

KIC 010669199

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})
010669199-01	OBS	No	2.365917	133.353148	32.4	3.827	8.7	9.3	3.77	6706	2.56	15213.64
010669199-02	OBS	No	2.366238	132.509968	8.2	15.609	8.2	4.2	3.77	6706	1.23	15210.89
010669199-03	OBS	No	36.230542	142.052901	149.7	8.464	16.6	9.5	3.77	6706	5.22	400.07
010669199-04	OBS	No	79.516759	179.114902	223.9	5.813	13.3	12.0	3.77	6706	6.35	140.27
010669199-05	OBS	No	116.009317	206.927124	201.9	5.325	12.2	11.1	3.77	6706	6.07	84.77
010669199-06	OBS	No	42.674845	159.538475	188.6	3.547	11.6	12.3	3.77	6706	5.93	321.62
010669199-07	OBS	No	51.550093	162.071407	207.2	3.698	11.6	11.1	3.77	6706	6.06	249.99
010669199-08	OBS	No	30.890459	132.171688	166.5	6.266	10.7	10.4	3.77	6706	5.76	494.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669199-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

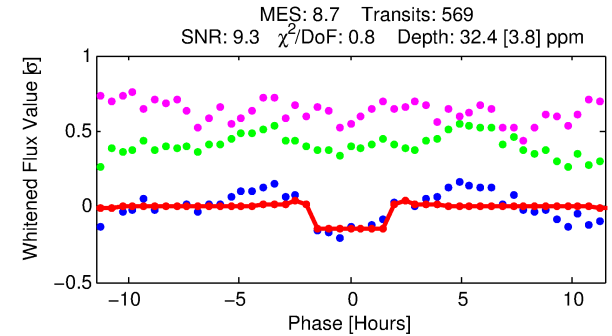
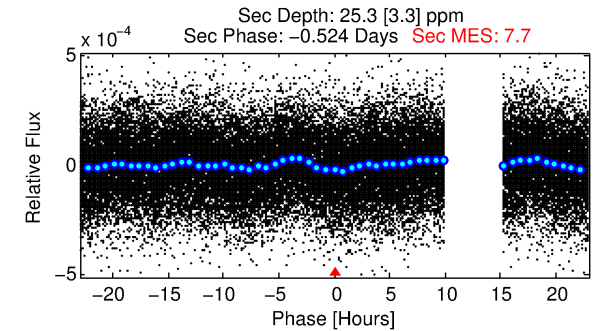
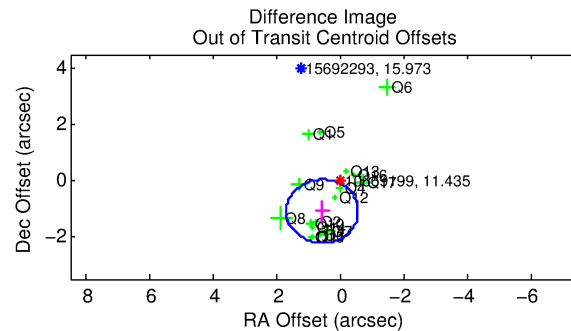
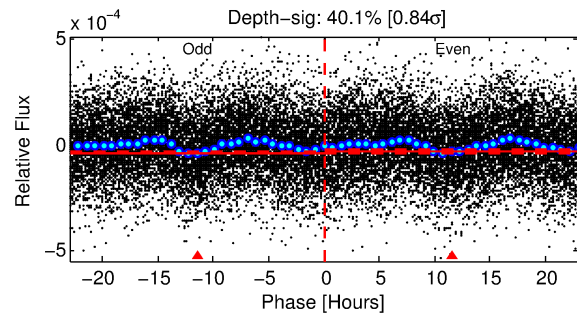
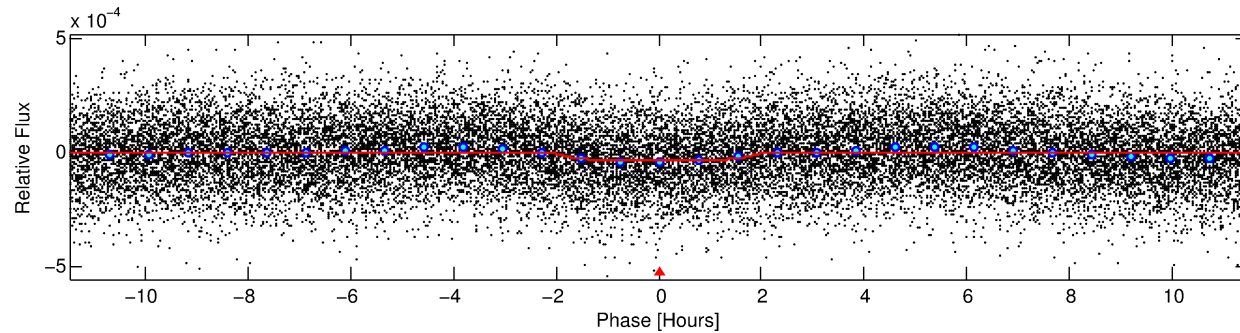
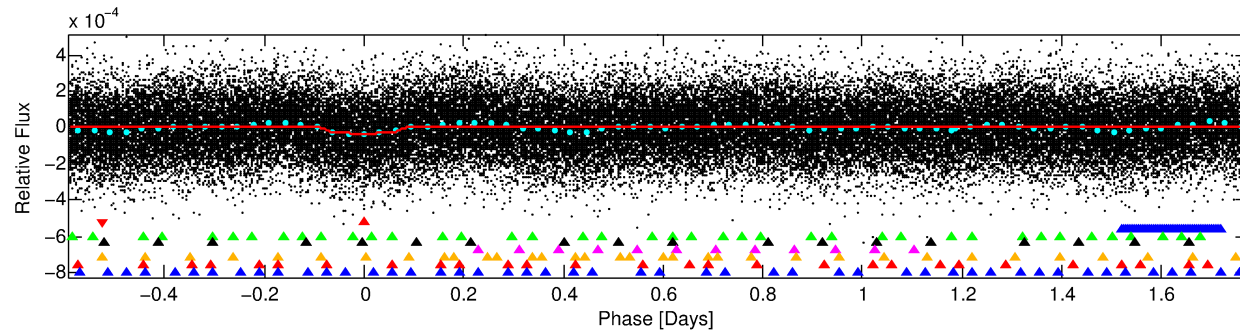
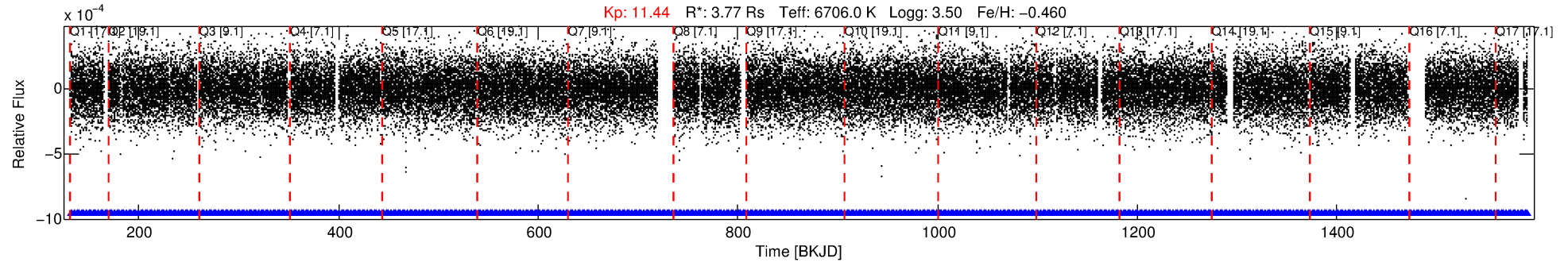
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-01

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 1 of 8 Period: 2.366 d



DV Fit Results:

Period = 2.36592 [0.00002] d
Epoch = 133.3531 [0.0033] BKJD
 $R_p/R^* = 0.0062$ [0.0014]
 $a/R^* = 2.06$ [2.17]
 $b = 0.93$ [0.21]
 $S_{\text{eff}} = 15213.64$ [10372.96]
 $T_{\text{eq}} = 2832$ [483] K
 $R_p = 2.56$ [1.29] R_e
 $a = 0.0411$ [0.0174] AU
 $A_g = 3.58$ [2.96] [0.87 σ]
 $T_{\text{eff}} = 6023$ [746] K [3.59 σ]

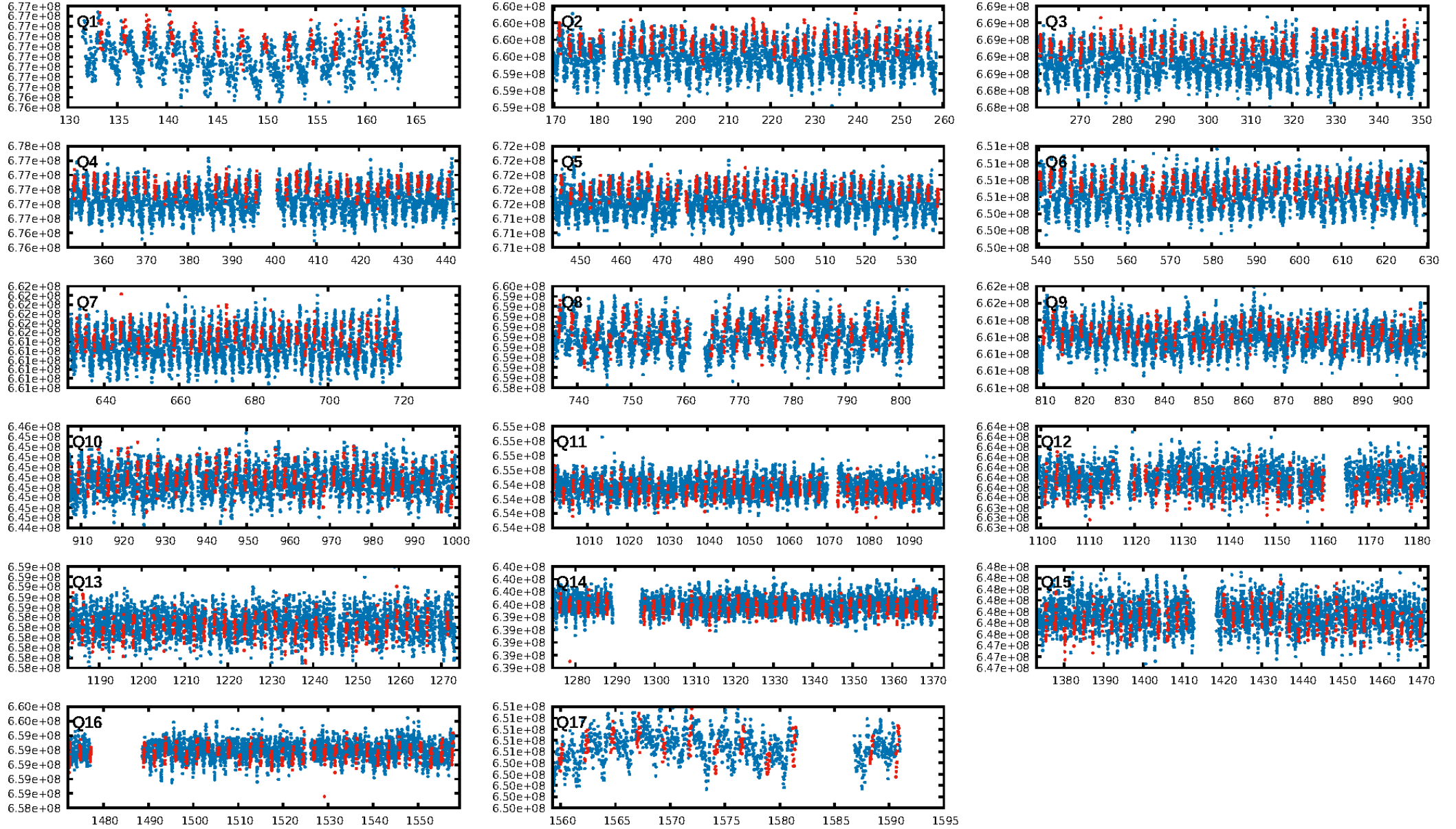
DV Diagnostic Results:

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 [543/543]
GhostDiagnostic-chr: 1.599
Centroid-sig: 6.8%
Centroid-so: 0.632 arcsec [1.76 σ]
OotOffset-rm: 1.234 arcsec [3.27 σ]
KicOffset-rm: 1.350 arcsec [3.53 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.76 [13/17]

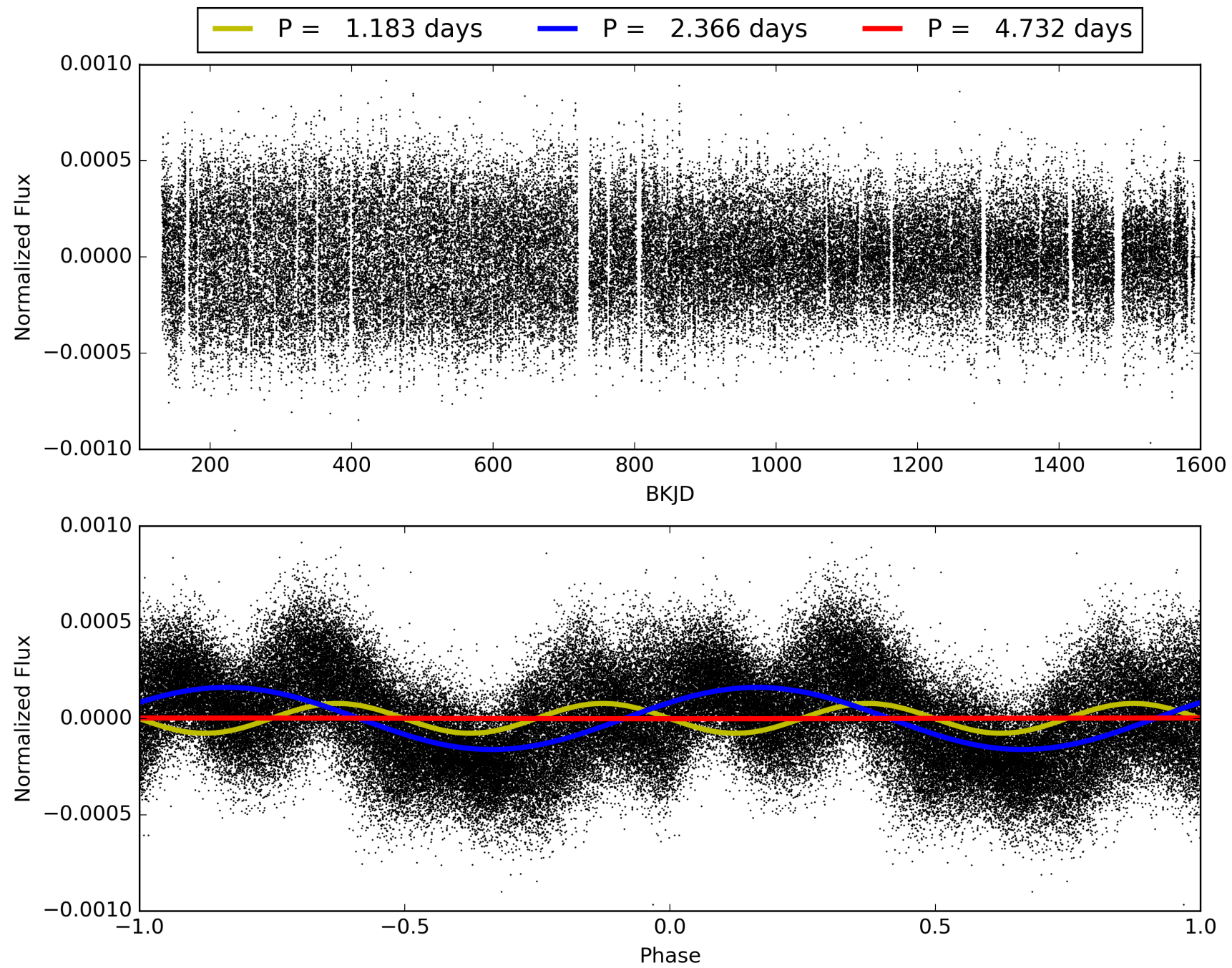
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:41:53 Z

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

TCE 010669199-01, PDC Light Curves

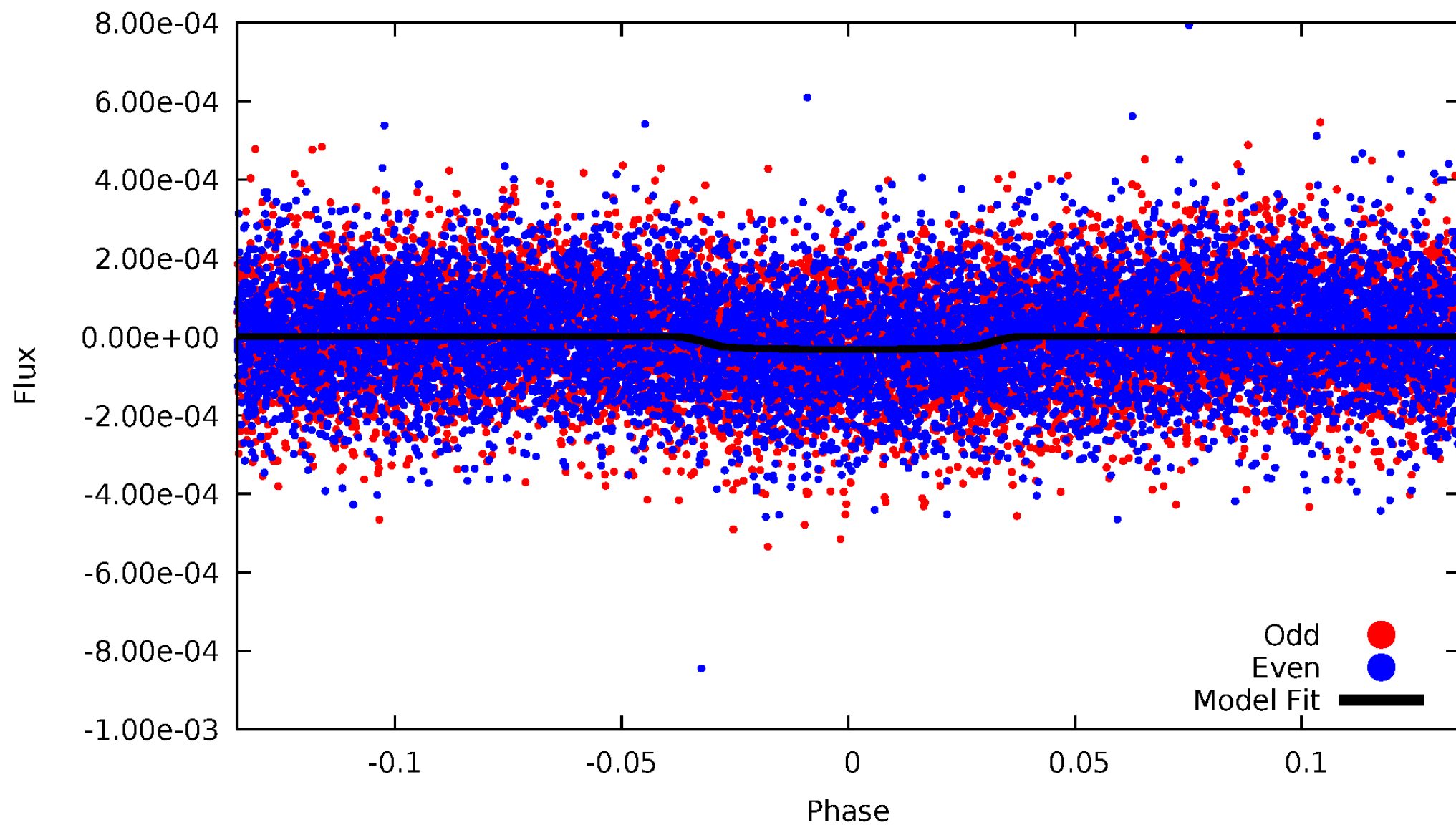


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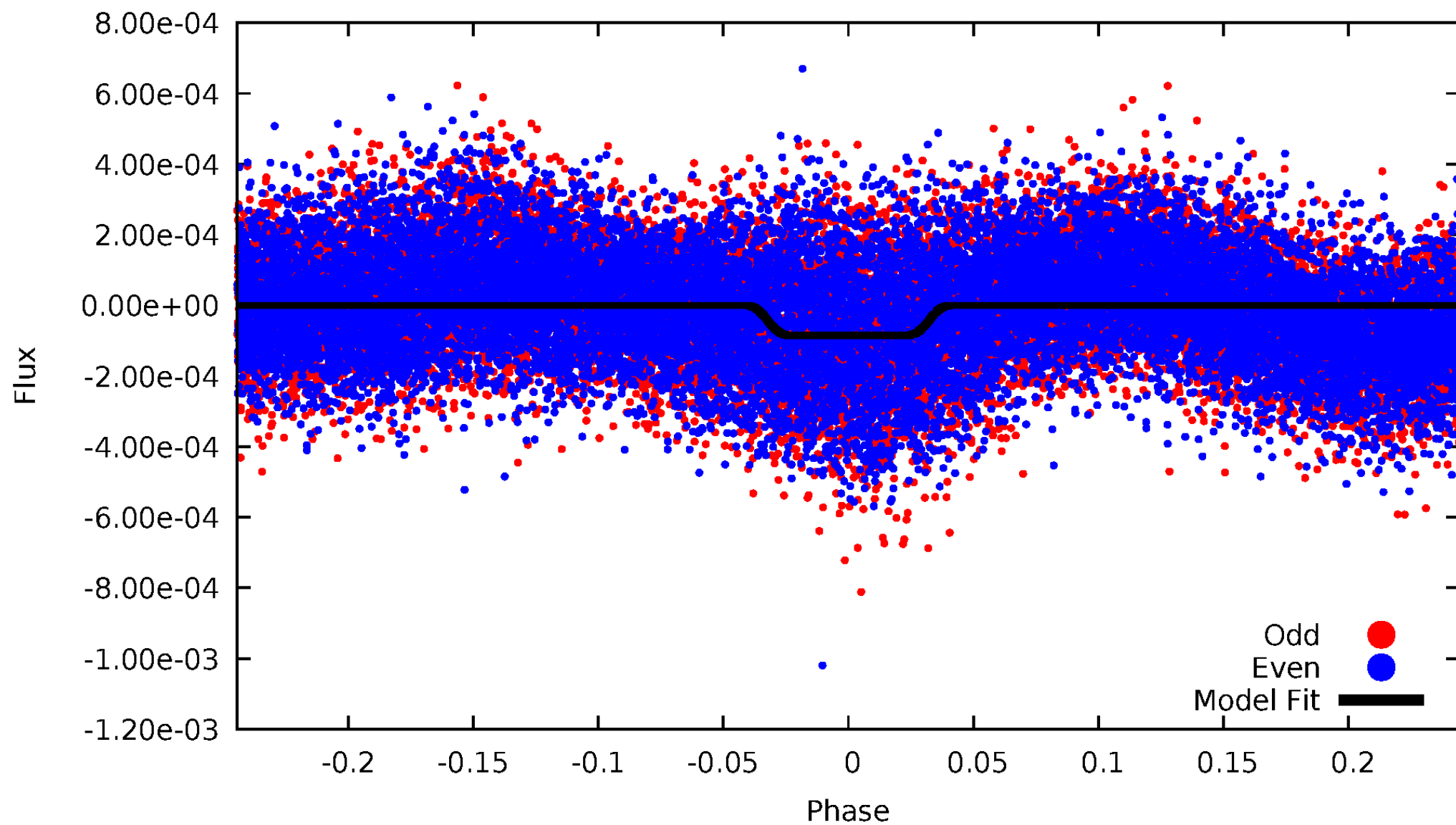
DV Odd/Even

TCE 010669199-01

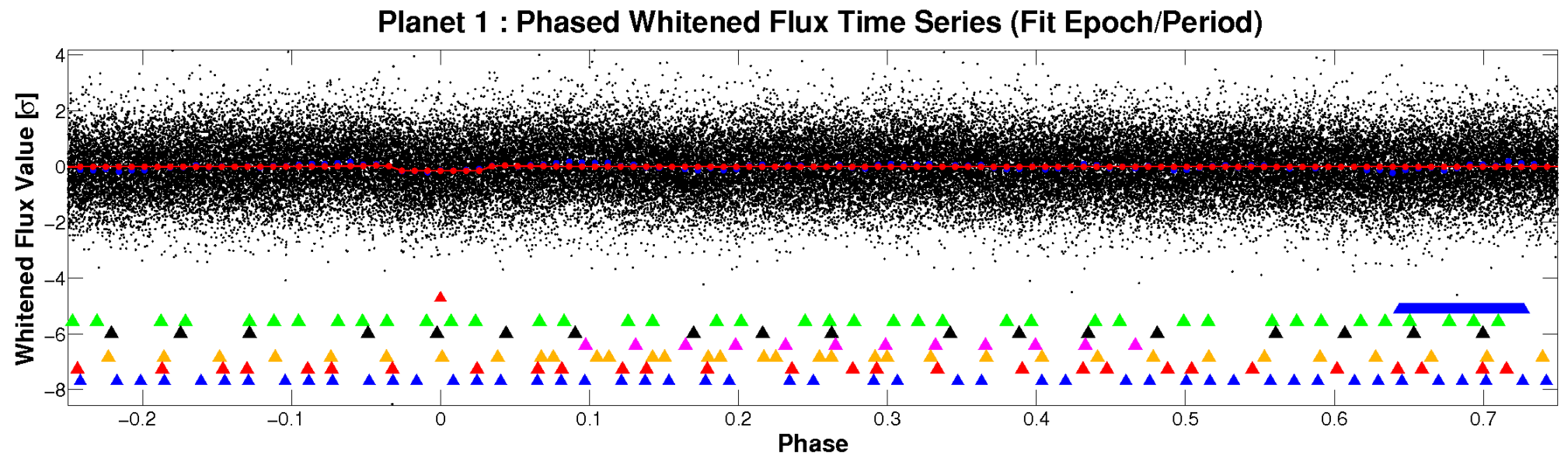
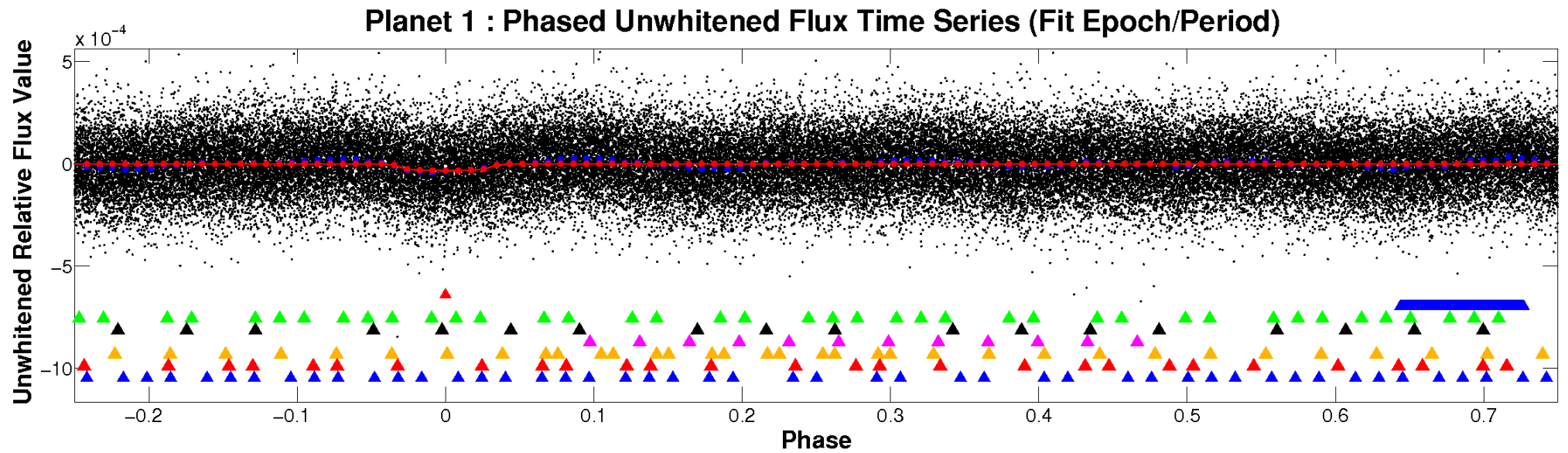


ALT Odd/Even

TCE 010669199-01

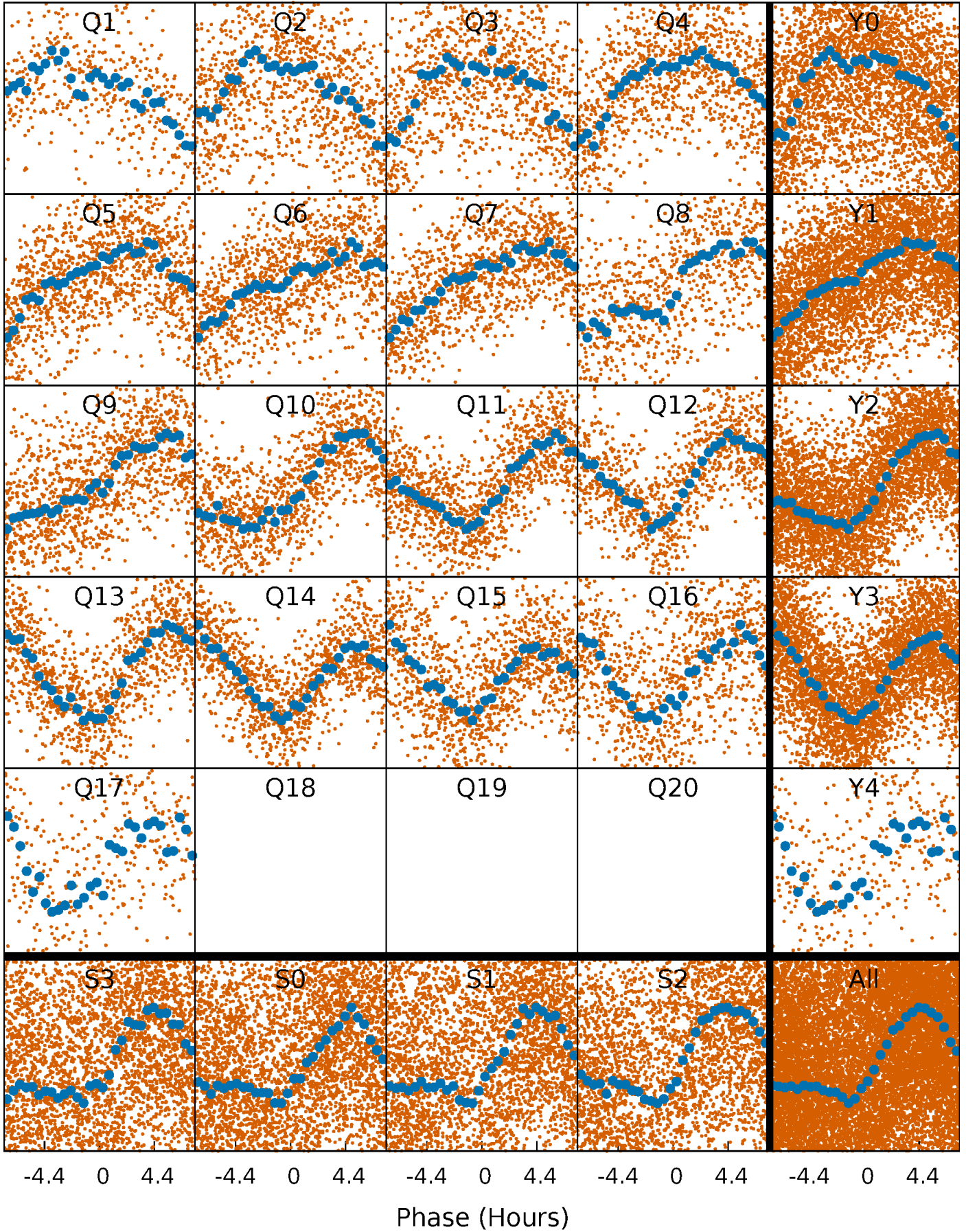


Non-Whitened Vs. Whitened Light Curve



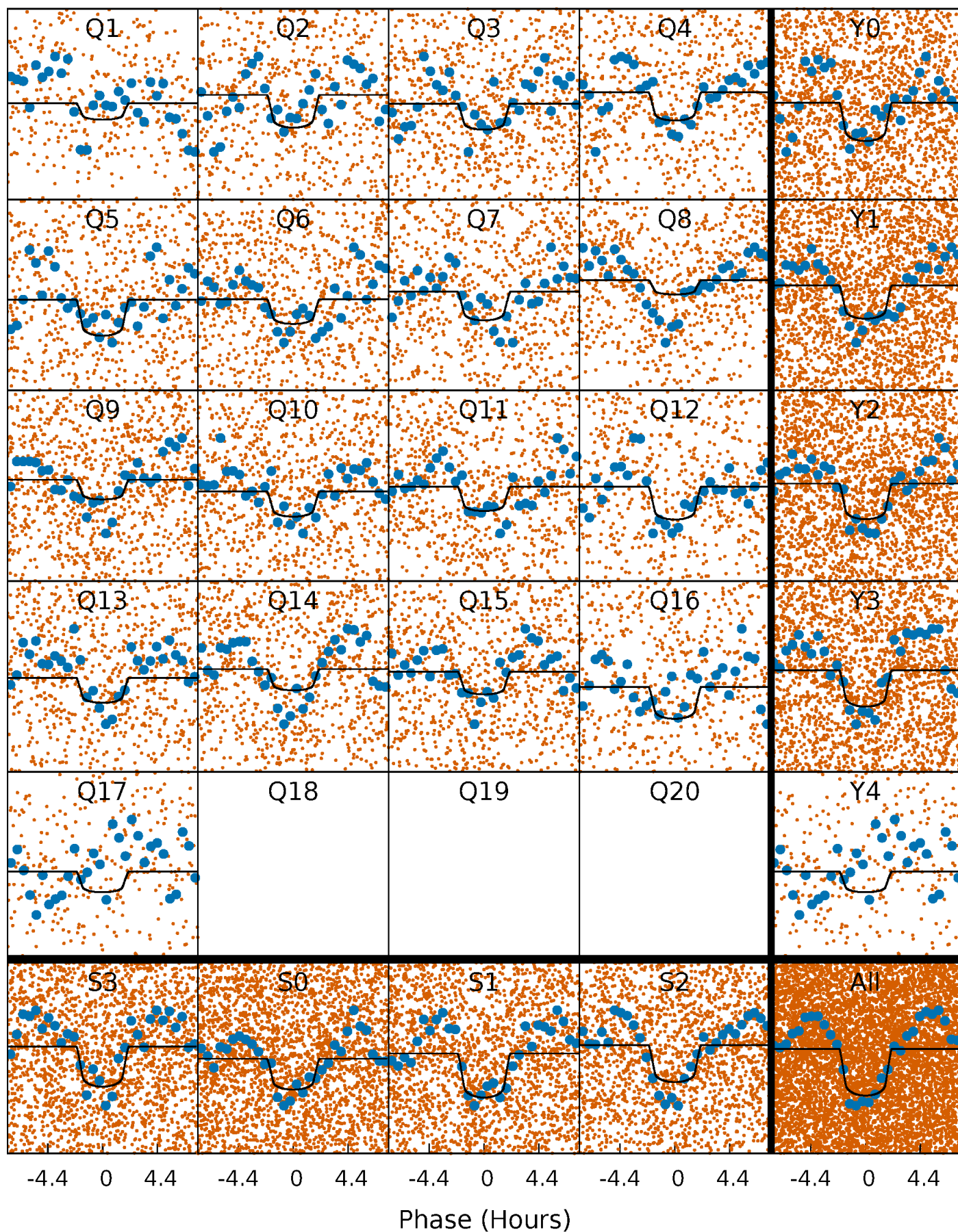
PDC Quarter-Phased Transit Curves

TCE 010669199-01 P= 2.365917 Days $T_0=133.353148$ (BKJD)



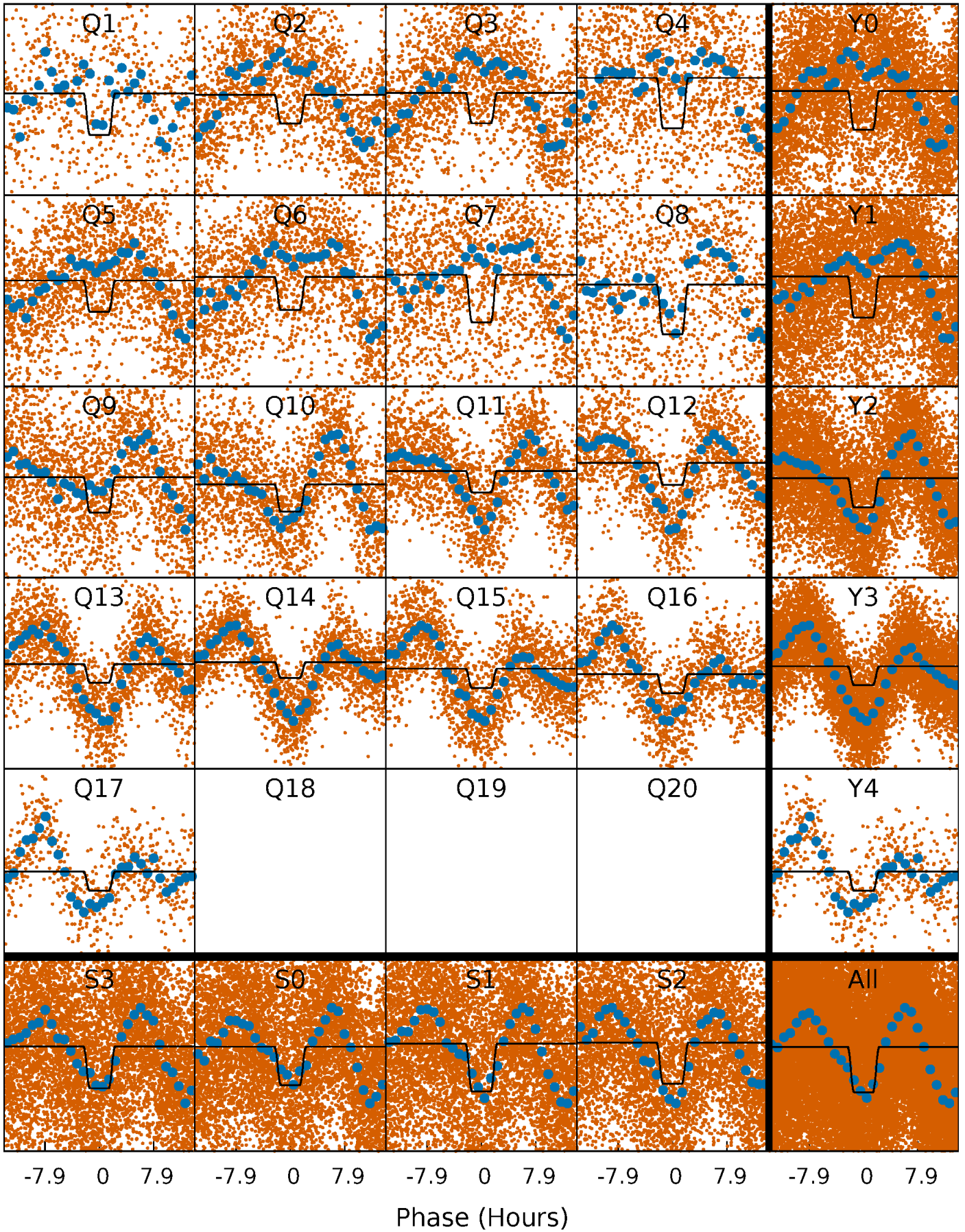
DV Quarter-Phased Transit Curves

TCE 010669199-01 P= 2.365917 Days $T_0=133.353148$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

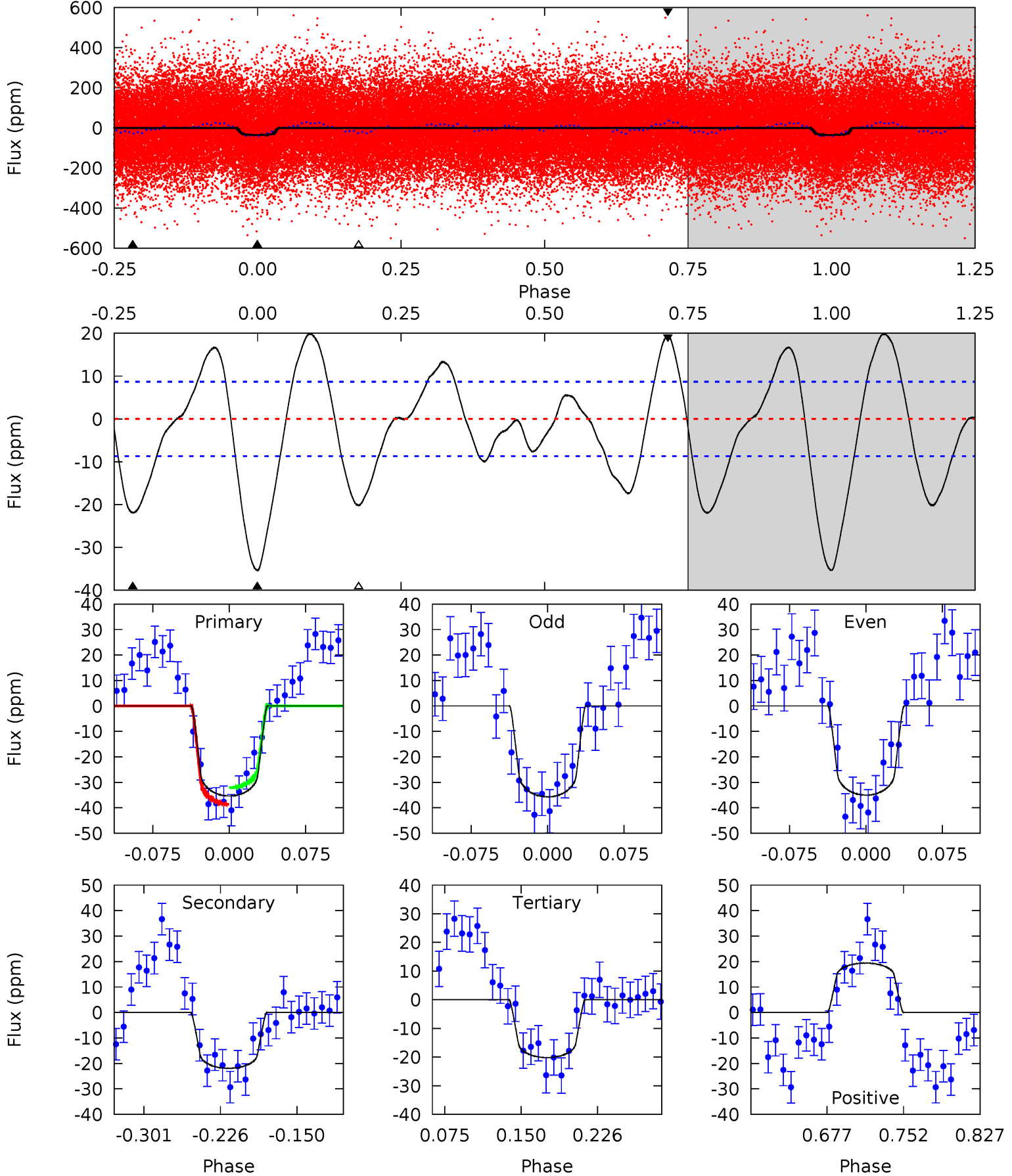
TCE 010669199-01 P= 2.365937 Days $T_0=133.289363$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-01, P = 2.365917 Days, E = 130.987231 Days

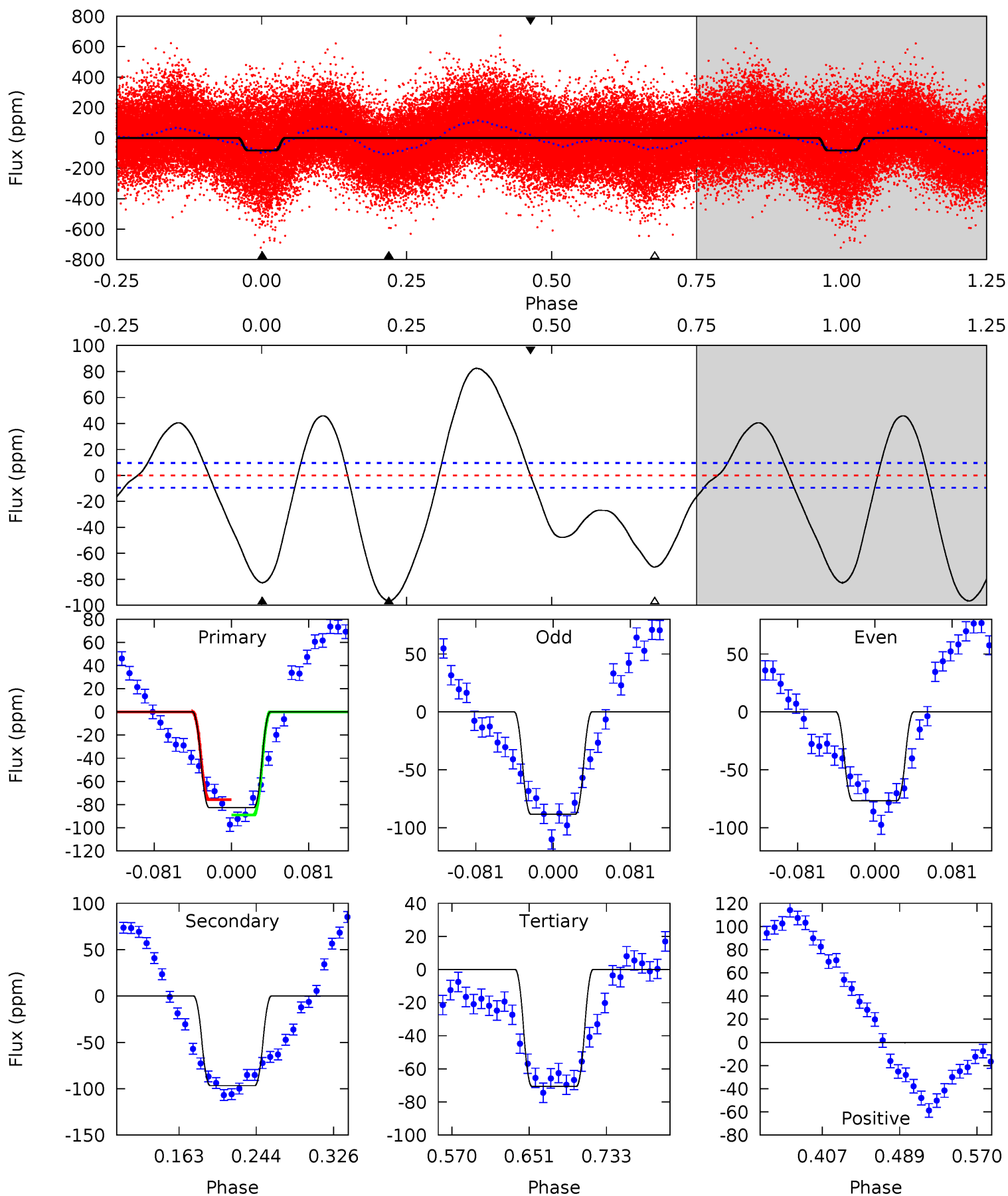
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	11.7	10.7	10.3	4.62	1.78	5.41	8.08	8.49	0.92	1.33	0.18	1.04	0.36	1.73



Alt Model-Shift Uniqueness Test

010669199-01, P = 2.365937 Days, E = 130.923426 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.9	46.7	34.1	-0.04	4.61	1.74	20.8	5.84	40.0	12.6	46.7	2.81	1.09	0.46	3.13



Stellar Parameters For KIC 010669199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-22 ± 2	$2.38^{+0.72}_{-0.76}$	3865^{+244}_{-426}	5651^{+861}_{-574}	$3.673^{+3.850}_{-1.503}$
Alt.	-97 ± 2	$3.55^{+0.83}_{-0.82}$	3889^{+220}_{-411}	6882^{+733}_{-606}	$7.234^{+4.690}_{-2.522}$

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 $A_{obs} \gg 1.0$

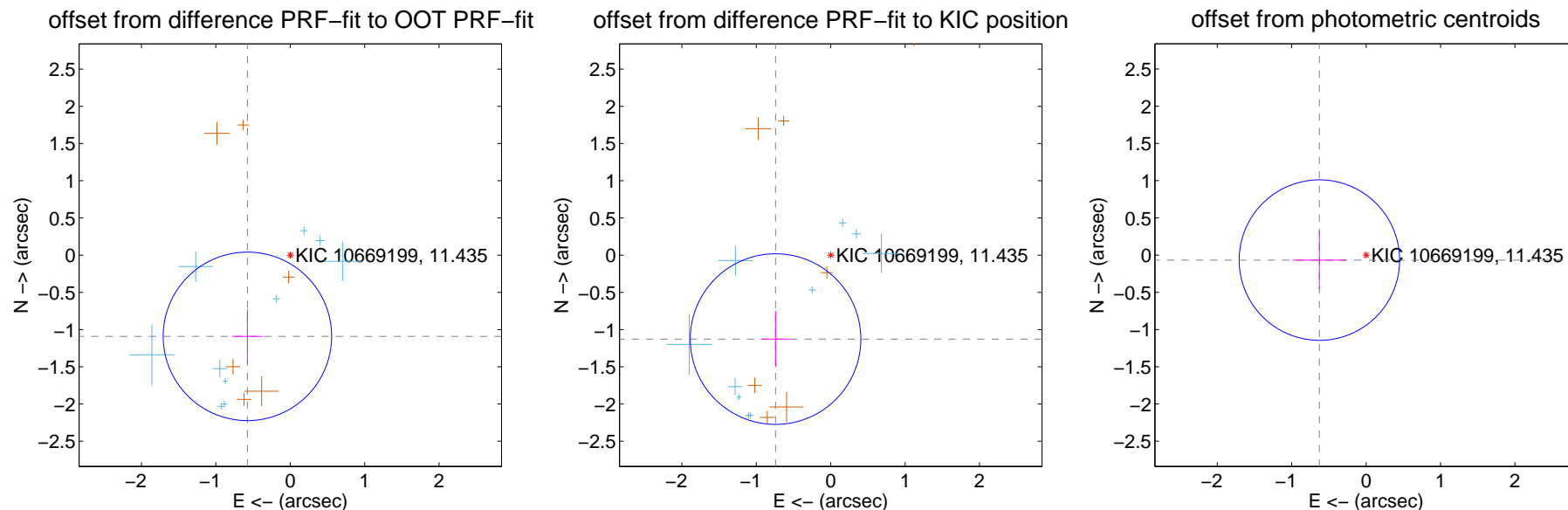
DV Centroid Data

Supplemental centroid analysis for 010669199-01. **Kepler magnitude: 11.44.** Transit SNR 9.32

There are 10 quarters with good PRF difference image offsets

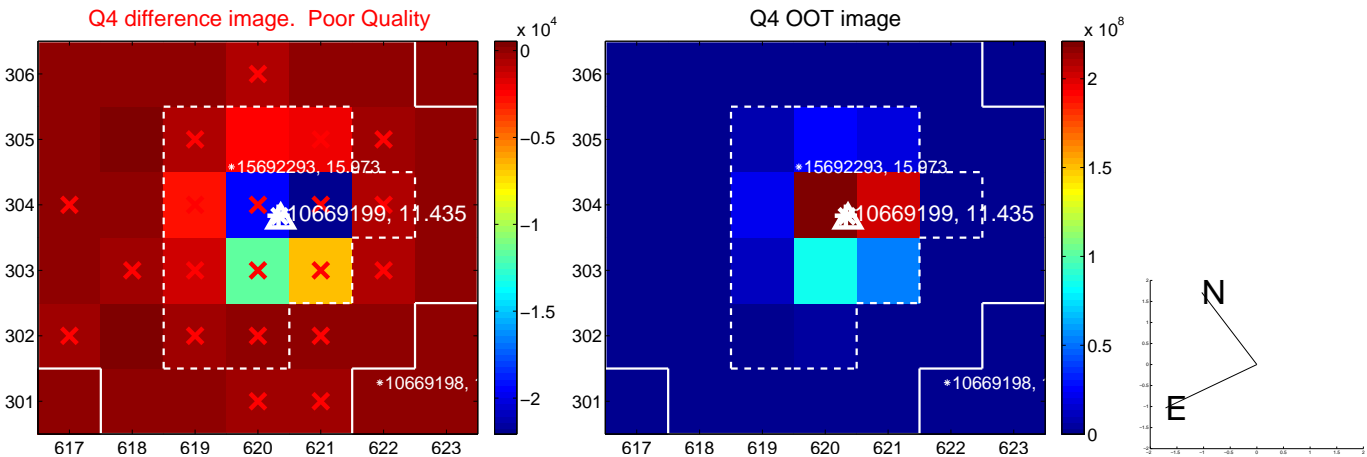
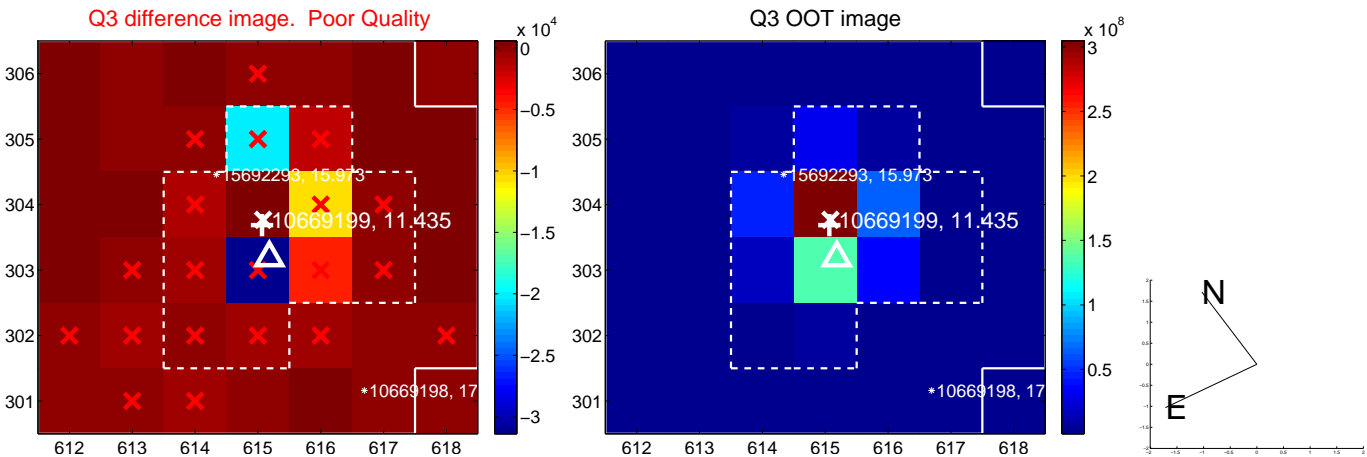
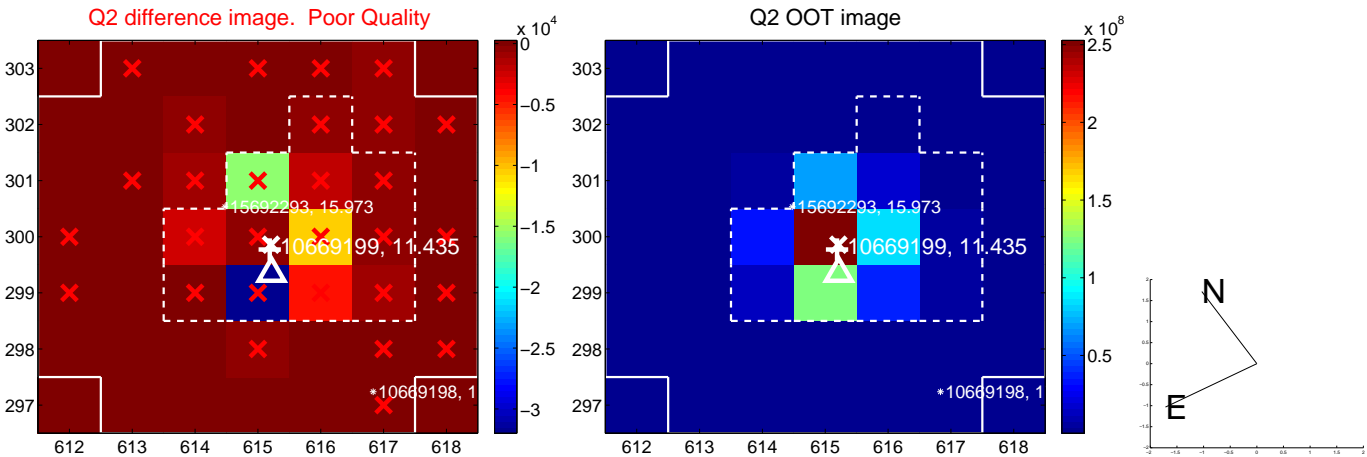
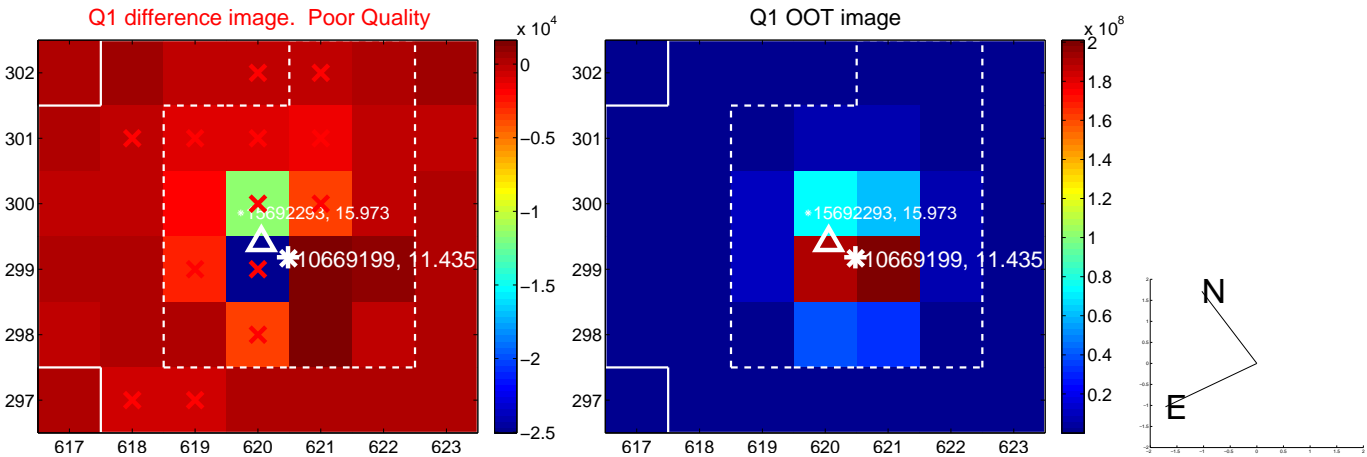
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.234 ± 0.377	3.27	0.576 ± 0.205	-1.091 ± 0.363
PRF-fit source offset from KIC position	1.350 ± 0.382	3.53	0.742 ± 0.196	-1.128 ± 0.377
photometric centroid source offset	0.63 ± 0.36	1.76	0.63 ± 0.36	-0.07 ± 0.40

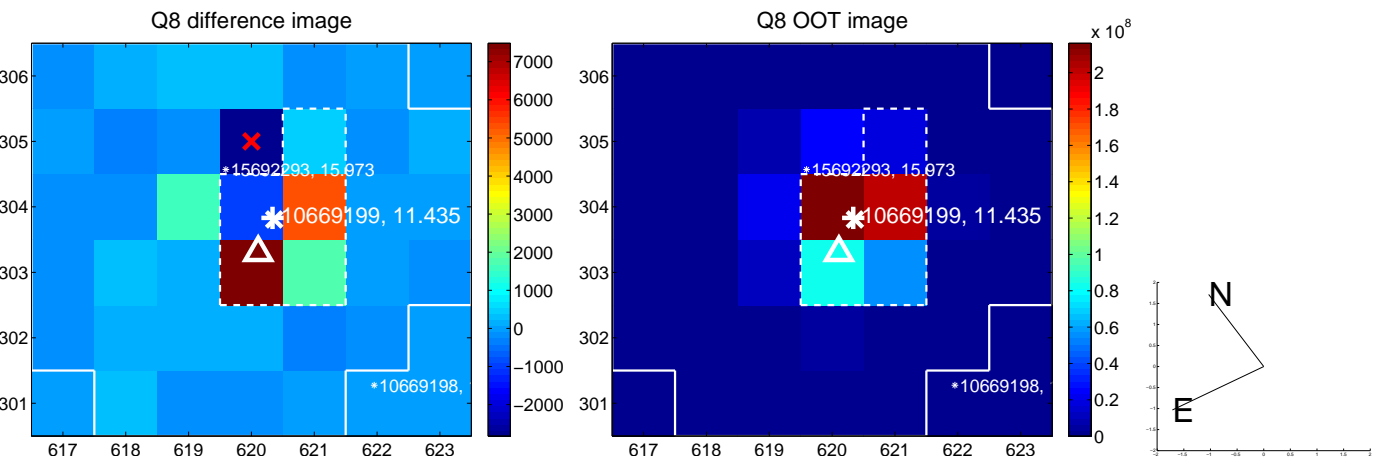
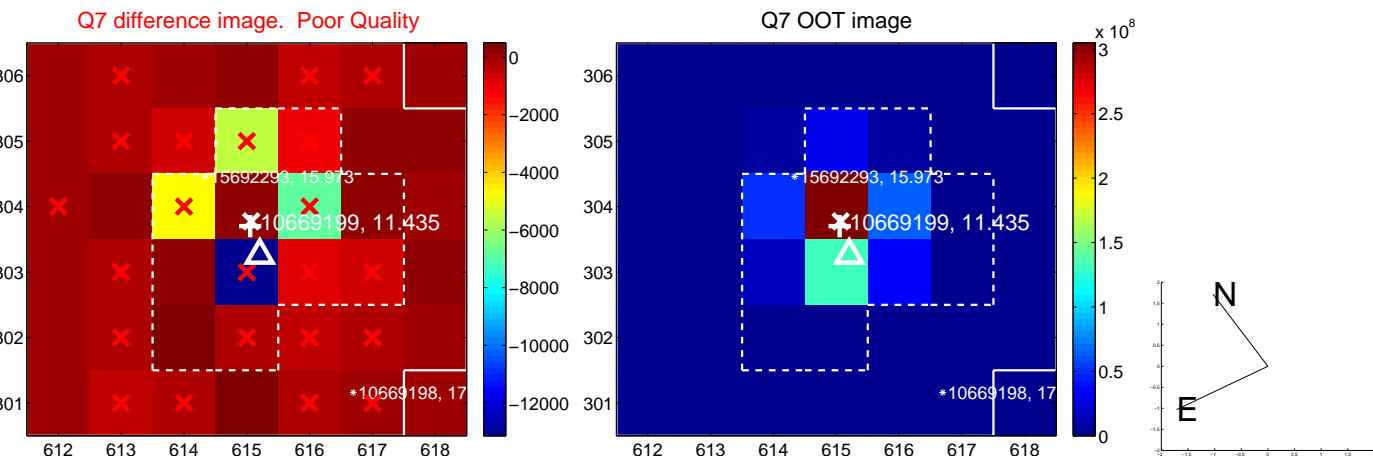
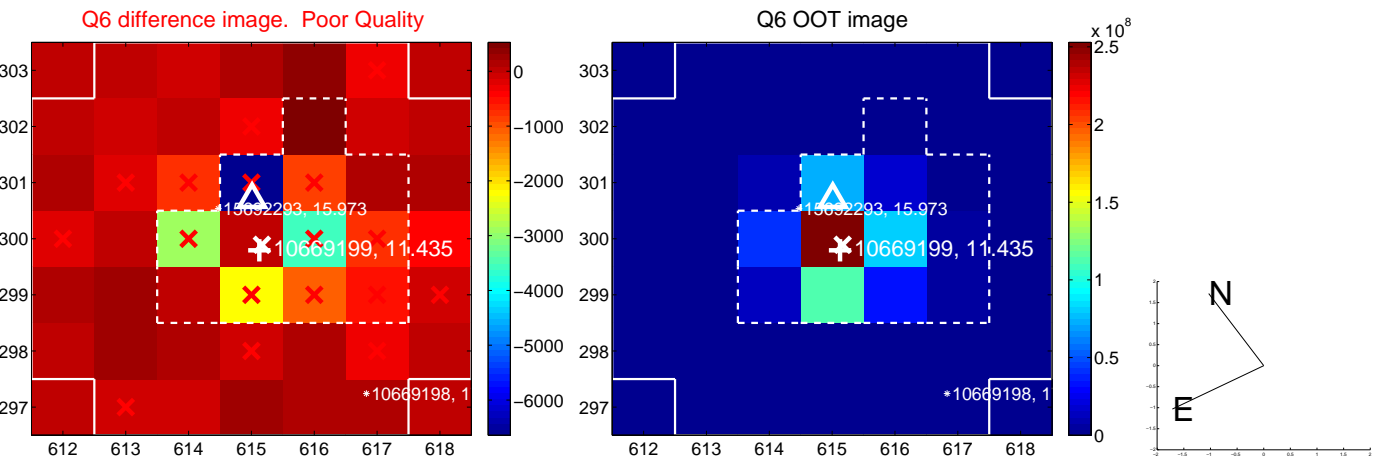
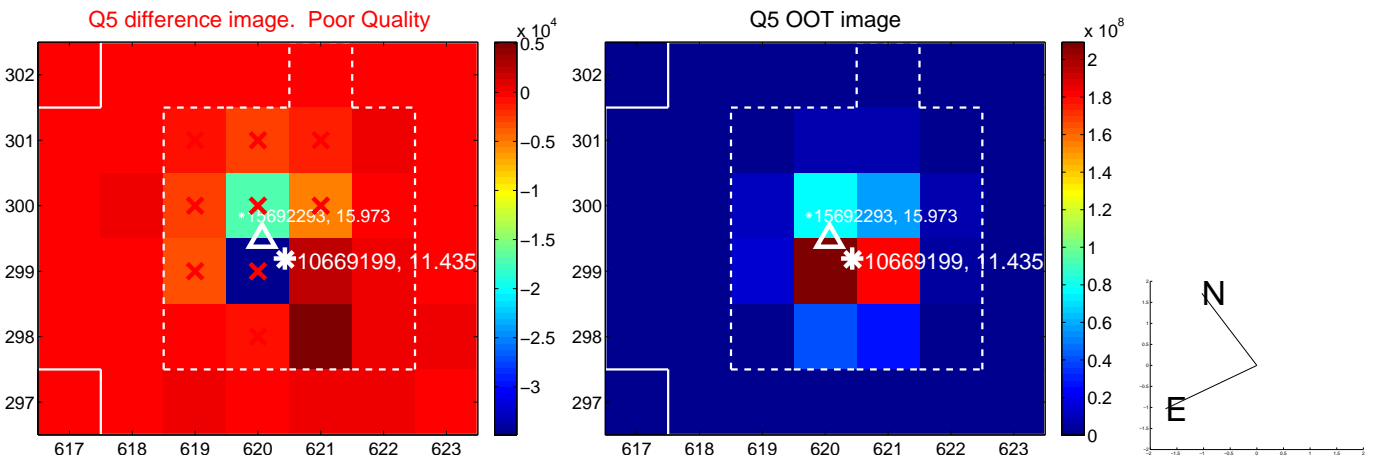


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

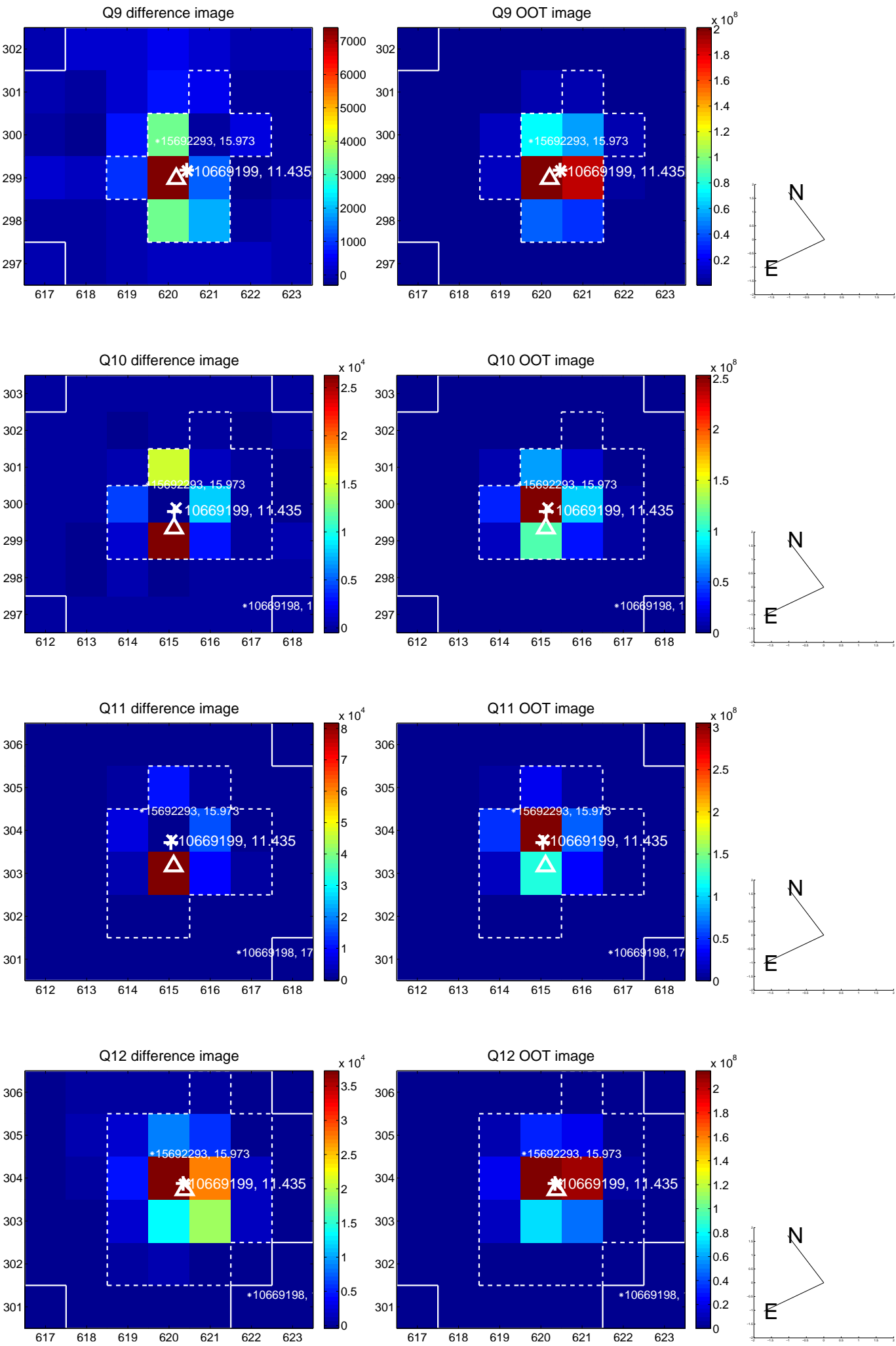
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



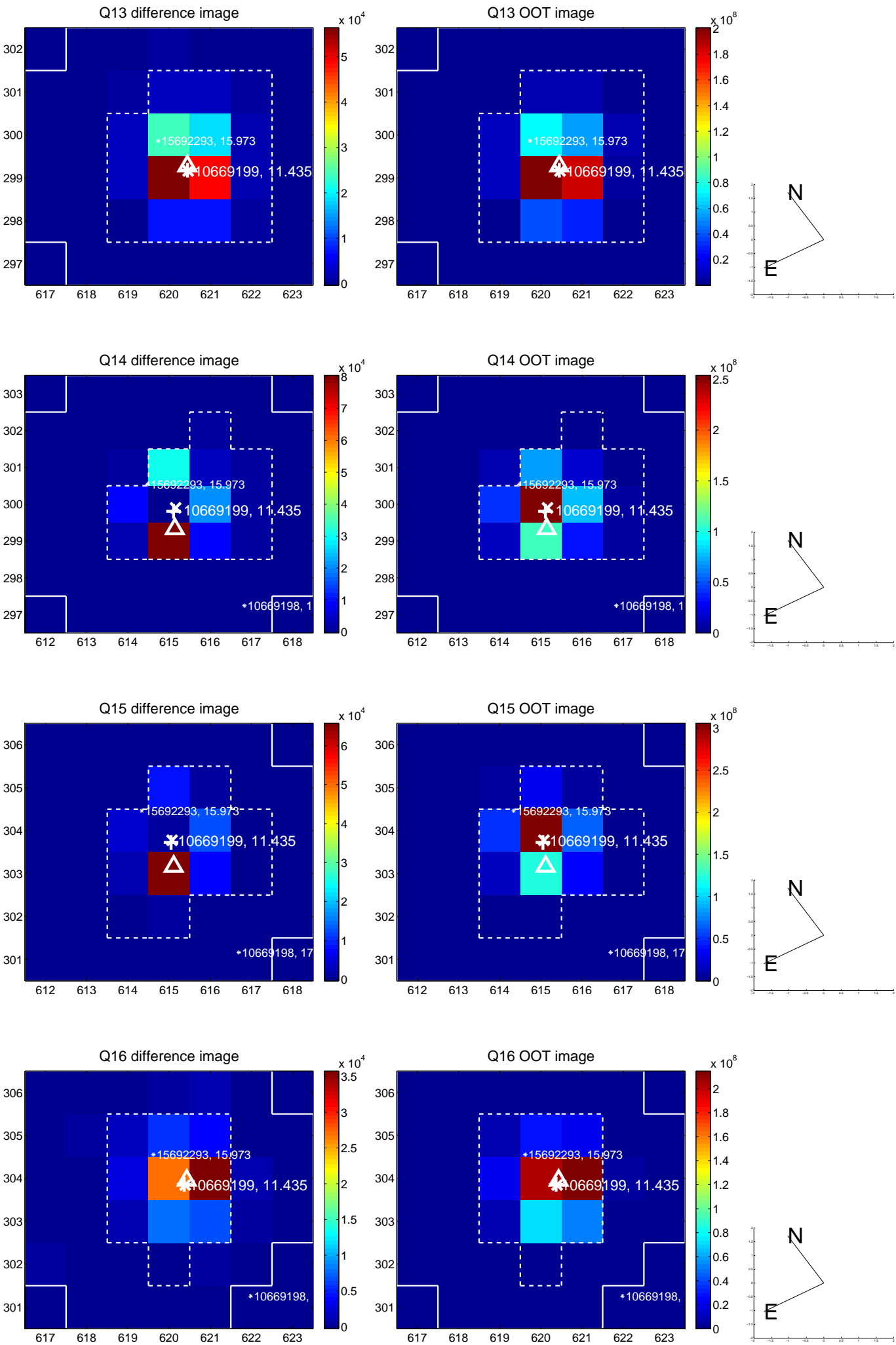
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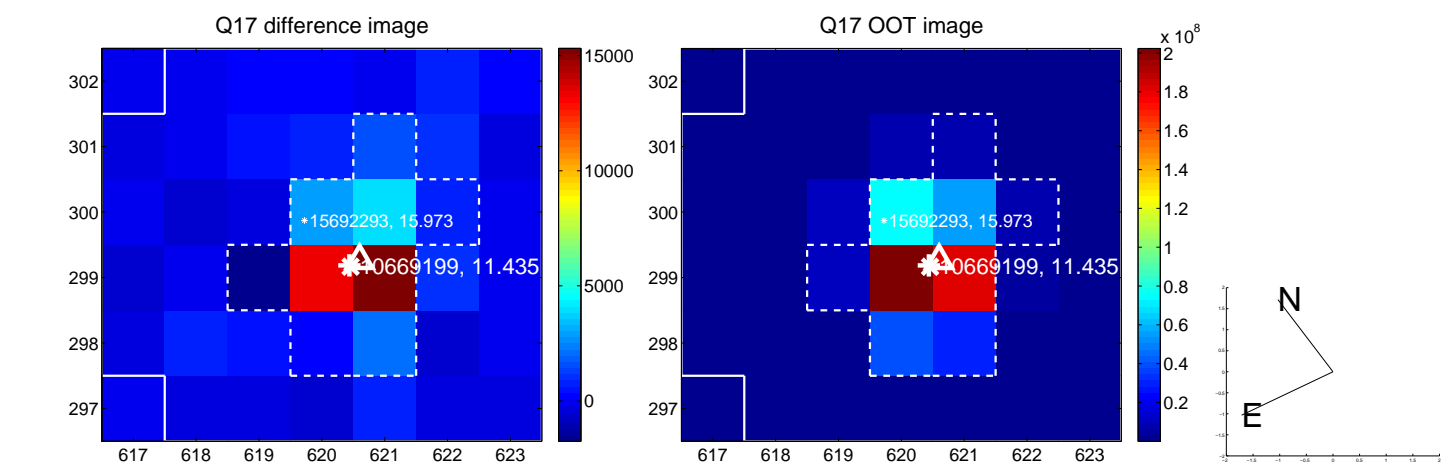
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



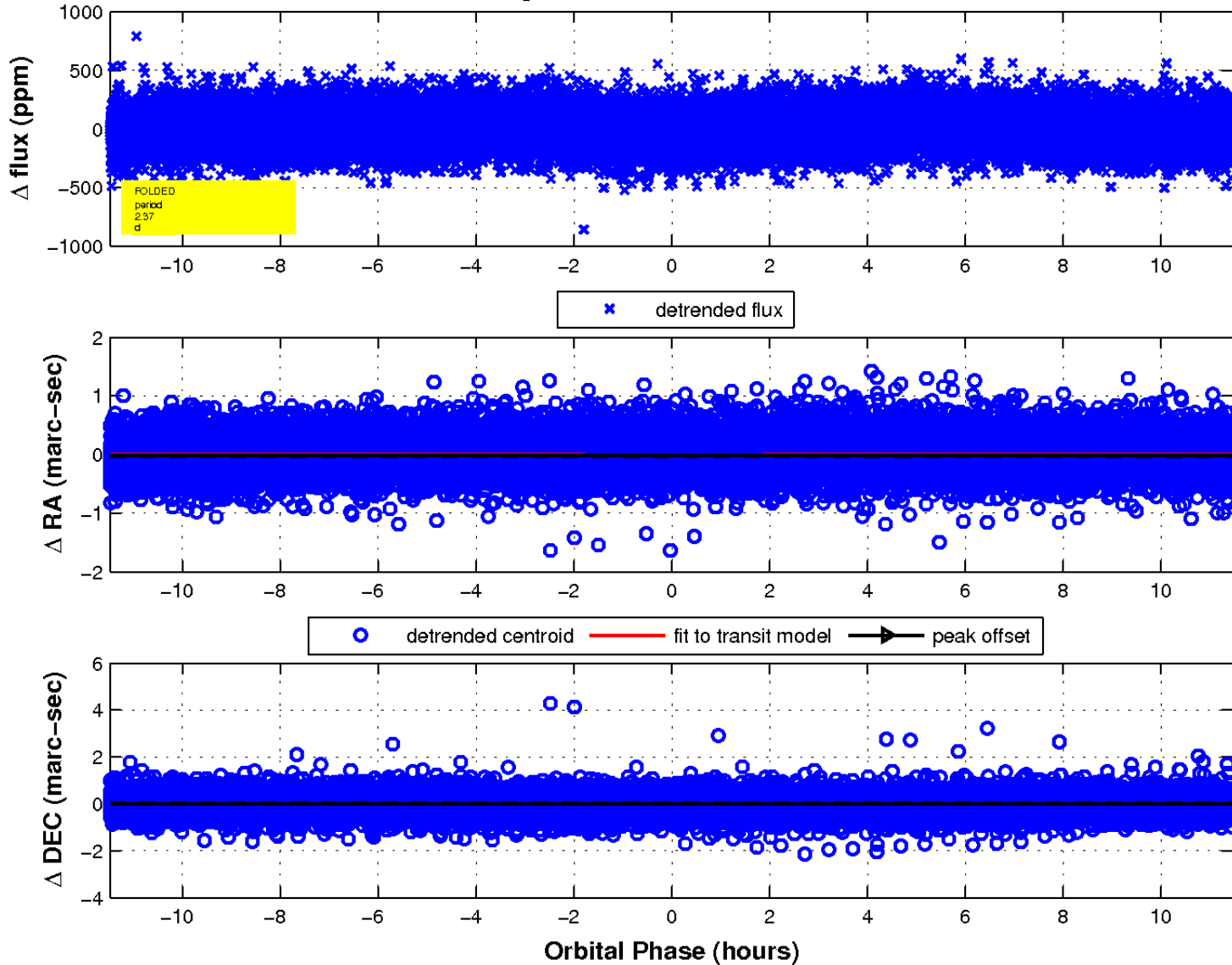
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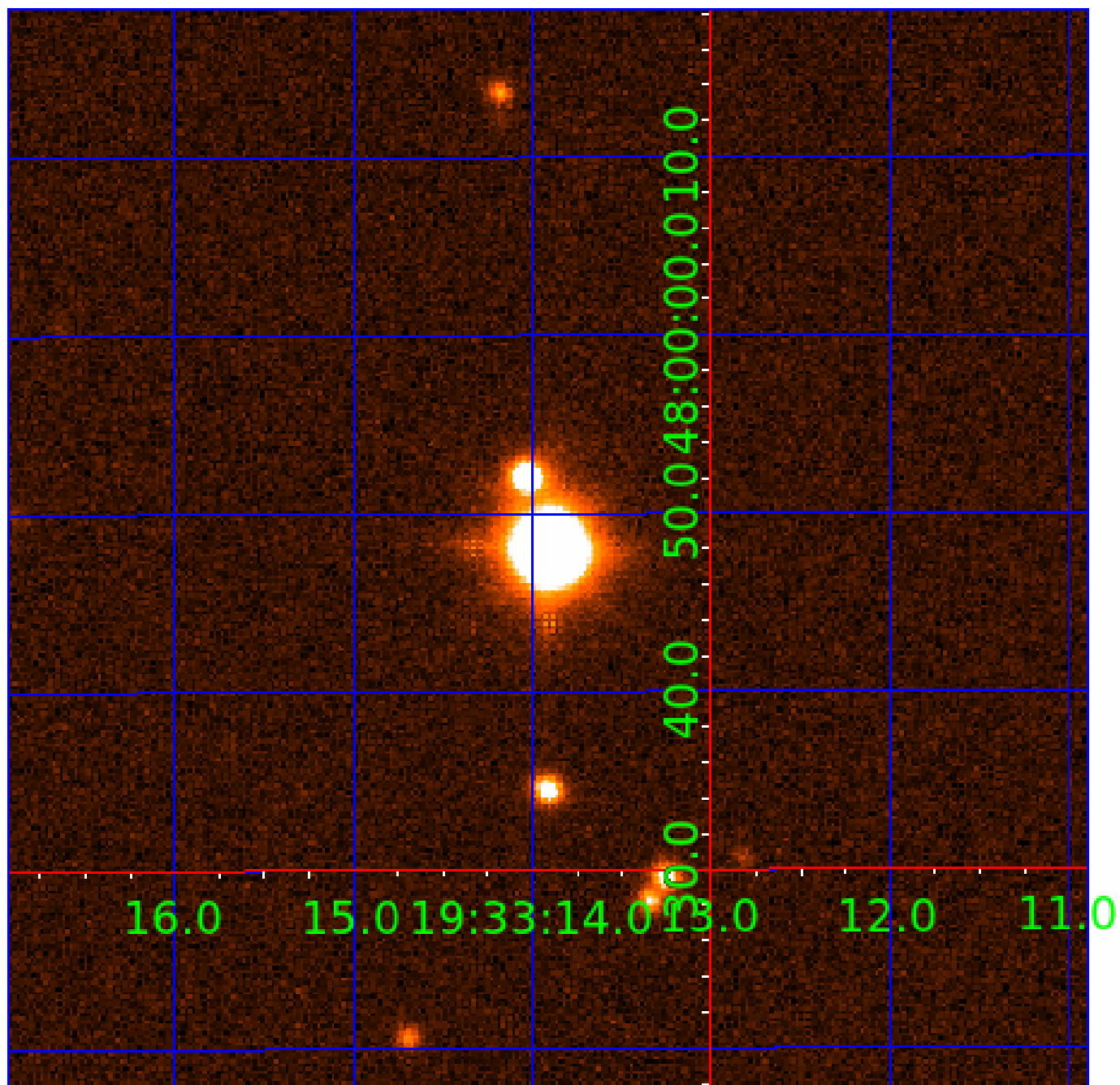


fluxWeightedCentroids, Planet 1 of 8



UKIRT Image

Declination



KIC 010669199

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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010669199-02	OBS	No	2.366238	132.509968	8.2	15.609	8.2	4.2	3.77	6706	1.23	15210.89
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Robovetter Results

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010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

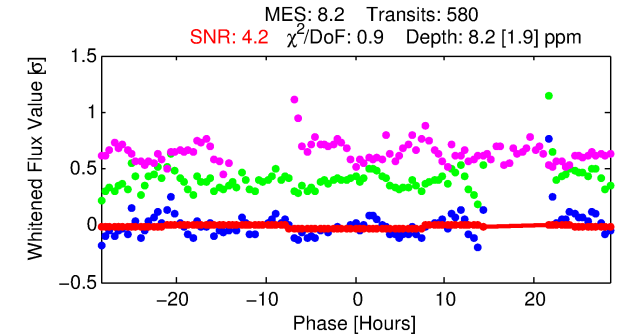
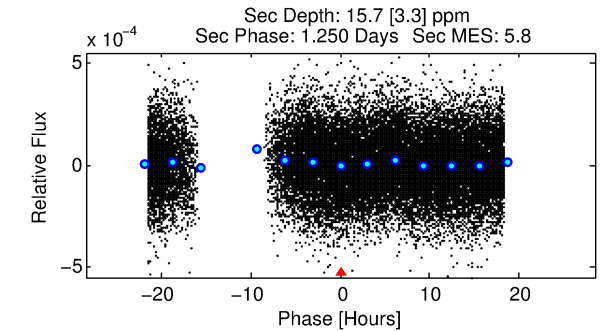
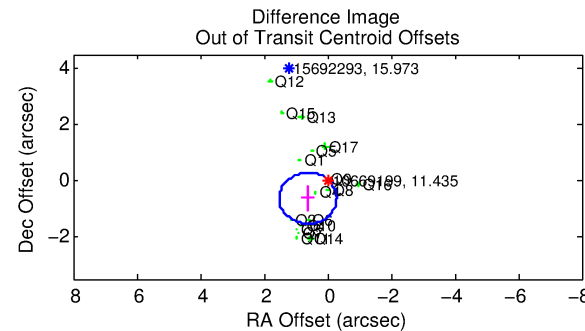
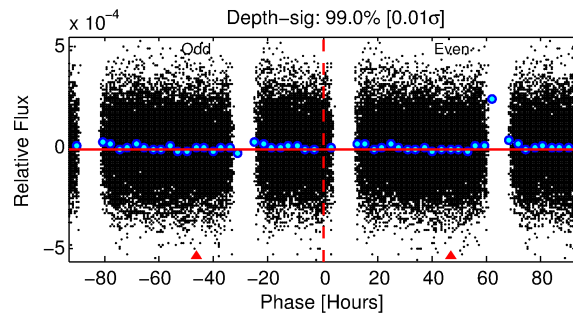
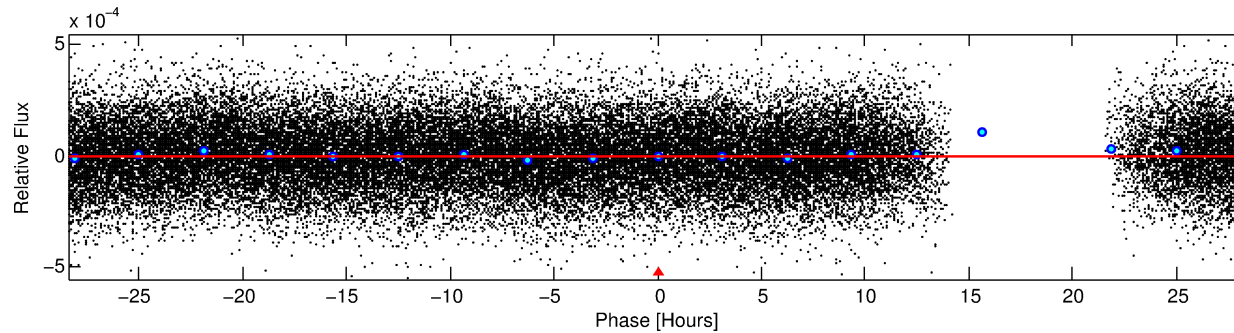
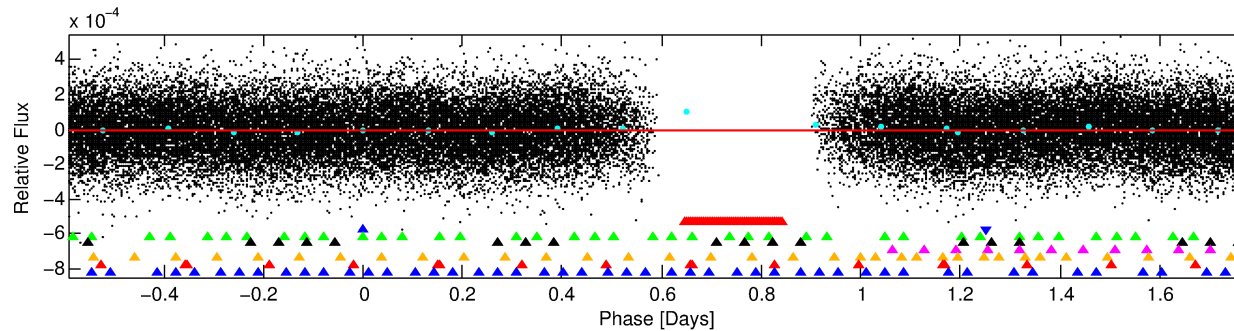
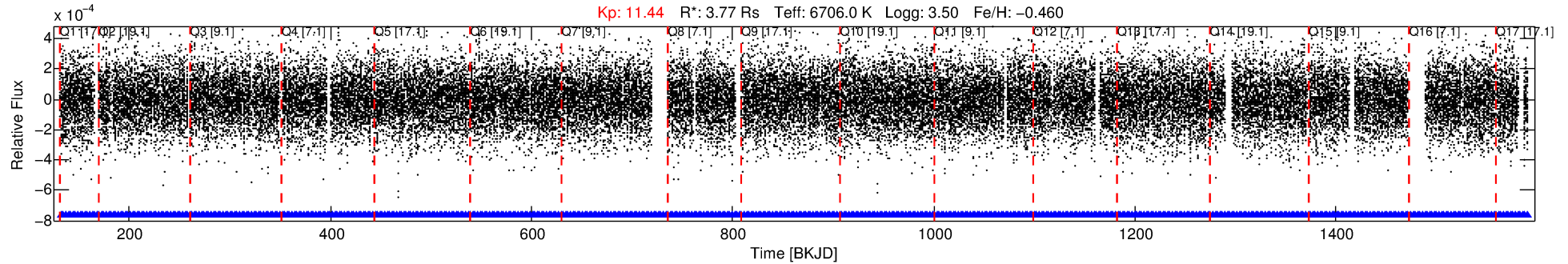
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-02

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 2 of 8 Period: 2.366 d



DV Fit Results:

Period = 2.36624 [0.00008] d
Epoch = 132.5100 [0.0171] BKJD
Rp/R* = 0.0030 [0.0014]
a/R* = 1.09 [0.47]
b = 0.87 [0.77]
Seff = 15210.89 [10371.08]
Teq = 2832 [483] K
Rp = 1.23 [0.80] Re
a = 0.0411 [0.0174] AU
Ag = 9.62 [11.34] [0.76 σ]
Teffp = 7712 [1882] K [2.51 σ]

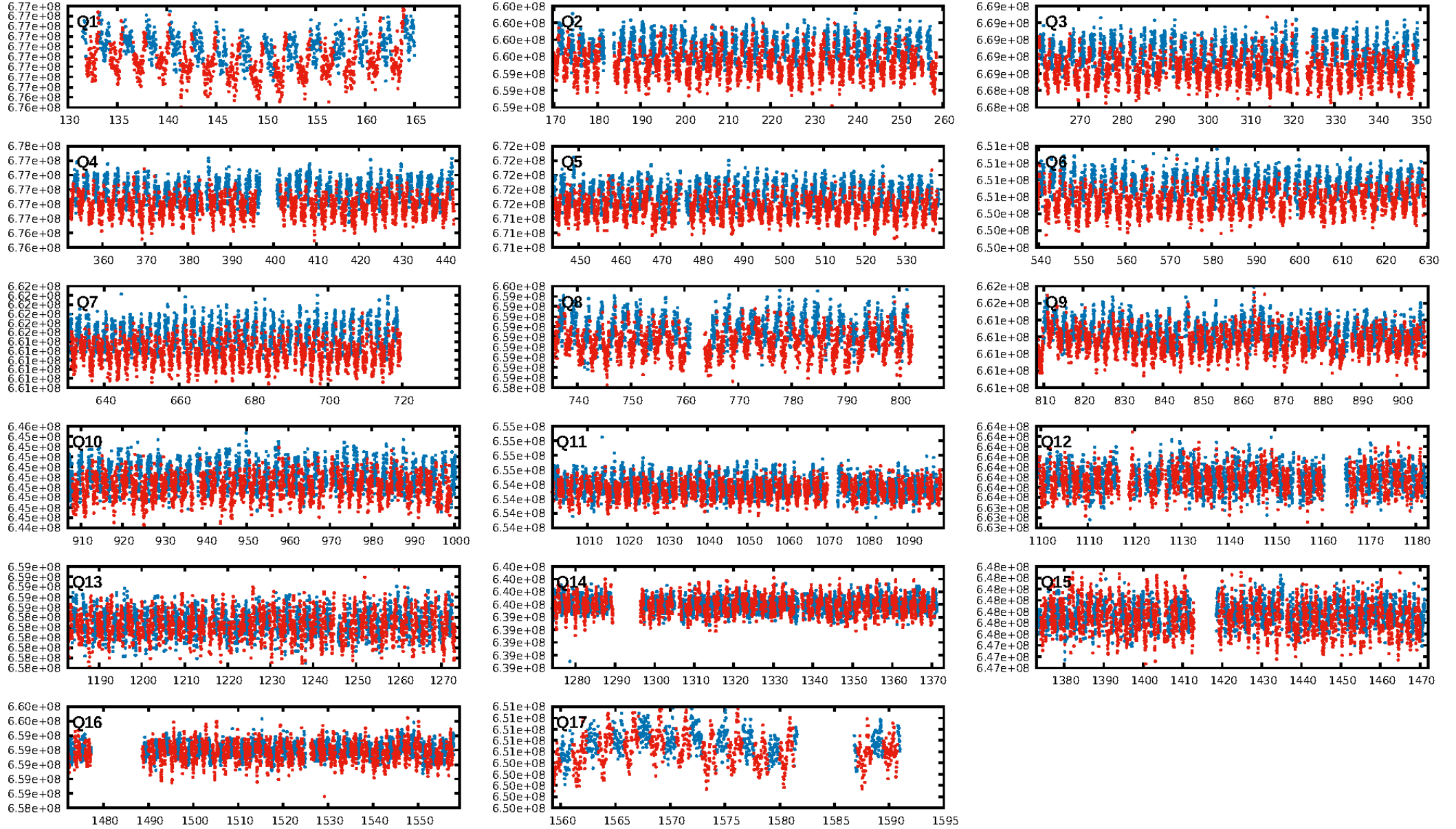
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [40.70 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [554/554]
GhostDiagnostic-chr: 0.622
Centroid-sig: 0.0%
Centroid-so: 4.879 arcsec [4.39 σ]
OotOffset-rm: 0.879 arcsec [2.89 σ]
KicOffset-rm: 0.997 arcsec [3.05 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

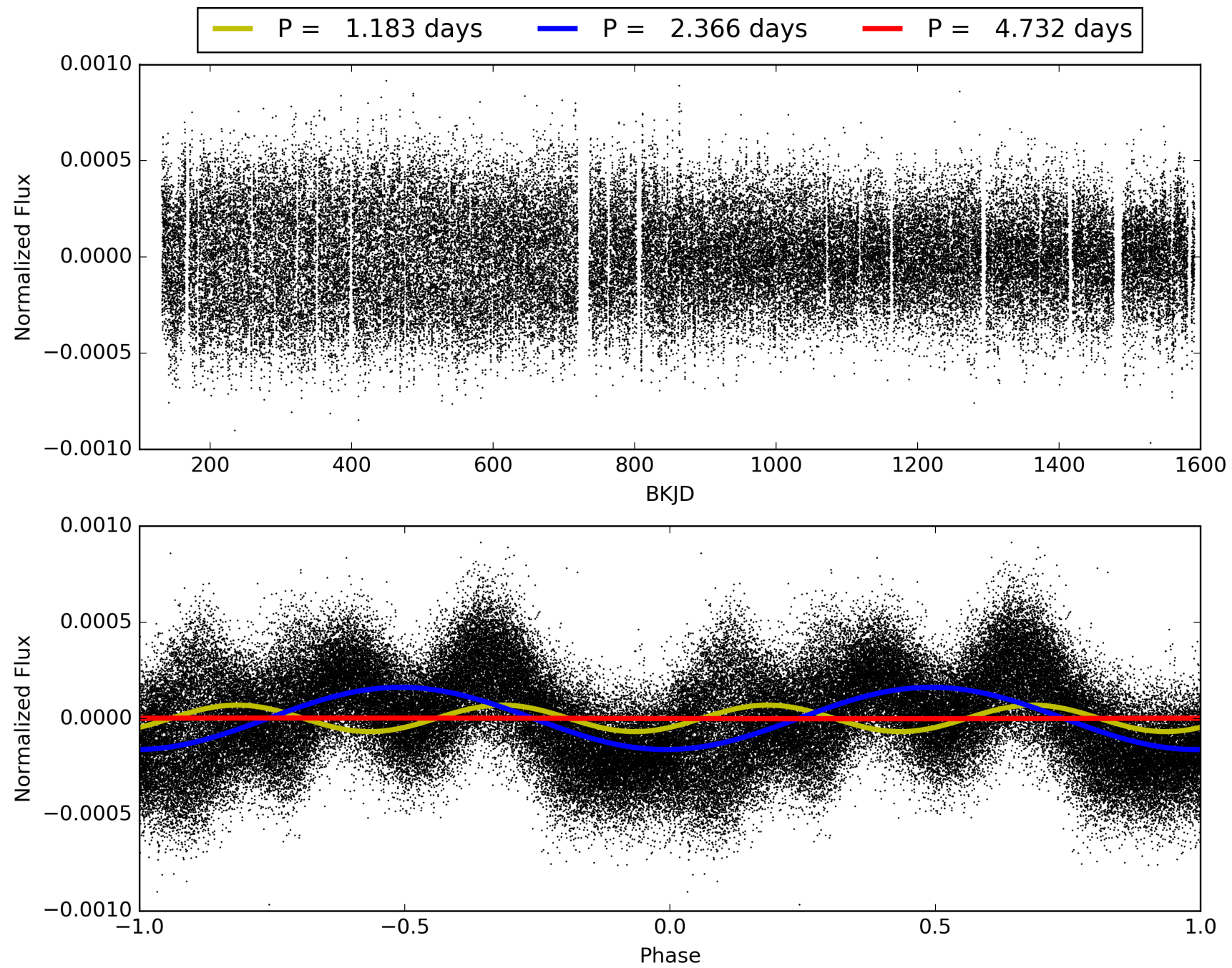
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:42:06 Z

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

TCE 010669199-02, PDC Light Curves

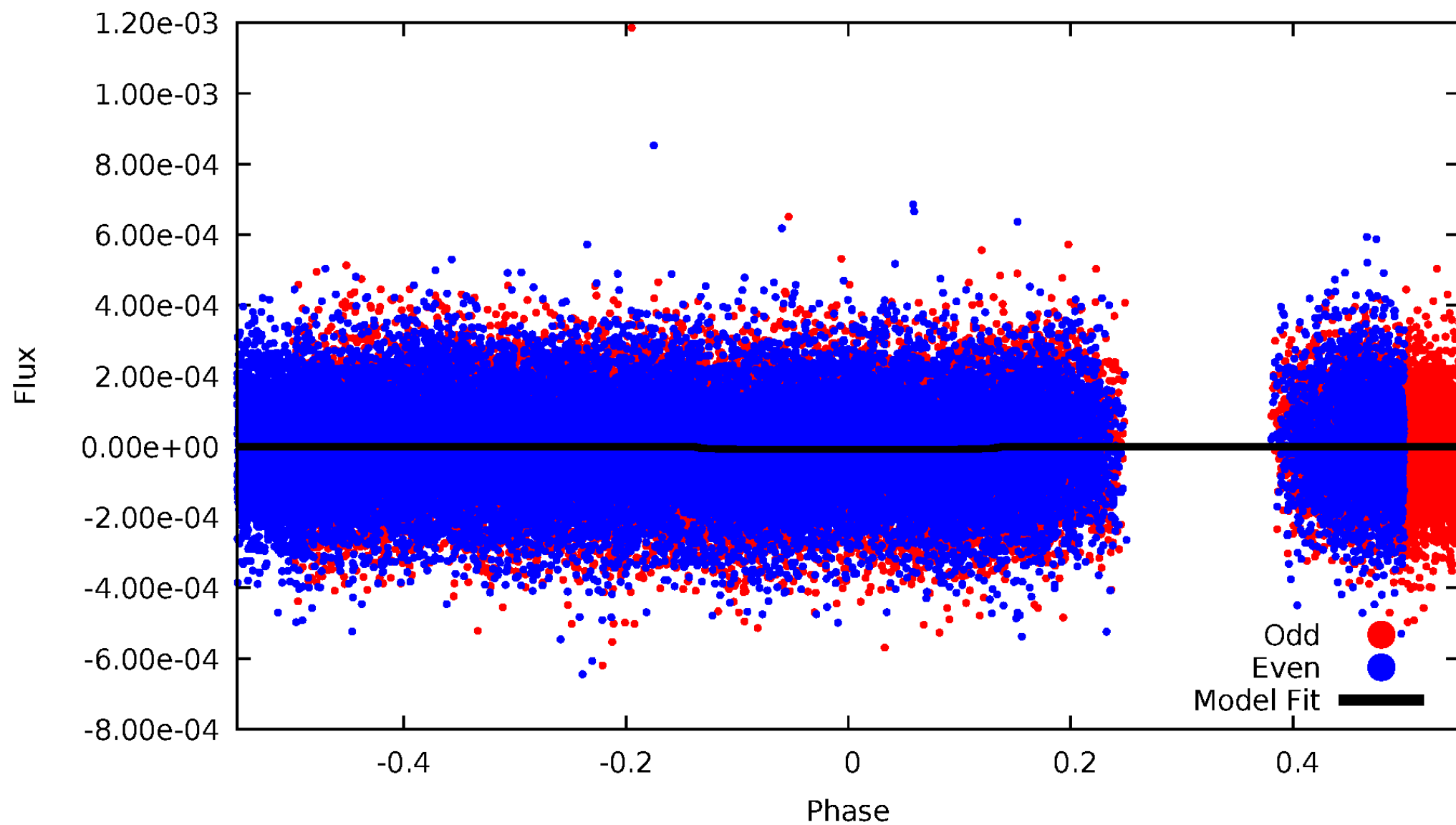


TCE 010669199-02



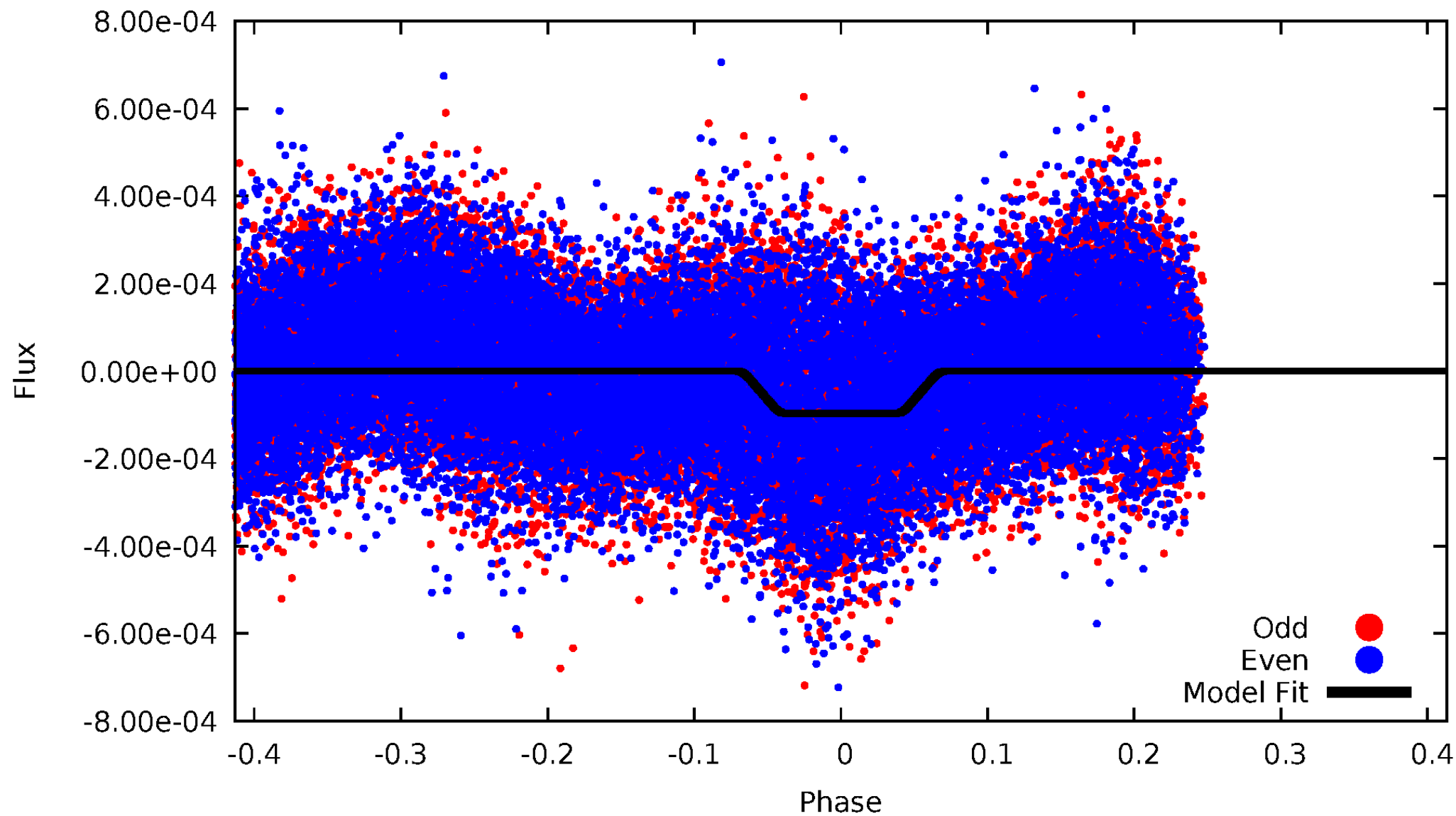
DV Odd/Even

TCE 010669199-02



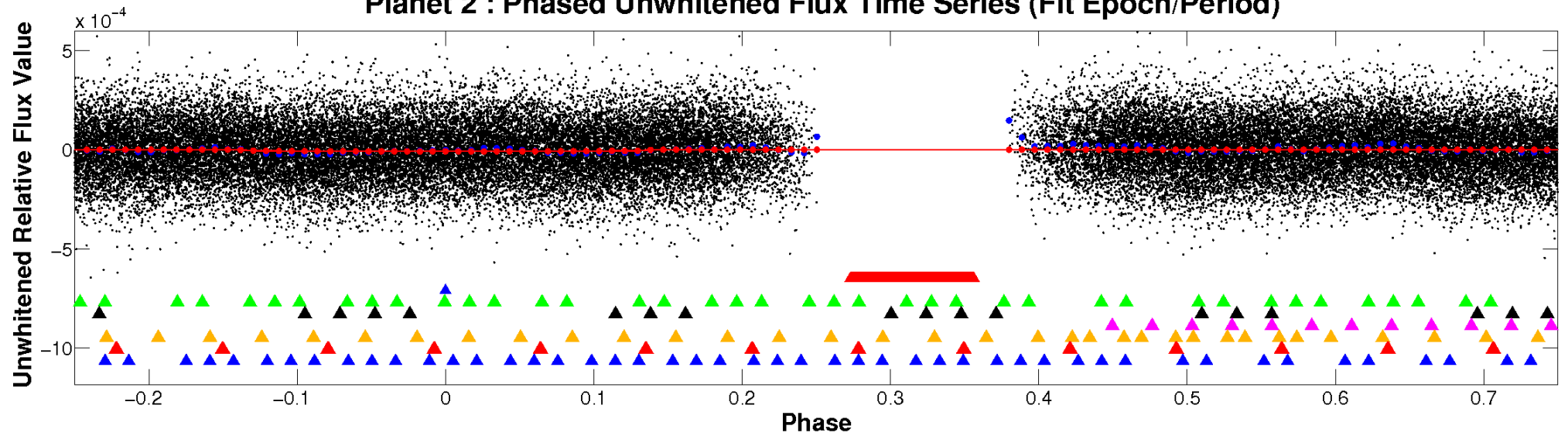
ALT Odd/Even

TCE 010669199-02

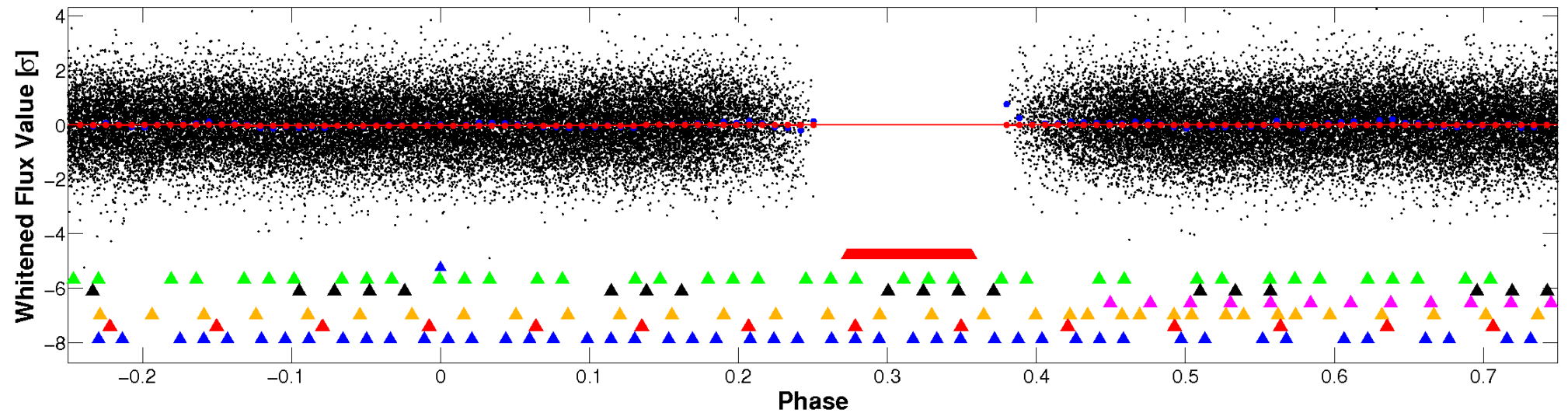


Non-Whitened Vs. Whitened Light Curve

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

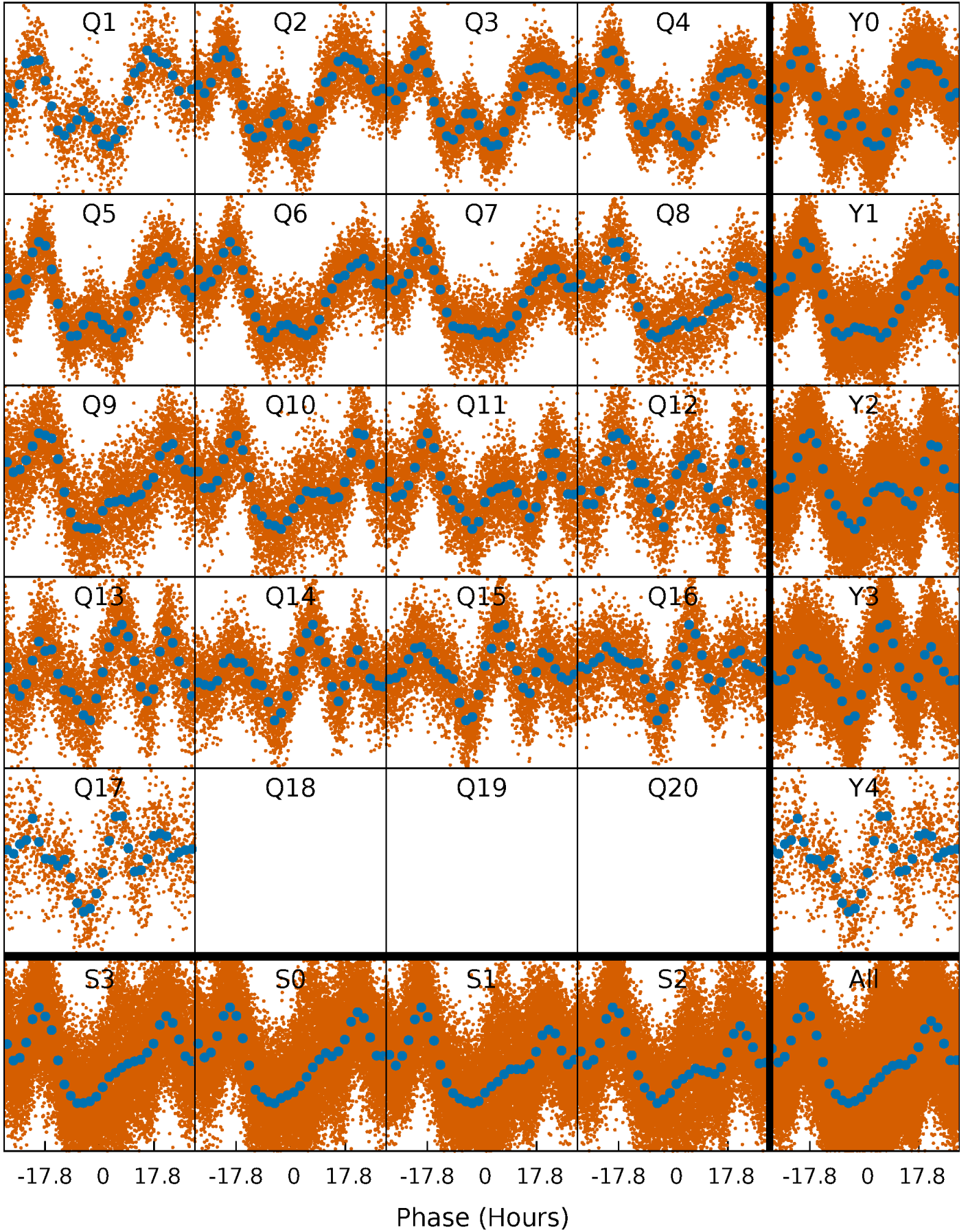


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



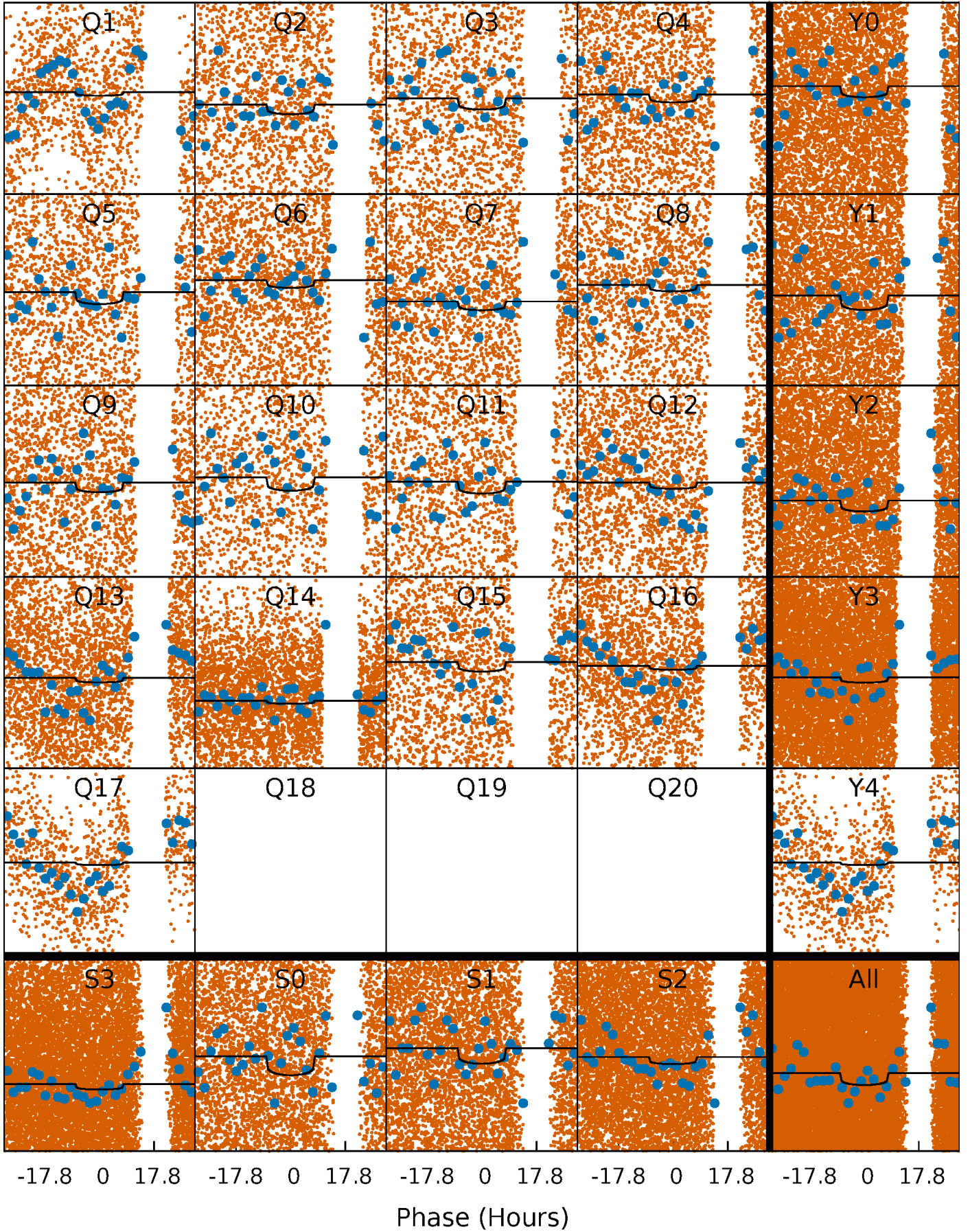
PDC Quarter-Phased Transit Curves

TCE 010669199-02 P= 2.366238 Days $T_0=132.509968$ (BKJD)



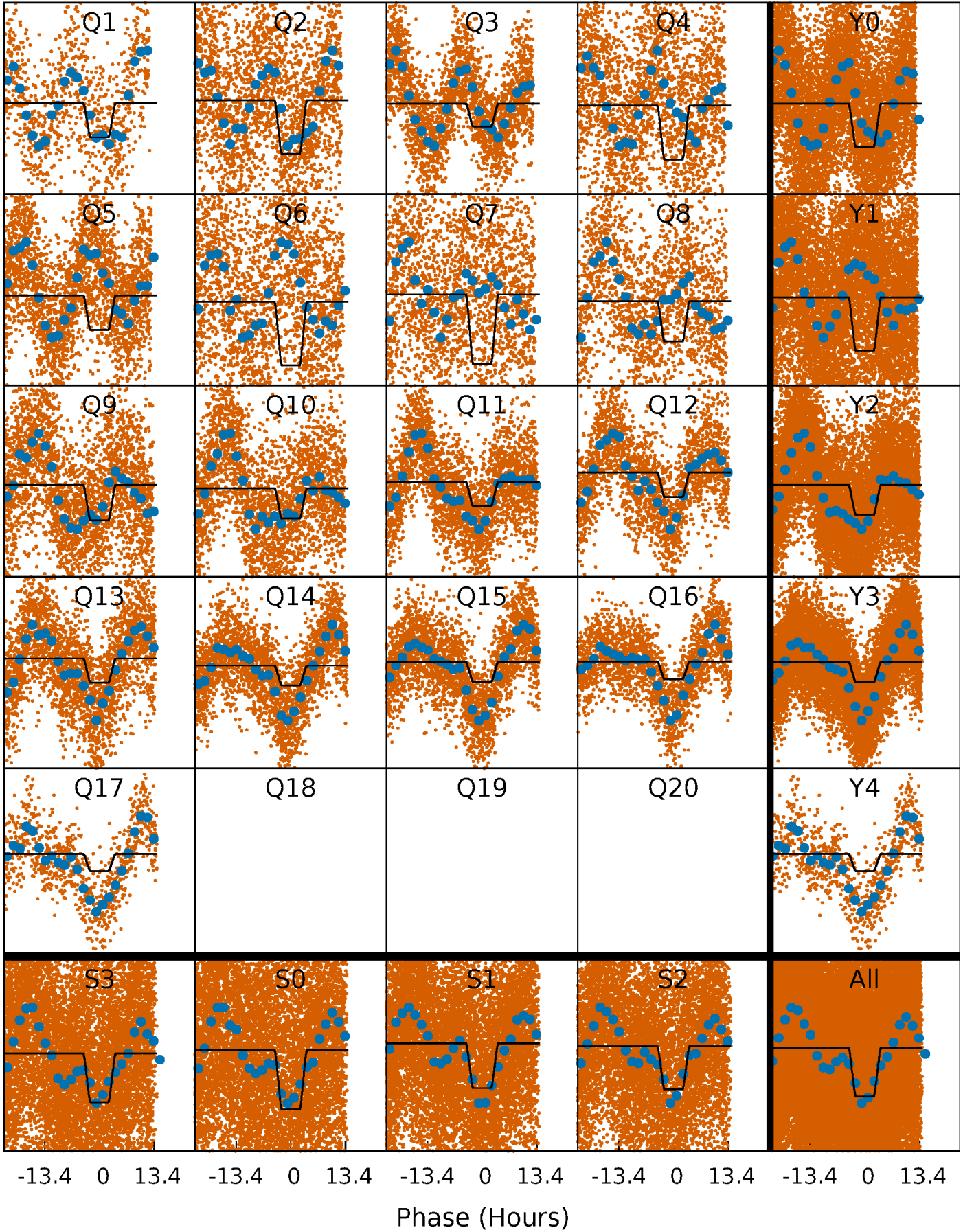
DV Quarter-Phased Transit Curves

TCE 010669199-02 P= 2.366238 Days $T_0=132.509968$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

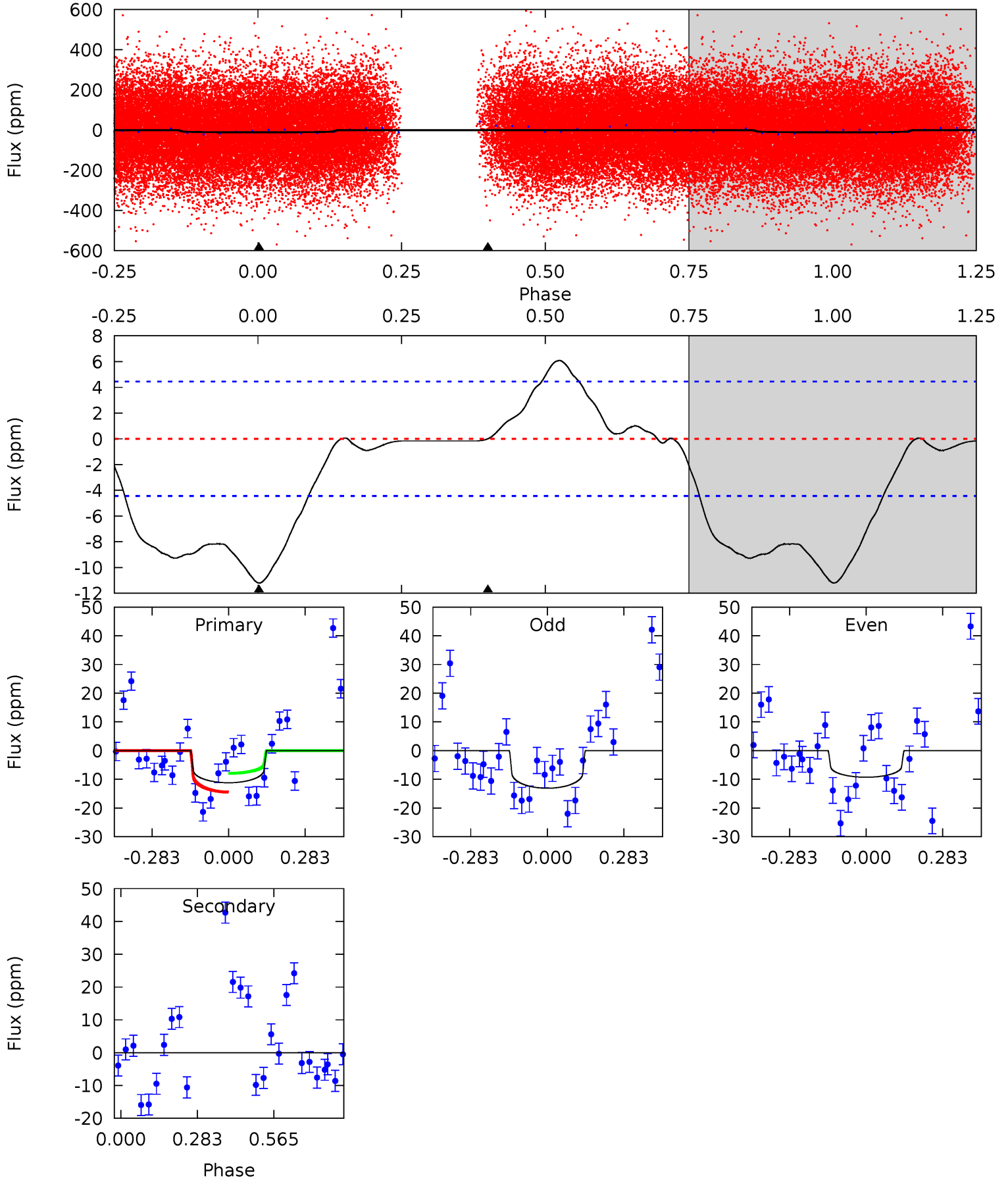
TCE 010669199-02 $P = 2.365790$ Days $T_0 = 132.592883$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-02, P = 2.366238 Days, E = 130.143730 Days

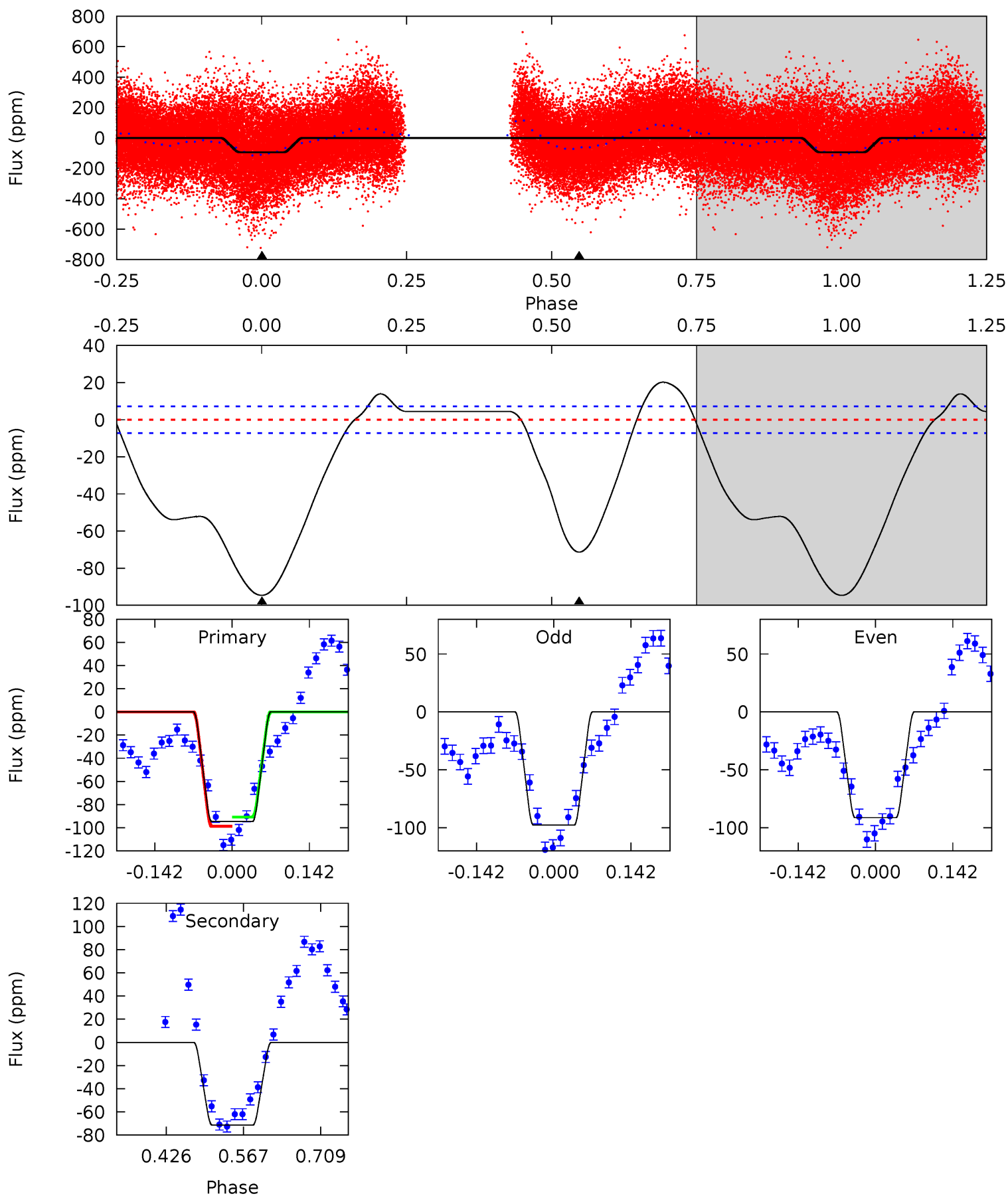
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	0	0	0	4.34	1.07	0.48	11.0	11.0	0	0	1.87	0.95	0.35	3.11



Alt Model-Shift Uniqueness Test

010669199-02, P = 2.365790 Days, E = 130.227093 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.2	44.6	0	0	4.49	1.47	16.0	59.2	59.2	44.6	44.6	2.00	1.11	0.18	2.46



Stellar Parameters For KIC 010669199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1	$1.13^{+0.63}_{-0.51}$	3891^{+213}_{-439}	-3622^{+7652}_{-906}	$-0.003^{+0.948}_{-0.846}$
Alt.	-71 ± 2	$3.82^{+0.82}_{-0.90}$	3879^{+219}_{-375}	6071^{+586}_{-434}	$4.585^{+2.904}_{-1.403}$

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 $A_{obs} \gg 1.0$

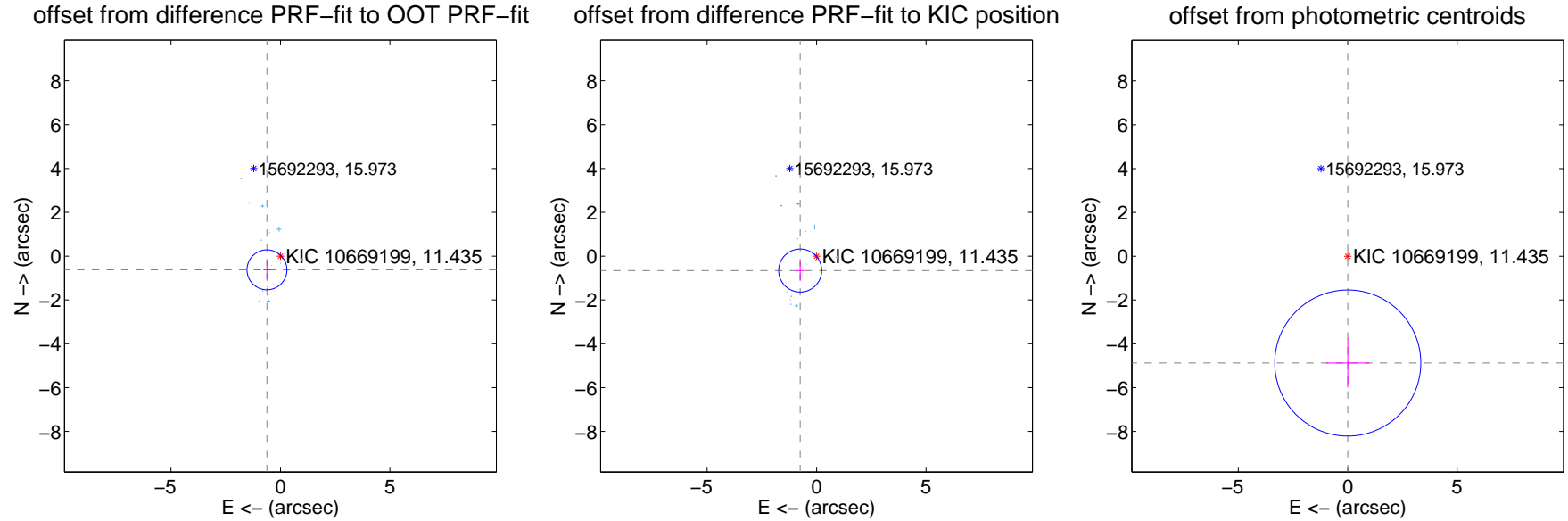
DV Centroid Data

Supplemental centroid analysis for 010669199-02. **Kepler magnitude: 11.44.** Transit SNR 4.21

There are 16 quarters with good PRF difference image offsets

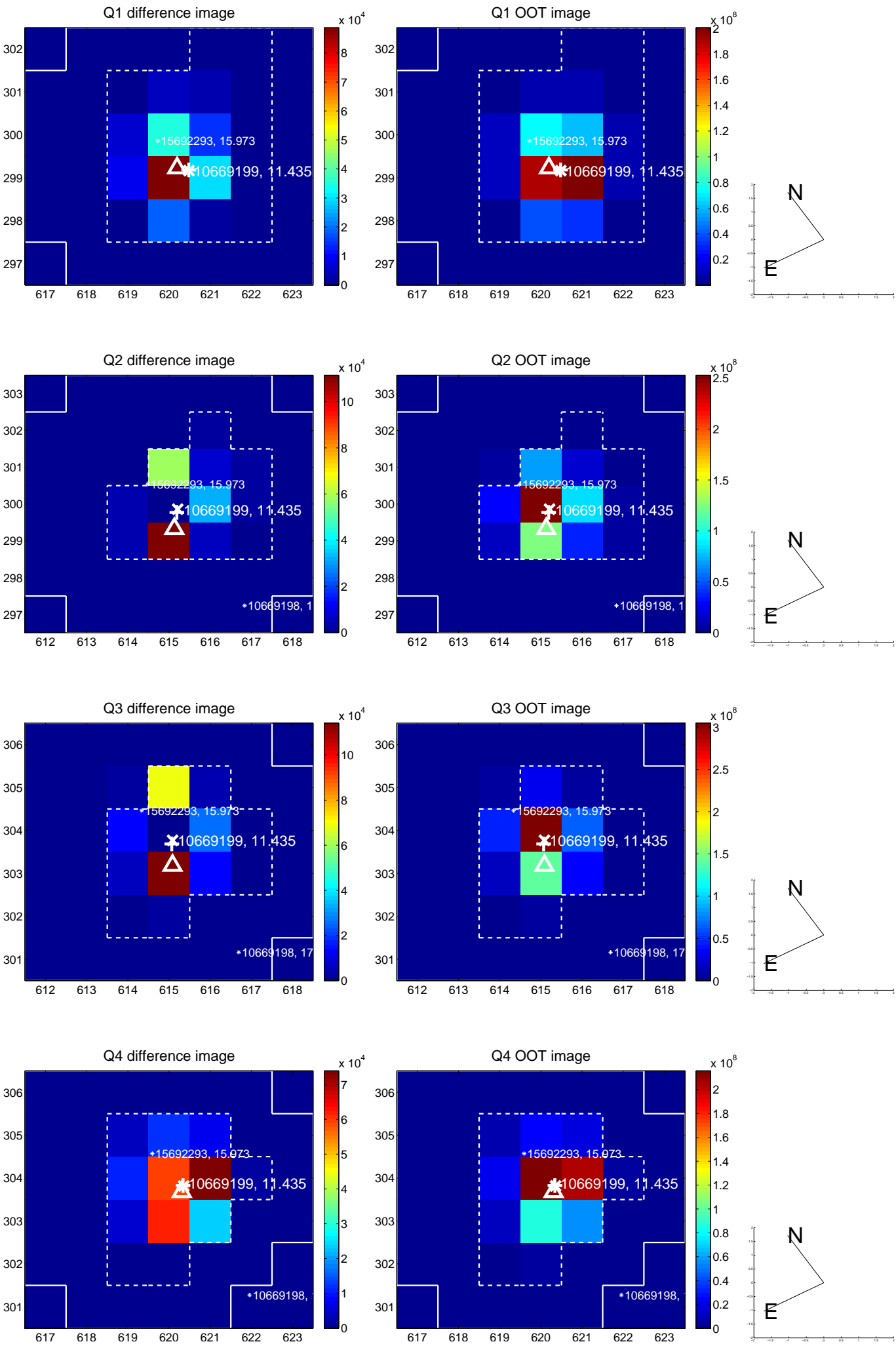
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.879 ± 0.304	2.89	0.617 ± 0.163	-0.626 ± 0.415
PRF-fit source offset from KIC position	0.997 ± 0.327	3.05	0.748 ± 0.179	-0.659 ± 0.449
photometric centroid source offset	4.88 ± 1.11	4.39	-0.00 ± 0.98	-4.88 ± 1.11

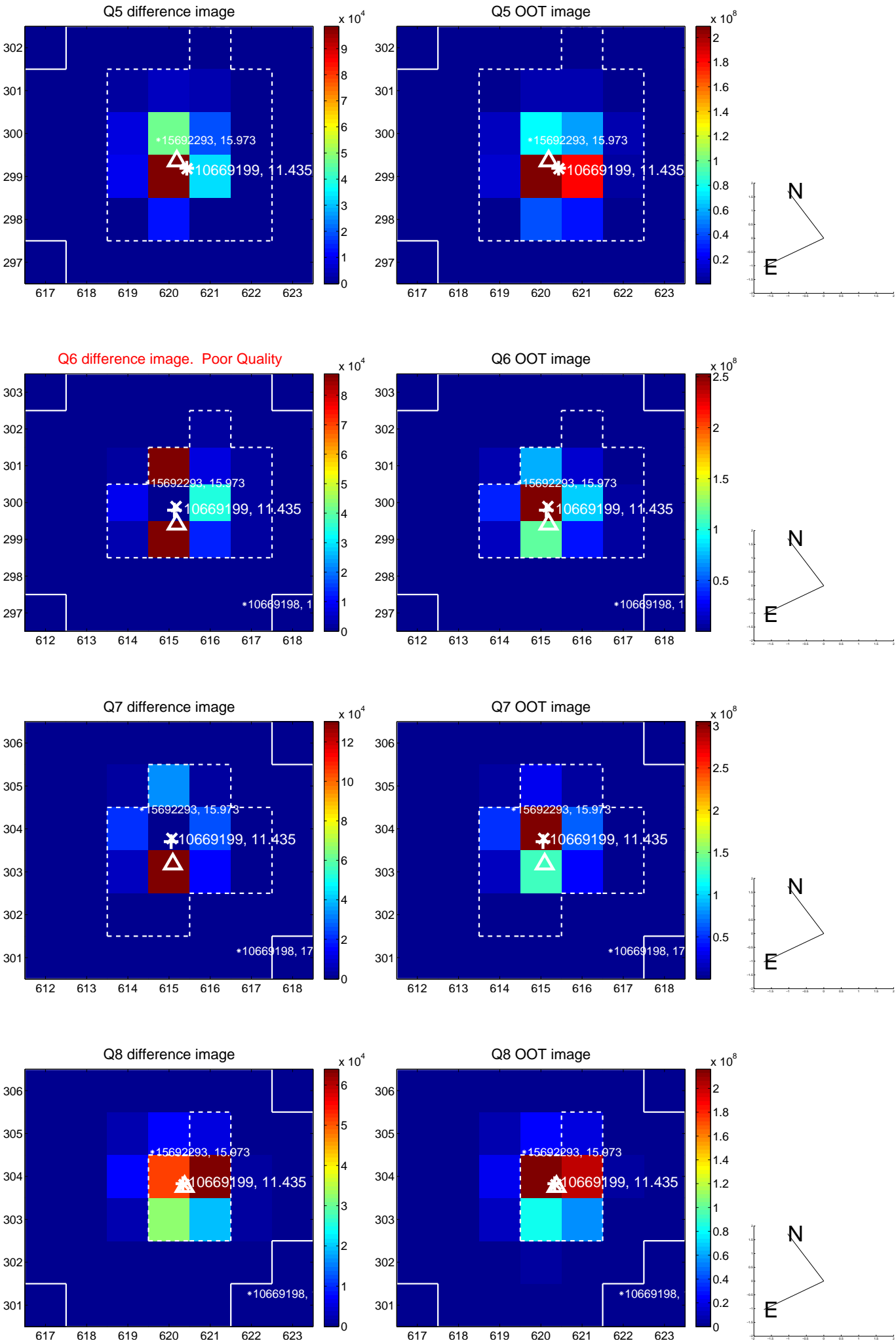


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

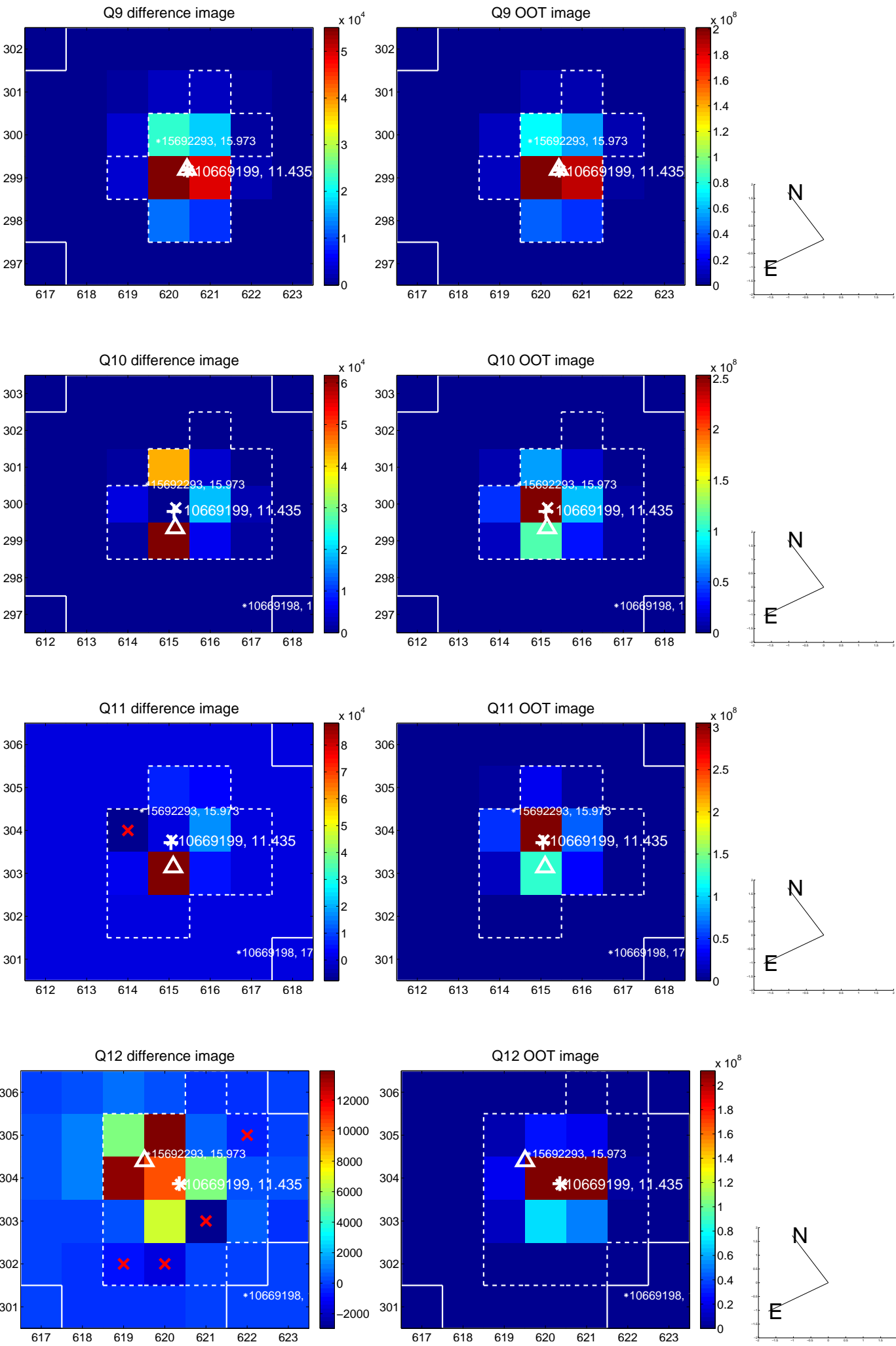
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



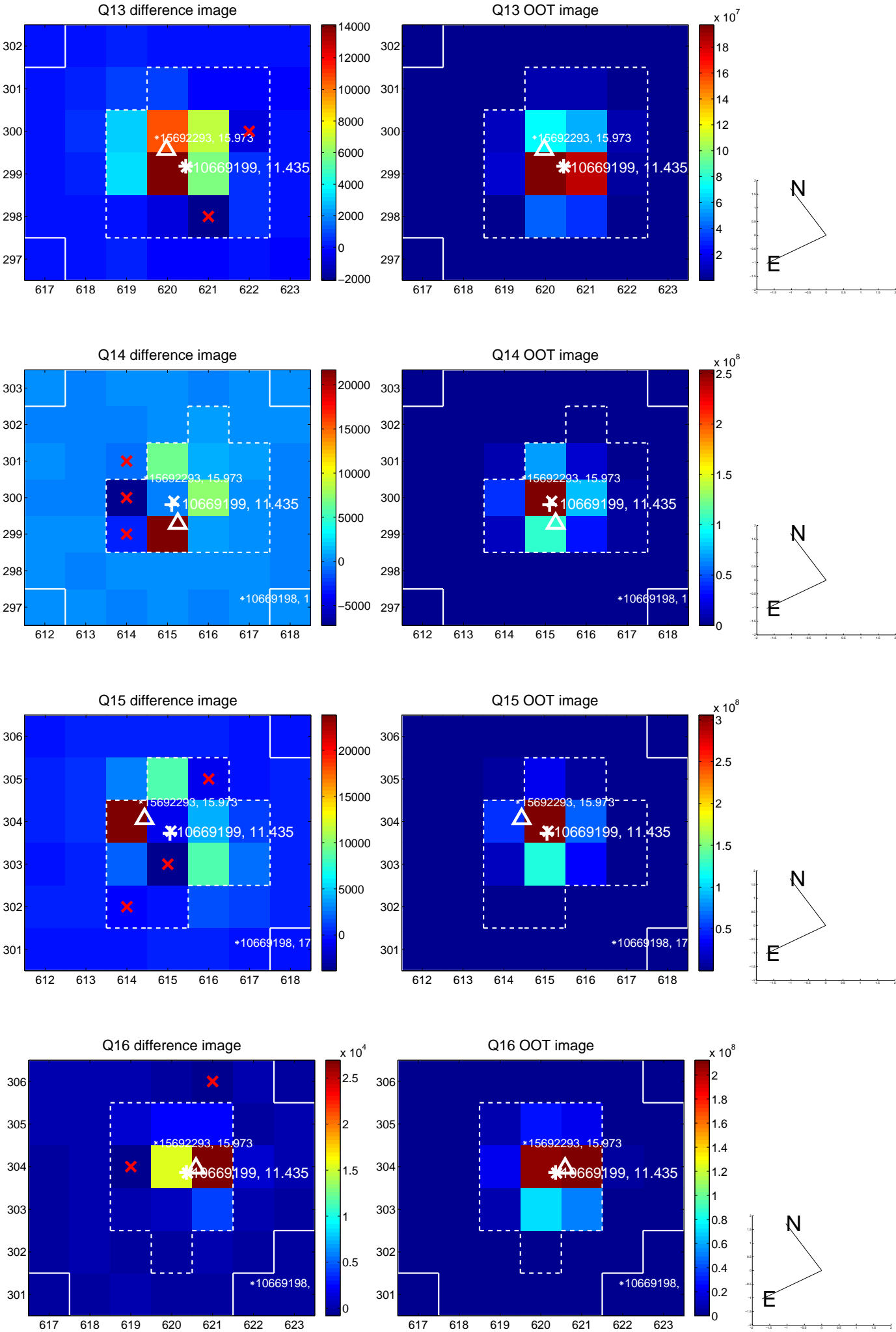
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



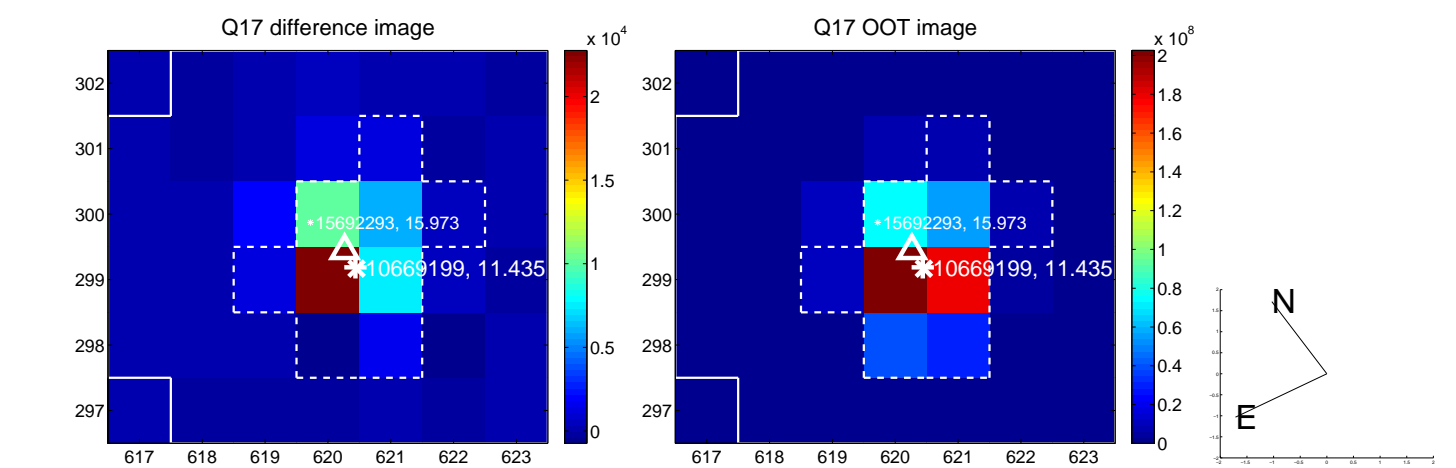
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



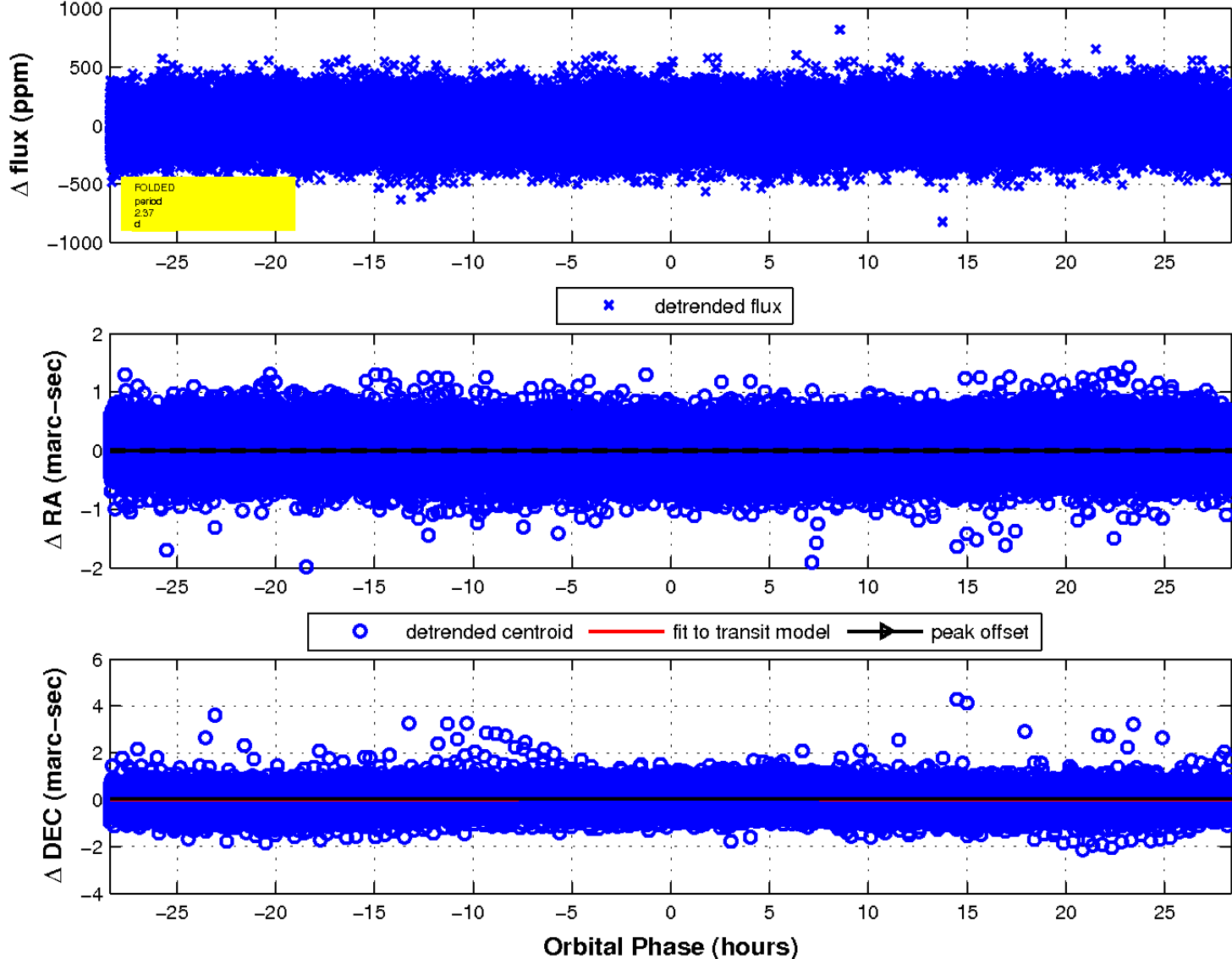
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

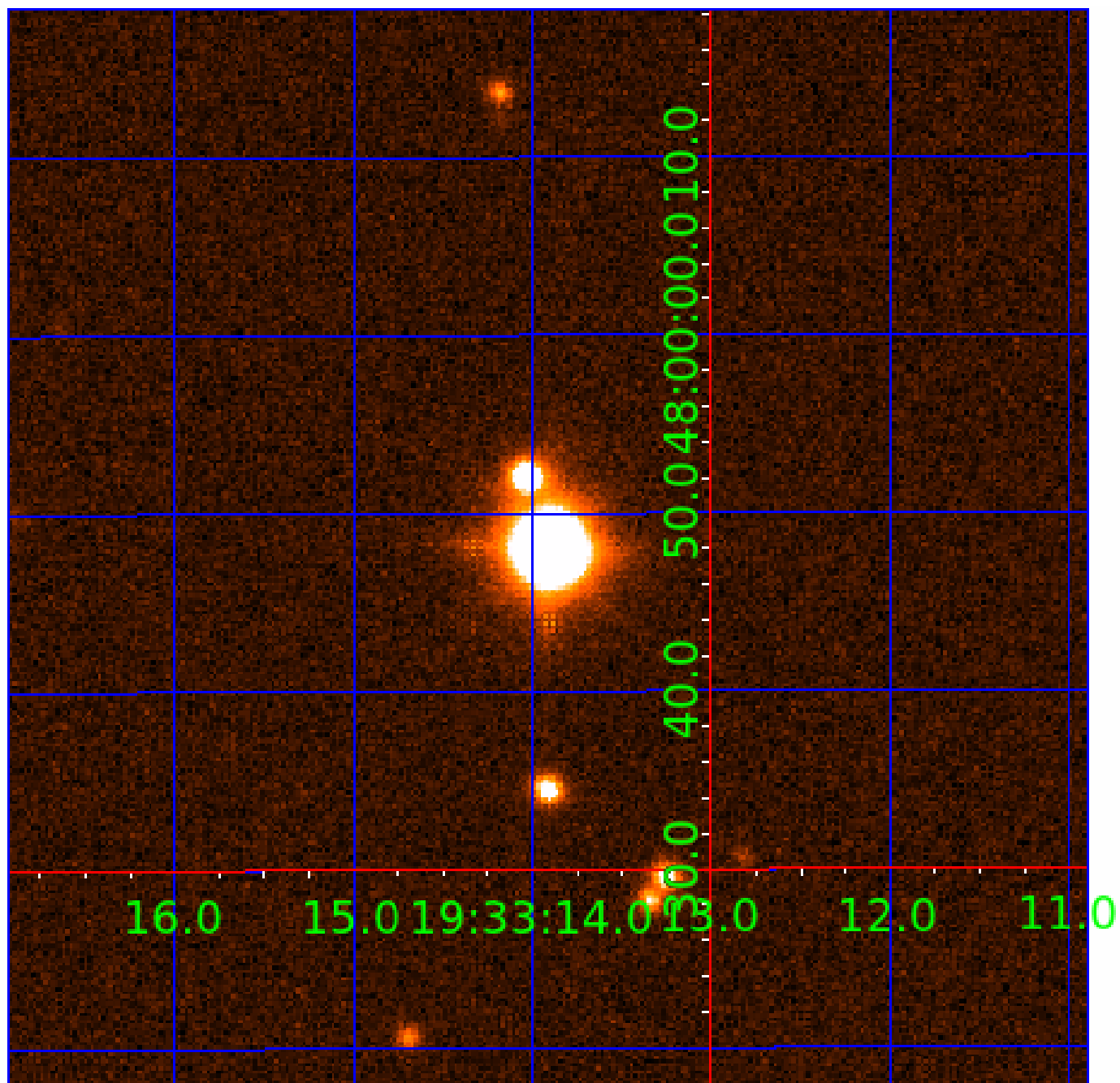


fluxWeightedCentroids, Planet 2 of 8



UKIRT Image

Declination



KIC 010669199

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})
010669199-01	OBS	No	2.365917	133.353148	32.4	3.827	8.7	9.3	3.77	6706	2.56	15213.64
010669199-02	OBS	No	2.366238	132.509968	8.2	15.609	8.2	4.2	3.77	6706	1.23	15210.89
010669199-03	OBS	No	36.230542	142.052901	149.7	8.464	16.6	9.5	3.77	6706	5.22	400.07
010669199-04	OBS	No	79.516759	179.114902	223.9	5.813	13.3	12.0	3.77	6706	6.35	140.27
010669199-05	OBS	No	116.009317	206.927124	201.9	5.325	12.2	11.1	3.77	6706	6.07	84.77
010669199-06	OBS	No	42.674845	159.538475	188.6	3.547	11.6	12.3	3.77	6706	5.93	321.62
010669199-07	OBS	No	51.550093	162.071407	207.2	3.698	11.6	11.1	3.77	6706	6.06	249.99
010669199-08	OBS	No	30.890459	132.171688	166.5	6.266	10.7	10.4	3.77	6706	5.76	494.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669199-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

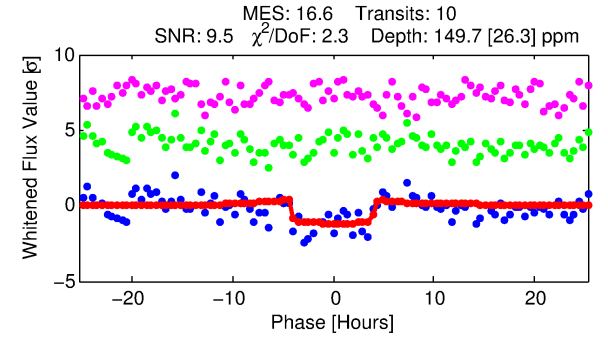
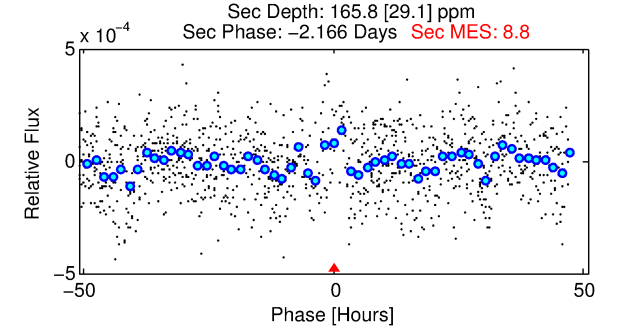
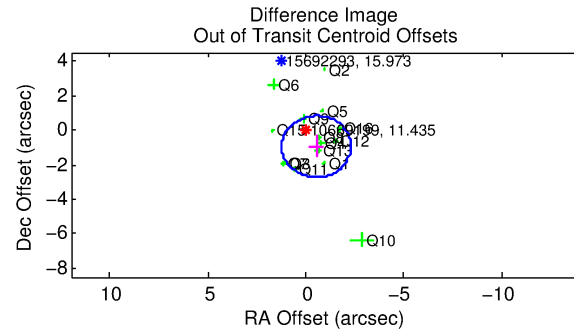
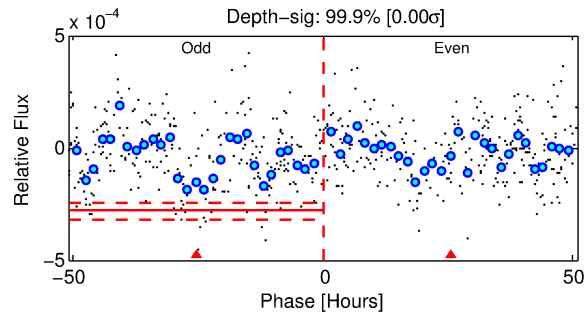
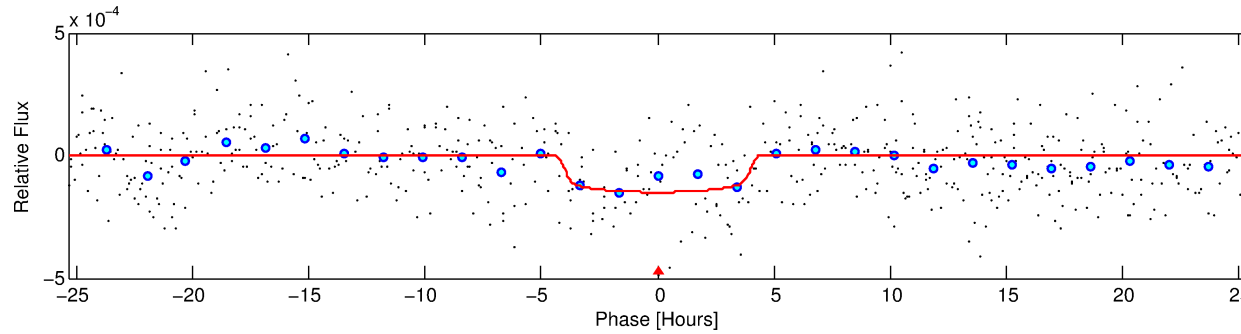
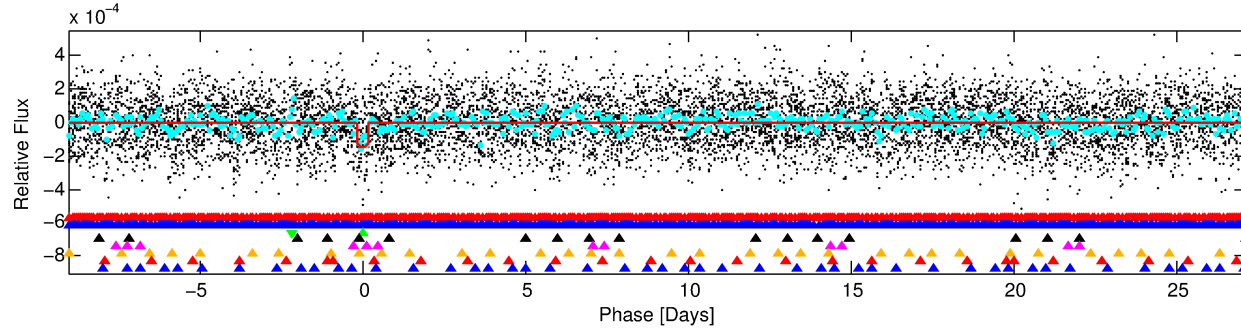
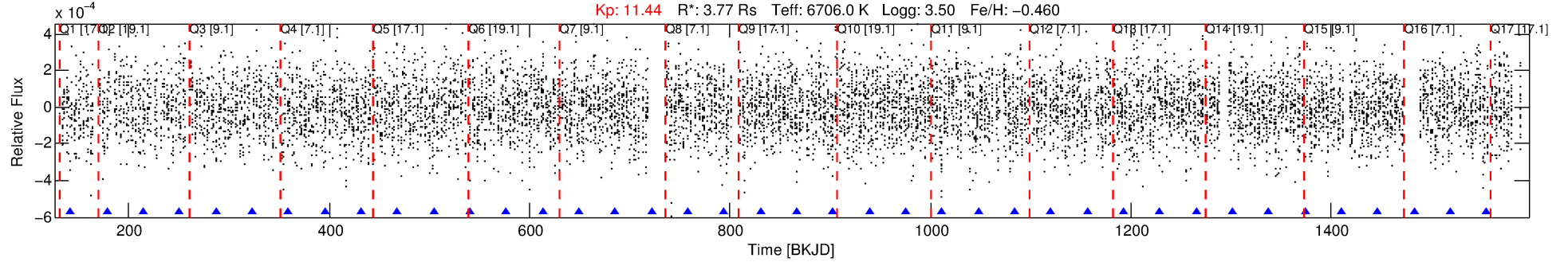
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-03

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 3 of 8 Period: 36.231 d



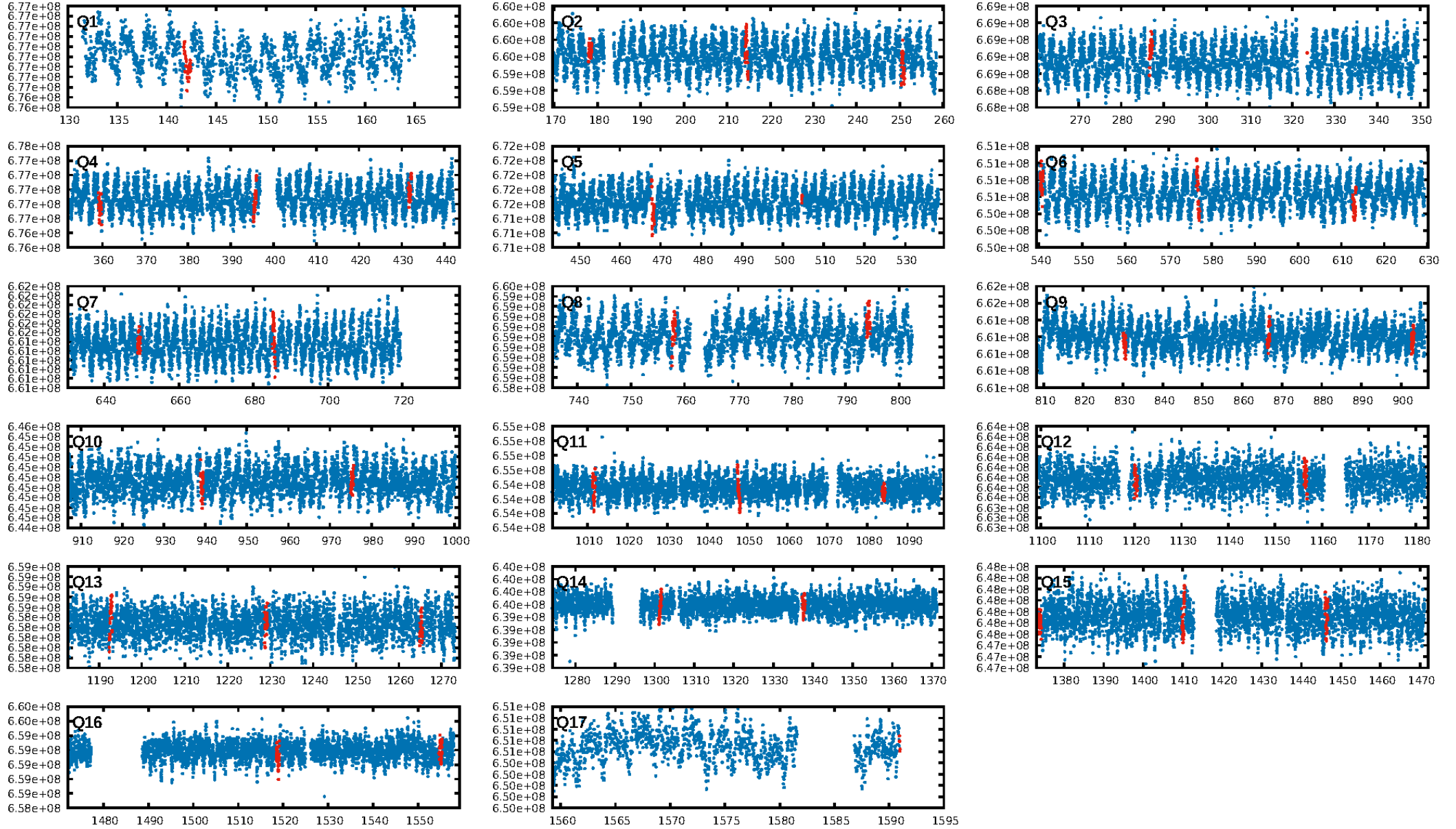
DV Fit Results:

Period = 36.23054 [0.00116] d
Epoch = 142.0529 [0.0264] BKJD
Rp/R* = 0.0127 [0.0035]
a/R* = 17.59 [25.72]
b = 0.86 [0.45]
Seff = 400.07 [272.77]
Teq = 1140 [194] K
Rp = 5.23 [2.73] Re
a = 0.2536 [0.1073] AU
Ag = 214.93 [189.87] [1.13σ]
Teffp = 6751 [990] K [5.56σ]

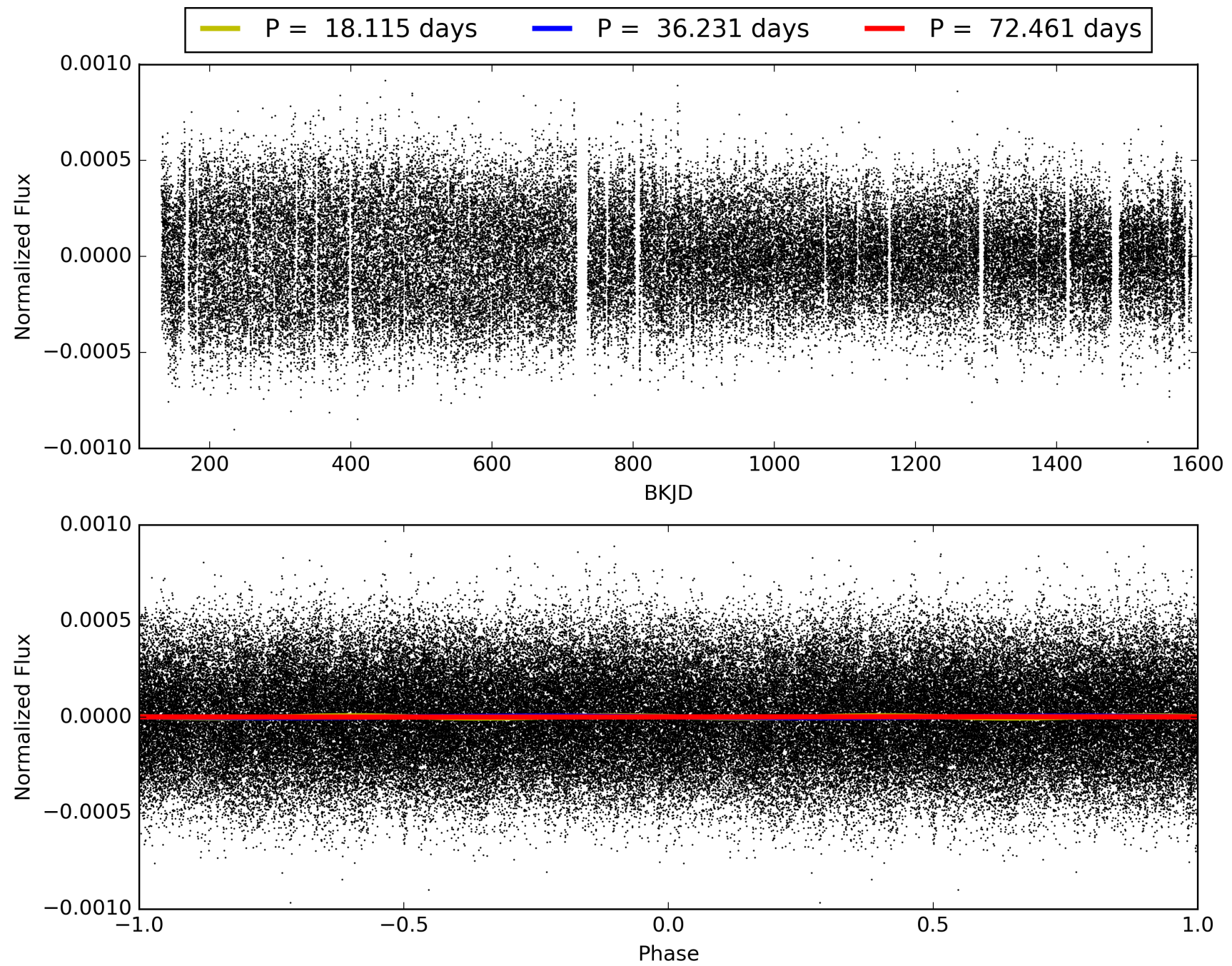
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.17σ]
LongPeriod-sig: 100.0% [16.85σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 88.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -1.555
Centroid-sig: 4.1%
Centroid-so: 0.512 arcsec [1.91σ]
OotOffset-rm: 1.088 arcsec [1.84σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-rm: 1.074 arcsec [1.82σ]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.00 [0/16]

TCE 010669199-03, PDC Light Curves

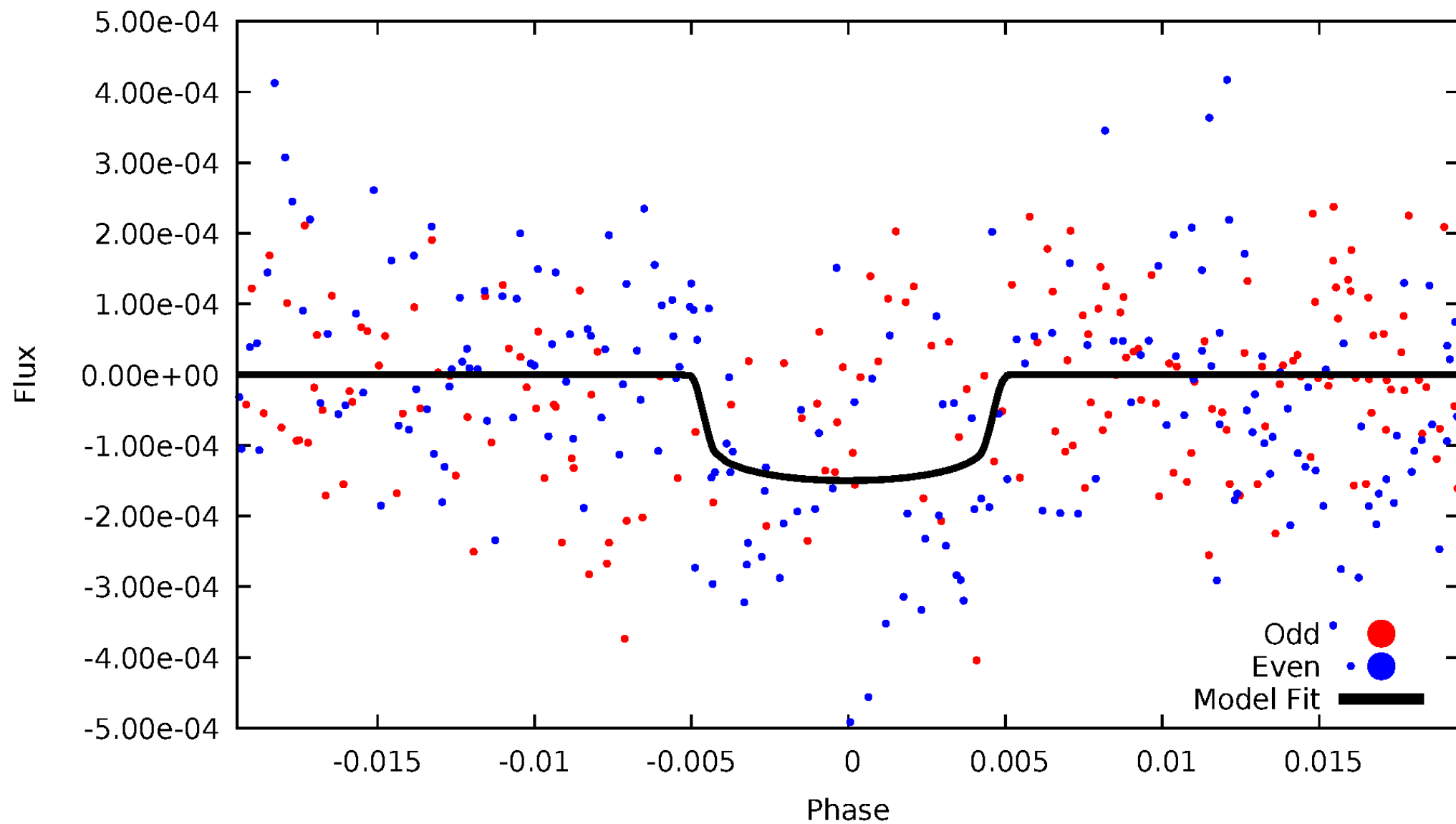


TCE 010669199-03



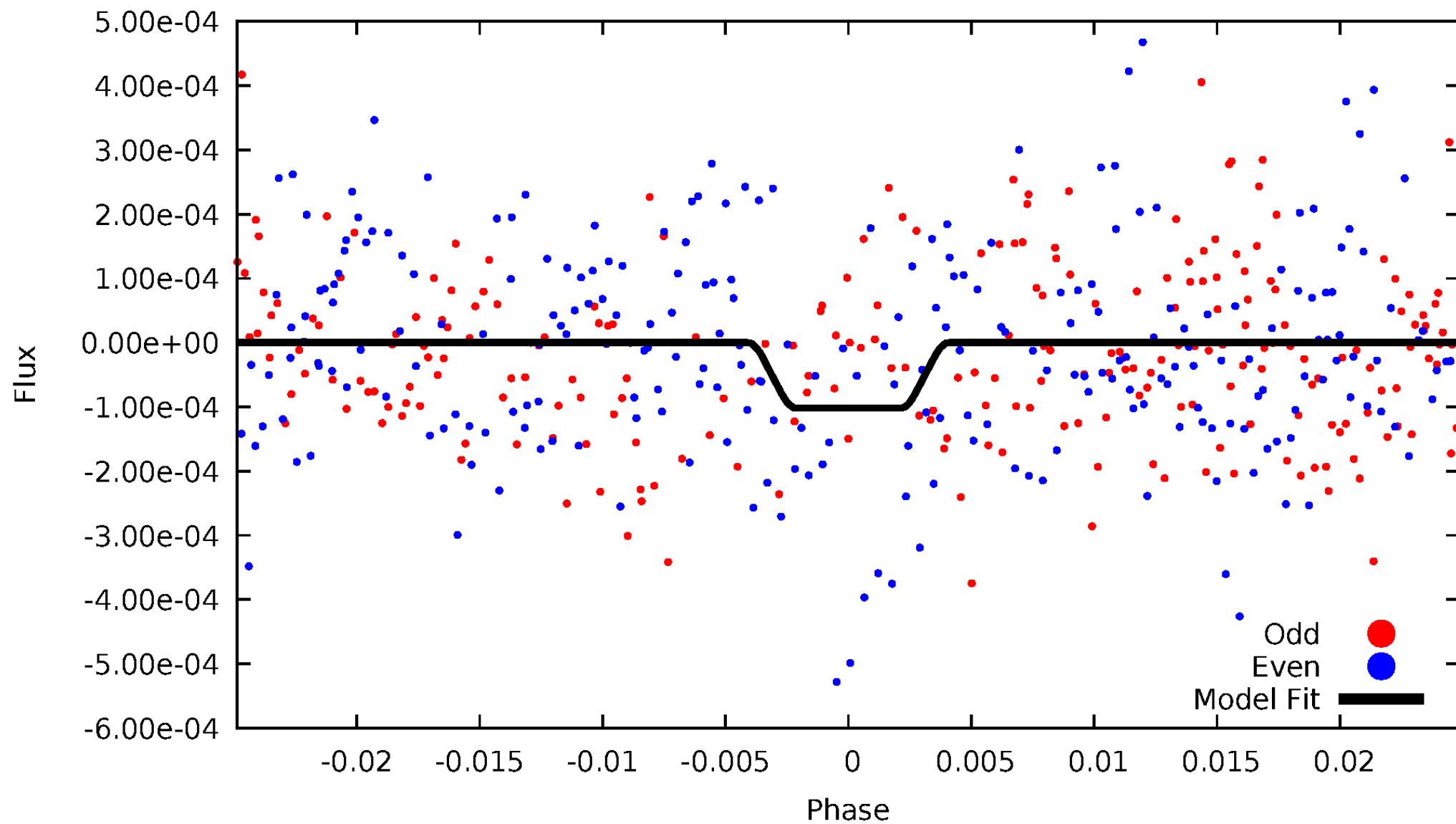
DV Odd/Even

TCE 010669199-03



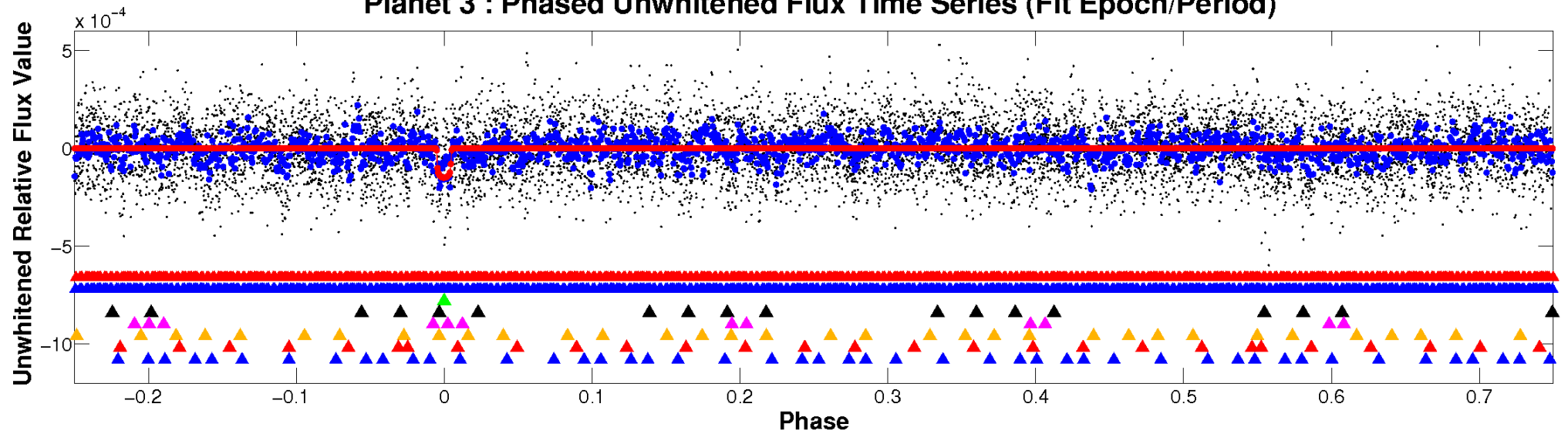
ALT Odd/Even

TCE 010669199-03

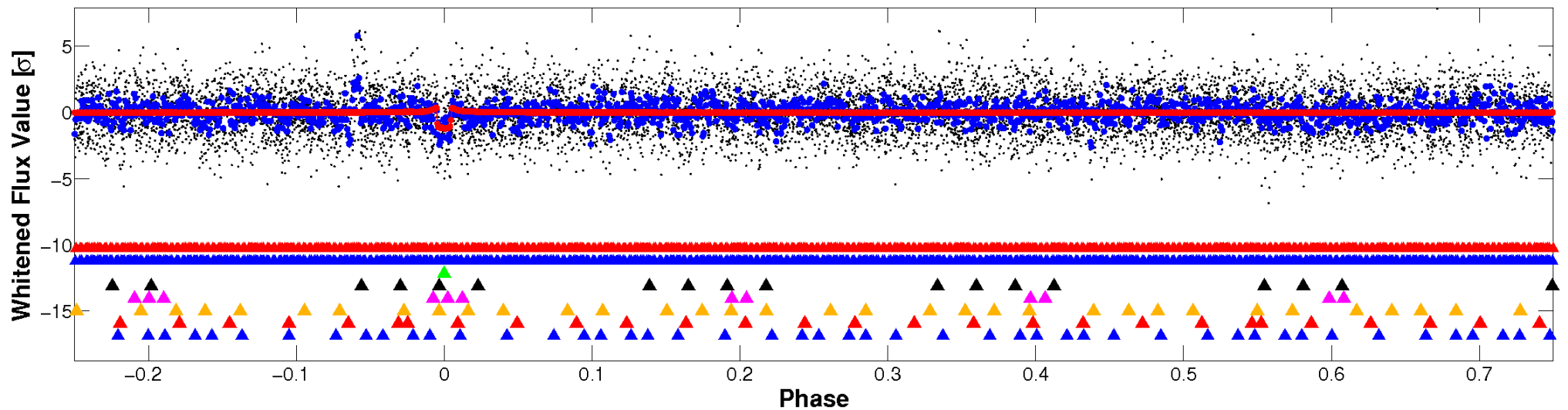


Non-Whitened Vs. Whitened Light Curve

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

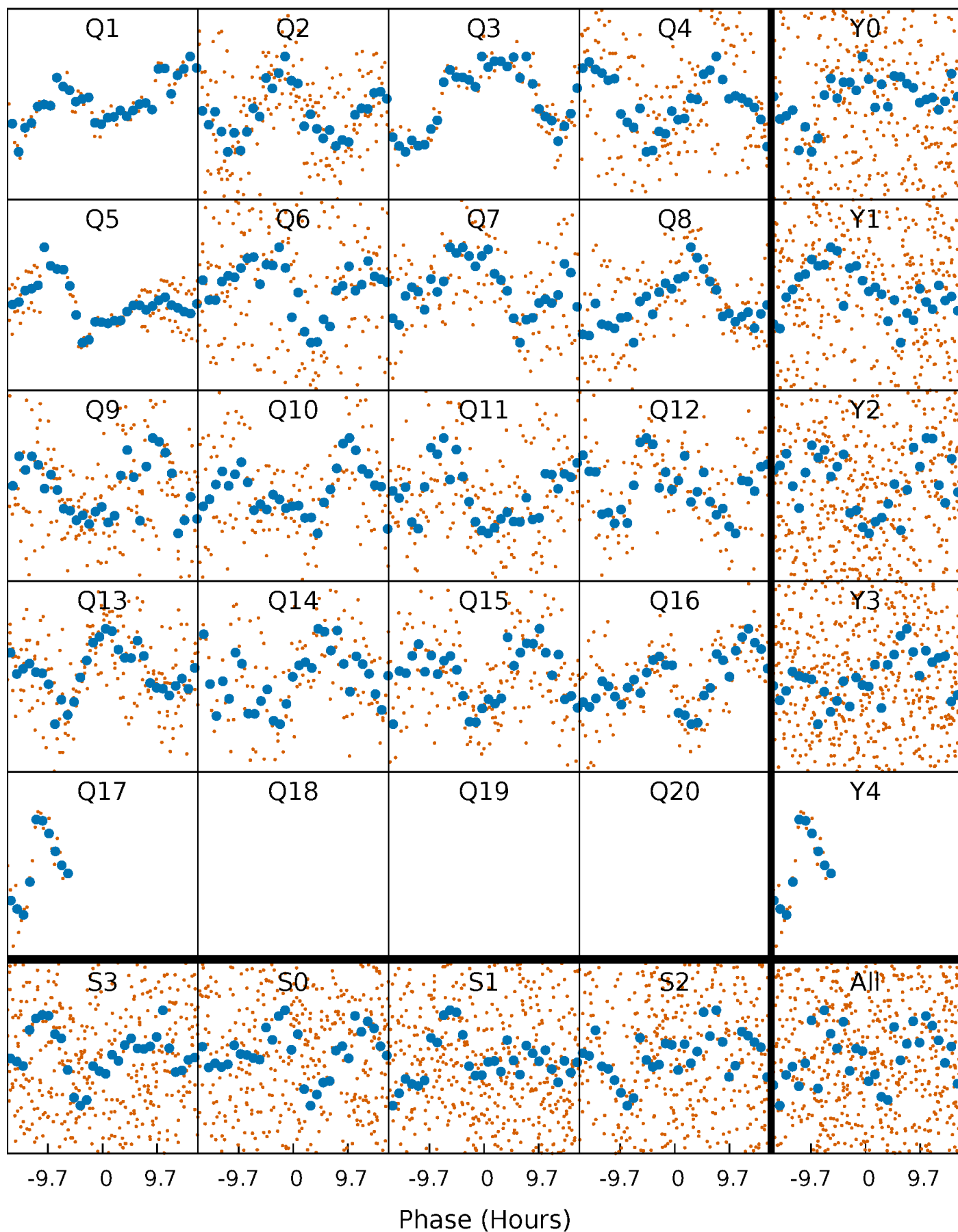


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



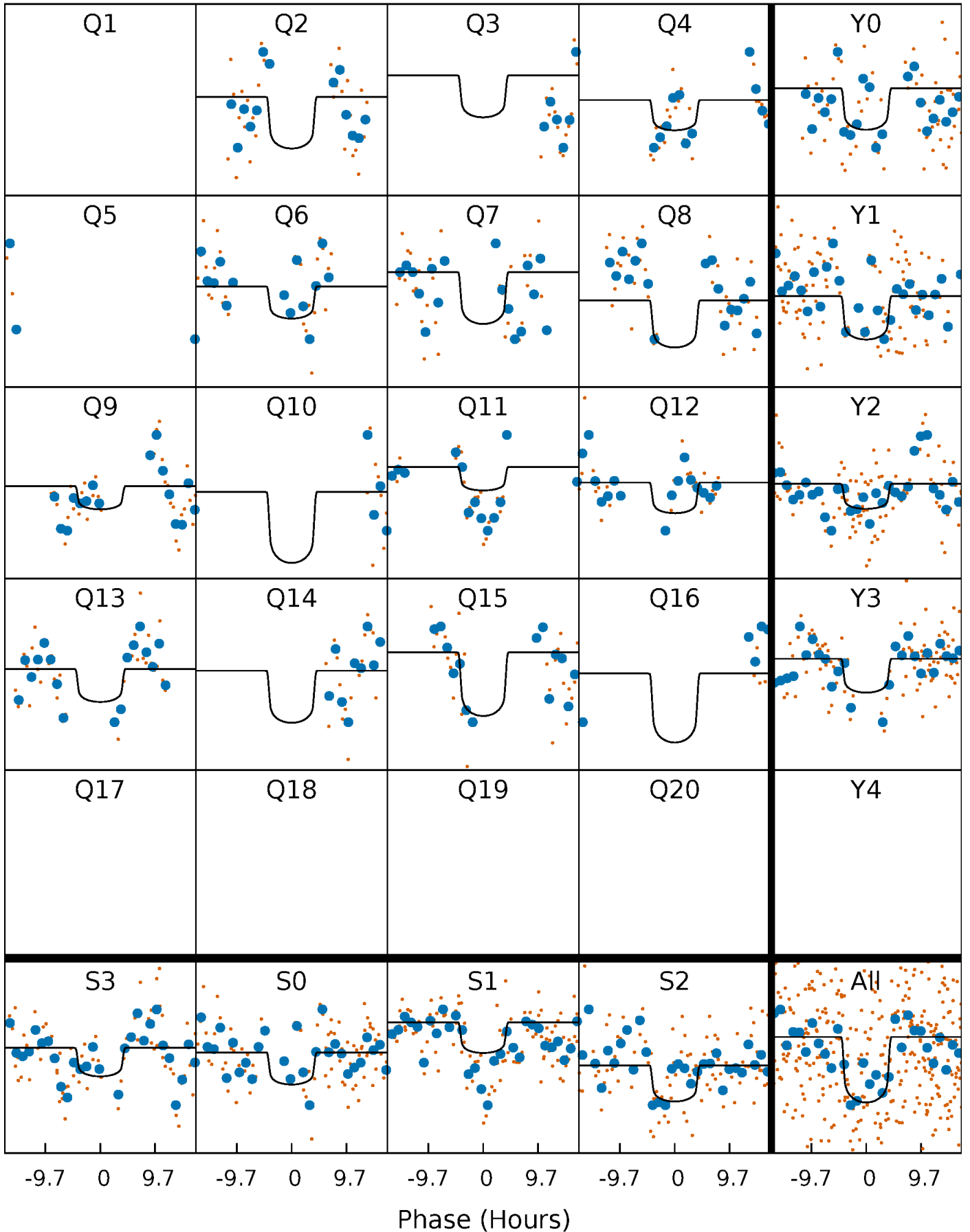
PDC Quarter-Phased Transit Curves

TCE 010669199-03 P= 36.230542 Days $T_0=142.052901$ (BKJD)



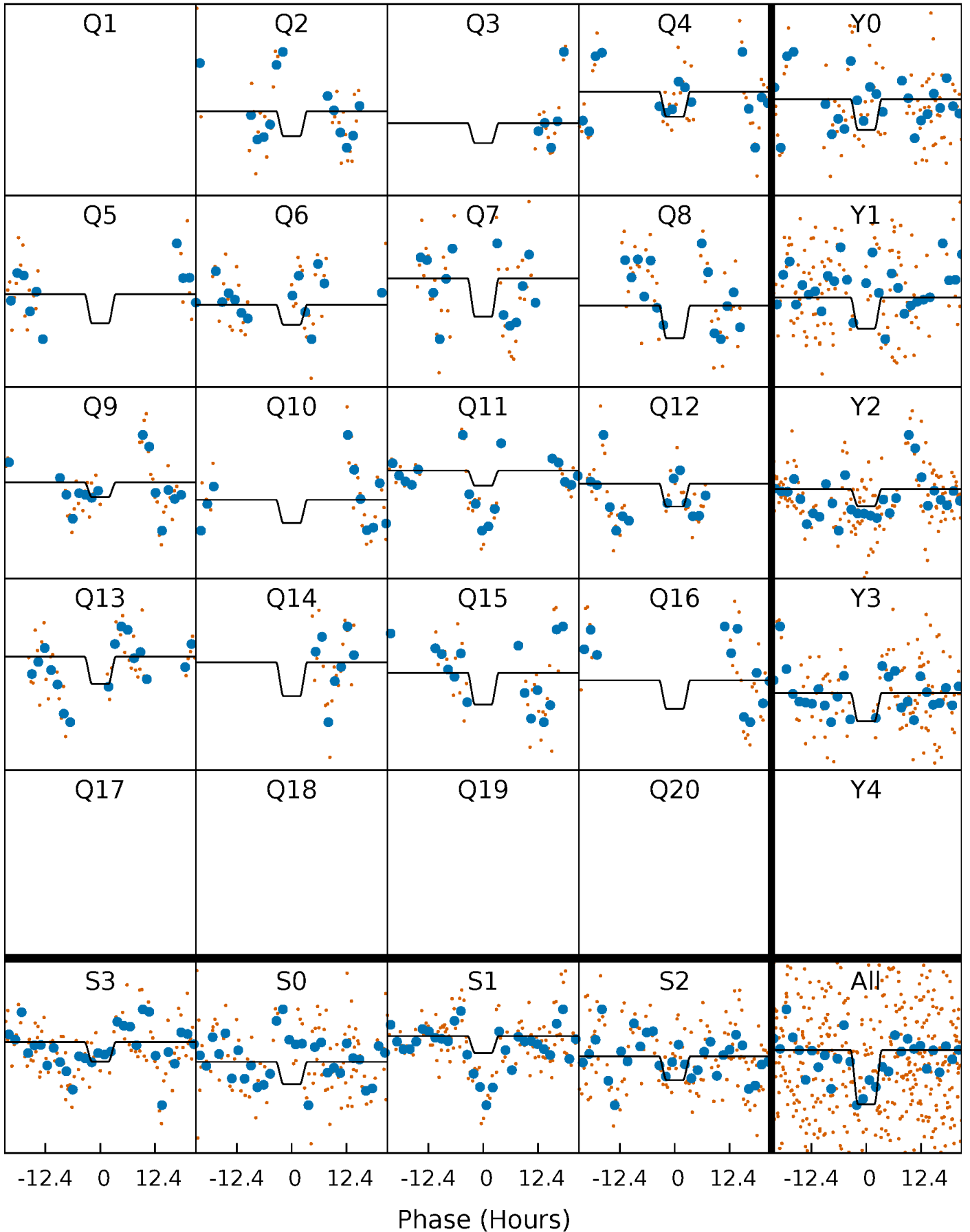
DV Quarter-Phased Transit Curves

TCE 010669199-03 P= 36.230542 Days $T_0=142.052901$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

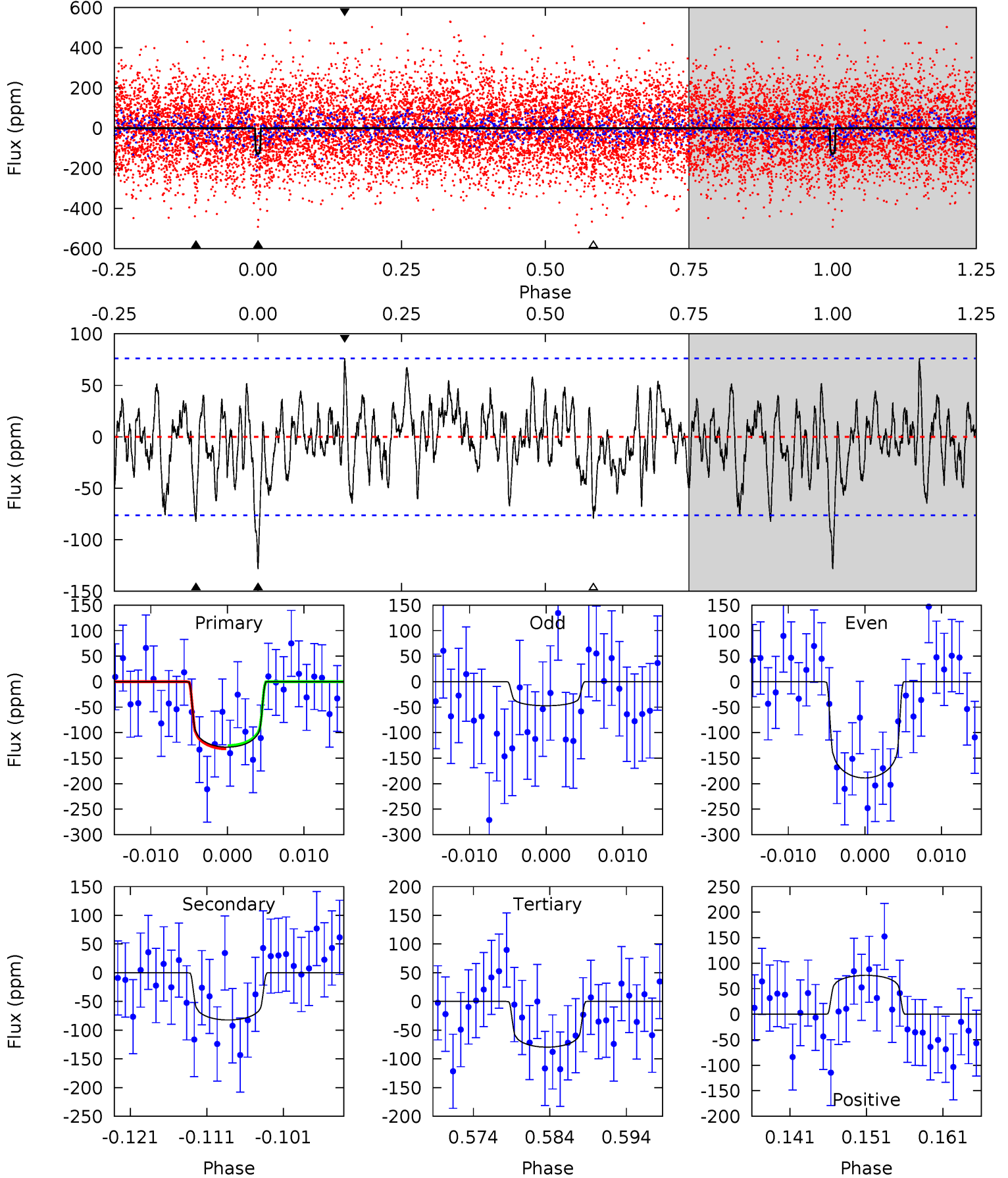
TCE 010669199-03 $P = 36.234688$ Days $T_0 = 141.973243$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-03, P = 36.230542 Days, E = 105.822359 Days

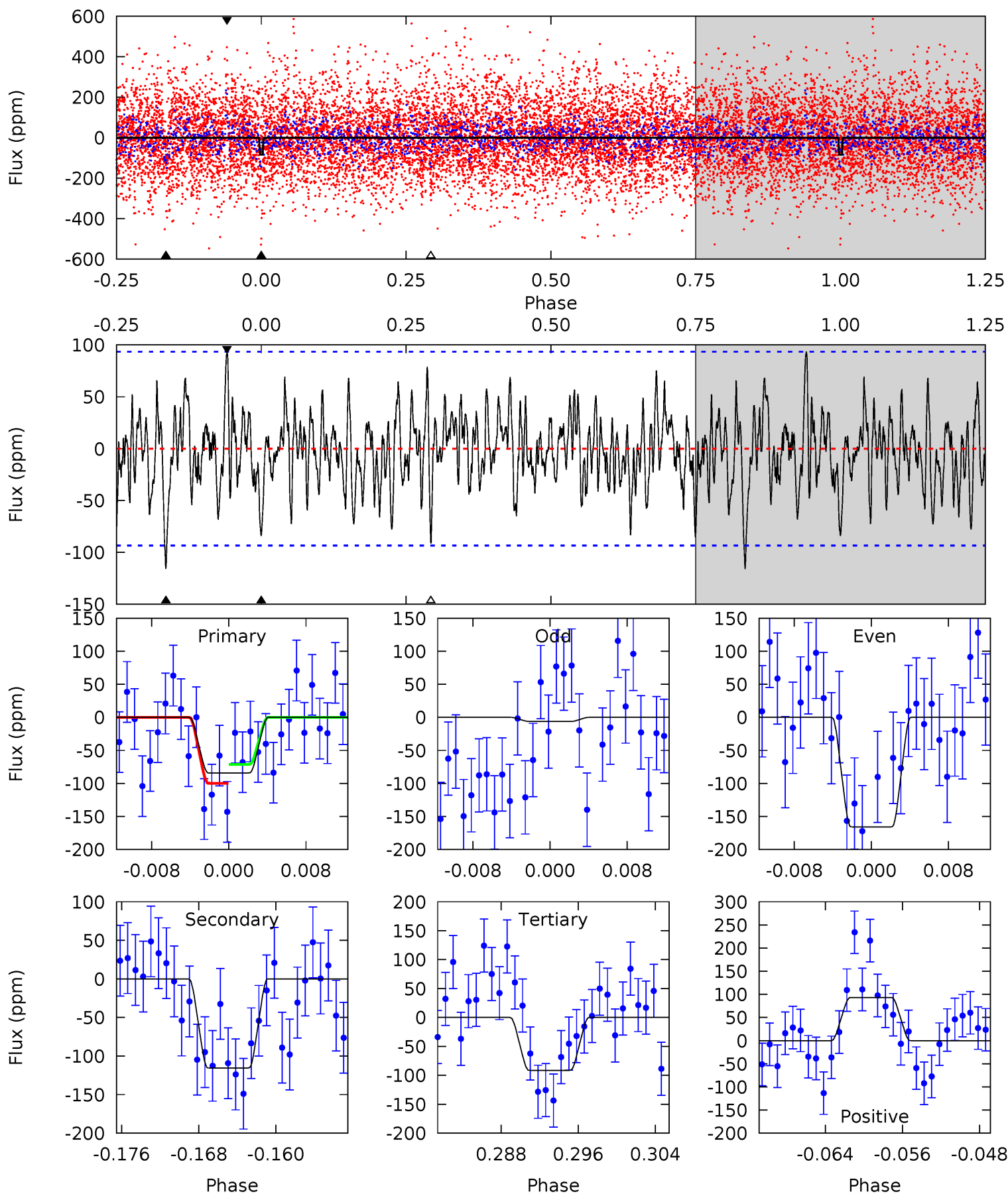
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.47	5.43	5.25	5.02	5.02	2.57	1.75	3.22	3.45	0.18	0.41	4.57	1.13	0.37	0.22



Alt Model-Shift Uniqueness Test

010669199-03, P = 36.234688 Days, E = 105.738555 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.57	6.26	4.96	5.06	5.07	2.65	1.60	-0.40	-0.49	1.30	1.21	4.27	-5.51	0.45	0.77



Stellar Parameters For KIC 010669199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-82 ± 15	$4.90^{+1.64}_{-1.58}$	1563^{+88}_{-154}	5648^{+989}_{-633}	120^{+131}_{-52}
Alt.	-115 ± 18	$3.87^{+1.56}_{-1.53}$	1563^{+91}_{-160}	6952^{+2039}_{-1082}	282^{+428}_{-145}

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 $A_{obs} \gg 1.0$

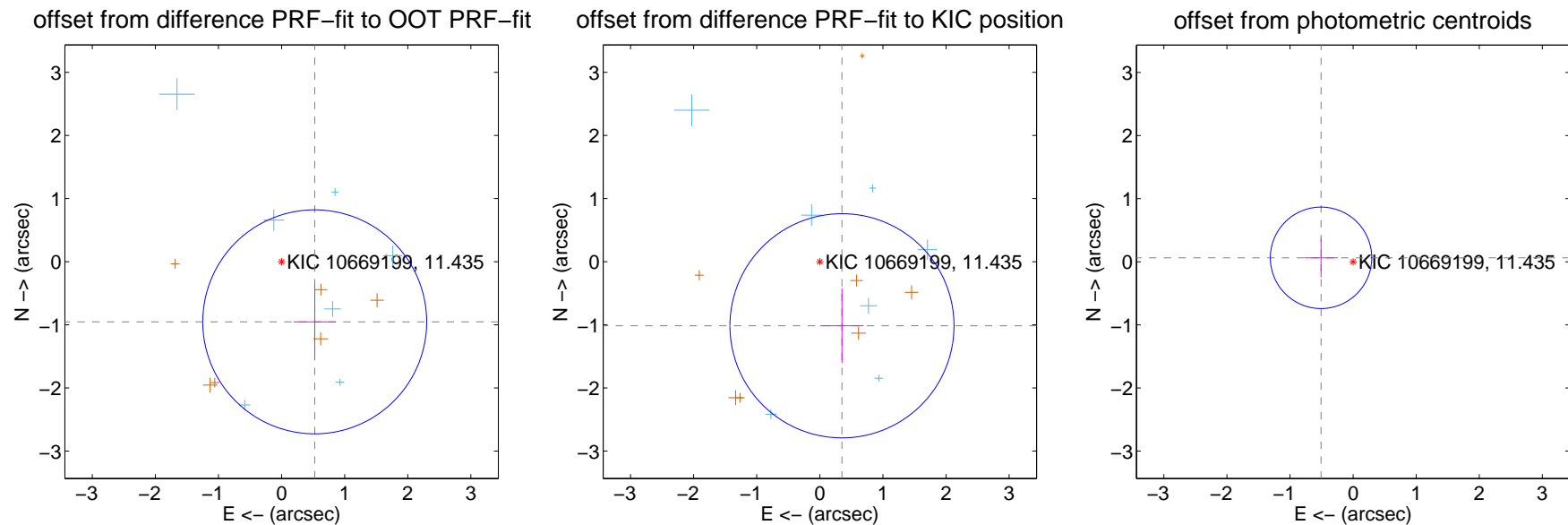
DV Centroid Data

Supplemental centroid analysis for 010669199-03. **Kepler magnitude: 11.44.** Transit SNR 9.53

There are 7 quarters with good PRF difference image offsets

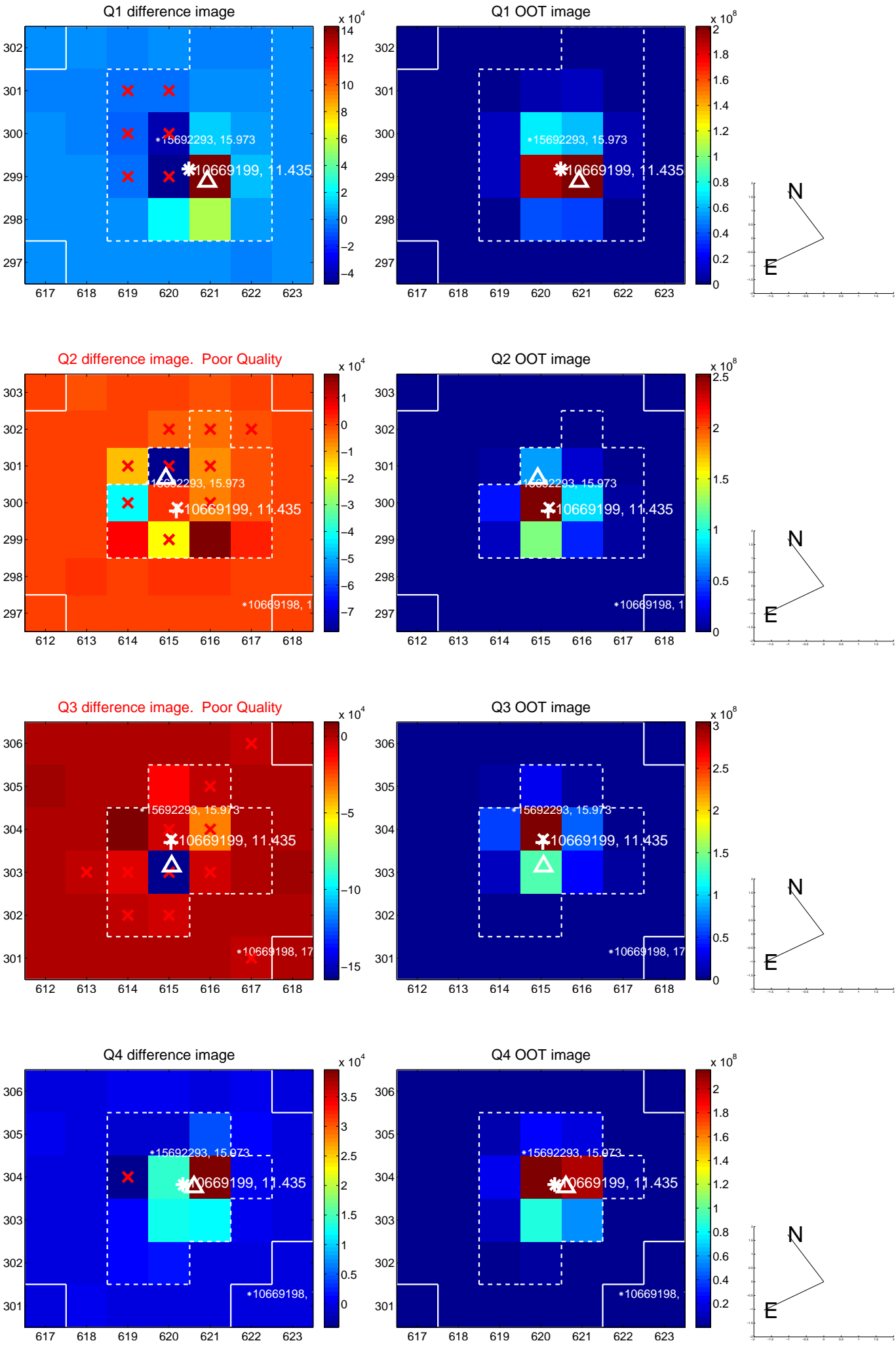
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.088 ± 0.591	1.84	-0.525 ± 0.337	-0.953 ± 0.598
PRF-fit source offset from KIC position	1.074 ± 0.592	1.82	-0.351 ± 0.345	-1.015 ± 0.589
photometric centroid source offset	0.51 ± 0.27	1.91	0.51 ± 0.27	0.06 ± 0.31

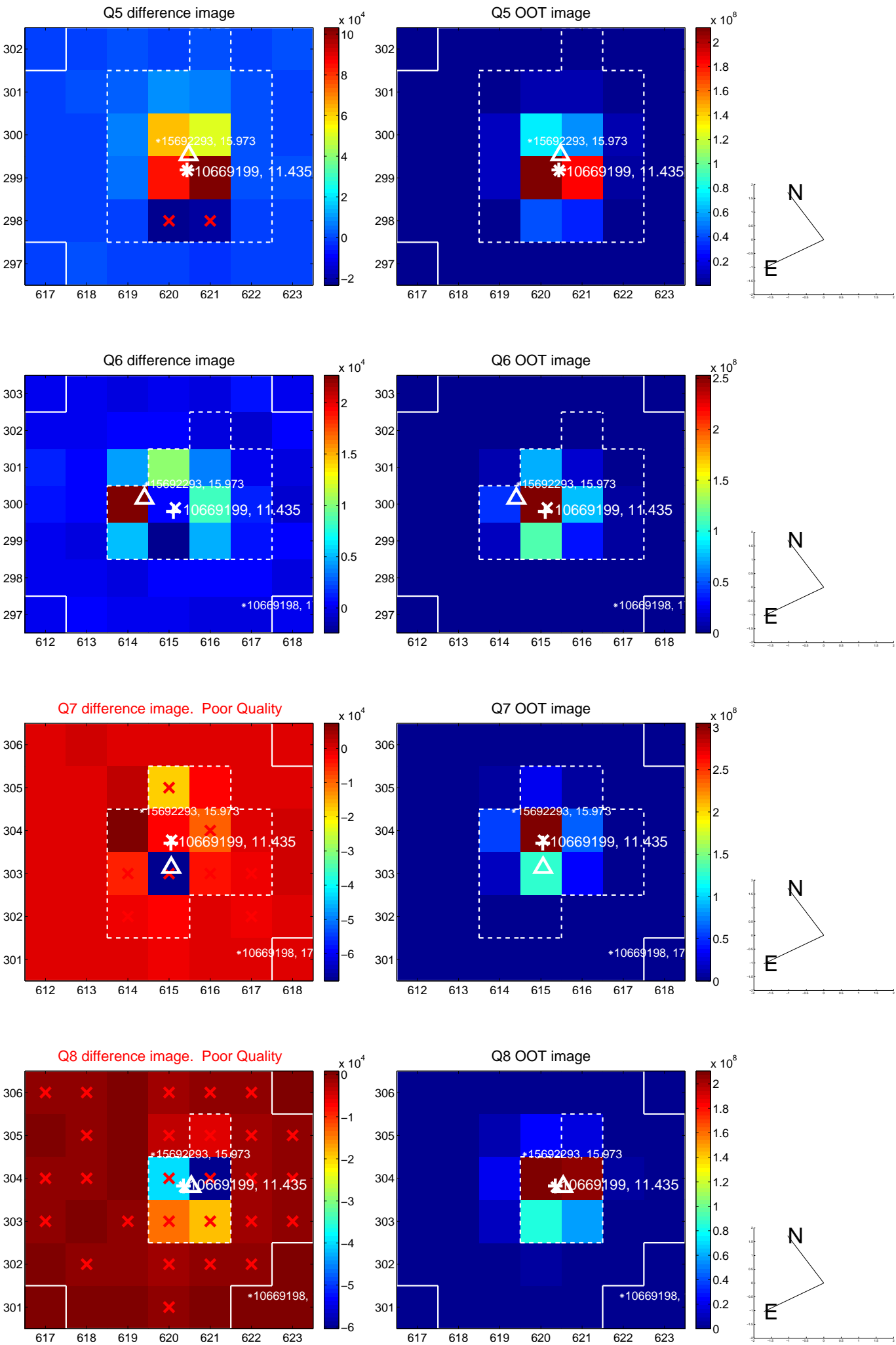


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

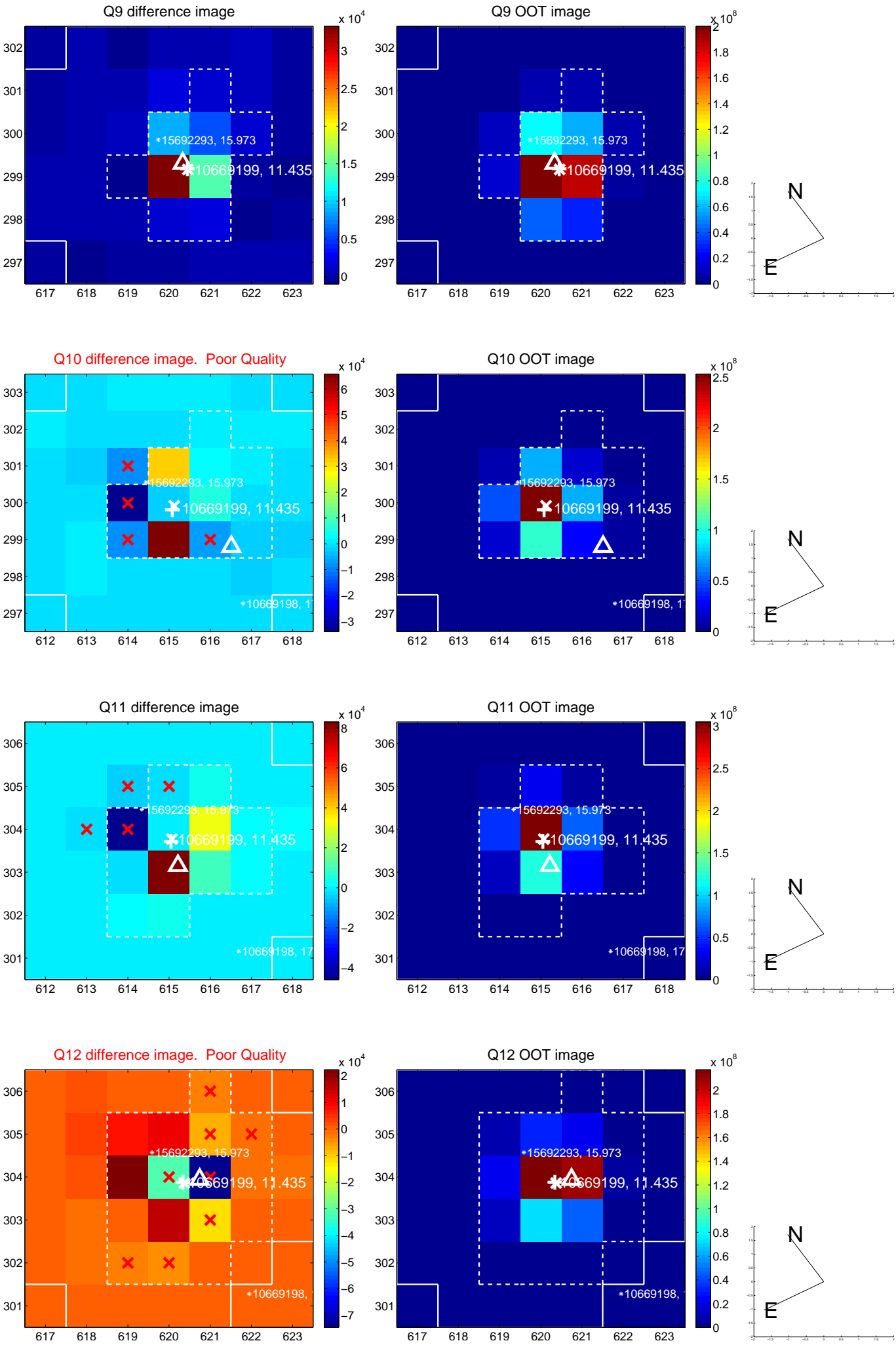
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



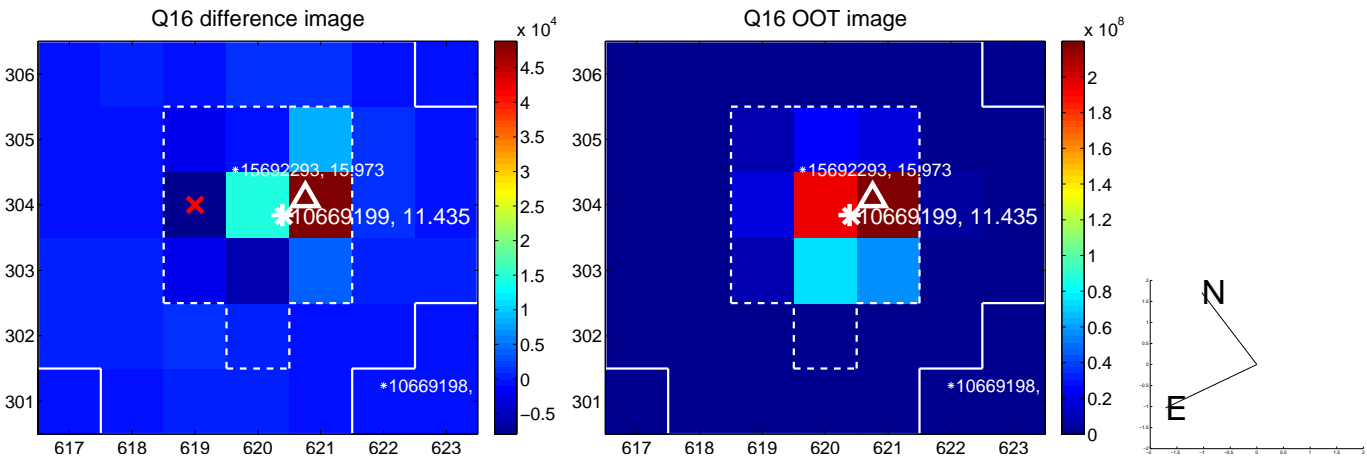
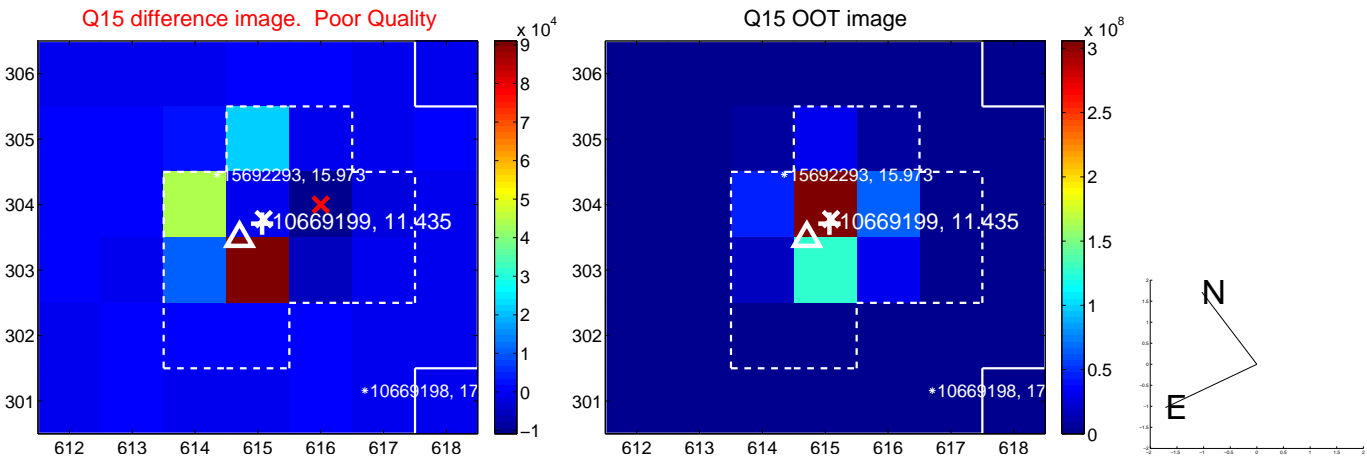
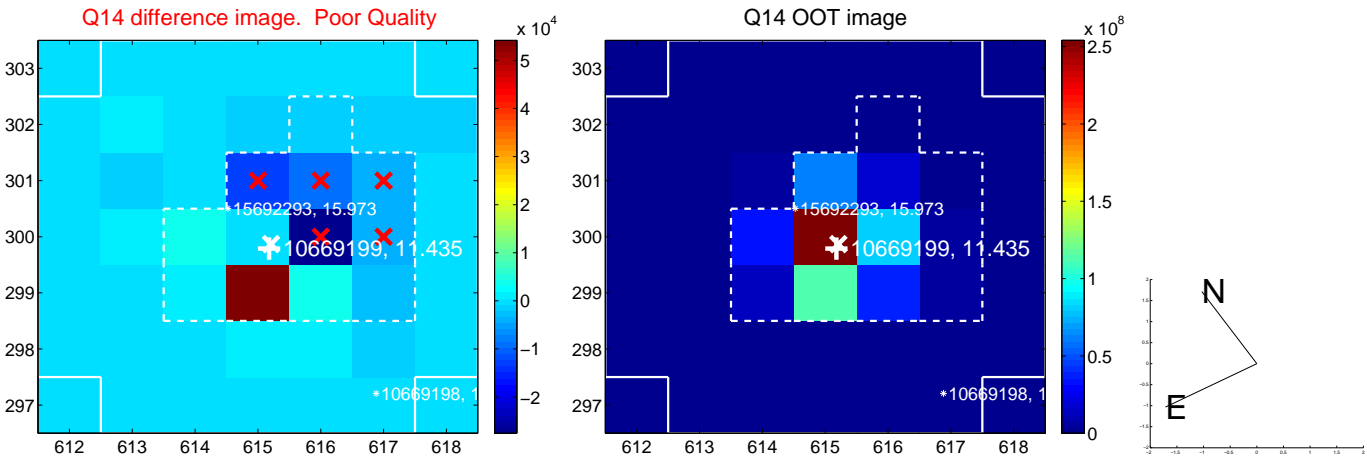
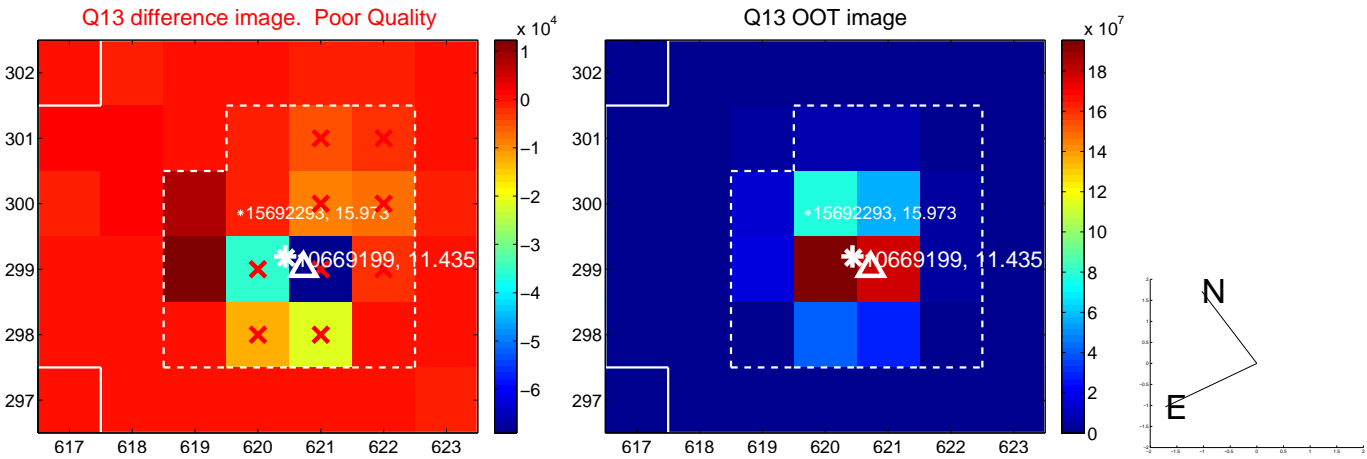
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



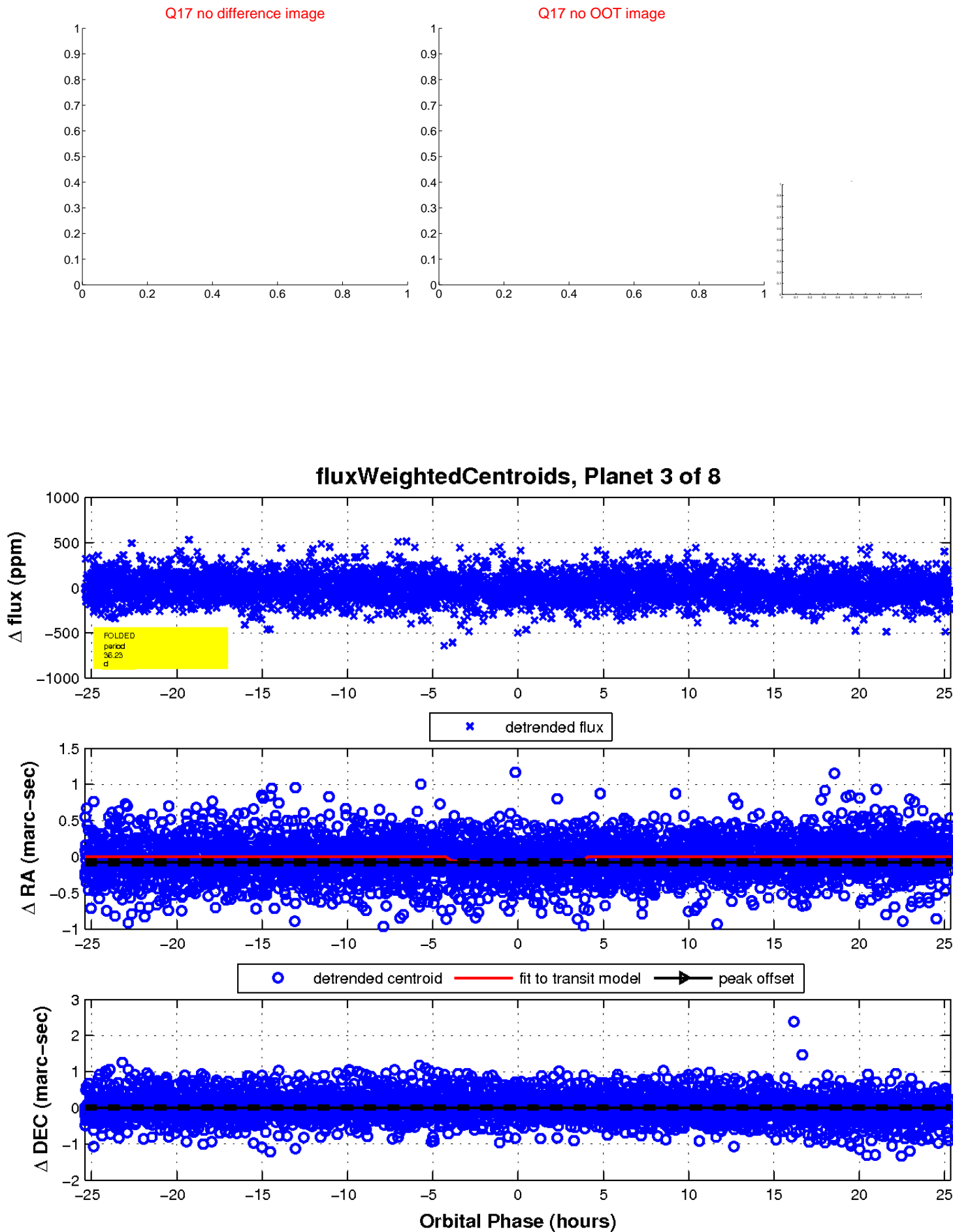
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

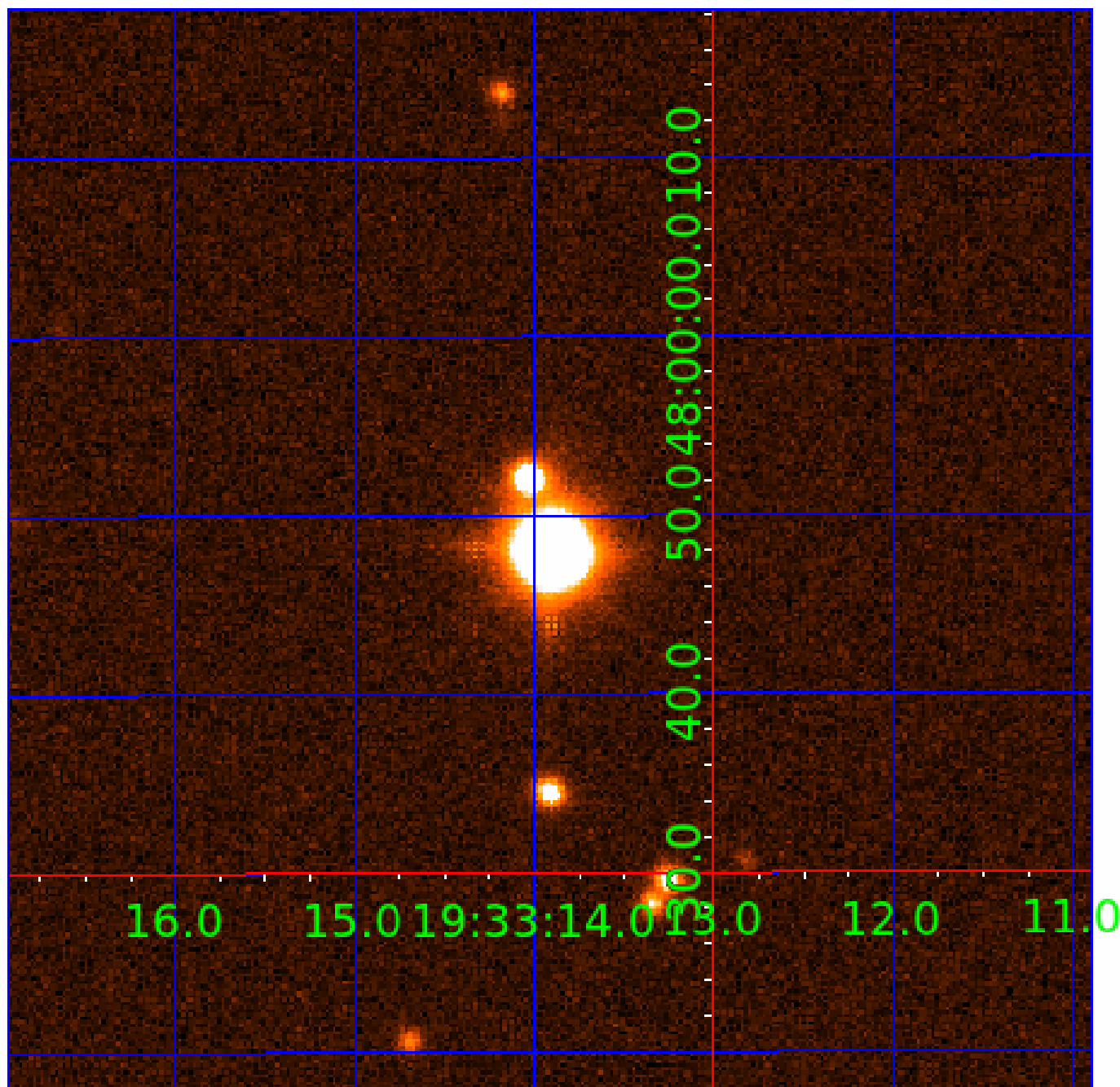


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010669199

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})
010669199-01	OBS	No	2.365917	133.353148	32.4	3.827	8.7	9.3	3.77	6706	2.56	15213.64
010669199-02	OBS	No	2.366238	132.509968	8.2	15.609	8.2	4.2	3.77	6706	1.23	15210.89
010669199-03	OBS	No	36.230542	142.052901	149.7	8.464	16.6	9.5	3.77	6706	5.22	400.07
010669199-04	OBS	No	79.516759	179.114902	223.9	5.813	13.3	12.0	3.77	6706	6.35	140.27
010669199-05	OBS	No	116.009317	206.927124	201.9	5.325	12.2	11.1	3.77	6706	6.07	84.77
010669199-06	OBS	No	42.674845	159.538475	188.6	3.547	11.6	12.3	3.77	6706	5.93	321.62
010669199-07	OBS	No	51.550093	162.071407	207.2	3.698	11.6	11.1	3.77	6706	6.06	249.99
010669199-08	OBS	No	30.890459	132.171688	166.5	6.266	10.7	10.4	3.77	6706	5.76	494.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669199-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

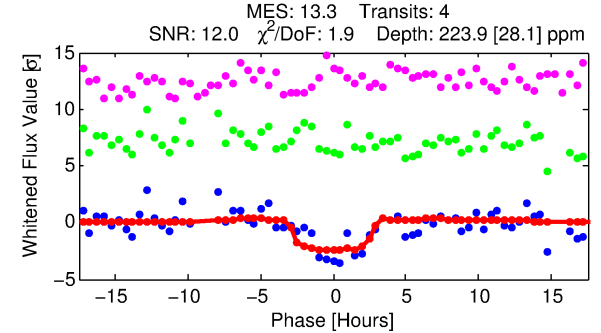
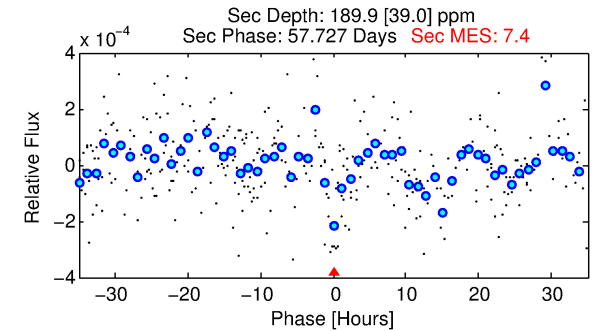
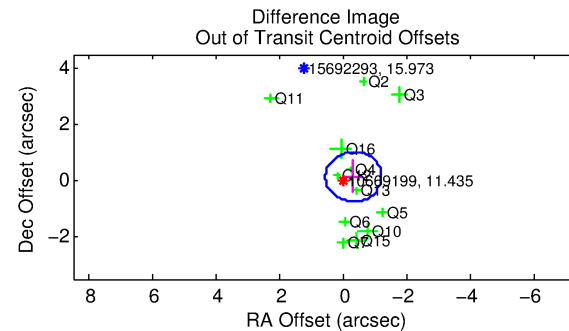
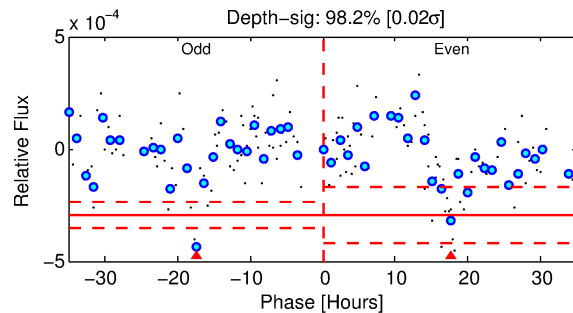
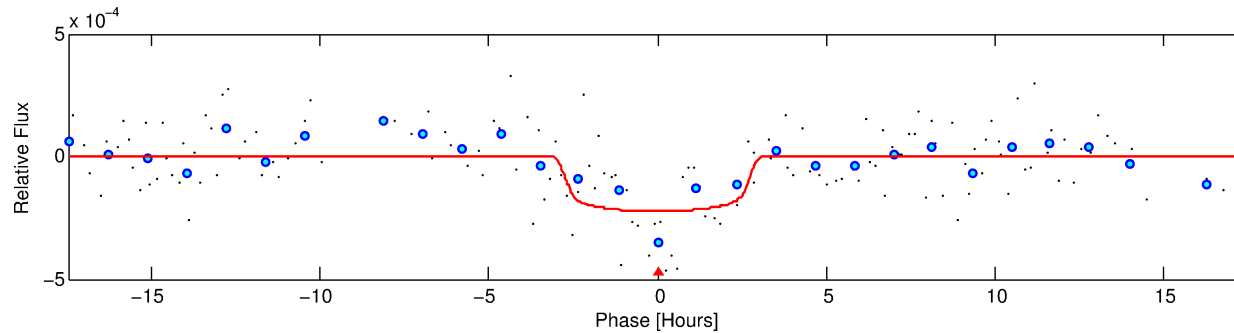
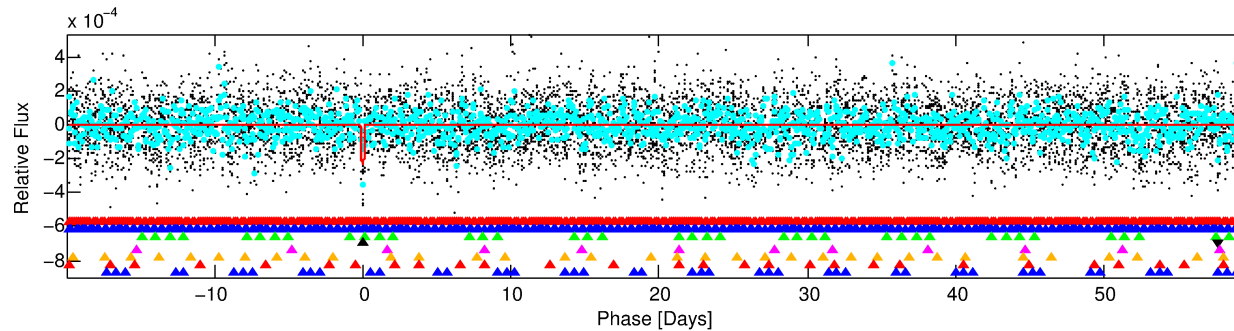
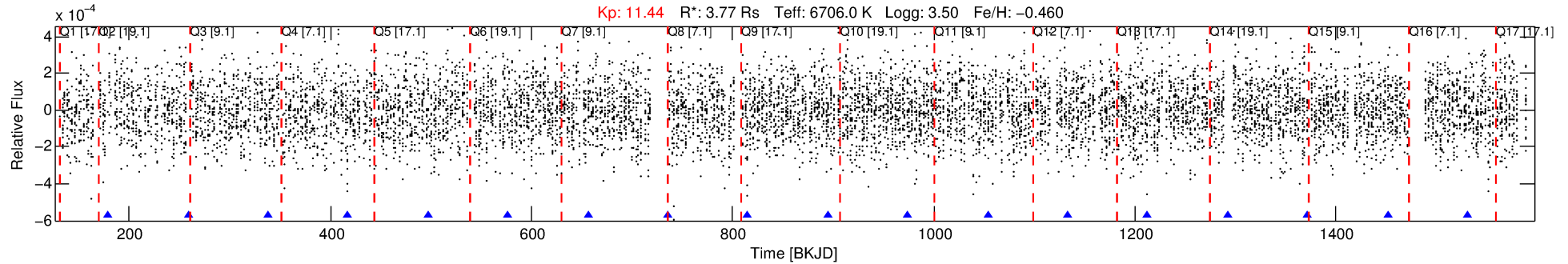
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-04

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 4 of 8 Period: 79.517 d



DV Fit Results:

Period = 79.51676 [0.00160] d
Epoch = 179.1149 [0.0156] BKJD
Rp/R* = 0.0154 [0.0115]
a/R* = 58.50 [256.82]
b = 0.85 [1.48]
Seff = 140.27 [95.64]
Teq = 878 [150] K
Rp = 6.35 [5.52] Re
a = 0.4284 [0.1812] AU
Ag = 474.99 [782.45] [0.61 σ]
Teff = 6334 [2390] K [2.28 σ]

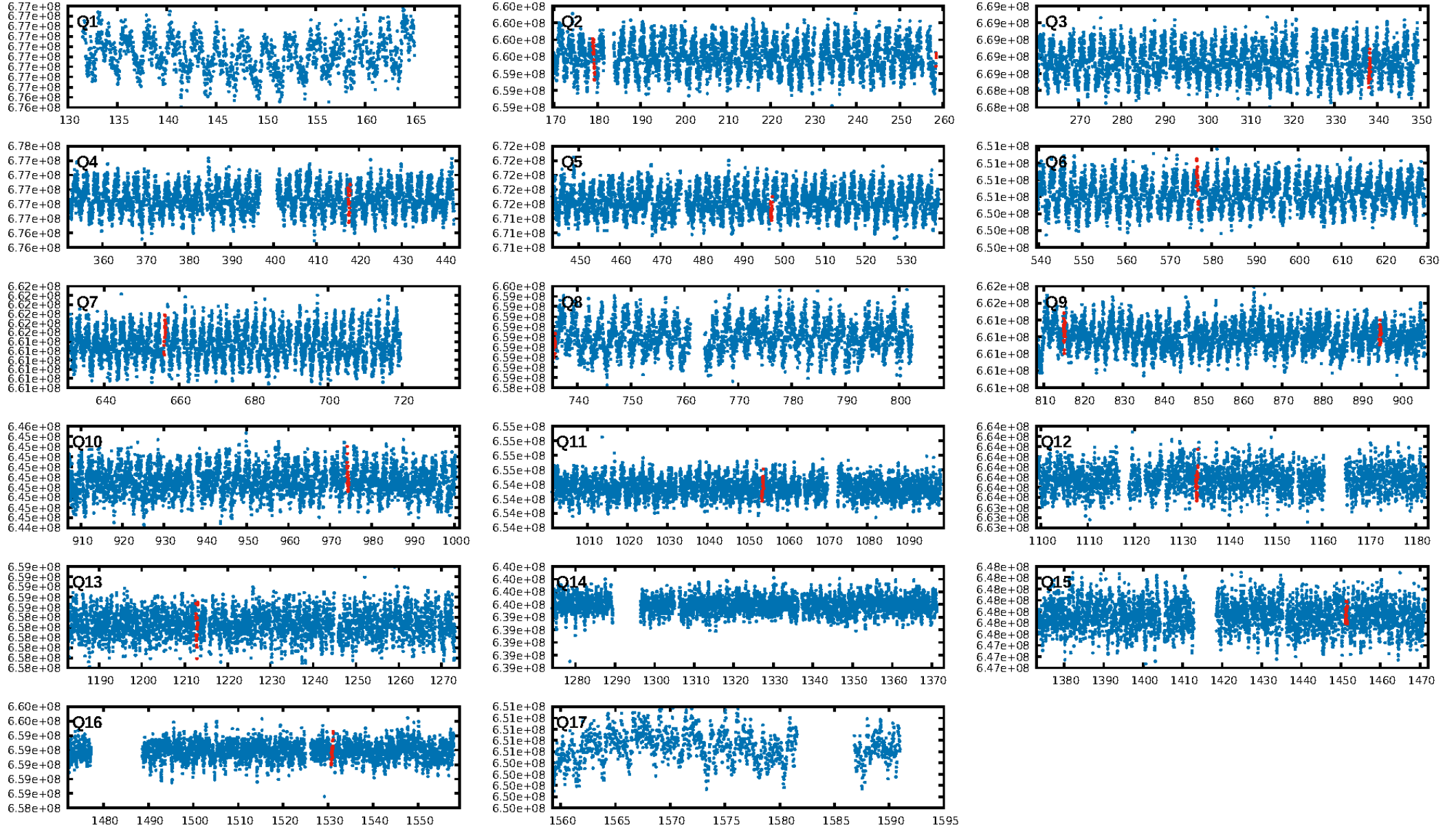
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [97.42 σ]
LongPeriod-sig: 100.0% [111.10 σ]
ModelChiSquare2-sig: 24.2%
ModelChiSquareGof-sig: 62.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -21.55
Centroid-sig: 2.2%
Centroid-so: 0.455 arcsec [1.42 σ]
OotOffset-rm: 0.345 arcsec [1.17 σ]
OotOffset-st: 3/4/3/2 [12]
KicOffset-rm: 0.276 arcsec [0.71 σ]
KicOffset-st: 3/4/3/2 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.00 [0/13]

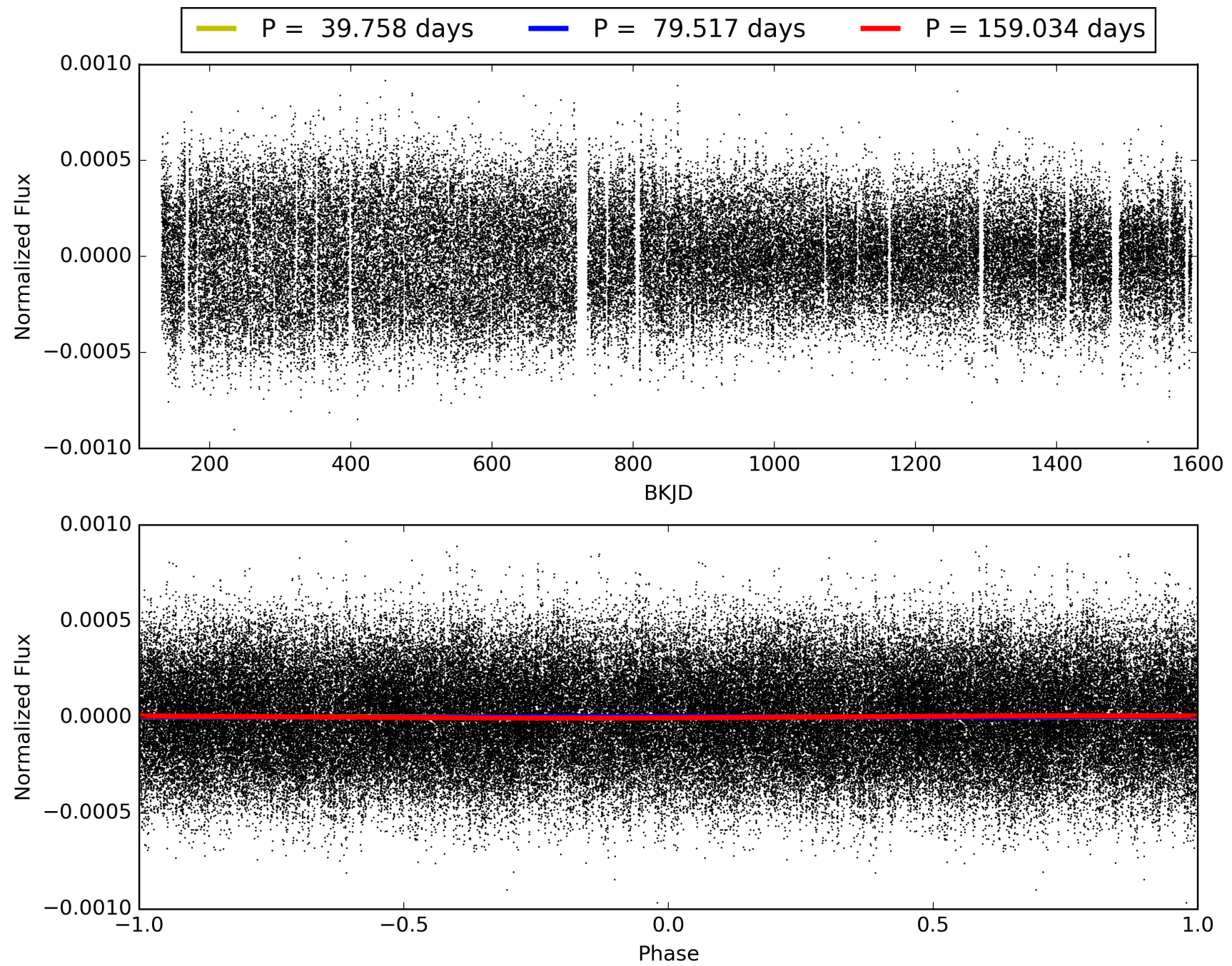
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:42:20 Z

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

TCE 010669199-04, PDC Light Curves

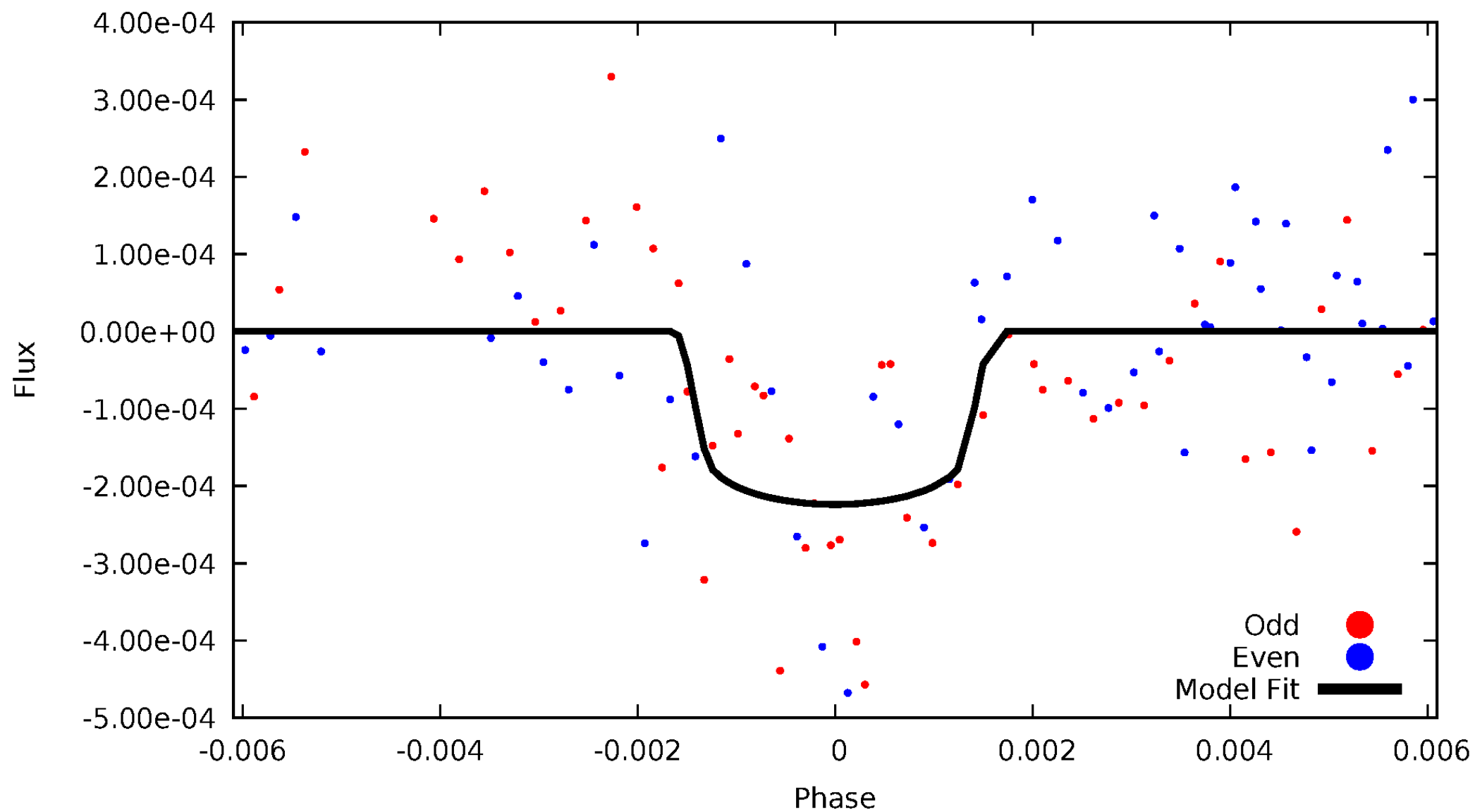


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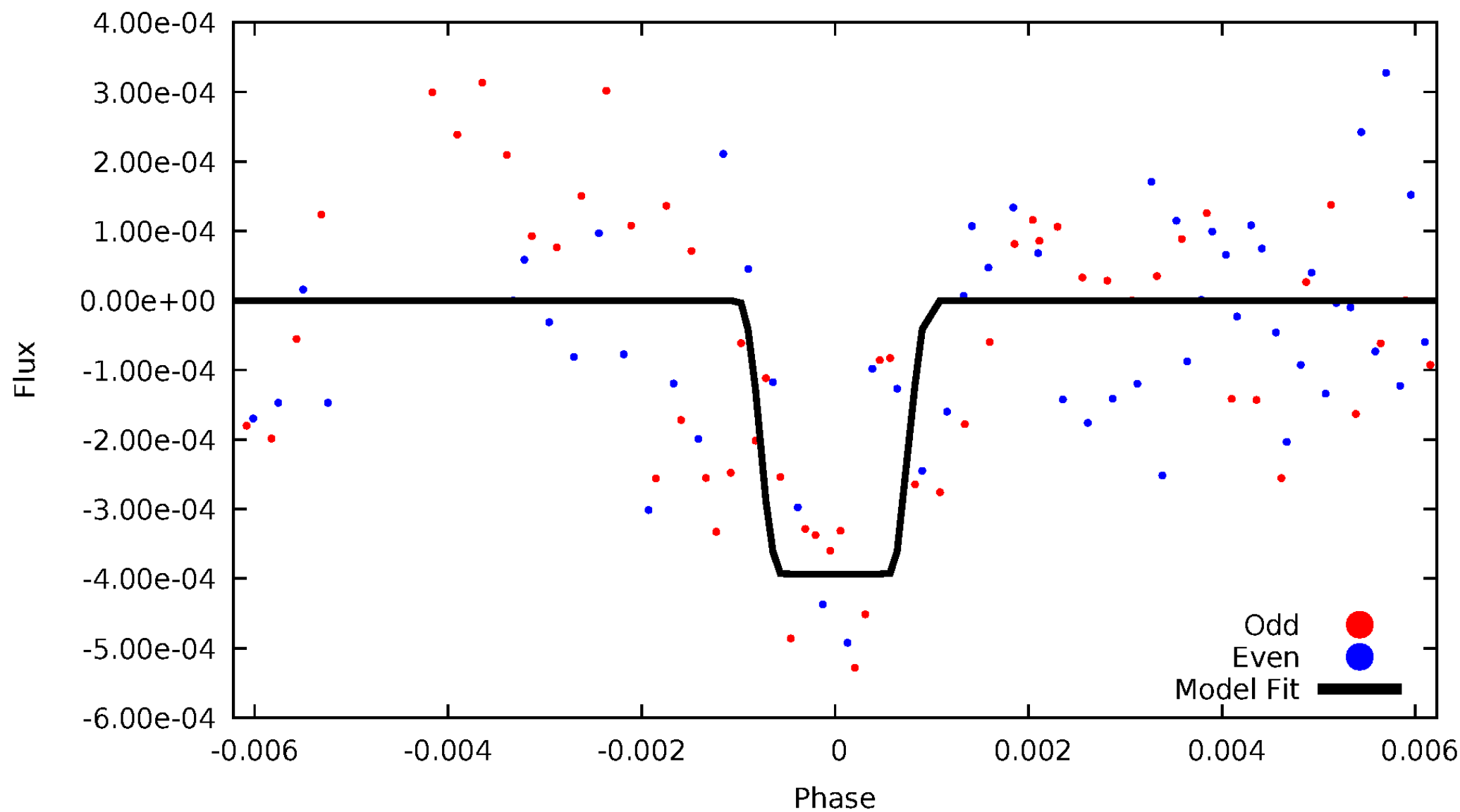
DV Odd/Even

TCE 010669199-04



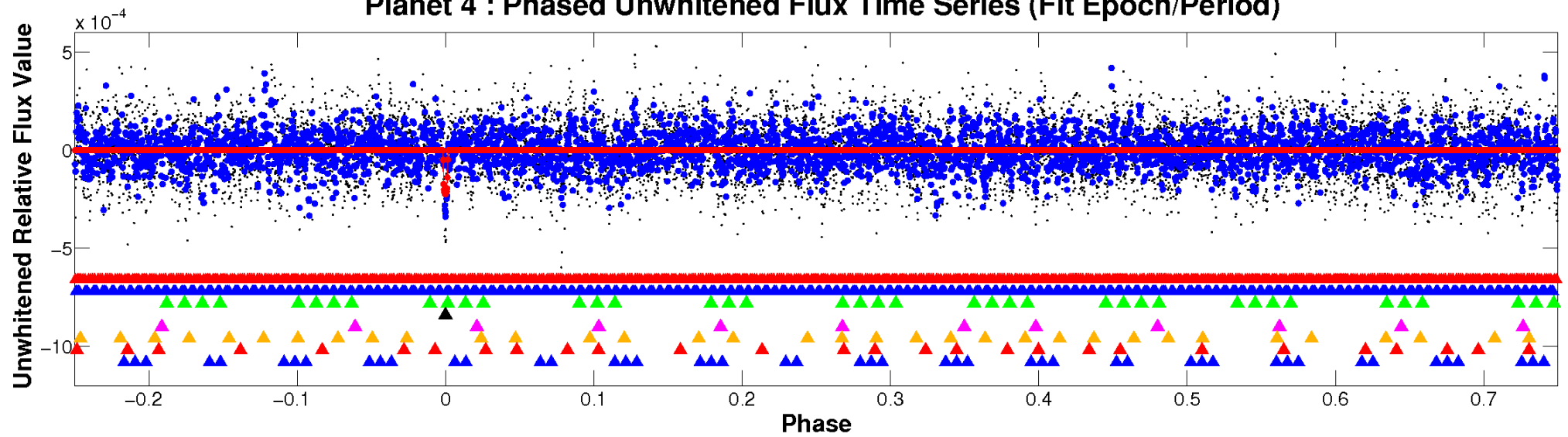
ALT Odd/Even

TCE 010669199-04

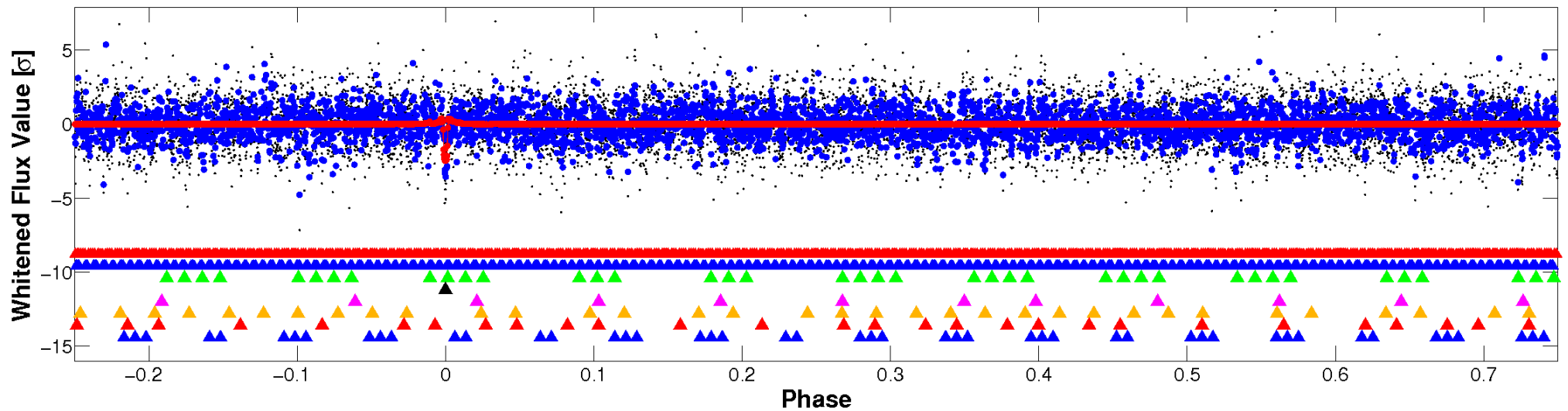


Non-Whitened Vs. Whitened Light Curve

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

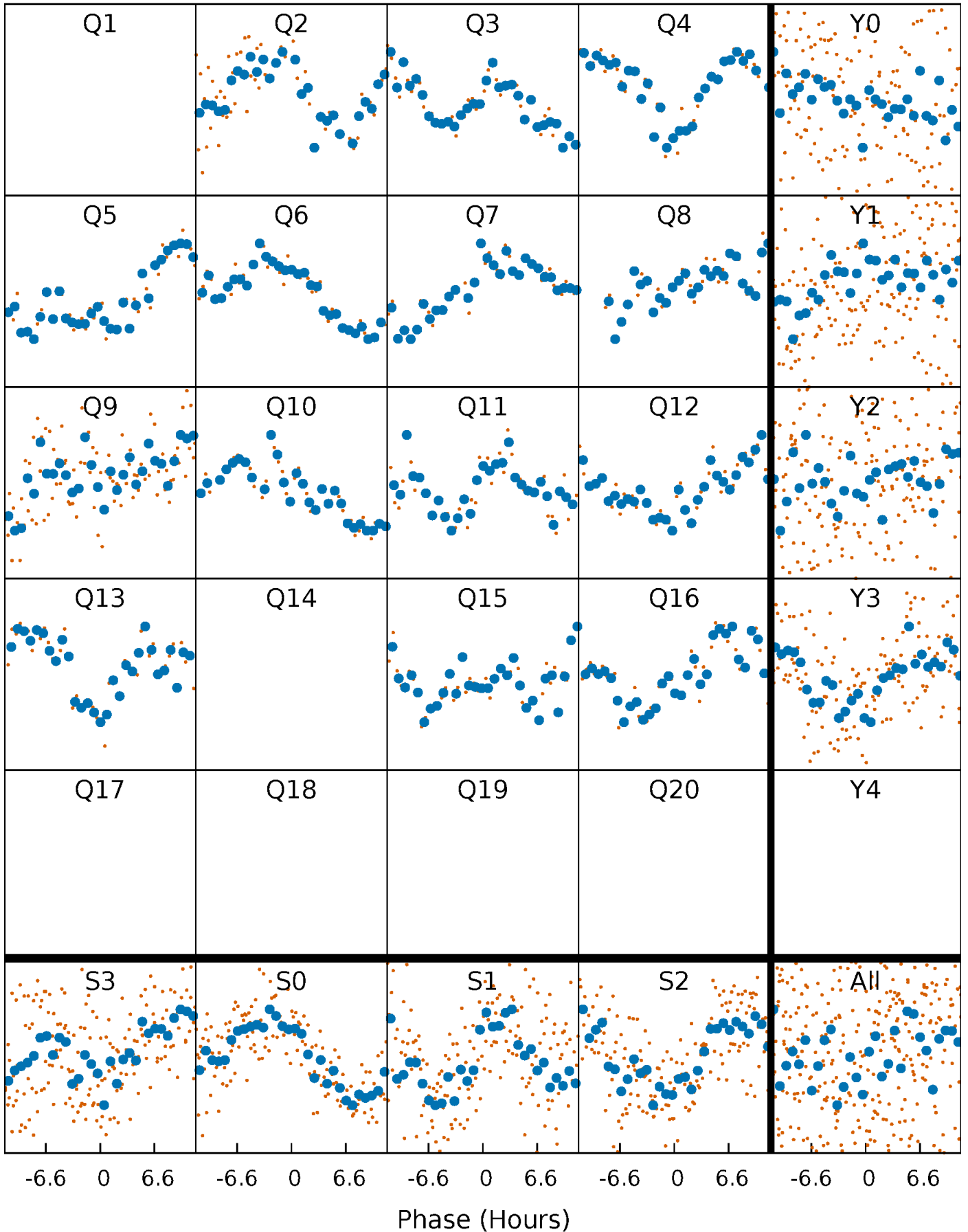


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



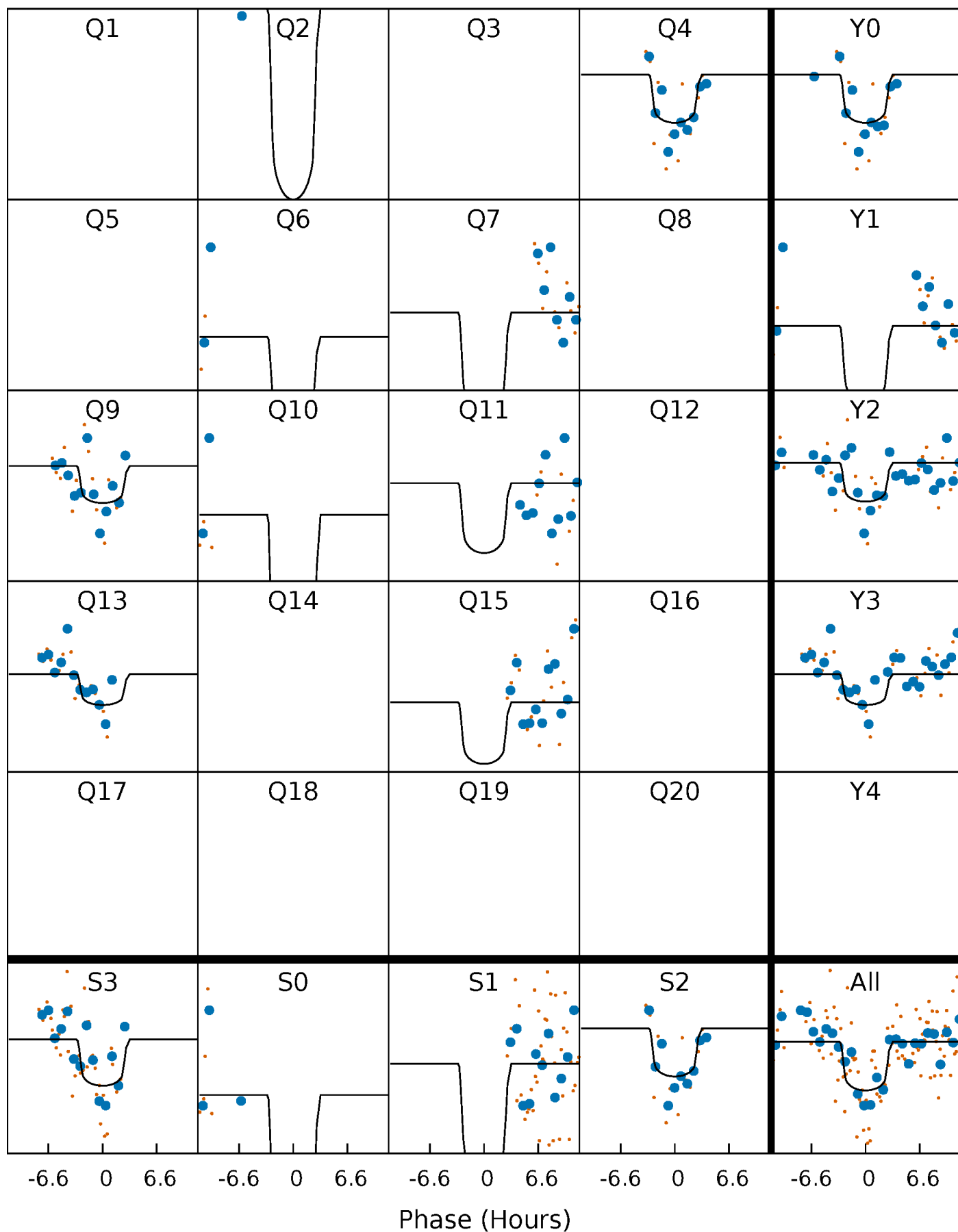
PDC Quarter-Phased Transit Curves

TCE 010669199-04 P= 79.516759 Days $T_0=179.114902$ (BKJD)



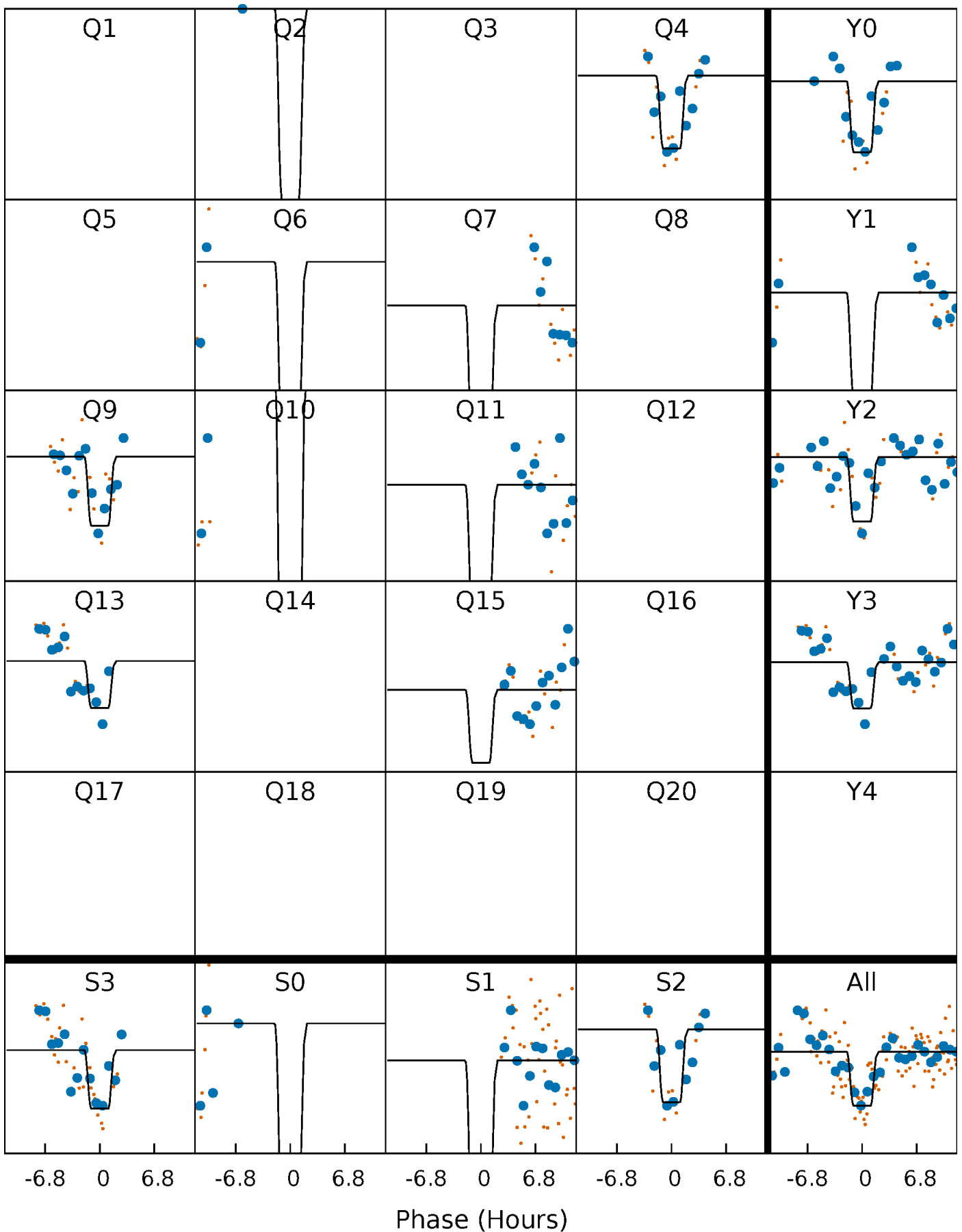
DV Quarter-Phased Transit Curves

TCE 010669199-04 $P = 79.516759$ Days $T_0 = 179.114902$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

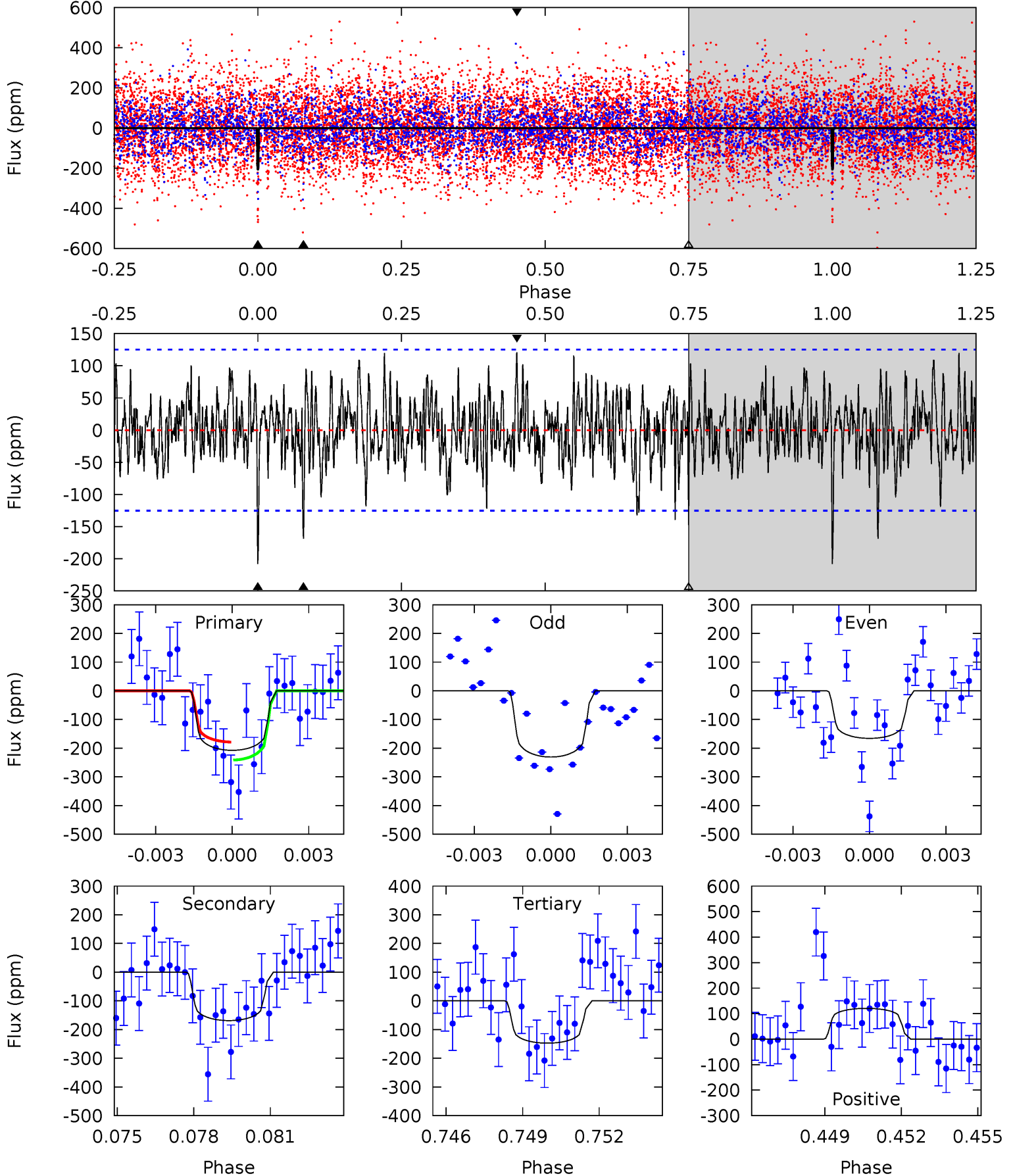
TCE 010669199-04 P= 79.518315 Days $T_0=179.102355$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-04, P = 79.516759 Days, E = 99.598143 Days

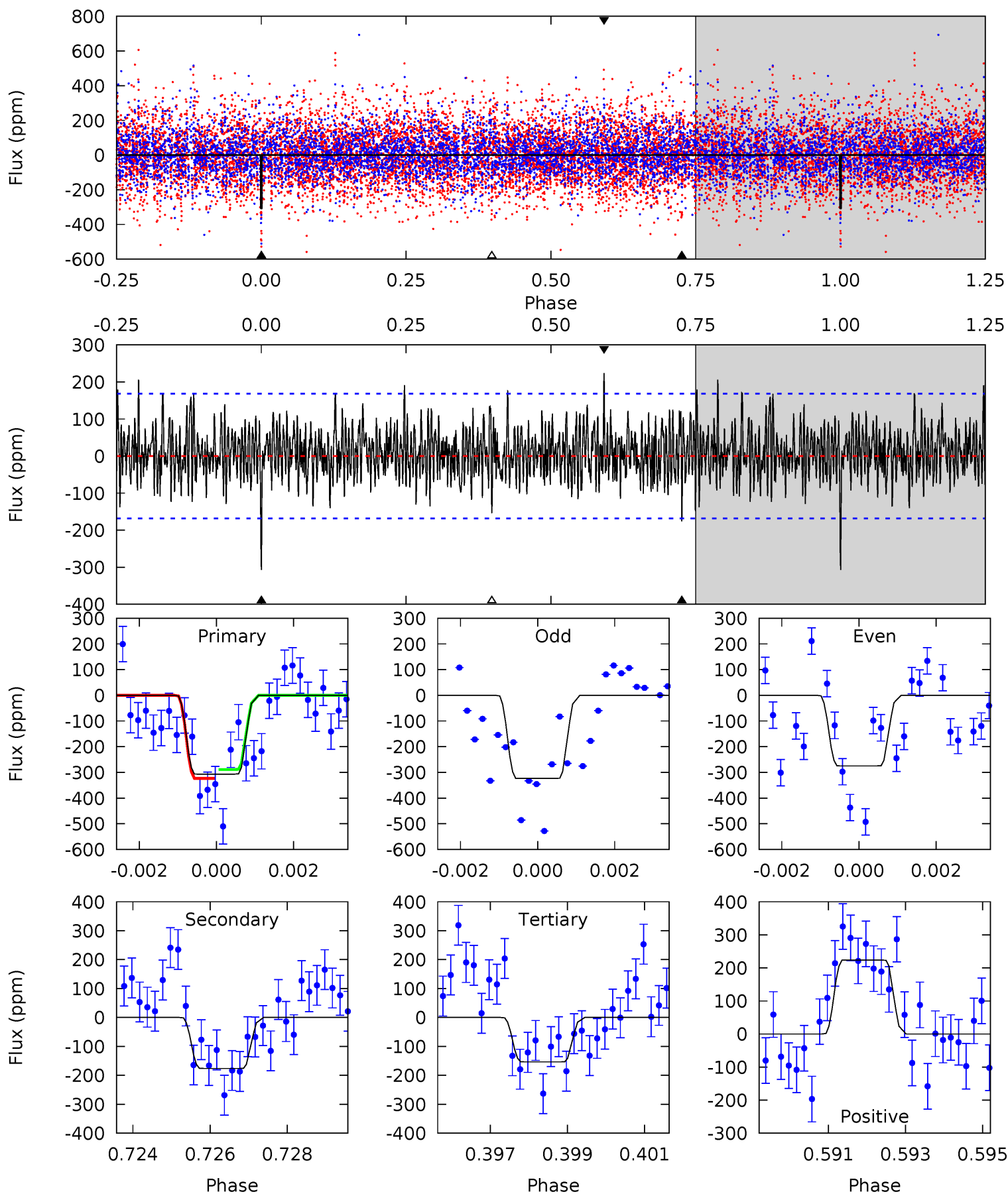
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.71	7.08	6.18	5.06	5.25	2.97	1.74	2.53	3.65	0.90	2.02	1.34	1.04	0.37	1.31



Alt Model-Shift Uniqueness Test

010669199-04, P = 79.518315 Days, E = 99.584040 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.71	5.58	4.86	7.07	5.33	3.09	1.75	4.85	2.63	0.72	-1.50	0.74	0.97	0.42	0.55



Stellar Parameters For KIC 010669199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-169 ± 24	$6.14^{+4.56}_{-3.84}$	1201^{+72}_{-133}	5986^{+4674}_{-1293}	435^{+2764}_{-289}
Alt.	-176 ± 32	$7.78^{+4.78}_{-4.00}$	1202^{+71}_{-125}	5407^{+2375}_{-958}	291^{+963}_{-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 $A_{obs} \gg 1.0$

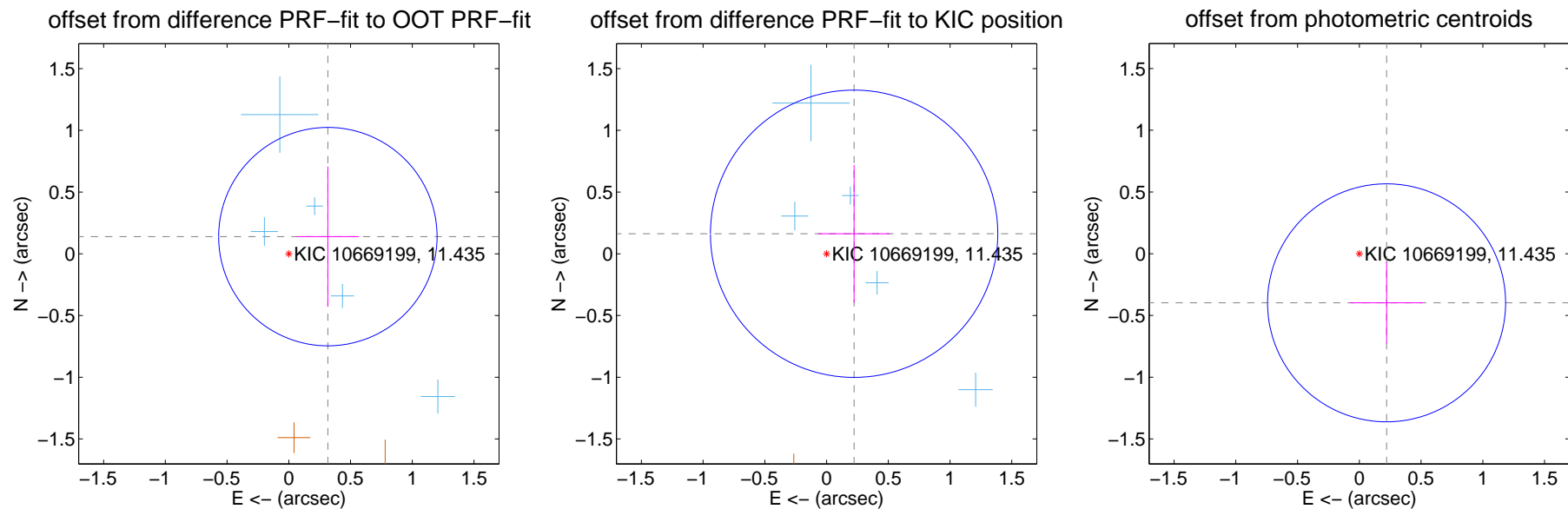
DV Centroid Data

Supplemental centroid analysis for 010669199-04. **Kepler magnitude: 11.44.** Transit SNR 12.04

There are 5 quarters with good PRF difference image offsets

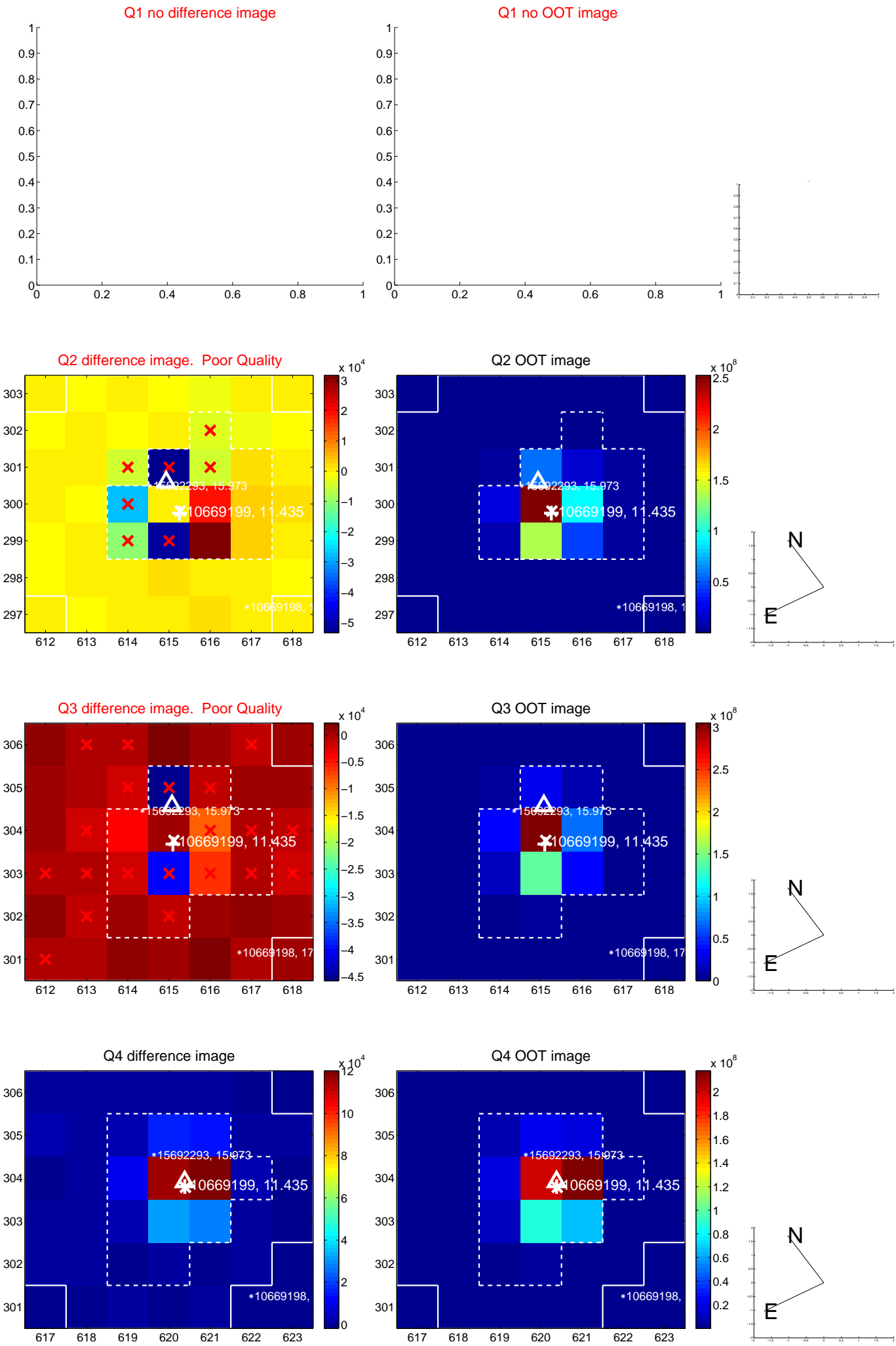
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.345 ± 0.295	1.17	-0.316 ± 0.253	0.139 ± 0.568
PRF-fit source offset from KIC position	0.276 ± 0.388	0.71	-0.223 ± 0.291	0.162 ± 0.557
photometric centroid source offset	0.45 ± 0.32	1.42	-0.22 ± 0.29	-0.40 ± 0.33

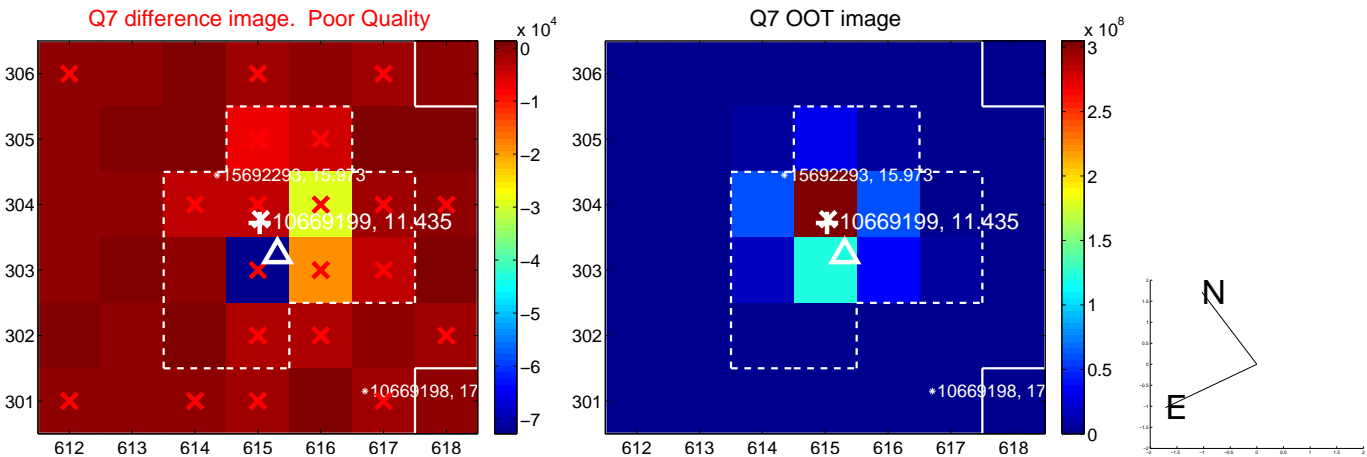
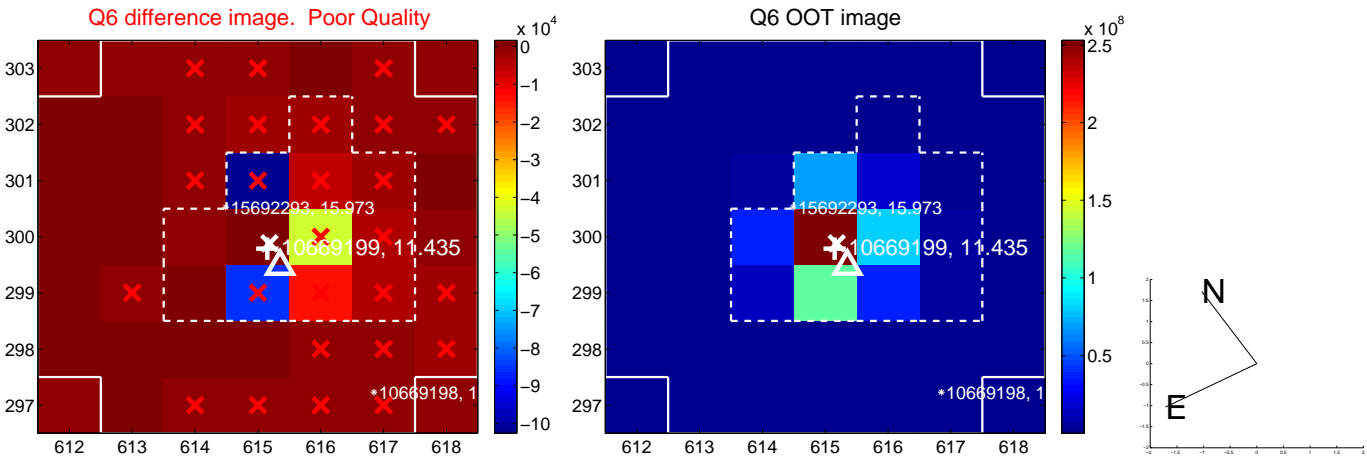
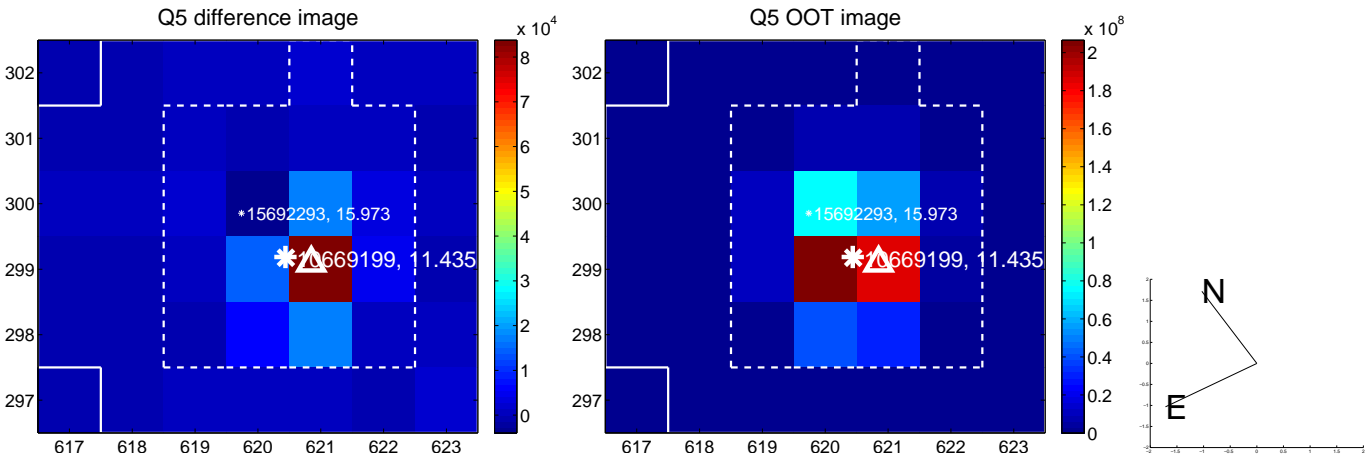


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

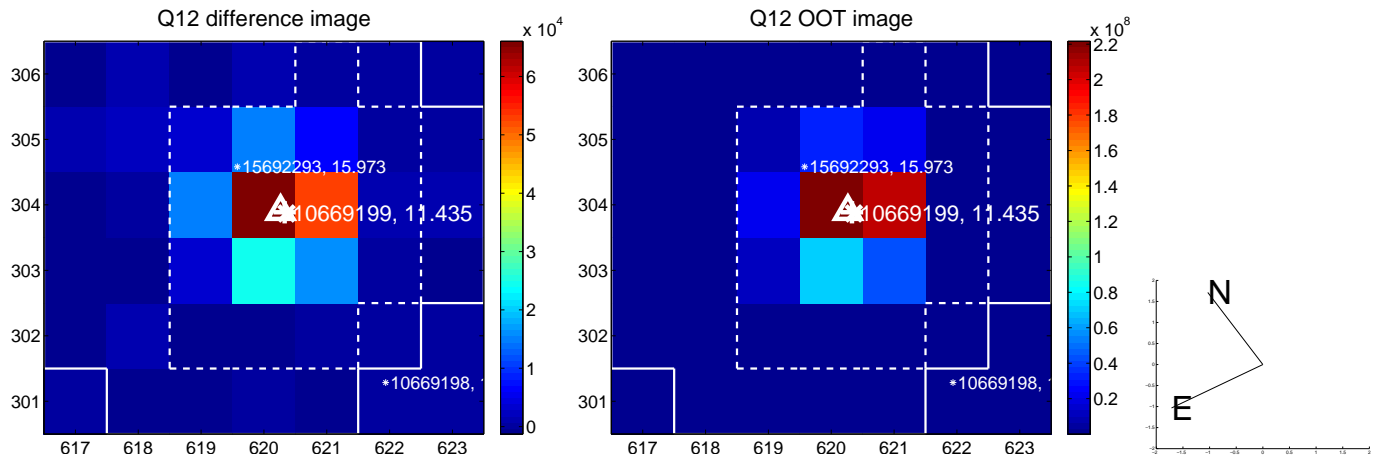
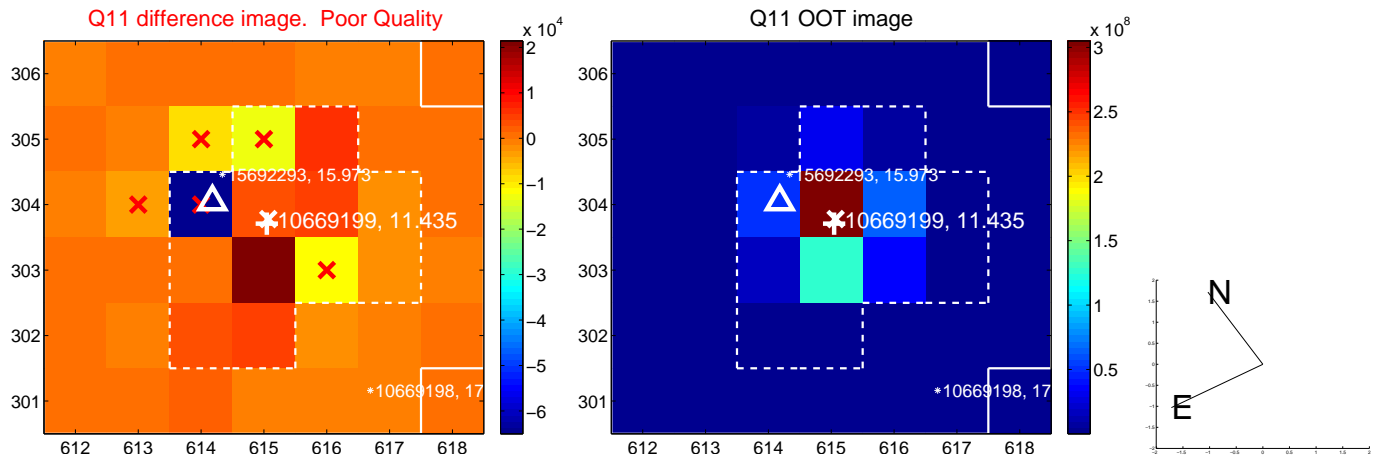
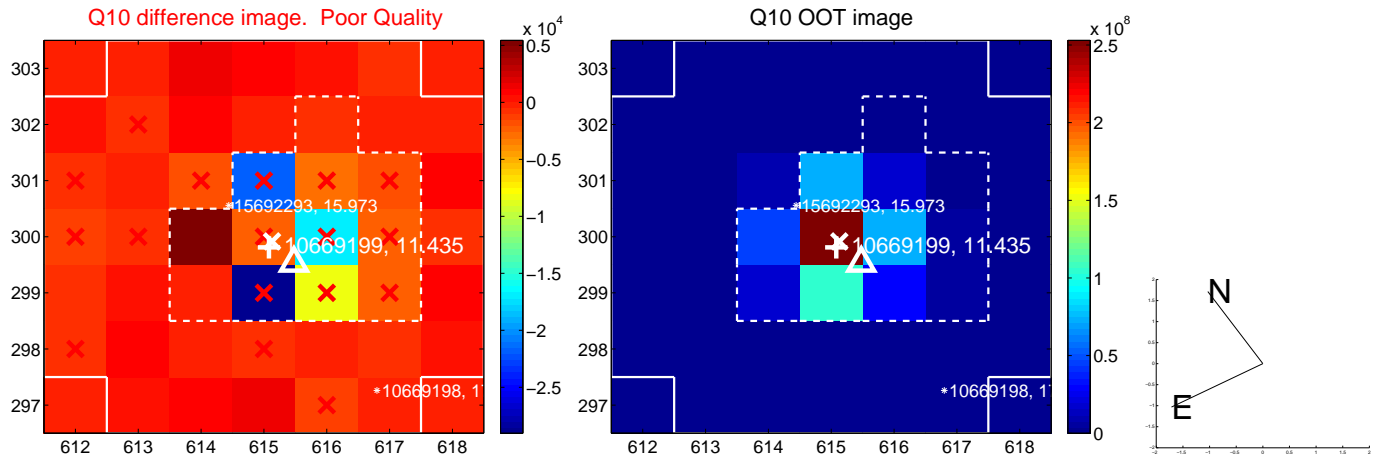
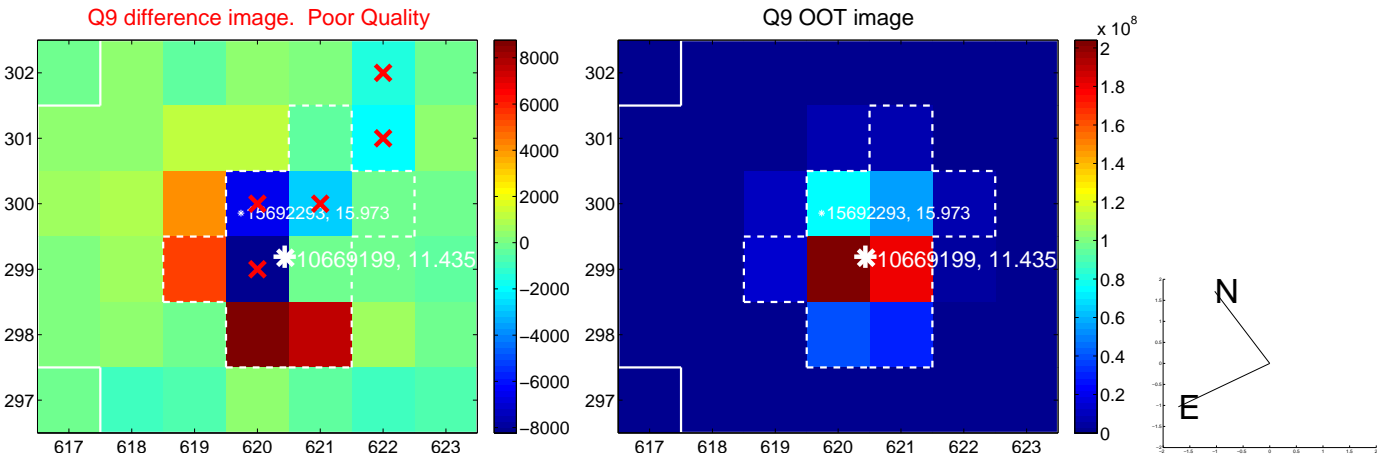
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



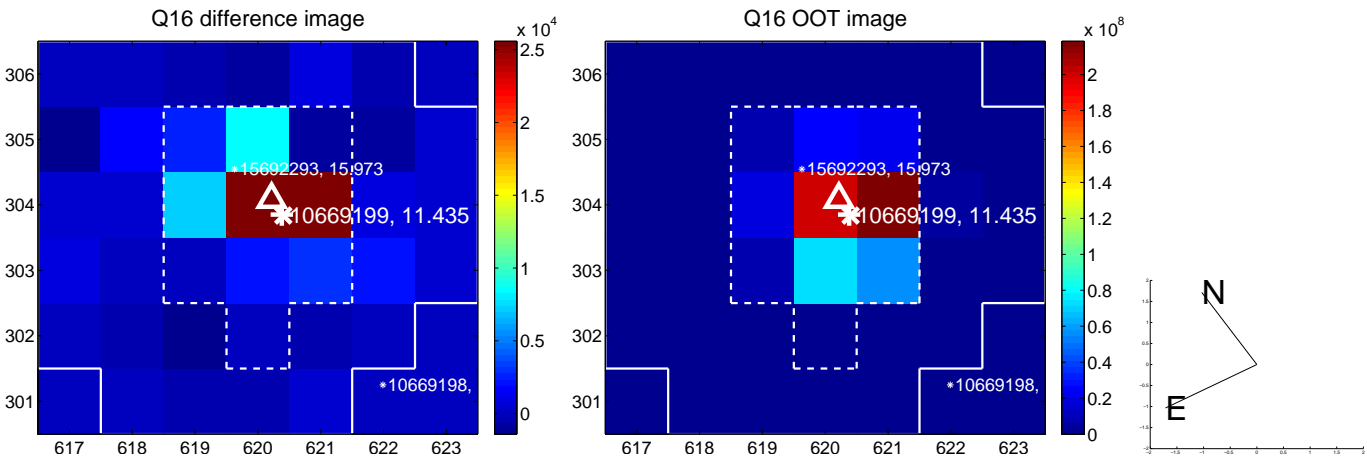
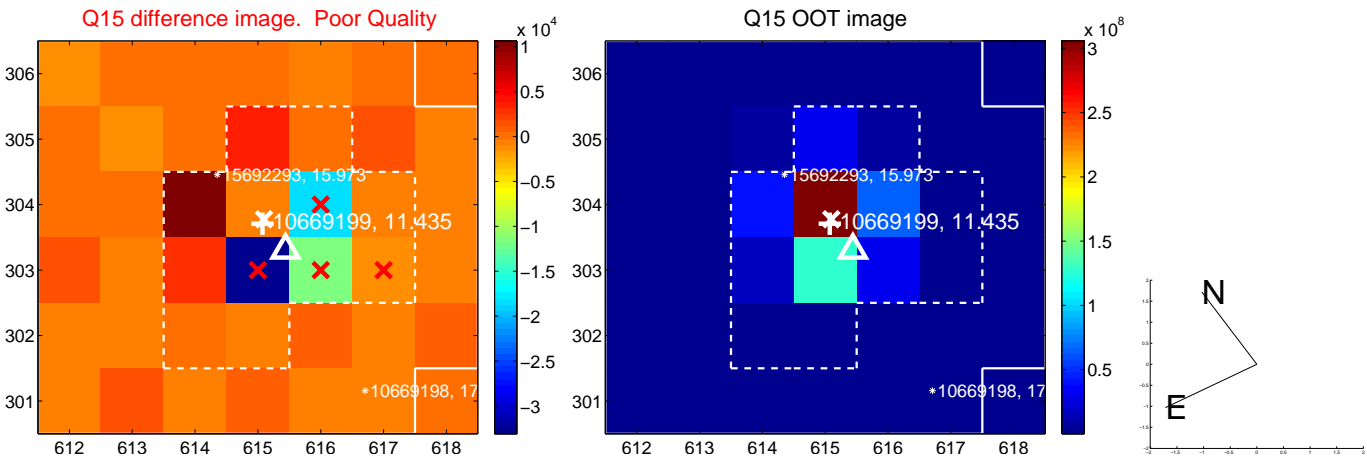
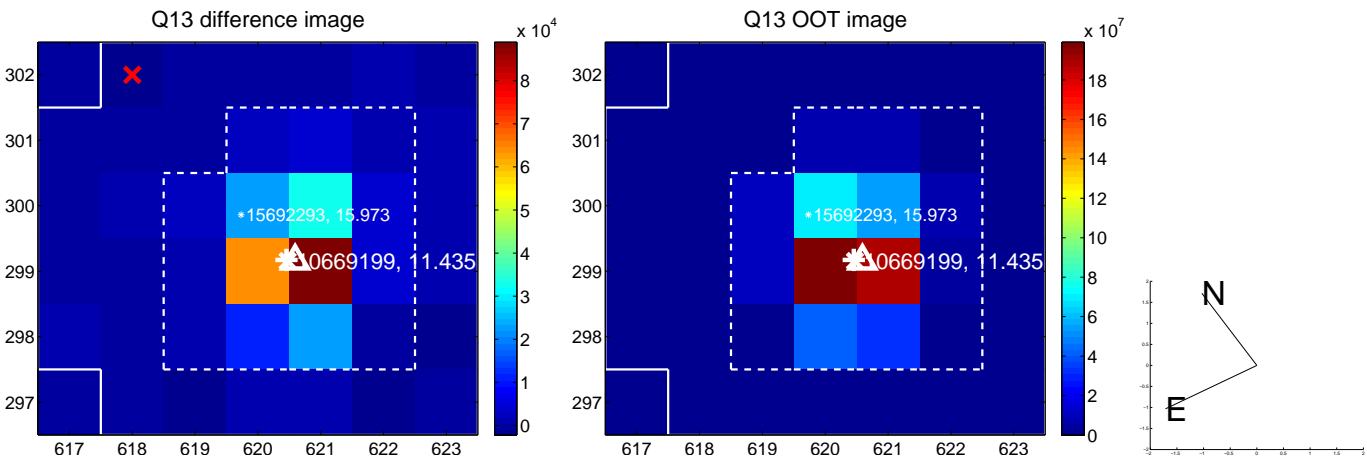
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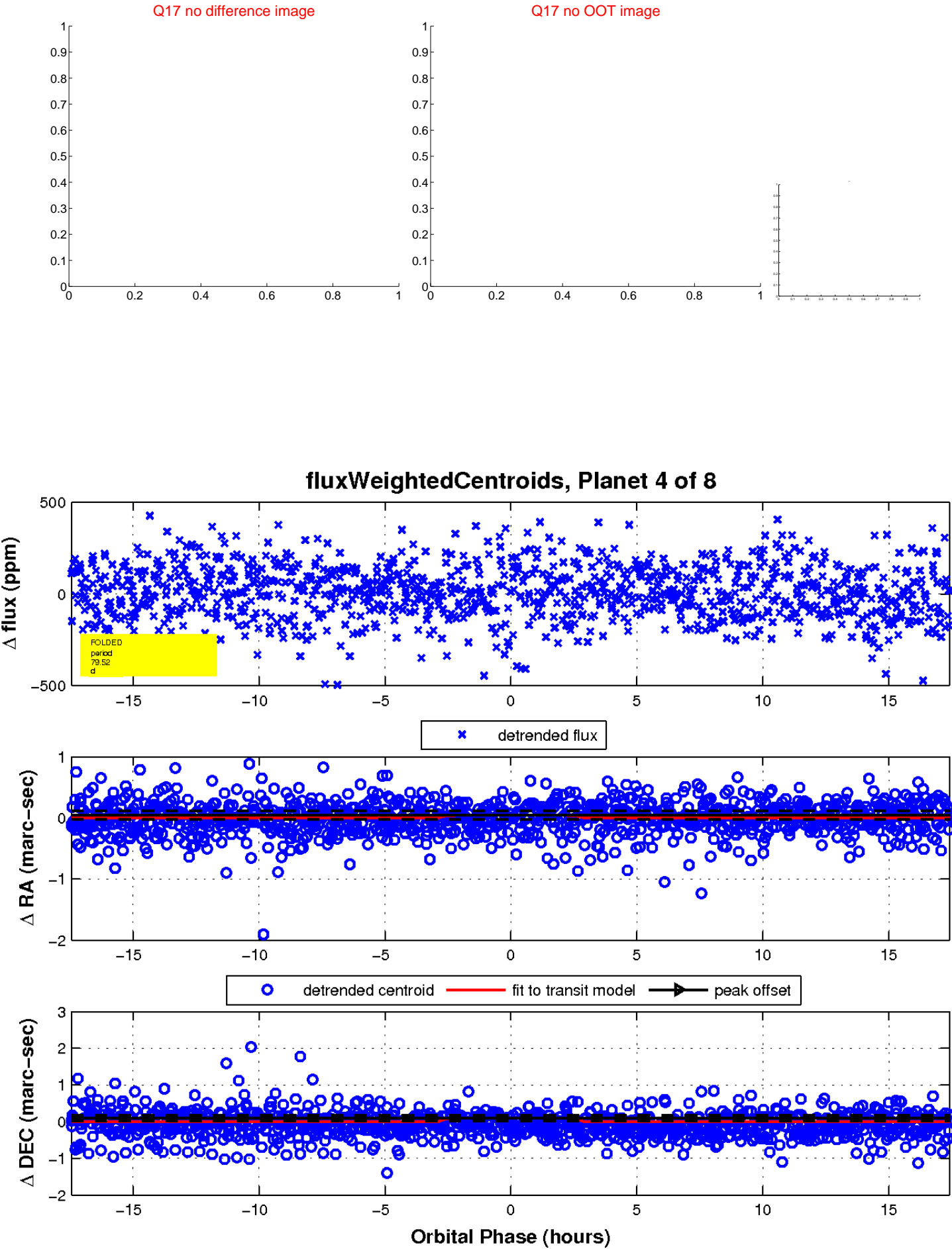
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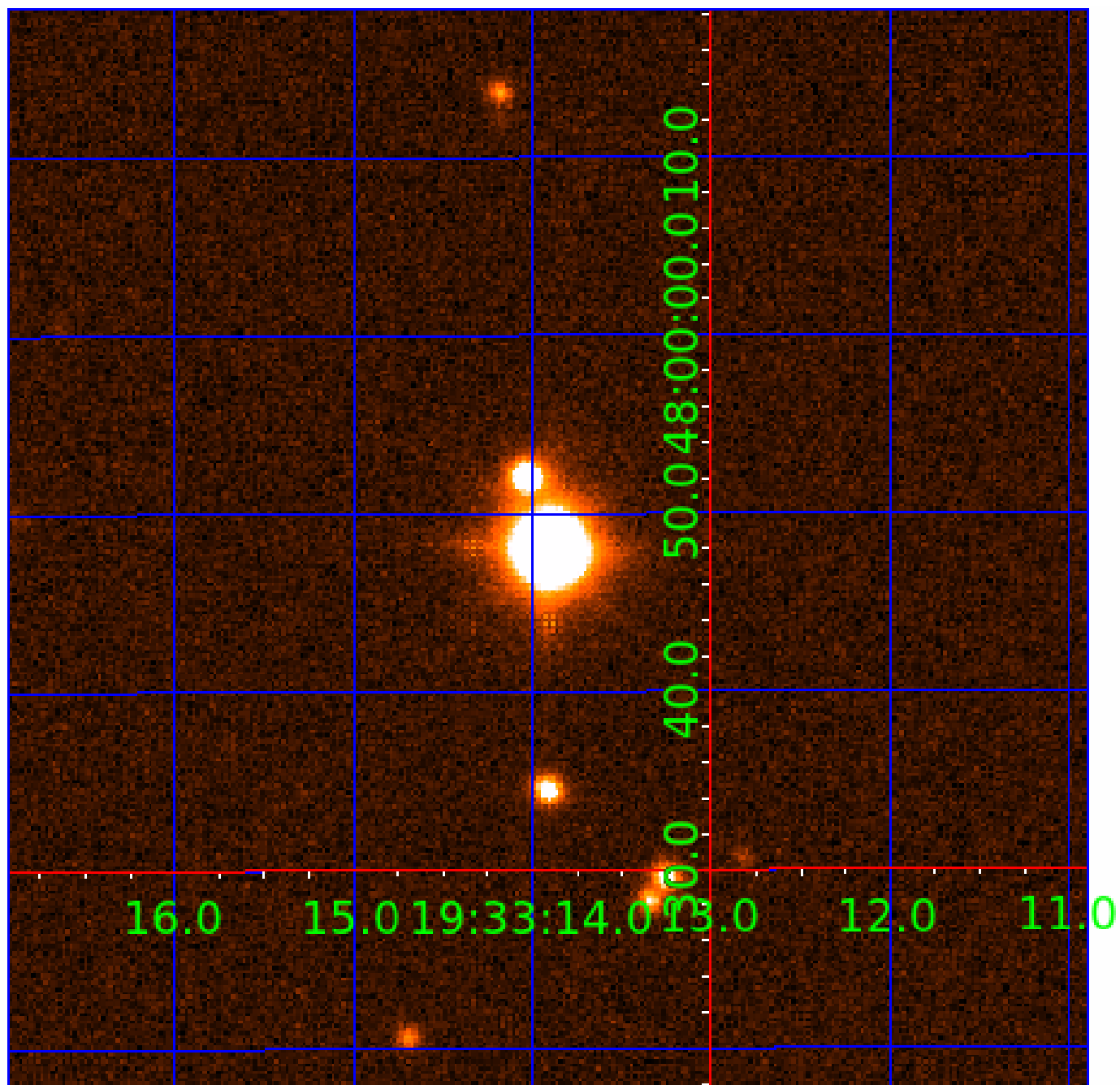


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010669199

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})
010669199-01	OBS	No	2.365917	133.353148	32.4	3.827	8.7	9.3	3.77	6706	2.56	15213.64
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010669199-06	OBS	No	42.674845	159.538475	188.6	3.547	11.6	12.3	3.77	6706	5.93	321.62
010669199-07	OBS	No	51.550093	162.071407	207.2	3.698	11.6	11.1	3.77	6706	6.06	249.99
010669199-08	OBS	No	30.890459	132.171688	166.5	6.266	10.7	10.4	3.77	6706	5.76	494.84

Robovetter Results

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010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

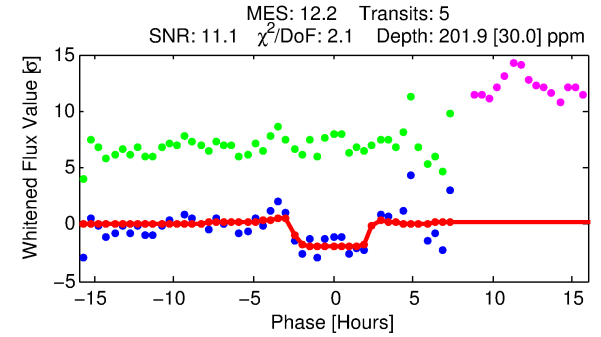
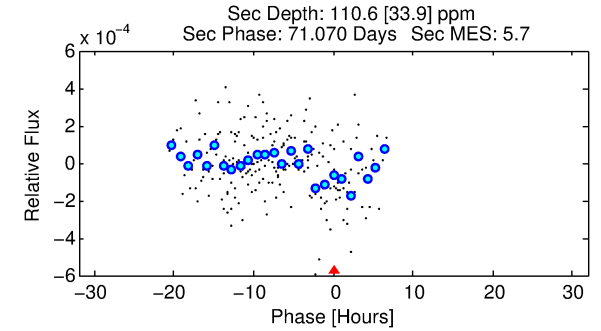
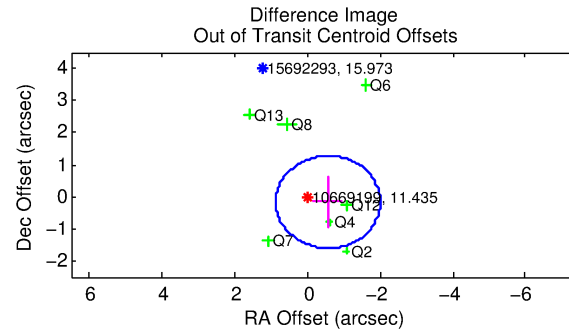
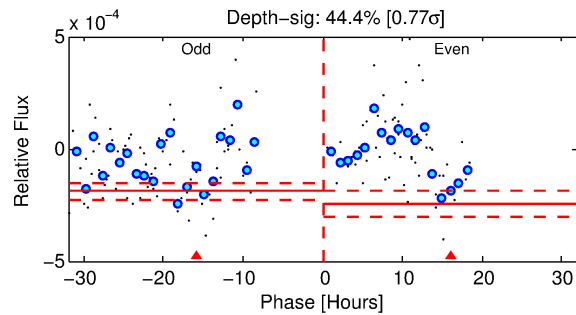
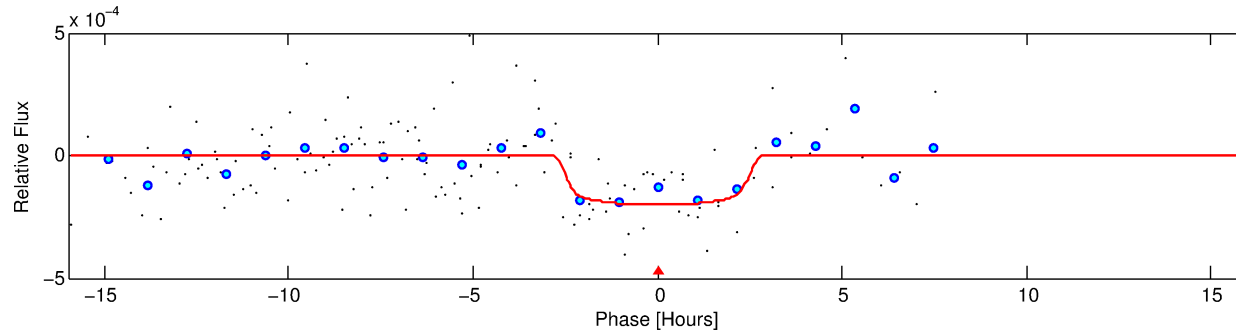
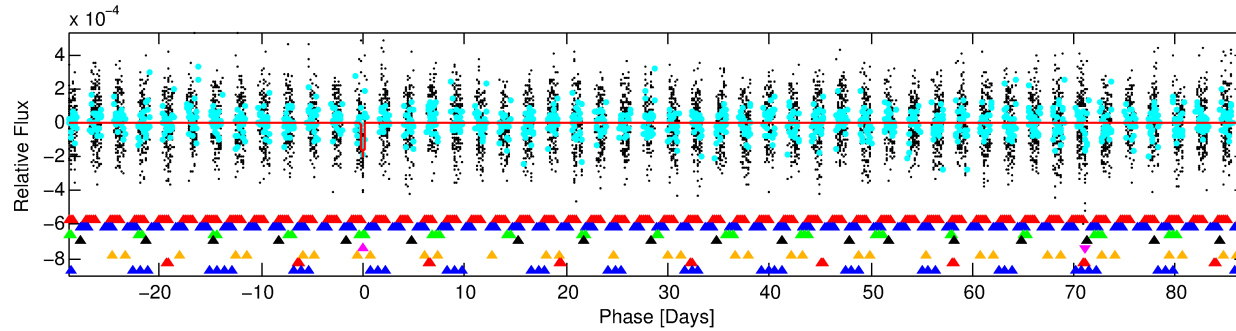
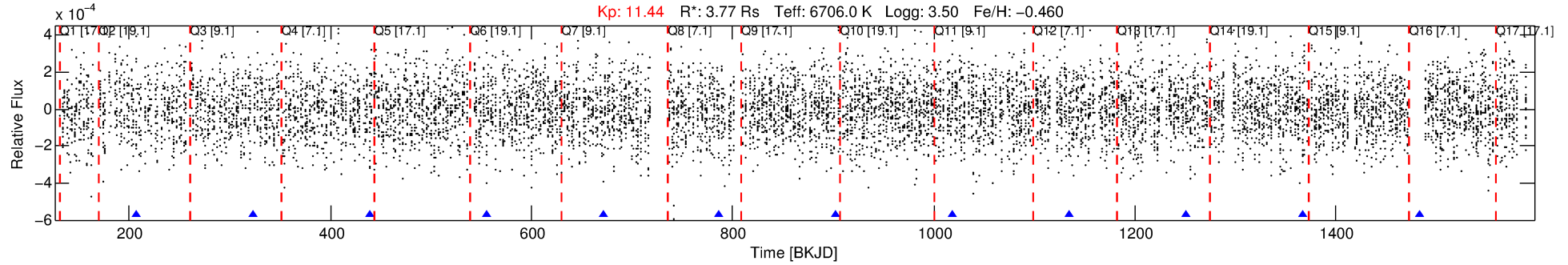
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-05

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 5 of 8 Period: 116.009 d



DV Fit Results:

Period = 116.00932 [0.00577] d
Epoch = 206.9271 [0.0170] BKJD
Rp/R* = 0.0148 [0.0070]
a/R* = 89.70 [247.26]
b = 0.86 [0.84]
Seff = 84.77 [57.80]
Teq = 774 [132] K
Rp = 6.07 [3.96] Re
a = 0.5510 [0.2331] AU
Ag = 500.54 [601.73] [0.83 σ]
Teffp = 5658 [1421] K [3.42 σ]

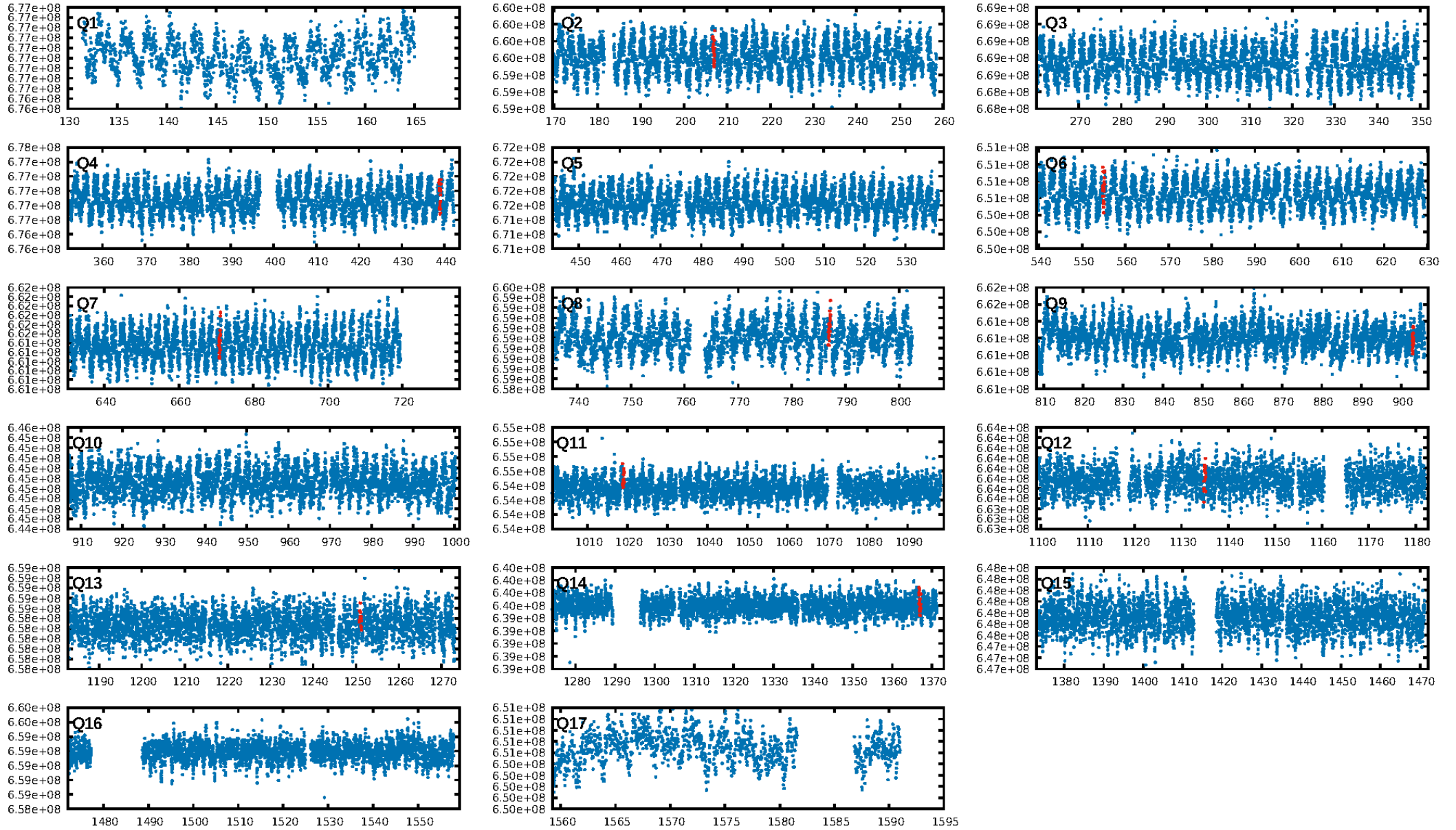
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [111.10 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 65.5%
ModelChiSquareGof-sig: 73.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -4.381
Centroid-sig: 97.6%
Centroid-so: 0.112 arcsec [0.25 σ]
OotOffset-rm: 0.590 arcsec [1.23 σ]
OotOffset-st: 2/1/3/1 [7]
KicOffset-rm: 0.548 arcsec [1.04 σ]
KicOffset-st: 2/1/3/1 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.40 [4/10]

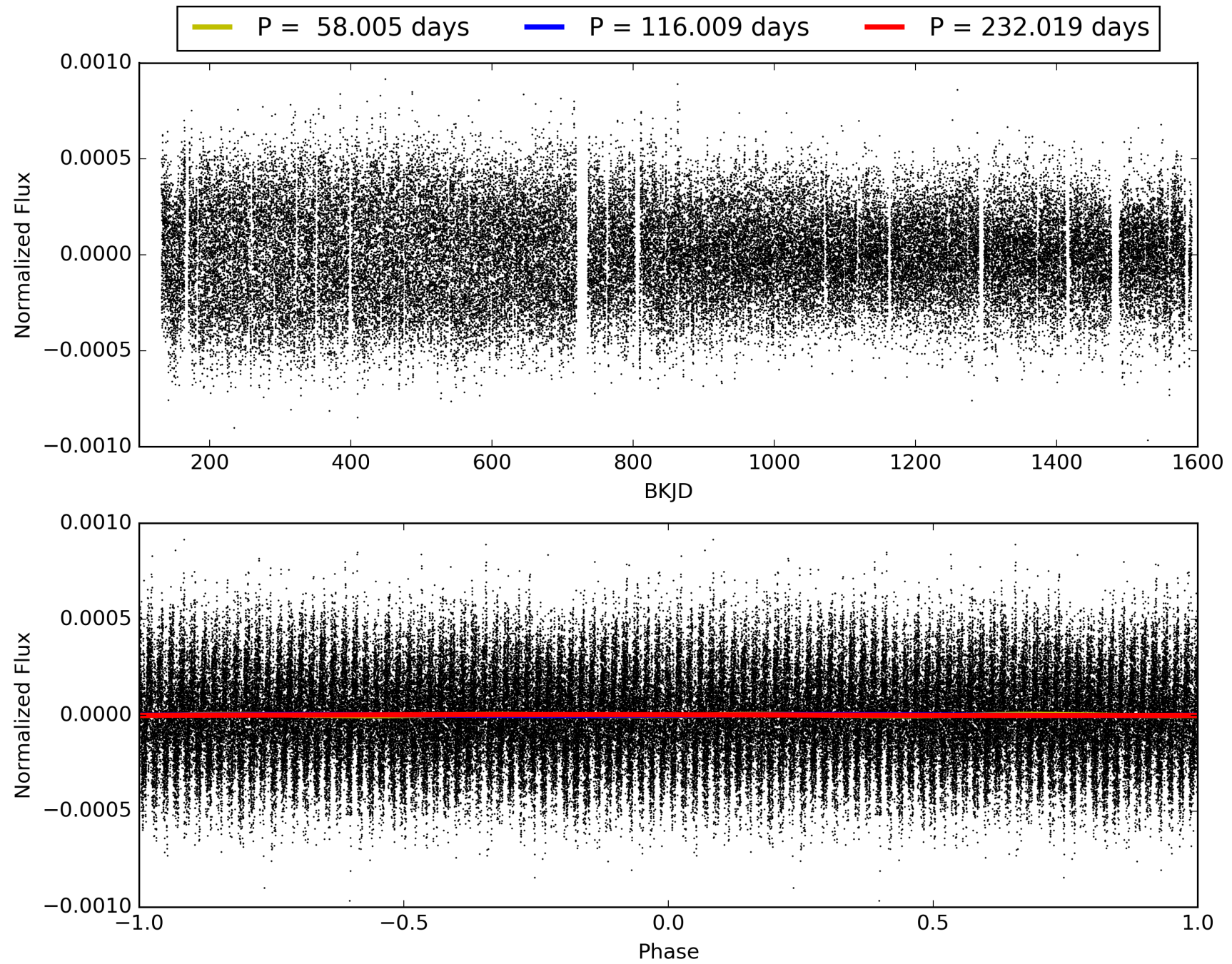
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:42:23 Z

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

TCE 010669199-05, PDC Light Curves

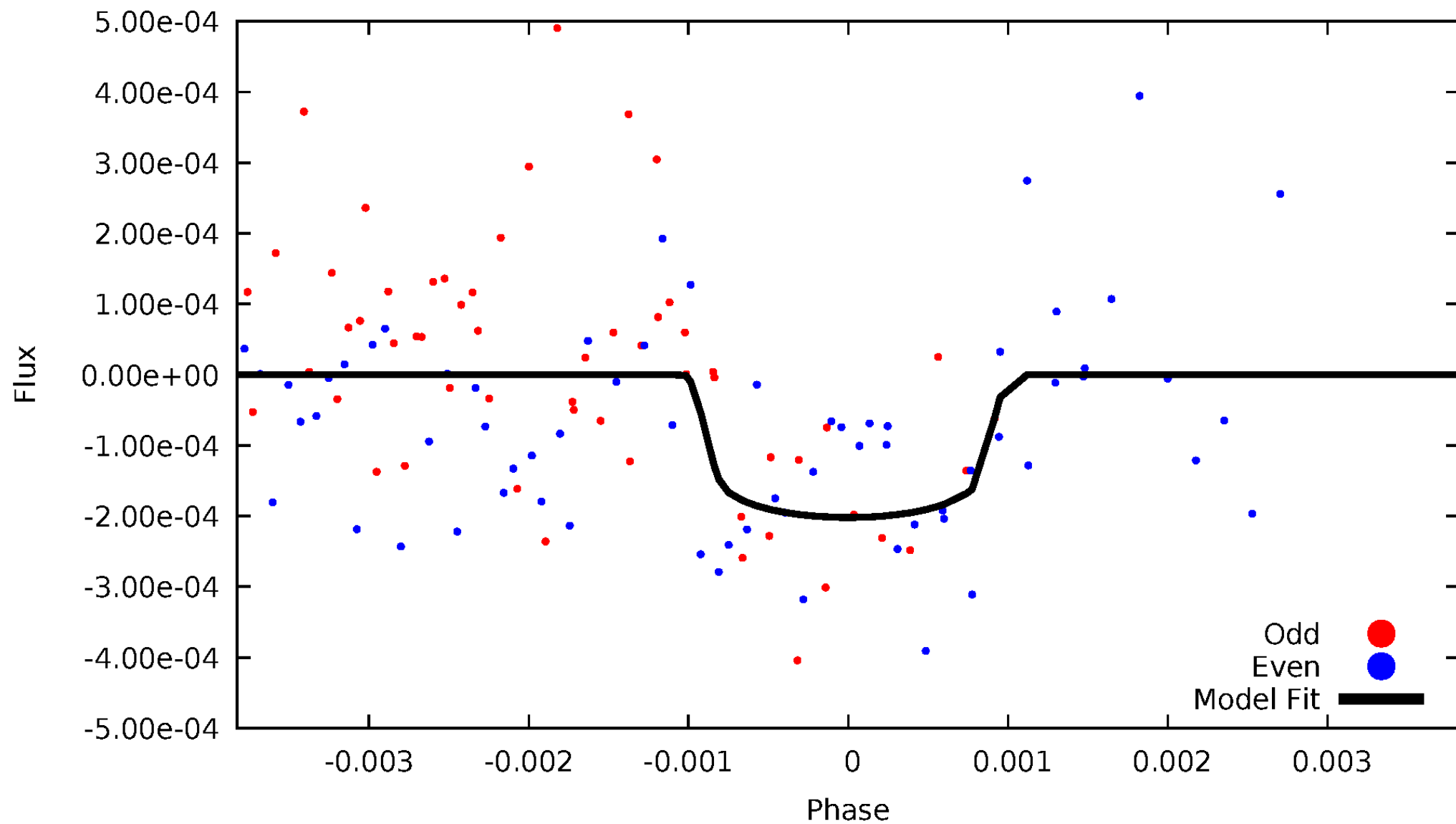


TCE 010669199-05



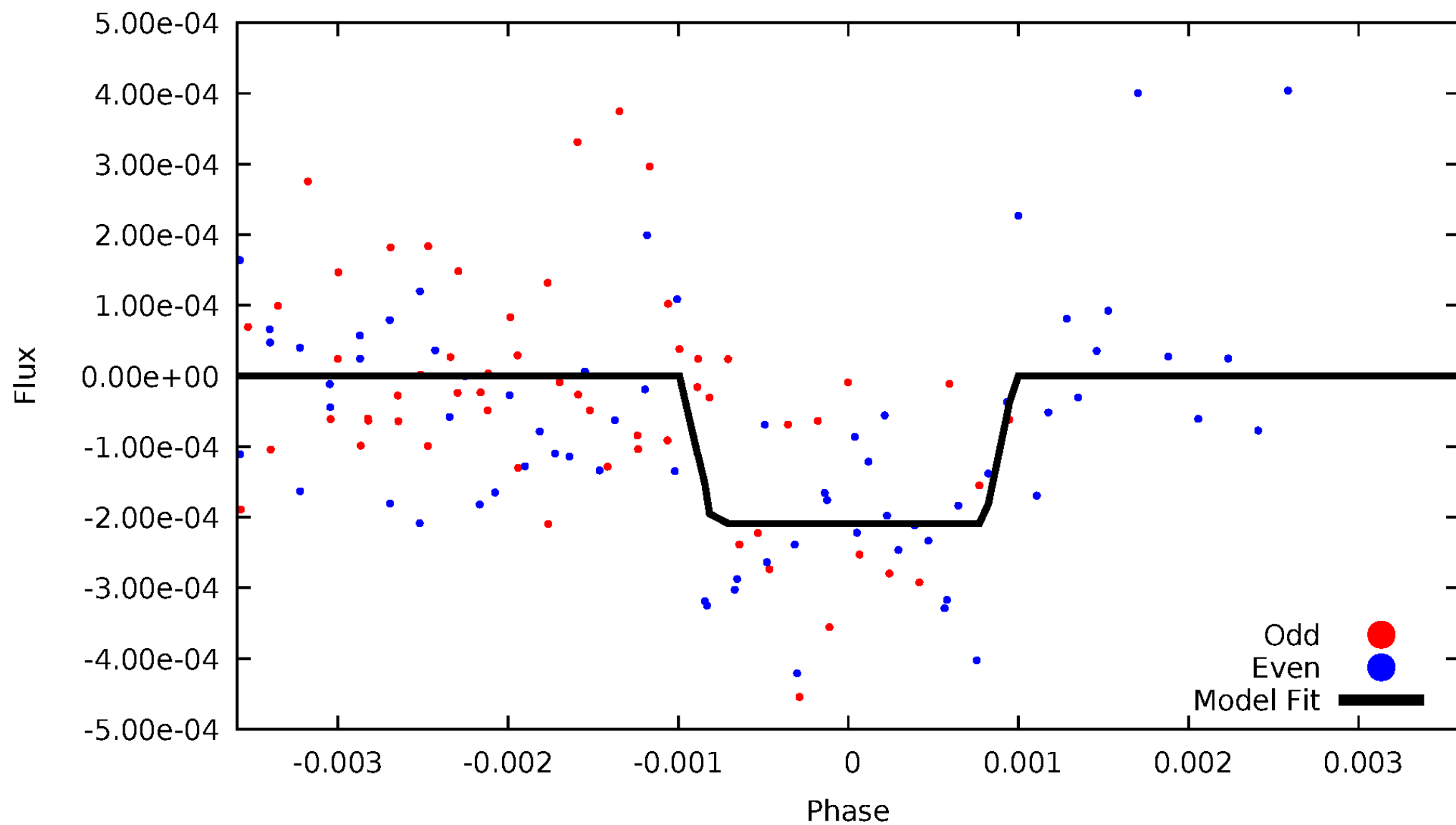
DV Odd/Even

TCE 010669199-05



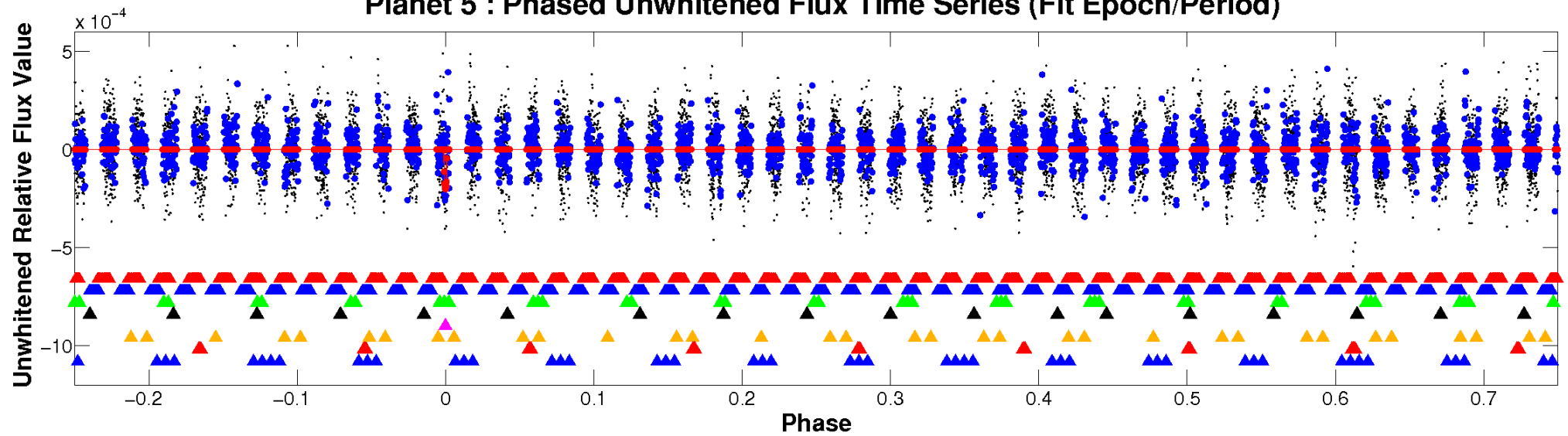
ALT Odd/Even

TCE 010669199-05

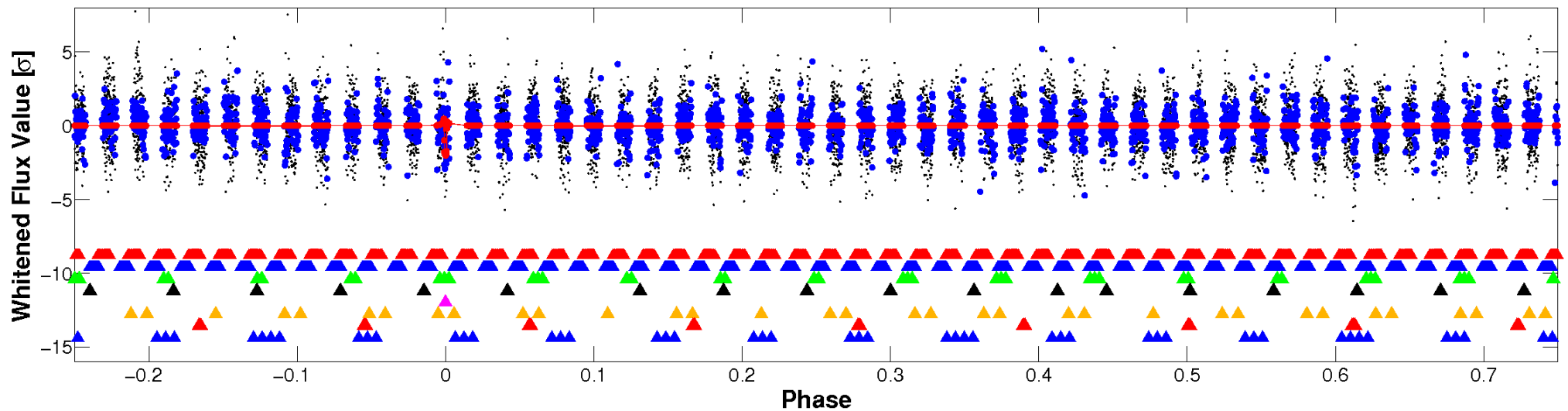


Non-Whitened Vs. Whitened Light Curve

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

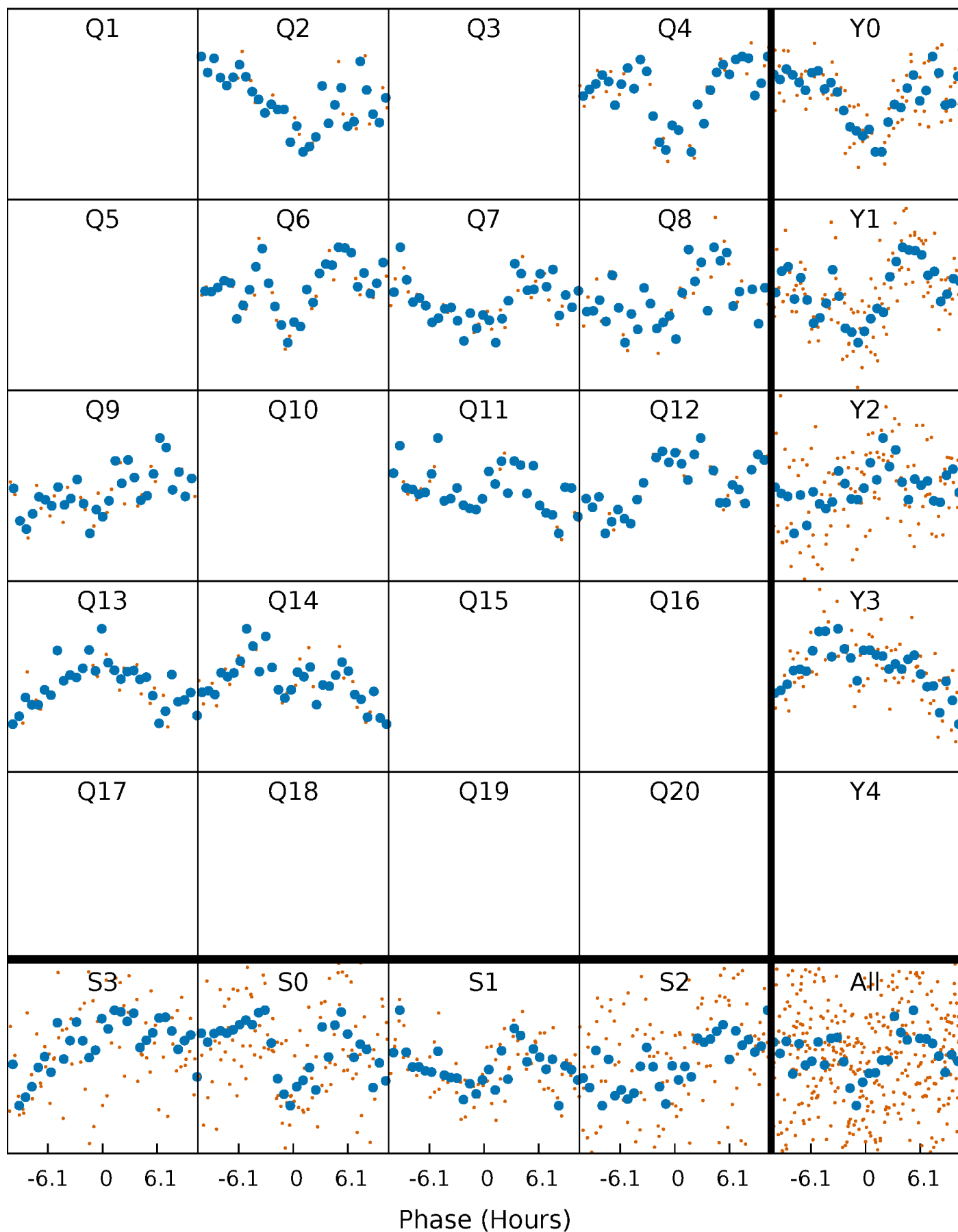


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



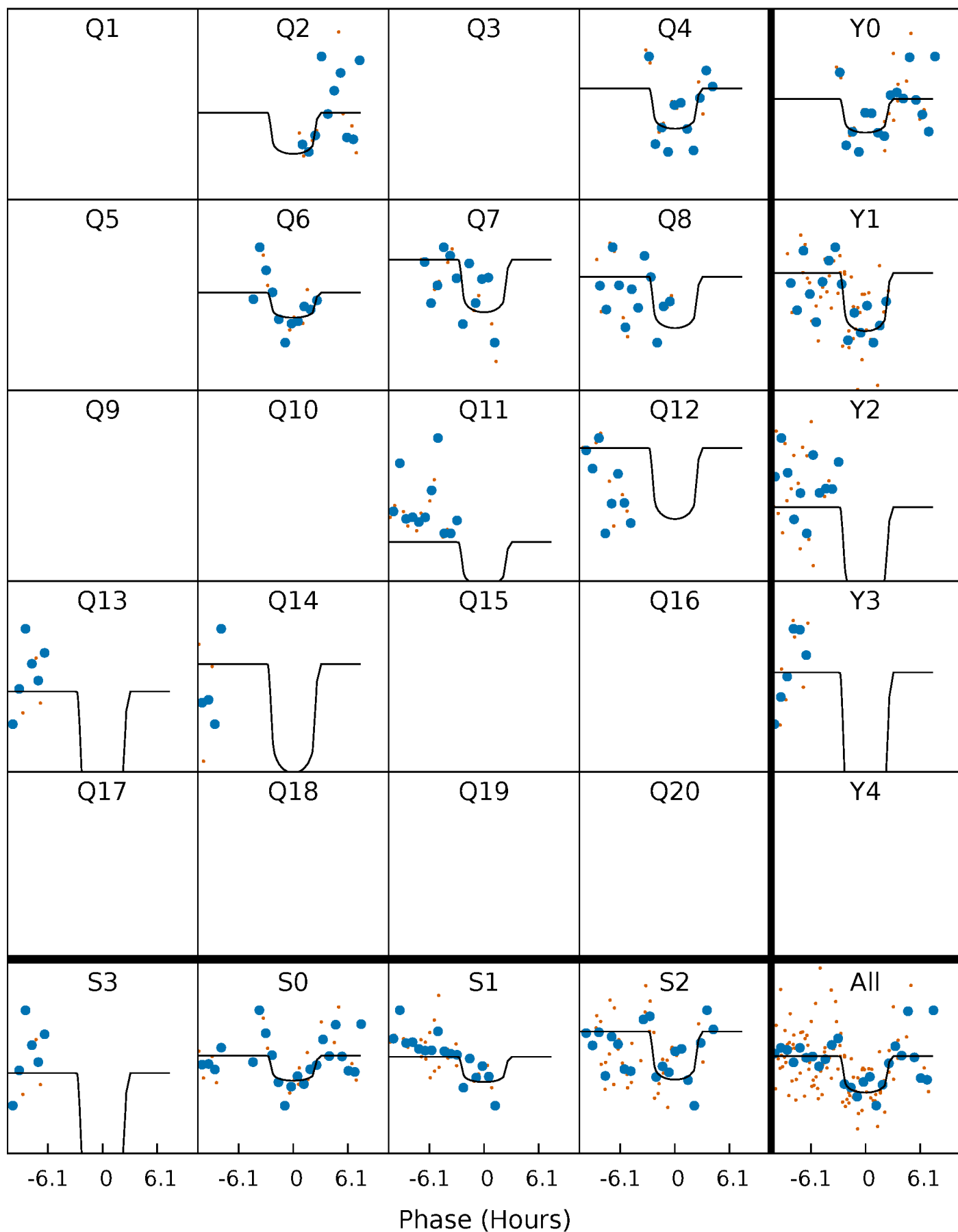
PDC Quarter-Phased Transit Curves

TCE 010669199-05 $P=116.009317$ Days $T_0=206.927124$ (BKJD)



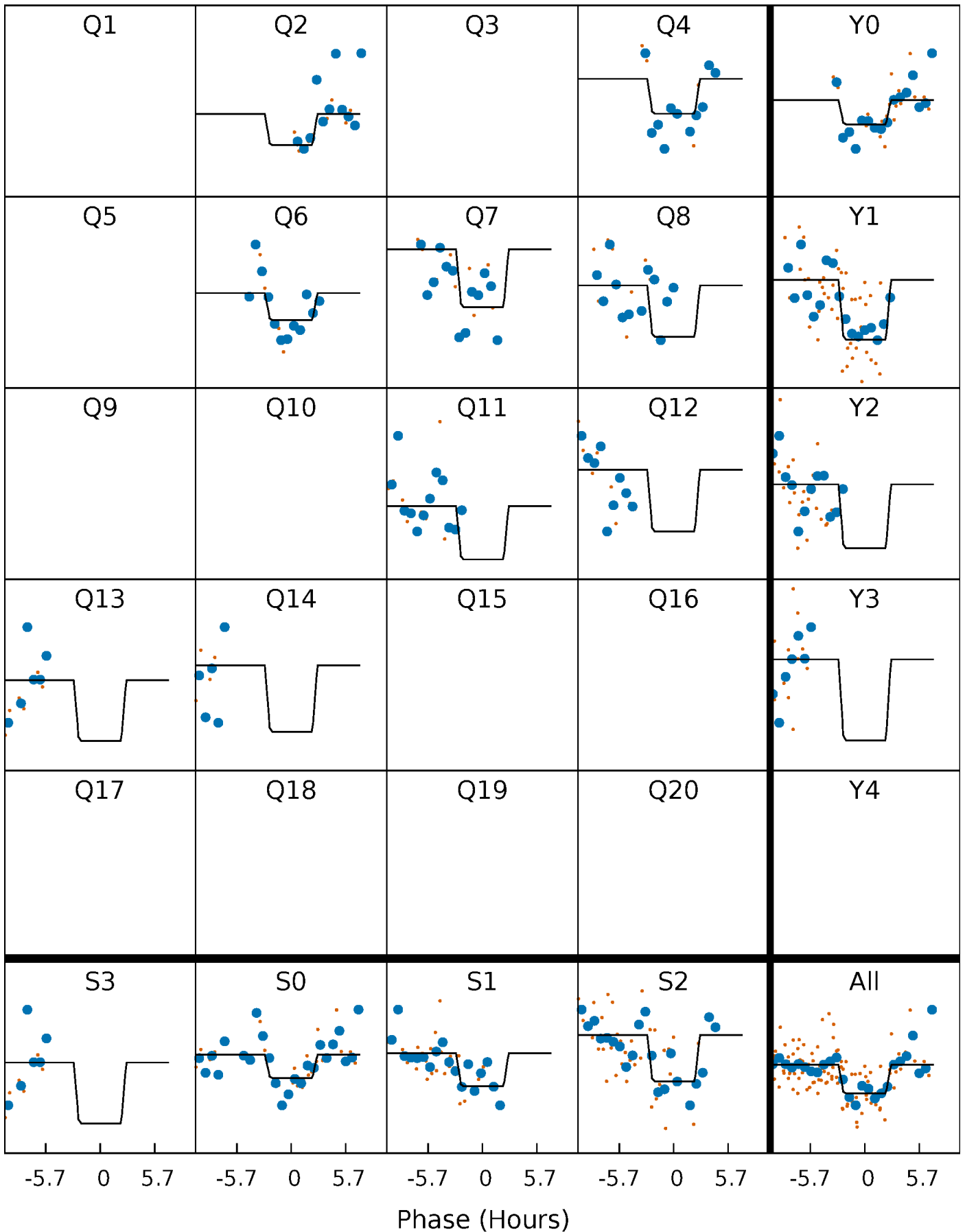
DV Quarter-Phased Transit Curves

TCE 010669199-05 $P=116.009317$ Days $T_0=206.927124$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

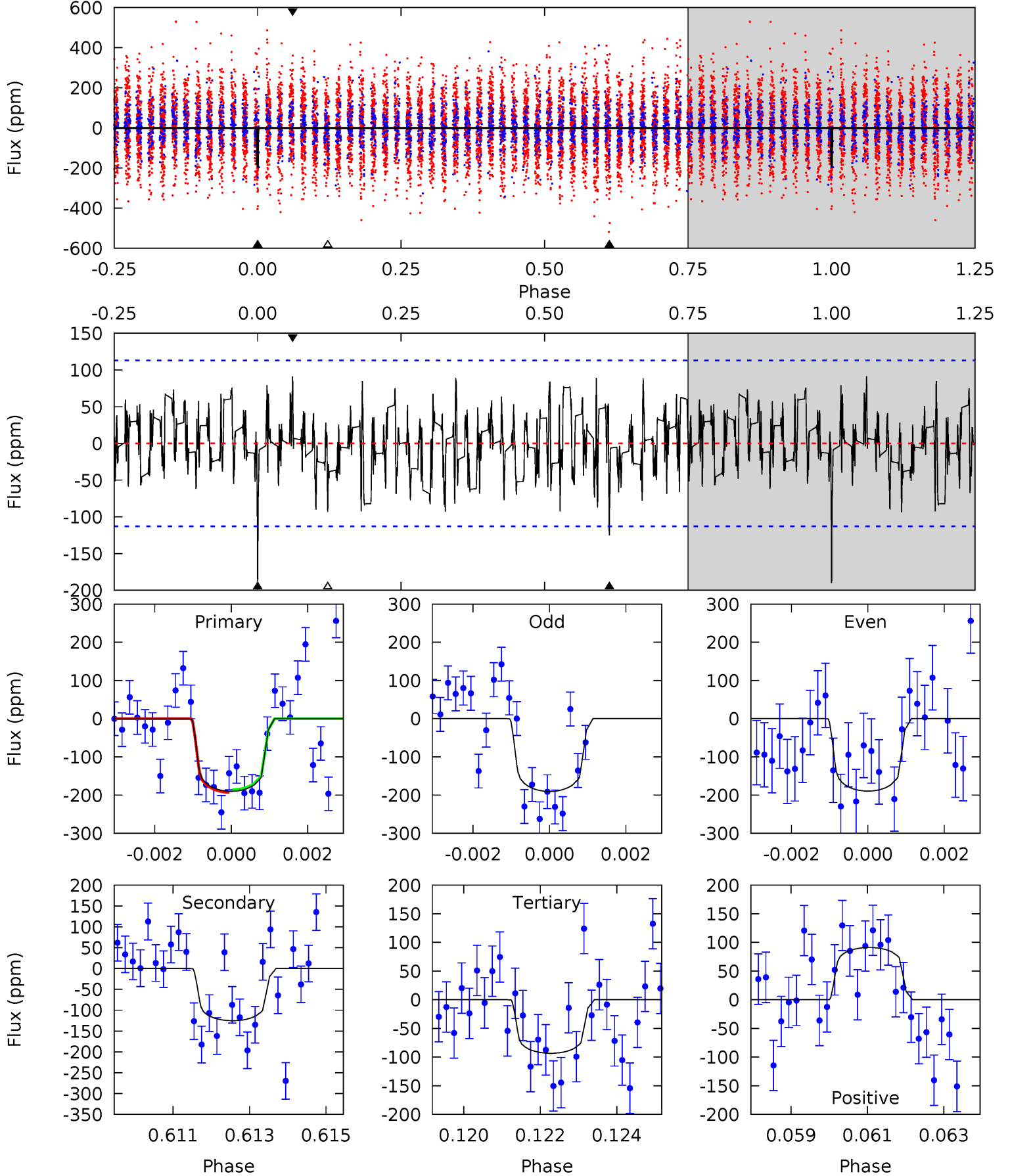
TCE 010669199-05 $P=116.003487$ Days $T_0=206.941035$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-05, P = 116.009317 Days, E = 90.917807 Days

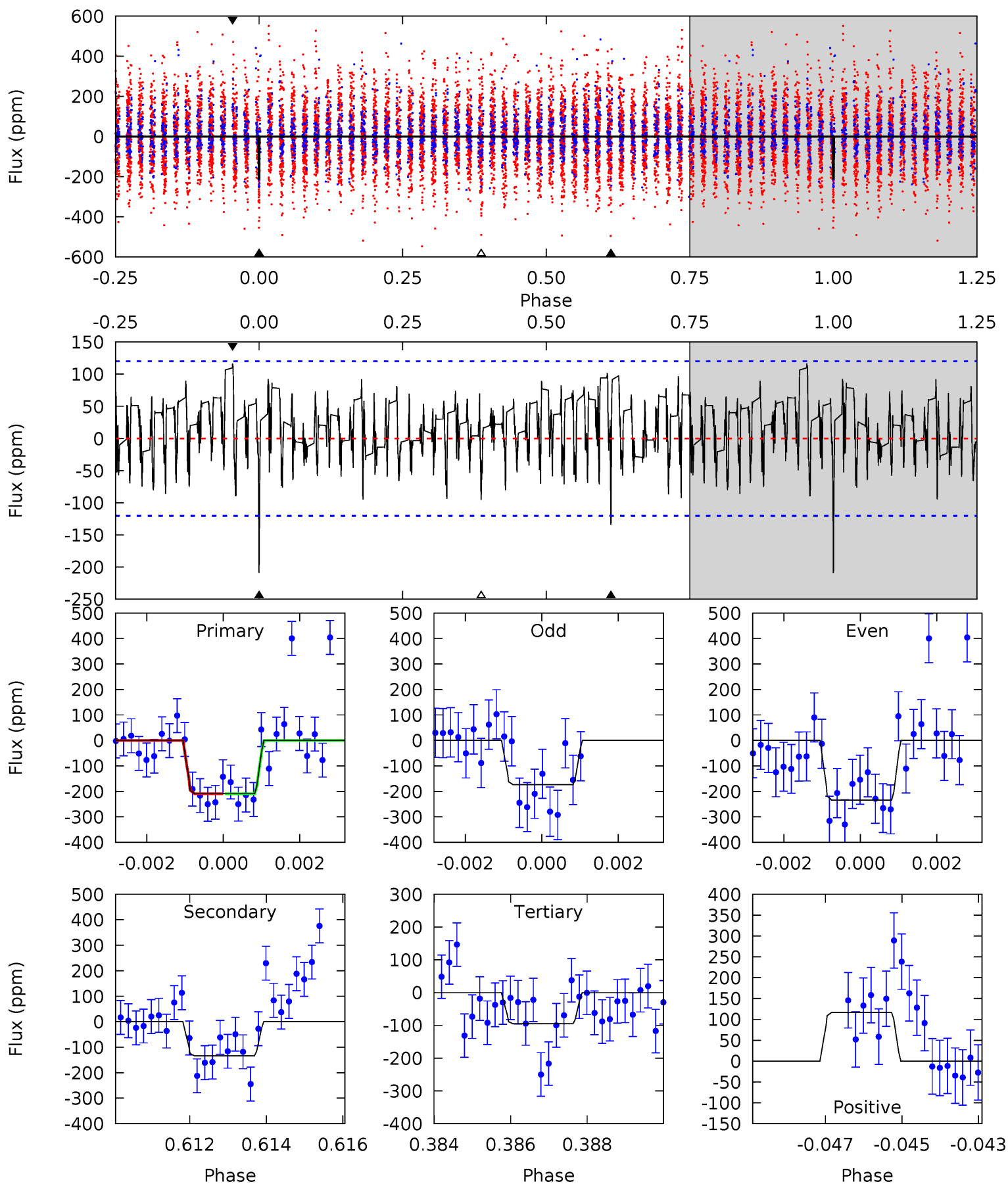
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.97	5.91	4.41	4.30	5.33	3.10	1.66	4.56	4.67	1.50	1.61	0.02	0.99	0.32	0.17



Alt Model-Shift Uniqueness Test

010669199-05, $P = 116.003487$ Days, $E = 90.937548$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.30	5.95	4.23	5.18	5.34	3.11	1.66	5.07	4.12	1.72	0.77	1.31	0.99	0.36	0.00



Stellar Parameters For KIC 010669199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-125 ± 21	$5.80^{+2.80}_{-2.81}$	1063^{+58}_{-101}	5817^{+2332}_{-963}	615^{+1801}_{-340}
Alt.	-134 ± 23	$5.62^{+2.97}_{-2.80}$	1065^{+59}_{-108}	5889^{+2702}_{-937}	691^{+2144}_{-389}

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 $A_{obs} \gg 1.0$

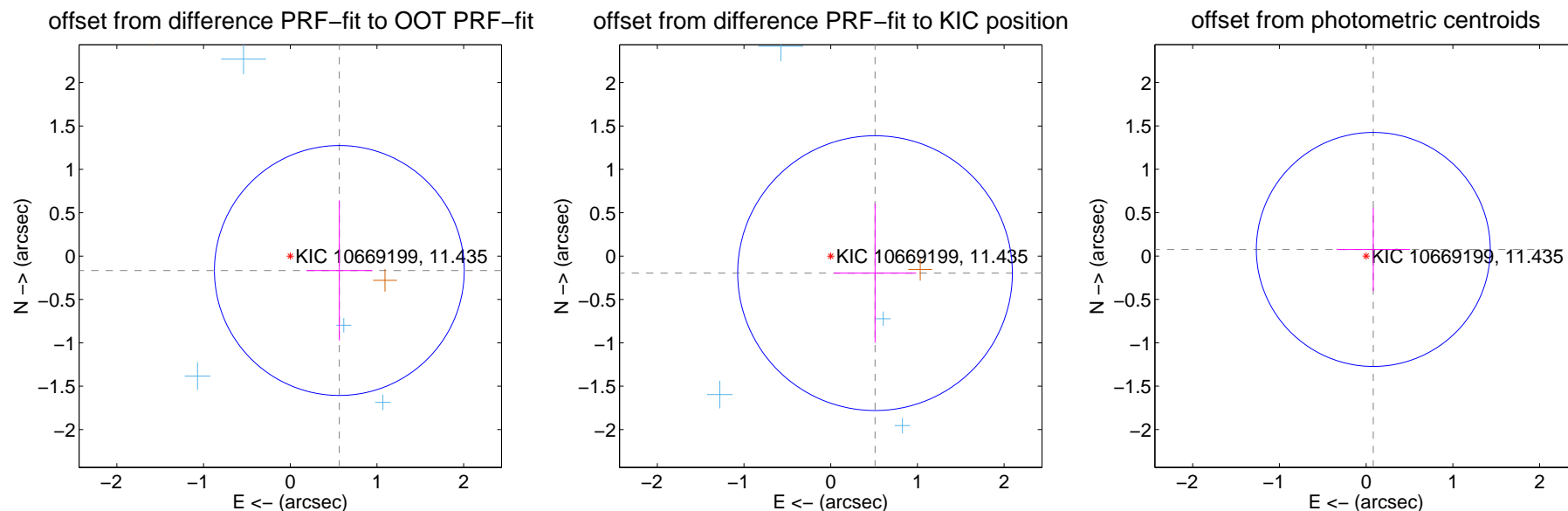
DV Centroid Data

Supplemental centroid analysis for 010669199-05. **Kepler magnitude: 11.44.** Transit SNR 11.08

There are 4 quarters with good PRF difference image offsets

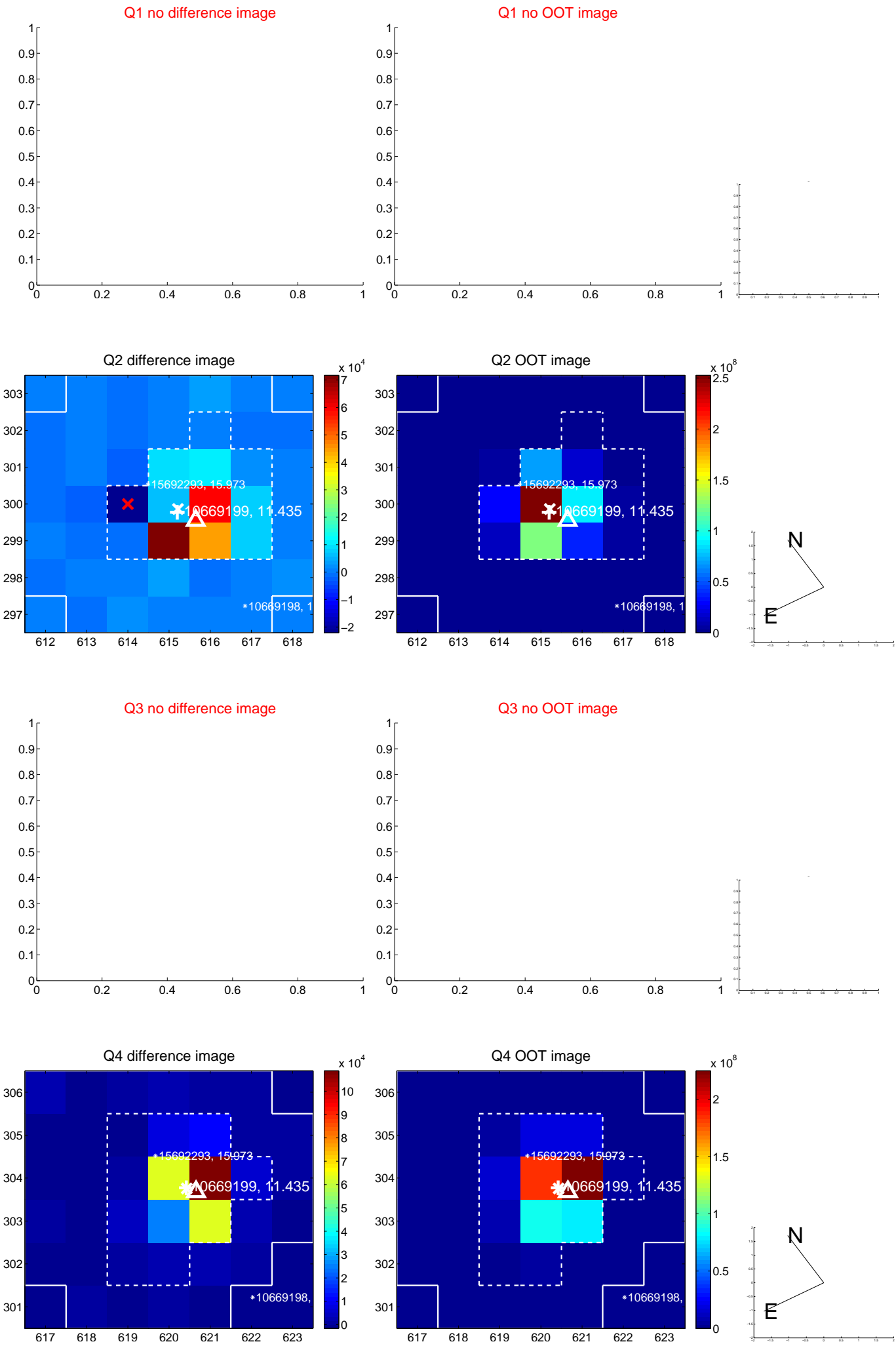
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.590 ± 0.480	1.23	-0.566 ± 0.381	-0.166 ± 0.808
PRF-fit source offset from KIC position	0.548 ± 0.528	1.04	-0.511 ± 0.474	-0.197 ± 0.801
photometric centroid source offset	0.11 ± 0.45	0.25	-0.08 ± 0.42	0.08 ± 0.48

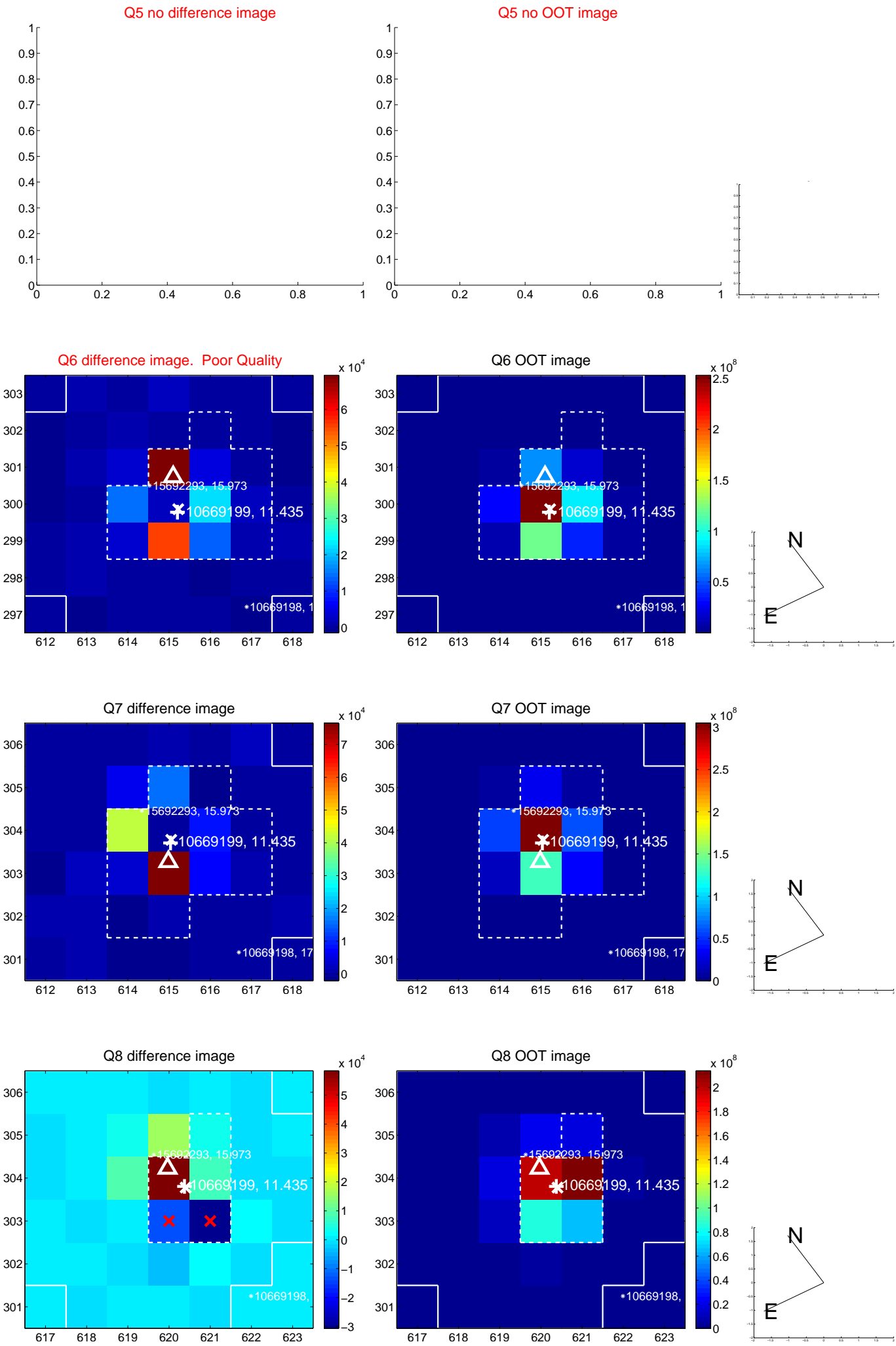


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

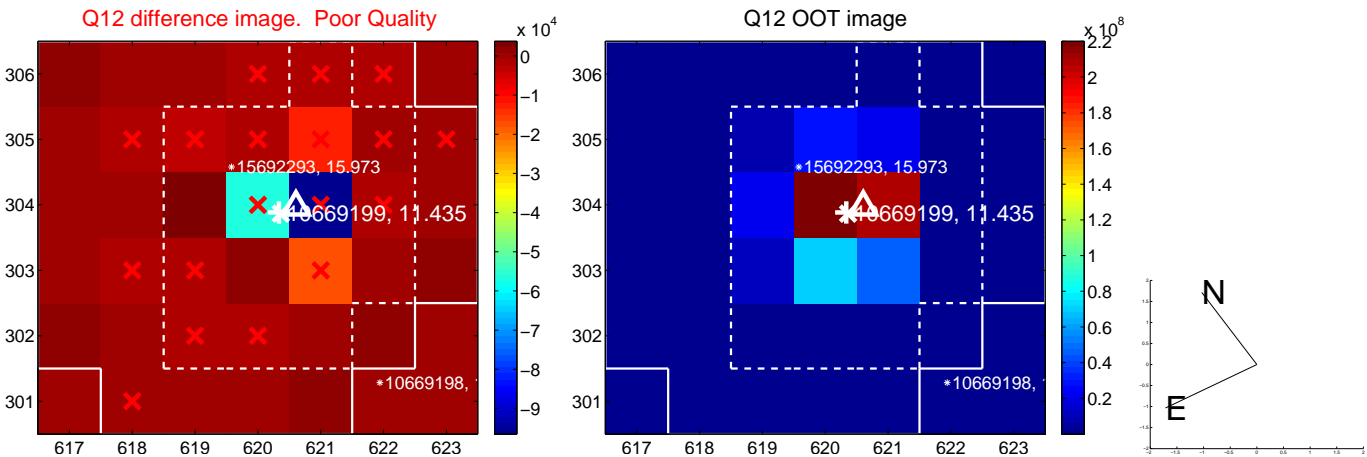
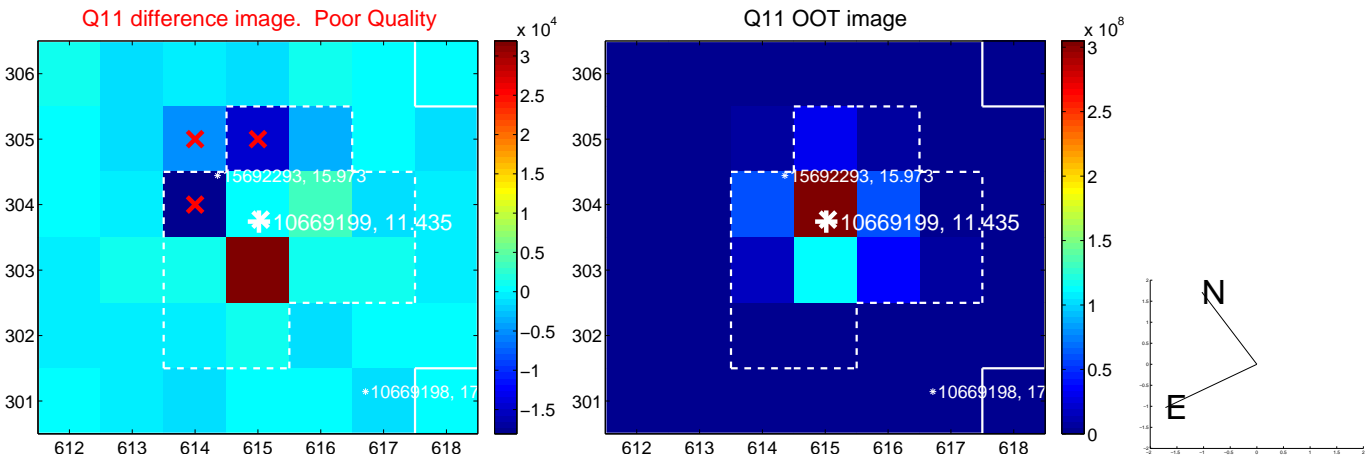
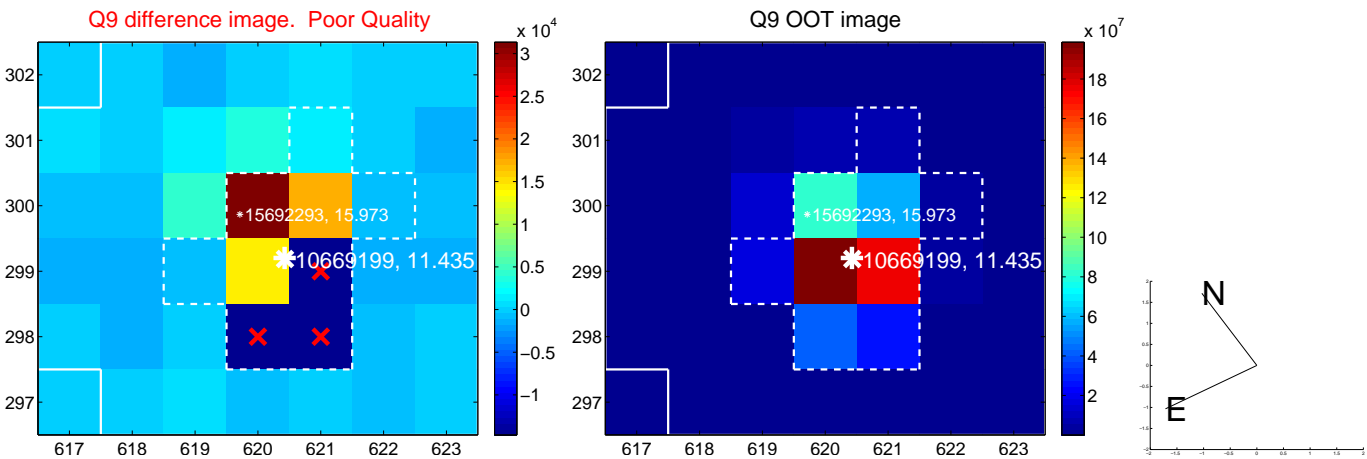
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



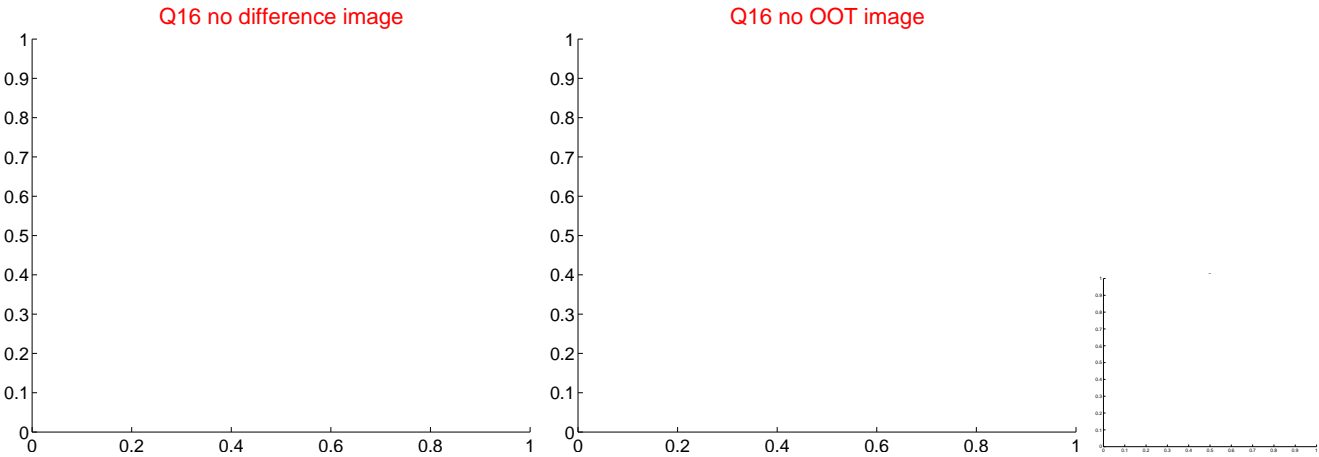
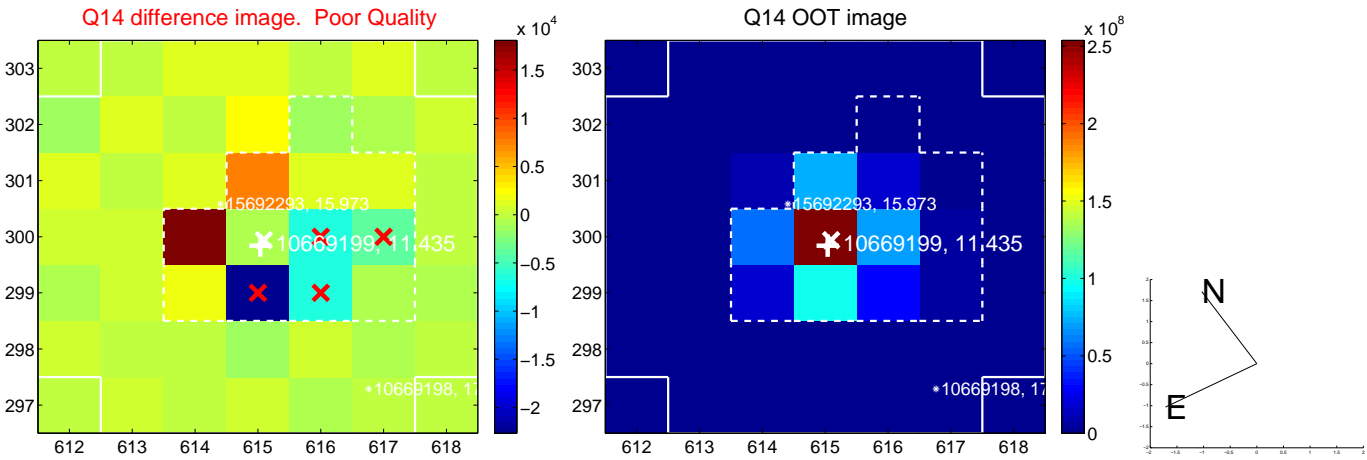
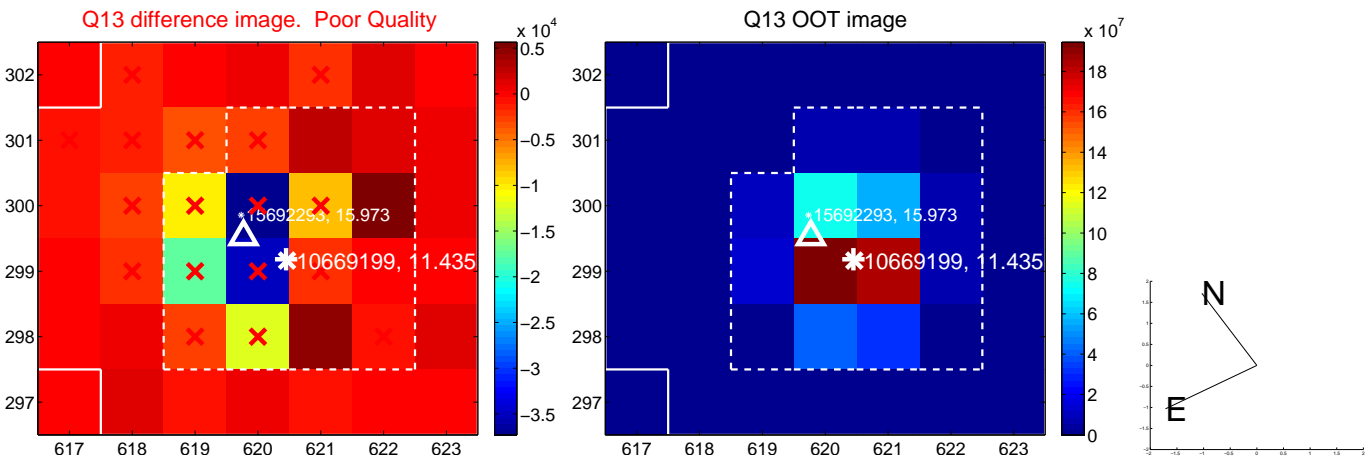
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



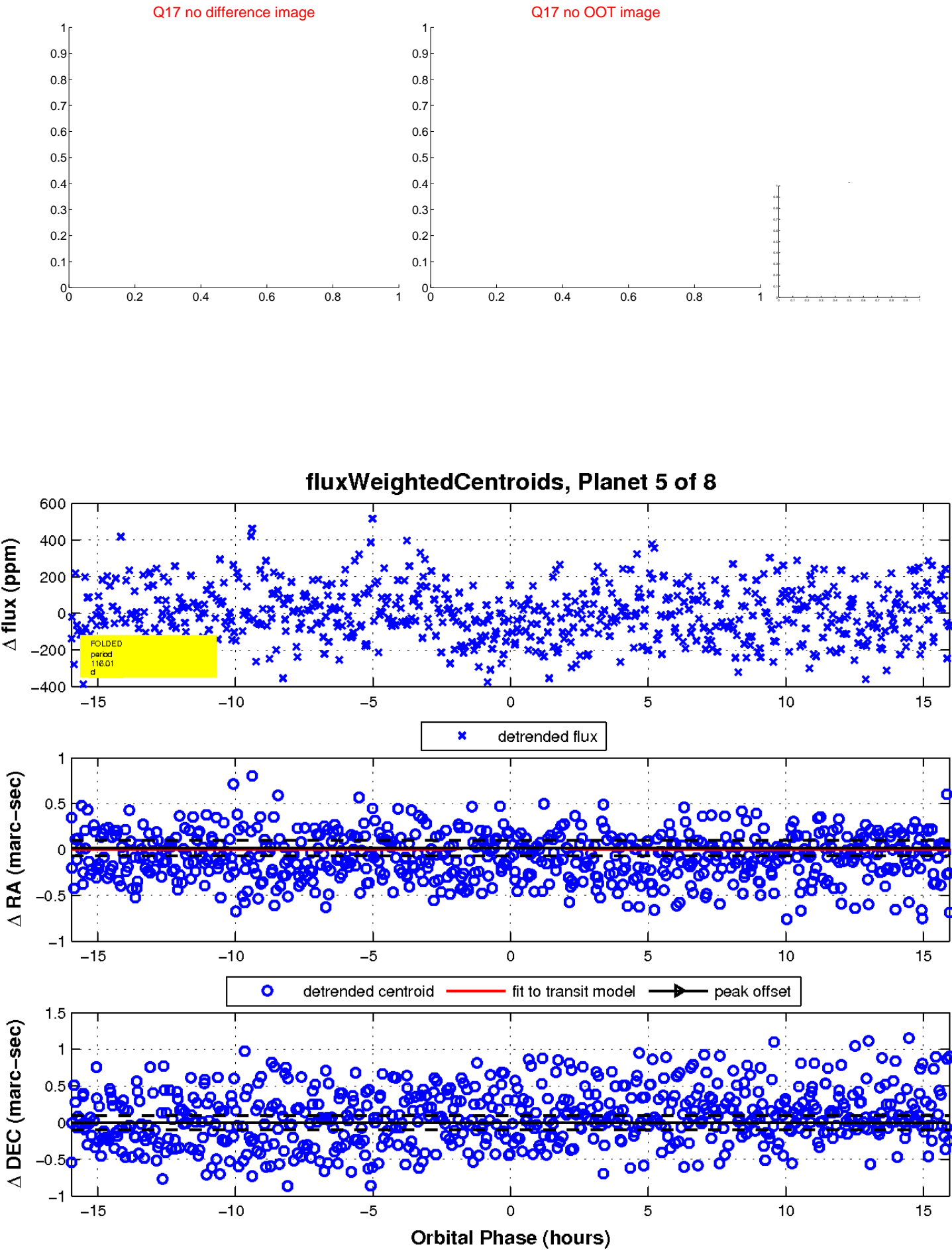
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

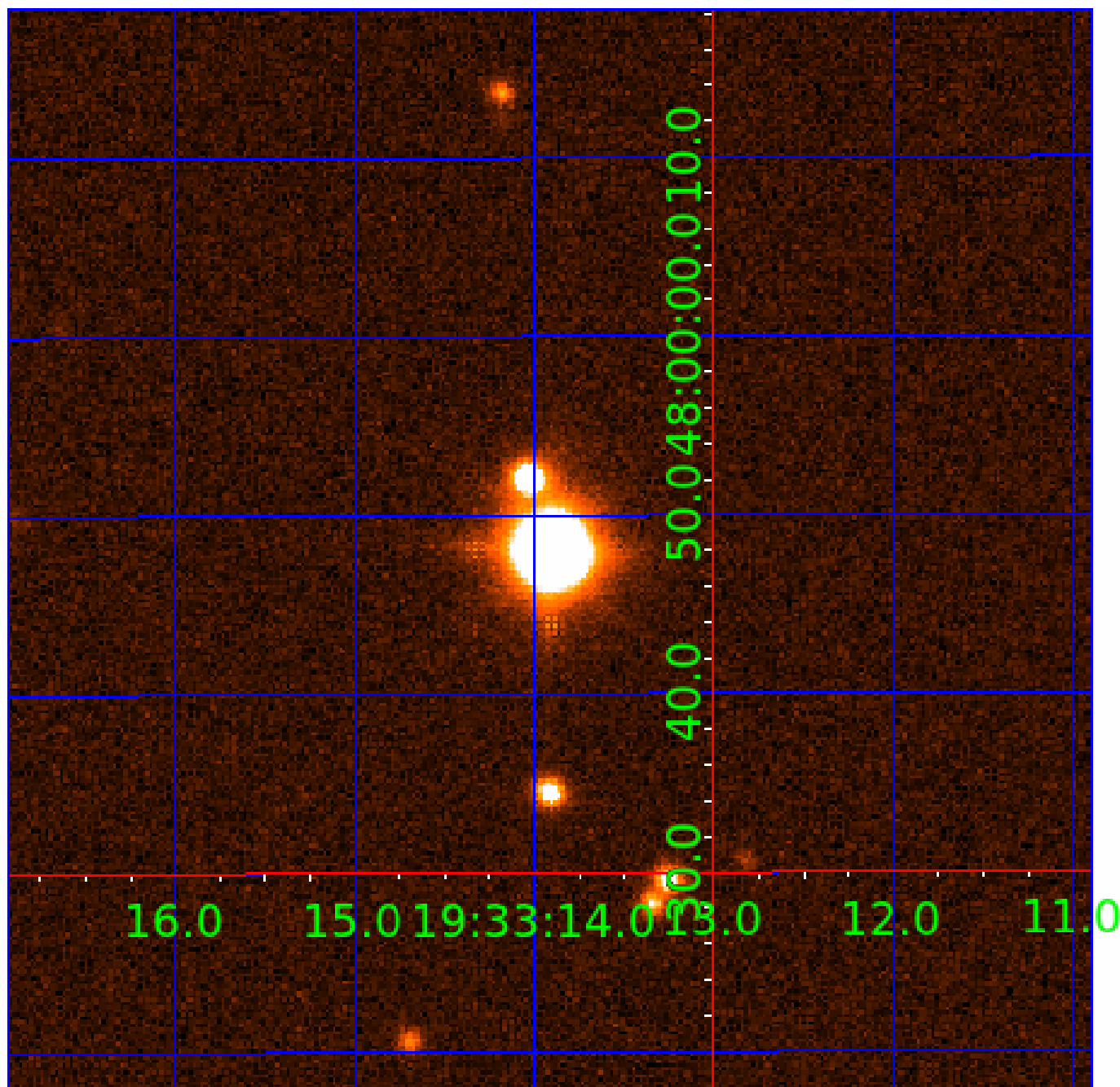


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010669199

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})
010669199-01	OBS	No	2.365917	133.353148	32.4	3.827	8.7	9.3	3.77	6706	2.56	15213.64
010669199-02	OBS	No	2.366238	132.509968	8.2	15.609	8.2	4.2	3.77	6706	1.23	15210.89
010669199-03	OBS	No	36.230542	142.052901	149.7	8.464	16.6	9.5	3.77	6706	5.22	400.07
010669199-04	OBS	No	79.516759	179.114902	223.9	5.813	13.3	12.0	3.77	6706	6.35	140.27
010669199-05	OBS	No	116.009317	206.927124	201.9	5.325	12.2	11.1	3.77	6706	6.07	84.77
010669199-06	OBS	No	42.674845	159.538475	188.6	3.547	11.6	12.3	3.77	6706	5.93	321.62
010669199-07	OBS	No	51.550093	162.071407	207.2	3.698	11.6	11.1	3.77	6706	6.06	249.99
010669199-08	OBS	No	30.890459	132.171688	166.5	6.266	10.7	10.4	3.77	6706	5.76	494.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669199-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

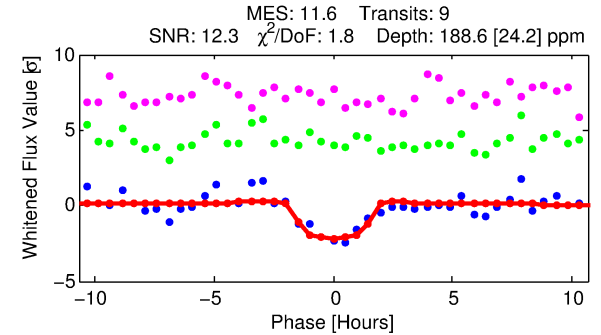
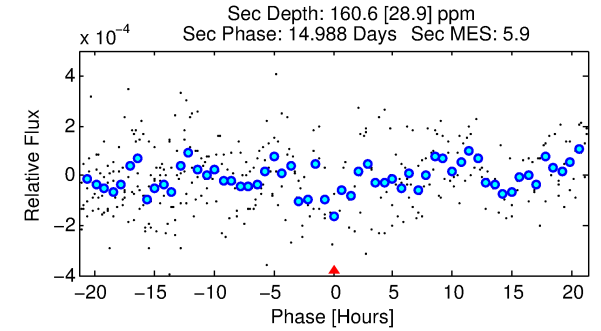
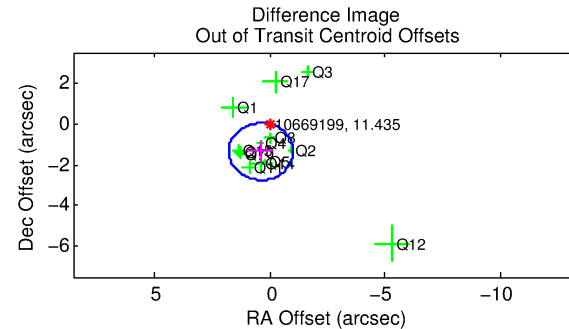
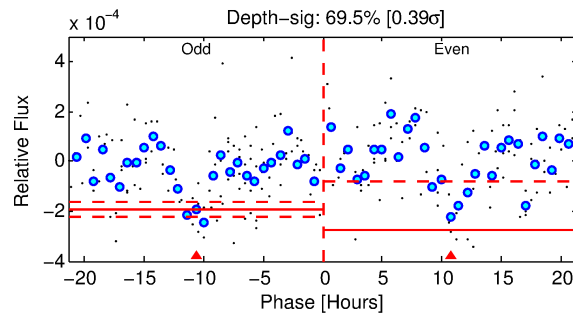
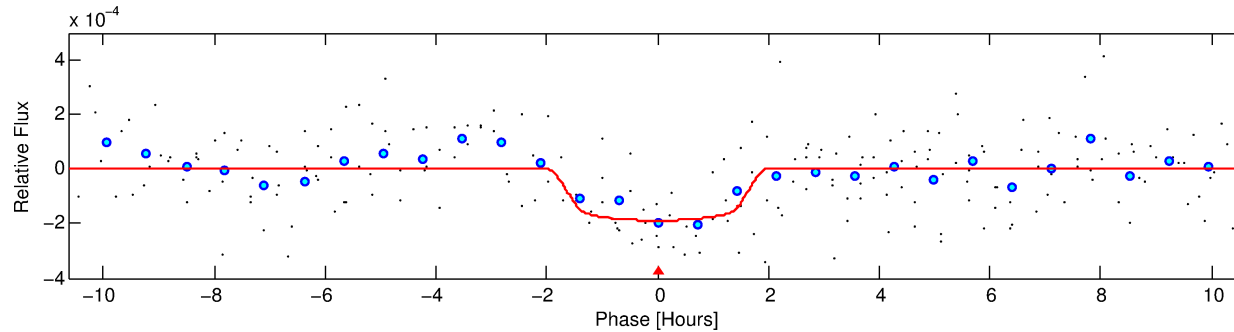
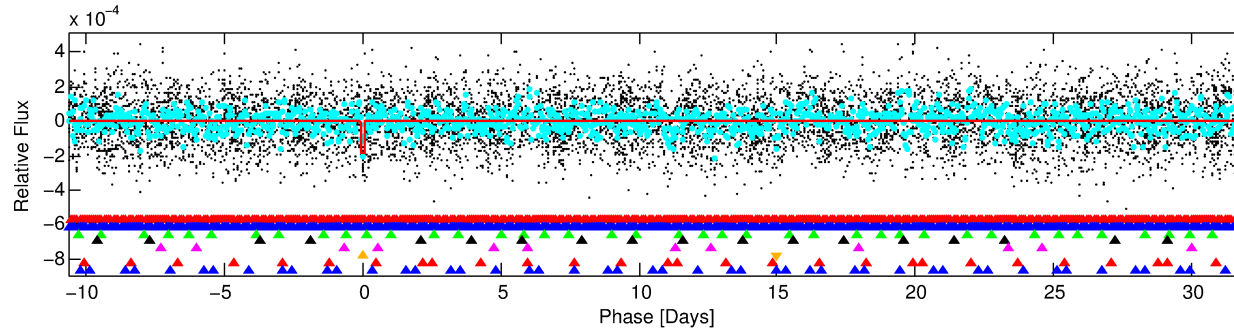
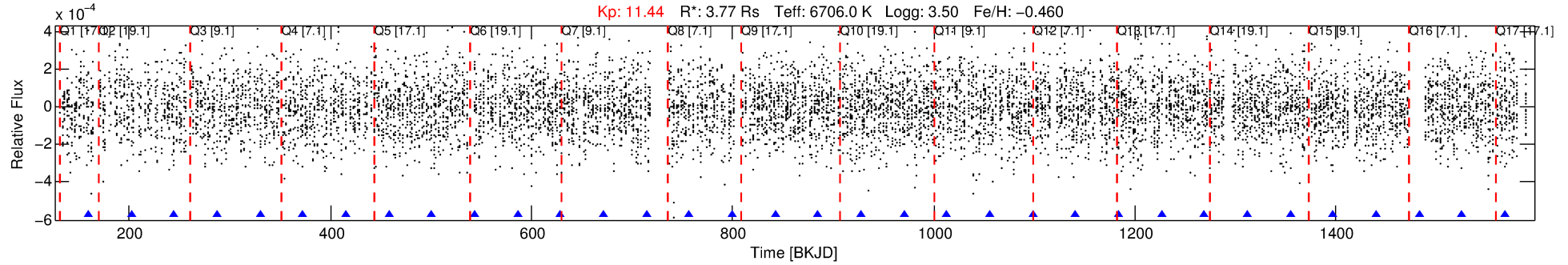
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-06

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 6 of 8 Period: 42.675 d



DV Fit Results:

Period = 42.67485 [0.00040] d
Epoch = 159.5385 [0.0074] BKJD
Rp/R* = 0.0144 [0.0107]
a/R* = 46.78 [207.88]
b = 0.88 [1.17]
Seff = 321.62 [219.28]
Teq = 1080 [184] K
Rp = 5.93 [5.13] Re
a = 0.2829 [0.1197] AU
Ag = 200.68 [328.13] [0.61 σ]
Teffp = 6284 [2350] K [2.21 σ]

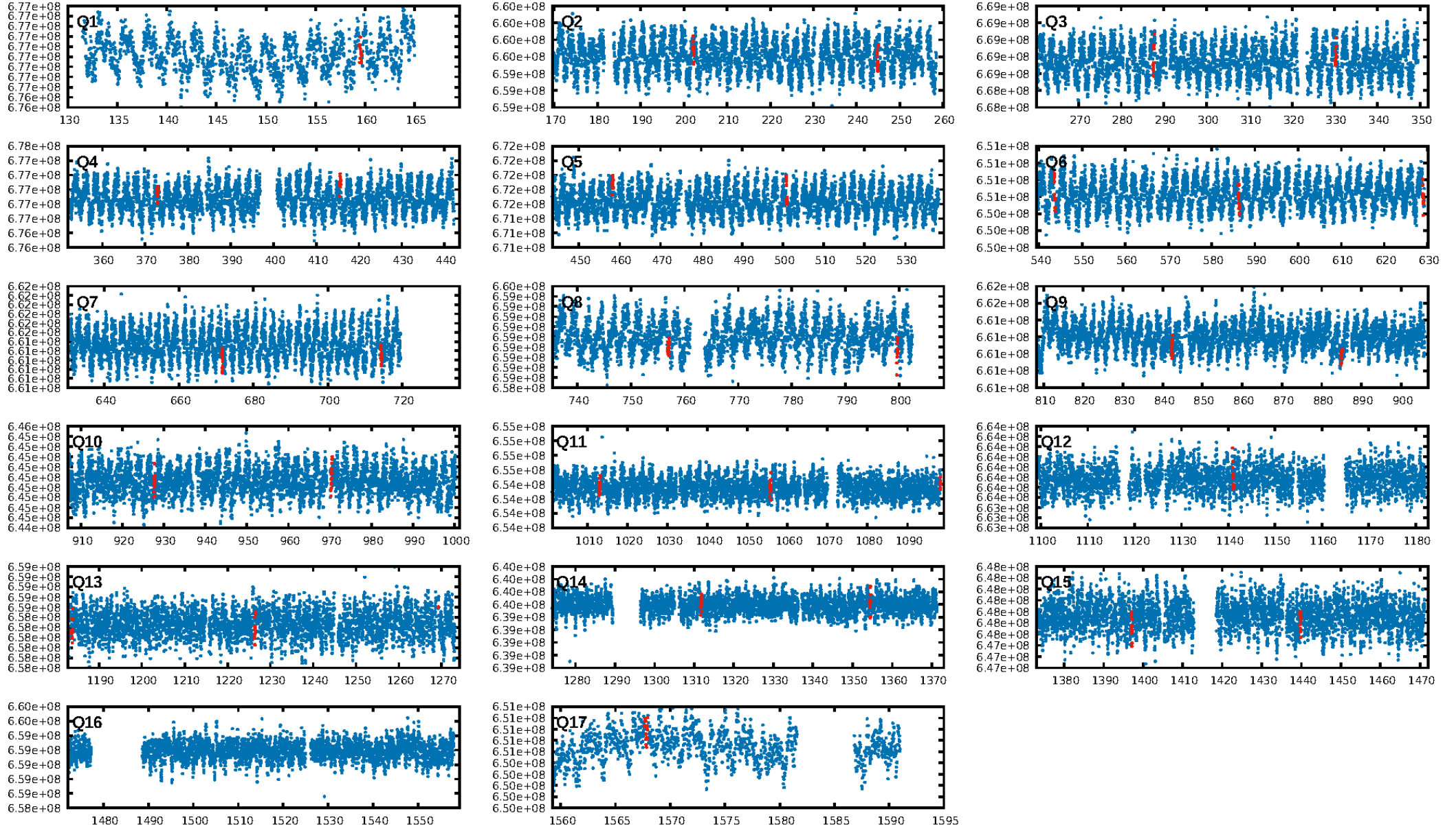
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.85 σ]
LongPeriod-sig: 100.0% [41.57 σ]
ModelChiSquare2-sig: 16.5%
ModelChiSquareGof-sig: 98.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 1.243
Centroid-sig: 0.8%
Centroid-so: 0.642 arcsec [2.29 σ]
OotOffset-rm: 1.412 arcsec [3.04 σ]
KicOffset-rm: 1.435 arcsec [2.97 σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 0.33 [5/15]

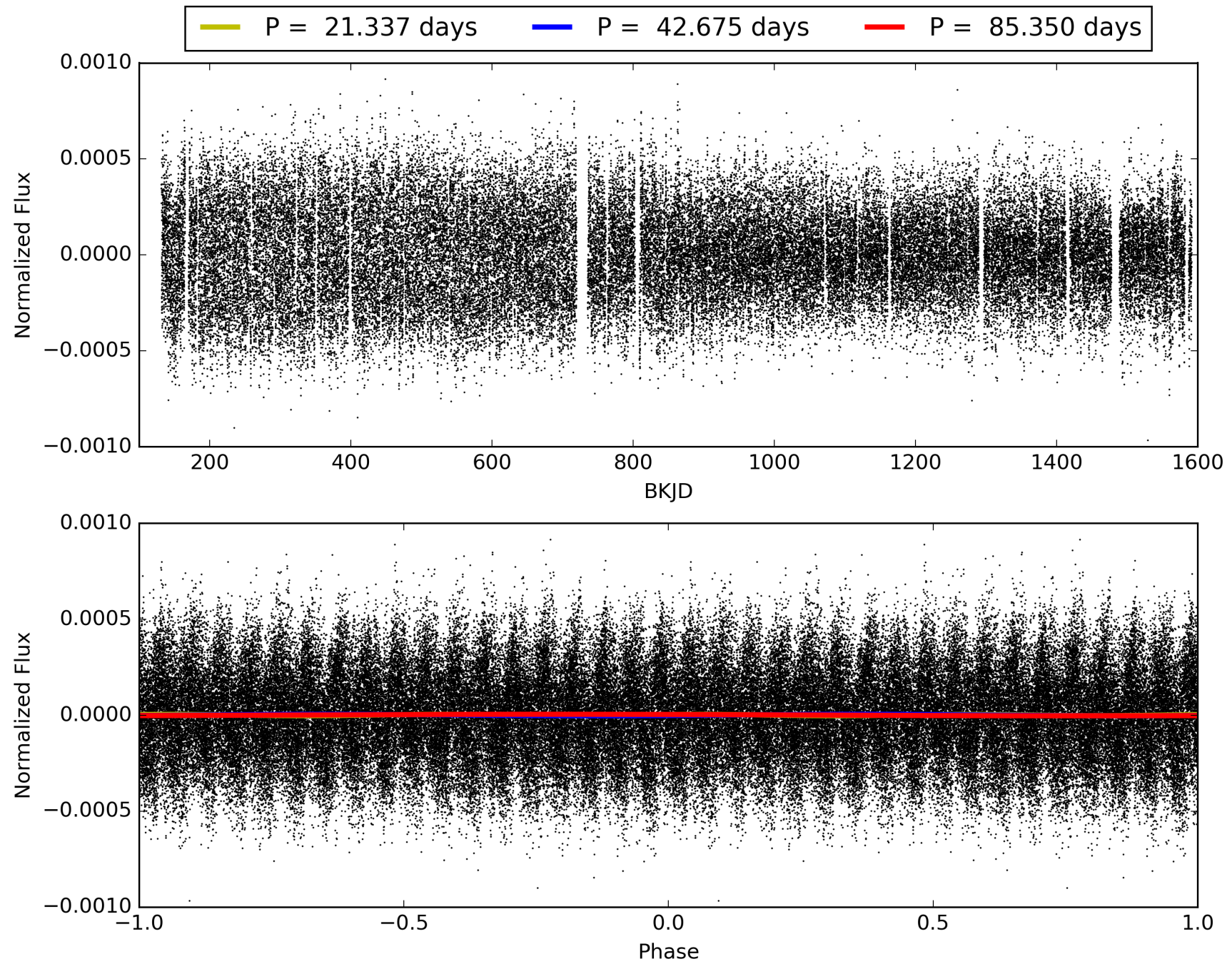
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:42:27 Z

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

TCE 010669199-06, PDC Light Curves

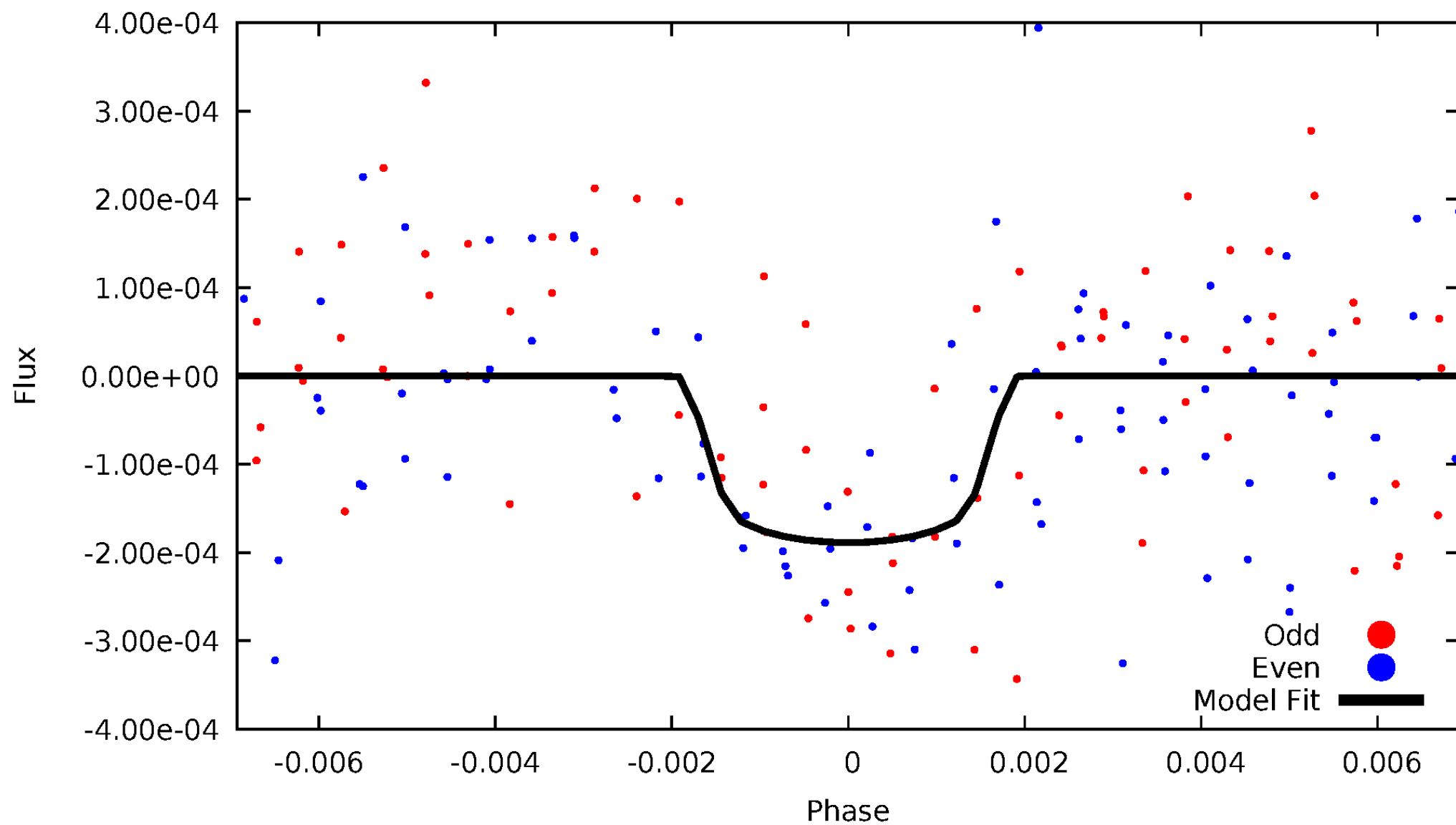


TCE 010669199-06



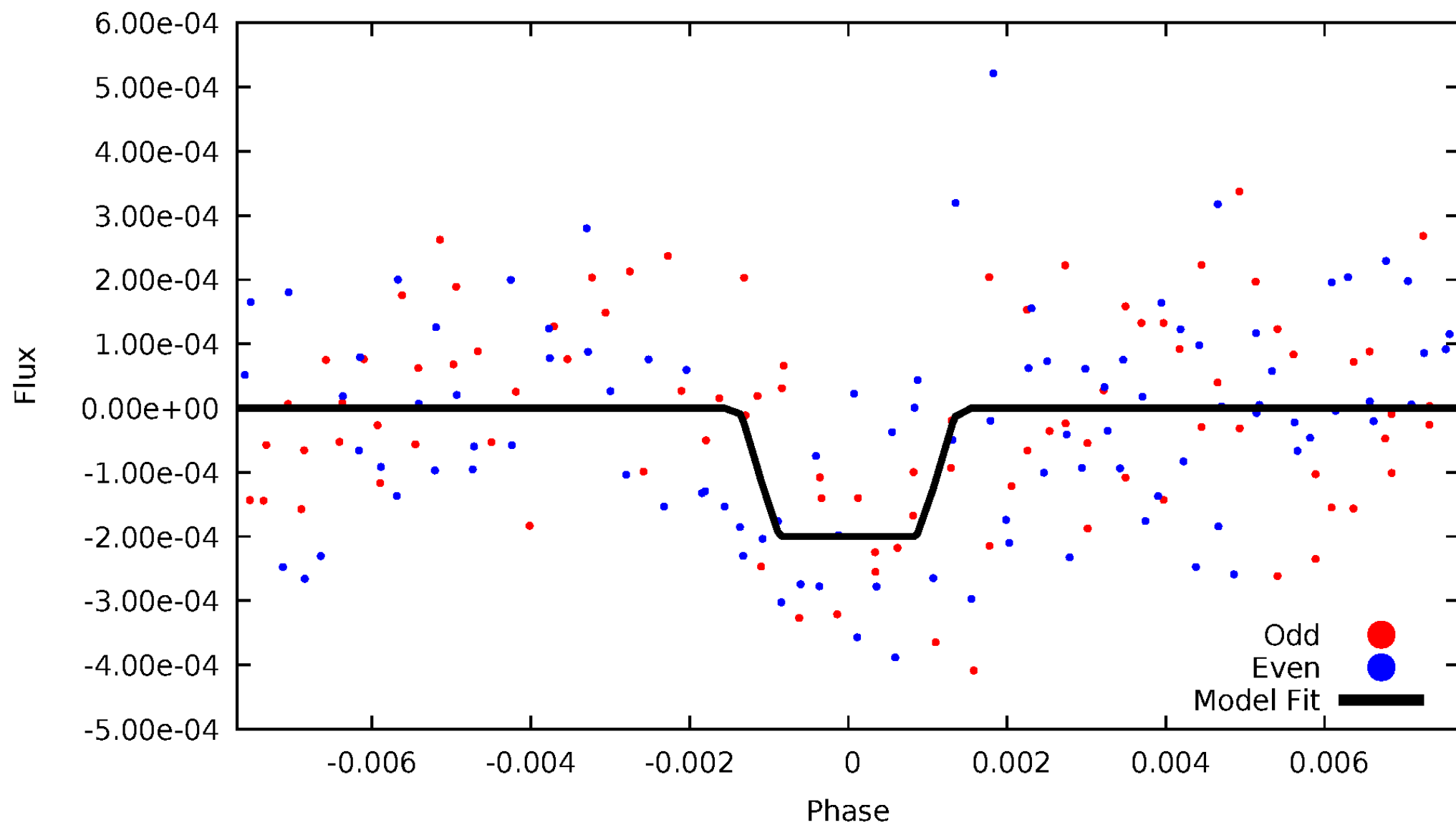
DV Odd/Even

TCE 010669199-06



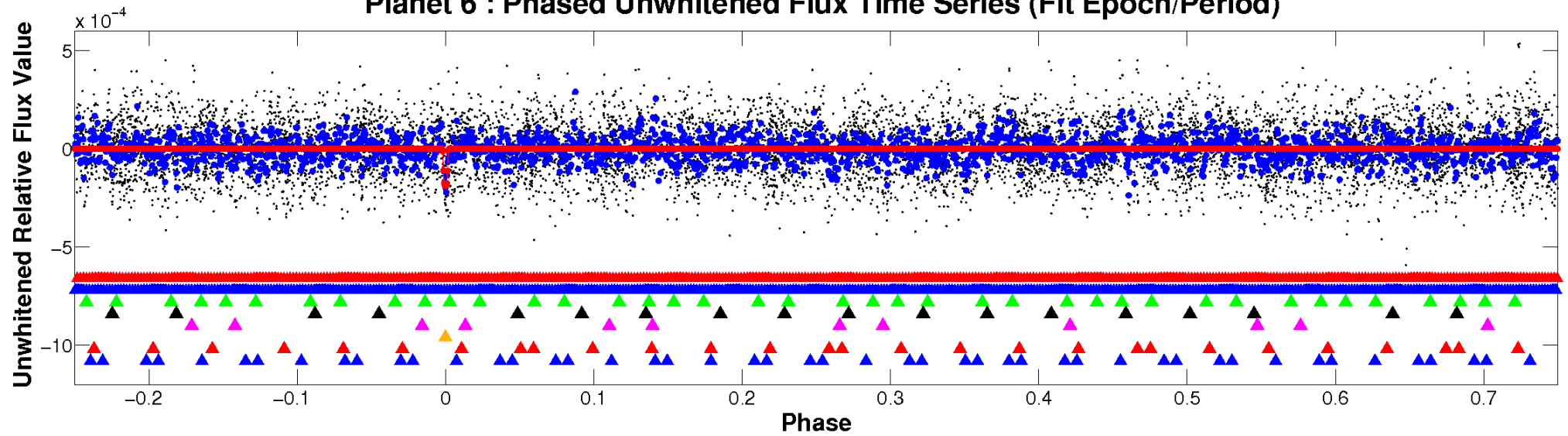
ALT Odd/Even

TCE 010669199-06

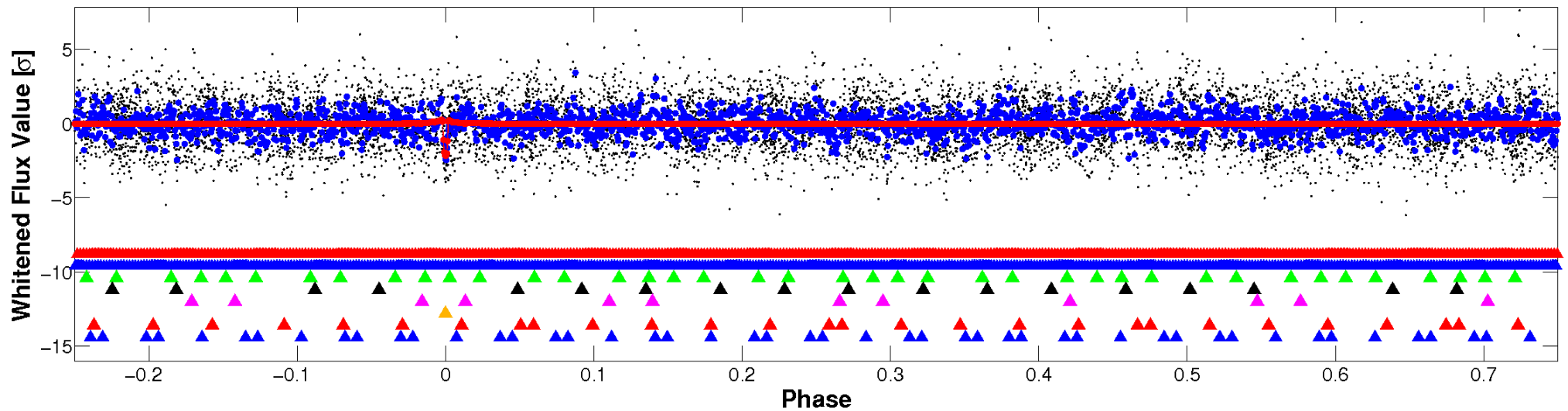


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

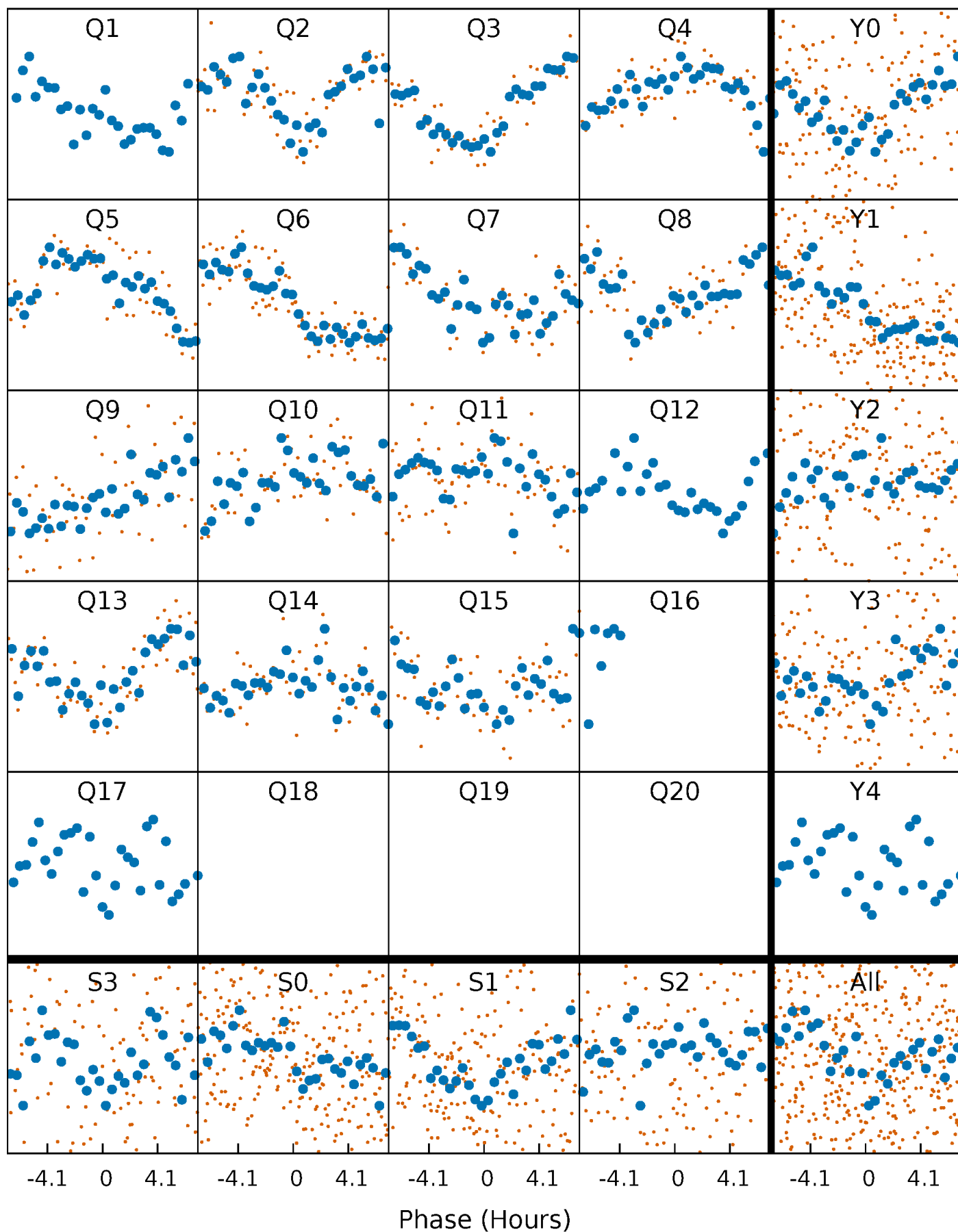


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



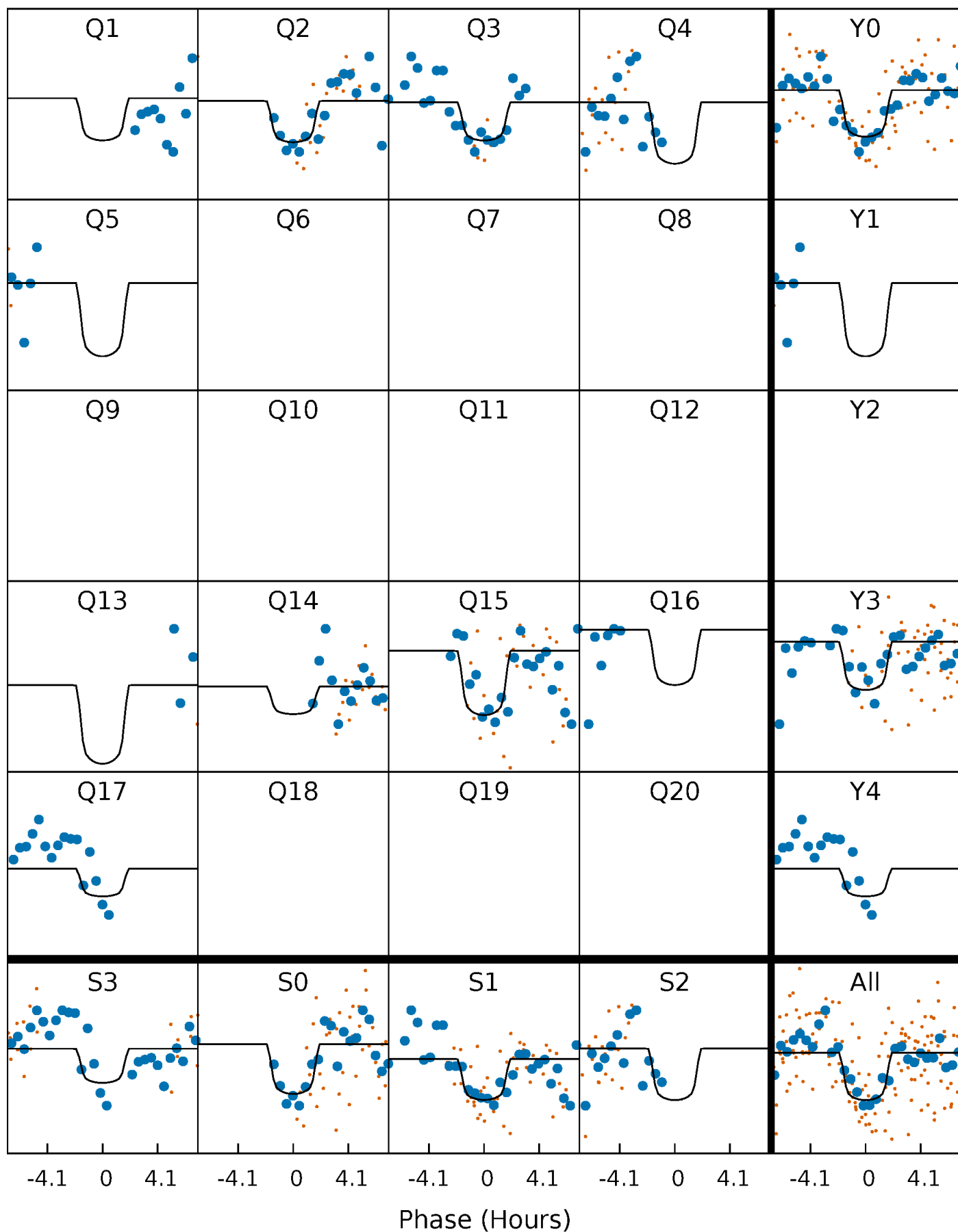
PDC Quarter-Phased Transit Curves

TCE 010669199-06 $P = 42.674845$ Days $T_0 = 159.538475$ (BKJD)



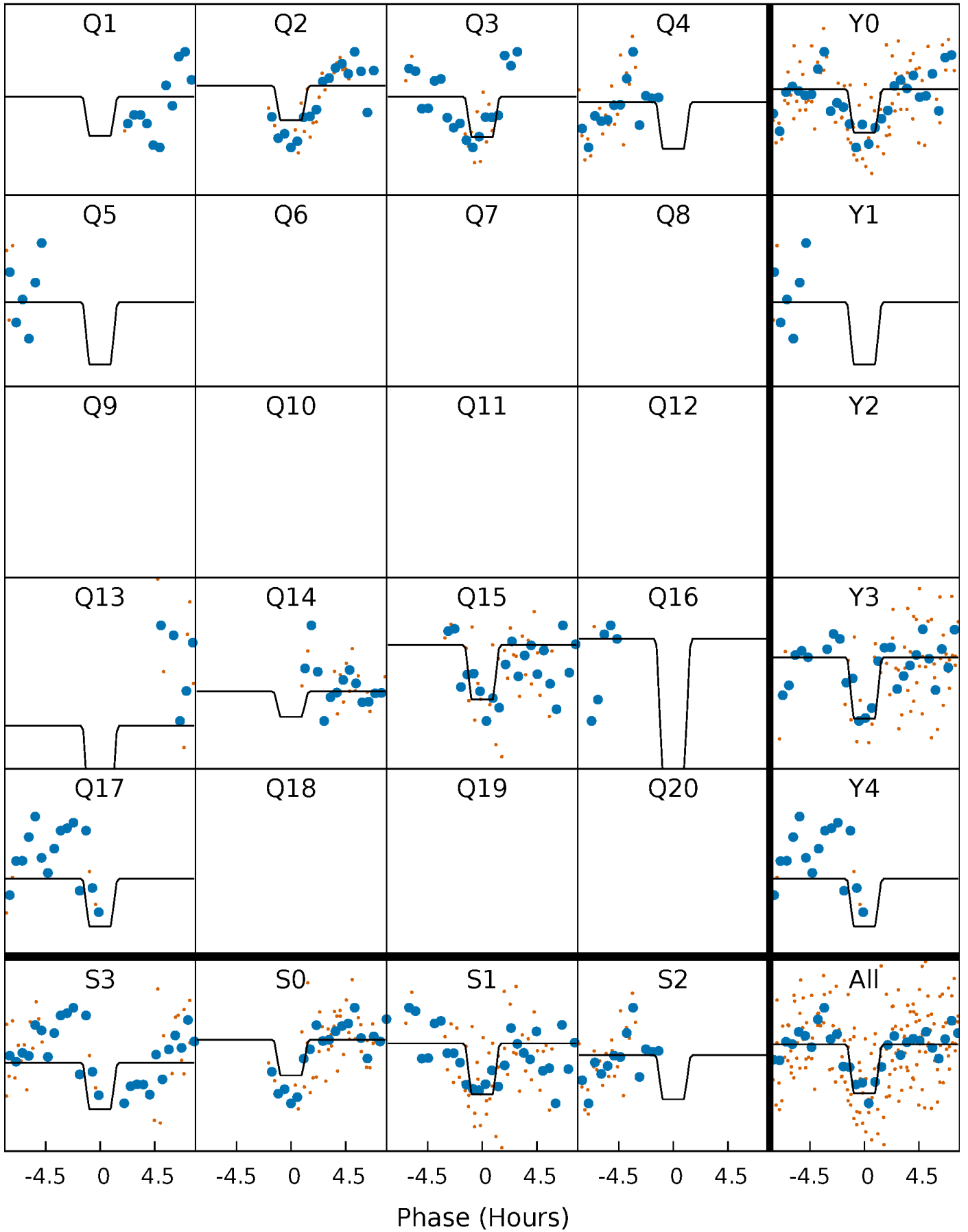
DV Quarter-Phased Transit Curves

TCE 010669199-06 P= 42.674845 Days $T_0=159.538475$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

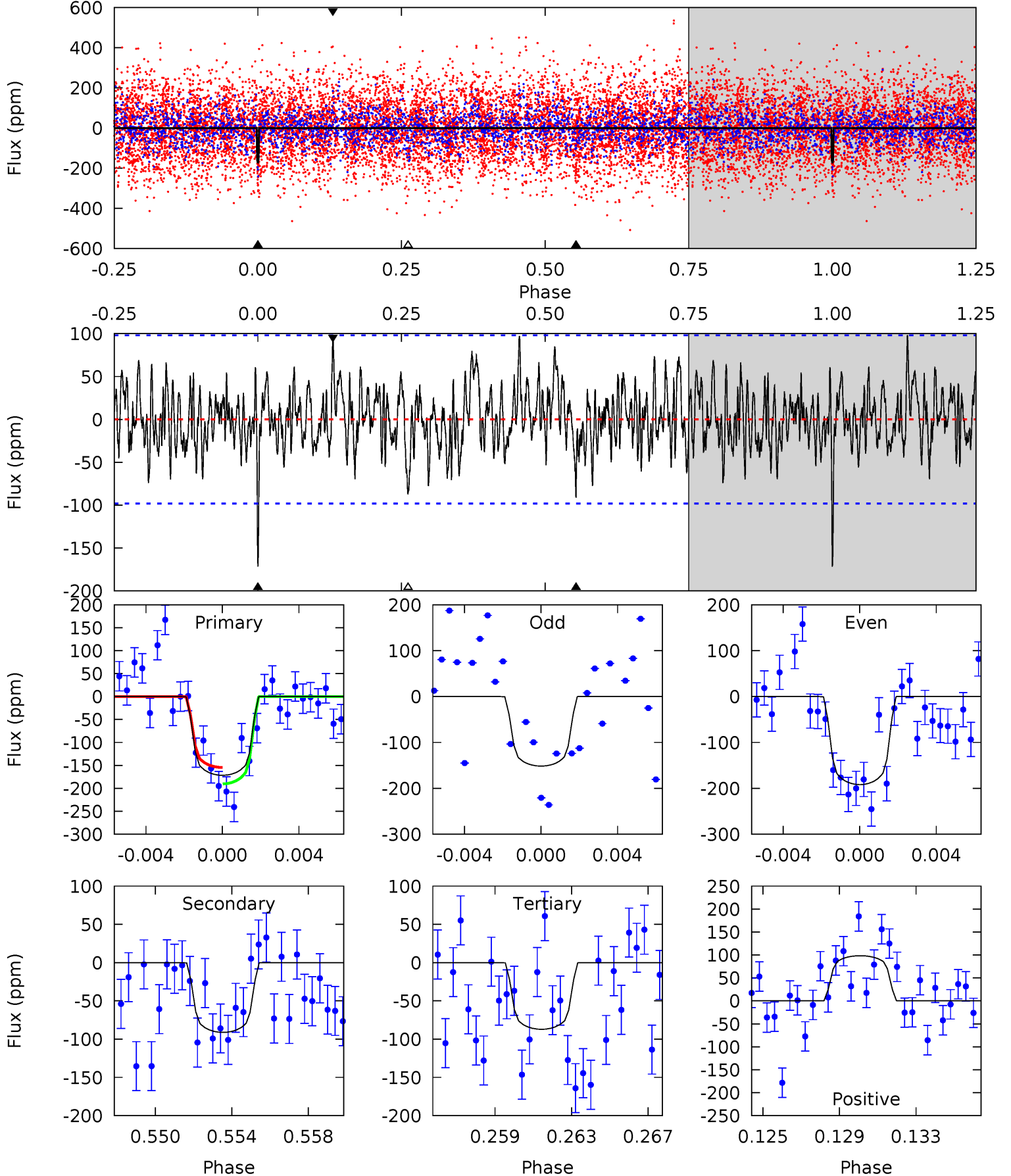
TCE 010669199-06 P= 42.675114 Days $T_0=159.544812$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-06, P = 42.674845 Days, E = 116.863630 Days

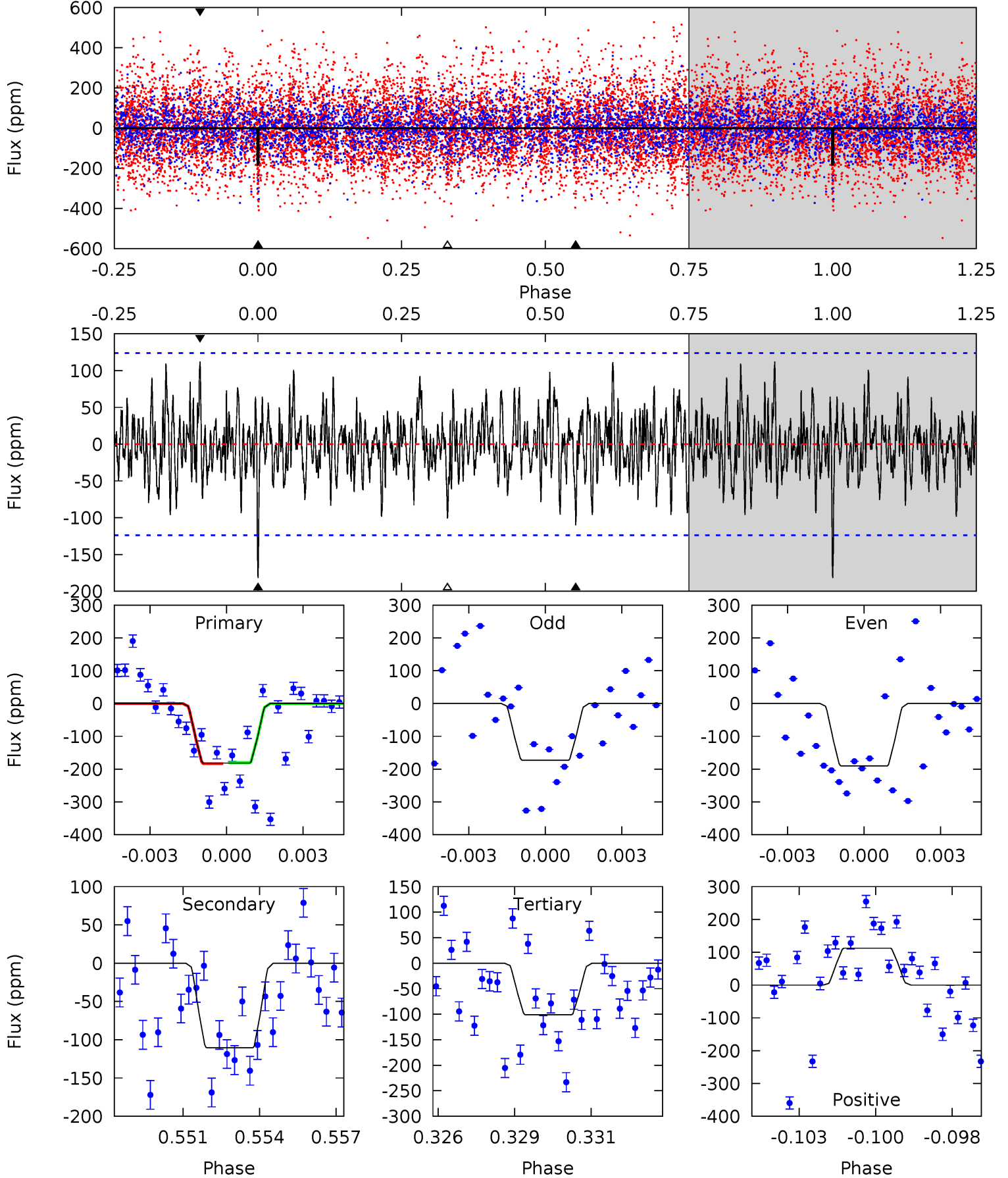
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.09	4.83	4.62	5.21	5.20	2.87	1.60	4.48	3.88	0.21	-0.38	1.07	1.05	0.36	0.95



Alt Model-Shift Uniqueness Test

010669199-06, $P = 42.675114$ Days, $E = 116.869698$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.73	4.70	4.30	4.78	5.27	3.00	1.53	3.44	2.95	0.40	-0.08	0.37	0.93	0.38	0.06



Stellar Parameters For KIC 010669199

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-91 ± 19	$5.67^{+4.30}_{-3.41}$	1488^{+79}_{-161}	5407^{+3519}_{-1124}	130^{+672}_{-92}
Alt.	-110 ± 23	$5.74^{+4.17}_{-3.44}$	1480^{+82}_{-160}	5462^{+3875}_{-1039}	144^{+827}_{-98}

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 $A_{obs} \gg 1.0$

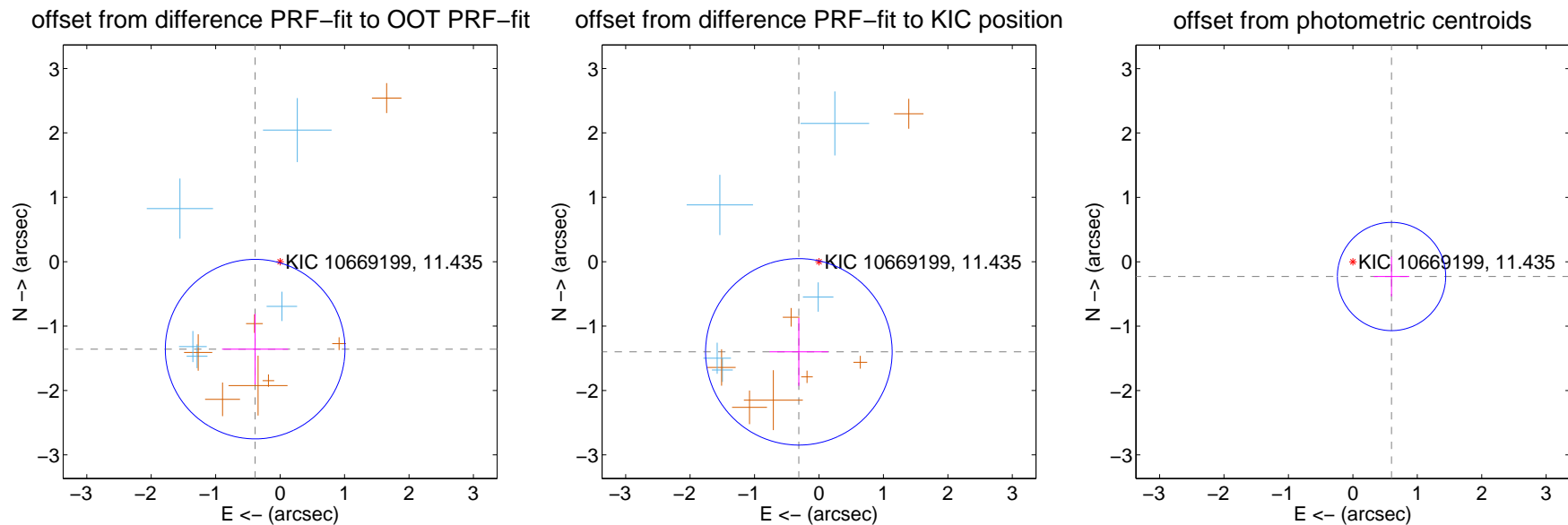
DV Centroid Data

Supplemental centroid analysis for 010669199-06. **Kepler magnitude: 11.44.** Transit SNR 12.26

There are 5 quarters with good PRF difference image offsets

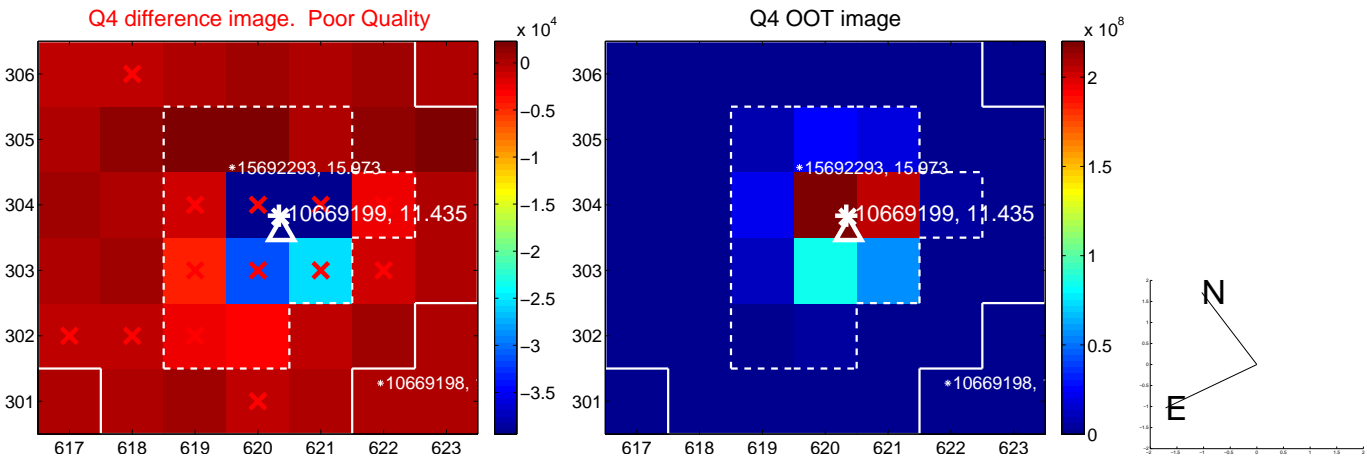
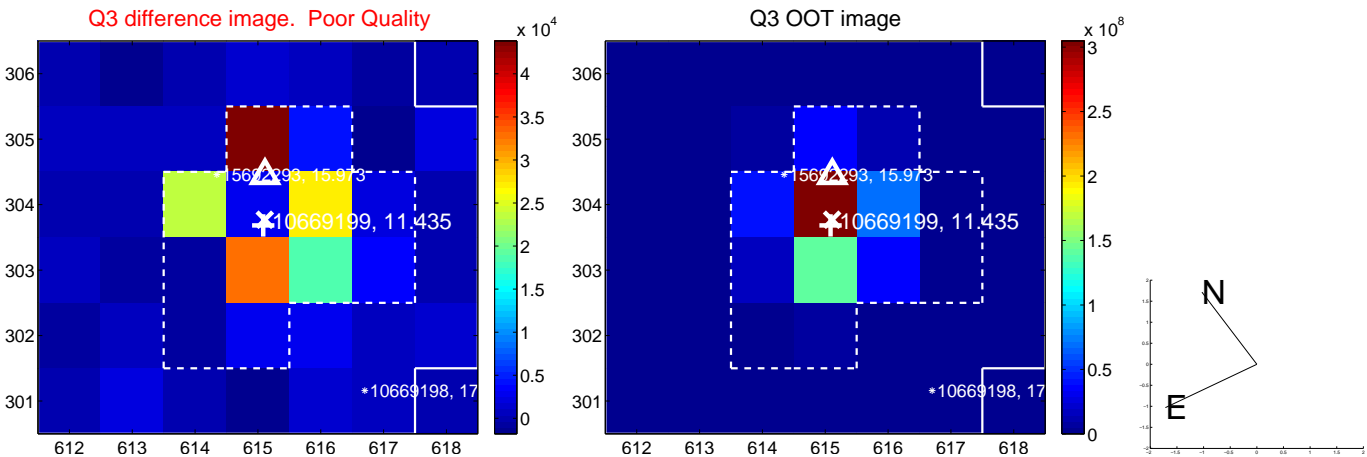
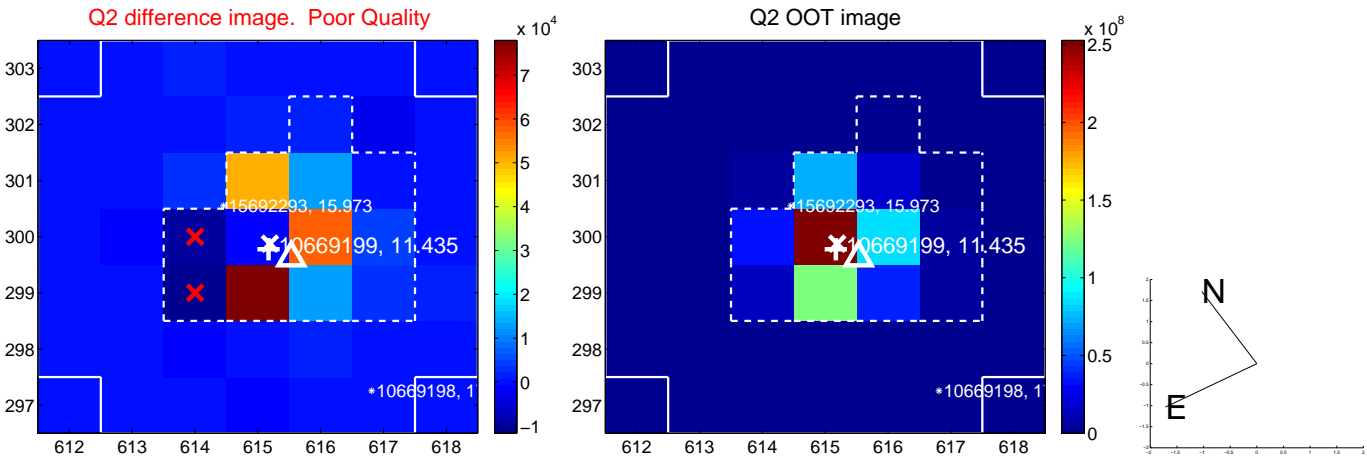
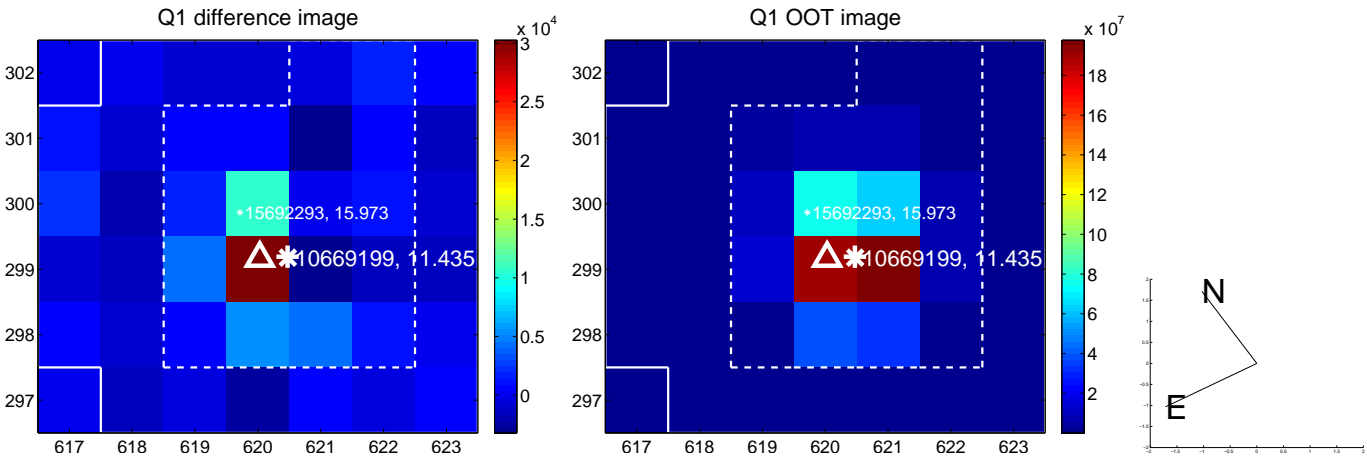
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.412 ± 0.465	3.04	0.387 ± 0.513	-1.358 ± 0.548
PRF-fit source offset from KIC position	1.435 ± 0.483	2.97	0.312 ± 0.455	-1.400 ± 0.527
photometric centroid source offset	0.64 ± 0.28	2.29	-0.60 ± 0.28	-0.23 ± 0.31

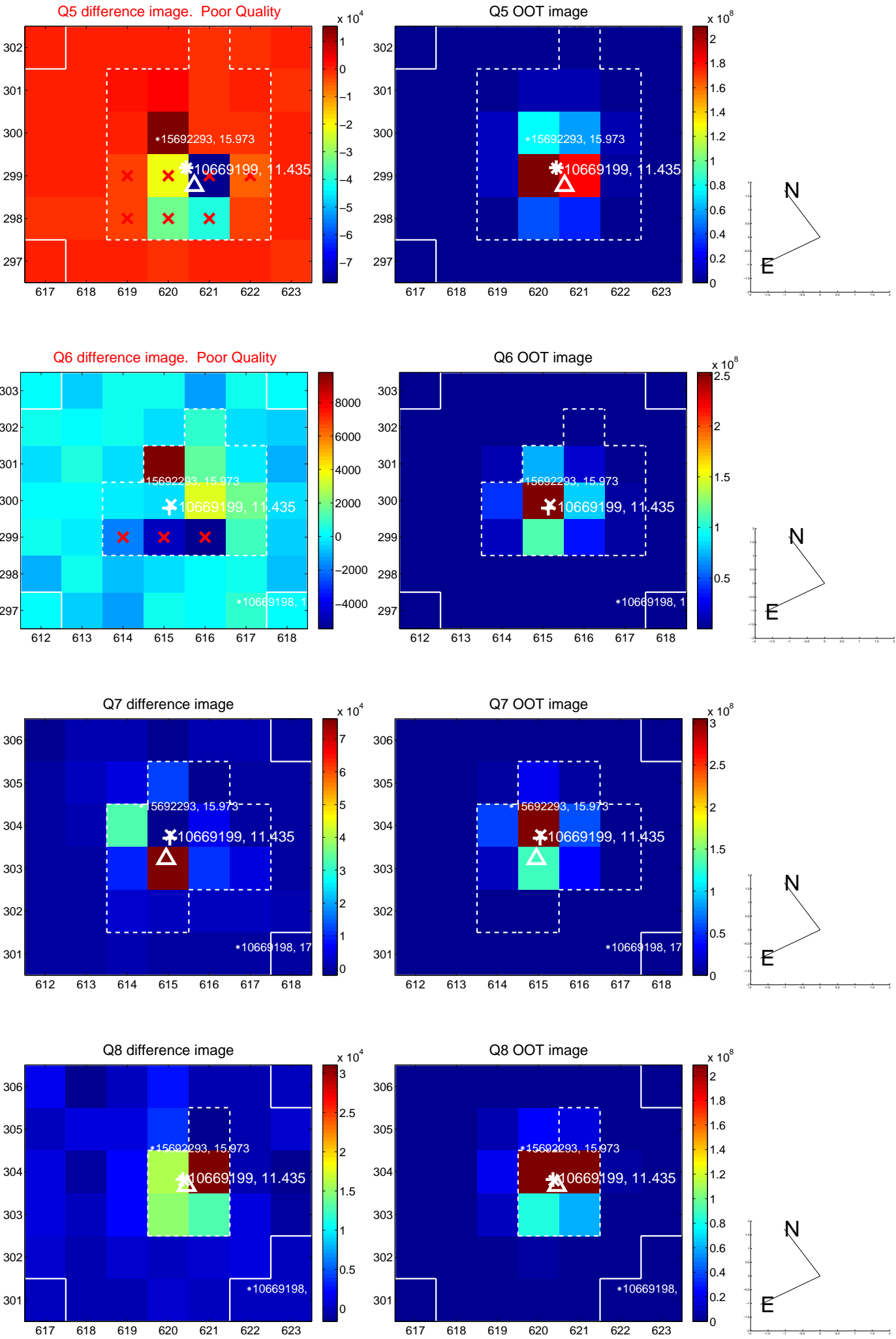


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

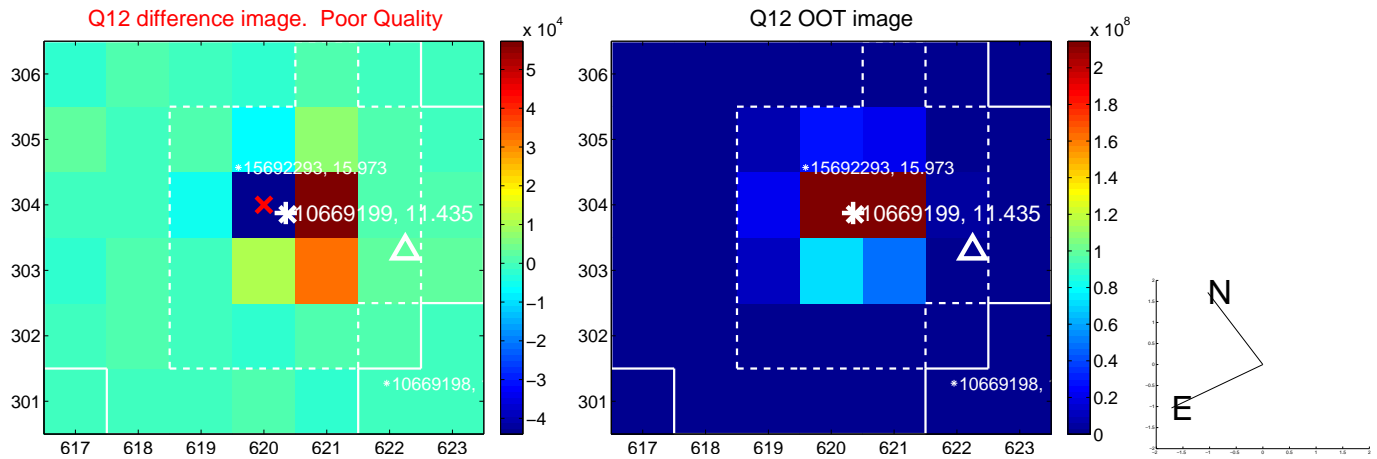
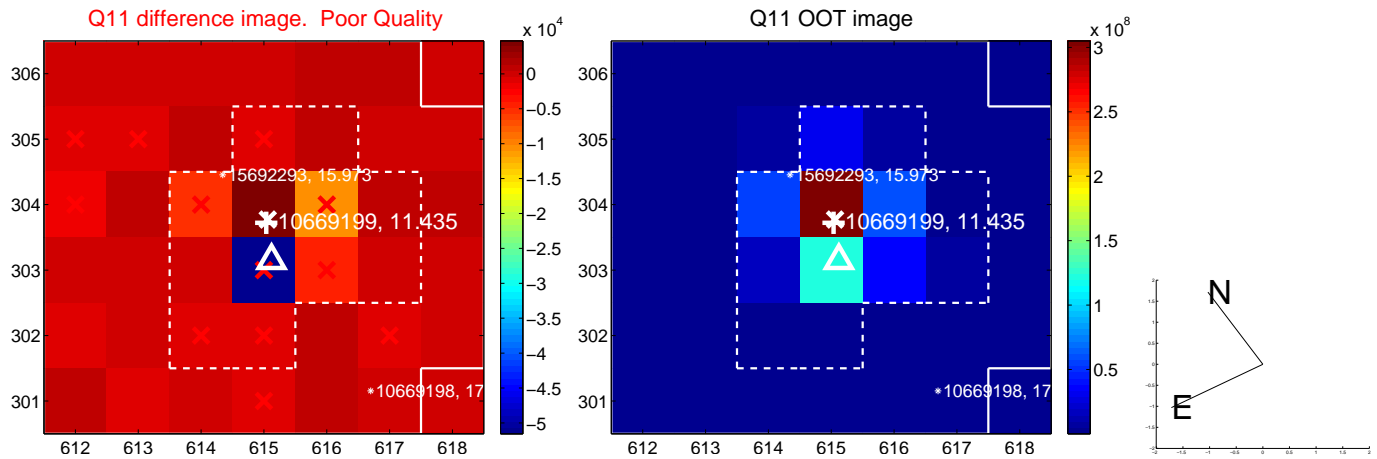
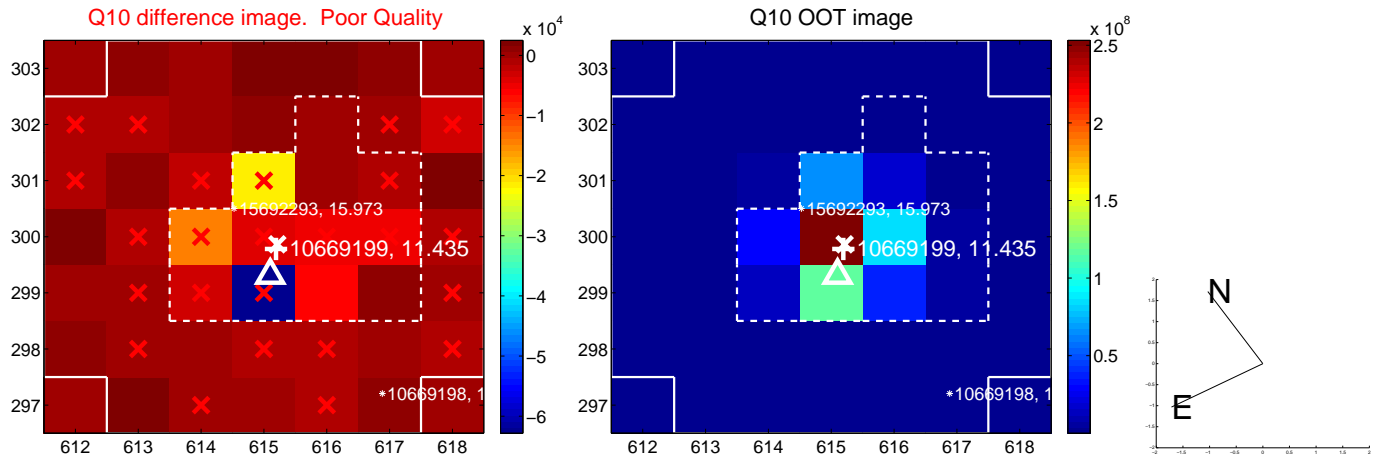
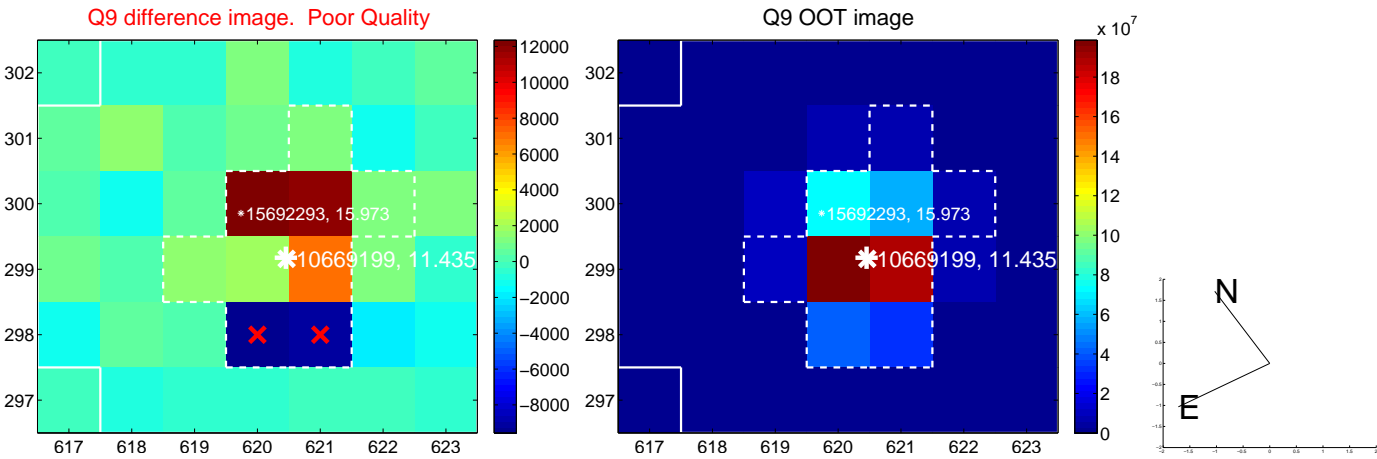
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

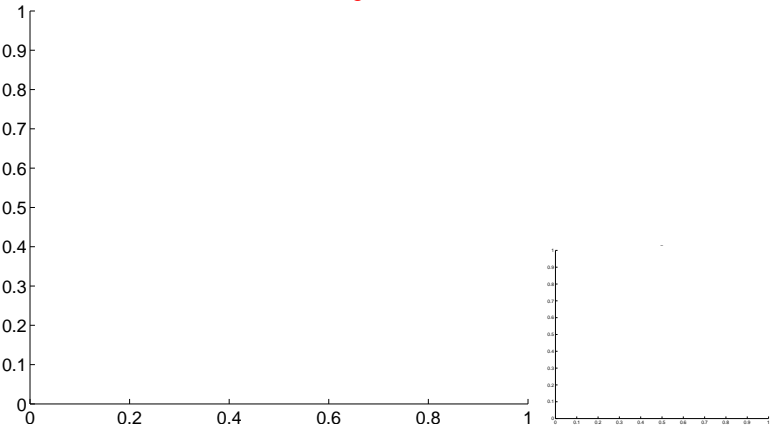


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

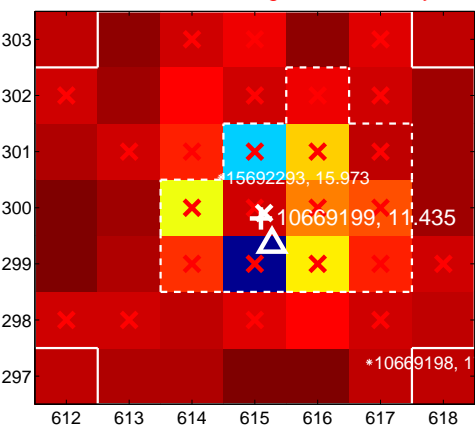
Q13 no difference image



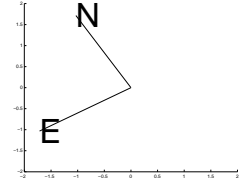
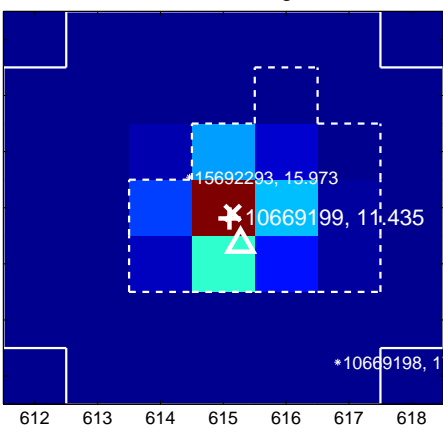
Q13 no OOT image



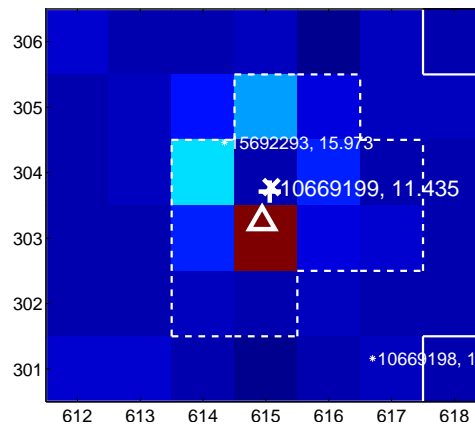
Q14 difference image. Poor Quality



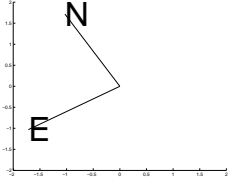
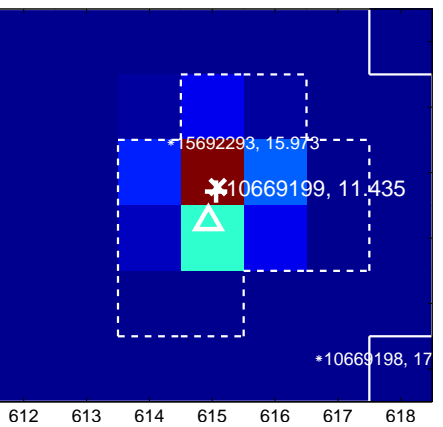
Q14 OOT image



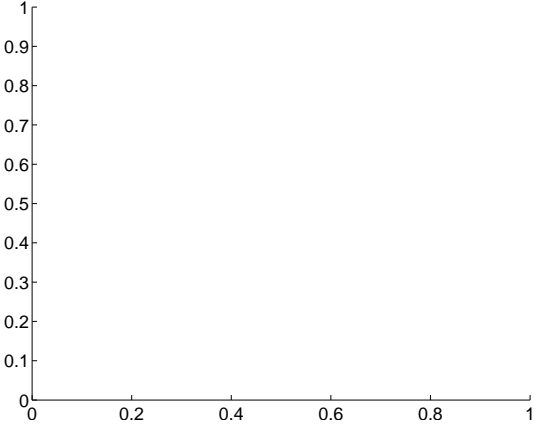
Q15 difference image



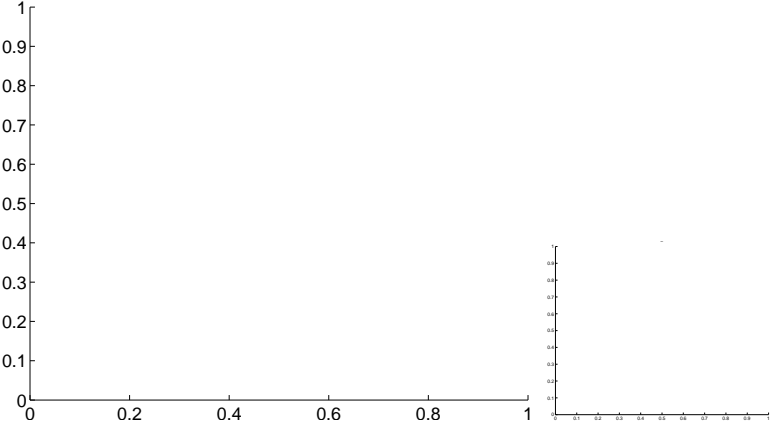
Q15 OOT image



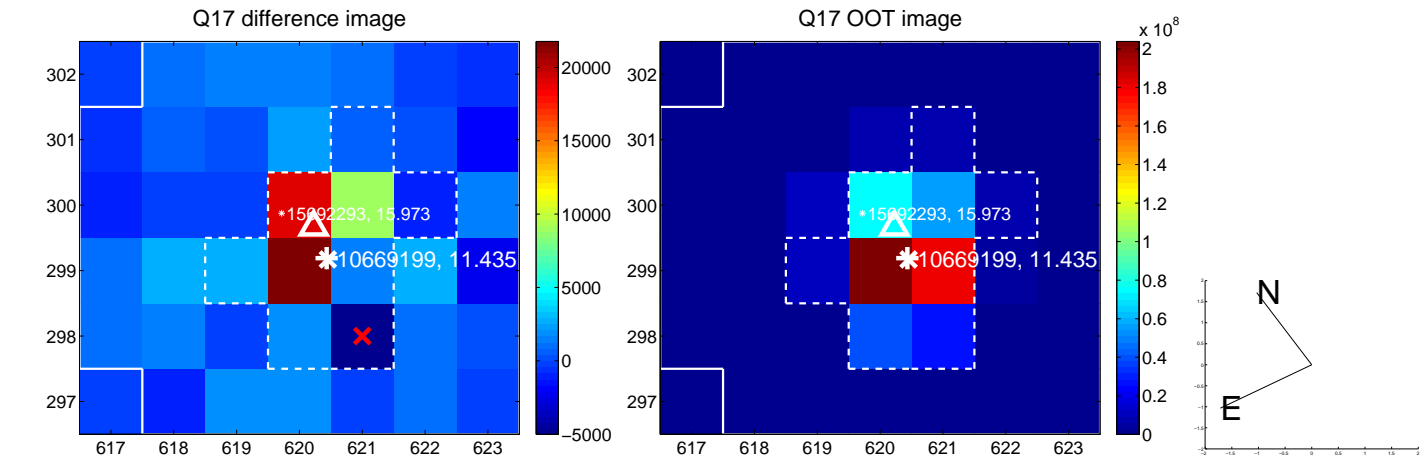
Q16 no difference image



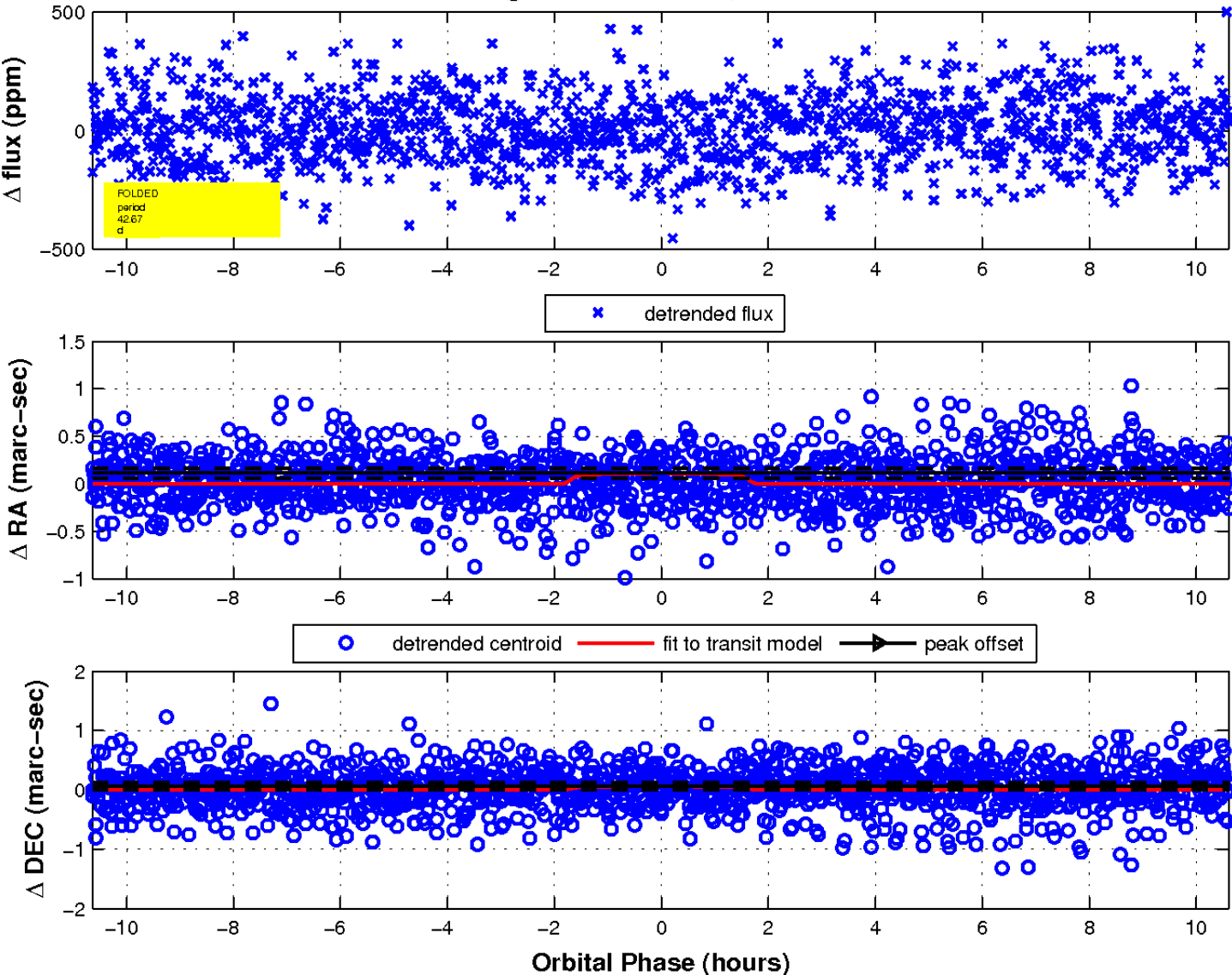
Q16 no OOT image



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

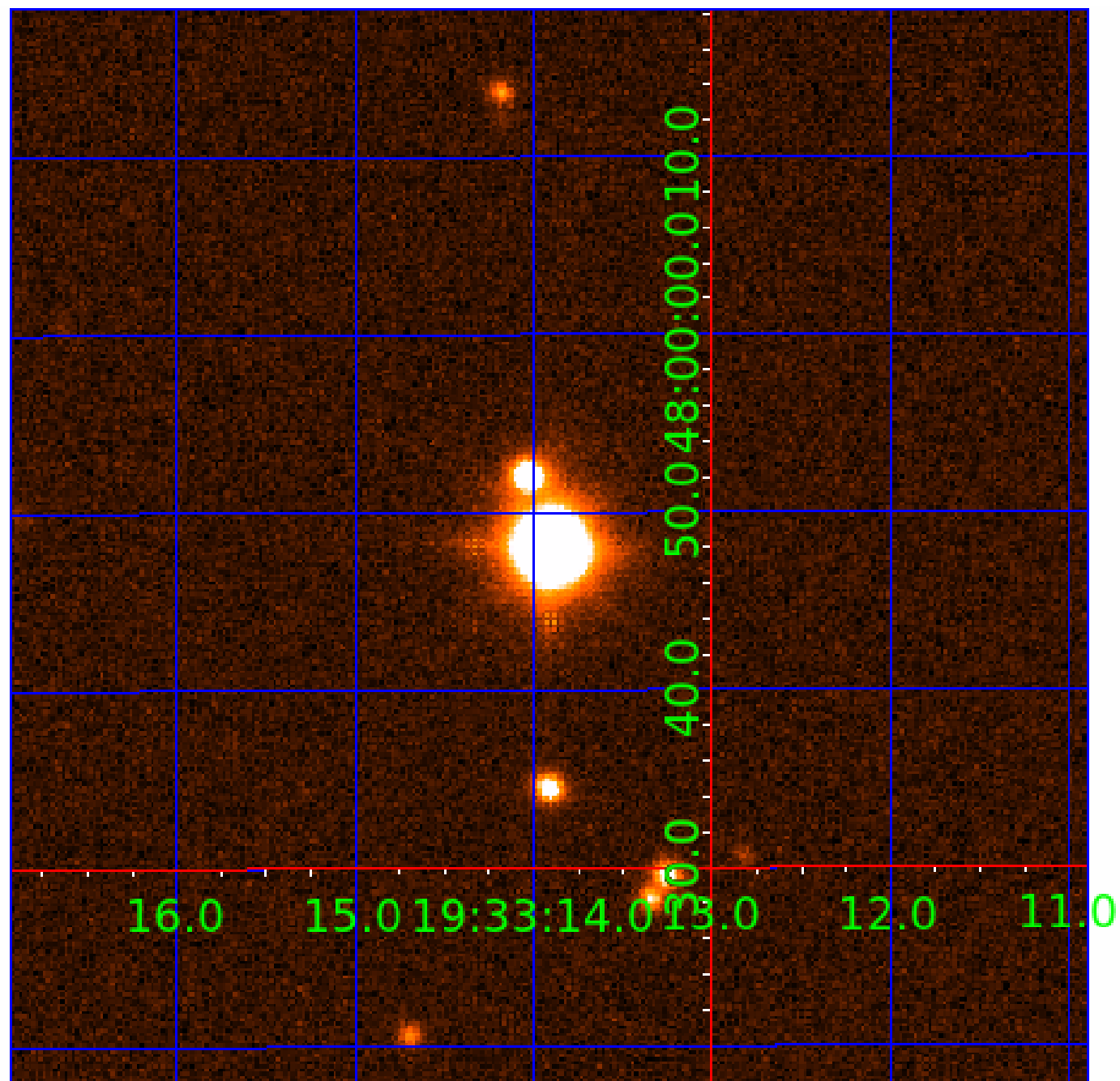


fluxWeightedCentroids, Planet 6 of 8



UKIRT Image

Declination



KIC 010669199

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})
010669199-01	OBS	No	2.365917	133.353148	32.4	3.827	8.7	9.3	3.77	6706	2.56	15213.64
010669199-02	OBS	No	2.366238	132.509968	8.2	15.609	8.2	4.2	3.77	6706	1.23	15210.89
010669199-03	OBS	No	36.230542	142.052901	149.7	8.464	16.6	9.5	3.77	6706	5.22	400.07
010669199-04	OBS	No	79.516759	179.114902	223.9	5.813	13.3	12.0	3.77	6706	6.35	140.27
010669199-05	OBS	No	116.009317	206.927124	201.9	5.325	12.2	11.1	3.77	6706	6.07	84.77
010669199-06	OBS	No	42.674845	159.538475	188.6	3.547	11.6	12.3	3.77	6706	5.93	321.62
010669199-07	OBS	No	51.550093	162.071407	207.2	3.698	11.6	11.1	3.77	6706	6.06	249.99
010669199-08	OBS	No	30.890459	132.171688	166.5	6.266	10.7	10.4	3.77	6706	5.76	494.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669199-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

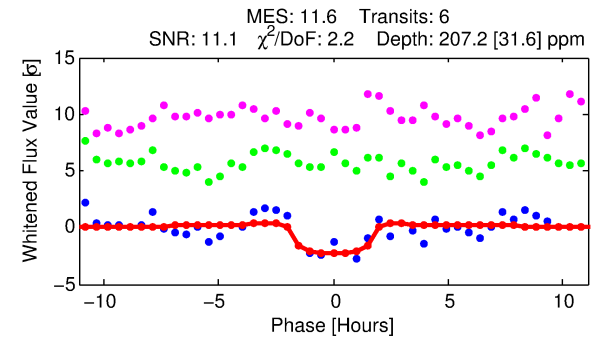
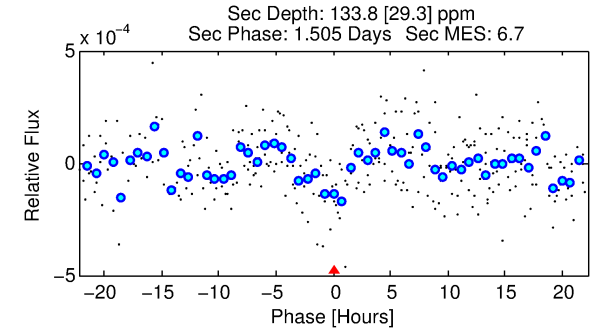
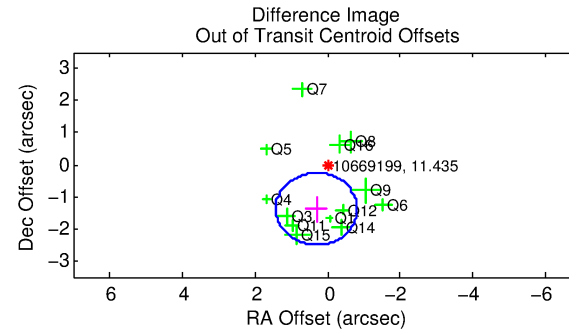
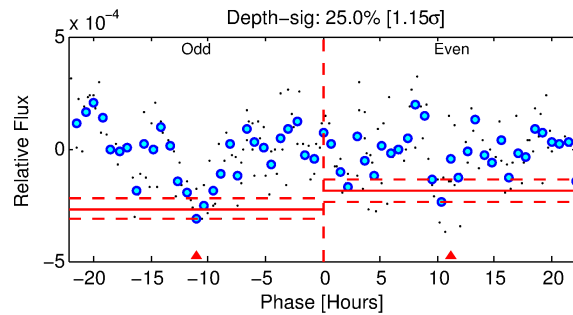
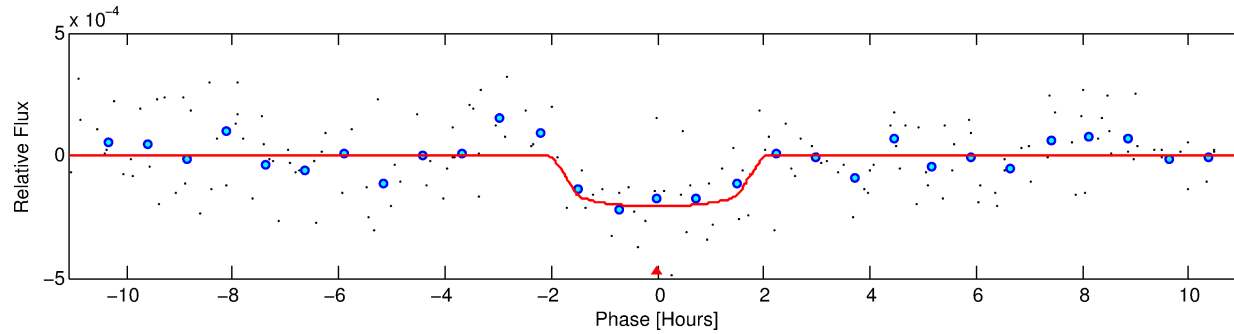
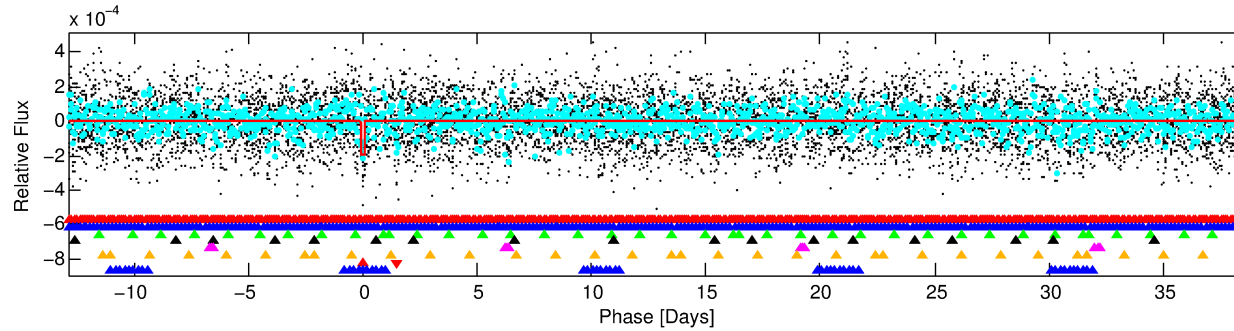
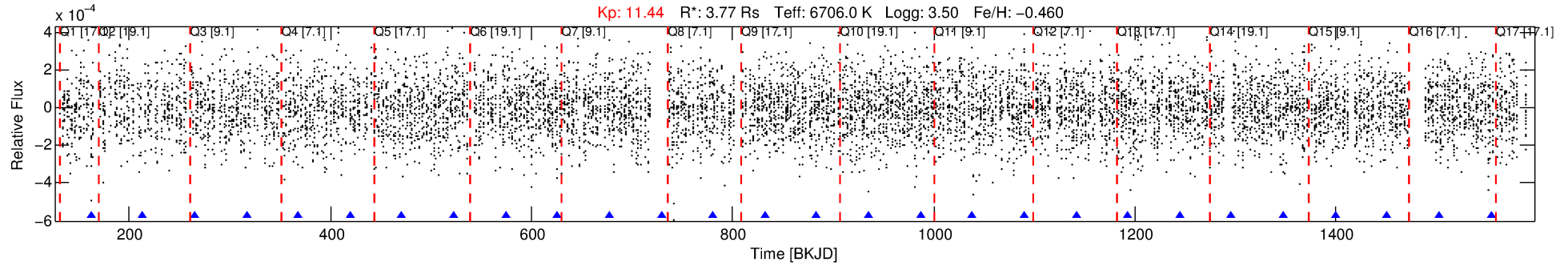
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-07

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 7 of 8 Period: 51.550 d



DV Fit Results:

Period = 51.55009 [0.00081] d
Epoch = 162.0714 [0.0107] BKJD
Rp/R* = 0.0147 [0.0105]
a/R* = 62.47 [255.93]
b = 0.83 [1.57]
Seff = 249.99 [170.45]
Teq = 1014 [173] K
Rp = 6.06 [5.08] Re
a = 0.3209 [0.1357] AU
Ag = 206.48 [327.41] [0.63 σ]
Teffp = 5942 [2142] K [2.29 σ]

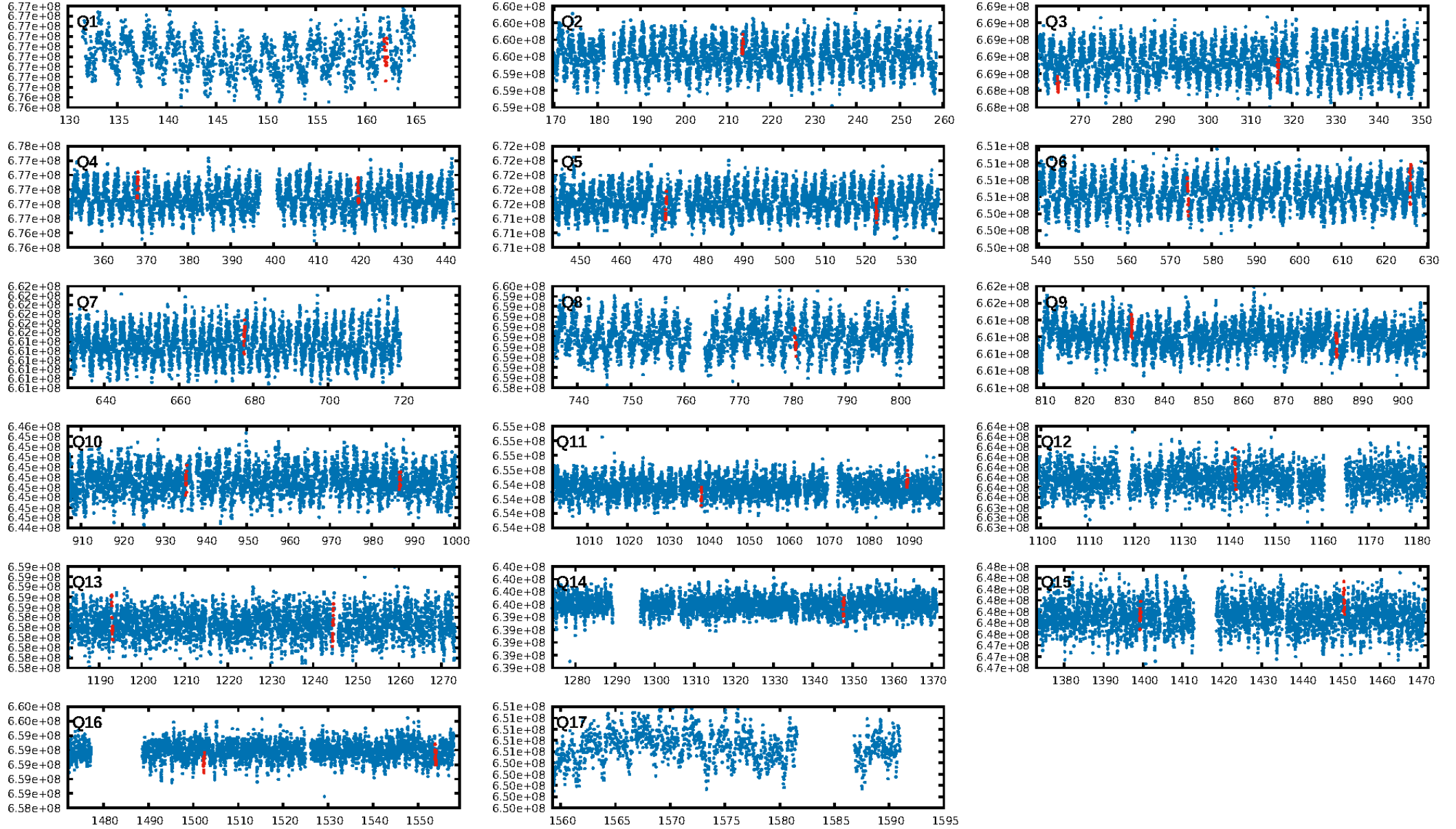
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [41.57 σ]
LongPeriod-sig: 100.0% [97.42 σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 57.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.7958
Centroid-sig: 31.6%
Centroid-so: 0.309 arcsec [1.07 σ]
OotOffset-rm: 1.415 arcsec [3.79 σ]
KicOffset-rm: 1.242 arcsec [3.38 σ]
OotOffset-st: 2/4/4/3 [13]
KicOffset-st: 2/4/4/3 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 0.25 [4/16]

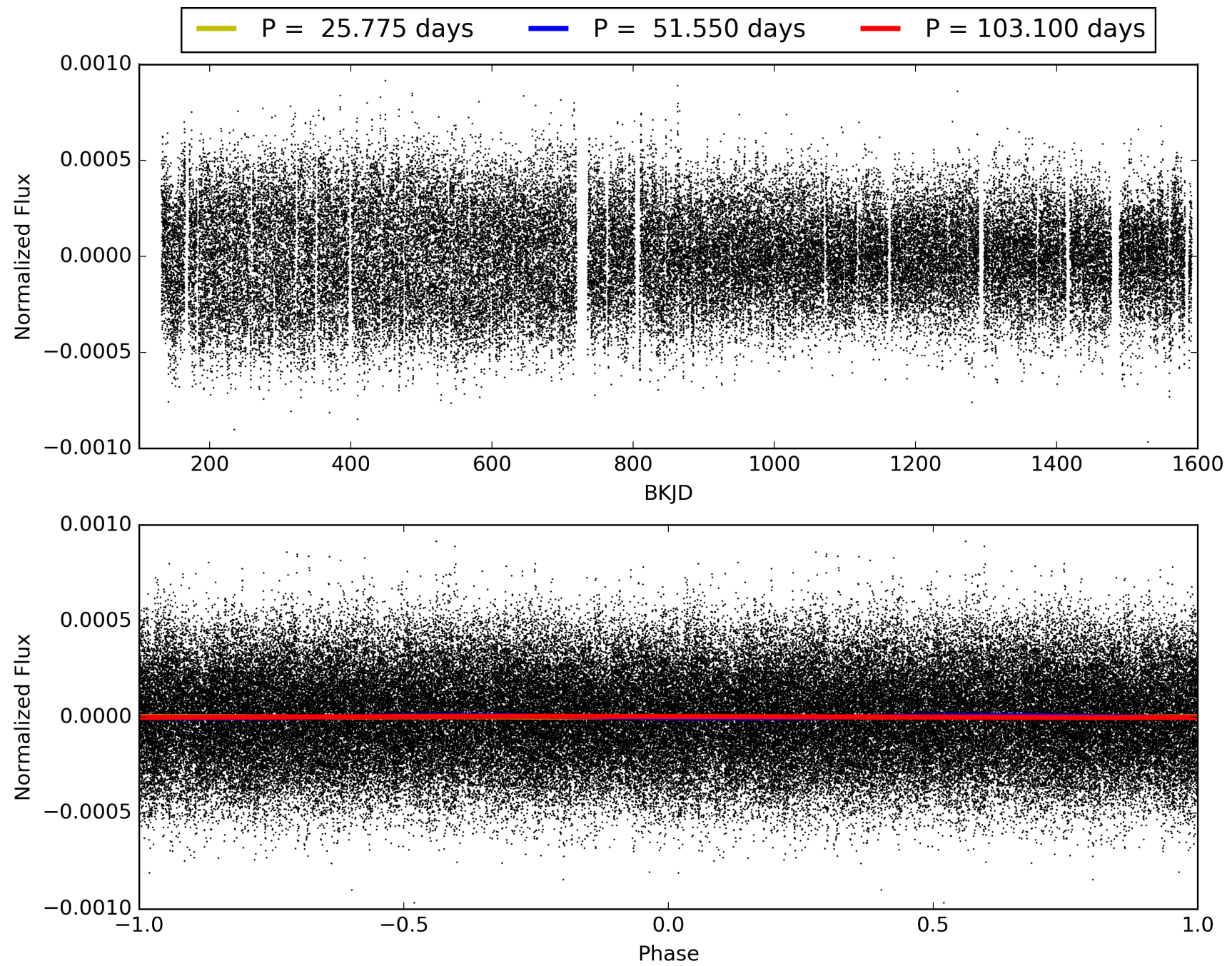
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:42:30 Z

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

TCE 010669199-07, PDC Light Curves

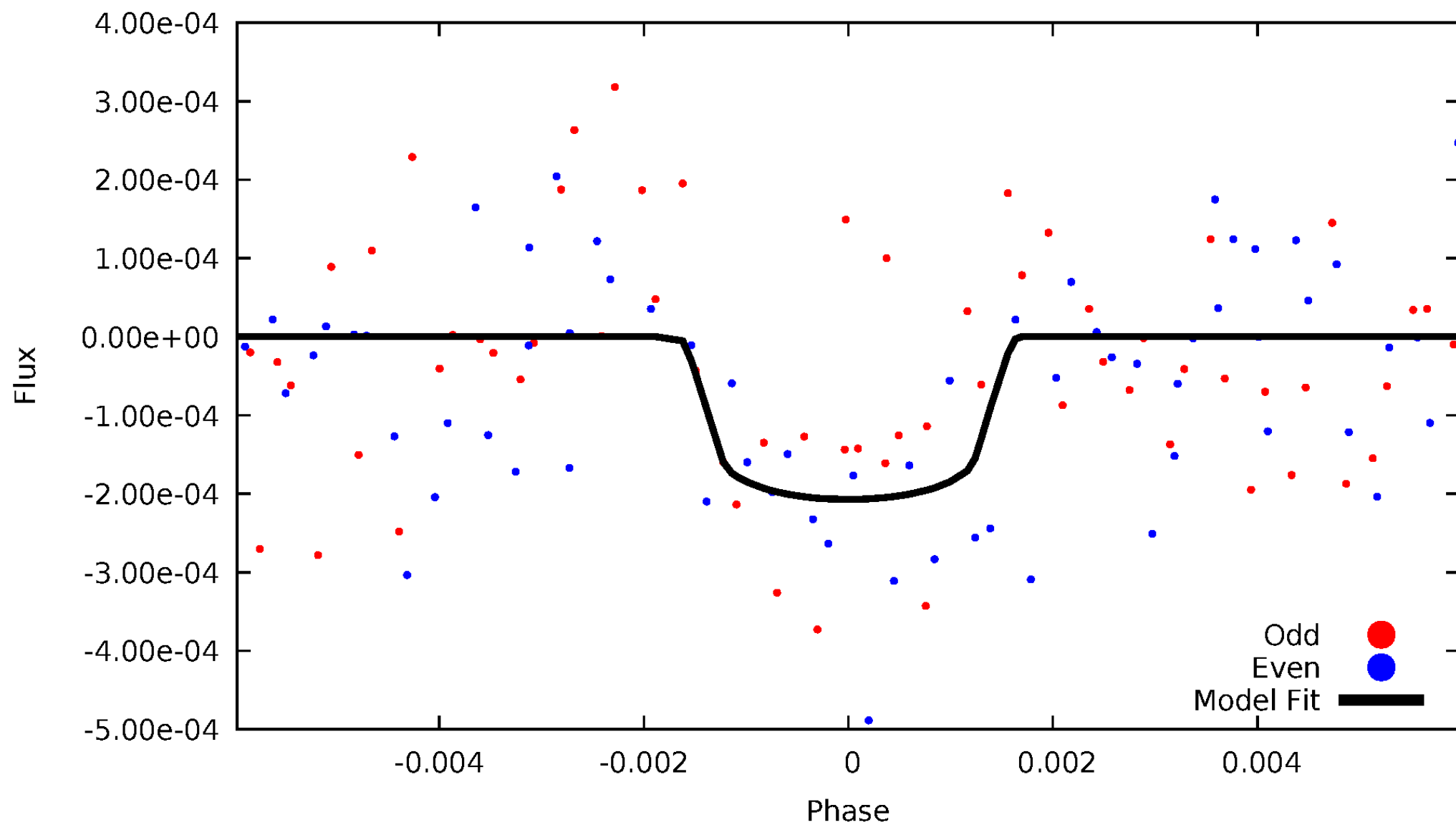


TCE 010669199-07



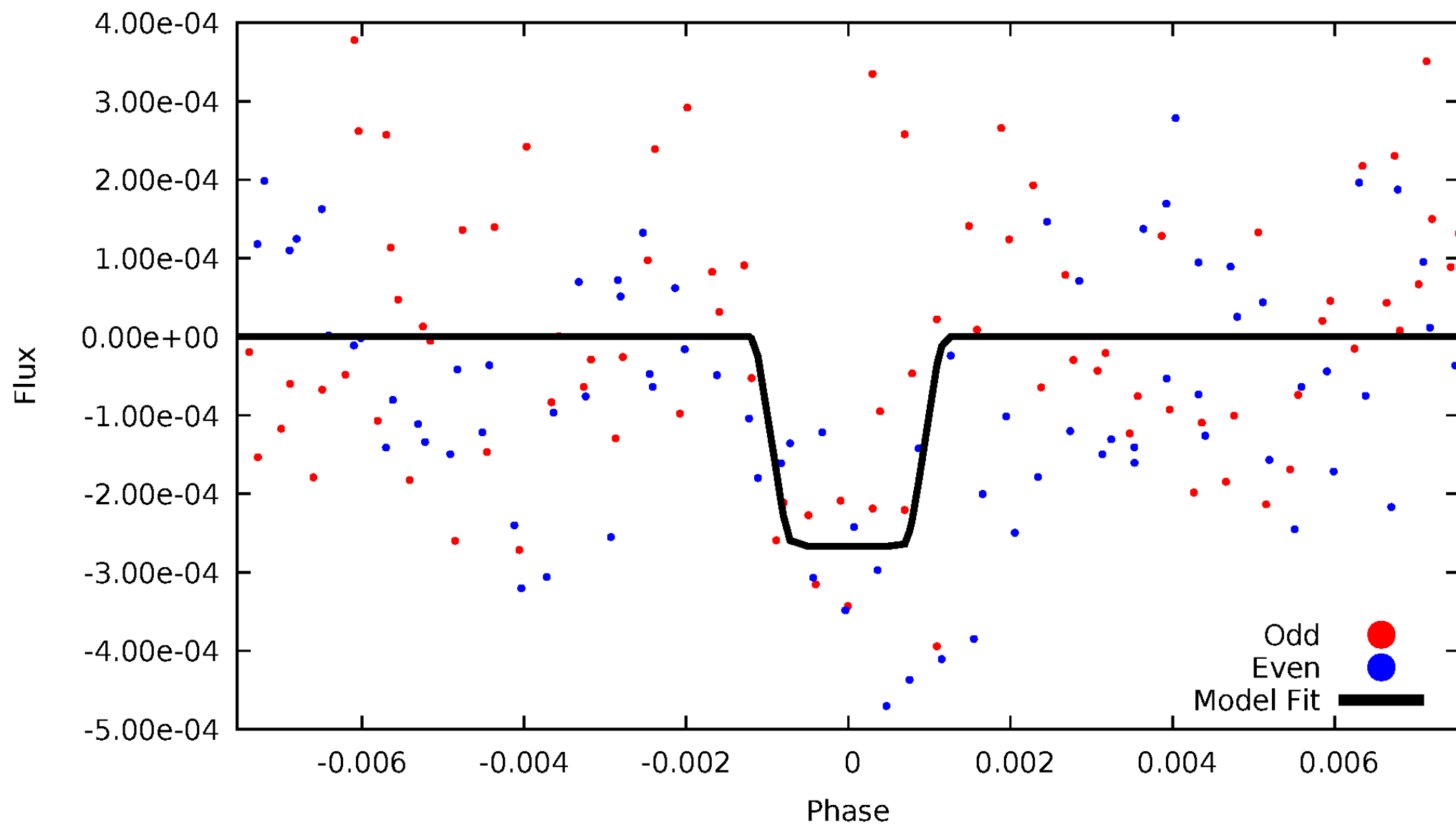
DV Odd/Even

TCE 010669199-07



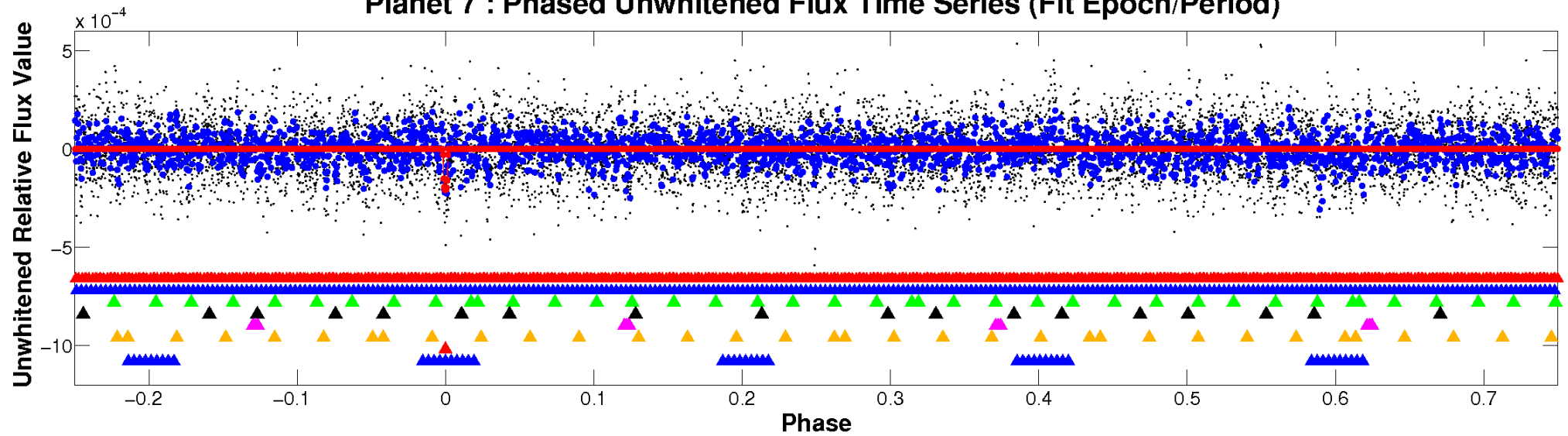
ALT Odd/Even

TCE 010669199-07

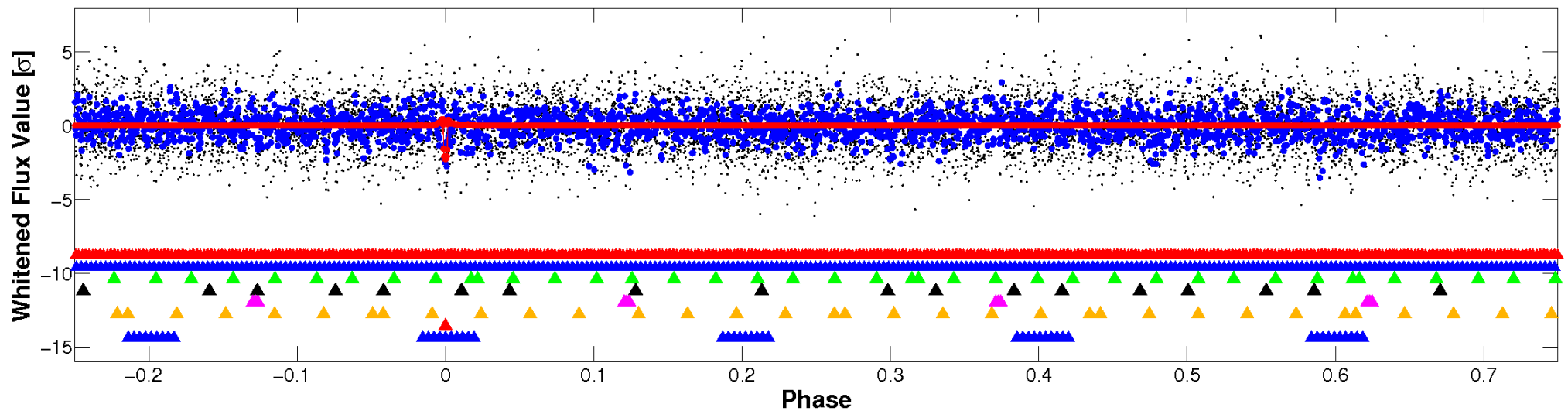


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

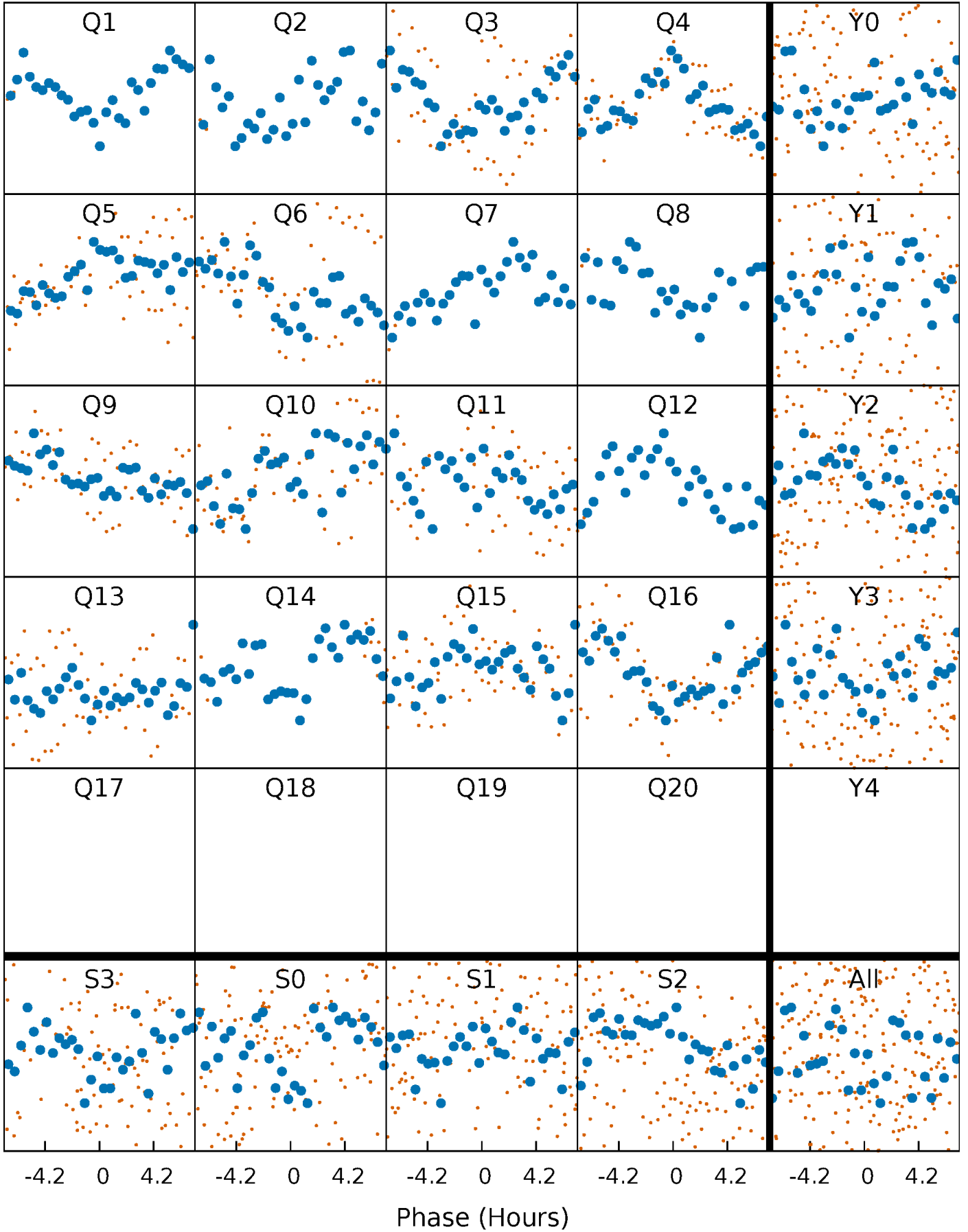


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



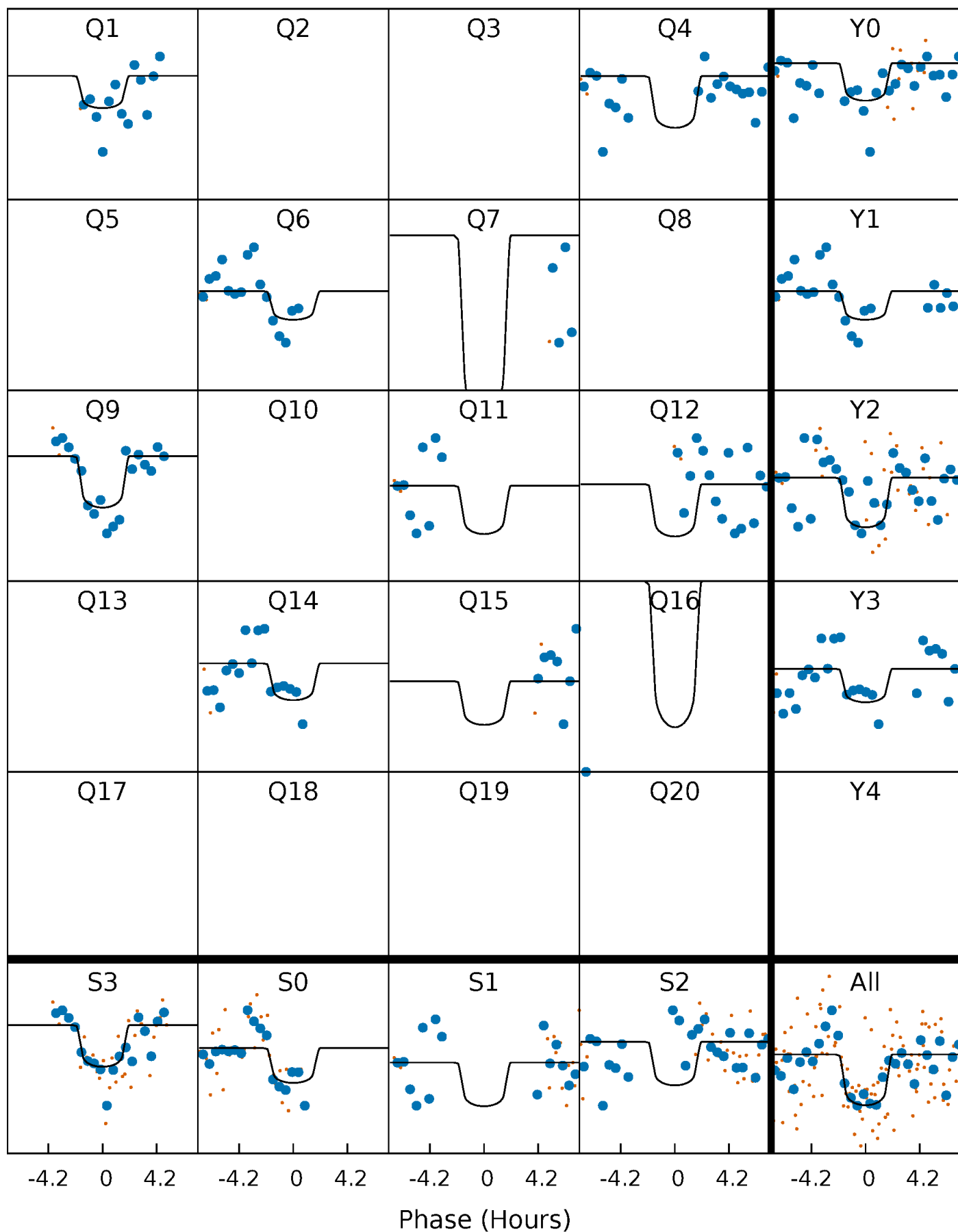
PDC Quarter-Phased Transit Curves

TCE 010669199-07 P= 51.550093 Days $T_0=162.071407$ (BKJD)



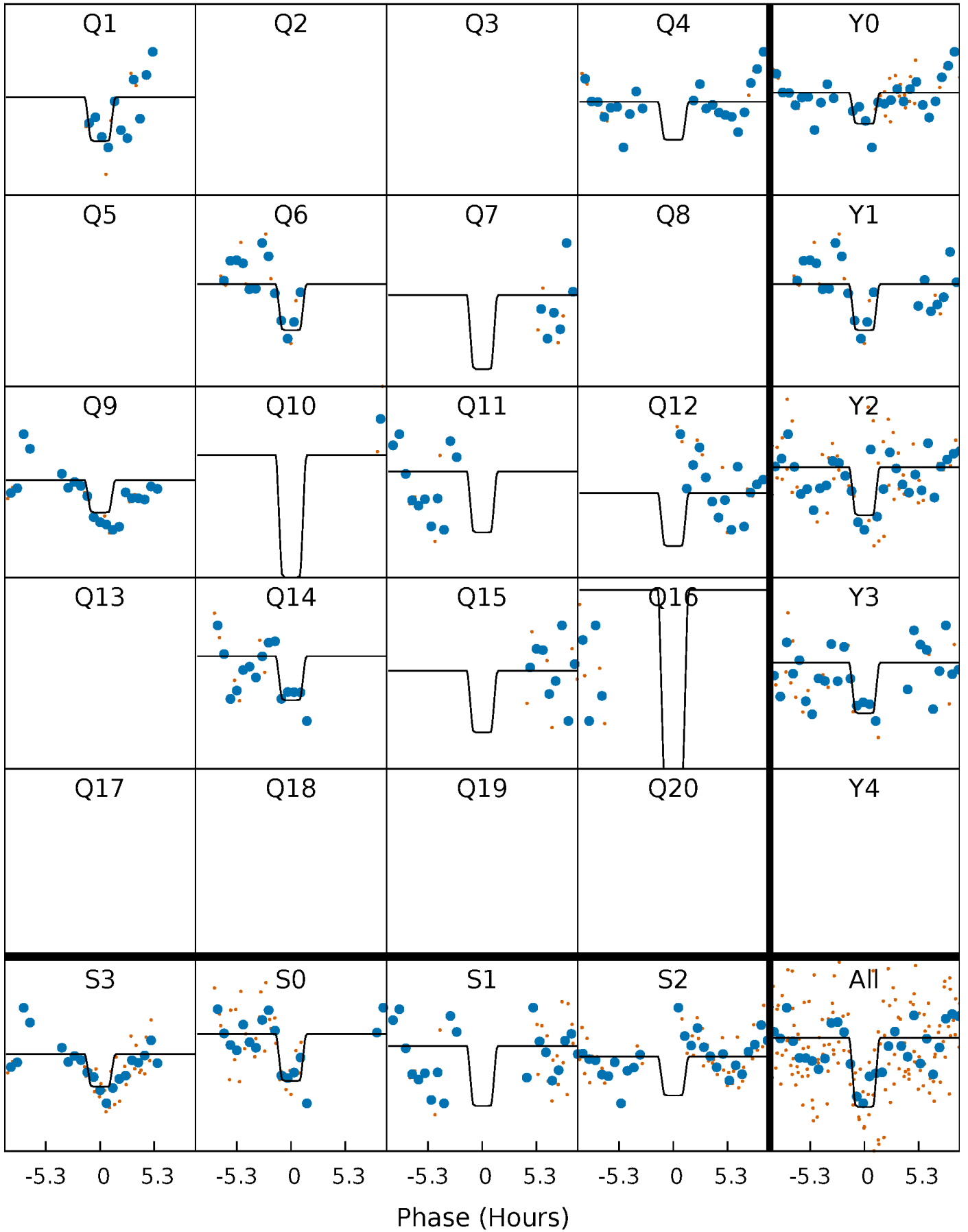
DV Quarter-Phased Transit Curves

TCE 010669199-07 $P = 51.550093$ Days $T_0 = 162.071407$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

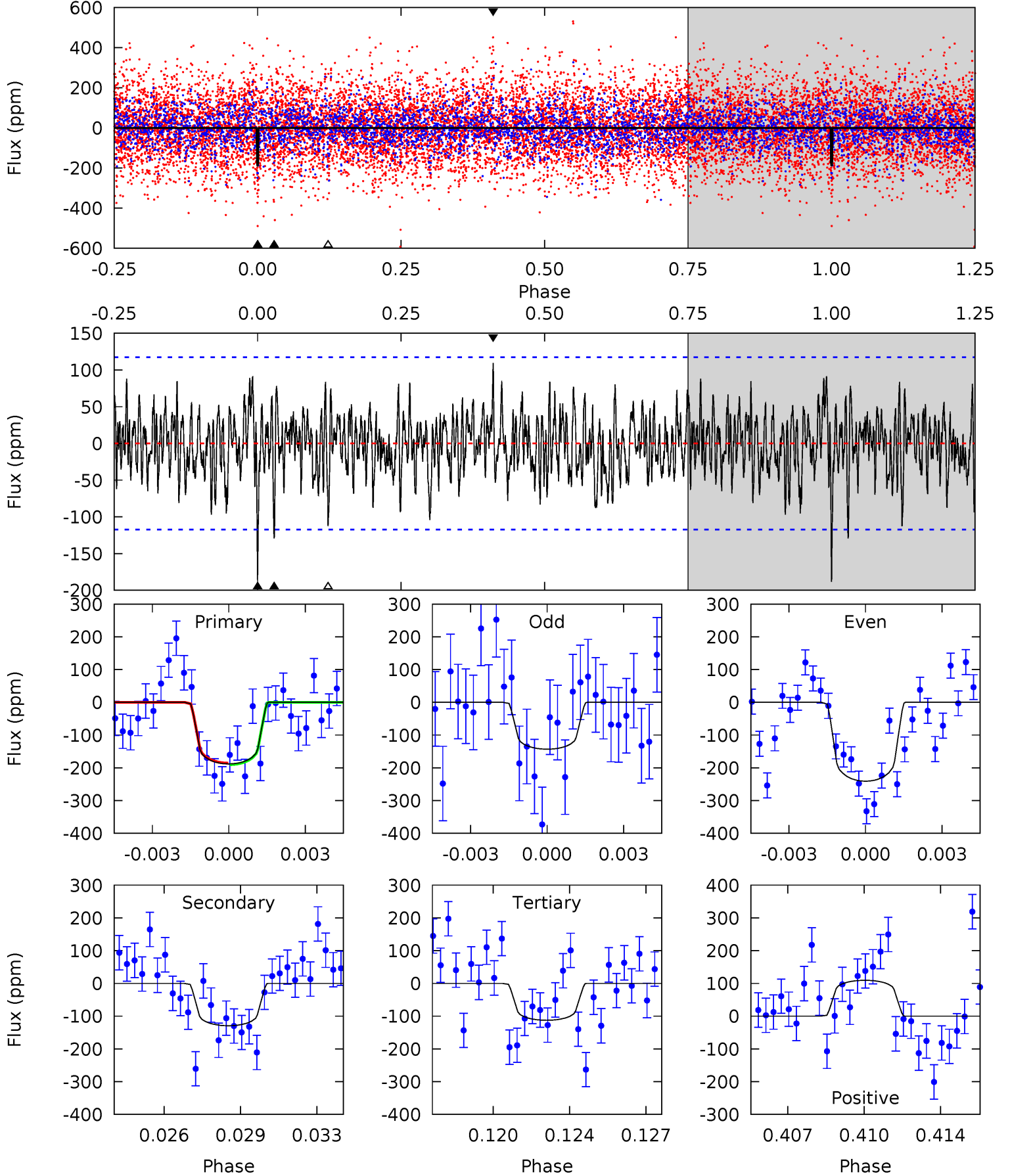
TCE 010669199-07 $P = 51.549949$ Days $T_0 = 162.057462$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-07, P = 51.550093 Days, E = 110.521314 Days

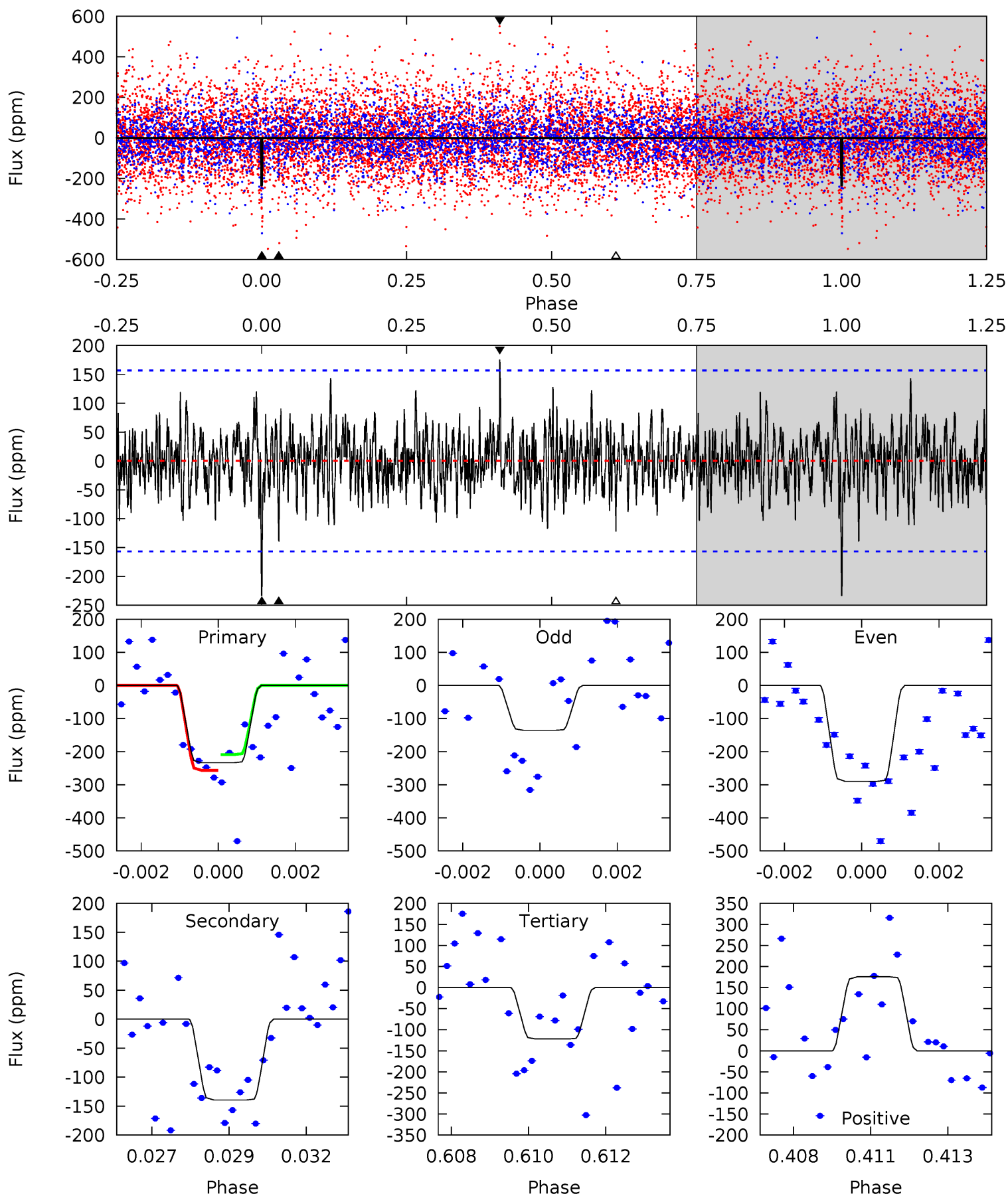
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.40	5.77	5.03	4.89	5.24	2.94	1.56	3.37	3.52	0.75	0.89	2.18	0.74	0.37	0.10



Alt Model-Shift Uniqueness Test

010669199-07, P = 51.549949 Days, E = 110.507513 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.91	4.72	4.13	5.94	5.30	3.05	1.37	3.78	1.97	0.59	-1.22	2.72	0.61	0.43	0.82



Stellar Parameters For KIC 010669199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-129 ± 22	$5.98^{+3.93}_{-3.51}$	1389^{+78}_{-138}	5692^{+3543}_{-1110}	202^{+988}_{-131}
Alt.	-139 ± 30	$6.29^{+4.51}_{-3.18}$	1394^{+80}_{-142}	5626^{+2604}_{-1090}	193^{+648}_{-126}

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 $A_{obs} \gg 1.0$

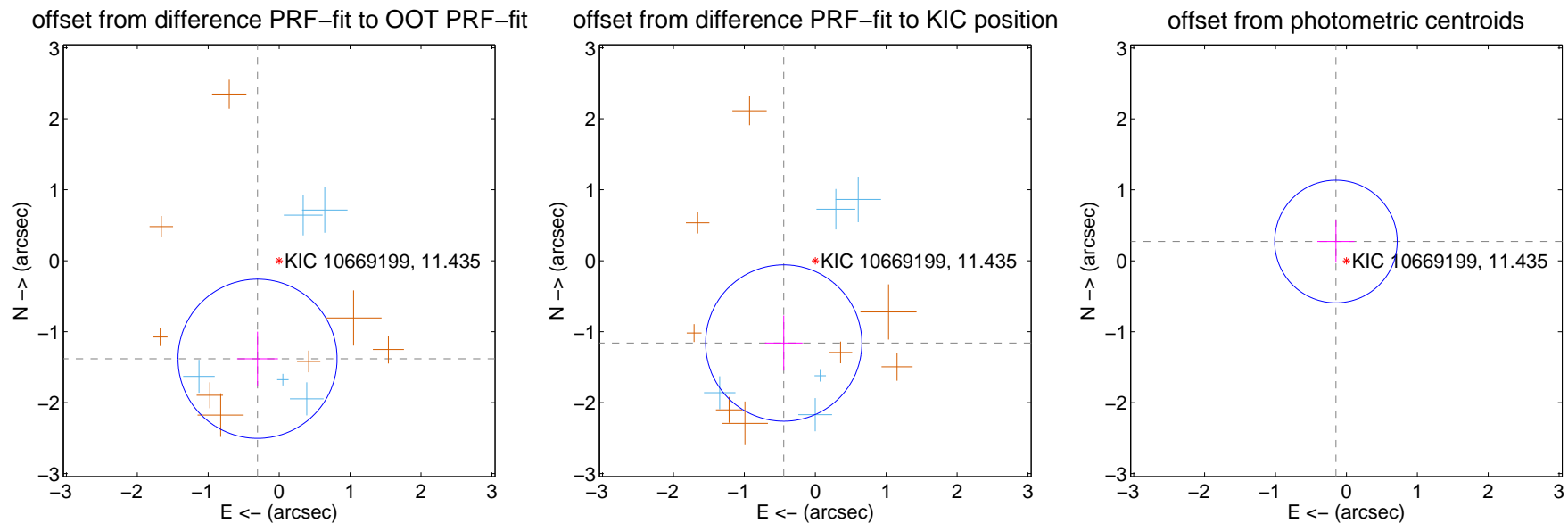
DV Centroid Data

Supplemental centroid analysis for 010669199-07. **Kepler magnitude: 11.44.** Transit SNR 11.10

There are 5 quarters with good PRF difference image offsets

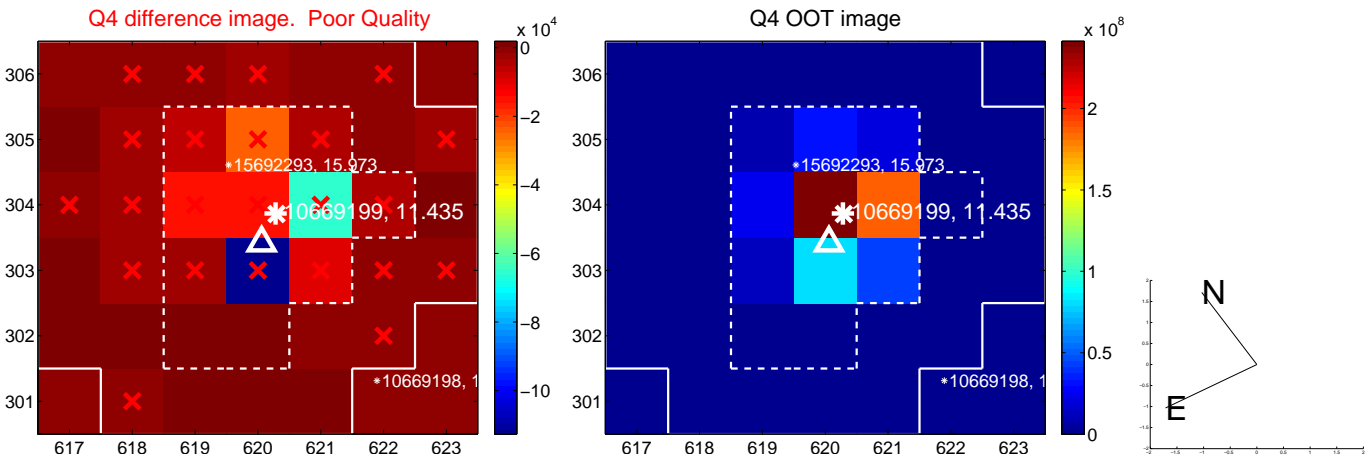
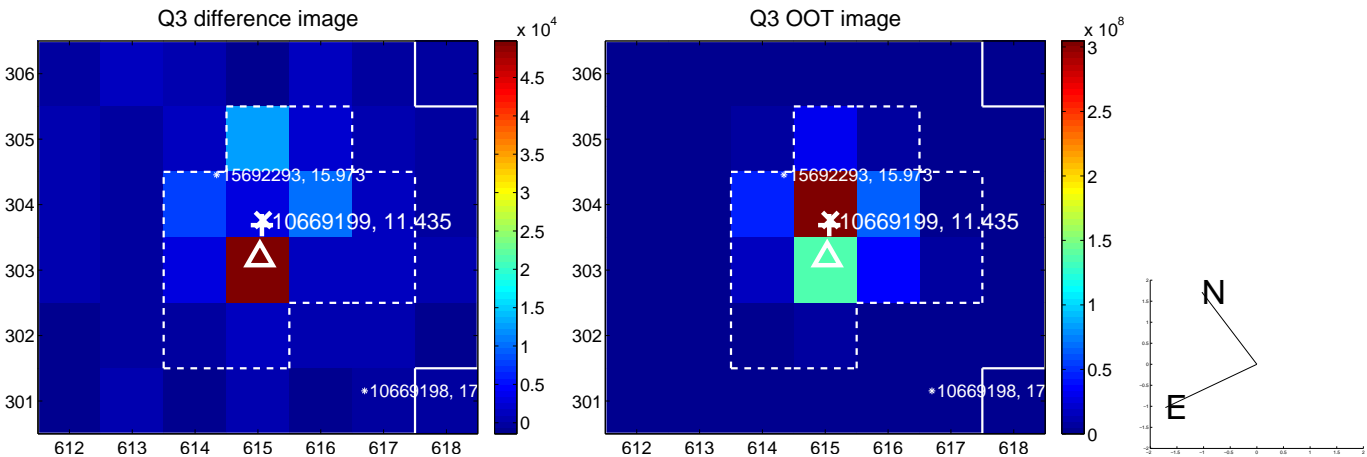
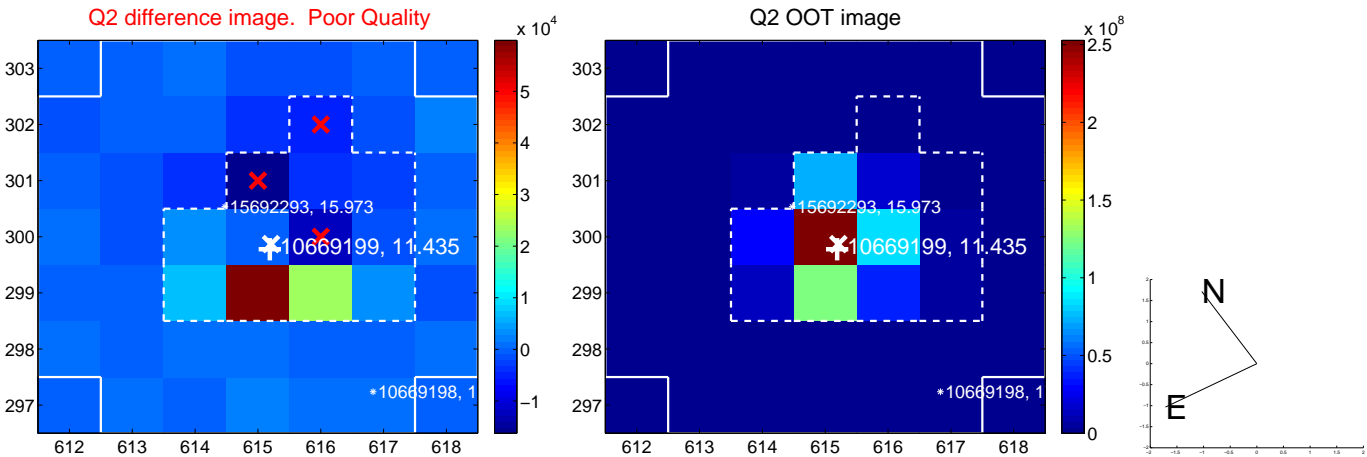
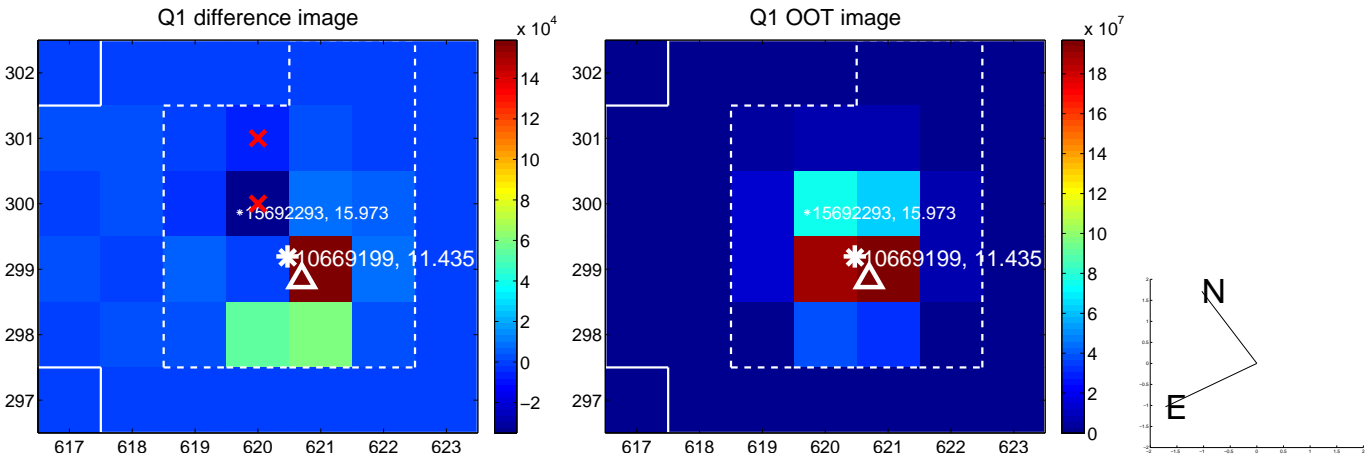
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.415 ± 0.374	3.79	0.305 ± 0.288	-1.382 ± 0.381
PRF-fit source offset from KIC position	1.242 ± 0.367	3.38	0.445 ± 0.265	-1.160 ± 0.388
photometric centroid source offset	0.31 ± 0.29	1.07	0.15 ± 0.26	0.27 ± 0.30

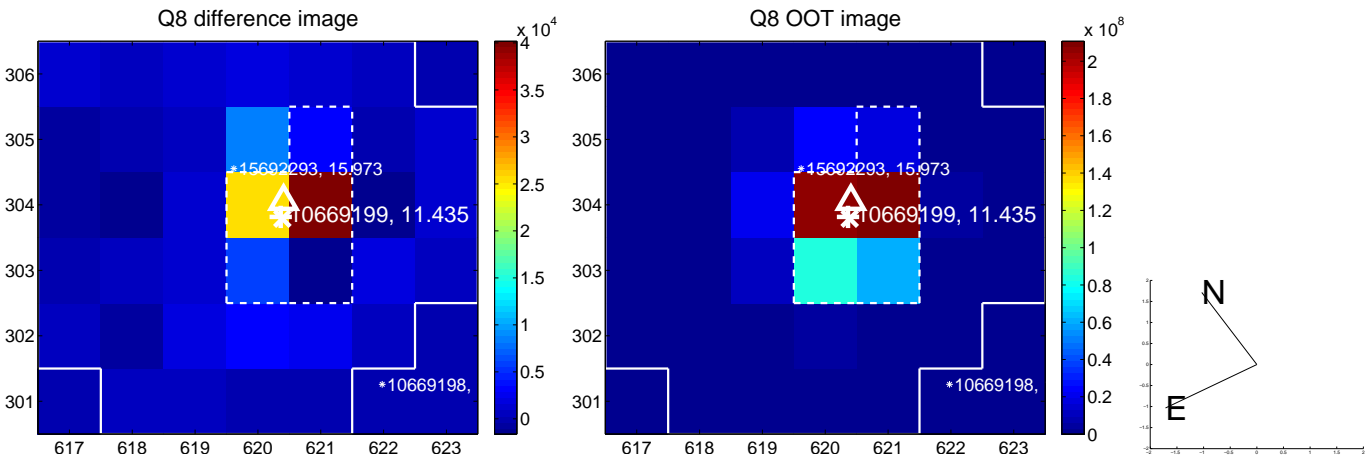
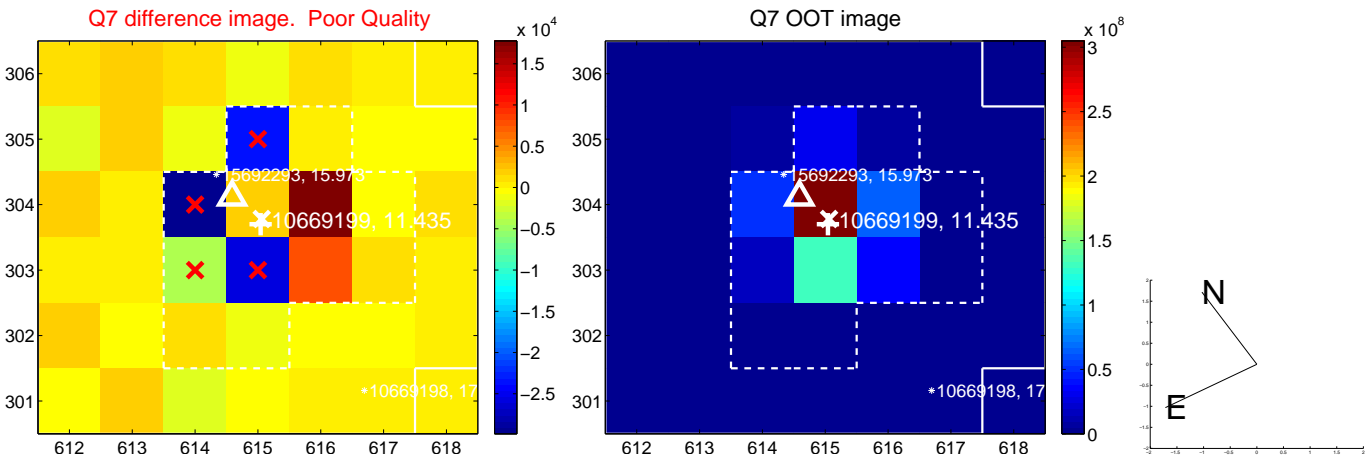
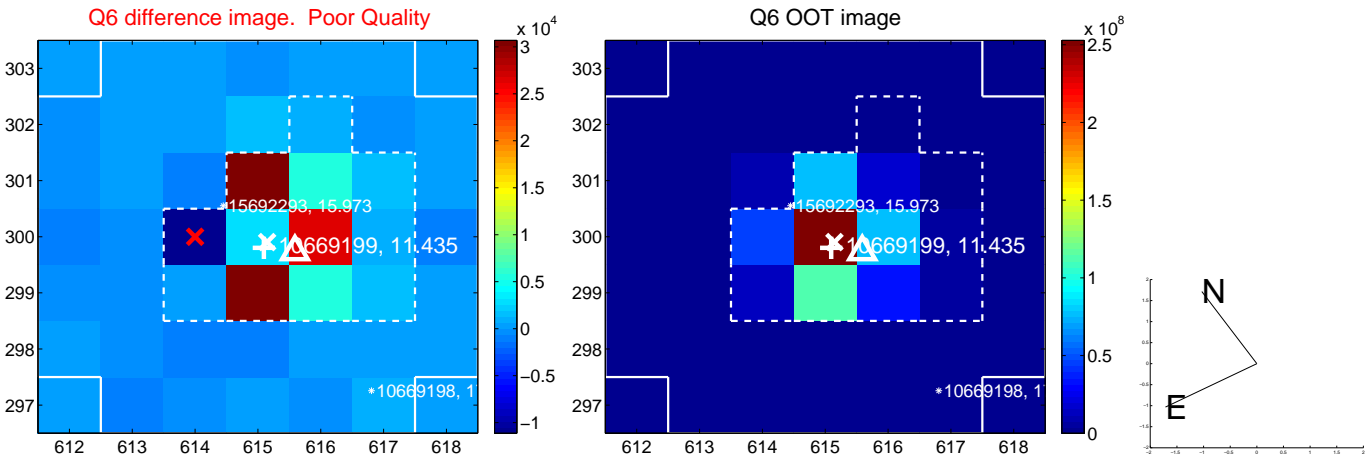
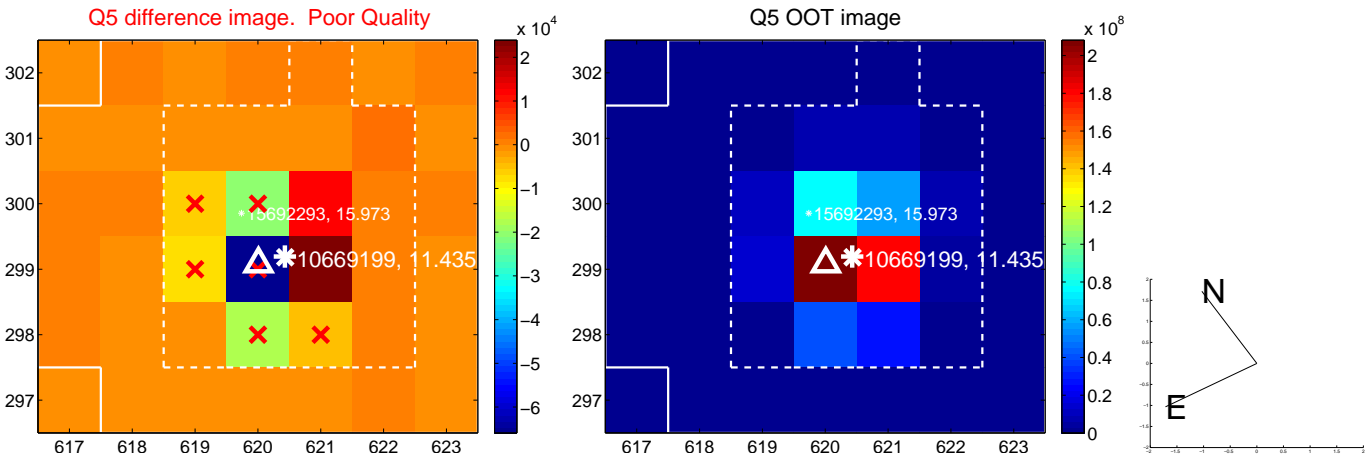


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

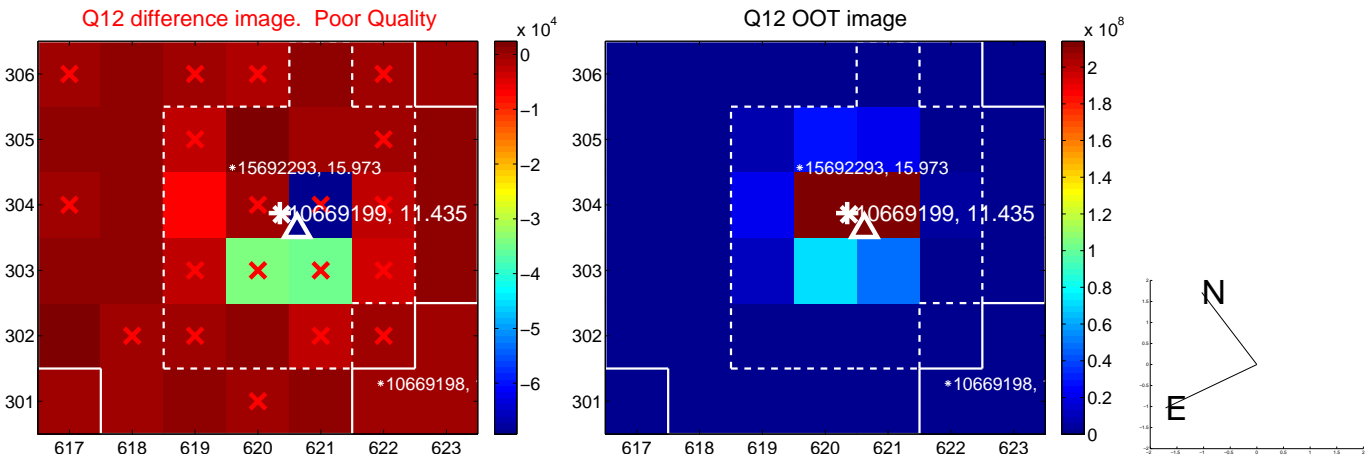
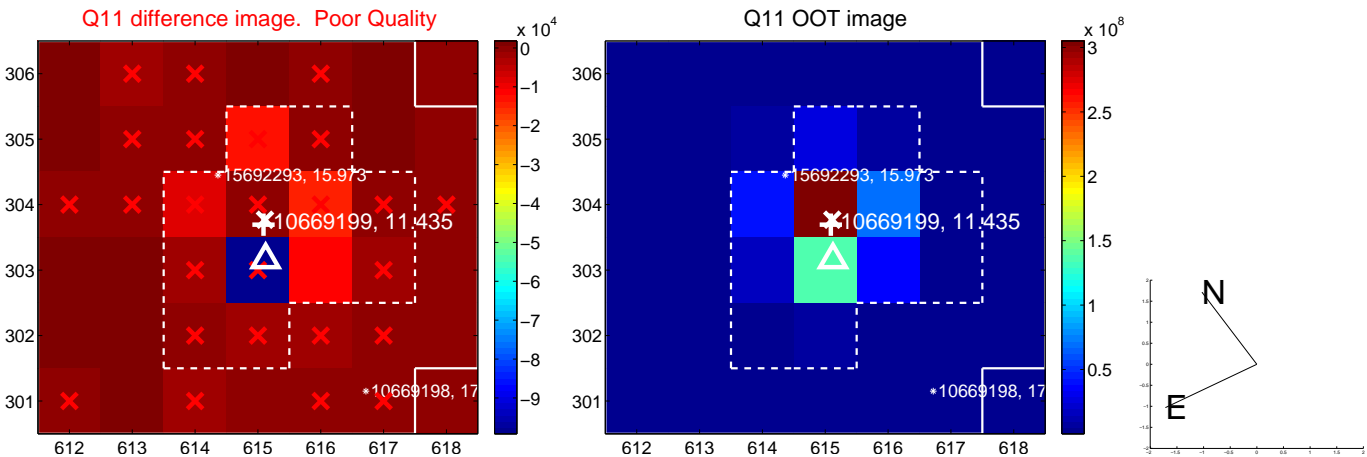
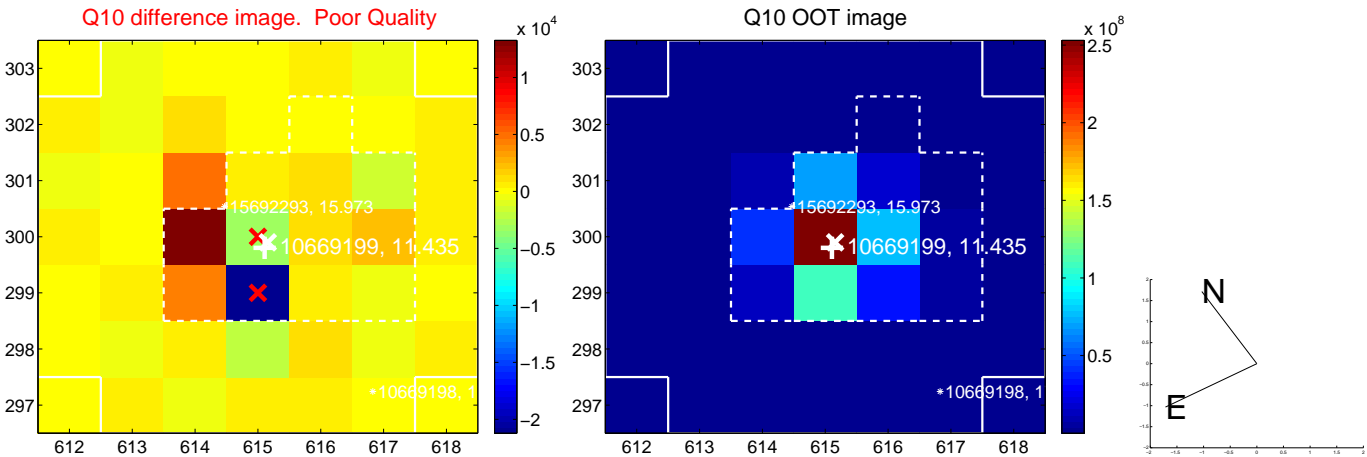
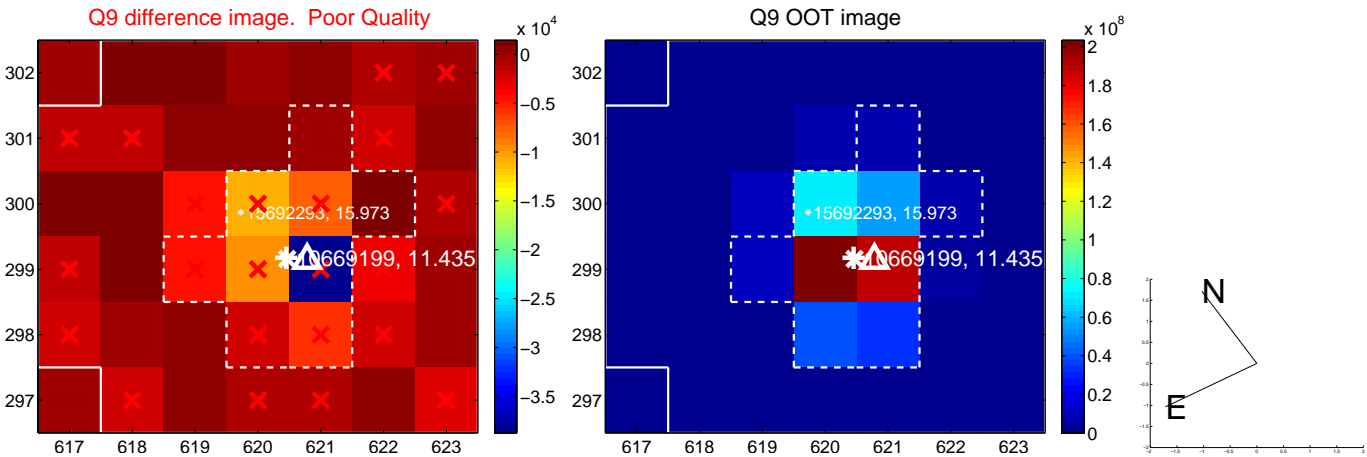
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



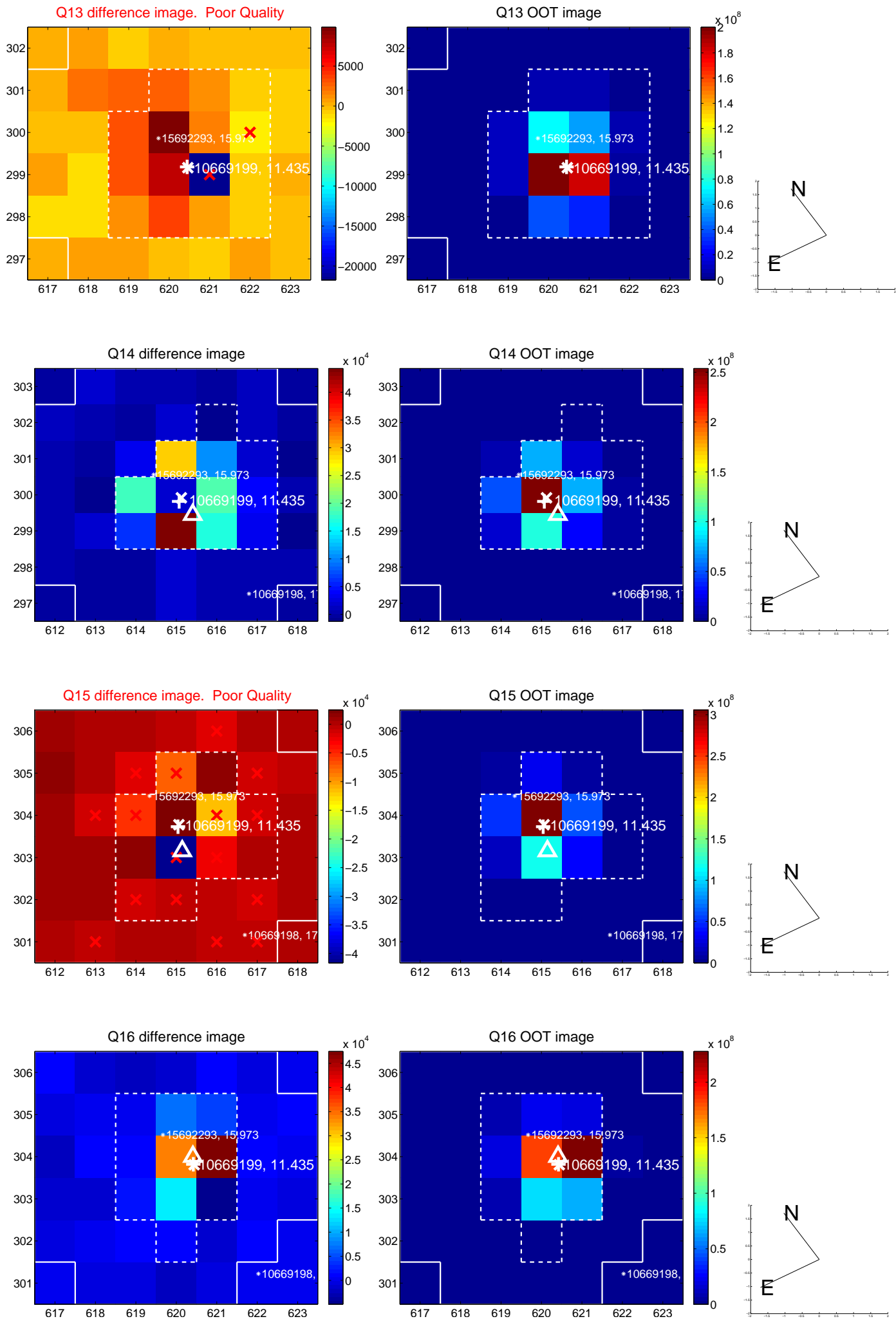
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



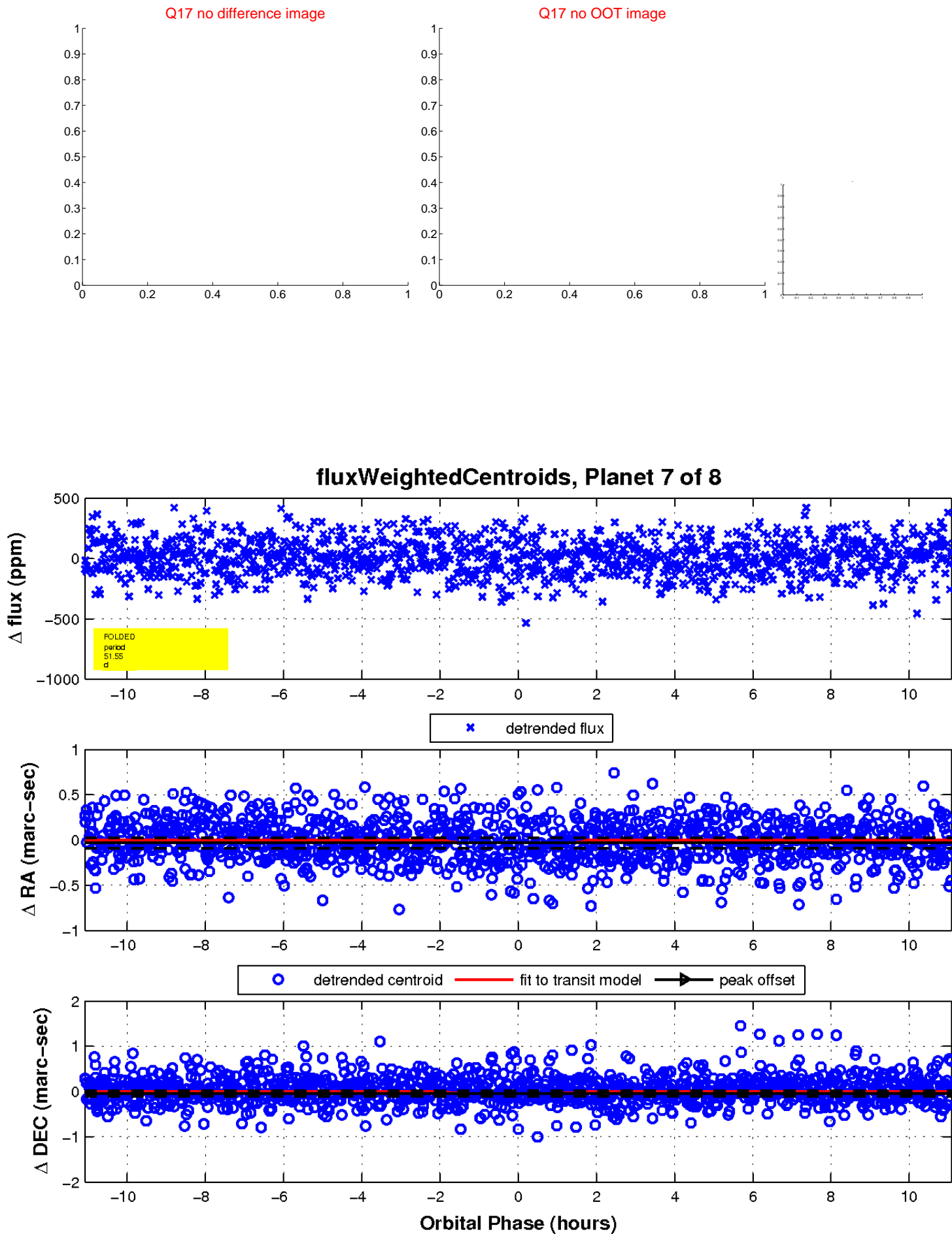
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

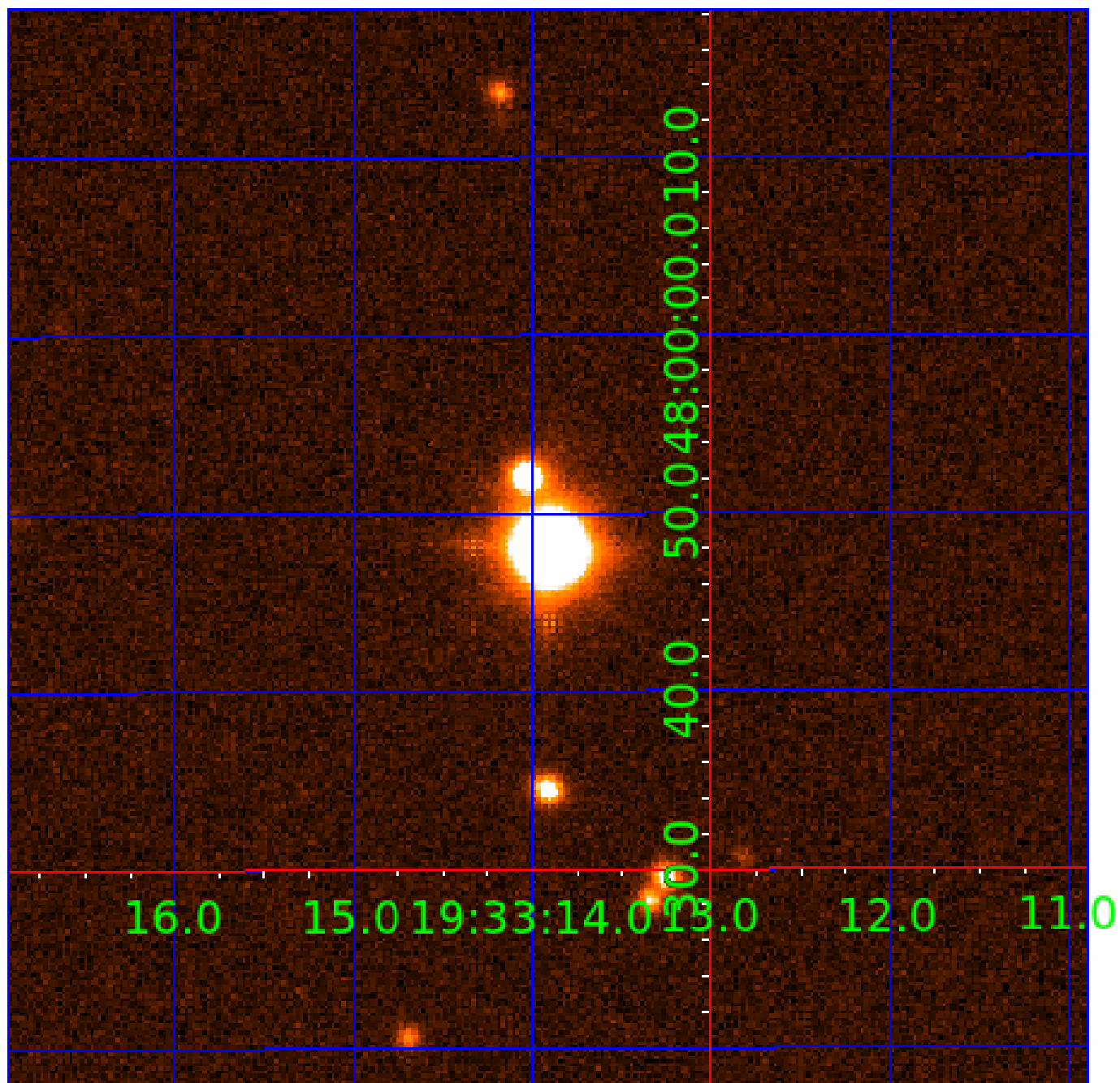


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010669199

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})
010669199-01	OBS	No	2.365917	133.353148	32.4	3.827	8.7	9.3	3.77	6706	2.56	15213.64
010669199-02	OBS	No	2.366238	132.509968	8.2	15.609	8.2	4.2	3.77	6706	1.23	15210.89
010669199-03	OBS	No	36.230542	142.052901	149.7	8.464	16.6	9.5	3.77	6706	5.22	400.07
010669199-04	OBS	No	79.516759	179.114902	223.9	5.813	13.3	12.0	3.77	6706	6.35	140.27
010669199-05	OBS	No	116.009317	206.927124	201.9	5.325	12.2	11.1	3.77	6706	6.07	84.77
010669199-06	OBS	No	42.674845	159.538475	188.6	3.547	11.6	12.3	3.77	6706	5.93	321.62
010669199-07	OBS	No	51.550093	162.071407	207.2	3.698	11.6	11.1	3.77	6706	6.06	249.99
010669199-08	OBS	No	30.890459	132.171688	166.5	6.266	10.7	10.4	3.77	6706	5.76	494.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669199-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
010669199-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
010669199-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
010669199-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

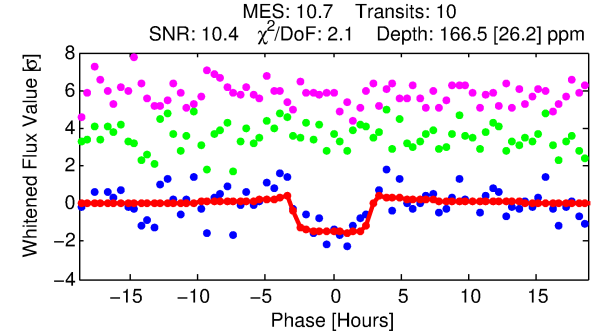
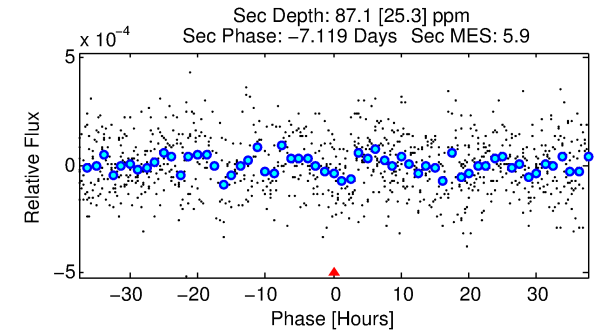
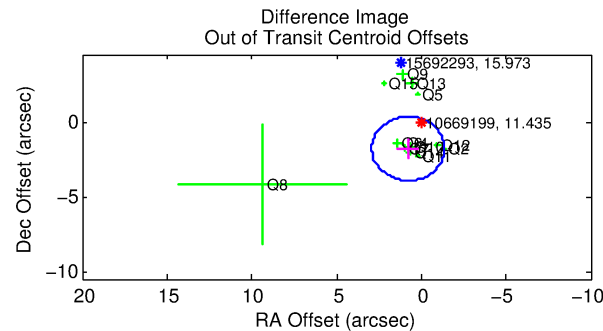
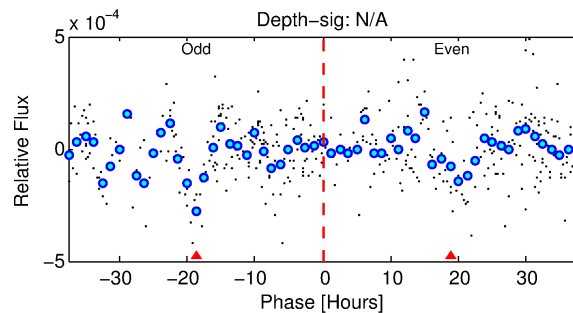
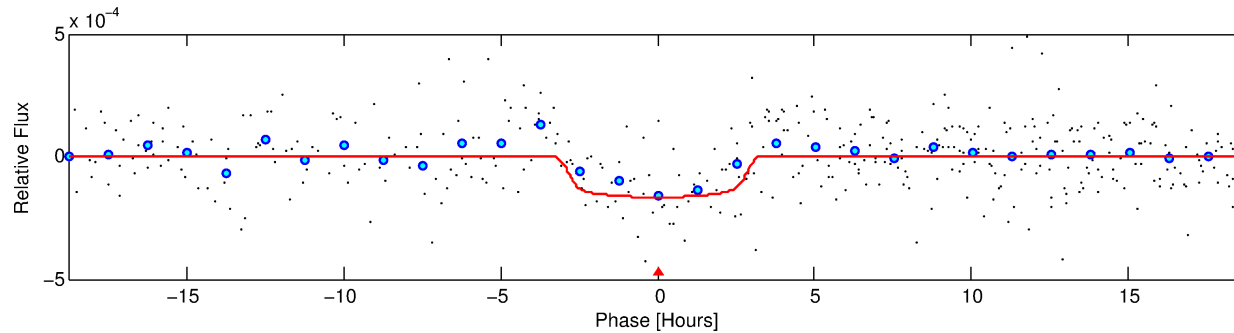
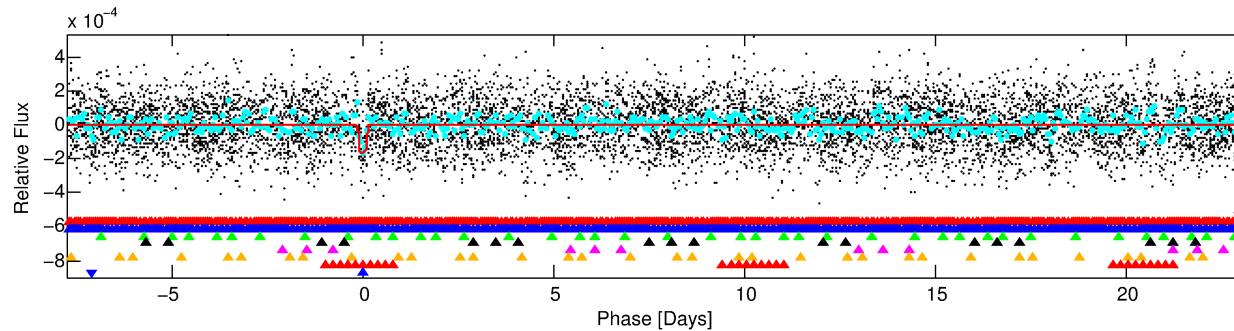
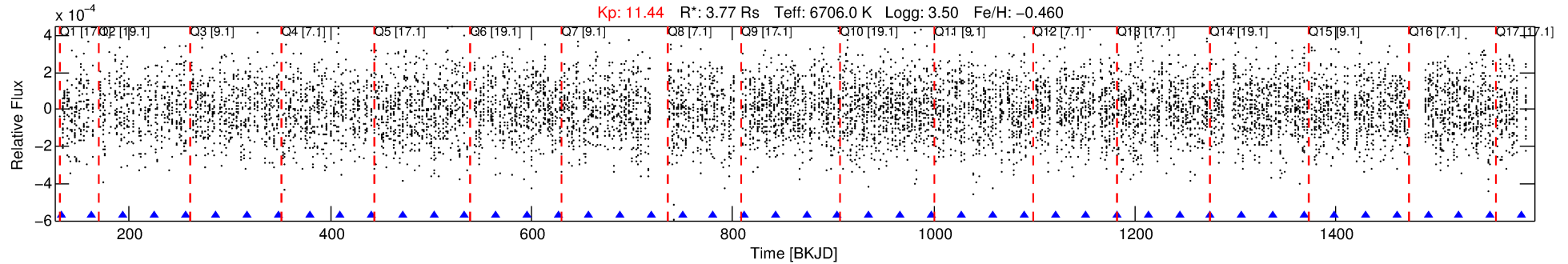
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669199-08

No Significant Match Found

DV One-Page Summary

KIC: 10669199 Candidate: 8 of 8 Period: 30.890 d



DV Fit Results:

Period = 30.89046 [0.00062] d
 Epoch = 132.1717 [0.0152] BKJD
 Rp/R* = 0.0140 [0.0027]
 a/R* = 16.04 [16.07]
 b = 0.92 [0.17]
 Seff = 494.84 [337.39]
 Teq = 1203 [205] K
 Rp = 5.76 [2.80] Re
 a = 0.2281 [0.0965] AU
 Ag = 75.04 [62.13] [1.19σ]
 Teffp = 5473 [683] K [5.99σ]

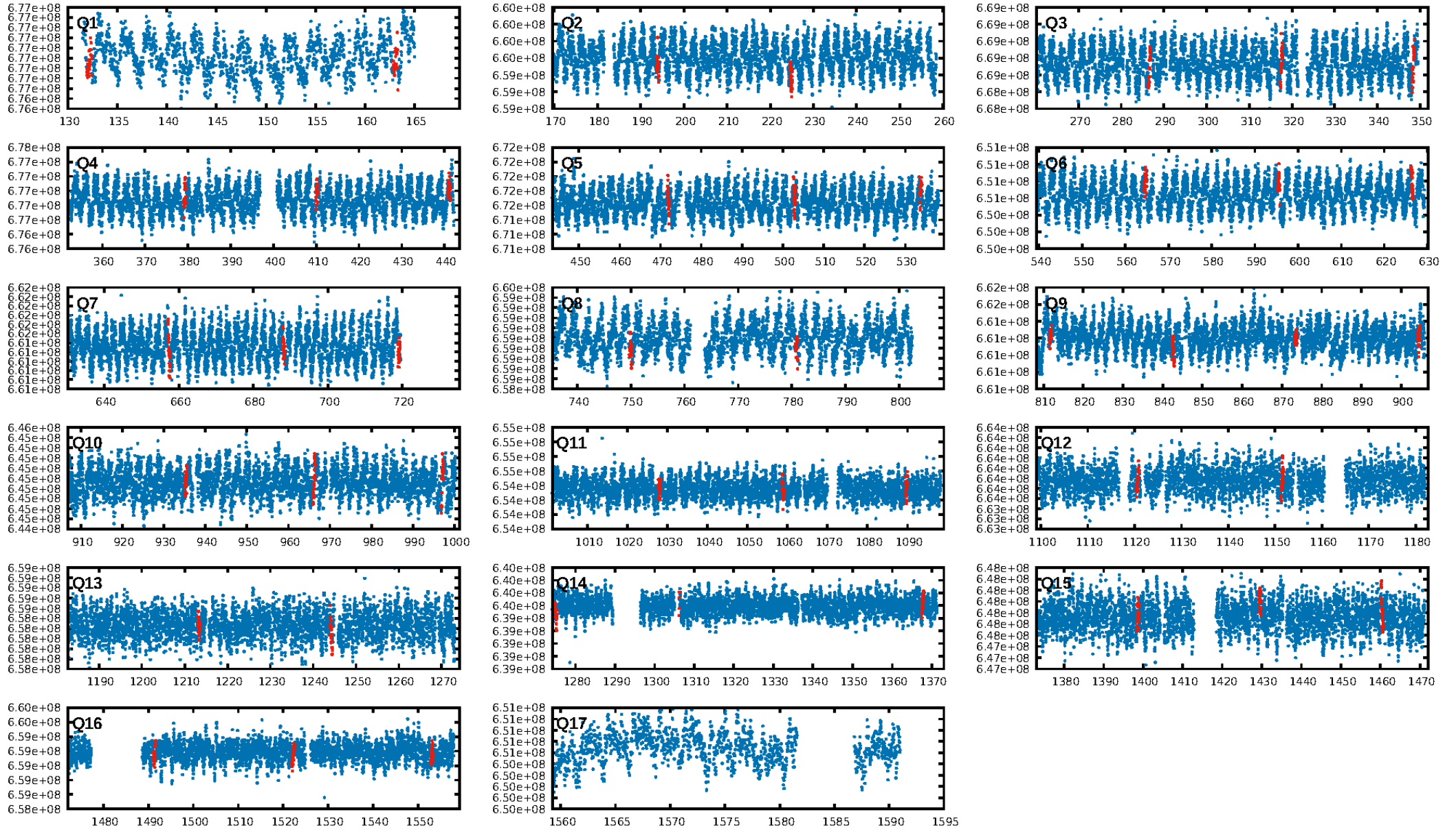
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.70σ]
 LongPeriod-sig: 100.0% [12.17σ]
 ModelChiSquare2-sig: 15.8%
 ModelChiSquareGof-sig: 99.8%
 Bootstrap-pfa: N/A
 RollingBand-fgt: 1.00 [10/10]
 GhostDiagnostic-chr: 2.148
 Centroid-sig: 26.5%
 Centroid-so: 0.160 arcsec [0.64σ]
 OotOffset-rm: 1.959 arcsec [2.75σ]
 KicOffset-rm: 1.305 arcsec [1.91σ]
 OotOffset-st: 4/3/3/3 [13]
 KicOffset-st: 4/3/3/3 [13]
 DiffImageQuality-fgm: 0.46 [6/13]
 DiffImageOverlap-fno: 0.06 [1/16]

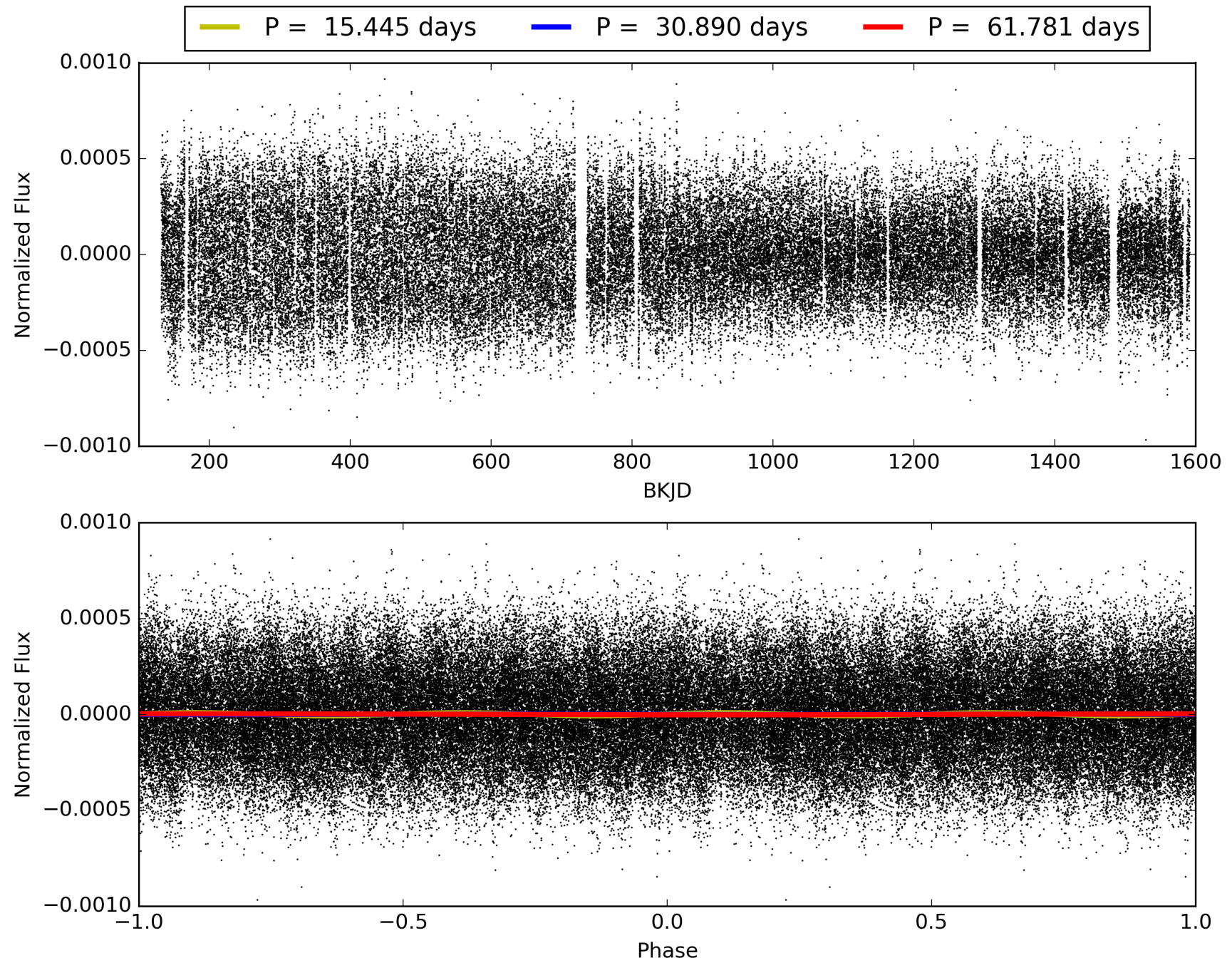
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:42:34 Z

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

TCE 010669199-08, PDC Light Curves

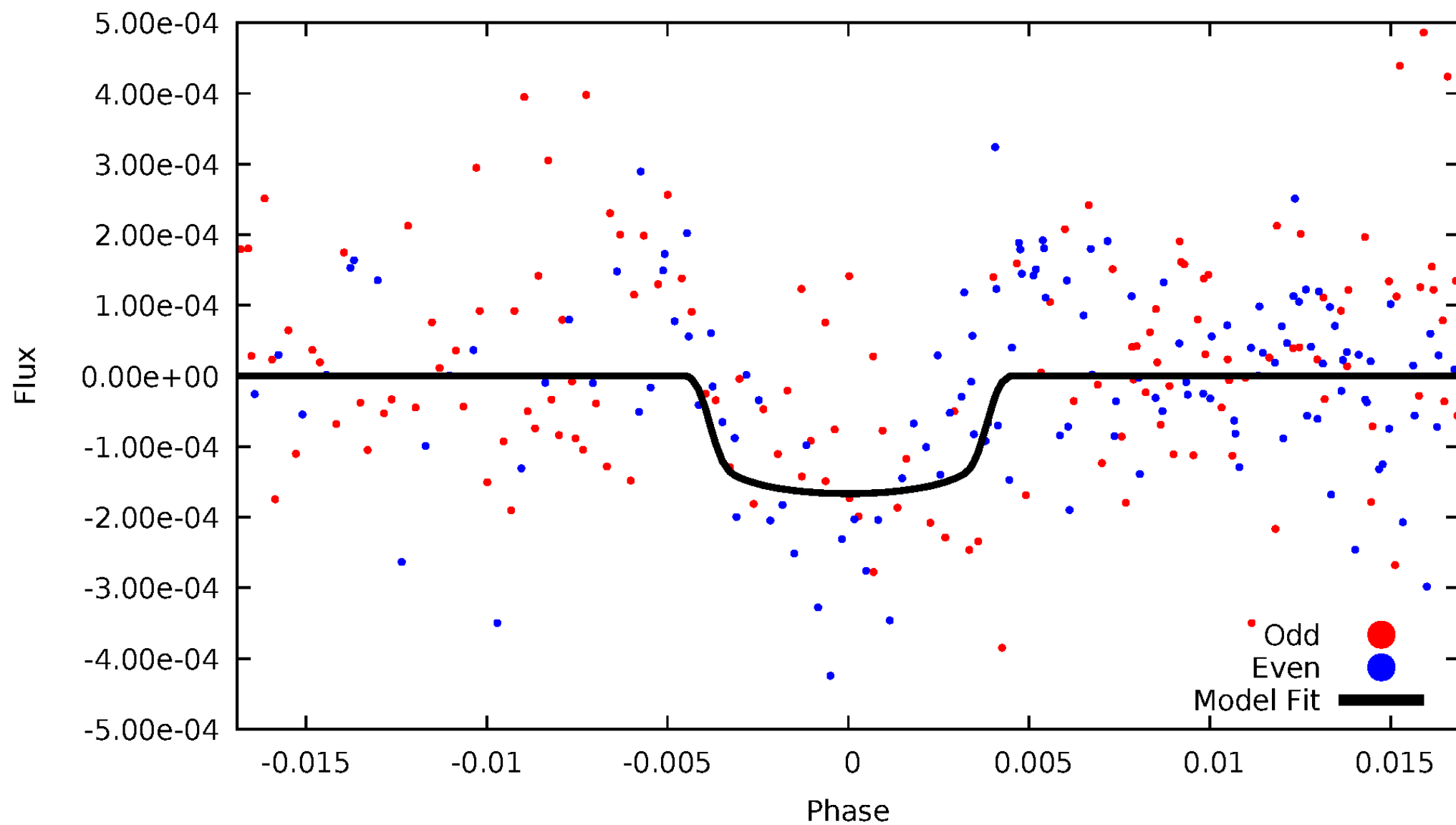


TCE 010669199-08



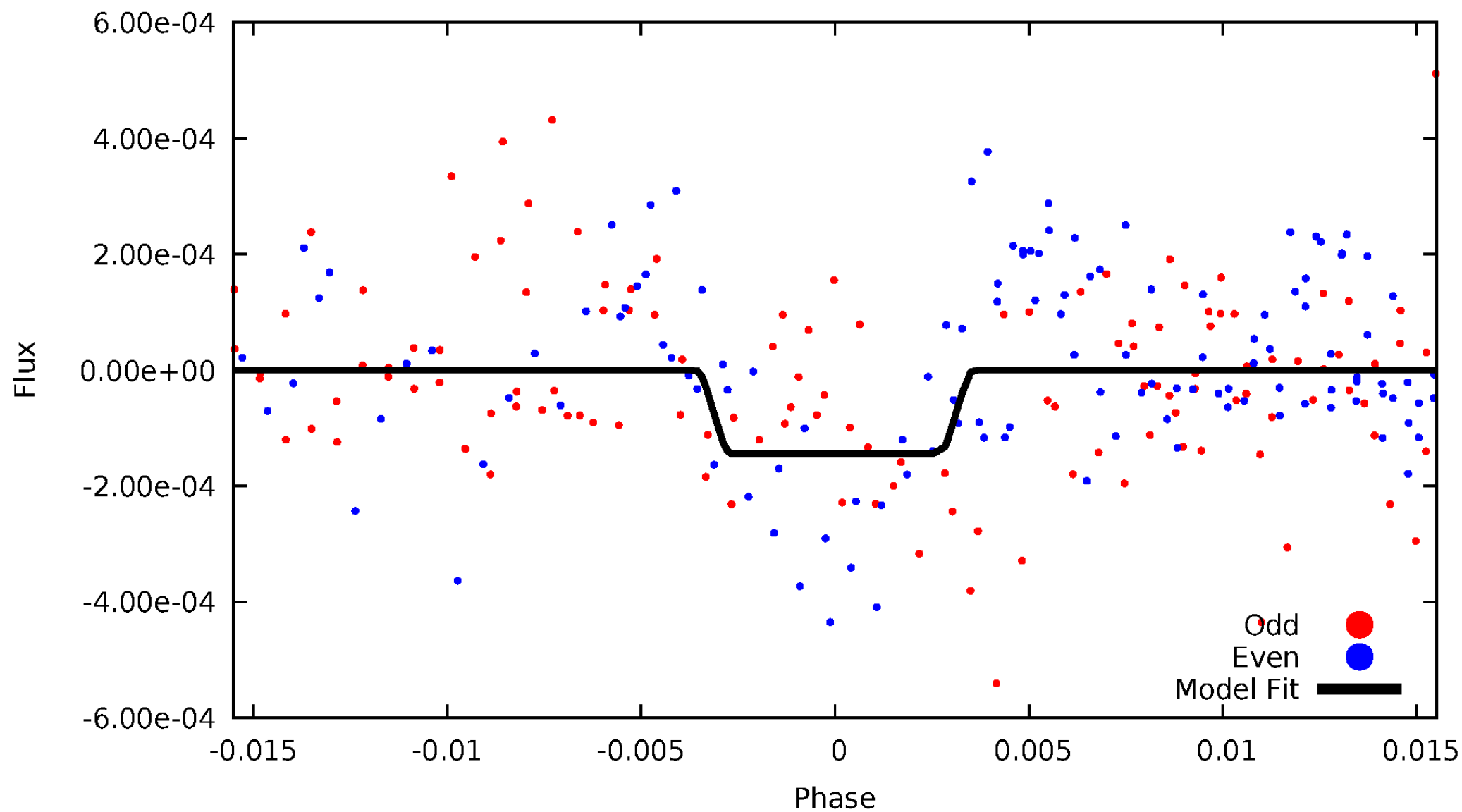
DV Odd/Even

TCE 010669199-08



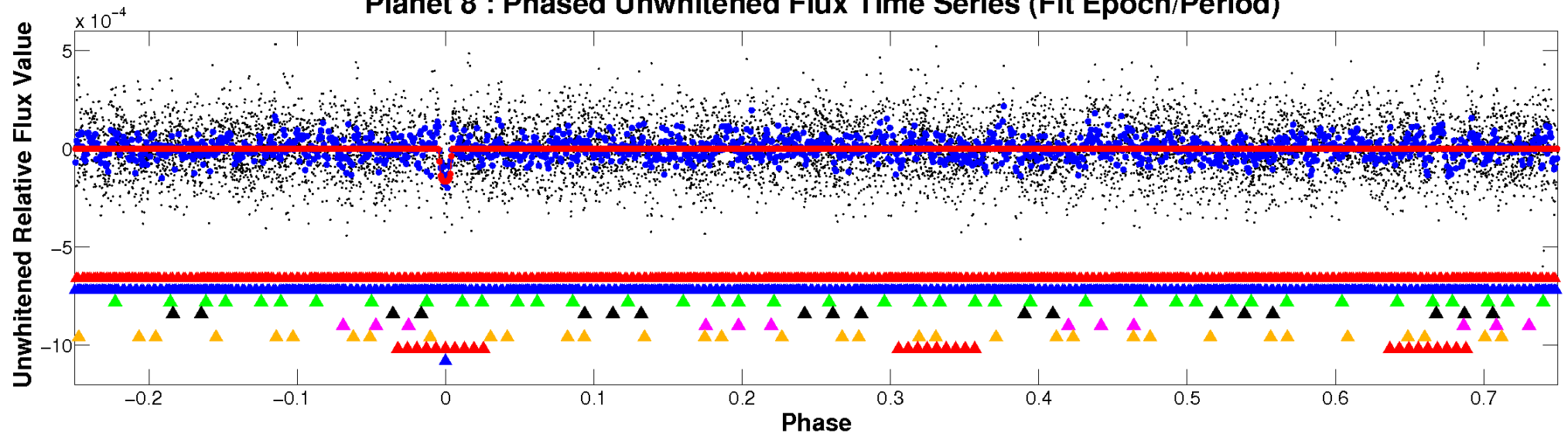
ALT Odd/Even

TCE 010669199-08

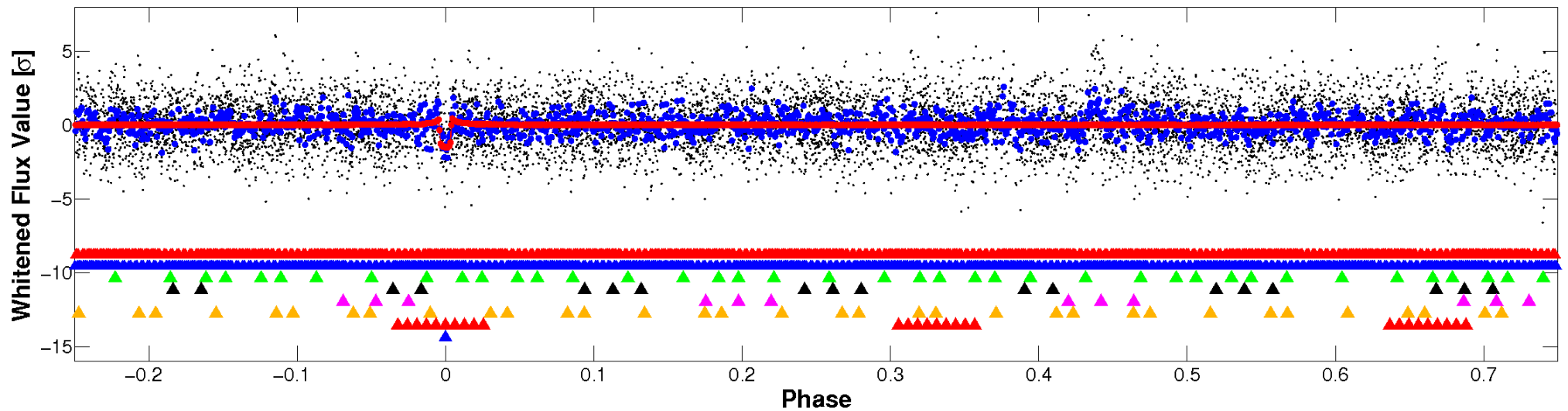


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

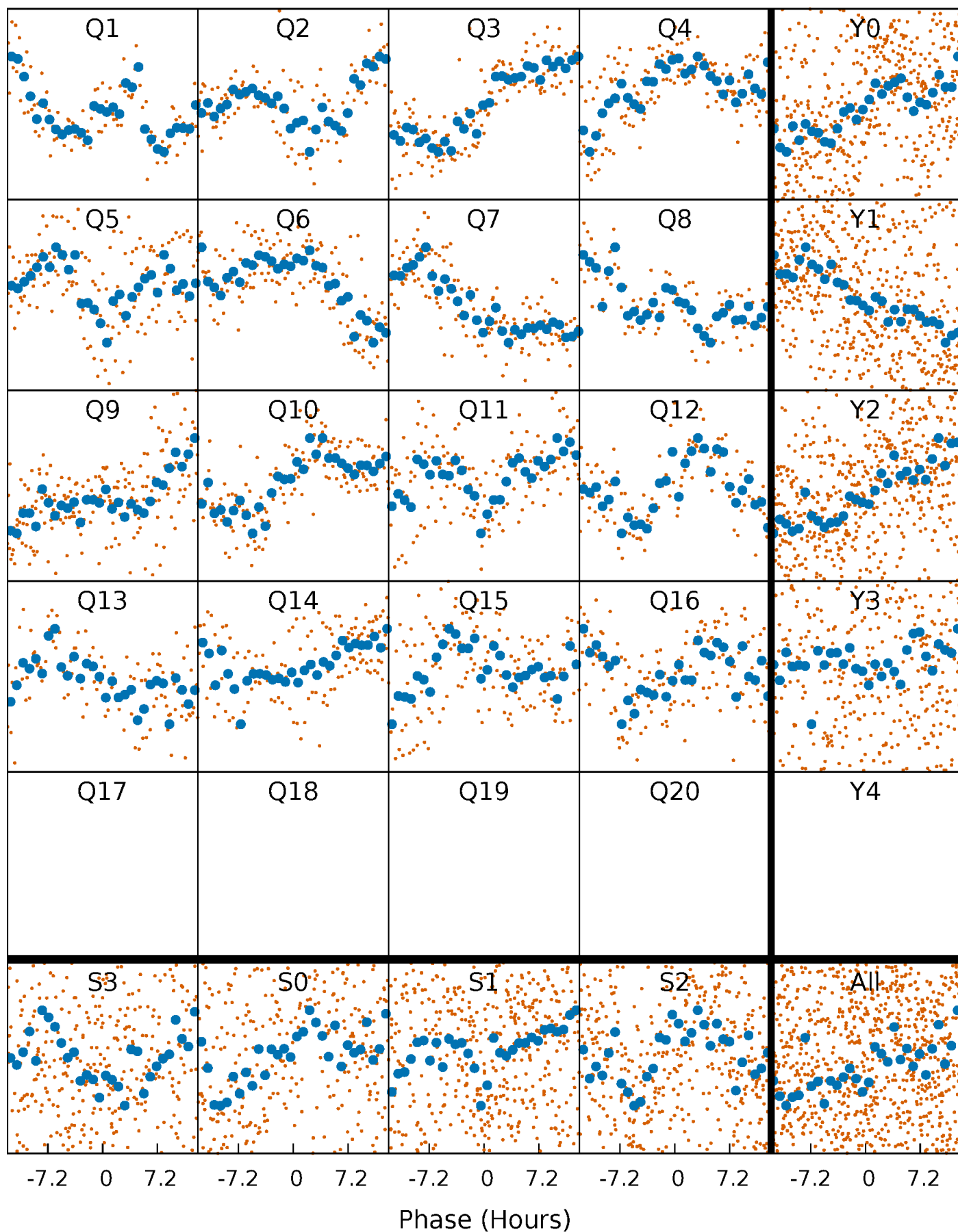


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



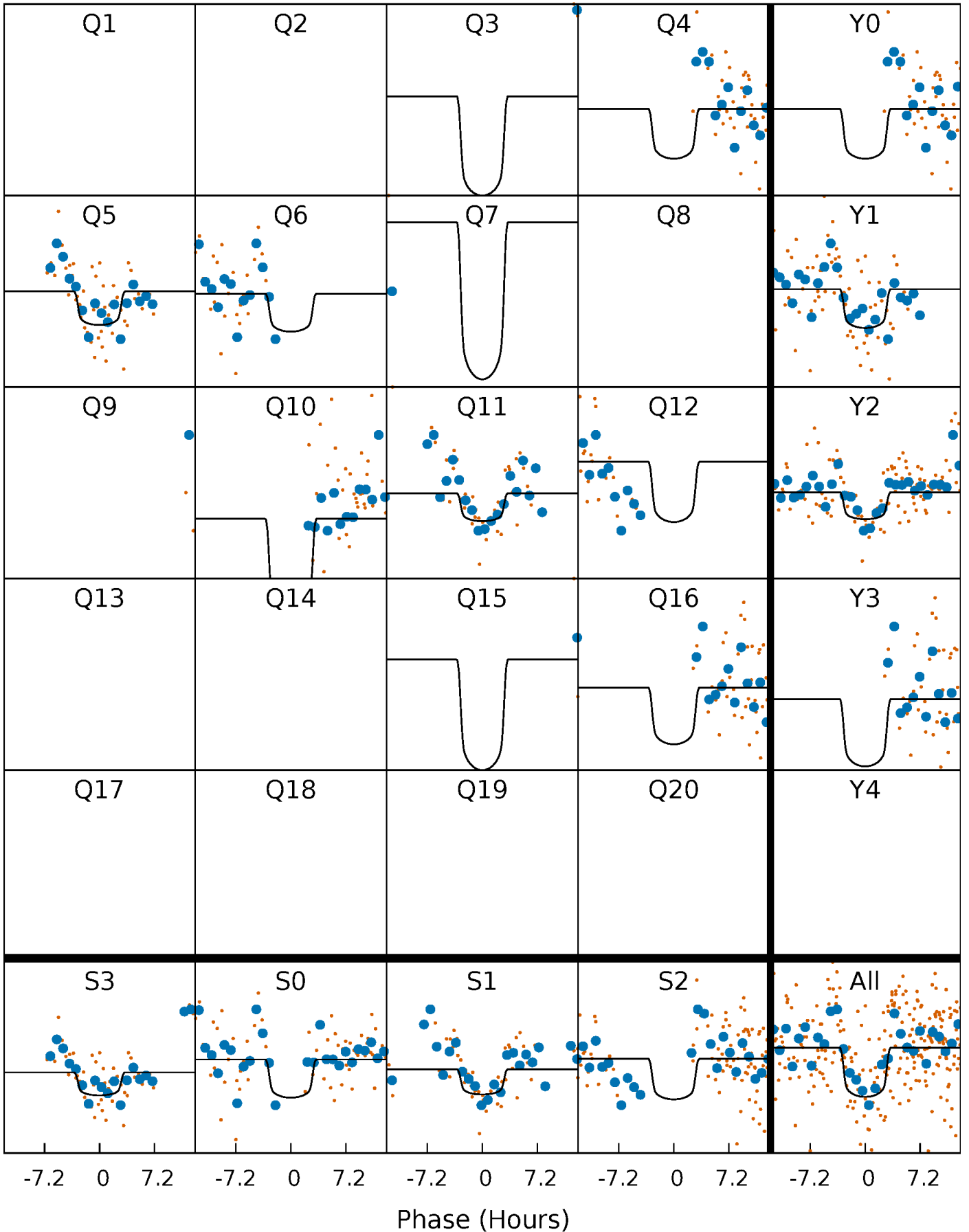
PDC Quarter-Phased Transit Curves

TCE 010669199-08 $P = 30.890459$ Days $T_0 = 132.171688$ (BKJD)



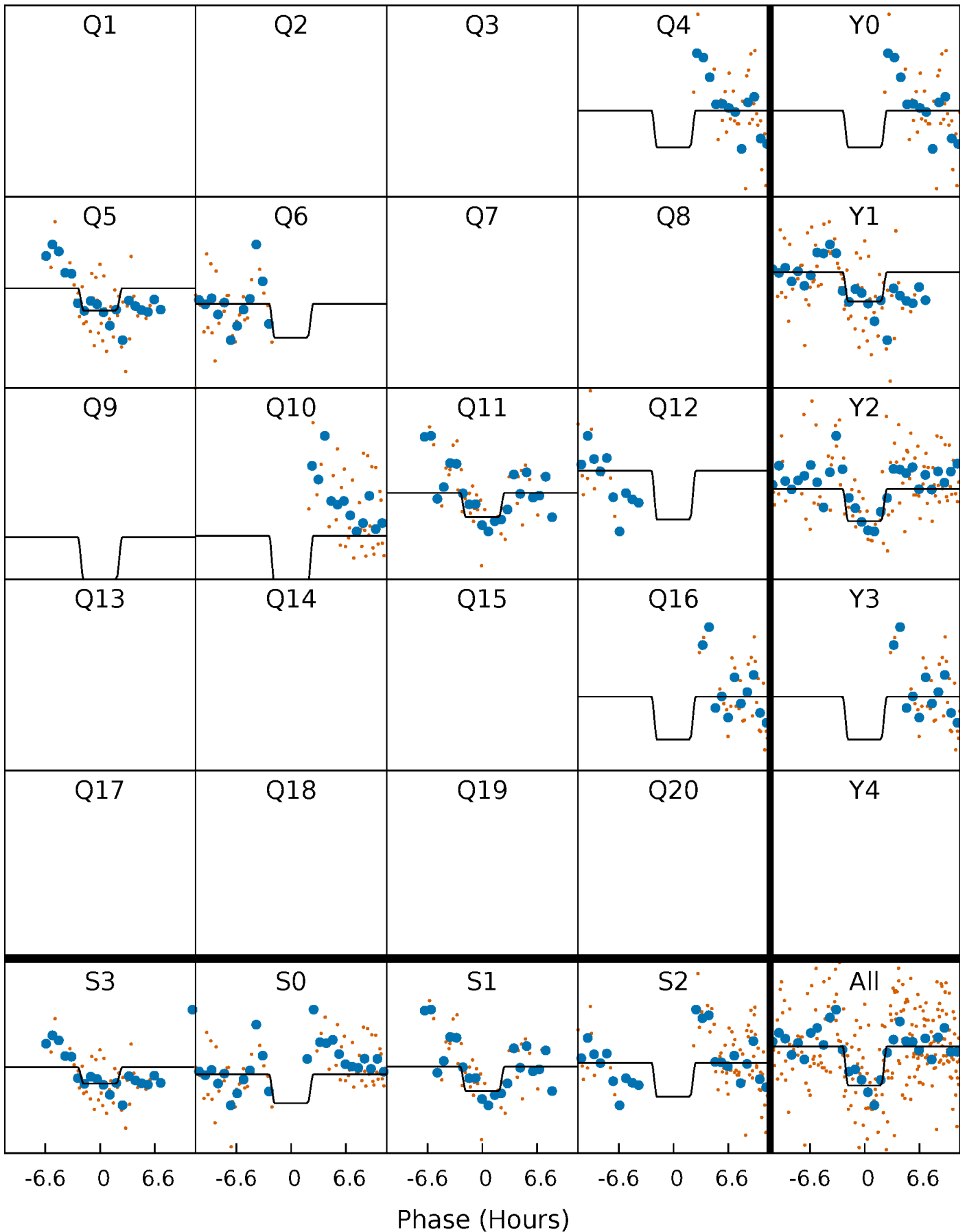
DV Quarter-Phased Transit Curves

TCE 010669199-08 $P = 30.890459$ Days $T_0 = 132.171688$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

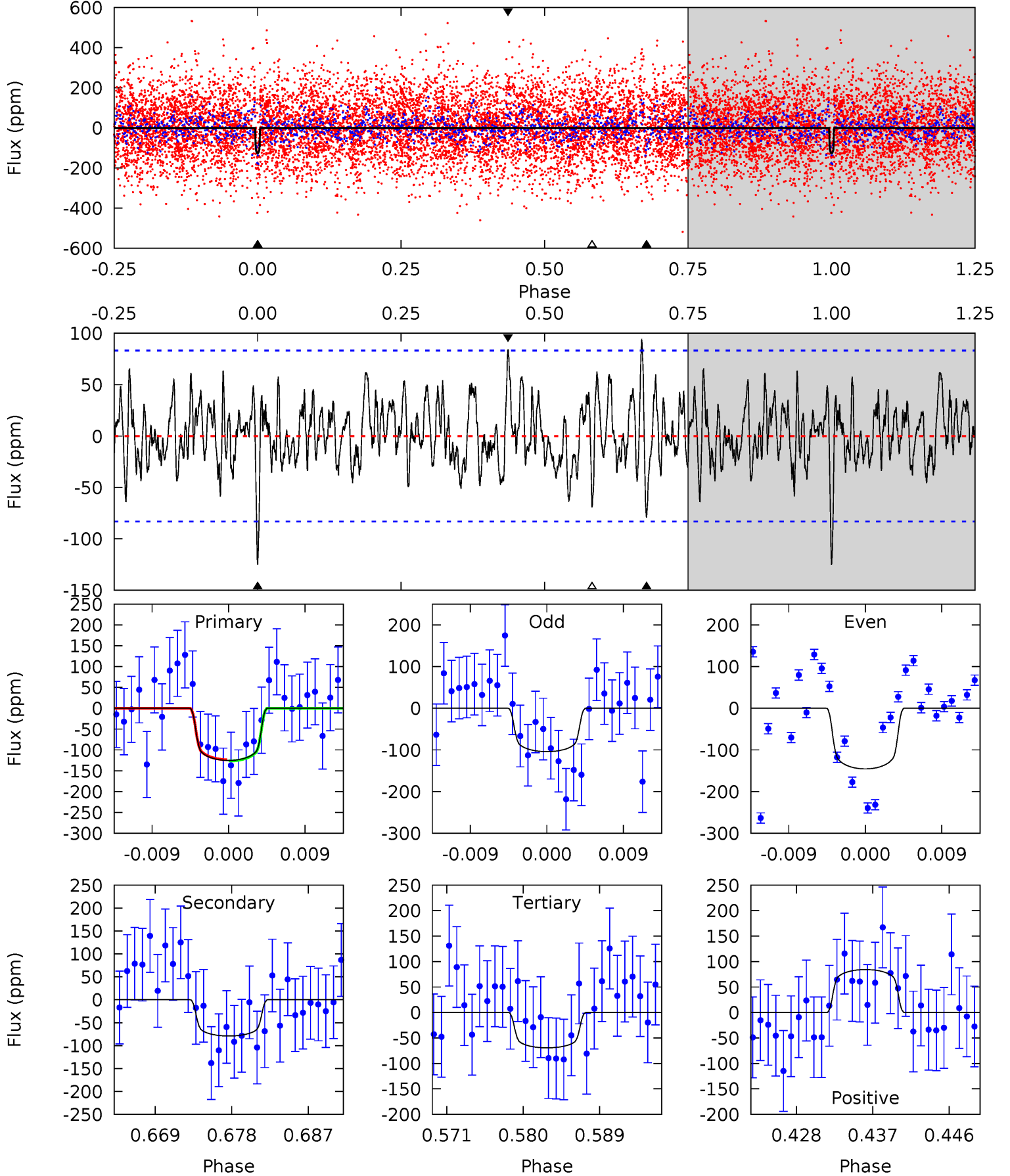
TCE 010669199-08 $P = 30.889699$ Days $T_0 = 132.183018$ (BKJD)



DV Model-Shift Uniqueness Test

010669199-08, $P = 30.890459$ Days, $E = 101.281229$ Days

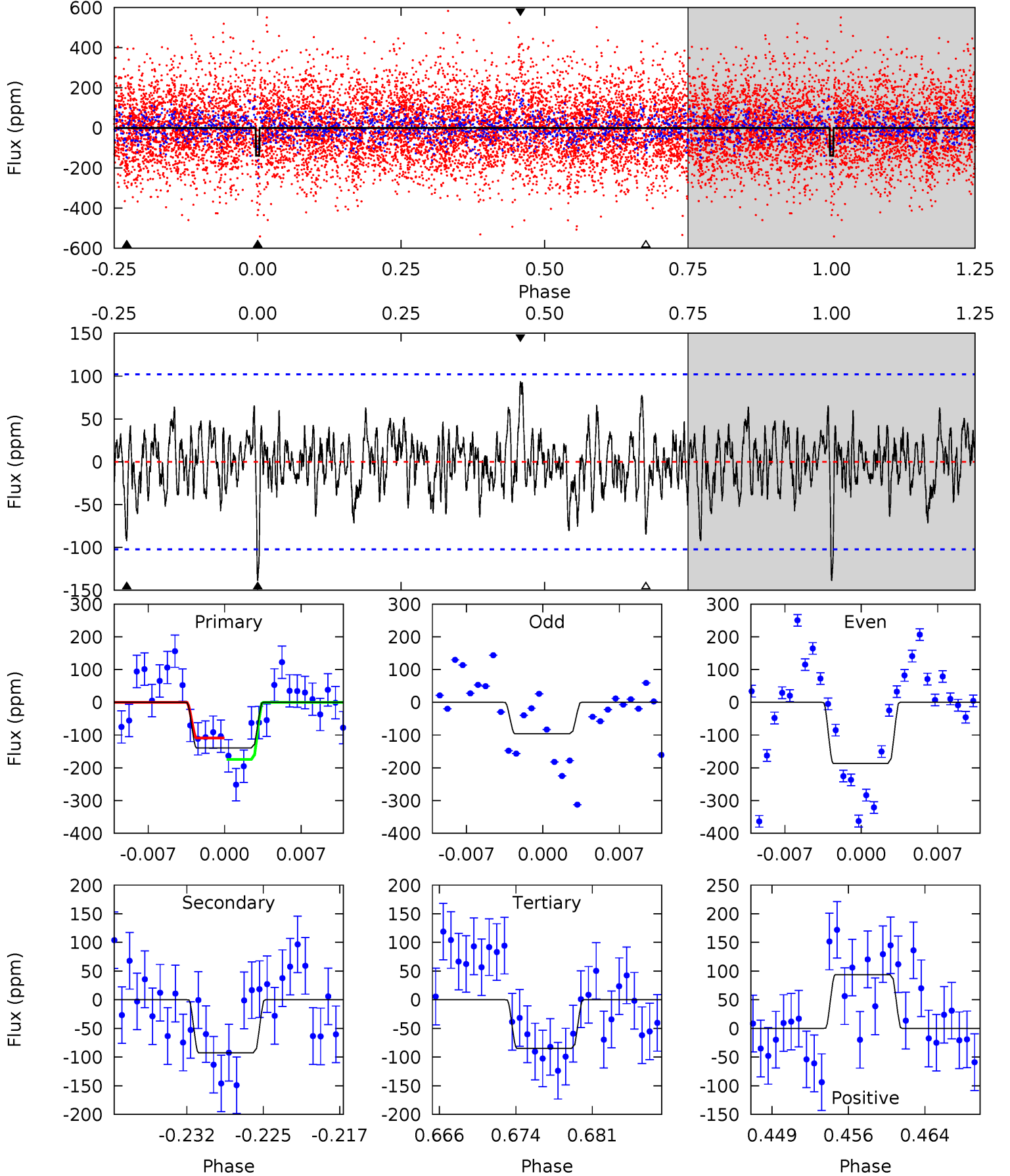
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.60	4.80	4.21	5.12	5.05	2.62	1.61	3.39	2.49	0.59	-0.32	1.25	0.83	0.43	0.09



Alt Model-Shift Uniqueness Test

010669199-08, P = 30.889699 Days, E = 101.293319 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.93	4.61	4.23	4.68	5.09	2.69	1.35	2.70	2.25	0.38	-0.07	2.26	0.89	0.40	1.64



Stellar Parameters For KIC 010669199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6706^{+167}_{-201}	$3.505^{+0.392}_{-0.098}$	$-0.460^{+0.350}_{-0.300}$	$3.769^{+0.420}_{-1.681}$	$1.659^{+0.218}_{-0.406}$	$0.044^{+0.151}_{-0.013}$
	+2%/-3%	+11%/-3%	+76%/-65%	+11%/-45%	+13%/-24%	+347%/-29%
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 010669199-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-79 ± 16	$5.35^{+1.50}_{-1.47}$	1655^{+86}_{-187}	5326^{+649}_{-459}	77^{+69}_{-31}
Alt.	-93 ± 20	$4.67^{+1.37}_{-1.41}$	1645^{+93}_{-156}	5937^{+927}_{-606}	121^{+122}_{-52}

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 $A_{obs} \gg 1.0$

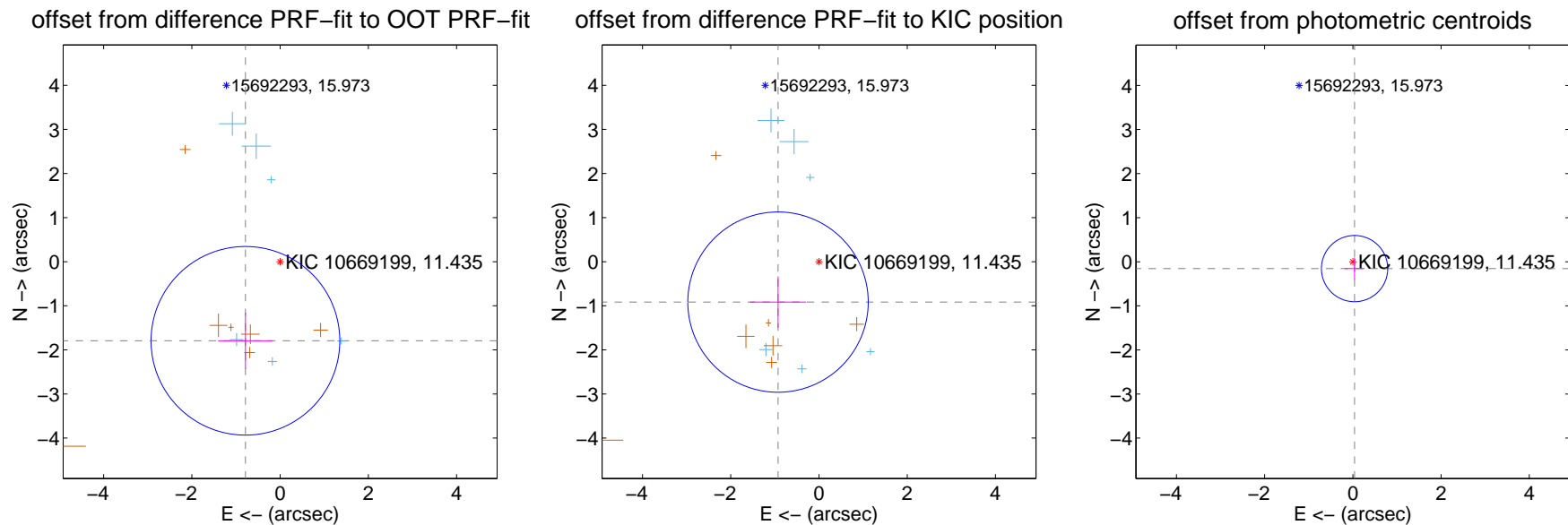
DV Centroid Data

Supplemental centroid analysis for 010669199-08. **Kepler magnitude: 11.44.** Transit SNR 10.39

There are 6 quarters with good PRF difference image offsets

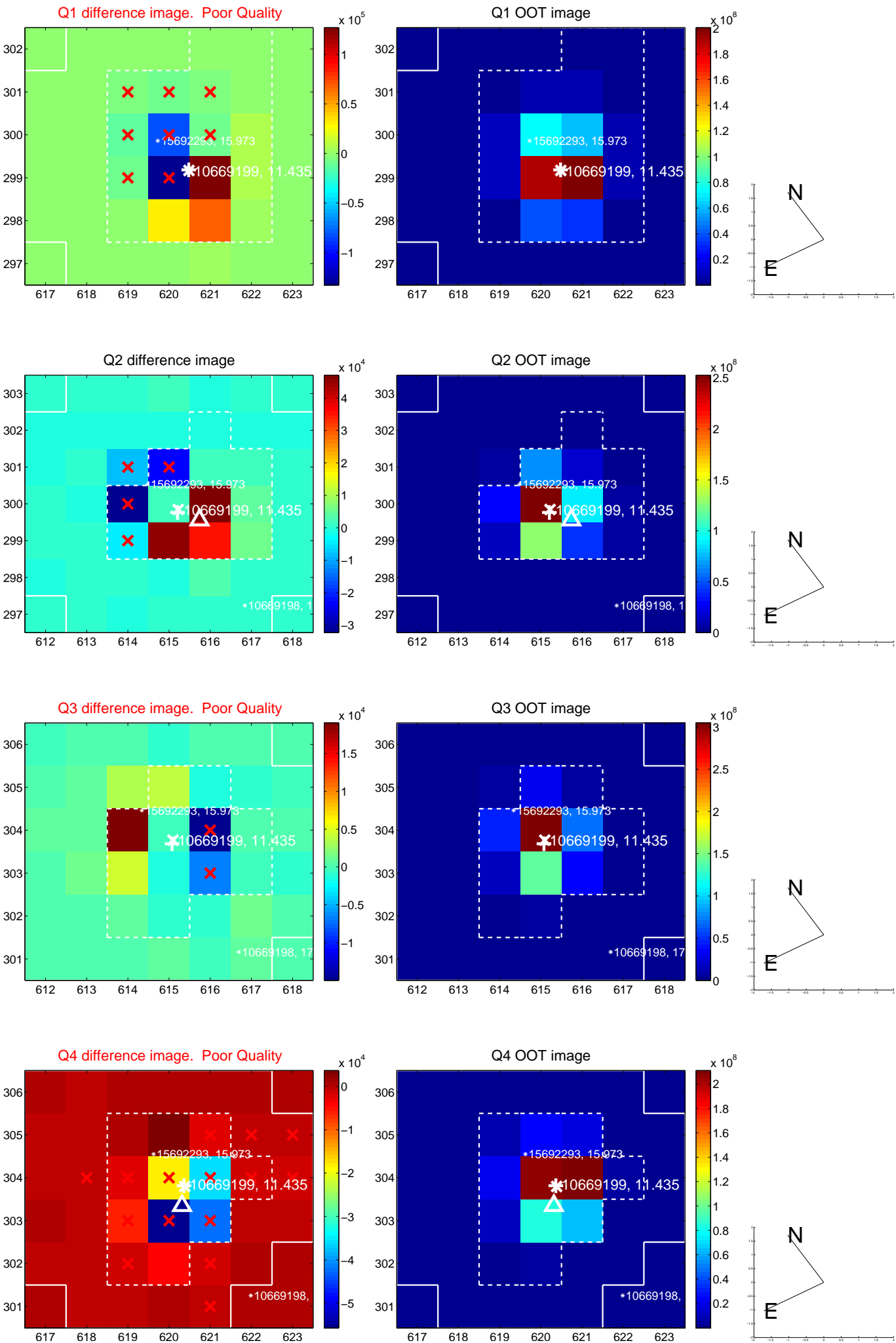
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.959 ± 0.713	2.75	0.786 ± 0.620	-1.794 ± 0.635
PRF-fit source offset from KIC position	1.305 ± 0.681	1.91	0.928 ± 0.634	-0.917 ± 0.582
photometric centroid source offset	0.16 ± 0.25	0.64	-0.04 ± 0.22	-0.15 ± 0.25

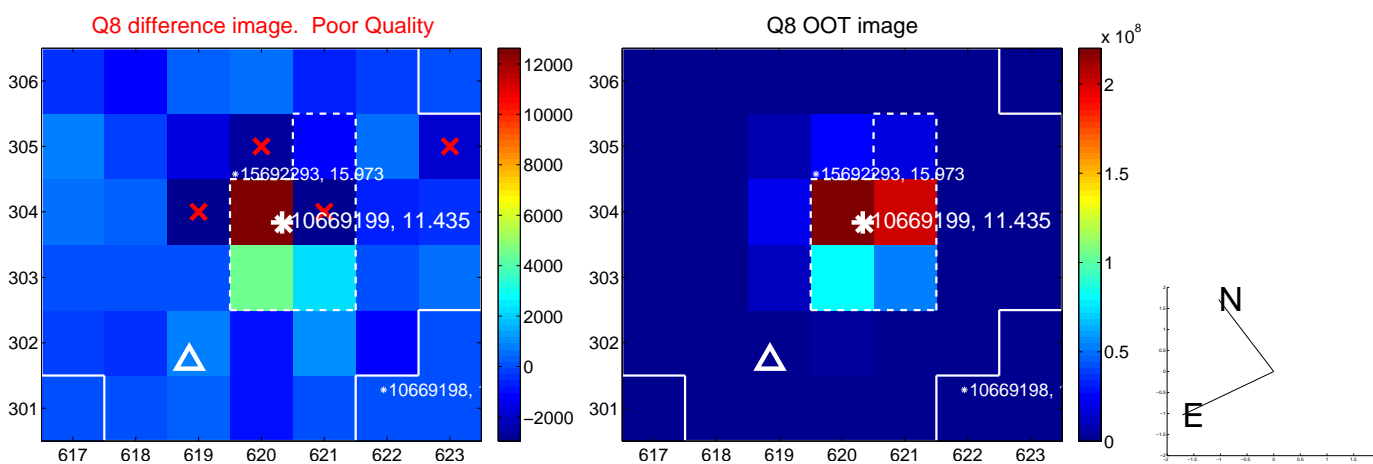
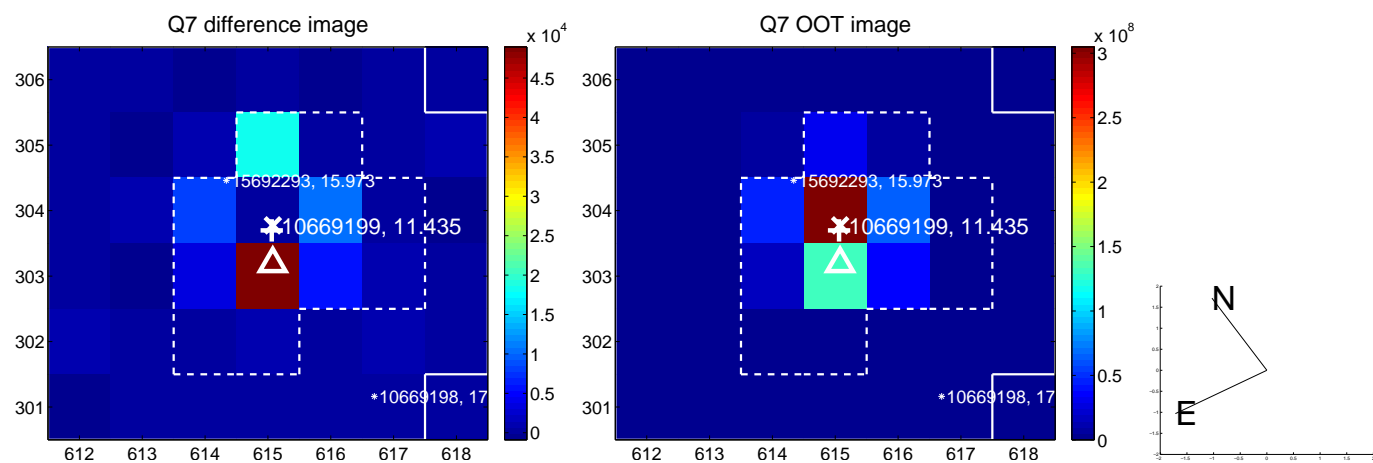
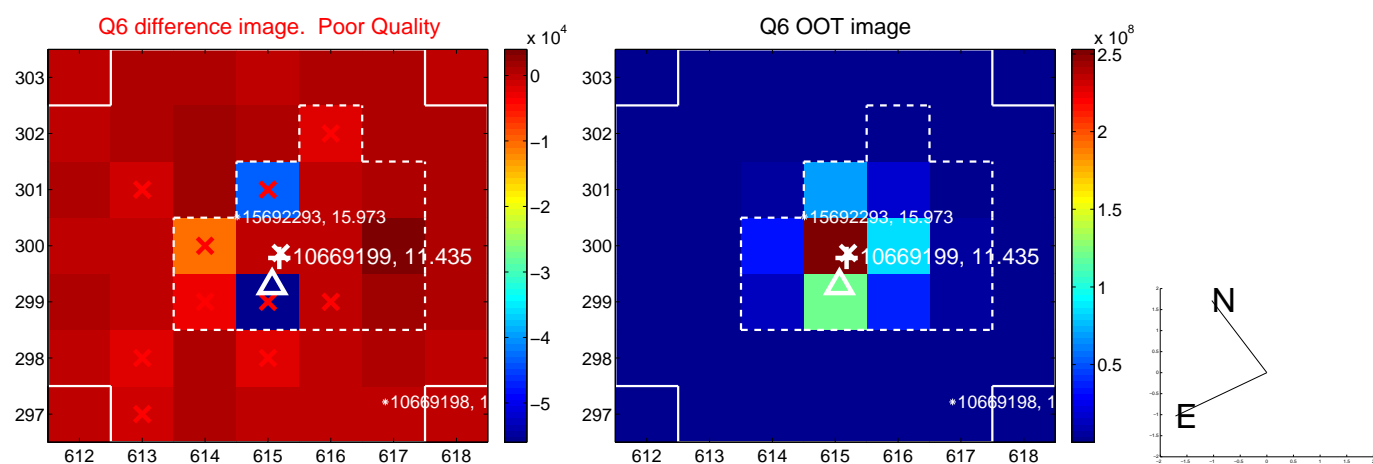
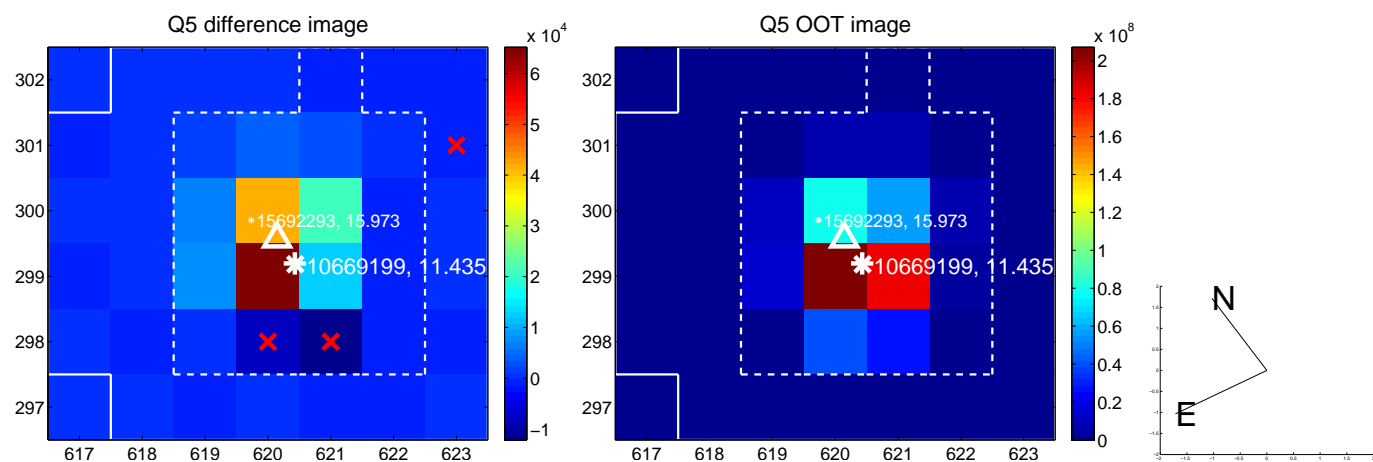


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

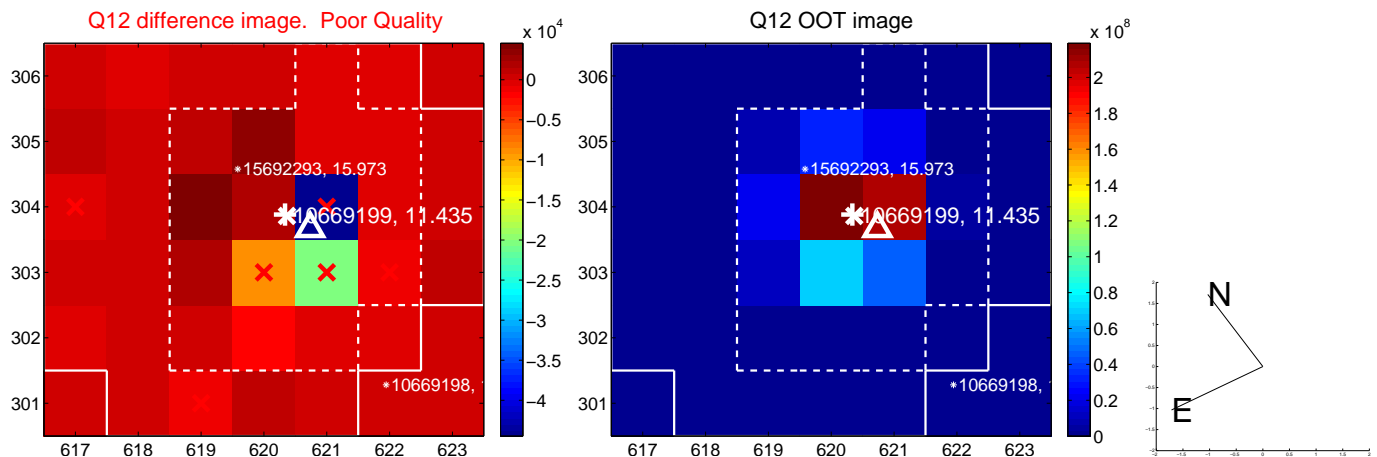
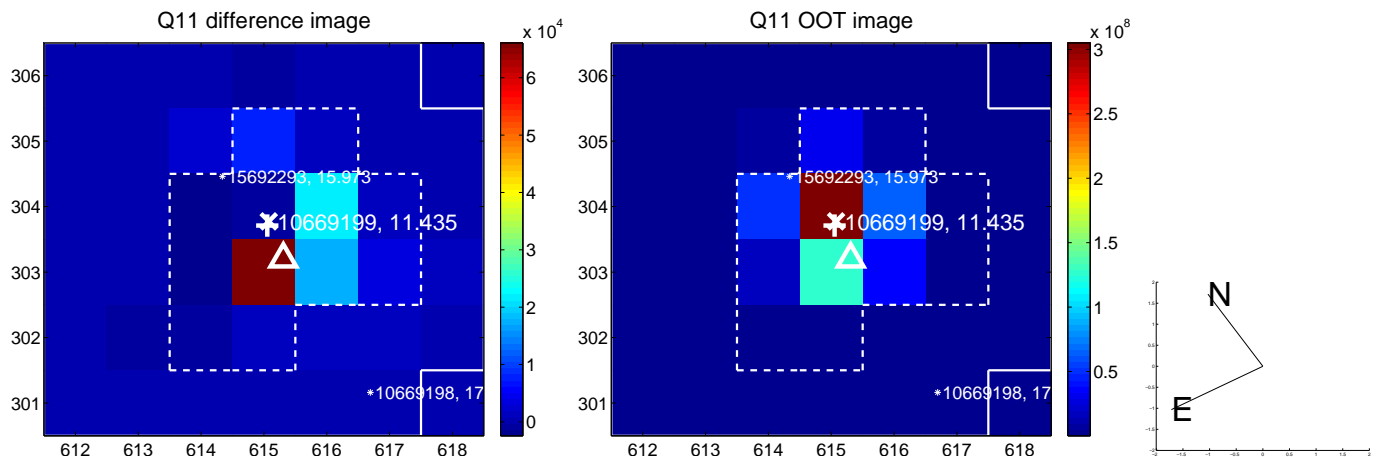
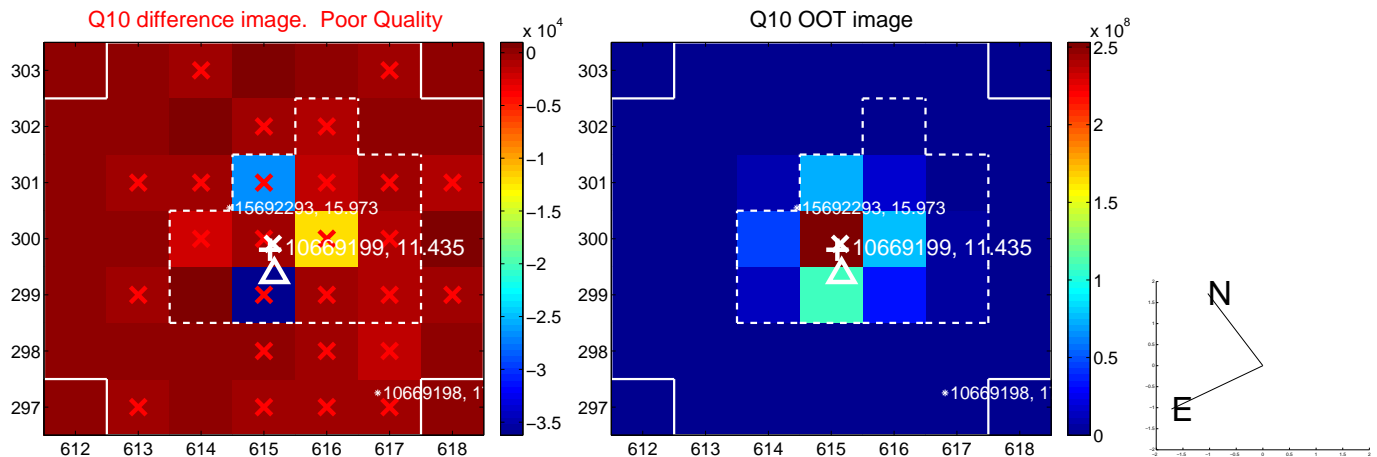
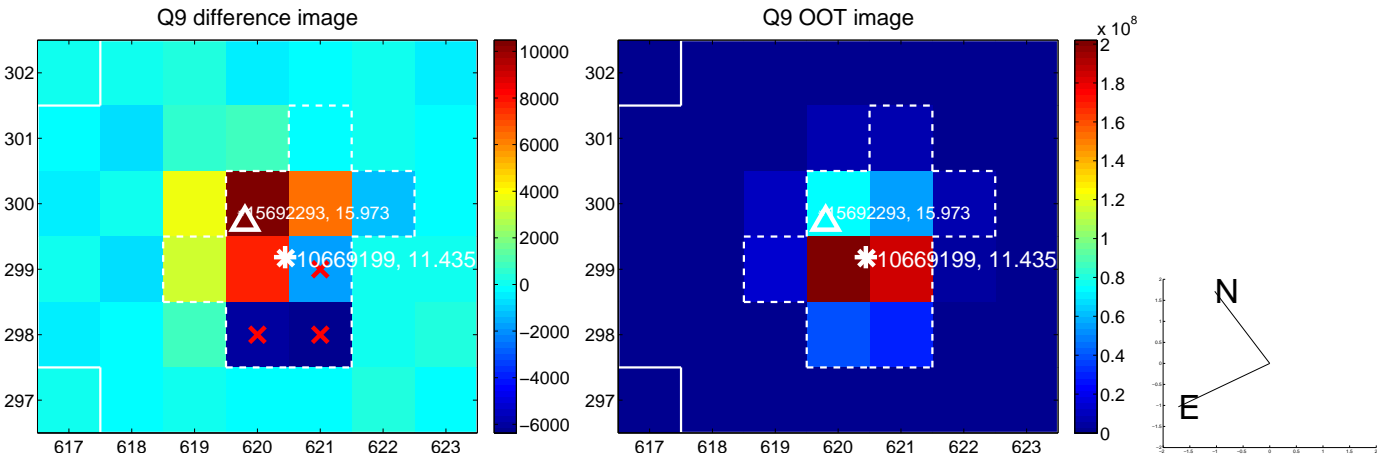
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



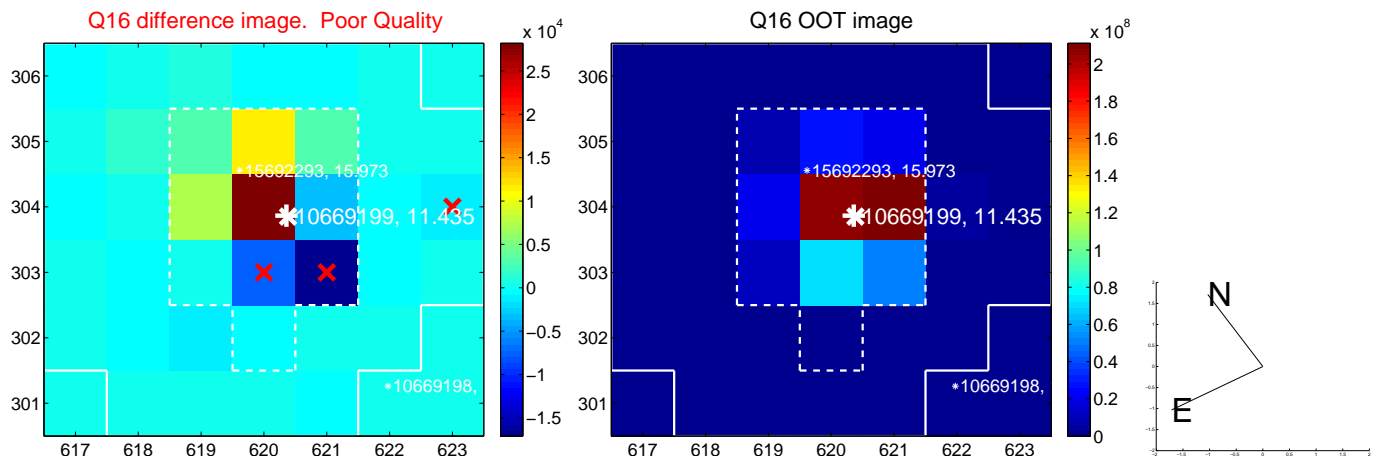
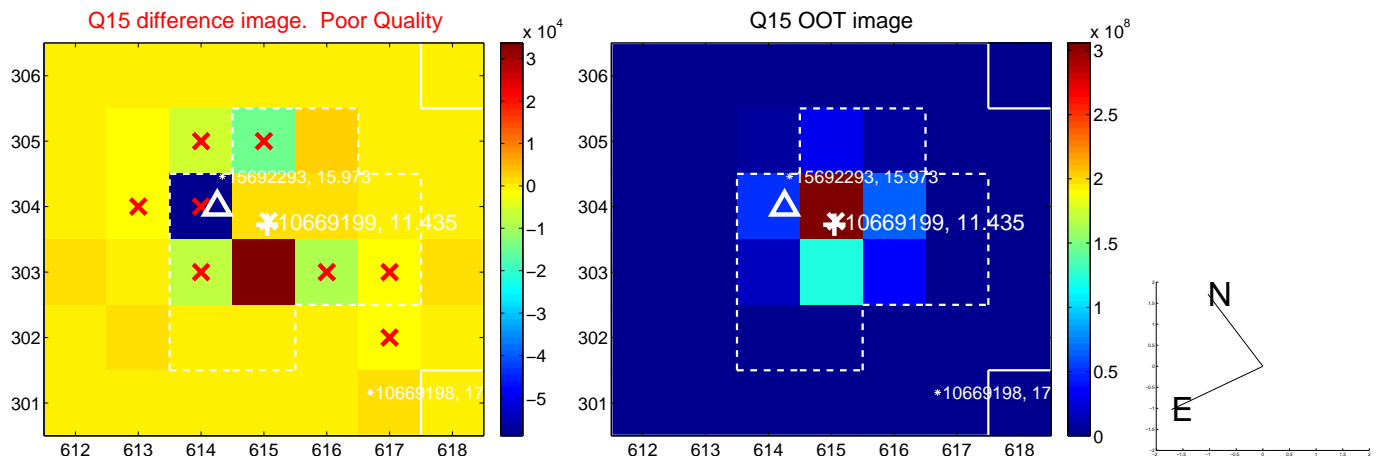
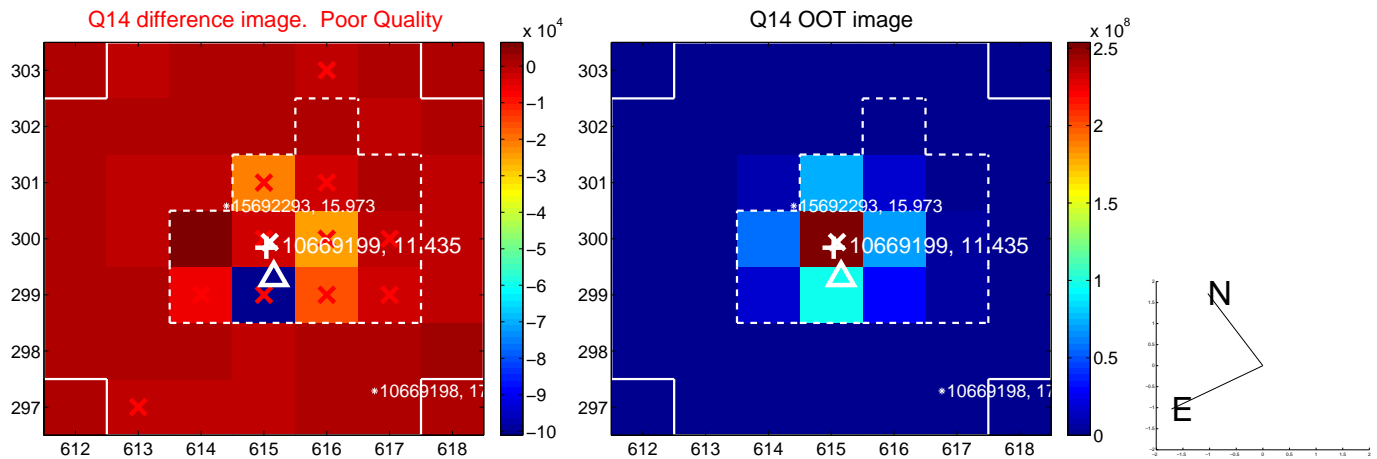
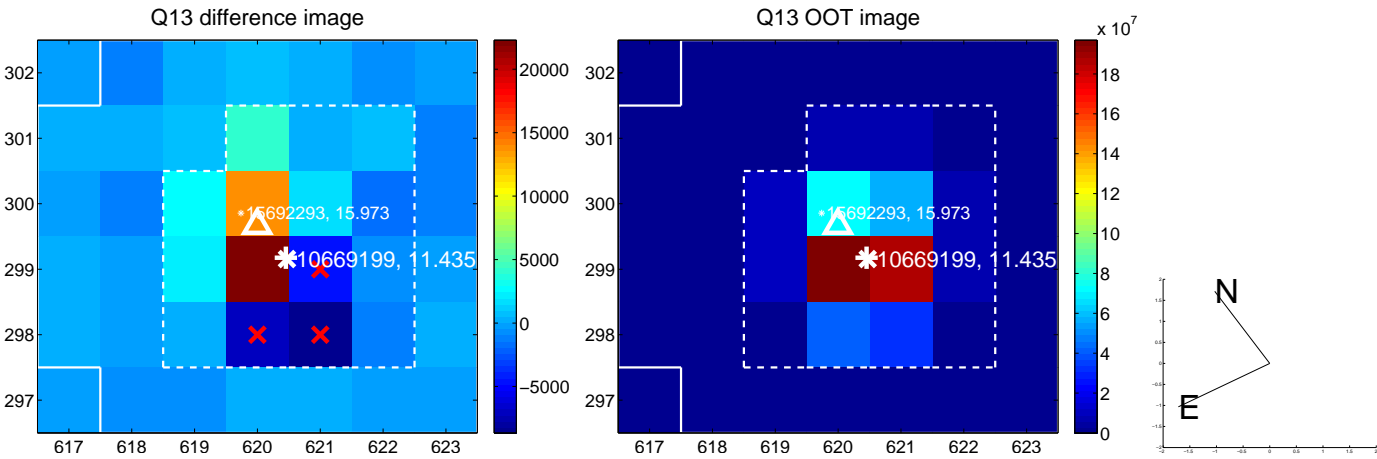
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



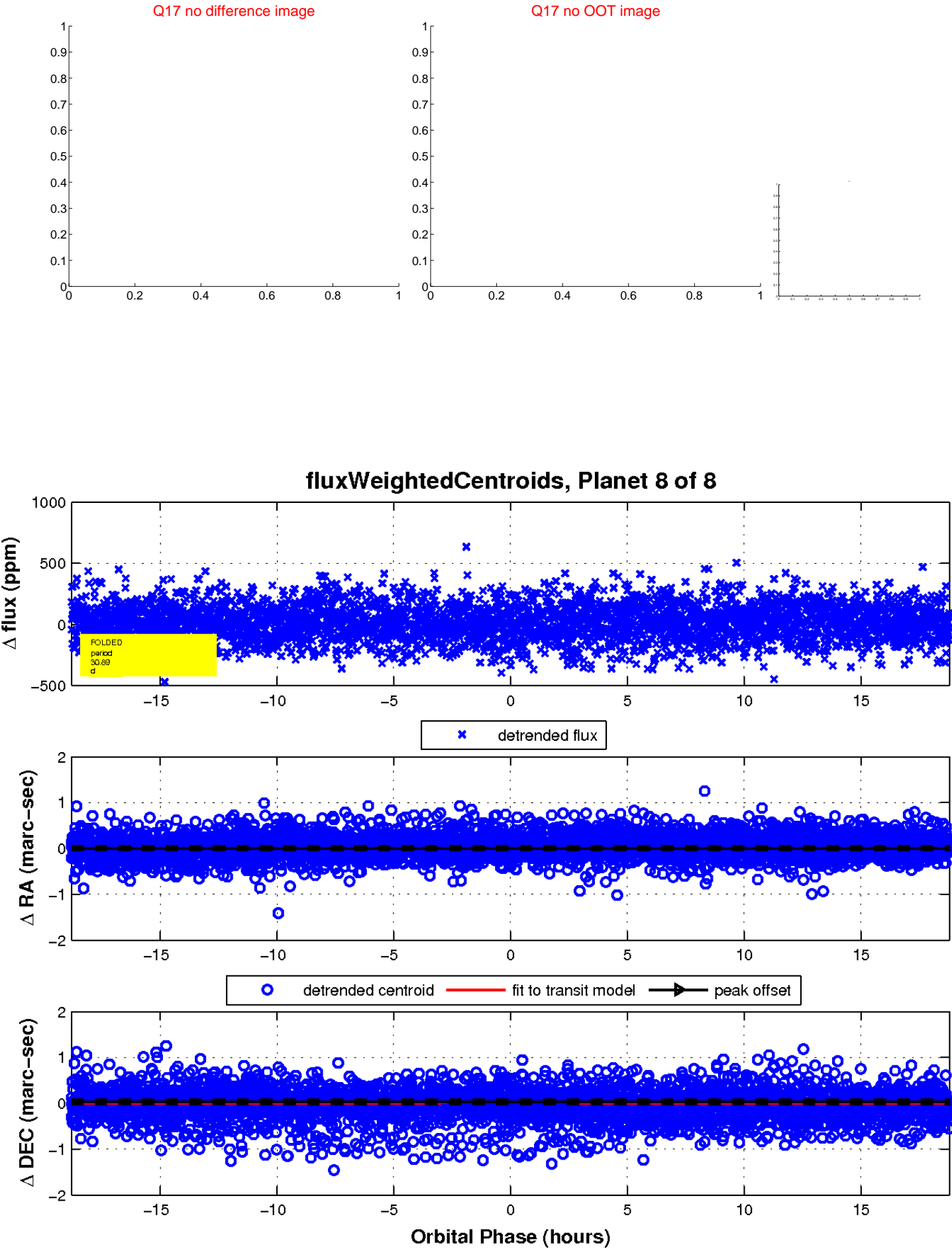
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

