

KIC 005730380

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})
005730380-01	OBS	7738.01	0.954855	131.865466	24.9	1.233	10.6	12.0	1.36	6092	0.80	6923.85
005730380-02	OBS	No	115.563648	190.935721	62.6	2.645	9.7	1.5	1.36	6092	1.33	11.57
005730380-03	OBS	No	0.954857	132.342982	24.7	1.054	8.9	11.1	1.36	6092	0.80	6923.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005730380-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—HAS_SEC_TCE—HALO_GHOST
005730380-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005730380-03	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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

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

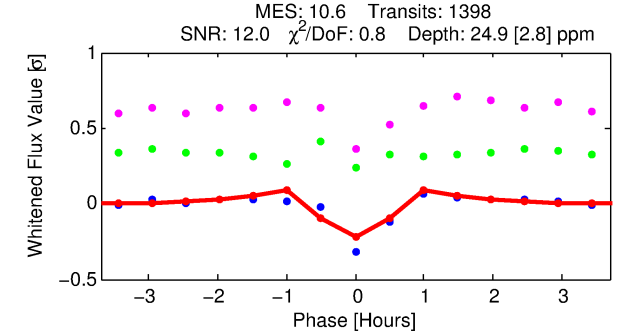
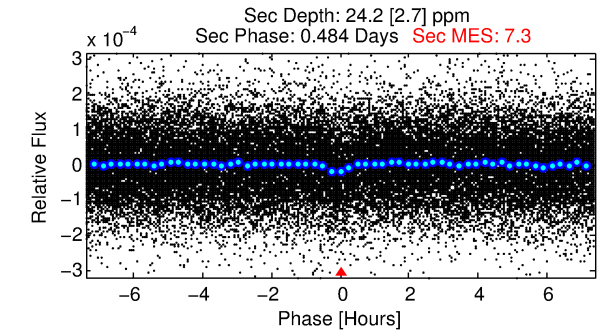
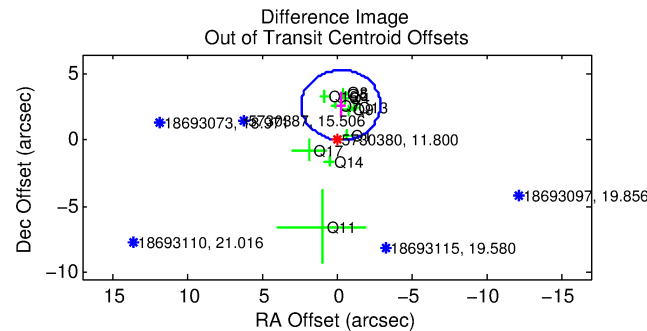
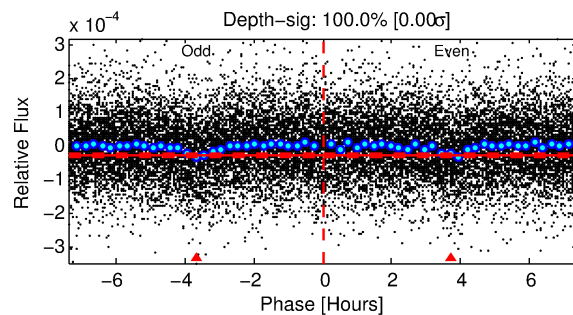
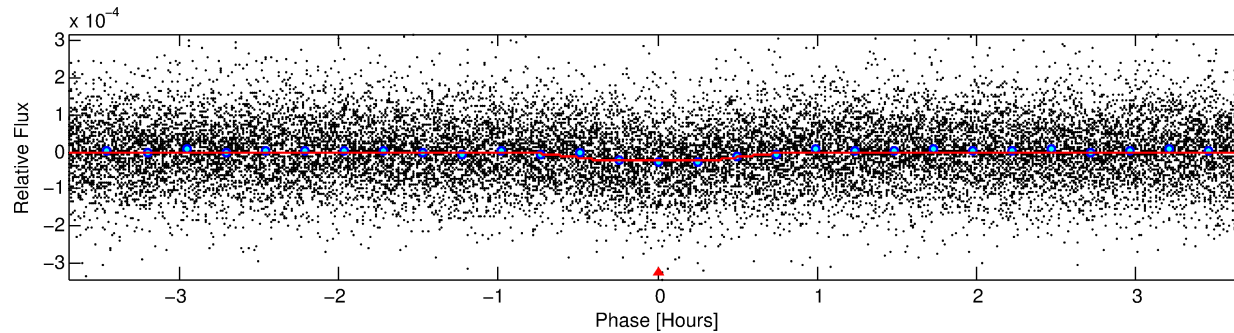
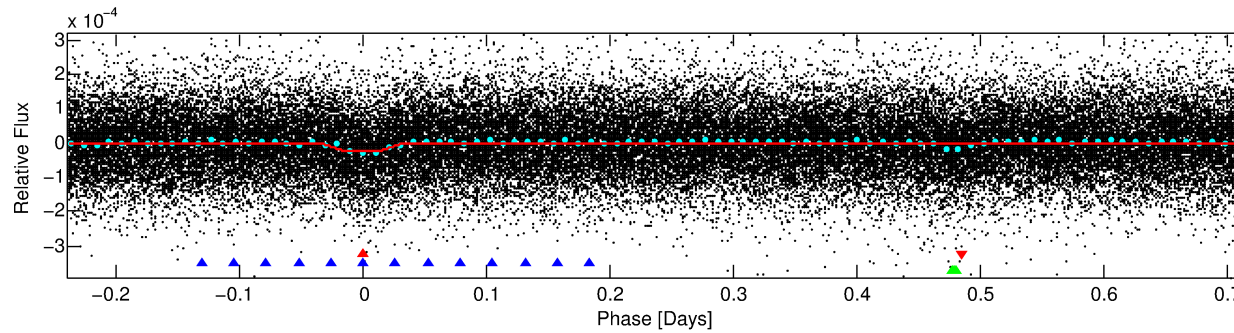
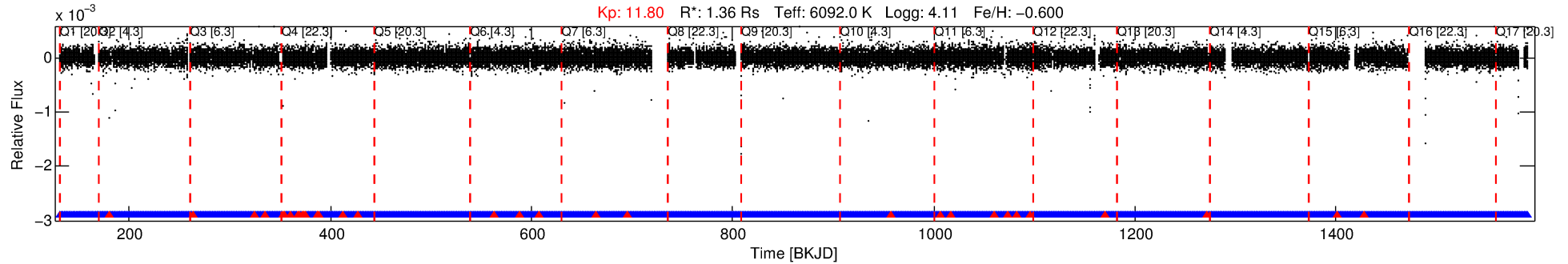
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005730380-01

No Significant Match Found

DV One-Page Summary

KIC: 5730380 Candidate: 1 of 3 Period: 0.955 d



DV Fit Results:

Period = 0.95485 [0.00001] d
Epoch = 131.8655 [0.0012] BKJD
Rp/R* = 0.0054 [0.0008]
a/R* = 2.76 [1.85]
b = 0.91 [0.16]
Seff = 6923.85 [3360.59]
Teq = 2326 [282] K
Rp = 0.80 [0.27] Re
a = 0.0182 [0.0053] AU
Ag = 6.82 [3.88] [1.50 σ]
Teffp = 5811 [485] K [6.21 σ]

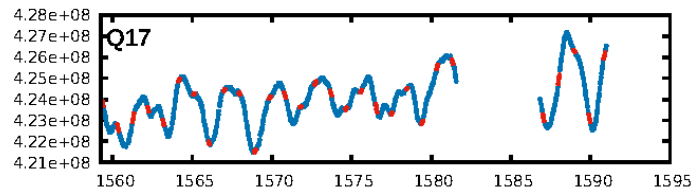
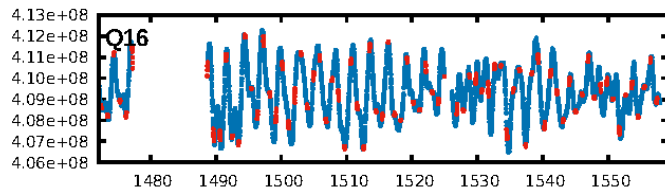
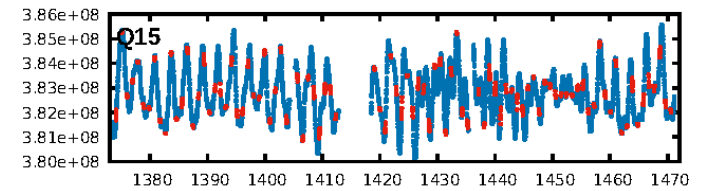
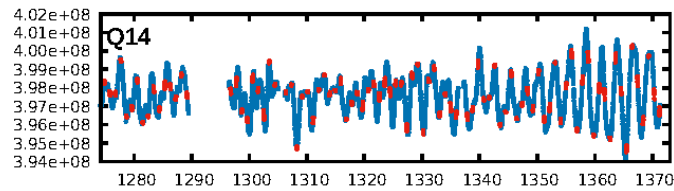
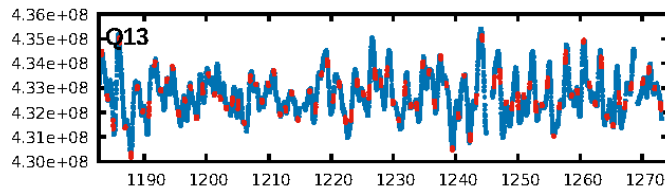
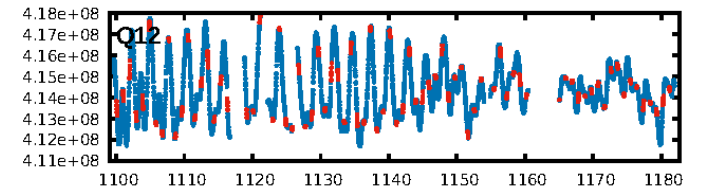
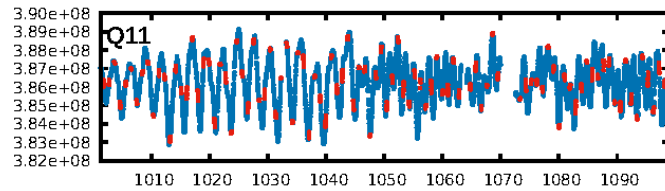
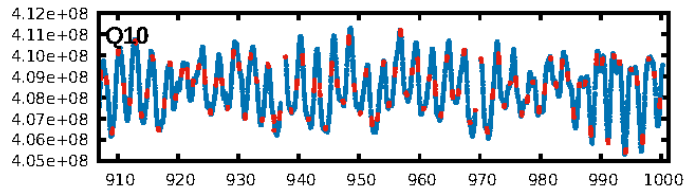
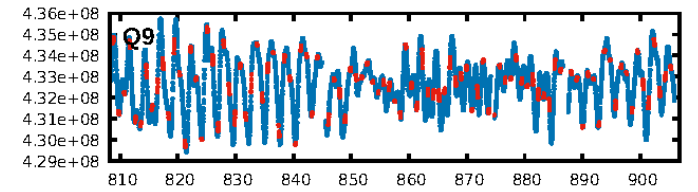
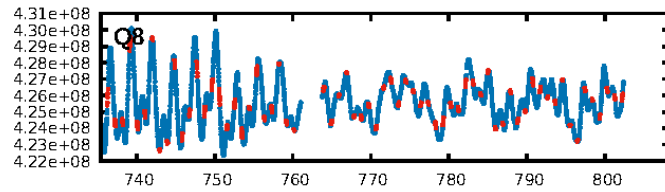
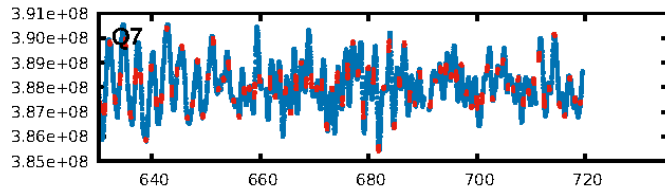
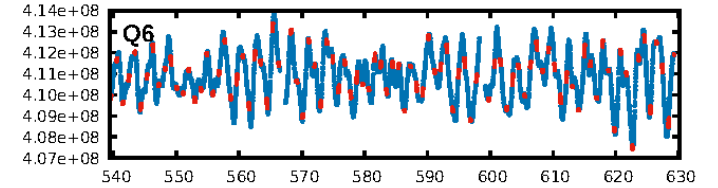
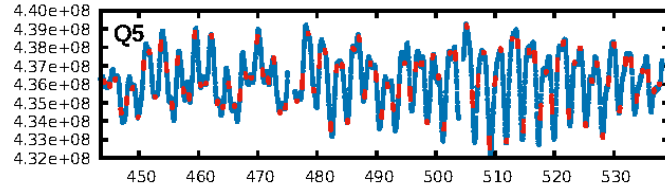
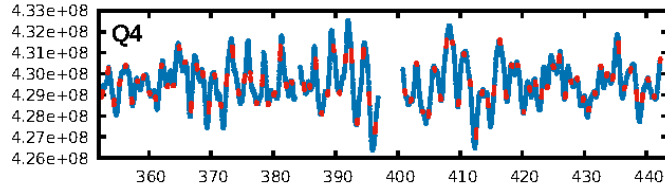
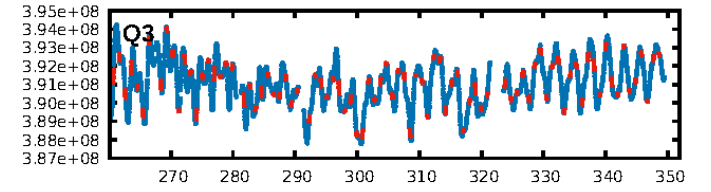
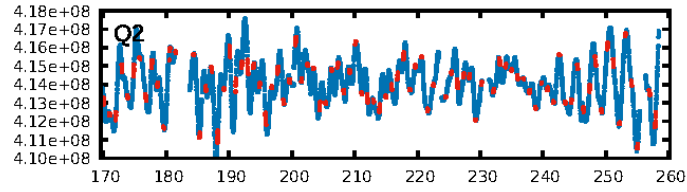
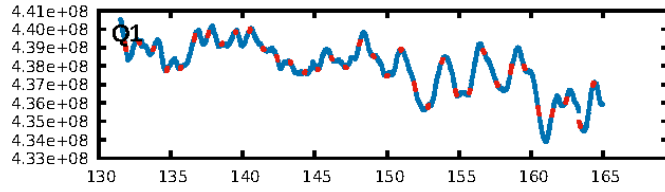
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.08e-26
RollingBand-fgt: 0.98 [1301/1334]
GhostDiagnostic-chr: 0.1961
Centroid-sig: N/A
Centroid-so: 2.288 arcsec [1.65 σ]
OotOffset-rm: 2.669 arcsec [3.02 σ]
KicOffset-rm: 2.555 arcsec [3.15 σ]
OotOffset-st: 1/2/3/5 [11]
KicOffset-st: 1/2/3/5 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [17/17]

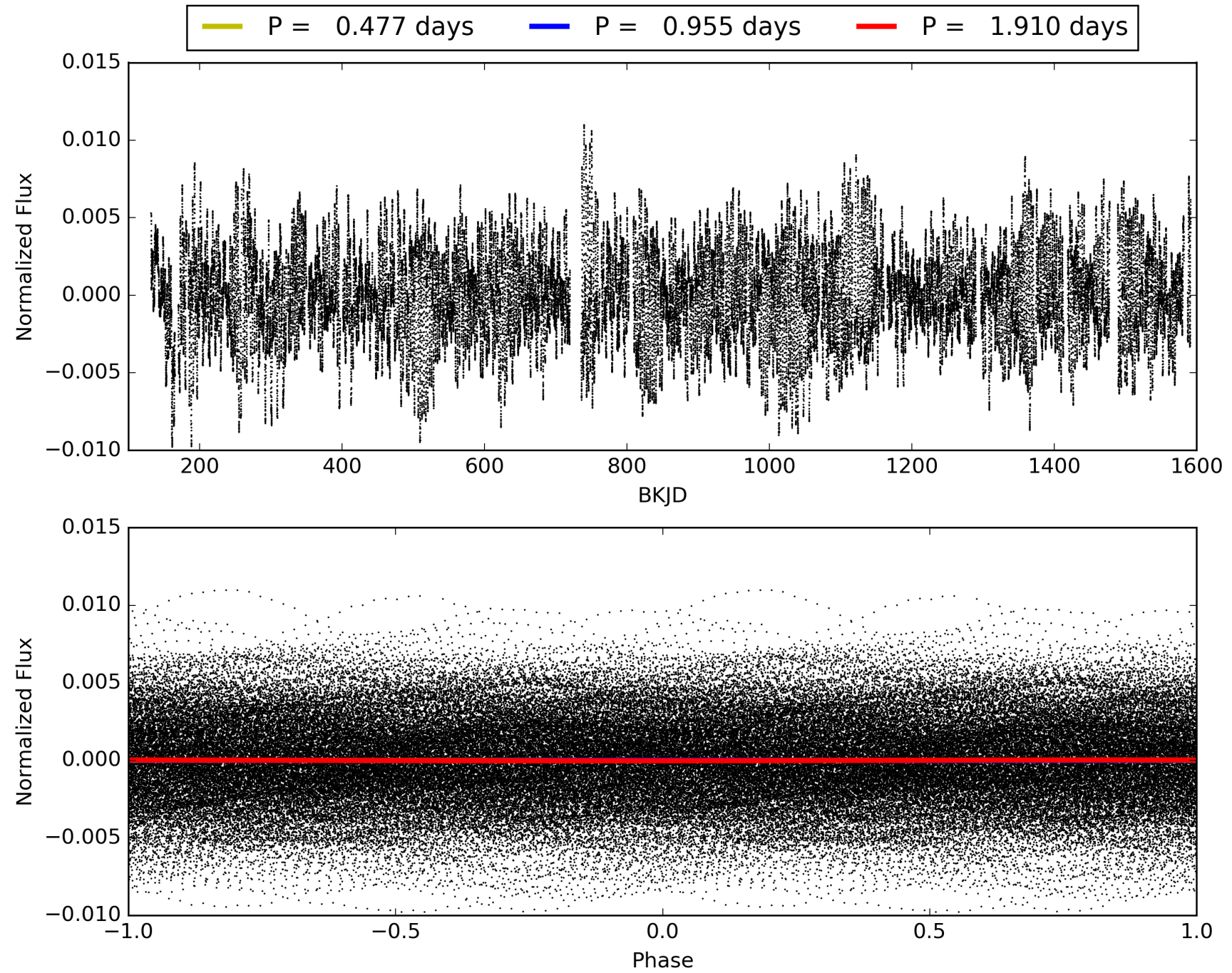
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:31:19 Z

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

TCE 005730380-01, PDC Light Curves

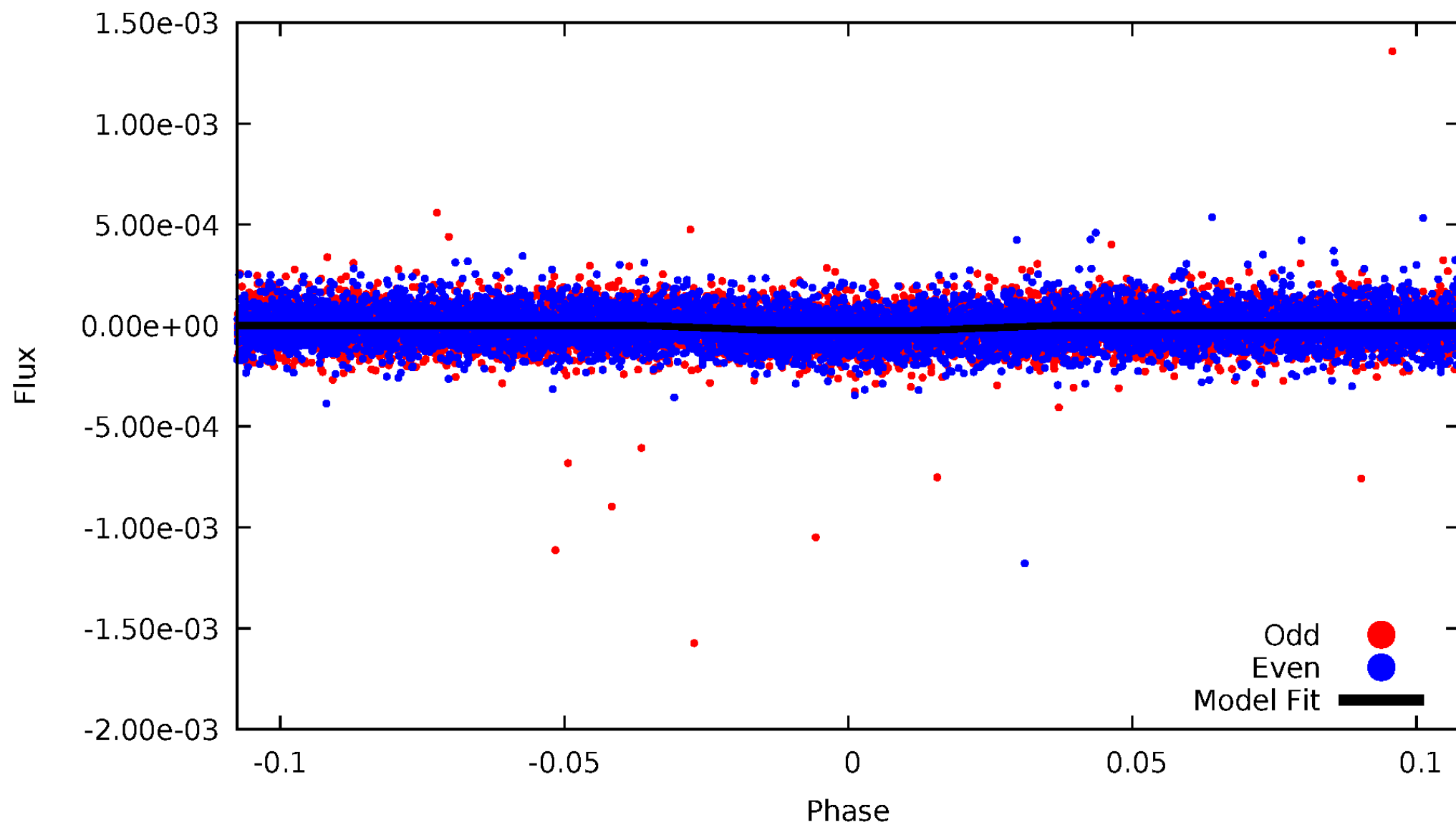


TCE 005730380-01



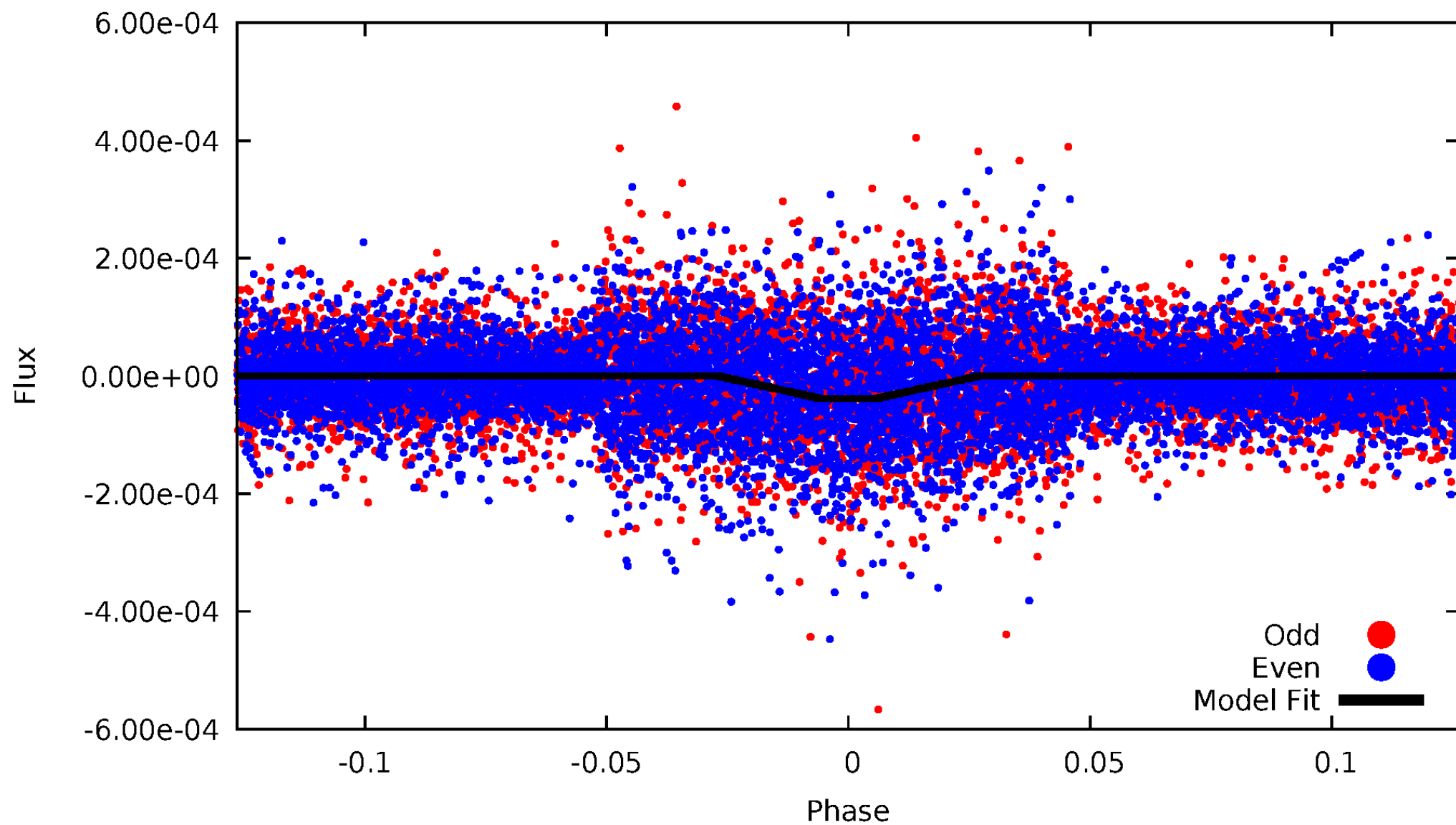
DV Odd/Even

TCE 005730380-01

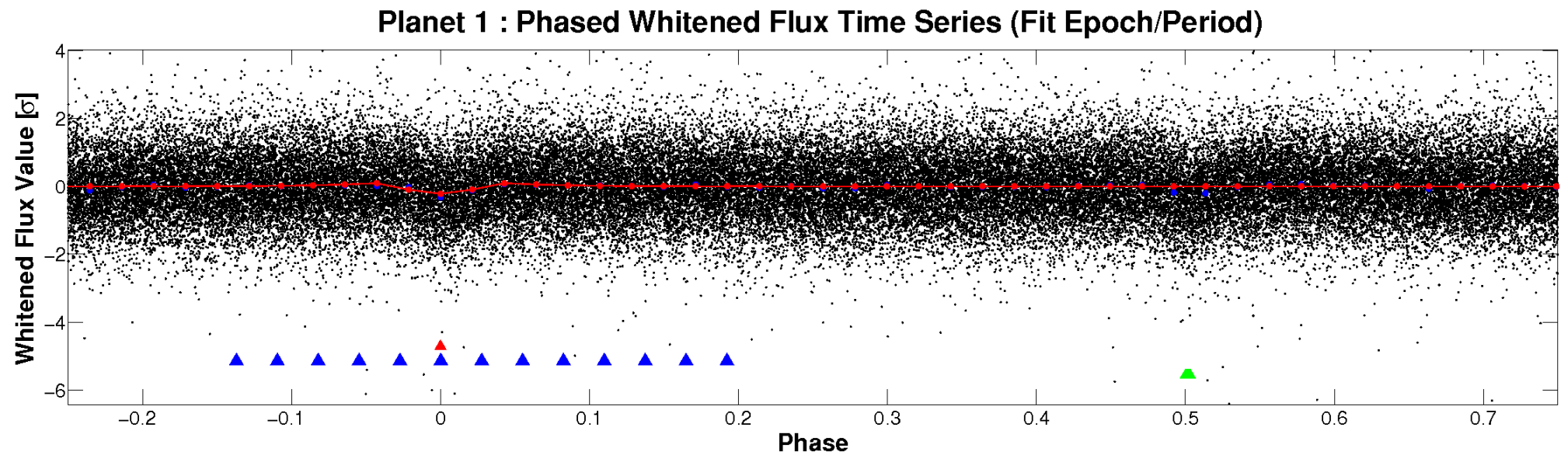
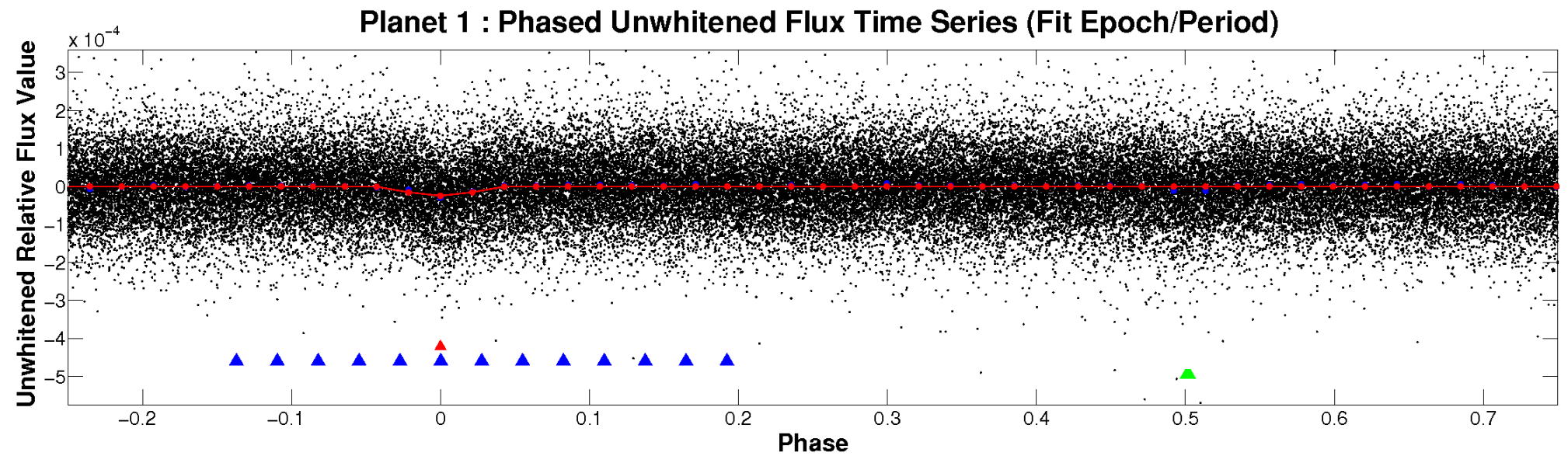


ALT Odd/Even

TCE 005730380-01

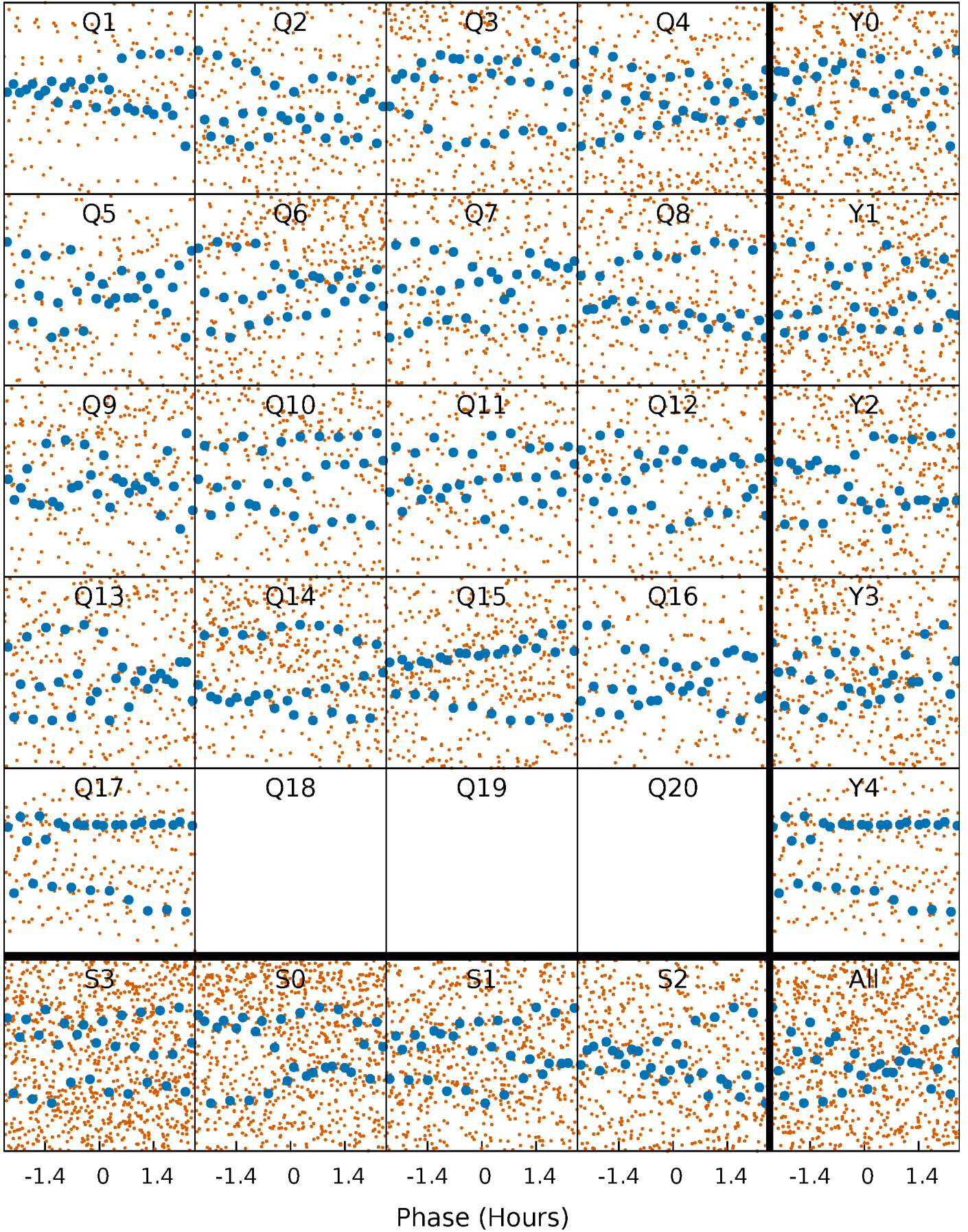


Non-Whitened Vs. Whitened Light Curve



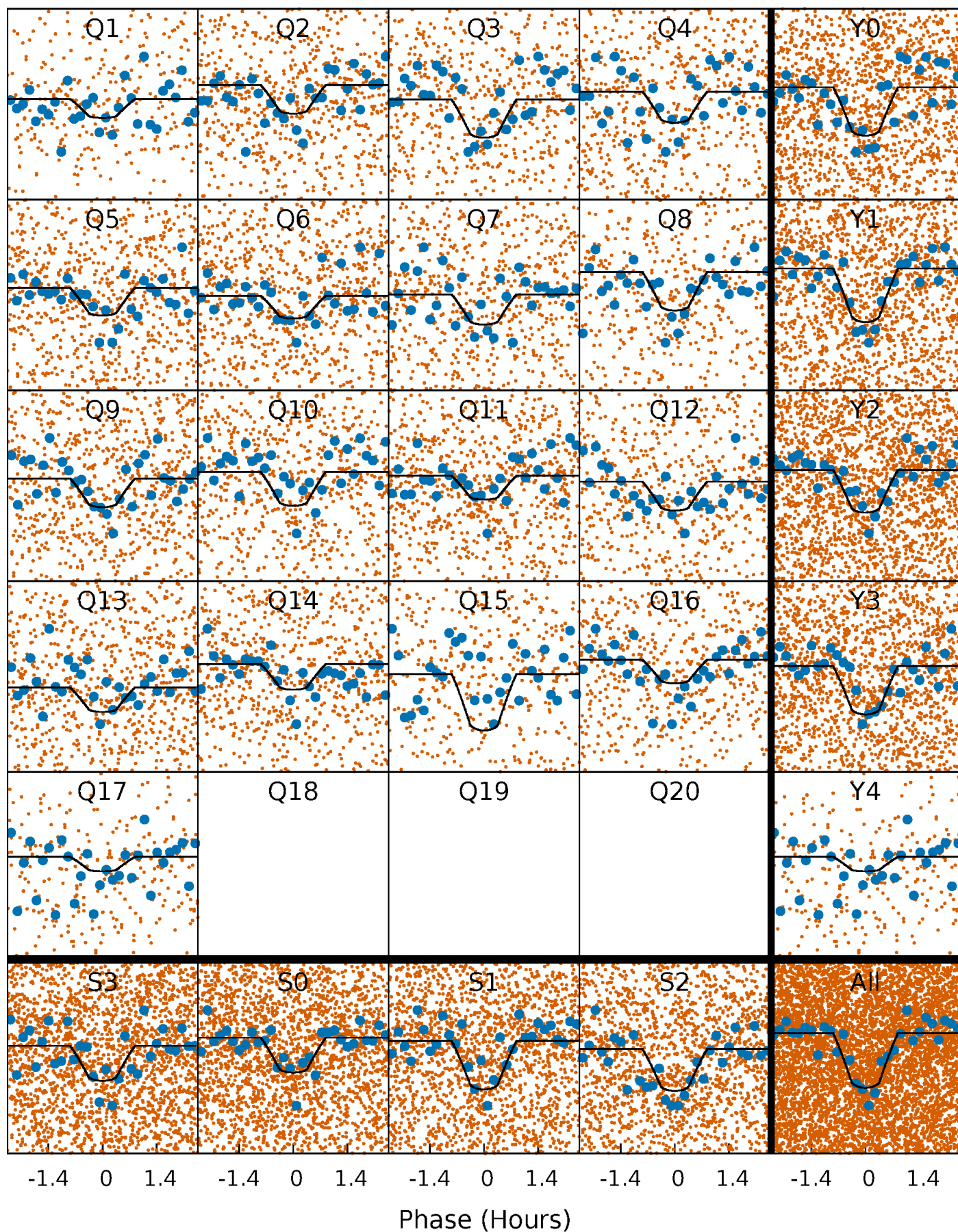
PDC Quarter-Phased Transit Curves

TCE 005730380-01 P= 0.954855 Days $T_0=131.865466$ (BKJD)



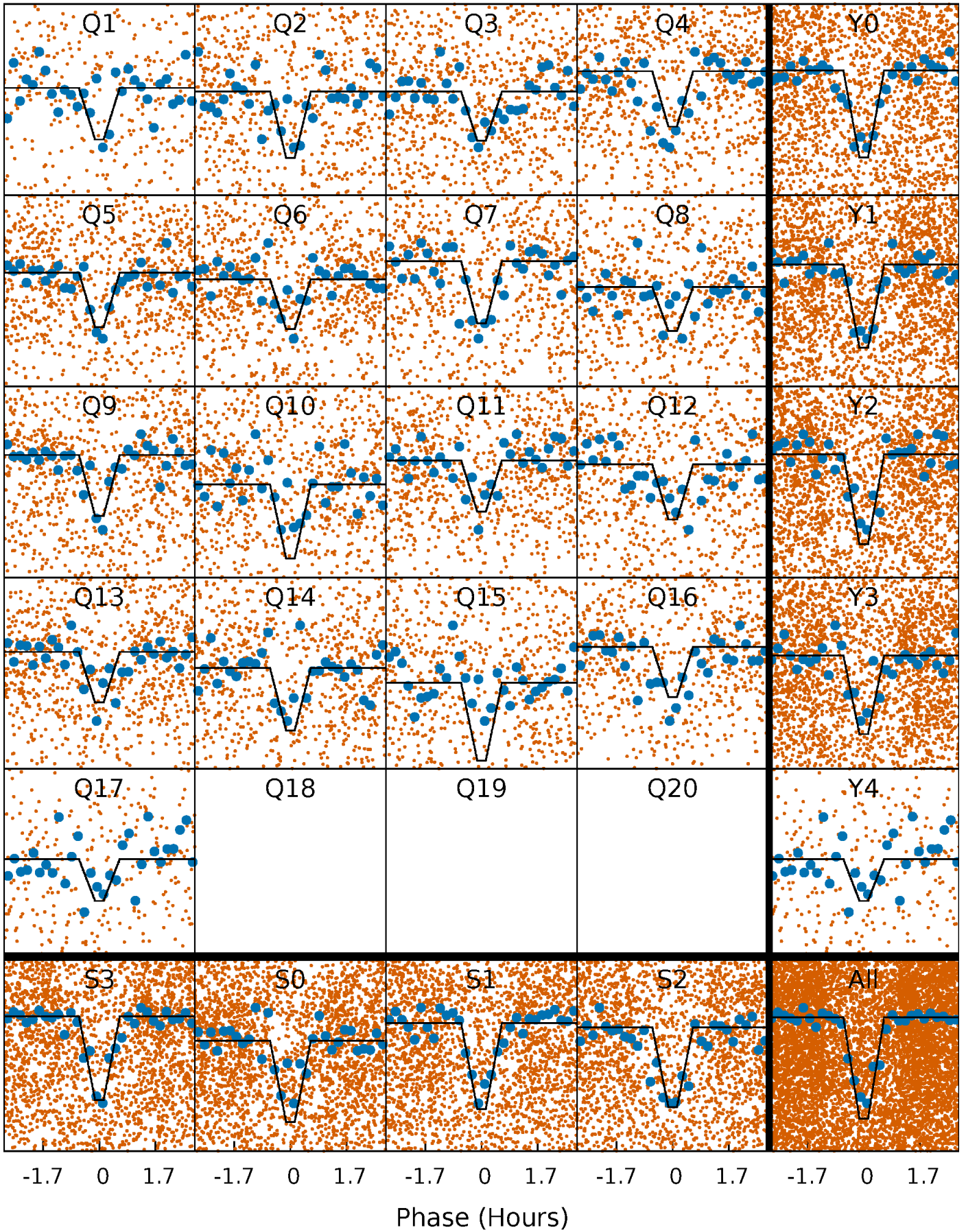
DV Quarter-Phased Transit Curves

TCE 005730380-01 P= 0.954855 Days $T_0=131.865466$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

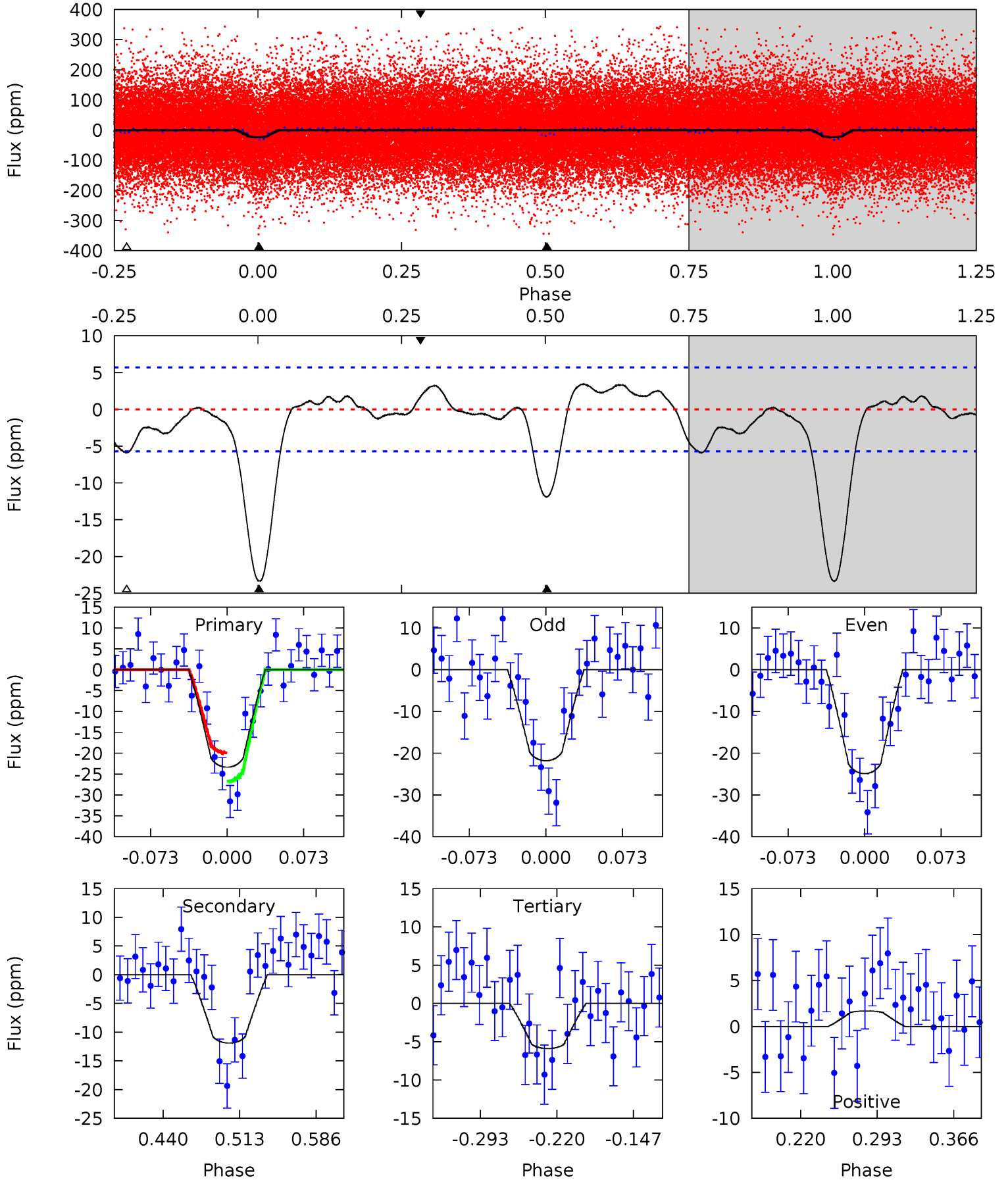
TCE 005730380-01 P= 0.954864 Days $T_0=131.862196$ (BKJD)



DV Model-Shift Uniqueness Test

005730380-01, P = 0.954855 Days, E = 130.910611 Days

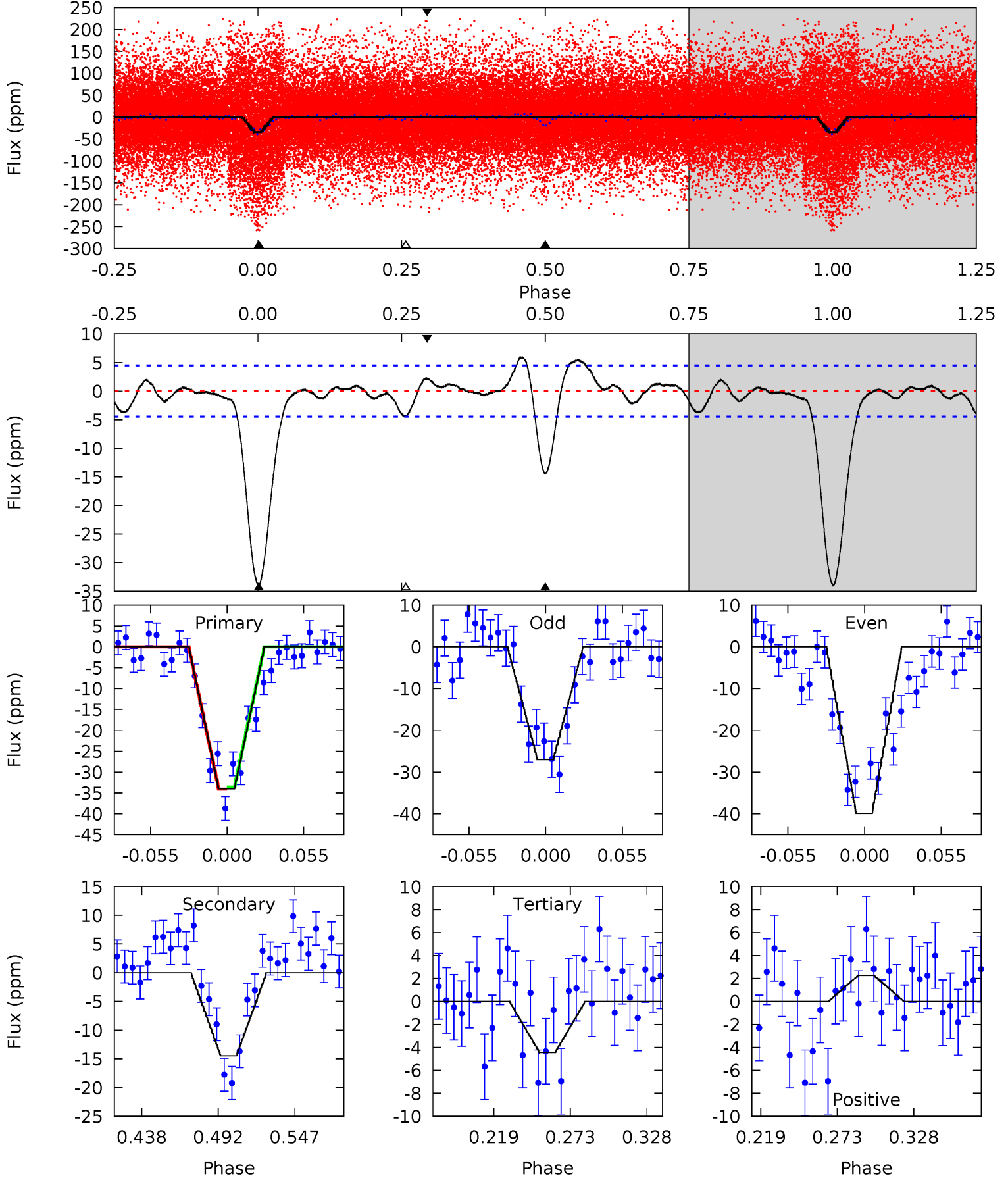
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	9.65	4.77	1.36	4.63	1.79	1.76	14.2	17.6	4.88	8.29	1.25	1.13	0.13	2.77



Alt Model-Shift Uniqueness Test

005730380-01, P = 0.954864 Days, E = 130.907332 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.6	15.2	4.66	2.38	4.69	1.92	1.66	31.0	33.2	10.5	12.8	6.75	1.01	0.15	0.26



Stellar Parameters For KIC 005730380

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6092^{+164}_{-164}	$4.114^{+0.280}_{-0.120}$	$-0.600^{+0.350}_{-0.250}$	$1.363^{+0.270}_{-0.405}$	$0.881^{+0.121}_{-0.084}$	$0.490^{+0.828}_{-0.190}$
	+3%/-3%	+7%/-3%	+58%/-42%	+20%/-30%	+14%/-10%	+169%/-39%
Source	PHO1	FLK73	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 005730380-01 / KOI 7738.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 1	$0.78^{+0.17}_{-0.16}$	3205^{+205}_{-246}	4864^{+412}_{-328}	$3.592^{+2.212}_{-1.169}$
Alt.	-14 ± 1	$0.90^{+0.18}_{-0.18}$	3214^{+198}_{-268}	4791^{+343}_{-301}	$3.355^{+1.810}_{-1.111}$

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

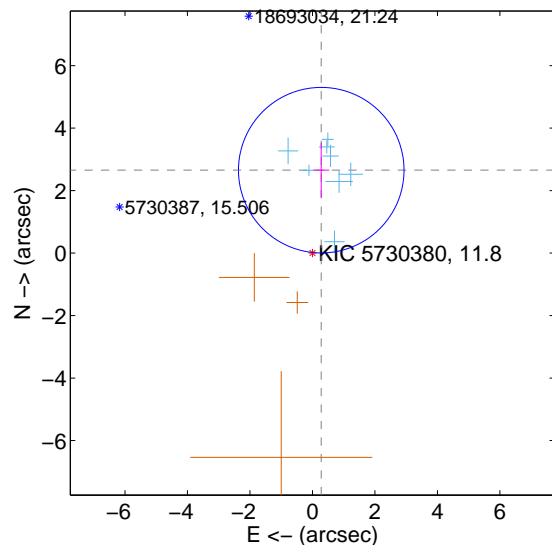
Supplemental centroid analysis for 005730380-01. **Kepler magnitude: 11.80.** Transit SNR 12.00

There are 8 quarters with good PRF difference image offsets

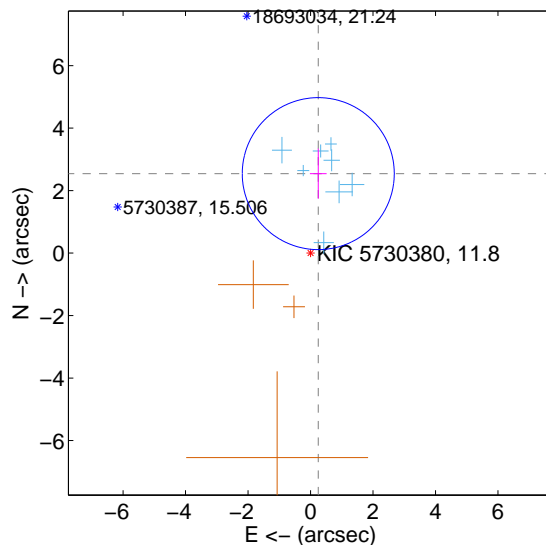
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.669 ± 0.883	3.02	-0.282 ± 0.259	2.654 ± 0.873
PRF-fit source offset from KIC position	2.555 ± 0.811	3.15	-0.248 ± 0.267	2.543 ± 0.800
photometric centroid source offset	2.29 ± 1.39	1.65	0.25 ± 1.01	2.27 ± 1.39

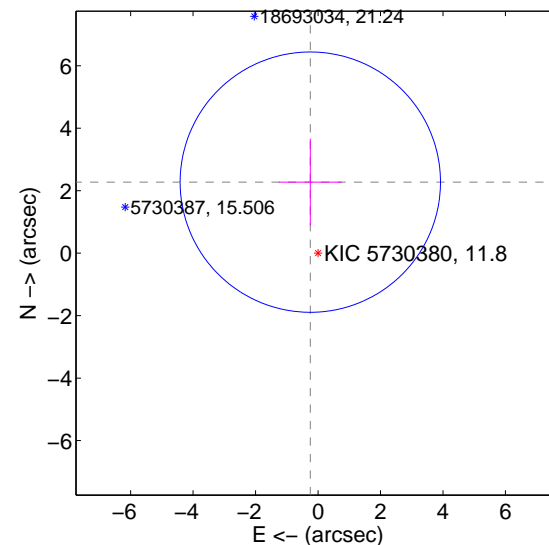
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

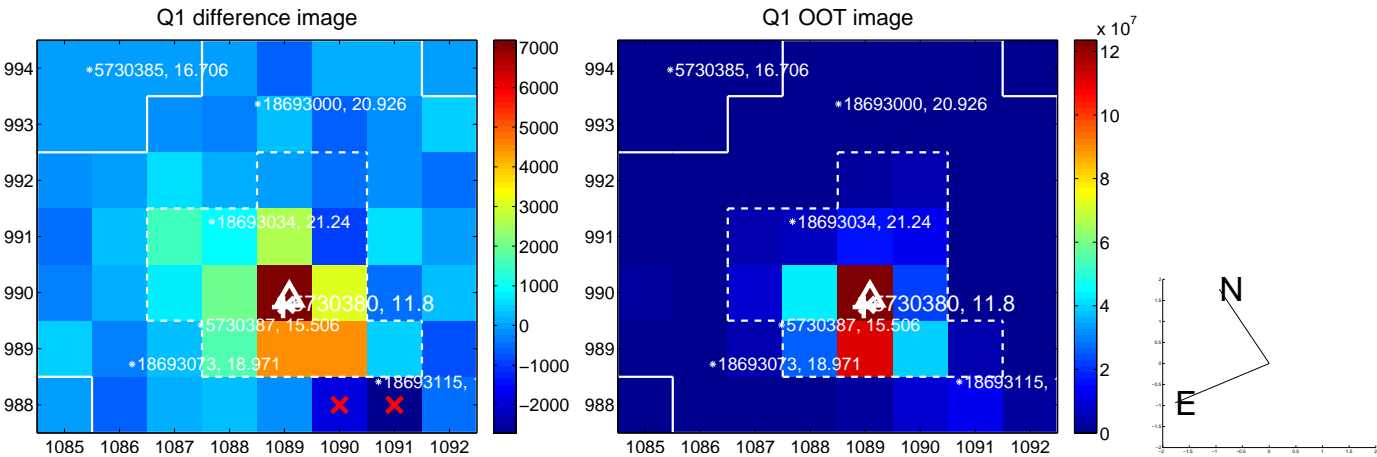


offset from photometric centroids

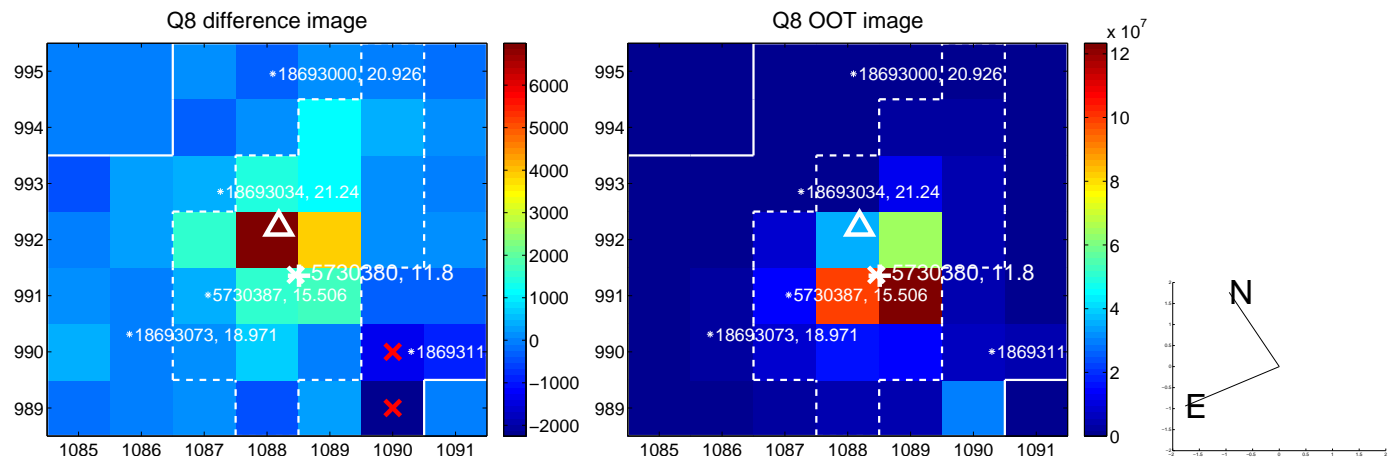
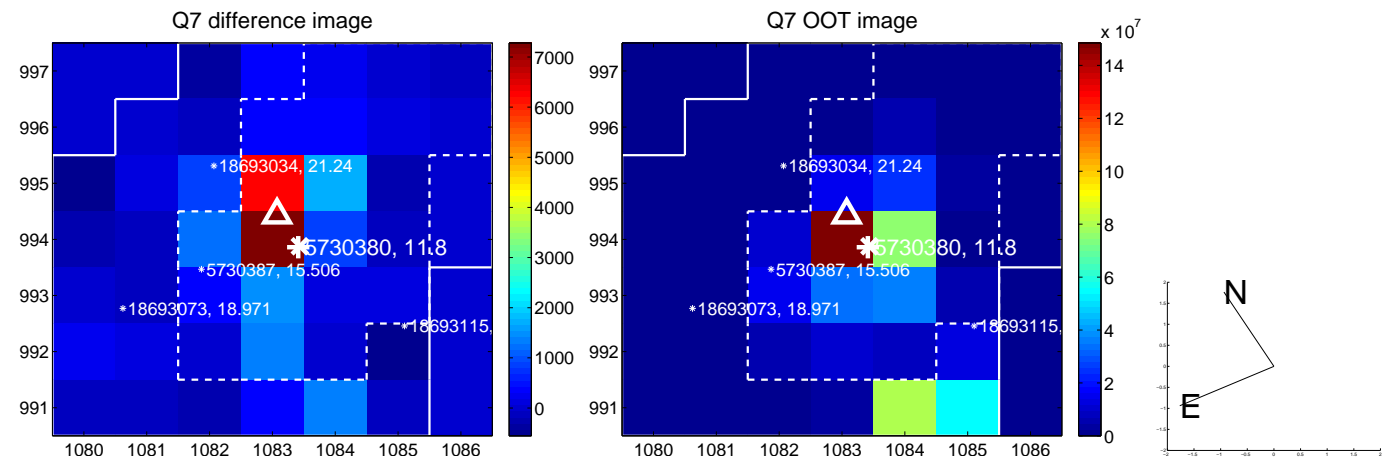
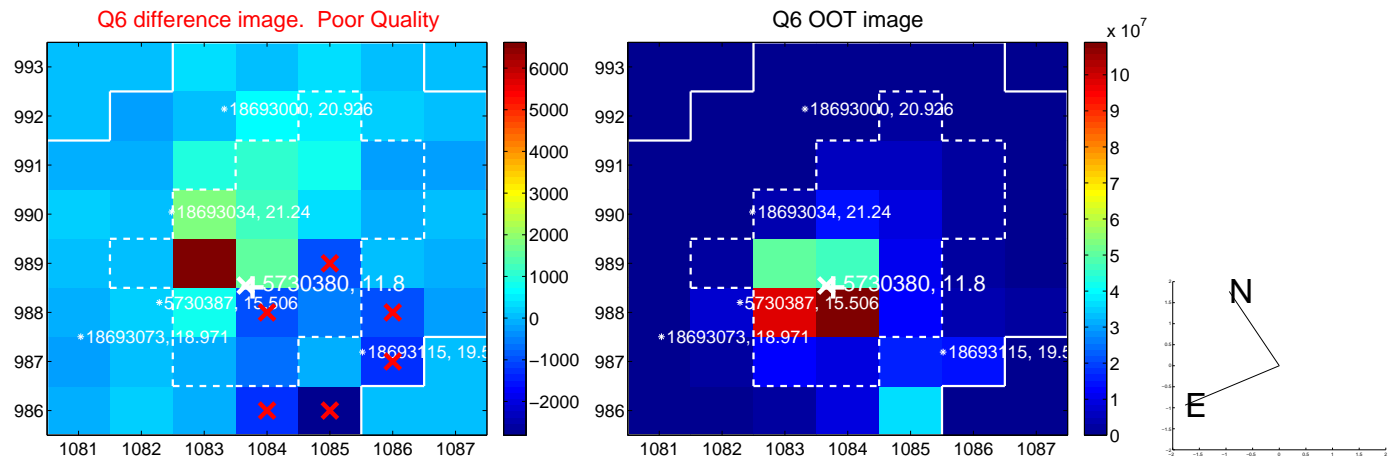
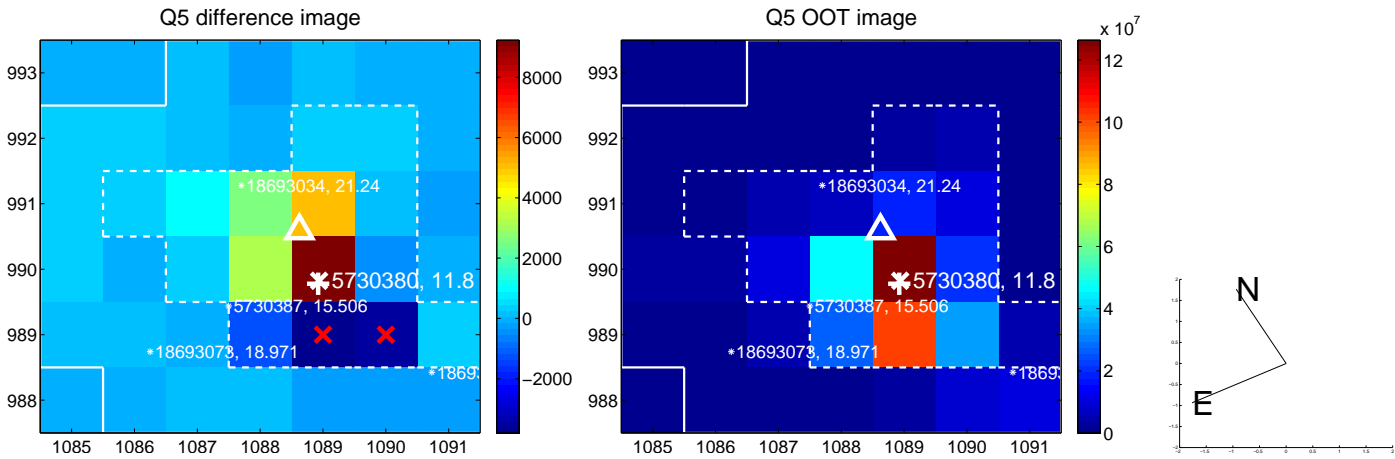


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

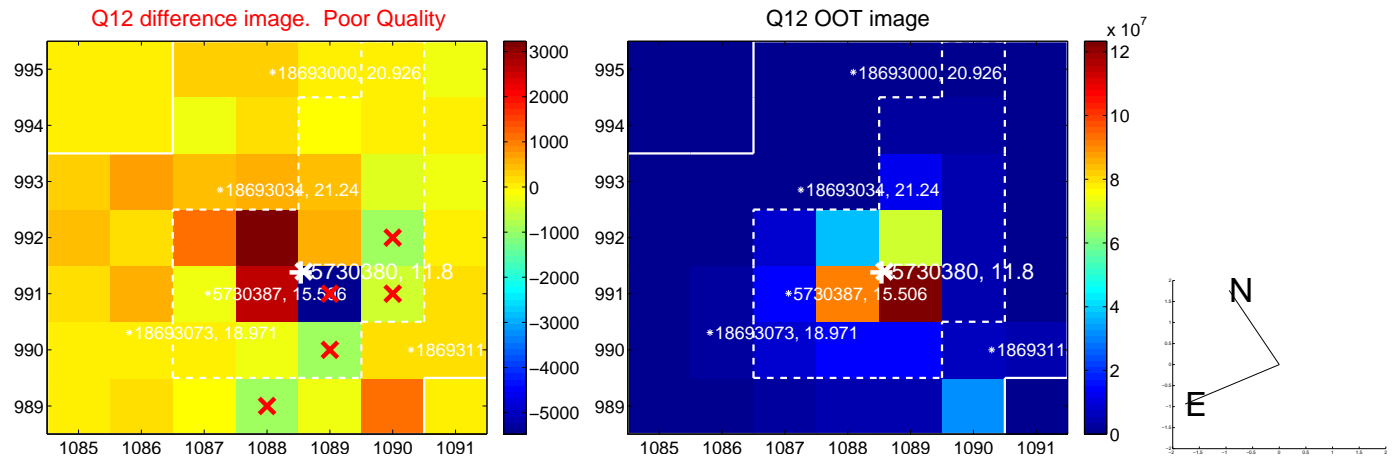
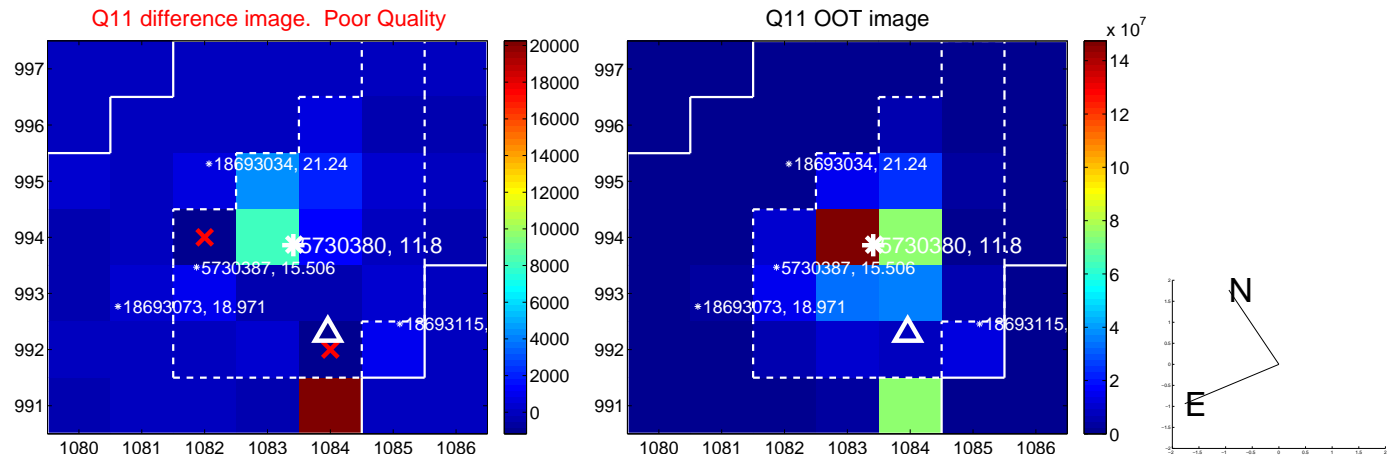
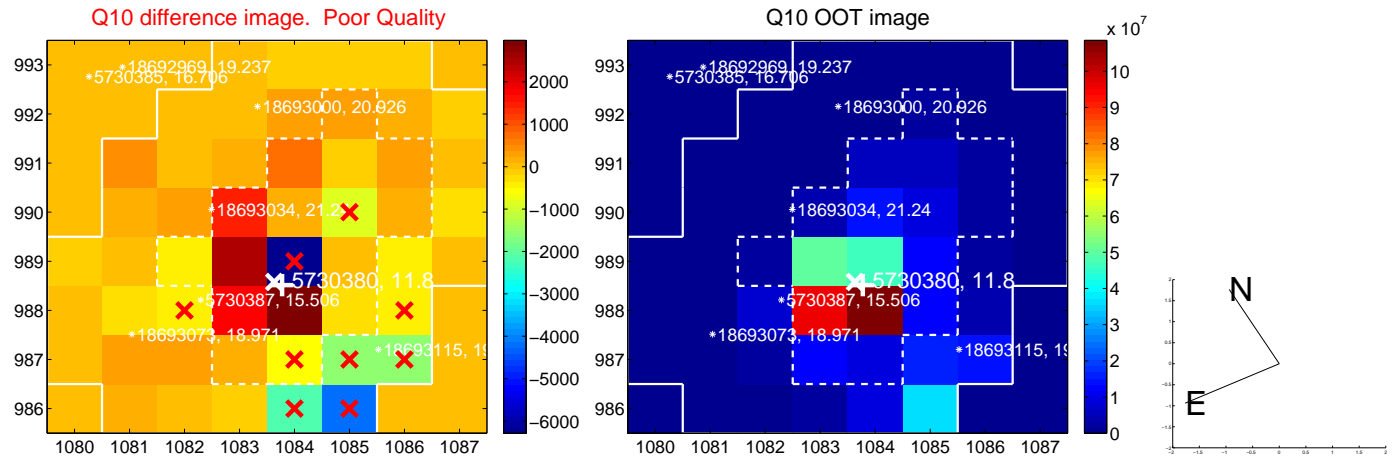
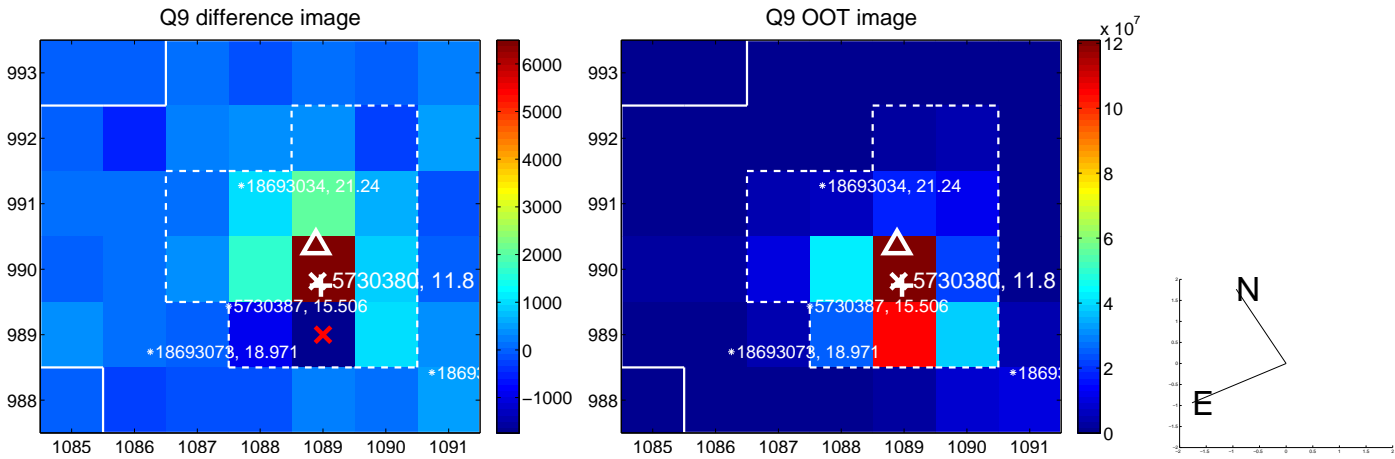
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



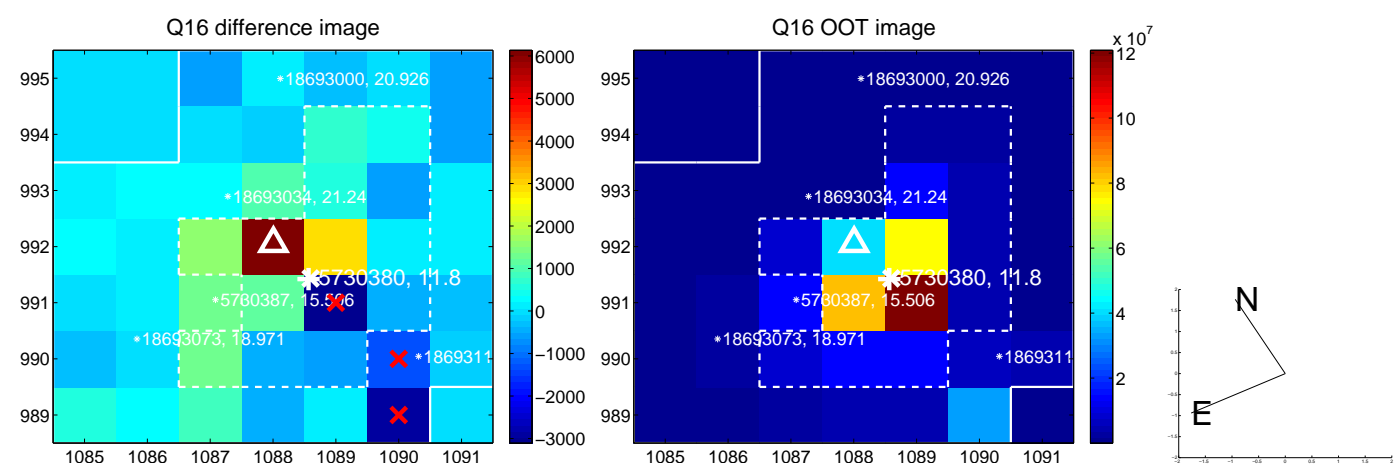
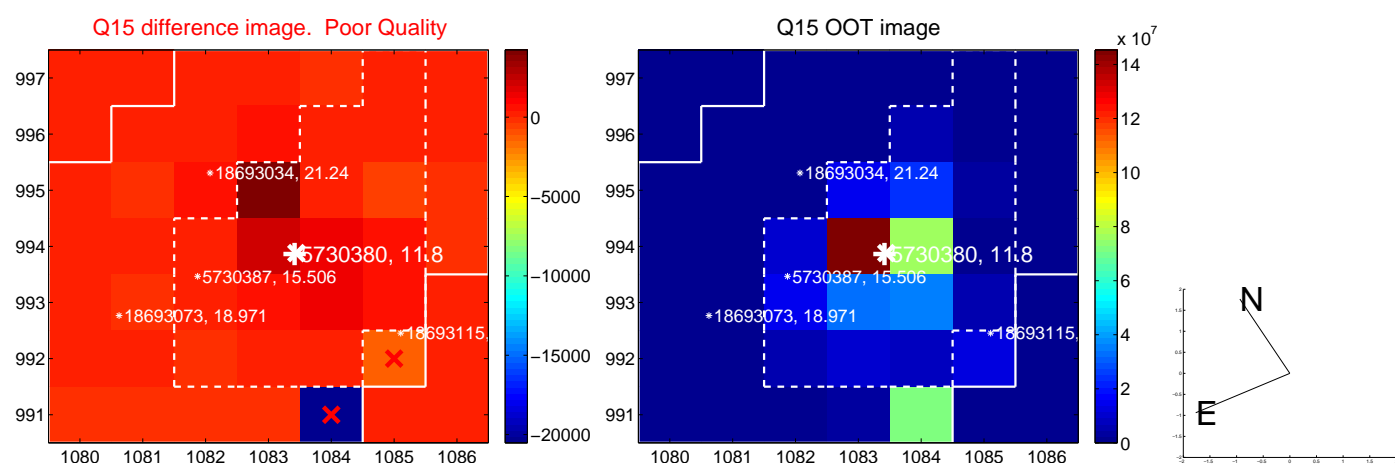
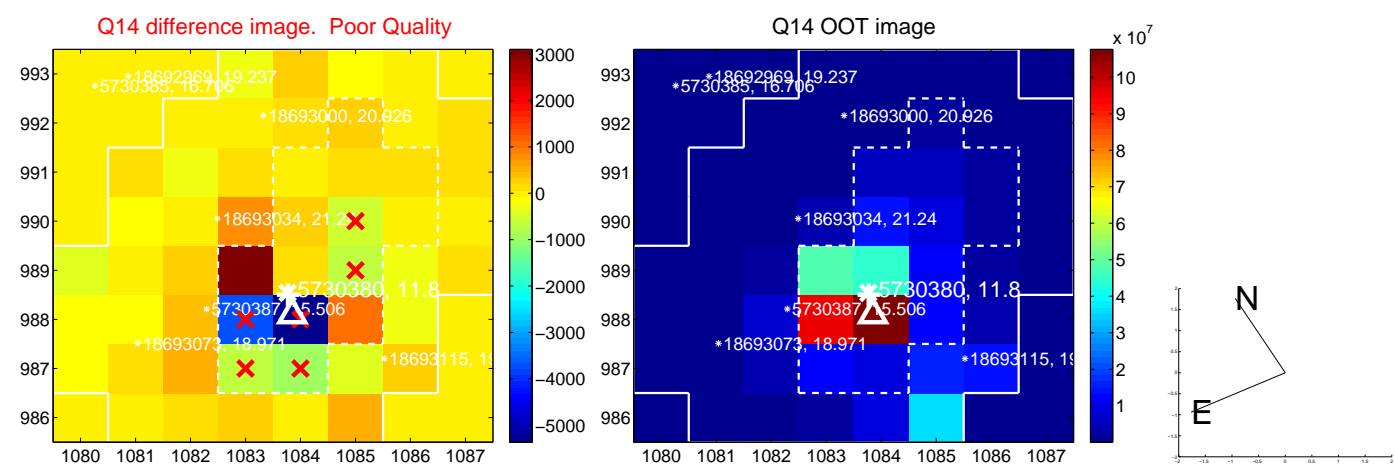
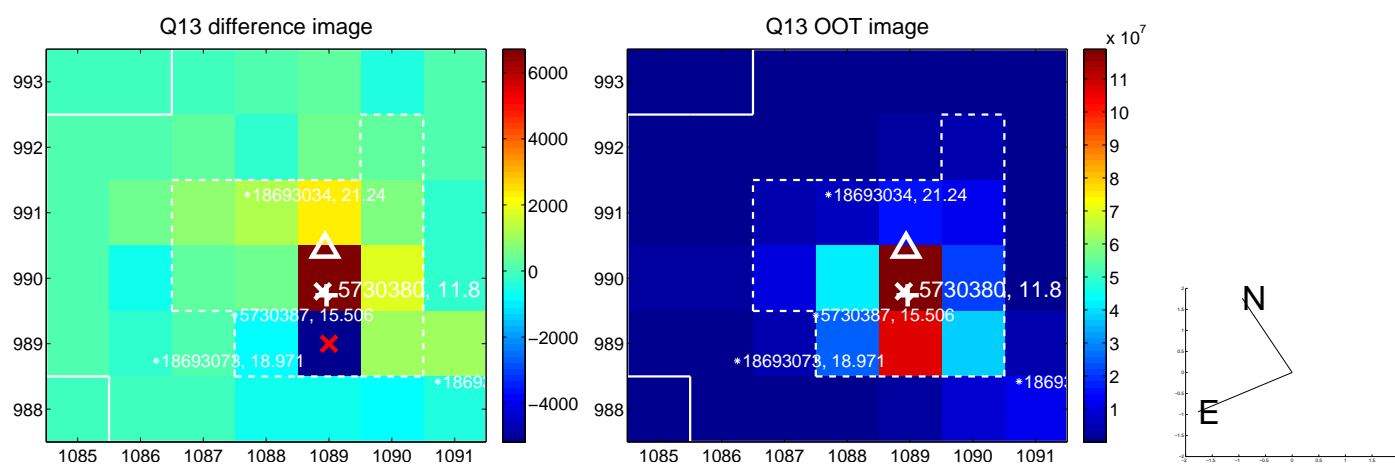
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

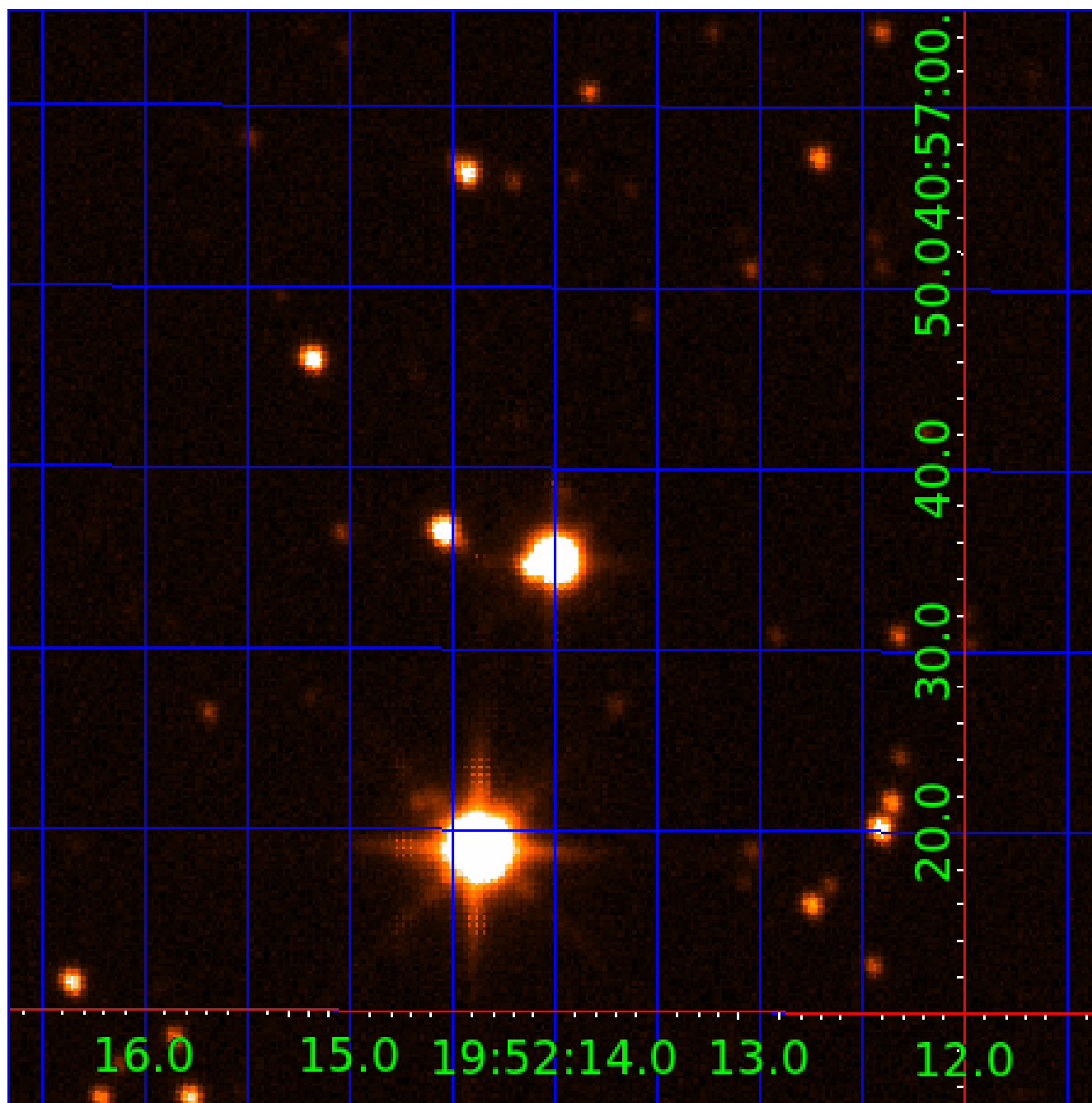


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005730380

Q1-17 DR25 TCE Parameters

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

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005730380-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—HAS_SEC_TCE—HALO_GHOST
005730380-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005730380-03	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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

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

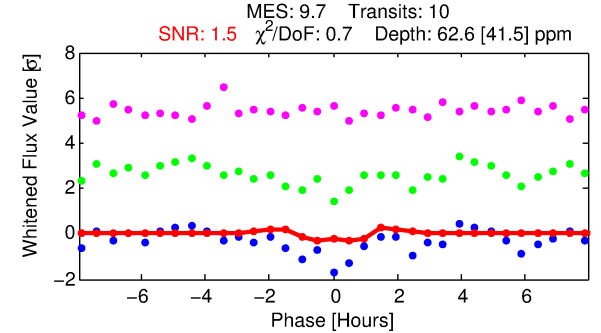
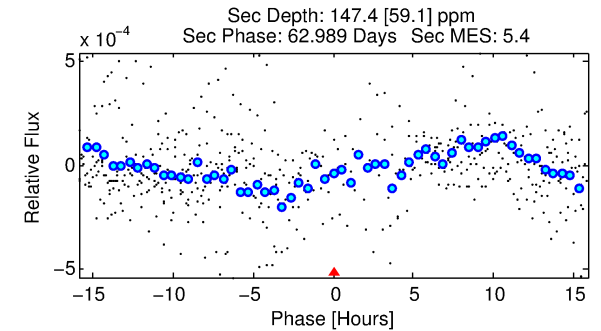
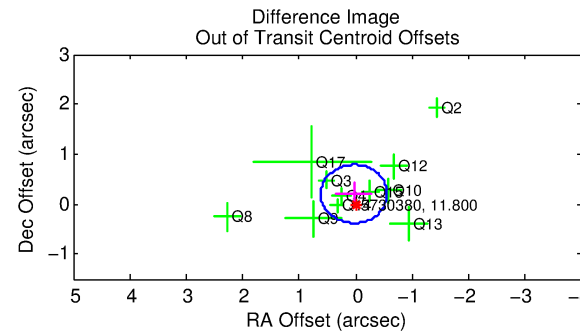
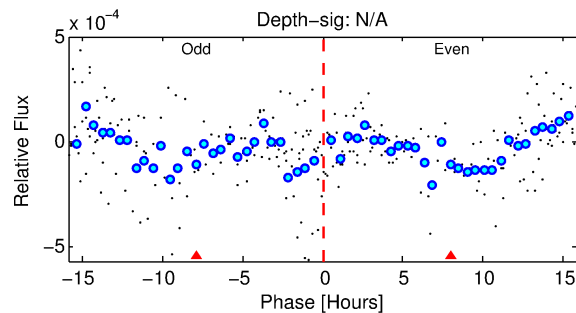
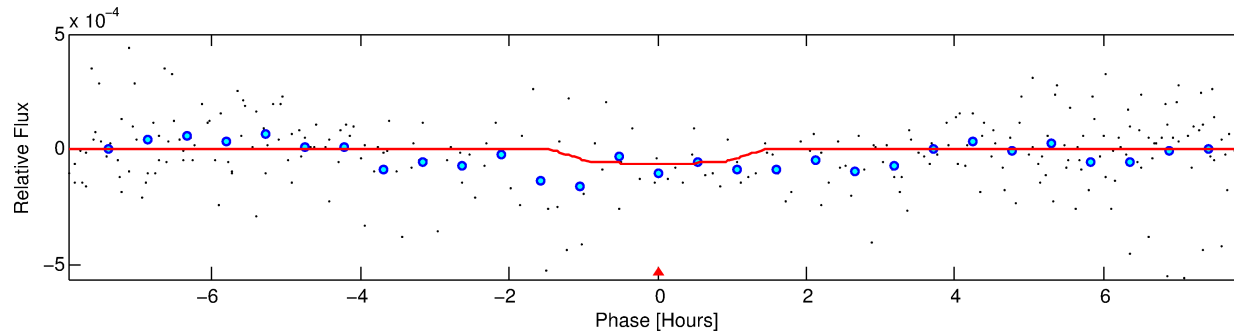
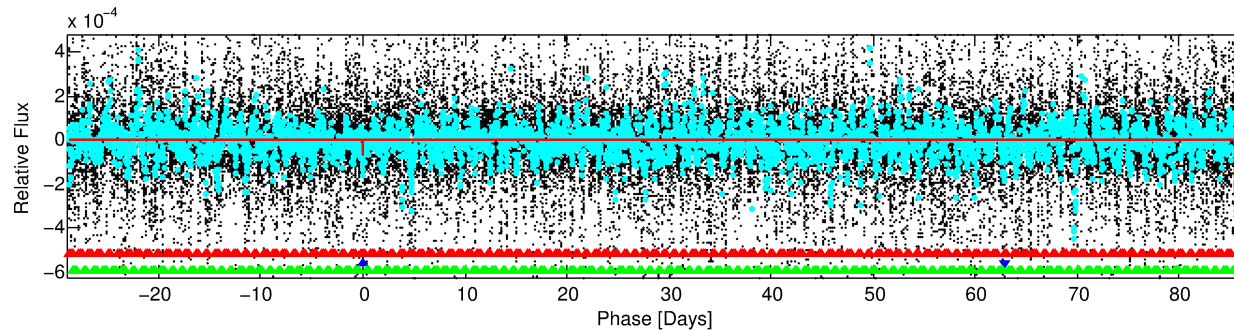
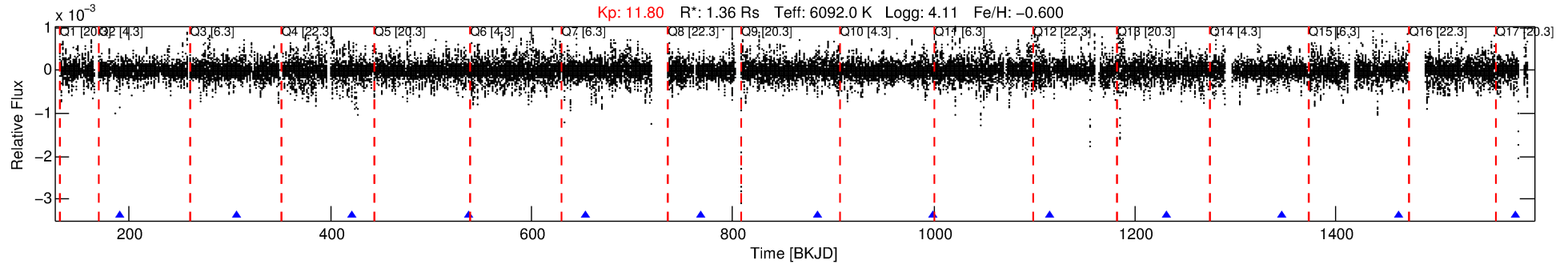
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005730380-02

No Significant Match Found

DV One-Page Summary

KIC: 5730380 Candidate: 2 of 3 Period: 115.564 d



DV Fit Results:

Period = 115.56365 [0.00344] d
Epoch = 190.9357 [0.0267] BKJD
Rp/R* = 0.0089 [0.0118]
a/R* = 117.40 [837.09]
b = 0.95 [0.81]
Seff = 11.57 [5.61]
Teq = 470 [57] K
Rp = 1.33 [1.80] Re
a = 0.4452 [0.1301] AU
Ag = 9091.47 [24600.30] [0.37σ]
Teffp = 7099 [4732] K [1.40σ]

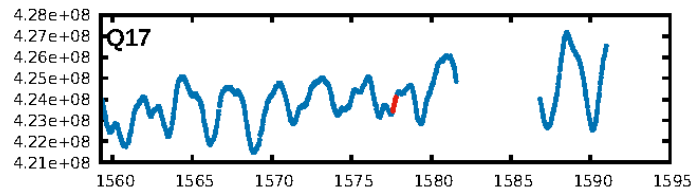
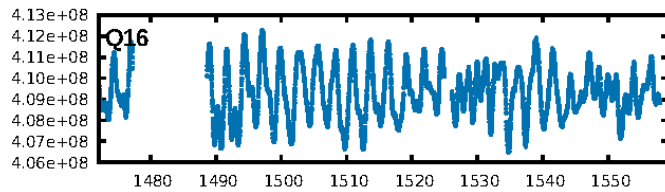
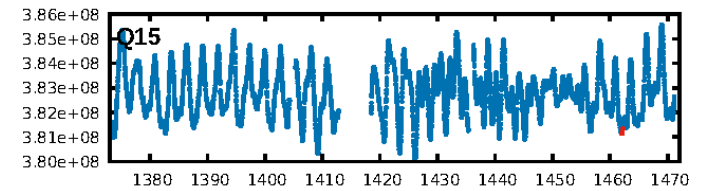
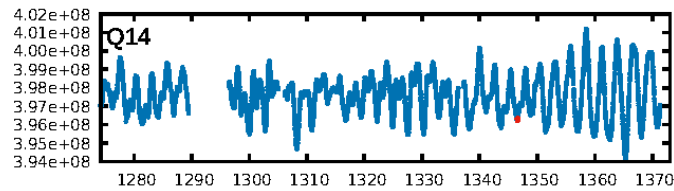
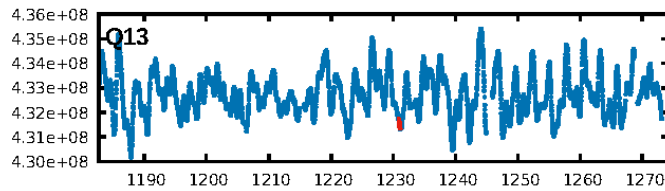
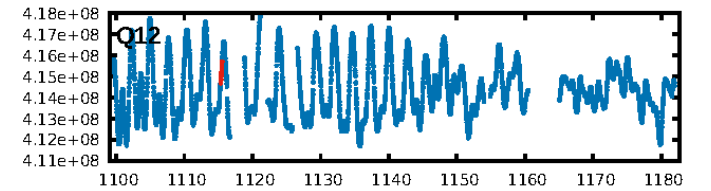
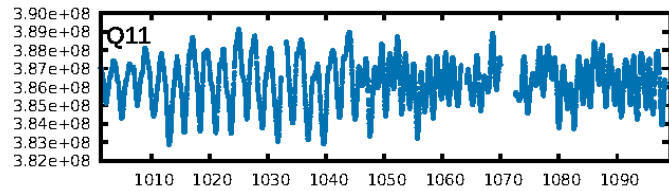
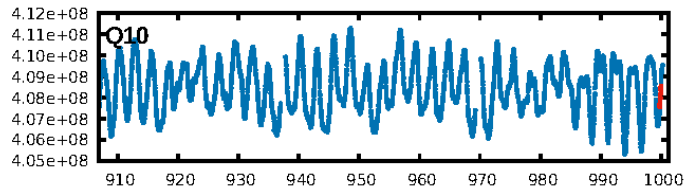
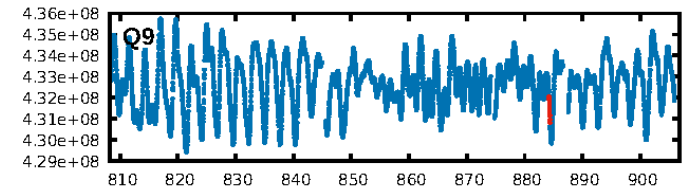
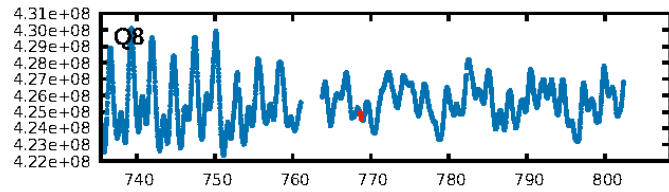
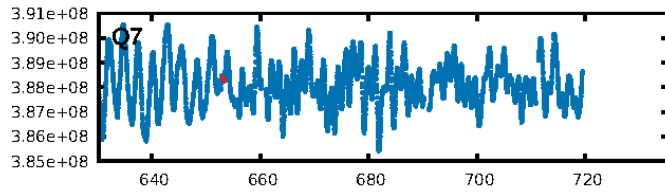
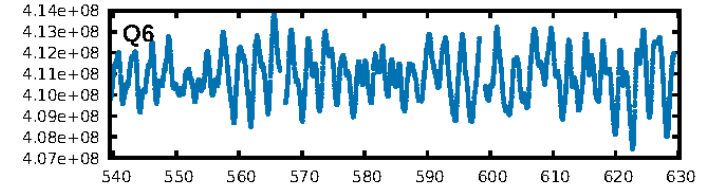
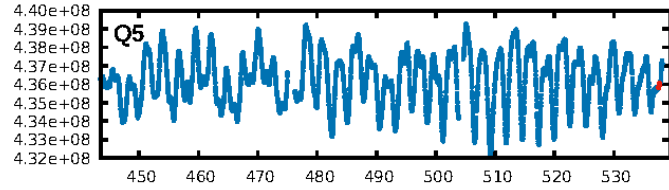
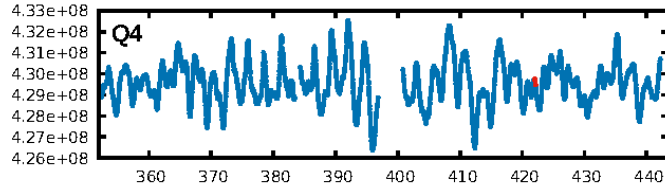
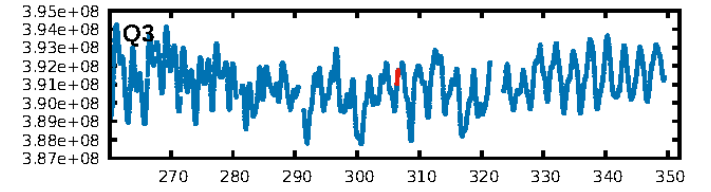
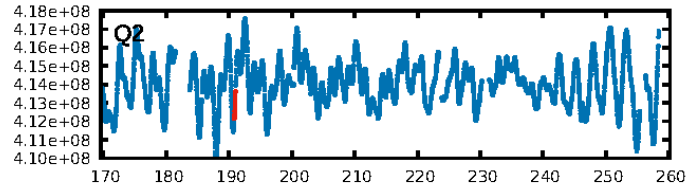
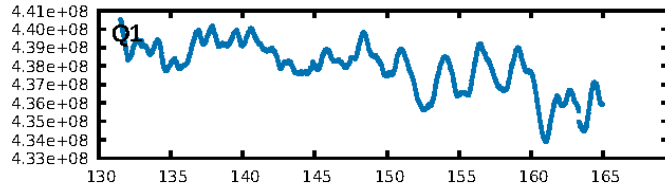
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [966.12σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 77.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.20e-12
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -9.336
Centroid-sig: N/A
Centroid-so: 3.994 arcsec [1.24σ]
OotOffset-rm: 0.208 arcsec [1.06σ]
KicOffset-rm: 0.161 arcsec [0.64σ]
OotOffset-st: 3/2/3/3 [11]
KicOffset-st: 3/2/3/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/13]

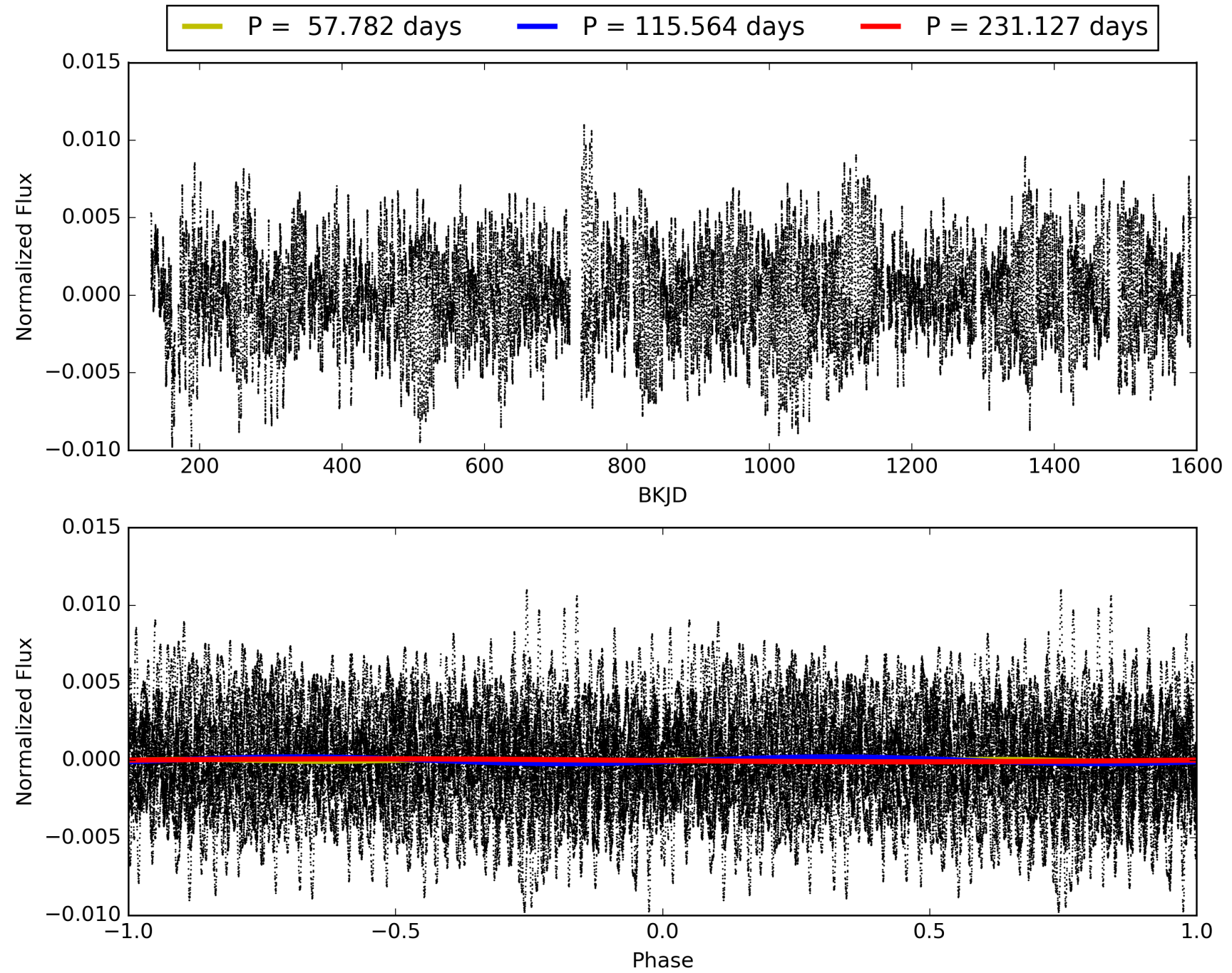
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:31:30 Z

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

TCE 005730380-02, PDC Light Curves

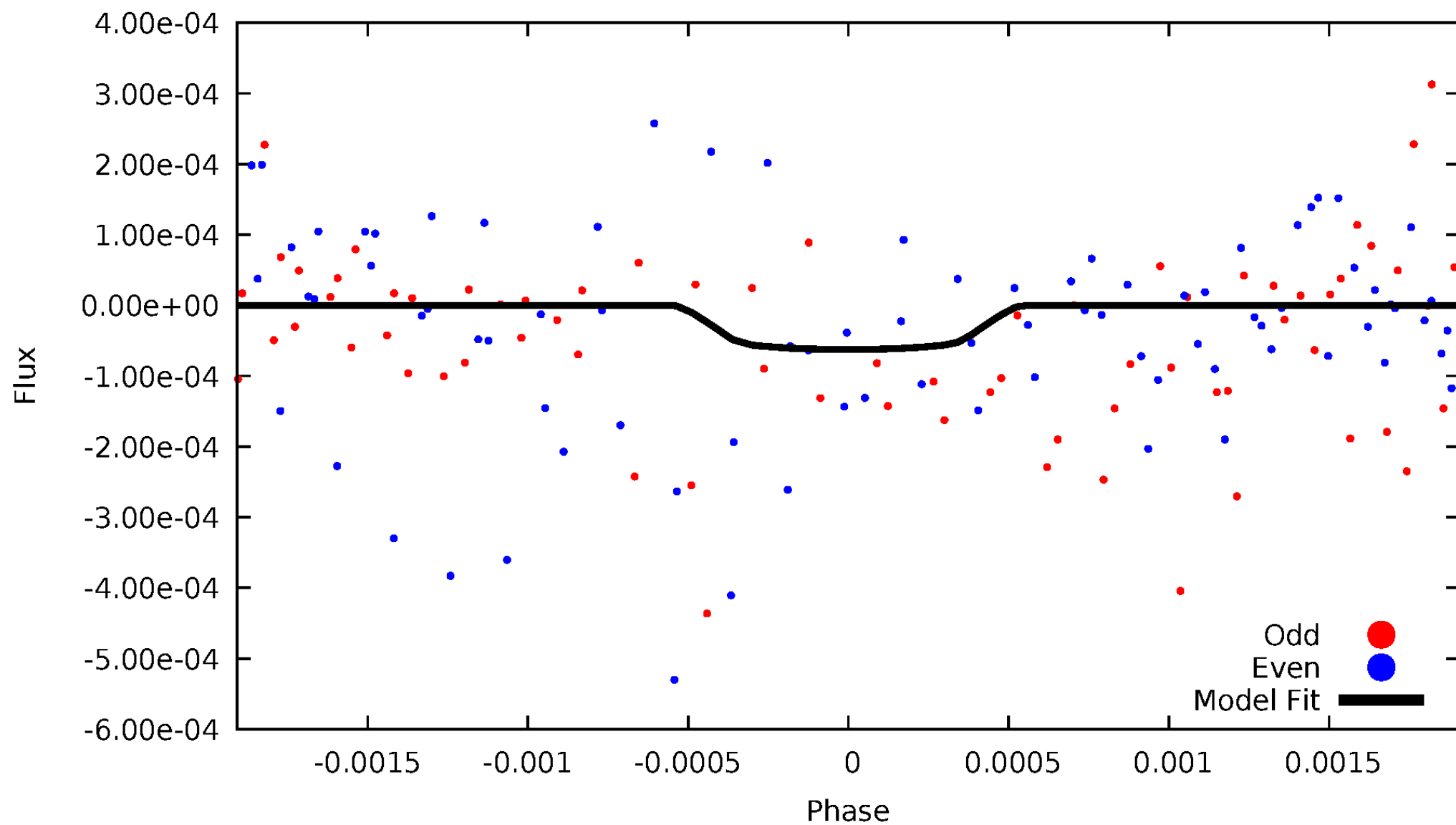


TCE 005730380-02



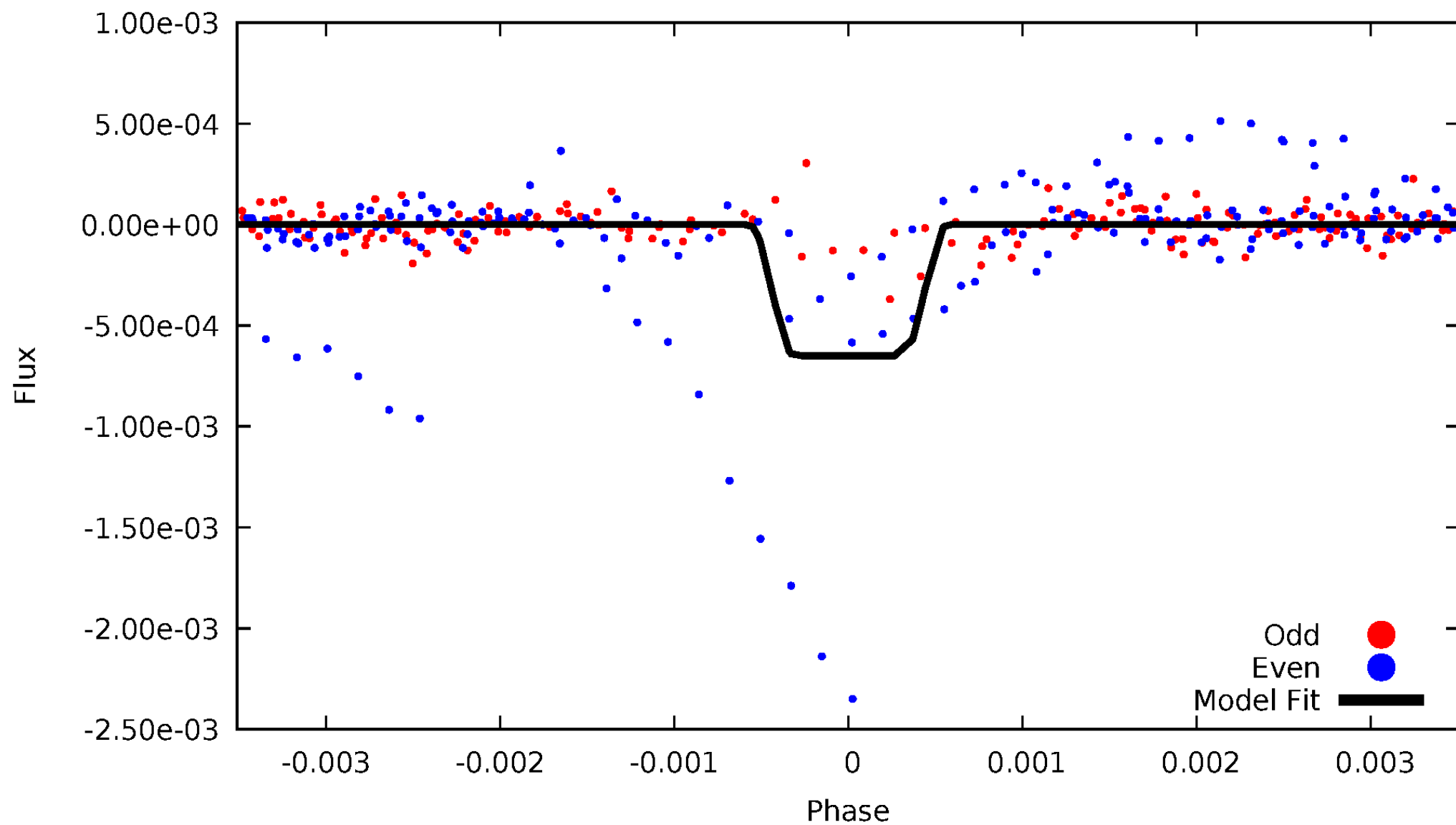
DV Odd/Even

TCE 005730380-02



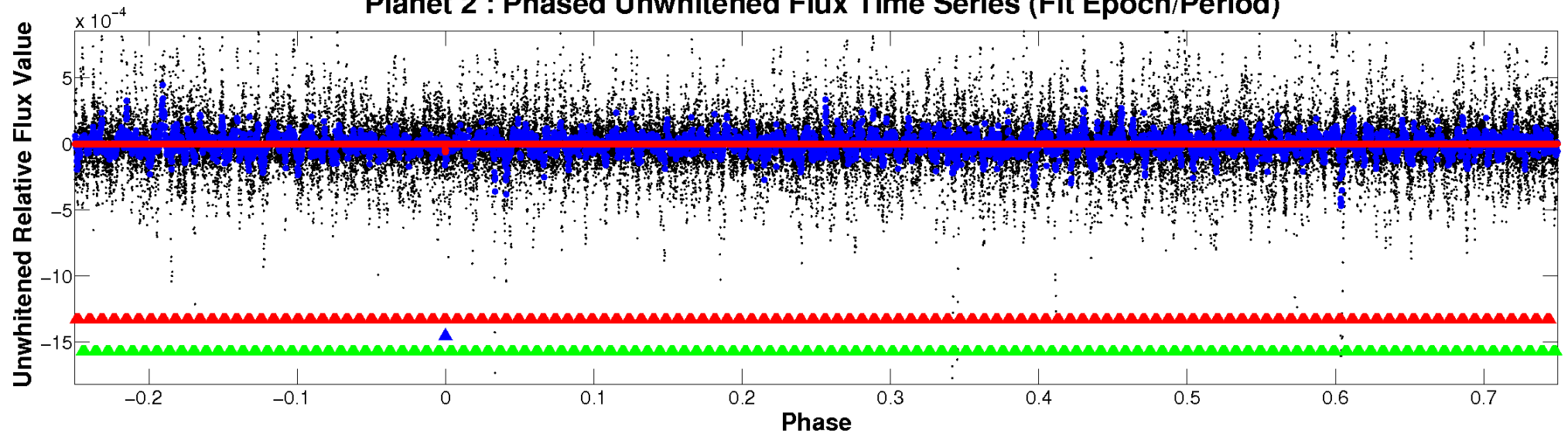
ALT Odd/Even

TCE 005730380-02

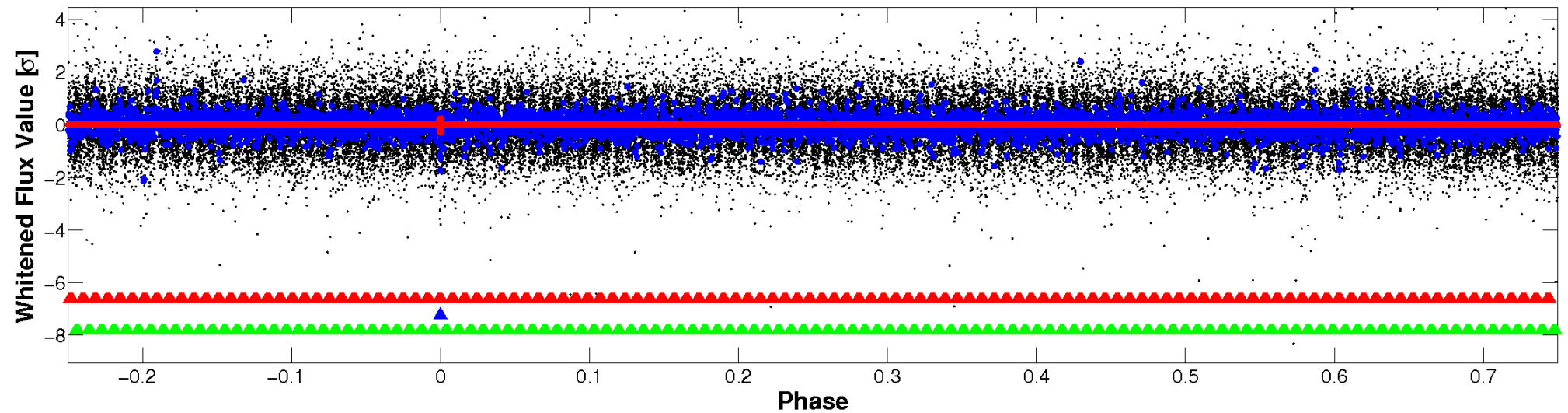


Non-Whitened Vs. Whitened Light Curve

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

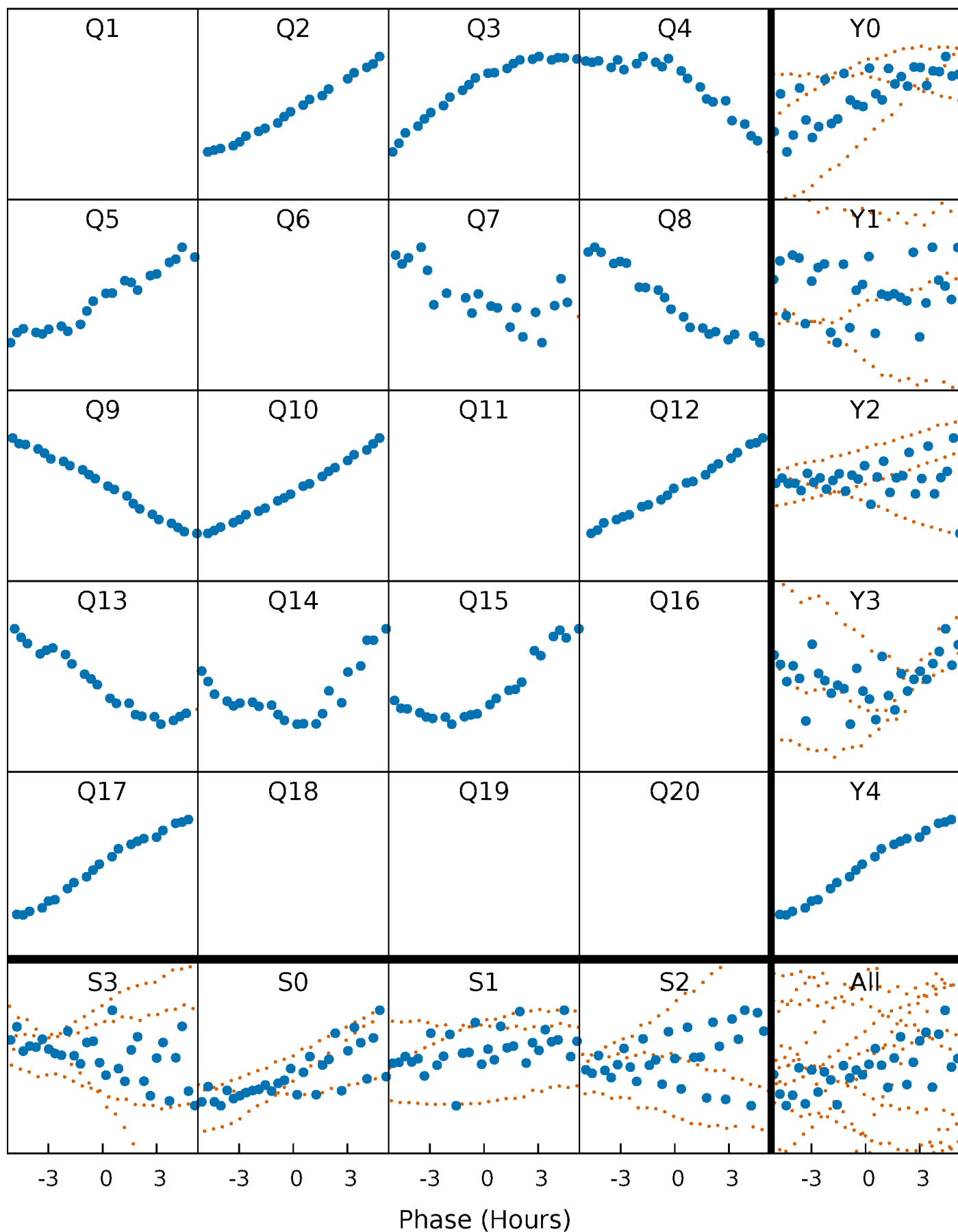


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



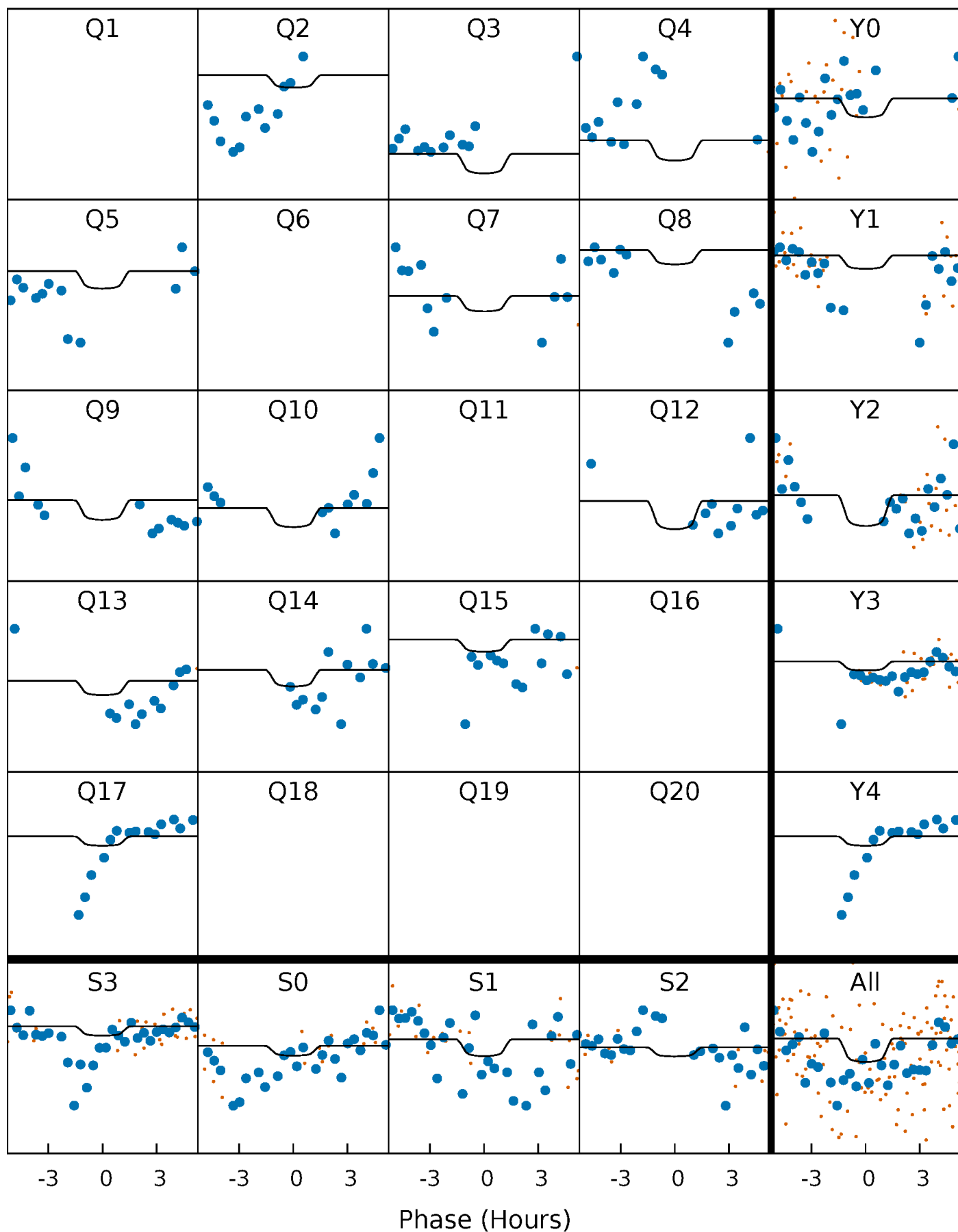
PDC Quarter-Phased Transit Curves

TCE 005730380-02 P=115.563648 Days $T_0=190.935721$ (BKJD)



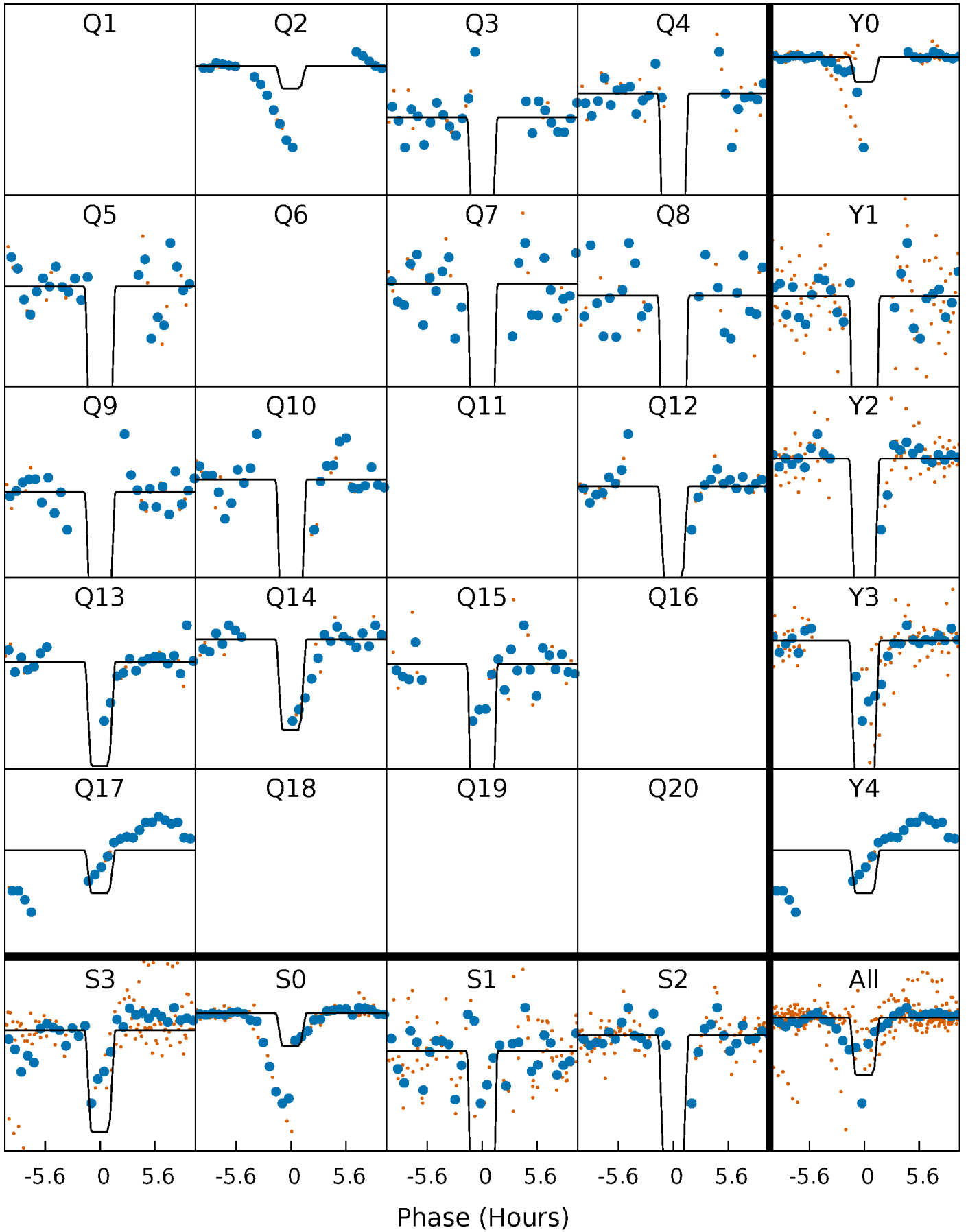
DV Quarter-Phased Transit Curves

TCE 005730380-02 $P=115.563648$ Days $T_0=190.935721$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

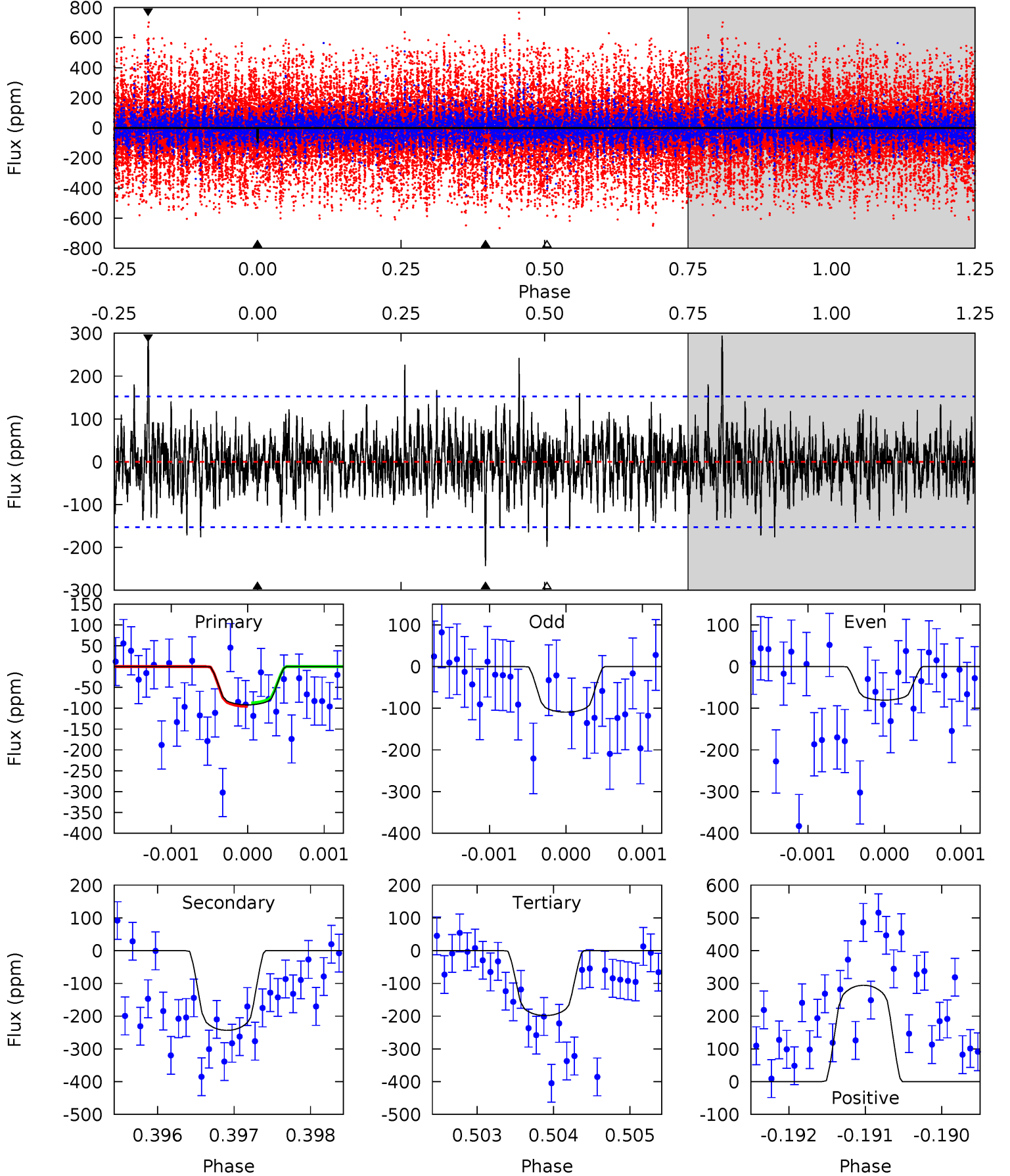
TCE 005730380-02 P=115.560265 Days $T_0=190.952762$ (BKJD)



DV Model-Shift Uniqueness Test

005730380-02, P = 115.563648 Days, E = 75.372073 Days

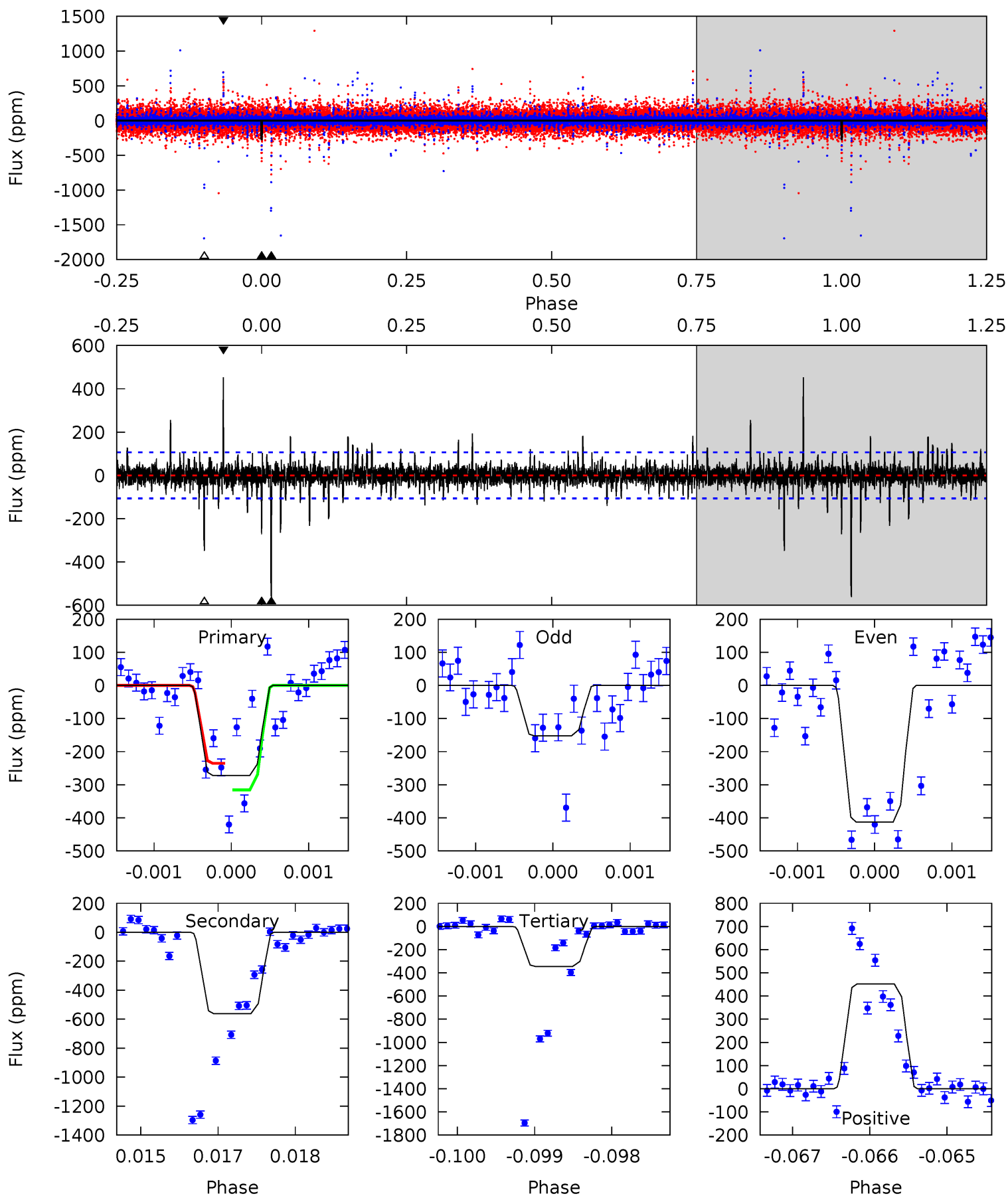
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.27	8.66	7.06	10.5	5.43	3.26	1.69	-3.79	-7.21	1.61	-1.81	0.51	0.39	0.55	0.15



Alt Model-Shift Uniqueness Test

005730380-02, P = 115.560265 Days, E = 75.392497 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	28.8	17.6	23.2	5.43	3.26	1.46	-3.73	-9.23	11.1	5.61	5.63	1.74	0.45	1.94



Stellar Parameters For KIC 005730380

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6092^{+164}_{-164}	$4.114^{+0.280}_{-0.120}$	$-0.600^{+0.350}_{-0.250}$	$1.363^{+0.270}_{-0.405}$	$0.881^{+0.121}_{-0.084}$	$0.490^{+0.828}_{-0.190}$
	+3%/-3%	+7%/-3%	+58%/-42%	+20%/-30%	+14%/-10%	+169%/-39%
Source	PHO1	FLK73	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 005730380-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-243 ± 28	$1.81^{+1.67}_{-1.26}$	649^{+43}_{-57}	6873^{+8933}_{-1801}	8320^{+80805}_{-6011}
Alt.	-562 ± 20	$3.66^{+1.79}_{-1.71}$	650^{+40}_{-52}	5852^{+2413}_{-908}	4603^{+11168}_{-2523}

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 $A_{obs} \gg 1.0$

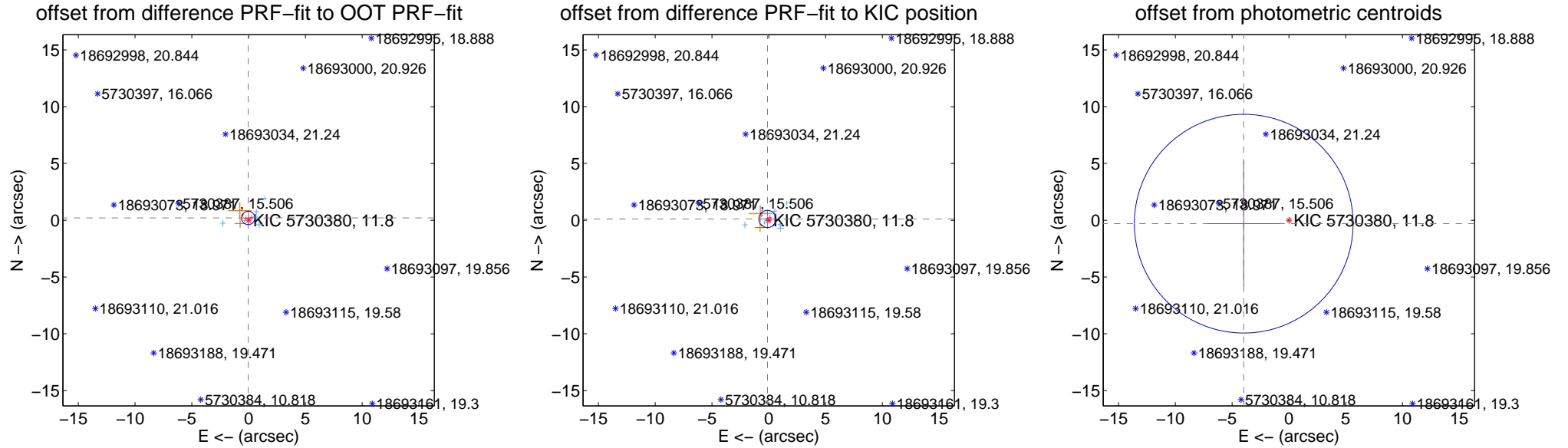
DV Centroid Data

Supplemental centroid analysis for 005730380-02. **Kepler magnitude: 11.80**. Transit SNR 1.55

There are 6 quarters with good PRF difference image offsets

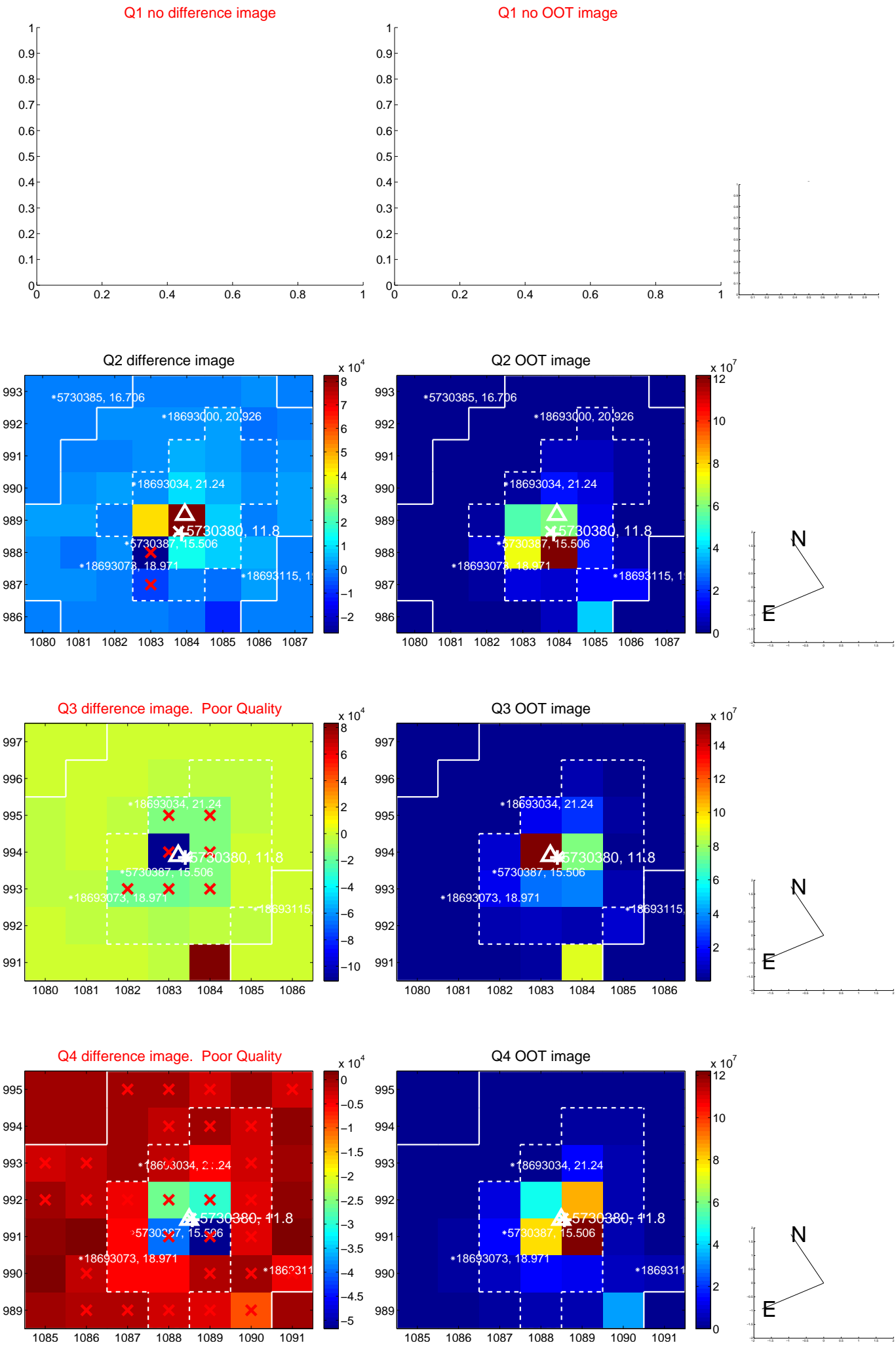
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.208 ± 0.195	1.06	0.037 ± 0.310	0.205 ± 0.220
PRF-fit source offset from KIC position	0.161 ± 0.252	0.64	0.116 ± 0.295	0.112 ± 0.196
photometric centroid source offset	3.99 ± 3.21	1.24	3.98 ± 3.19	-0.30 ± 5.53

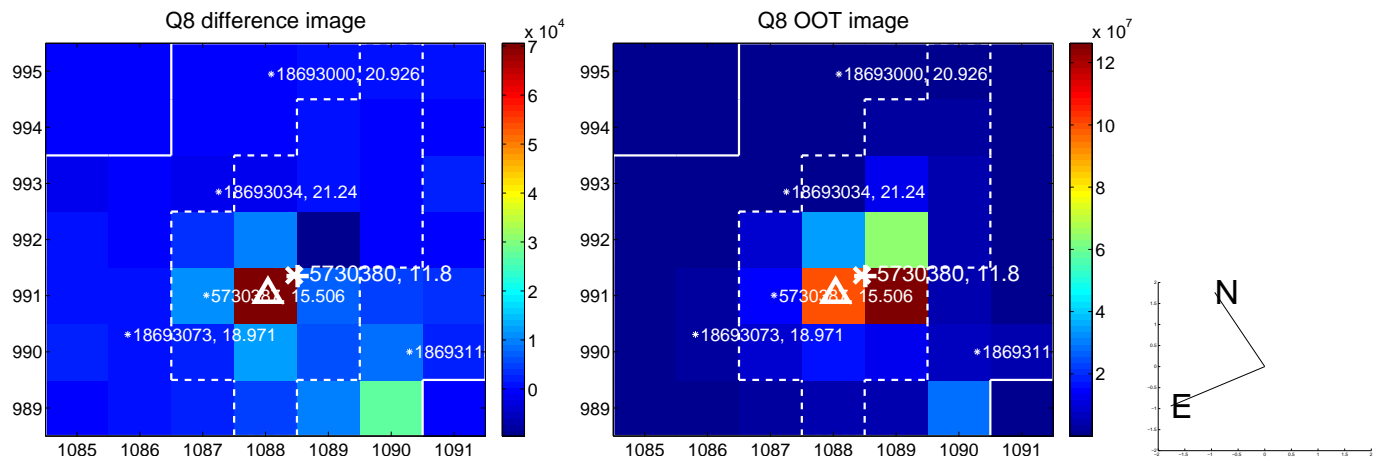
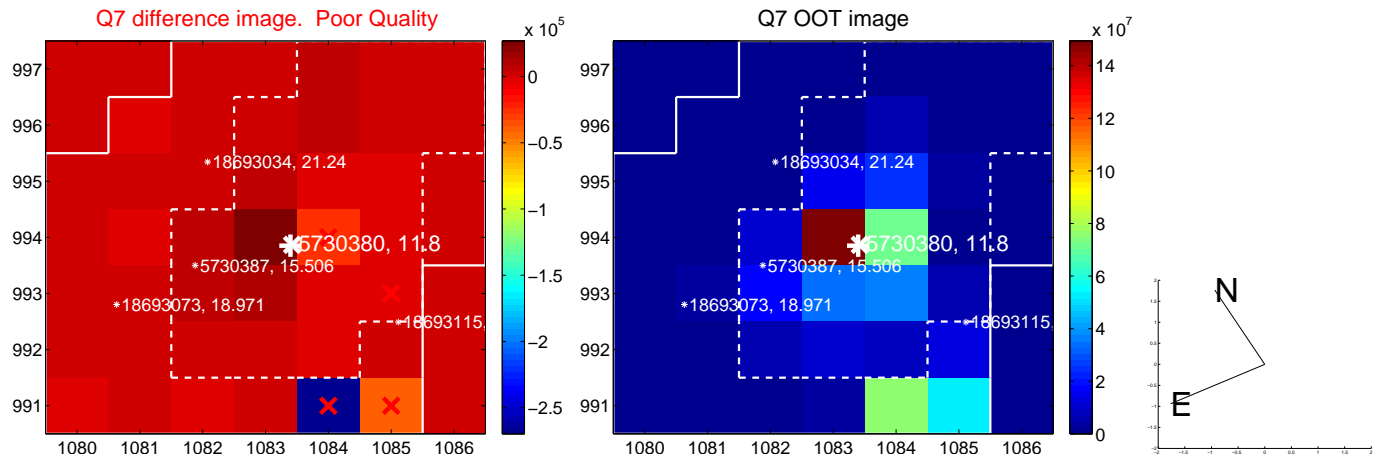
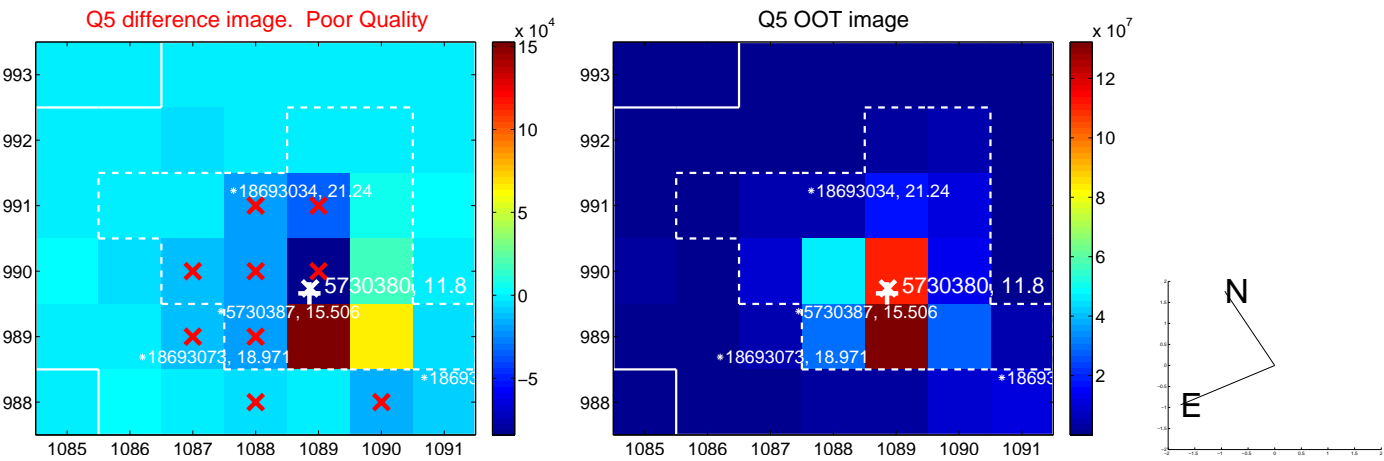


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

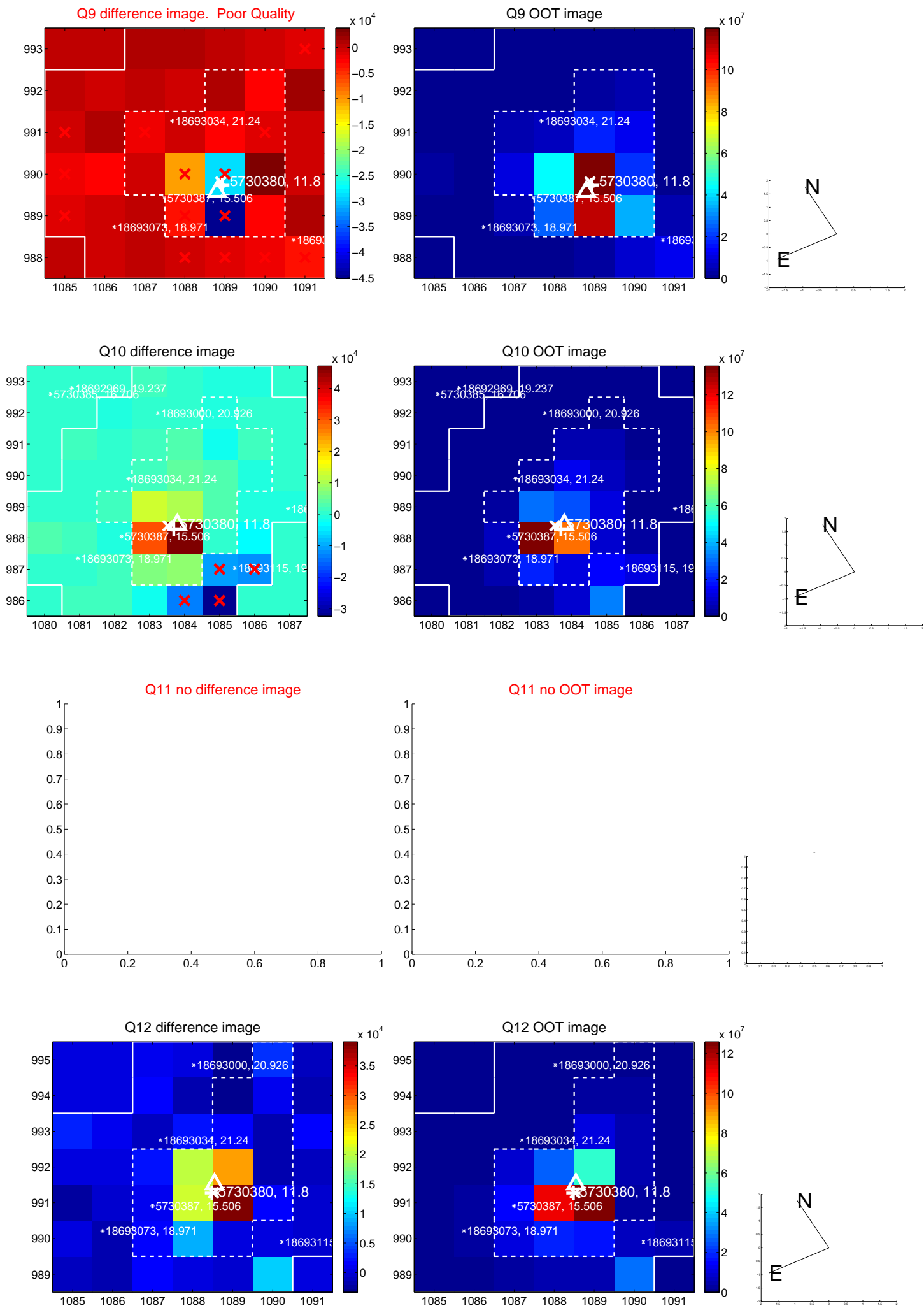
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



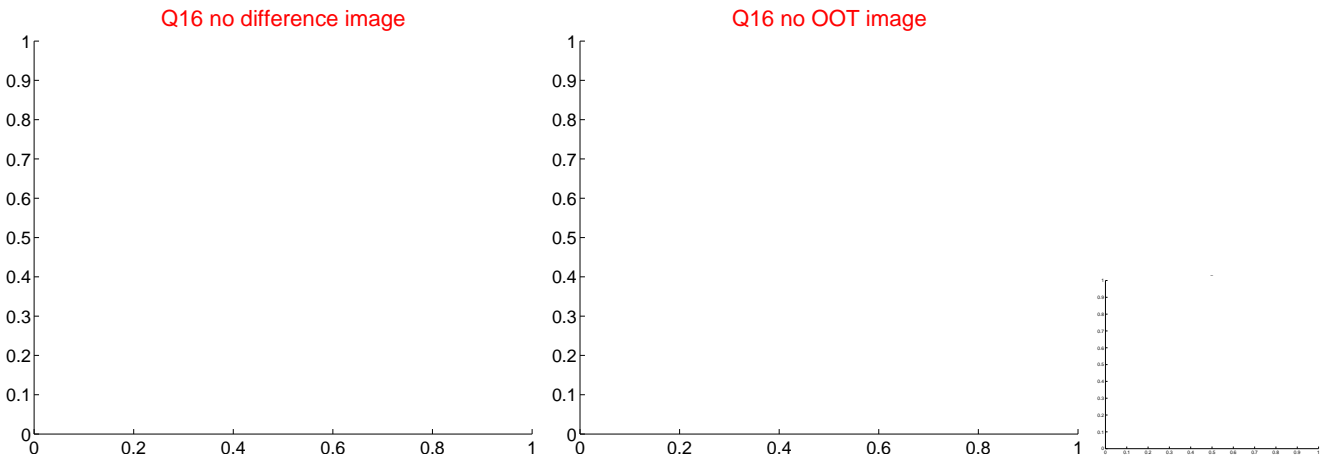
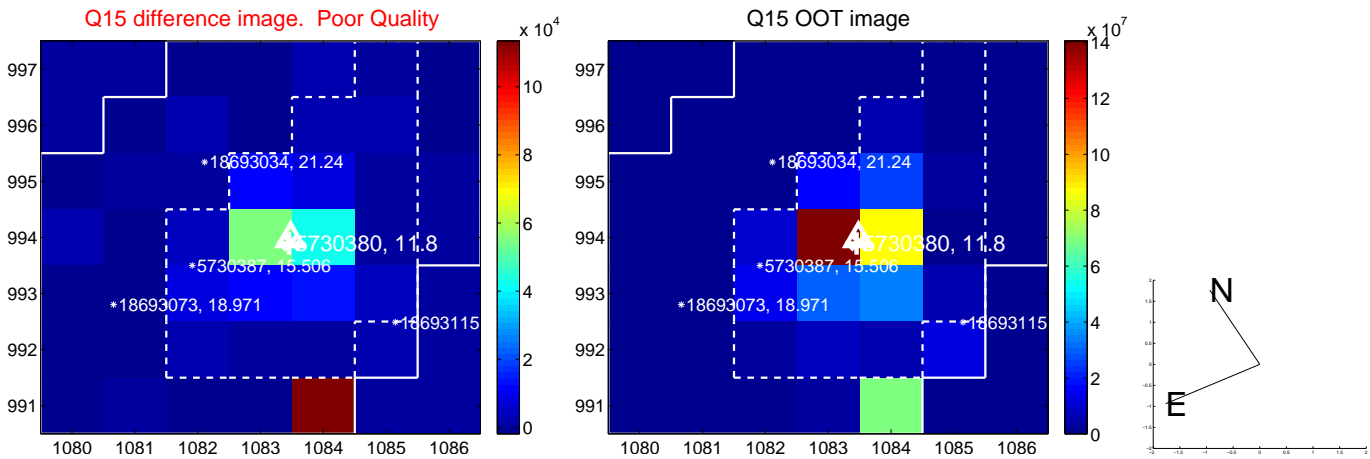
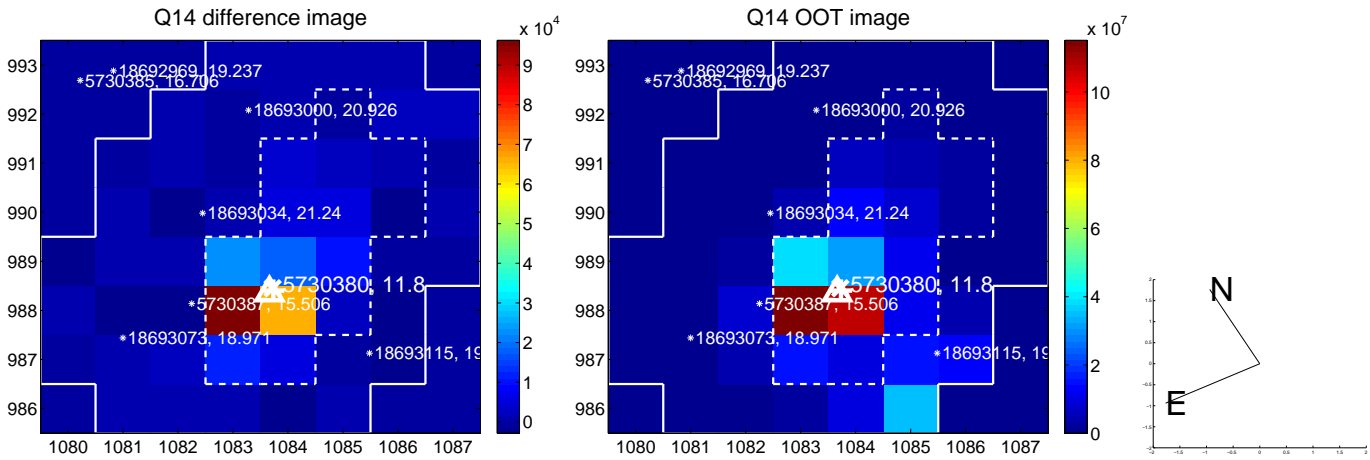
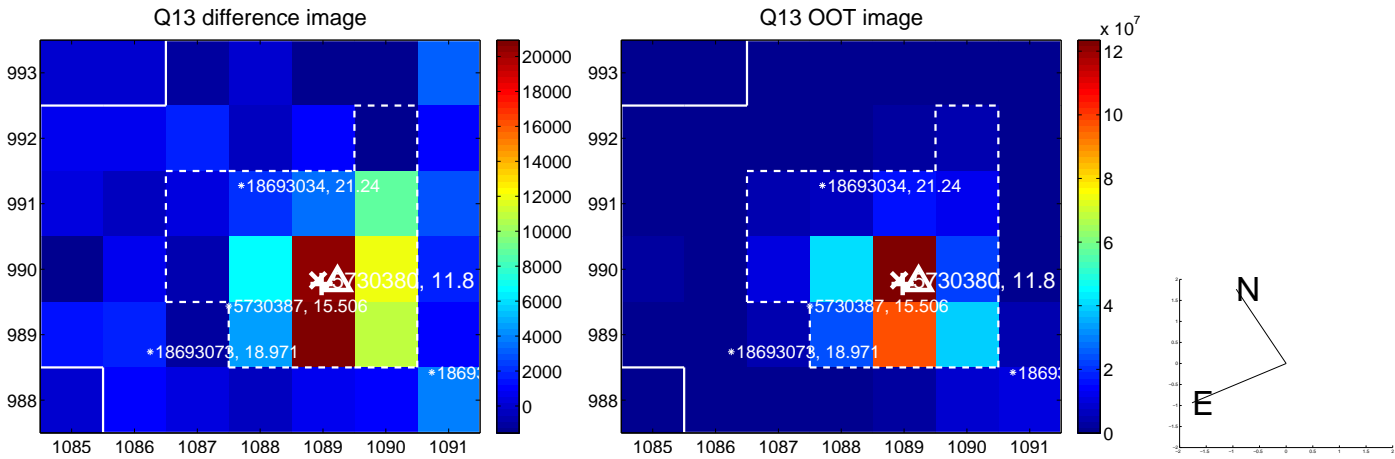
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



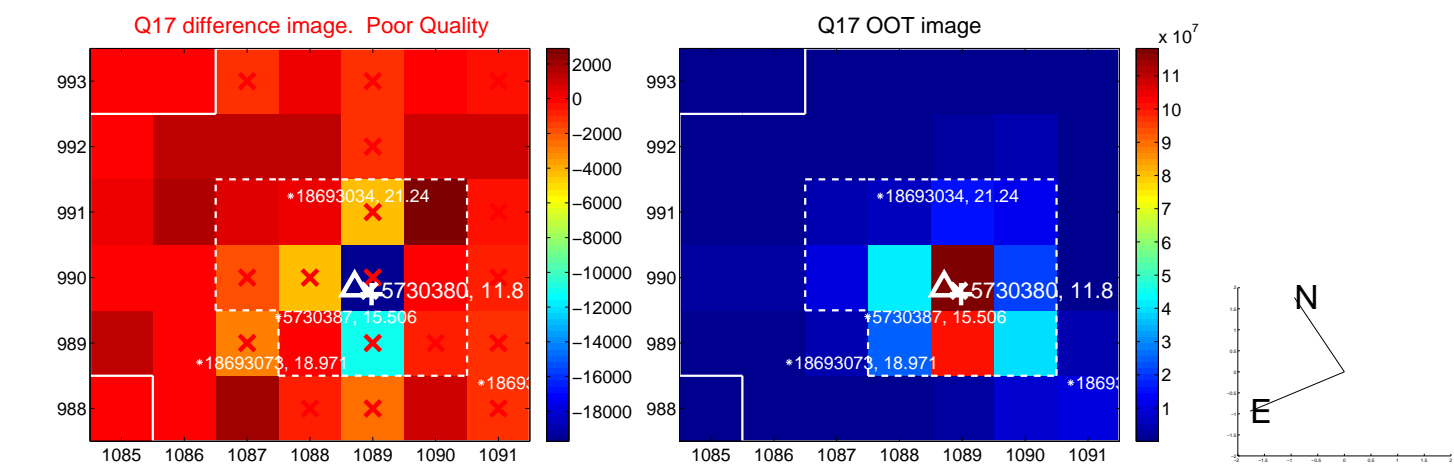
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



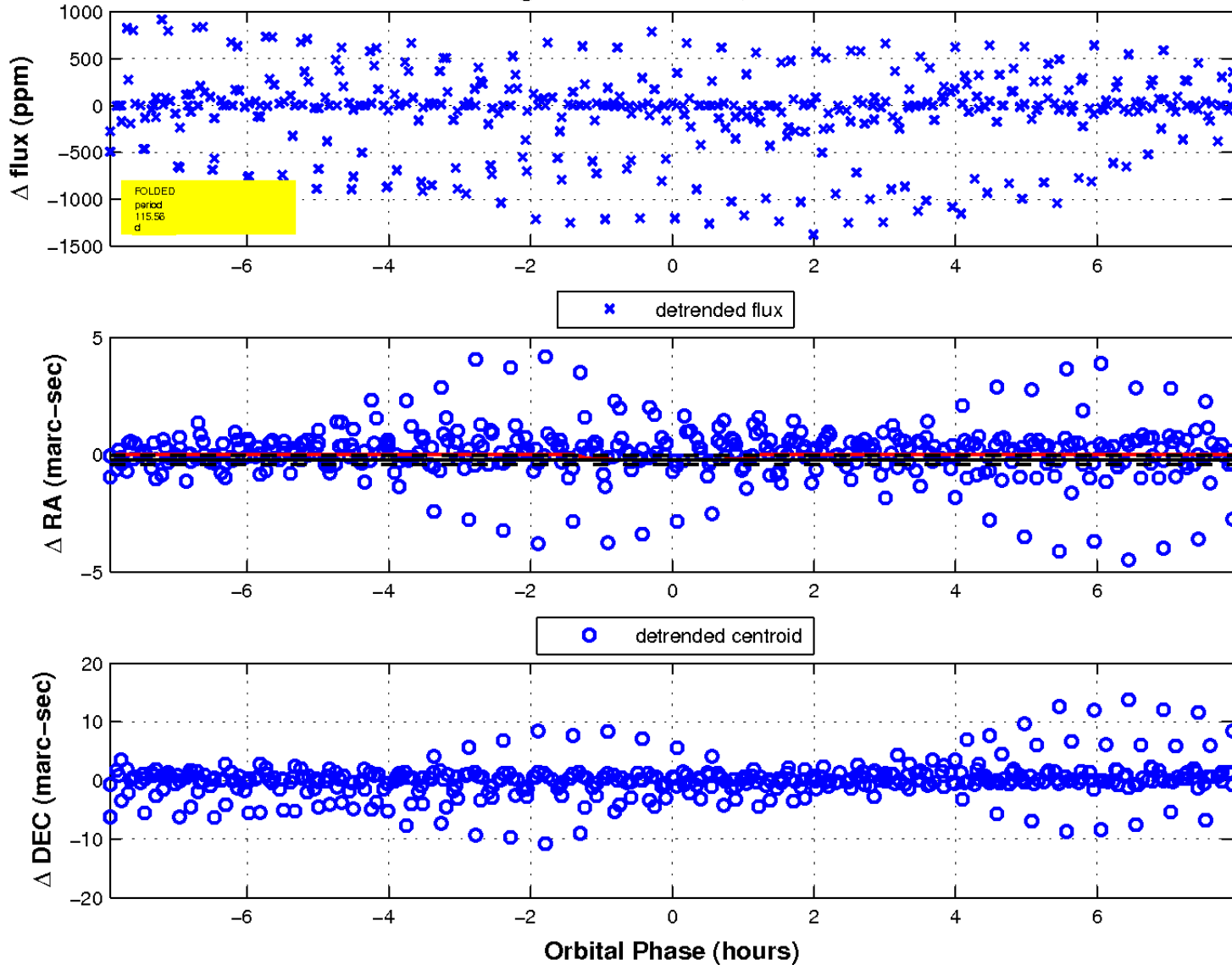
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

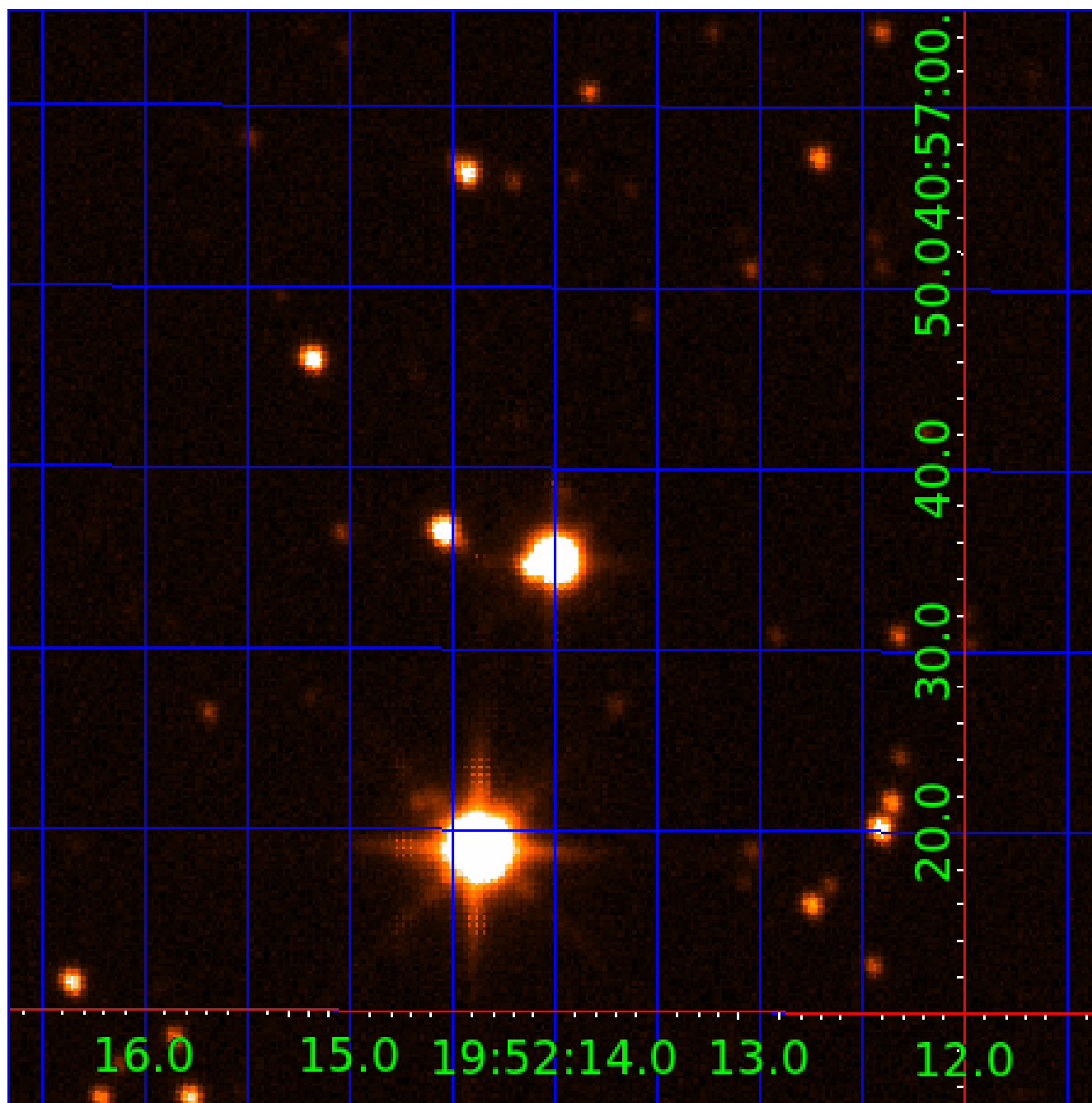


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 005730380

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})
005730380-01	OBS	7738.01	0.954855	131.865466	24.9	1.233	10.6	12.0	1.36	6092	0.80	6923.85
005730380-02	OBS	No	115.563648	190.935721	62.6	2.645	9.7	1.5	1.36	6092	1.33	11.57
005730380-03	OBS	No	0.954857	132.342982	24.7	1.054	8.9	11.1	1.36	6092	0.80	6923.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005730380-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—HAS_SEC_TCE—HALO_GHOST
005730380-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005730380-03	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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

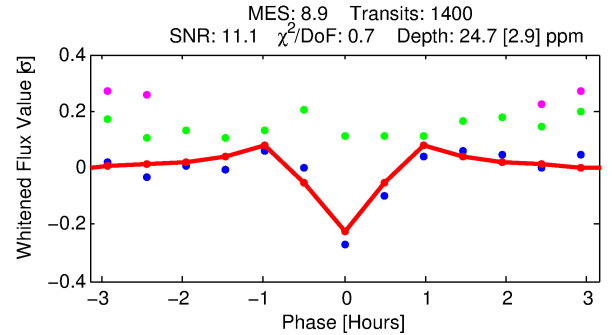
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 005730380-03

No Significant Match Found

KIC: 5730380 Candidate: 3 of 3 Period: 0.955 d

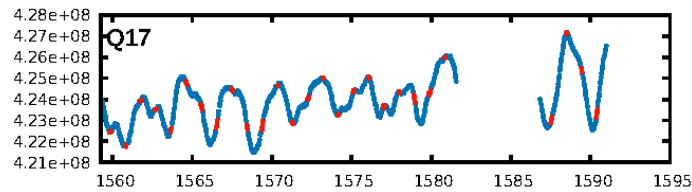
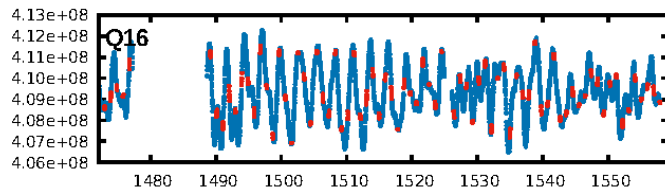
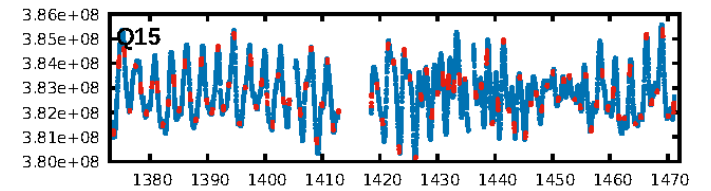
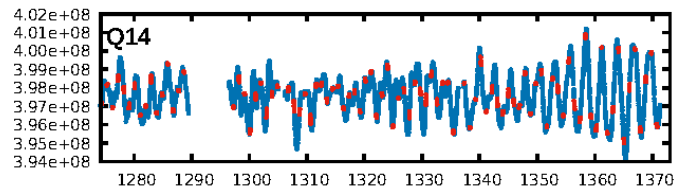
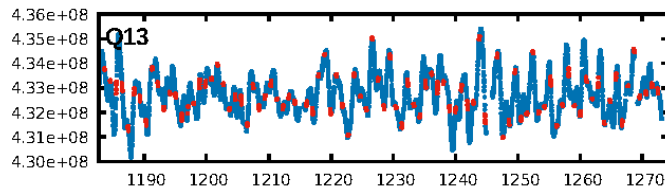
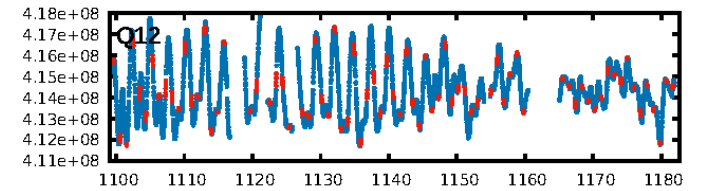
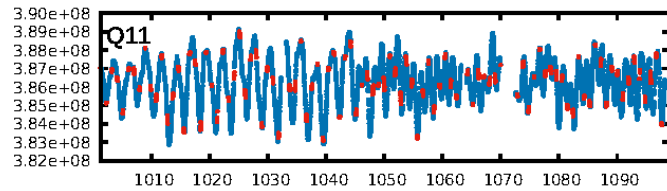
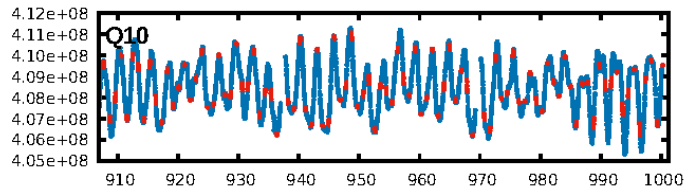
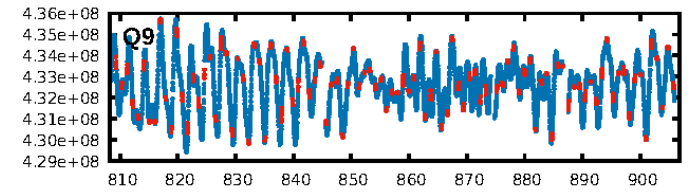
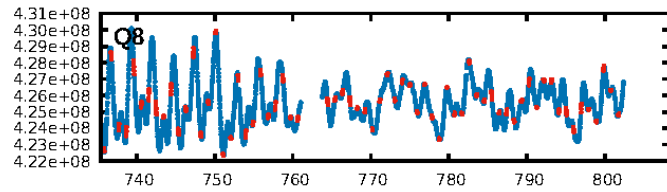
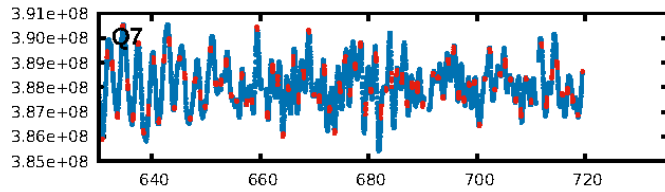
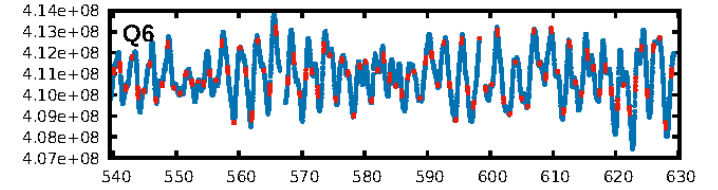
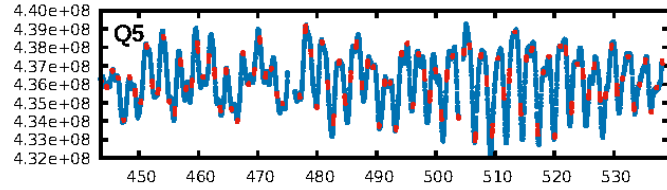
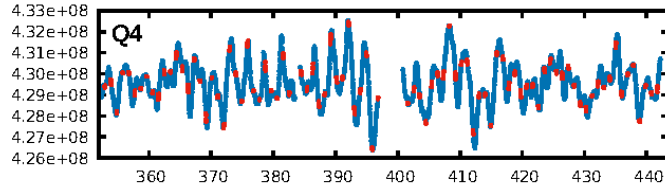
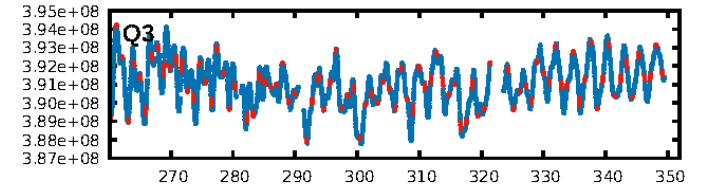
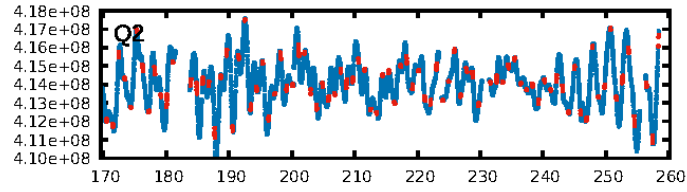
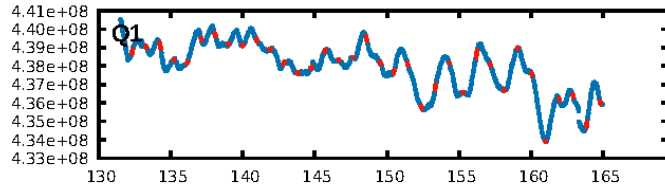


Period = 0.95486 [0.00001] d
 Epoch = 132.3430 [0.0012] BKJD
 Rp/R* = 0.0054 [0.0008]
 a/R* = 3.17 [2.33]
 b = 0.90 [0.17]
 Seff = 6923.84 [3360.58]
 Teq = 2326 [282] K
 Rp = 0.80 [0.27] Re
 a = 0.0182 [0.0053] AU
 Ag = 1.75 [1.55] [0.48σ]
 Tefp = 4134 [784] K [2.17σ]

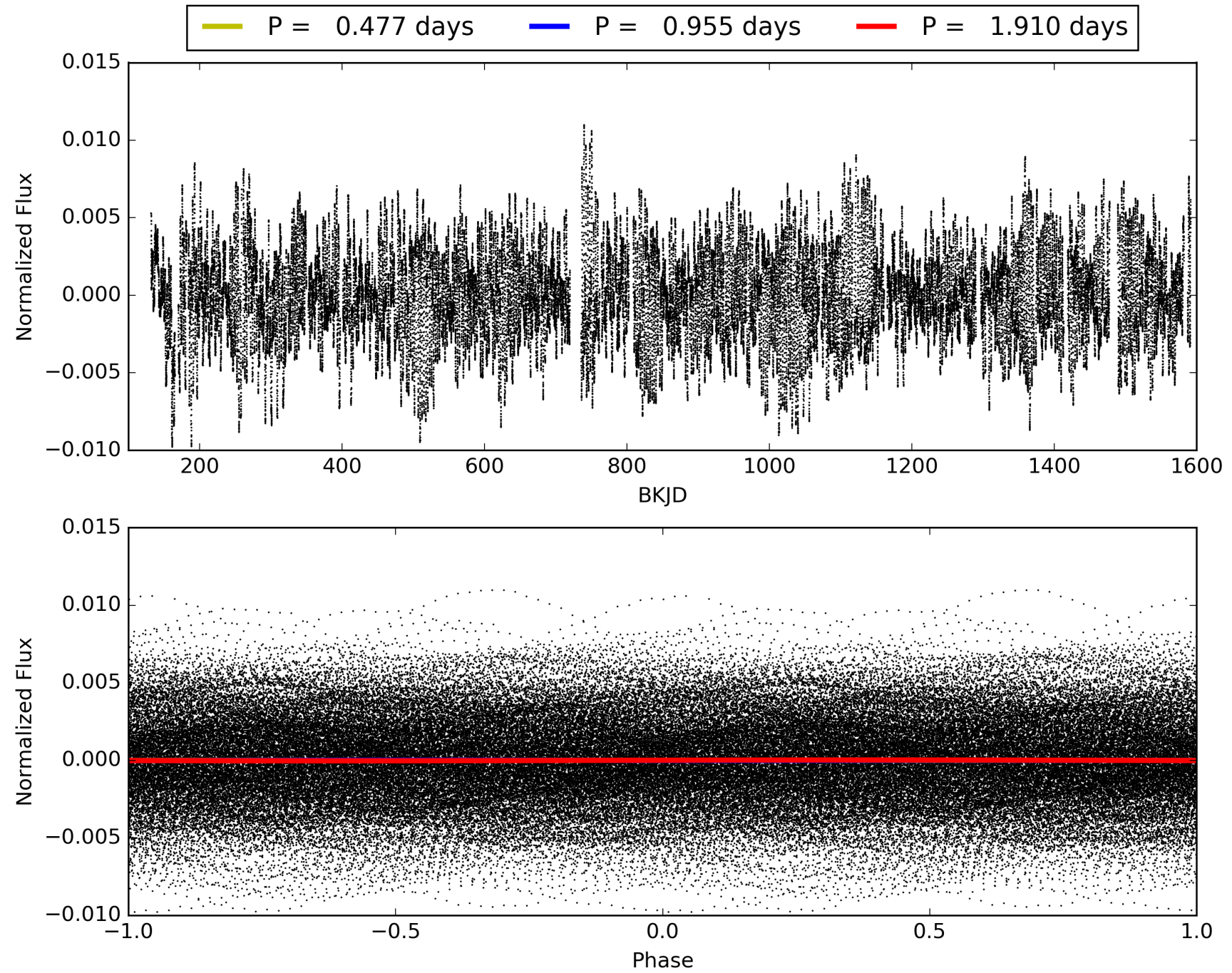
ShortPeriod-sig: 0.0% [0.00s]
 LongPeriod-sig: 100.0% [966.12s]
 ModelChiSquare2-sig: N/A
 ModelChiSquareGof-sig: N/A
 Bootstrap-pfa: 1.24e-19
 RollingBand-fgt: 0.98 [1307/1338]
 GhostDiagnostic-chr: -0.9

 Centroid-sig: N/A
 Centroid-so: 3.933 arcsec [2.75s]
 OotOffset-rm: 2.306 arcsec [5.23s]
 KicOffset-rm: 2.130 arcsec [4.69s]
 OotOffset-st: 3/4/2/4 [13]
 KicOffset-st: 3/4/2/4 [13]
 DiffImageQuality-fgm: 0.54 [7/13]
 DiffImageOverlap-fno: 1.00 [17/17]

TCE 005730380-03, PDC Light Curves

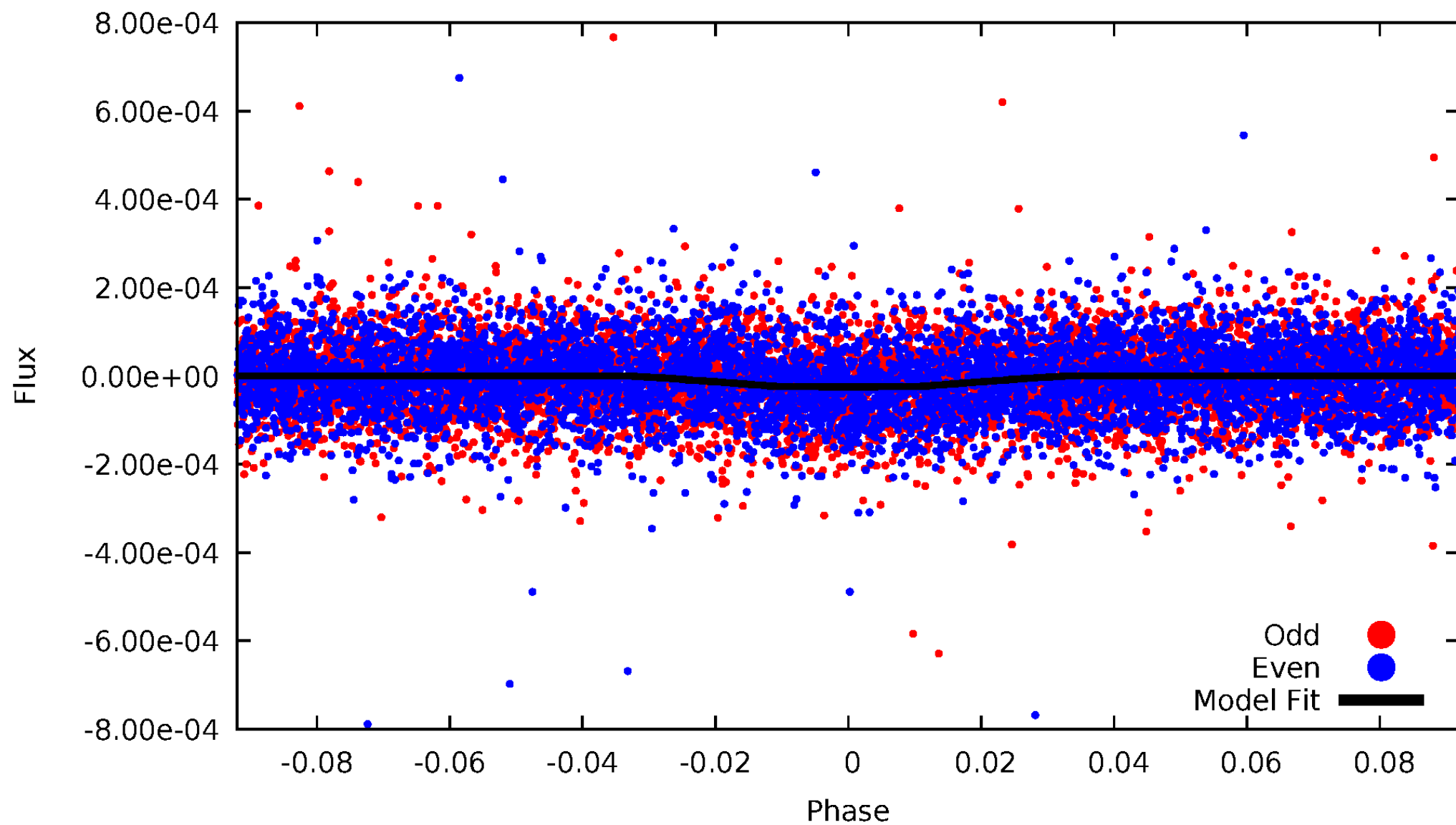


TCE 005730380-03



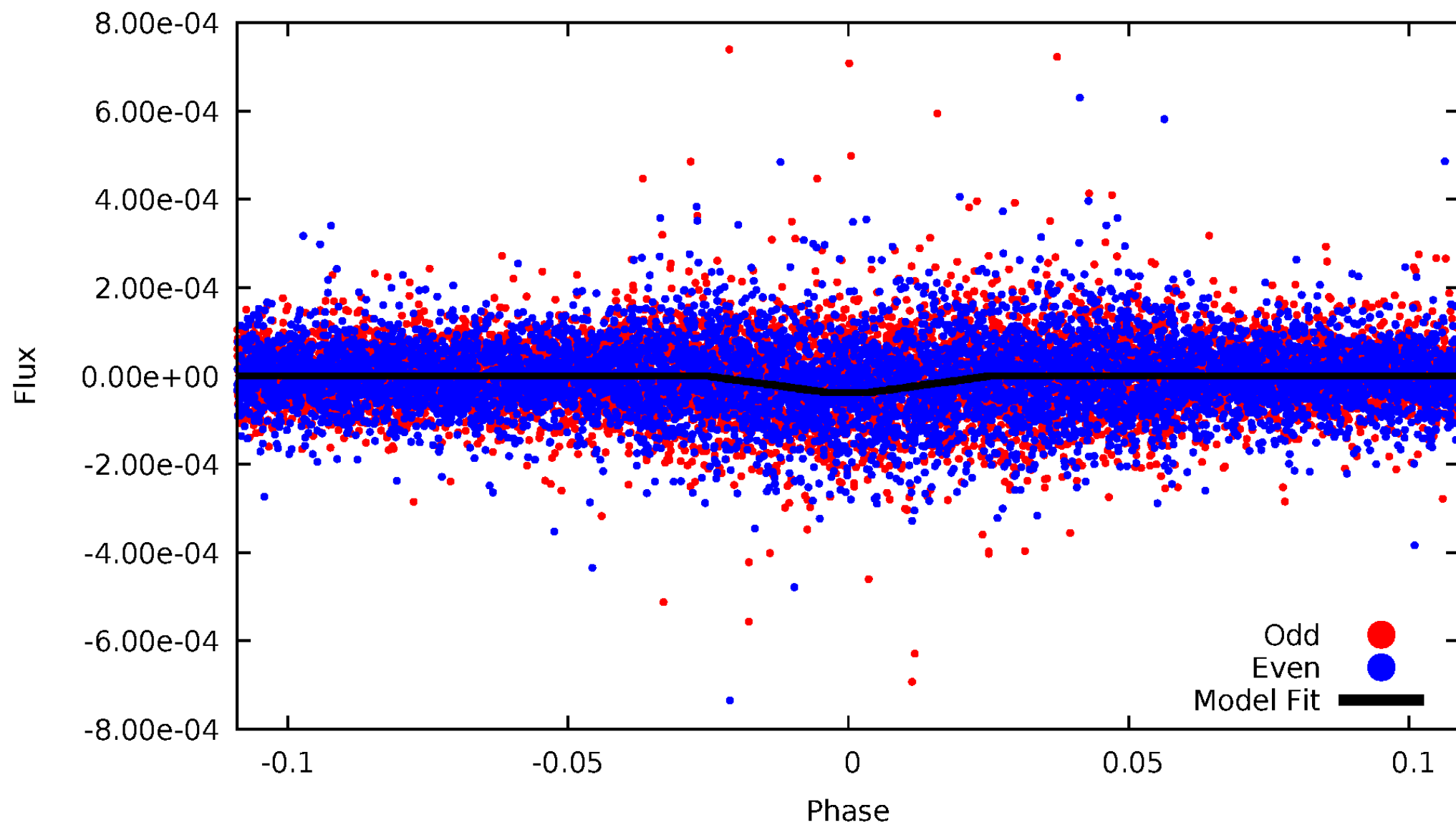
DV Odd/Even

TCE 005730380-03



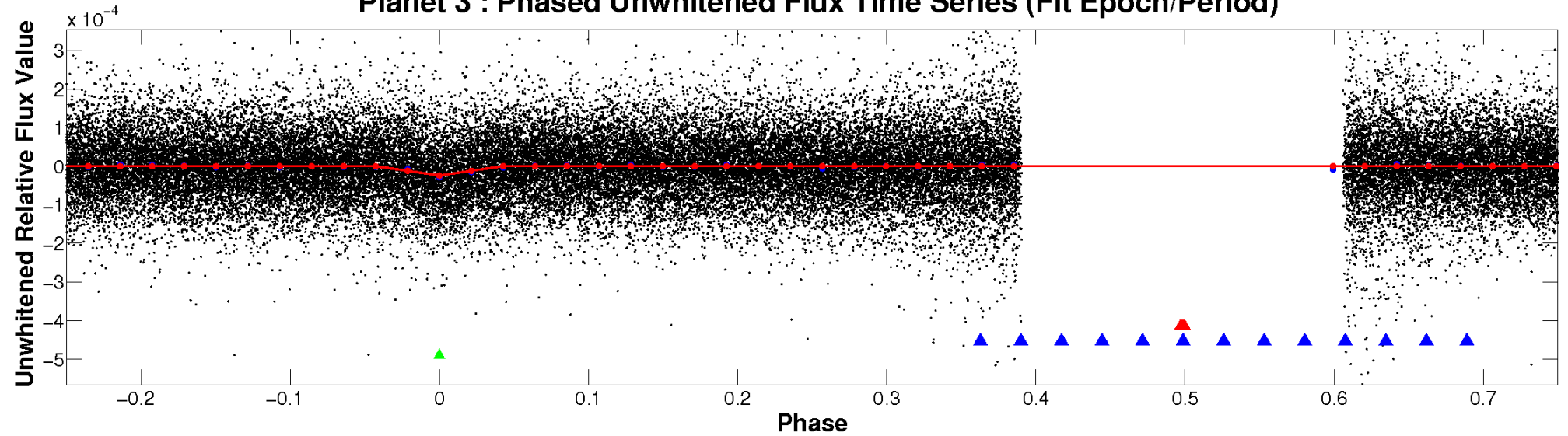
ALT Odd/Even

TCE 005730380-03

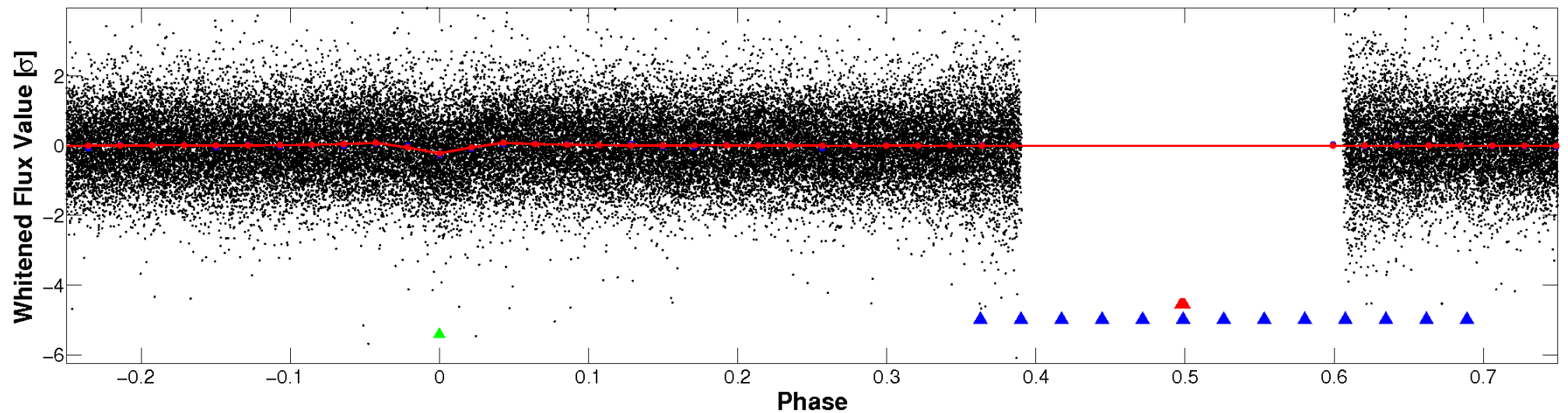


Non-Whitened Vs. Whitened Light Curve

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

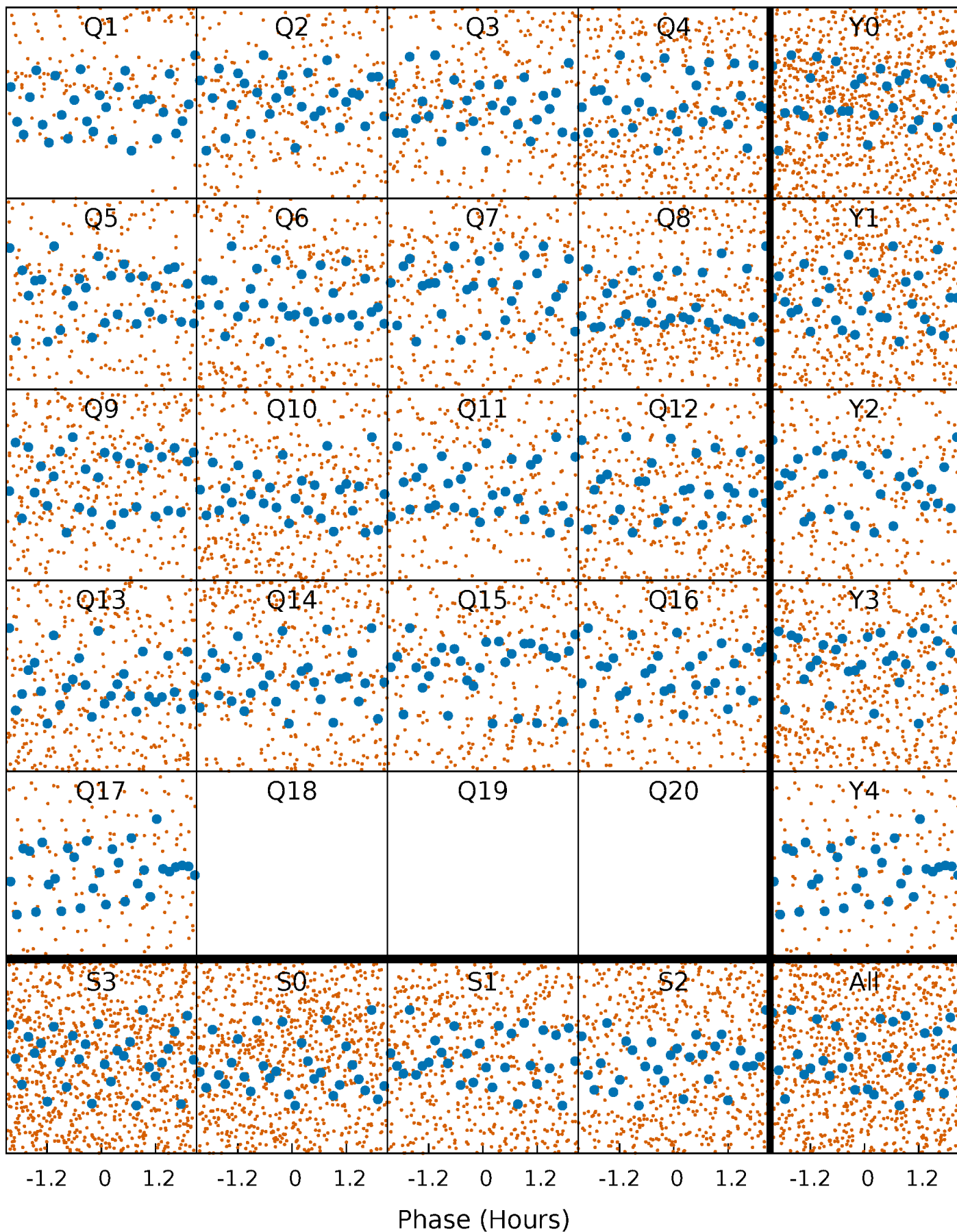


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



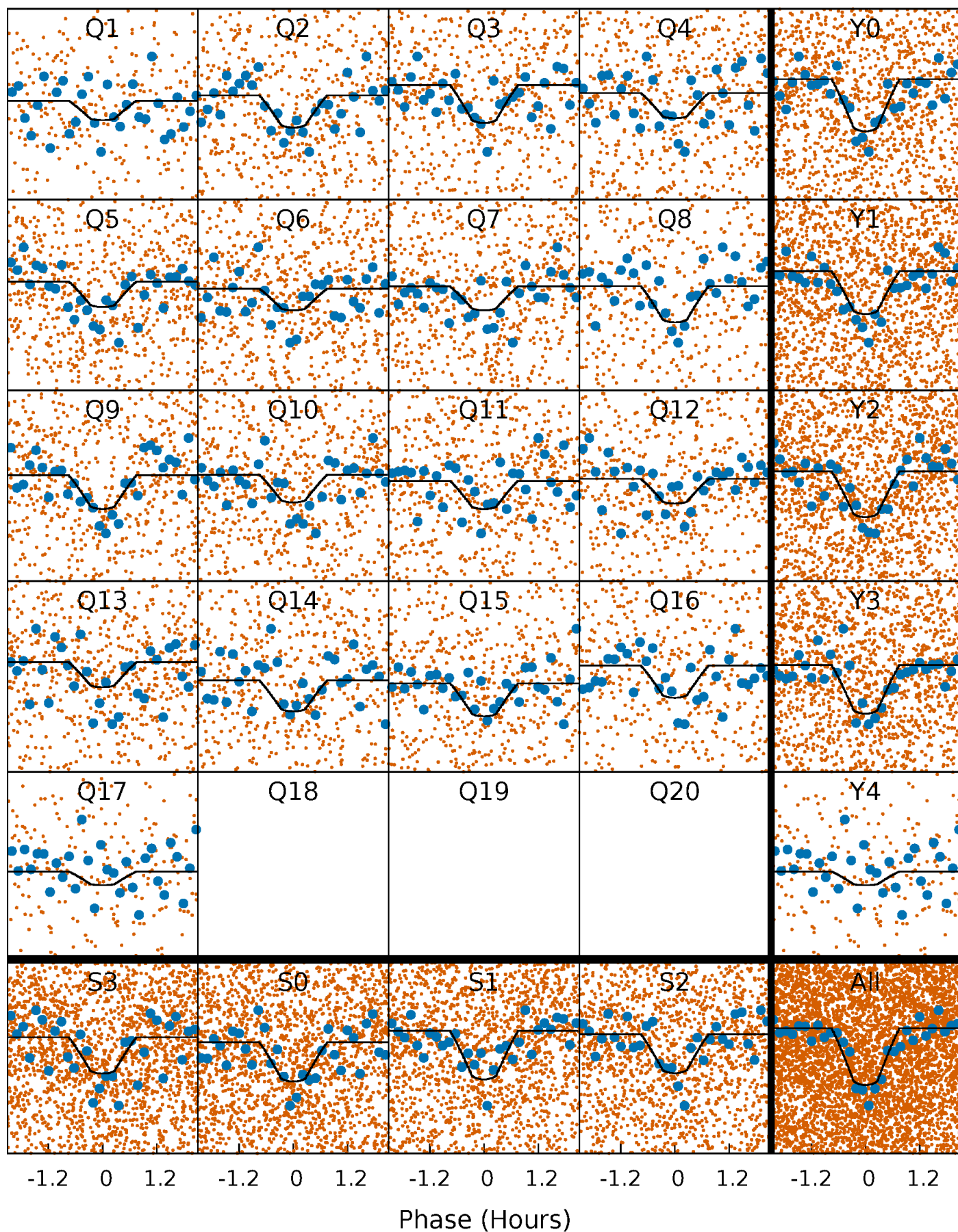
PDC Quarter-Phased Transit Curves

TCE 005730380-03 P= 0.954857 Days $T_0=132.342982$ (BKJD)



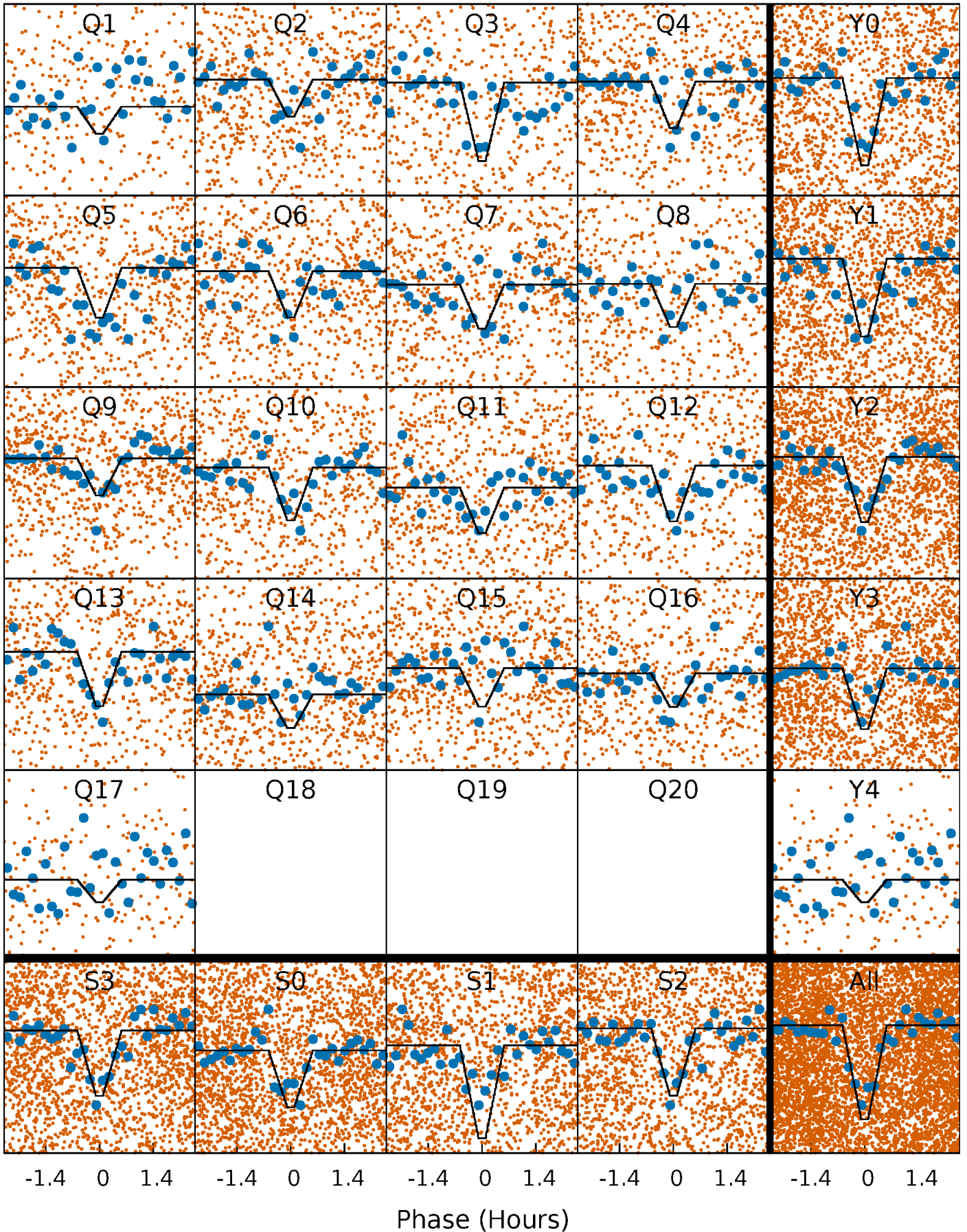
DV Quarter-Phased Transit Curves

TCE 005730380-03 P= 0.954857 Days $T_0=132.342982$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

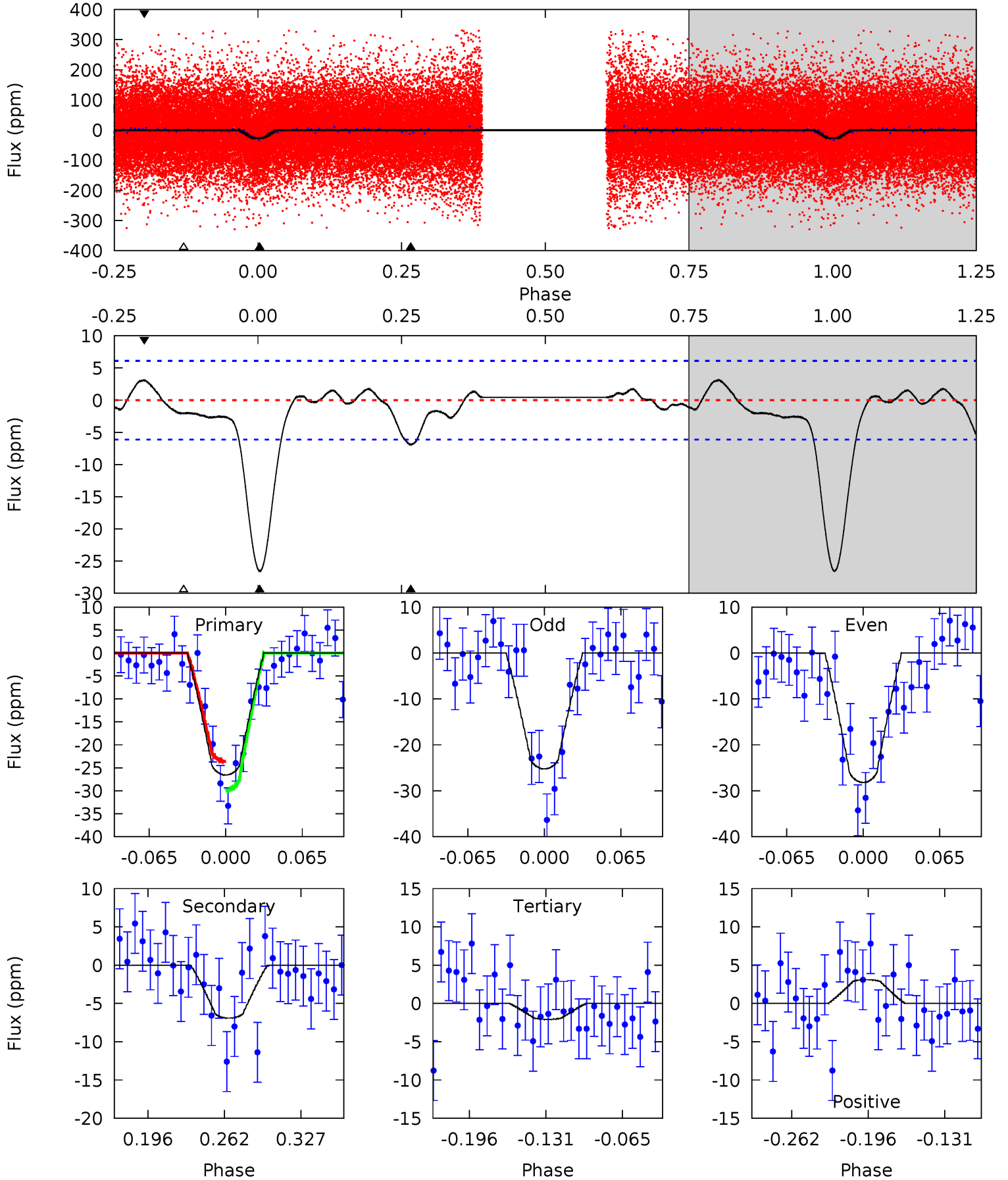
TCE 005730380-03 P= 0.954864 Days $T_0=132.340949$ (BKJD)



DV Model-Shift Uniqueness Test

005730380-03, P = 0.954857 Days, E = 131.388125 Days

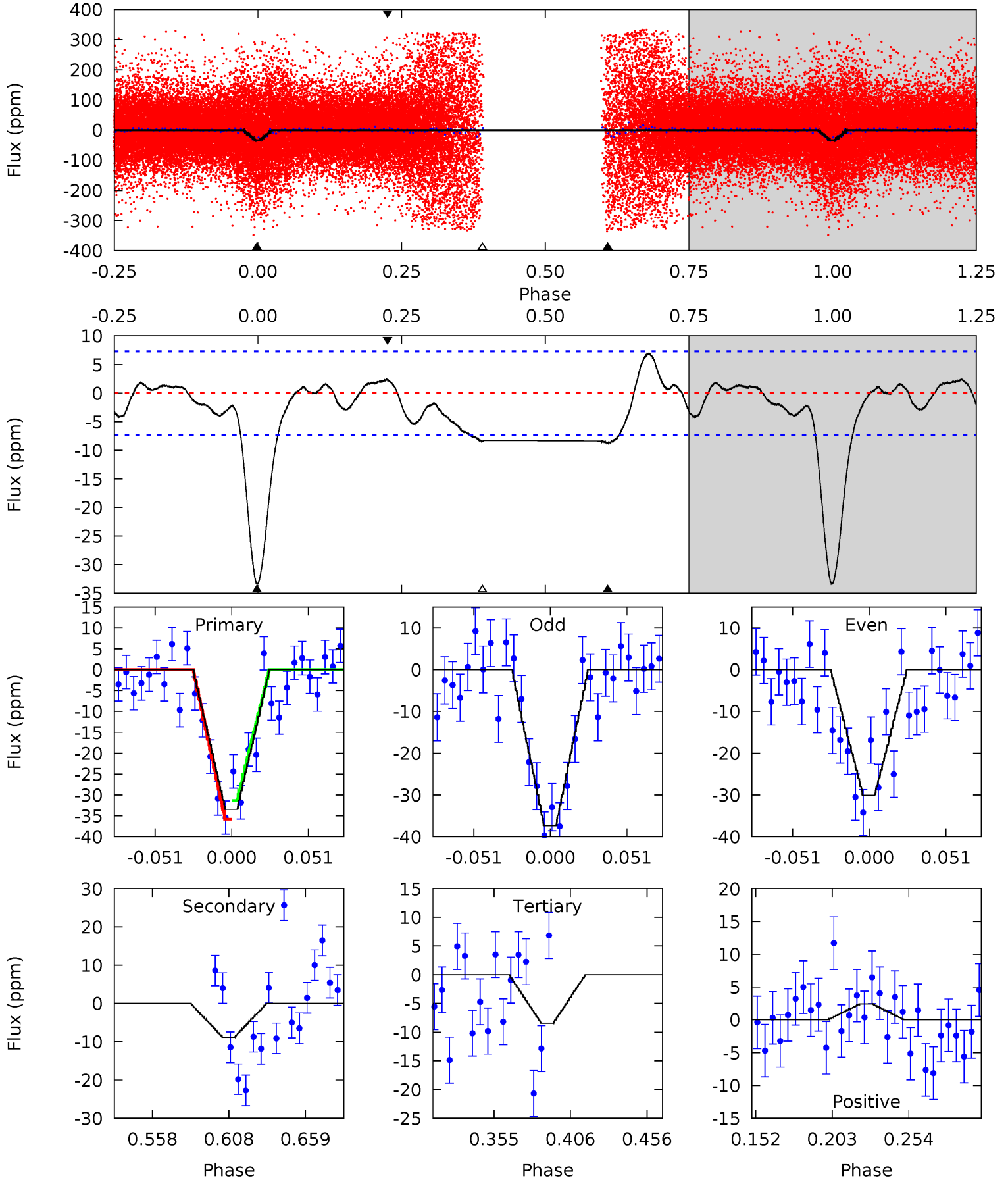
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	5.26	1.58	2.37	4.65	1.84	1.12	18.6	17.8	3.68	2.89	1.13	1.00	0.10	2.51



Alt Model-Shift Uniqueness Test

005730380-03, P = 0.954864 Days, E = 131.386085 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	5.68	5.47	1.57	4.71	1.95	1.76	16.1	20.0	0.21	4.11	2.29	0.92	0.17	1.53



Stellar Parameters For KIC 005730380

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6092^{+164}_{-164}	$4.114^{+0.280}_{-0.120}$	$-0.600^{+0.350}_{-0.250}$	$1.363^{+0.270}_{-0.405}$	$0.881^{+0.121}_{-0.084}$	$0.490^{+0.828}_{-0.190}$
	+3%/-3%	+7%/-3%	+58%/-42%	+20%/-30%	+14%/-10%	+169%/-39%
Source	PHO1	FLK73	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 005730380-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 1	$0.78^{+0.17}_{-0.16}$	3216^{+211}_{-263}	4334^{+375}_{-361}	$2.115^{+1.282}_{-0.772}$
Alt.	-9 ± 2	$0.88^{+0.19}_{-0.18}$	3205^{+217}_{-260}	4306^{+362}_{-313}	$2.095^{+1.315}_{-0.726}$

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

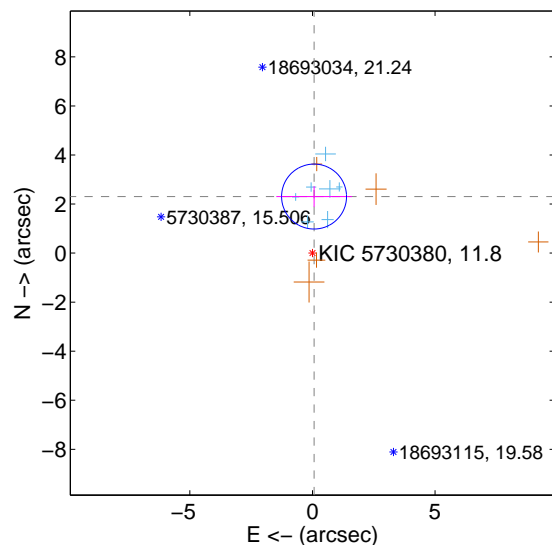
Supplemental centroid analysis for 005730380-03. **Kepler magnitude: 11.80.** Transit SNR 11.07

There are 7 quarters with good PRF difference image offsets

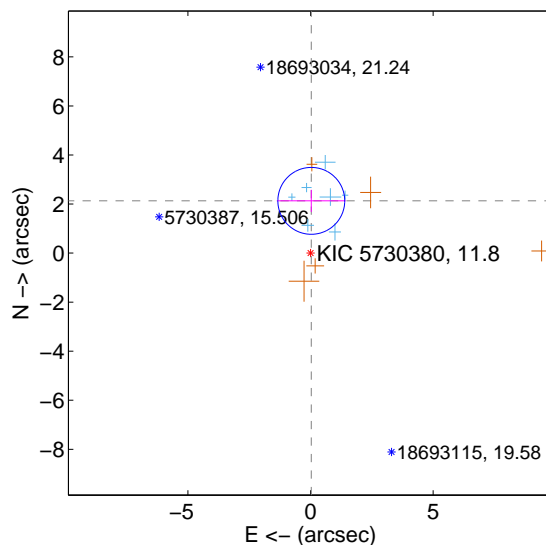
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.306 ± 0.441	5.23	-0.066 ± 1.541	2.306 ± 0.422
PRF-fit source offset from KIC position	2.130 ± 0.454	4.69	-0.031 ± 1.405	2.130 ± 0.450
photometric centroid source offset	3.93 ± 1.43	2.75	-1.16 ± 1.08	3.76 ± 1.46

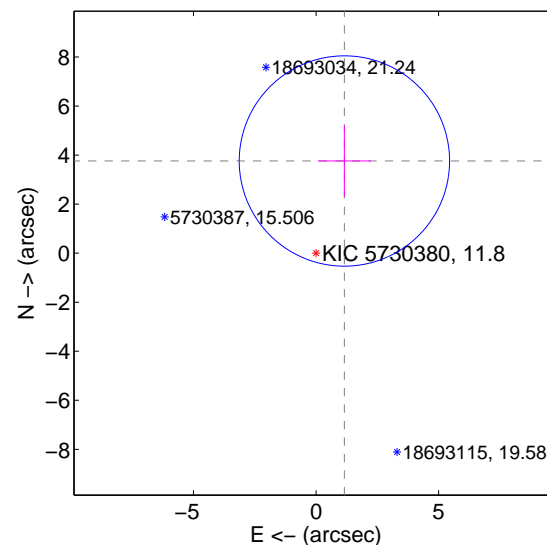
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

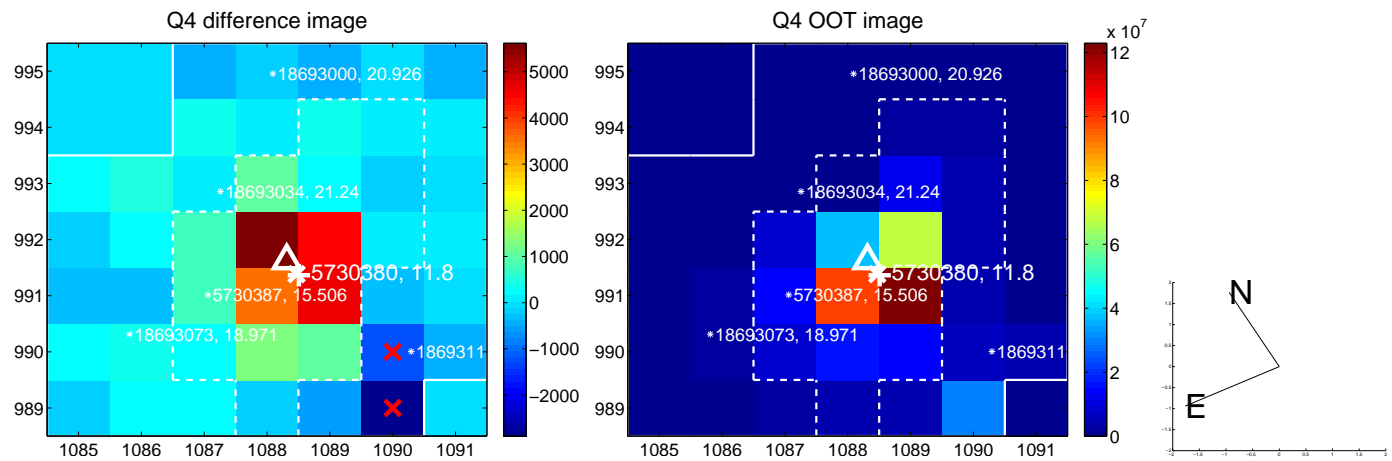
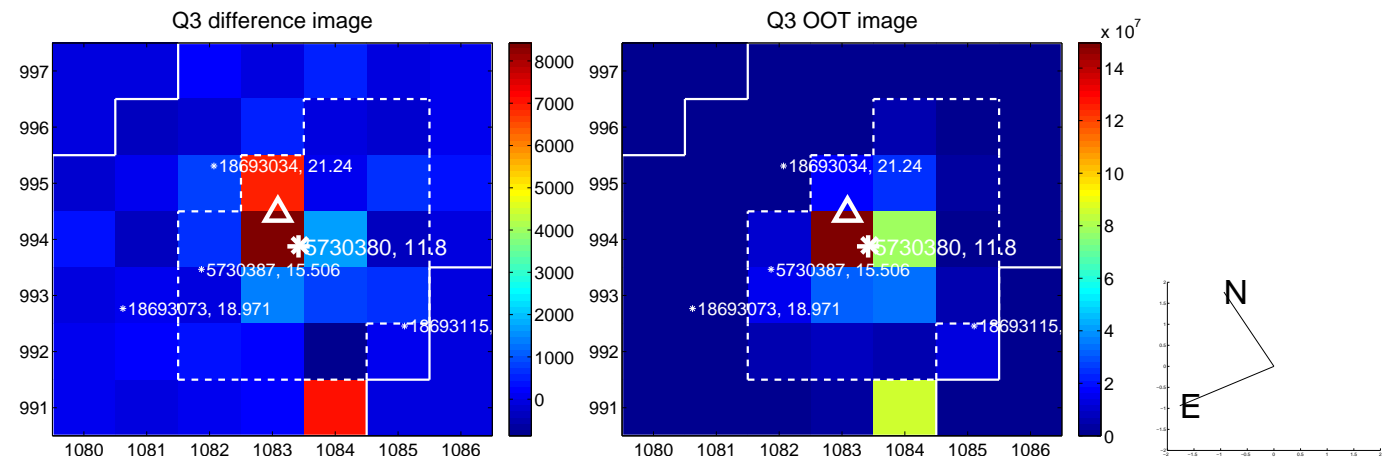
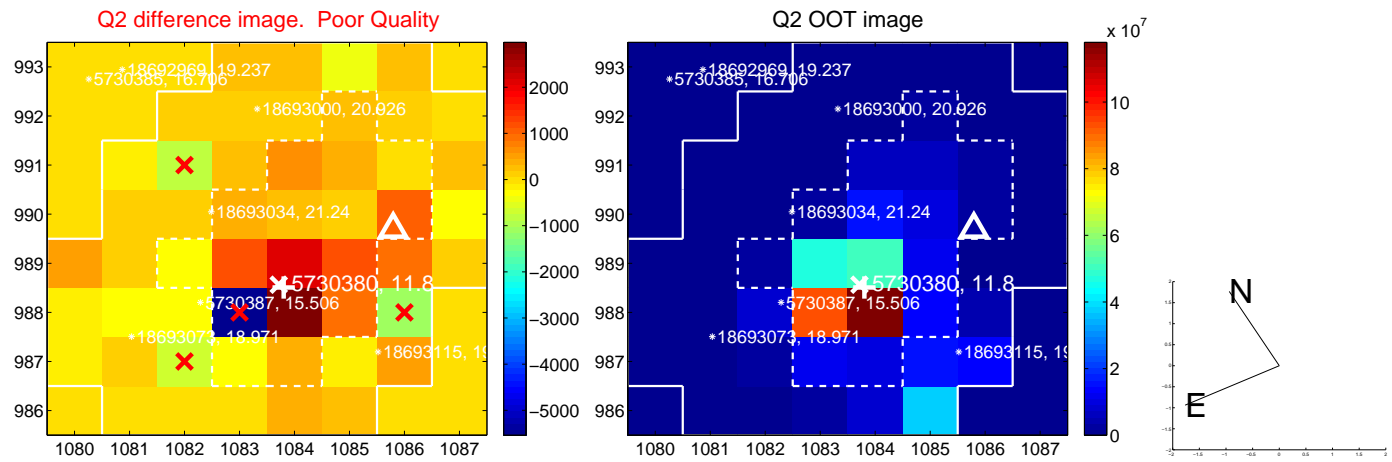
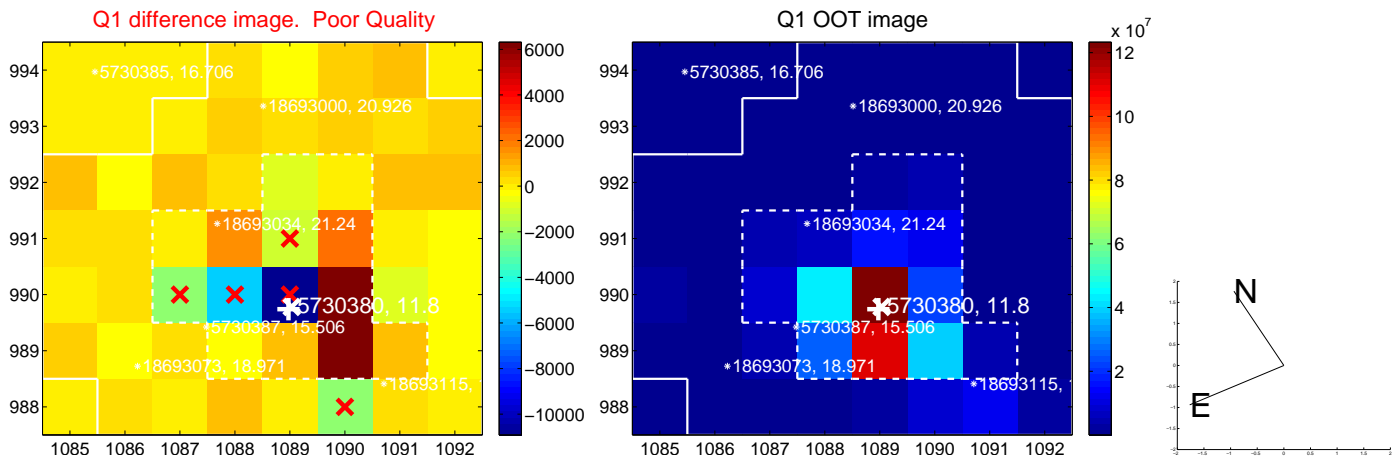


offset from photometric centroids

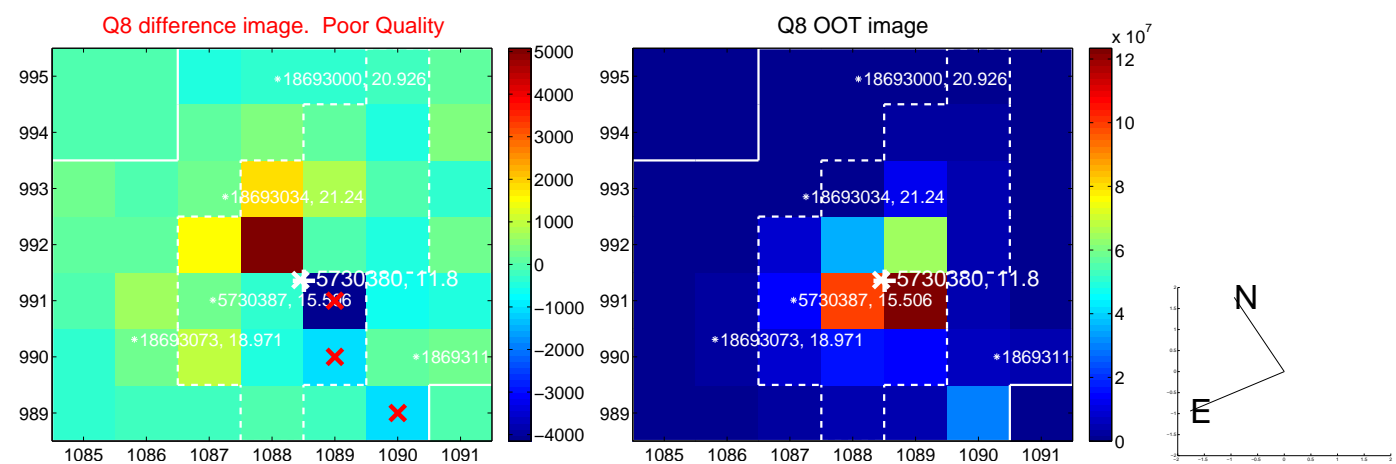
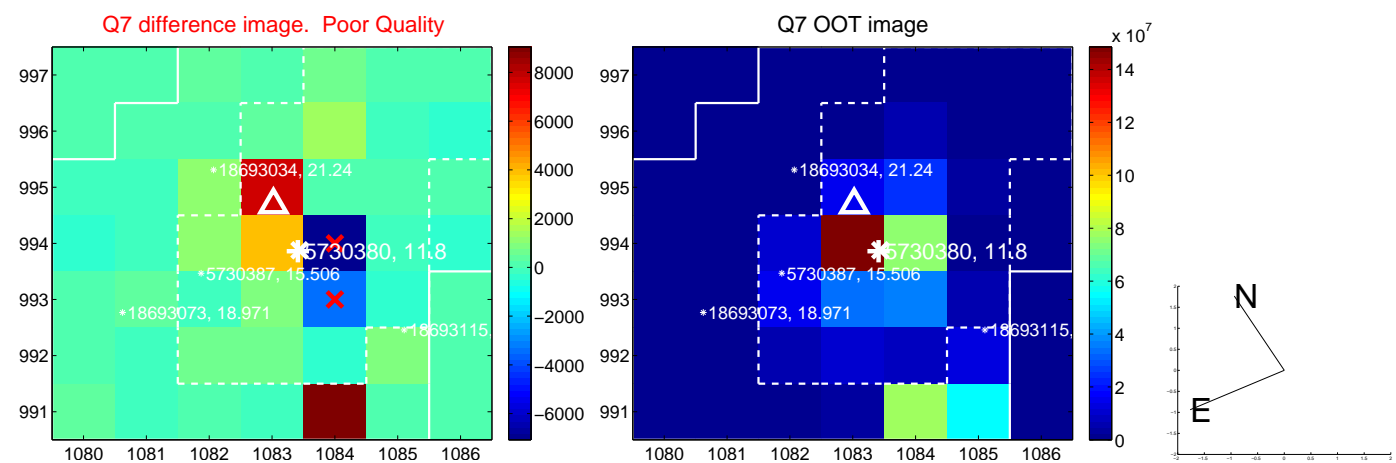
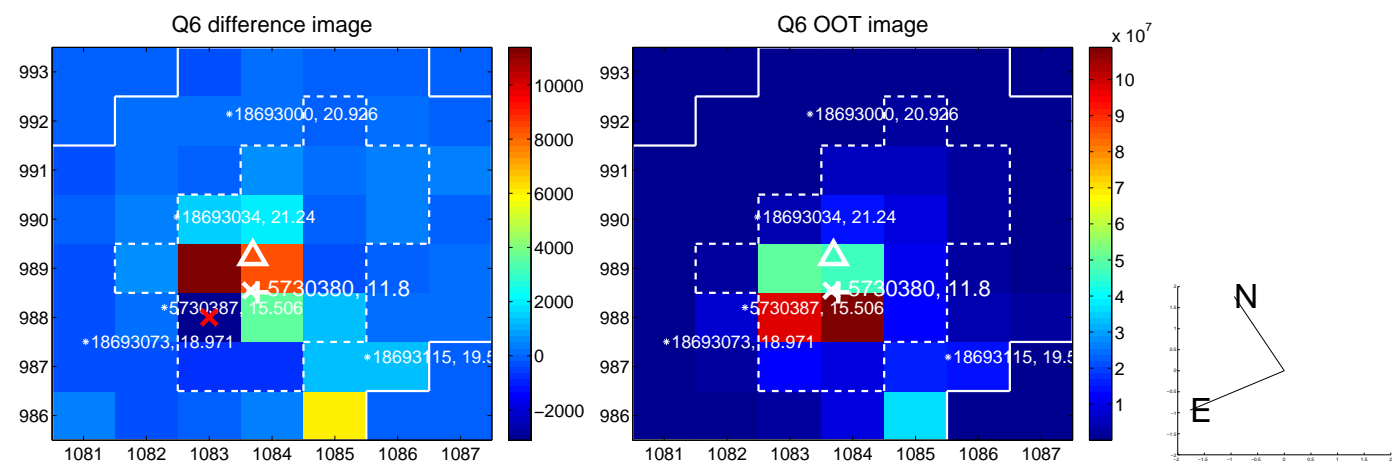
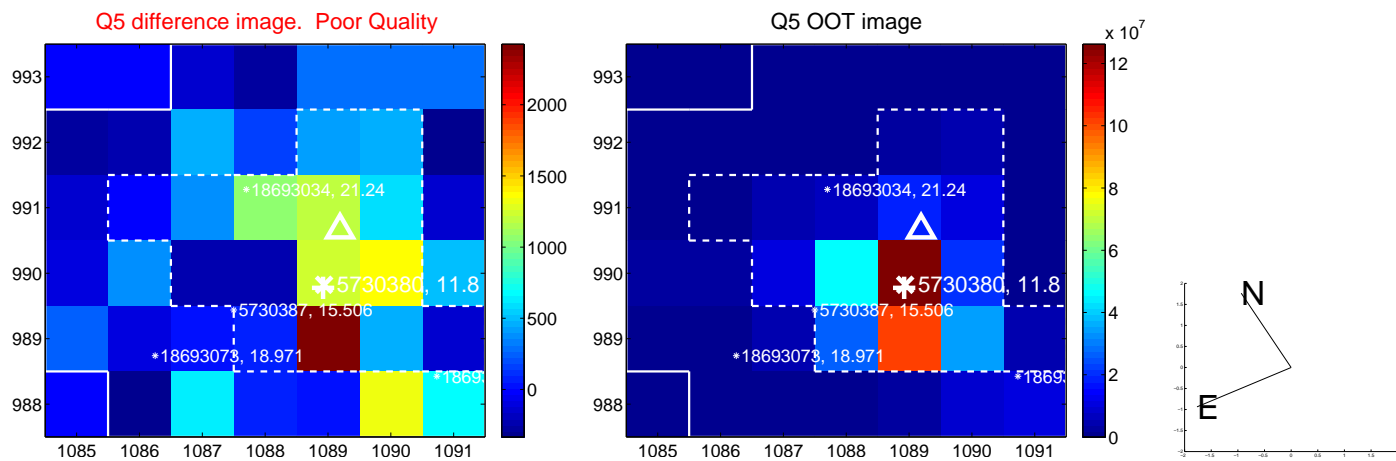


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

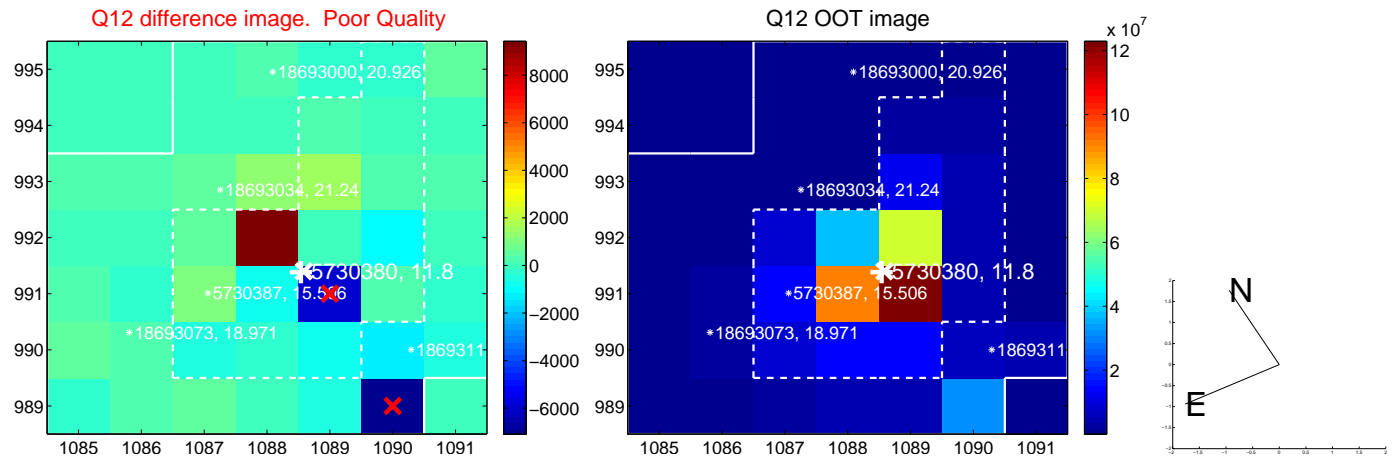
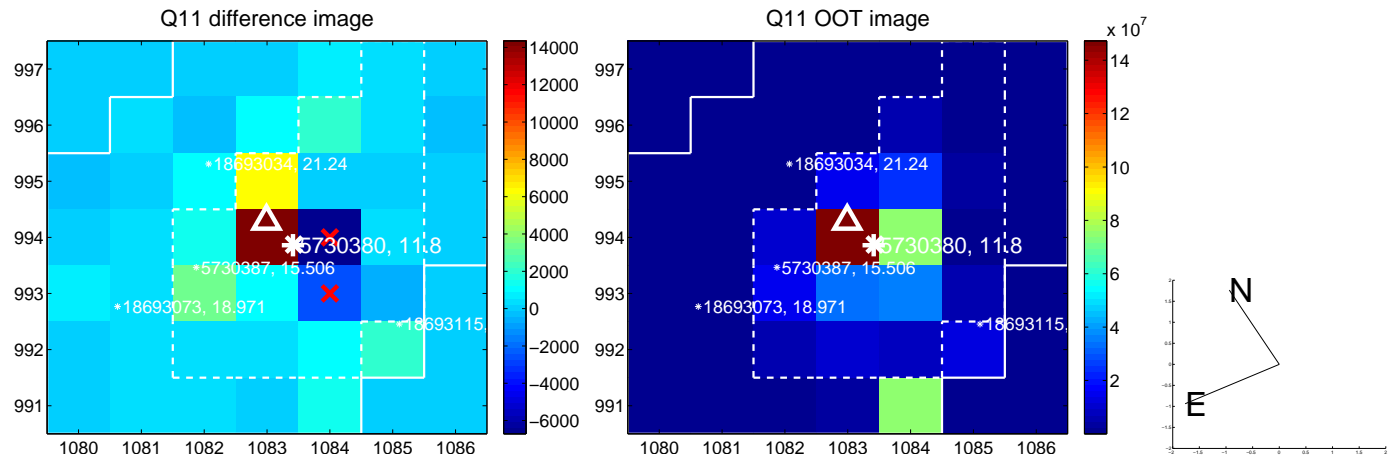
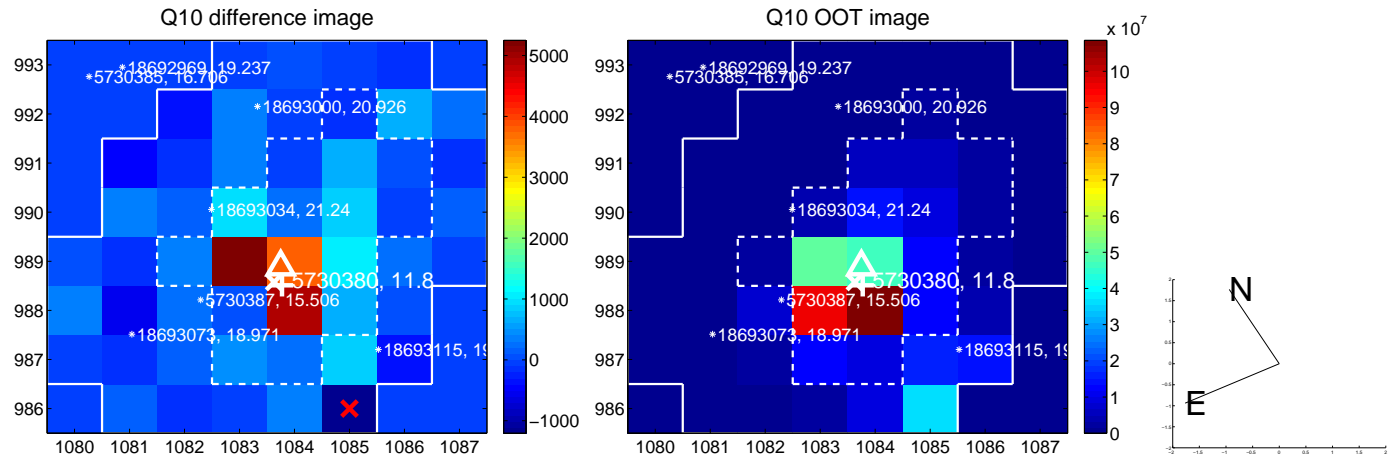
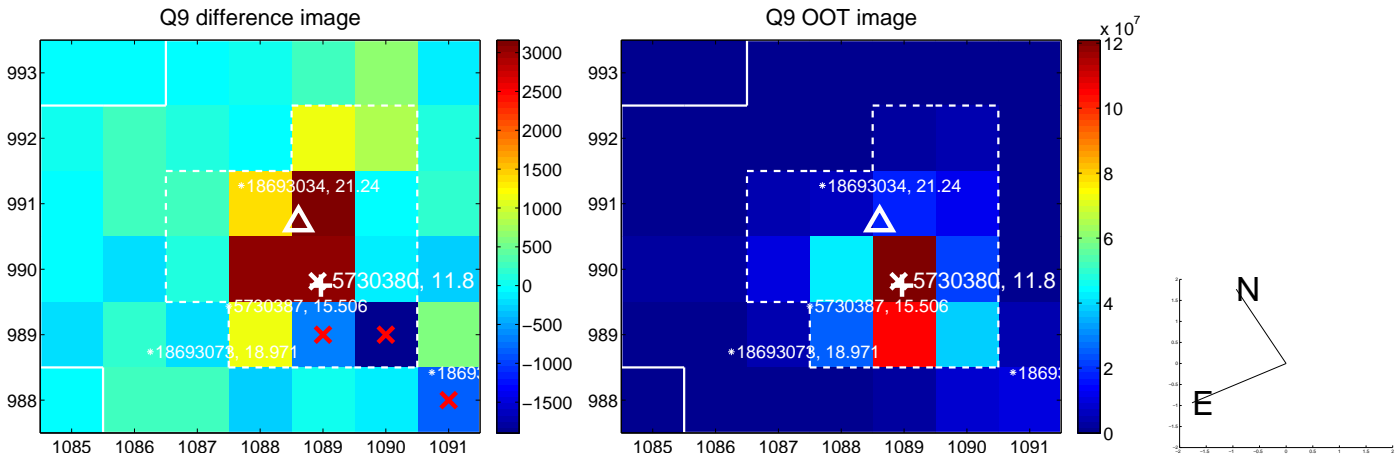
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



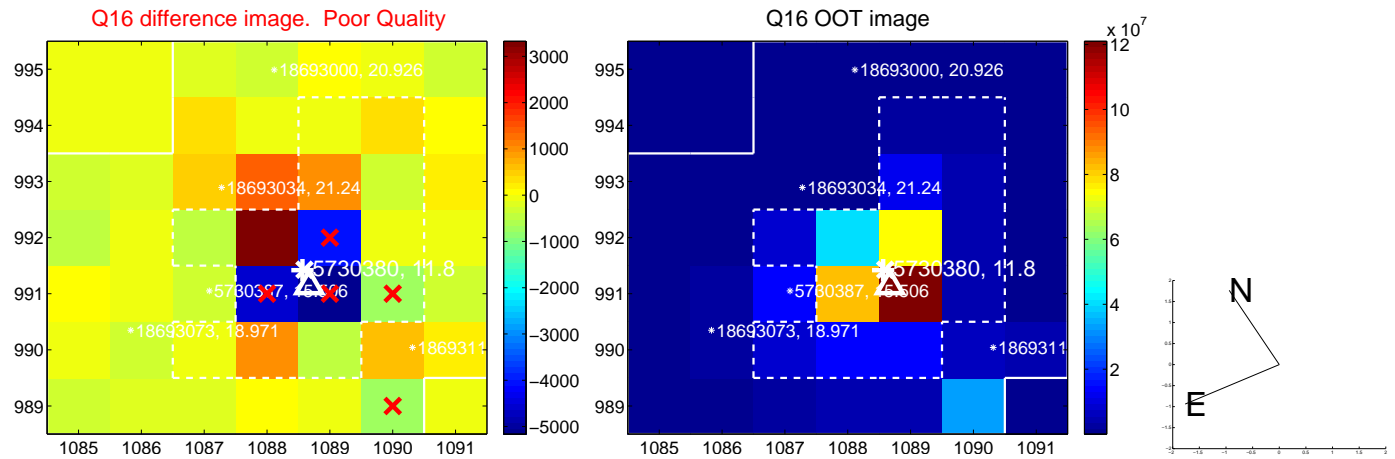
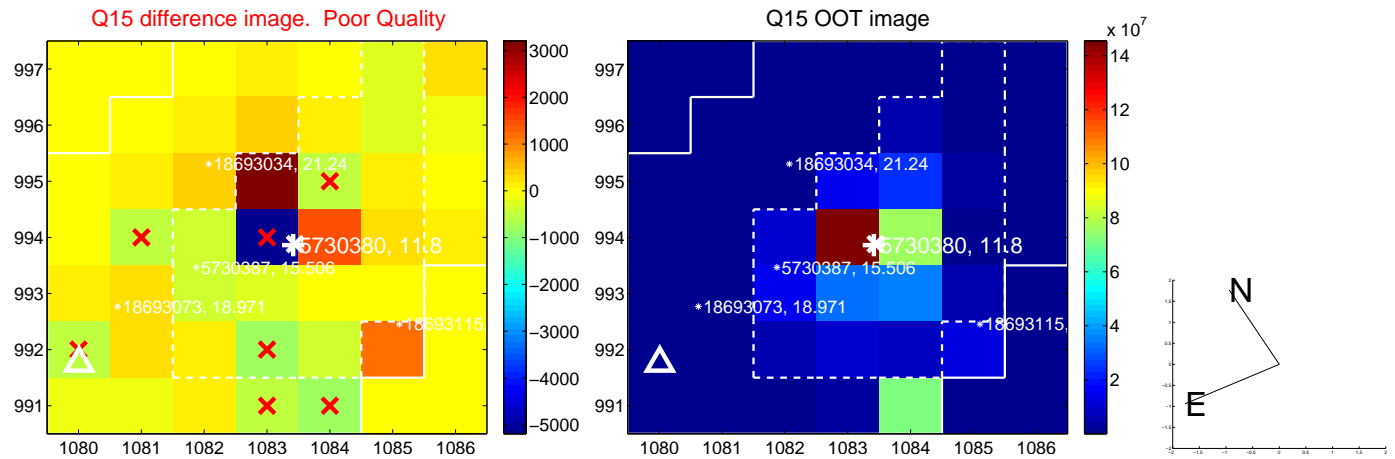
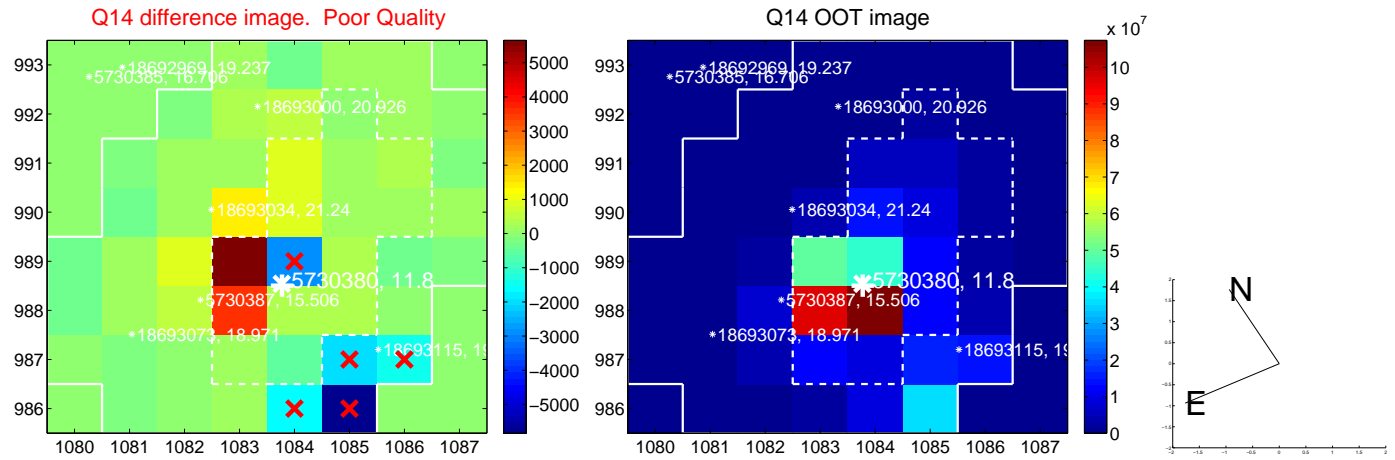
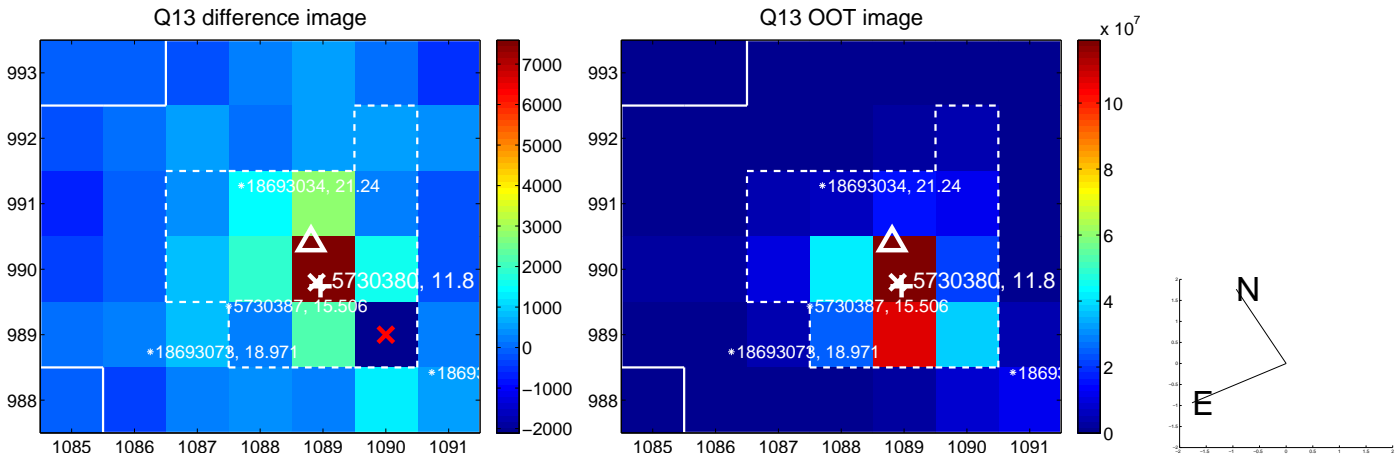
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



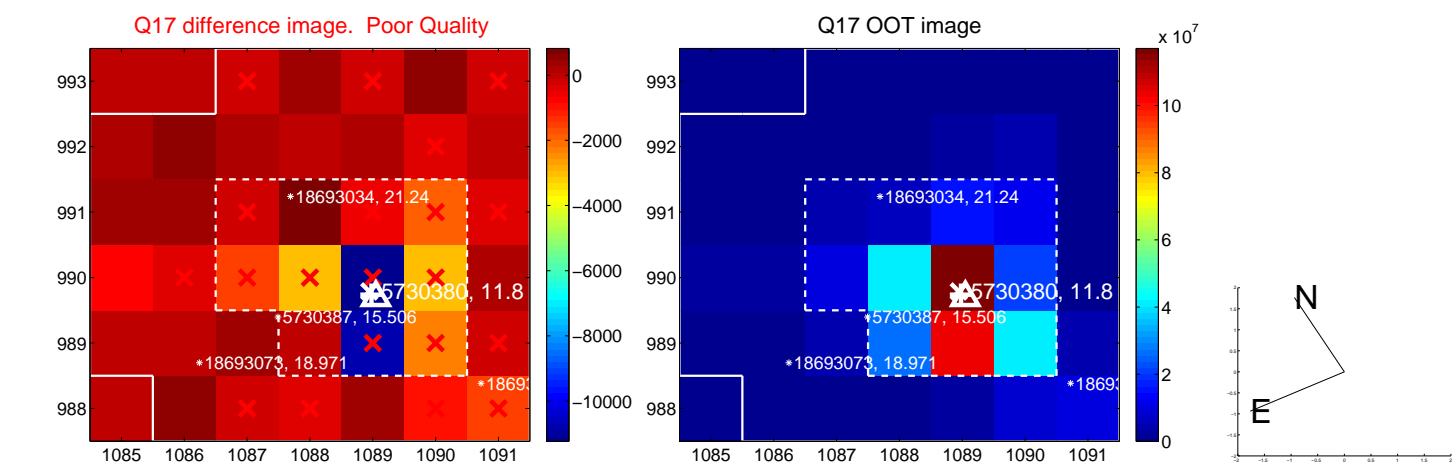
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



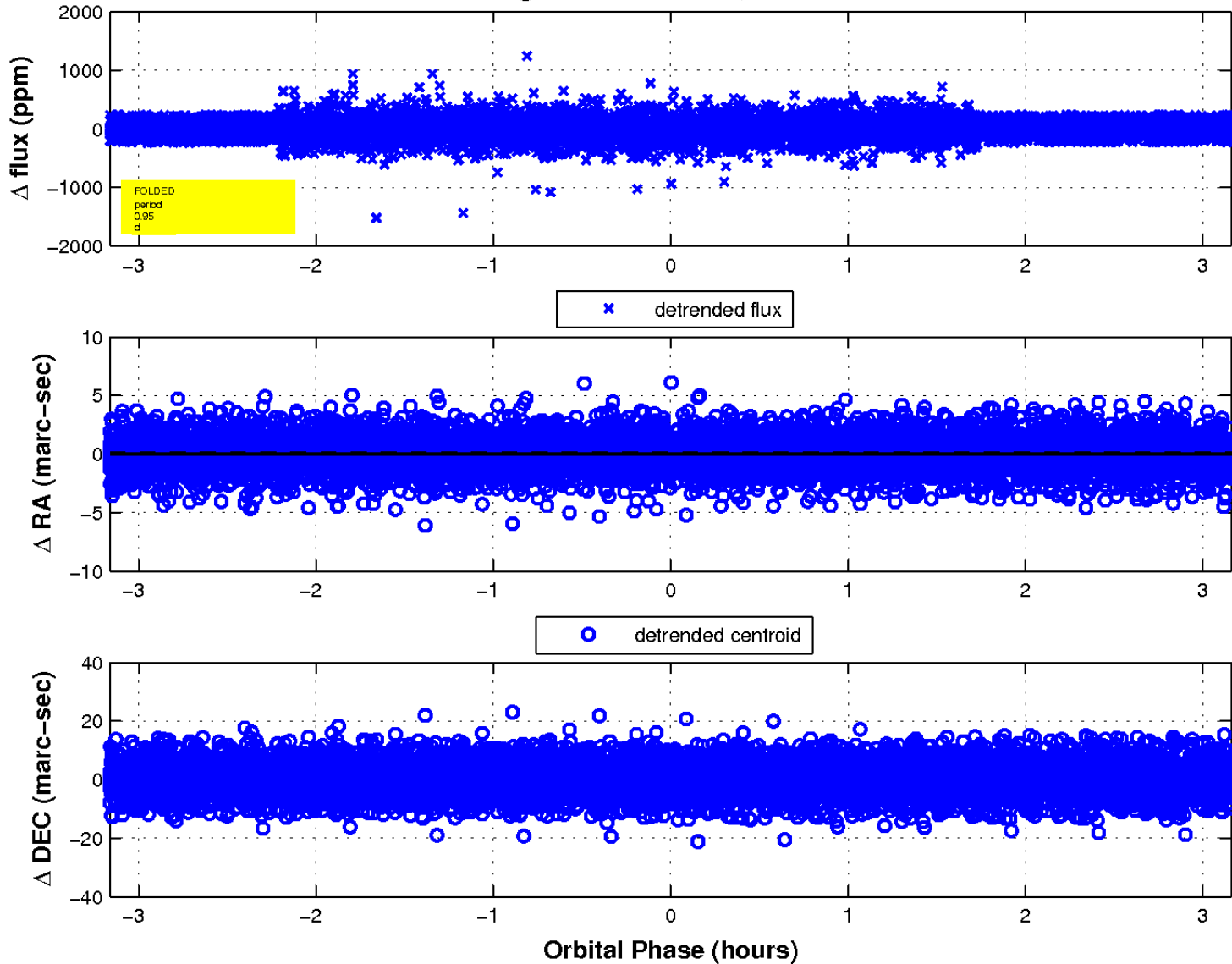
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

