

KIC 006949512

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})
006949512-01	OBS	No	0.781283	131.554216	64.9	3.948	7.2	5.2	0.74	5491	0.62	2089.96
006949512-02	OBS	No	65.819609	191.899646	939.3	5.907	9.8	3.8	0.74	5491	2.40	5.66
006949512-03	OBS	No	226.784545	180.155432	3802.6	18.875	8.9	1.8	0.74	5491	8.45	1.09
006949512-04	OBS	No	95.939891	178.134059	446.6	1.671	8.4	1.4	0.74	5491	1.79	3.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006949512-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006949512-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT
006949512-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006949512-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

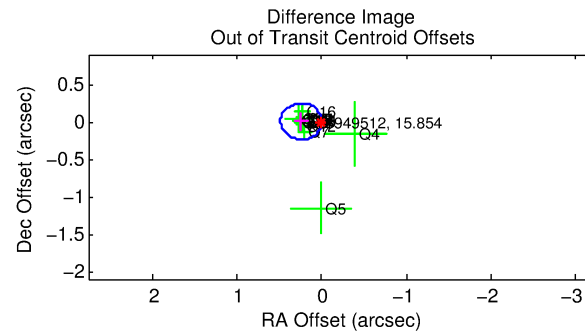
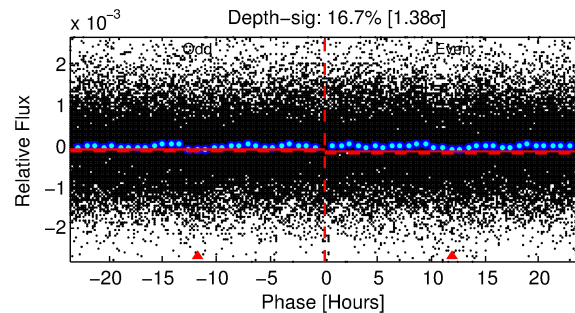
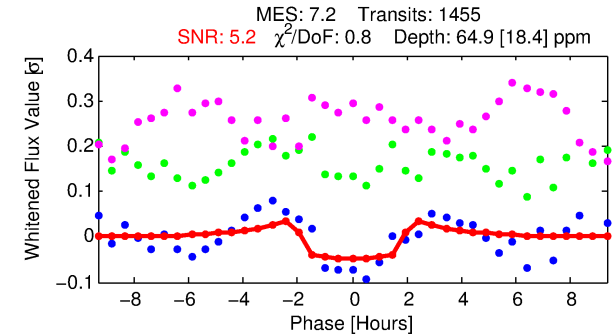
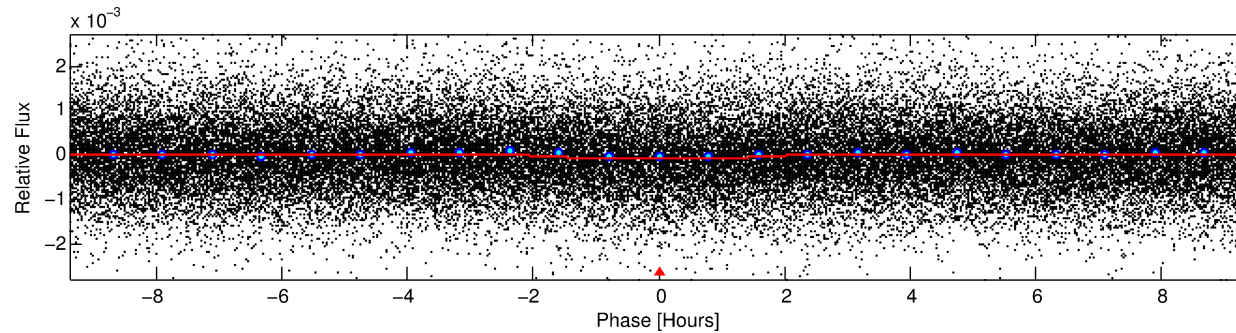
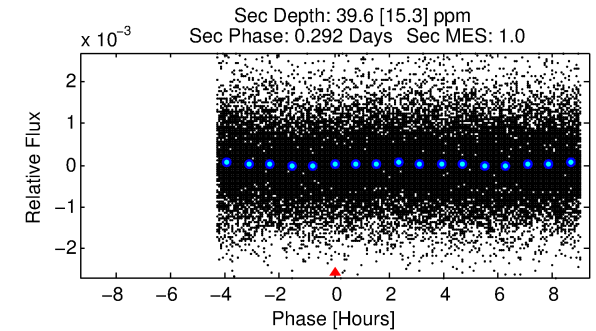
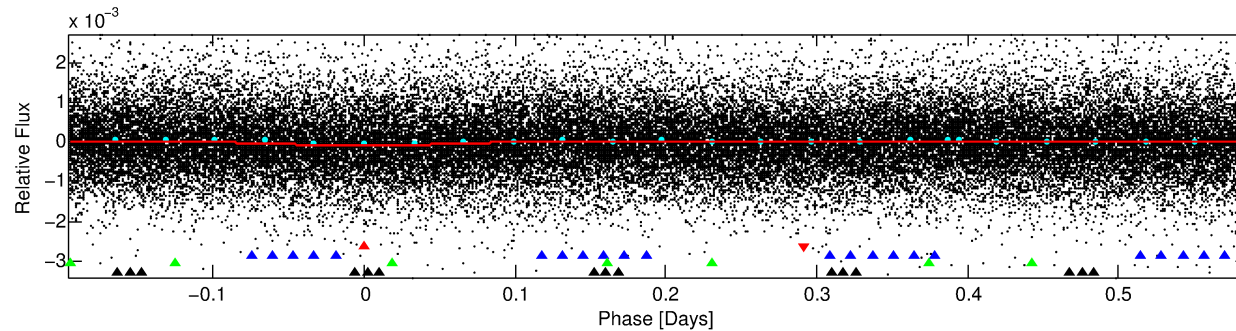
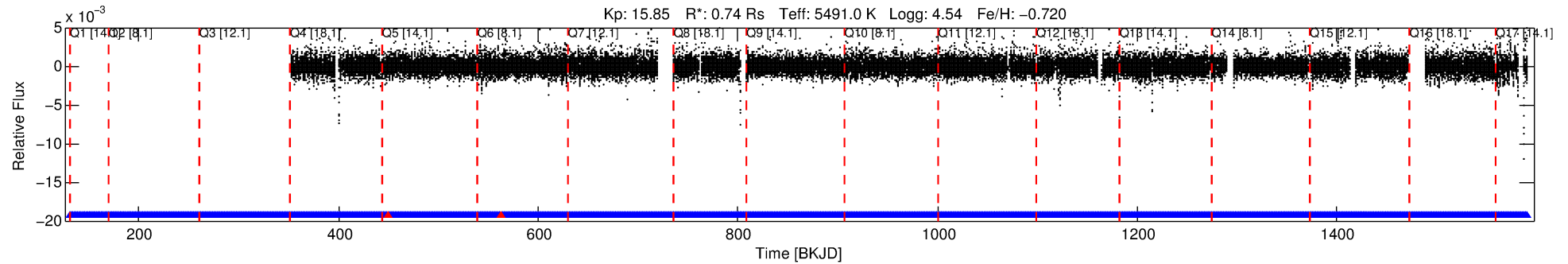
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006949512-01

No Significant Match Found

DV One-Page Summary

KIC: 6949512 Candidate: 1 of 4 Period: 0.781 d



DV Fit Results:

Period = 0.78128 [0.00002] d
Epoch = 131.5542 [0.0053] BKJD
Rp/R* = 0.0076 [0.0089]
a/R* = 1.49 [4.36]
b = 0.54 [7.17]
Seff = 2089.96 [502.70]
Teq = 1724 [104] K
Rp = 0.62 [0.73] R_e
a = 0.0147 [0.0018] AU
Ag = 12.33 [29.34] [0.39σ]
Teffp = 4995 [2970] K [1.10σ]

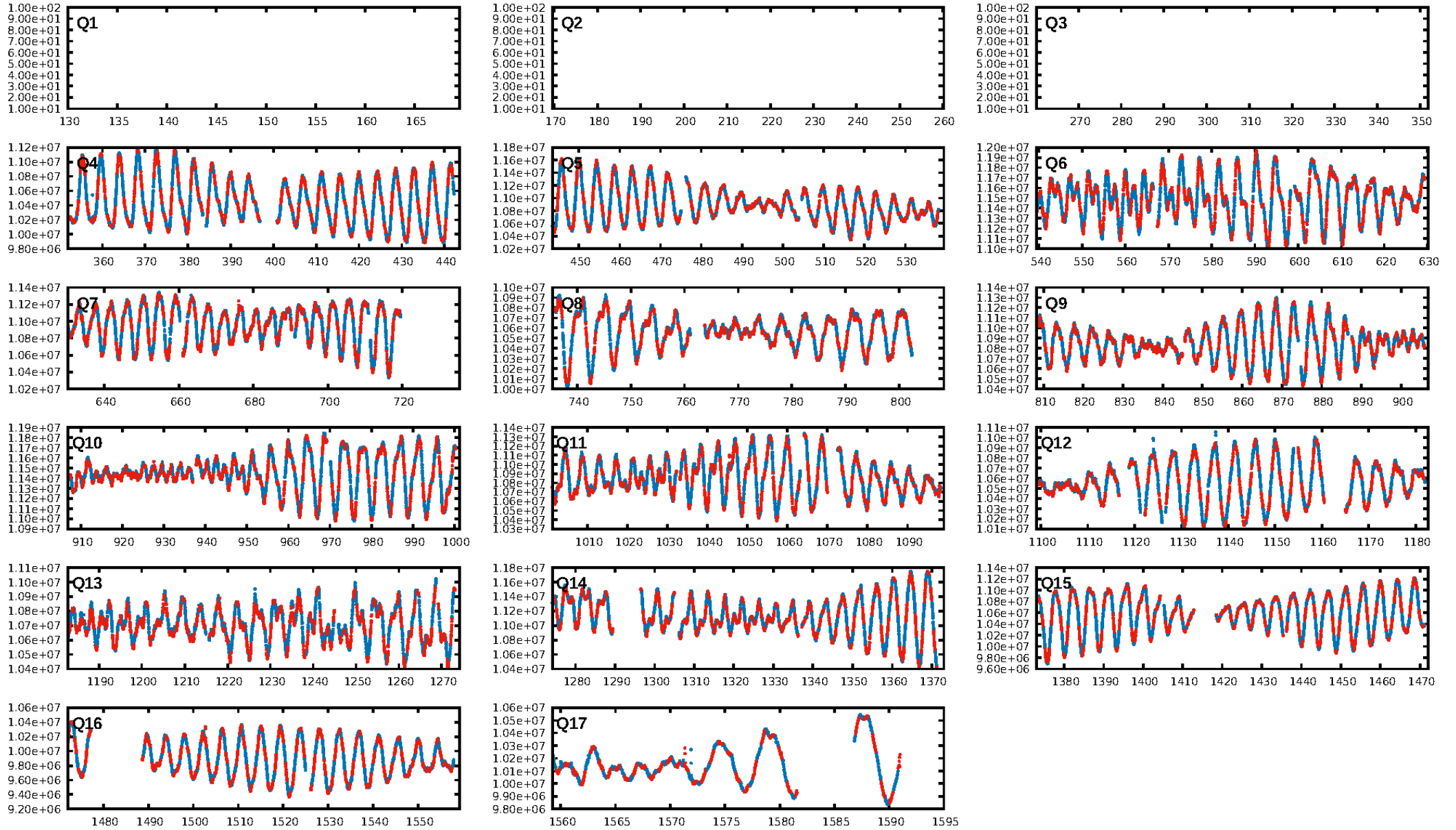
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [219.69σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 6.35e-16
RollingBand-fgt: 1.00 [1418/1420]
GhostDiagnostic-chr: 0.6104
Centroid-sig: 6.1%
Centroid-so: 2.486 arcsec [1.63σ]
OotOffset-rm: 0.239 arcsec [2.95σ]
KicOffset-rm: 0.087 arcsec [0.95σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [14/14]

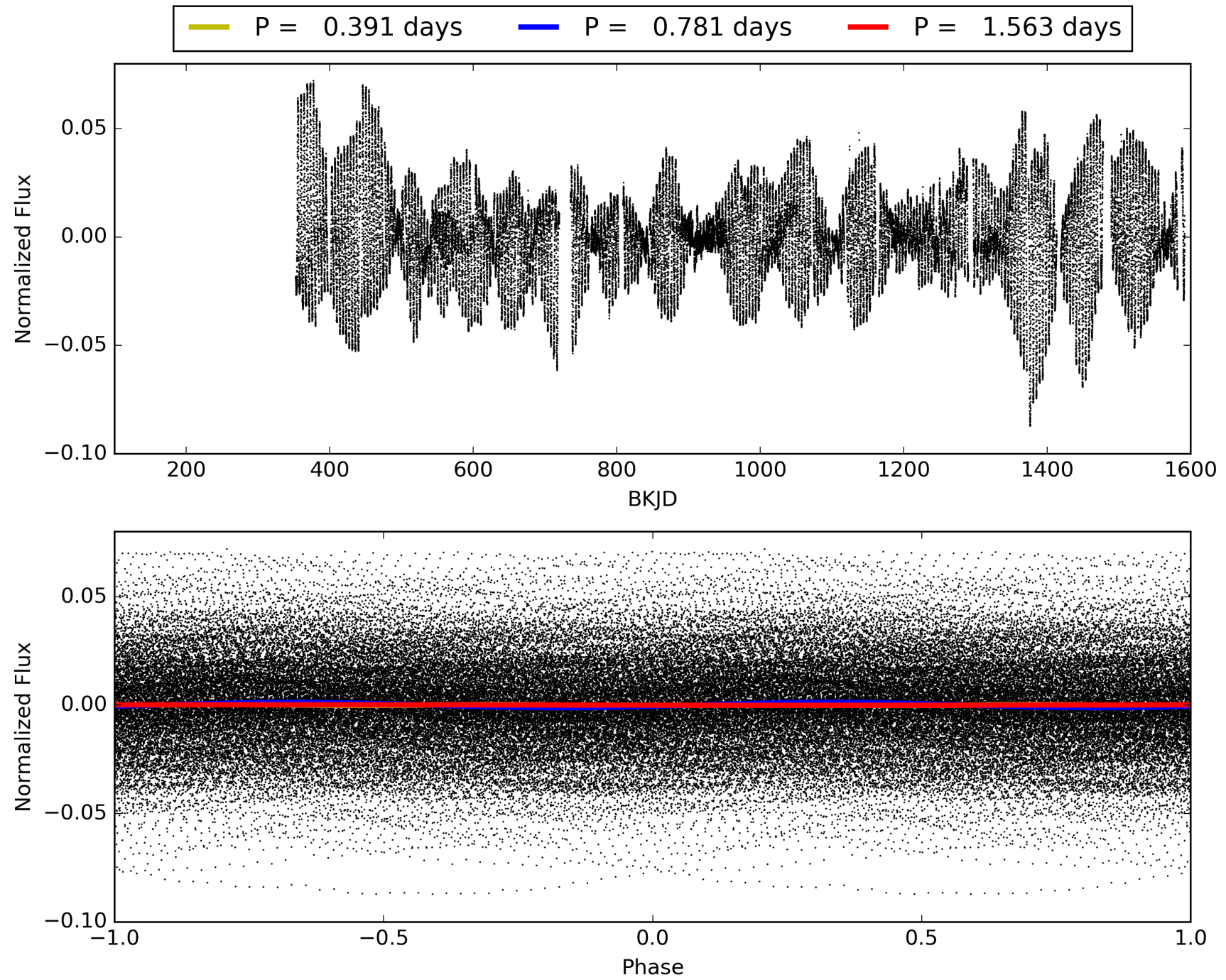
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:37:51 Z

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

TCE 006949512-01, PDC Light Curves

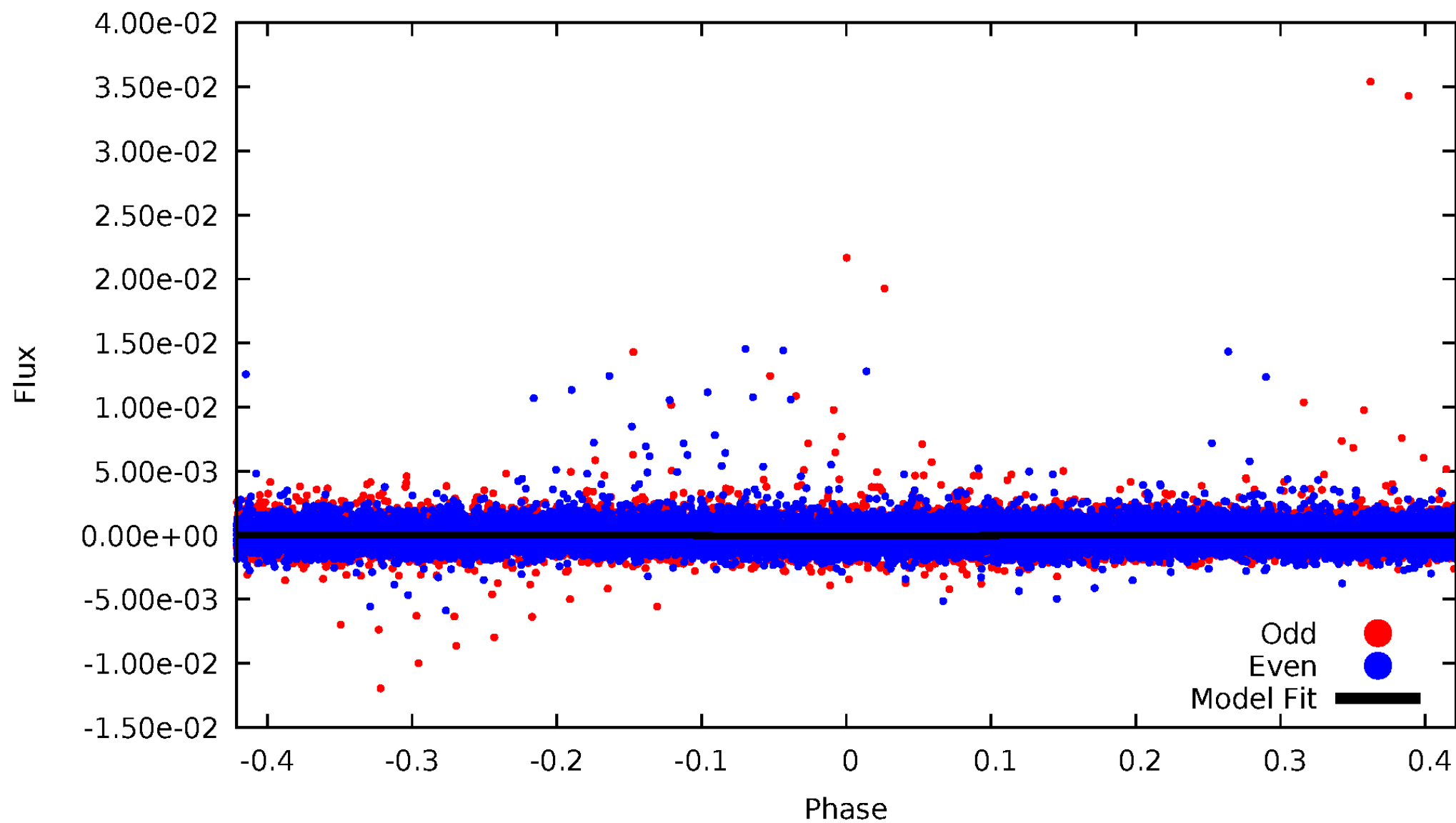


TCE 006949512-01



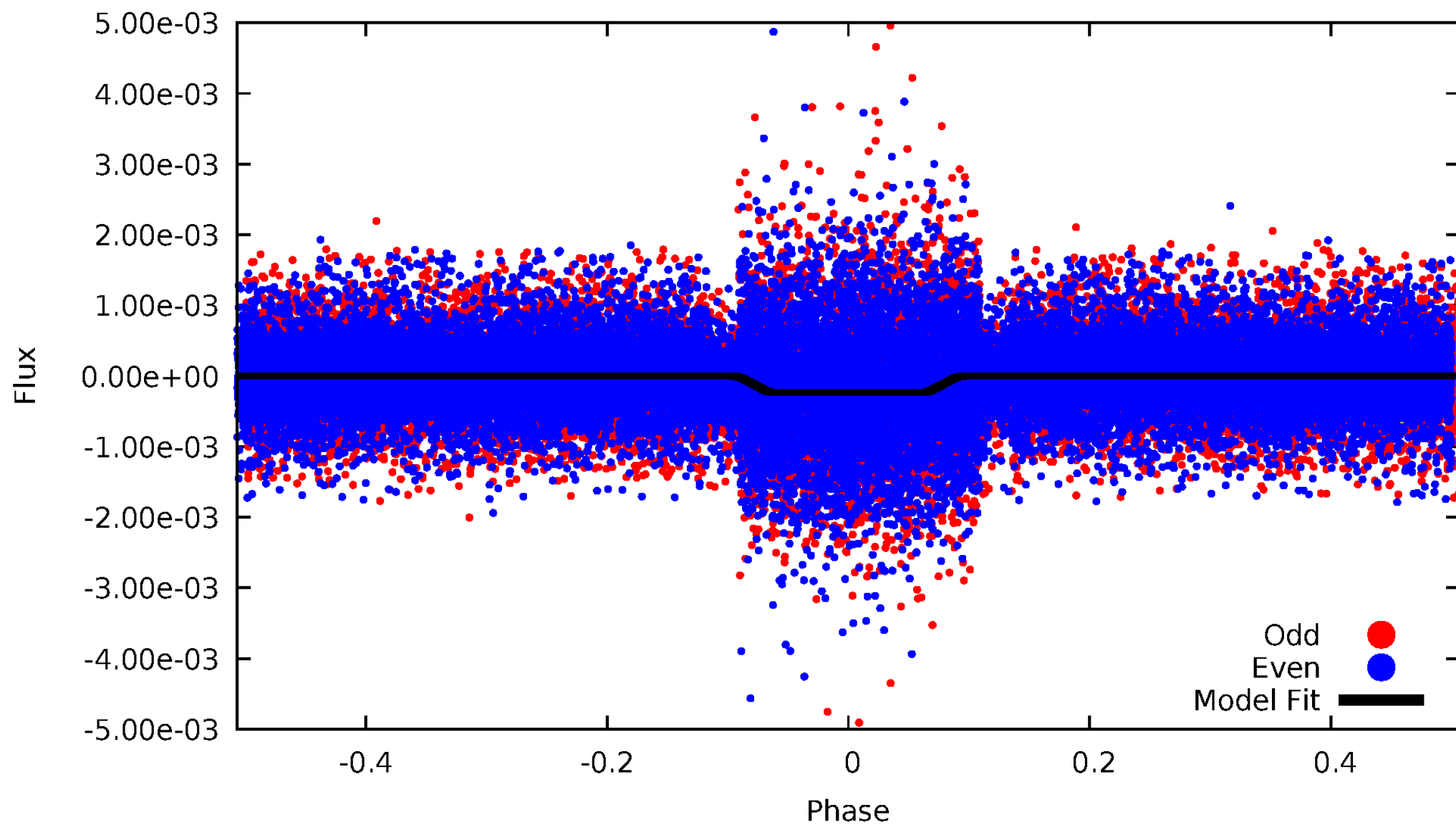
DV Odd/Even

TCE 006949512-01

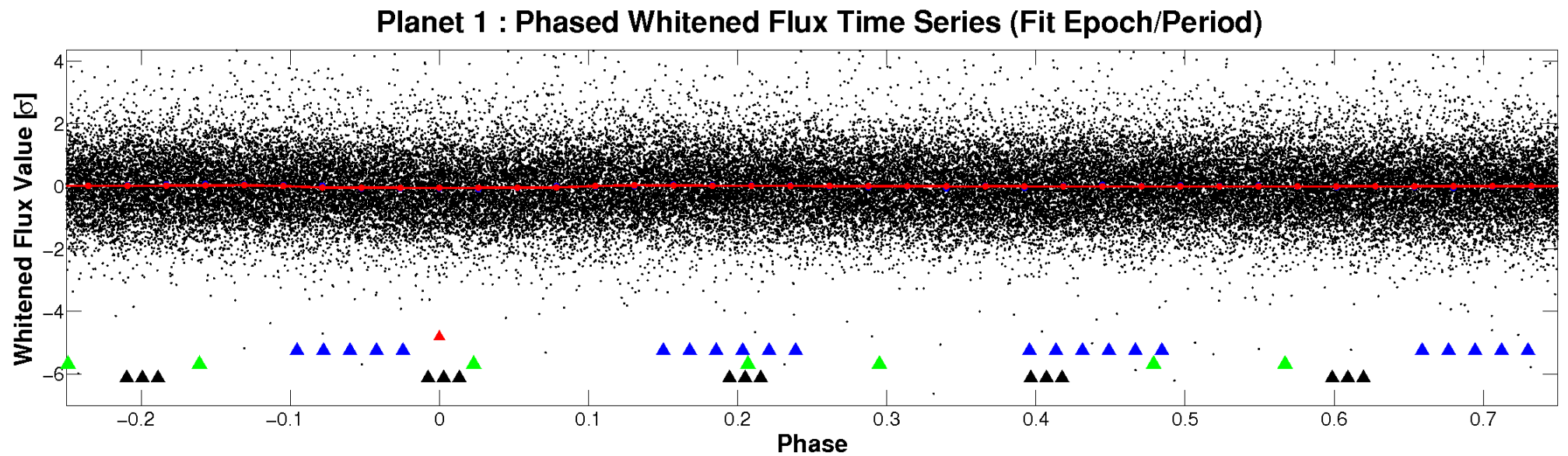
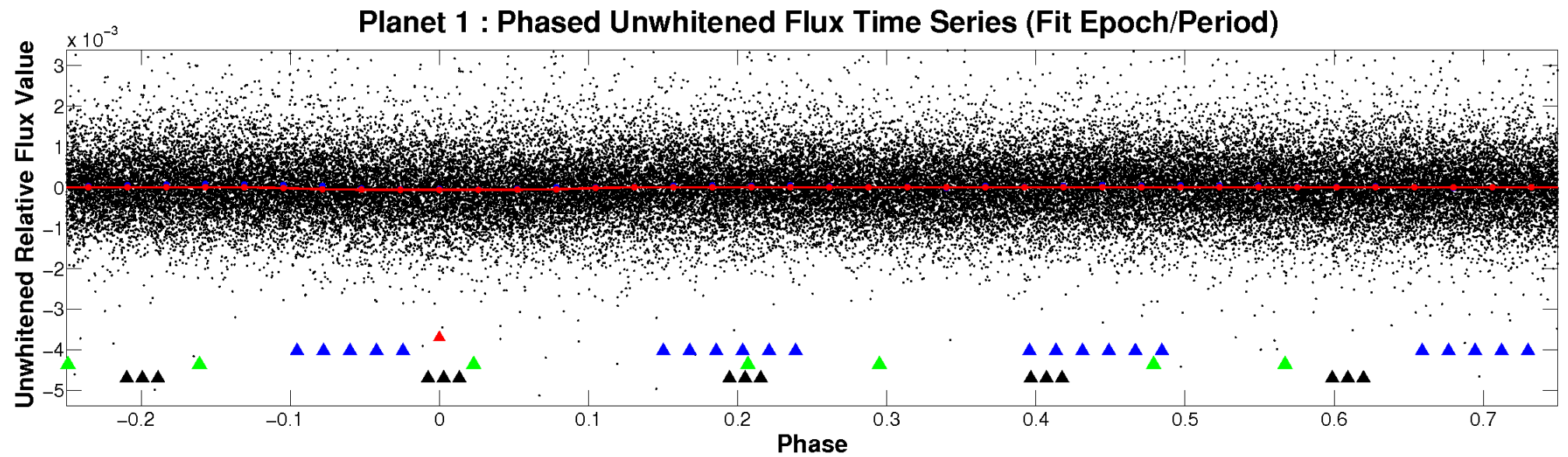


ALT Odd/Even

TCE 006949512-01

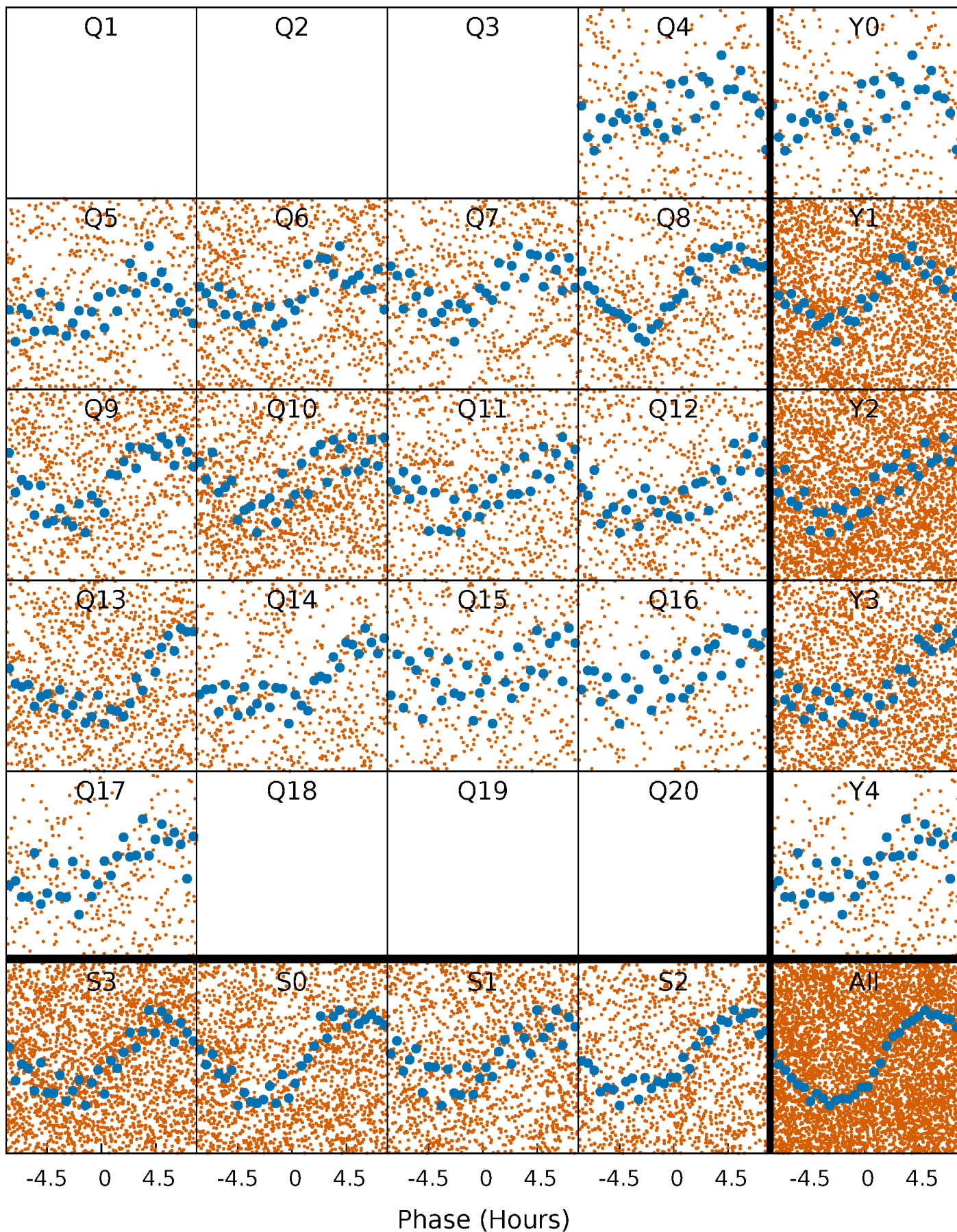


Non-Whitened Vs. Whitened Light Curve



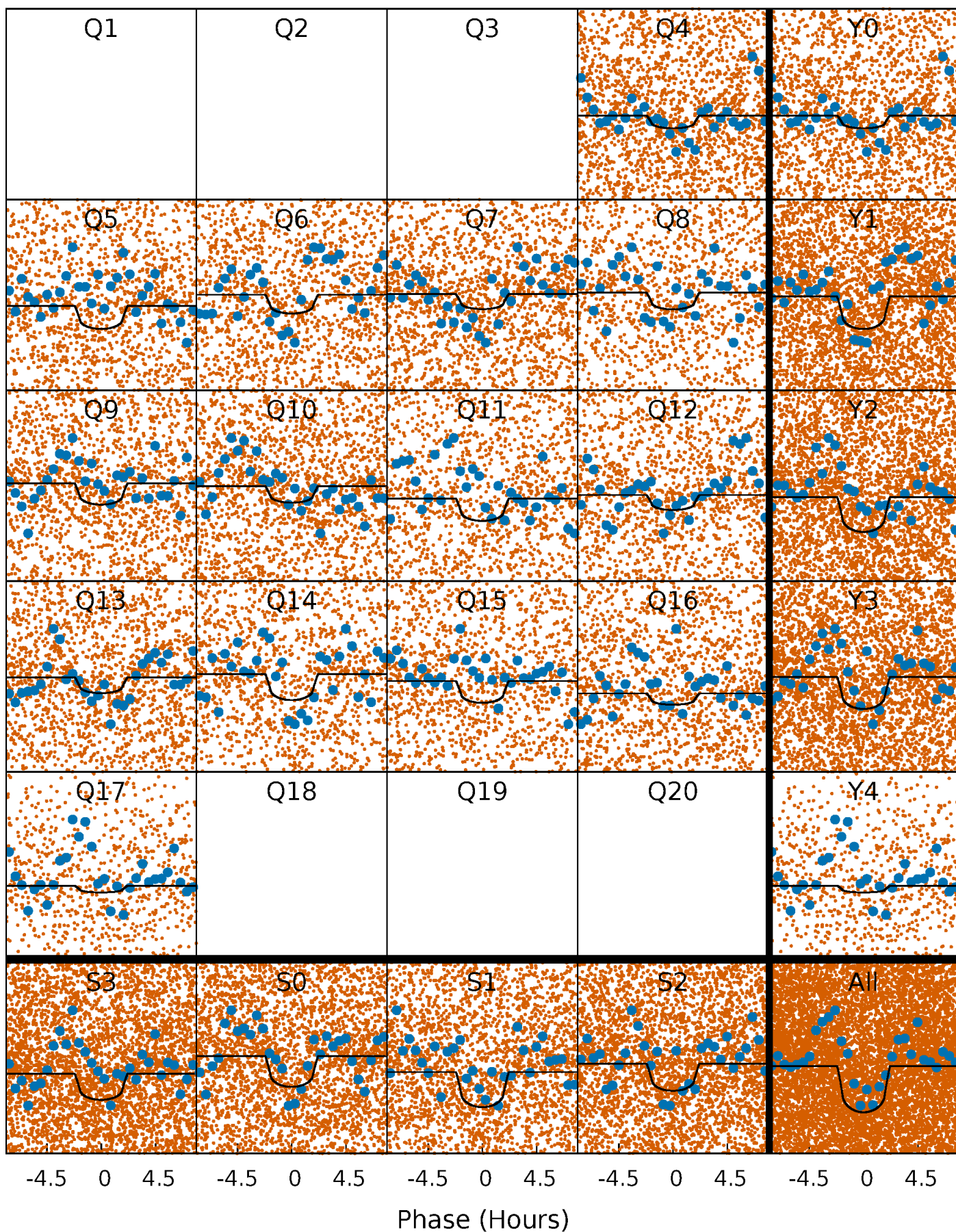
PDC Quarter-Phased Transit Curves

TCE 006949512-01 P= 0.781283 Days $T_0=131.554216$ (BKJD)



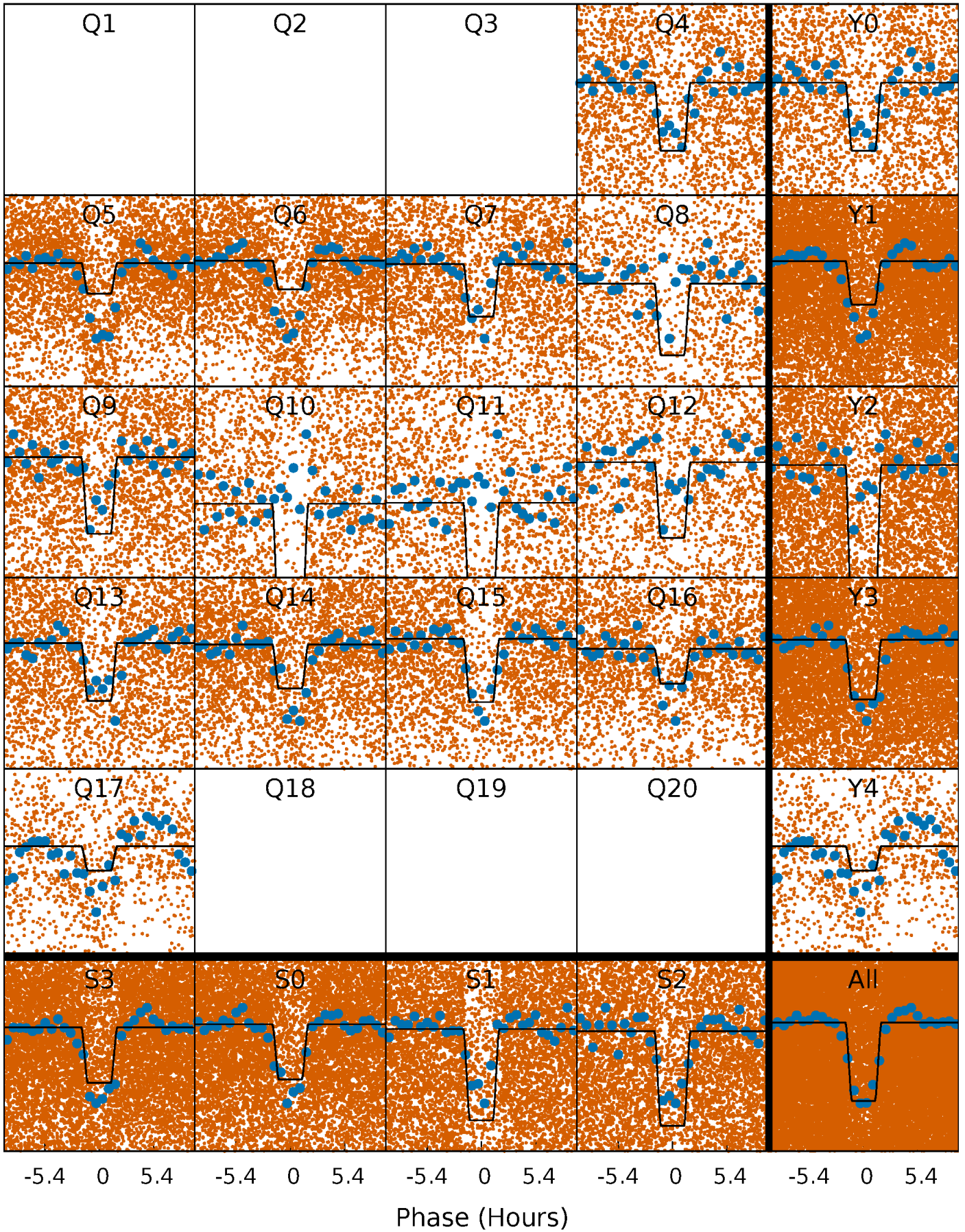
DV Quarter-Phased Transit Curves

TCE 006949512-01 P= 0.781283 Days $T_0=131.554216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

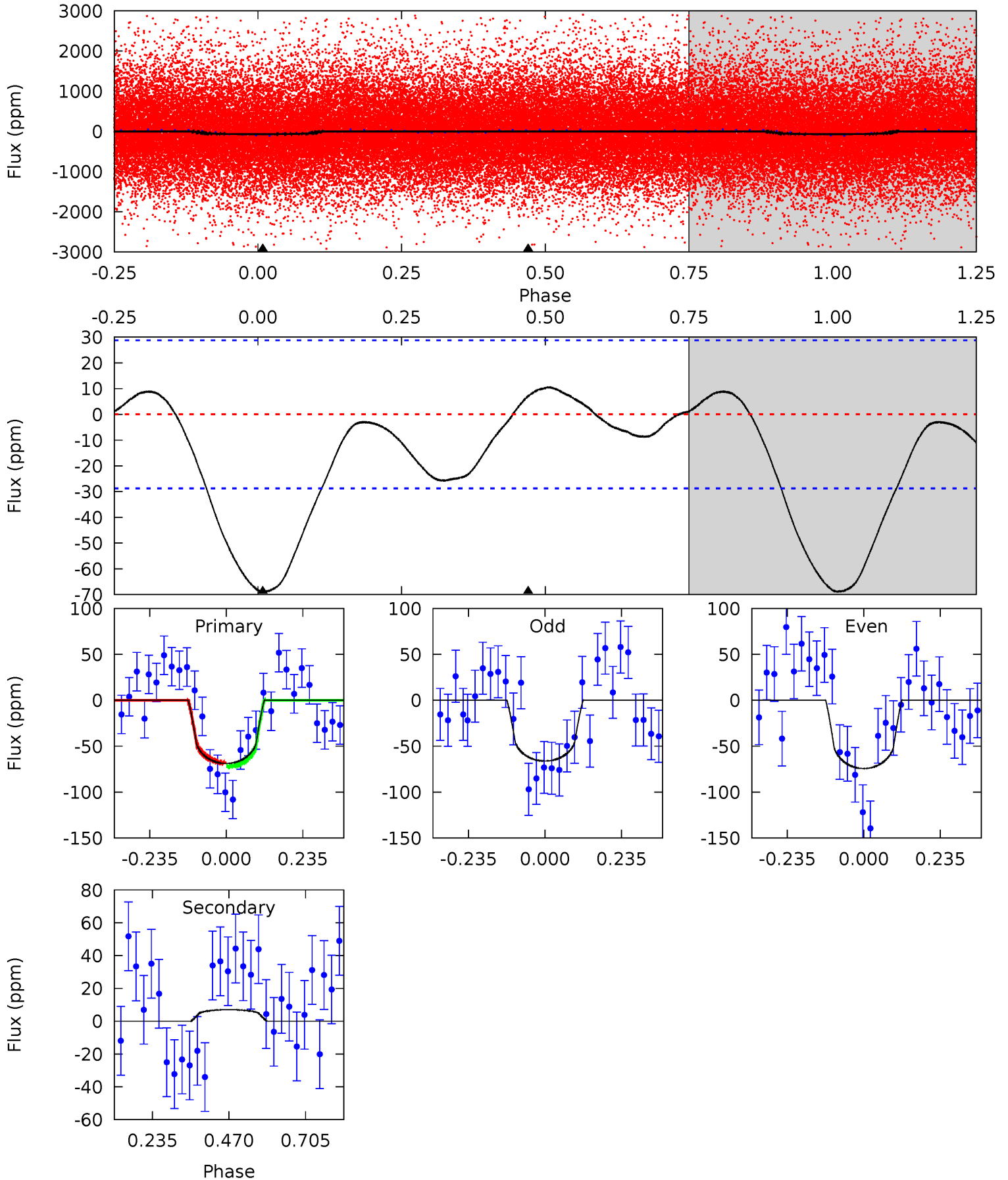
TCE 006949512-01 P= 0.781306 Days $T_0=131.525836$ (BKJD)



DV Model-Shift Uniqueness Test

006949512-01, P = 0.781283 Days, E = 131.554216 Days

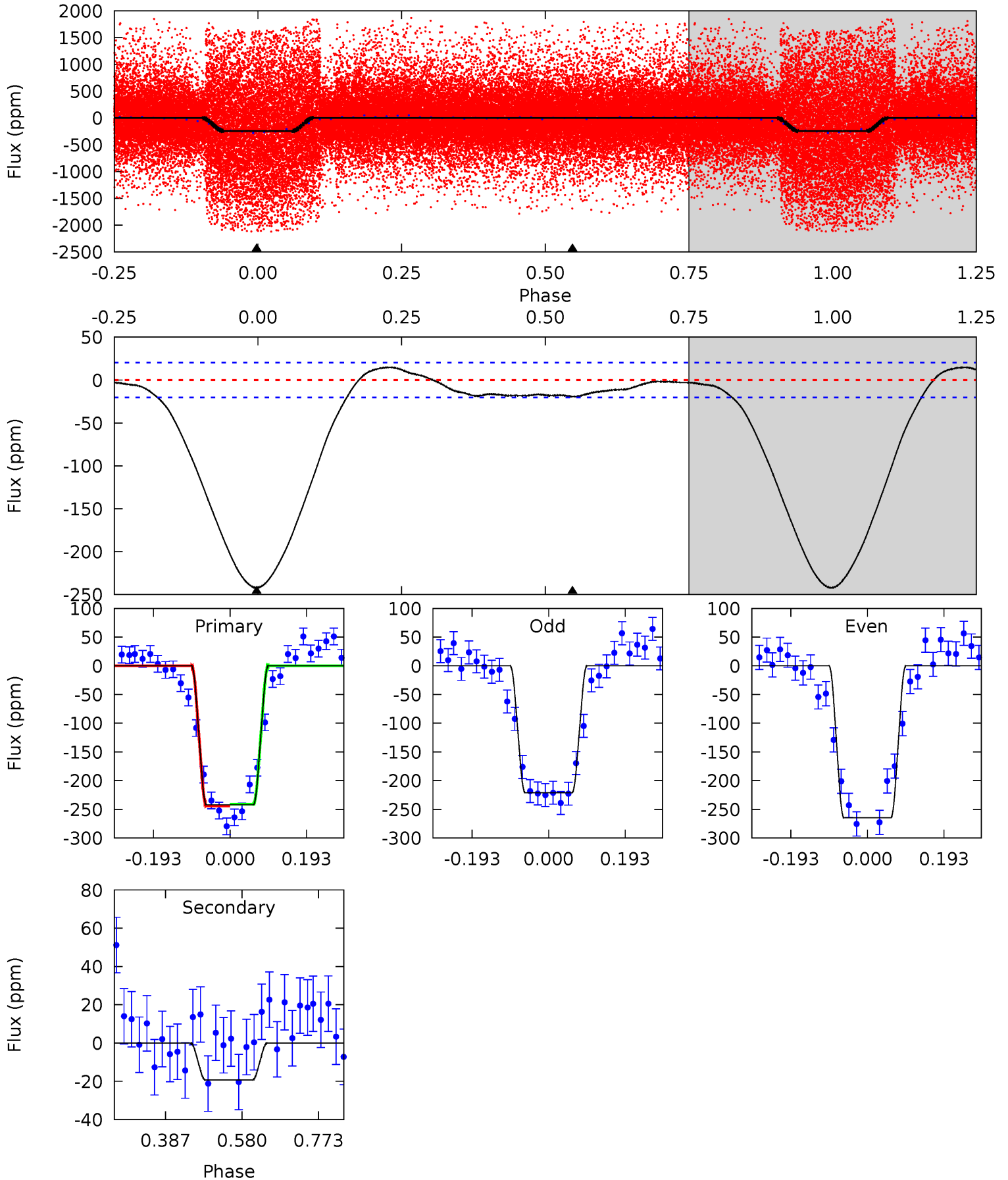
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	-1.07	0	0	4.38	1.19	0.67	10.5	10.5	-1.07	-1.07	0.63	0.25	0.13	0.30



Alt Model-Shift Uniqueness Test

006949512-01, P = 0.781306 Days, E = 131.525836 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.6	4.20	0	0	4.42	1.30	1.95	52.6	52.6	4.20	4.20	4.74	1.03	0.06	0.36



Stellar Parameters For KIC 006949512

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5491^{+212}_{-192}	$4.535^{+0.104}_{-0.085}$	$-0.720^{+0.300}_{-0.300}$	$0.744^{+0.103}_{-0.083}$	$0.691^{+0.093}_{-0.035}$	$2.364^{+0.976}_{-0.632}$
	+4%/-3%	+2%/-2%	+42%/-42%	+14%/-11%	+13%/-5%	+41%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006949512-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	7 ± 7	$0.79^{+0.65}_{-0.49}$	2403^{+128}_{-111}	-3390^{+597}_{-1419}	$-1.067^{+0.992}_{-7.904}$
Alt.	-19 ± 5	$1.30^{+0.73}_{-0.69}$	2412^{+115}_{-118}	3258^{+1078}_{-602}	$1.365^{+4.724}_{-0.830}$

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

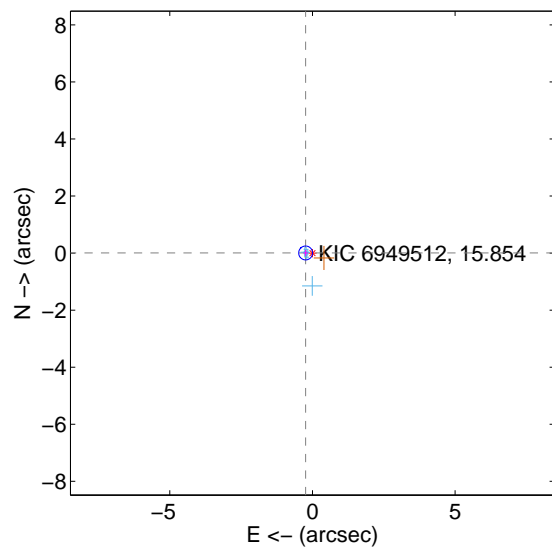
Supplemental centroid analysis for 006949512-01. Kepler magnitude: 15.85. Transit SNR 5.19

There are 13 quarters with good PRF difference image offsets

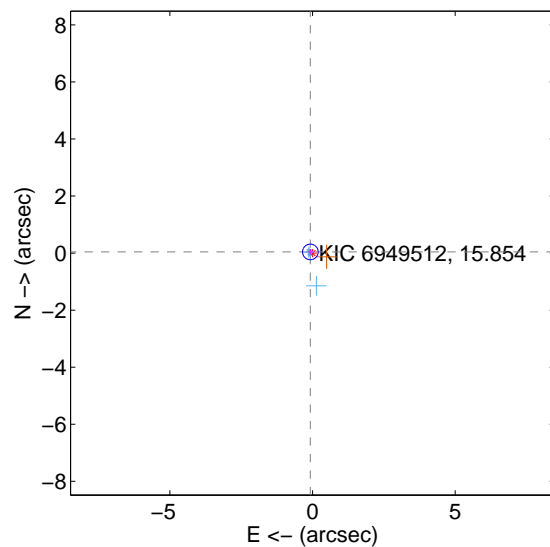
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.239 ± 0.081	2.95	0.239 ± 0.081	0.004 ± 0.110
PRF-fit source offset from KIC position	0.087 ± 0.091	0.95	0.076 ± 0.078	0.041 ± 0.103
photometric centroid source offset	2.49 ± 1.53	1.63	2.43 ± 1.53	0.51 ± 1.57

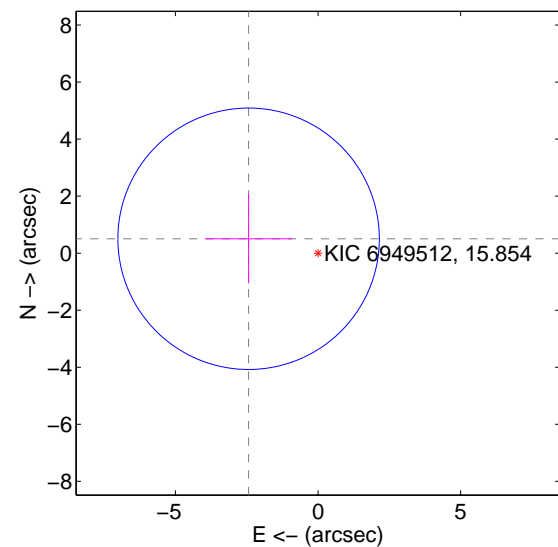
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

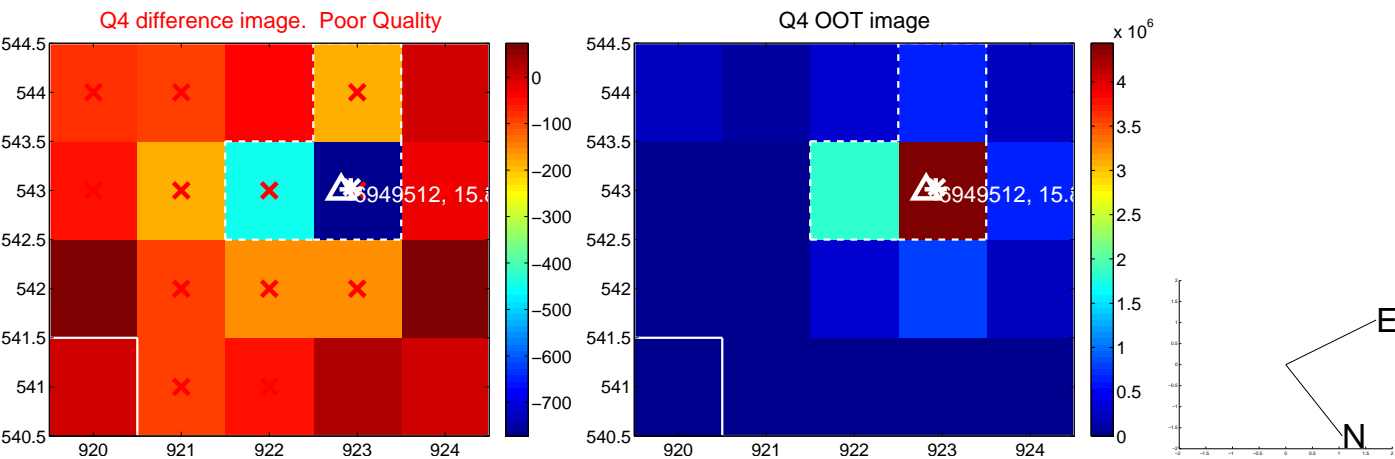


offset from photometric centroids

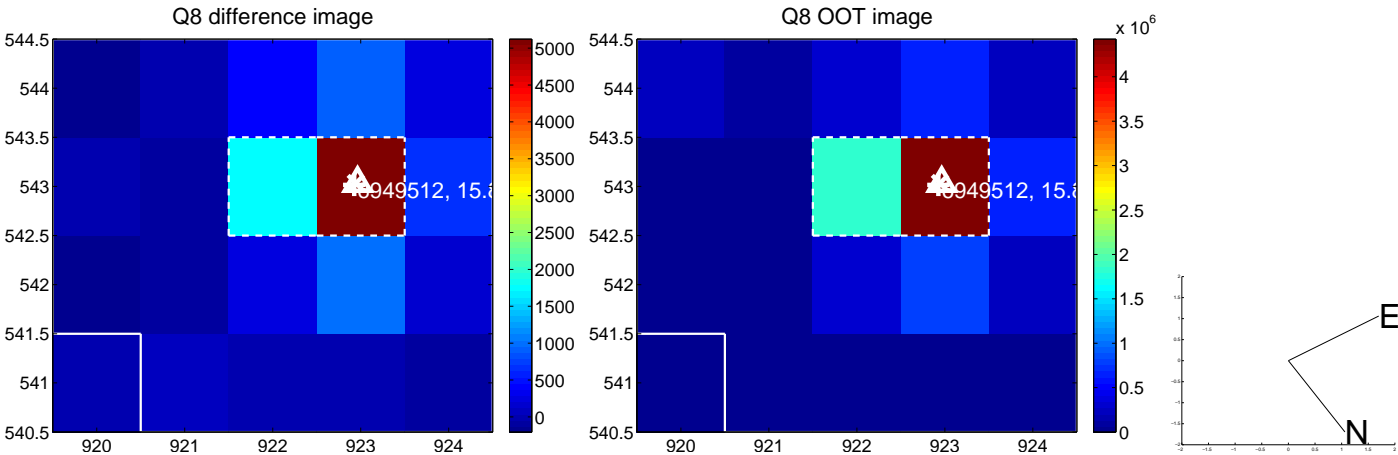
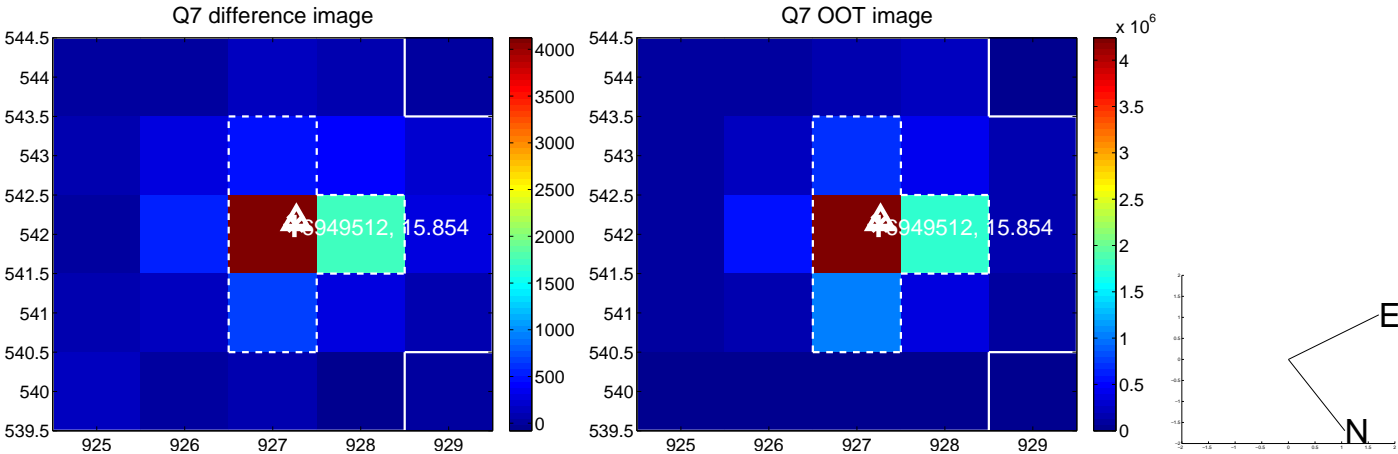
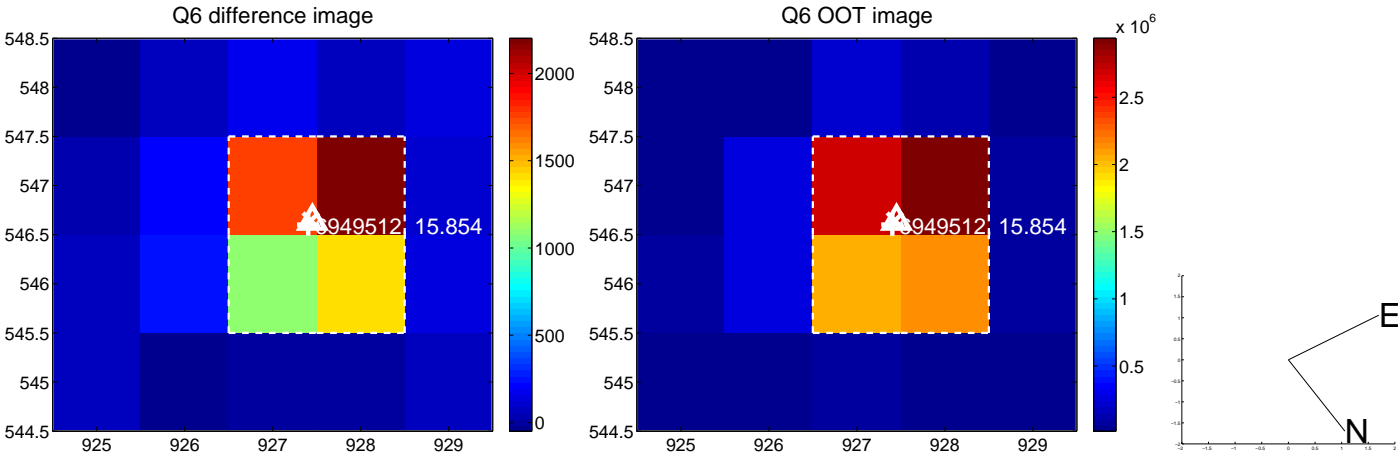
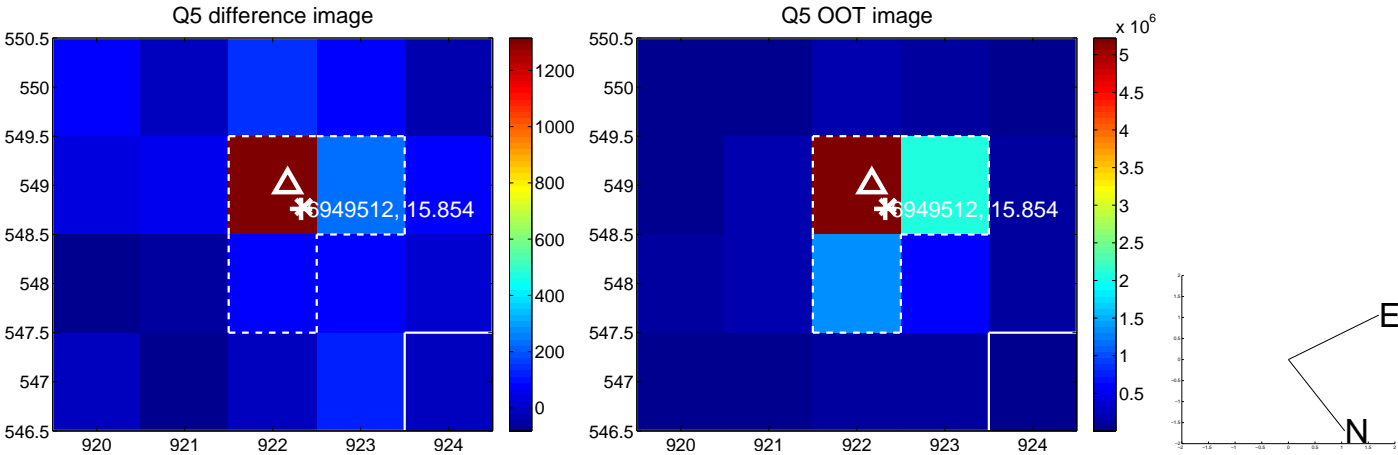


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

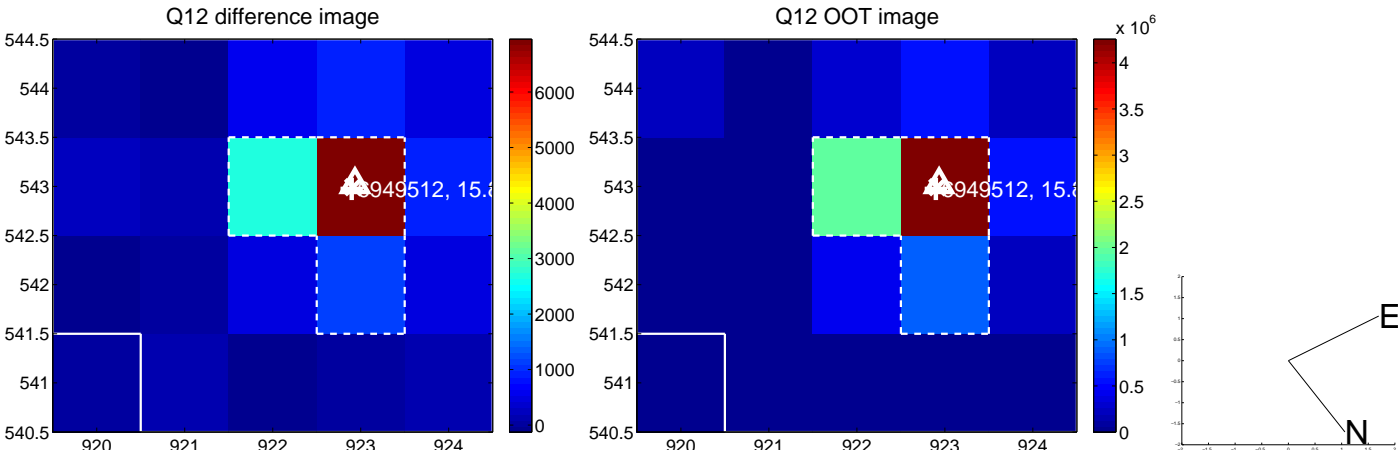
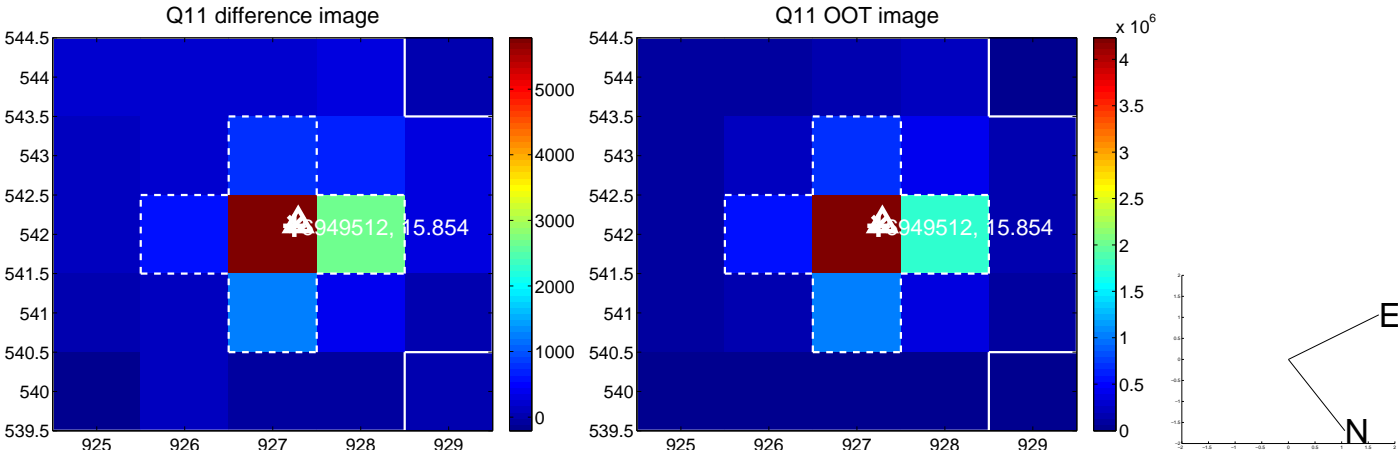
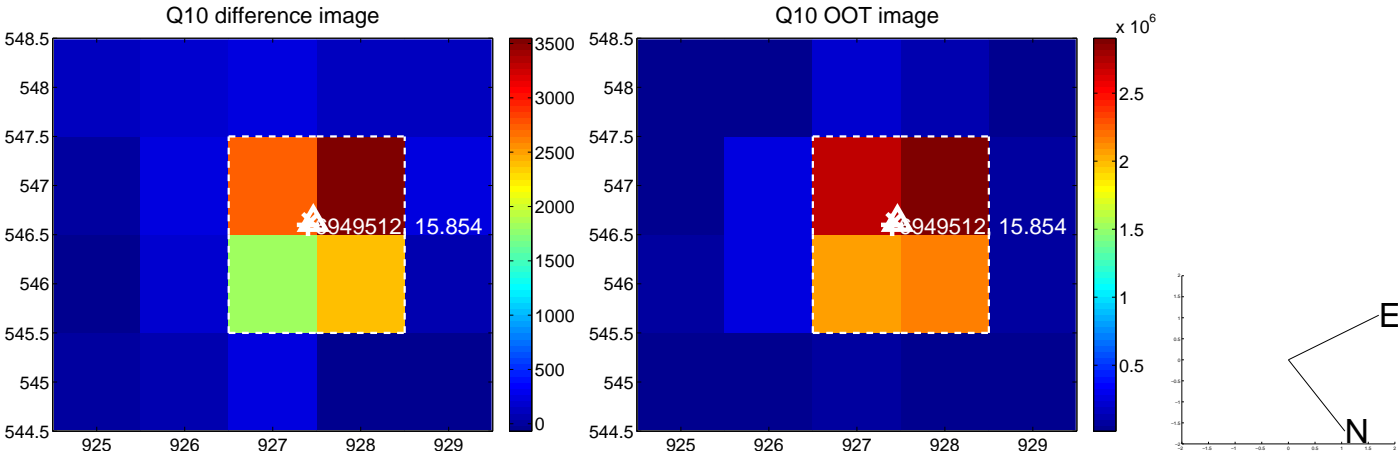
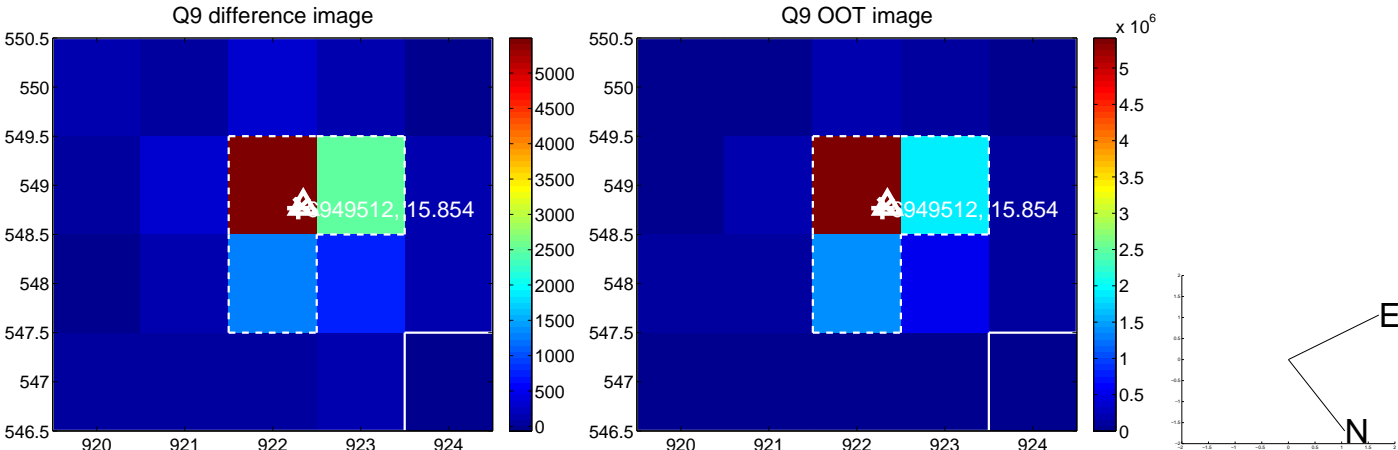
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



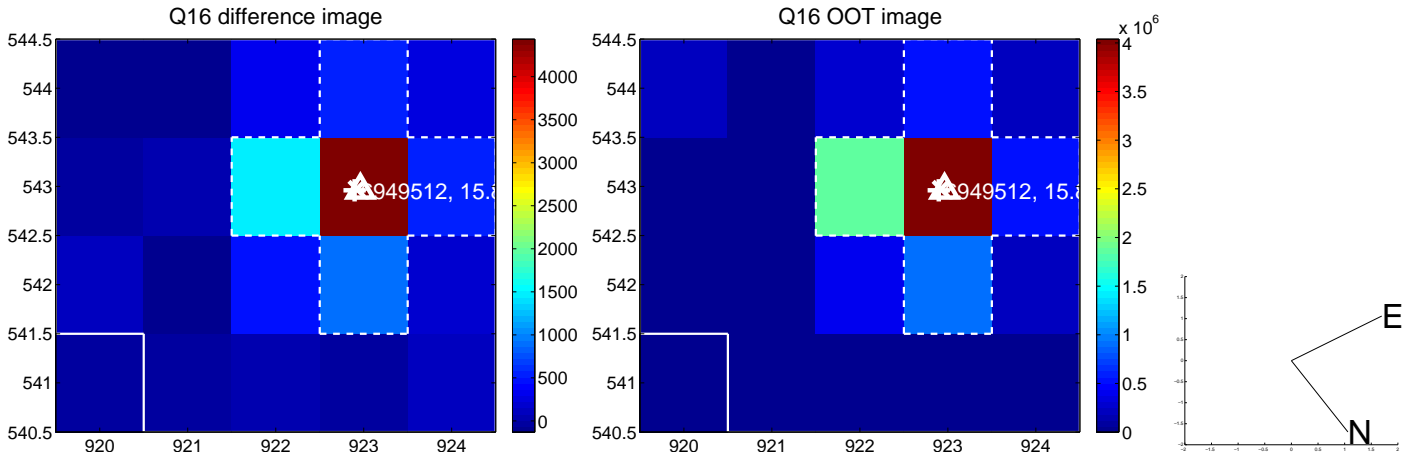
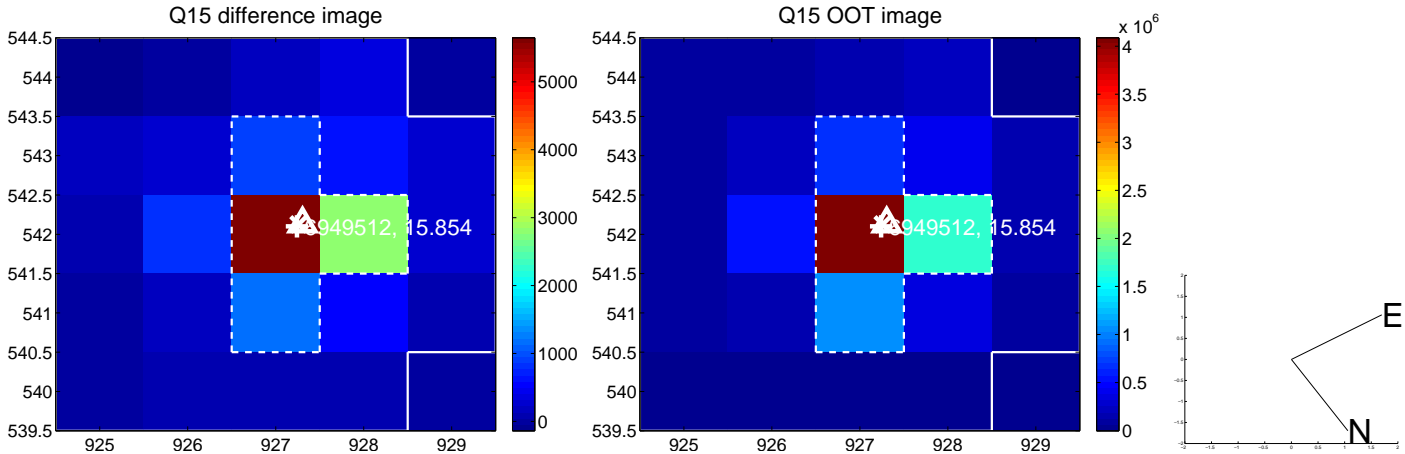
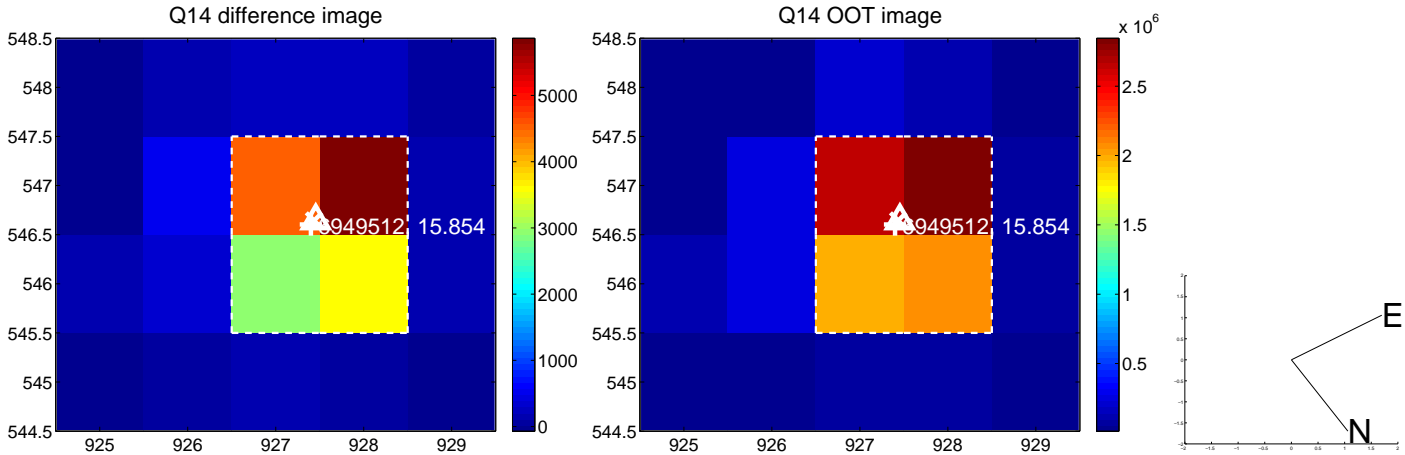
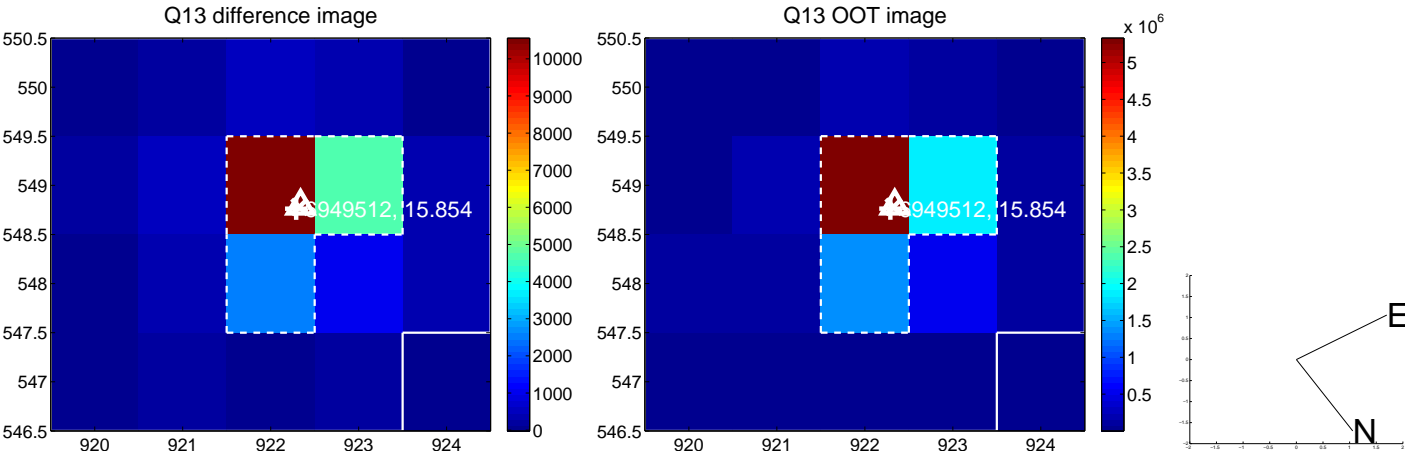
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



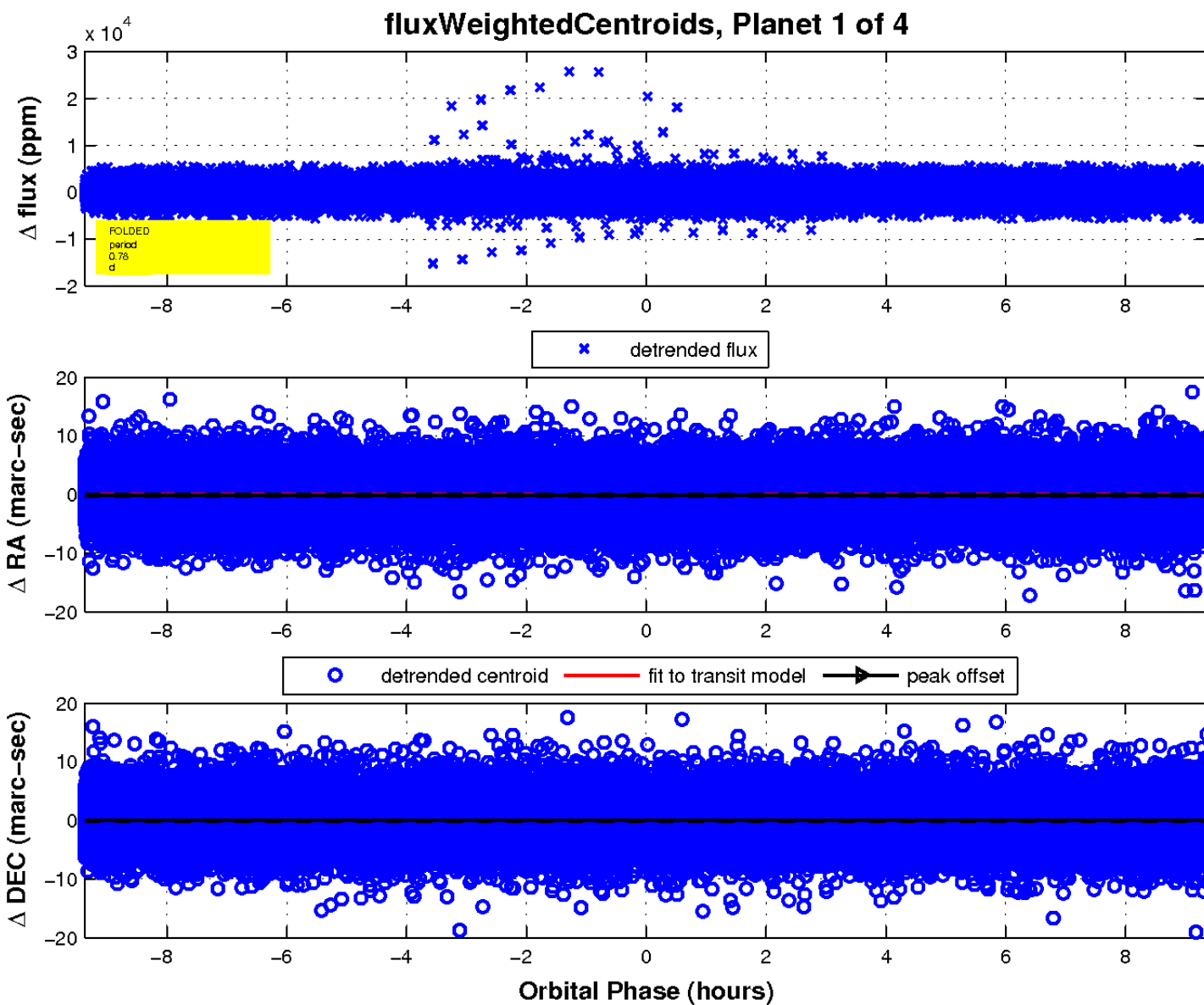
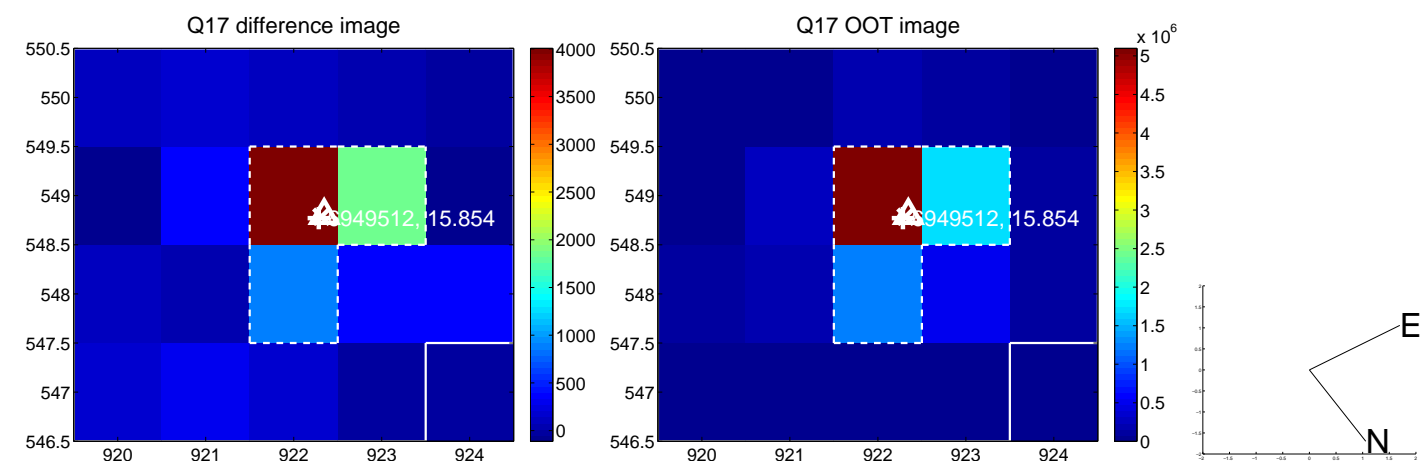
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

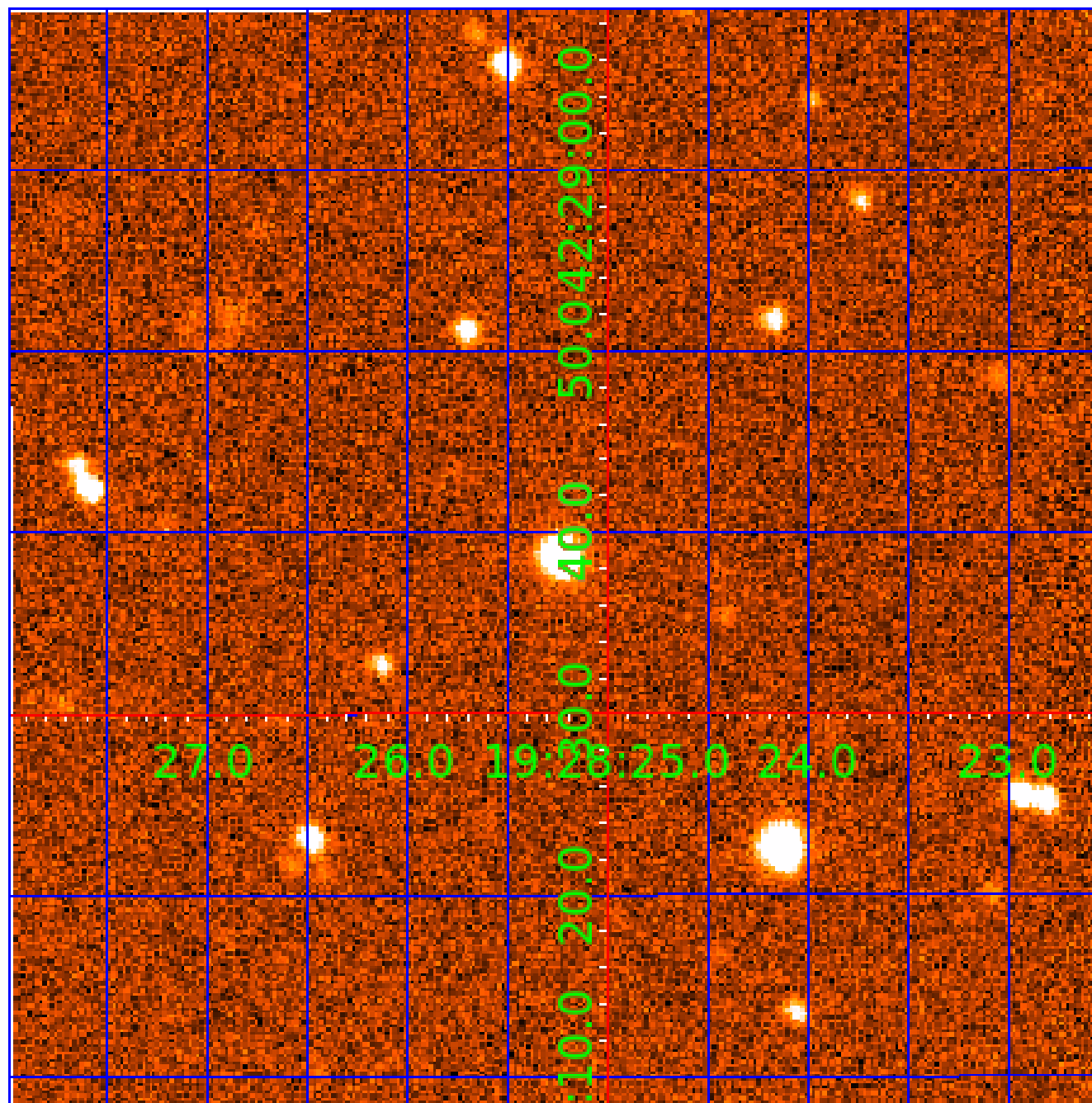


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006949512

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})
006949512-01	OBS	No	0.781283	131.554216	64.9	3.948	7.2	5.2	0.74	5491	0.62	2089.96
006949512-02	OBS	No	65.819609	191.899646	939.3	5.907	9.8	3.8	0.74	5491	2.40	5.66
006949512-03	OBS	No	226.784545	180.155432	3802.6	18.875	8.9	1.8	0.74	5491	8.45	1.09
006949512-04	OBS	No	95.939891	178.134059	446.6	1.671	8.4	1.4	0.74	5491	1.79	3.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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006949512-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT
006949512-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006949512-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

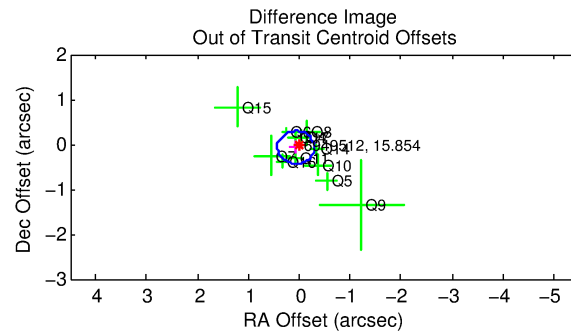
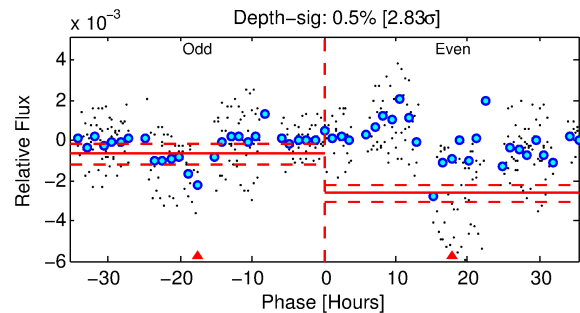
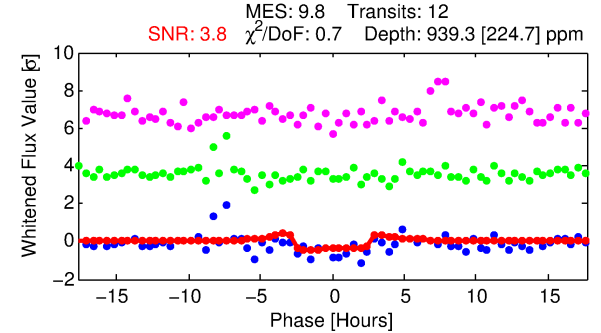
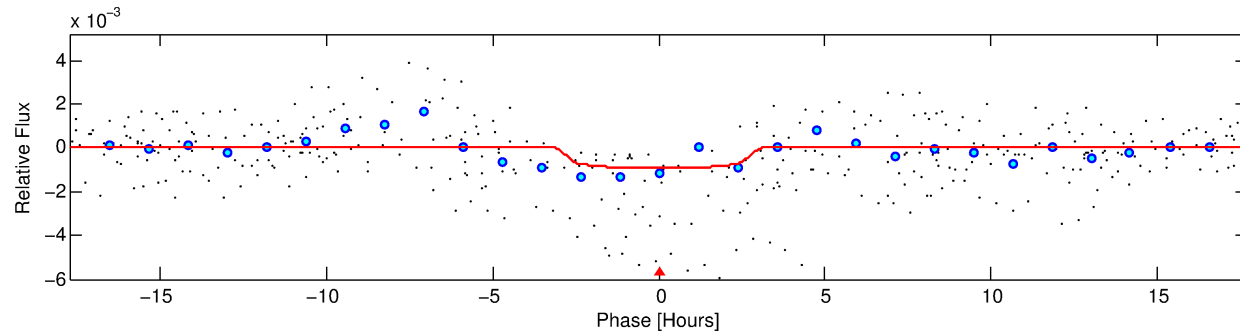
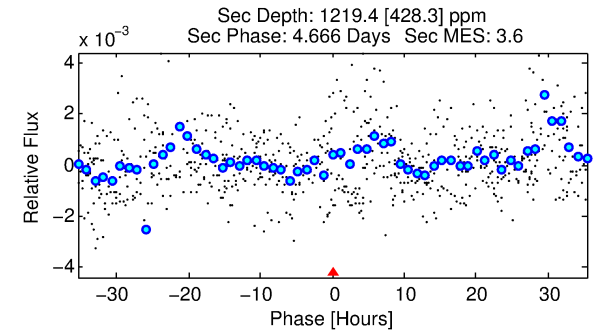
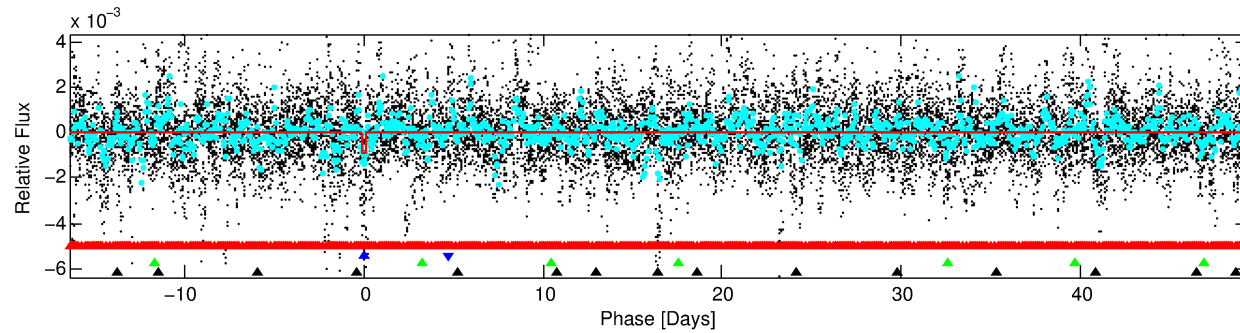
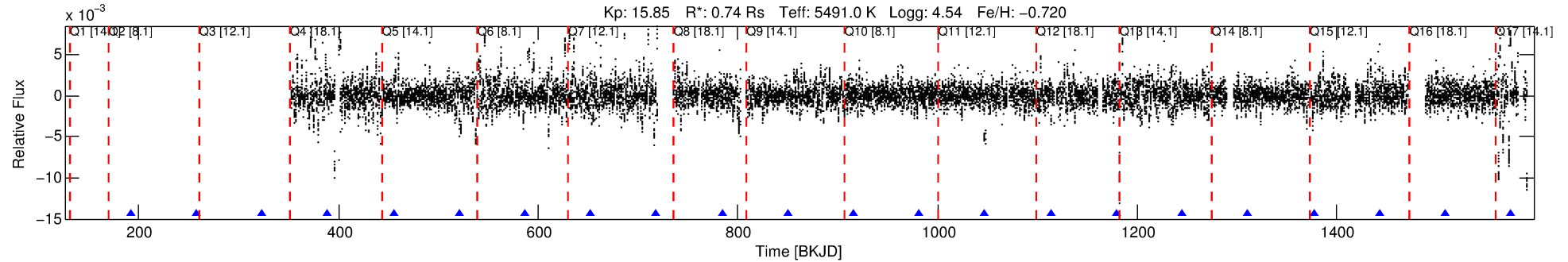
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006949512-02

No Significant Match Found

DV One-Page Summary

KIC: 6949512 Candidate: 2 of 4 Period: 65.820 d



DV Fit Results:

Period = 65.81961 [0.00149] d
Epoch = 191.8996 [0.0200] BKJD
Rp/R* = 0.0295 [0.0301]
a/R* = 68.43 [310.39]
b = 0.64 [4.17]
Seff = 5.66 [1.36]
Teq = 393 [24] K
Rp = 2.40 [2.47] Re
a = 0.2823 [0.0344] AU
Ag = 9292.41 [19302.87] [0.48σ]
Teffp = 5970 [3097] K [1.80σ]

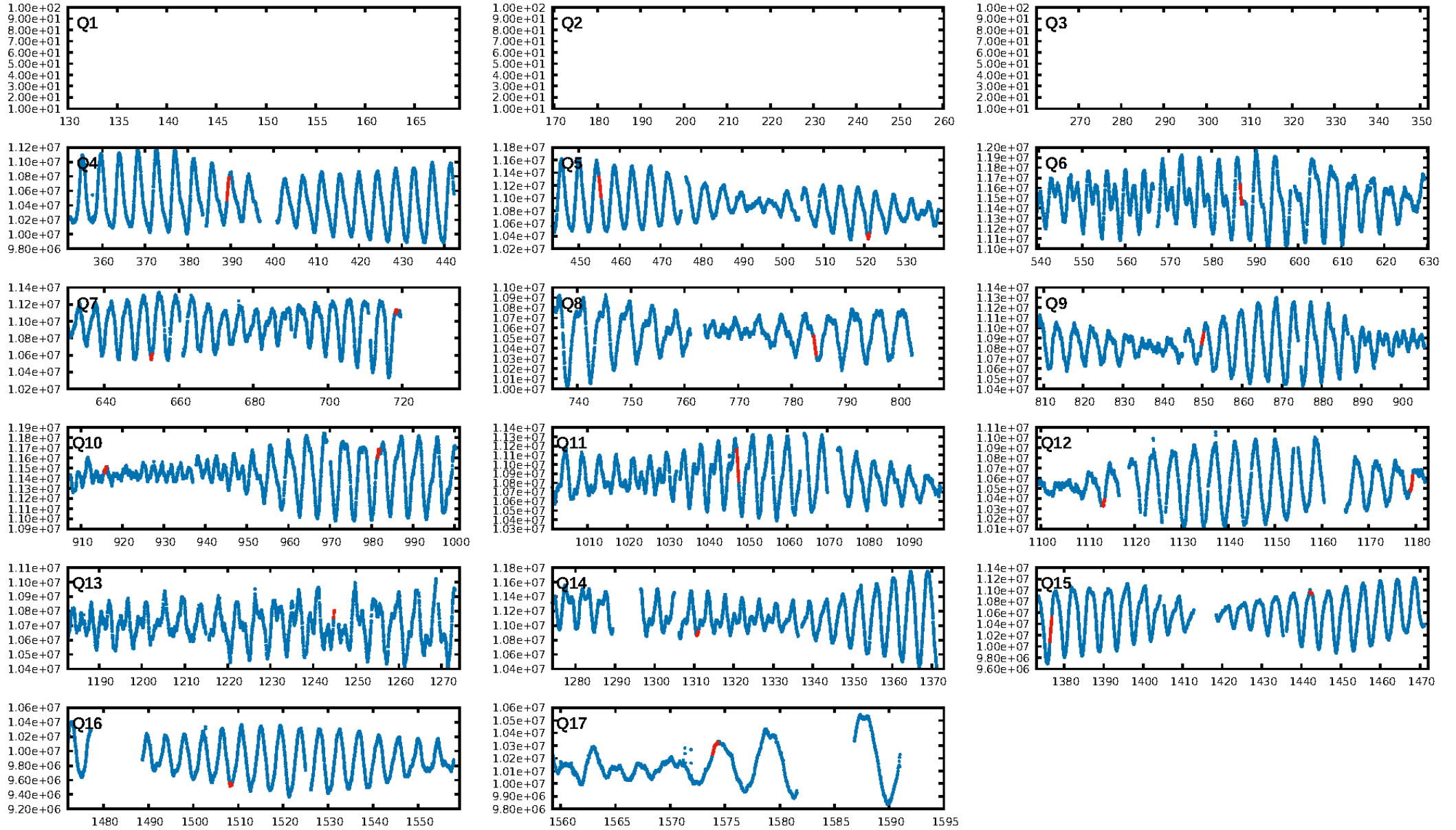
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [219.69σ]
LongPeriod-sig: 100.0% [117.76σ]
ModelChiSquare2-sig: 13.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.99e-14
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: -0.3298
Centroid-sig: 85.5%
Centroid-so: 0.576 arcsec [0.69σ]
OotOffset-rm: 0.096 arcsec [0.79σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-rm: 0.151 arcsec [0.71σ]
KicOffset-st: 3/3/3/3 [12]
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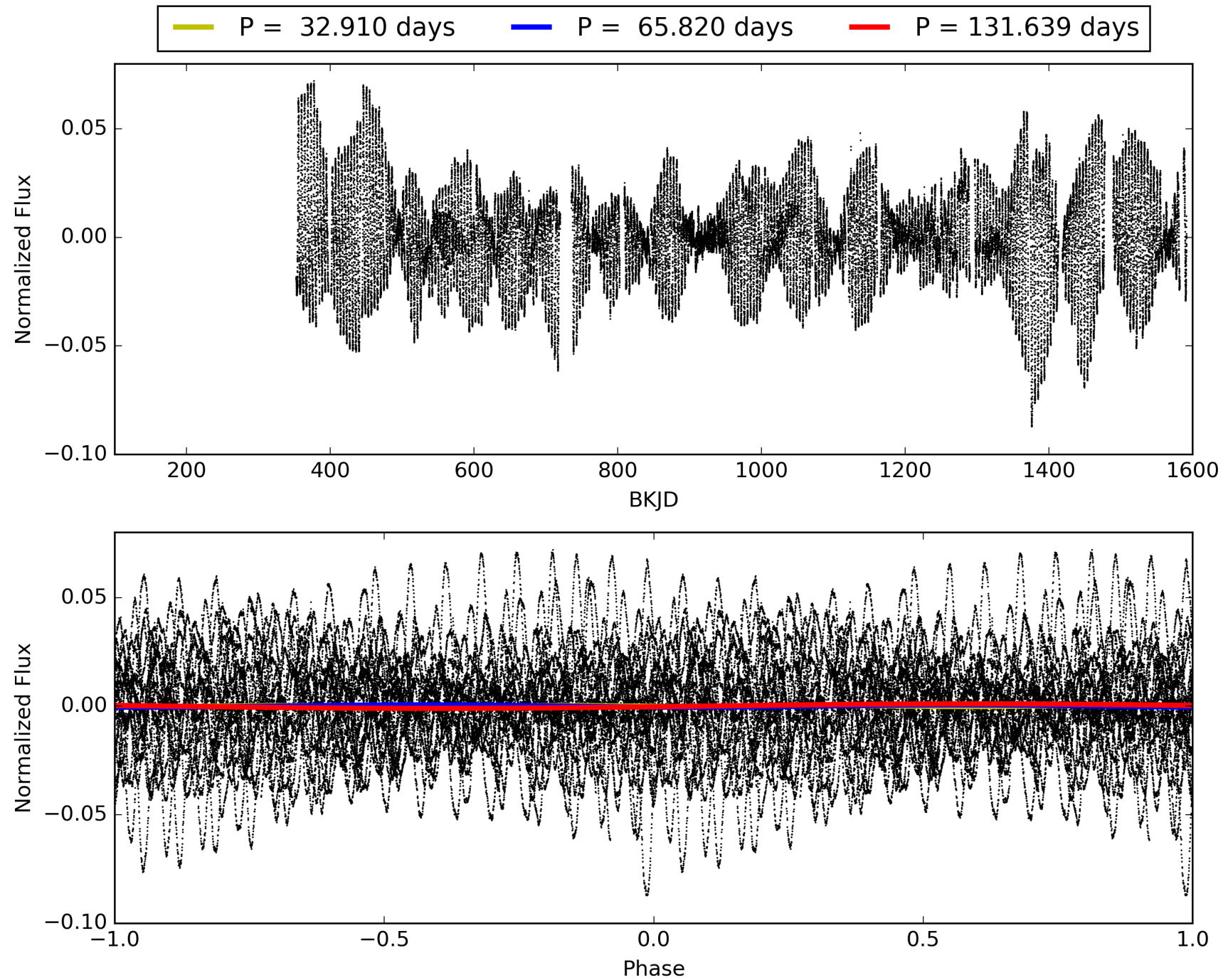
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:38:00 Z

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

TCE 006949512-02, PDC Light Curves

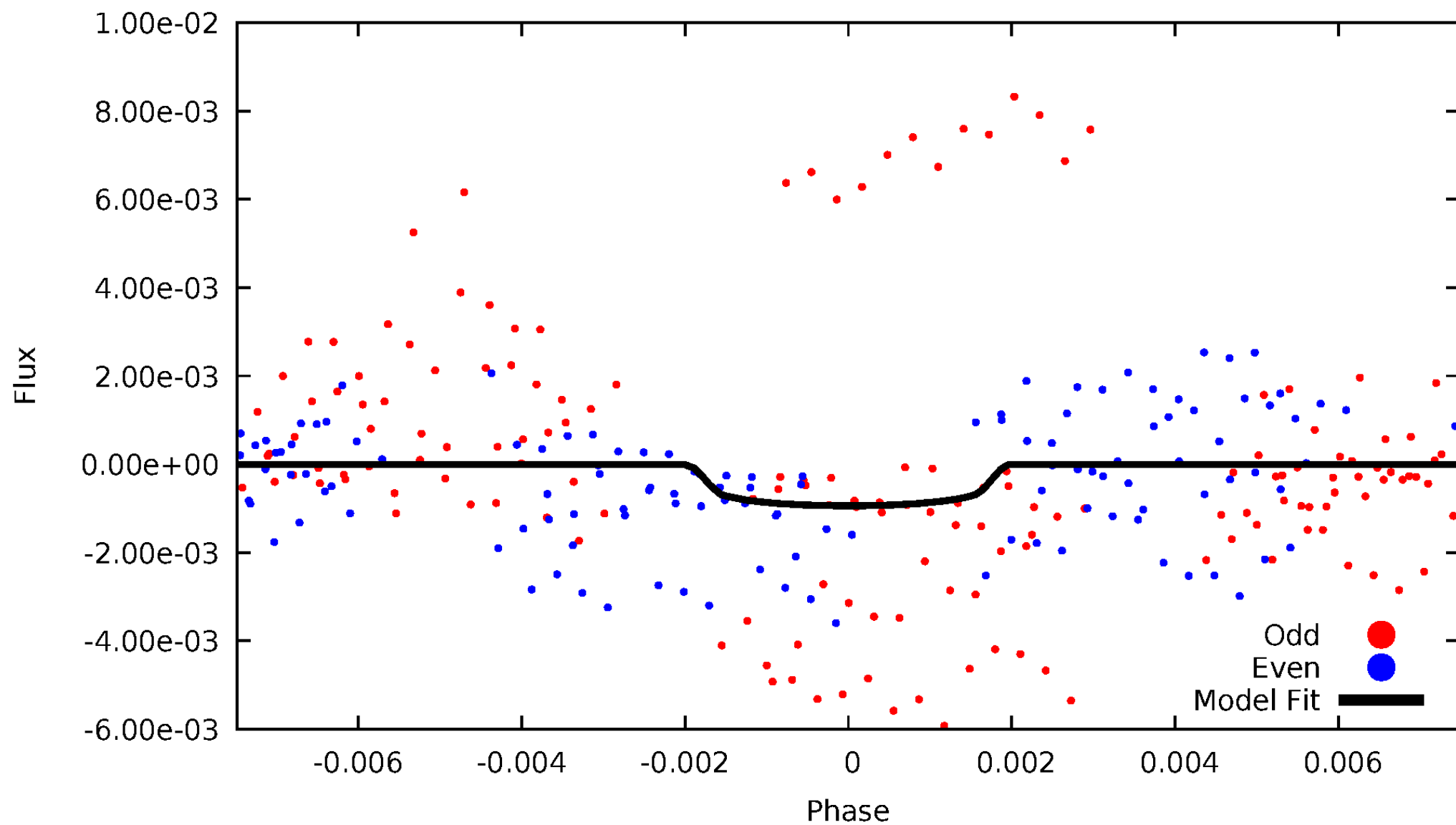


TCE 006949512-02



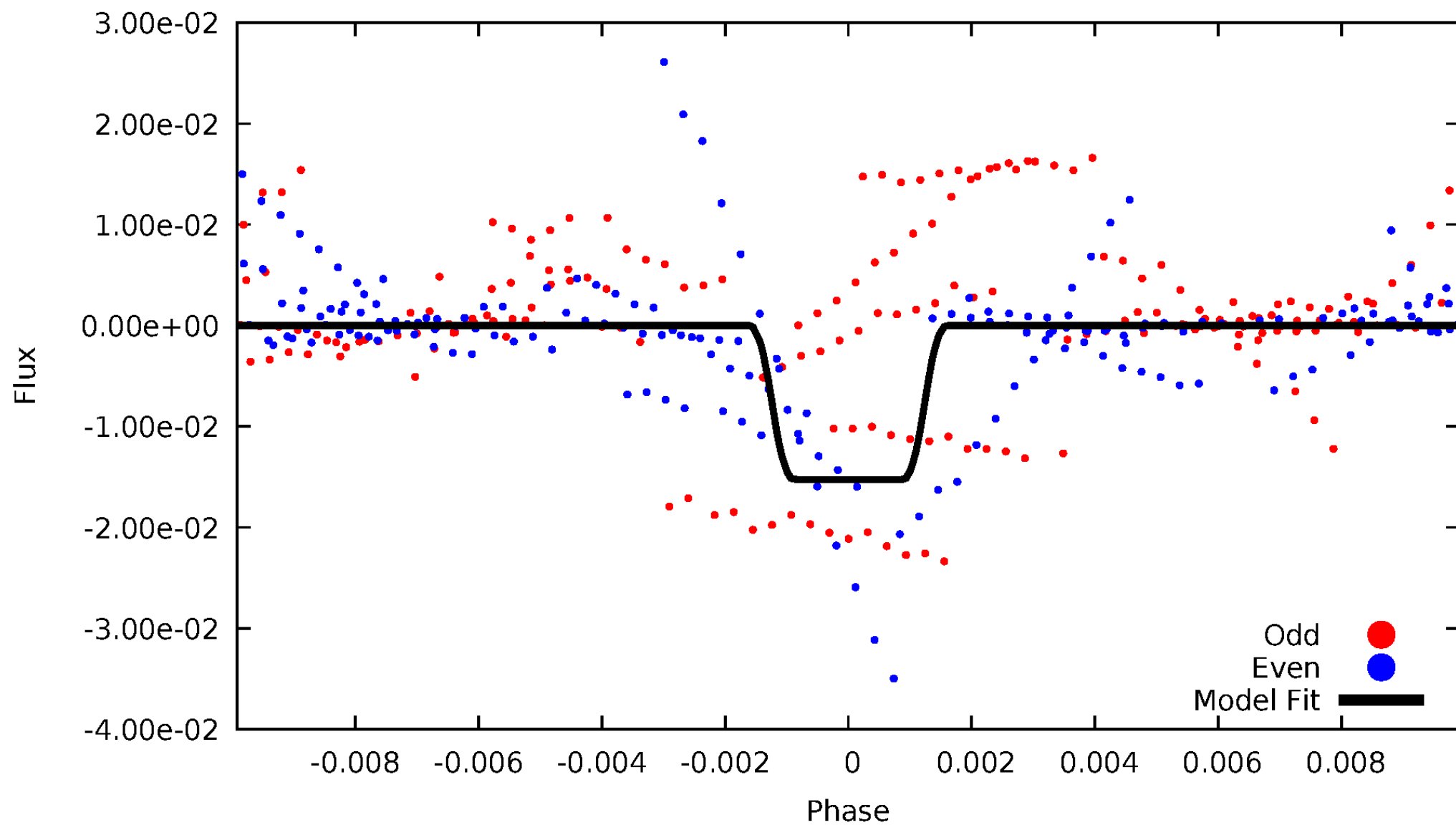
DV Odd/Even

TCE 006949512-02



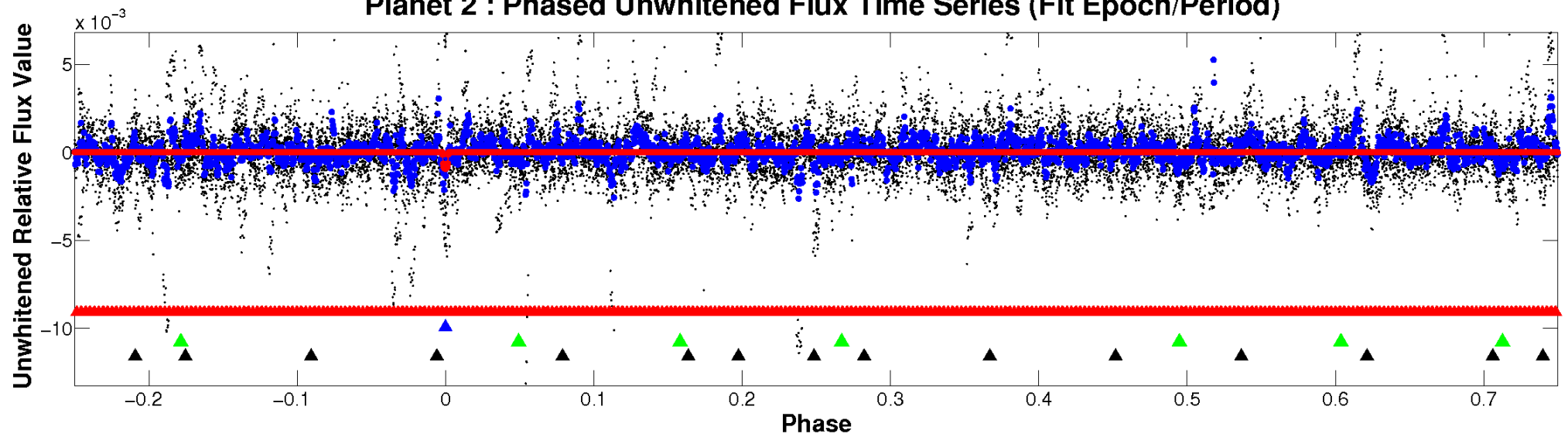
ALT Odd/Even

TCE 006949512-02

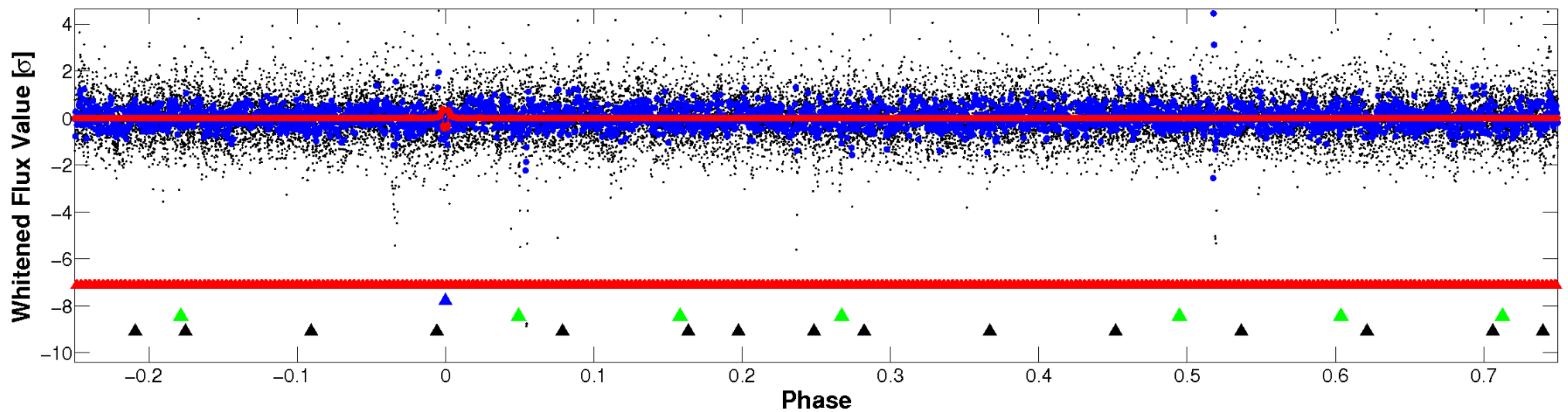


Non-Whitened Vs. Whitened Light Curve

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

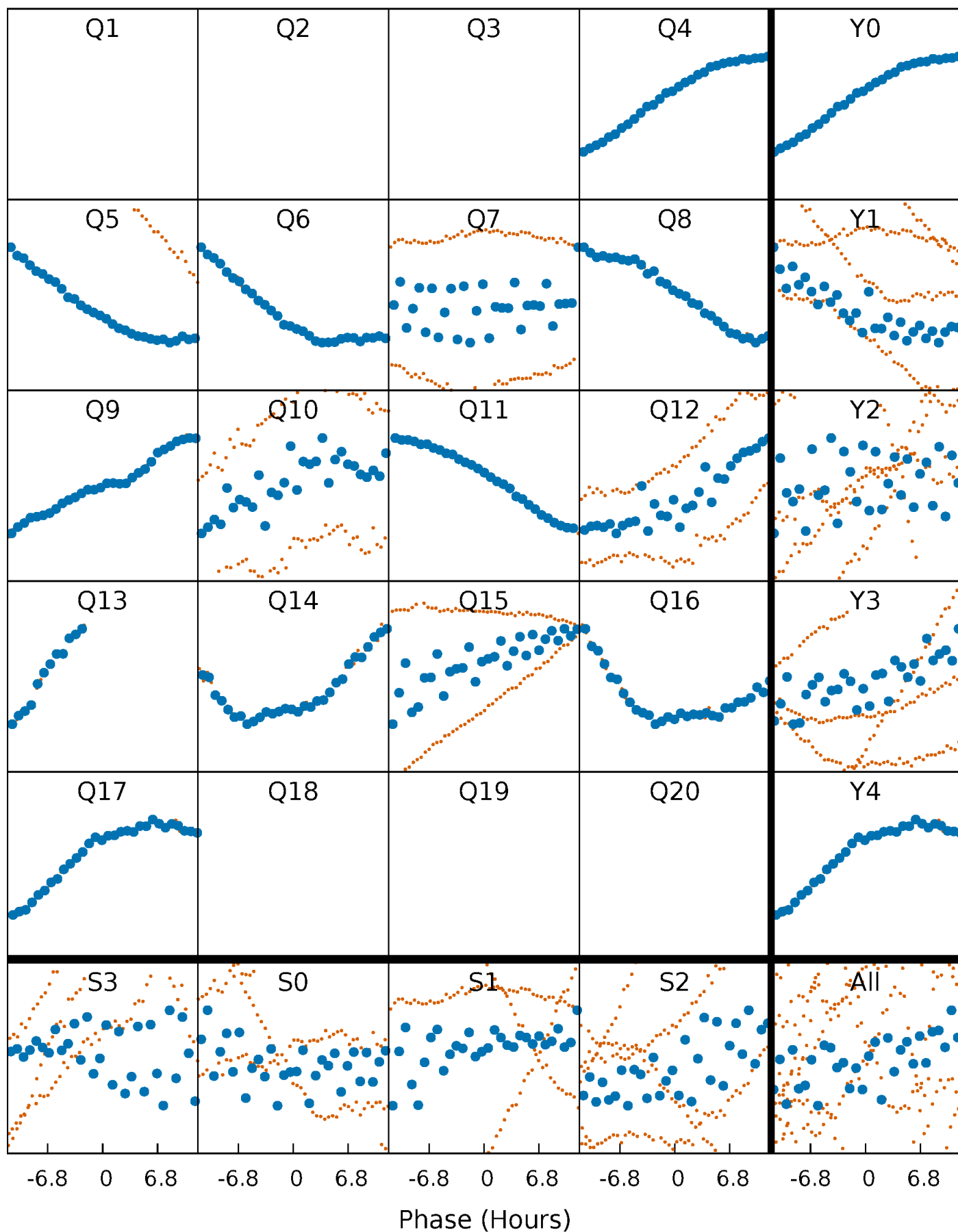


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



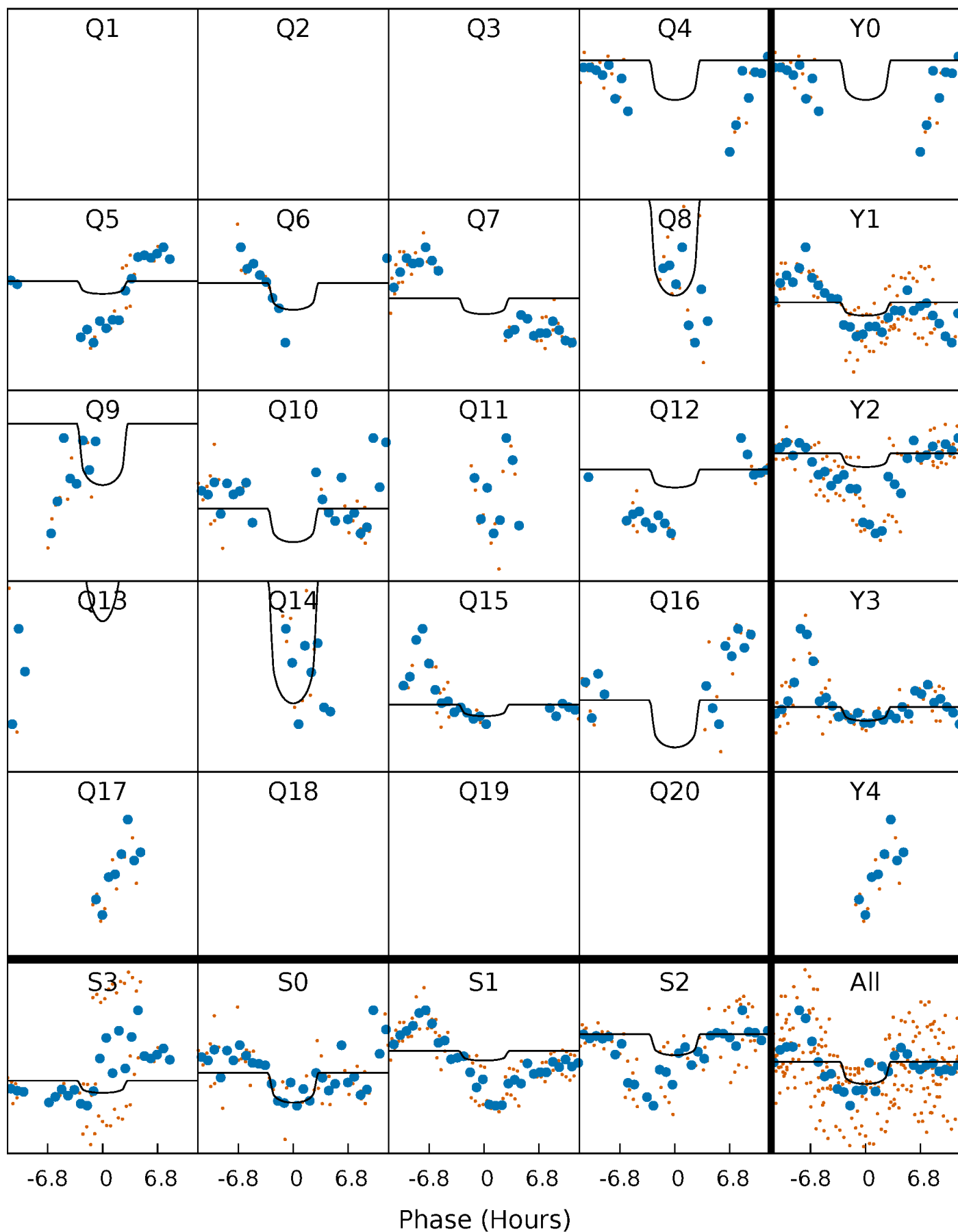
PDC Quarter-Phased Transit Curves

TCE 006949512-02 P= 65.819609 Days $T_0=191.899646$ (BKJD)



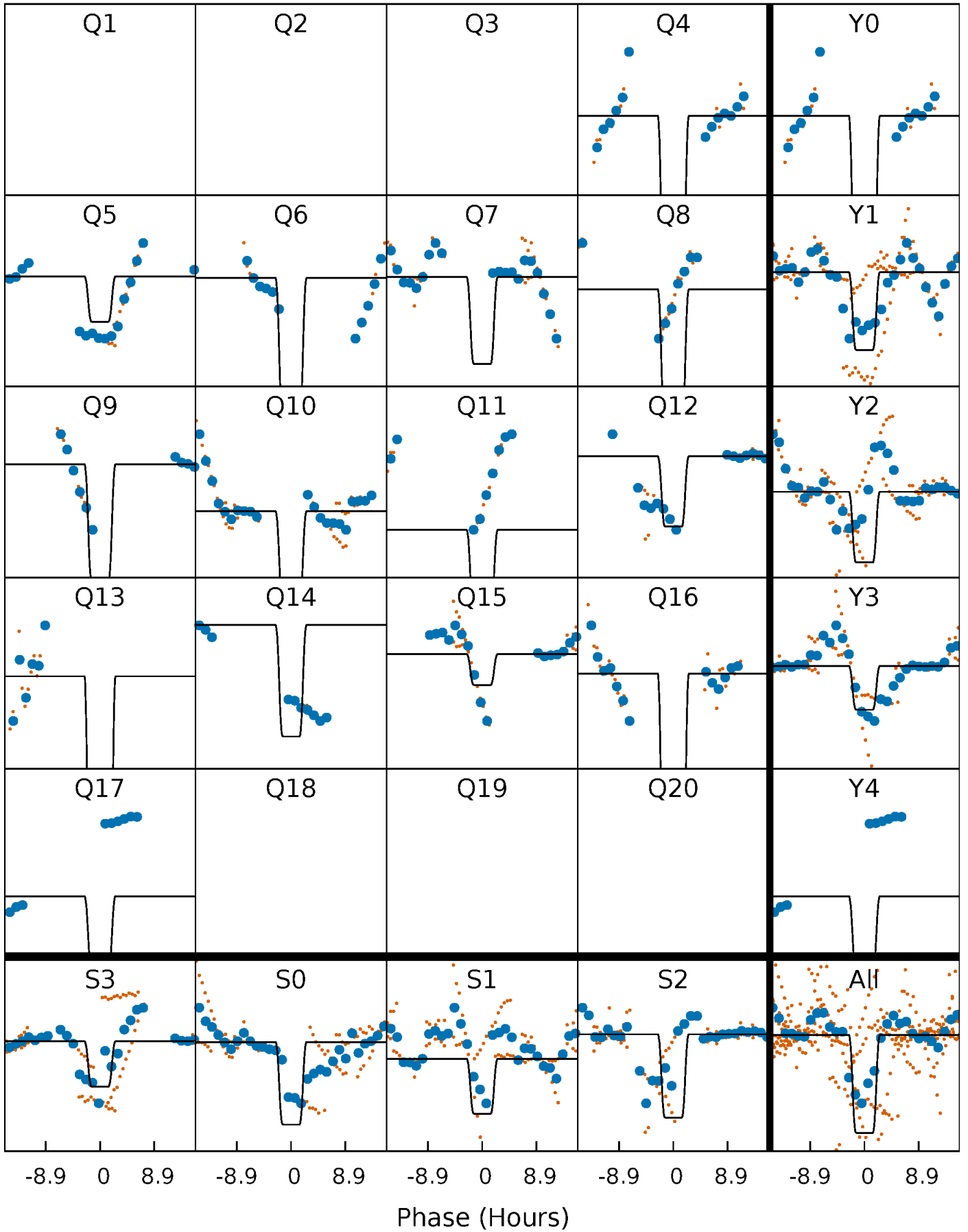
DV Quarter-Phased Transit Curves

TCE 006949512-02 P= 65.819609 Days $T_0=191.899646$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

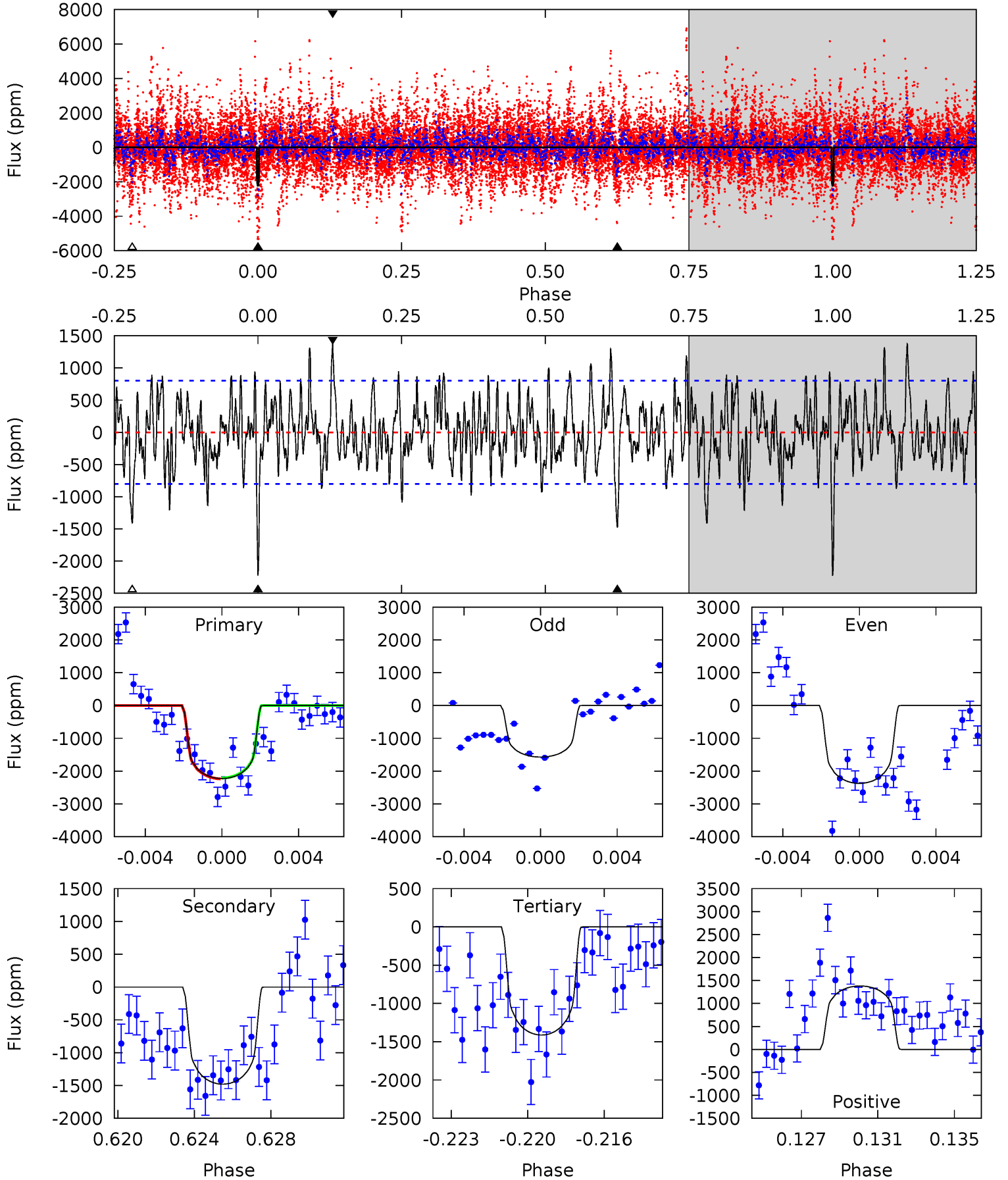
TCE 006949512-02 P= 65.812943 Days $T_0=191.973958$ (BKJD)



DV Model-Shift Uniqueness Test

006949512-02, P = 65.819609 Days, E = 191.899646 Days

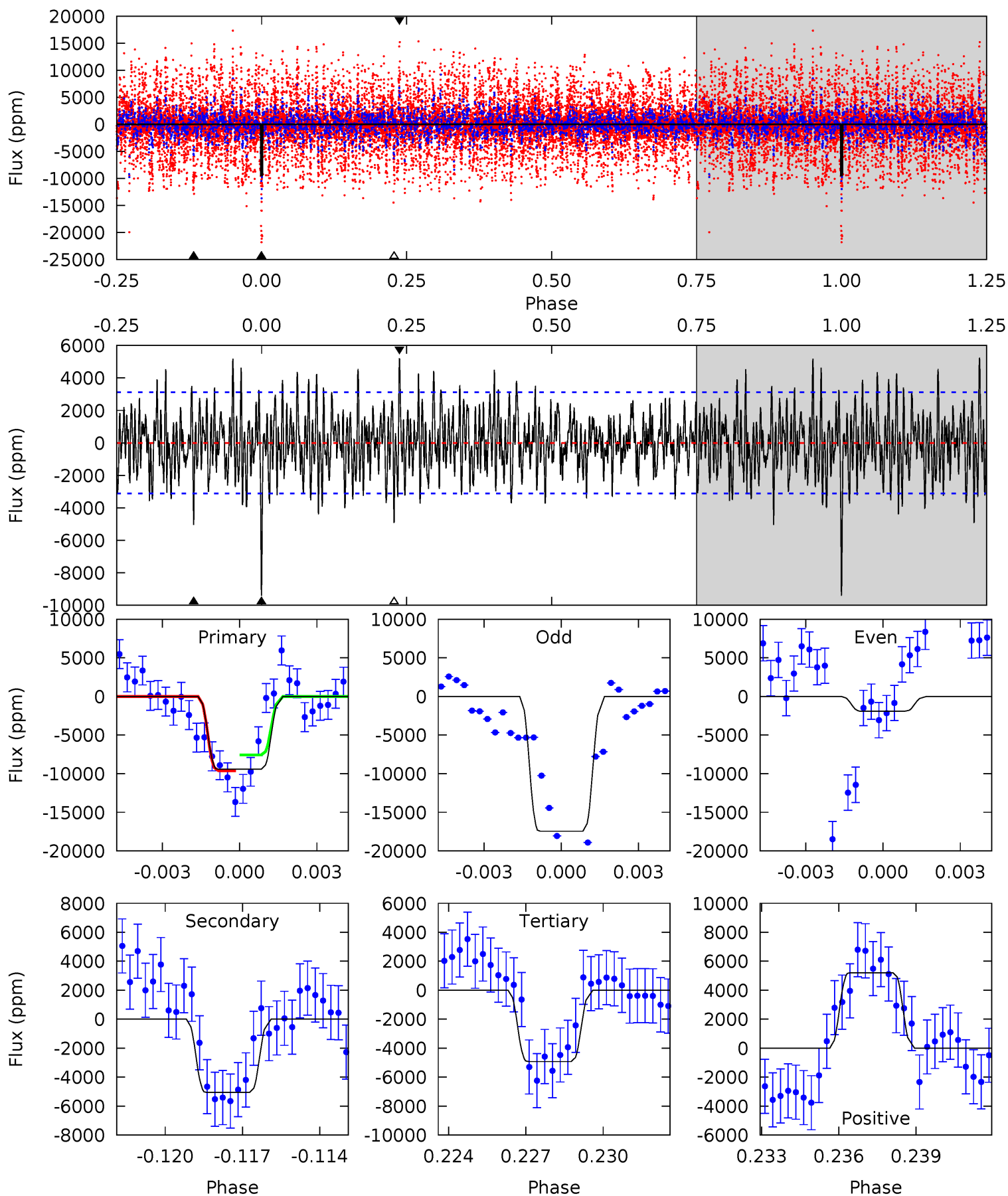
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	9.60	9.17	8.96	5.21	2.89	2.77	5.29	5.49	0.44	0.64	2.44	1.09	0.38	0.09



Alt Model-Shift Uniqueness Test

006949512-02, P = 65.812943 Days, E = 191.973958 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	8.52	8.30	8.77	5.25	2.97	2.57	7.58	7.10	0.22	-0.25	11.7	0.82	0.36	1.72



Stellar Parameters For KIC 006949512

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5491^{+212}_{-192}	$4.535^{+0.104}_{-0.085}$	$-0.720^{+0.300}_{-0.300}$	$0.744^{+0.103}_{-0.083}$	$0.691^{+0.093}_{-0.035}$	$2.364^{+0.976}_{-0.632}$
	+4%/-3%	+2%/-2%	+42%/-42%	+14%/-11%	+13%/-5%	+41%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006949512-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1480 ± 154	$2.90^{+2.22}_{-1.75}$	546^{+26}_{-26}	5619^{+3908}_{-1173}	7558^{+43028}_{-5049}
Alt.	-5054 ± 593	$9.97^{+2.66}_{-2.40}$	548^{+27}_{-27}	4395^{+506}_{-420}	2250^{+1717}_{-857}

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

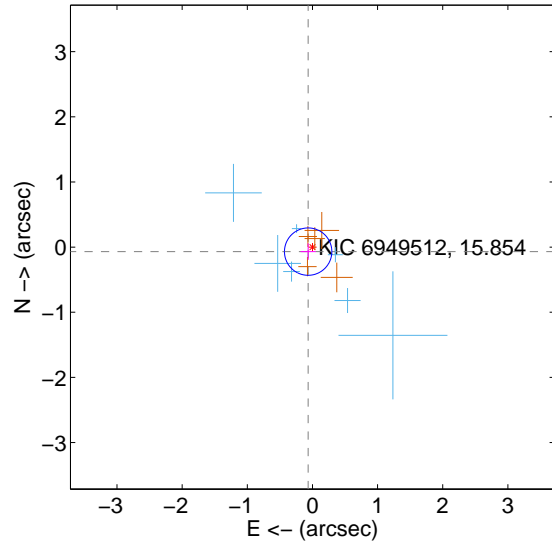
Supplemental centroid analysis for 006949512-02. Kepler magnitude: 15.85. Transit SNR 3.80

There are 7 quarters with good PRF difference image offsets

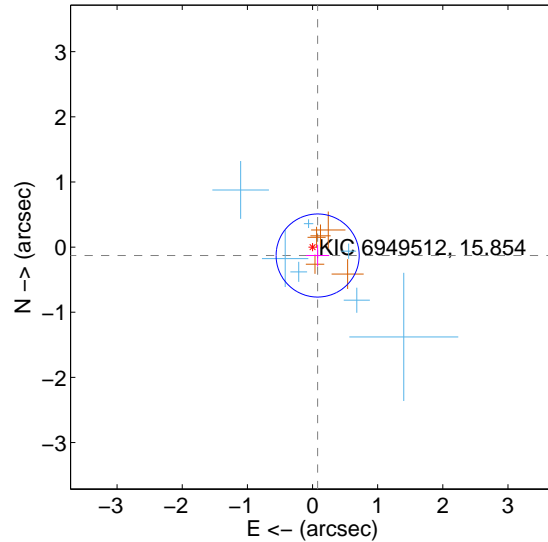
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.096 ± 0.121	0.79	0.066 ± 0.116	-0.069 ± 0.126
PRF-fit source offset from KIC position	0.151 ± 0.212	0.71	-0.079 ± 0.177	-0.129 ± 0.165
photometric centroid source offset	0.58 ± 0.84	0.69	-0.55 ± 0.84	0.16 ± 0.87

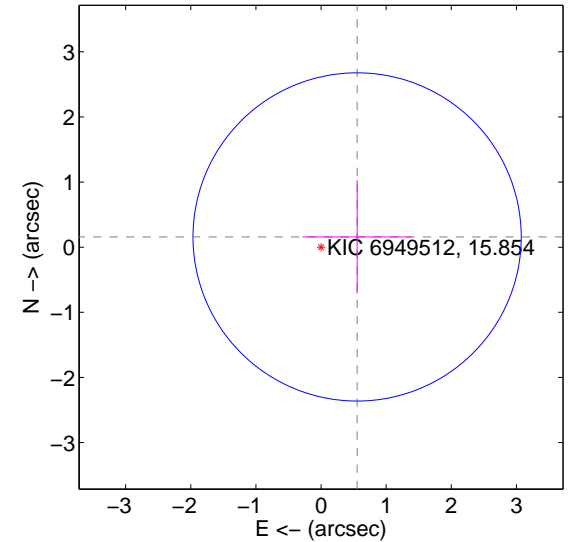
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

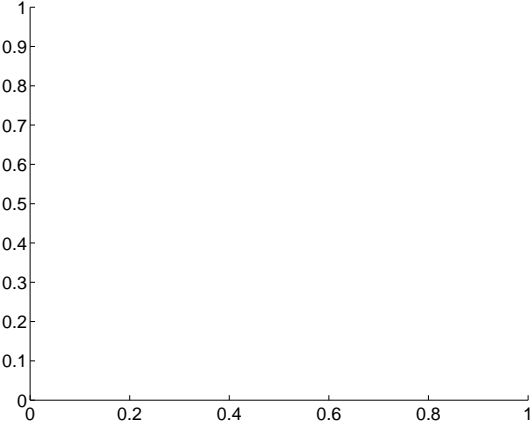
Q1 no difference image



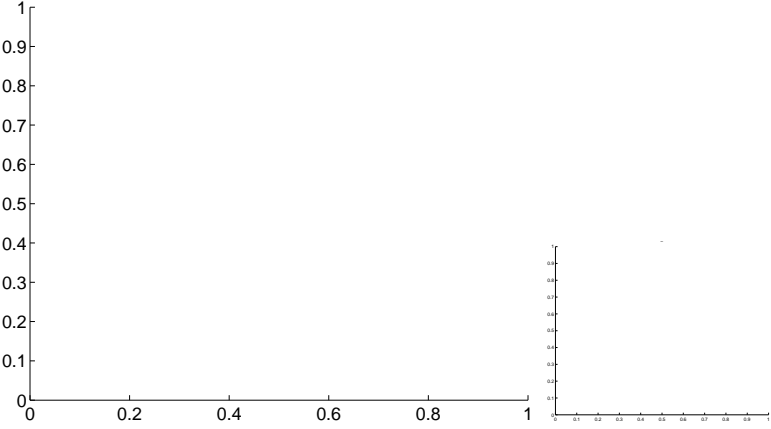
Q1 no OOT image



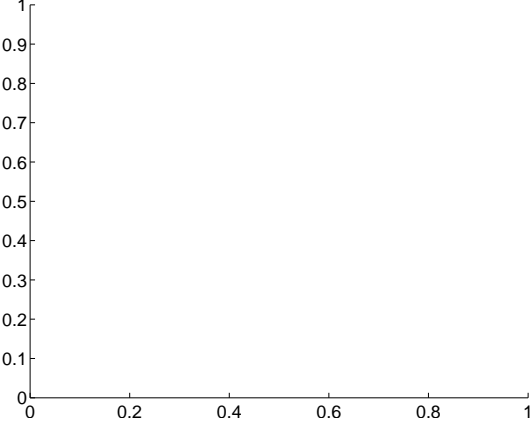
Q2 no difference image



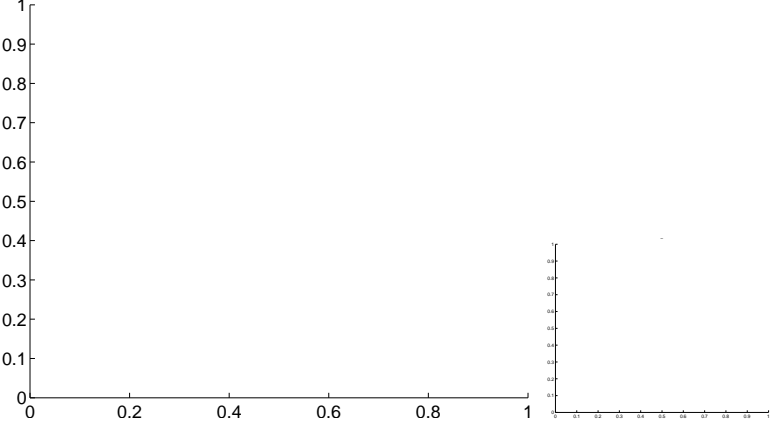
Q2 no OOT image



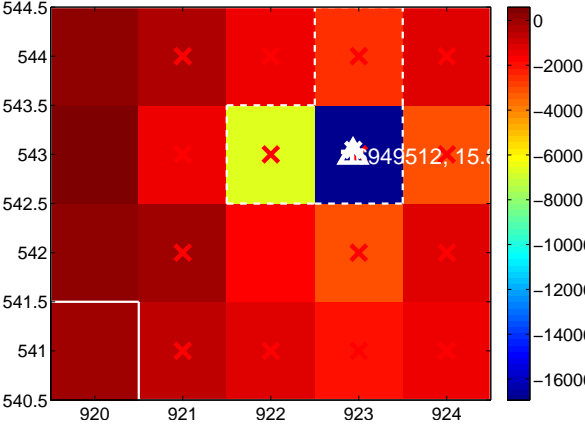
Q3 no difference image



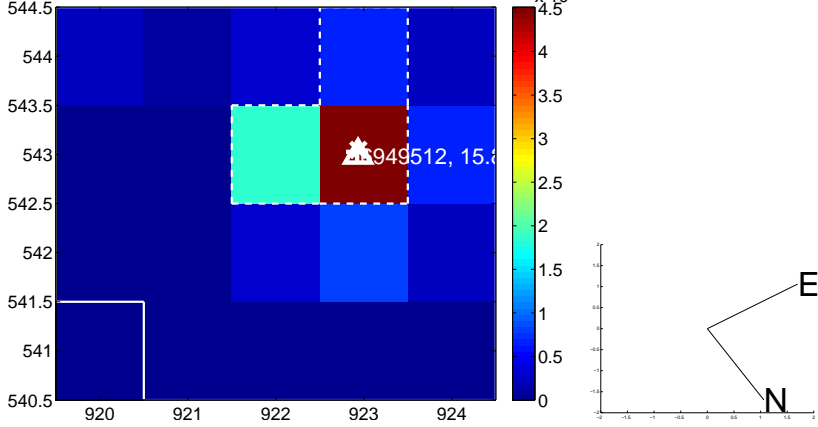
Q3 no OOT image



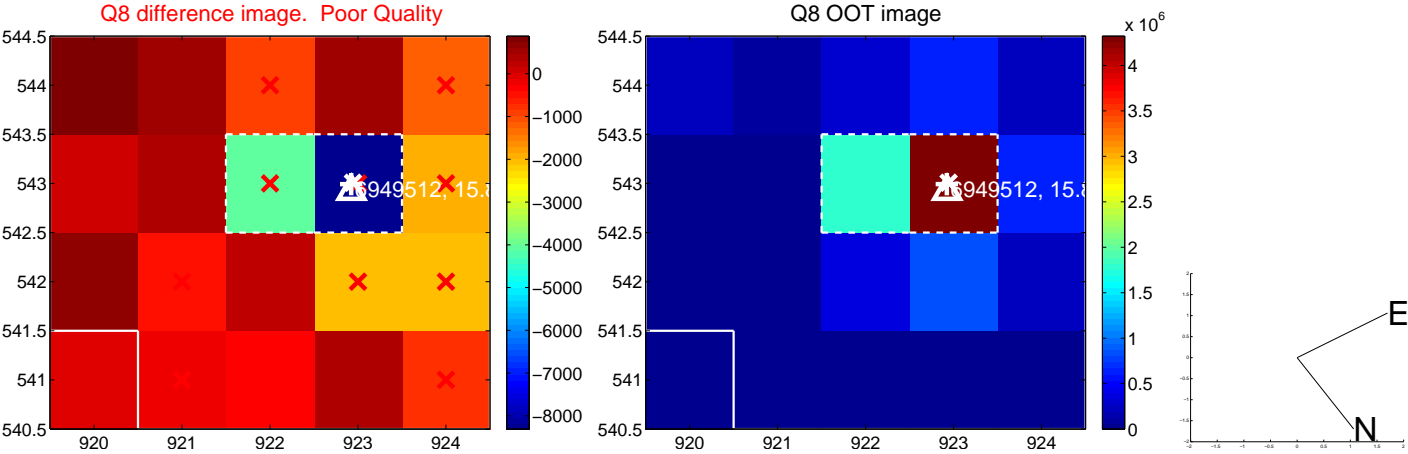
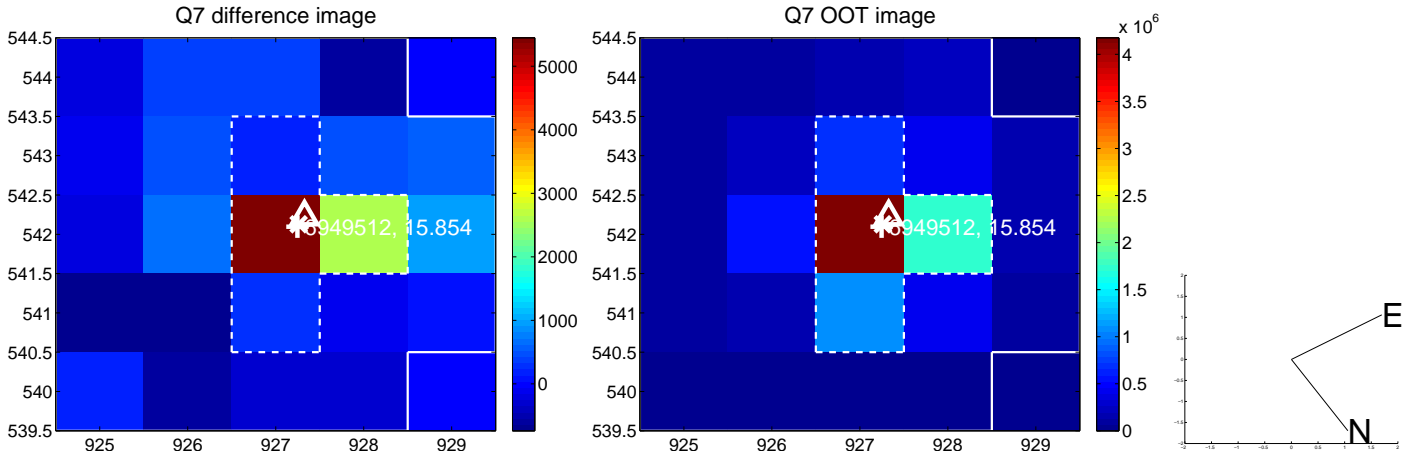
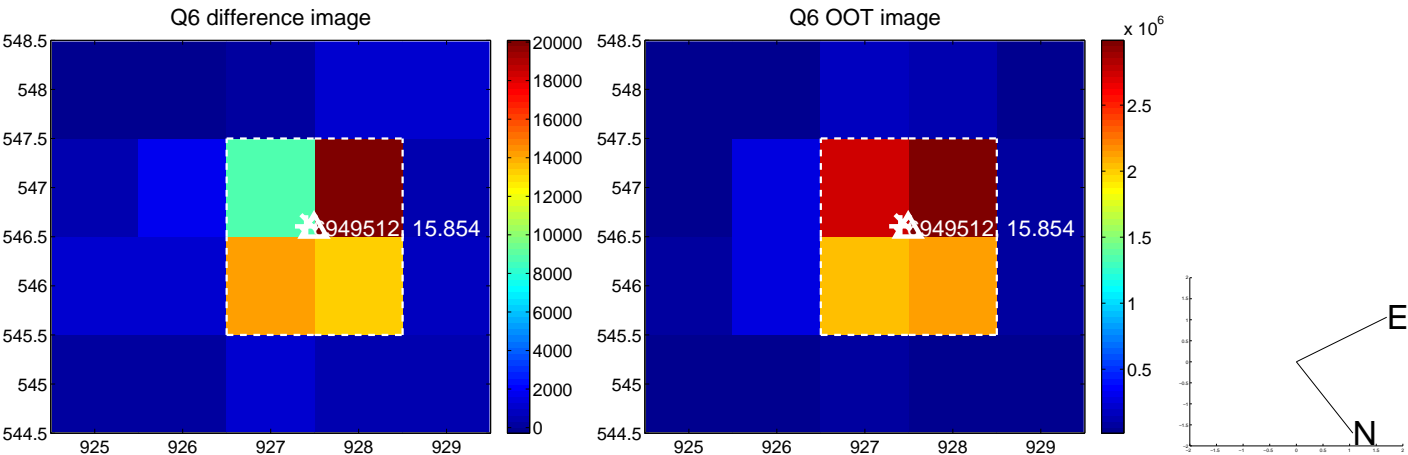
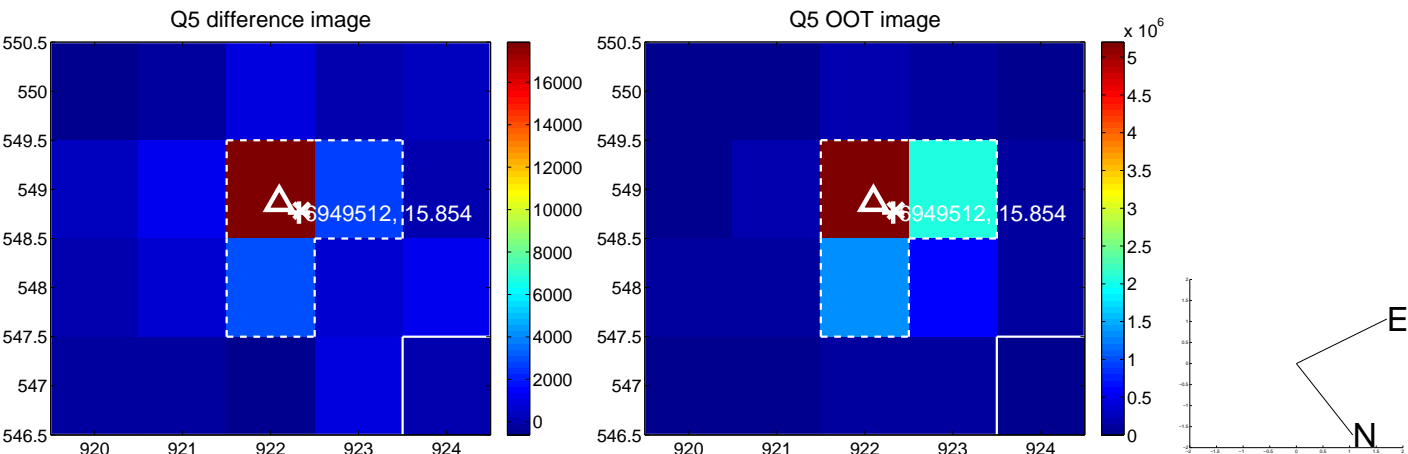
Q4 difference image. Poor Quality



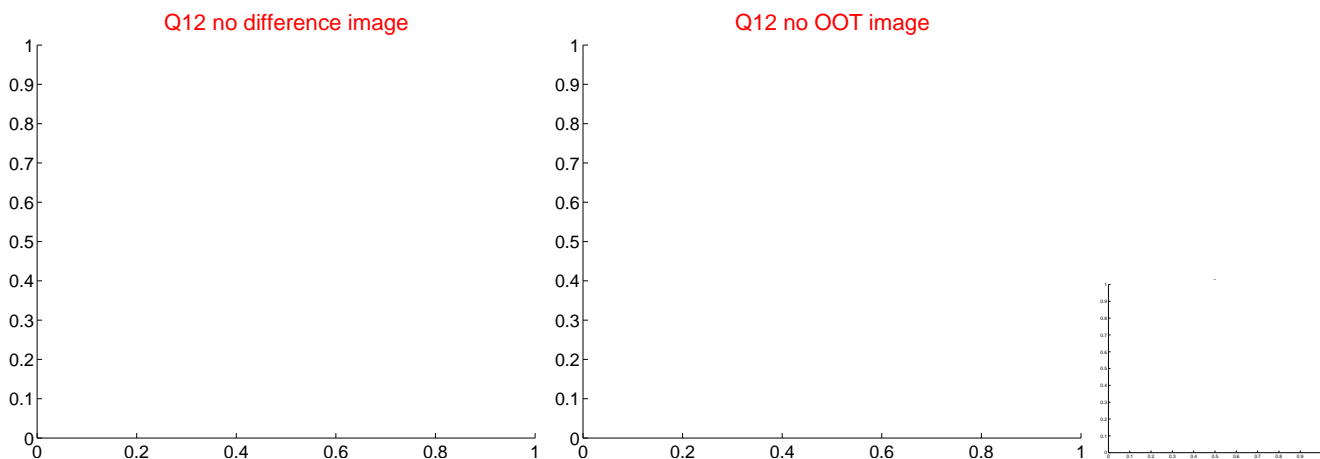
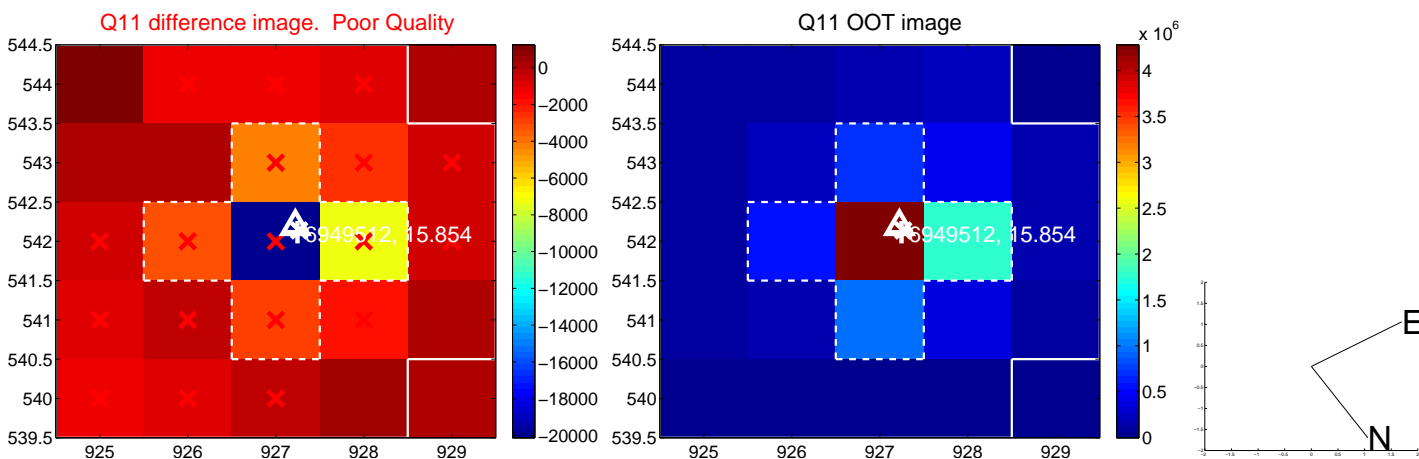
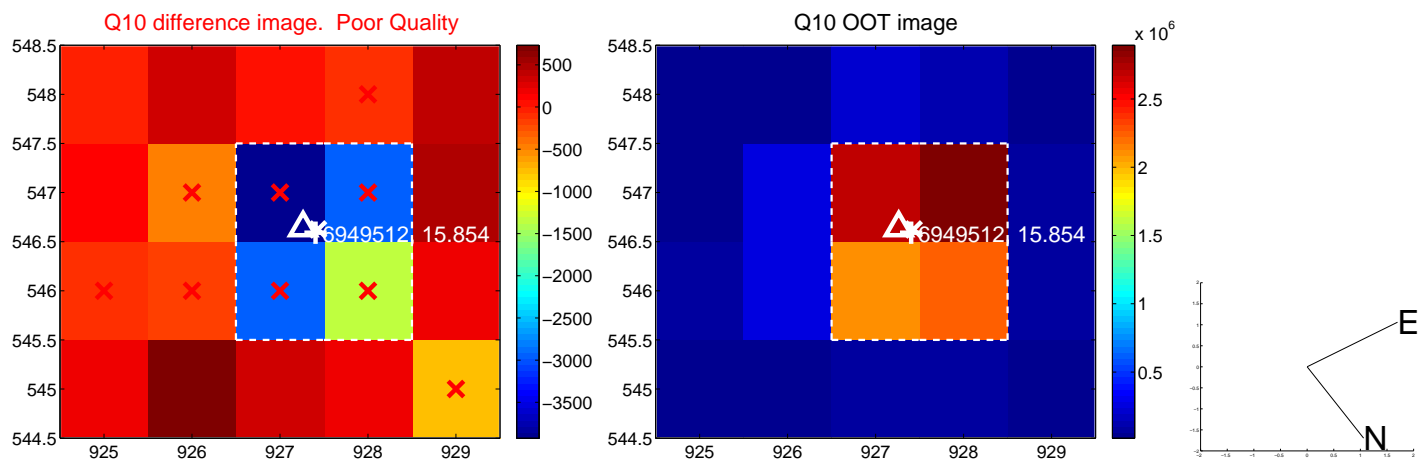
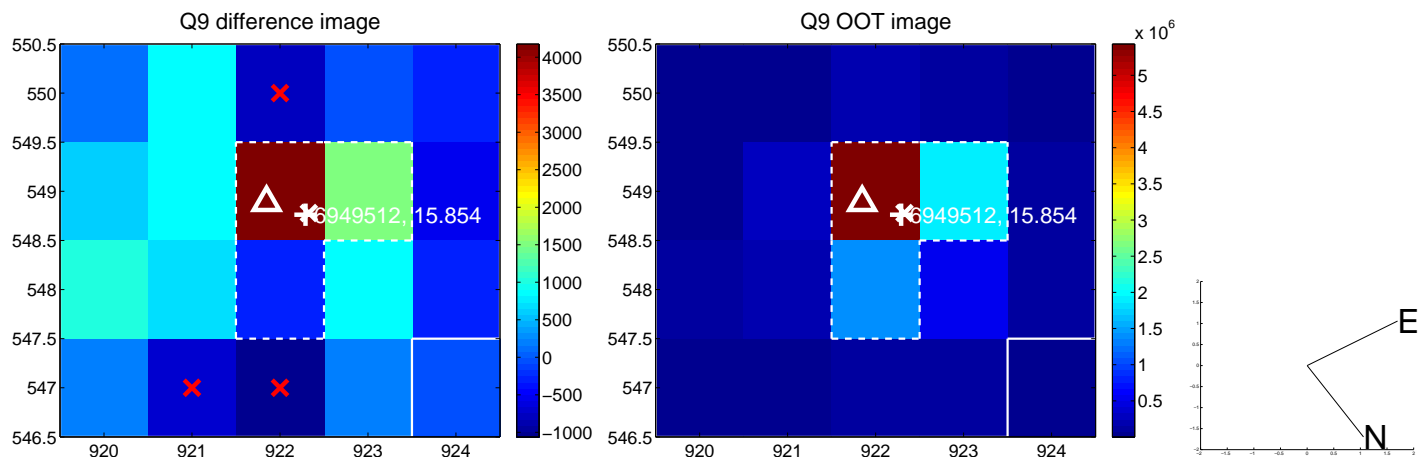
Q4 OOT image



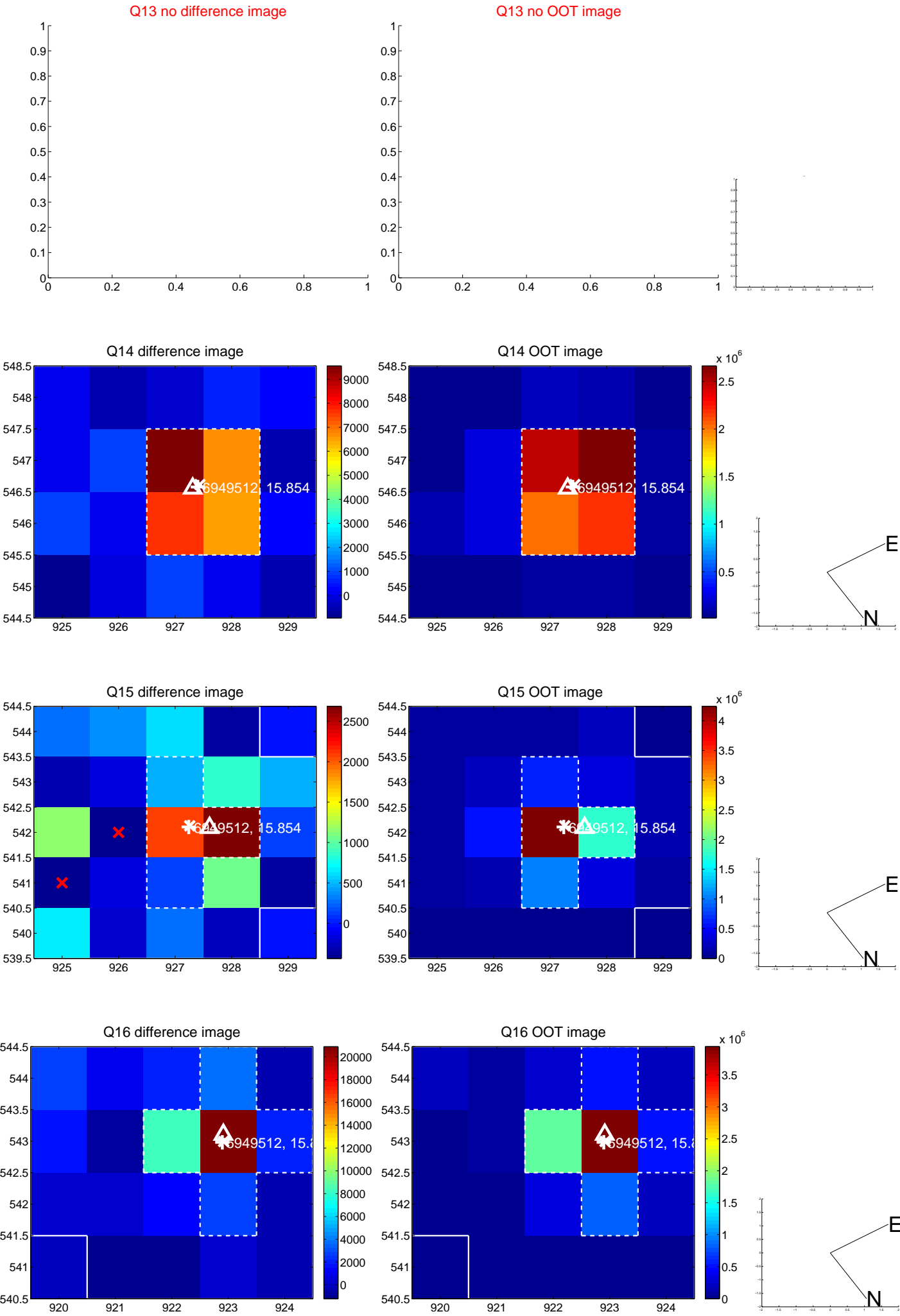
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



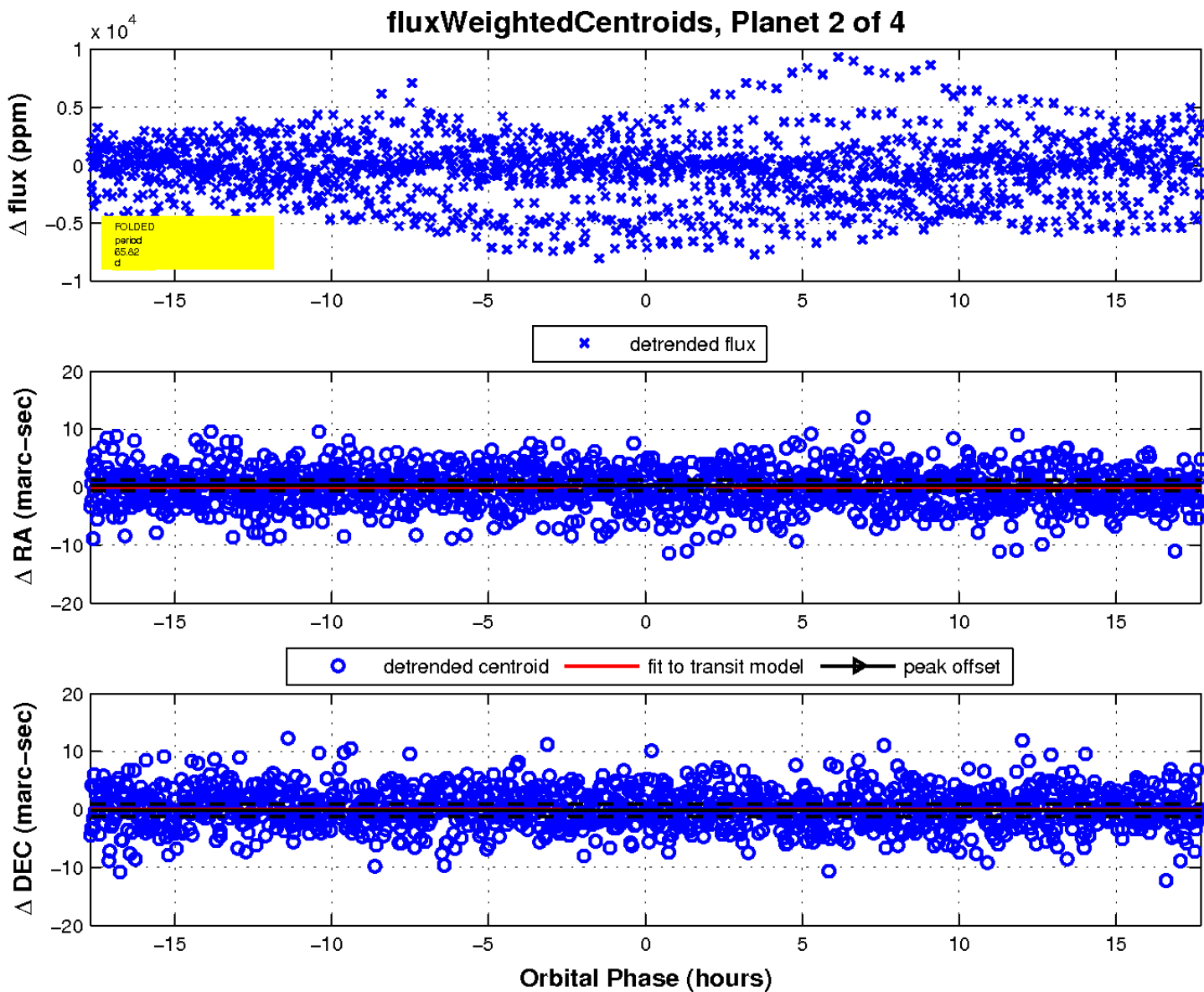
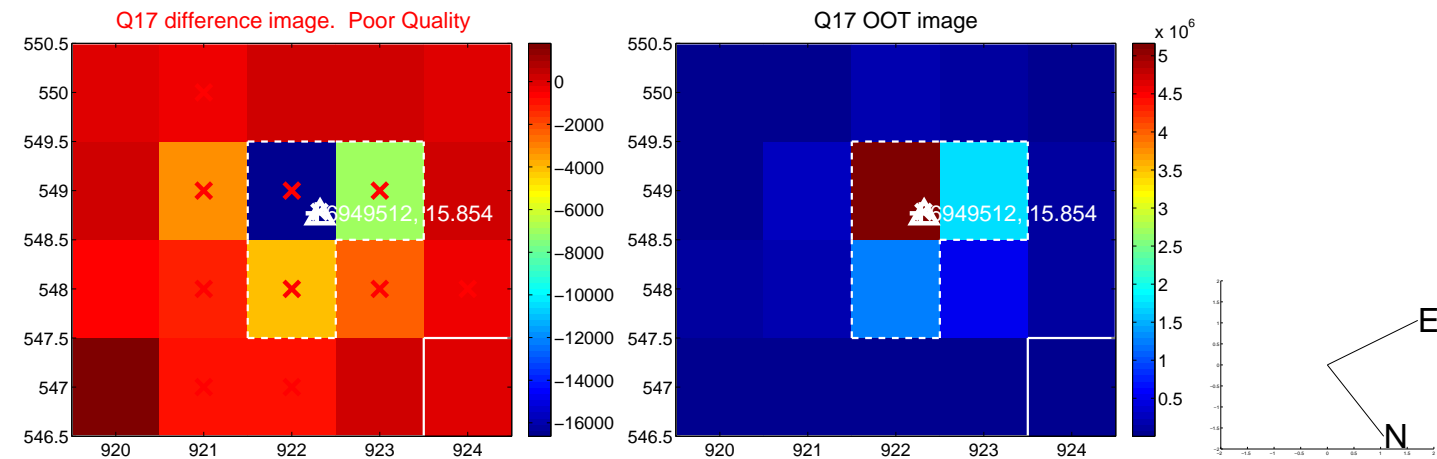
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

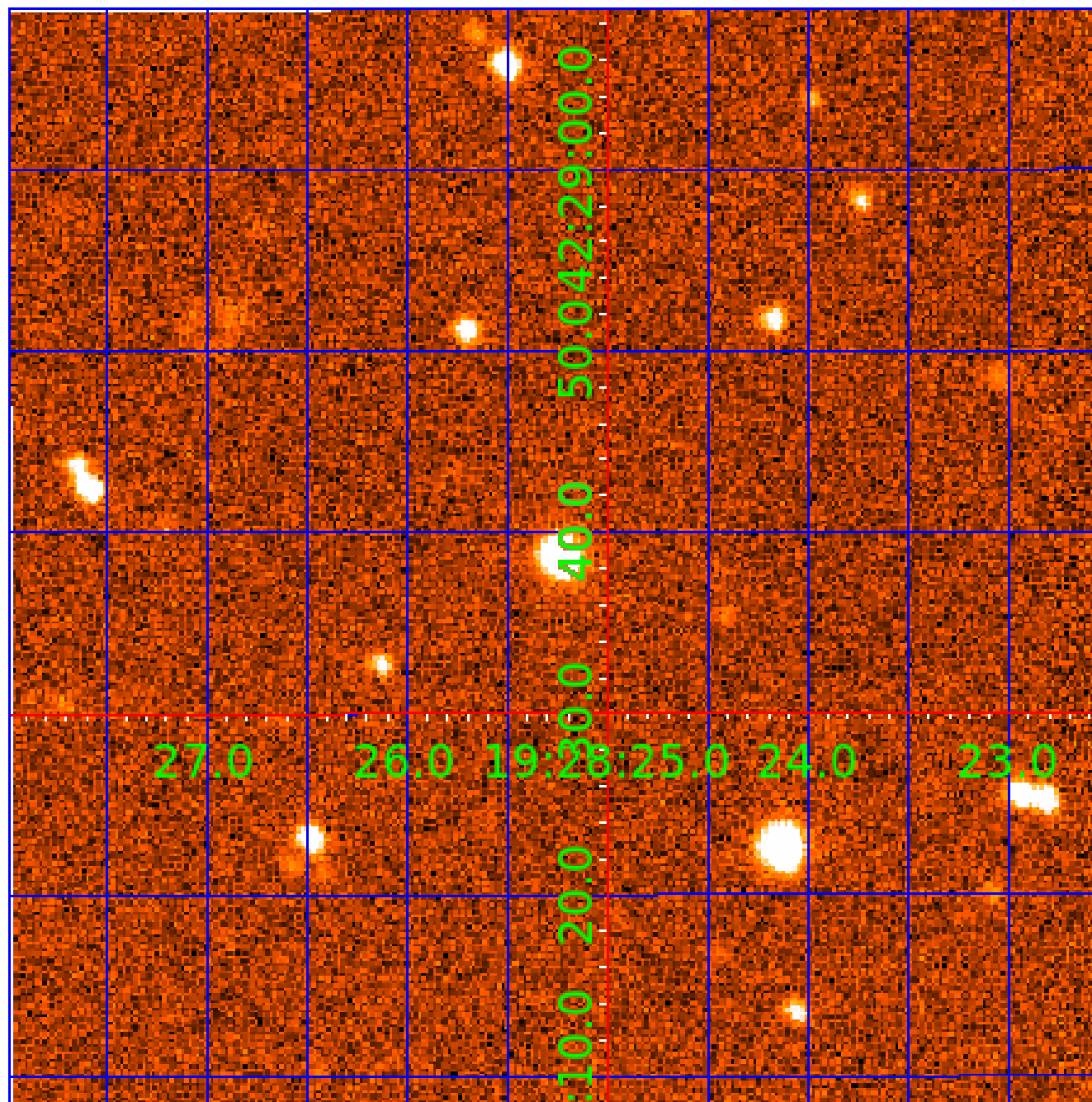


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006949512

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})
006949512-01	OBS	No	0.781283	131.554216	64.9	3.948	7.2	5.2	0.74	5491	0.62	2089.96
006949512-02	OBS	No	65.819609	191.899646	939.3	5.907	9.8	3.8	0.74	5491	2.40	5.66
006949512-03	OBS	No	226.784545	180.155432	3802.6	18.875	8.9	1.8	0.74	5491	8.45	1.09
006949512-04	OBS	No	95.939891	178.134059	446.6	1.671	8.4	1.4	0.74	5491	1.79	3.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006949512-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006949512-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT
006949512-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006949512-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

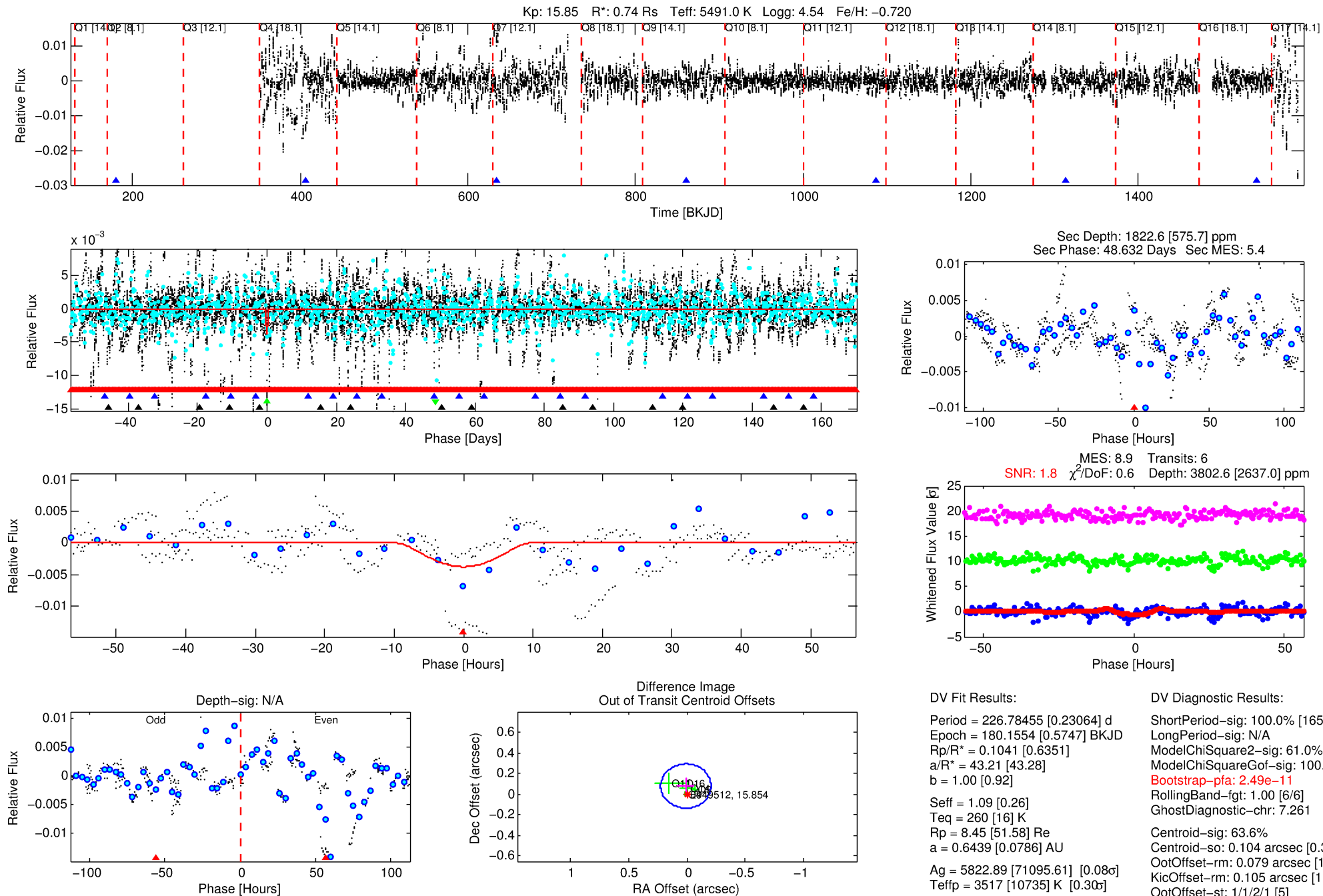
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006949512-03

No Significant Match Found

DV One-Page Summary

KIC: 6949512 Candidate: 3 of 4 Period: 226.785 d



DV Fit Results:

Period = 226.78455 [0.23064] d
Epoch = 180.1554 [0.5747] BKJD
Rp/R* = 0.1041 [0.6351]
a/R* = 43.21 [43.28]
b = 1.00 [0.92]
Seff = 1.09 [0.26]
Teq = 260 [16] K
Rp = 8.45 [51.58] Re
a = 0.6439 [0.0786] AU
Ag = 5822.89 [71095.61] [0.08σ]
Teff = 3517 [10735] K [0.30σ]

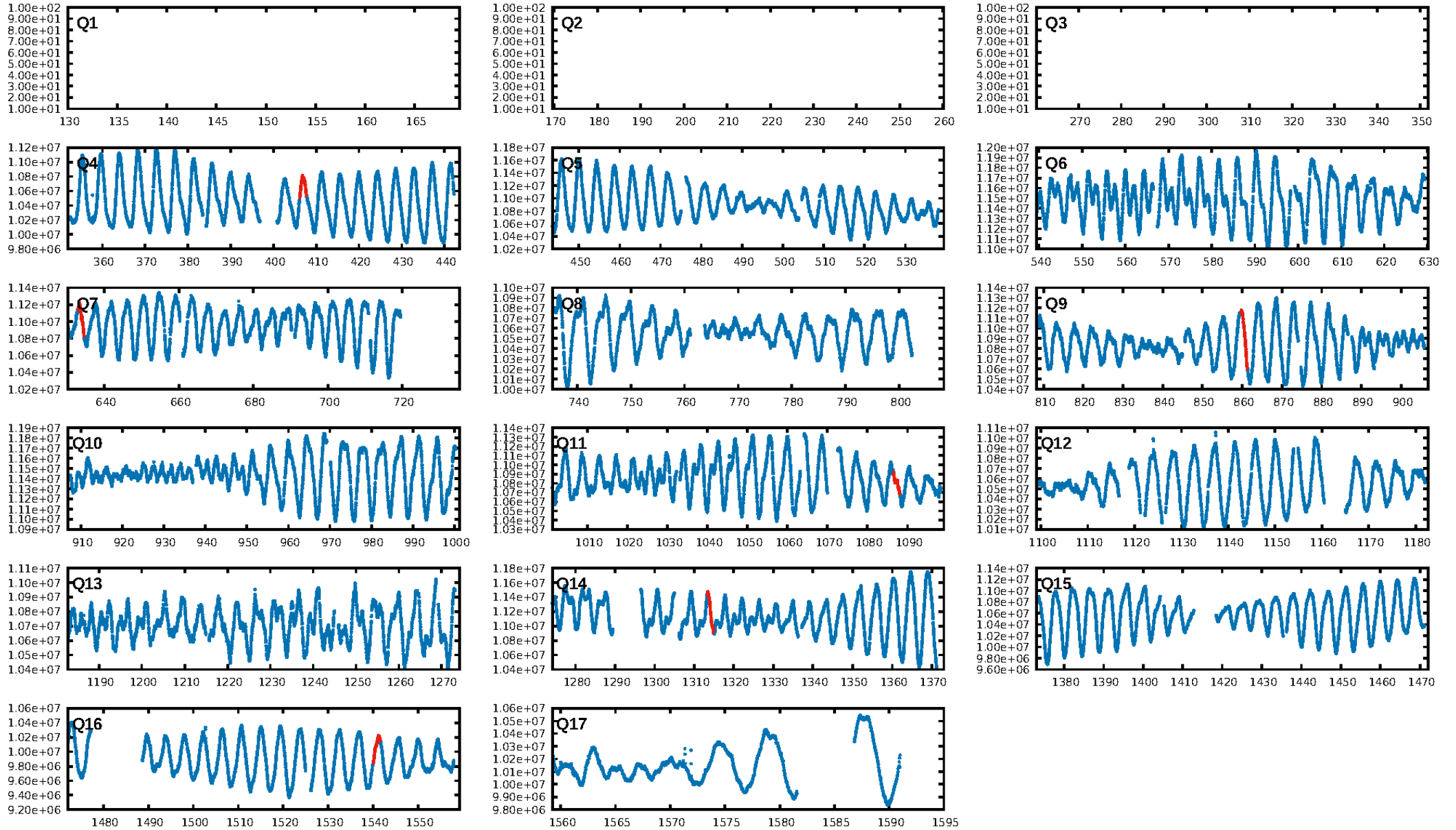
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [165.72σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 61.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.49e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 7.261
Centroid-sig: 63.6%
Centroid-so: 0.104 arcsec [0.31σ]
OotOffset-rm: 0.079 arcsec [1.11σ]
KicOffset-rm: 0.105 arcsec [1.39σ]
OotOffset-st: 1/1/2/1 [5]
KicOffset-st: 1/1/2/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.00 [0/5]

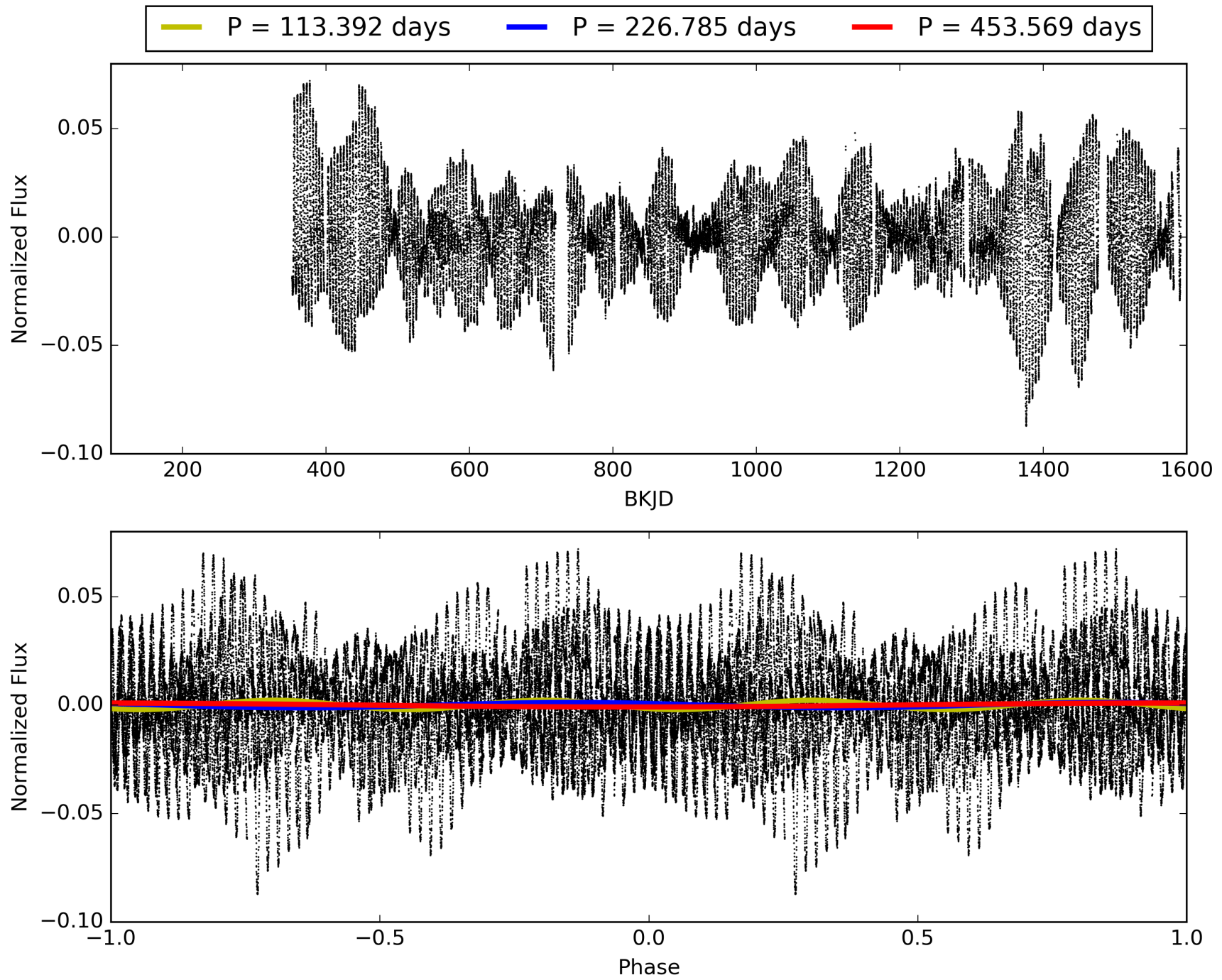
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:38:05 Z

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

TCE 006949512-03, PDC Light Curves

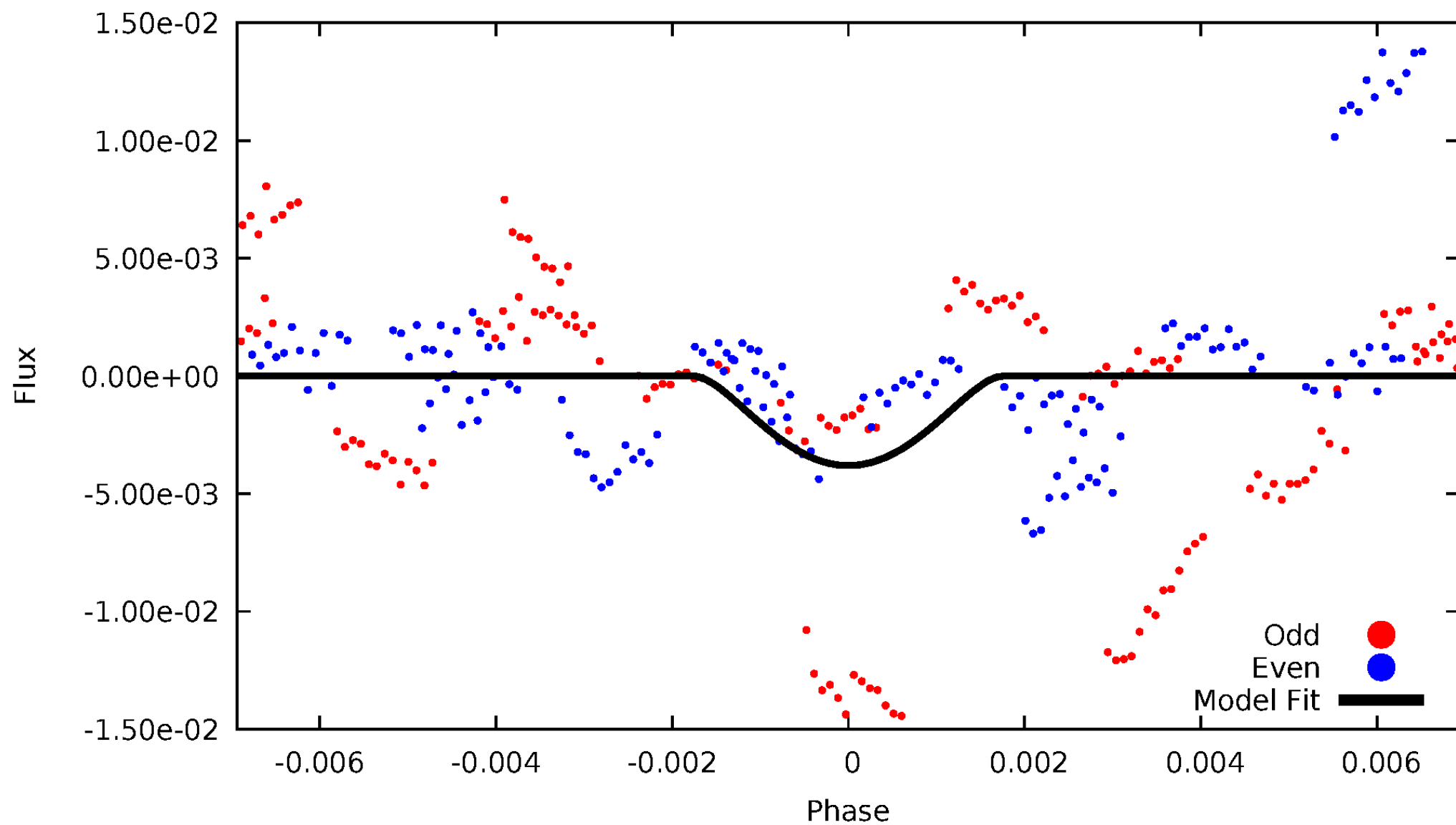


TCE 006949512-03



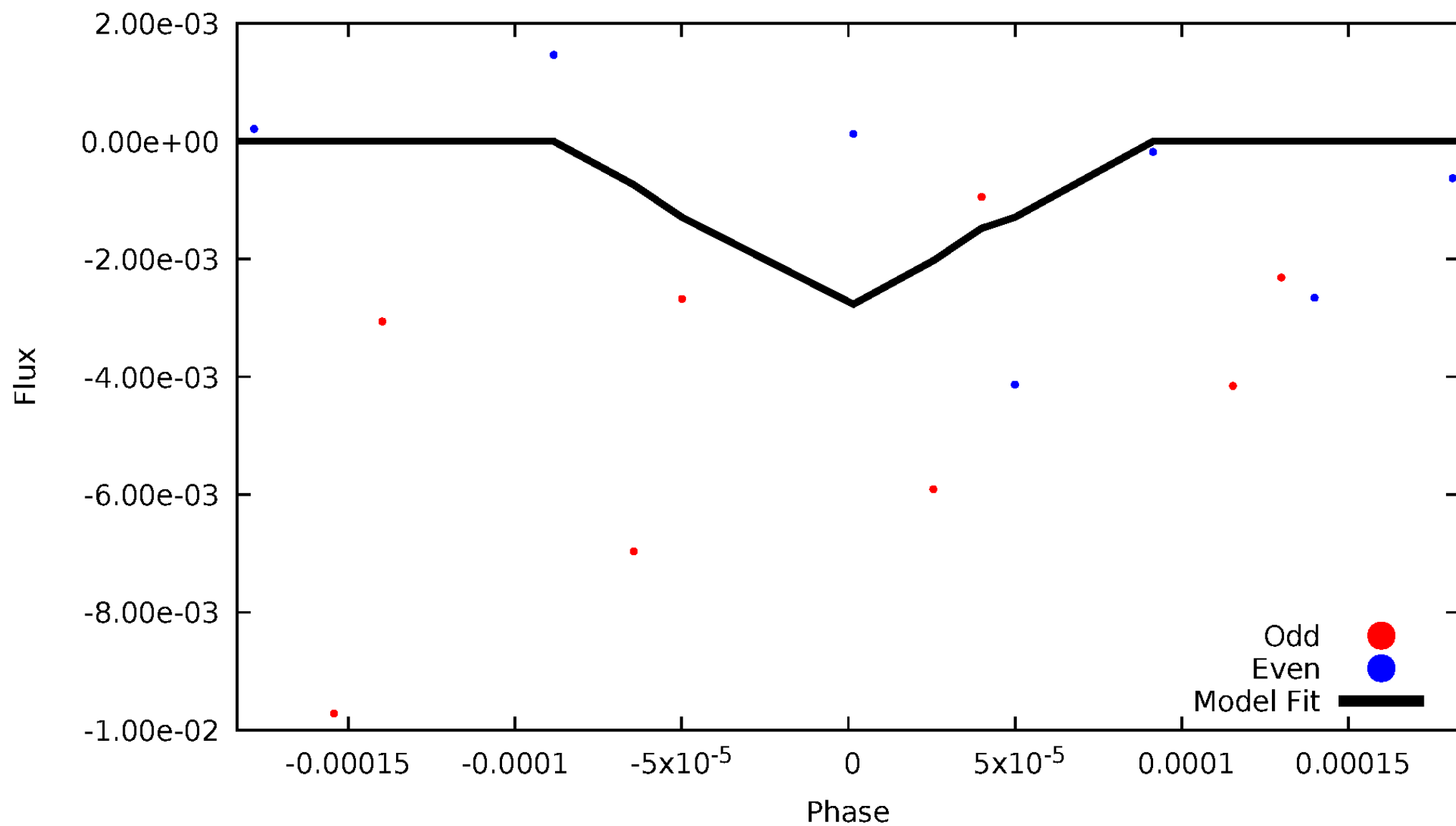
DV Odd/Even

TCE 006949512-03



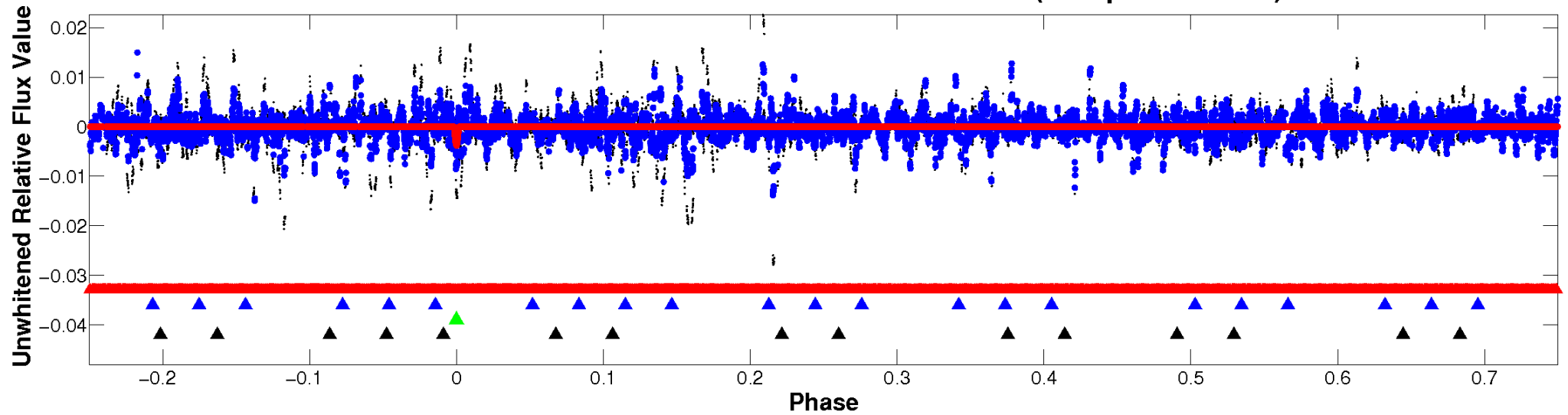
ALT Odd/Even

TCE 006949512-03

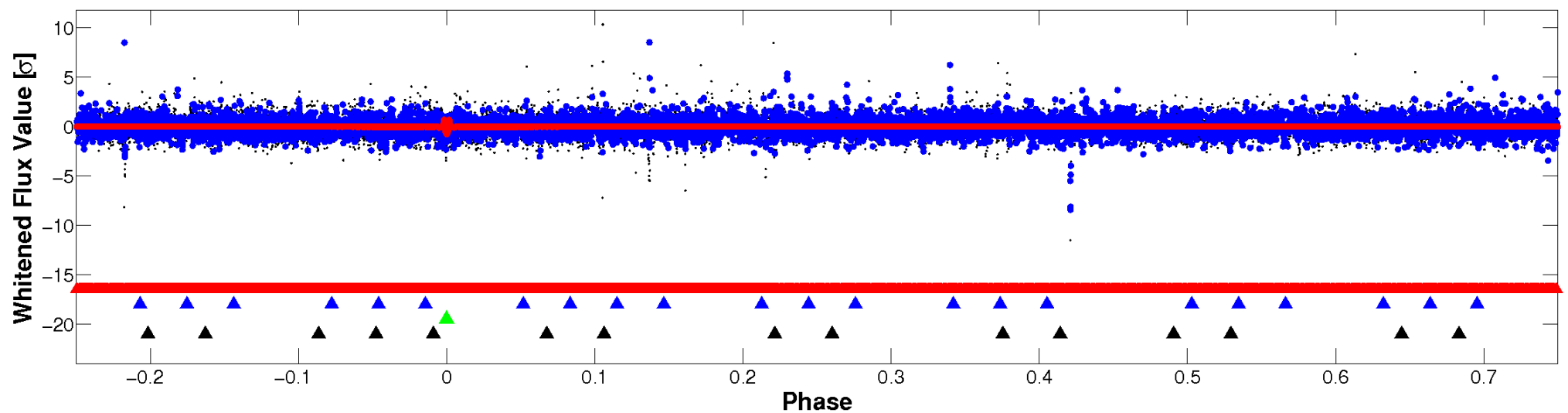


Non-Whitened Vs. Whitened Light Curve

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

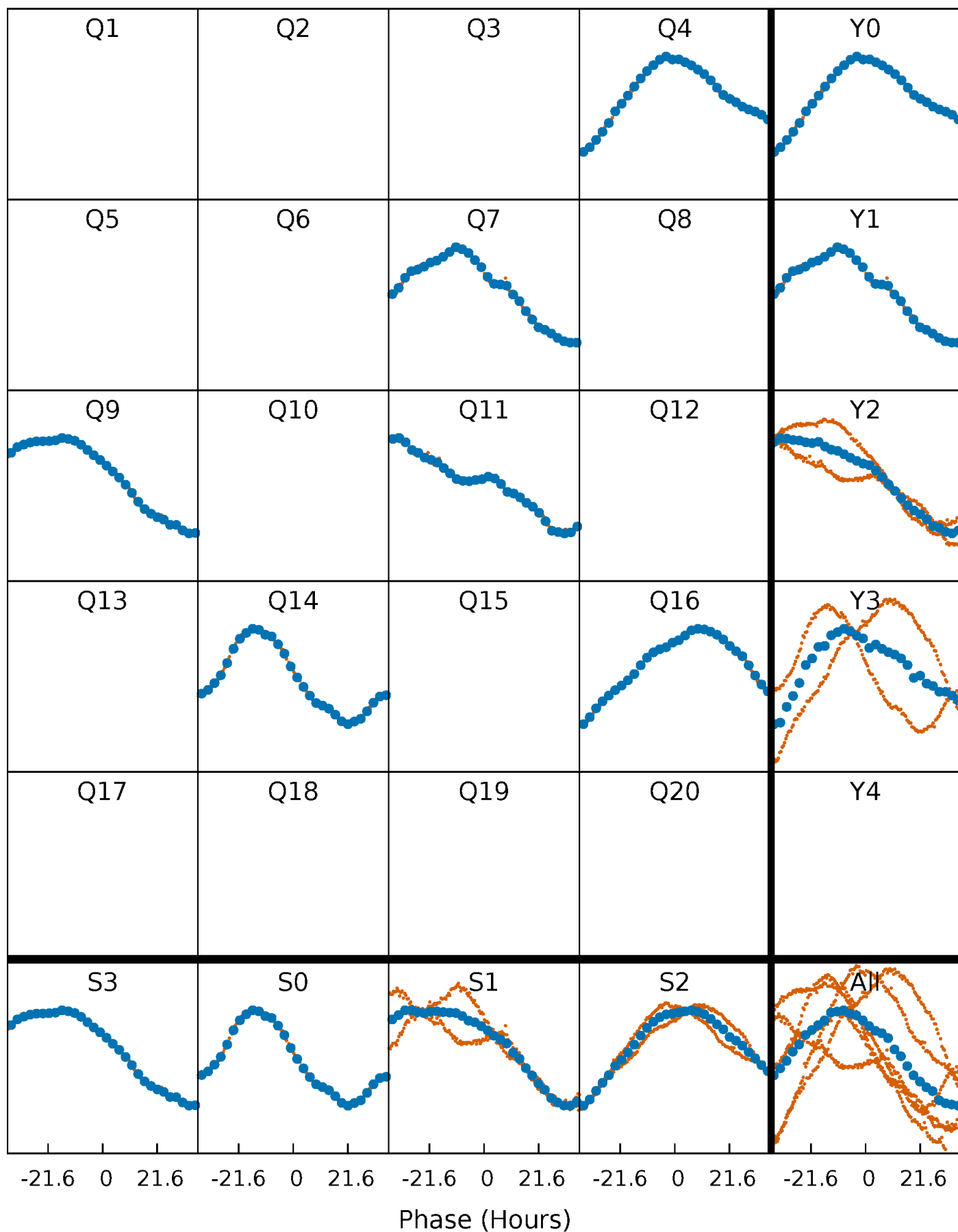


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



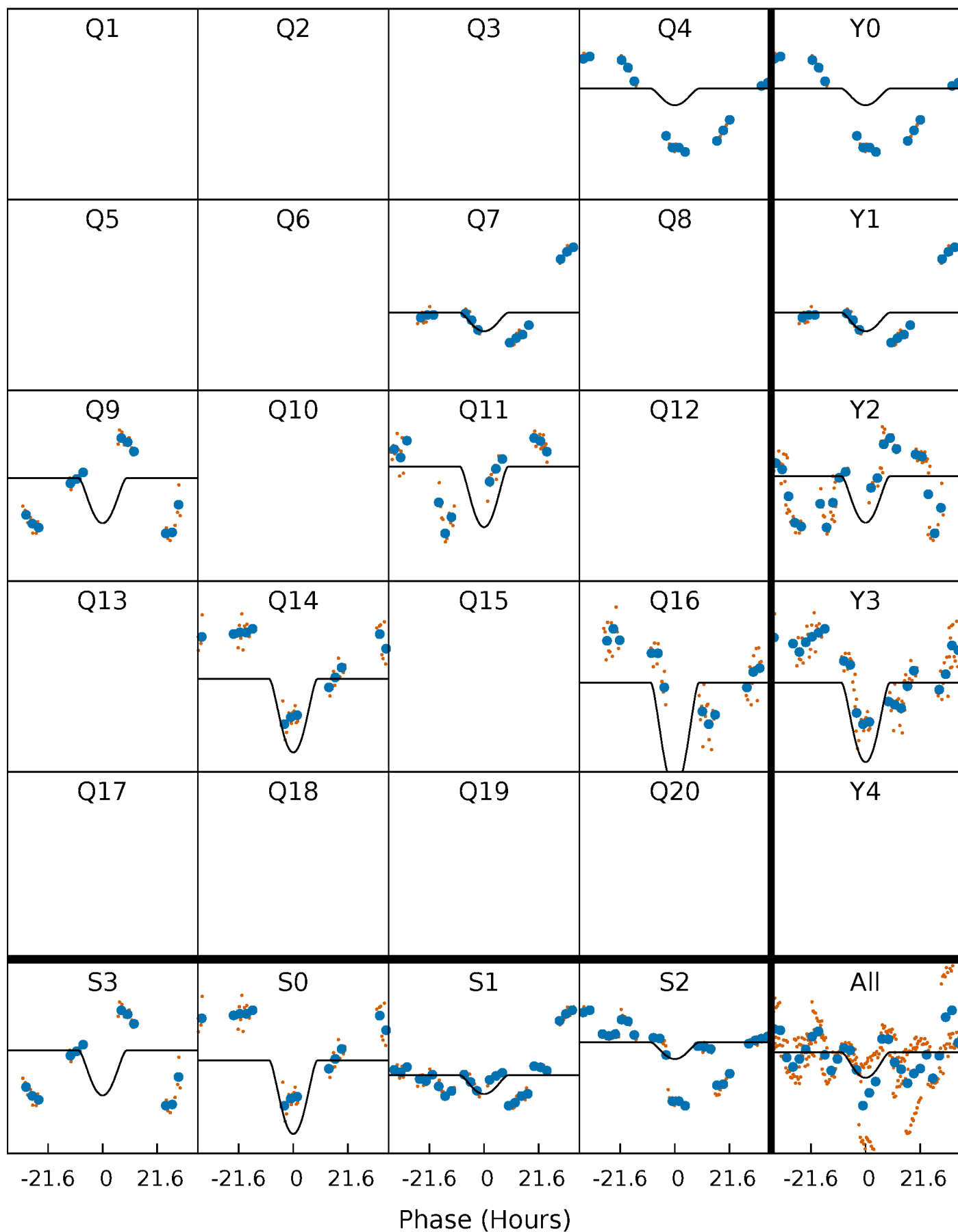
PDC Quarter-Phased Transit Curves

TCE 006949512-03 P=226.784545 Days $T_0=180.155432$ (BKJD)



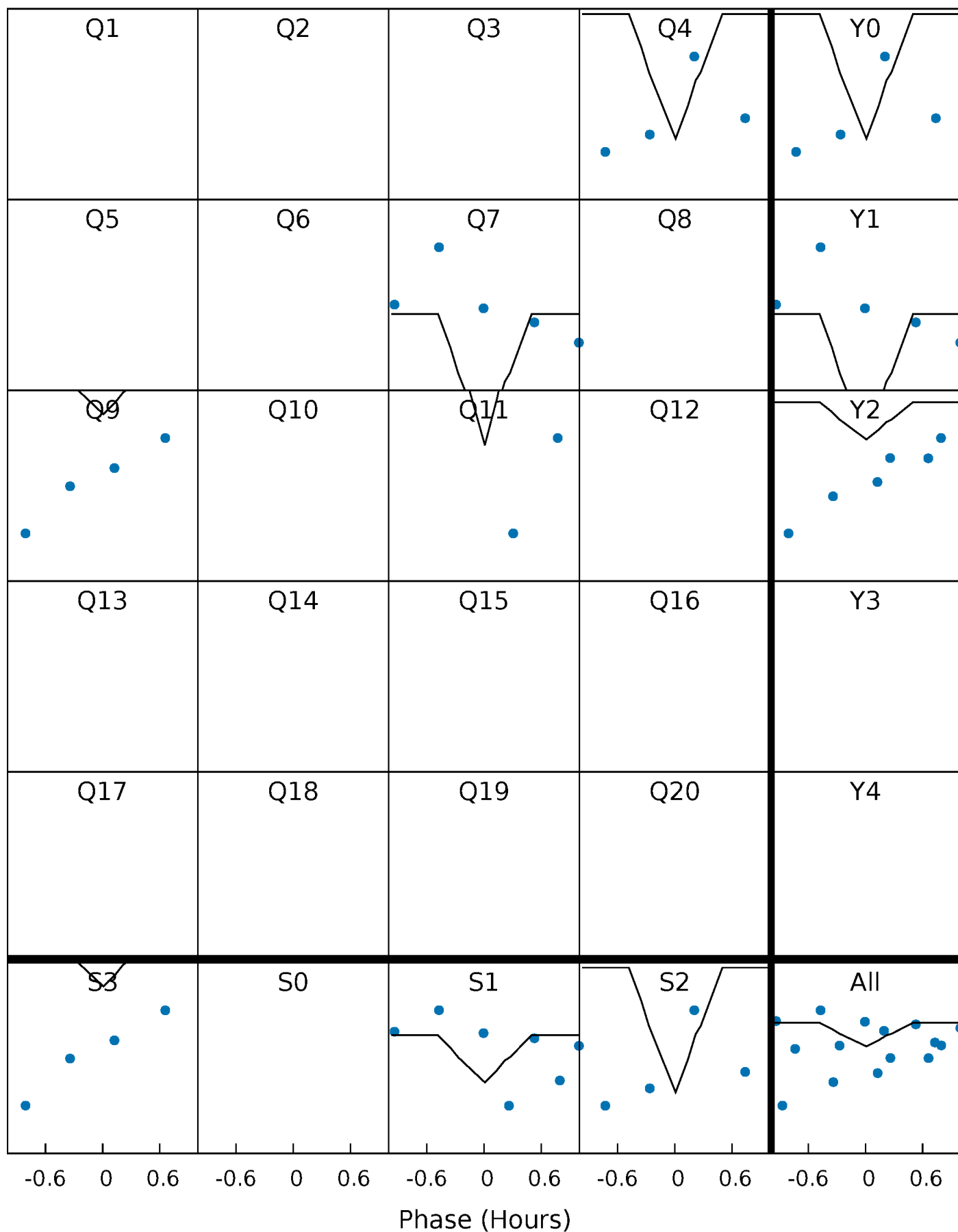
DV Quarter-Phased Transit Curves

TCE 006949512-03 $P=226.784545$ Days $T_0=180.155432$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

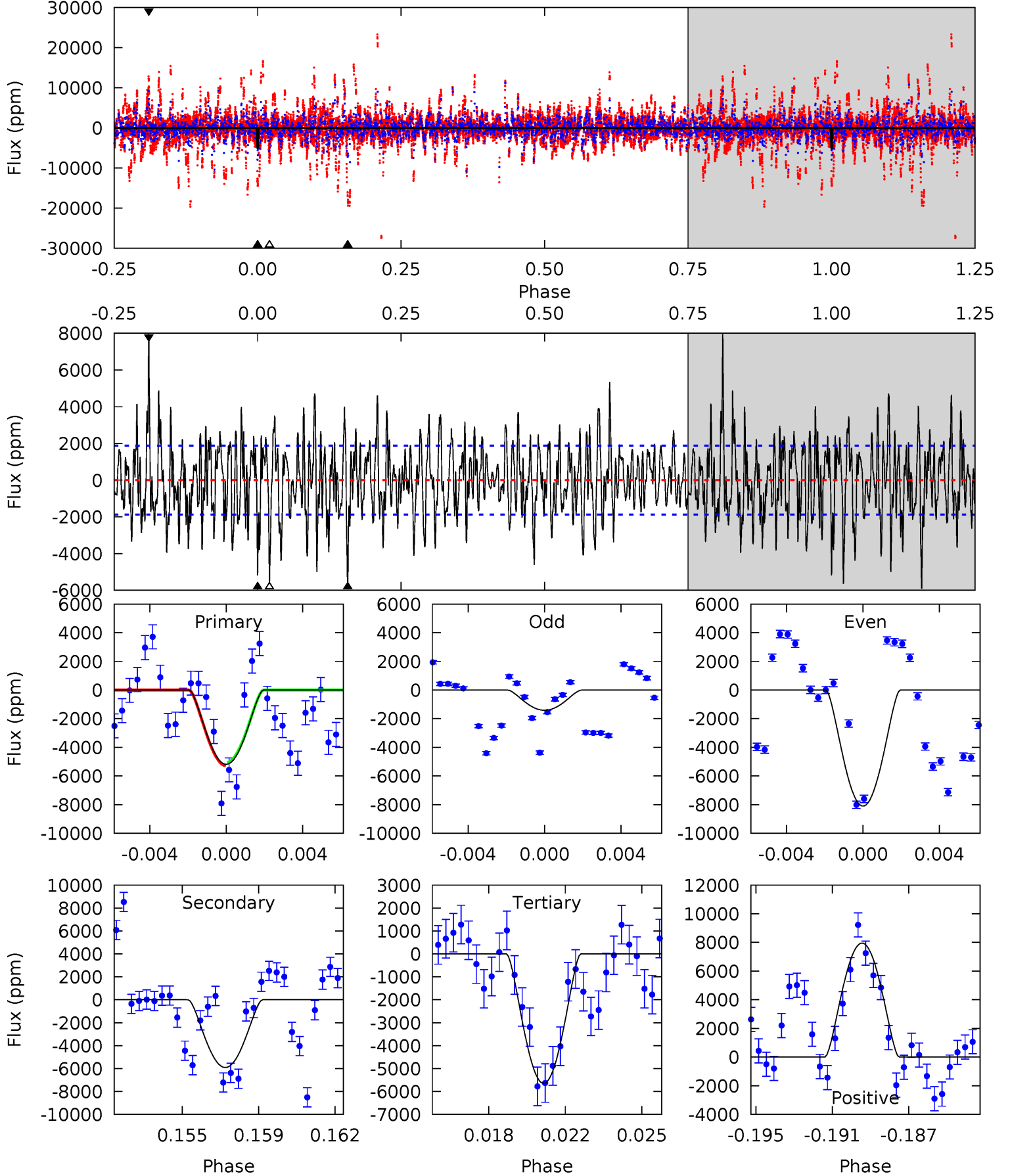
TCE 006949512-03 P=227.296110 Days $T_0=178.913258$ (BKJD)



DV Model-Shift Uniqueness Test

006949512-03, P = 226.784545 Days, E = 180.155432 Days

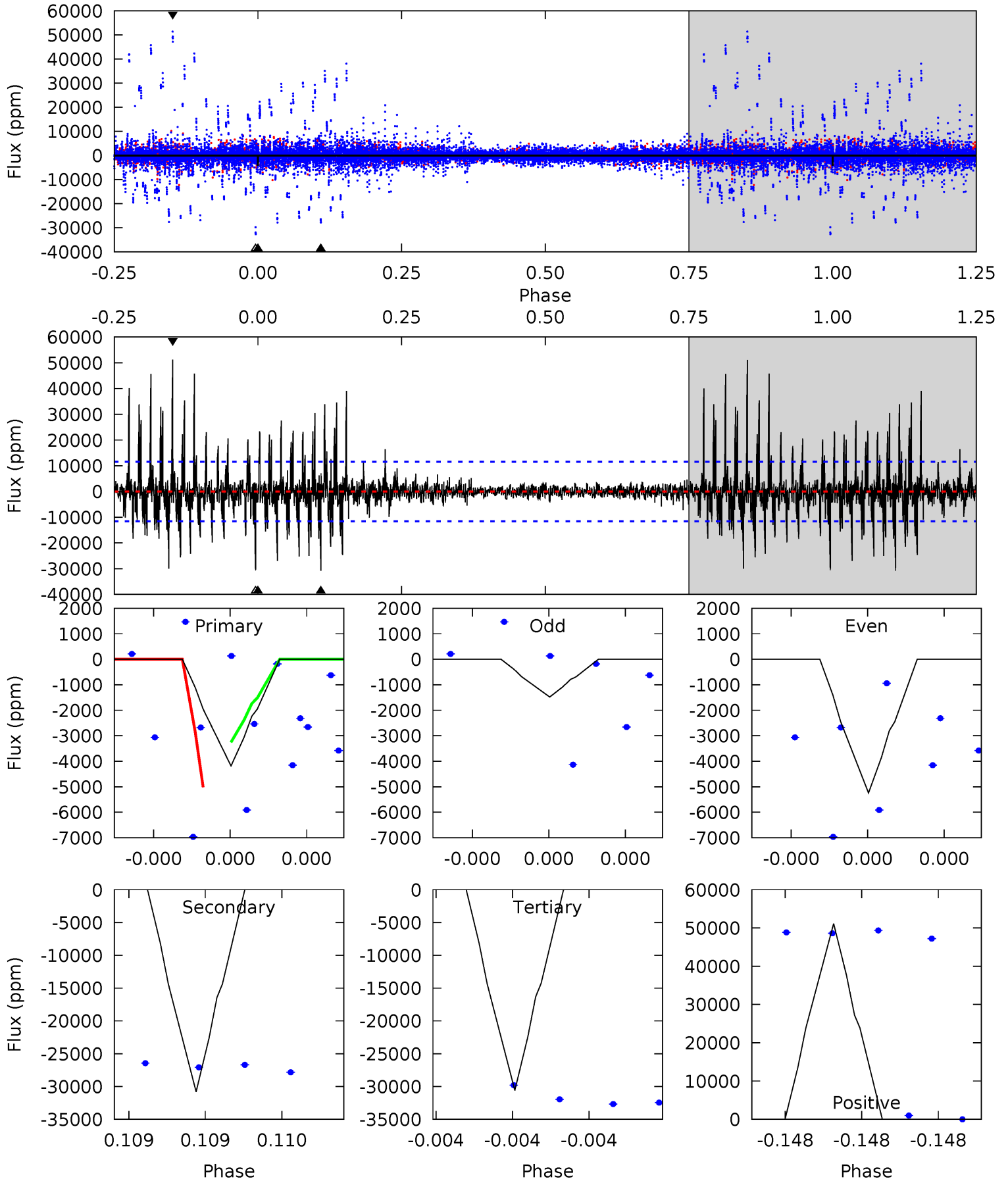
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	16.4	15.7	22.1	5.22	2.91	4.77	-1.28	-7.70	0.73	-5.70	8.95	1.13	0.57	0.32



Alt Model-Shift Uniqueness Test

006949512-03, P = 227.296110 Days, E = 178.913258 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.09	15.4	15.3	25.6	5.79	3.81	1.81	-13.2	-23.5	0.11	-10.2	0.71	1.00	0.62	0.00



Stellar Parameters For KIC 006949512

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5491^{+212}_{-192}	$4.535^{+0.104}_{-0.085}$	$-0.720^{+0.300}_{-0.300}$	$0.744^{+0.103}_{-0.083}$	$0.691^{+0.093}_{-0.035}$	$2.364^{+0.976}_{-0.632}$
	+4%/-3%	+2%/-2%	+42%/-42%	+14%/-11%	+13%/-5%	+41%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006949512-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5906 ± 360	$40.19^{+39.73}_{-27.40}$	362^{+20}_{-17}	2884^{+1302}_{-477}	872^{+7874}_{-659}
Alt.	-30808 ± 1999	$36.45^{+35.45}_{-26.14}$	363^{+18}_{-18}	3838^{+2732}_{-756}	5468^{+61066}_{-4005}

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 $A_{obs} \gg 1.0$

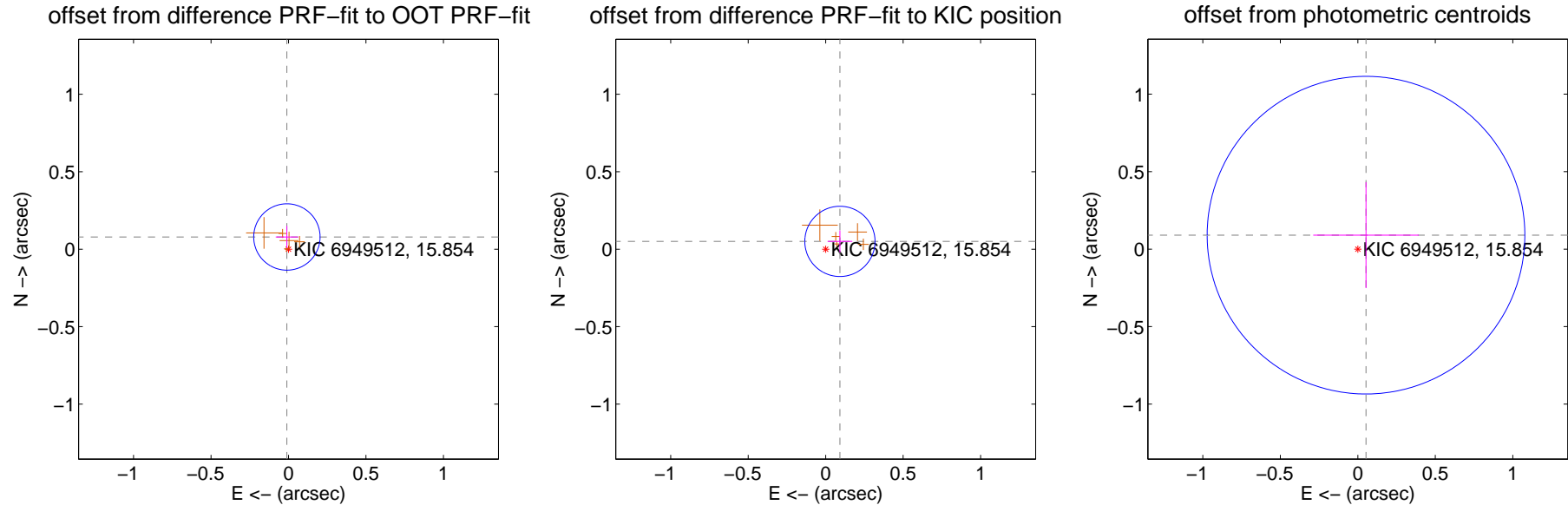
DV Centroid Data

Supplemental centroid analysis for 006949512-03. Kepler magnitude: 15.85. Transit SNR 1.81

There are 0 quarters with good PRF difference image offsets

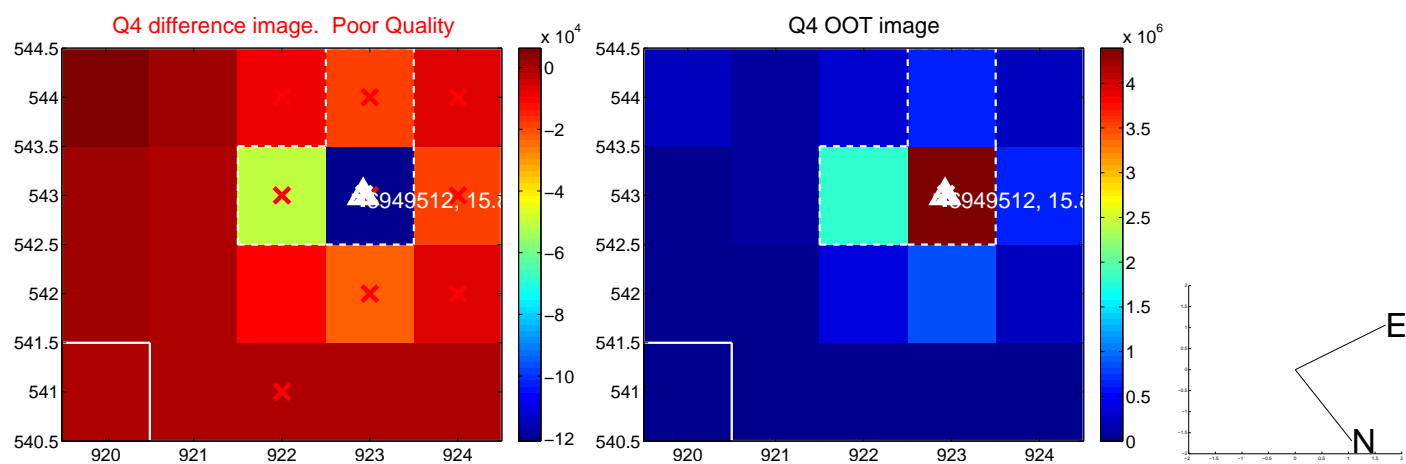
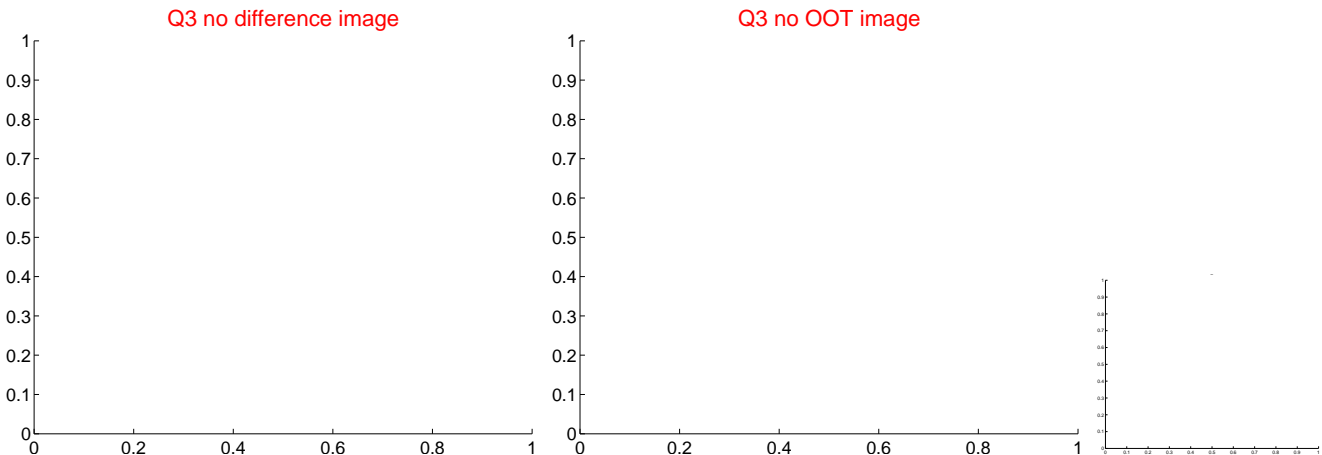
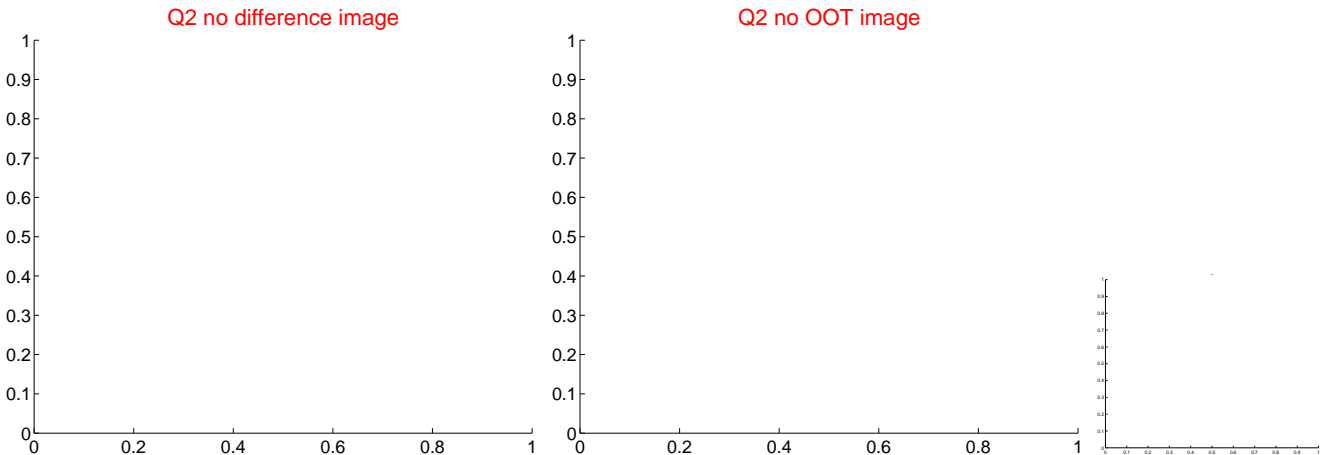
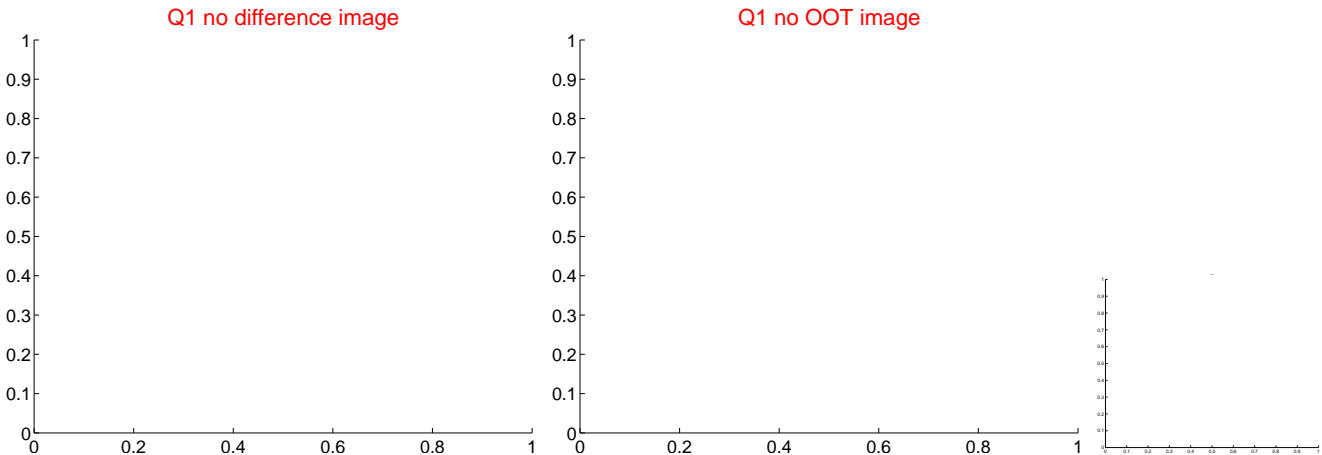
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.079 ± 0.071	1.11	0.010 ± 0.072	0.079 ± 0.071
PRF-fit source offset from KIC position	0.105 ± 0.076	1.39	-0.092 ± 0.080	0.050 ± 0.070
photometric centroid source offset	0.10 ± 0.34	0.31	-0.05 ± 0.34	0.09 ± 0.34

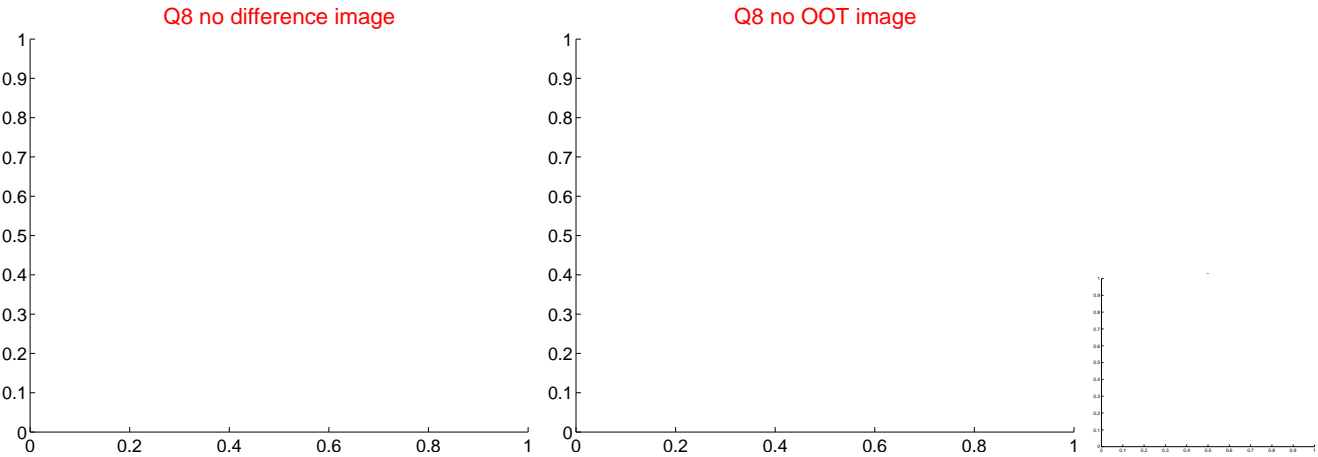
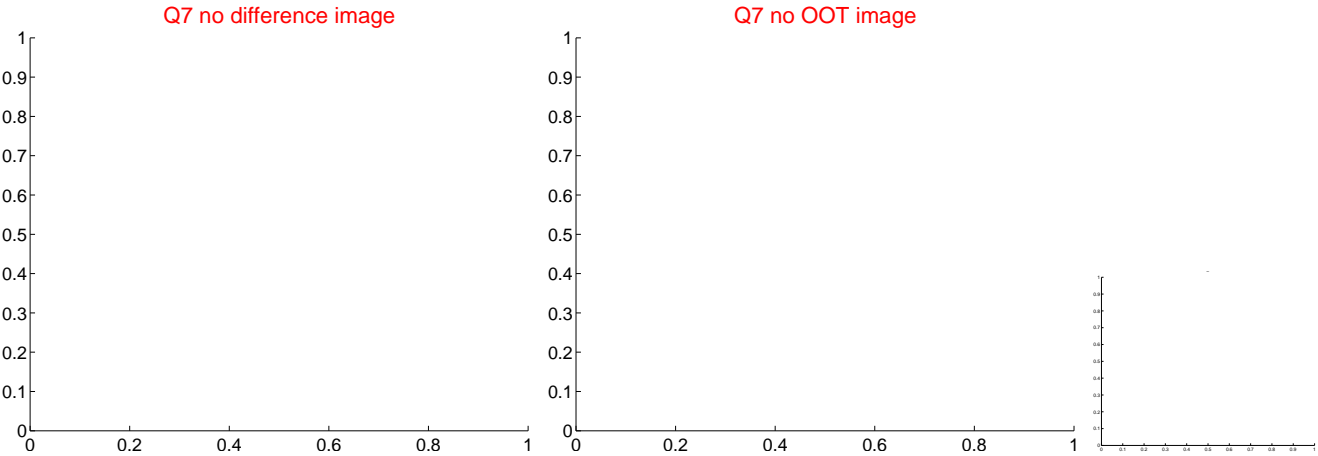
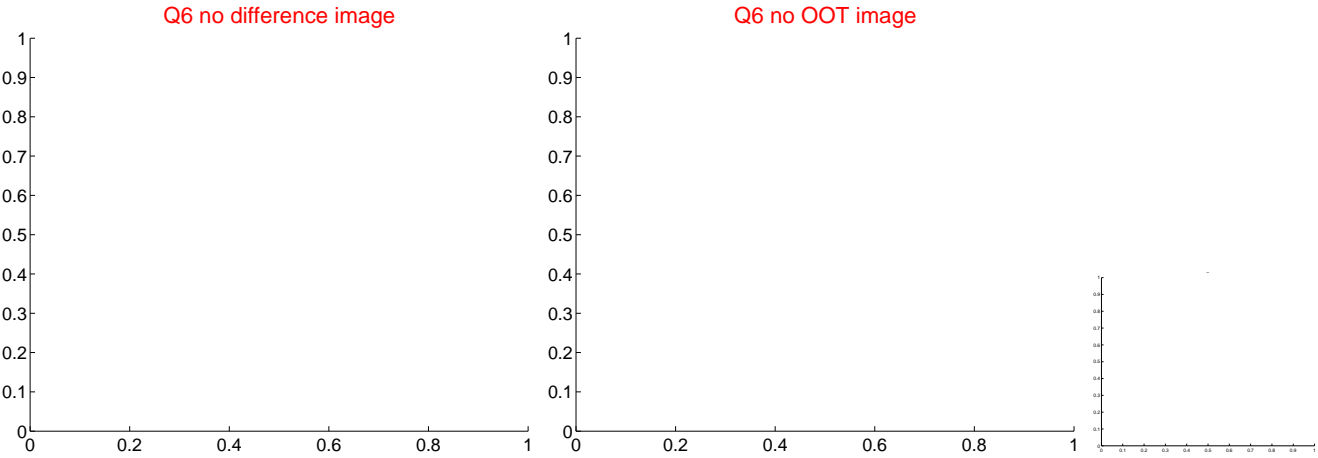
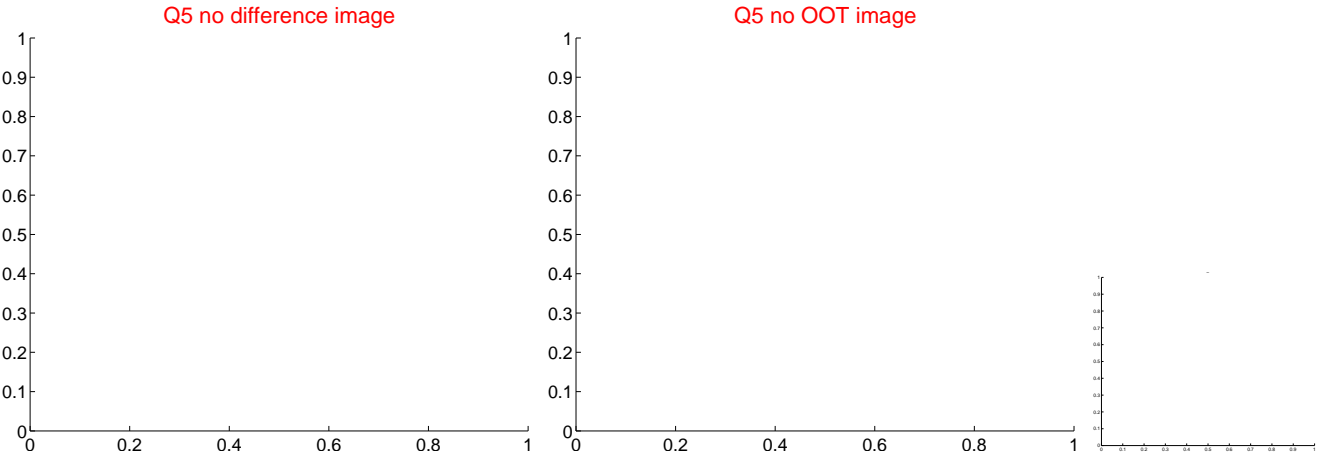


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

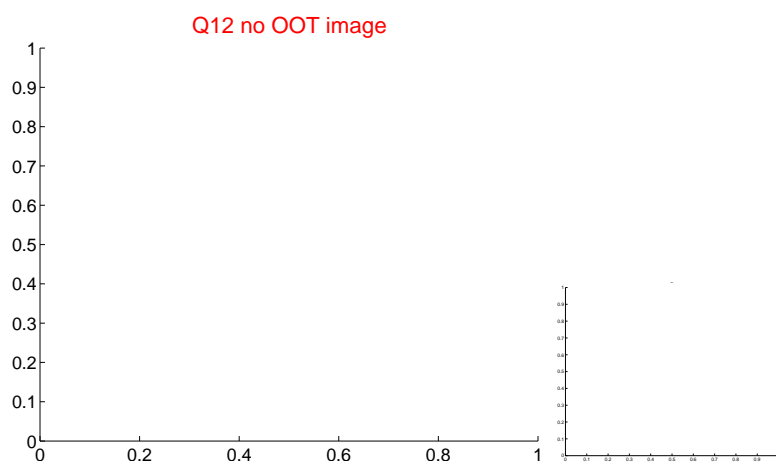
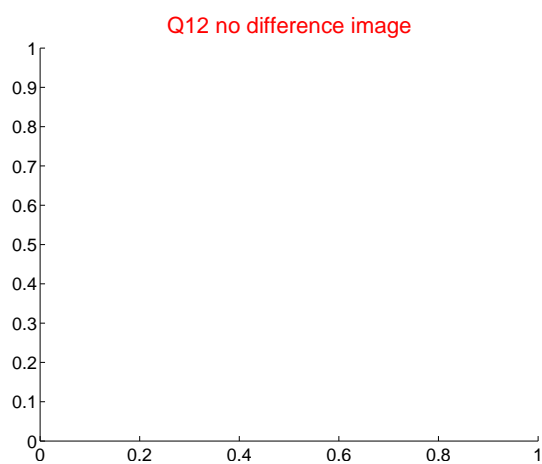
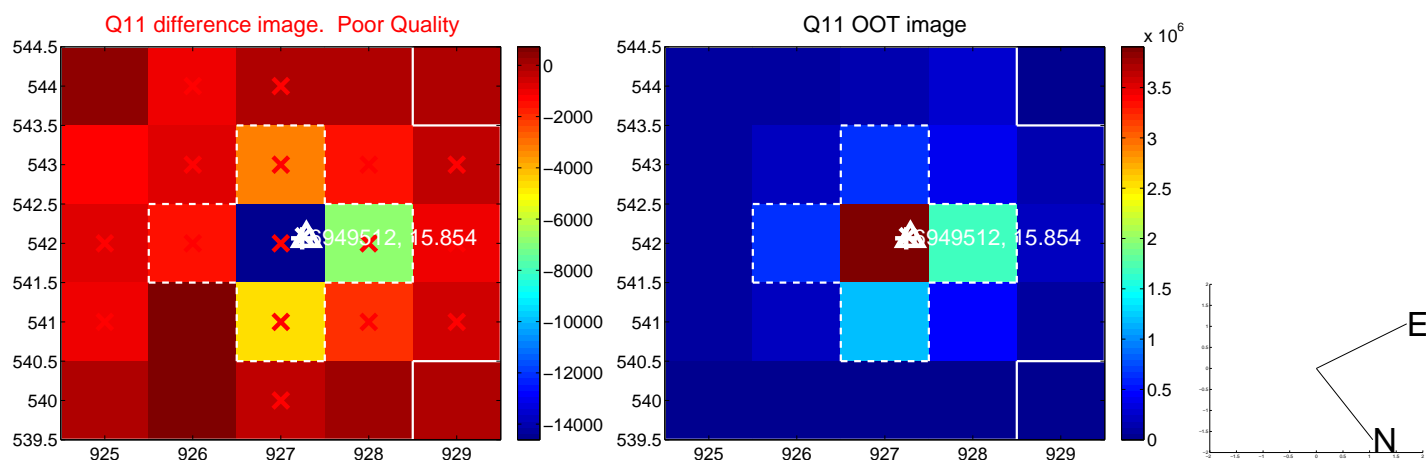
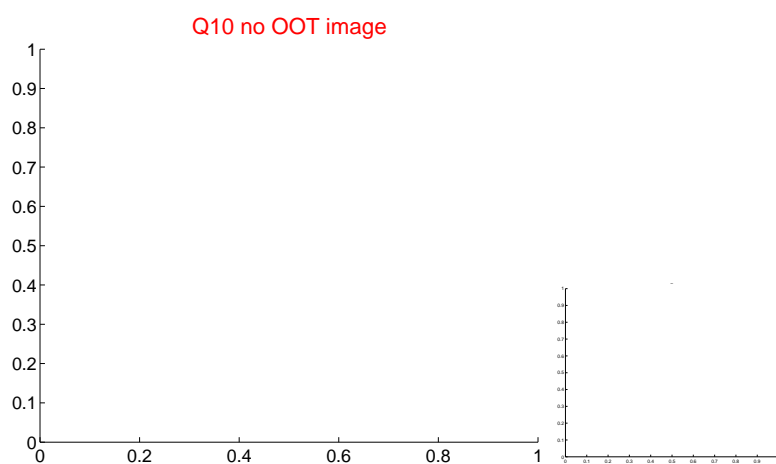
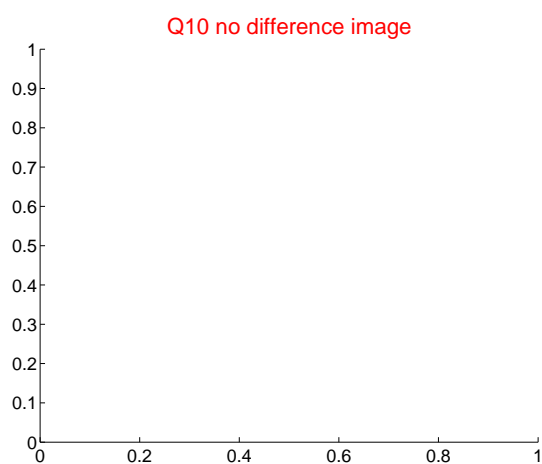
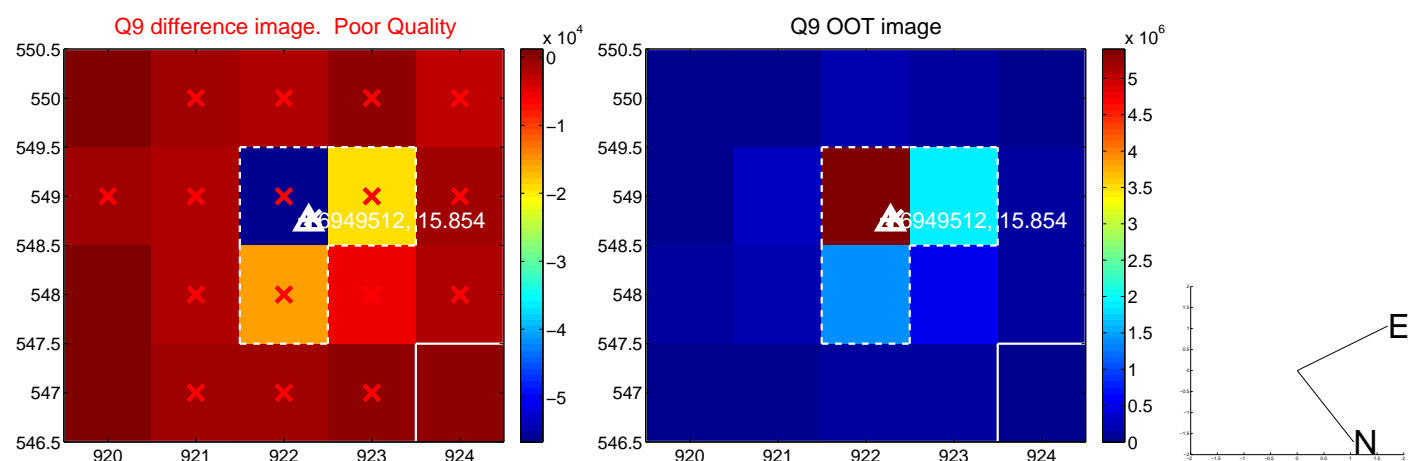
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

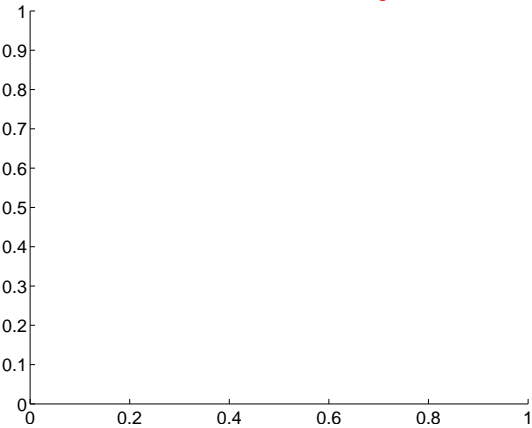


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

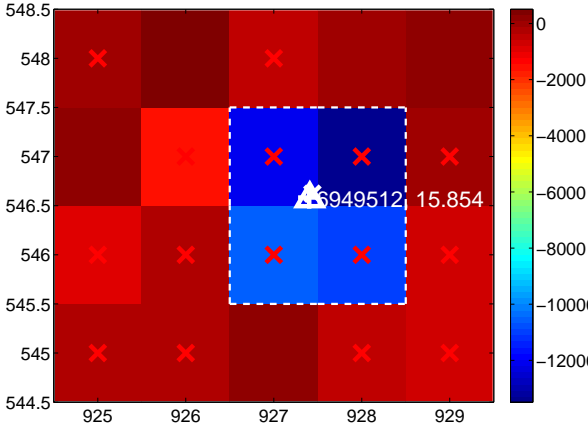
Q13 no difference image



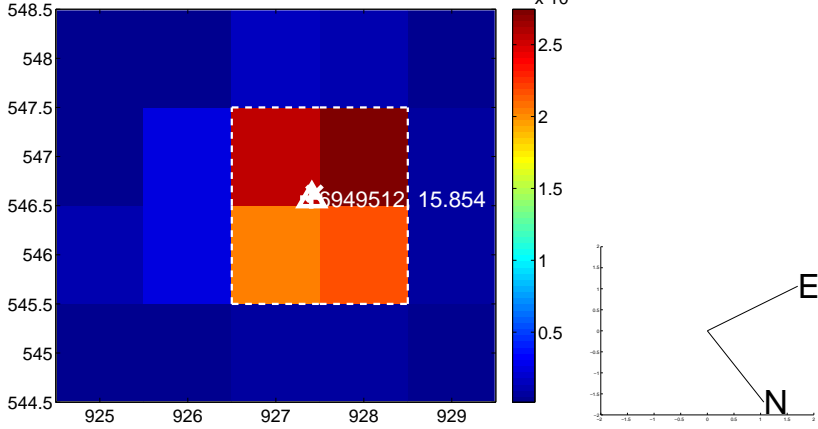
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



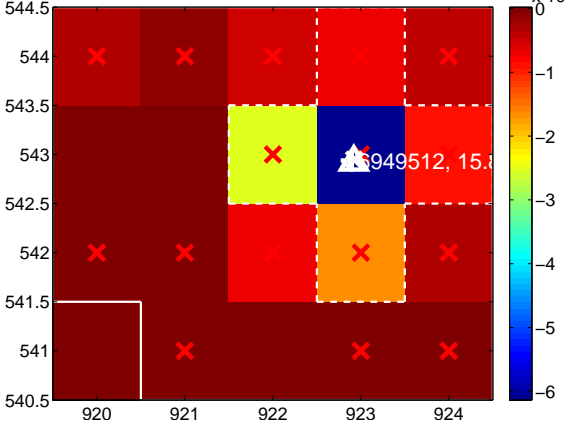
Q15 no difference image



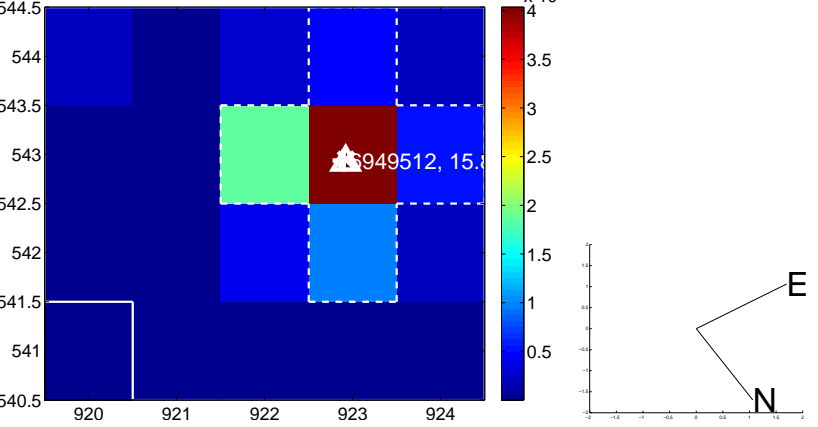
Q15 no OOT image



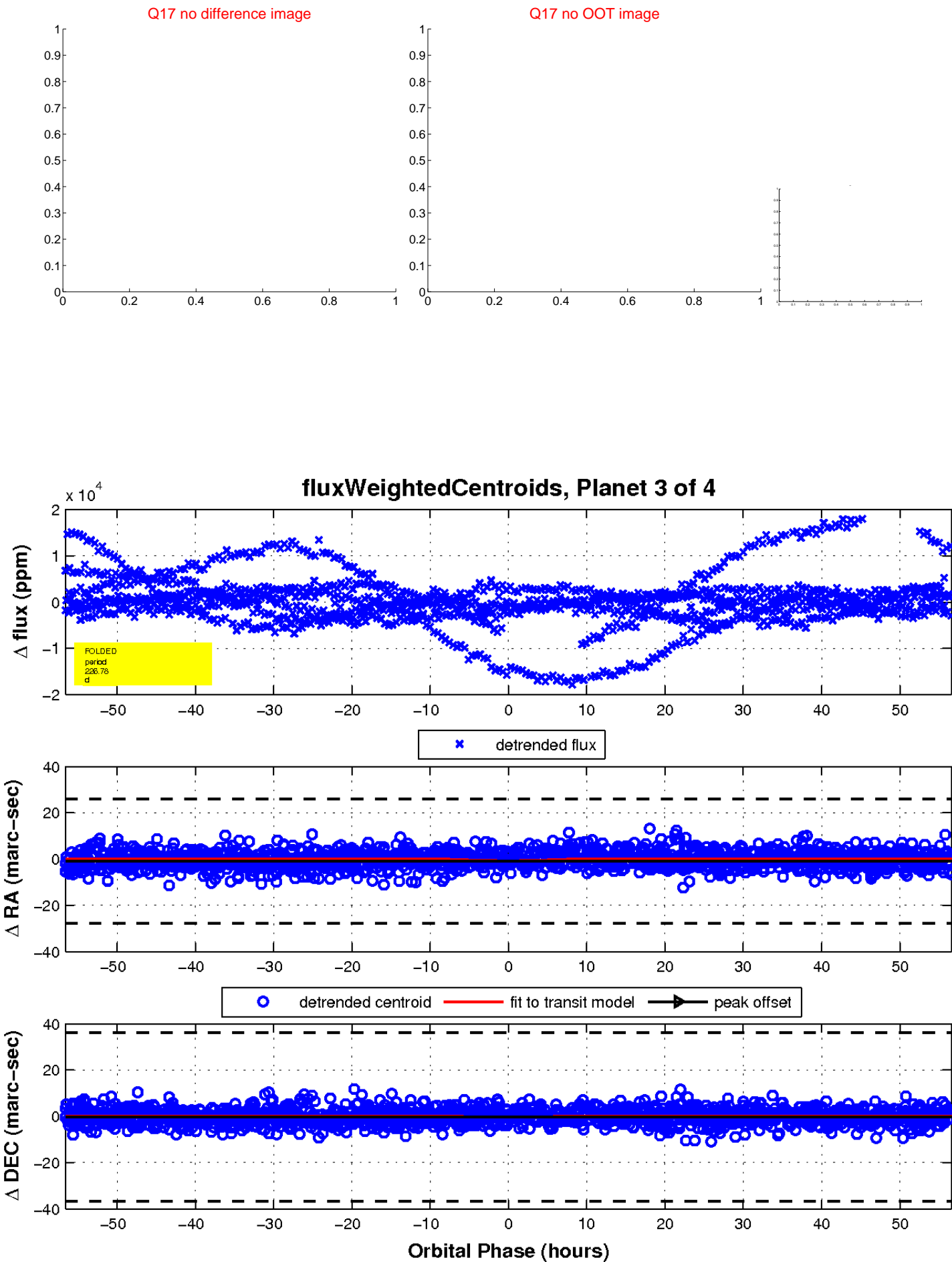
Q16 difference image. Poor Quality



Q16 OOT image

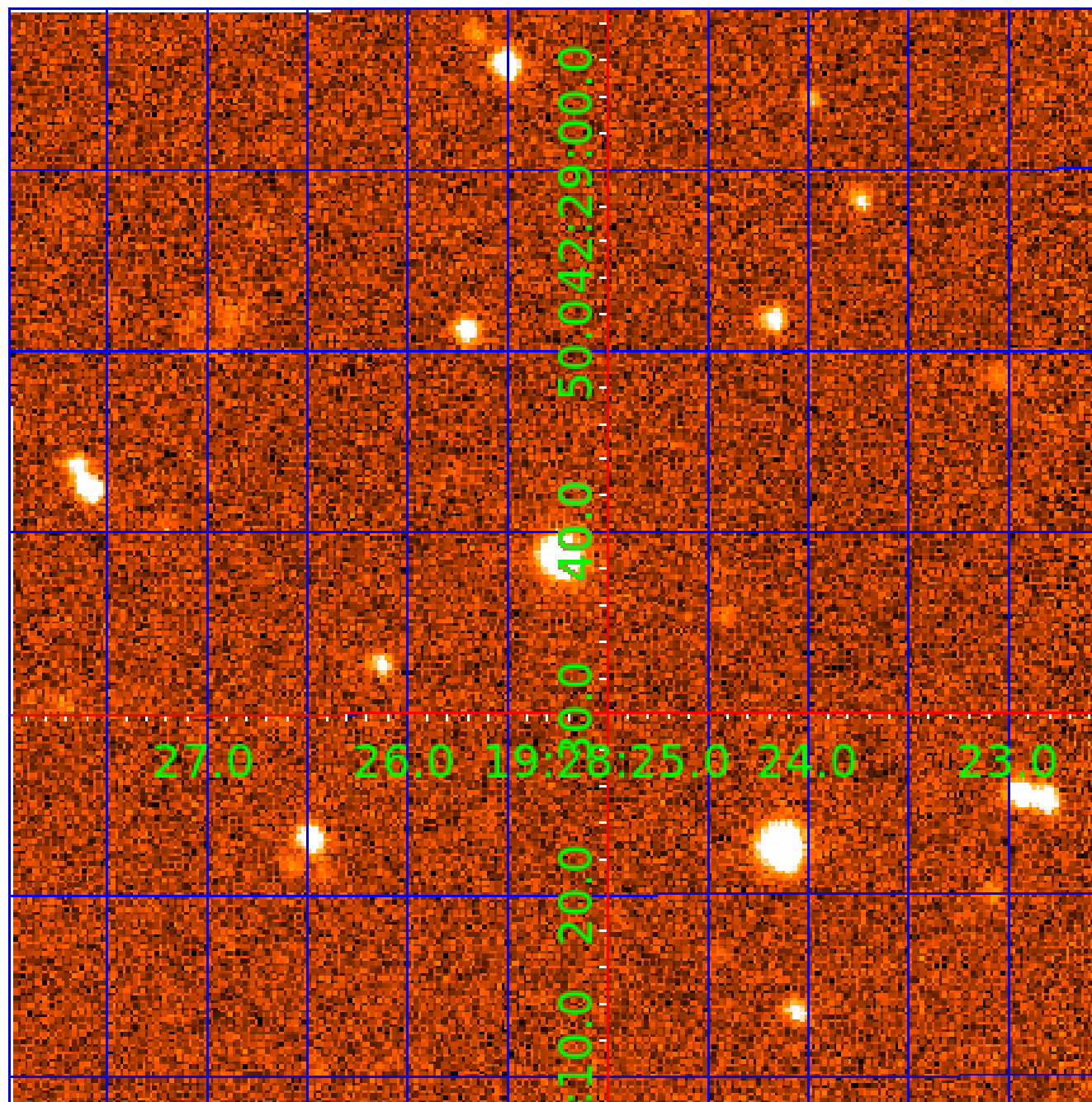


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006949512

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})
006949512-01	OBS	No	0.781283	131.554216	64.9	3.948	7.2	5.2	0.74	5491	0.62	2089.96
006949512-02	OBS	No	65.819609	191.899646	939.3	5.907	9.8	3.8	0.74	5491	2.40	5.66
006949512-03	OBS	No	226.784545	180.155432	3802.6	18.875	8.9	1.8	0.74	5491	8.45	1.09
006949512-04	OBS	No	95.939891	178.134059	446.6	1.671	8.4	1.4	0.74	5491	1.79	3.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006949512-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006949512-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT
006949512-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006949512-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

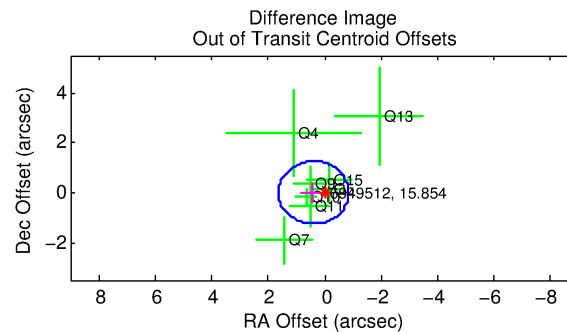
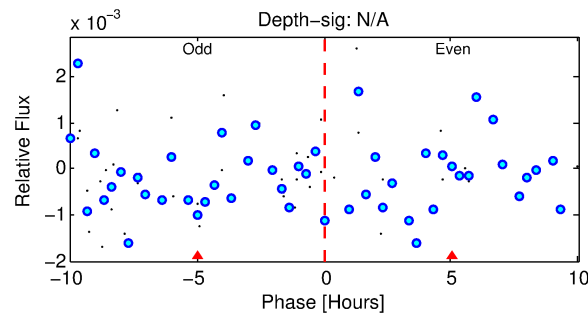
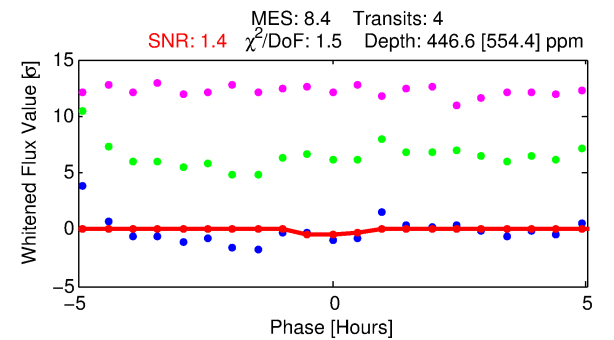
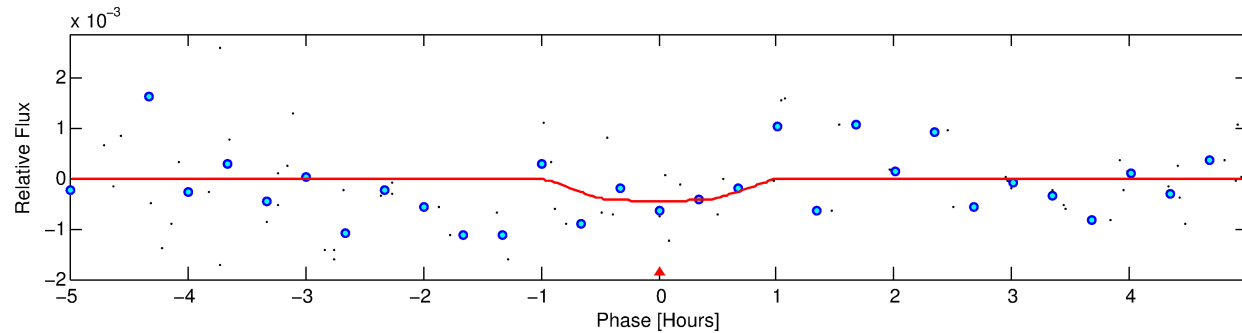
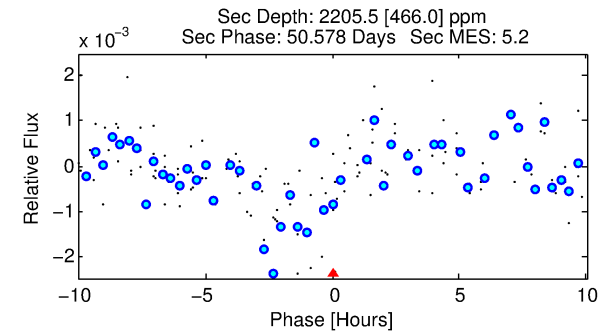
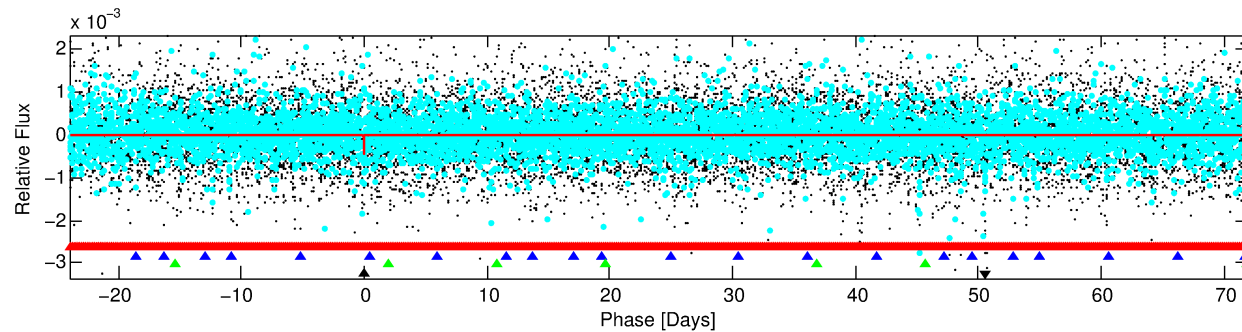
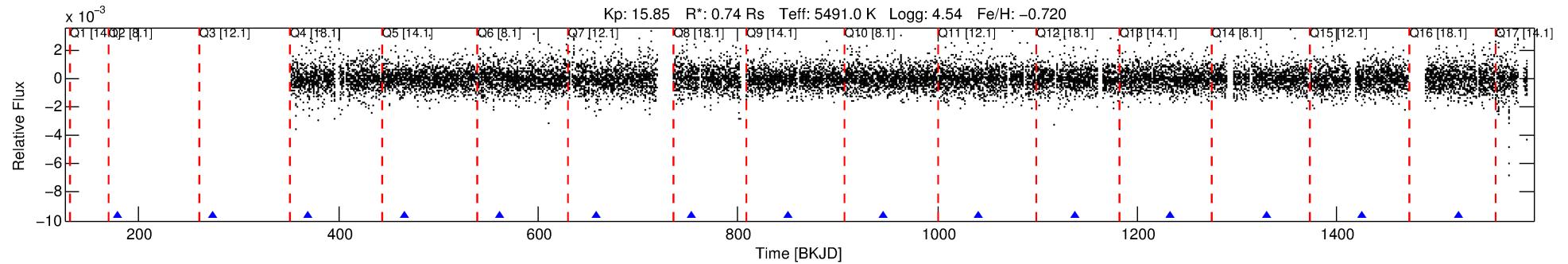
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006949512-04

No Significant Match Found

DV One-Page Summary

KIC: 6949512 Candidate: 4 of 4 Period: 95.940 d



DV Fit Results:

Period = 95.93989 [0.00612] d
Epoch = 178.1341 [0.0532] BKJD
Rp/R* = 0.0221 [0.2331]
a/R* = 250.95 [12392.47]
b = 0.85 [16.75]
Seff = 3.42 [0.82]
Teq = 347 [21] K
Rp = 1.79 [18.92] Re
a = 0.3629 [0.0443] AU
Ag = 49659.93 [1047941.46] [0.05σ]
Teffp = 8006 [42235] K [0.18σ]

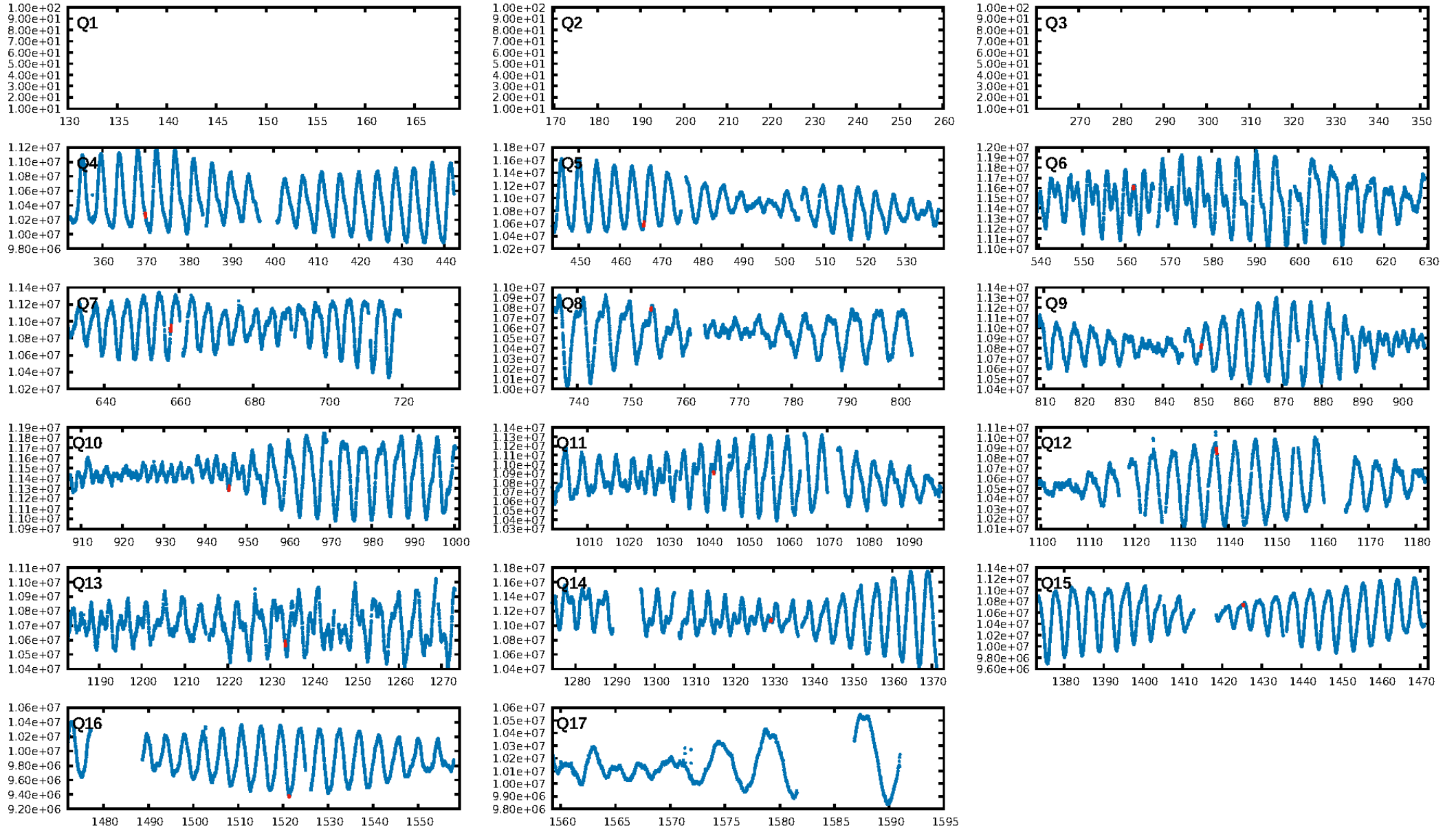
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [117.76σ]
LongPeriod-sig: 100.0% [165.72σ]
ModelChiSquare2-sig: 9.6%
ModelChiSquareGof-sig: 70.3%
Bootstrap-pfa: 8.64e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.8451
Centroid-sig: 1.7%
Centroid-so: 6.001 arcsec [1.58σ]
OotOffset-rm: 0.399 arcsec [0.96σ]
KicOffset-rm: 0.256 arcsec [0.62σ]
OotOffset-st: 1/3/1/3 [8]
KicOffset-st: 1/3/1/3 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.08 [1/13]

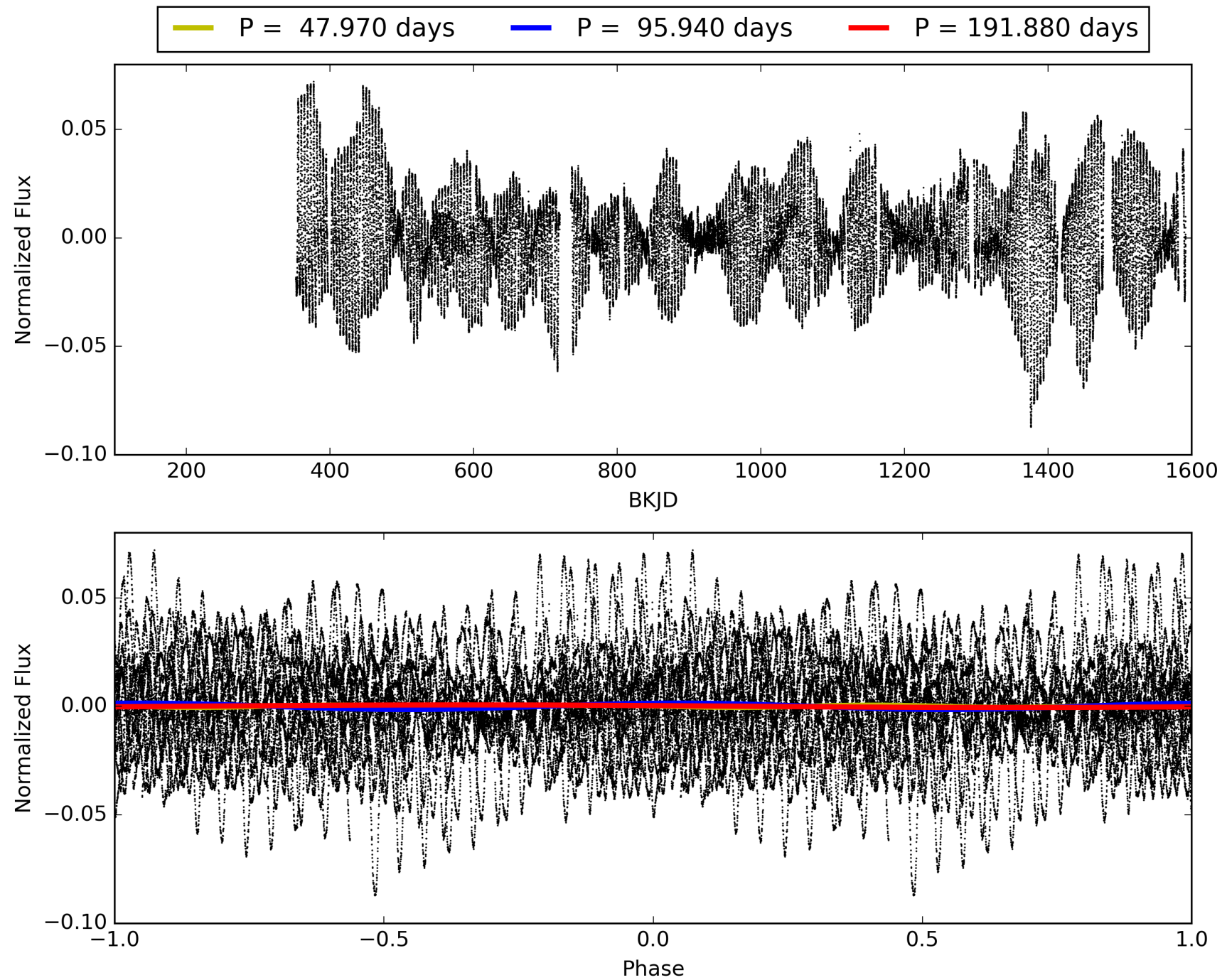
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:38:10 Z

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

TCE 006949512-04, PDC Light Curves

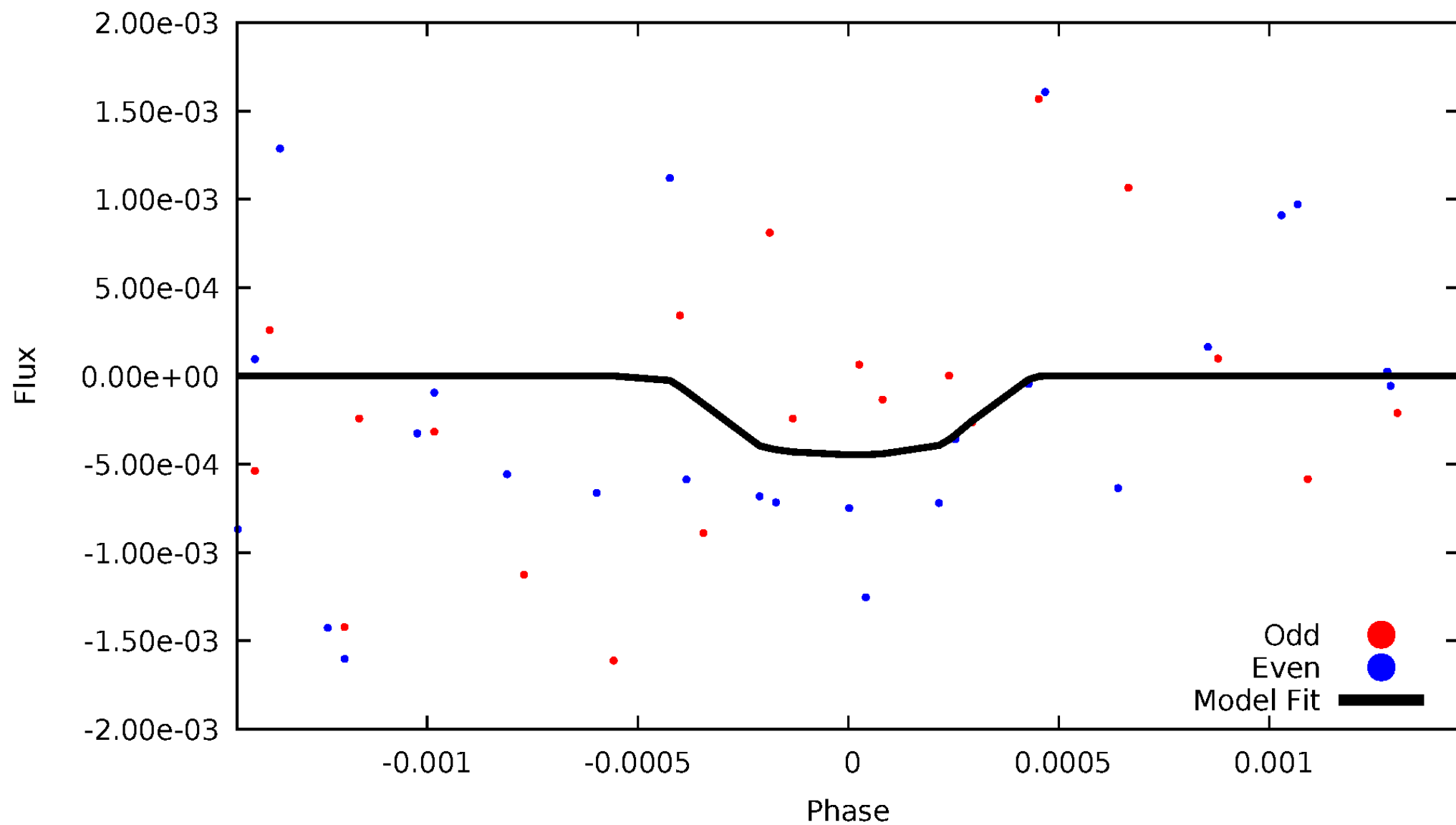


TCE 006949512-04



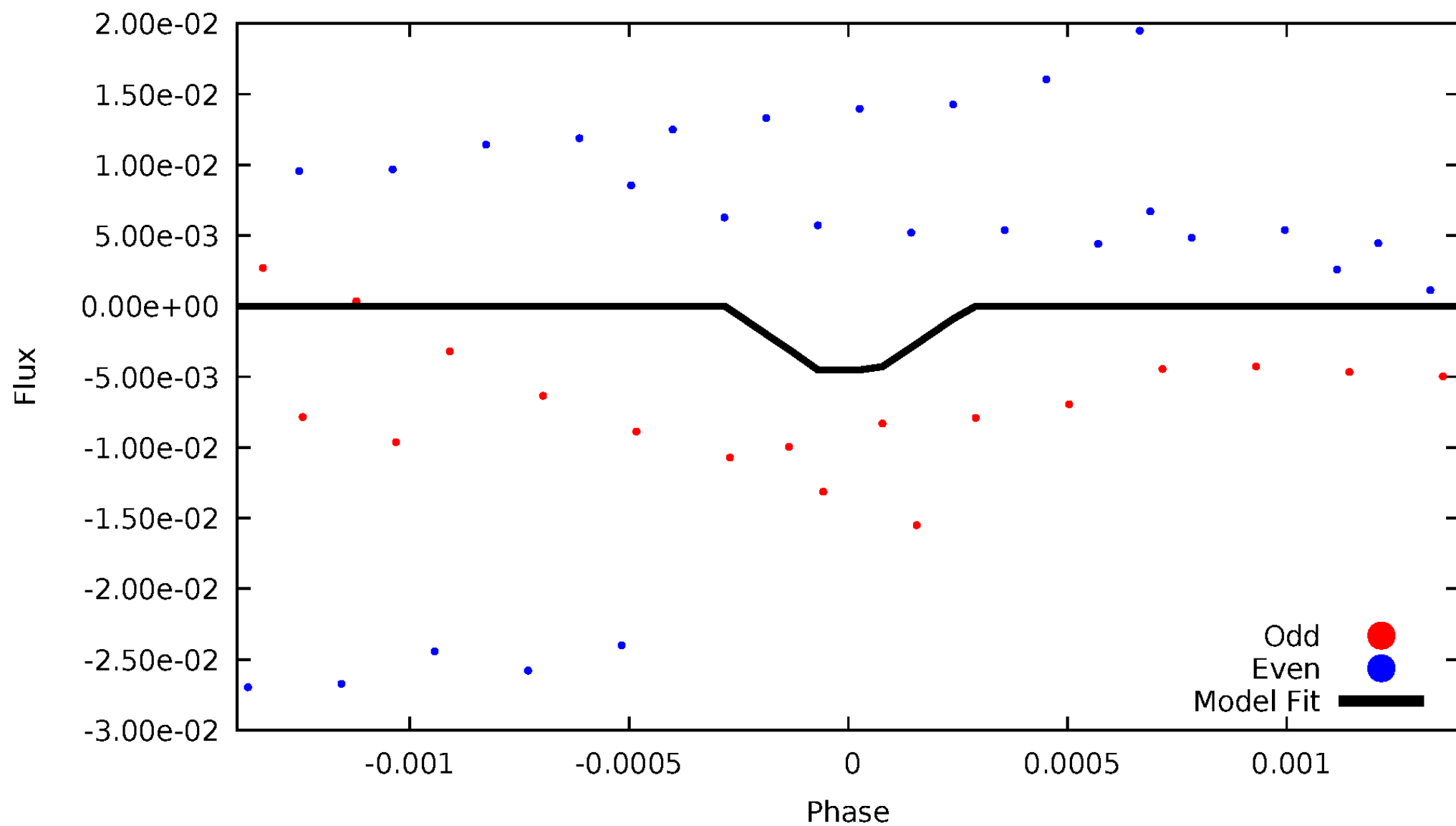
DV Odd/Even

TCE 006949512-04



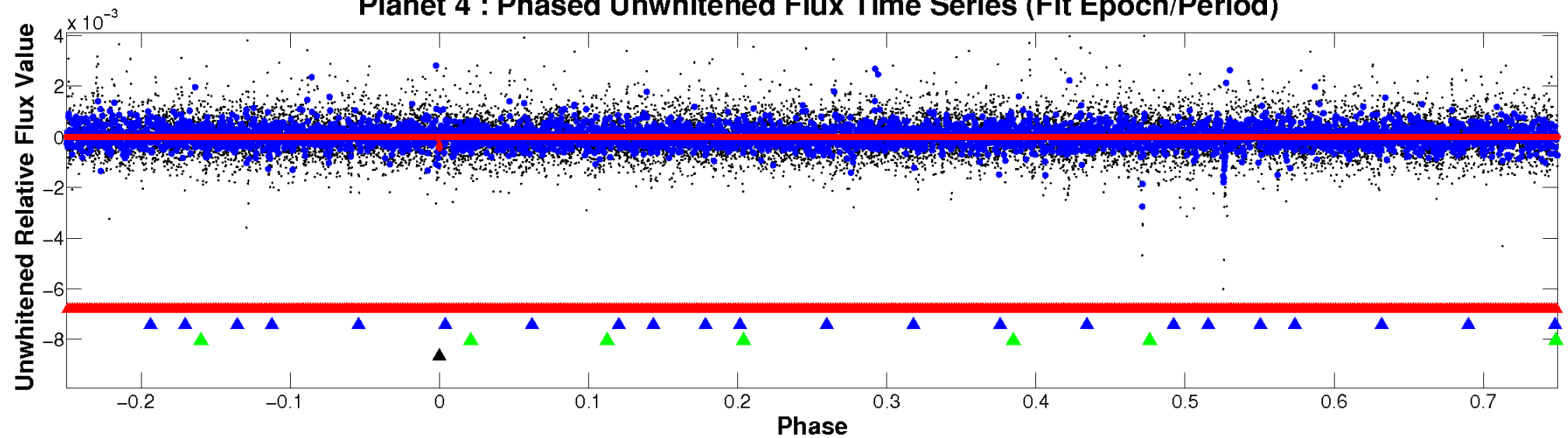
ALT Odd/Even

TCE 006949512-04

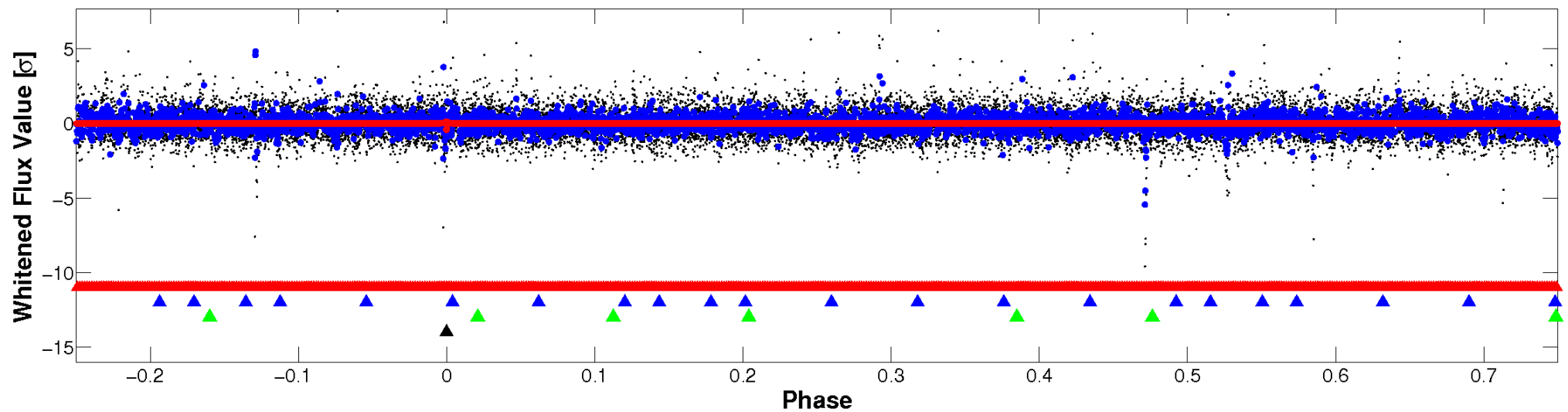


Non-Whitened Vs. Whitened Light Curve

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

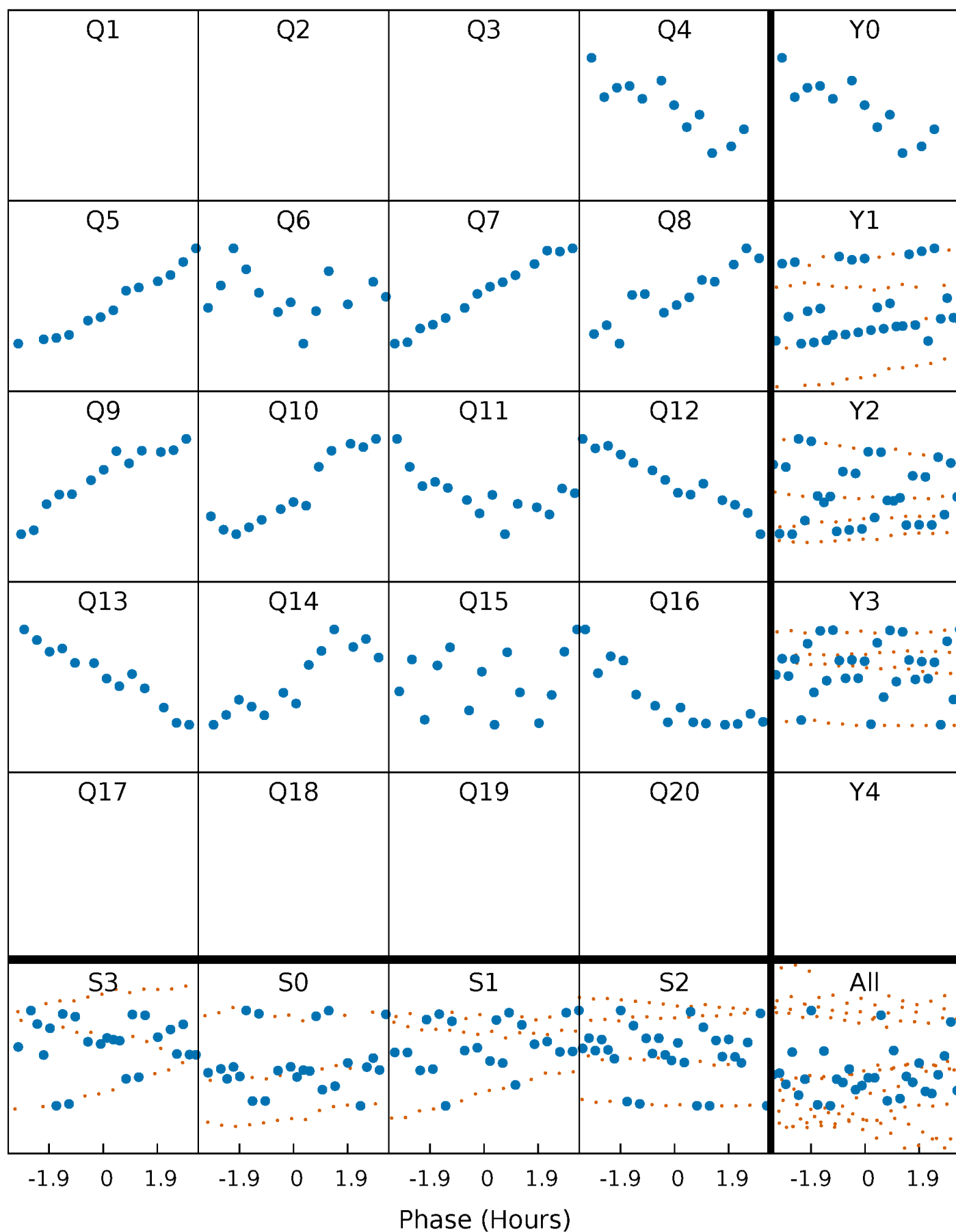


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



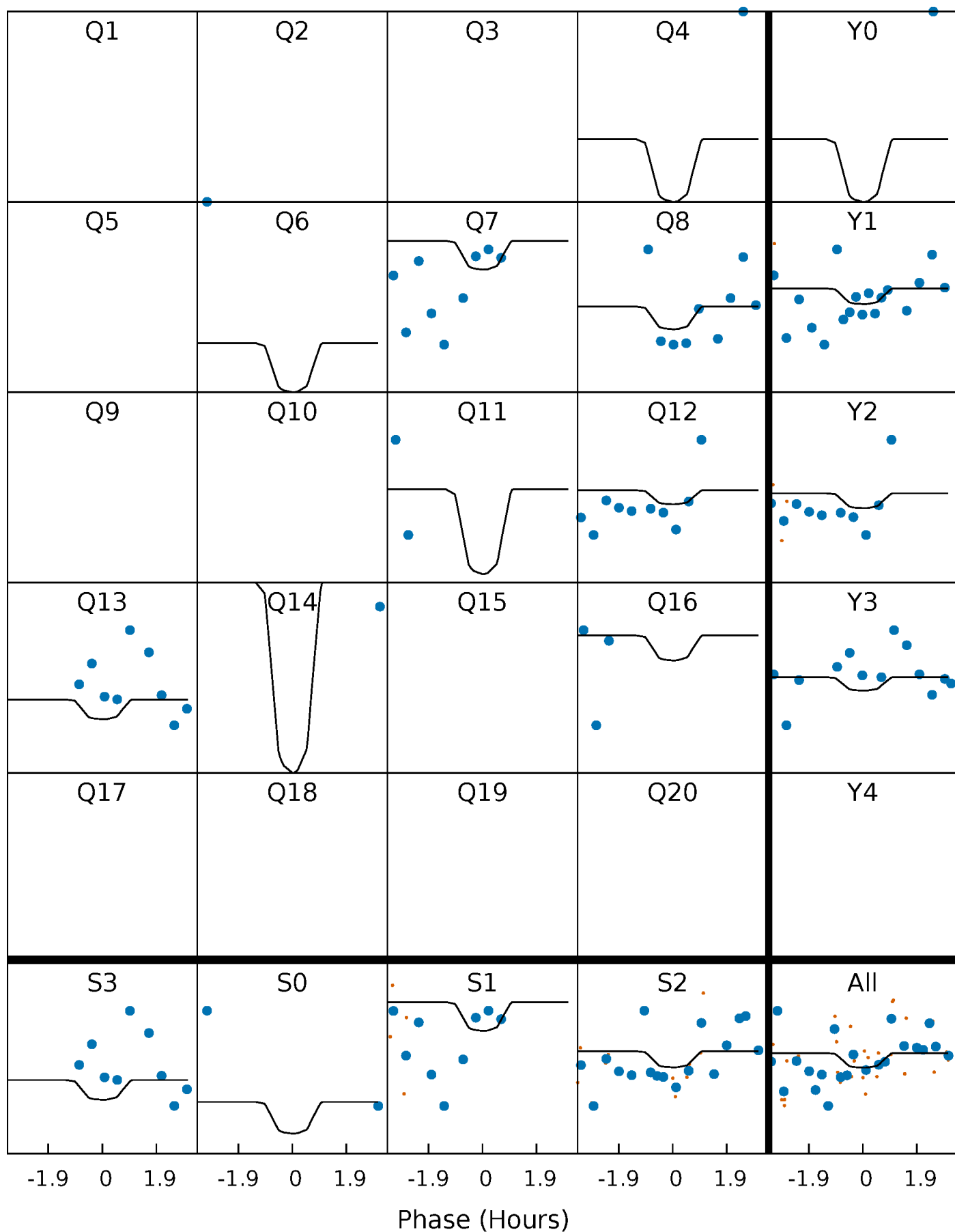
PDC Quarter-Phased Transit Curves

TCE 006949512-04 P= 95.939891 Days $T_0=178.134059$ (BKJD)



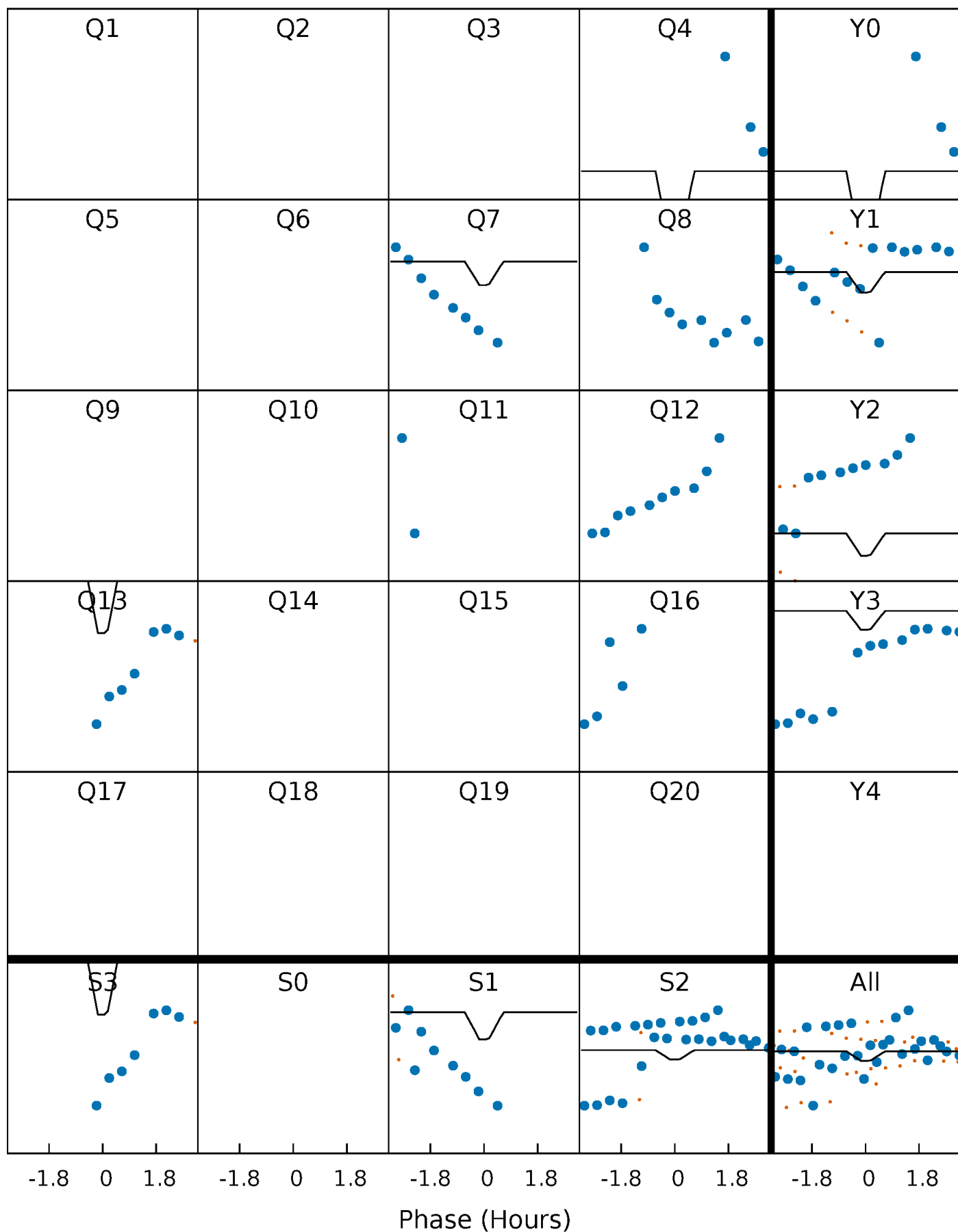
DV Quarter-Phased Transit Curves

TCE 006949512-04 P= 95.939891 Days $T_0=178.134059$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

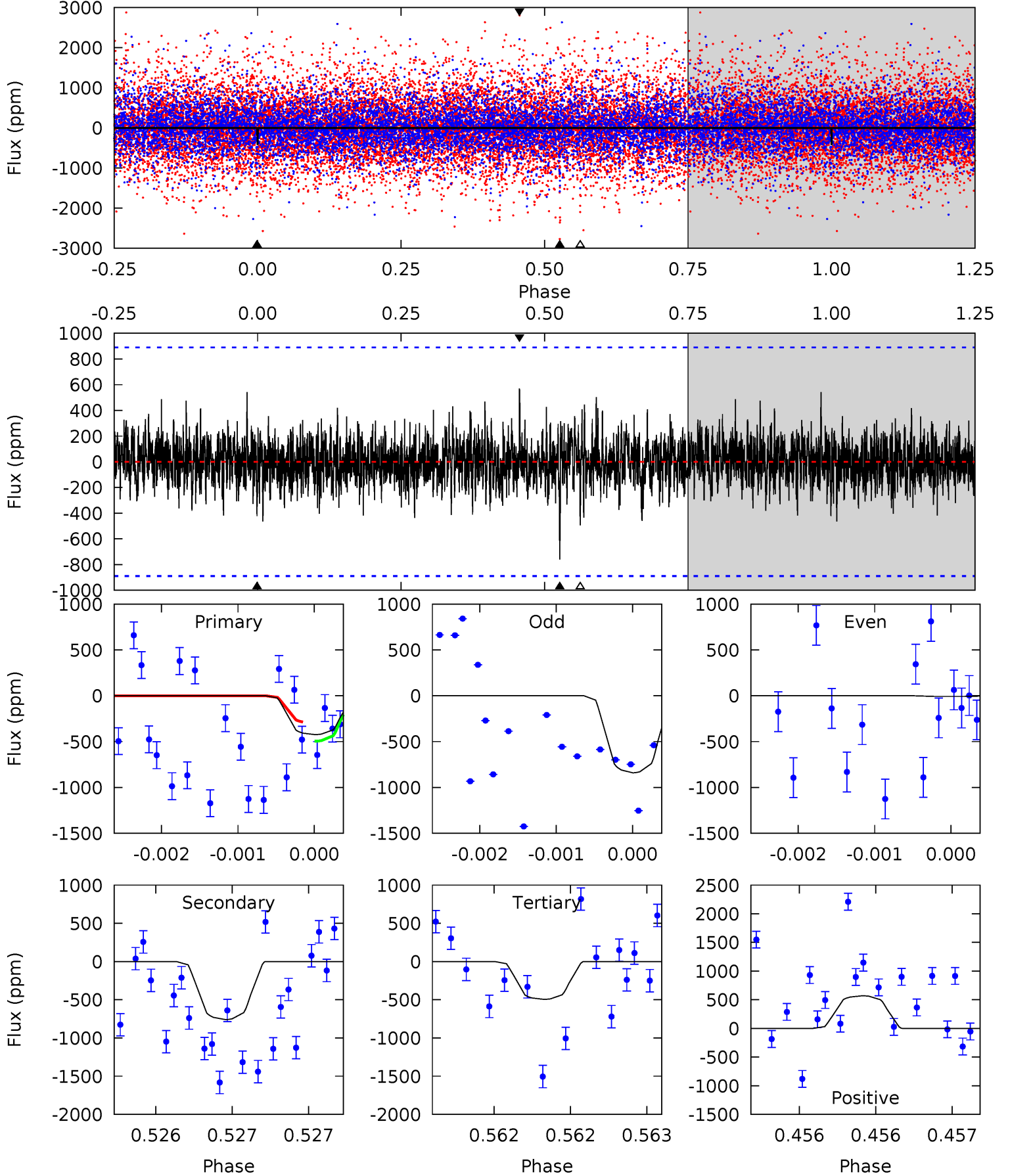
TCE 006949512-04 P= 95.933445 Days $T_0=178.179585$ (BKJD)



DV Model-Shift Uniqueness Test

006949512-04, P = 95.939891 Days, E = 178.134059 Days

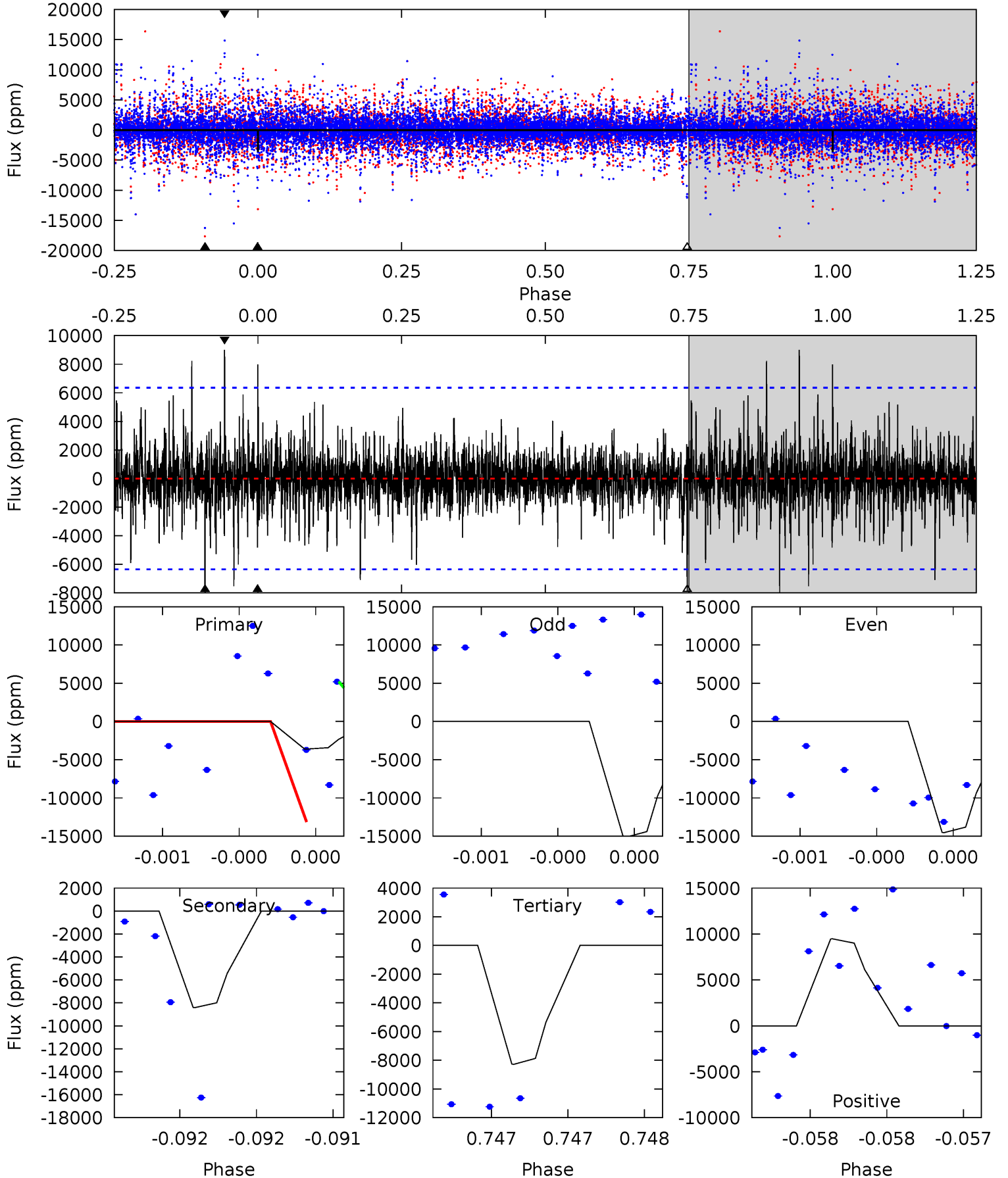
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.61	4.67	3.05	3.50	5.47	3.33	0.84	-0.44	-0.90	1.63	1.17	2.54	0.77	0.43	0.64



Alt Model-Shift Uniqueness Test

006949512-04, P = 95.933445 Days, E = 178.179585 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.01	7.02	6.92	7.91	5.58	3.49	1.08	-3.91	-4.90	0.10	-0.89	0.20	0.33	0.53	2.51



Stellar Parameters For KIC 006949512

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5491^{+212}_{-192}	$4.535^{+0.104}_{-0.085}$	$-0.720^{+0.300}_{-0.300}$	$0.744^{+0.103}_{-0.083}$	$0.691^{+0.093}_{-0.035}$	$2.364^{+0.976}_{-0.632}$
	+4%/-3%	+2%/-2%	+42%/-42%	+14%/-11%	+13%/-5%	+41%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006949512-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-759 ± 162	$13.11^{+15.35}_{-8.97}$	484^{+25}_{-22}	2951^{+1304}_{-544}	327^{+3119}_{-261}
Alt.	-7992 ± 1138	$14.90^{+14.96}_{-9.93}$	483^{+25}_{-25}	4106^{+2752}_{-862}	2719^{+21307}_{-2091}

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 $A_{obs} \gg 1.0$

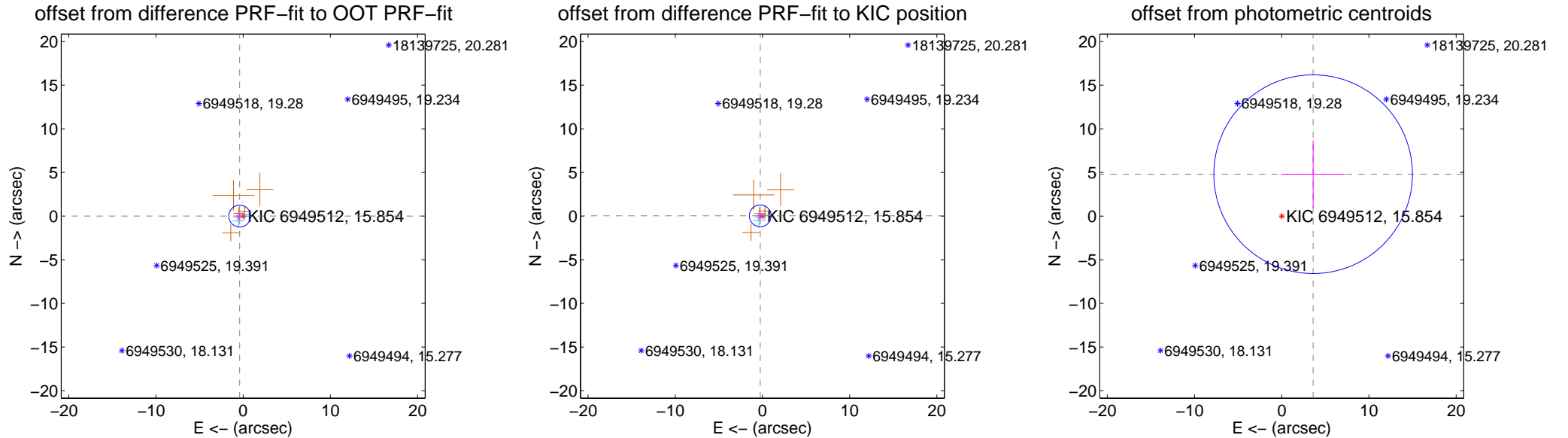
DV Centroid Data

Supplemental centroid analysis for 006949512-04. Kepler magnitude: 15.85. Transit SNR 1.36

There are 3 quarters with good PRF difference image offsets

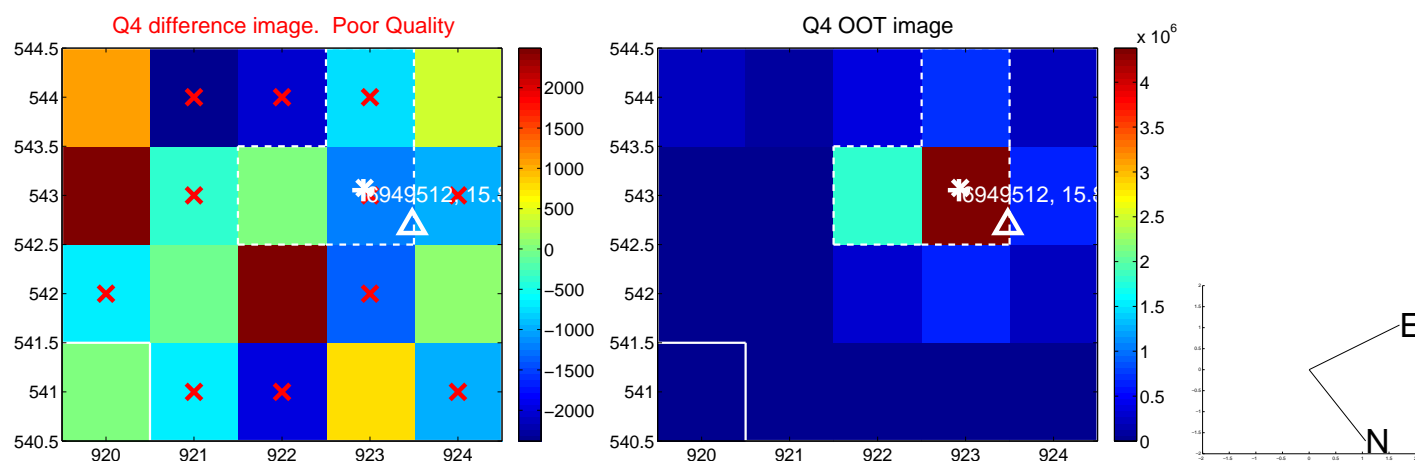
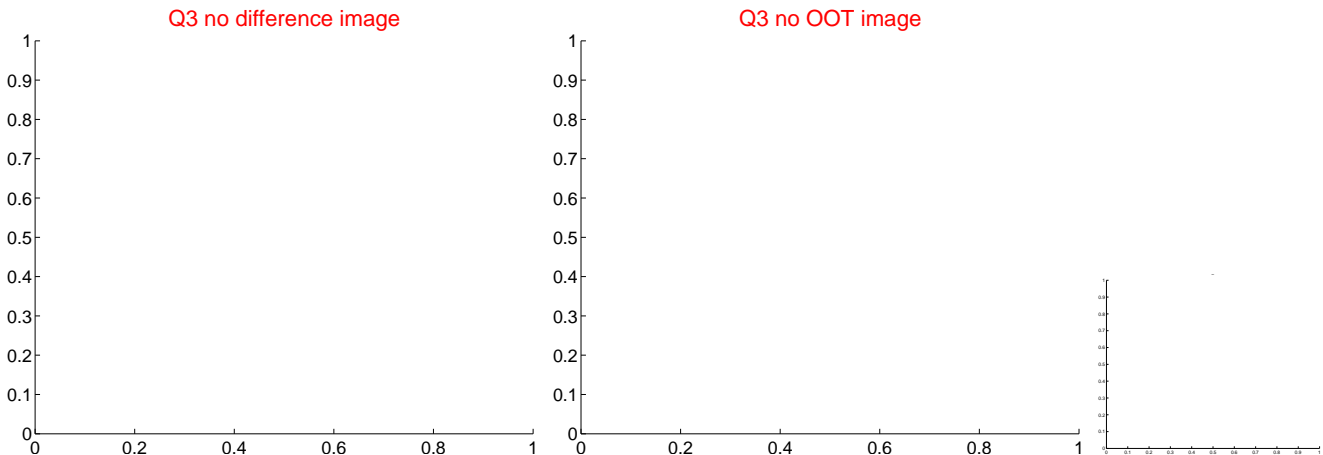
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.399 ± 0.417	0.96	0.399 ± 0.417	0.003 ± 0.394
PRF-fit source offset from KIC position	0.256 ± 0.417	0.62	0.254 ± 0.417	0.033 ± 0.394
photometric centroid source offset	6.00 ± 3.79	1.58	-3.60 ± 3.65	4.80 ± 3.87

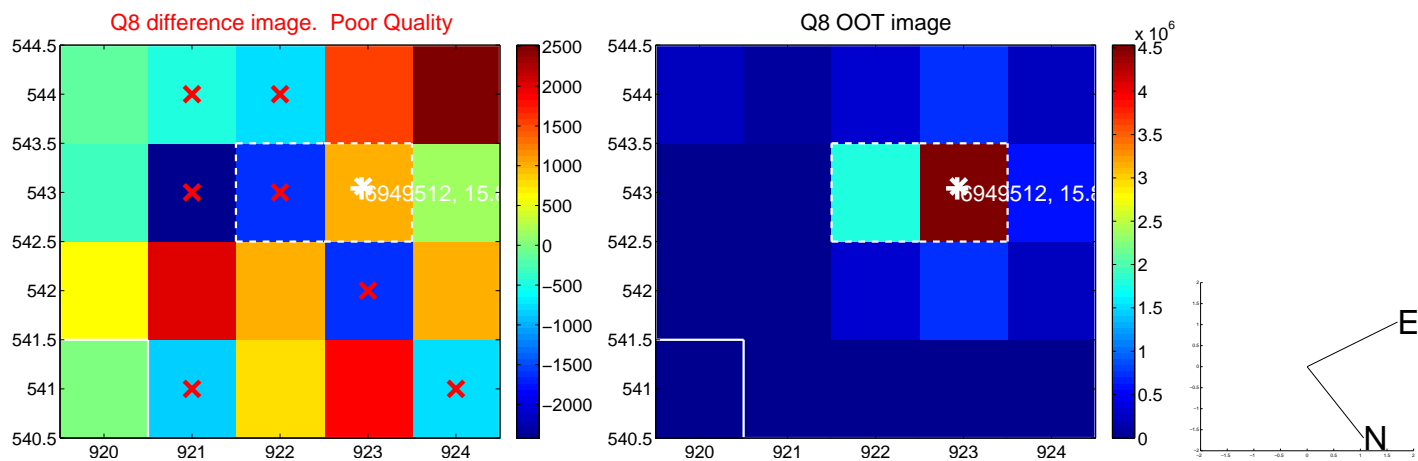
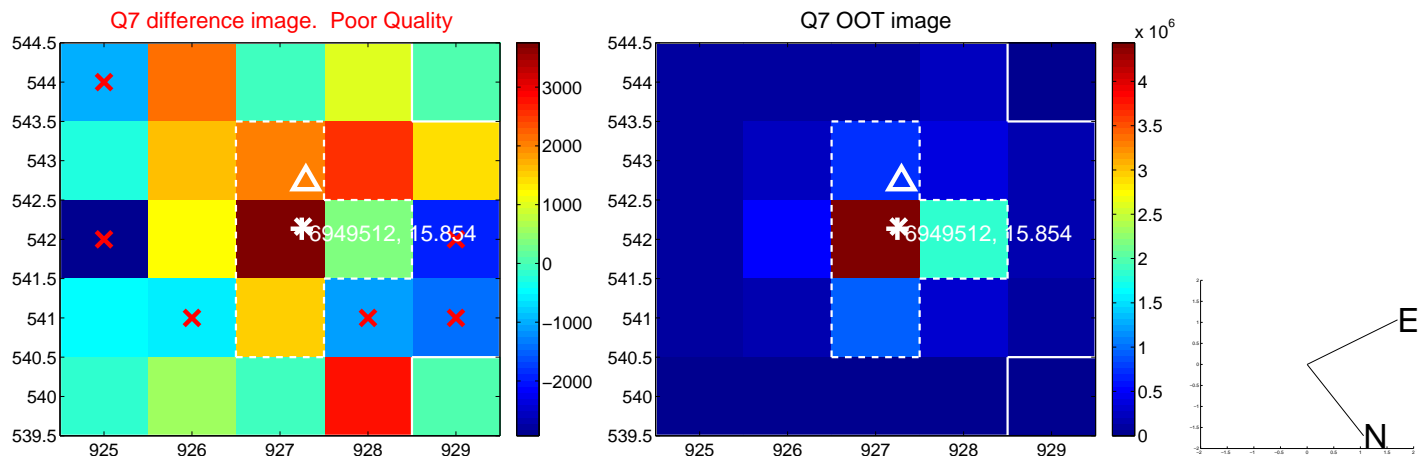
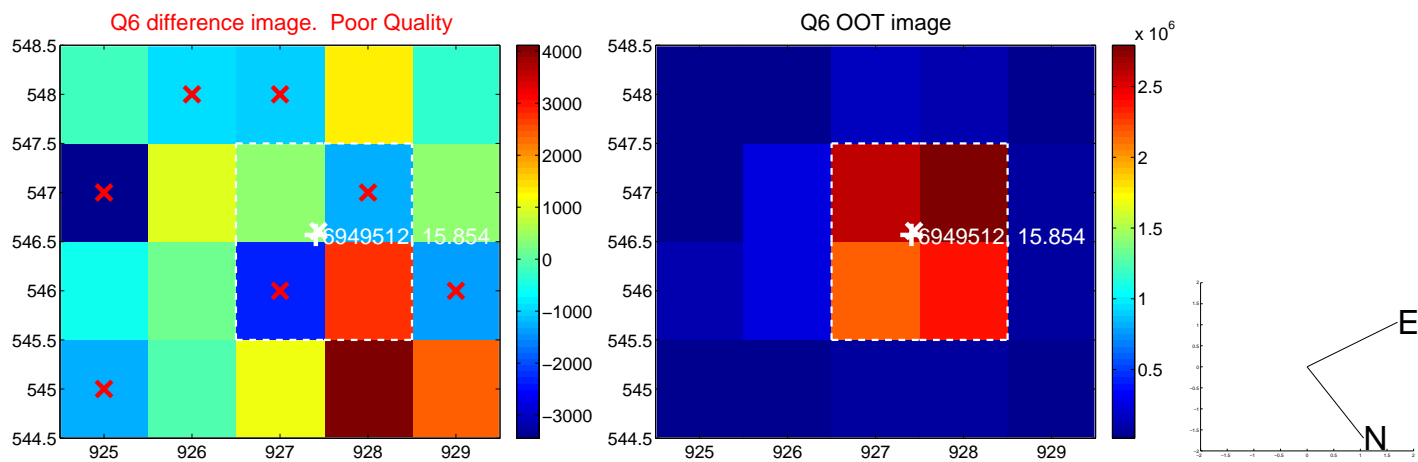
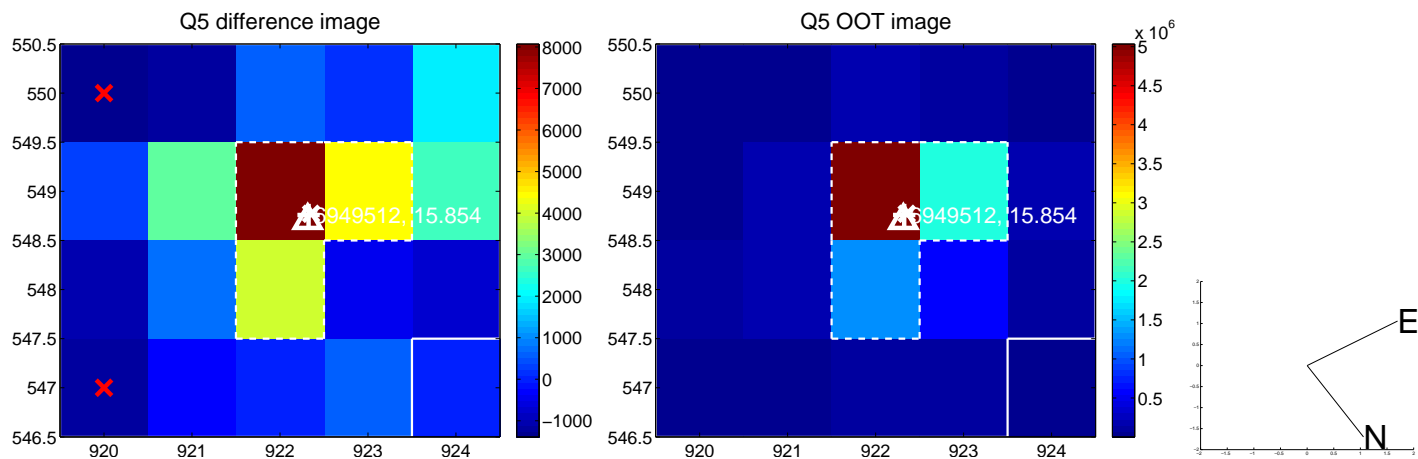


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

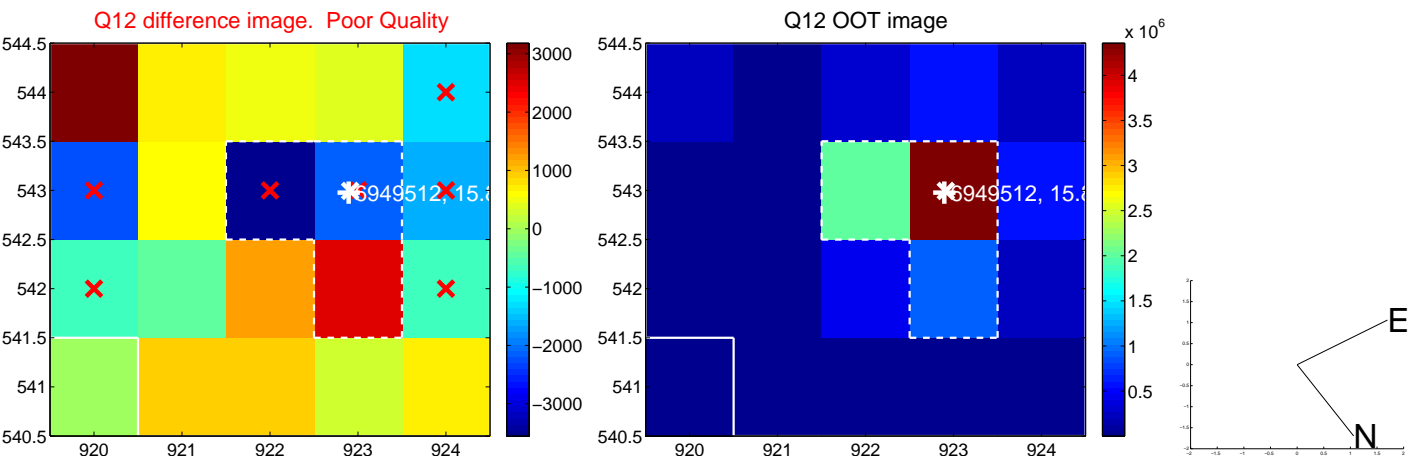
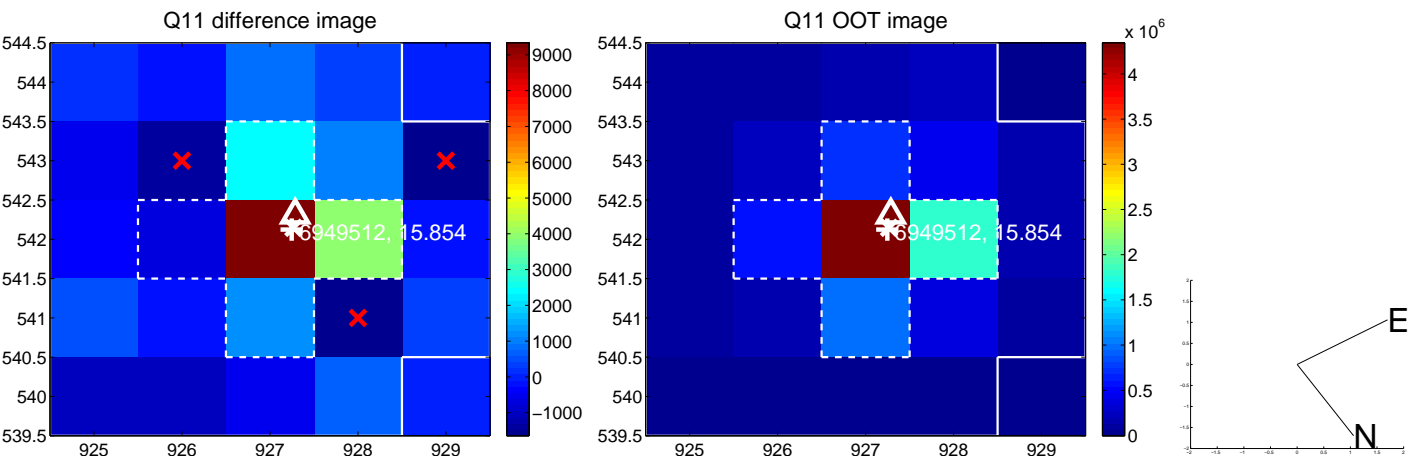
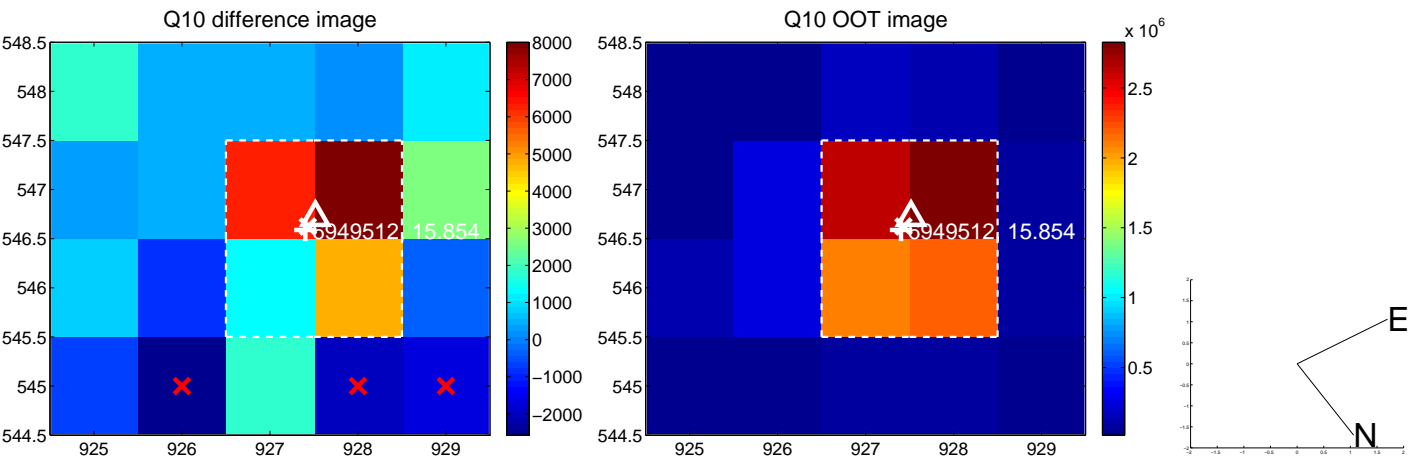
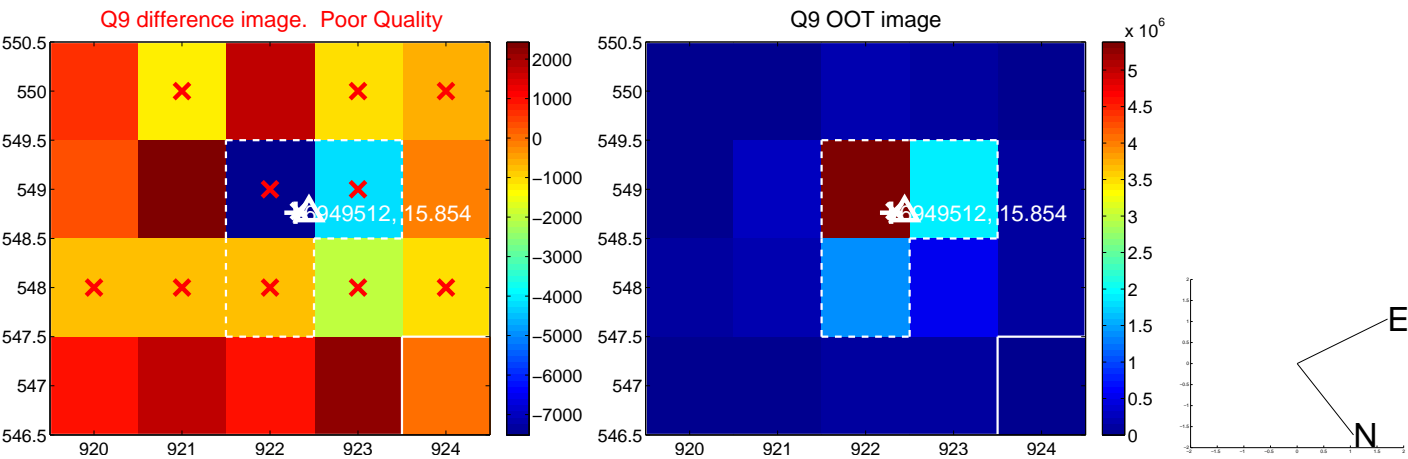
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



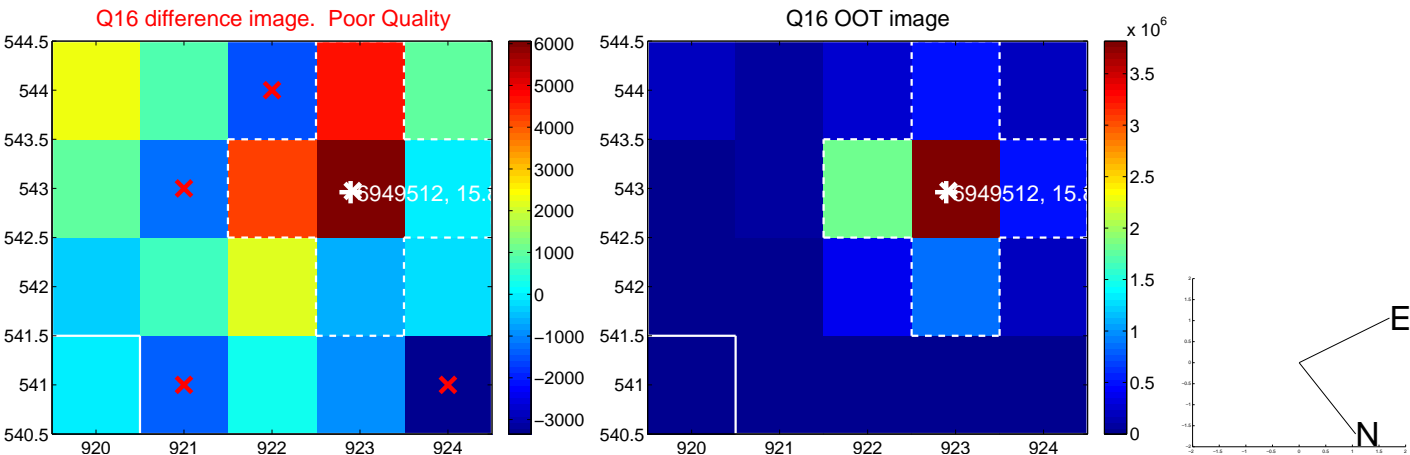
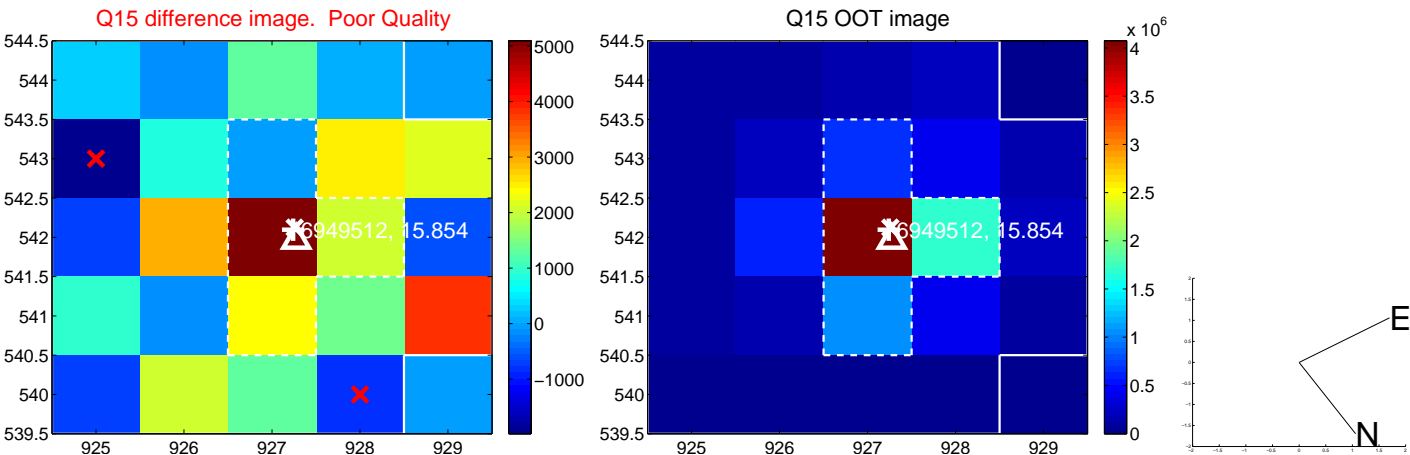
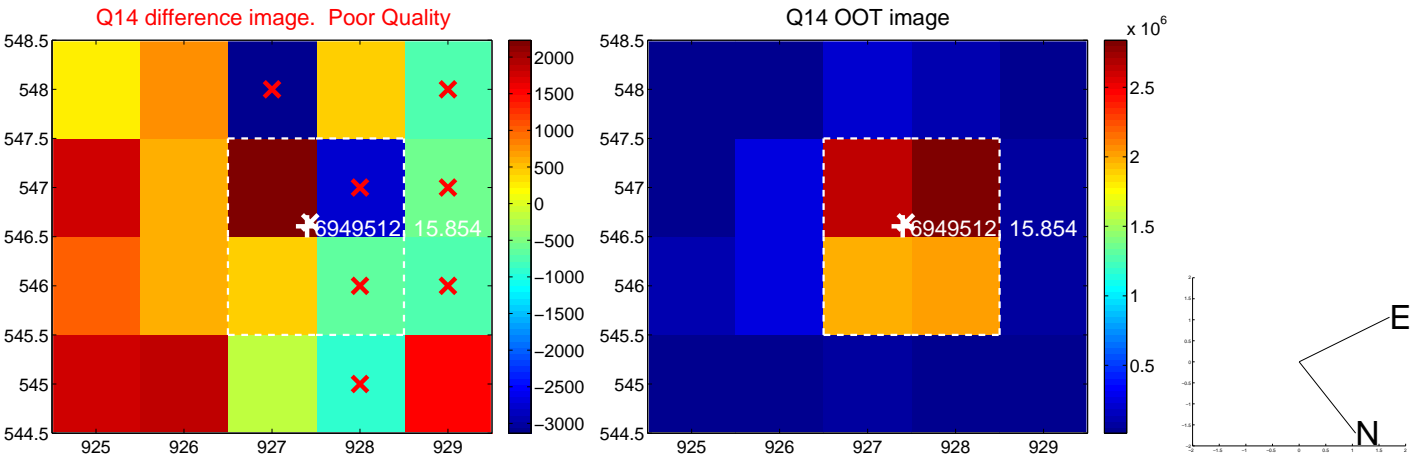
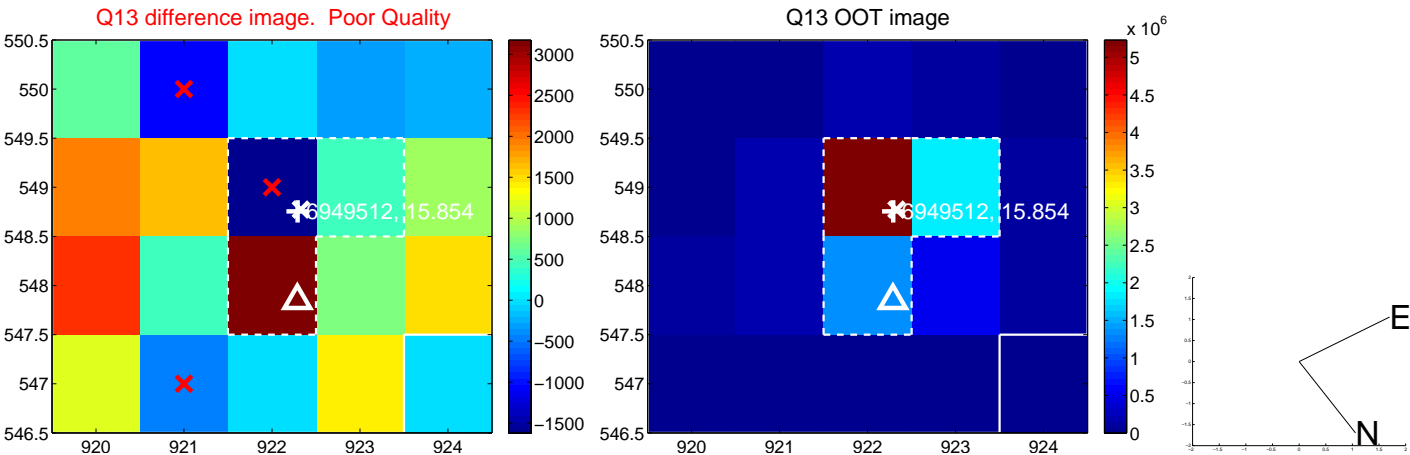
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



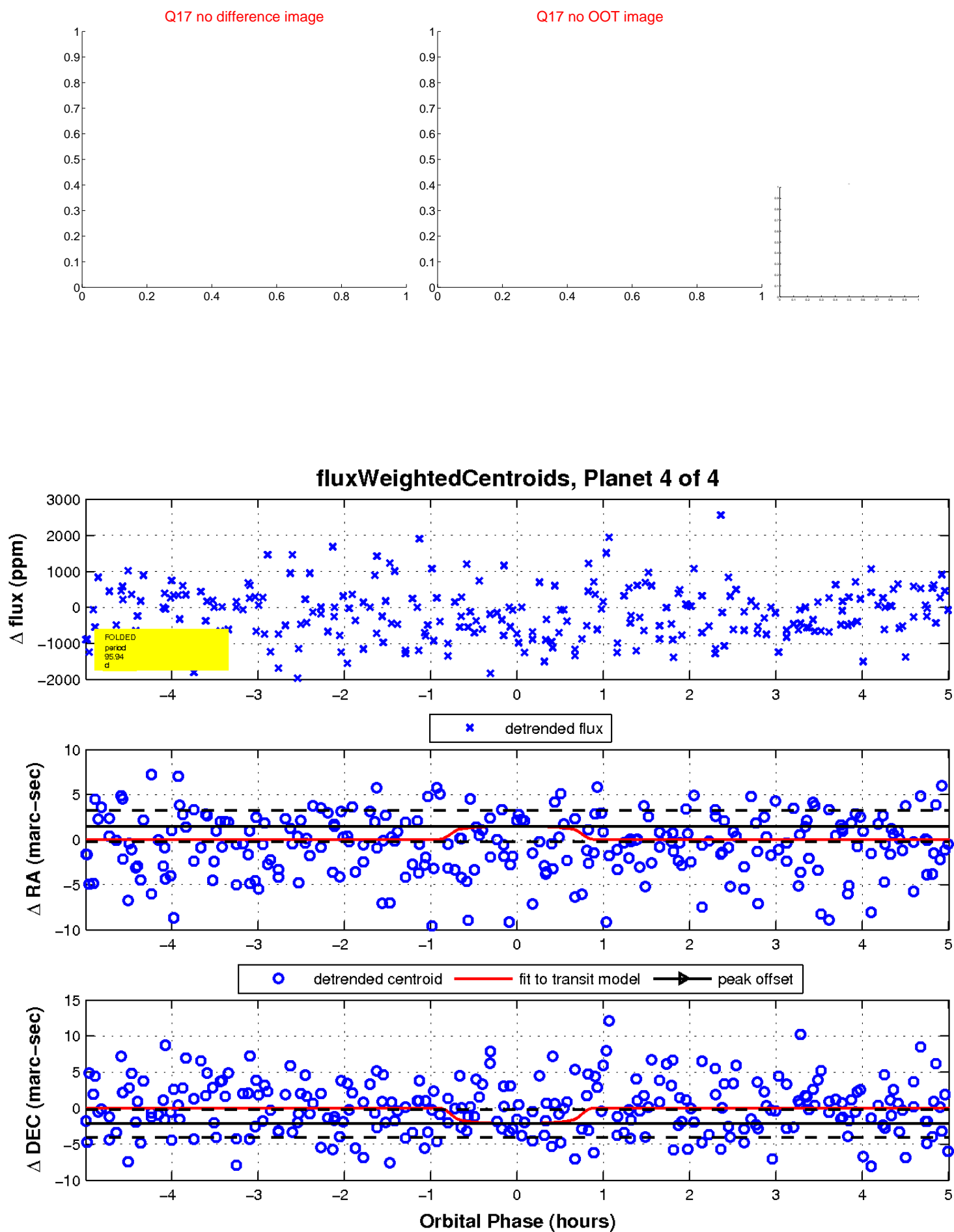
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

