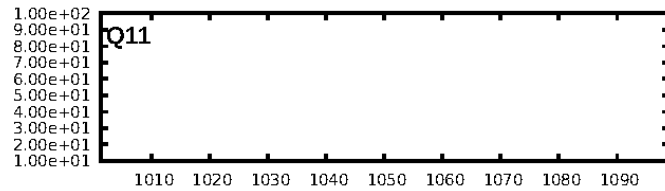
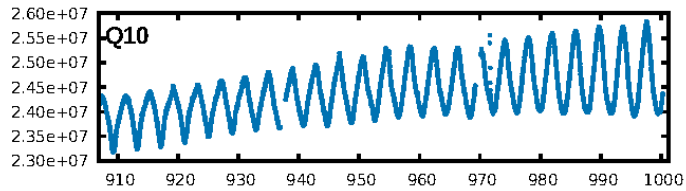
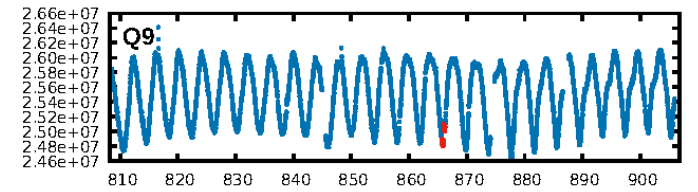
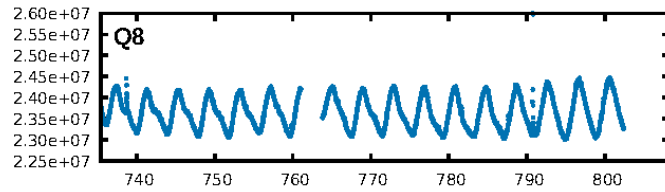
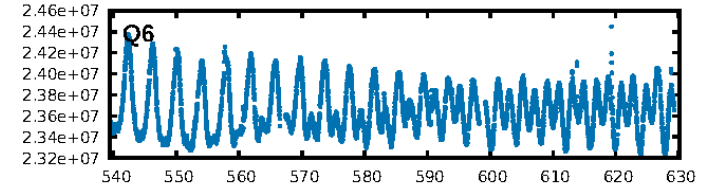
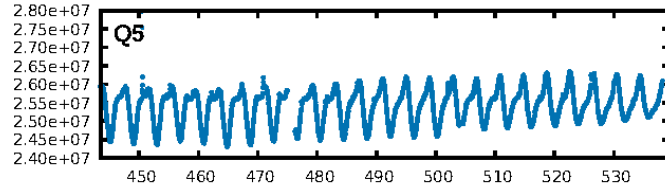
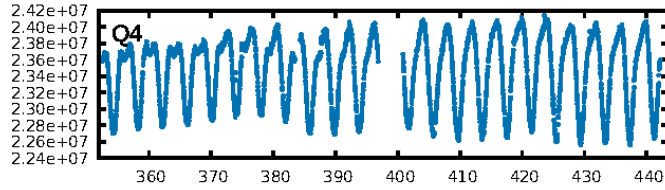
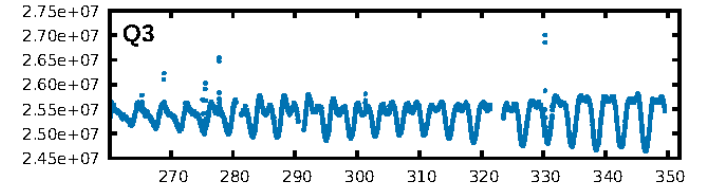
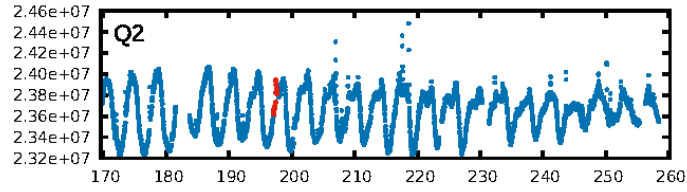
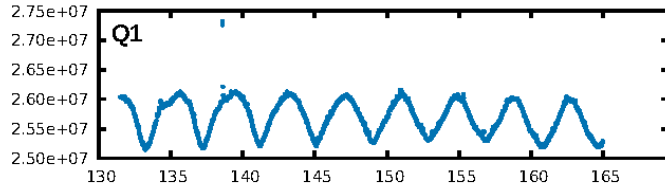
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [253.43 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 13.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.14
Centroid-sig: 15.9%
Centroid-so: 0.536 arcsec [0.97 σ]
OotOffset-rm: 0.077 arcsec [0.32 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.205 arcsec [1.17 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

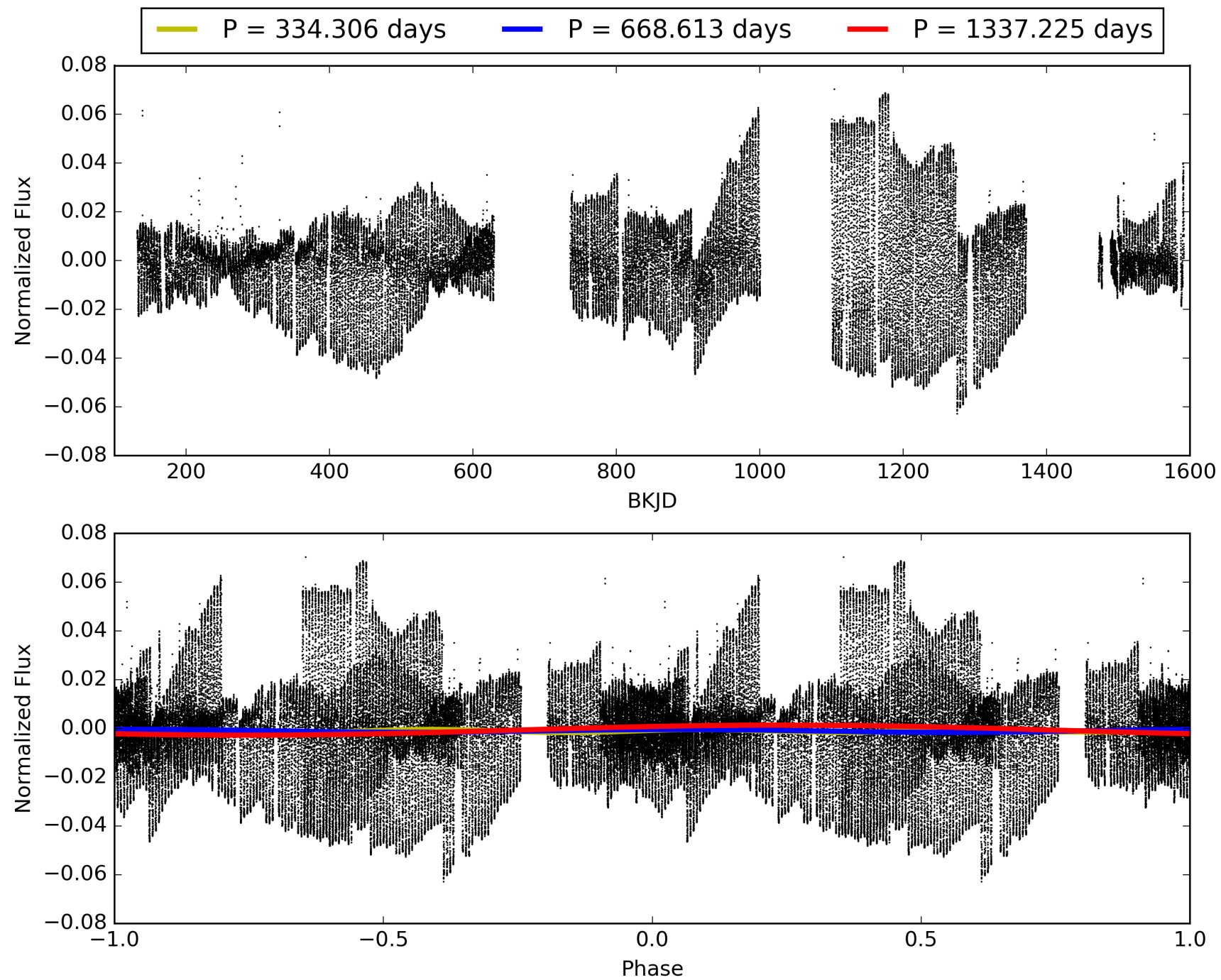
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:27:39 Z

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

TCE 010812541-01, PDC Light Curves

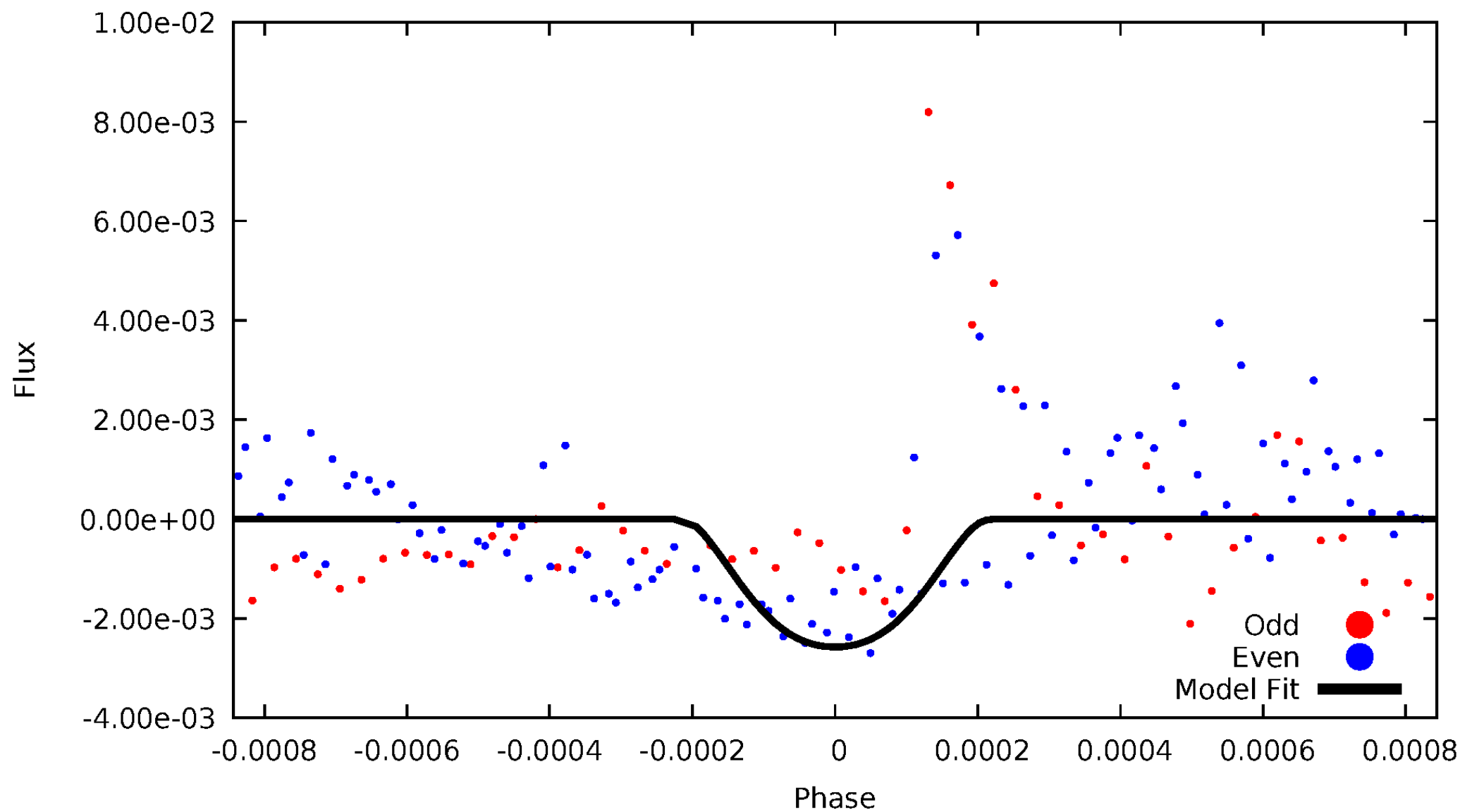


TCE 010812541-01



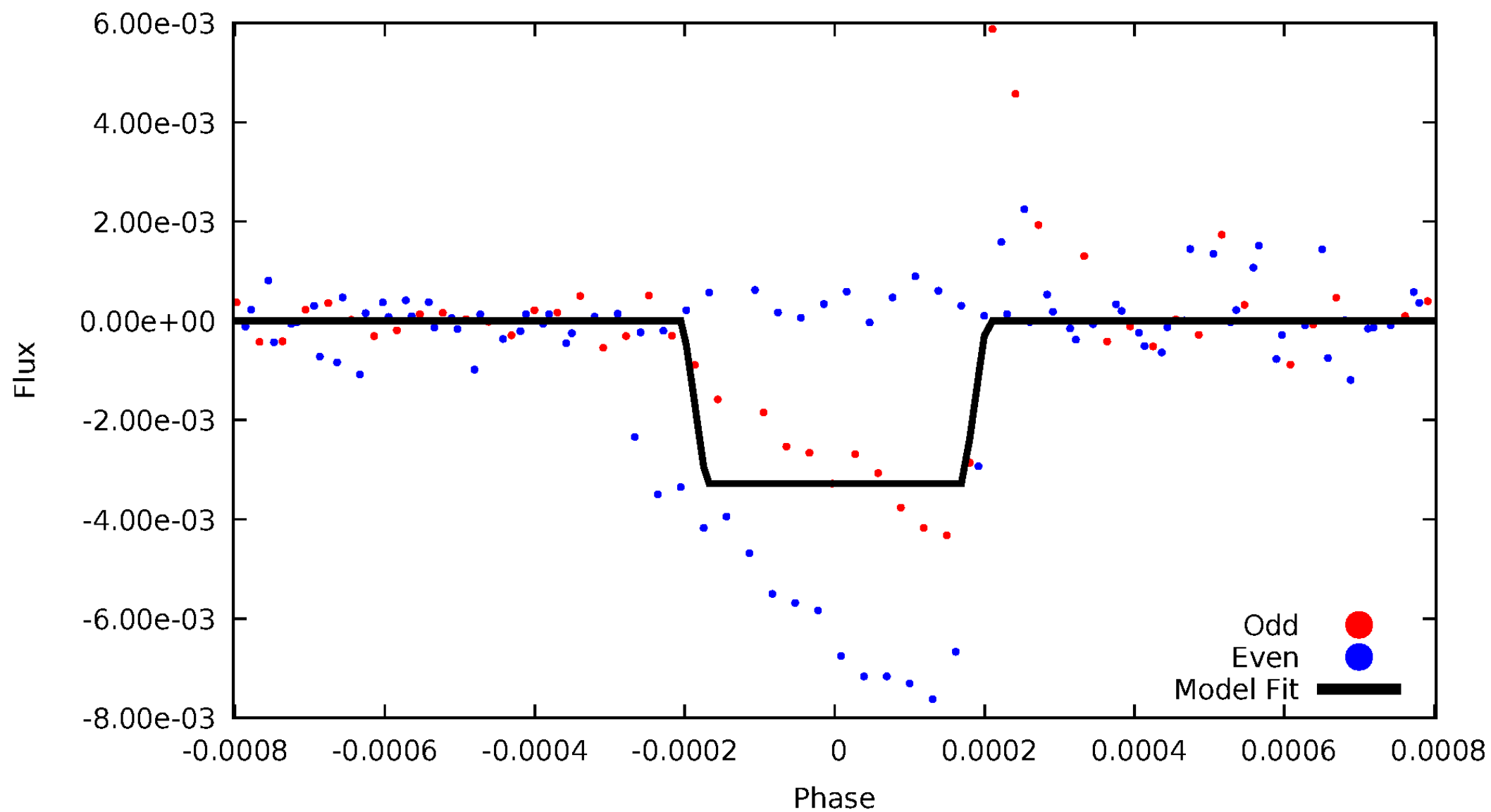
DV Odd/Even

TCE 010812541-01



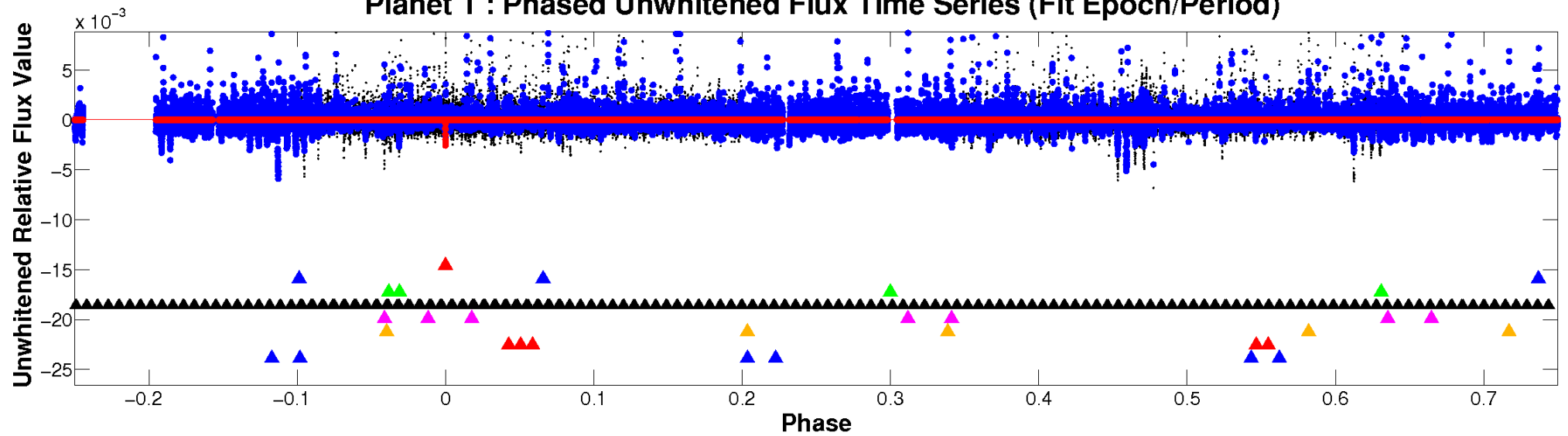
ALT Odd/Even

TCE 010812541-01

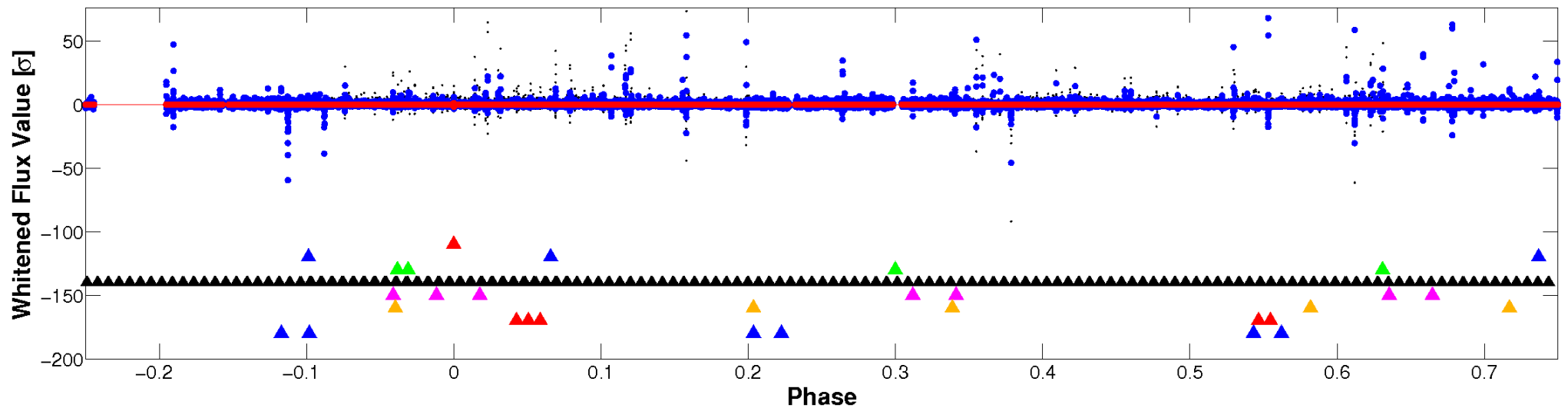


Non-Whitened Vs. Whitened Light Curve

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

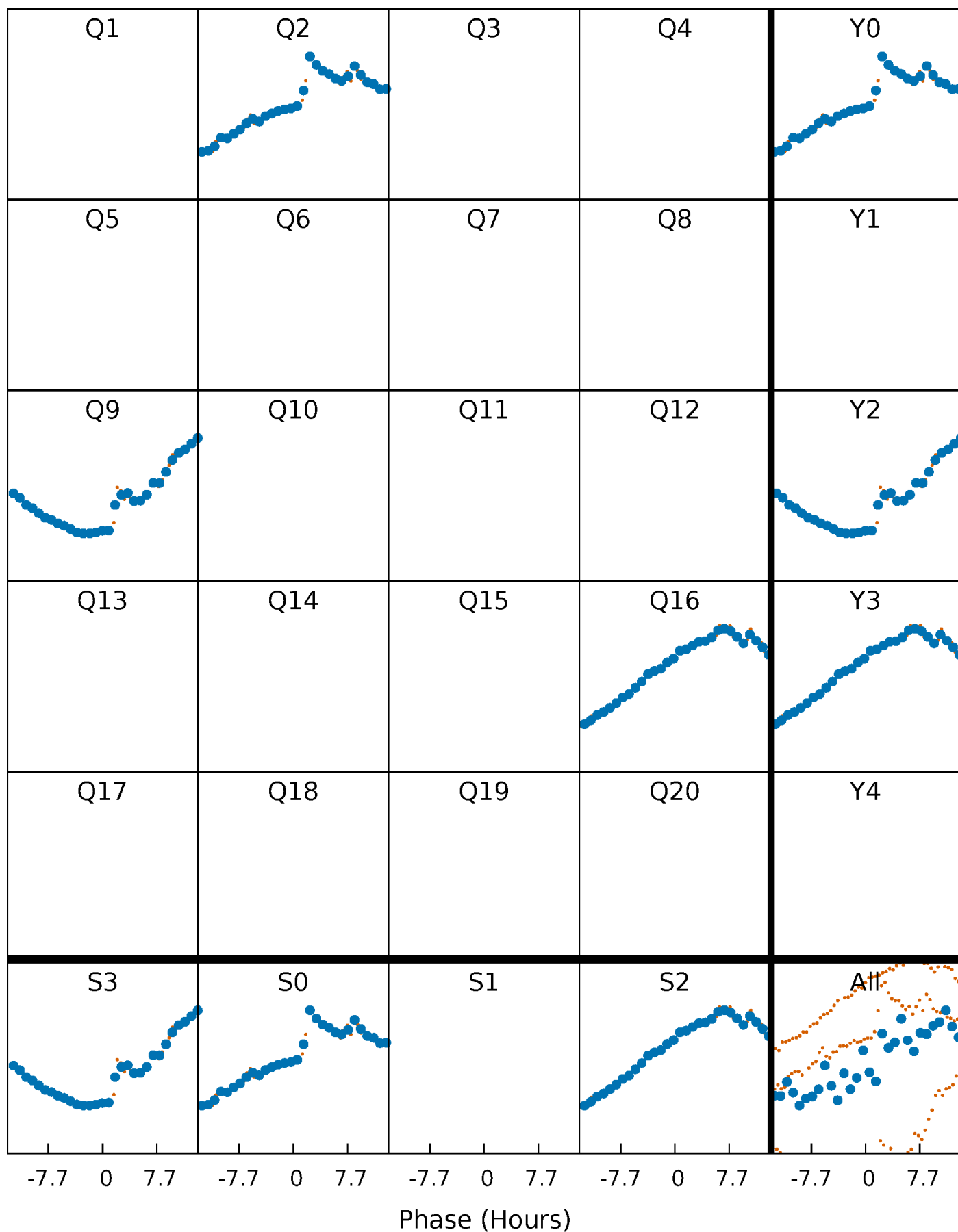


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



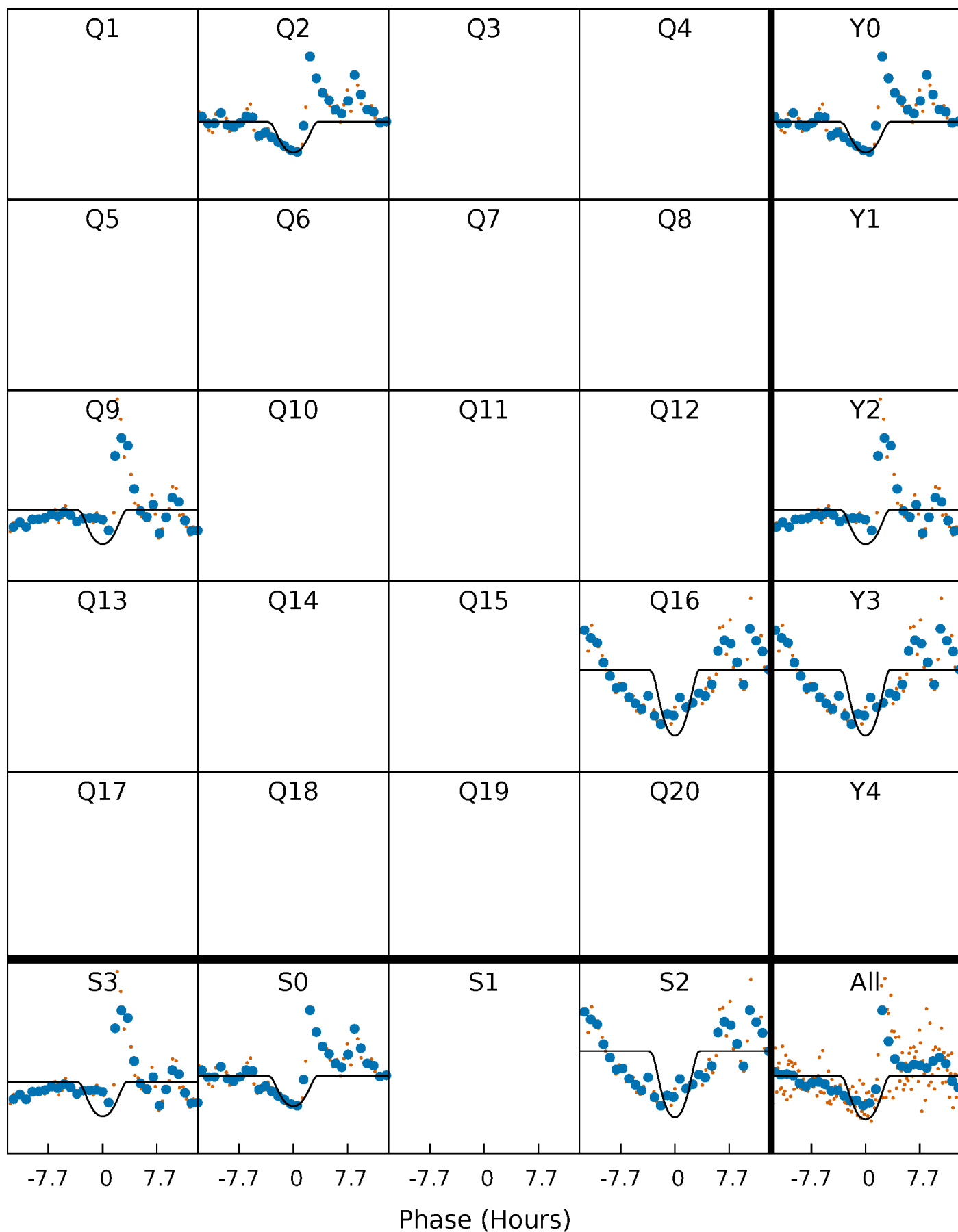
PDC Quarter-Phased Transit Curves

TCE 010812541-01 P=668.612573 Days $T_0=197.358439$ (BKJD)



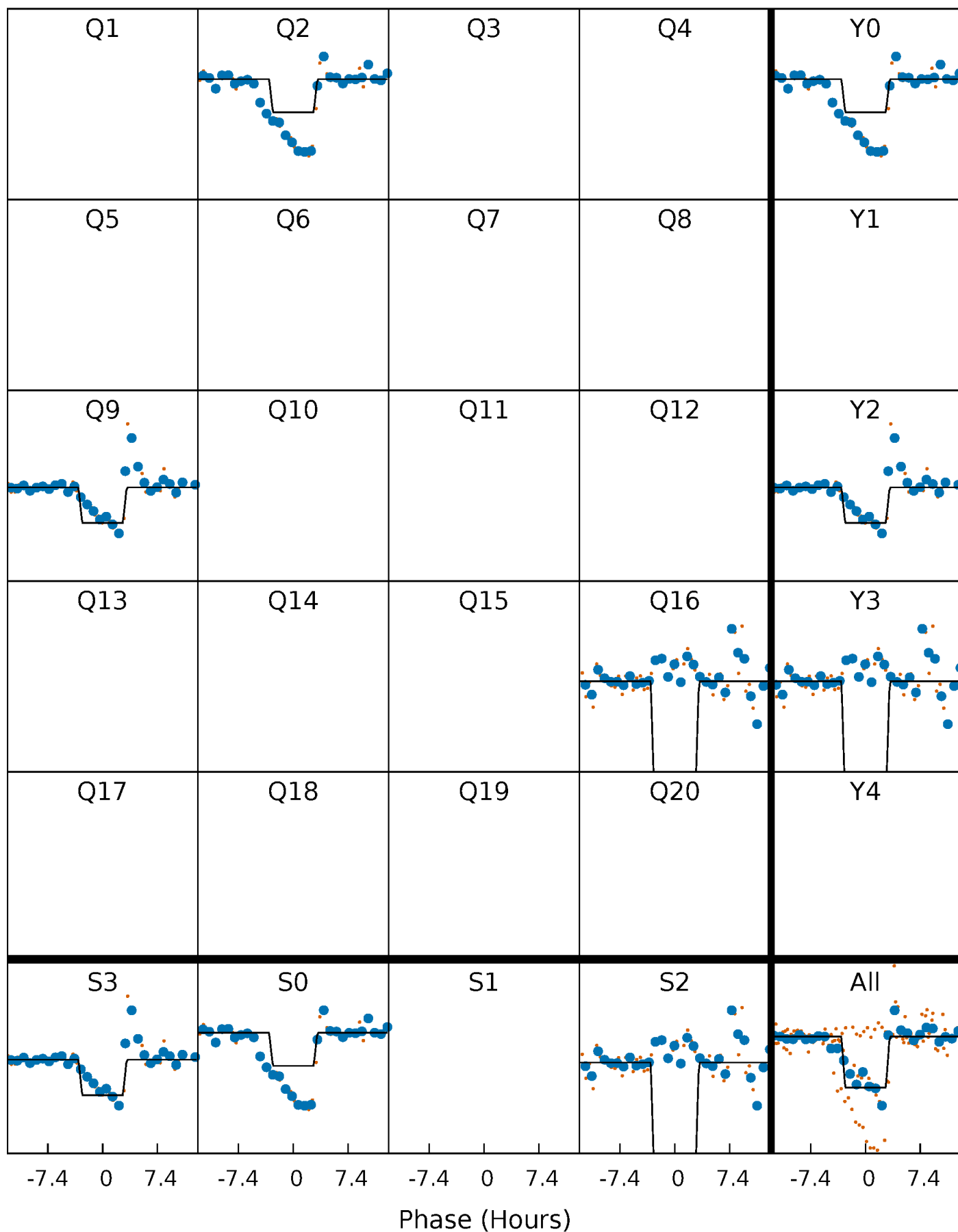
DV Quarter-Phased Transit Curves

TCE 010812541-01 P=668.612573 Days $T_0=197.358439$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

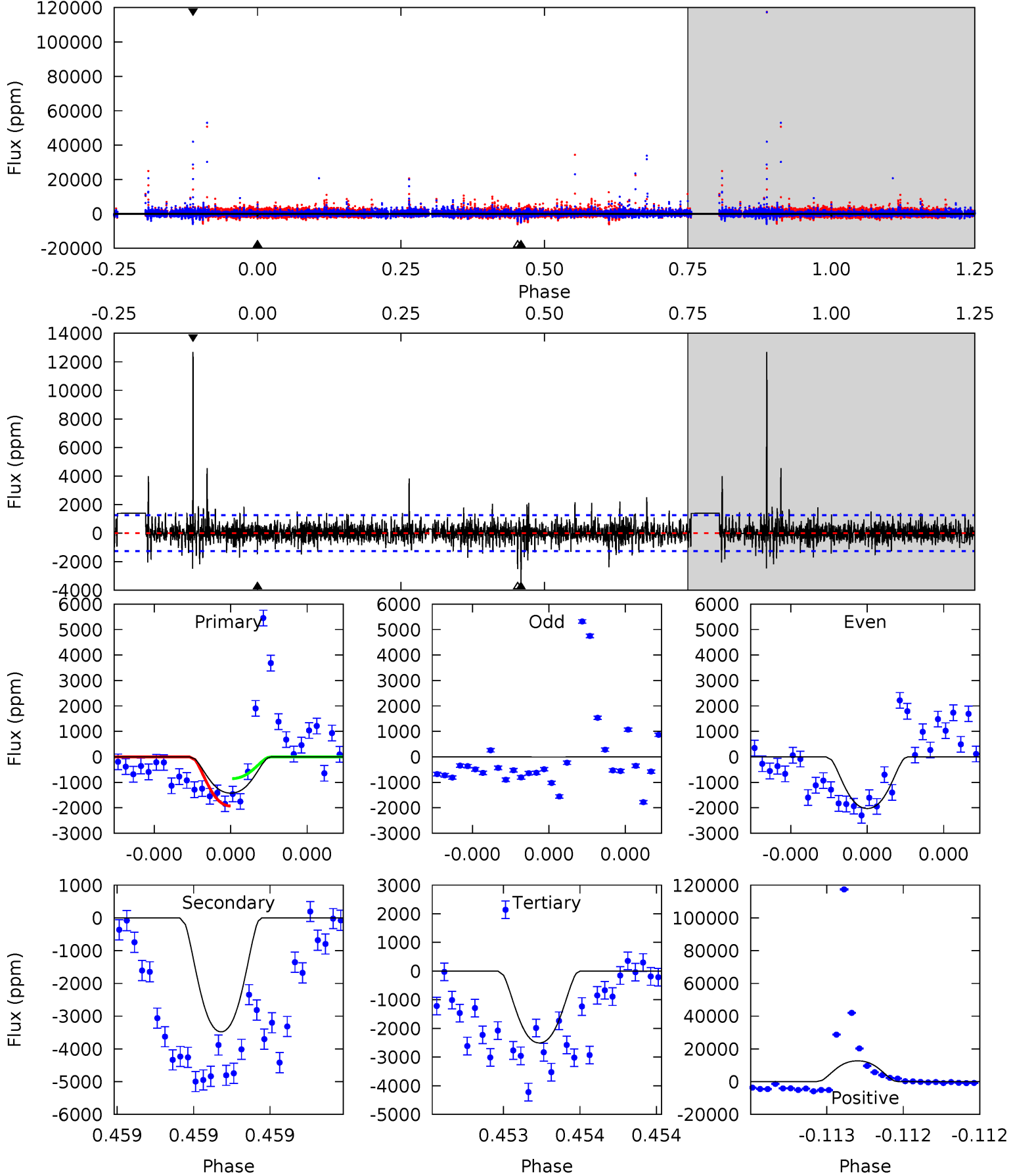
TCE 010812541-01 P=668.613328 Days $T_0=197.304259$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-01, P = 668.612573 Days, E = 197.358439 Days

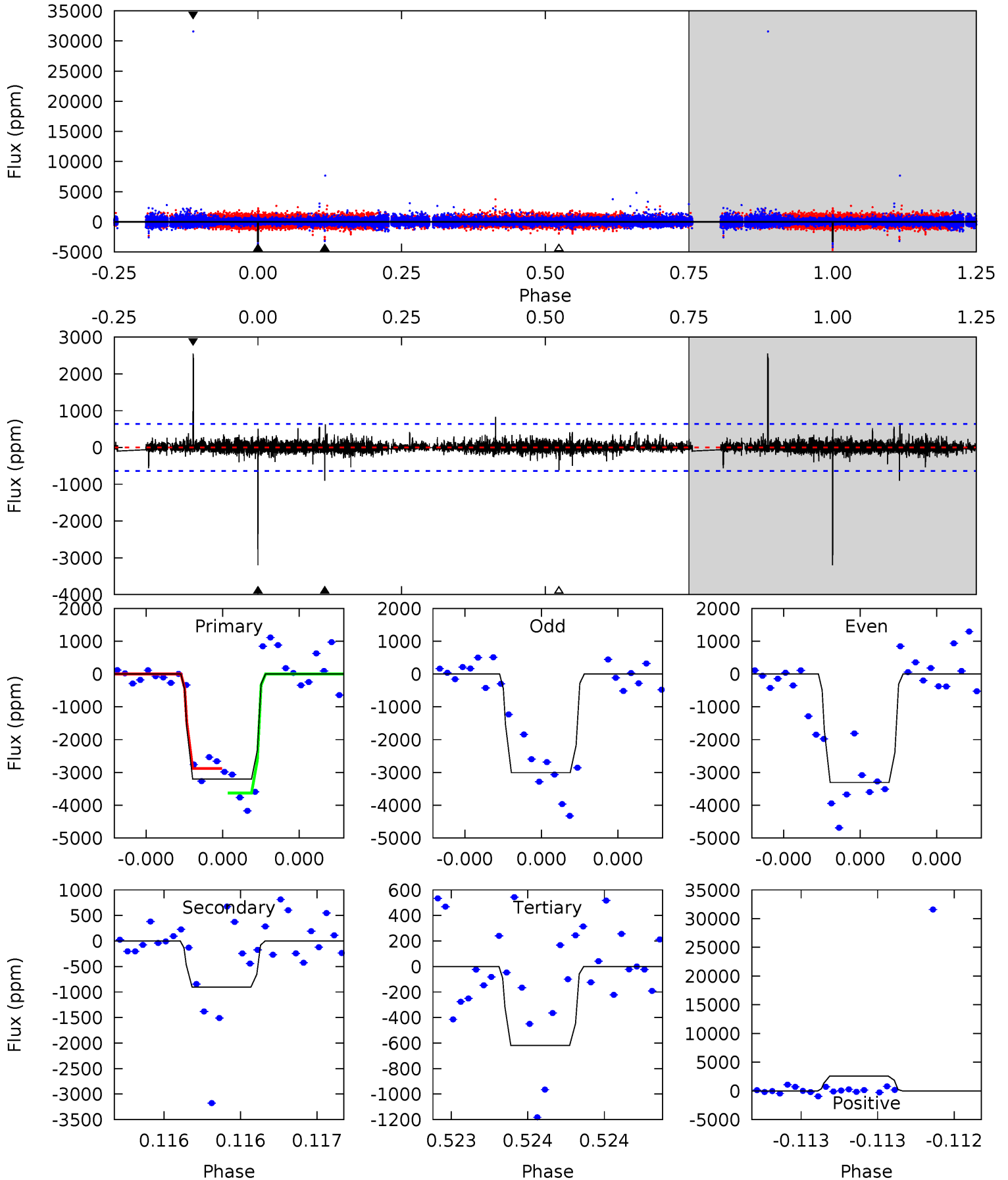
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.32	15.5	11.1	56.4	5.60	3.53	2.35	-4.81	-50.0	4.32	-40.9	4.34	0.72	0.78	2.92



Alt Model-Shift Uniqueness Test

010812541-01, P = 668.613328 Days, E = 197.304259 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	7.93	5.43	22.5	5.61	3.54	0.80	22.7	5.66	2.50	-14.5	1.81	0.97	0.44	3.29



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3480 ± 225	$4.35^{+1.50}_{-1.29}$	179^{+6}_{-7}	4040^{+599}_{-395}	$169155^{+178222}_{-73751}$
Alt.	-903 ± 114	$3.97^{+1.47}_{-1.35}$	179^{+6}_{-7}	3340^{+446}_{-300}	52267^{+66635}_{-23778}

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

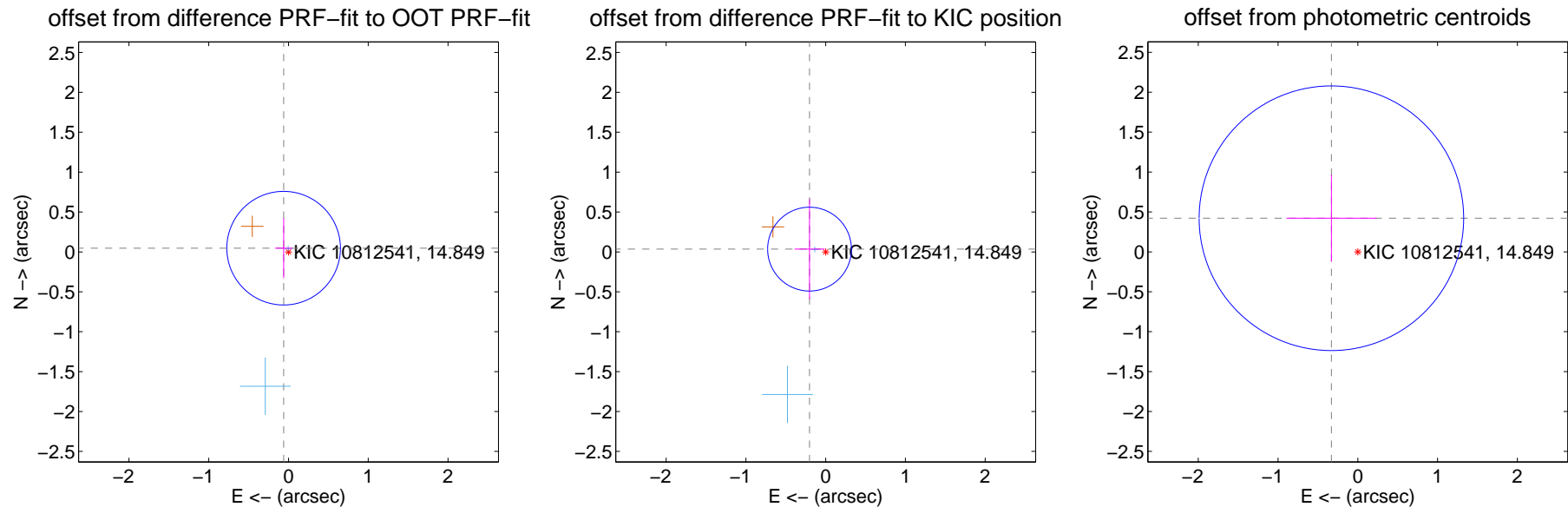
DV Centroid Data

Supplemental centroid analysis for 010812541-01. Kepler magnitude: 14.85. Transit SNR 7.59

There are 2 quarters with good PRF difference image offsets

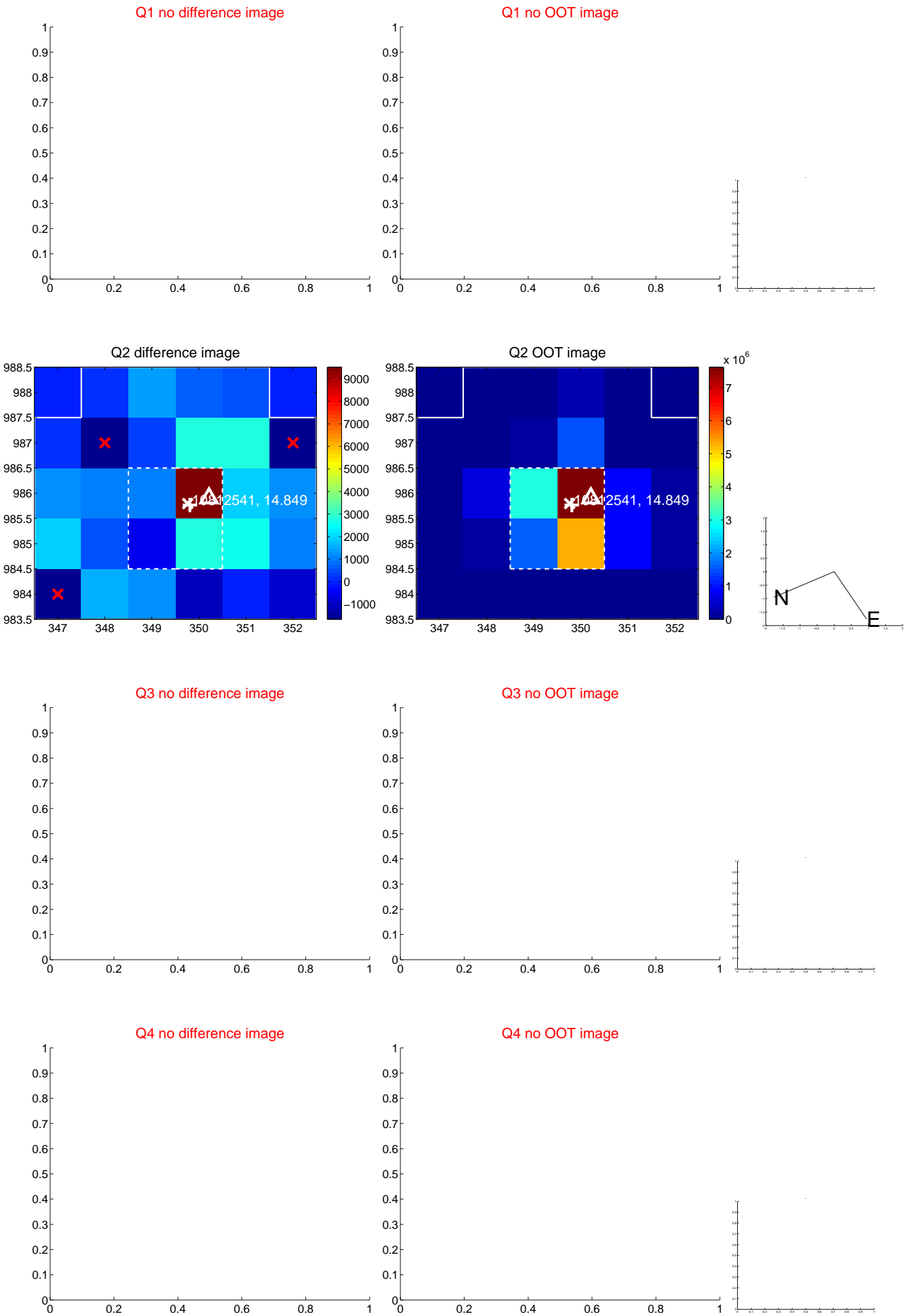
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.077 ± 0.237	0.32	0.061 ± 0.109	0.047 ± 0.377
PRF-fit source offset from KIC position	0.205 ± 0.175	1.17	0.202 ± 0.188	0.035 ± 0.626
photometric centroid source offset	0.54 ± 0.55	0.97	0.33 ± 0.56	0.42 ± 0.55



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

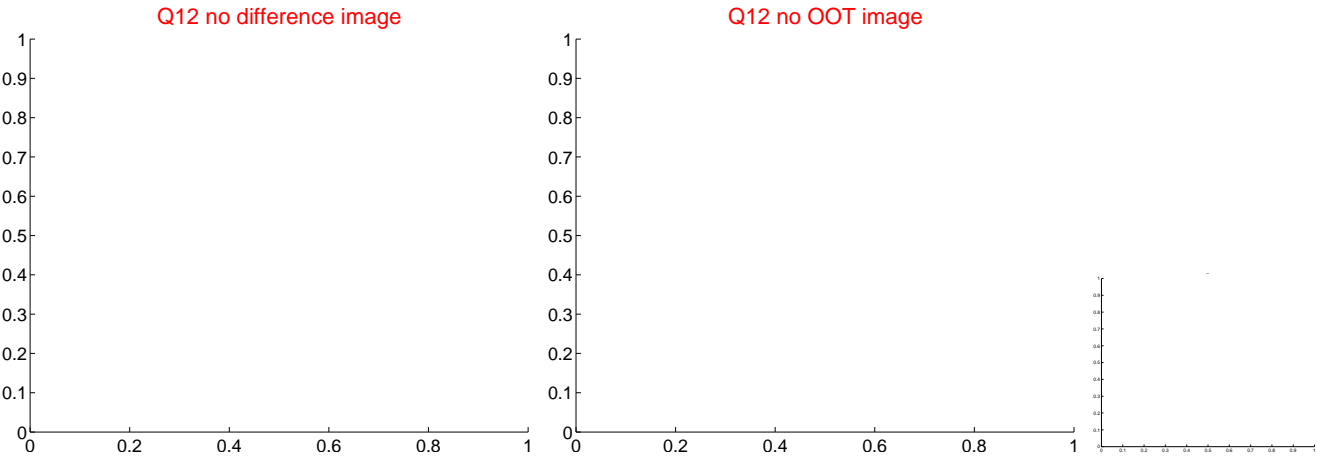
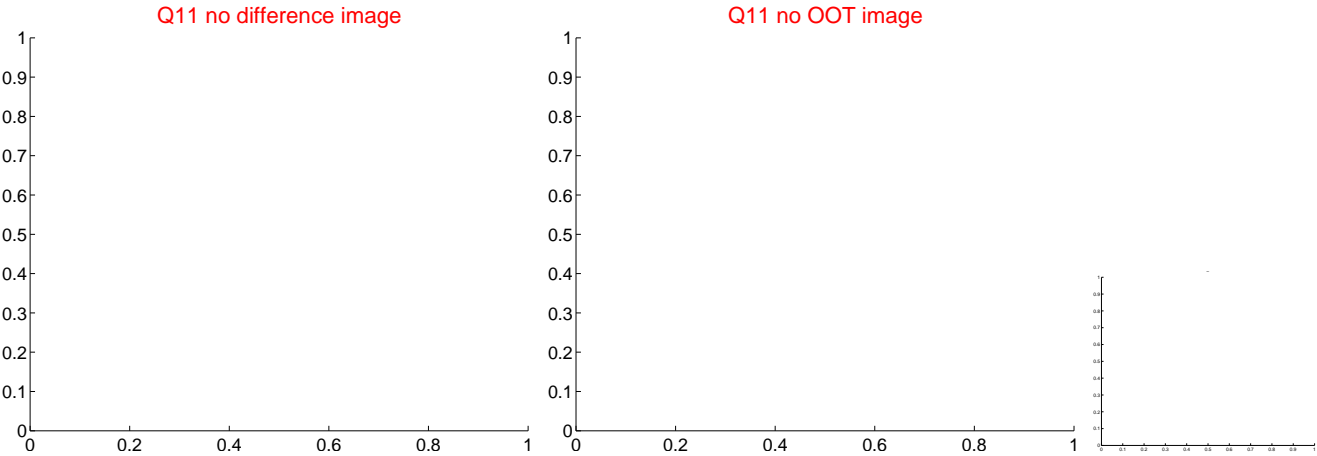
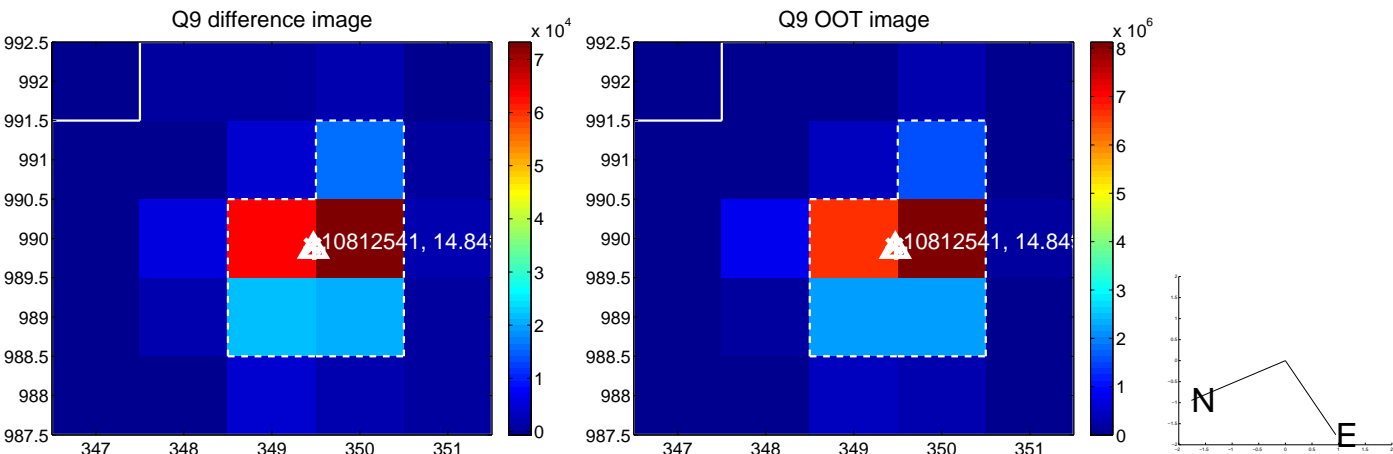
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



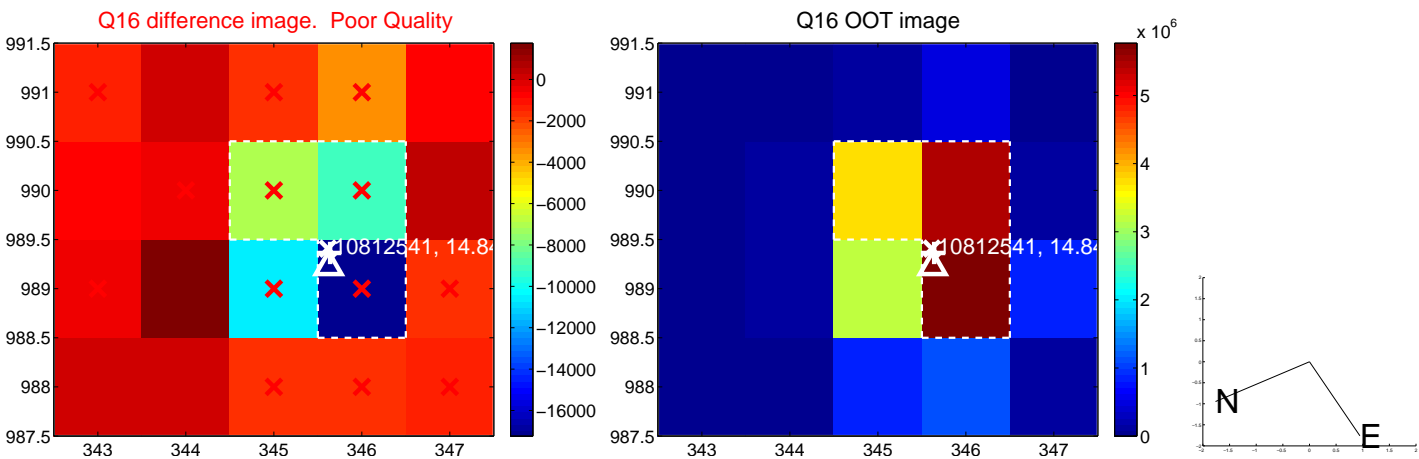
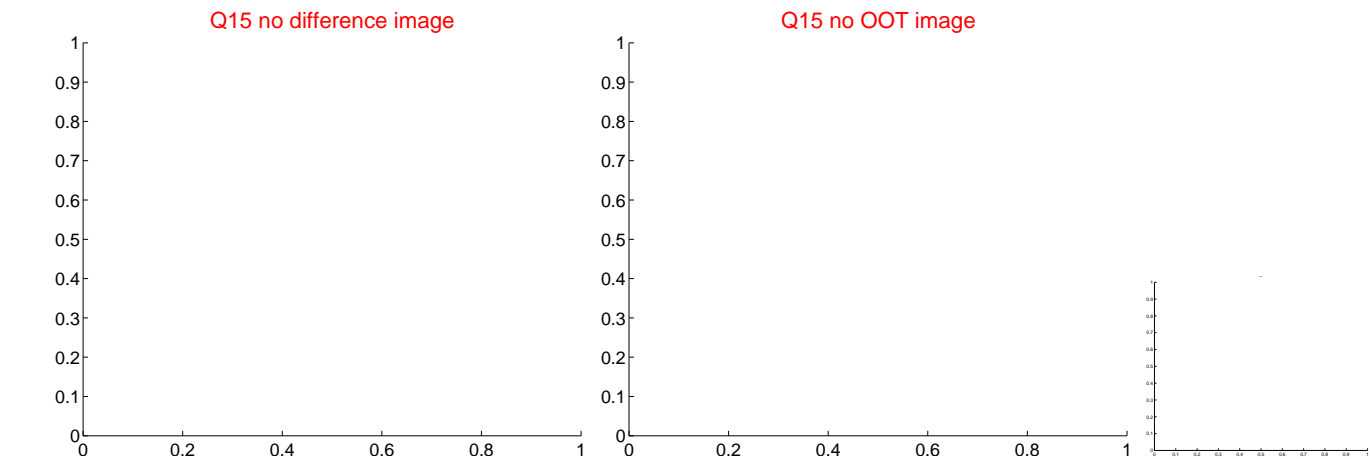
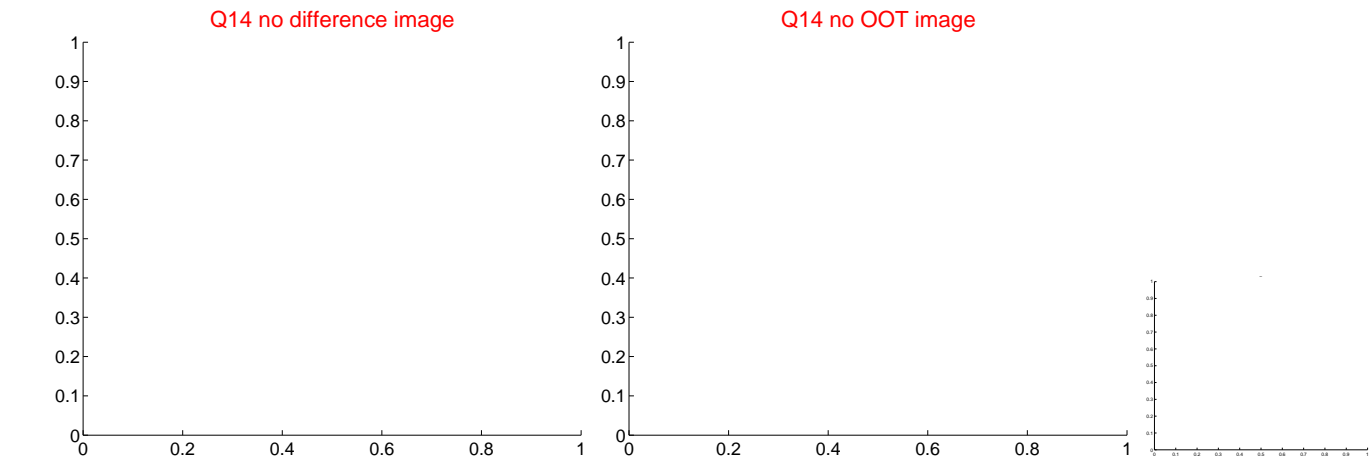
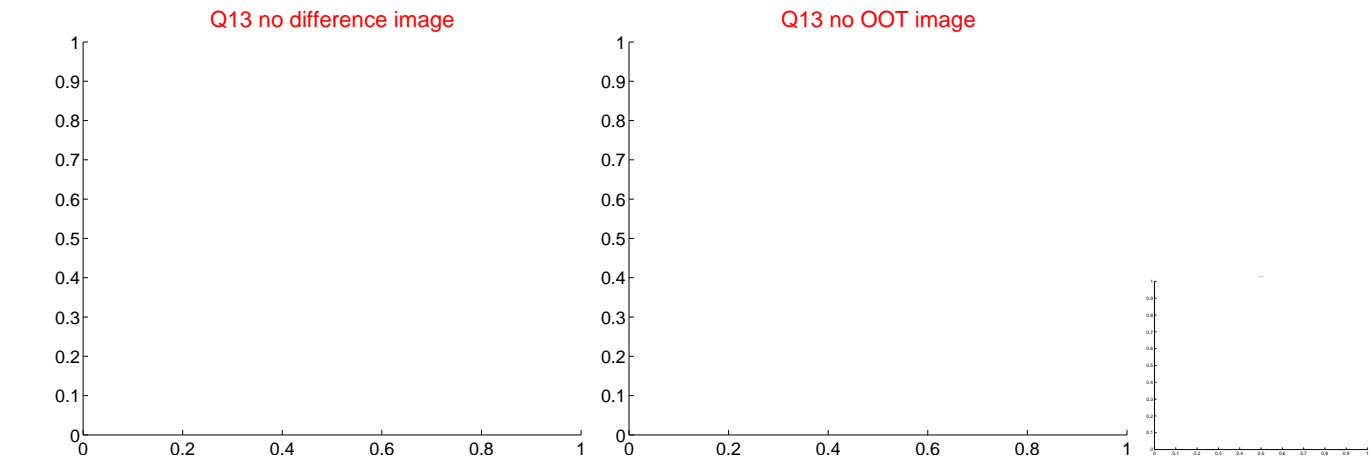
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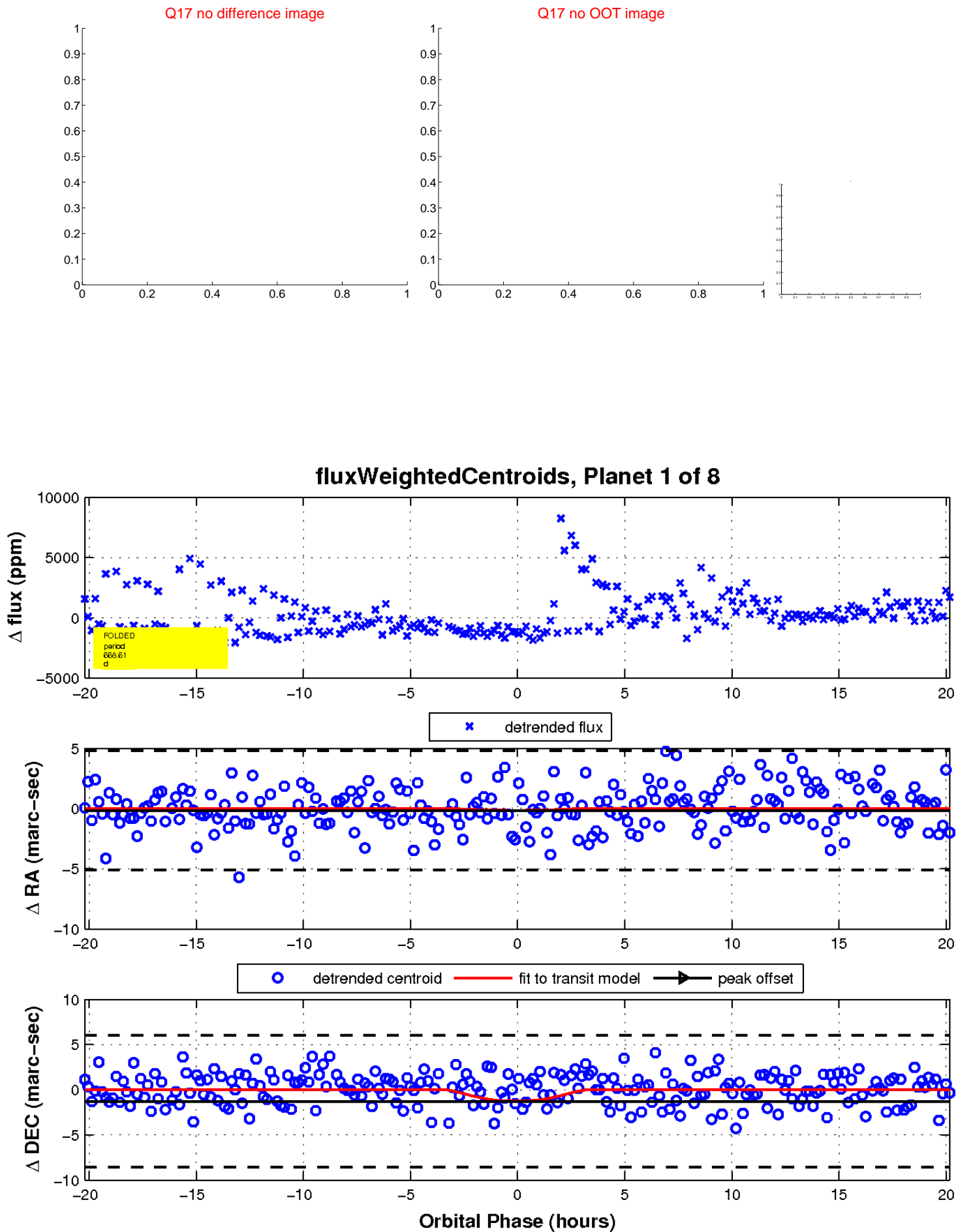
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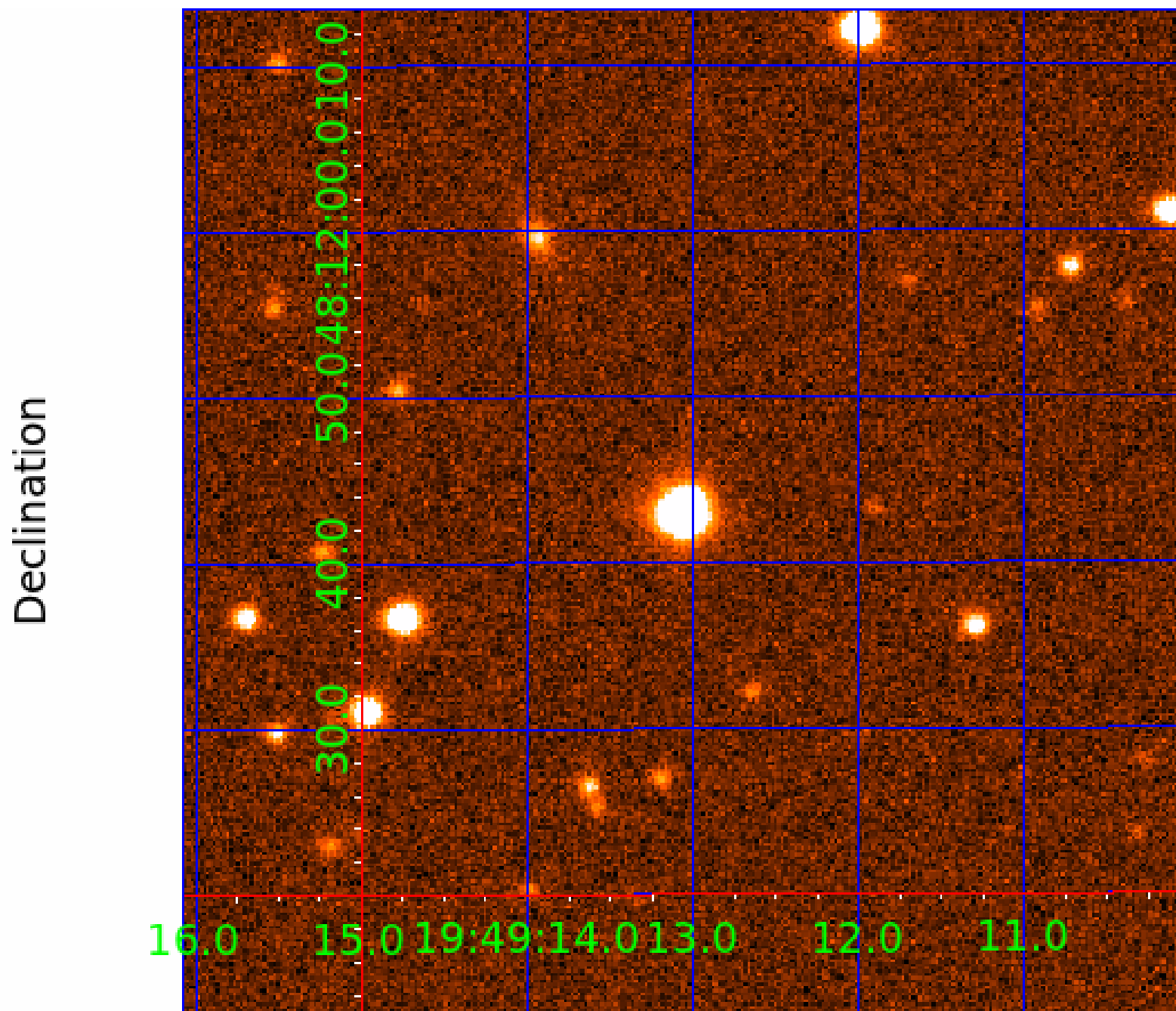
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UKIRT Image



KIC 010812541

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010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
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010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
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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.

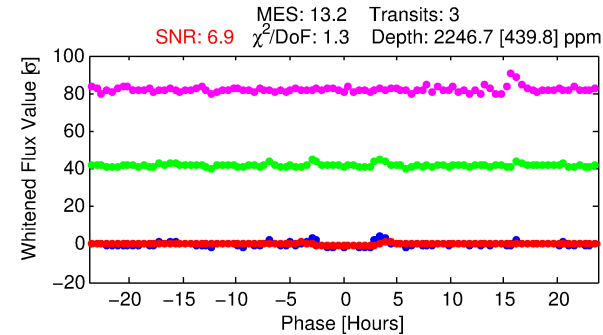
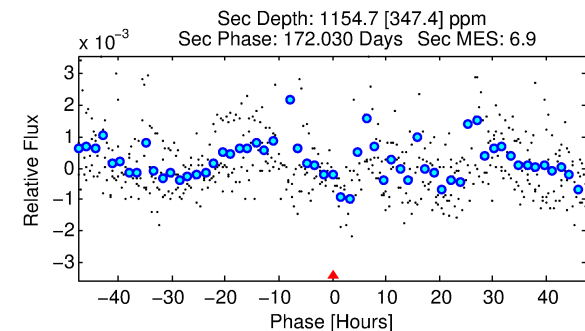
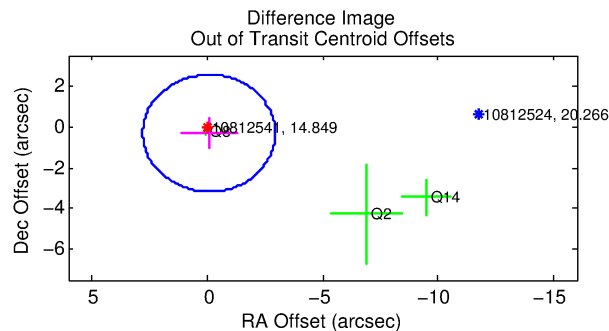
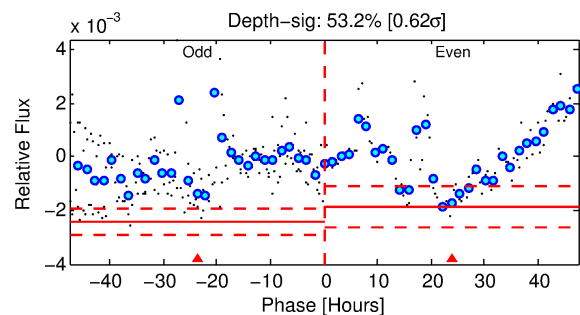
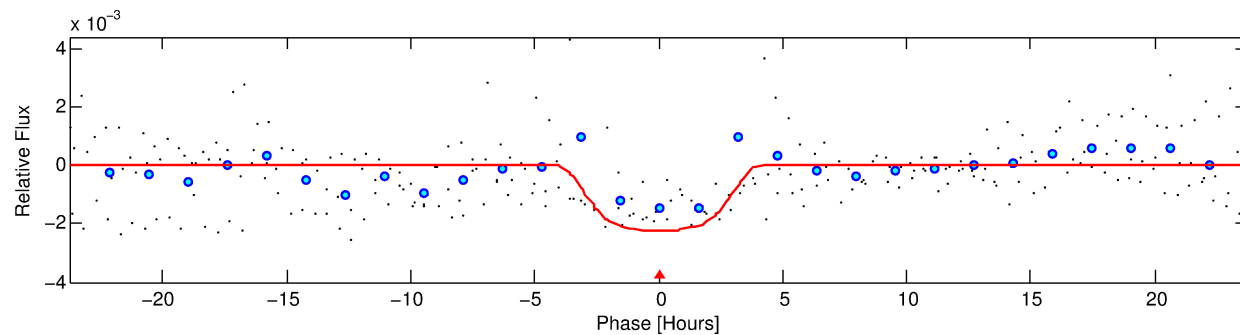
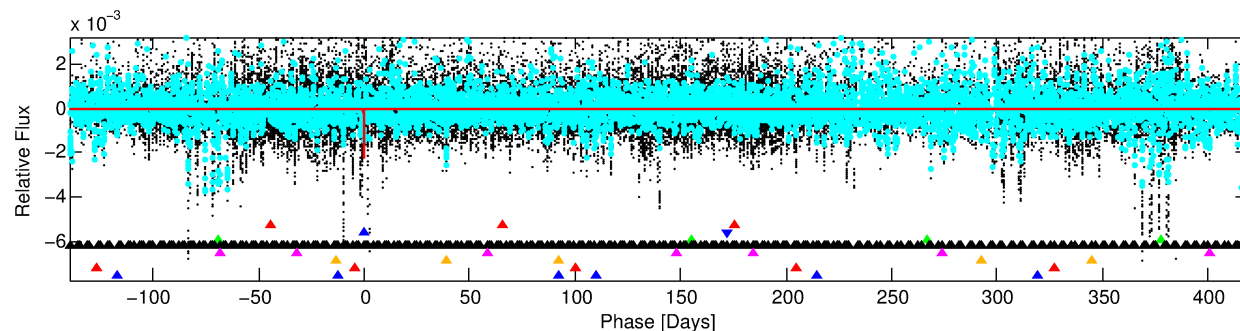
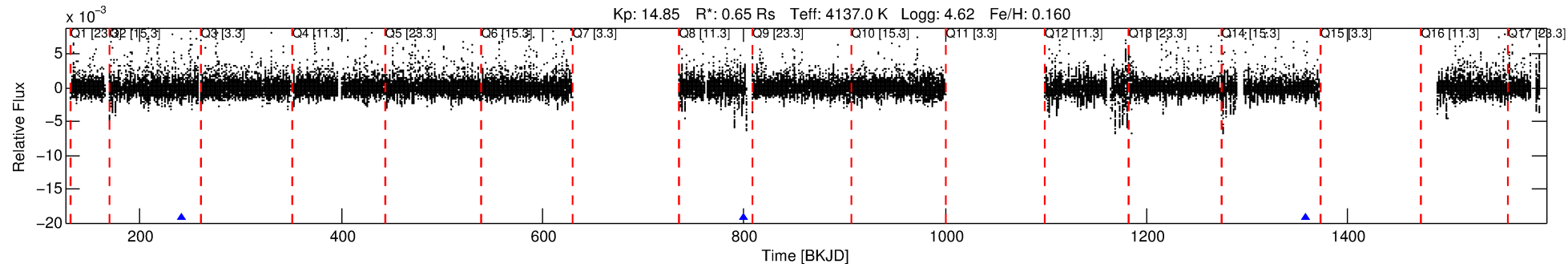
Ephemeris Match Information For 010812541-02

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 2 of 8 Period: 558.646 d
KOI: K07375 Corr: No Ephemeris Match

Kp: 14.85 R*: 0.65 Rs Teff: 4137.0 K Logg: 4.62 Fe/H: 0.160



DV Fit Results:

Period = 558.64573 [0.01068] d
Epoch = 241.3698 [0.0150] BKJD
Rp/R* = 0.0540 [0.0068]
a/R* = 288.82 [59.84]
b = 0.91 [0.04]
Seff = 0.08 [0.01]
Teq = 137 [6] K
Rp = 3.81 [0.59] Re
a = 1.1465 [0.0829] AU
Ag = 57436.94 [23214.17] [2.47σ]
Teffp = 3282 [342] K [9.20σ]

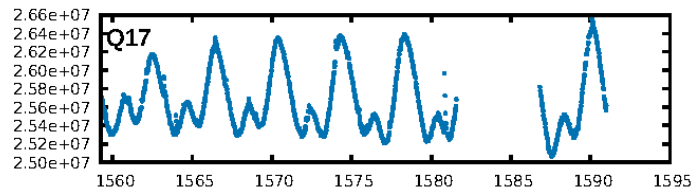
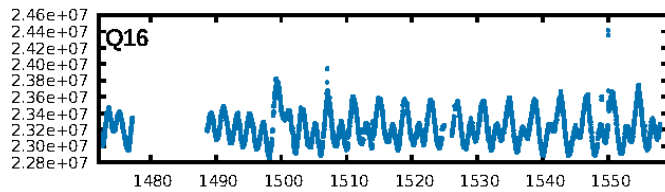
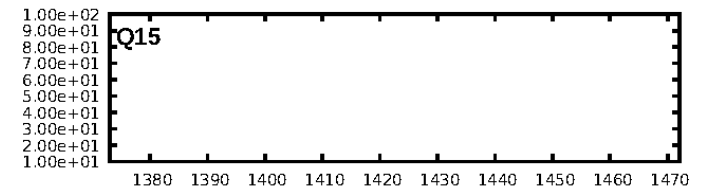
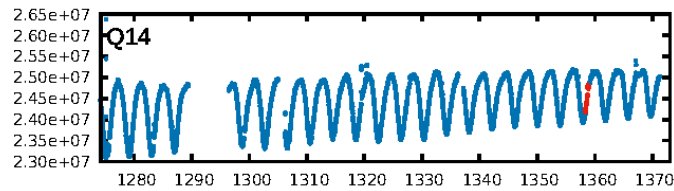
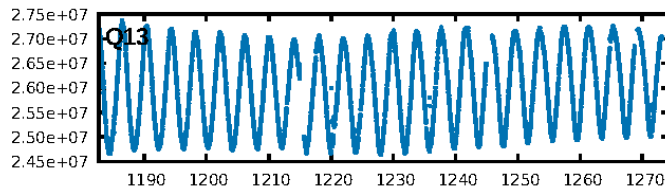
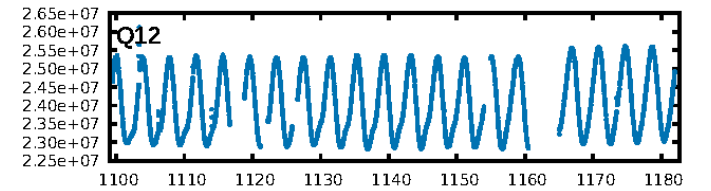
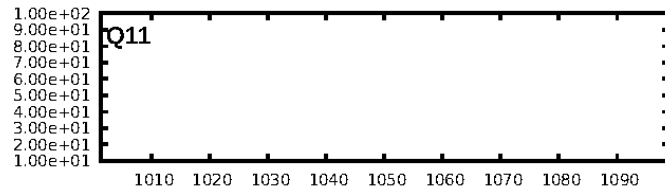
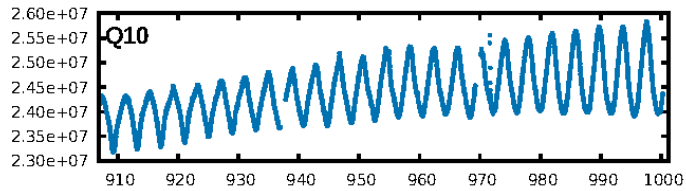
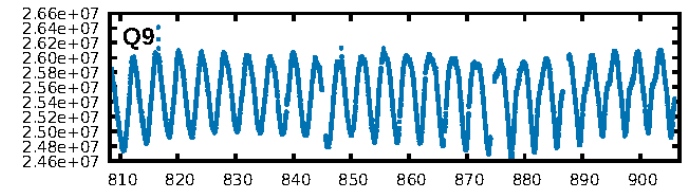
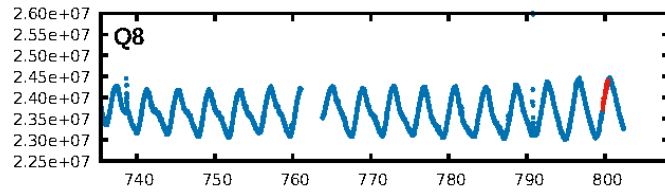
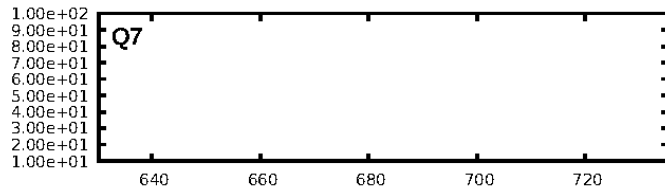
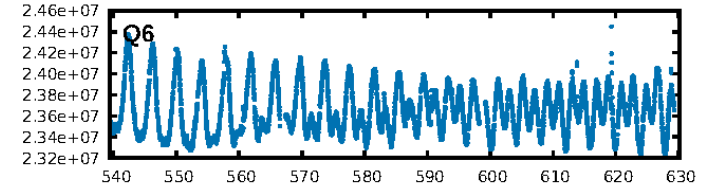
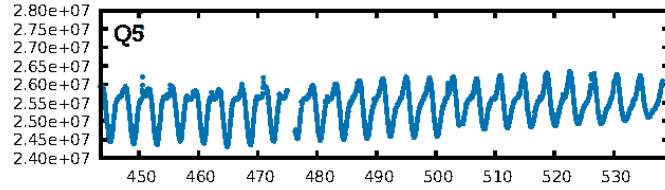
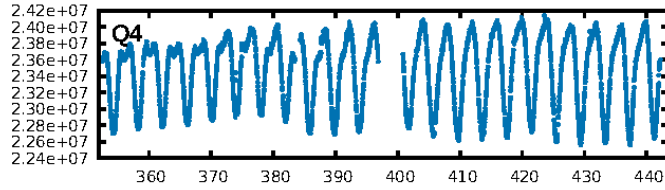
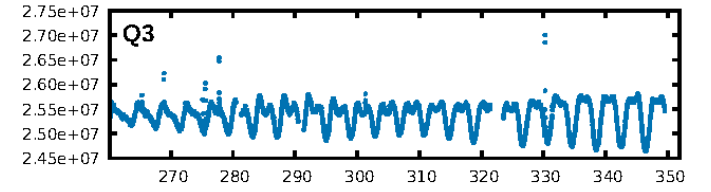
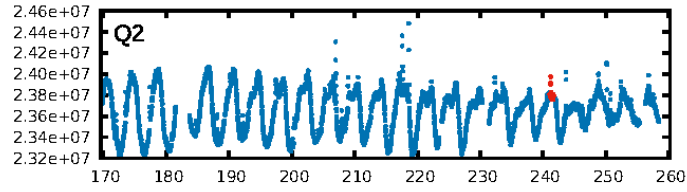
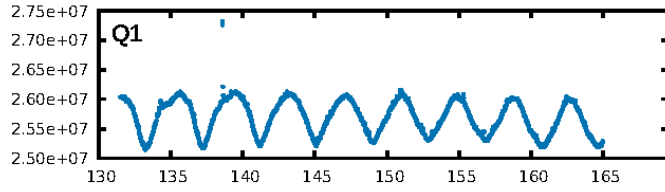
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [236.40σ]
LongPeriod-sig: 100.0% [253.43σ]
ModelChiSquare2-sig: 12.7%
ModelChiSquareGof-sig: 97.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -15.88
Centroid-sig: 90.9%
Centroid-so: 0.129 arcsec [0.24σ]
OotOffset-rm: 0.326 arcsec [0.34σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-rm: 0.357 arcsec [0.42σ]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.67 [2/3]

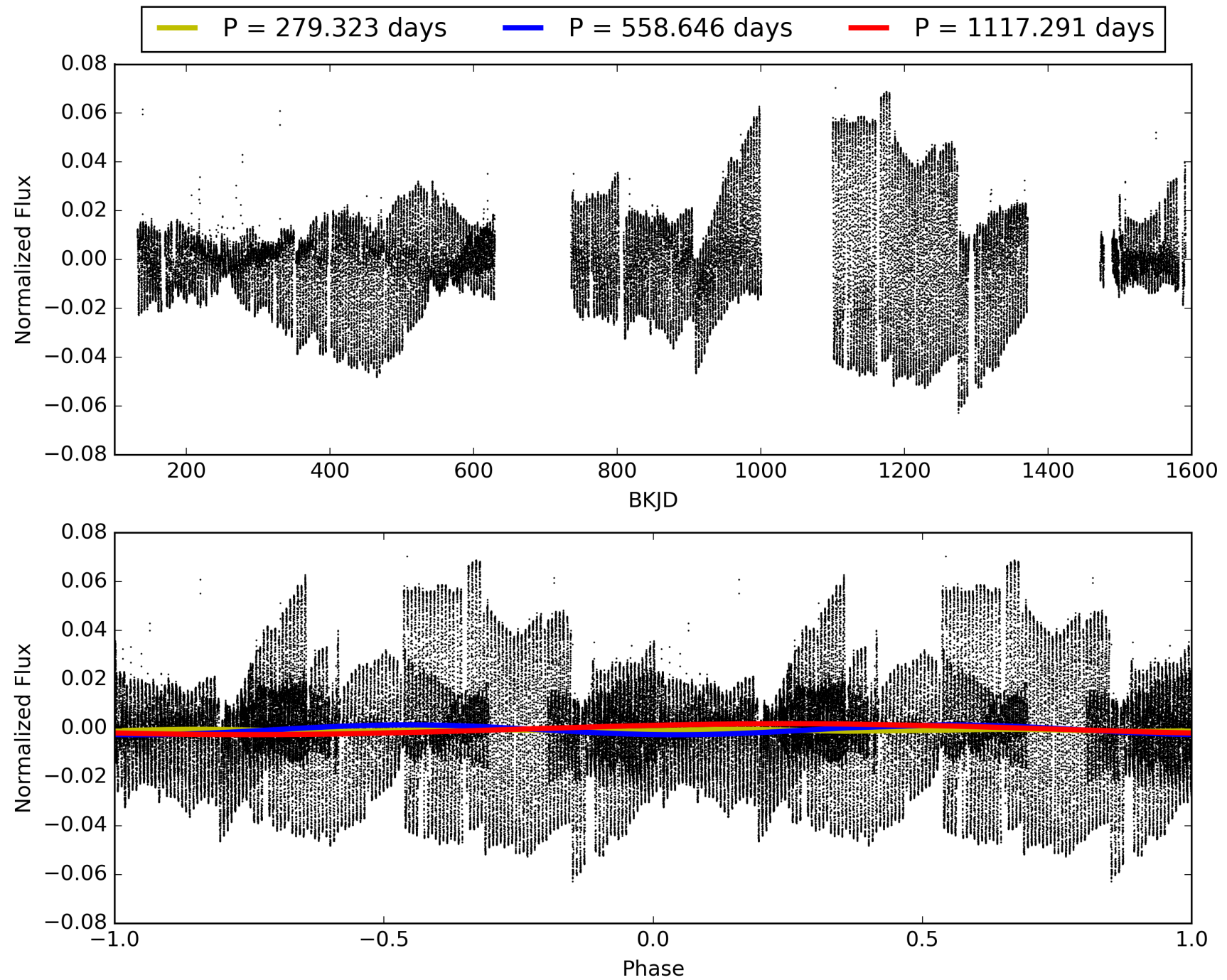
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:27:50 Z

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

TCE 010812541-02, PDC Light Curves

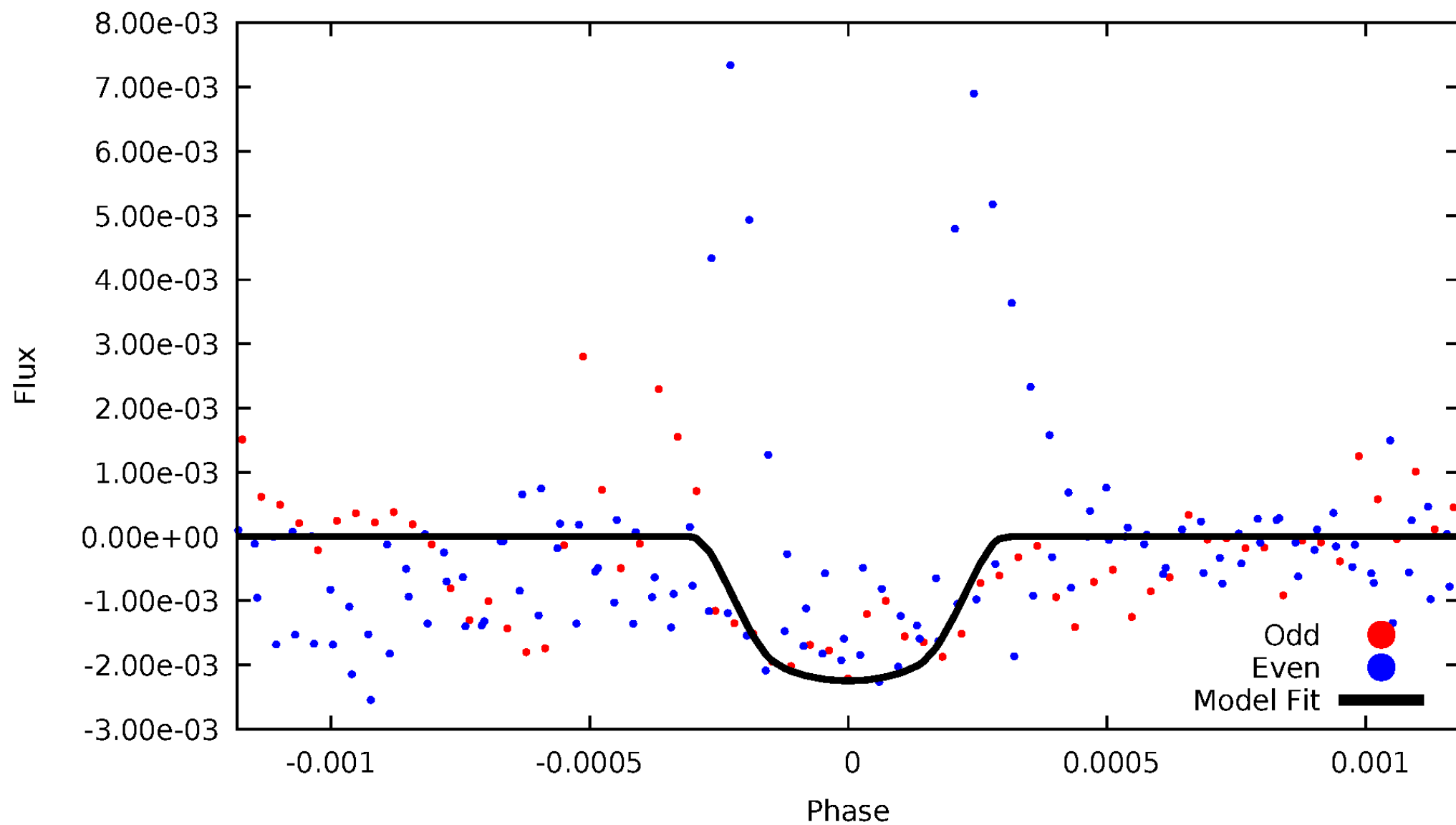


TCE 010812541-02



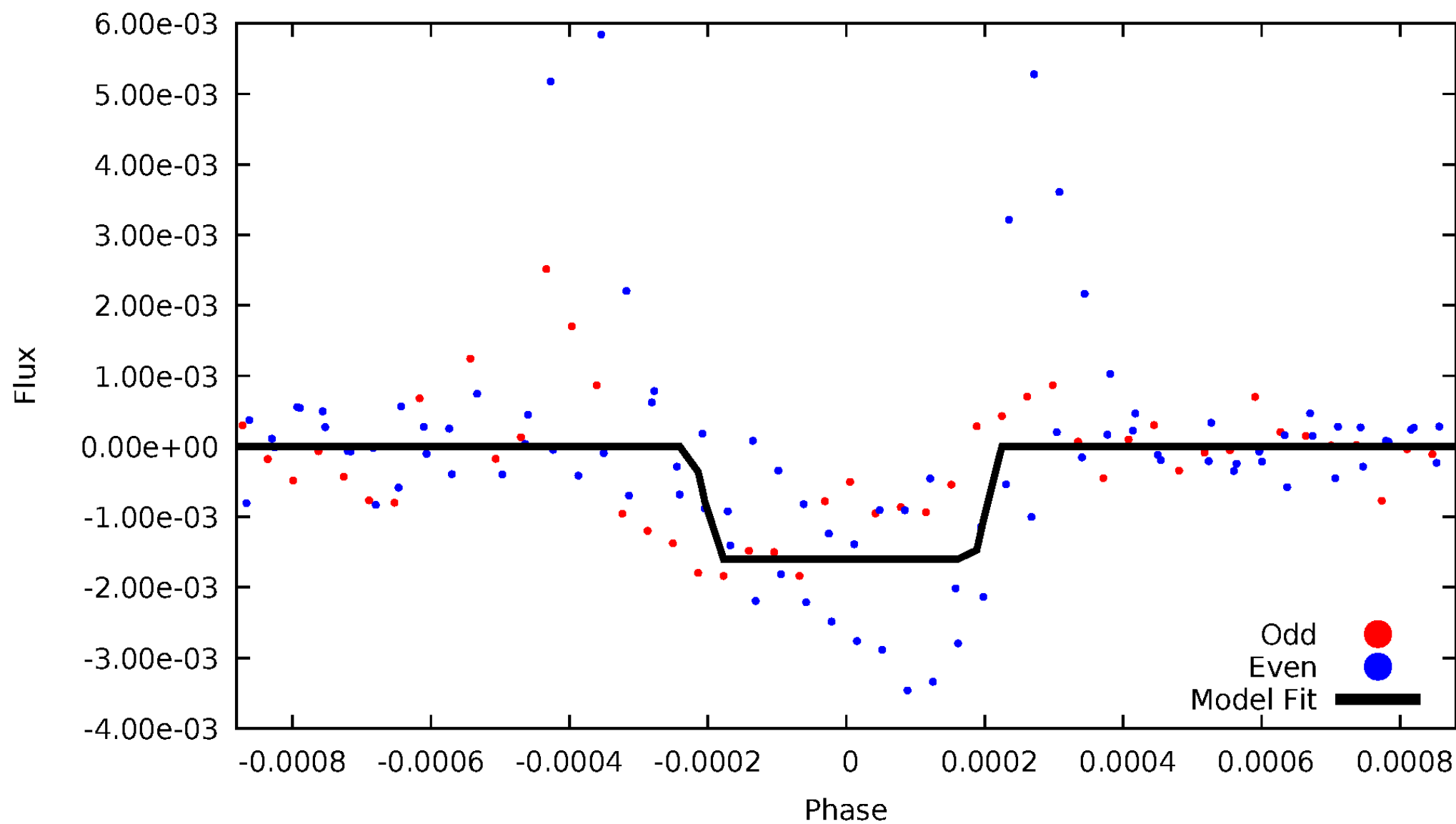
DV Odd/Even

TCE 010812541-02



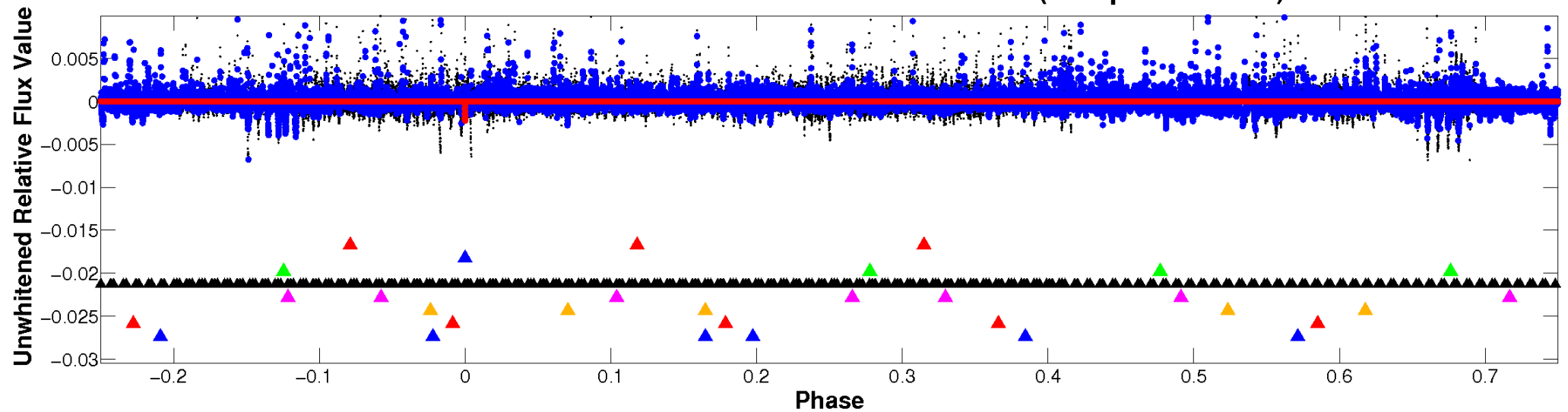
ALT Odd/Even

TCE 010812541-02

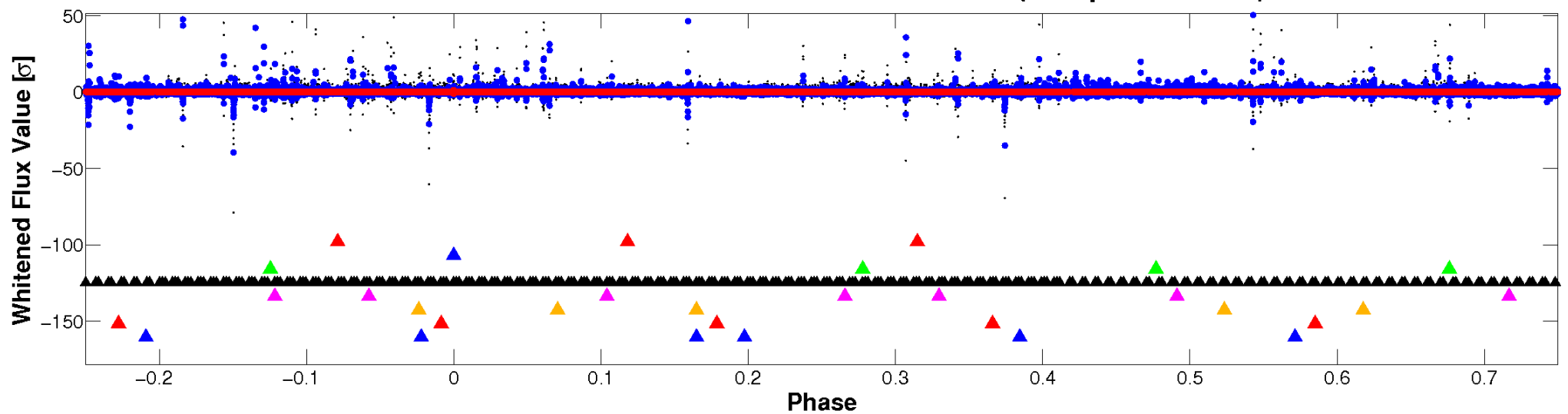


Non-Whitened Vs. Whitened Light Curve

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

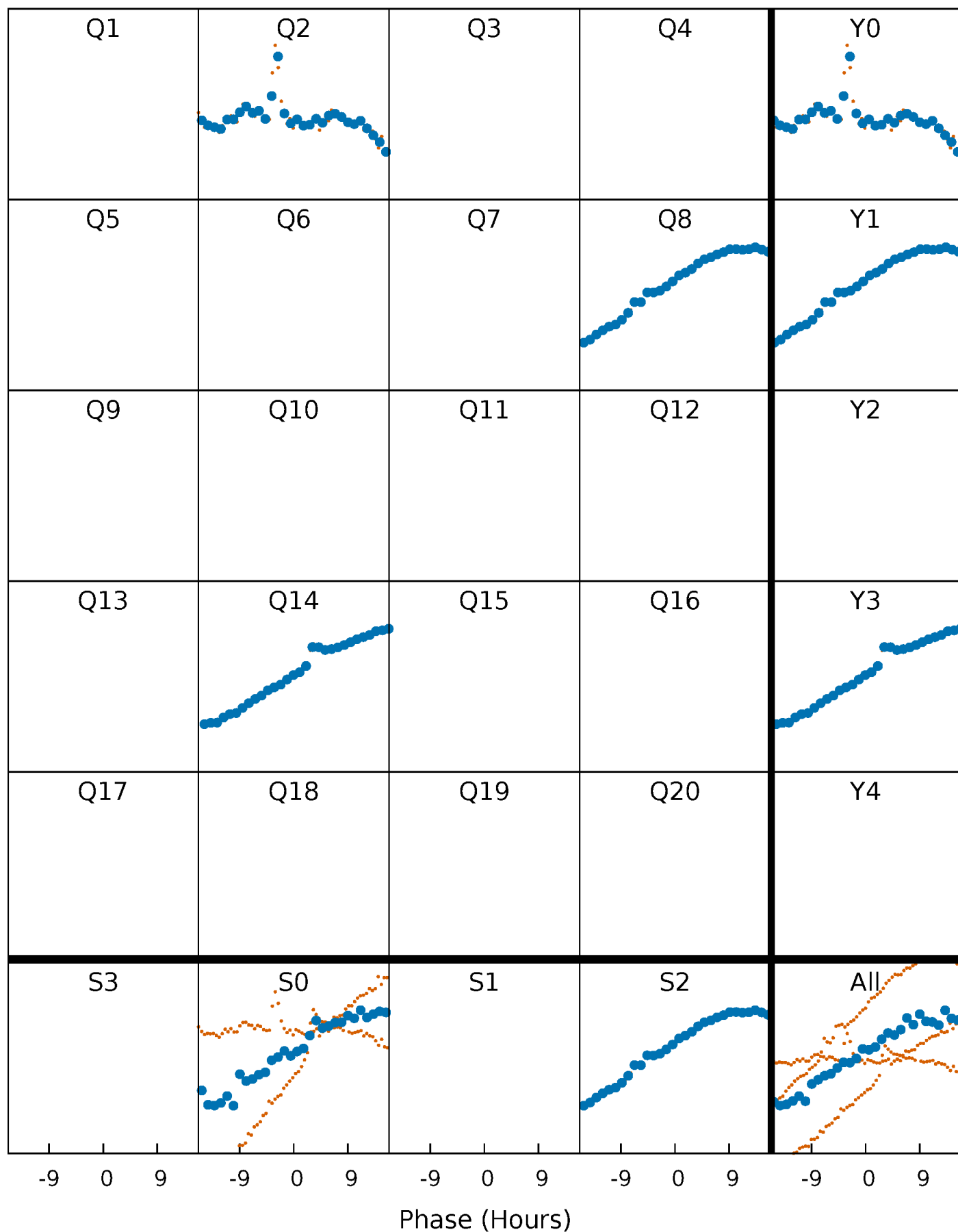


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



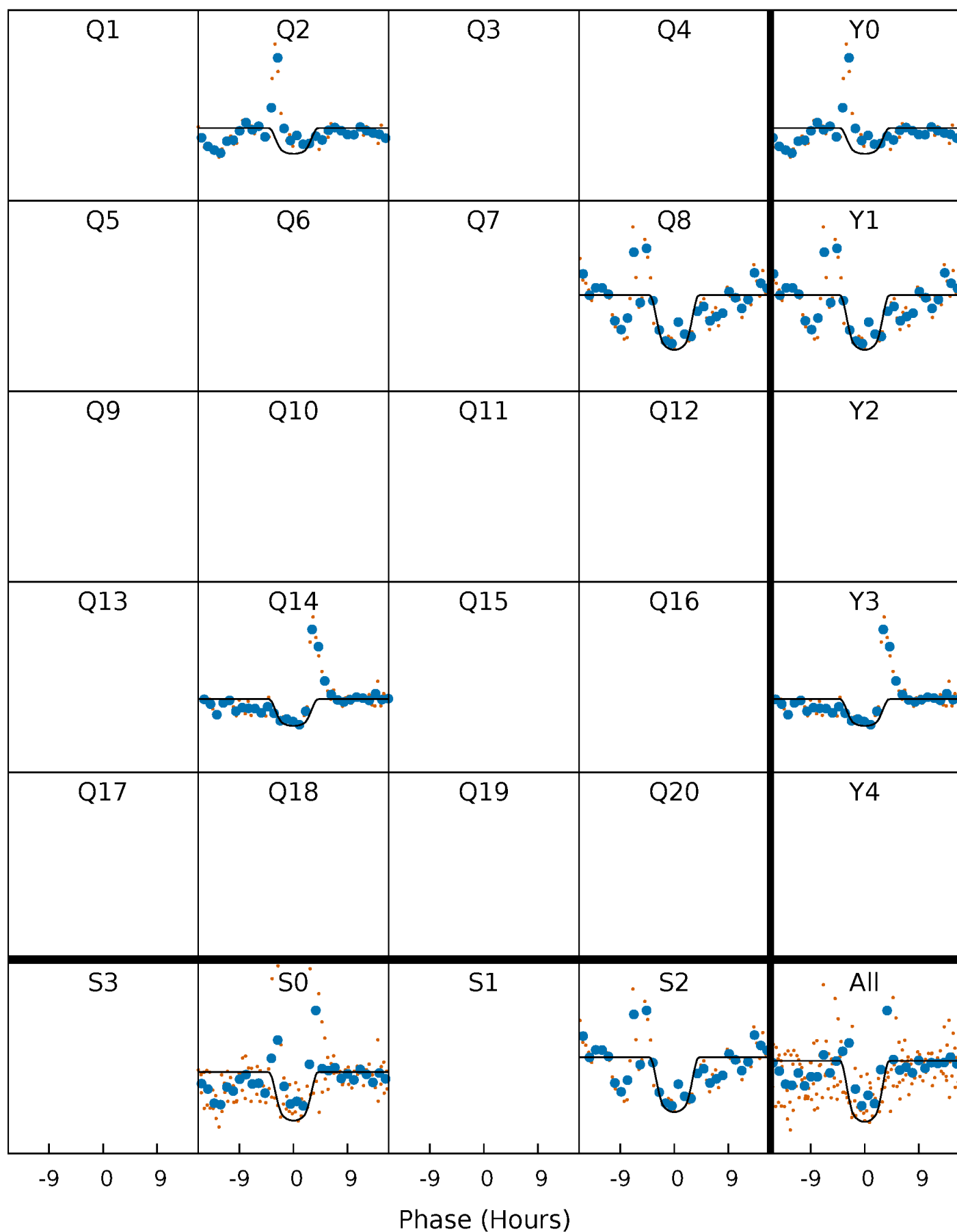
PDC Quarter-Phased Transit Curves

TCE 010812541-02 P=558.645732 Days $T_0=241.369831$ (BKJD)



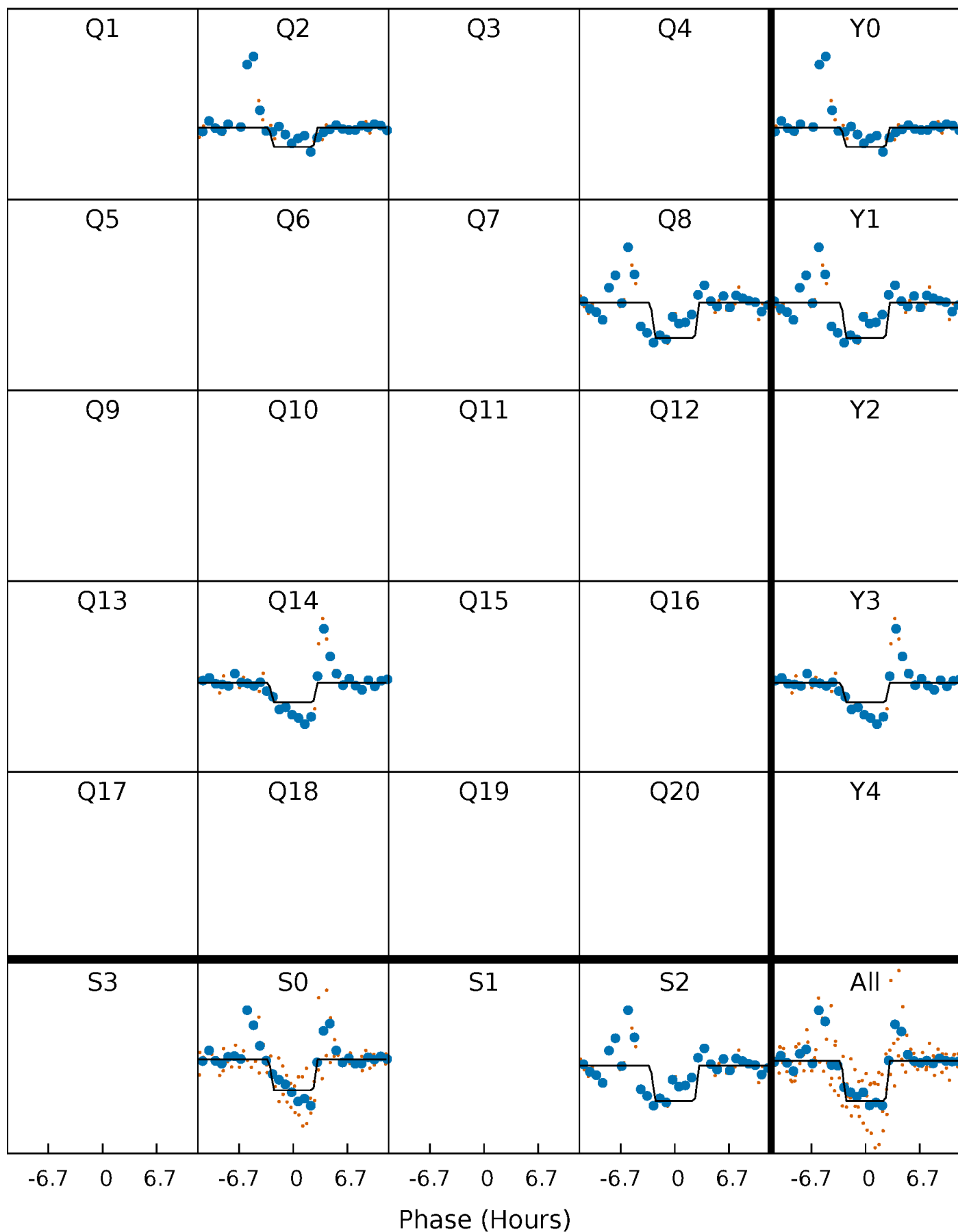
DV Quarter-Phased Transit Curves

TCE 010812541-02 $P=558.645732$ Days $T_0=241.369831$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

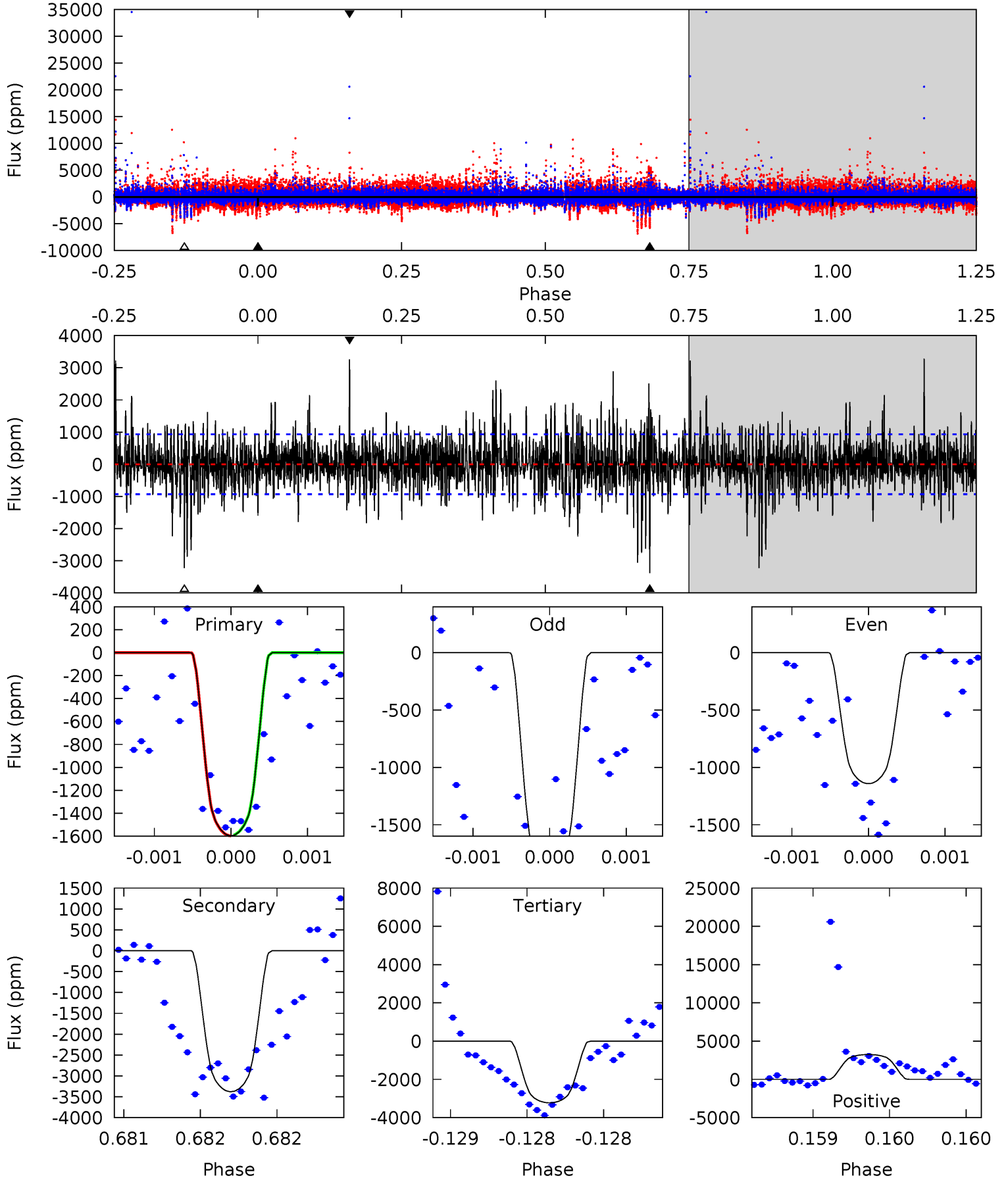
TCE 010812541-02 P=558.592230 Days $T_0=241.460740$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-02, P = 558.645732 Days, E = 241.369831 Days

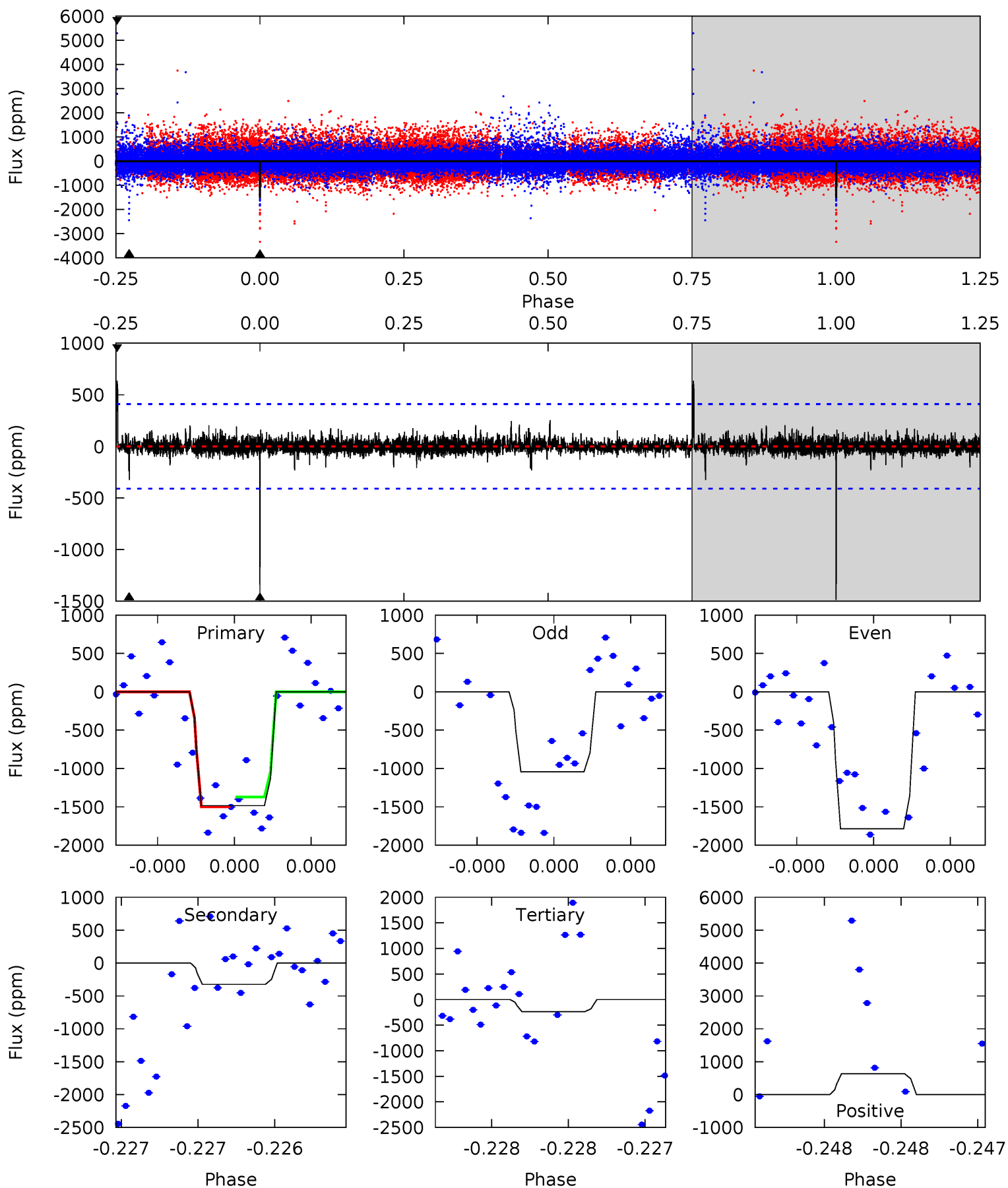
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	20.1	19.2	19.3	5.54	3.43	3.64	-9.68	-9.85	0.90	0.73	1.45	0.85	0.49	0.02



Alt Model-Shift Uniqueness Test

010812541-02, P = 558.592230 Days, E = 241.460740 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	4.44	3.21	8.70	5.61	3.53	0.60	17.1	11.6	1.23	-4.27	4.41	1.44	0.30	0.83



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3378 ± 168	$3.73^{+0.49}_{-0.47}$	190^{+7}_{-7}	4256^{+263}_{-244}	177549^{+55156}_{-39157}
Alt.	-325 ± 73	$2.80^{+0.50}_{-0.53}$	190^{+7}_{-8}	3189^{+245}_{-208}	30242^{+16623}_{-10054}

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 $A_{obs} \gg 1.0$

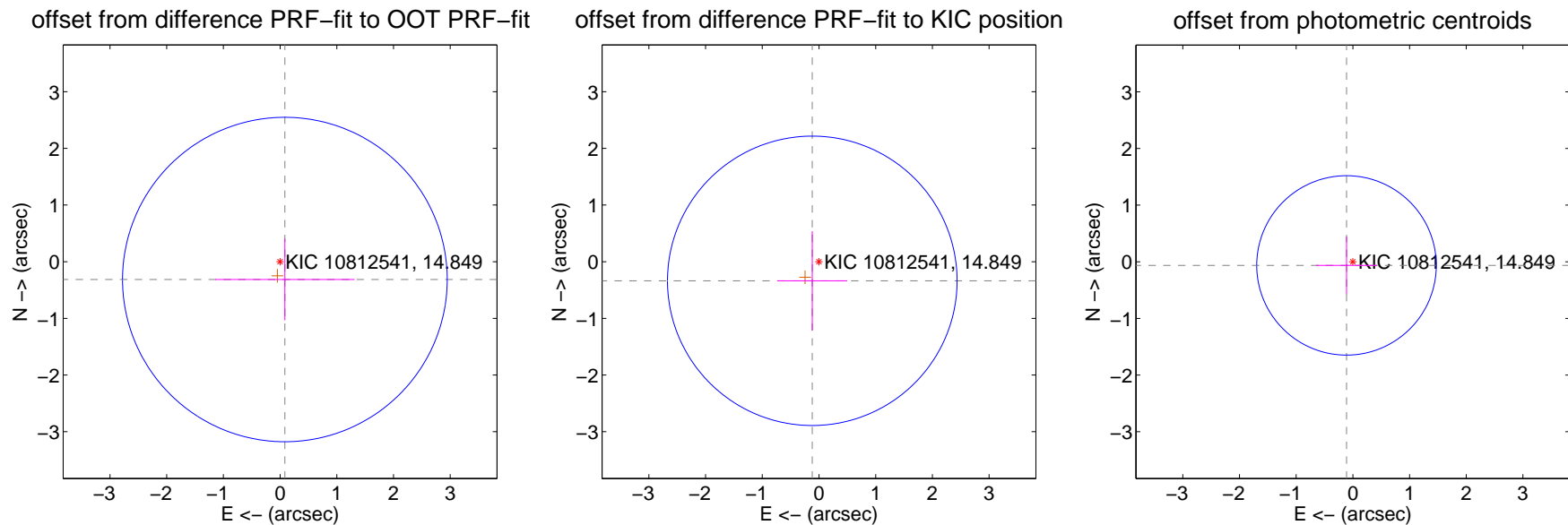
DV Centroid Data

Supplemental centroid analysis for 010812541-02. Kepler magnitude: 14.85. Transit SNR 6.92

There are 0 quarters with good PRF difference image offsets

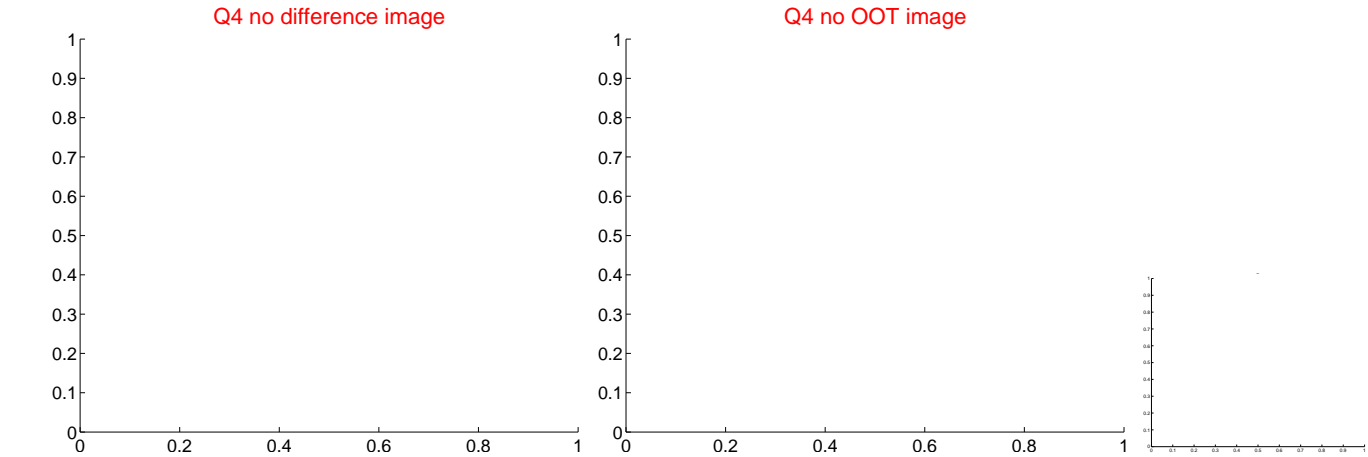
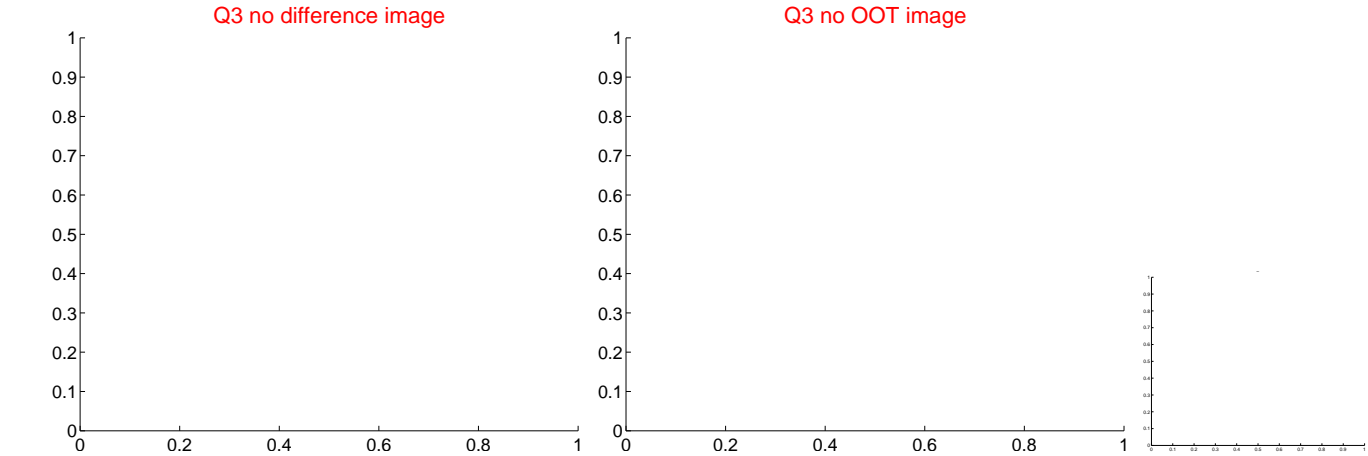
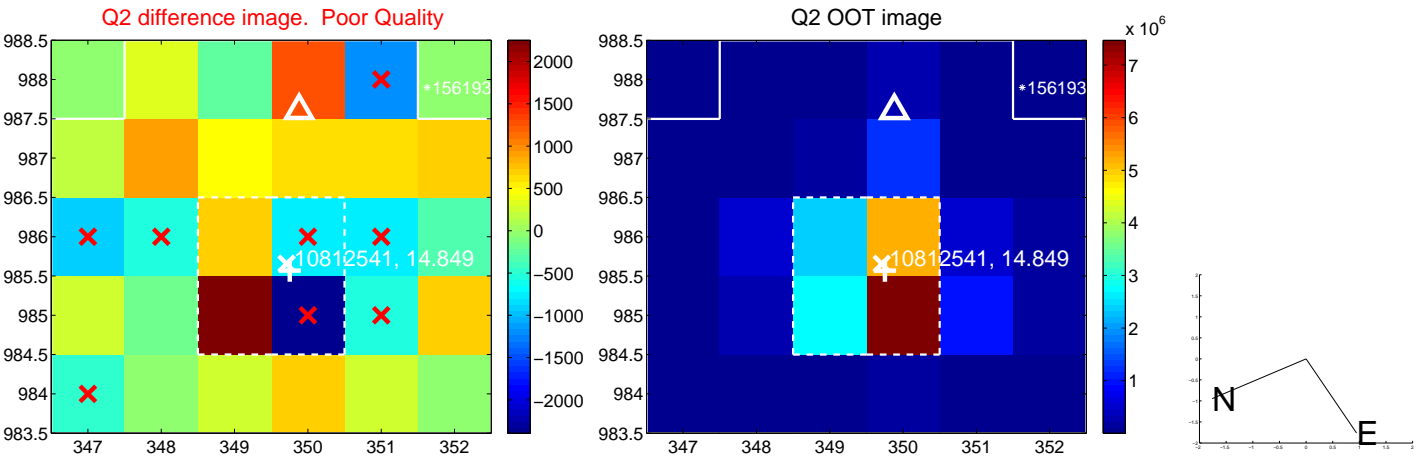
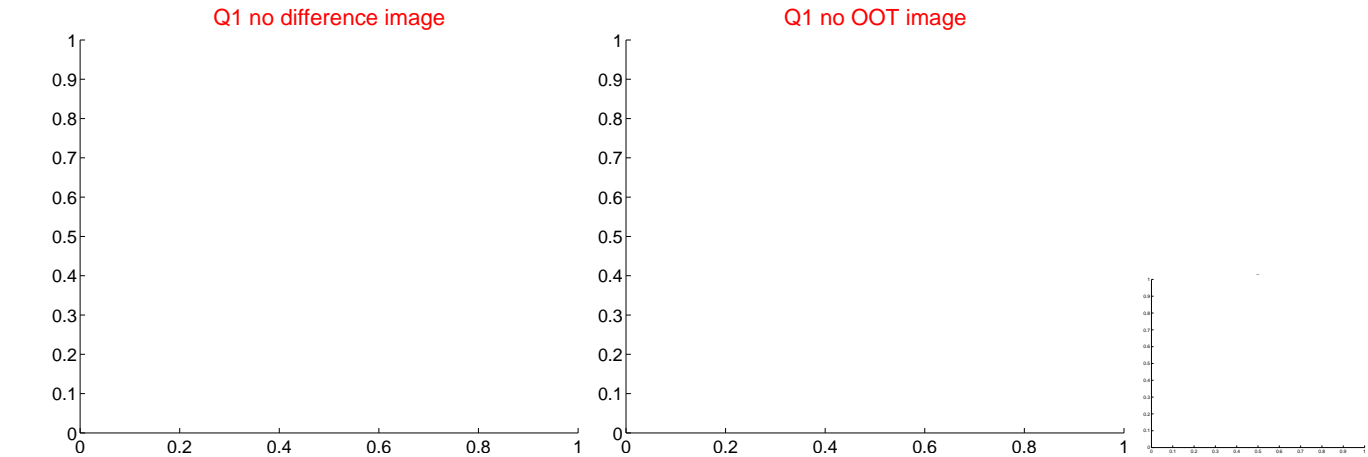
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.326 ± 0.954	0.34	-0.084 ± 1.229	-0.315 ± 0.721
PRF-fit source offset from KIC position	0.357 ± 0.851	0.42	0.118 ± 0.617	-0.337 ± 0.876
photometric centroid source offset	0.13 ± 0.53	0.24	0.11 ± 0.53	-0.06 ± 0.51

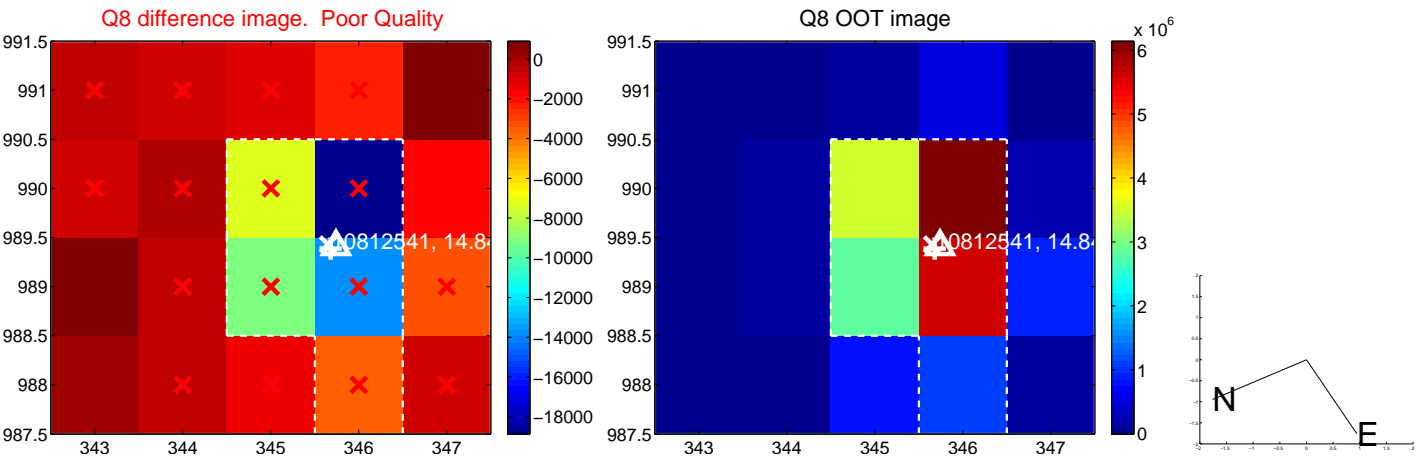


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

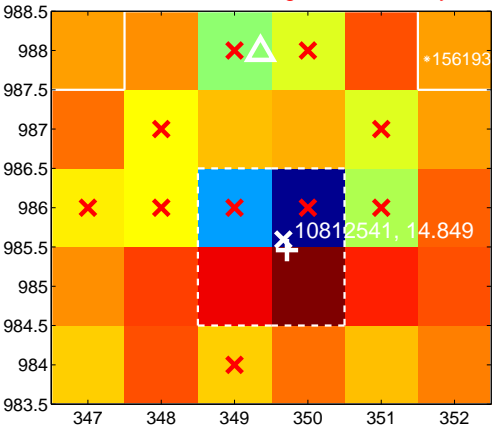
Q13 no difference image



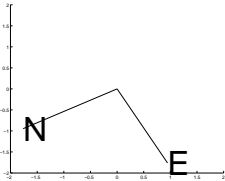
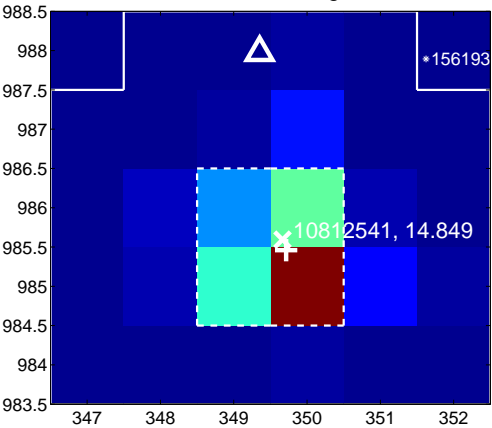
Q13 no OOT image



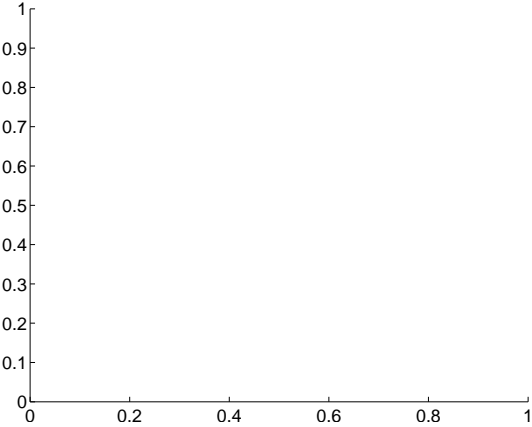
Q14 difference image. Poor Quality



Q14 OOT image



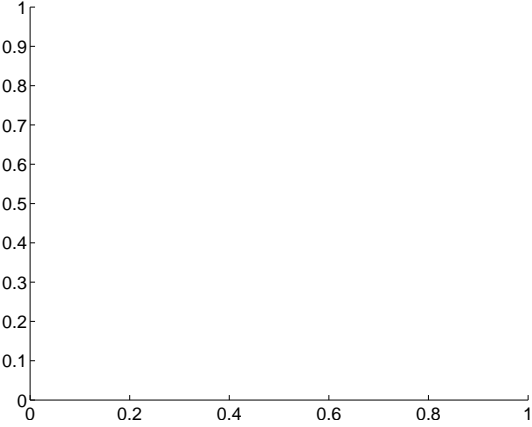
Q15 no difference image



Q15 no OOT image



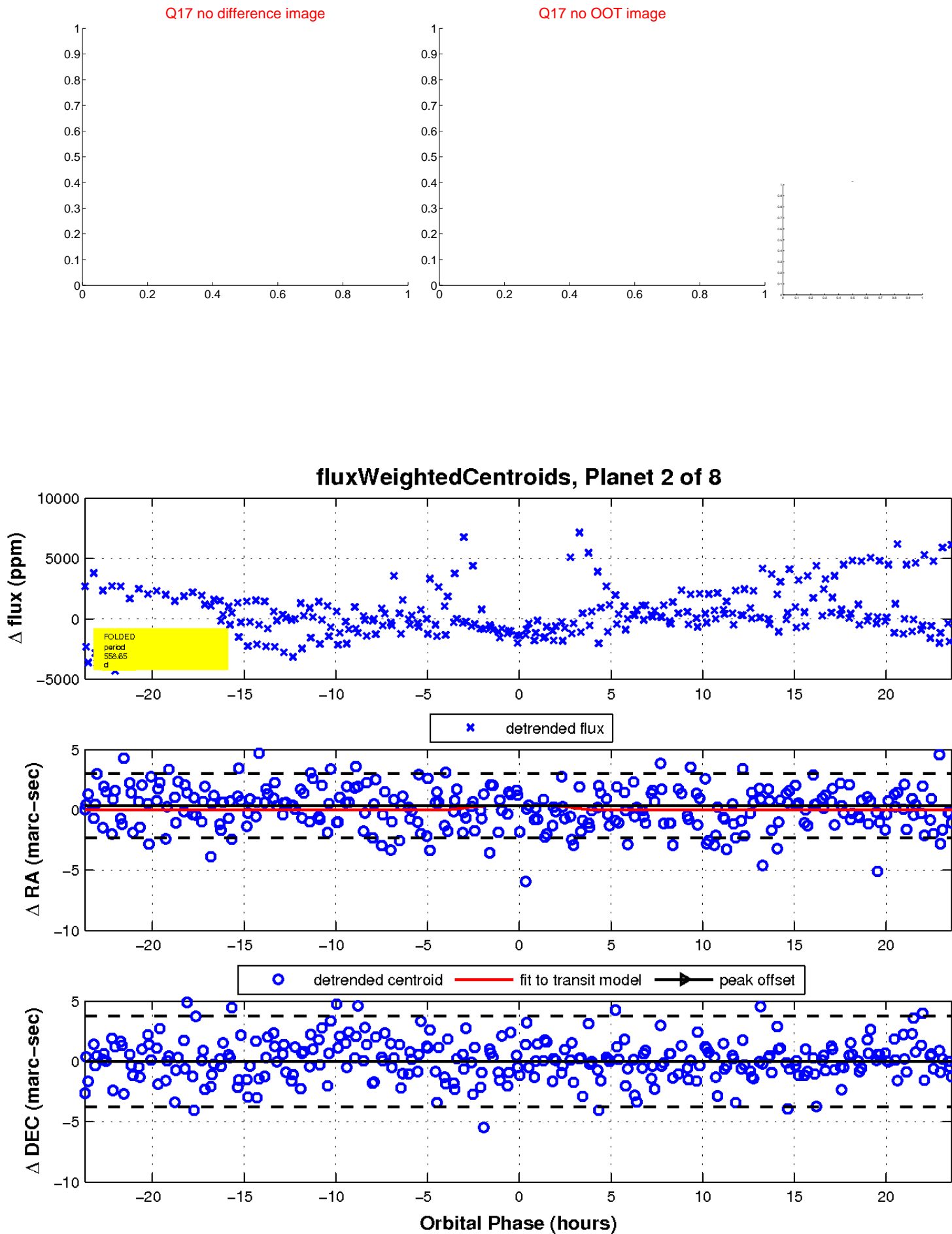
Q16 no difference image



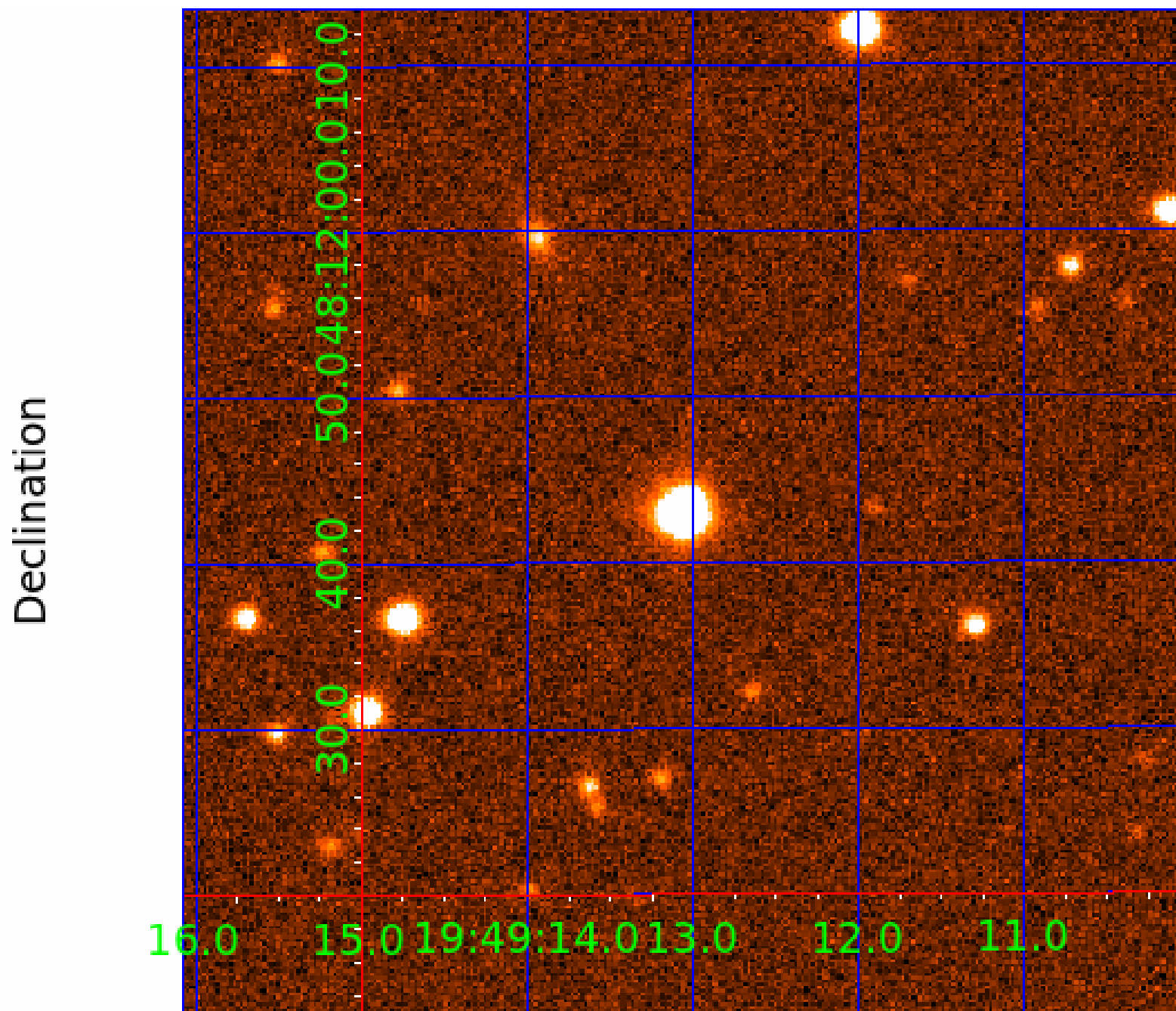
Q16 no OOT image



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



UKIRT Image



KIC 010812541

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})
010812541-01	OBS	No	668.612573	197.358439	2576.2	6.765	15.0	7.6	0.65	4137	4.38	0.07
010812541-02	OBS	No	558.645732	241.369831	2246.7	7.918	13.2	6.9	0.65	4137	3.81	0.08
010812541-03	OBS	No	447.340403	171.821794	2836.6	8.062	13.1	7.7	0.65	4137	3.30	0.11
010812541-04	OBS	7375.01	4.848501	131.905169	546.1	1.081	12.8	17.7	0.65	4137	1.88	46.86
010812541-05	OBS	No	216.318176	209.187800	1583.4	9.653	12.4	5.4	0.65	4137	2.65	0.30
010812541-06	OBS	No	252.979565	333.488781	1051.2	3.352	12.2	5.1	0.65	4137	2.40	0.24
010812541-07	OBS	No	331.622401	236.616663	1344.3	3.160	11.3	6.3	0.65	4137	2.67	0.17
010812541-08	OBS	No	227.094881	333.503546	1715.7	3.500	15.5	-1.0	0.65	4137	2.57	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010812541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010812541-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

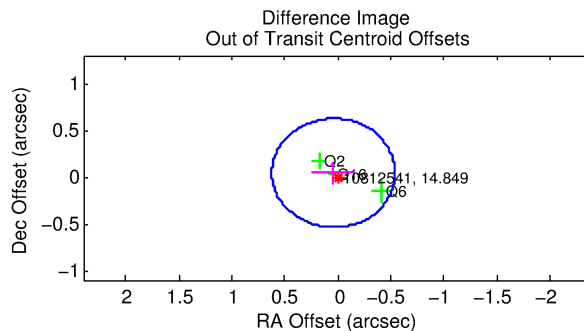
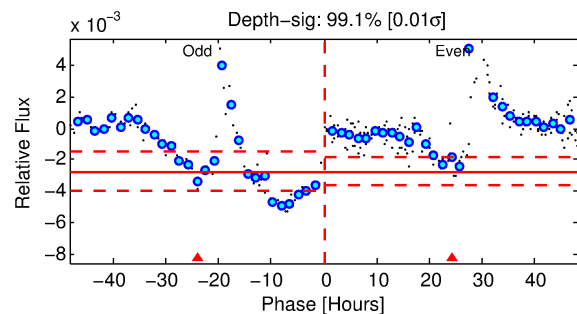
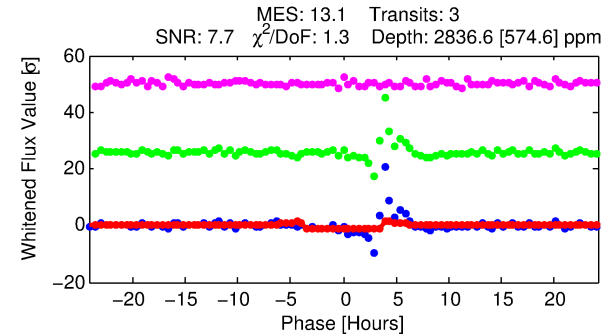
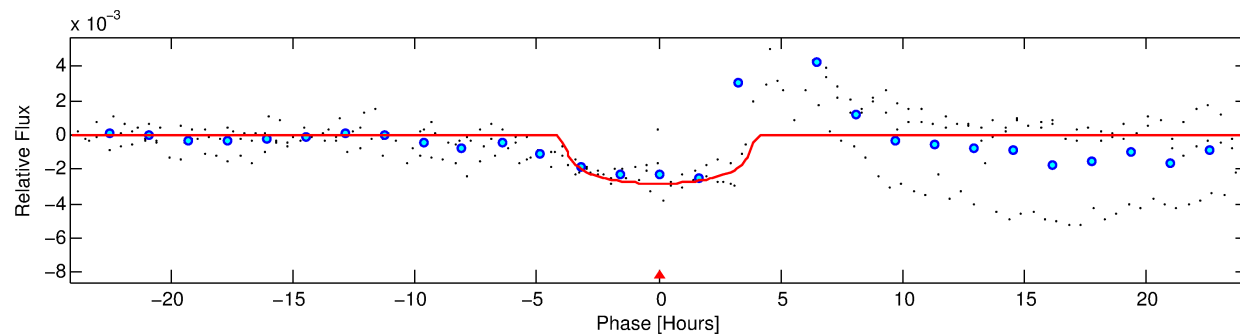
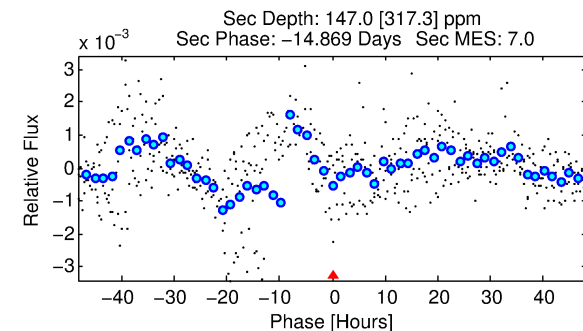
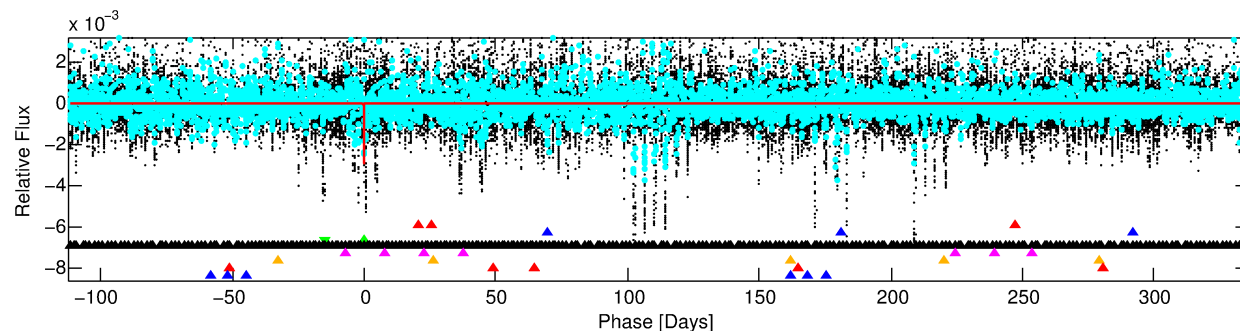
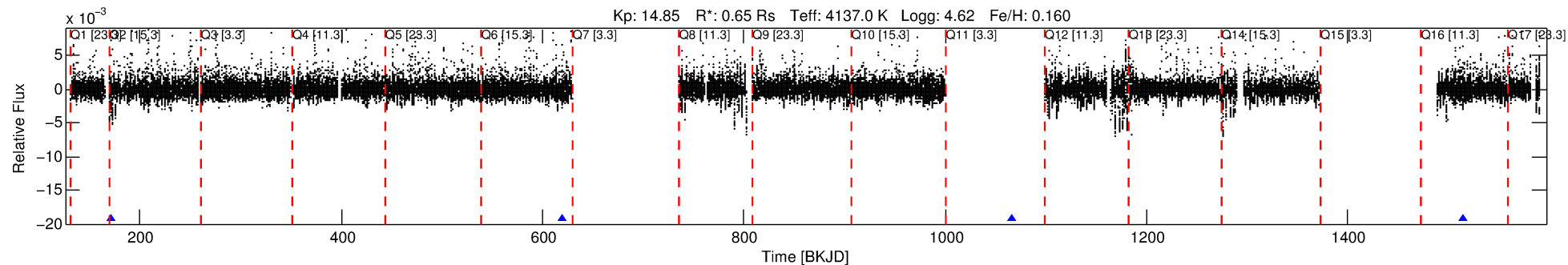
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010812541-03

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 3 of 8 Period: 447.340 d
KOI: K07375 Corr: No Ephemeris Match



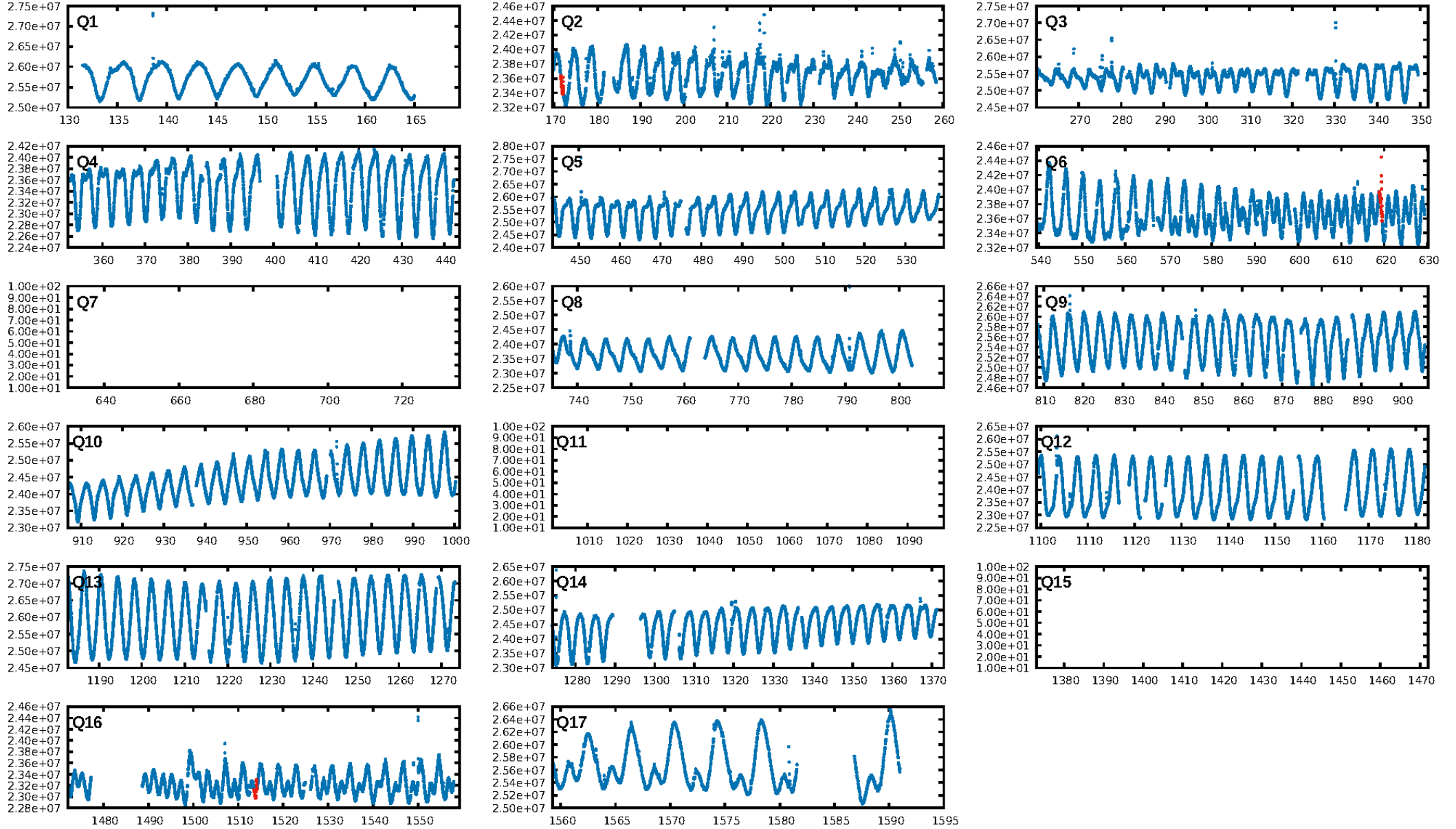
DV Fit Results:

Period = 447.34040 [0.00451] d
Epoch = 171.8218 [0.0080] BKJD
Rp/R* = 0.0467 [0.0331]
a/R* = 443.48 [949.64]
b = 0.03 [67.68]
Seff = 0.11 [0.02]
Teq = 148 [6] K
Rp = 3.30 [2.36] Re
a = 0.9887 [0.0715] AU
Ag = 7262.98 [18766.48] [0.39 σ]
Teffp = 2107 [1362] K [1.44 σ]

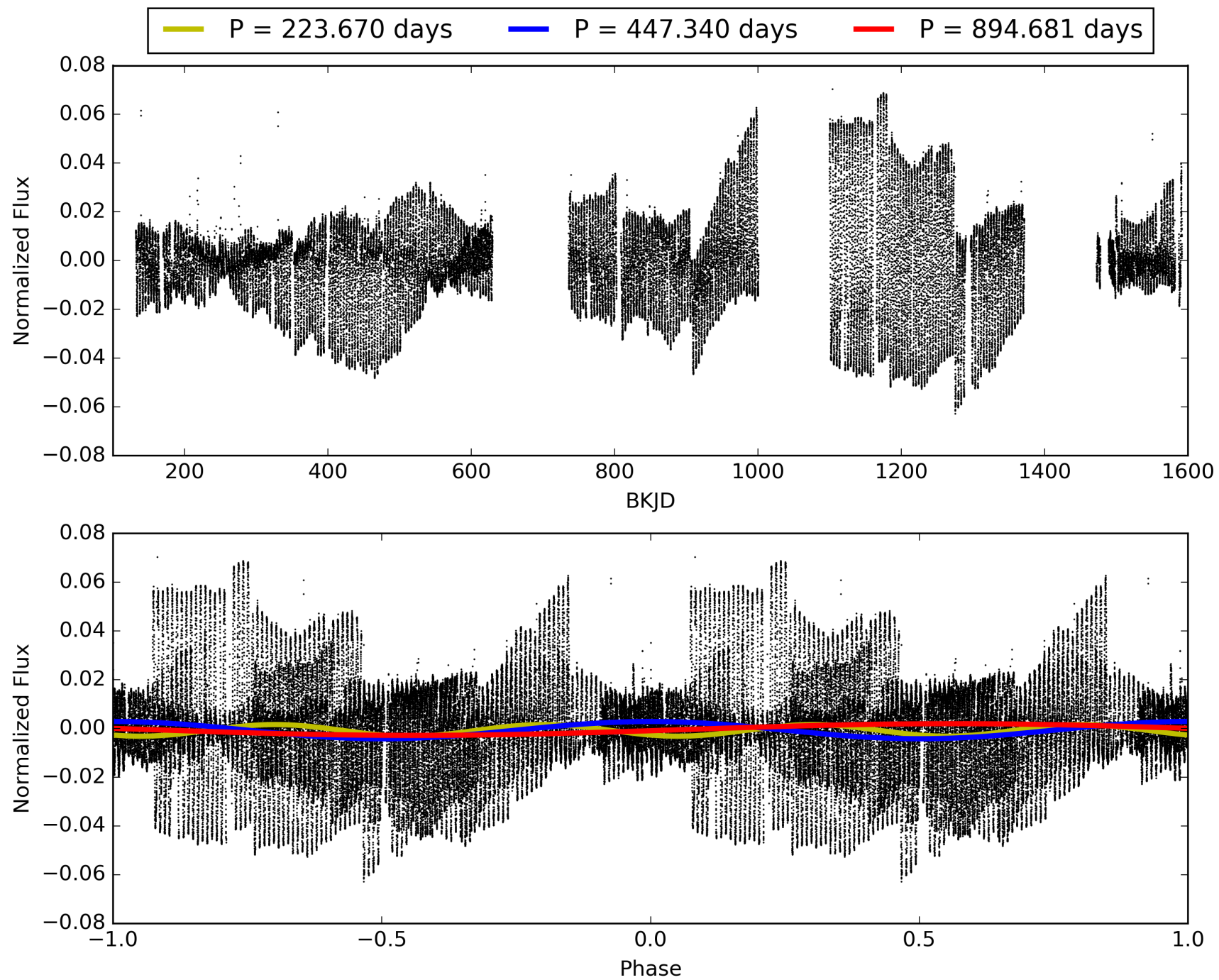
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [320.72 σ]
LongPeriod-sig: 100.0% [236.40 σ]
ModelChiSquare2-sig: 50.0%
ModelChiSquareGof-sig: 75.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.998
Centroid-sig: 35.3%
Centroid-so: 0.101 arcsec [0.25 σ]
OotOffset-rm: 0.059 arcsec [0.30 σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-rm: 0.249 arcsec [3.15 σ]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

TCE 010812541-03, PDC Light Curves

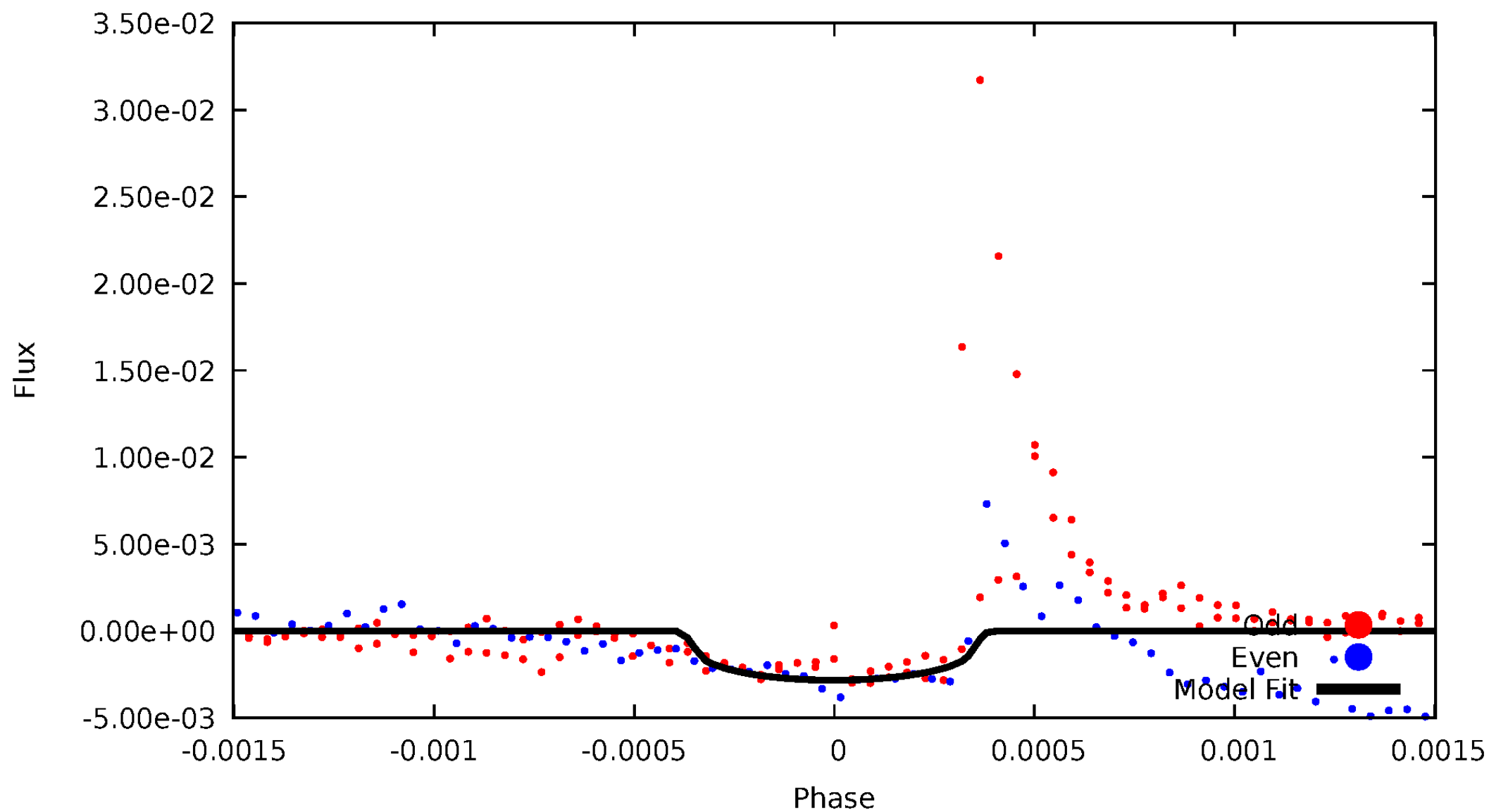


TCE 010812541-03



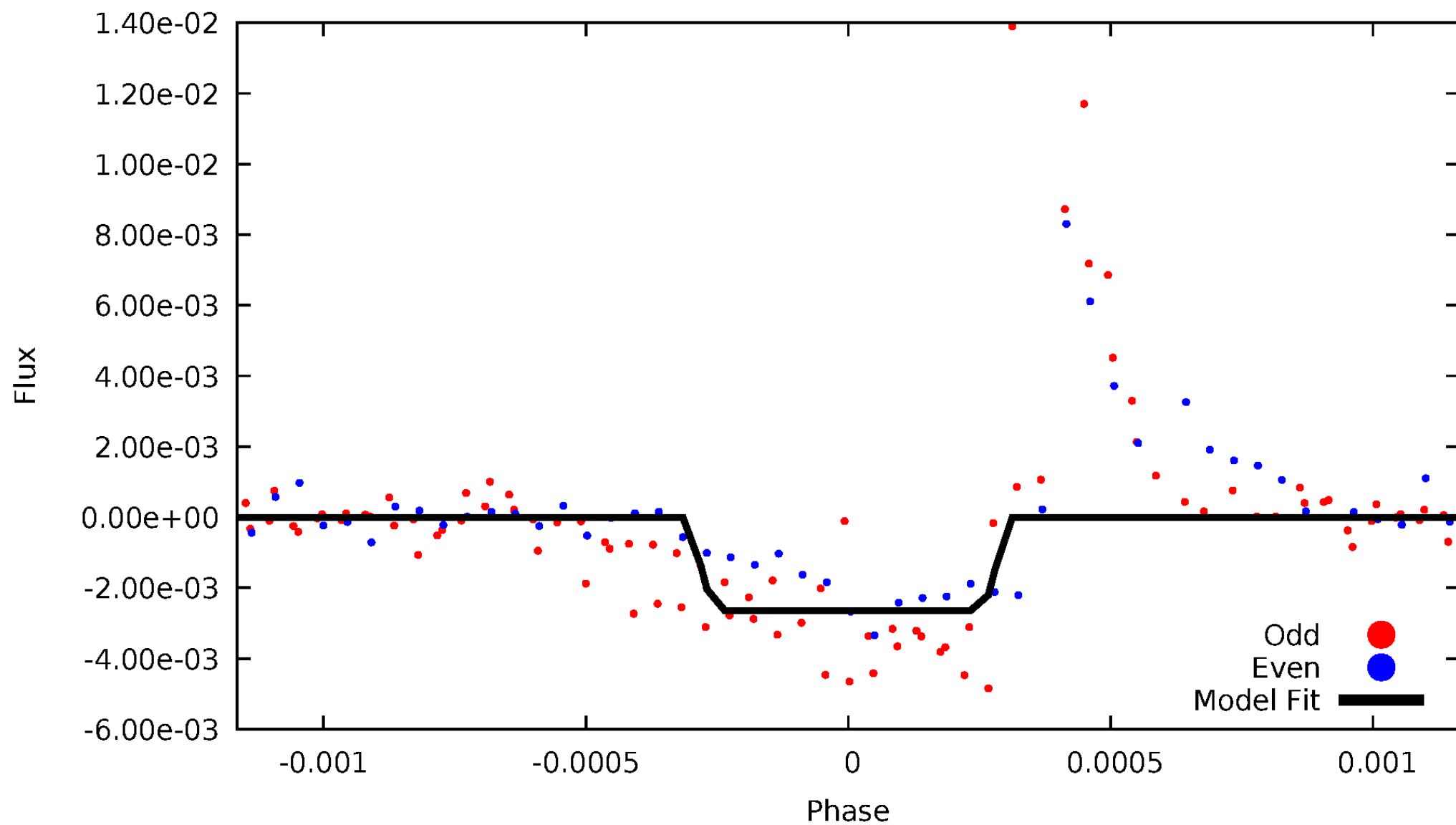
DV Odd/Even

TCE 010812541-03



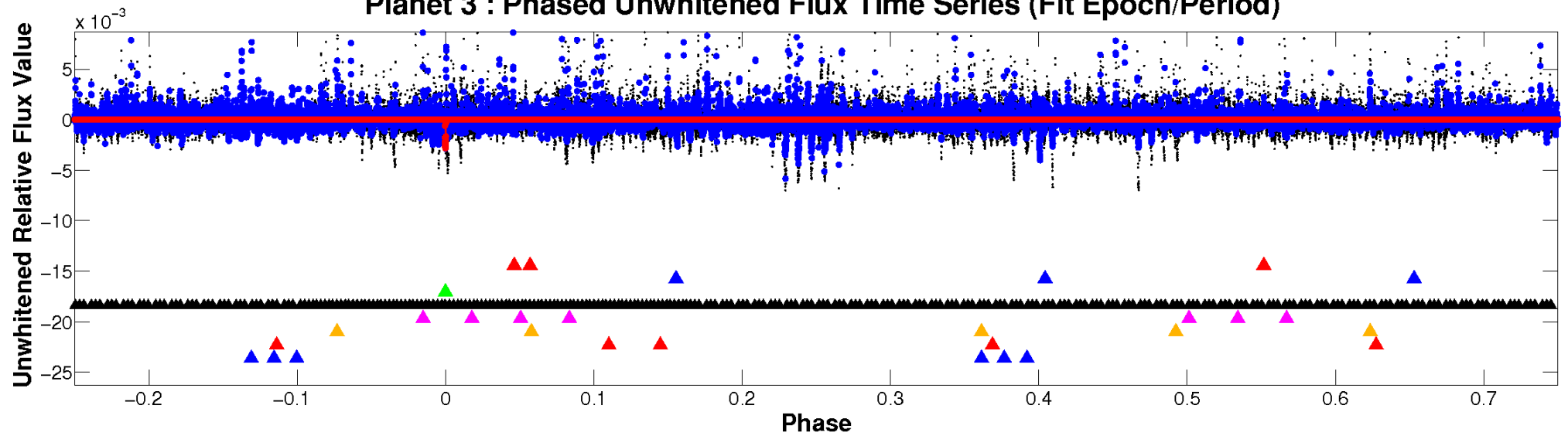
ALT Odd/Even

TCE 010812541-03

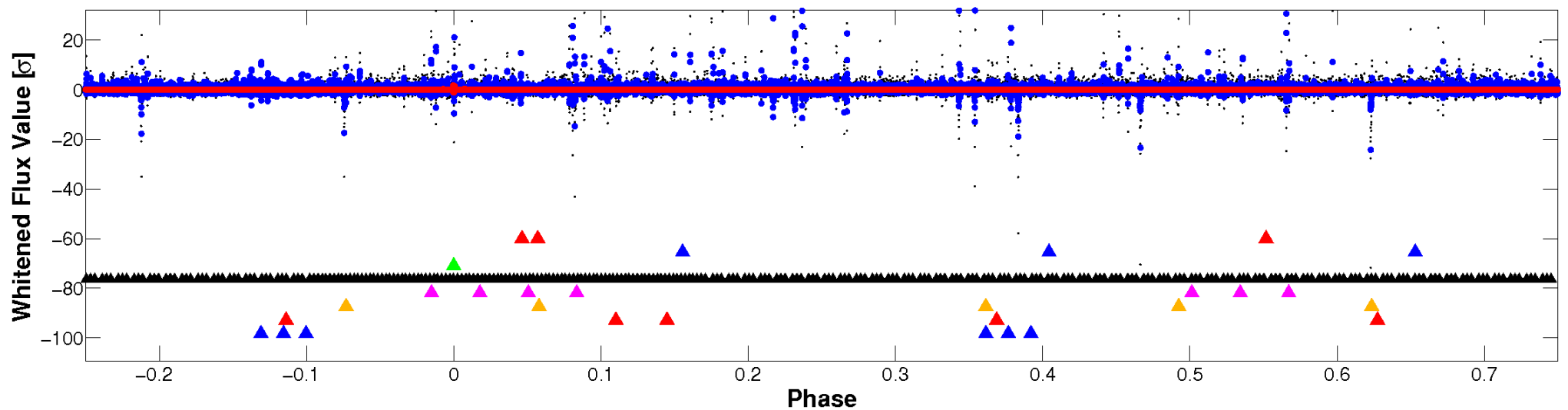


Non-Whitened Vs. Whitened Light Curve

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

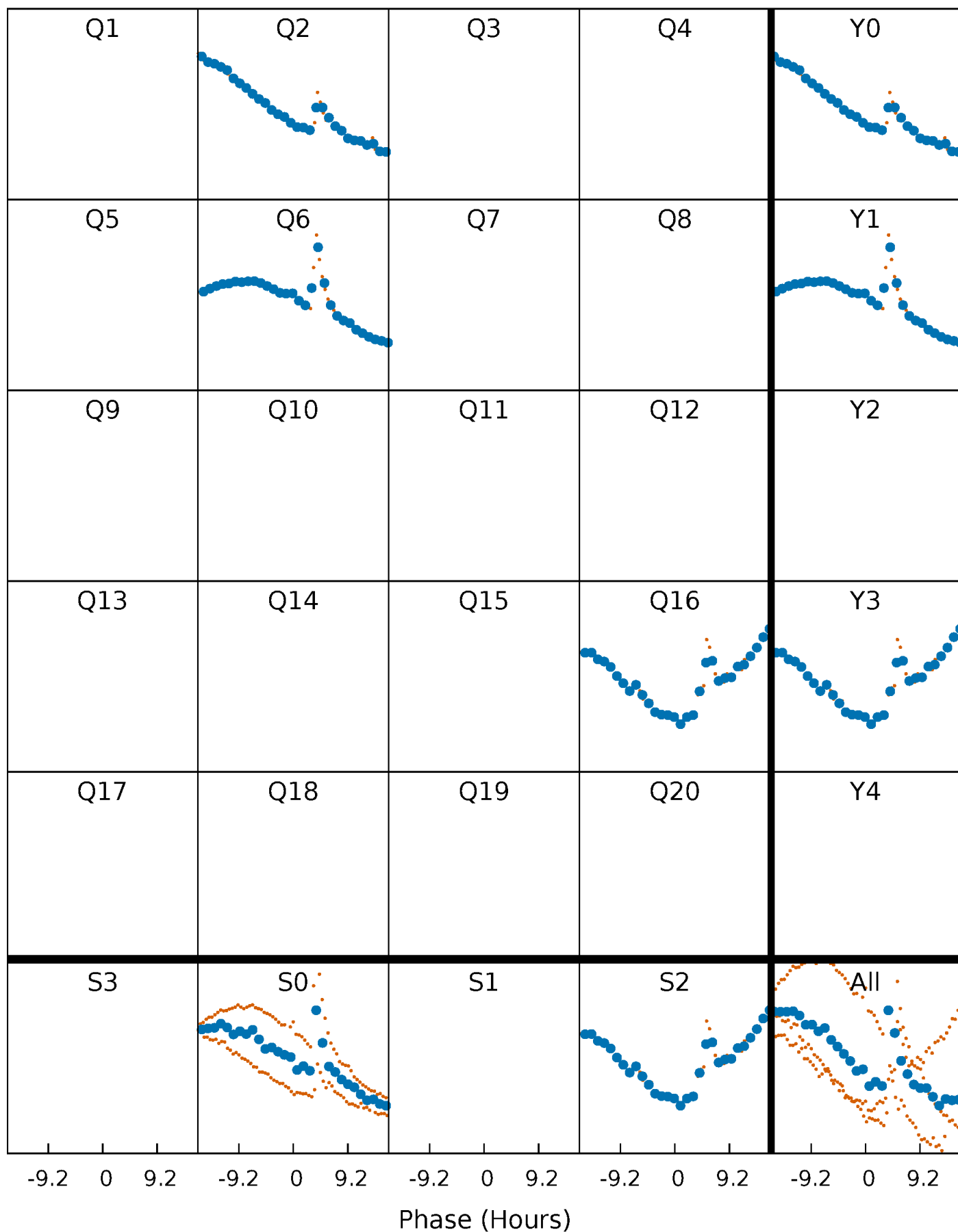


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



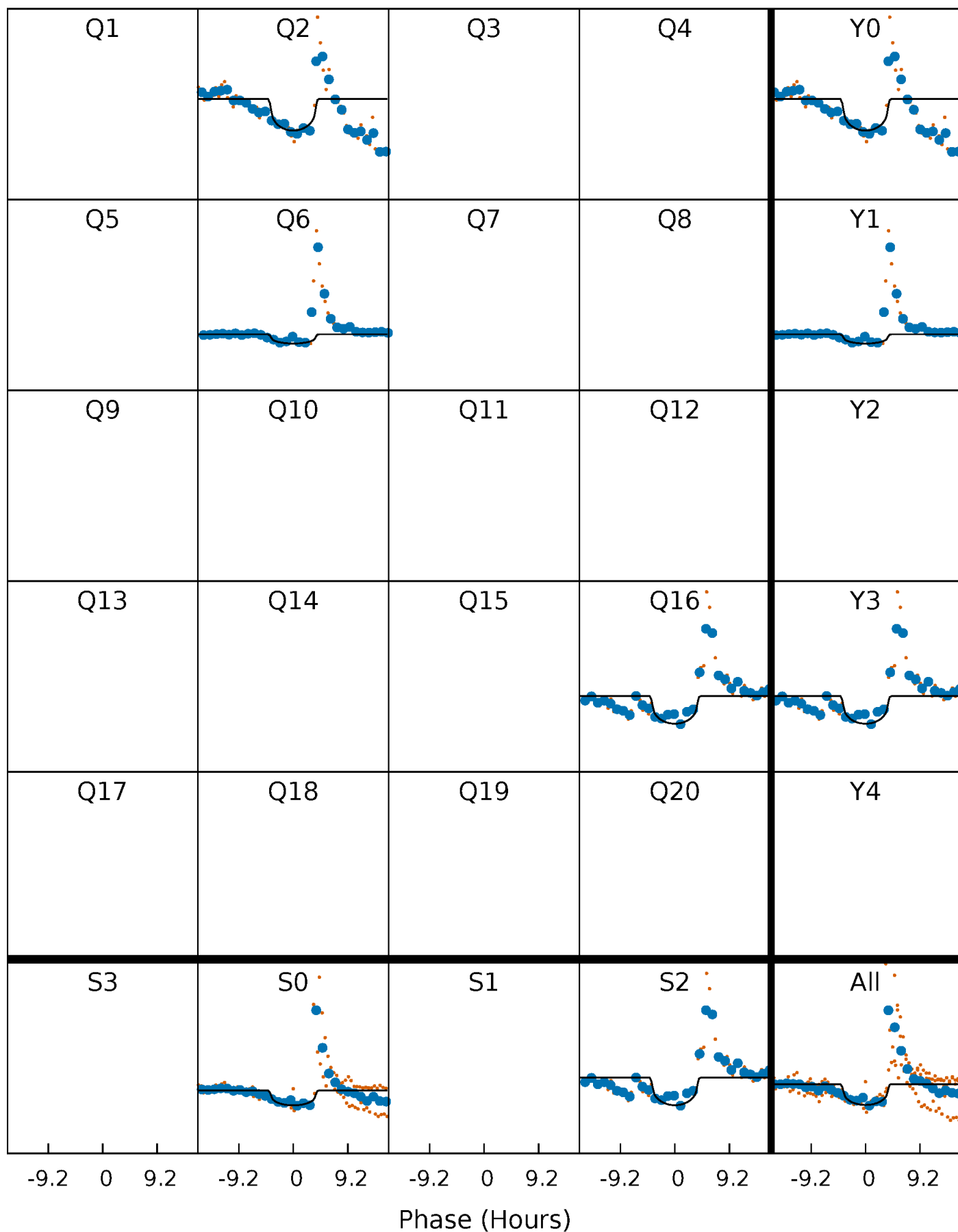
PDC Quarter-Phased Transit Curves

TCE 010812541-03 P=447.340403 Days $T_0=171.821794$ (BKJD)



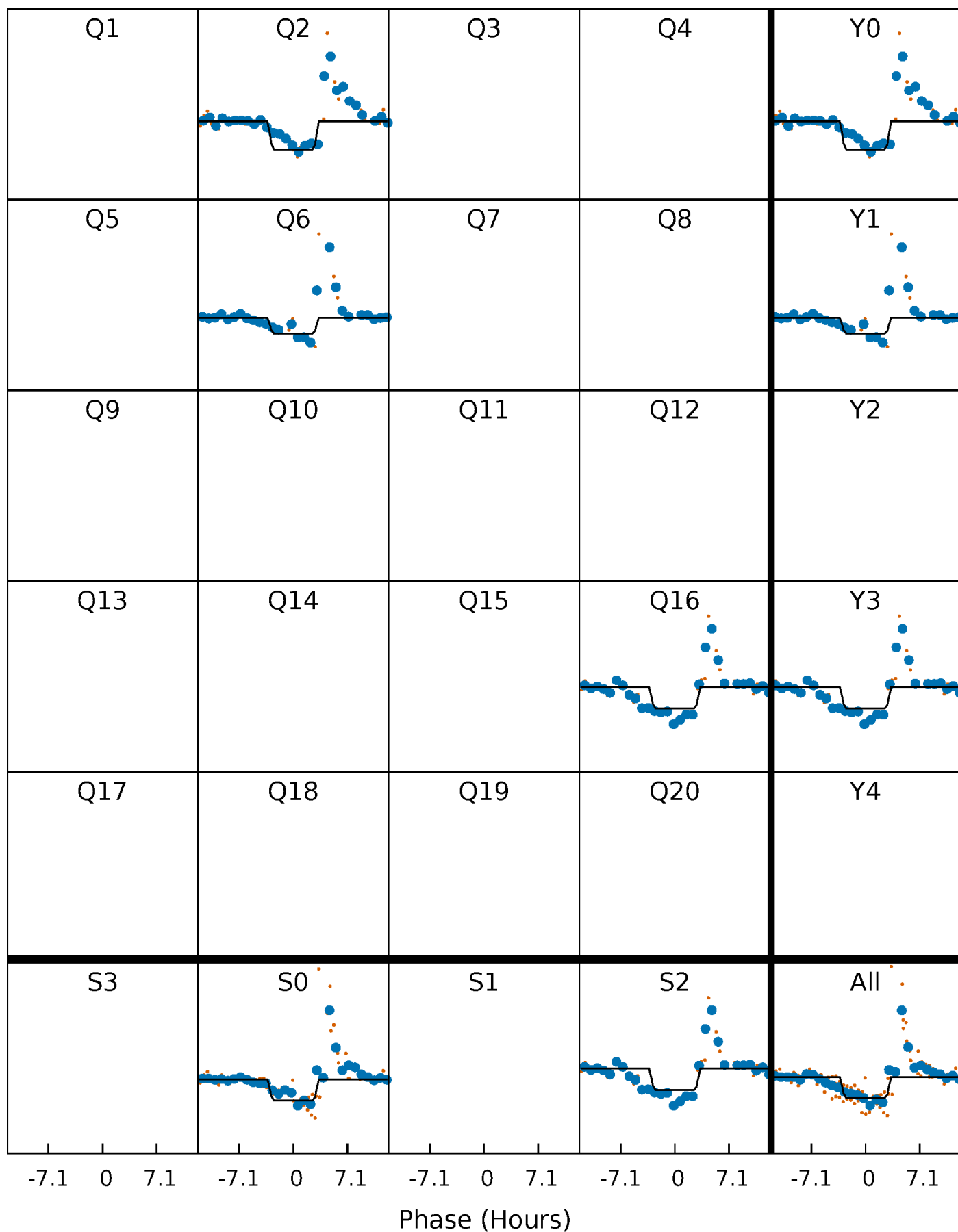
DV Quarter-Phased Transit Curves

TCE 010812541-03 P=447.340403 Days $T_0=171.821794$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

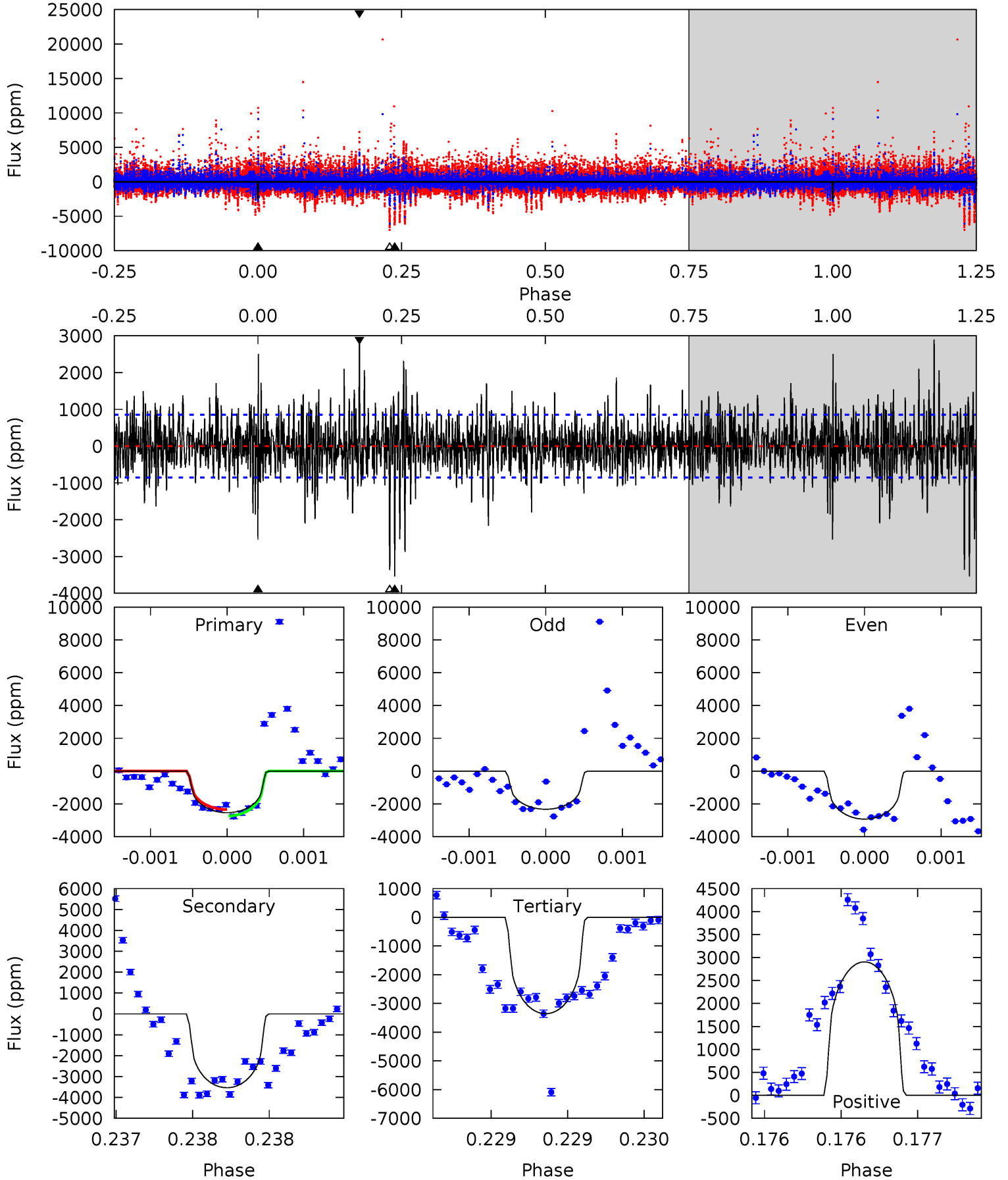
TCE 010812541-03 P=447.358740 Days $T_0=171.806225$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-03, P = 447.340403 Days, E = 171.821794 Days

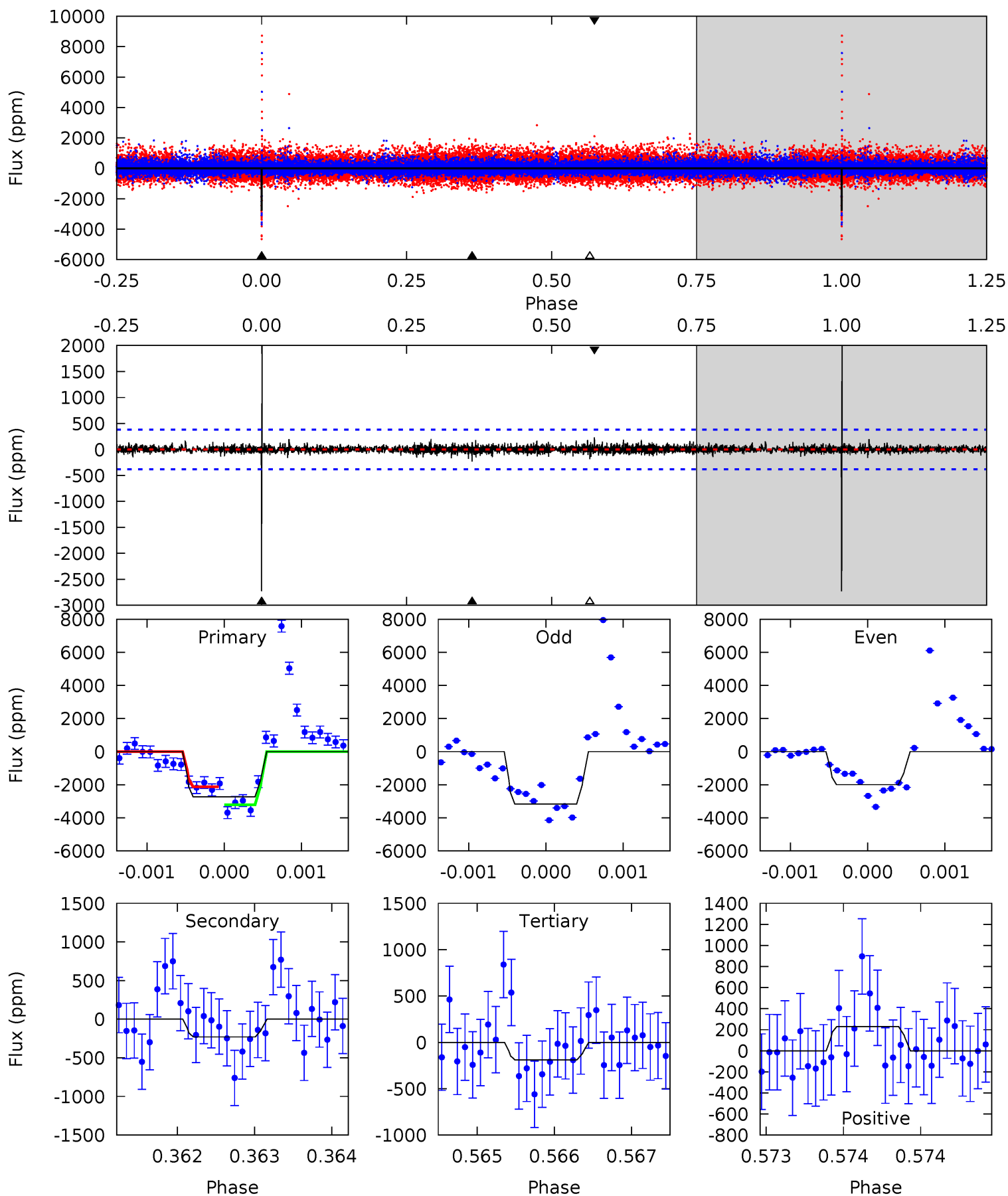
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	22.8	21.7	18.7	5.50	3.37	3.55	-5.29	-2.38	1.15	4.07	1.38	0.87	0.45	1.30



Alt Model-Shift Uniqueness Test

010812541-03, P = 447.358740 Days, E = 171.806225 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.6	3.35	2.74	3.33	5.55	3.44	0.68	36.9	36.3	0.60	0.02	8.01	0.99	0.42	0



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3536 ± 155	$3.41^{+2.28}_{-1.98}$	205^{+8}_{-8}	4444^{+2135}_{-754}	$165534^{+777297}_{-105049}$
Alt.	-230 ± 69	$3.69^{+2.28}_{-1.90}$	205^{+7}_{-8}	2775^{+674}_{-339}	8402^{+29903}_{-5281}

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

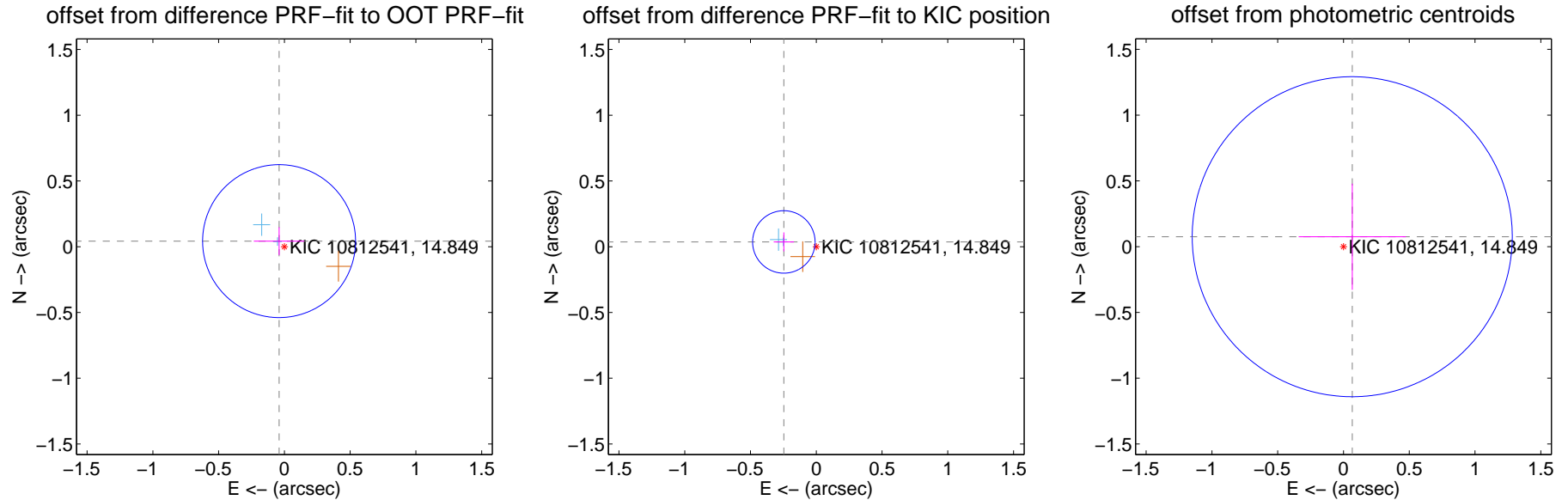
DV Centroid Data

Supplemental centroid analysis for 010812541-03. Kepler magnitude: 14.85. Transit SNR 7.75

There are 2 quarters with good PRF difference image offsets

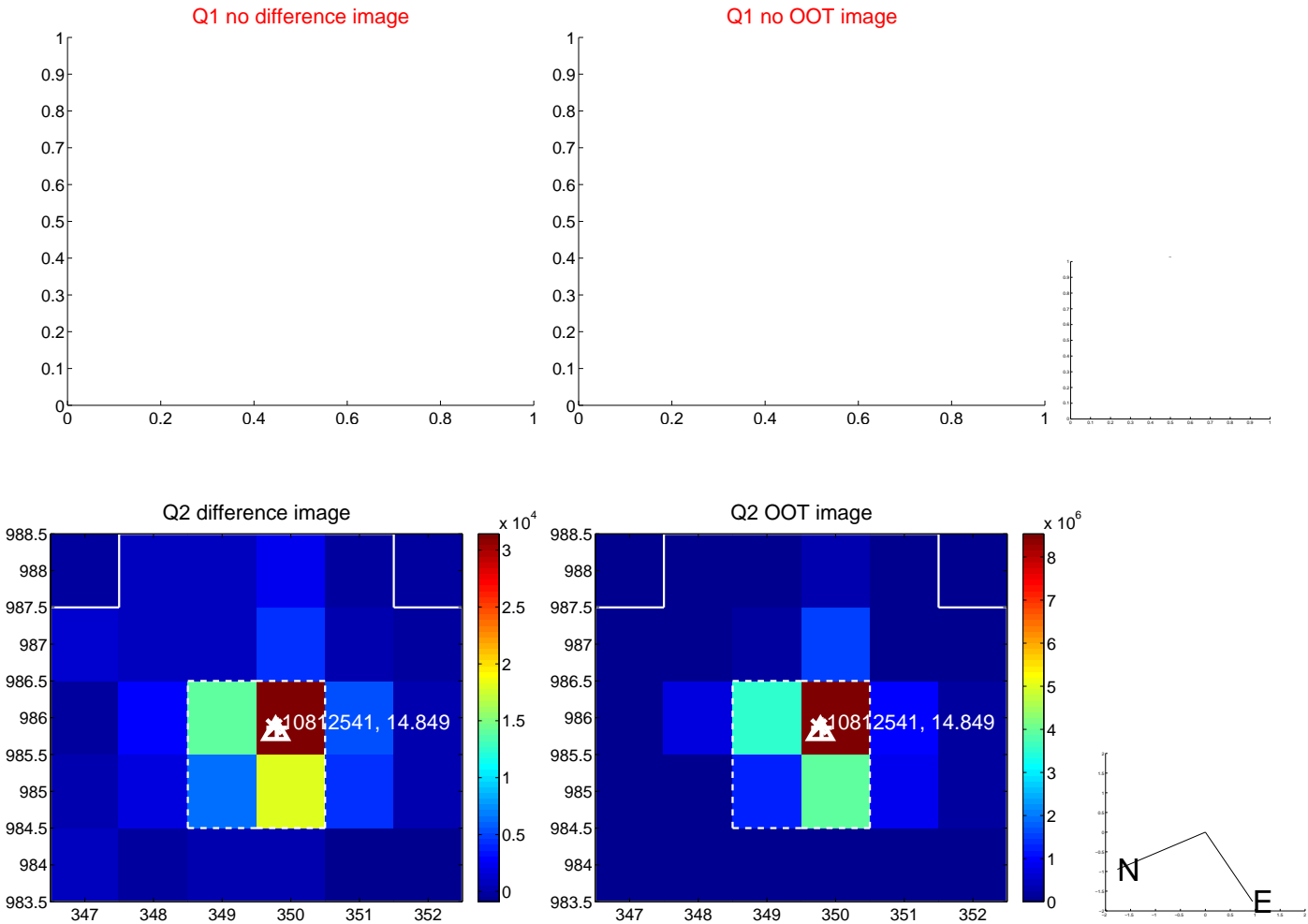
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.059 ± 0.194	0.30	0.040 ± 0.192	0.043 ± 0.106
PRF-fit source offset from KIC position	0.249 ± 0.079	3.15	0.246 ± 0.077	0.036 ± 0.072
photometric centroid source offset	0.10 ± 0.41	0.25	-0.07 ± 0.41	0.08 ± 0.40



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.

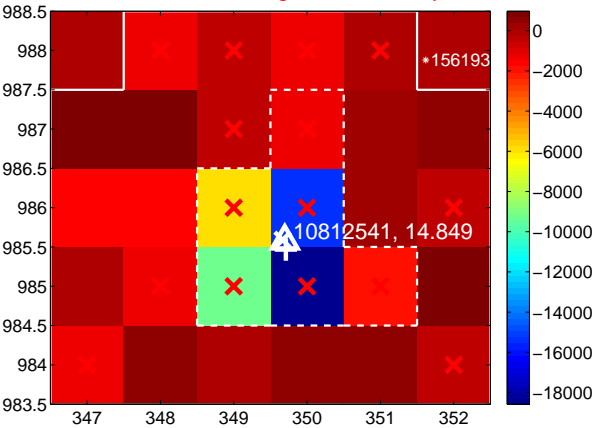
Q5 no difference image



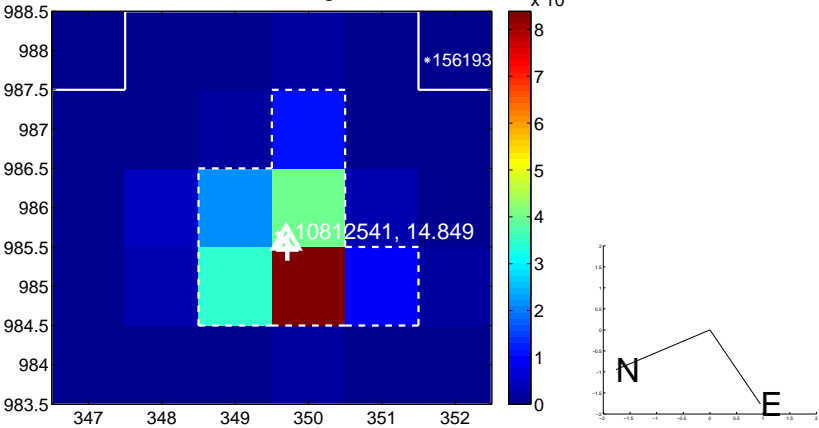
Q5 no OOT image



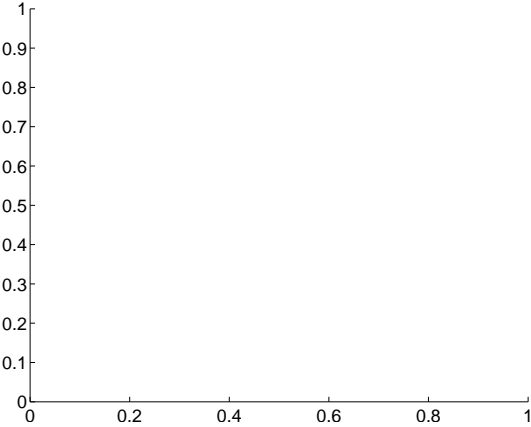
Q6 difference image. Poor Quality



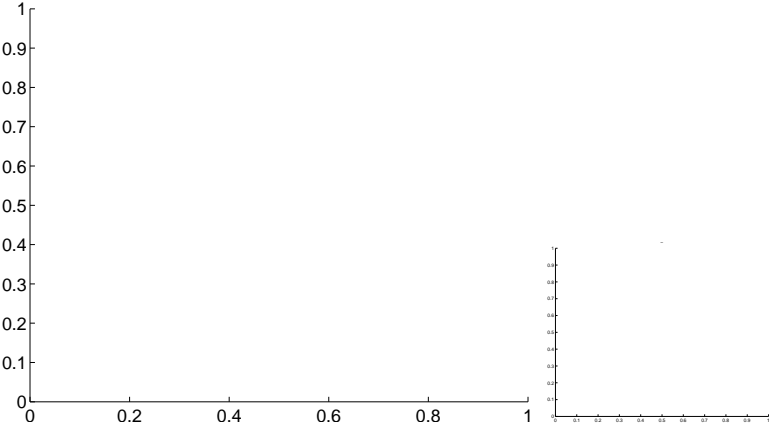
Q6 OOT image



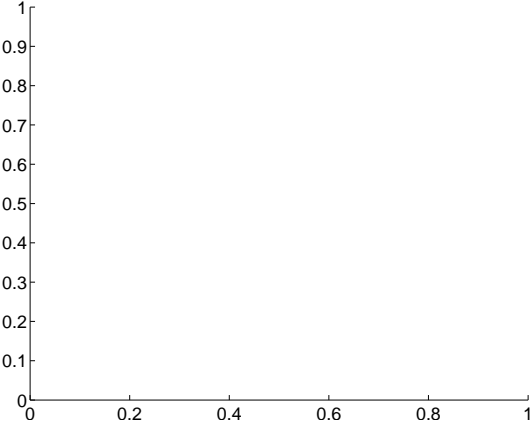
Q7 no difference image



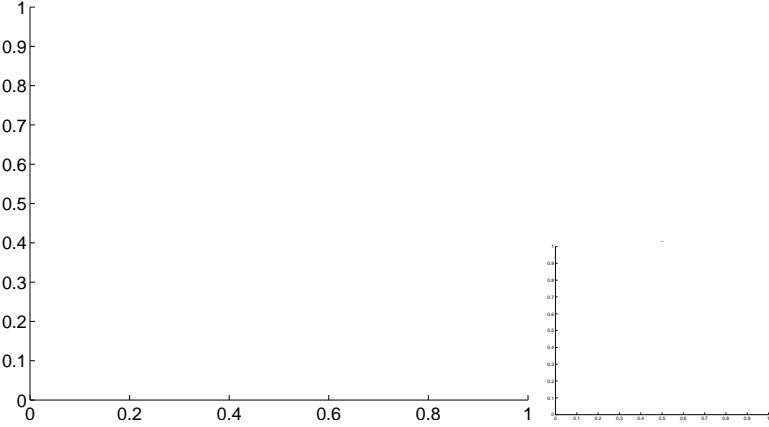
Q7 no OOT image



Q8 no difference image



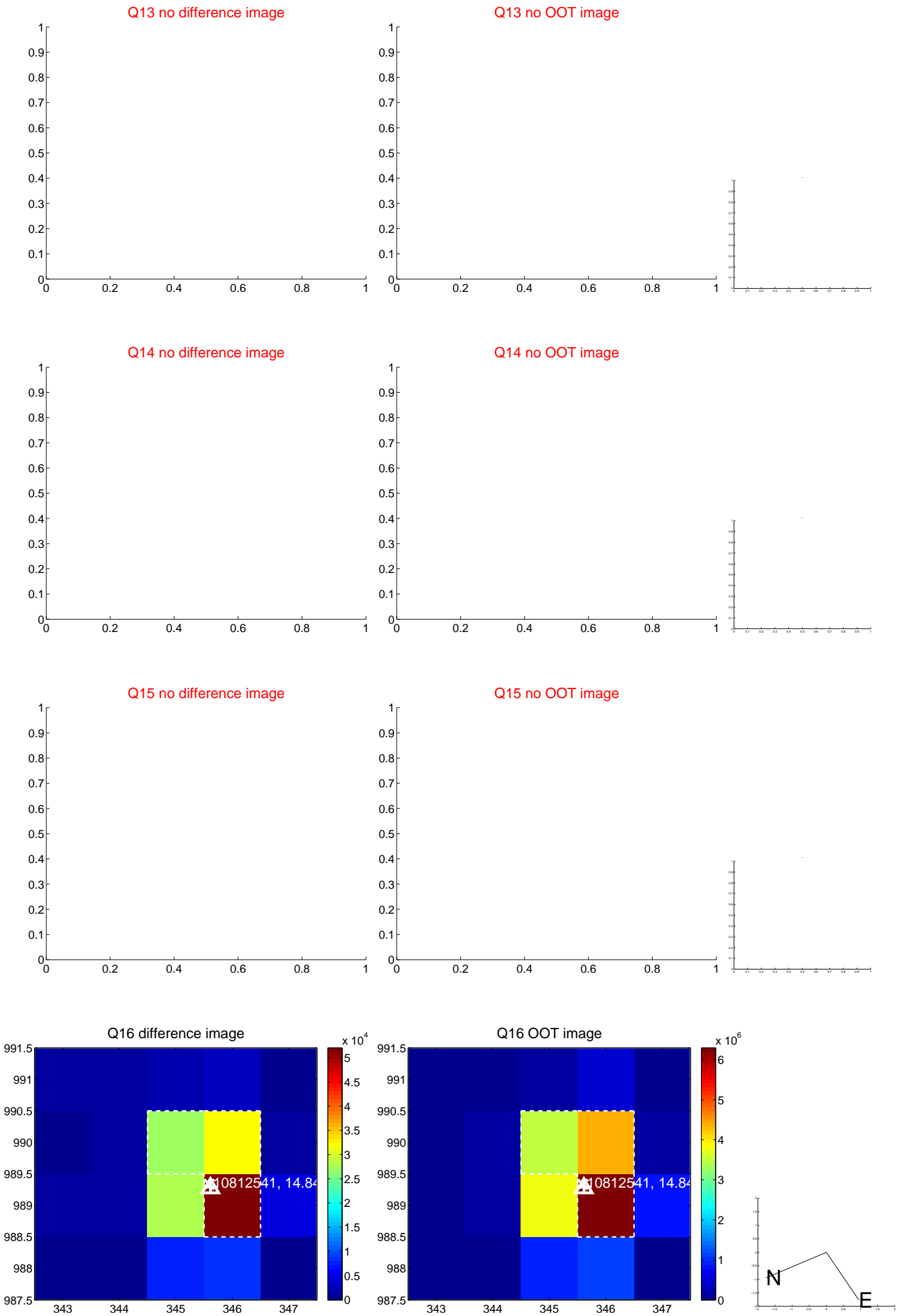
Q8 no OOT image



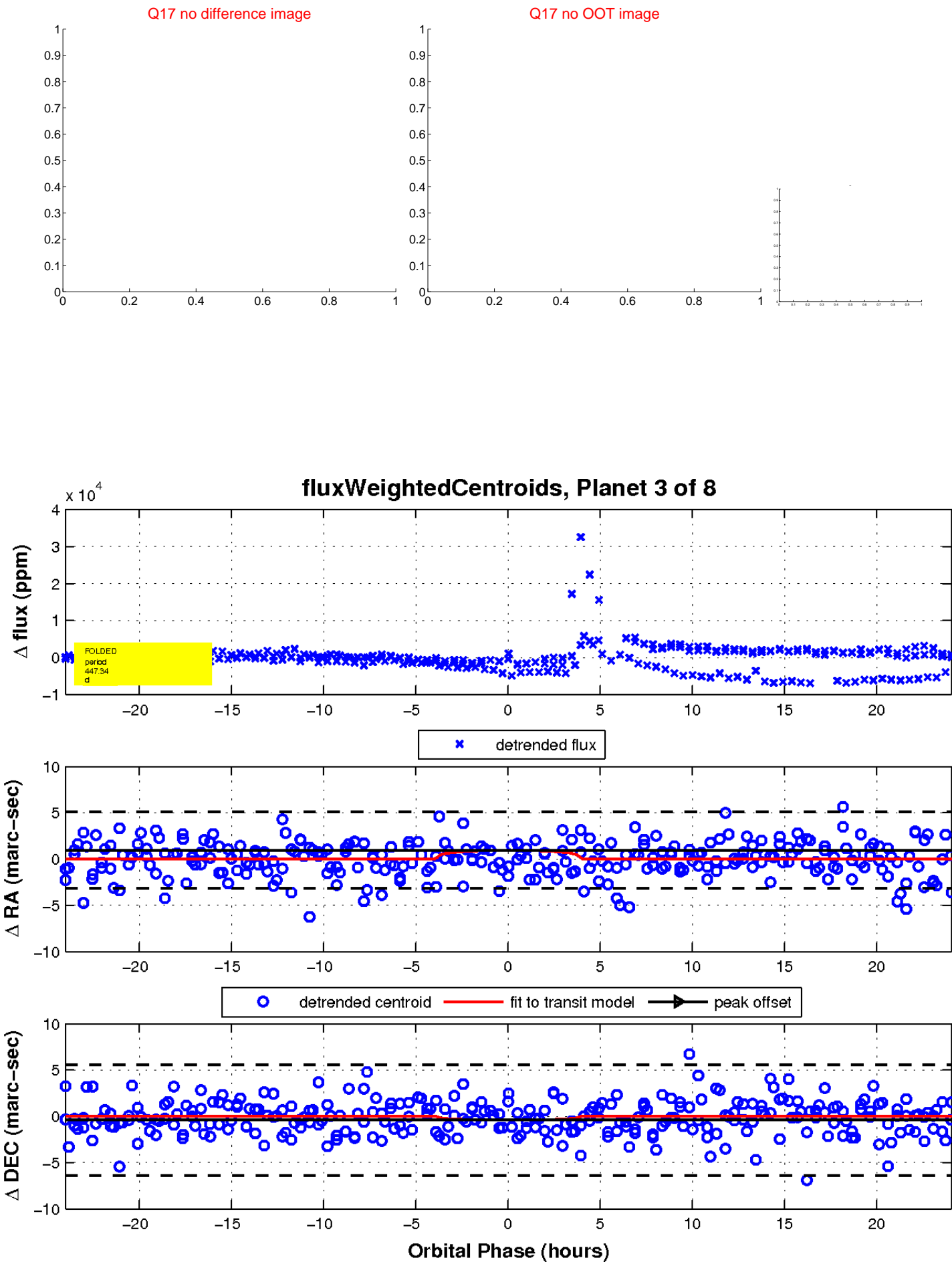
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



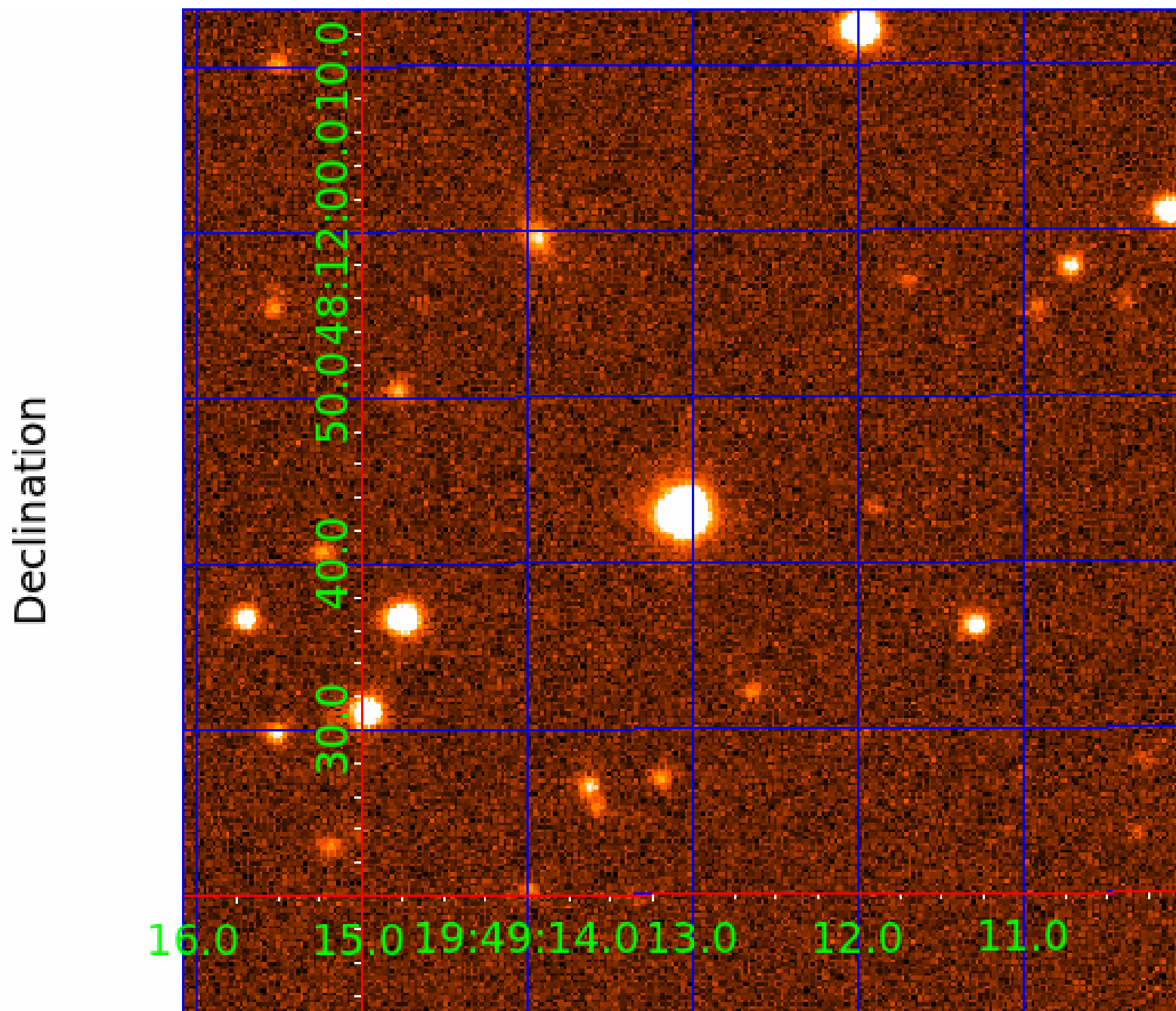
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010812541

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})
010812541-01	OBS	No	668.612573	197.358439	2576.2	6.765	15.0	7.6	0.65	4137	4.38	0.07
010812541-02	OBS	No	558.645732	241.369831	2246.7	7.918	13.2	6.9	0.65	4137	3.81	0.08
010812541-03	OBS	No	447.340403	171.821794	2836.6	8.062	13.1	7.7	0.65	4137	3.30	0.11
010812541-04	OBS	7375.01	4.848501	131.905169	546.1	1.081	12.8	17.7	0.65	4137	1.88	46.86
010812541-05	OBS	No	216.318176	209.187800	1583.4	9.653	12.4	5.4	0.65	4137	2.65	0.30
010812541-06	OBS	No	252.979565	333.488781	1051.2	3.352	12.2	5.1	0.65	4137	2.40	0.24
010812541-07	OBS	No	331.622401	236.616663	1344.3	3.160	11.3	6.3	0.65	4137	2.67	0.17
010812541-08	OBS	No	227.094881	333.503546	1715.7	3.500	15.5	-1.0	0.65	4137	2.57	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010812541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010812541-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

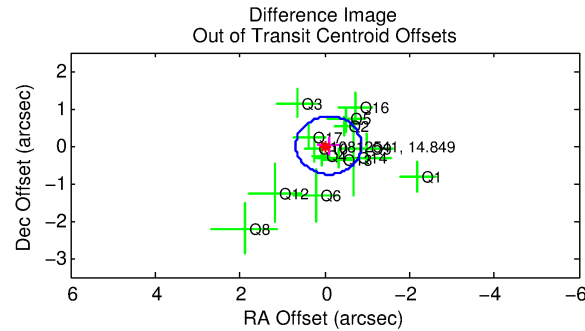
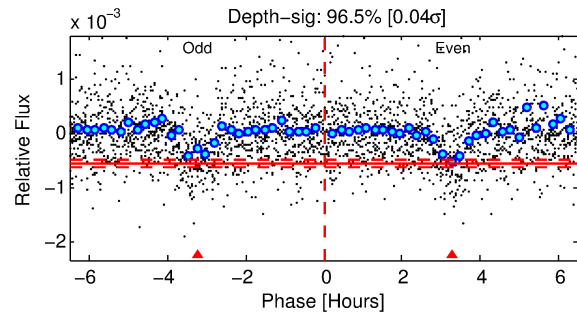
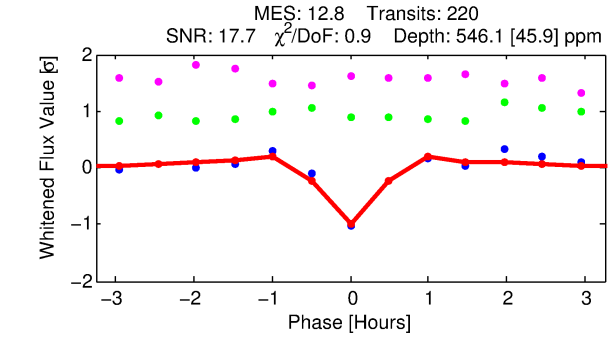
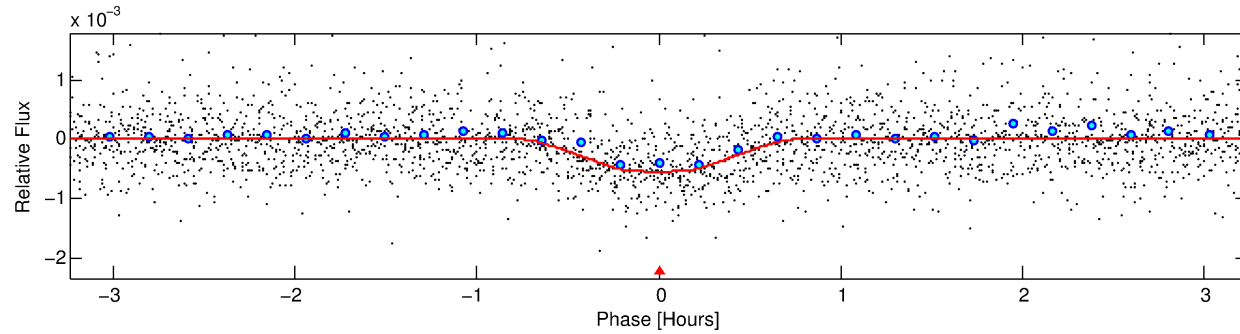
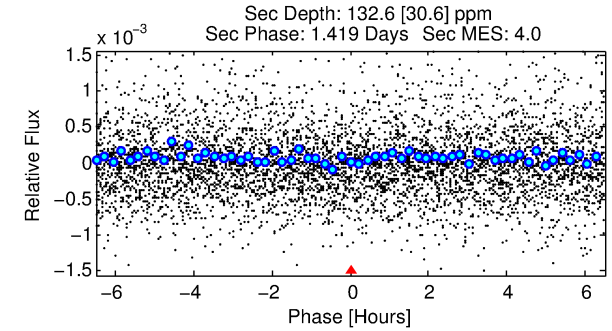
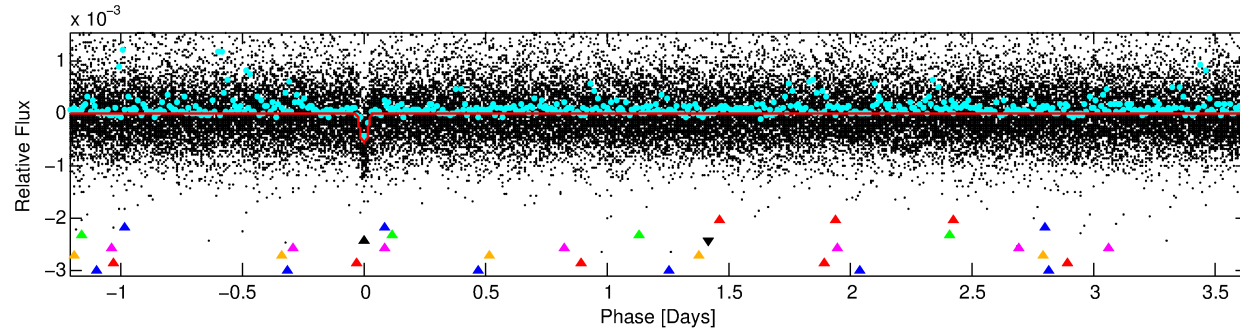
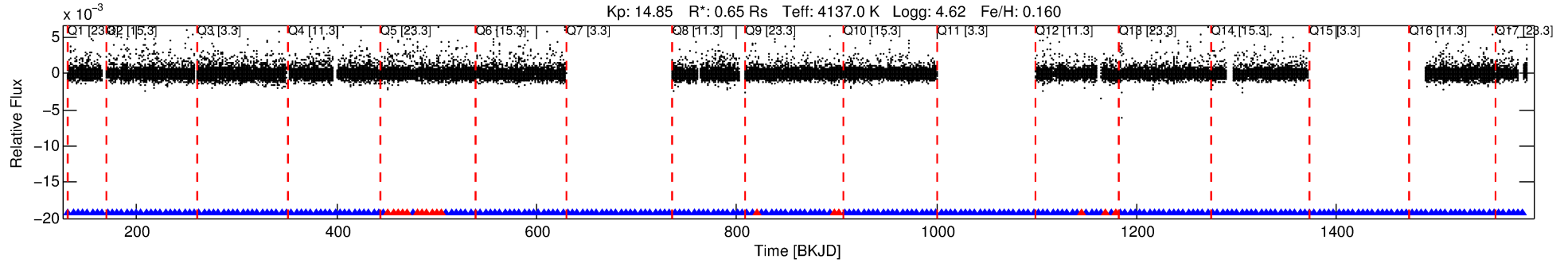
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010812541-04

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 4 of 8 Period: 4.849 d
KOI: K07375.01 Corr: 0.782



DV Fit Results:

Period = 4.84850 [0.00001] d
Epoch = 131.9052 [0.0012] BKJD
Rp/R* = 0.0266 [0.0108]
a/R* = 16.90 [24.97]
b = 0.90 [0.32]
Seff = 46.86 [8.21]
Teq = 667 [29] K
Rp = 1.88 [0.78] Re
a = 0.0484 [0.0035] AU
Ag = 48.39 [41.25] [1.15σ]
Teffp = 2721 [584] K [3.51σ]

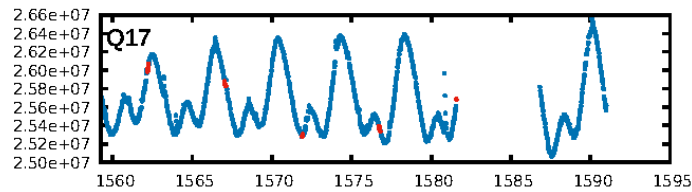
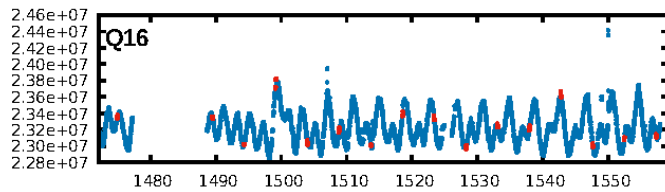
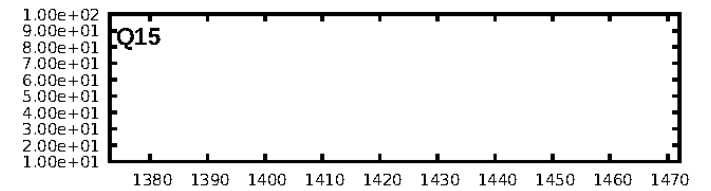
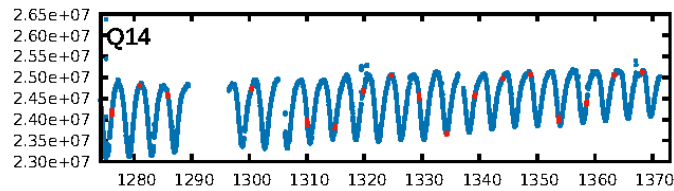
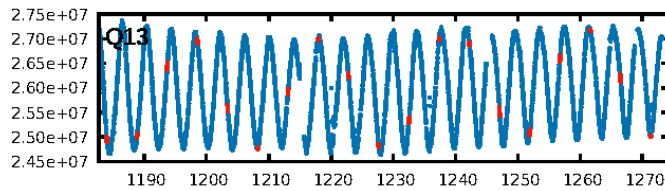
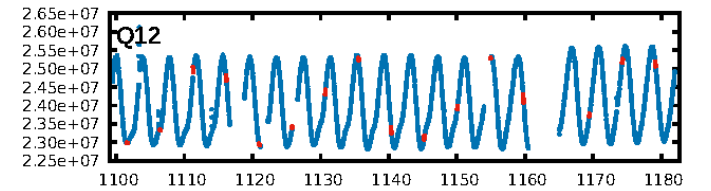
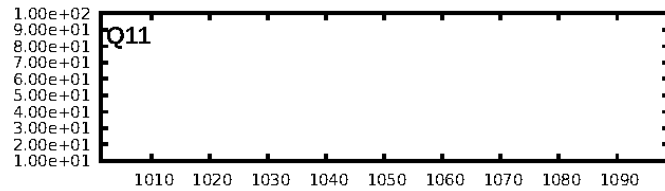
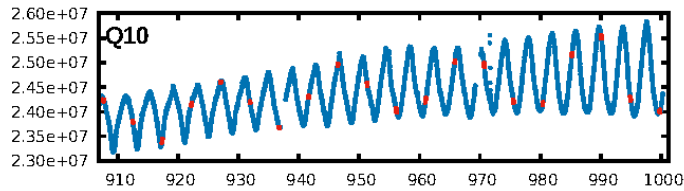
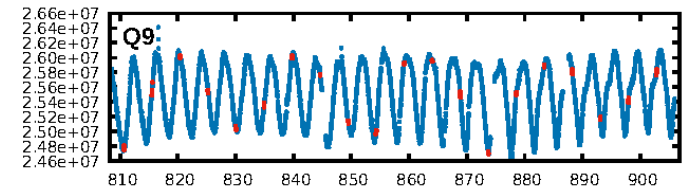
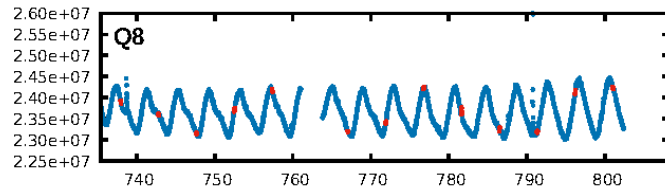
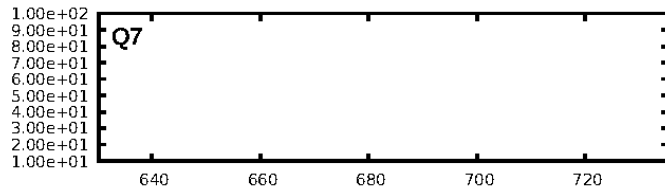
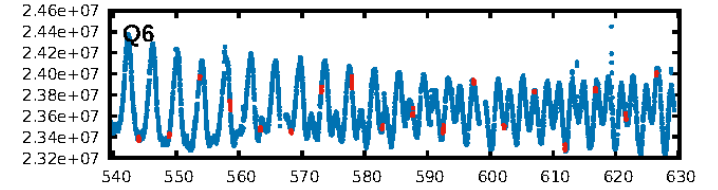
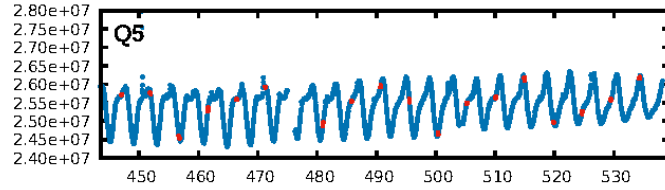
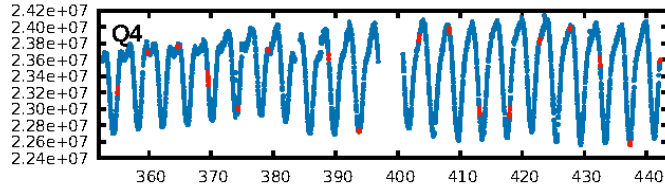
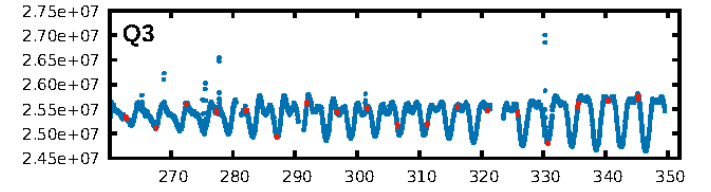
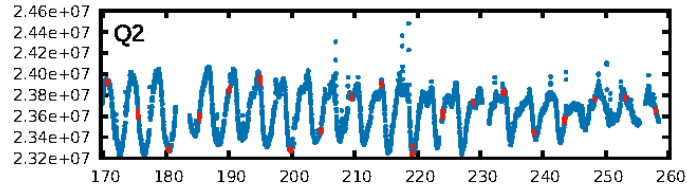
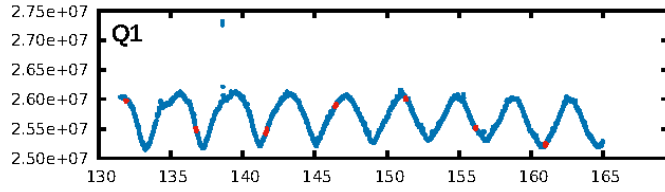
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [522.49σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [191/208]
GhostDiagnostic-chr: -9.221
Centroid-sig: 28.7%
Centroid-so: 0.478 arcsec [0.77σ]
OotOffset-rm: 0.091 arcsec [0.35σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-rm: 0.128 arcsec [0.48σ]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

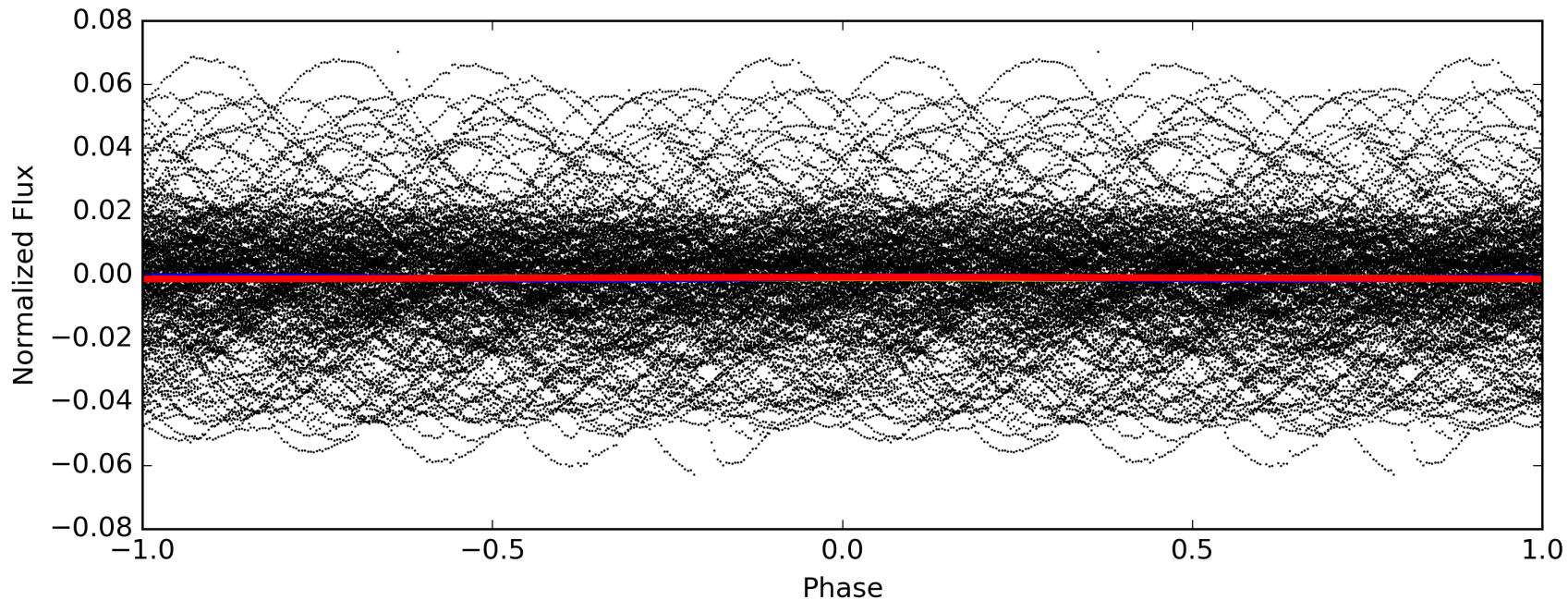
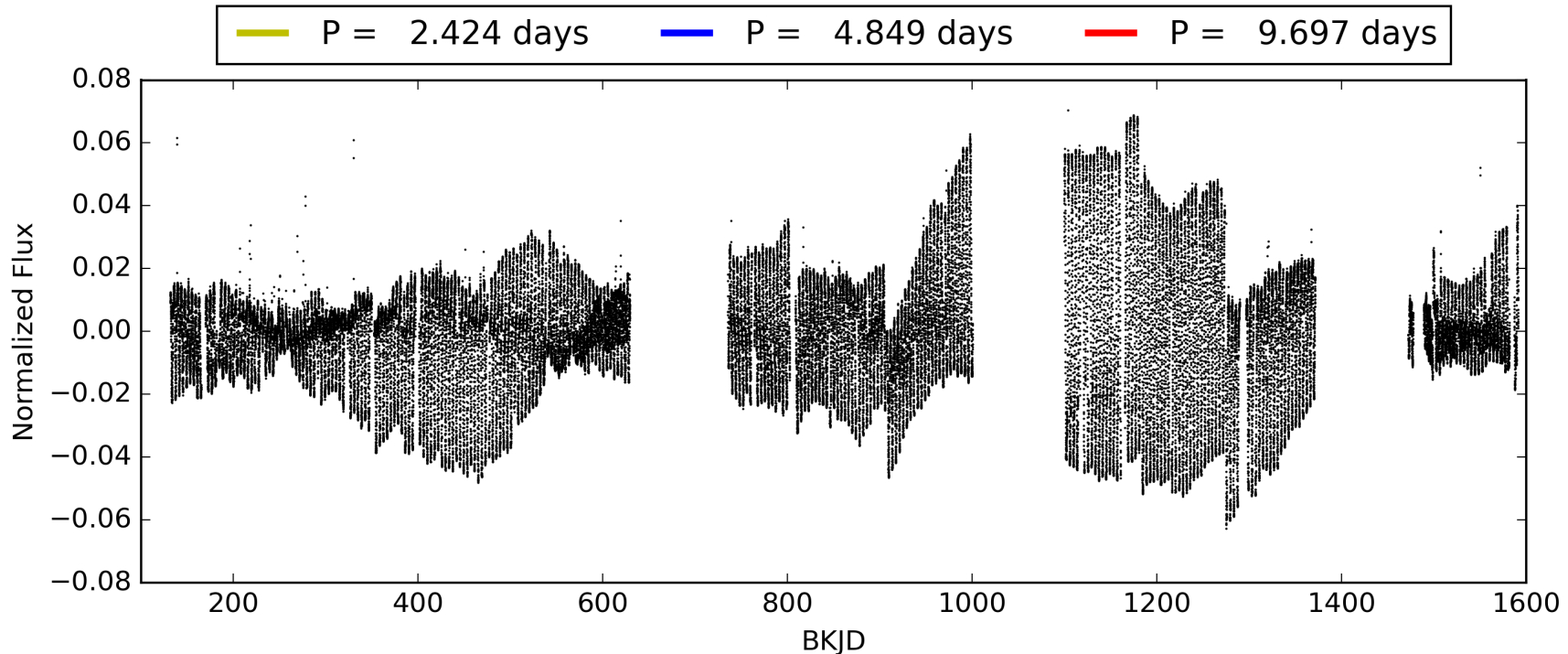
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:28:06 Z

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

TCE 010812541-04, PDC Light Curves

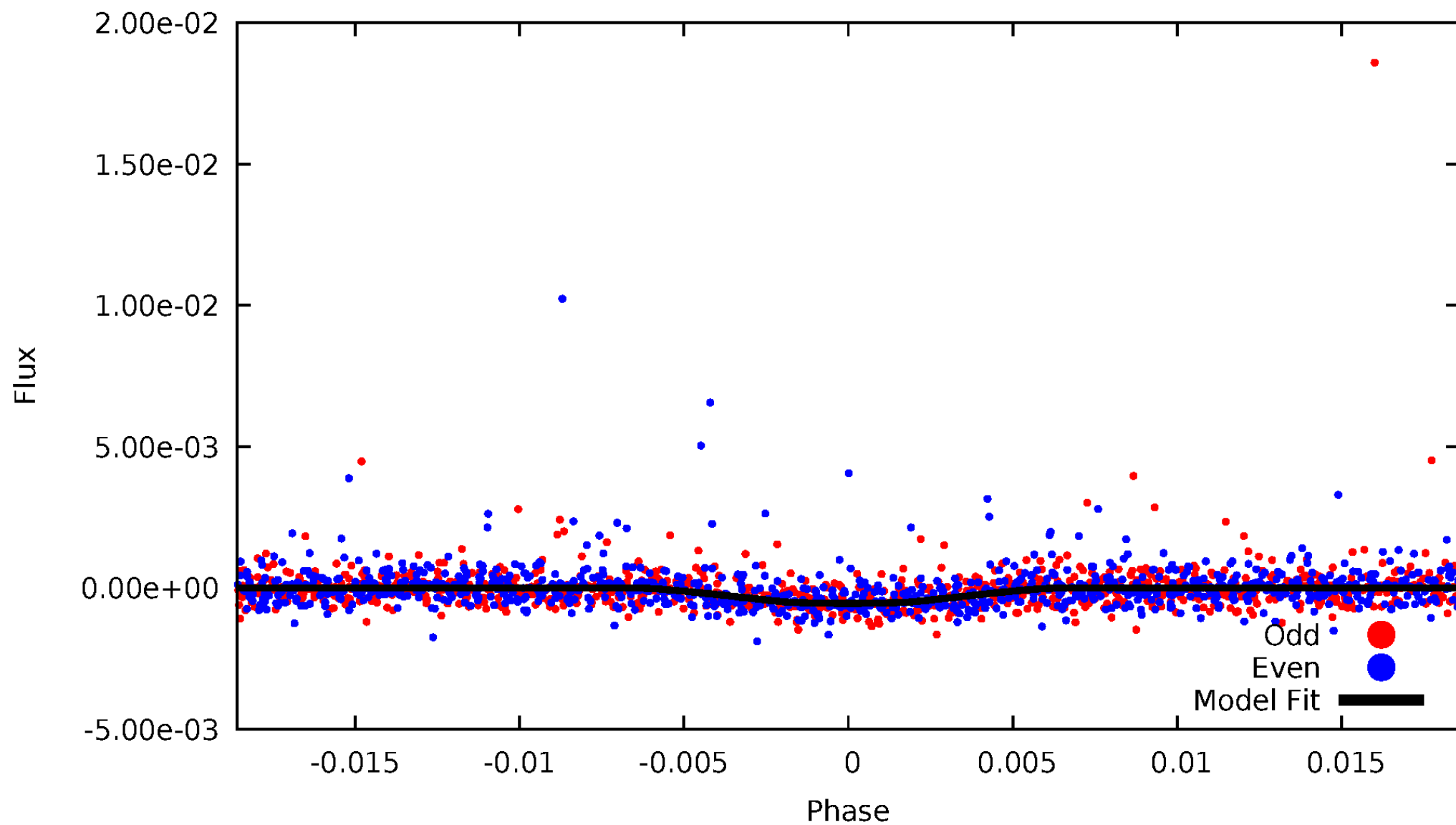


TCE 010812541-04



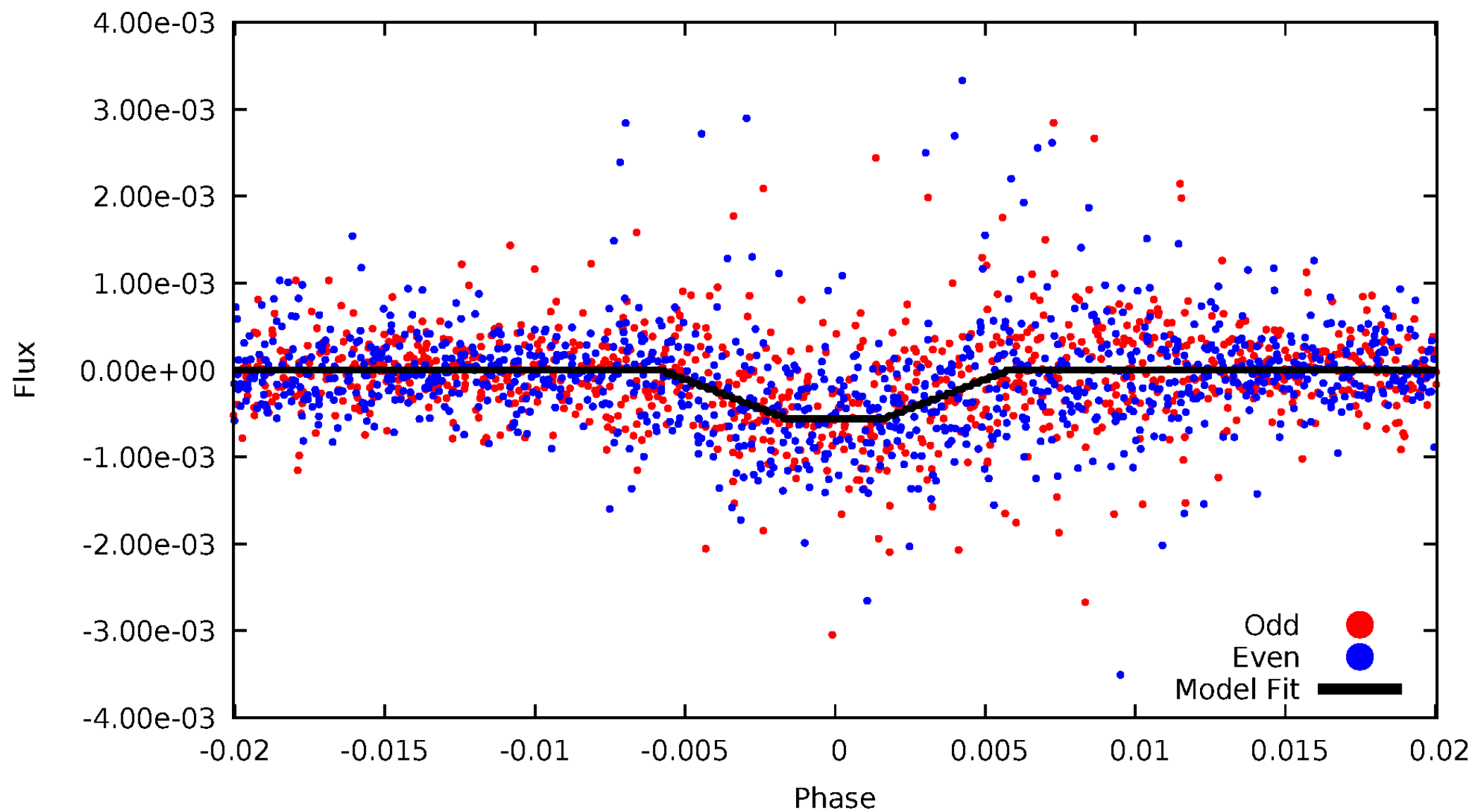
DV Odd/Even

TCE 010812541-04



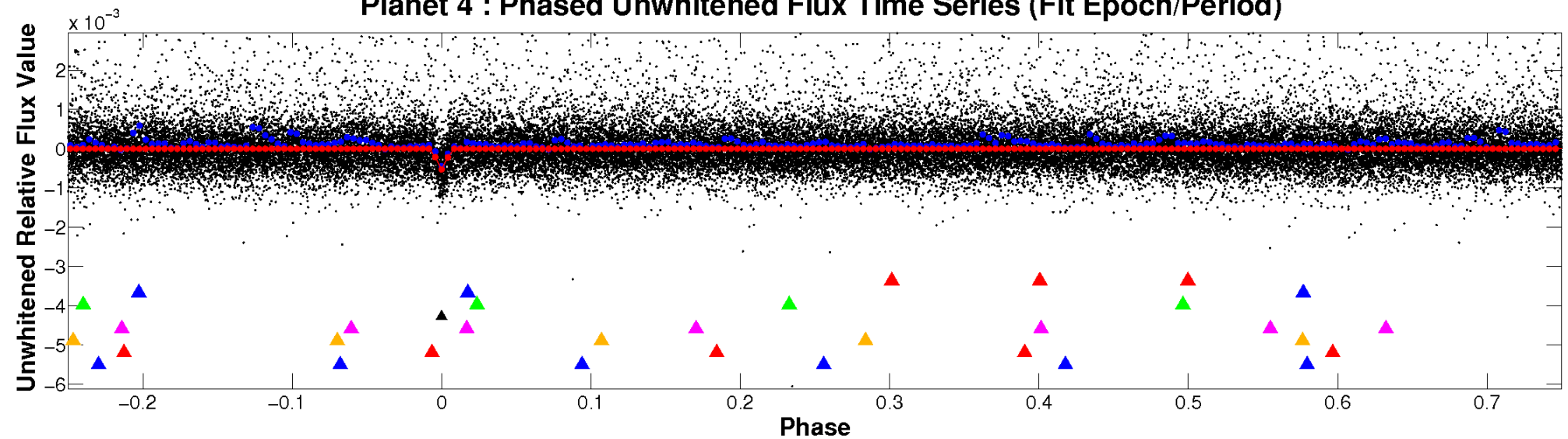
ALT Odd/Even

TCE 010812541-04

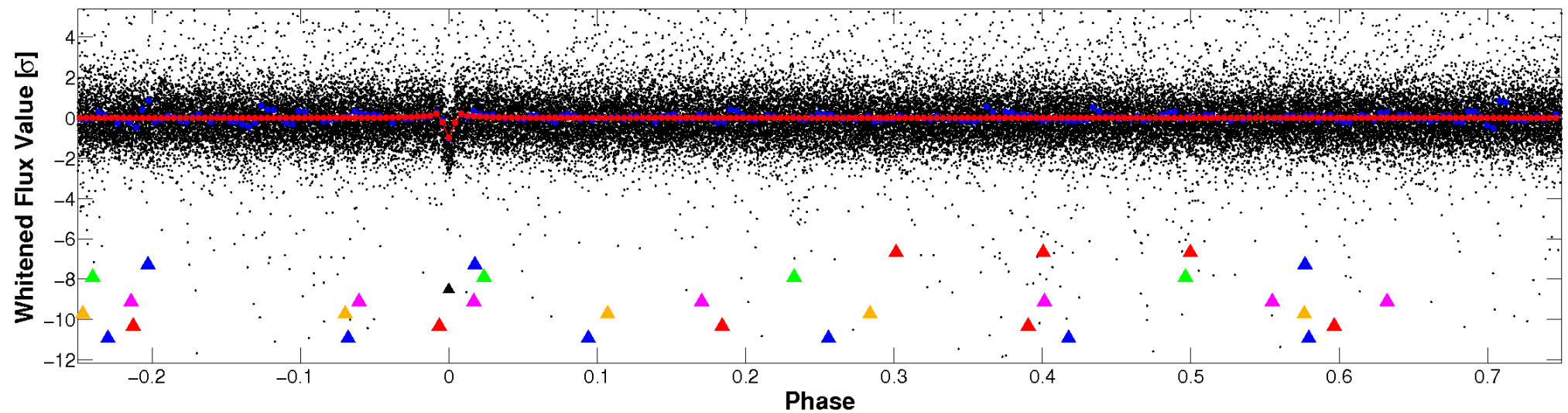


Non-Whitened Vs. Whitened Light Curve

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

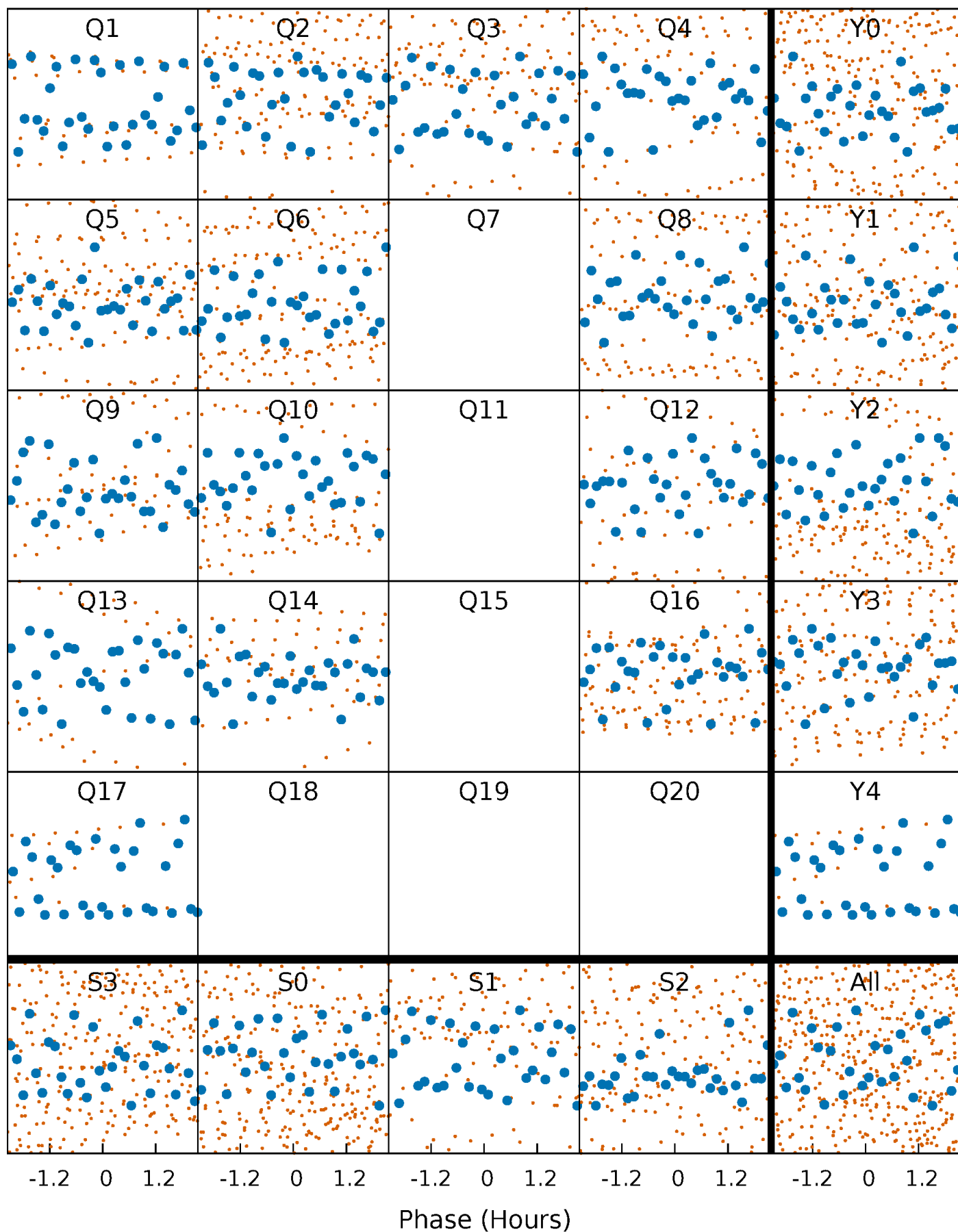


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



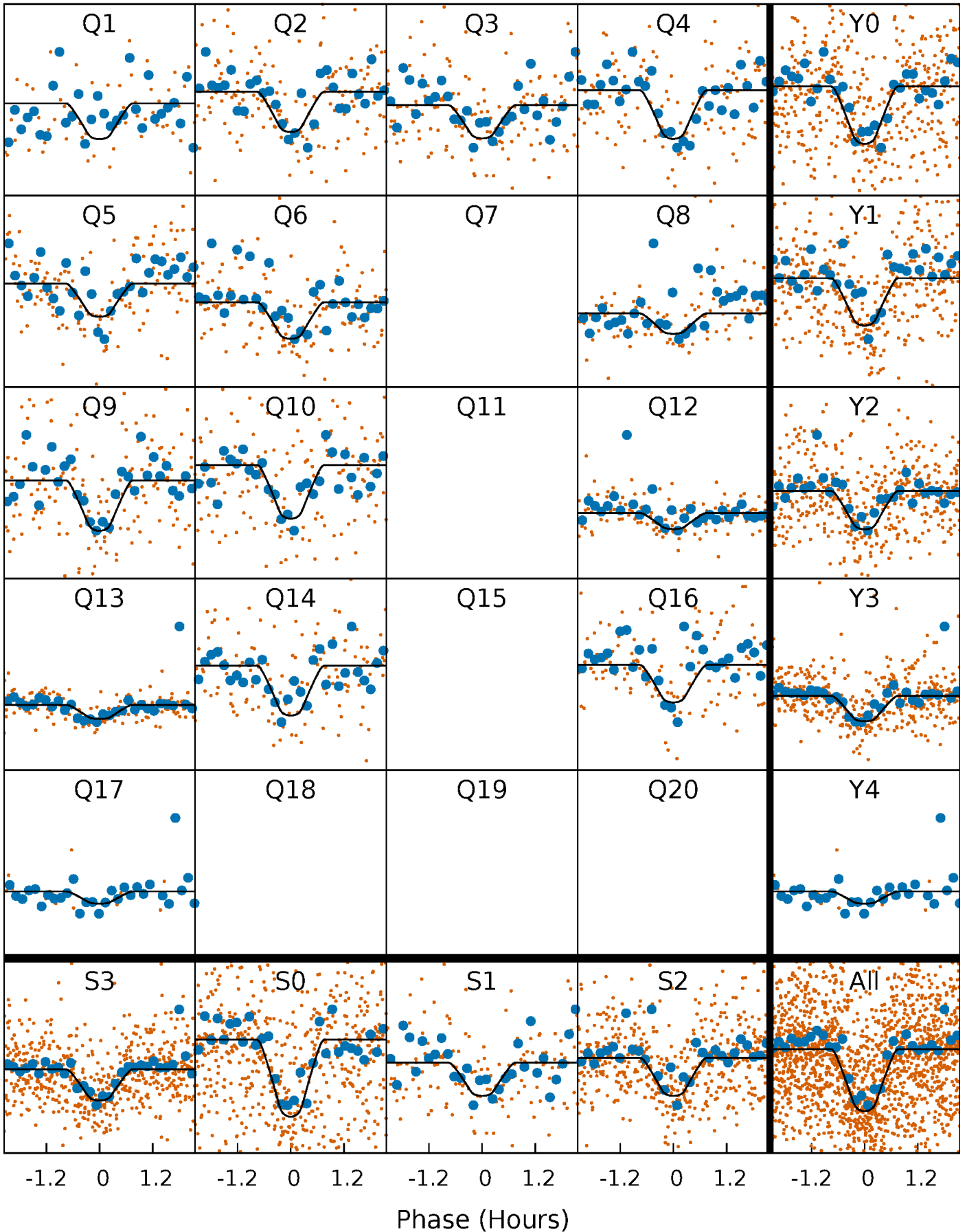
PDC Quarter-Phased Transit Curves

TCE 010812541-04 P= 4.848501 Days $T_0=131.905169$ (BKJD)



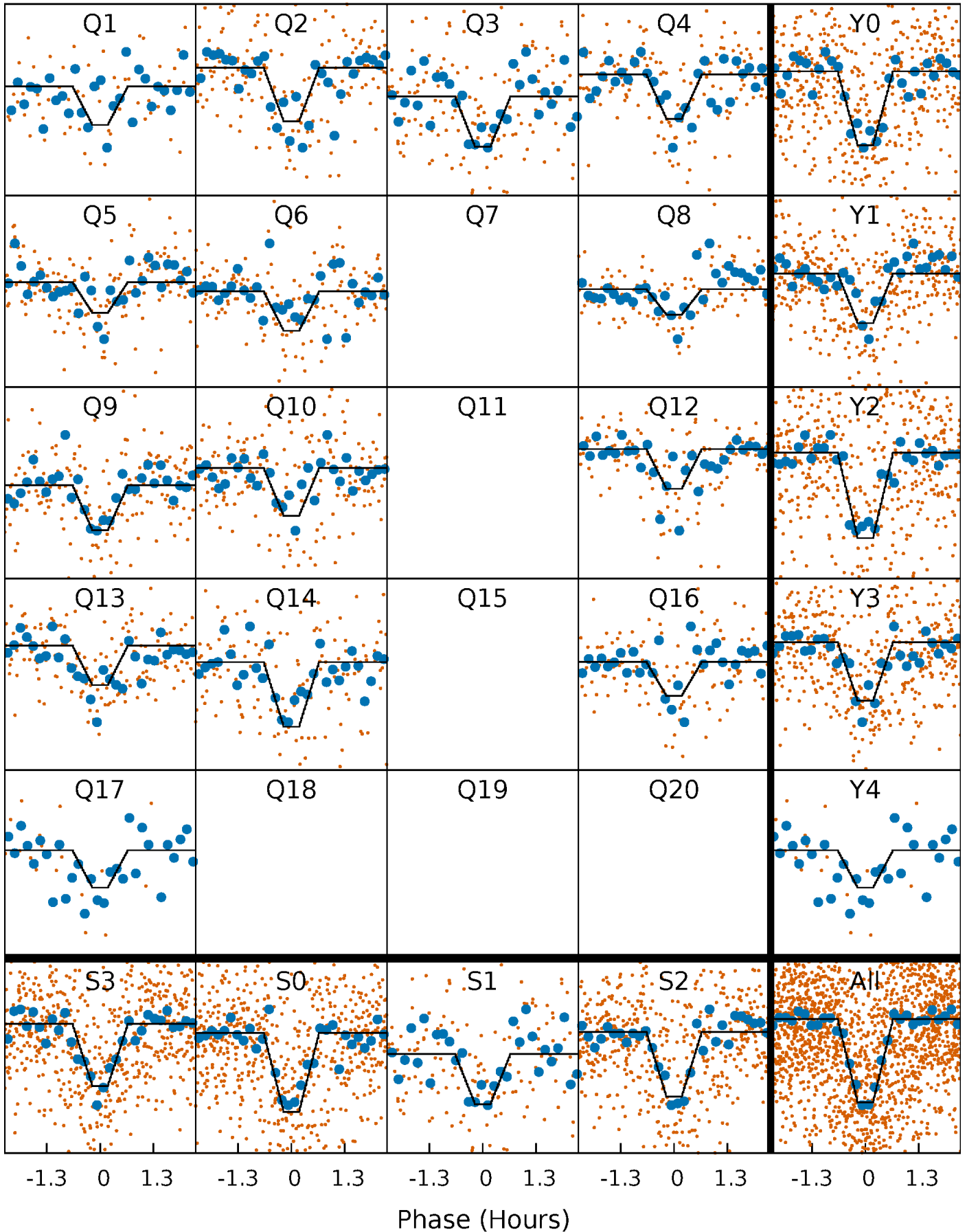
DV Quarter-Phased Transit Curves

TCE 010812541-04 P= 4.848501 Days $T_0=131.905169$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

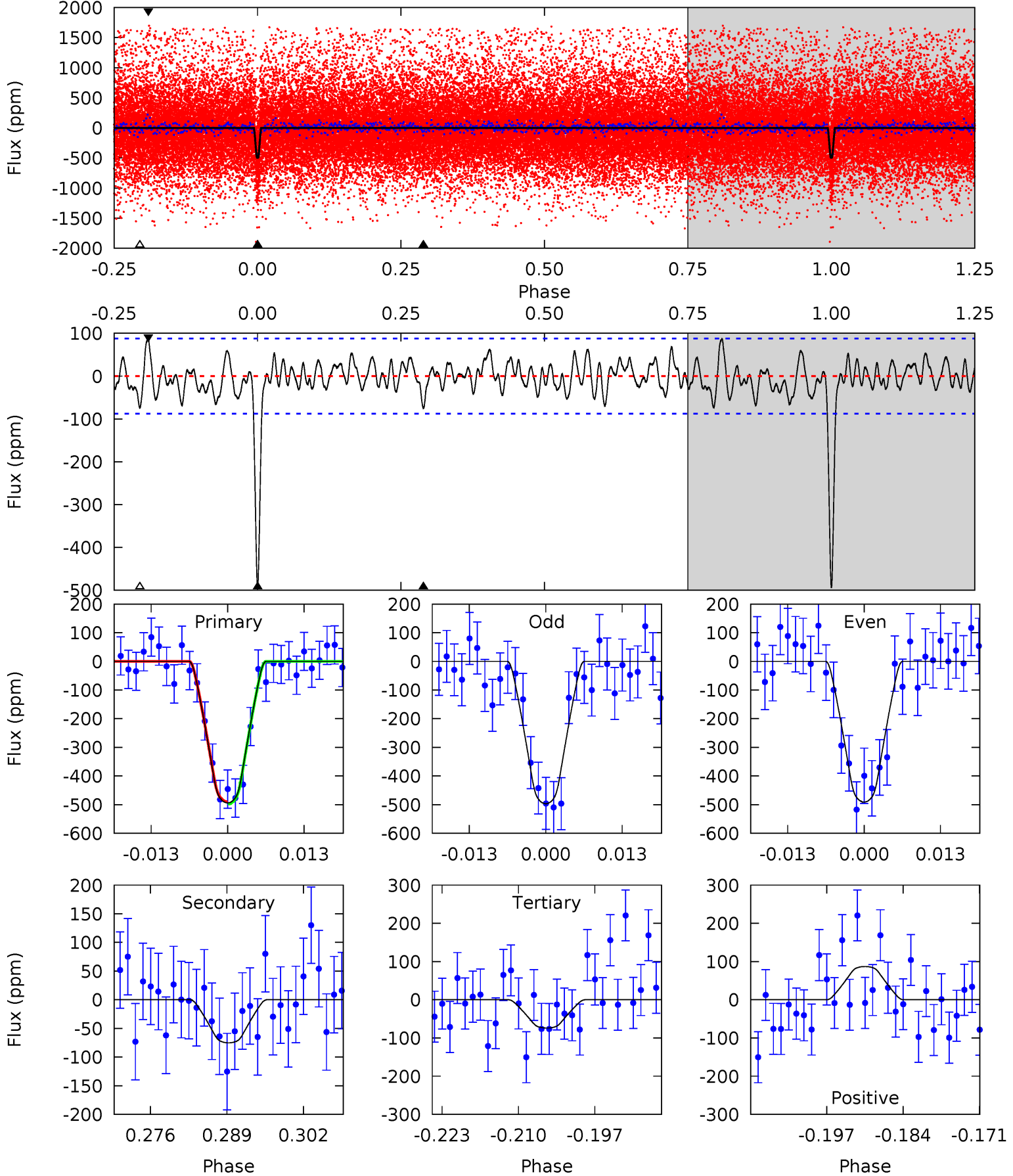
TCE 010812541-04 $P = 4.848465$ Days $T_0 = 131.909968$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-04, P = 4.848501 Days, E = 127.056668 Days

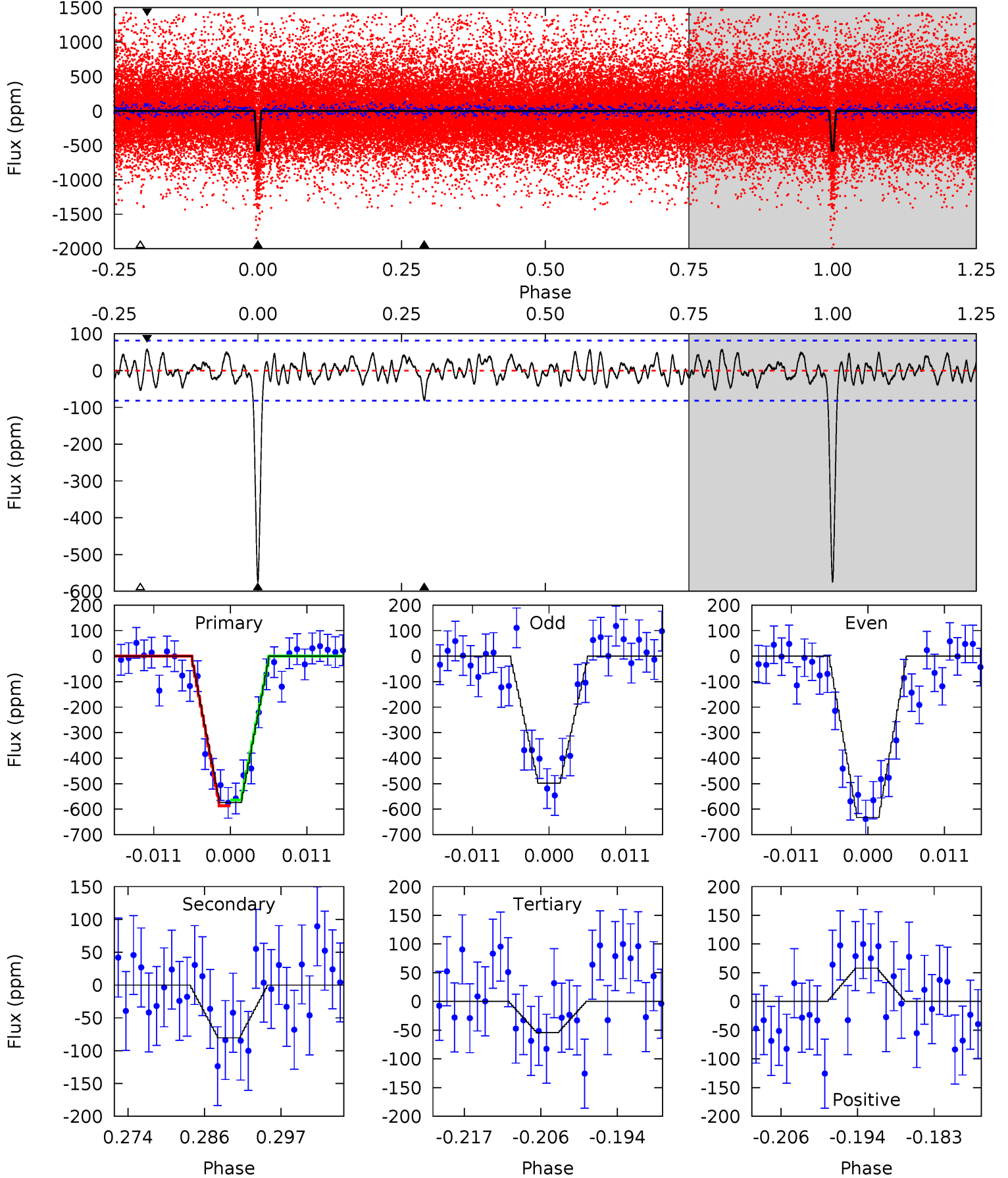
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.9	4.25	4.18	4.92	4.97	2.48	1.62	23.8	23.0	0.07	-0.67	0.16	0.86	0.15	0.20



Alt Model-Shift Uniqueness Test

010812541-04, P = 4.848465 Days, E = 127.061503 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	4.91	3.31	3.55	5.00	2.53	1.35	31.8	31.5	1.61	1.37	4.14	0.98	0.09	0.72



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-04 / KOI 7375.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-75 ± 18	$1.86^{+0.77}_{-0.70}$	925^{+35}_{-37}	2881^{+462}_{-255}	27^{+46}_{-14}
Alt.	-80 ± 16	$1.67^{+0.79}_{-0.79}$	925^{+34}_{-33}	3008^{+679}_{-300}	37^{+97}_{-20}

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

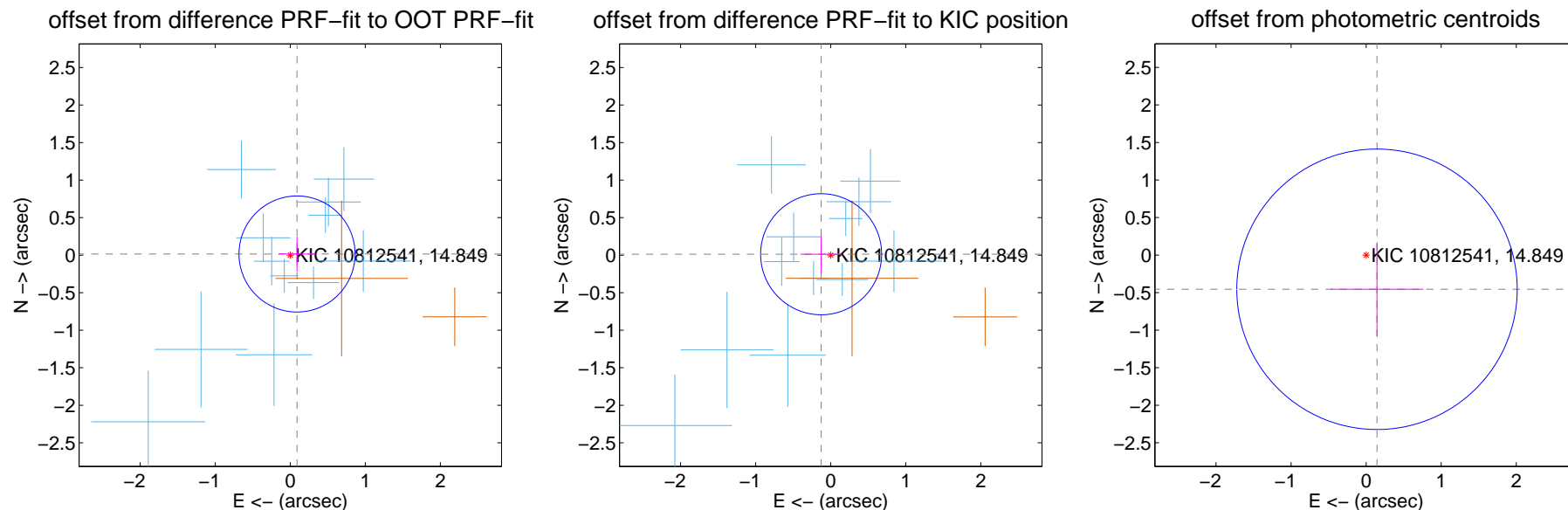
DV Centroid Data

Supplemental centroid analysis for 010812541-04. Kepler magnitude: 14.85. Transit SNR 17.65

There are 12 quarters with good PRF difference image offsets

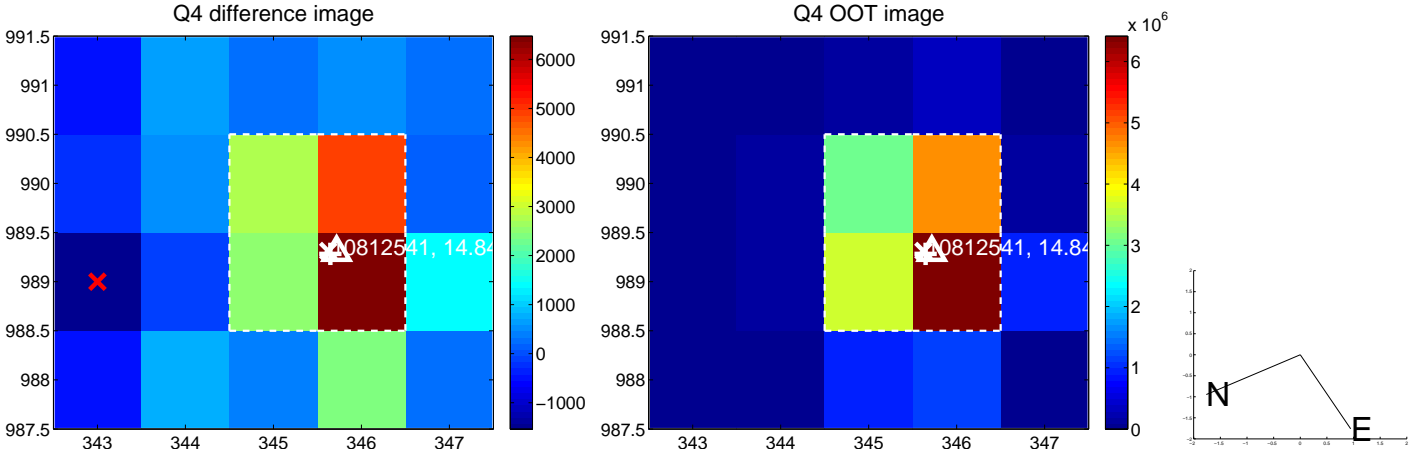
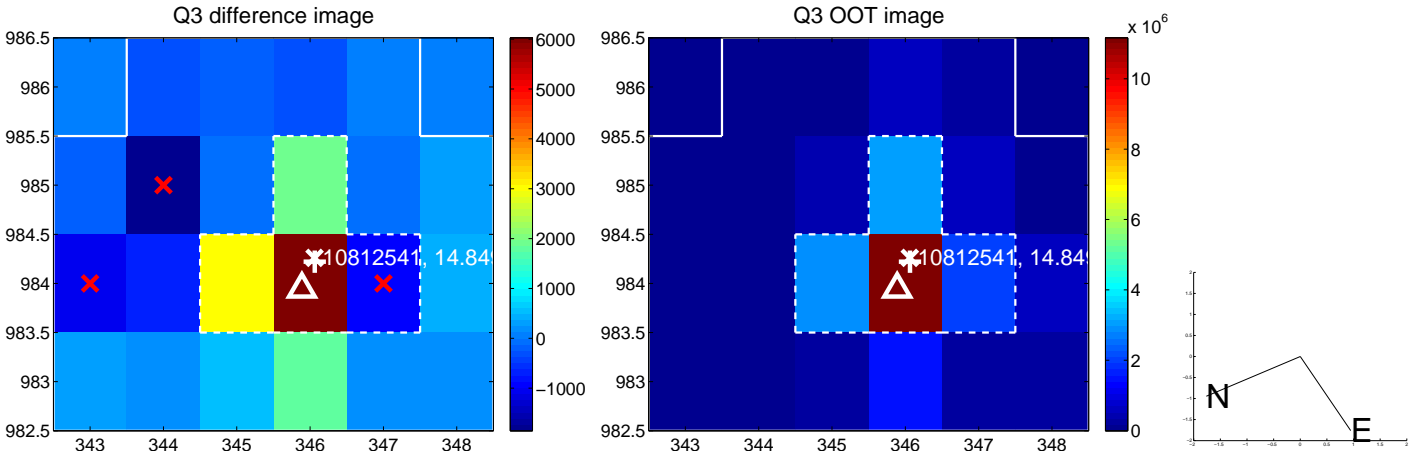
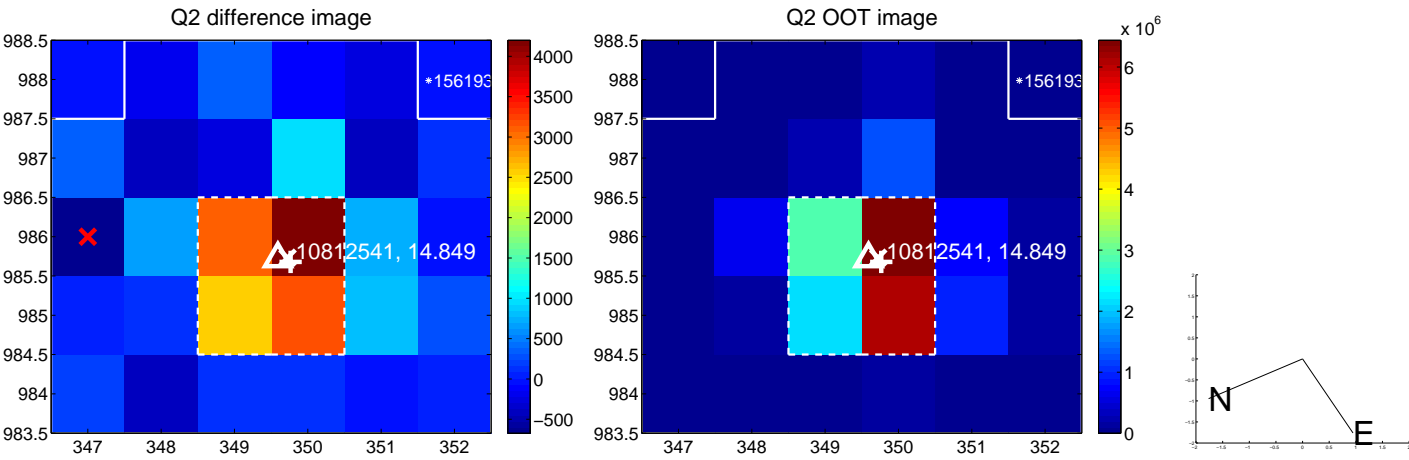
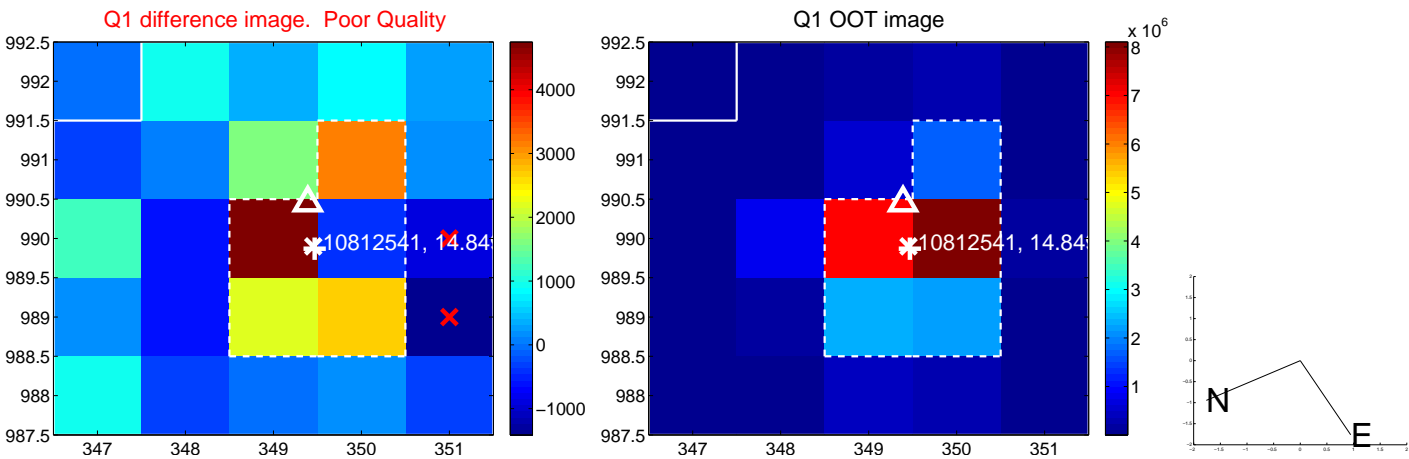
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.091 ± 0.258	0.35	-0.090 ± 0.247	0.015 ± 0.233
PRF-fit source offset from KIC position	0.128 ± 0.269	0.48	0.128 ± 0.277	0.012 ± 0.249
photometric centroid source offset	0.48 ± 0.62	0.77	-0.14 ± 0.62	-0.46 ± 0.62

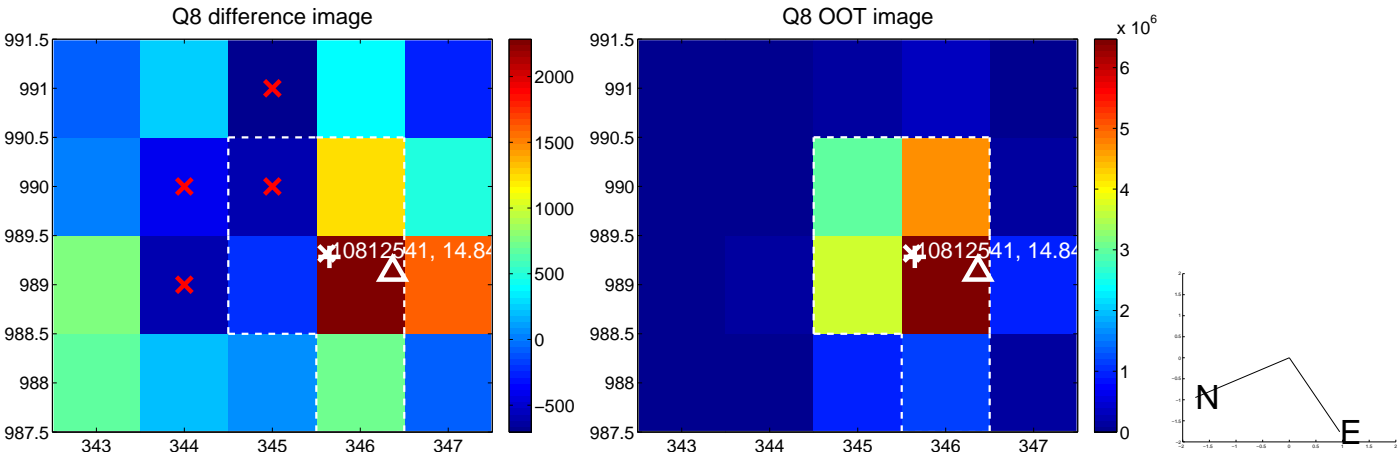
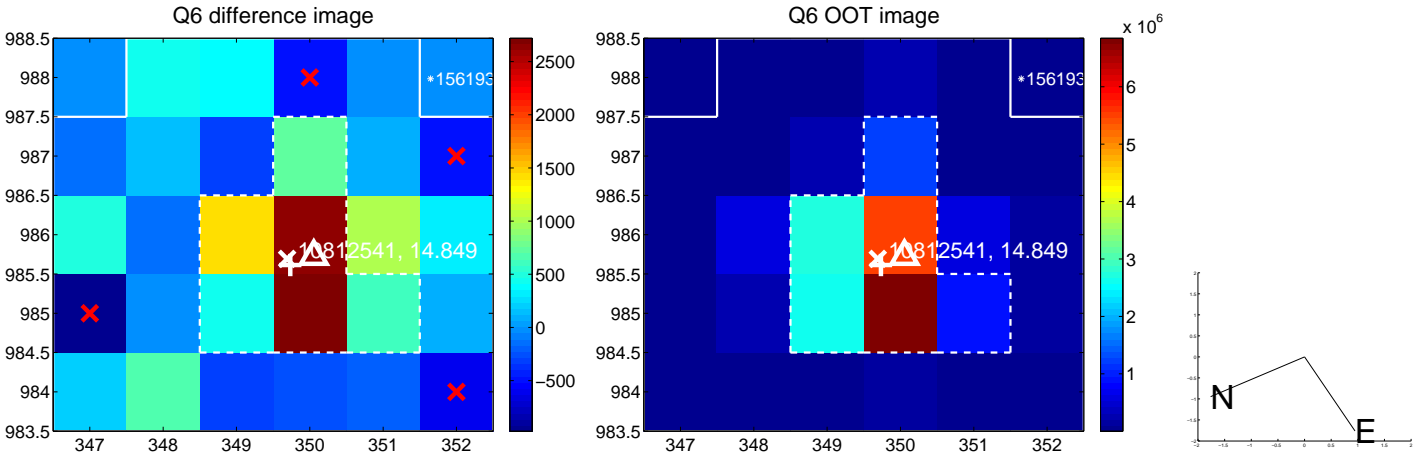
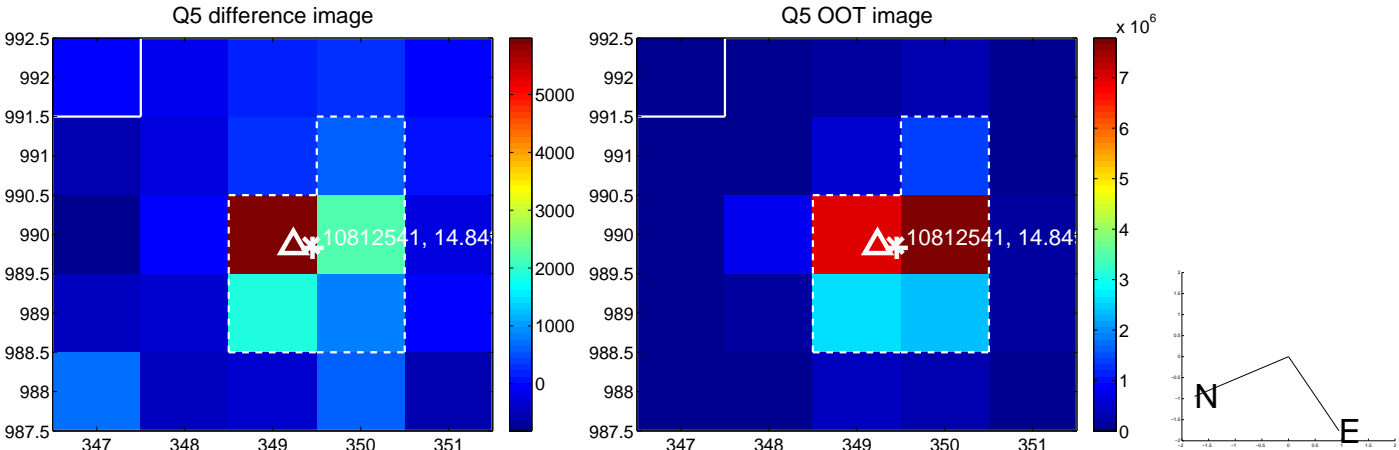


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

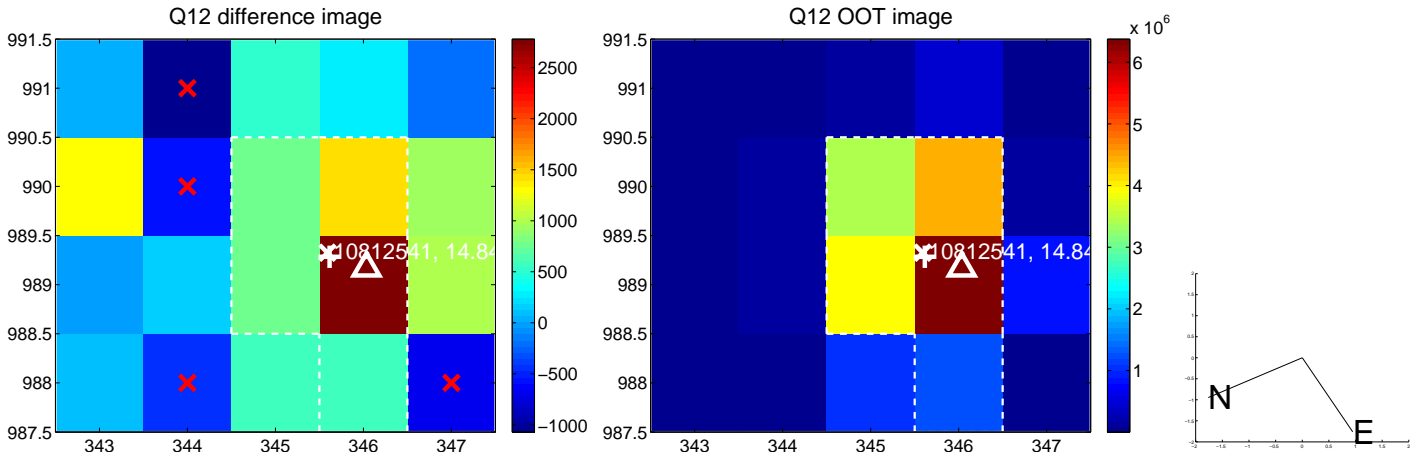
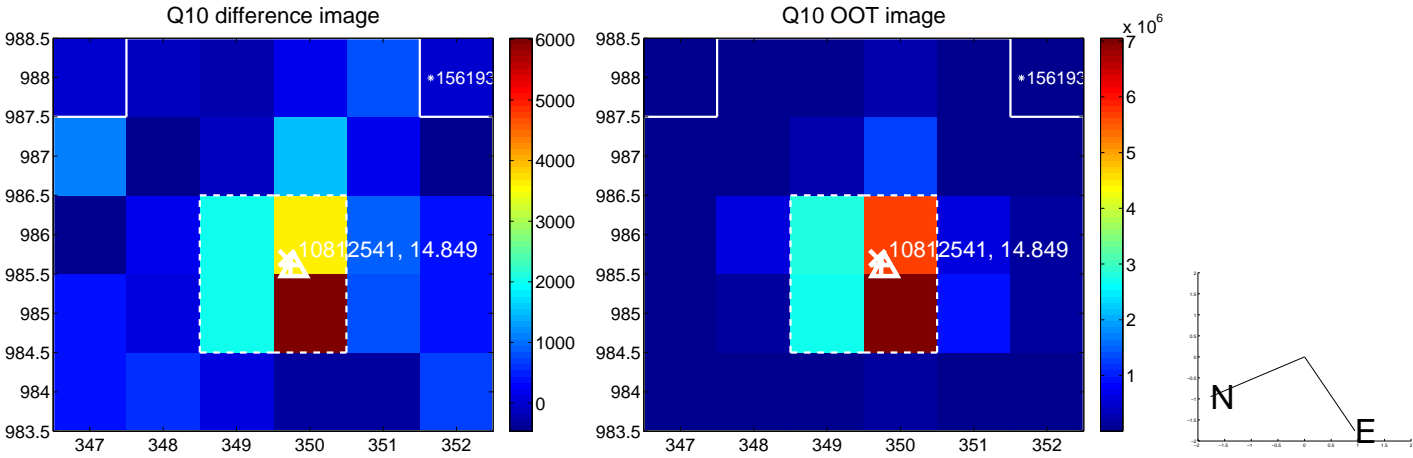
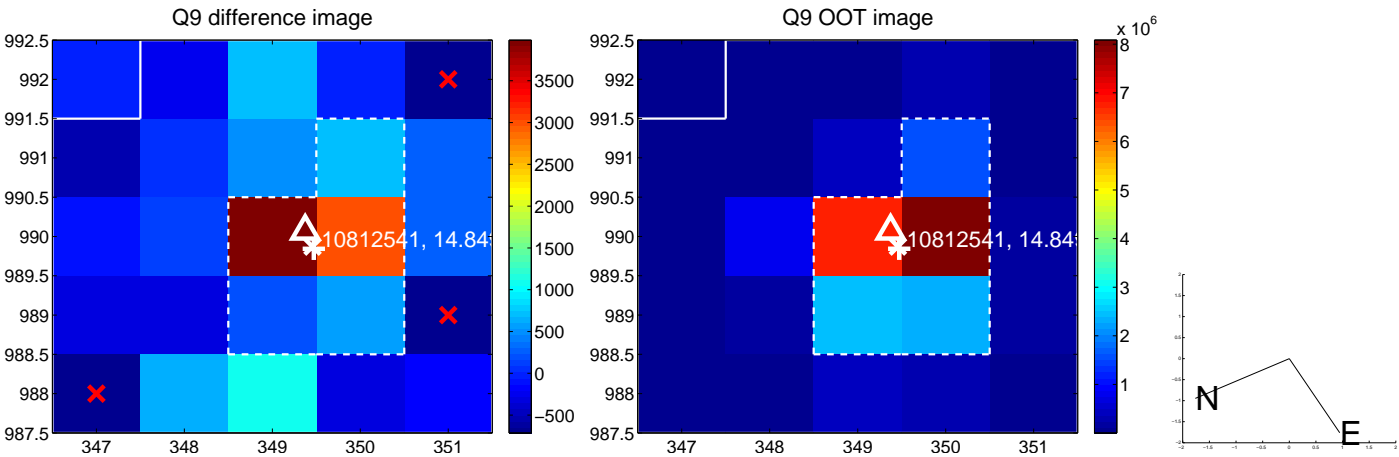
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



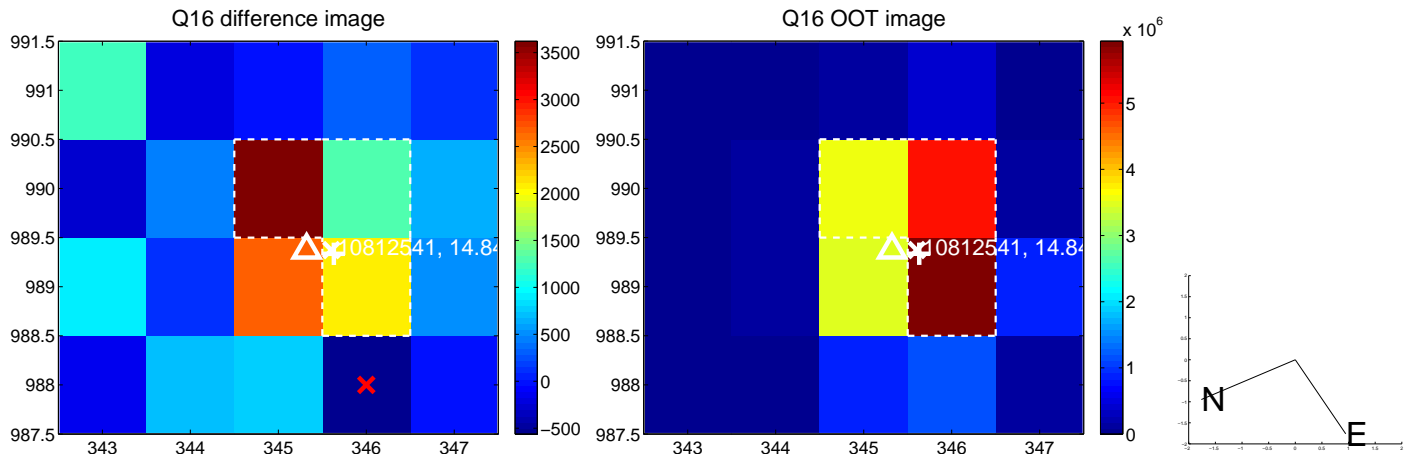
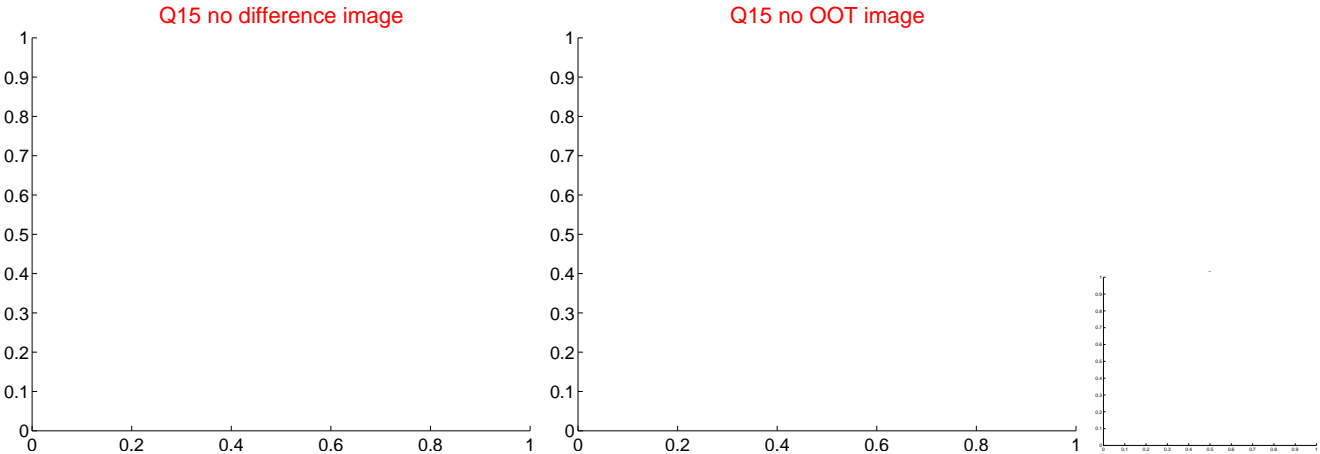
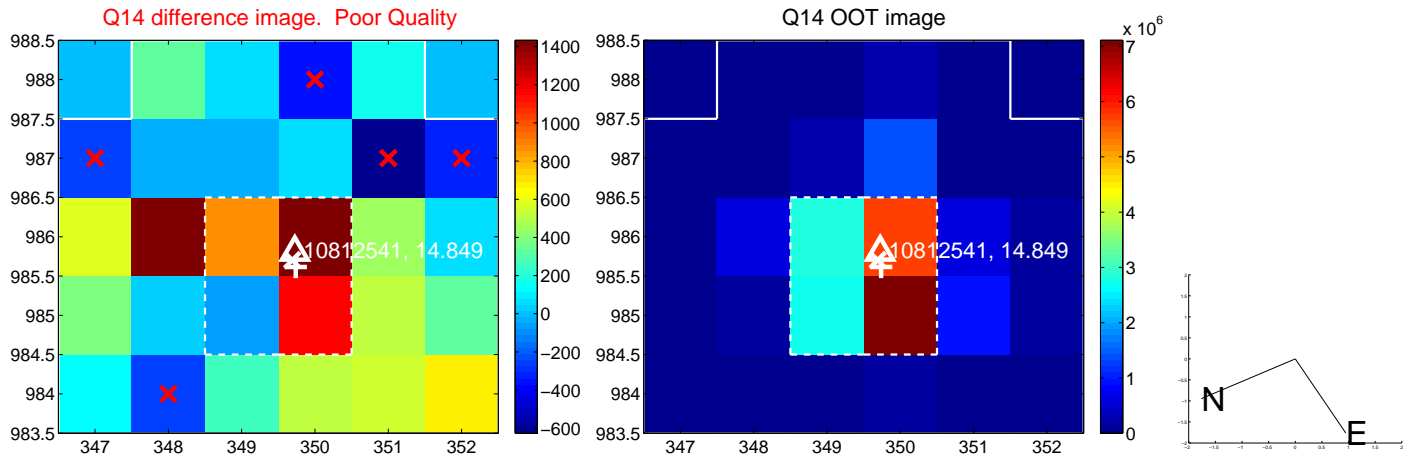
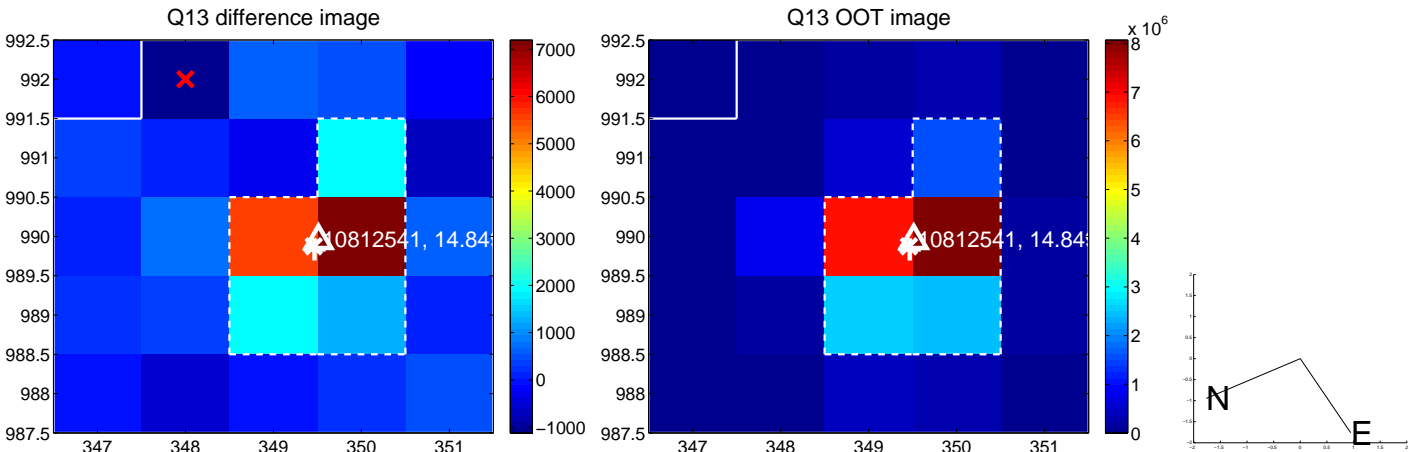
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



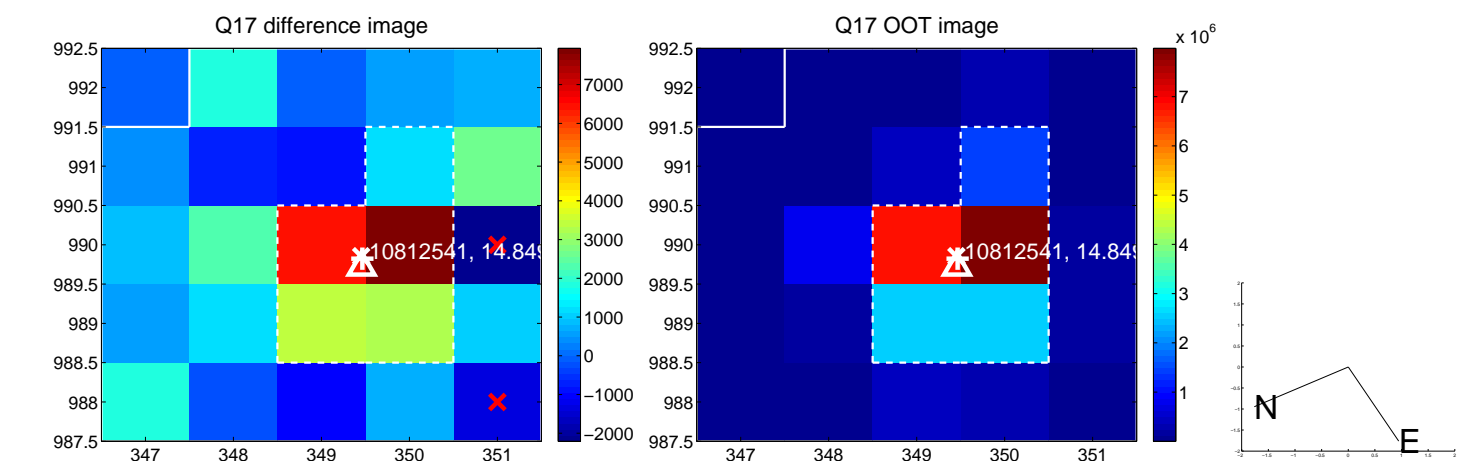
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



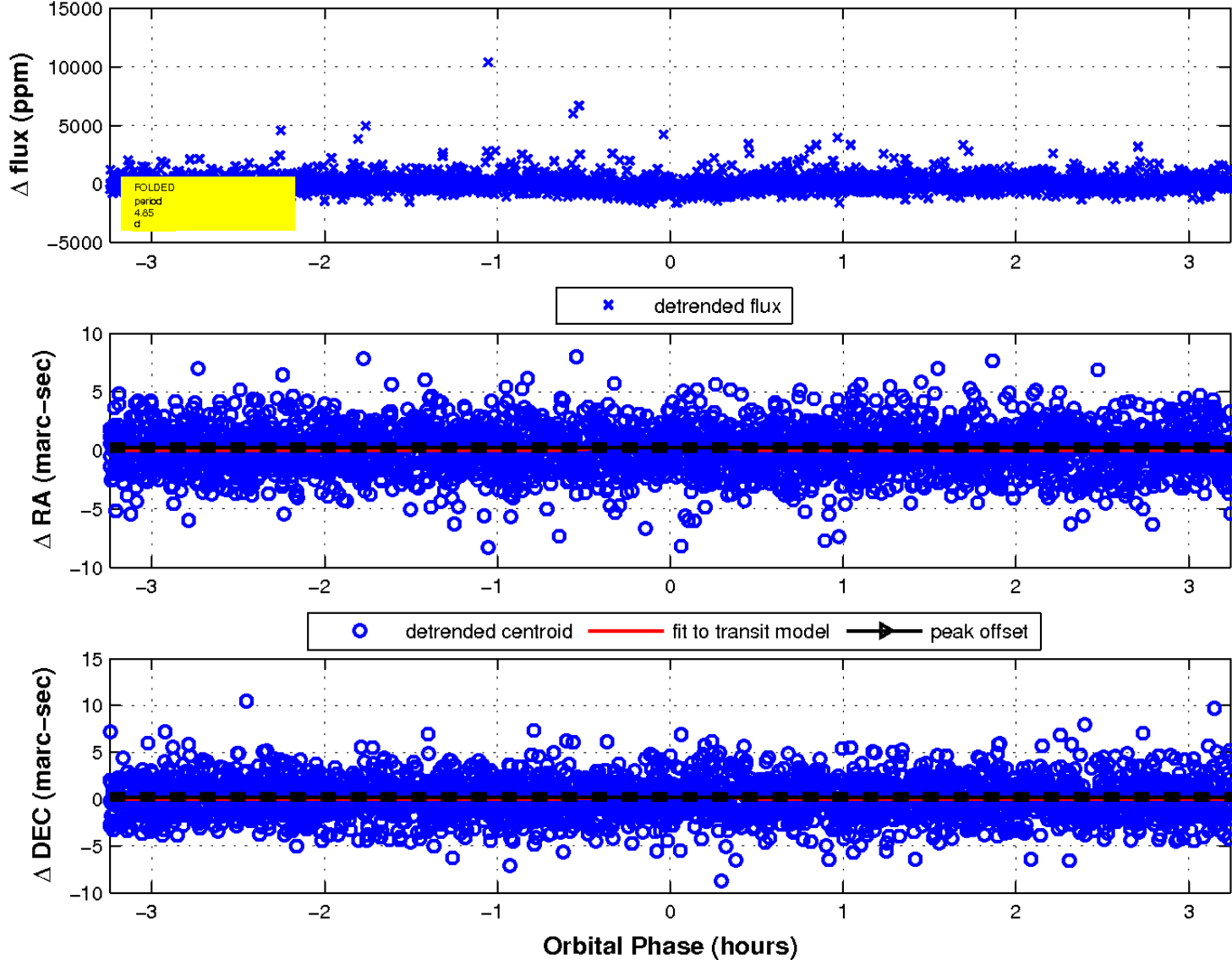
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



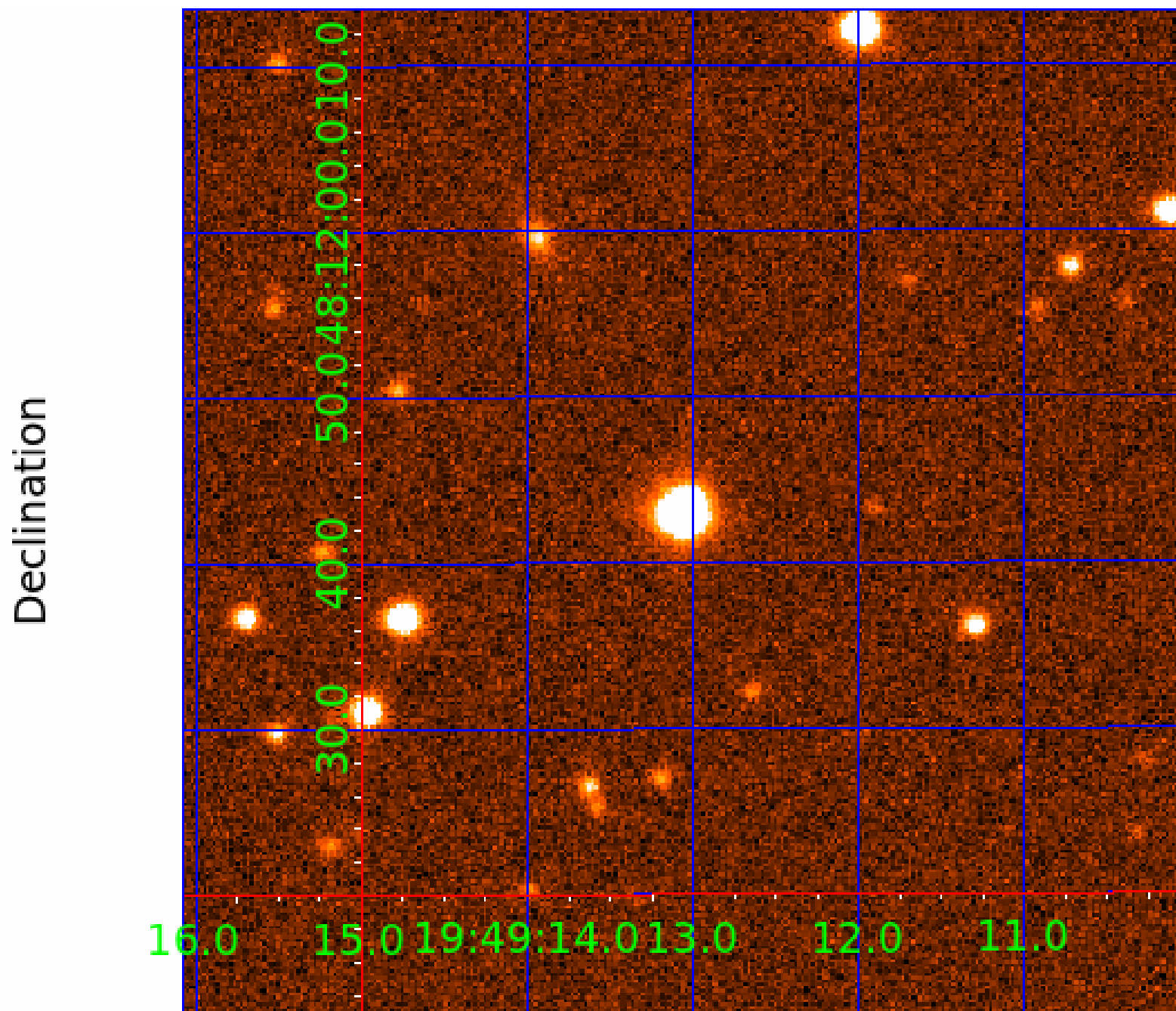
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 4 of 8



UKIRT Image



KIC 010812541

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})
010812541-01	OBS	No	668.612573	197.358439	2576.2	6.765	15.0	7.6	0.65	4137	4.38	0.07
010812541-02	OBS	No	558.645732	241.369831	2246.7	7.918	13.2	6.9	0.65	4137	3.81	0.08
010812541-03	OBS	No	447.340403	171.821794	2836.6	8.062	13.1	7.7	0.65	4137	3.30	0.11
010812541-04	OBS	7375.01	4.848501	131.905169	546.1	1.081	12.8	17.7	0.65	4137	1.88	46.86
010812541-05	OBS	No	216.318176	209.187800	1583.4	9.653	12.4	5.4	0.65	4137	2.65	0.30
010812541-06	OBS	No	252.979565	333.488781	1051.2	3.352	12.2	5.1	0.65	4137	2.40	0.24
010812541-07	OBS	No	331.622401	236.616663	1344.3	3.160	11.3	6.3	0.65	4137	2.67	0.17
010812541-08	OBS	No	227.094881	333.503546	1715.7	3.500	15.5	-1.0	0.65	4137	2.57	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010812541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010812541-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

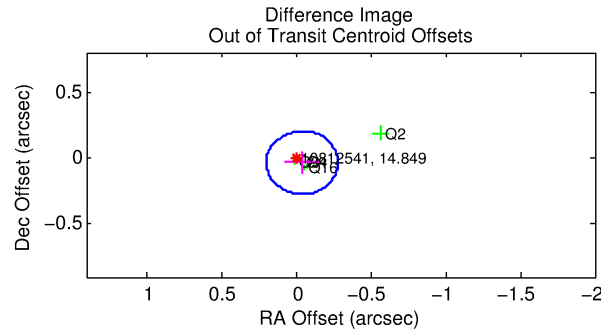
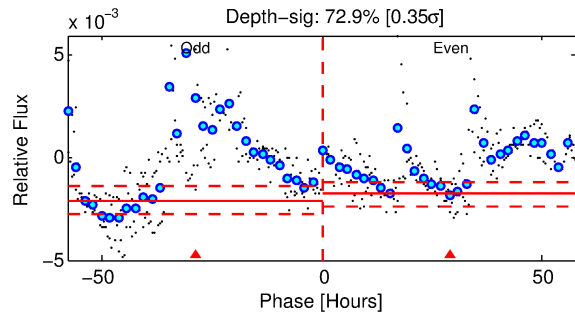
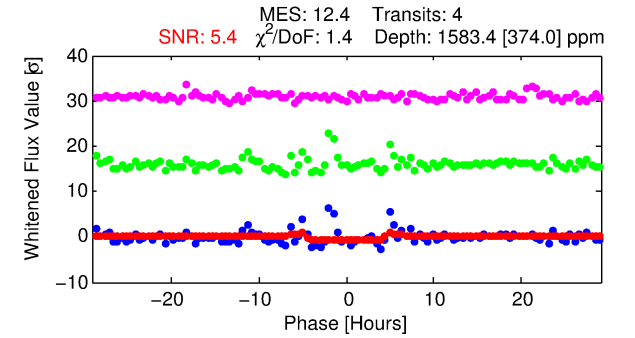
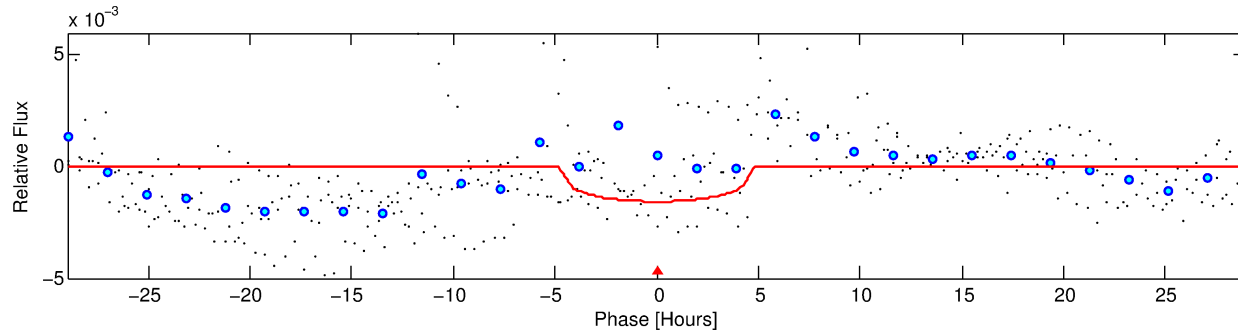
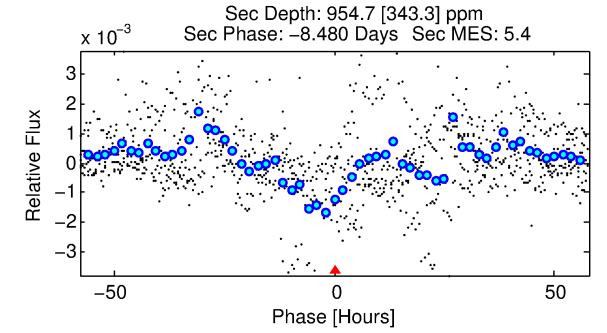
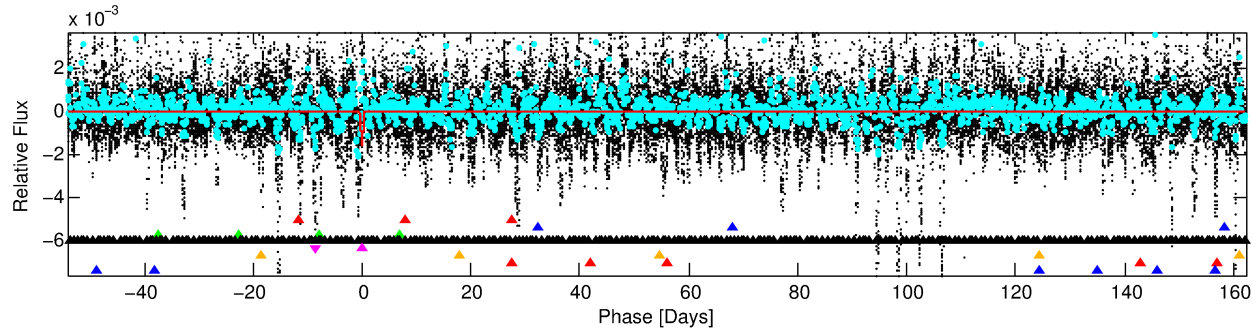
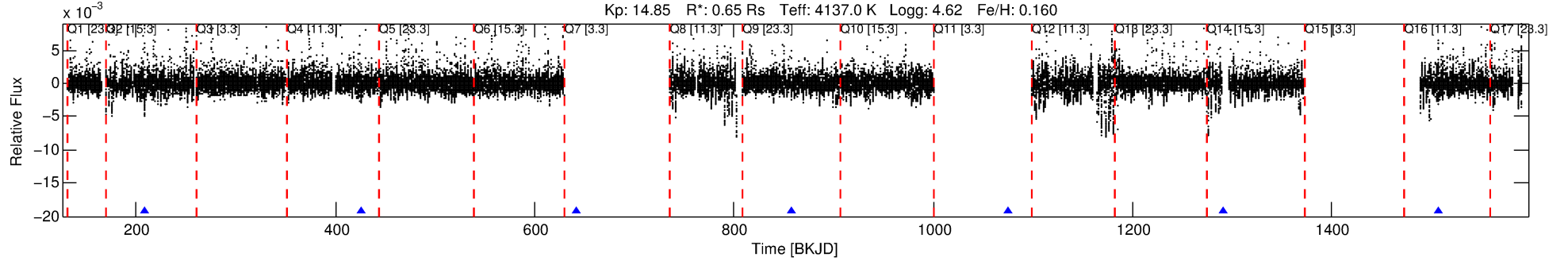
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010812541-05

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 5 of 8 Period: 216.318 d
KOI: K07375 Corr: No Ephemeris Match



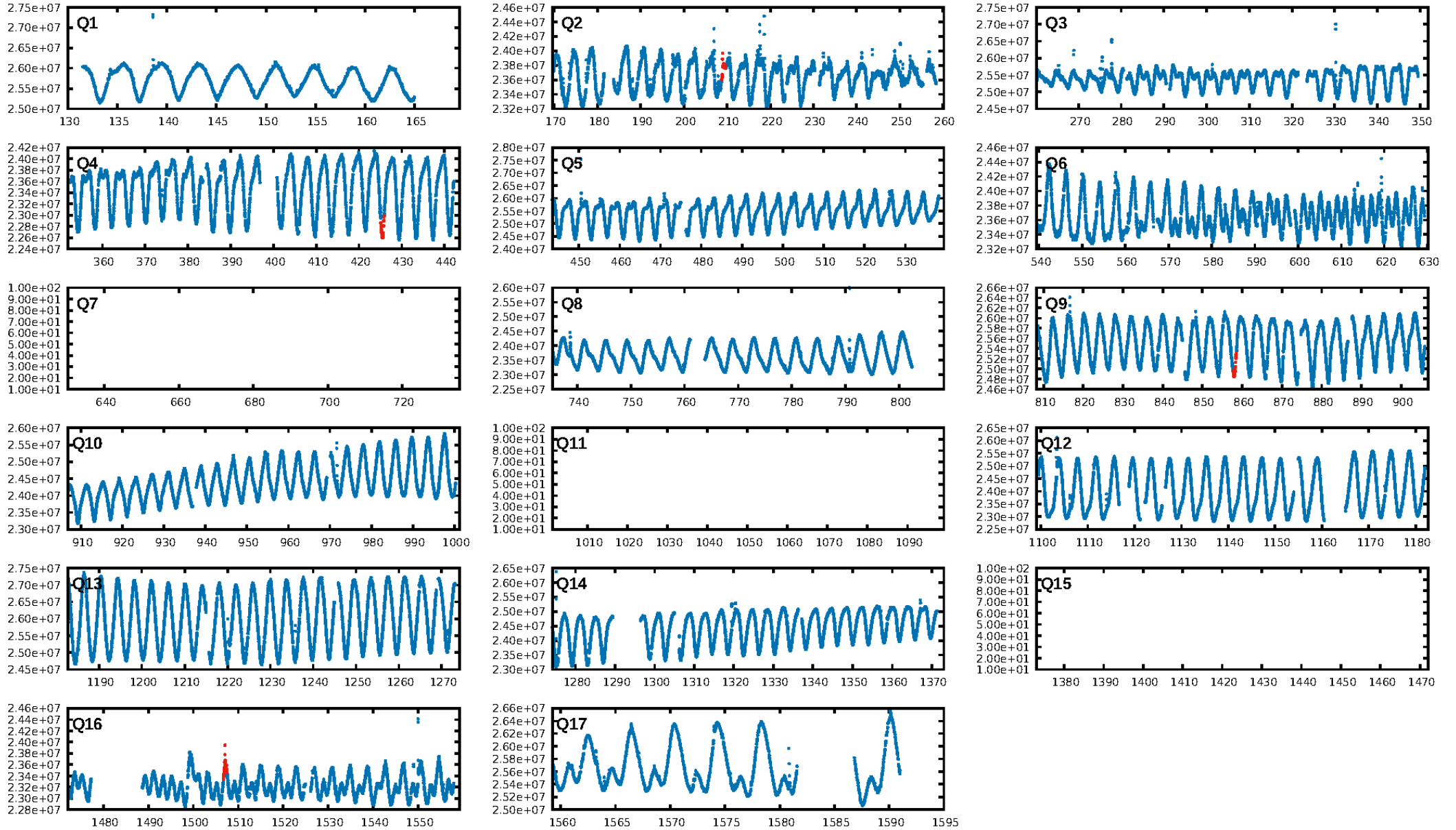
DV Fit Results:

Period = 216.31818 [0.00339] d
Epoch = 209.1878 [0.0115] BKJD
Rp/R* = 0.0375 [0.0160]
a/R* = 145.75 [185.81]
b = 0.59 [1.41]
Seff = 0.30 [0.05]
Teq = 188 [8] K
Rp = 2.65 [1.16] Re
a = 0.6091 [0.0440] AU
Ag = 27850.09 [26000.67] [1.07 σ]
Teffp = 3757 [882] K [4.05 σ]

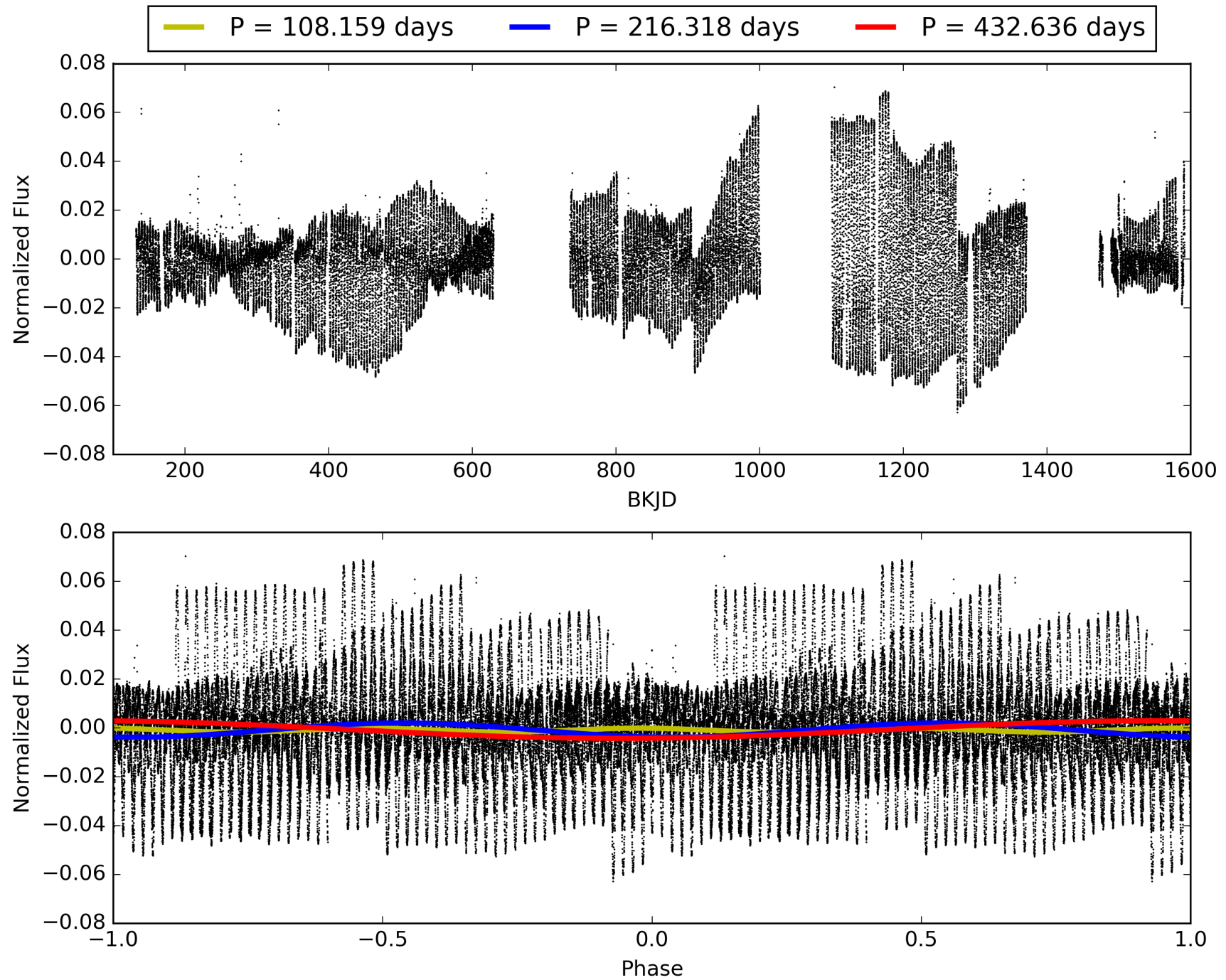
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [522.49 σ]
LongPeriod-sig: 100.0% [25.19 σ]
ModelChiSquare2-sig: 2.6%
ModelChiSquareGof-sig: 80.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.29
Centroid-sig: 63.1%
Centroid-so: 0.635 arcsec [1.07 σ]
OotOffset-rm: 0.055 arcsec [0.68 σ]
OotOffset-st: 1/0/2/1 [4]
KicOffset-rm: 0.144 arcsec [1.16 σ]
KicOffset-st: 1/0/2/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.75 [3/4]

TCE 010812541-05, PDC Light Curves

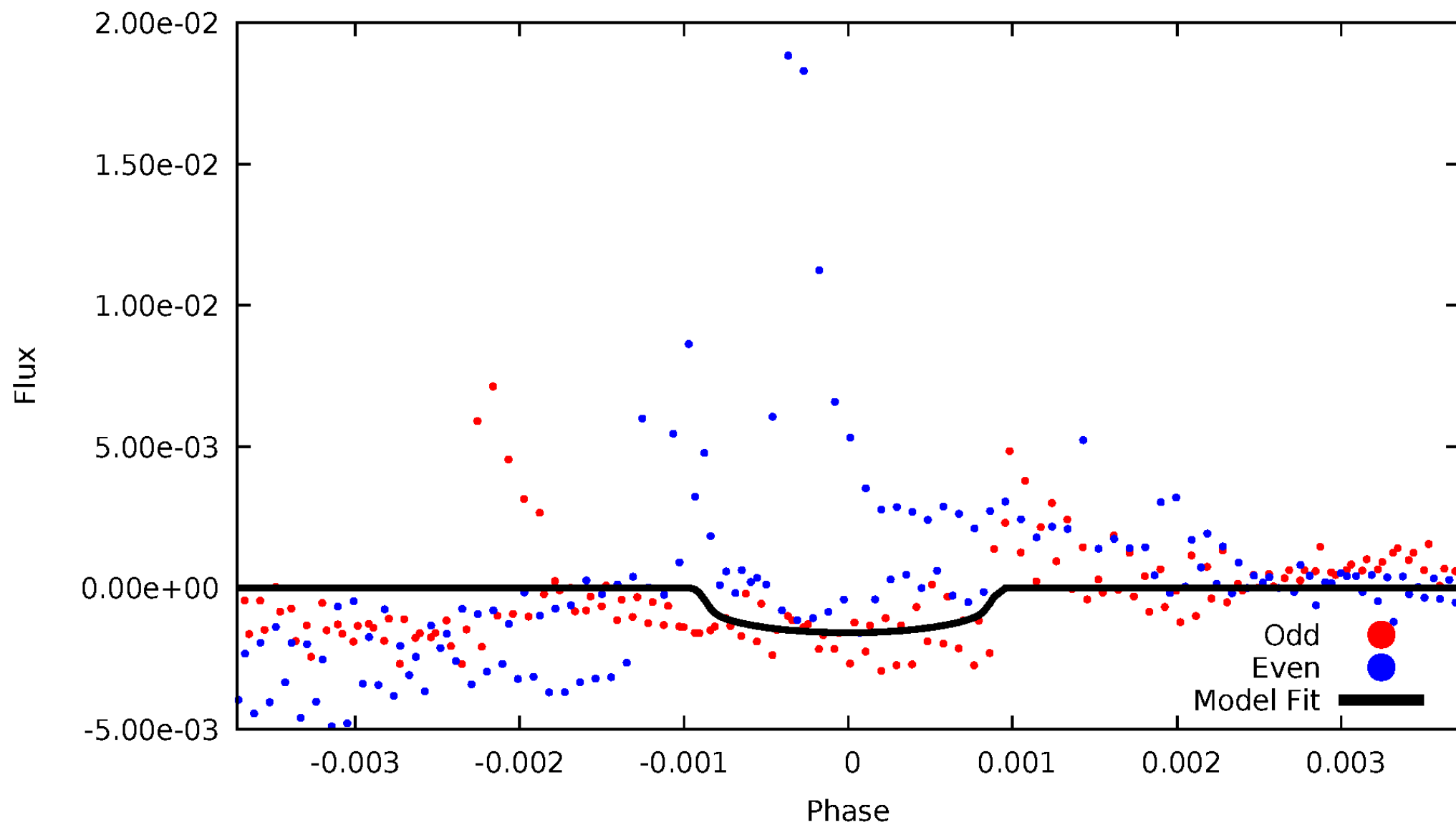


TCE 010812541-05



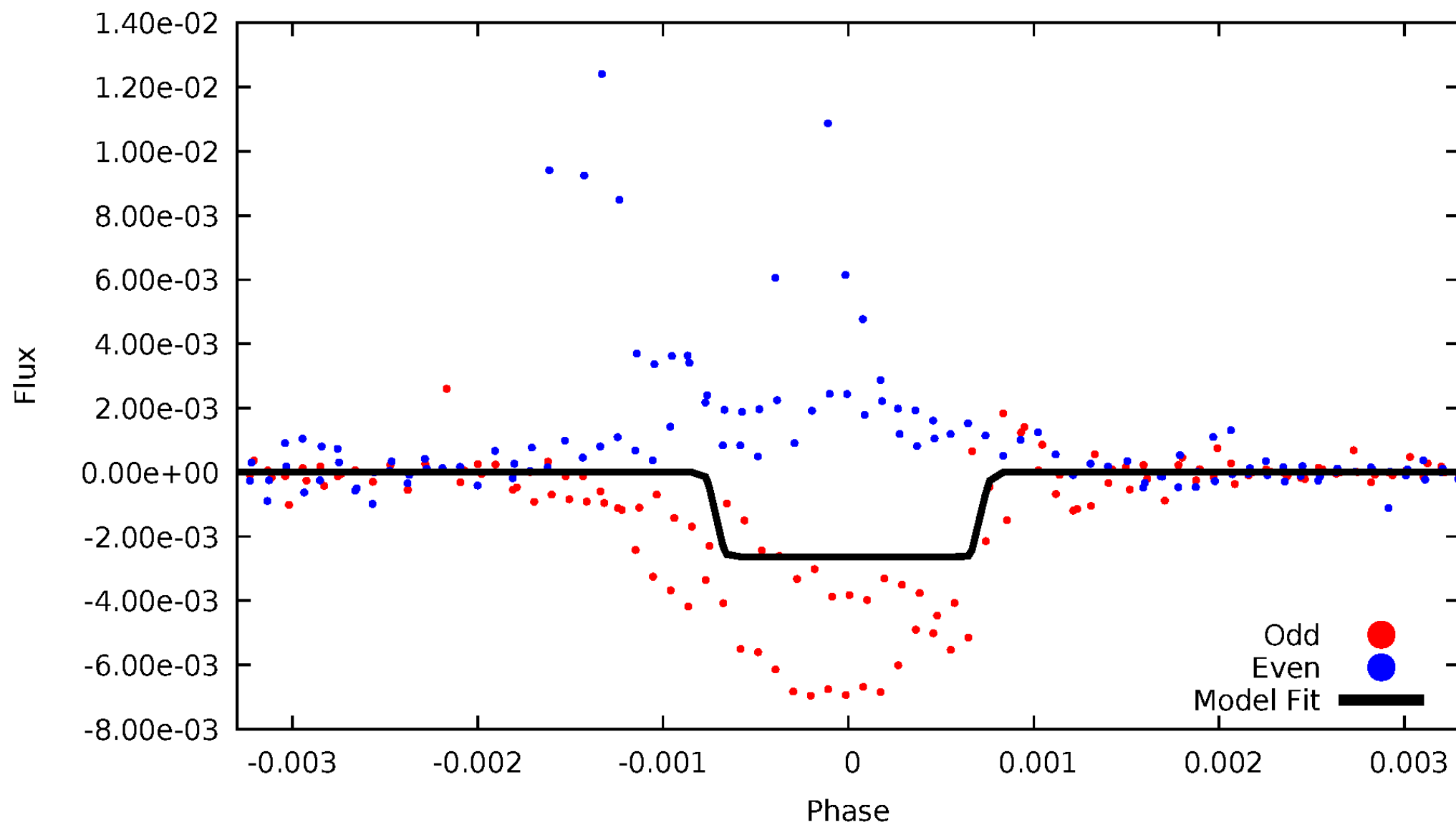
DV Odd/Even

TCE 010812541-05

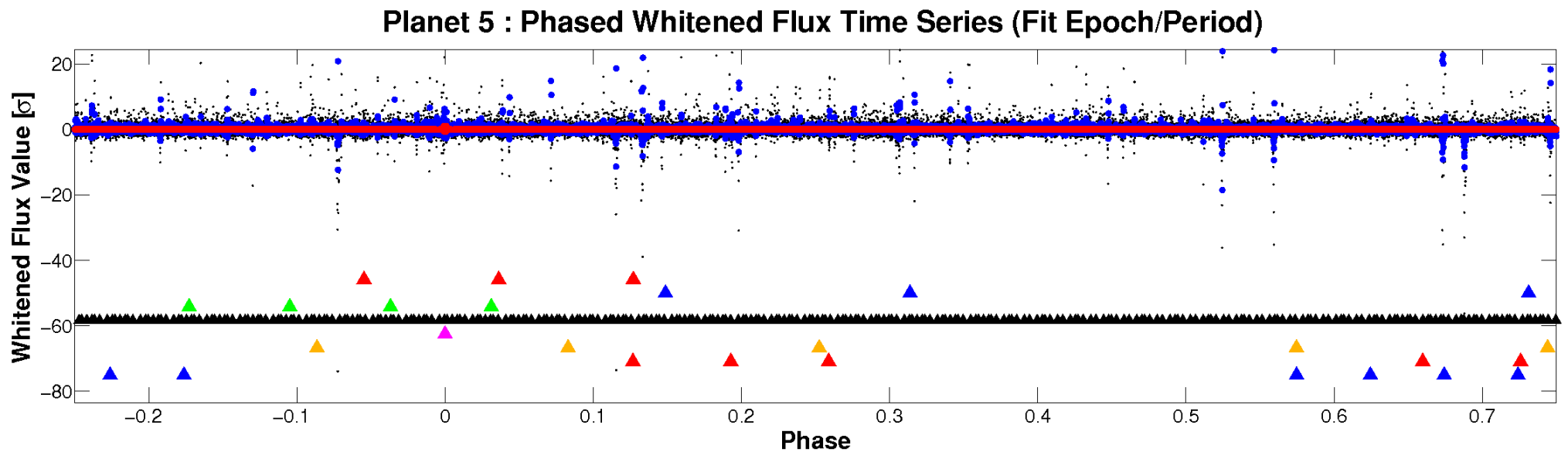
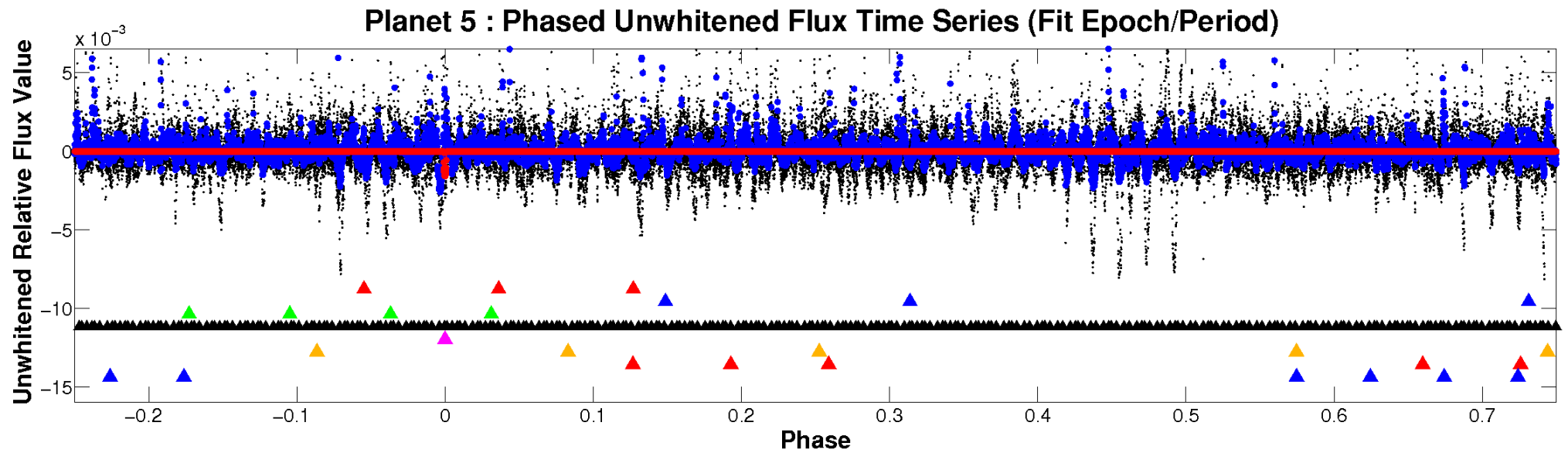


ALT Odd/Even

TCE 010812541-05

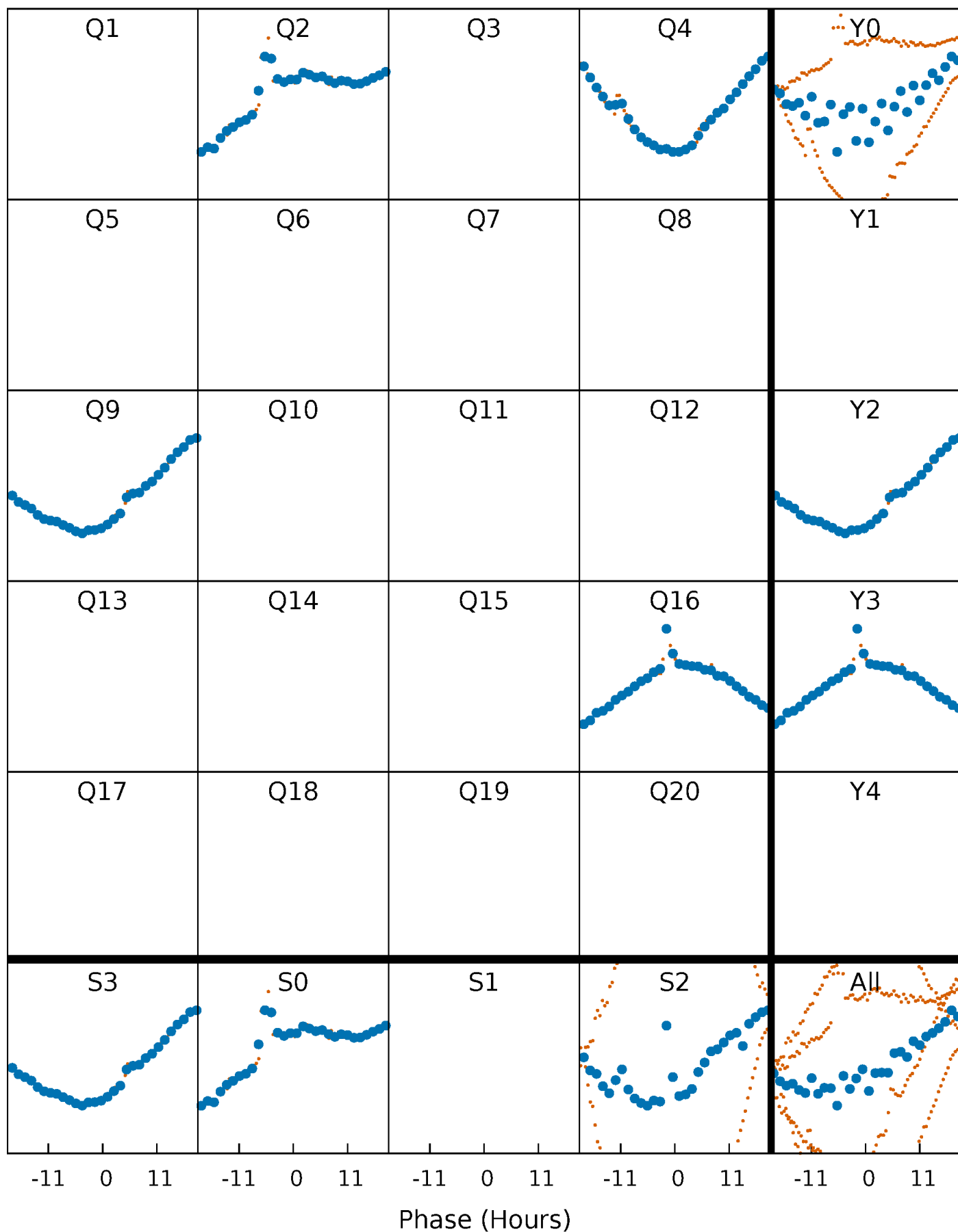


Non-Whitened Vs. Whitened Light Curve



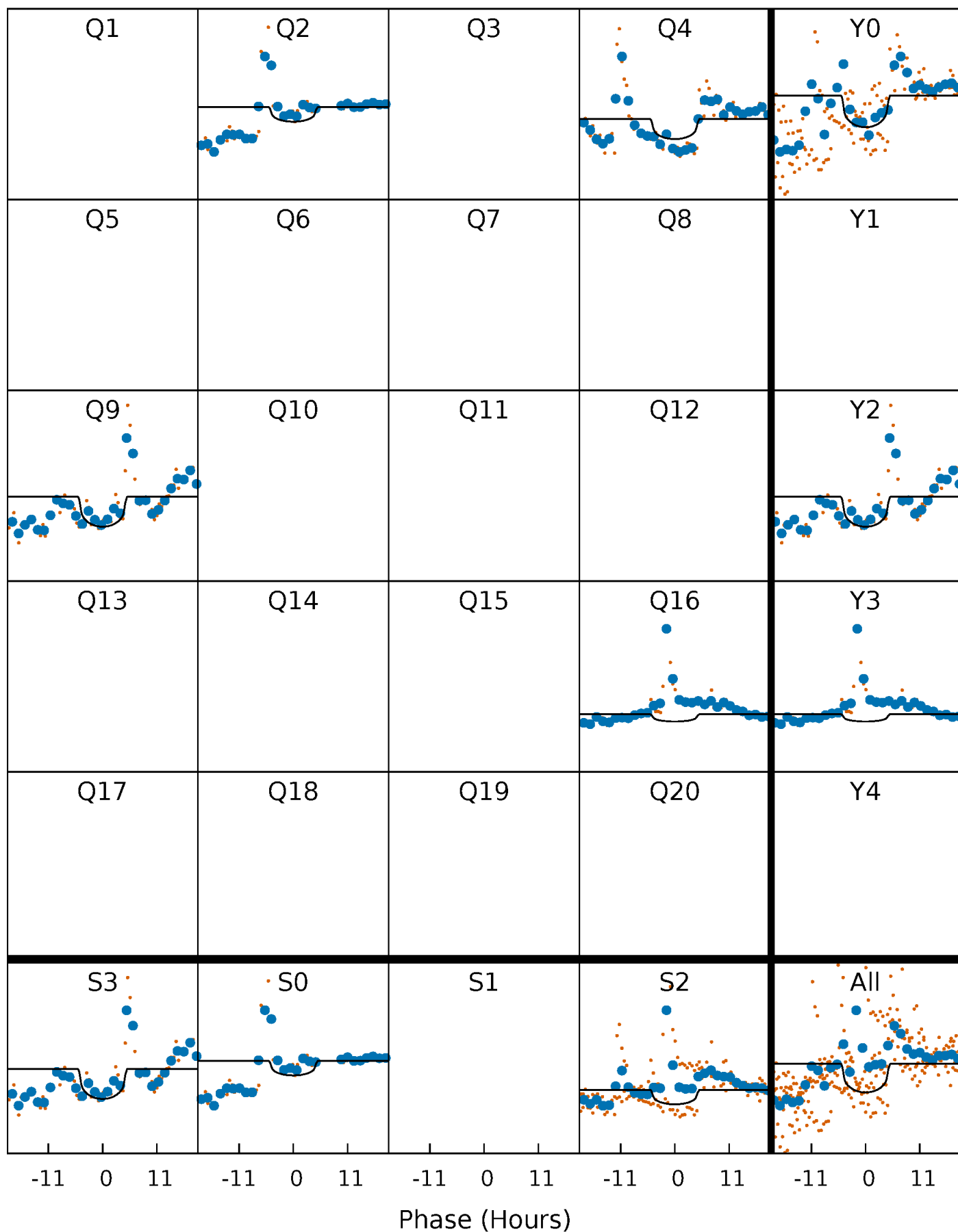
PDC Quarter-Phased Transit Curves

TCE 010812541-05 P=216.318176 Days $T_0=209.187800$ (BKJD)



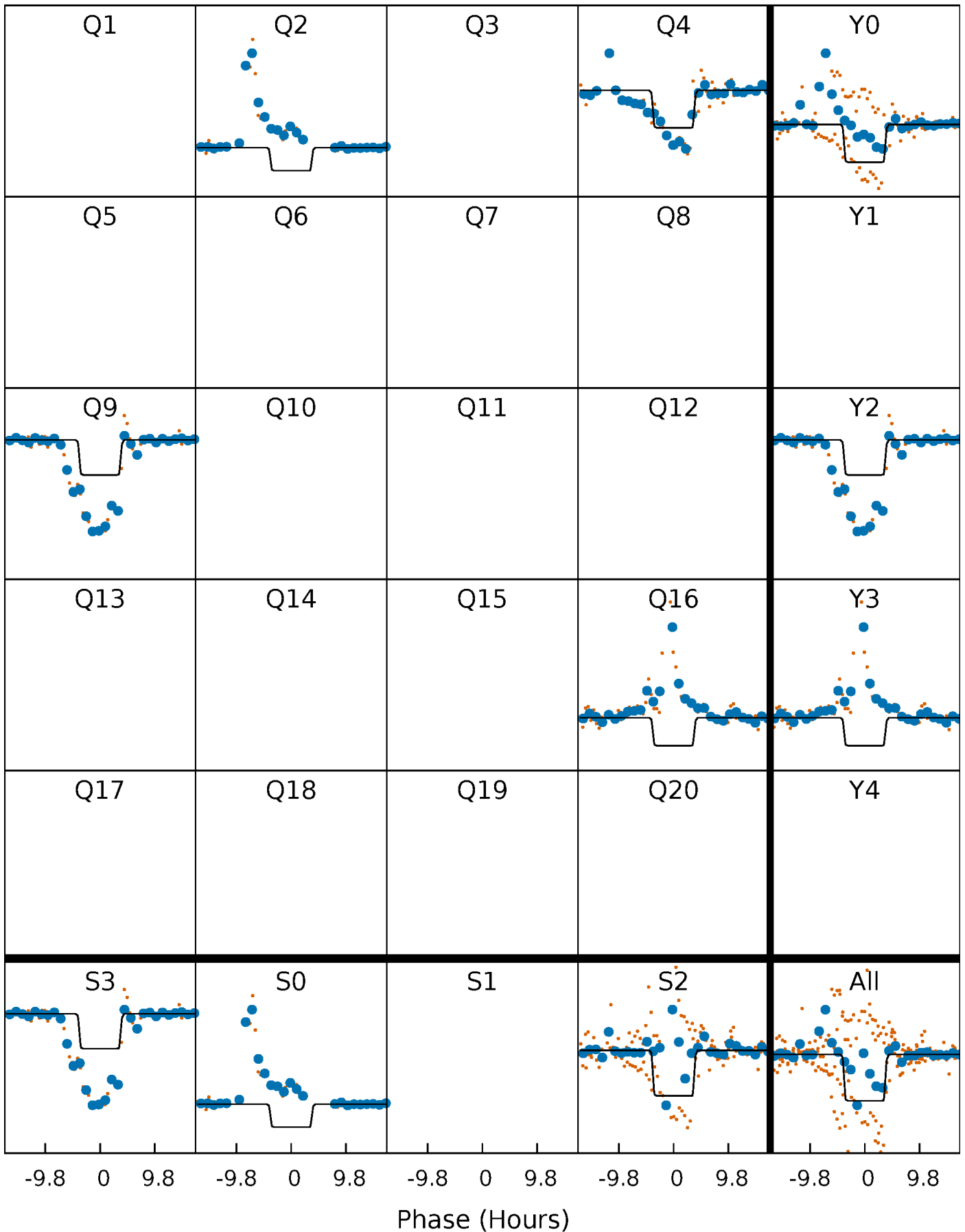
DV Quarter-Phased Transit Curves

TCE 010812541-05 $P=216.318176$ Days $T_0=209.187800$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

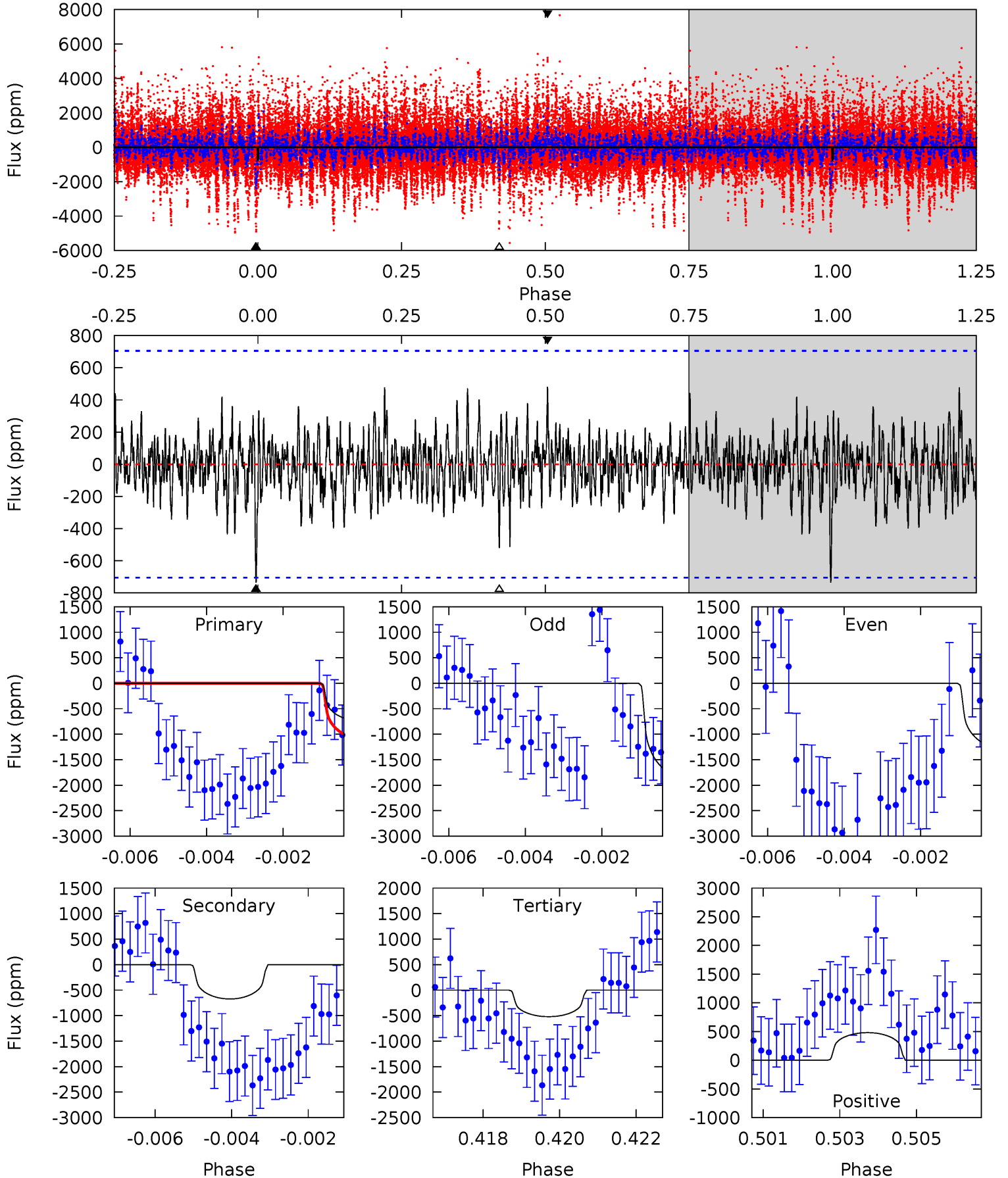
TCE 010812541-05 $P=216.302855$ Days $T_0=209.265285$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-05, P = 216.318176 Days, E = 209.187800 Days

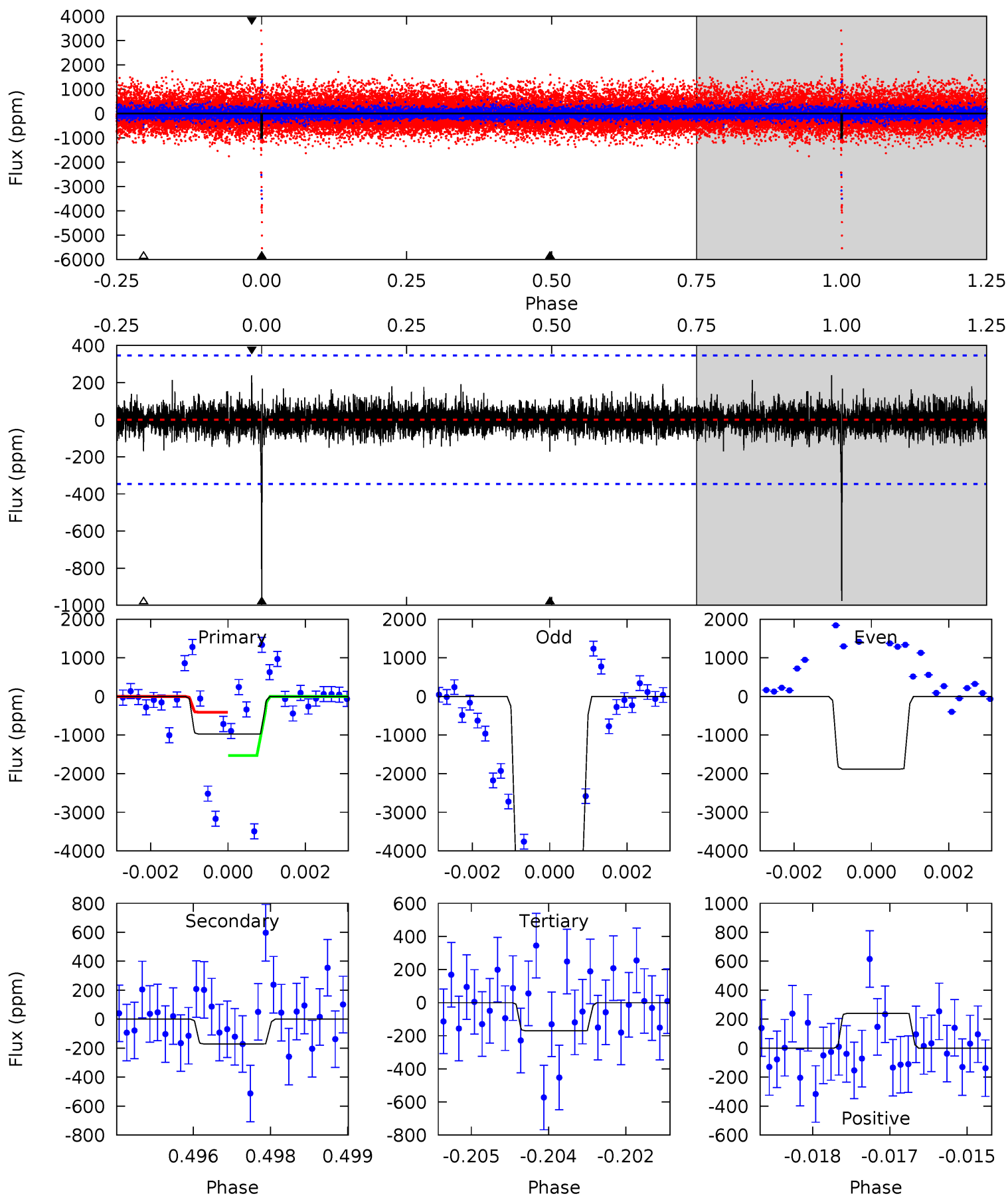
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.56	5.09	3.94	3.64	5.33	3.10	1.10	1.62	1.92	1.16	1.45	2.00	-0.79	0.40	2.39



Alt Model-Shift Uniqueness Test

010812541-05, P = 216.302855 Days, E = 209.265285 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	2.66	2.64	3.73	5.37	3.17	0.68	12.5	11.4	0.02	-1.07	28.1	1.65	0.20	8.25



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-673 ± 132	$2.66^{+1.08}_{-1.07}$	261^{+10}_{-10}	3623^{+828}_{-401}	19770^{+40644}_{-10321}
Alt.	-171 ± 64	$3.54^{+1.13}_{-1.05}$	261^{+10}_{-10}	2706^{+310}_{-230}	2660^{+3031}_{-1315}

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

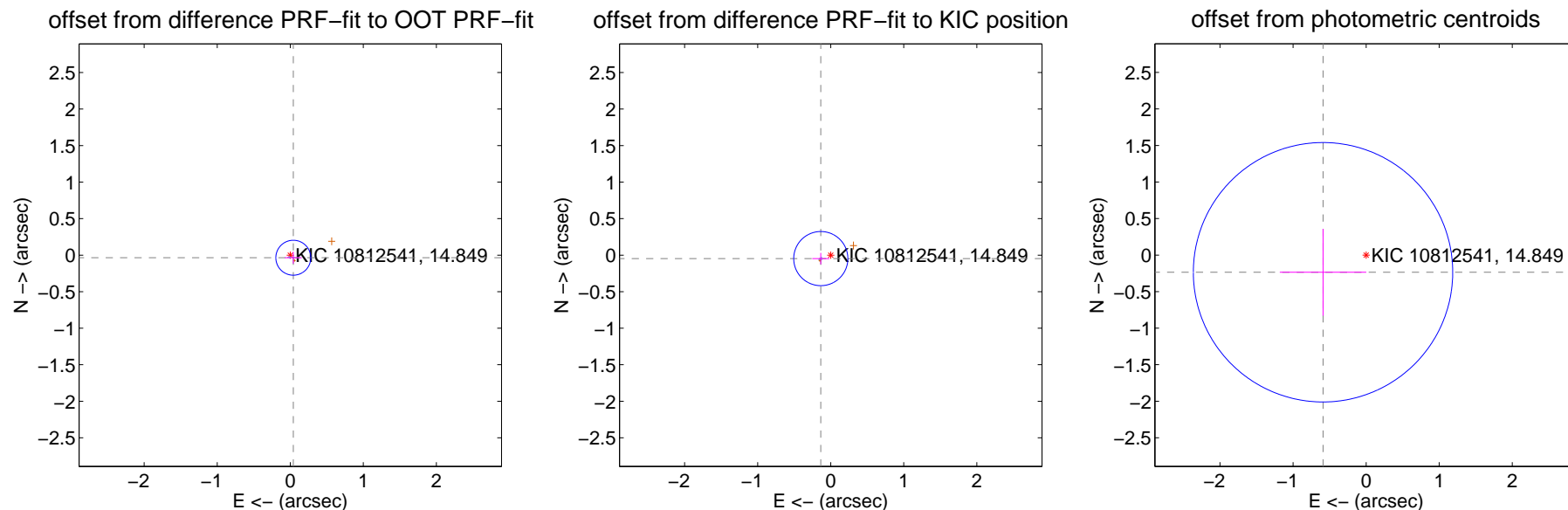
DV Centroid Data

Supplemental centroid analysis for 010812541-05. Kepler magnitude: 14.85. Transit SNR 5.44

There are 2 quarters with good PRF difference image offsets

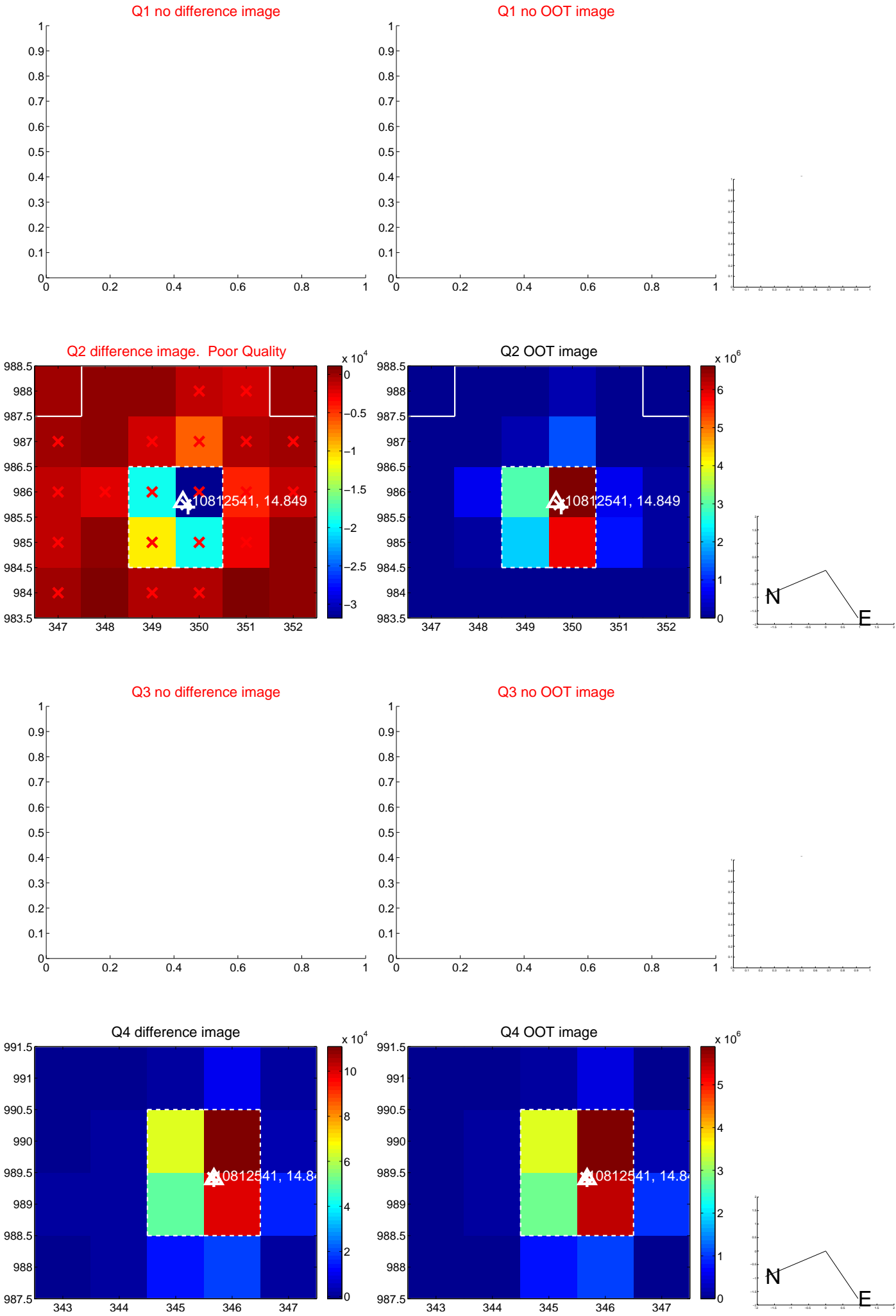
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.055 ± 0.080	0.68	-0.042 ± 0.114	-0.035 ± 0.081
PRF-fit source offset from KIC position	0.144 ± 0.124	1.16	0.136 ± 0.117	-0.047 ± 0.078
photometric centroid source offset	0.63 ± 0.59	1.07	0.59 ± 0.59	-0.24 ± 0.59



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.

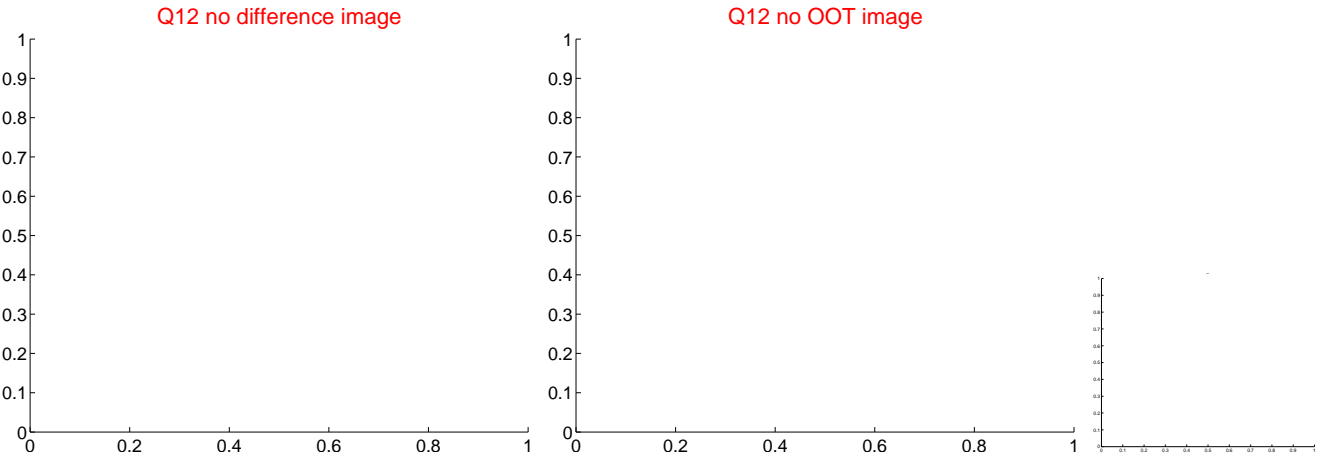
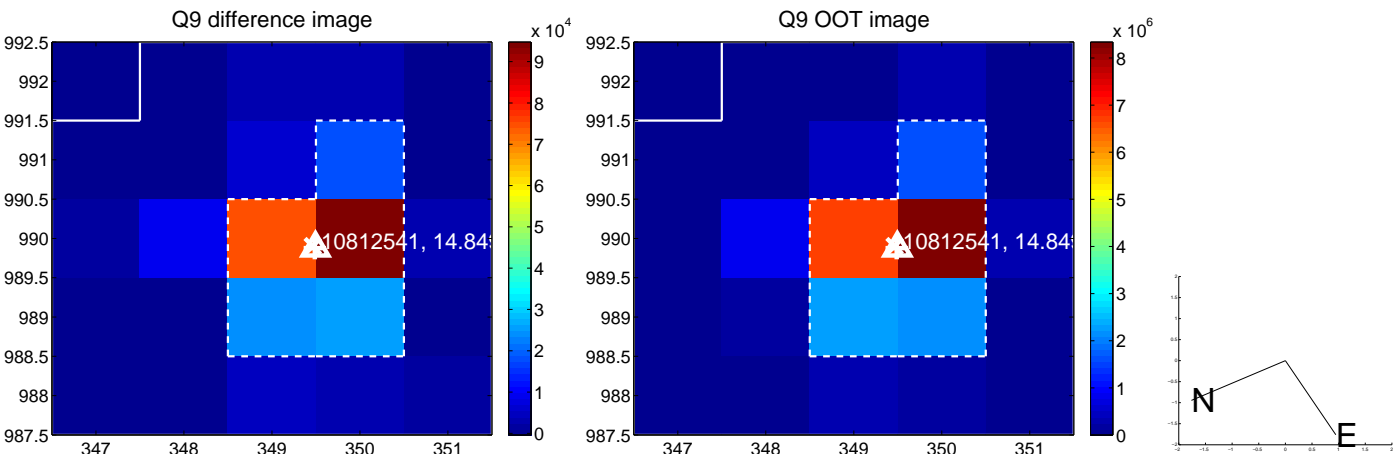
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



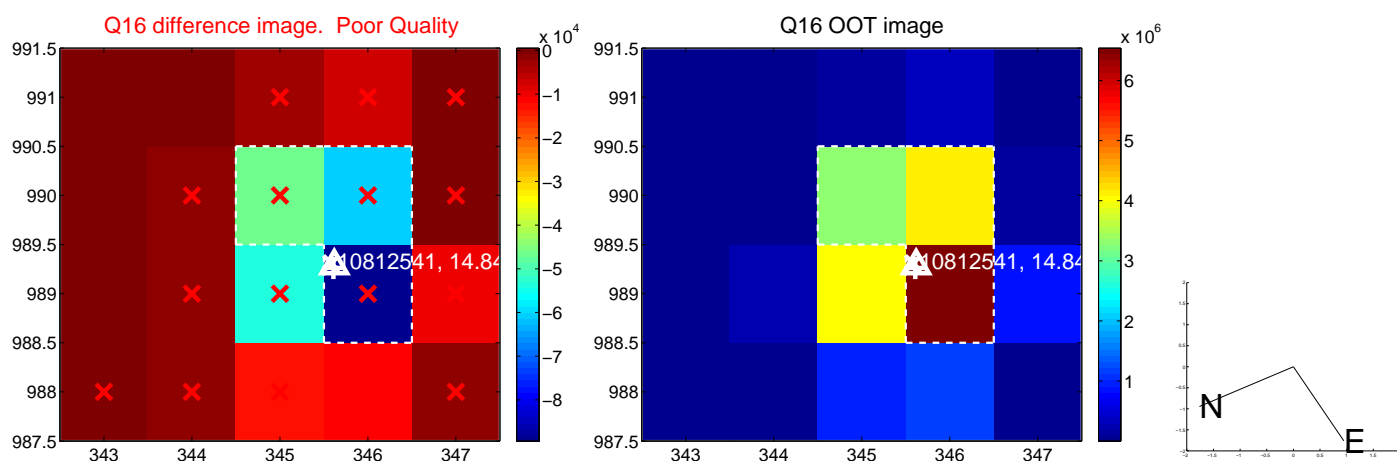
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



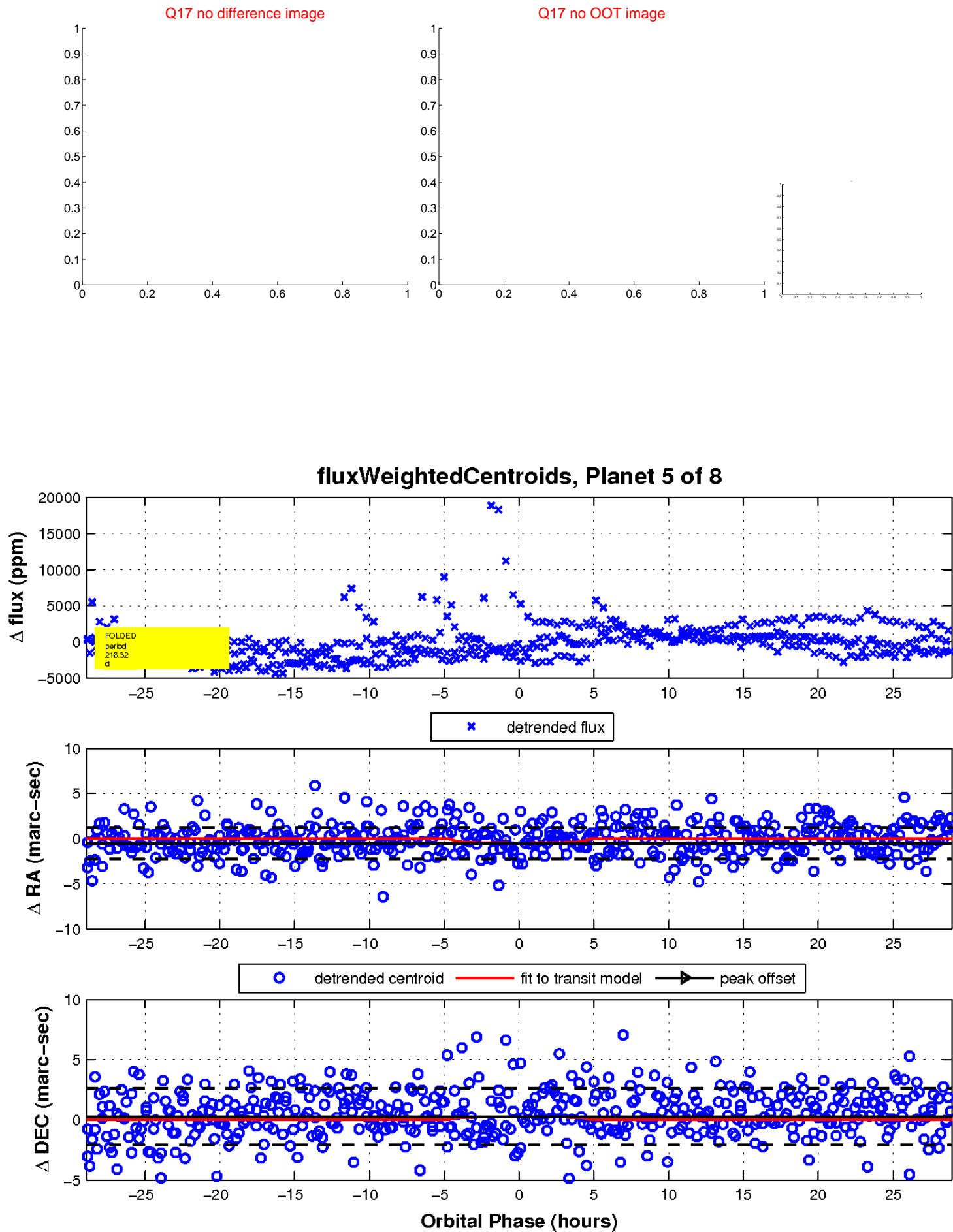
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



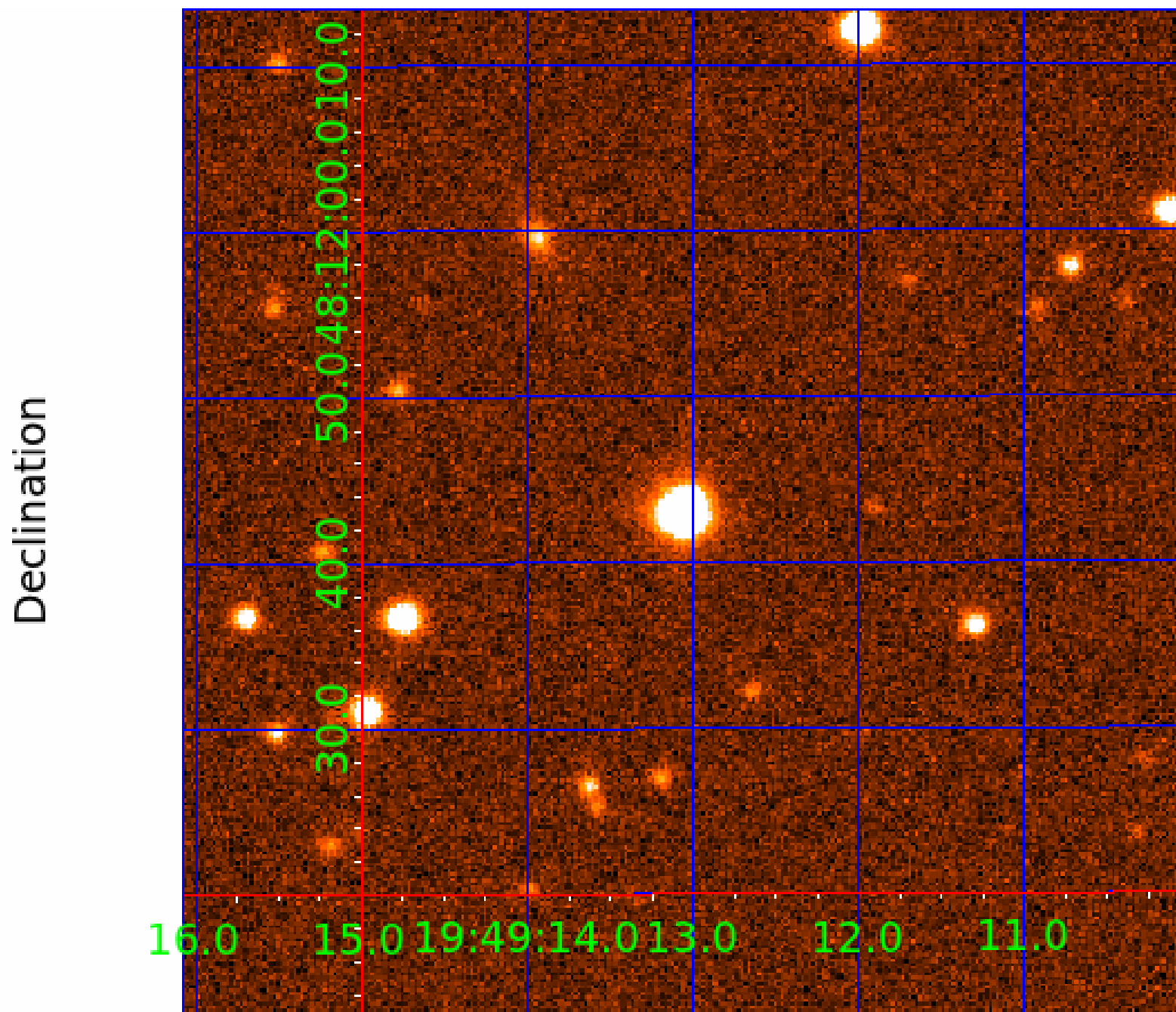
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 010812541

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})
010812541-01	OBS	No	668.612573	197.358439	2576.2	6.765	15.0	7.6	0.65	4137	4.38	0.07
010812541-02	OBS	No	558.645732	241.369831	2246.7	7.918	13.2	6.9	0.65	4137	3.81	0.08
010812541-03	OBS	No	447.340403	171.821794	2836.6	8.062	13.1	7.7	0.65	4137	3.30	0.11
010812541-04	OBS	7375.01	4.848501	131.905169	546.1	1.081	12.8	17.7	0.65	4137	1.88	46.86
010812541-05	OBS	No	216.318176	209.187800	1583.4	9.653	12.4	5.4	0.65	4137	2.65	0.30
010812541-06	OBS	No	252.979565	333.488781	1051.2	3.352	12.2	5.1	0.65	4137	2.40	0.24
010812541-07	OBS	No	331.622401	236.616663	1344.3	3.160	11.3	6.3	0.65	4137	2.67	0.17
010812541-08	OBS	No	227.094881	333.503546	1715.7	3.500	15.5	-1.0	0.65	4137	2.57	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010812541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010812541-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

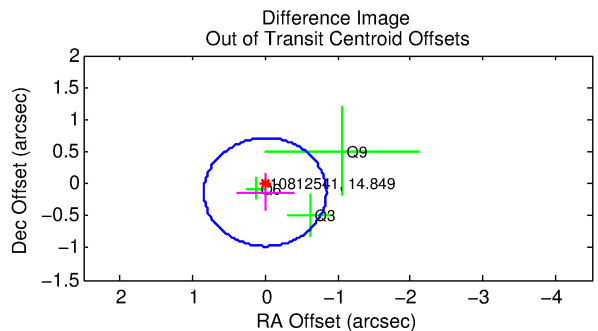
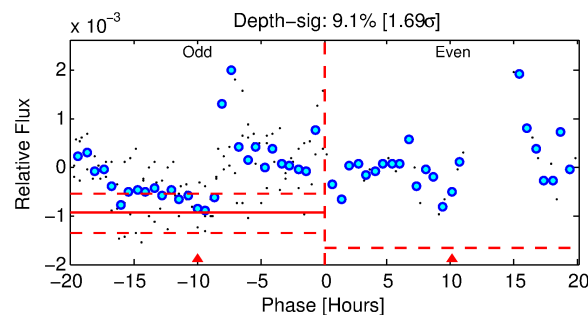
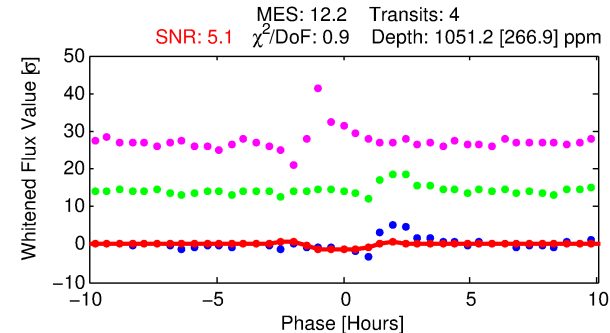
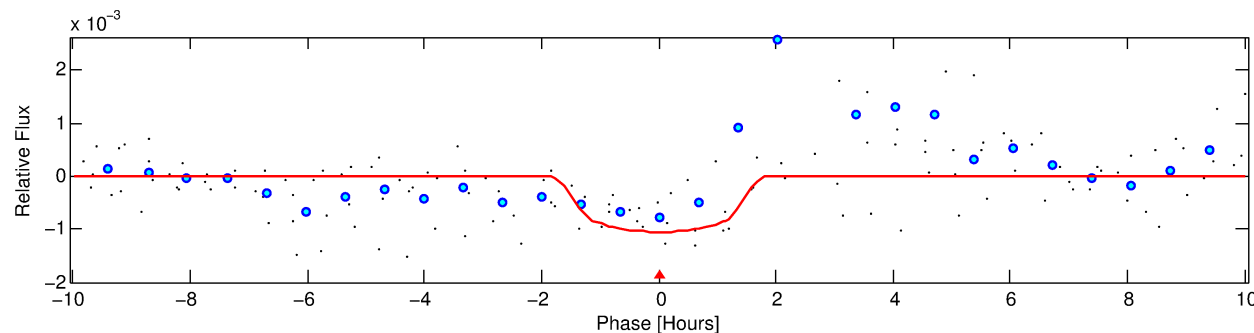
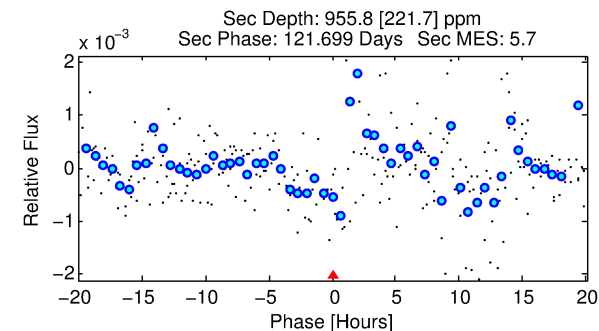
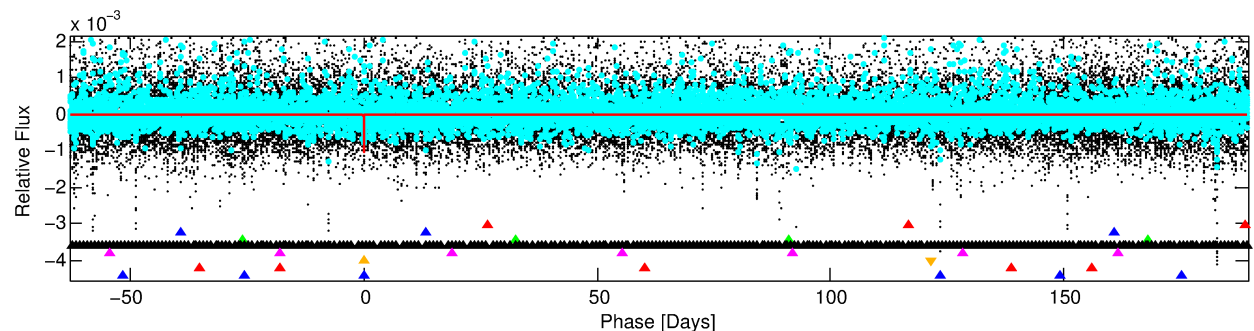
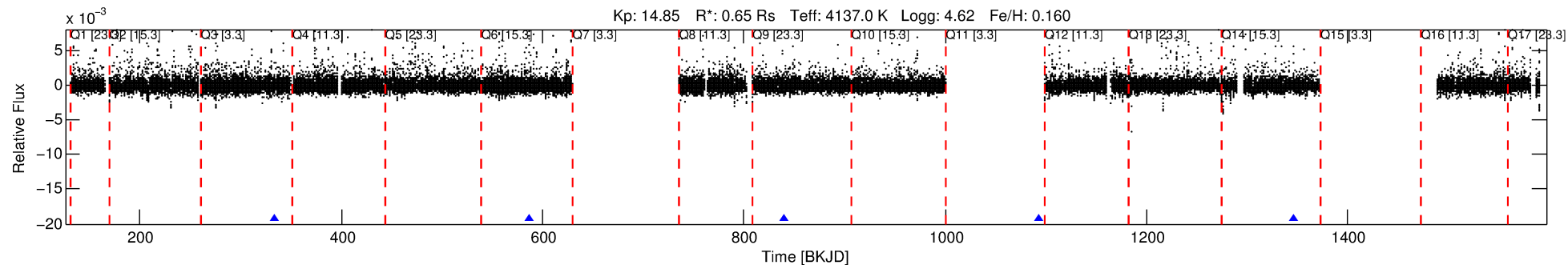
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010812541-06

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 6 of 8 Period: 252.980 d
KOI: K07375 Corr: No Ephemeris Match



DV Fit Results:

Period = 252.97956 [0.00423] d
Epoch = 333.4888 [0.0103] BKJD
Rp/R* = 0.0340 [0.0357]
a/R* = 360.24 [1279.91]
b = 0.82 [1.42]
Seff = 0.24 [0.04]
Teq = 179 [8] K
Rp = 2.40 [2.53] Re
a = 0.6761 [0.0489] AU
Ag = 41744.81 [88395.25] [0.47 σ]
Teffp = 3946 [2091] K [1.80 σ]

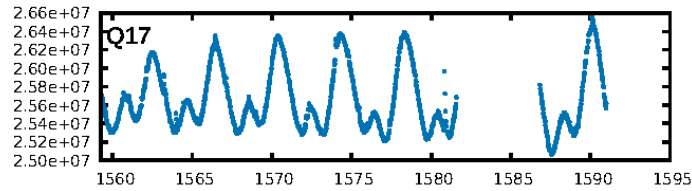
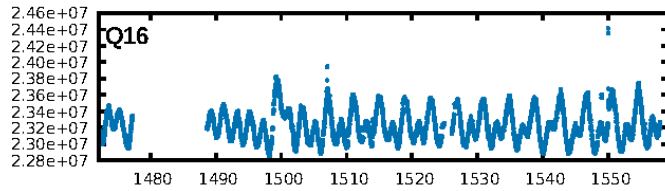
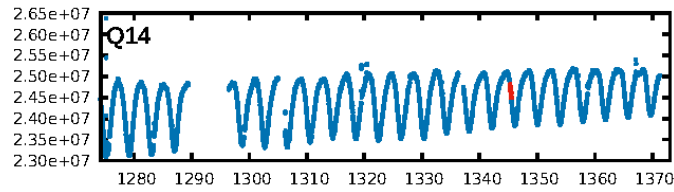
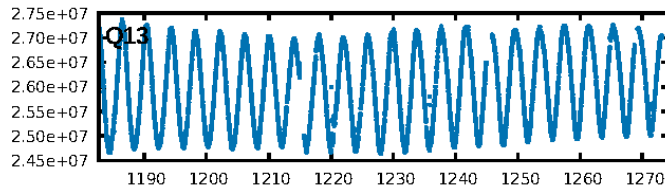
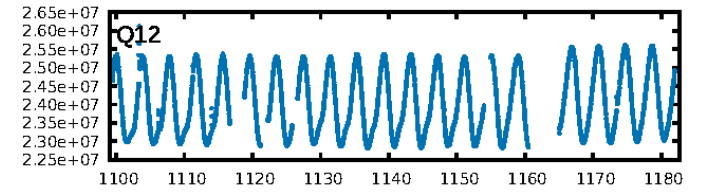
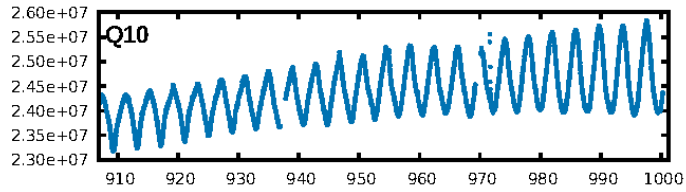
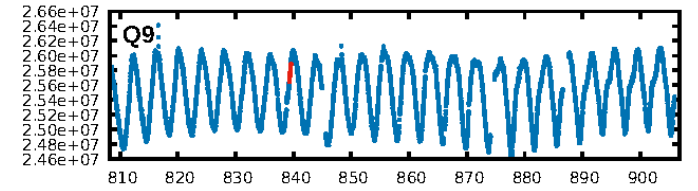
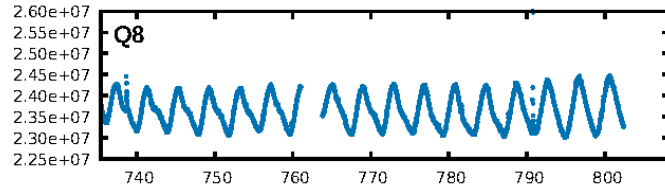
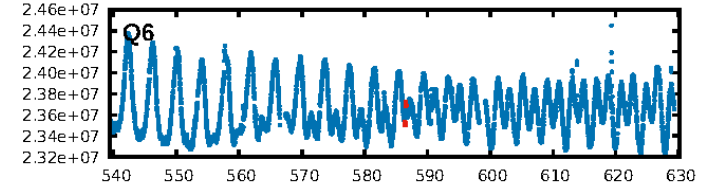
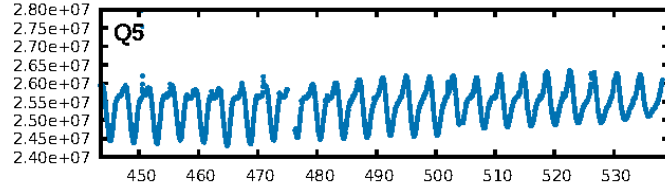
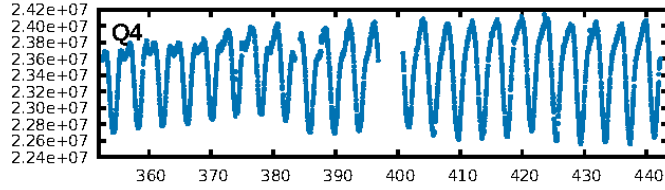
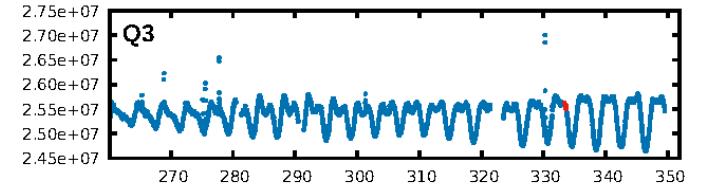
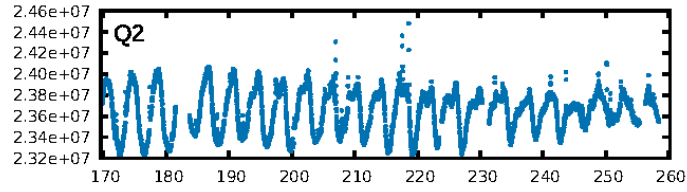
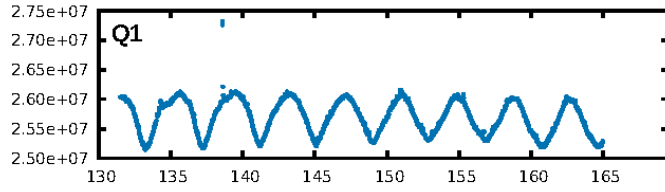
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [128.19 σ]
LongPeriod-sig: 100.0% [409.72 σ]
ModelChiSquare2-sig: 4.9%
ModelChiSquareGof-sig: 97.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.449
Centroid-sig: 32.5%
Centroid-so: 1.150 arcsec [0.78 σ]
OotOffset-rm: 0.132 arcsec [0.47 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.363 arcsec [0.99 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.50 [2/4]

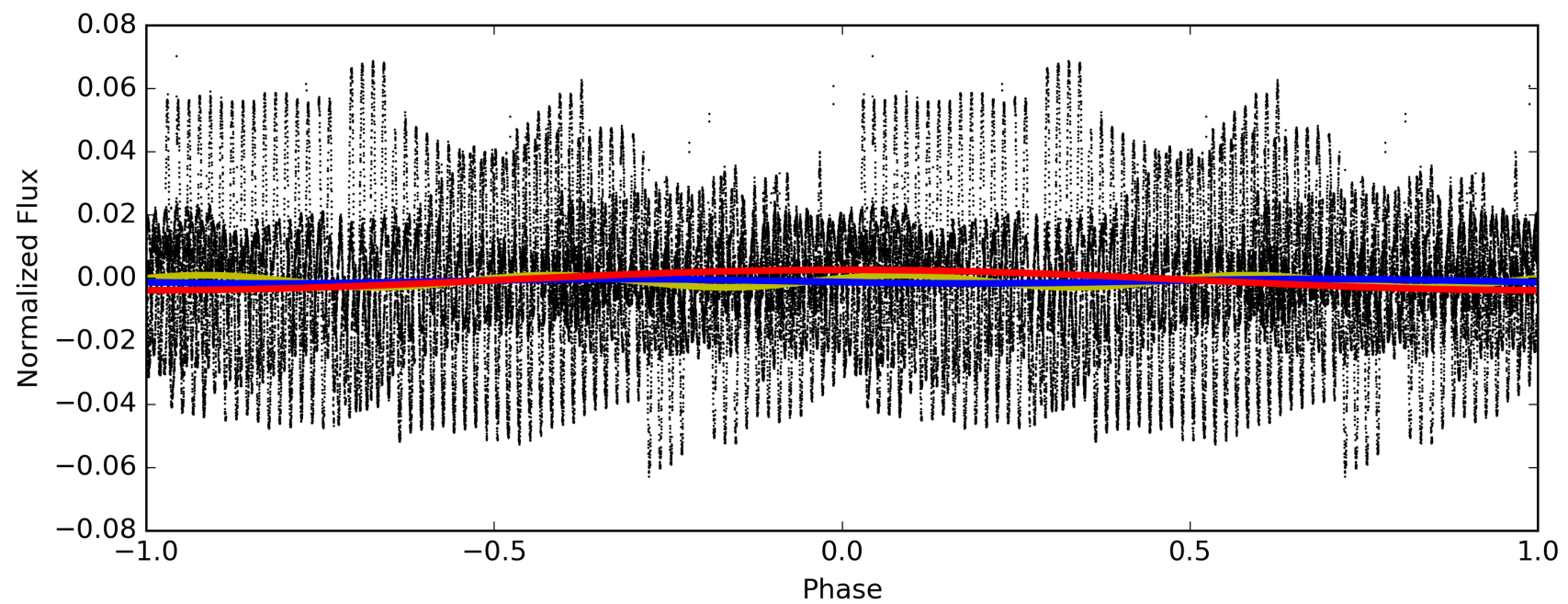
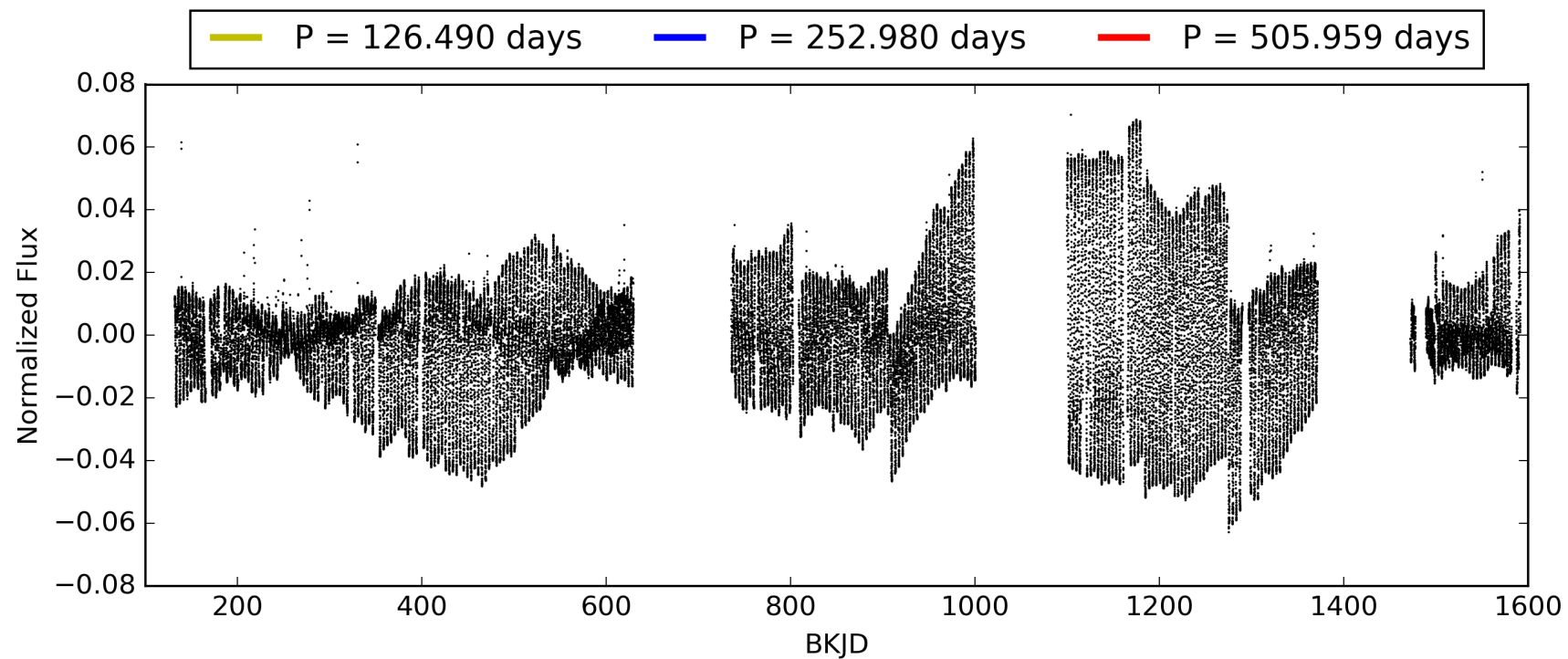
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:28:23 Z

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

TCE 010812541-06, PDC Light Curves

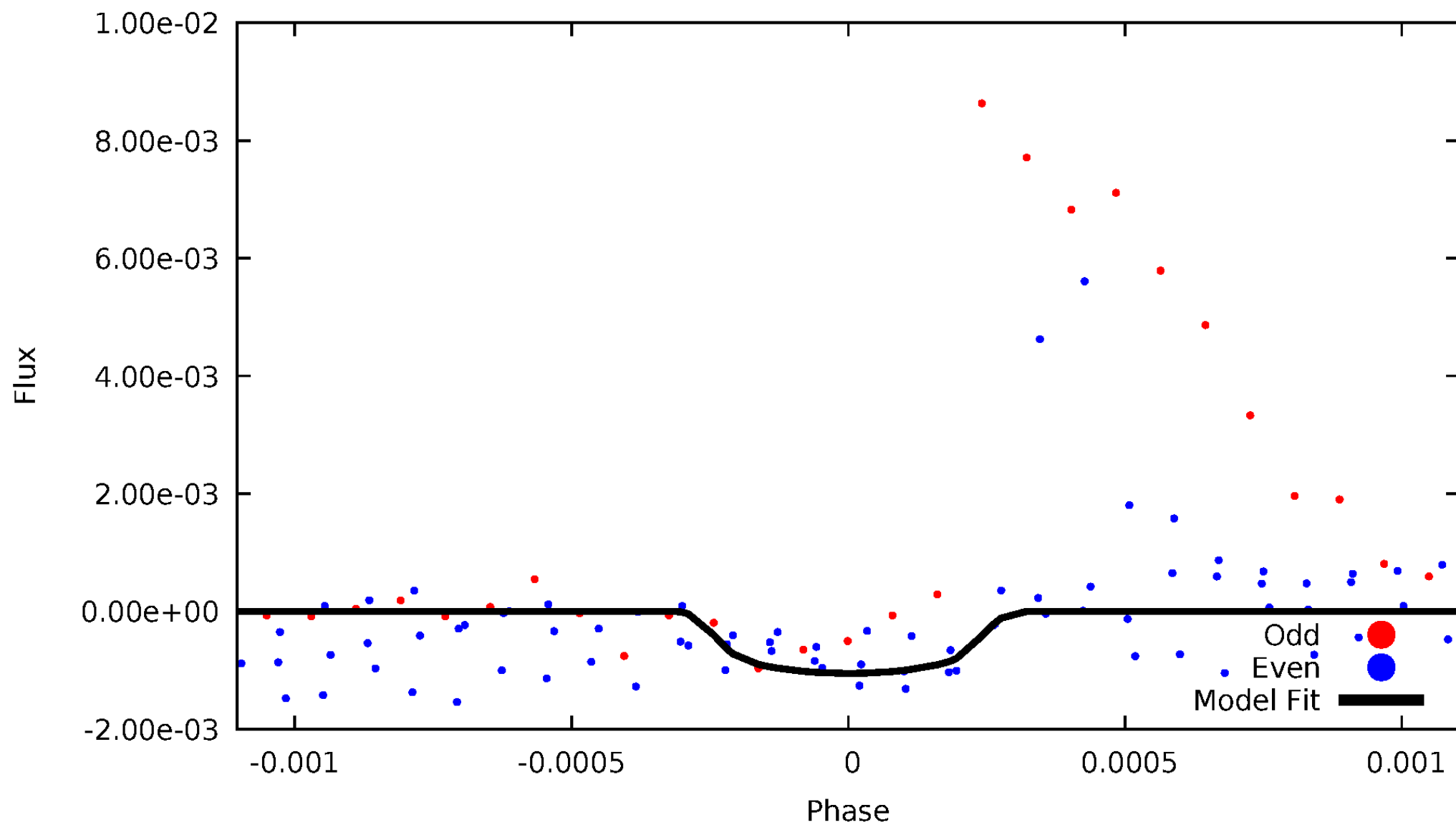


TCE 010812541-06



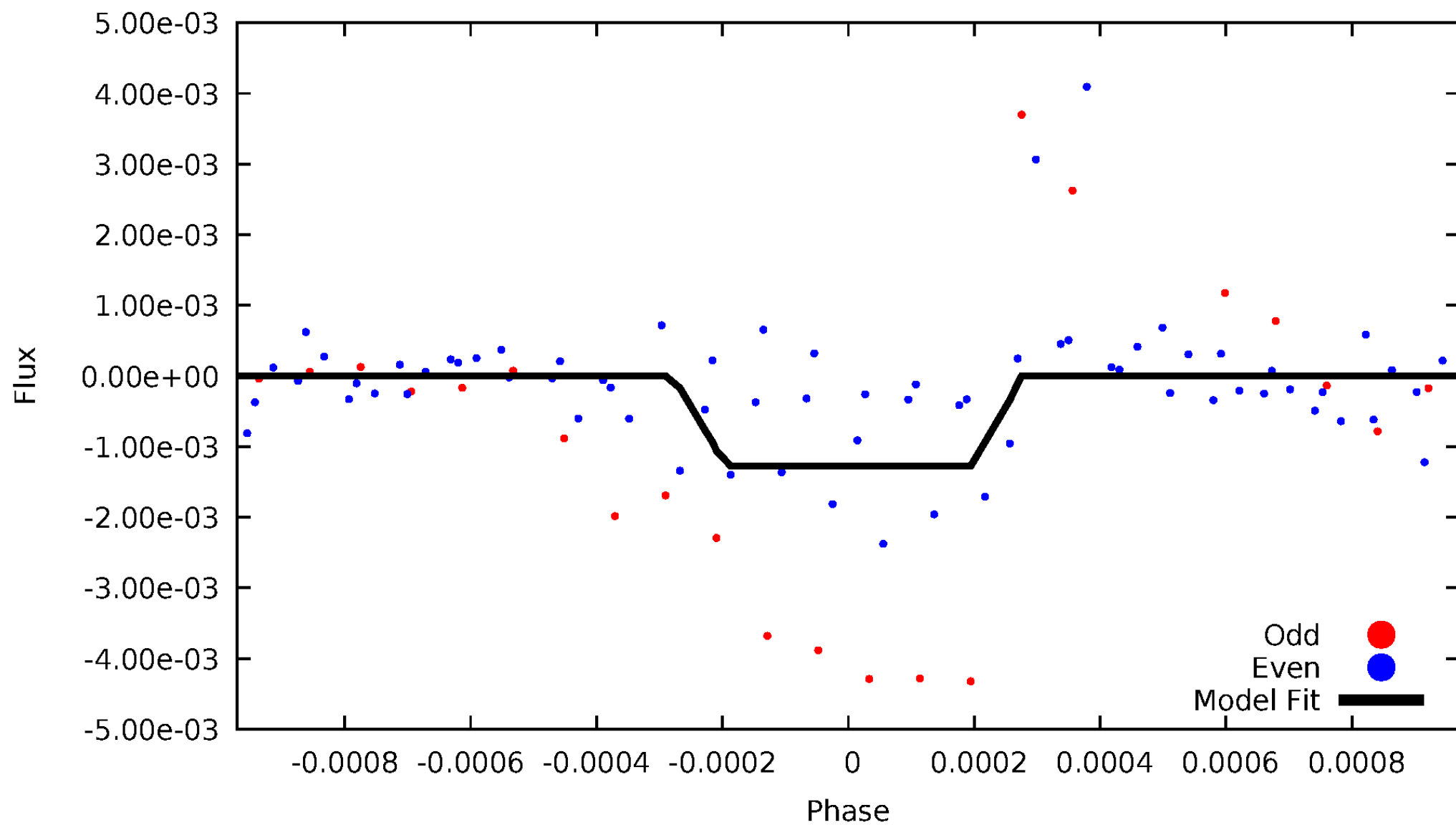
DV Odd/Even

TCE 010812541-06



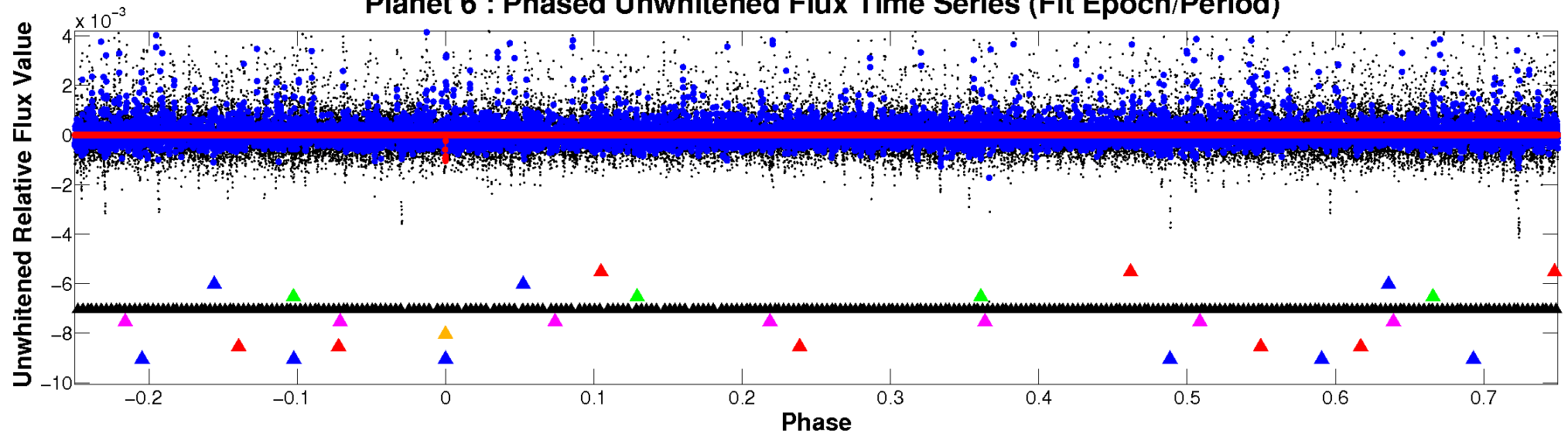
ALT Odd/Even

TCE 010812541-06

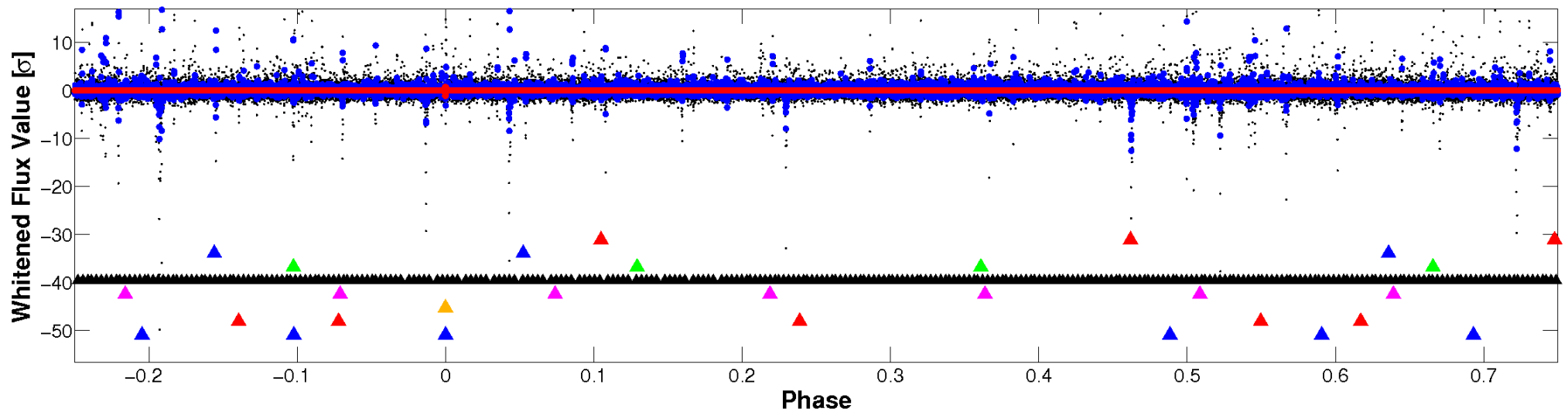


Non-Whitened Vs. Whitened Light Curve

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

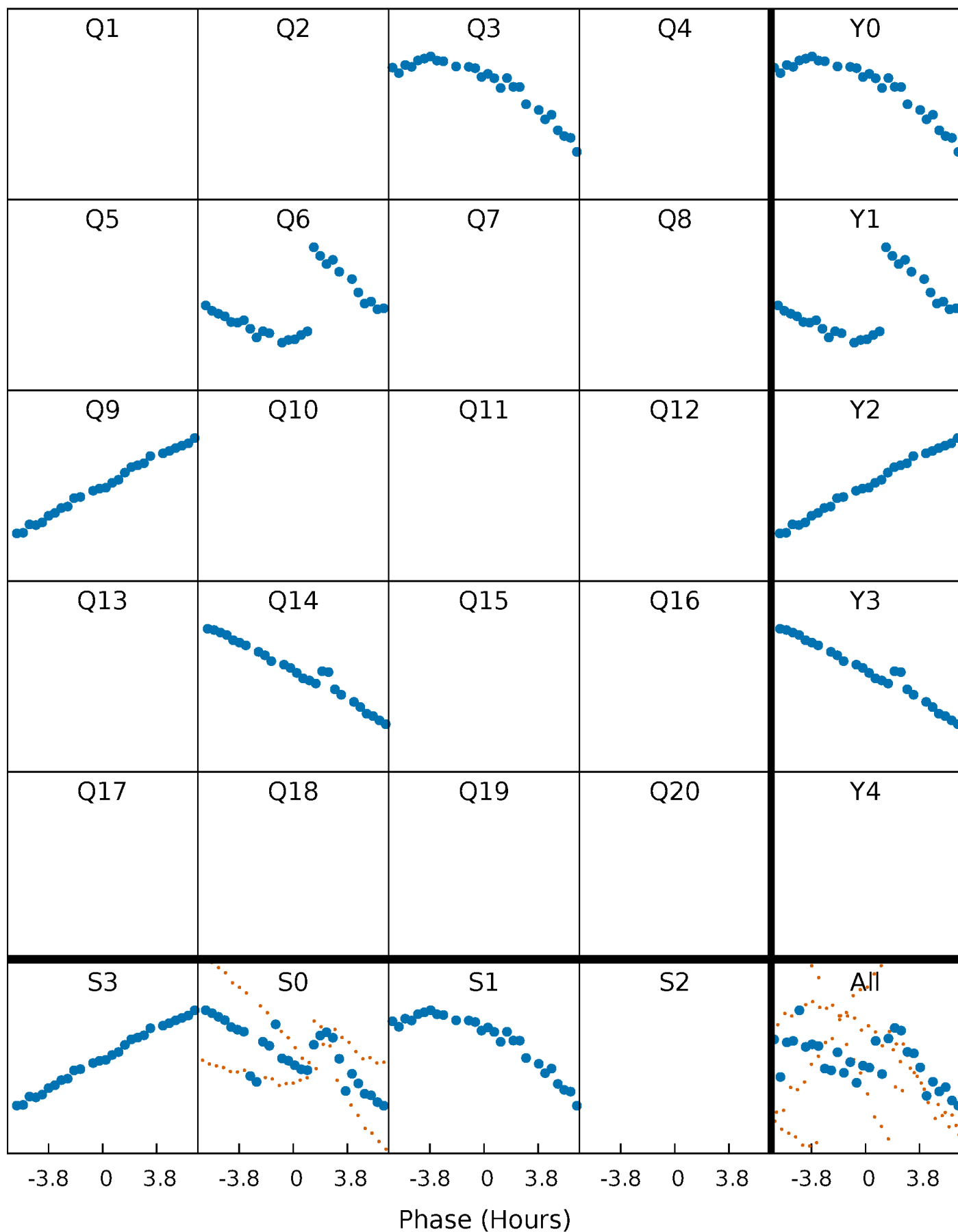


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



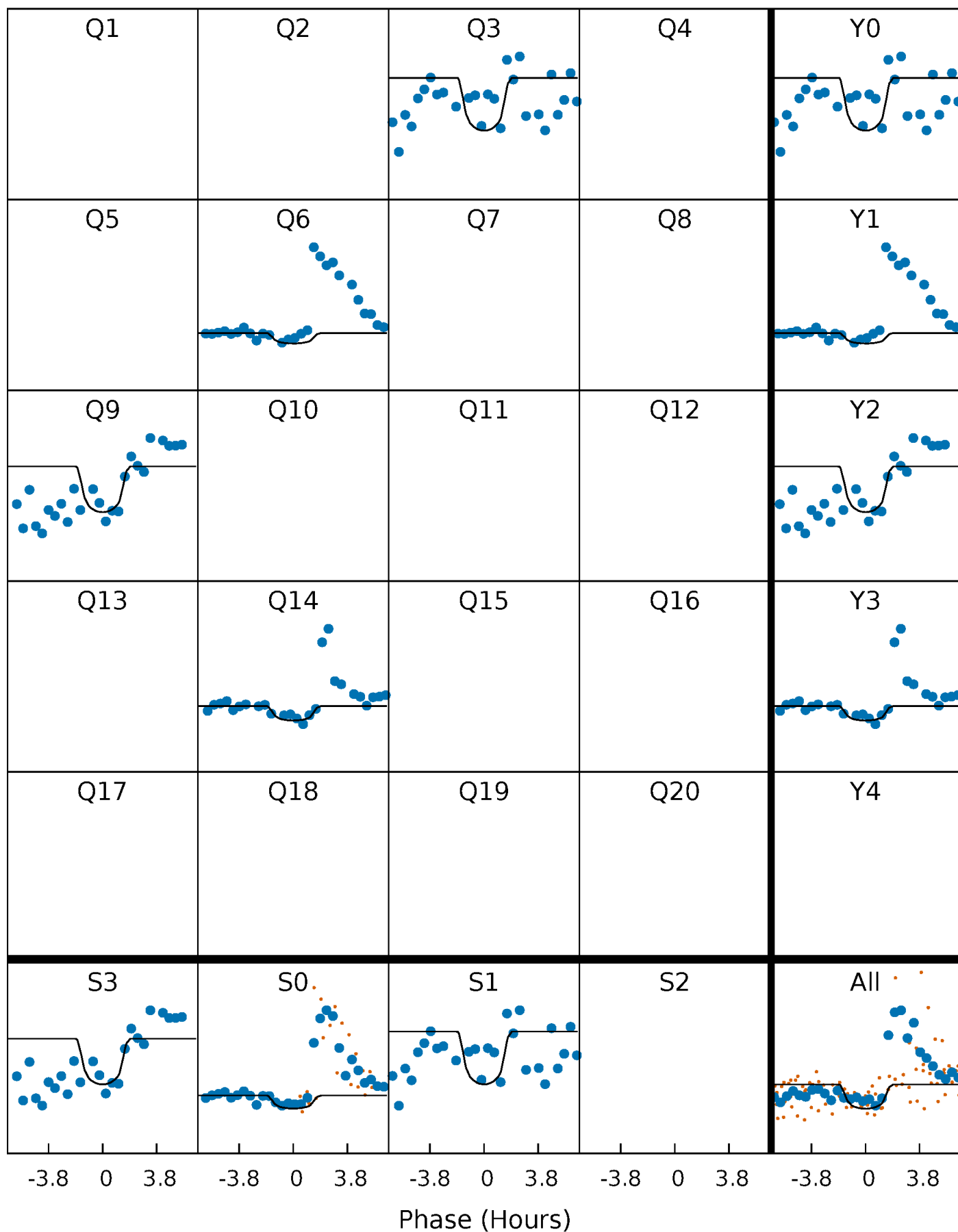
PDC Quarter-Phased Transit Curves

TCE 010812541-06 $P=252.979565$ Days $T_0=333.488781$ (BKJD)



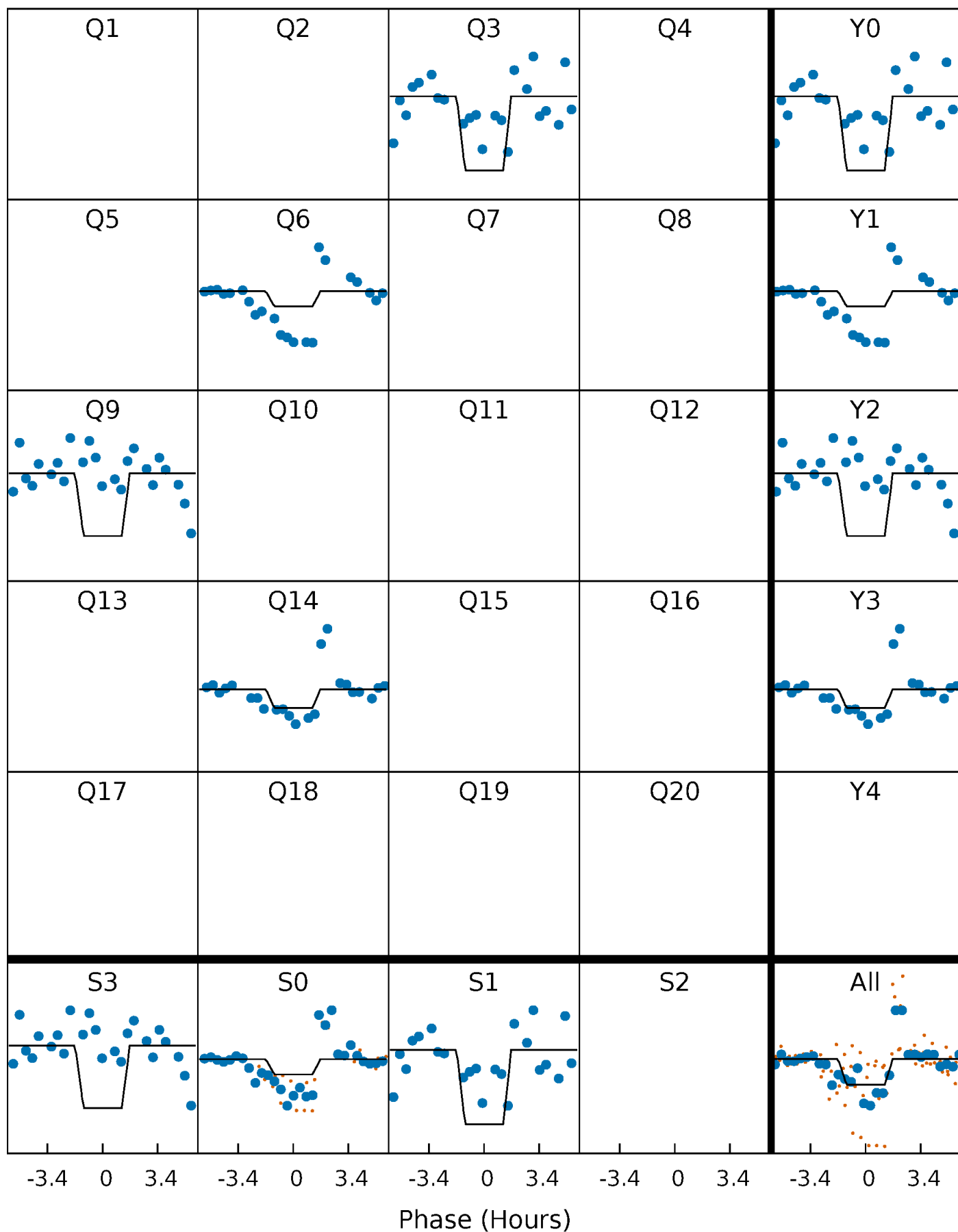
DV Quarter-Phased Transit Curves

TCE 010812541-06 P=252.979565 Days $T_0=333.488781$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

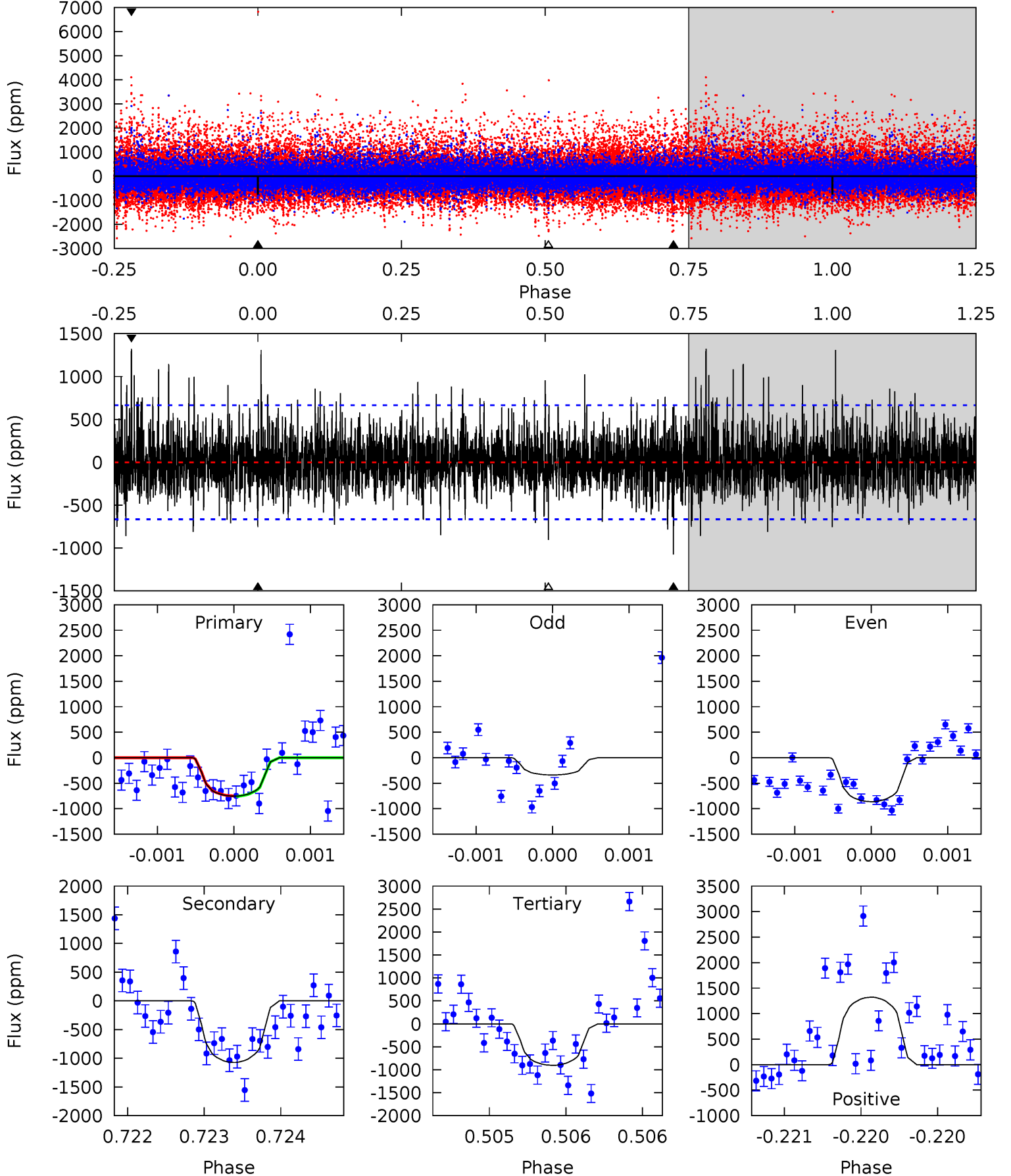
TCE 010812541-06 P=252.986493 Days $T_0=333.473262$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-06, $P = 252.979565$ Days, $E = 80.509216$ Days

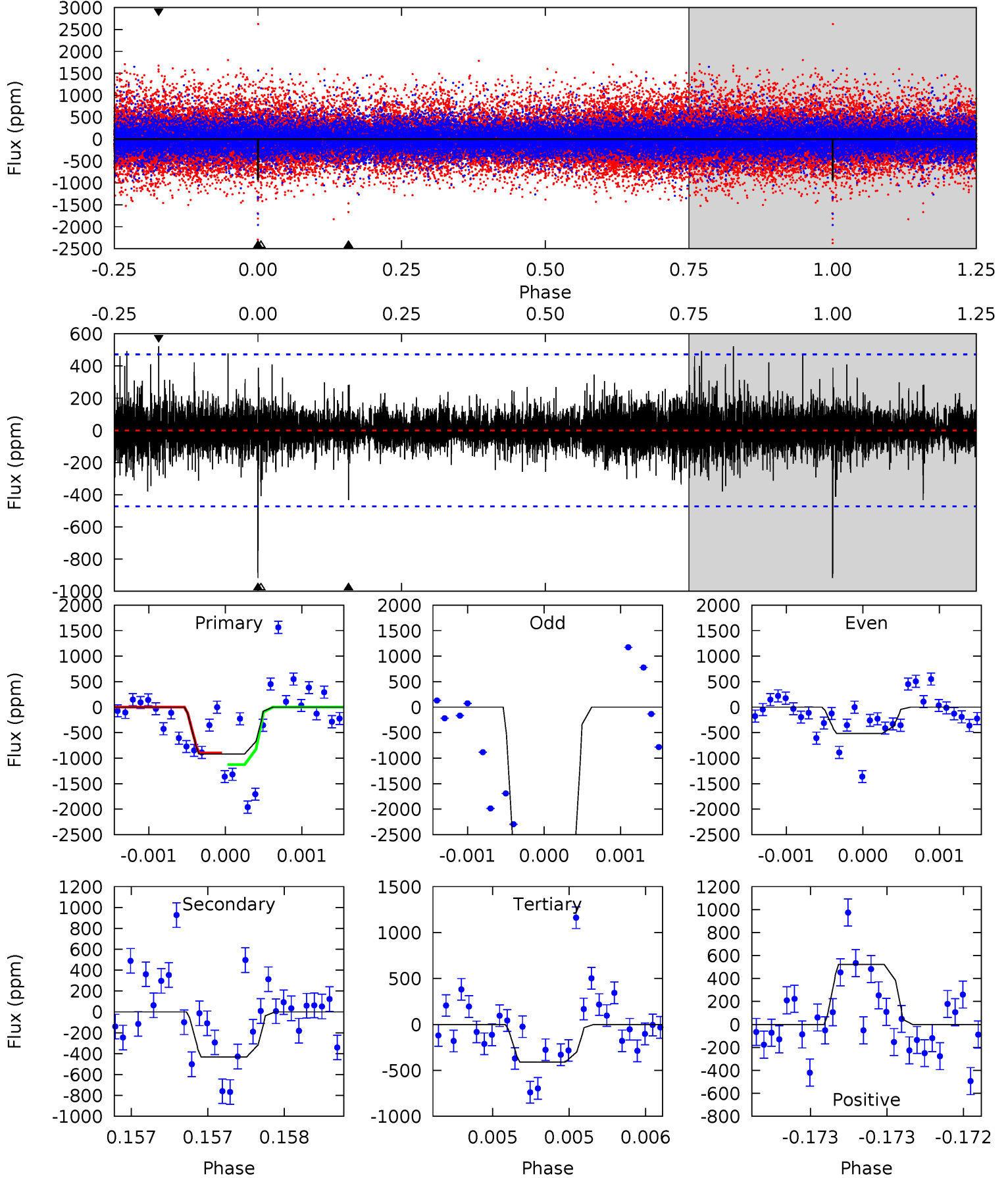
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.30	8.96	7.54	11.0	5.55	3.44	2.01	-1.24	-4.74	1.42	-2.08	1.66	0.74	0.55	0.04



Alt Model-Shift Uniqueness Test

010812541-06, $P = 252.986493$ Days, $E = 80.486769$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	5.08	4.82	6.15	5.56	3.46	0.97	5.97	4.64	0.26	-1.07	18.6	1.30	0.36	1.33



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1074 ± 120	$2.97^{+2.12}_{-1.88}$	248^{+9}_{-10}	3765^{+1843}_{-578}	$30491^{+200202}_{-20071}$
Alt.	-432 ± 85	$3.10^{+2.16}_{-1.82}$	247^{+9}_{-9}	3231^{+1082}_{-487}	11386^{+55093}_{-7679}

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 $A_{obs} \gg 1.0$

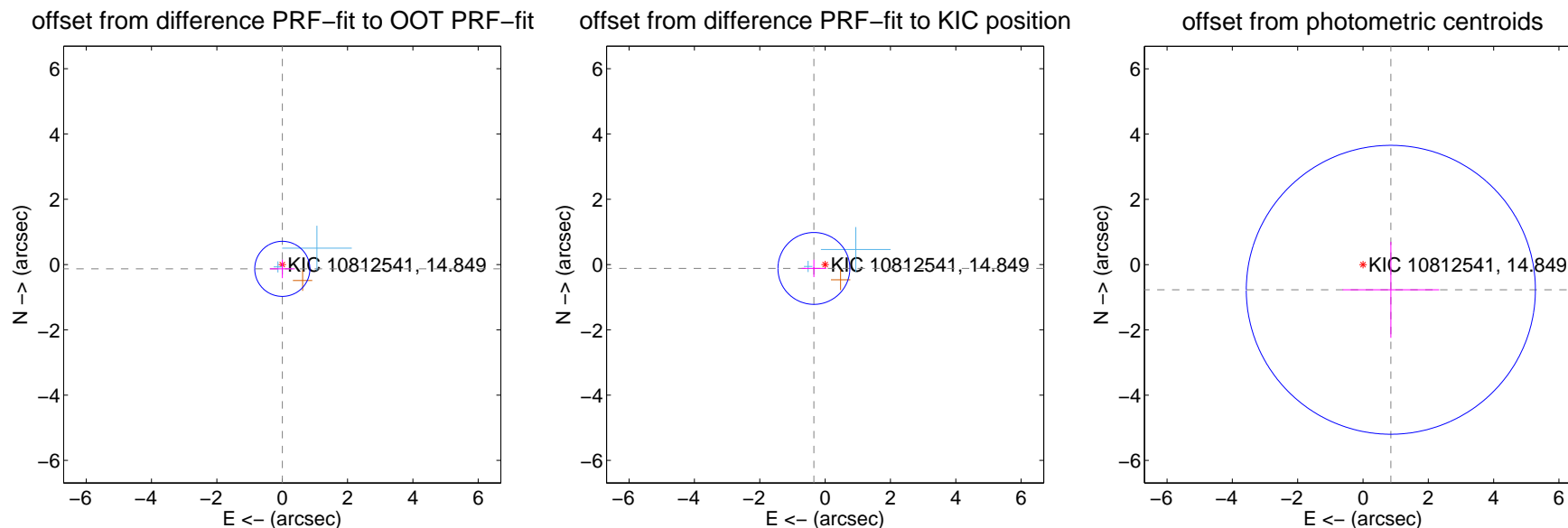
DV Centroid Data

Supplemental centroid analysis for 010812541-06. Kepler magnitude: 14.85. Transit SNR 5.14

There are 2 quarters with good PRF difference image offsets

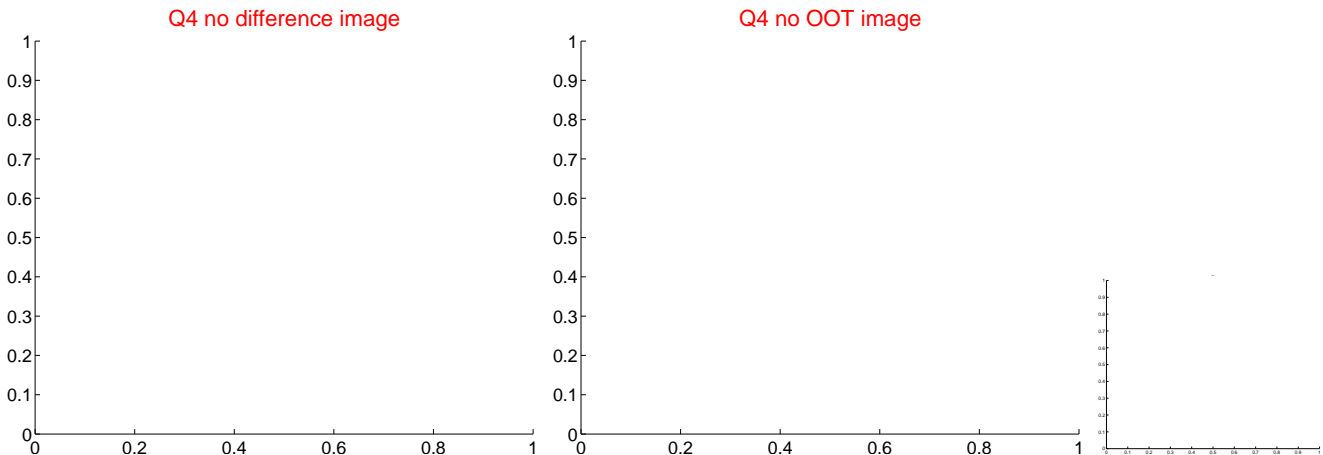
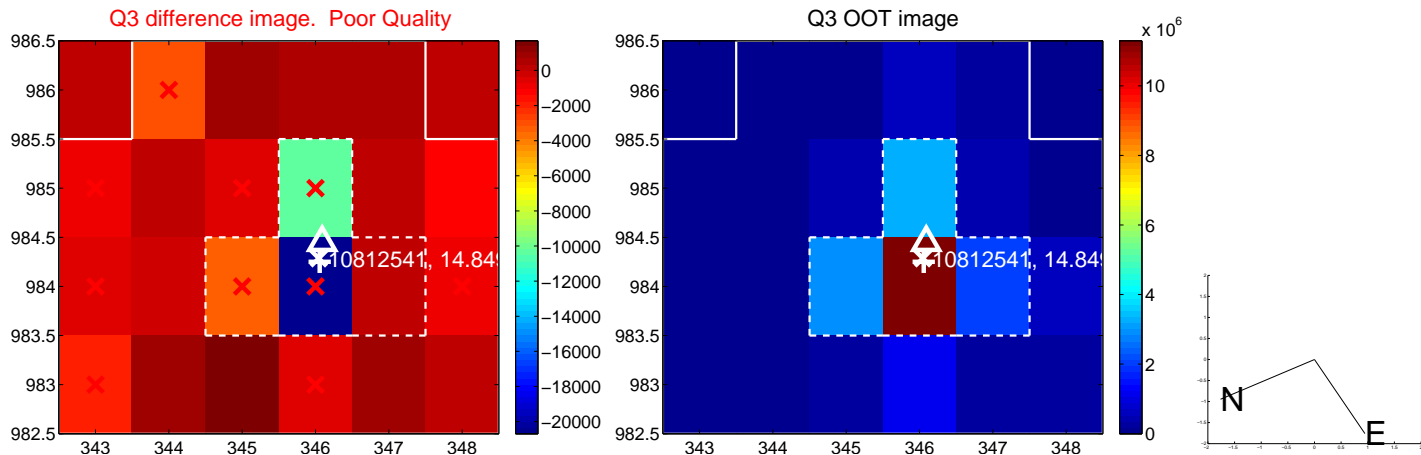
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.132 ± 0.281	0.47	-0.003 ± 0.381	-0.132 ± 0.283
PRF-fit source offset from KIC position	0.363 ± 0.367	0.99	0.343 ± 0.377	-0.119 ± 0.267
photometric centroid source offset	1.15 ± 1.48	0.78	-0.85 ± 1.48	-0.77 ± 1.47



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

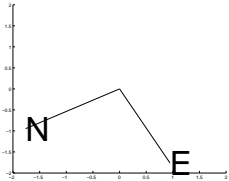
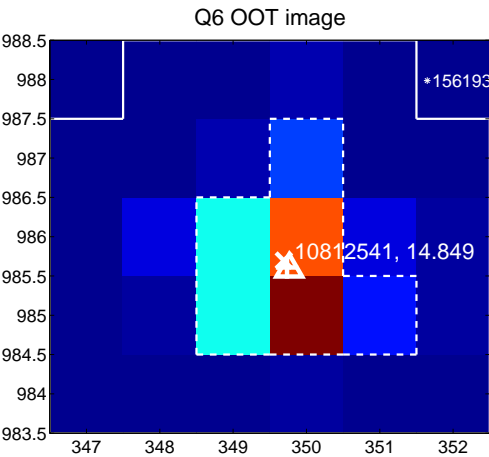
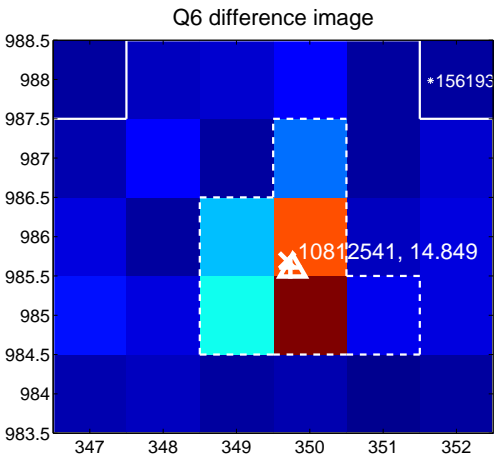


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

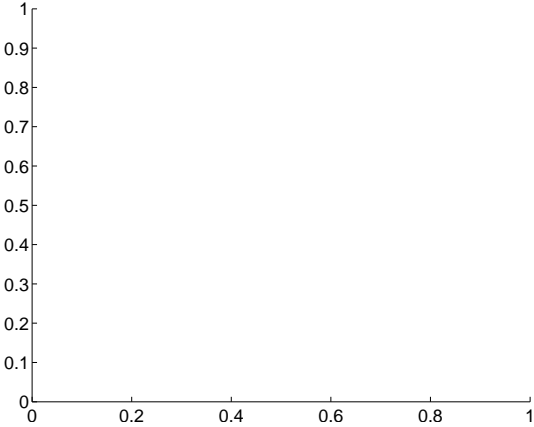
Q5 no difference image



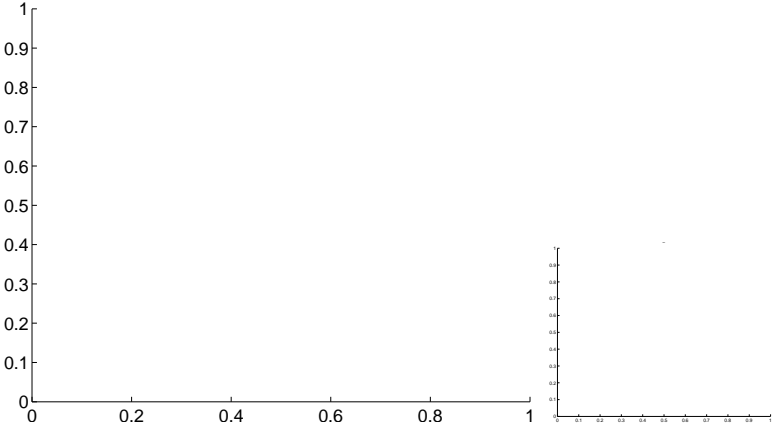
Q5 no OOT image



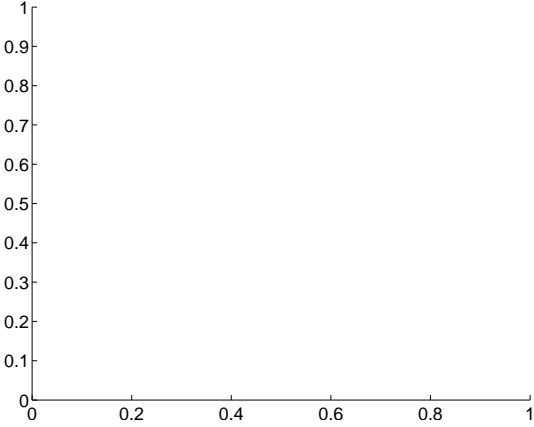
Q7 no difference image



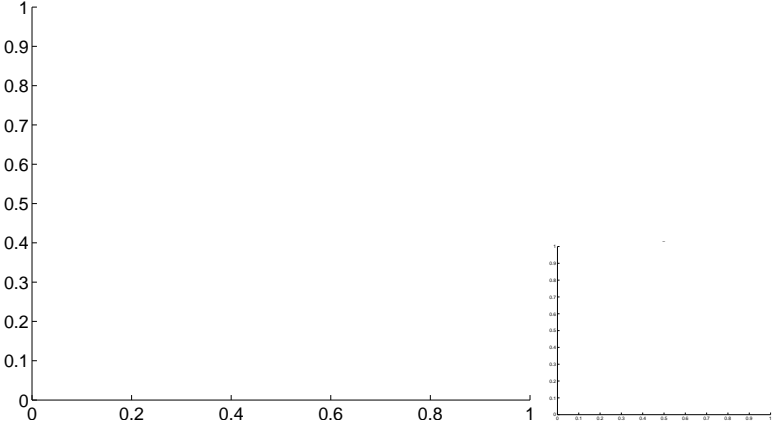
Q7 no OOT image



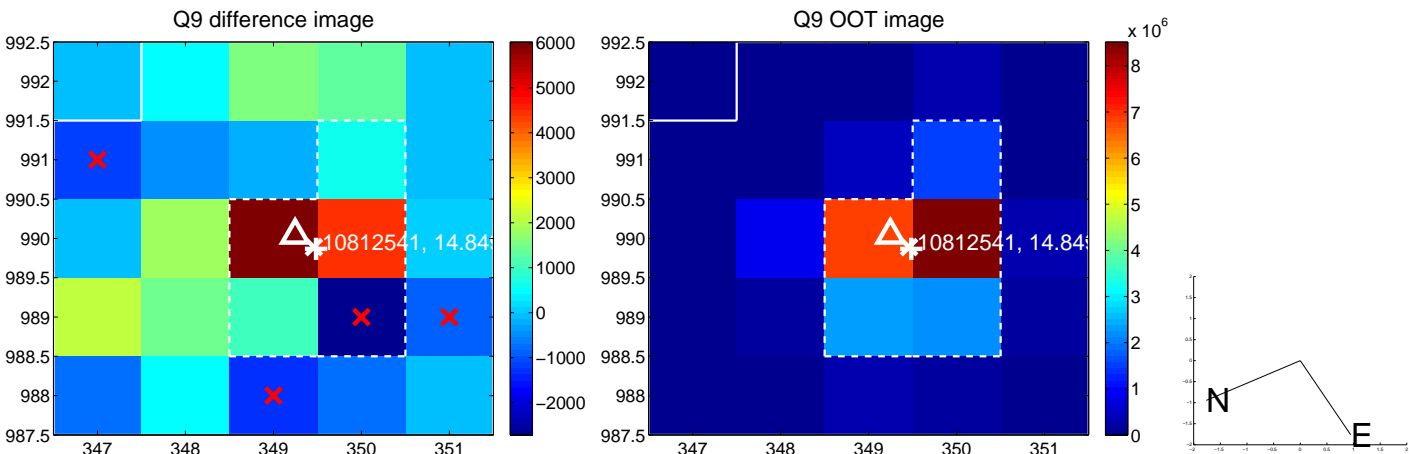
Q8 no difference image



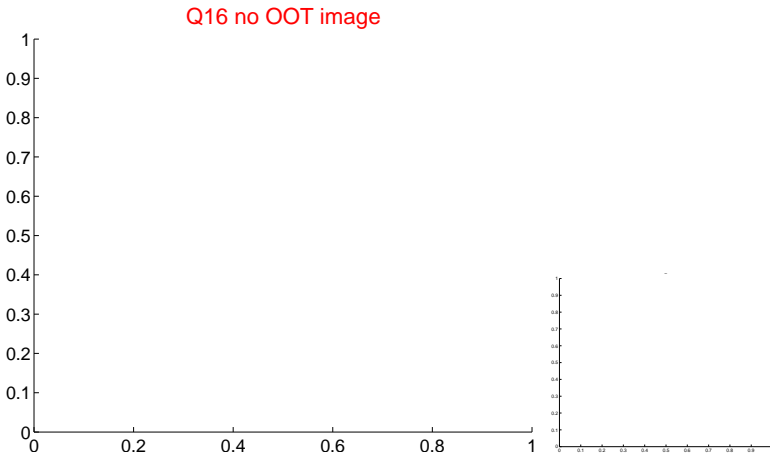
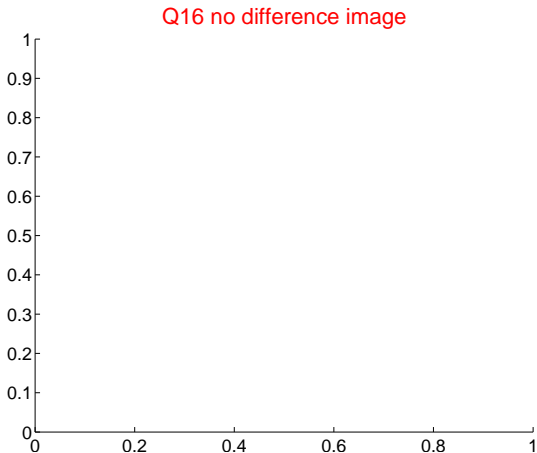
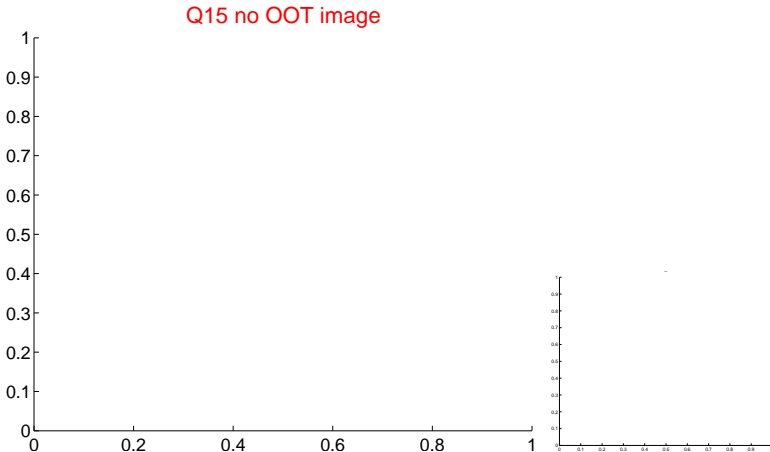
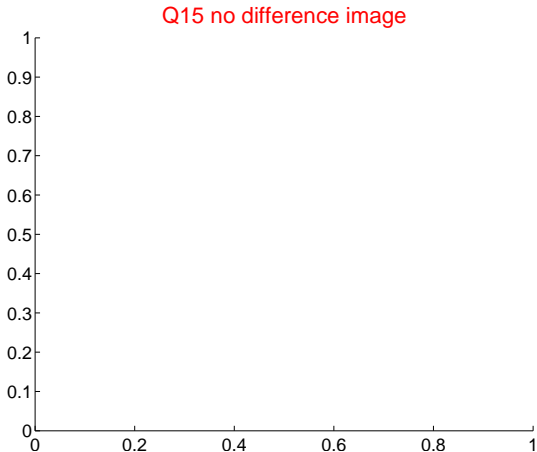
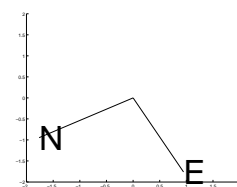
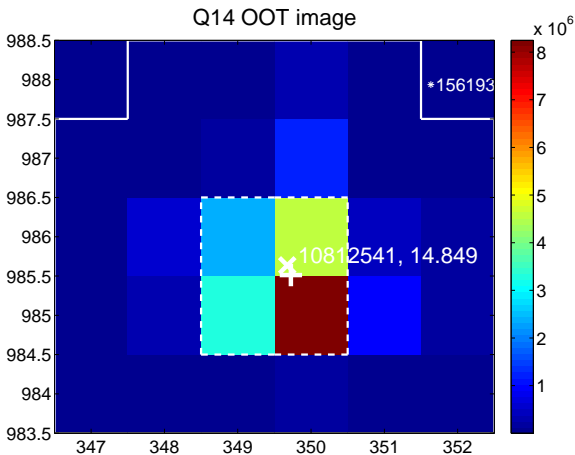
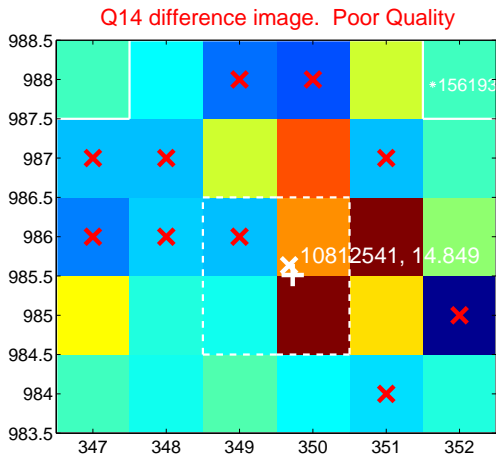
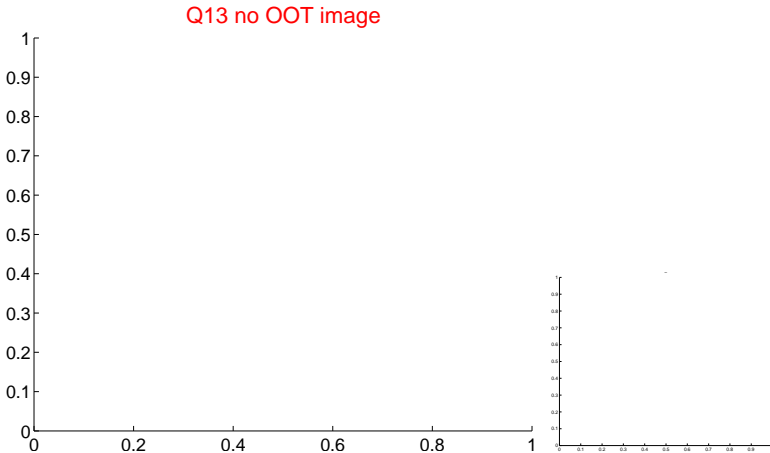
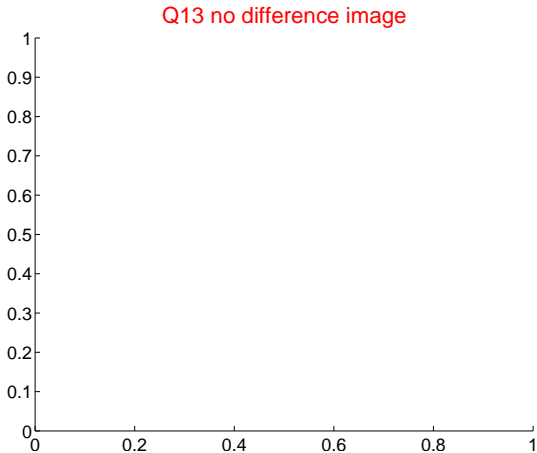
Q8 no OOT image



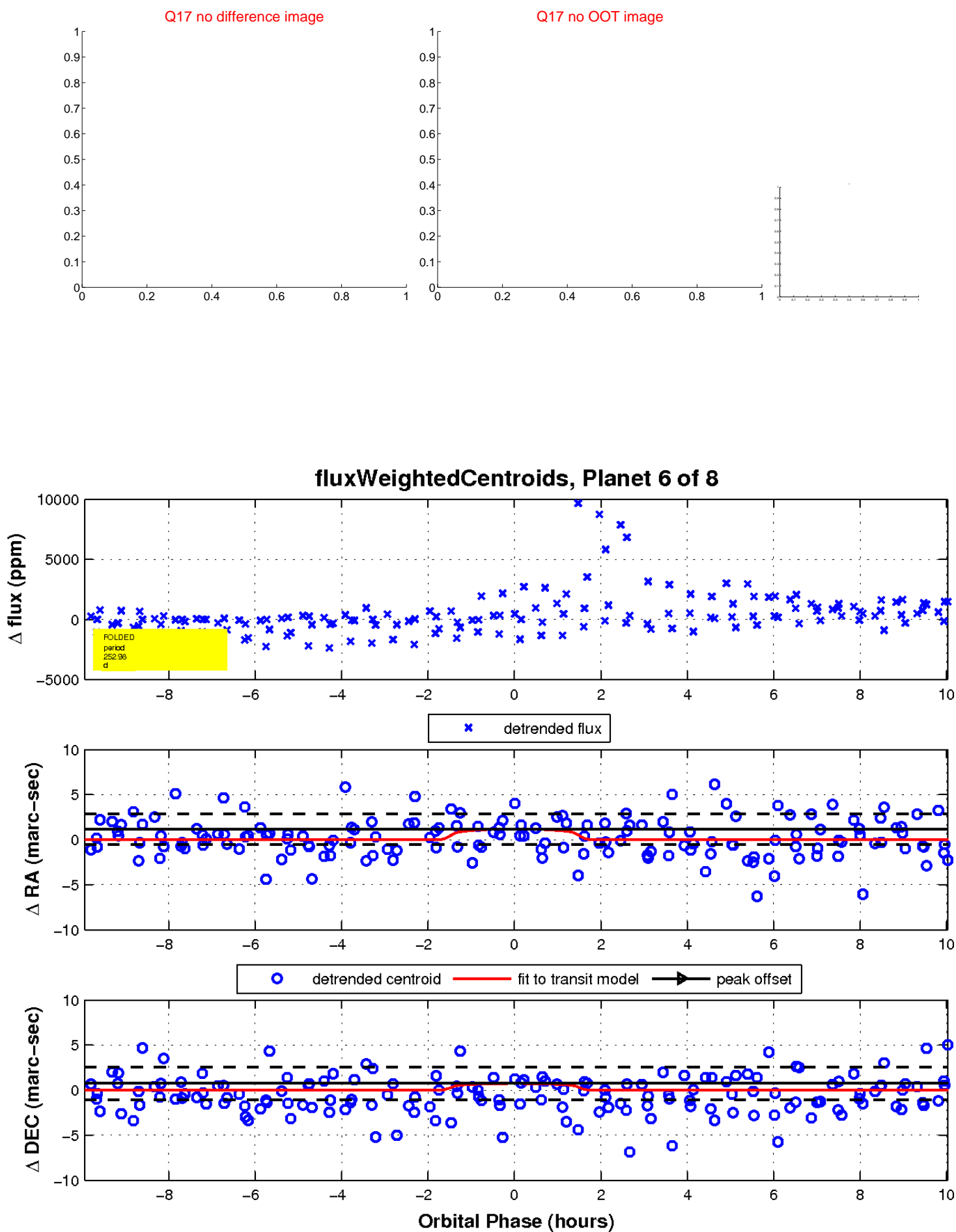
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



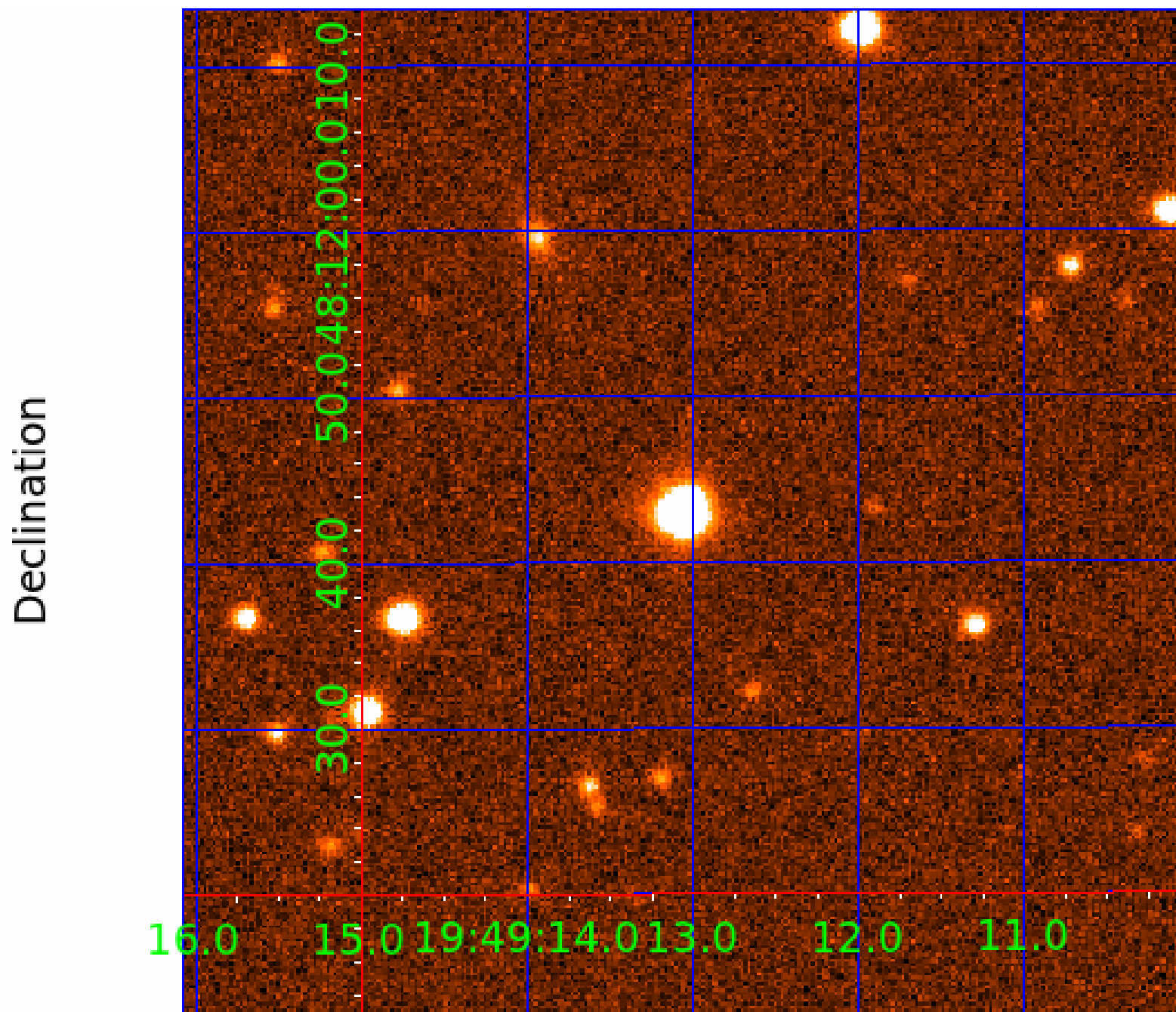
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 010812541

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})
010812541-01	OBS	No	668.612573	197.358439	2576.2	6.765	15.0	7.6	0.65	4137	4.38	0.07
010812541-02	OBS	No	558.645732	241.369831	2246.7	7.918	13.2	6.9	0.65	4137	3.81	0.08
010812541-03	OBS	No	447.340403	171.821794	2836.6	8.062	13.1	7.7	0.65	4137	3.30	0.11
010812541-04	OBS	7375.01	4.848501	131.905169	546.1	1.081	12.8	17.7	0.65	4137	1.88	46.86
010812541-05	OBS	No	216.318176	209.187800	1583.4	9.653	12.4	5.4	0.65	4137	2.65	0.30
010812541-06	OBS	No	252.979565	333.488781	1051.2	3.352	12.2	5.1	0.65	4137	2.40	0.24
010812541-07	OBS	No	331.622401	236.616663	1344.3	3.160	11.3	6.3	0.65	4137	2.67	0.17
010812541-08	OBS	No	227.094881	333.503546	1715.7	3.500	15.5	-1.0	0.65	4137	2.57	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010812541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010812541-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

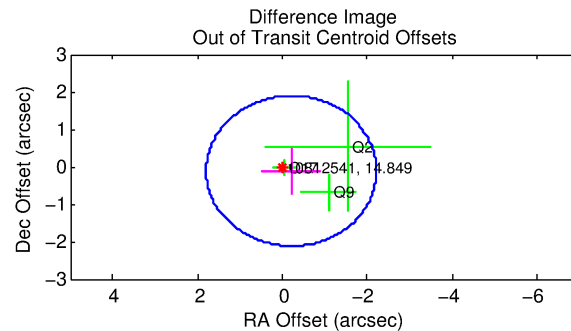
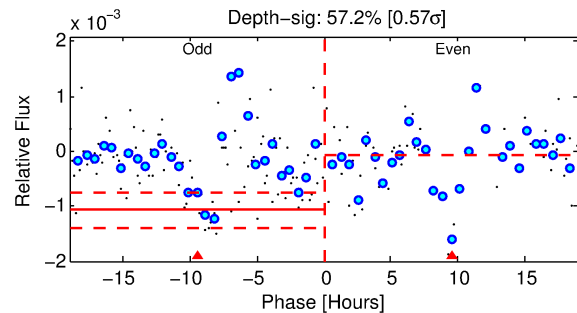
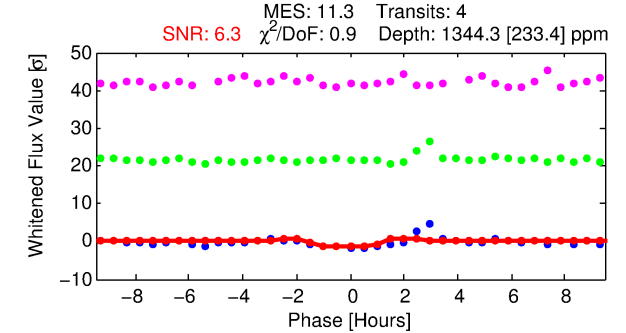
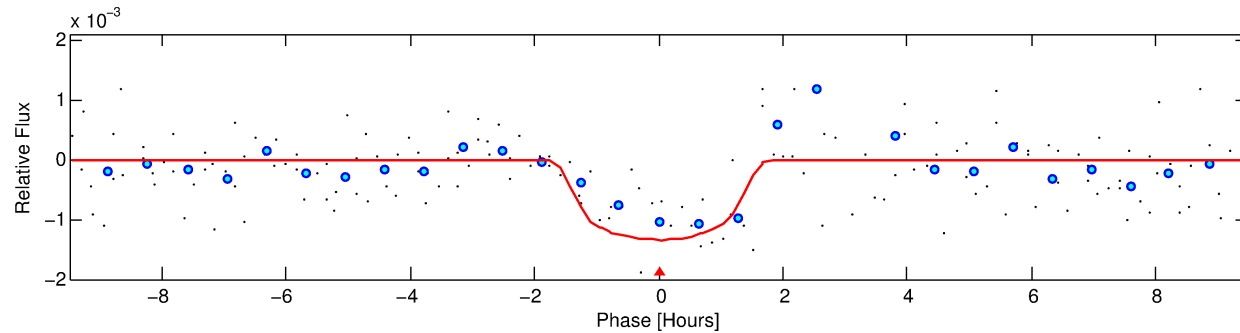
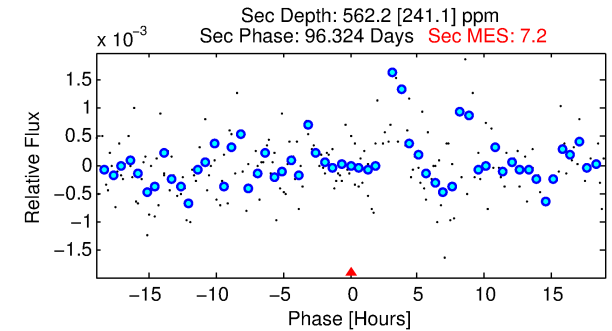
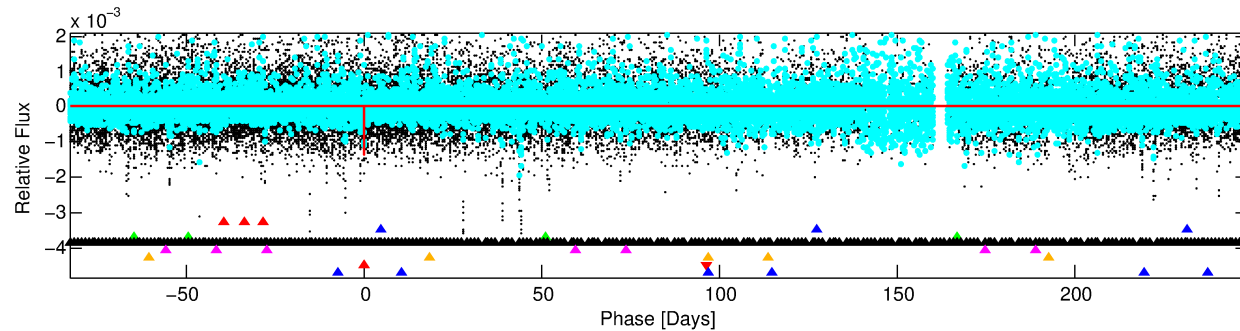
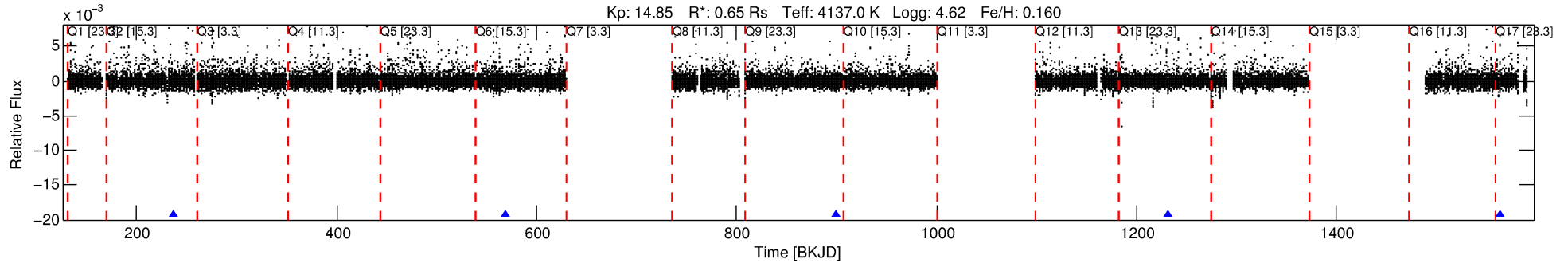
Ephemeris Match Information For 010812541-07

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 7 of 8 Period: 331.622 d
KOI: K07375 Corr: No Ephemeris Match

Kp: 14.85 R*: 0.65 Rs Teff: 4137.0 K Logg: 4.62 Fe/H: 0.160



DV Fit Results:

Period = 331.62240 [0.00269] d
Epoch = 236.6167 [0.0080] BKJD
Rp/R* = 0.0379 [0.0269]
a/R* = 527.79 [1236.27]
b = 0.80 [1.07]
Seff = 0.17 [0.03]
Teq = 163 [7] K
Rp = 2.67 [1.92] Re
a = 0.8098 [0.0585] AU
Ag = 28357.90 [42238.11] [0.67σ]
Teffp = 3273 [1222] K [2.55σ]

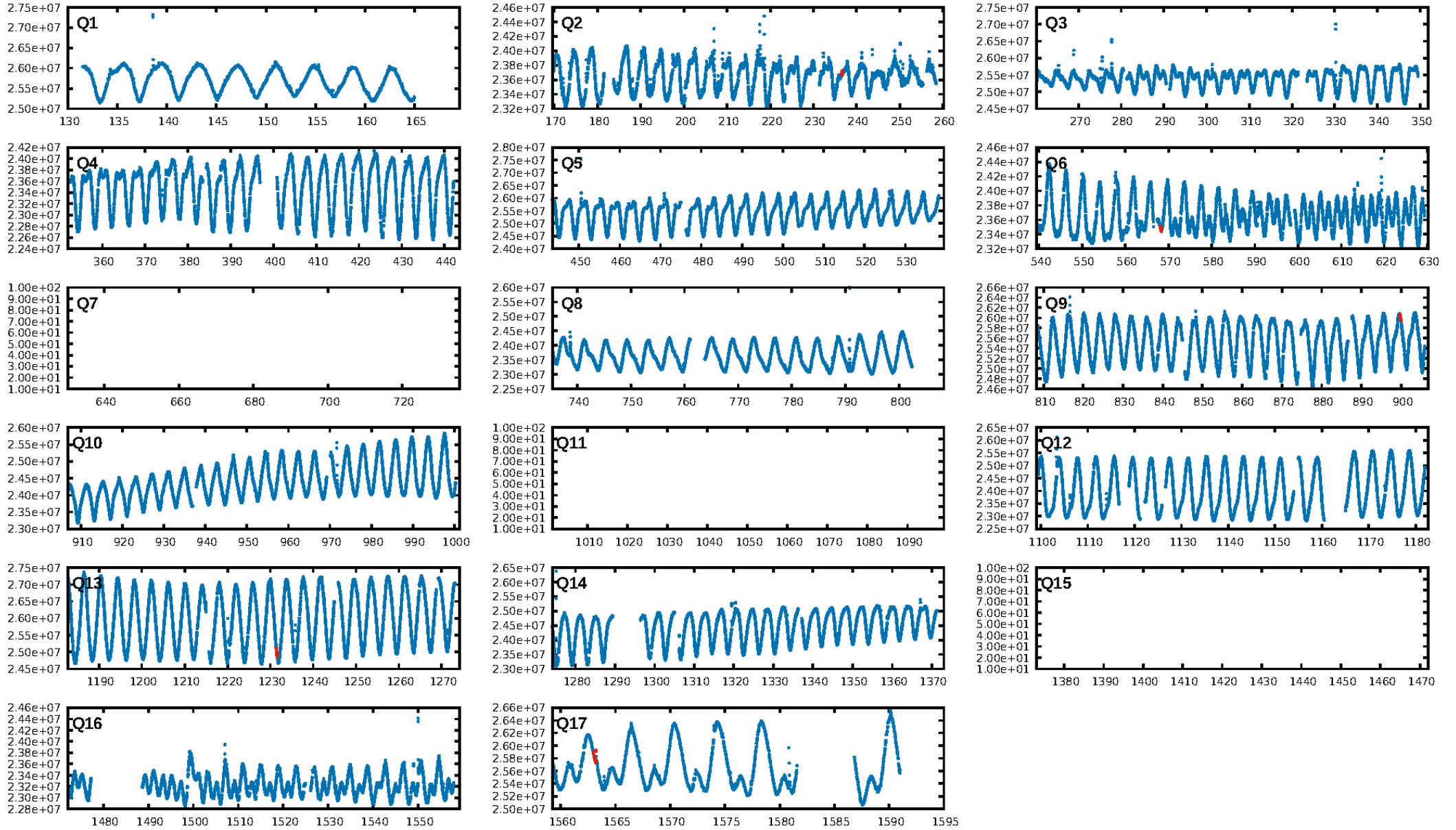
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [409.72σ]
LongPeriod-sig: 100.0% [320.72σ]
ModelChiSquare2-sig: 11.6%
ModelChiSquareGof-sig: 91.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.7179
Centroid-sig: 3.6%
Centroid-so: 1.374 arcsec [1.36σ]
OotOffset-rm: 0.242 arcsec [0.36σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 0.116 arcsec [0.18σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

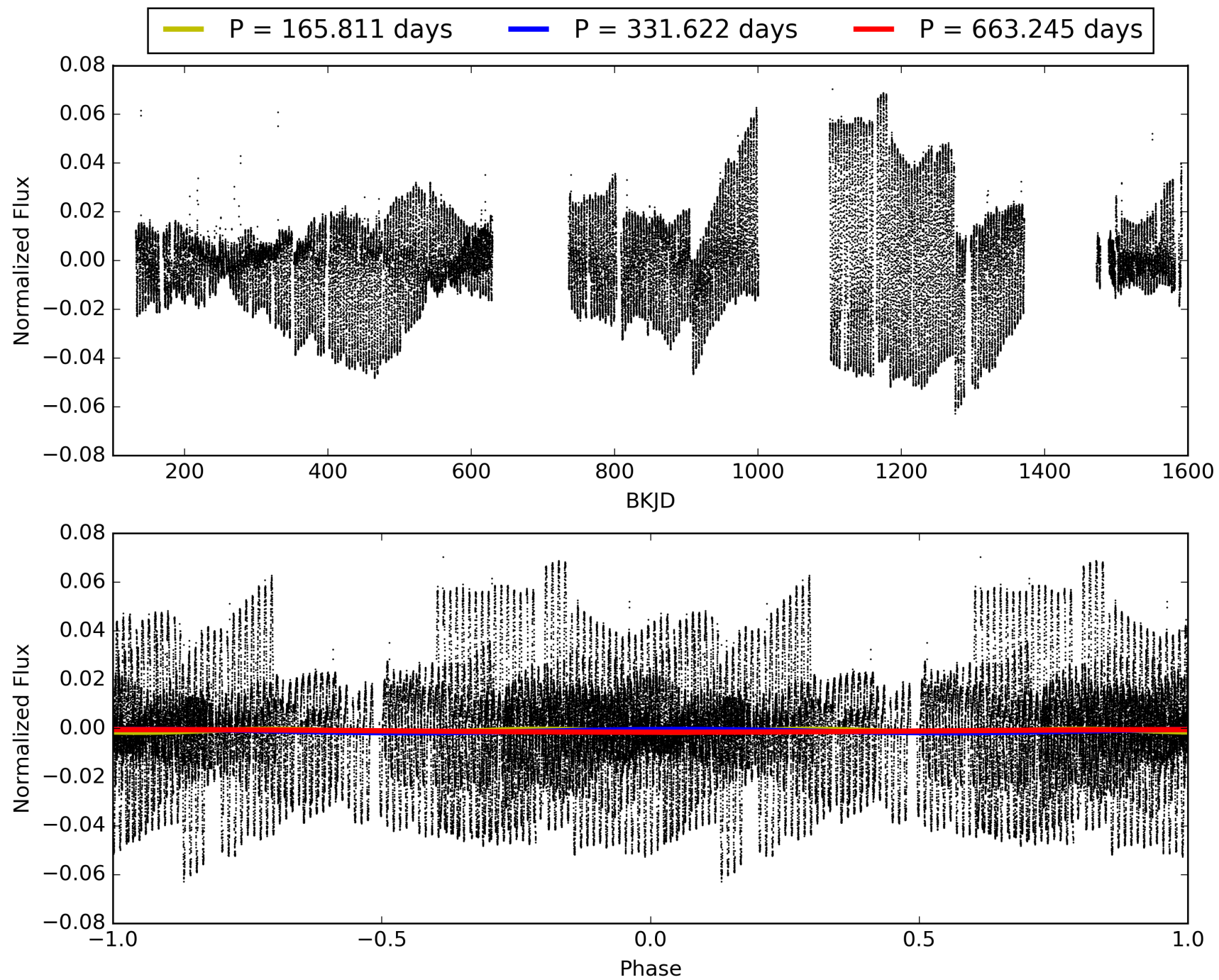
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:28:36 Z

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

TCE 010812541-07, PDC Light Curves

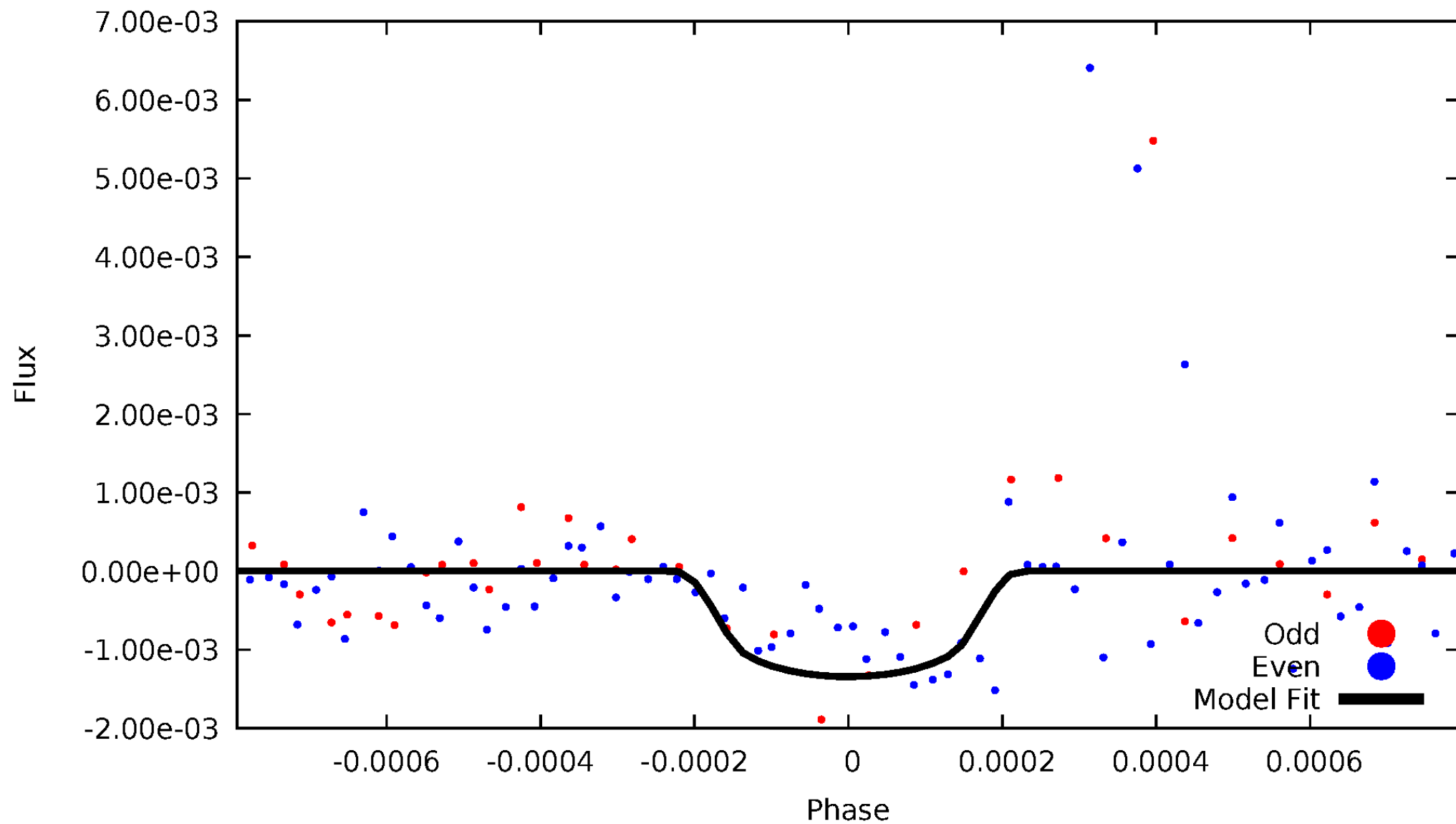


TCE 010812541-07



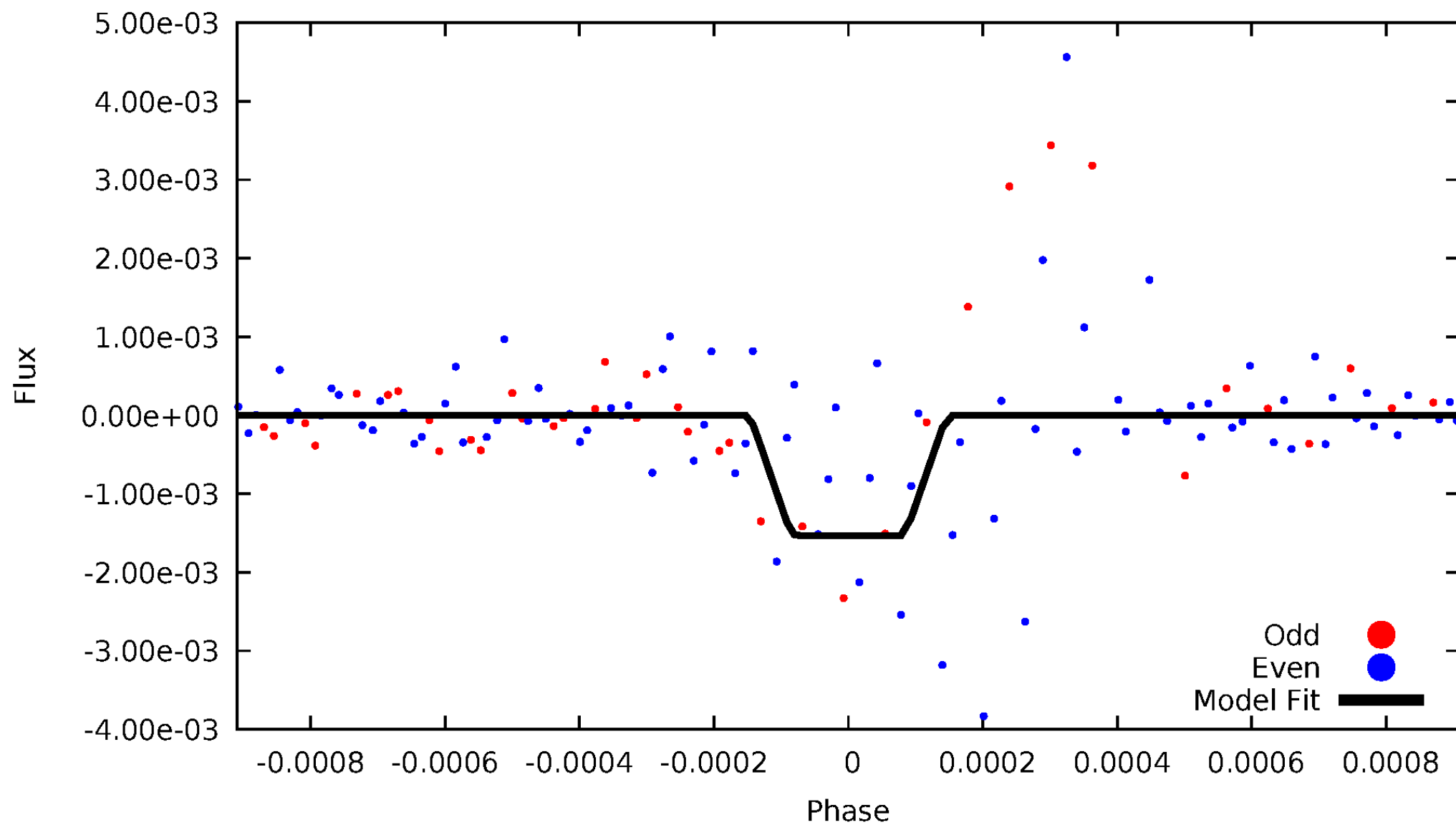
DV Odd/Even

TCE 010812541-07



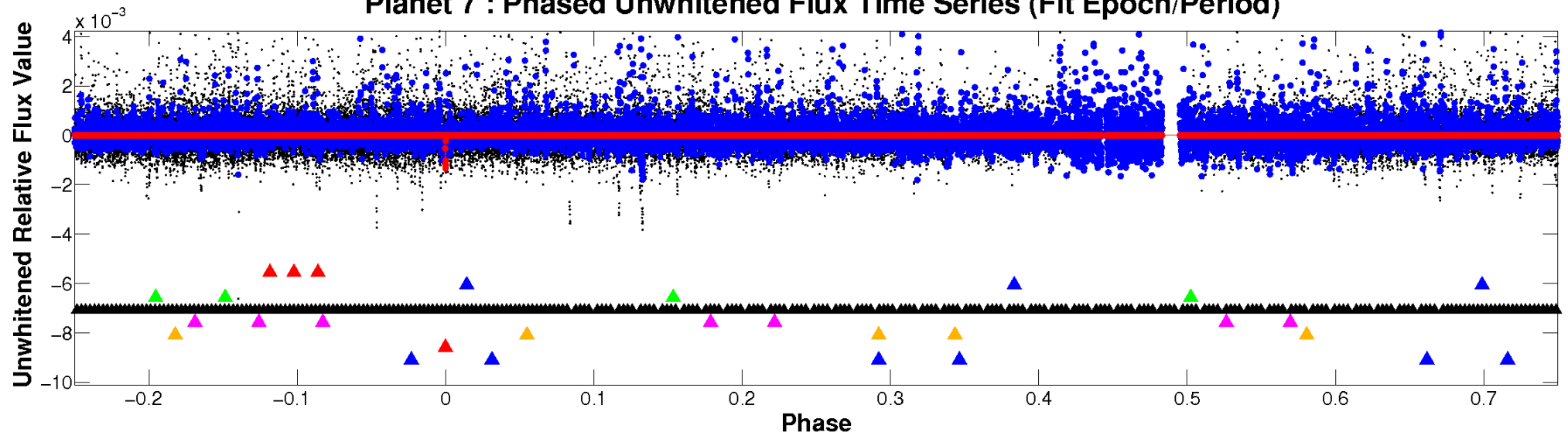
ALT Odd/Even

TCE 010812541-07

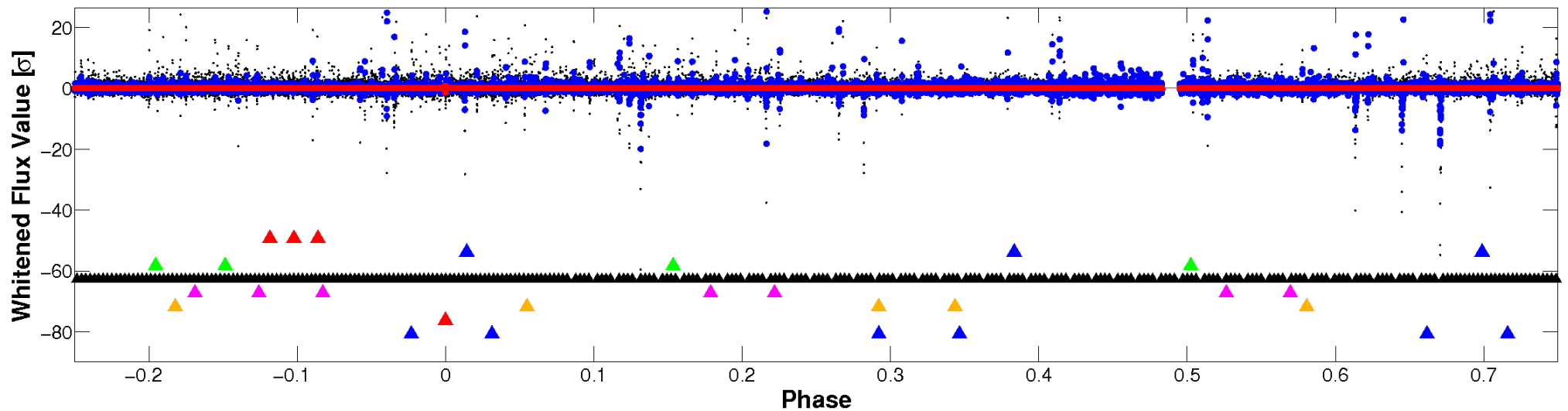


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

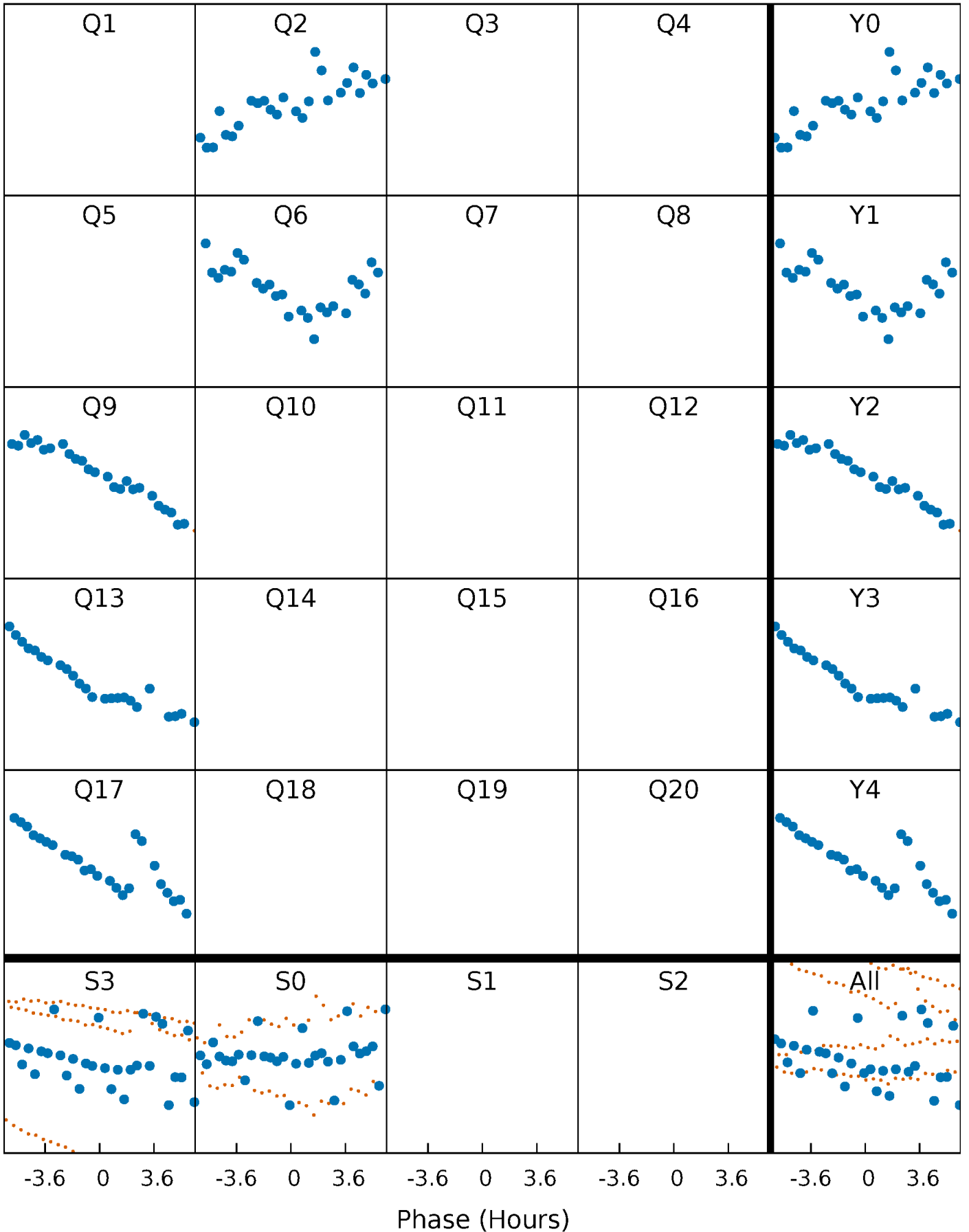


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



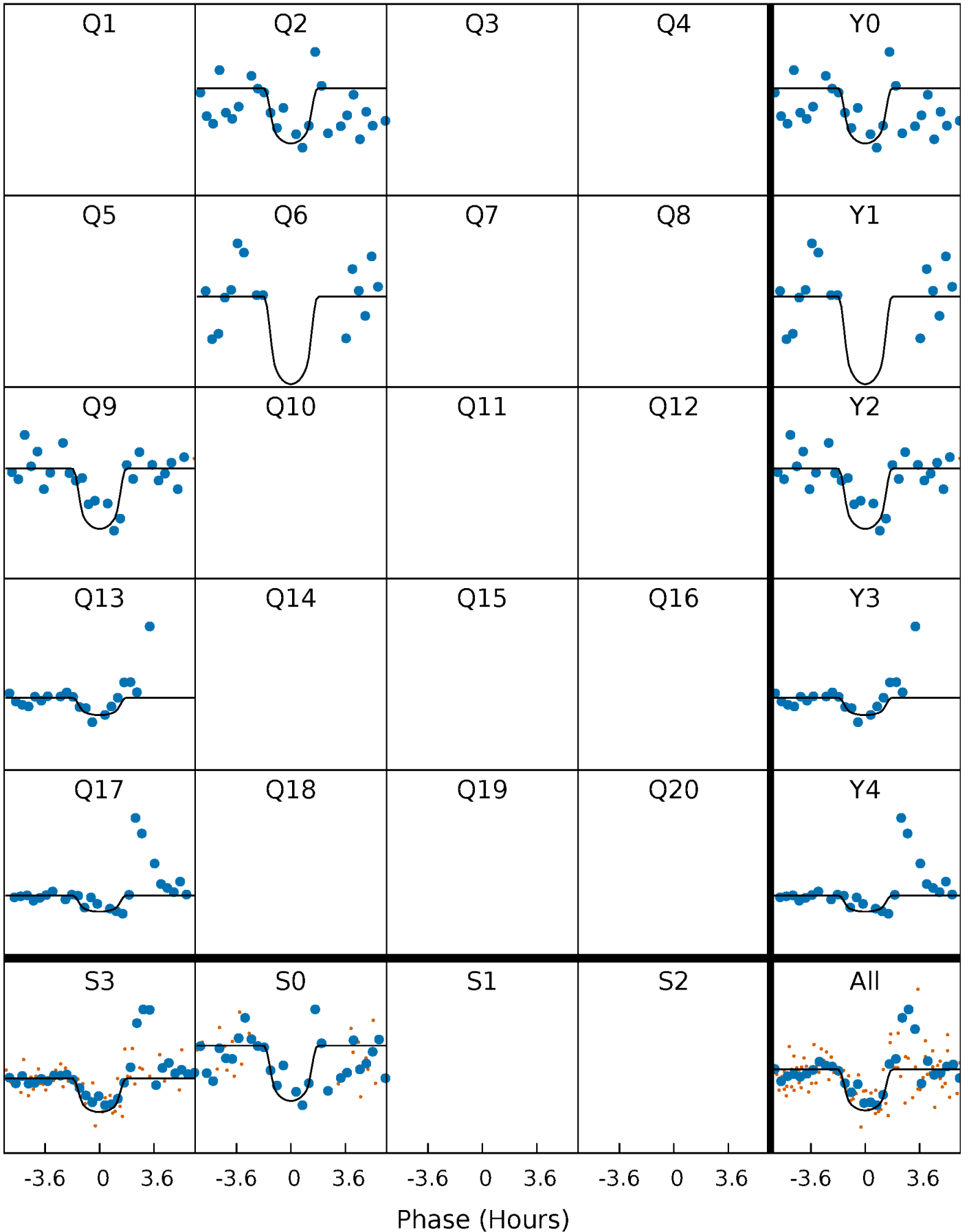
PDC Quarter-Phased Transit Curves

TCE 010812541-07 P=331.622401 Days $T_0=236.616663$ (BKJD)



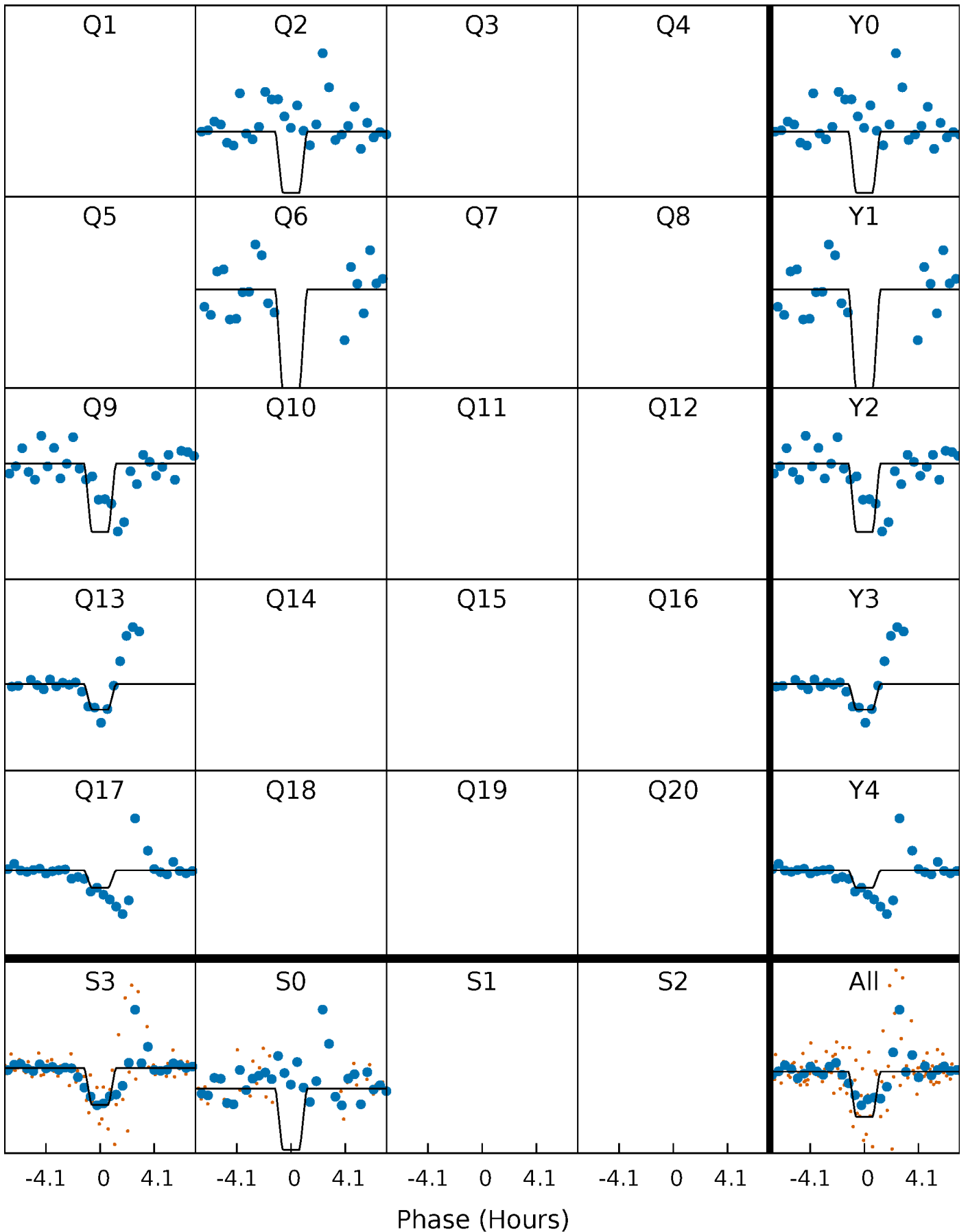
DV Quarter-Phased Transit Curves

TCE 010812541-07 P=331.622401 Days $T_0=236.616663$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

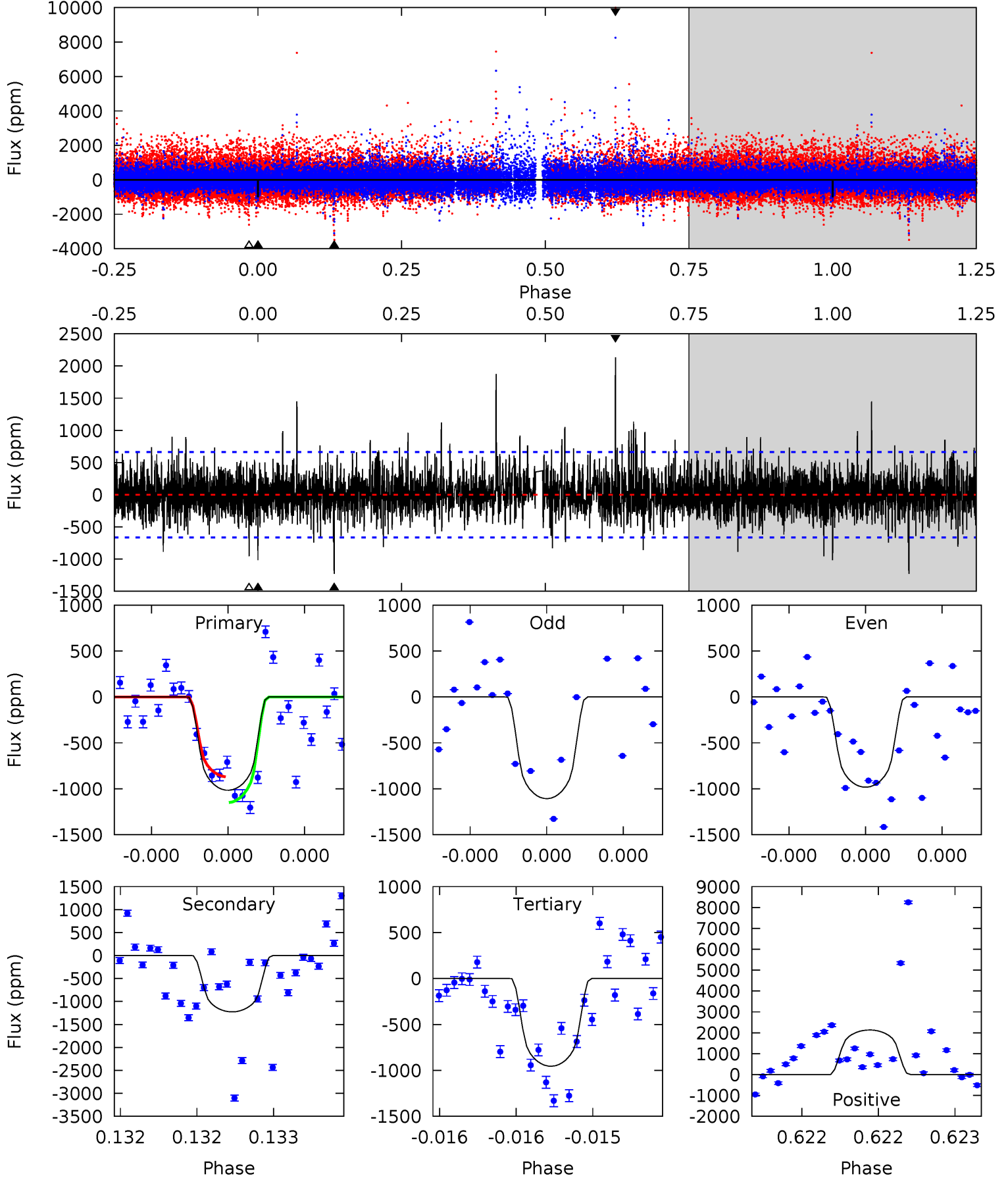
TCE 010812541-07 $P=331.628239$ Days $T_0=236.589810$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-07, P = 331.622401 Days, E = 236.616663 Days

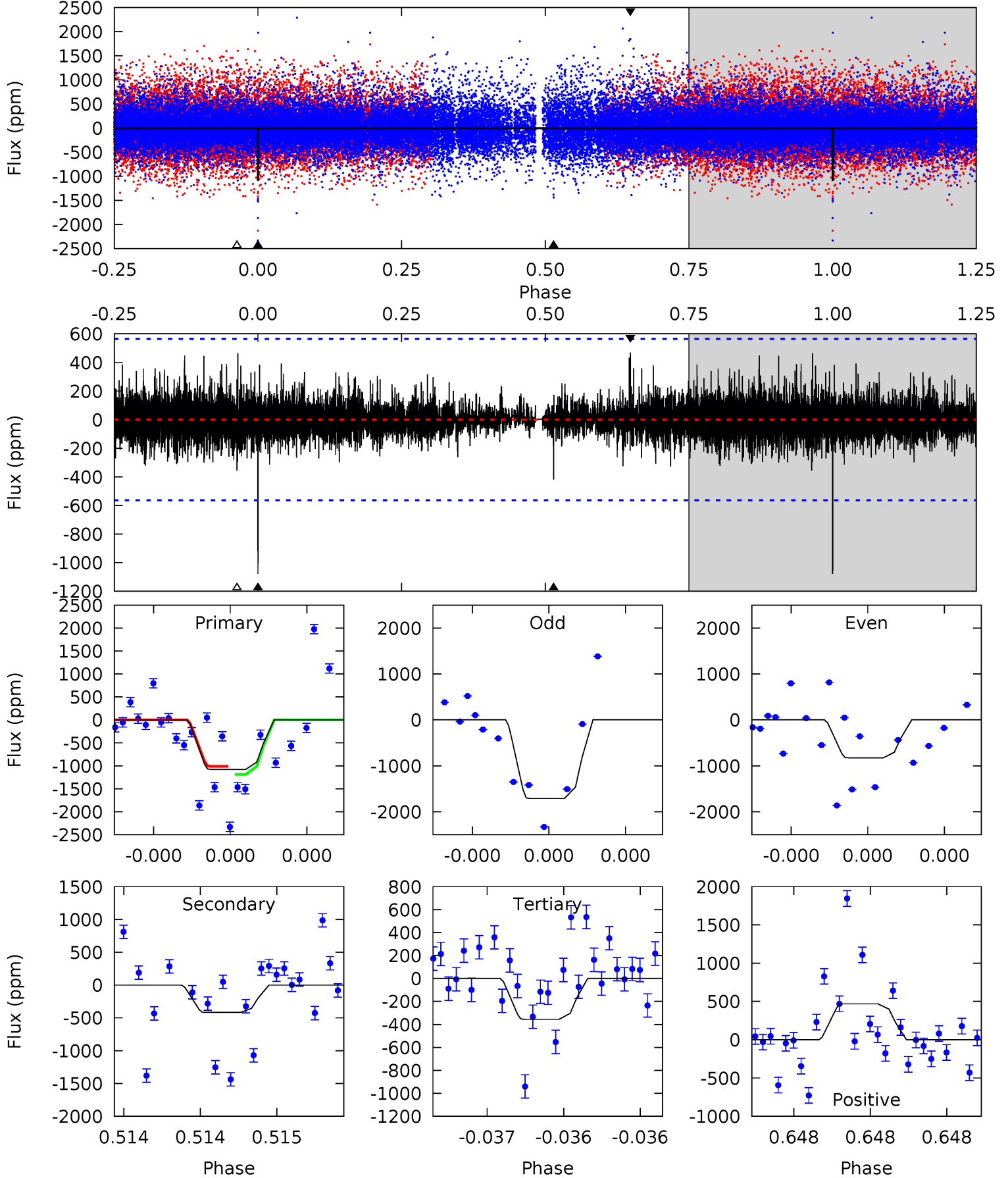
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.55	10.3	8.04	18.0	5.60	3.52	2.02	0.51	-9.42	2.29	-7.64	0.25	1.01	0.64	1.19



Alt Model-Shift Uniqueness Test

010812541-07, P = 331.628239 Days, E = 236.589810 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	4.21	3.58	4.72	5.68	3.64	0.88	7.27	6.13	0.63	-0.51	4.04	0.89	0.30	0.88



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1227 ± 119	$2.87^{+1.78}_{-1.66}$	226^{+8}_{-9}	3918^{+1640}_{-588}	$54367^{+265880}_{-33619}$
Alt.	-418 ± 99	$2.88^{+2.00}_{-1.52}$	227^{+8}_{-9}	3272^{+980}_{-462}	18563^{+69234}_{-12363}

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 $A_{obs} \gg 1.0$

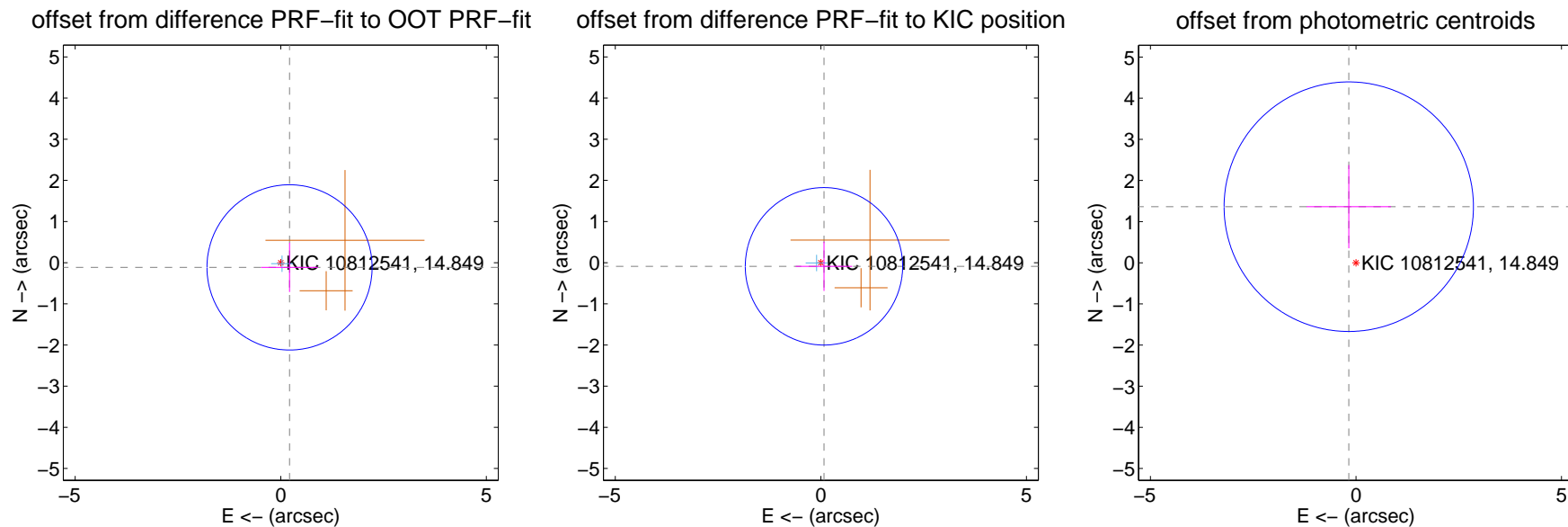
DV Centroid Data

Supplemental centroid analysis for 010812541-07. Kepler magnitude: 14.85. Transit SNR 6.27

There are 1 quarters with good PRF difference image offsets

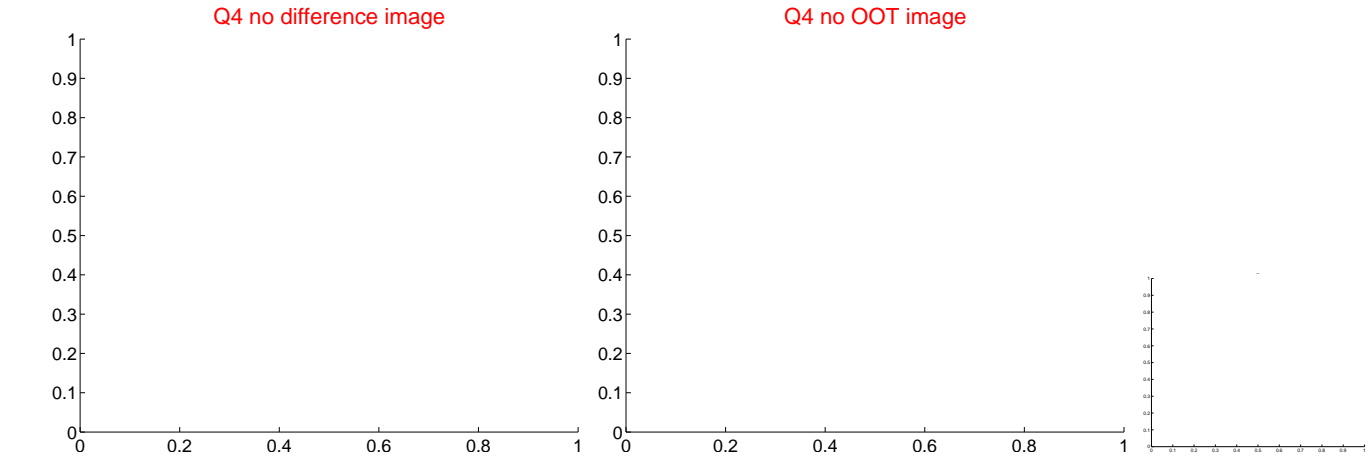
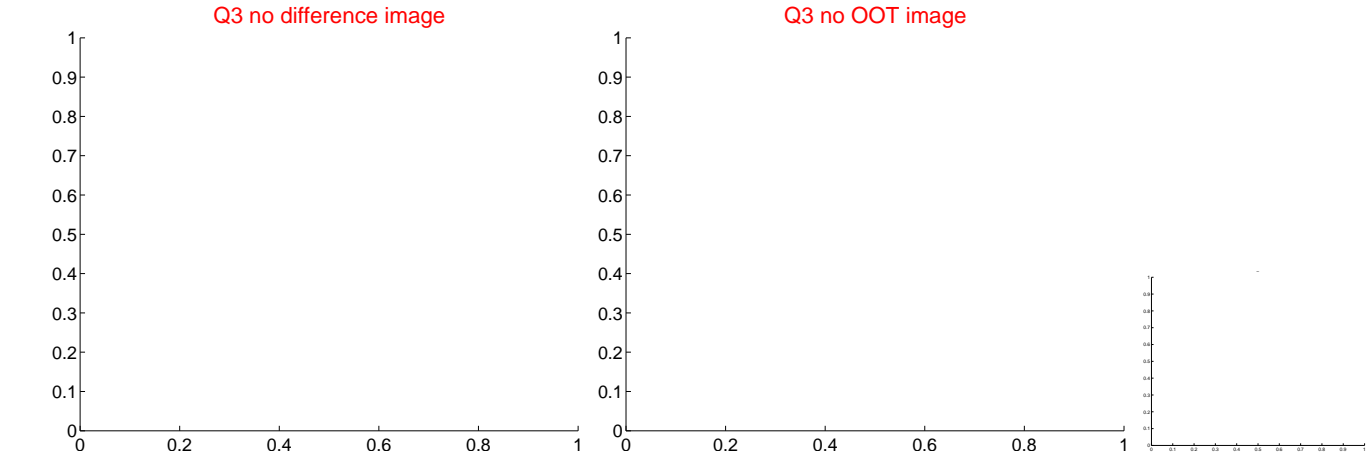
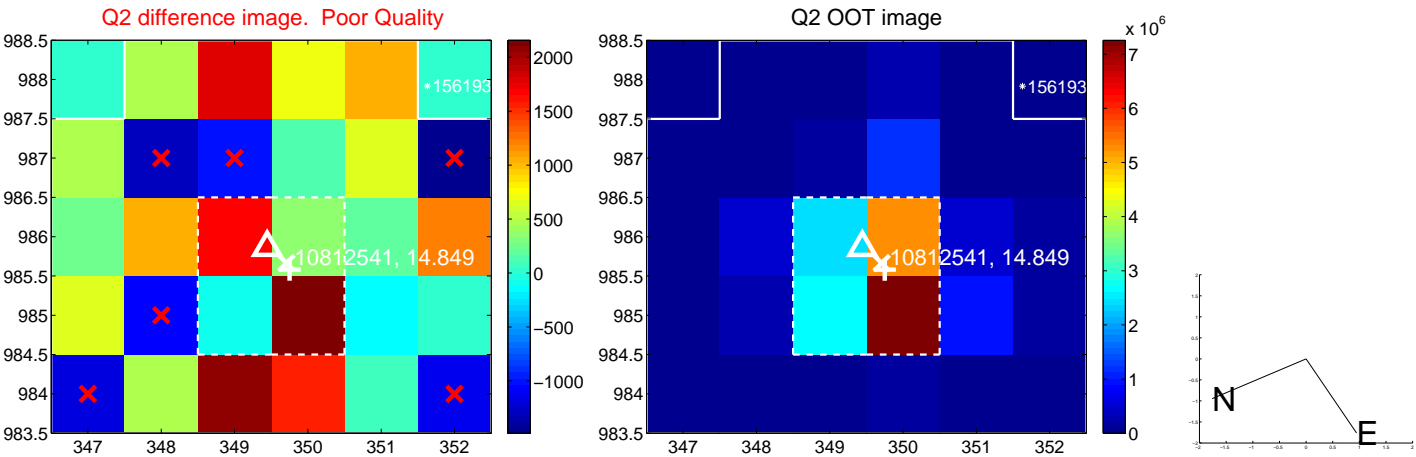
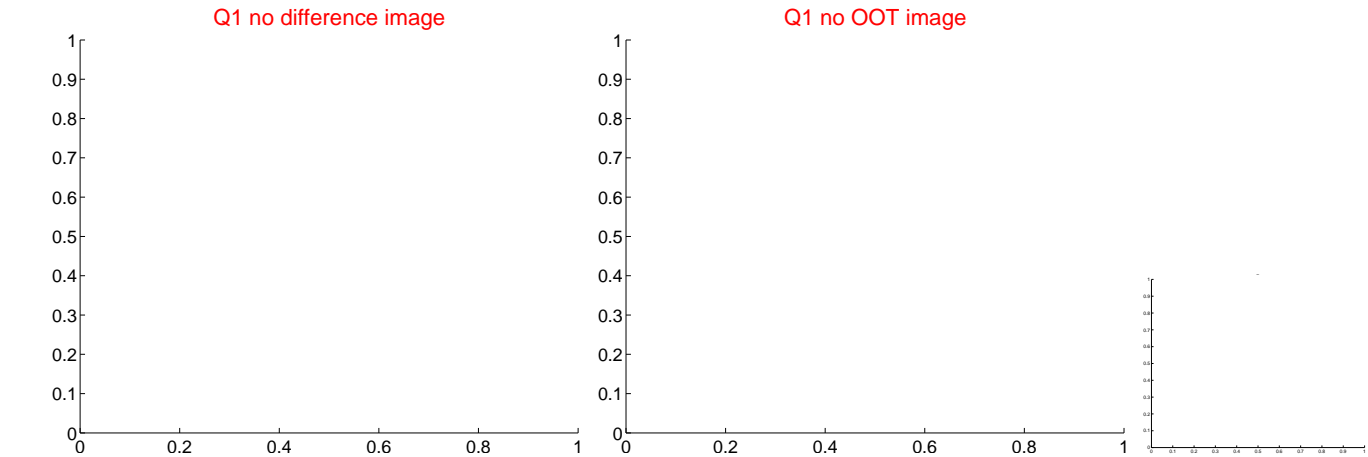
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.242 ± 0.669	0.36	-0.213 ± 0.688	-0.114 ± 0.599
PRF-fit source offset from KIC position	0.116 ± 0.638	0.18	-0.075 ± 0.688	-0.088 ± 0.599
photometric centroid source offset	1.37 ± 1.01	1.36	0.17 ± 1.03	1.36 ± 1.01



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

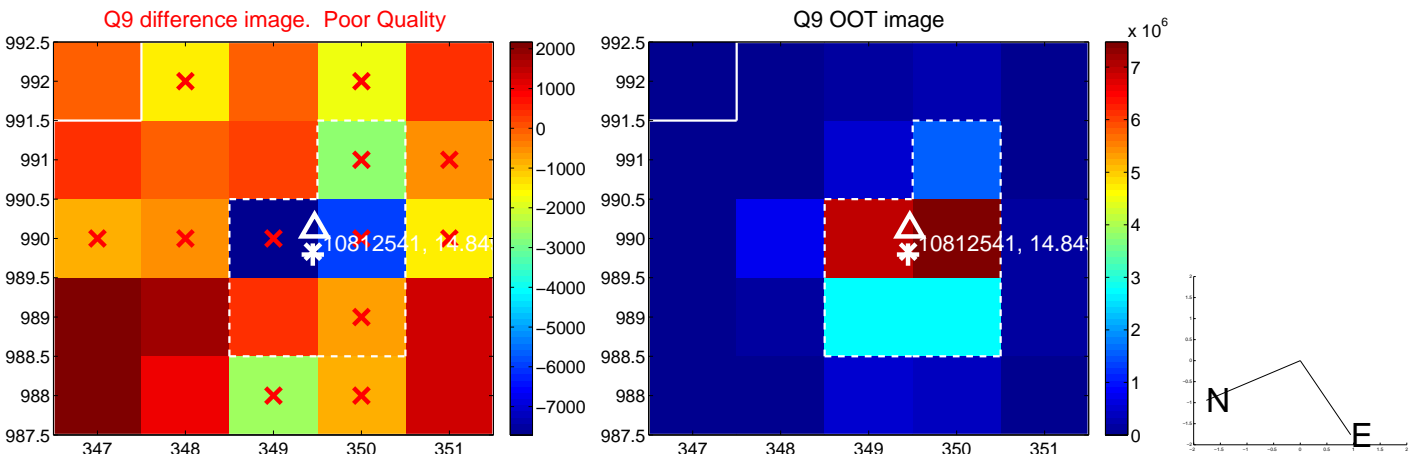
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



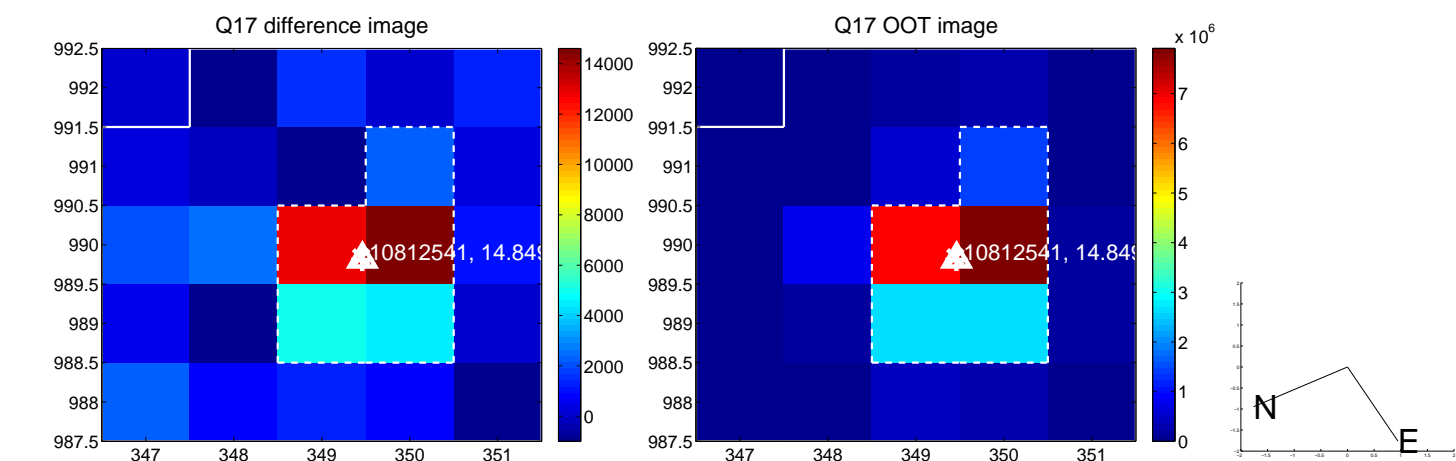
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



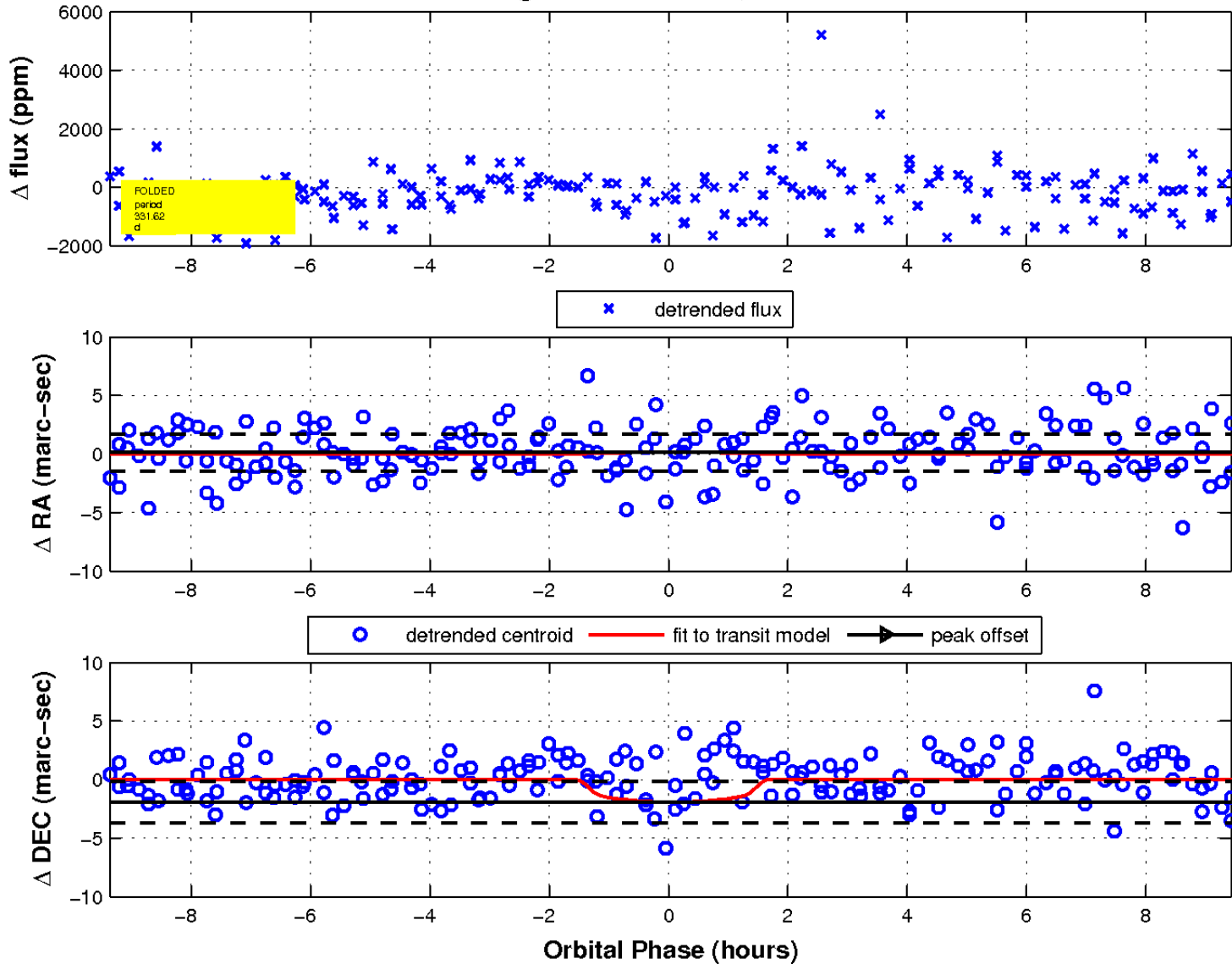
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



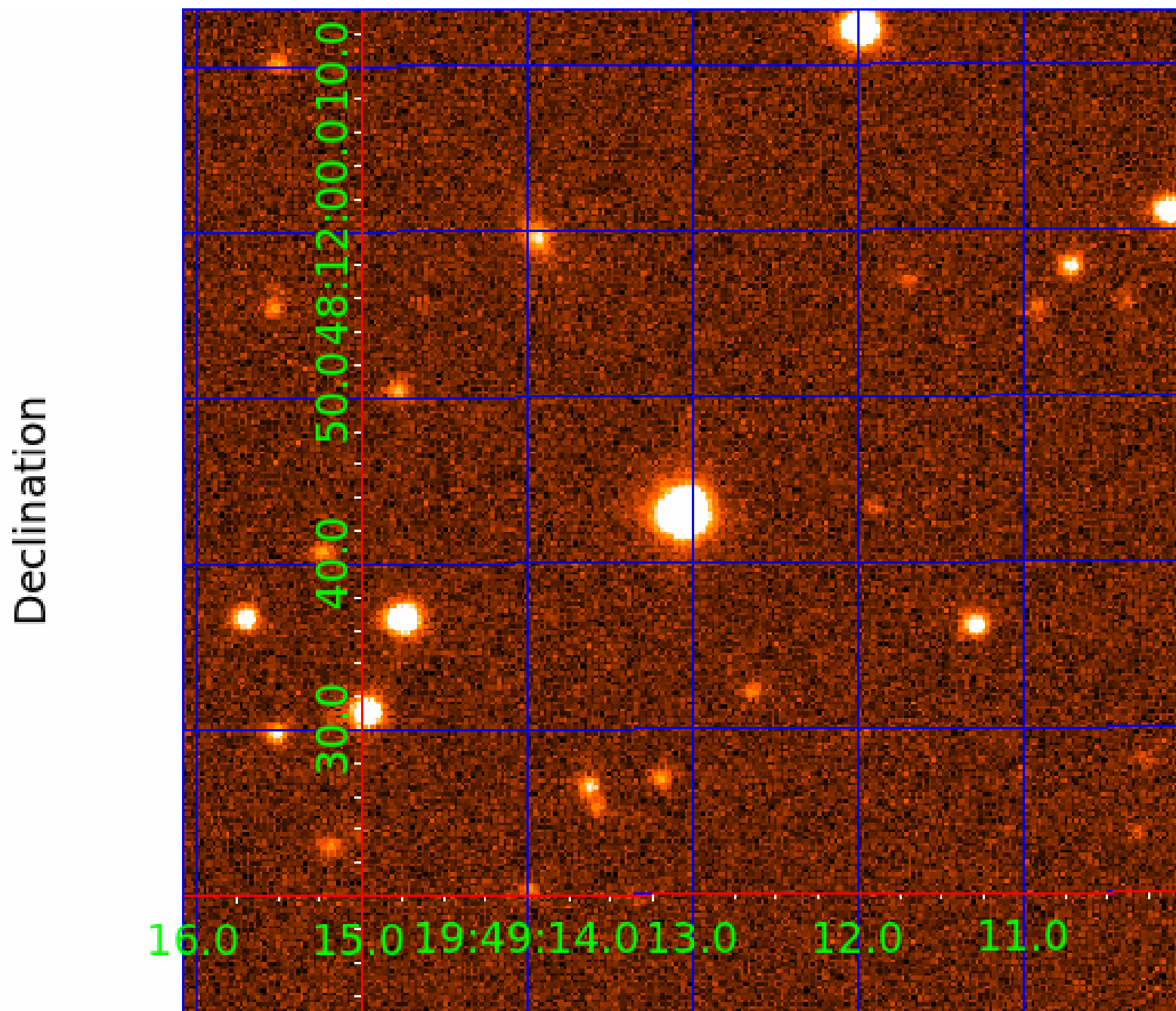
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 7 of 8



UKIRT Image



KIC 010812541

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})
010812541-01	OBS	No	668.612573	197.358439	2576.2	6.765	15.0	7.6	0.65	4137	4.38	0.07
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010812541-04	OBS	7375.01	4.848501	131.905169	546.1	1.081	12.8	17.7	0.65	4137	1.88	46.86
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010812541-06	OBS	No	252.979565	333.488781	1051.2	3.352	12.2	5.1	0.65	4137	2.40	0.24
010812541-07	OBS	No	331.622401	236.616663	1344.3	3.160	11.3	6.3	0.65	4137	2.67	0.17
010812541-08	OBS	No	227.094881	333.503546	1715.7	3.500	15.5	-1.0	0.65	4137	2.57	0.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010812541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010812541-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
010812541-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
010812541-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010812541-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—CENT_NOFITS

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

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

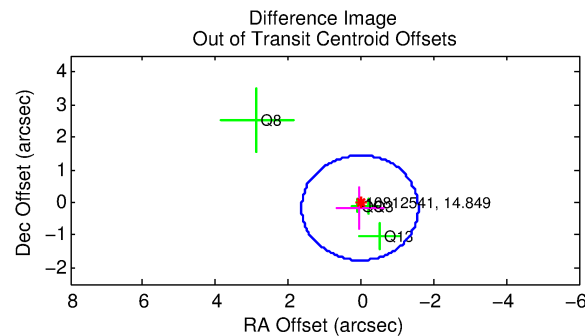
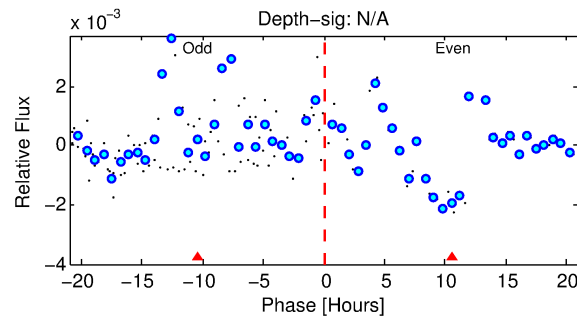
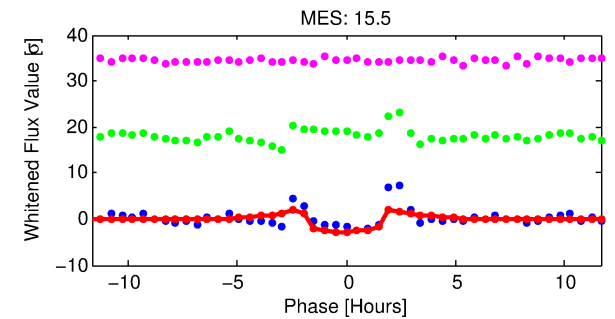
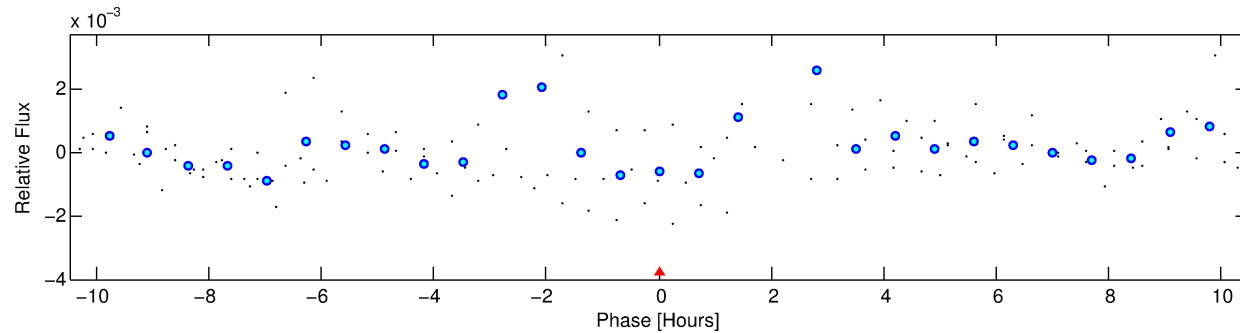
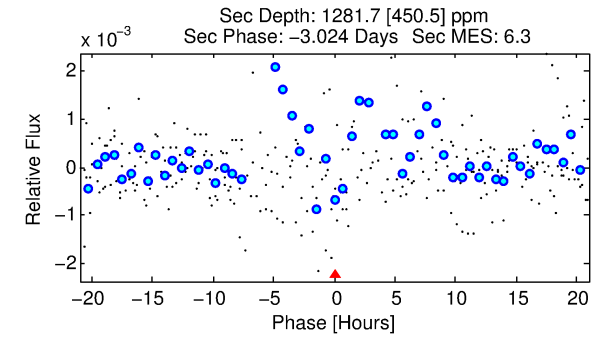
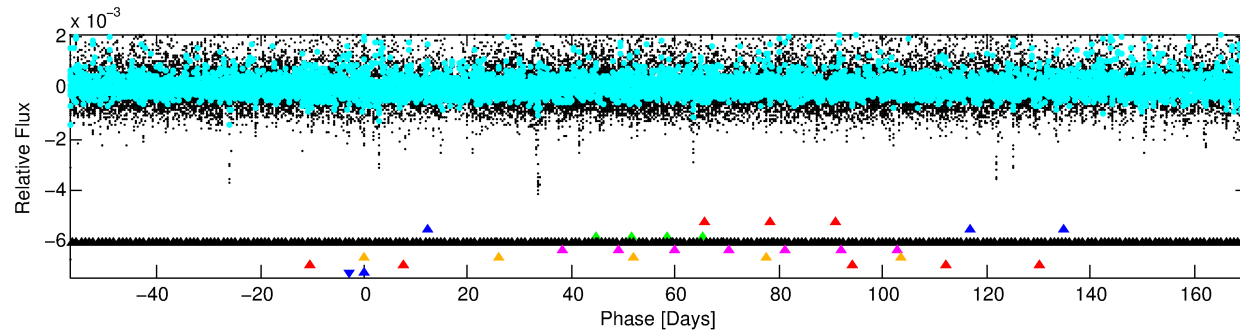
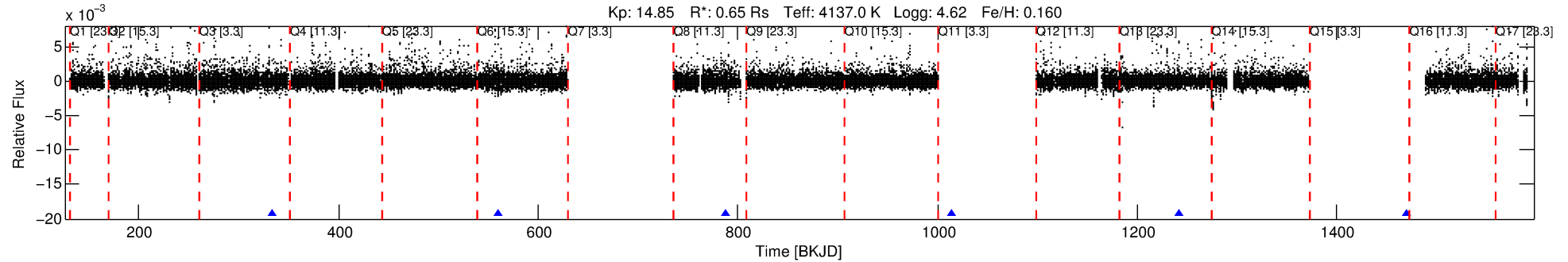
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010812541-08

No Significant Match Found

DV One-Page Summary

KIC: 10812541 Candidate: 8 of 8 Period: 227.095 d
KOI: K07375 Corr: No Ephemeris Match



TPS TCE Results:

Period = 227.09488 d
Epoch = 333.5035 BKJD

DV fit results are unavailable

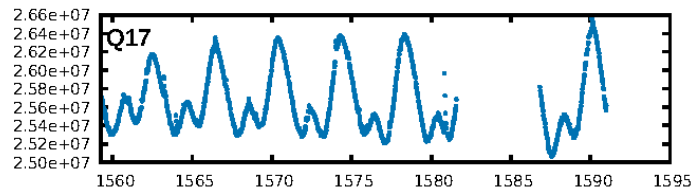
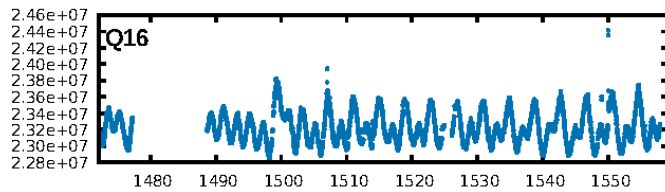
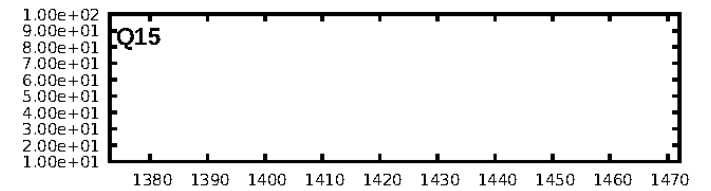
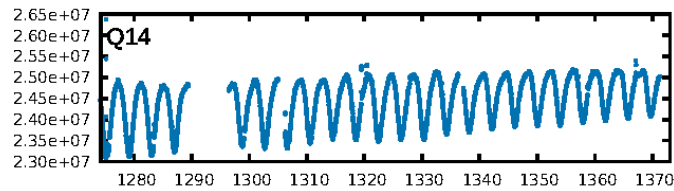
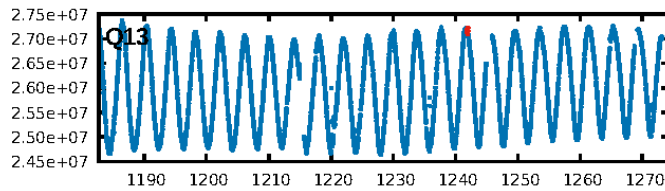
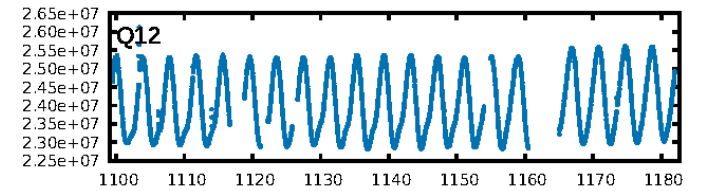
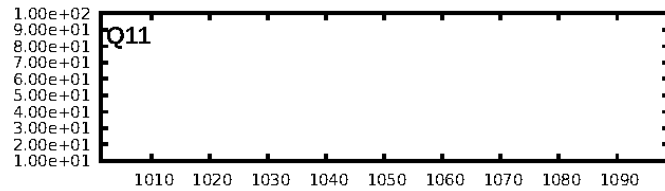
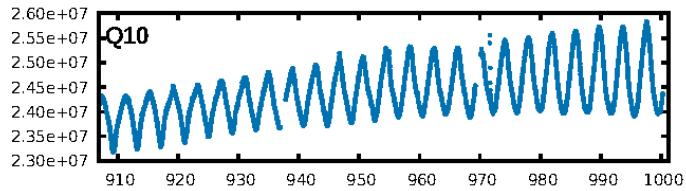
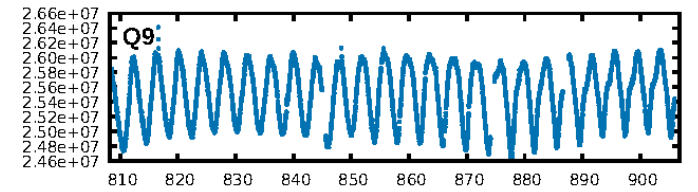
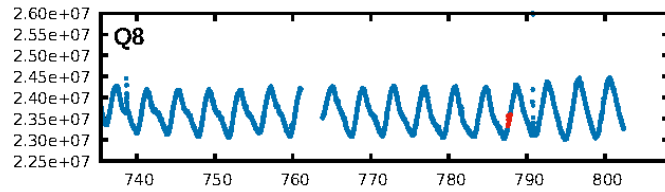
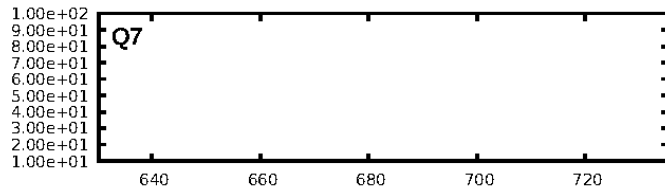
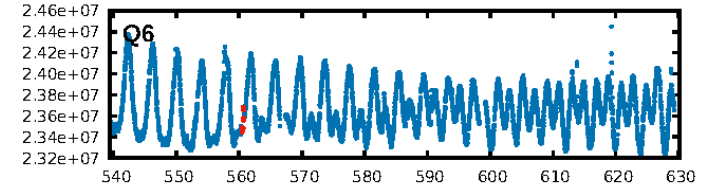
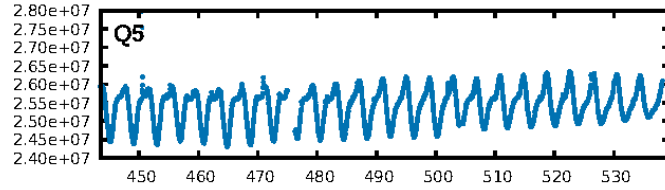
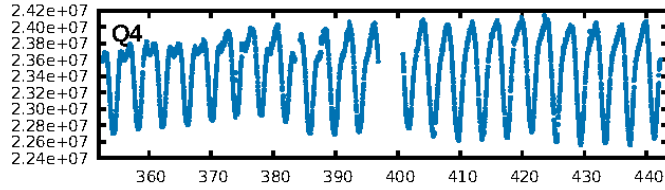
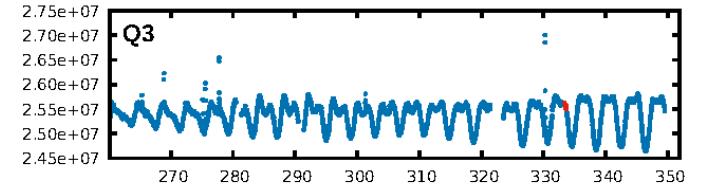
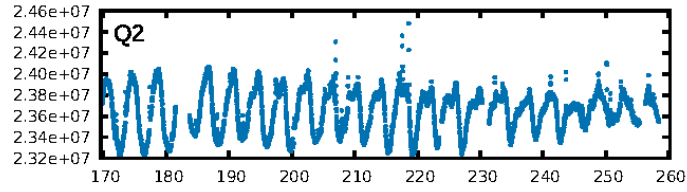
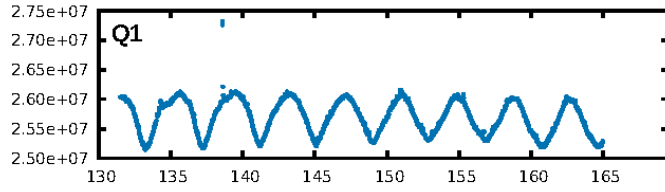
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.19σ]
LongPeriod-sig: 100.0% [128.19σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.491
Centroid-sig: 26.0%
Centroid-so: 0.578 arcsec [1.34σ]
OotOffset-rm: 0.169 arcsec [0.32σ]
KicOffset-rm: 0.324 arcsec [1.07σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.50 [2/4]

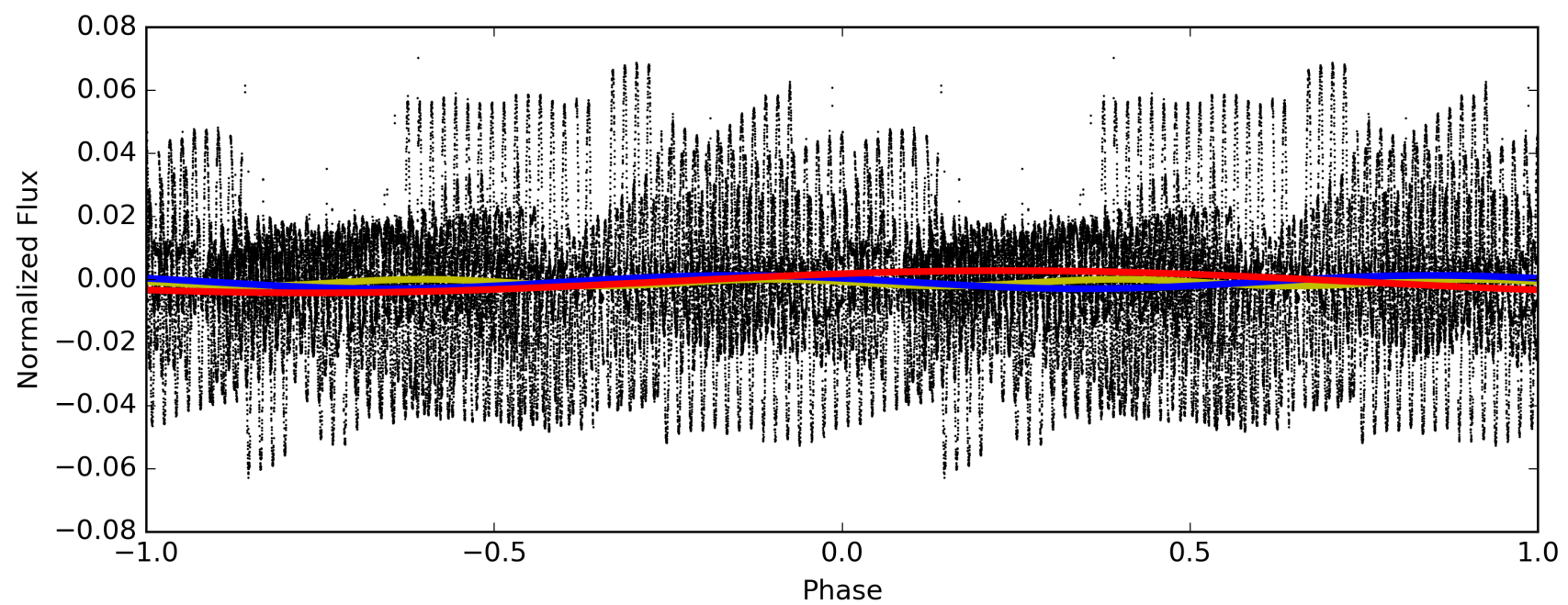
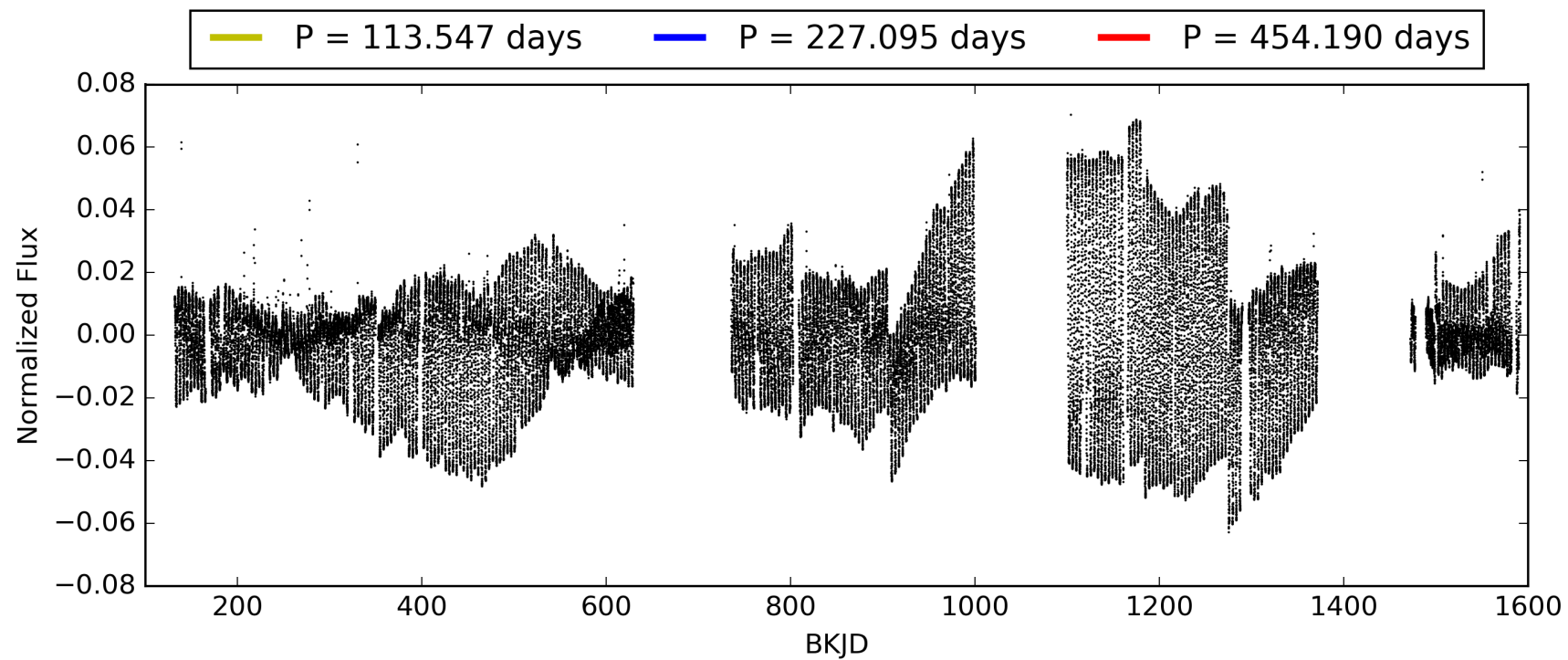
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:28:46 Z

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

TCE 010812541-08, PDC Light Curves

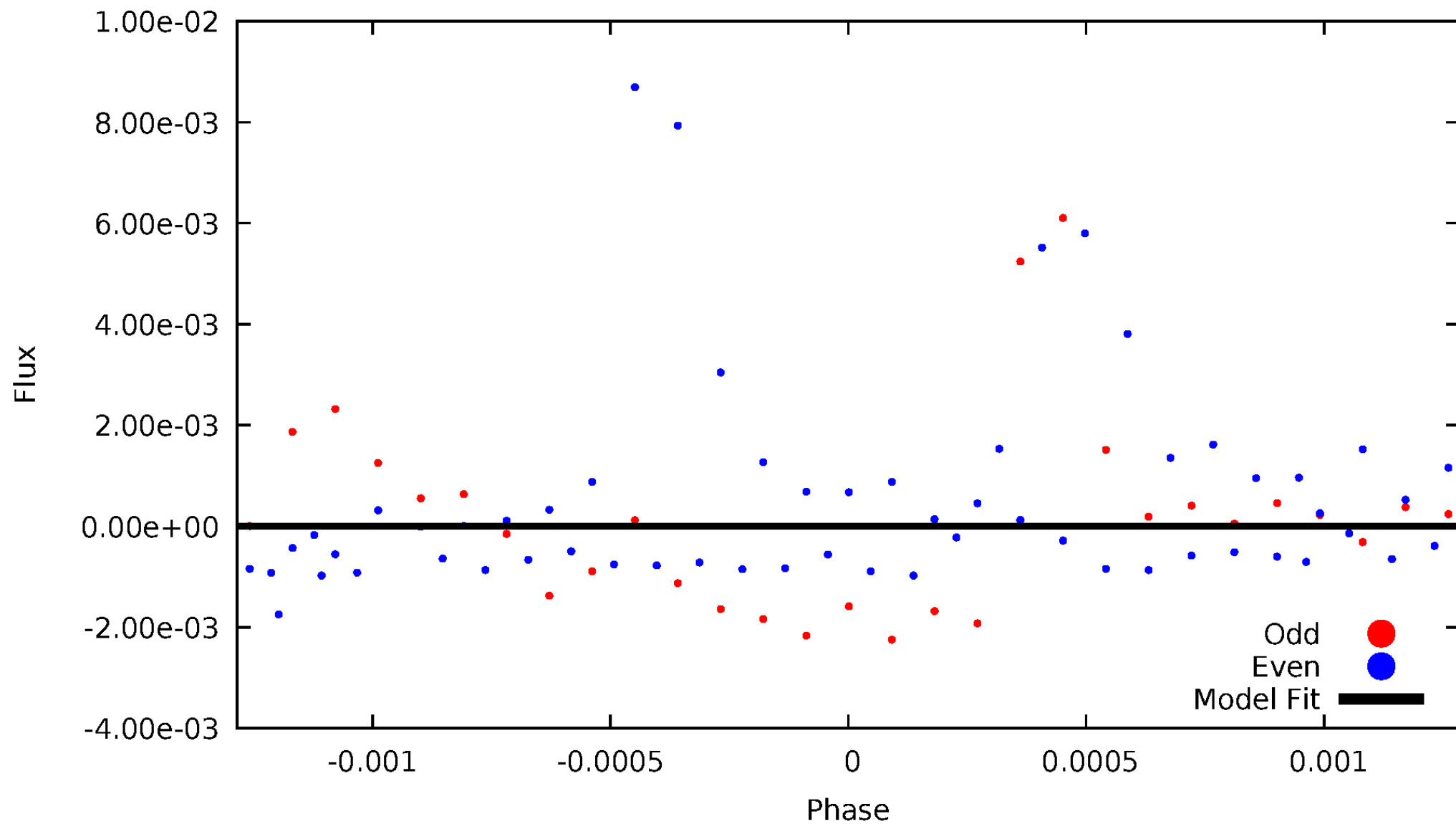


TCE 010812541-08



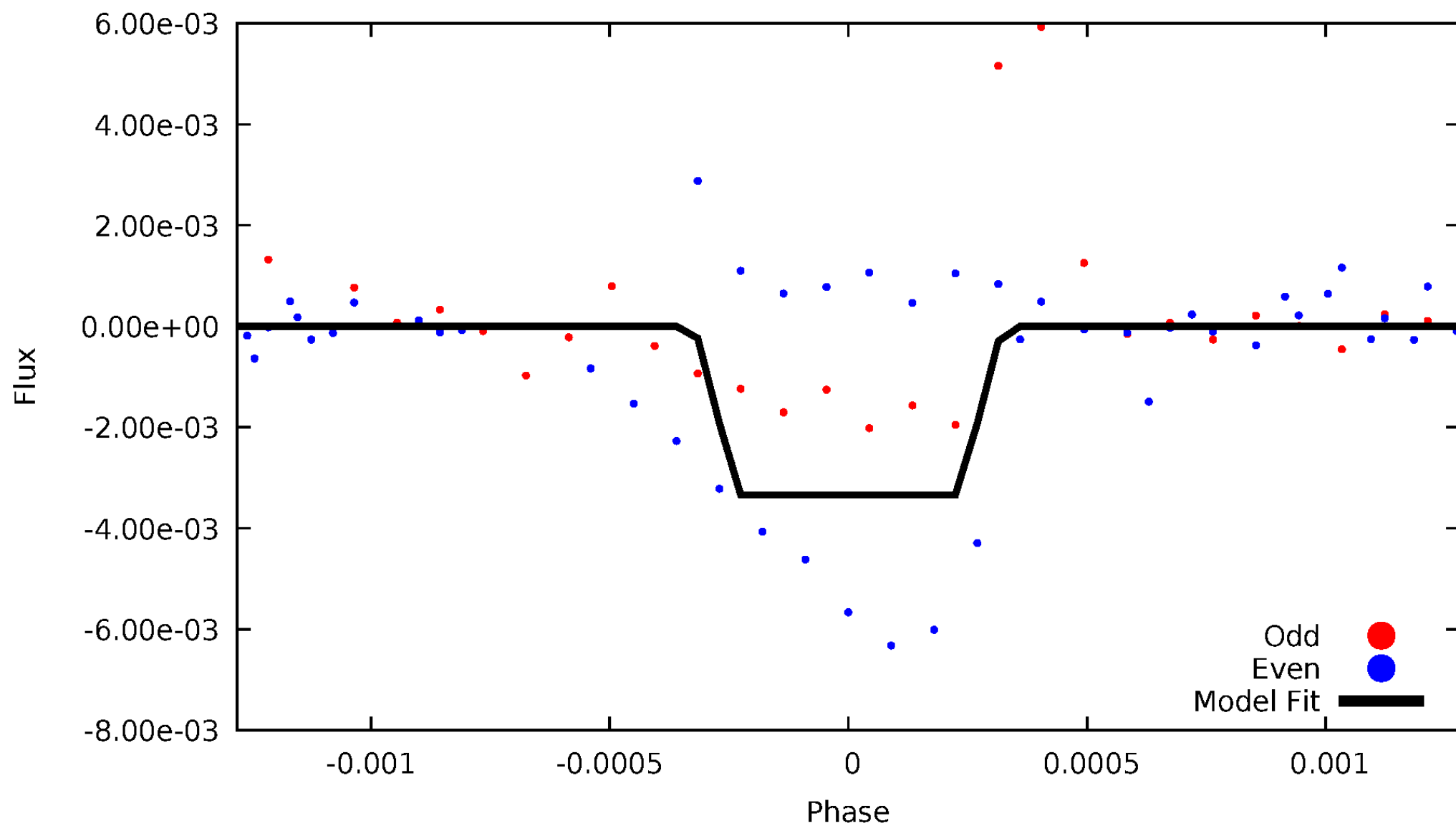
DV Odd/Even

TCE 010812541-08



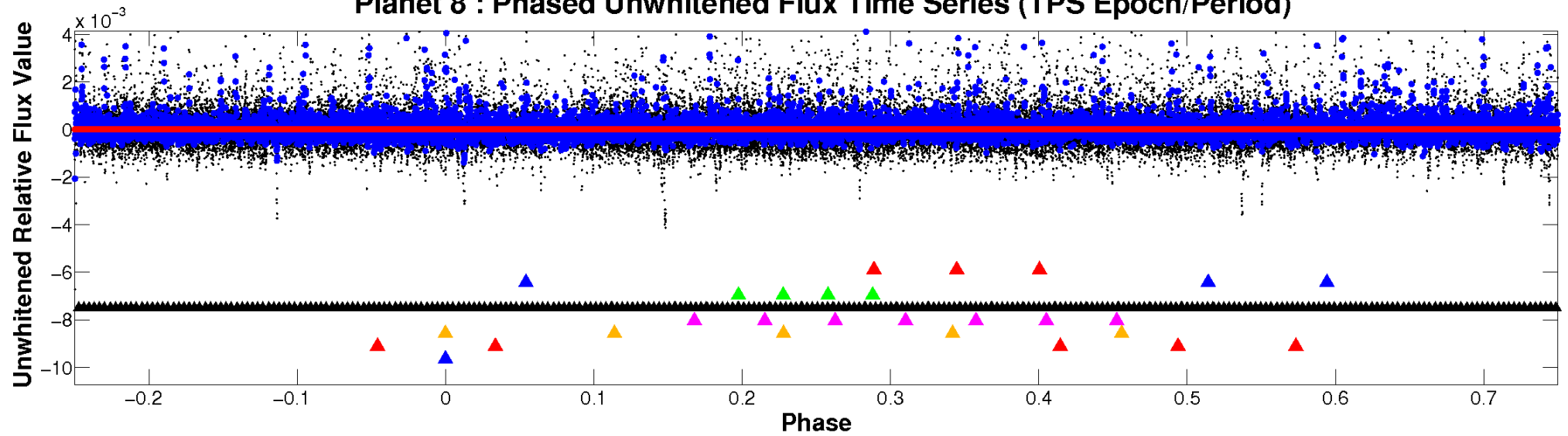
ALT Odd/Even

TCE 010812541-08



Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

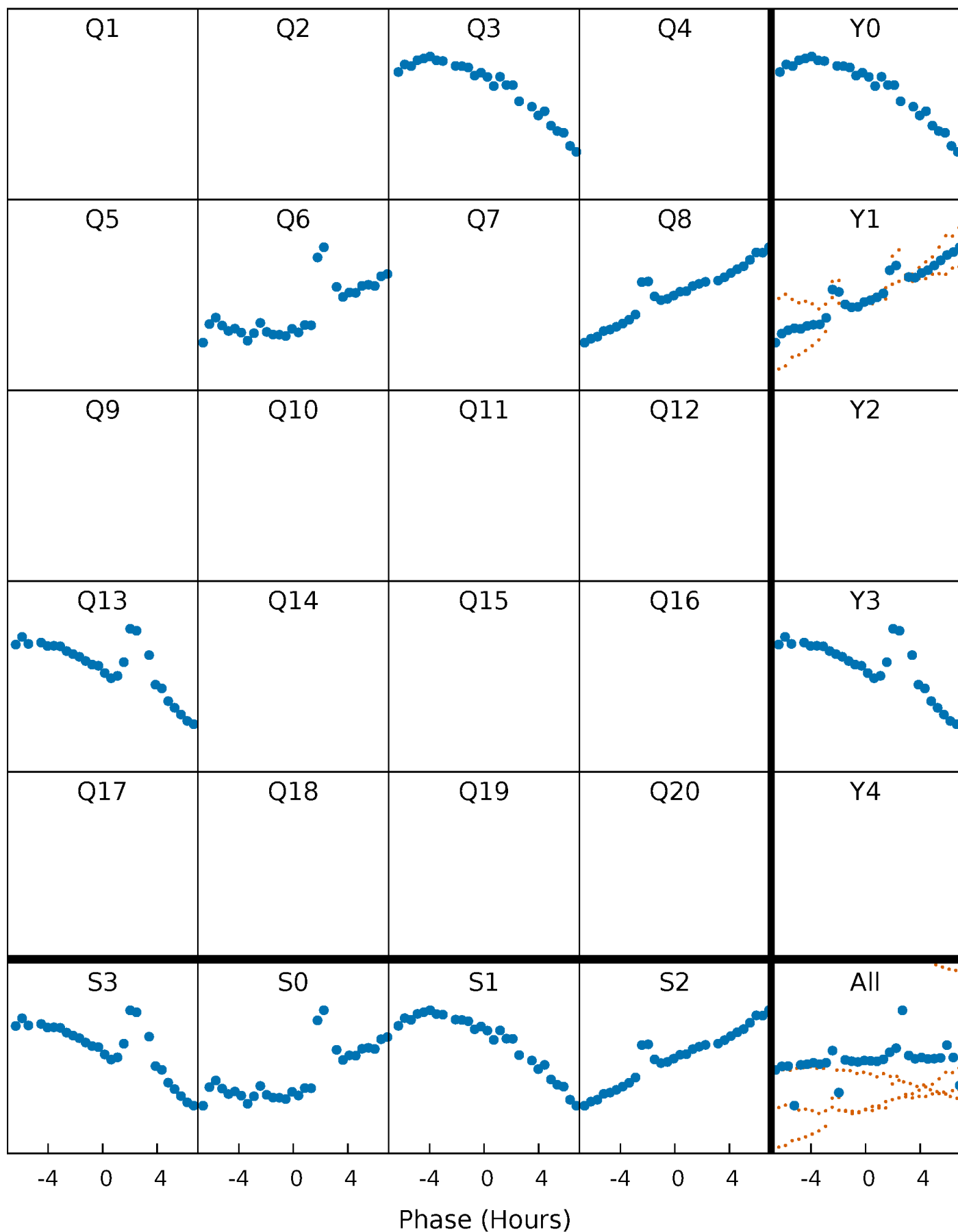


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



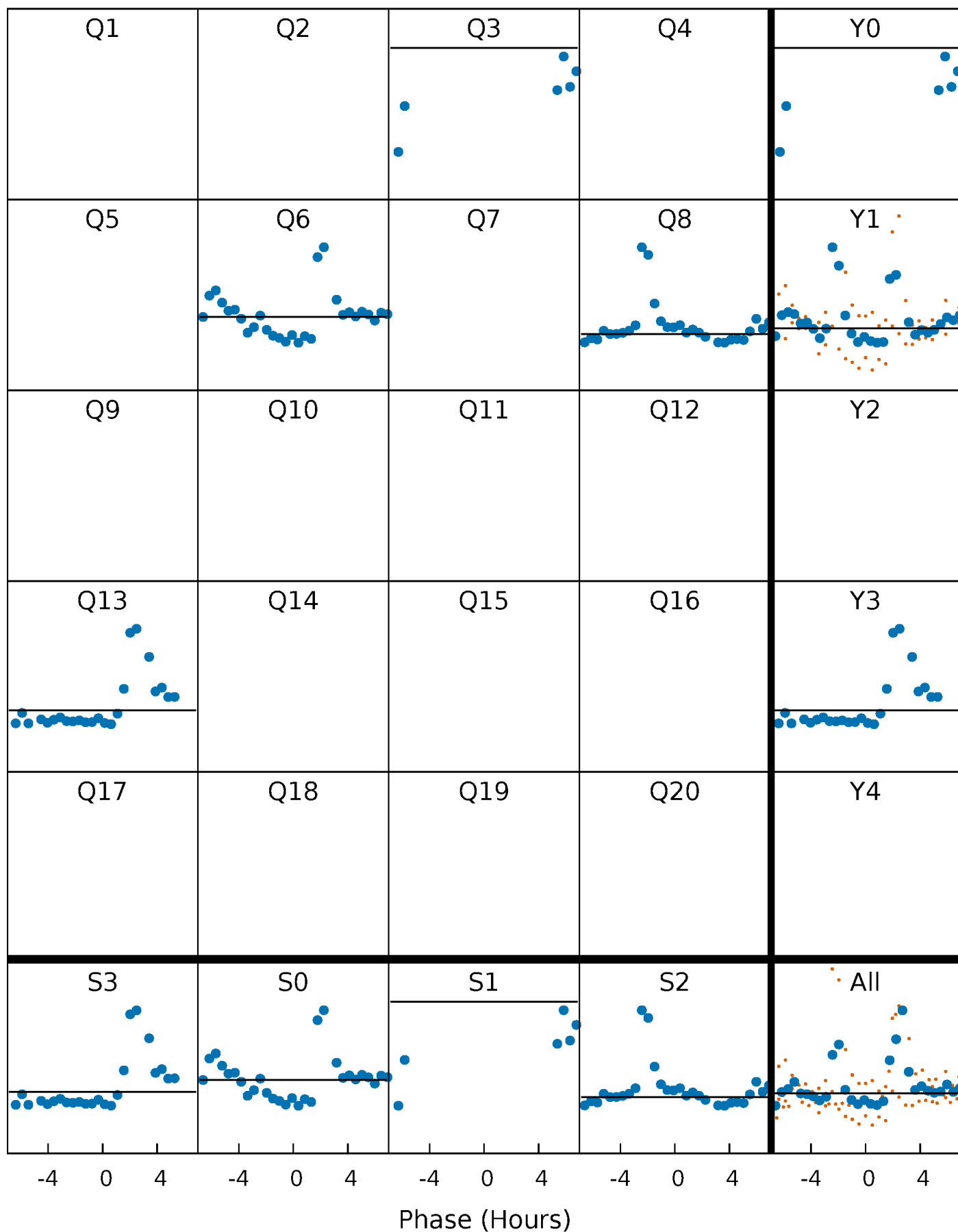
PDC Quarter-Phased Transit Curves

TCE 010812541-08 $P=227.094881$ Days $T_0=333.503546$ (BKJD)



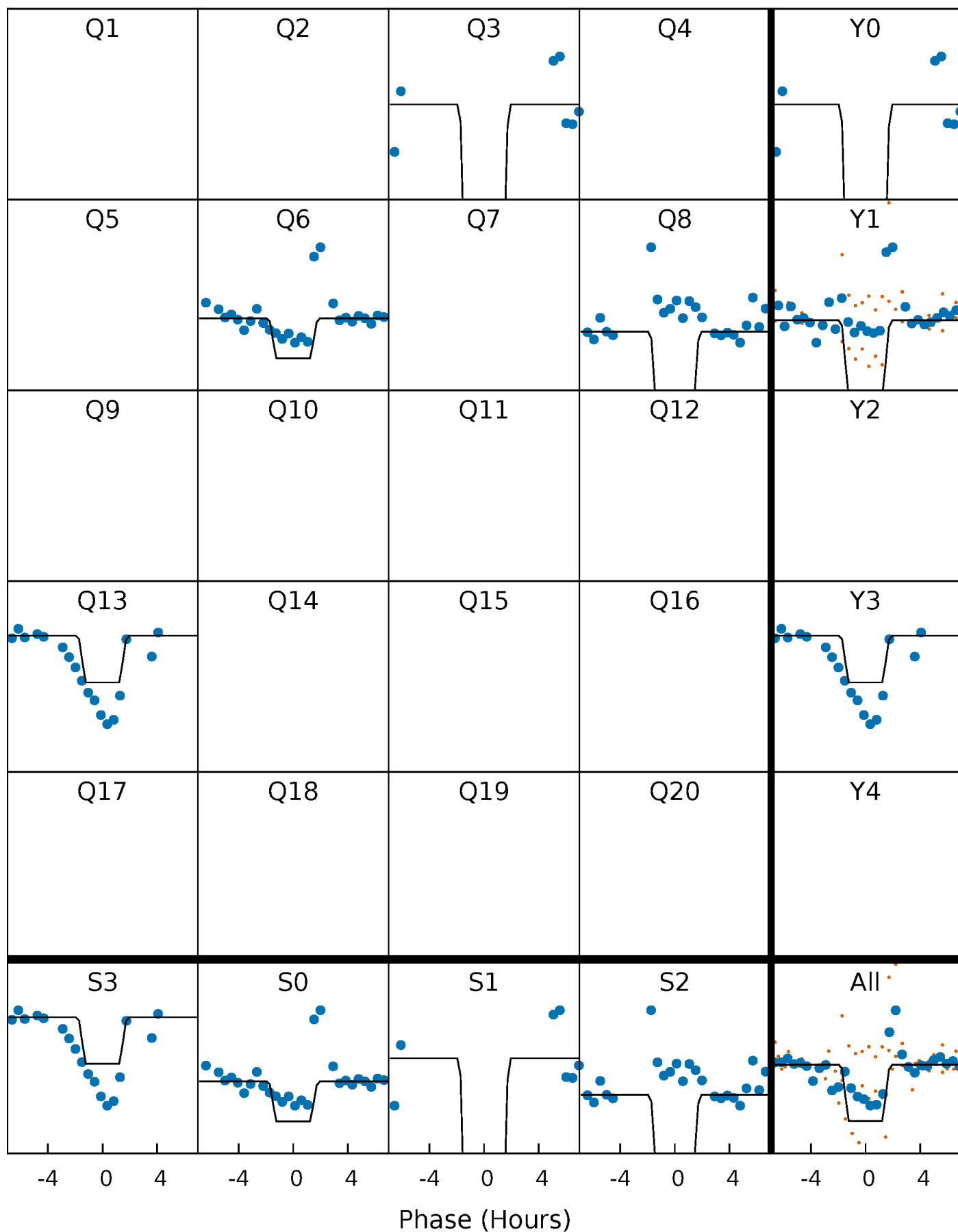
DV Quarter-Phased Transit Curves

TCE 010812541-08 $P=227.094881$ Days $T_0=333.503546$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

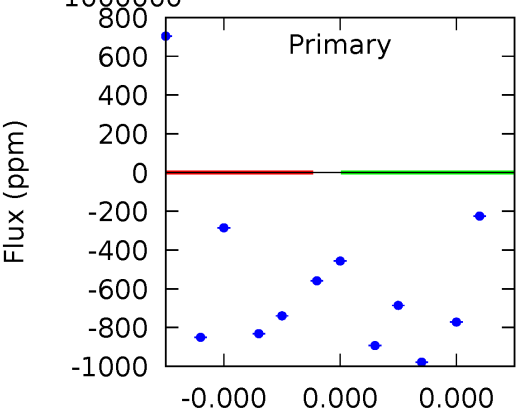
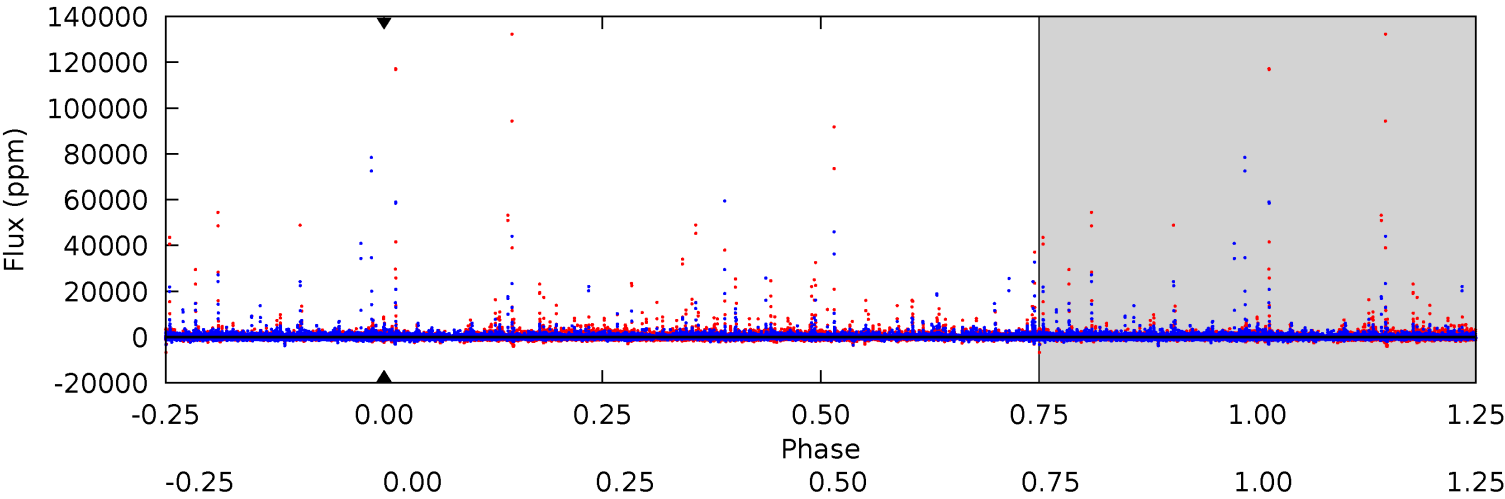
TCE 010812541-08 P=227.094881 Days $T_0=333.514257$ (BKJD)



DV Model-Shift Uniqueness Test

010812541-08, P = 227.094881 Days, E = 106.408665 Days

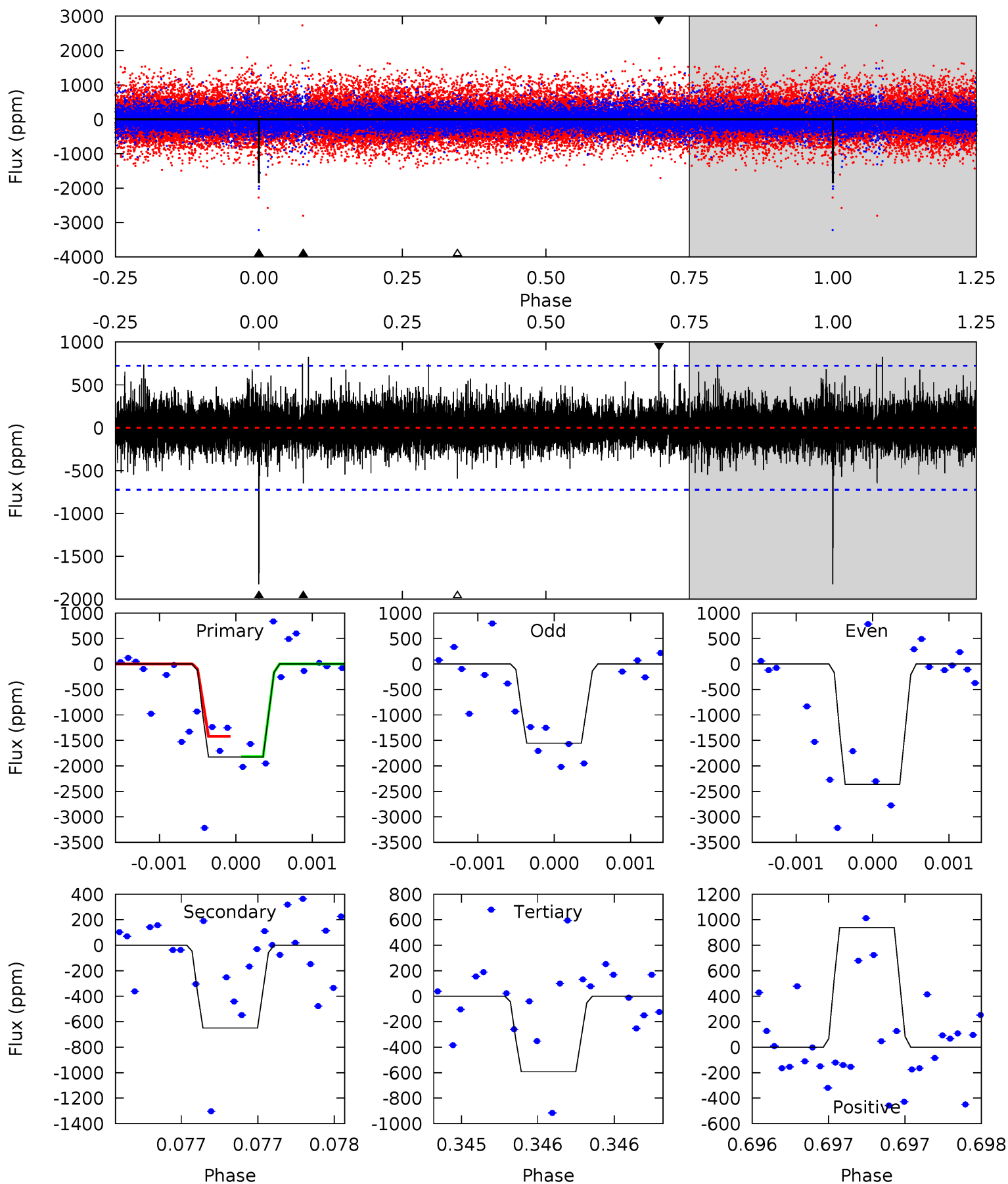
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010812541-08, P = 227.094881 Days, E = 106.419376 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	4.96	4.52	7.16	5.53	3.42	1.09	9.41	6.77	0.44	-2.20	4.20	1.32	0.34	0



Stellar Parameters For KIC 010812541

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4137^{+136}_{-148}	$4.625^{+0.053}_{-0.018}$	$0.160^{+0.250}_{-0.300}$	$0.647^{+0.031}_{-0.058}$	$0.643^{+0.045}_{-0.056}$	$3.349^{+0.776}_{-0.286}$
	+3%/-4%	+1%/-0%	+156%/-188%	+5%/-9%	+7%/-9%	+23%/-9%
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 010812541-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$5.66^{+5.81}_{-4.02}$	256^{+9}_{-9}	-3411^{+12629}_{-6256}	$-15466.526^{+1236750.862}_{-1297511.928}$
Alt.	-650 ± 131	$6.39^{+5.49}_{-4.19}$	256^{+10}_{-9}	2781^{+1043}_{-406}	3553^{+25800}_{-2552}

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

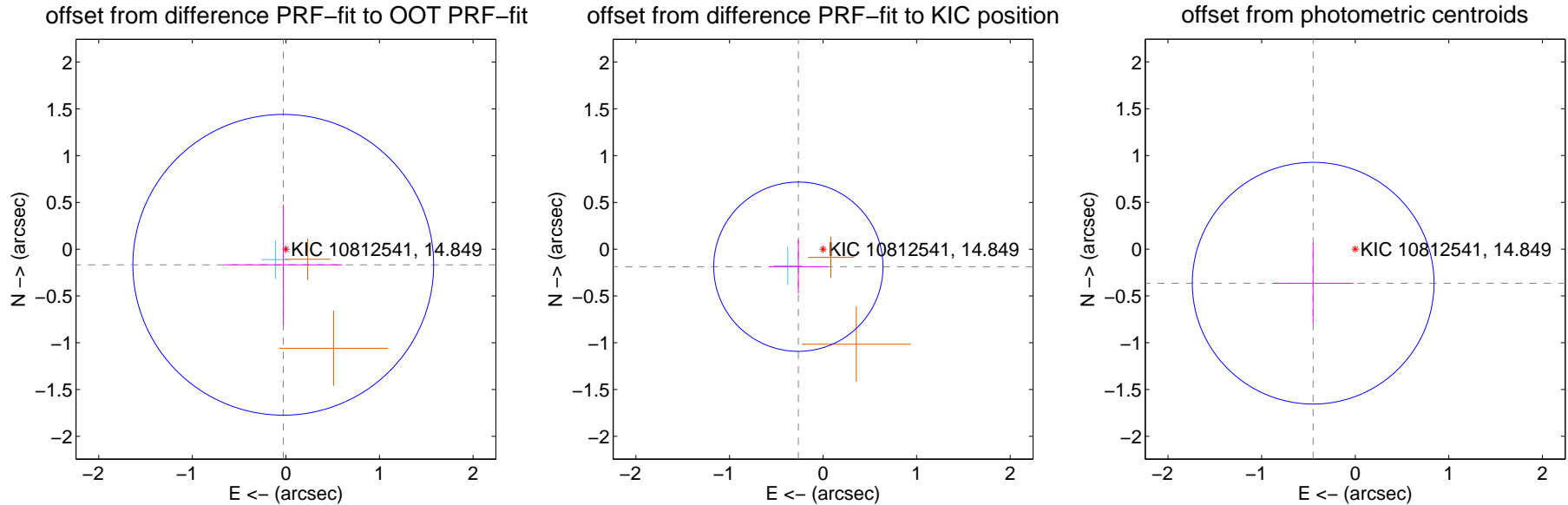
DV Centroid Data

Supplemental centroid analysis for 010812541-08. Kepler magnitude: 14.85. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

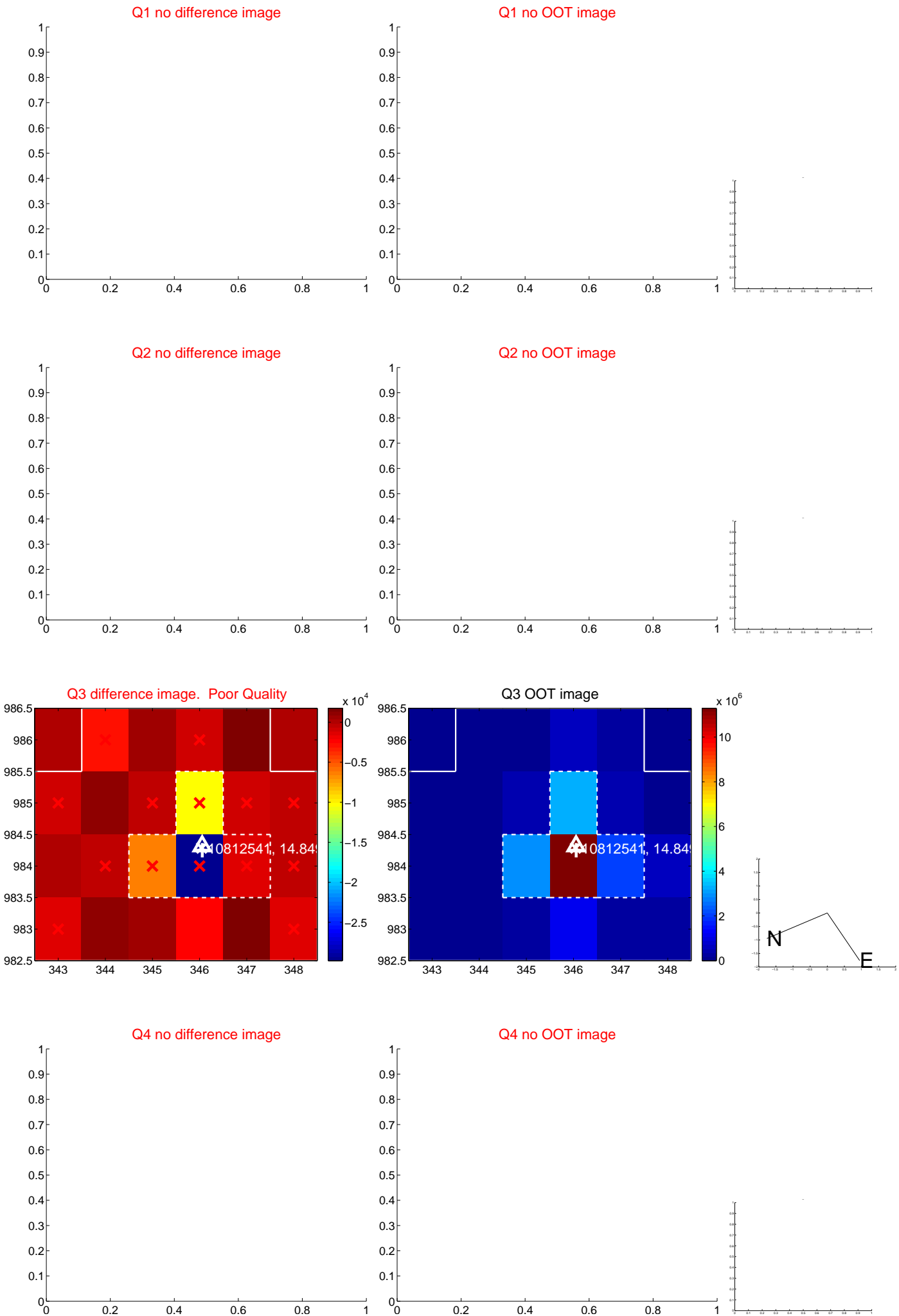
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.169 ± 0.536	0.32	0.028 ± 0.631	-0.167 ± 0.644
PRF-fit source offset from KIC position	0.324 ± 0.302	1.07	0.264 ± 0.310	-0.187 ± 0.284
photometric centroid source offset	0.58 ± 0.43	1.34	0.45 ± 0.43	-0.36 ± 0.43

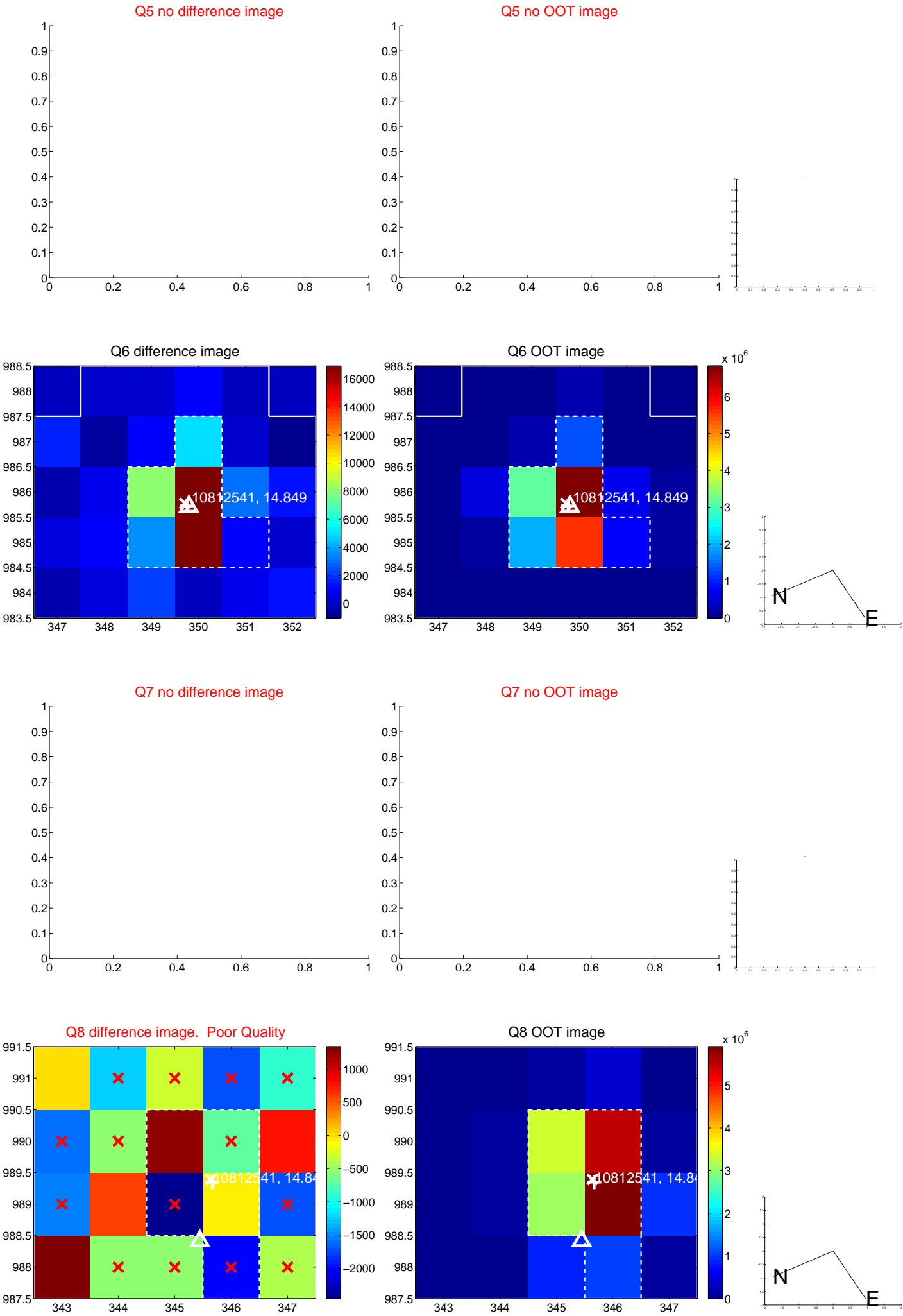


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



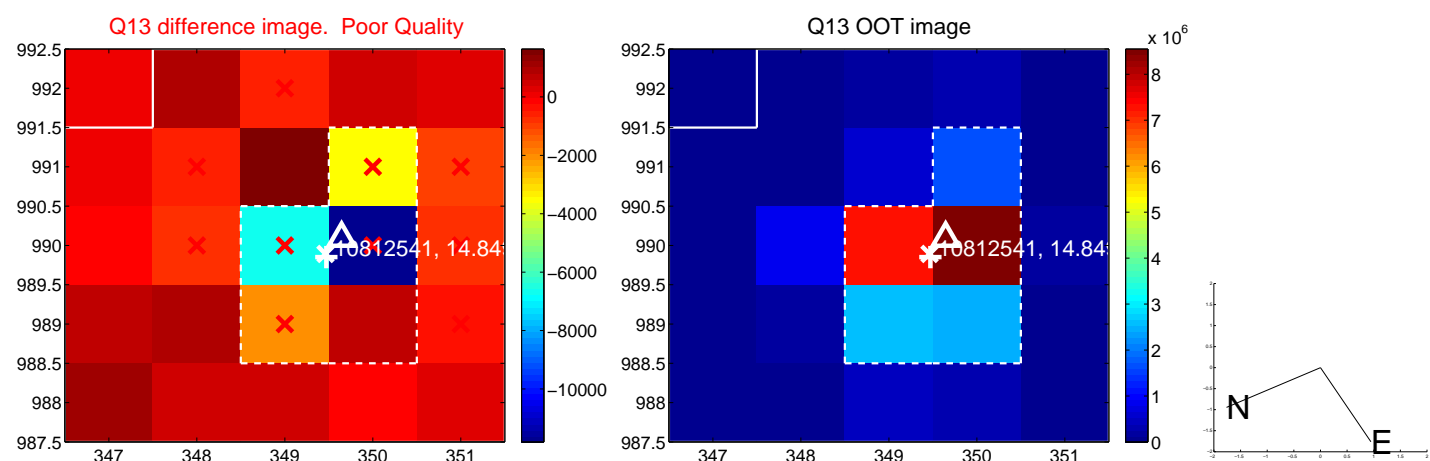
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



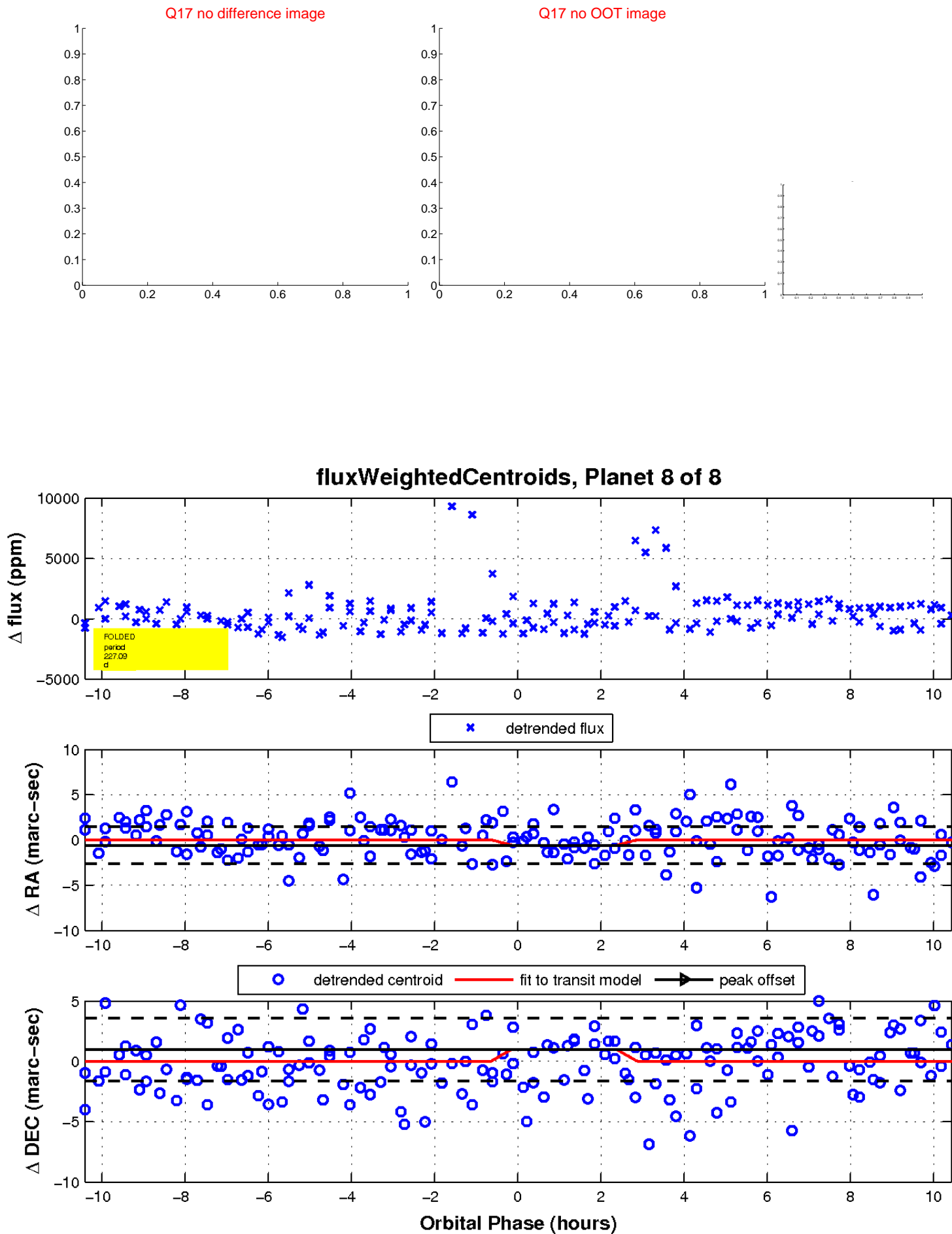
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

