

KIC 004577969

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})
004577969-01	OBS	No	0.914794	131.971135	0.5	4.202	10.5	0.0	1.23	6656	0.09	6787.72
004577969-02	OBS	No	213.980968	332.033316	1361.0	16.233	7.3	7.9	1.23	6656	5.11	4.71
004577969-03	OBS	No	41.562112	137.682407	567.0	4.910	7.5	5.2	1.23	6656	3.09	41.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004577969-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004577969-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004577969-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

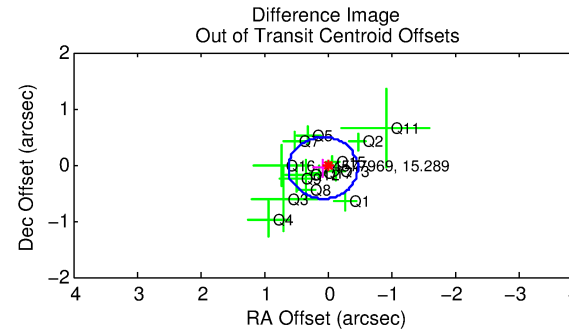
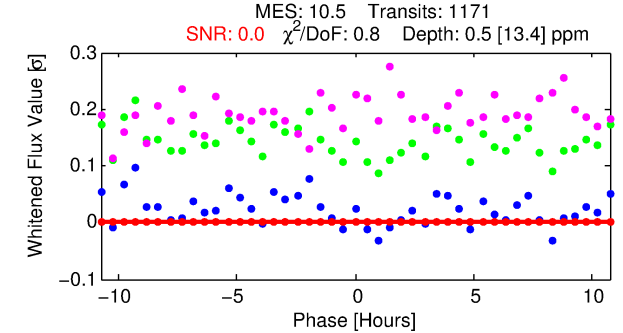
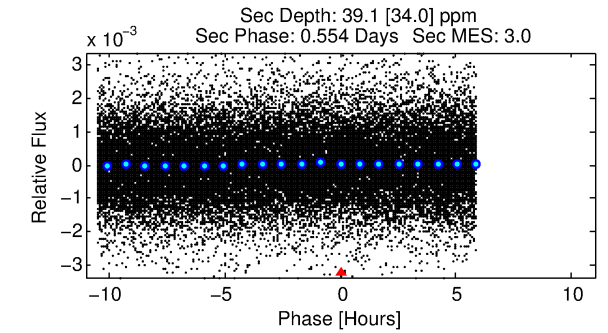
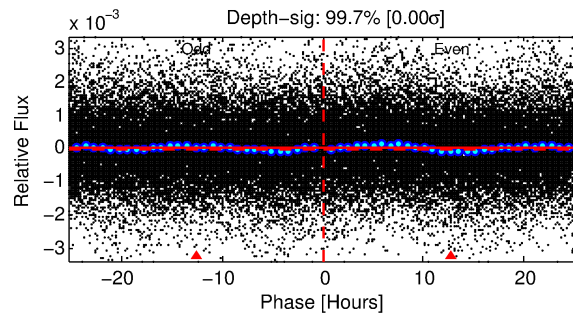
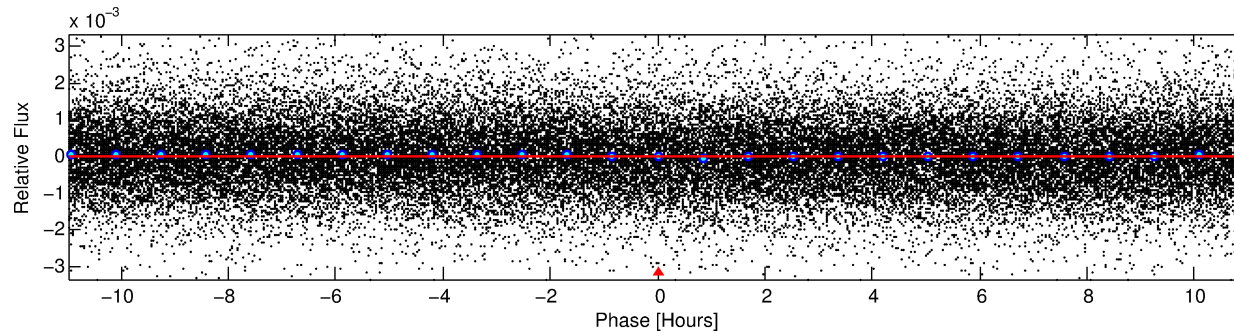
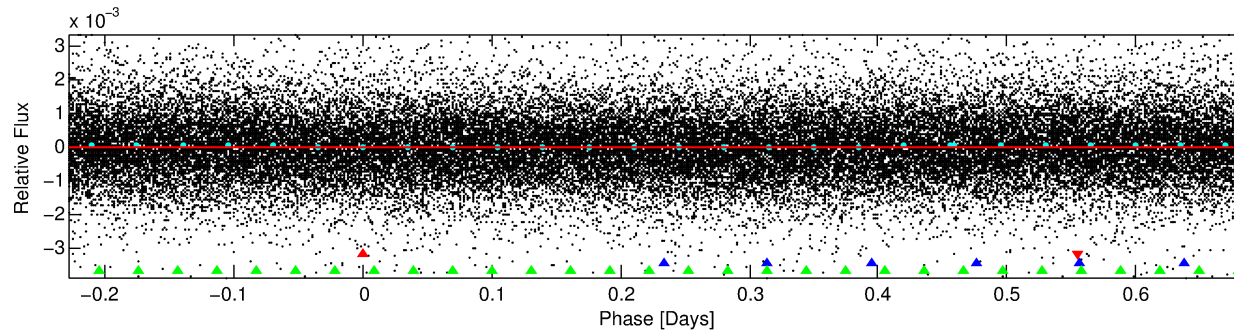
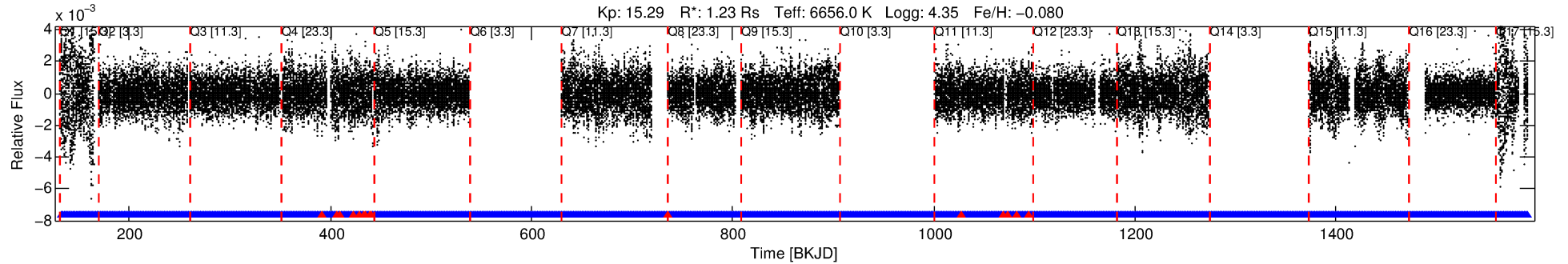
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004577969-01

No Significant Match Found

DV One-Page Summary

KIC: 4577969 Candidate: 1 of 3 Period: 0.915 d



DV Fit Results:

Period = 0.91479 [0.00265] d
Epoch = 131.9711 [0.6786] BKJD
Rp/R* = 0.0006 [0.0116]
a/R* = 1.70 [68.94]
b = 0.33 [168.71]
Seff = 6787.72 [2608.14]
Teq = 2314 [222] K
Rp = 0.09 [1.56] Re
a = 0.0198 [0.0049] AU
Ag = 1110.29 [39776.71] [0.03σ]
Teffp = 20657 [185008] K [0.10σ]

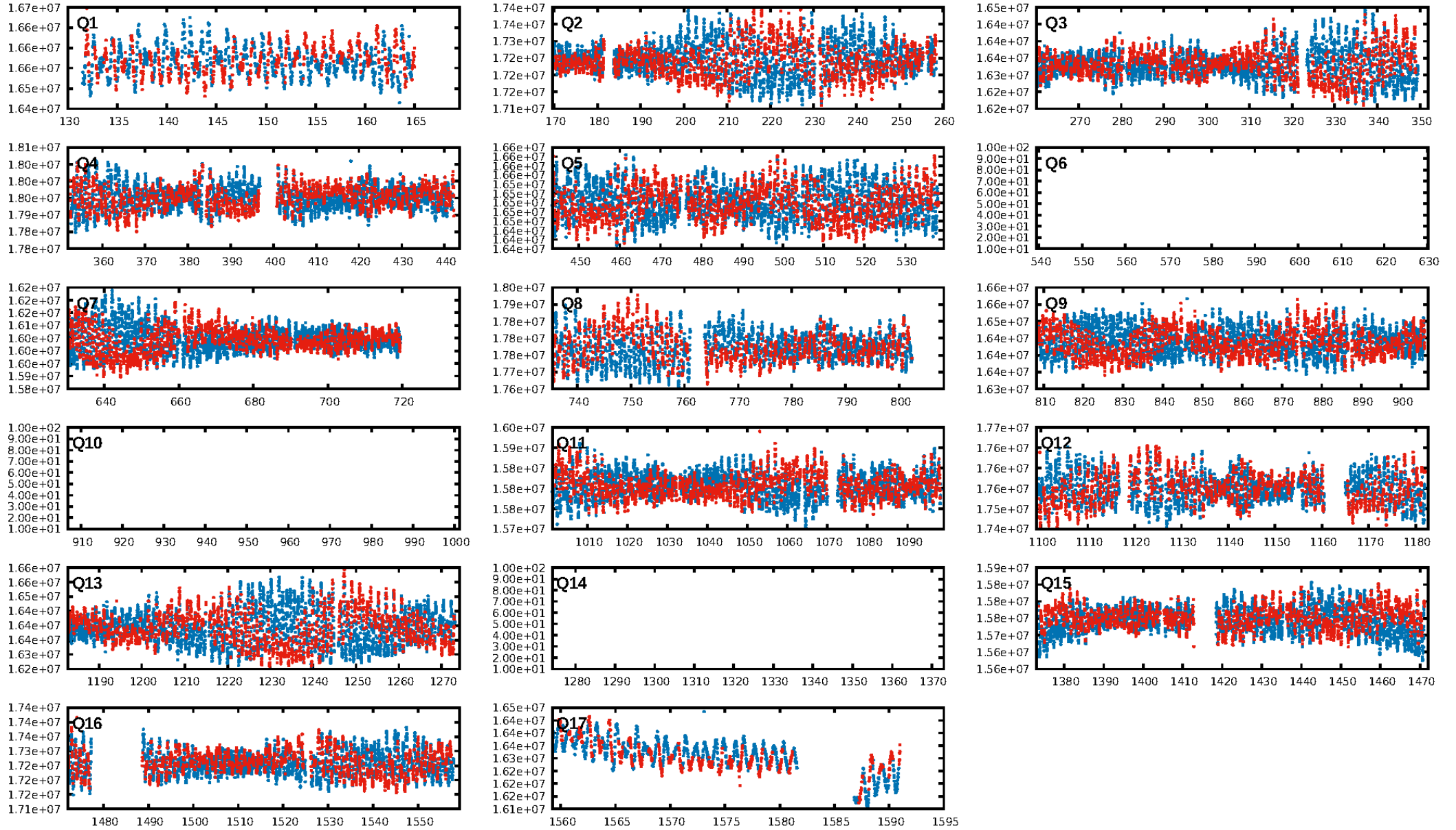
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [150.95σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.49e-19
RollingBand-fgt: 0.99 [1090/1105]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.093 arcsec [0.51σ]
KicOffset-rm: 0.043 arcsec [0.27σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [14/14]

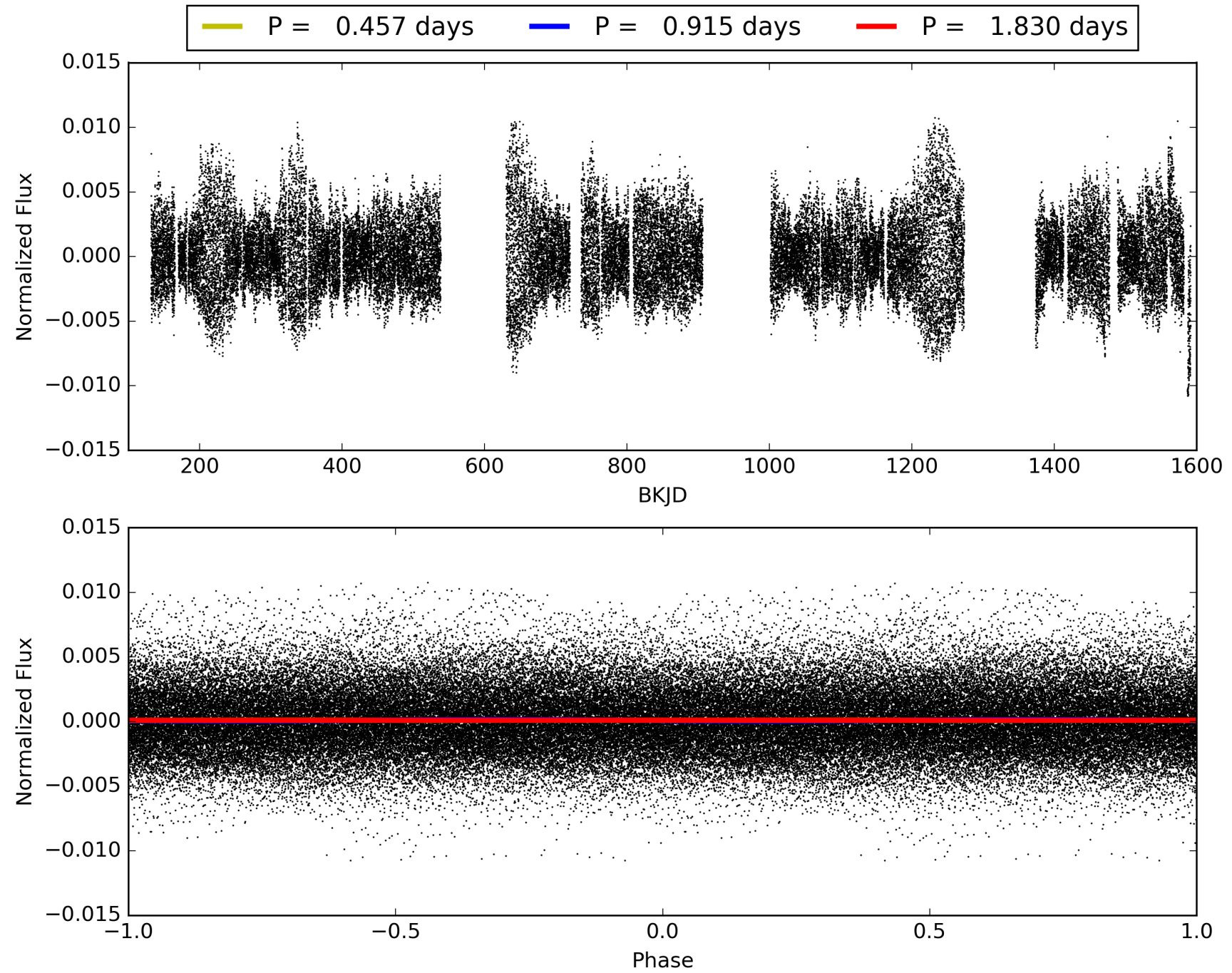
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:35:56 Z

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

TCE 004577969-01, PDC Light Curves

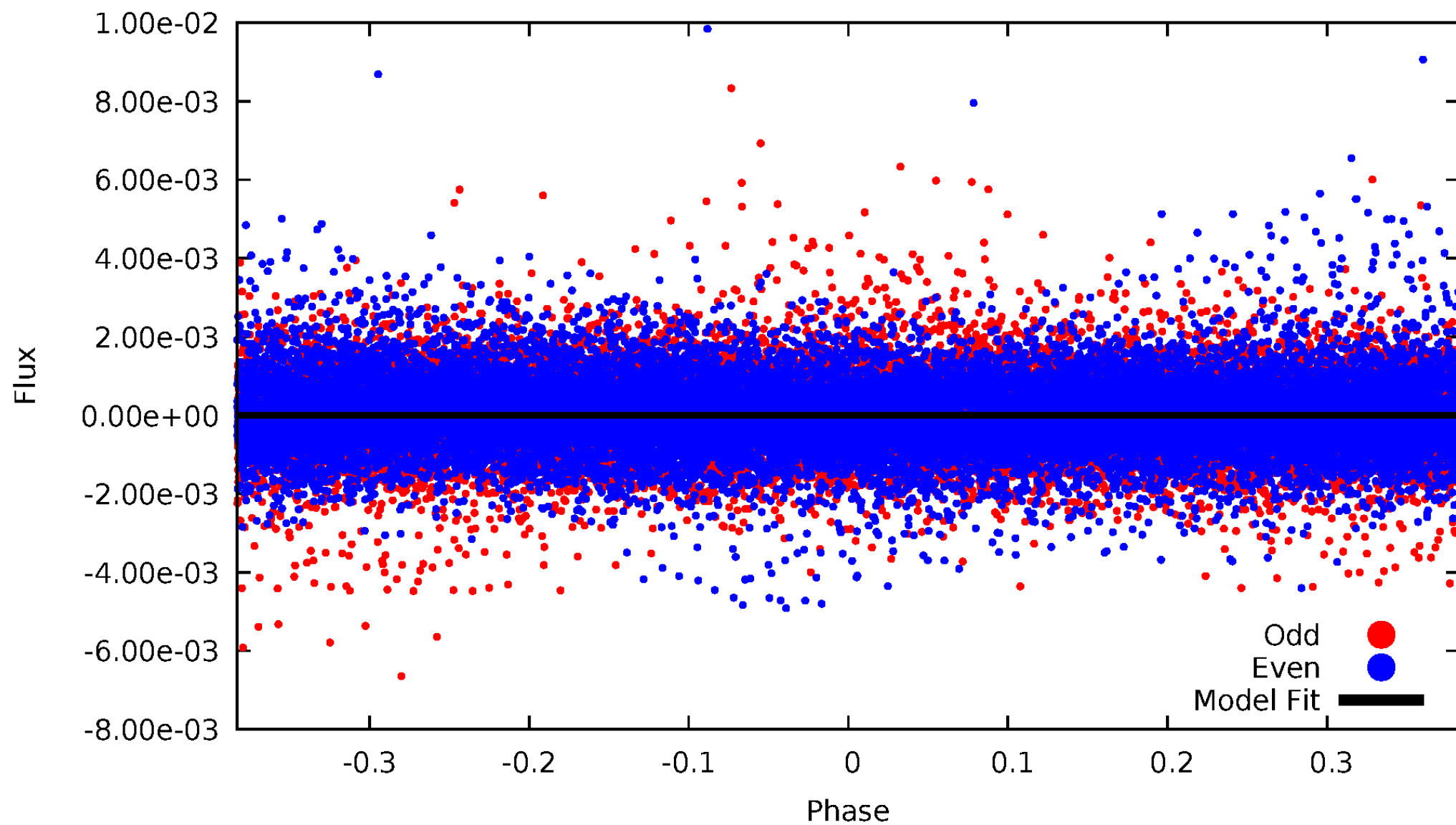


TCE 004577969-01



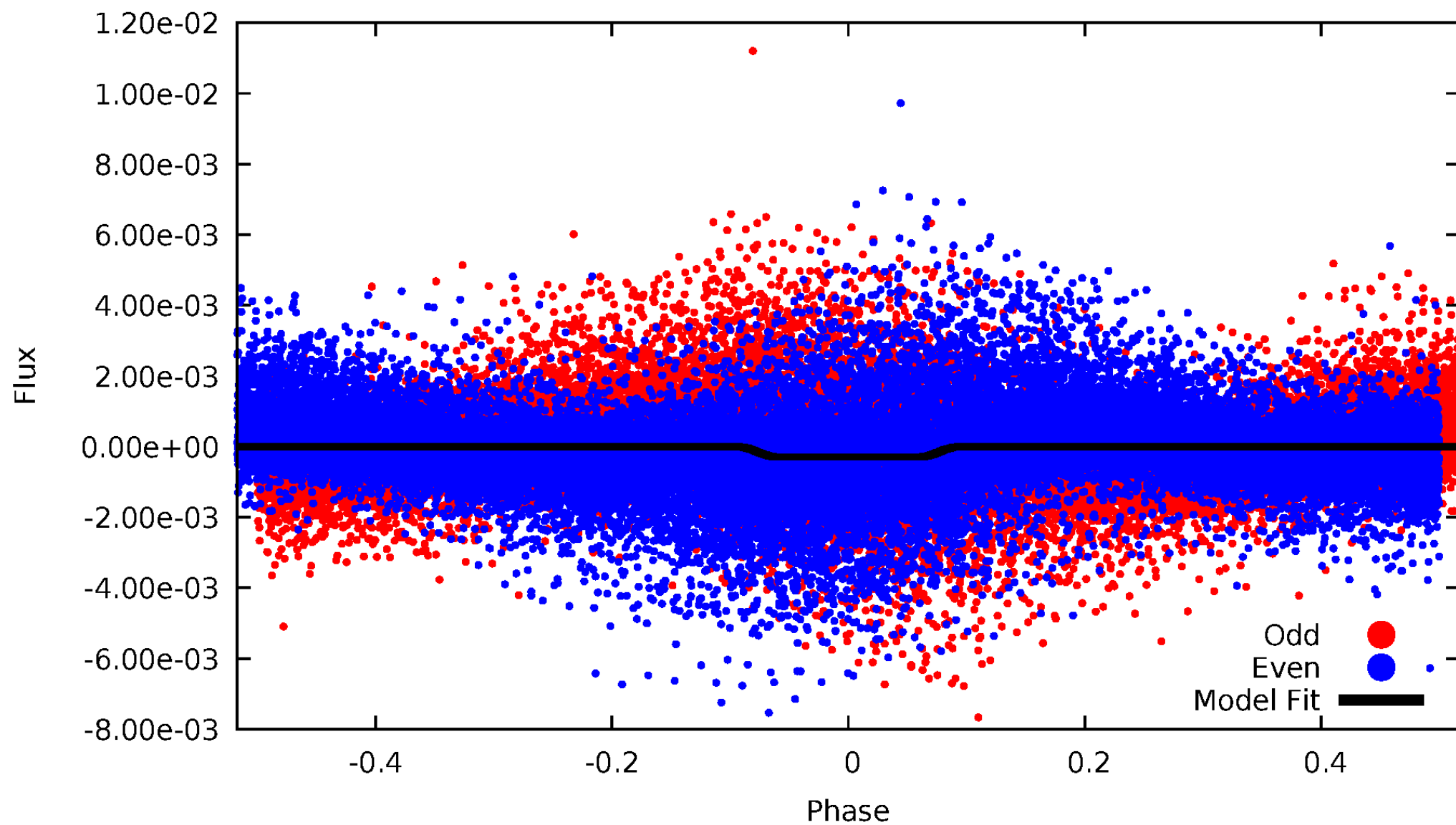
DV Odd/Even

TCE 004577969-01

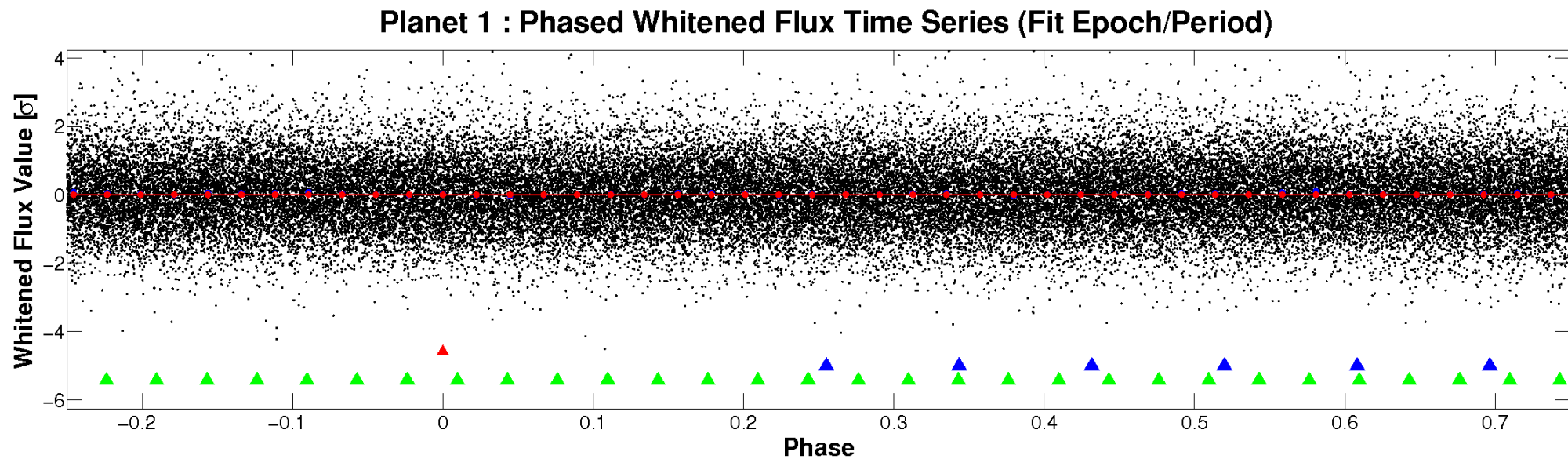
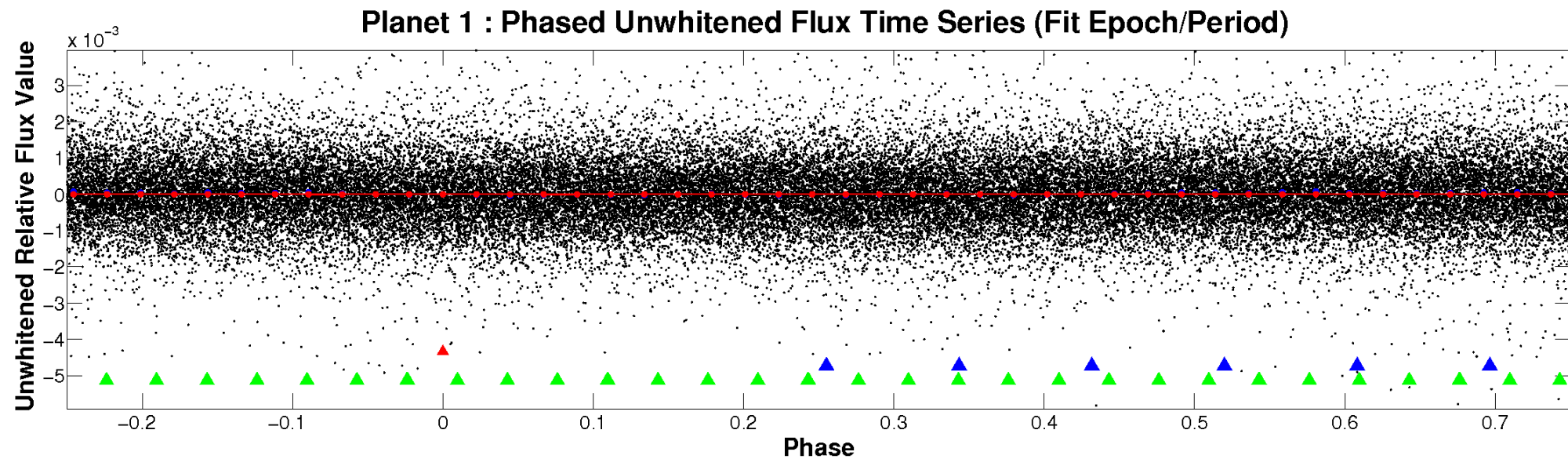


ALT Odd/Even

TCE 004577969-01

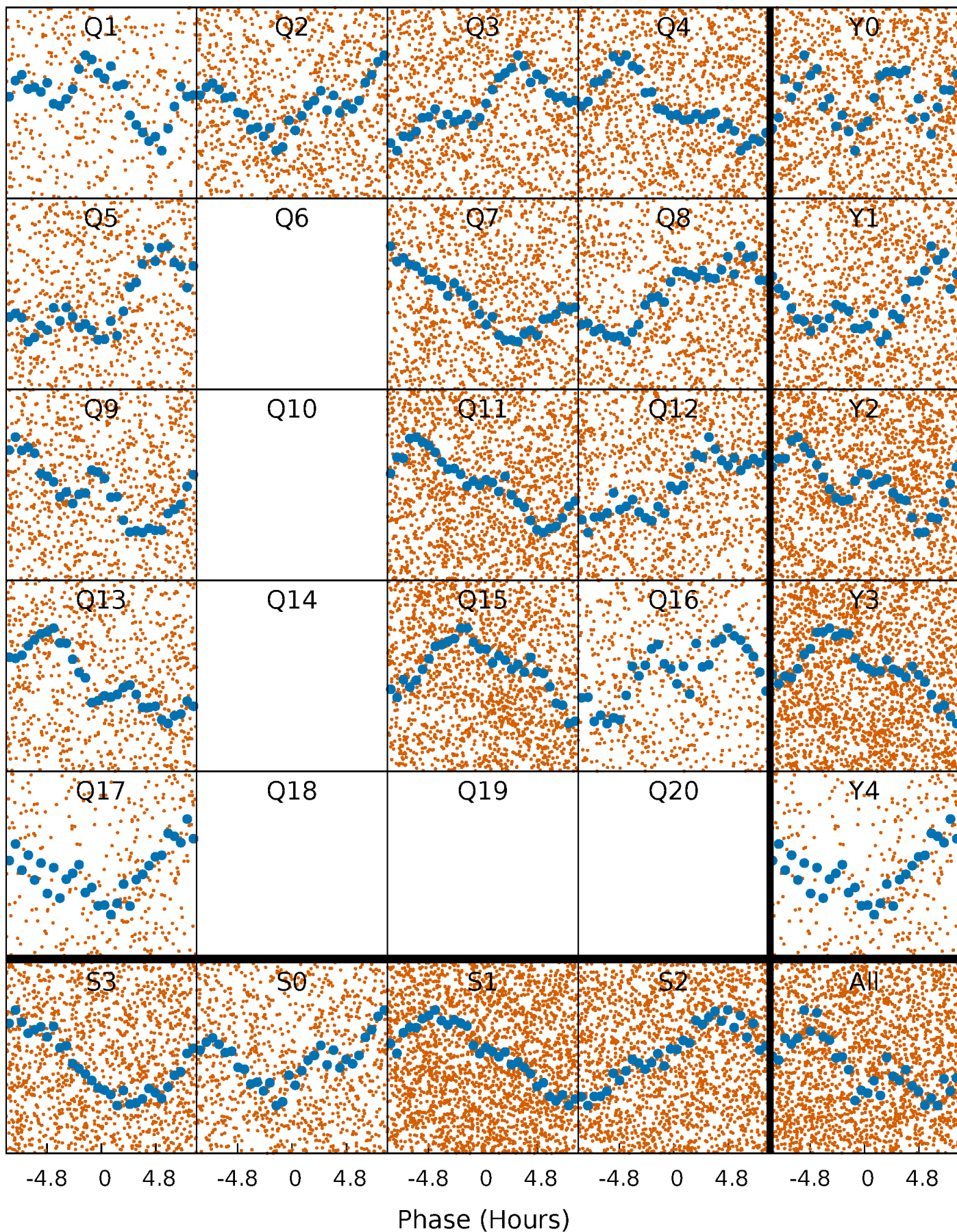


Non-Whitened Vs. Whitened Light Curve



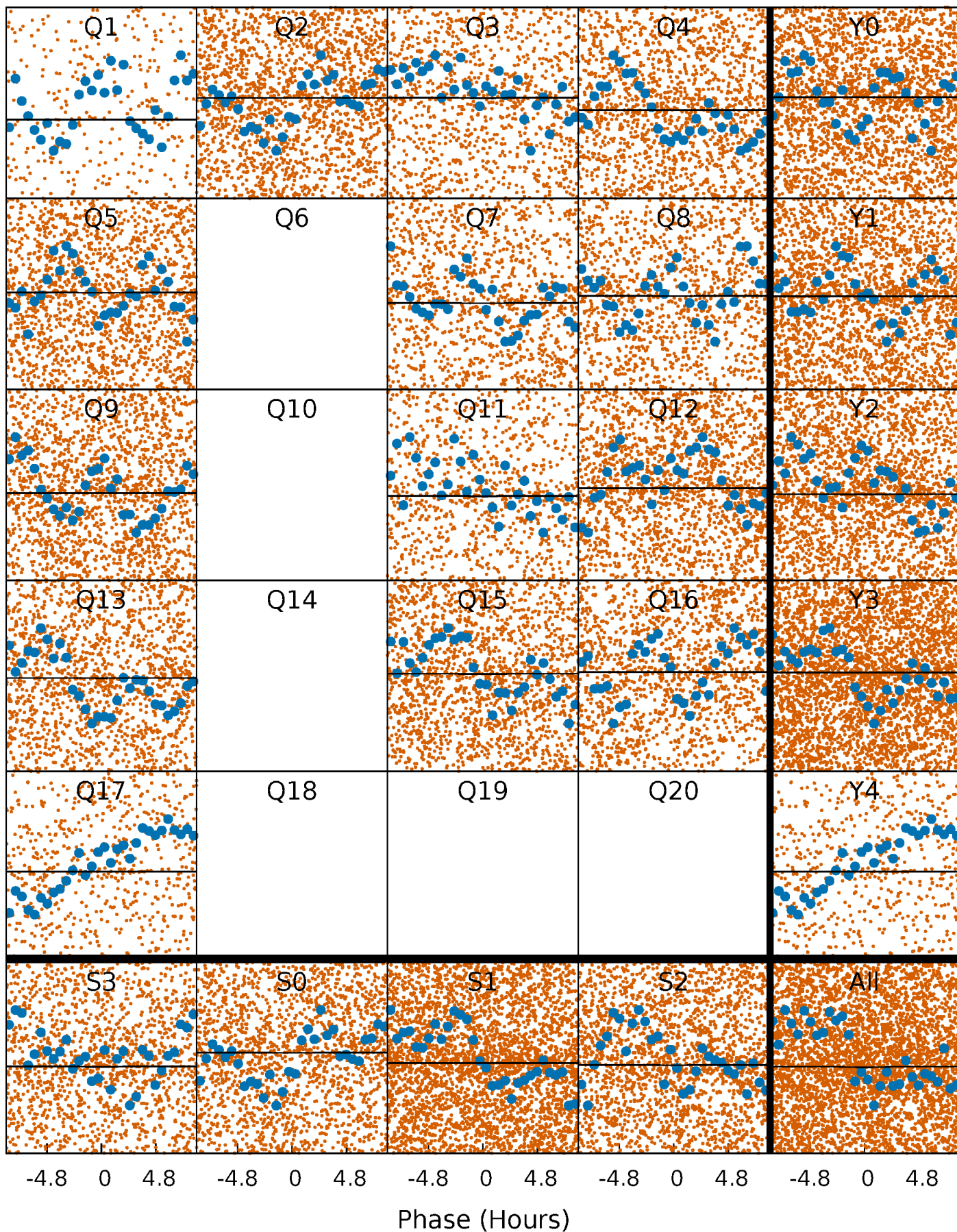
PDC Quarter-Phased Transit Curves

TCE 004577969-01 P= 0.914794 Days $T_0=131.971135$ (BKJD)



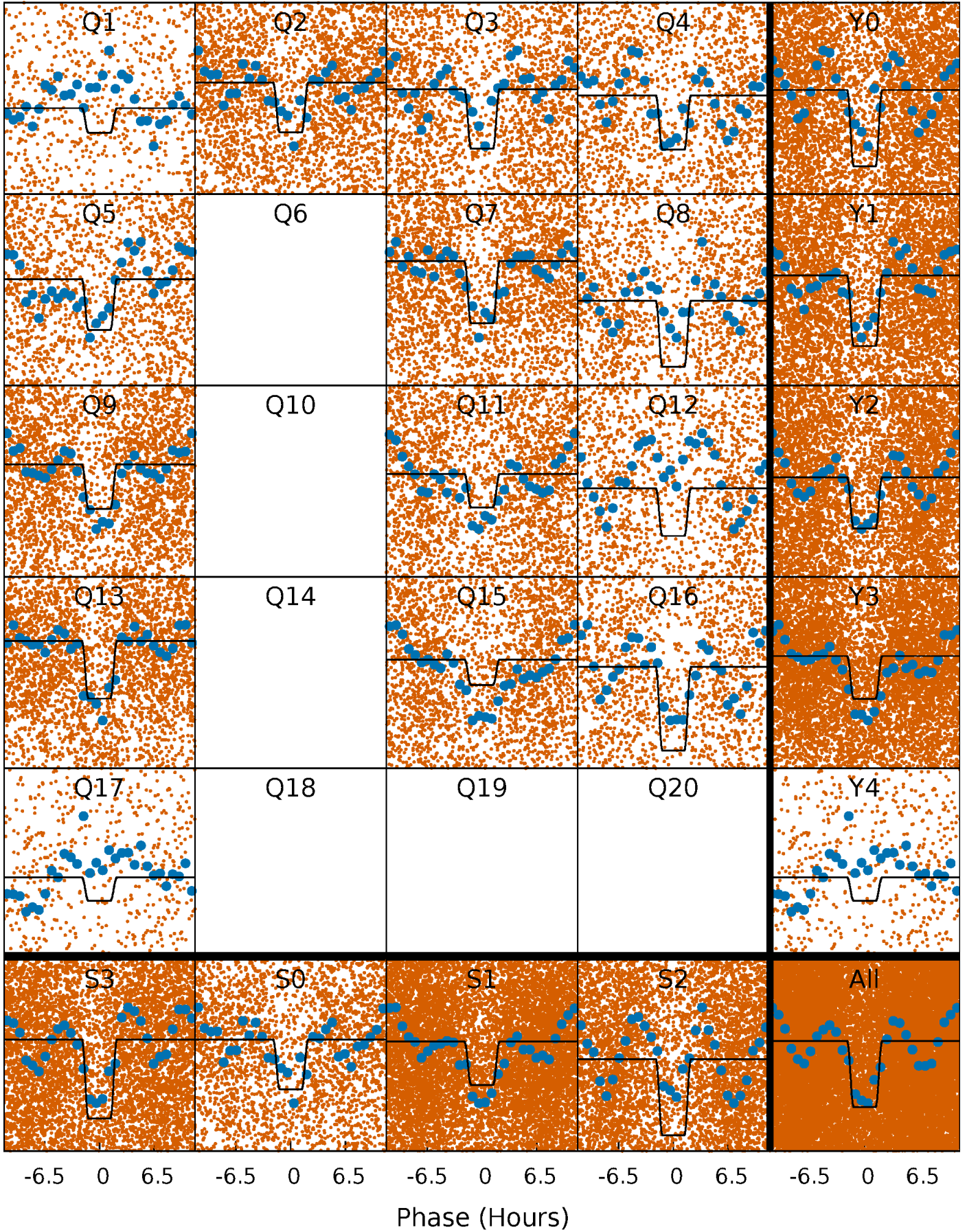
DV Quarter-Phased Transit Curves

TCE 004577969-01 P= 0.914794 Days $T_0=131.971135$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

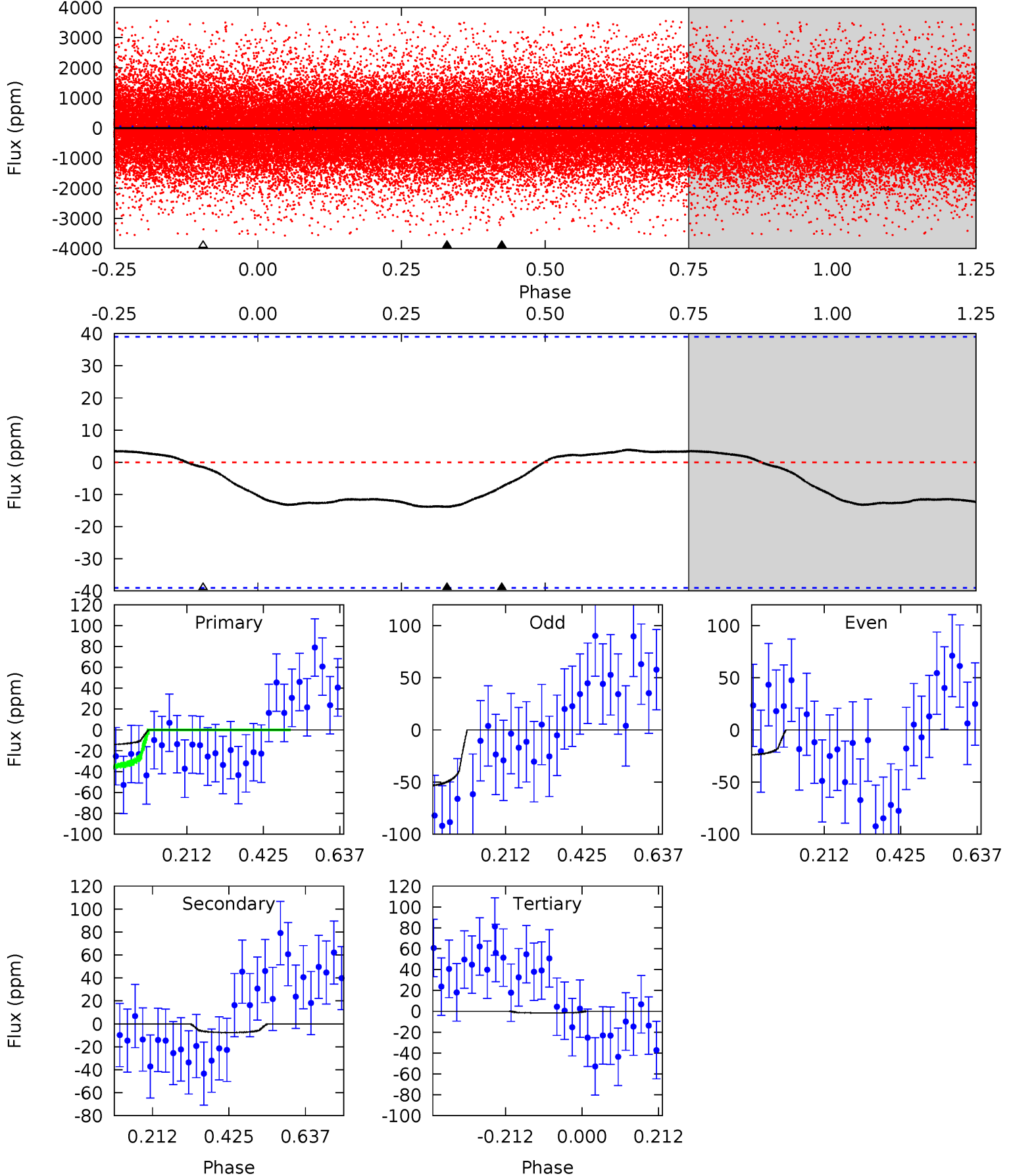
TCE 004577969-01 P= 0.915107 Days $T_0=131.880376$ (BKJD)



DV Model-Shift Uniqueness Test

004577969-01, P = 0.914794 Days, E = 131.056341 Days

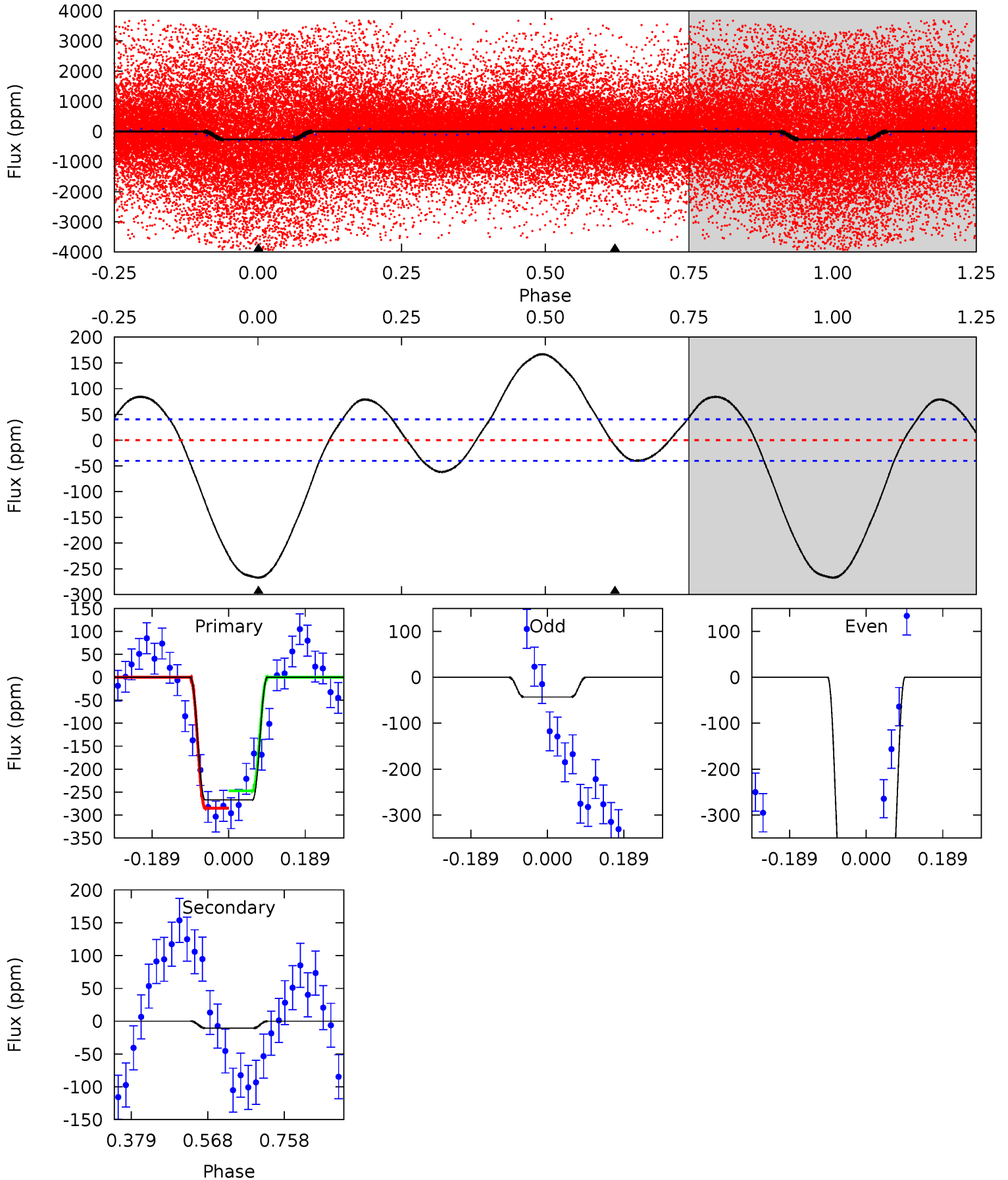
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.57	0.86	0.17	0	4.40	1.25	0.74	1.39	1.57	0.69	0.86	1.66	0.19	0.22	1.57



Alt Model-Shift Uniqueness Test

004577969-01, P = 0.915107 Days, E = 130.965269 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.4	1.18	0	0	4.43	1.31	5.43	29.4	29.4	1.18	1.18	19.1	0.74	0.38	1.96



Stellar Parameters For KIC 004577969

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6656^{+187}_{-258}	$4.351^{+0.062}_{-0.188}$	$-0.080^{+0.250}_{-0.300}$	$1.232^{+0.371}_{-0.159}$	$1.248^{+0.174}_{-0.174}$	$0.941^{+0.324}_{-0.473}$
	+3%/-4%	+1%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-50%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004577969-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 9	$1.19^{+1.24}_{-0.82}$	3299^{+232}_{-177}	3456^{+2995}_{-6900}	$0.737^{+9.357}_{-0.849}$
Alt.	-11 ± 9	$2.58^{+1.66}_{-1.41}$	3289^{+223}_{-165}	-2310^{+6405}_{-945}	$0.278^{+1.262}_{-0.236}$

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 $A_{obs} \gg 1.0$

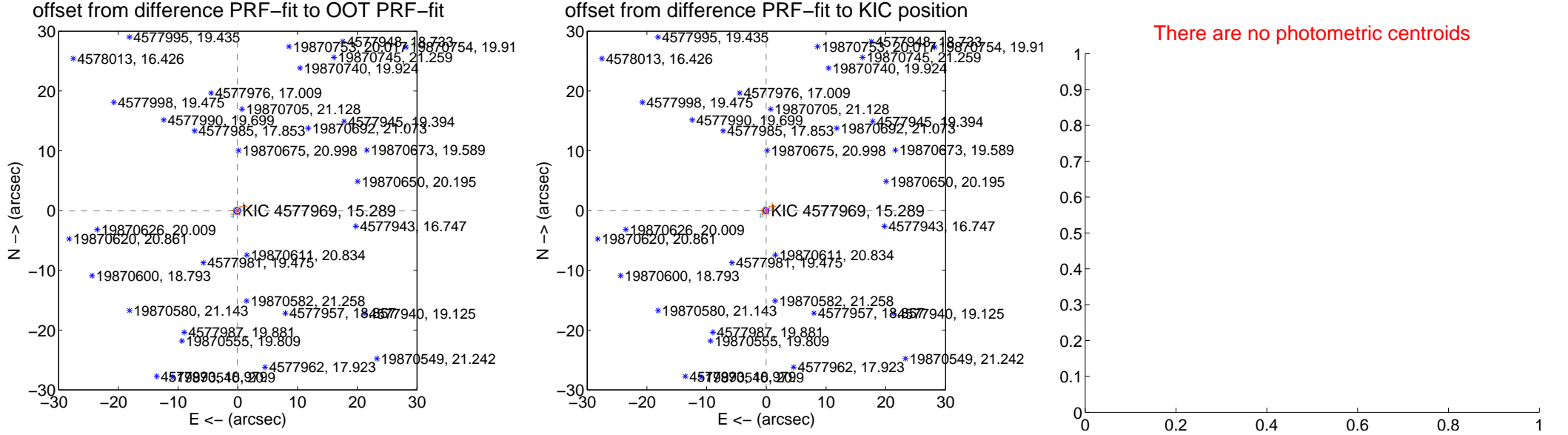
DV Centroid Data

Supplemental centroid analysis for 004577969-01. Kepler magnitude: 15.29. Transit SNR 0.04

There are 8 quarters with good PRF difference image offsets

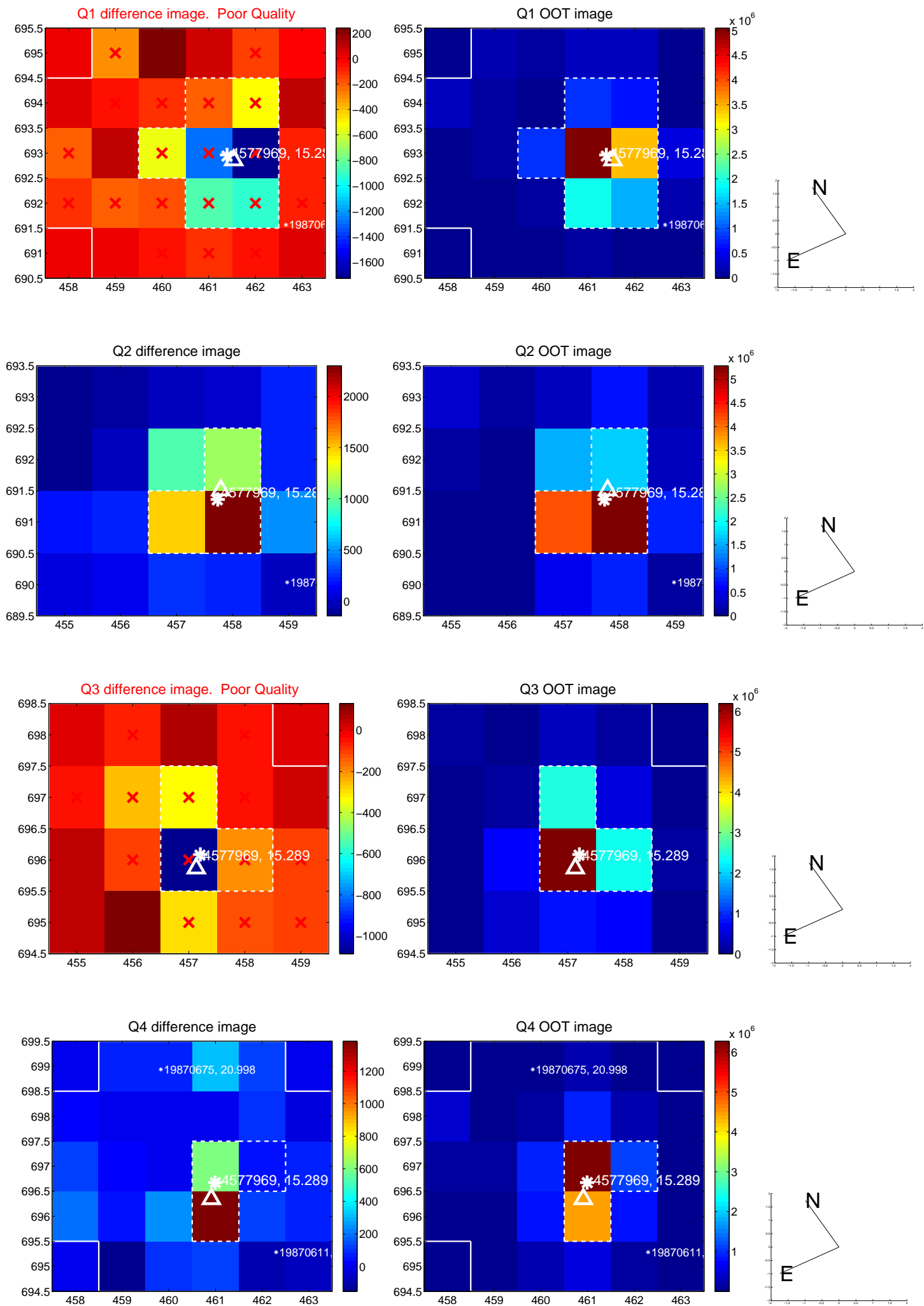
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.093 ± 0.182	0.51	0.071 ± 0.153	-0.060 ± 0.146
PRF-fit source offset from KIC position	0.043 ± 0.159	0.27	0.040 ± 0.139	-0.015 ± 0.143
photometric centroid source offset	—	—	—	—

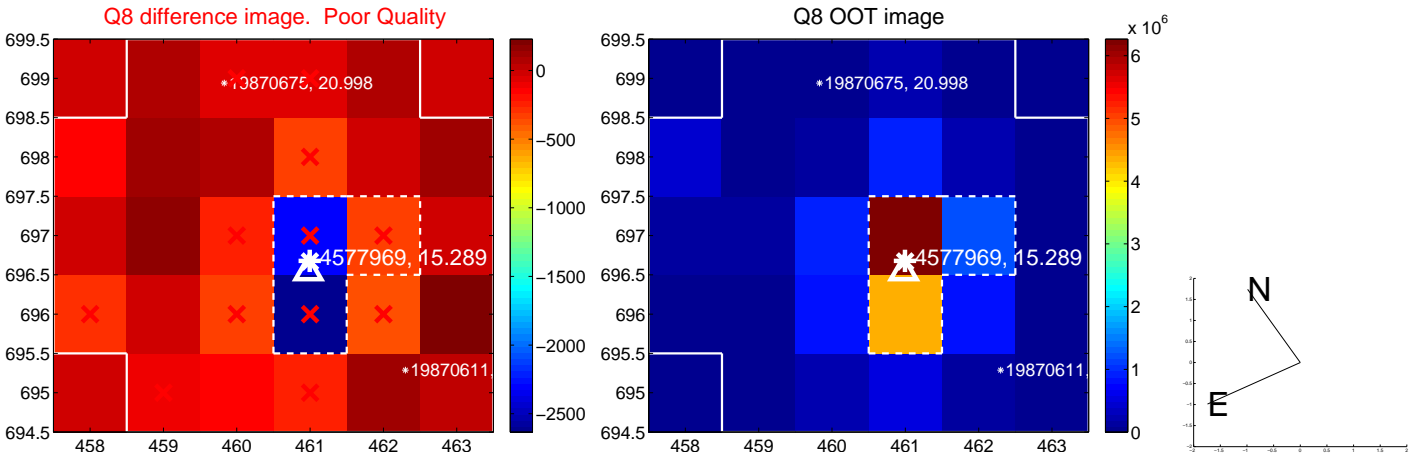
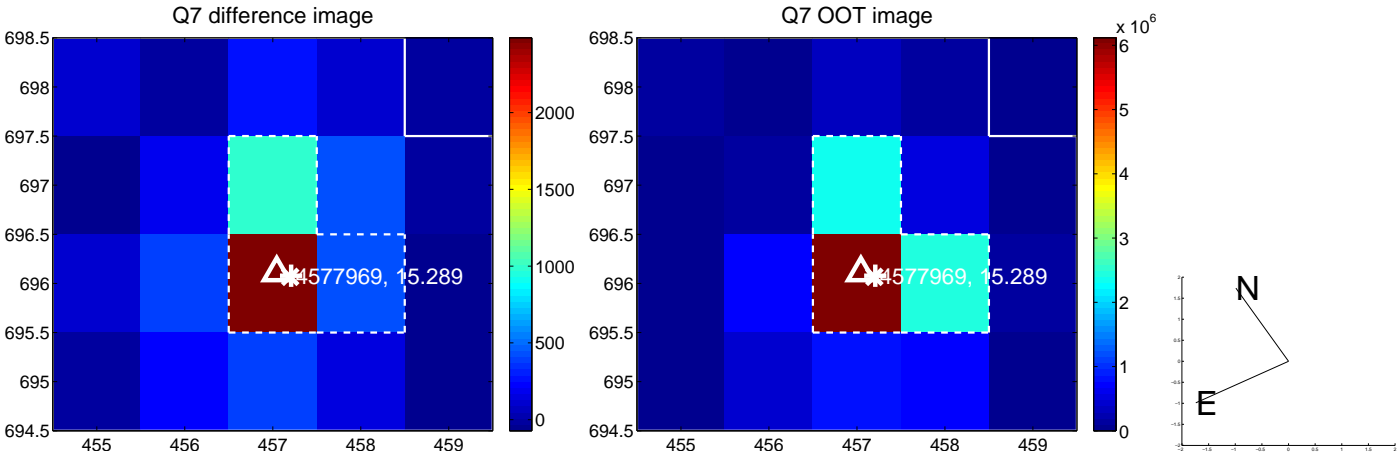
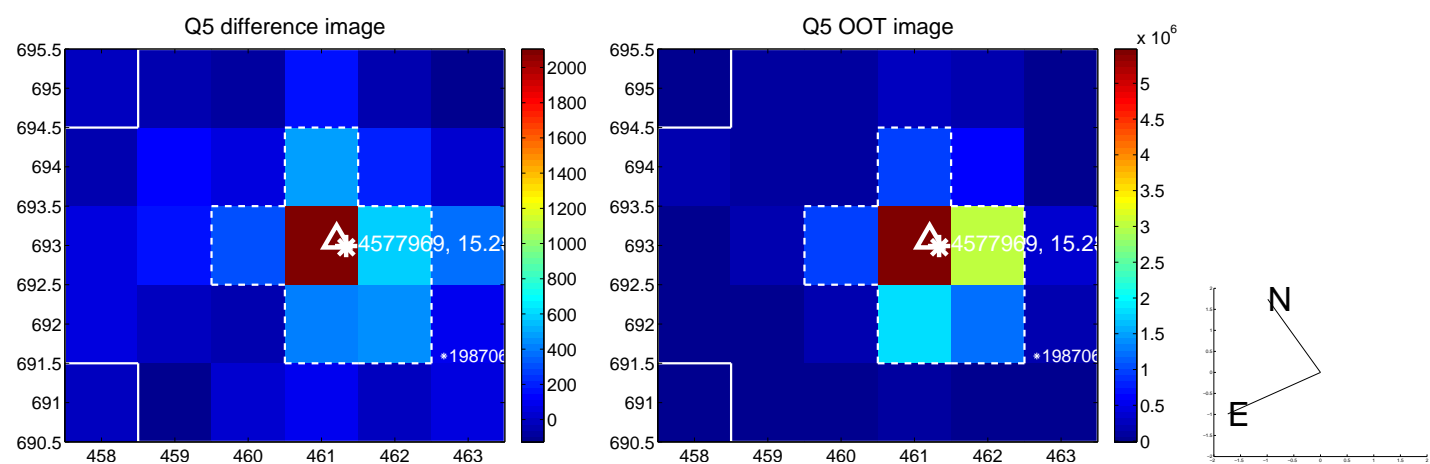


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

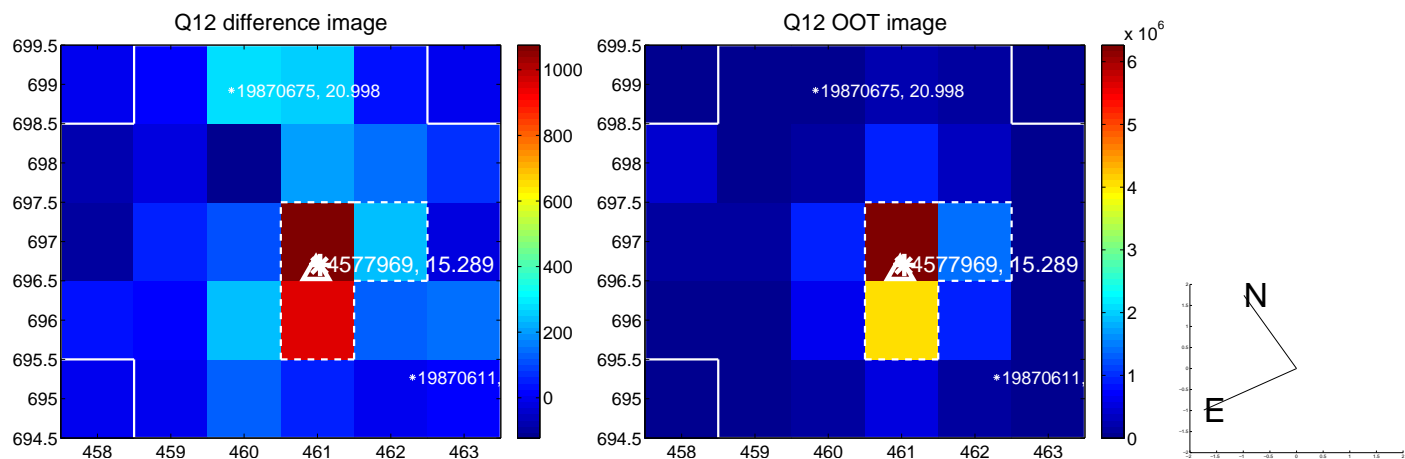
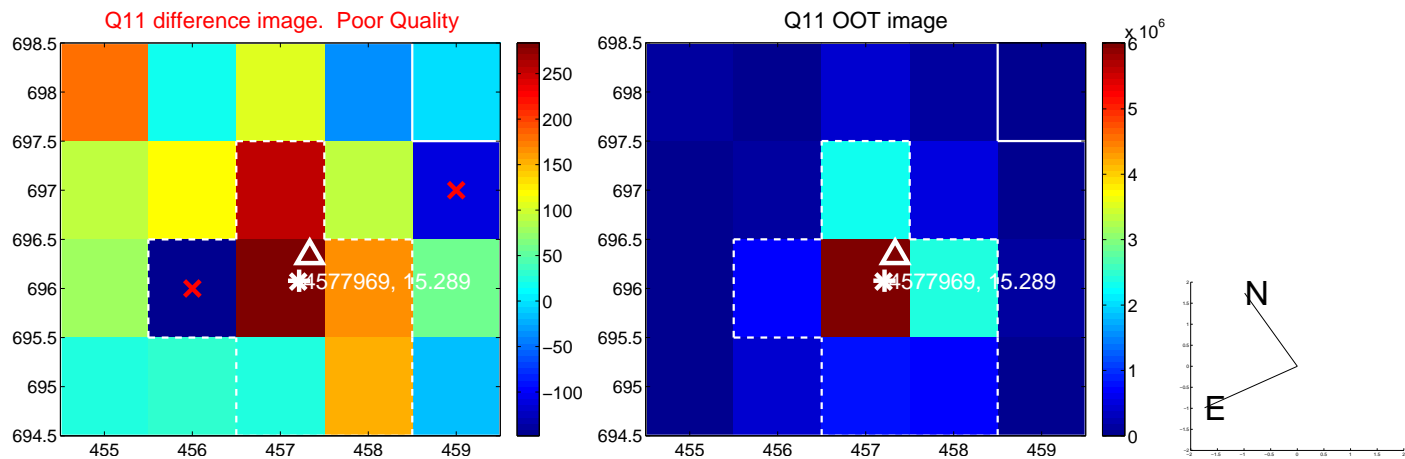
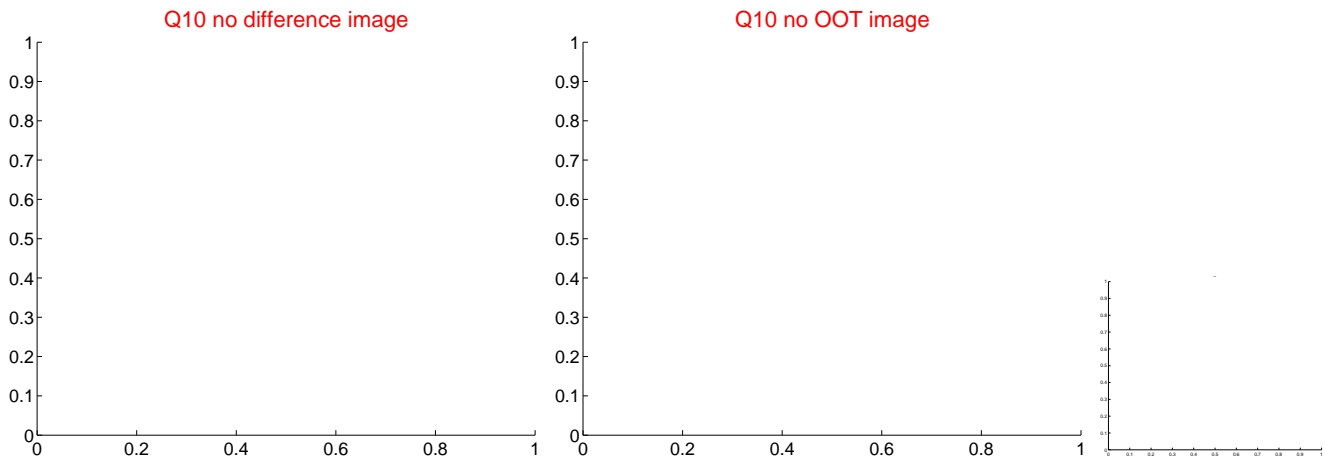
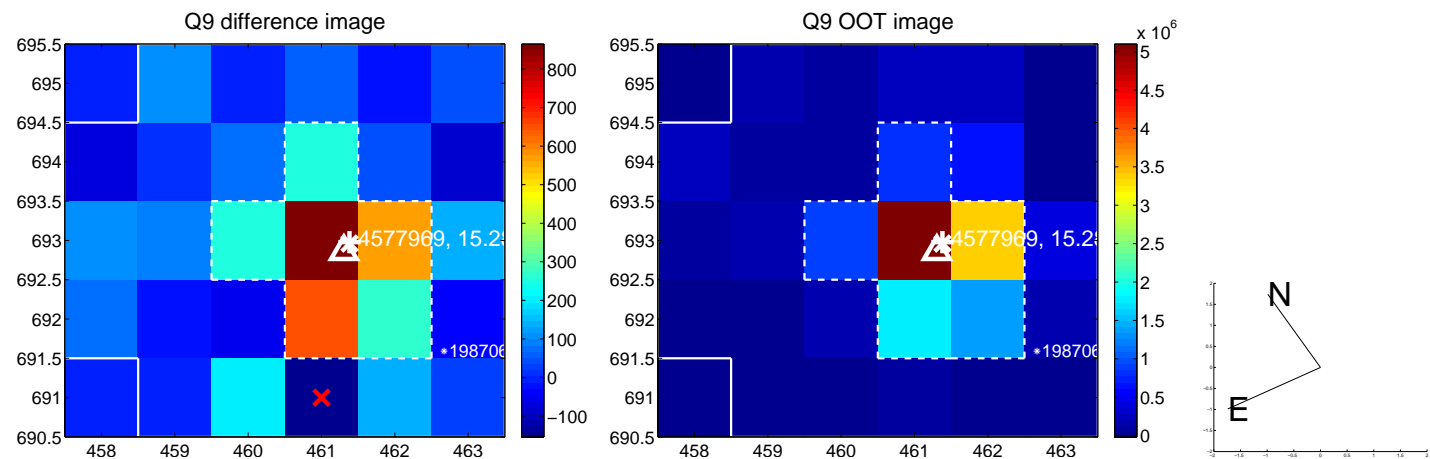
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



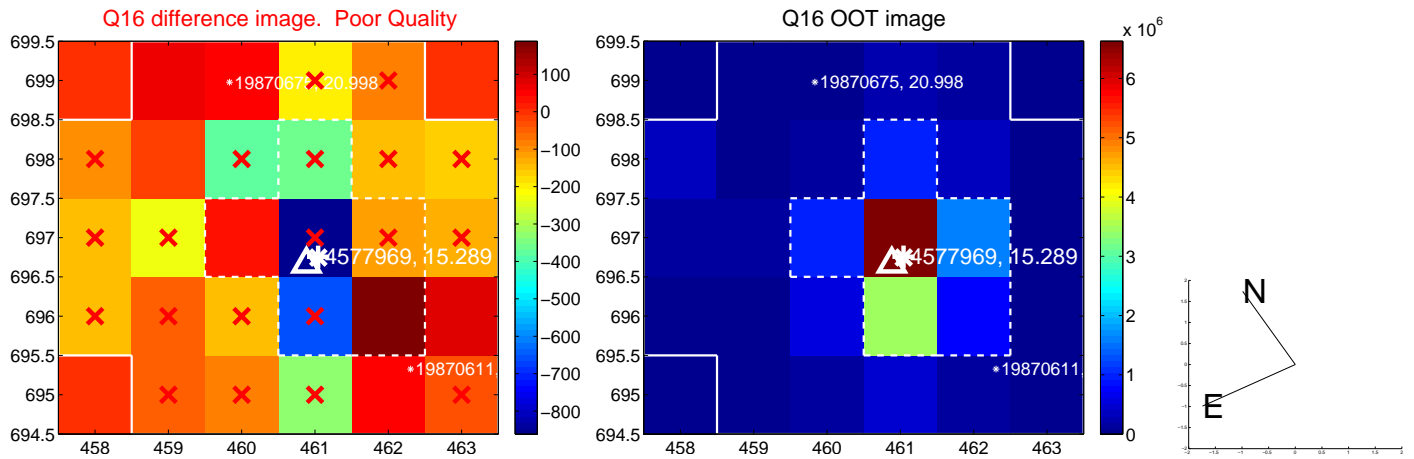
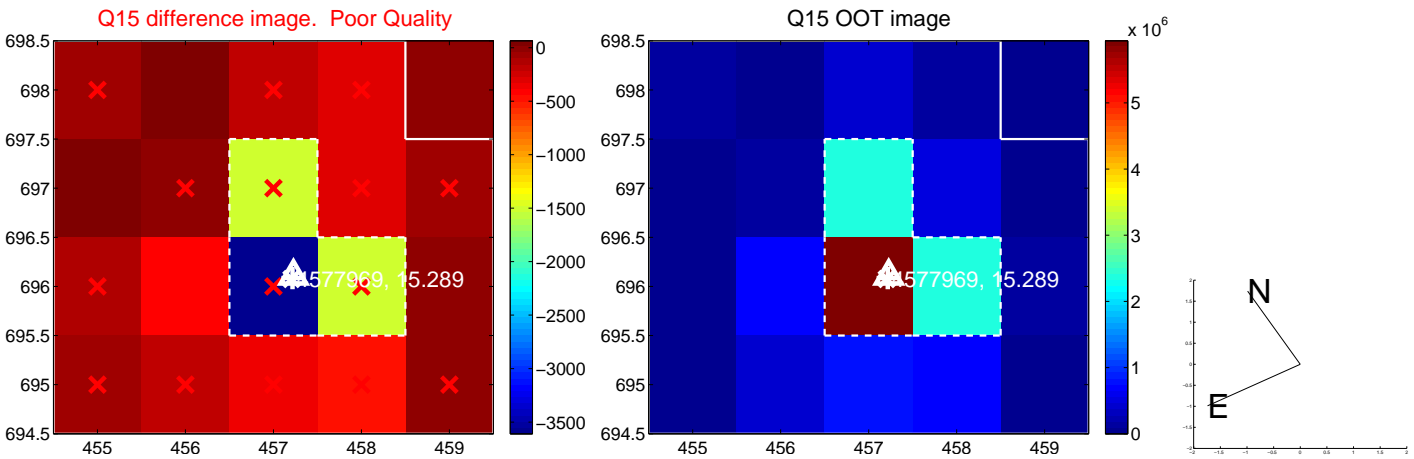
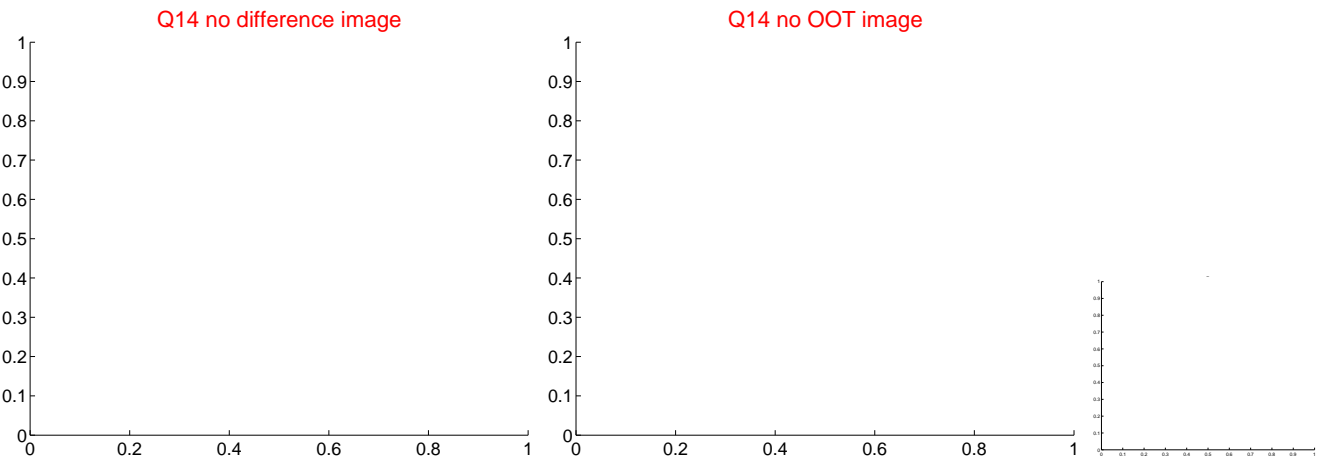
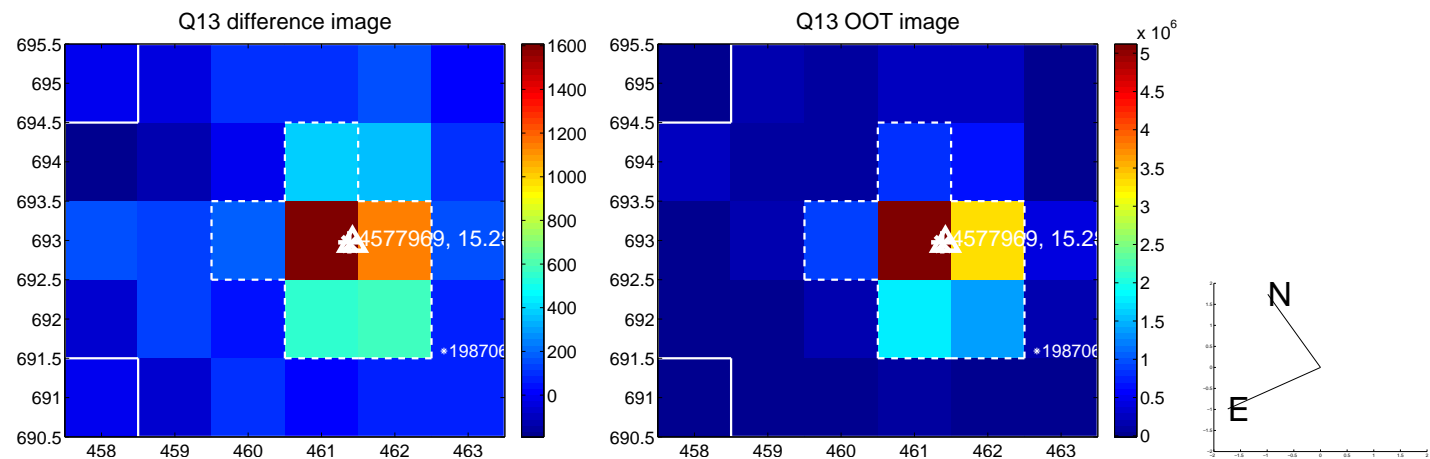
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



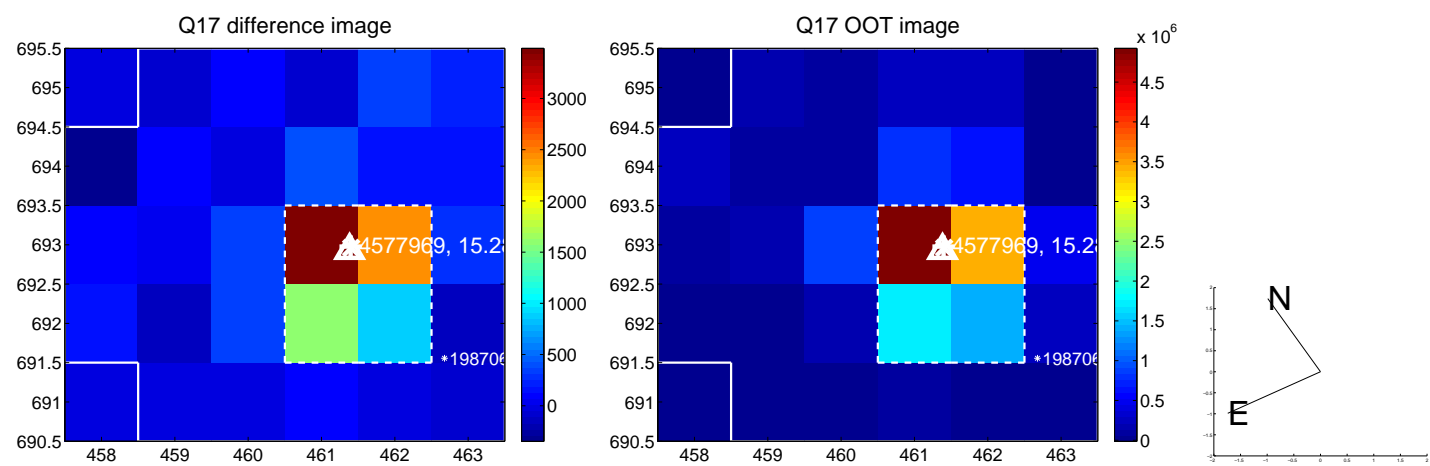
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



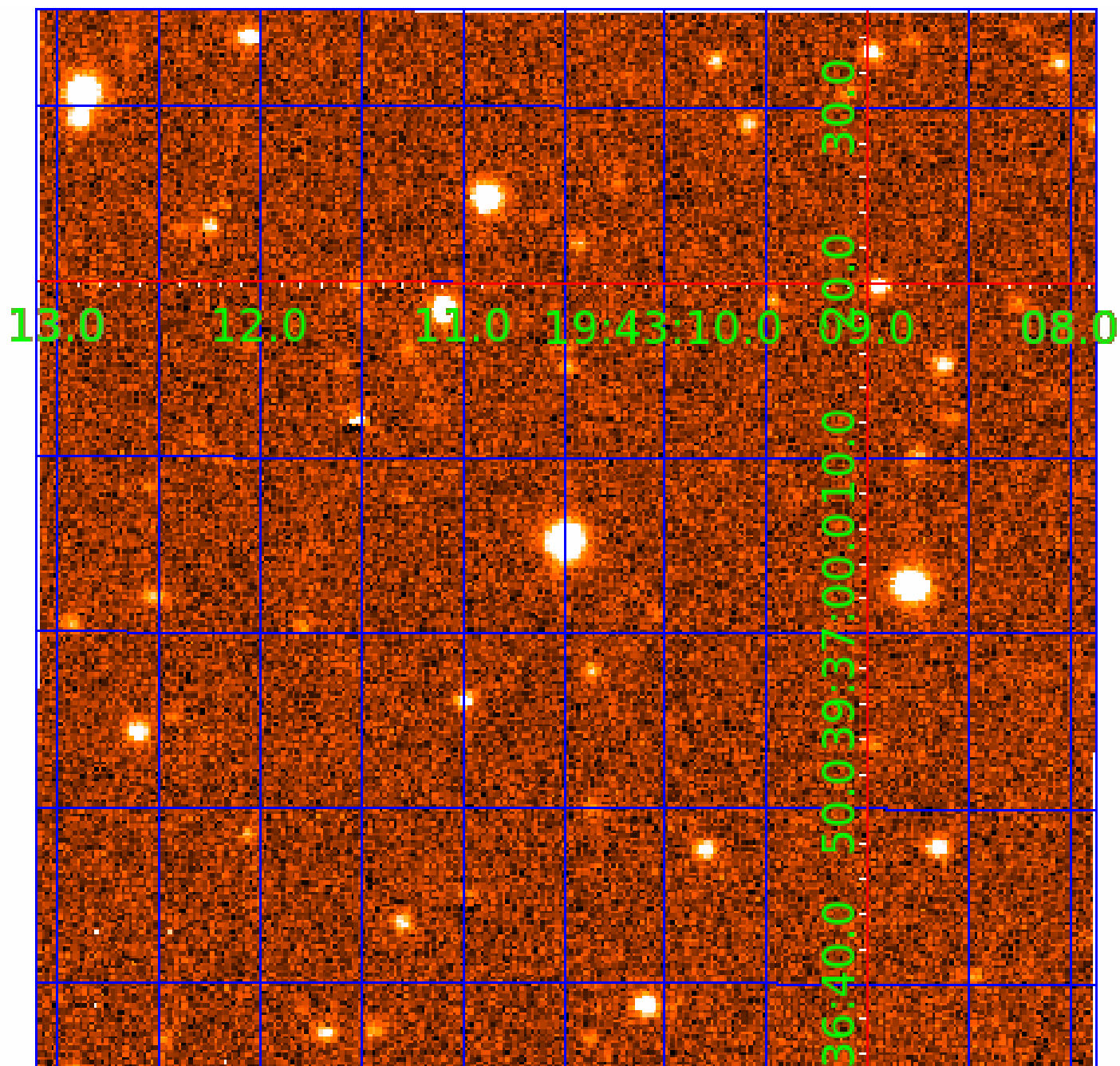
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 004577969

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})
004577969-01	OBS	No	0.914794	131.971135	0.5	4.202	10.5	0.0	1.23	6656	0.09	6787.72
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004577969-03	OBS	No	41.562112	137.682407	567.0	4.910	7.5	5.2	1.23	6656	3.09	41.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004577969-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004577969-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004577969-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

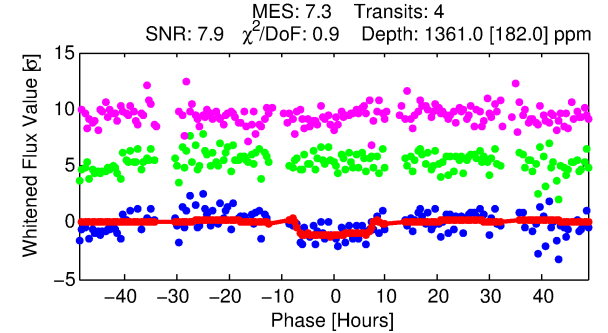
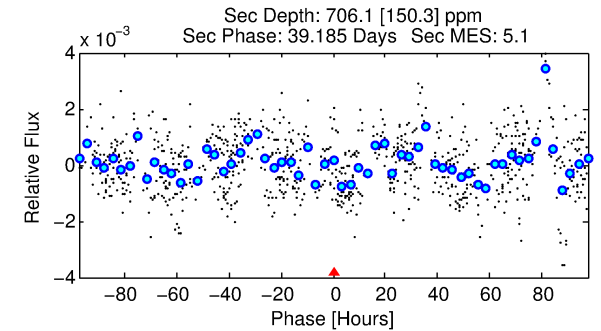
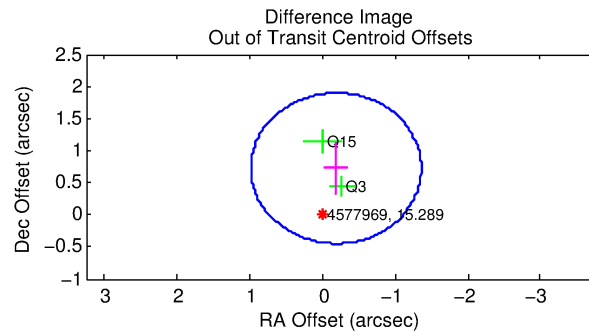
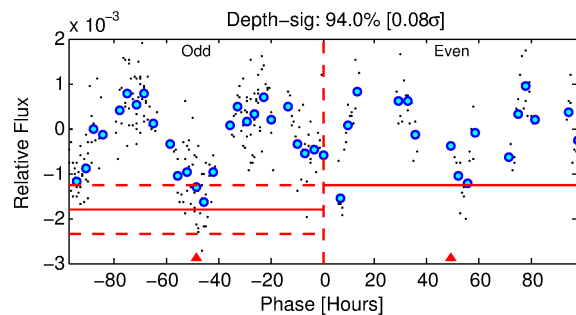
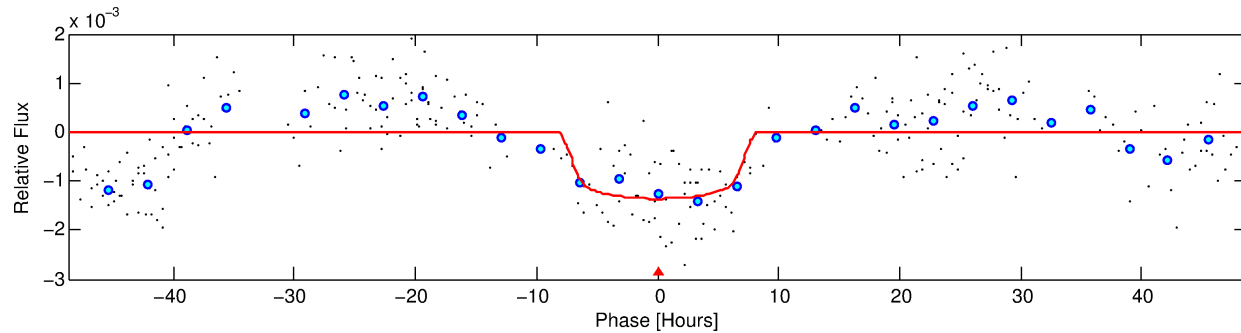
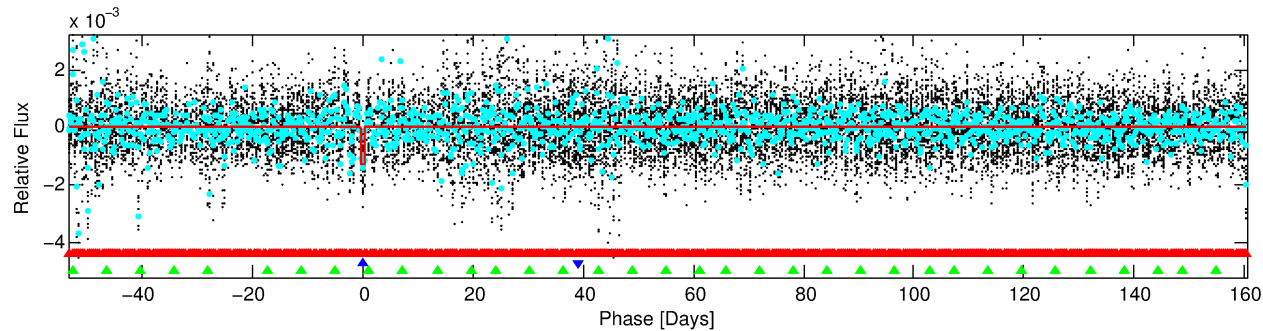
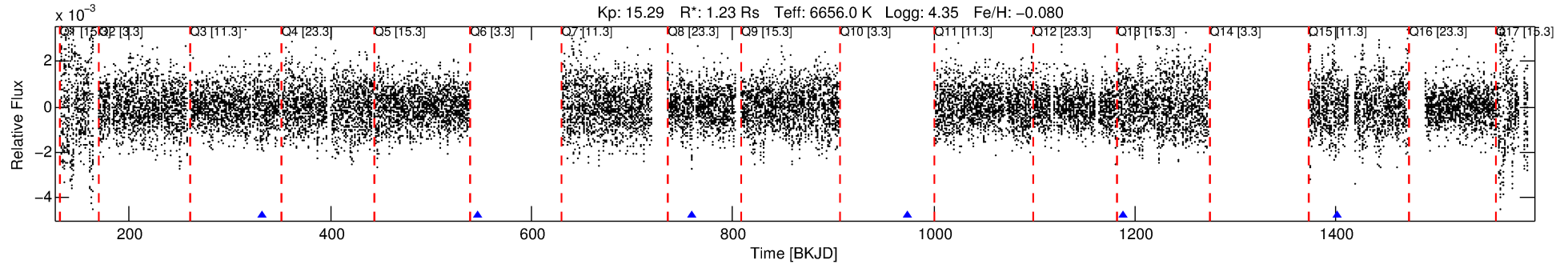
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004577969-02

No Significant Match Found

DV One-Page Summary

KIC: 4577969 Candidate: 2 of 3 Period: 213.981 d



DV Fit Results:

Period = 213.98097 [0.03359] d
Epoch = 332.0333 [0.0781] BKJD
Rp/R* = 0.0380 [0.0042]
a/R* = 61.41 [24.75]
b = 0.84 [0.16]
Seff = 4.71 [1.81]
Teq = 376 [36] K
Rp = 5.11 [1.64] Re
a = 0.7528 [0.1861] AU
Ag = 8434.66 [3930.35] [2.15 σ]
Teffp = 5566 [477] K [10.85 σ]

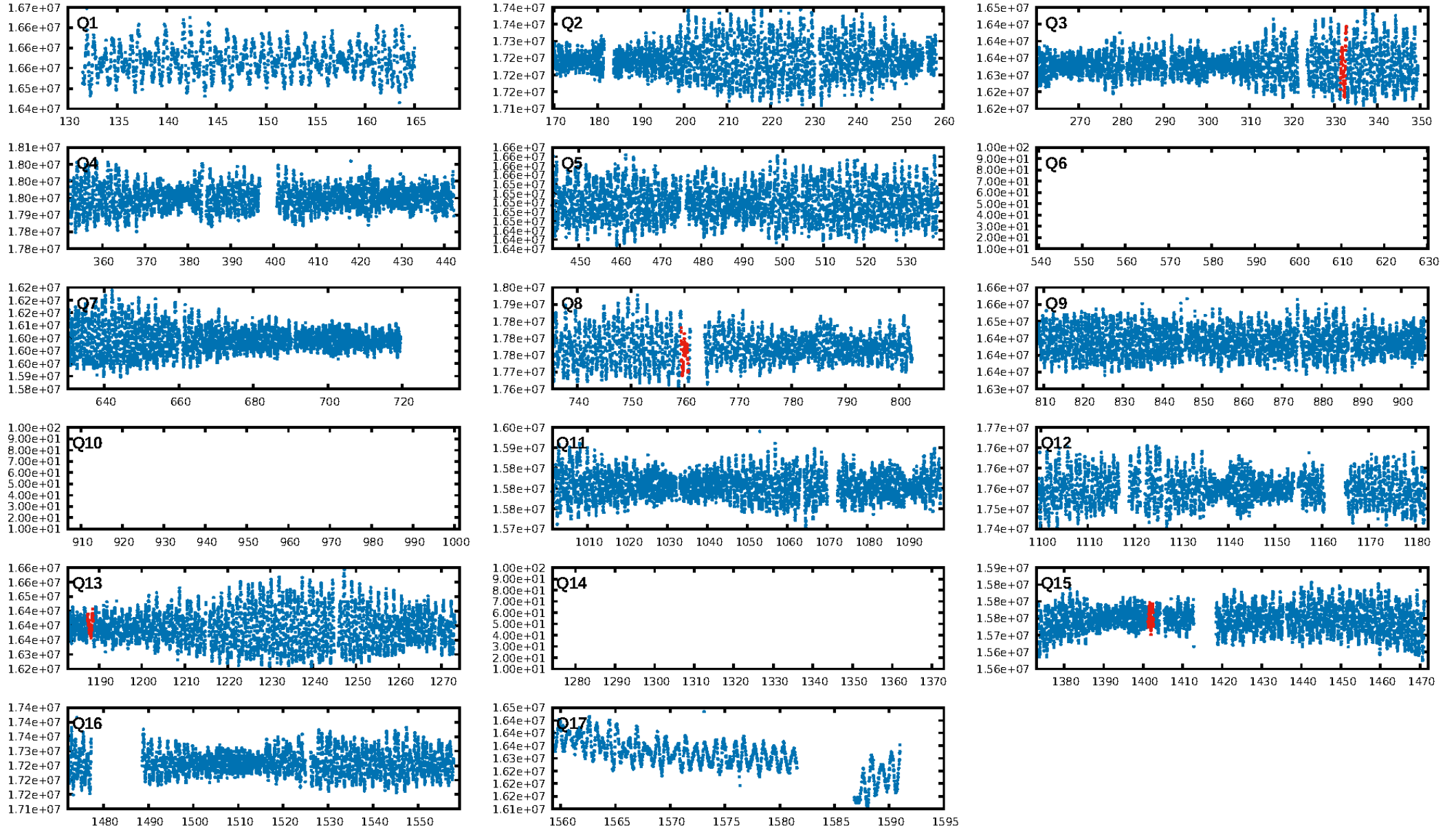
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [243.99 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 46.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.84e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.936
Centroid-sig: 41.3%
Centroid-so: 0.503 arcsec [0.82 σ]
OotOffset-rm: 0.748 arcsec [1.91 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-rm: 0.779 arcsec [2.08 σ]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/2]

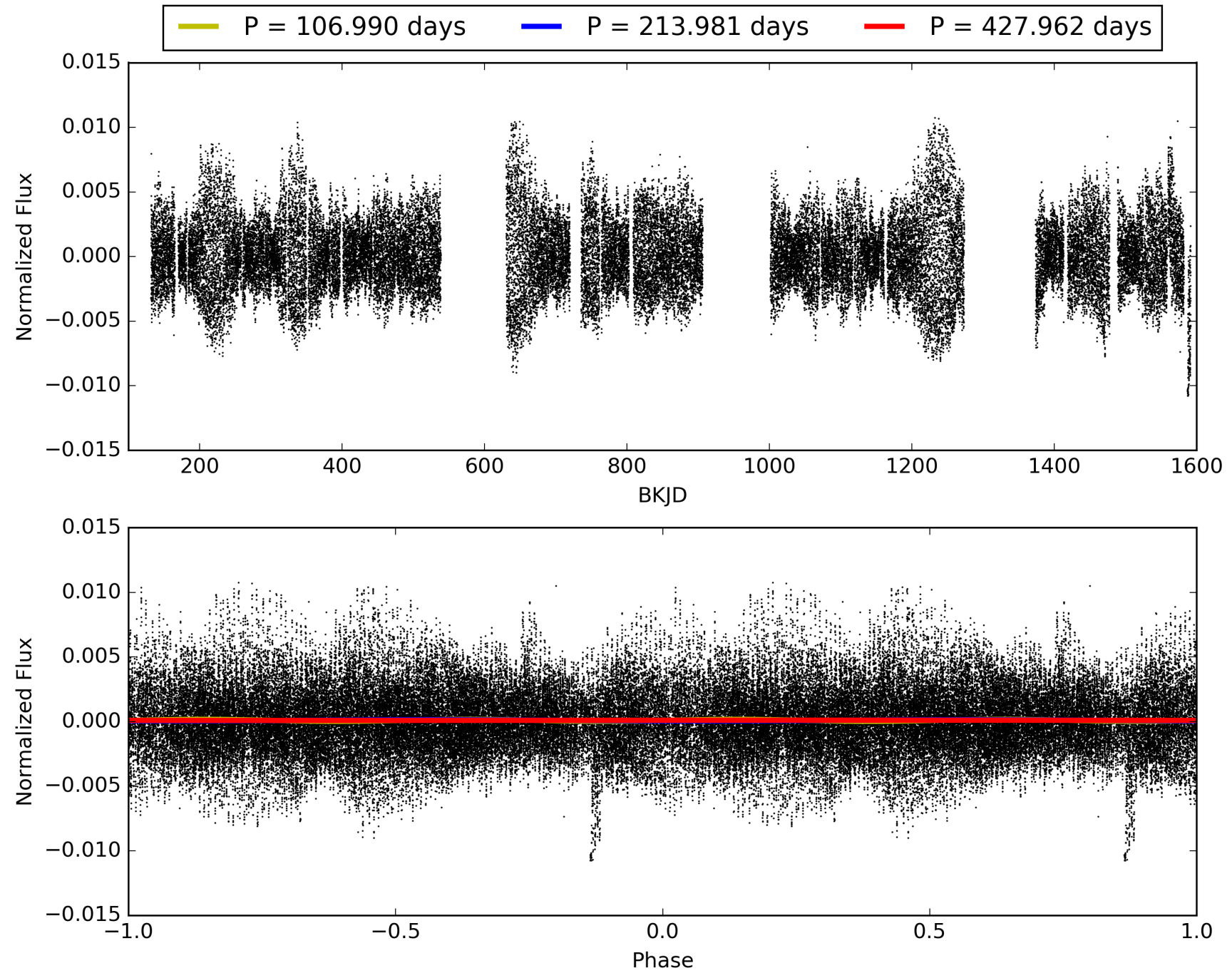
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:36:06 Z

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

TCE 004577969-02, PDC Light Curves

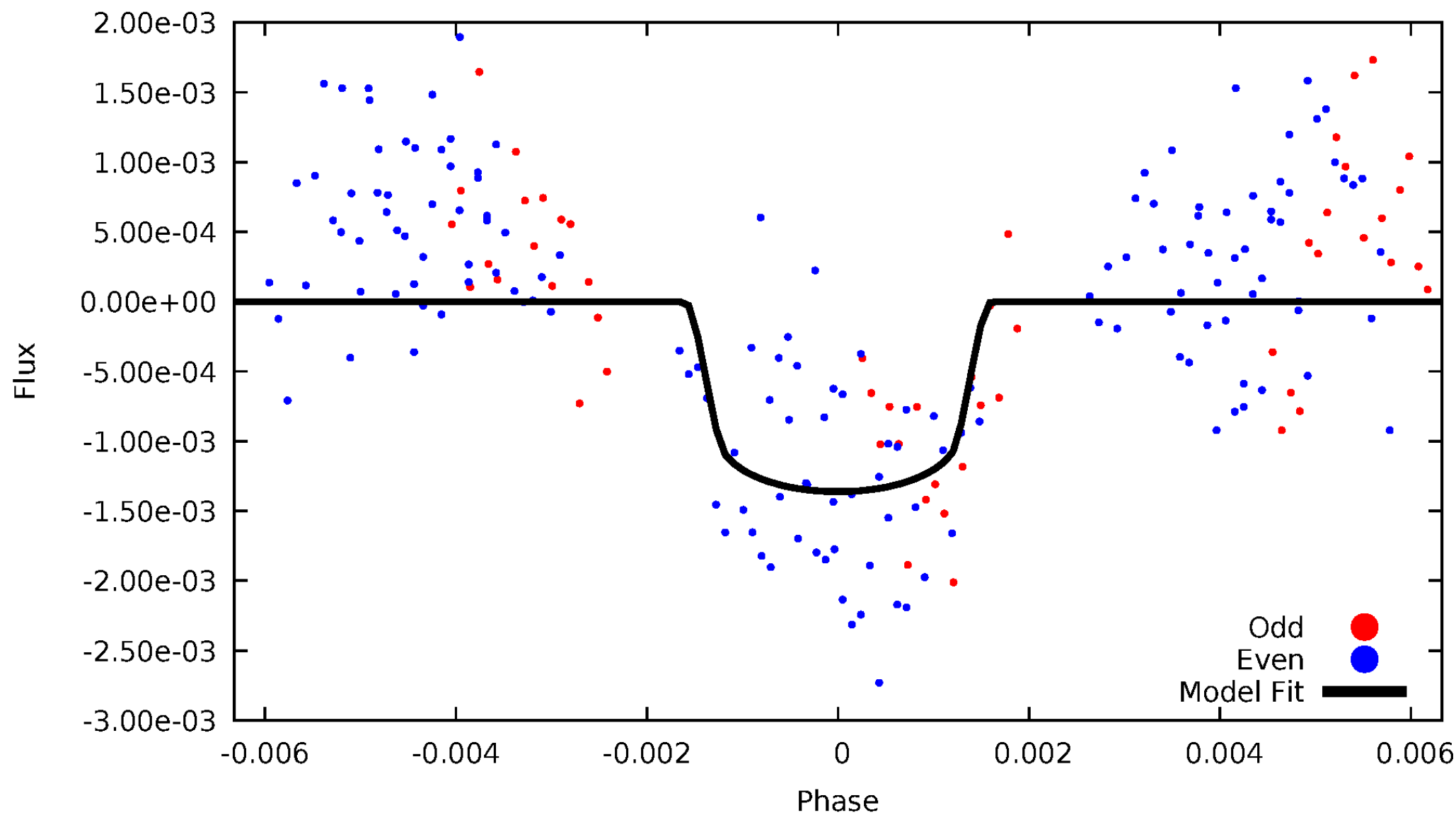


TCE 004577969-02



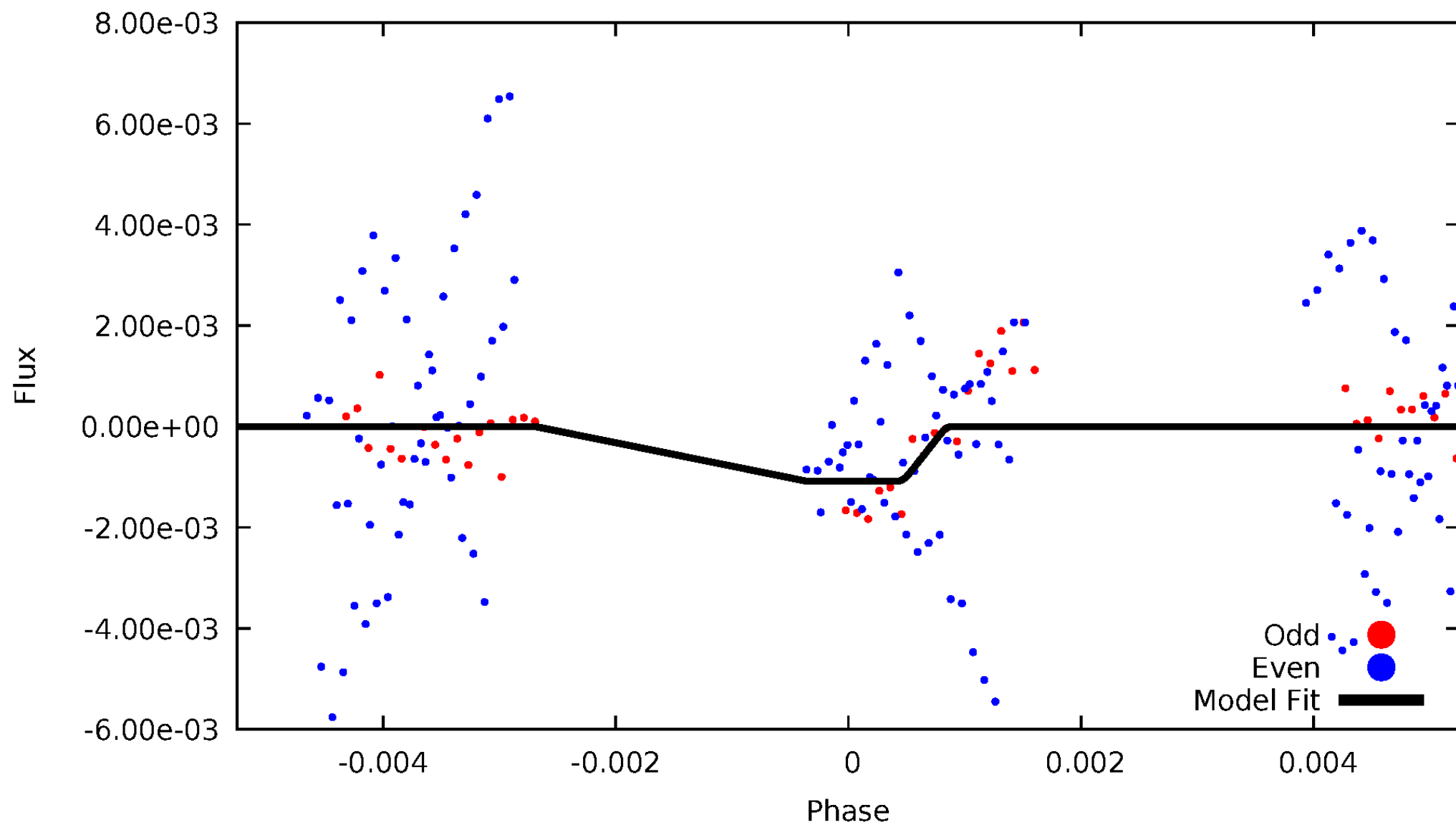
DV Odd/Even

TCE 004577969-02



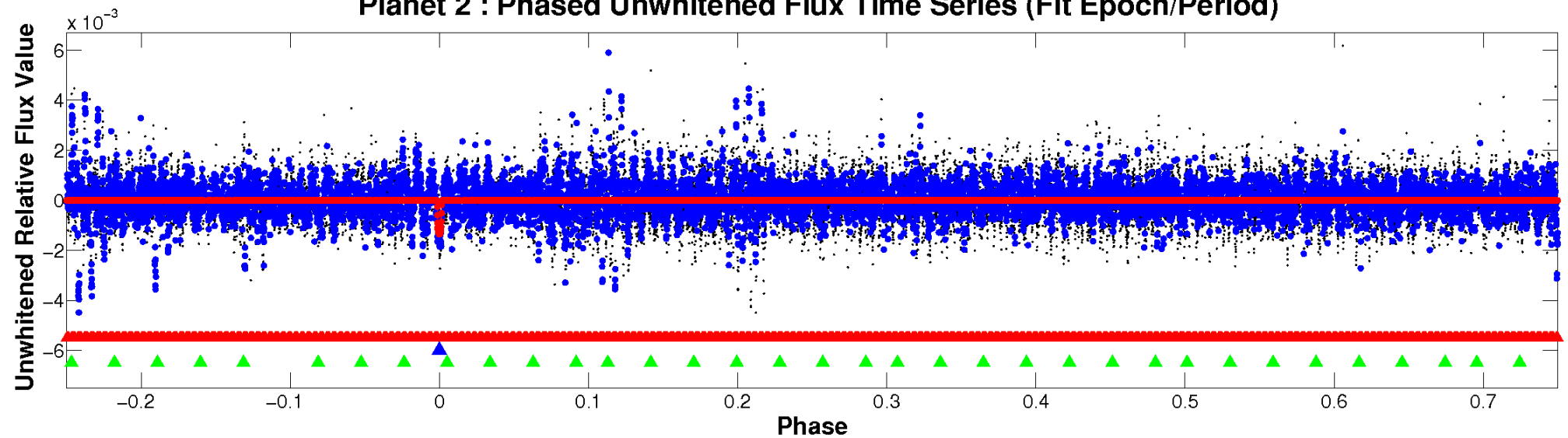
ALT Odd/Even

TCE 004577969-02

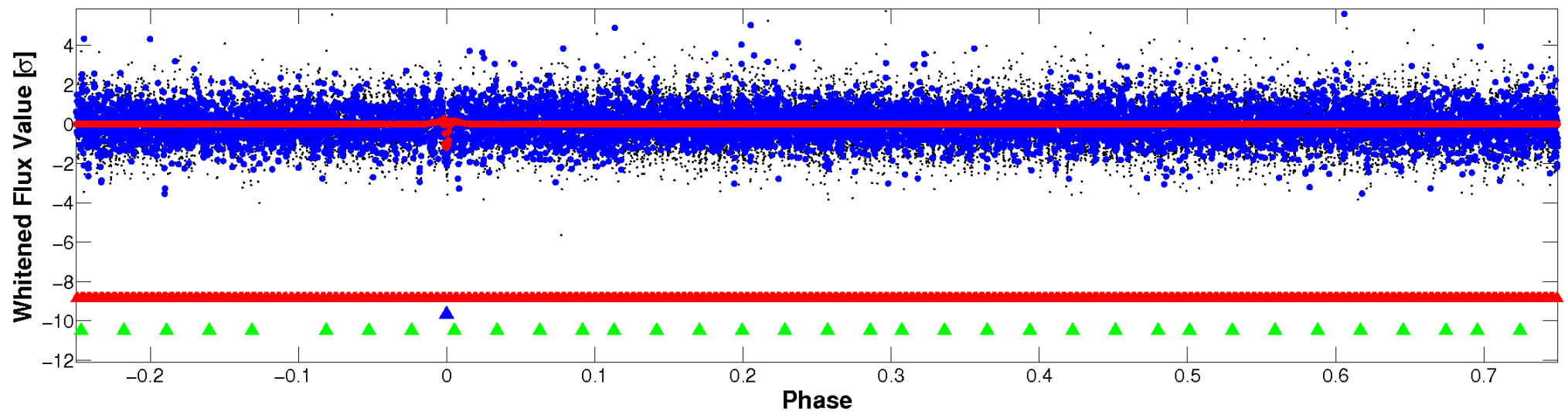


Non-Whitened Vs. Whitened Light Curve

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

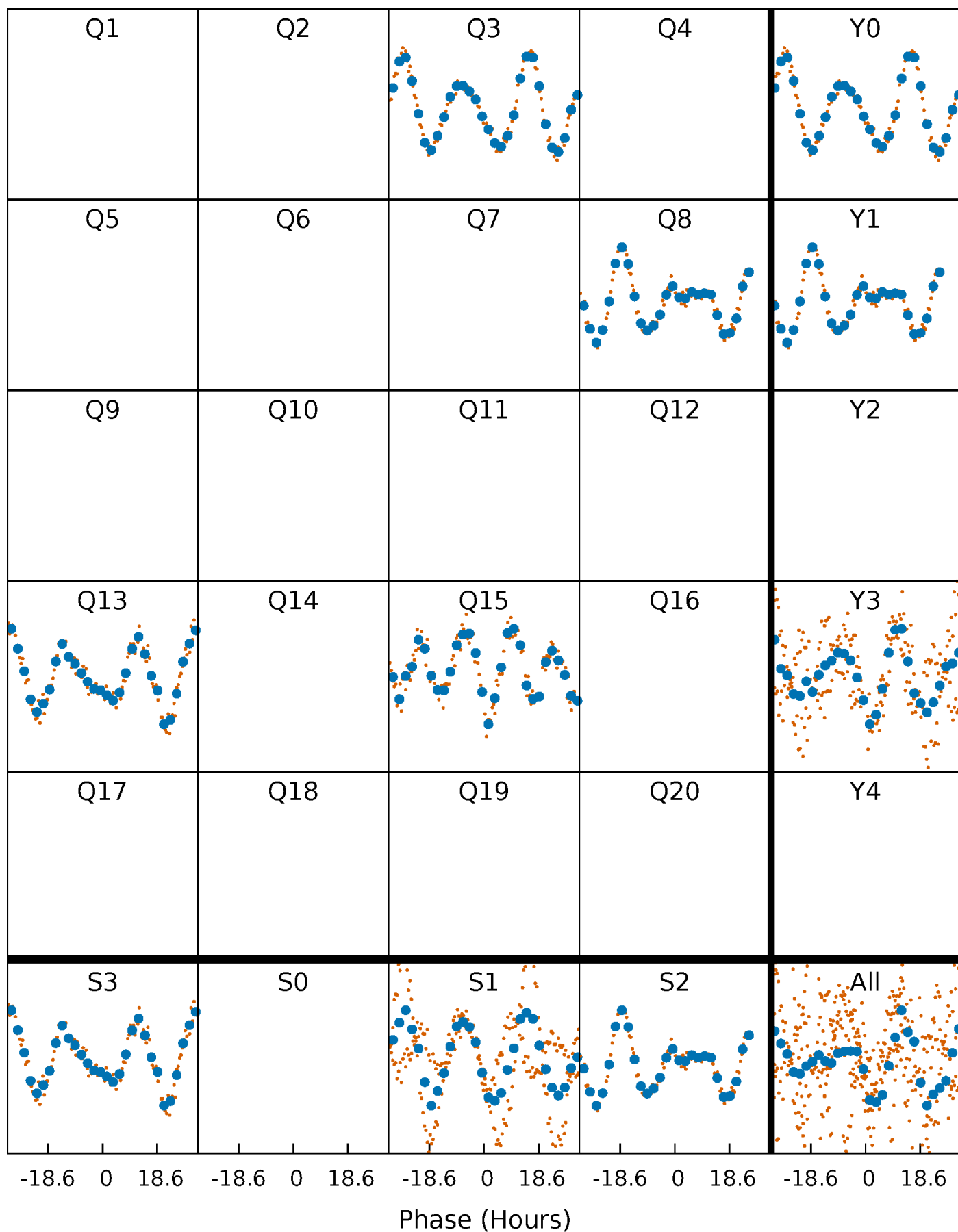


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 004577969-02 $P=213.980968$ Days $T_0=332.033316$ (BKJD)



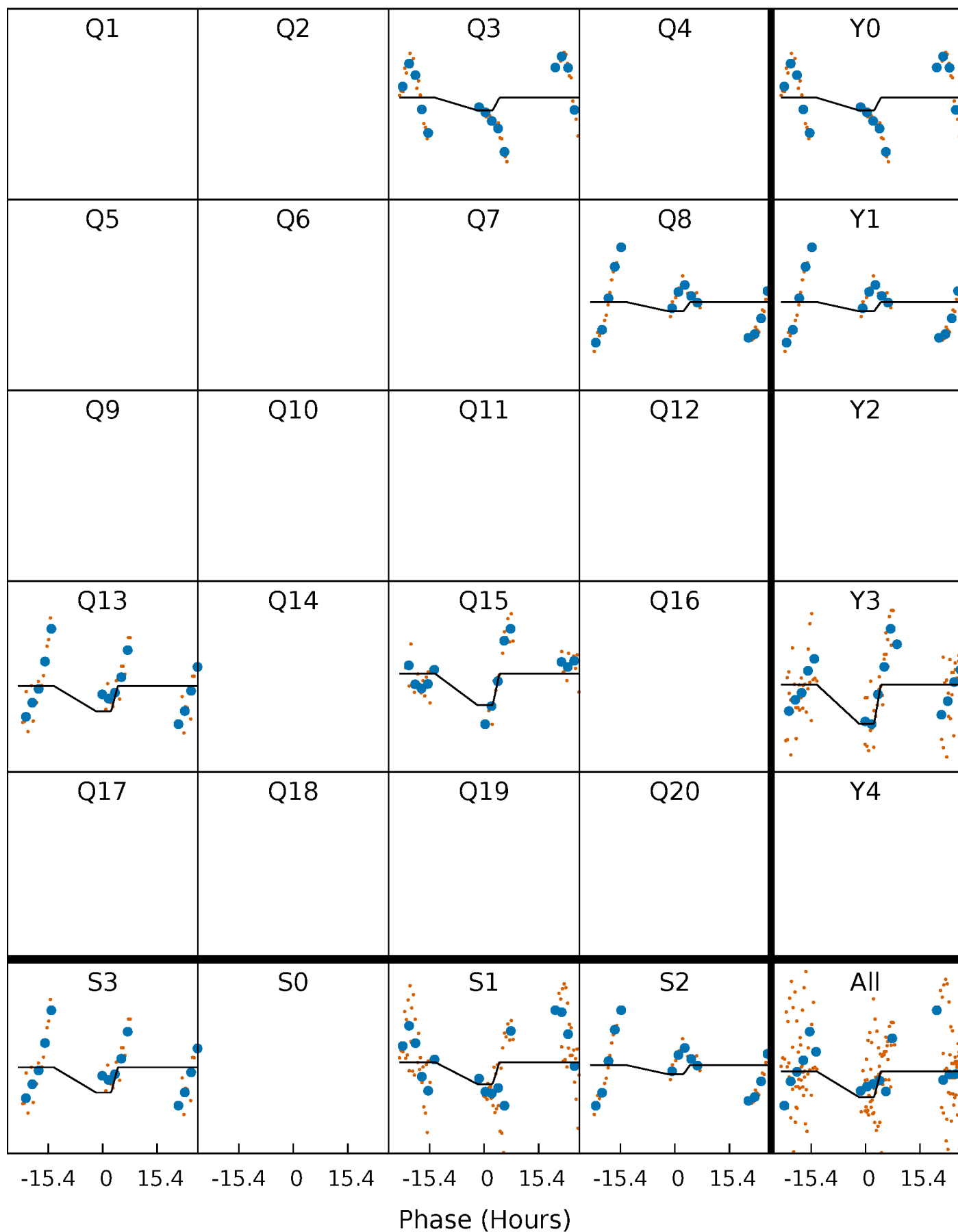
DV Quarter-Phased Transit Curves

TCE 004577969-02 $P=213.980968$ Days $T_0=332.033316$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

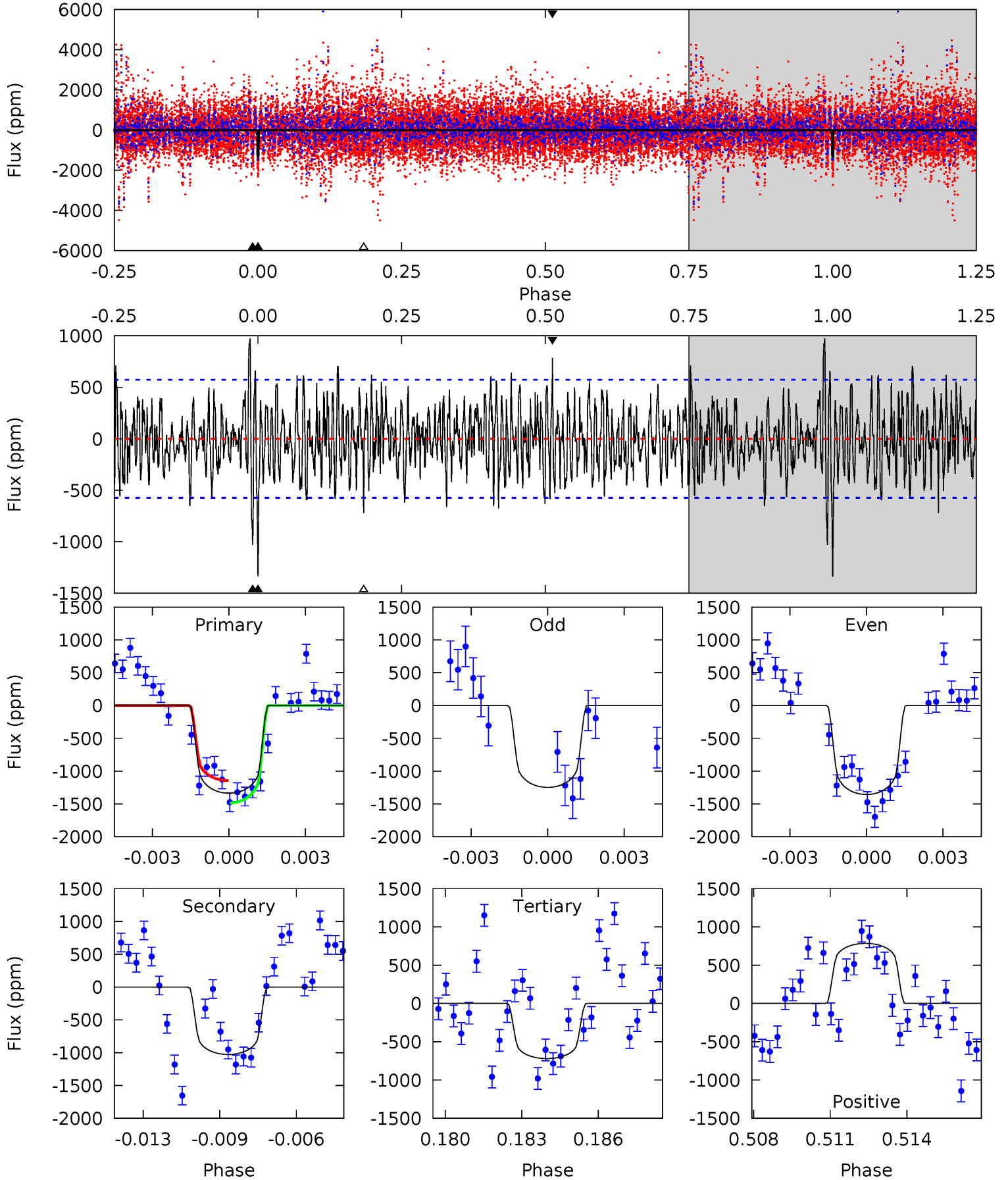
TCE 004577969-02 $P=214.048352$ Days $T_0=331.755246$ (BKJD)



DV Model-Shift Uniqueness Test

004577969-02, P = 213.980968 Days, E = 118.052348 Days

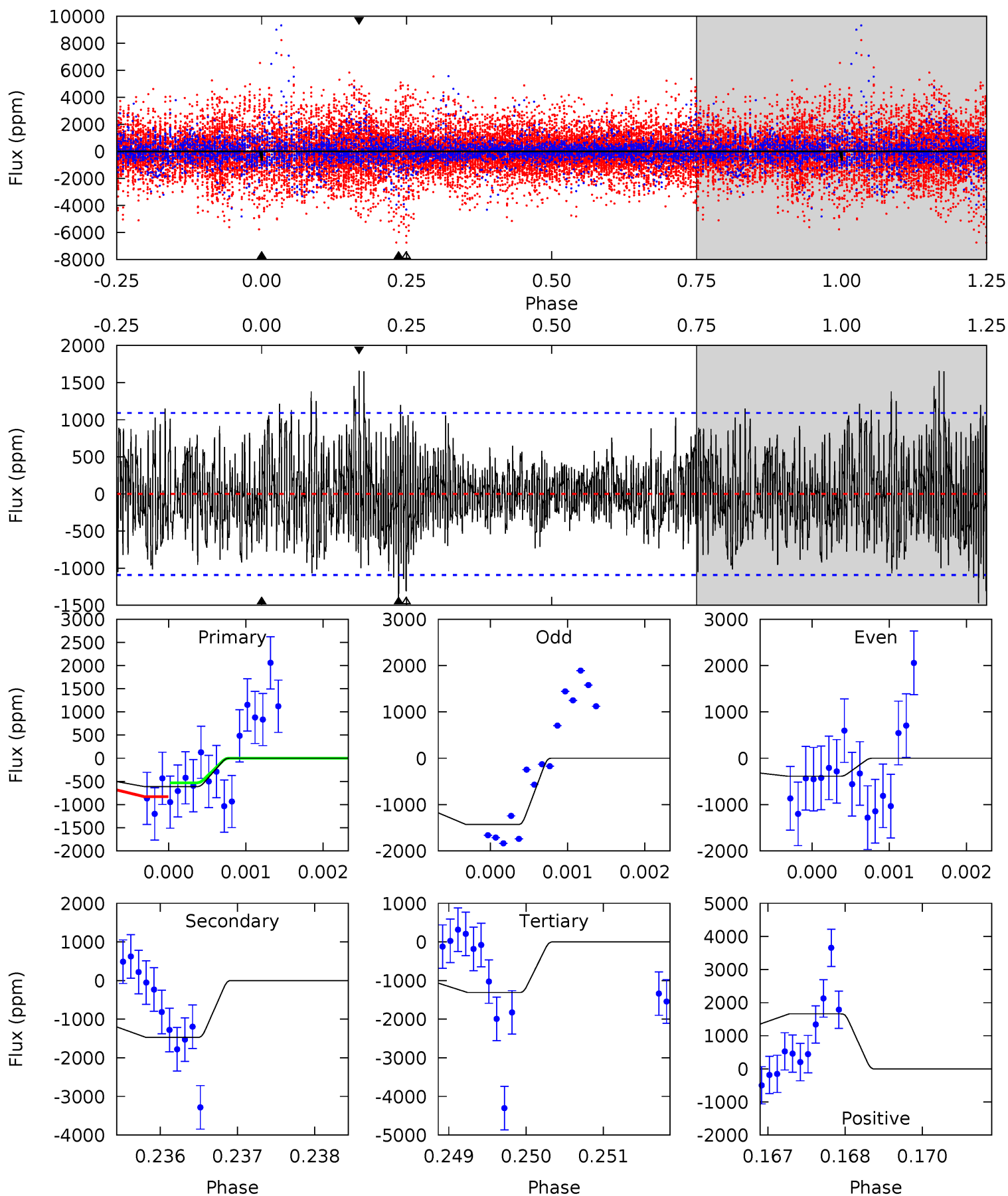
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	9.41	6.59	7.18	5.24	2.95	2.34	5.65	5.06	2.82	2.23	0.39	1.08	0.42	1.58



Alt Model-Shift Uniqueness Test

004577969-02, P = 214.048352 Days, E = 117.706894 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.04	7.32	6.51	8.25	5.43	3.25	1.83	-3.47	-5.21	0.80	-0.94	2.51	0.64	0.53	0.59



Stellar Parameters For KIC 004577969

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6656^{+187}_{-258}	$4.351^{+0.062}_{-0.188}$	$-0.080^{+0.250}_{-0.300}$	$1.232^{+0.371}_{-0.159}$	$1.248^{+0.174}_{-0.174}$	$0.941^{+0.324}_{-0.473}$
	+3%/-4%	+1%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-50%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004577969-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1028 ± 109	$5.31^{+1.00}_{-0.74}$	533^{+41}_{-28}	6083^{+491}_{-398}	11197^{+4086}_{-3190}
Alt.	-1471 ± 201	$4.58^{+0.94}_{-0.76}$	533^{+37}_{-31}	7186^{+749}_{-539}	21432^{+9462}_{-6655}

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

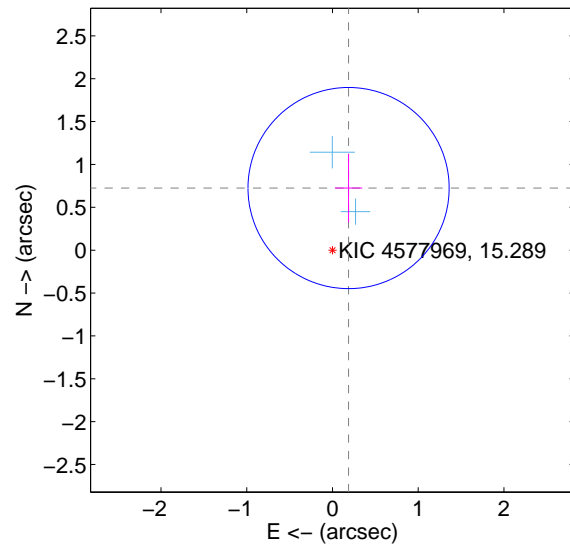
Supplemental centroid analysis for 004577969-02. Kepler magnitude: 15.29. Transit SNR 7.88

There are 2 quarters with good PRF difference image offsets

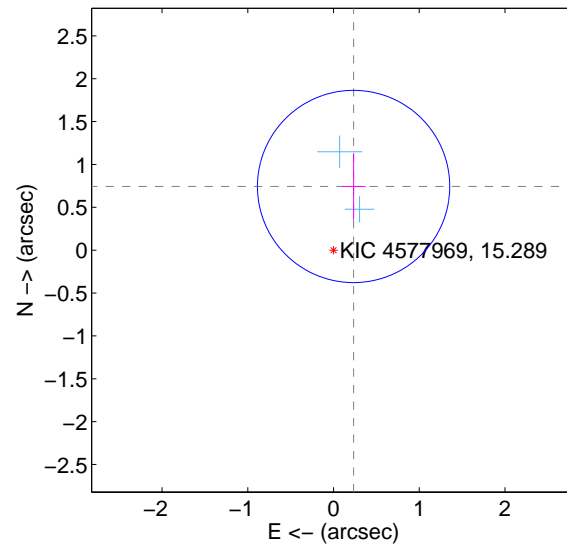
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.748 ± 0.391	1.91	-0.188 ± 0.160	0.724 ± 0.402
PRF-fit source offset from KIC position	0.779 ± 0.374	2.08	-0.234 ± 0.141	0.743 ± 0.389
photometric centroid source offset	0.50 ± 0.62	0.82	-0.45 ± 0.62	0.22 ± 0.62

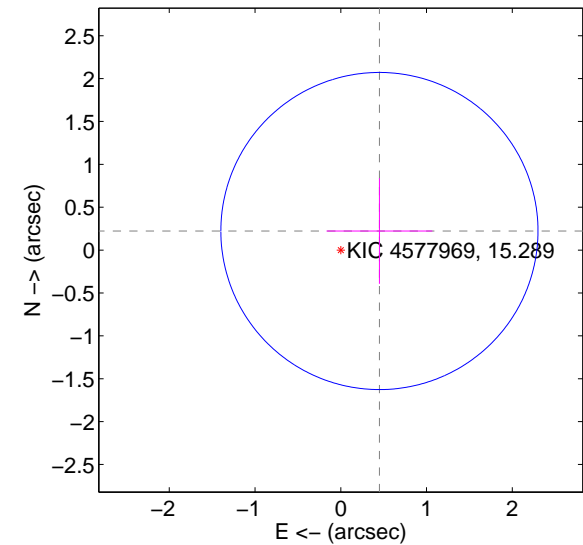
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

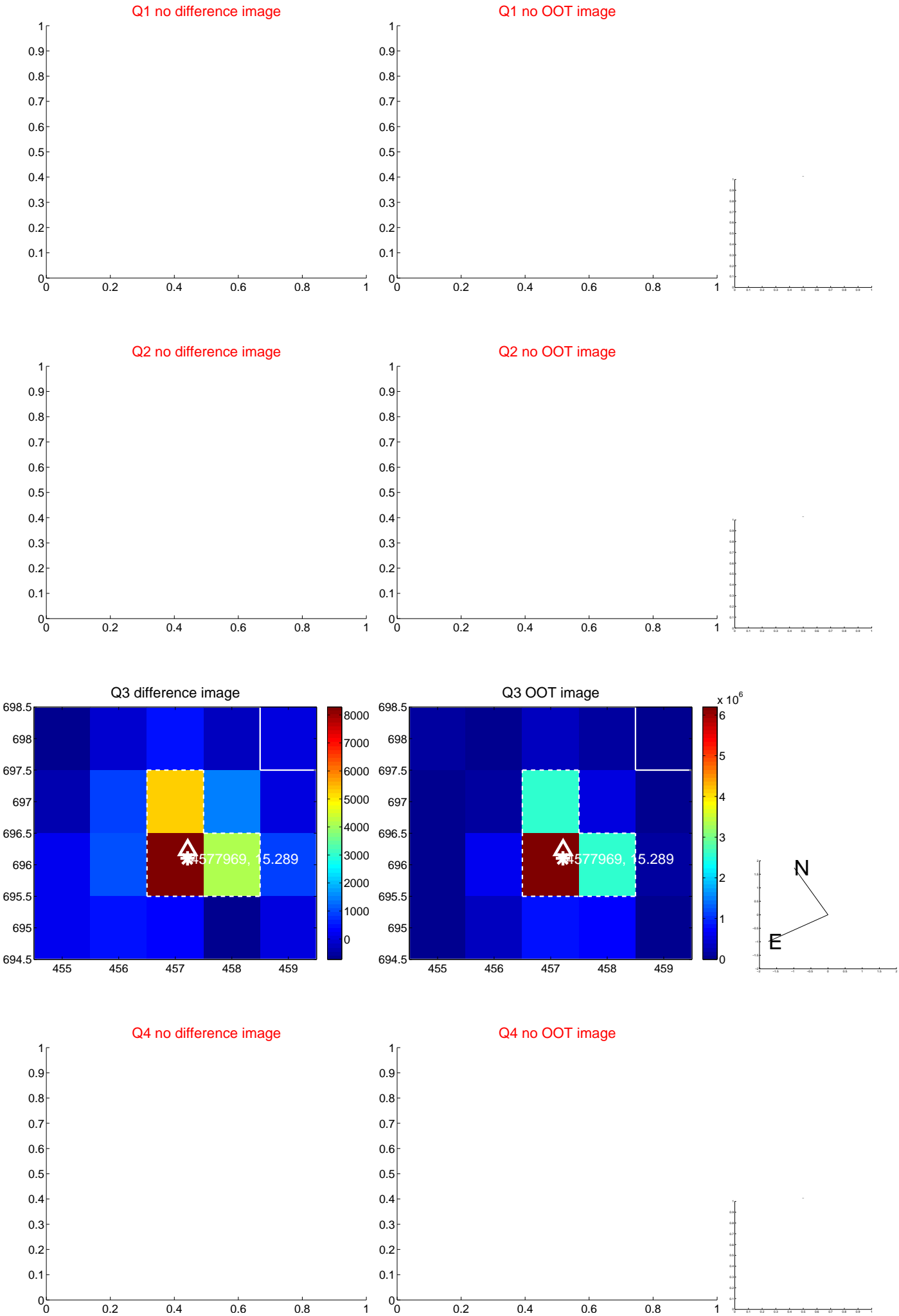


offset from photometric centroids



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

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



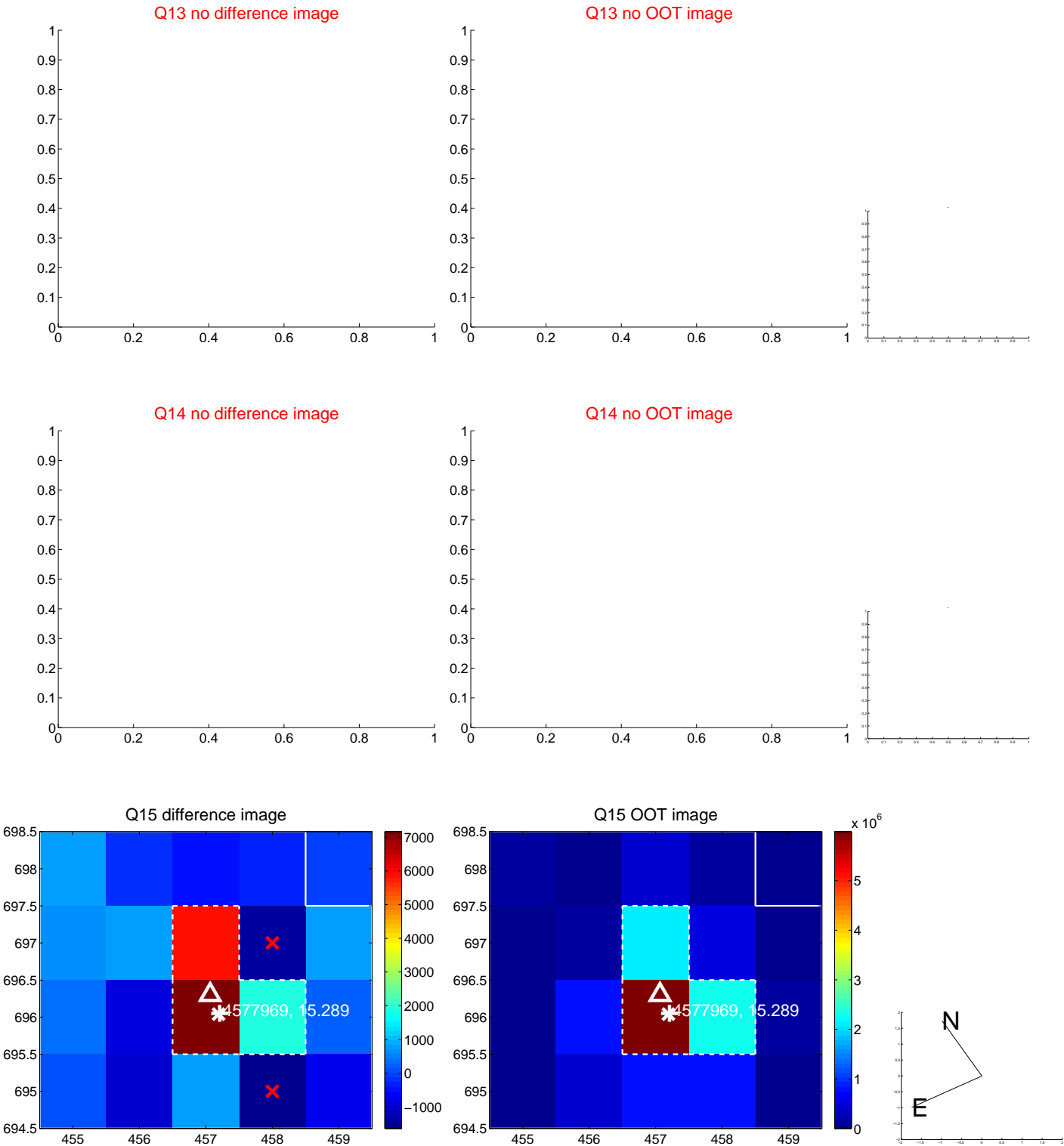
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



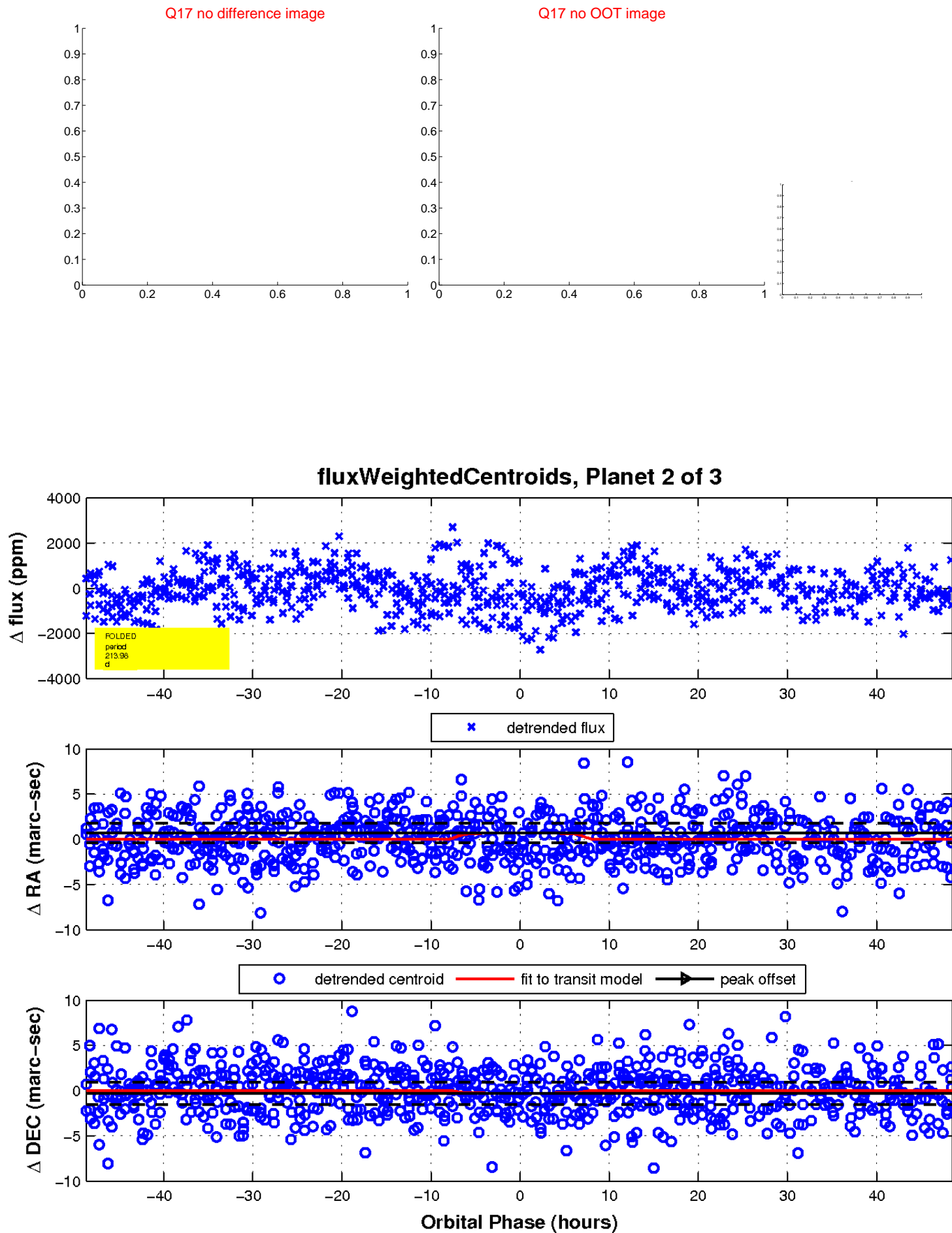
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

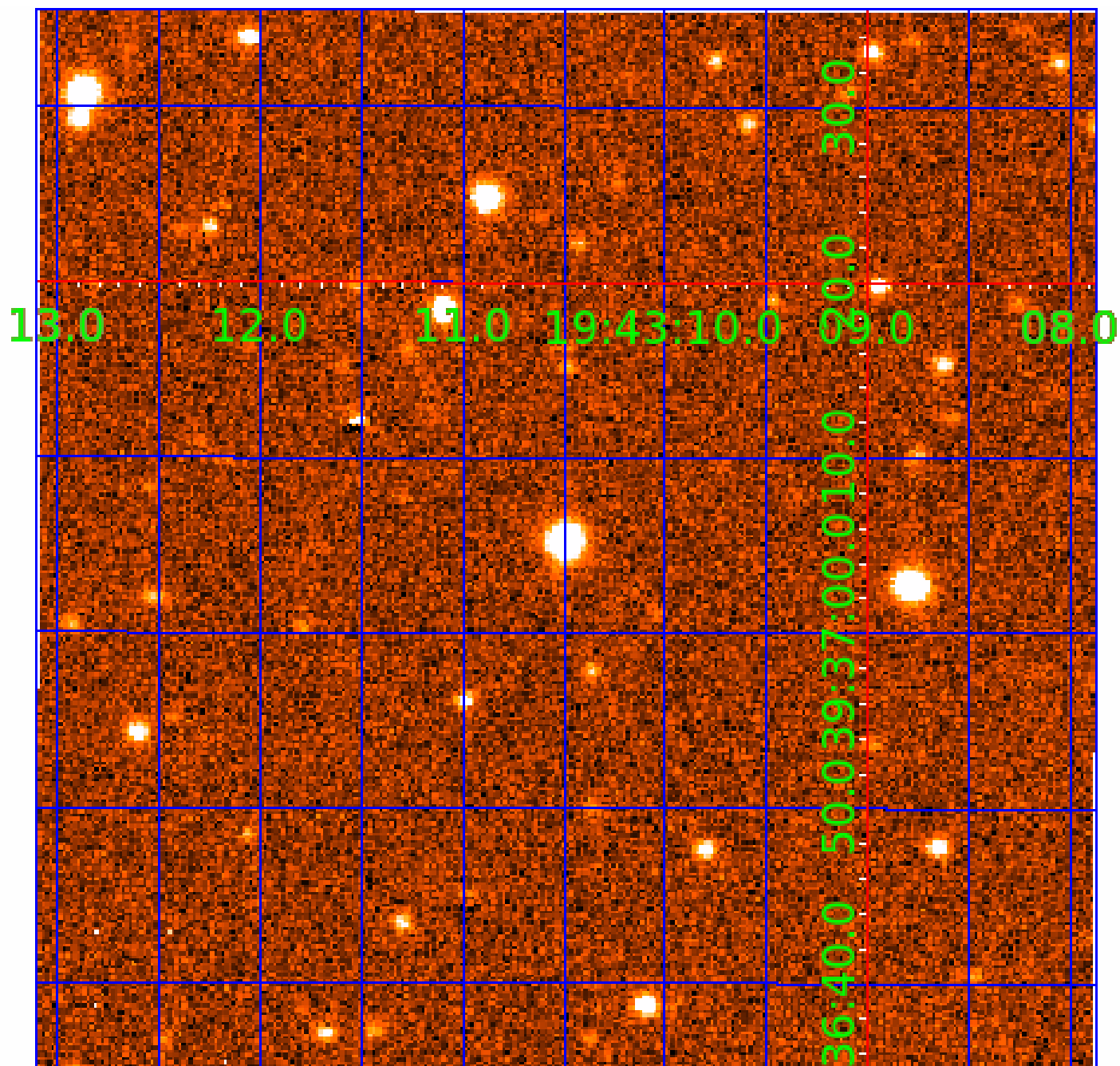


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004577969

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})
004577969-01	OBS	No	0.914794	131.971135	0.5	4.202	10.5	0.0	1.23	6656	0.09	6787.72
004577969-02	OBS	No	213.980968	332.033316	1361.0	16.233	7.3	7.9	1.23	6656	5.11	4.71
004577969-03	OBS	No	41.562112	137.682407	567.0	4.910	7.5	5.2	1.23	6656	3.09	41.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004577969-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004577969-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004577969-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

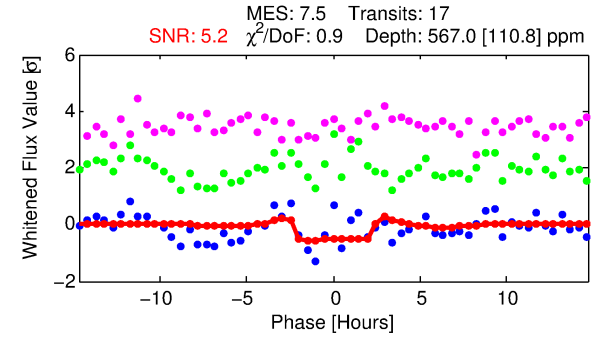
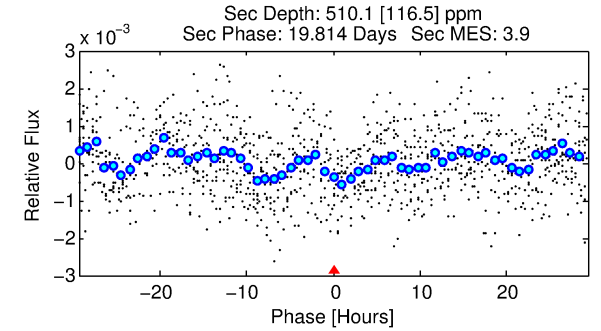
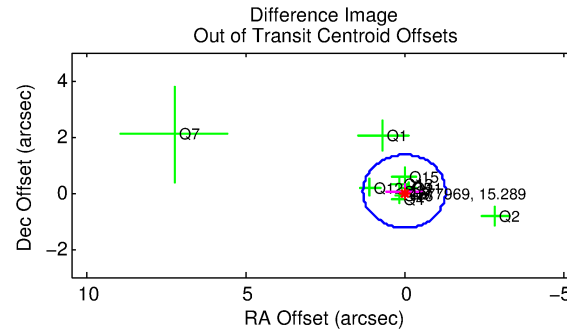
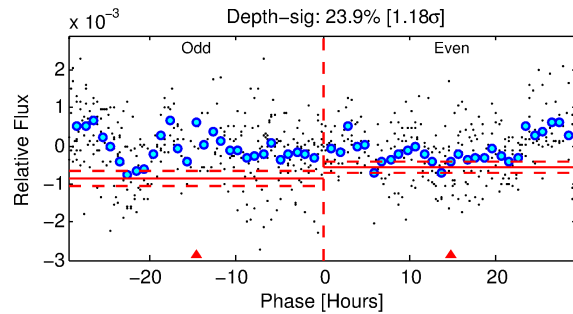
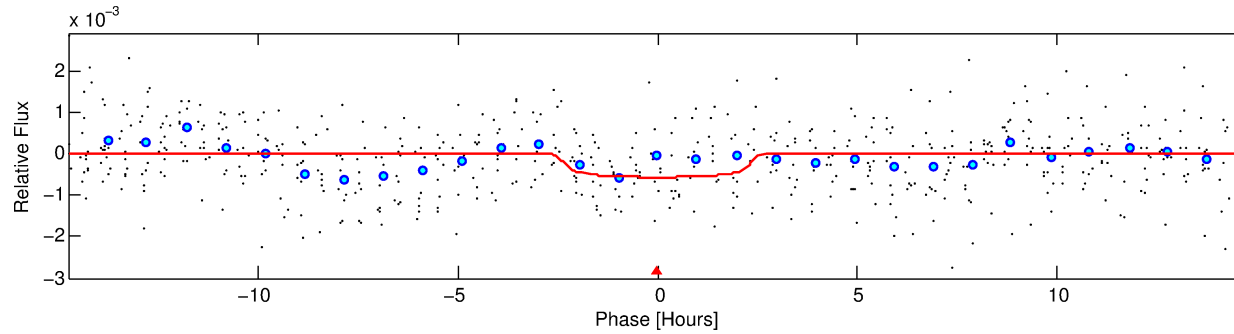
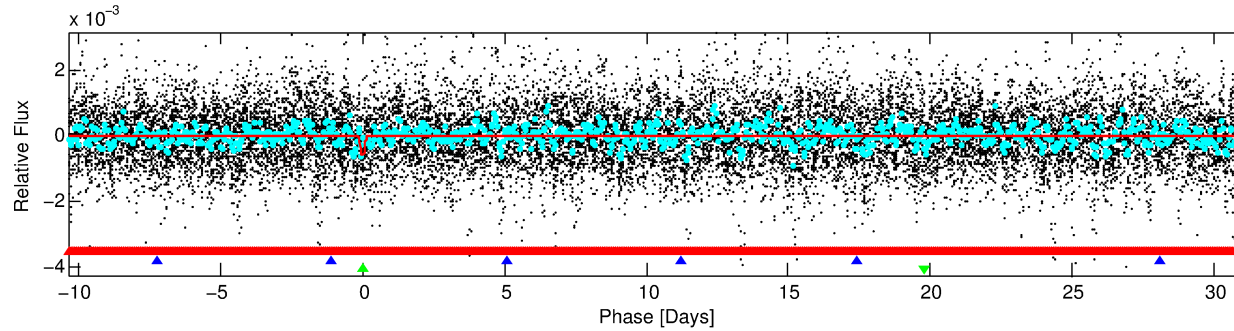
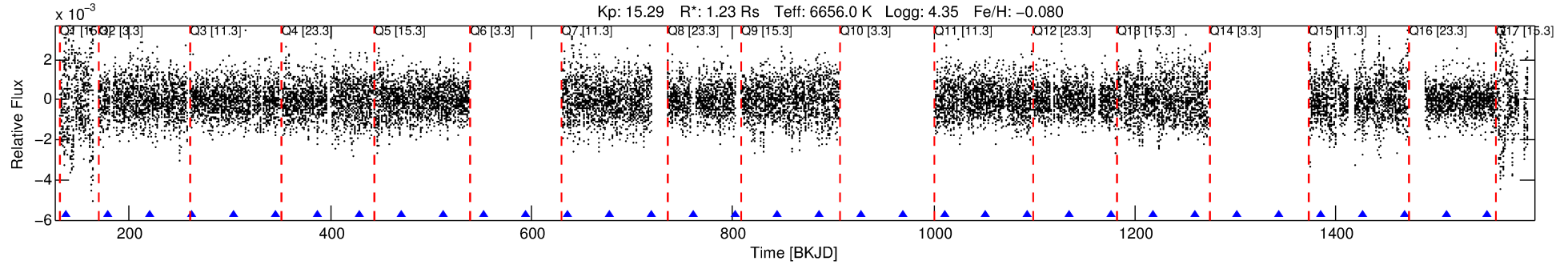
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004577969-03

No Significant Match Found

DV One-Page Summary

KIC: 4577969 Candidate: 3 of 3 Period: 41.562 d



DV Fit Results:

Period = 41.56211 [0.00059] d
Epoch = 137.6824 [0.0114] BKJD
Rp/R* = 0.0230 [0.0238]
a/R* = 52.73 [298.93]
b = 0.62 [5.70]
Seff = 41.87 [16.09]
Teq = 649 [62] K
Rp = 3.09 [3.33] Re
a = 0.2525 [0.0624] AU
Ag = 1877.73 [3974.83] [0.47 σ]
Teffp = 6602 [3455] K [1.72 σ]

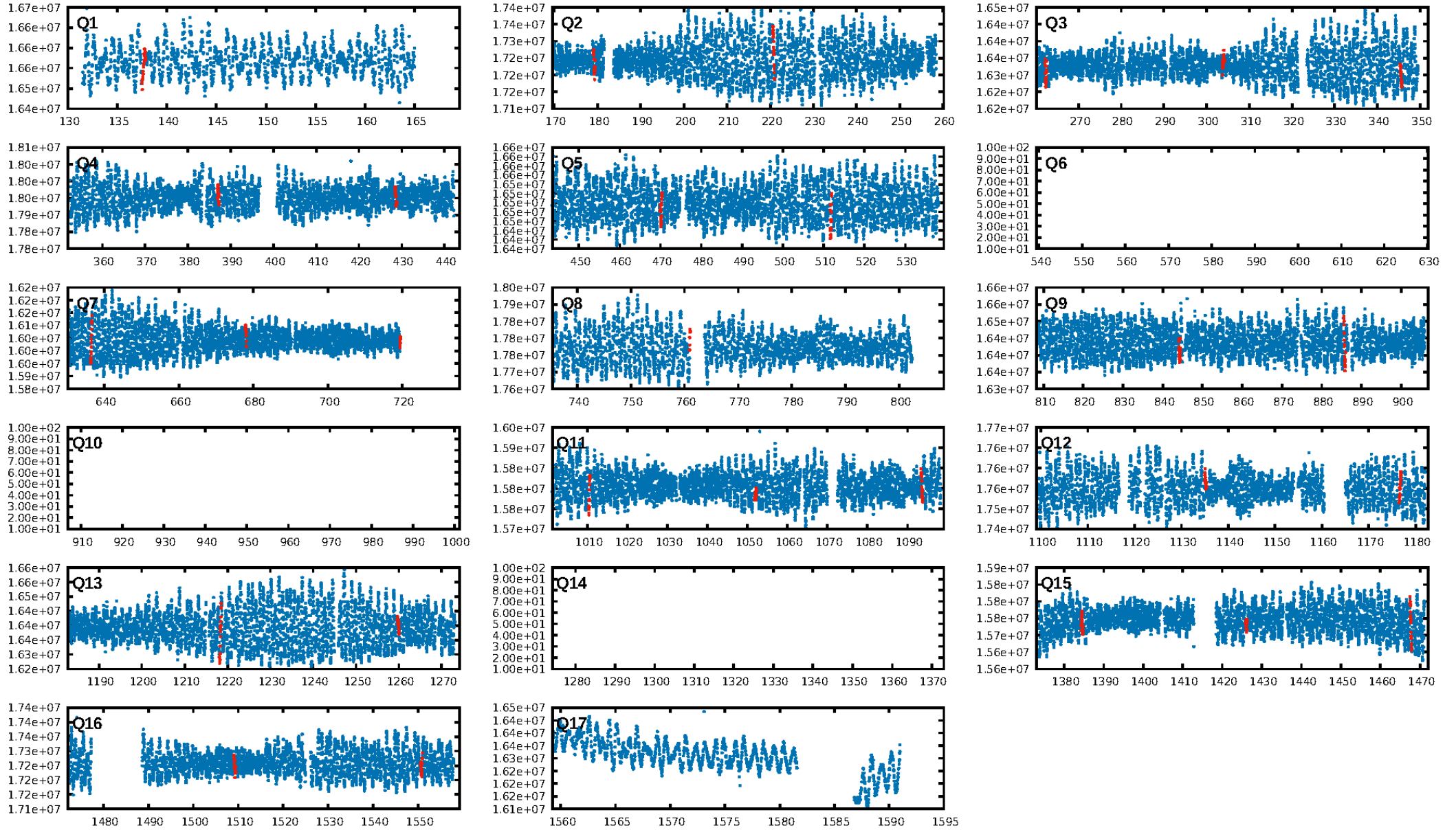
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [150.95 σ]
LongPeriod-sig: 100.0% [243.99 σ]
ModelChiSquare2-sig: 62.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.58e-10
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 0.339
Centroid-sig: 2.2%
Centroid-so: 1.740 arcsec [1.65 σ]
OotOffset-rm: 0.055 arcsec [0.13 σ]
OotOffset-st: 1/4/3/4 [12]
KicOffset-rm: 0.106 arcsec [0.43 σ]
KicOffset-st: 1/4/3/4 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 0.00 [0/12]

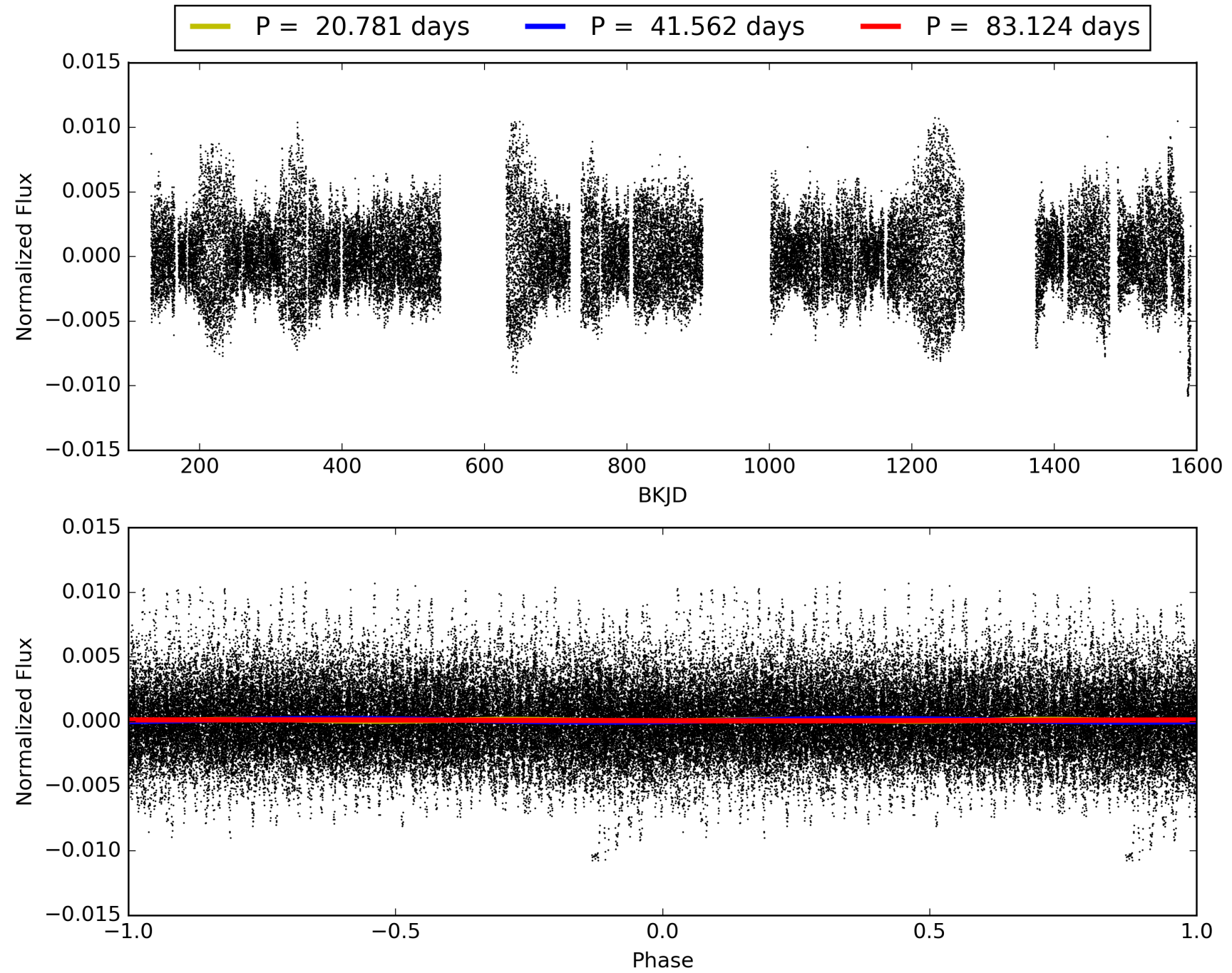
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:36:10 Z

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

TCE 004577969-03, PDC Light Curves

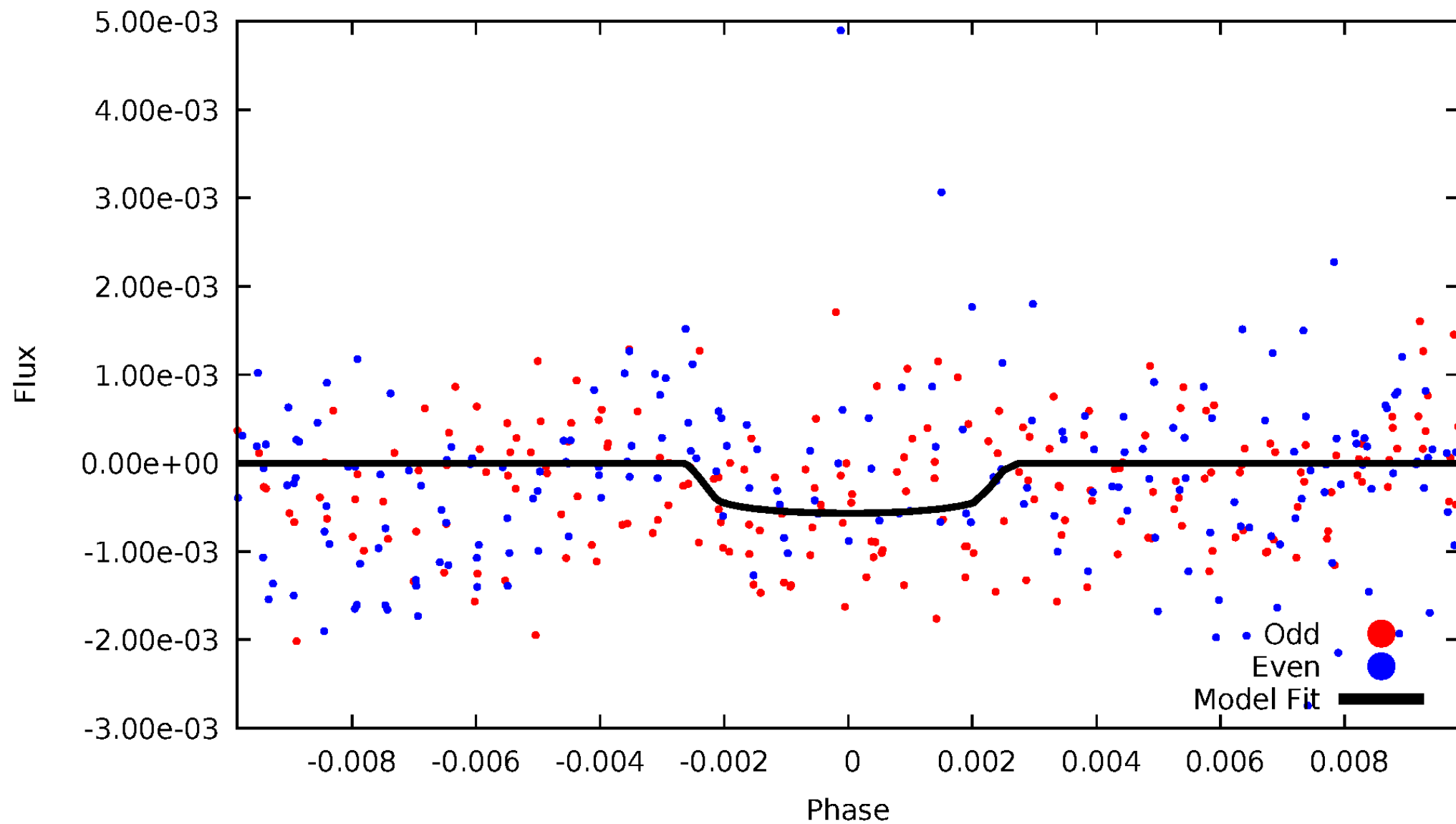


TCE 004577969-03



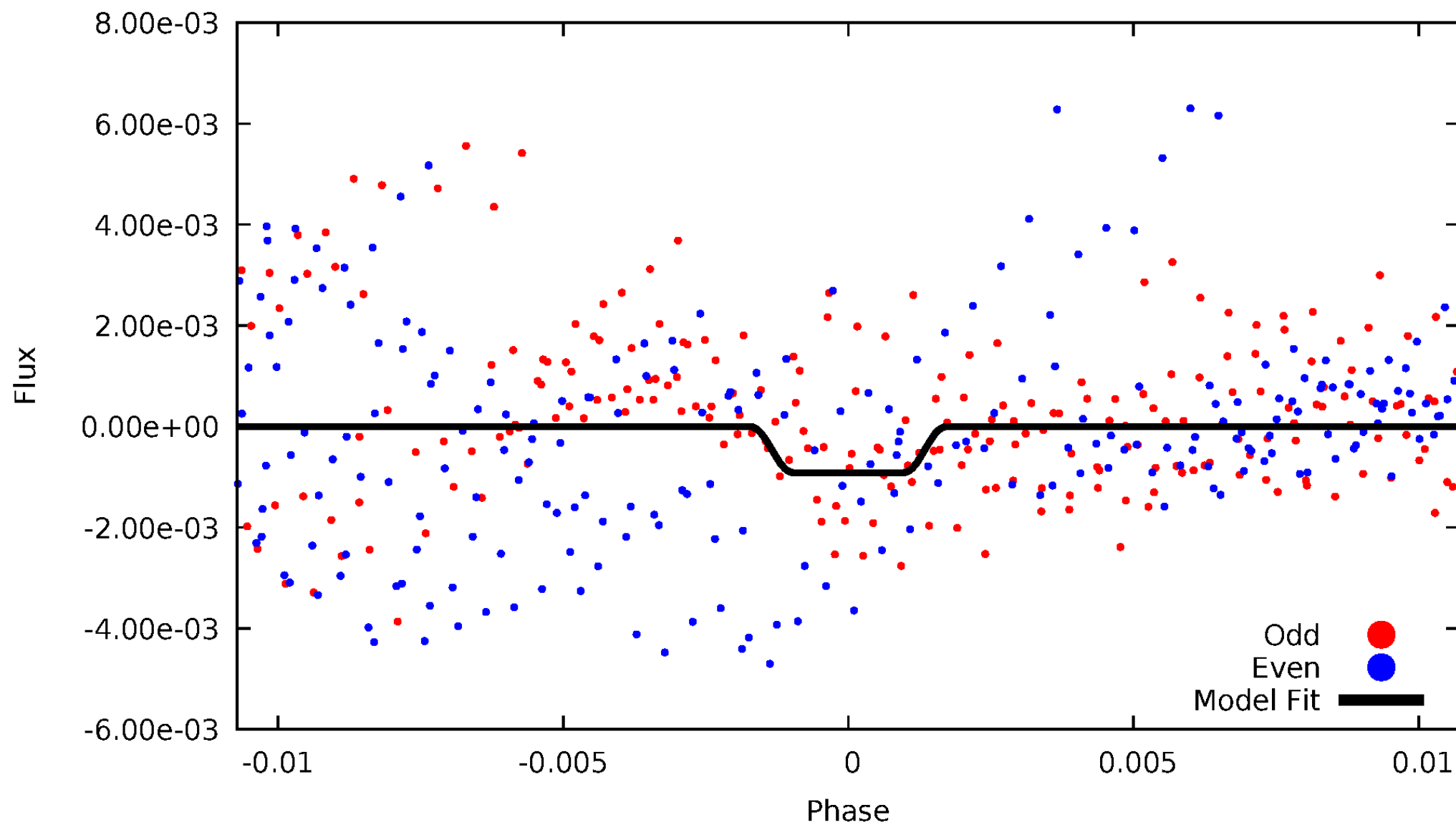
DV Odd/Even

TCE 004577969-03



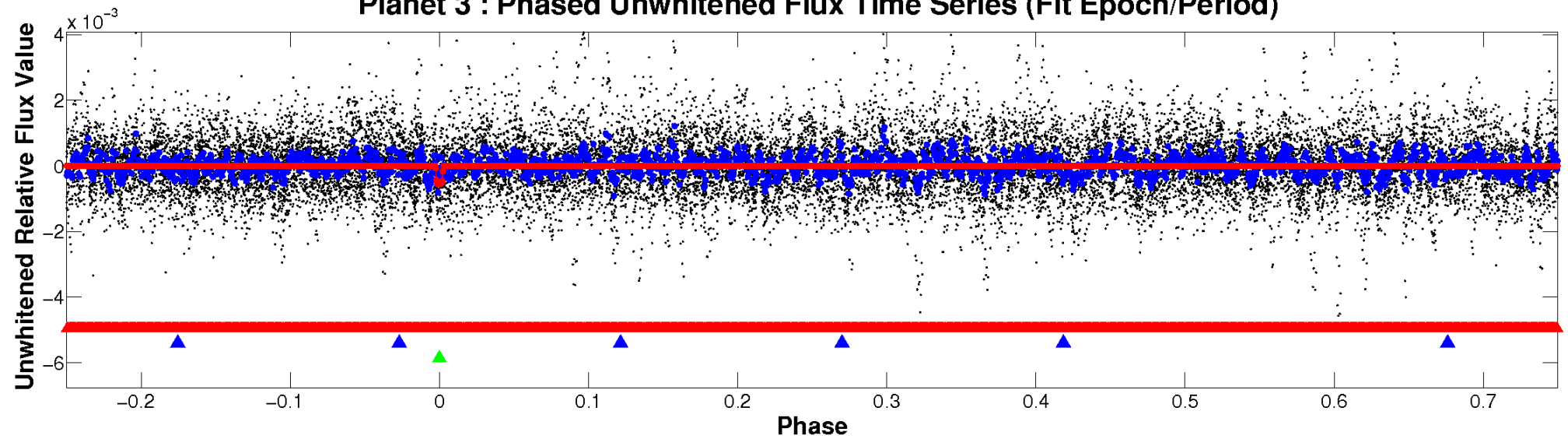
ALT Odd/Even

TCE 004577969-03

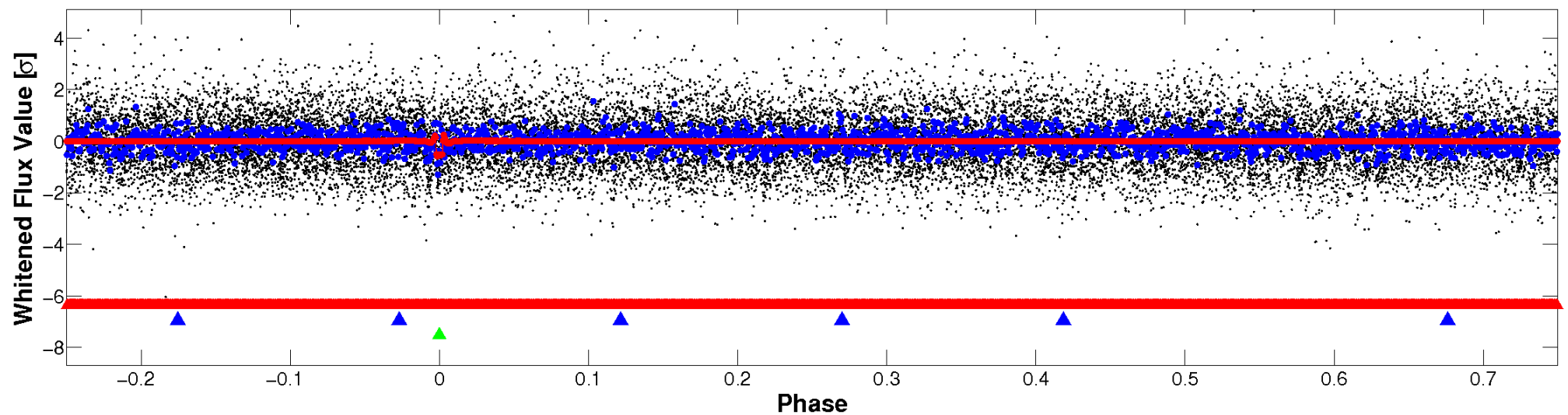


Non-Whitened Vs. Whitened Light Curve

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

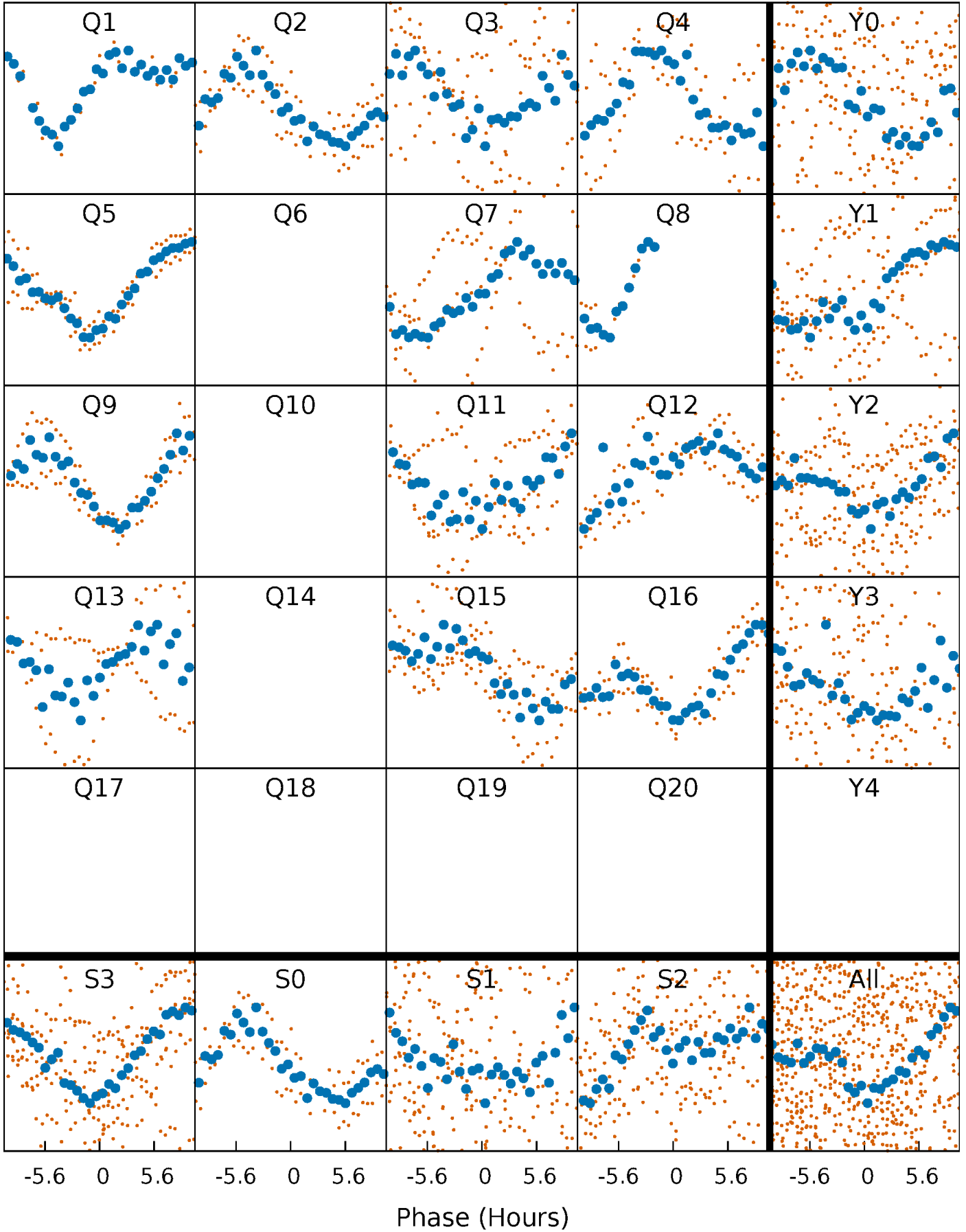


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



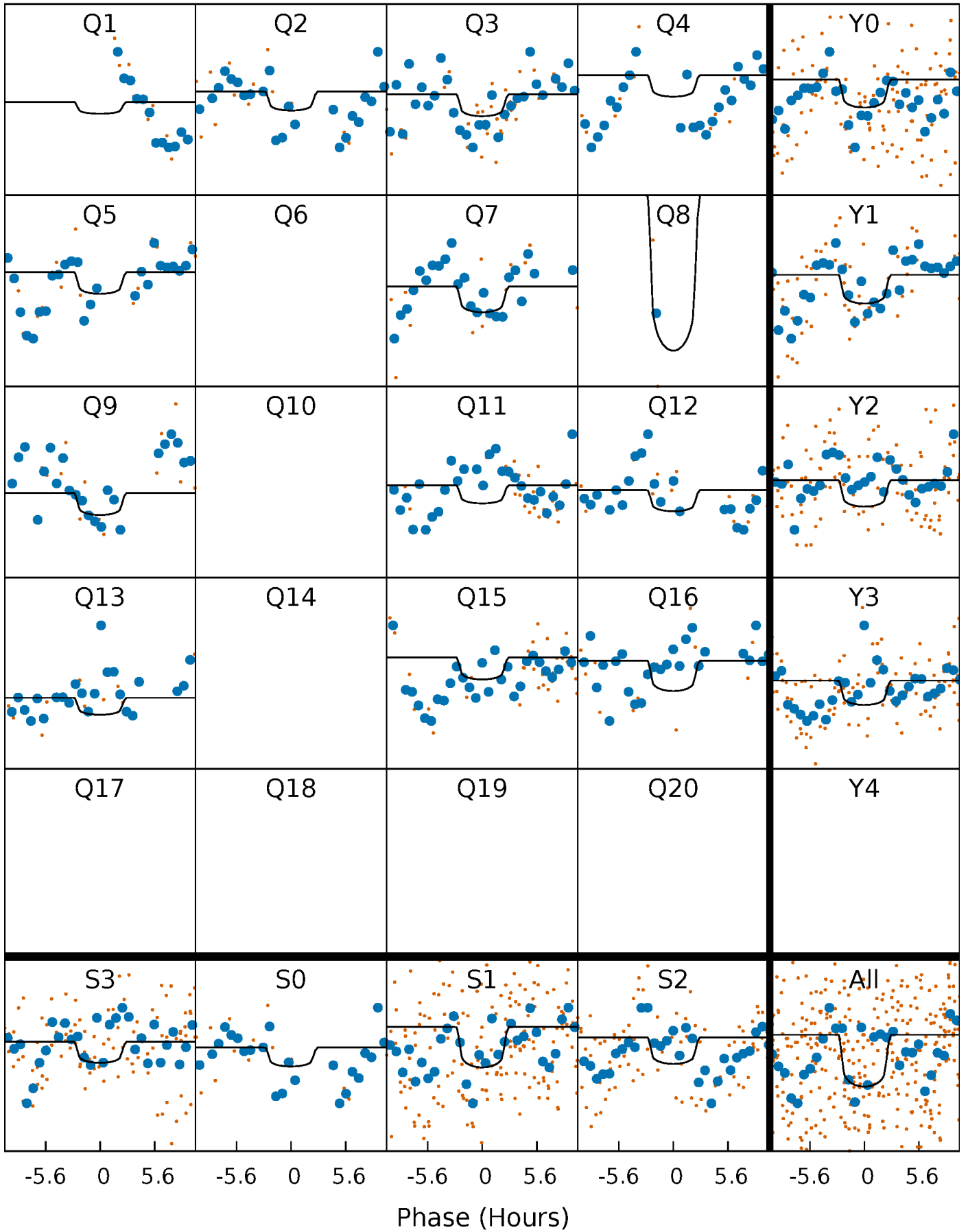
PDC Quarter-Phased Transit Curves

TCE 004577969-03 P= 41.562112 Days $T_0=137.682407$ (BKJD)



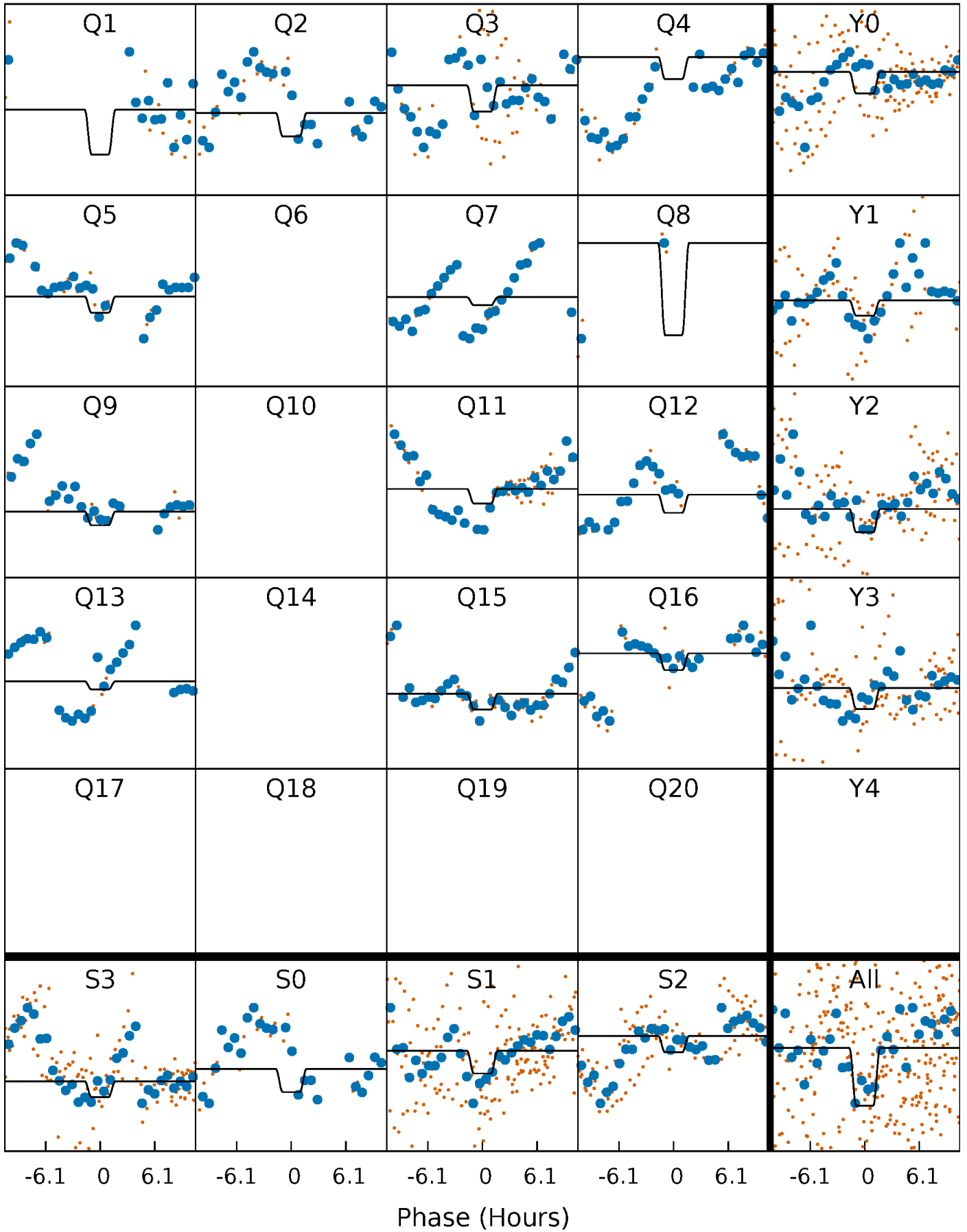
DV Quarter-Phased Transit Curves

TCE 004577969-03 P= 41.562112 Days $T_0=137.682407$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

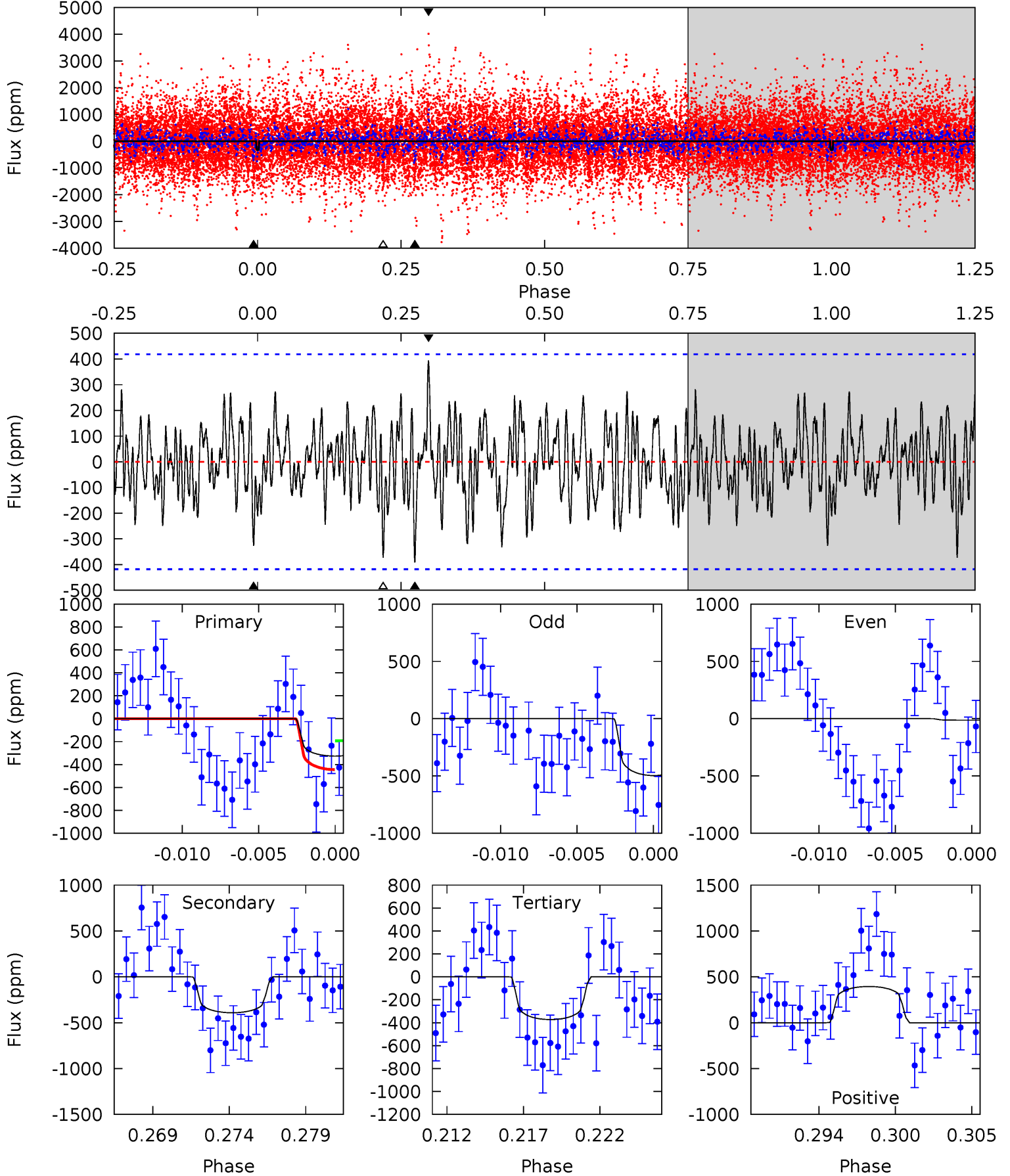
TCE 004577969-03 P= 41.565745 Days $T_0=137.594165$ (BKJD)



DV Model-Shift Uniqueness Test

004577969-03, P = 41.562112 Days, E = 96.120295 Days

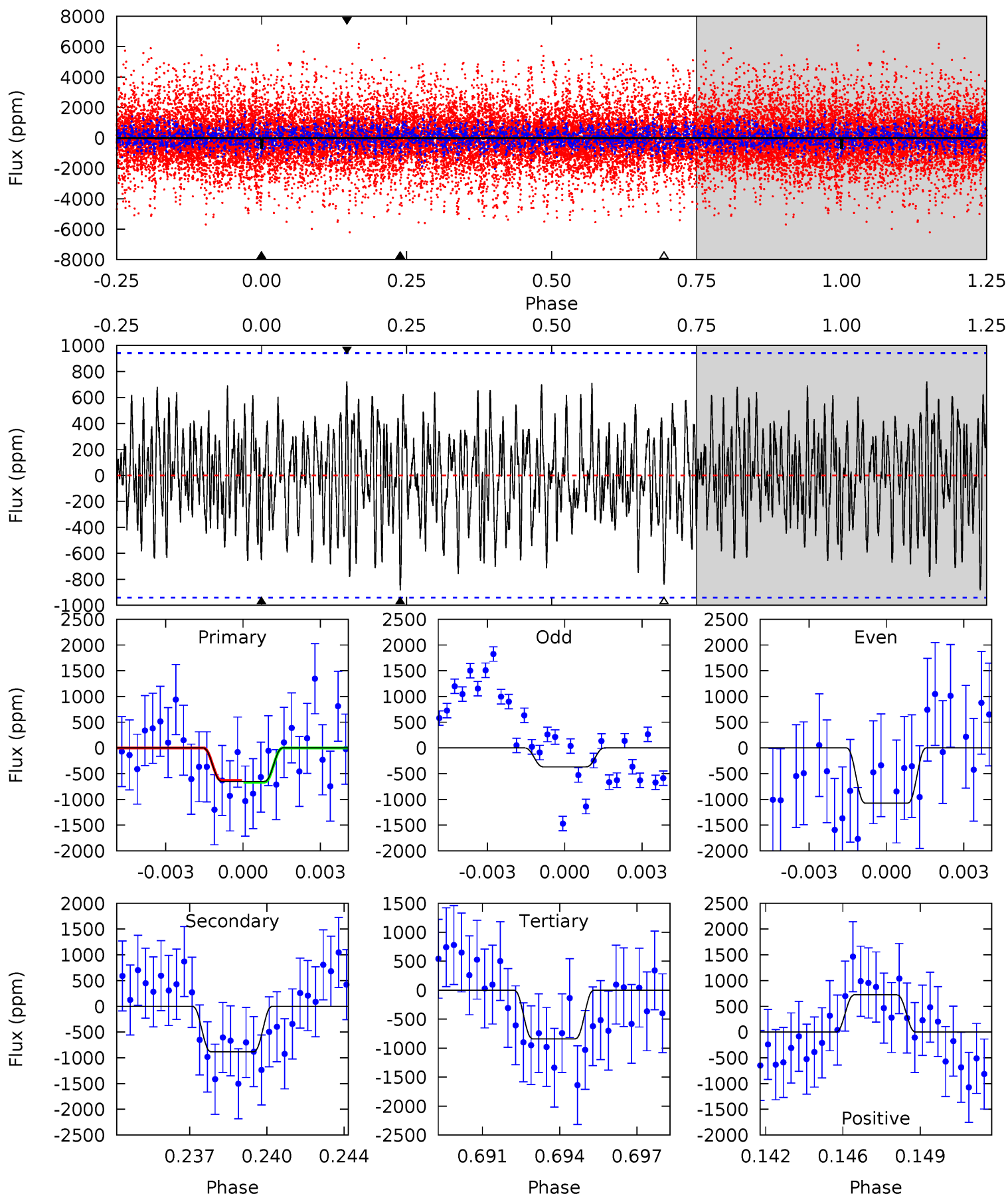
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.02	4.82	4.59	4.86	5.15	2.80	1.49	-0.57	-0.84	0.23	-0.04	2.86	0.21	0.50	1.54



Alt Model-Shift Uniqueness Test

004577969-03, P = 41.565745 Days, E = 96.028420 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.61	4.91	4.66	4.01	5.23	2.93	1.63	-1.05	-0.40	0.25	0.90	1.89	1.57	0.45	0.09



Stellar Parameters For KIC 004577969

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6656^{+187}_{-258}	$4.351^{+0.062}_{-0.188}$	$-0.080^{+0.250}_{-0.300}$	$1.232^{+0.371}_{-0.159}$	$1.248^{+0.174}_{-0.174}$	$0.941^{+0.324}_{-0.473}$
	+3%/-4%	+1%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-50%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004577969-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-391 ± 81	$3.70^{+3.26}_{-2.43}$	921^{+64}_{-47}	5702^{+4995}_{-1278}	936^{+7210}_{-651}
Alt.	-884 ± 180	$4.60^{+3.14}_{-2.76}$	925^{+61}_{-48}	6287^{+5348}_{-1377}	1420^{+8137}_{-926}

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 $A_{obs} \gg 1.0$

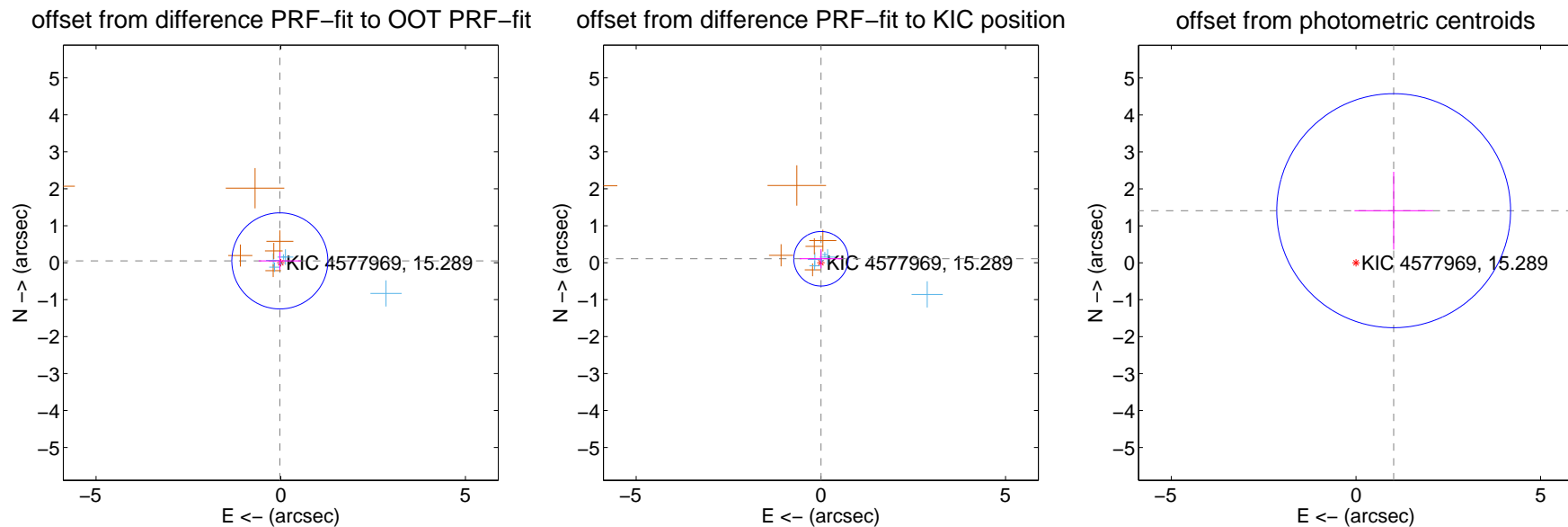
DV Centroid Data

Supplemental centroid analysis for 004577969-03. Kepler magnitude: 15.29. Transit SNR 5.19

There are 6 quarters with good PRF difference image offsets

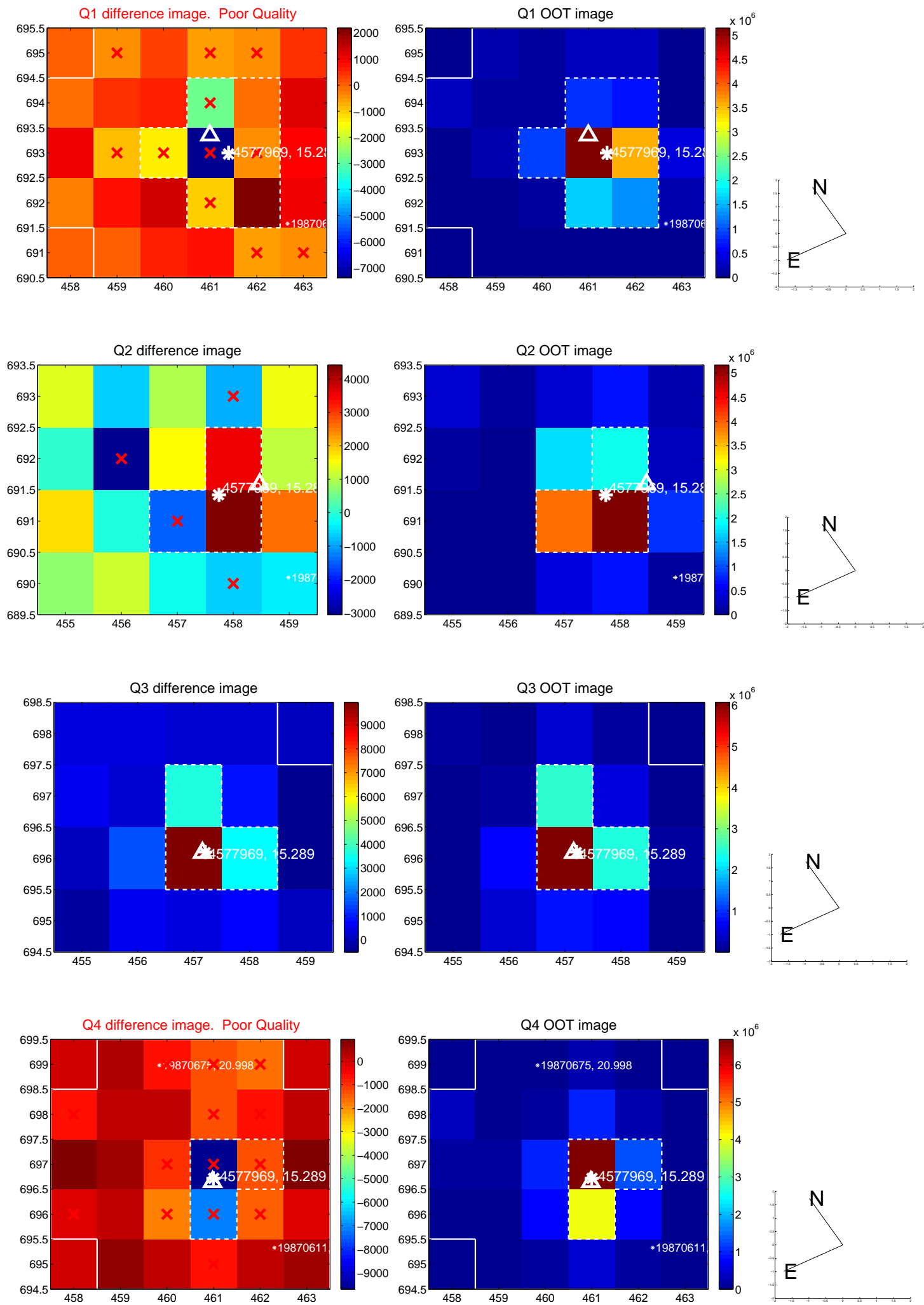
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.055 ± 0.433	0.13	0.025 ± 0.573	0.049 ± 0.239
PRF-fit source offset from KIC position	0.106 ± 0.246	0.43	-0.004 ± 0.578	0.106 ± 0.259
photometric centroid source offset	1.74 ± 1.06	1.65	-1.02 ± 1.06	1.41 ± 1.05

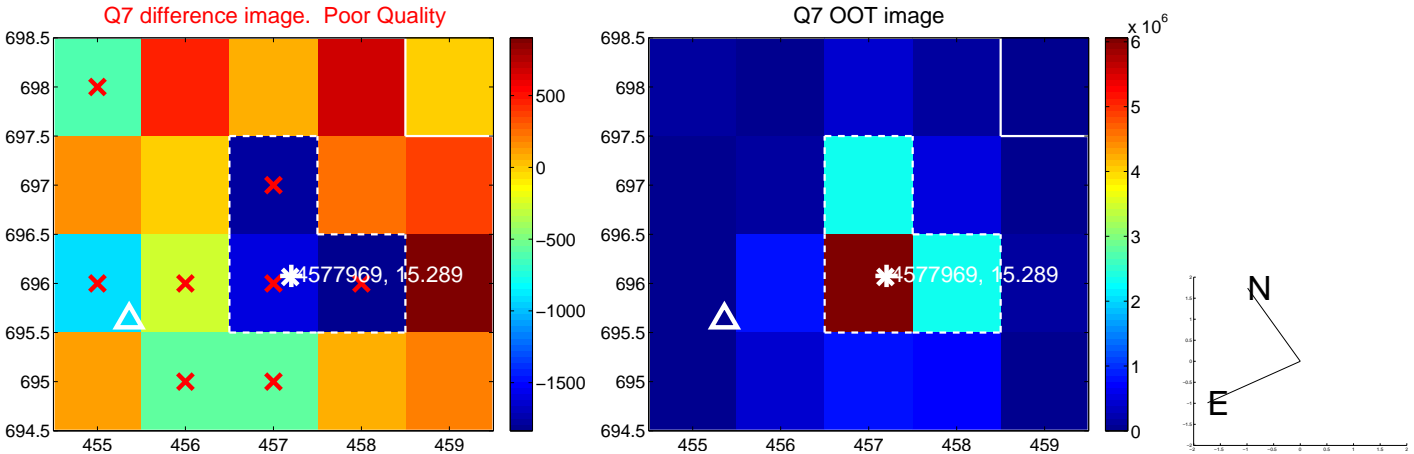
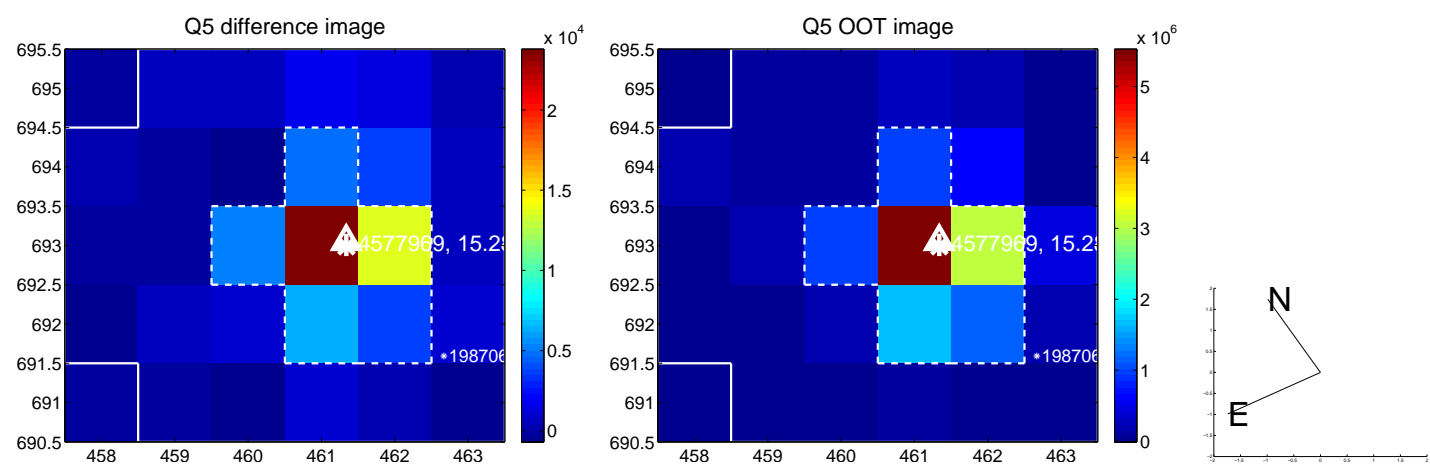


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

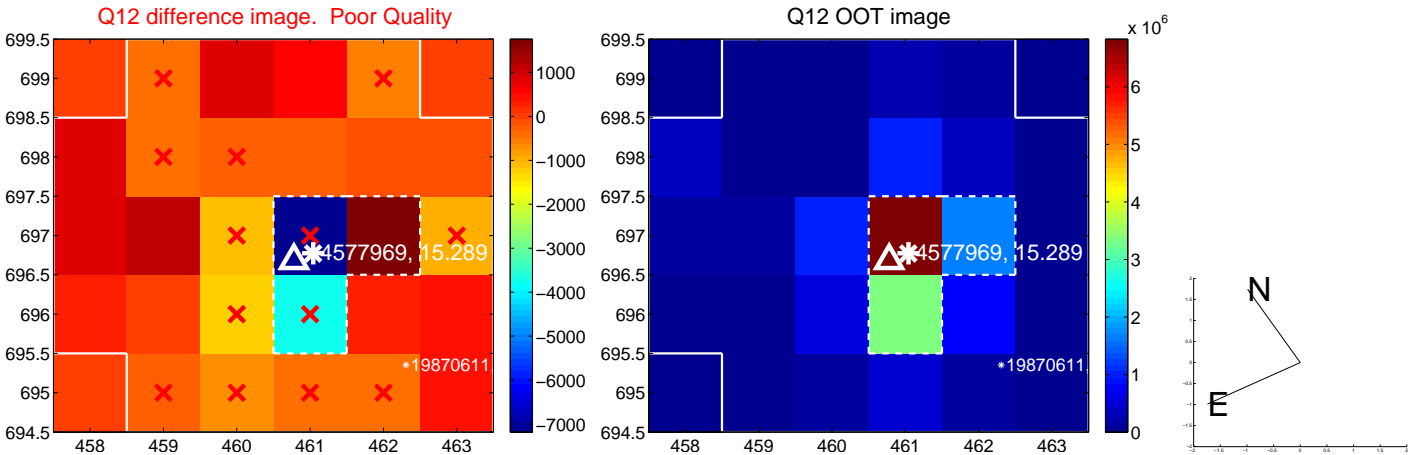
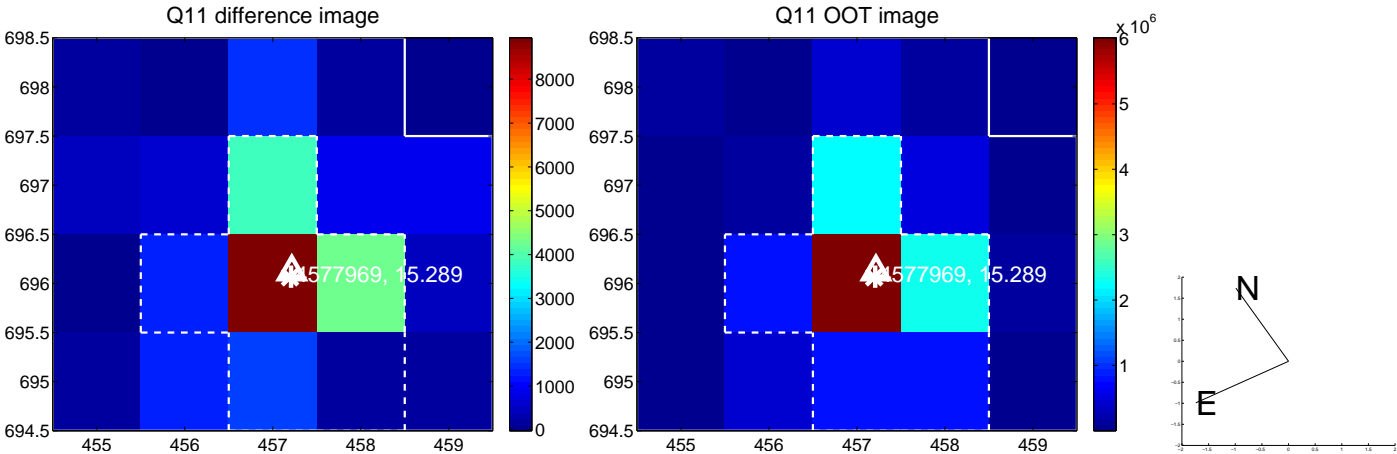
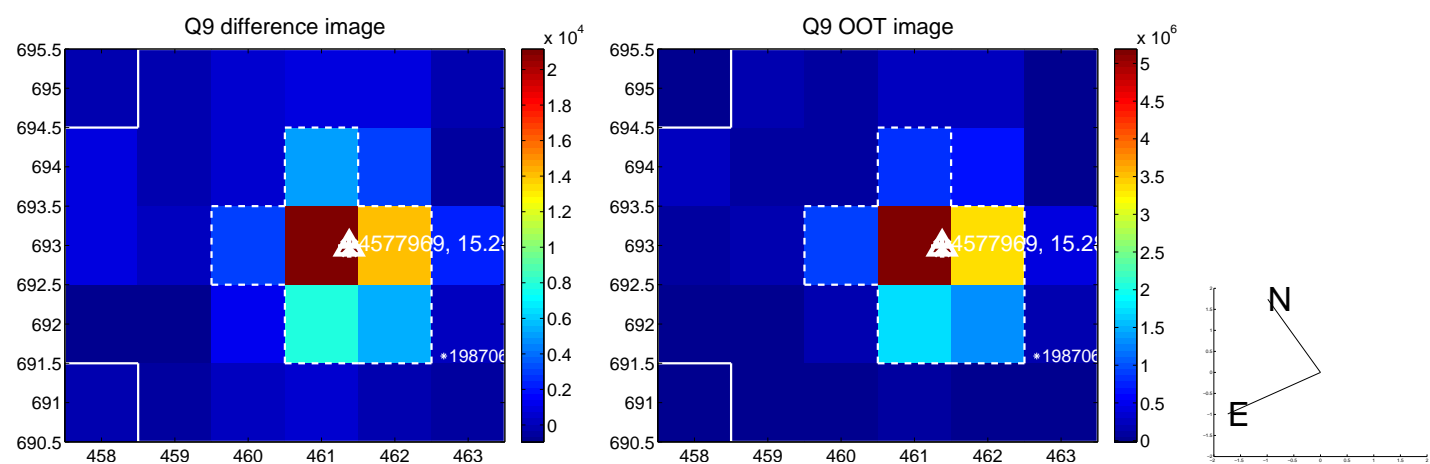
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



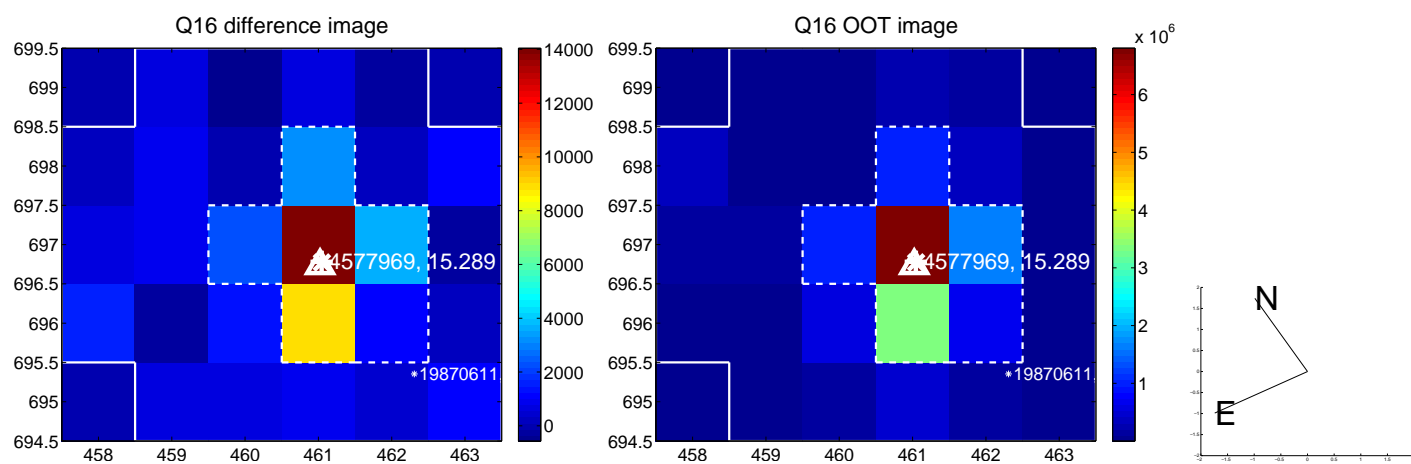
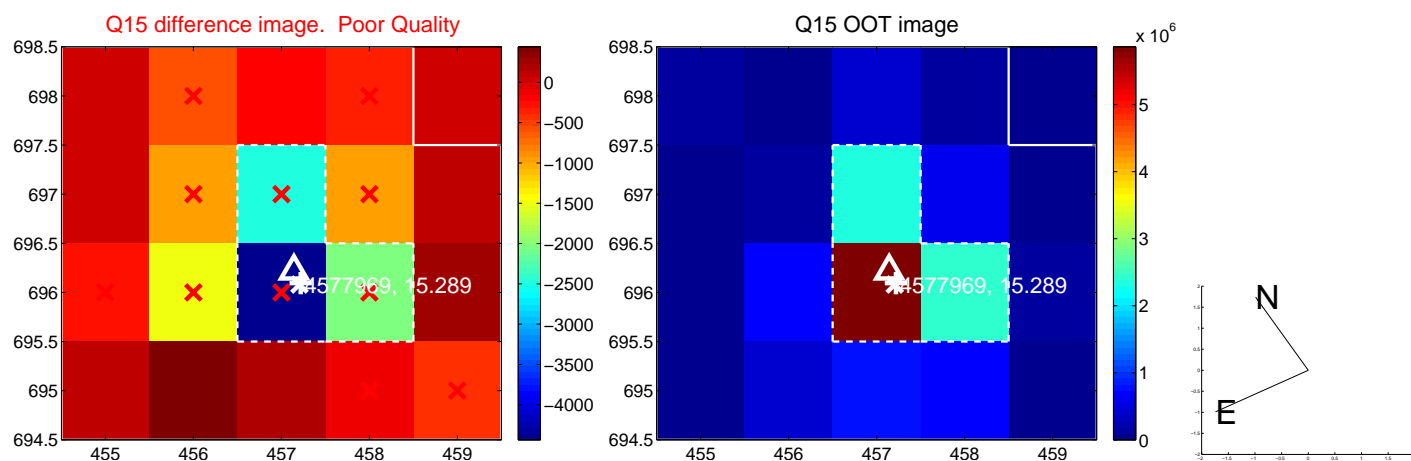
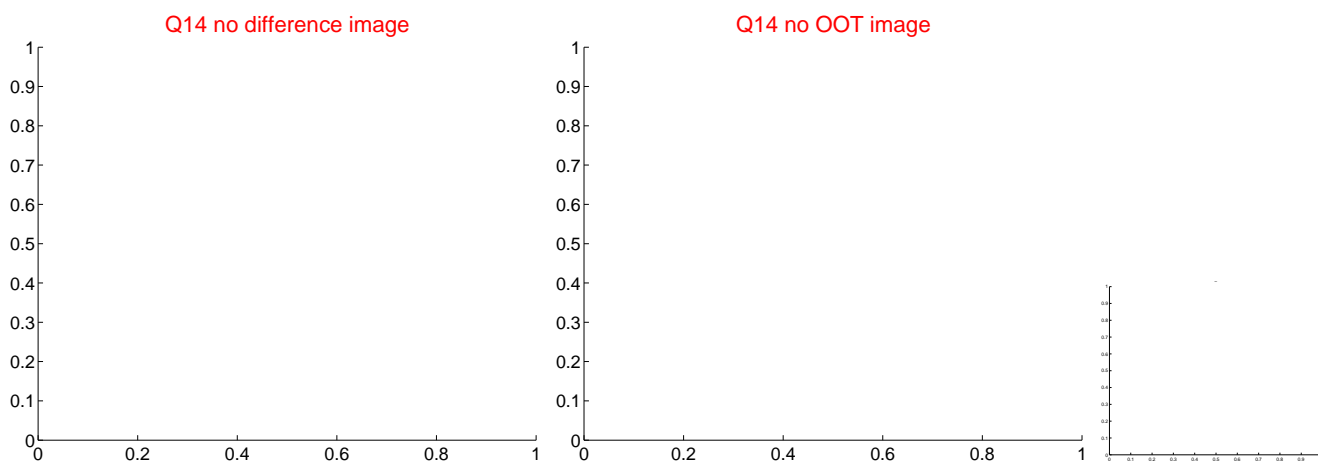
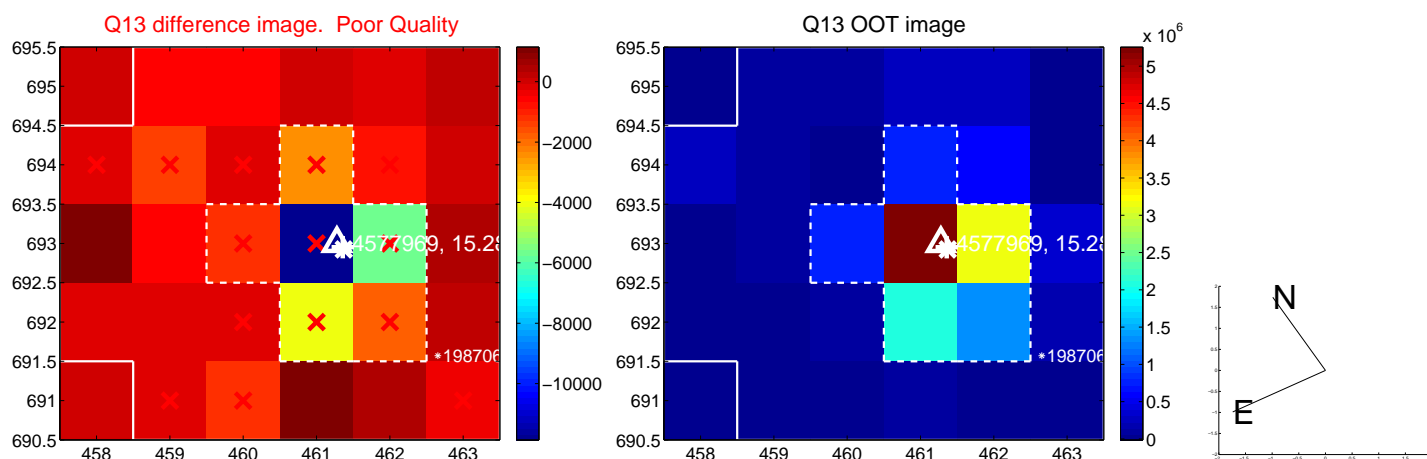
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



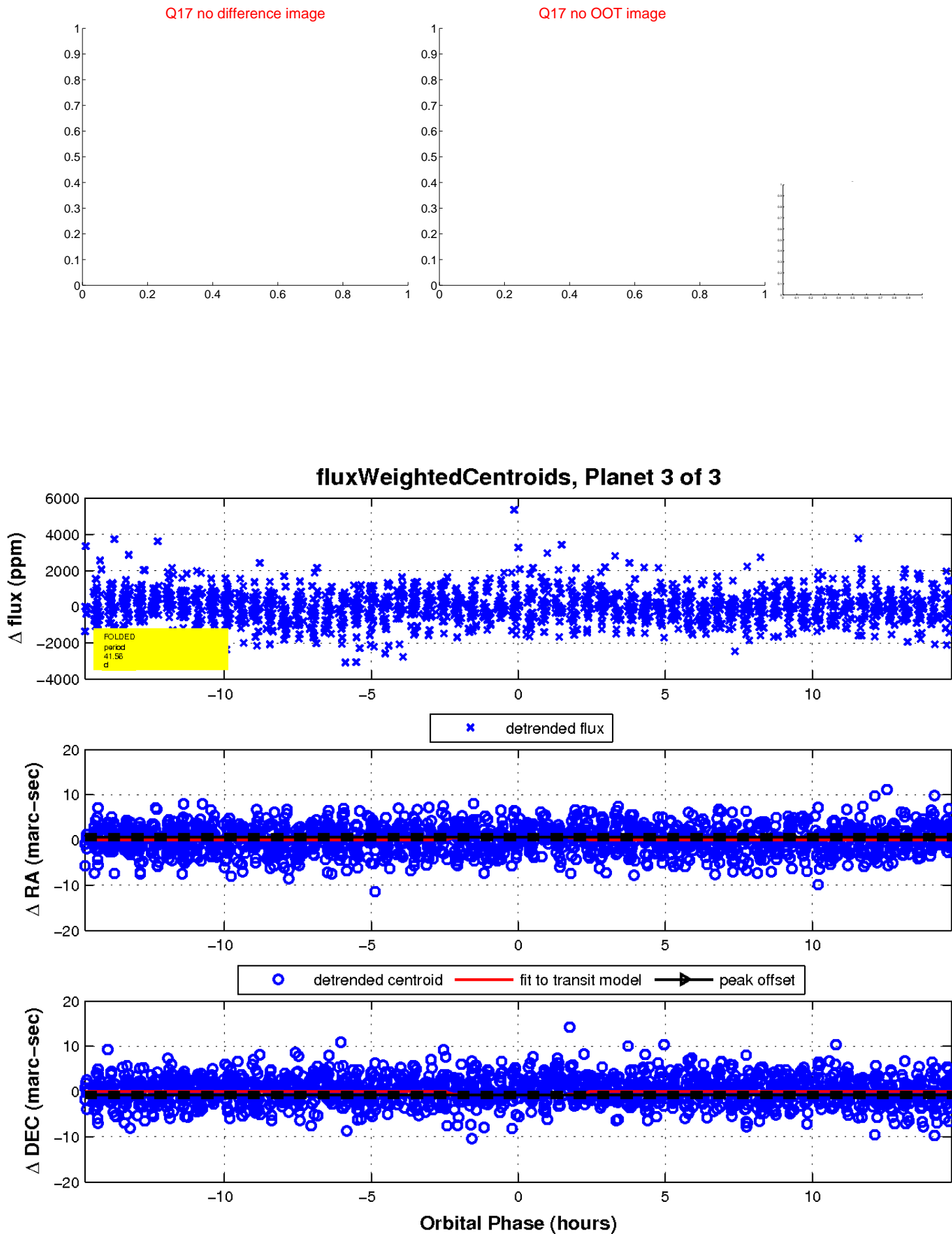
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

