

KIC 009892749

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})
009892749-01	OBS	No	2.437750	131.926539	11.2	7.665	9.5	5.1	2.72	6779	1.01	8270.36
009892749-02	OBS	No	464.583954	153.119980	239.0	3.082	7.5	8.4	2.72	6779	4.46	7.54
009892749-03	OBS	No	180.738184	132.197338	198.0	2.256	7.6	8.2	2.72	6779	4.31	26.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009892749-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009892749-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009892749-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

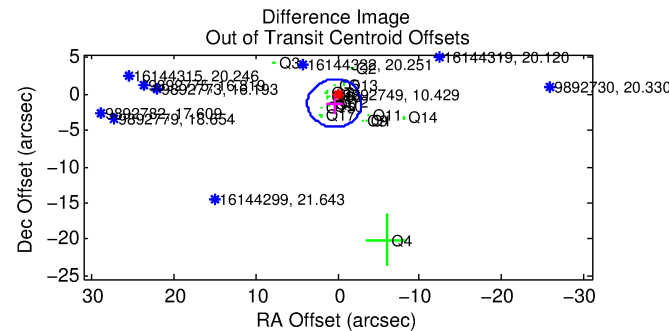
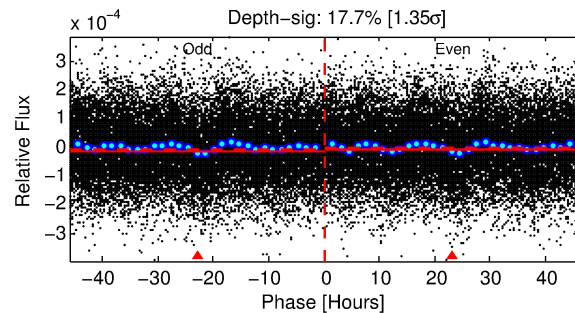
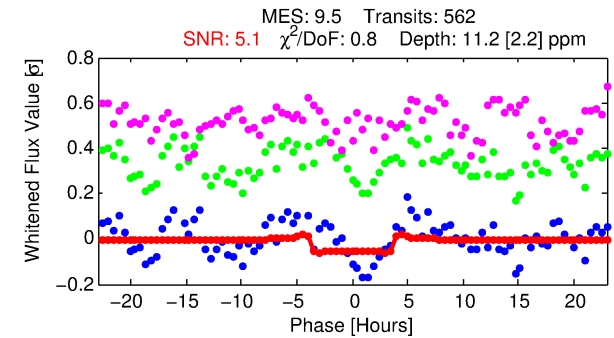
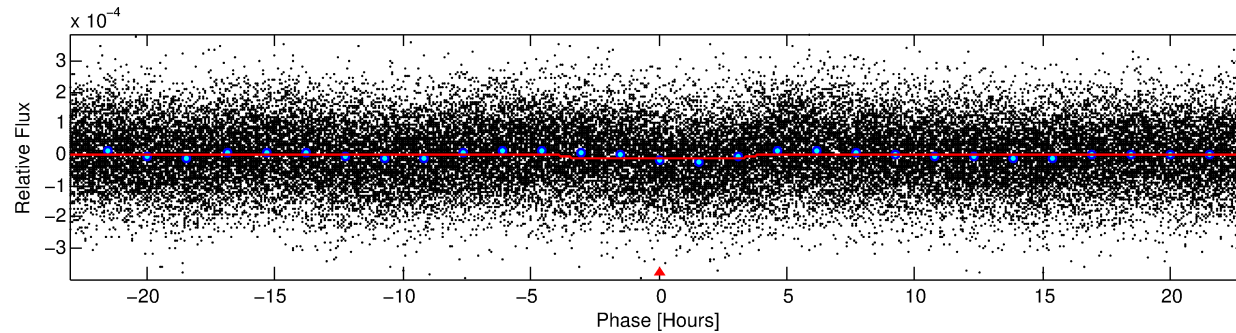
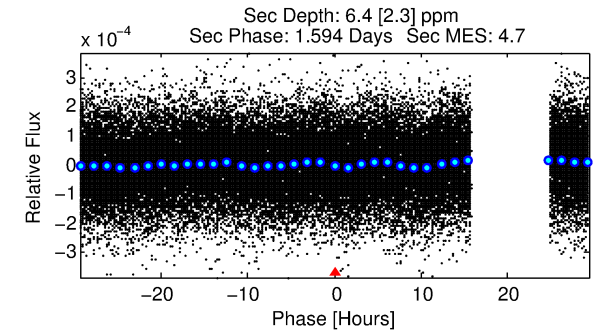
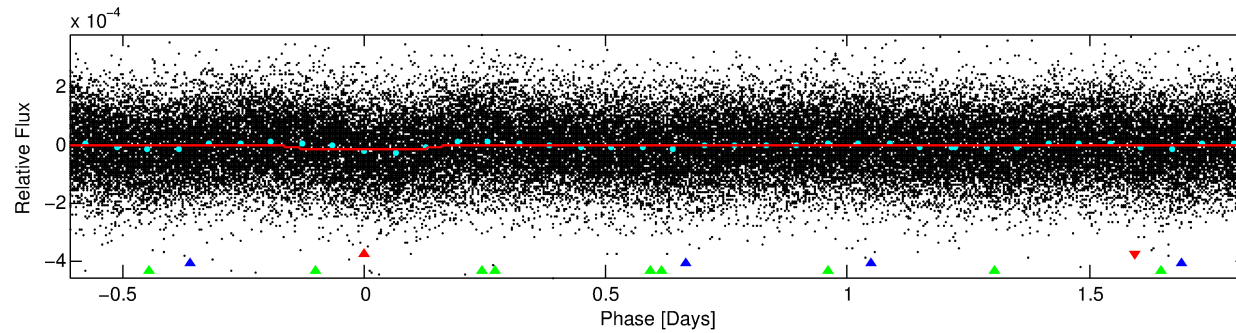
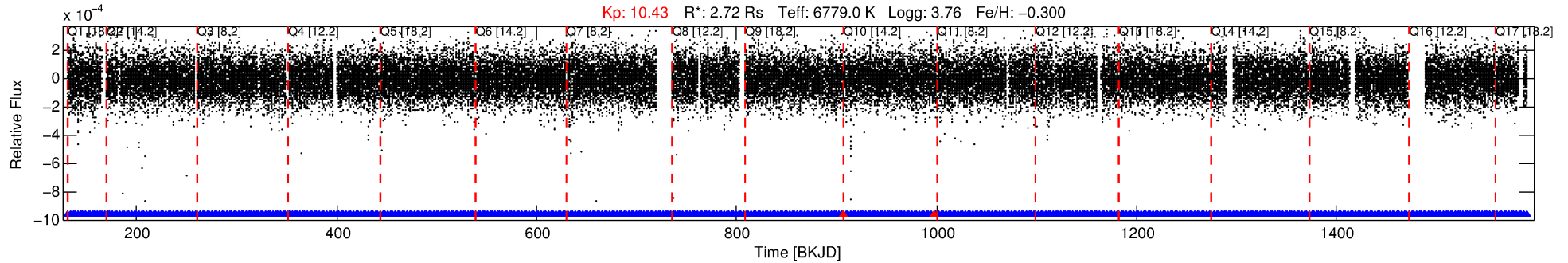
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009892749-01

No Significant Match Found

DV One-Page Summary

KIC: 9892749 Candidate: 1 of 3 Period: 2.438 d



DV Fit Results:

Period = 2.43775 [0.00004] d
Epoch = 131.9265 [0.0071] BKJD
Rp/R* = 0.0034 [0.0006]
a/R* = 1.68 [1.04]
b = 0.81 [0.40]
Seff = 8270.36 [4190.99]
Teq = 2432 [308] K
Rp = 1.01 [0.40] Re
a = 0.0411 [0.0131] AU
Ag = 5.85 [4.21] [1.15σ]
Teffp = 5847 [780] K [4.07σ]

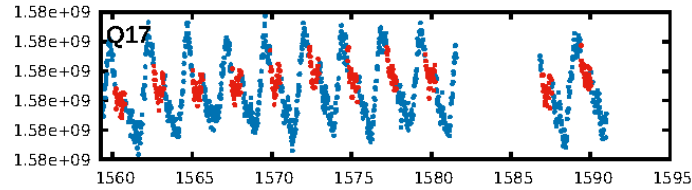
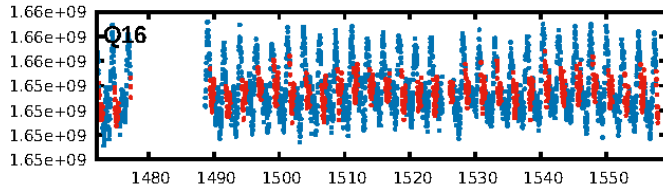
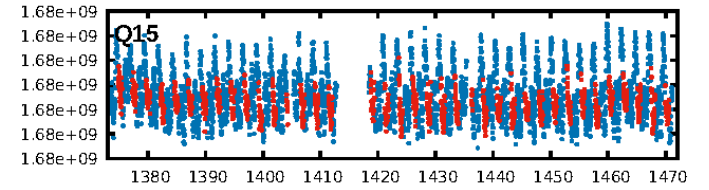
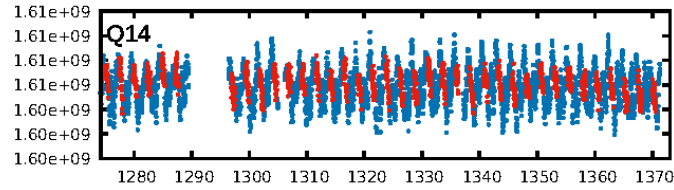
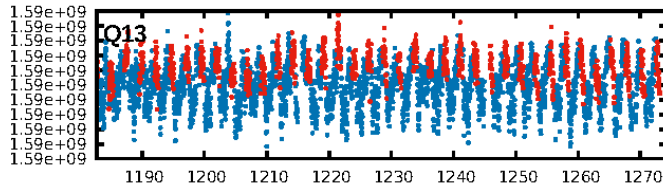
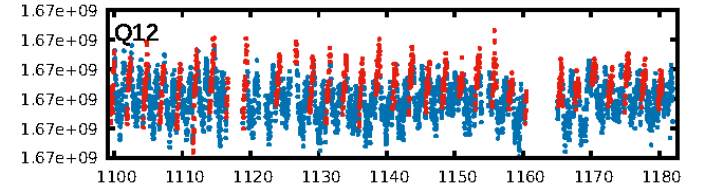
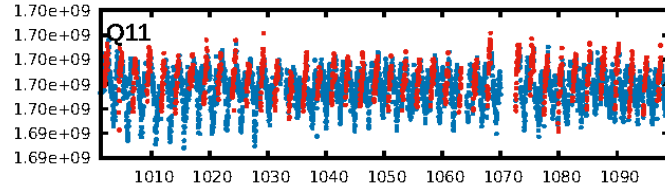
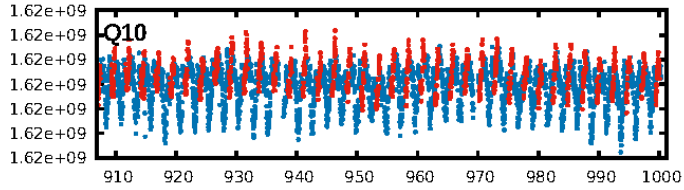
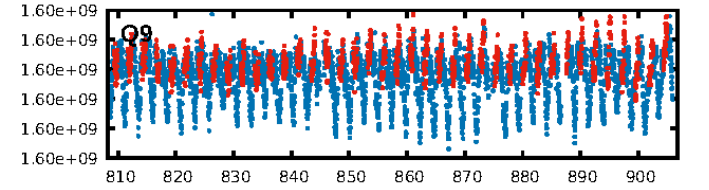
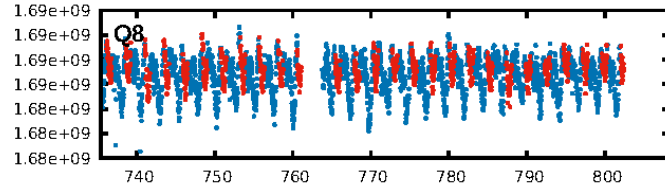
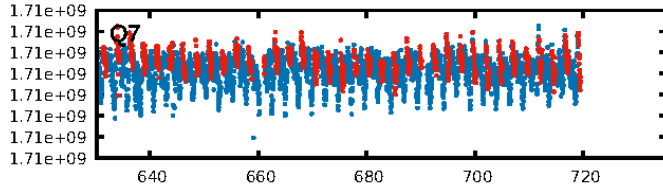
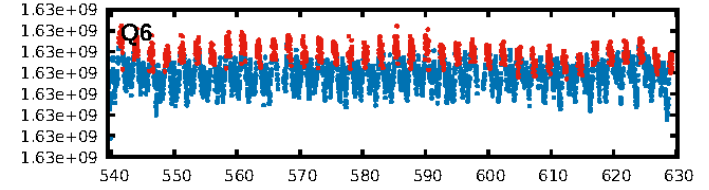
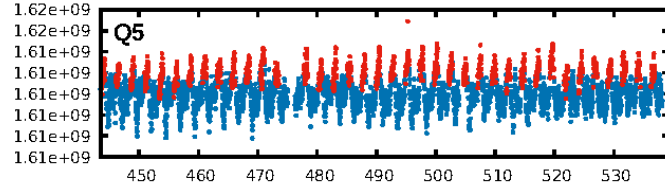
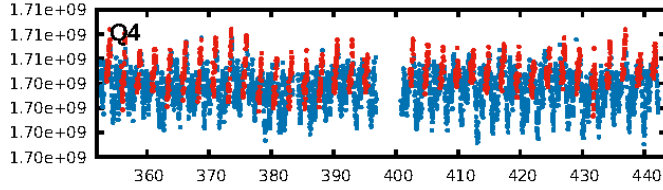
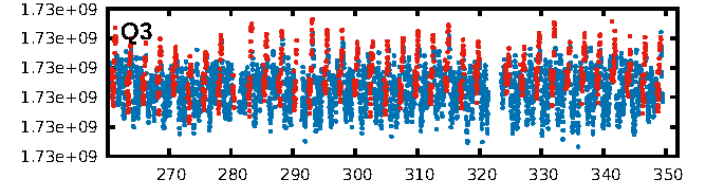
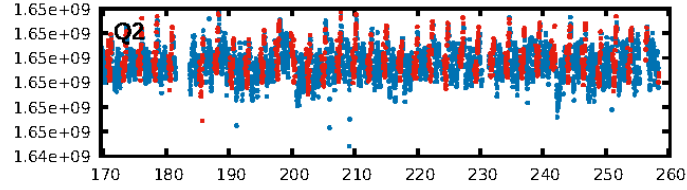
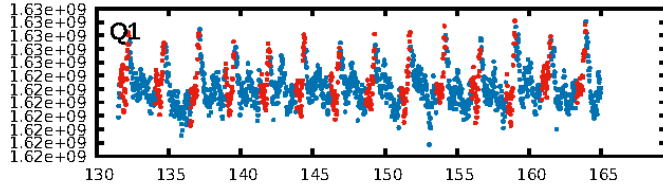
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [535.59σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.68e-14
RollingBand-fgt: 1.00 [535/537]
GhostDiagnostic-chr: -3.419
Centroid-sig: 18.8%
Centroid-so: 1.696 arcsec [1.44σ]
OotOffset-rm: 1.315 arcsec [1.20σ]
KicOffset-rm: 1.888 arcsec [1.56σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 1.00 [17/17]

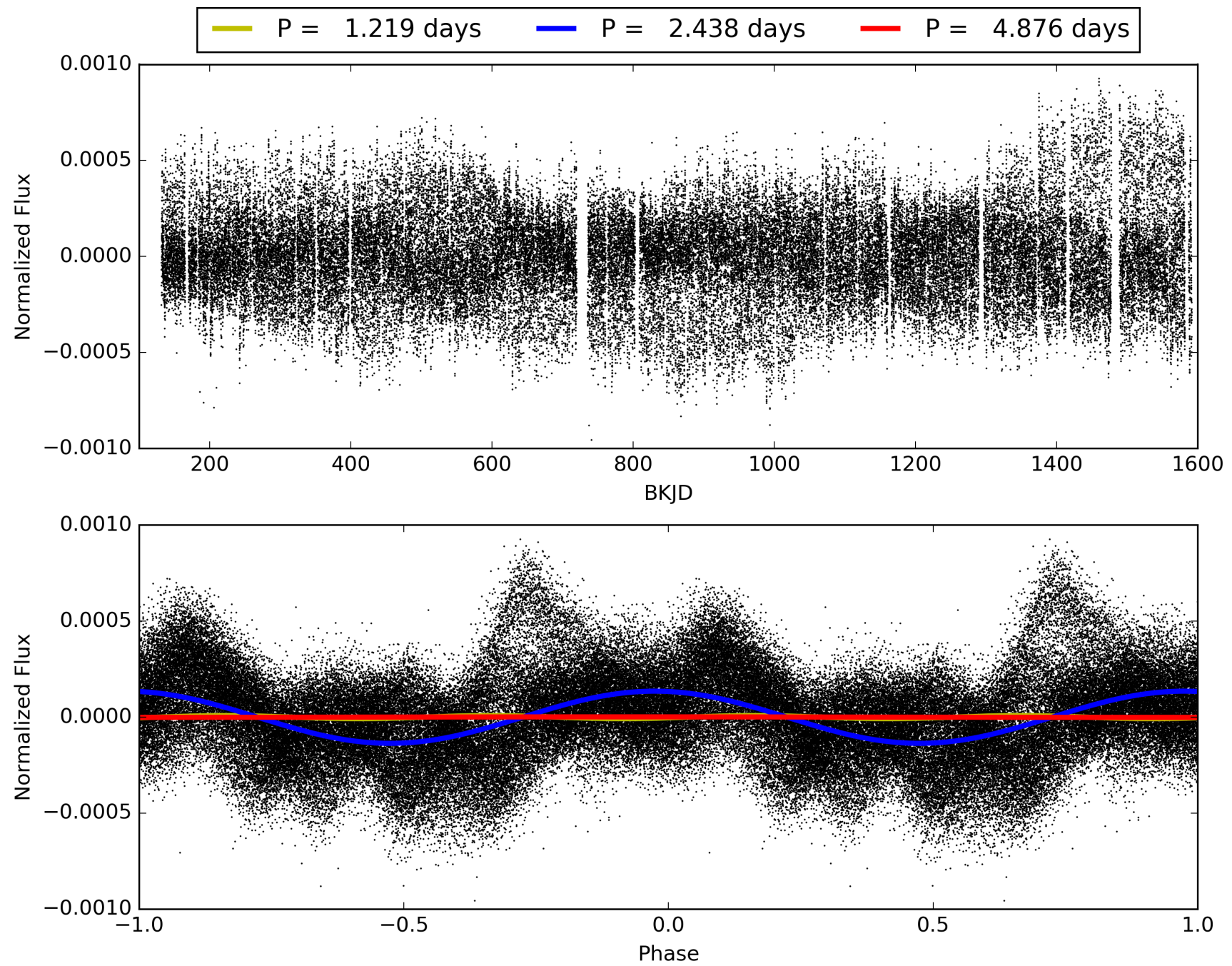
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009892749-01, PDC Light Curves

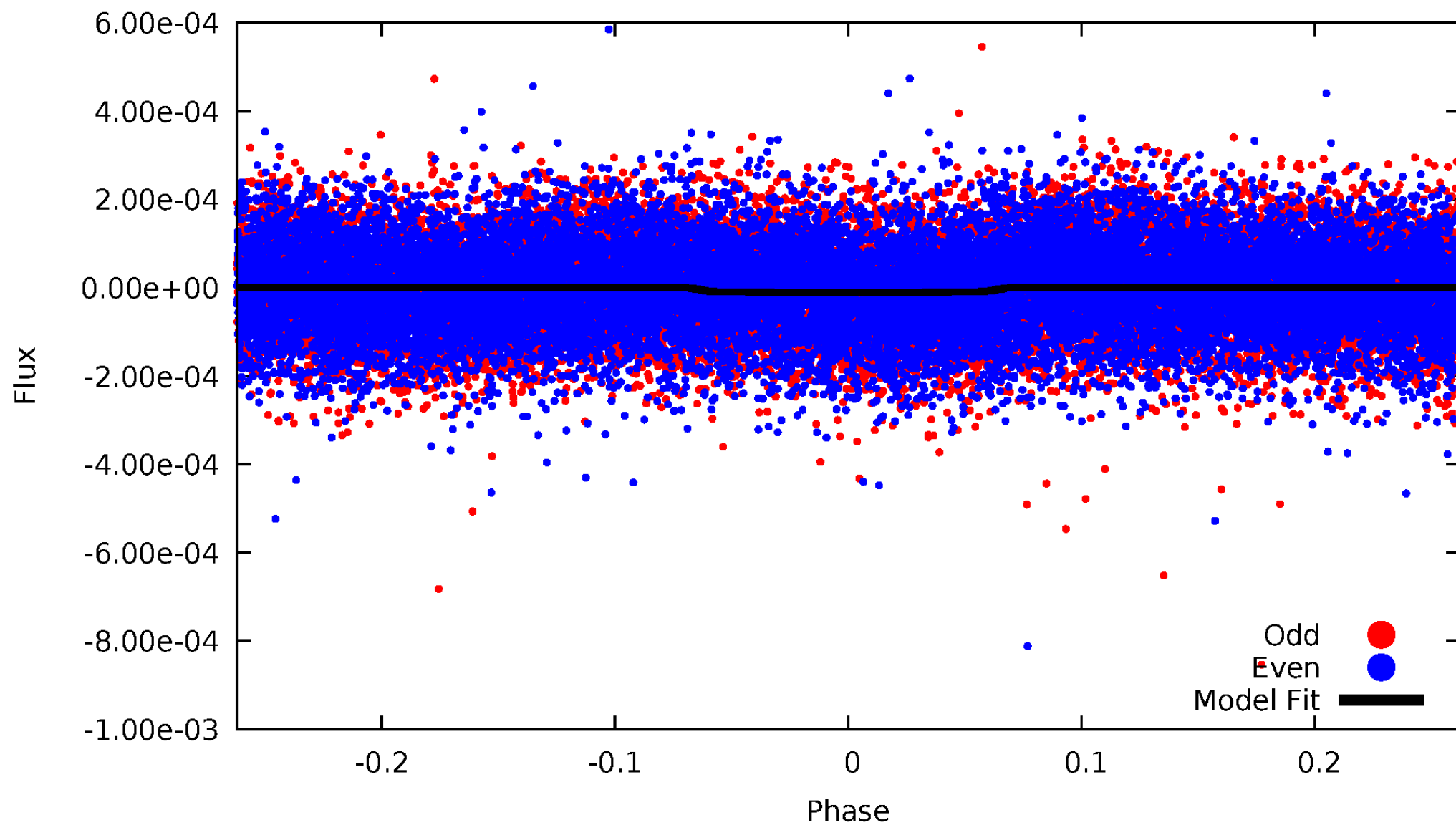


TCE 009892749-01



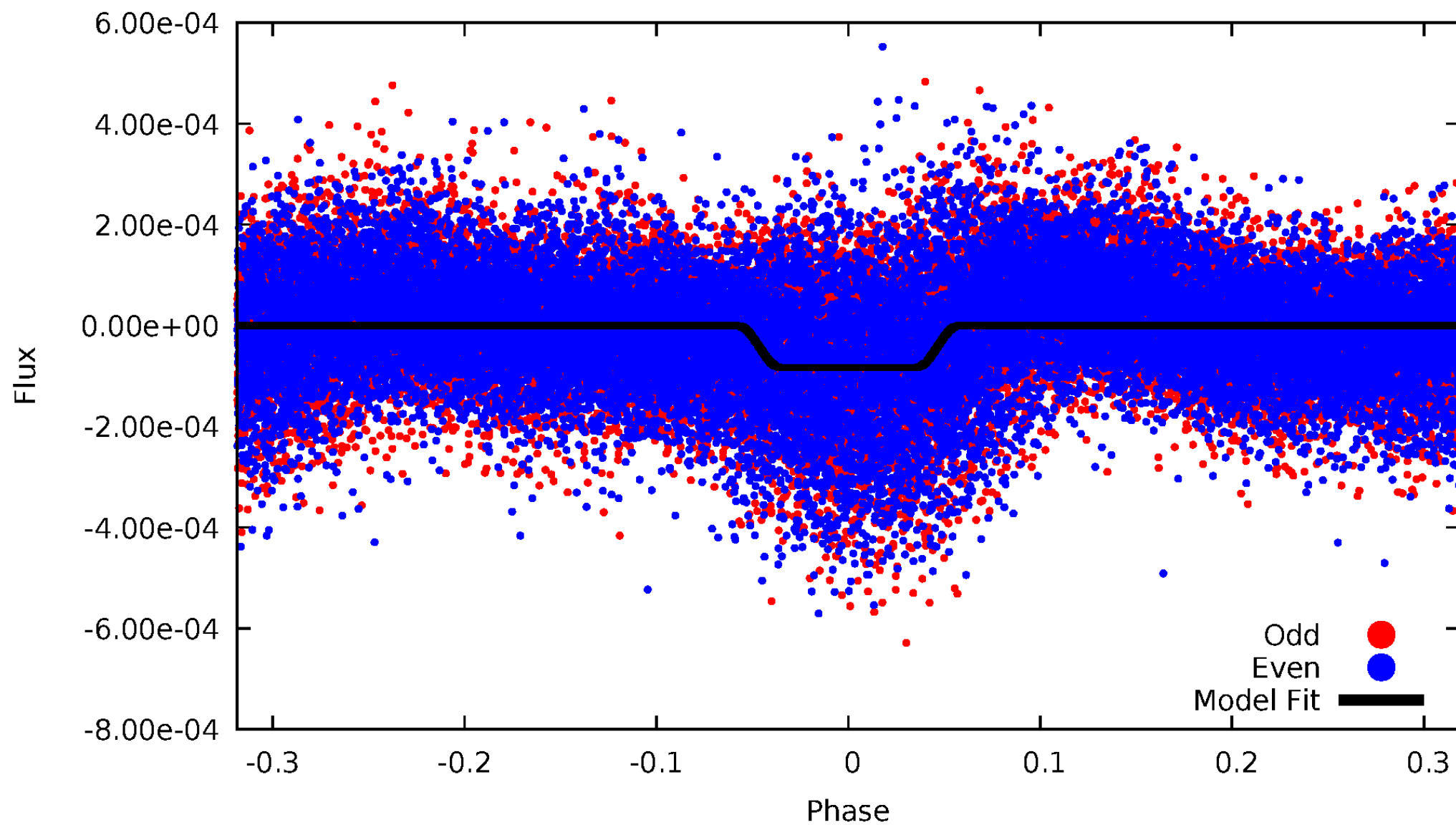
DV Odd/Even

TCE 009892749-01



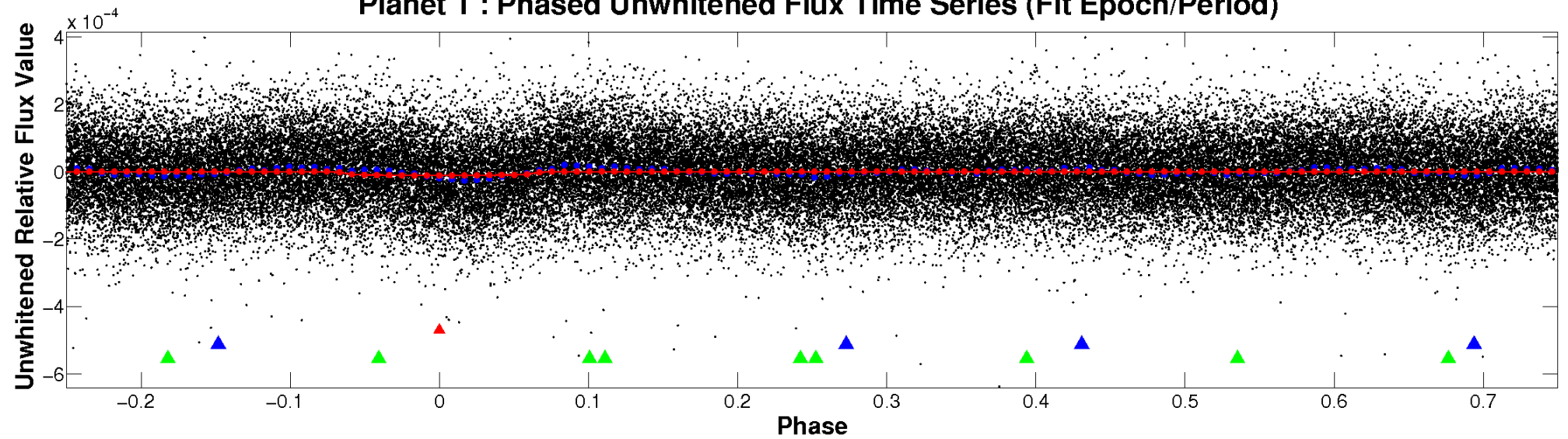
ALT Odd/Even

TCE 009892749-01

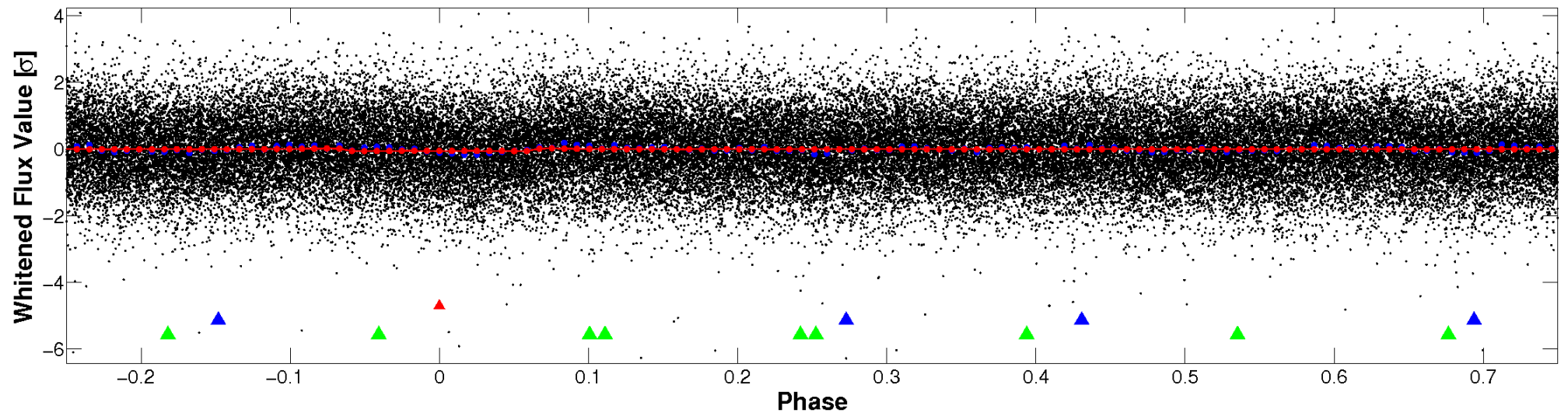


Non-Whitened Vs. Whitened Light Curve

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

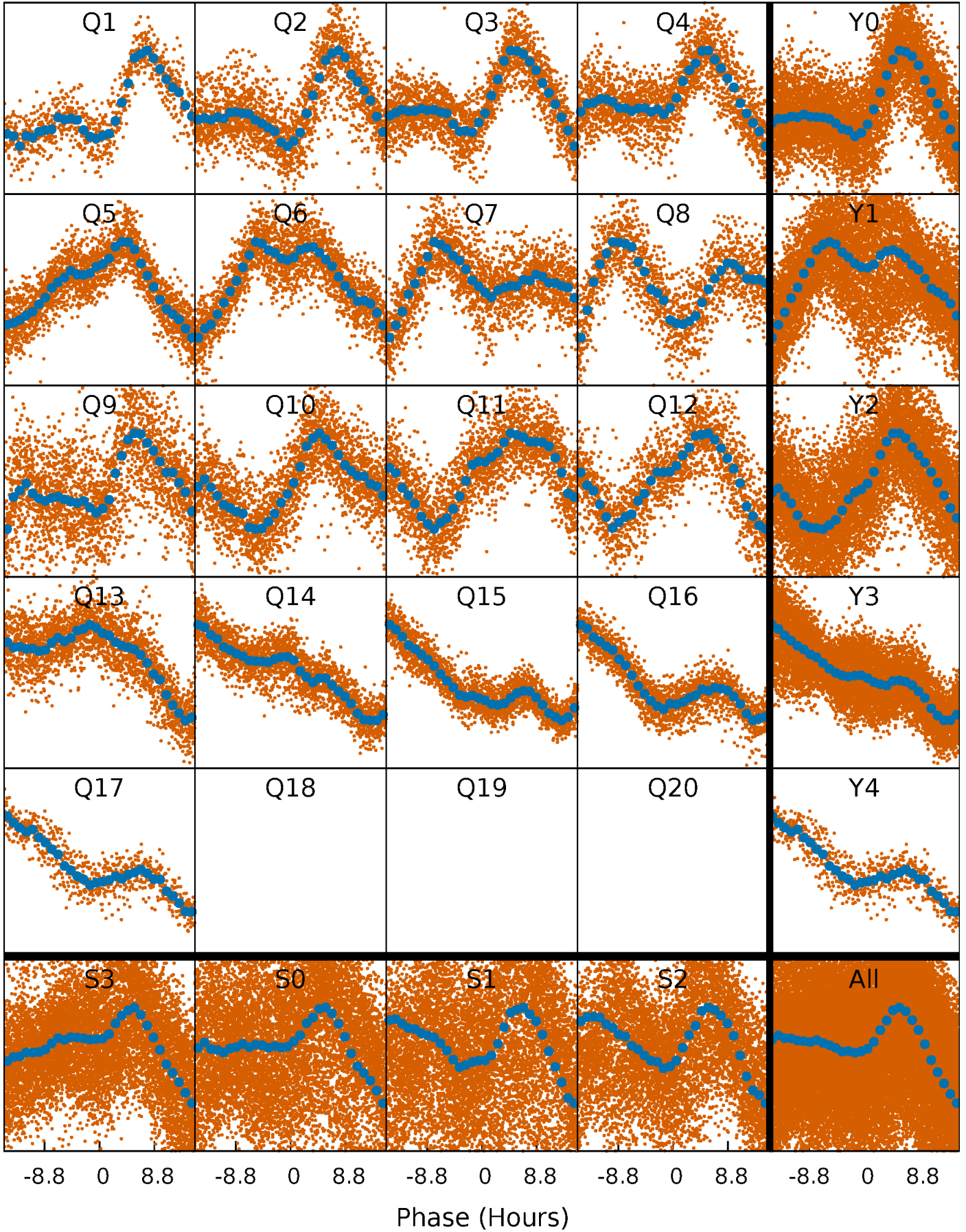


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



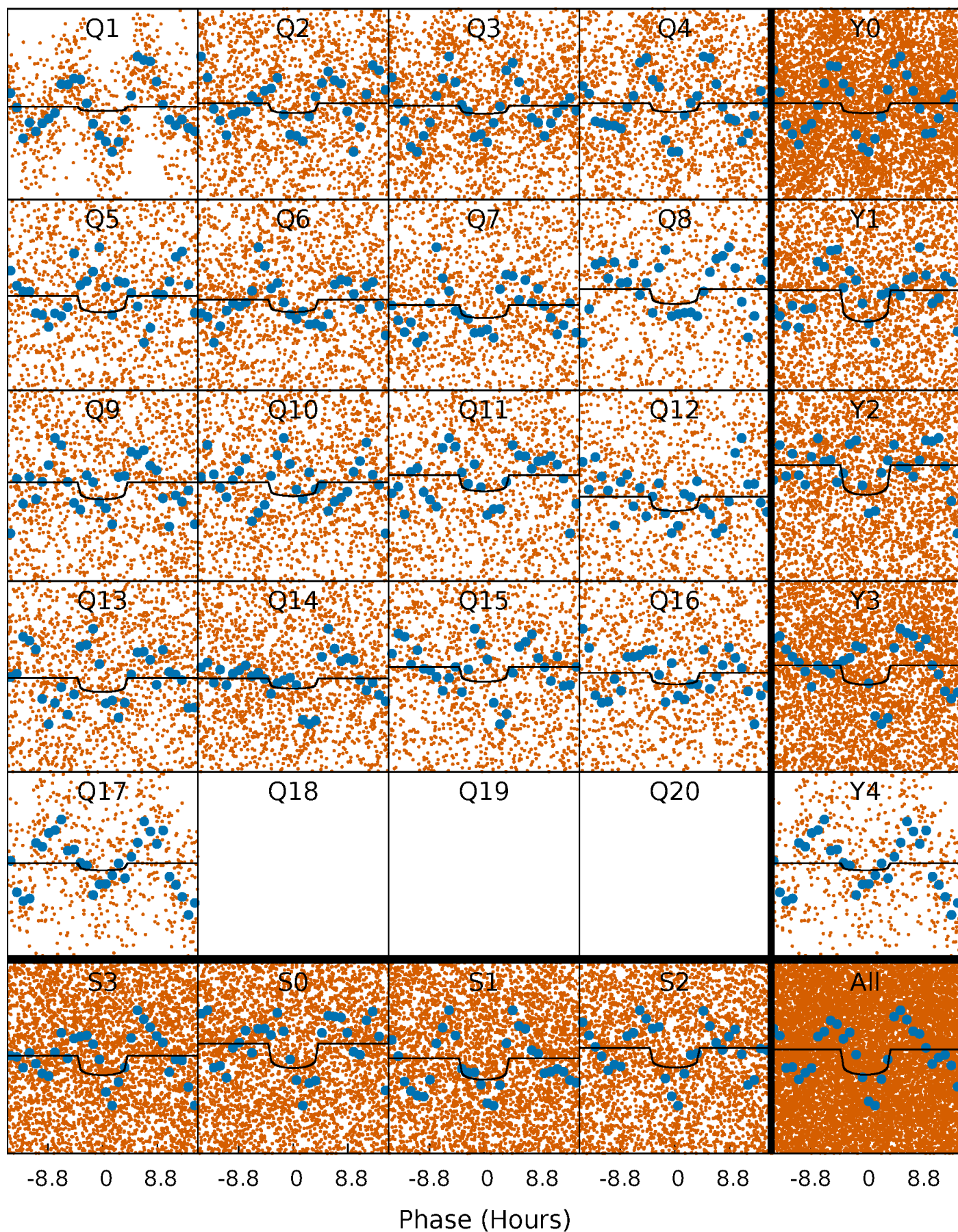
PDC Quarter-Phased Transit Curves

TCE 009892749-01 P= 2.437750 Days $T_0=131.926539$ (BKJD)



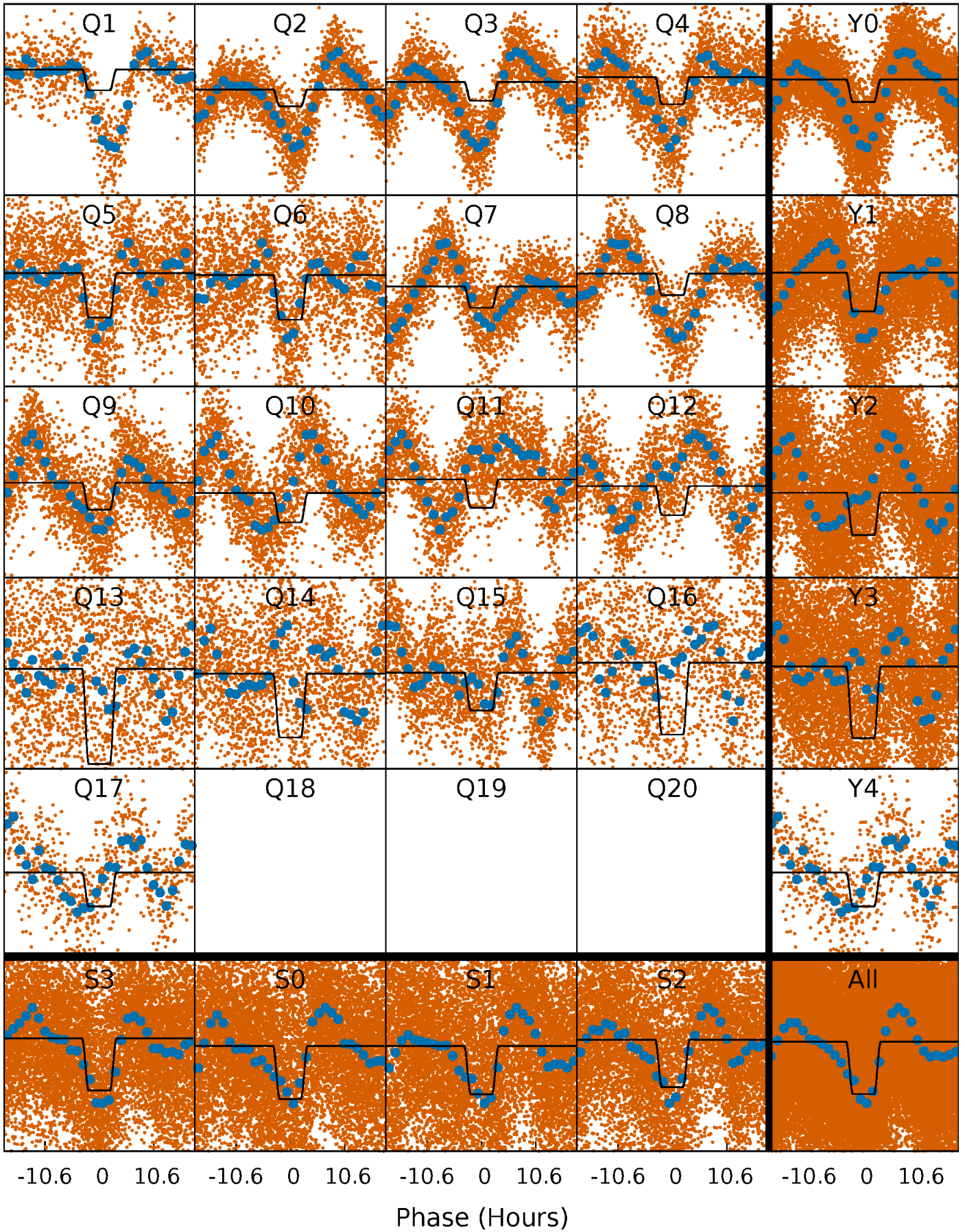
DV Quarter-Phased Transit Curves

TCE 009892749-01 P= 2.437750 Days $T_0=131.926539$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

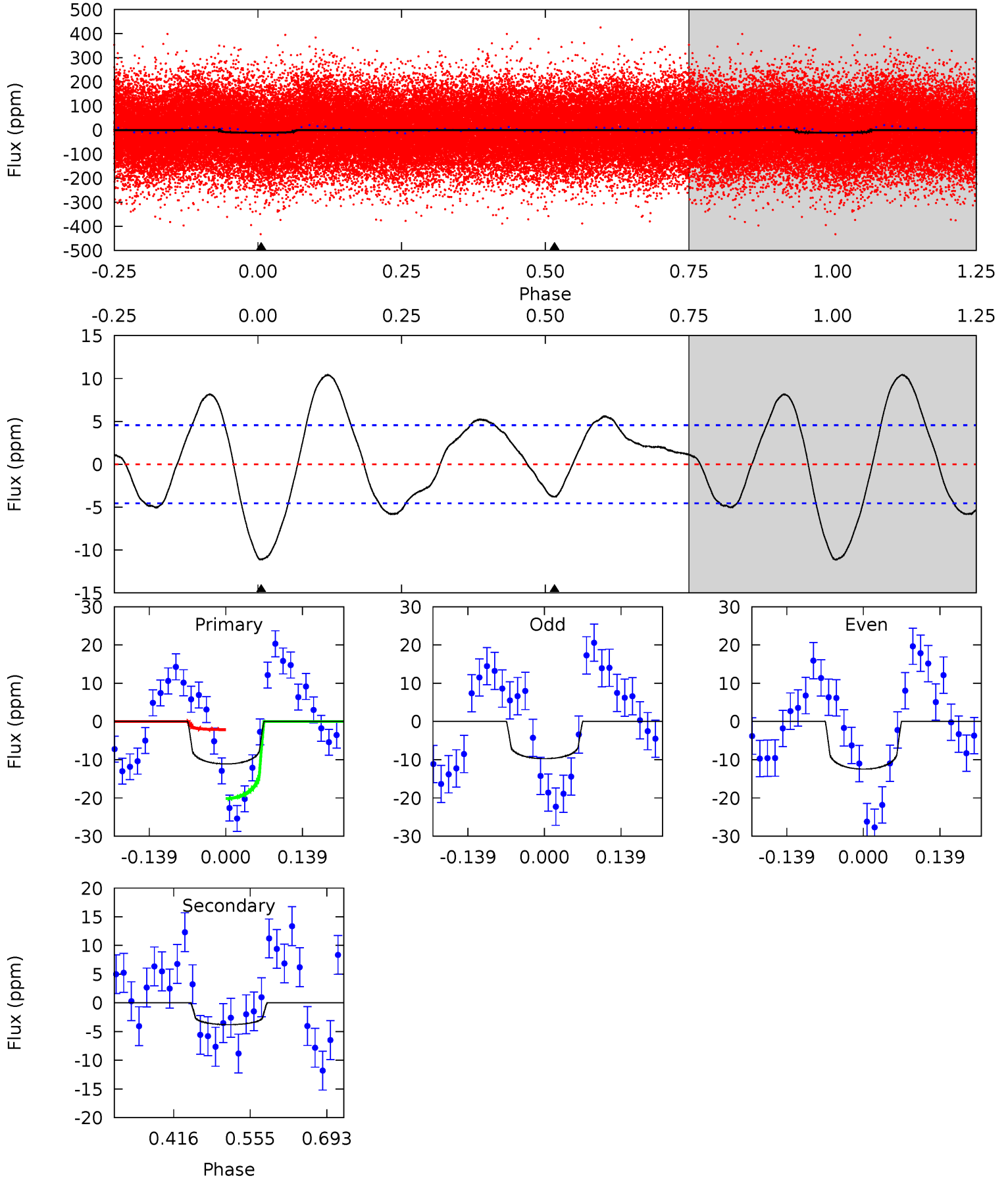
TCE 009892749-01 P= 2.437926 Days $T_0=131.873462$ (BKJD)



DV Model-Shift Uniqueness Test

009892749-01, P = 2.437750 Days, E = 129.488789 Days

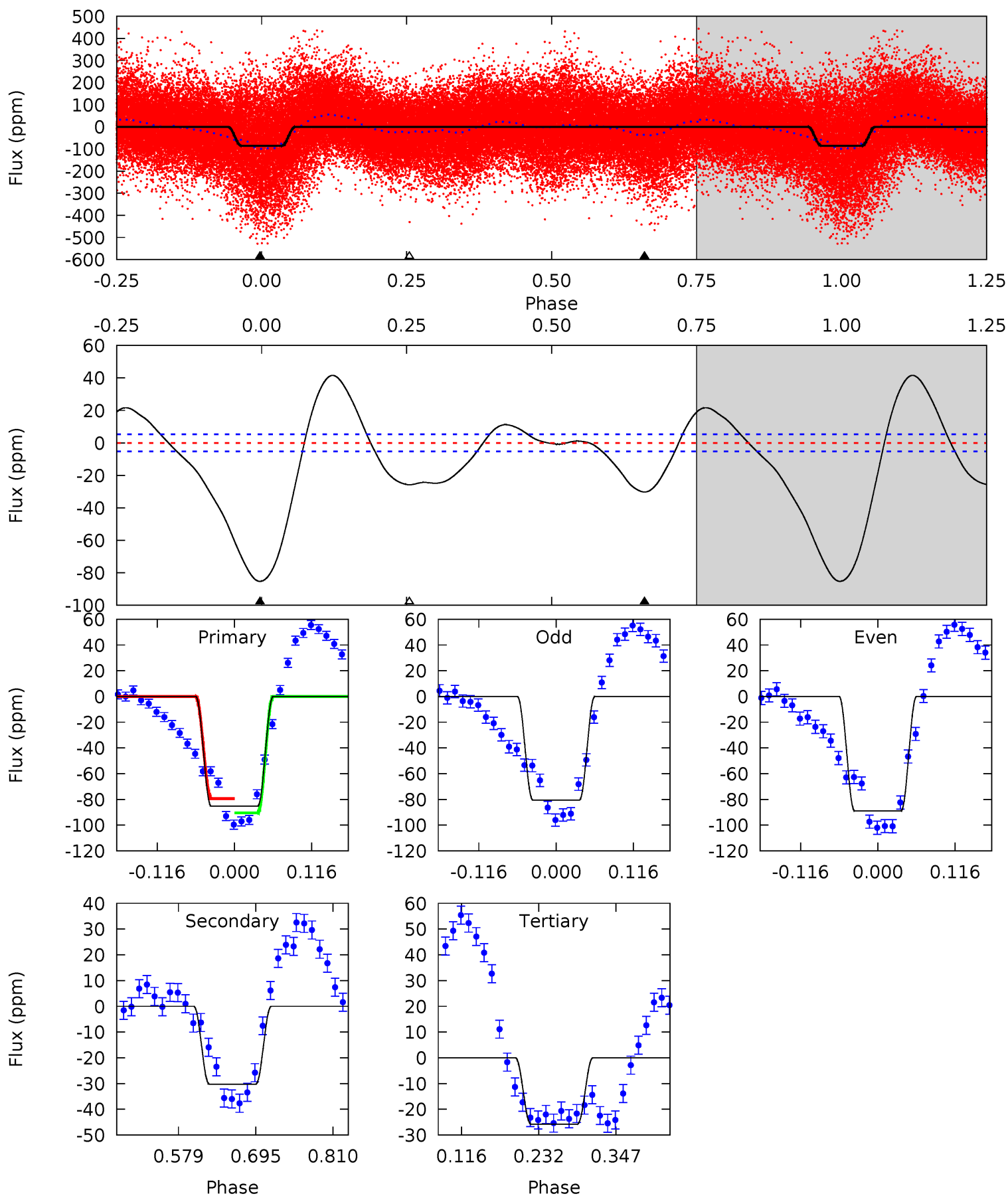
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	3.74	0	0	4.50	1.48	3.32	11.0	11.0	3.74	3.74	1.35	1.09	0.48	8.83



Alt Model-Shift Uniqueness Test

009892749-01, P = 2.437926 Days, E = 129.435536 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.4	26.0	22.2	0	4.53	1.57	15.0	51.2	73.4	3.86	26.0	3.63	1.10	0.33	4.69



Stellar Parameters For KIC 009892749

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6779^{+169}_{-186}	$3.762^{+0.285}_{-0.095}$	$-0.300^{+0.300}_{-0.250}$	$2.716^{+0.434}_{-0.941}$	$1.555^{+0.190}_{-0.353}$	$0.109^{+0.236}_{-0.033}$
	+2%/-3%	+8%/-3%	+100%/-83%	+16%/-35%	+12%/-23%	+216%/-30%
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 009892749-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 1	$0.95^{+0.25}_{-0.24}$	3352^{+191}_{-325}	5076^{+620}_{-529}	$3.836^{+2.969}_{-1.586}$
Alt.	-30 ± 1	$2.62^{+0.37}_{-0.48}$	3351^{+183}_{-263}	5212^{+214}_{-216}	$4.134^{+1.682}_{-0.942}$

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

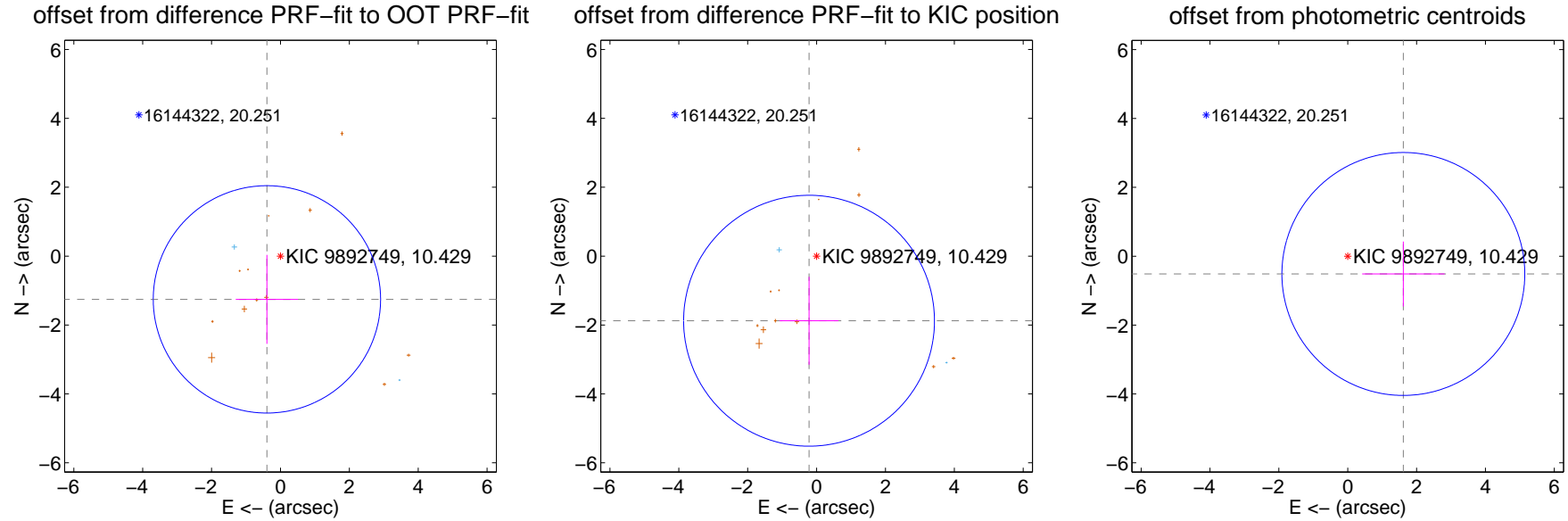
DV Centroid Data

Supplemental centroid analysis for 009892749-01. **Kepler magnitude: 10.43.** Transit SNR 5.11

There are 2 quarters with good PRF difference image offsets

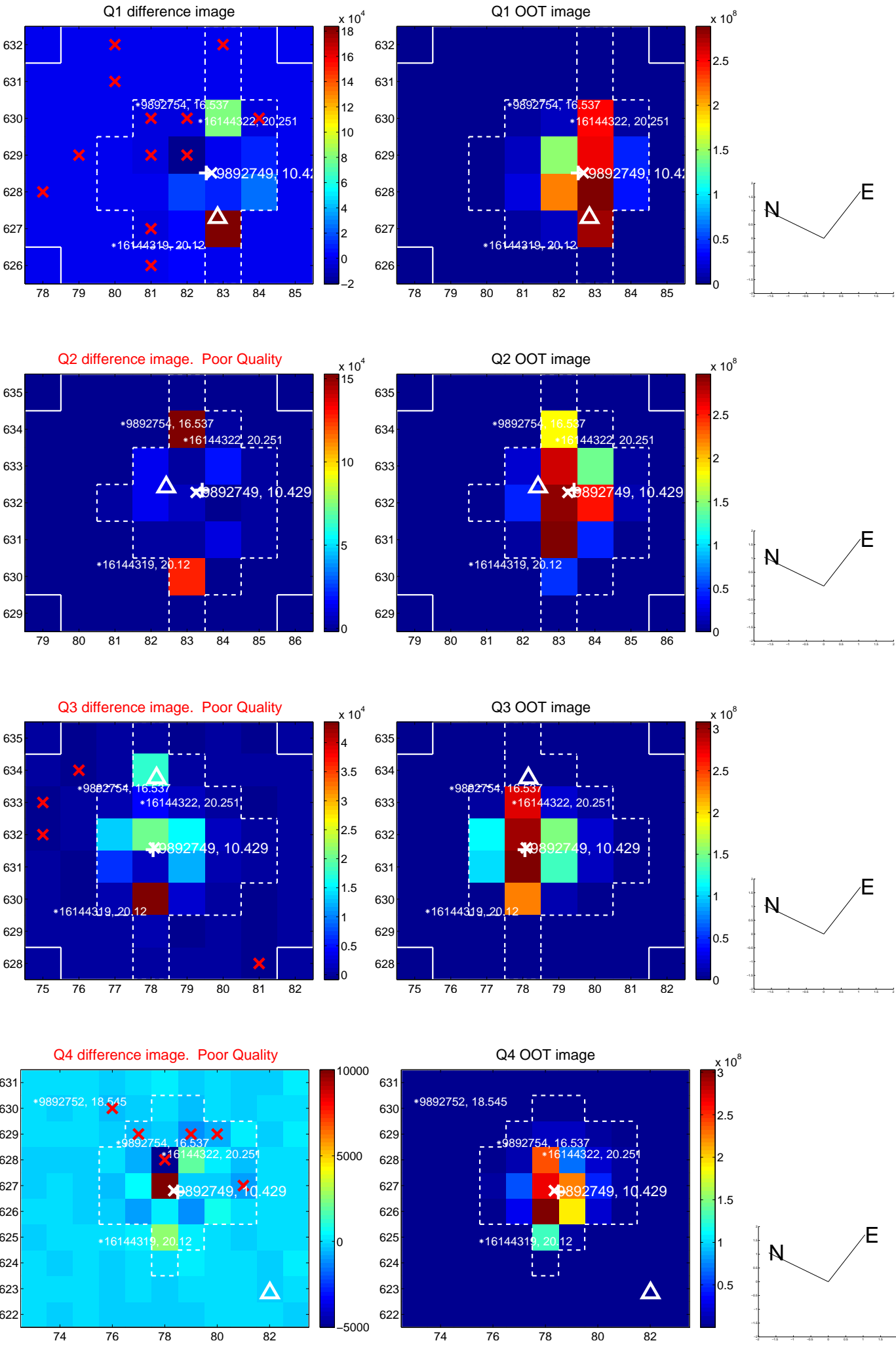
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.315 ± 1.100	1.20	0.393 ± 0.906	-1.255 ± 1.293
PRF-fit source offset from KIC position	1.888 ± 1.214	1.56	0.219 ± 0.853	-1.875 ± 1.276
photometric centroid source offset	1.70 ± 1.18	1.44	-1.62 ± 1.20	-0.52 ± 0.94

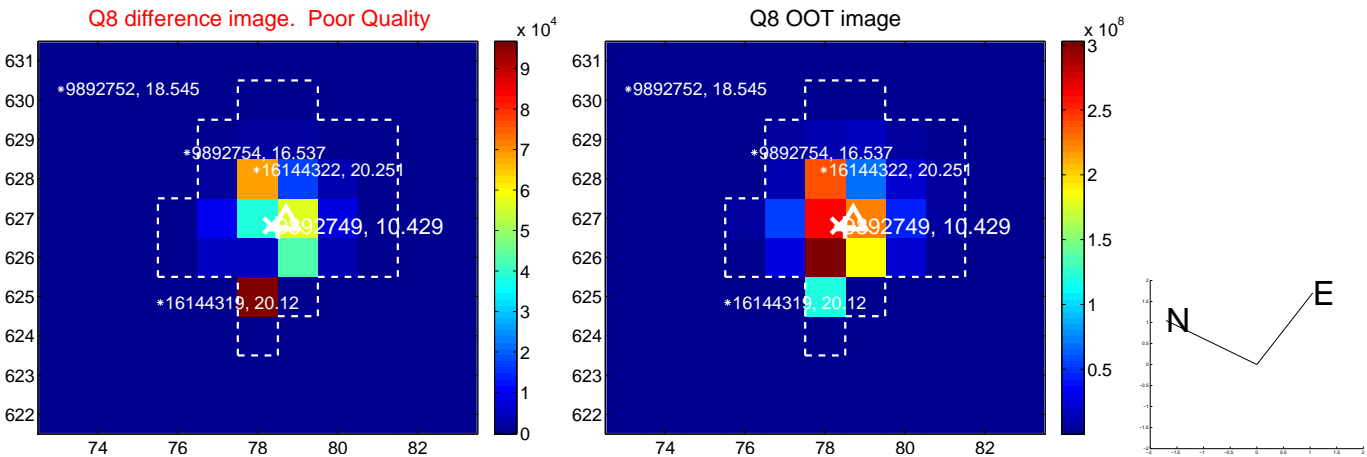
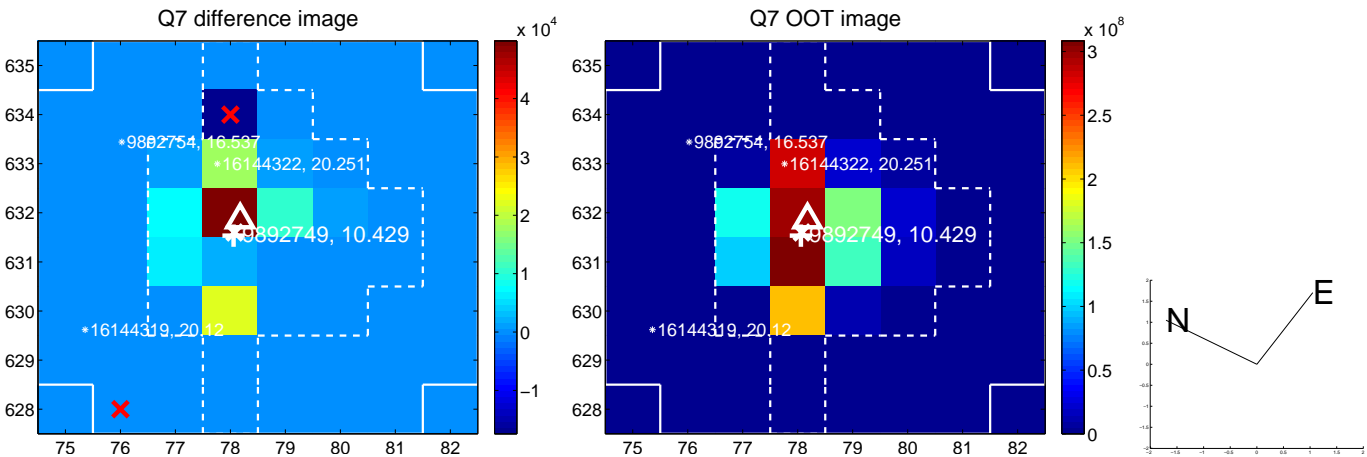
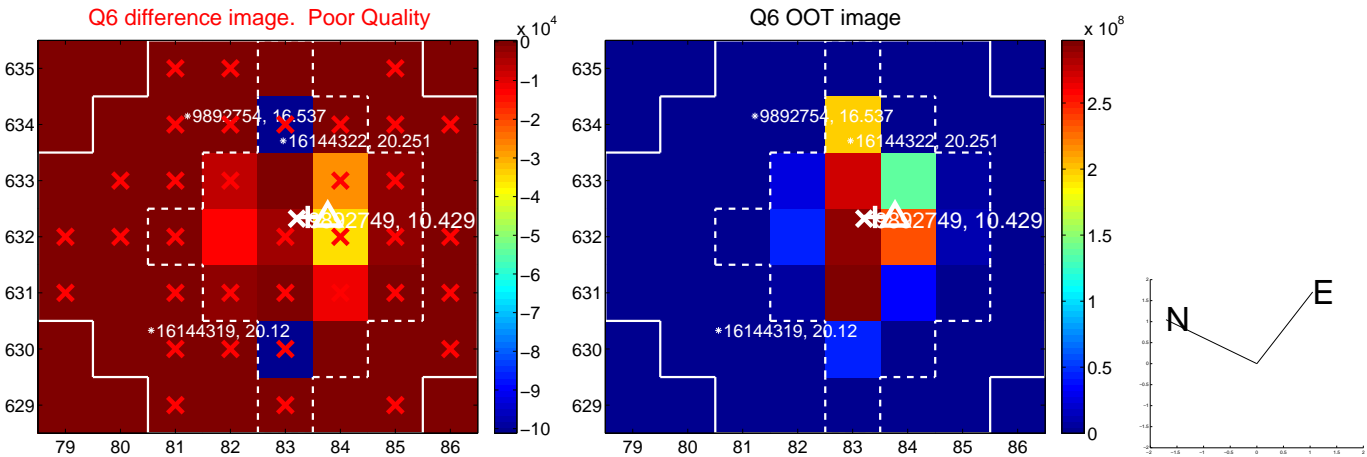
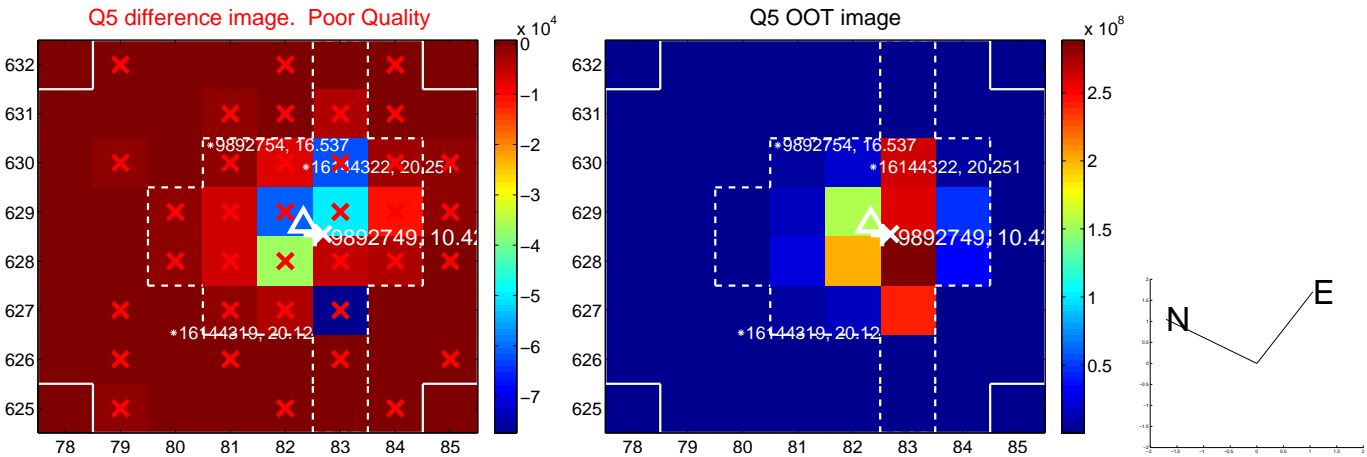


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

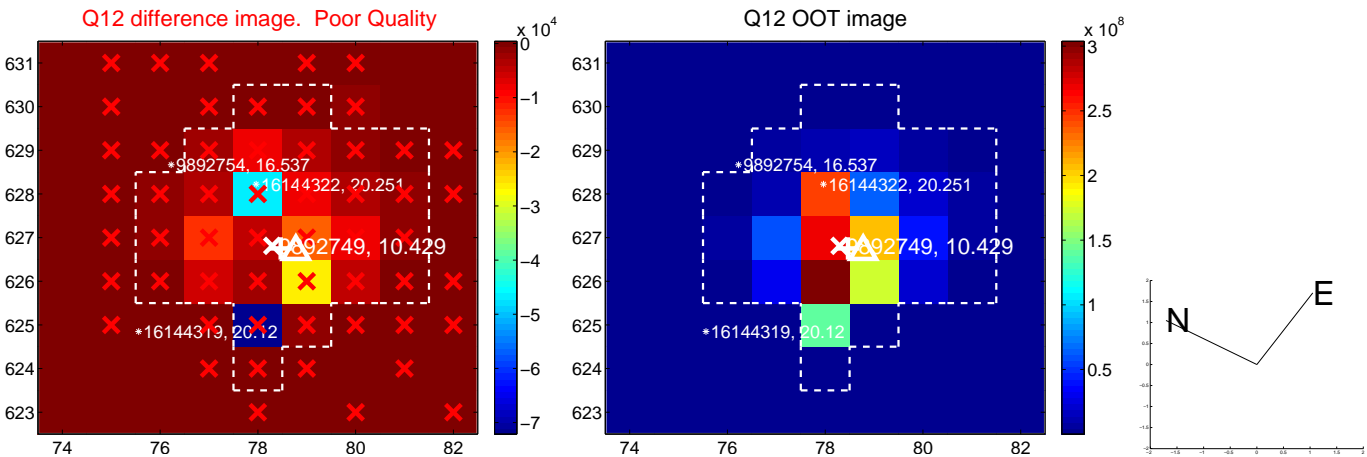
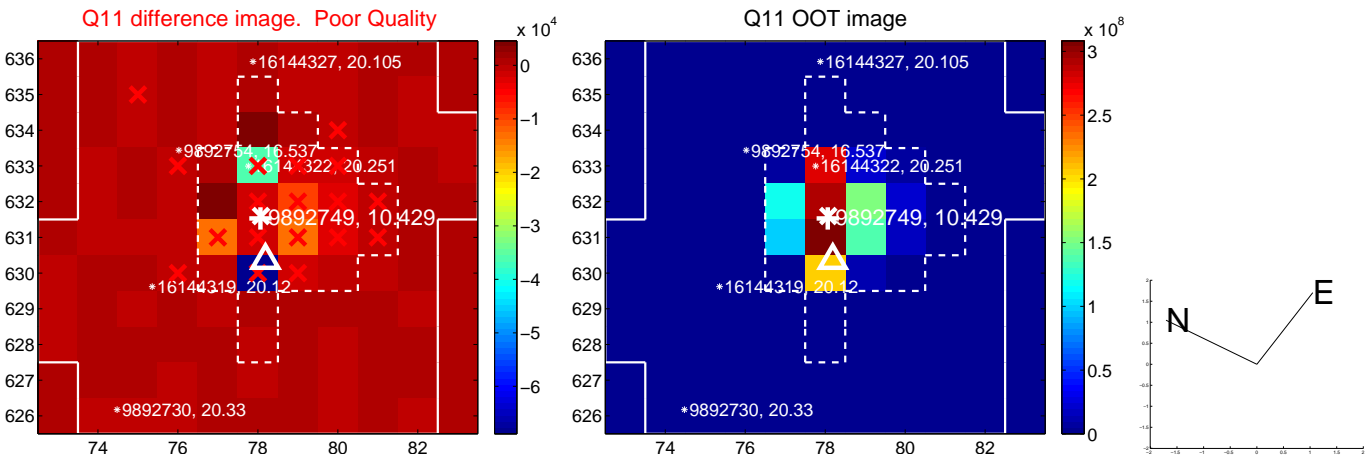
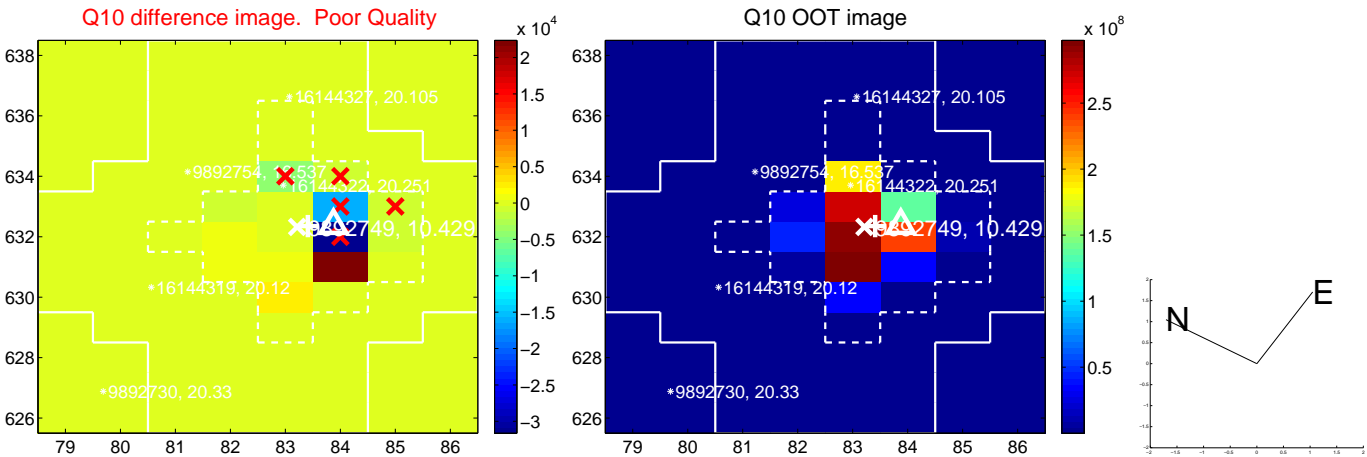
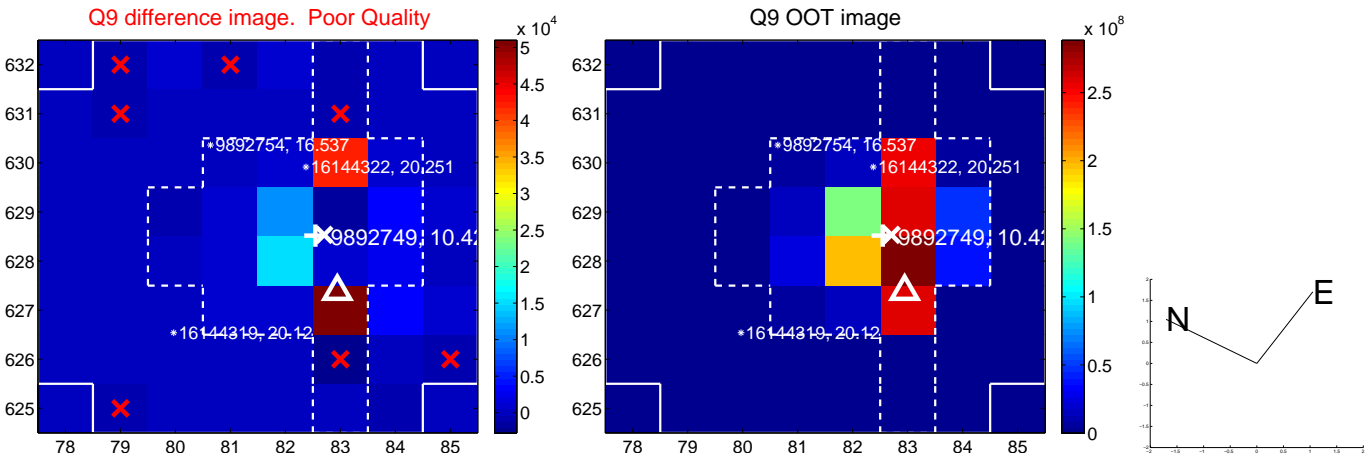
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



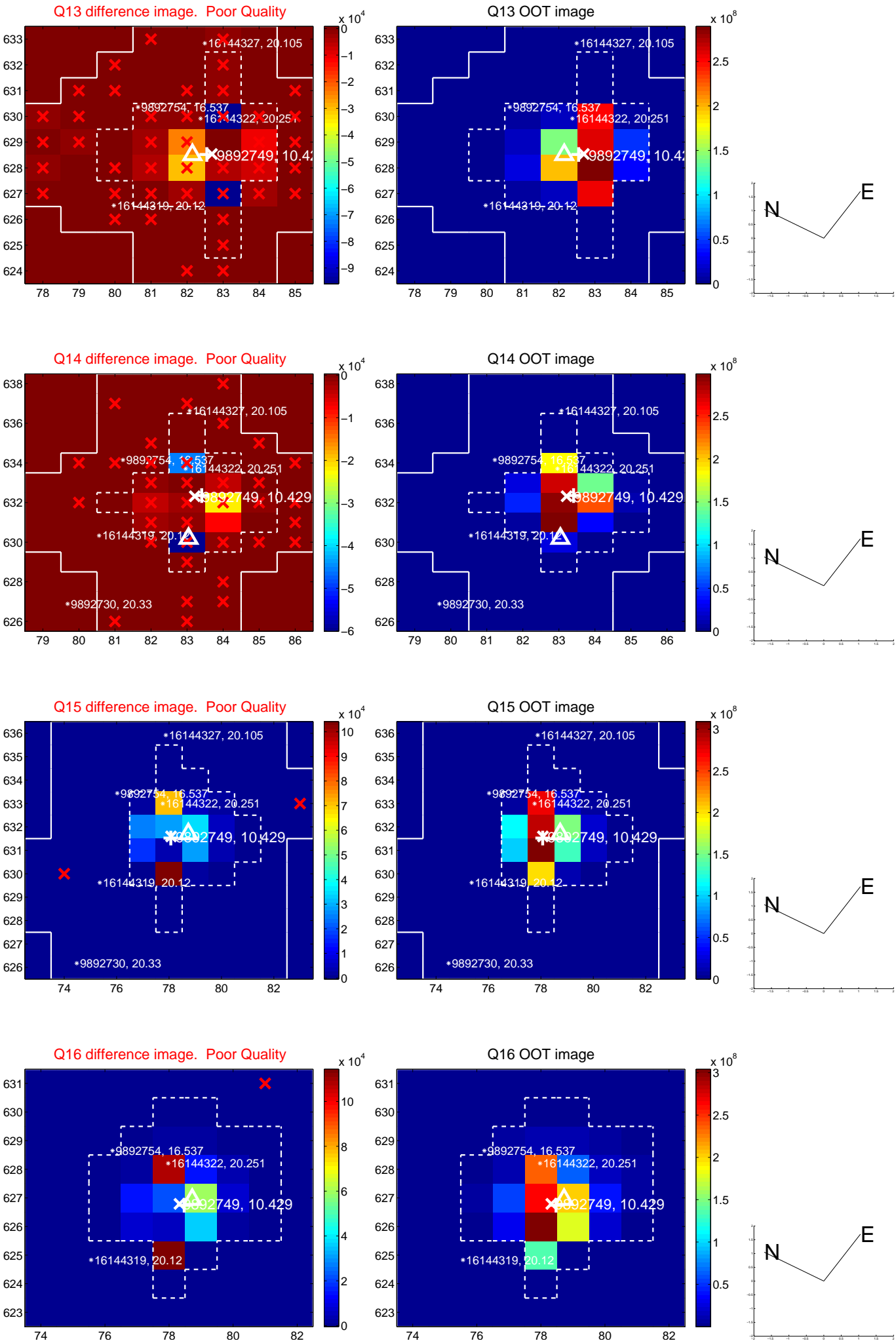
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



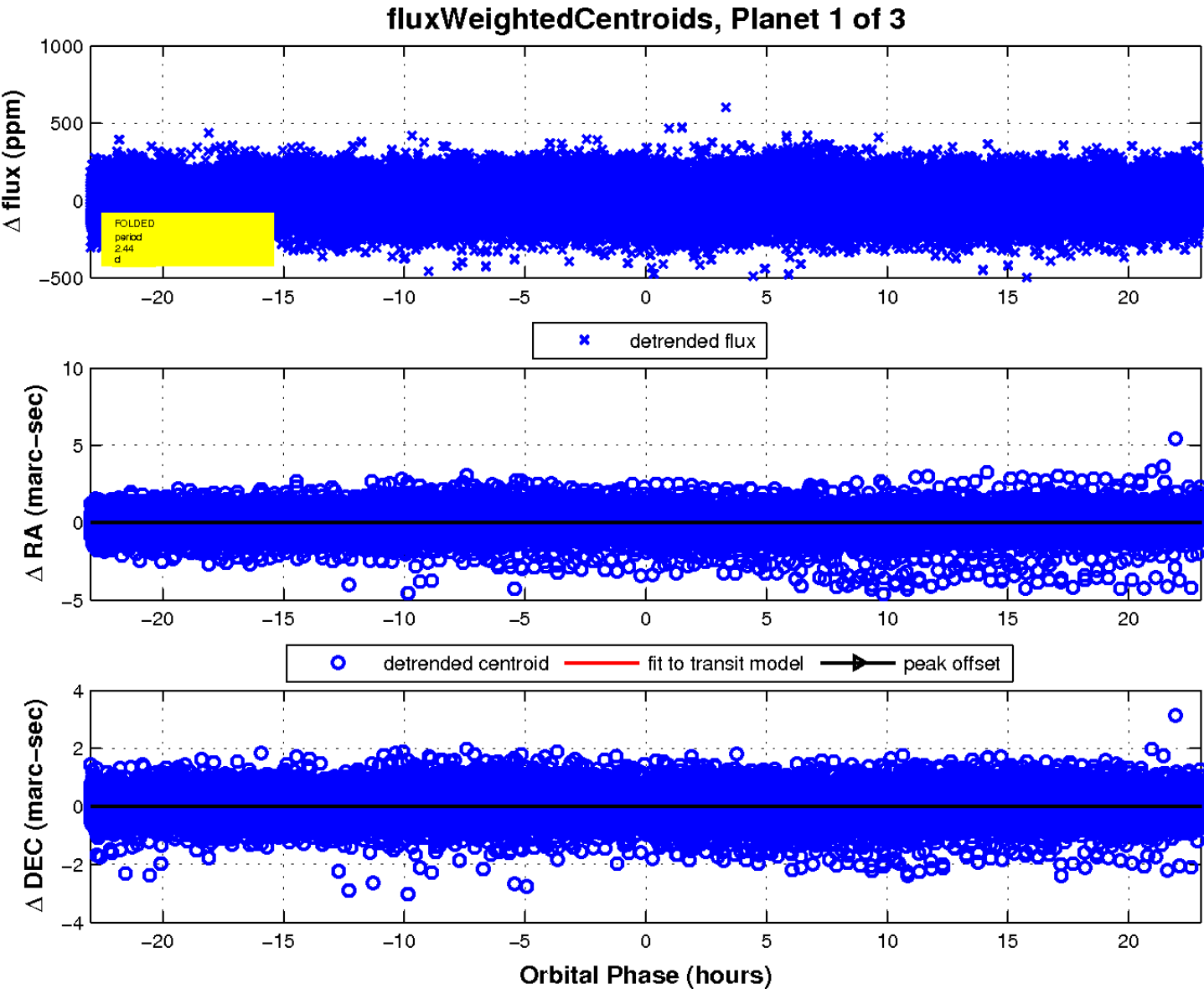
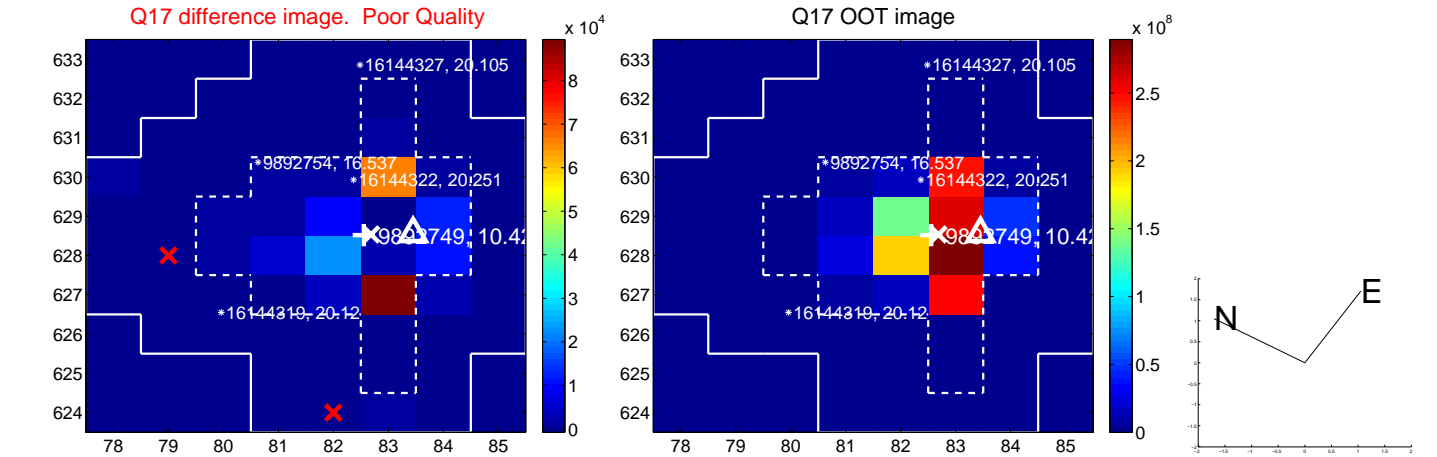
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

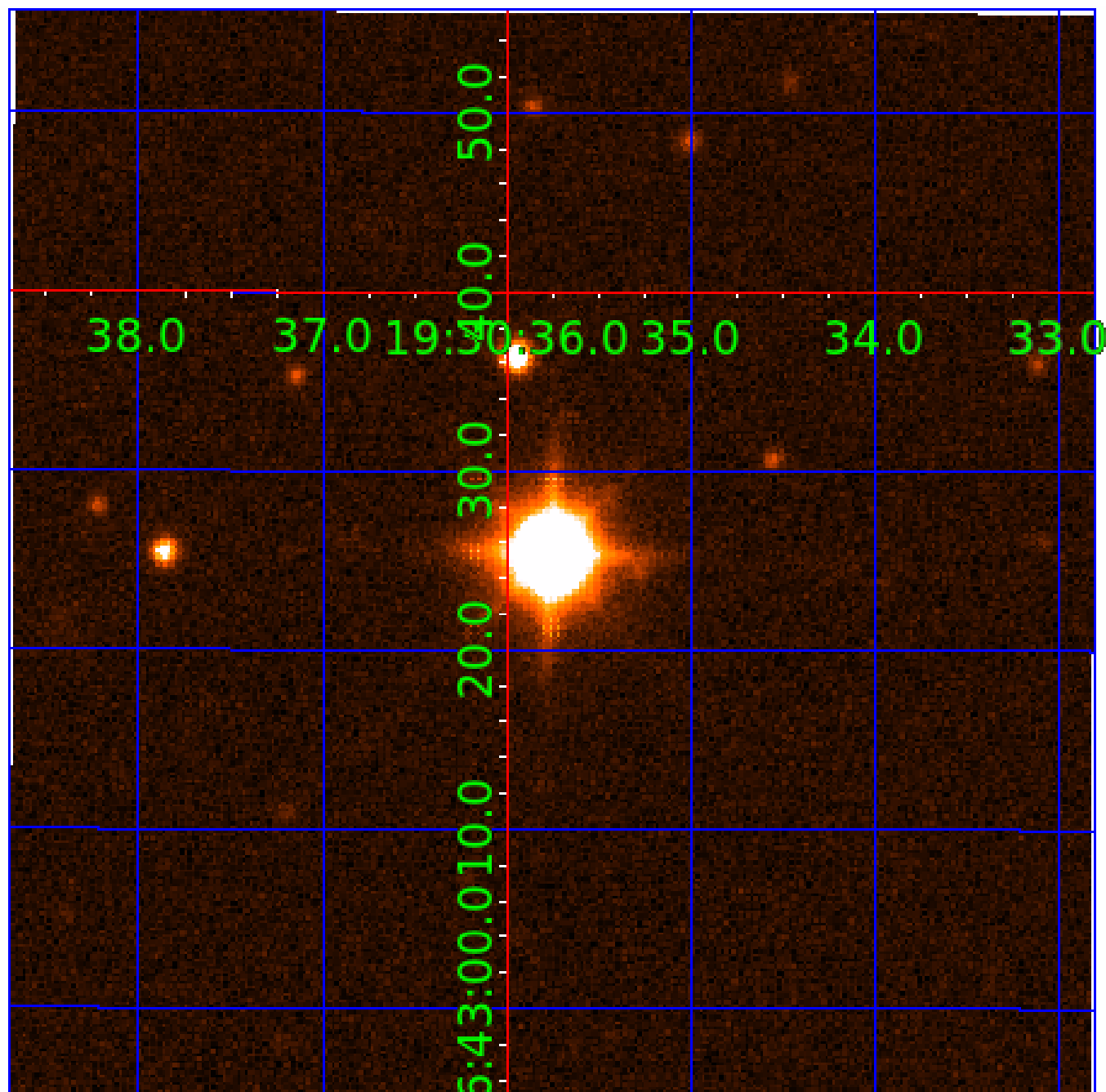


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009892749

Q1-17 DR25 TCE Parameters

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

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009892749-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009892749-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

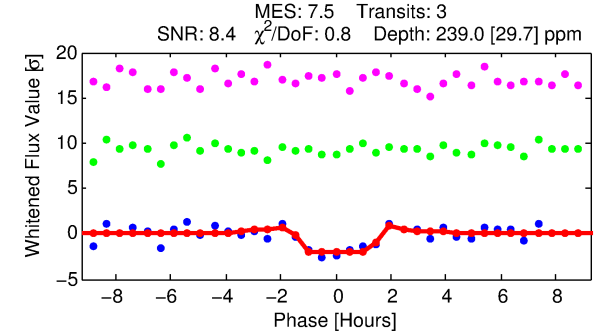
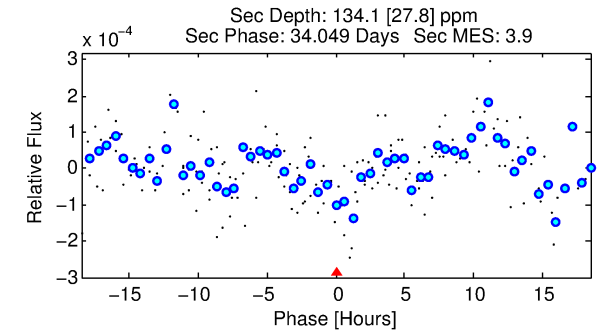
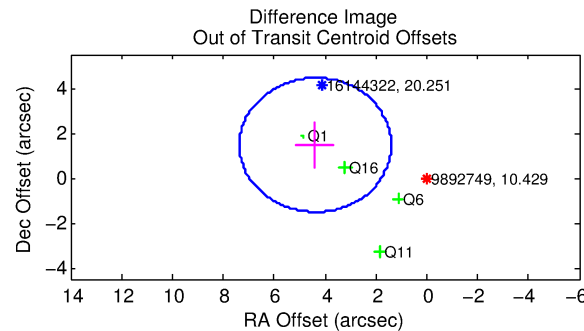
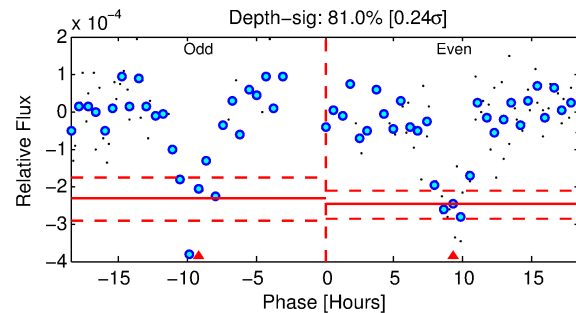
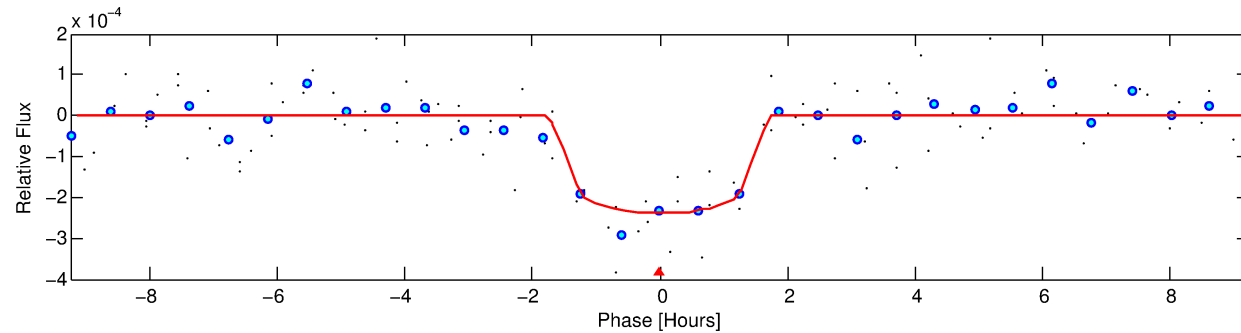
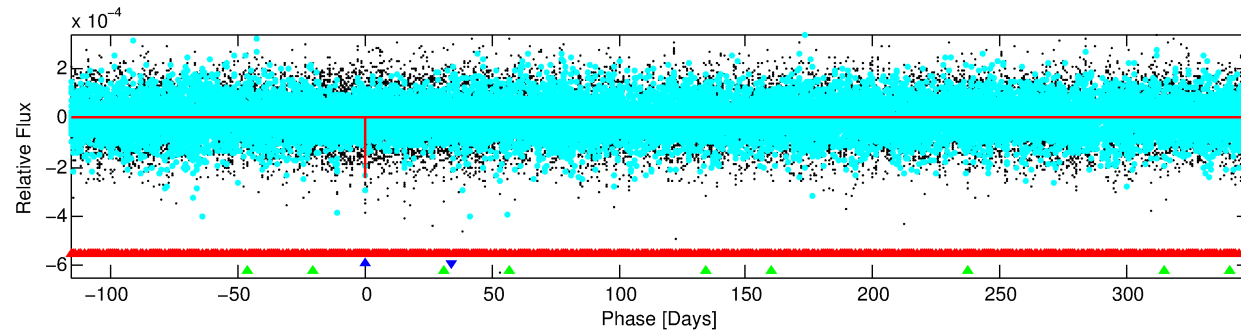
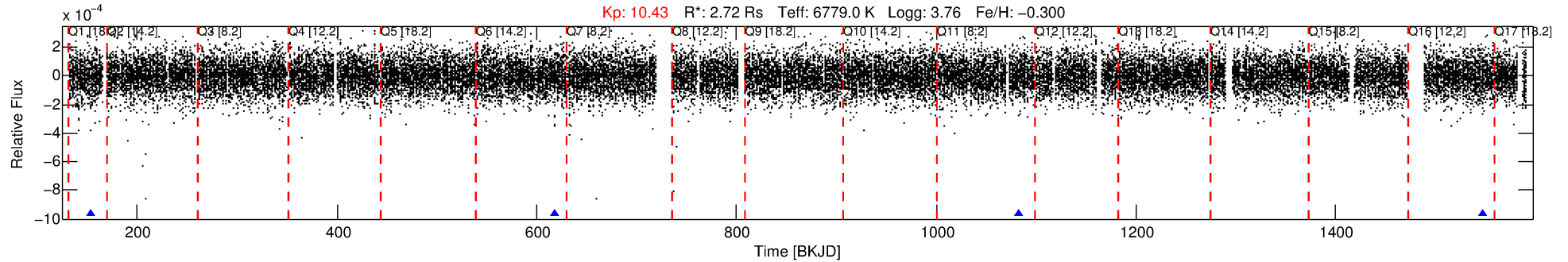
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009892749-02

No Significant Match Found

DV One-Page Summary

KIC: 9892749 Candidate: 2 of 3 Period: 464.584 d



DV Fit Results:

Period = 464.58395 [0.00286] d
Epoch = 153.1200 [0.0049] BKJD
Rp/R* = 0.0151 [0.0066]
a/R* = 882.75 [2180.10]
b = 0.67 [2.08]
Seff = 7.54 [3.82]
Teq = 423 [54] K
Rp = 4.47 [2.48] Re
a = 1.3605 [0.4328] AU
Ag = 6848.39 [6997.67] [0.98 σ]
Teffp = 5943 [1338] K [4.12 σ]

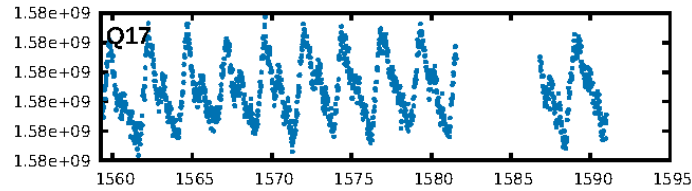
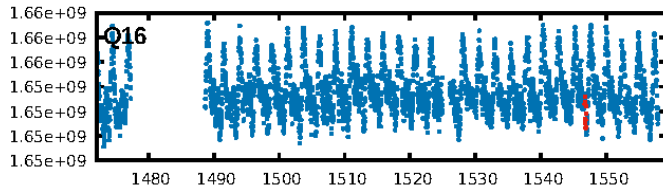
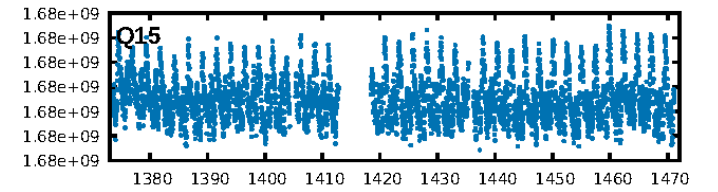
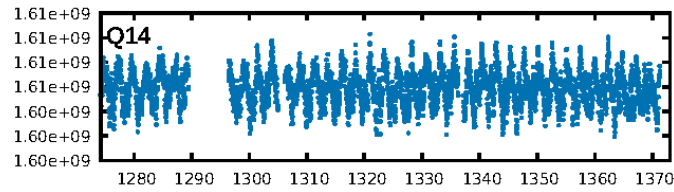
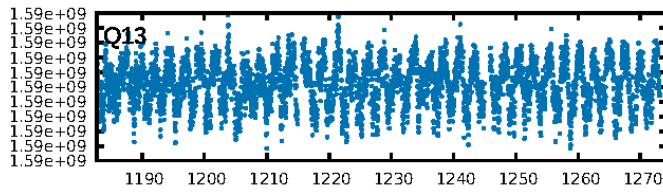
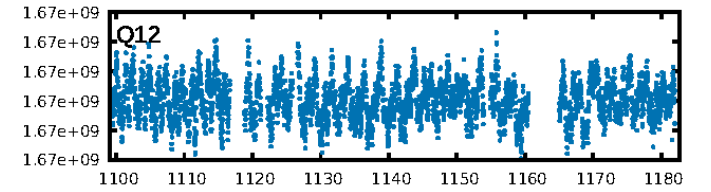
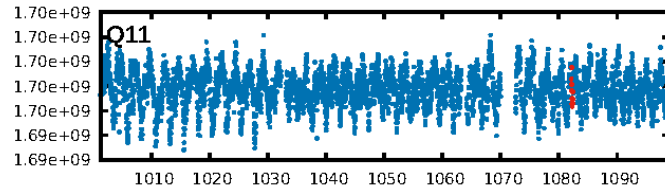
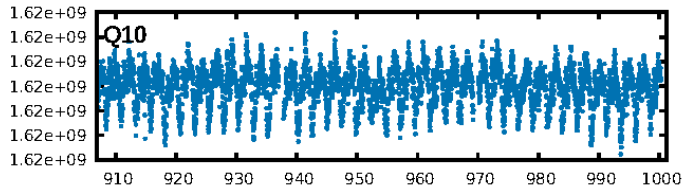
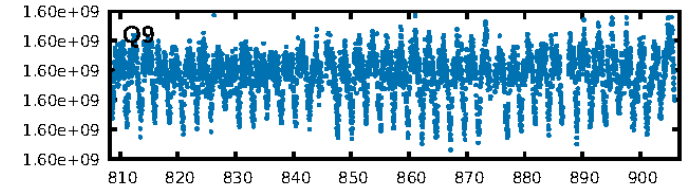
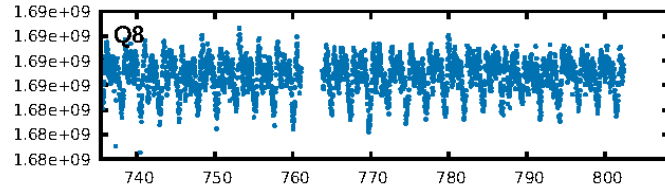
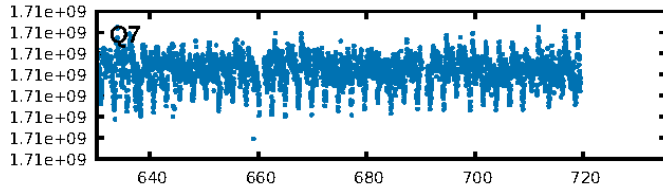
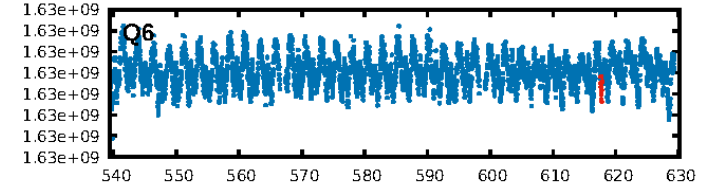
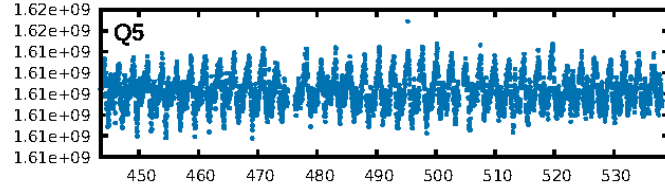
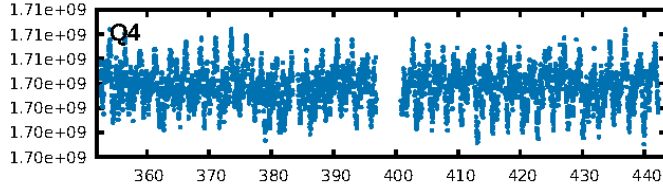
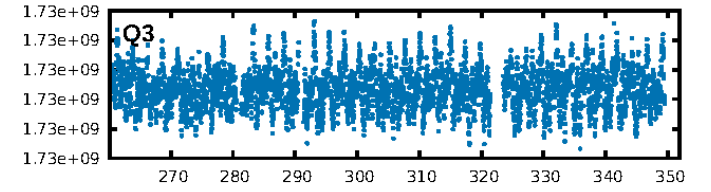
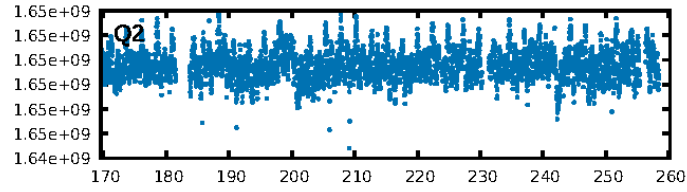
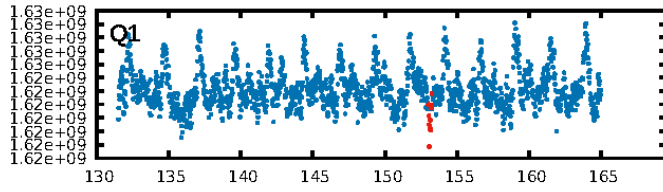
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1783.32 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.2%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 3.84e-08
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 11.55
Centroid-sig: 8.2%
Centroid-so: 1.040 arcsec [1.77 σ]
OotOffset-rm: 4.617 arcsec [4.64 σ]
KicOffset-rm: 4.534 arcsec [5.44 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.75 [3/4]

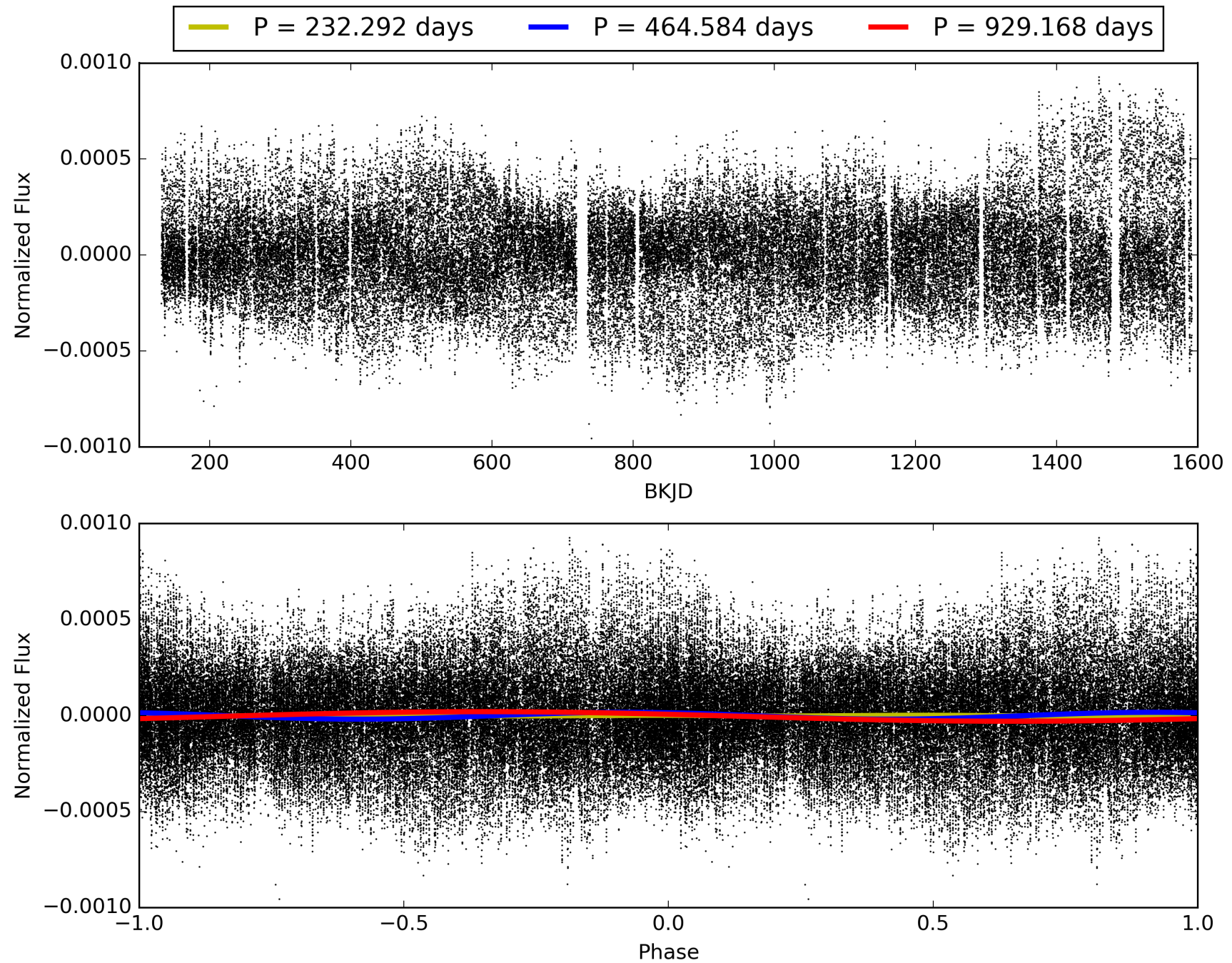
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009892749-02, PDC Light Curves

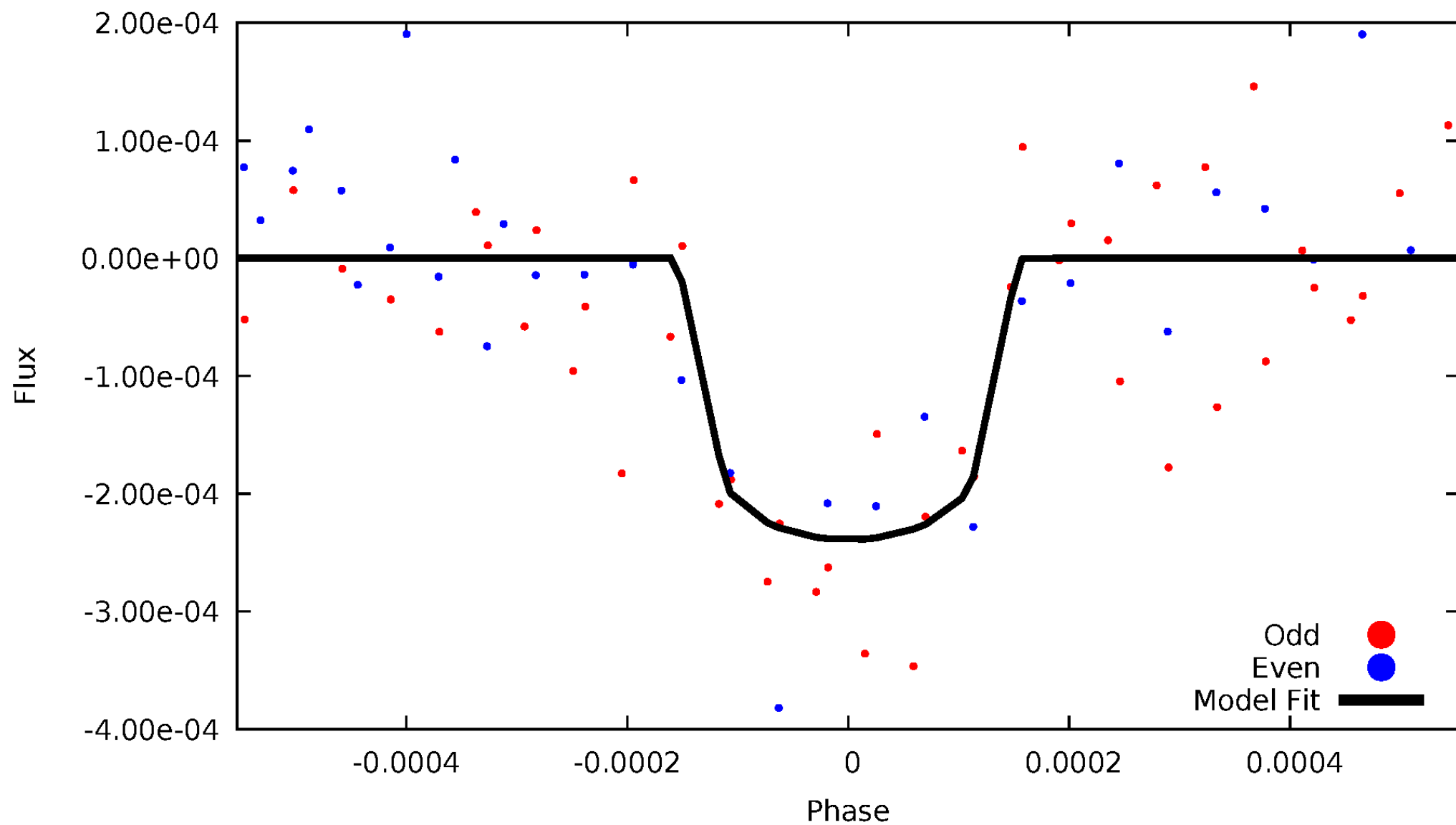


TCE 009892749-02



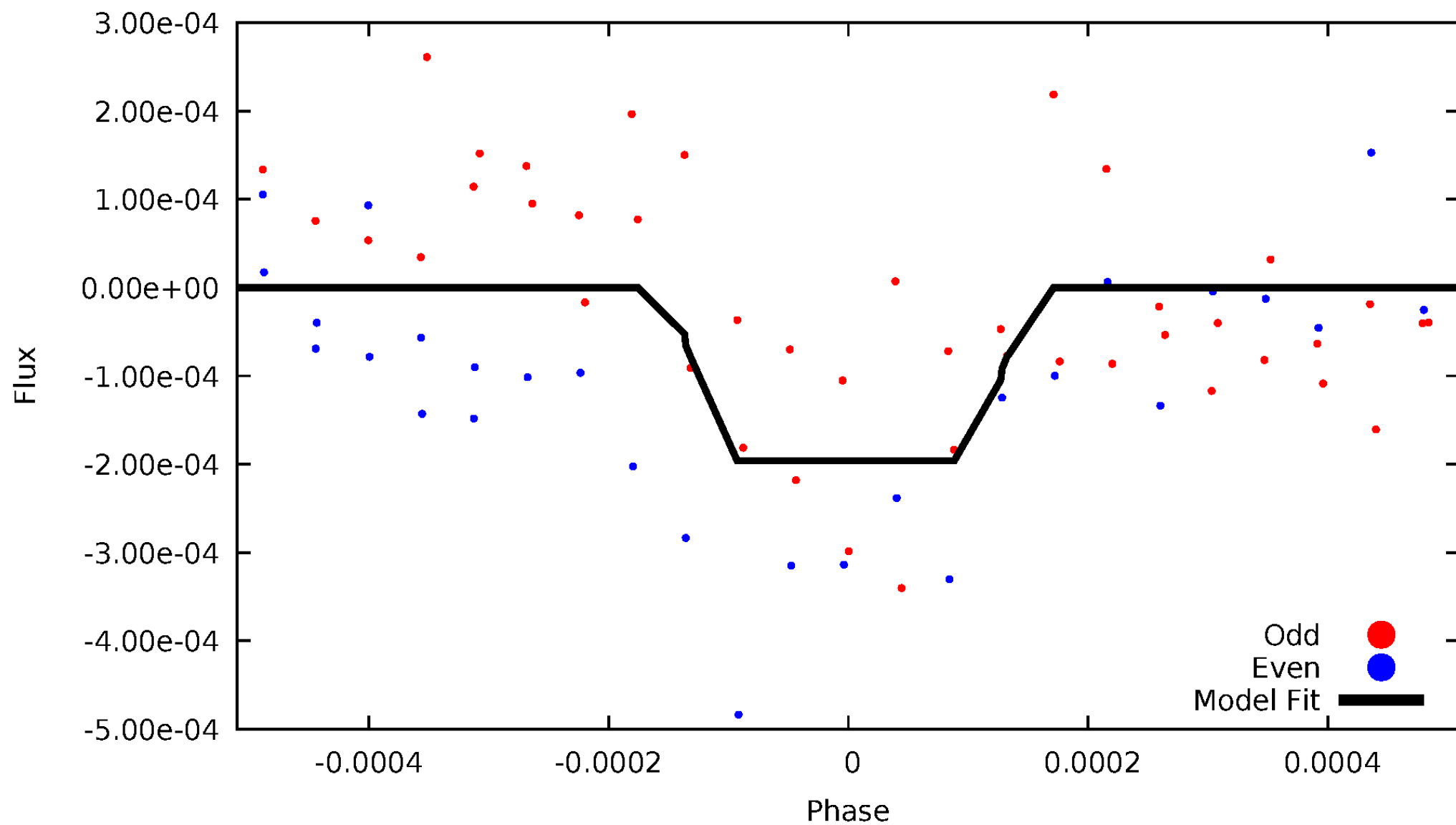
DV Odd/Even

TCE 009892749-02



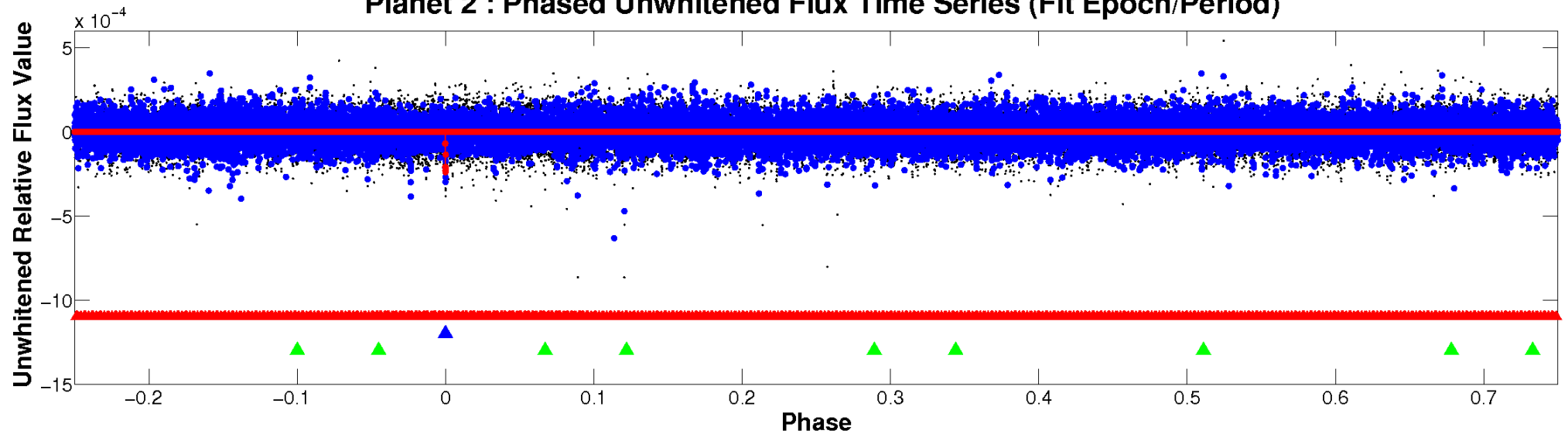
ALT Odd/Even

TCE 009892749-02

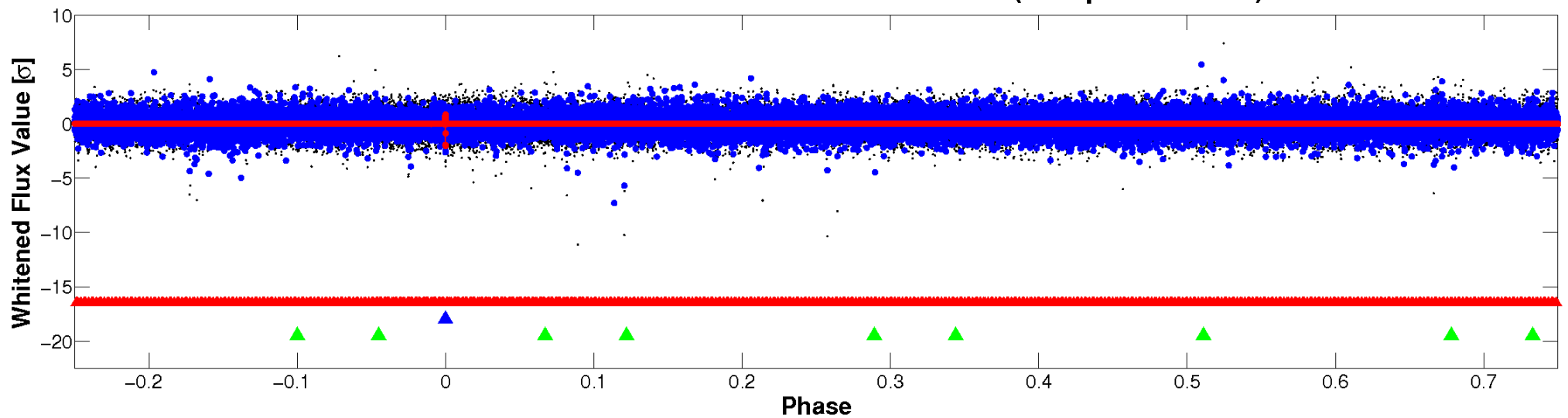


Non-Whitened Vs. Whitened Light Curve

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

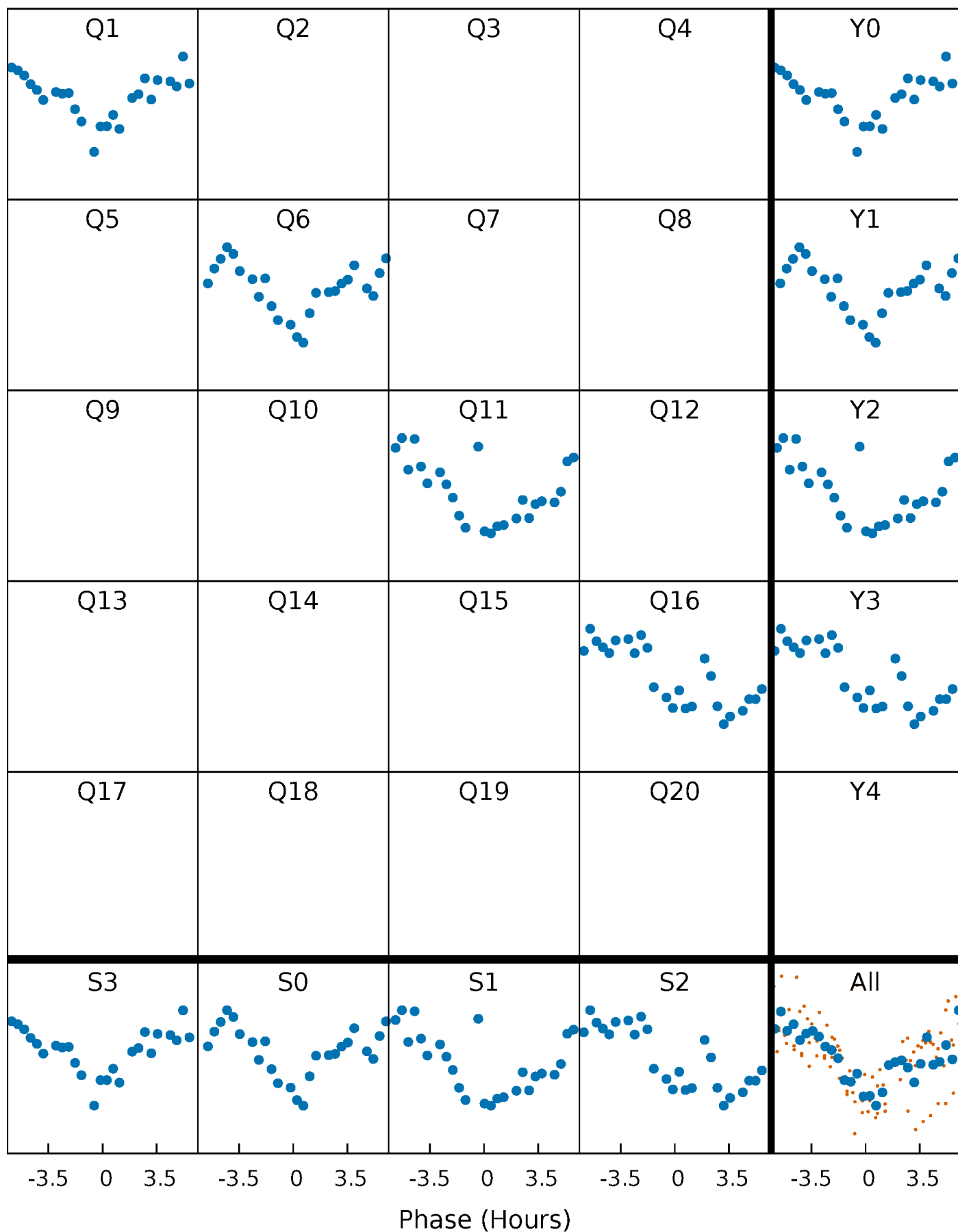


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



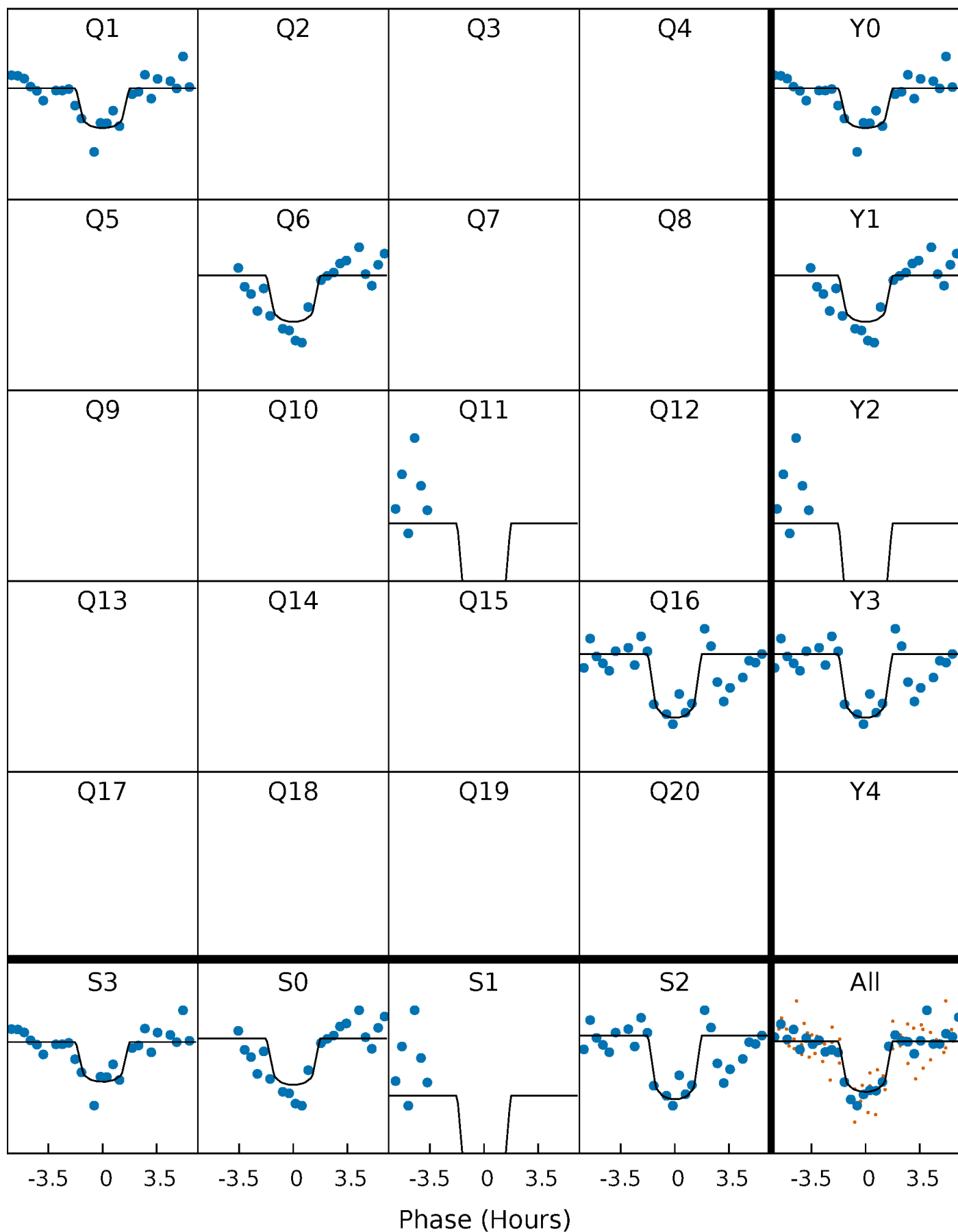
PDC Quarter-Phased Transit Curves

TCE 009892749-02 $P=464.583954$ Days $T_0=153.119980$ (BKJD)



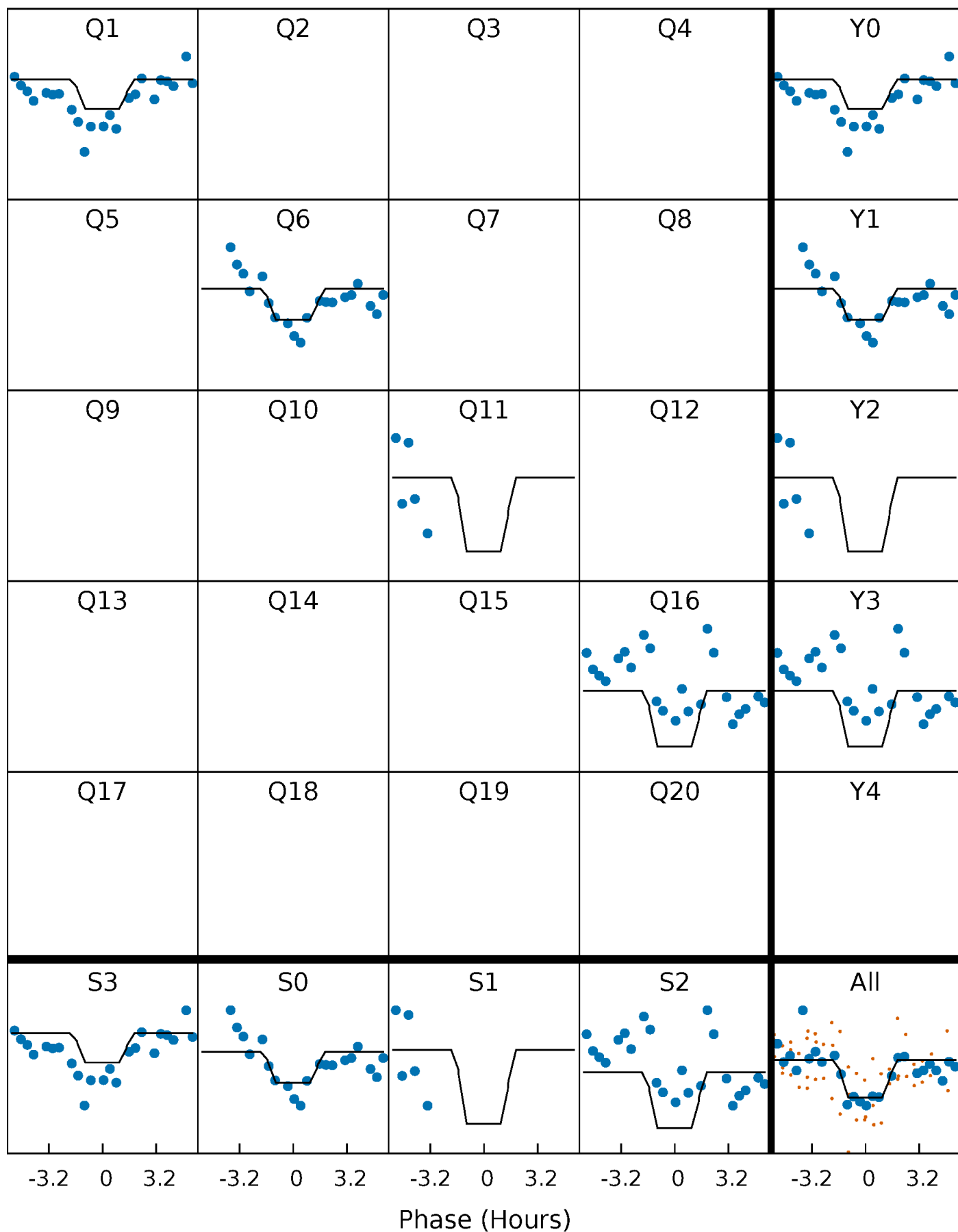
DV Quarter-Phased Transit Curves

TCE 009892749-02 P=464.583954 Days $T_0=153.119980$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

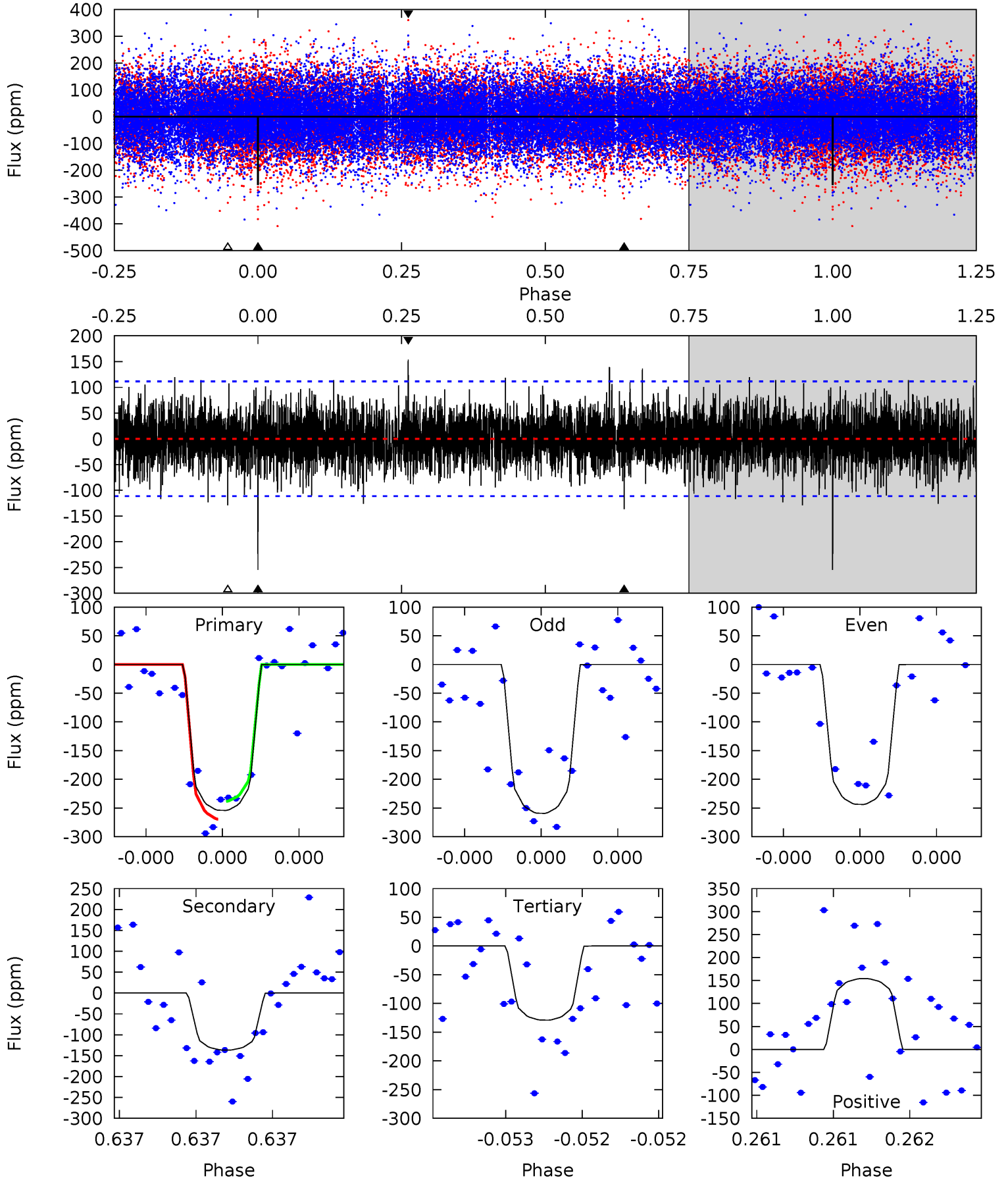
TCE 009892749-02 P=464.577420 Days $T_0=153.133319$ (BKJD)



DV Model-Shift Uniqueness Test

009892749-02, P = 464.583954 Days, E = 153.119980 Days

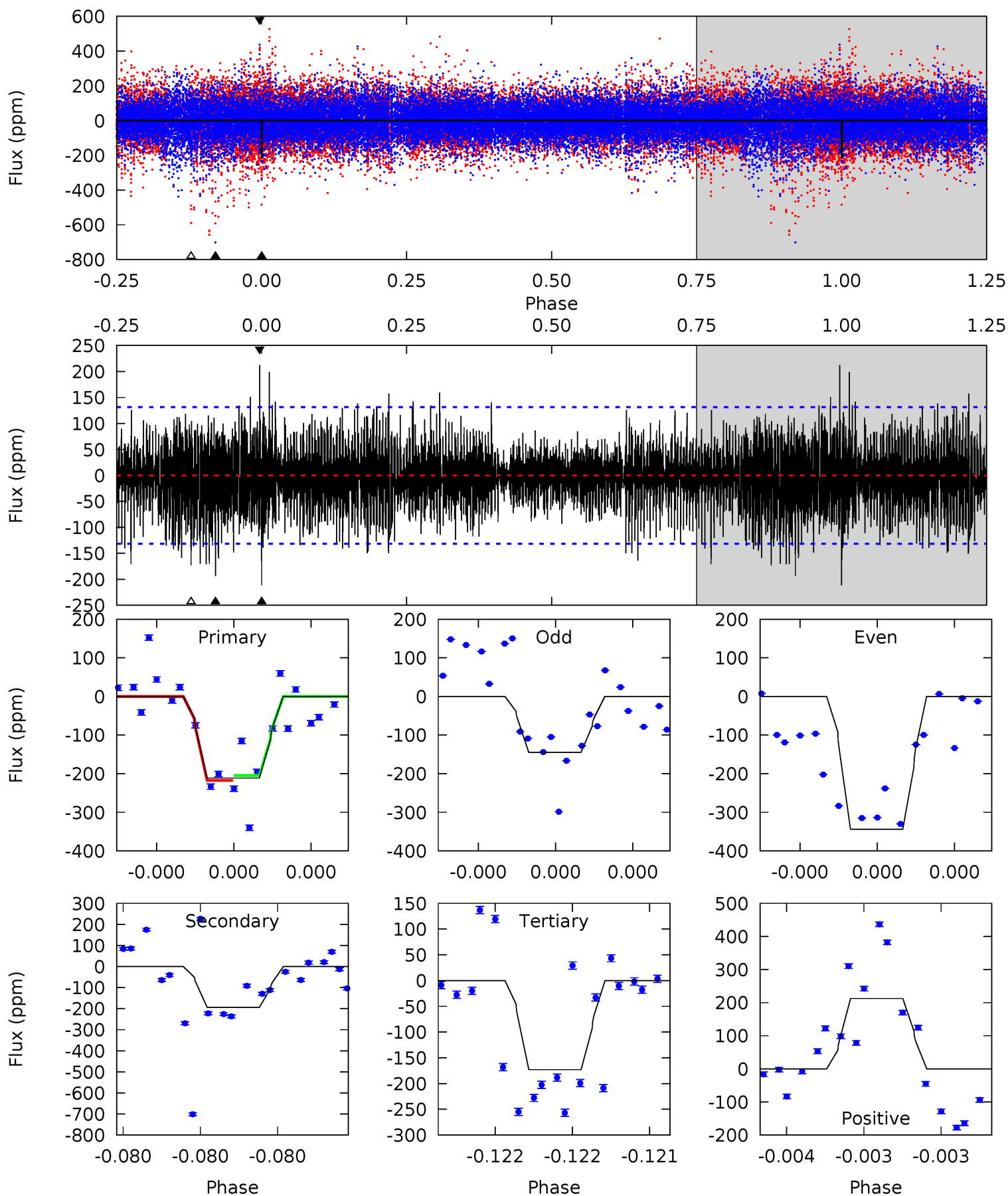
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	6.94	6.55	7.82	5.66	3.61	1.73	6.36	5.09	0.38	-0.88	0.37	1.04	0.38	0.78



Alt Model-Shift Uniqueness Test

009892749-02, P = 464.577420 Days, E = 153.133319 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.13	8.37	7.47	9.18	5.68	3.64	1.99	1.65	-0.05	0.89	-0.82	4.27	0.87	0.50	0.27



Stellar Parameters For KIC 009892749

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6779^{+169}_{-186}	$3.762^{+0.285}_{-0.095}$	$-0.300^{+0.300}_{-0.250}$	$2.716^{+0.434}_{-0.941}$	$1.555^{+0.190}_{-0.353}$	$0.109^{+0.236}_{-0.033}$
	+2%/-3%	+8%/-3%	+100%/-83%	+16%/-35%	+12%/-23%	+216%/-30%
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 009892749-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-137 ± 20	$4.18^{+1.99}_{-1.99}$	577^{+36}_{-51}	5949^{+2241}_{-933}	7861^{+20040}_{-4254}
Alt.	-194 ± 23	$3.96^{+1.90}_{-1.76}$	579^{+33}_{-51}	6702^{+2381}_{-1164}	12241^{+26729}_{-6593}

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

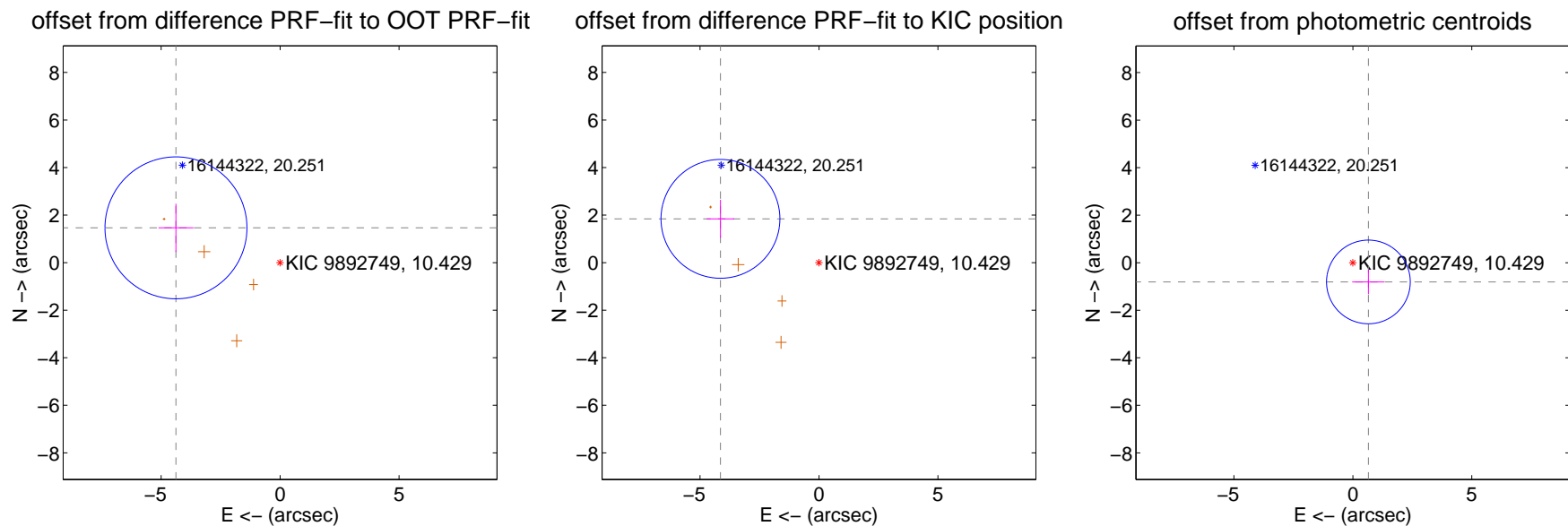
DV Centroid Data

Supplemental centroid analysis for 009892749-02. **Kepler magnitude: 10.43.** Transit SNR 8.36

There are 0 quarters with good PRF difference image offsets

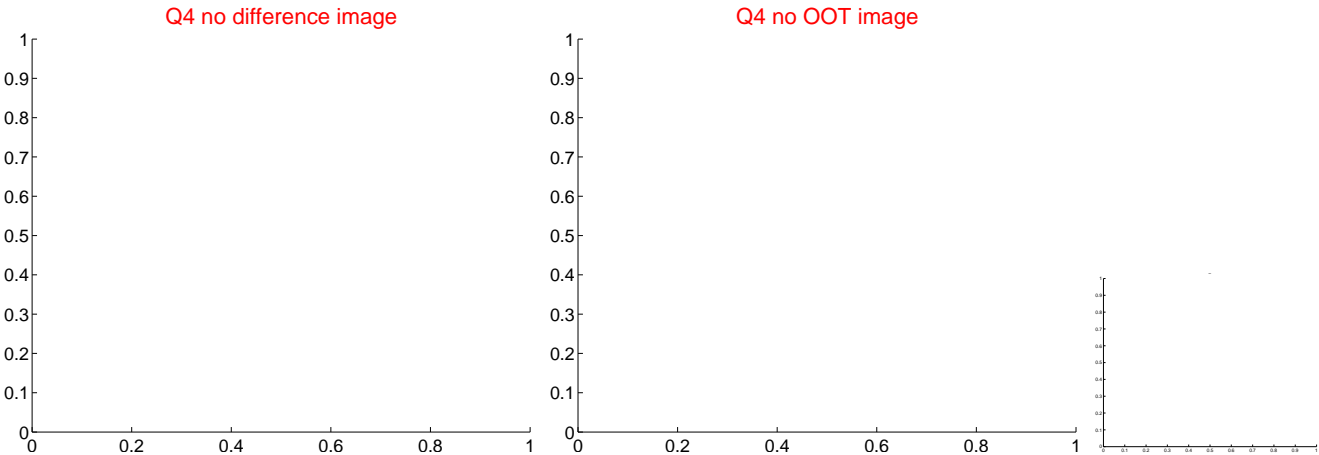
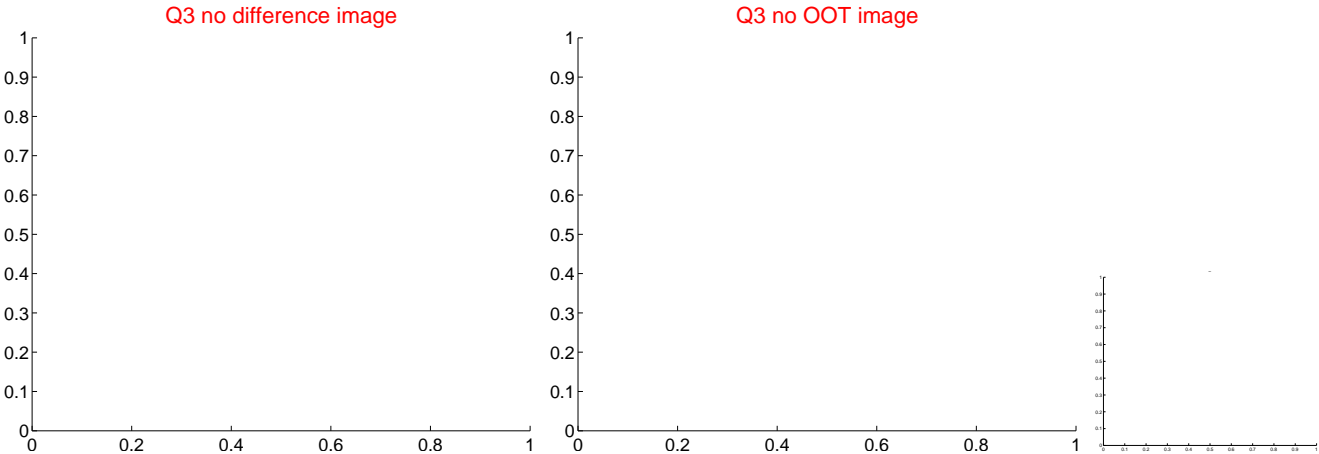
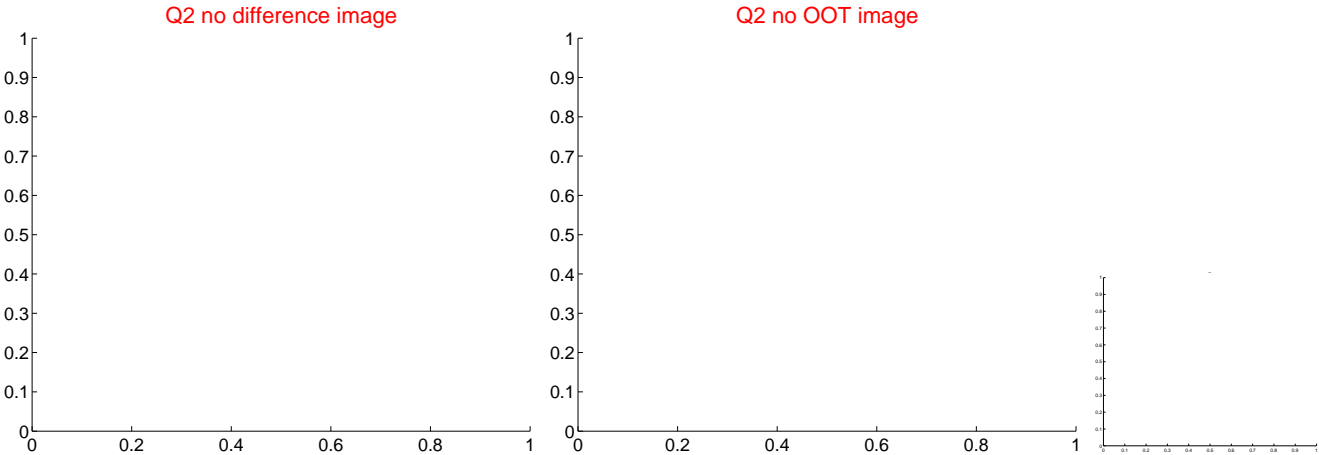
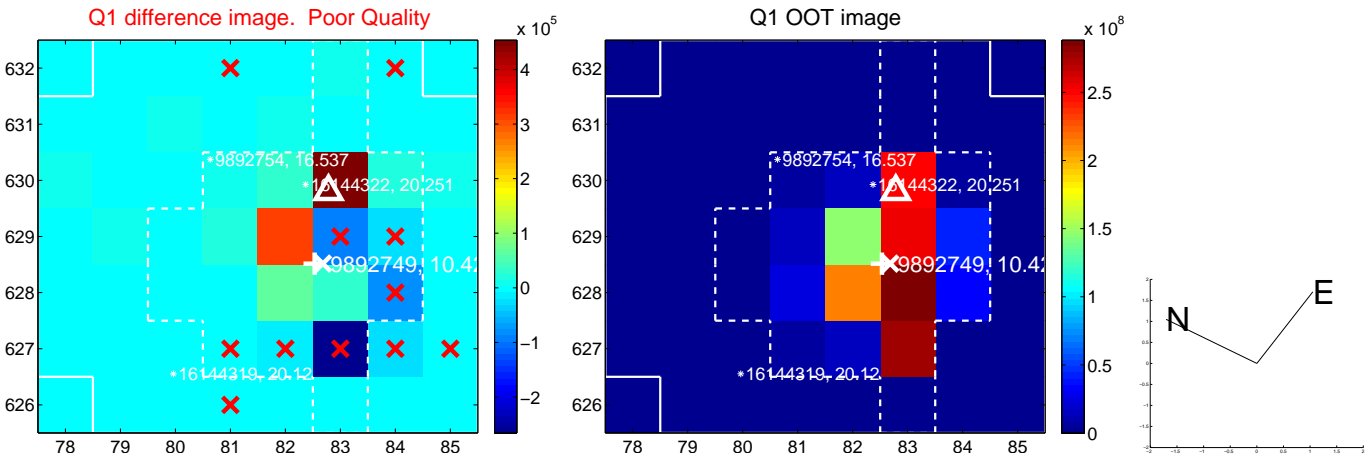
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.617 ± 0.995	4.64	4.378 ± 0.734	1.464 ± 1.011
PRF-fit source offset from KIC position	4.534 ± 0.833	5.44	4.143 ± 0.578	1.843 ± 0.799
photometric centroid source offset	1.04 ± 0.59	1.77	-0.65 ± 0.68	-0.81 ± 0.52

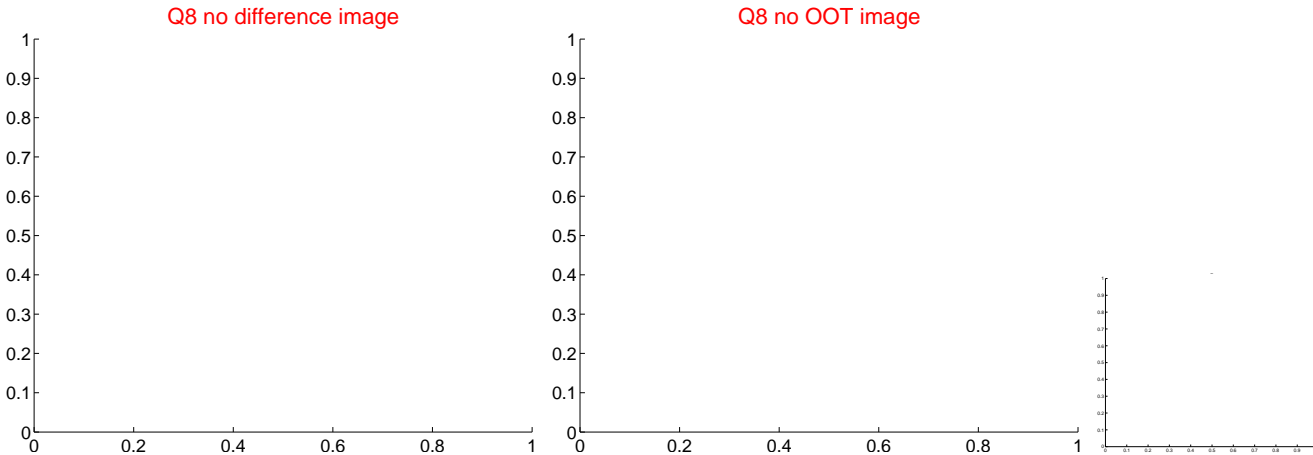
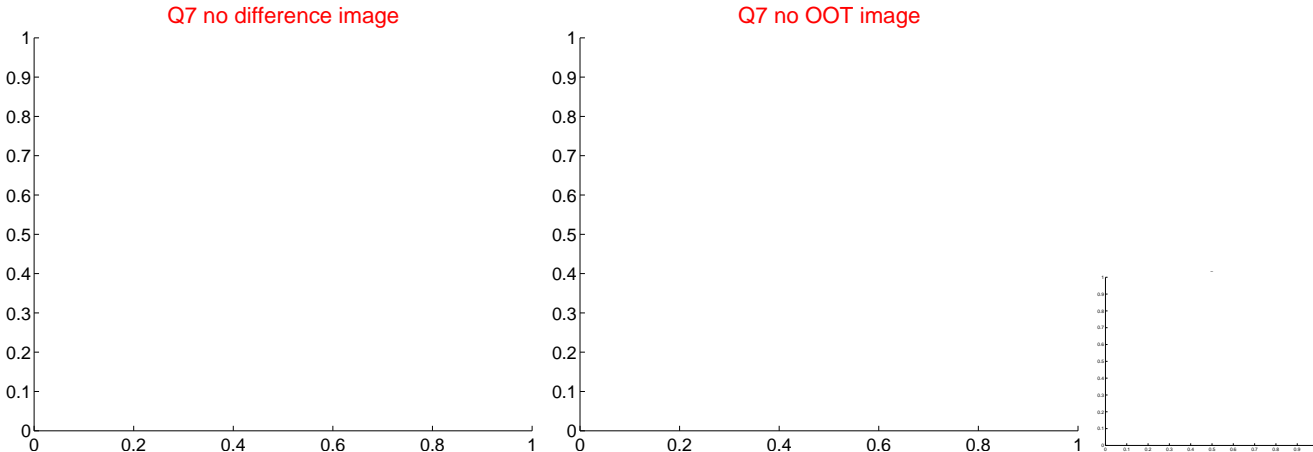
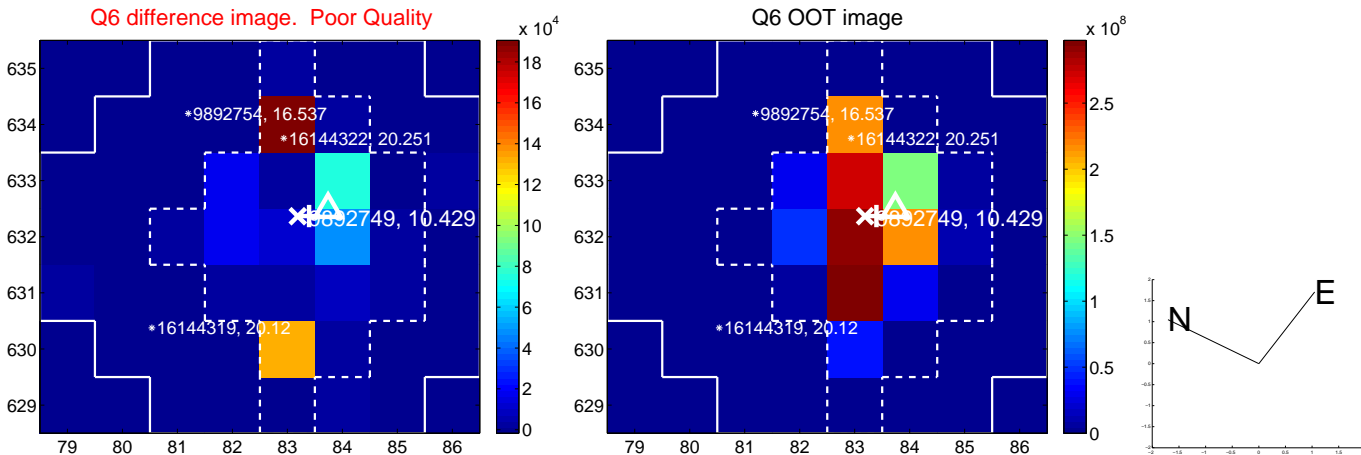
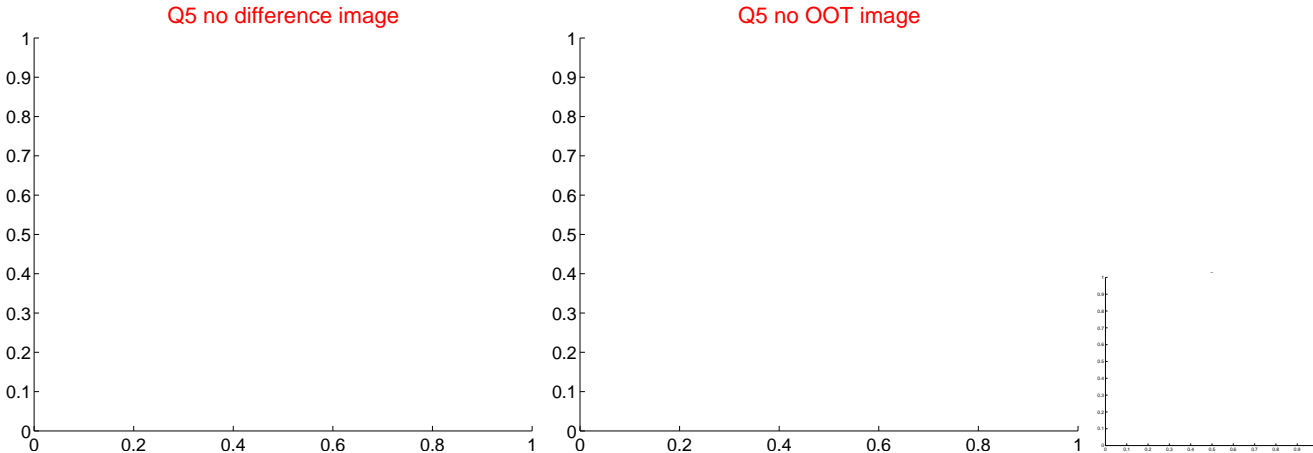


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

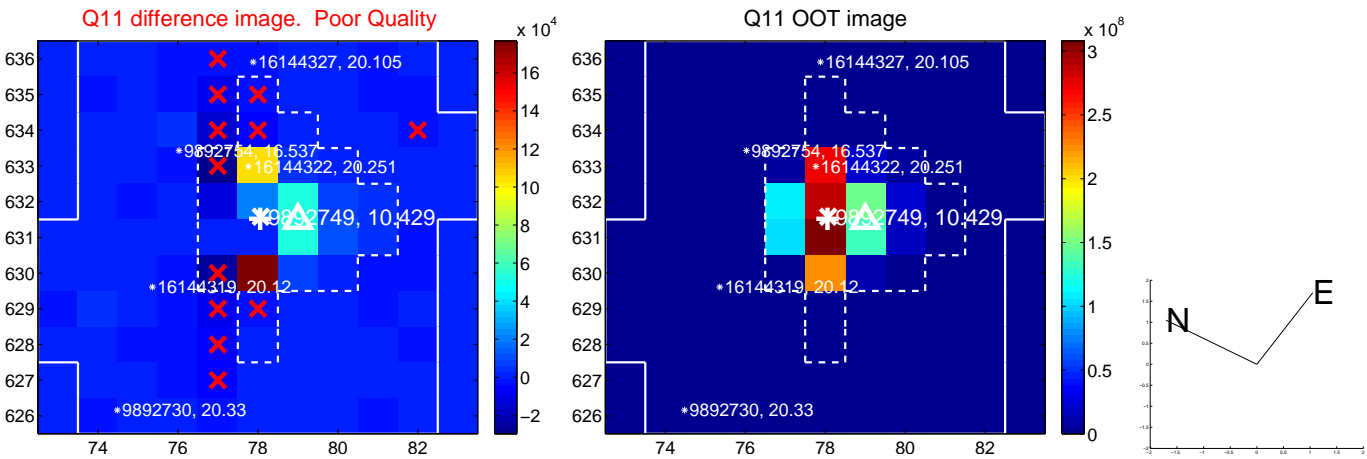
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



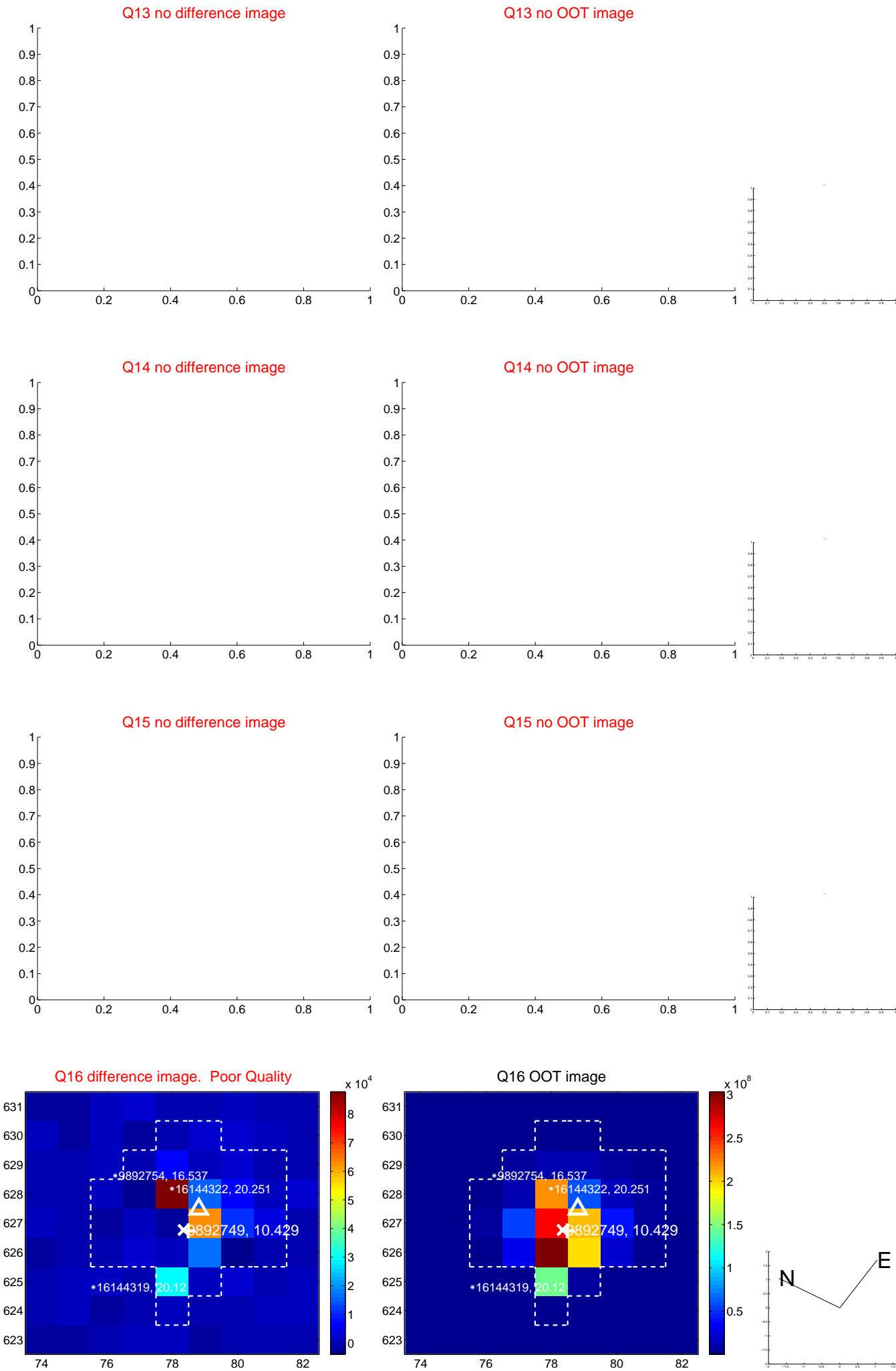
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



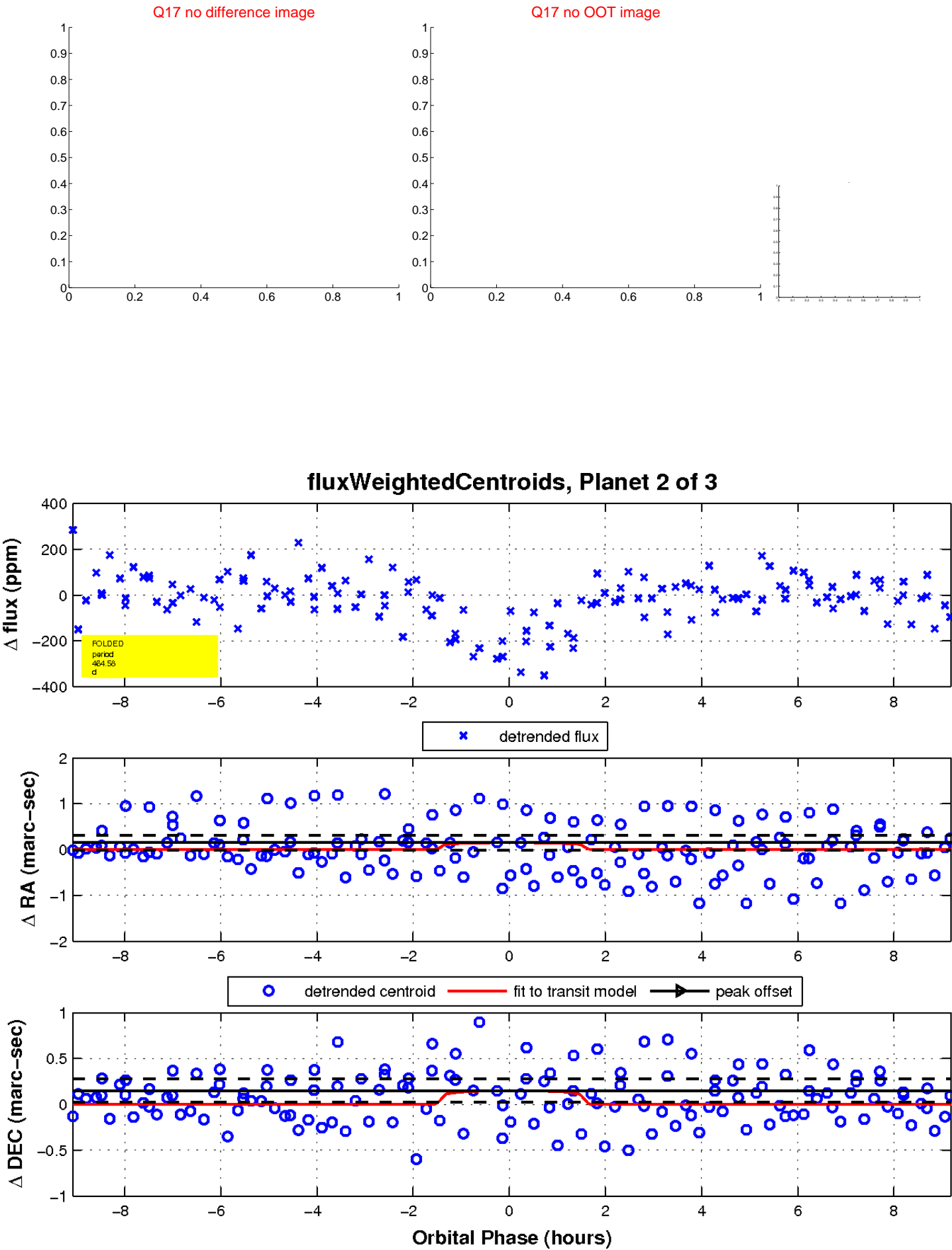
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

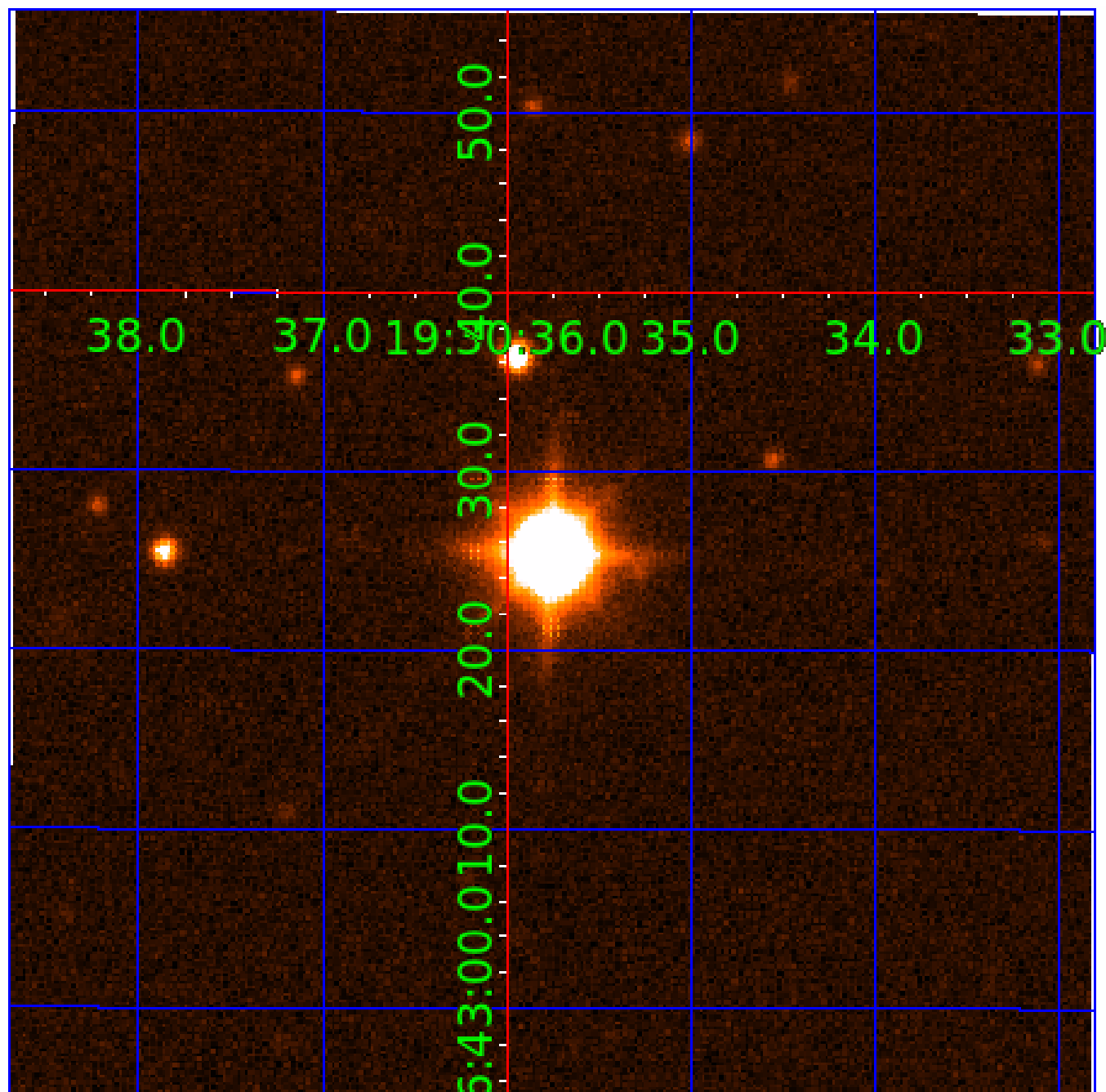


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009892749

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})
009892749-01	OBS	No	2.437750	131.926539	11.2	7.665	9.5	5.1	2.72	6779	1.01	8270.36
009892749-02	OBS	No	464.583954	153.119980	239.0	3.082	7.5	8.4	2.72	6779	4.46	7.54
009892749-03	OBS	No	180.738184	132.197338	198.0	2.256	7.6	8.2	2.72	6779	4.31	26.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009892749-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009892749-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
009892749-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

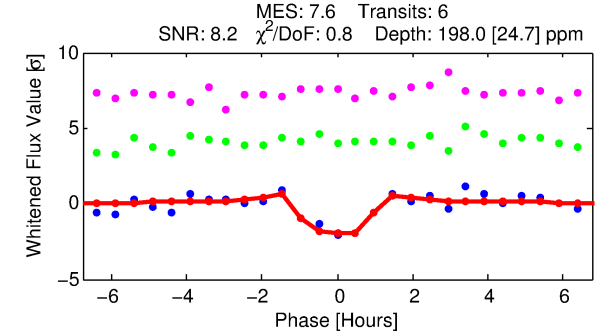
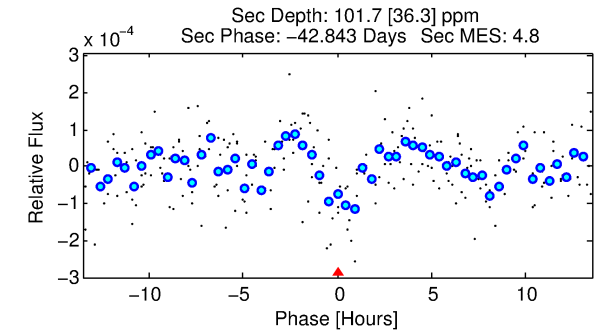
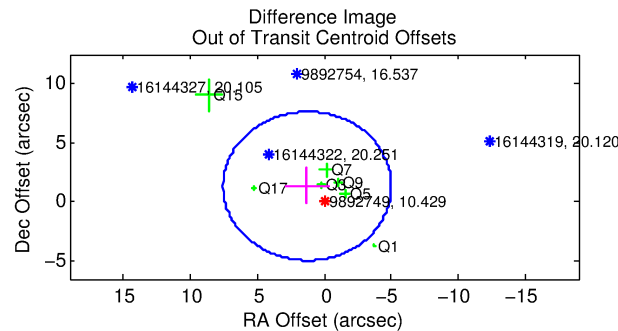
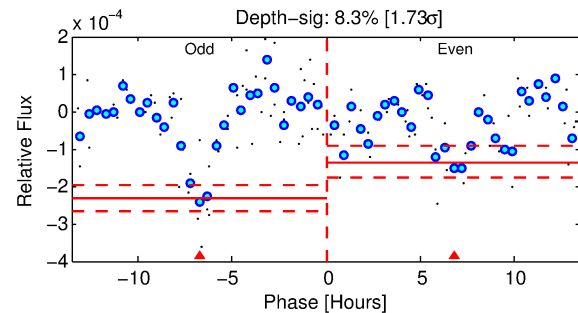
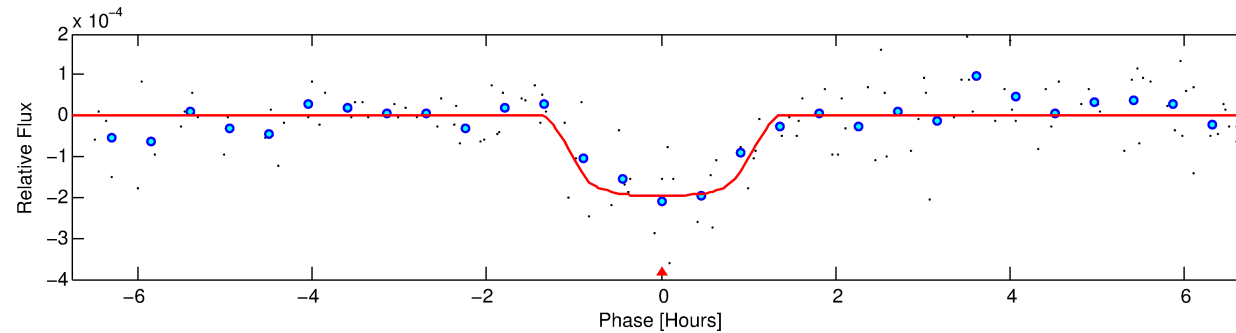
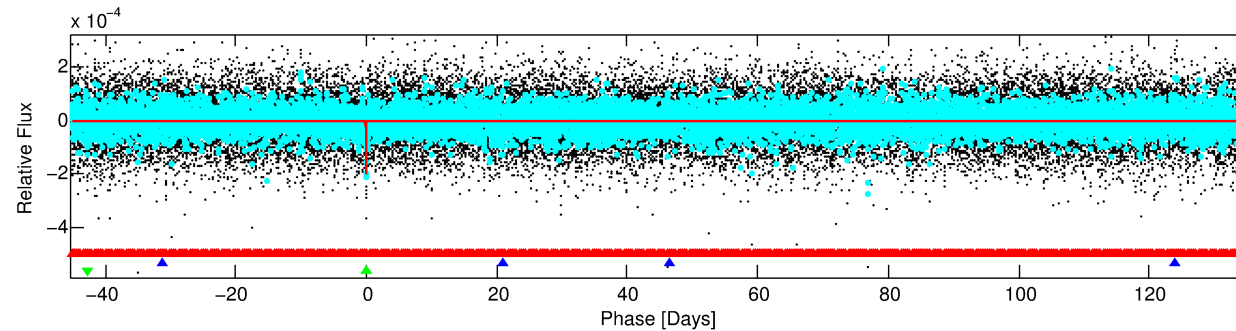
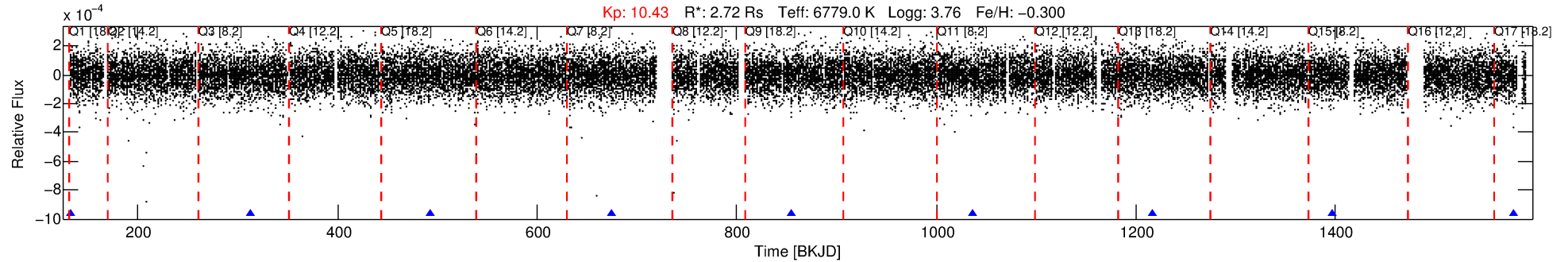
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009892749-03

No Significant Match Found

DV One-Page Summary

KIC: 9892749 Candidate: 3 of 3 Period: 180.738 d



DV Fit Results:

Period = 180.73818 [0.00100] d
Epoch = 132.1973 [0.0048] BKJD
 R_p/R^* = 0.0145 [0.0119]
 a/R^* = 340.92 [1636.20]
 b = 0.85 [1.63]
 S_{eff} = 26.55 [13.46]
 T_{eq} = 579 [73] K
 R_p = 4.31 [3.82] R_e
 a = 0.7250 [0.2306] AU
 A_g = 1582.74 [2756.05] [0.57 σ]
 T_{eff} = 5645 [2361] K [2.14 σ]

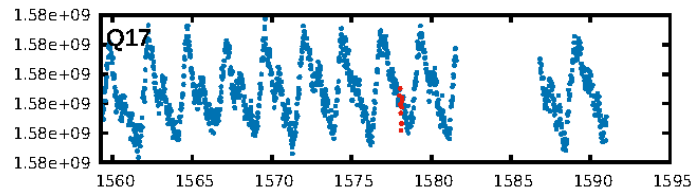
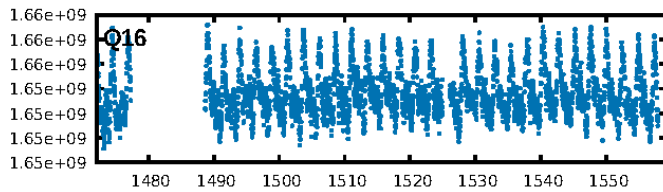
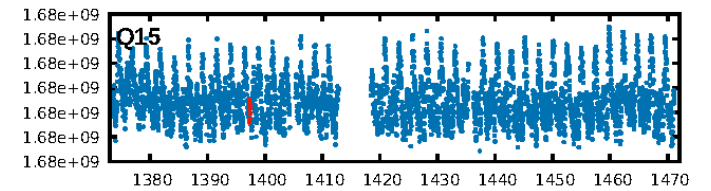
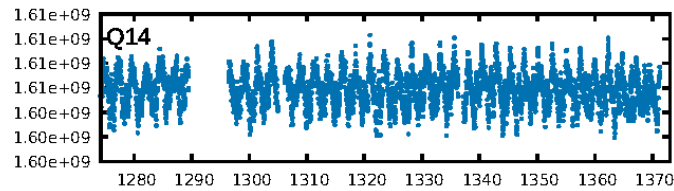
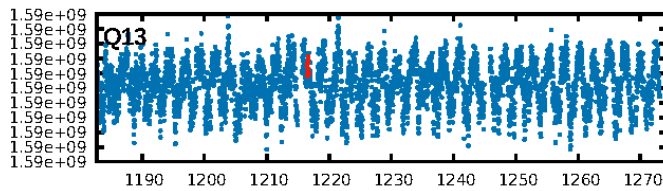
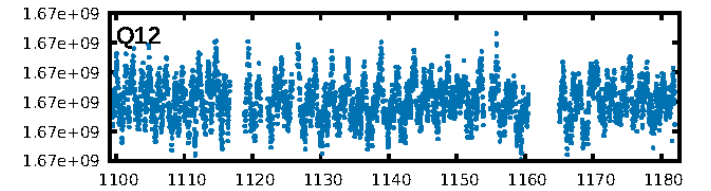
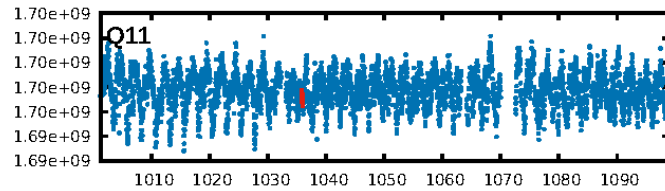
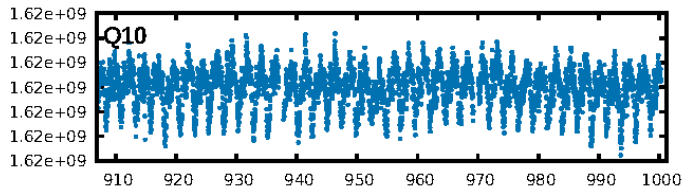
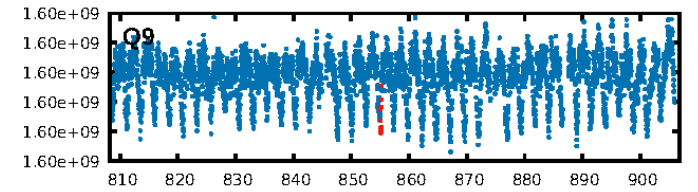
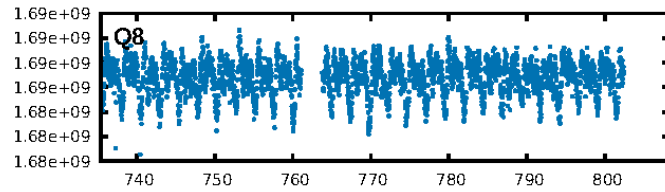
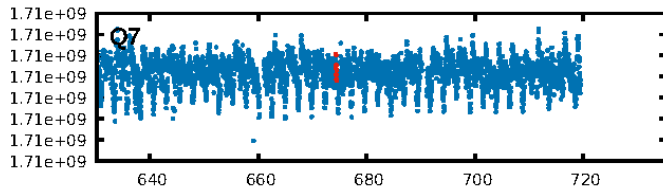
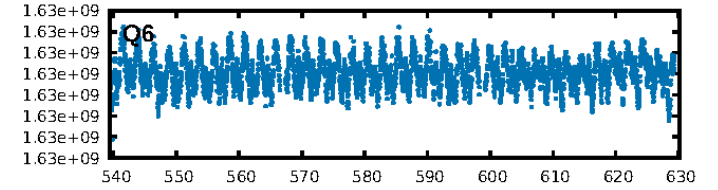
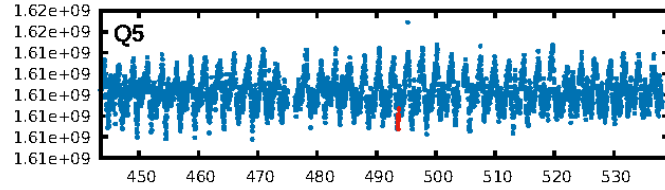
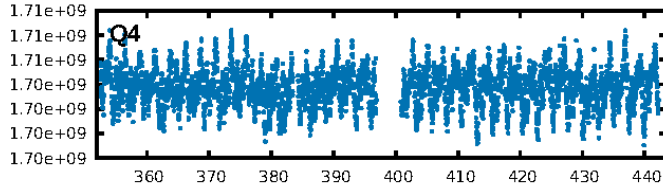
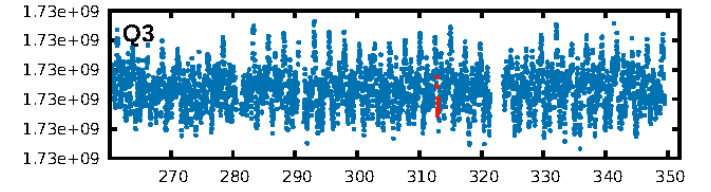
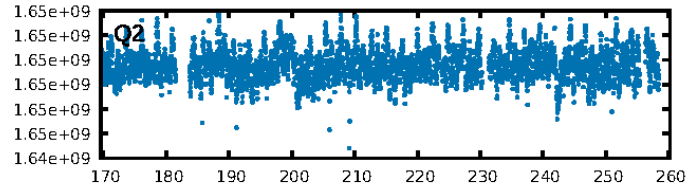
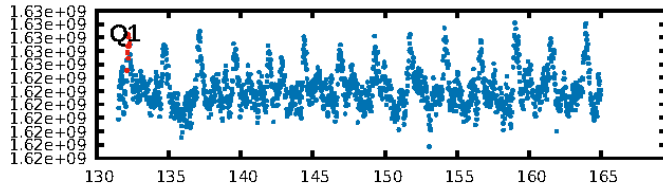
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [535.59 σ]
LongPeriod-sig: 100.0% [1783.32 σ]
ModelChiSquare2-sig: 54.7%
ModelChiSquareGof-sig: 96.8%
Bootstrap-pfa: 1.99e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 3.961
Centroid-sig: 9.7%
Centroid-so: 0.858 arcsec [1.47 σ]
OotOffset-rm: 1.847 arcsec [0.88 σ]
OotOffset-st: 0.3/0/4 [7]
KicOffset-rm: 1.944 arcsec [1.11 σ]
KicOffset-st: 0.3/0/4 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.75 [6/8]

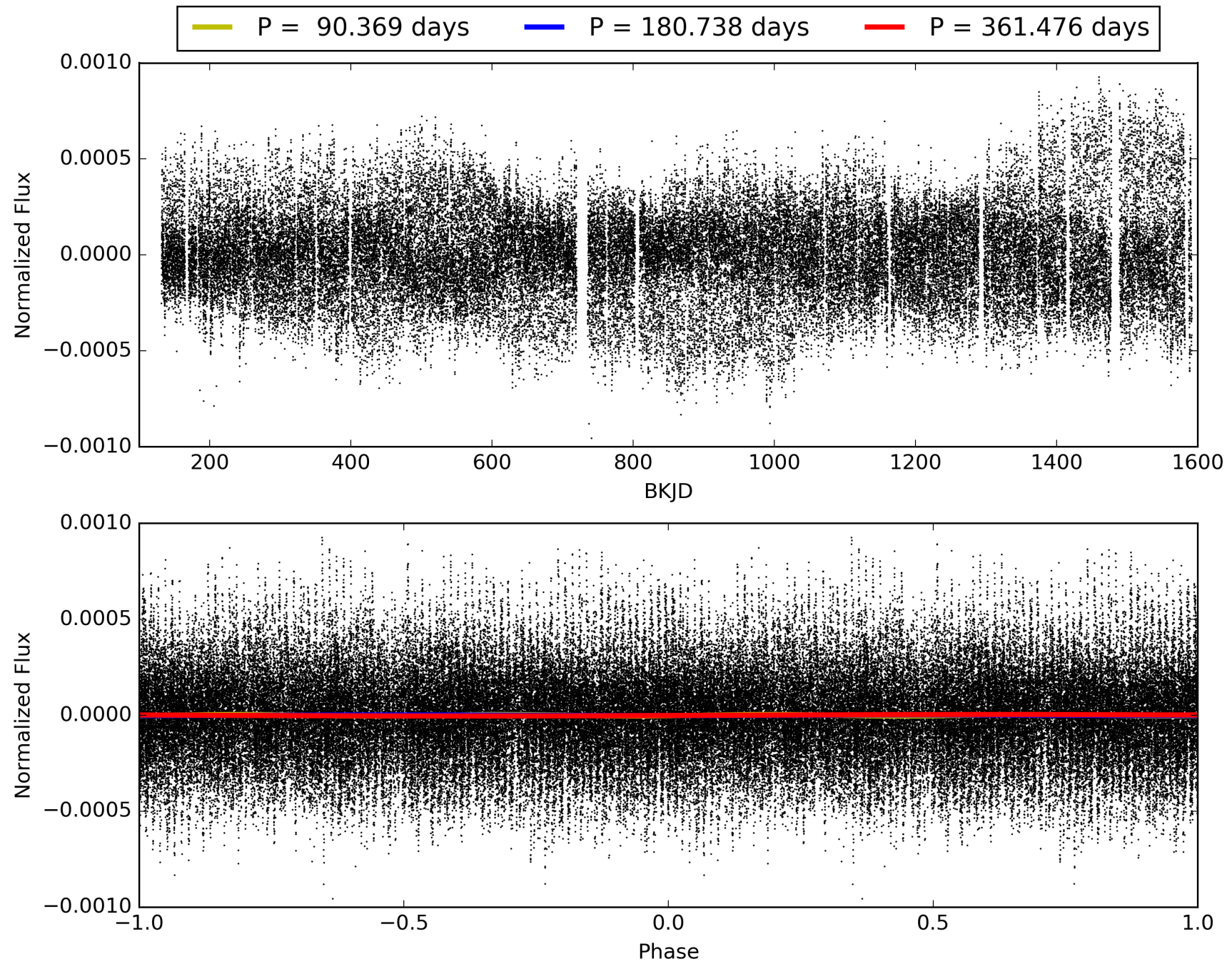
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009892749-03, PDC Light Curves

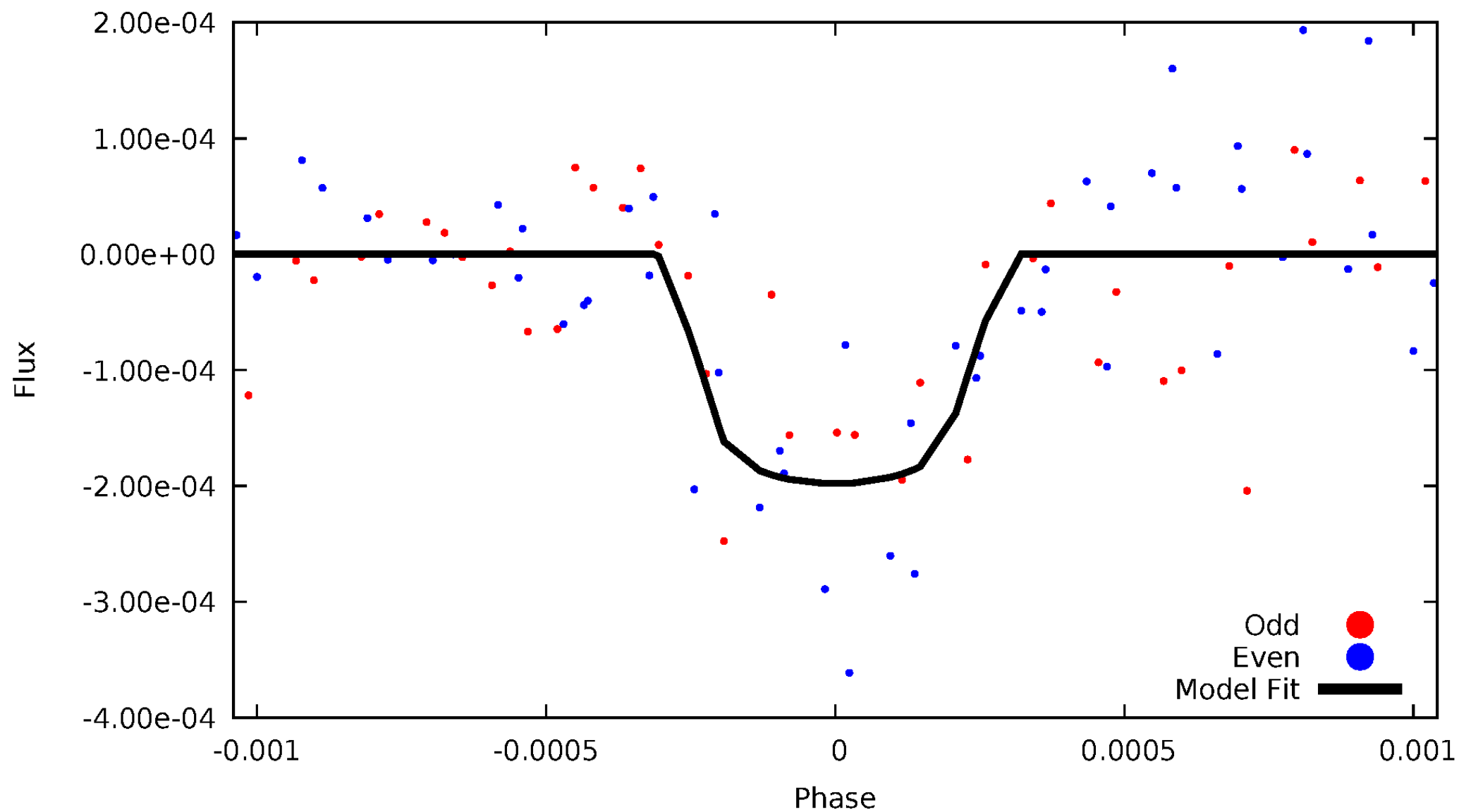


TCE 009892749-03



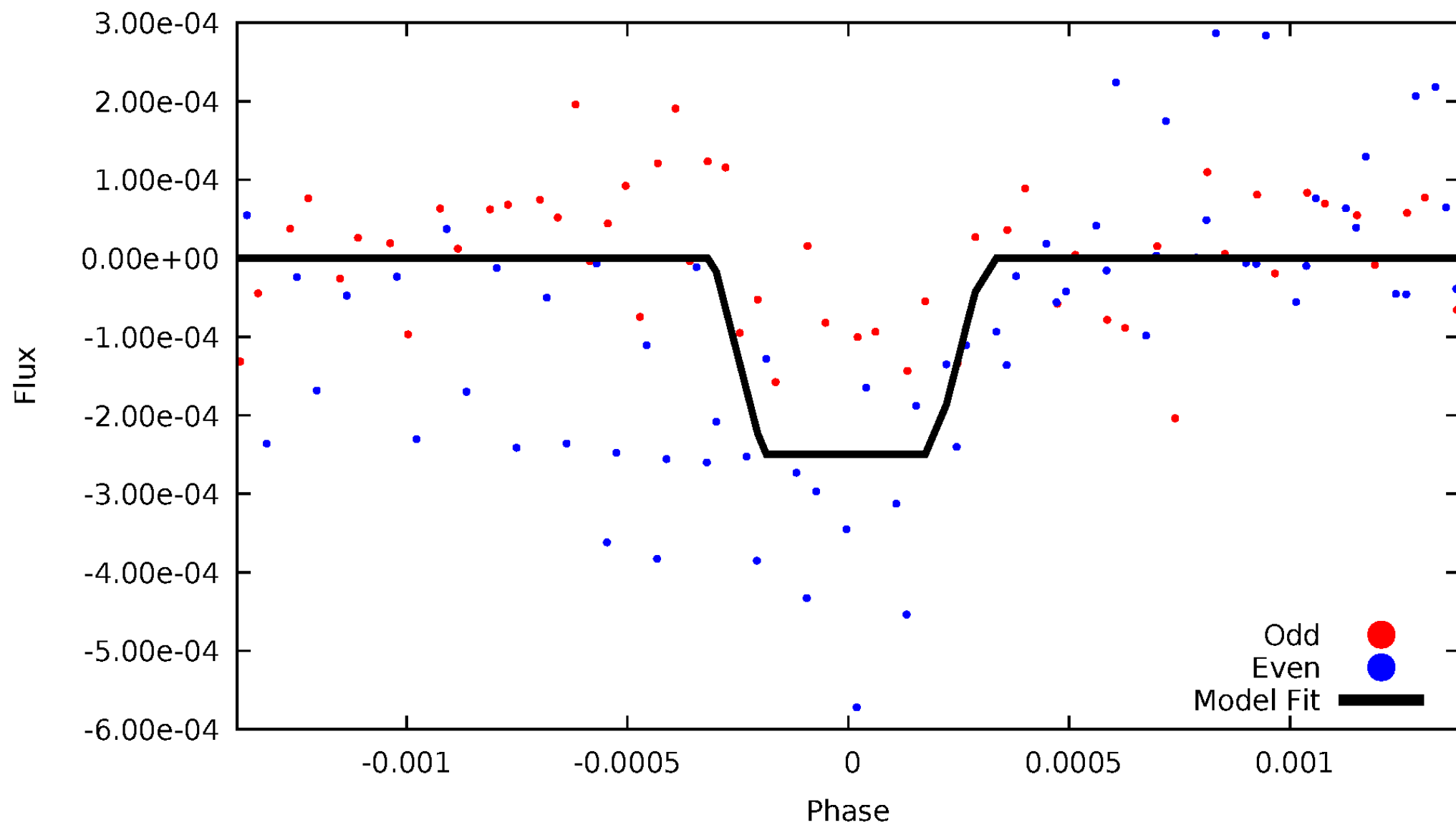
DV Odd/Even

TCE 009892749-03



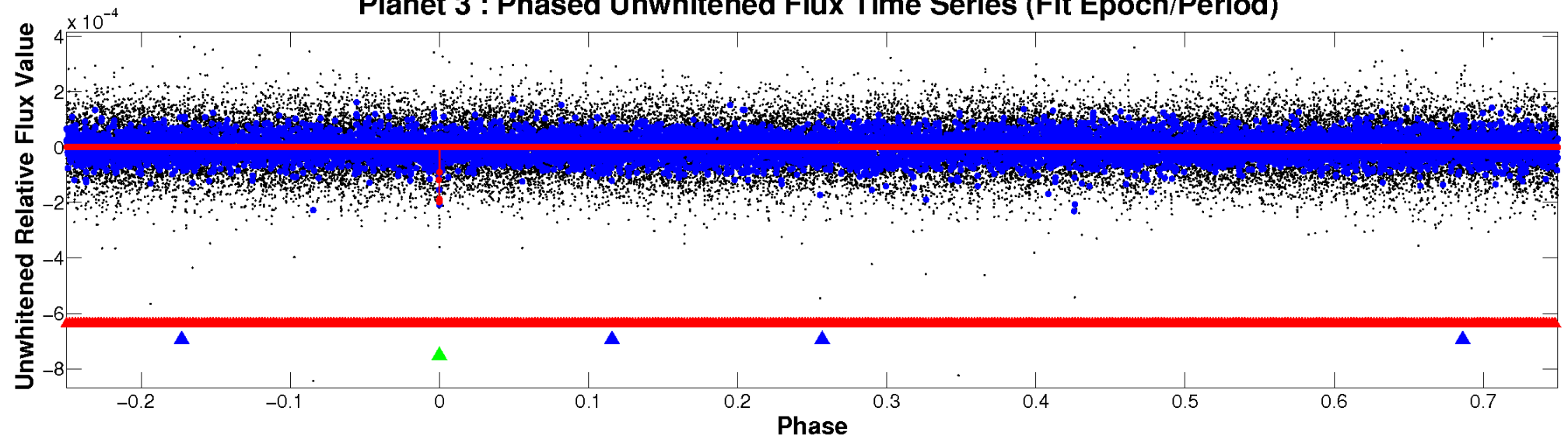
ALT Odd/Even

TCE 009892749-03

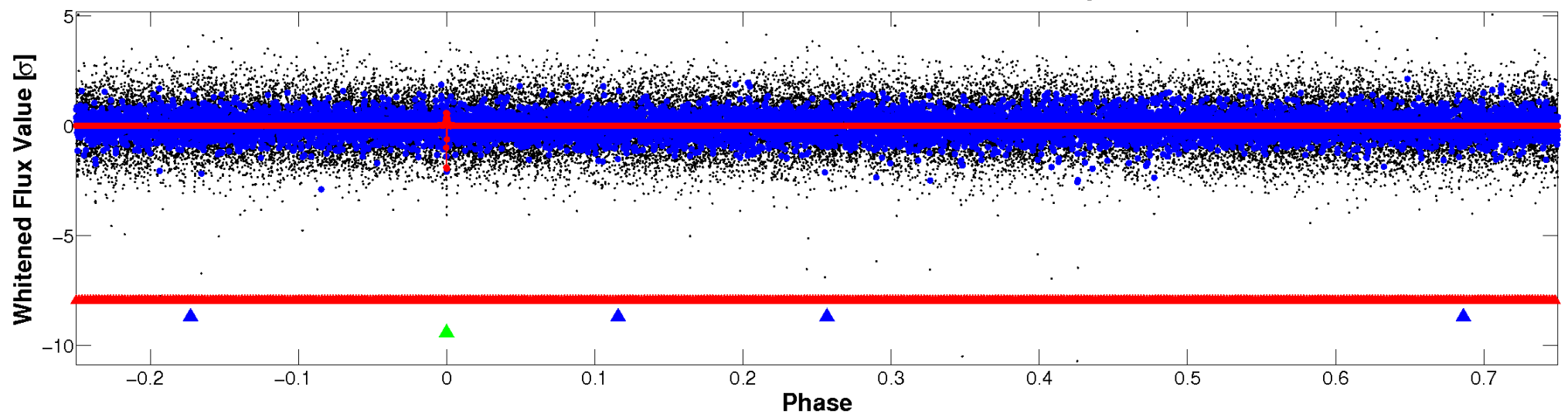


Non-Whitened Vs. Whitened Light Curve

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

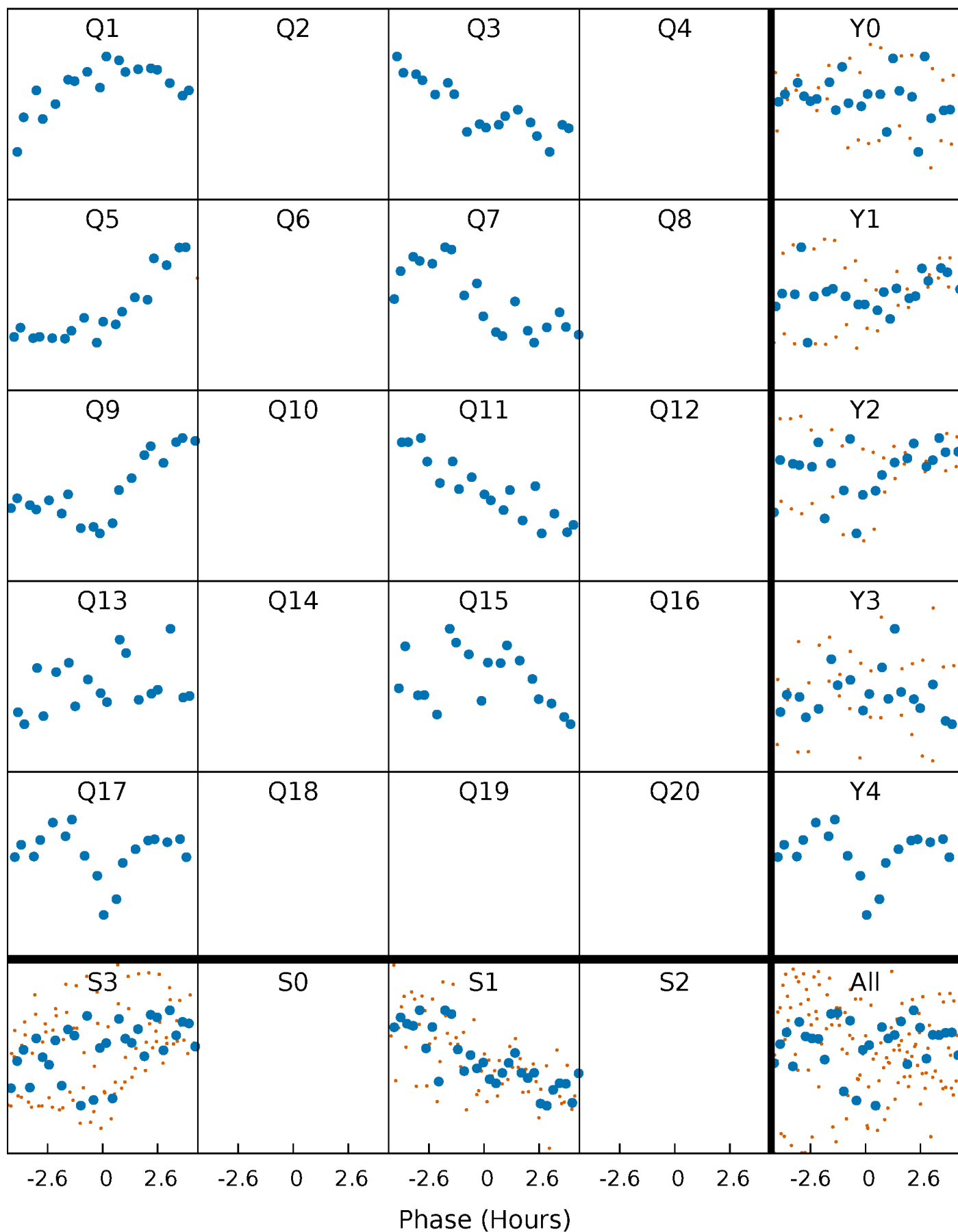


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



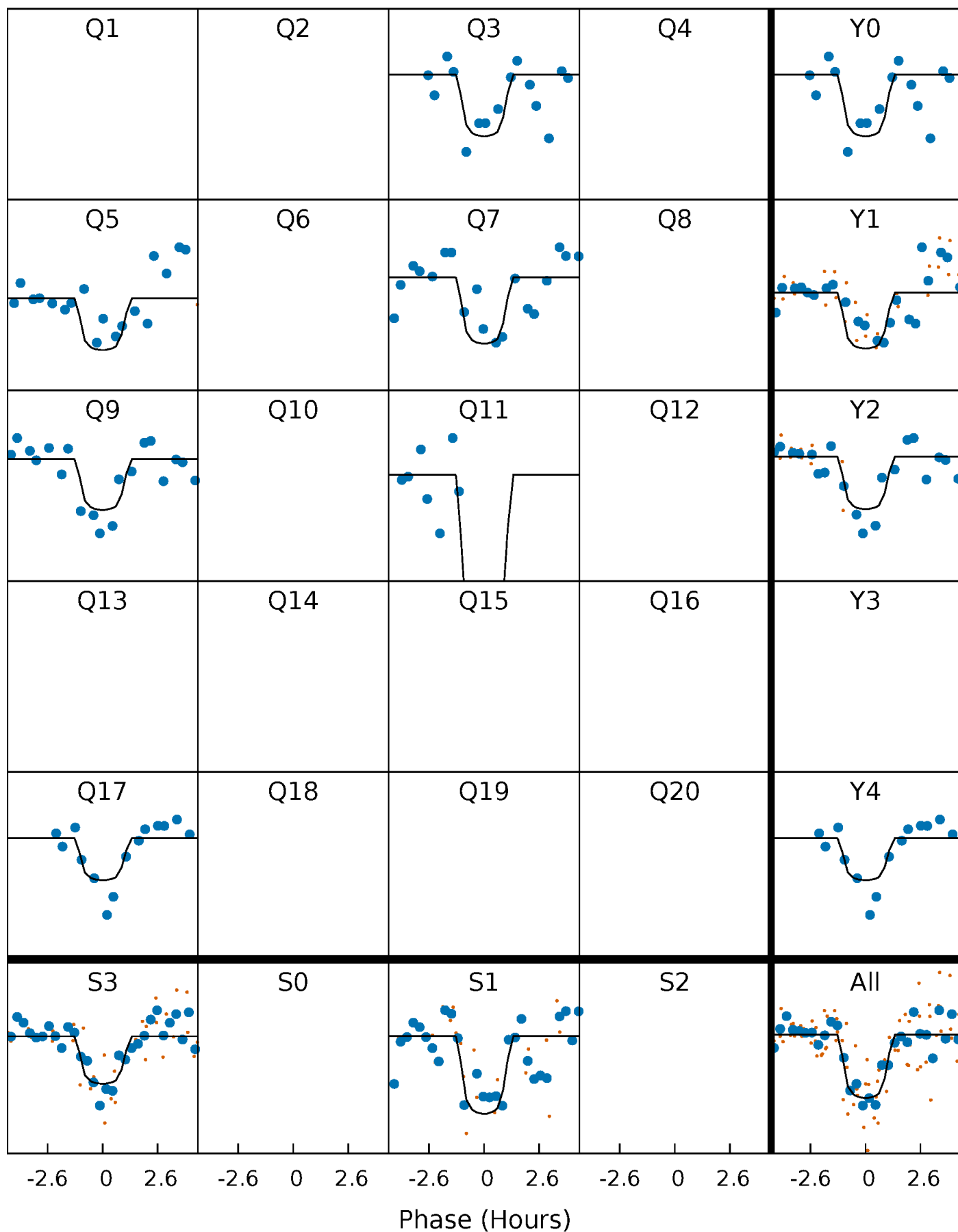
PDC Quarter-Phased Transit Curves

TCE 009892749-03 $P=180.738184$ Days $T_0=132.197338$ (BKJD)



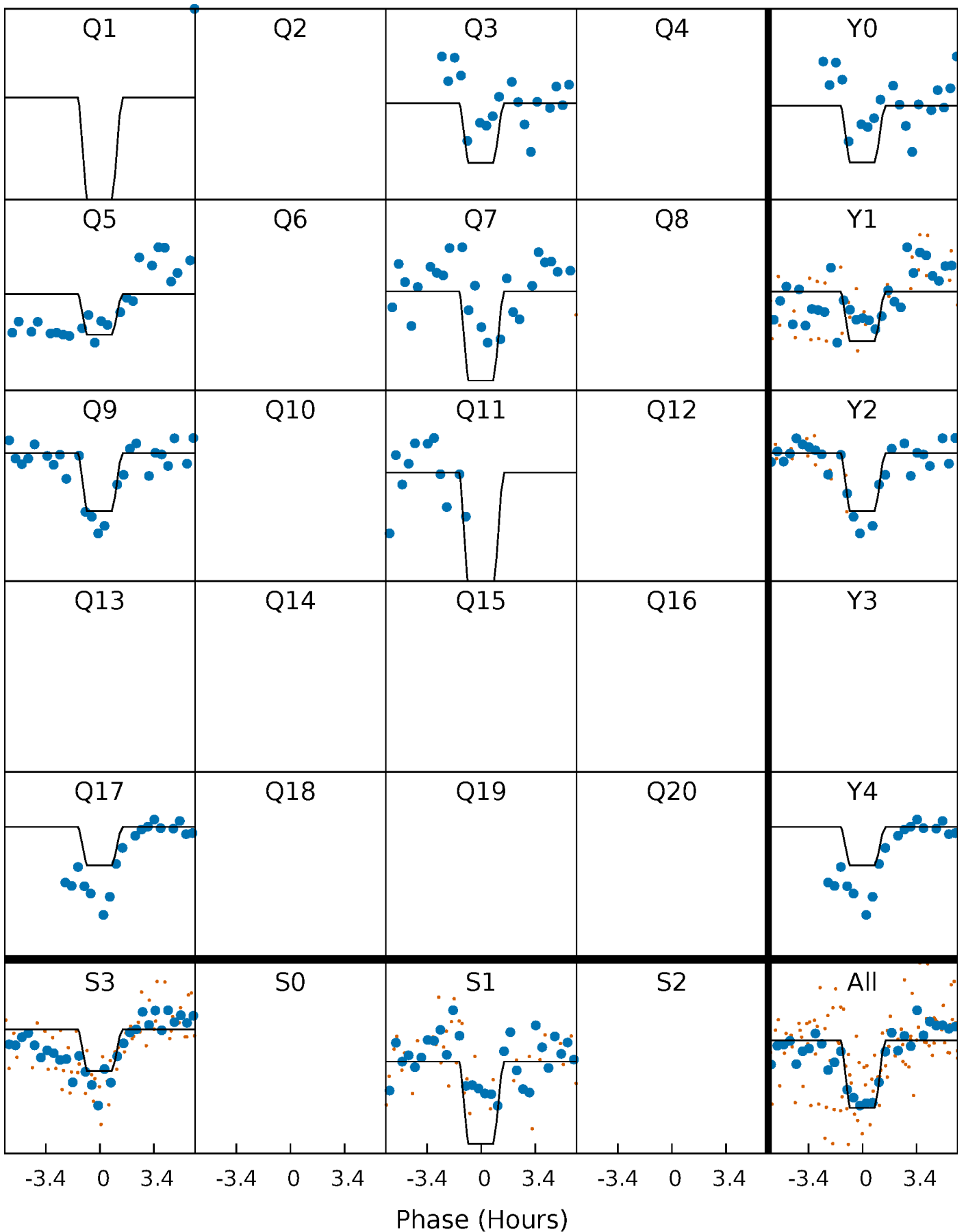
DV Quarter-Phased Transit Curves

TCE 009892749-03 $P=180.738184$ Days $T_0=132.197338$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

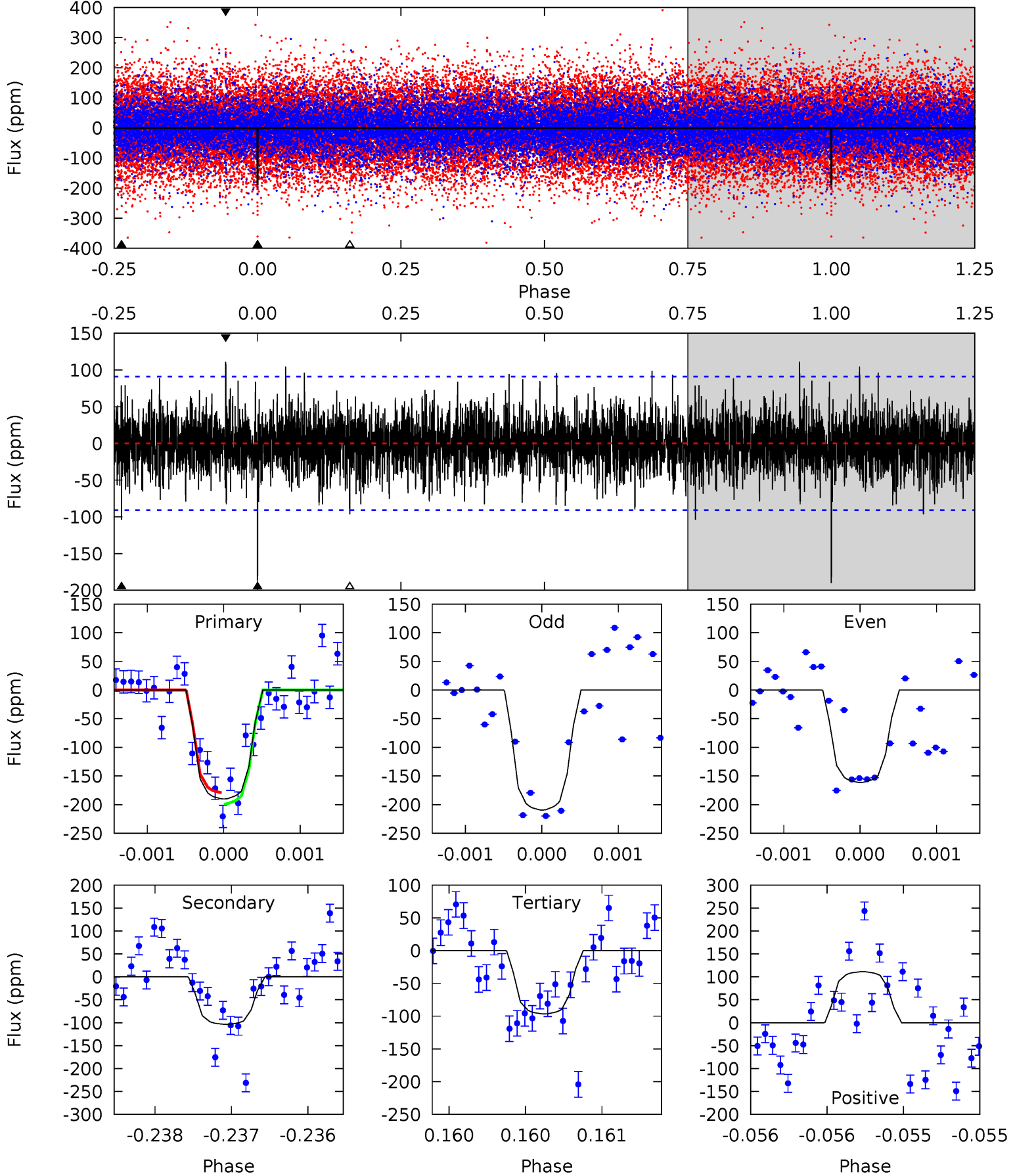
TCE 009892749-03 $P=180.739035$ Days $T_0=132.191507$ (BKJD)



DV Model-Shift Uniqueness Test

009892749-03, P = 180.738184 Days, E = 132.197338 Days

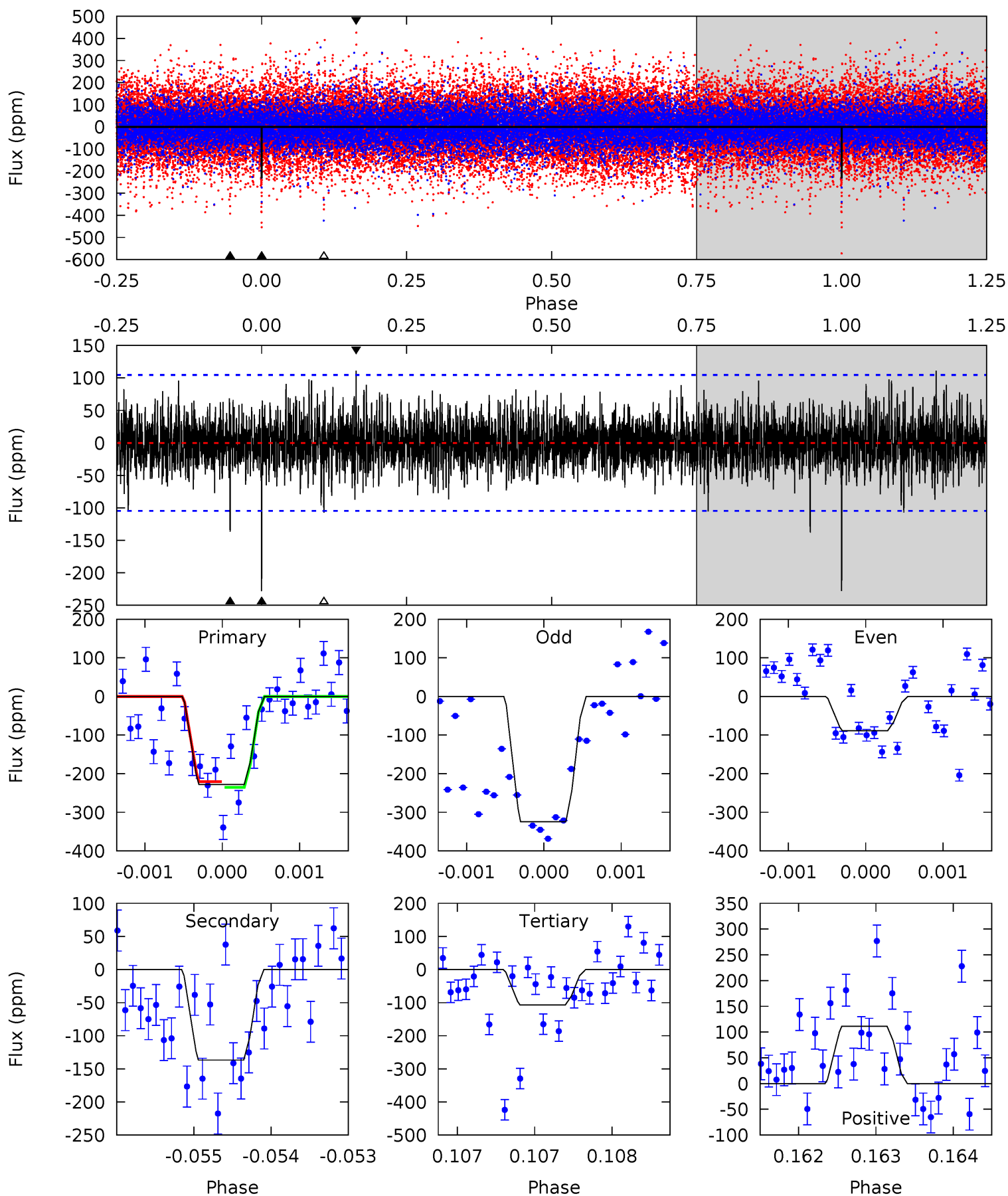
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	6.29	5.86	6.75	5.53	3.42	1.66	5.68	4.79	0.43	-0.46	1.44	1.10	0.37	0.59



Alt Model-Shift Uniqueness Test

009892749-03, P = 180.739035 Days, E = 132.191507 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	7.23	5.66	5.87	5.54	3.43	1.51	6.40	6.19	1.57	1.36	6.20	1.14	0.33	0.38



Stellar Parameters For KIC 009892749

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6779^{+169}_{-186}	$3.762^{+0.285}_{-0.095}$	$-0.300^{+0.300}_{-0.250}$	$2.716^{+0.434}_{-0.941}$	$1.555^{+0.190}_{-0.353}$	$0.109^{+0.236}_{-0.033}$
	+2%/-3%	+8%/-3%	+100%/-83%	+16%/-35%	+12%/-23%	+216%/-30%
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 009892749-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-104 ± 16	$4.53^{+3.15}_{-2.69}$	795^{+42}_{-66}	5346^{+3369}_{-996}	1390^{+7269}_{-876}
Alt.	-137 ± 19	$4.90^{+3.49}_{-2.79}$	799^{+45}_{-64}	5519^{+3220}_{-1053}	1635^{+7584}_{-1078}

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 $A_{obs} \gg 1.0$

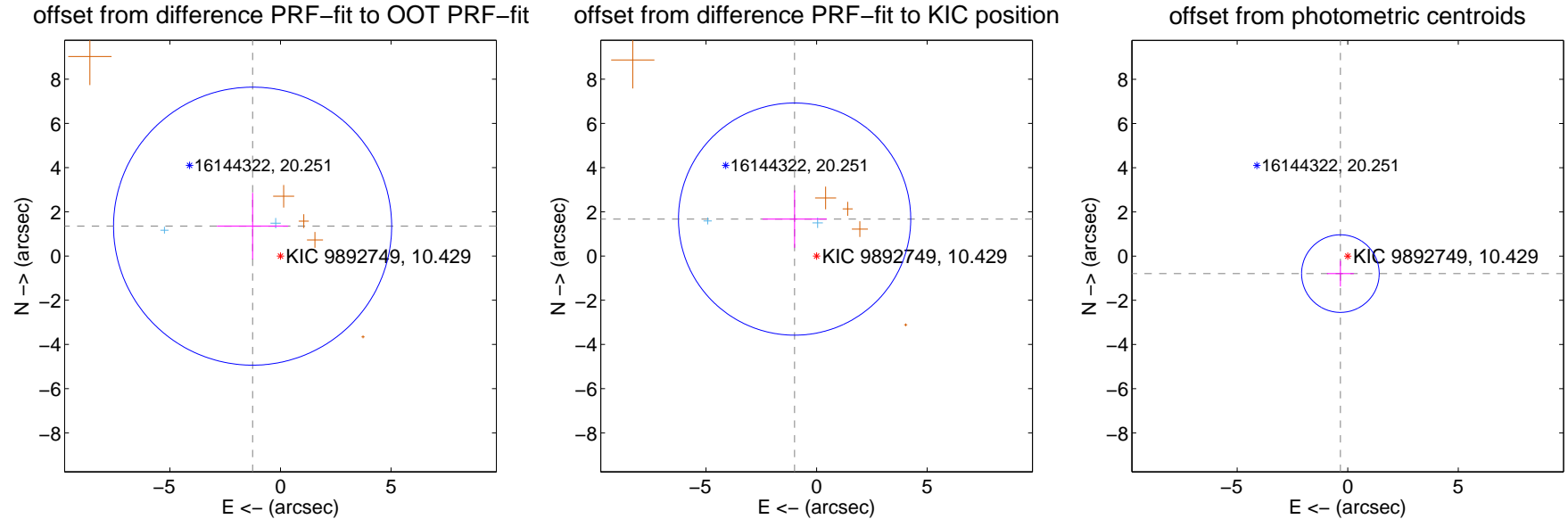
DV Centroid Data

Supplemental centroid analysis for 009892749-03. **Kepler magnitude: 10.43.** Transit SNR 8.15

There are 2 quarters with good PRF difference image offsets

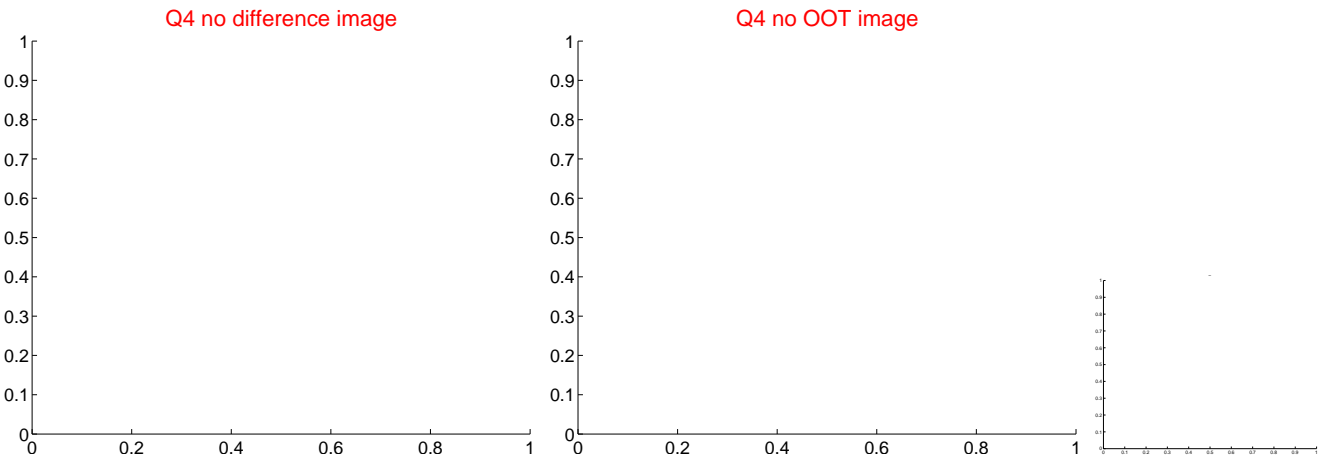
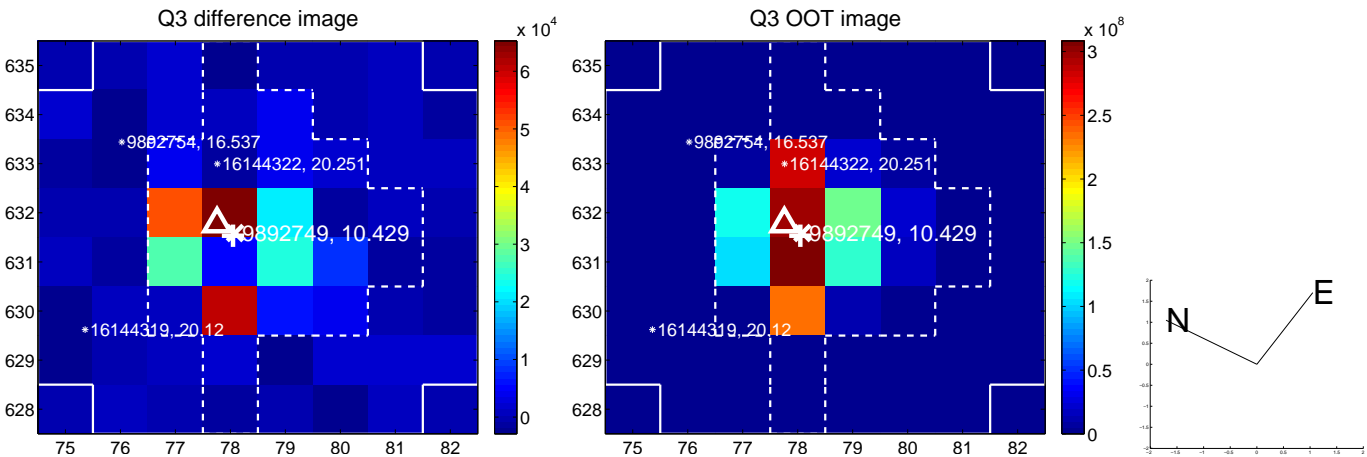
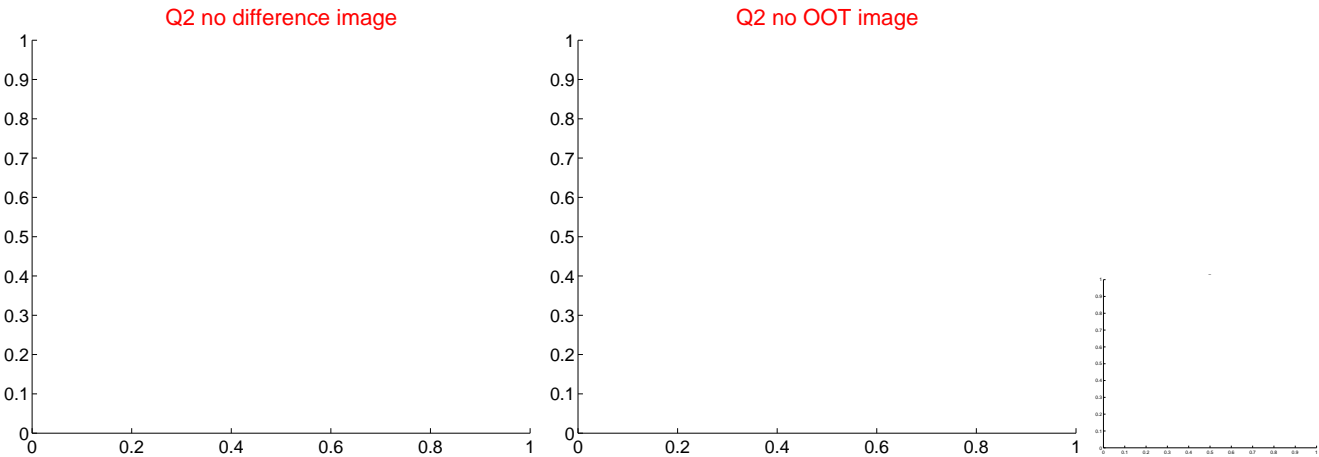
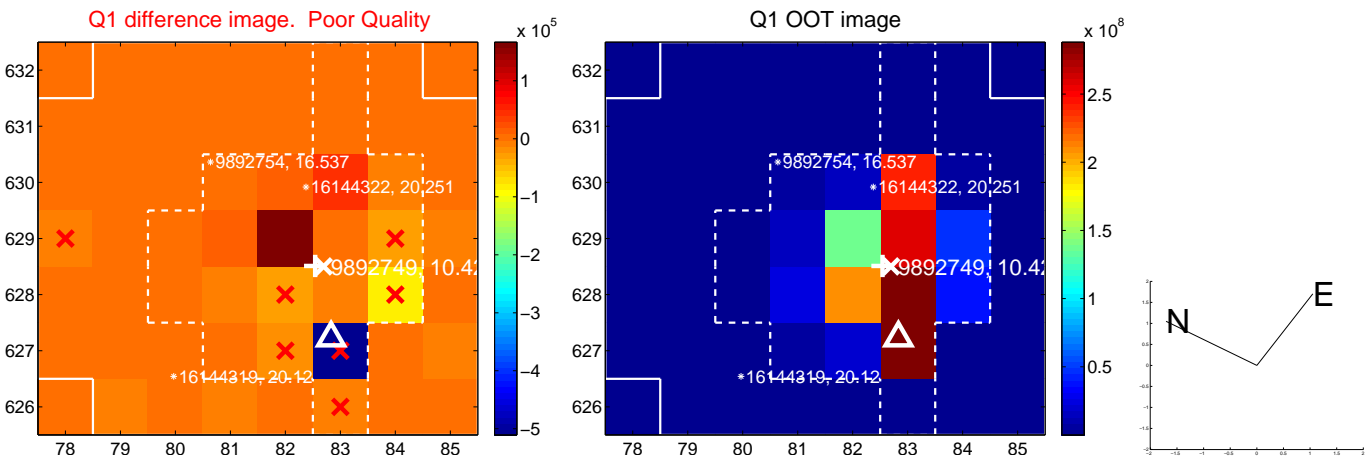
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.847 ± 2.096	0.88	1.260 ± 1.610	1.351 ± 1.506
PRF-fit source offset from KIC position	1.944 ± 1.750	1.11	0.994 ± 1.455	1.671 ± 1.298
photometric centroid source offset	0.86 ± 0.59	1.47	0.33 ± 0.61	-0.79 ± 0.58

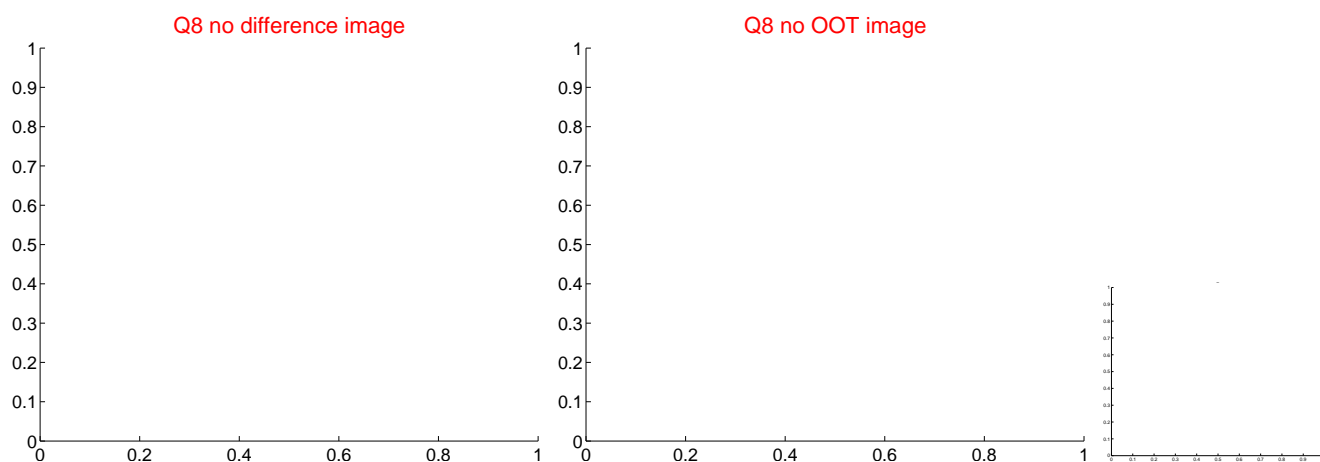
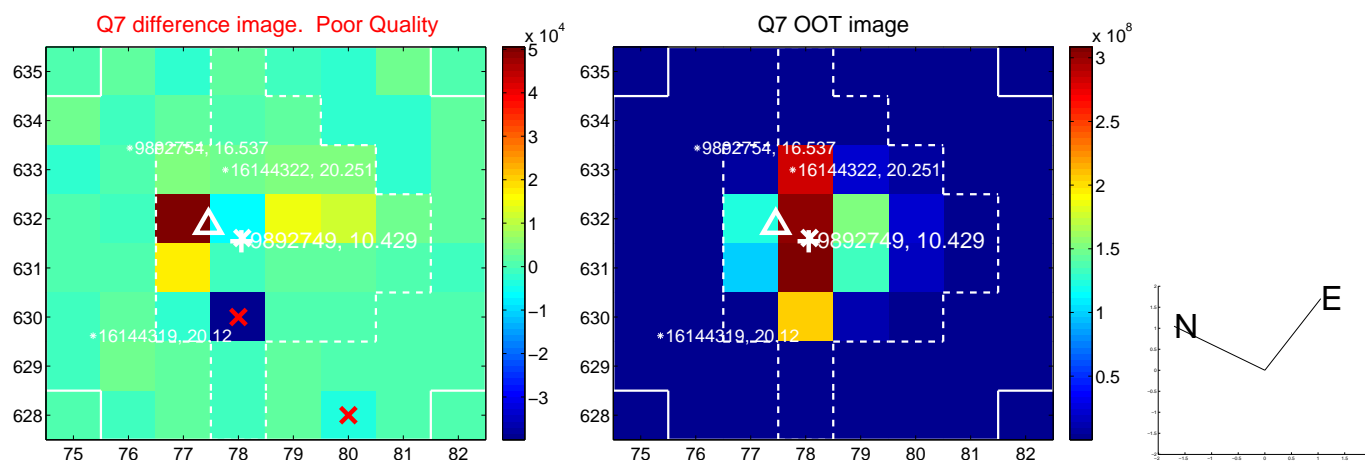
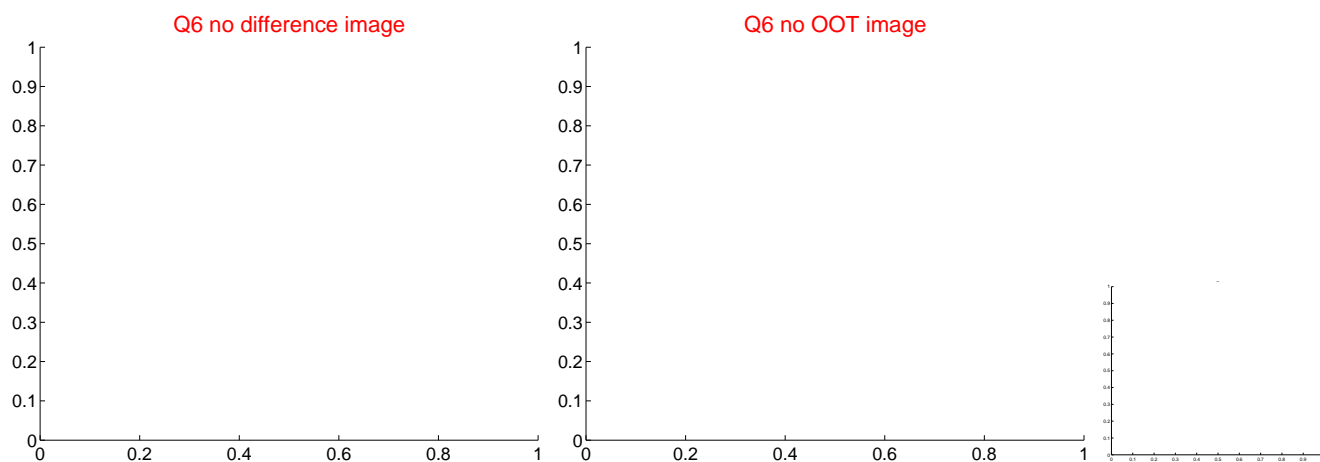
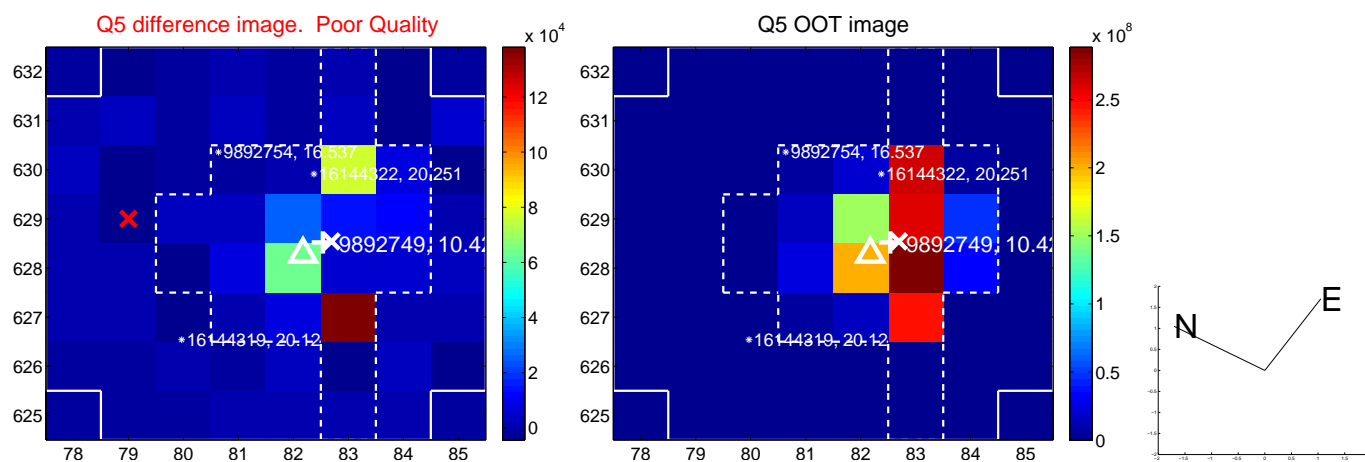


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

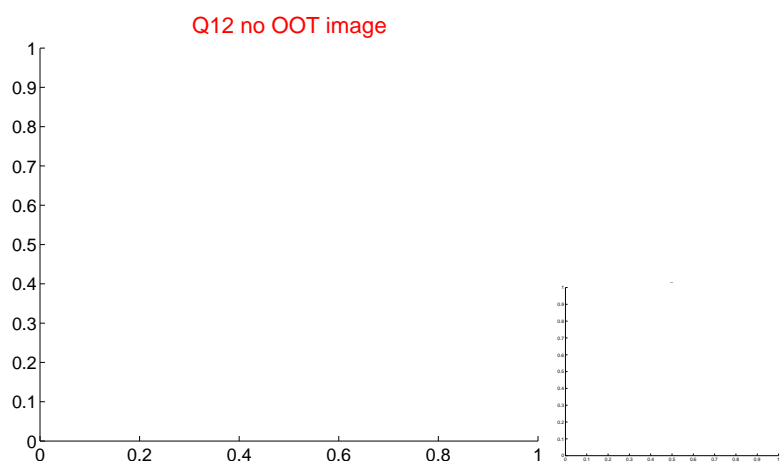
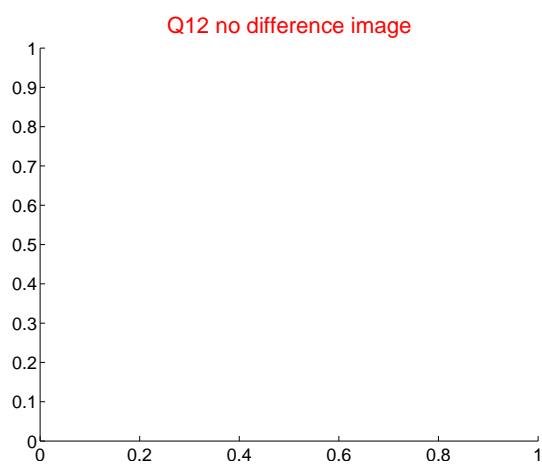
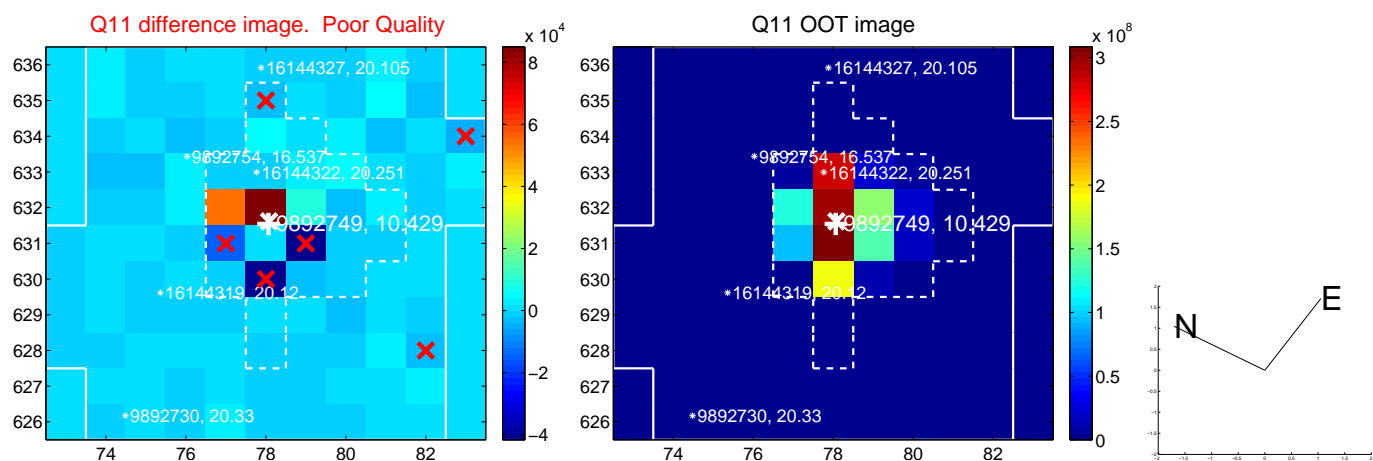
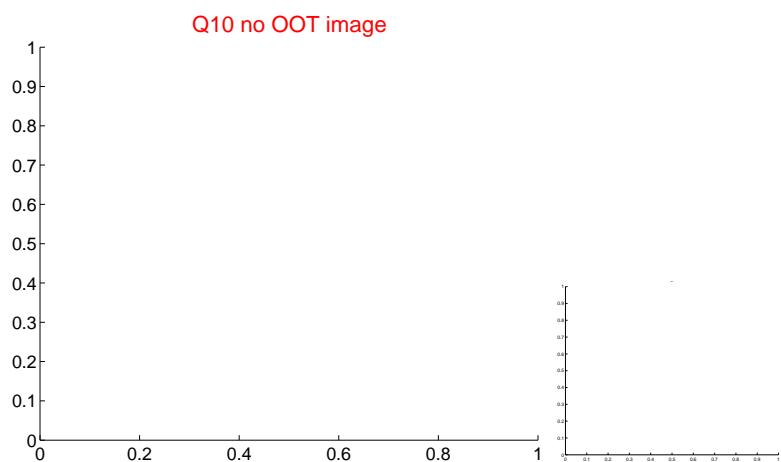
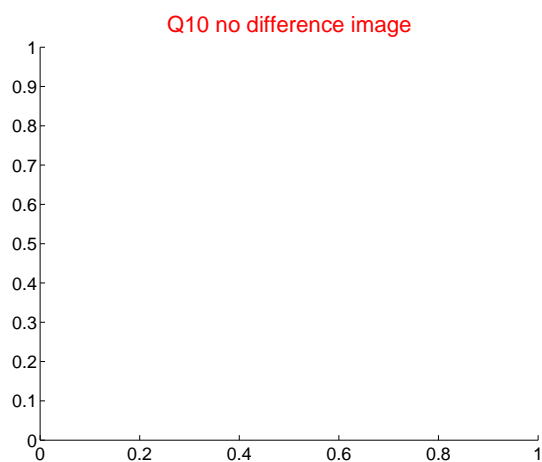
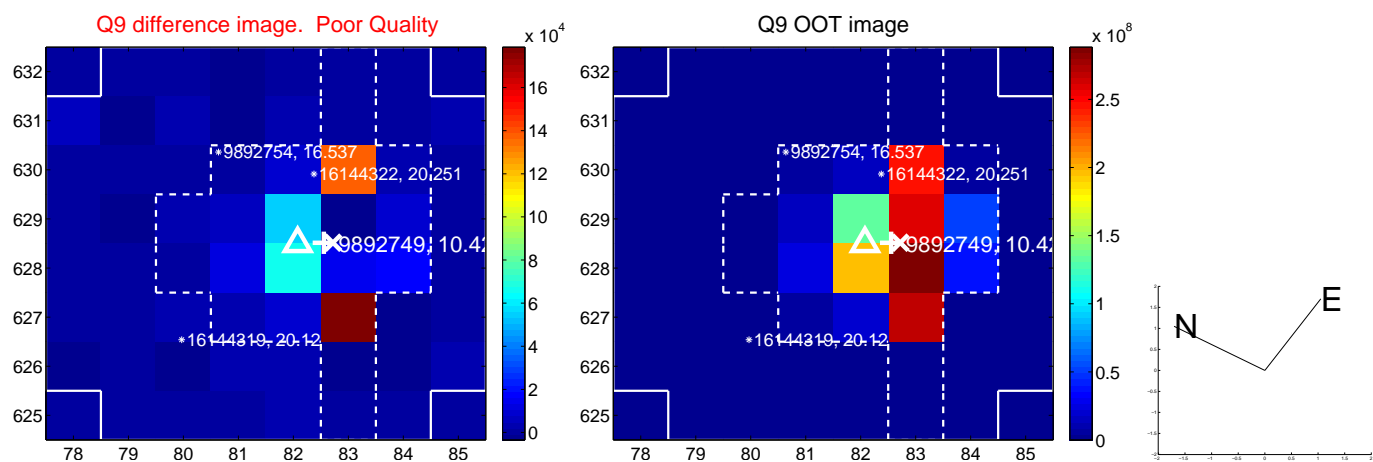
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



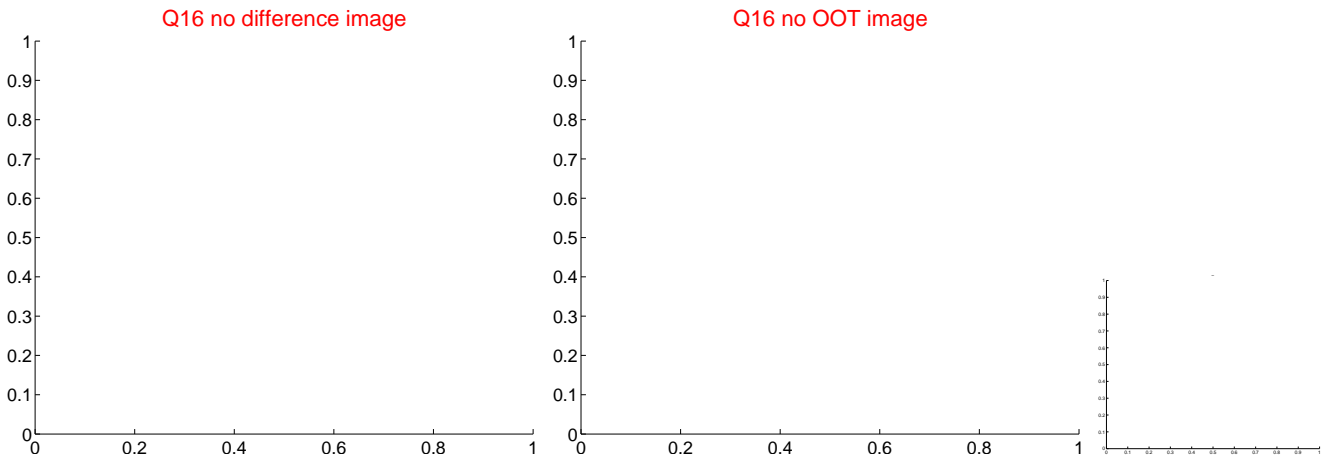
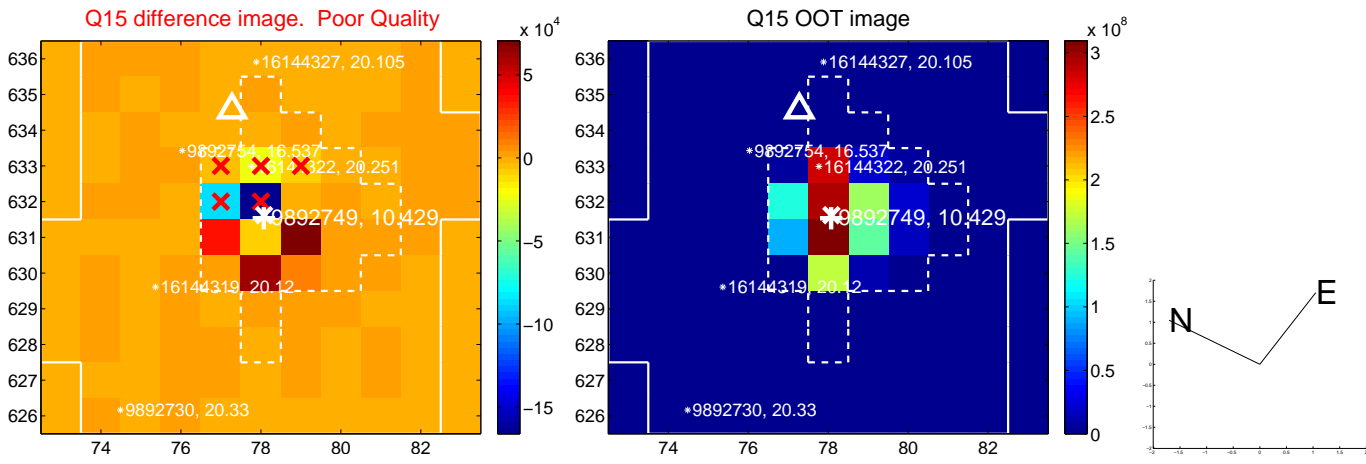
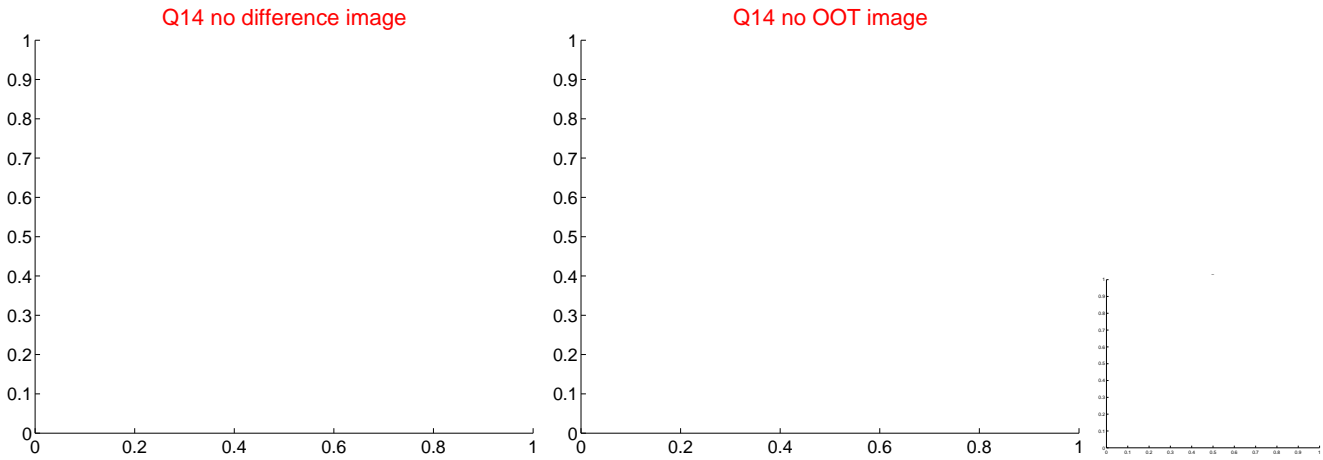
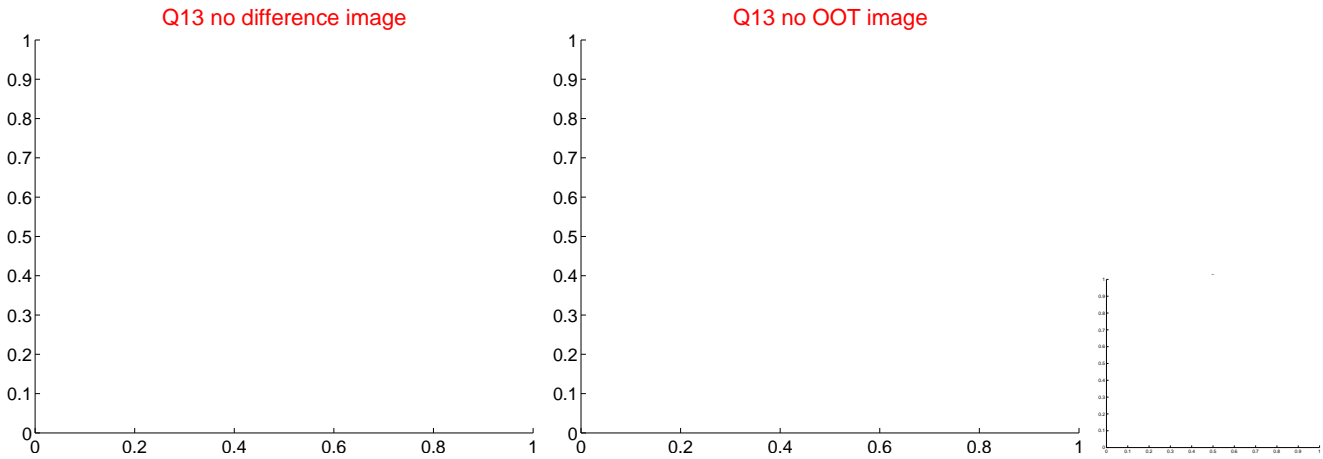
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



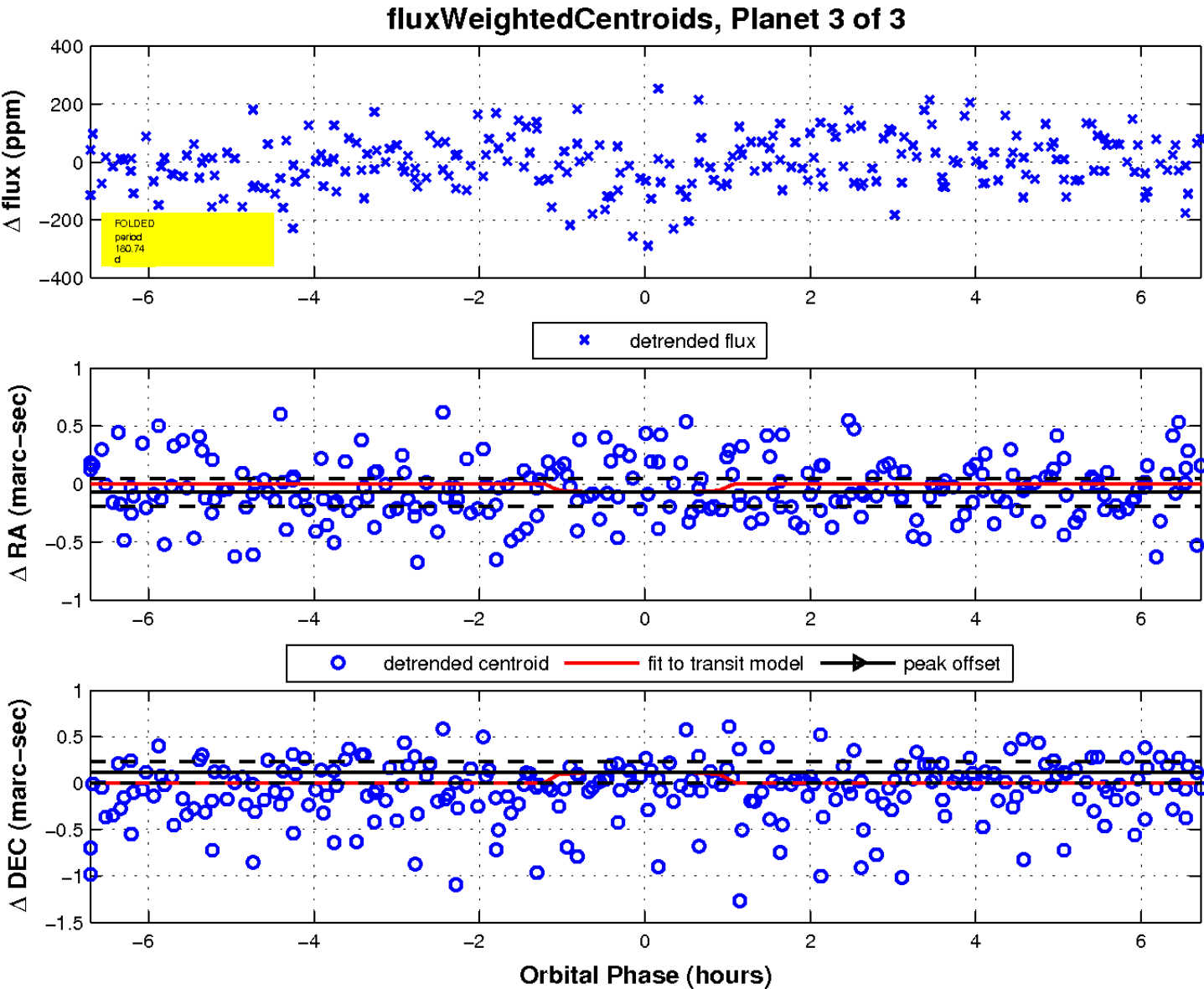
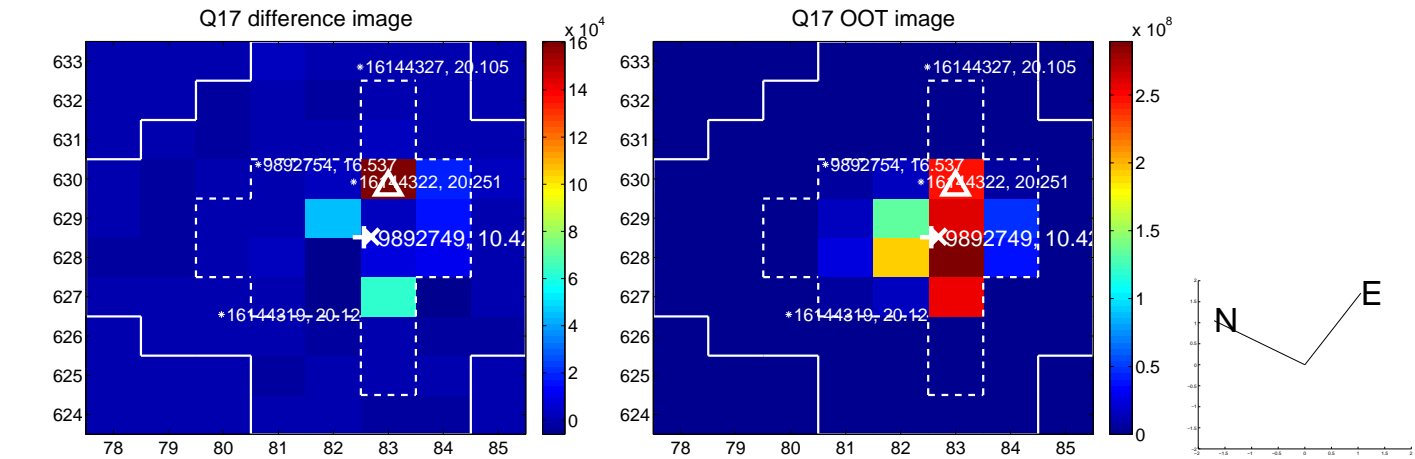
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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.



UKIRT Image

Declination

