

KIC 010753210

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})
010753210-01	OBS	No	1.367465	132.316048	325.9	10.479	12.6	12.9	2.12	6391	4.89	9912.24
010753210-02	OBS	No	4.780242	133.889955	3458.2	1.162	21.9	13.6	2.12	6391	14.29	1868.36
010753210-03	OBS	No	23.269637	138.471599	10979.3	0.711	18.4	20.1	2.12	6391	22.88	226.47
010753210-04	OBS	No	4.531258	134.945600	2345.2	1.733	17.1	13.0	2.12	6391	10.34	2006.48
010753210-05	OBS	No	4.781119	134.280524	3981.8	3.236	13.3	16.4	2.12	6391	13.68	1867.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010753210-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010753210-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—HALO_GHOST
010753210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

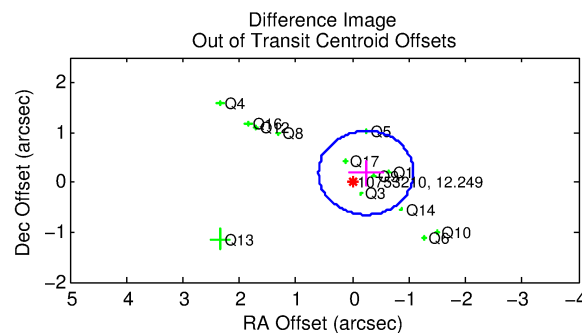
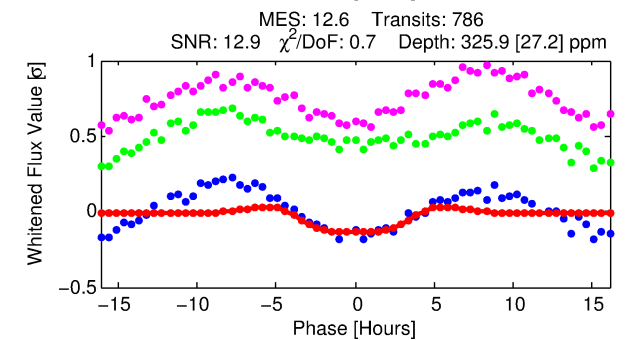
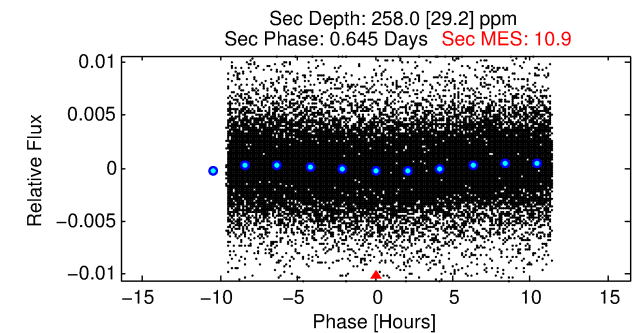
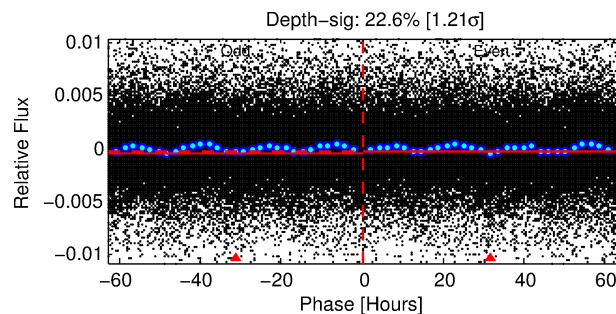
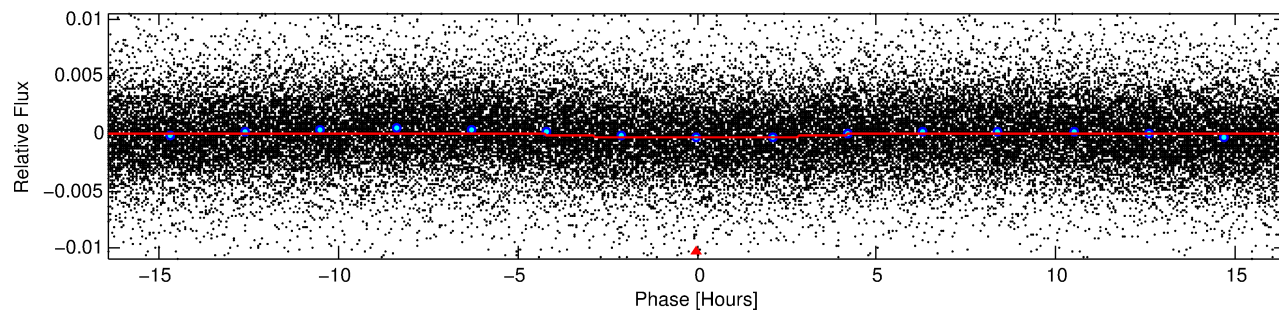
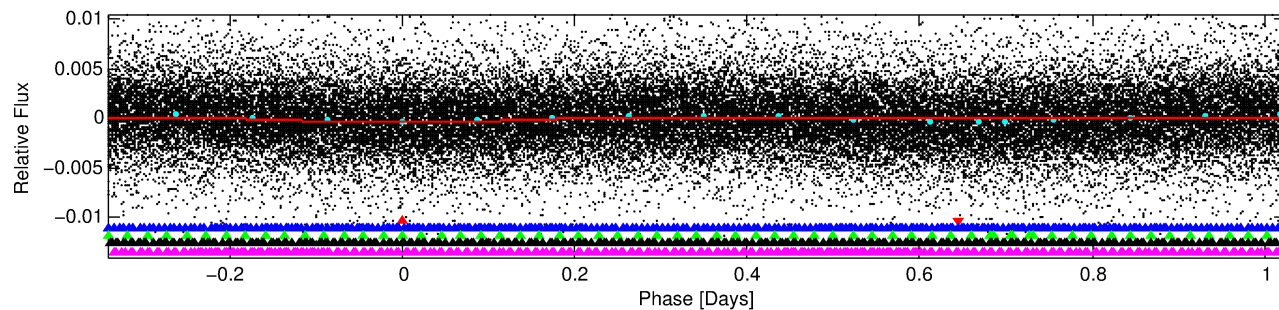
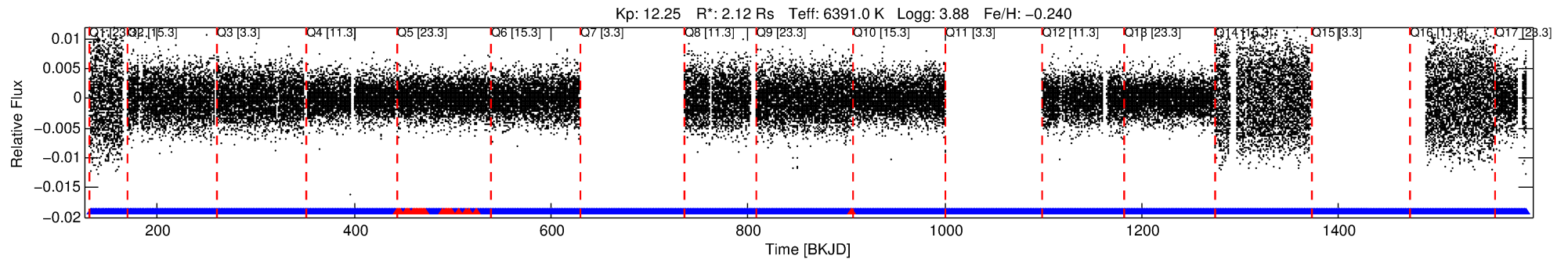
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010753210-01

No Significant Match Found

DV One-Page Summary

KIC: 10753210 Candidate: 1 of 5 Period: 1.367 d



DV Fit Results:

Period = 1.36747 [0.00002] d
Epoch = 132.3160 [0.0118] BKJD
Rp/R* = 0.0211 [0.0012]
a/R* = 1.04 [0.02]
b = 0.97 [0.01]
Seff = 9912.24 [7116.06]
Teq = 2544 [457] K
Rp = 4.89 [2.16] Re
a = 0.0260 [0.0113] AU
Ag = 4.03 [2.93] [1.04 σ]
Teff = 5573 [283] K [5.64 σ]

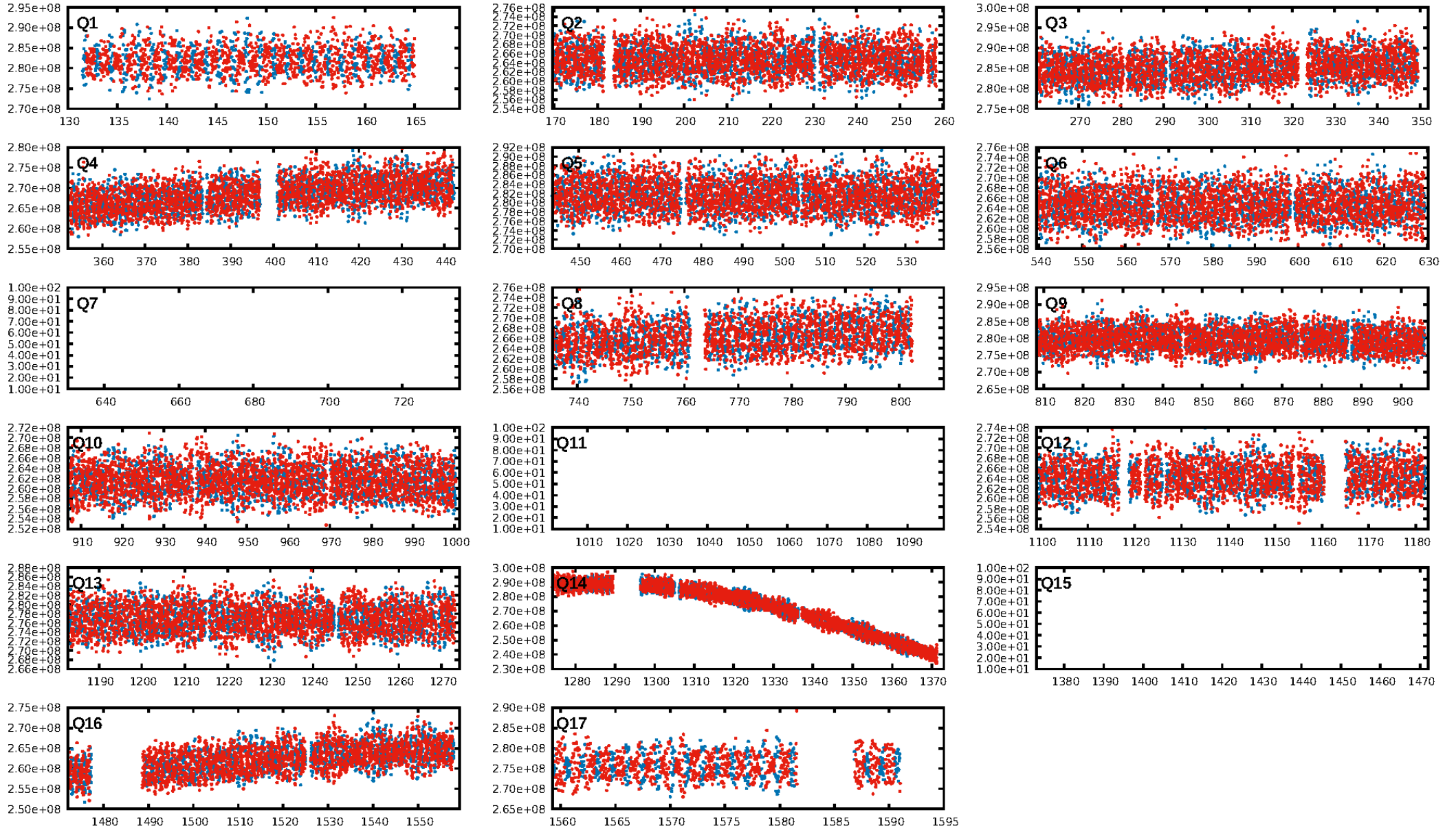
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.15 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [716/742]
GhostDiagnostic-chr: 1.304
Centroid-sig: 0.9%
Centroid-so: 0.139 arcsec [2.44 σ]
OotOffset-rm: 0.303 arcsec [1.08 σ]
KicOffset-rm: 0.338 arcsec [1.23 σ]
OotOffset-st: 3/1/4/5 [13]
KicOffset-st: 3/1/4/5 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [14/14]

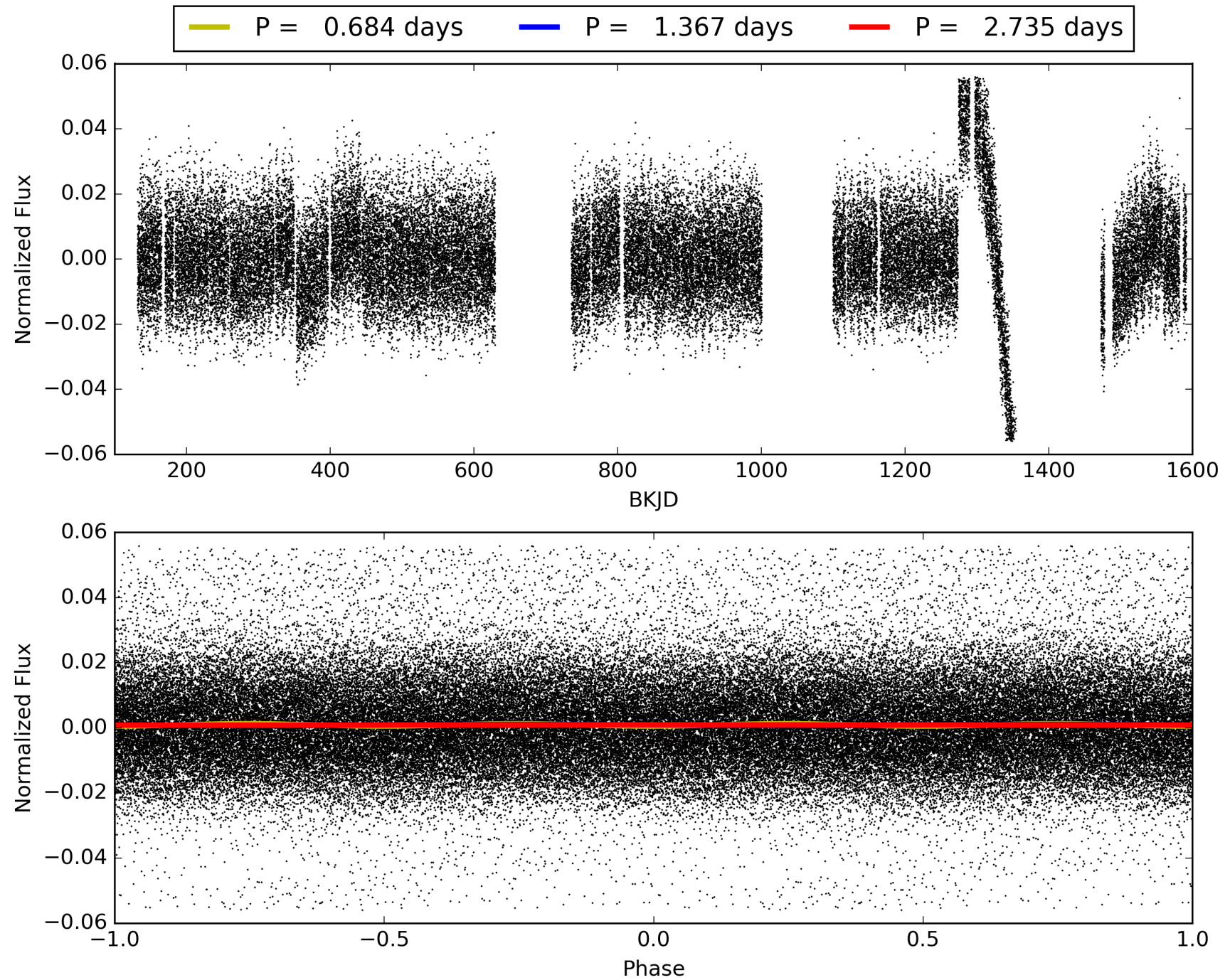
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:04:29 Z

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

TCE 010753210-01, PDC Light Curves

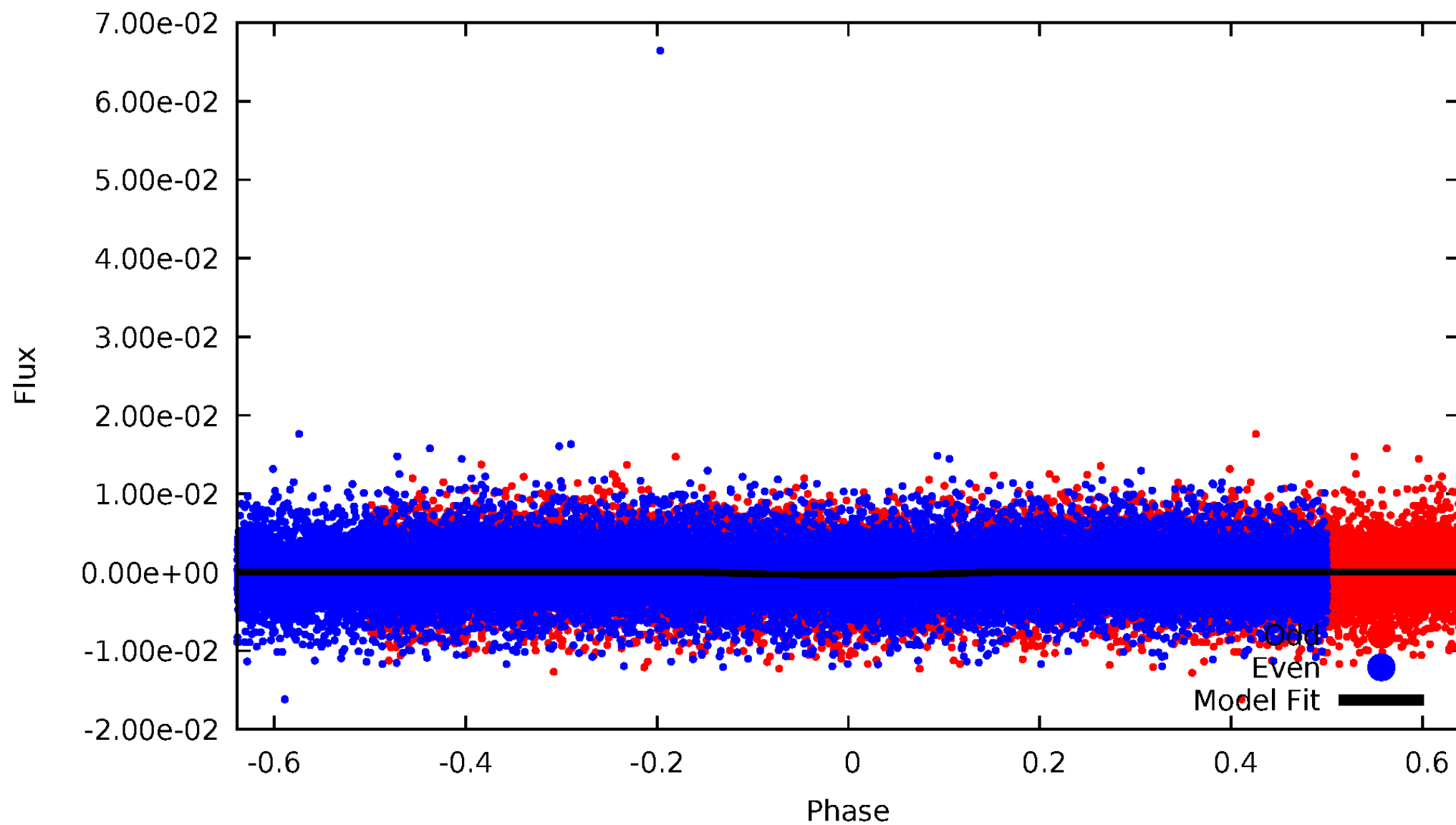


TCE 010753210-01



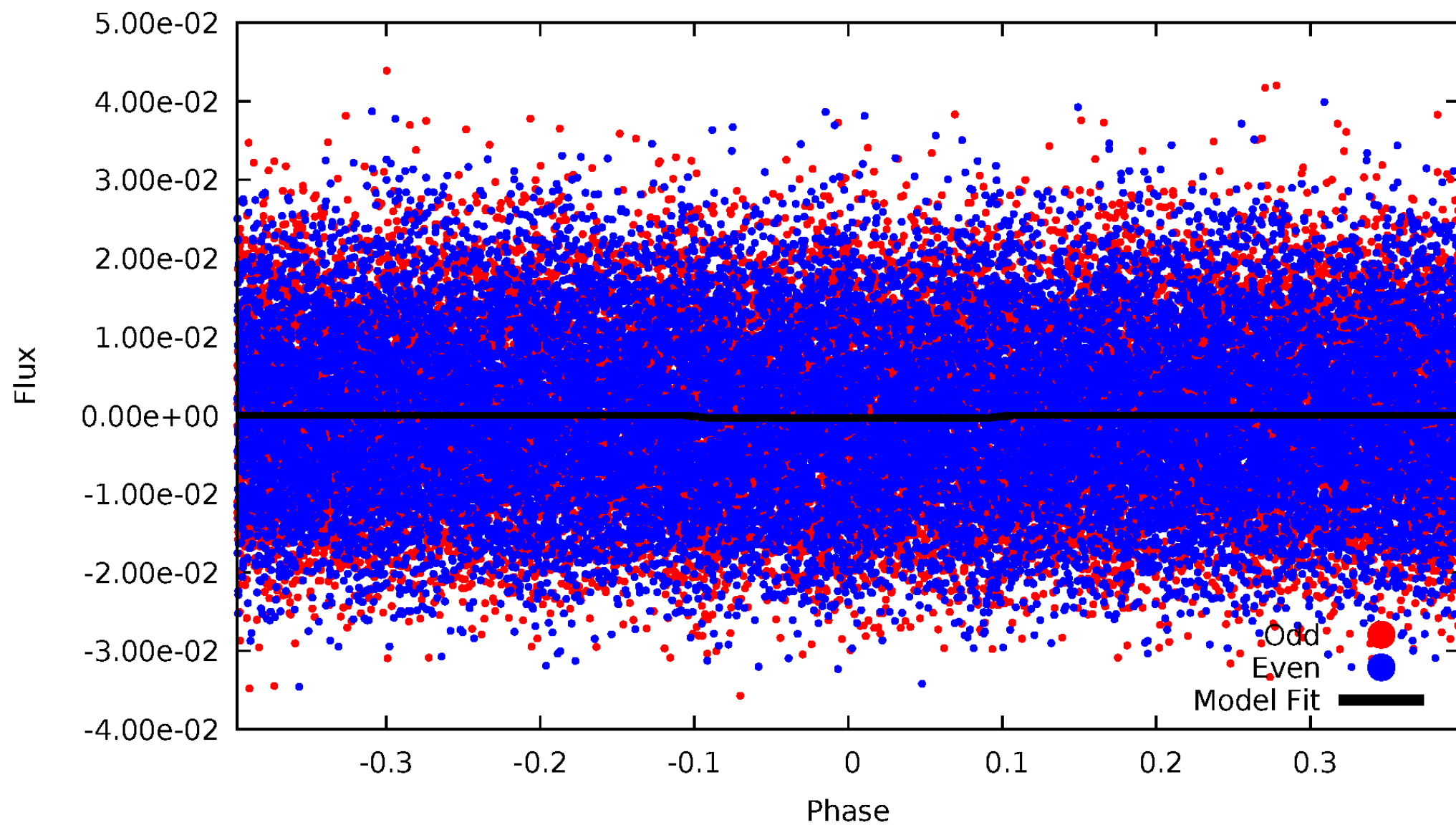
DV Odd/Even

TCE 010753210-01



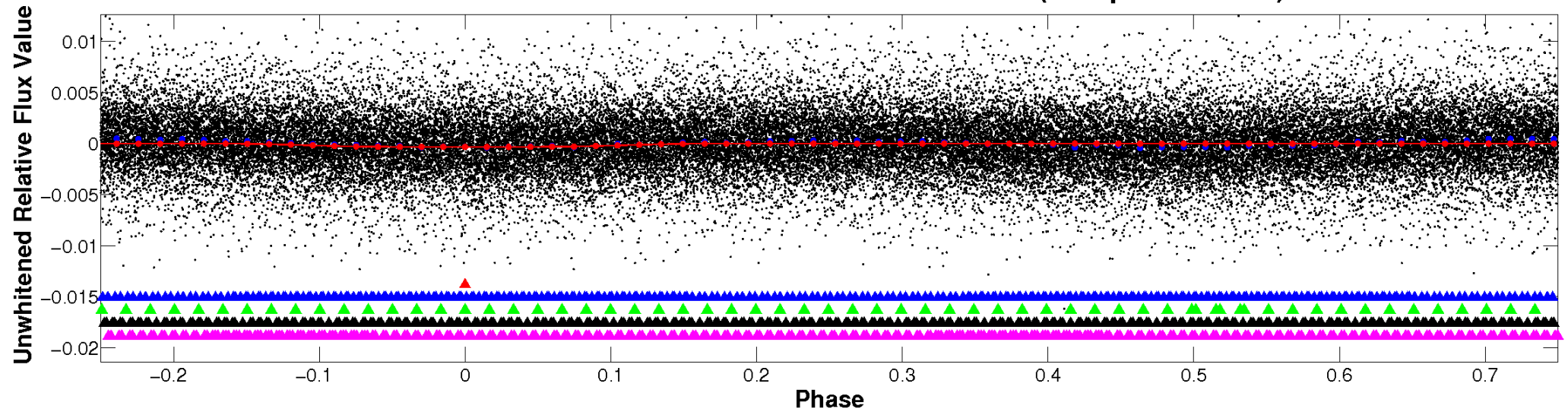
ALT Odd/Even

TCE 010753210-01

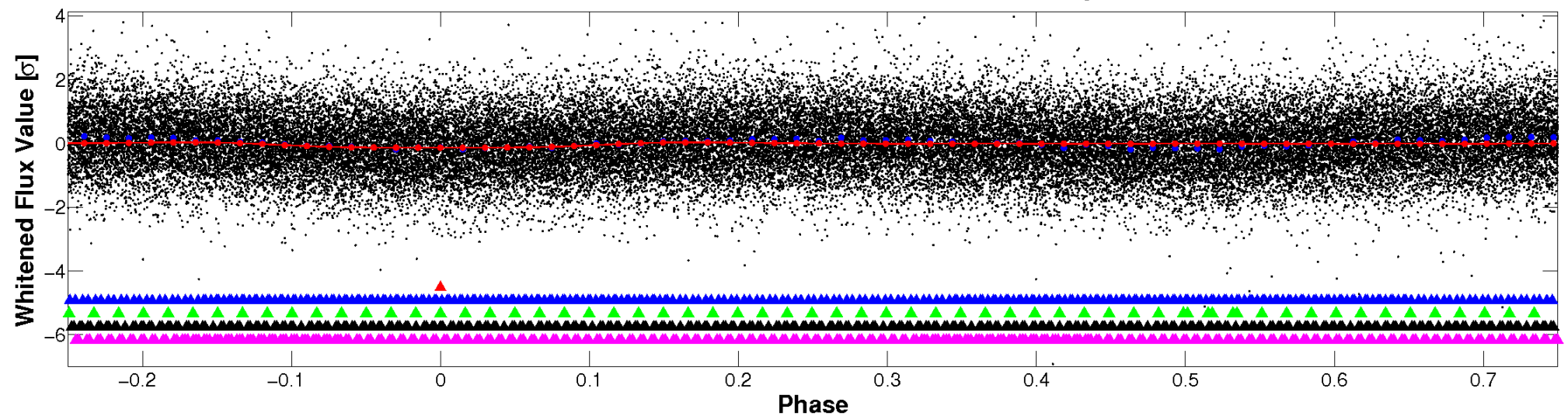


Non-Whitened Vs. Whitened Light Curve

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

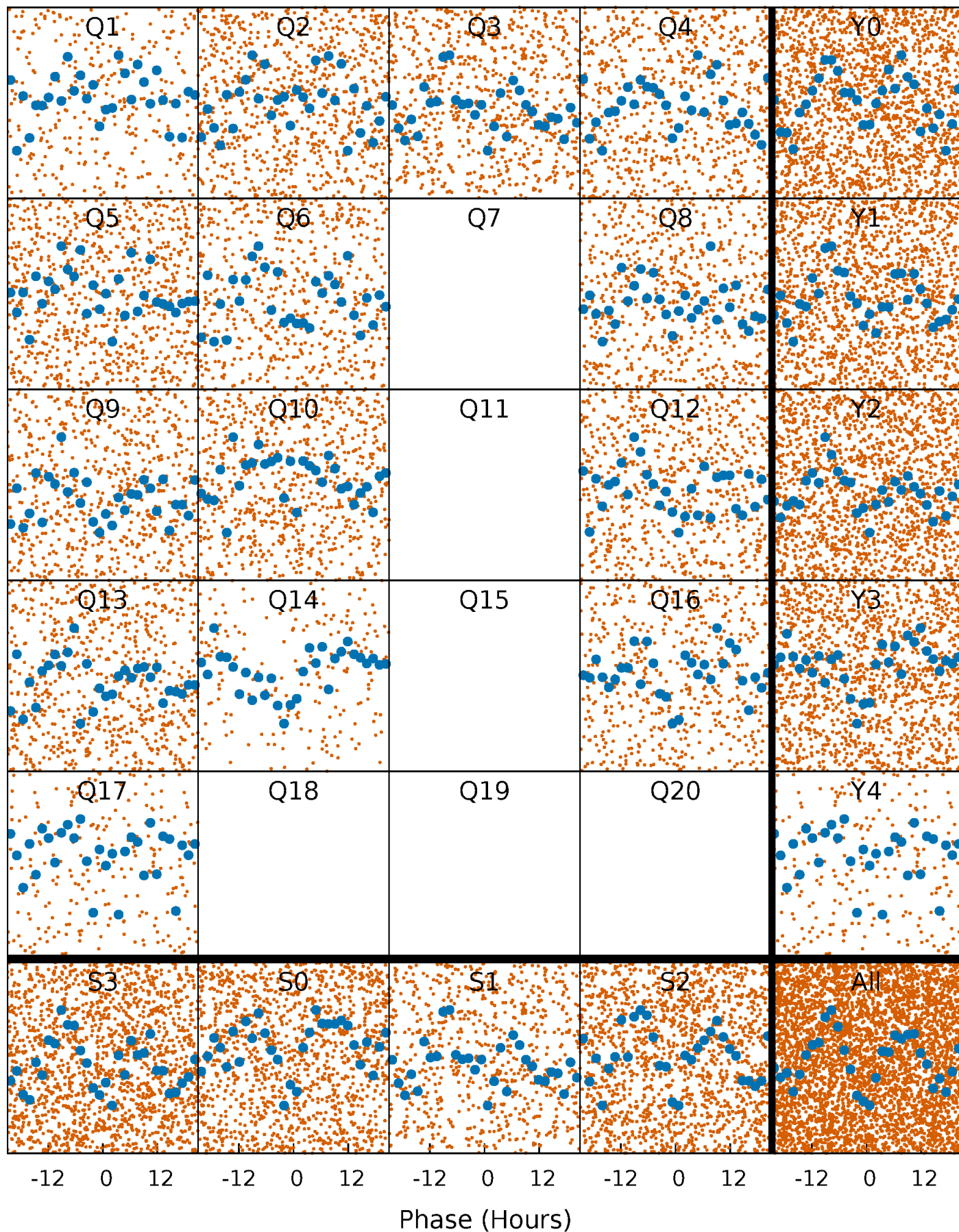


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



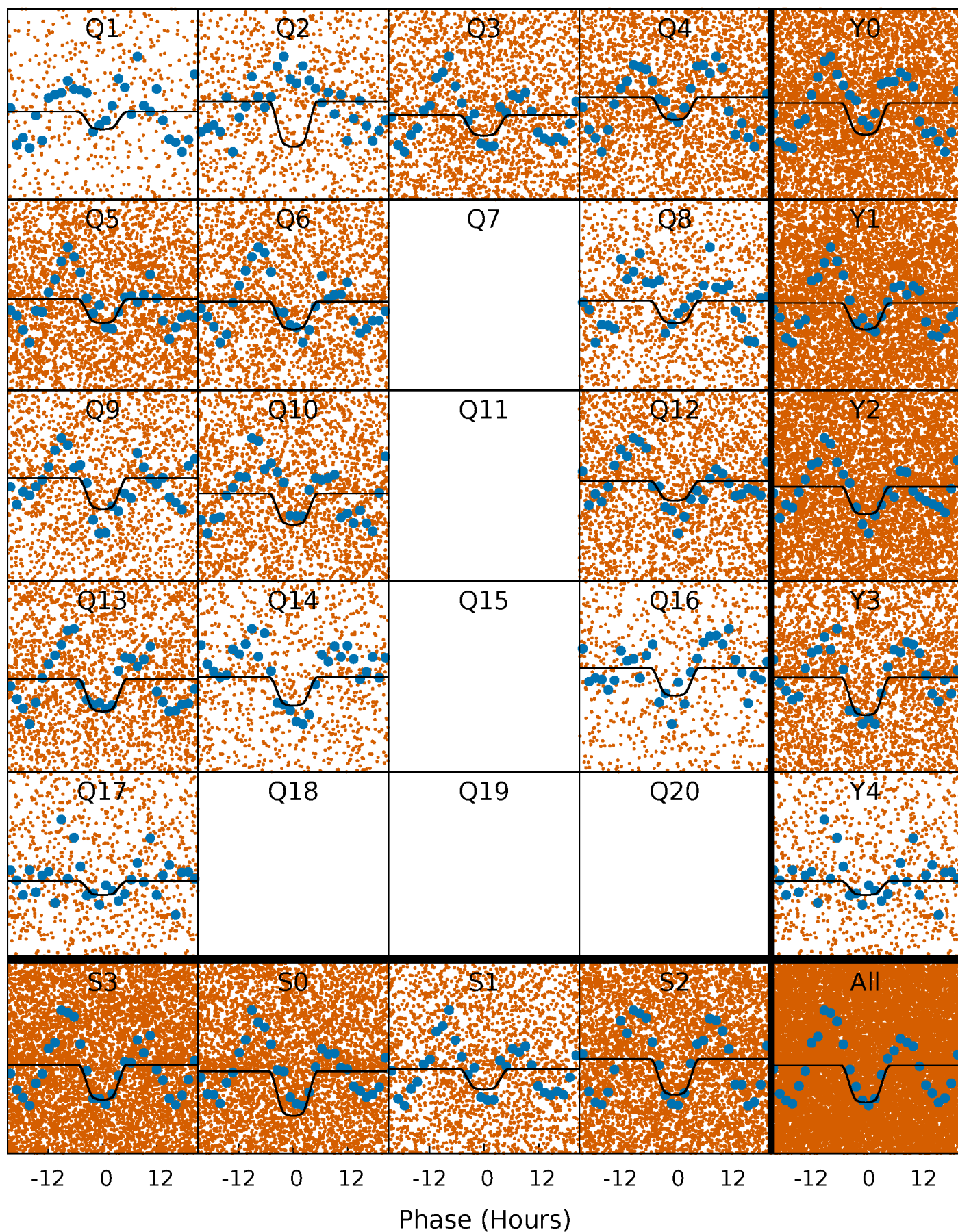
PDC Quarter-Phased Transit Curves

TCE 010753210-01 P= 1.367465 Days $T_0=132.316048$ (BKJD)



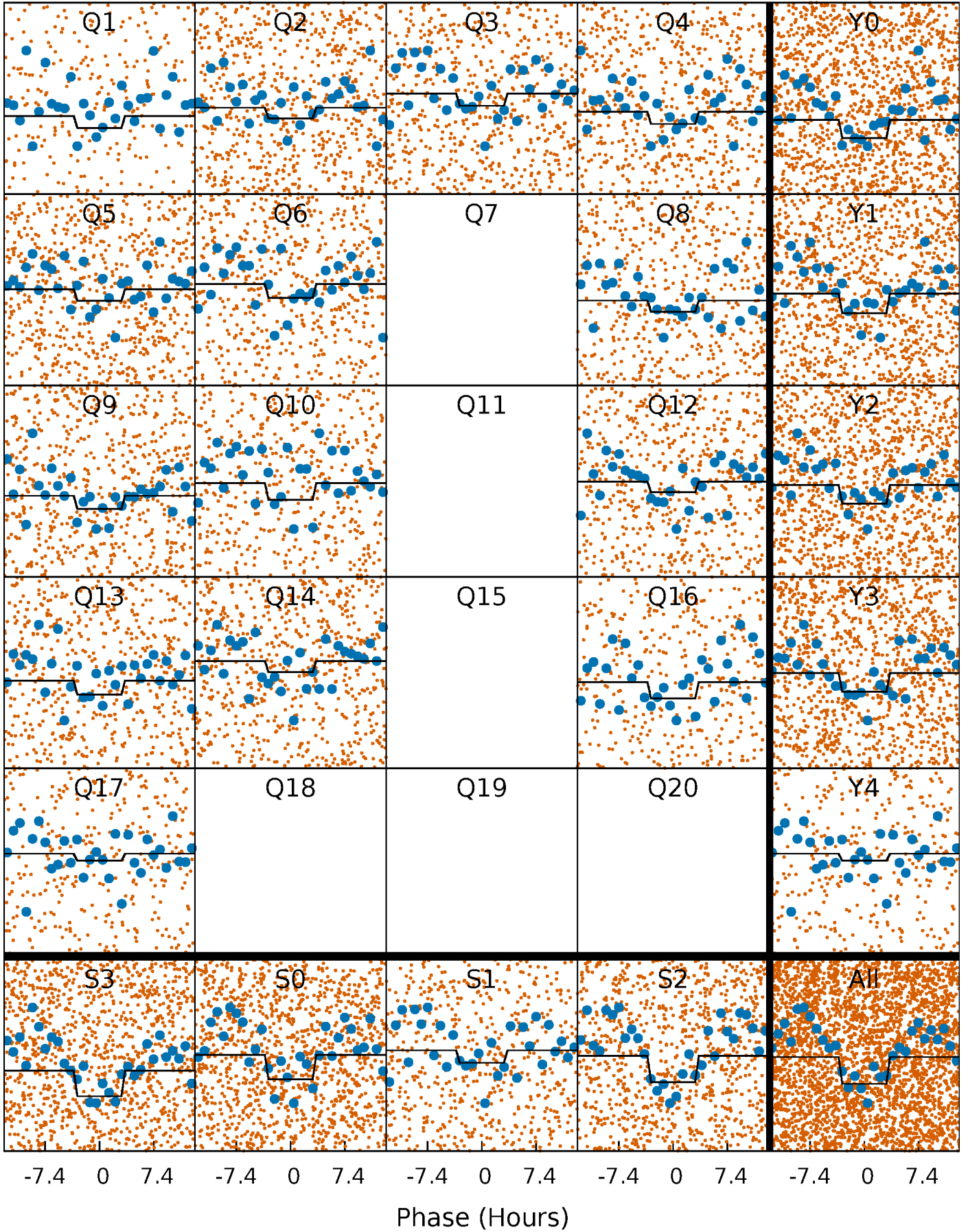
DV Quarter-Phased Transit Curves

TCE 010753210-01 P= 1.367465 Days $T_0=132.316048$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

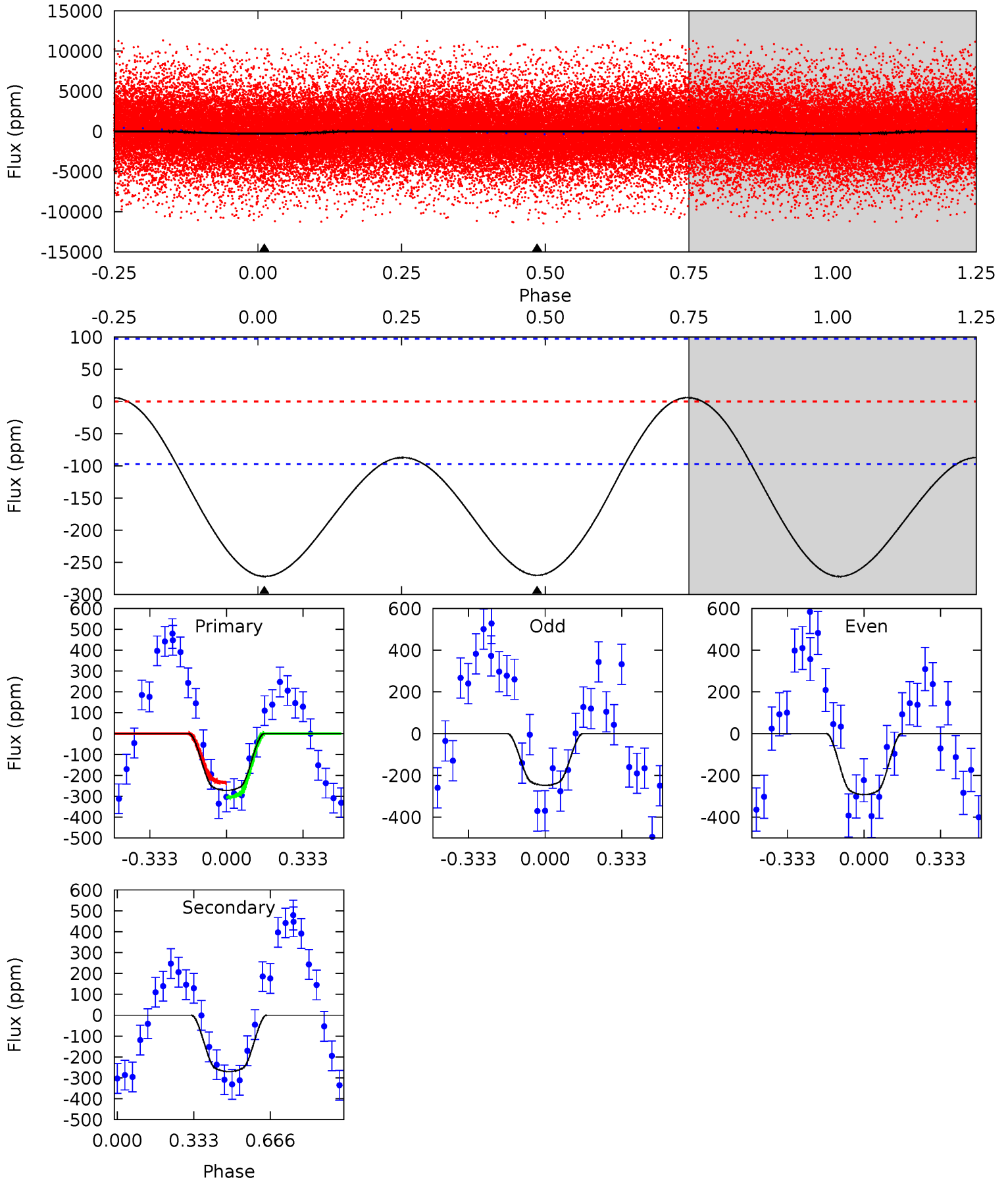
TCE 010753210-01 P= 1.367467 Days $T_0=132.318095$ (BKJD)



DV Model-Shift Uniqueness Test

010753210-01, P = 1.367465 Days, E = 130.948583 Days

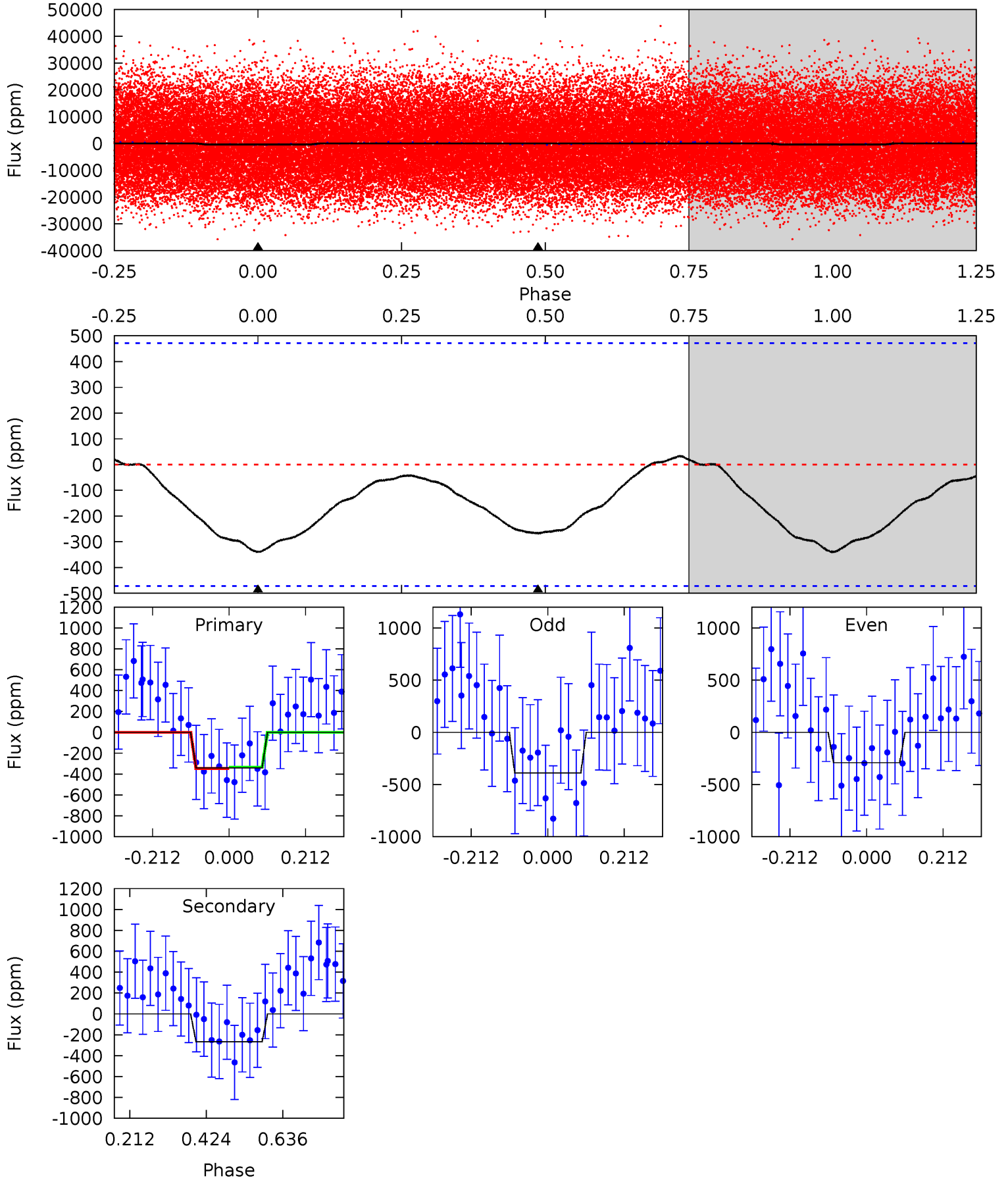
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	12.0	0	0	4.31	0.97	1.72	12.0	12.0	12.0	12.0	1.00	1.15	0.02	1.62



Alt Model-Shift Uniqueness Test

010753210-01, P = 1.367467 Days, E = 130.950628 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.17	2.50	0	0	4.40	1.25	0.32	3.17	3.17	2.50	2.50	0.46	1.09	0.09	0.06



Stellar Parameters For KIC 010753210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6391^{+162}_{-194}	$3.885^{+0.420}_{-0.140}$	$-0.240^{+0.300}_{-0.300}$	$2.120^{+0.499}_{-0.927}$	$1.258^{+0.193}_{-0.257}$	$0.186^{+0.696}_{-0.075}$
	+3%/-3%	+11%/-4%	+125%/-125%	+24%/-44%	+15%/-20%	+374%/-41%
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 010753210-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-270 ± 23	$4.74^{+0.83}_{-1.09}$	3488^{+261}_{-408}	5547^{+253}_{-244}	$4.529^{+2.992}_{-1.185}$
Alt.	-268 ± 107	$4.15^{+0.78}_{-0.99}$	3478^{+290}_{-394}	5934^{+605}_{-744}	$5.967^{+4.746}_{-2.807}$

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

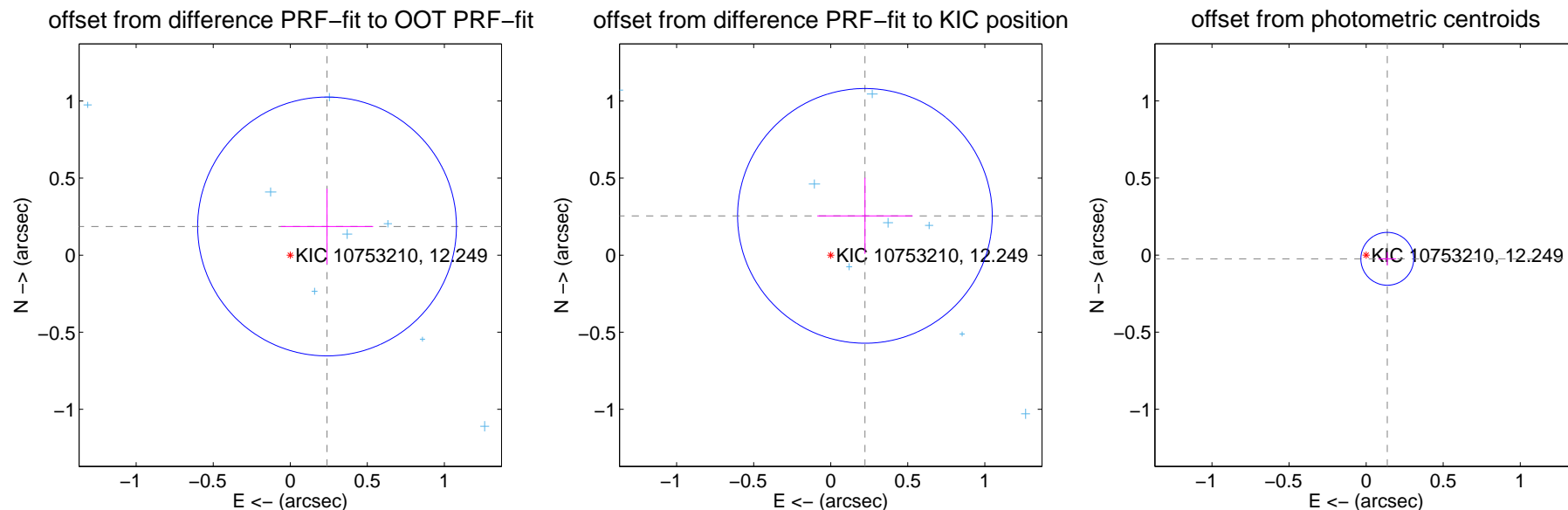
DV Centroid Data

Supplemental centroid analysis for 010753210-01. Kepler magnitude: 12.25. Transit SNR 12.88

There are 12 quarters with good PRF difference image offsets

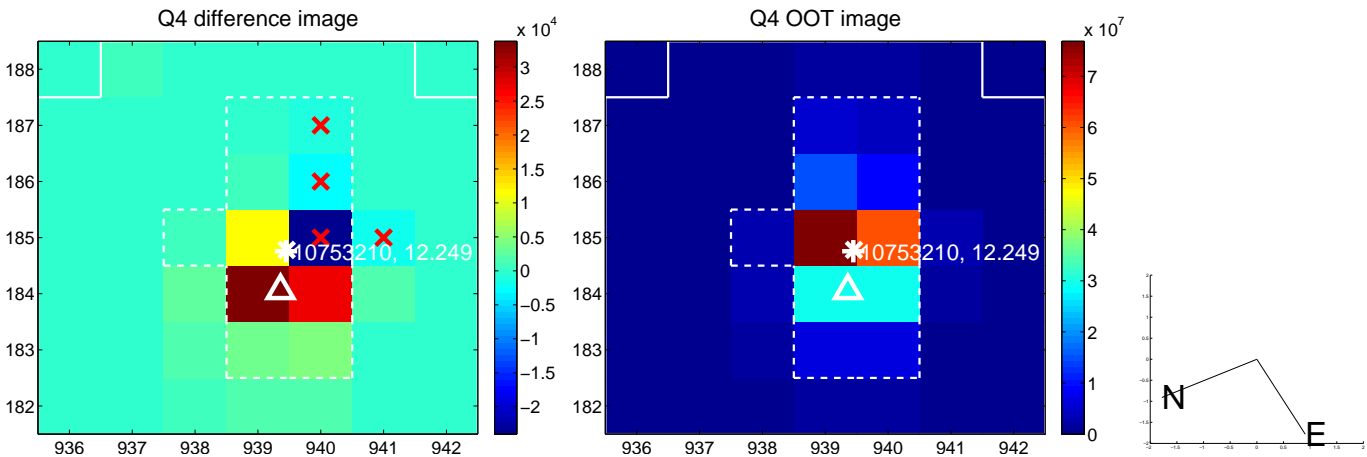
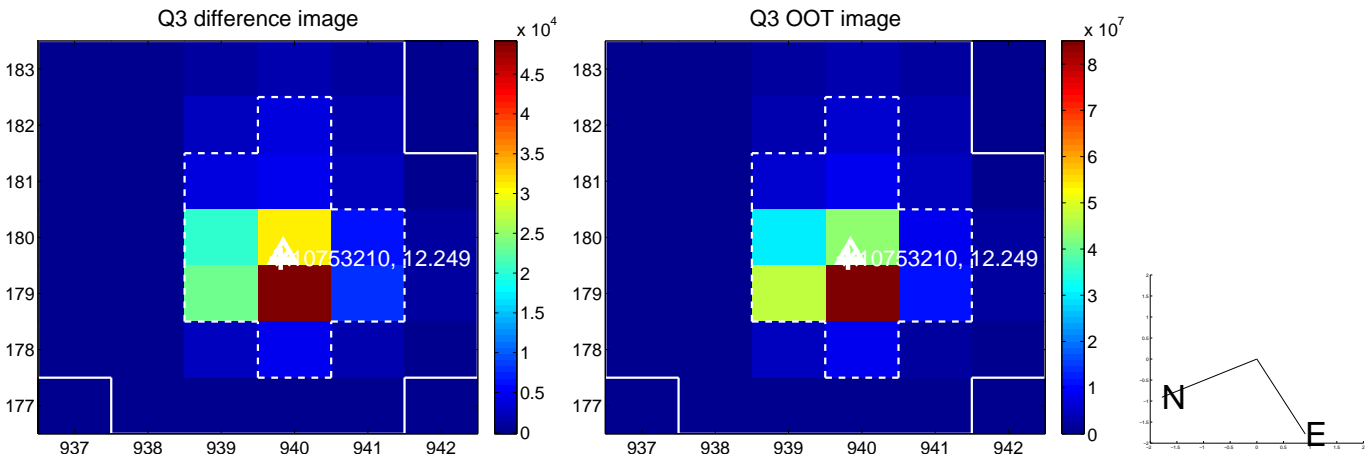
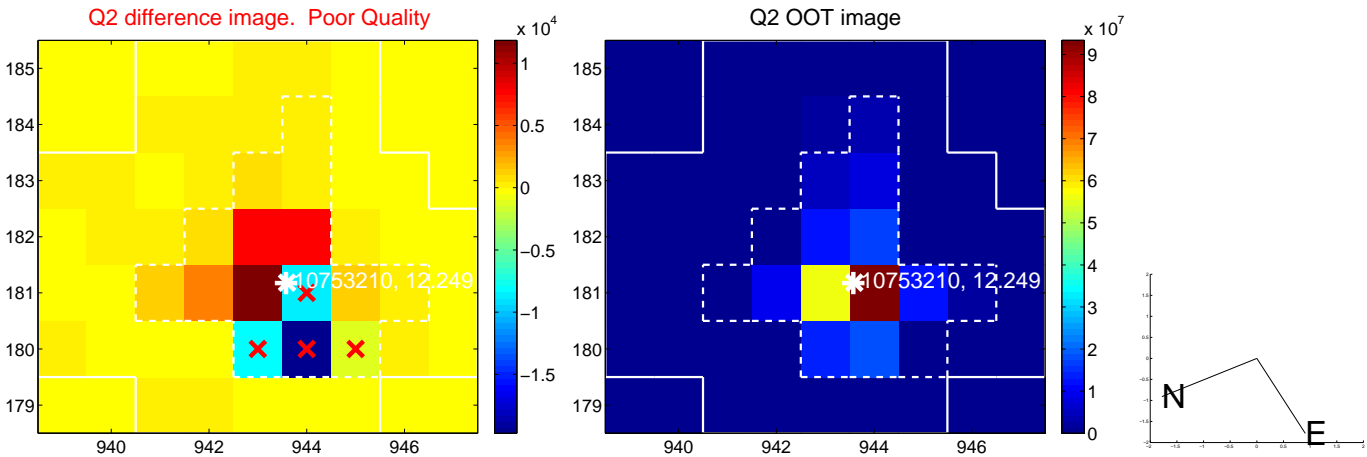
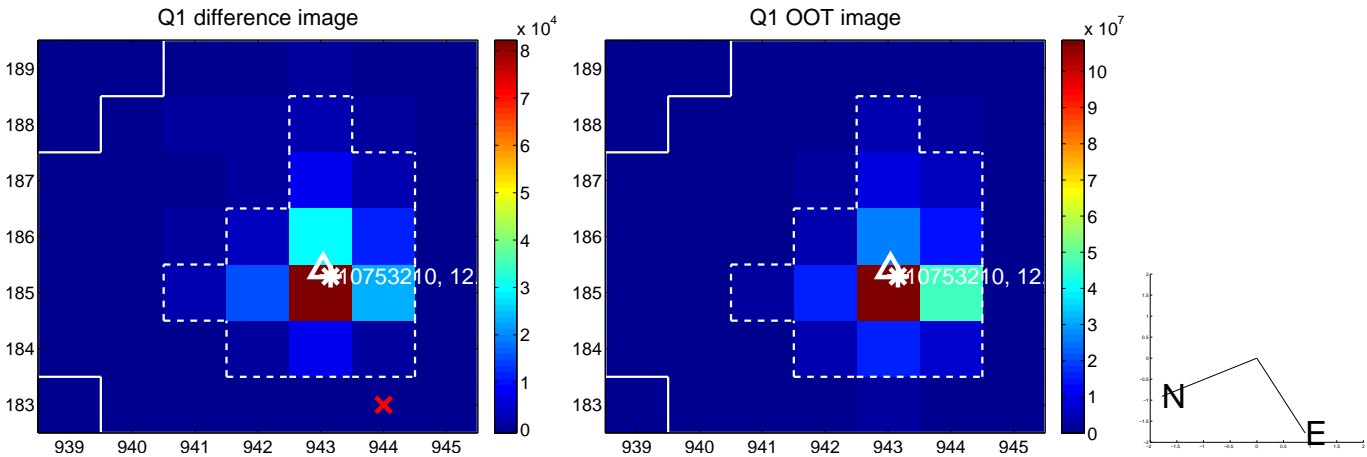
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.303 ± 0.280	1.08	-0.239 ± 0.299	0.186 ± 0.244
PRF-fit source offset from KIC position	0.338 ± 0.275	1.23	-0.222 ± 0.309	0.255 ± 0.247
photometric centroid source offset	0.14 ± 0.06	2.44	-0.14 ± 0.06	-0.02 ± 0.04

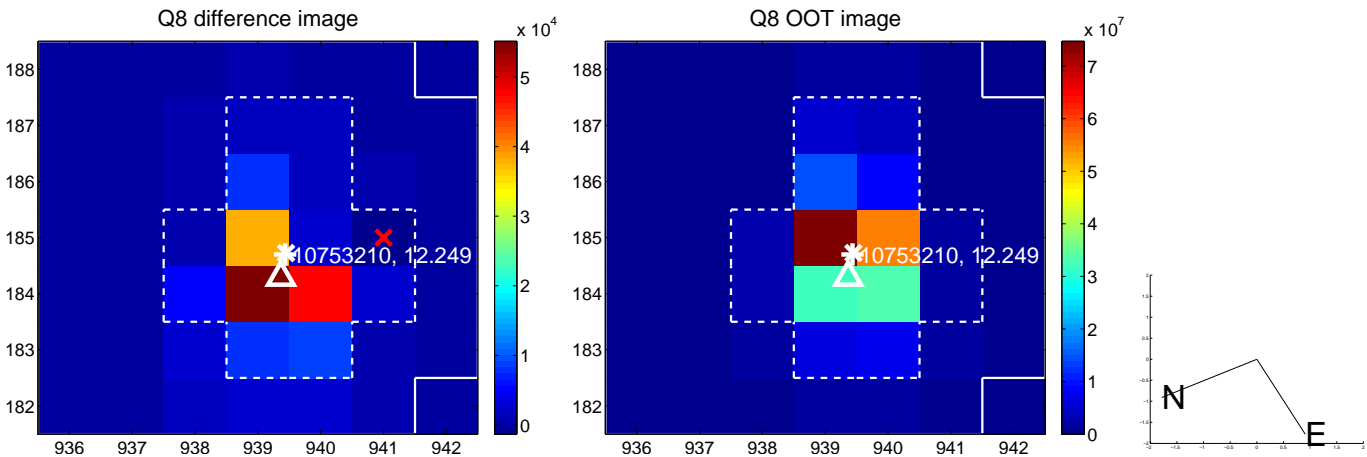
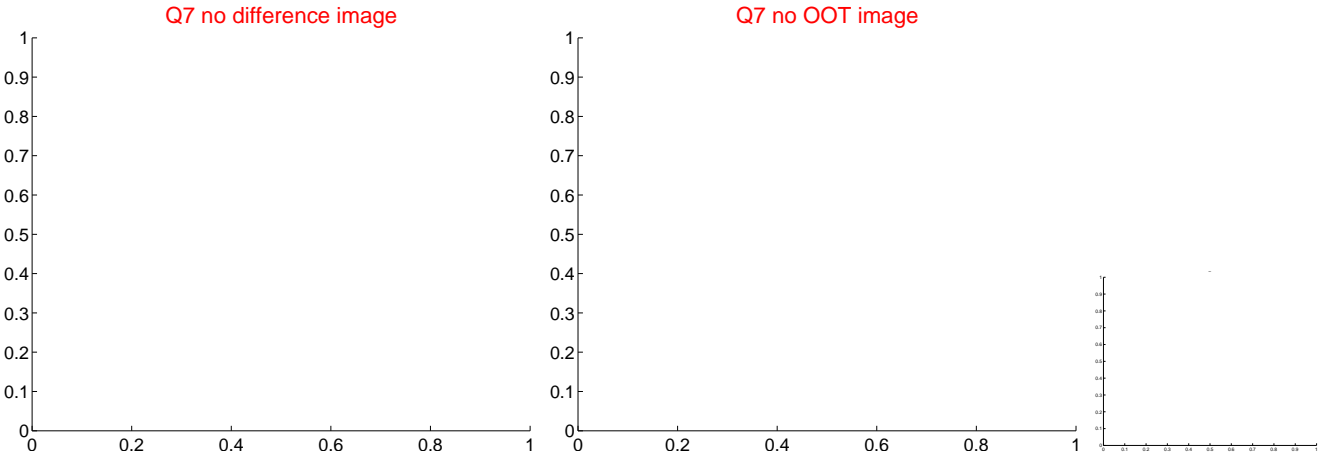
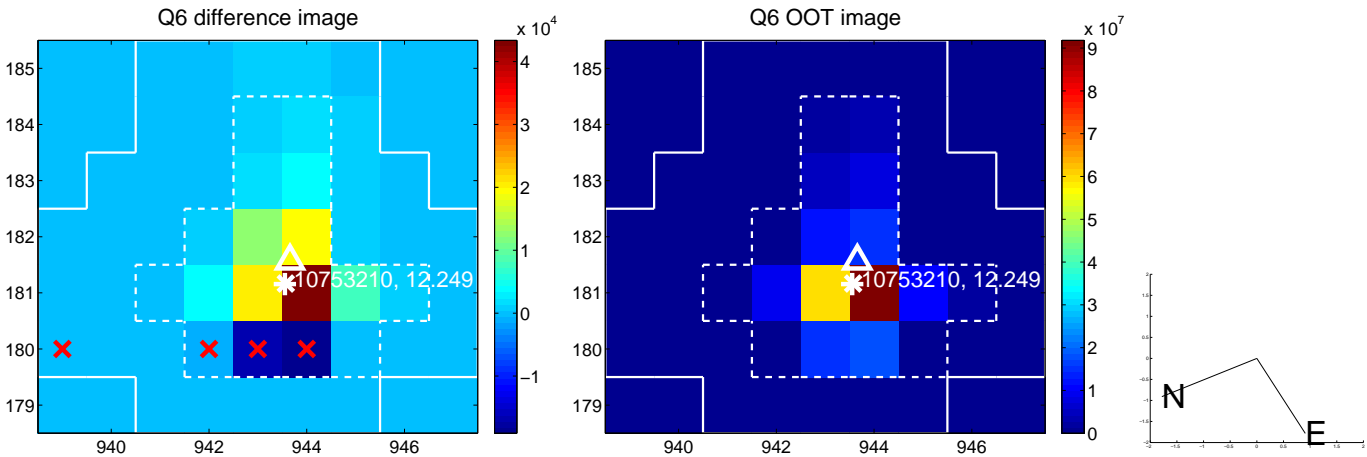
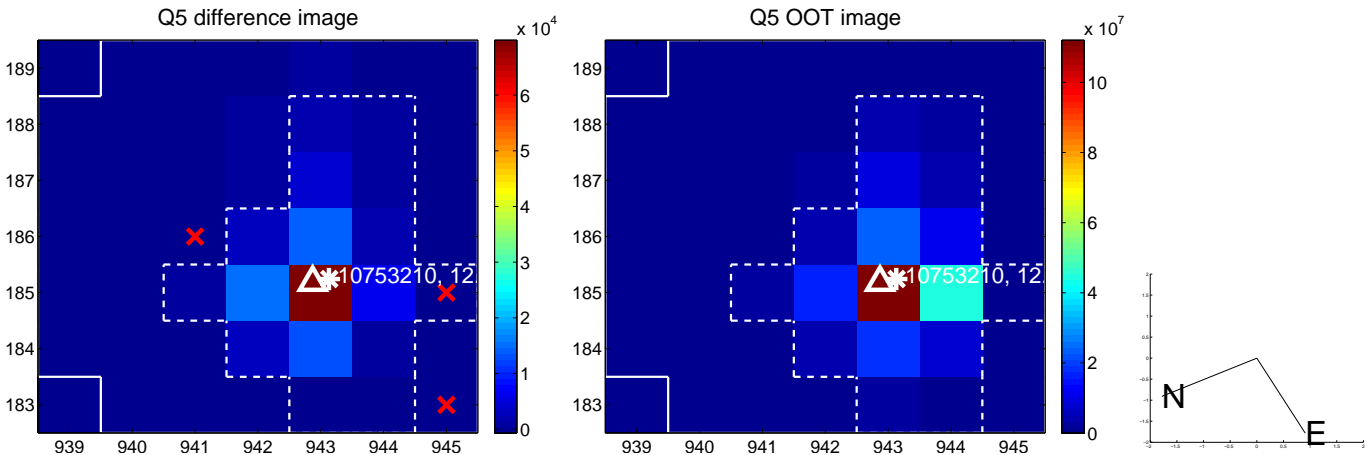


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

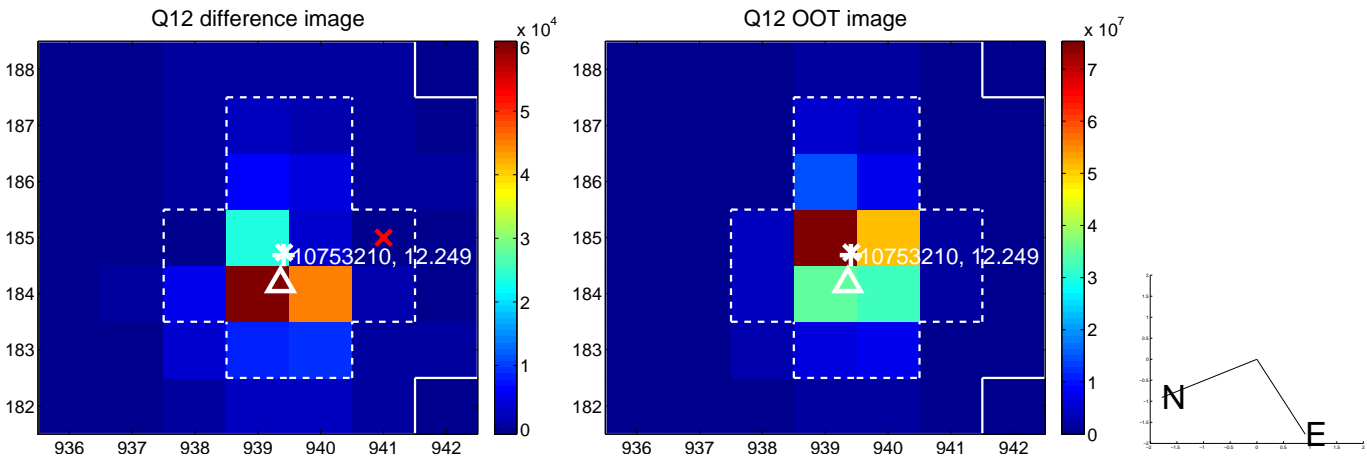
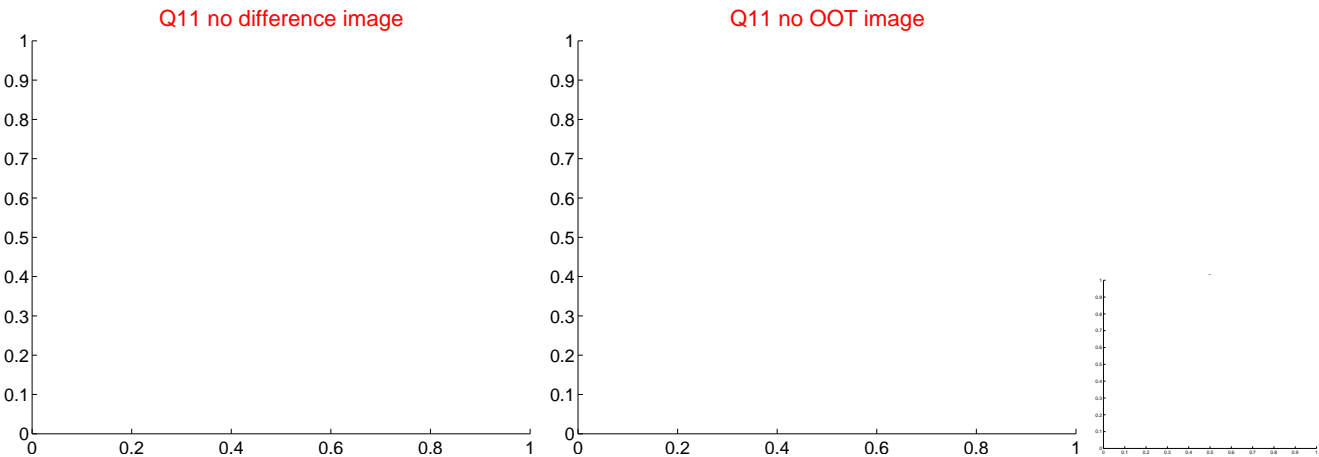
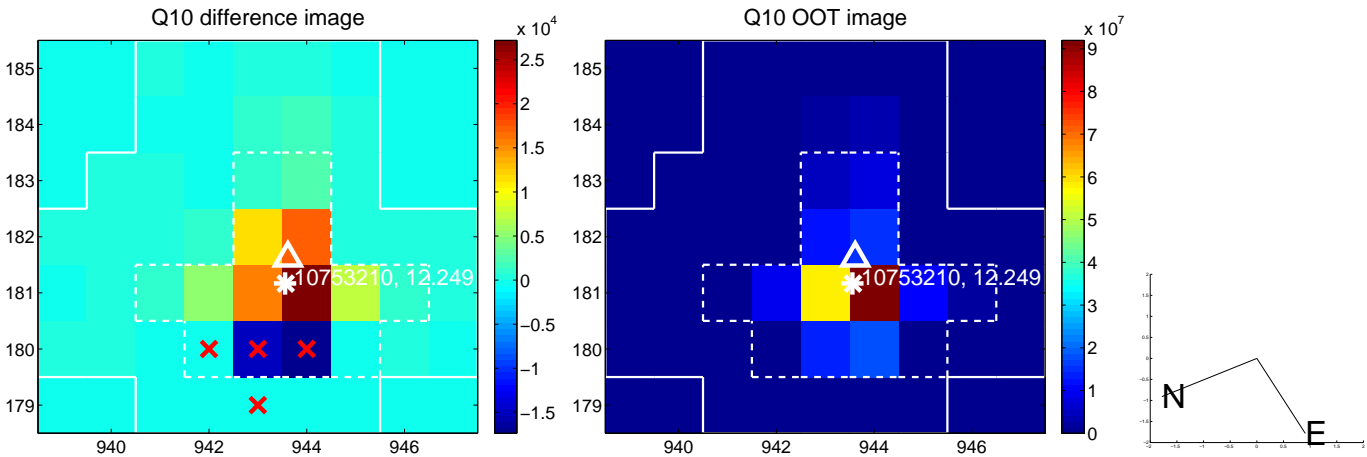
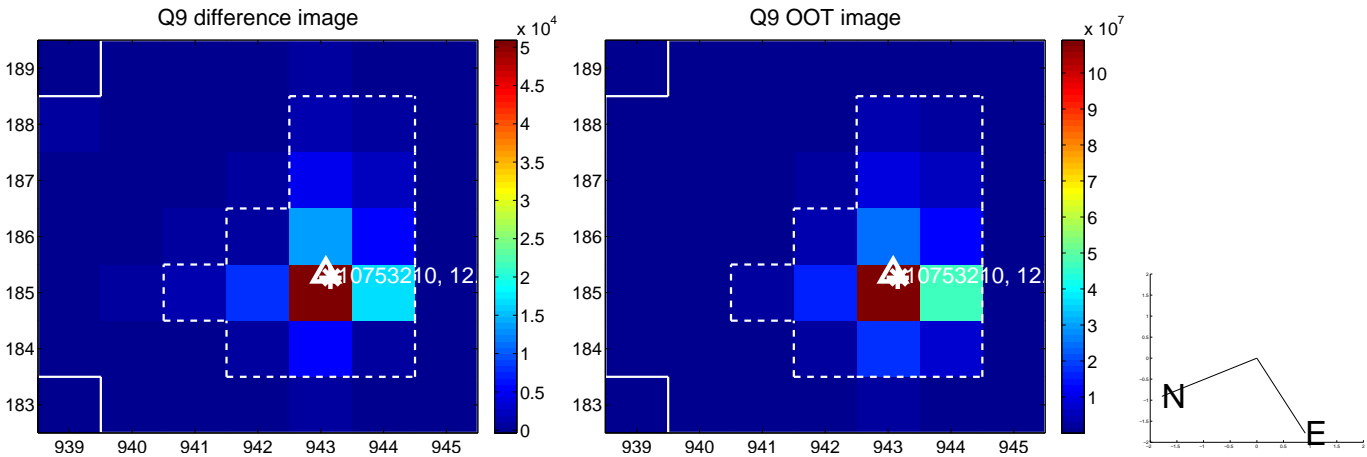
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



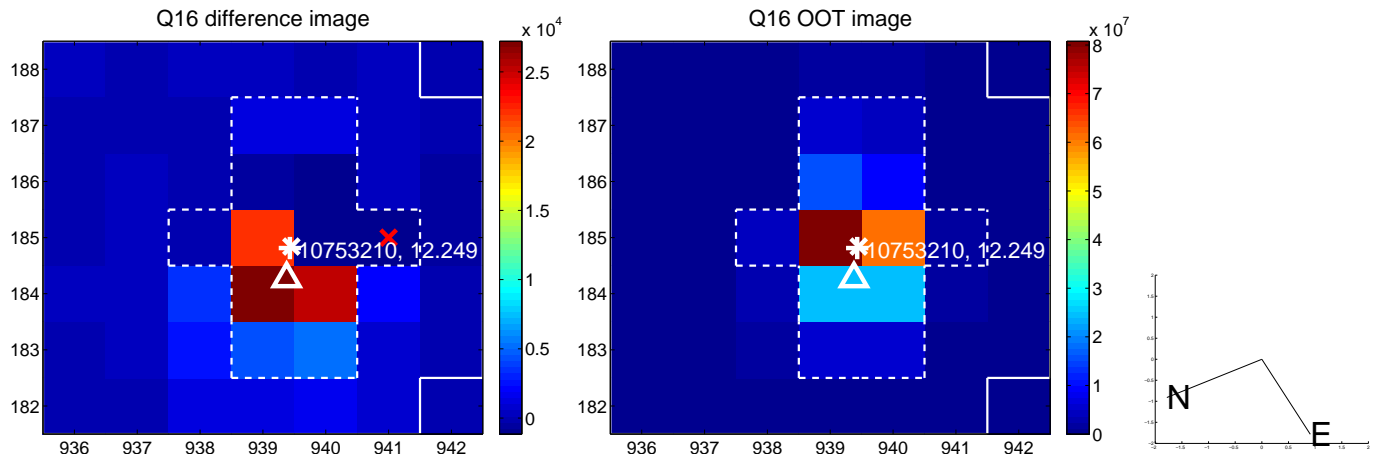
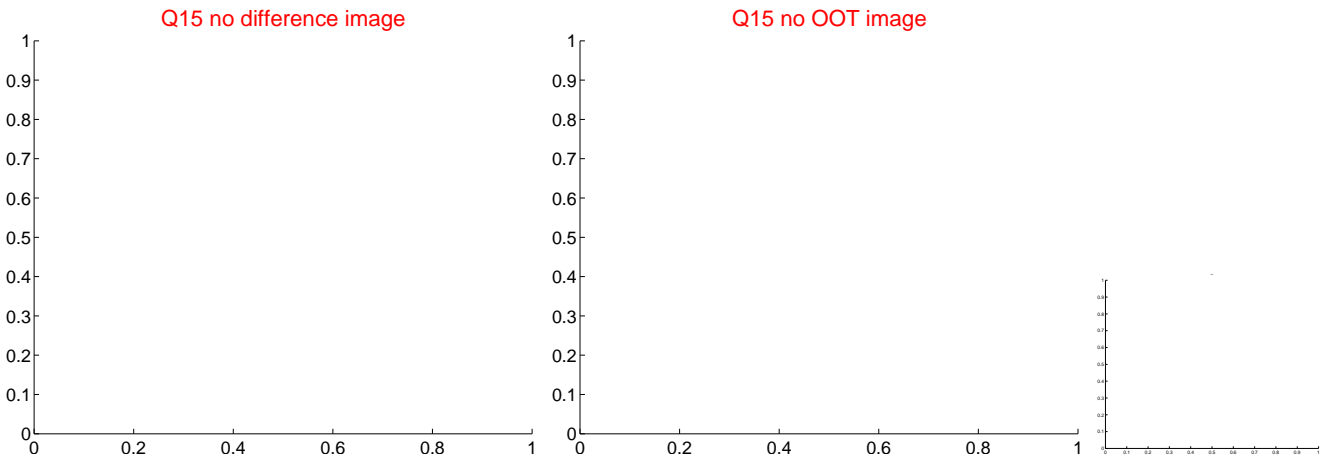
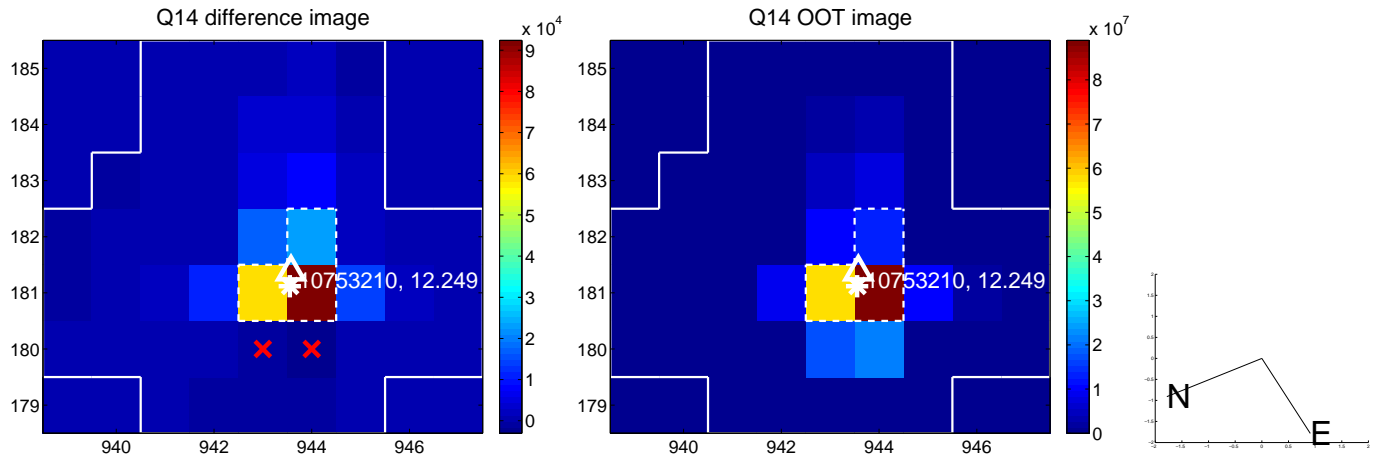
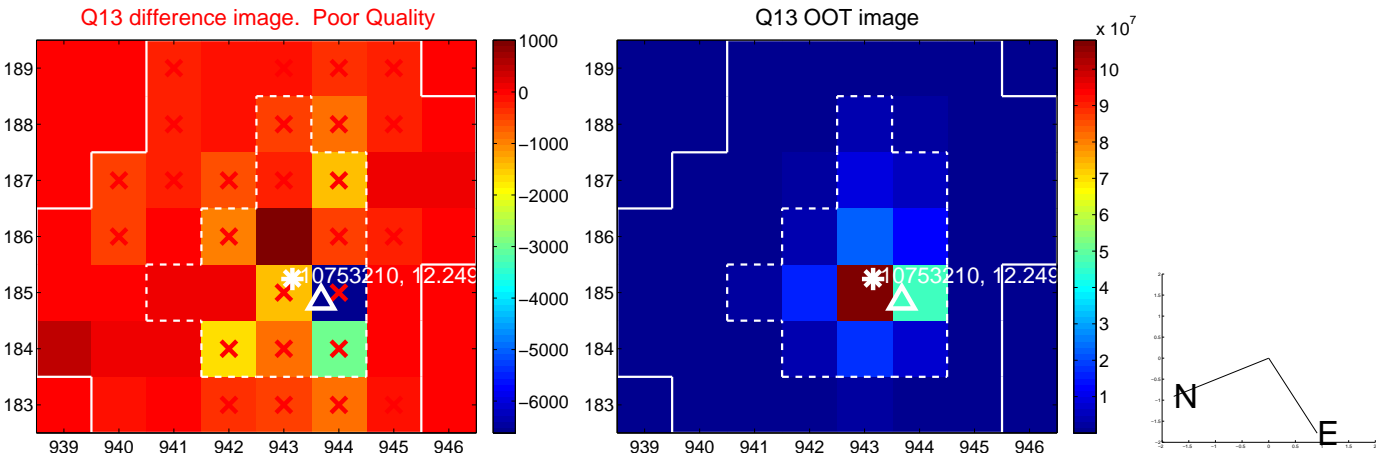
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



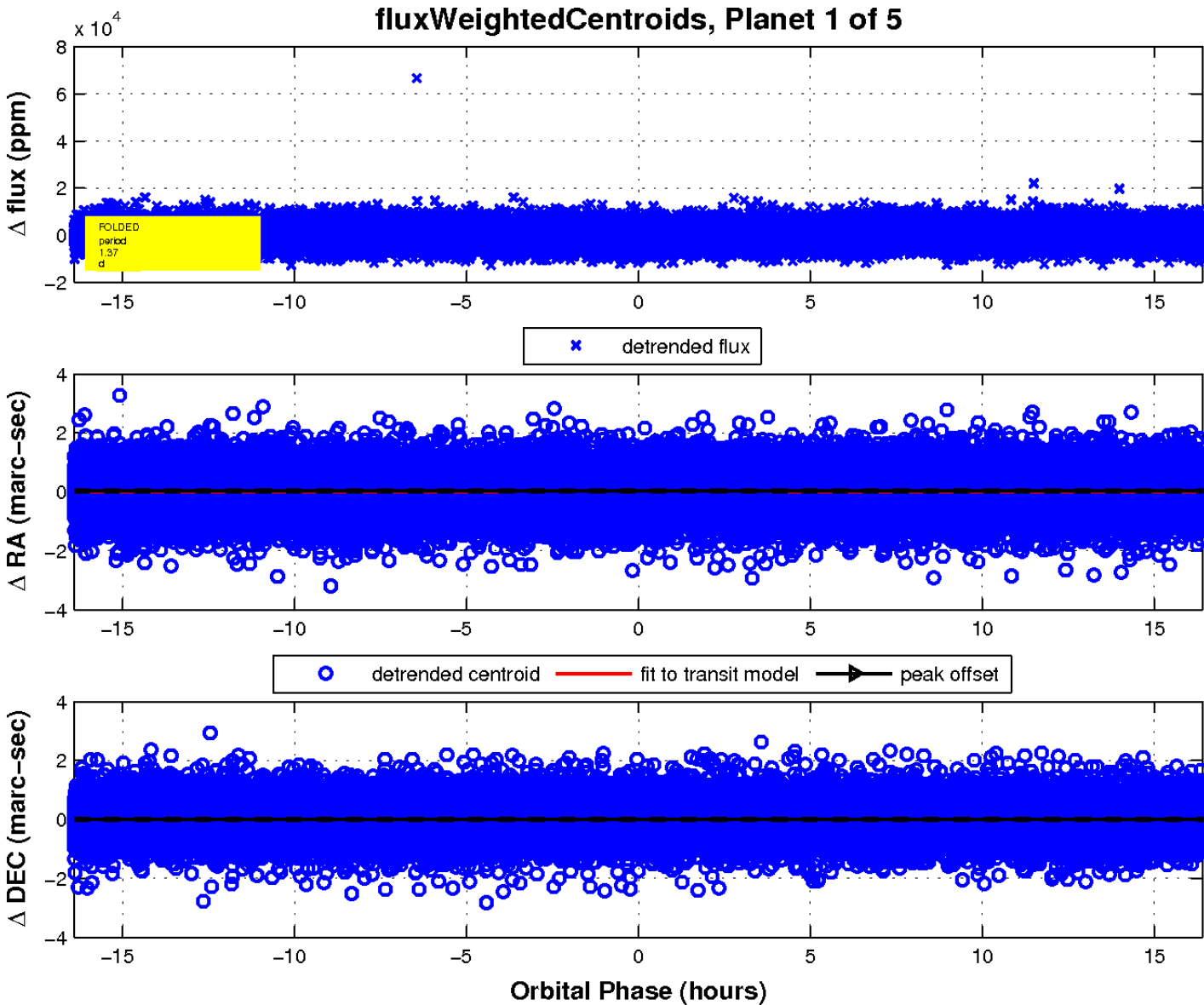
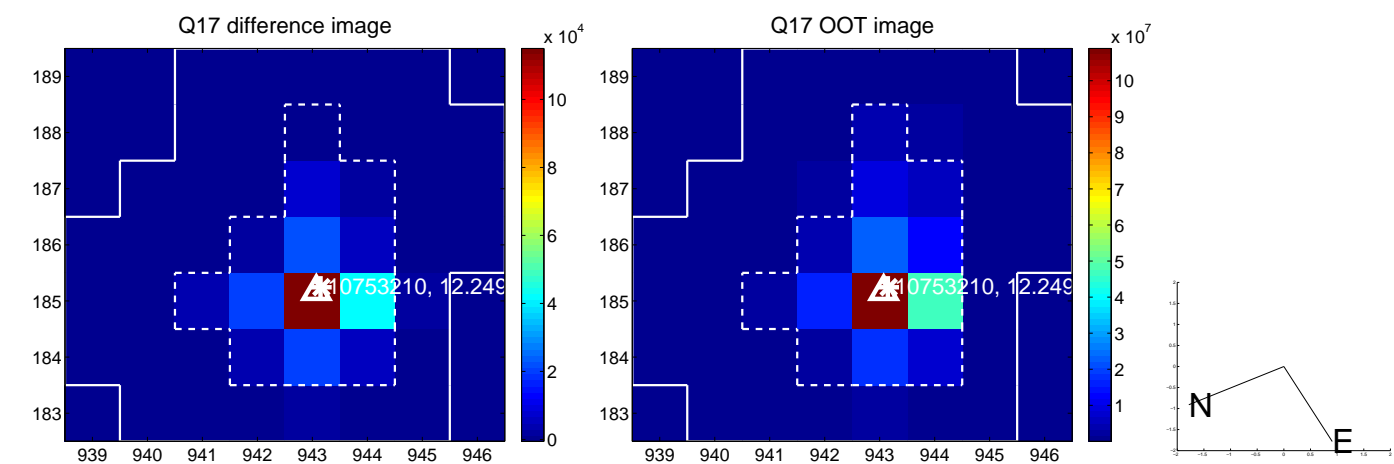
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

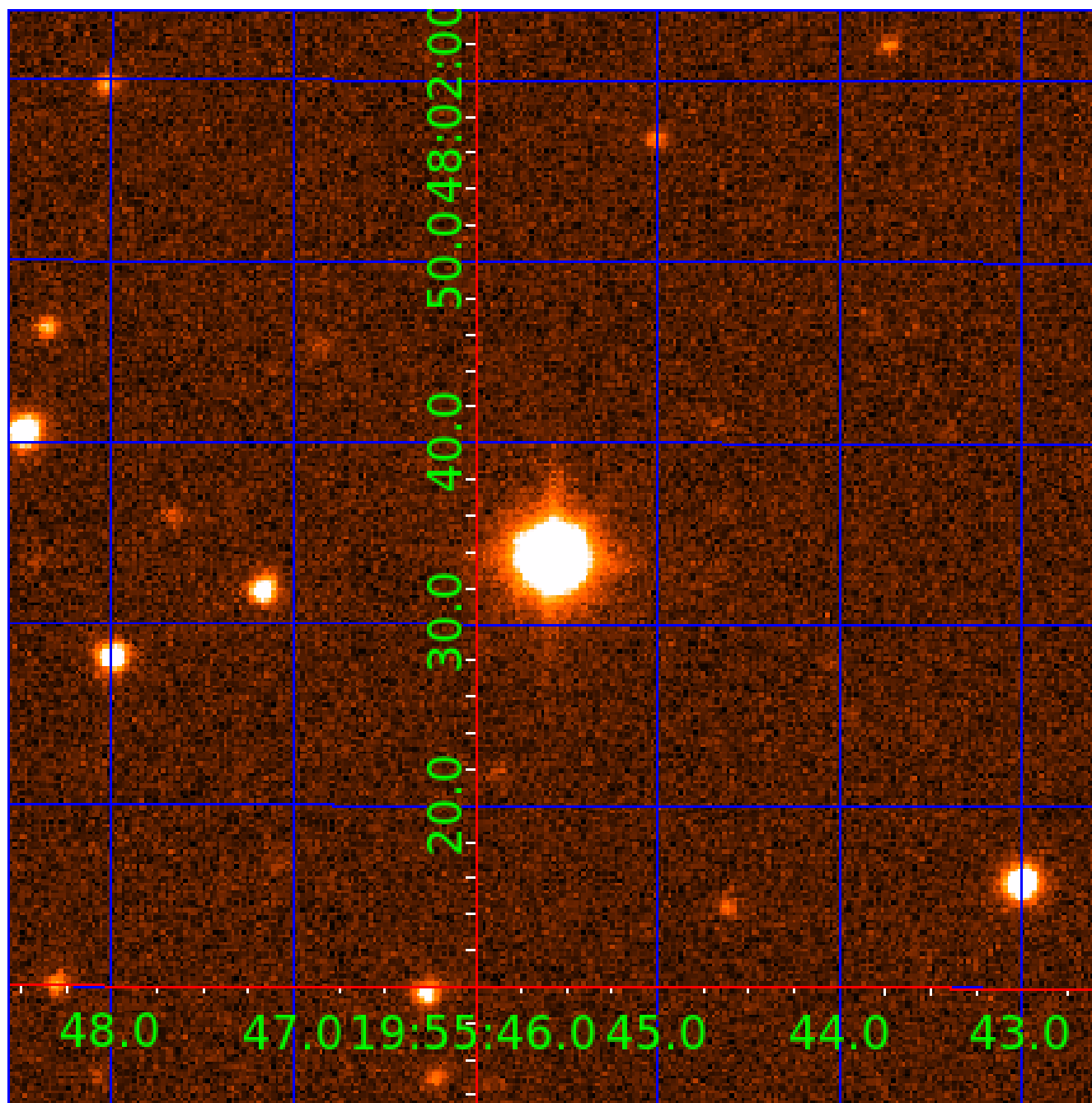


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010753210

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

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010753210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—HALO_GHOST
010753210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

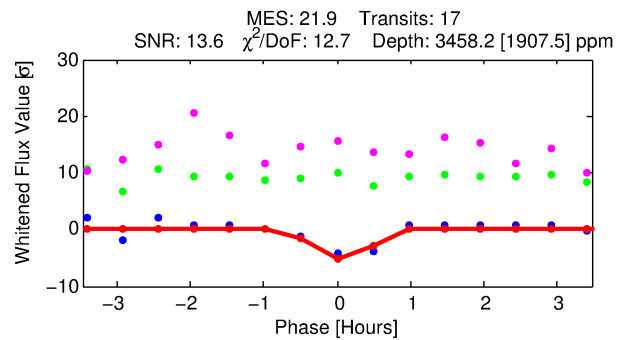
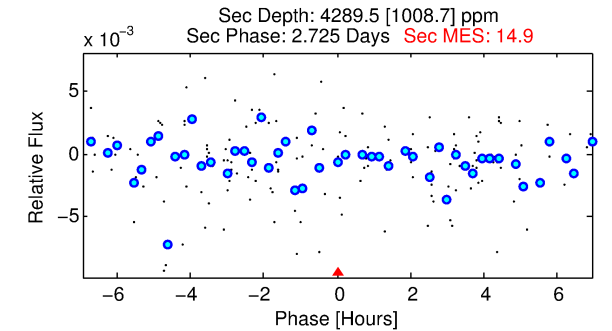
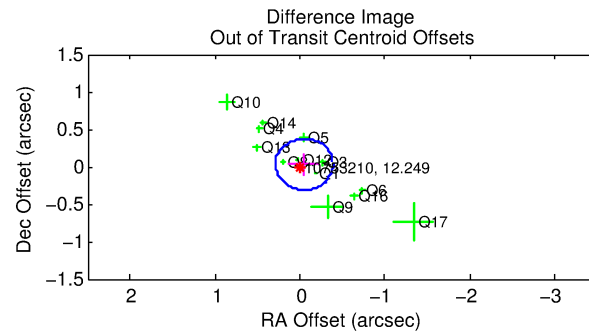
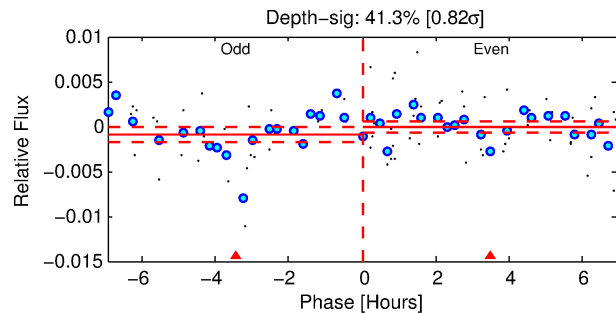
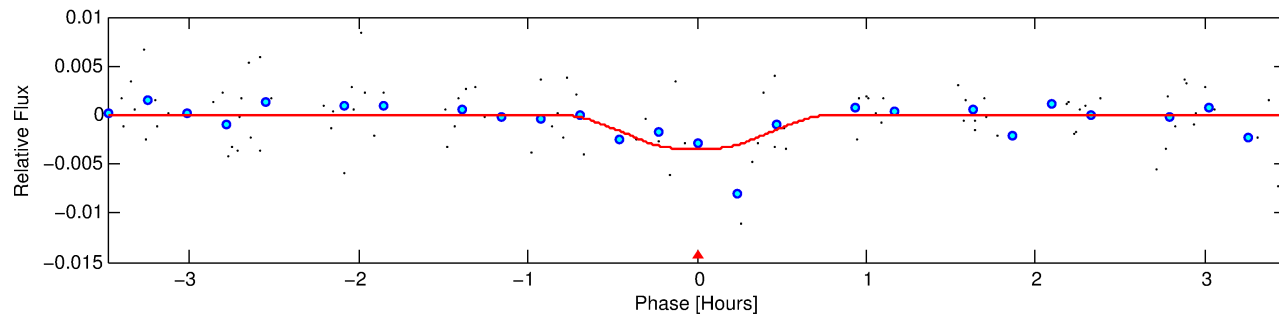
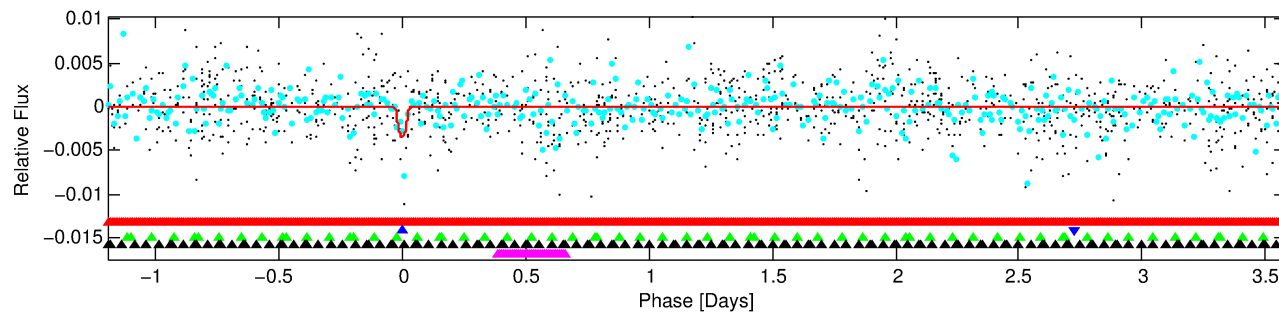
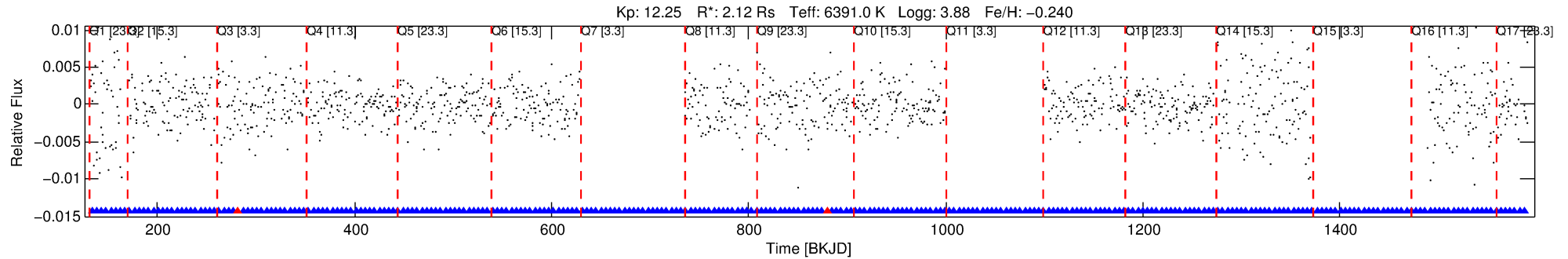
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010753210-02

No Significant Match Found

DV One-Page Summary

KIC: 10753210 Candidate: 2 of 5 Period: 4.780 d



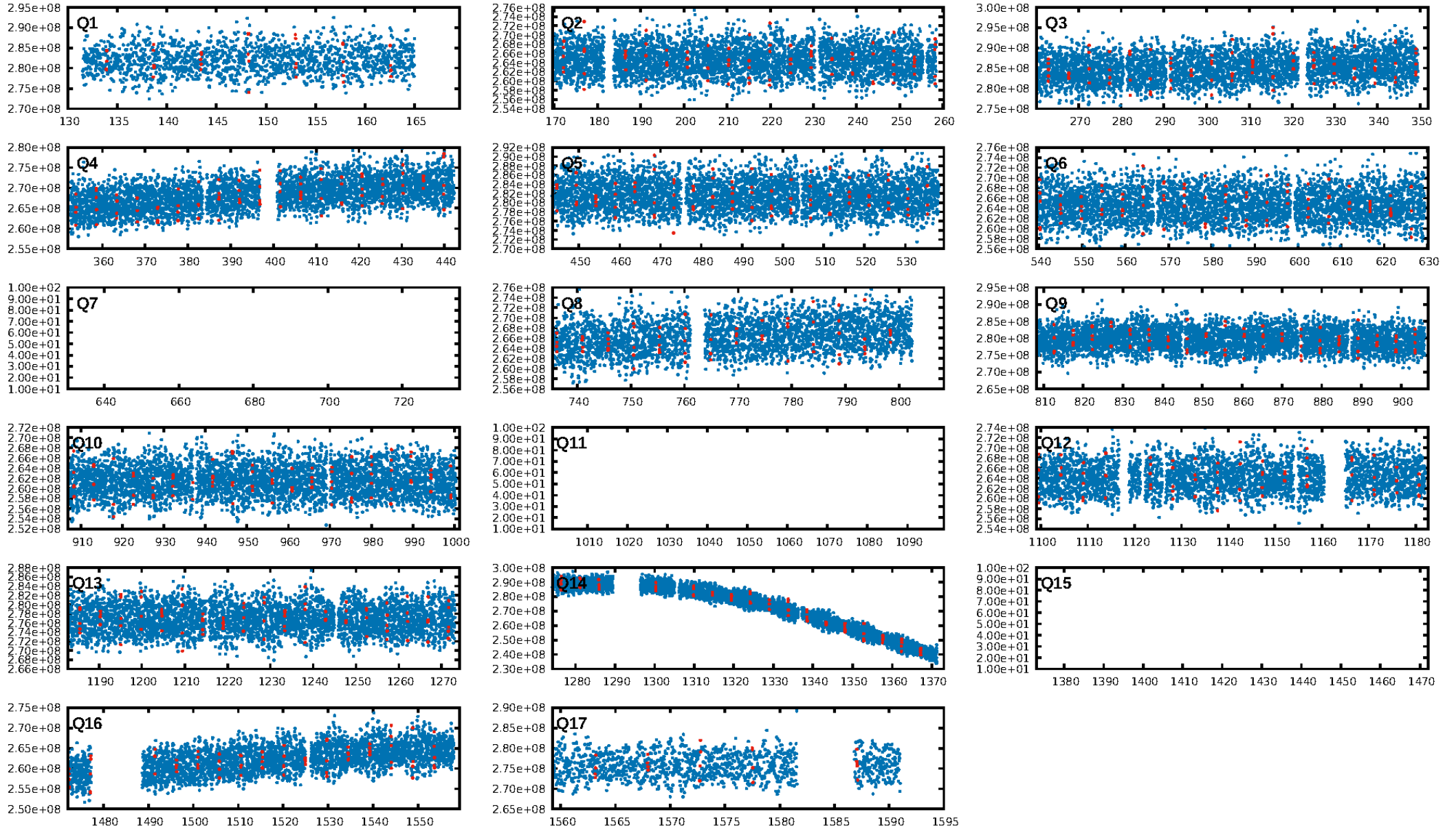
DV Fit Results:

Period = 4.78024 [0.00009] d
Epoch = 133.8900 [0.0093] BKJD
Rp/R* = 0.0618 [0.0759]
a/R* = 19.78 [105.61]
b = 0.86 [1.75]
Seff = 1868.36 [1341.31]
Teq = 1676 [301] K
Rp = 14.29 [18.64] Re
a = 0.0600 [0.0261] AU
Ag = 41.55 [106.72] [0.38 σ]
Teffp = 6581 [4067] K [1.20 σ]

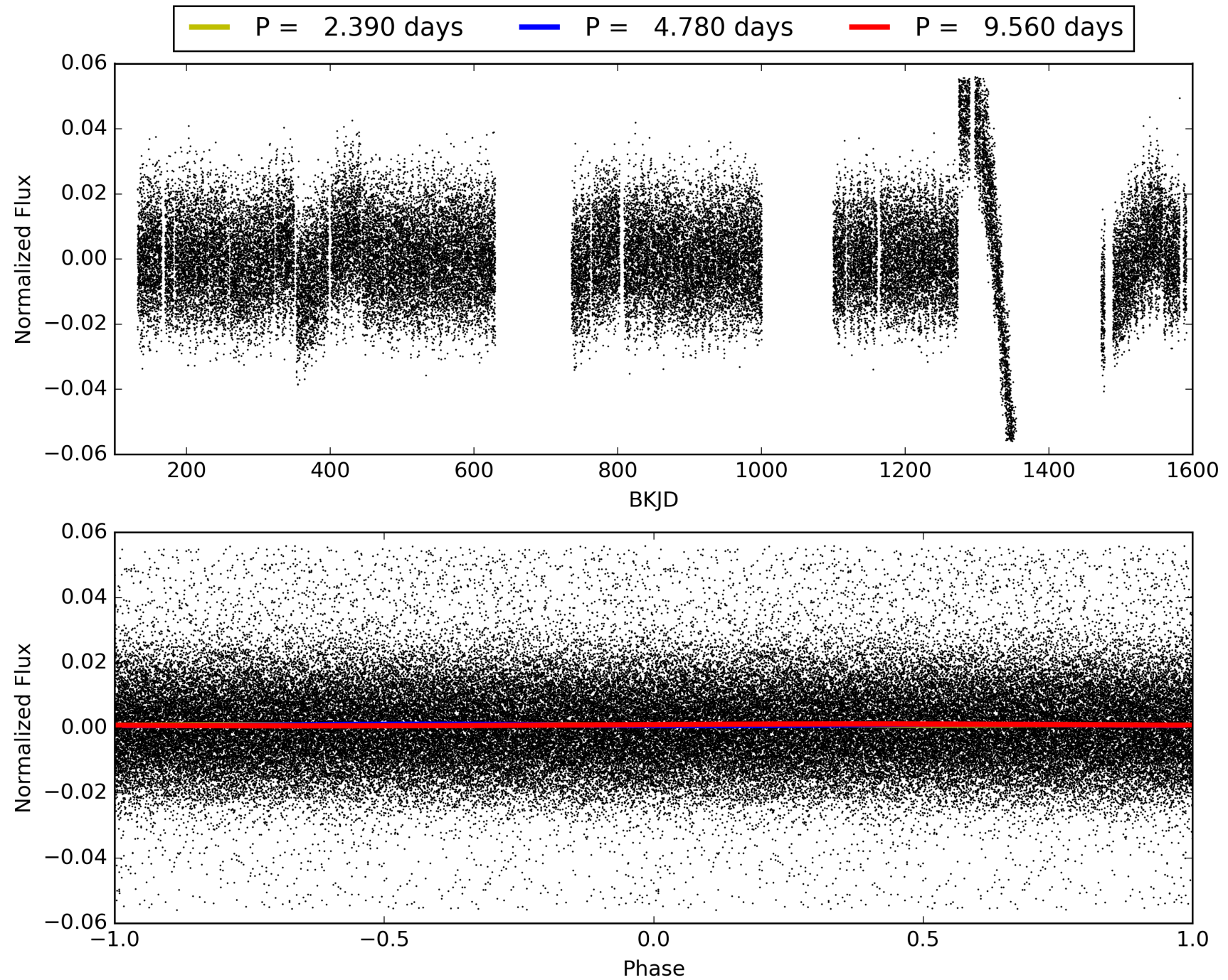
DV Diagnostic Results:

ShortPeriod-sig: 99.6% [2.86 σ]
LongPeriod-sig: 0.5% [0.01 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [15/17]
GhostDiagnostic-chr: 0.2898
Centroid-sig: 5.5%
Centroid-so: 0.045 arcsec [1.87 σ]
OotOffset-rm: 0.060 arcsec [0.53 σ]
OotOffset-st: 3/1/4/5 [13]
KicOffset-rm: 0.118 arcsec [0.88 σ]
KicOffset-st: 3/1/4/5 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 0.86 [12/14]

TCE 010753210-02, PDC Light Curves

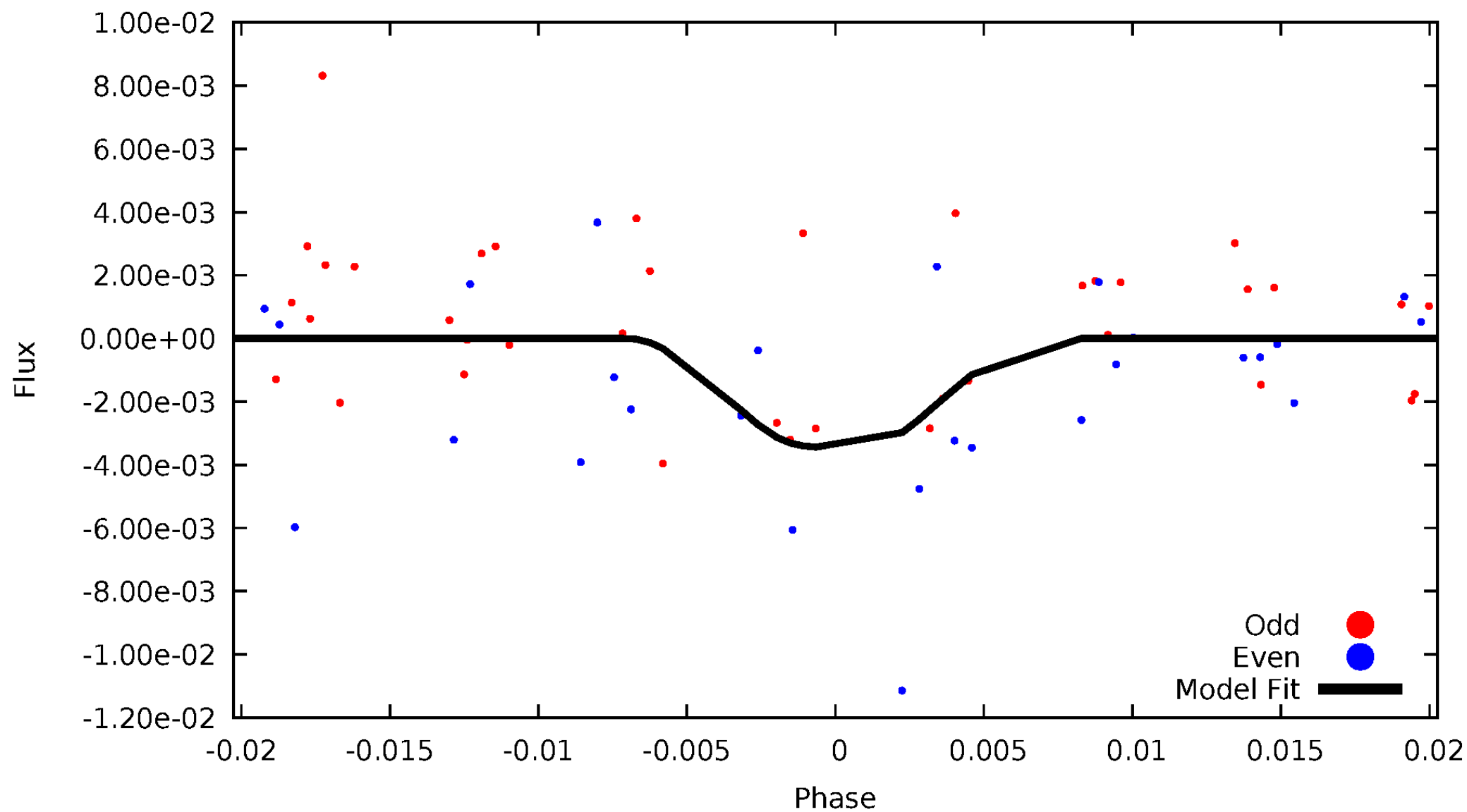


TCE 010753210-02



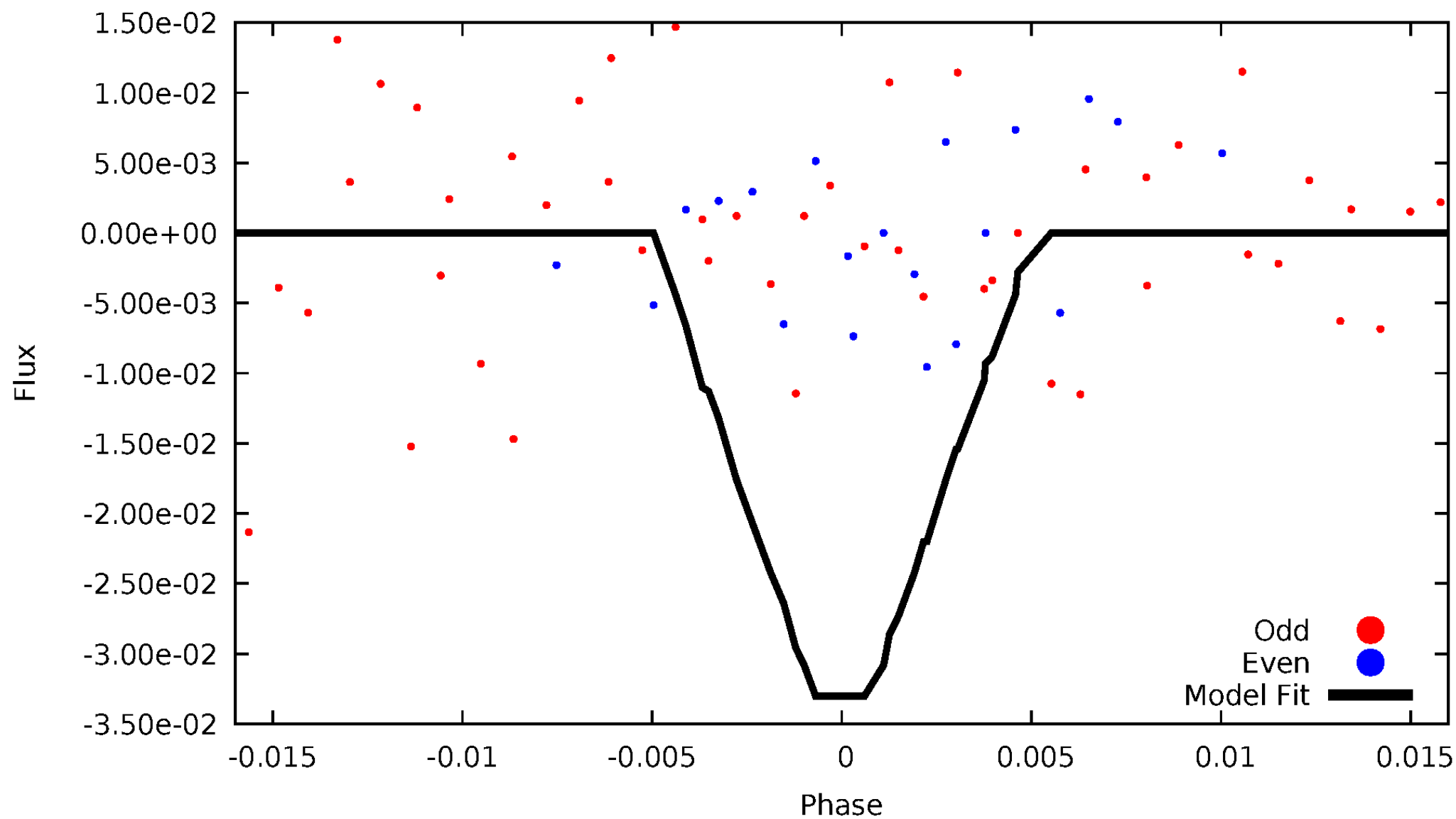
DV Odd/Even

TCE 010753210-02



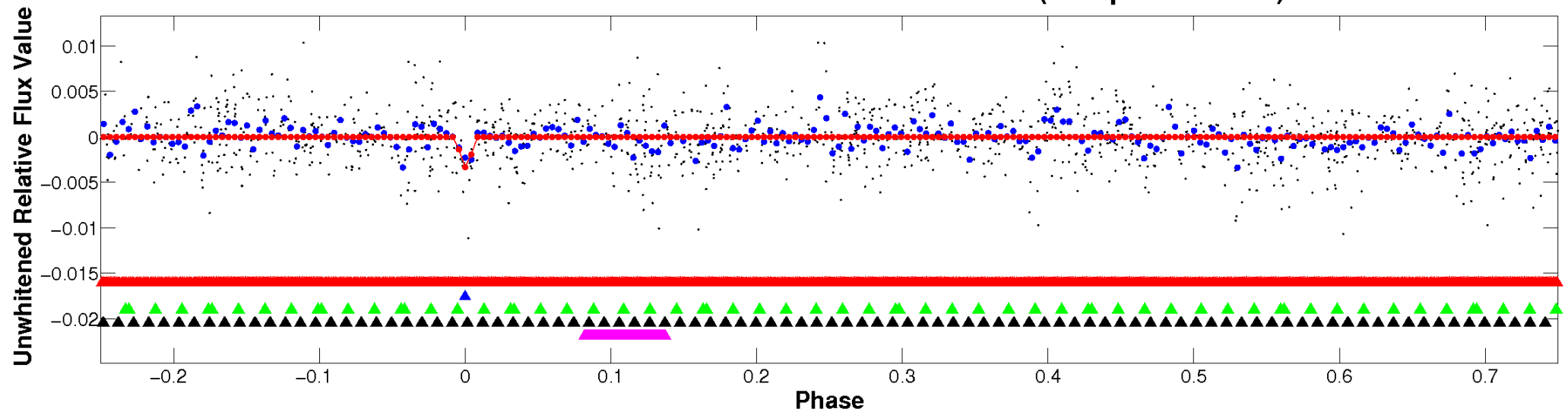
ALT Odd/Even

TCE 010753210-02

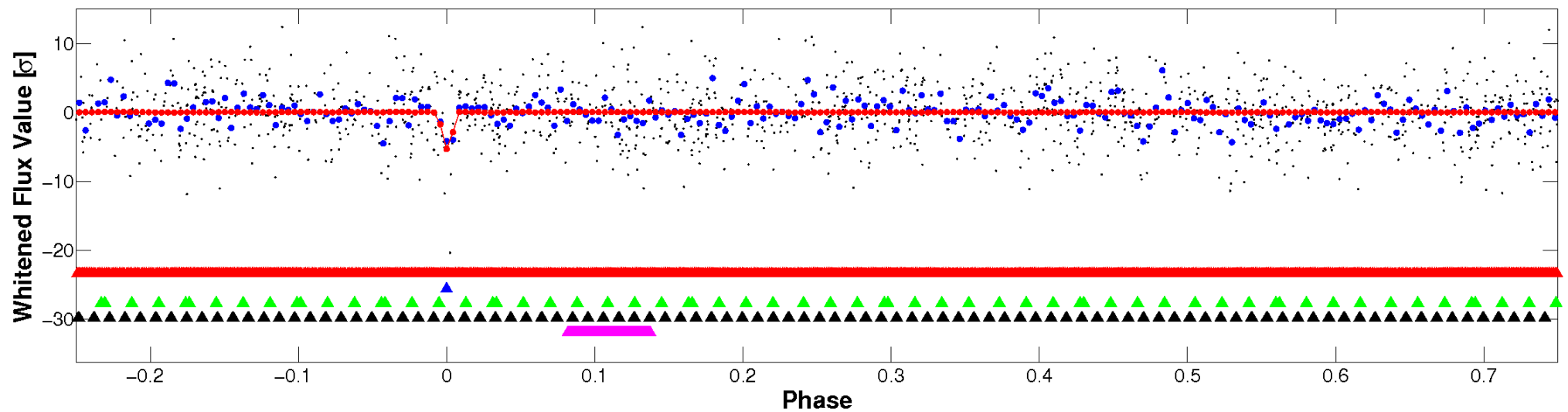


Non-Whitened Vs. Whitened Light Curve

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

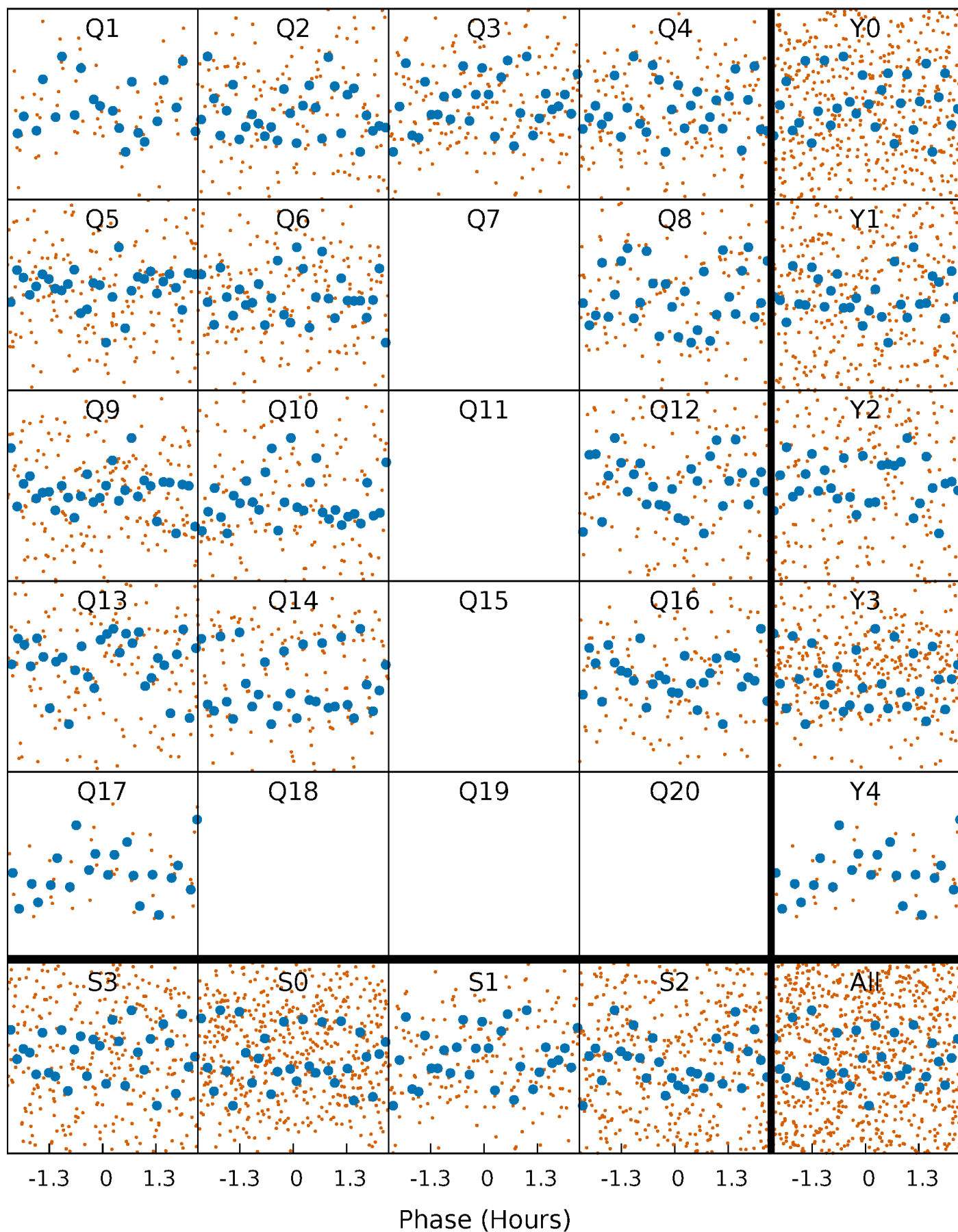


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



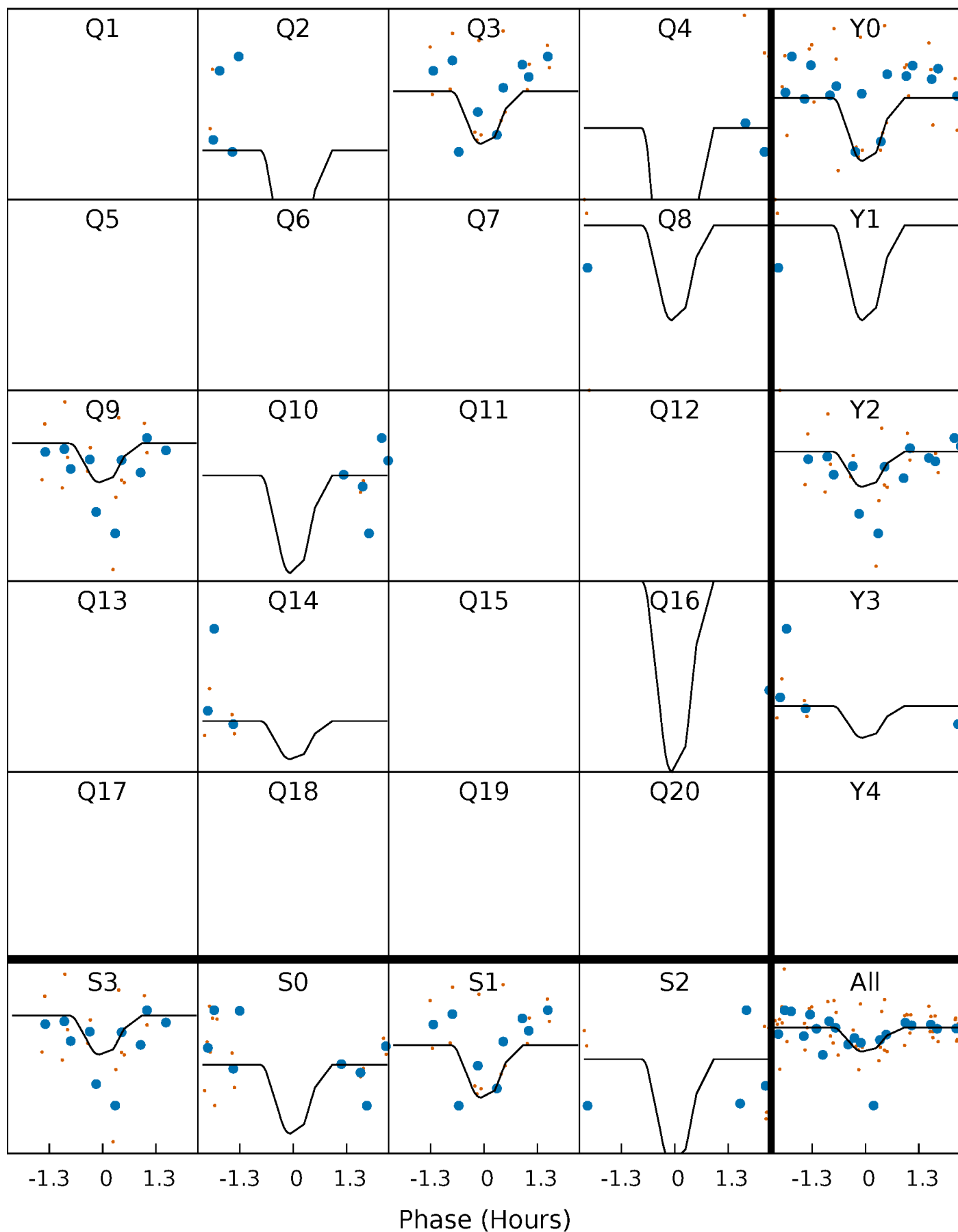
PDC Quarter-Phased Transit Curves

TCE 010753210-02 P= 4.780242 Days $T_0=133.889955$ (BKJD)



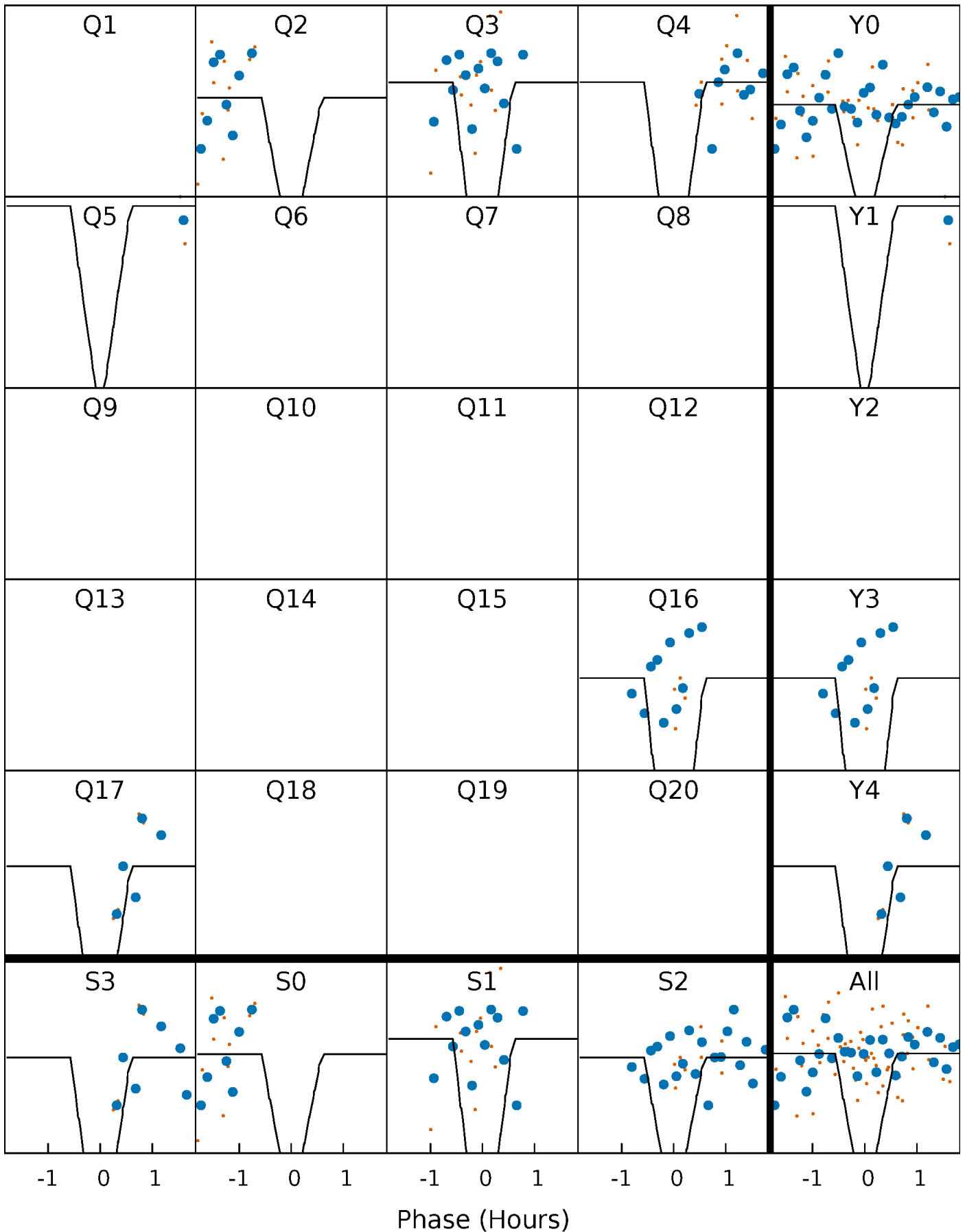
DV Quarter-Phased Transit Curves

TCE 010753210-02 P= 4.780242 Days $T_0=133.889955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

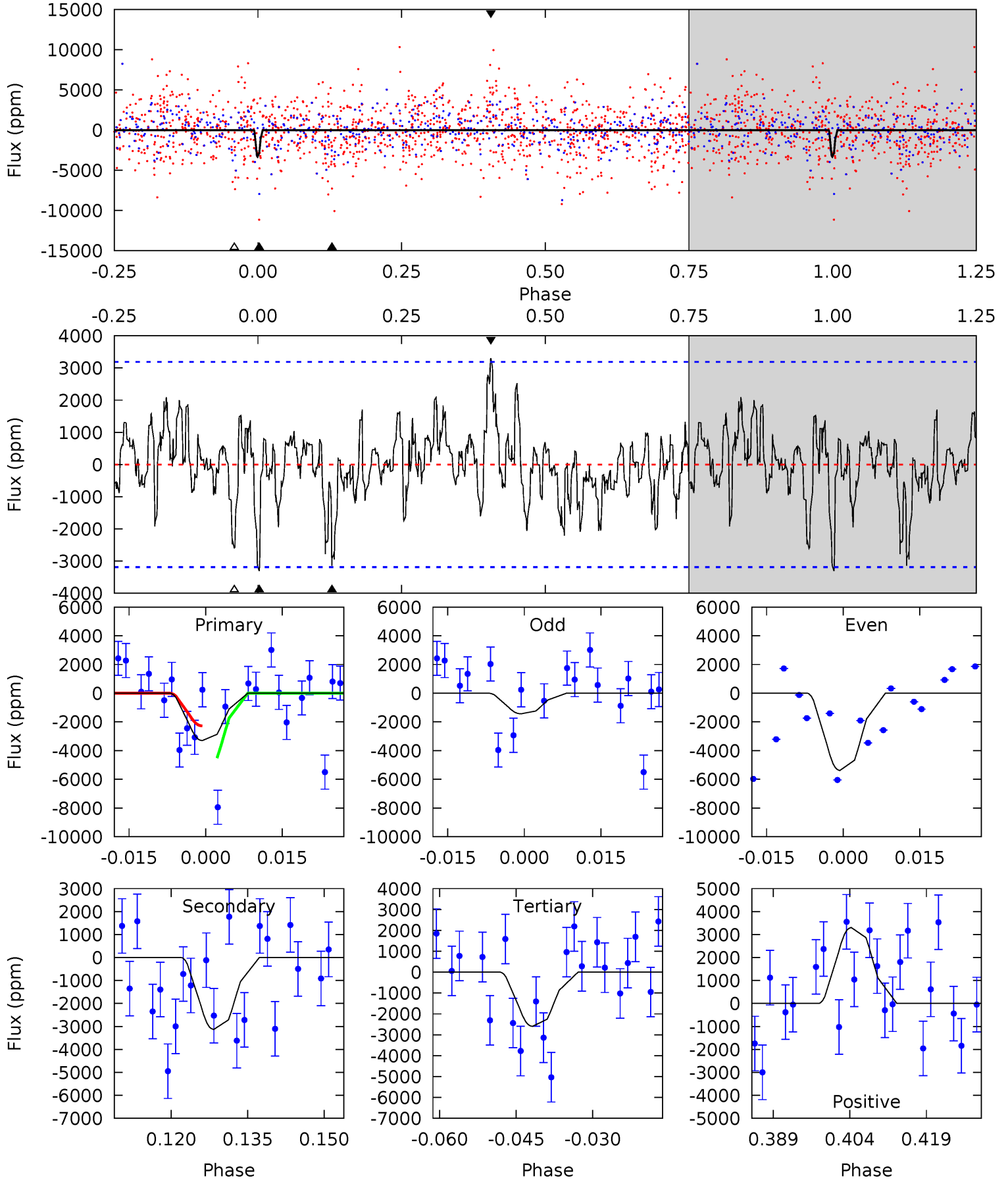
TCE 010753210-02 $P = 4.783430$ Days $T_0 = 133.786415$ (BKJD)



DV Model-Shift Uniqueness Test

010753210-02, P = 4.780242 Days, E = 129.109713 Days

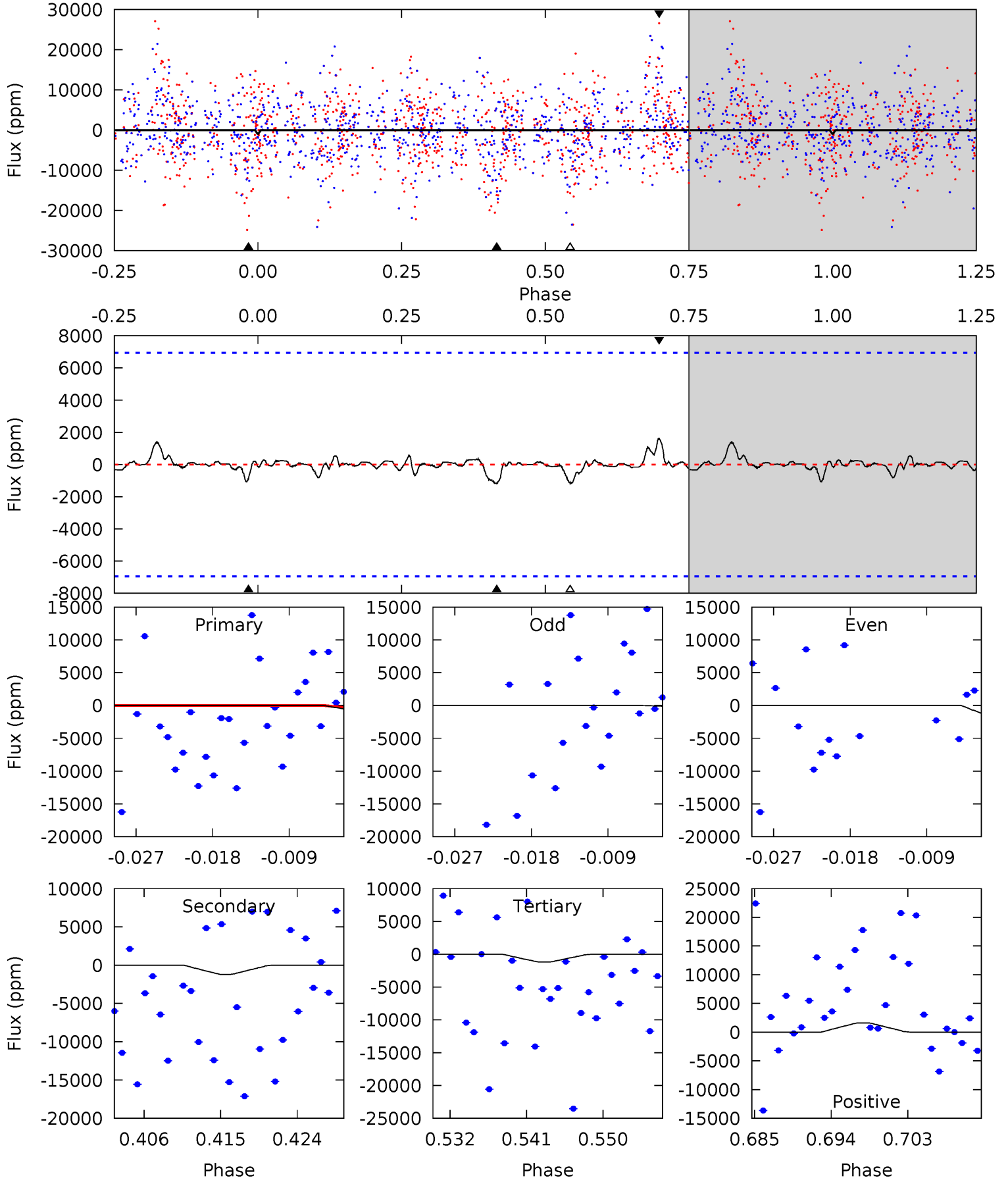
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.13	4.87	4.04	5.13	4.95	2.43	1.50	1.10	-0.00	0.83	-0.27	3.25	0.88	0.50	1.78



Alt Model-Shift Uniqueness Test

010753210-02, P = 4.783430 Days, E = 129.002985 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.66	0.87	0.86	1.18	5.05	2.61	0.28	-0.20	-0.52	0.01	-0.31	0.68	1.79	0.58	0.24



Stellar Parameters For KIC 010753210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6391^{+162}_{-194}	$3.885^{+0.420}_{-0.140}$	$-0.240^{+0.300}_{-0.300}$	$2.120^{+0.499}_{-0.927}$	$1.258^{+0.193}_{-0.257}$	$0.186^{+0.696}_{-0.075}$
	+3%/-3%	+11%/-4%	+125%/-125%	+24%/-44%	+15%/-20%	+374%/-41%
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 010753210-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3136 ± 644	$17.81^{+15.29}_{-10.98}$	2300^{+180}_{-257}	5234^{+2940}_{-1096}	19^{+116}_{-14}
Alt.	-1195 ± 1377	$38.21^{+19.27}_{-16.53}$	2299^{+175}_{-278}	3107^{+850}_{-6036}	$1.293^{+4.178}_{-1.600}$

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

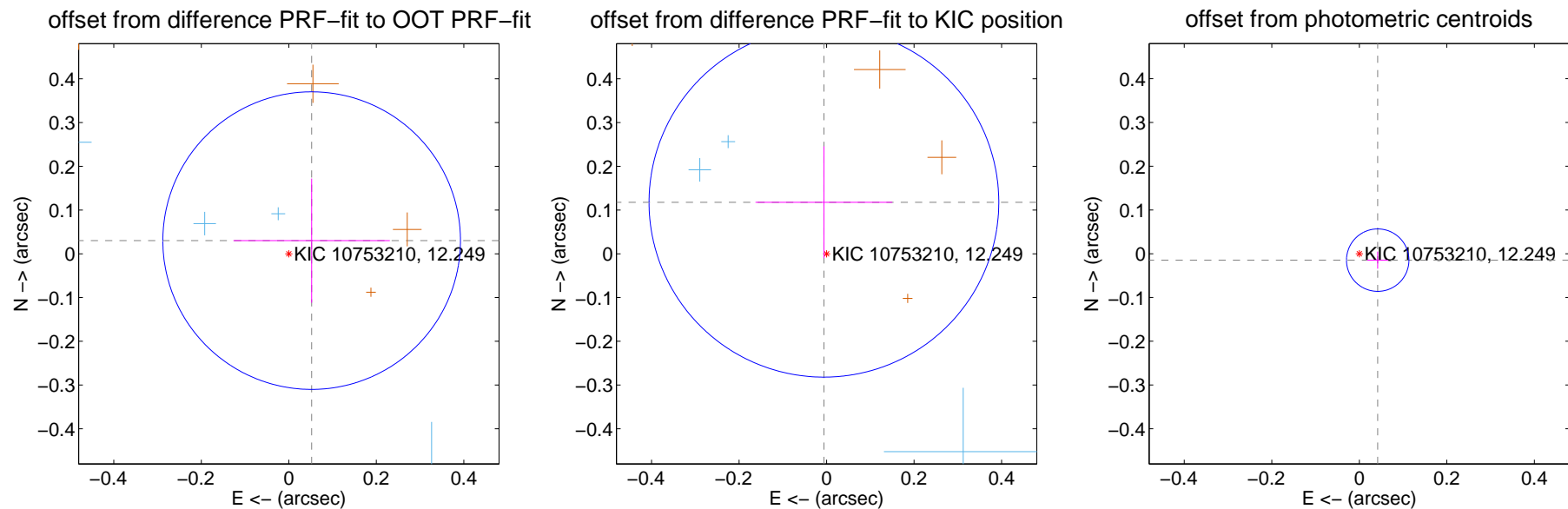
DV Centroid Data

Supplemental centroid analysis for 010753210-02. Kepler magnitude: 12.25. Transit SNR 13.64

There are 5 quarters with good PRF difference image offsets

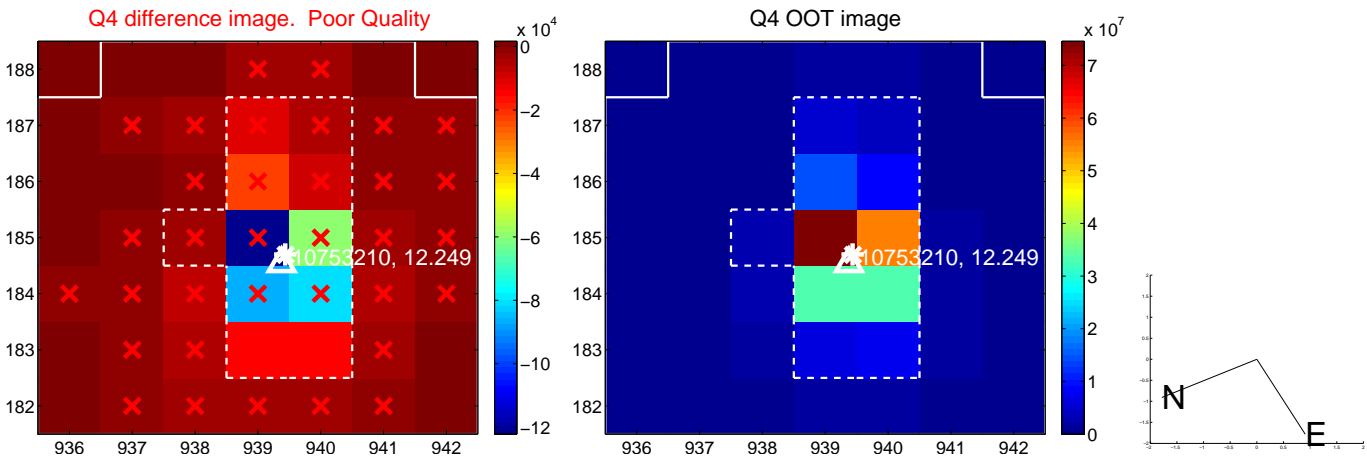
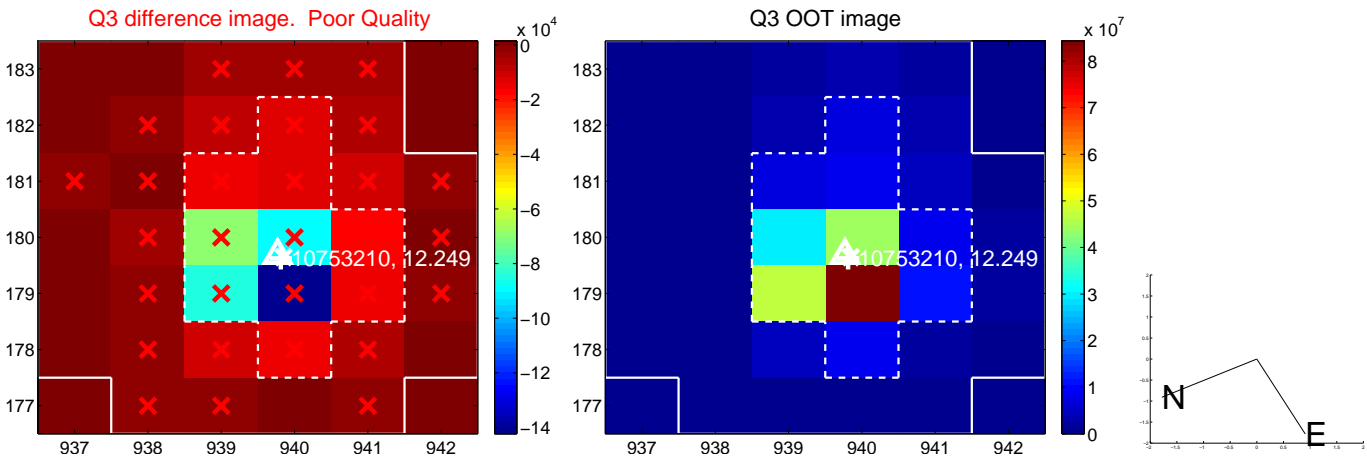
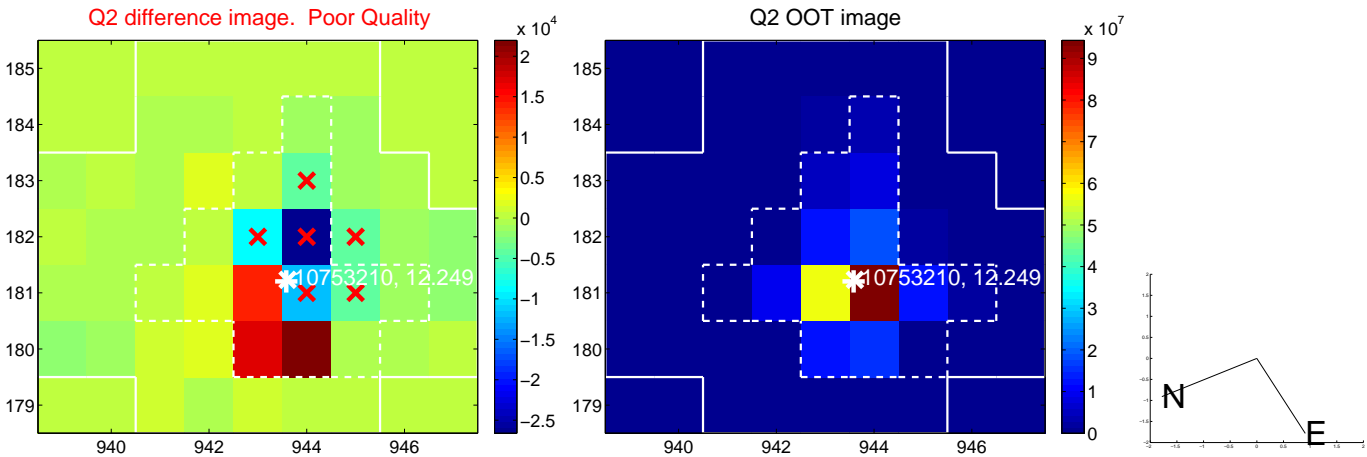
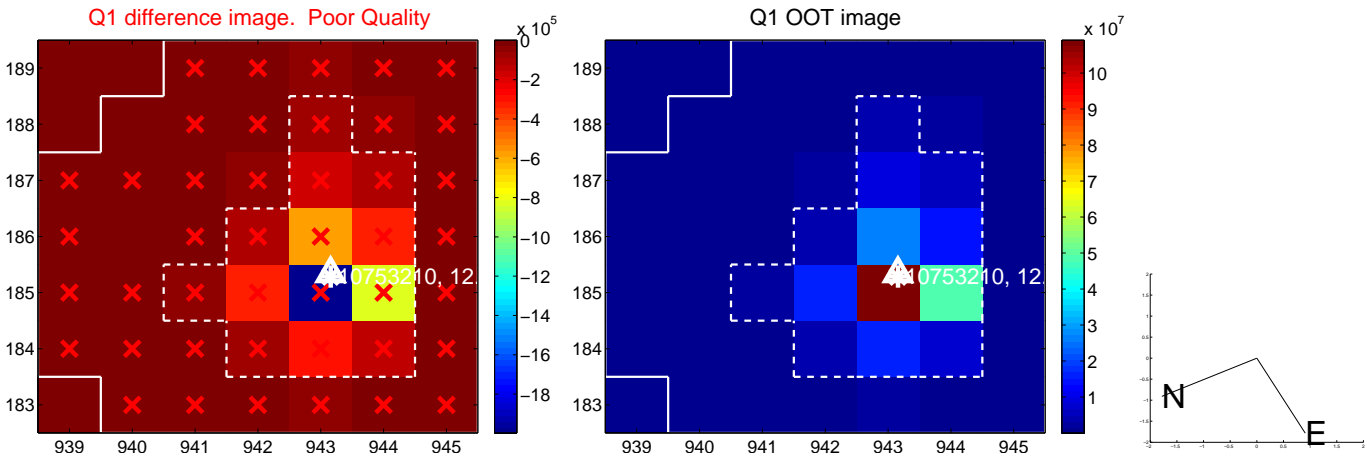
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.060 ± 0.113	0.53	-0.052 ± 0.179	0.030 ± 0.142
PRF-fit source offset from KIC position	0.118 ± 0.133	0.88	0.006 ± 0.156	0.118 ± 0.128
photometric centroid source offset	0.04 ± 0.02	1.87	-0.04 ± 0.02	-0.01 ± 0.02

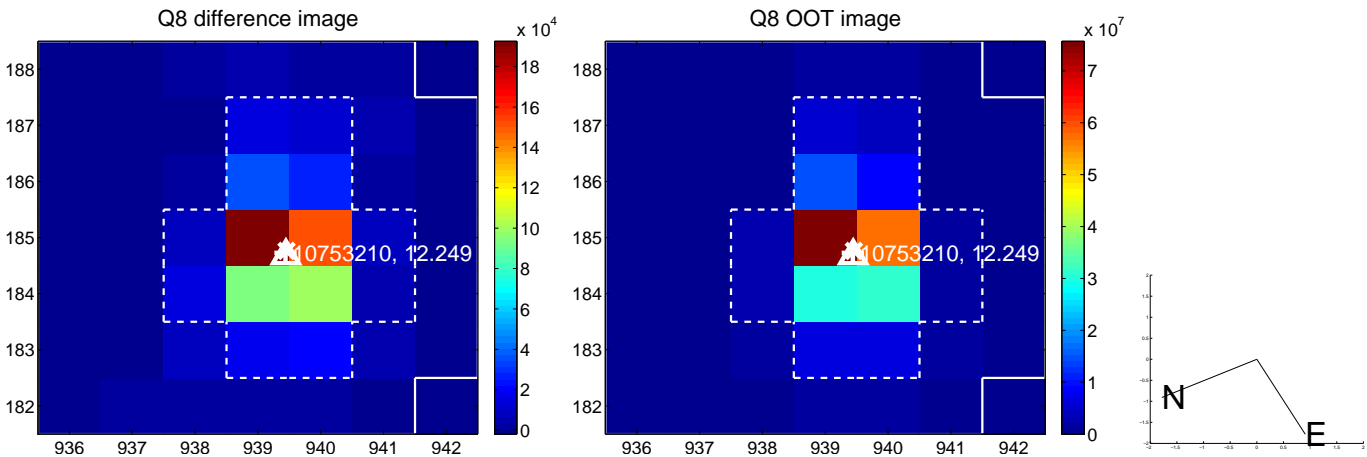
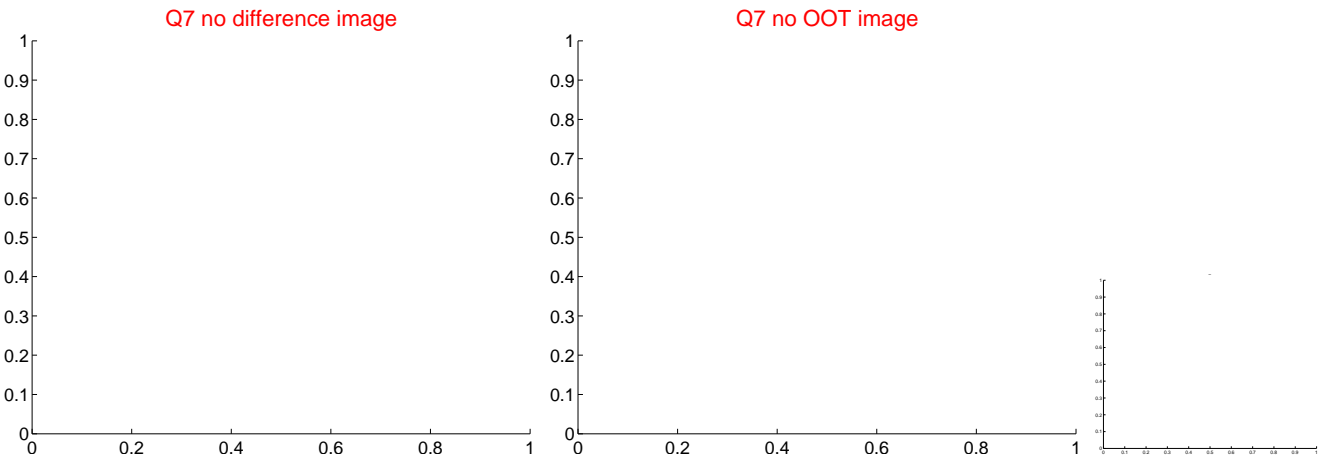
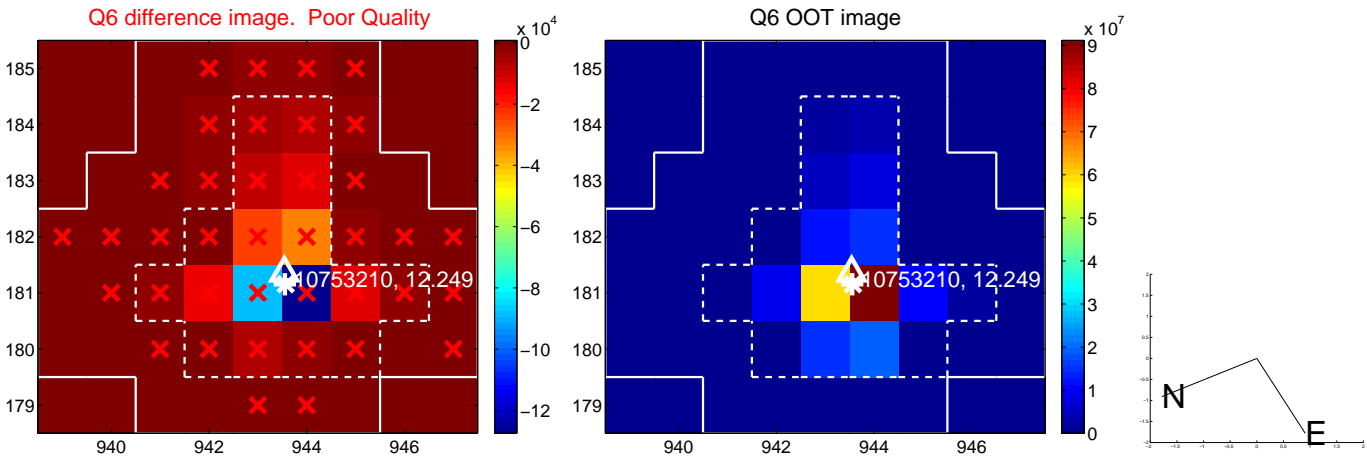
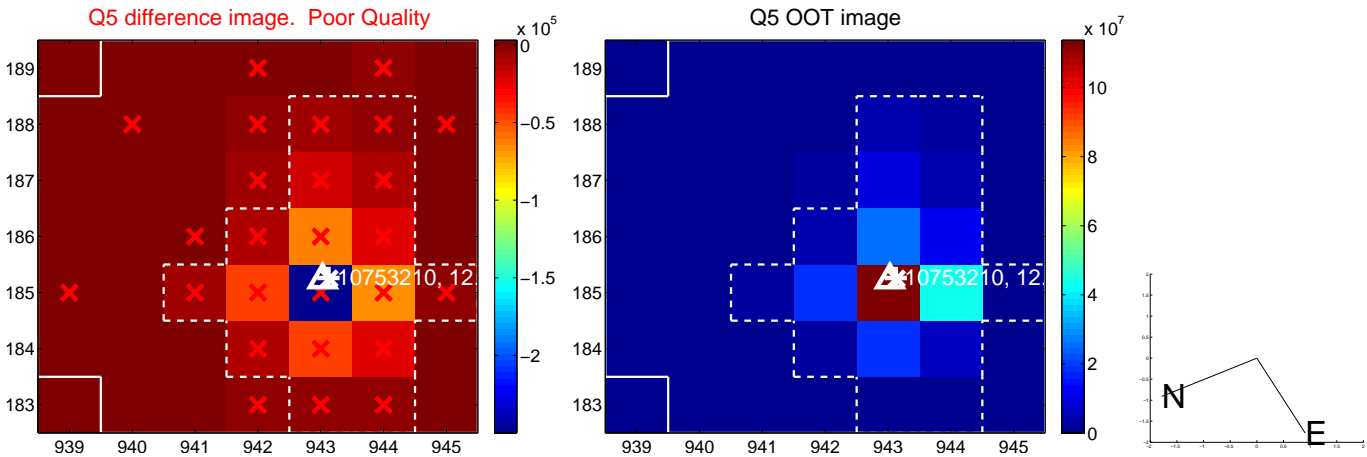


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

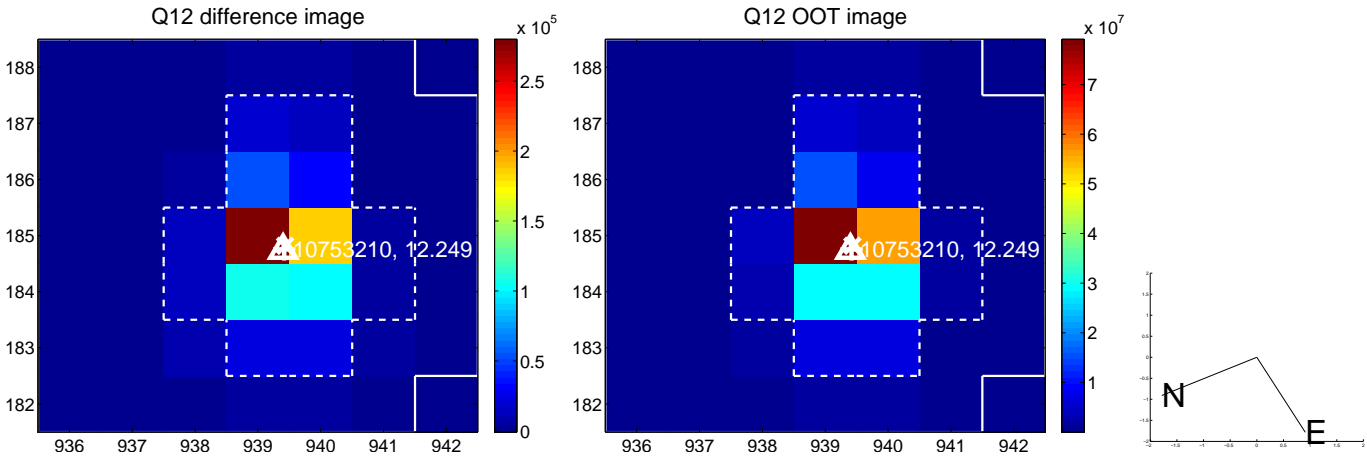
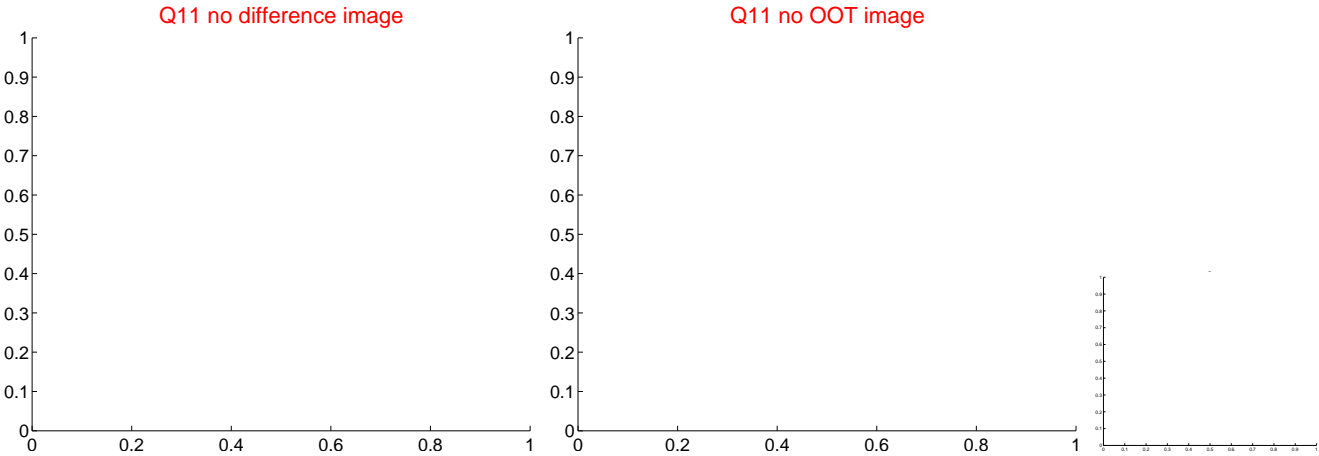
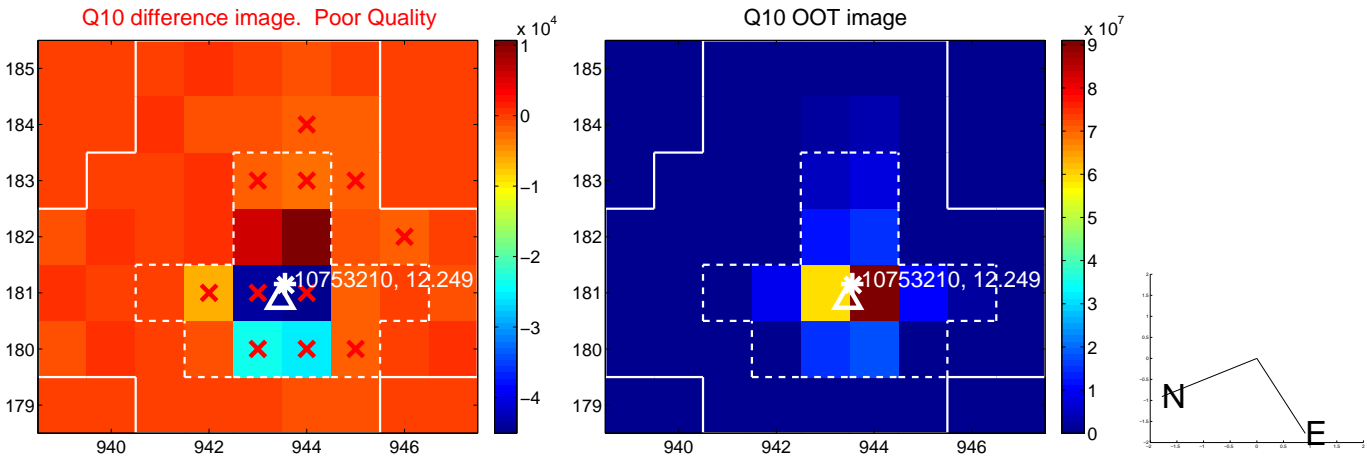
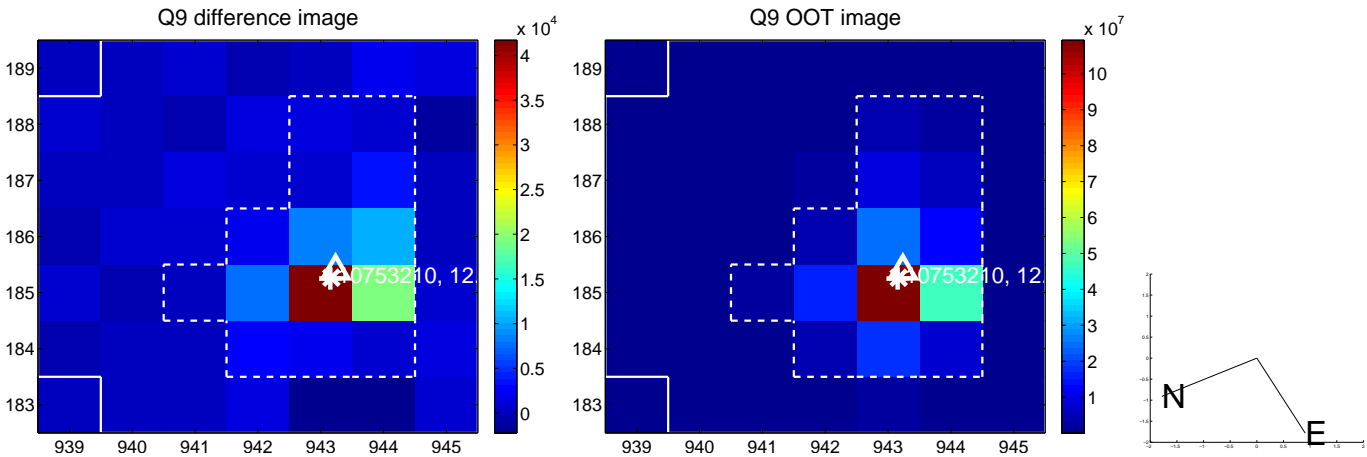
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



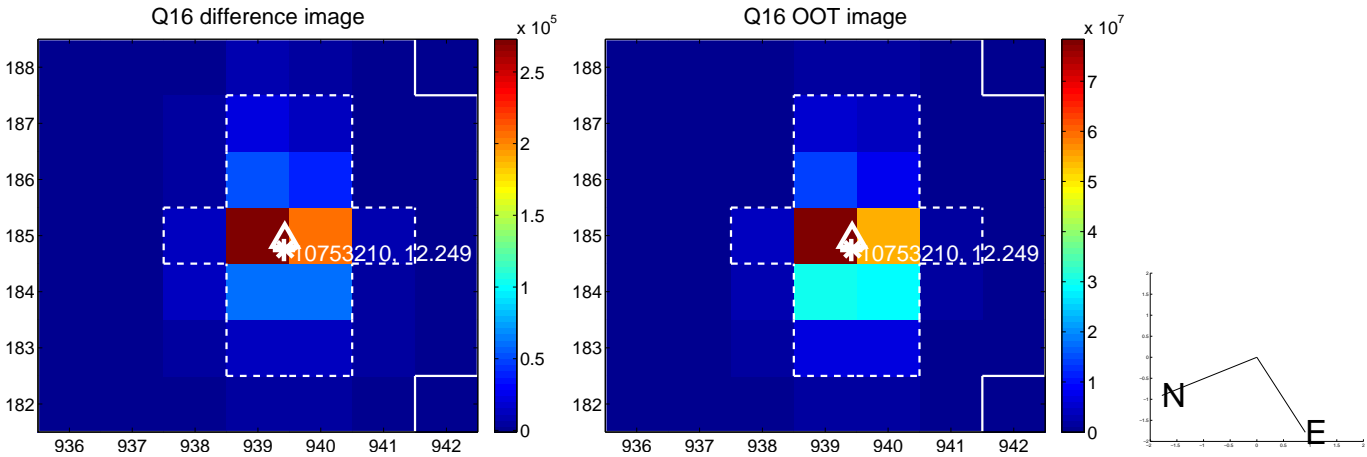
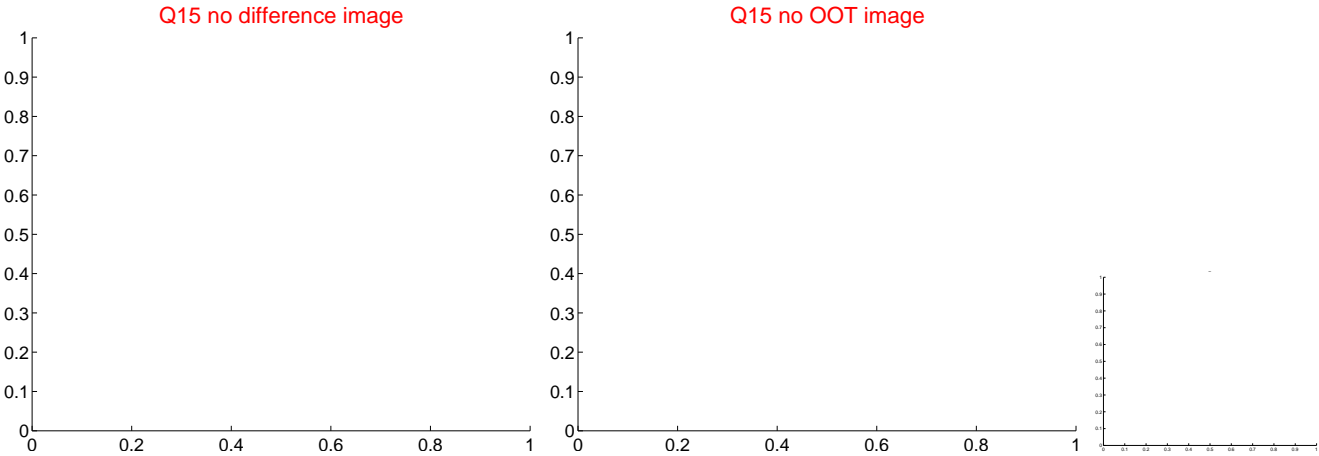
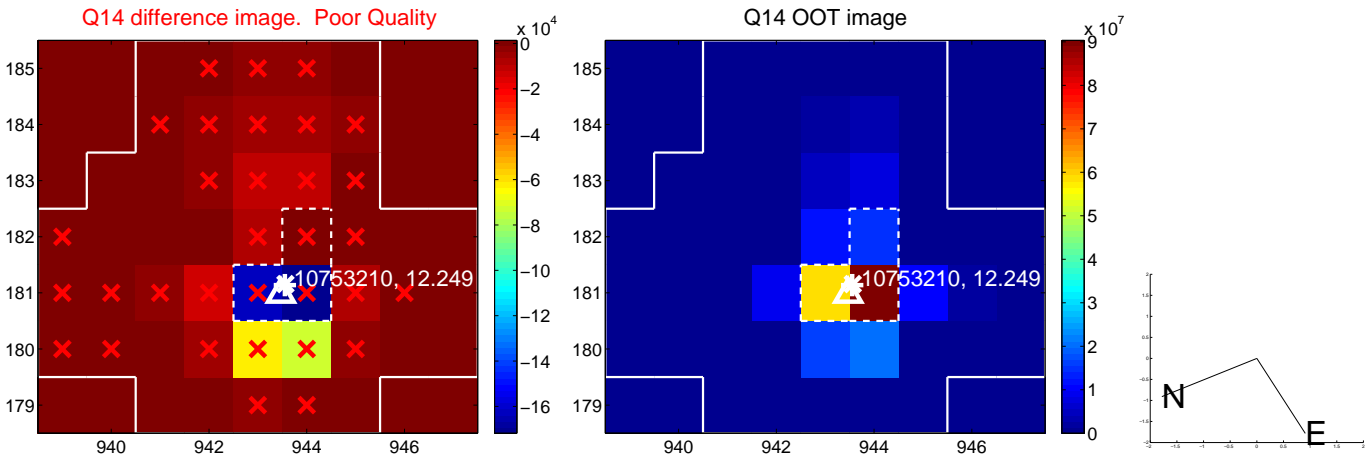
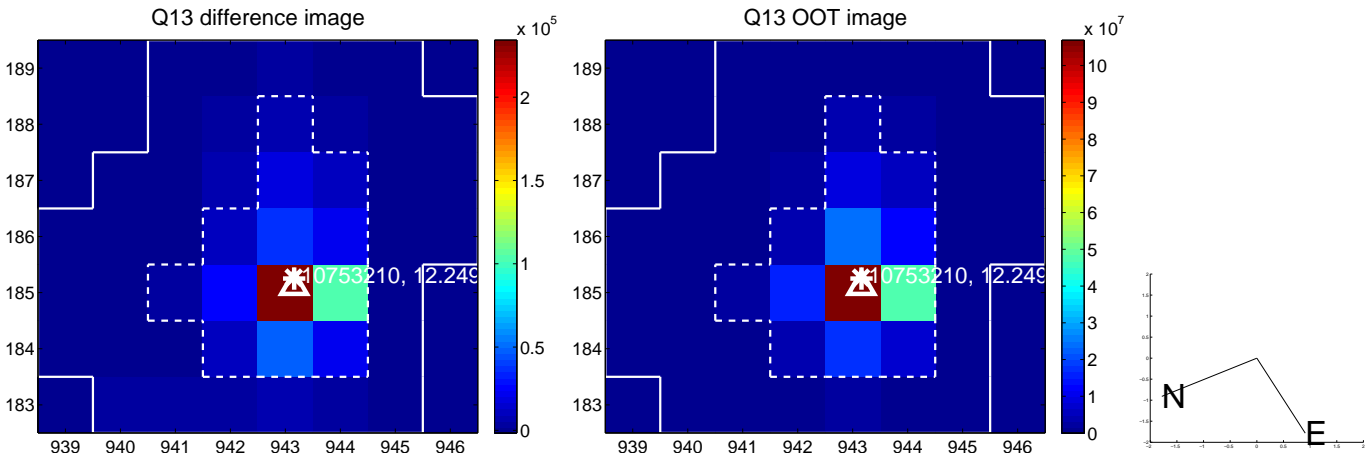
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



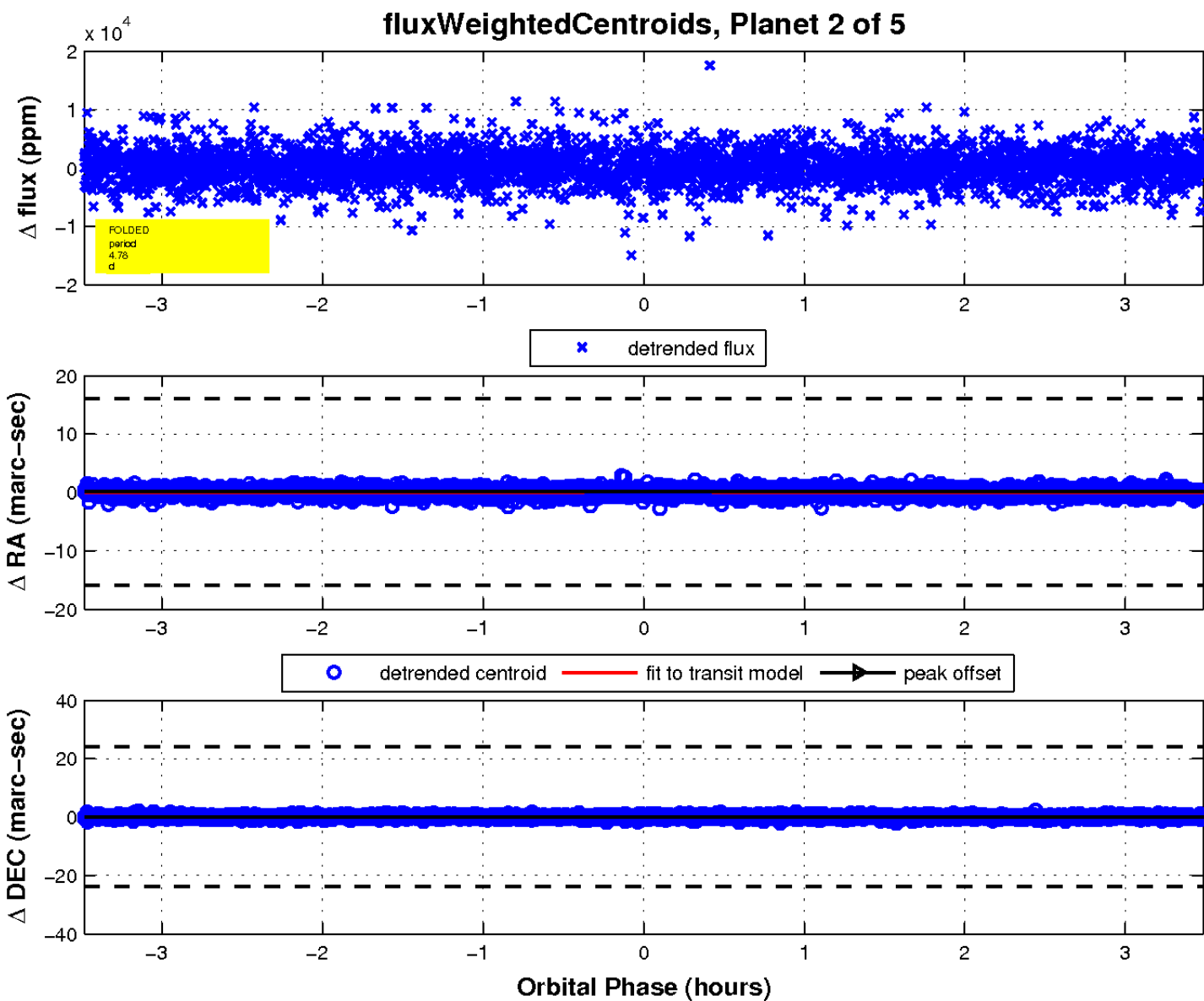
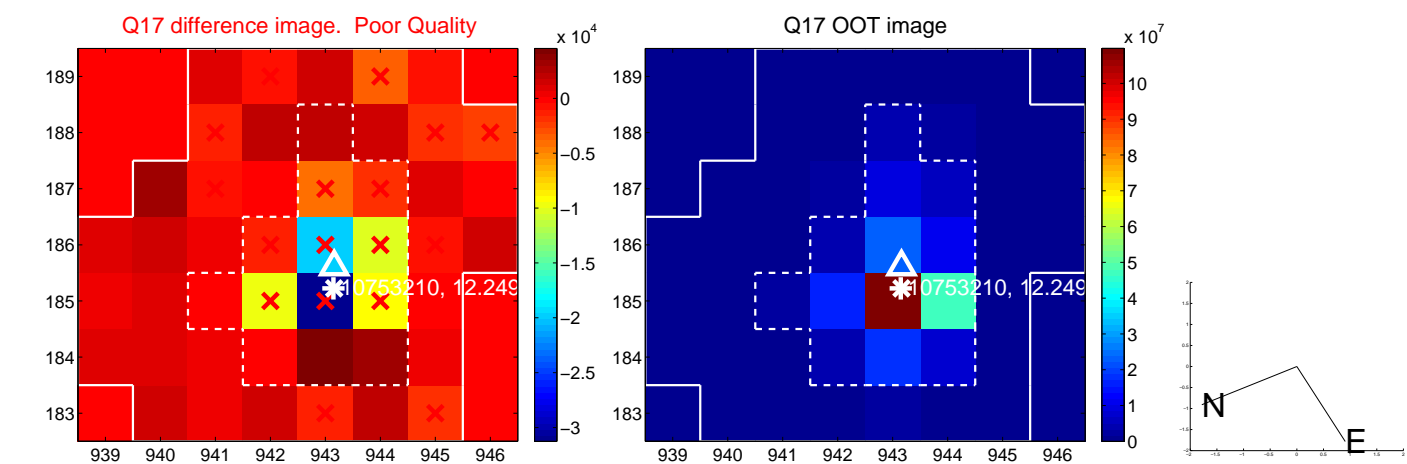
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

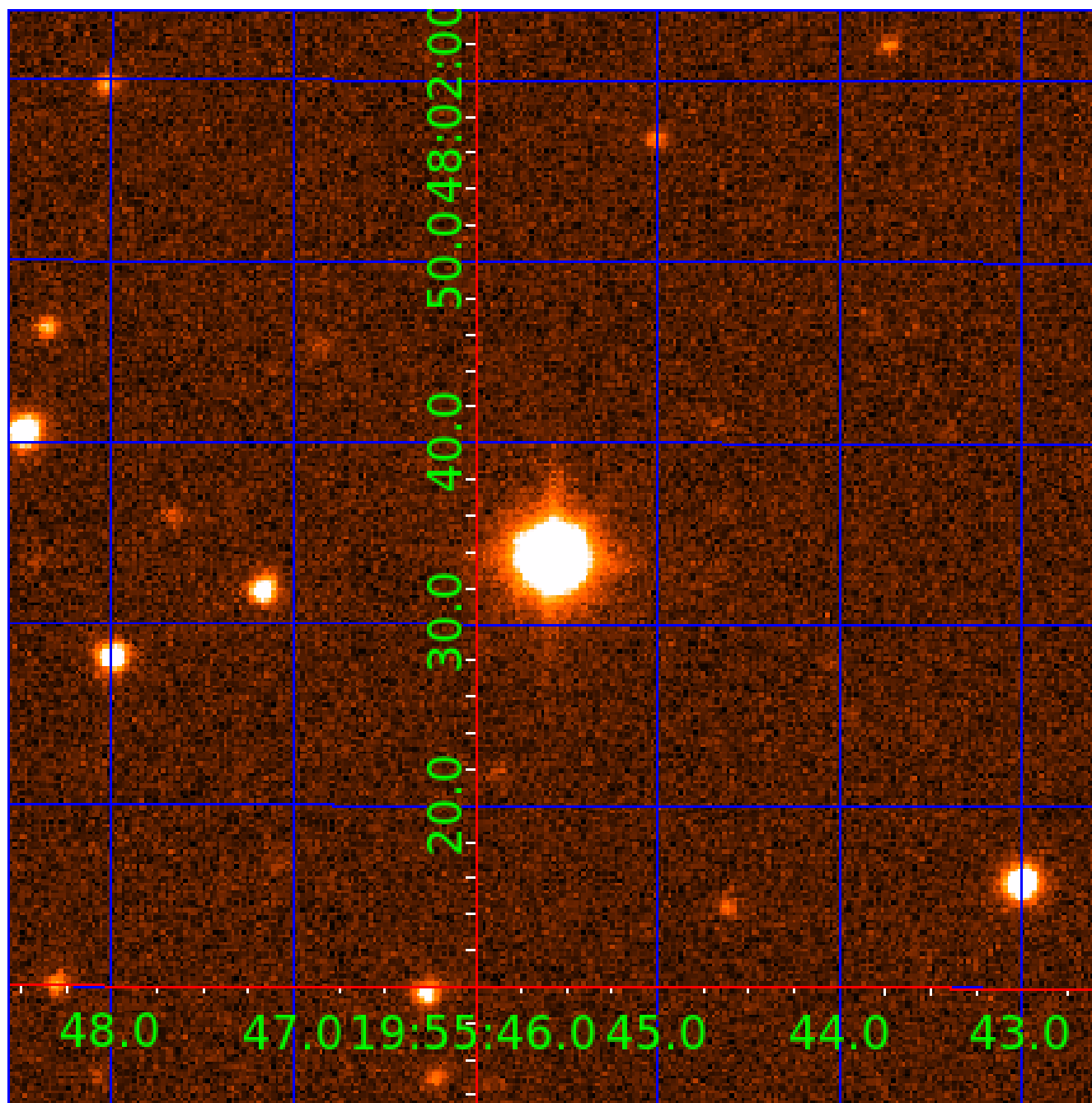


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010753210

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})
010753210-01	OBS	No	1.367465	132.316048	325.9	10.479	12.6	12.9	2.12	6391	4.89	9912.24
010753210-02	OBS	No	4.780242	133.889955	3458.2	1.162	21.9	13.6	2.12	6391	14.29	1868.36
010753210-03	OBS	No	23.269637	138.471599	10979.3	0.711	18.4	20.1	2.12	6391	22.88	226.47
010753210-04	OBS	No	4.531258	134.945600	2345.2	1.733	17.1	13.0	2.12	6391	10.34	2006.48
010753210-05	OBS	No	4.781119	134.280524	3981.8	3.236	13.3	16.4	2.12	6391	13.68	1867.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010753210-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010753210-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—HALO_GHOST
010753210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

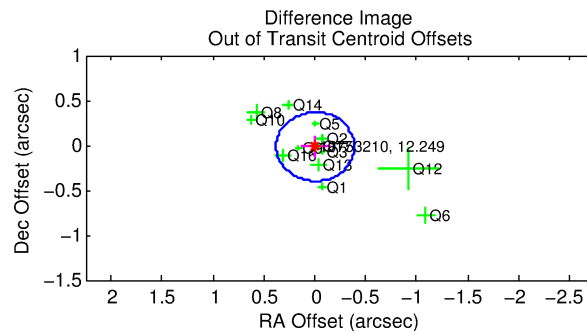
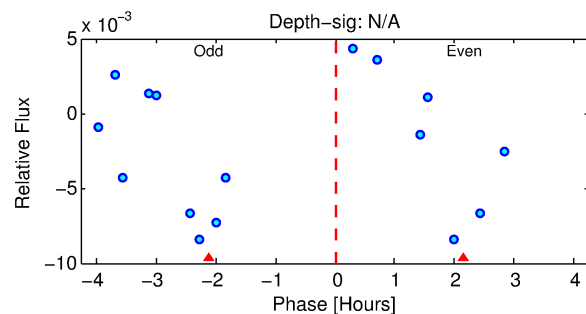
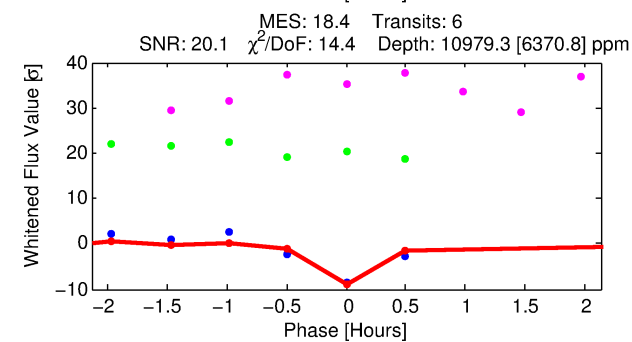
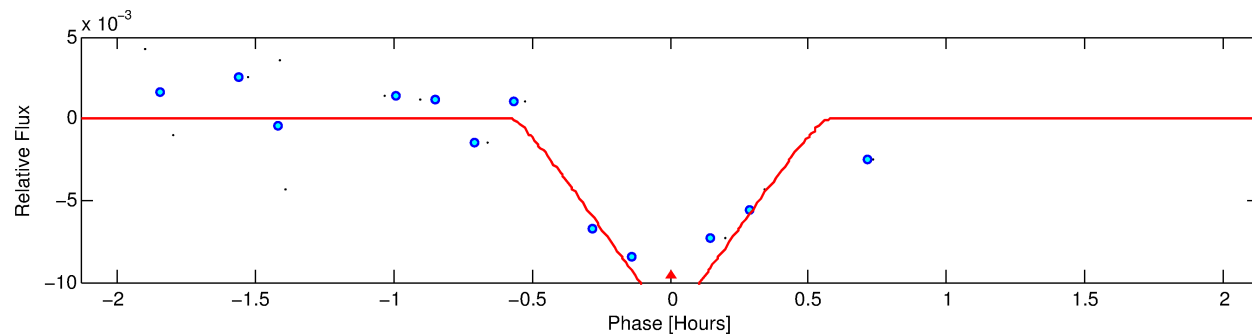
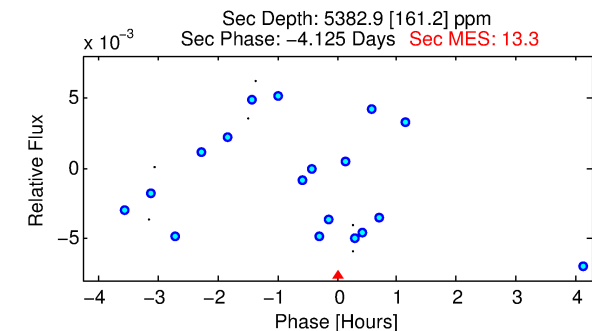
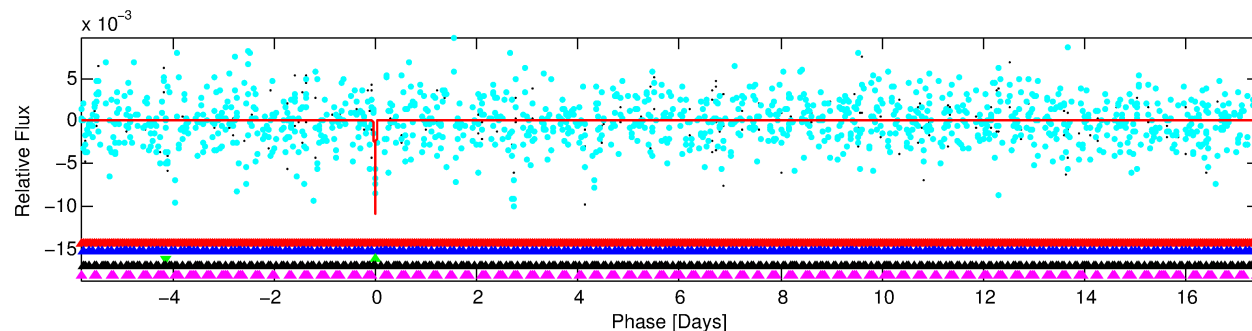
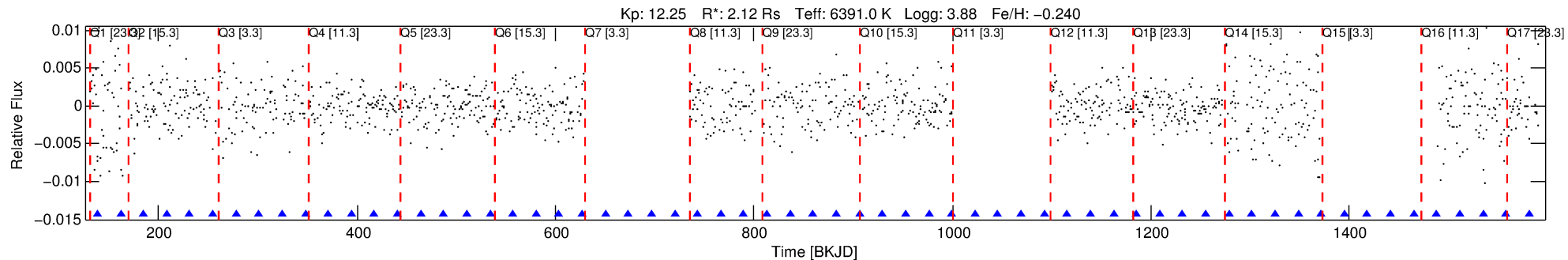
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010753210-03

No Significant Match Found

DV One-Page Summary

KIC: 10753210 Candidate: 3 of 5 Period: 23.270 d



DV Fit Results:

Period = 23.26964 [0.00014] d
Epoch = 138.4716 [0.0075] BKJD
Rp/R* = 0.0989 [0.6519]
a/R* = 270.90 [9374.52]
b = 0.18 [184.67]
Seff = 226.47 [162.58]
Teq = 989 [178] K
Rp = 22.88 [151.14] Re
a = 0.1722 [0.0749] AU
Ag = 167.78 [2214.78] [0.08σ]
Teff = 5504 [18140] K [0.25σ]

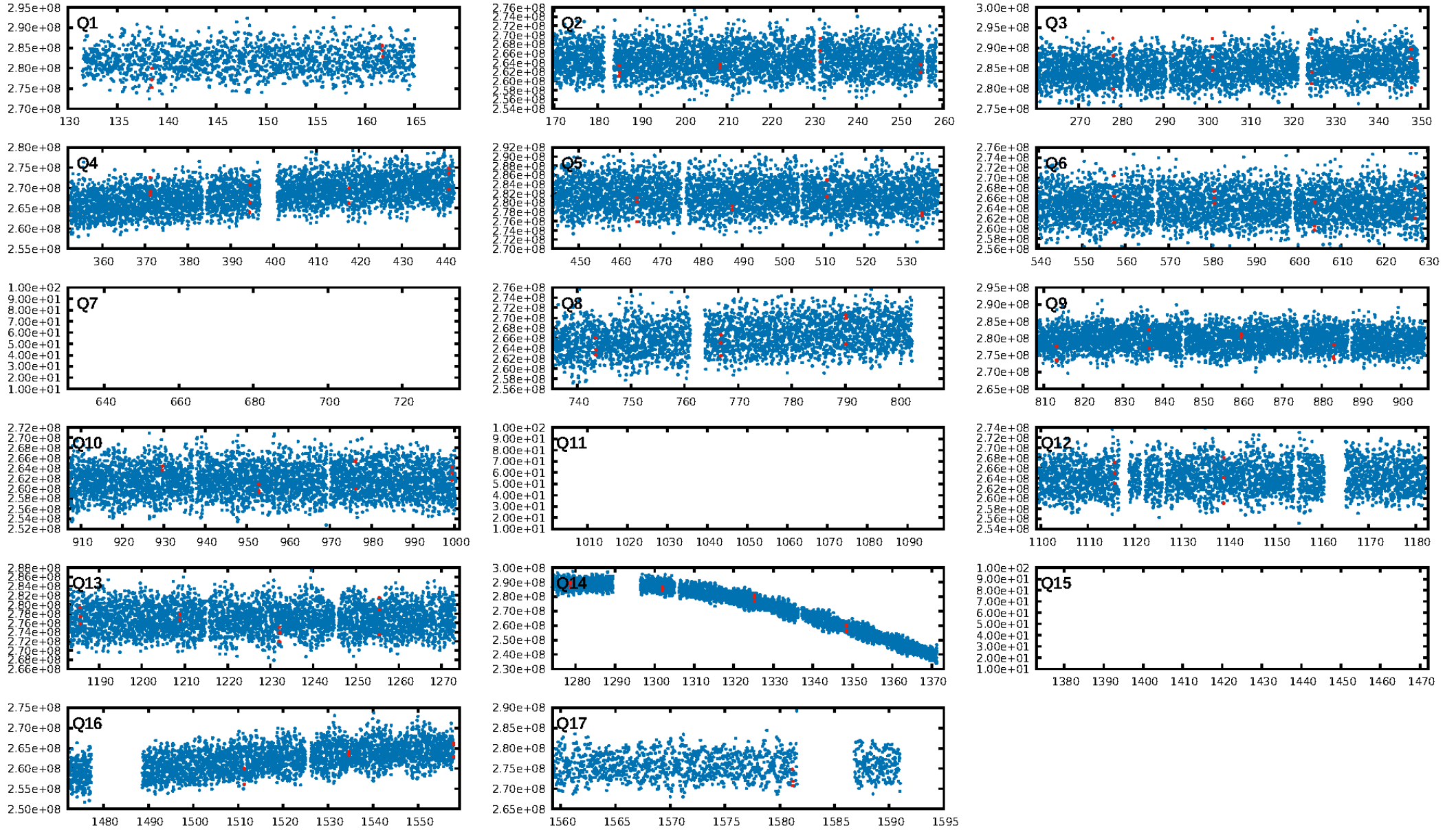
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [133.93σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 43.1%
ModelChiSquareGof-sig: 84.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.639
Centroid-sig: 11.7%
Centroid-so: 0.014 arcsec [0.82σ]
OotOffset-rm: 0.017 arcsec [0.13σ]
KicOffset-rm: 0.104 arcsec [0.85σ]
OotOffset-st: 4/1/3/5 [13]
KicOffset-st: 4/1/3/5 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 0.38 [5/13]

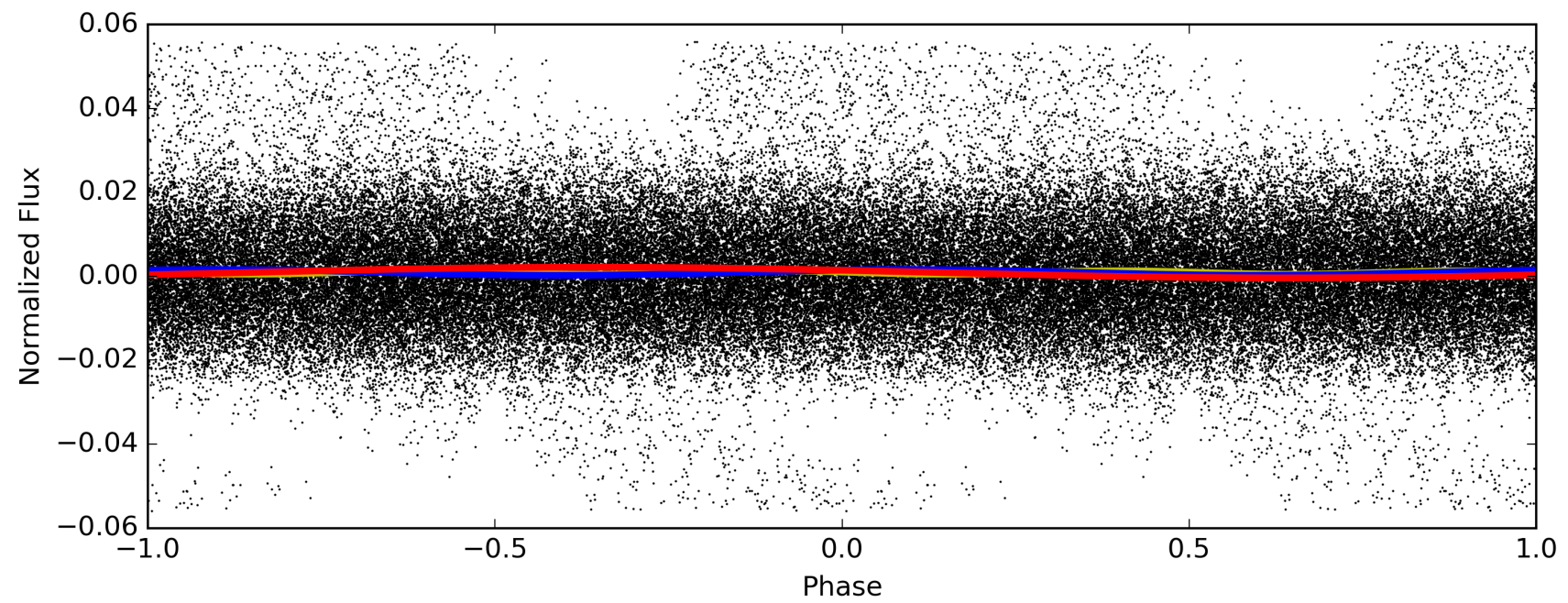
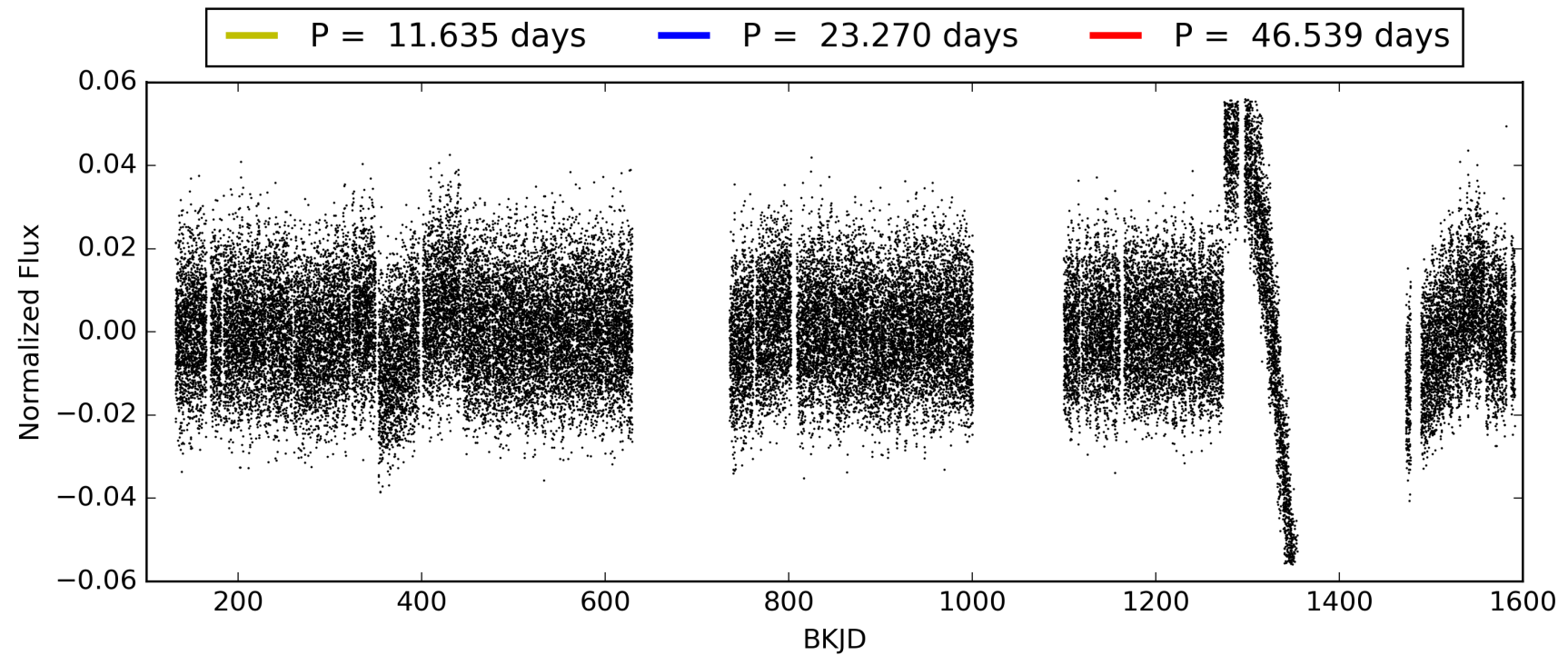
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:04:43 Z

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

TCE 010753210-03, PDC Light Curves

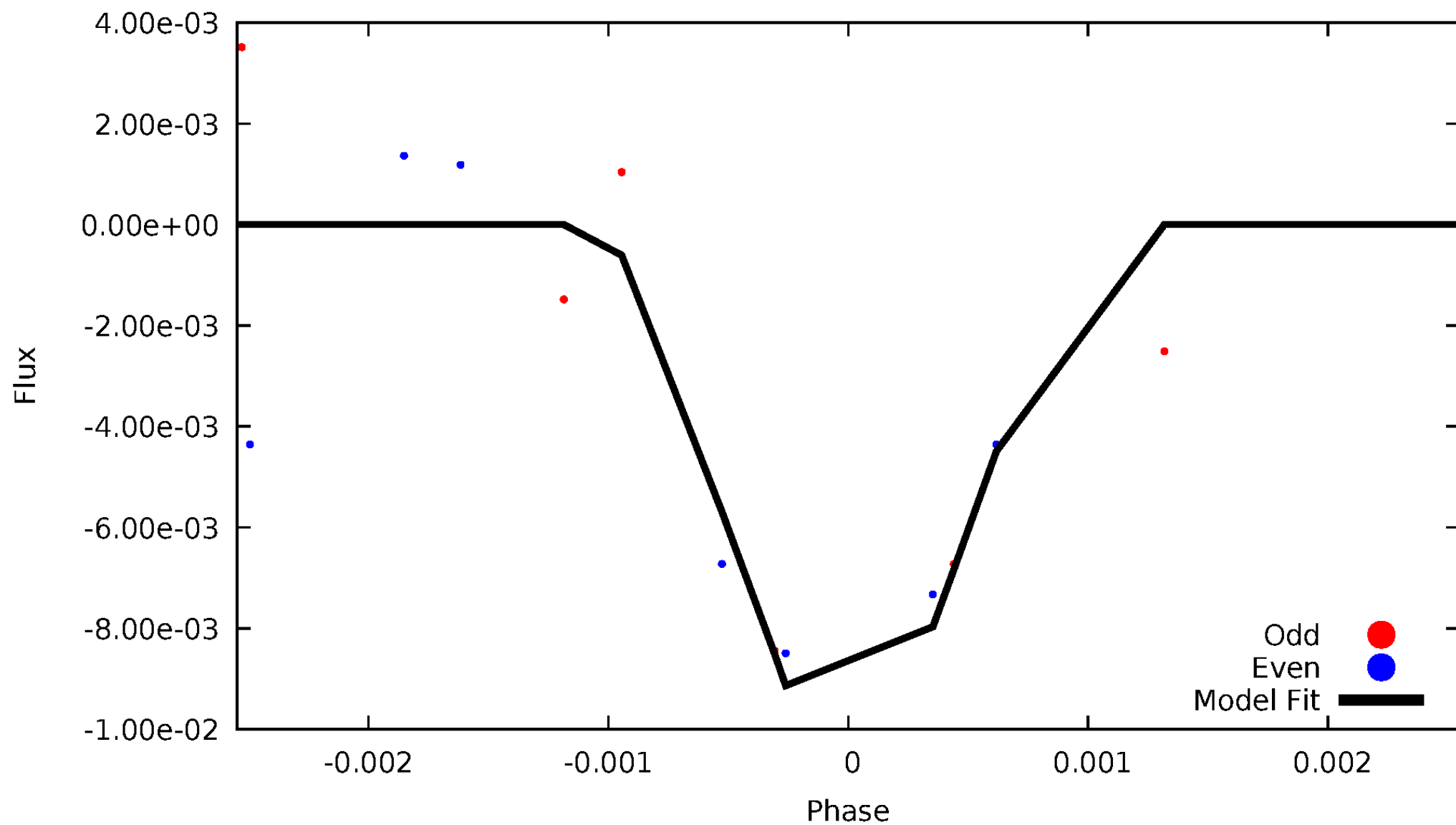


TCE 010753210-03



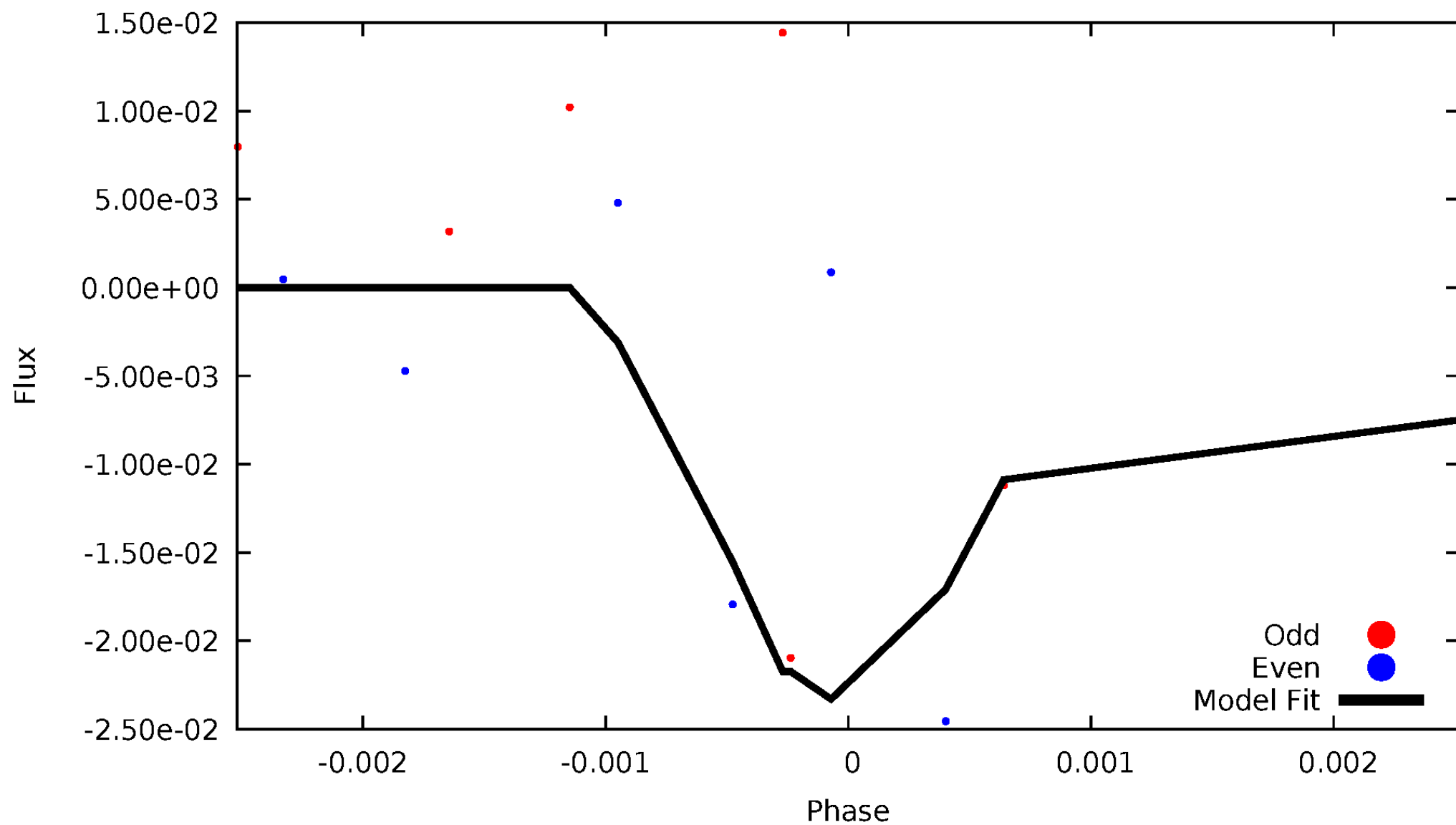
DV Odd/Even

TCE 010753210-03



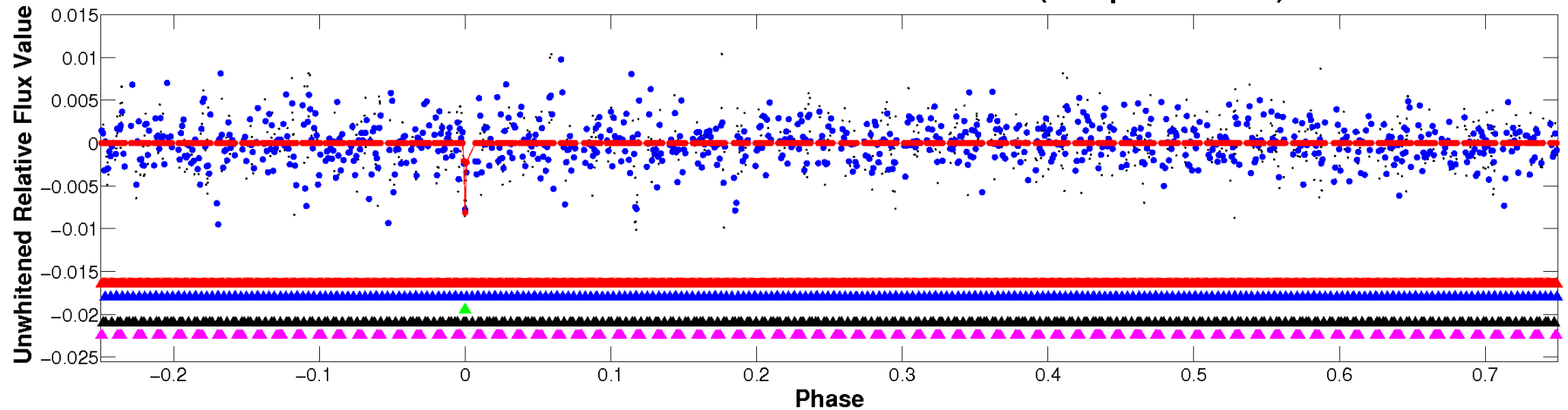
ALT Odd/Even

TCE 010753210-03

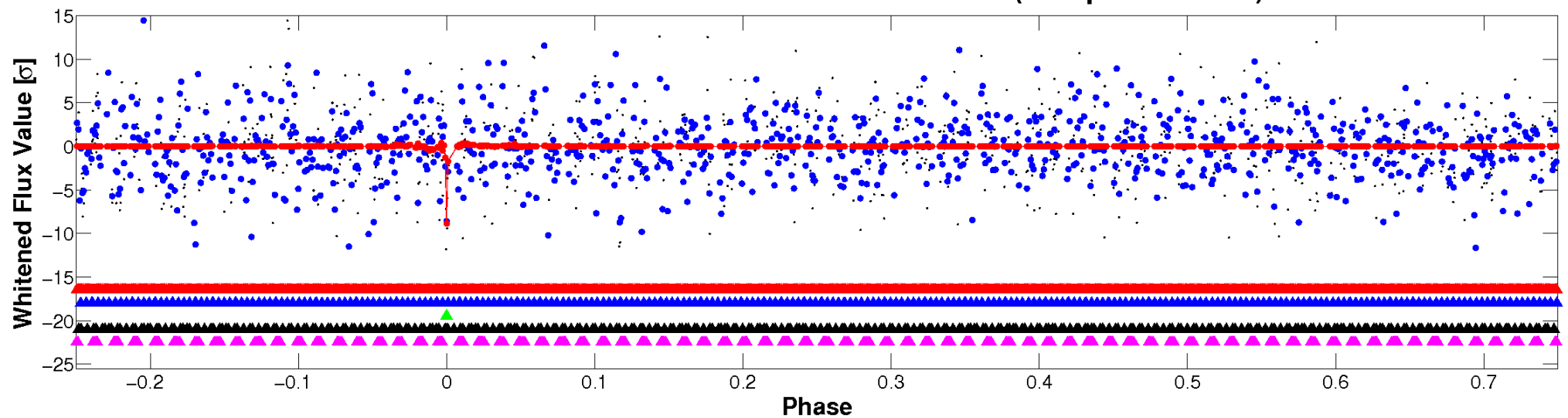


Non-Whitened Vs. Whitened Light Curve

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

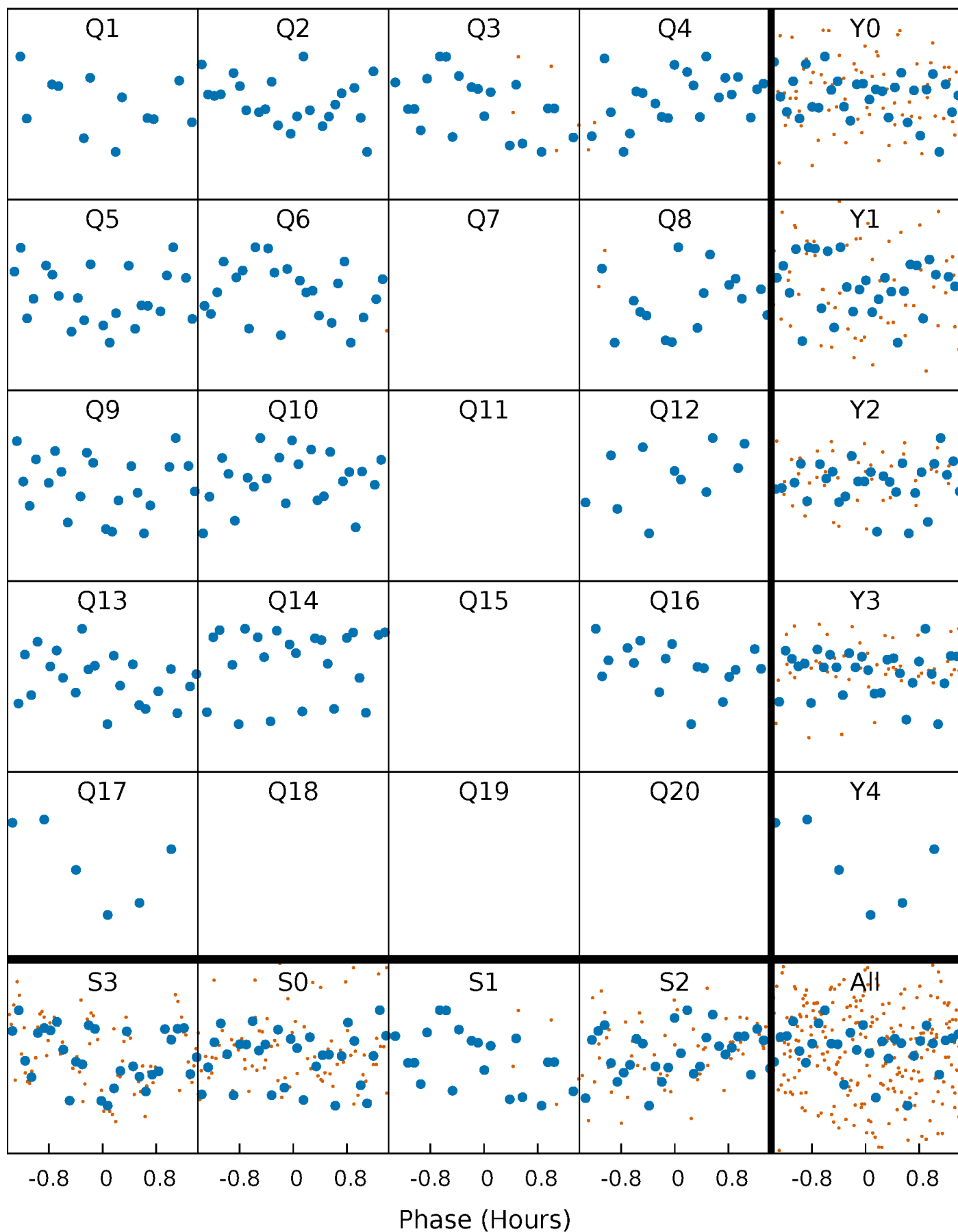


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



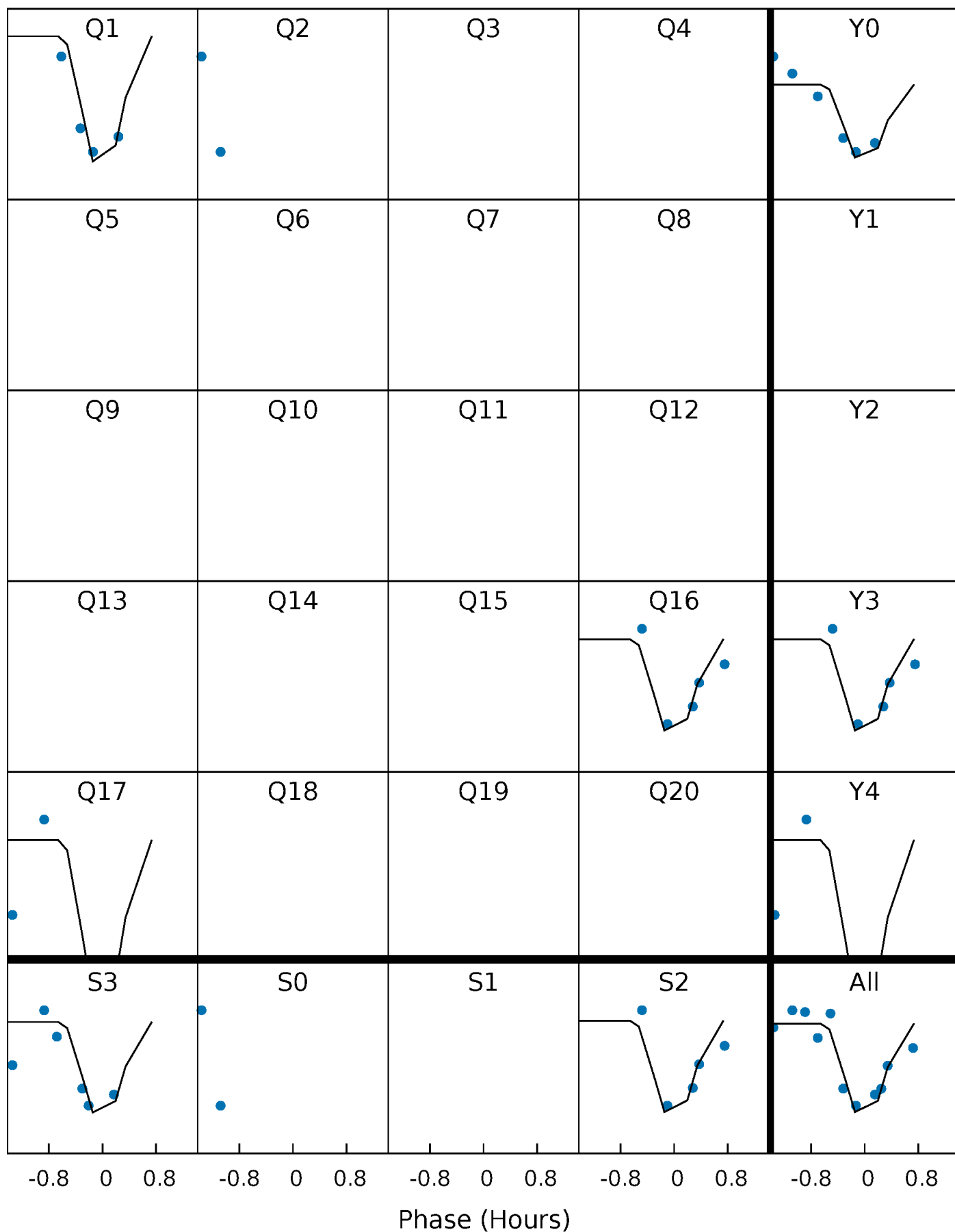
PDC Quarter-Phased Transit Curves

TCE 010753210-03 P= 23.269637 Days $T_0=138.471599$ (BKJD)



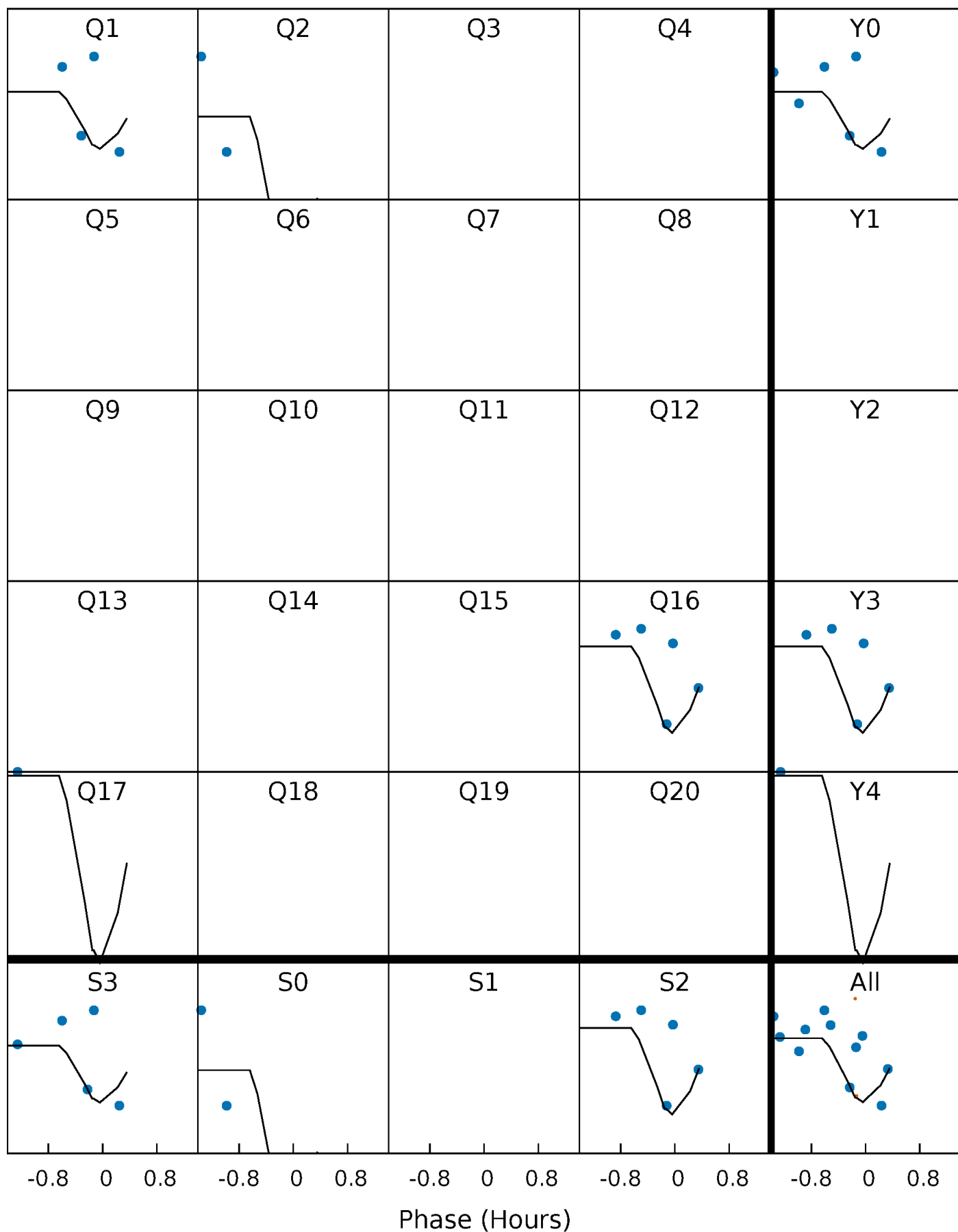
DV Quarter-Phased Transit Curves

TCE 010753210-03 P= 23.269637 Days $T_0=138.471599$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

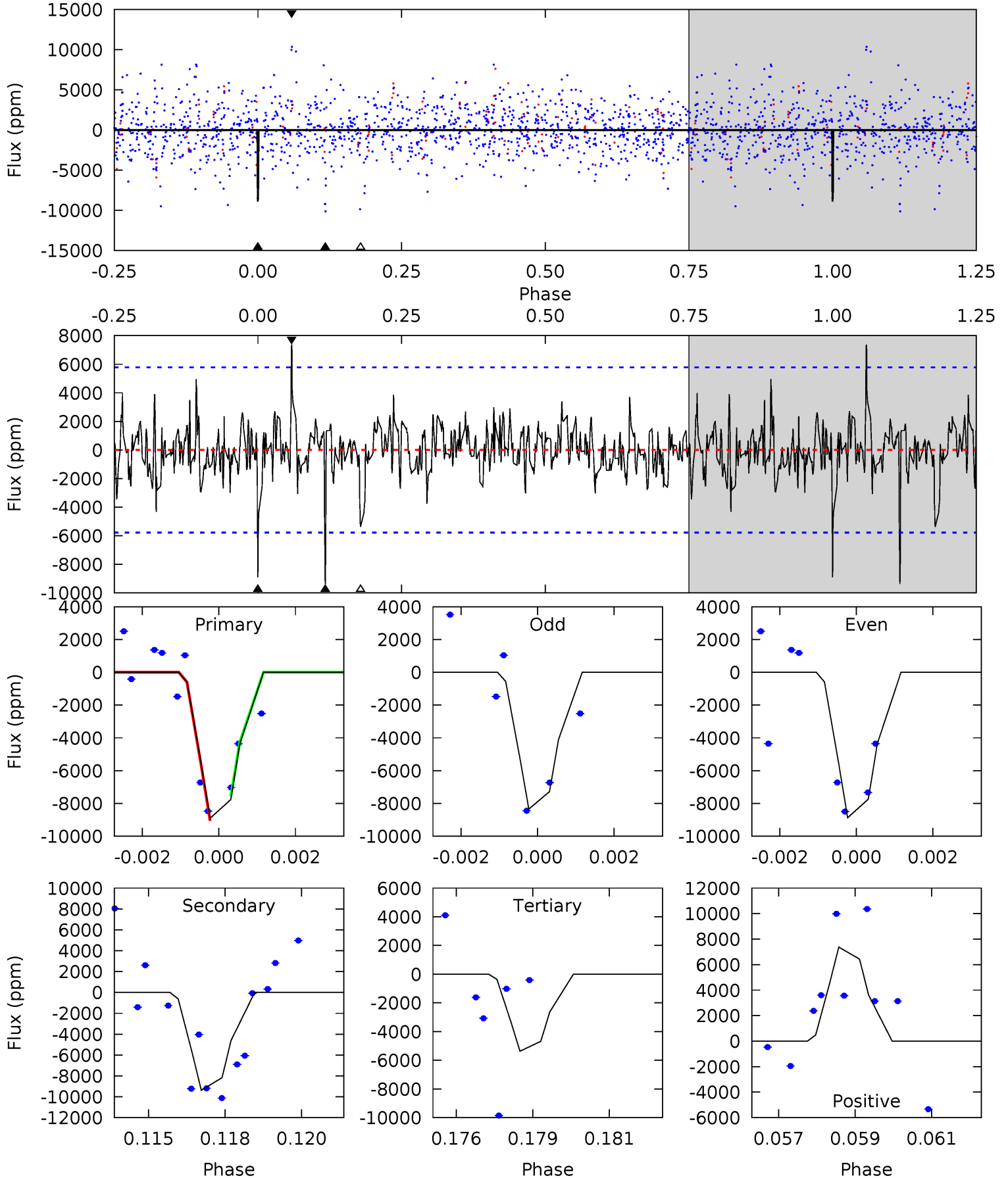
TCE 010753210-03 P= 23.269923 Days $T_0=138.470451$ (BKJD)



DV Model-Shift Uniqueness Test

010753210-03, P = 23.269637 Days, E = 115.201962 Days

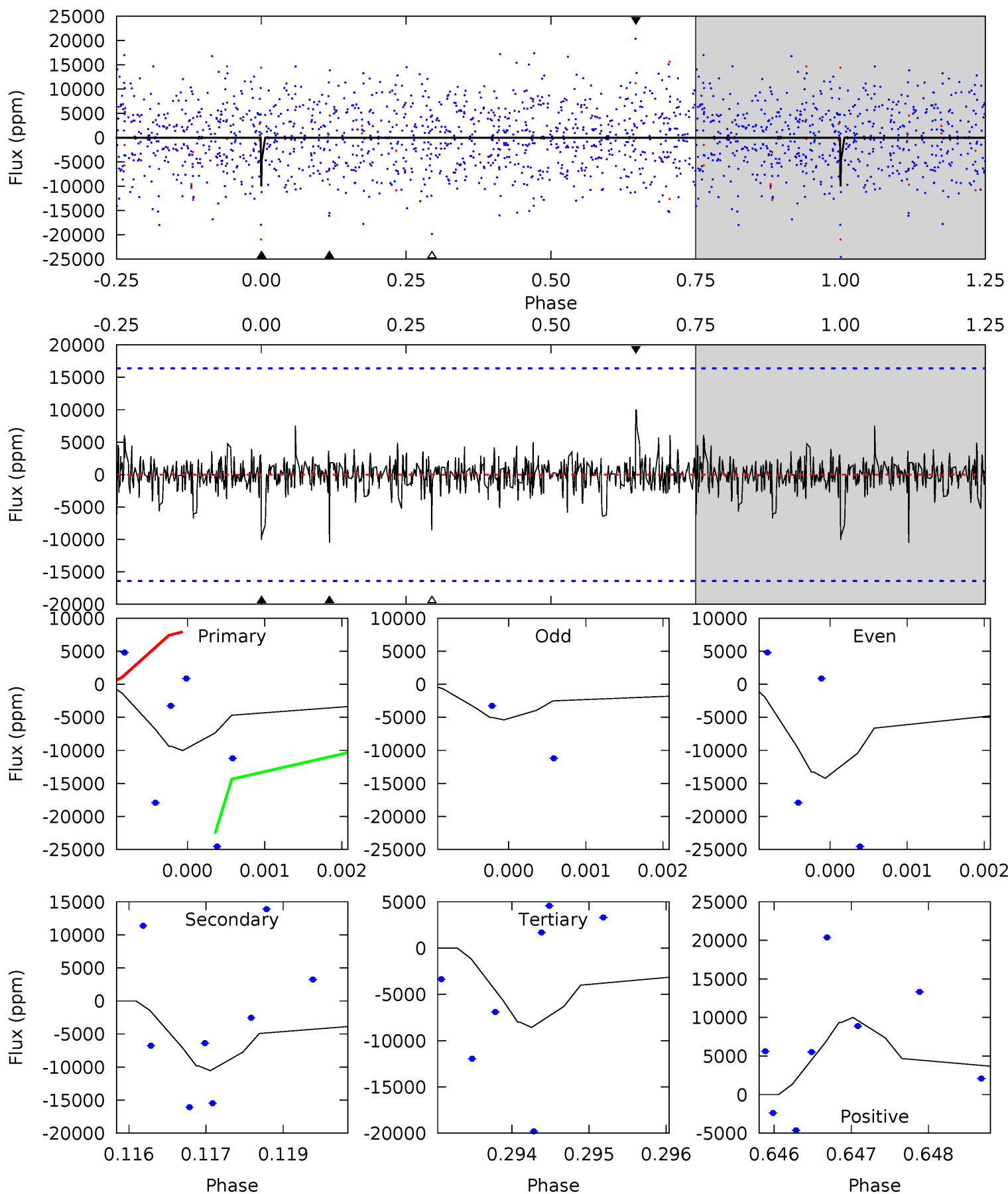
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.17	8.60	4.93	6.77	5.30	3.05	1.30	3.24	1.40	3.67	1.83	0.23	1.00	0.44	0.69



Alt Model-Shift Uniqueness Test

010753210-03, P = 23.269923 Days, E = 115.200528 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.33	3.50	2.84	3.32	5.43	3.26	0.63	0.48	0.01	0.65	0.18	1.60	0.76	0.49	1.98



Stellar Parameters For KIC 010753210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6391^{+162}_{-194}	$3.885^{+0.420}_{-0.140}$	$-0.240^{+0.300}_{-0.300}$	$2.120^{+0.499}_{-0.927}$	$1.258^{+0.193}_{-0.257}$	$0.186^{+0.696}_{-0.075}$
	+3%/-3%	+11%/-4%	+125%/-125%	+24%/-44%	+15%/-20%	+374%/-41%
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 010753210-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9376 ± 1090	$104.63^{+110.28}_{-75.39}$	1351^{+109}_{-155}	3335^{+1906}_{-595}	14^{+159}_{-11}
Alt.	-10548 ± 3018	$102.49^{+109.16}_{-72.36}$	1359^{+101}_{-154}	3436^{+1890}_{-689}	16^{+158}_{-12}

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

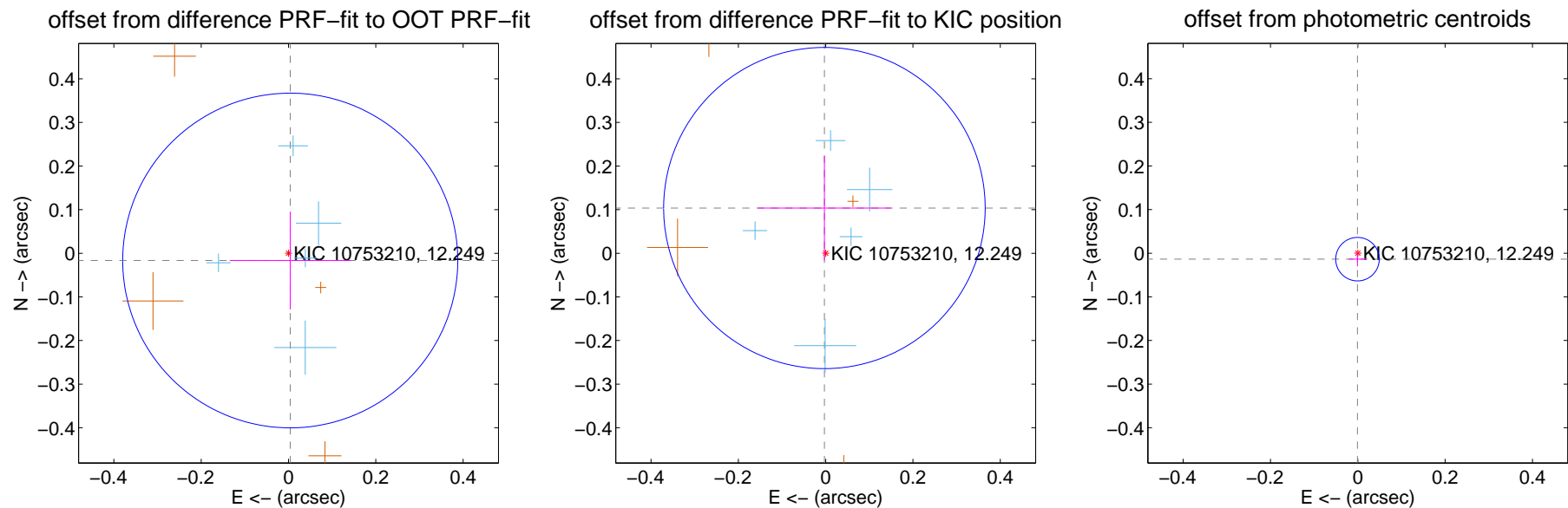
DV Centroid Data

Supplemental centroid analysis for 010753210-03. Kepler magnitude: 12.25. Transit SNR 20.06

There are 8 quarters with good PRF difference image offsets

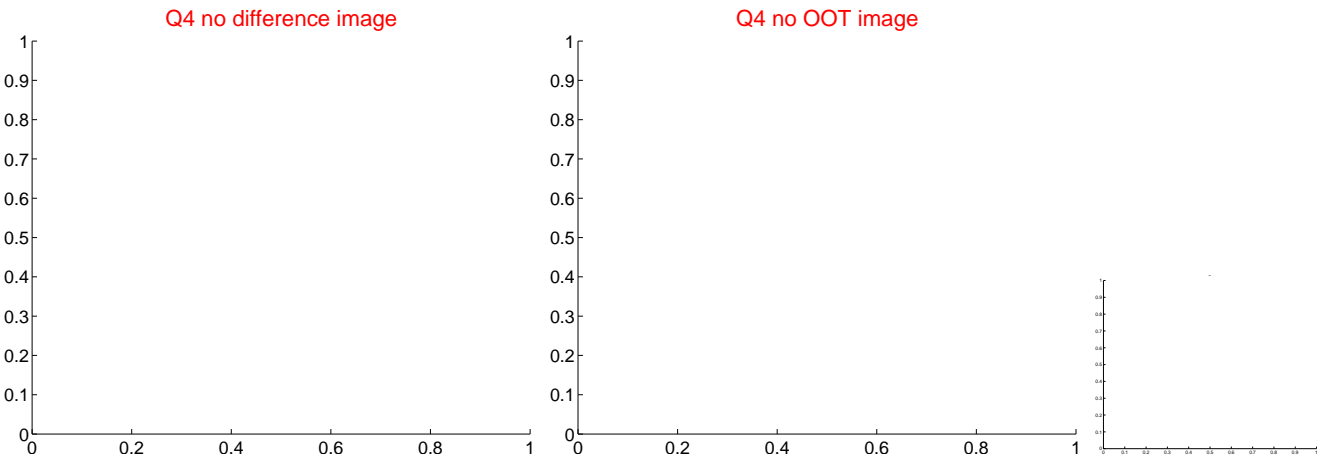
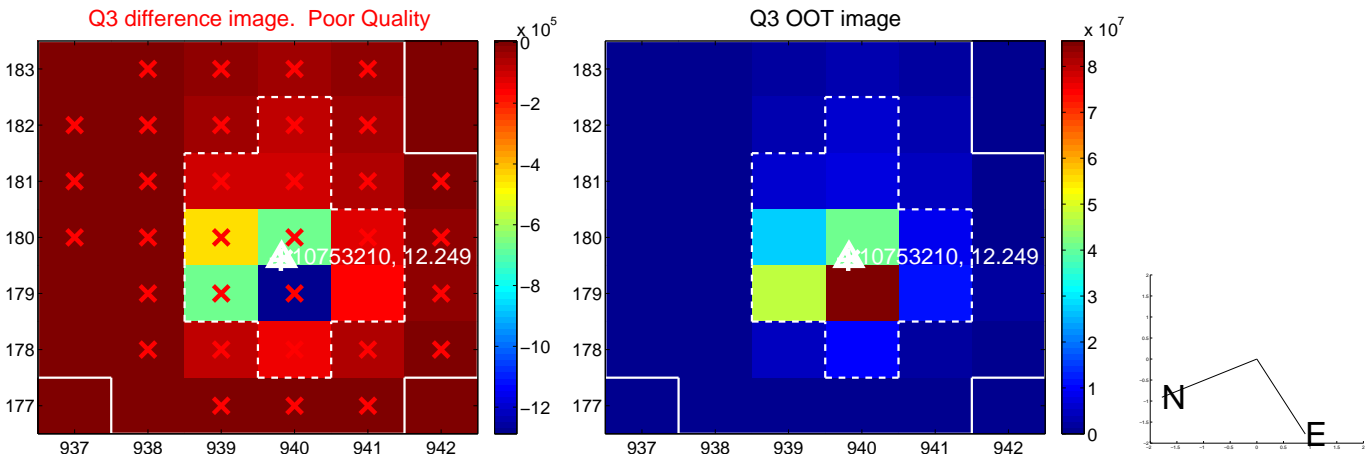
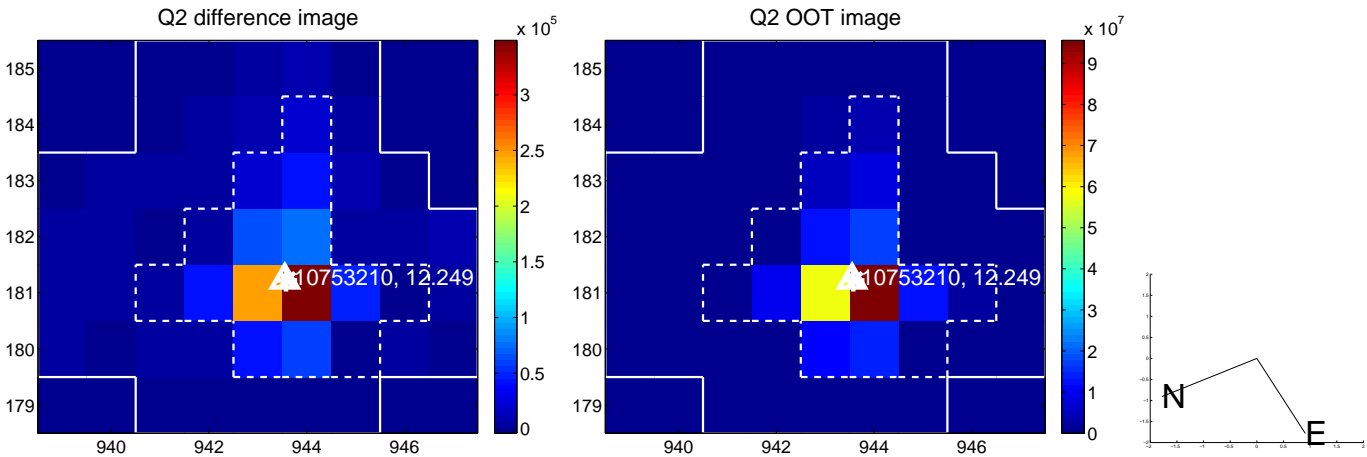
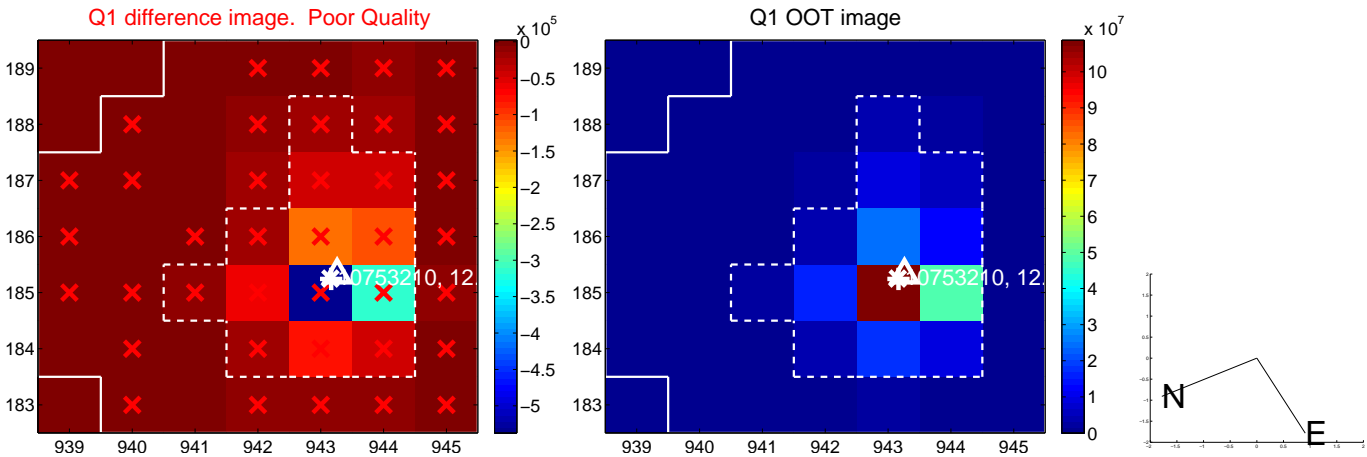
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.017 ± 0.128	0.13	-0.004 ± 0.139	-0.017 ± 0.112
PRF-fit source offset from KIC position	0.104 ± 0.123	0.85	0.003 ± 0.152	0.104 ± 0.120
photometric centroid source offset	0.01 ± 0.02	0.82	0.00 ± 0.02	-0.01 ± 0.02

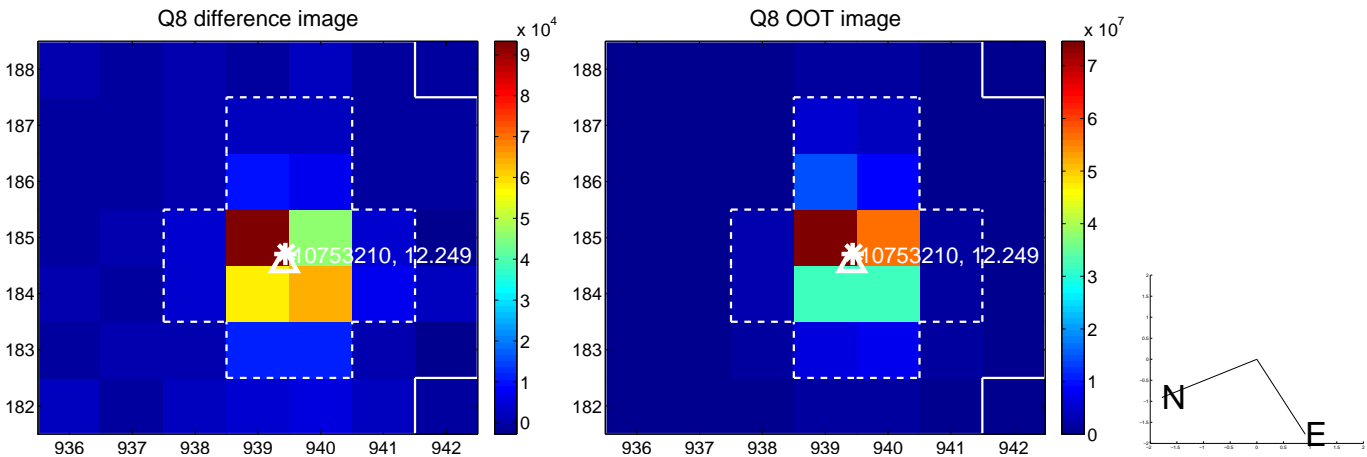
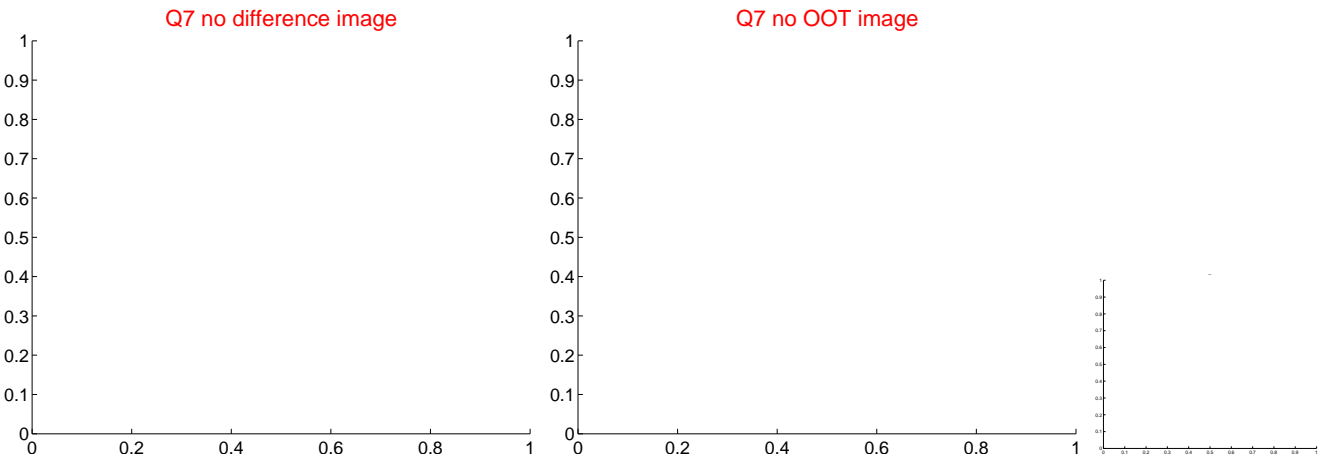
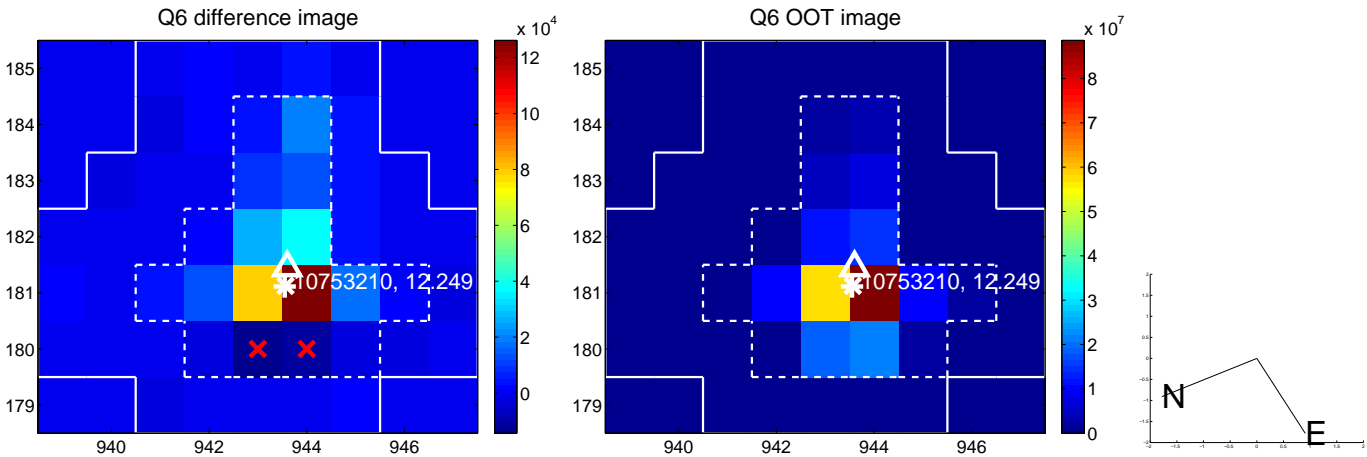
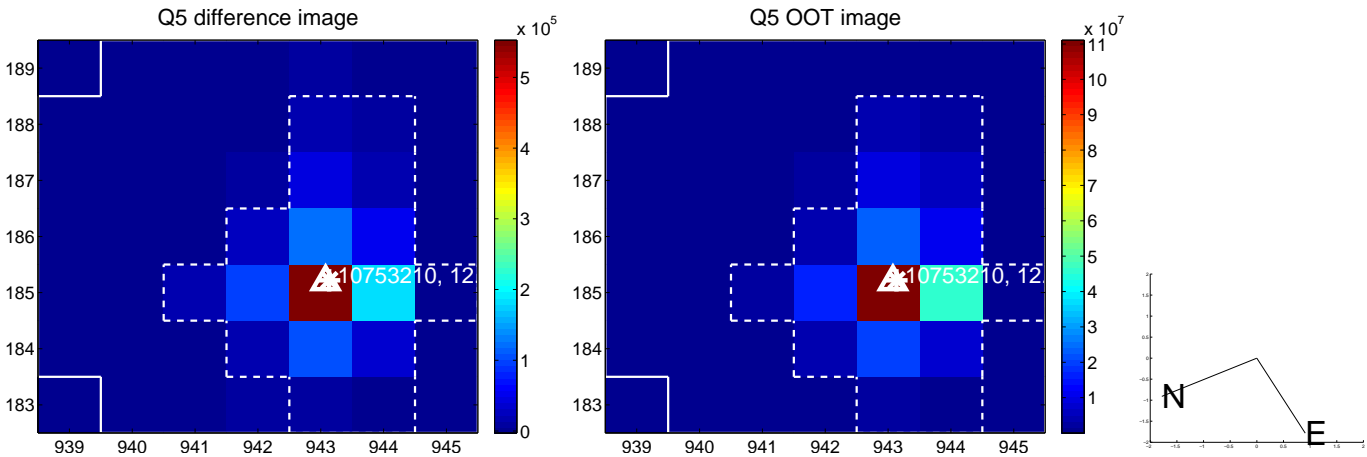


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

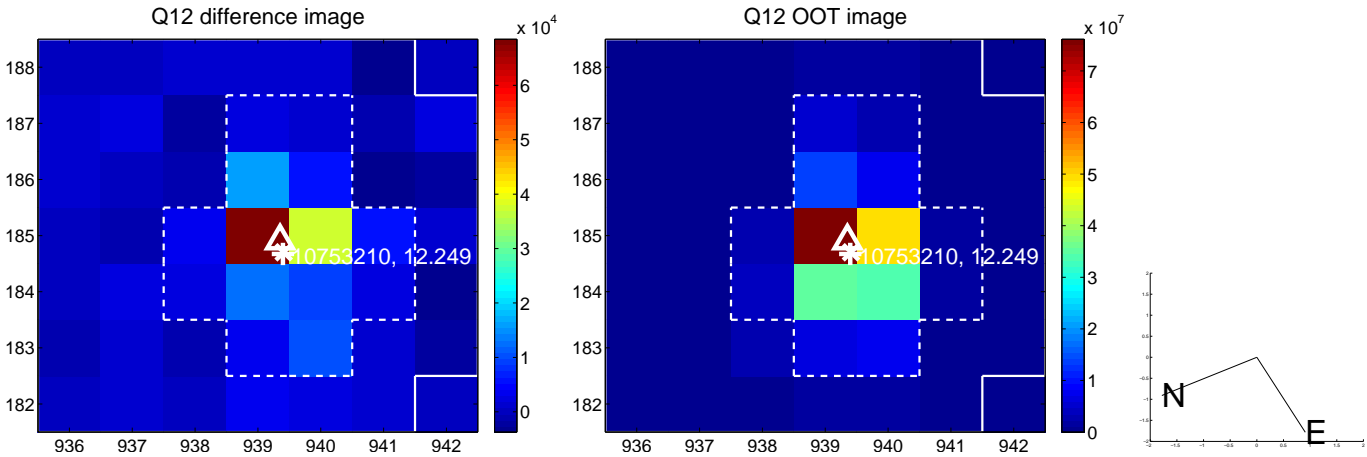
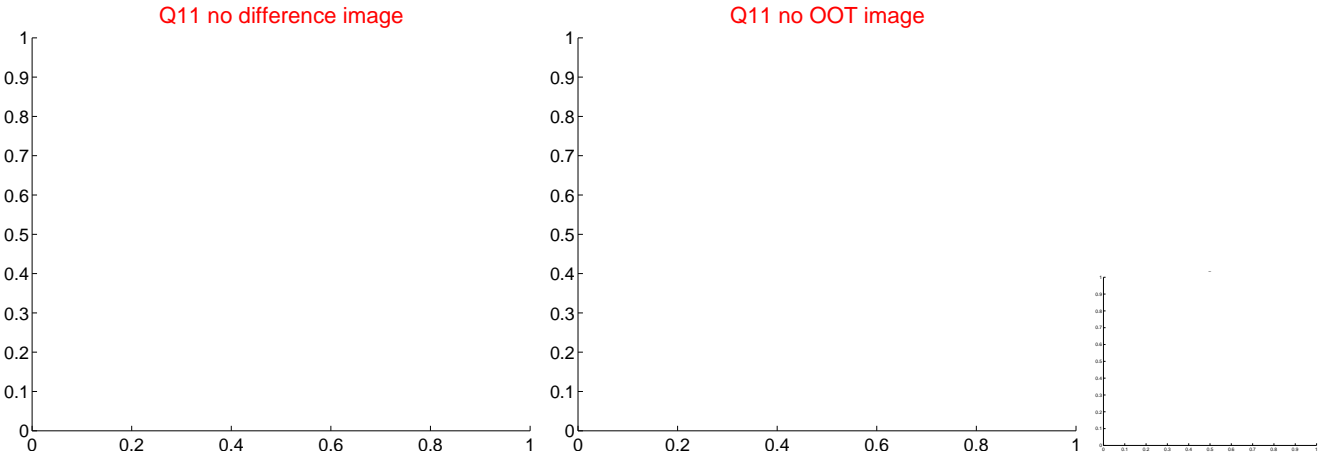
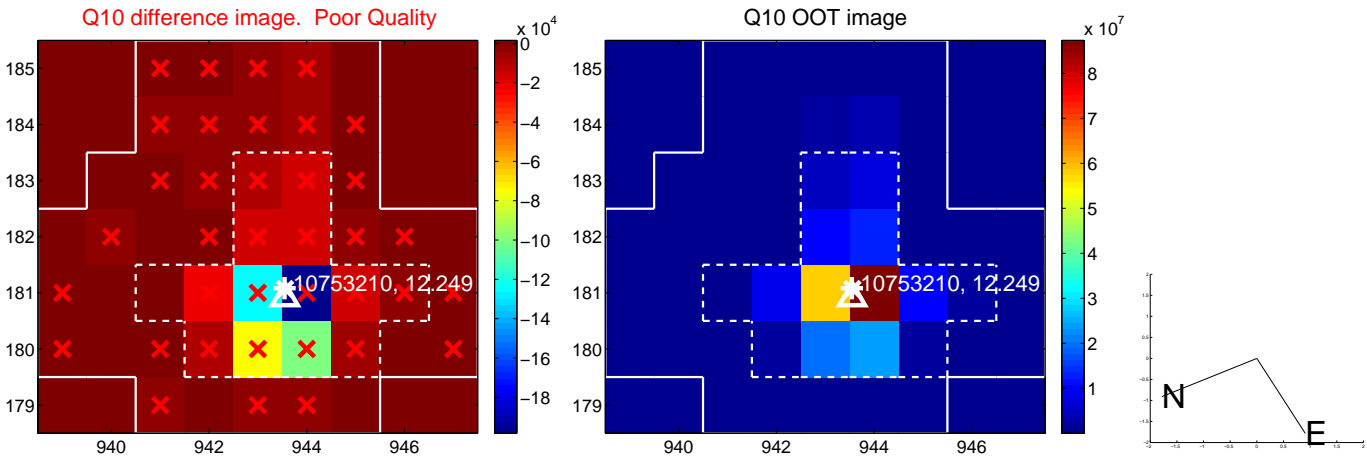
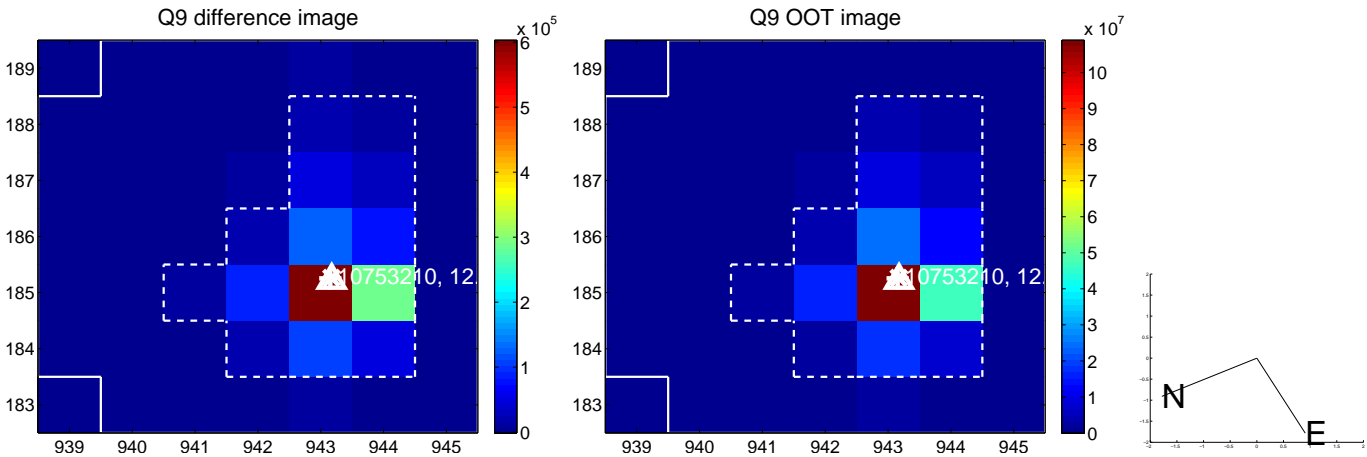
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



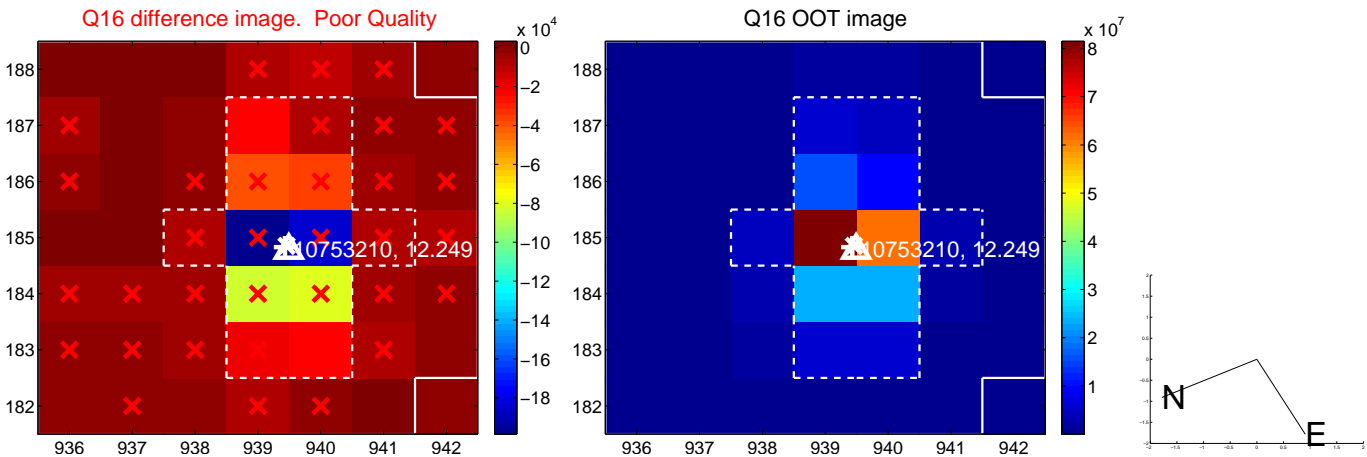
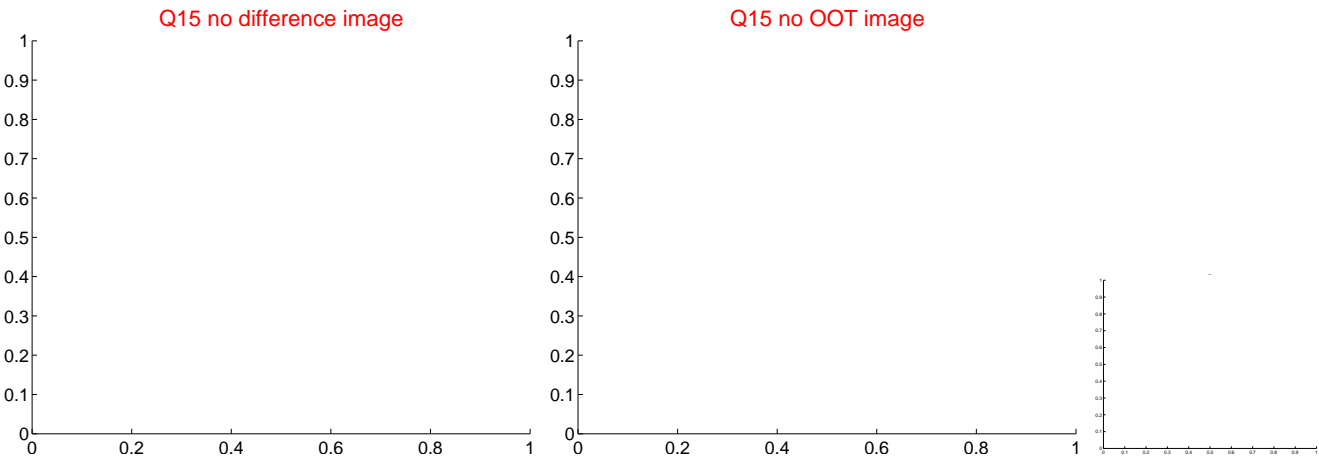
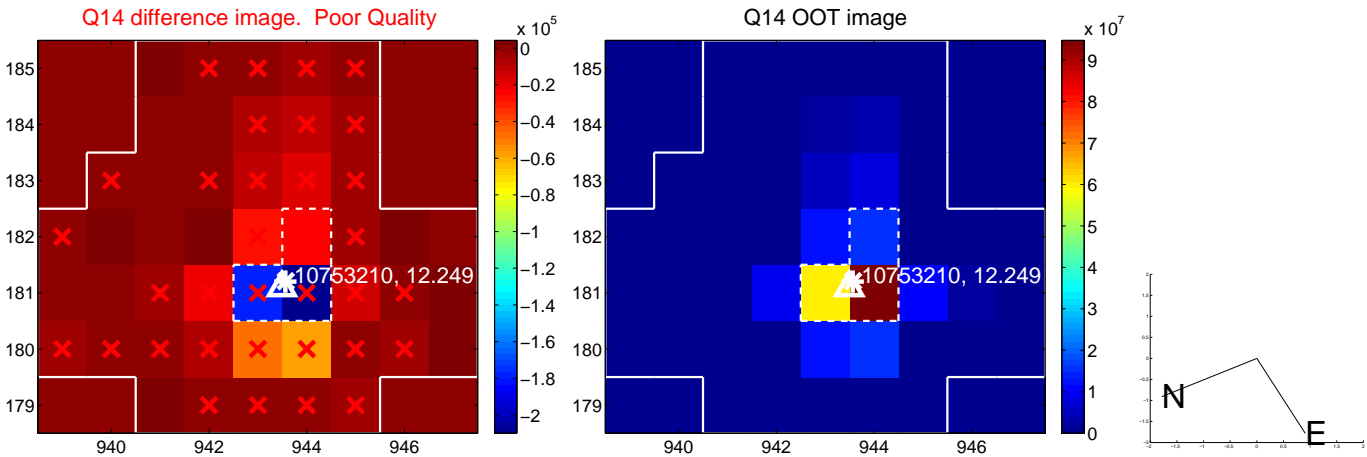
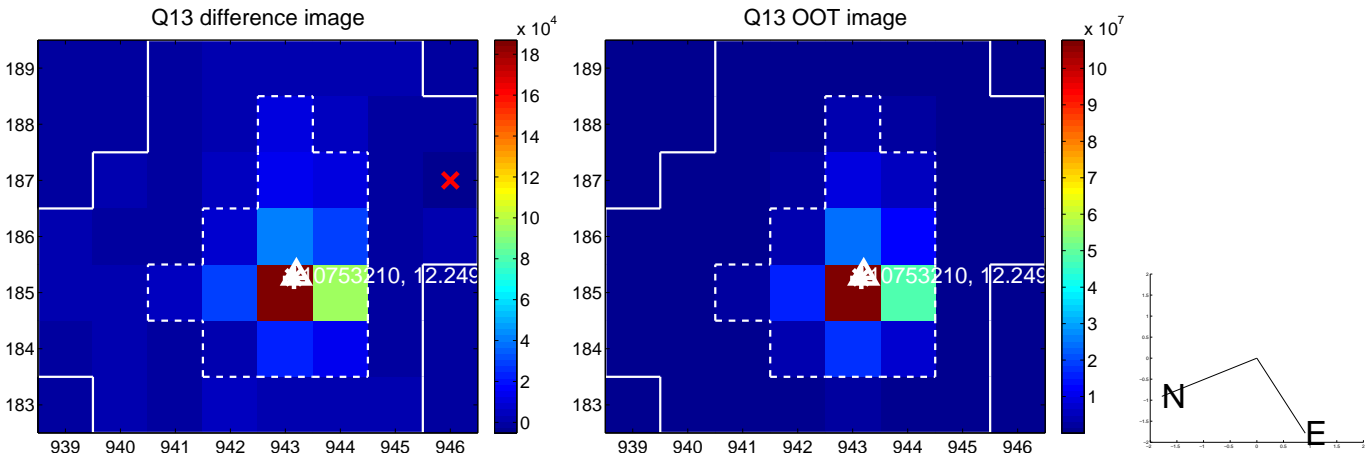
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



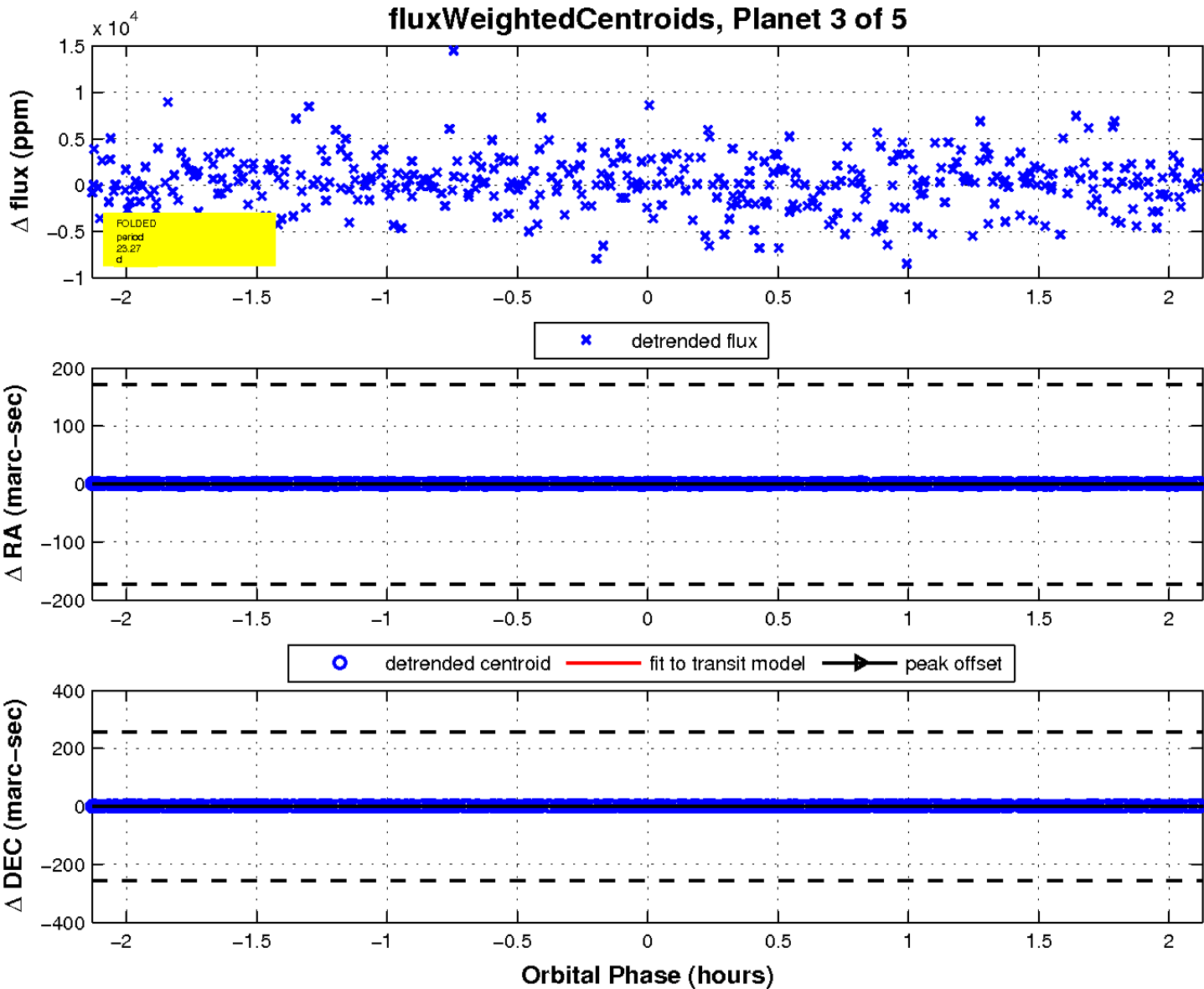
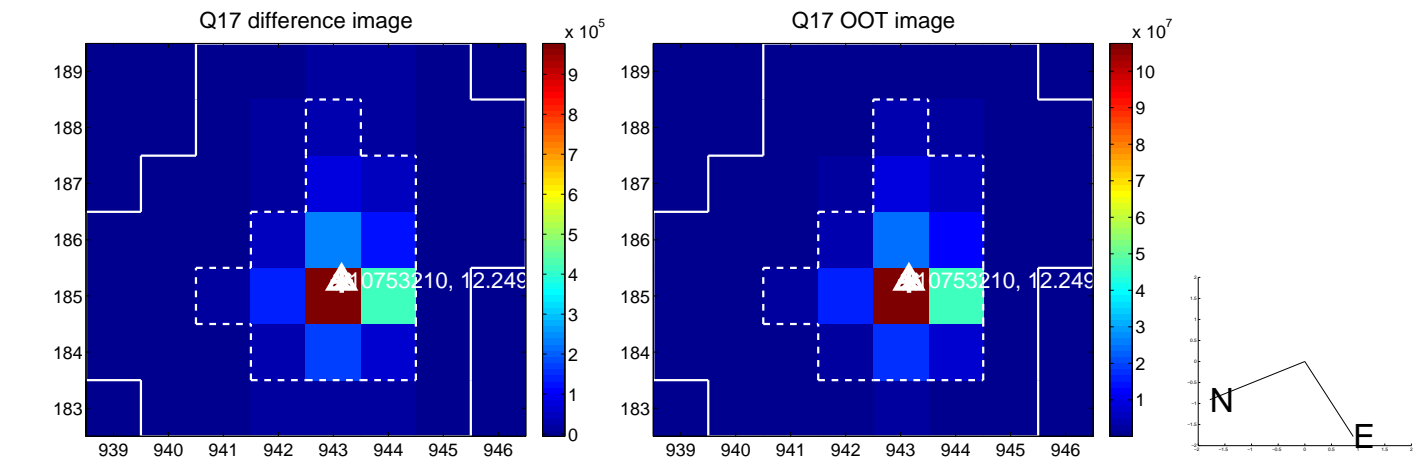
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

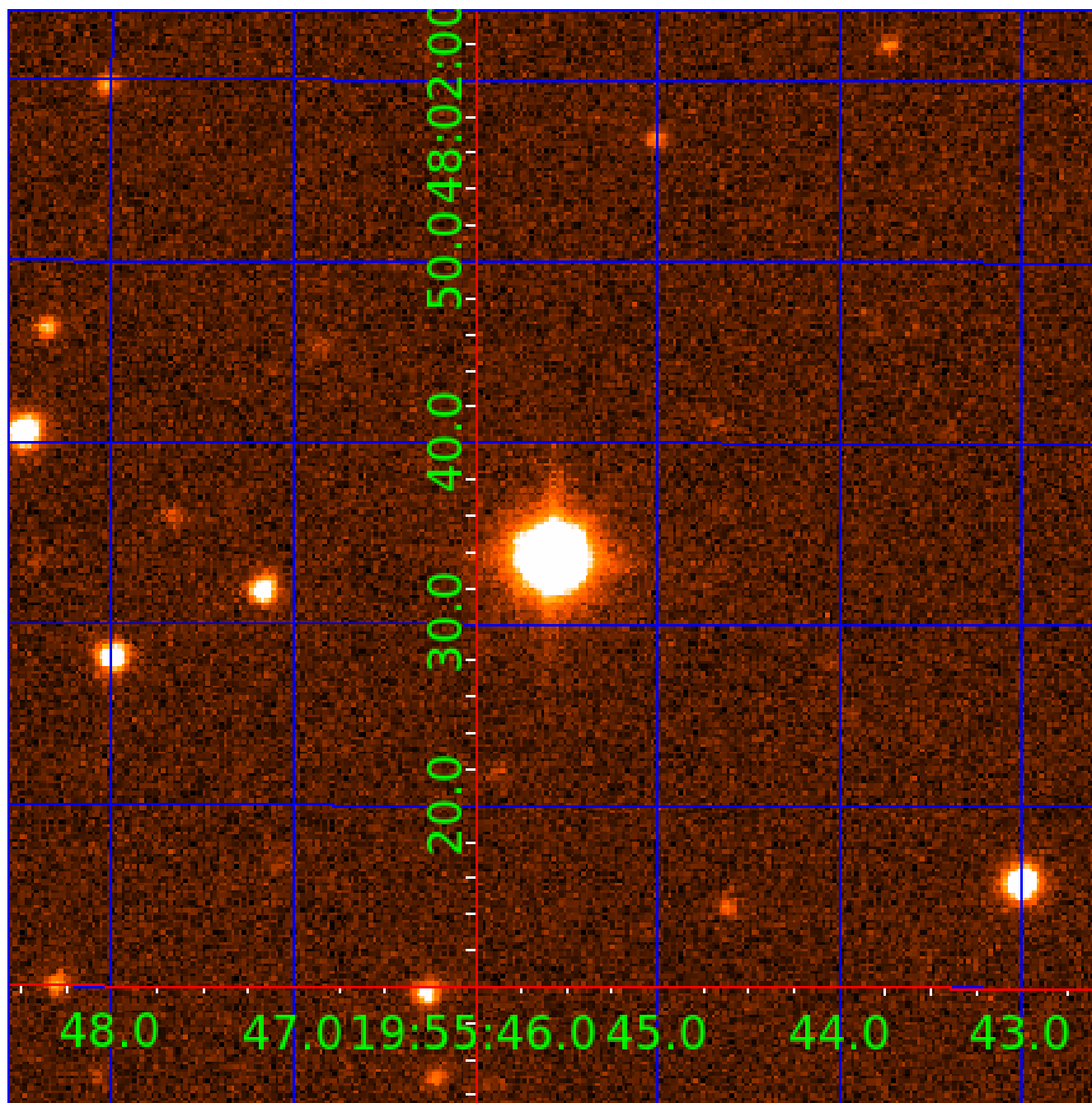


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010753210

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})
010753210-01	OBS	No	1.367465	132.316048	325.9	10.479	12.6	12.9	2.12	6391	4.89	9912.24
010753210-02	OBS	No	4.780242	133.889955	3458.2	1.162	21.9	13.6	2.12	6391	14.29	1868.36
010753210-03	OBS	No	23.269637	138.471599	10979.3	0.711	18.4	20.1	2.12	6391	22.88	226.47
010753210-04	OBS	No	4.531258	134.945600	2345.2	1.733	17.1	13.0	2.12	6391	10.34	2006.48
010753210-05	OBS	No	4.781119	134.280524	3981.8	3.236	13.3	16.4	2.12	6391	13.68	1867.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010753210-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010753210-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—HALO_GHOST
010753210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

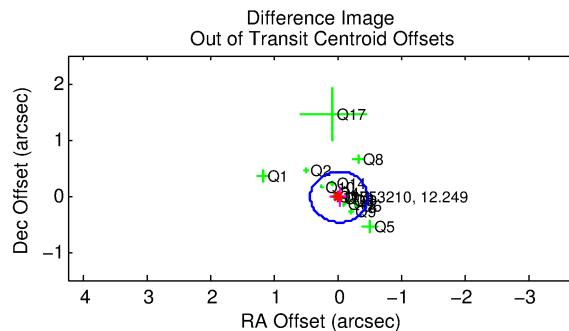
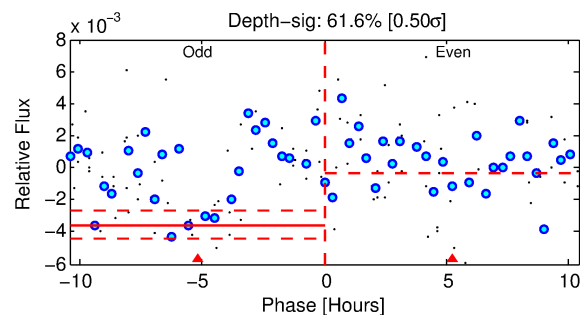
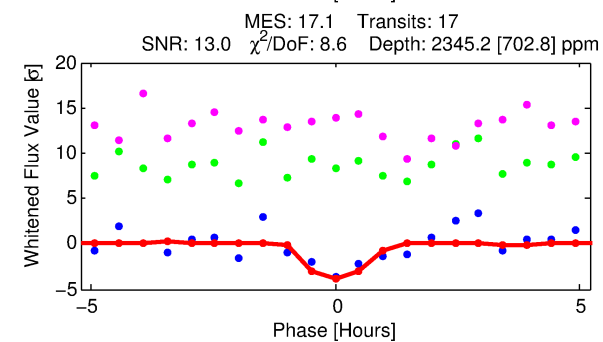
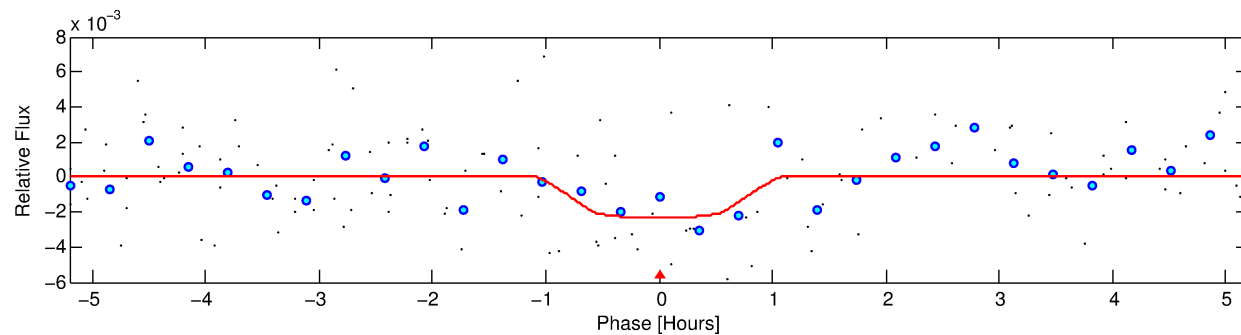
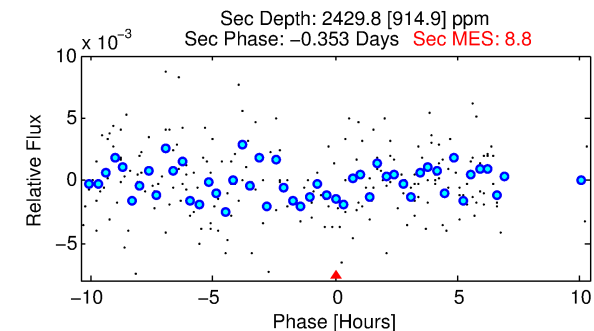
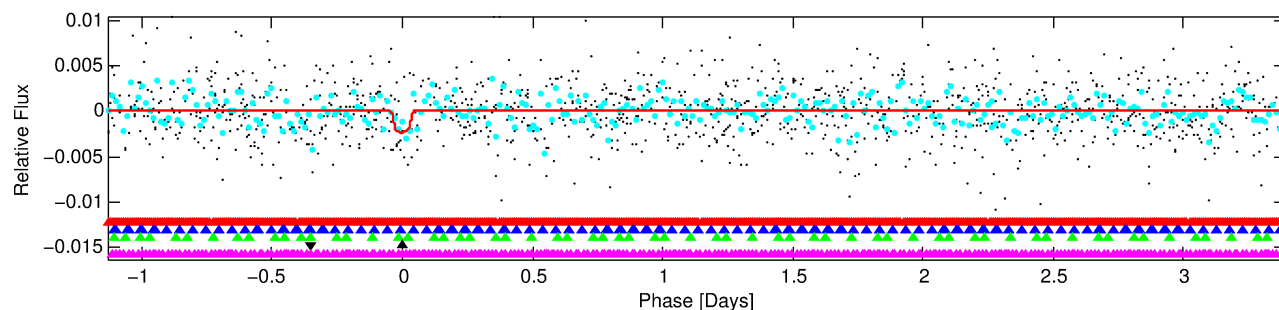
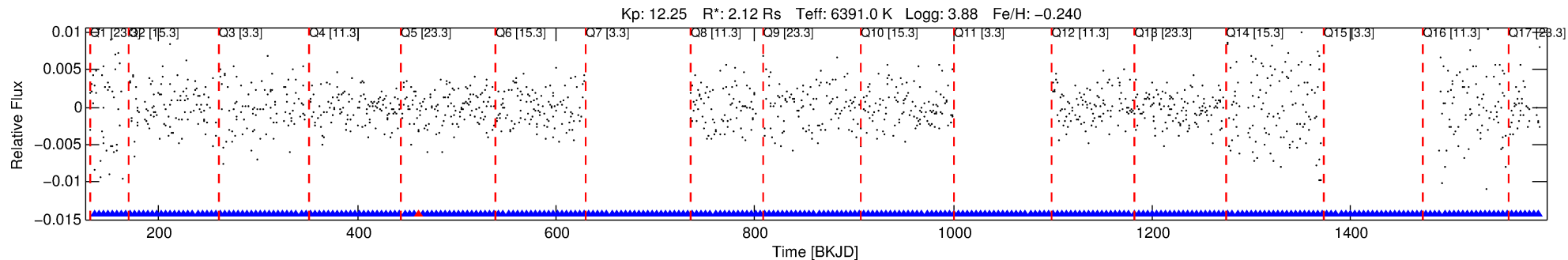
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010753210-04

No Significant Match Found

DV One-Page Summary

KIC: 10753210 Candidate: 4 of 5 Period: 4.531 d



DV Fit Results:

Period = 4.53126 [0.00008] d
Epoch = 134.9456 [0.0110] BKJD
Rp/R* = 0.0447 [0.2207]
a/R* = 20.83 [516.61]
b = 0.07 [366.93]
Seff = 2006.48 [1440.47]
Teq = 1707 [306] K
Rp = 10.34 [51.25] Re
a = 0.0579 [0.0251] AU
Ag = 41.90 [415.25] [0.10 σ]
Teff = 6713 [16593] K [0.30 σ]

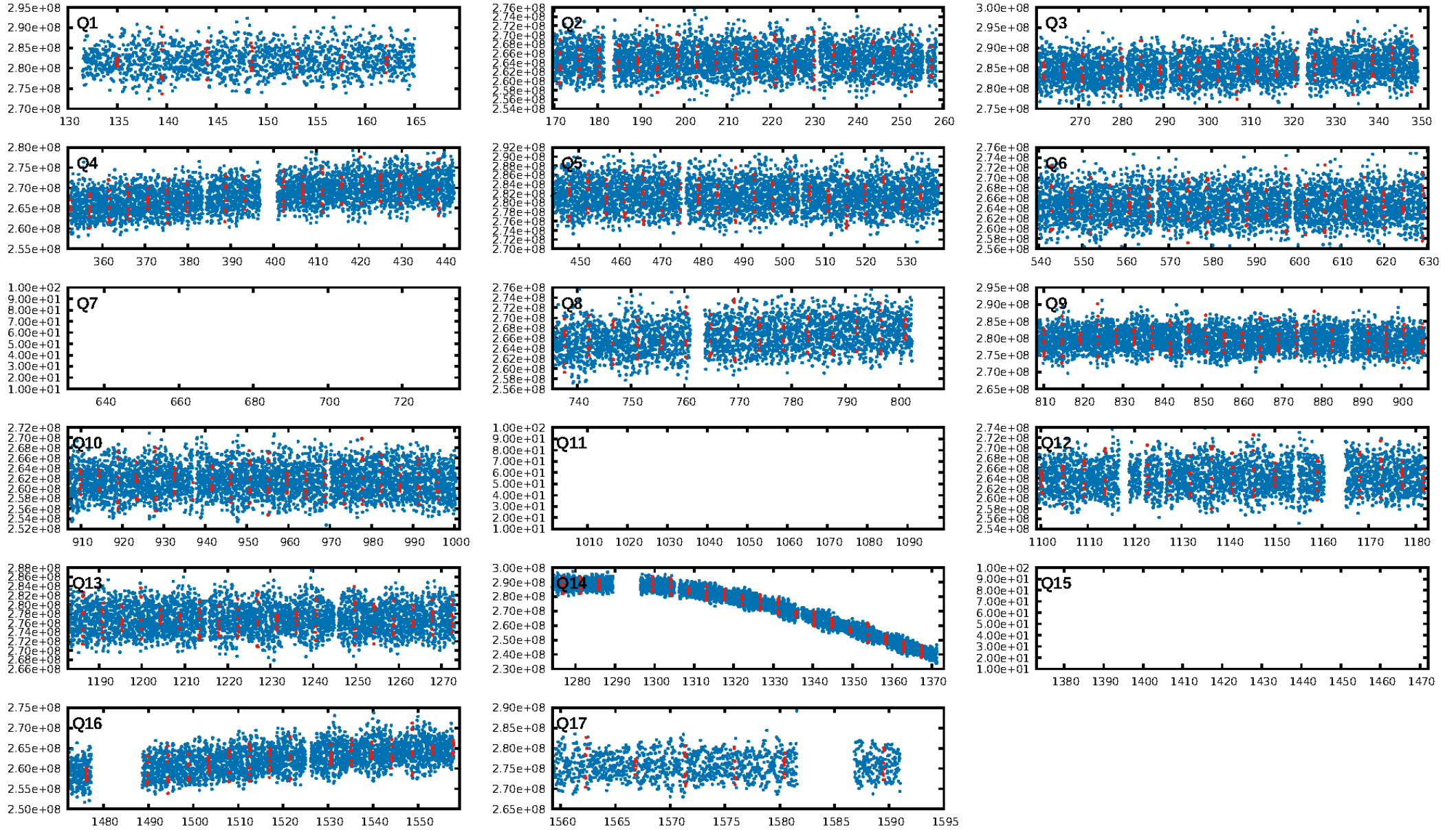
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.15 σ]
LongPeriod-sig: 99.6% [2.86 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [15/16]
GhostDiagnostic-chr: -0.0814
Centroid-sig: 0.9%
Centroid-so: 0.033 arcsec [1.50 σ]
OotOffset-rm: 0.029 arcsec [0.19 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-rm: 0.070 arcsec [0.47 σ]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.29 [4/14]
DiffImageOverlap-fno: 0.93 [13/14]

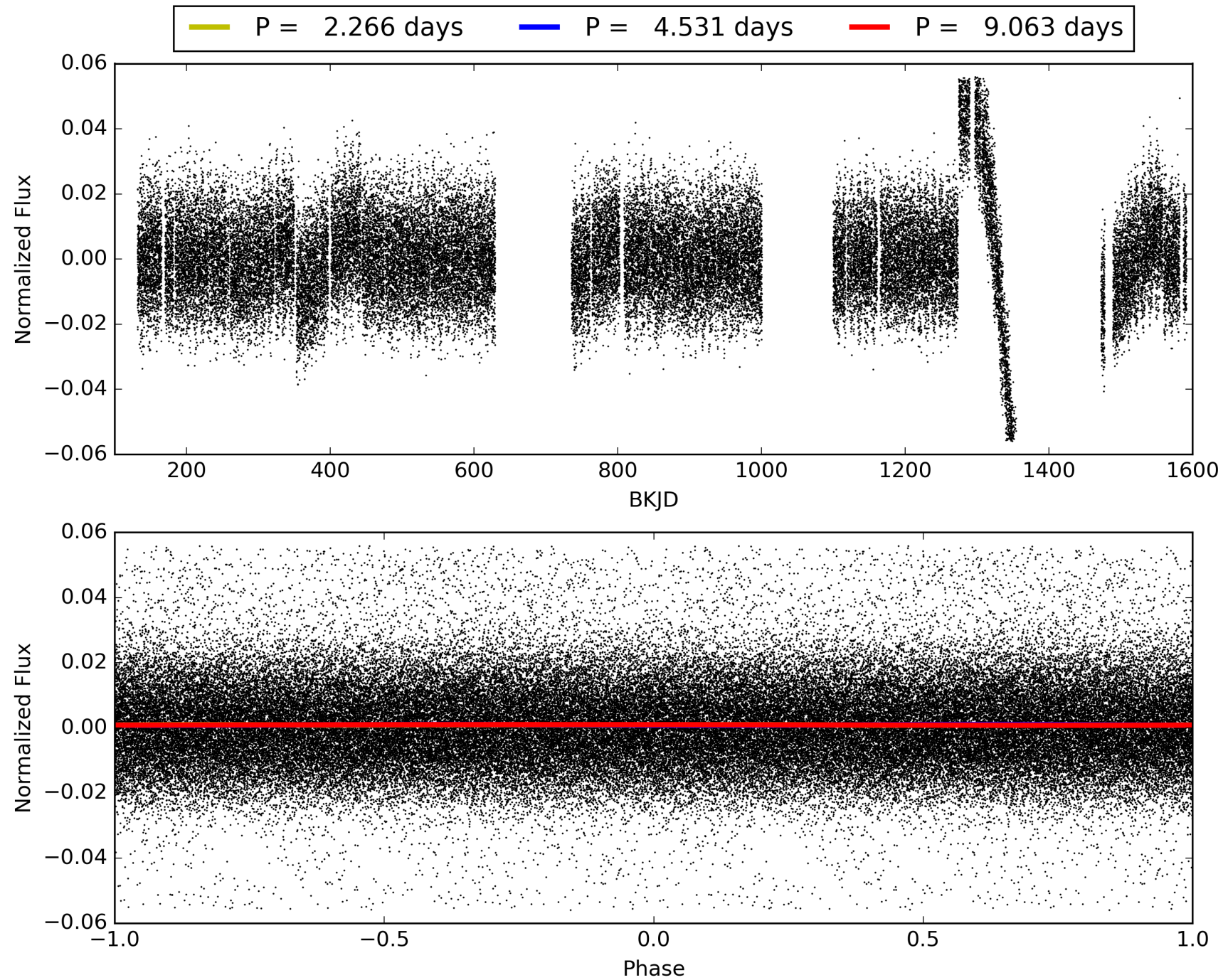
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:04:46 Z

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

TCE 010753210-04, PDC Light Curves

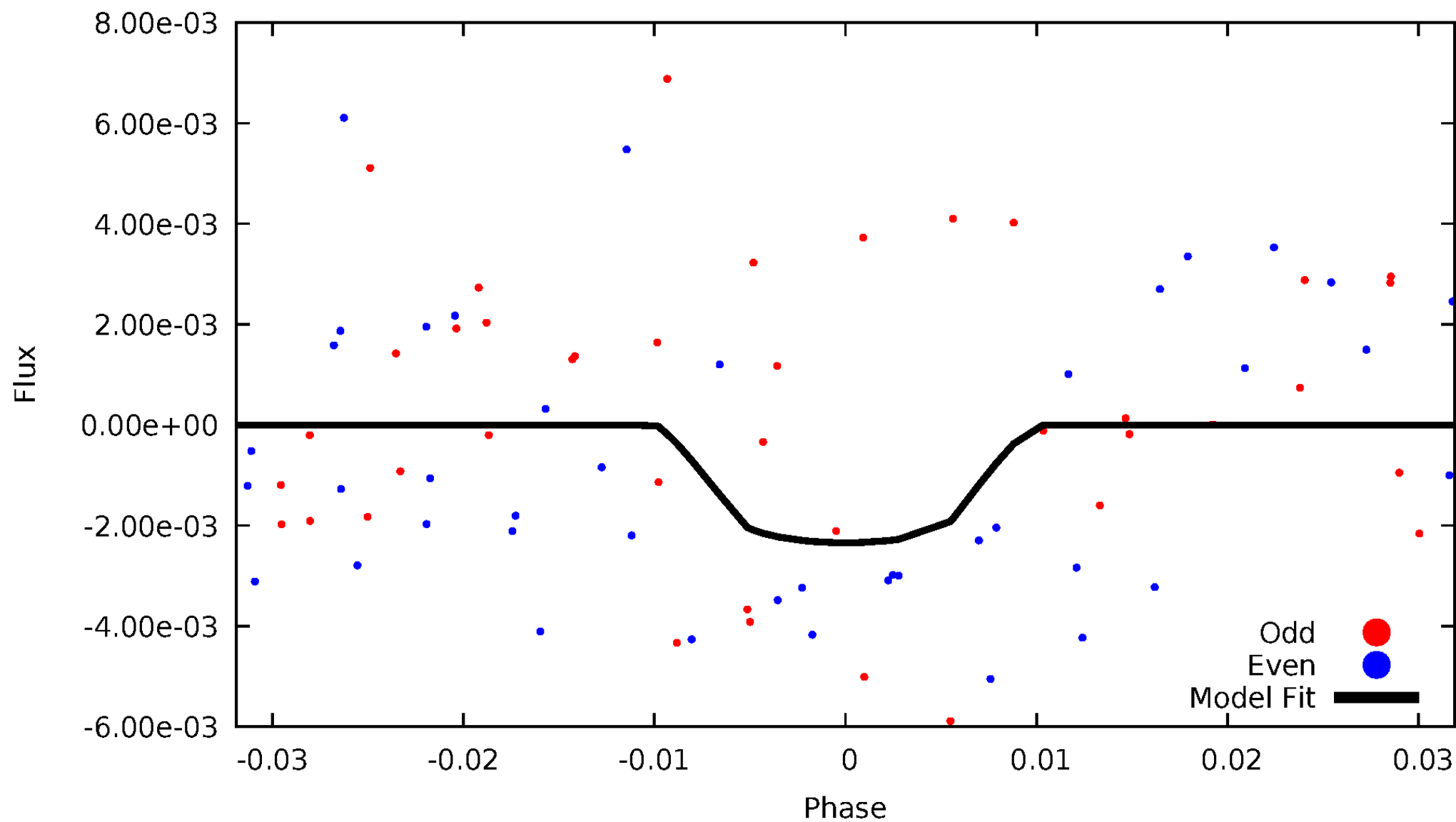


TCE 010753210-04



DV Odd/Even

TCE 010753210-04

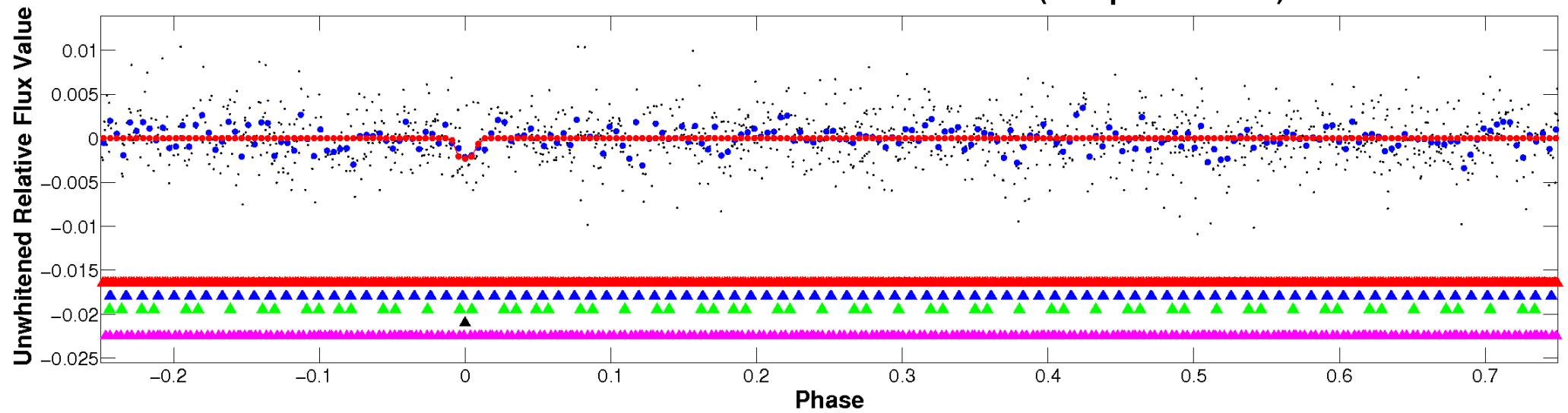


ALT Odd/Even

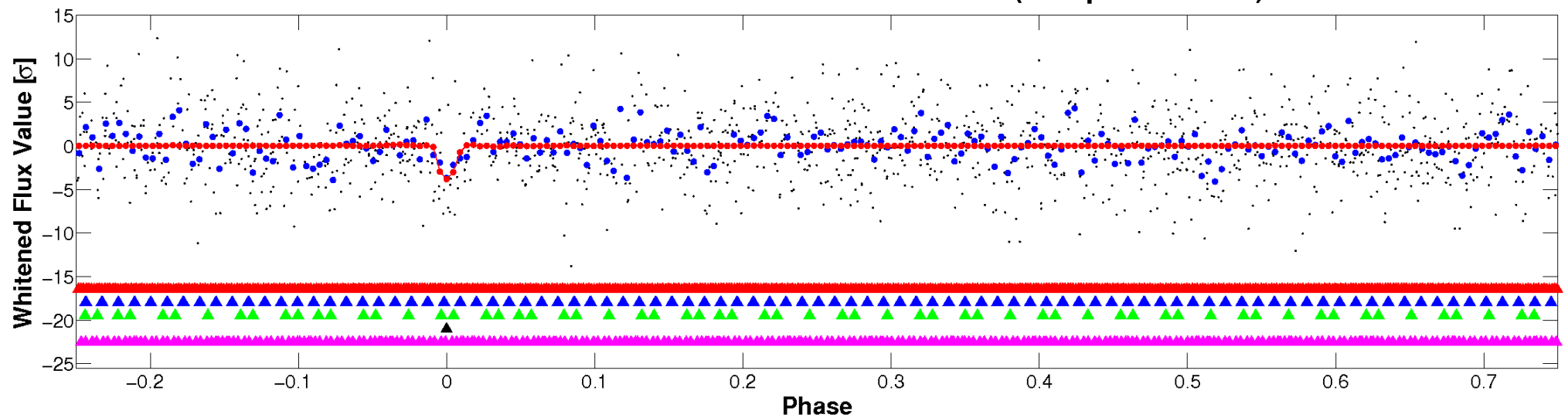
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

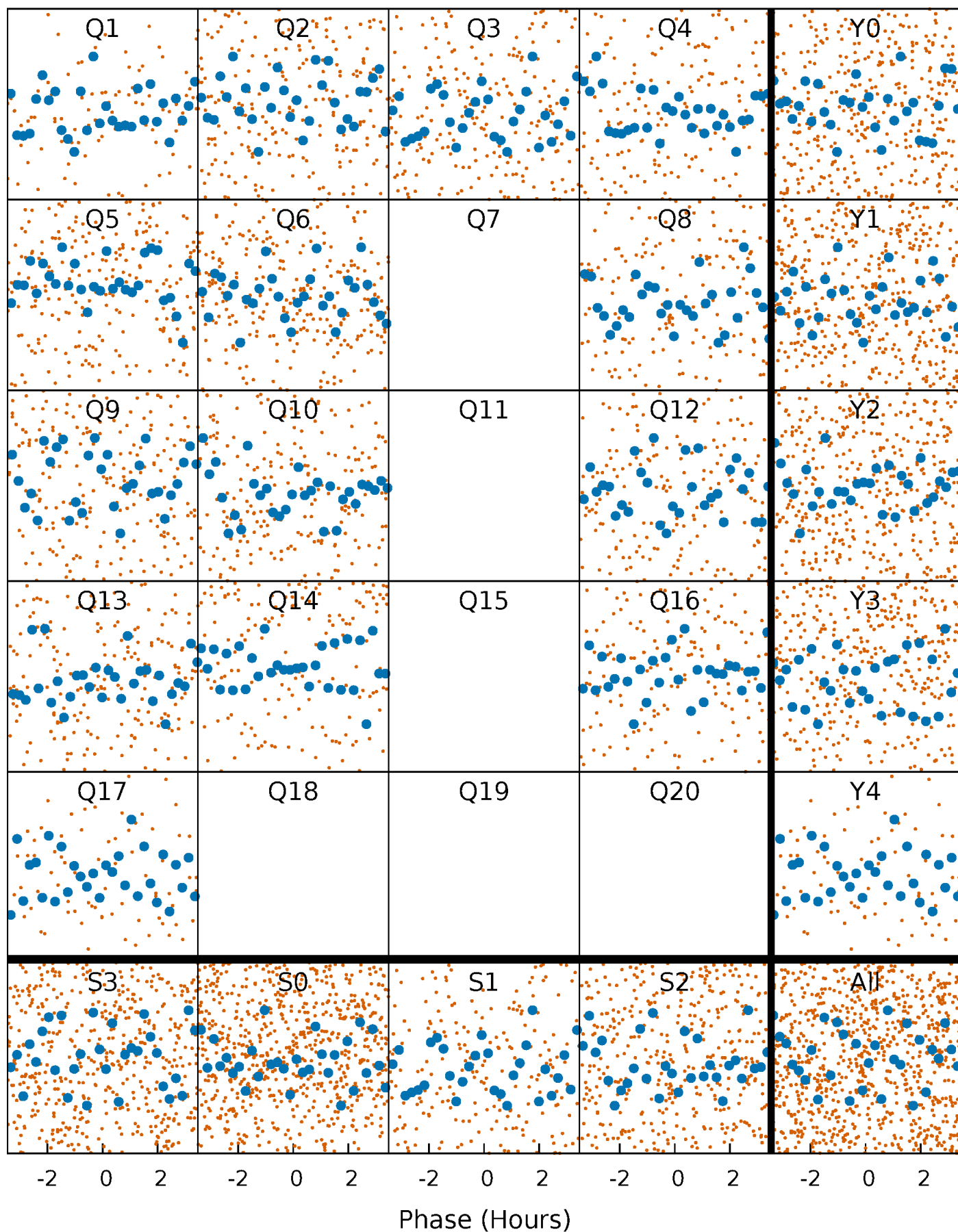


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



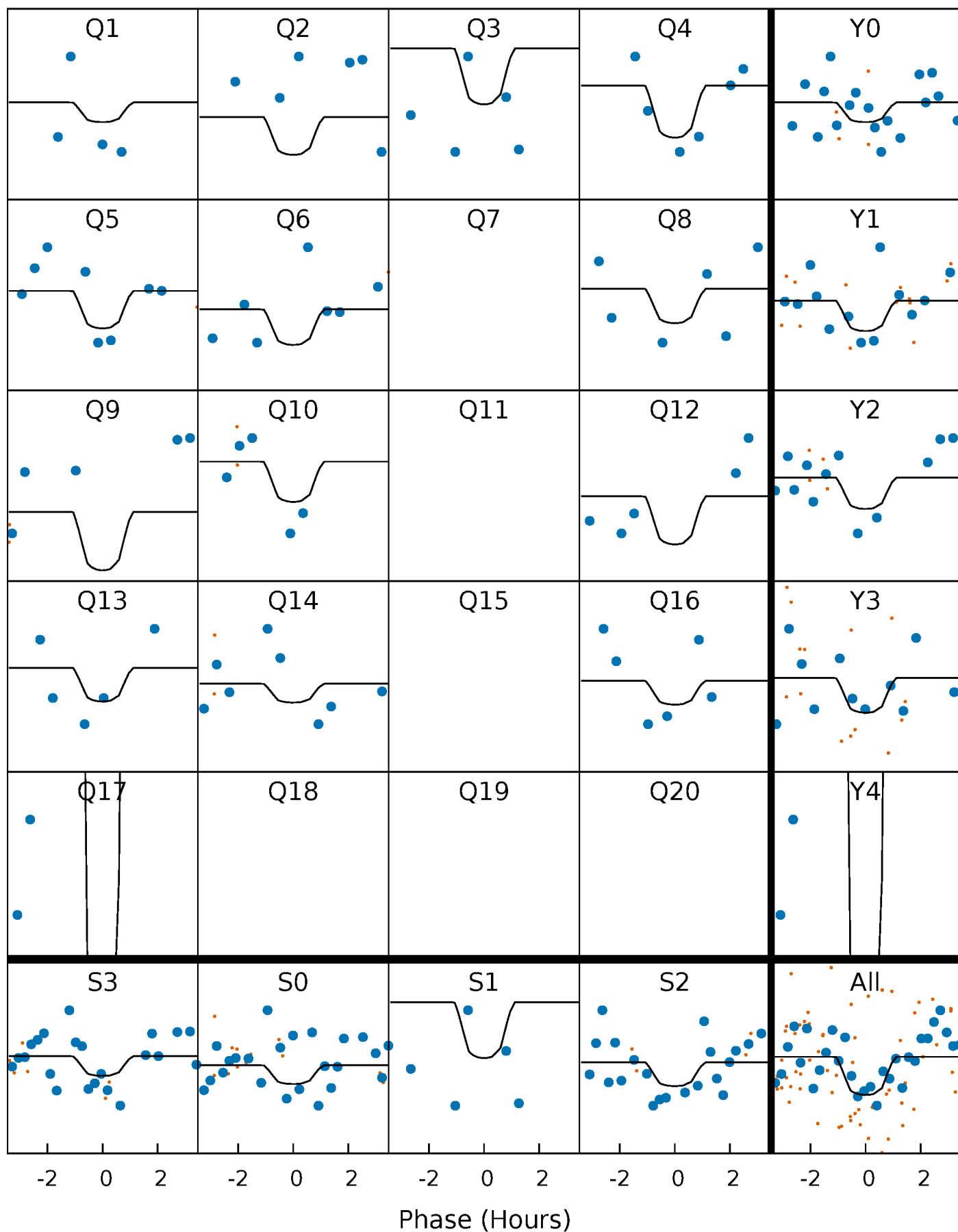
PDC Quarter-Phased Transit Curves

TCE 010753210-04 P= 4.531258 Days $T_0=134.945600$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010753210-04 P= 4.531258 Days $T_0=134.945600$ (BKJD)

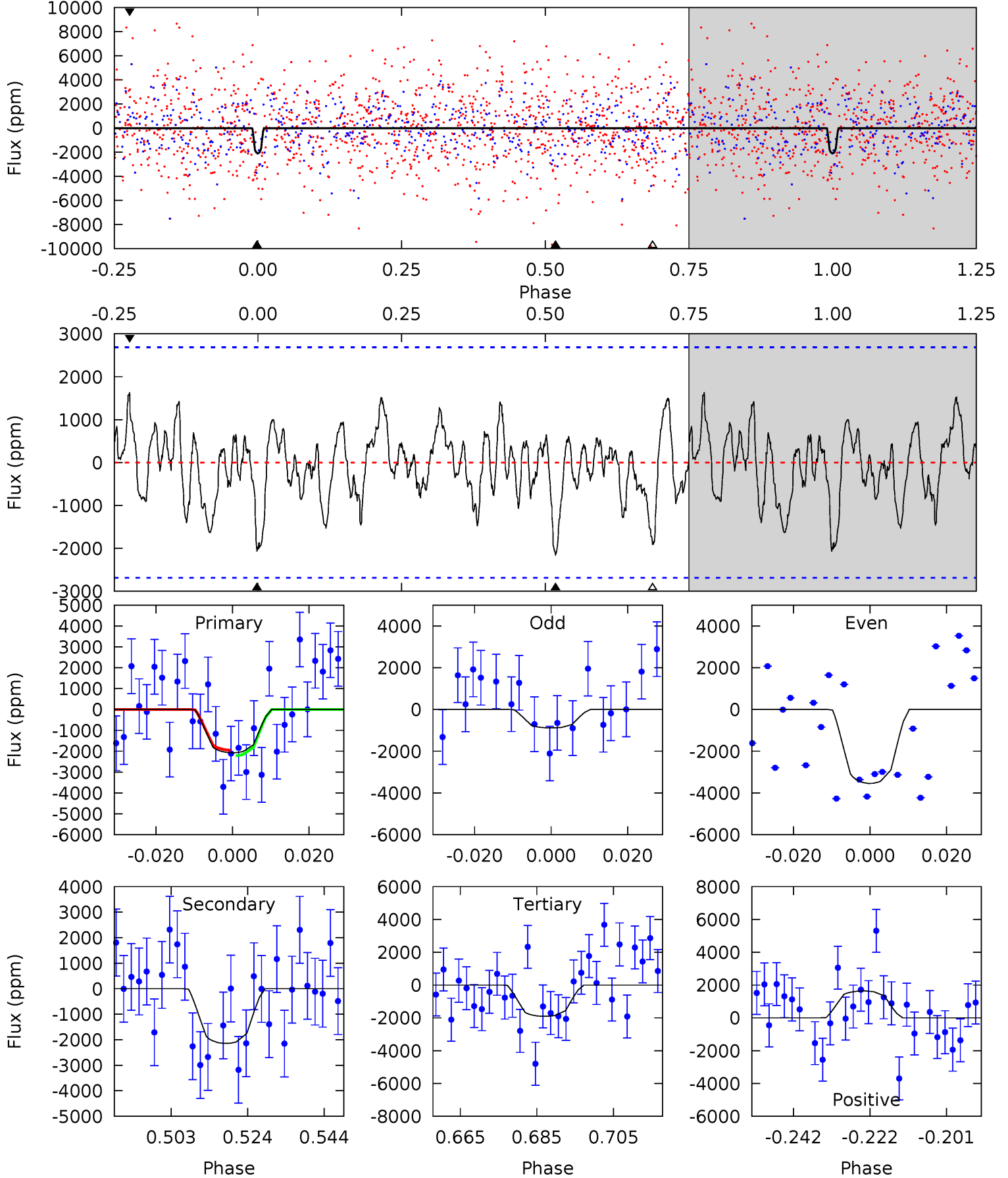


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010753210-04, P = 4.531258 Days, E = 130.414342 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.77	3.90	3.47	2.98	4.89	2.32	1.22	0.30	0.80	0.43	0.92	2.44	0.63	0.43	0.24



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010753210

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6391^{+162}_{-194}	$3.885^{+0.420}_{-0.140}$	$-0.240^{+0.300}_{-0.300}$	$2.120^{+0.499}_{-0.927}$	$1.258^{+0.193}_{-0.257}$	$0.186^{+0.696}_{-0.075}$
	+3%/-3%	+11%/-4%	+125%/-125%	+24%/-44%	+15%/-20%	+374%/-41%
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 010753210-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2144 ± 549	$35.87^{+39.57}_{-25.25}$	2325^{+190}_{-277}	3633^{+2318}_{-856}	$2.993^{+30.243}_{-2.282}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

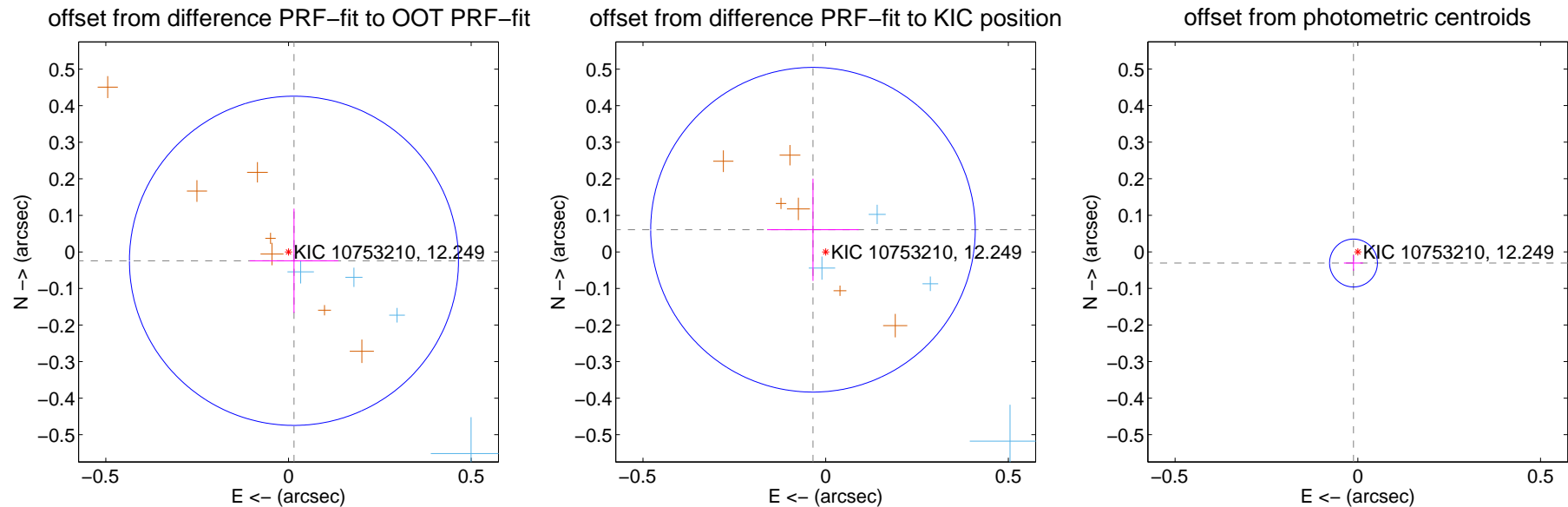
DV Centroid Data

Supplemental centroid analysis for 010753210-04. Kepler magnitude: 12.25. Transit SNR 12.96

There are 4 quarters with good PRF difference image offsets

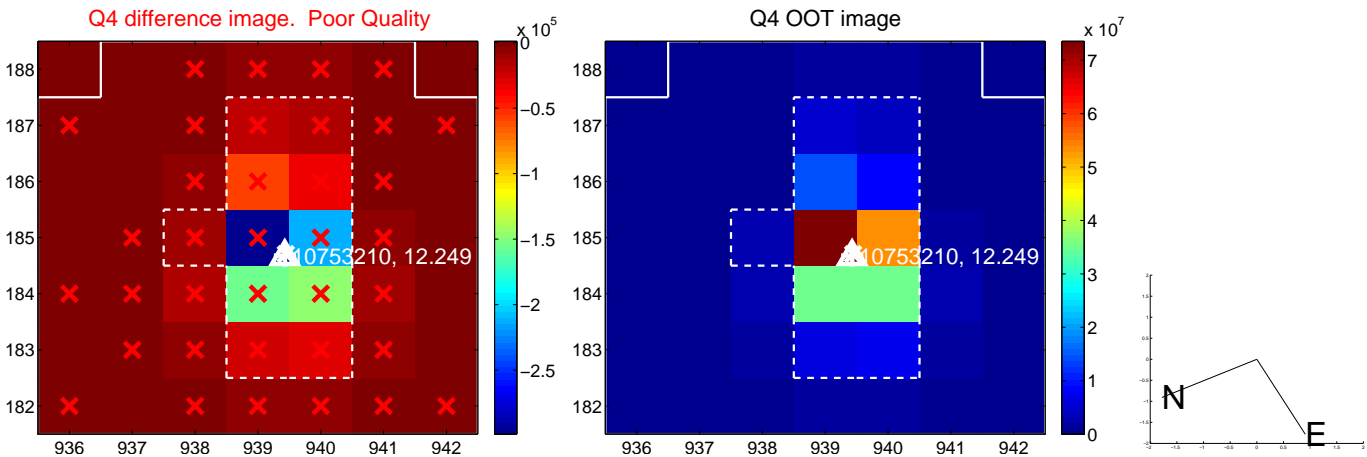
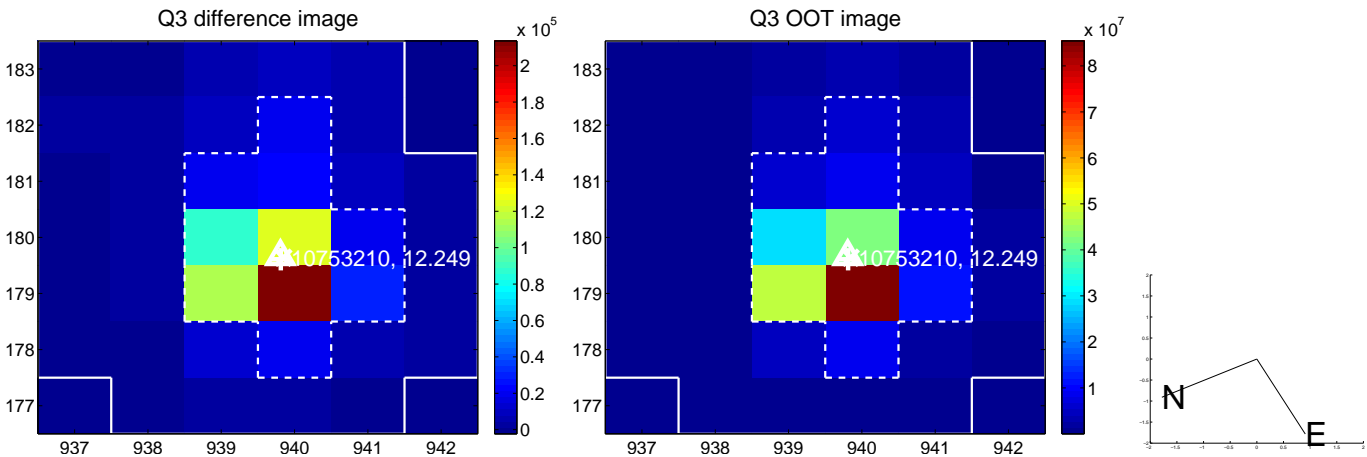
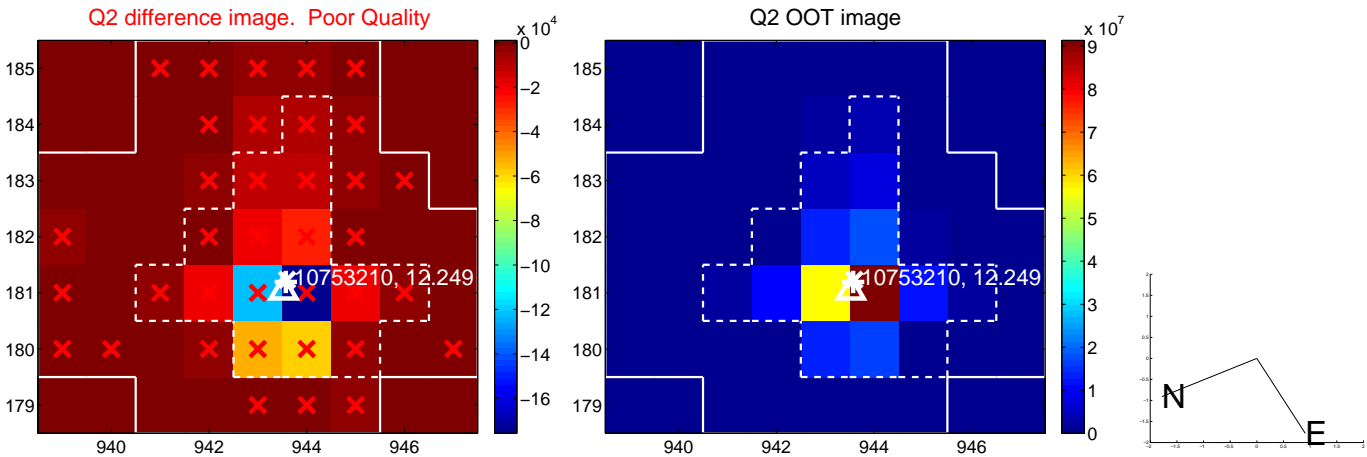
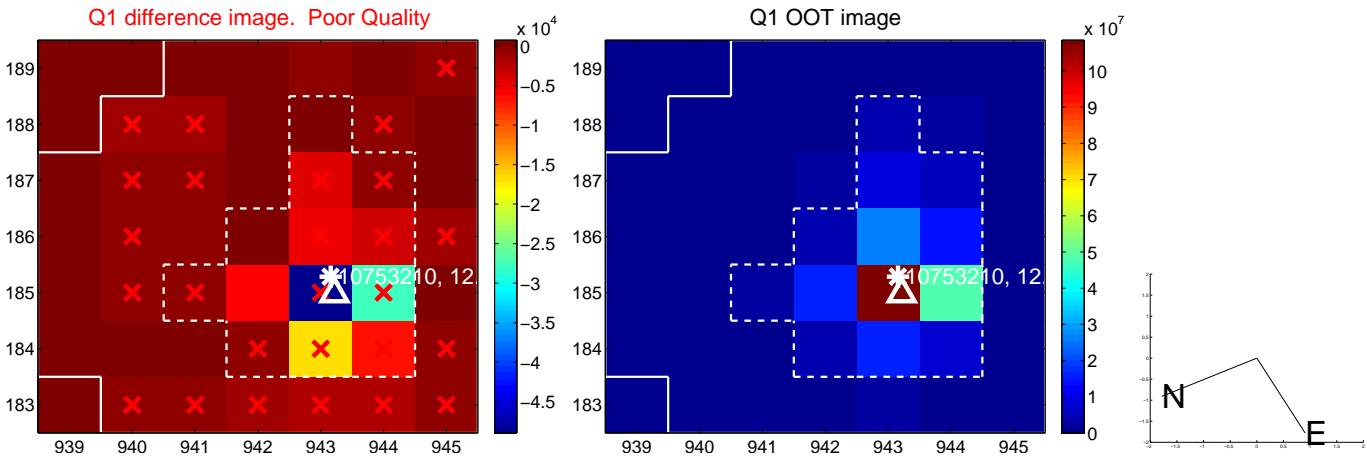
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.029 ± 0.150	0.19	-0.015 ± 0.121	-0.024 ± 0.143
PRF-fit source offset from KIC position	0.070 ± 0.148	0.47	0.035 ± 0.126	0.061 ± 0.140
photometric centroid source offset	0.03 ± 0.02	1.50	0.01 ± 0.03	-0.03 ± 0.02

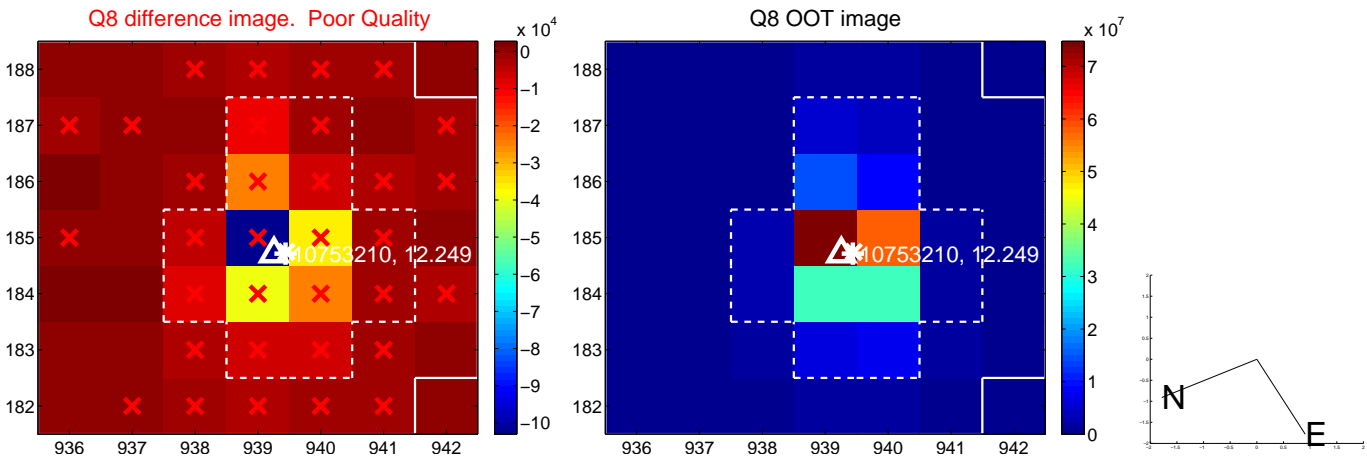
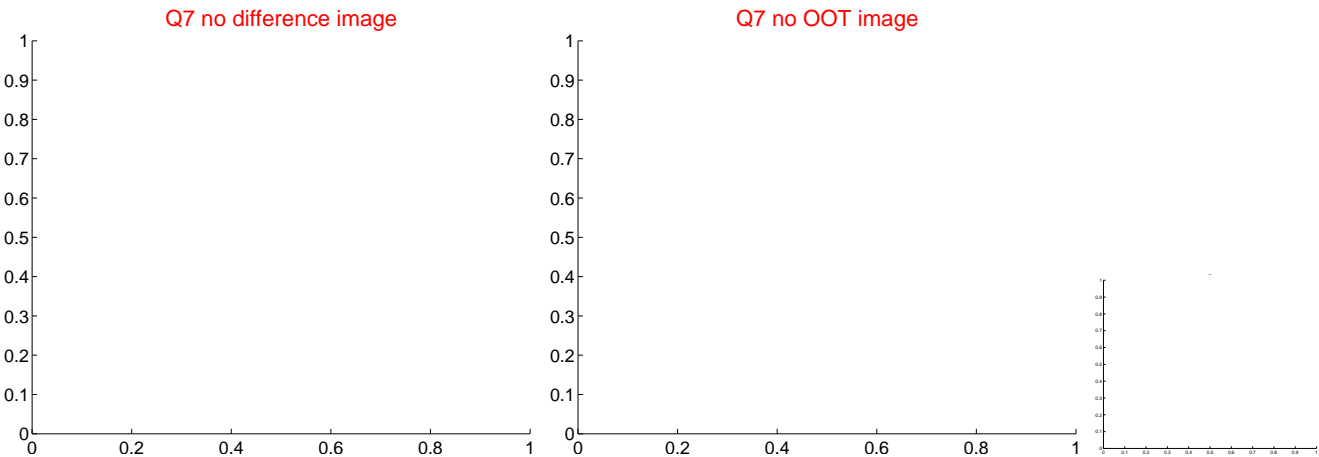
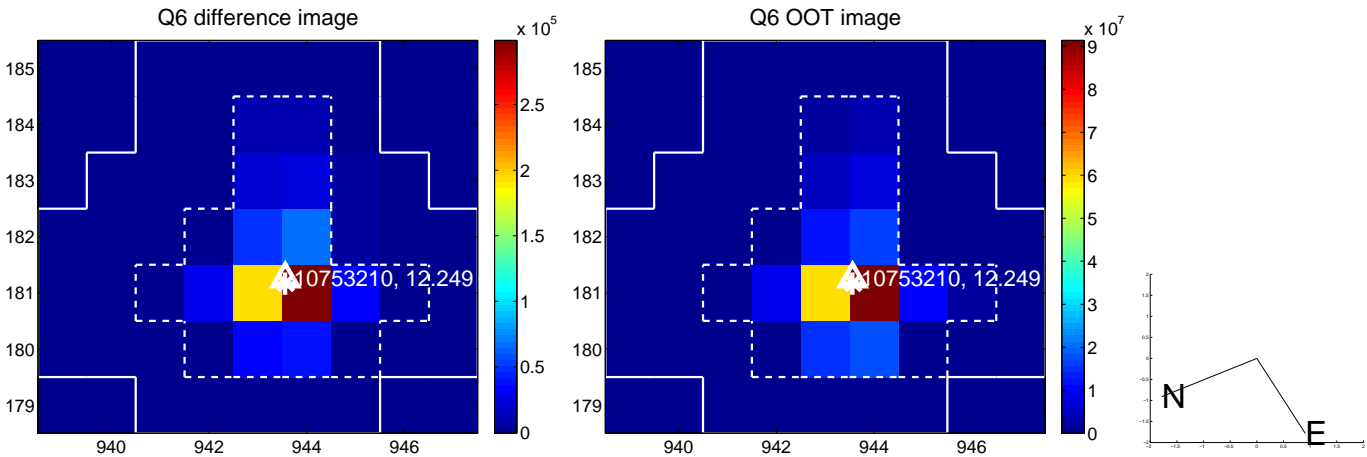
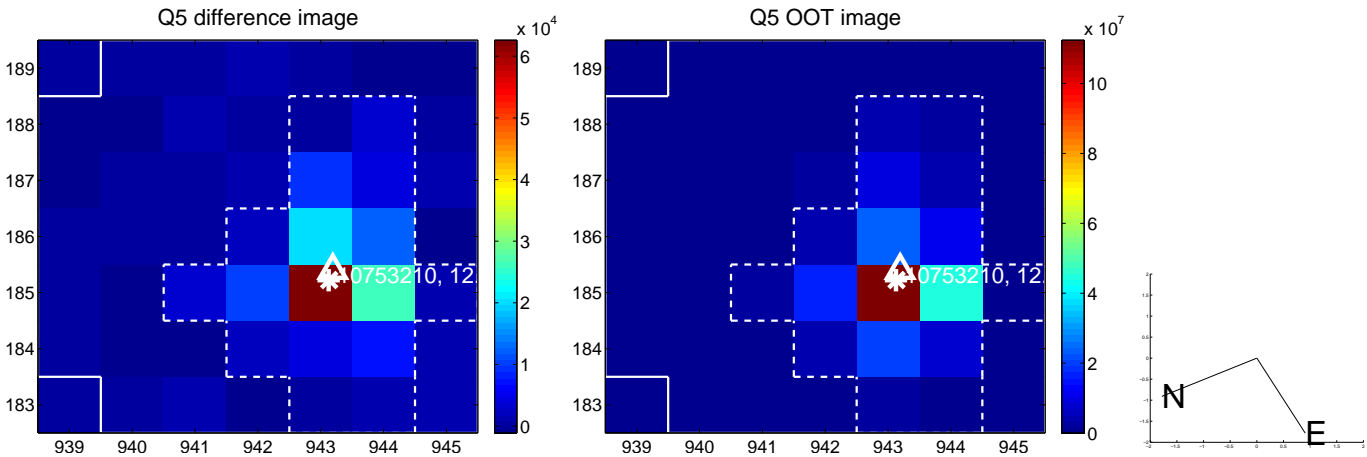


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

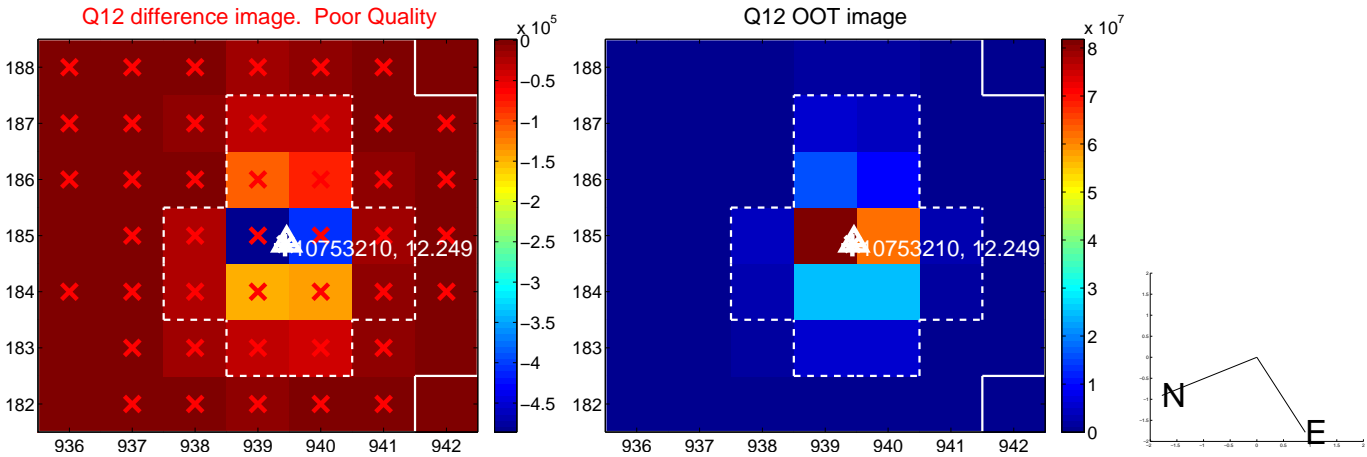
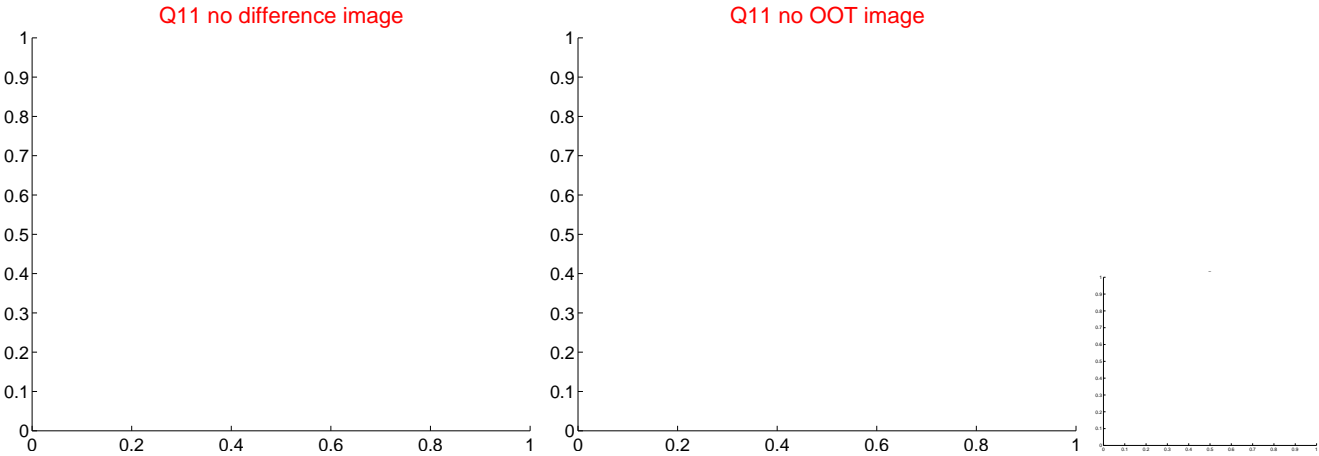
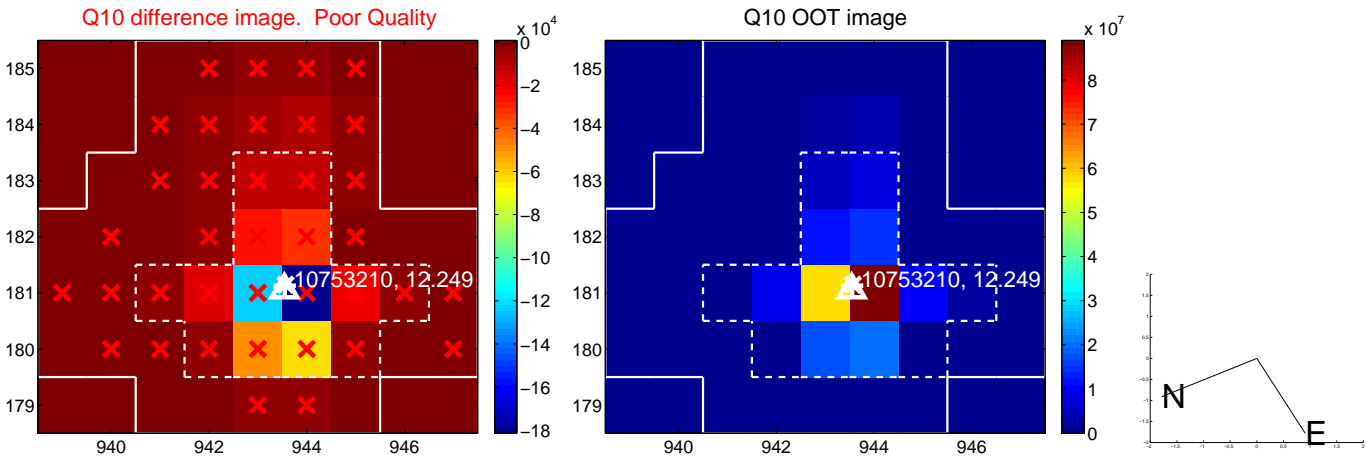
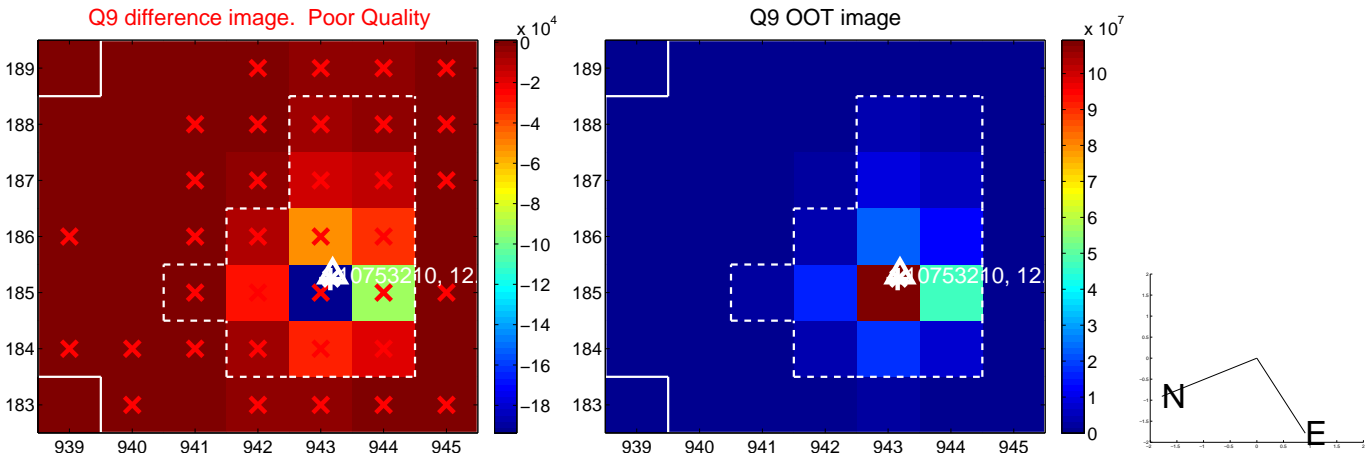
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



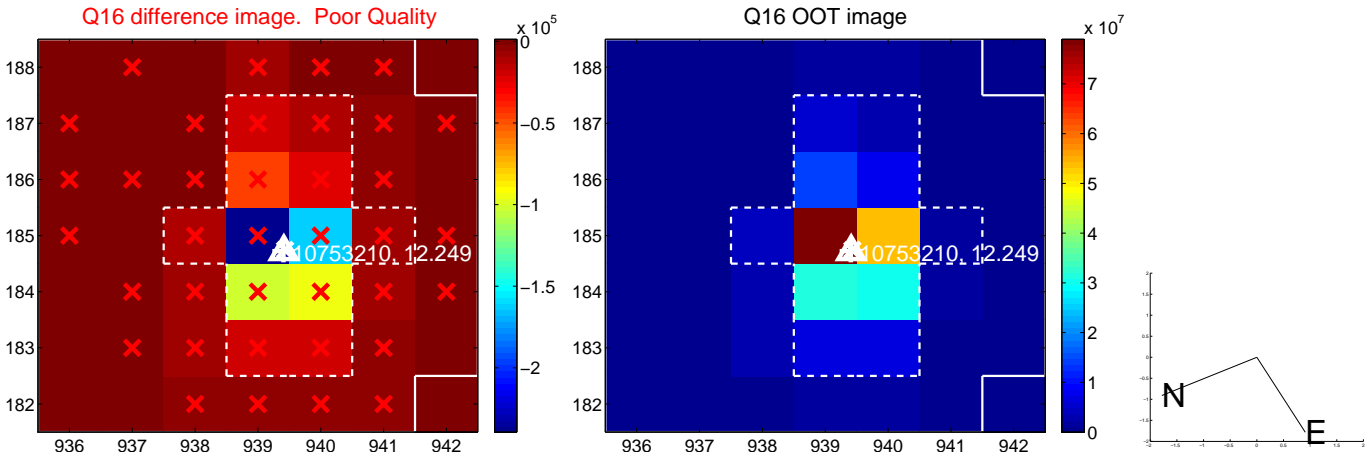
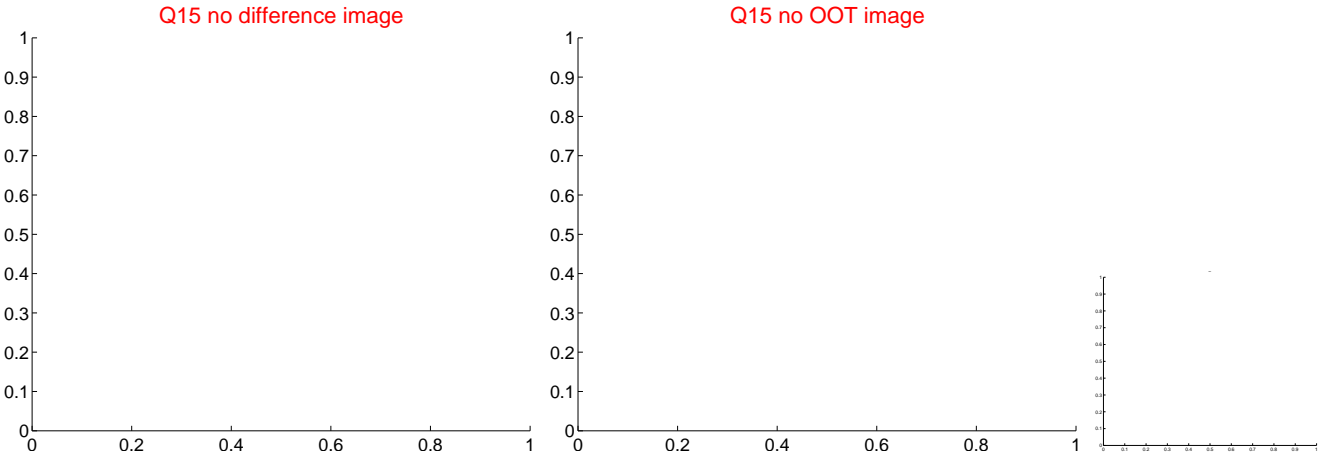
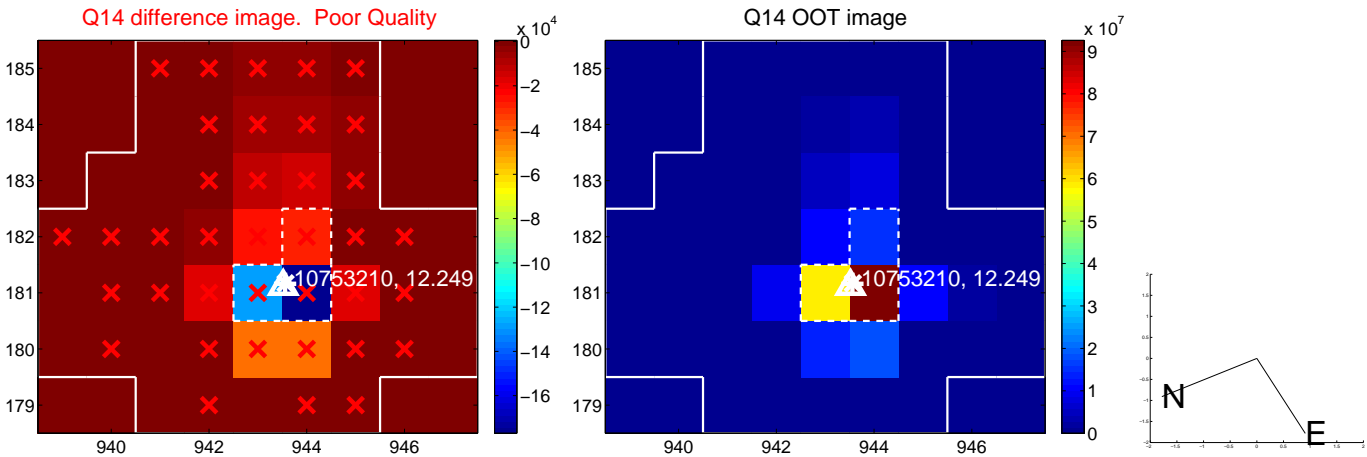
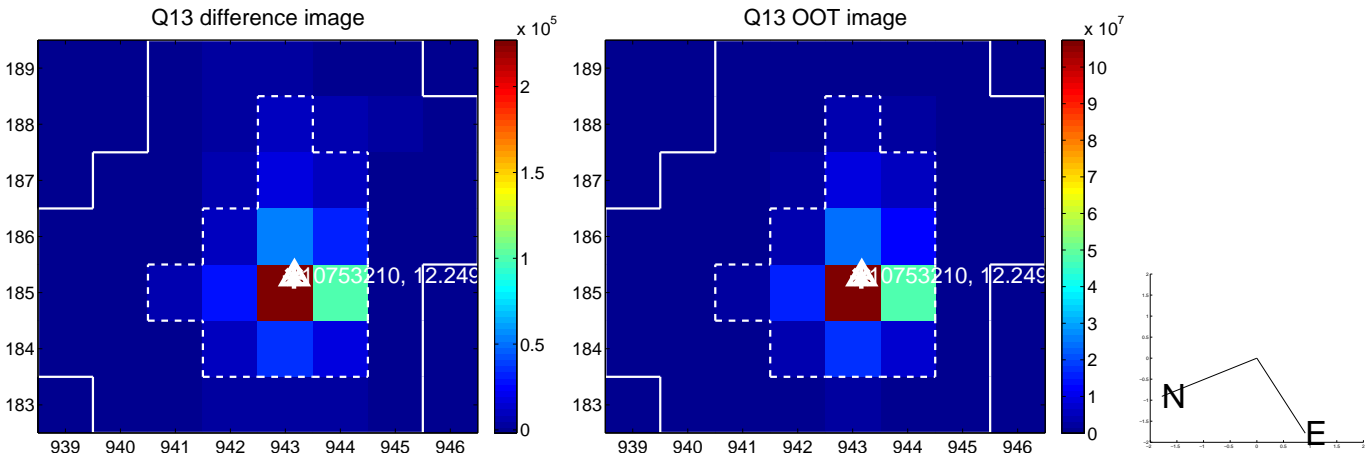
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



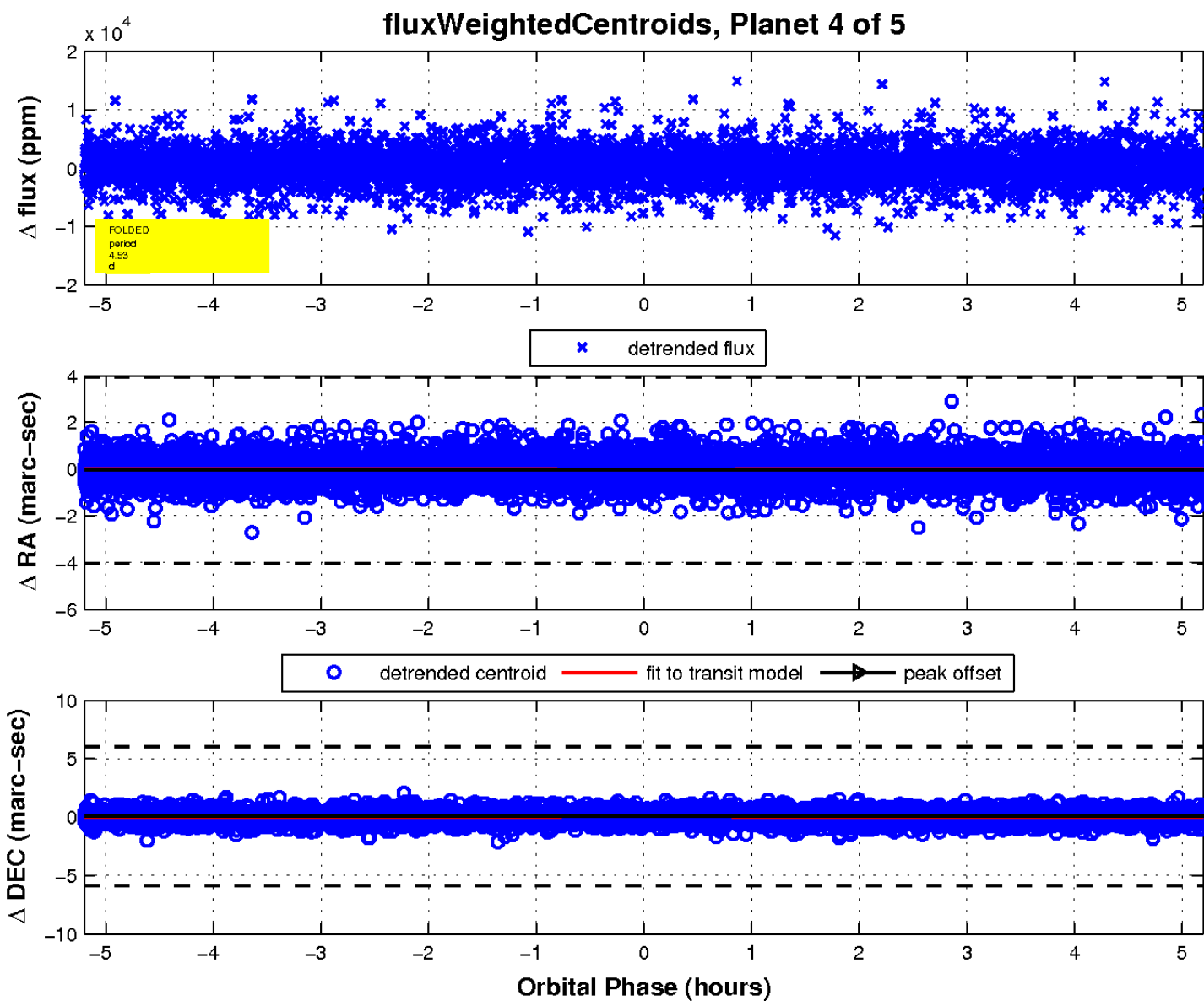
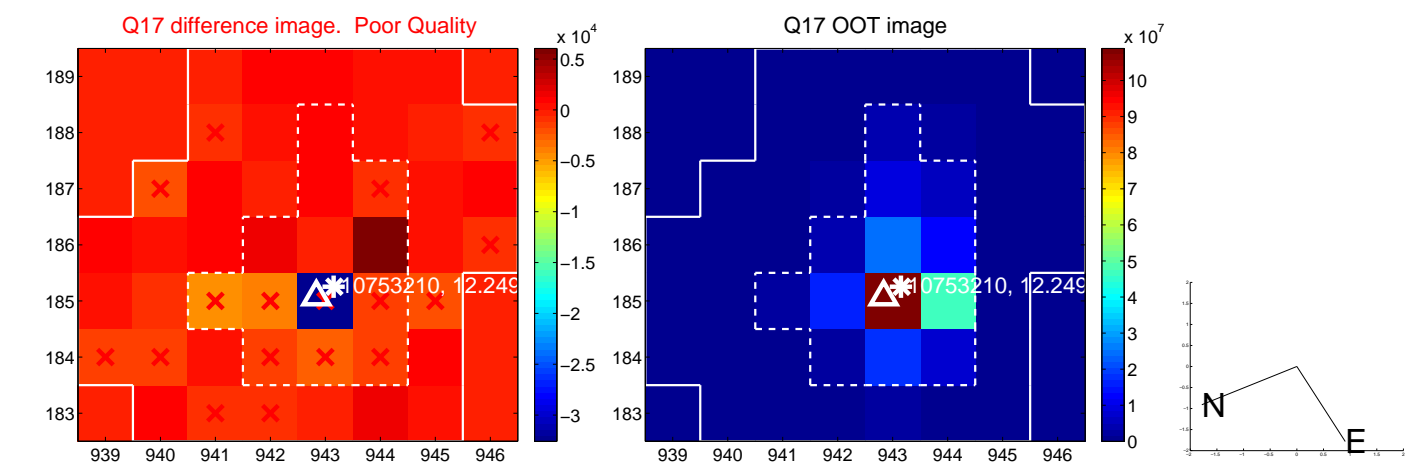
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

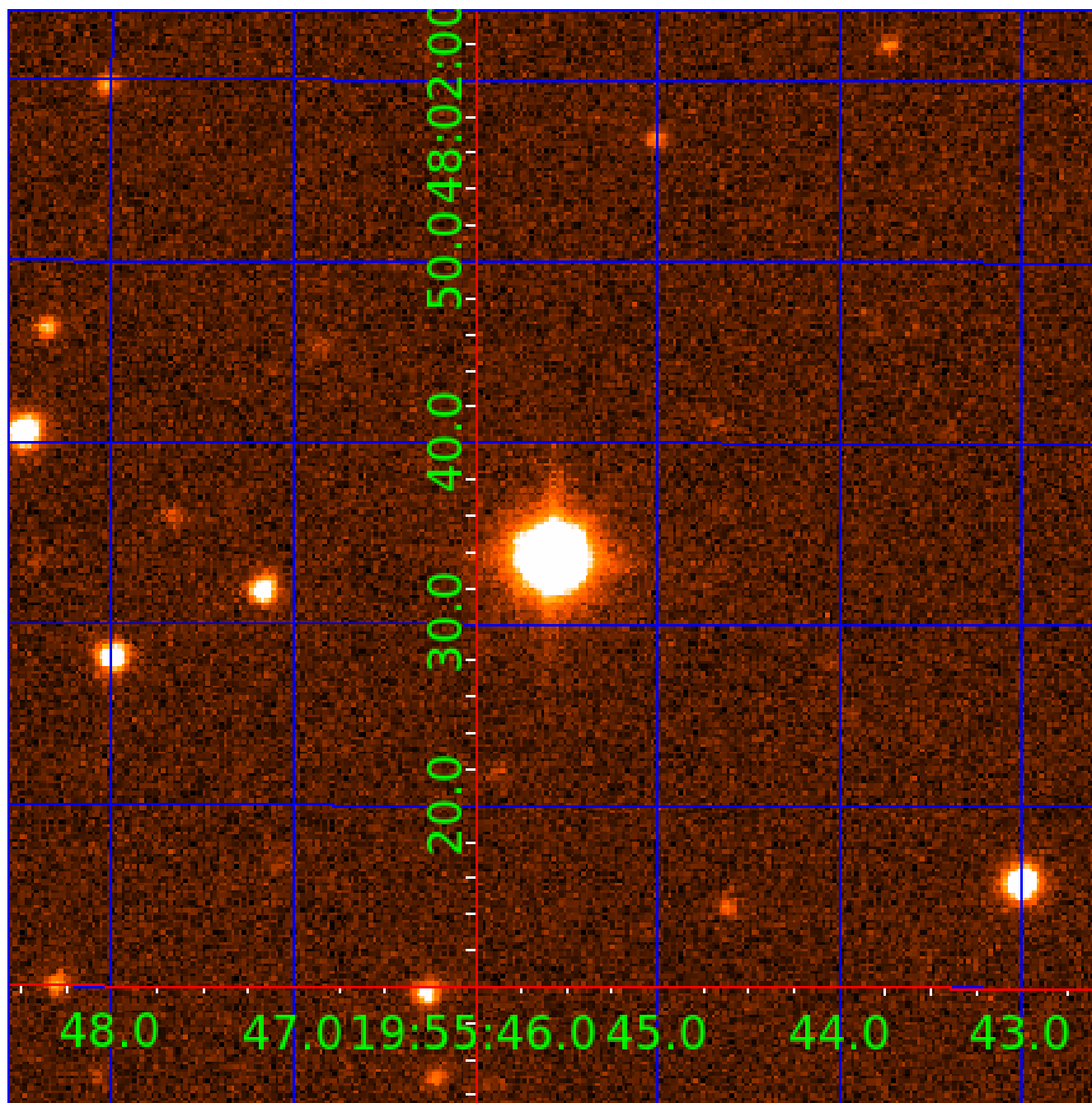


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010753210

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})
010753210-01	OBS	No	1.367465	132.316048	325.9	10.479	12.6	12.9	2.12	6391	4.89	9912.24
010753210-02	OBS	No	4.780242	133.889955	3458.2	1.162	21.9	13.6	2.12	6391	14.29	1868.36
010753210-03	OBS	No	23.269637	138.471599	10979.3	0.711	18.4	20.1	2.12	6391	22.88	226.47
010753210-04	OBS	No	4.531258	134.945600	2345.2	1.733	17.1	13.0	2.12	6391	10.34	2006.48
010753210-05	OBS	No	4.781119	134.280524	3981.8	3.236	13.3	16.4	2.12	6391	13.68	1867.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010753210-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
010753210-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010753210-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—HALO_GHOST
010753210-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

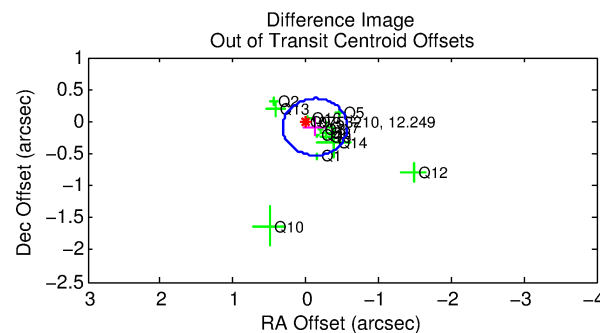
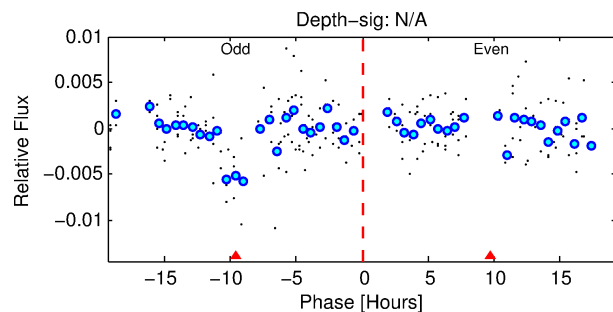
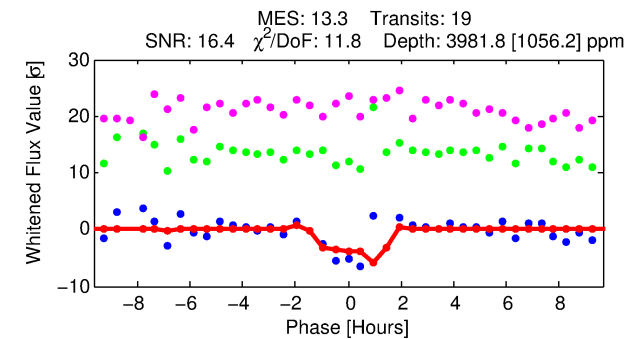
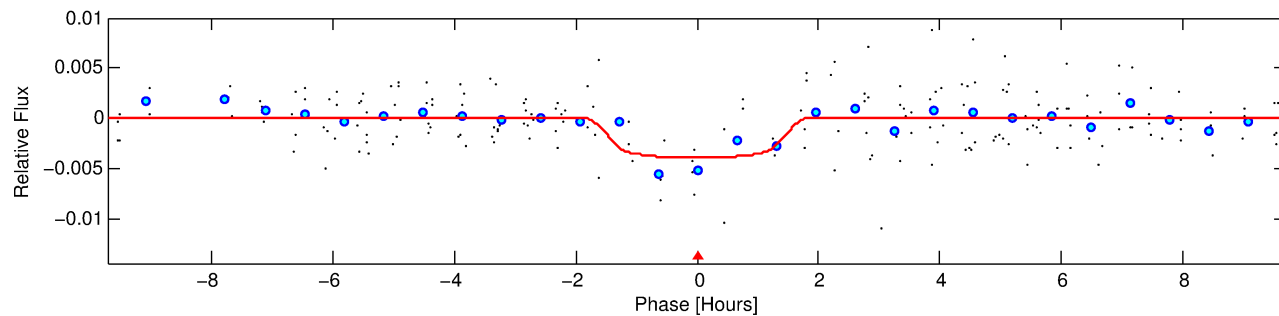
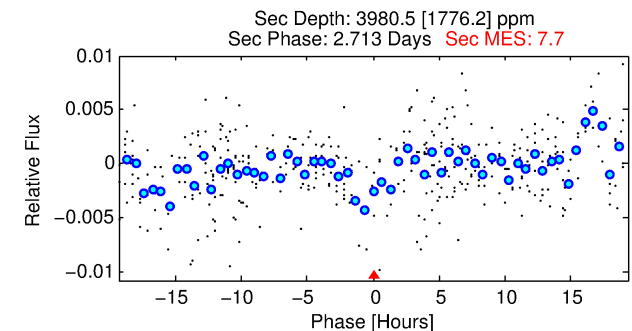
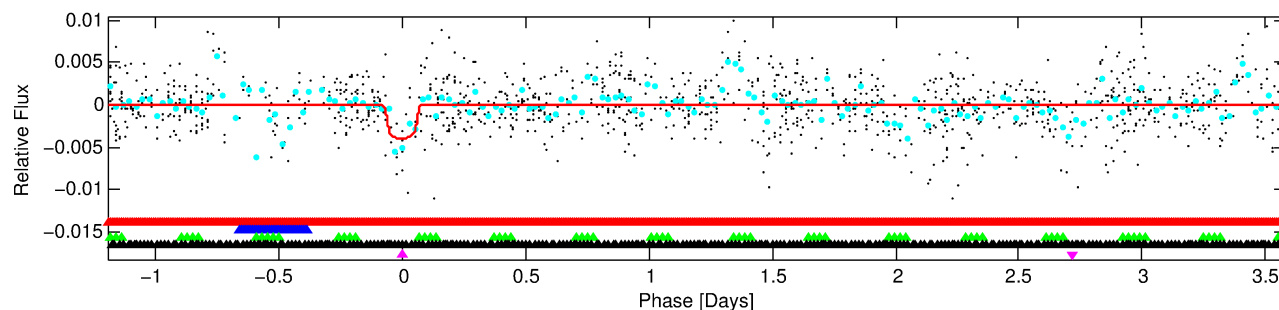
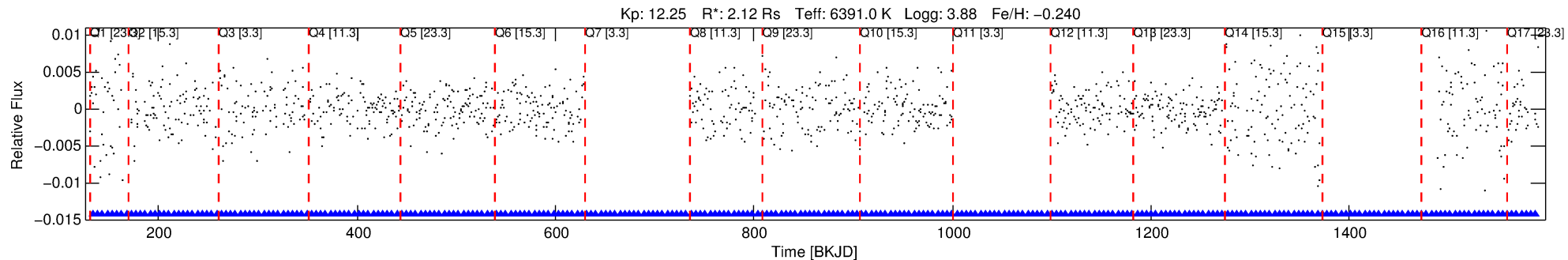
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010753210-05

No Significant Match Found

DV One-Page Summary

KIC: 10753210 Candidate: 5 of 5 Period: 4.781 d



DV Fit Results:

Period = 4.78112 [0.00007] d
Epoch = 134.2805 [0.0132] BJD
Rp/R* = 0.0591 [0.0458]
a/R* = 11.05 [41.90]
b = 0.41 [7.84]
Seff = 1867.90 [1340.98]
Teq = 1676 [301] K
Rp = 13.68 [12.16] Re
a = 0.0600 [0.0261] AU
Ag = 42.10 [74.12] [0.55σ]
Teffp = 6602 [2668] K [1.83σ]

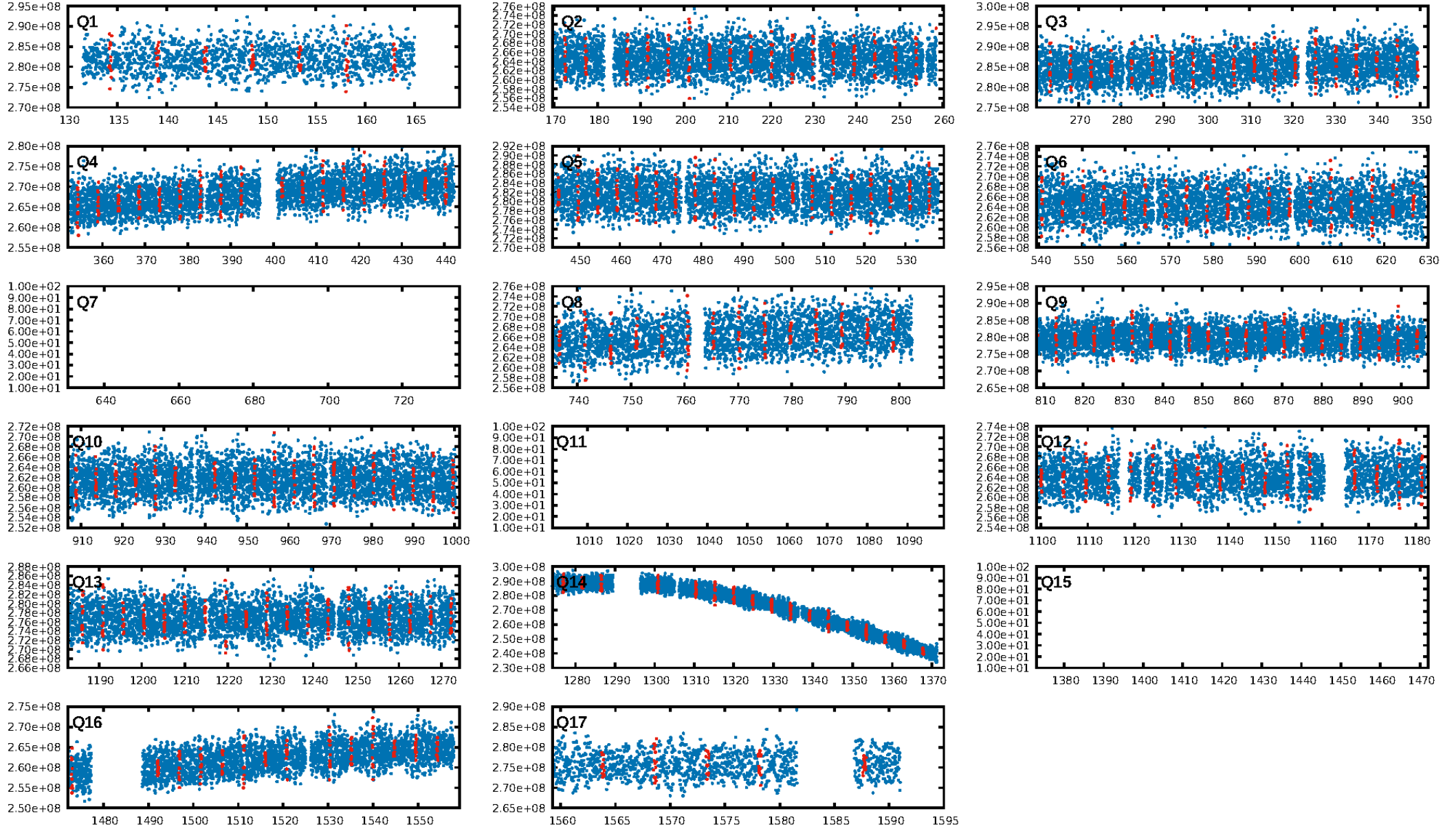
DV Diagnostic Results:

ShortPeriod-sig: 0.5% [0.01σ]
LongPeriod-sig: 100.0% [133.93σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [18/18]
GhostDiagnostic-chr: 3.037
Centroid-sig: 90.9%
Centroid-so: 0.008 arcsec [0.73σ]
OotOffset-rm: 0.150 arcsec [1.01σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-rm: 0.080 arcsec [0.58σ]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 0.43 [6/14]

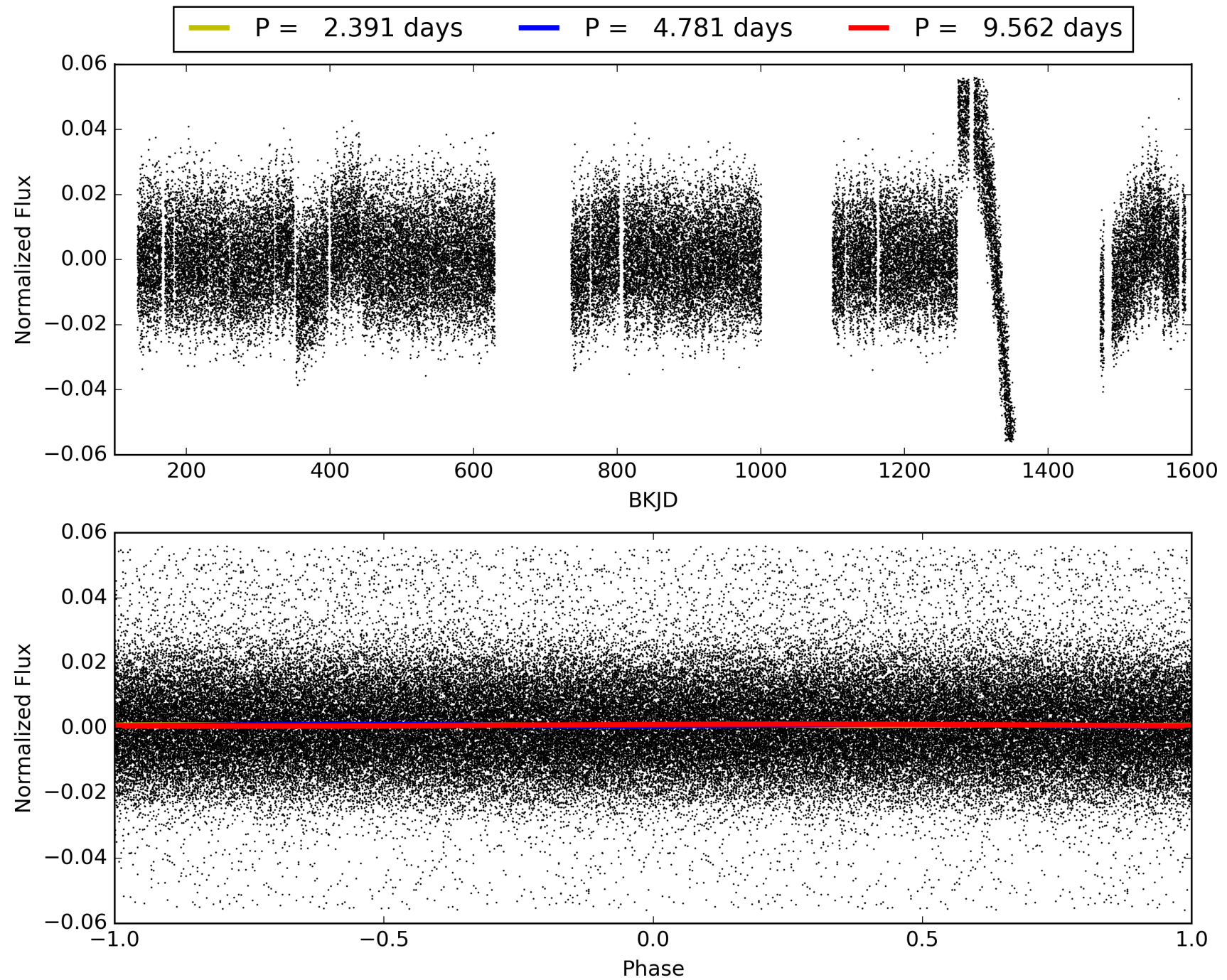
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:04:49 Z

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

TCE 010753210-05, PDC Light Curves

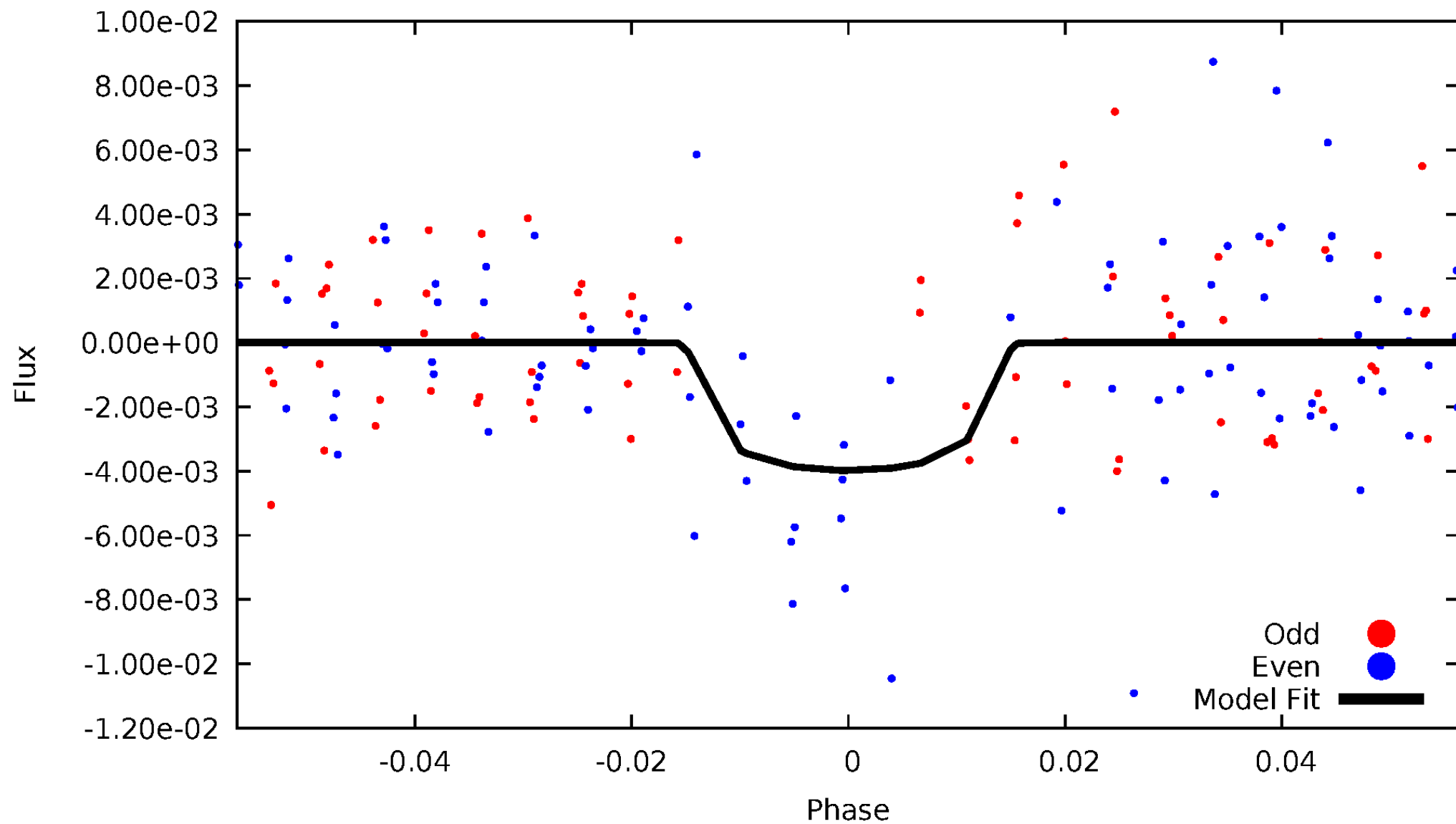


TCE 010753210-05



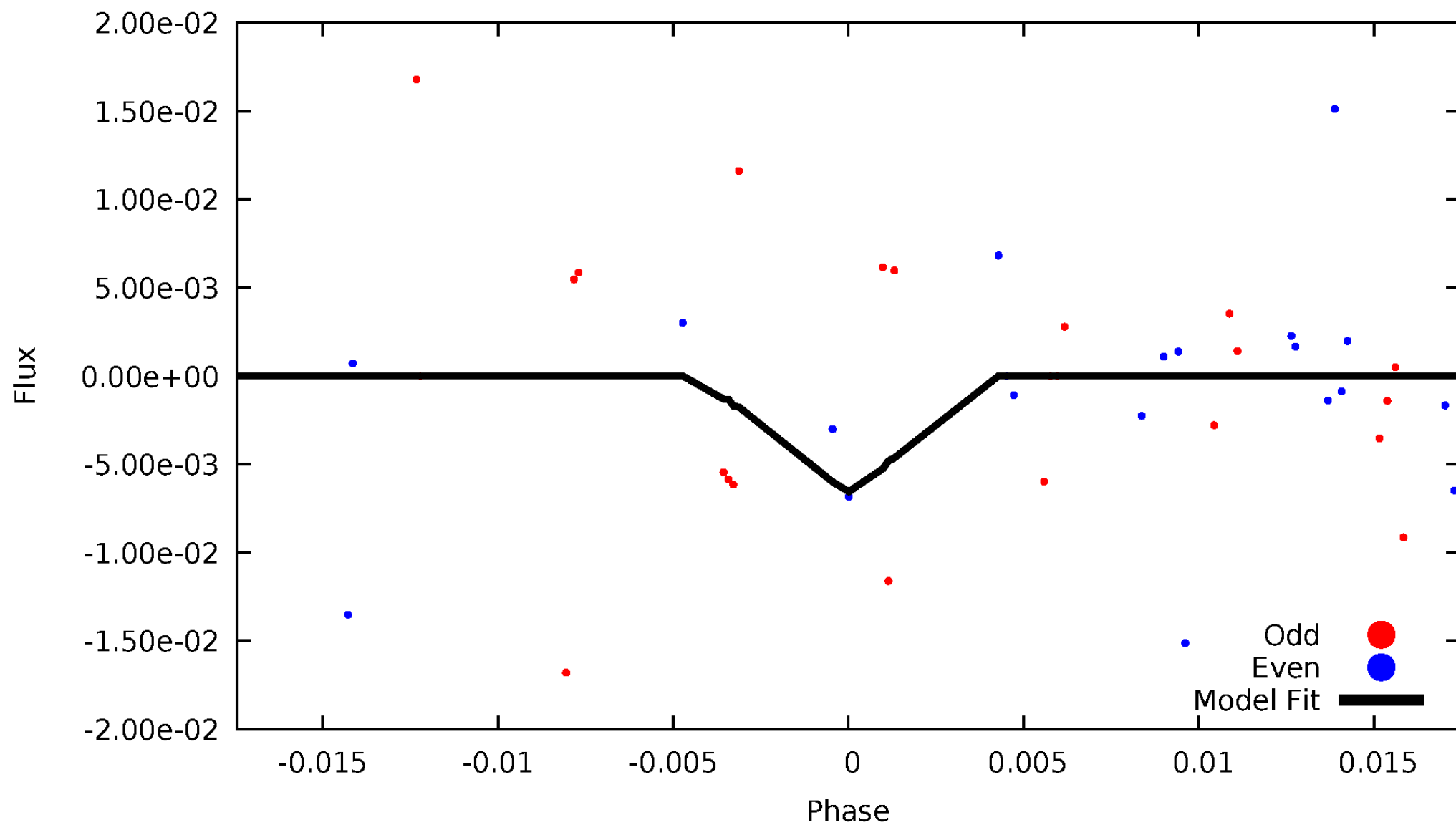
DV Odd/Even

TCE 010753210-05



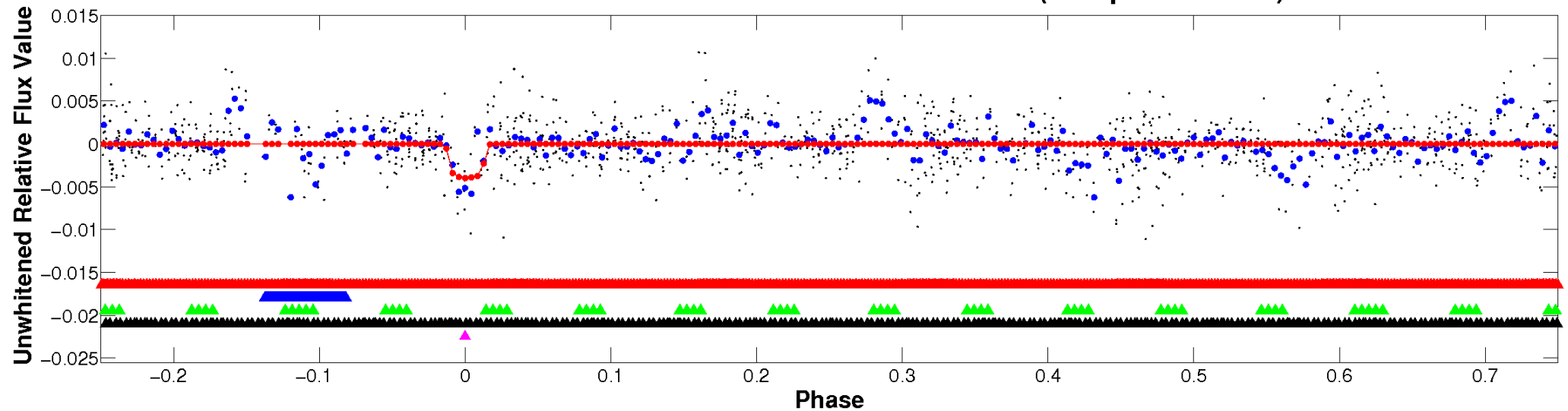
ALT Odd/Even

TCE 010753210-05

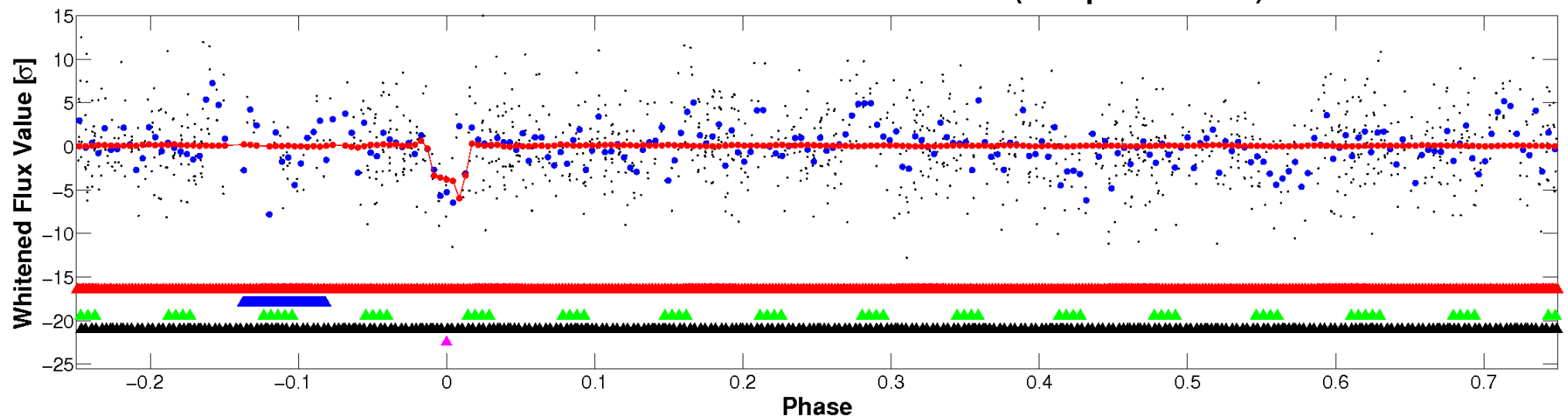


Non-Whitened Vs. Whitened Light Curve

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

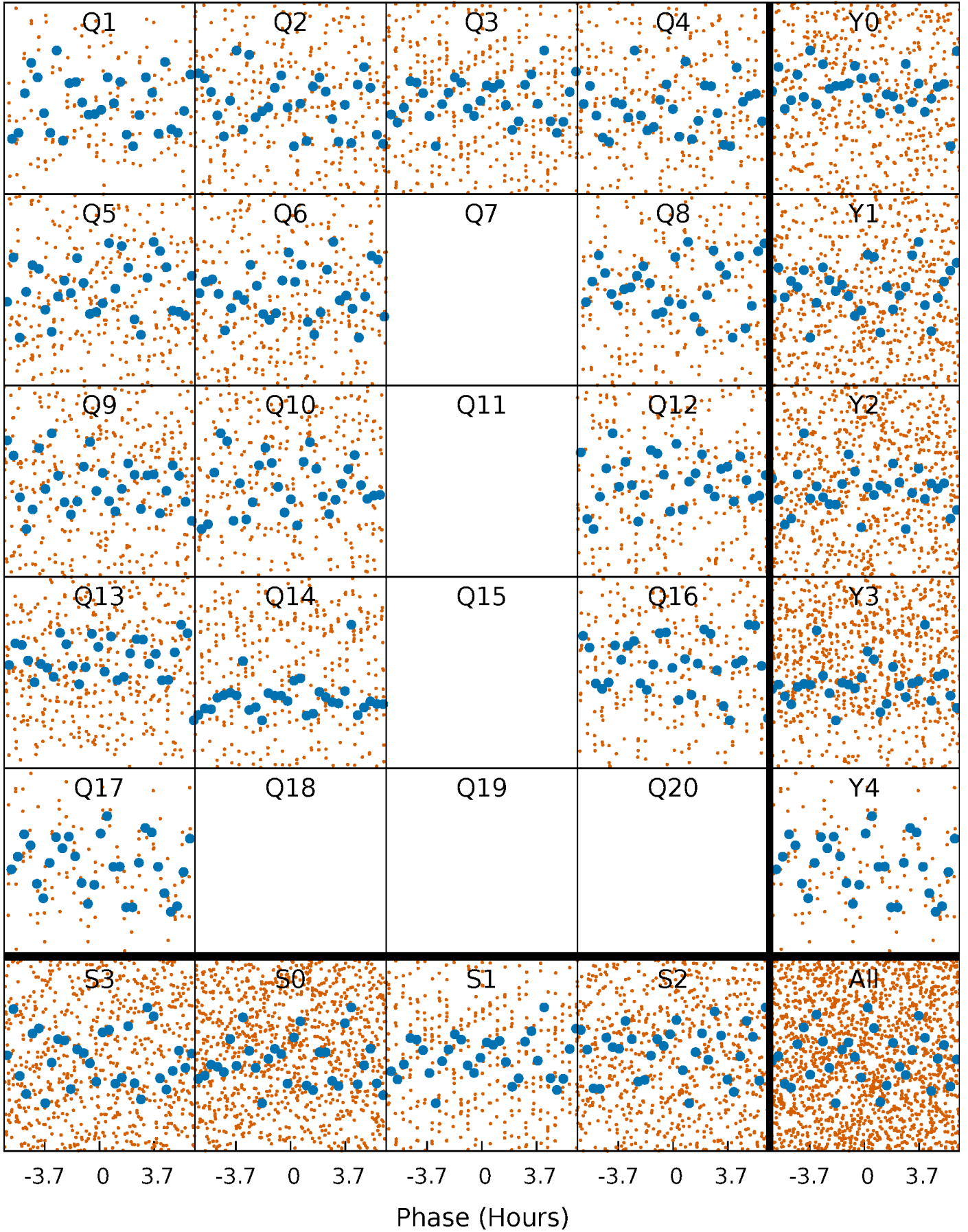


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



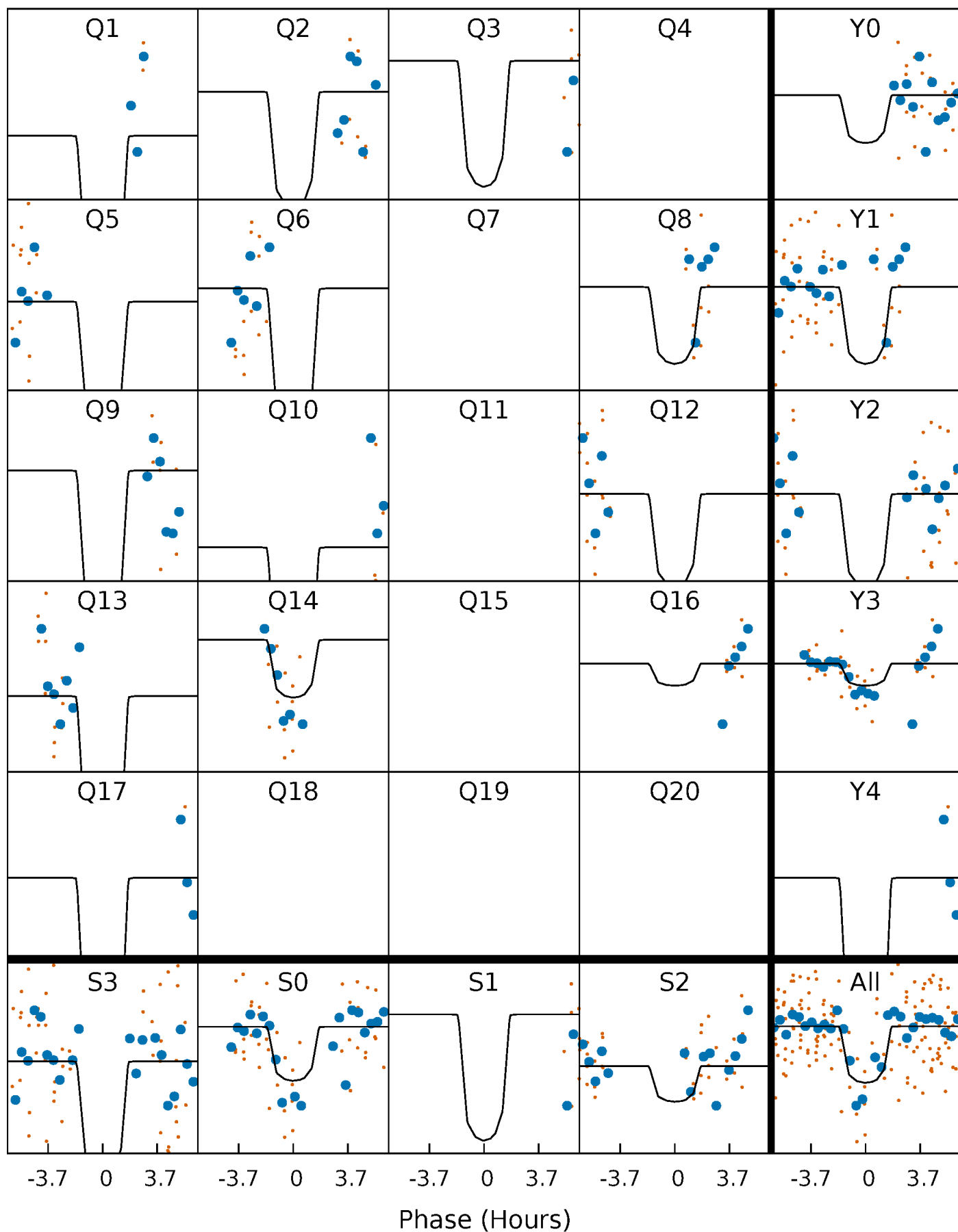
PDC Quarter-Phased Transit Curves

TCE 010753210-05 P= 4.781119 Days $T_0=134.280524$ (BKJD)



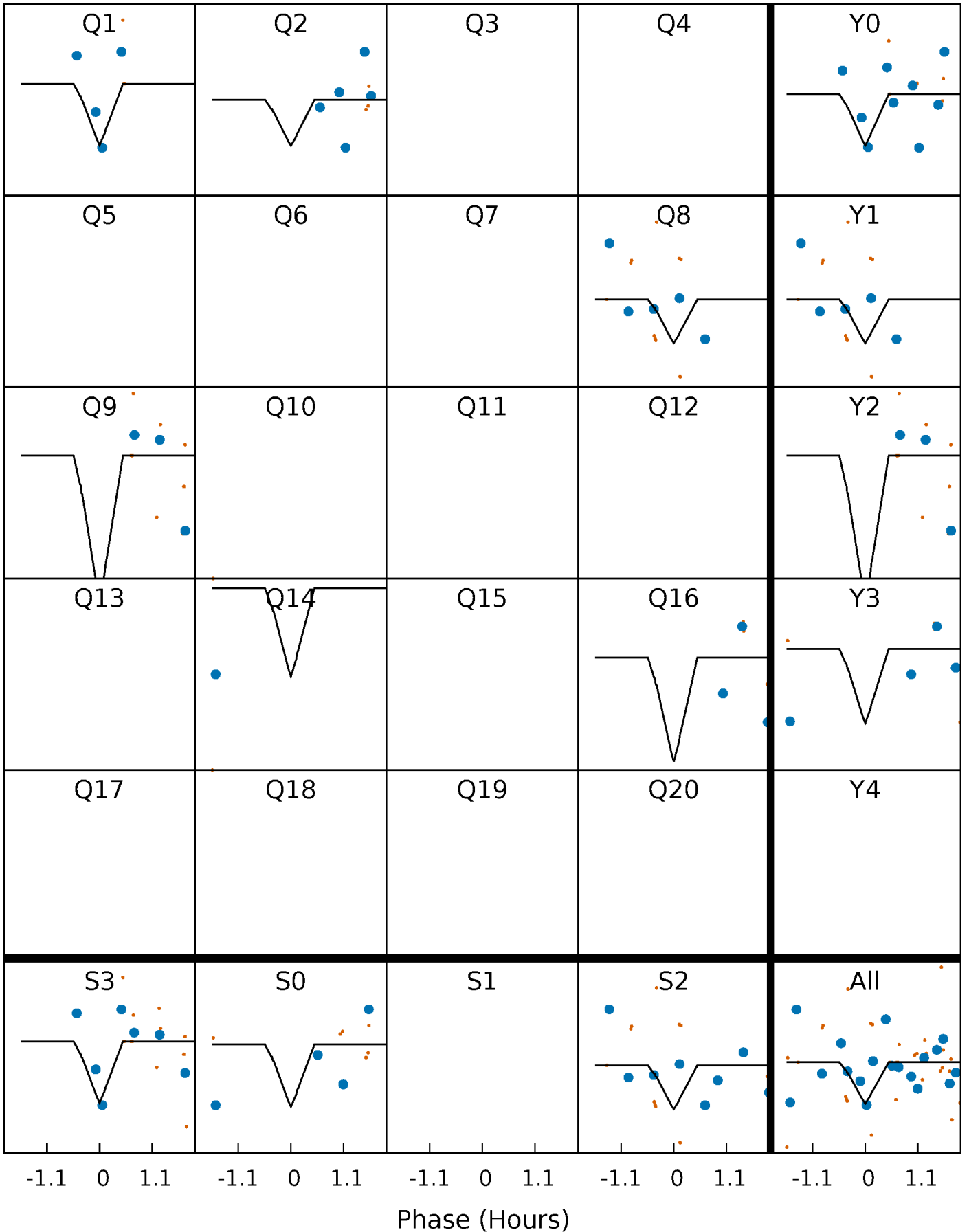
DV Quarter-Phased Transit Curves

TCE 010753210-05 $P = 4.781119$ Days $T_0 = 134.280524$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

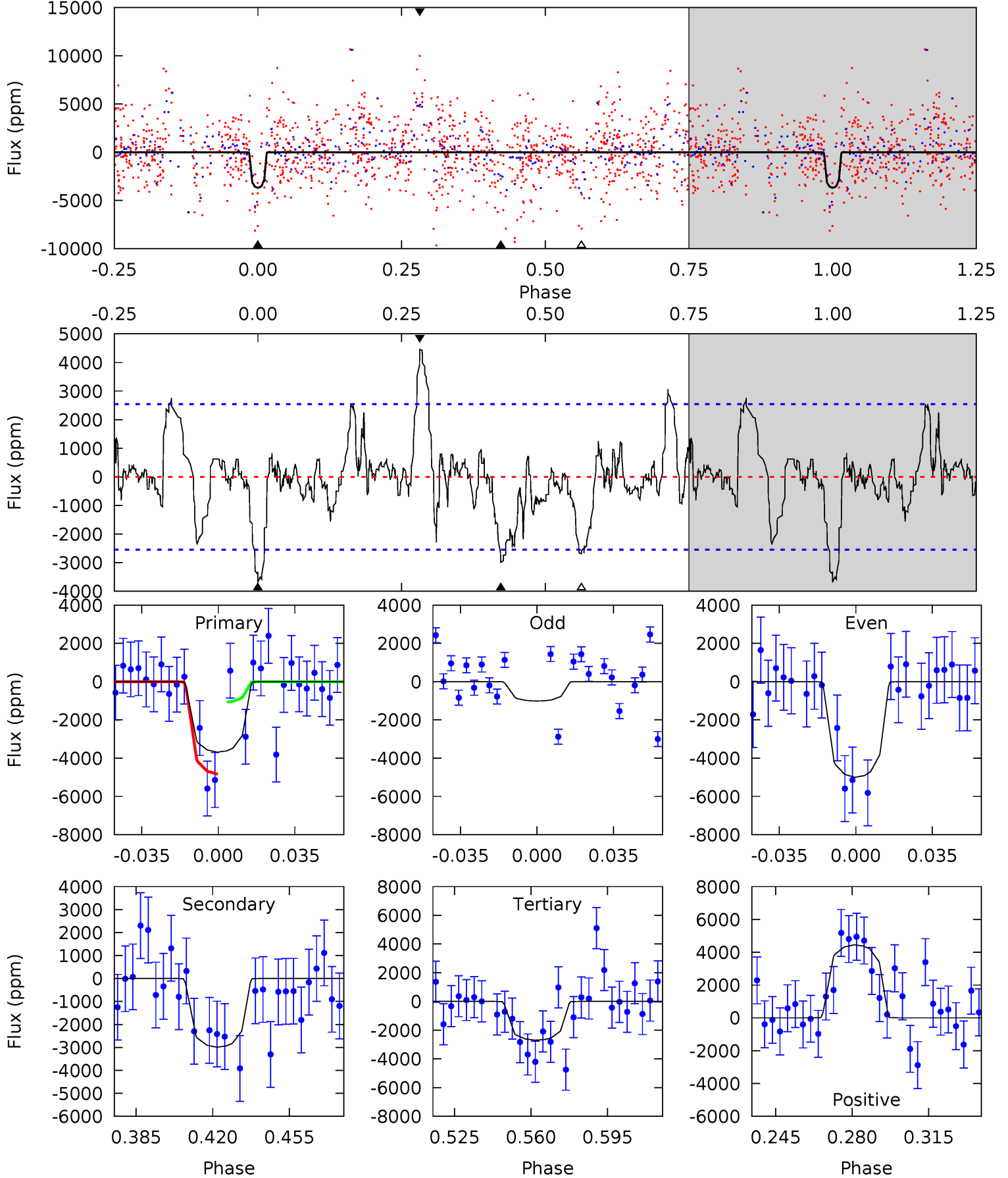
TCE 010753210-05 $P = 4.781091$ Days $T_0 = 134.374638$ (BKJD)



DV Model-Shift Uniqueness Test

010753210-05, P = 4.781119 Days, E = 129.499405 Days

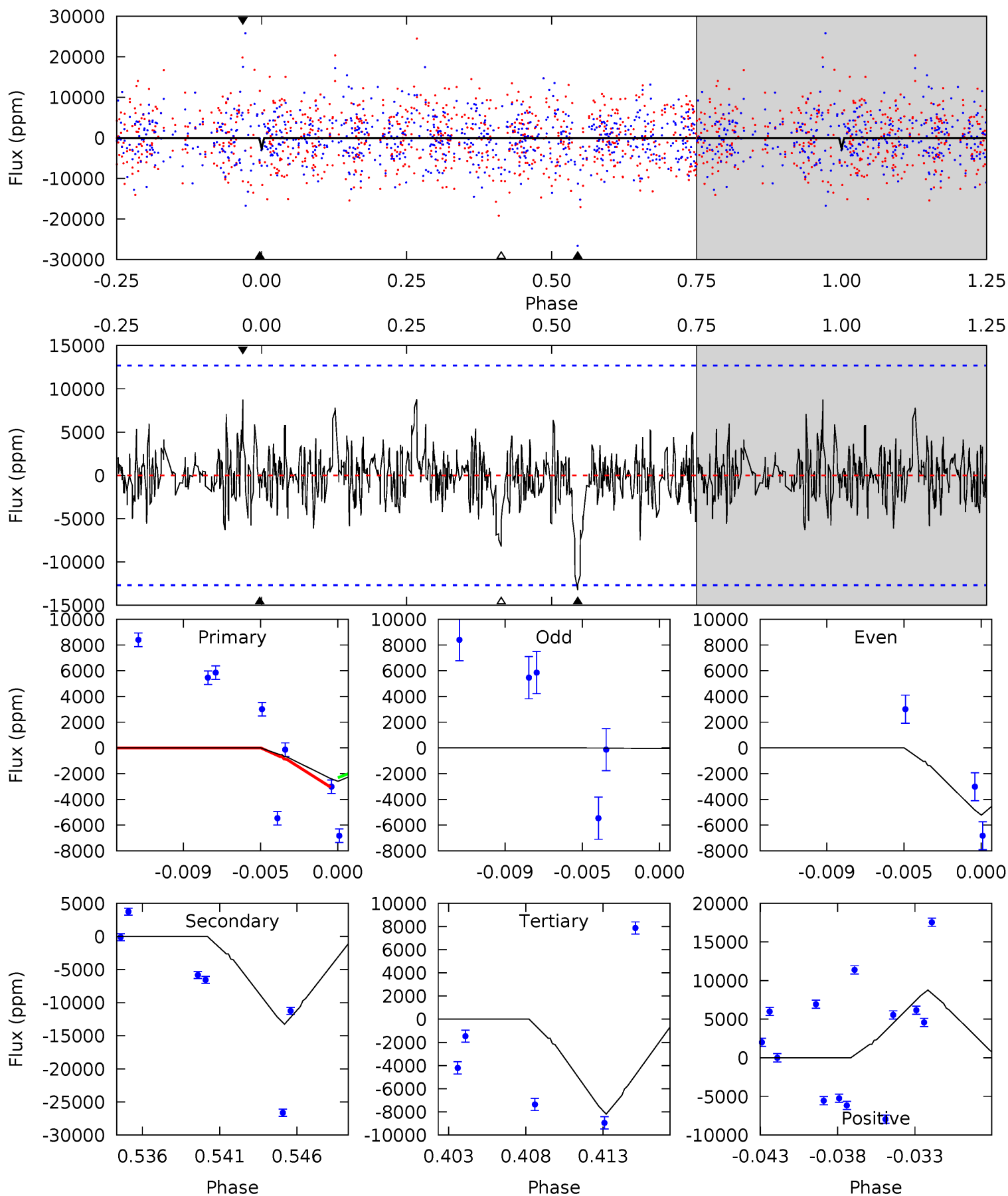
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.92	5.62	5.06	8.36	4.78	2.11	1.81	1.86	-1.44	0.55	-2.75	3.66	0.95	0.55	3.46



Alt Model-Shift Uniqueness Test

010753210-05, P = 4.781091 Days, E = 129.593547 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.06	5.40	3.34	3.57	5.17	2.82	1.00	-2.28	-2.51	2.06	1.82	1.02	1.00	0.40	0.15



Stellar Parameters For KIC 010753210

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6391^{+162}_{-194}	$3.885^{+0.420}_{-0.140}$	$-0.240^{+0.300}_{-0.300}$	$2.120^{+0.499}_{-0.927}$	$1.258^{+0.193}_{-0.257}$	$0.186^{+0.696}_{-0.075}$
	+3%/-3%	+11%/-4%	+125%/-125%	+24%/-44%	+15%/-20%	+374%/-41%
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 010753210-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2990 ± 532	$13.89^{+10.72}_{-8.31}$	2293^{+171}_{-281}	5828^{+4067}_{-1243}	31^{+149}_{-21}
Alt.	-13250 ± 2455	$17.60^{+10.67}_{-9.47}$	2282^{+175}_{-260}	7631^{+5209}_{-1638}	86^{+302}_{-53}

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

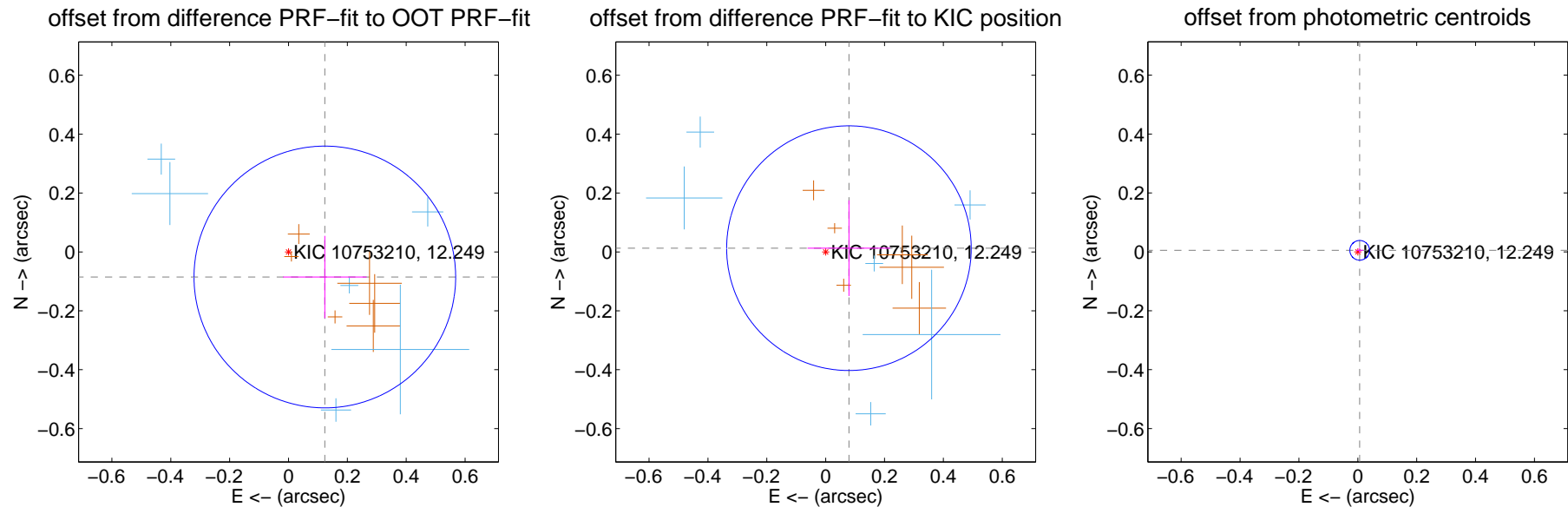
DV Centroid Data

Supplemental centroid analysis for 010753210-05. Kepler magnitude: 12.25. Transit SNR 16.36

There are 6 quarters with good PRF difference image offsets

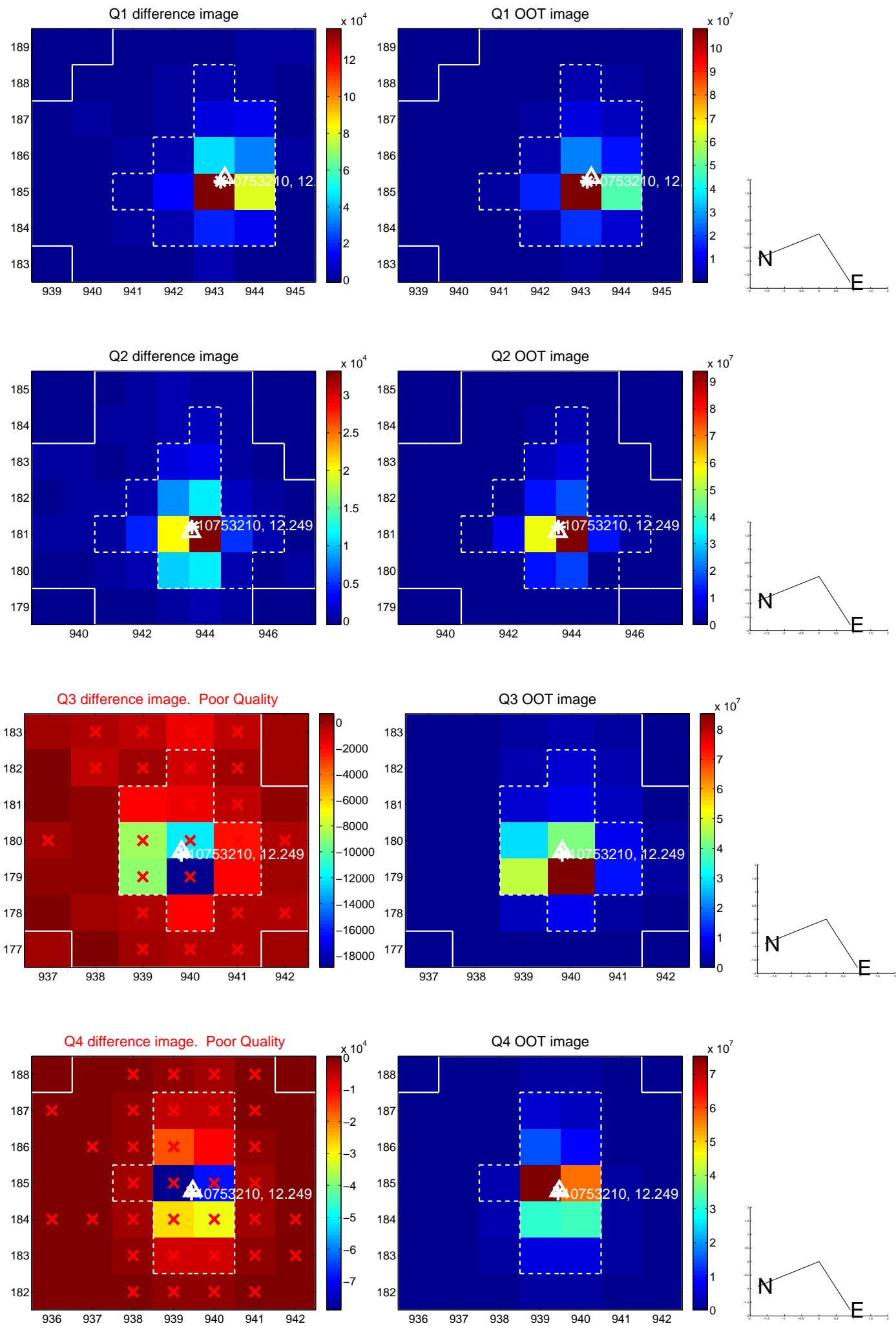
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.150 ± 0.148	1.01	-0.123 ± 0.142	-0.085 ± 0.140
PRF-fit source offset from KIC position	0.080 ± 0.138	0.58	-0.079 ± 0.141	0.013 ± 0.162
photometric centroid source offset	0.01 ± 0.01	0.73	-0.01 ± 0.01	0.01 ± 0.01

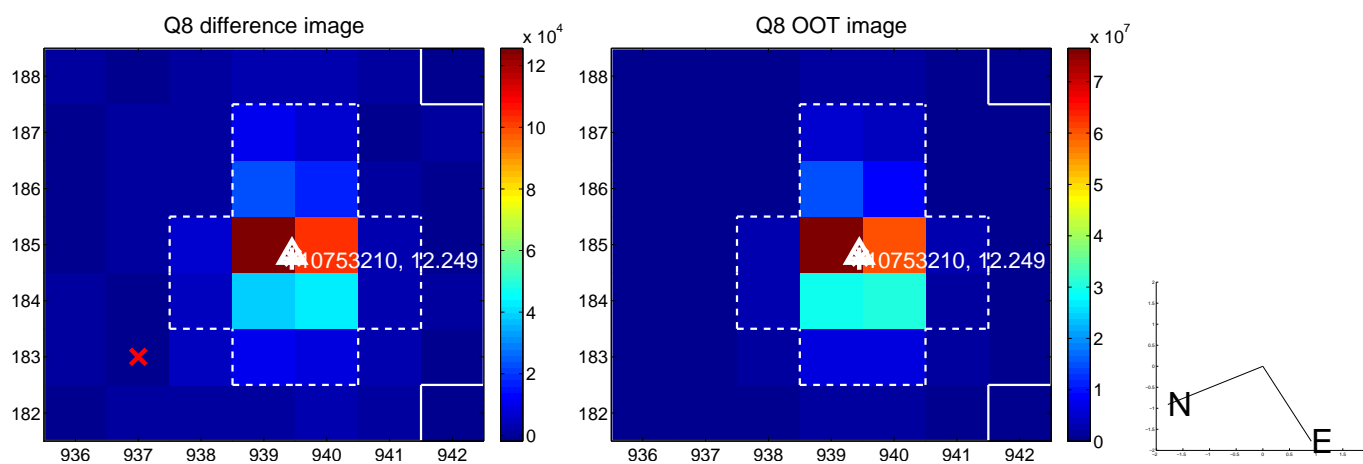
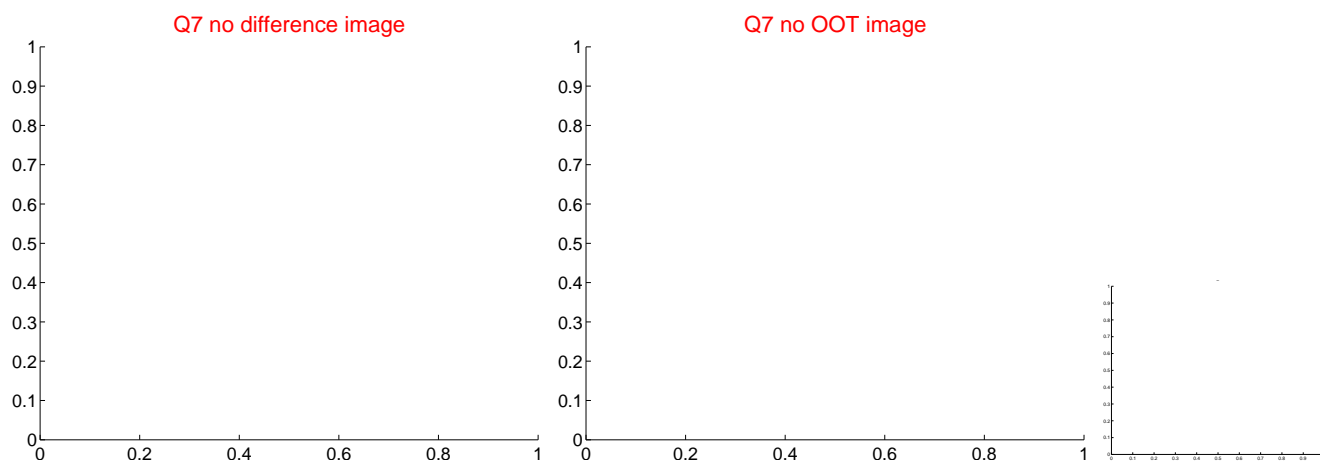
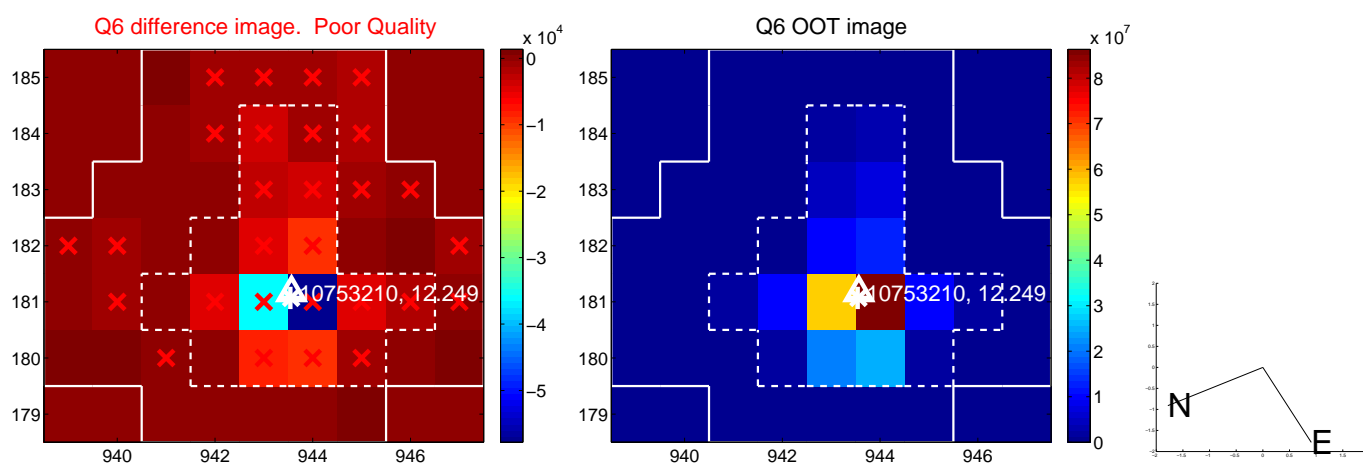
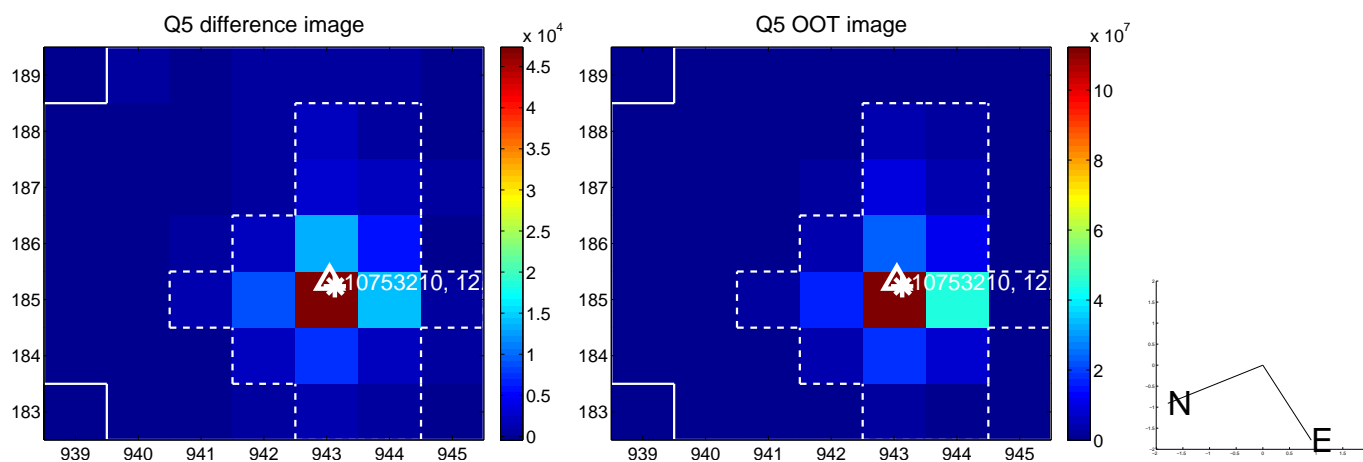


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

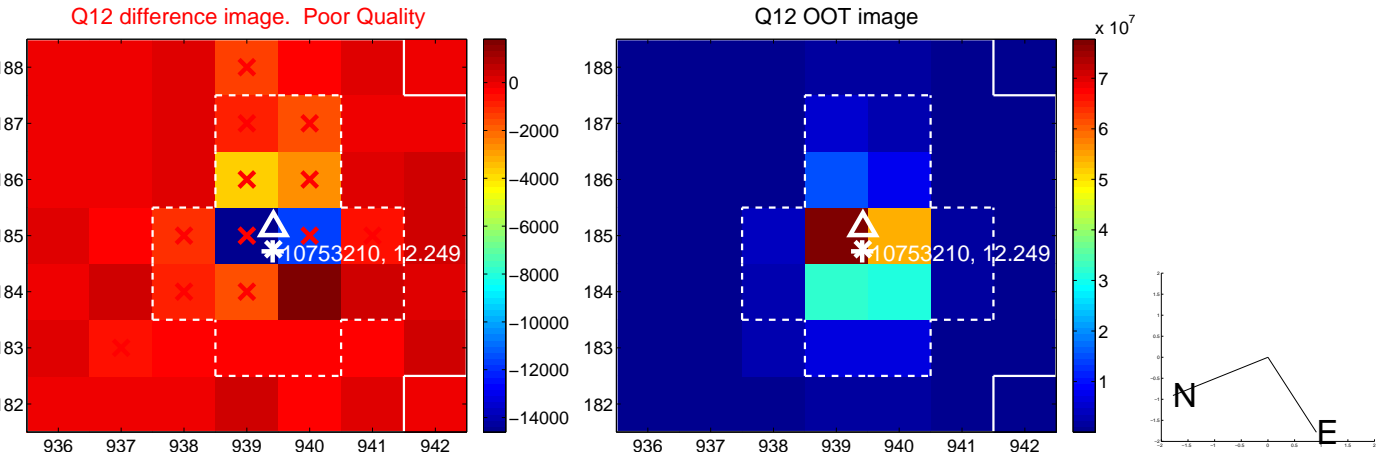
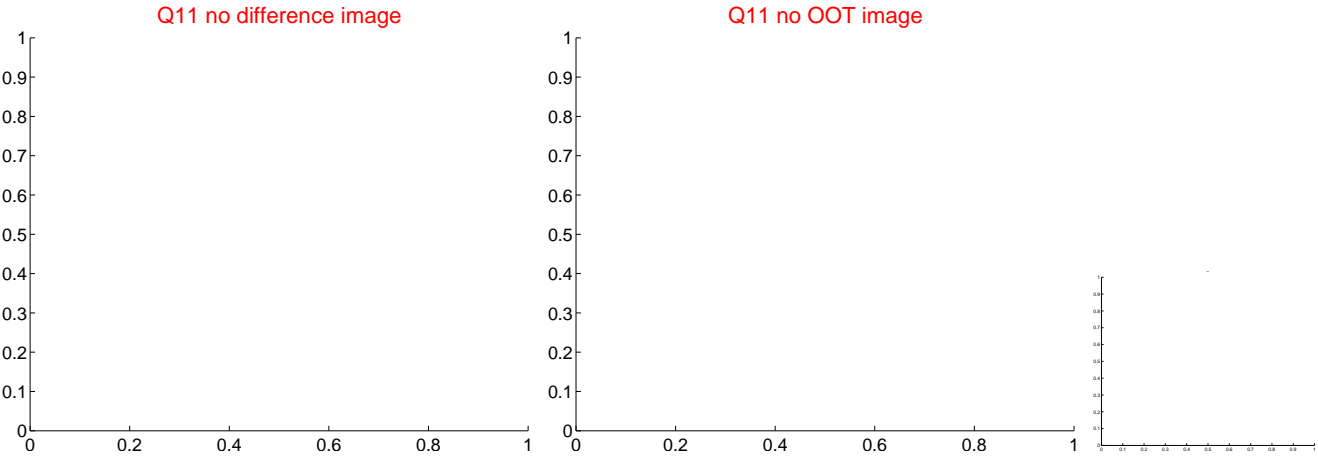
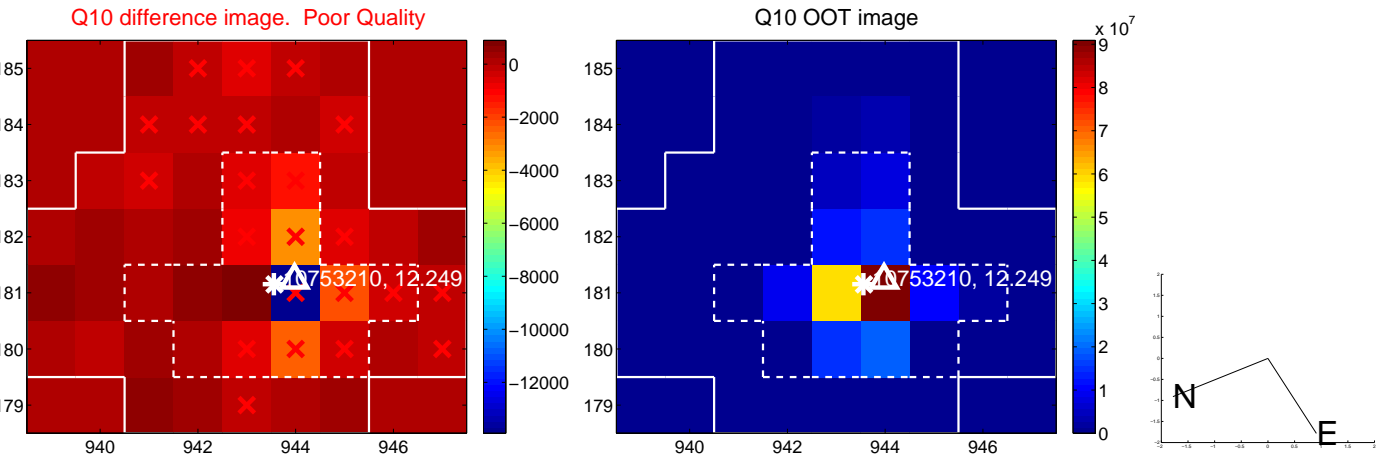
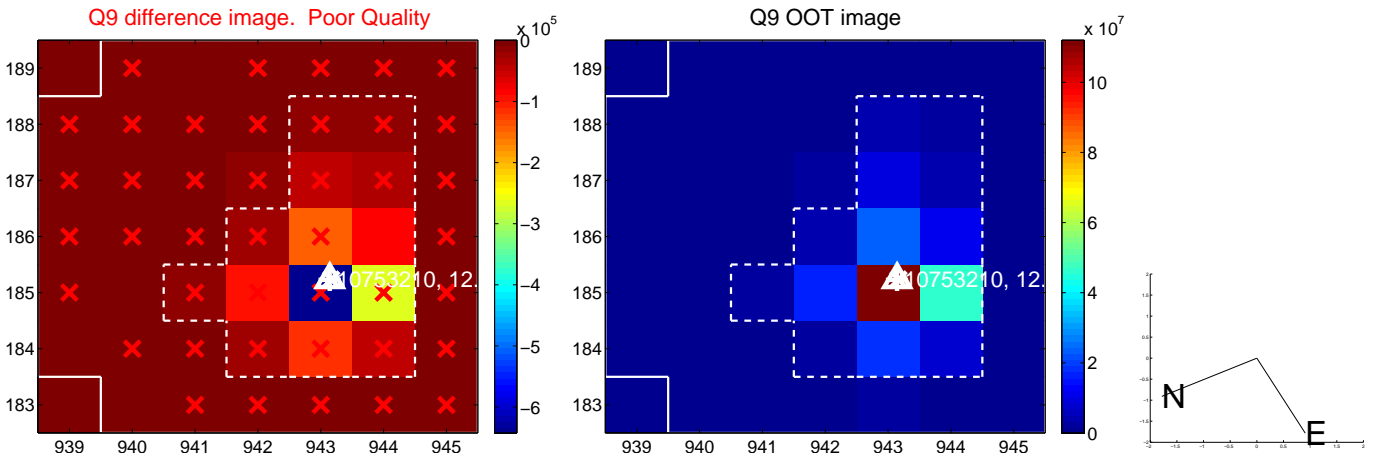
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



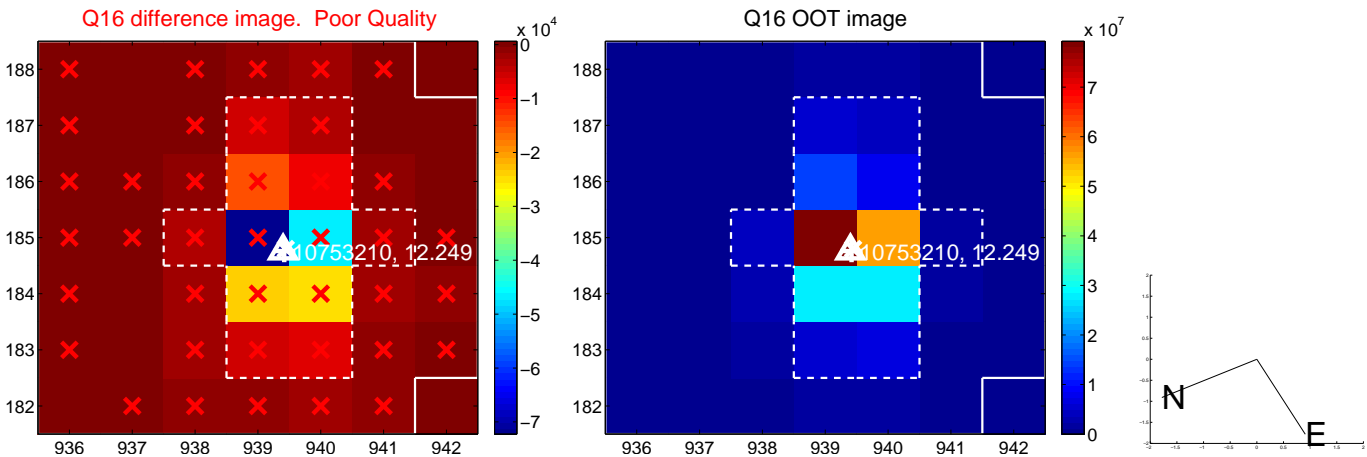
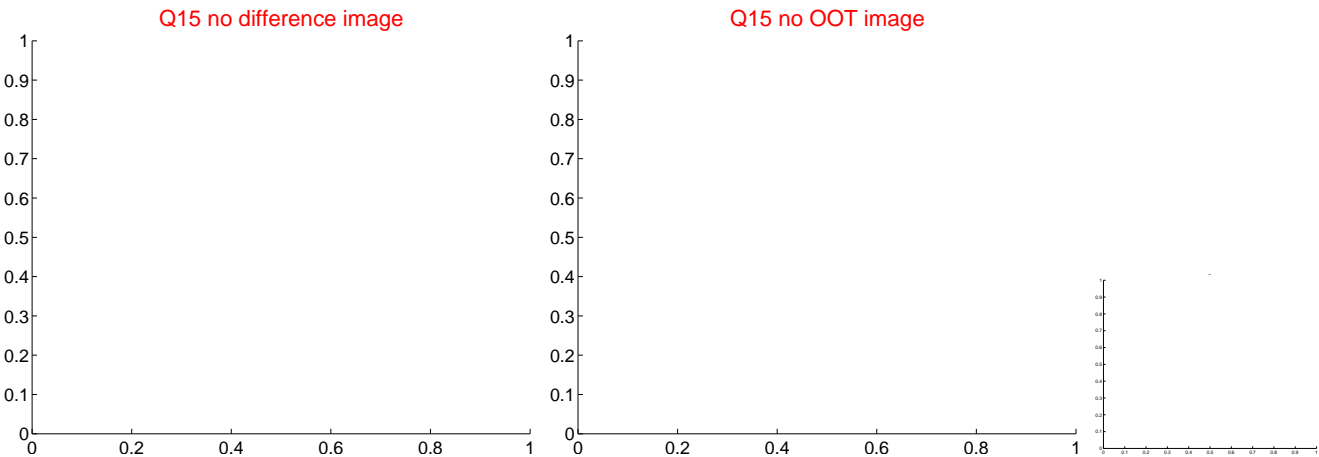
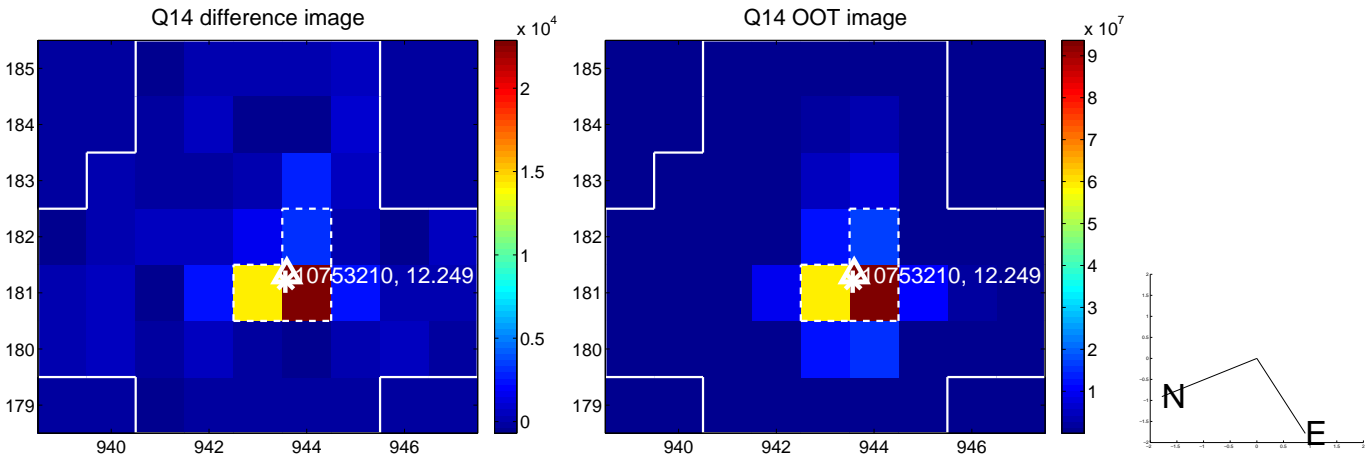
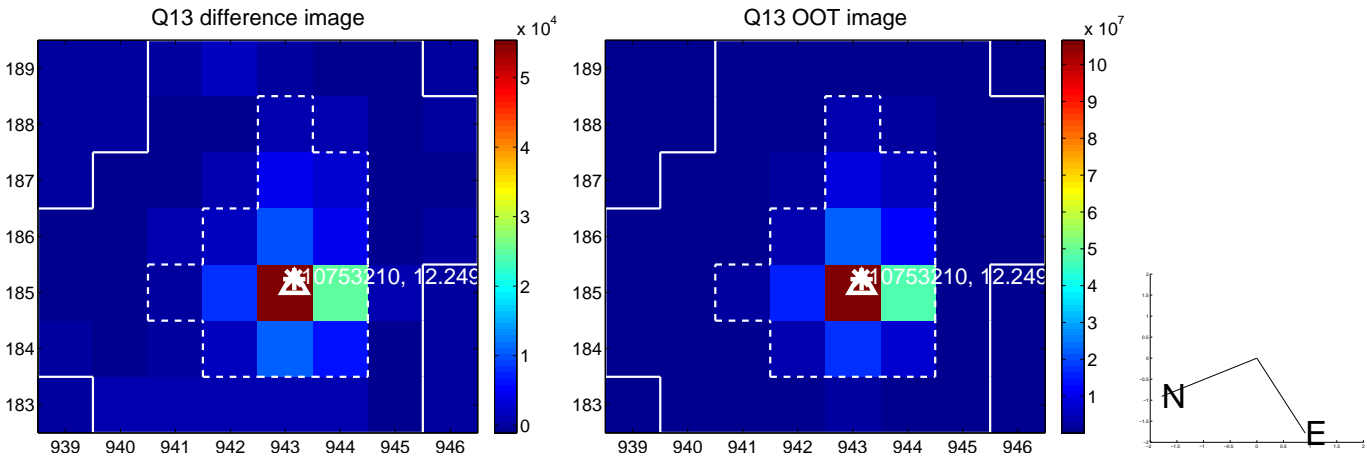
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



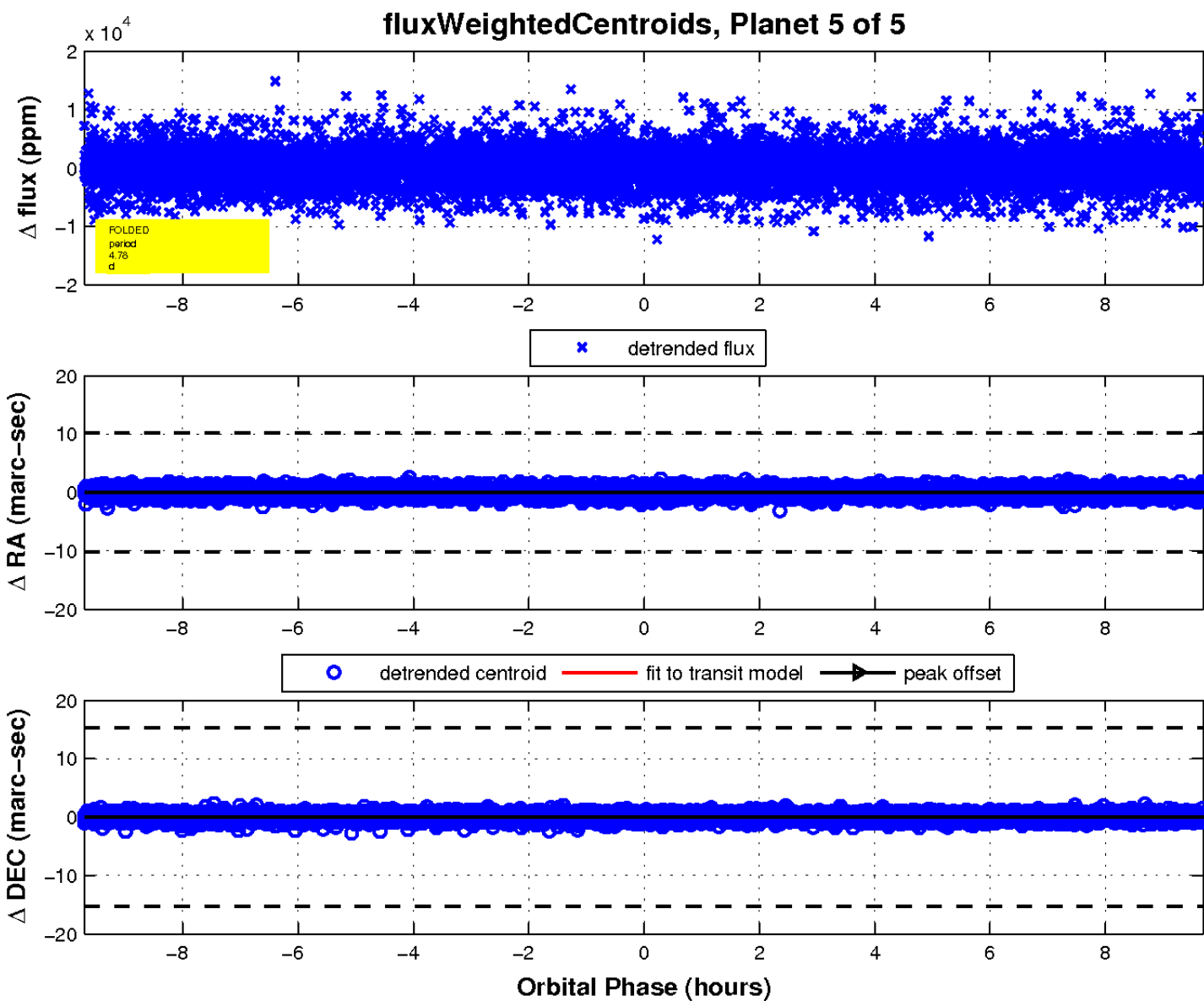
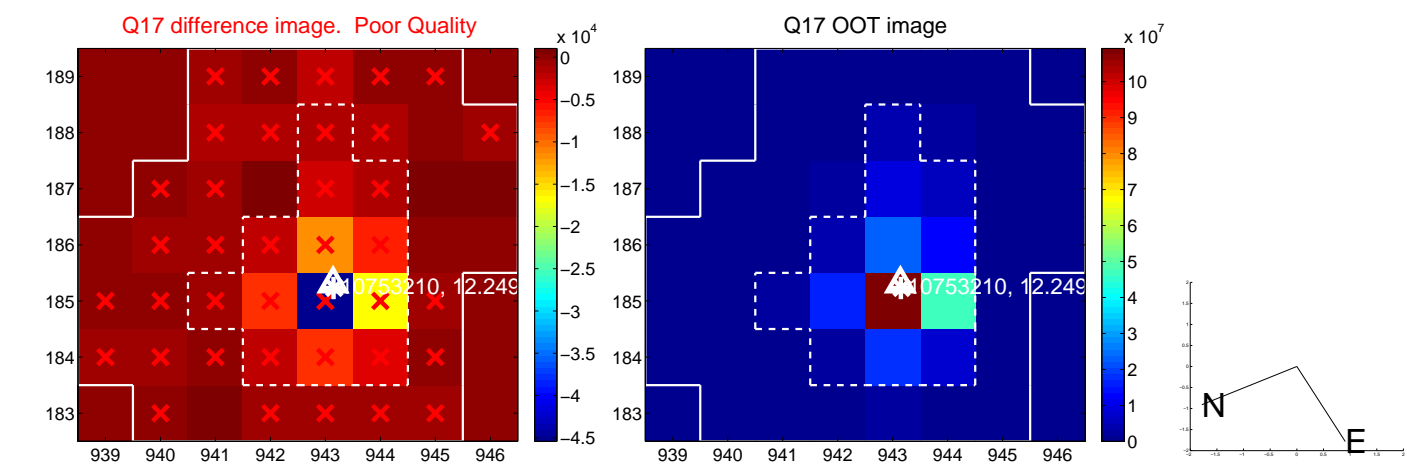
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

