

KIC 006429742

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})
006429742-01	OBS	No	0.961182	132.326425	40.6	1.972	11.6	8.7	1.93	7705	1.42	22533.68
006429742-02	OBS	No	0.545924	131.858604	50.8	2.231	13.6	13.7	1.93	7705	1.59	47906.68
006429742-03	OBS	No	0.545914	132.033375	41.4	2.757	12.0	10.6	1.93	7705	1.33	47907.92
006429742-04	OBS	No	0.948890	132.134764	138.7	1.270	11.2	10.5	1.93	7705	2.64	22923.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006429742-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006429742-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006429742-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
006429742-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

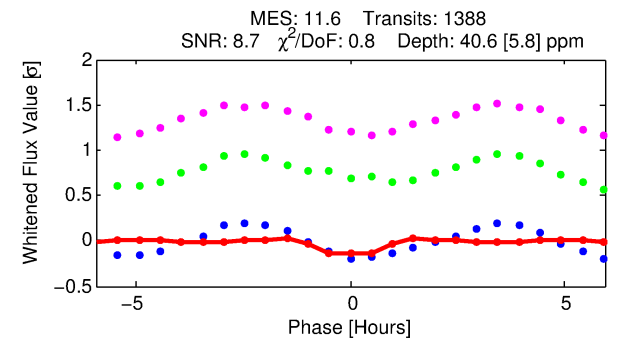
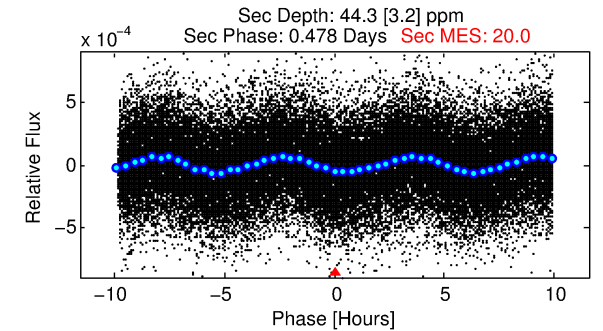
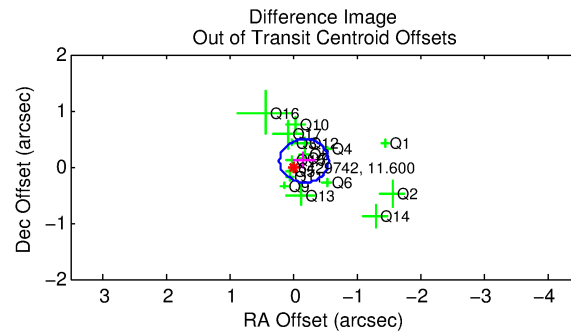
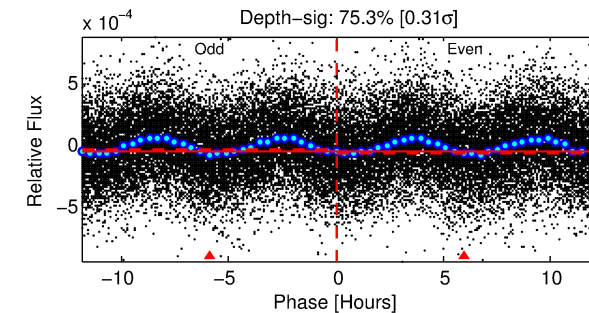
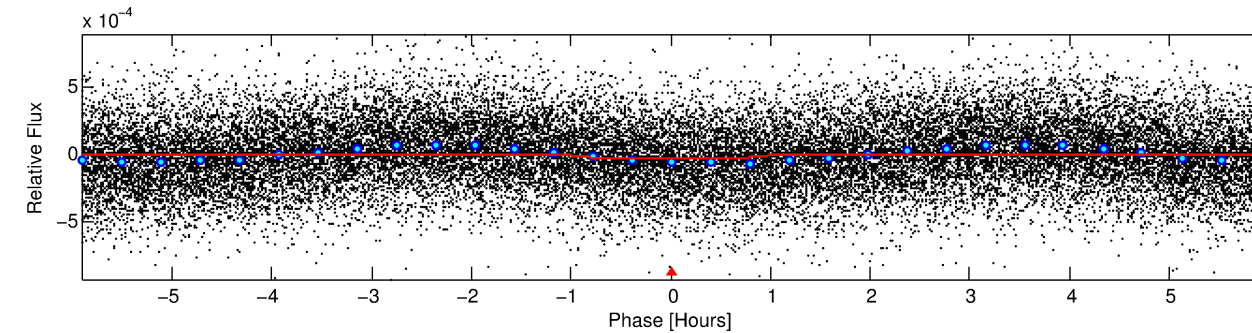
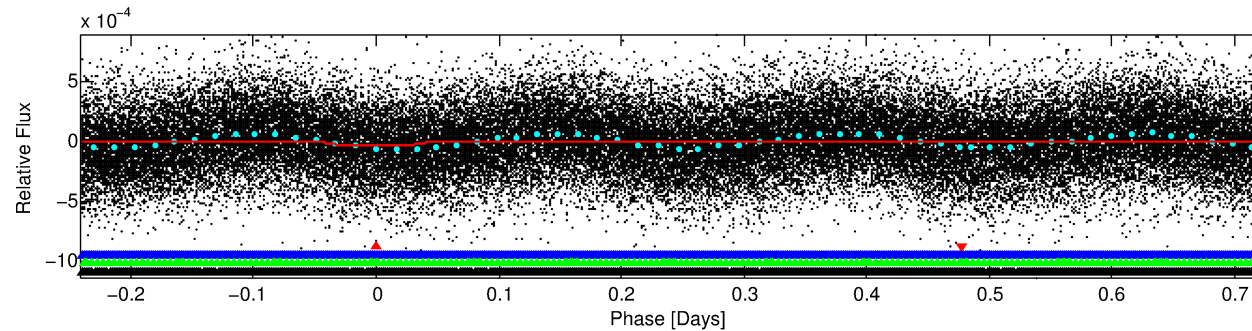
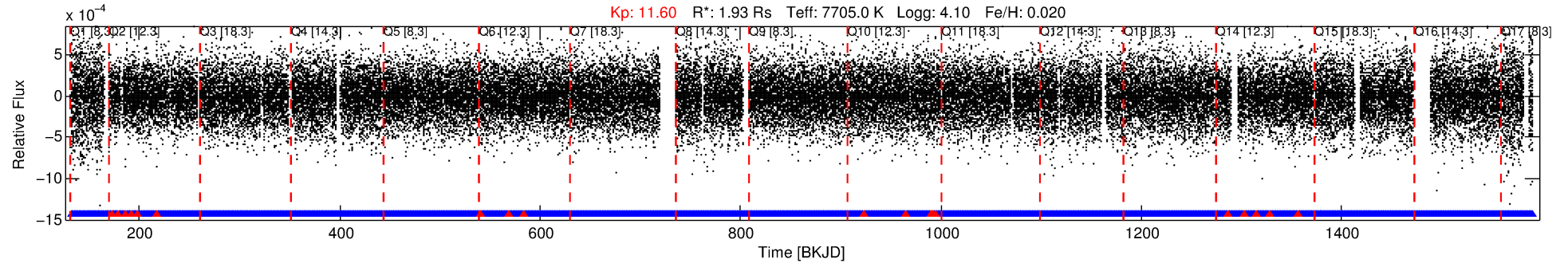
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006429742-01

No Significant Match Found

DV One-Page Summary

KIC: 6429742 Candidate: 1 of 4 Period: 0.961 d



DV Fit Results:

Period = 0.96118 [0.00001] d
Epoch = 132.3264 [0.0023] BKJD
Rp/R* = 0.0068 [0.0023]
a/R* = 1.92 [3.09]
b = 0.90 [0.47]
Seff = 22533.68 [8030.28]
Teq = 3124 [278] K
Rp = 1.42 [0.63] Re
a = 0.0228 [0.0051] AU
Ag = 6.28 [4.73] [1.12 σ]
Teffp = 7645 [1347] K [3.29 σ]

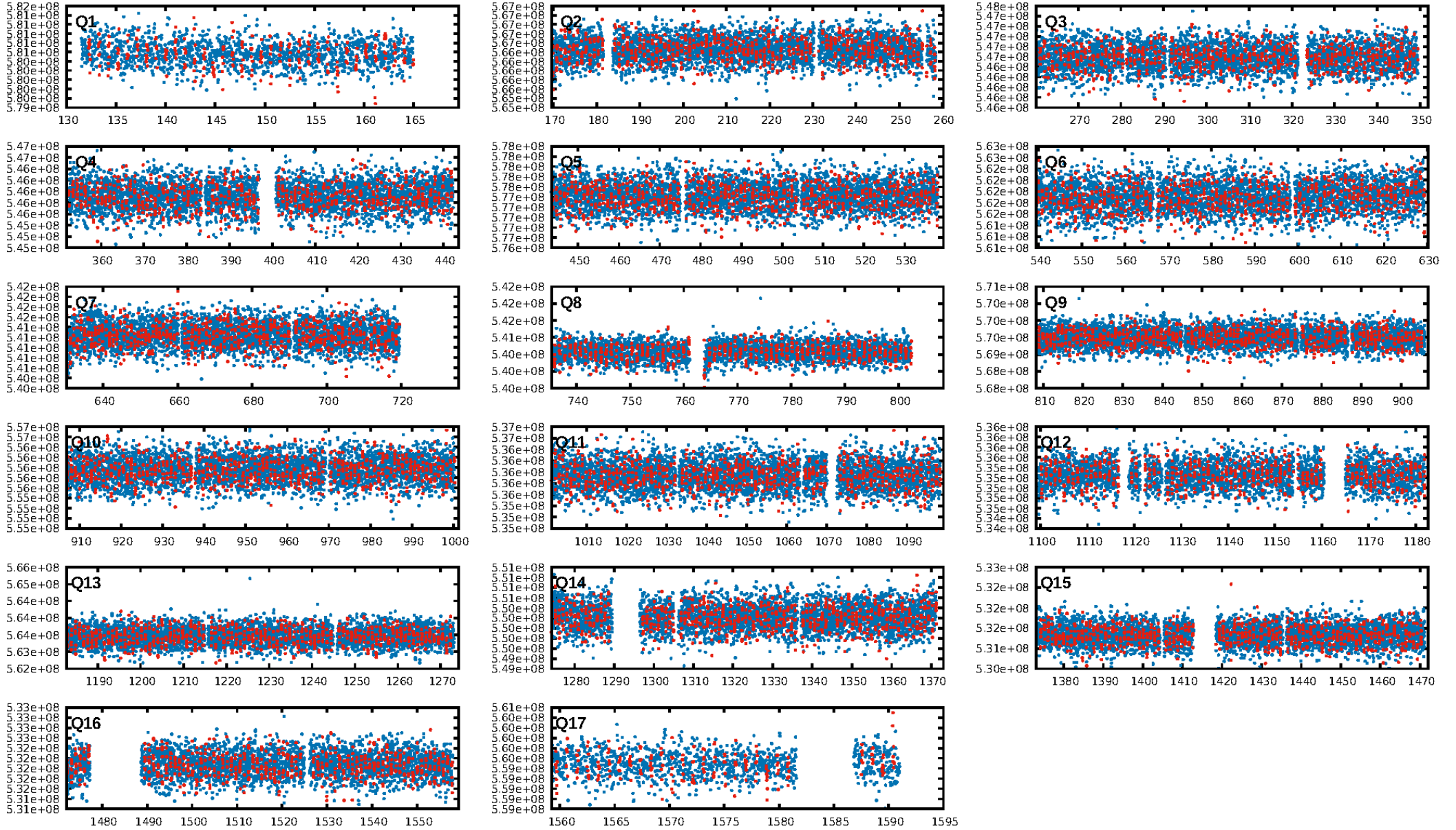
DV Diagnostic Results:

ShortPeriod-sig: 10.0% [0.13 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1307/1326]
GhostDiagnostic-chr: 2.069
Centroid-sig: 0.3%
Centroid-so: 0.538 arcsec [2.13 σ]
OotOffset-rm: 0.205 arcsec [1.60 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.197 arcsec [1.72 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

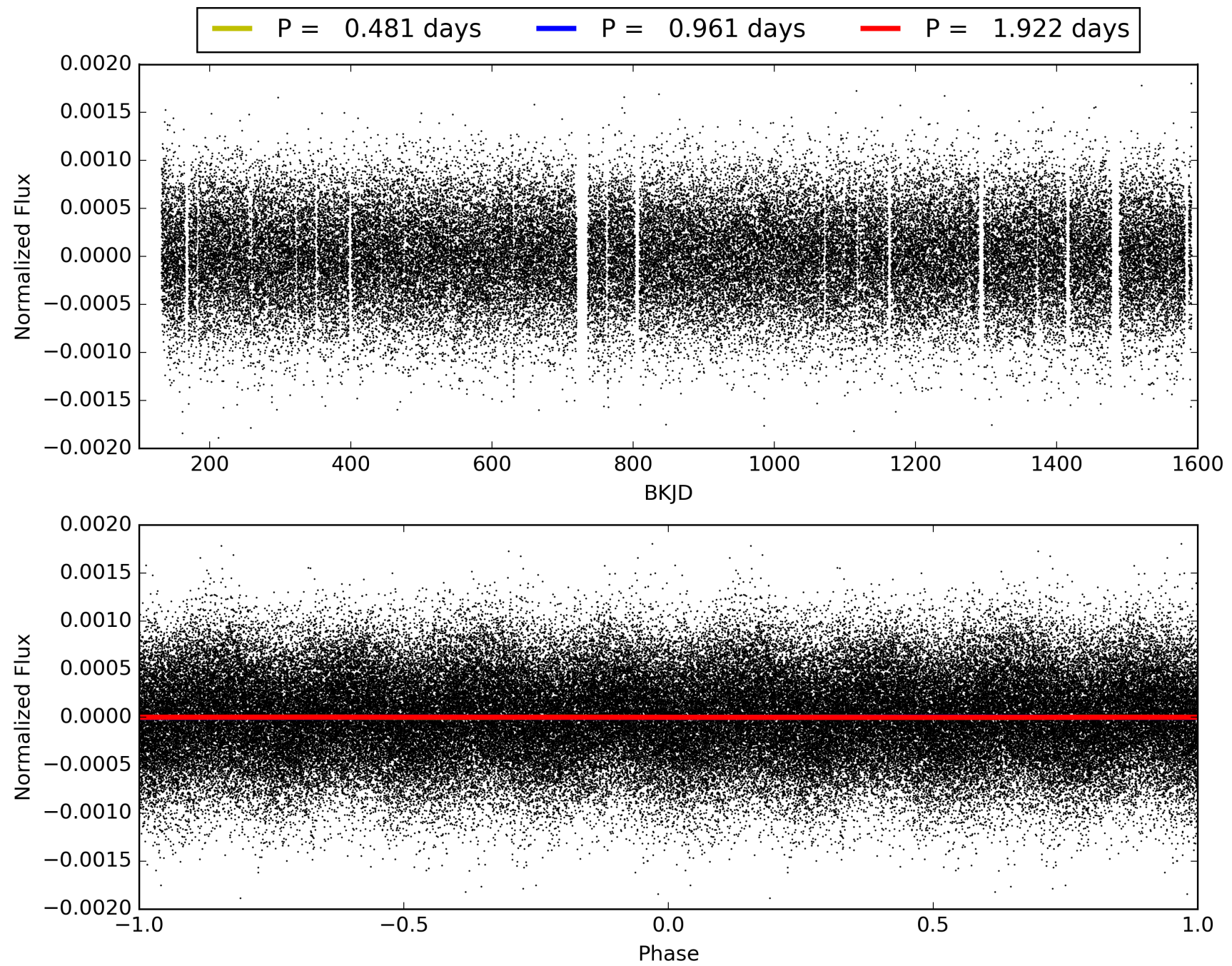
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:55:40 Z

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

TCE 006429742-01, PDC Light Curves

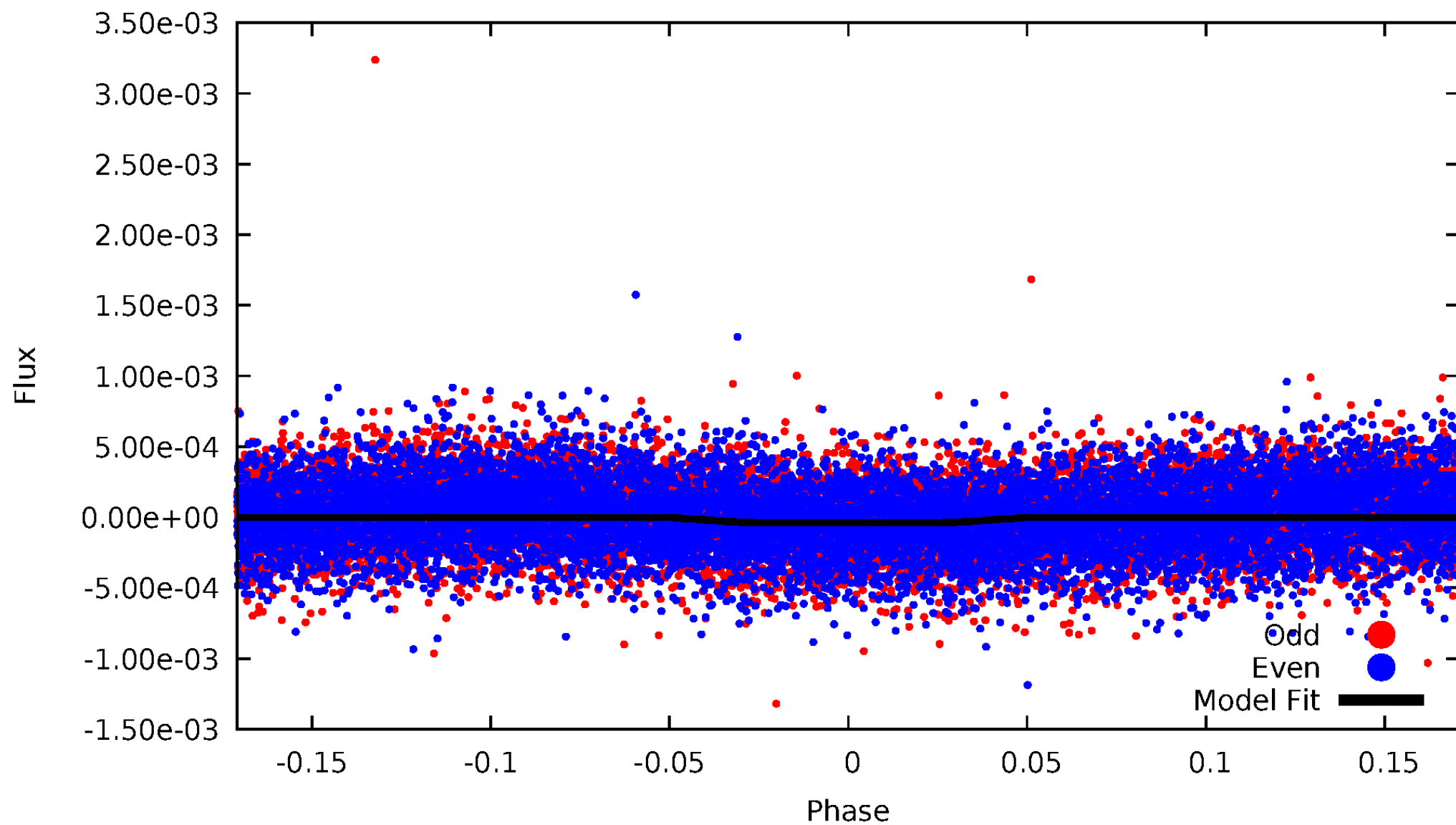


TCE 006429742-01



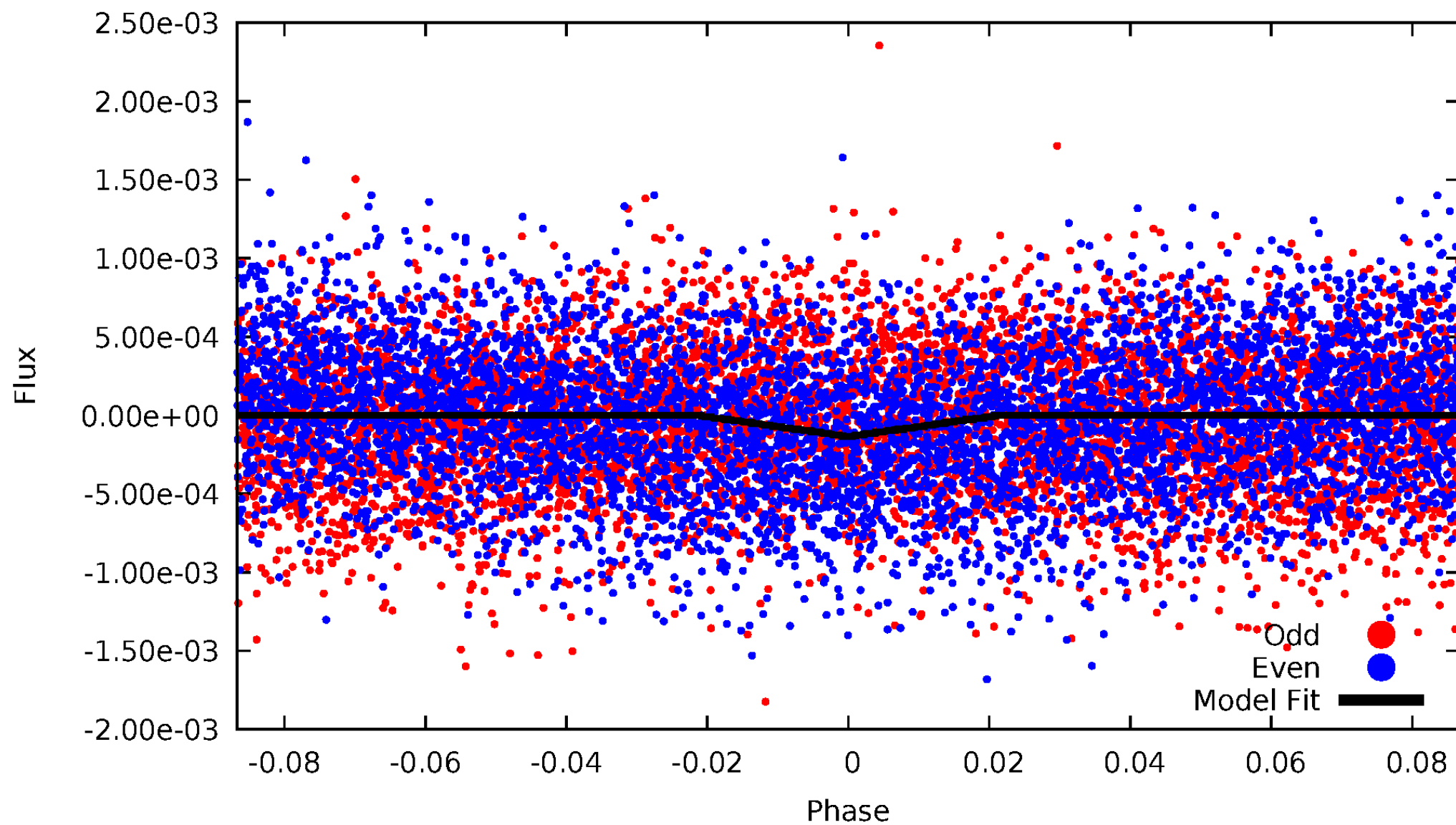
DV Odd/Even

TCE 006429742-01

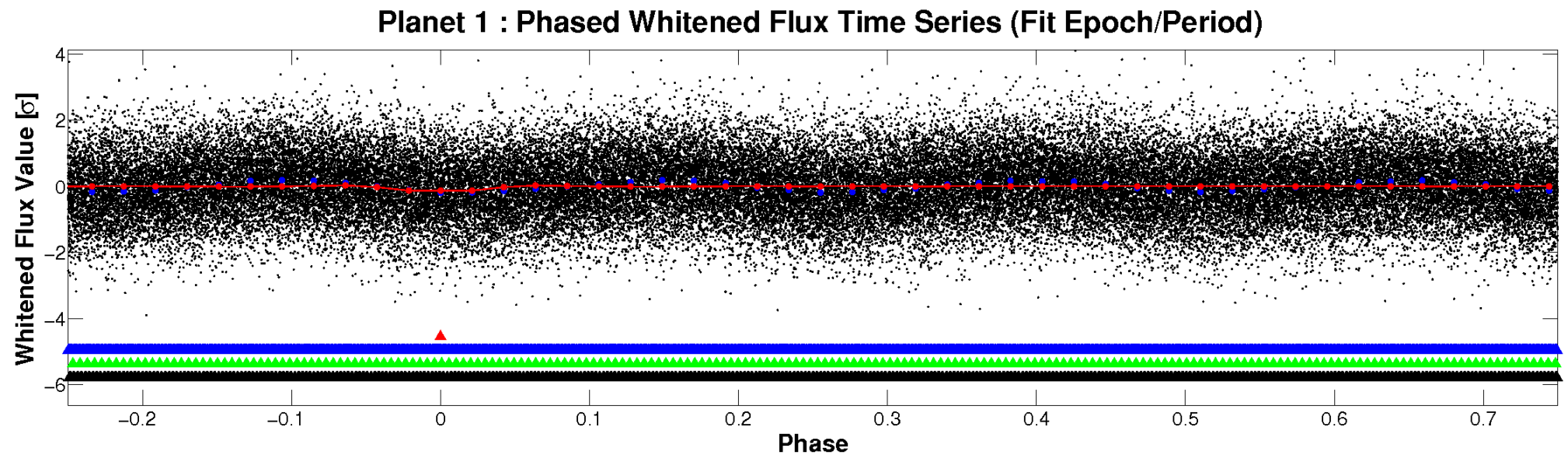
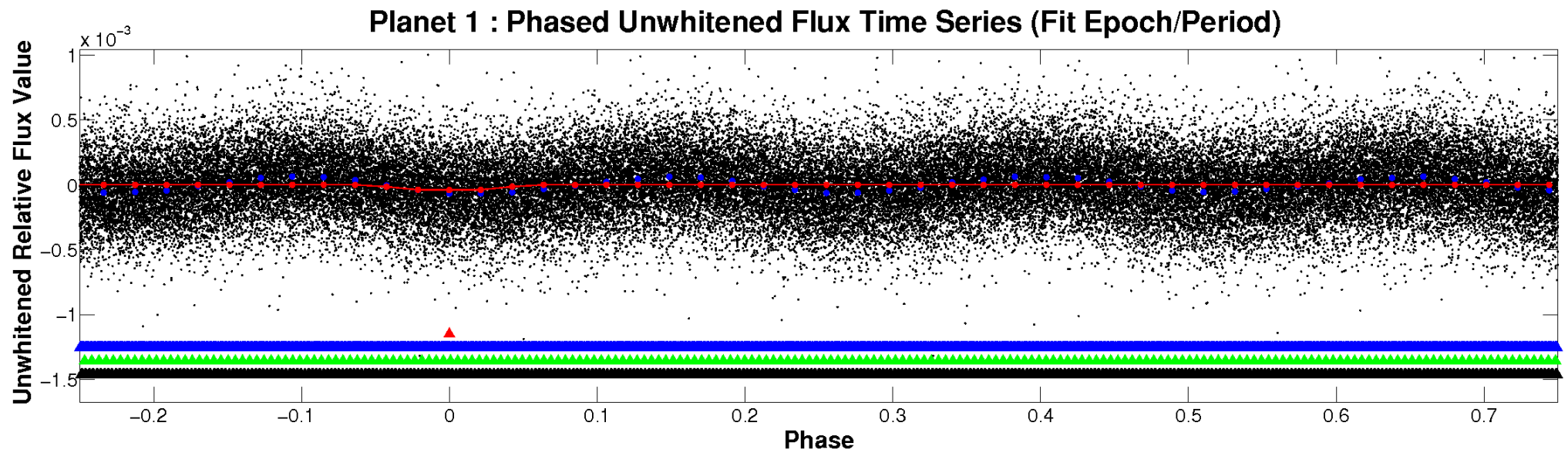


ALT Odd/Even

TCE 006429742-01

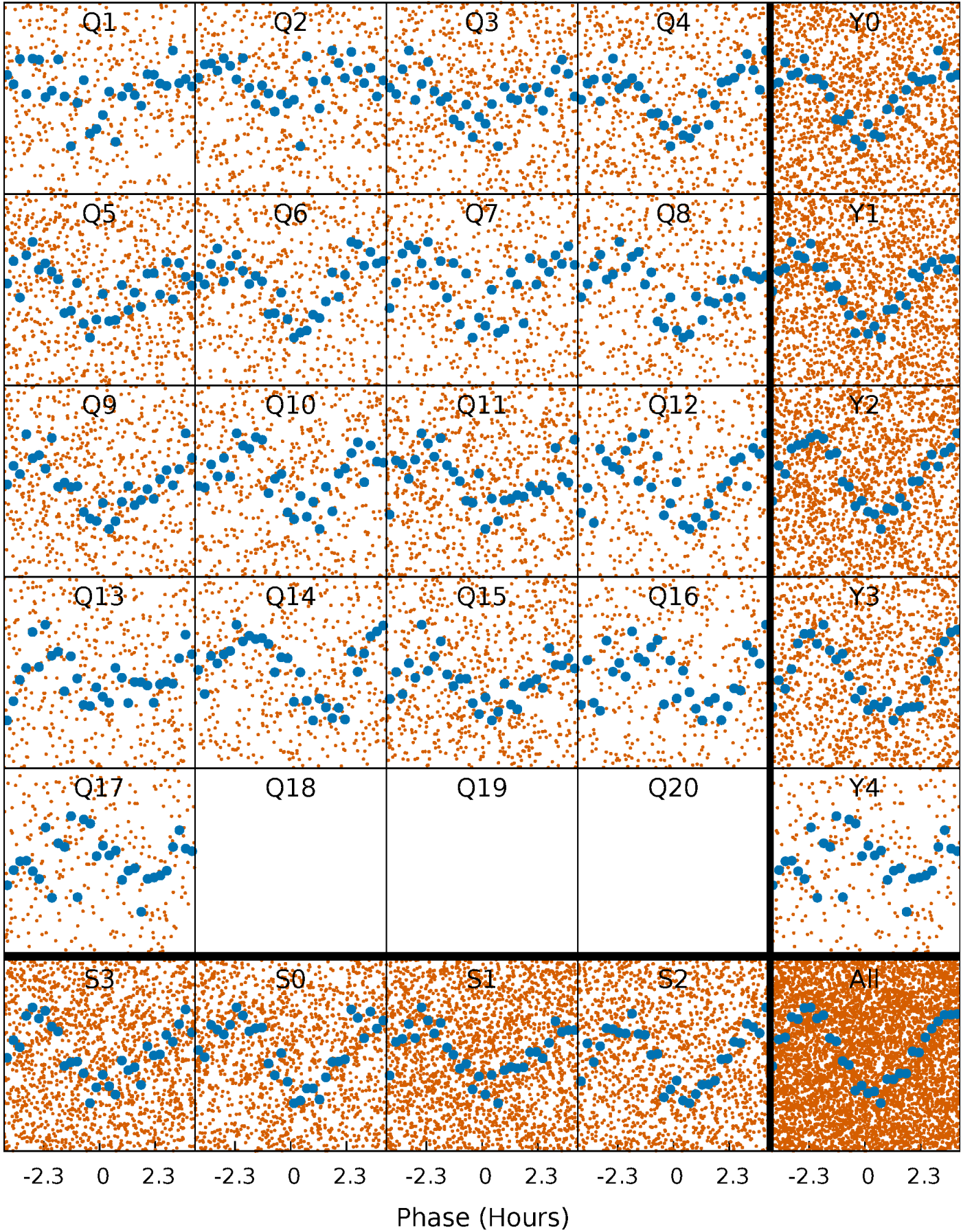


Non-Whitened Vs. Whitened Light Curve



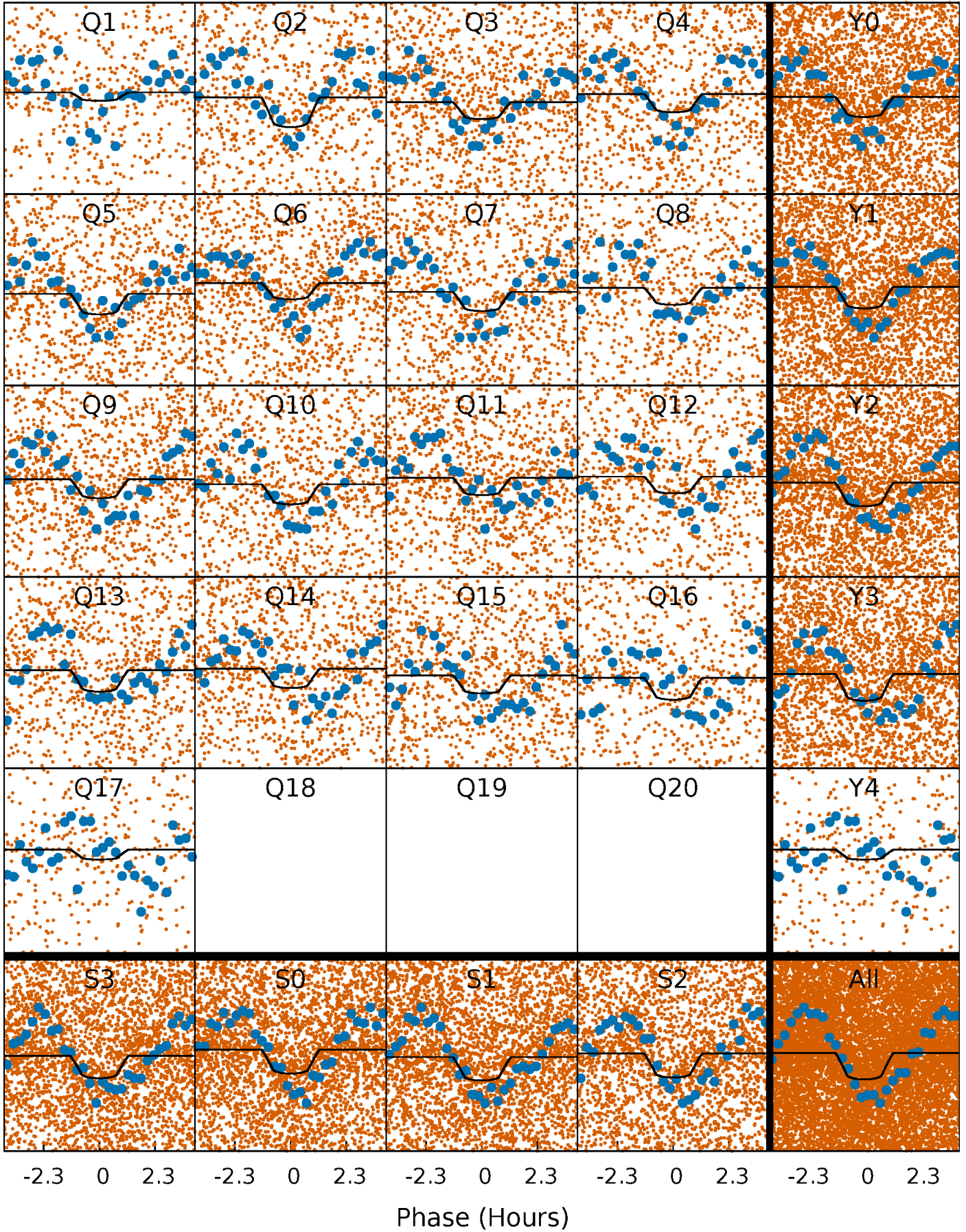
PDC Quarter-Phased Transit Curves

TCE 006429742-01 P= 0.961182 Days $T_0=132.326425$ (BKJD)



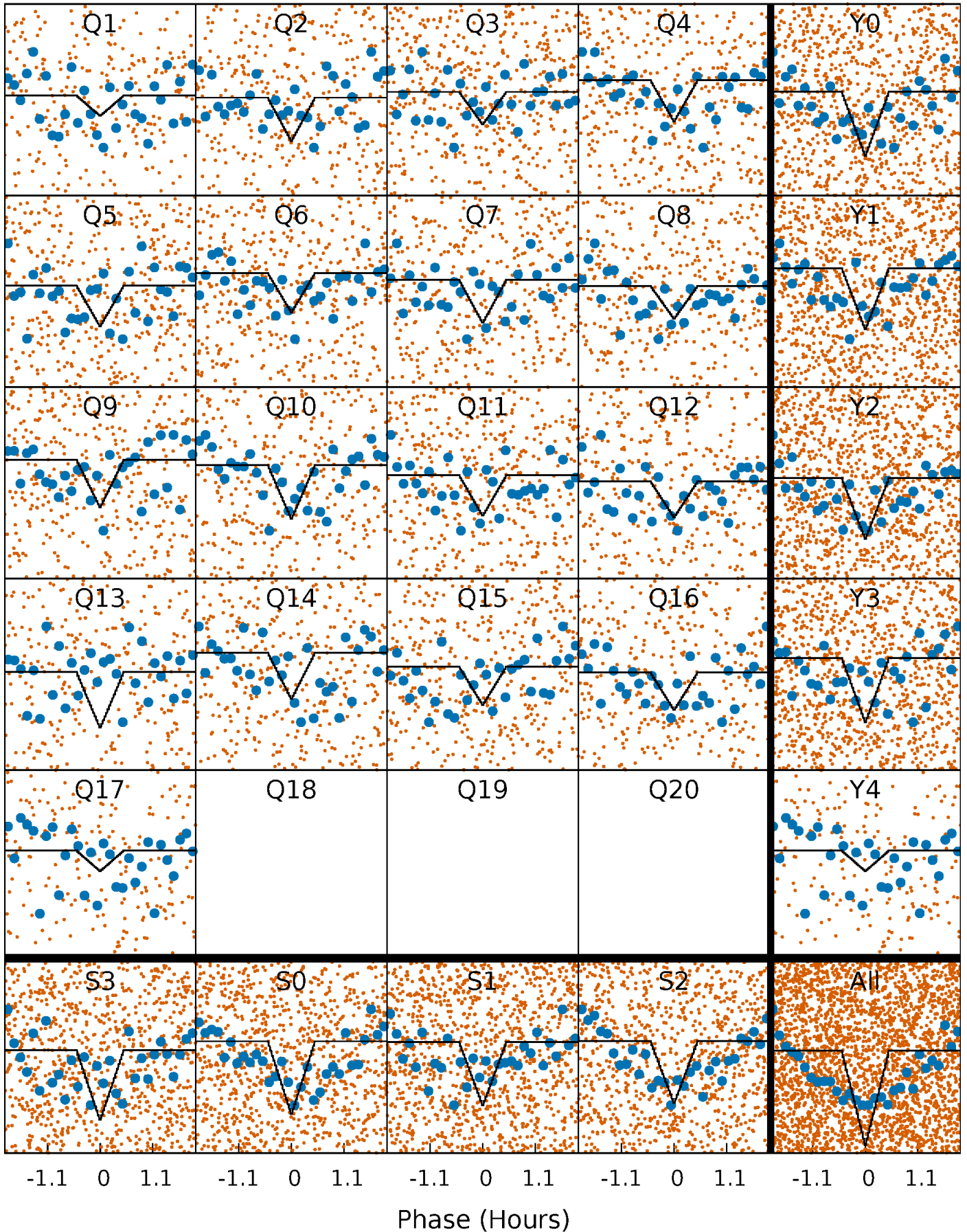
DV Quarter-Phased Transit Curves

TCE 006429742-01 P= 0.961182 Days $T_0=132.326425$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

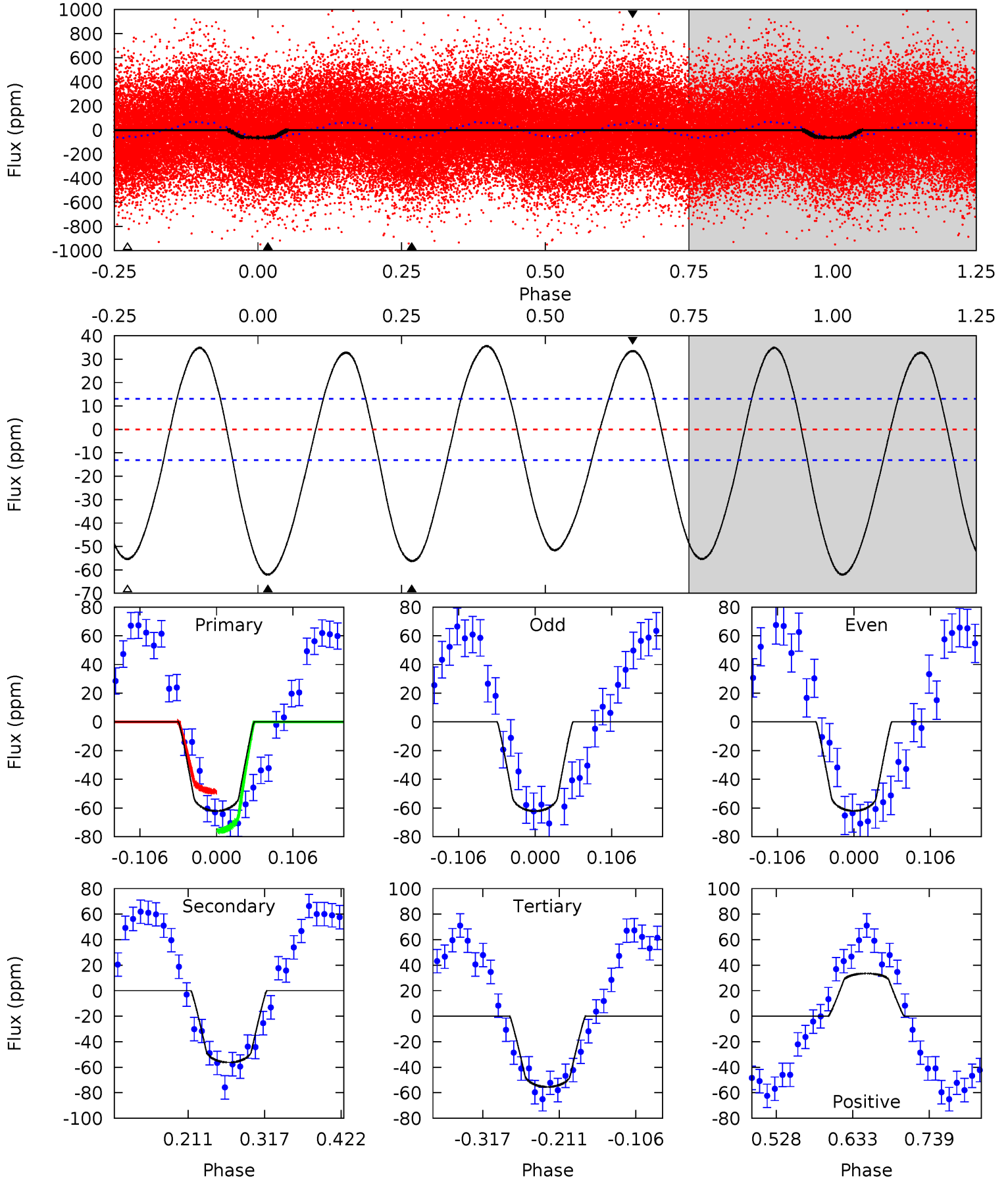
TCE 006429742-01 P= 0.961222 Days $T_0=132.317099$ (BKJD)



DV Model-Shift Uniqueness Test

006429742-01, P = 0.961182 Days, E = 131.365243 Days

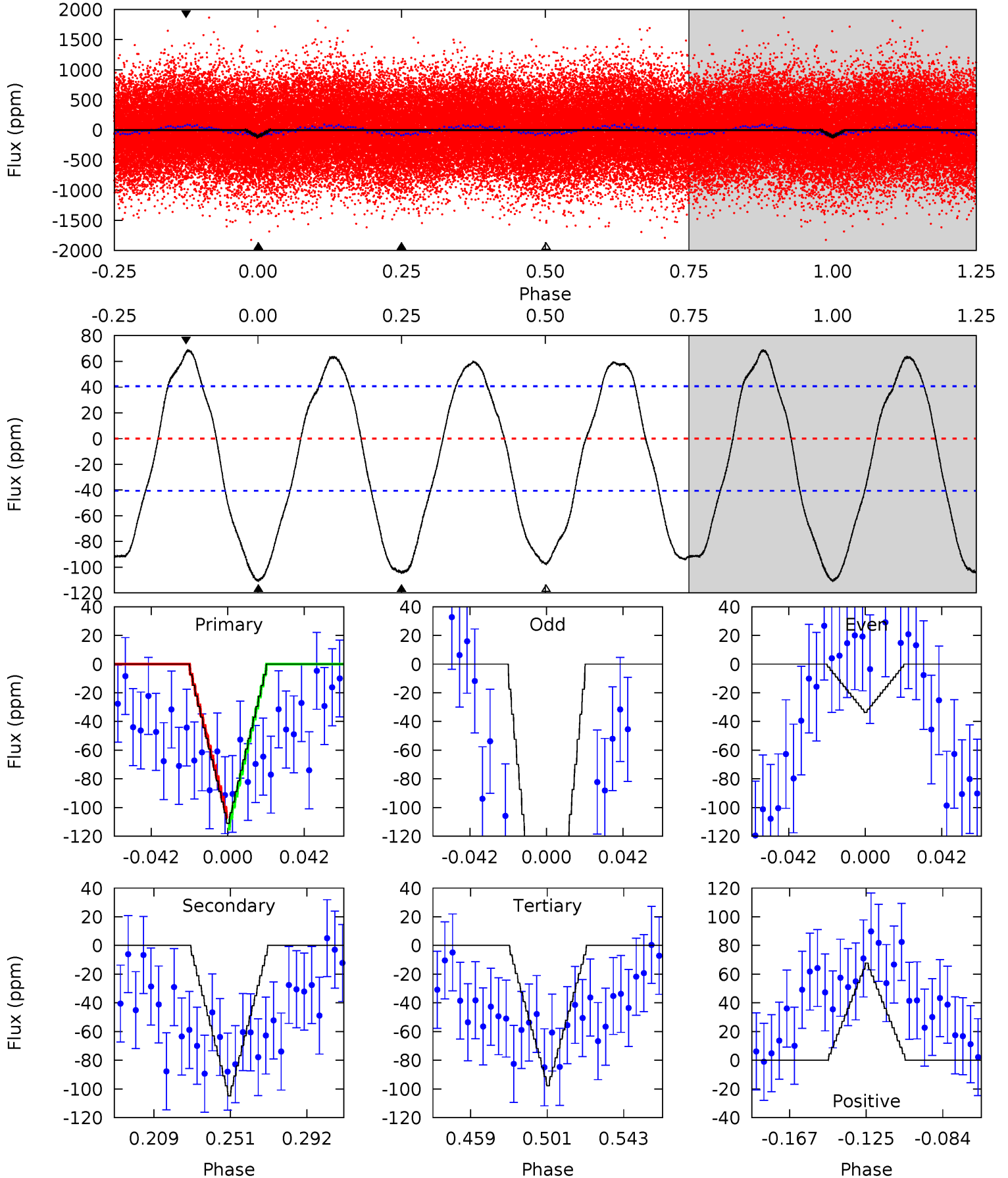
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	19.5	19.2	11.6	4.55	1.62	11.2	2.33	9.93	0.30	7.90	0.02	1.00	0.36	4.79



Alt Model-Shift Uniqueness Test

006429742-01, P = 0.961222 Days, E = 131.355877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	12.2	11.4	7.91	4.74	2.04	6.15	1.54	5.05	0.82	4.33	13.3	0.96	0.38	0.47



Stellar Parameters For KIC 006429742

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7705^{+214}_{-322}	$4.102^{+0.135}_{-0.165}$	$0.020^{+0.150}_{-0.350}$	$1.927^{+0.540}_{-0.405}$	$1.713^{+0.204}_{-0.271}$	$0.337^{+0.230}_{-0.159}$
	+3%/-4%	+3%/-4%	+750%/-1750%	+28%/-21%	+12%/-16%	+68%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006429742-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-56 ± 3	$1.44^{+0.52}_{-0.50}$	4371^{+292}_{-261}	8081^{+2811}_{-1324}	$7.764^{+10.845}_{-3.531}$
Alt.	-105 ± 9	$2.43^{+0.69}_{-0.52}$	4359^{+314}_{-272}	7039^{+947}_{-794}	$5.074^{+3.091}_{-2.028}$

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

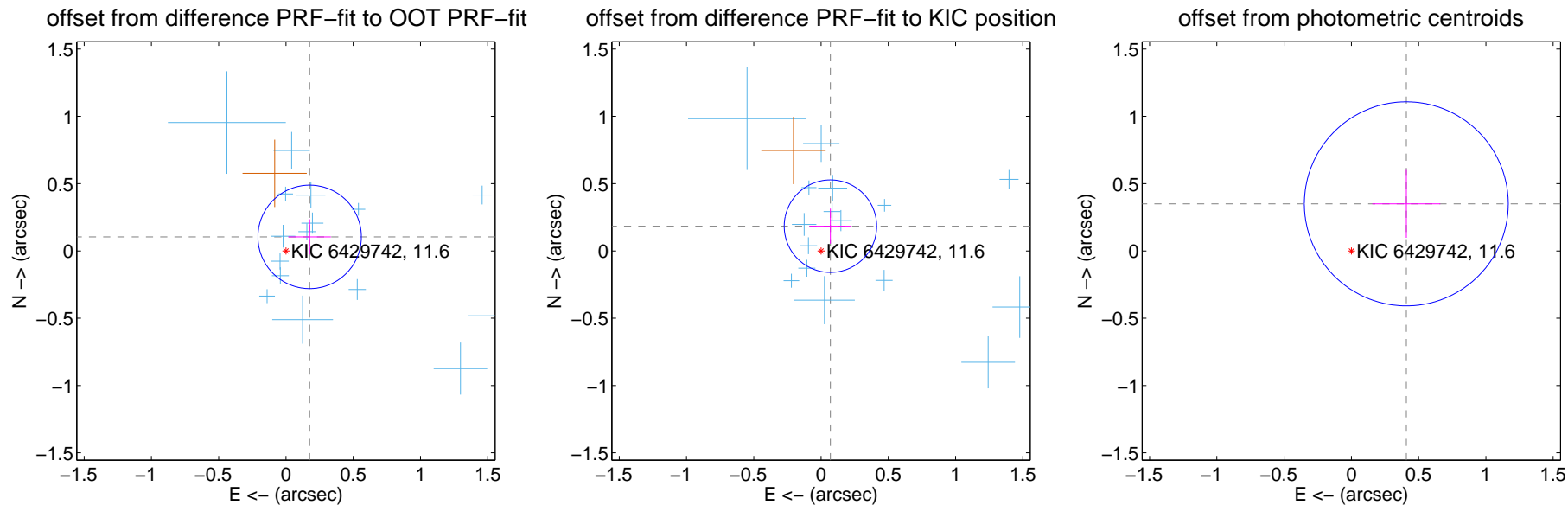
DV Centroid Data

Supplemental centroid analysis for 006429742-01. **Kepler magnitude: 11.60.** Transit SNR 8.67

There are 16 quarters with good PRF difference image offsets

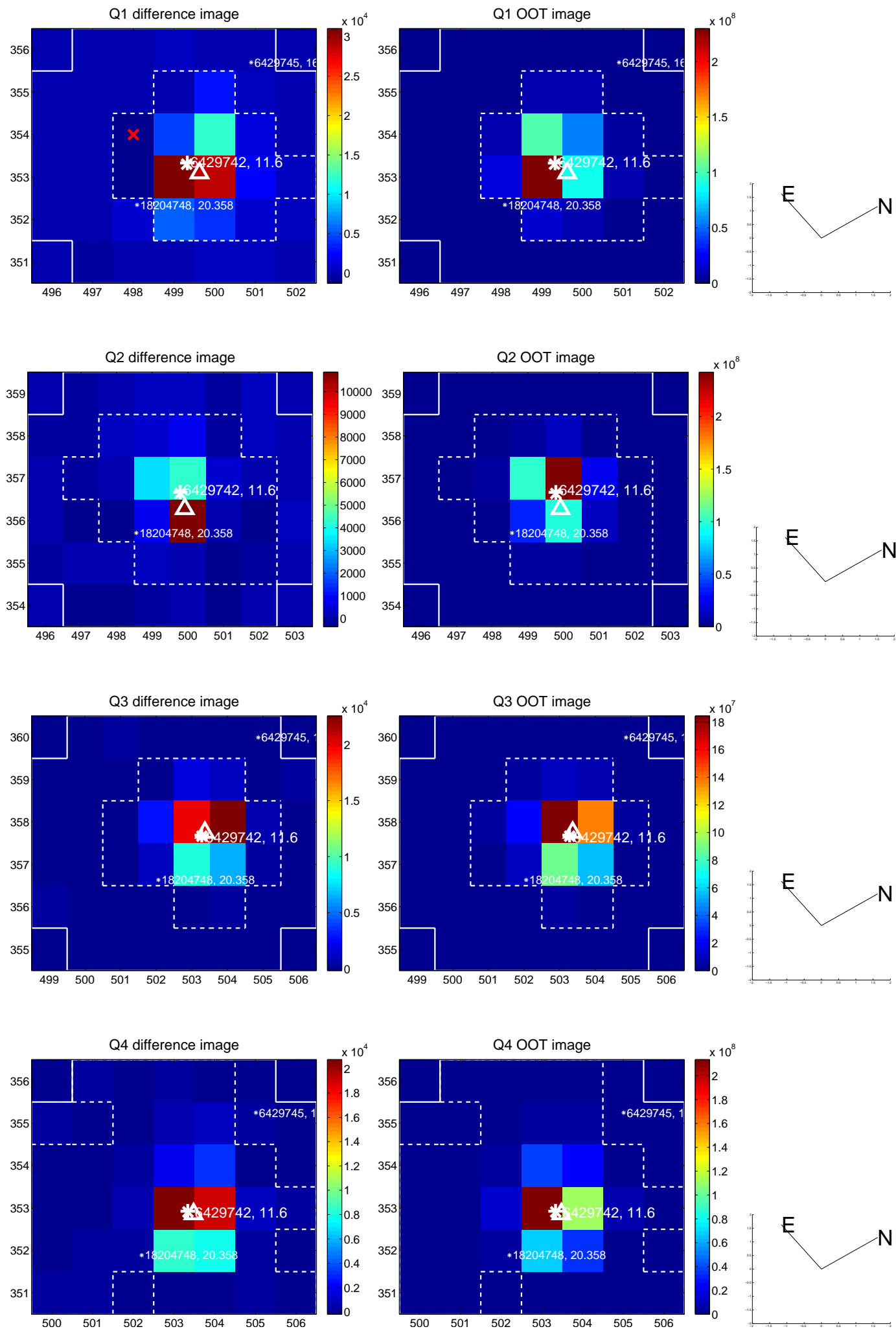
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.205 ± 0.128	1.60	-0.176 ± 0.158	0.104 ± 0.131
PRF-fit source offset from KIC position	0.197 ± 0.115	1.72	-0.070 ± 0.156	0.184 ± 0.130
photometric centroid source offset	0.54 ± 0.25	2.13	-0.41 ± 0.25	0.35 ± 0.25

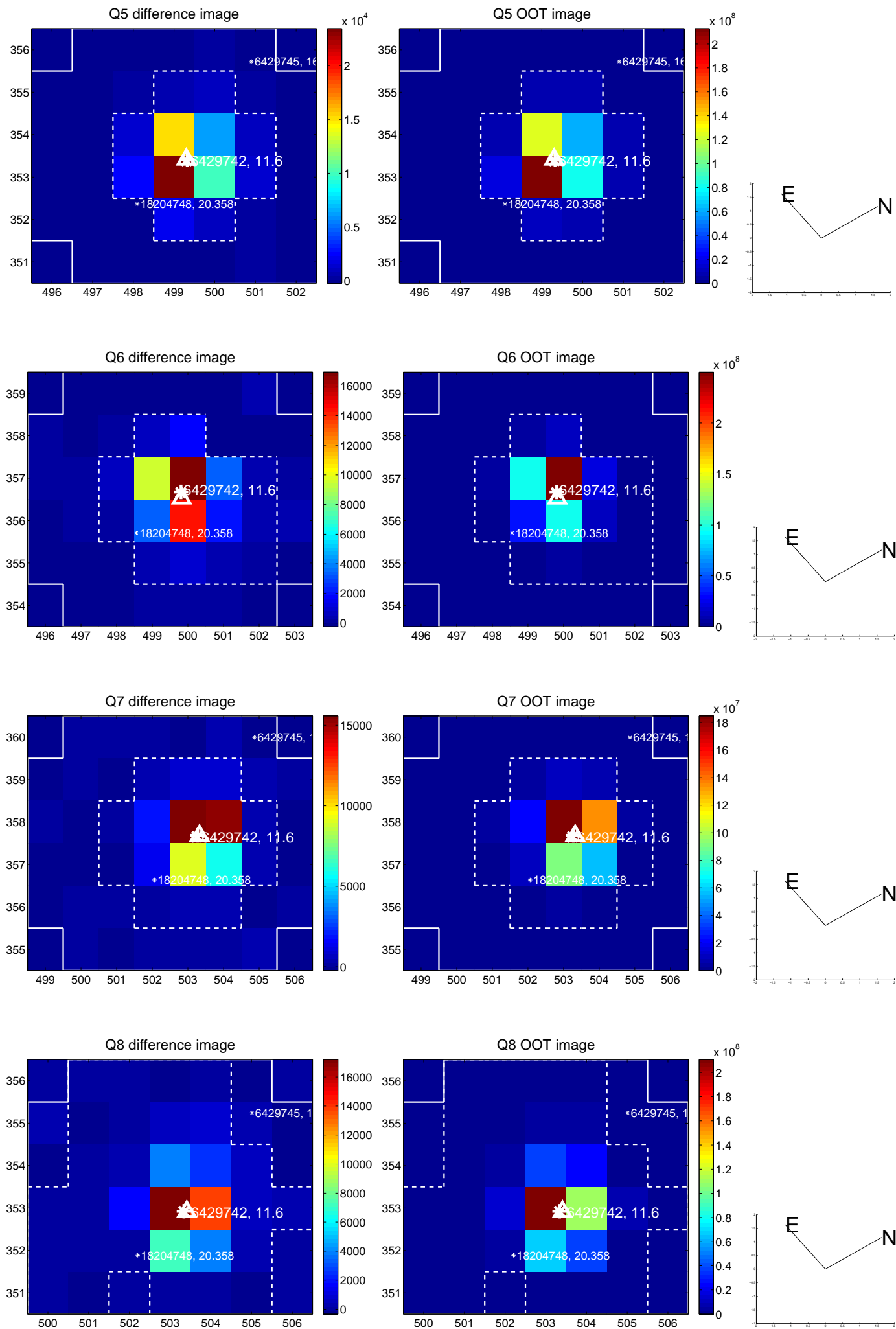


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

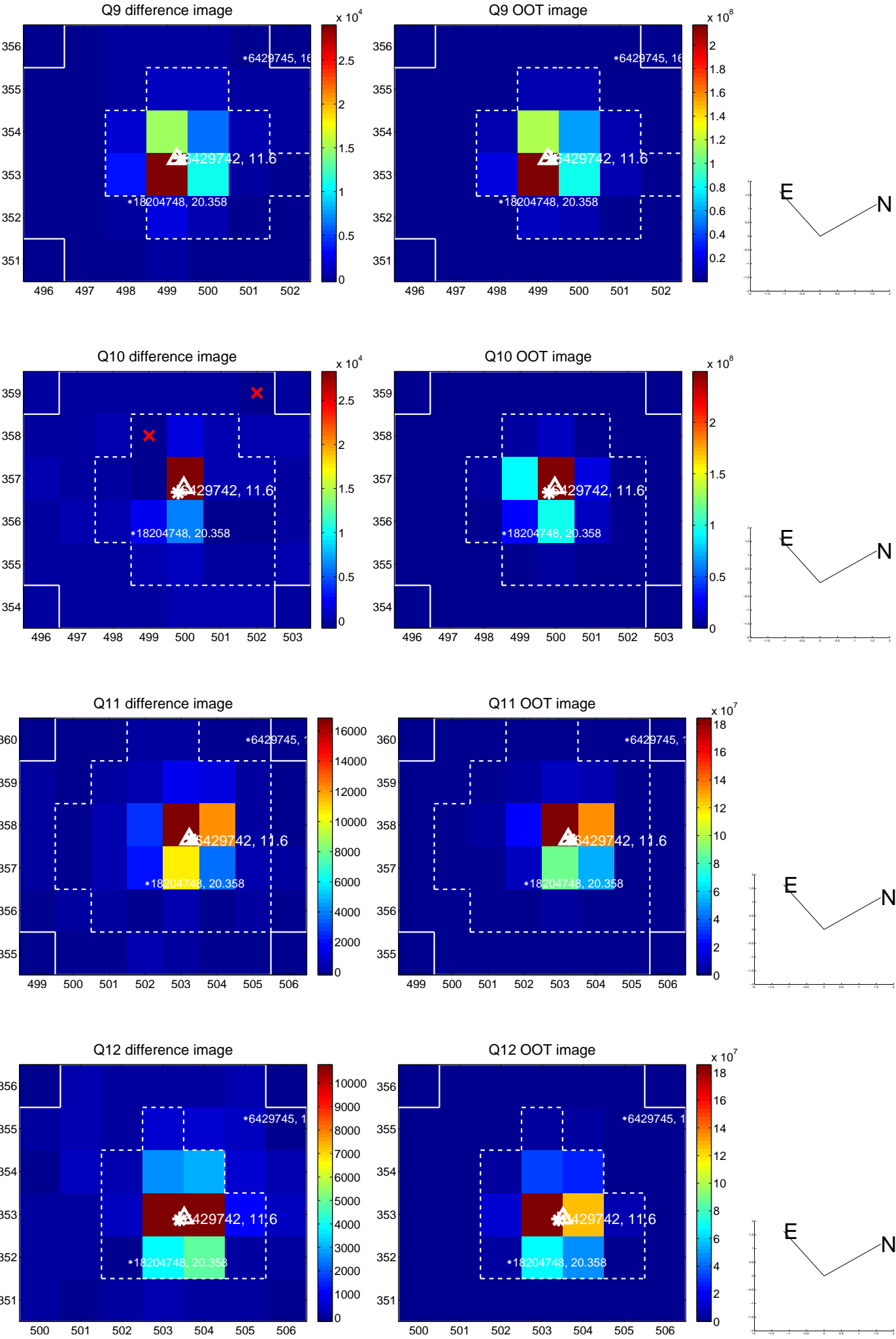
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



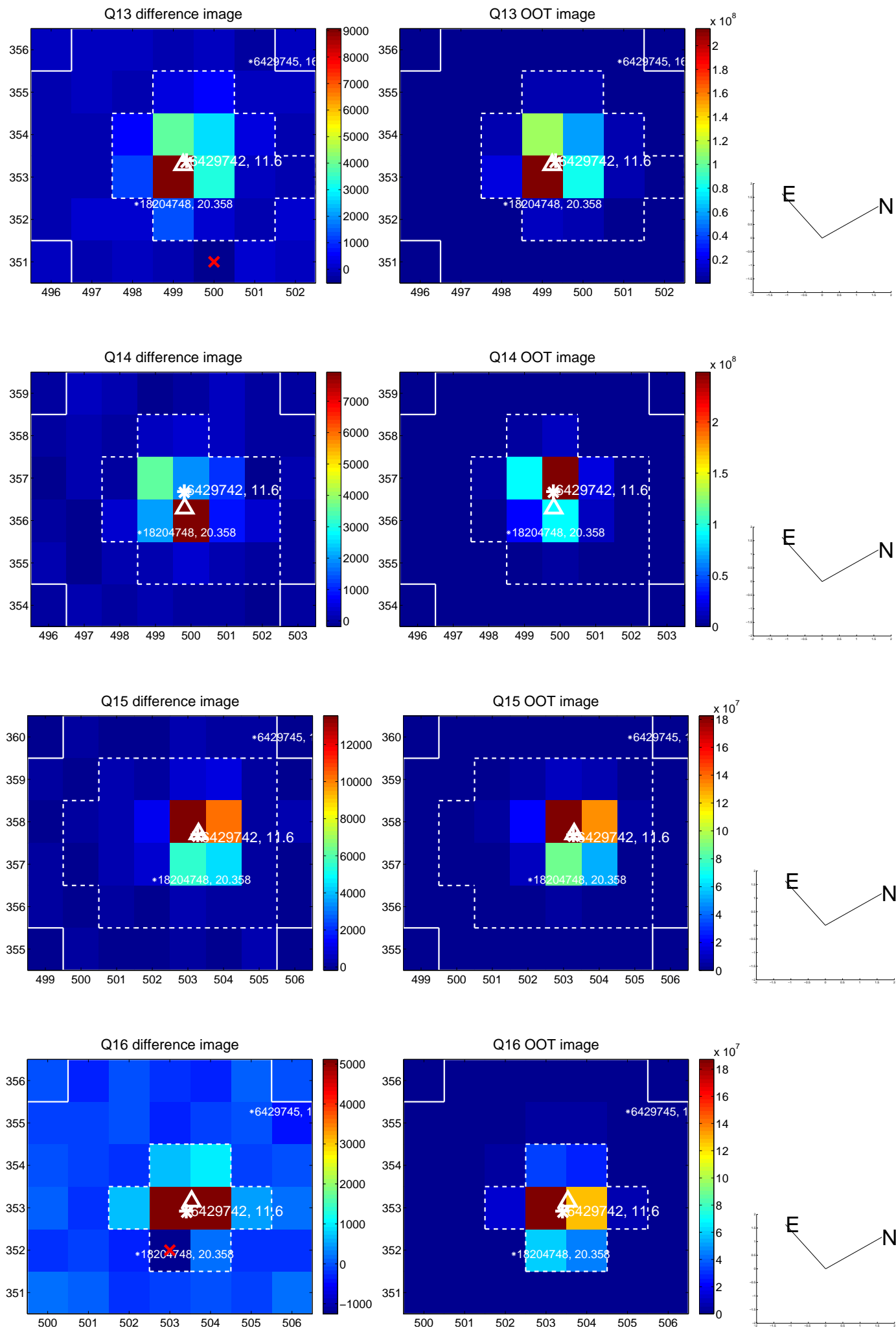
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



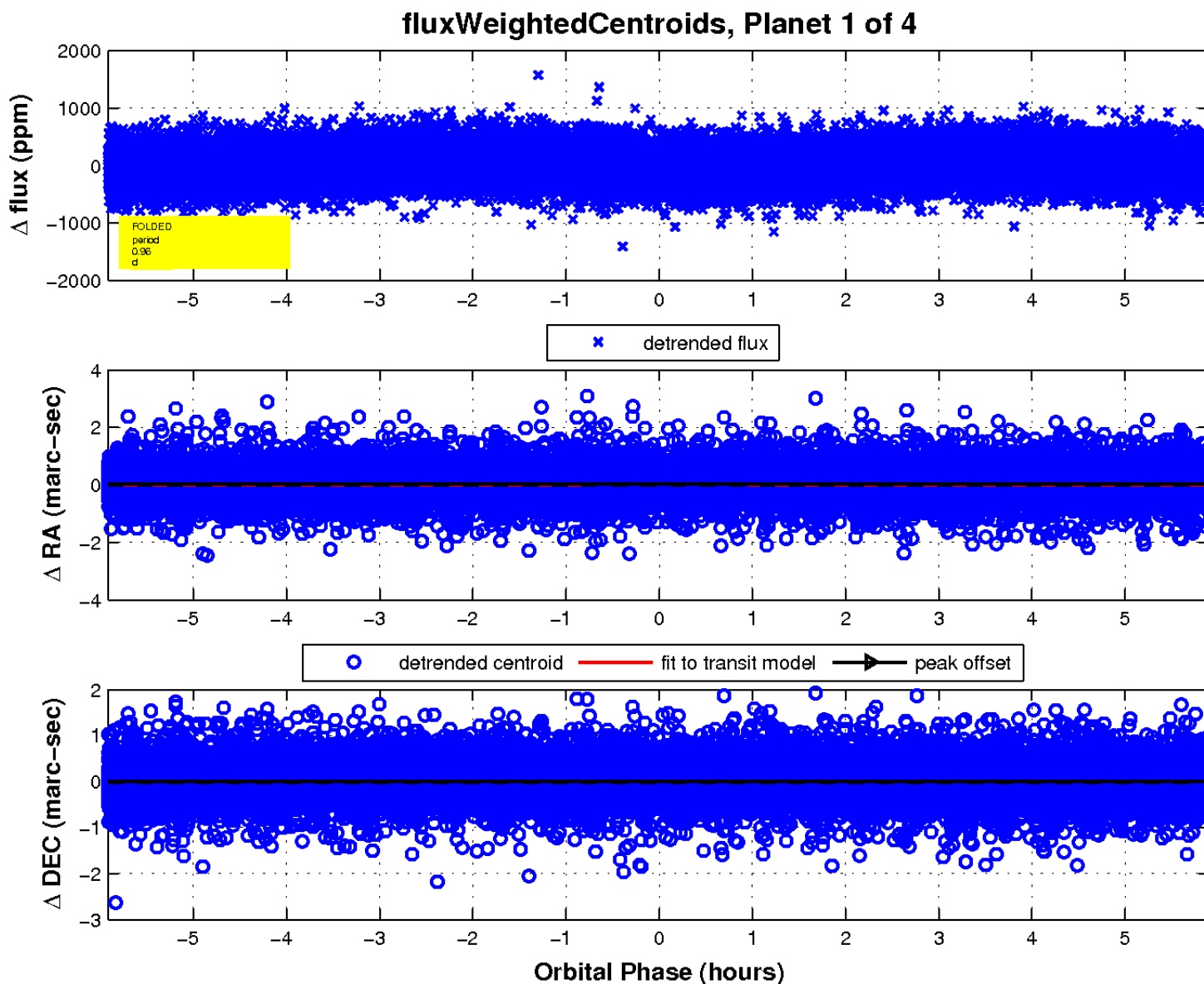
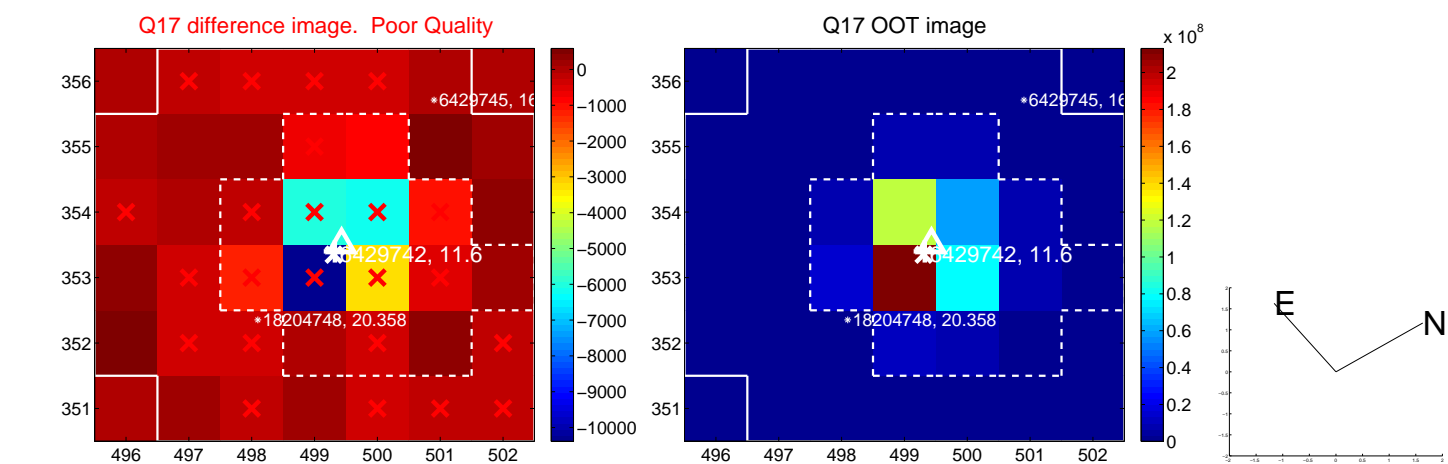
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

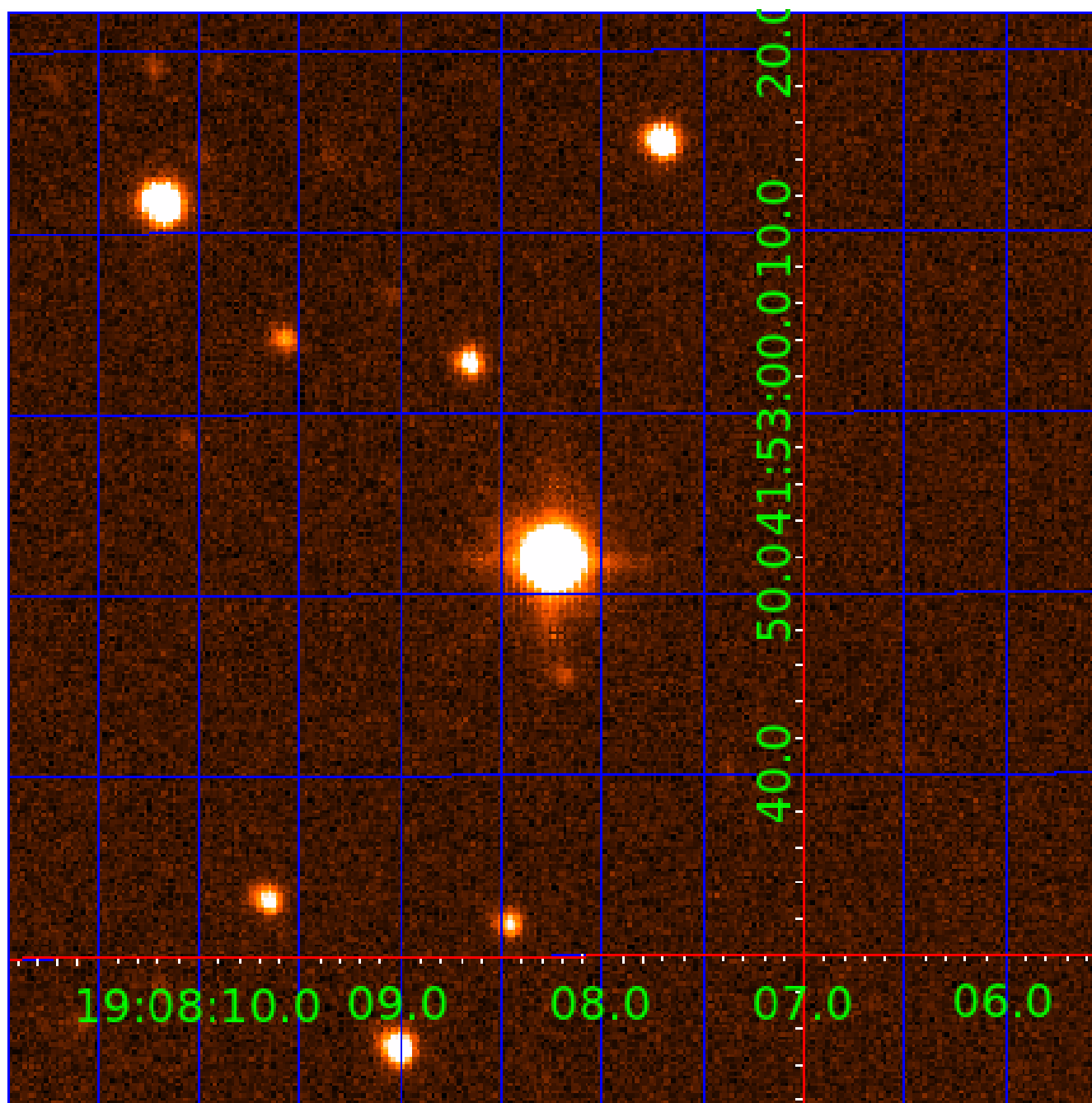


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006429742

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})
006429742-01	OBS	No	0.961182	132.326425	40.6	1.972	11.6	8.7	1.93	7705	1.42	22533.68
006429742-02	OBS	No	0.545924	131.858604	50.8	2.231	13.6	13.7	1.93	7705	1.59	47906.68
006429742-03	OBS	No	0.545914	132.033375	41.4	2.757	12.0	10.6	1.93	7705	1.33	47907.92
006429742-04	OBS	No	0.948890	132.134764	138.7	1.270	11.2	10.5	1.93	7705	2.64	22923.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006429742-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006429742-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006429742-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
006429742-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

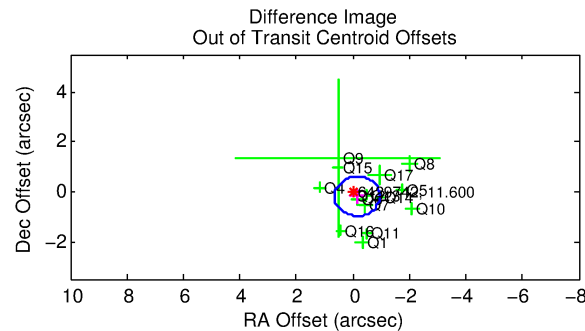
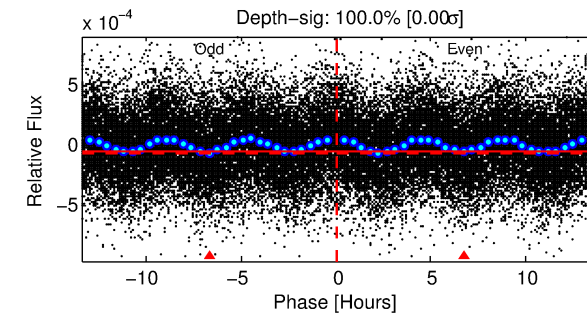
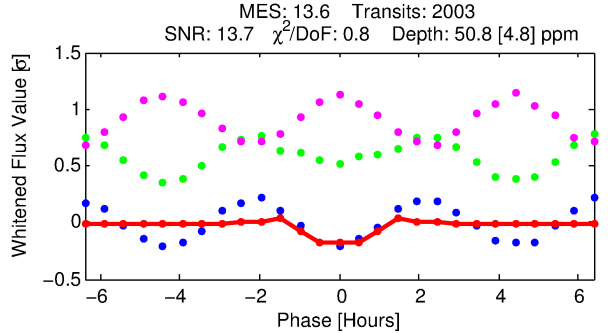
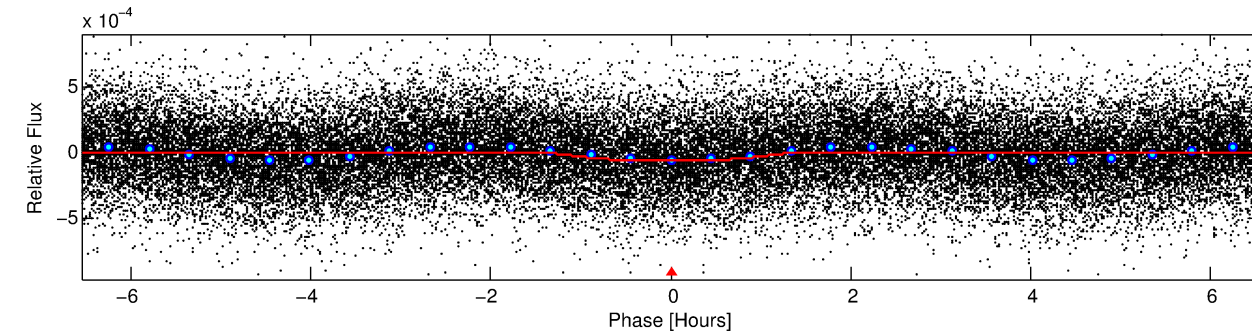
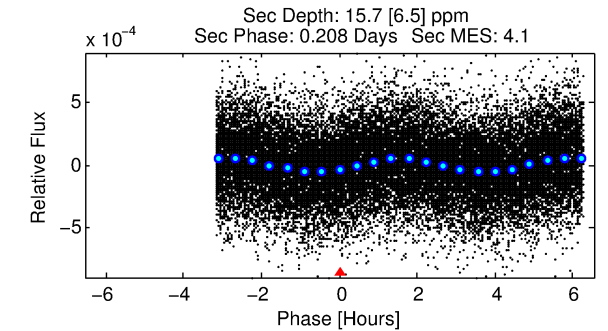
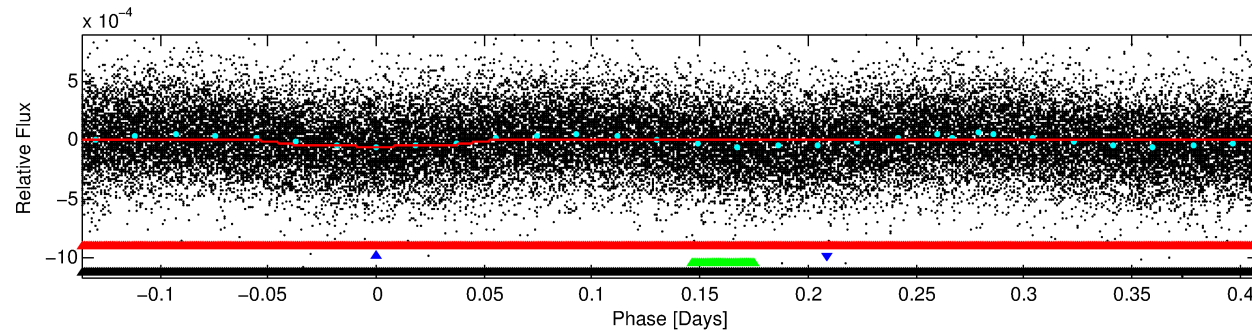
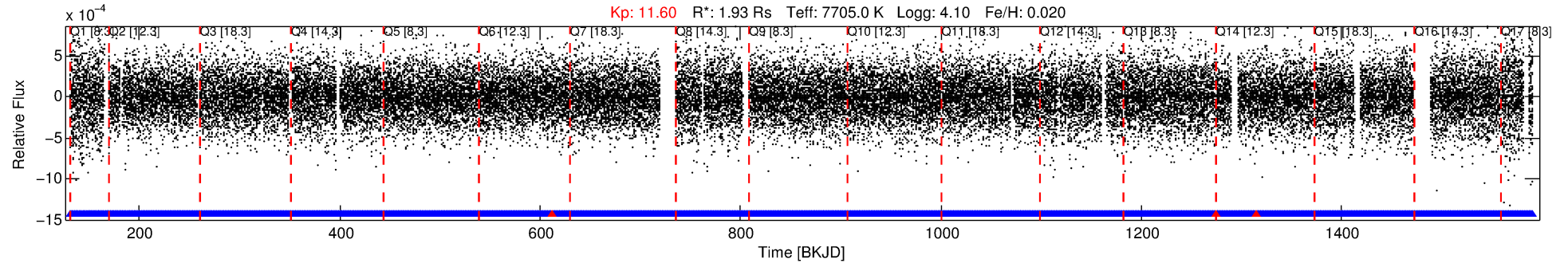
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006429742-02

No Significant Match Found

DV One-Page Summary

KIC: 6429742 Candidate: 2 of 4 Period: 0.546 d



DV Fit Results:

Period = 0.54592 [0.00001] d
Epoch = 131.8586 [0.0017] BKJD
Rp/R* = 0.0076 [0.0022]
a/R* = 1.26 [0.88]
b = 0.90 [0.40]
Seff = 47906.68 [17072.41]
Teq = 3772 [336] K
Rp = 1.59 [0.64] Re
a = 0.0156 [0.0035] AU
Ag = 0.84 [0.65] [-0.25σ]
Teffp = 5581 [1012] K [1.70σ]

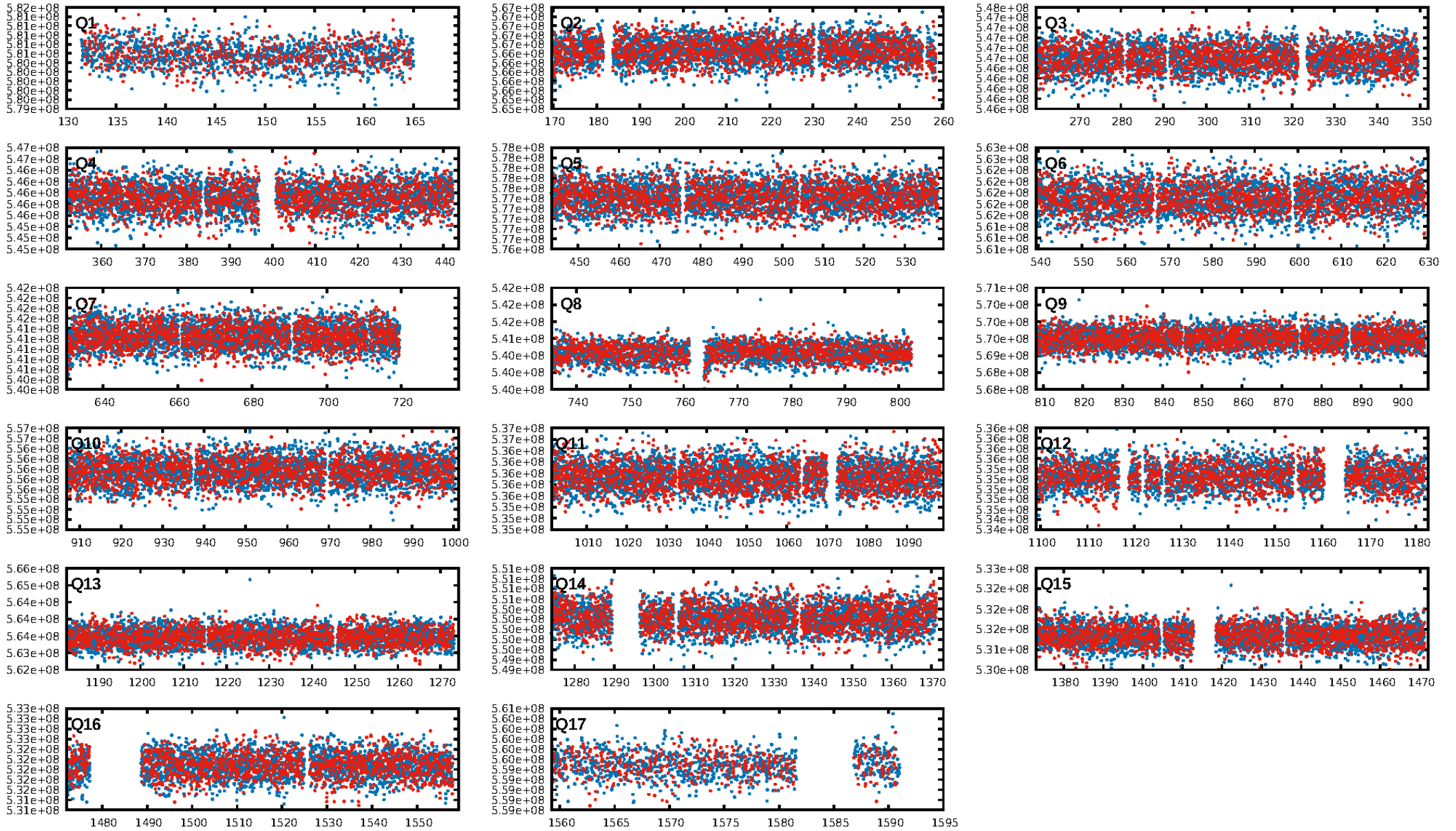
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [3.77σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1911/1914]
GhostDiagnostic-chr: 19.42
Centroid-sig: 83.7%
Centroid-so: 0.171 arcsec [1.20σ]
OotOffset-rm: 0.239 arcsec [0.90σ]
KicOffset-rm: 0.124 arcsec [0.47σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 0.00 [0/17]

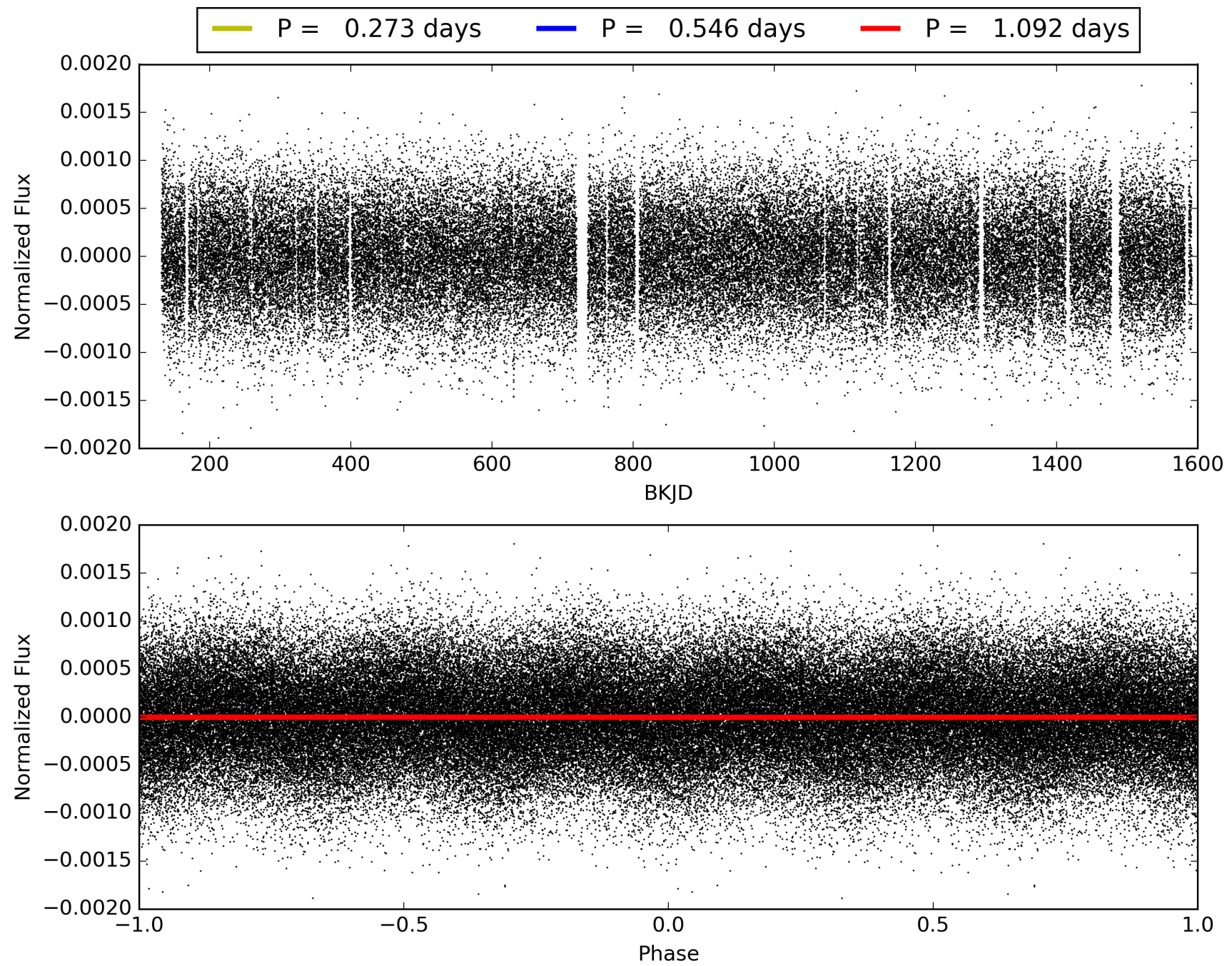
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:55:52 Z

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

TCE 006429742-02, PDC Light Curves

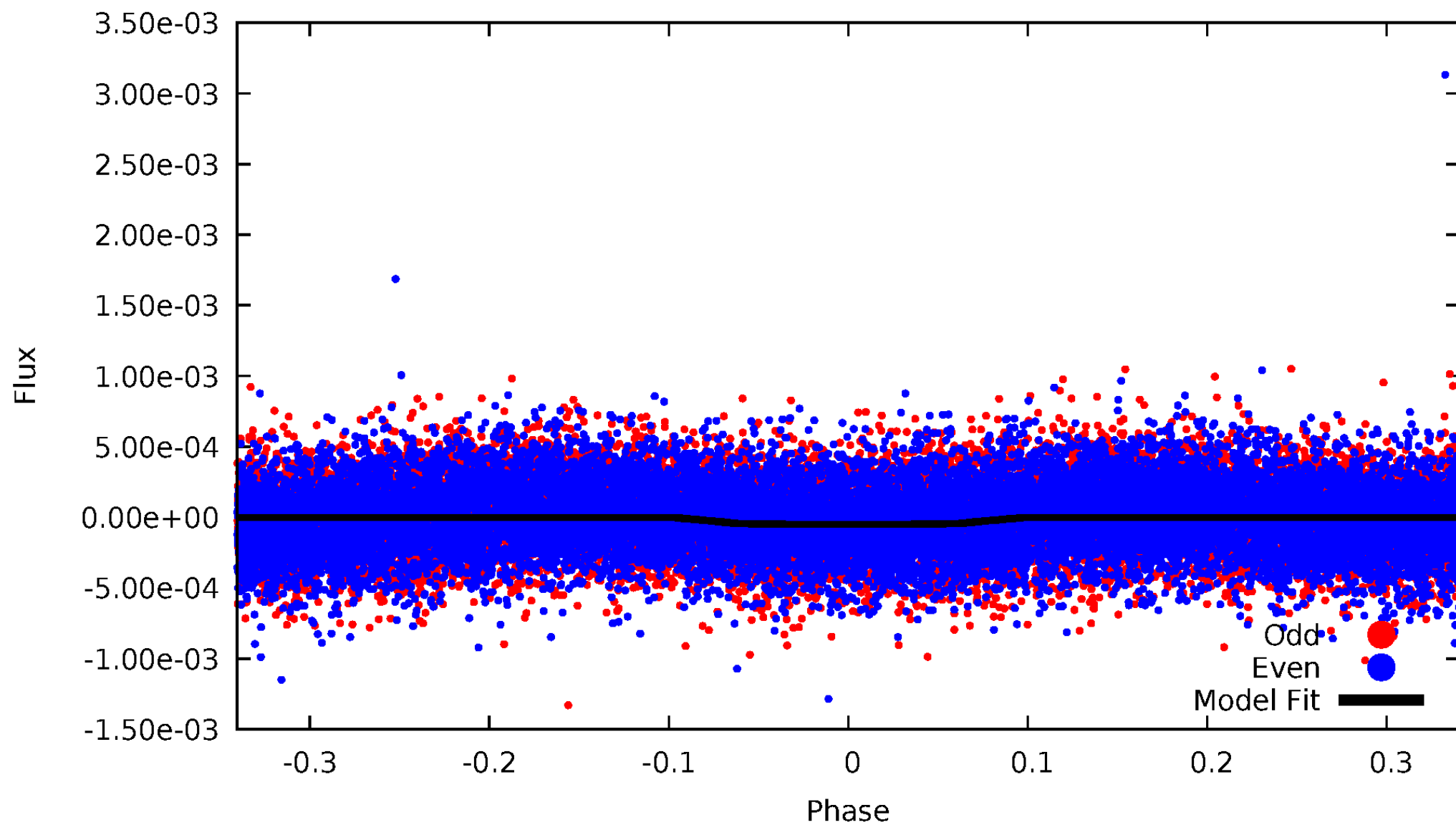


TCE 006429742-02



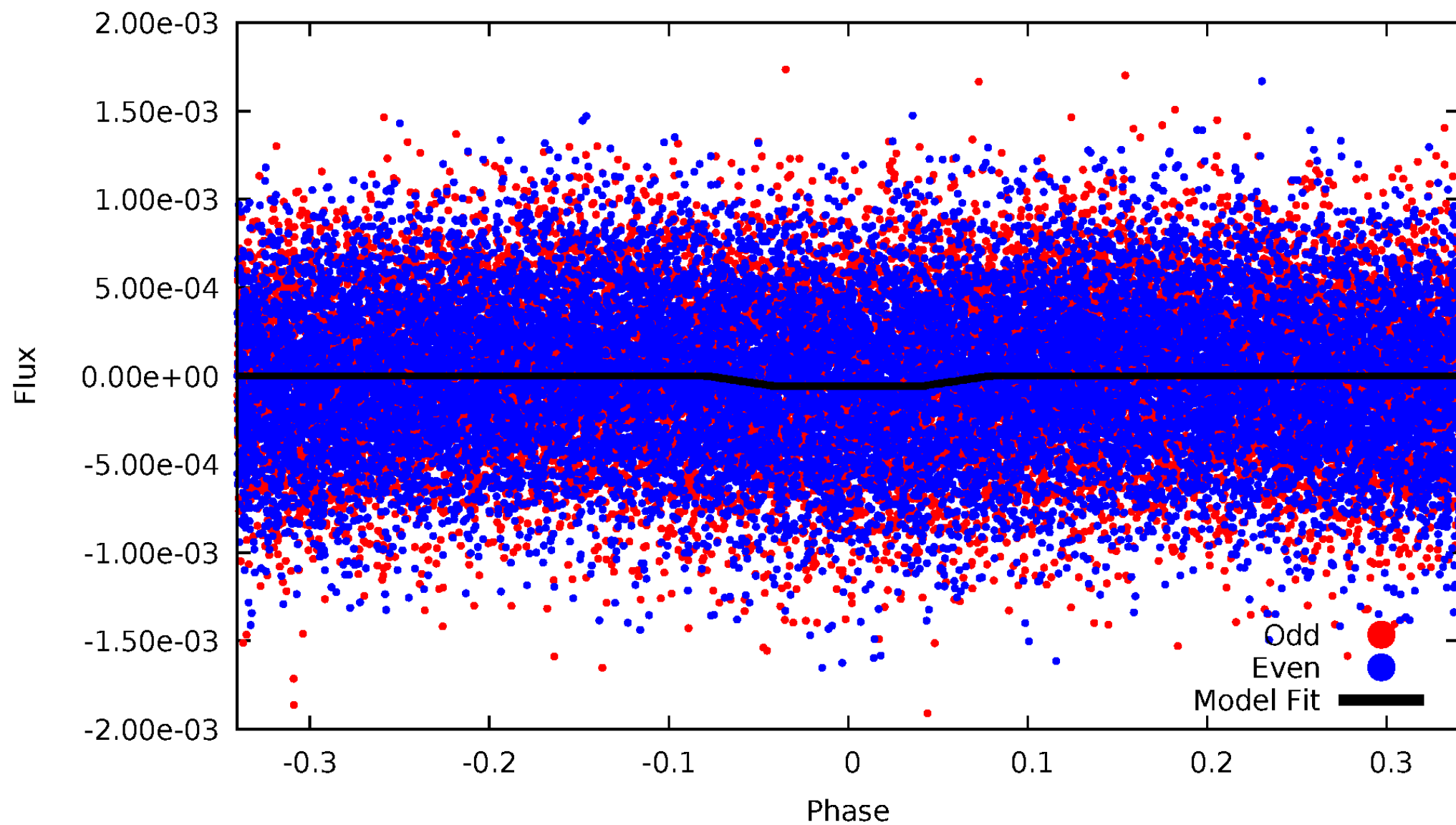
DV Odd/Even

TCE 006429742-02



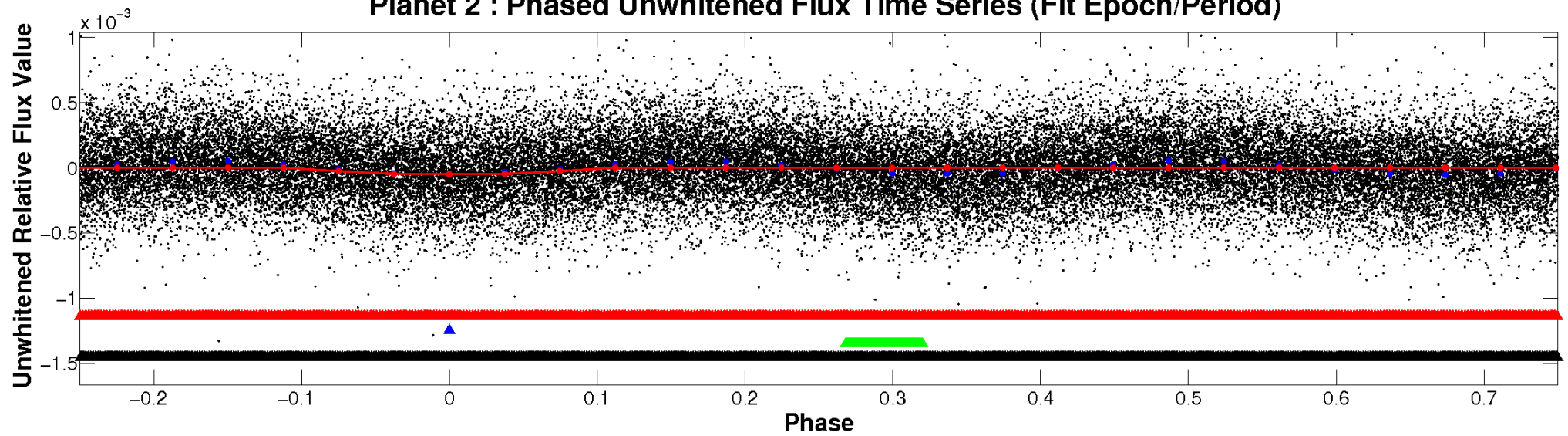
ALT Odd/Even

TCE 006429742-02

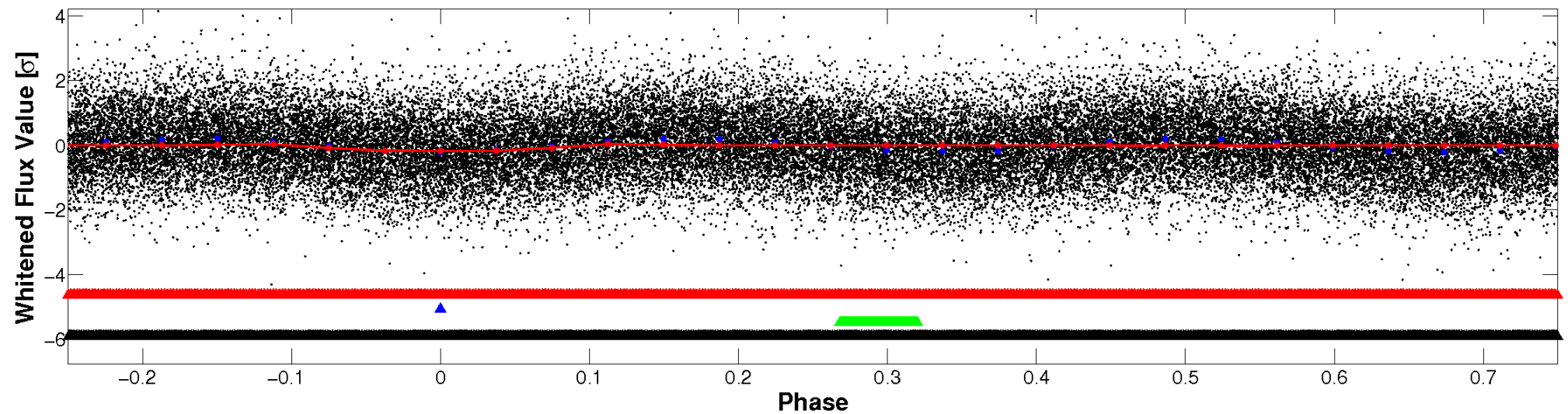


Non-Whitened Vs. Whitened Light Curve

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

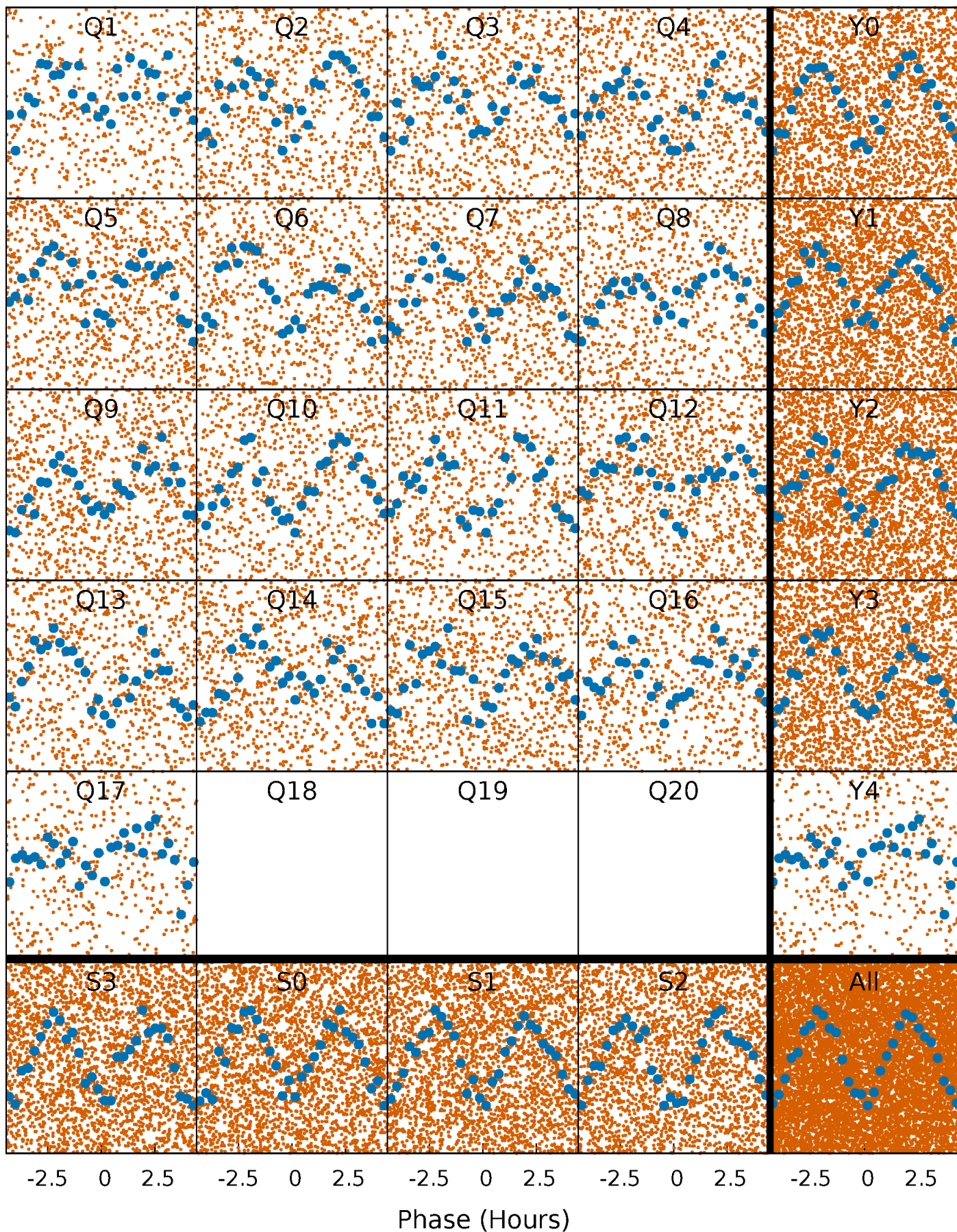


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



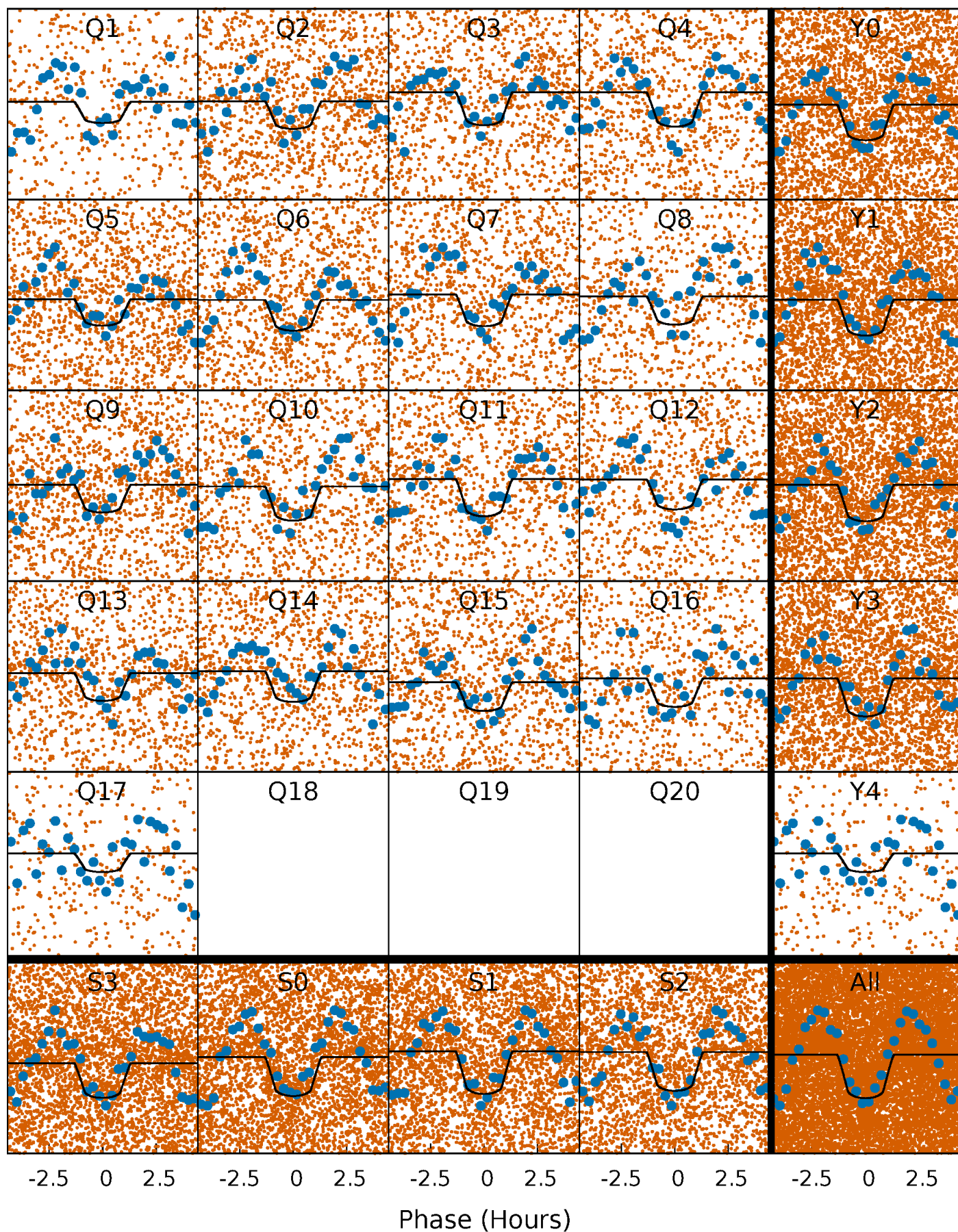
PDC Quarter-Phased Transit Curves

TCE 006429742-02 P= 0.545924 Days $T_0=131.858604$ (BKJD)



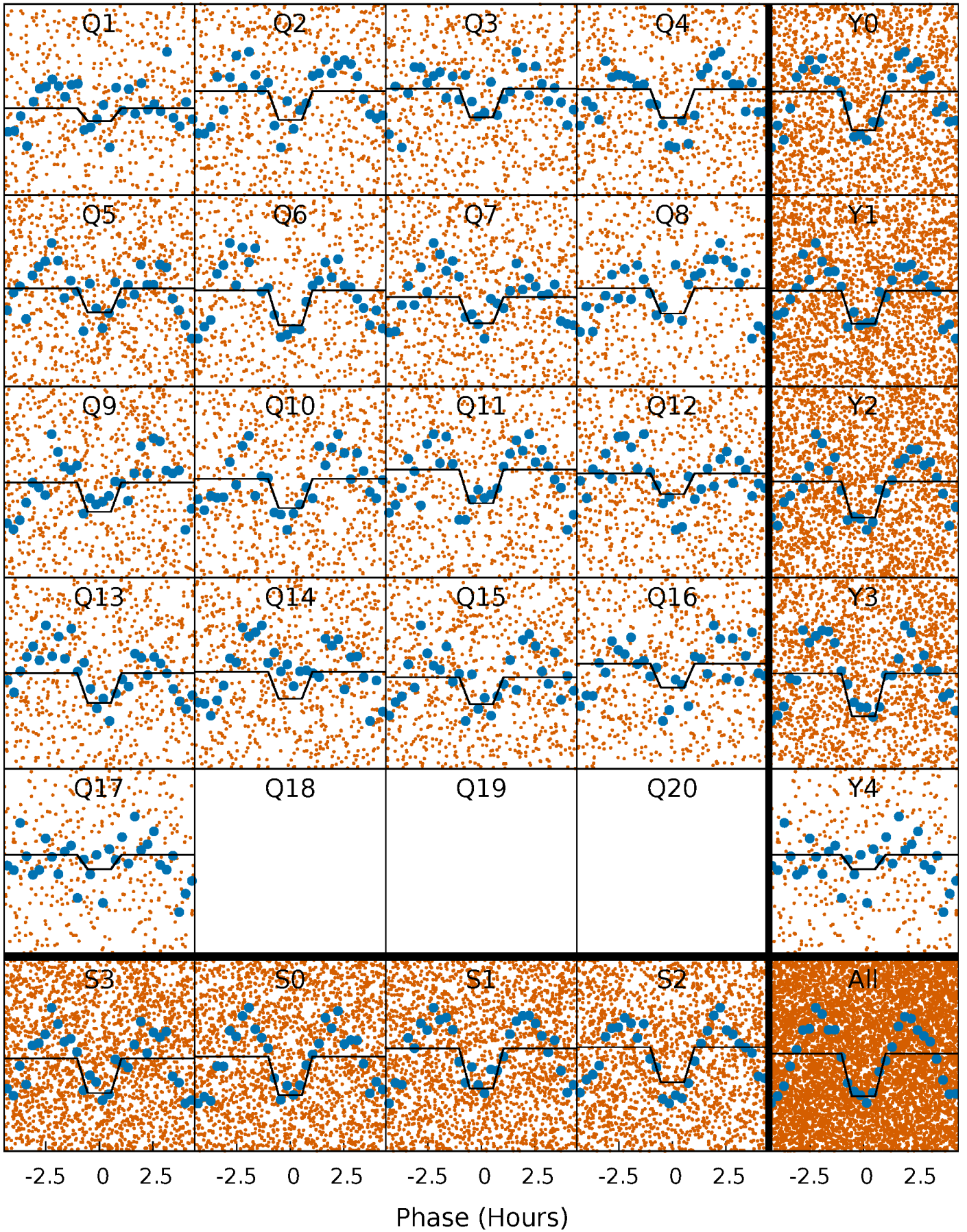
DV Quarter-Phased Transit Curves

TCE 006429742-02 P= 0.545924 Days $T_0=131.858604$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

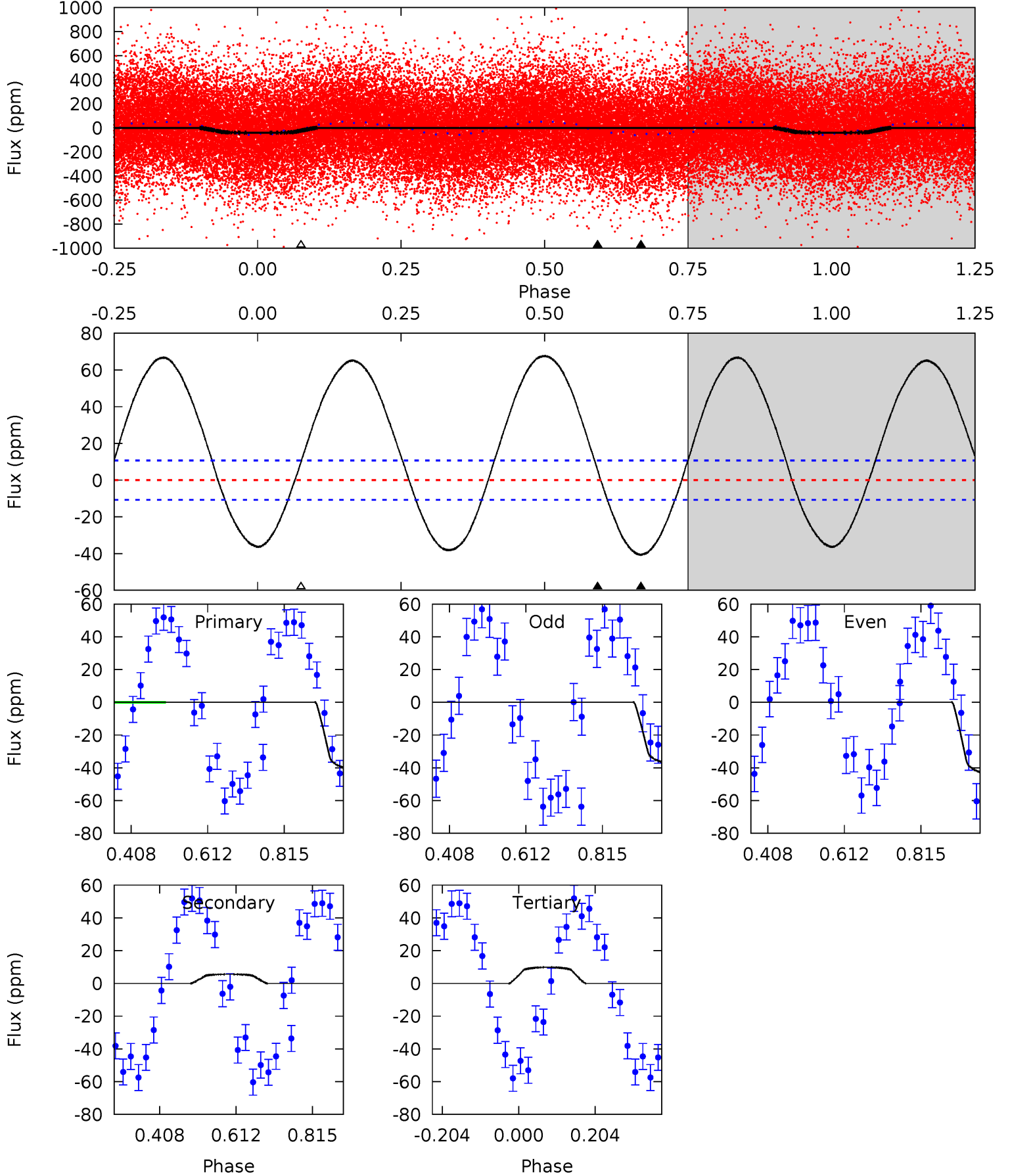
TCE 006429742-02 P= 0.545924 Days $T_0=131.858604$ (BKJD)



DV Model-Shift Uniqueness Test

006429742-02, P = 0.545924 Days, E = 131.312680 Days

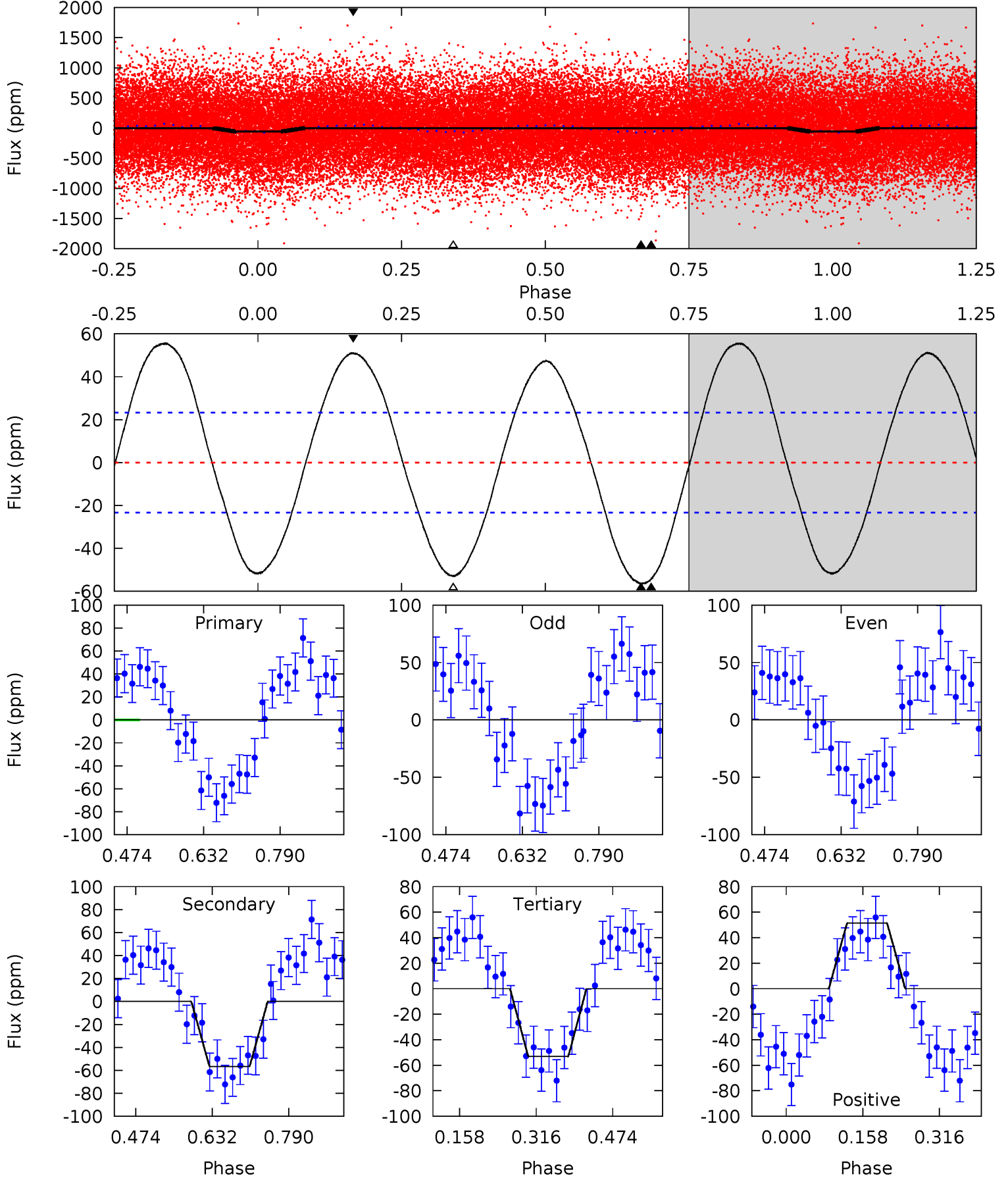
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	-2.29	-4.04	0	4.41	1.27	14.5	20.8	16.7	1.75	-2.29	1.30	0.96	0.62	0.62



Alt Model-Shift Uniqueness Test

006429742-02, P = 0.545924 Days, E = 131.312680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	10.9	10.2	9.83	4.47	1.41	6.98	0.26	0.60	0.69	1.02	0.86	0.97	0.50	0.08



Stellar Parameters For KIC 006429742

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot cm^{-3})$
	7705^{+214}_{-322}	$4.102^{+0.135}_{-0.165}$	$0.020^{+0.150}_{-0.350}$	$1.927^{+0.540}_{-0.405}$	$1.713^{+0.204}_{-0.271}$	$0.337^{+0.230}_{-0.159}$
	+3%/-4%	+3%/-4%	+750%/-1750%	+28%/-21%	+12%/-16%	+68%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006429742-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	6 ± 2	$1.60^{+0.51}_{-0.48}$	5280^{+374}_{-329}	-5121^{+354}_{-521}	$-0.284^{+0.155}_{-0.314}$
Alt.	-57 ± 5	$1.62^{+0.50}_{-0.49}$	5282^{+353}_{-350}	7304^{+1931}_{-1113}	$2.853^{+3.066}_{-1.180}$

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 $A_{obs} \gg 1.0$

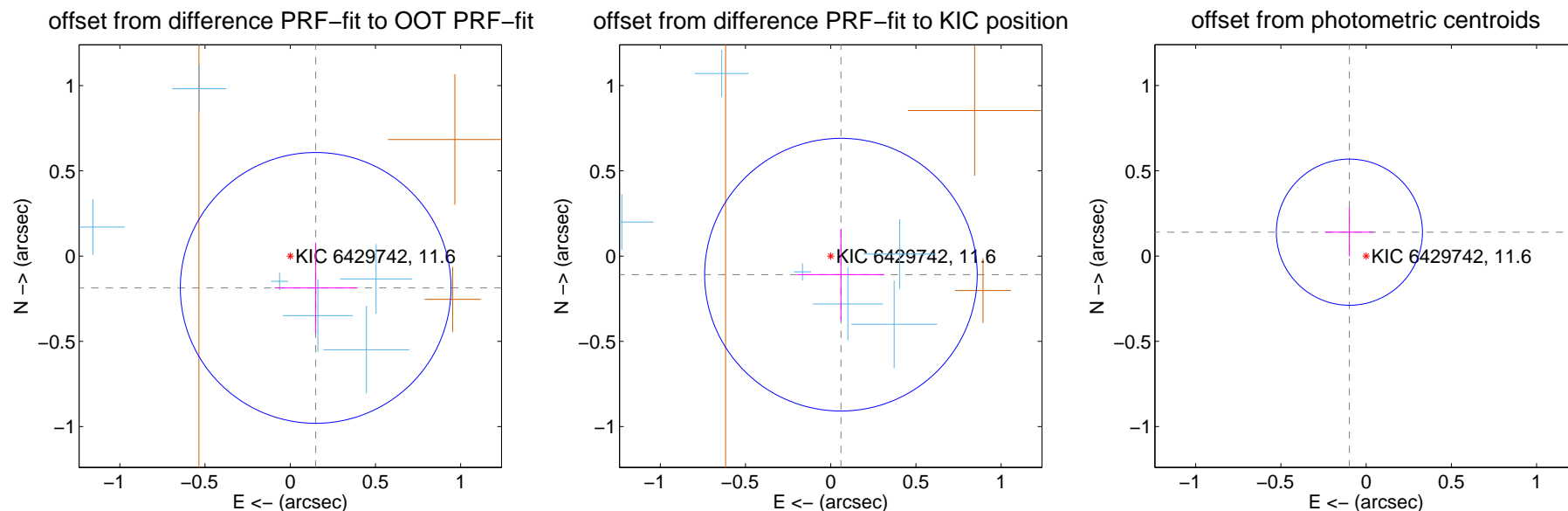
DV Centroid Data

Supplemental centroid analysis for 006429742-02. **Kepler magnitude: 11.60.** Transit SNR 13.66

There are 11 quarters with good PRF difference image offsets

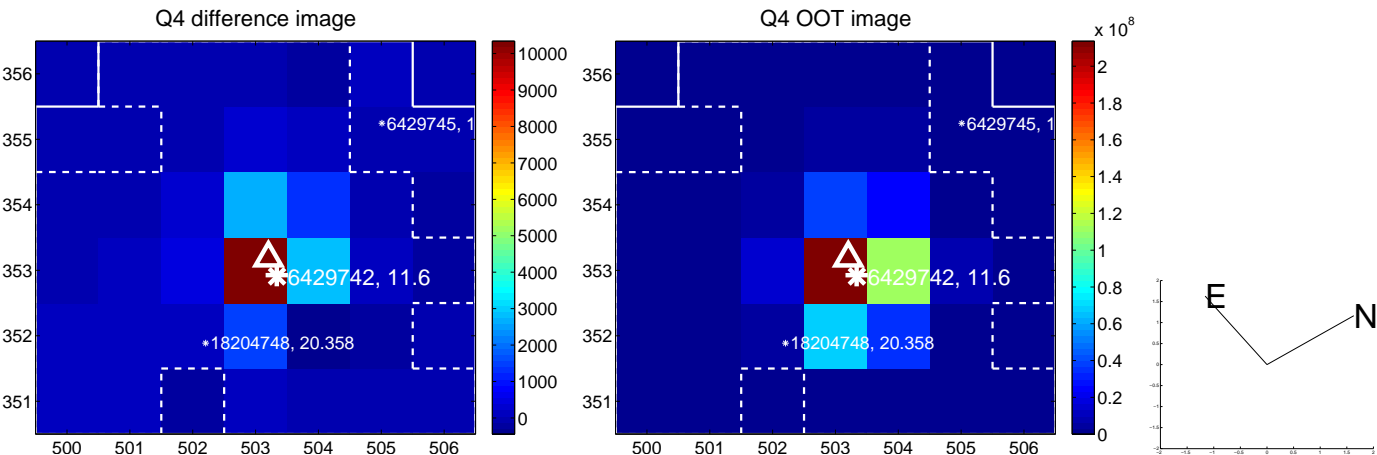
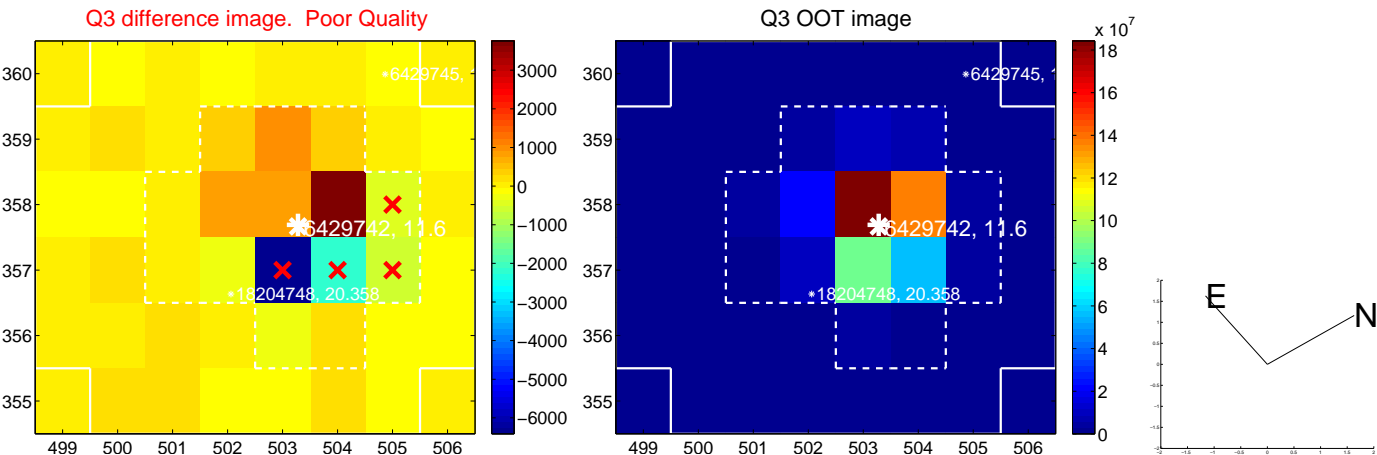
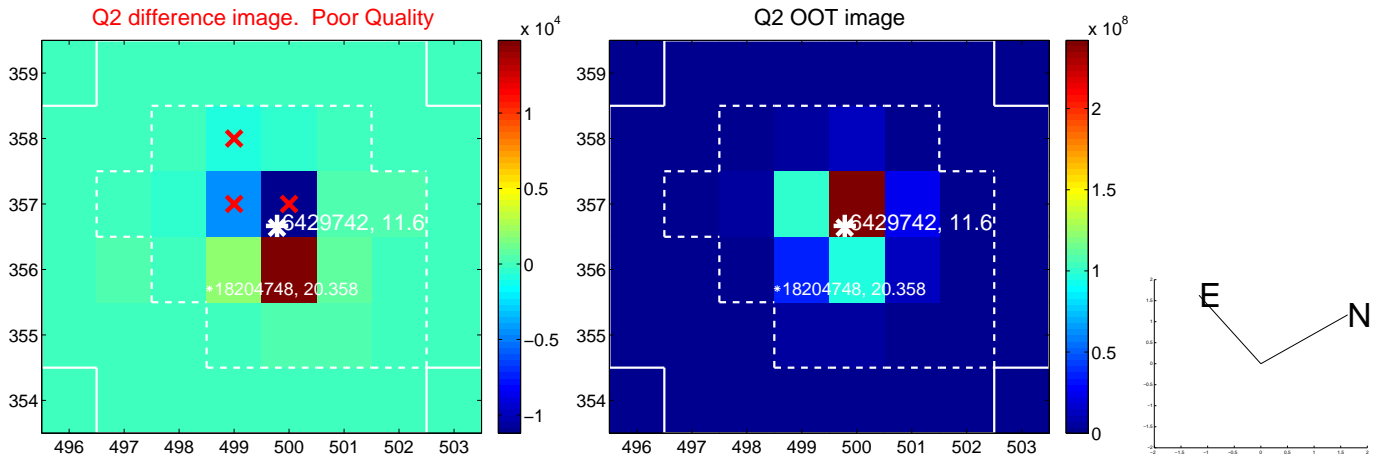
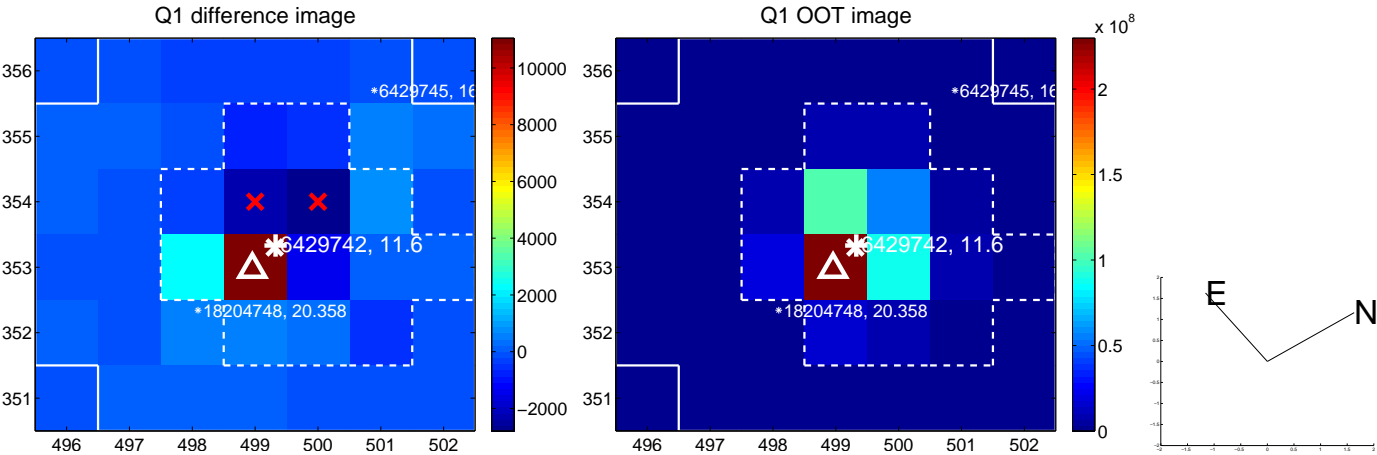
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.239 ± 0.265	0.90	-0.149 ± 0.242	-0.187 ± 0.266
PRF-fit source offset from KIC position	0.124 ± 0.267	0.47	-0.060 ± 0.255	-0.109 ± 0.269
photometric centroid source offset	0.17 ± 0.14	1.20	0.10 ± 0.14	0.14 ± 0.14

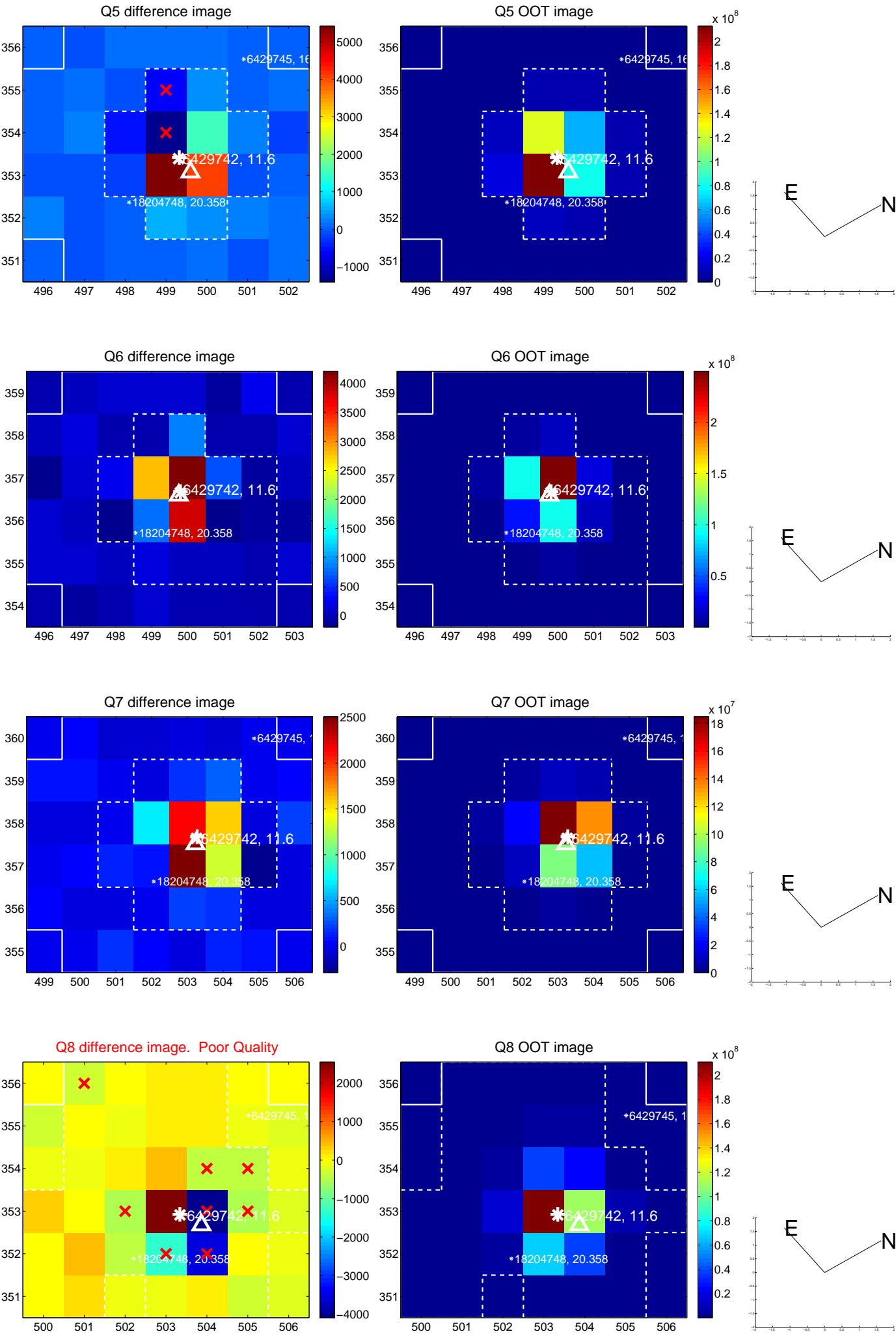


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

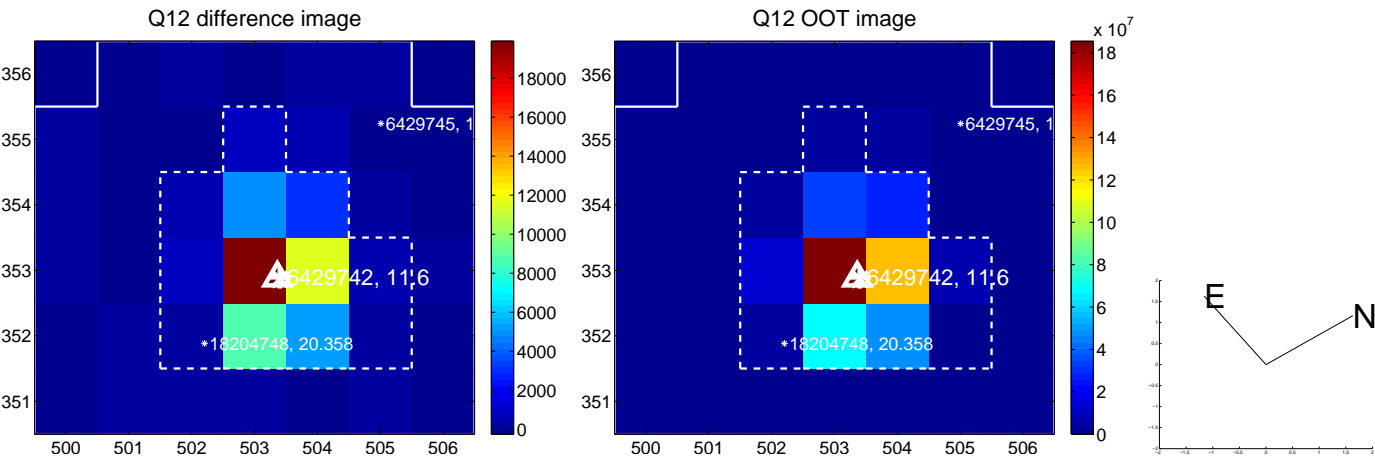
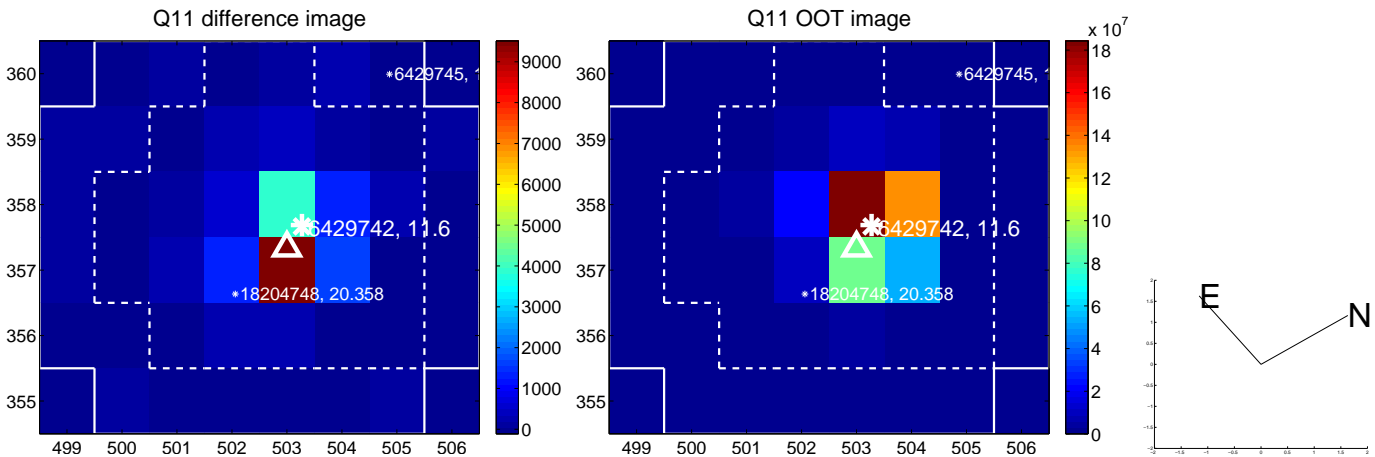
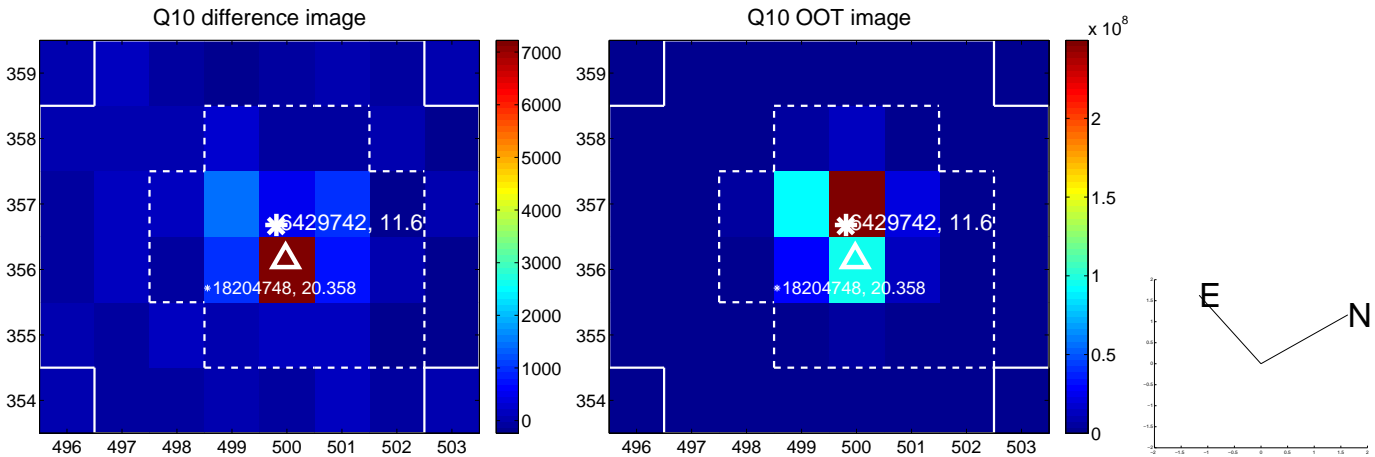
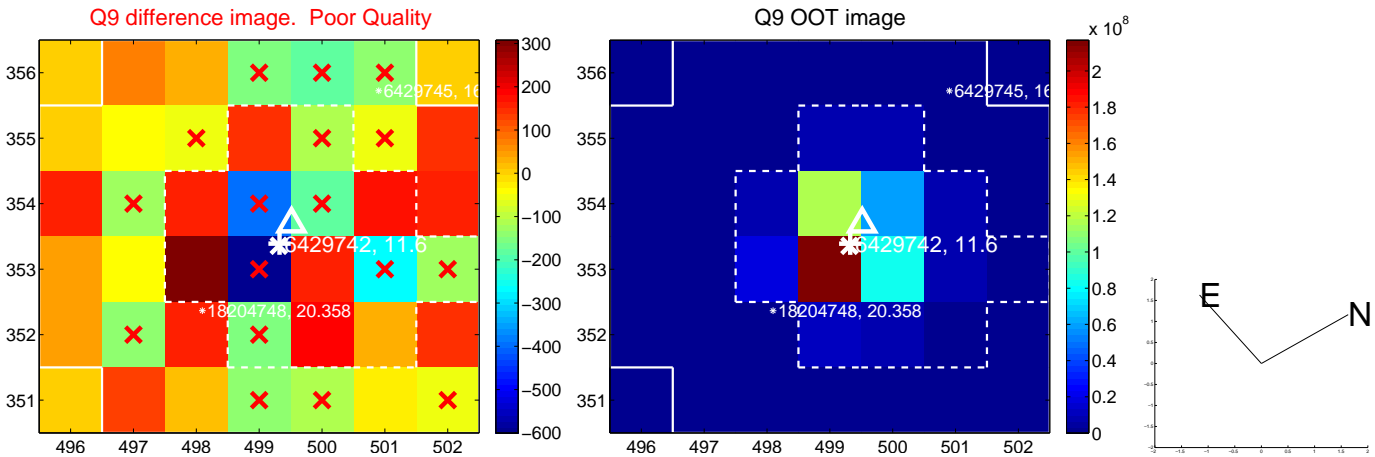
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



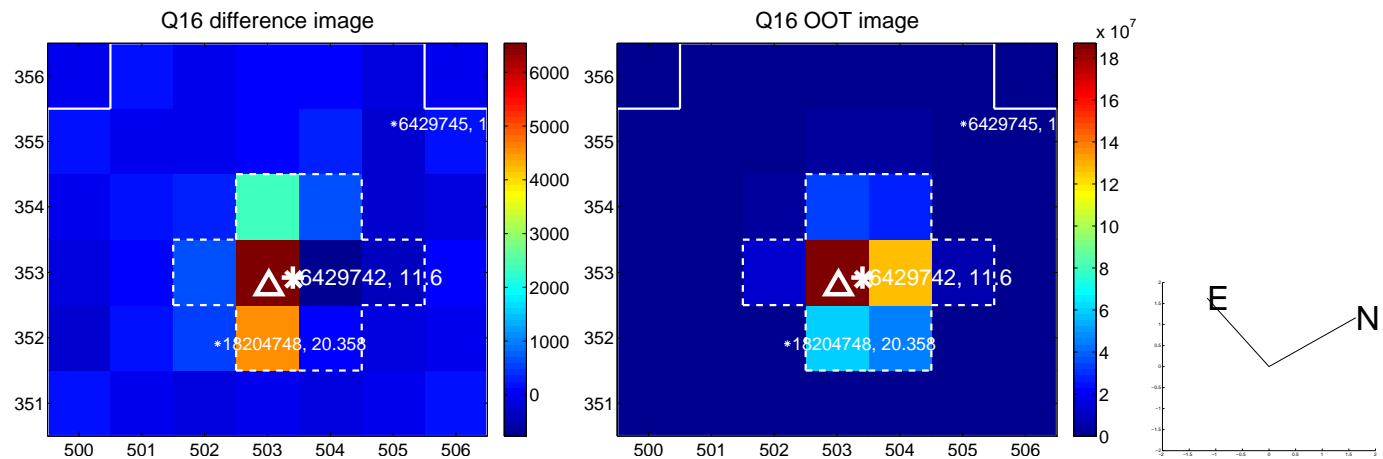
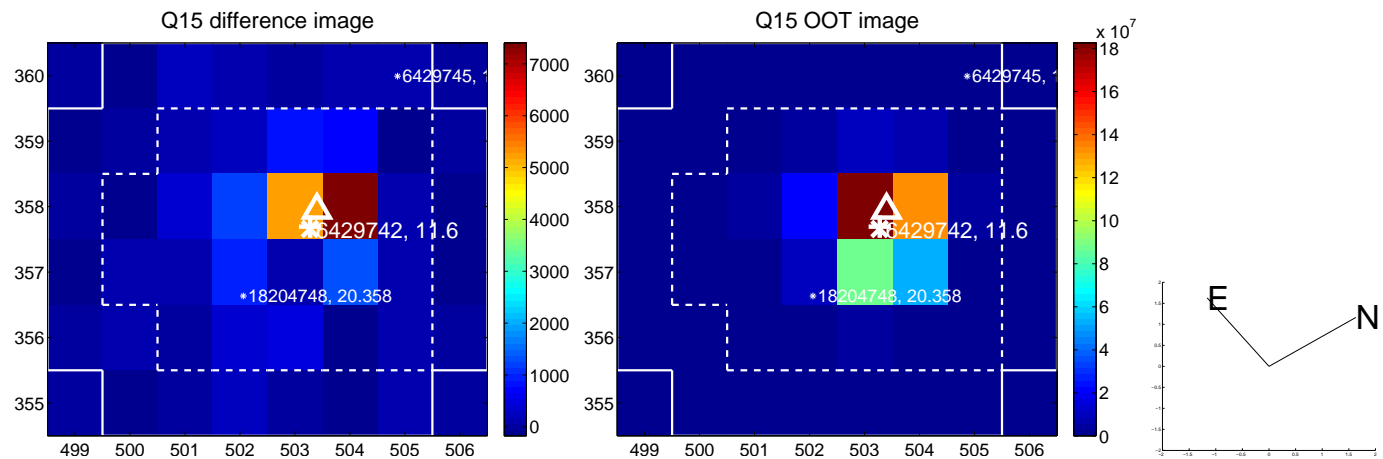
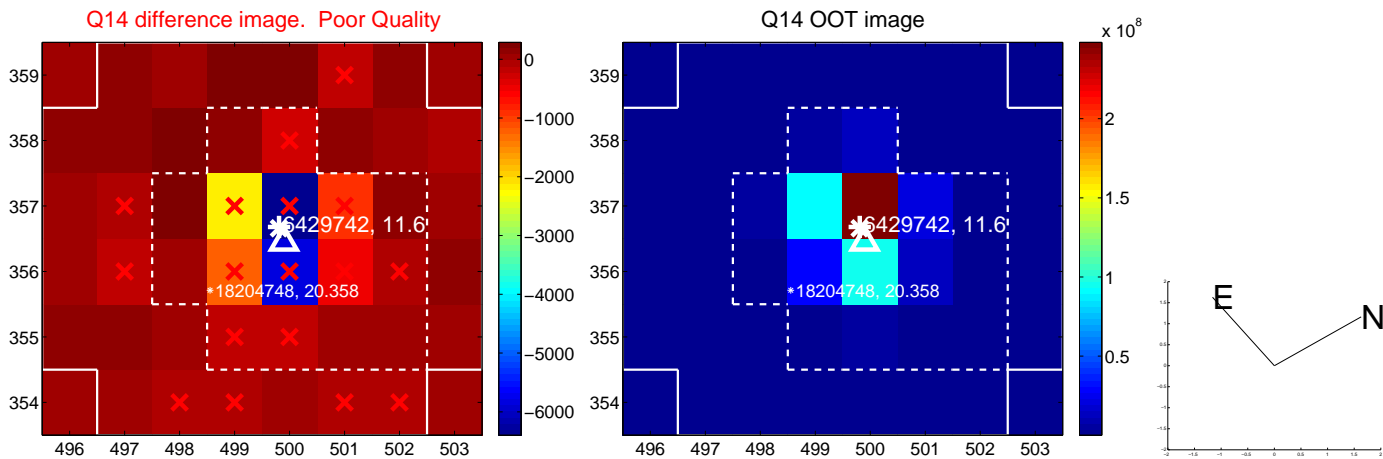
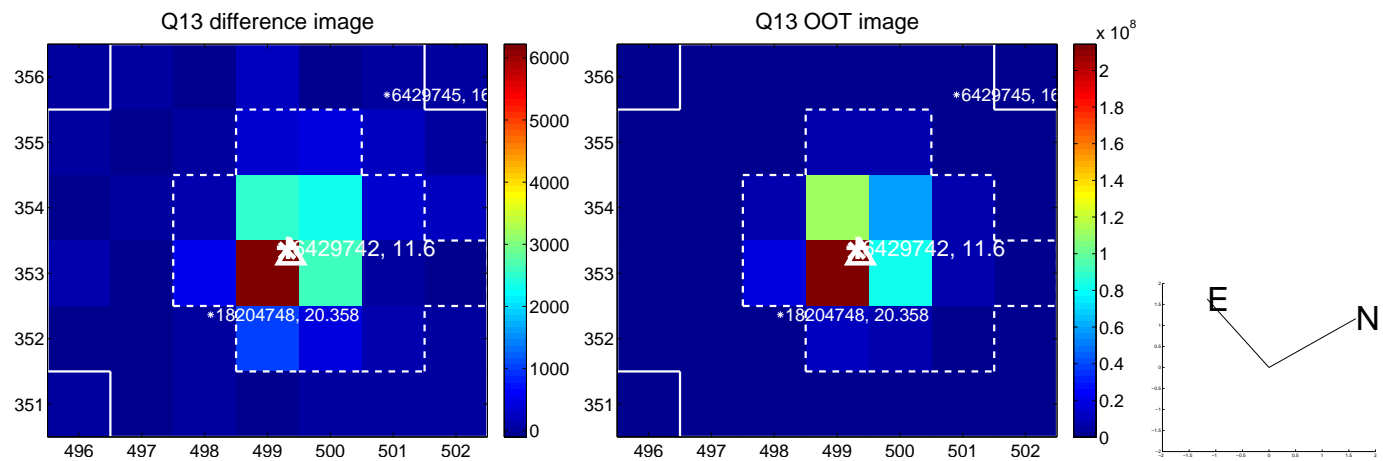
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



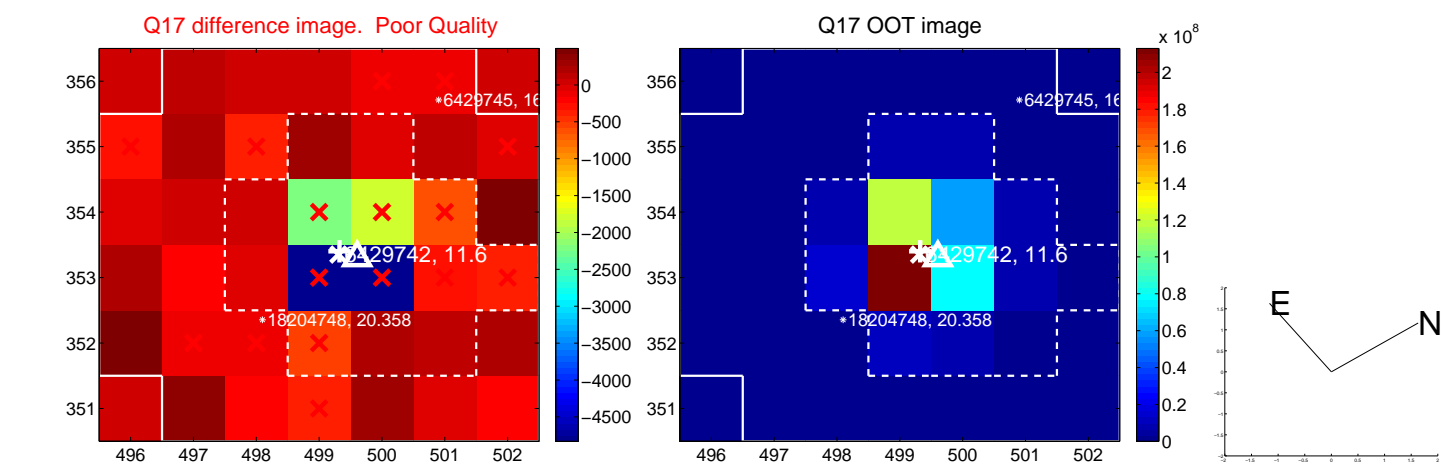
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



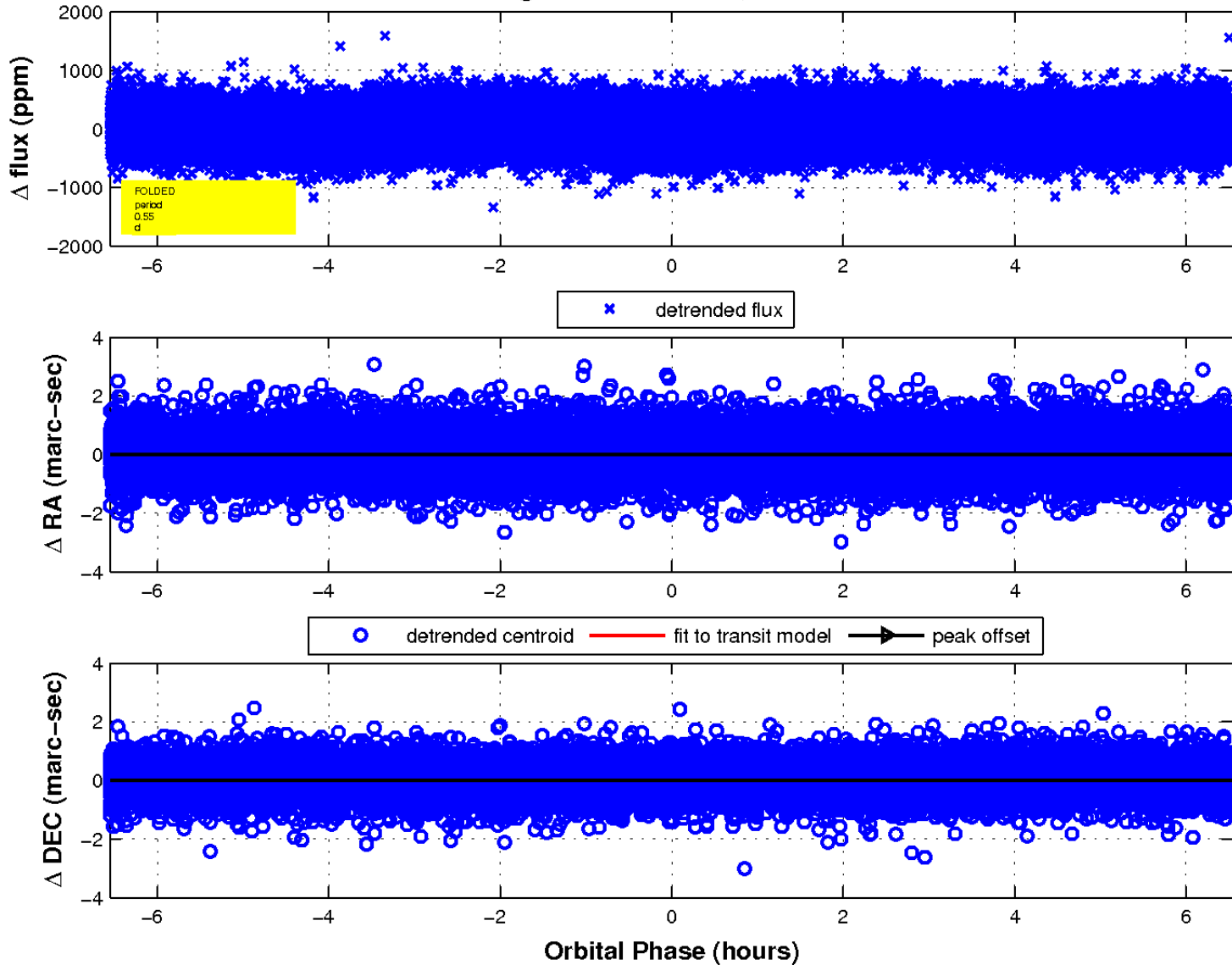
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

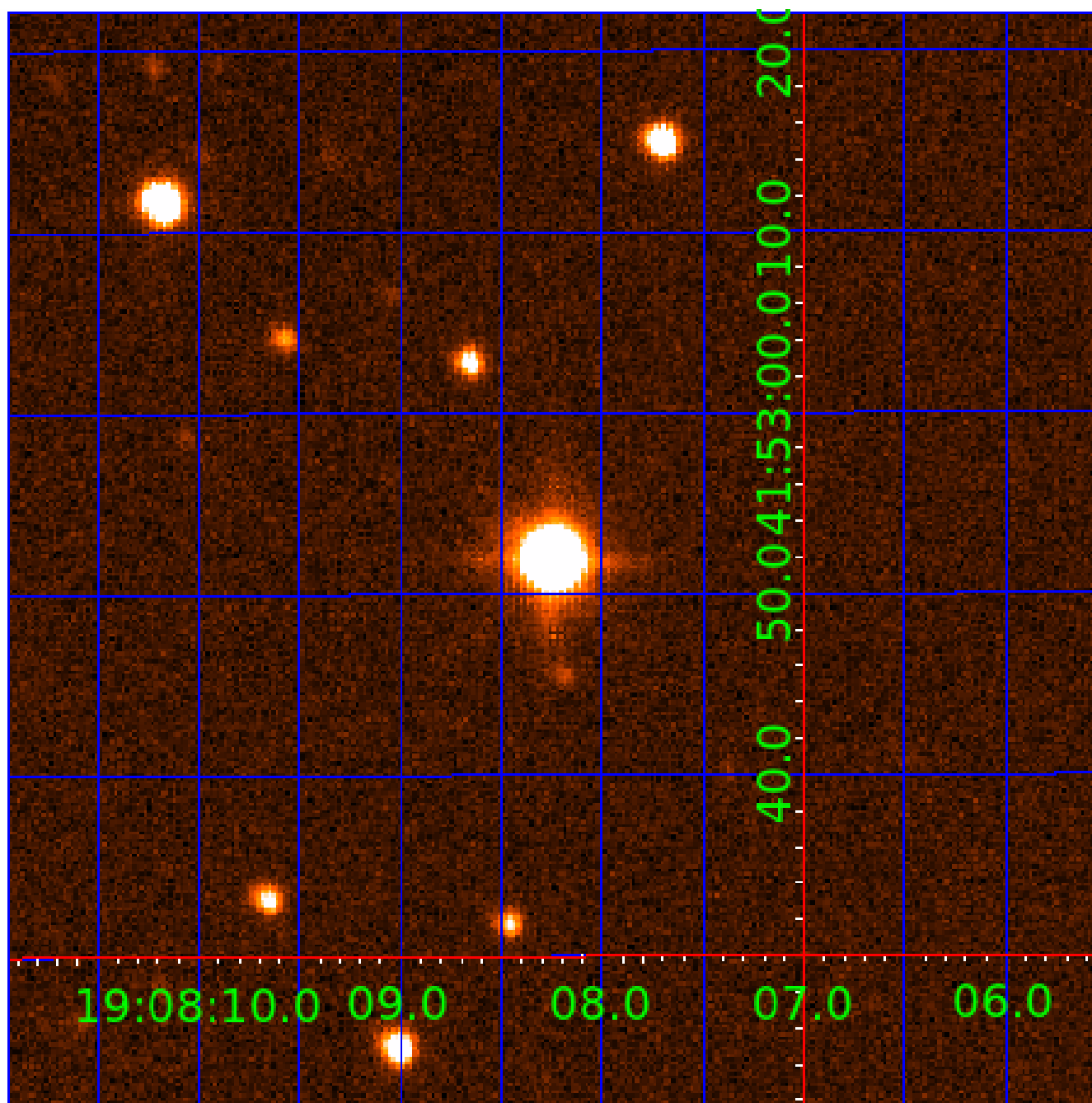


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 006429742

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})
006429742-01	OBS	No	0.961182	132.326425	40.6	1.972	11.6	8.7	1.93	7705	1.42	22533.68
006429742-02	OBS	No	0.545924	131.858604	50.8	2.231	13.6	13.7	1.93	7705	1.59	47906.68
006429742-03	OBS	No	0.545914	132.033375	41.4	2.757	12.0	10.6	1.93	7705	1.33	47907.92
006429742-04	OBS	No	0.948890	132.134764	138.7	1.270	11.2	10.5	1.93	7705	2.64	22923.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006429742-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006429742-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006429742-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
006429742-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

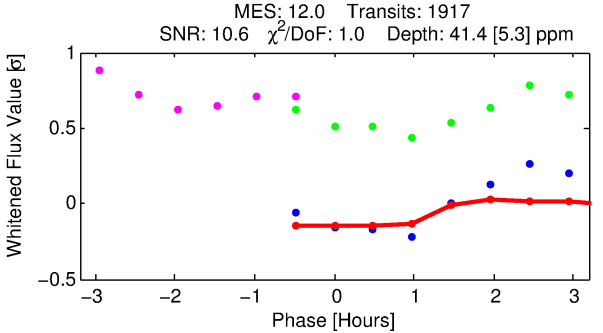
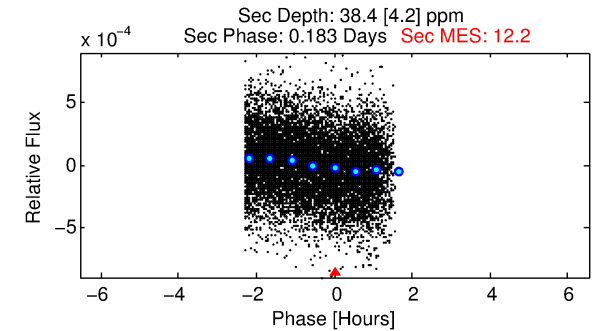
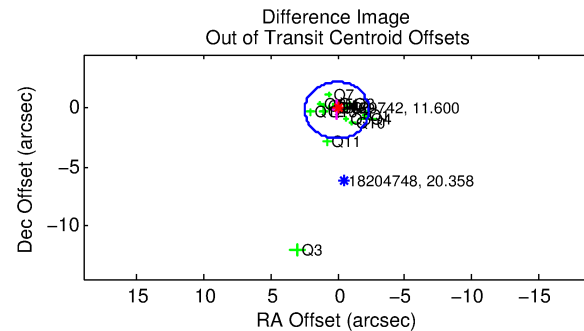
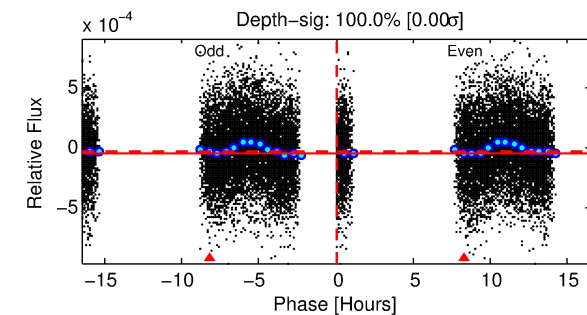
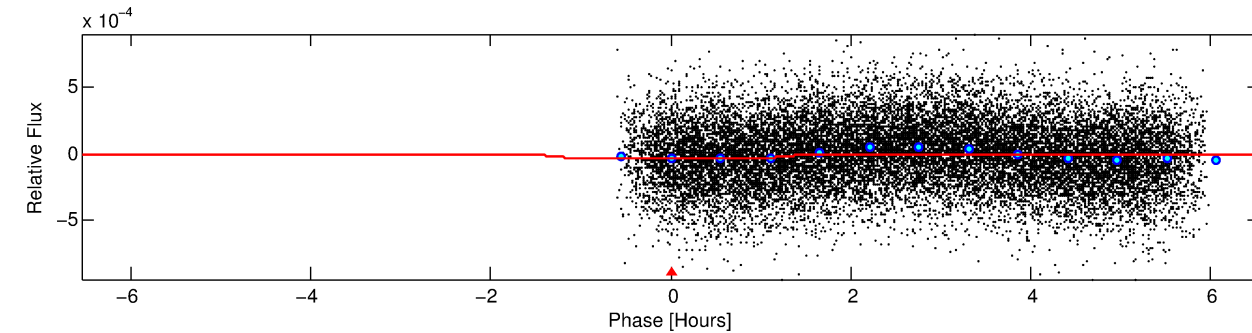
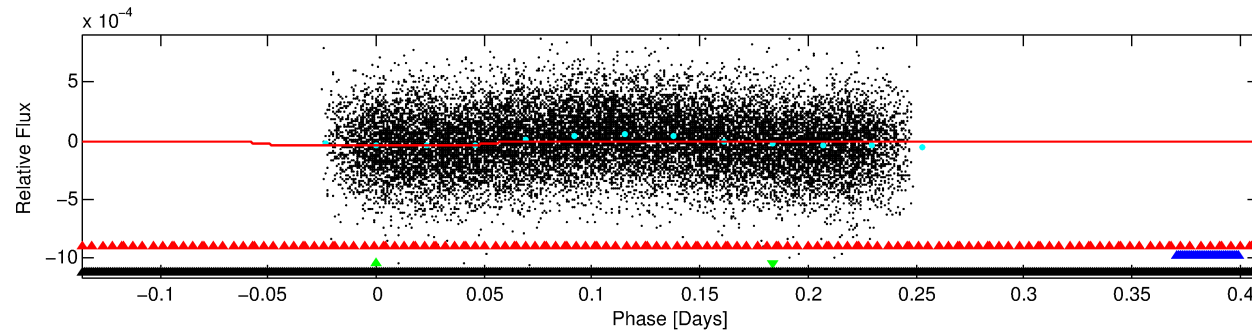
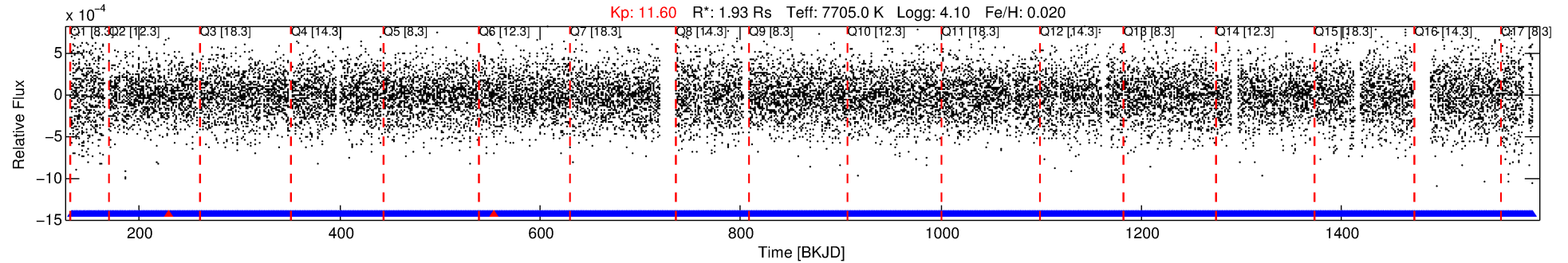
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006429742-03

No Significant Match Found

DV One-Page Summary

KIC: 6429742 Candidate: 3 of 4 Period: 0.546 d



DV Fit Results:

Period = 0.54591 [0.00001] d
Epoch = 132.0334 [0.0070] BKJD
Rp/R* = 0.0063 [0.0022]
a/R* = 1.37 [1.39]
b = 0.70 [1.59]
Seff = 47907.92 [17072.85]
Teq = 3772 [336] K
Rp = 1.33 [0.59] Re
a = 0.0156 [0.0035] AU
Ag = 2.93 [2.26] [0.85 σ]
Teffp = 7629 [1380] K [2.71 σ]

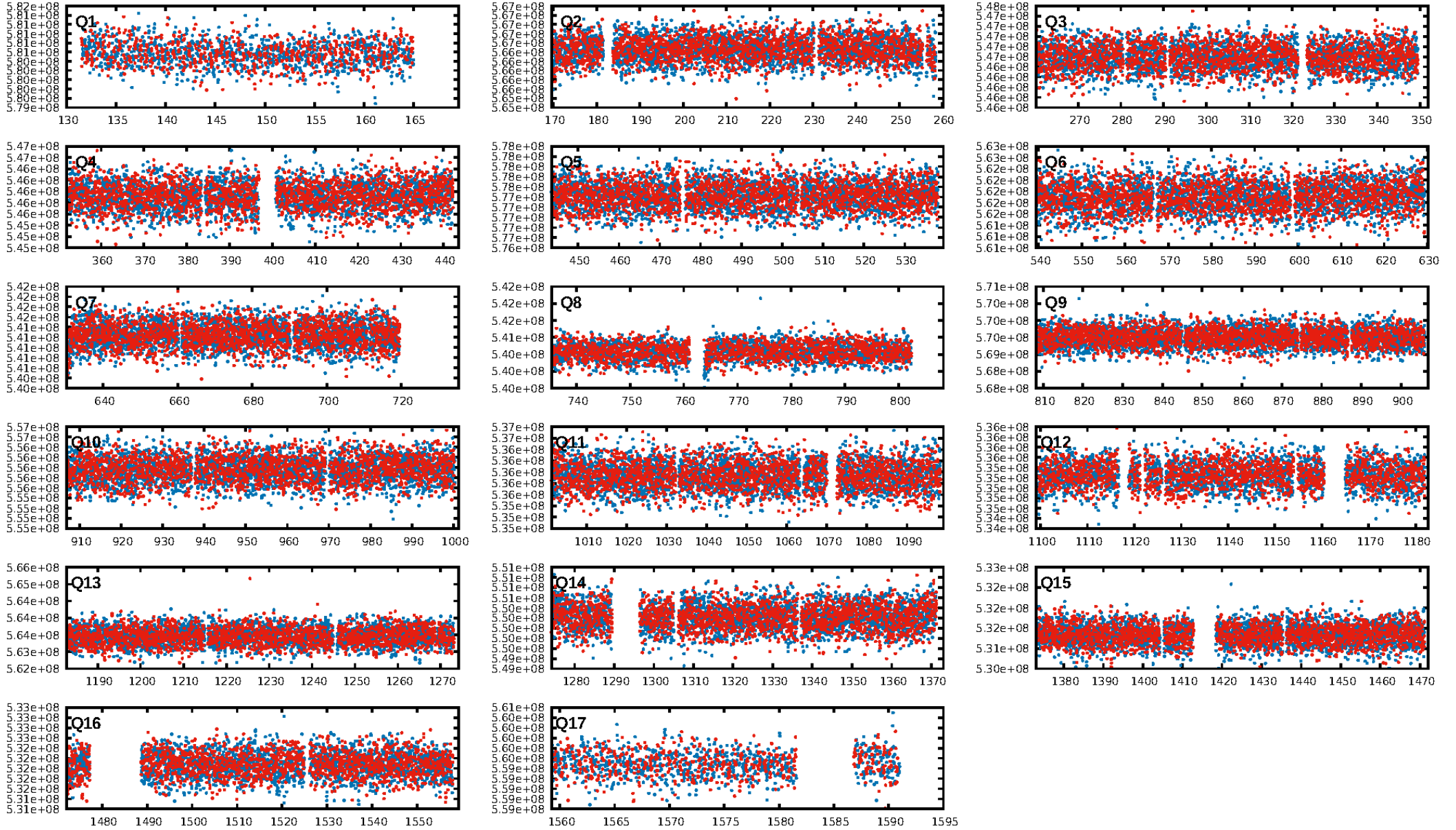
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1828/1830]
GhostDiagnostic-chr: -1.745
Centroid-sig: 43.4%
Centroid-so: 0.108 arcsec [0.68 σ]
OotOffset-rm: 0.244 arcsec [0.31 σ]
KicOffset-rm: 0.206 arcsec [0.30 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

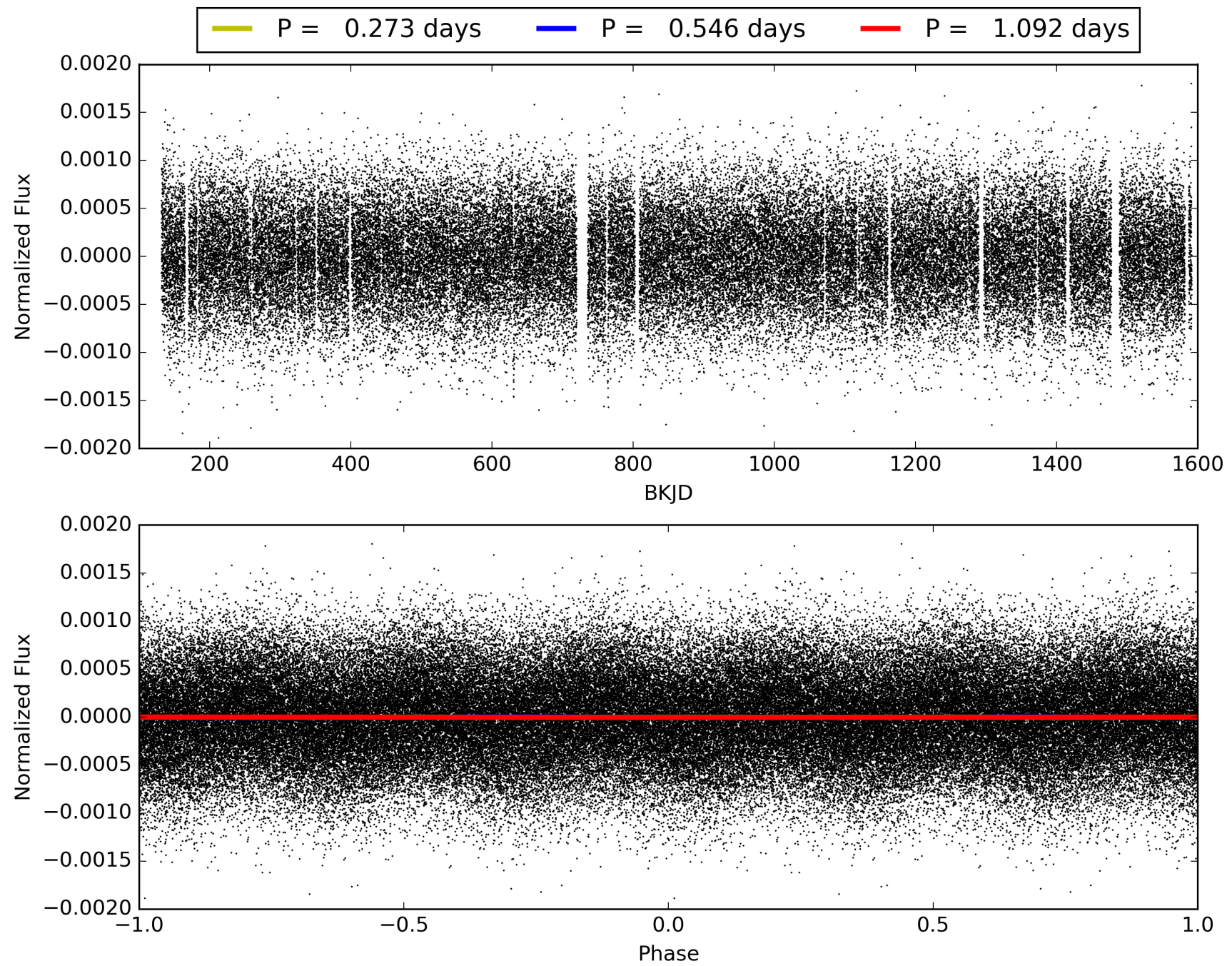
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:56:04 Z

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

TCE 006429742-03, PDC Light Curves

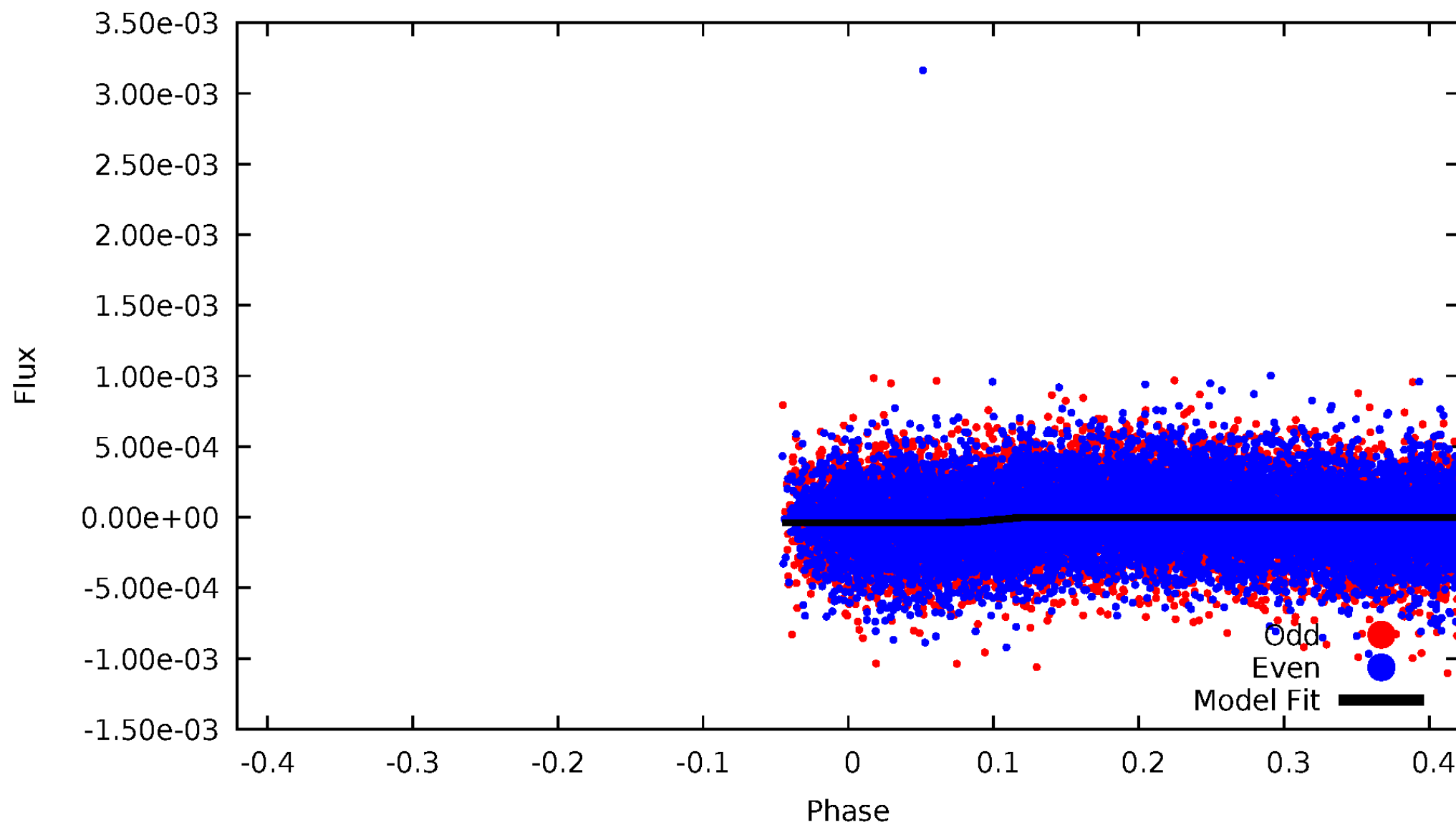


TCE 006429742-03



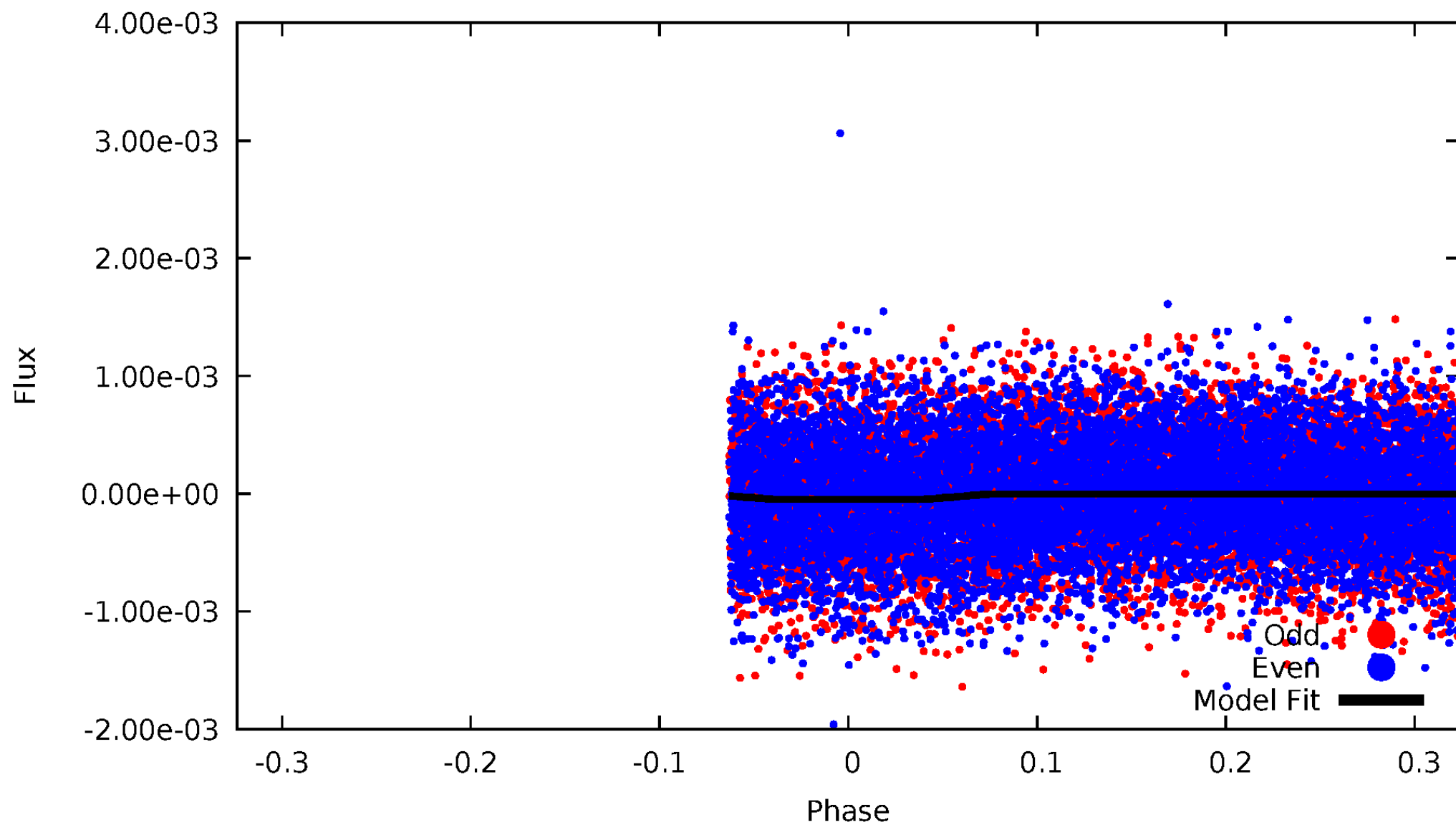
DV Odd/Even

TCE 006429742-03



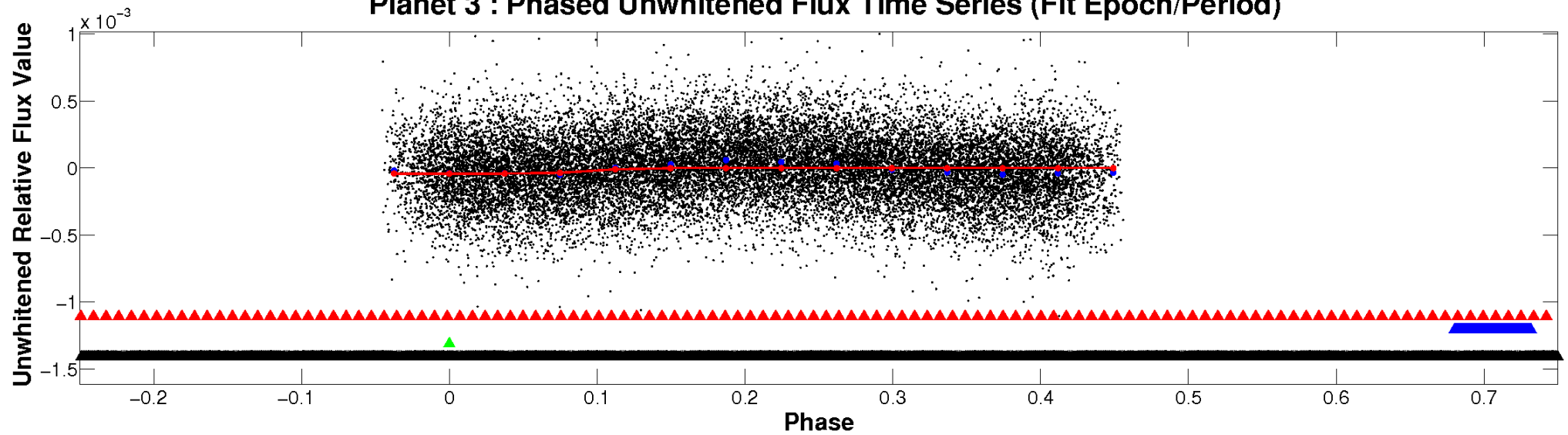
ALT Odd/Even

TCE 006429742-03

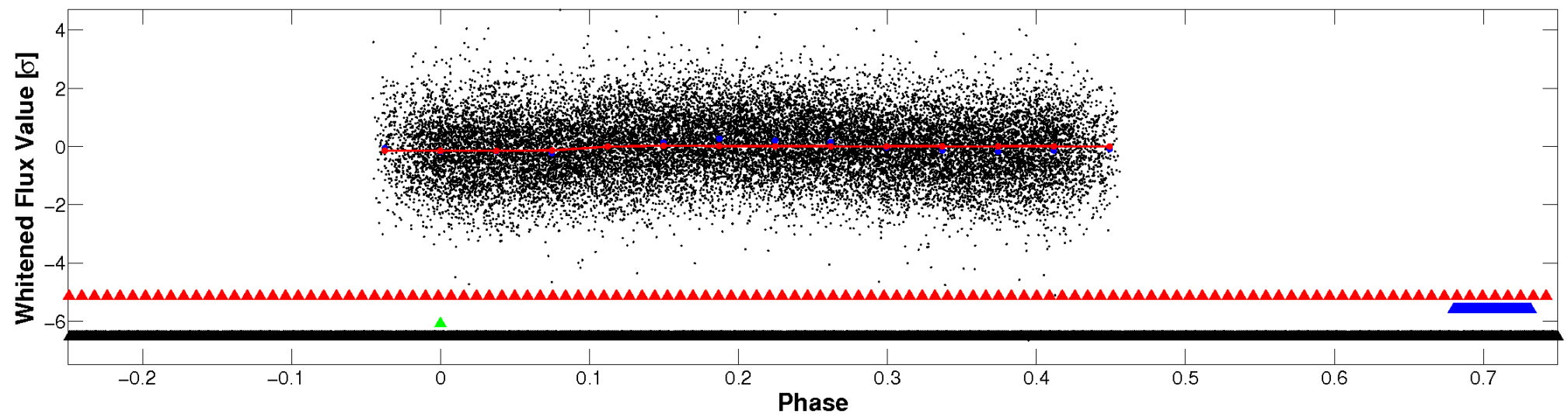


Non-Whitened Vs. Whitened Light Curve

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

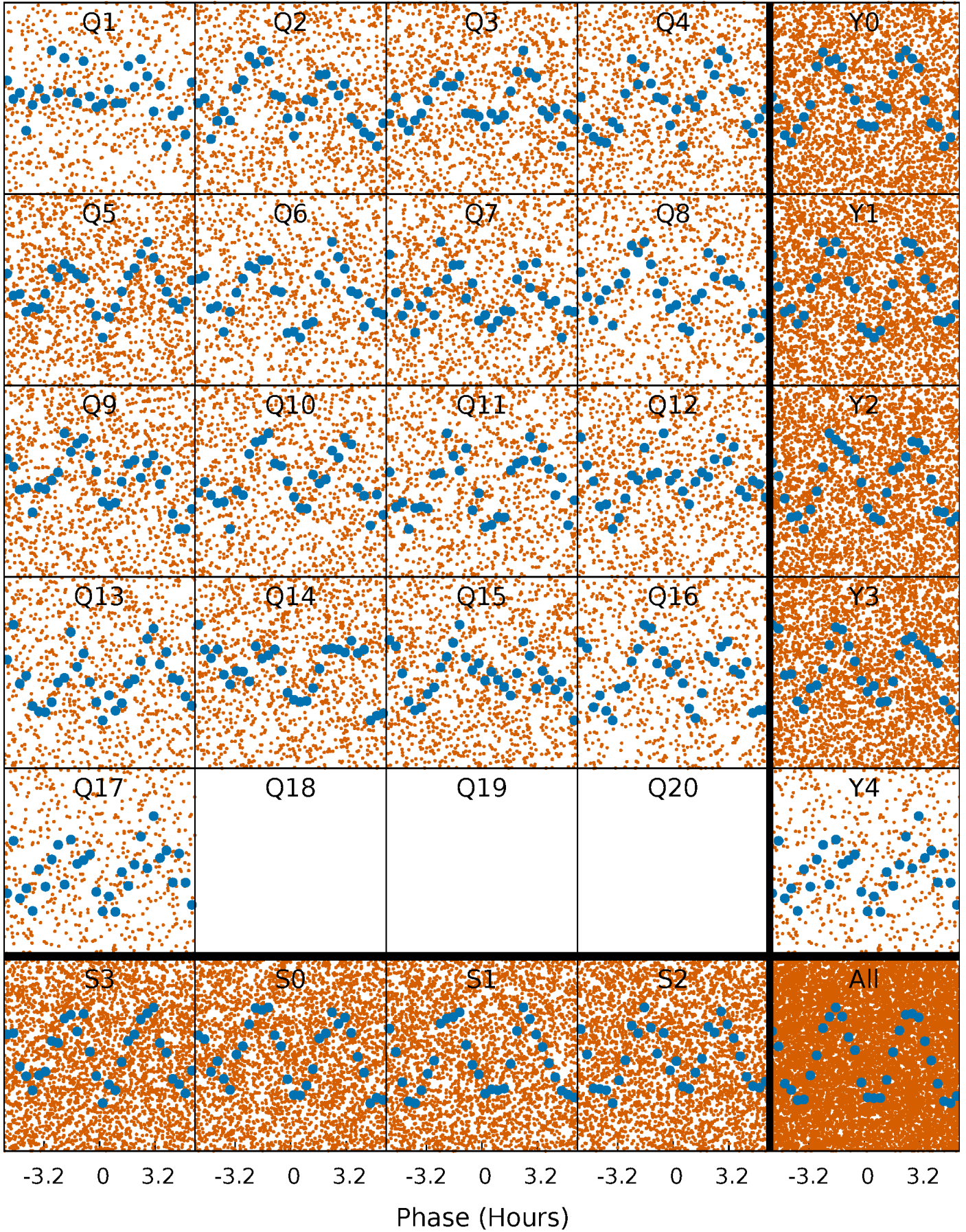


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



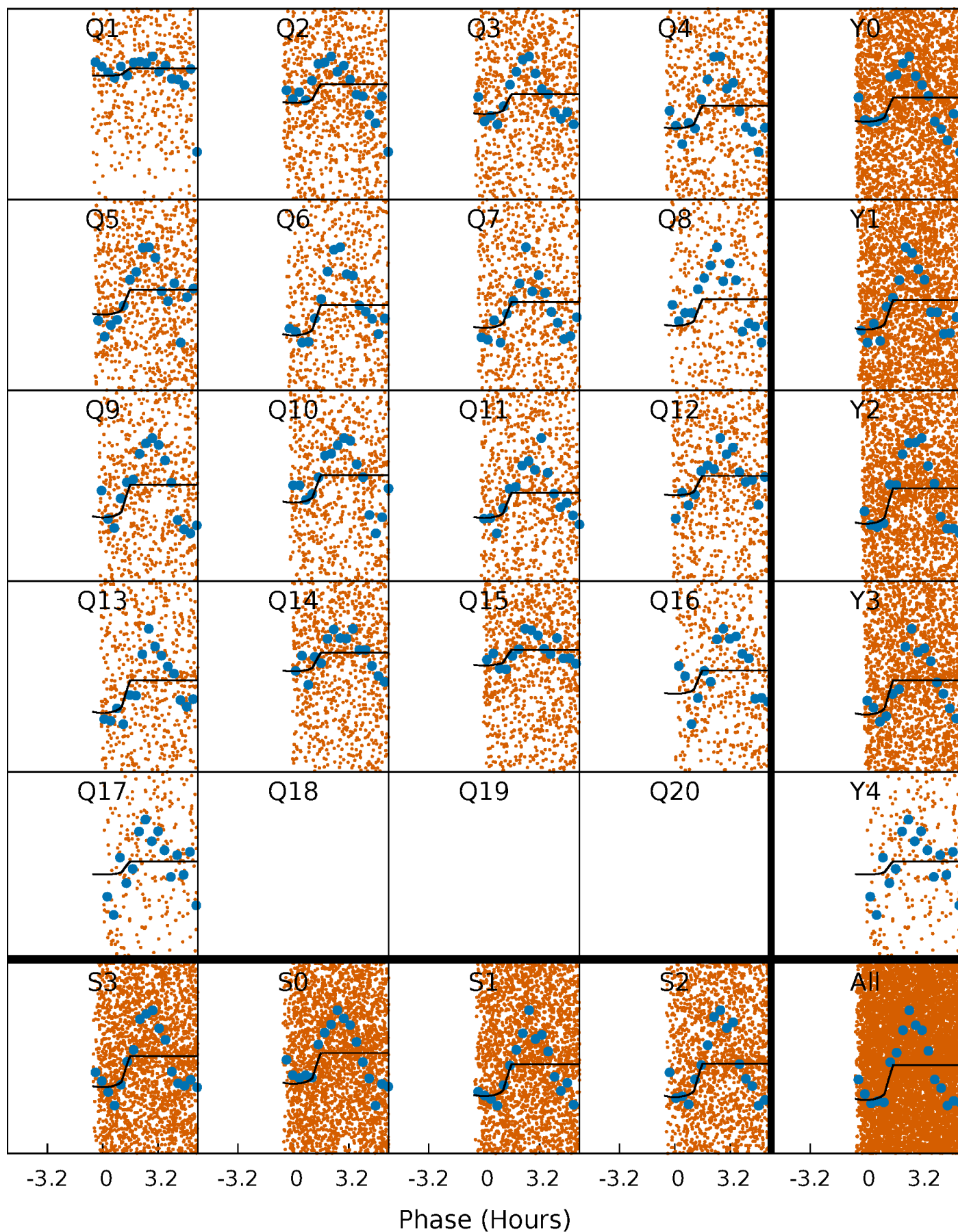
PDC Quarter-Phased Transit Curves

TCE 006429742-03 P= 0.545914 Days $T_0=132.033375$ (BKJD)



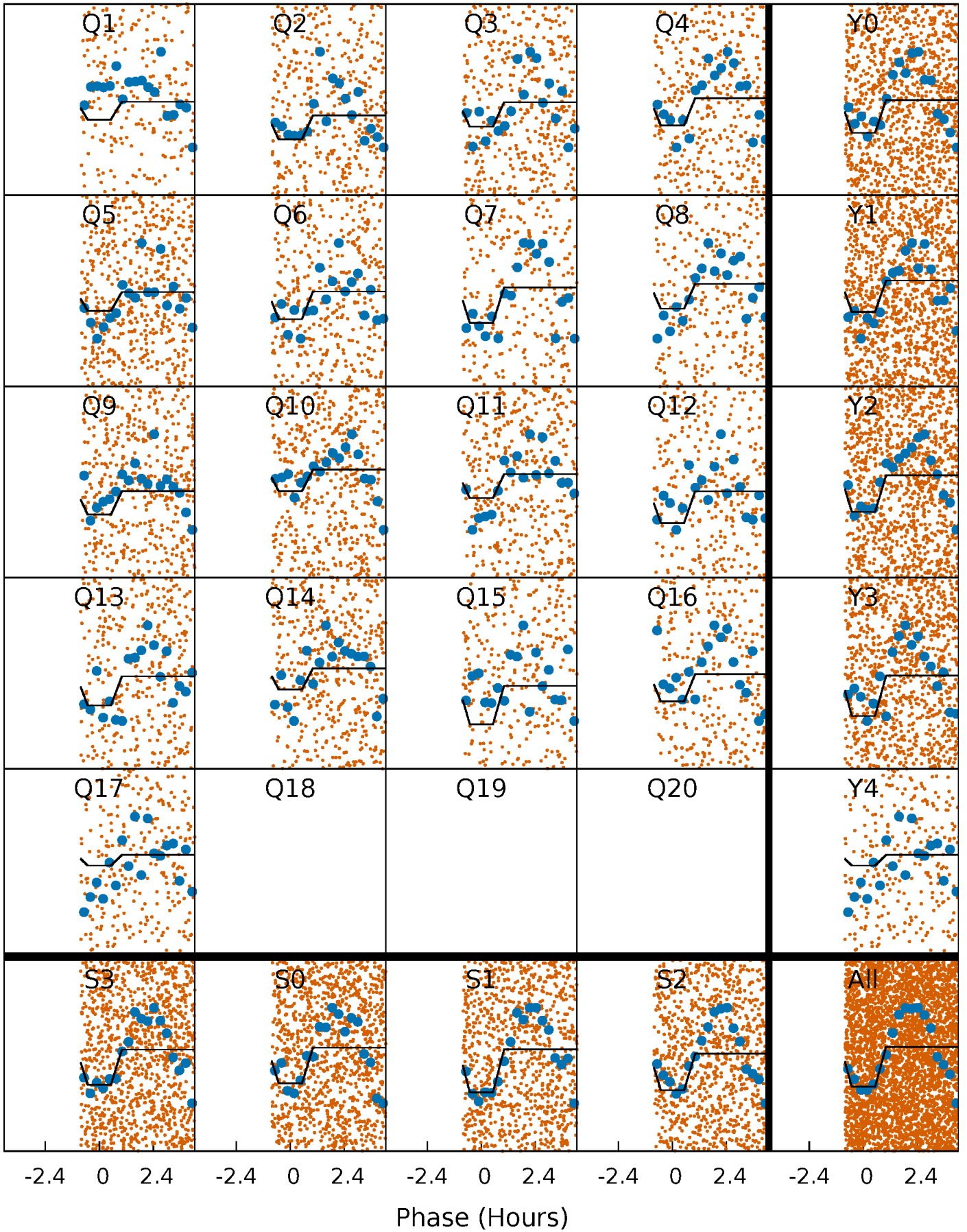
DV Quarter-Phased Transit Curves

TCE 006429742-03 $P = 0.545914$ Days $T_0 = 132.033375$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

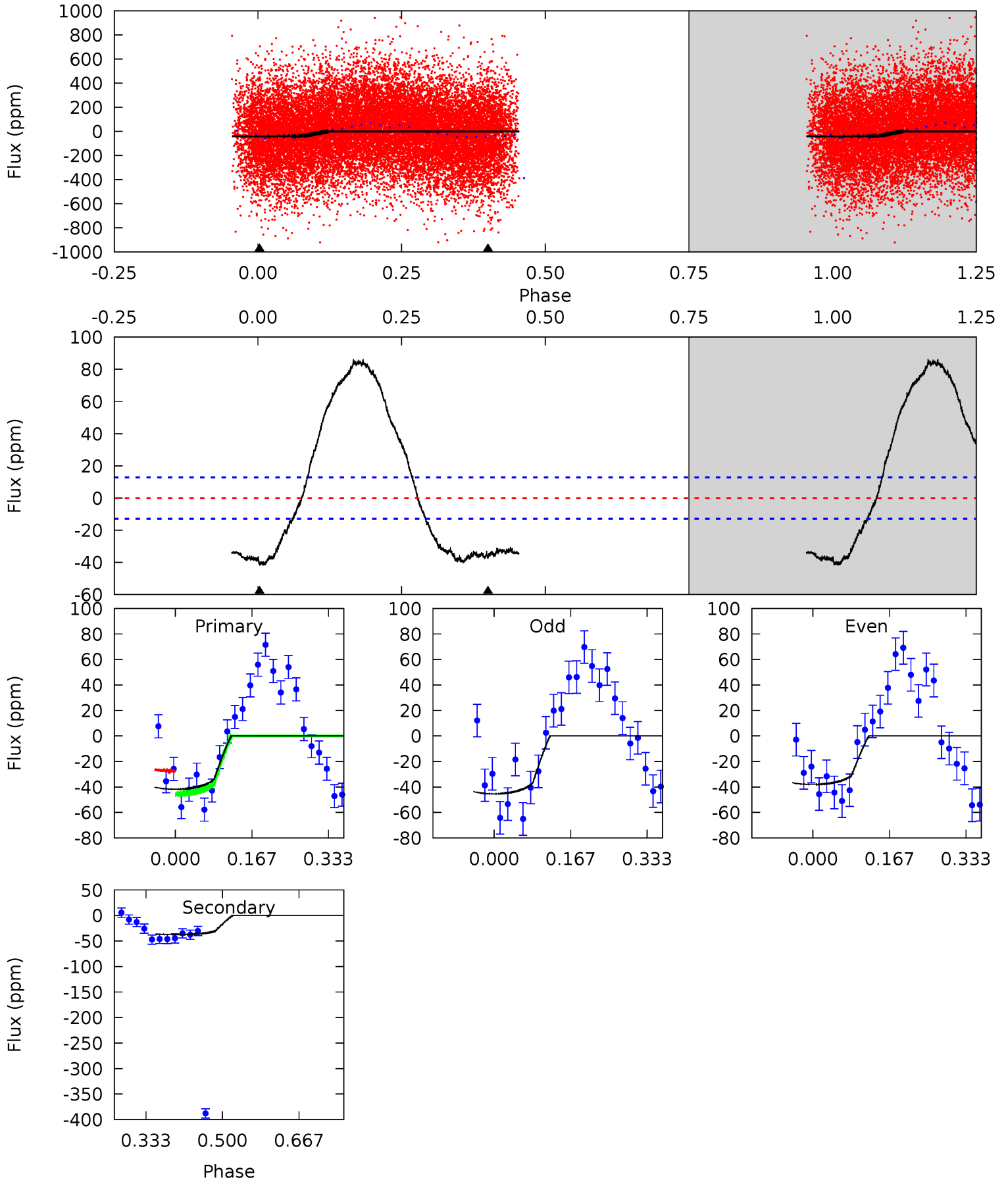
TCE 006429742-03 $P = 0.545925$ Days $T_0 = 132.041718$ (BKJD)



DV Model-Shift Uniqueness Test

006429742-03, P = 0.545914 Days, E = 131.487461 Days

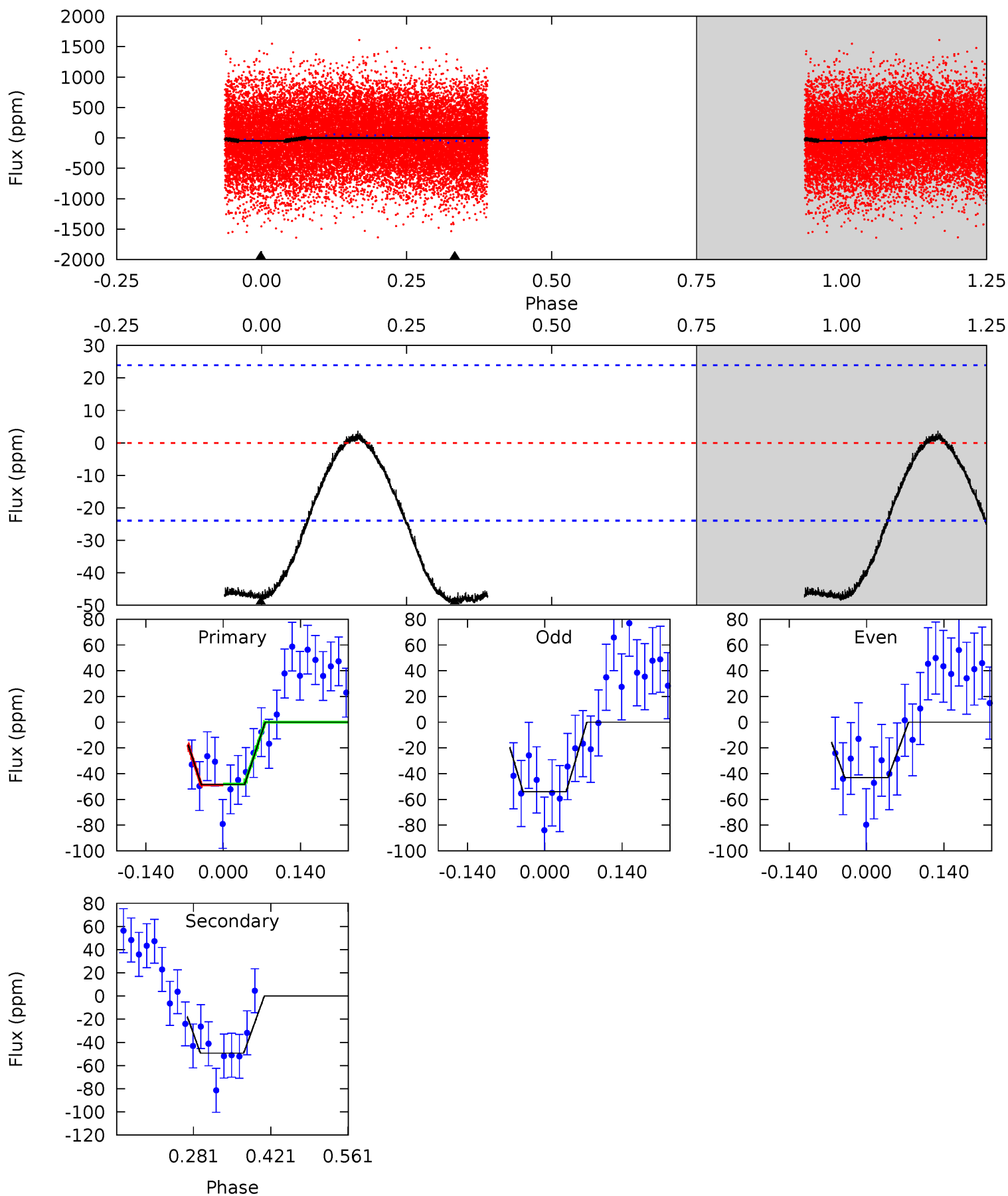
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	13.0	0	0	4.46	1.38	6.80	14.5	14.5	13.0	13.0	1.26	0.99	0.67	2.26



Alt Model-Shift Uniqueness Test

006429742-03, P = 0.545925 Days, E = 131.495793 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.09	9.26	0	0	4.49	1.47	0.48	9.09	9.09	9.26	9.26	1.00	1.07	0.07	0.07



Stellar Parameters For KIC 006429742

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7705^{+214}_{-322}	$4.102^{+0.135}_{-0.165}$	$0.020^{+0.150}_{-0.350}$	$1.927^{+0.540}_{-0.405}$	$1.713^{+0.204}_{-0.271}$	$0.337^{+0.230}_{-0.159}$
	+3%/-4%	+3%/-4%	+750%/-1750%	+28%/-21%	+12%/-16%	+68%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006429742-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-38 ± 3	$1.31^{+0.51}_{-0.44}$	5264^{+396}_{-324}	7348^{+2301}_{-1370}	$2.904^{+3.519}_{-1.428}$
Alt.	-49 ± 5	$1.50^{+0.52}_{-0.44}$	5285^{+369}_{-346}	7329^{+1995}_{-1150}	$2.905^{+2.966}_{-1.319}$

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

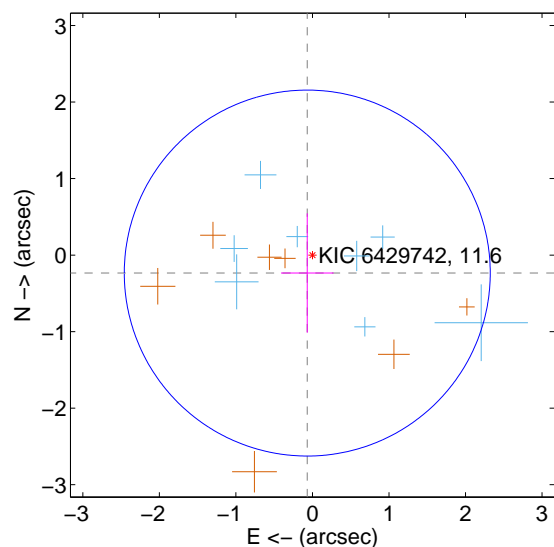
Supplemental centroid analysis for 006429742-03. **Kepler magnitude: 11.60.** Transit SNR 10.58

There are 8 quarters with good PRF difference image offsets

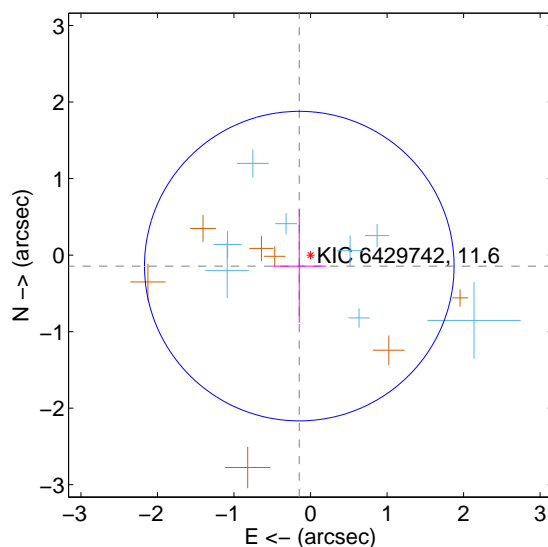
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.244 ± 0.797	0.31	0.068 ± 0.343	-0.235 ± 0.780
PRF-fit source offset from KIC position	0.206 ± 0.674	0.30	0.147 ± 0.351	-0.144 ± 0.742
photometric centroid source offset	0.11 ± 0.16	0.68	0.08 ± 0.16	0.07 ± 0.16

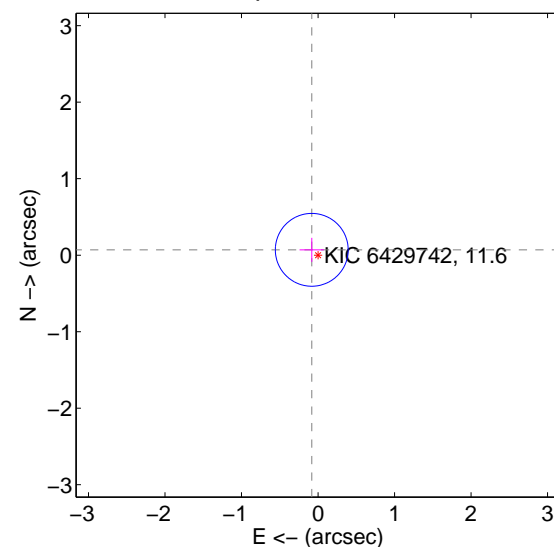
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

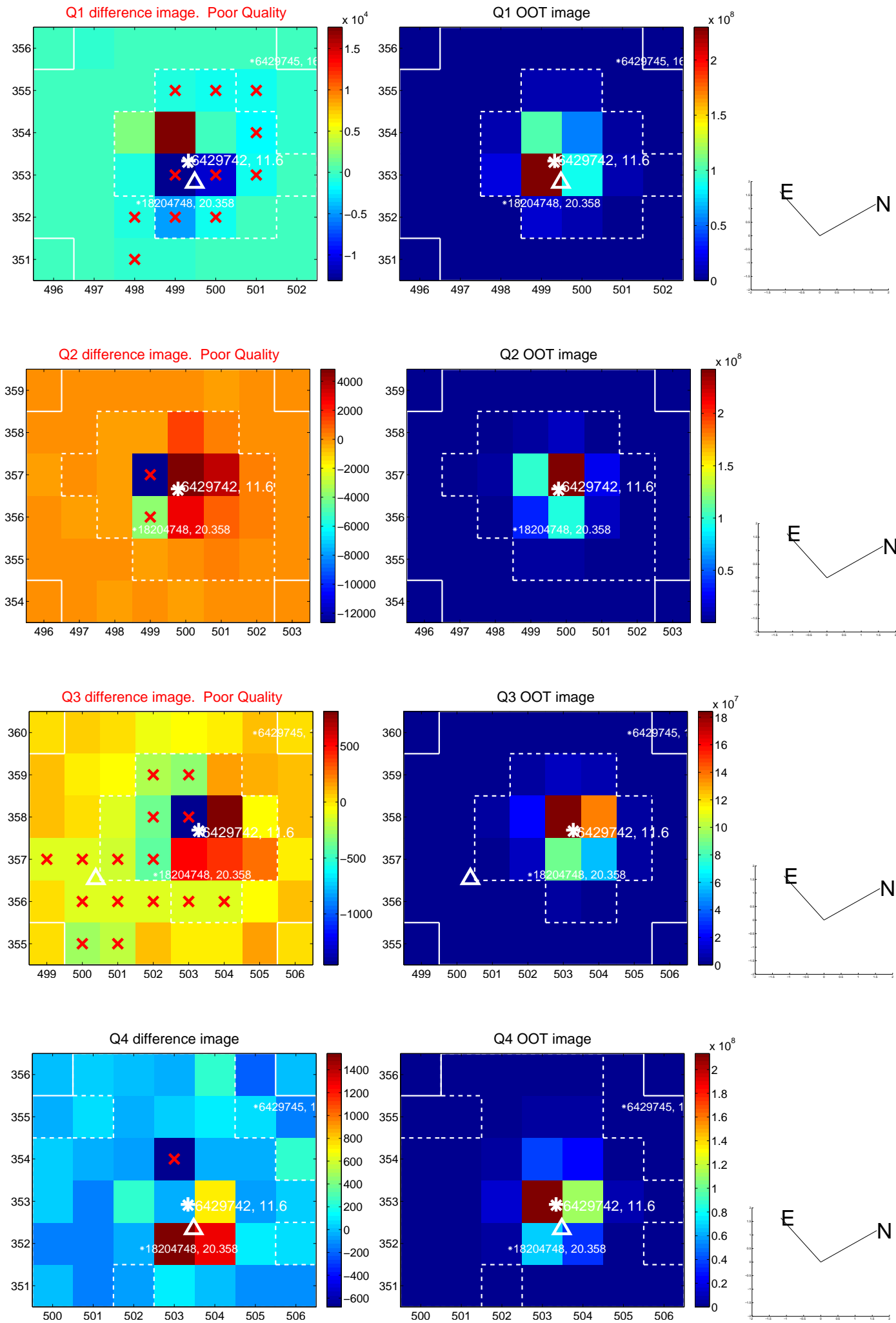


offset from photometric centroids

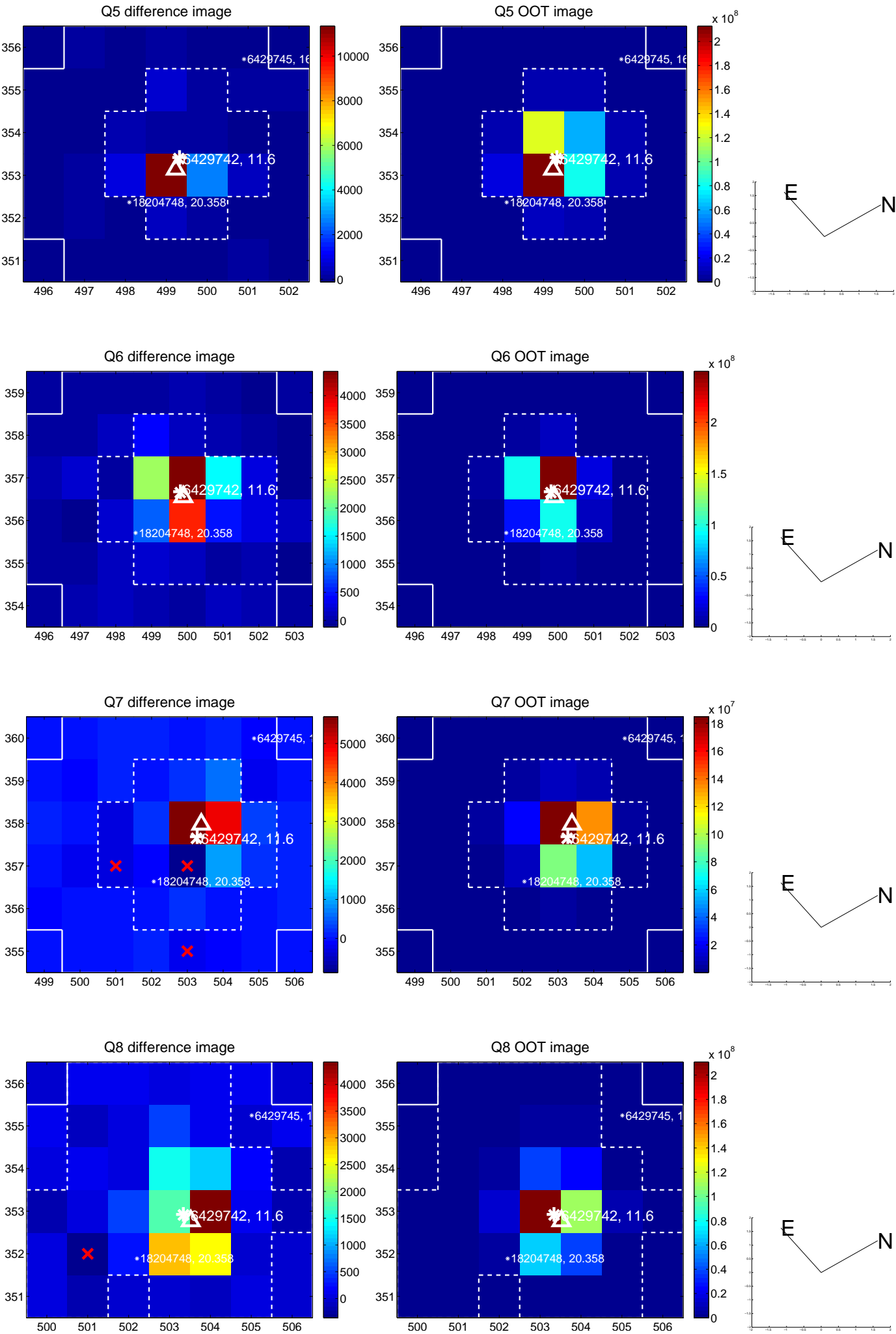


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

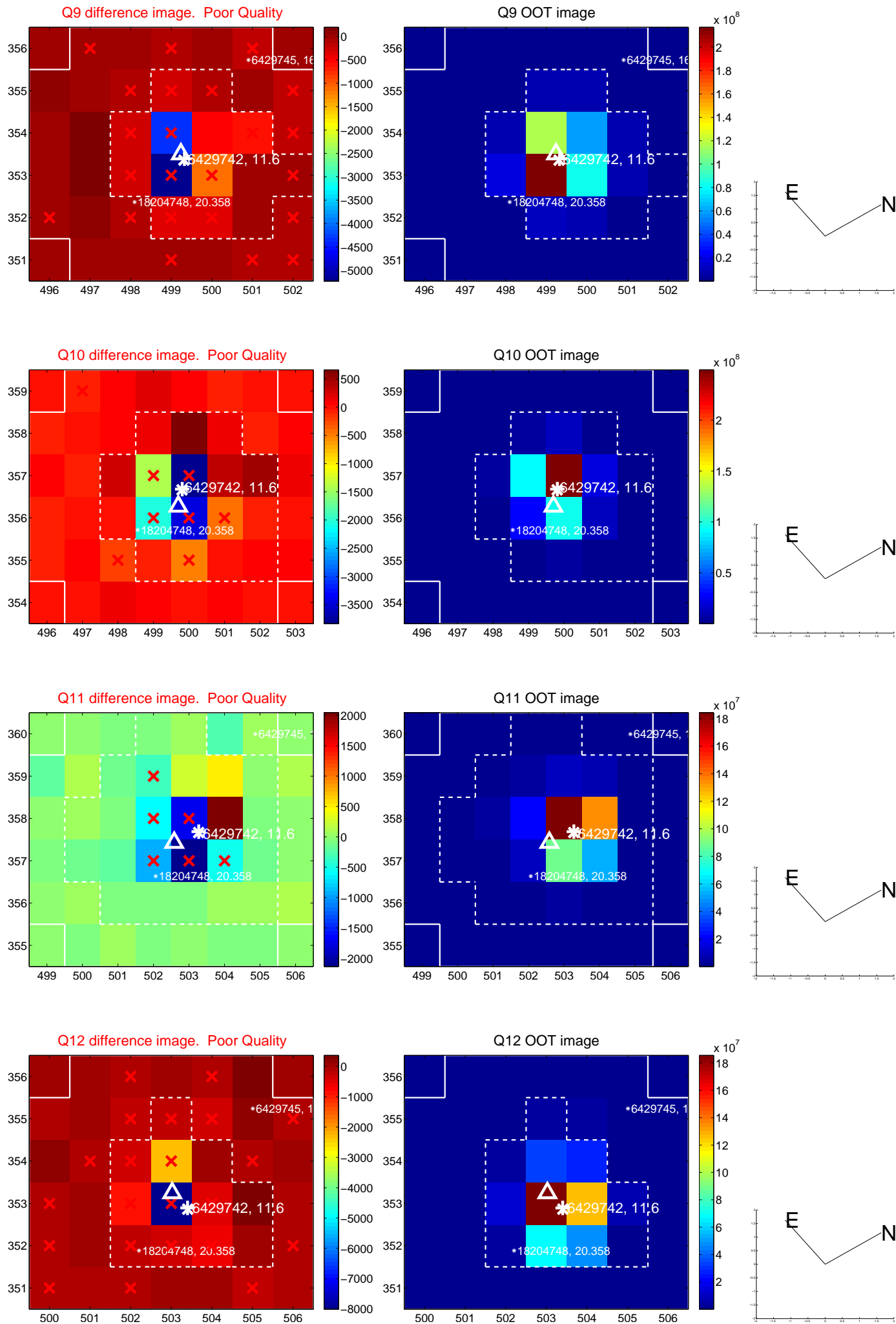
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



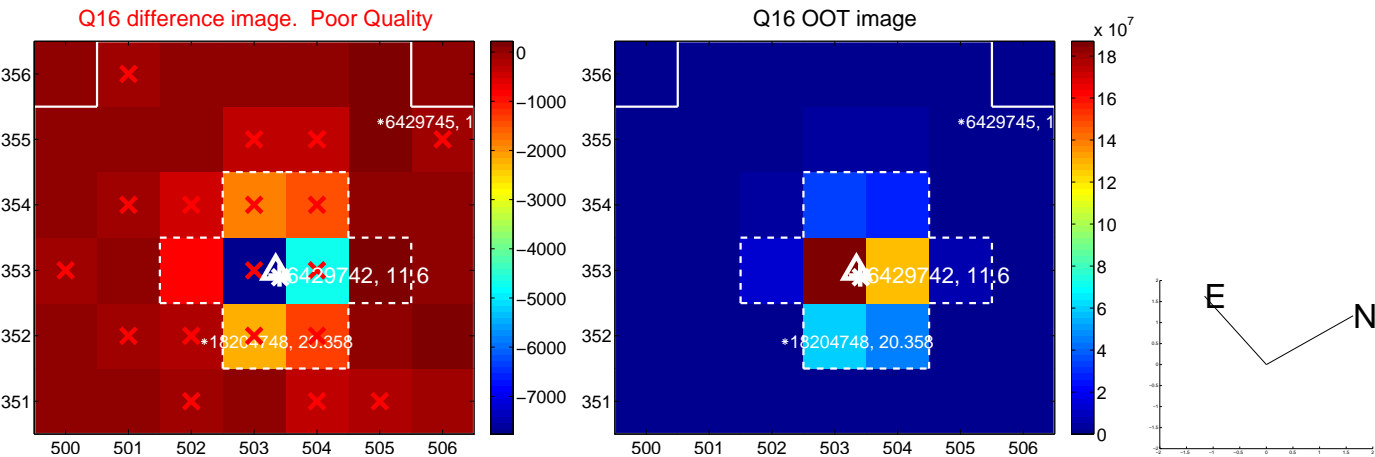
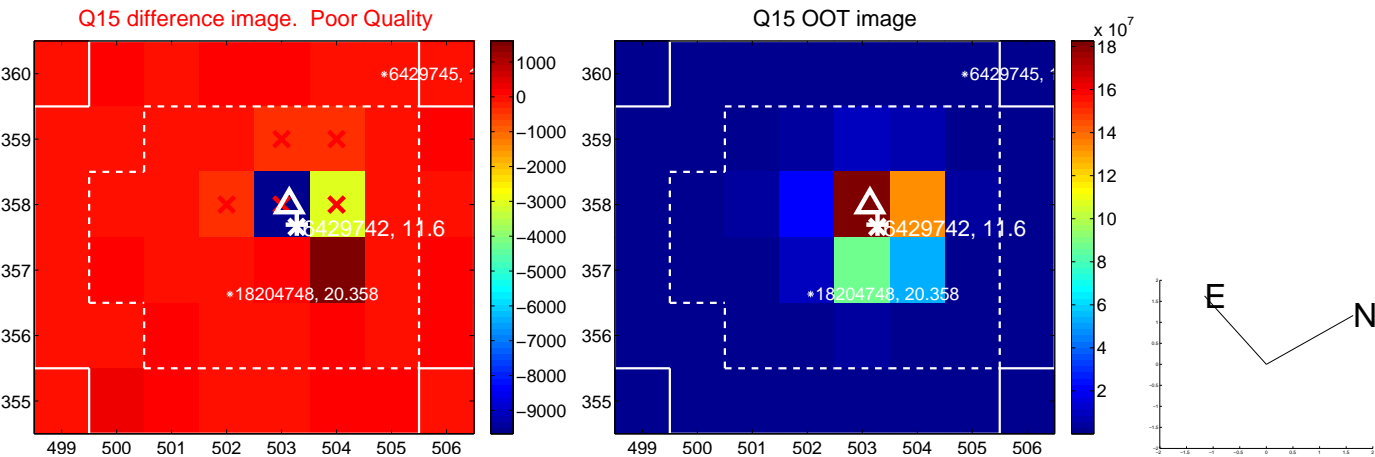
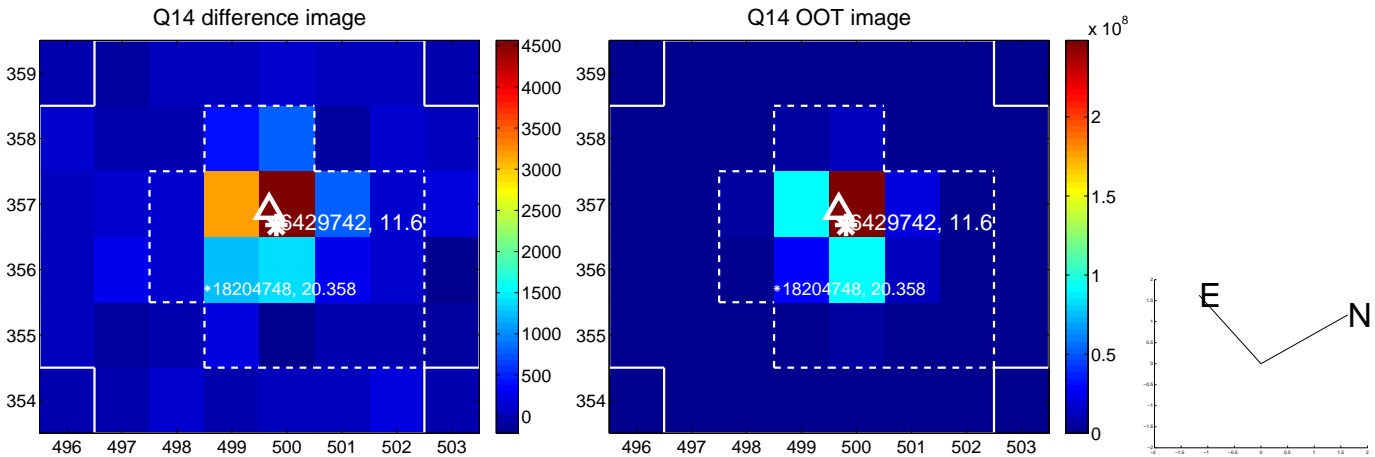
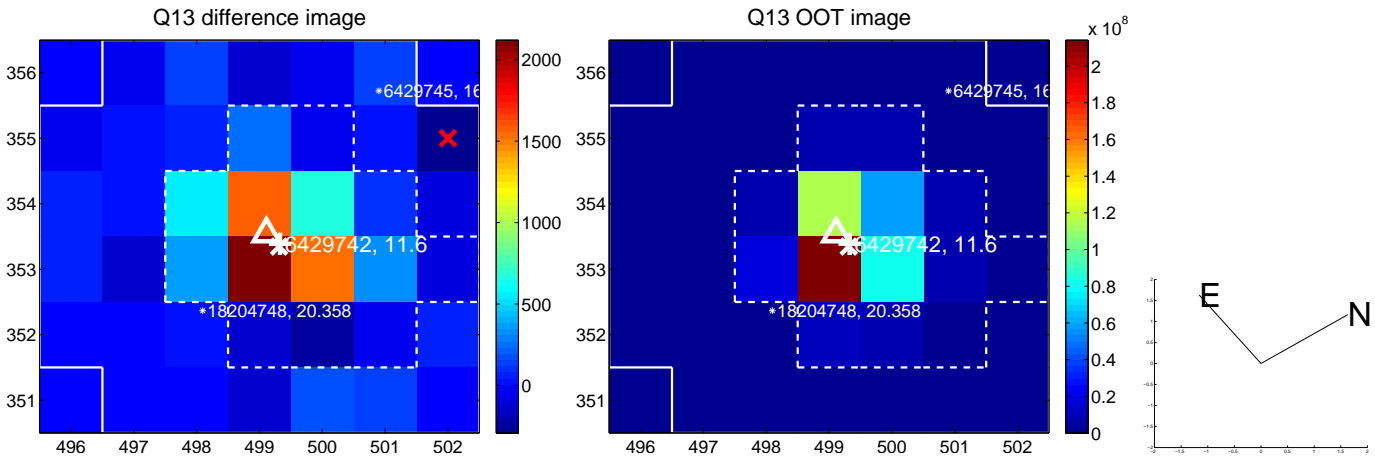
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



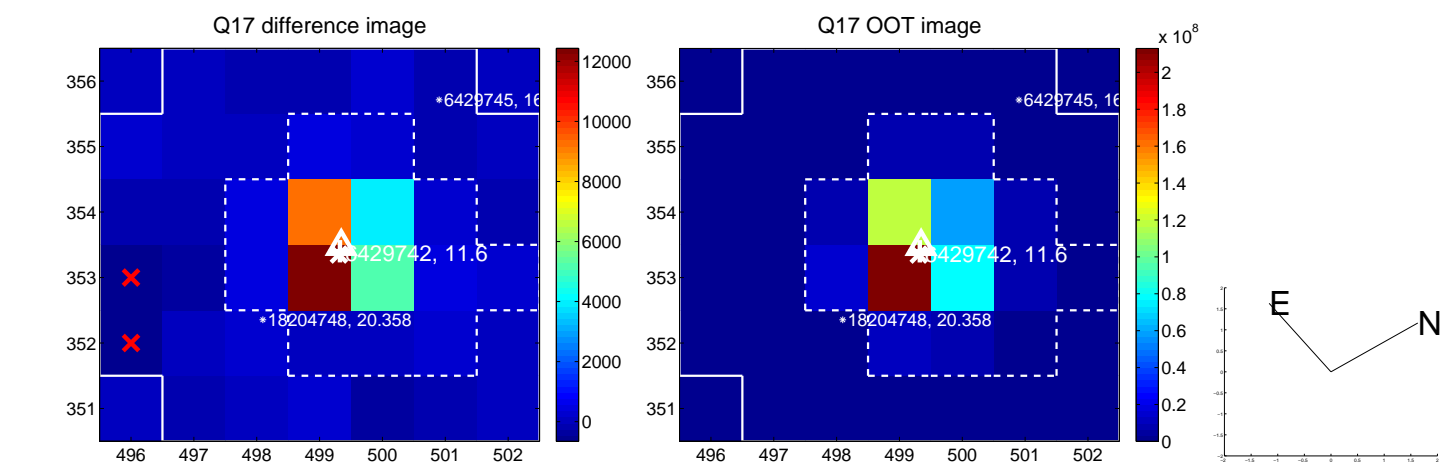
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



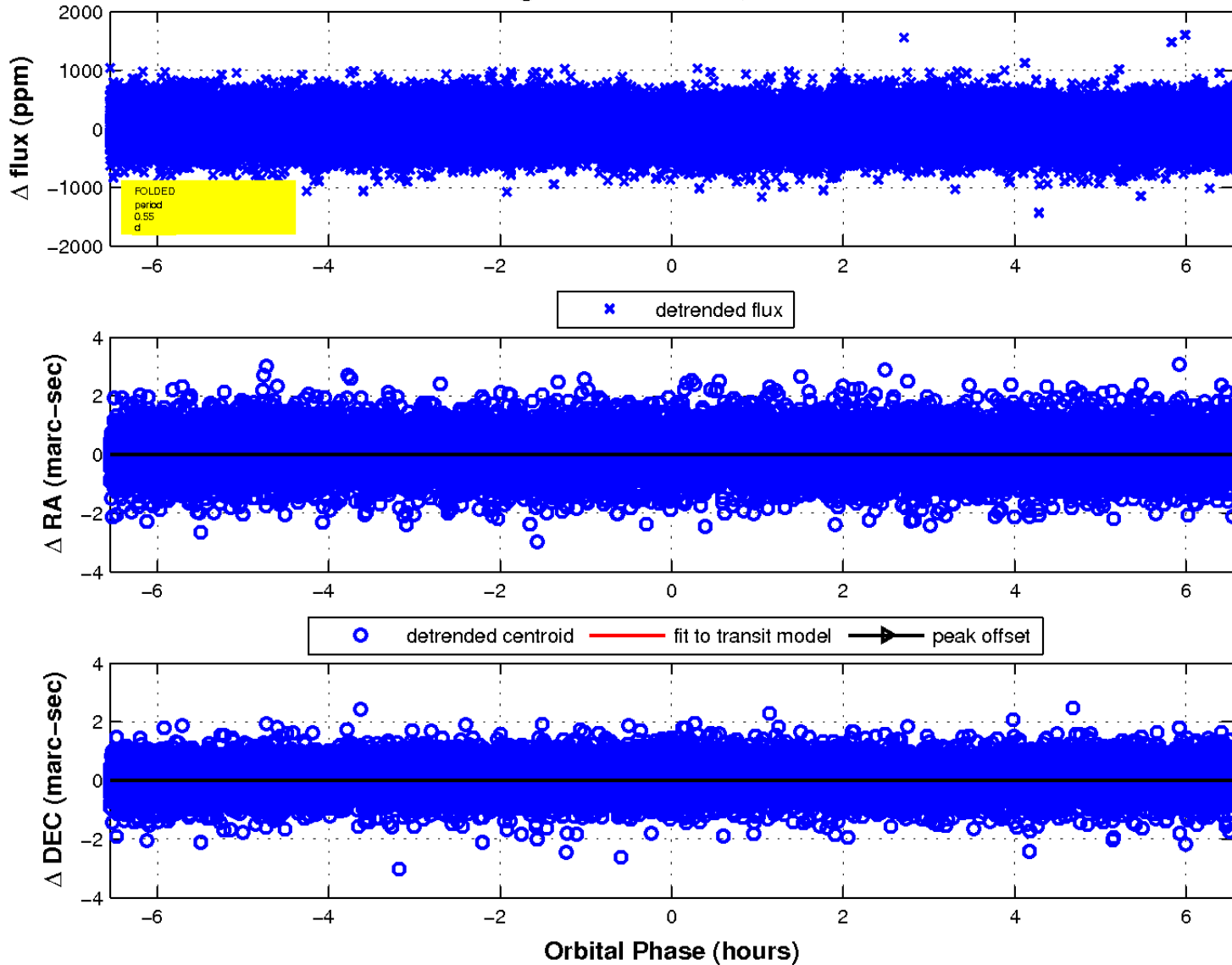
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

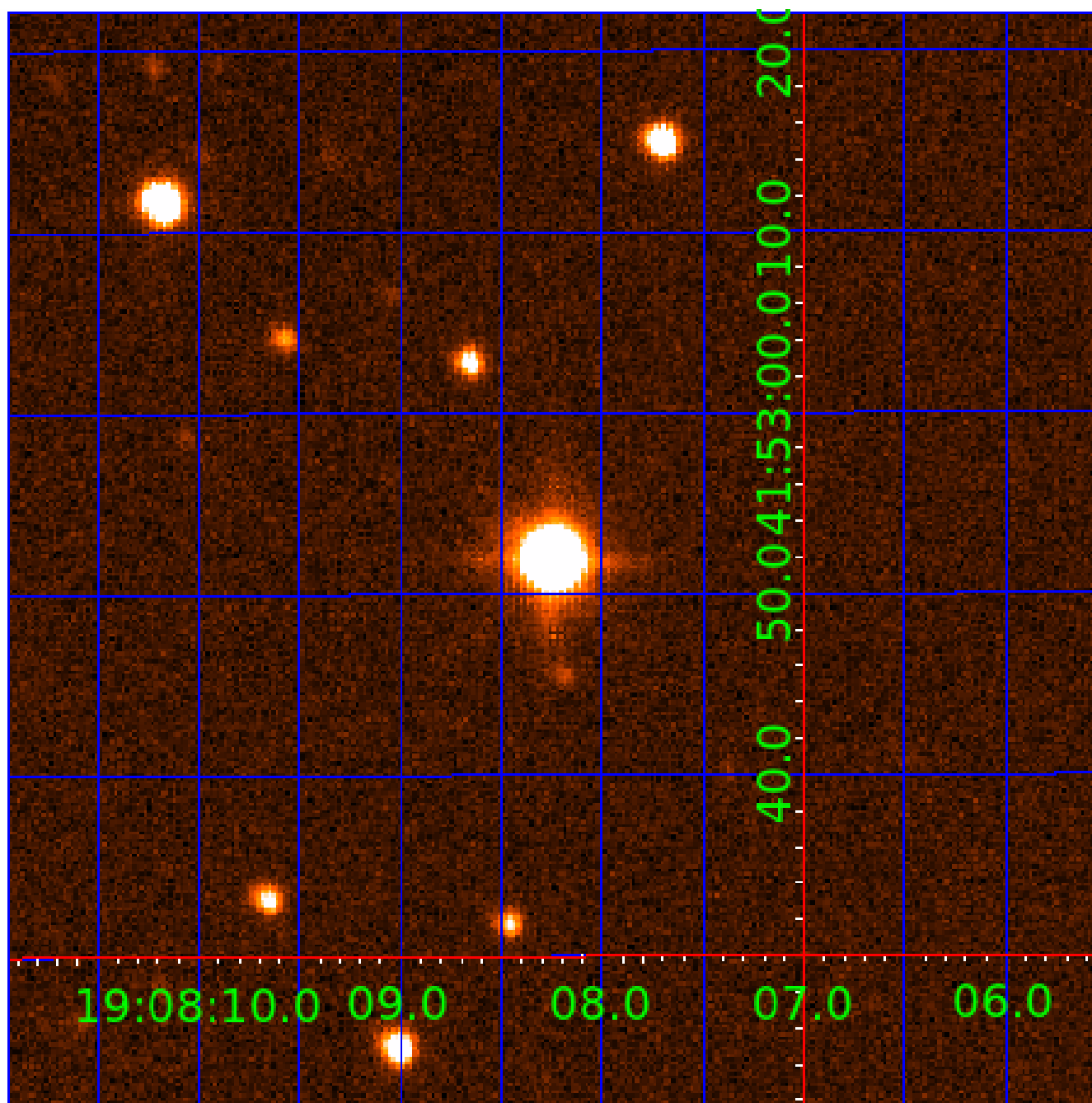


fluxWeightedCentroids, Planet 3 of 4



UKIRT Image

Declination



KIC 006429742

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})
006429742-01	OBS	No	0.961182	132.326425	40.6	1.972	11.6	8.7	1.93	7705	1.42	22533.68
006429742-02	OBS	No	0.545924	131.858604	50.8	2.231	13.6	13.7	1.93	7705	1.59	47906.68
006429742-03	OBS	No	0.545914	132.033375	41.4	2.757	12.0	10.6	1.93	7705	1.33	47907.92
006429742-04	OBS	No	0.948890	132.134764	138.7	1.270	11.2	10.5	1.93	7705	2.64	22923.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006429742-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006429742-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006429742-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
006429742-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

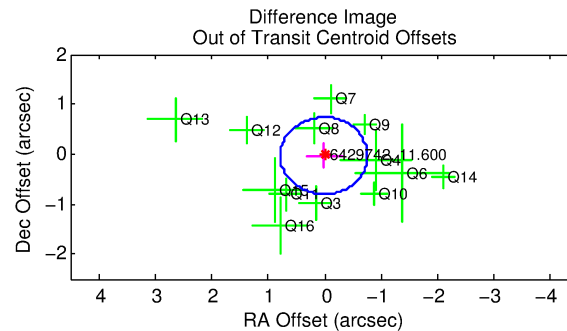
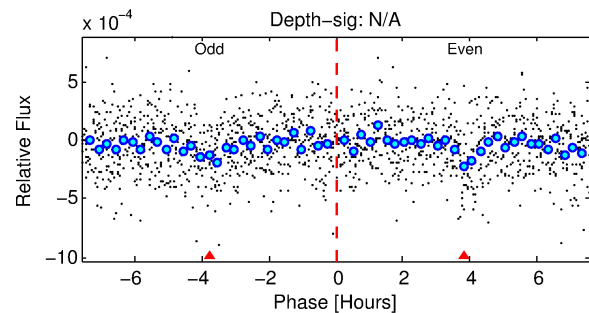
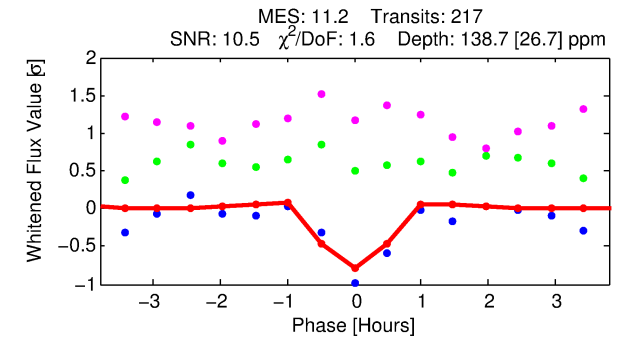
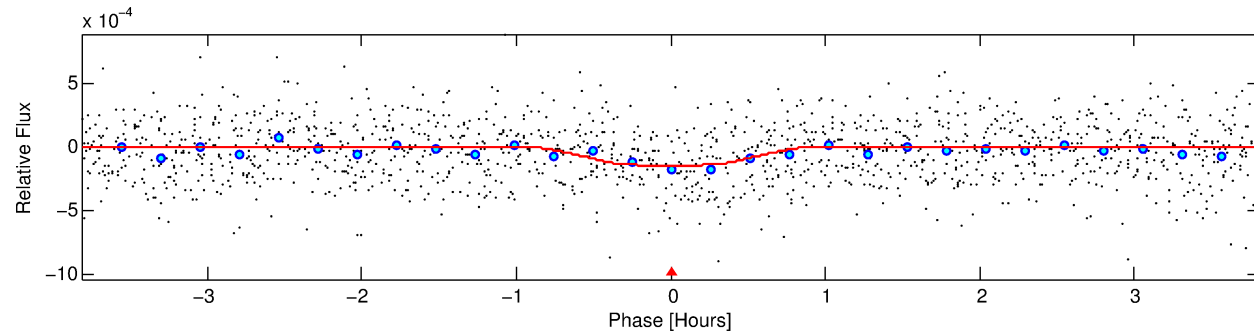
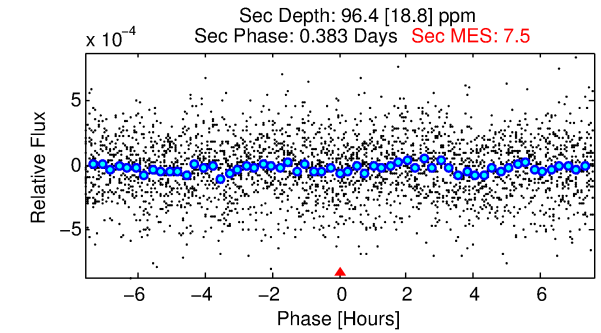
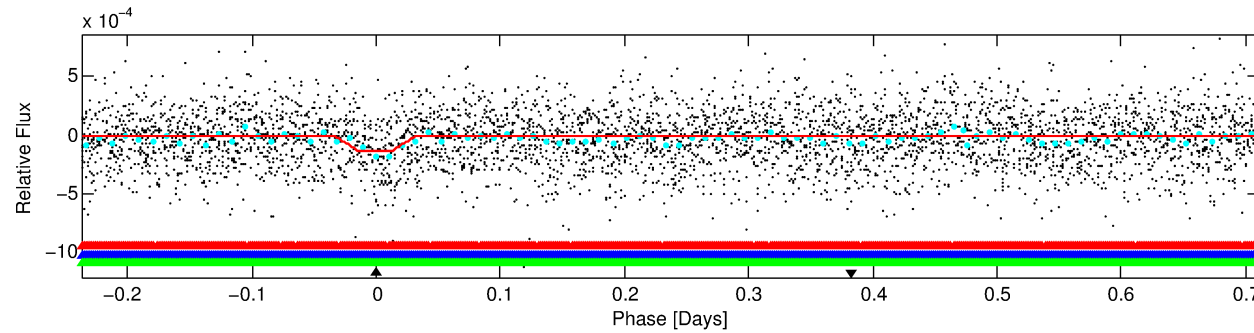
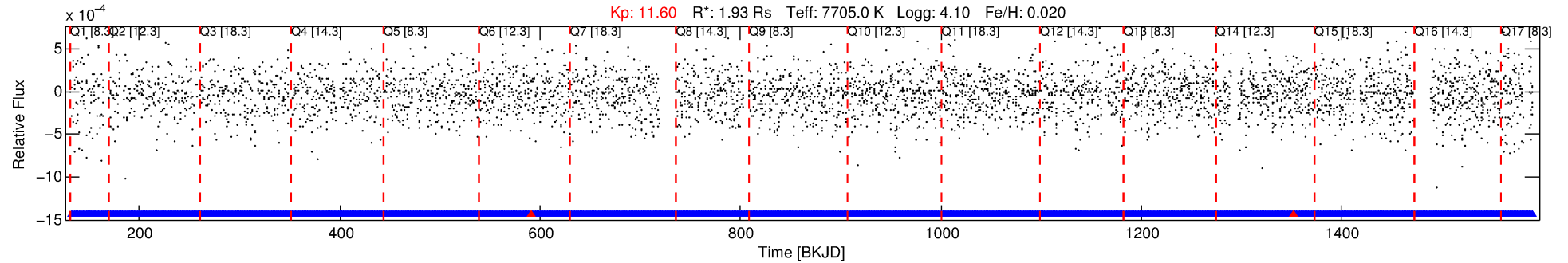
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006429742-04

No Significant Match Found

DV One-Page Summary

KIC: 6429742 Candidate: 4 of 4 Period: 0.949 d



DV Fit Results:

Period = 0.94889 [0.00001] d
Epoch = 132.1348 [0.0025] BKJD
Rp/R* = 0.0126 [0.0083]
a/R* = 2.79 [10.47]
b = 0.90 [0.90]
Seff = 22923.73 [8169.28]
Teq = 3138 [280] K
Rp = 2.64 [1.90] Re
a = 0.0226 [0.0051] AU
Ag = 3.89 [5.36] [0.54σ]
Teffp = 6813 [2303] K [1.58σ]

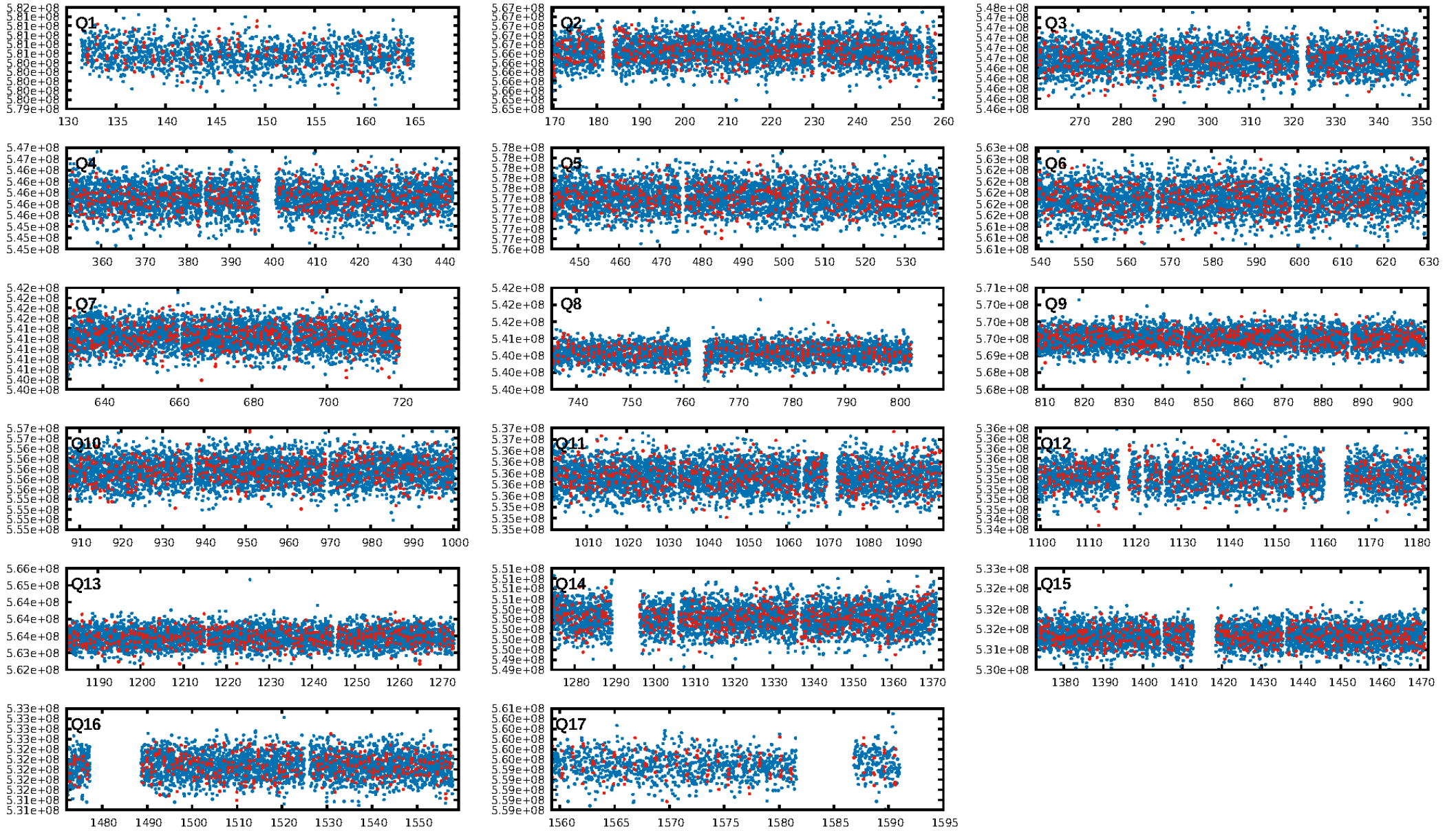
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.77σ]
LongPeriod-sig: 10.0% [0.13σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [202/204]
GhostDiagnostic-chr: 0.9989
Centroid-sig: 0.0%
Centroid-so: 0.109 arcsec [1.18σ]
OotOffset-rm: 0.035 arcsec [0.13σ]
KicOffset-rm: 0.095 arcsec [0.30σ]
OotOffset-st: 3/4/4/2 [13]
KicOffset-st: 3/4/4/2 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 0.00 [0/17]

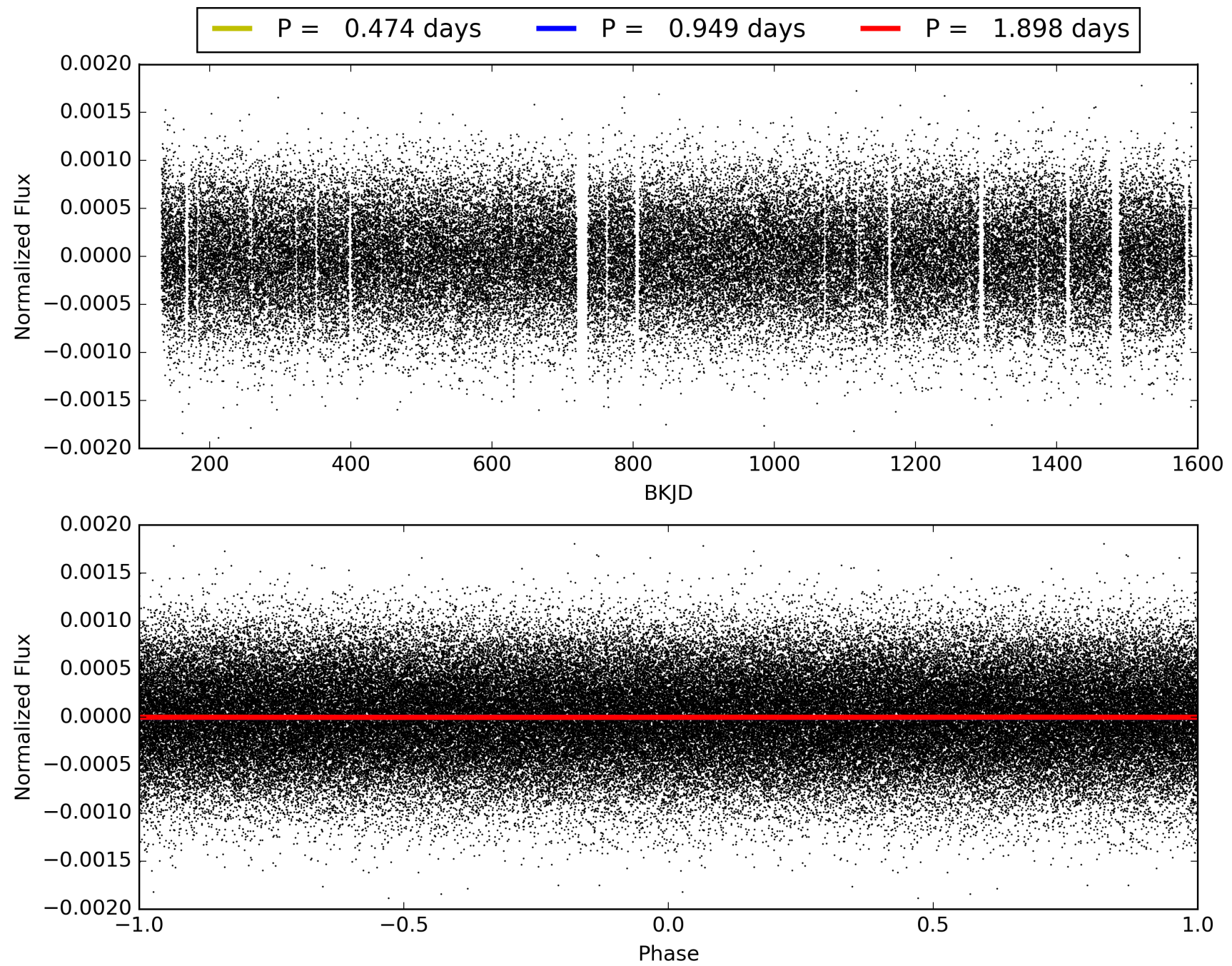
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:56:11 Z

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

TCE 006429742-04, PDC Light Curves

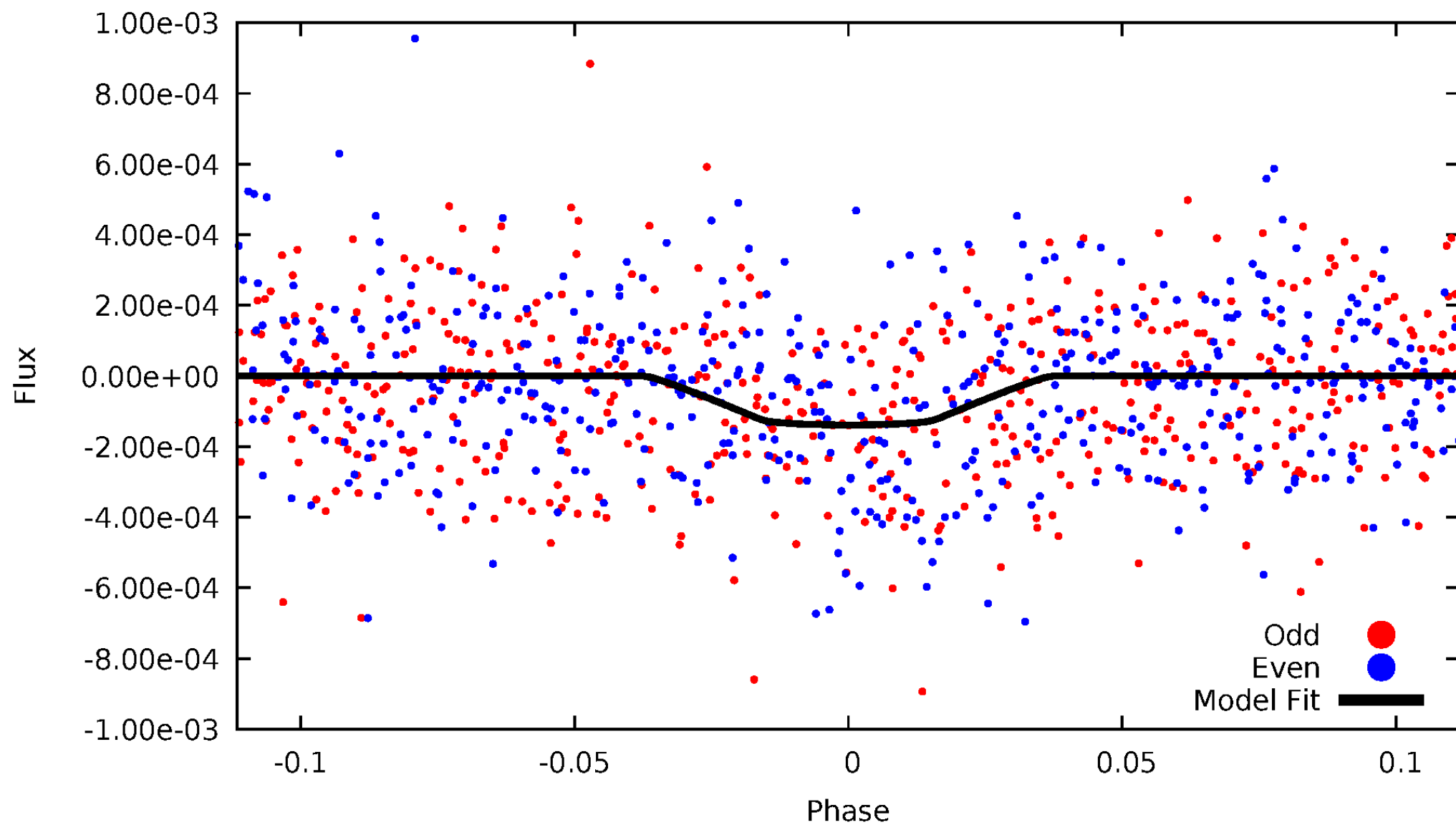


TCE 006429742-04



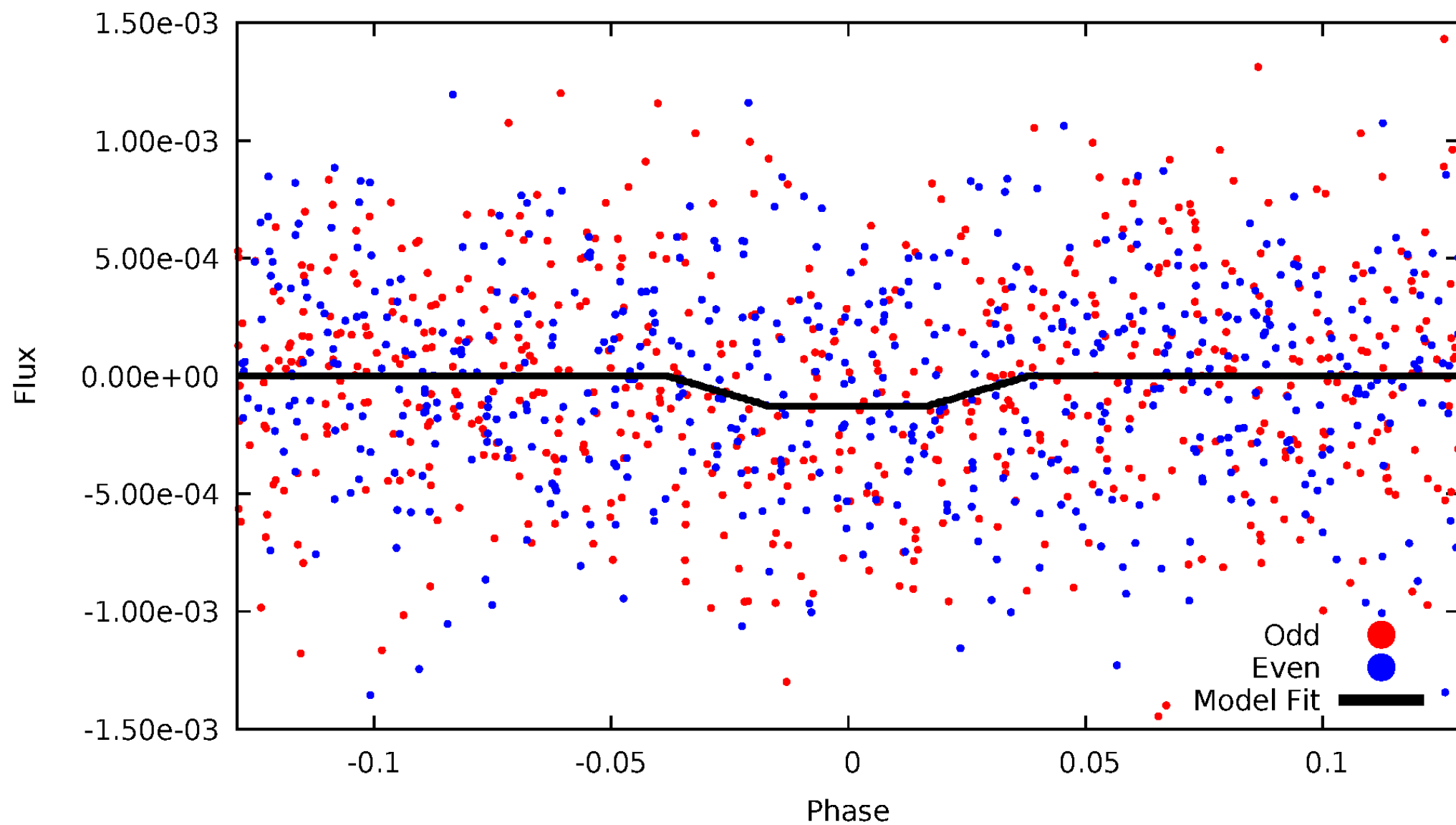
DV Odd/Even

TCE 006429742-04



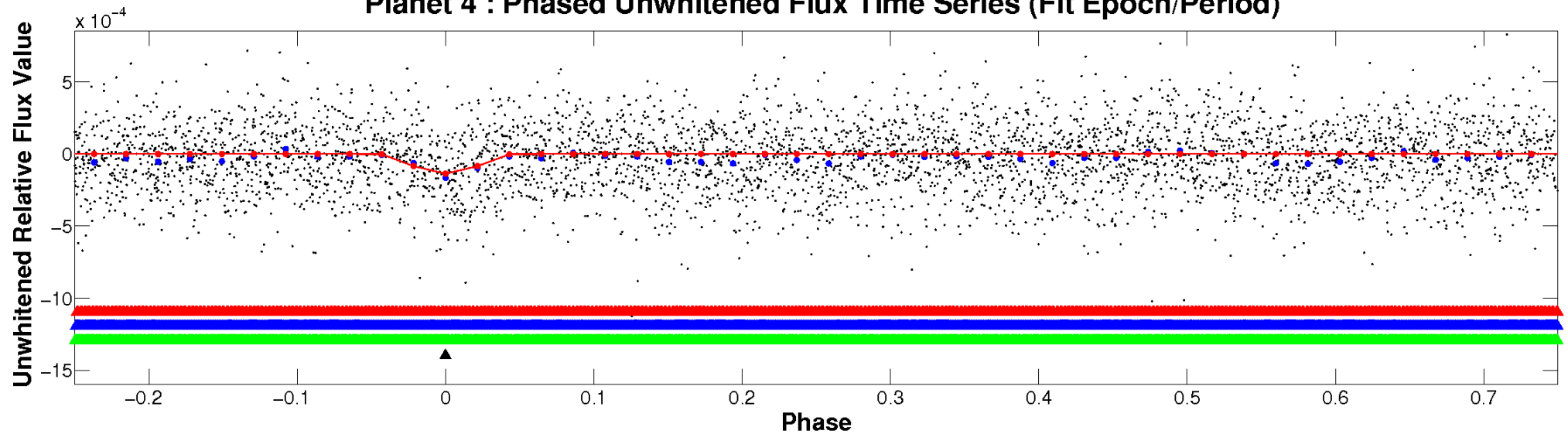
ALT Odd/Even

TCE 006429742-04

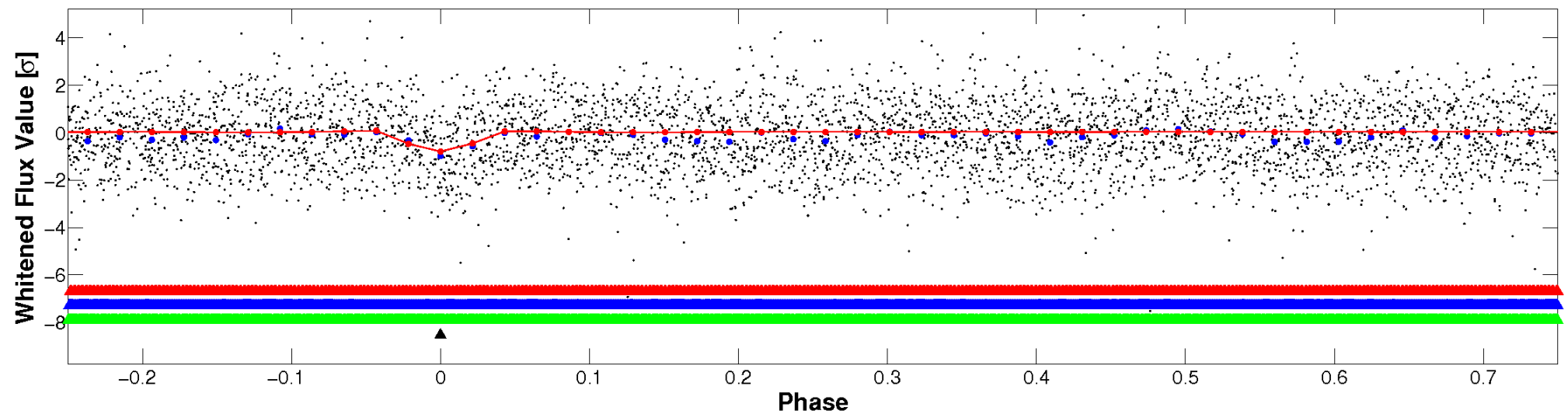


Non-Whitened Vs. Whitened Light Curve

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

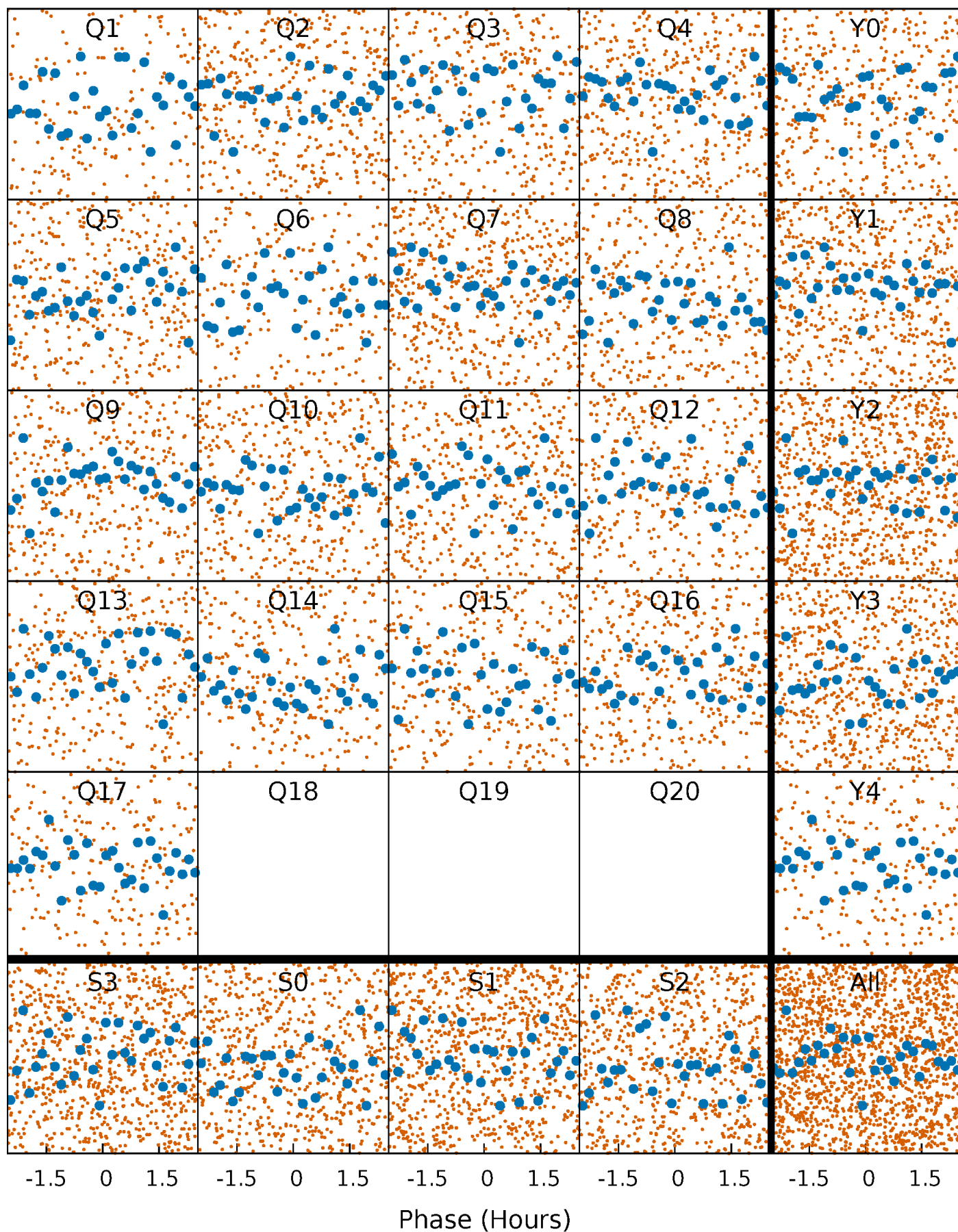


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



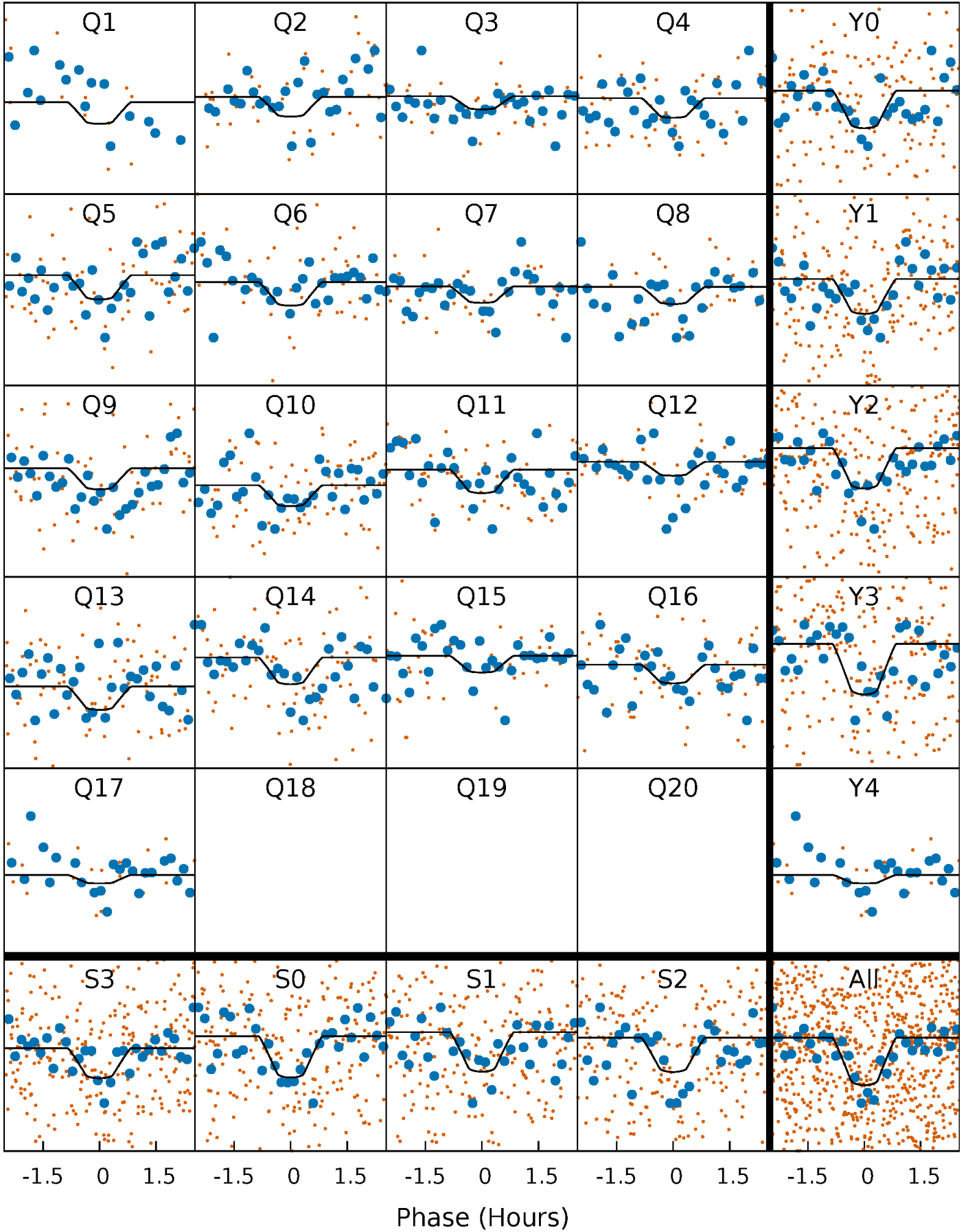
PDC Quarter-Phased Transit Curves

TCE 006429742-04 P= 0.948890 Days $T_0=132.134764$ (BKJD)



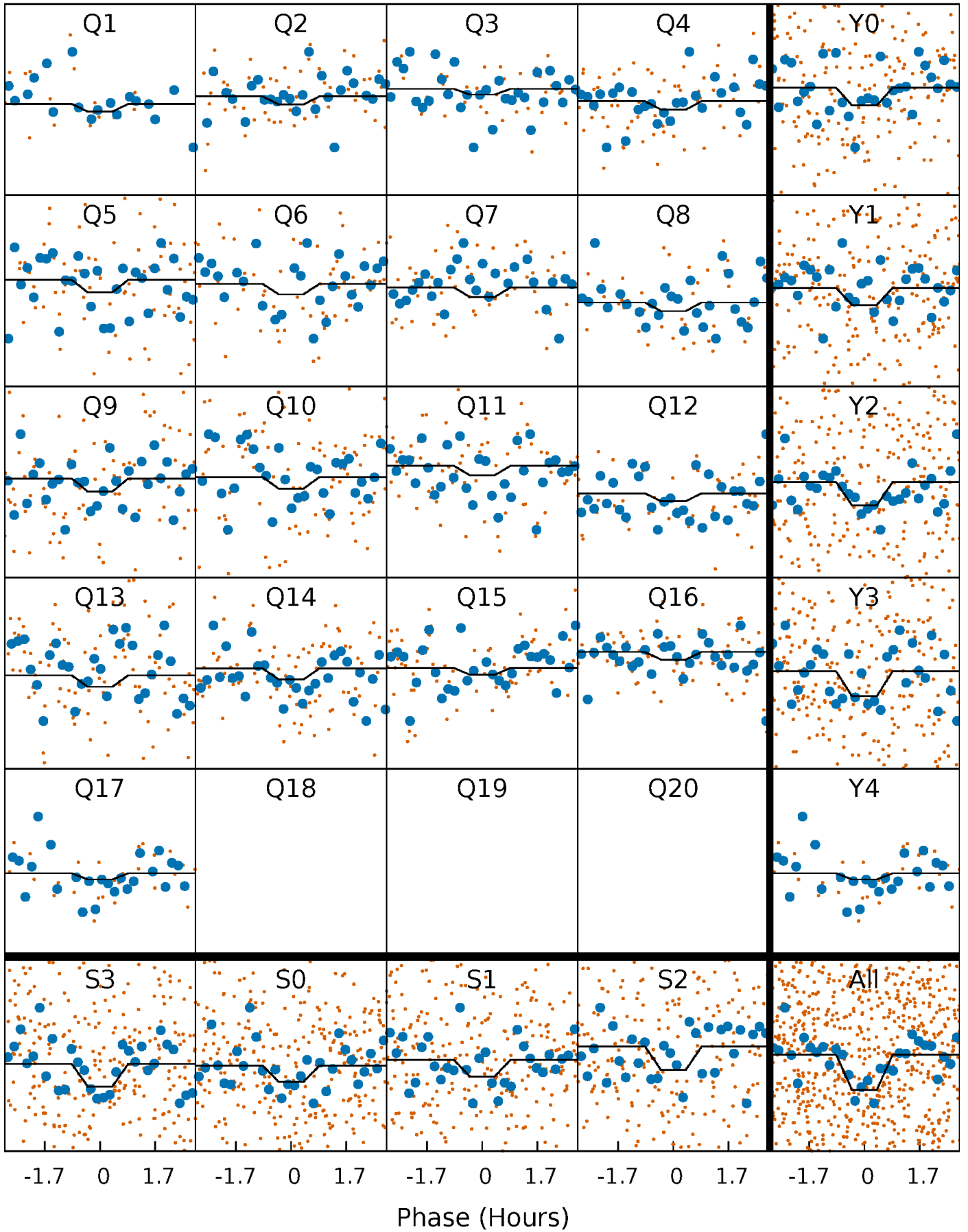
DV Quarter-Phased Transit Curves

TCE 006429742-04 P= 0.948890 Days $T_0=132.134764$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

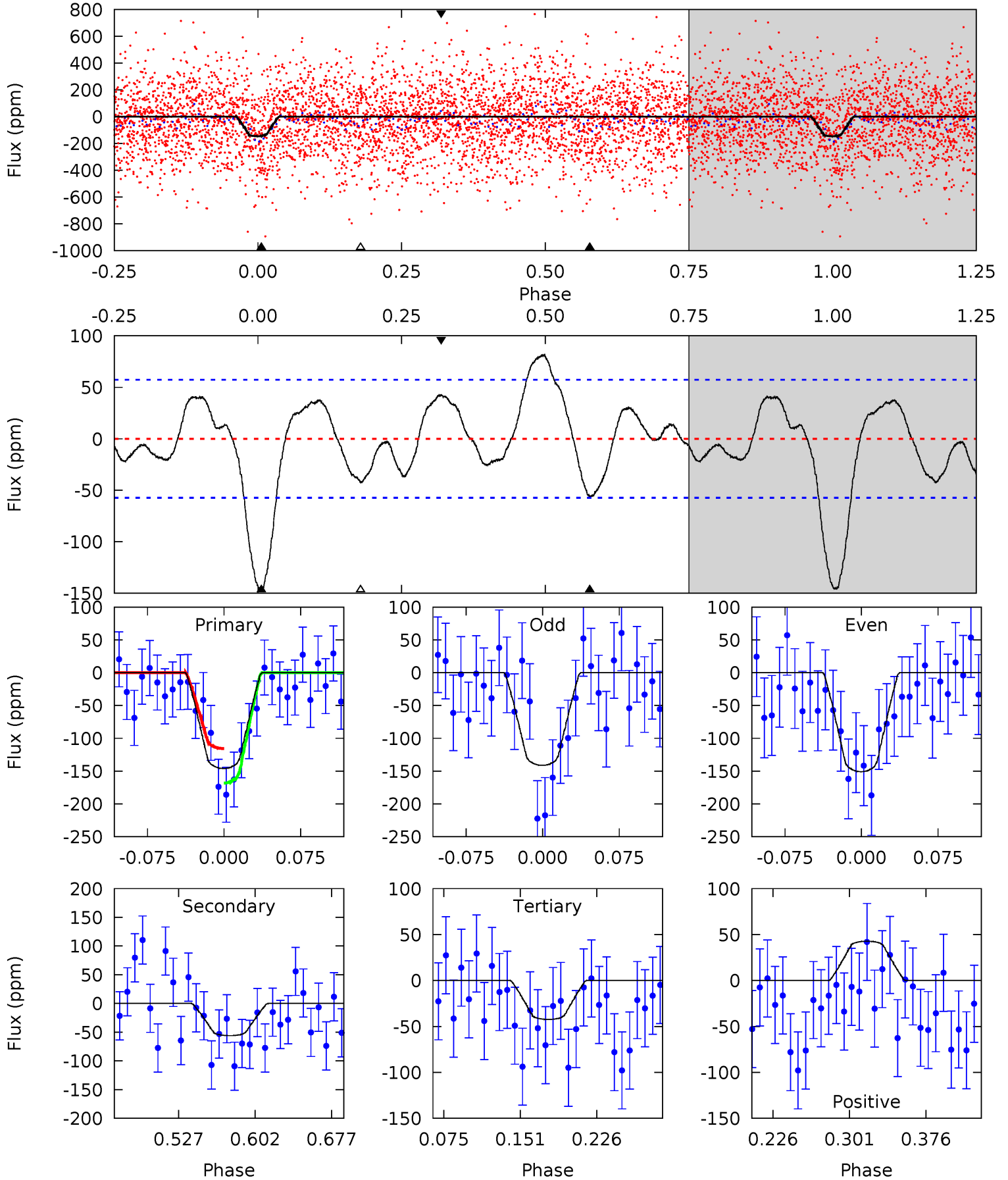
TCE 006429742-04 $P = 0.948898$ Days $T_0 = 132.125963$ (BKJD)



DV Model-Shift Uniqueness Test

006429742-04, P = 0.948890 Days, E = 131.185874 Days

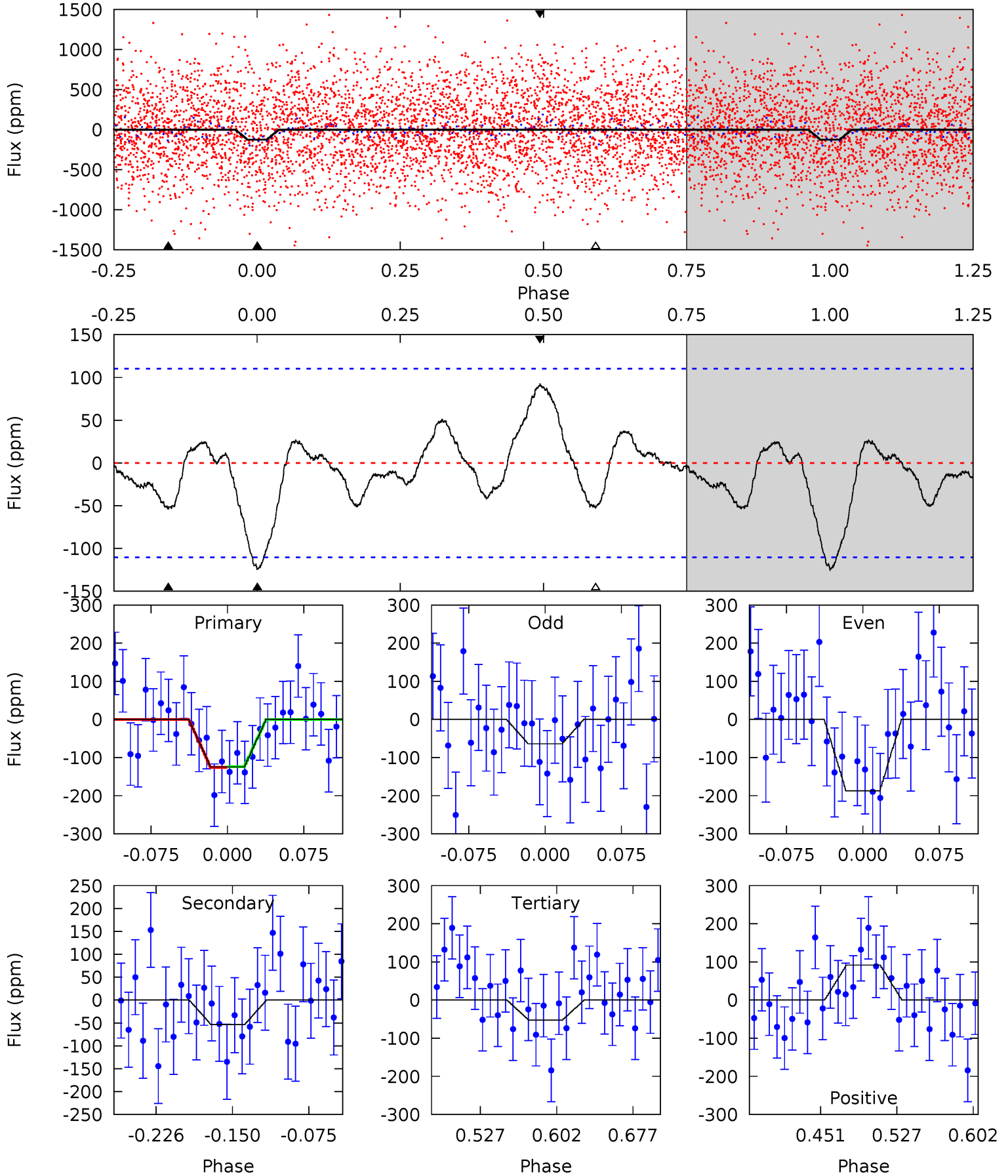
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	4.53	3.42	3.45	4.62	1.78	2.24	8.37	8.34	1.10	1.08	0.39	1.06	0.36	2.15



Alt Model-Shift Uniqueness Test

006429742-04, P = 0.948898 Days, E = 131.177065 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.23	2.24	2.19	3.84	4.62	1.78	1.36	3.04	1.39	0.05	-1.60	2.61	1.00	0.42	0.05



Stellar Parameters For KIC 006429742

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot cm^{-3})$
	7705^{+214}_{-322}	$4.102^{+0.135}_{-0.165}$	$0.020^{+0.150}_{-0.350}$	$1.927^{+0.540}_{-0.405}$	$1.713^{+0.204}_{-0.271}$	$0.337^{+0.230}_{-0.159}$
	+3%/-4%	+3%/-4%	+750%/-1750%	+28%/-21%	+12%/-16%	+68%/-47%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006429742-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-56 ± 12	$2.77^{+1.86}_{-1.52}$	4388^{+297}_{-280}	5478^{+3348}_{-1414}	$1.997^{+7.712}_{-1.311}$
Alt.	-53 ± 24	$2.56^{+1.69}_{-1.52}$	4378^{+313}_{-271}	5512^{+4326}_{-1528}	$2.074^{+11.803}_{-1.448}$

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 $A_{obs} \gg 1.0$

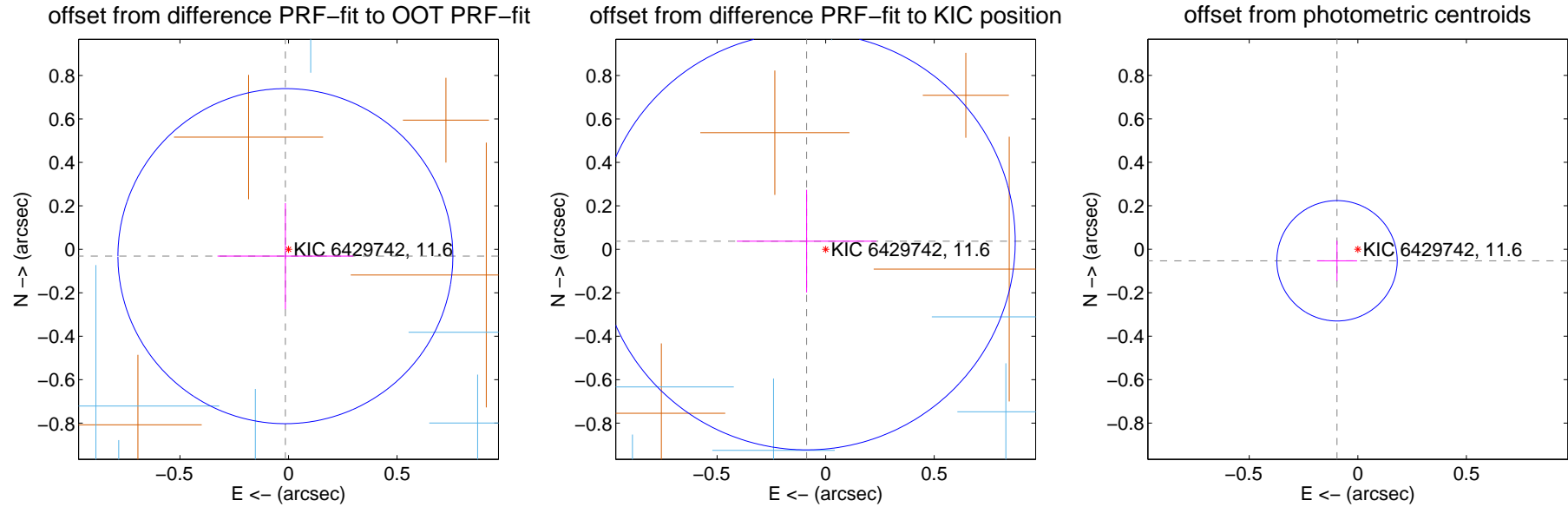
DV Centroid Data

Supplemental centroid analysis for 006429742-04. **Kepler magnitude: 11.60**. Transit SNR 10.45

There are 9 quarters with good PRF difference image offsets

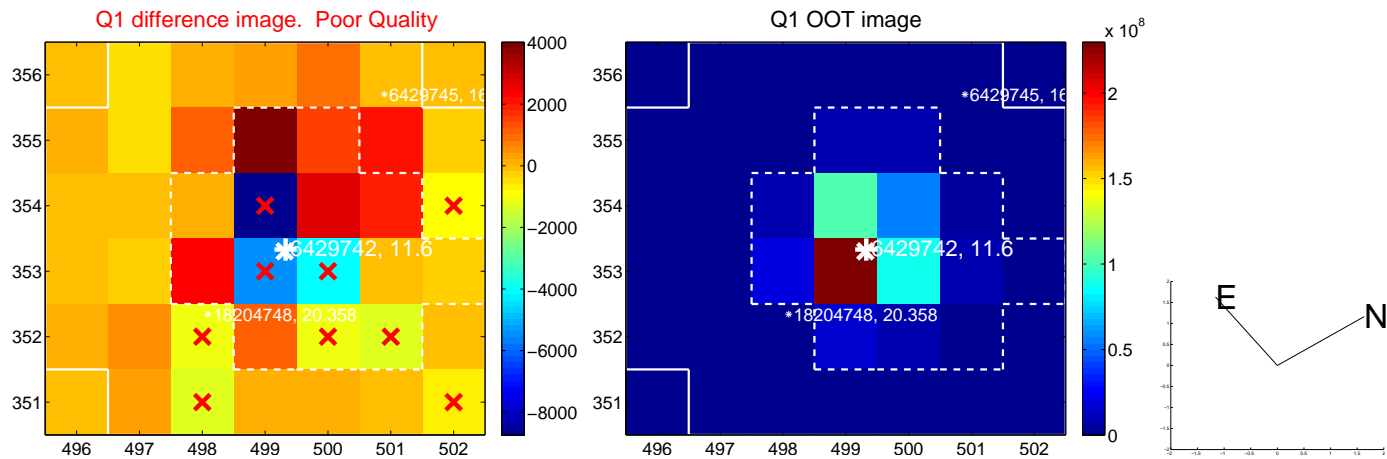
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.035 ± 0.257	0.13	0.014 ± 0.313	-0.032 ± 0.244
PRF-fit source offset from KIC position	0.095 ± 0.320	0.30	0.088 ± 0.322	0.037 ± 0.236
photometric centroid source offset	0.11 ± 0.09	1.18	0.10 ± 0.09	-0.05 ± 0.09

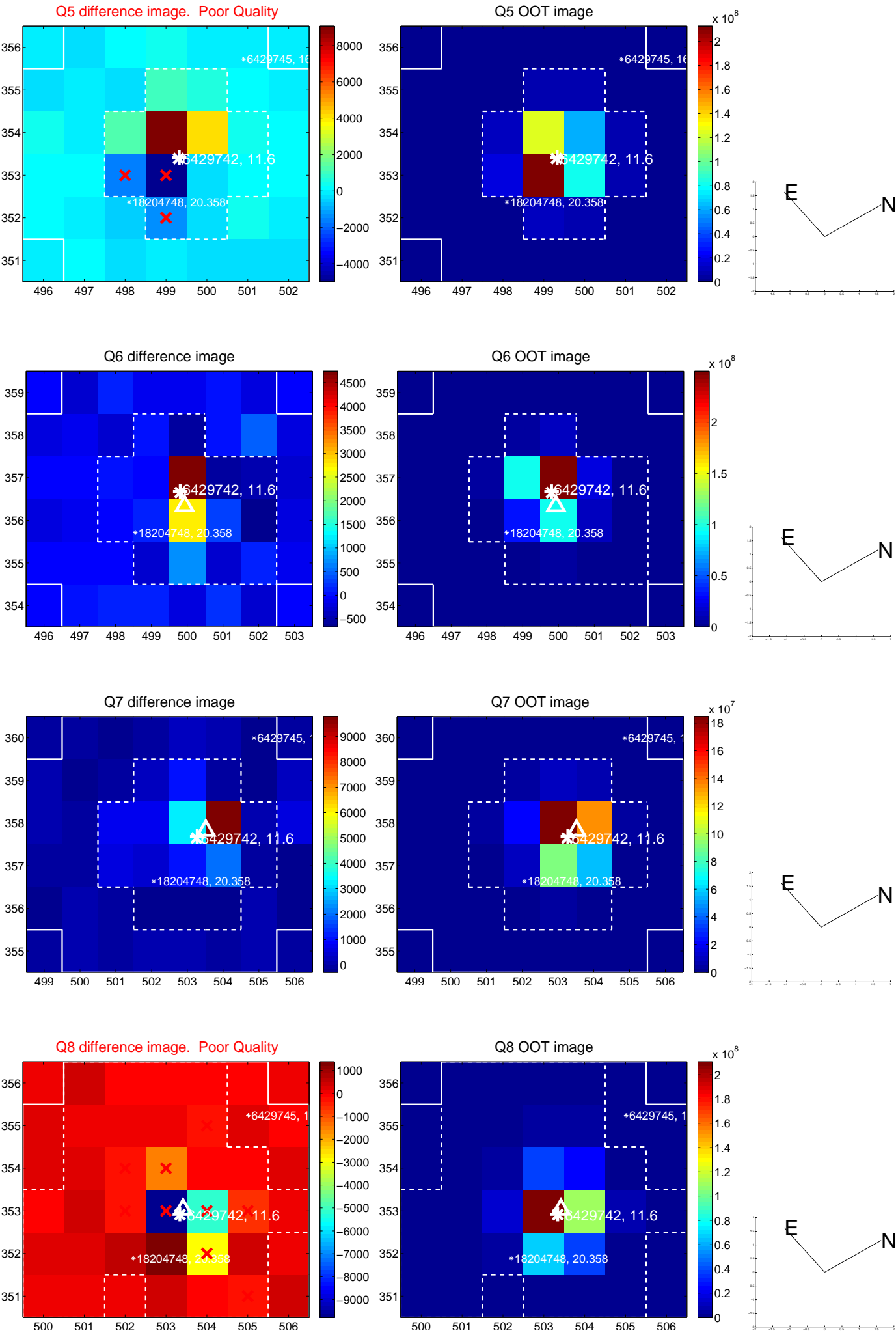


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

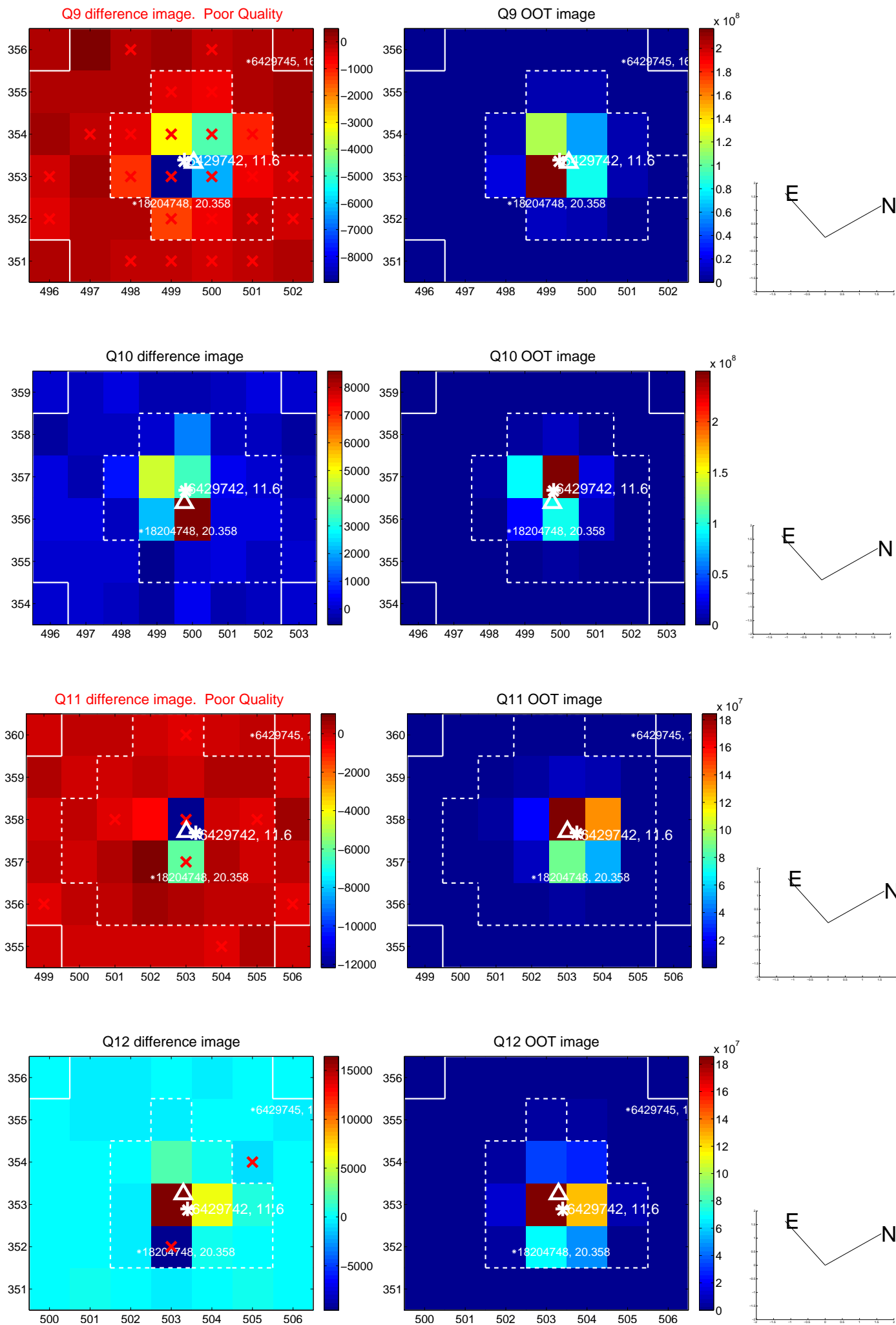
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



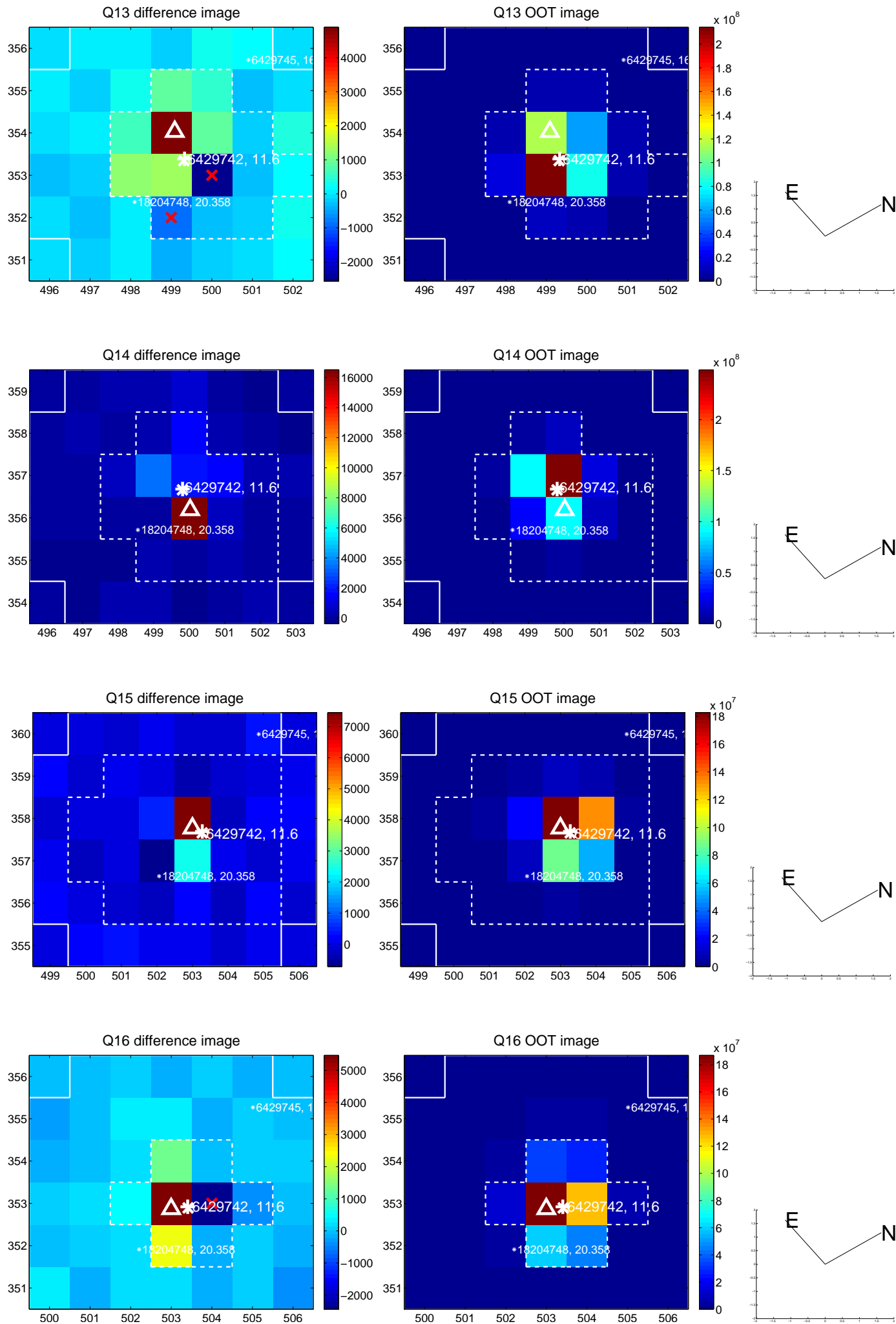
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



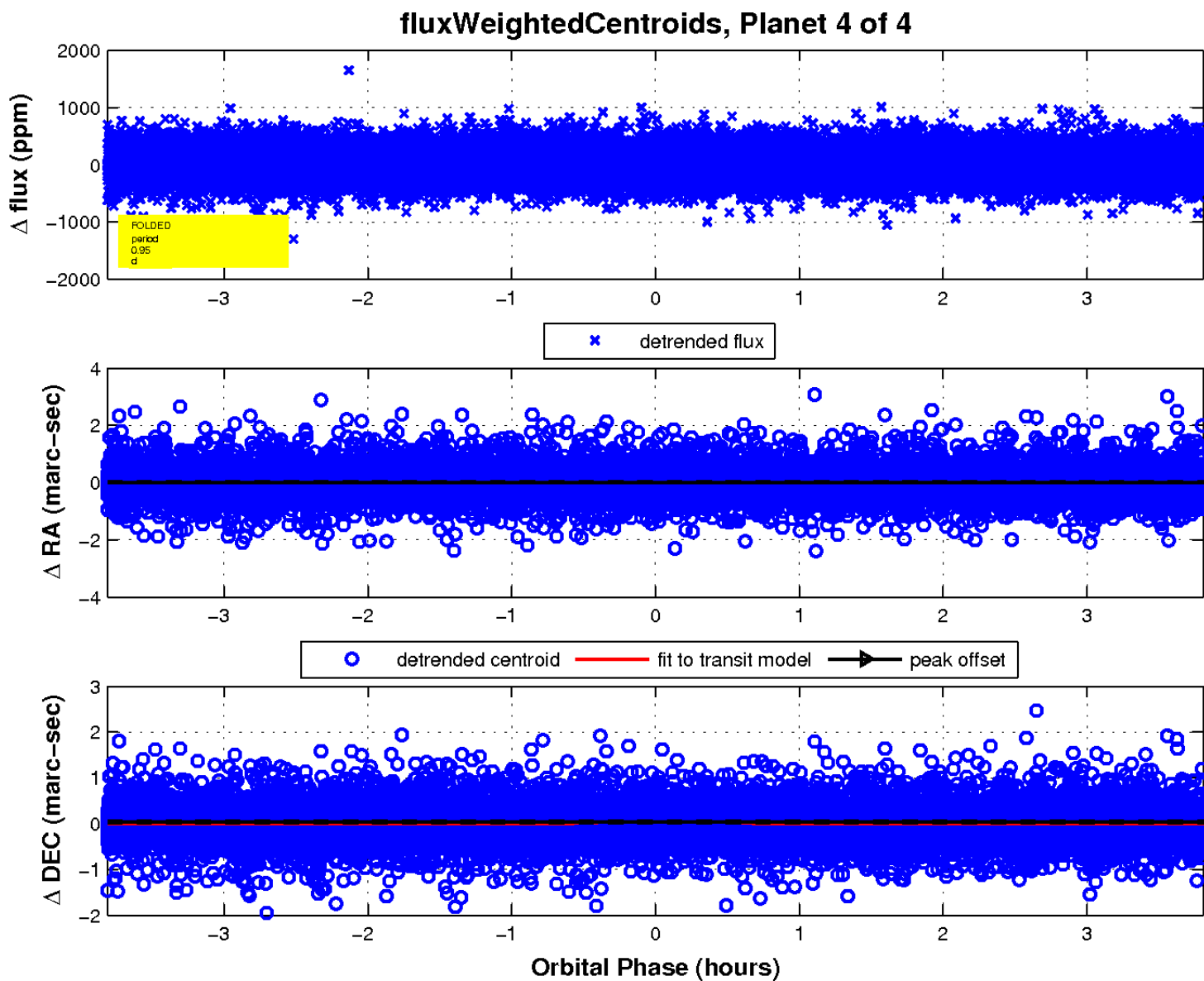
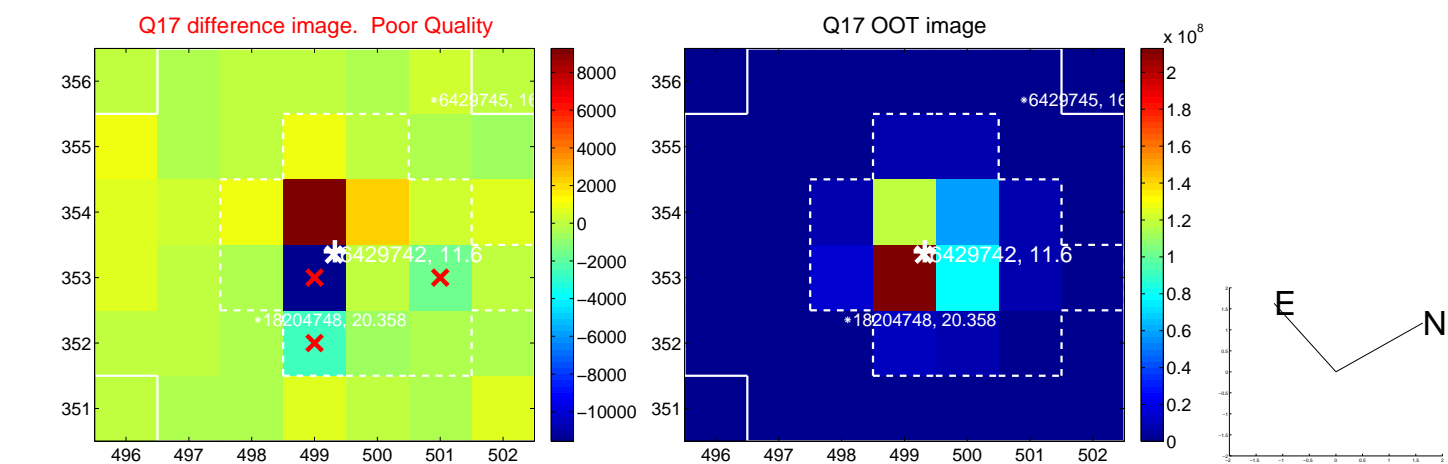
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

