

KIC 005192090

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})
005192090-01	OBS	No	0.964357	132.273847	281.1	3.500	8.7	-1.0	1.16	6733	1.97	6090.22
005192090-02	OBS	No	1.928499	131.790997	17.3	8.121	8.0	7.1	1.16	6733	0.49	2417.27
005192090-03	OBS	No	194.850289	140.604230	343.5	2.736	7.3	7.9	1.16	6733	2.51	5.14
005192090-04	OBS	No	108.592425	235.924363	177.8	8.932	7.5	6.7	1.16	6733	1.78	11.20
005192090-05	OBS	No	204.516534	157.314710	359.5	2.542	7.3	6.7	1.16	6733	2.51	4.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005192090-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
005192090-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
005192090-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005192090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005192090-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

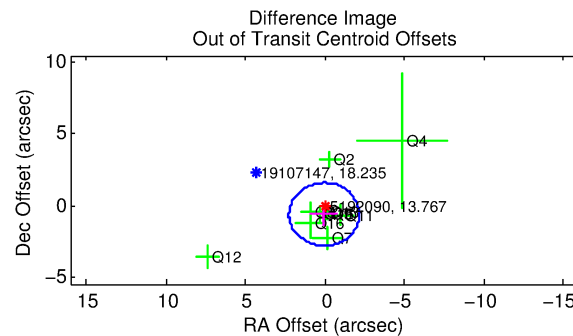
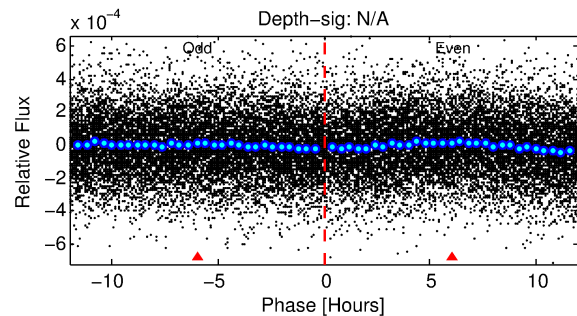
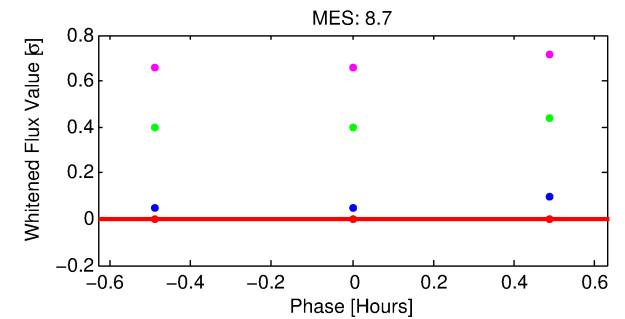
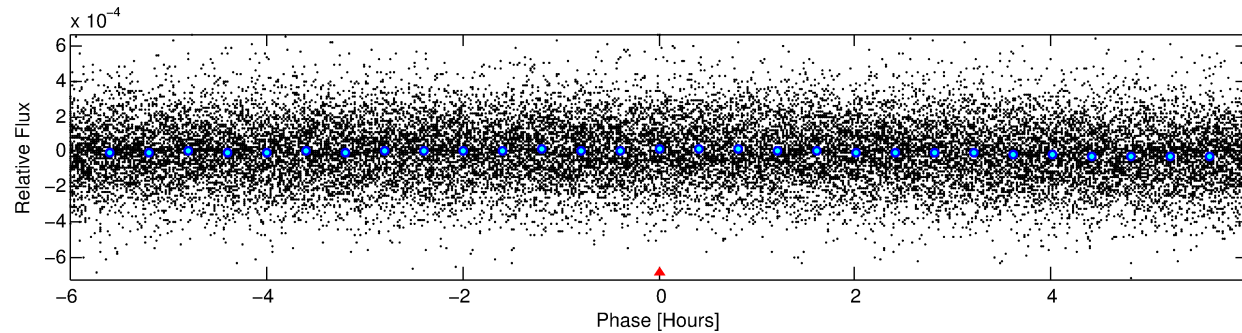
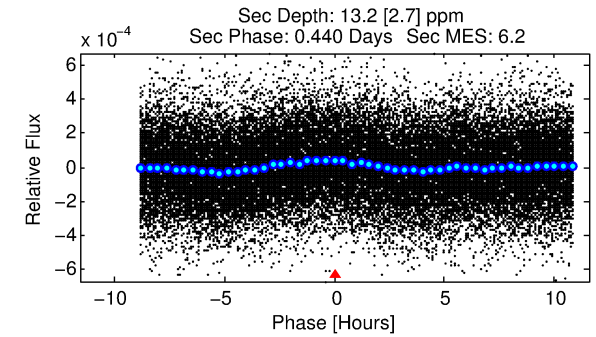
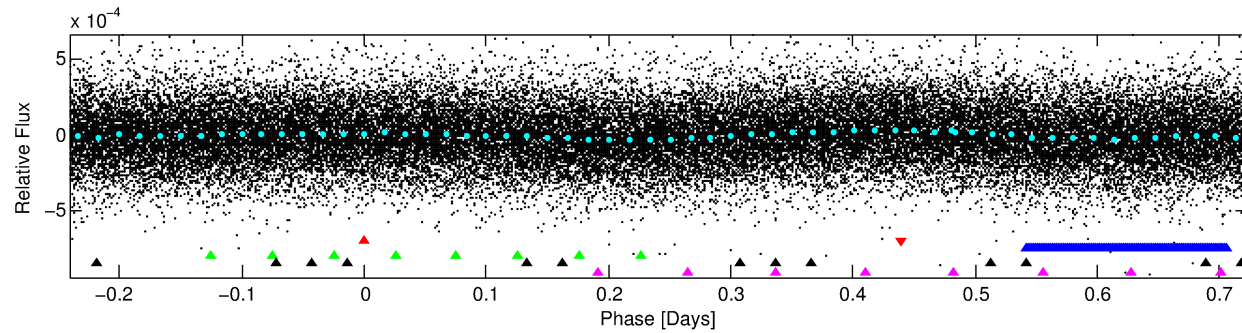
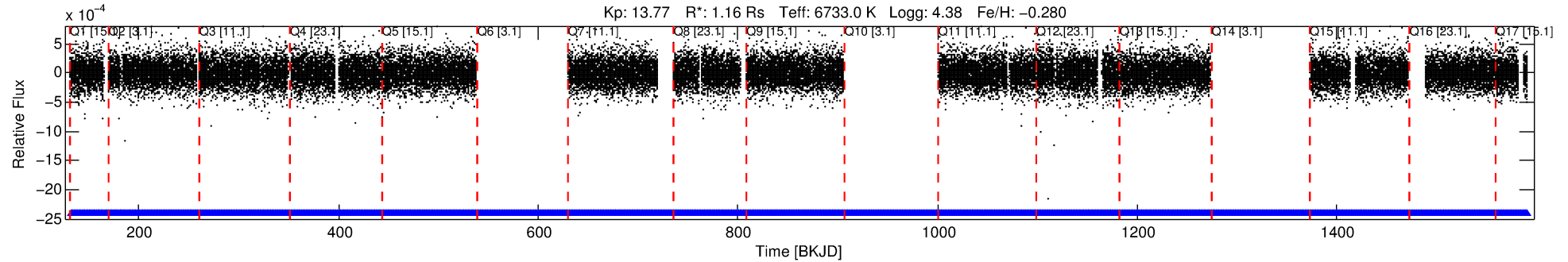
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005192090-01

No Significant Match Found

DV One-Page Summary

KIC: 5192090 Candidate: 1 of 5 Period: 0.964 d



TPS TCE Results:

Period = 0.96436 d
Epoch = 132.2738 BKJD

DV fit results are unavailable

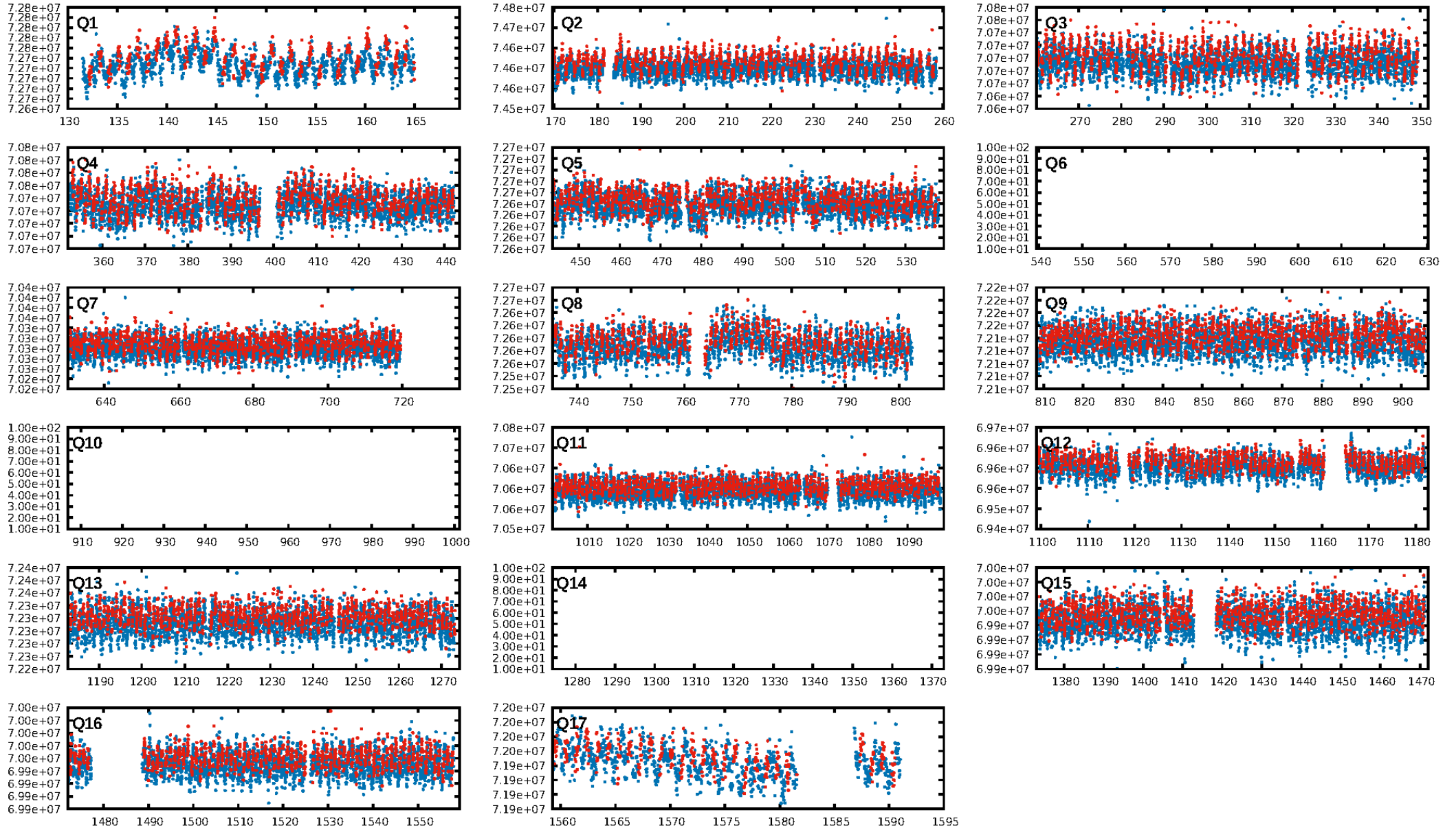
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.1% [2.62σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.23e-11
RollingBand-fgt: 1.00 [1047/1047]
GhostDiagnostic-chr: -0.2489
Centroid-sig: 0.0%
Centroid-so: 1.505 arcsec [2.54σ]
OotOffset-rm: 0.624 arcsec [0.85σ]
KicOffset-rm: 0.480 arcsec [0.63σ]
OotOffset-st: 1/3/4/2 [10]
KicOffset-st: 1/3/4/2 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 1.00 [14/14]

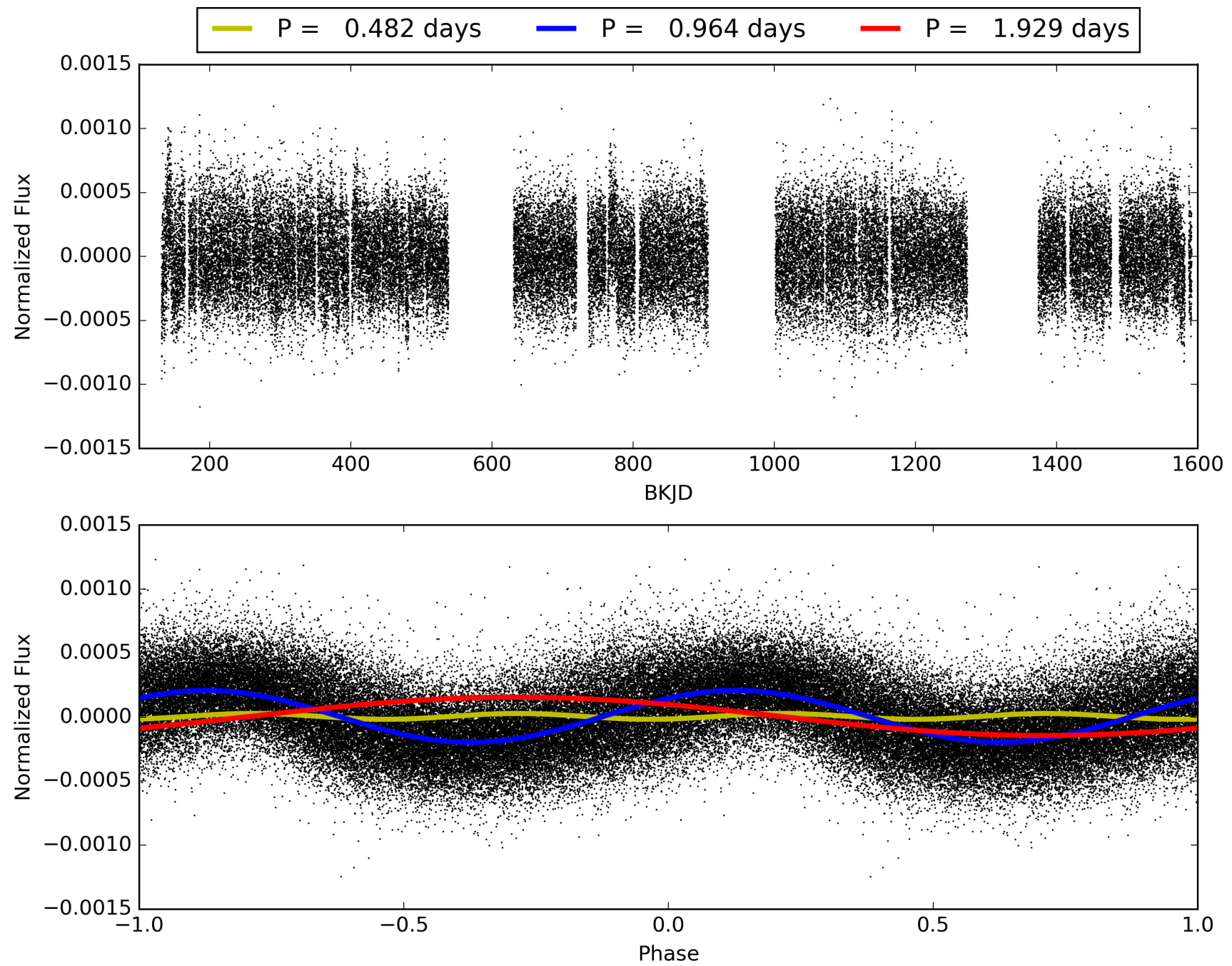
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:30:18 Z

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

TCE 005192090-01, PDC Light Curves

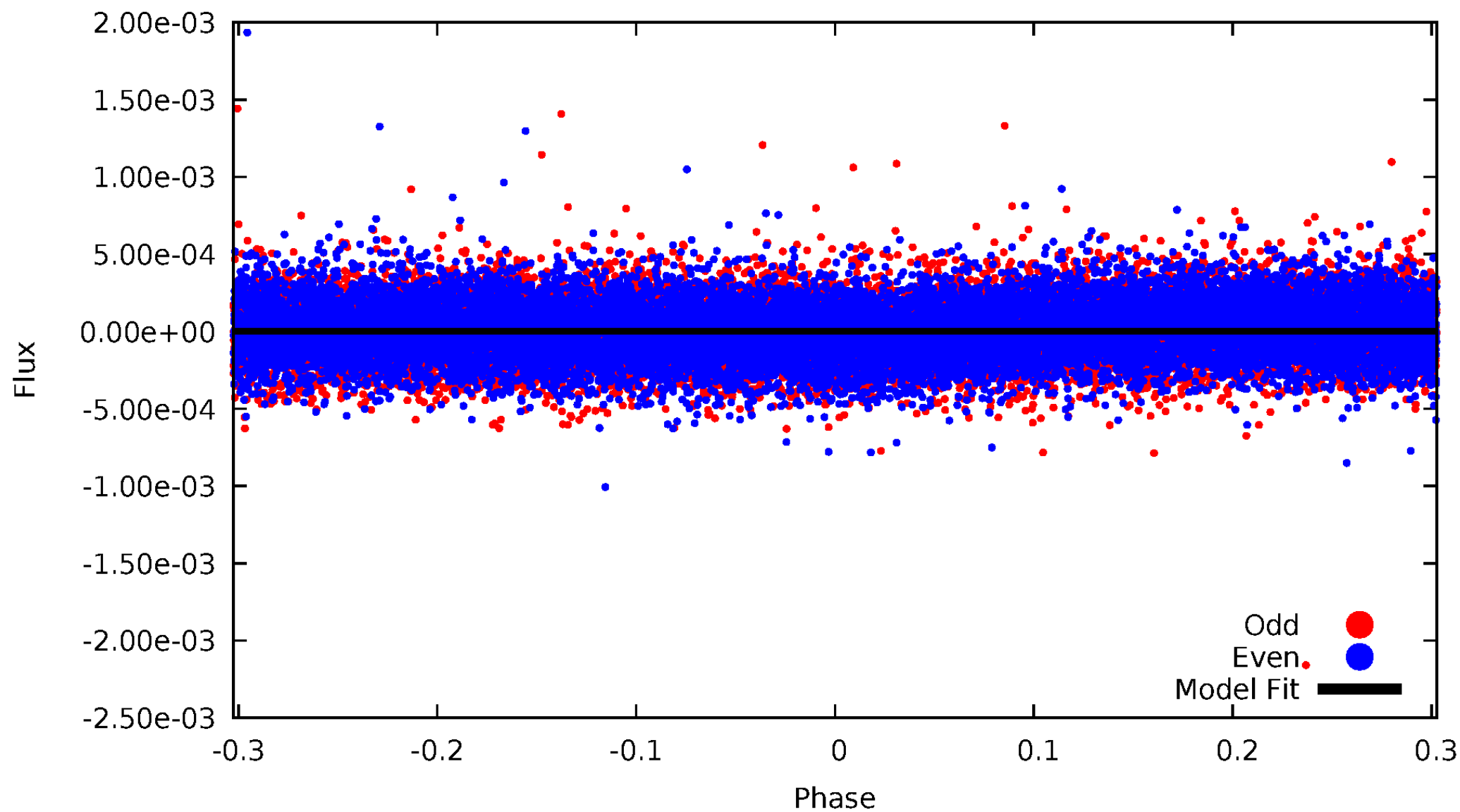


TCE 005192090-01



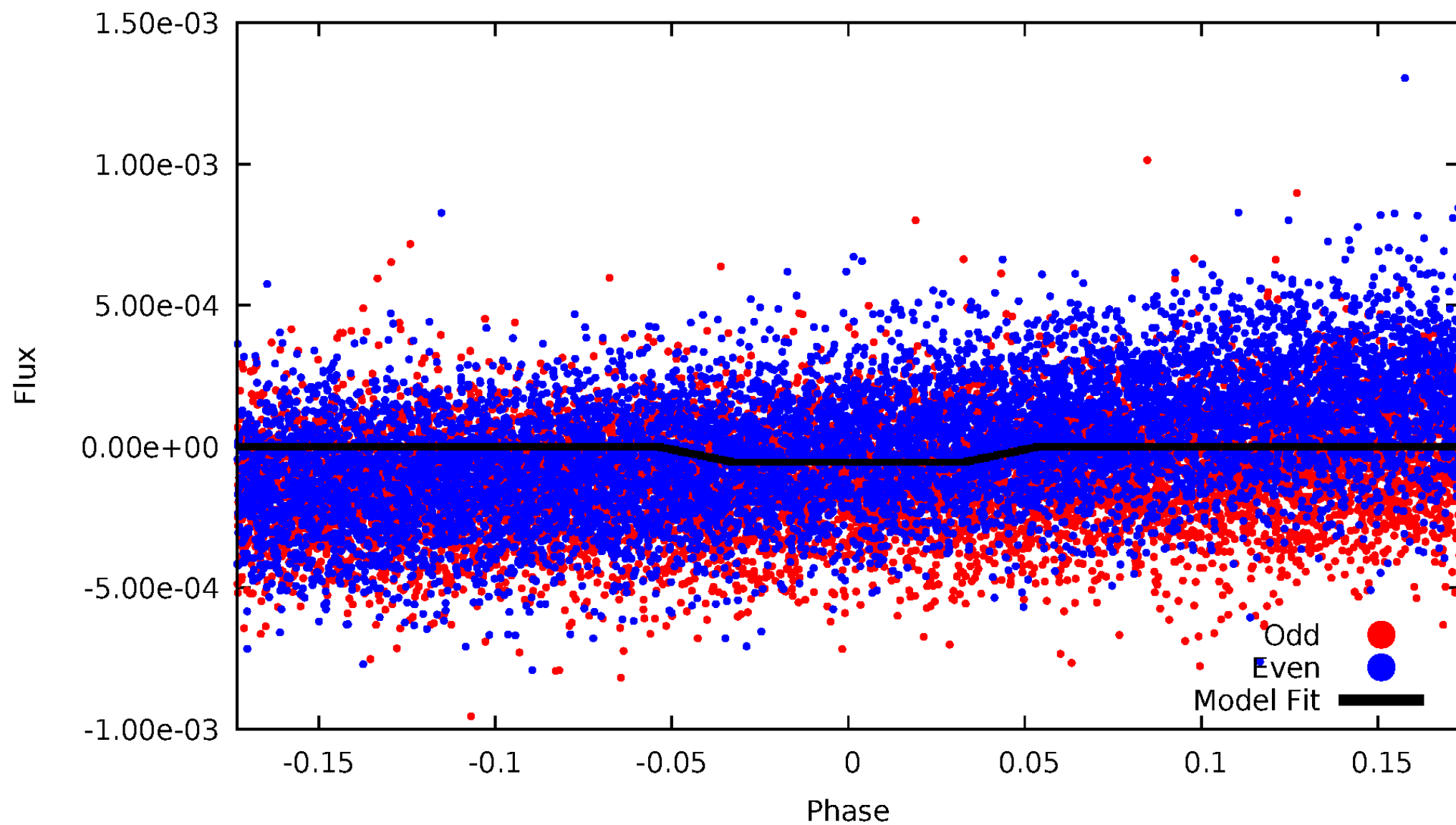
DV Odd/Even

TCE 005192090-01

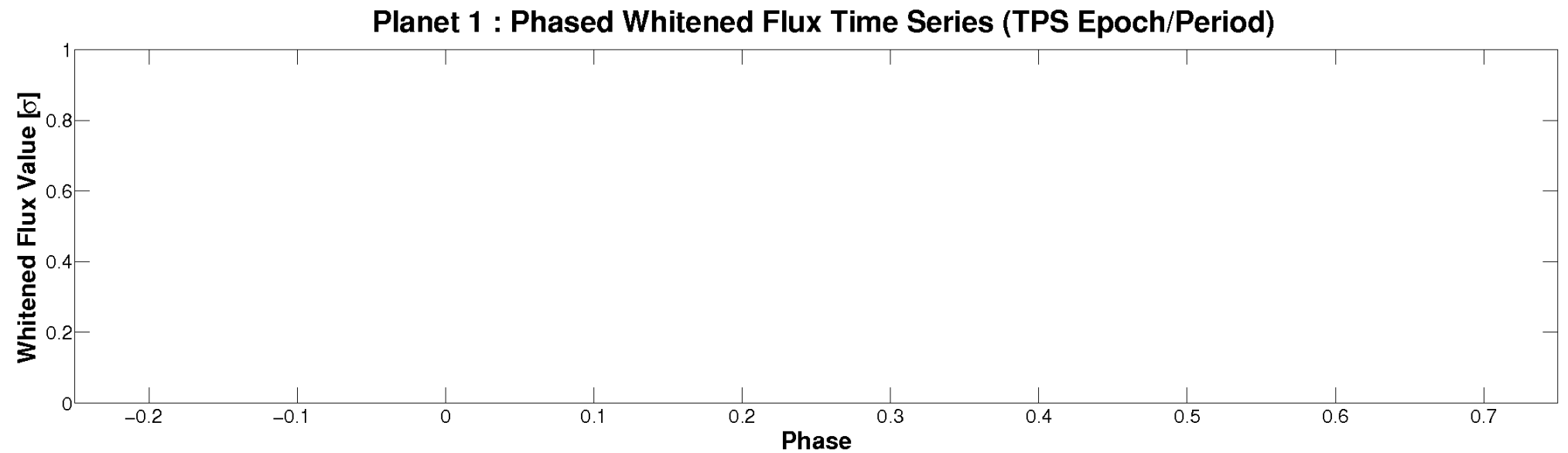
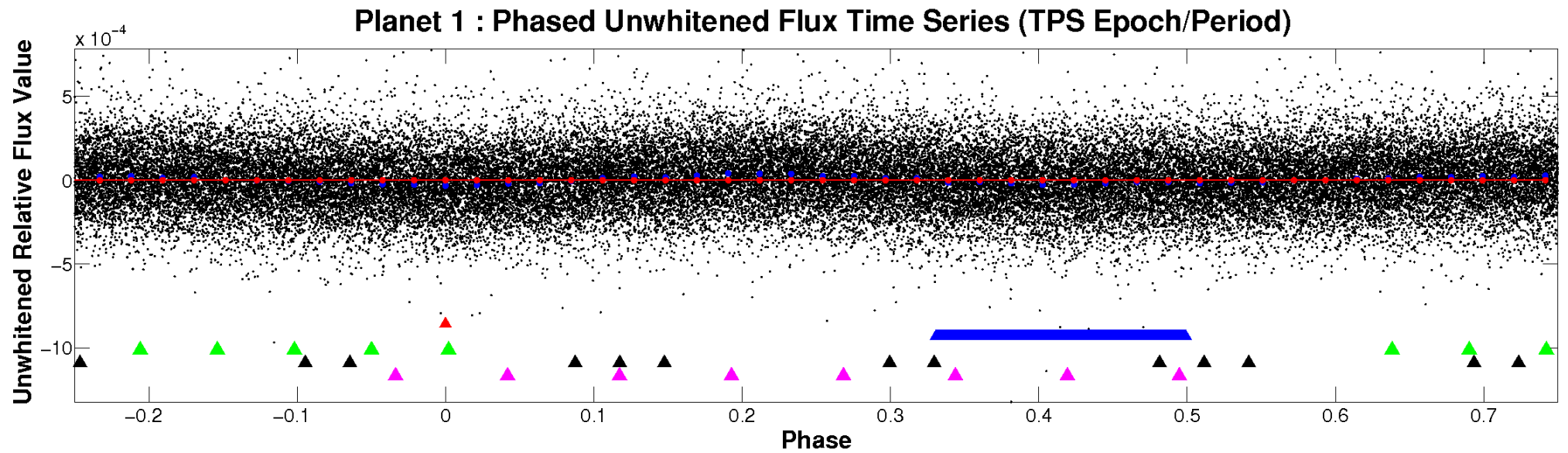


ALT Odd/Even

TCE 005192090-01

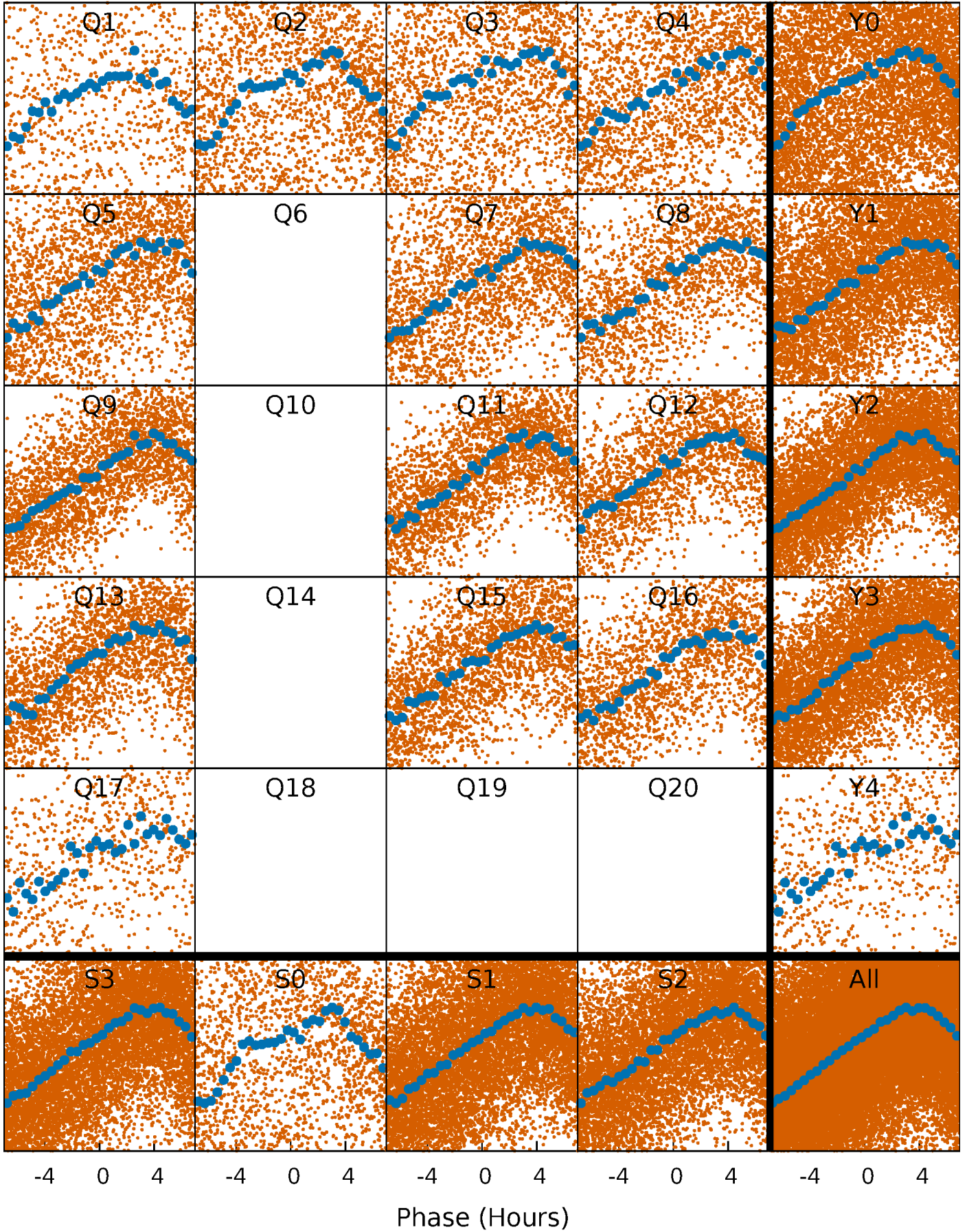


Non-Whitened Vs. Whitened Light Curve



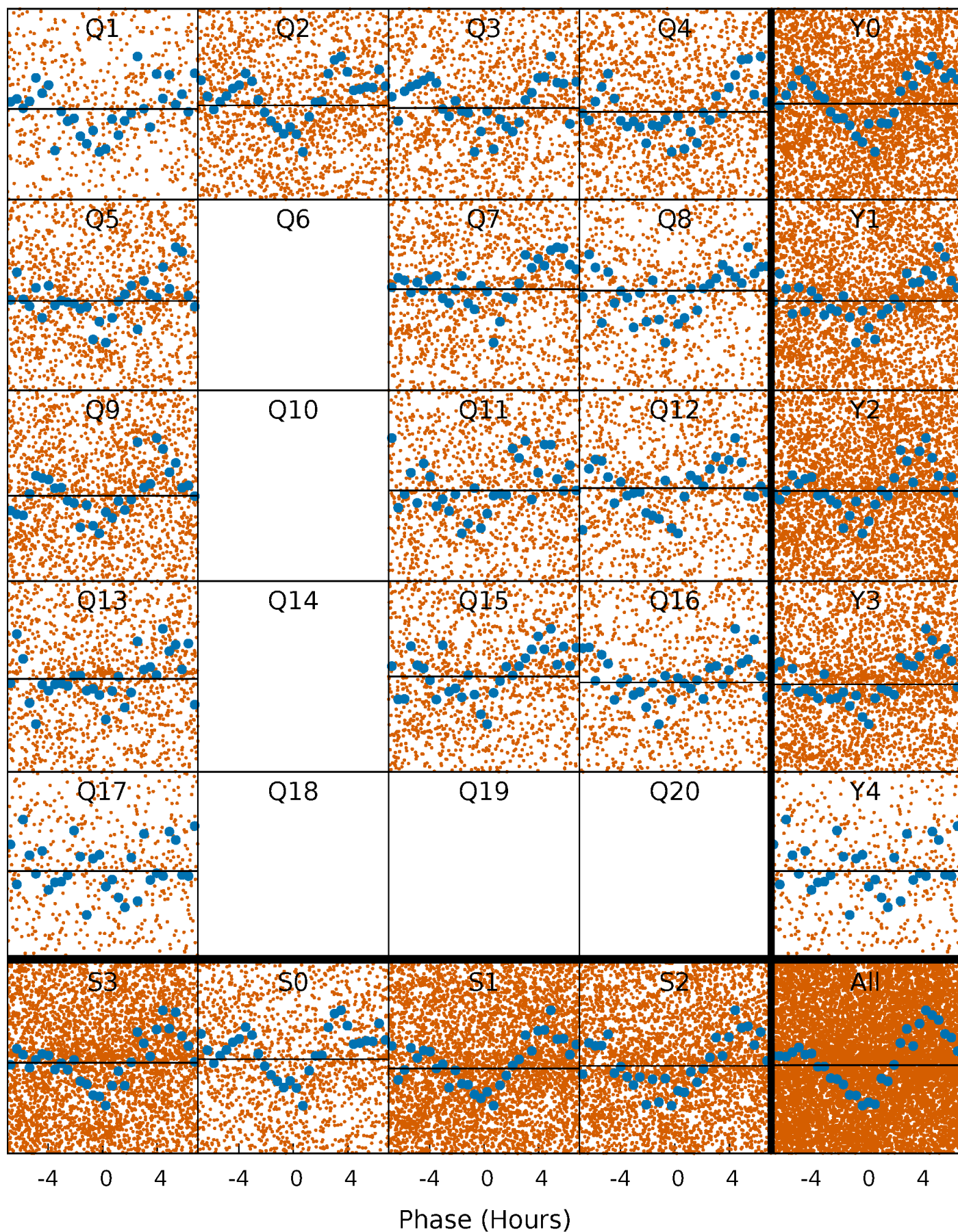
PDC Quarter-Phased Transit Curves

TCE 005192090-01 P= 0.964357 Days $T_0=132.273847$ (BKJD)



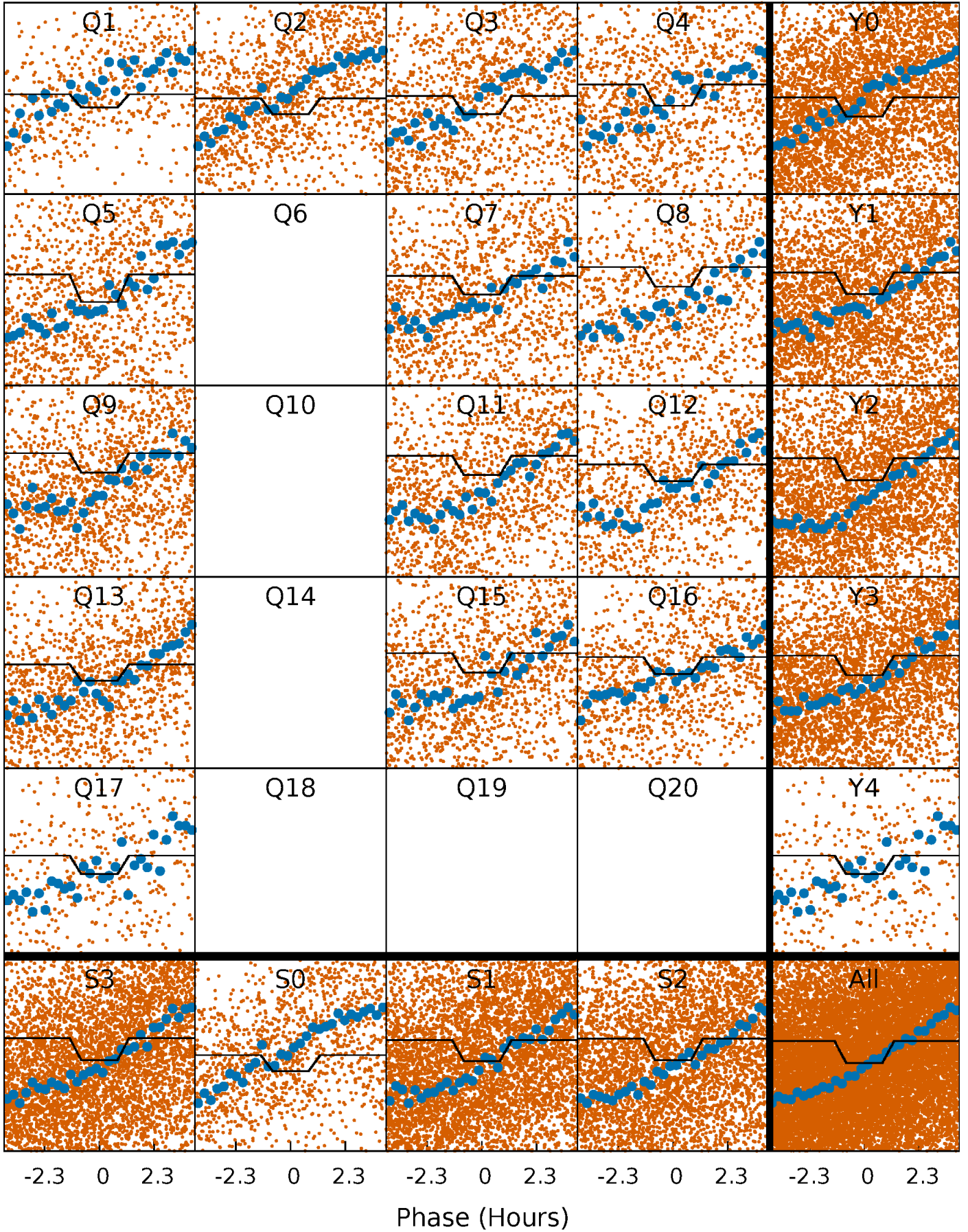
DV Quarter-Phased Transit Curves

TCE 005192090-01 P= 0.964357 Days $T_0=132.273847$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

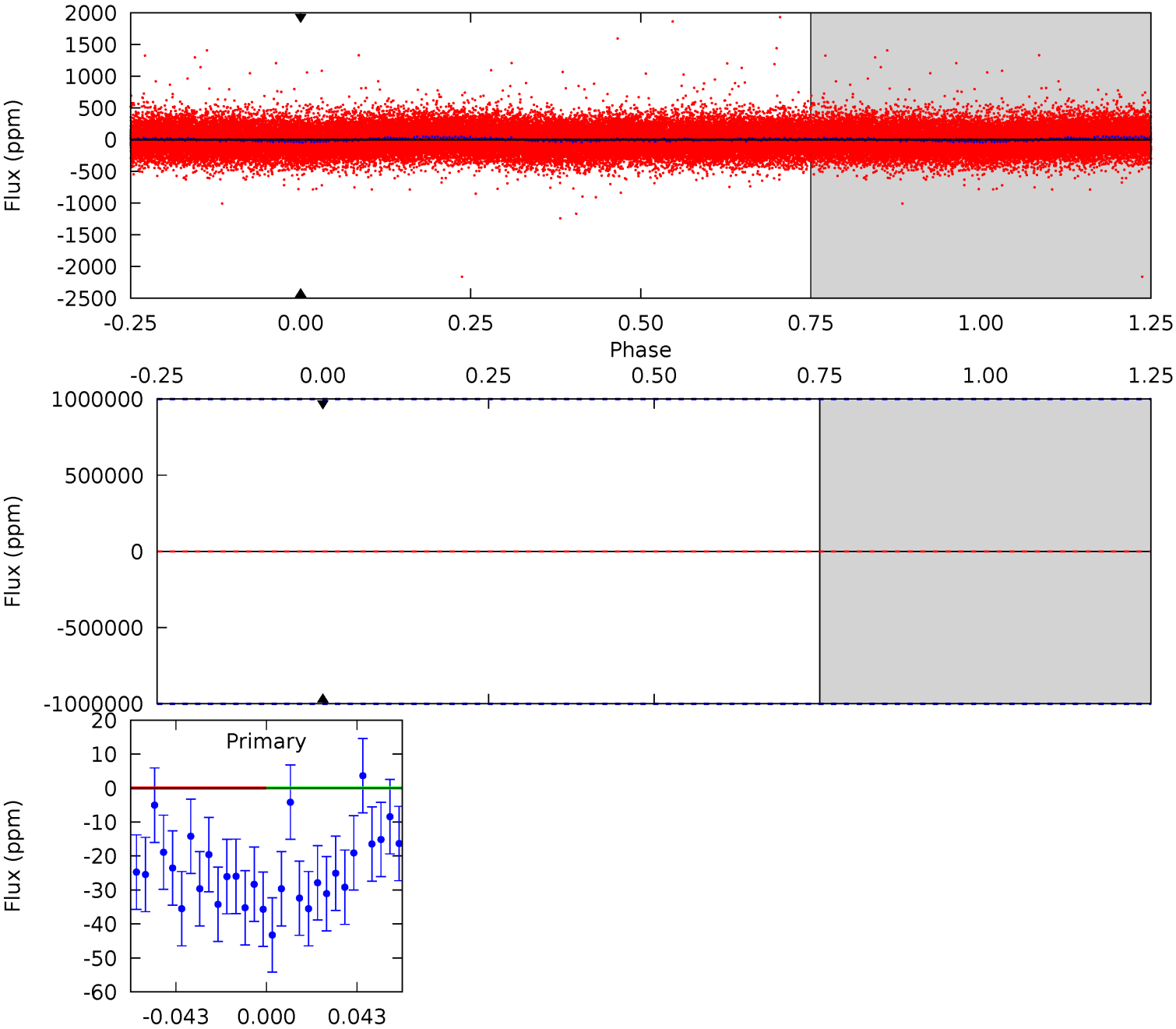
TCE 005192090-01 P= 0.964357 Days $T_0=132.049901$ (BKJD)



DV Model-Shift Uniqueness Test

005192090-01, P = 0.964357 Days, E = 131.309490 Days

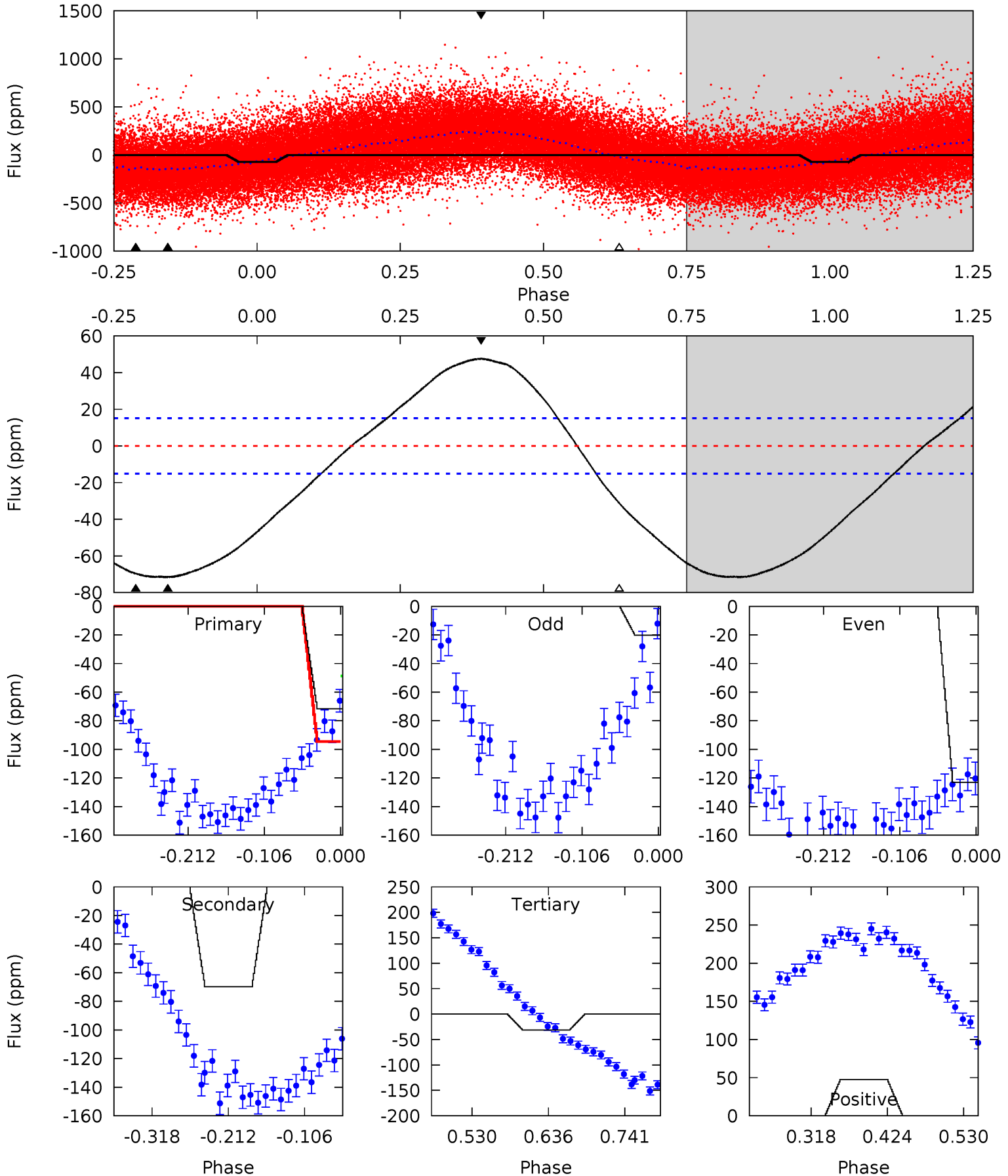
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005192090-01, P = 0.964357 Days, E = 131.085544 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	21.0	9.39	14.3	4.55	1.62	10.4	12.2	7.24	11.6	6.68	15.5	0.98	0.40	6.91



Stellar Parameters For KIC 005192090

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6733^{+151}_{-235}	$4.380^{+0.066}_{-0.165}$	$-0.280^{+0.250}_{-0.350}$	$1.161^{+0.303}_{-0.130}$	$1.186^{+0.153}_{-0.153}$	$1.068^{+0.314}_{-0.485}$
	+2%/-3%	+2%/-4%	+89%/-125%	+26%/-11%	+13%/-13%	+29%/-45%
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 005192090-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$9.92^{+10.19}_{-6.68}$	3178^{+182}_{-139}	-3747^{+33195}_{-21969}	$-0.368^{+380.389}_{-321.920}$
Alt.	-70 ± 3	$9.60^{+10.83}_{-6.62}$	3177^{+189}_{-141}	-2829^{+6926}_{-327}	$0.162^{+1.550}_{-0.125}$

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 $A_{obs} \gg 1.0$

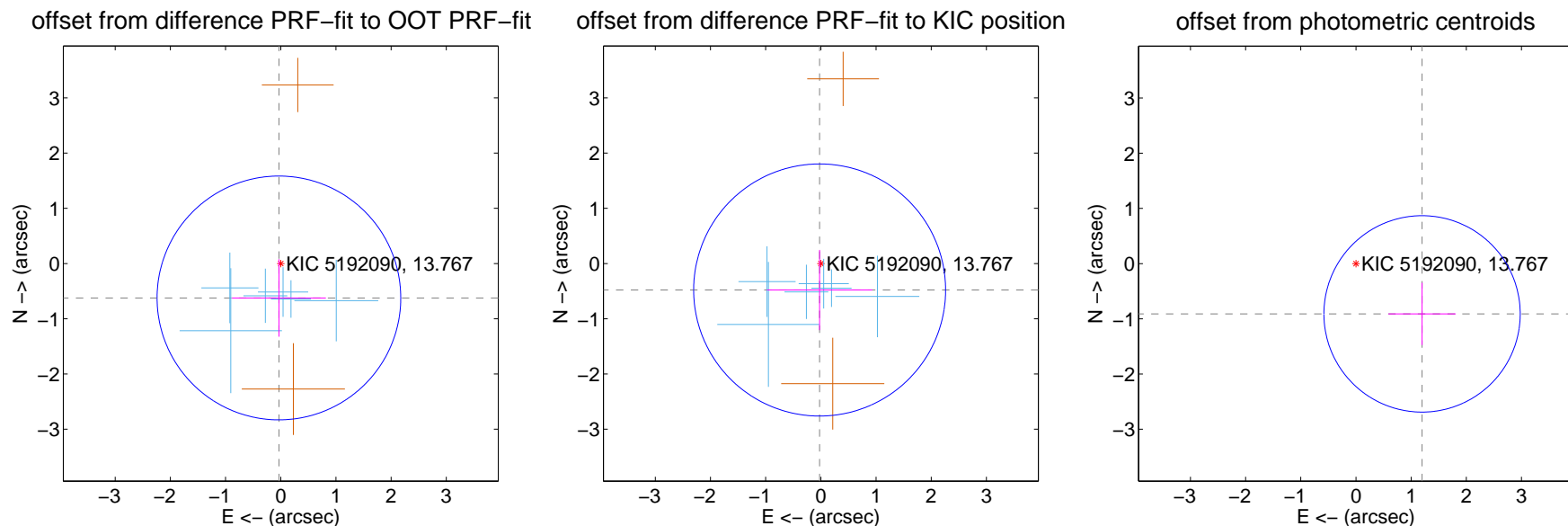
DV Centroid Data

Supplemental centroid analysis for 005192090-01. Kepler magnitude: 13.77. Transit SNR -1.00

There are 6 quarters with good PRF difference image offsets

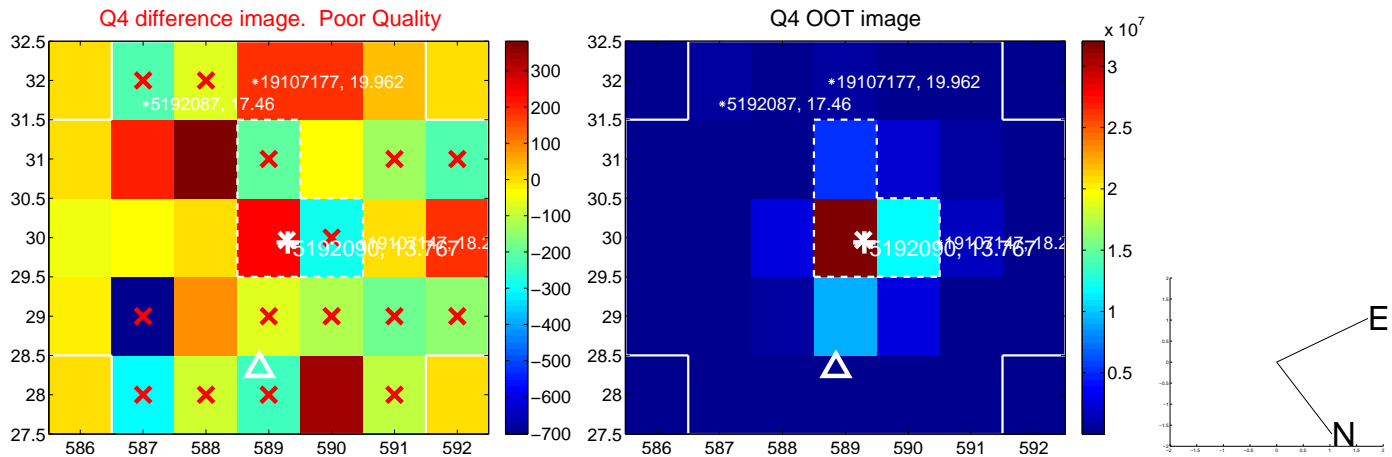
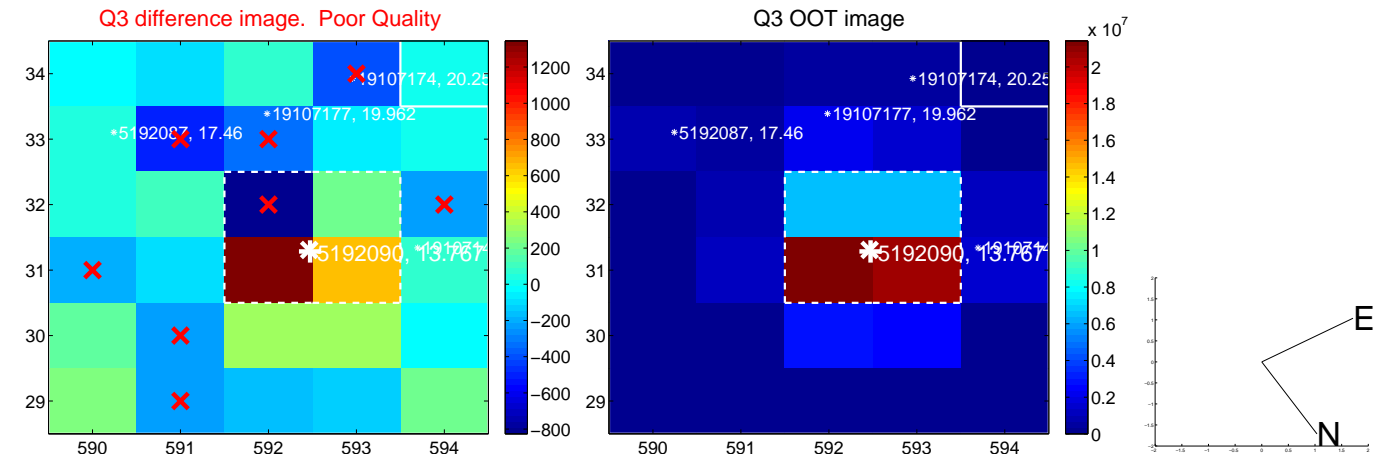
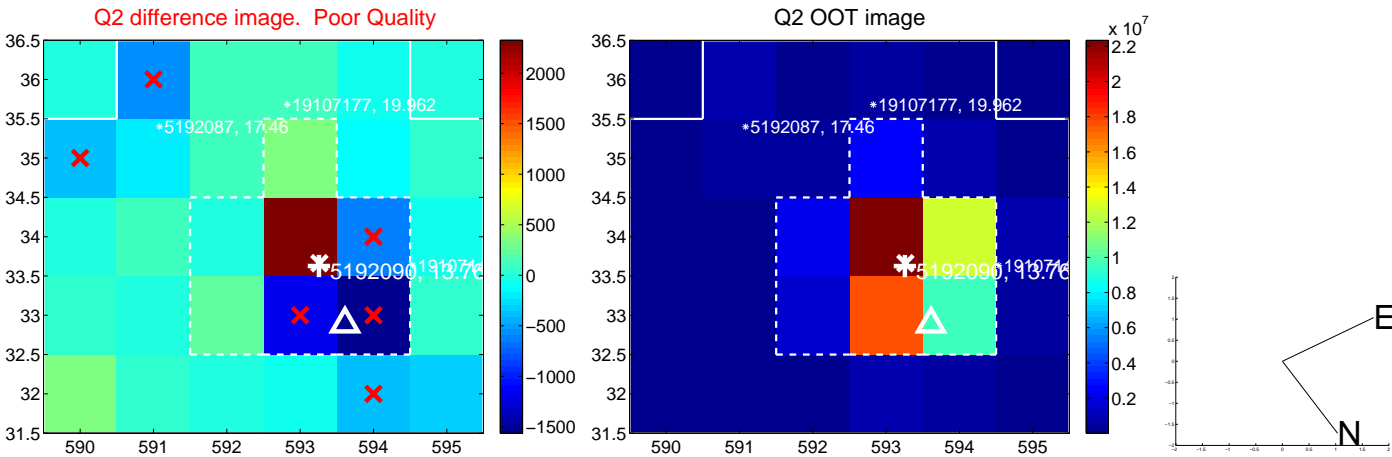
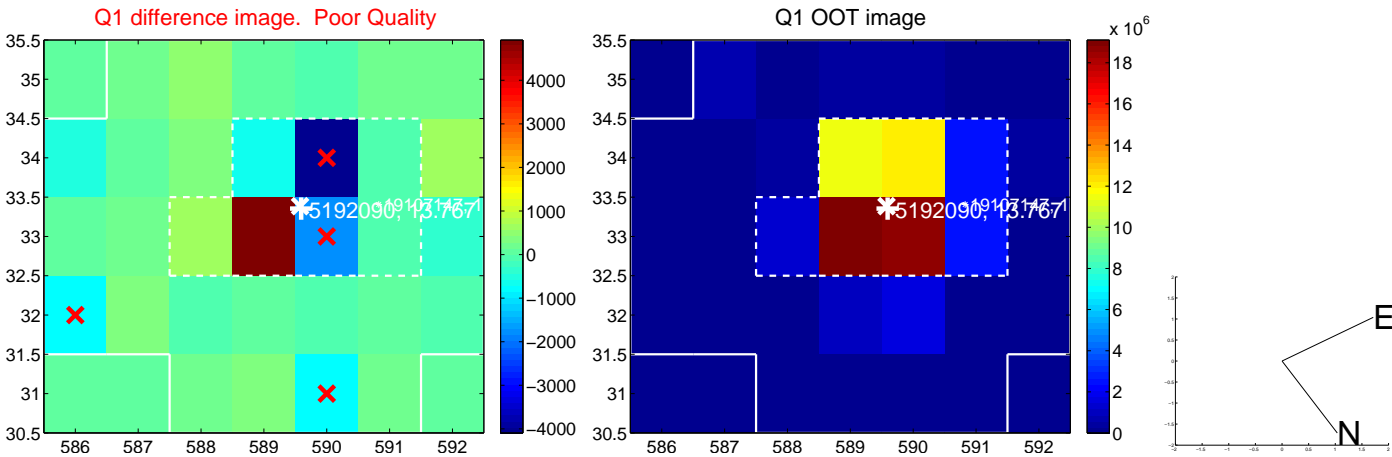
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.624 ± 0.736	0.85	0.033 ± 0.852	-0.623 ± 0.702
PRF-fit source offset from KIC position	0.480 ± 0.761	0.63	0.022 ± 0.954	-0.479 ± 0.726
photometric centroid source offset	1.51 ± 0.59	2.54	-1.20 ± 0.61	-0.91 ± 0.56

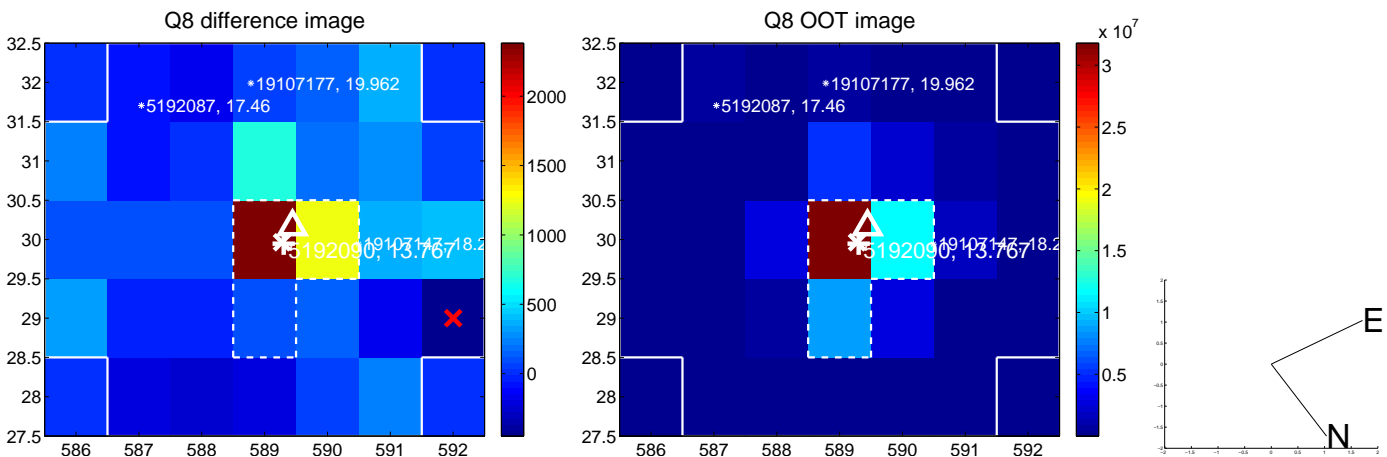
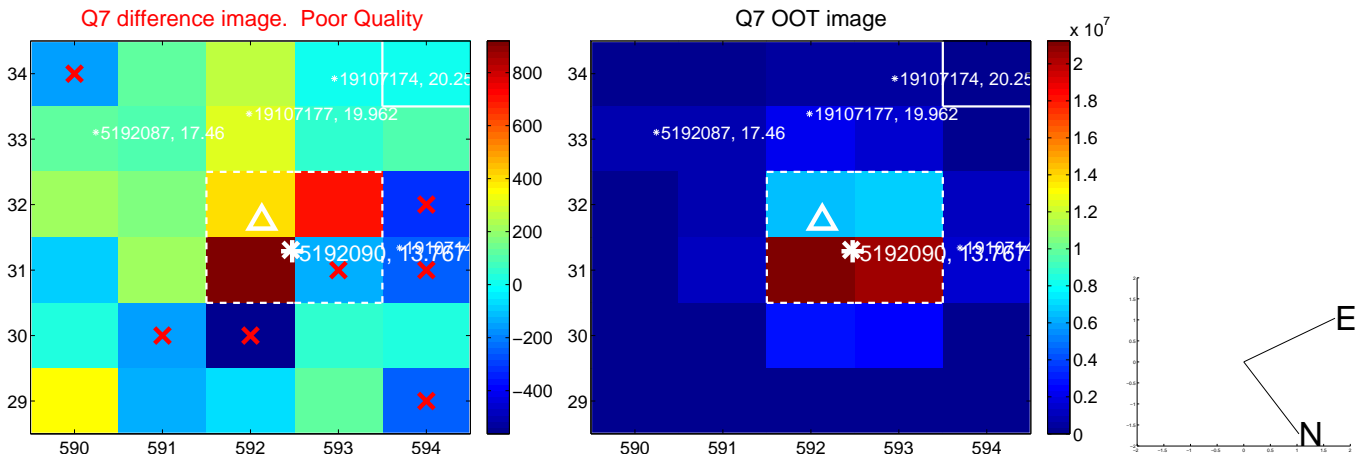
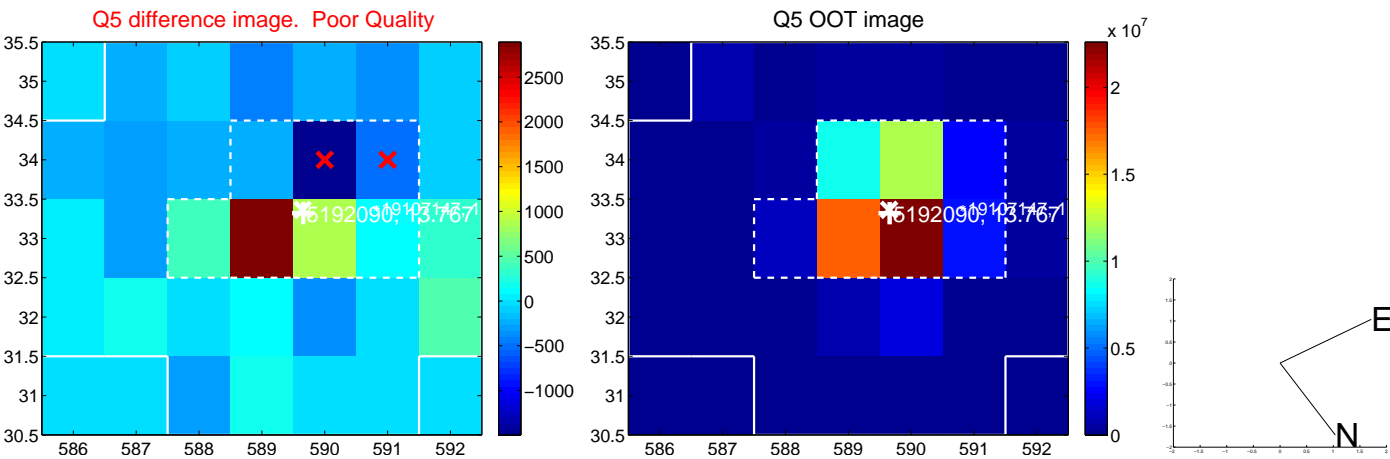


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

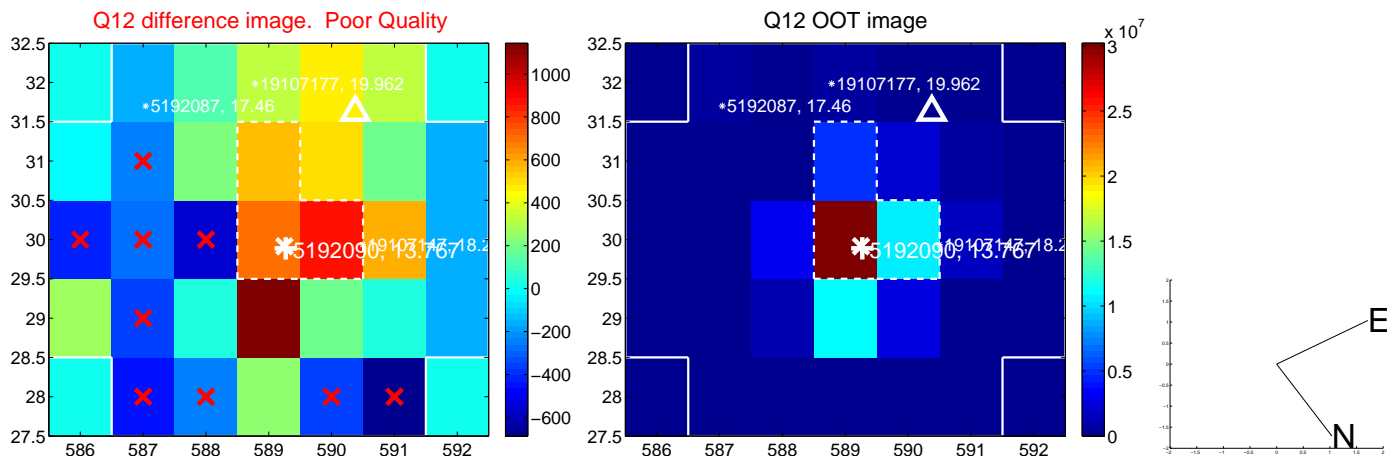
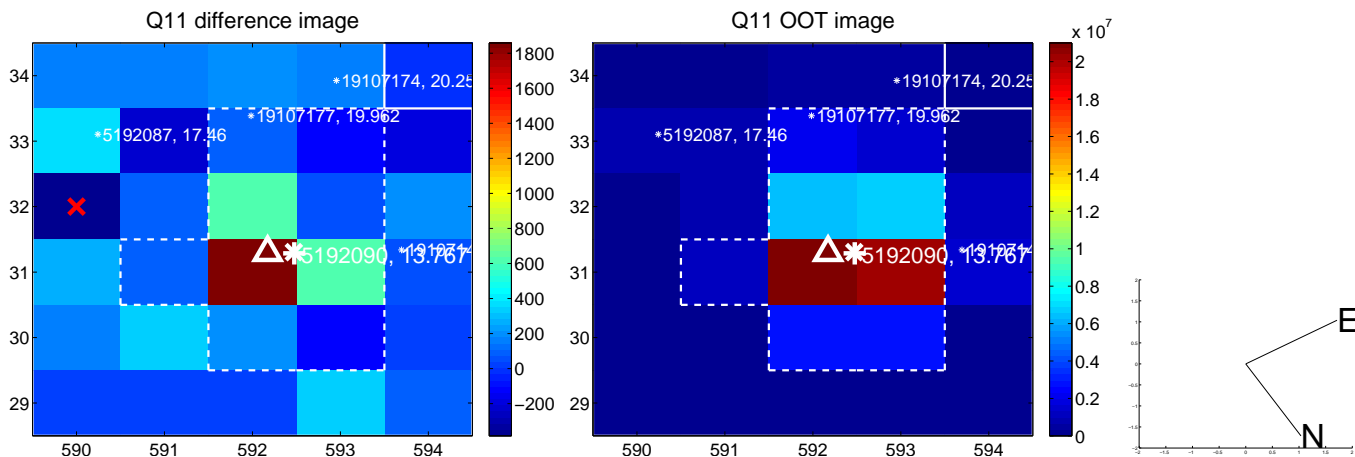
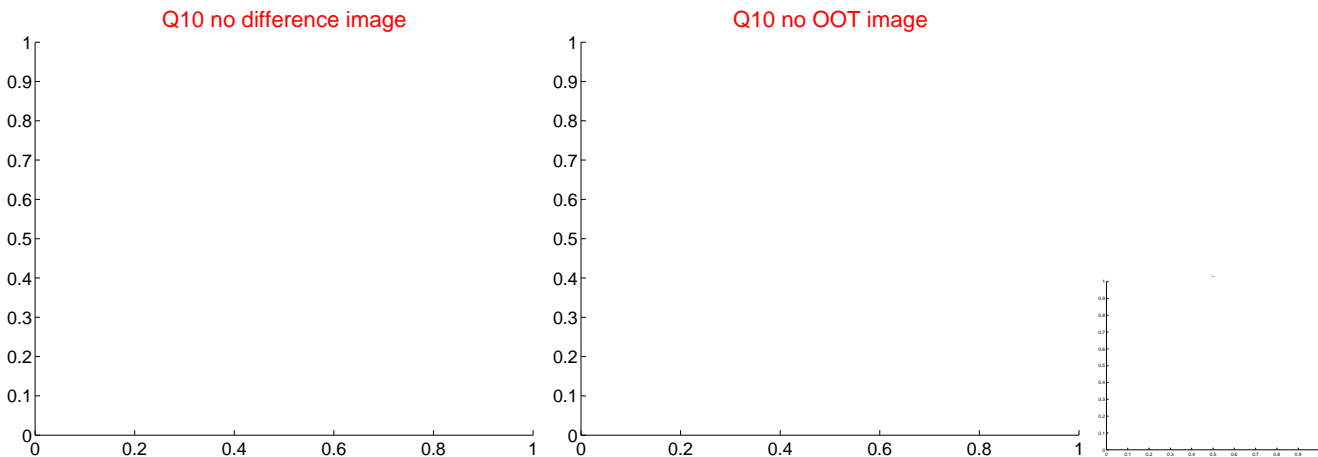
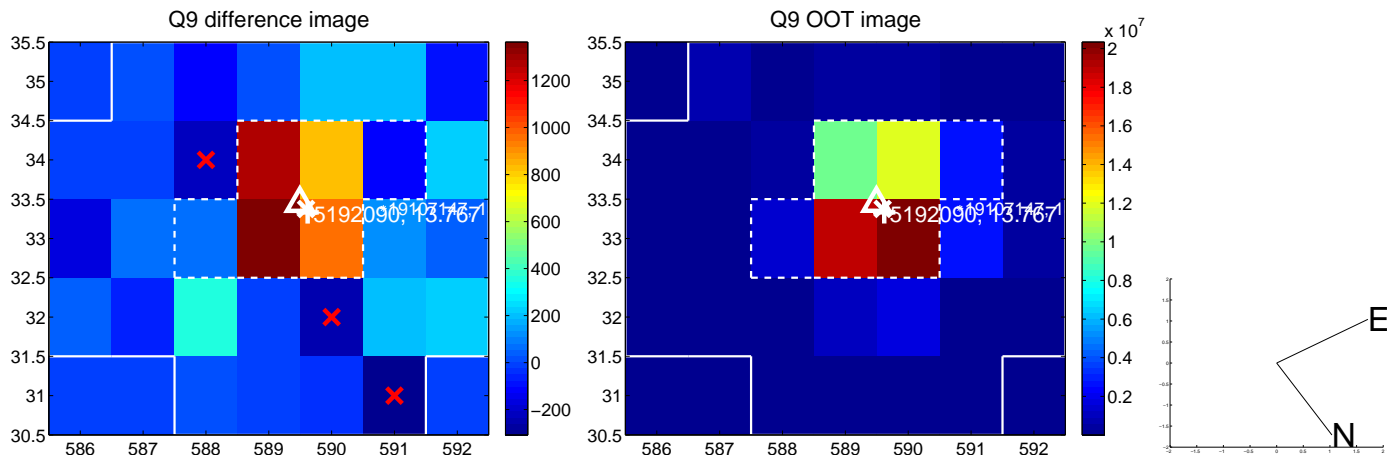
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



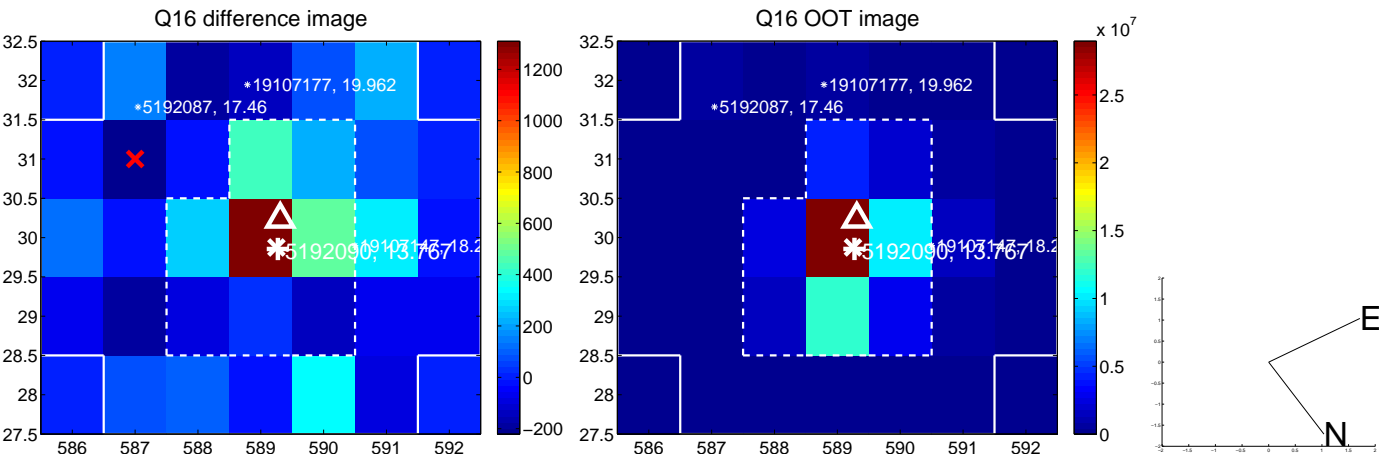
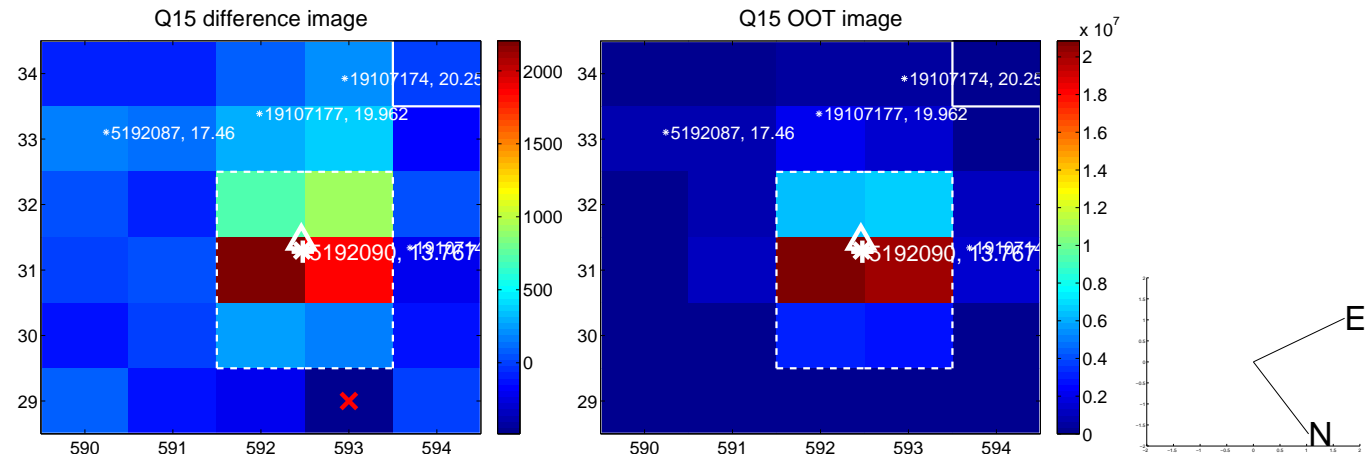
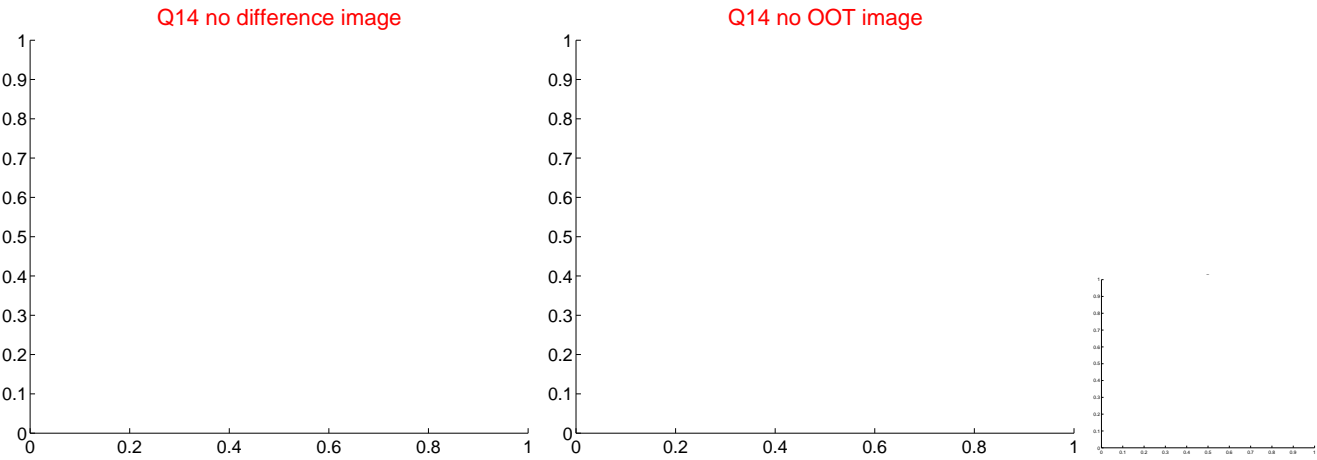
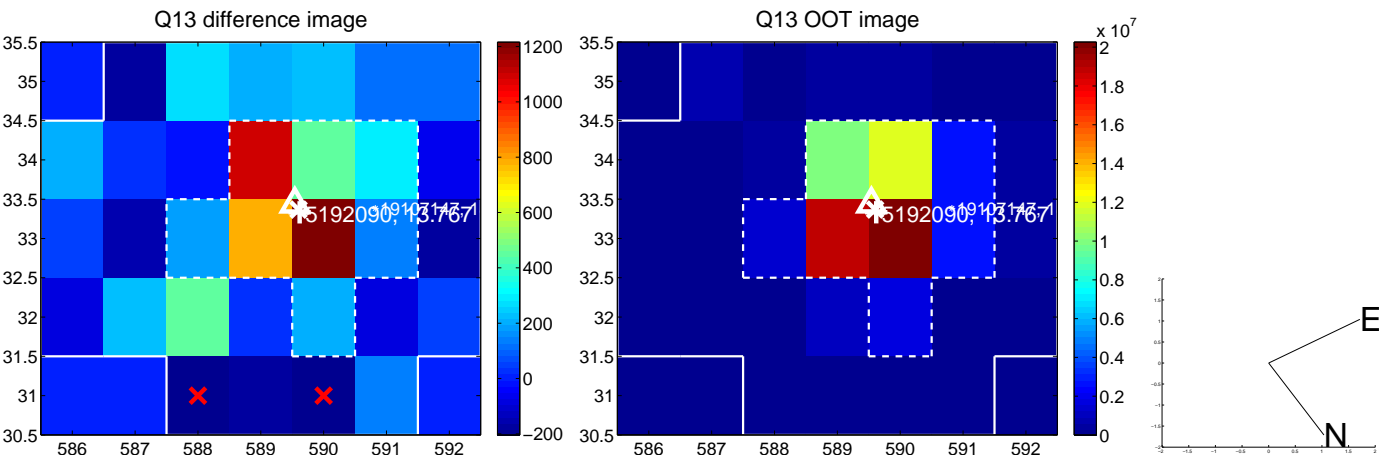
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



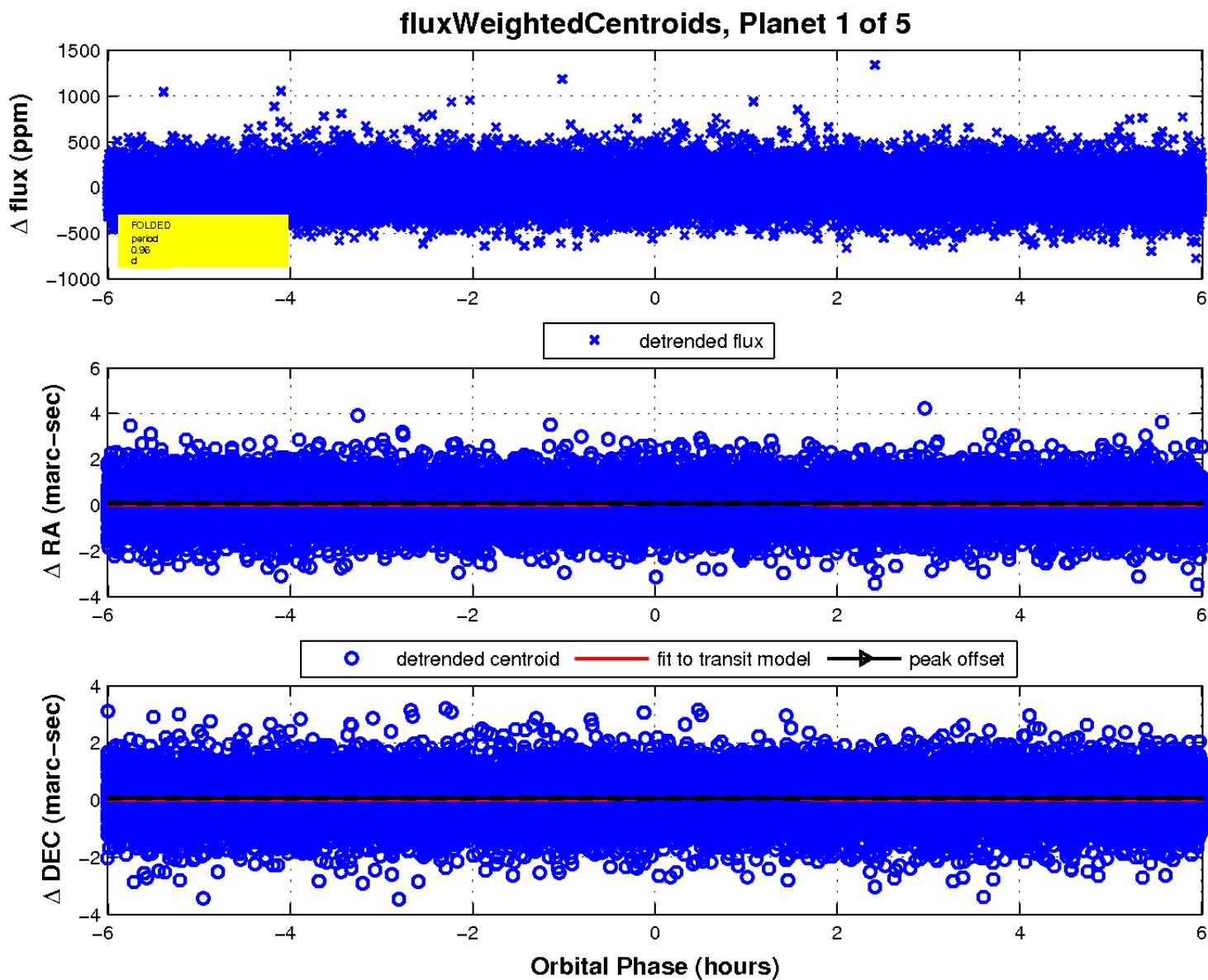
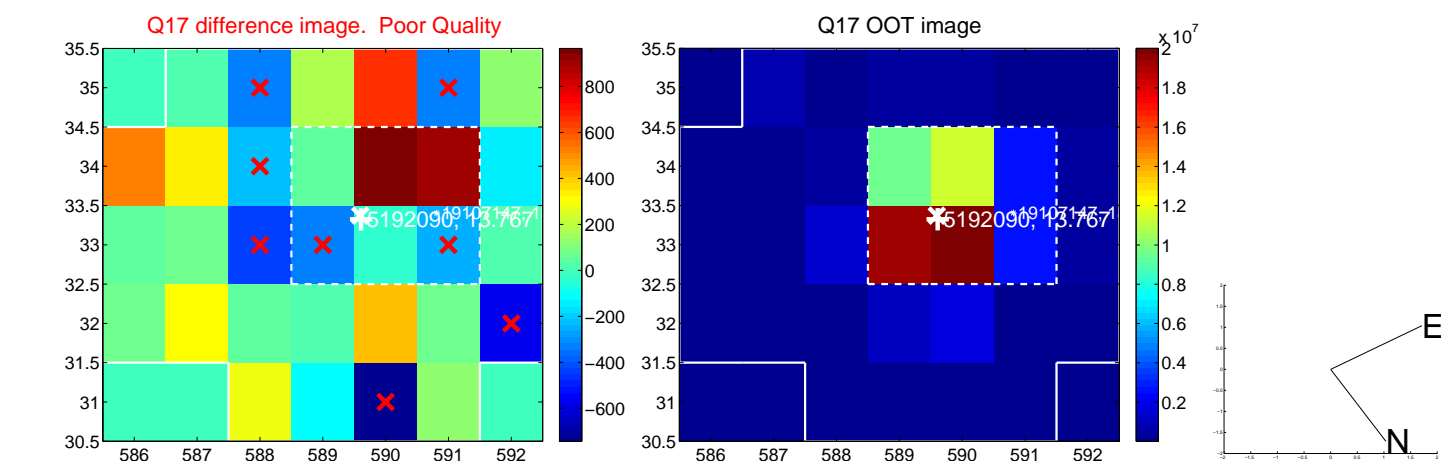
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

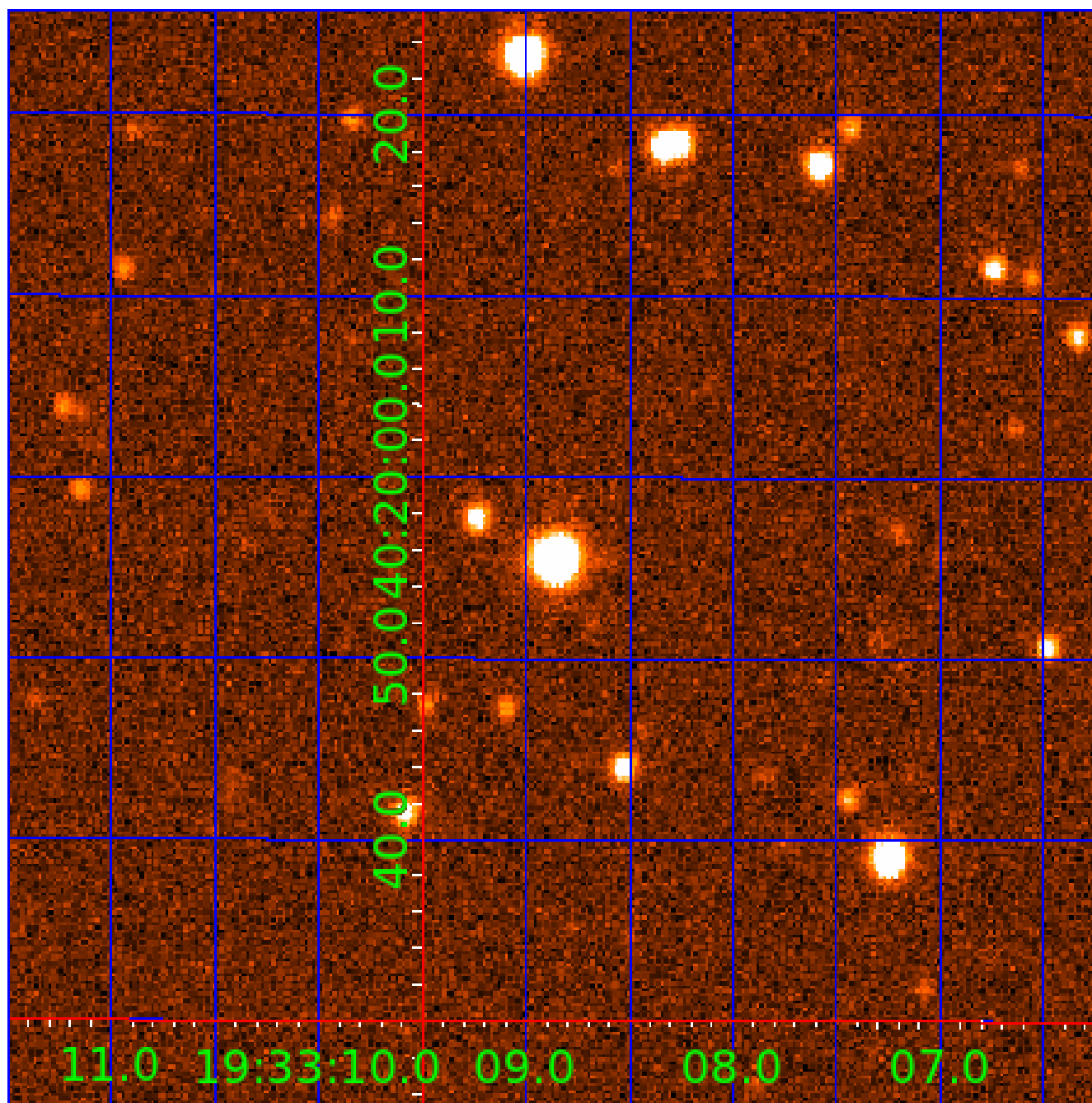


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005192090

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})
005192090-01	OBS	No	0.964357	132.273847	281.1	3.500	8.7	-1.0	1.16	6733	1.97	6090.22
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005192090-03	OBS	No	194.850289	140.604230	343.5	2.736	7.3	7.9	1.16	6733	2.51	5.14
005192090-04	OBS	No	108.592425	235.924363	177.8	8.932	7.5	6.7	1.16	6733	1.78	11.20
005192090-05	OBS	No	204.516534	157.314710	359.5	2.542	7.3	6.7	1.16	6733	2.51	4.82

Robovetter Results

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005192090-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
005192090-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005192090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005192090-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

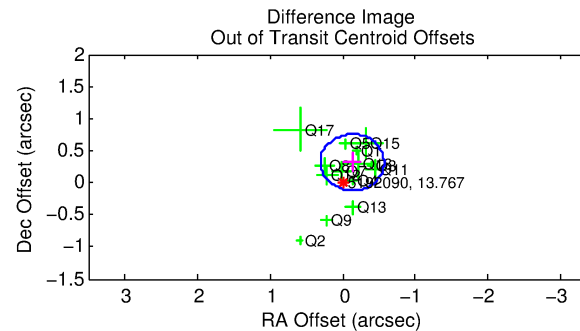
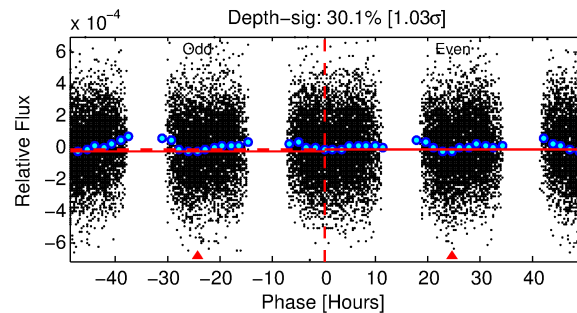
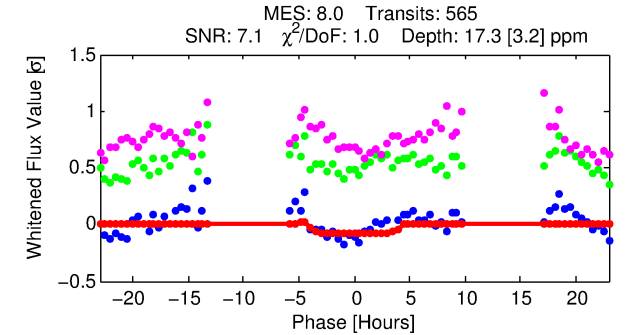
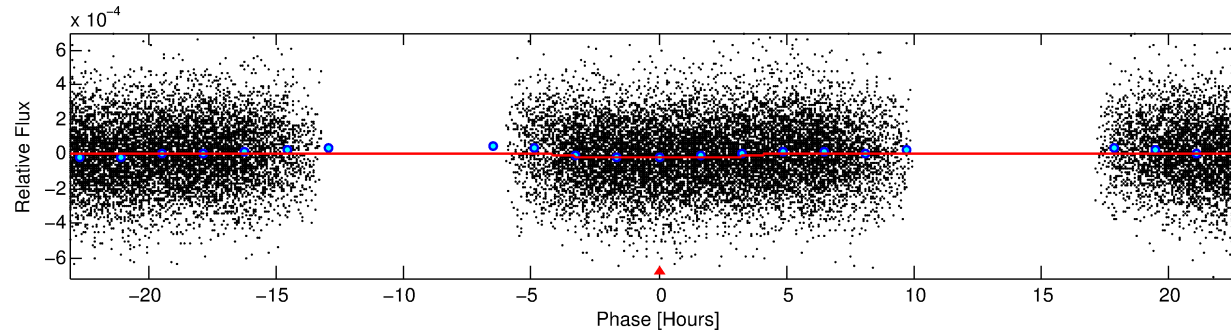
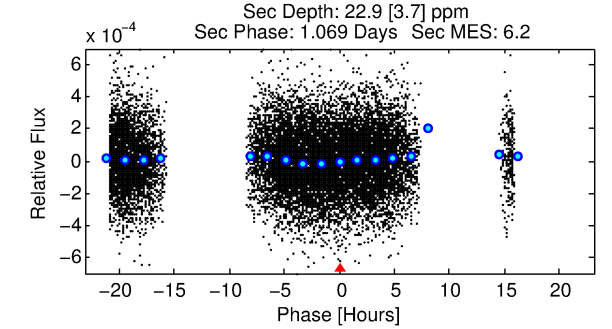
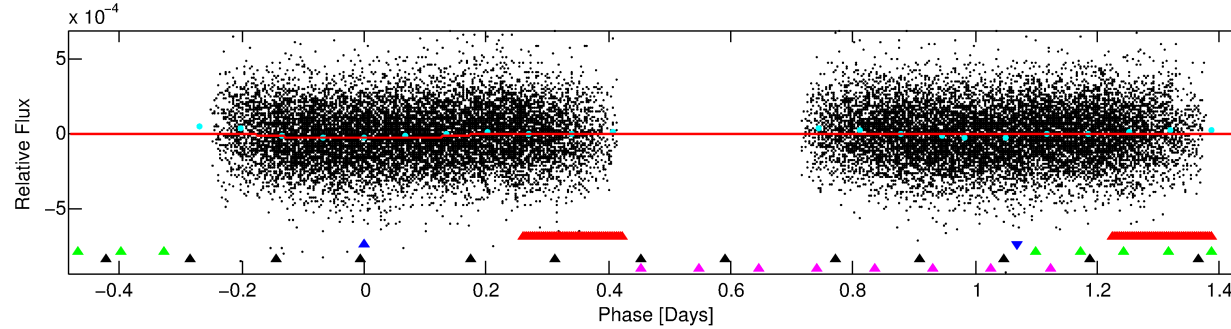
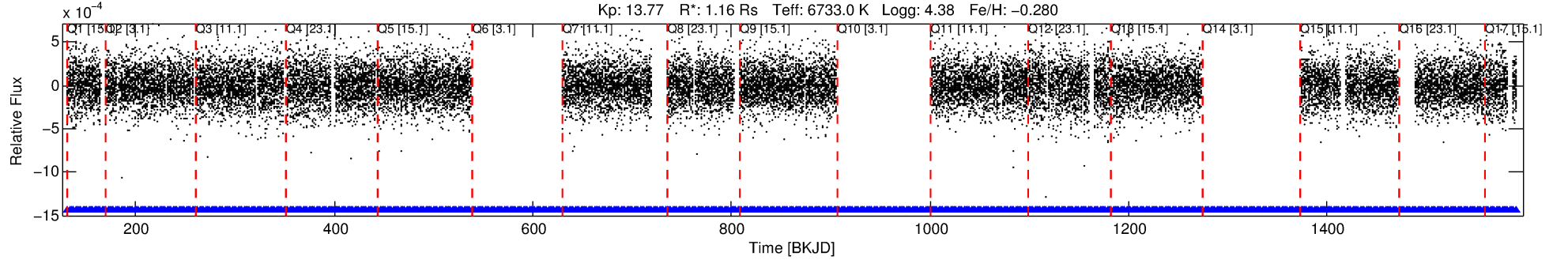
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005192090-02

No Significant Match Found

DV One-Page Summary

KIC: 5192090 Candidate: 2 of 5 Period: 1.928 d



DV Fit Results:

Period = 1.92850 [0.00004] d
Epoch = 131.7910 [0.0121] BKJD
Rp/R* = 0.0038 [0.0067]
a/R* = 1.92 [13.48]
b = 0.05 [207.37]
Seff = 2417.27 [815.86]
Teq = 1788 [151] K
Rp = 0.49 [0.86] Re
a = 0.0320 [0.0069] AU
Ag = 54.57 [191.78] [0.28σ]
Teffp = 7513 [6581] K [0.87σ]

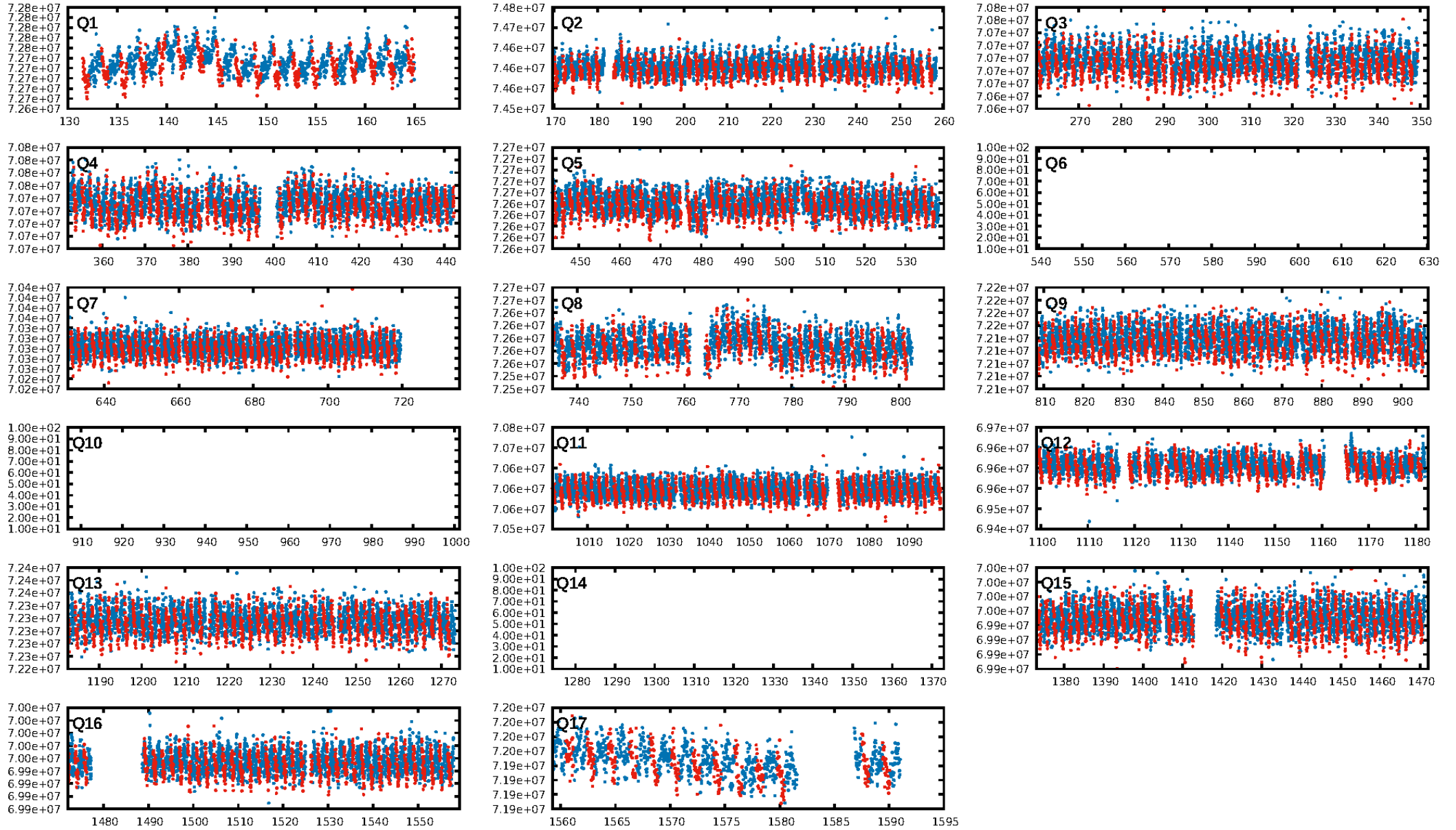
DV Diagnostic Results:

ShortPeriod-sig: 99.1% [2.62σ]
LongPeriod-sig: 100.0% [212.06σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.31e-10
RollingBand-fgt: 1.00 [534/534]
GhostDiagnostic-chr: 0.8821
Centroid-sig: 0.2%
Centroid-so: 2.597 arcsec [1.90σ]
OotOffset-rm: 0.343 arcsec [2.34σ]
KicOffset-rm: 0.434 arcsec [3.03σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

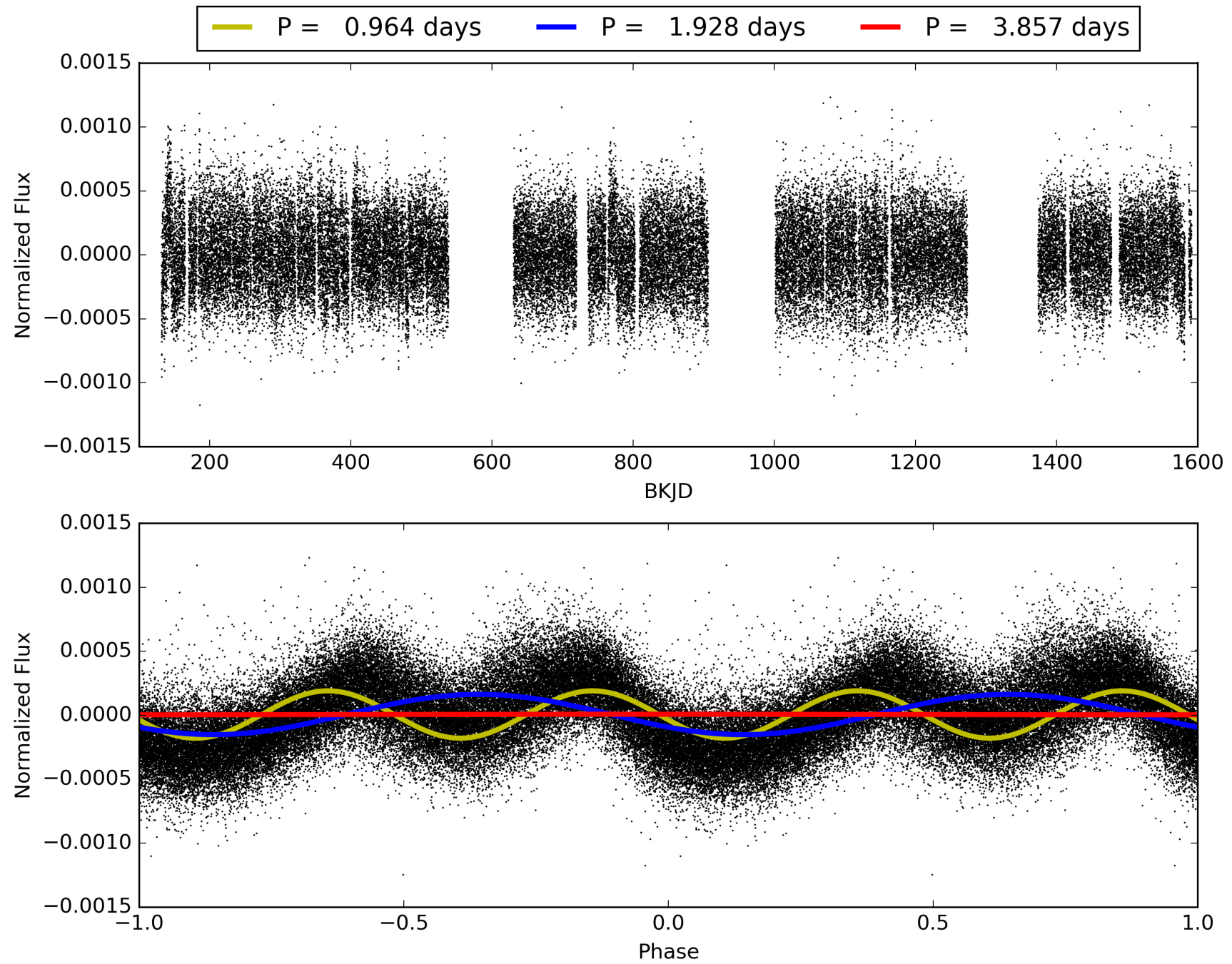
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:30:28 Z

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

TCE 005192090-02, PDC Light Curves

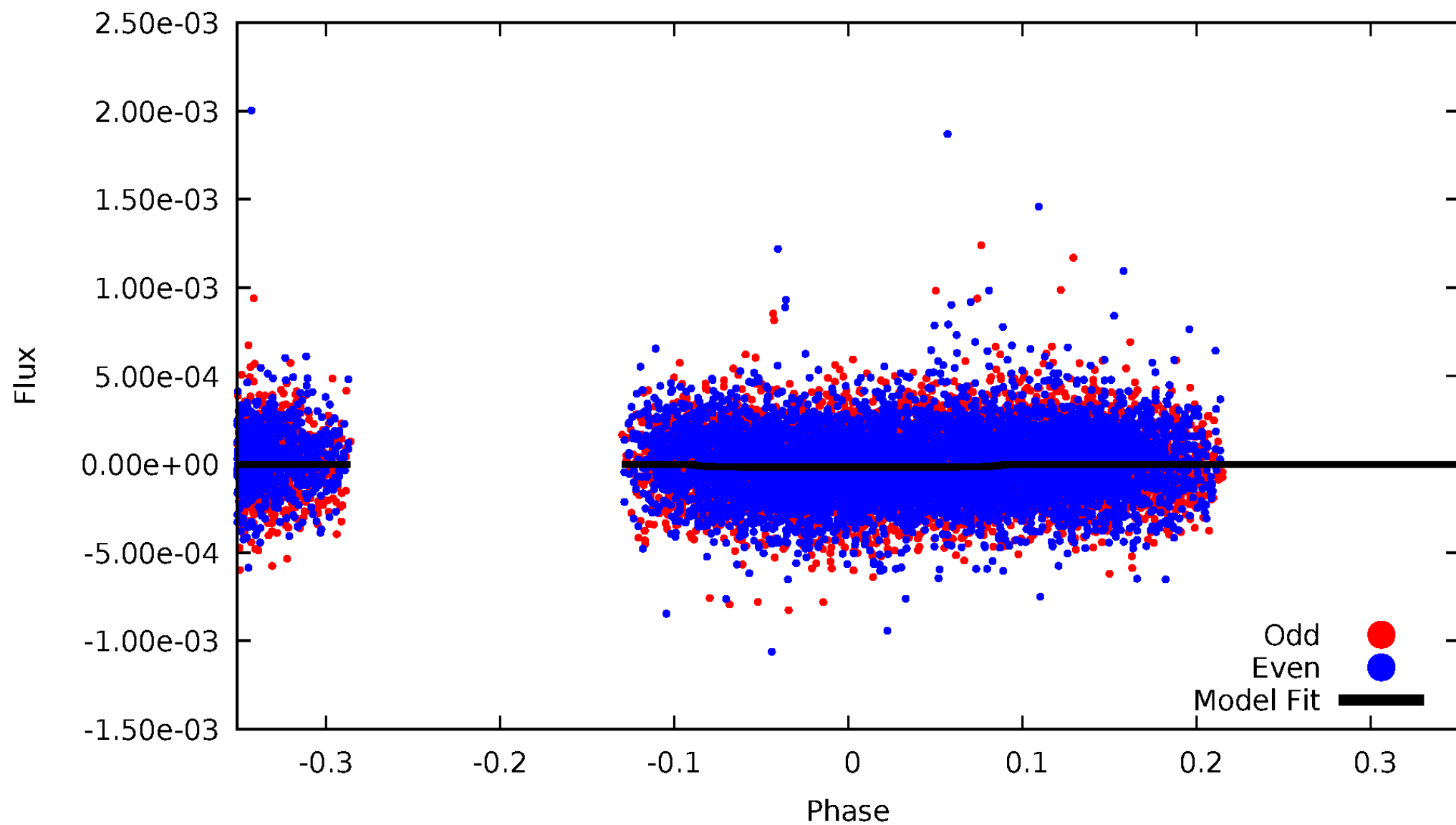


TCE 005192090-02



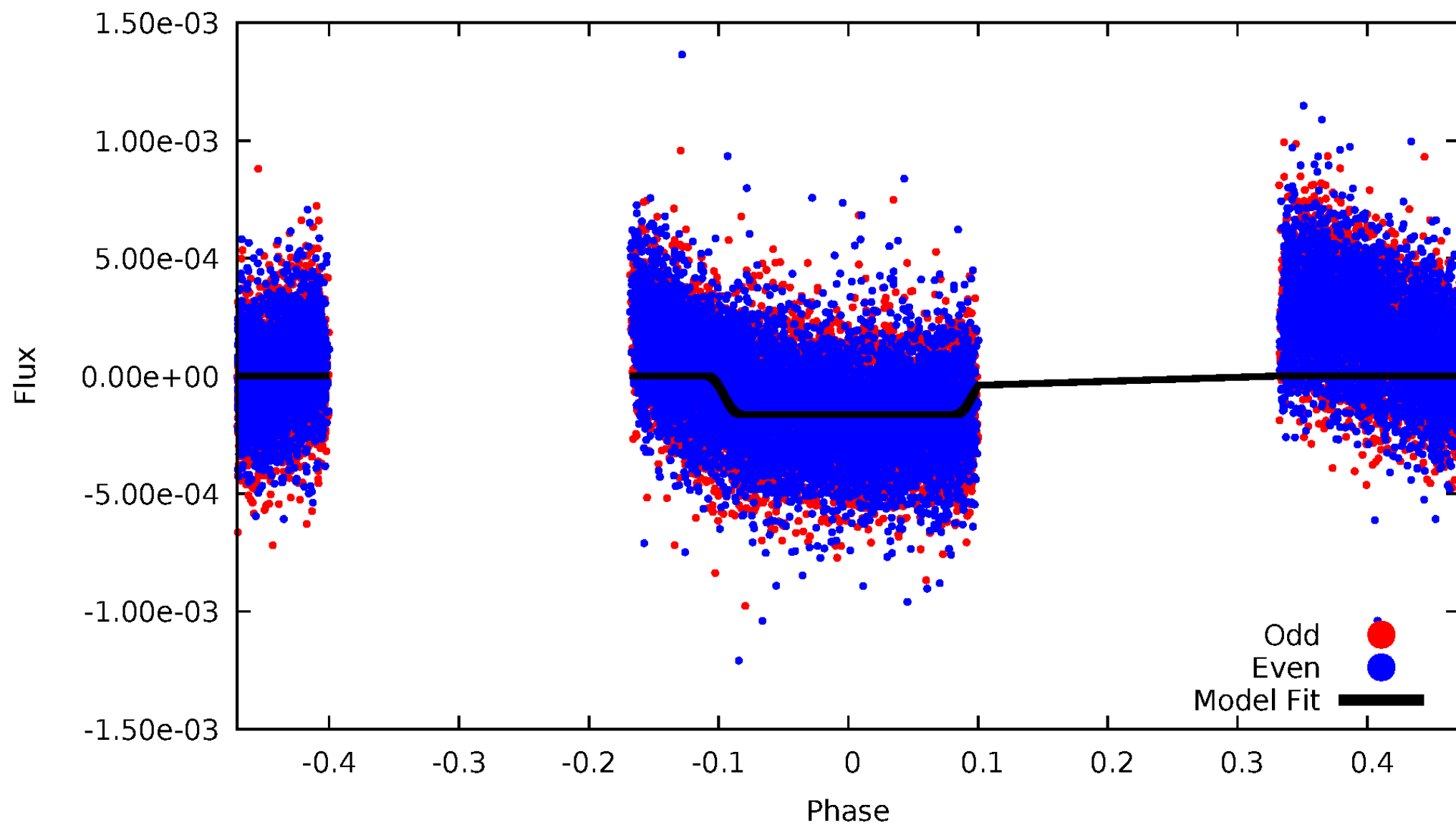
DV Odd/Even

TCE 005192090-02



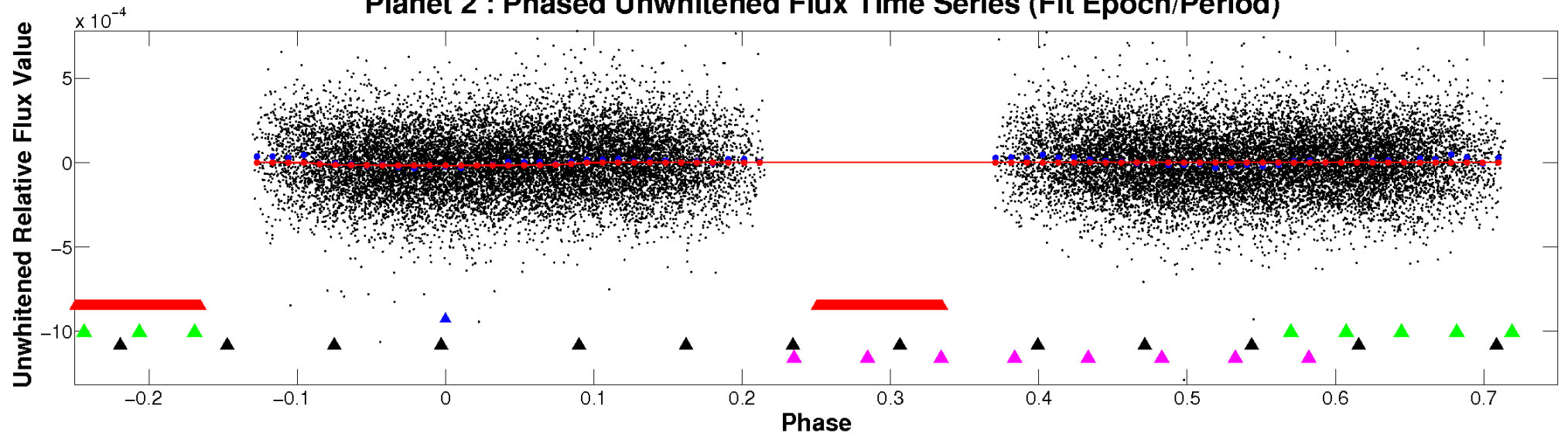
ALT Odd/Even

TCE 005192090-02

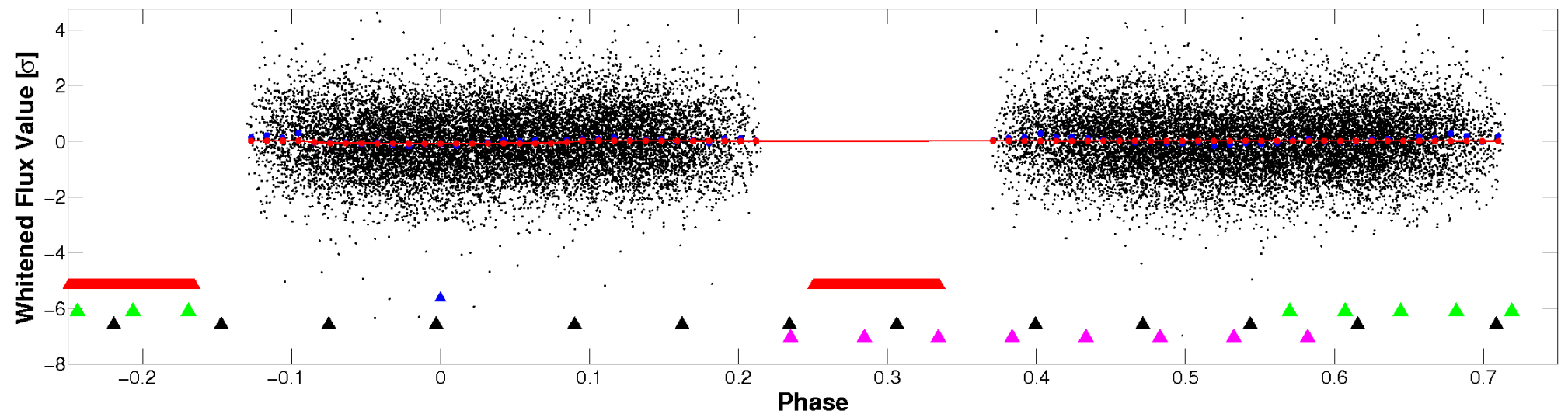


Non-Whitened Vs. Whitened Light Curve

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

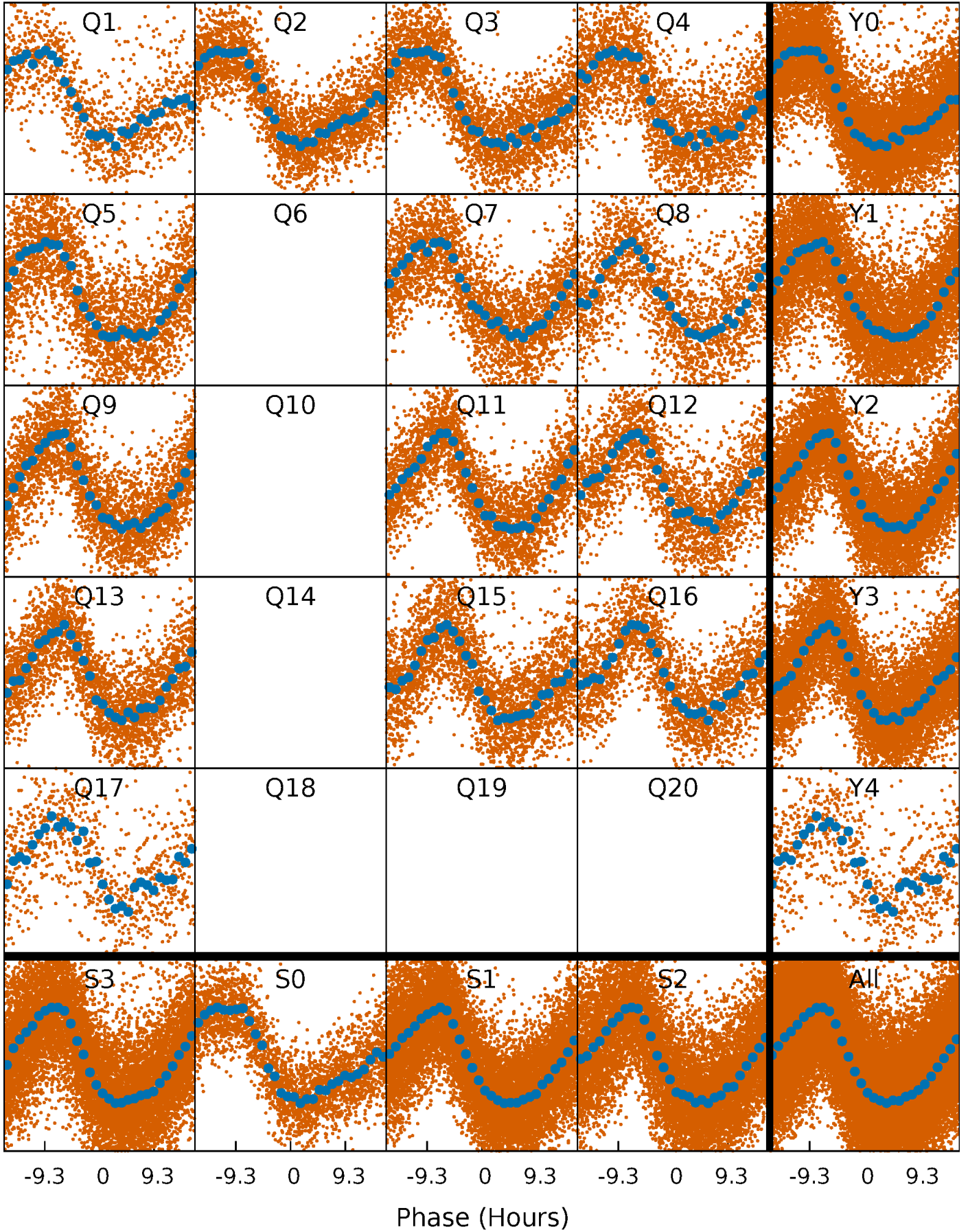


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



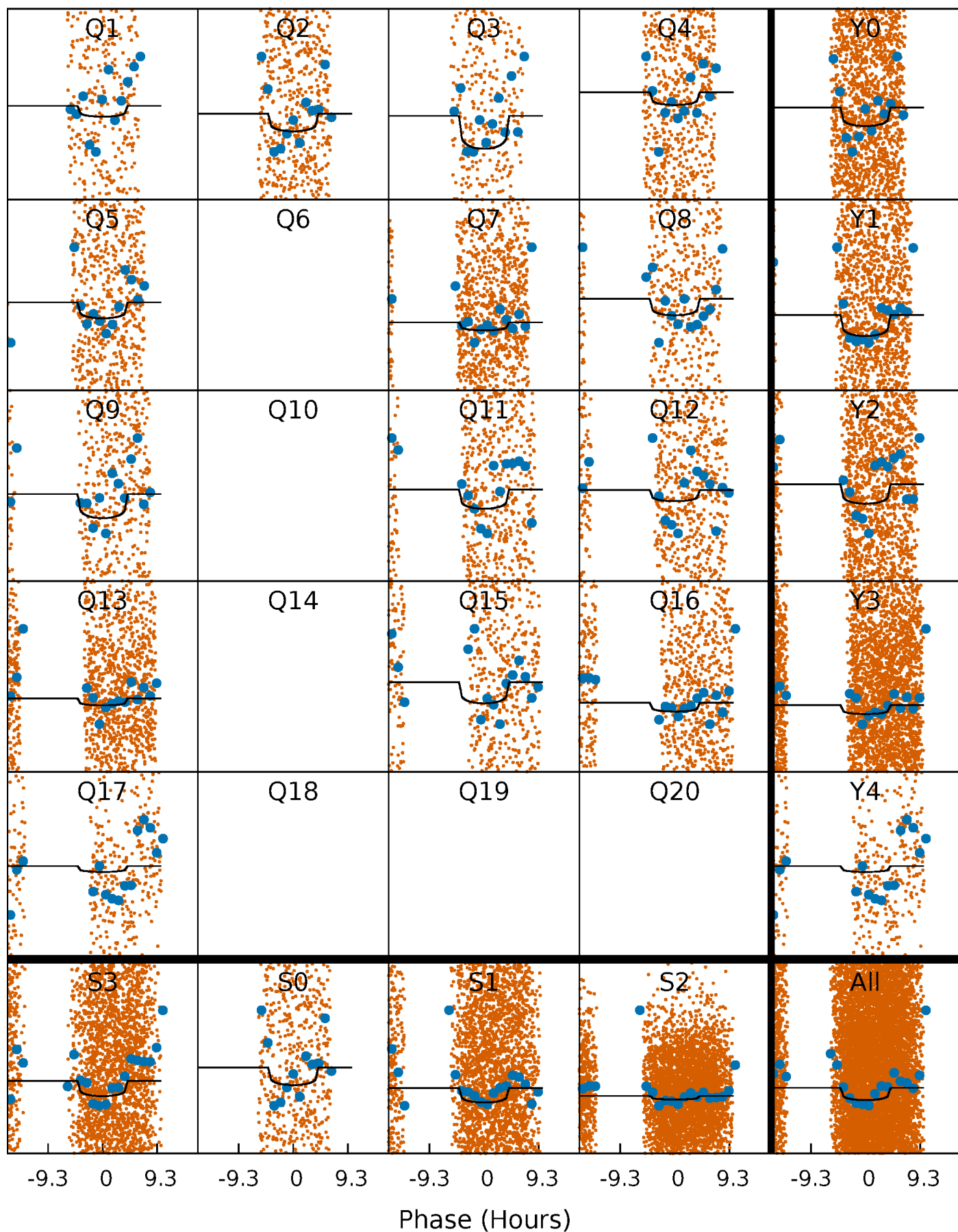
PDC Quarter-Phased Transit Curves

TCE 005192090-02 P= 1.928499 Days $T_0=131.790997$ (BKJD)



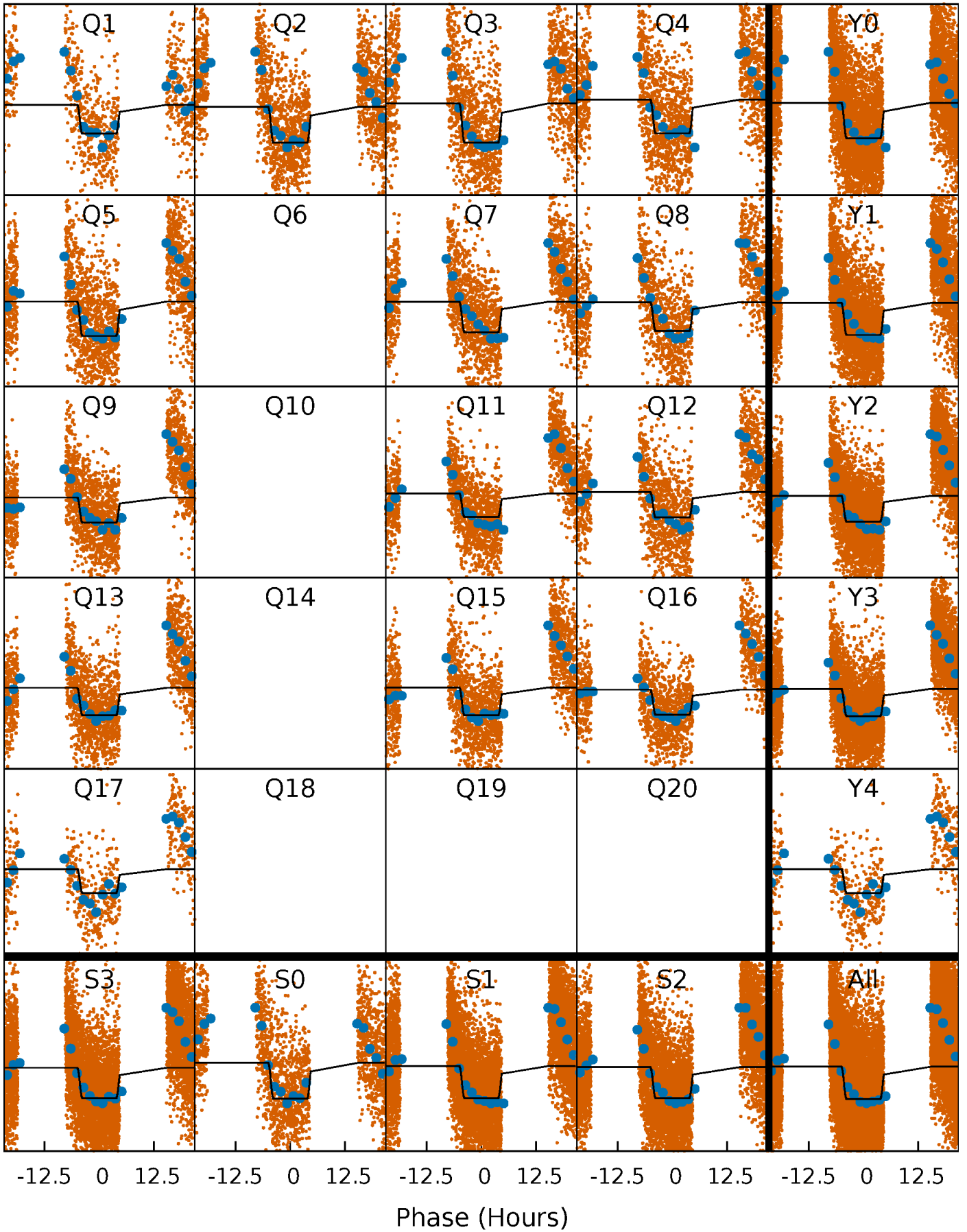
DV Quarter-Phased Transit Curves

TCE 005192090-02 P= 1.928499 Days $T_0=131.790997$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

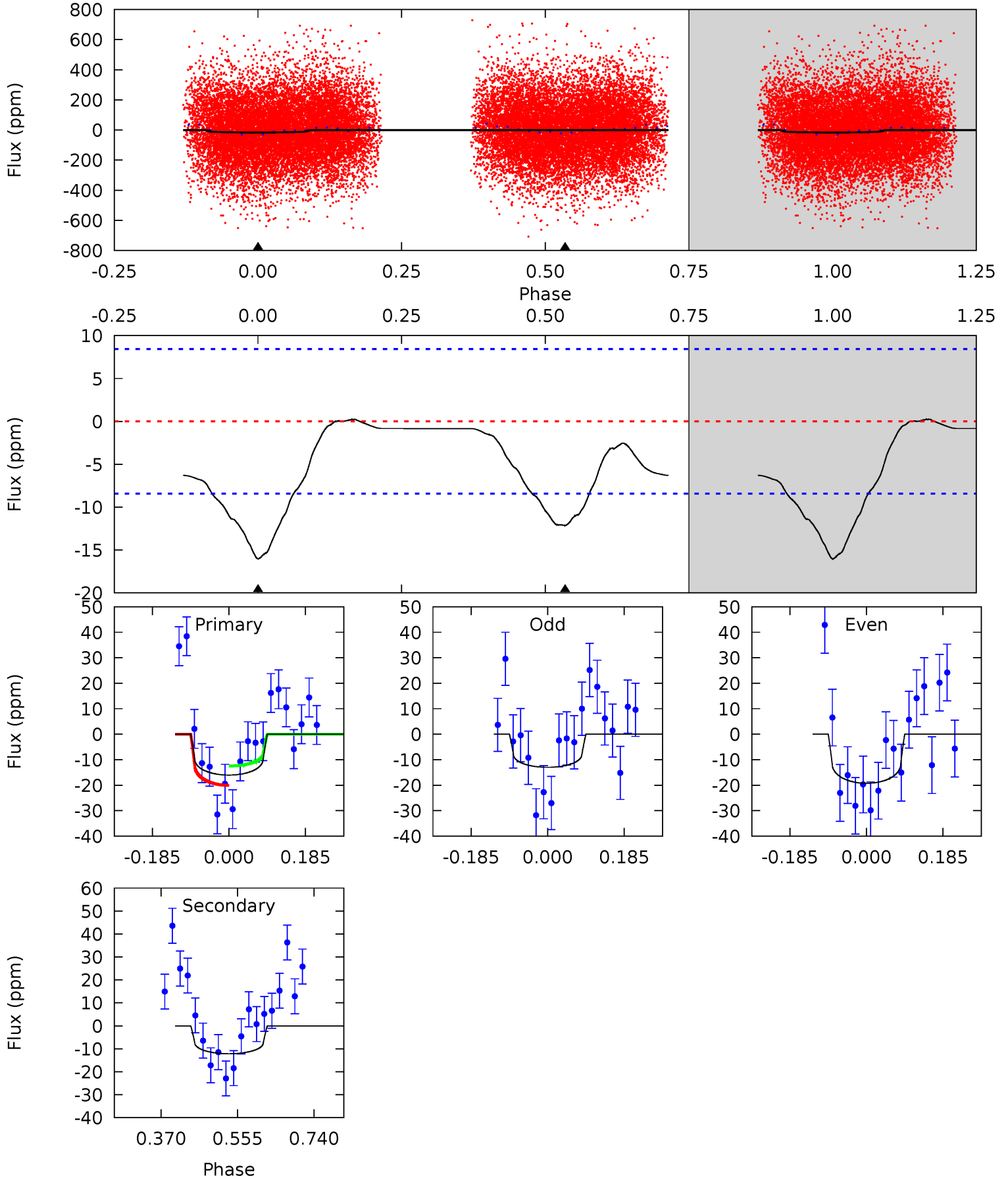
TCE 005192090-02 P= 1.928698 Days $T_0=131.863356$ (BKJD)



DV Model-Shift Uniqueness Test

005192090-02, P = 1.928499 Days, E = 129.862498 Days

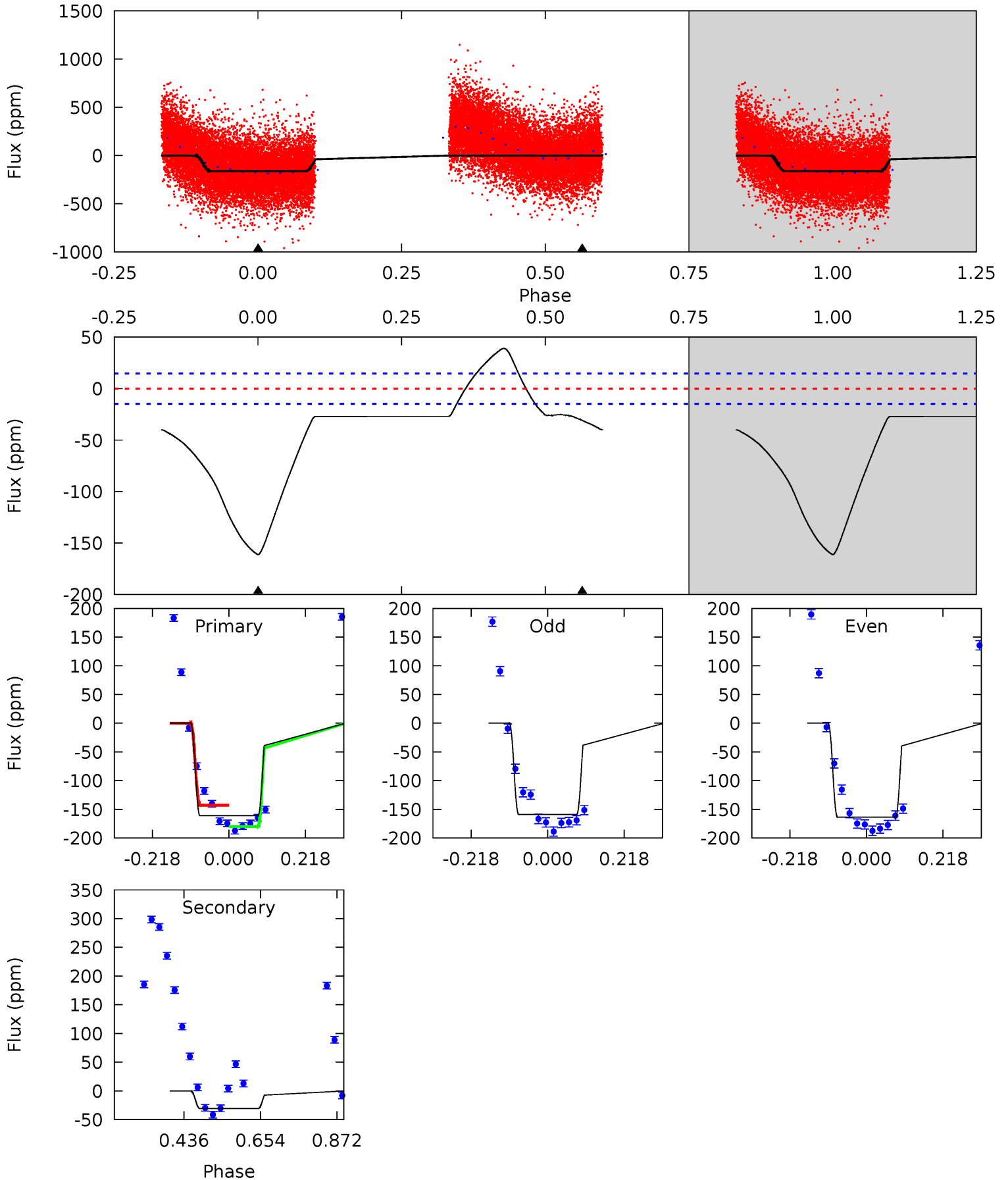
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.44	6.40	0	0	4.43	1.33	1.24	8.44	8.44	6.40	6.40	1.66	1.10	0.02	1.96



Alt Model-Shift Uniqueness Test

005192090-02, P = 1.928698 Days, E = 129.934658 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.0	9.16	0	0	4.40	1.23	4.06	48.0	48.0	9.16	9.16	0.70	0.99	0.20	6.05



Stellar Parameters For KIC 005192090

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6733^{+151}_{-235}	$4.380^{+0.066}_{-0.165}$	$-0.280^{+0.250}_{-0.350}$	$1.161^{+0.303}_{-0.130}$	$1.186^{+0.153}_{-0.153}$	$1.068^{+0.314}_{-0.485}$
	+2%/-3%	+2%/-4%	+89%/-125%	+26%/-11%	+13%/-13%	+29%/-45%
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 005192090-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 2	$0.80^{+0.84}_{-0.52}$	2527^{+141}_{-114}	5022^{+3851}_{-1219}	10^{+74}_{-8}
Alt.	-31 ± 3	$1.68^{+0.91}_{-0.80}$	2522^{+160}_{-116}	4520^{+1614}_{-703}	$6.082^{+16.378}_{-3.466}$

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

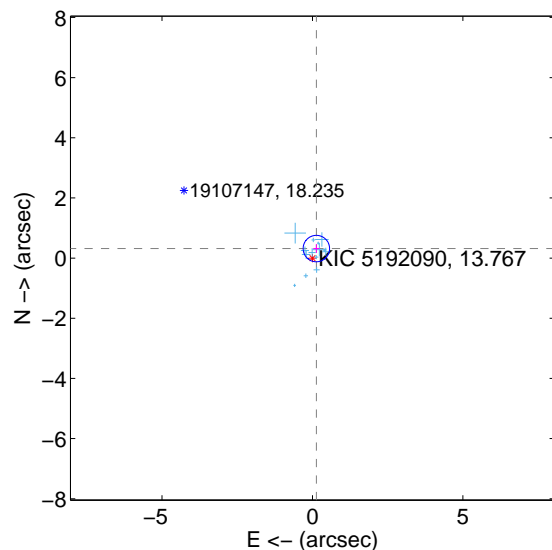
Supplemental centroid analysis for 005192090-02. Kepler magnitude: 13.77. Transit SNR 7.11

There are 14 quarters with good PRF difference image offsets

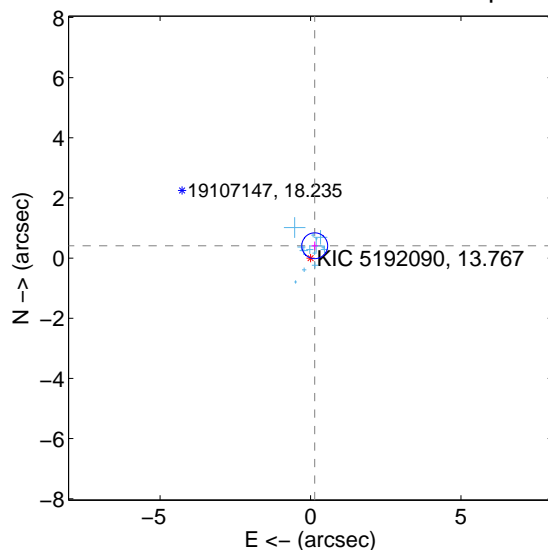
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.343 ± 0.146	2.34	-0.130 ± 0.106	0.317 ± 0.145
PRF-fit source offset from KIC position	0.434 ± 0.143	3.03	-0.140 ± 0.105	0.410 ± 0.141
photometric centroid source offset	2.60 ± 1.37	1.90	0.15 ± 1.50	2.59 ± 1.37

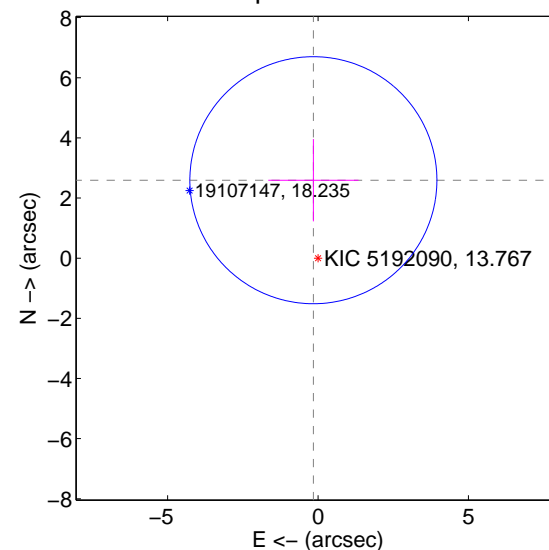
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

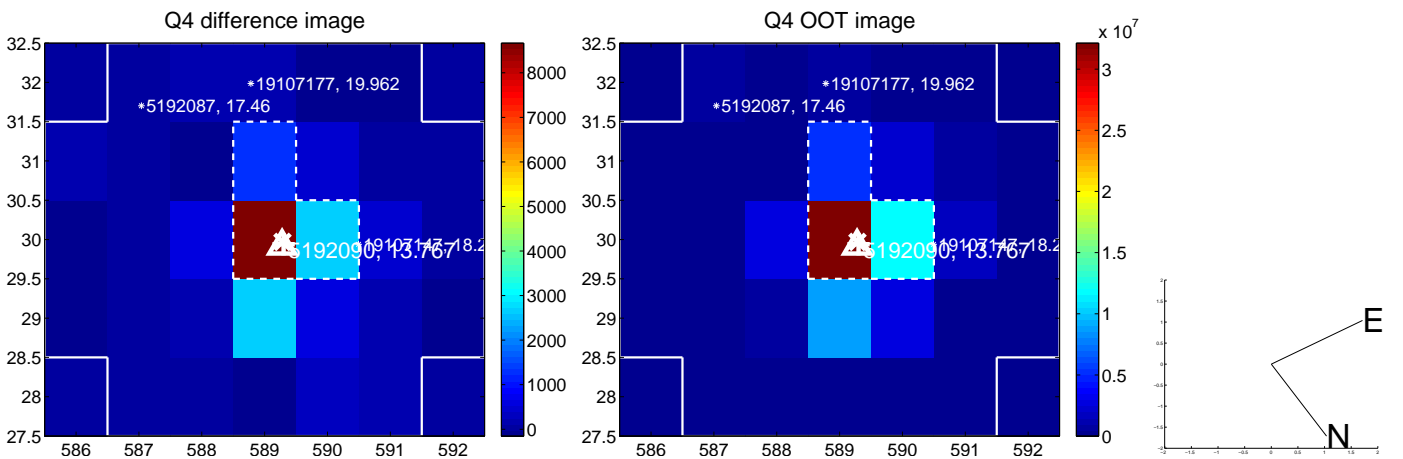
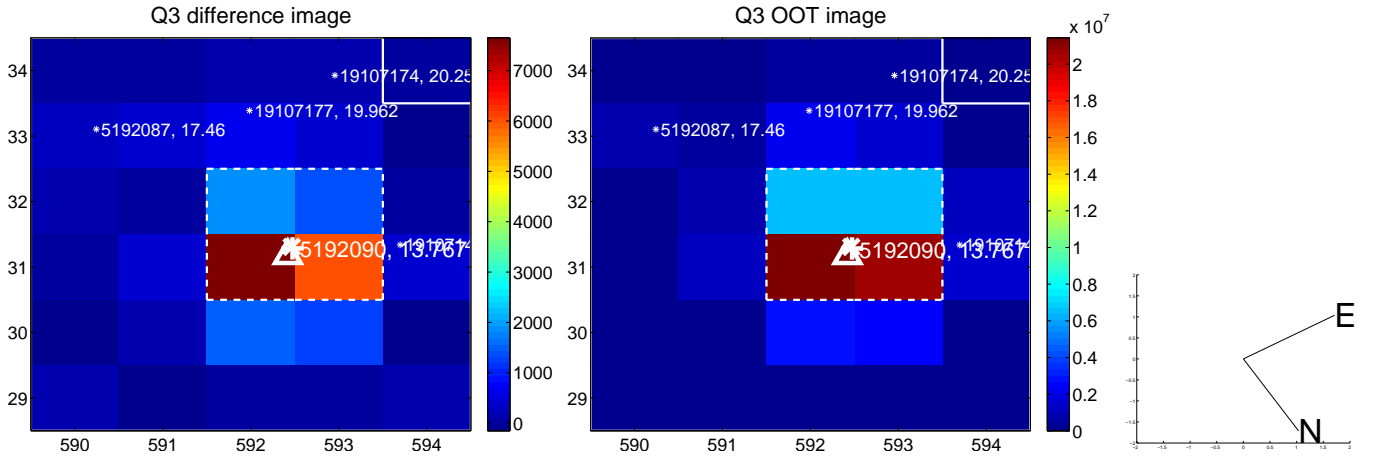
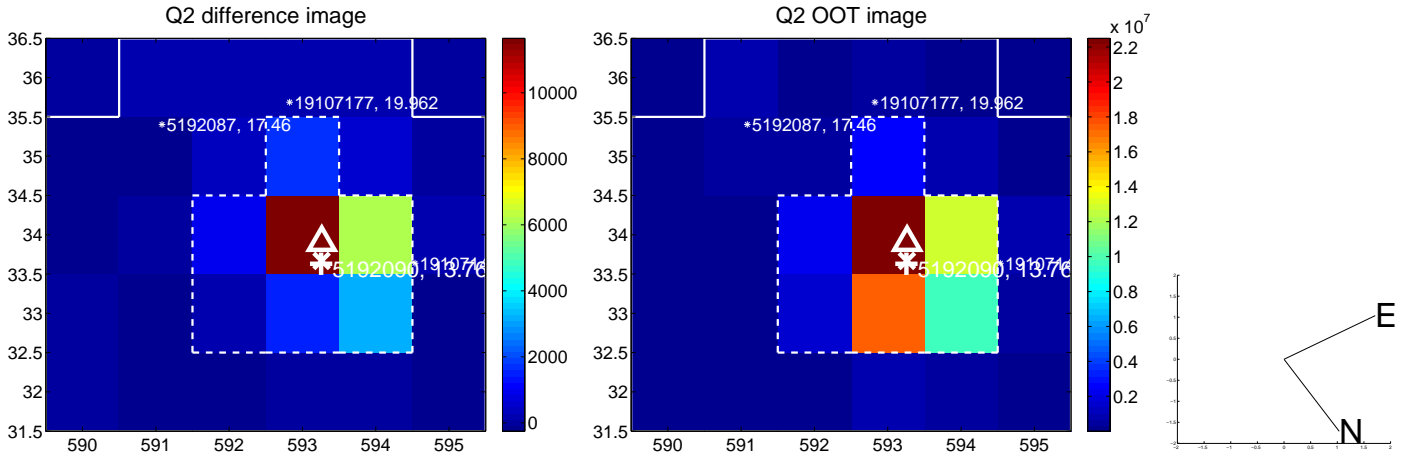
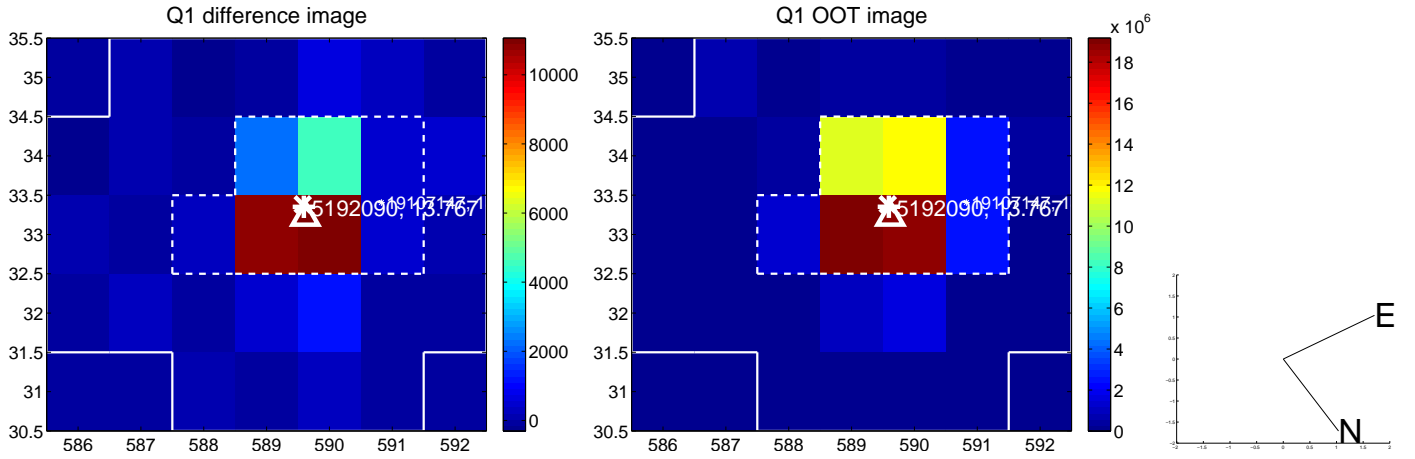


offset from photometric centroids

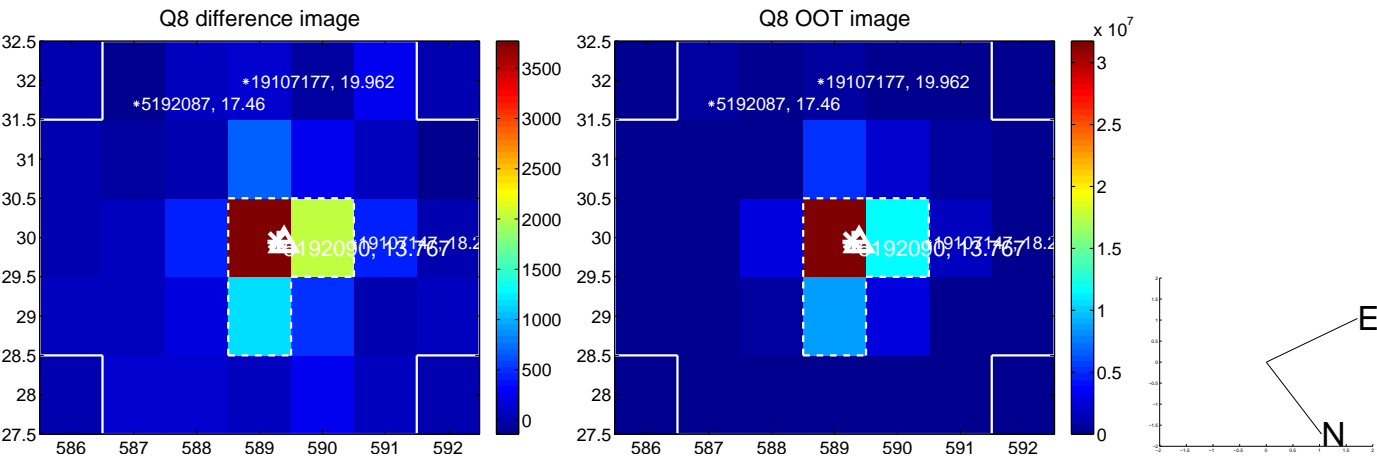
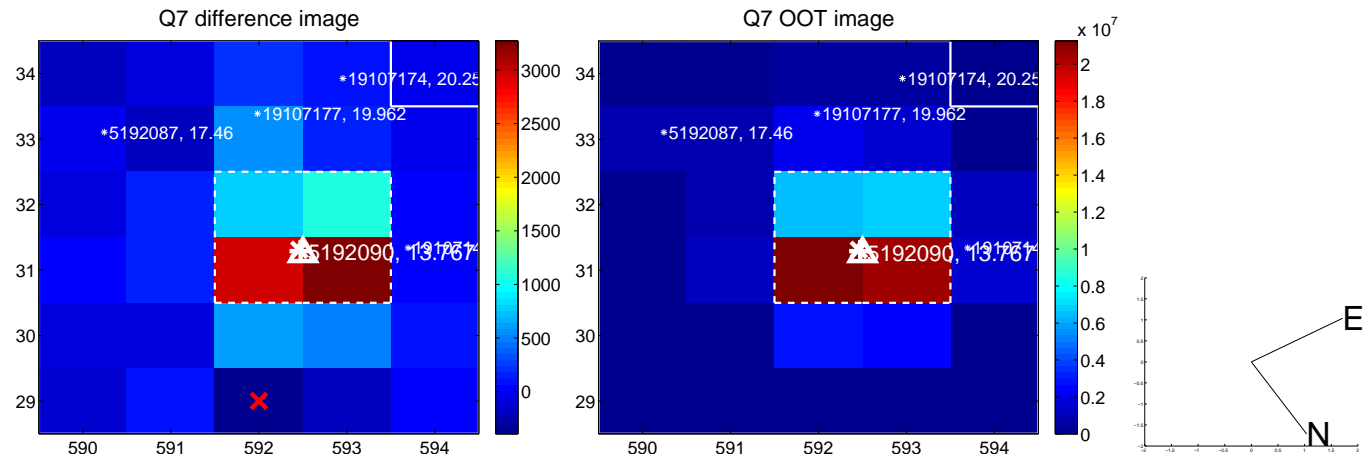
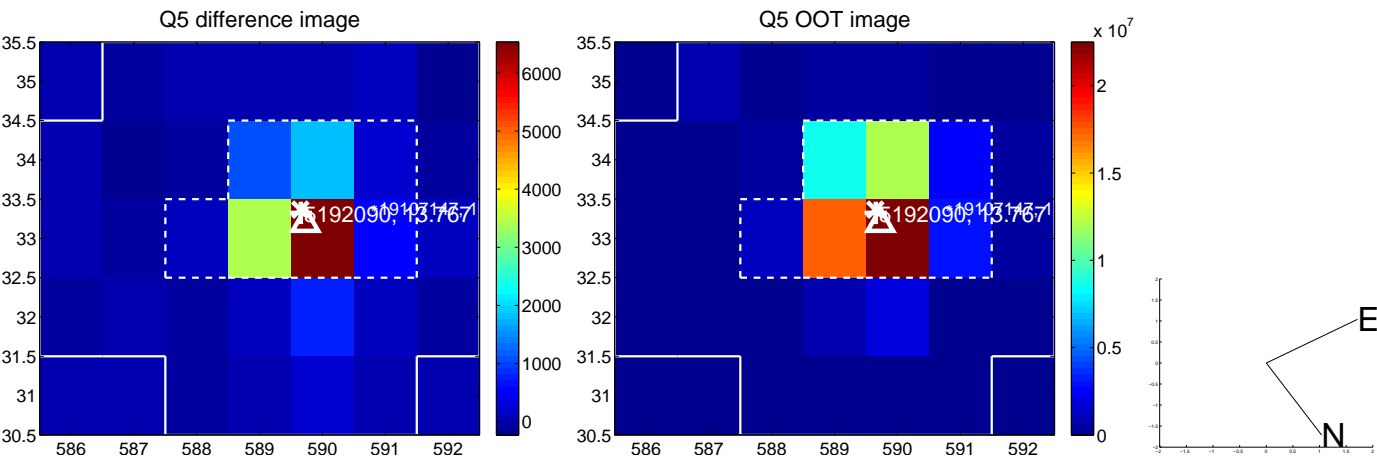


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

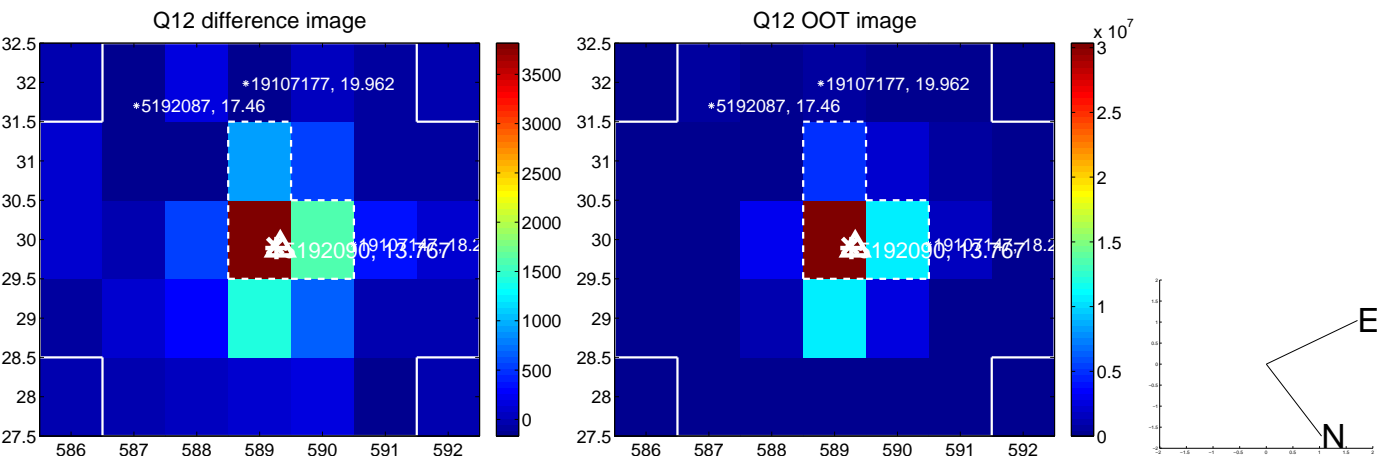
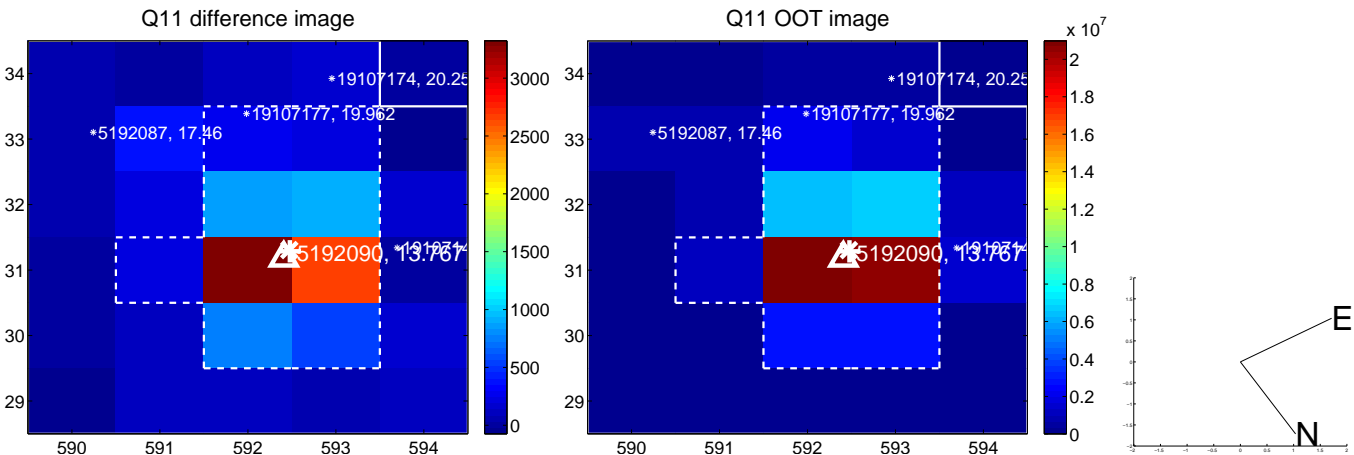
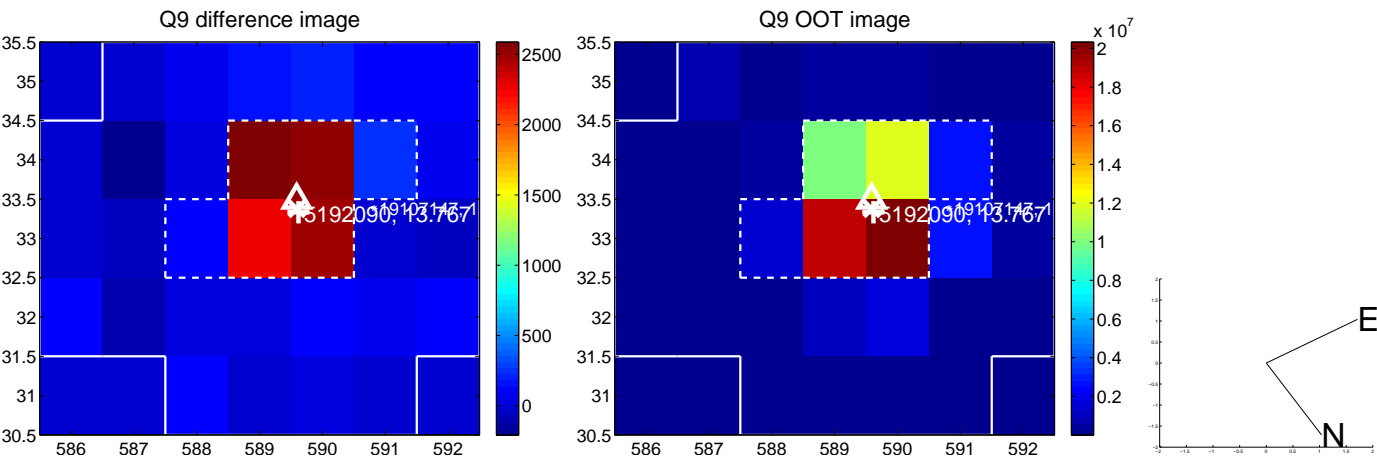
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



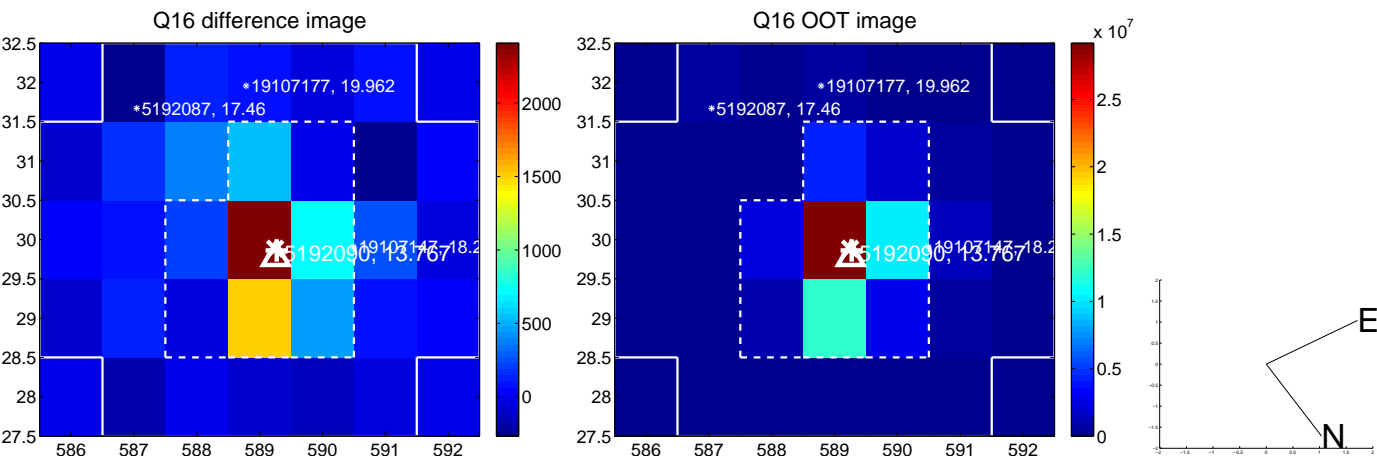
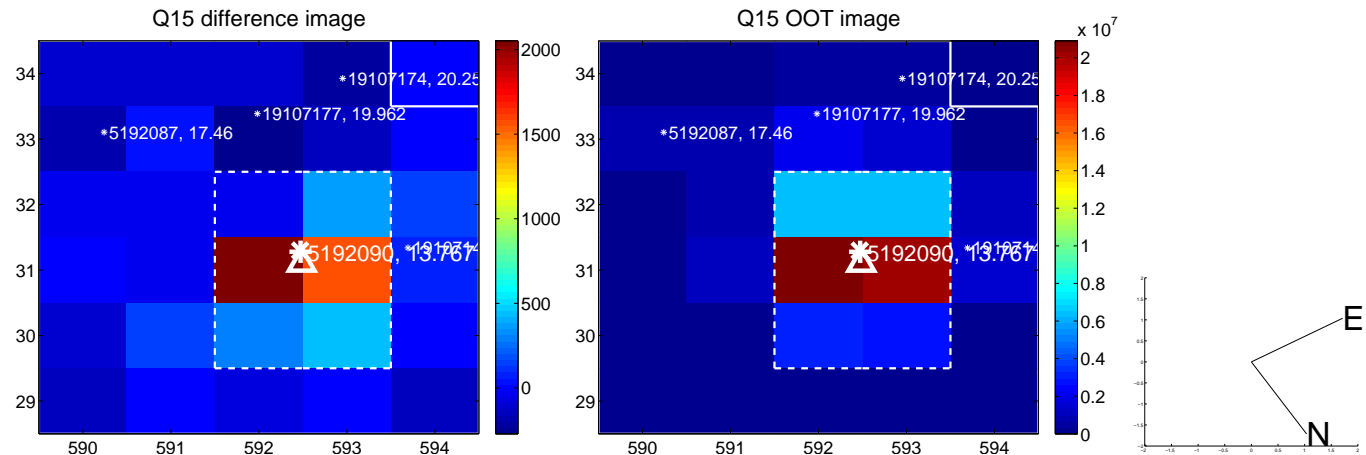
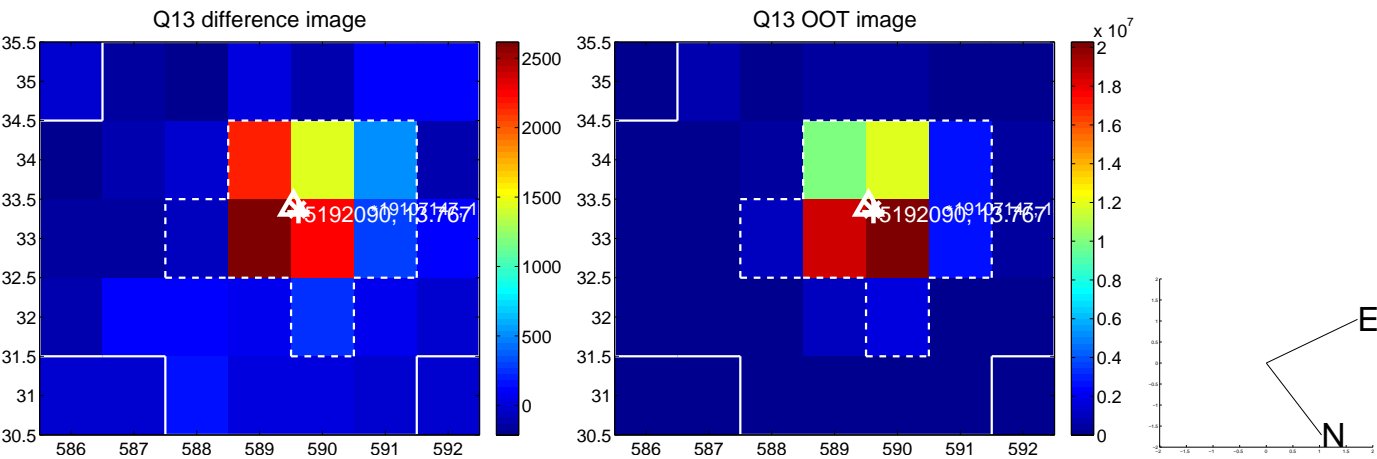
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



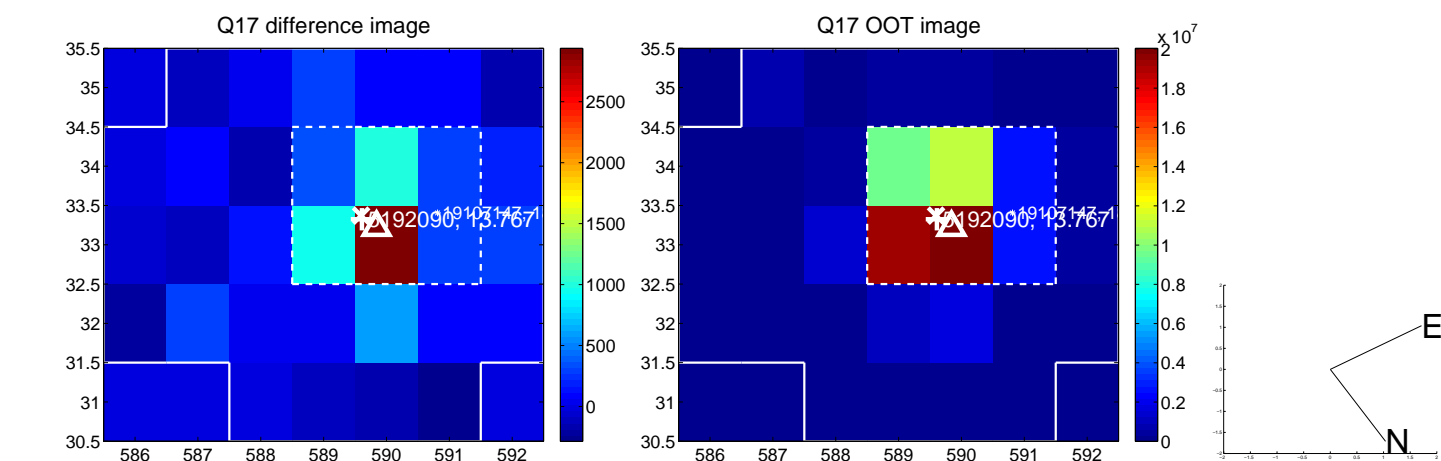
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



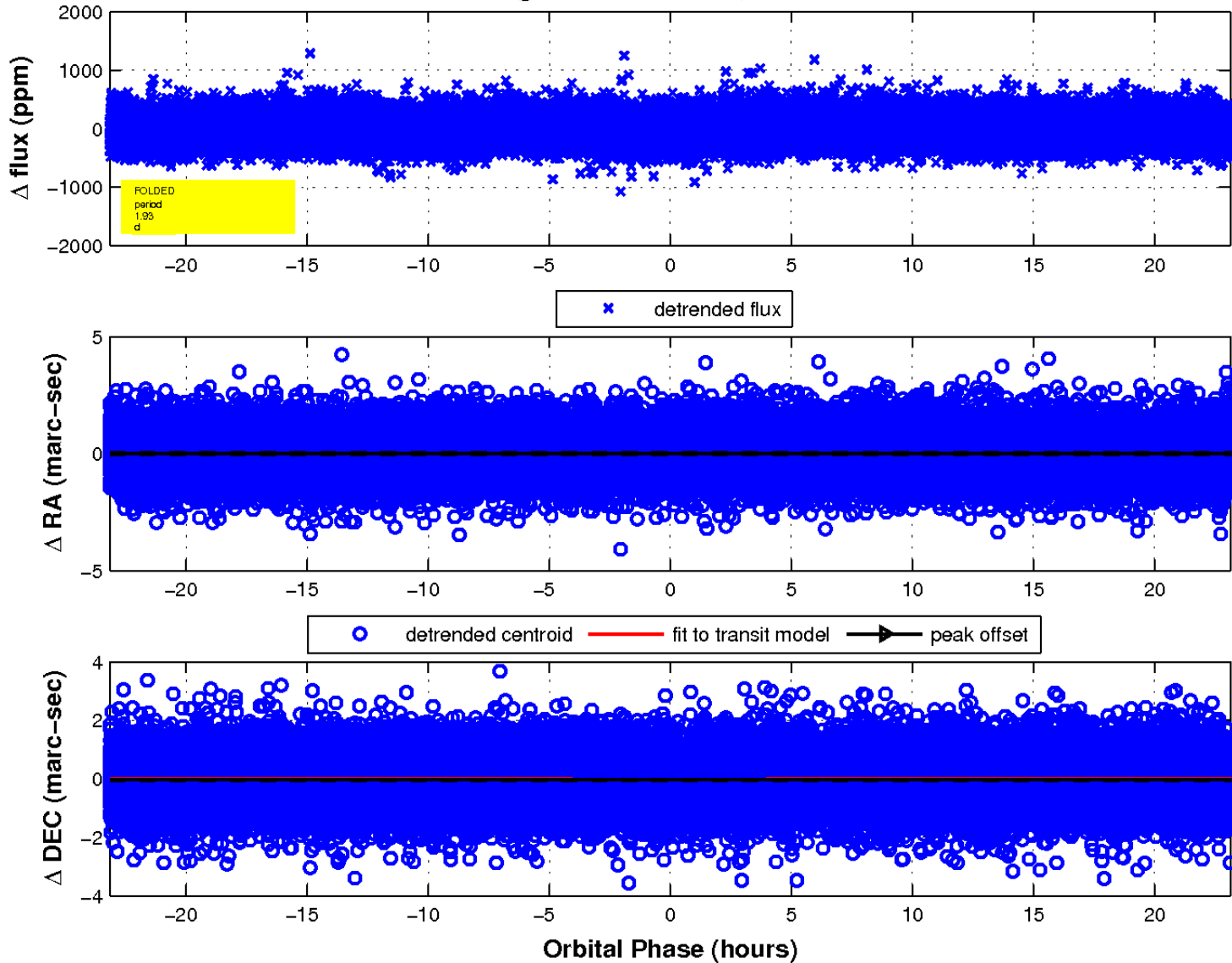
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

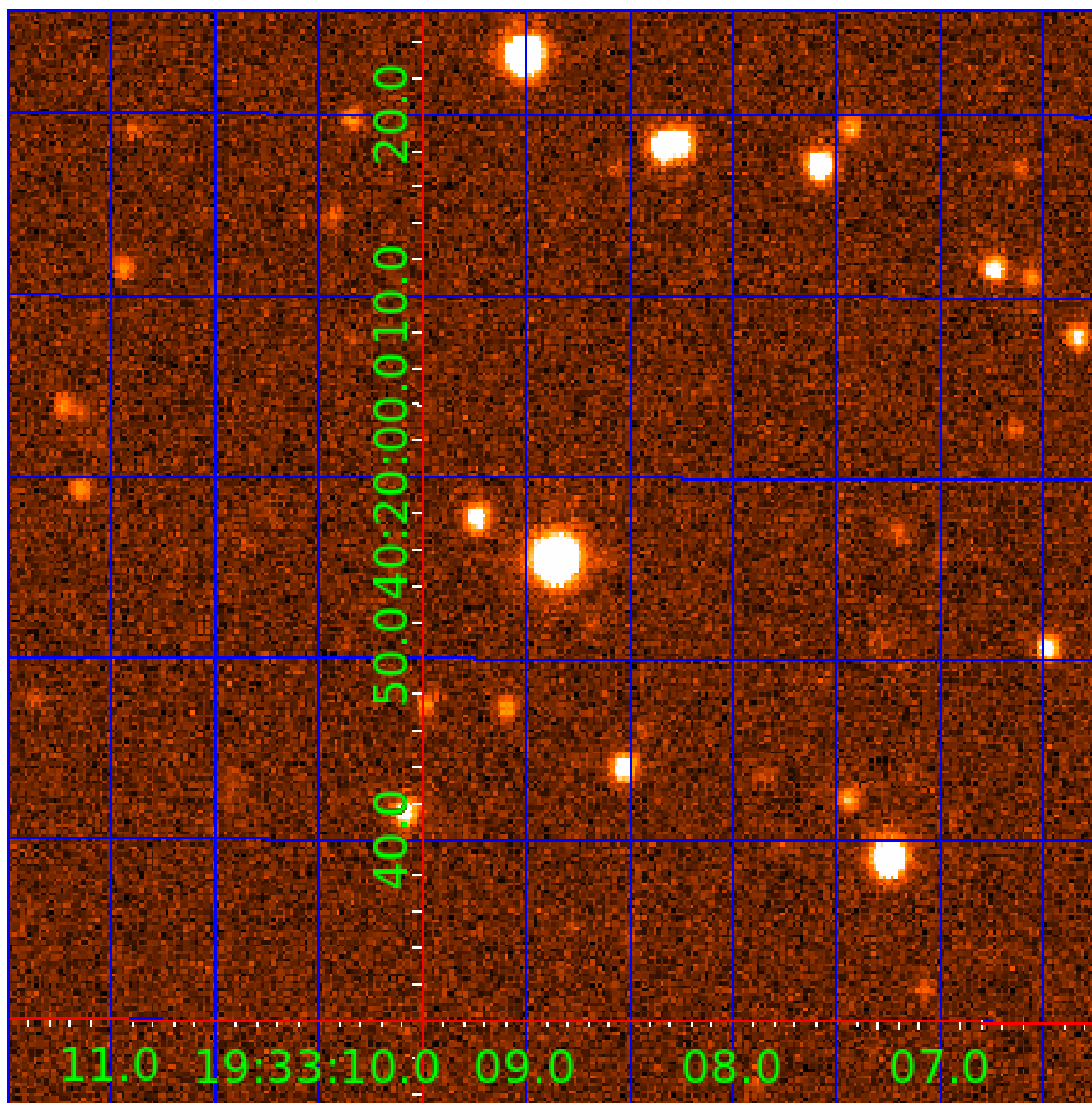


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 005192090

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})
005192090-01	OBS	No	0.964357	132.273847	281.1	3.500	8.7	-1.0	1.16	6733	1.97	6090.22
005192090-02	OBS	No	1.928499	131.790997	17.3	8.121	8.0	7.1	1.16	6733	0.49	2417.27
005192090-03	OBS	No	194.850289	140.604230	343.5	2.736	7.3	7.9	1.16	6733	2.51	5.14
005192090-04	OBS	No	108.592425	235.924363	177.8	8.932	7.5	6.7	1.16	6733	1.78	11.20
005192090-05	OBS	No	204.516534	157.314710	359.5	2.542	7.3	6.7	1.16	6733	2.51	4.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005192090-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
005192090-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
005192090-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005192090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005192090-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

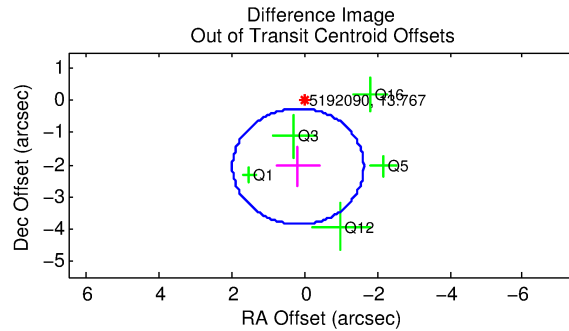
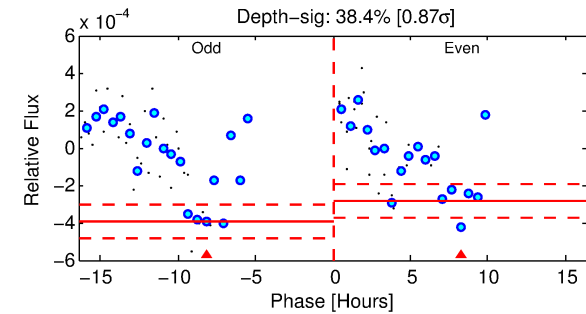
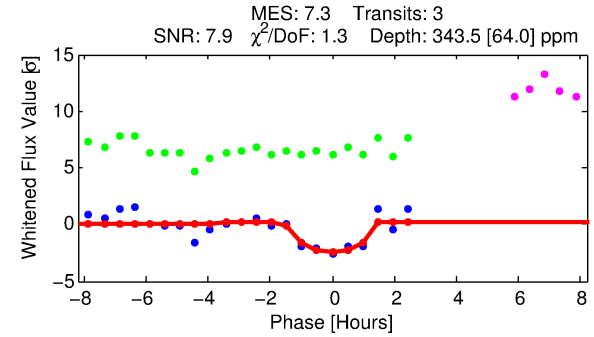
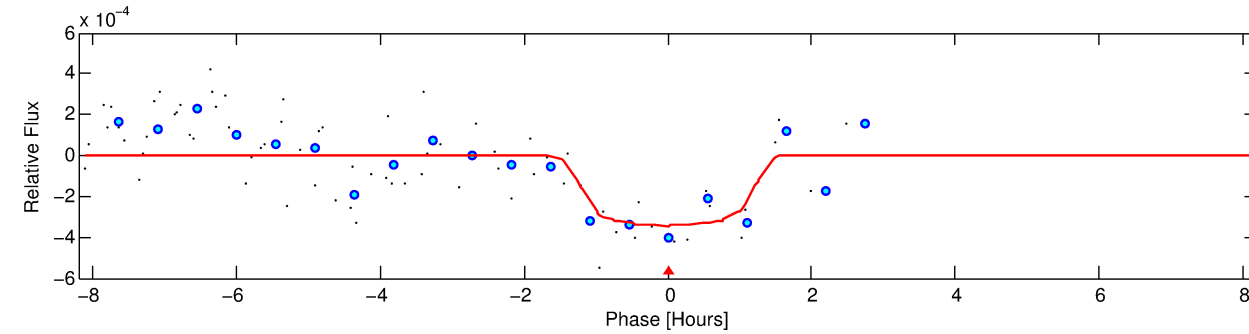
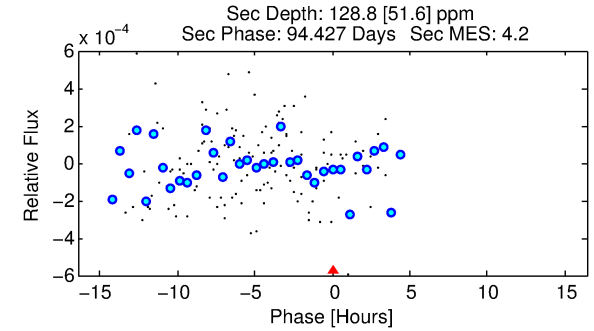
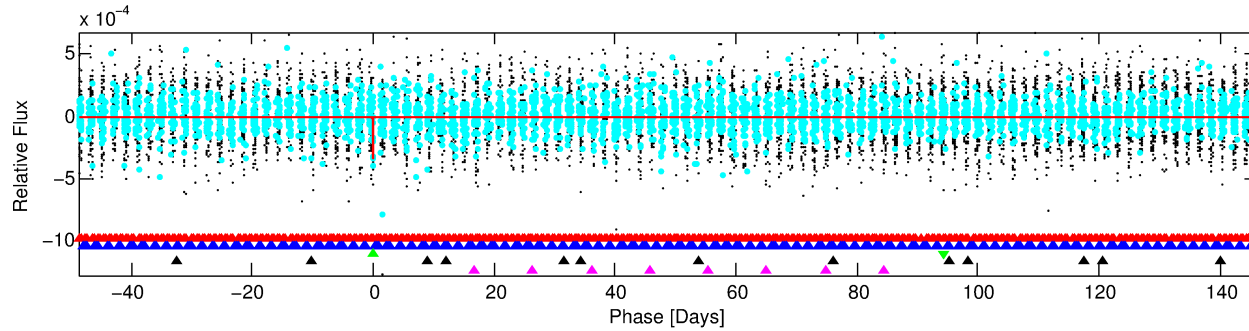
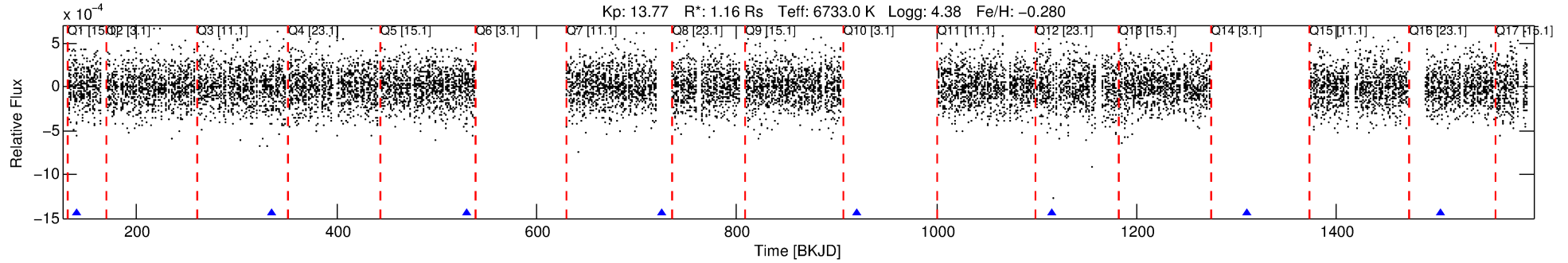
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005192090-03

No Significant Match Found

DV One-Page Summary

KIC: 5192090 Candidate: 3 of 5 Period: 194.850 d



DV Fit Results:

Period = 194.85029 [0.00905] d
Epoch = 140.6042 [0.0112] BKJD
Rp/R* = 0.0198 [0.0120]
a/R* = 260.89 [915.34]
b = 0.90 [0.74]
Seff = 5.14 [1.73]
Teq = 384 [32] K
Rp = 2.51 [1.66] Re
a = 0.6951 [0.1496] AU
Ag = 5444.38 [7173.52] [0.76σ]
Teffp = 5098 [1643] K [2.87σ]

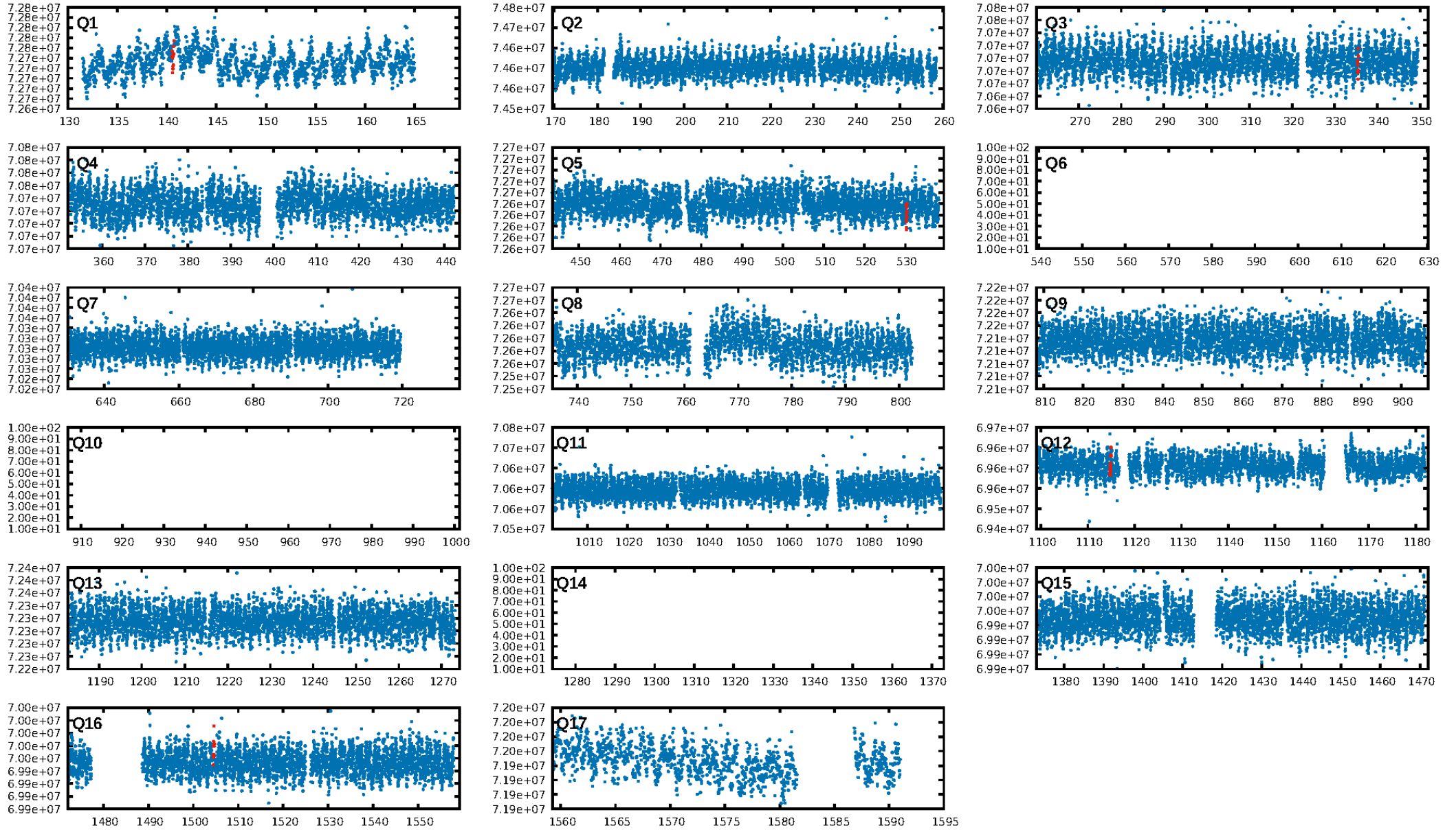
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [221.61σ]
LongPeriod-sig: 100.0% [62.12σ]
ModelChiSquare2-sig: 27.9%
ModelChiSquareGof-sig: 95.4%
Bootstrap-pfa: 4.78e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.658
Centroid-sig: 21.8%
Centroid-so: 1.633 arcsec [1.17σ]
OotOffset-rm: 2.065 arcsec [3.43σ]
KicOffset-rm: 1.942 arcsec [3.36σ]
OotOffset-st: 0/1/2/2 [5]
KicOffset-st: 0/1/2/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/5]

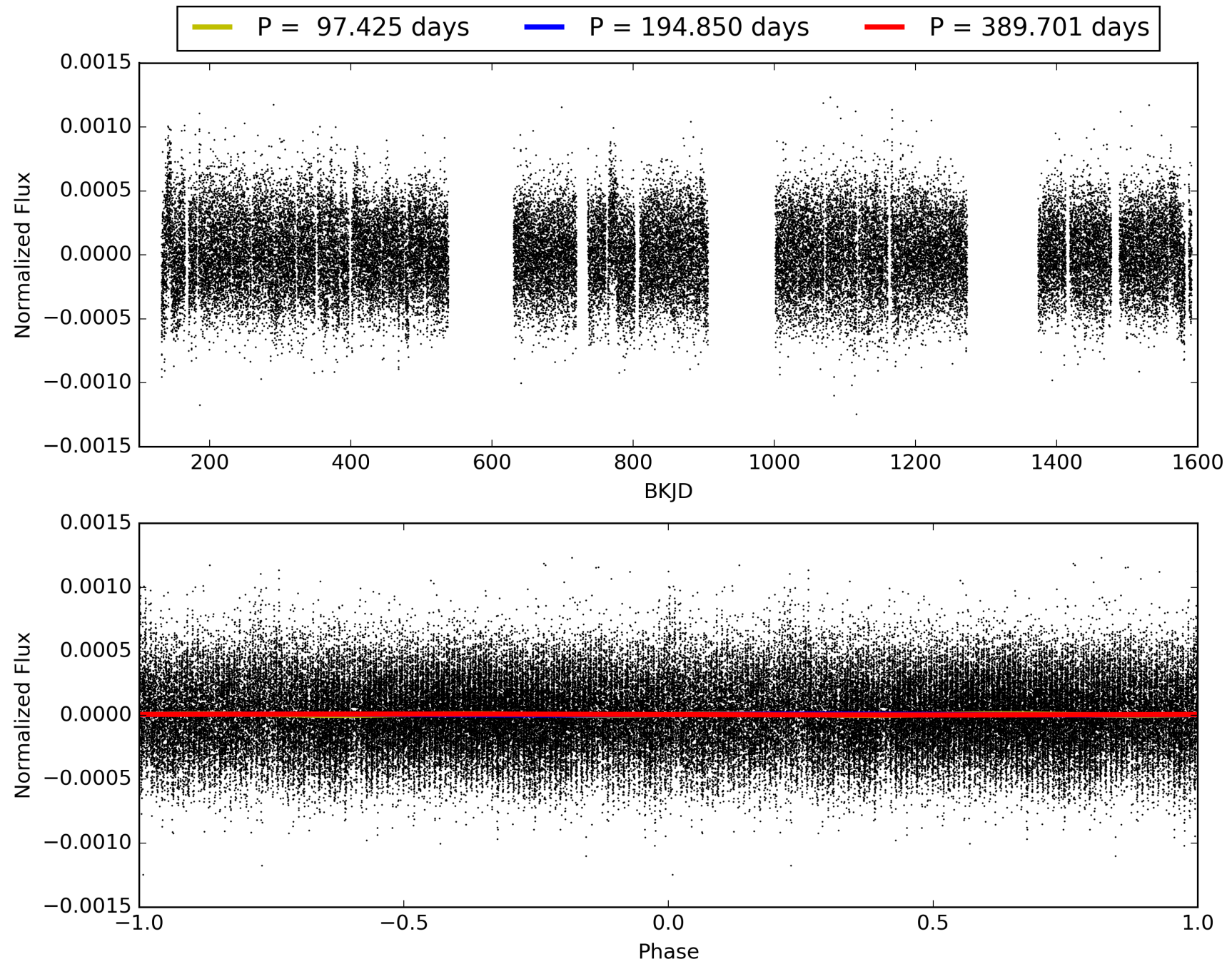
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:30:36 Z

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

TCE 005192090-03, PDC Light Curves

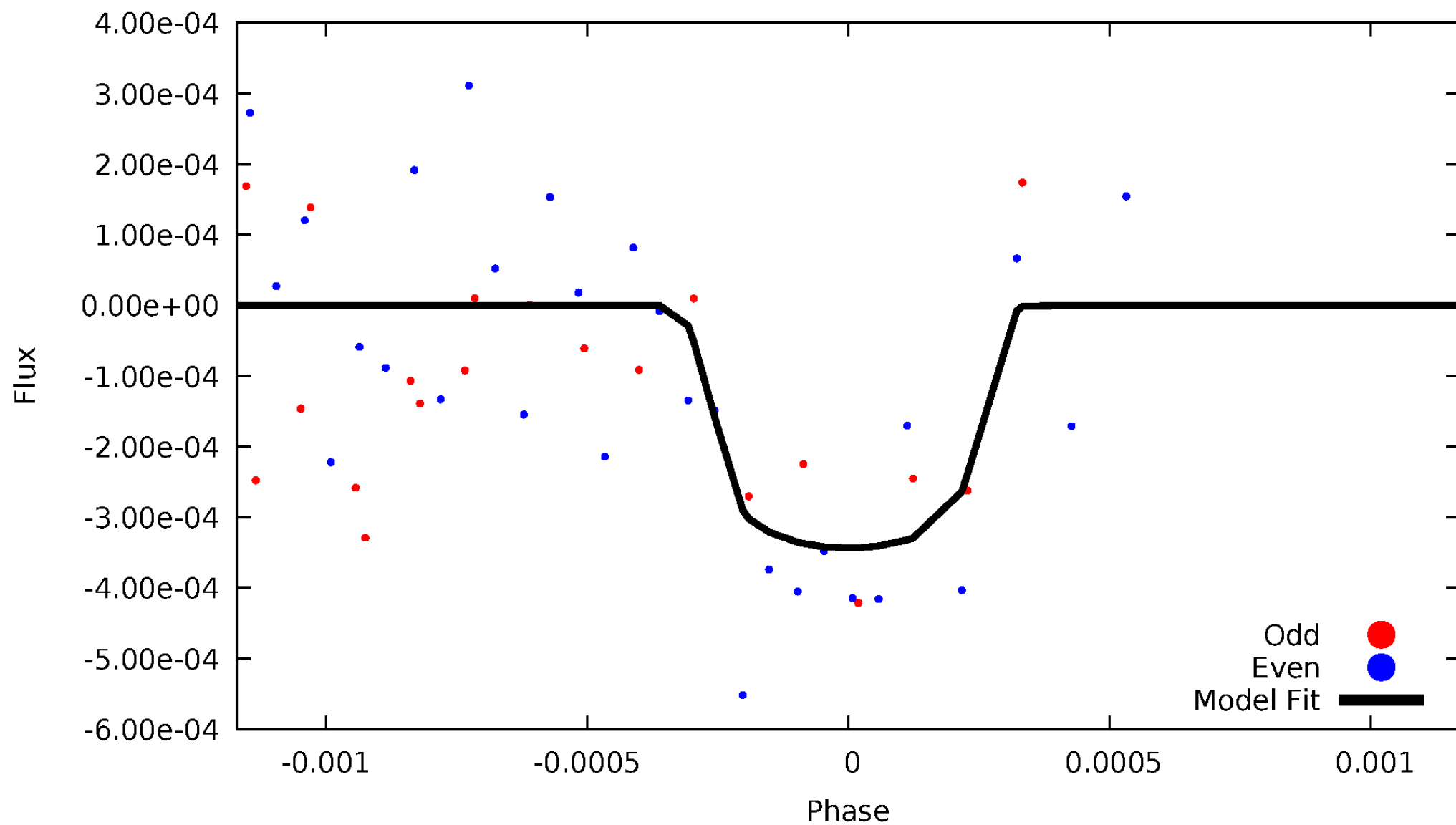


TCE 005192090-03



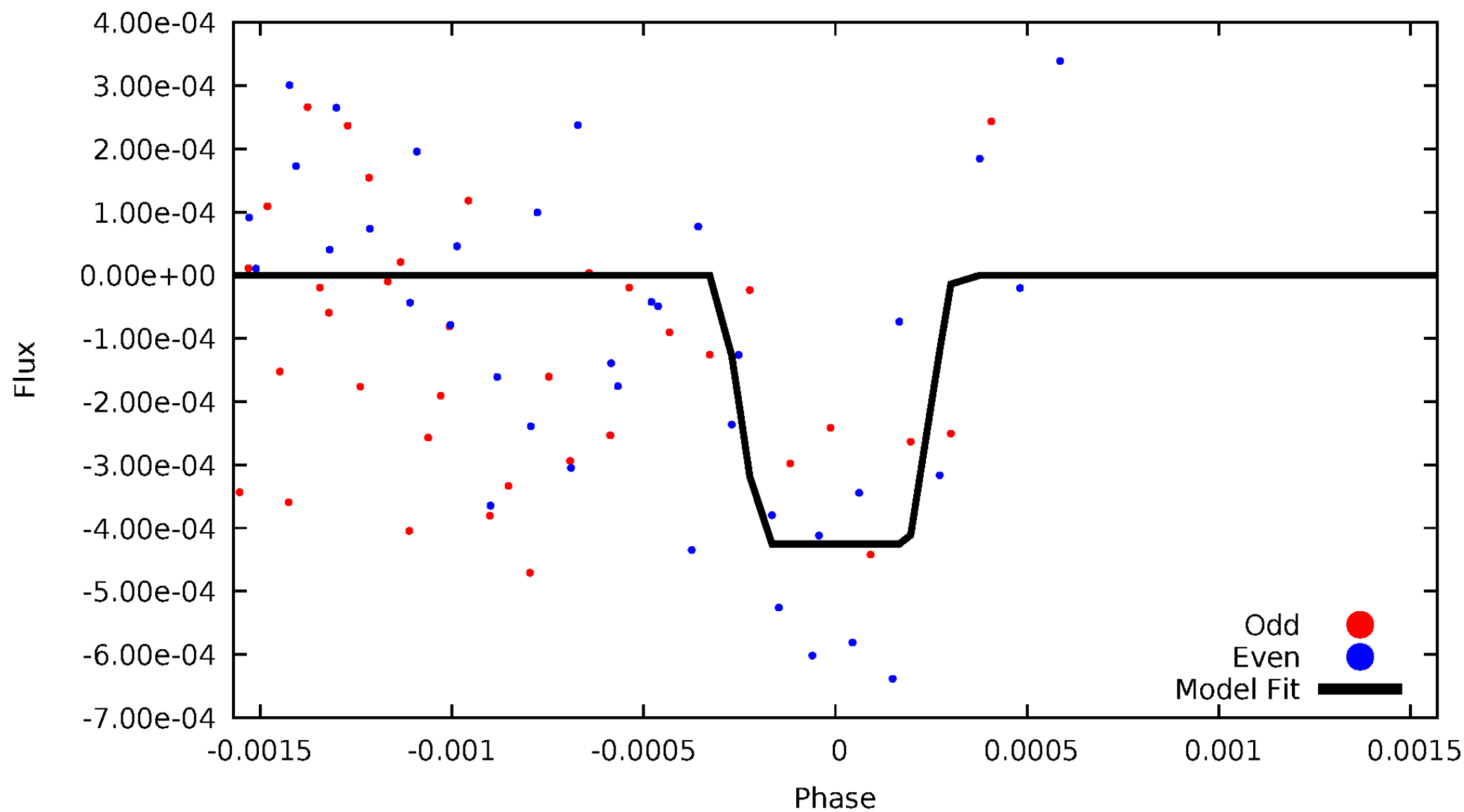
DV Odd/Even

TCE 005192090-03



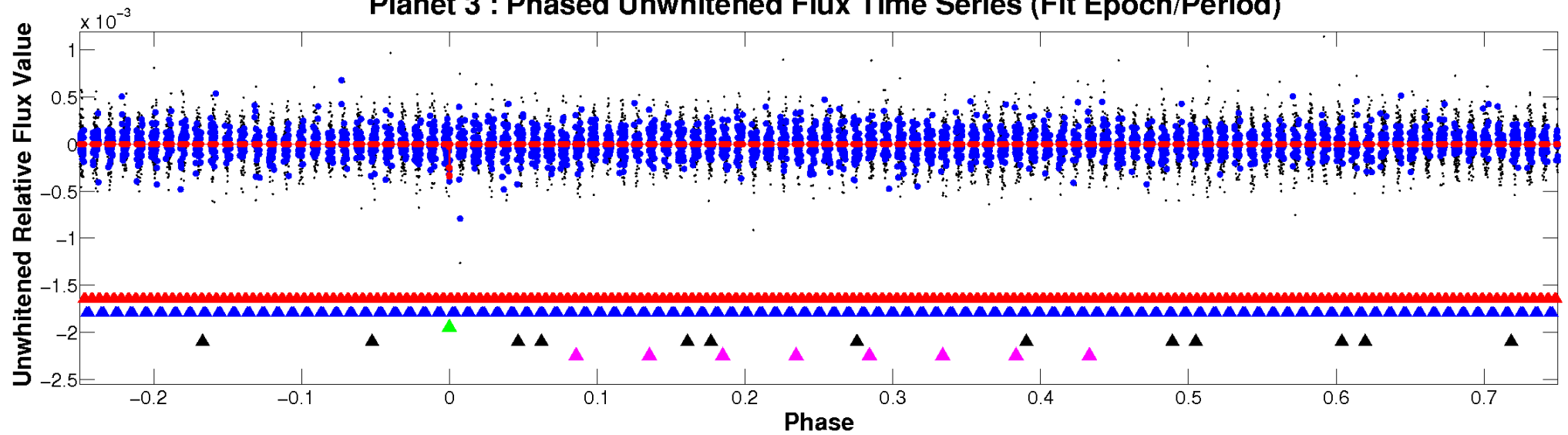
ALT Odd/Even

TCE 005192090-03

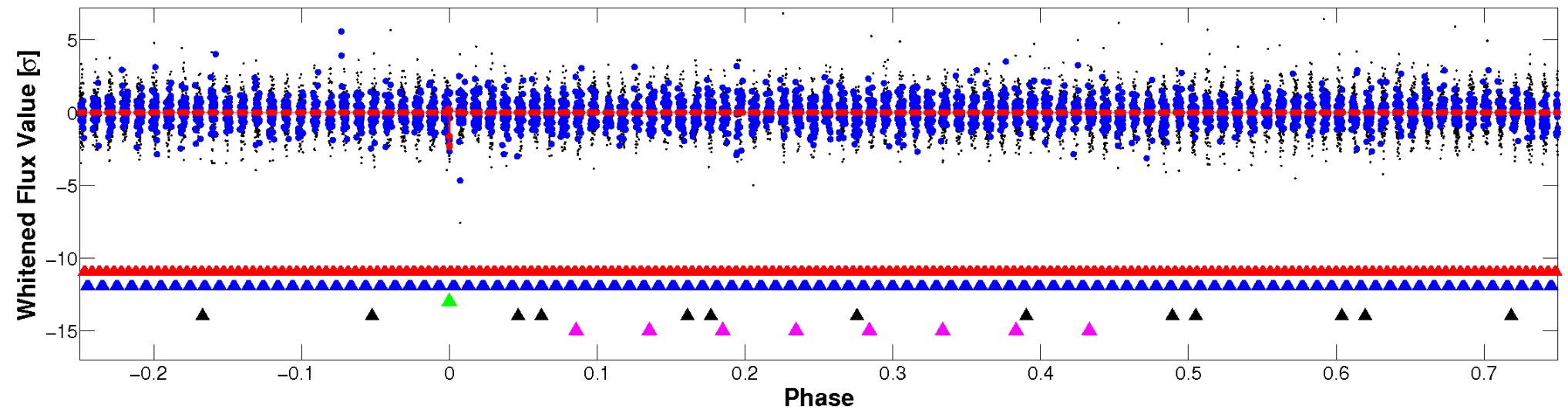


Non-Whitened Vs. Whitened Light Curve

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

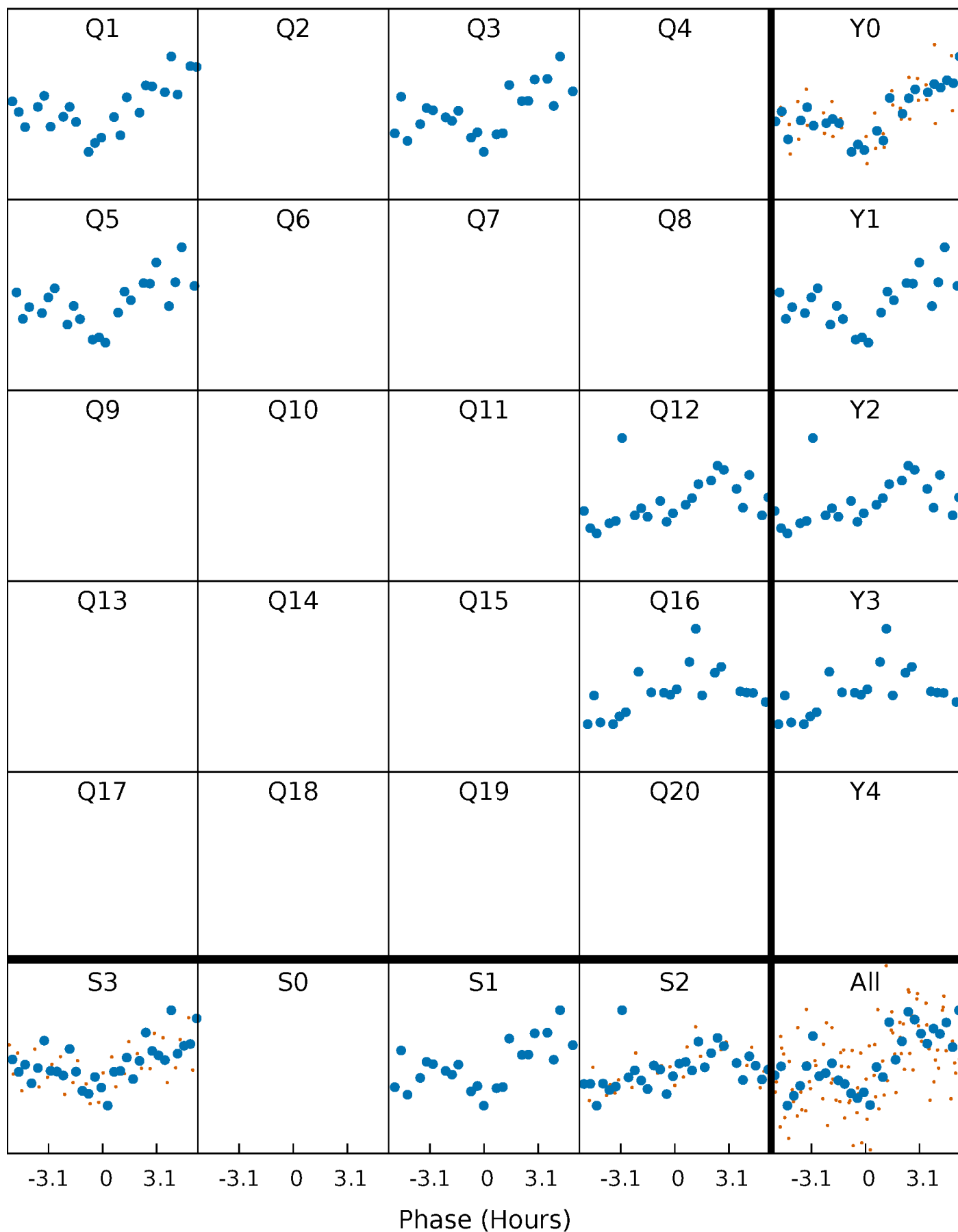


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



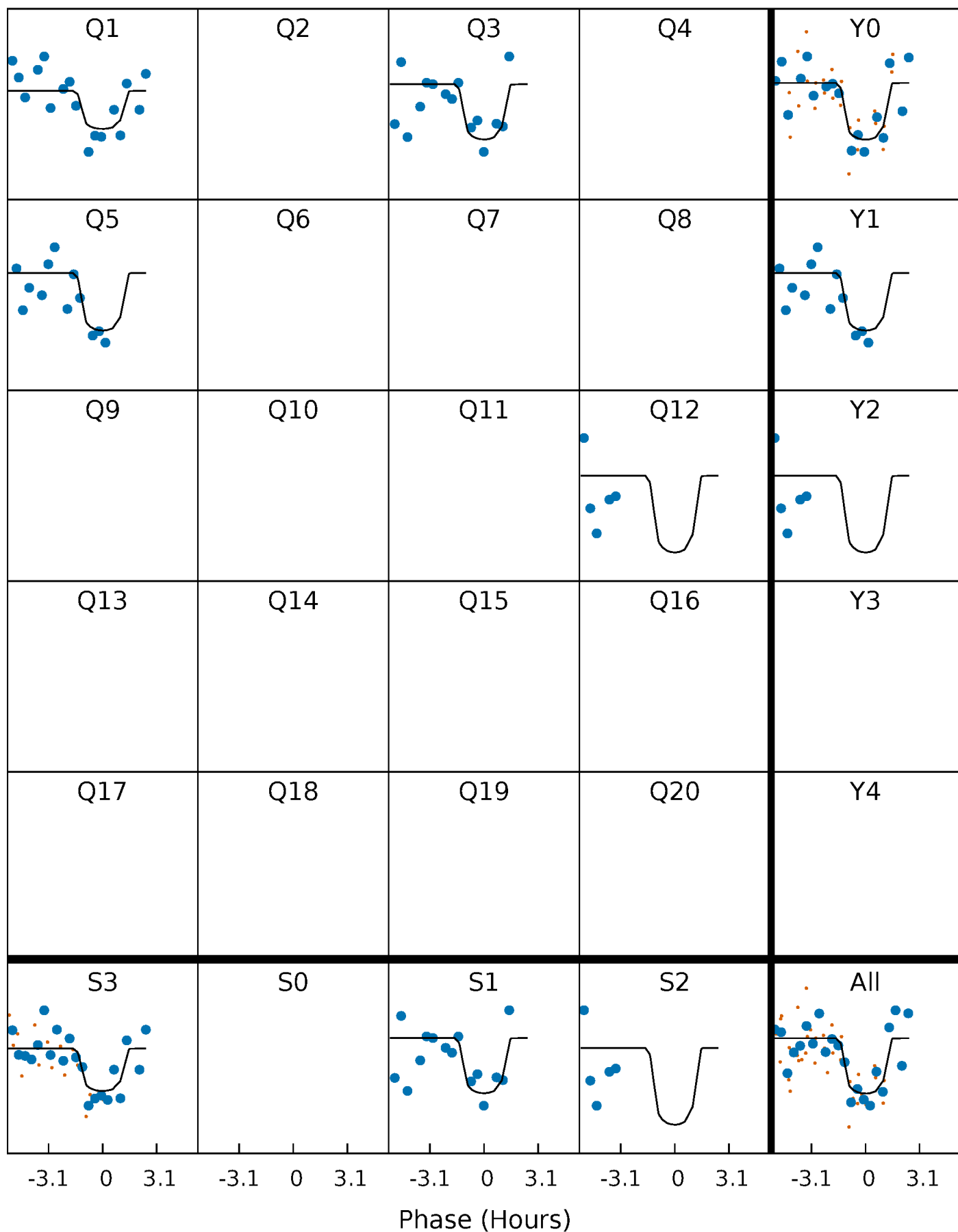
PDC Quarter-Phased Transit Curves

TCE 005192090-03 $P=194.850289$ Days $T_0=140.604230$ (BKJD)



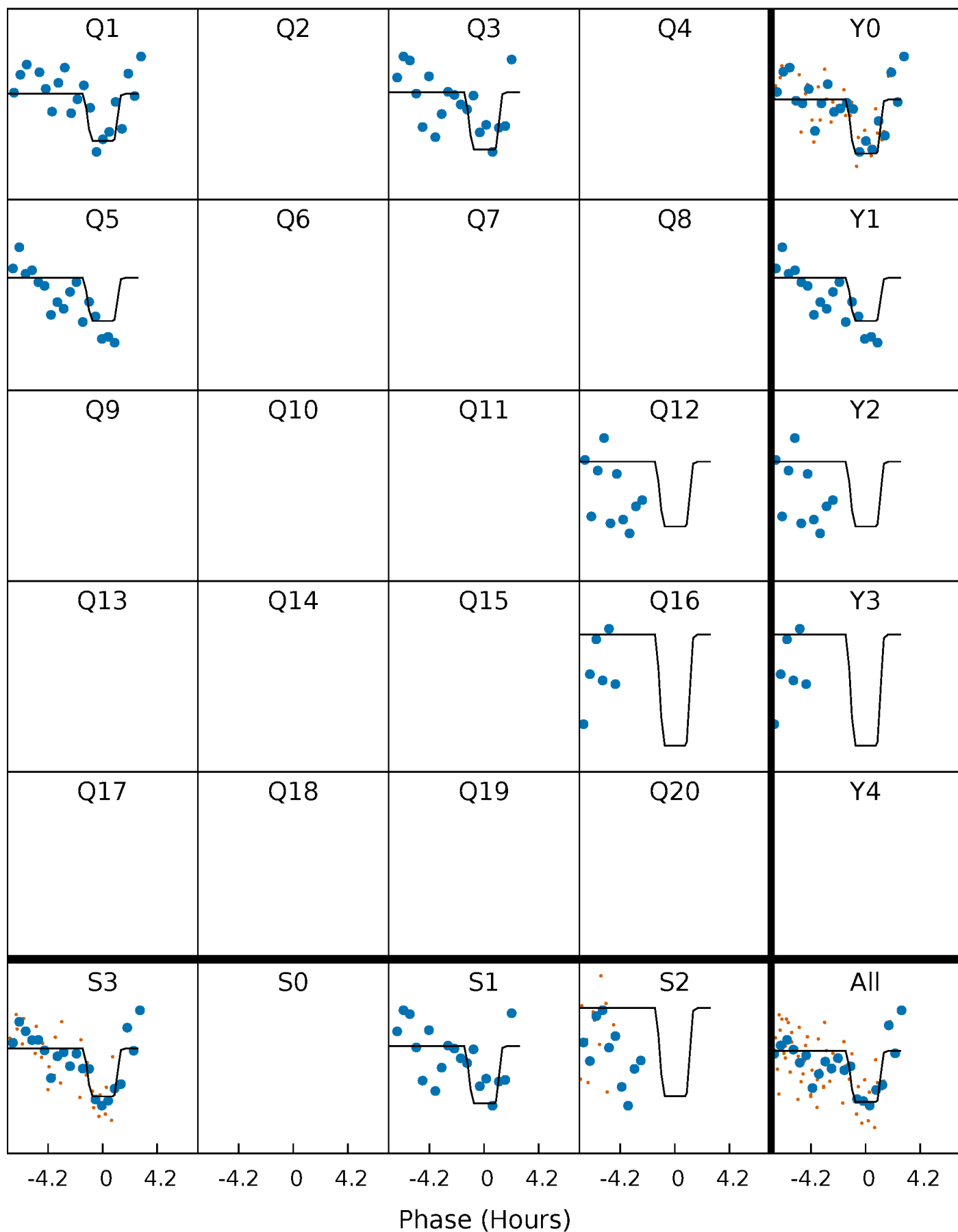
DV Quarter-Phased Transit Curves

TCE 005192090-03 $P=194.850289$ Days $T_0=140.604230$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

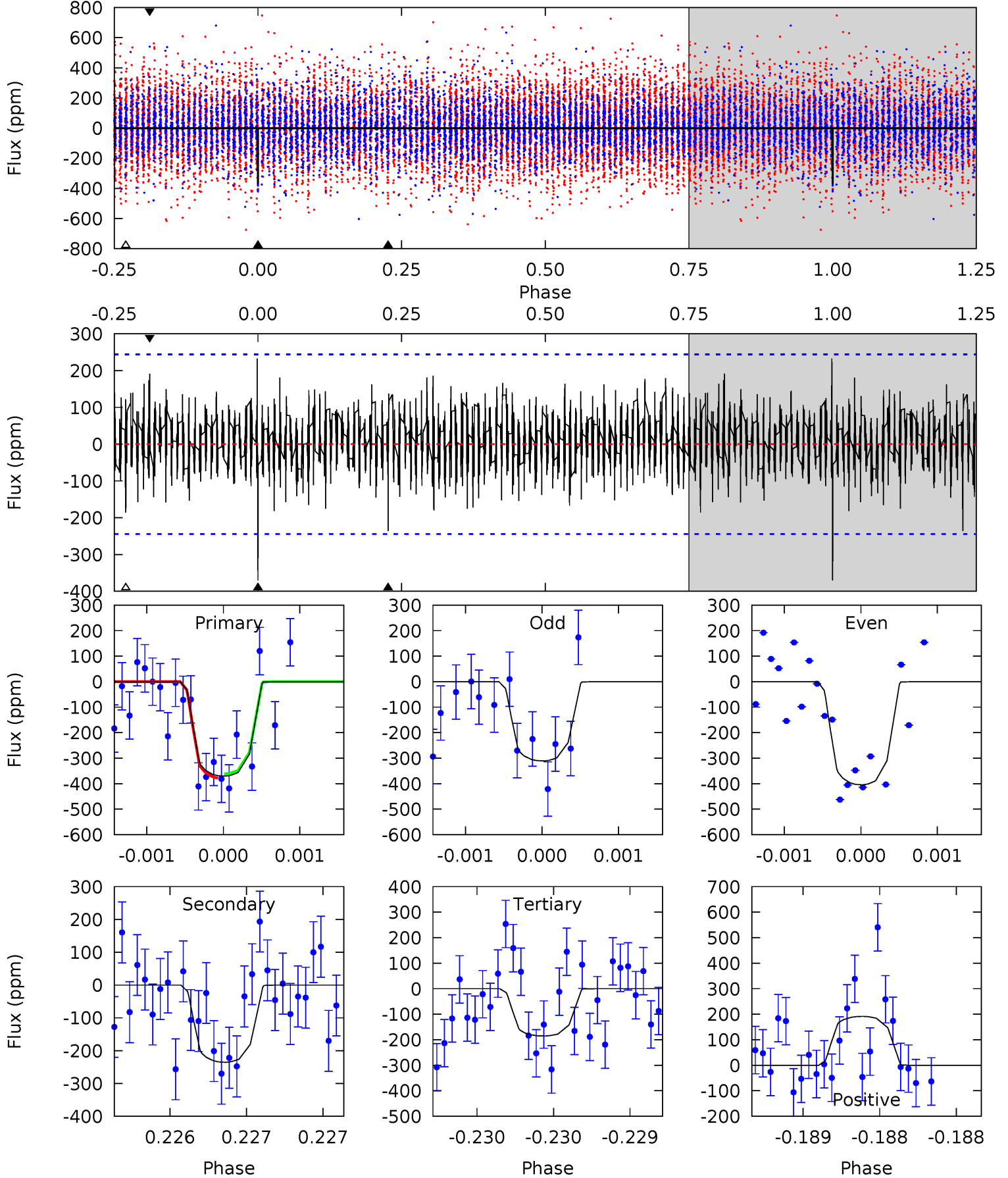
TCE 005192090-03 P=194.846678 Days $T_0=140.593626$ (BKJD)



DV Model-Shift Uniqueness Test

005192090-03, P = 194.850289 Days, E = 140.604230 Days

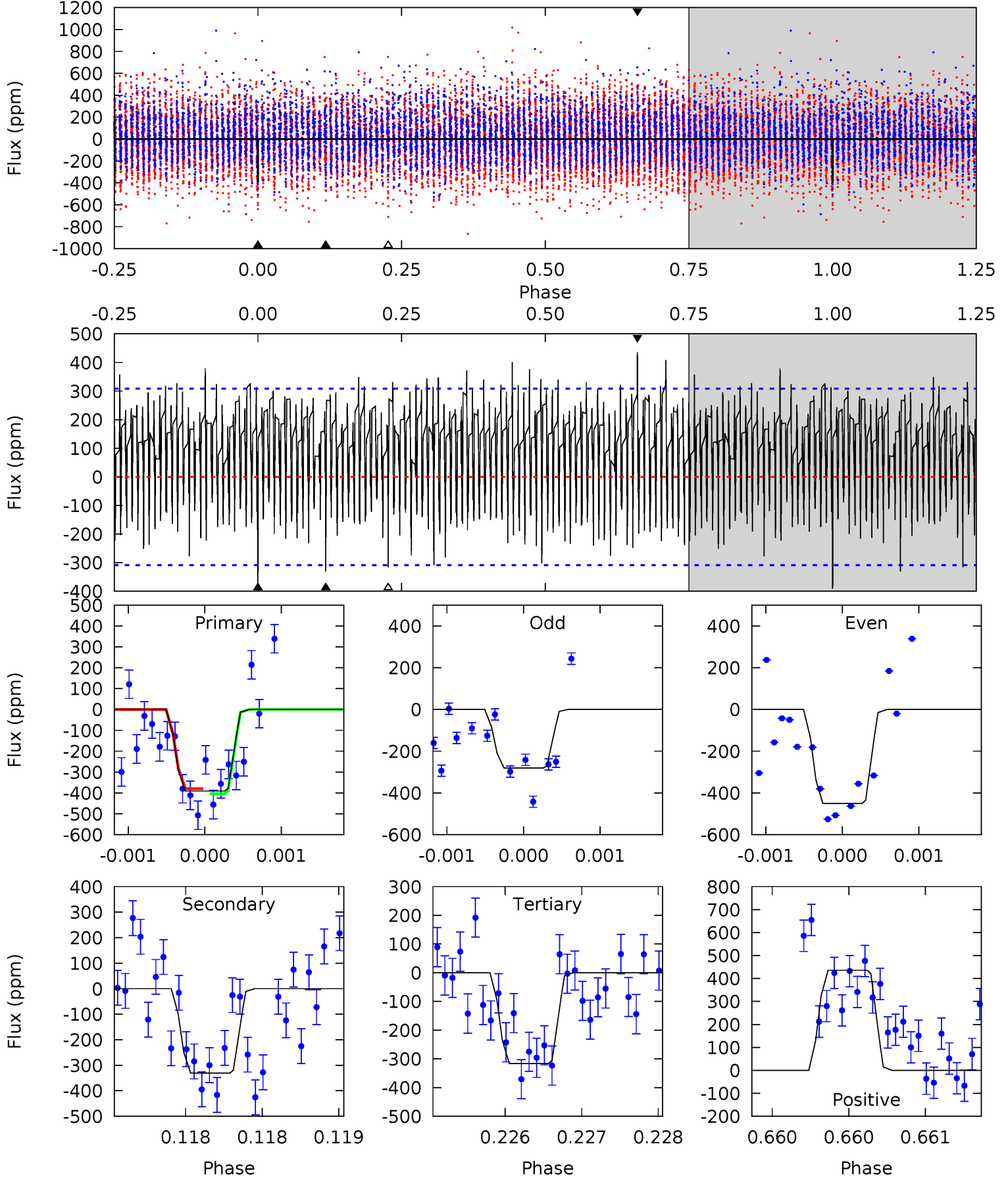
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.39	5.33	4.20	4.33	5.53	3.41	1.29	4.19	4.05	1.13	0.99	1.03	0.97	0.39	0.19



Alt Model-Shift Uniqueness Test

005192090-03, P = 194.846678 Days, E = 140.593626 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.01	5.93	5.67	7.82	5.53	3.41	2.37	1.34	-0.81	0.26	-1.89	1.48	1.13	0.53	0.22



Stellar Parameters For KIC 005192090

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6733^{+151}_{-235}	$4.380^{+0.066}_{-0.165}$	$-0.280^{+0.250}_{-0.350}$	$1.161^{+0.303}_{-0.130}$	$1.186^{+0.153}_{-0.153}$	$1.068^{+0.314}_{-0.485}$
	+2%/-3%	+2%/-4%	+89%/-125%	+26%/-11%	+13%/-13%	+29%/-45%
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 005192090-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-235 ± 44	$2.74^{+1.52}_{-1.56}$	543^{+34}_{-26}	5715^{+3168}_{-1003}	8089^{+31774}_{-4747}
Alt.	-331 ± 56	$2.86^{+1.61}_{-1.50}$	543^{+32}_{-27}	6118^{+3343}_{-1142}	10578^{+38168}_{-6257}

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

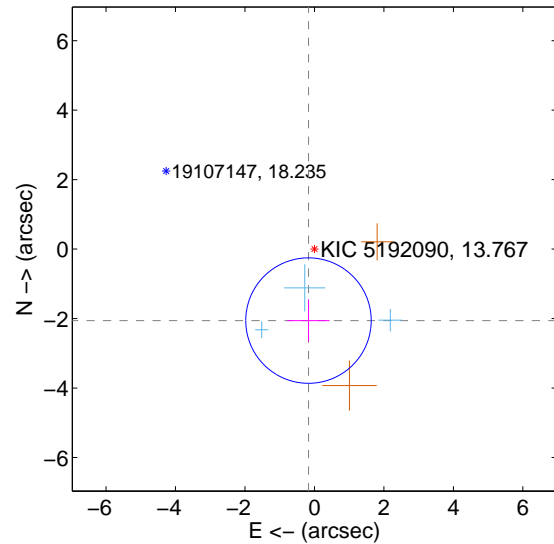
Supplemental centroid analysis for 005192090-03. Kepler magnitude: 13.77. Transit SNR 7.87

There are 3 quarters with good PRF difference image offsets

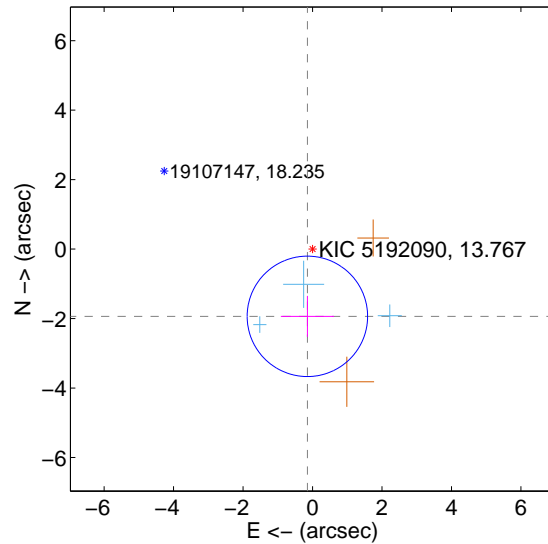
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.065 ± 0.602	3.43	0.171 ± 0.605	-2.058 ± 0.611
PRF-fit source offset from KIC position	1.942 ± 0.578	3.36	0.148 ± 0.765	-1.936 ± 0.588
photometric centroid source offset	1.63 ± 1.39	1.17	-1.52 ± 1.41	0.60 ± 1.26

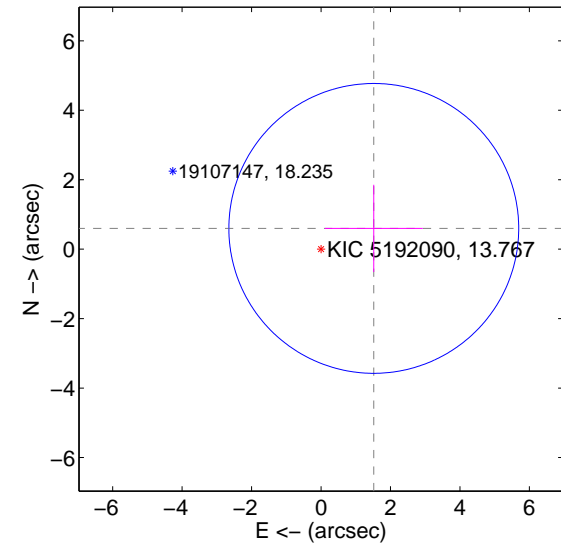
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

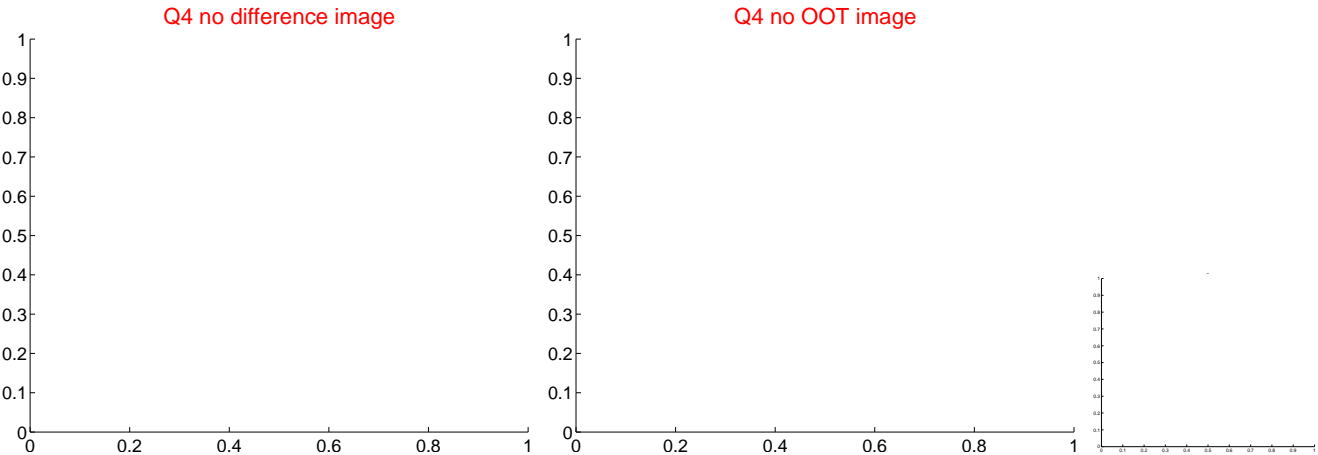
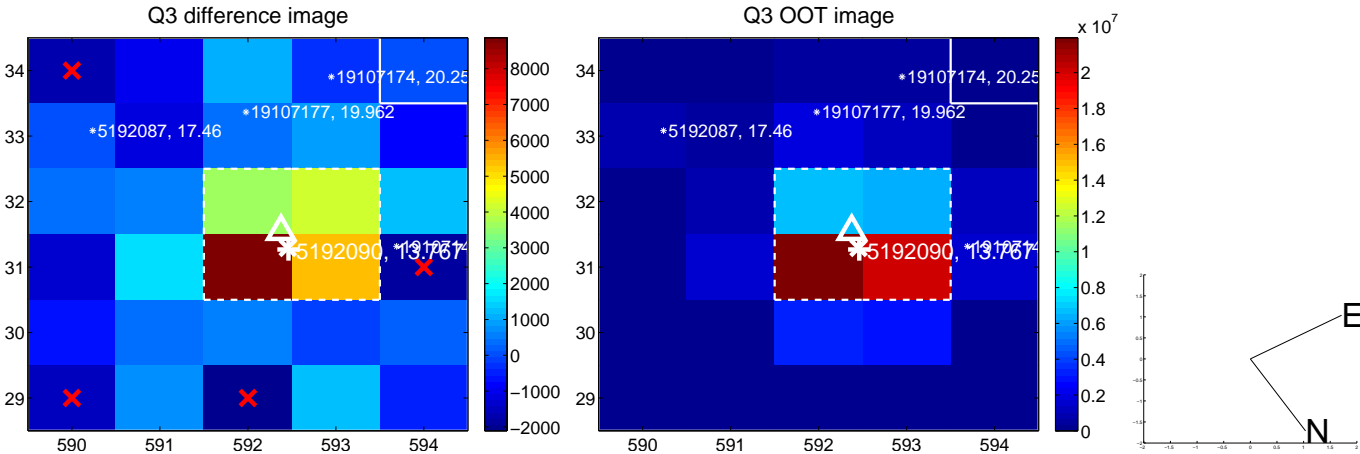
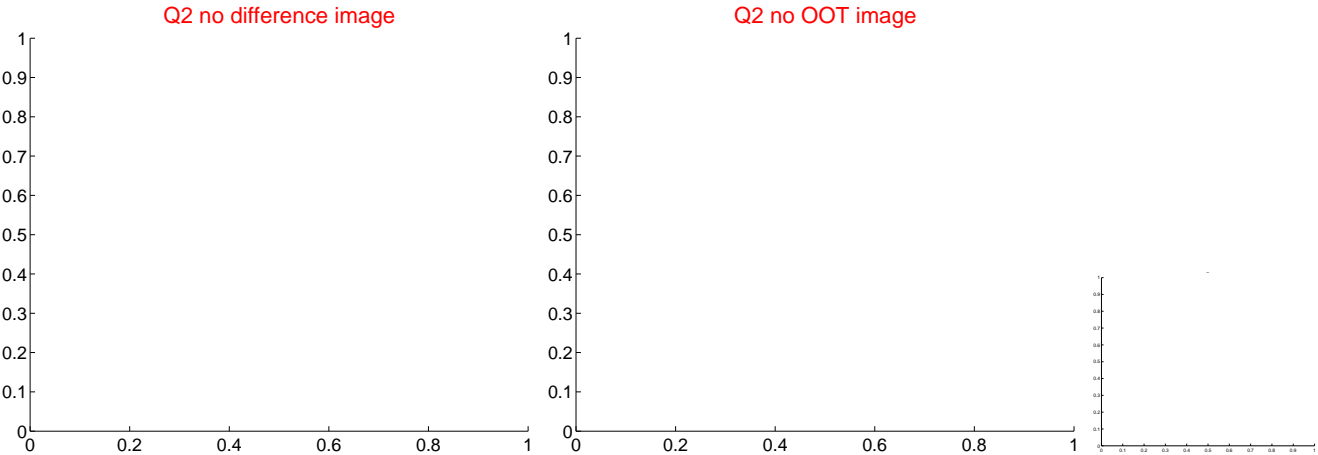
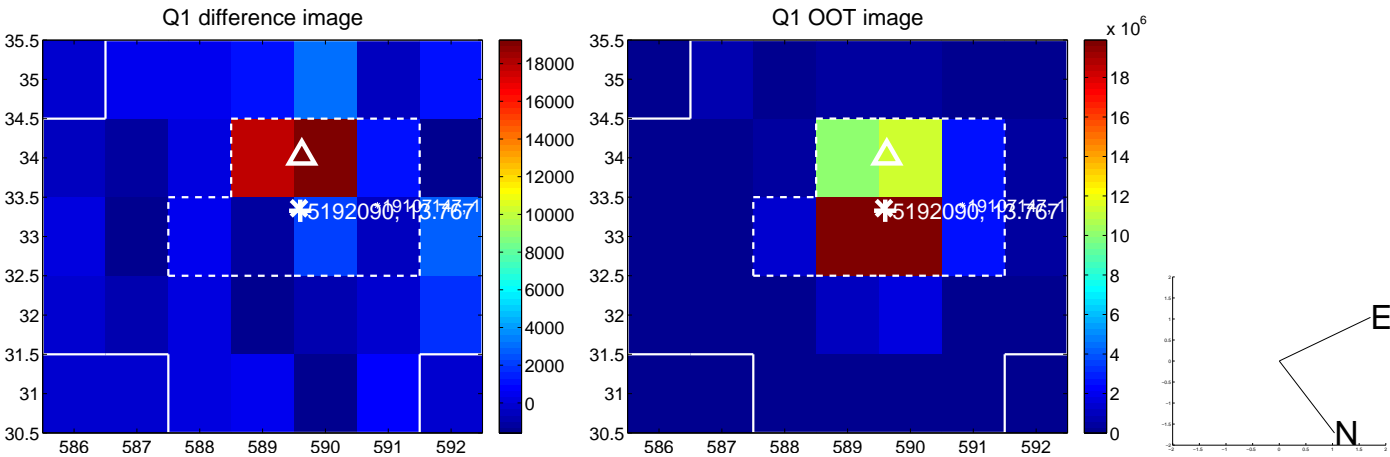


offset from photometric centroids

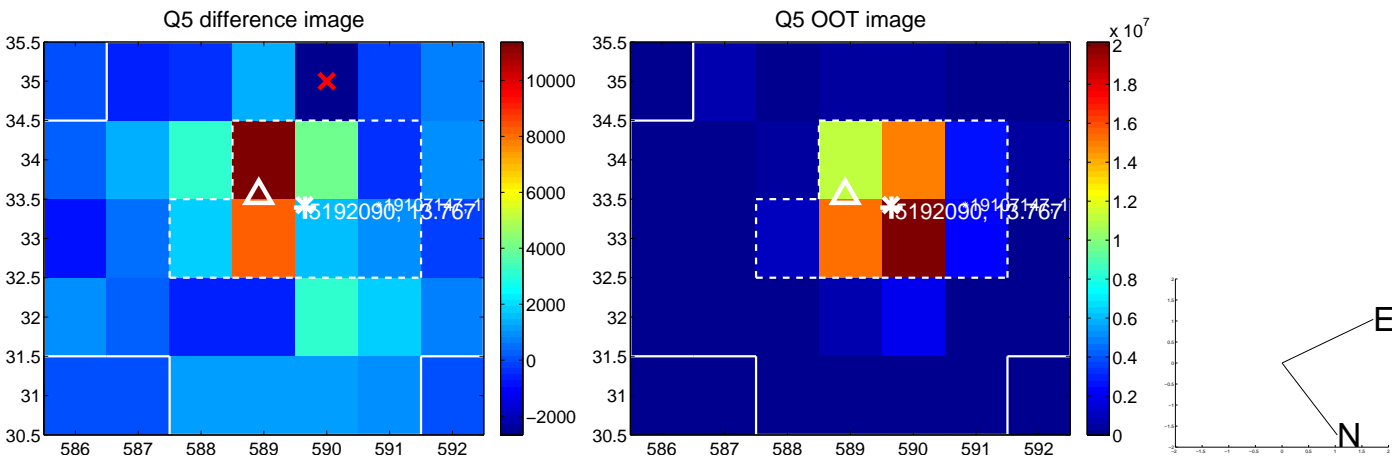


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

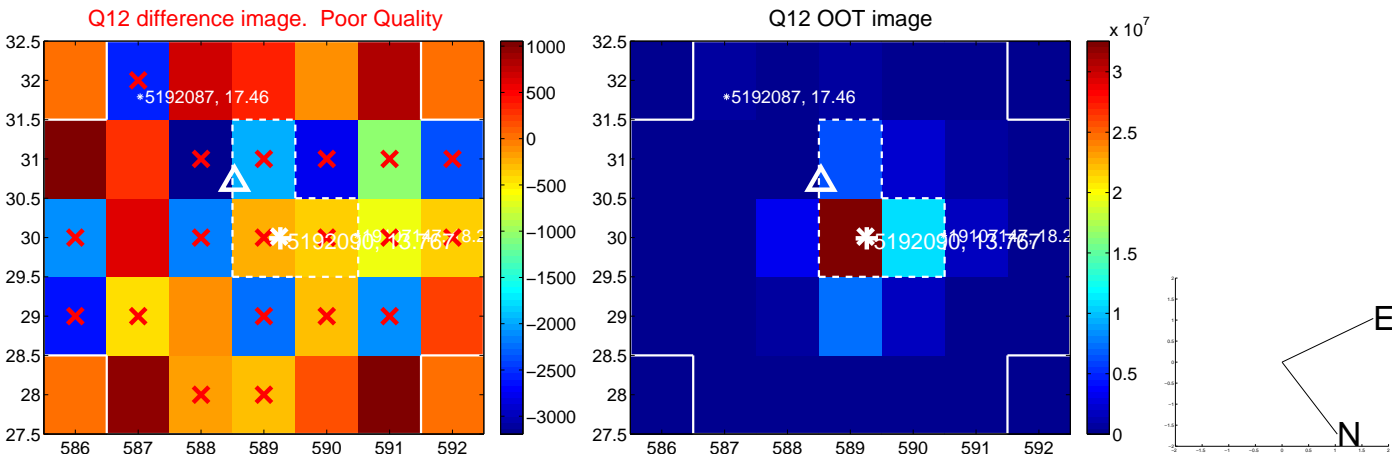
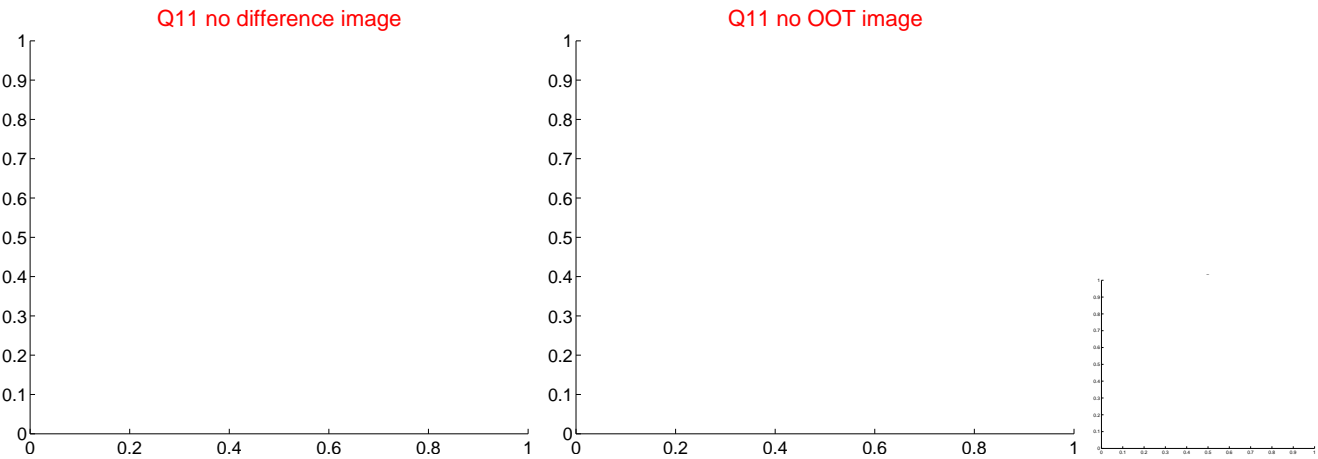
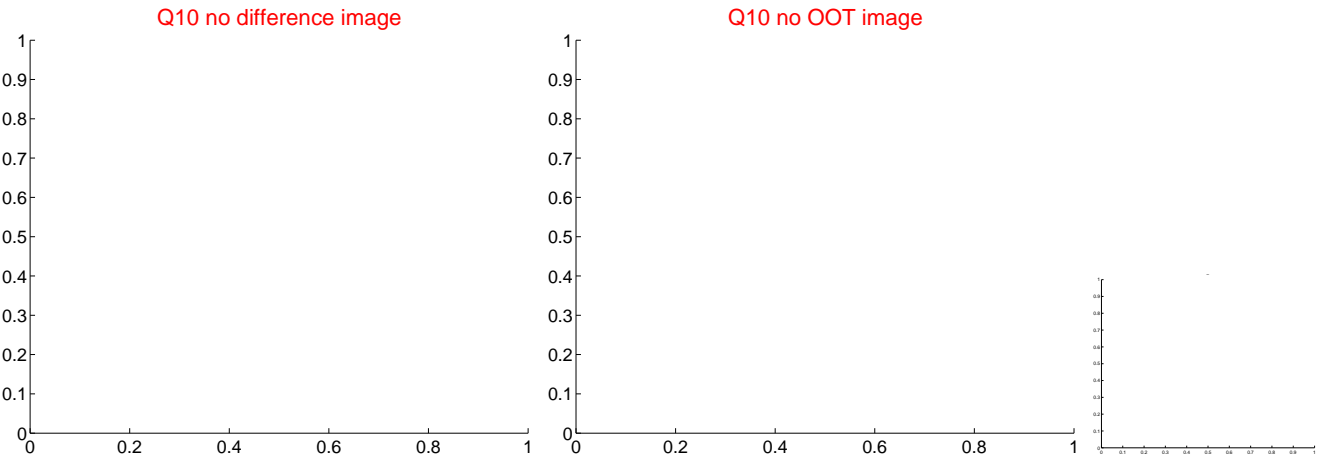
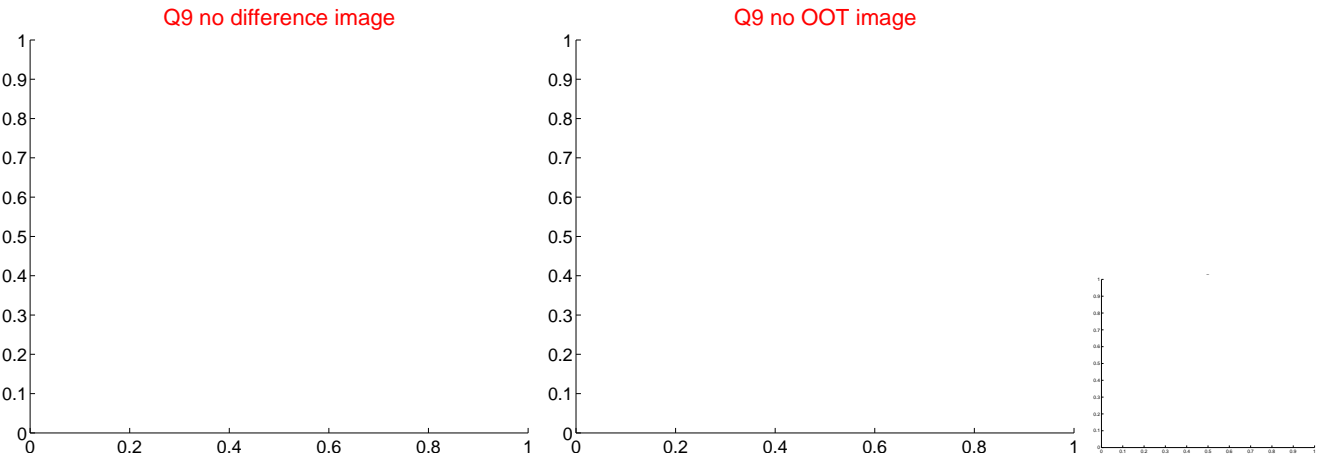
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



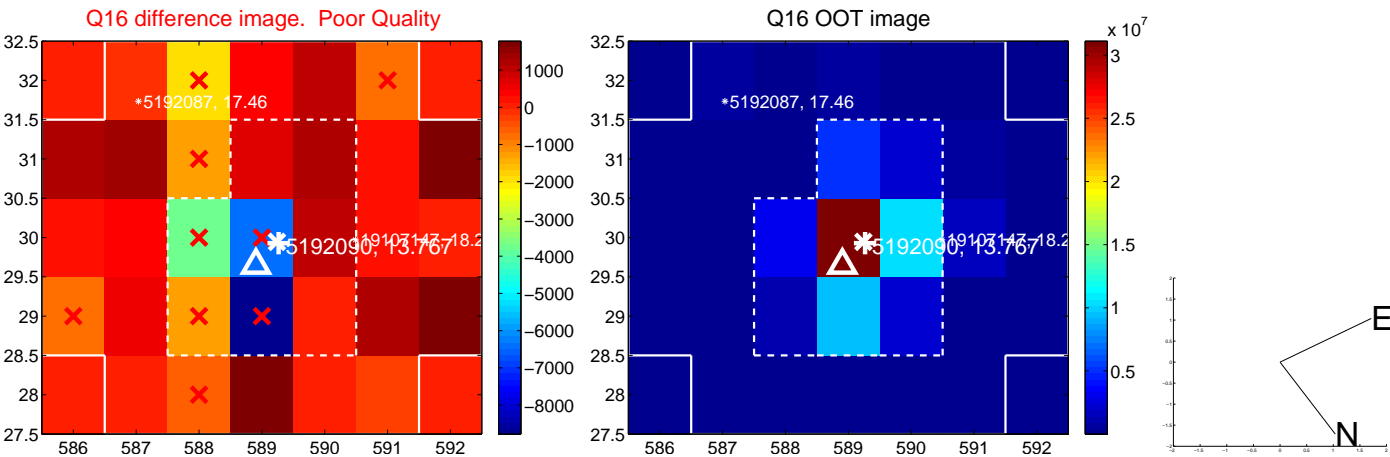
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



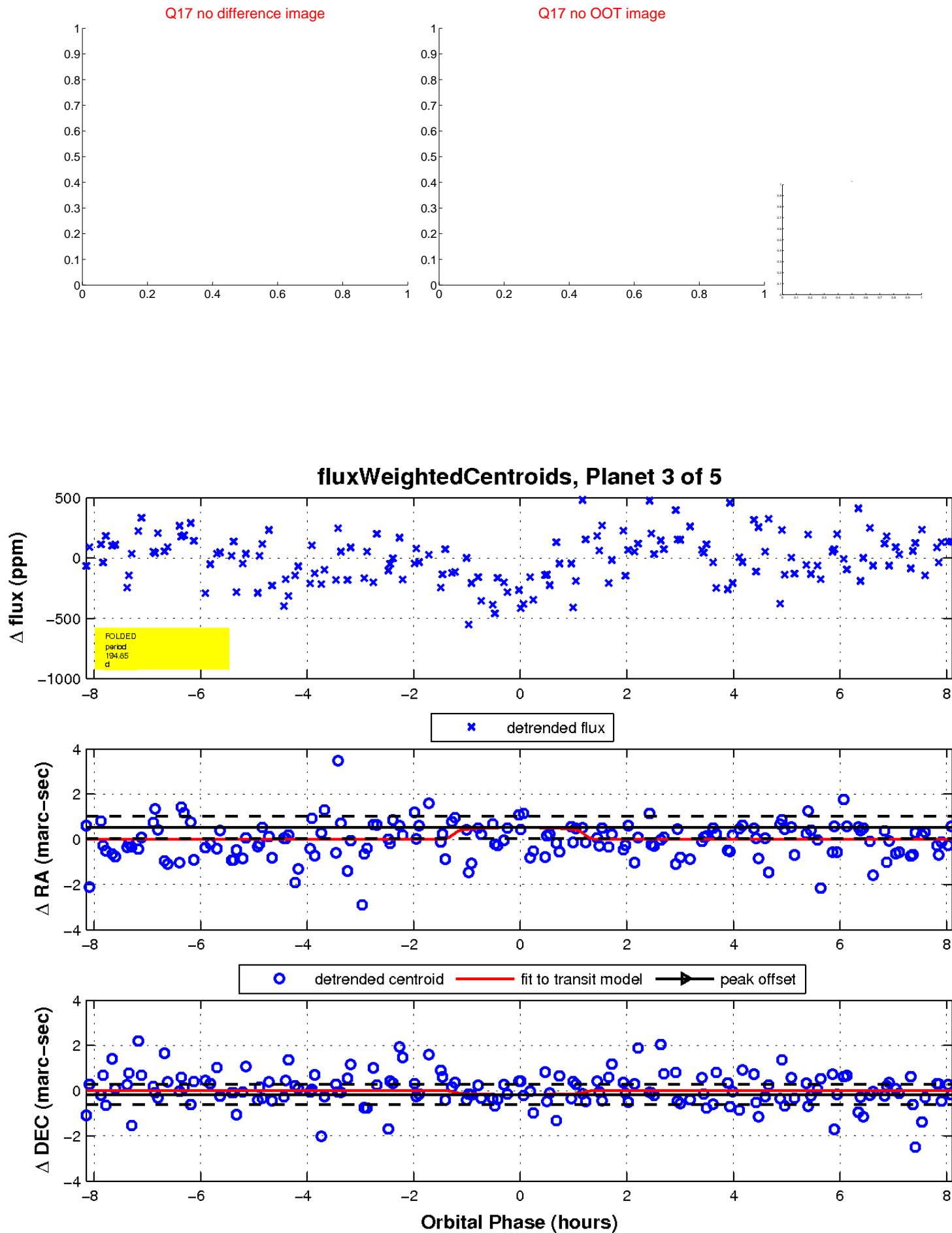
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

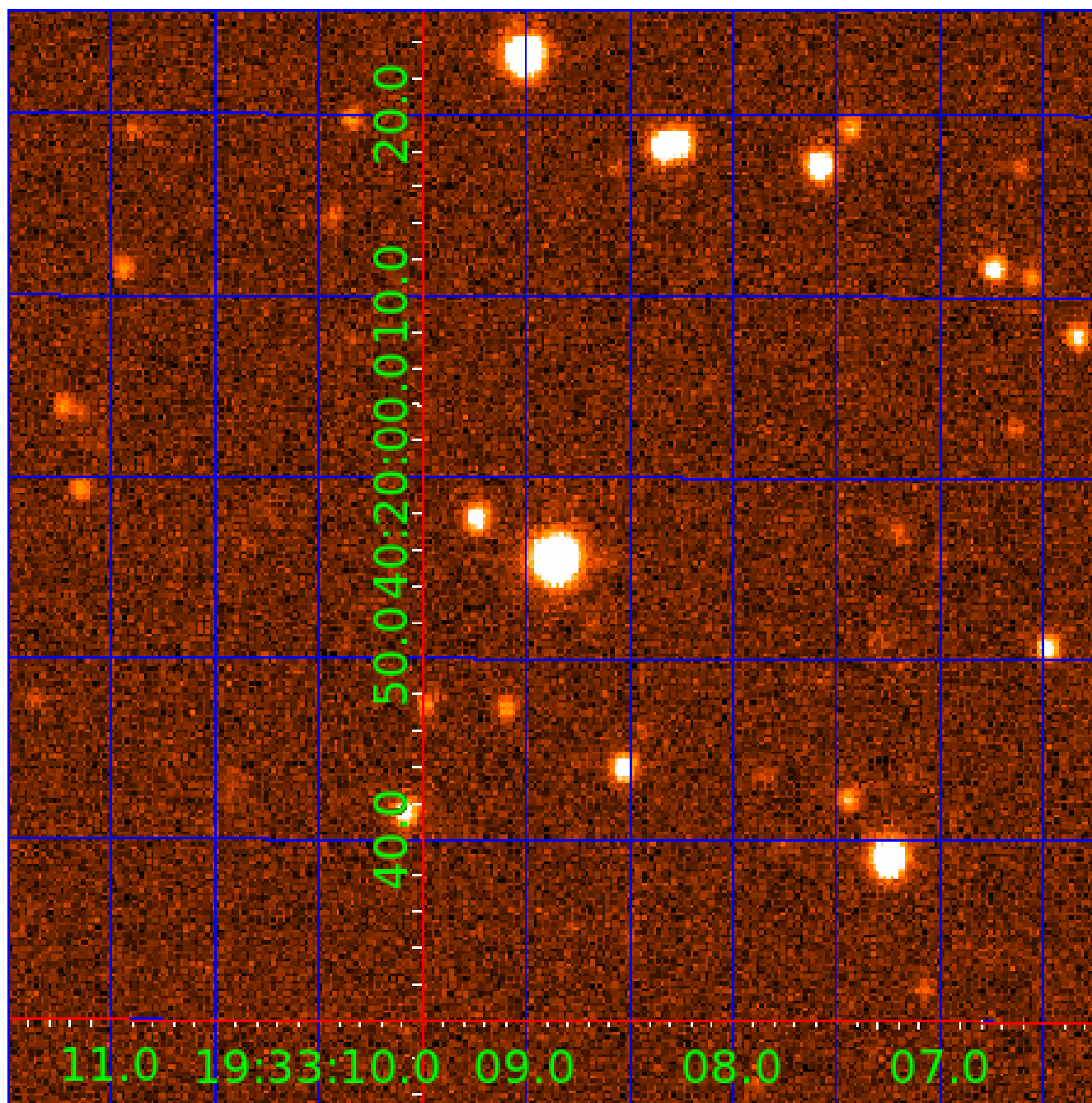


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005192090

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})
005192090-01	OBS	No	0.964357	132.273847	281.1	3.500	8.7	-1.0	1.16	6733	1.97	6090.22
005192090-02	OBS	No	1.928499	131.790997	17.3	8.121	8.0	7.1	1.16	6733	0.49	2417.27
005192090-03	OBS	No	194.850289	140.604230	343.5	2.736	7.3	7.9	1.16	6733	2.51	5.14
005192090-04	OBS	No	108.592425	235.924363	177.8	8.932	7.5	6.7	1.16	6733	1.78	11.20
005192090-05	OBS	No	204.516534	157.314710	359.5	2.542	7.3	6.7	1.16	6733	2.51	4.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005192090-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
005192090-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
005192090-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005192090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005192090-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

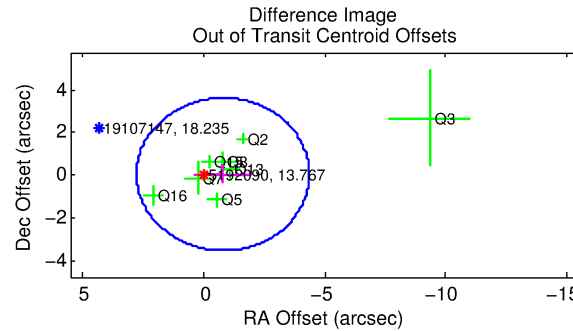
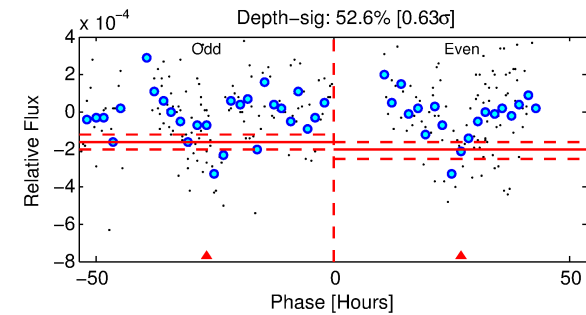
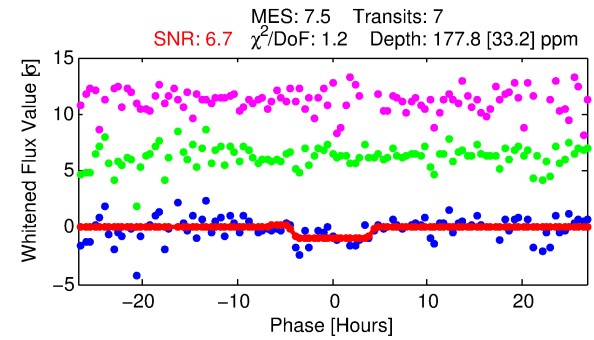
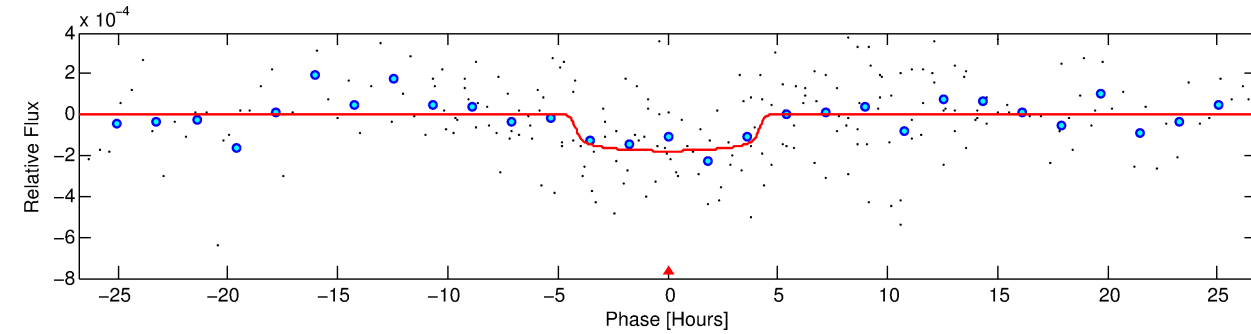
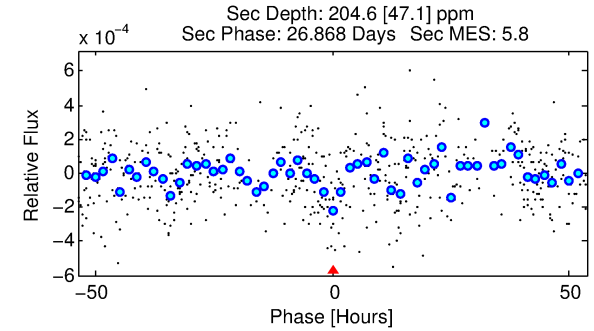
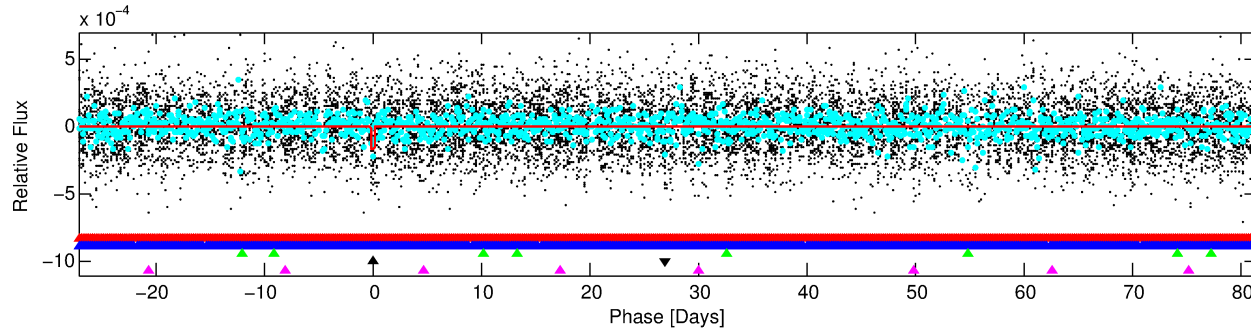
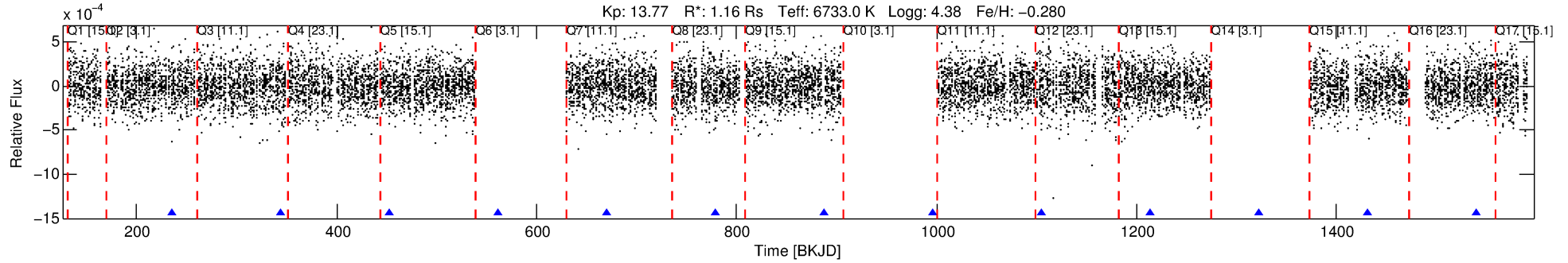
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005192090-04

No Significant Match Found

DV One-Page Summary

KIC: 5192090 Candidate: 4 of 5 Period: 108.592 d



DV Fit Results:

Period = 108.59243 [0.00305] d
Epoch = 235.9244 [0.0240] BKJD
Rp/R* = 0.0140 [0.0048]
a/R* = 46.82 [86.70]
b = 0.88 [0.49]
Seff = 11.20 [3.78]
Teq = 466 [39] K
Rp = 1.78 [0.76] Re
a = 0.4707 [0.1013] AU
Ag = 7903.98 [6182.68] [1.28σ]
Teffp = 6800 [1246] K [5.08σ]

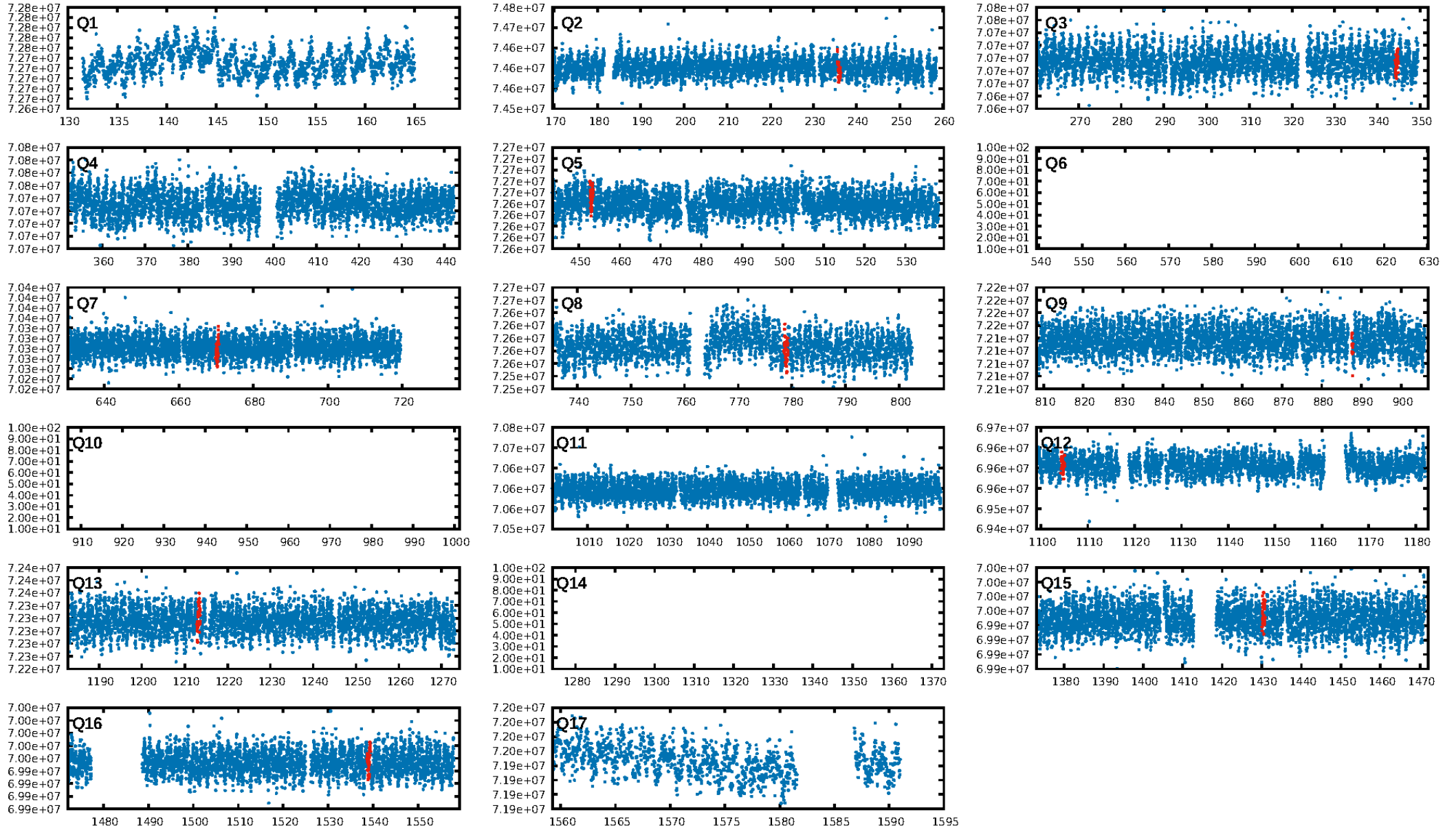
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [212.06σ]
LongPeriod-sig: 100.0% [221.61σ]
ModelChiSquare2-sig: 5.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.29e-08
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.9538
Centroid-sig: 65.2%
Centroid-so: 0.603 arcsec [0.57σ]
OotOffset-rm: 0.803 arcsec [0.68σ]
KicOffset-rm: 0.842 arcsec [0.63σ]
OotOffset-st: 1/3/2/2 [8]
KicOffset-st: 1/3/2/2 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 0.00 [0/8]

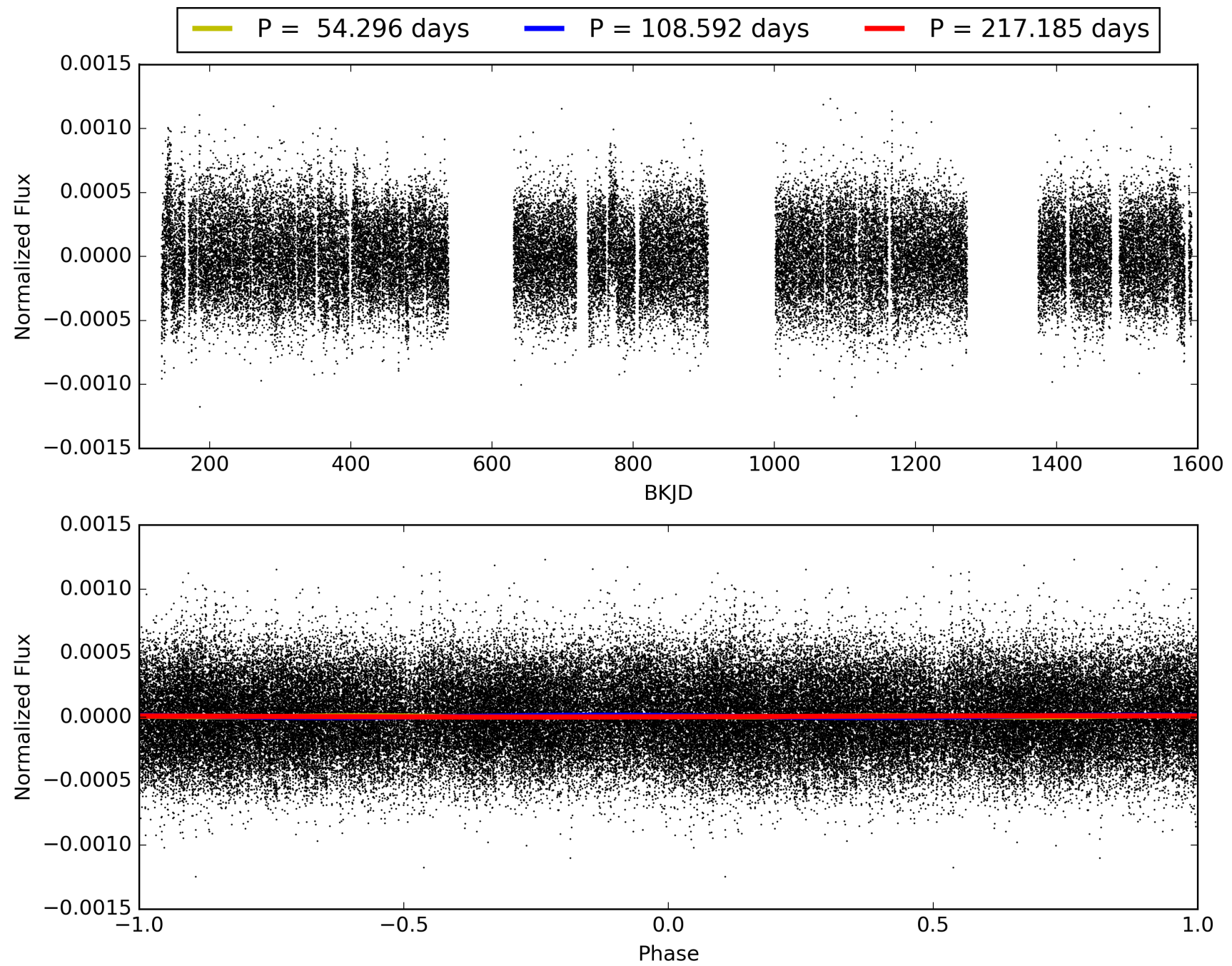
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:30:40 Z

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

TCE 005192090-04, PDC Light Curves

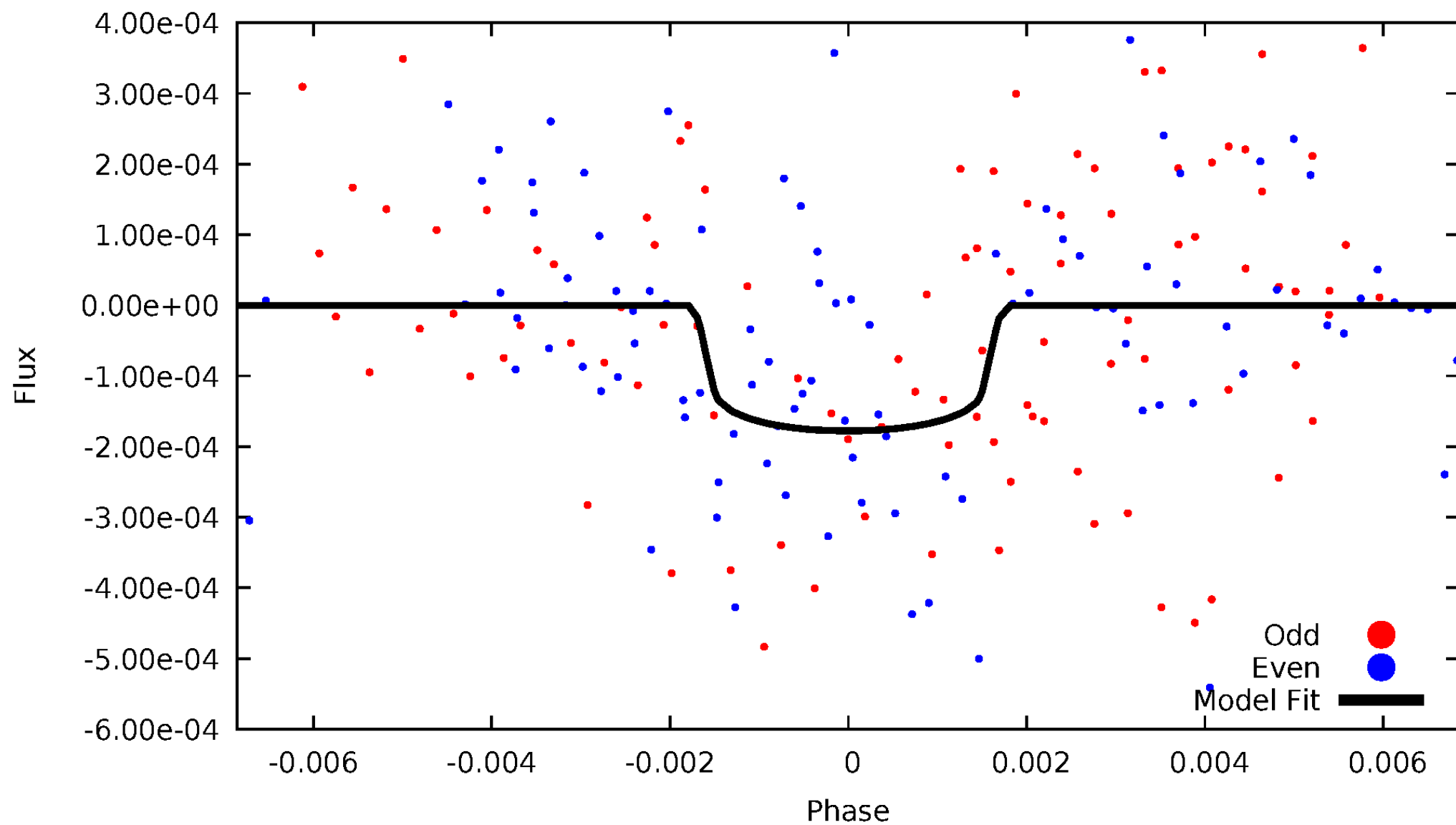


TCE 005192090-04



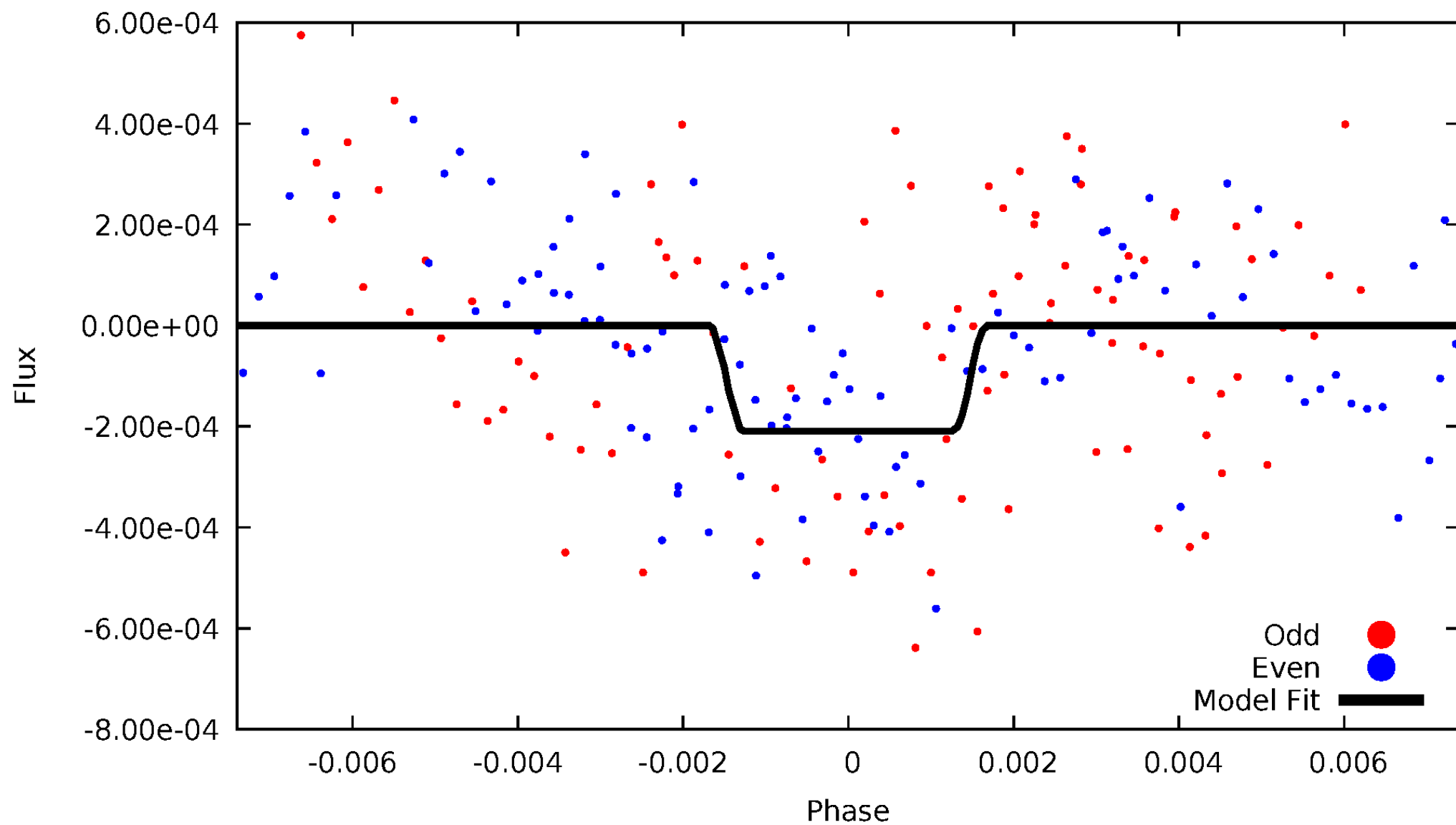
DV Odd/Even

TCE 005192090-04



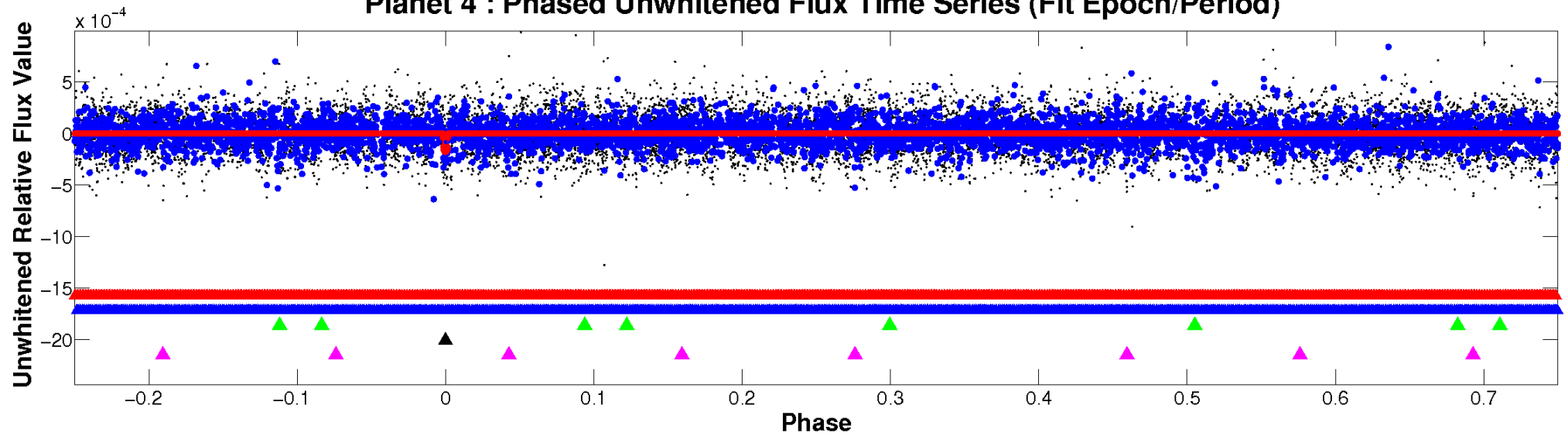
ALT Odd/Even

TCE 005192090-04

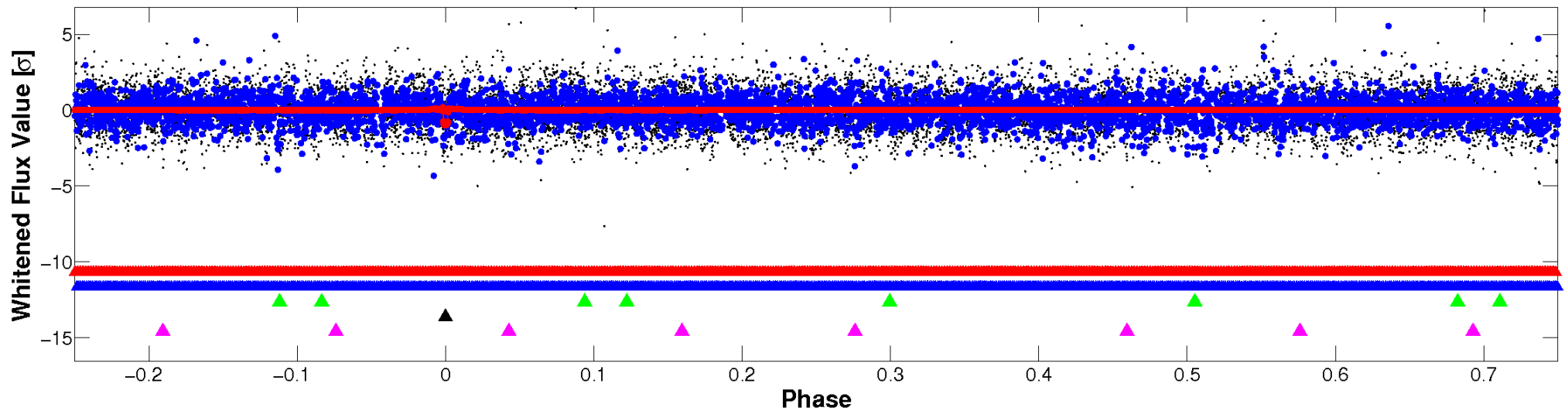


Non-Whitened Vs. Whitened Light Curve

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

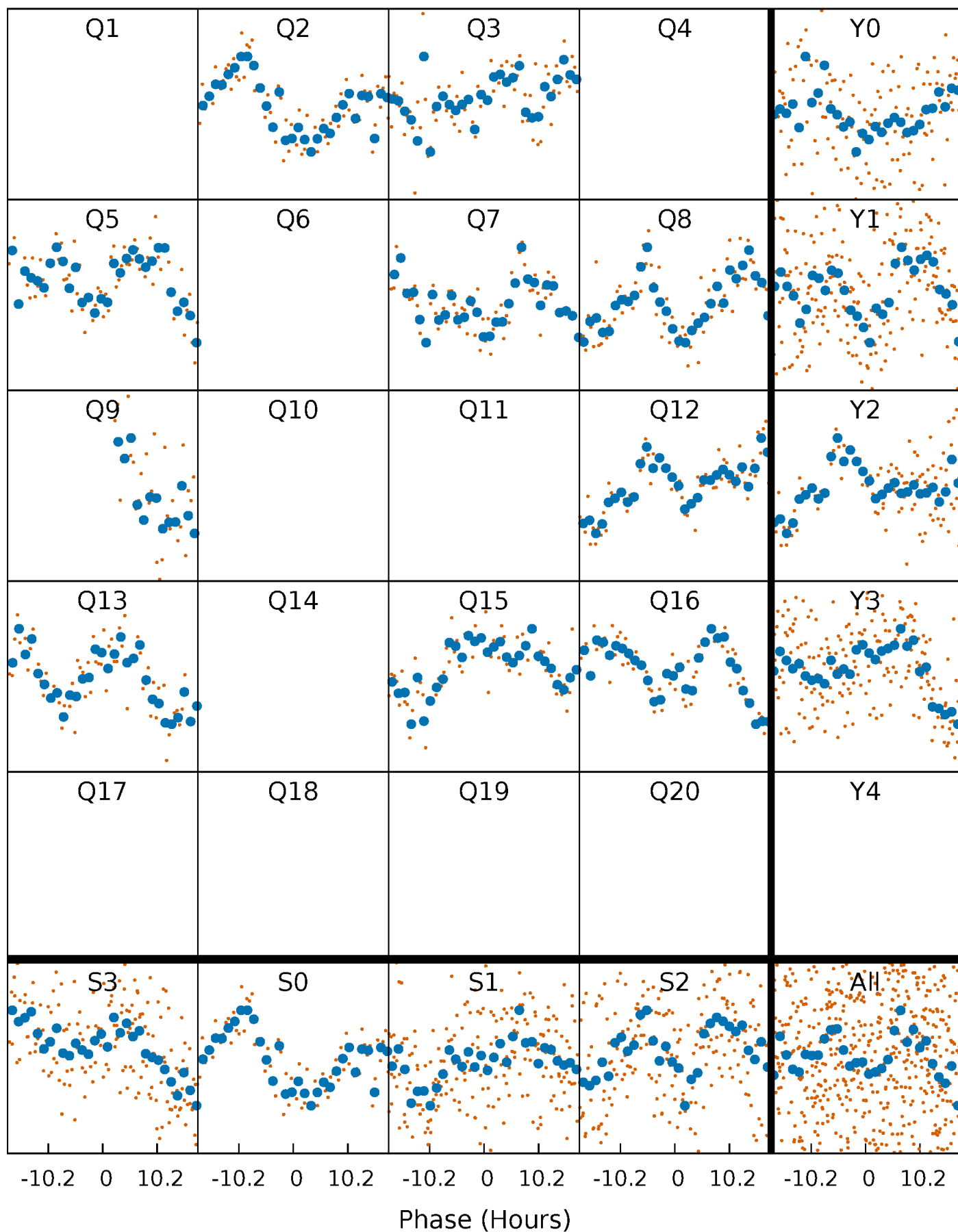


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



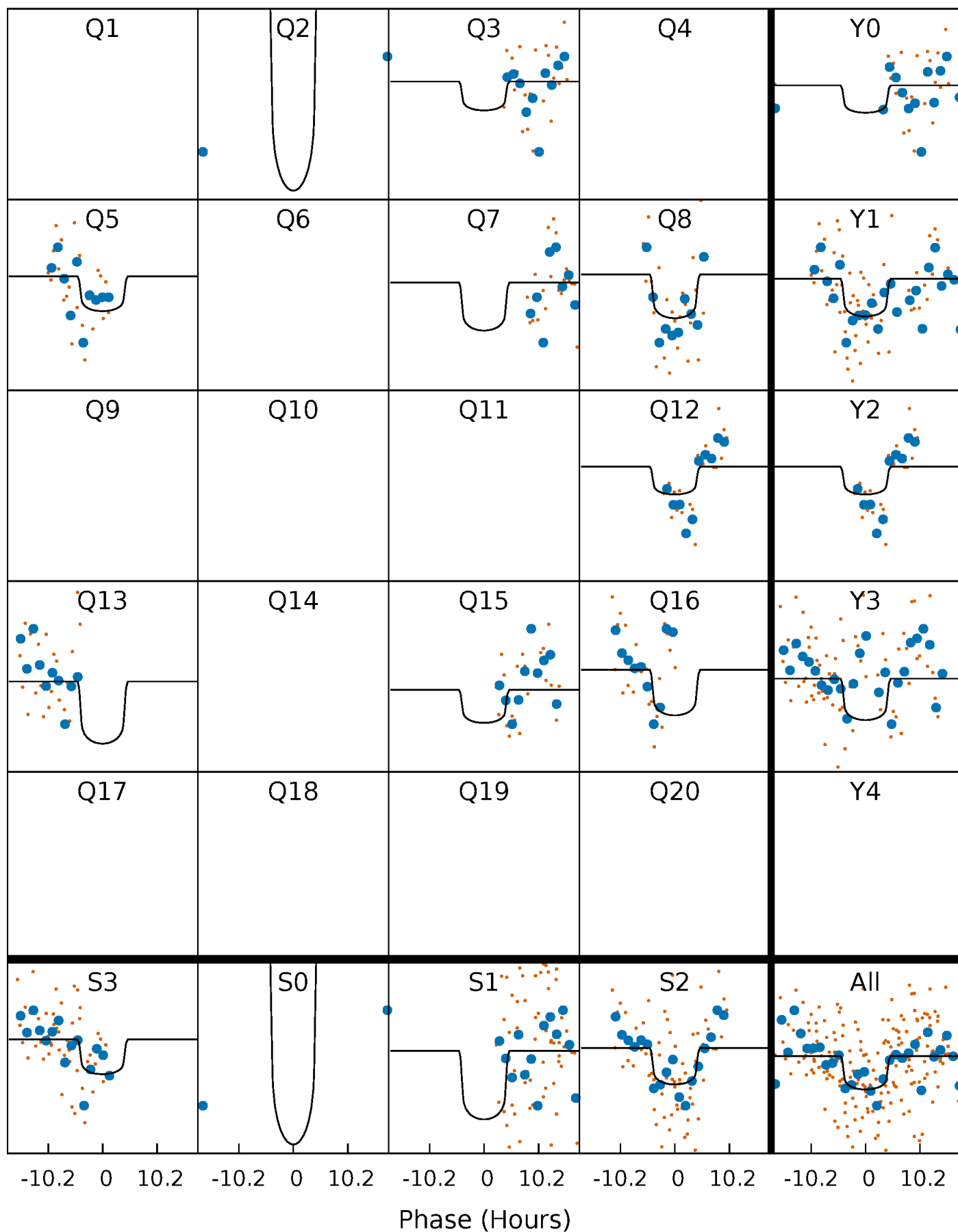
PDC Quarter-Phased Transit Curves

TCE 005192090-04 $P=108.592425$ Days $T_0=235.924363$ (BKJD)



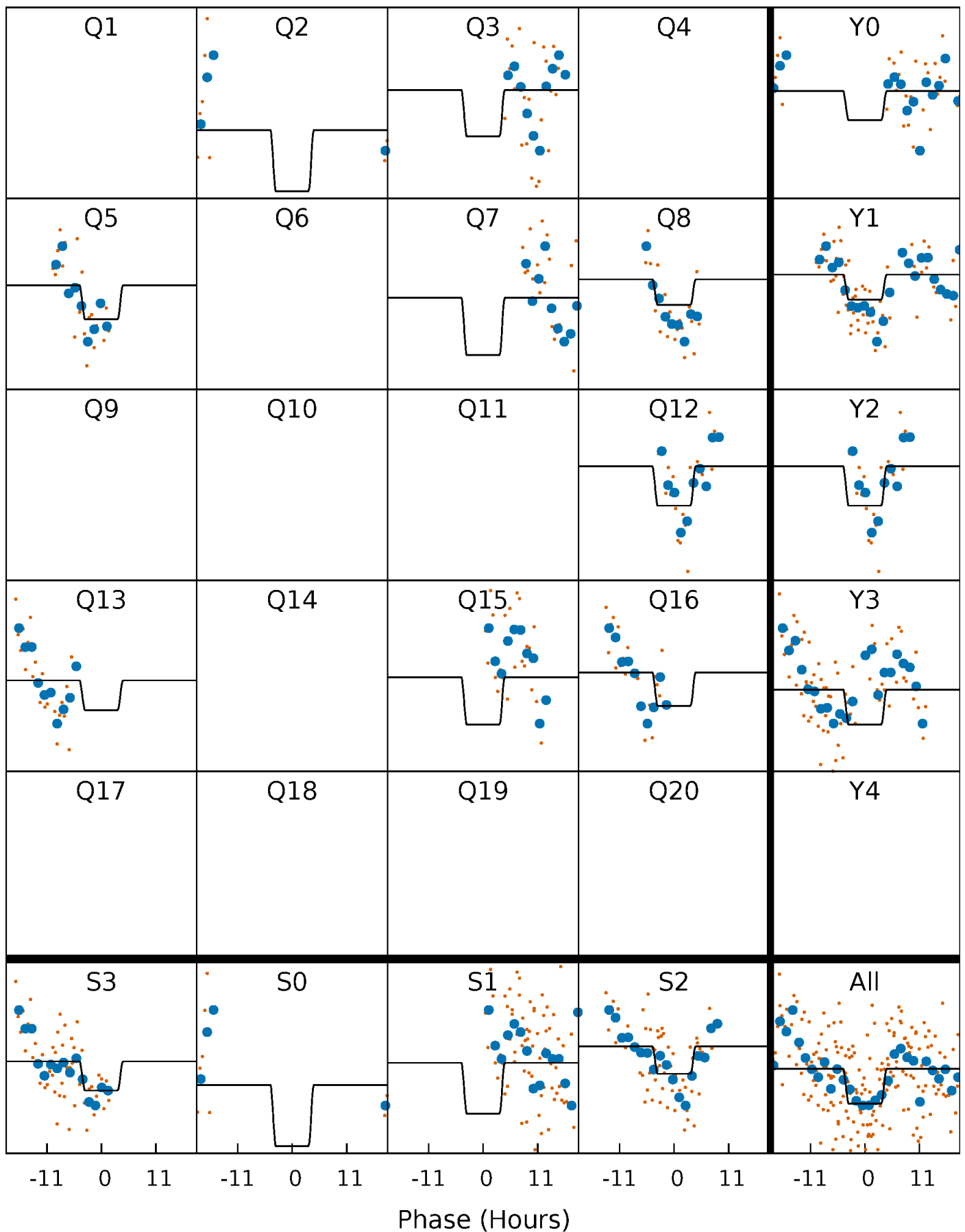
DV Quarter-Phased Transit Curves

TCE 005192090-04 $P=108.592425$ Days $T_0=235.924363$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

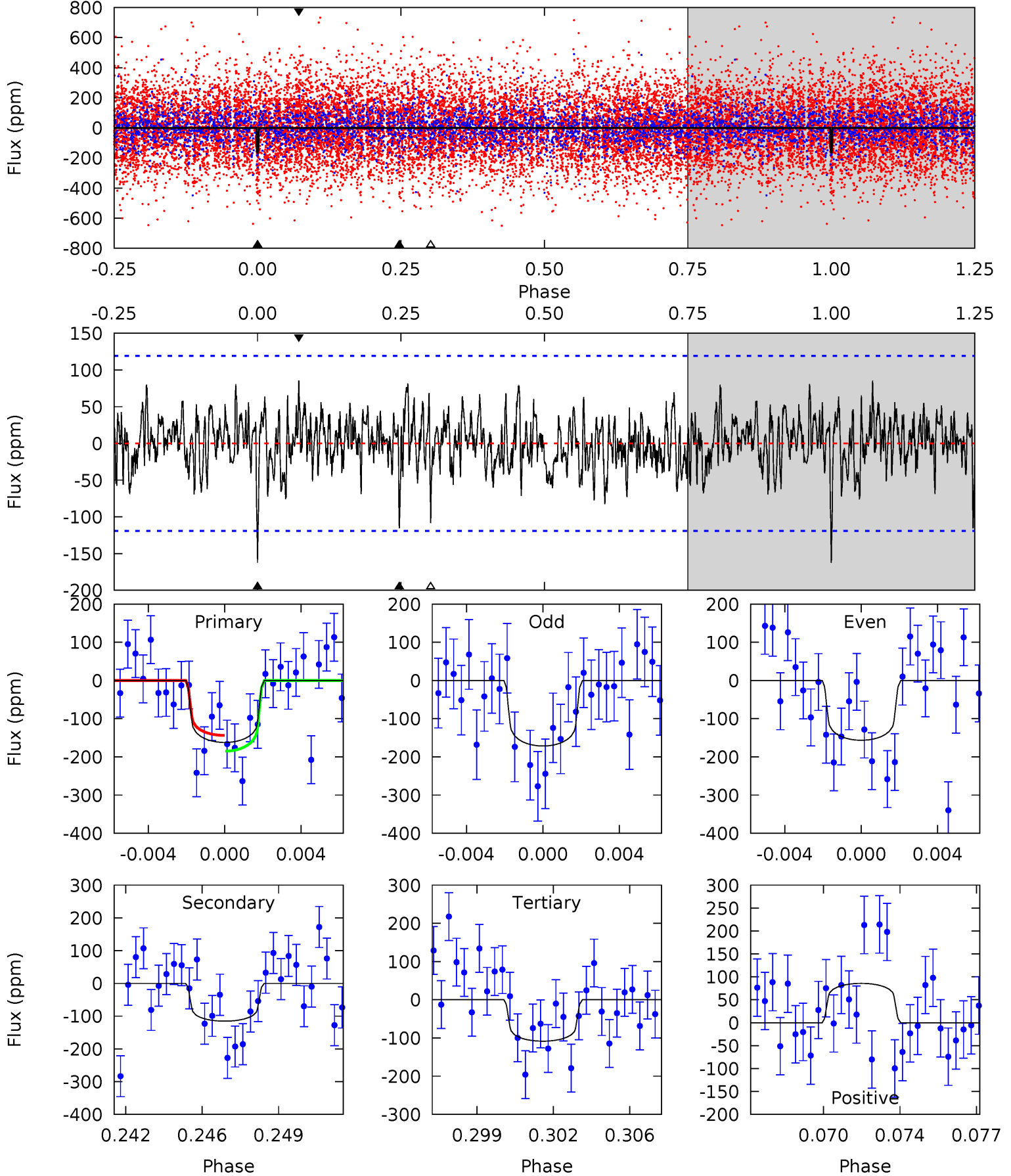
TCE 005192090-04 P=108.602521 Days $T_0=235.887773$ (BKJD)



DV Model-Shift Uniqueness Test

005192090-04, P = 108.592425 Days, E = 127.331938 Days

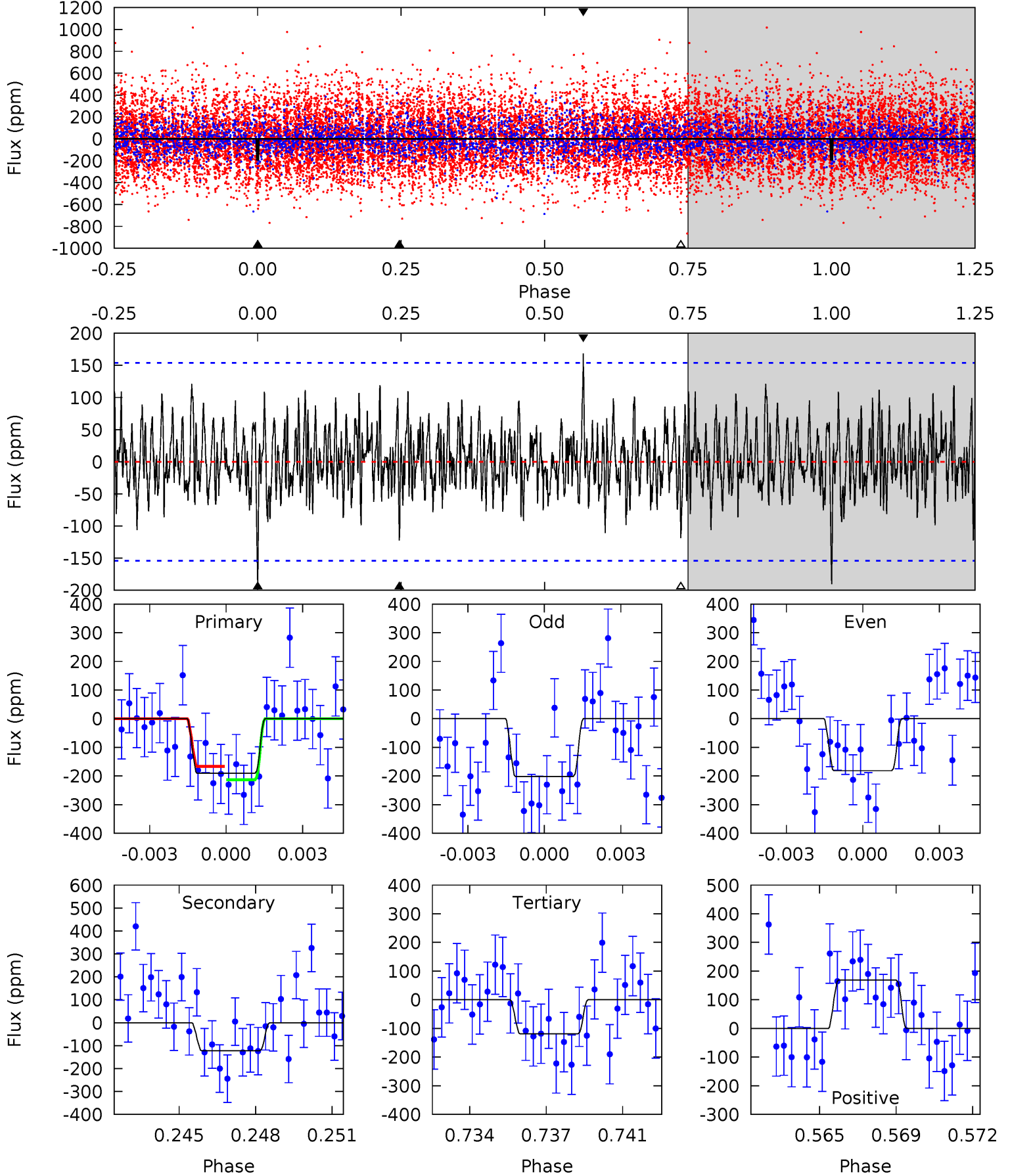
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.12	5.06	4.75	3.76	5.22	2.92	1.29	2.36	3.36	0.31	1.30	0.33	0.37	0.35	0.90



Alt Model-Shift Uniqueness Test

005192090-04, P = 108.602521 Days, E = 127.285252 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.46	4.16	4.04	5.73	5.23	2.94	1.41	2.43	0.73	0.12	-1.57	0.34	0.87	0.47	0.80



Stellar Parameters For KIC 005192090

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6733^{+151}_{-235}	$4.380^{+0.066}_{-0.165}$	$-0.280^{+0.250}_{-0.350}$	$1.161^{+0.303}_{-0.130}$	$1.186^{+0.153}_{-0.153}$	$1.068^{+0.314}_{-0.485}$
	+2%/-3%	+2%/-4%	+89%/-125%	+26%/-11%	+13%/-13%	+29%/-45%
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 005192090-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-115 ± 23	$1.80^{+0.65}_{-0.60}$	658^{+38}_{-30}	5865^{+1335}_{-794}	4207^{+5595}_{-1984}
Alt.	-122 ± 29	$1.86^{+0.63}_{-0.61}$	657^{+37}_{-31}	5883^{+1349}_{-834}	4311^{+5201}_{-2198}

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

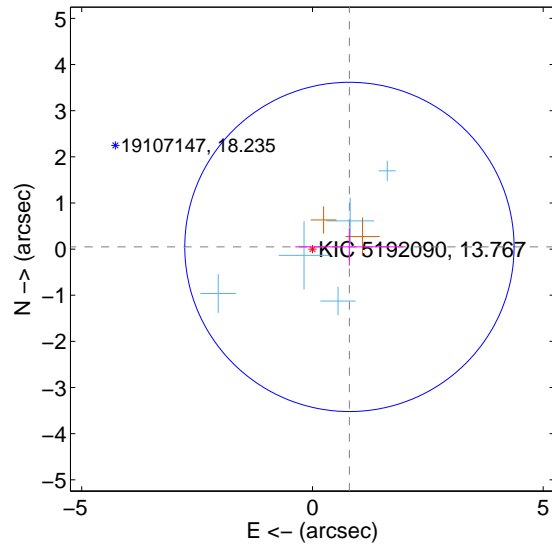
Supplemental centroid analysis for 005192090-04. Kepler magnitude: 13.77. Transit SNR 6.69

There are 5 quarters with good PRF difference image offsets

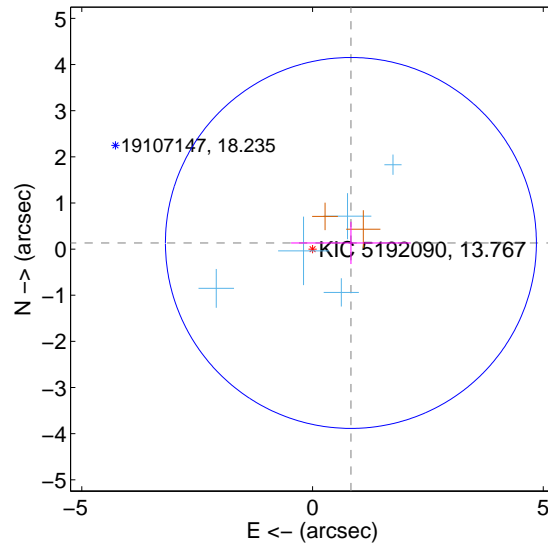
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.803 ± 1.189	0.68	-0.801 ± 1.172	0.047 ± 0.407
PRF-fit source offset from KIC position	0.842 ± 1.339	0.63	-0.832 ± 1.297	0.133 ± 0.458
photometric centroid source offset	0.60 ± 1.05	0.57	0.01 ± 1.08	0.60 ± 1.05

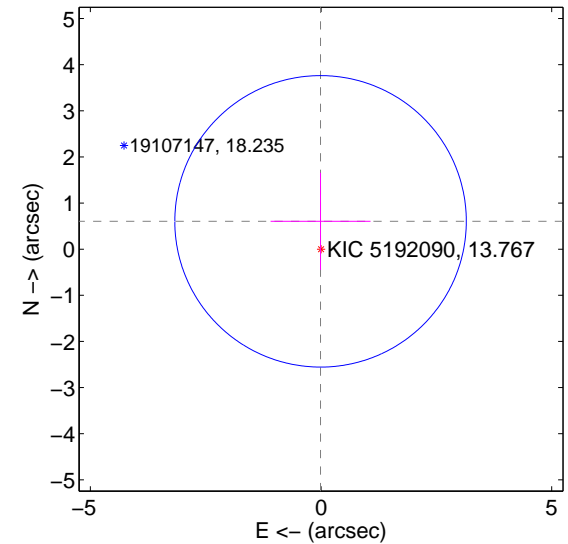
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

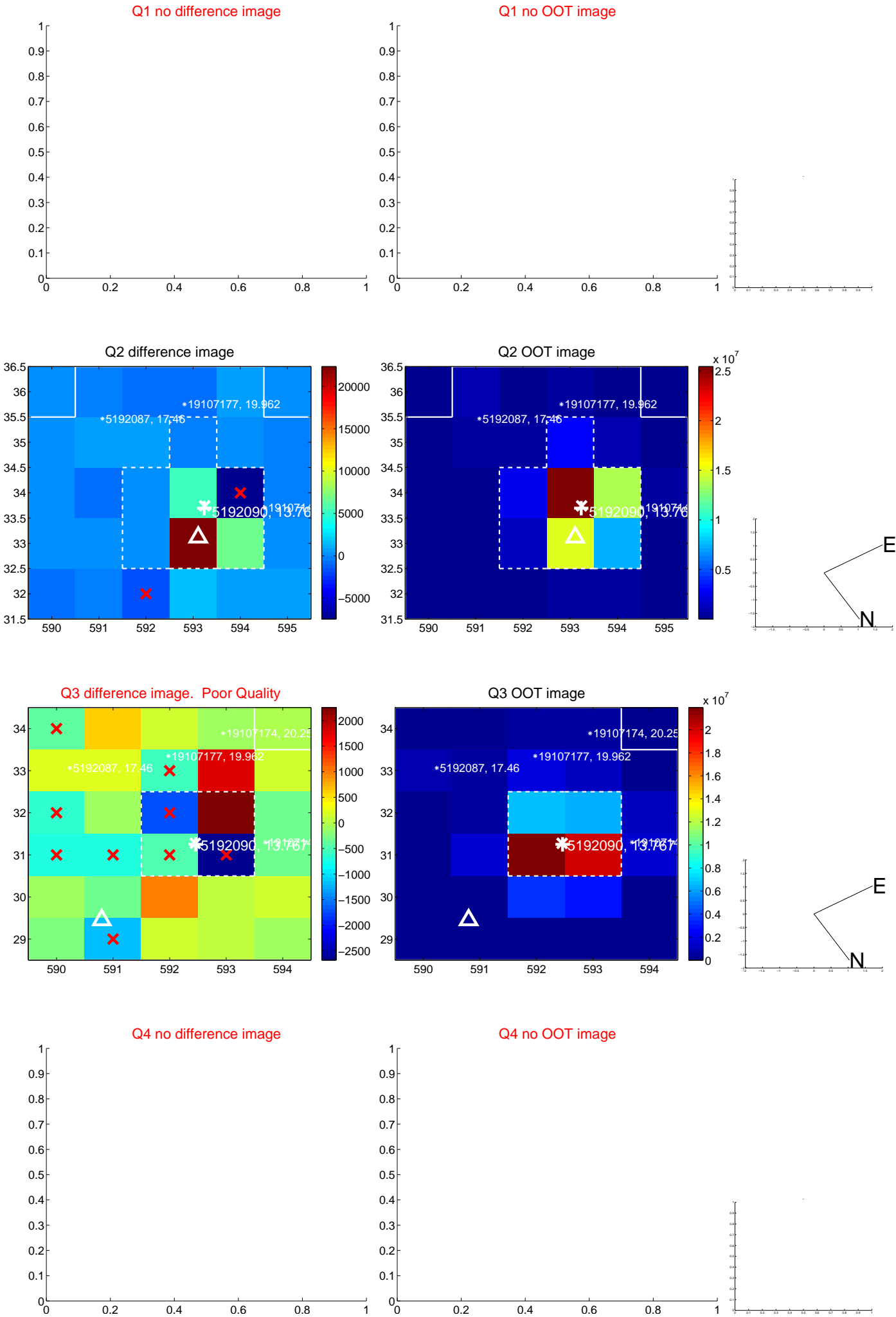


offset from photometric centroids

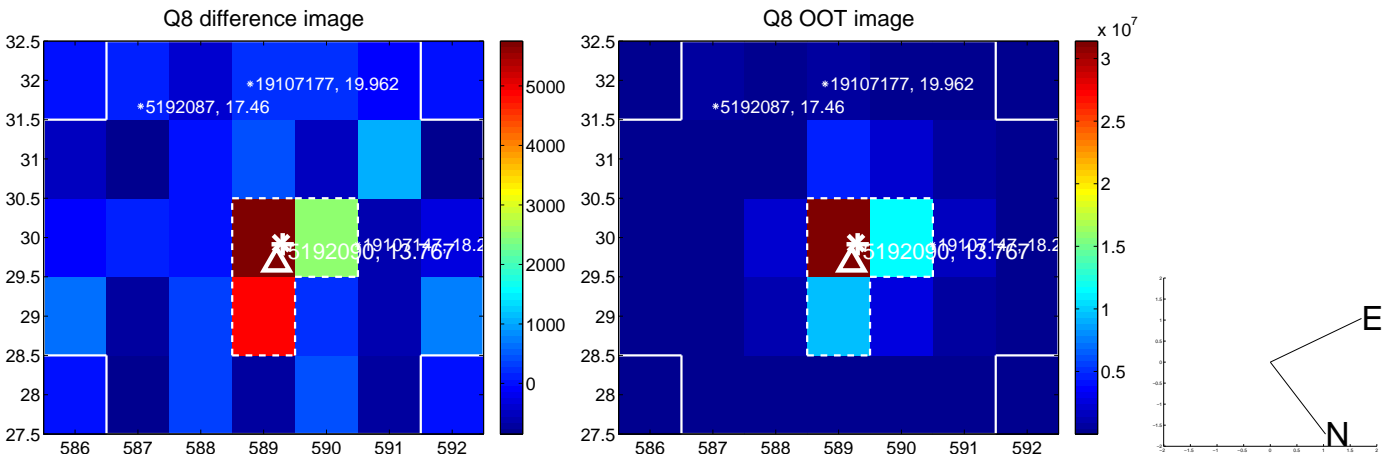
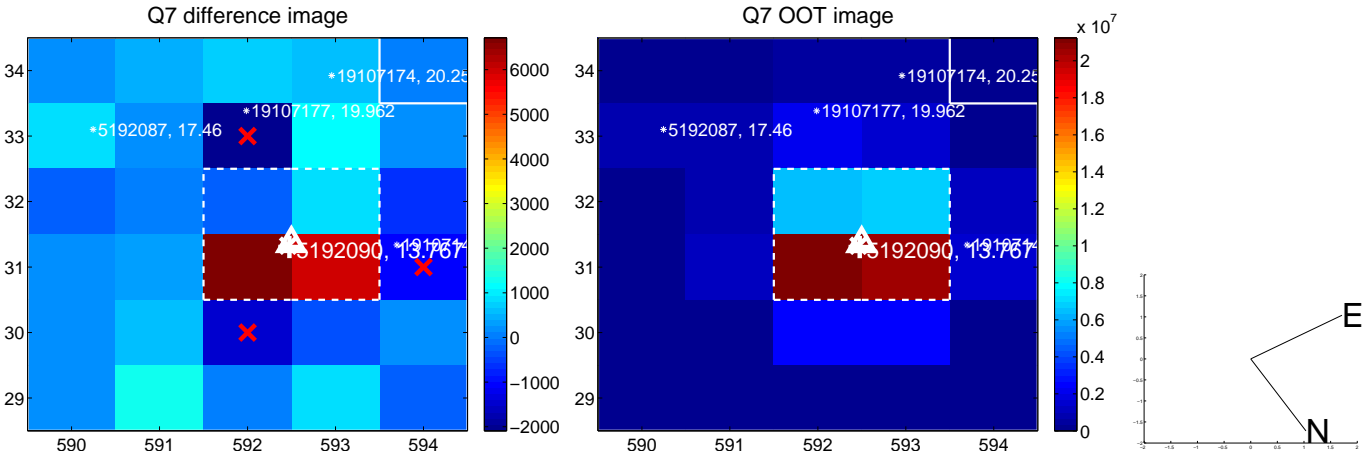
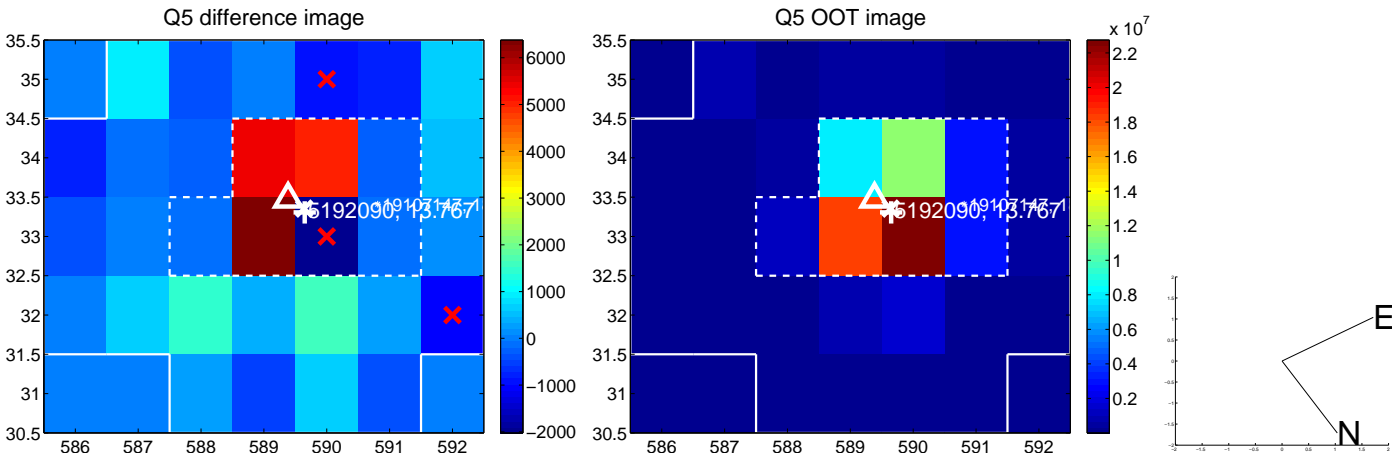


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



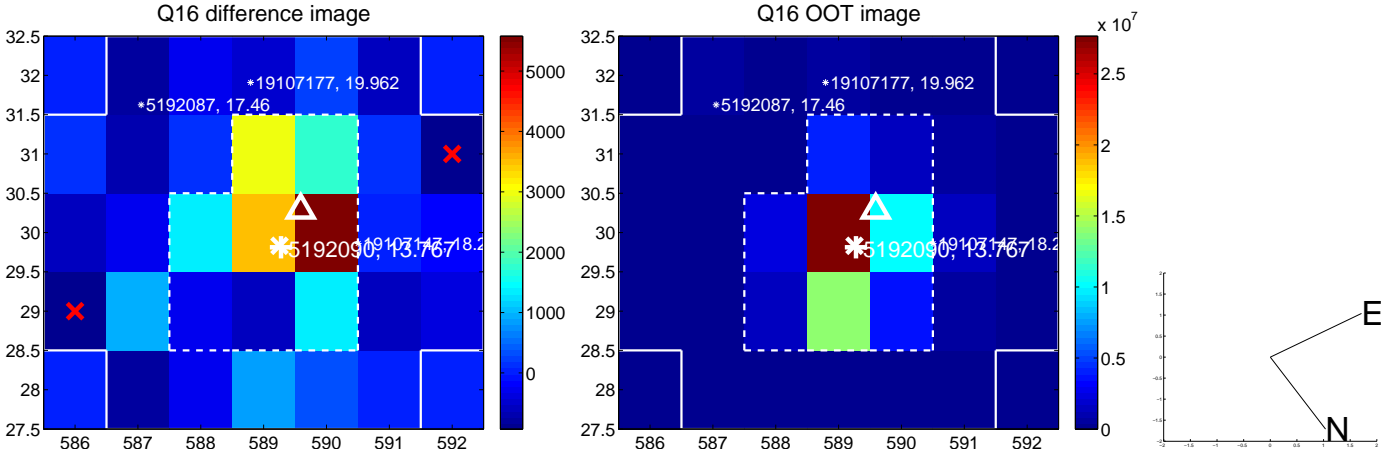
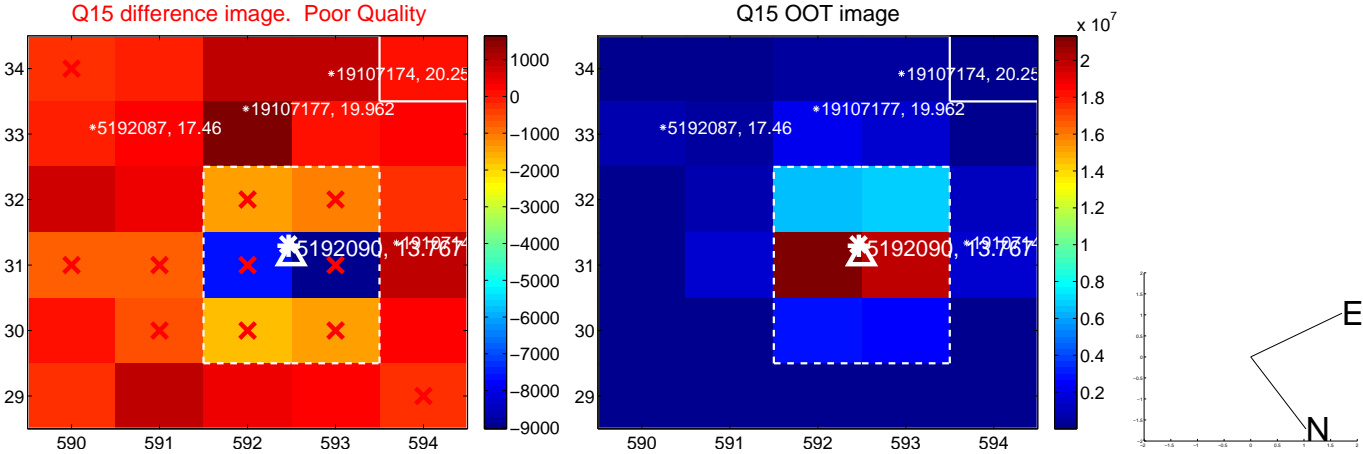
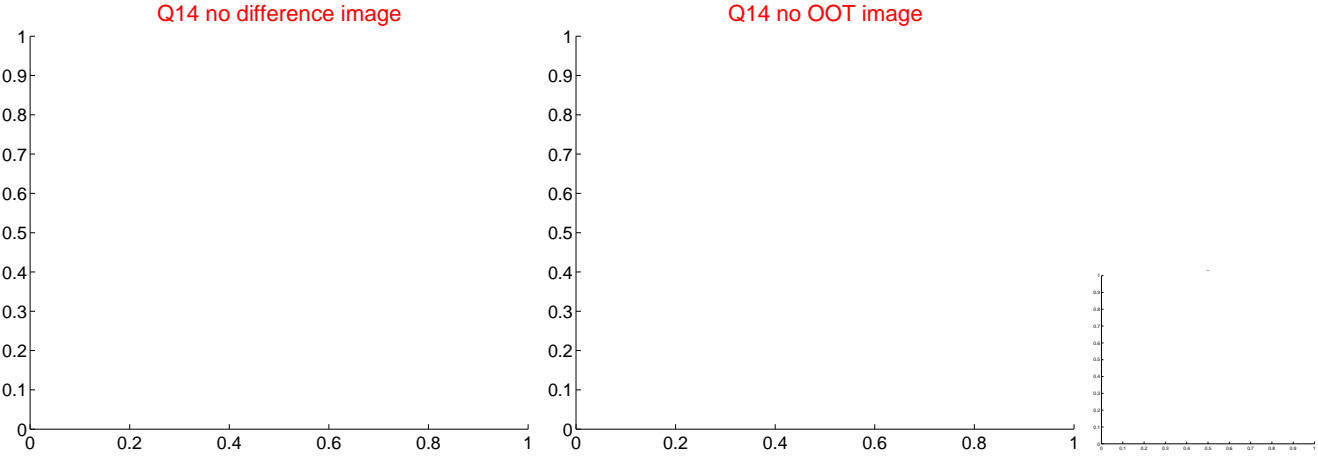
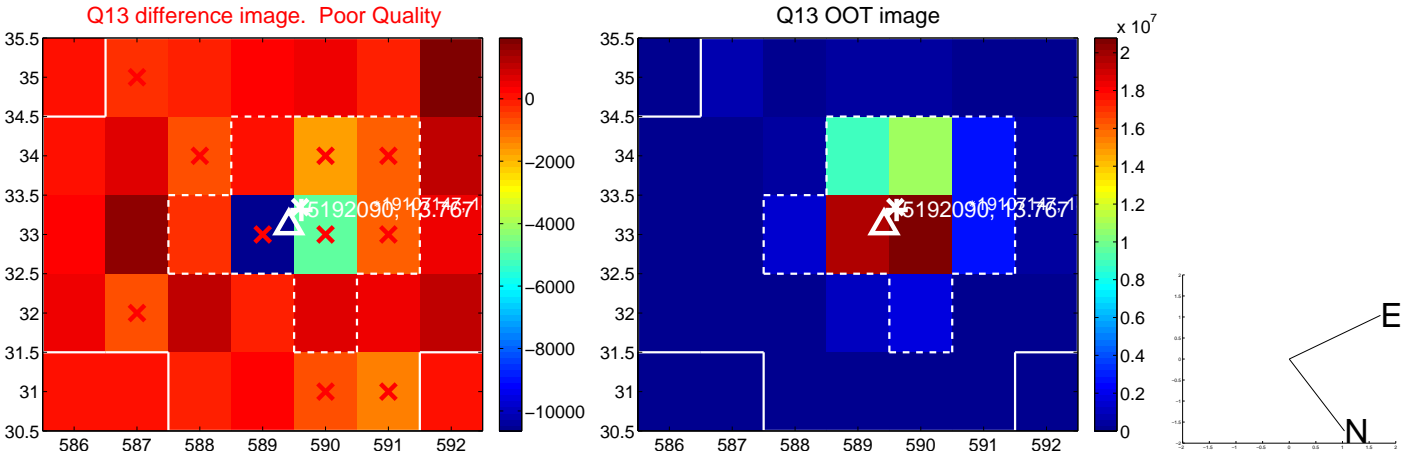
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



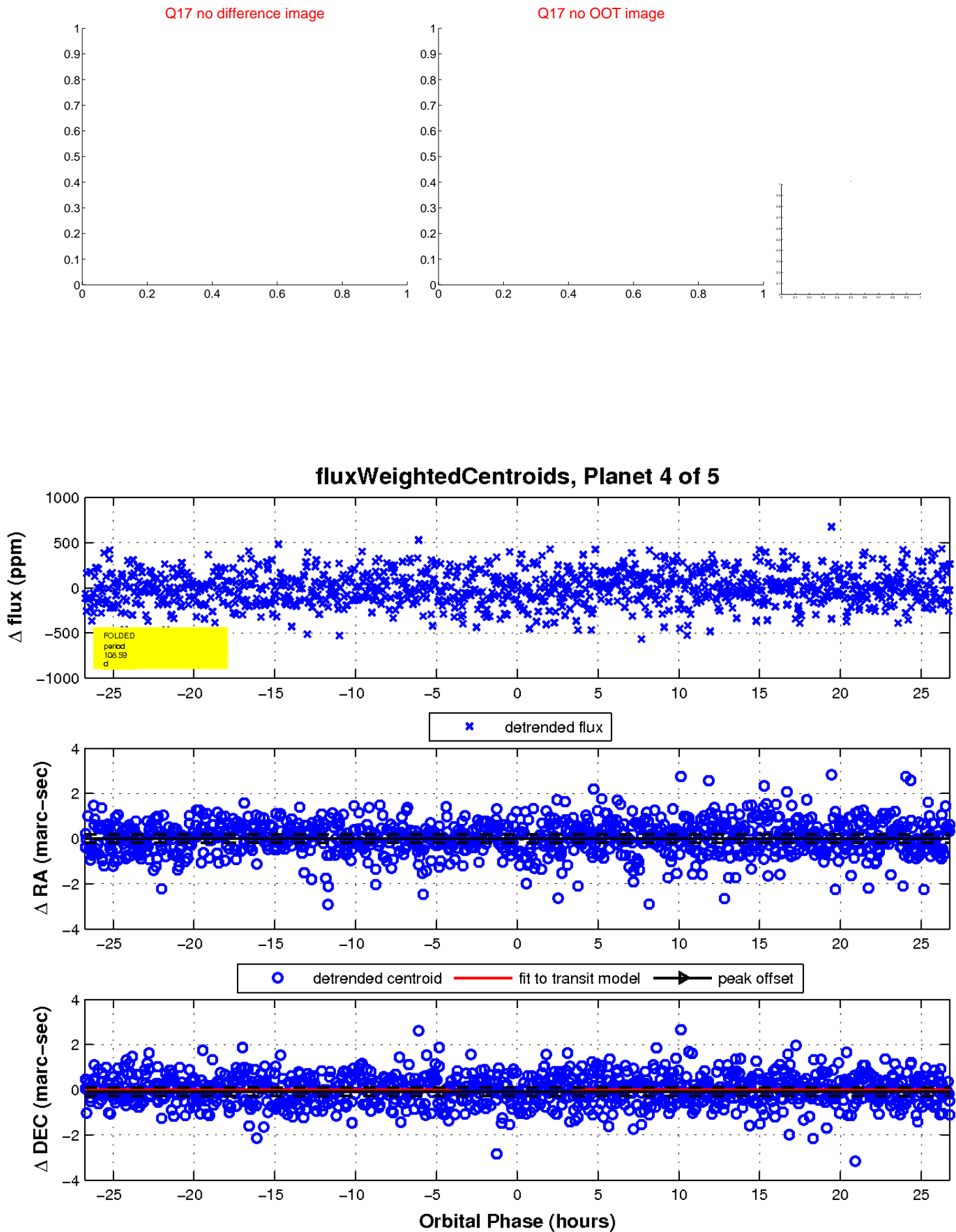
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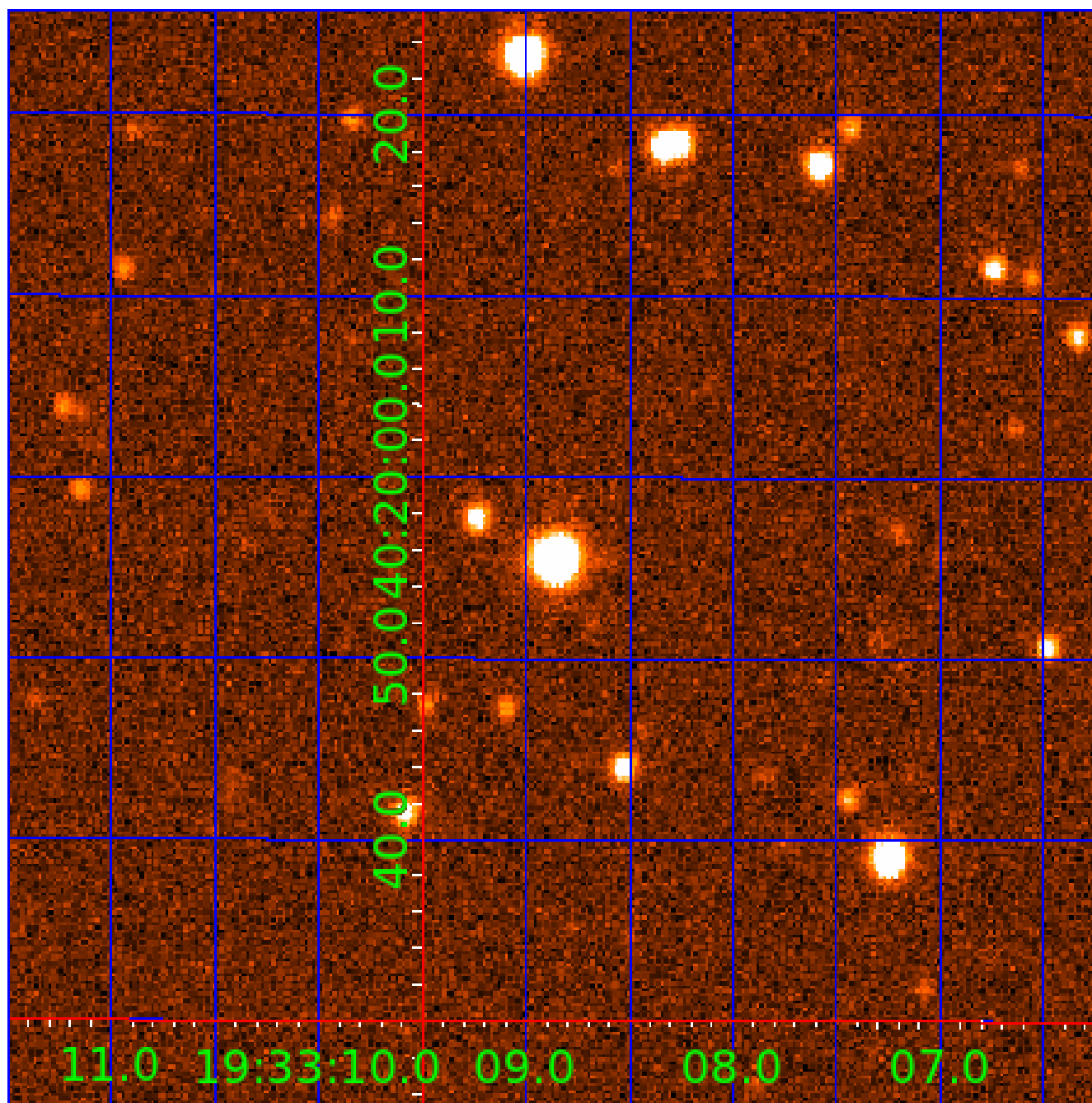


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005192090

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})
005192090-01	OBS	No	0.964357	132.273847	281.1	3.500	8.7	-1.0	1.16	6733	1.97	6090.22
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005192090-03	OBS	No	194.850289	140.604230	343.5	2.736	7.3	7.9	1.16	6733	2.51	5.14
005192090-04	OBS	No	108.592425	235.924363	177.8	8.932	7.5	6.7	1.16	6733	1.78	11.20
005192090-05	OBS	No	204.516534	157.314710	359.5	2.542	7.3	6.7	1.16	6733	2.51	4.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005192090-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS—HALO_GHOST
005192090-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
005192090-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
005192090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
005192090-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

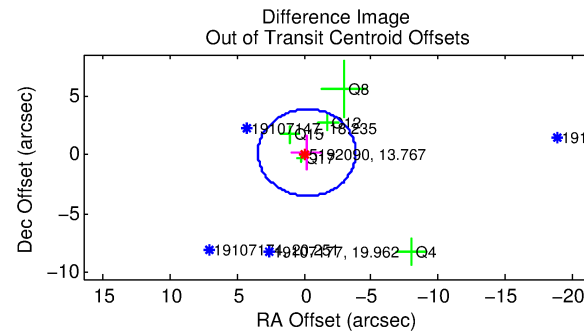
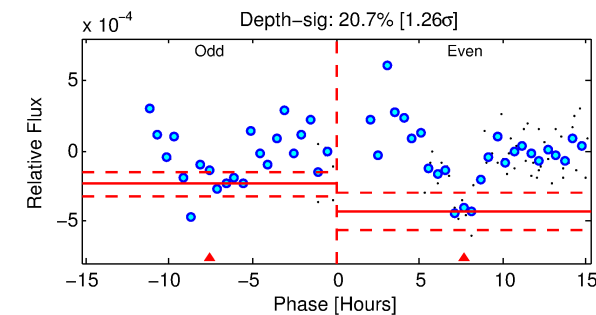
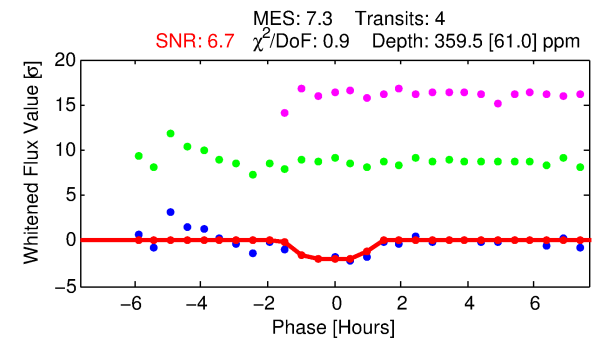
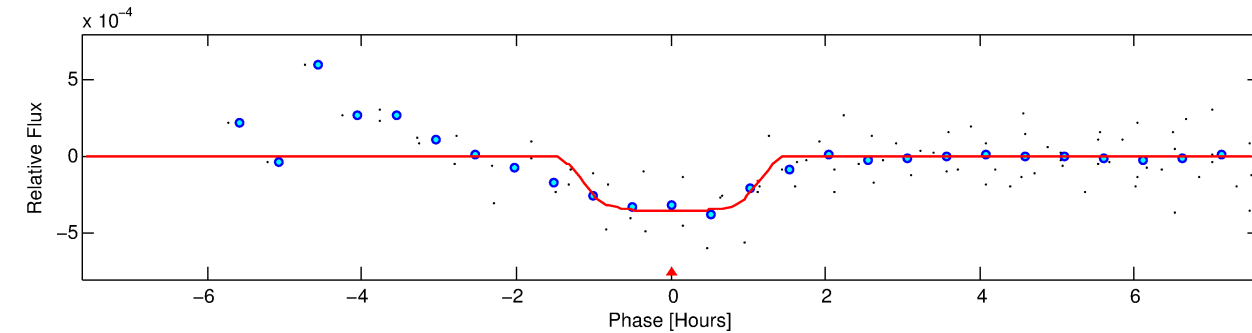
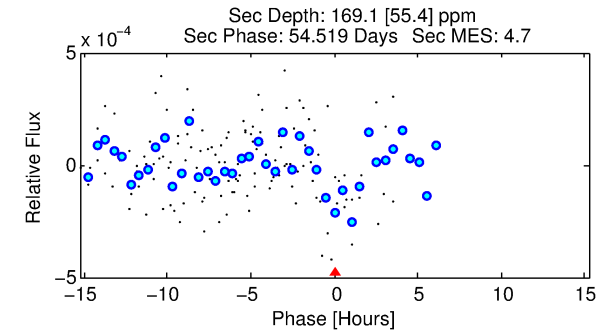
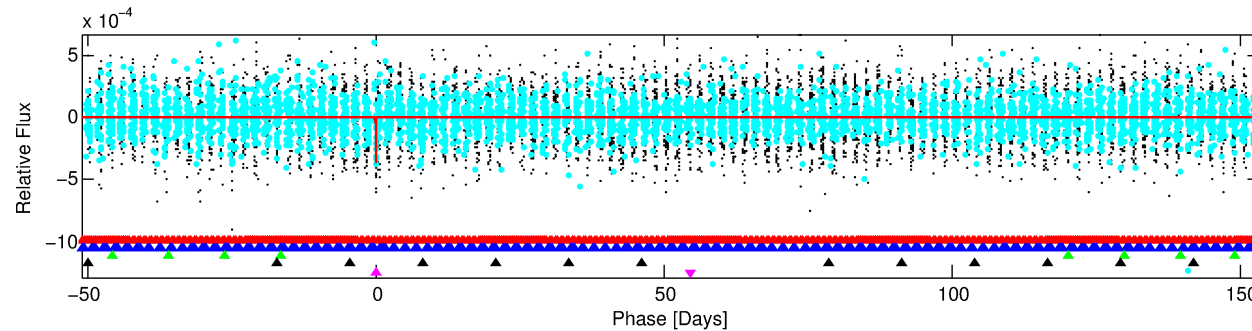
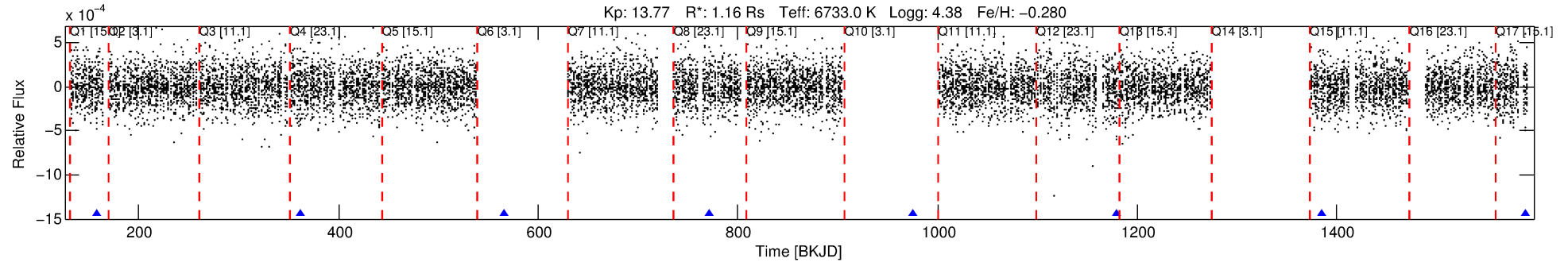
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005192090-05

No Significant Match Found

DV One-Page Summary

KIC: 5192090 Candidate: 5 of 5 Period: 204.517 d



DV Fit Results:

Period = 204.51653 [0.00322] d
Epoch = 157.3147 [0.0193] BKJD
Rp/R* = 0.0198 [0.0172]
a/R* = 329.71 [1725.61]
b = 0.87 [1.50]
Seff = 4.82 [1.63]
Teq = 378 [32] K
Rp = 2.51 [2.28] Re
a = 0.7179 [0.1545] AU
Ag = 7616.29 [13689.37] [0.56σ]
Teffp = 5456 [2423] K [2.10σ]

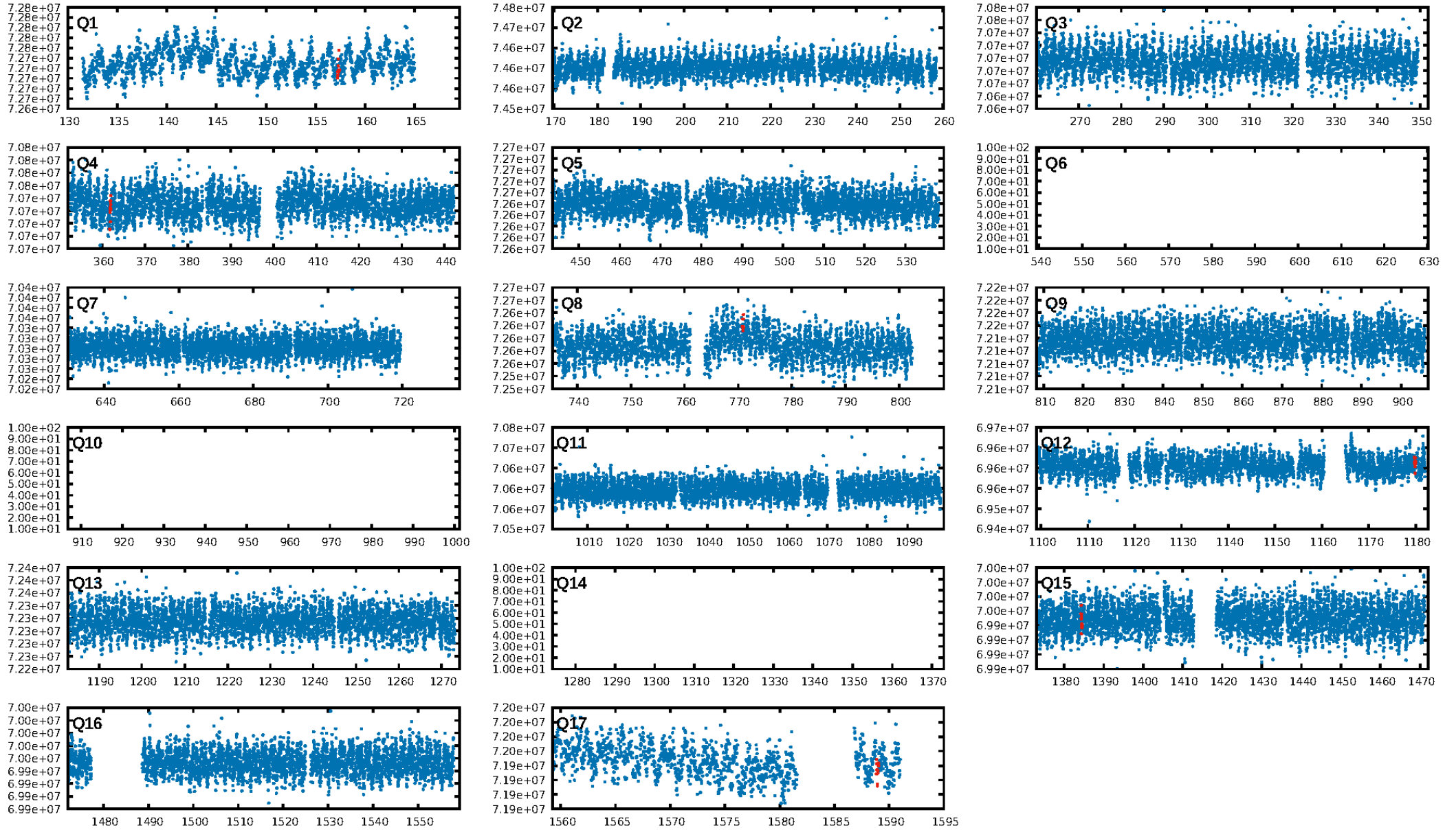
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [62.12σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 51.5%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 1.45e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.11
Centroid-sig: 3.3%
Centroid-so: 1.589 arcsec [1.47σ]
OotOffset-rm: 0.269 arcsec [0.22σ]
OotOffset-st: 0/1/3/1 [5]
KicOffset-rm: 0.411 arcsec [0.32σ]
KicOffset-st: 0/1/3/1 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.50 [3/6]

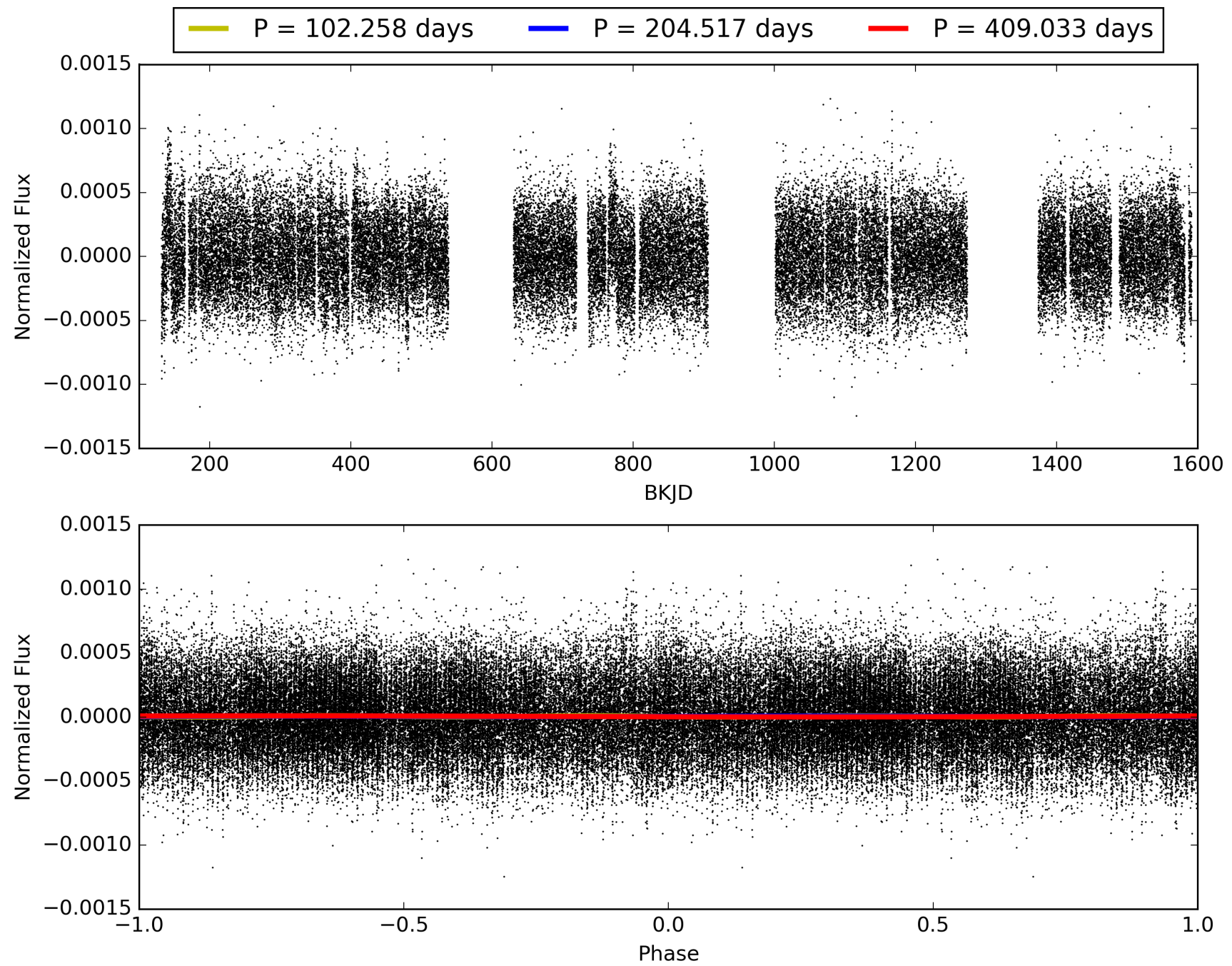
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:30:45 Z

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

TCE 005192090-05, PDC Light Curves

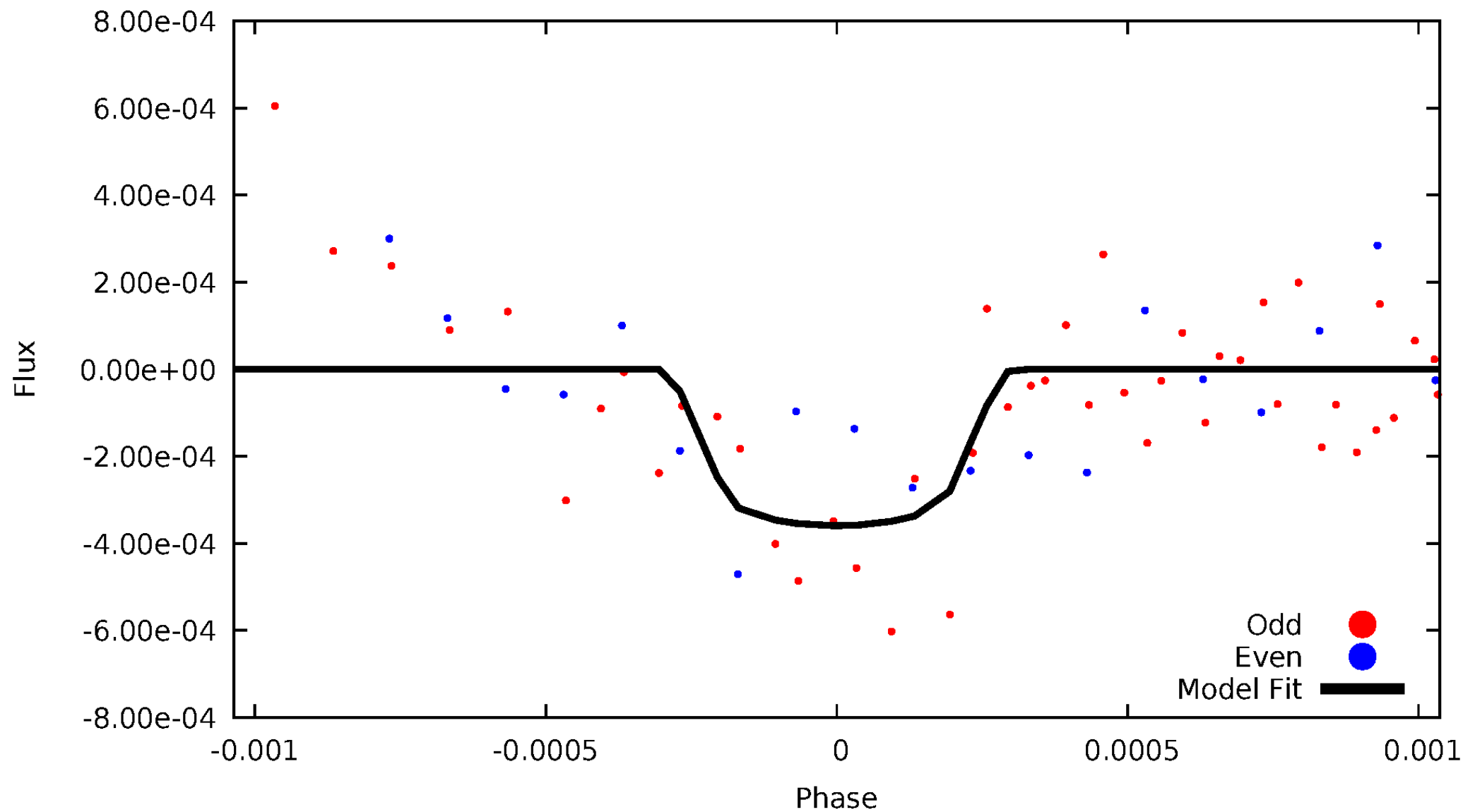


TCE 005192090-05



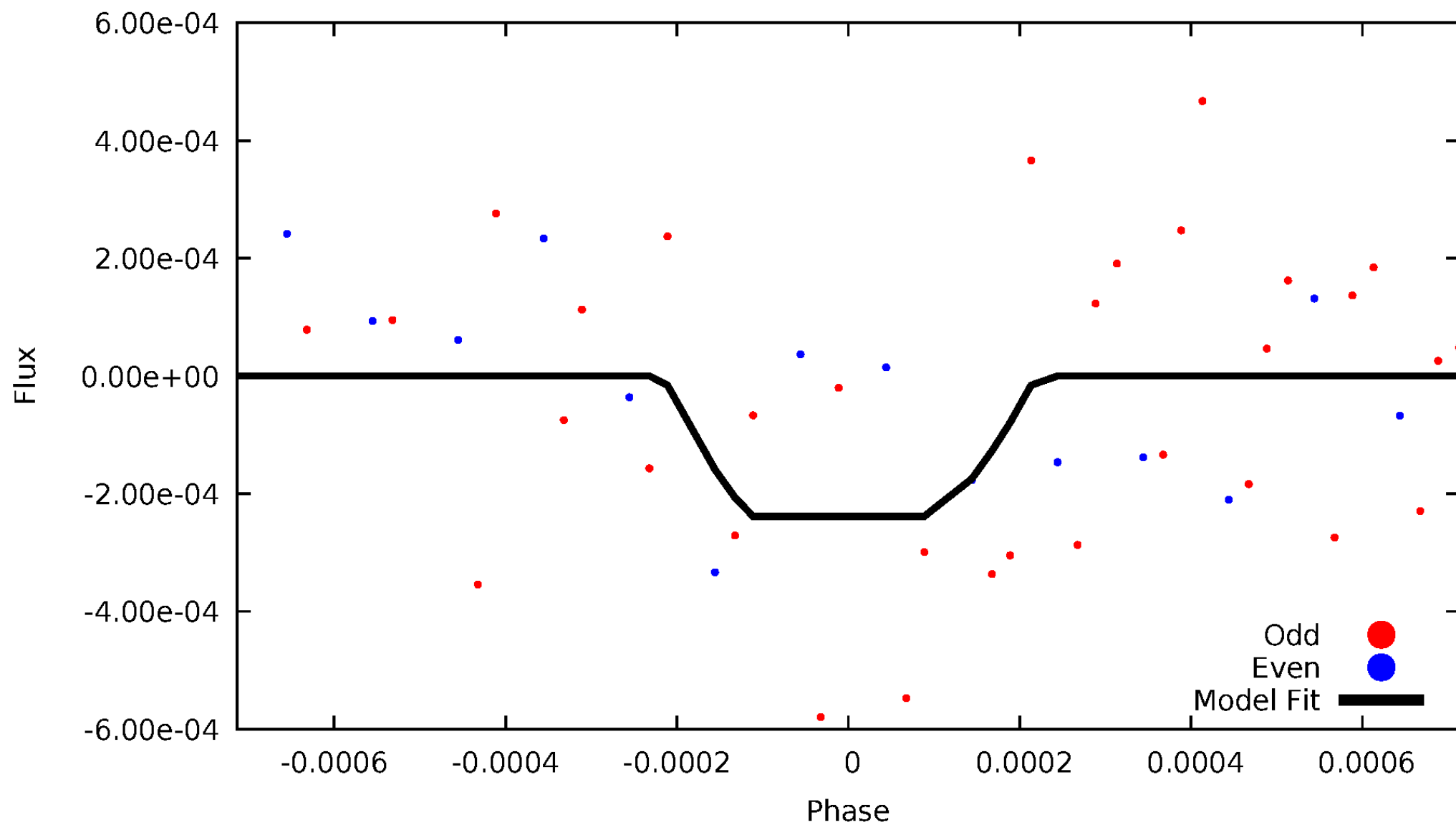
DV Odd/Even

TCE 005192090-05



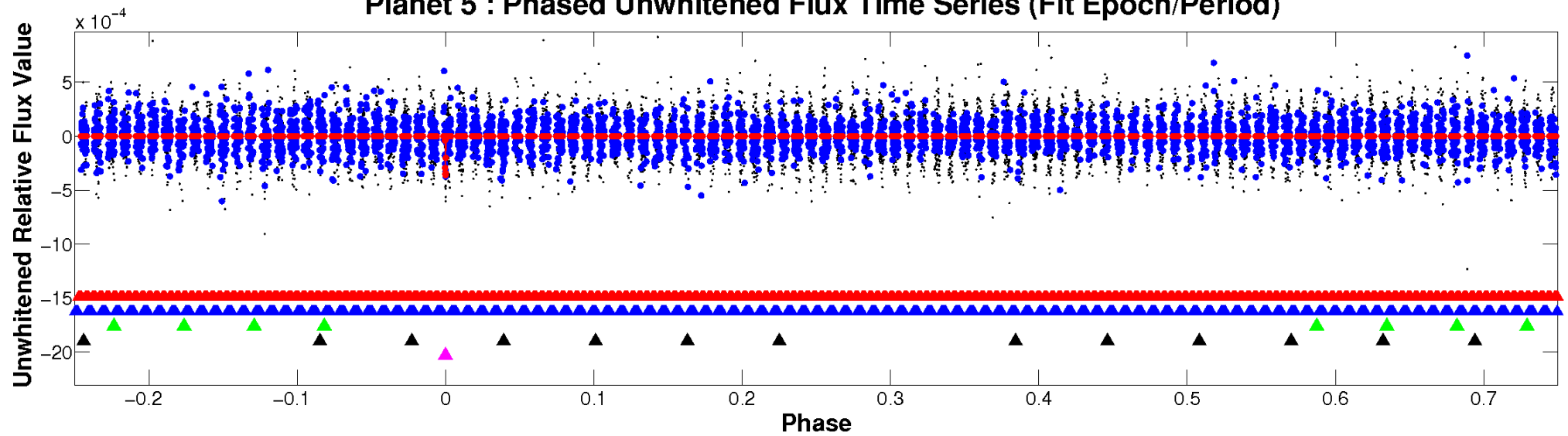
ALT Odd/Even

TCE 005192090-05

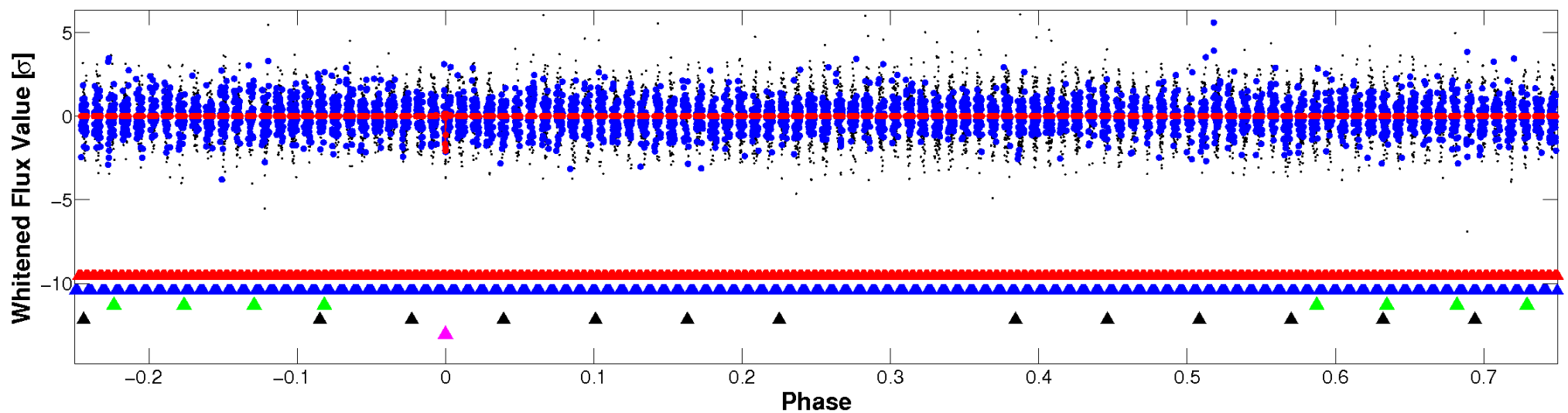


Non-Whitened Vs. Whitened Light Curve

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

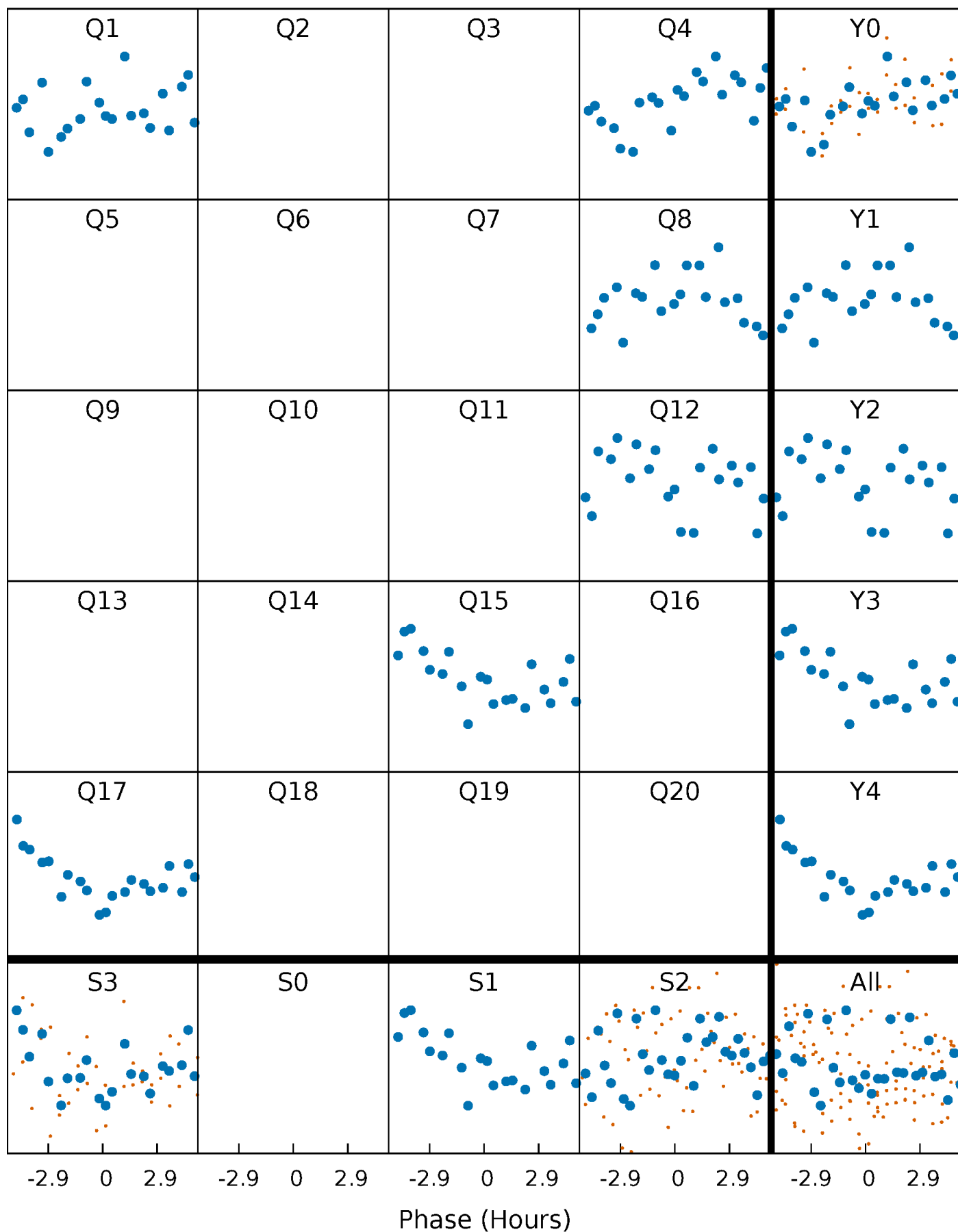


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



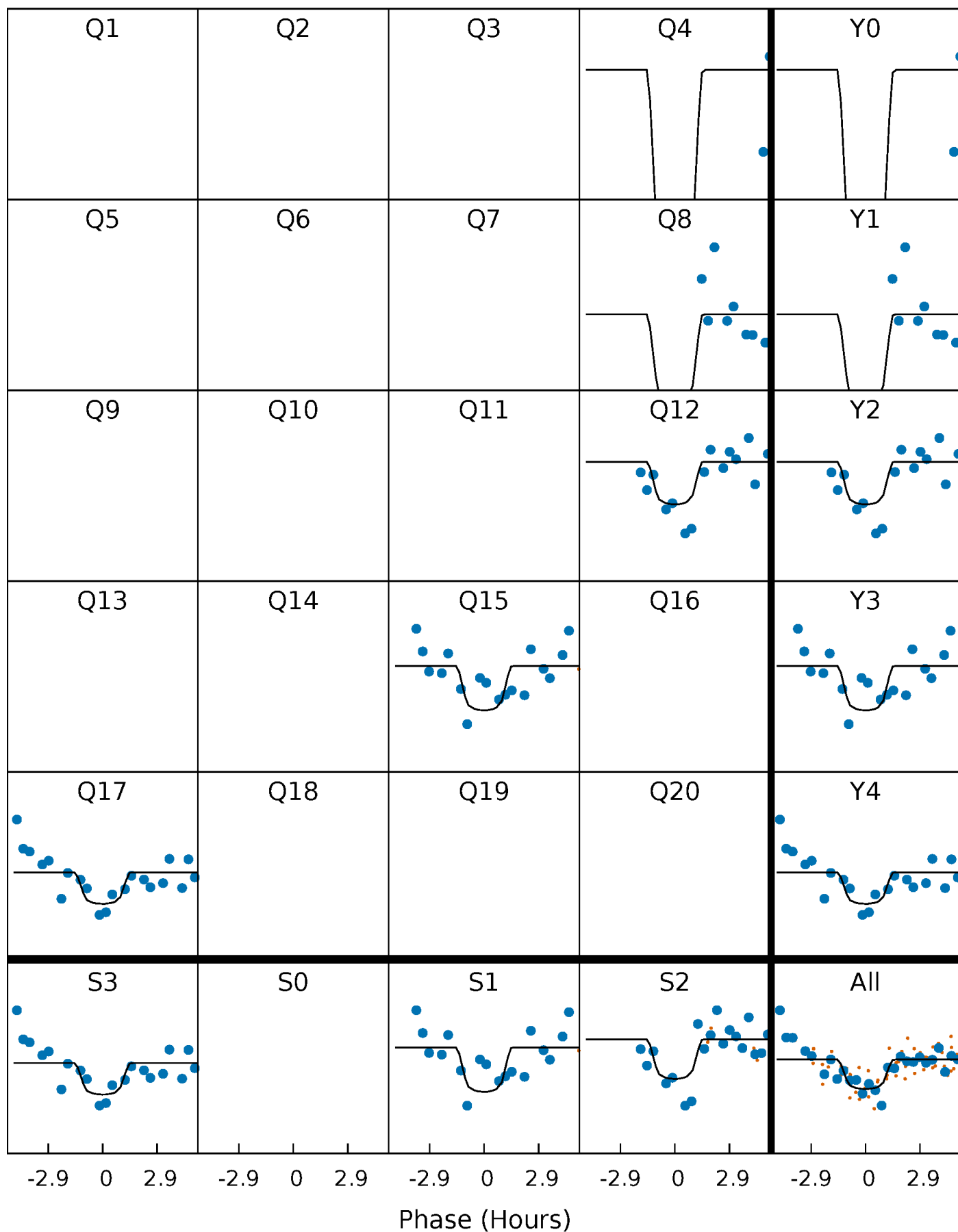
PDC Quarter-Phased Transit Curves

TCE 005192090-05 $P=204.516534$ Days $T_0=157.314710$ (BKJD)



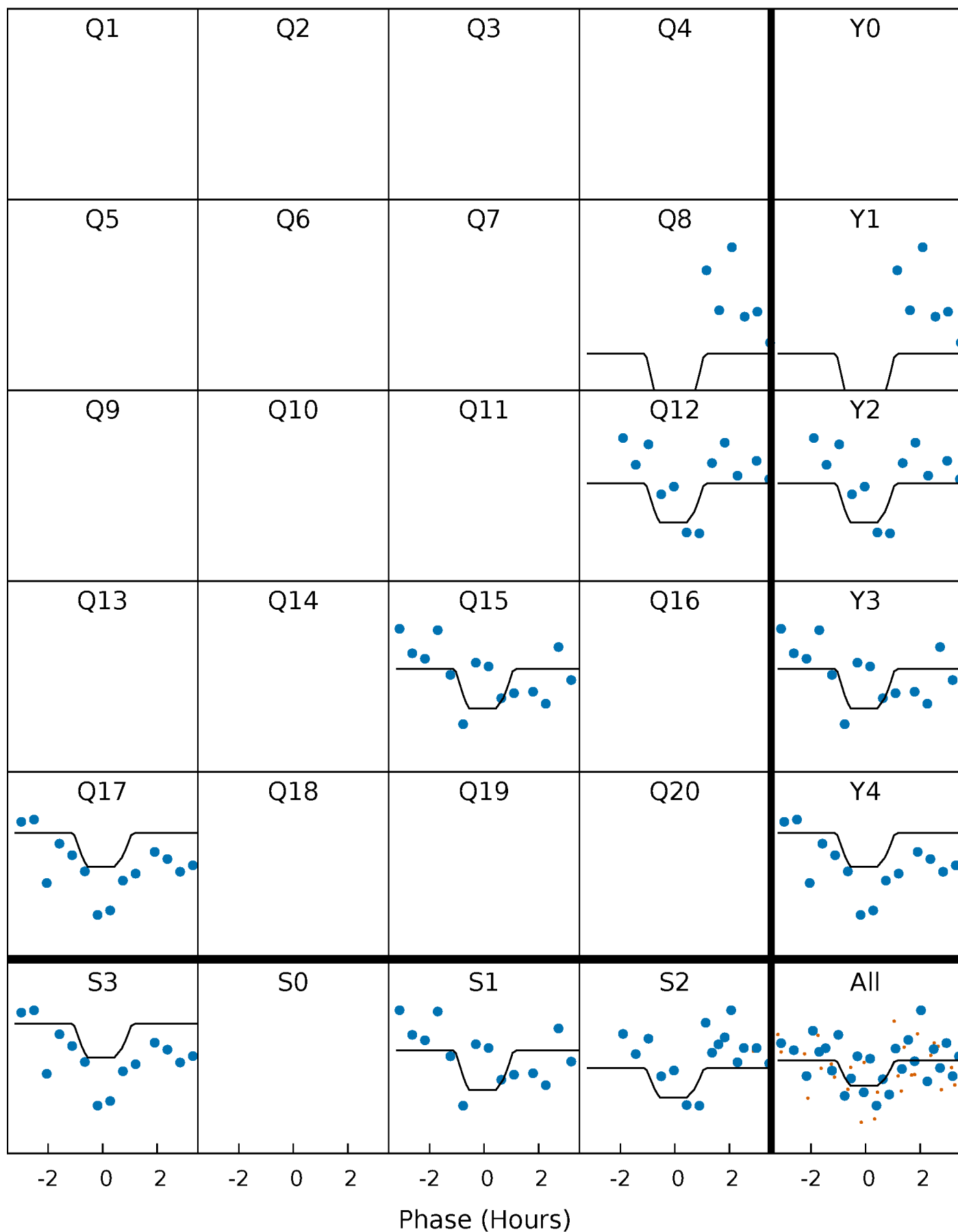
DV Quarter-Phased Transit Curves

TCE 005192090-05 $P=204.516534$ Days $T_0=157.314710$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

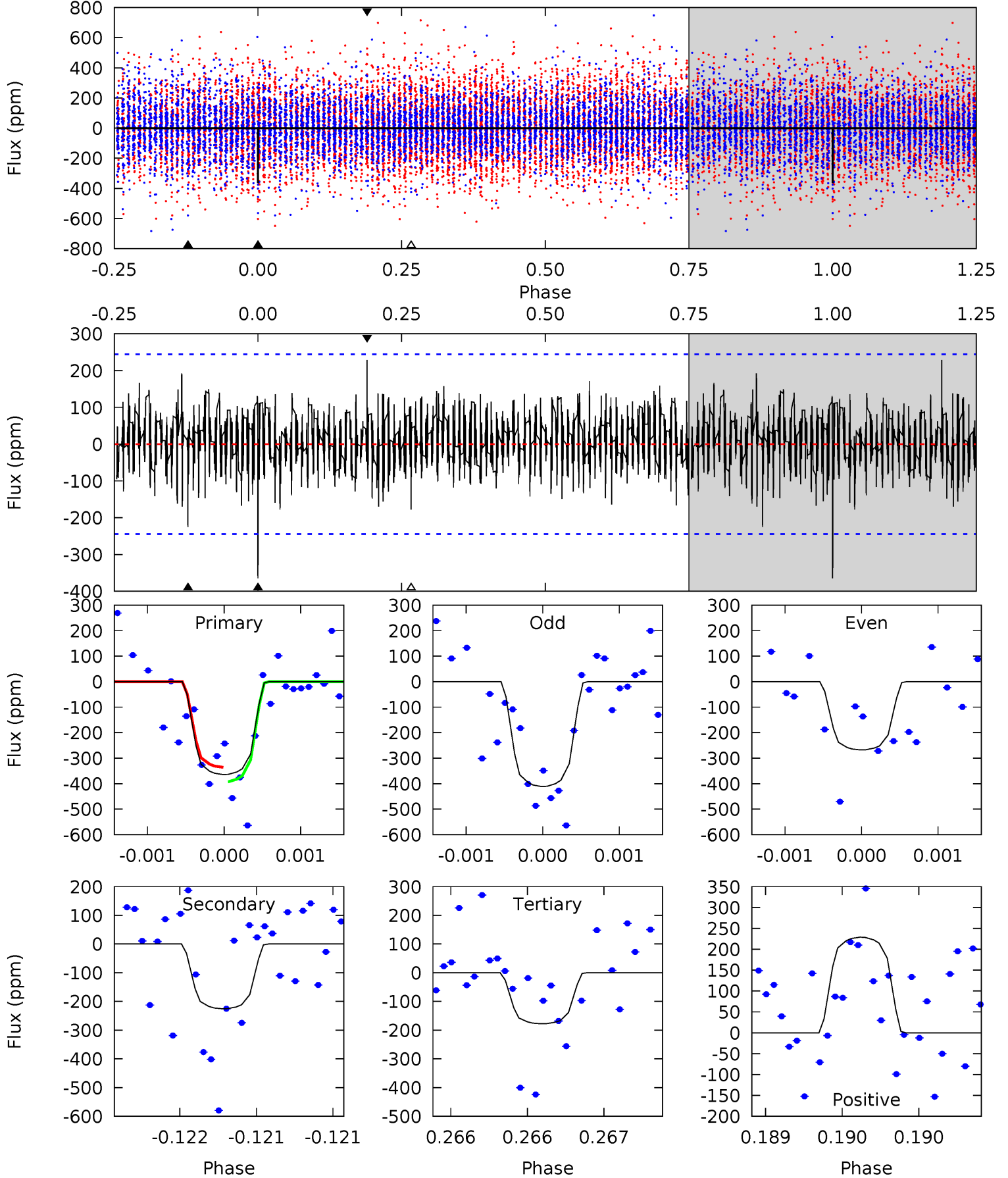
TCE 005192090-05 $P=204.512524$ Days $T_0=157.335907$ (BKJD)



DV Model-Shift Uniqueness Test

005192090-05, P = 204.516534 Days, E = 157.314710 Days

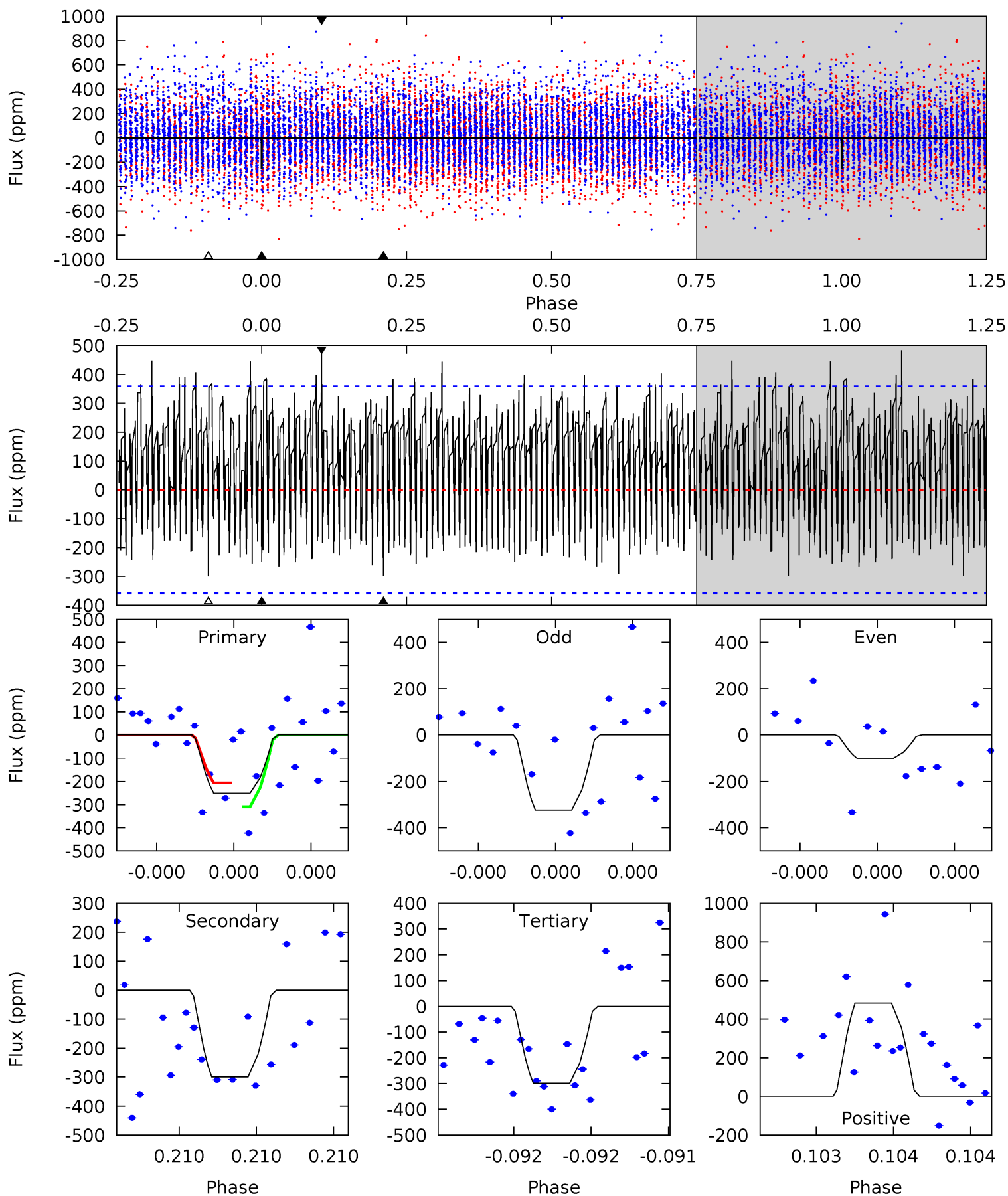
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.28	5.13	4.04	5.20	5.55	3.45	1.25	4.24	3.07	1.09	-0.08	1.53	0.99	0.39	0.64



Alt Model-Shift Uniqueness Test

005192090-05, P = 204.512524 Days, E = 157.335907 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.91	4.68	4.68	7.55	5.60	3.52	2.04	-0.76	-3.64	0.00	-2.87	1.65	1.67	0.62	0.81



Stellar Parameters For KIC 005192090

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6733^{+151}_{-235}	$4.380^{+0.066}_{-0.165}$	$-0.280^{+0.250}_{-0.350}$	$1.161^{+0.303}_{-0.130}$	$1.186^{+0.153}_{-0.153}$	$1.068^{+0.314}_{-0.485}$
	+2%/-3%	+2%/-4%	+89%/-125%	+26%/-11%	+13%/-13%	+29%/-45%
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 005192090-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-226 ± 44	$2.94^{+2.09}_{-1.78}$	534^{+32}_{-25}	5499^{+3726}_{-1081}	7227^{+37958}_{-4705}
Alt.	-299 ± 64	$2.40^{+2.25}_{-1.56}$	533^{+30}_{-25}	6484^{+6644}_{-1693}	13831^{+96937}_{-9965}

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

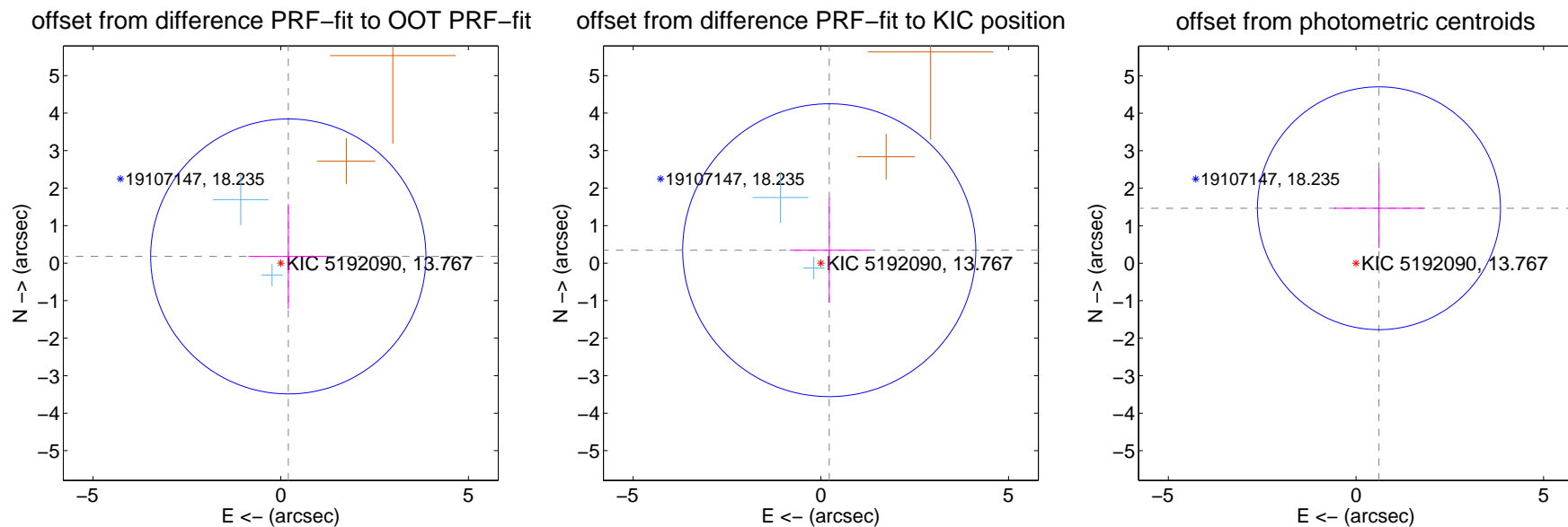
DV Centroid Data

Supplemental centroid analysis for 005192090-05. Kepler magnitude: 13.77. Transit SNR 6.73

There are 2 quarters with good PRF difference image offsets

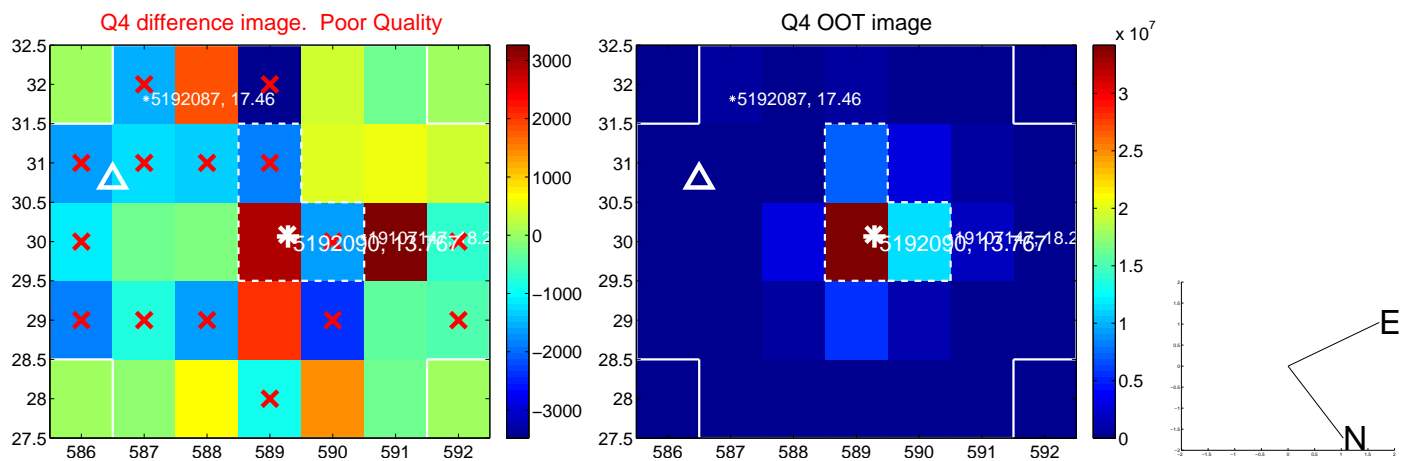
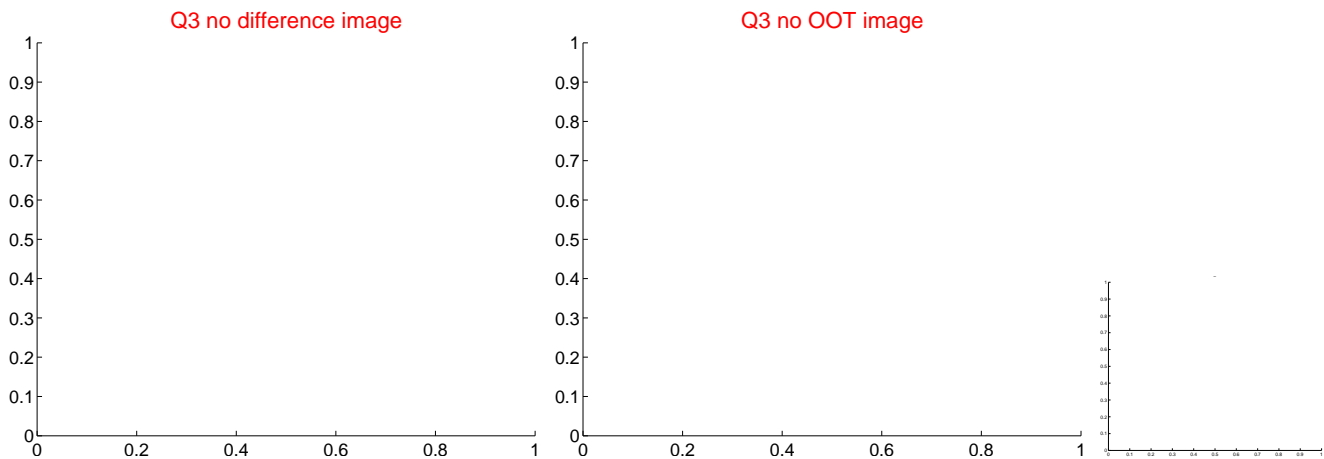
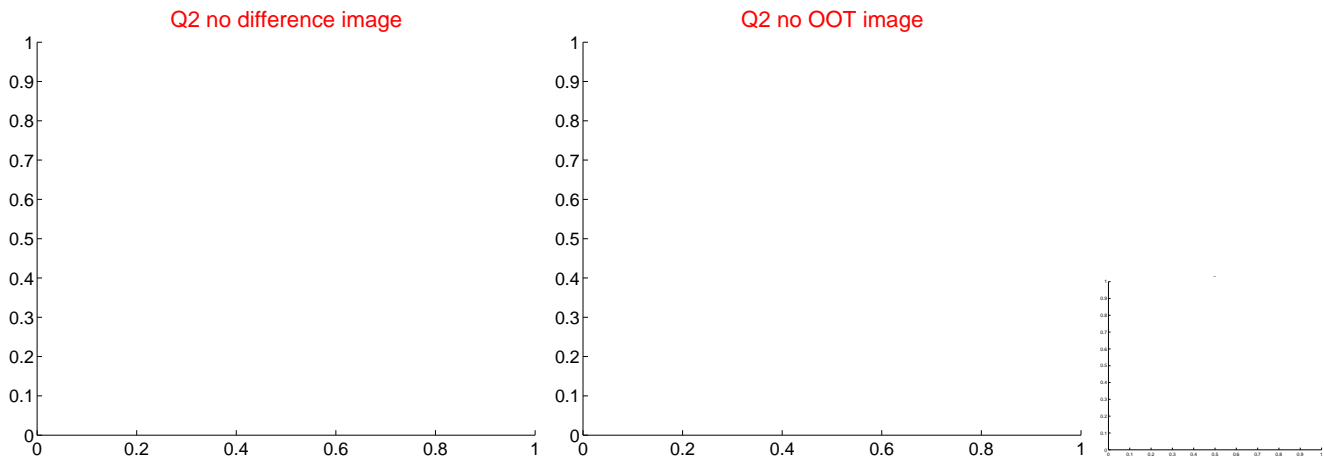
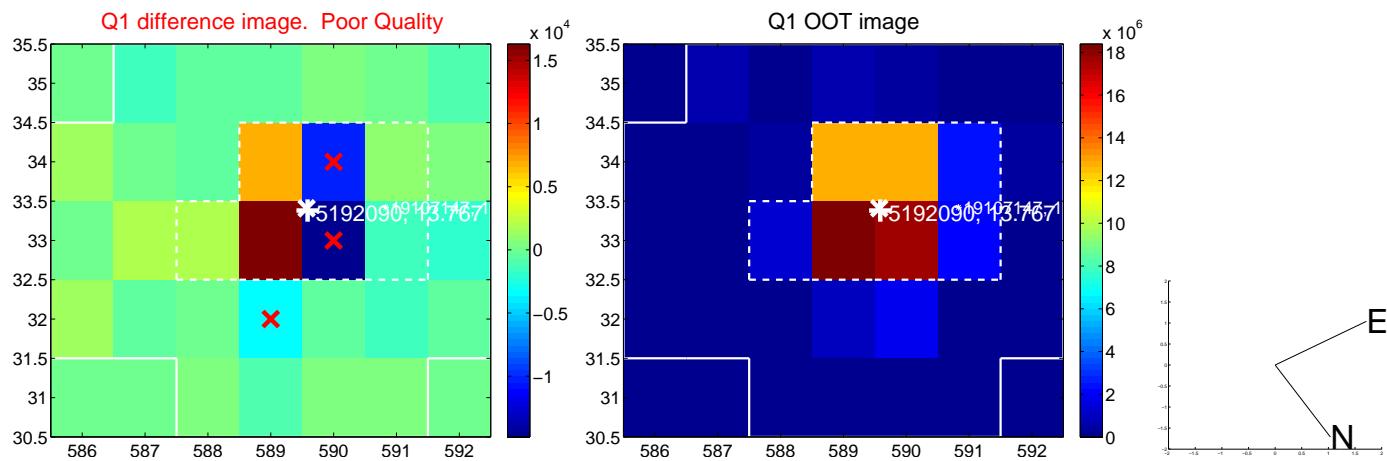
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.269 ± 1.222	0.22	-0.201 ± 1.063	0.179 ± 1.397
PRF-fit source offset from KIC position	0.411 ± 1.301	0.32	-0.223 ± 1.049	0.345 ± 1.393
photometric centroid source offset	1.59 ± 1.08	1.47	-0.61 ± 1.20	1.47 ± 1.06

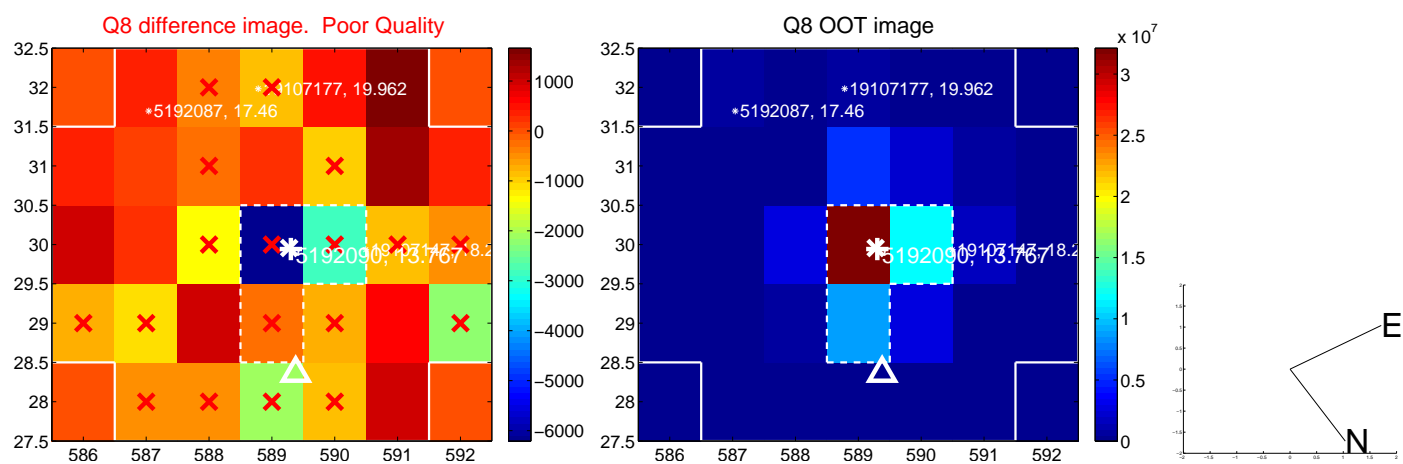
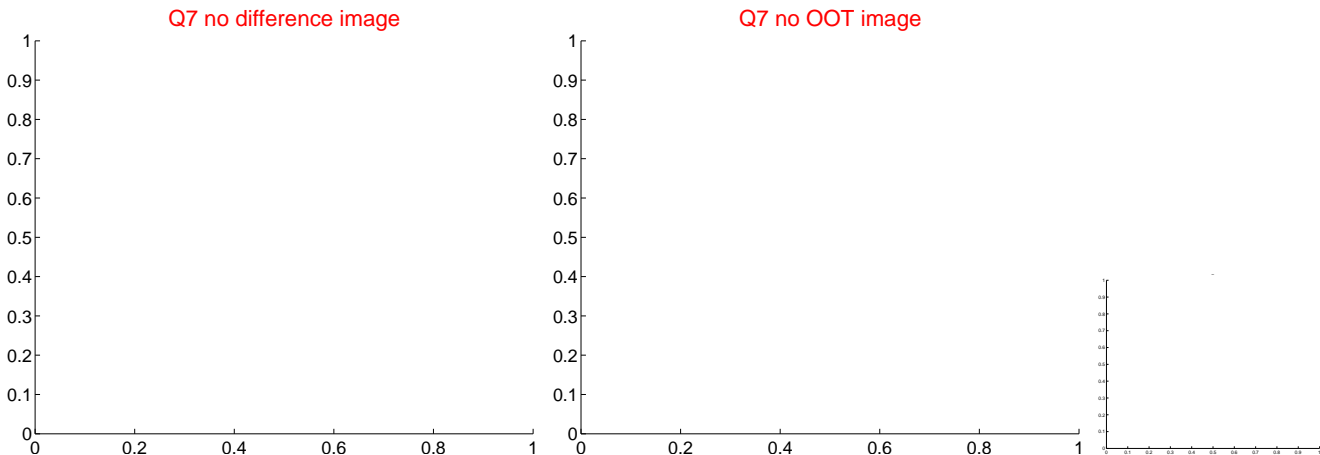
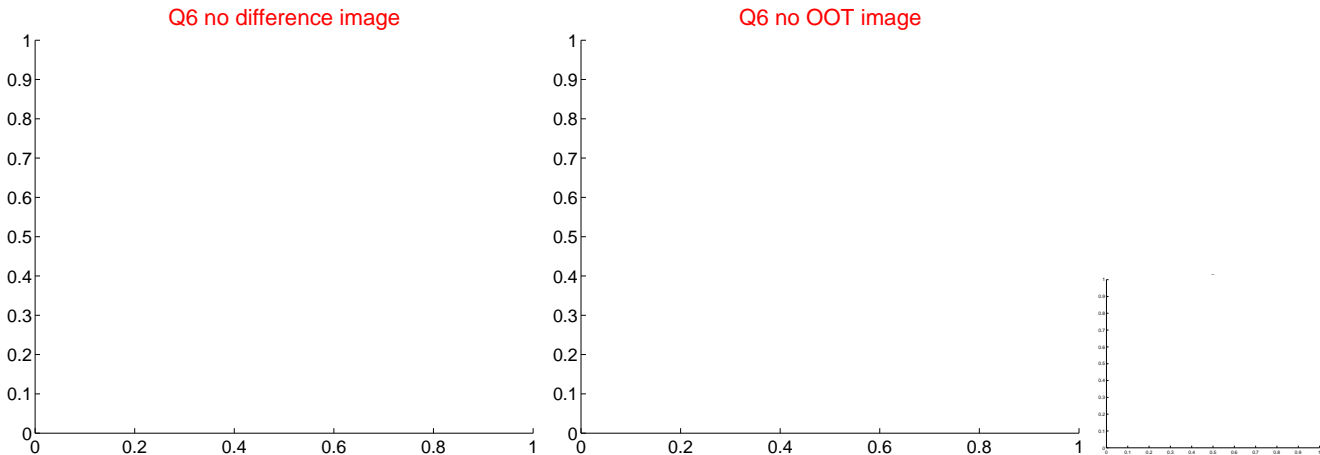
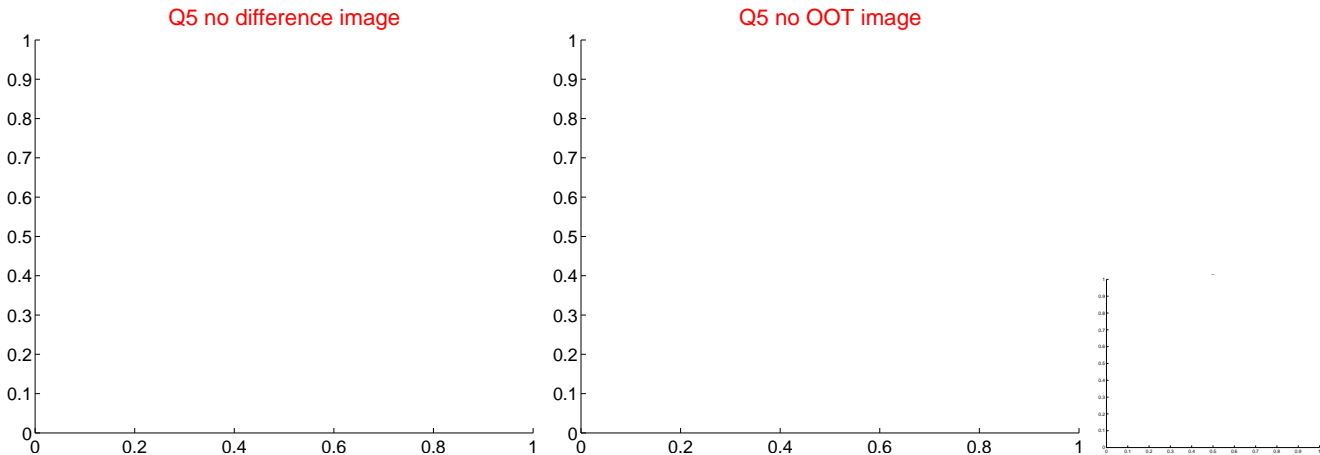


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

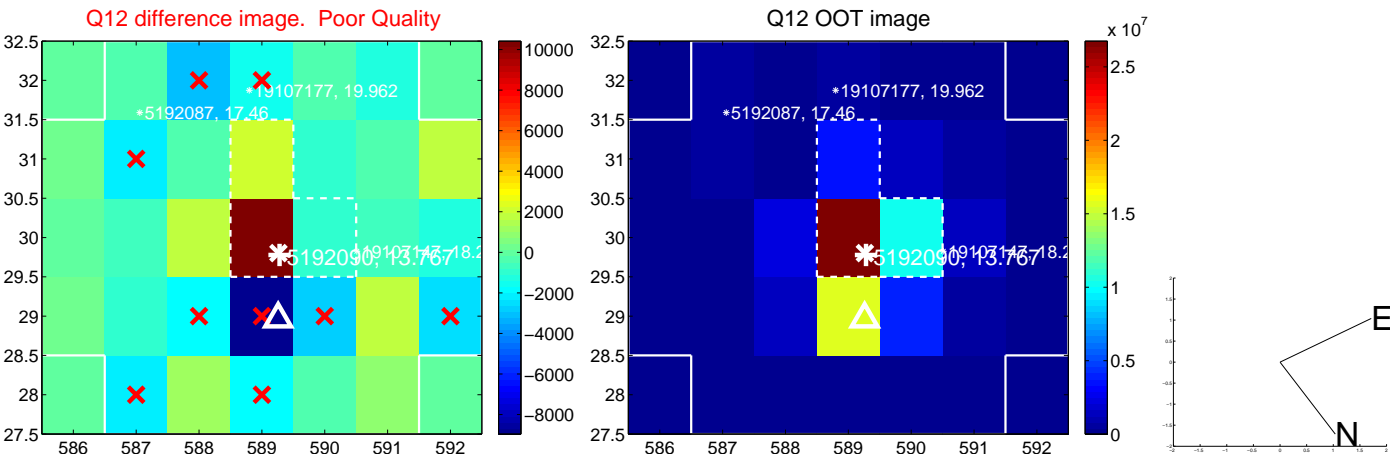
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



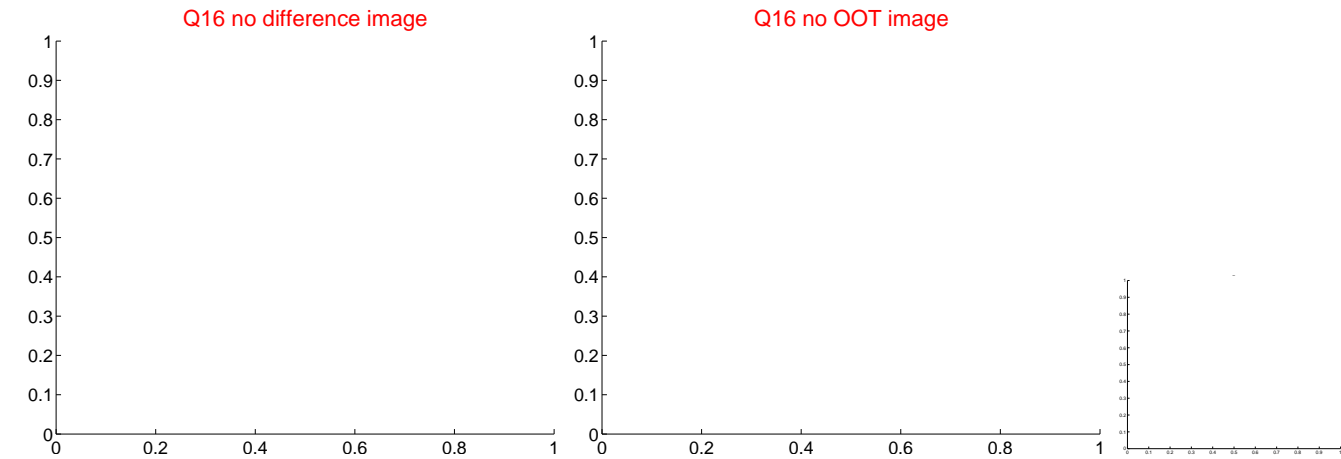
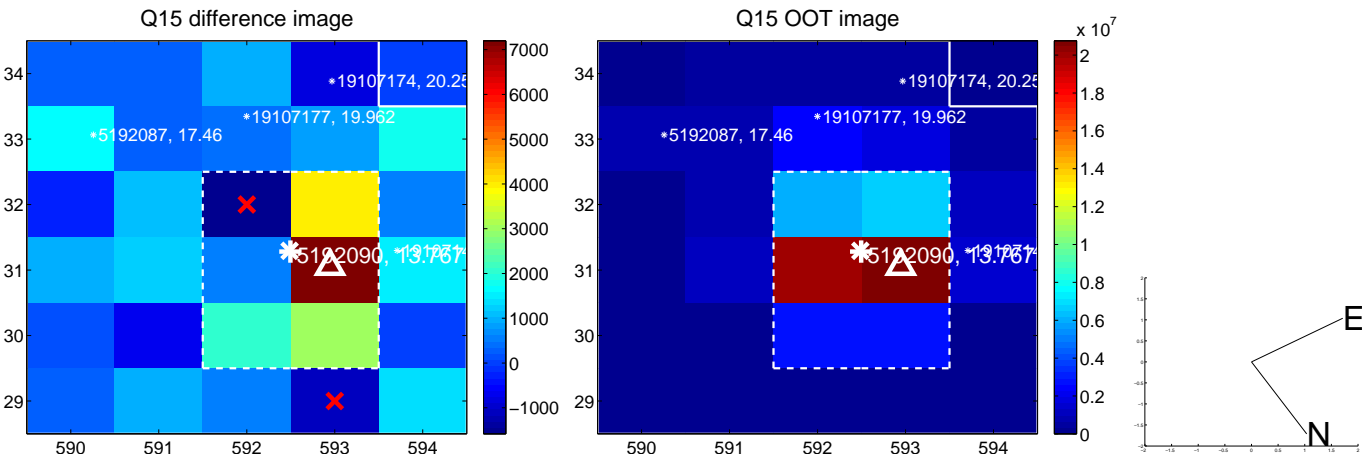
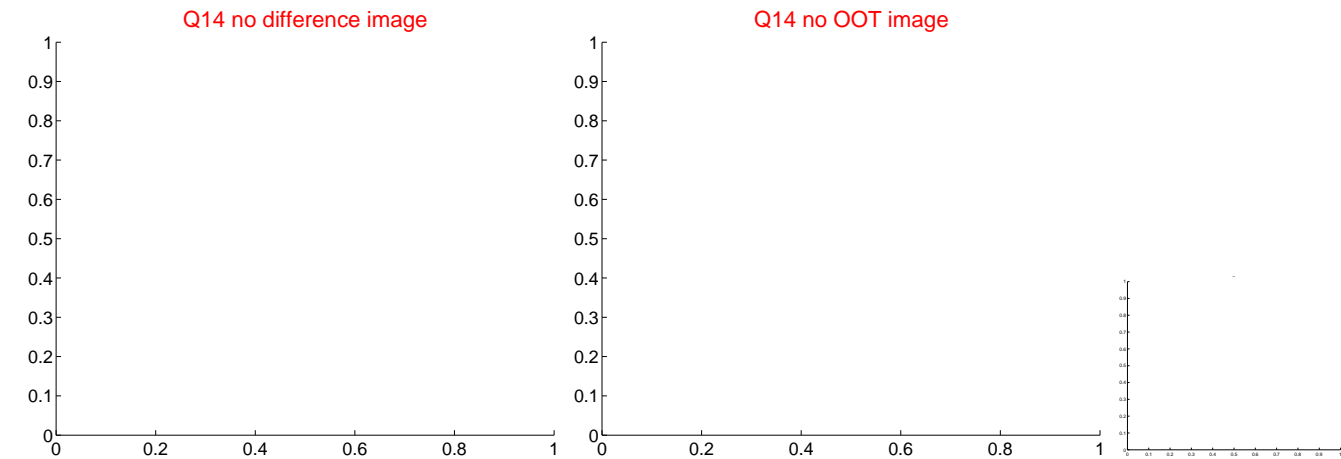
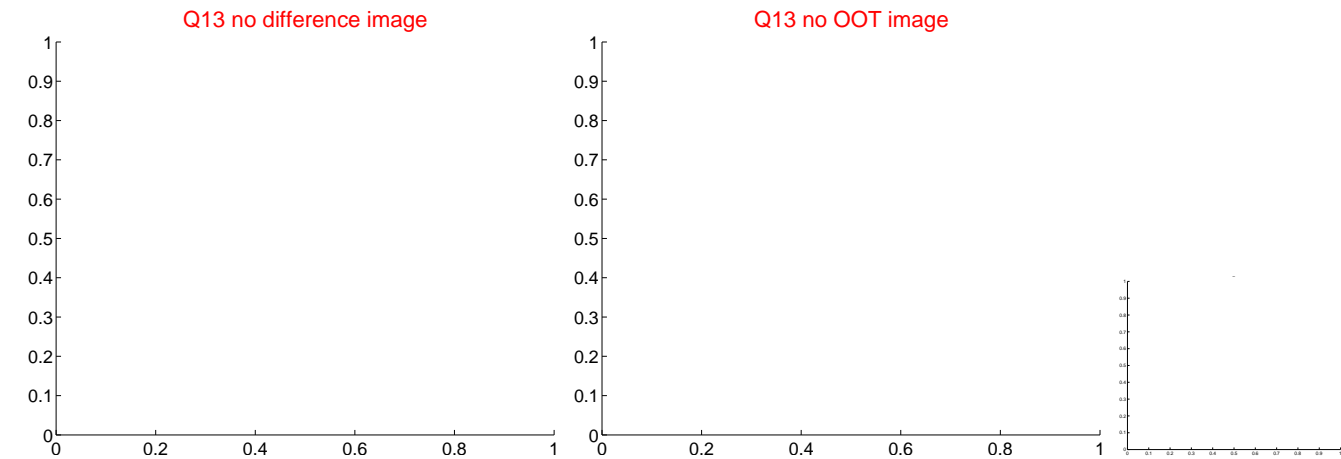
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



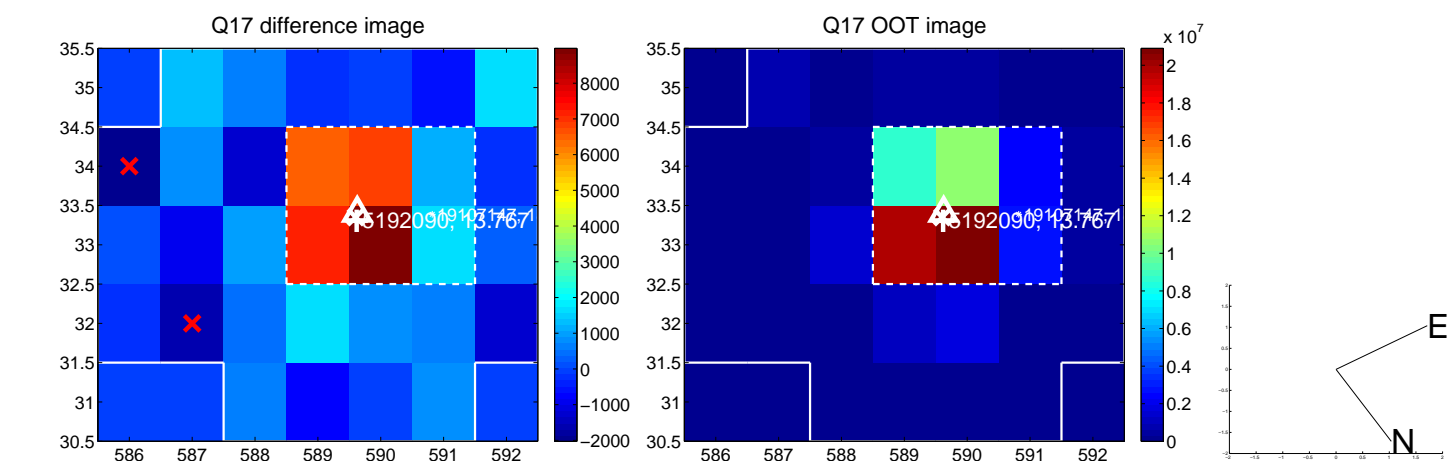
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



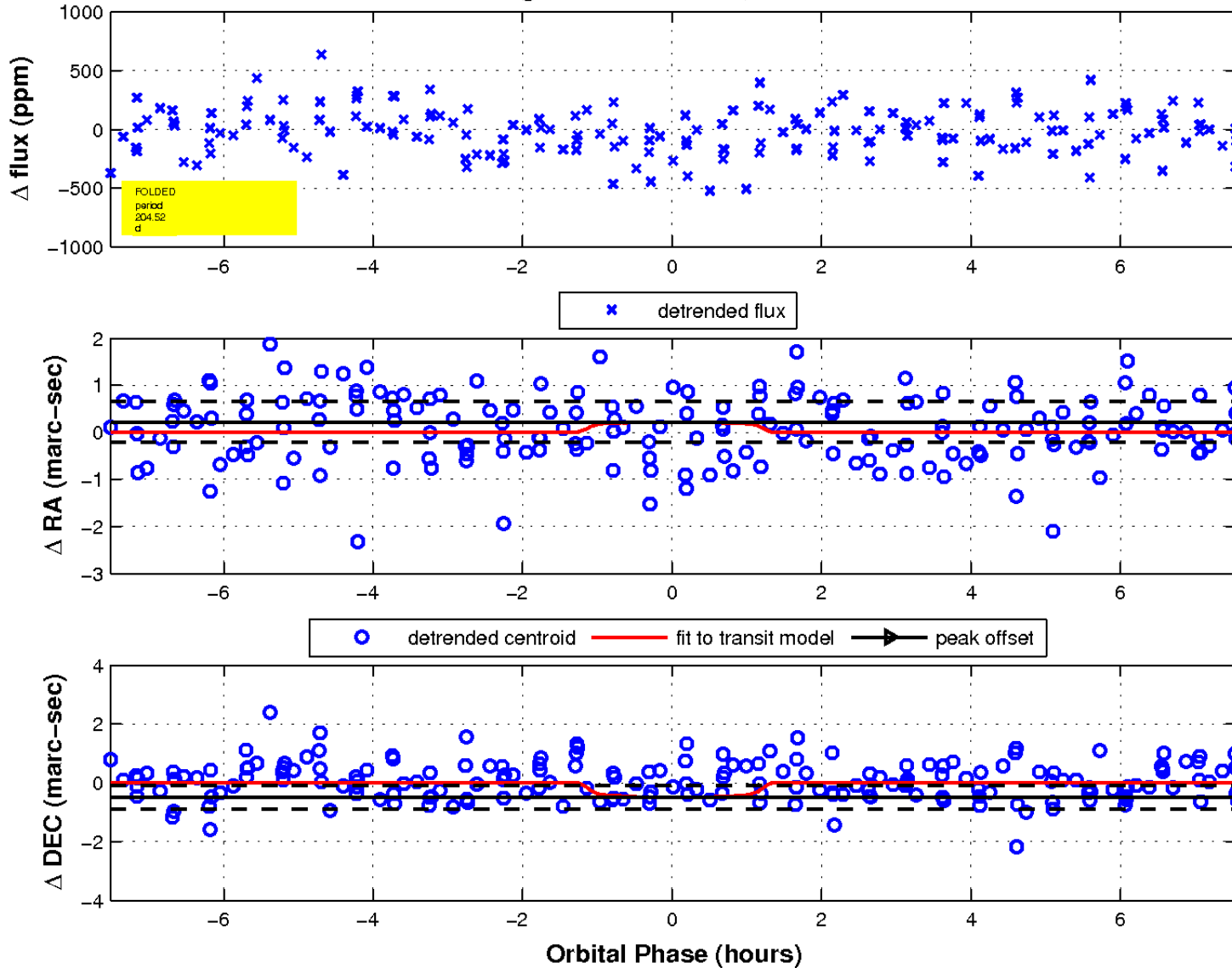
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



fluxWeightedCentroids, Planet 5 of 5



UKIRT Image

Declination

