

KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

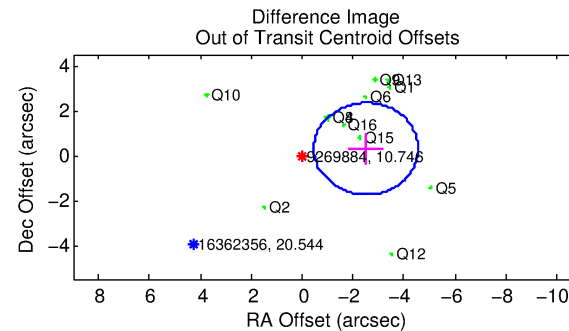
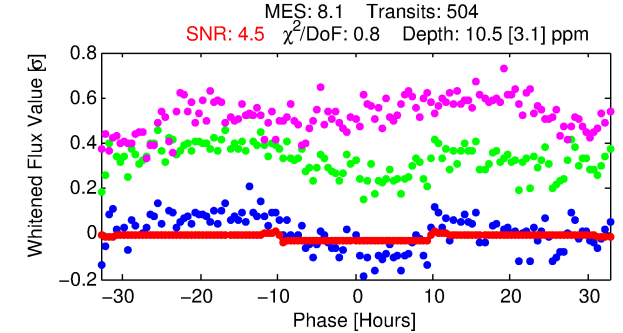
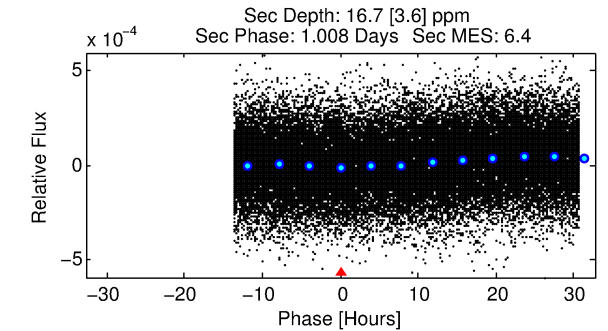
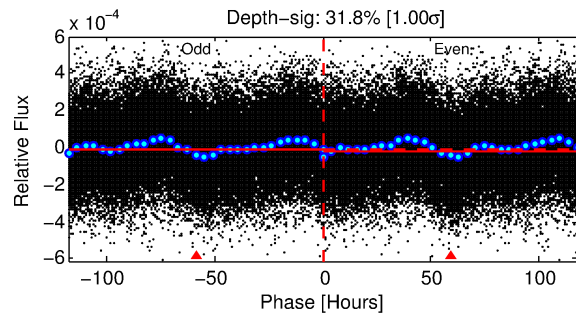
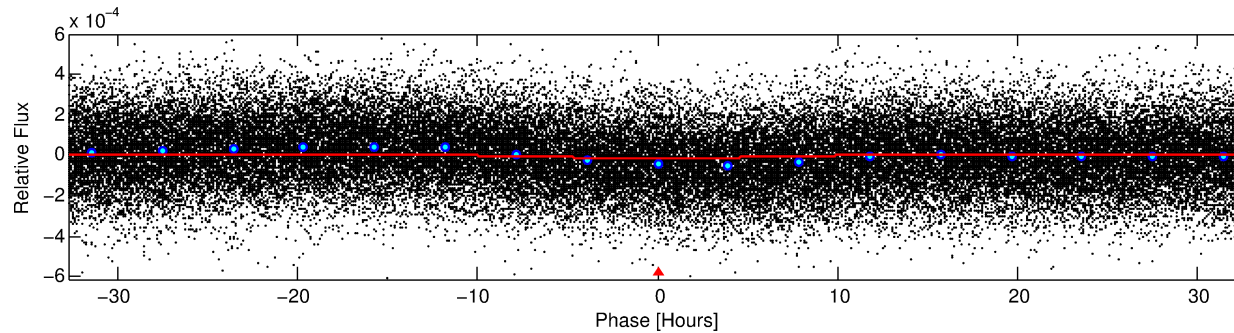
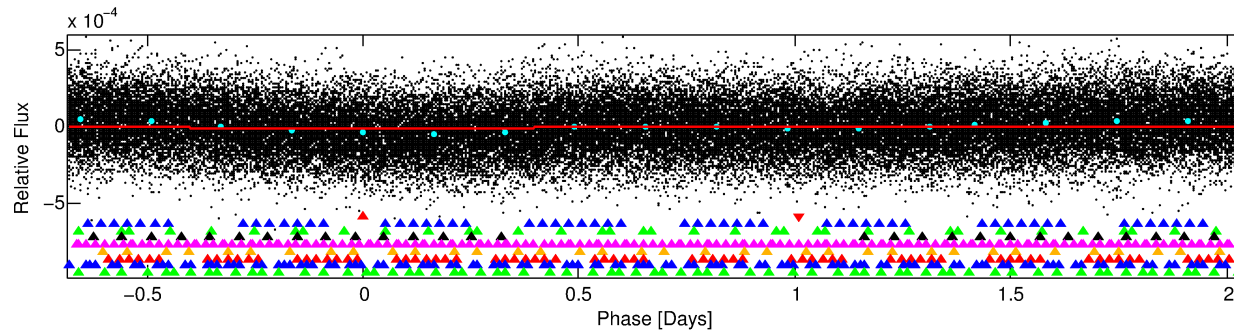
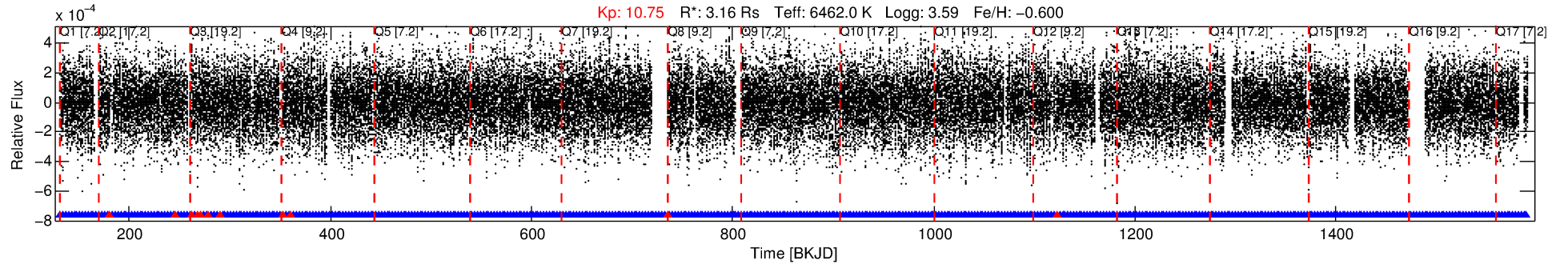
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-01

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 1 of 9 Period: 2.730 d



DV Fit Results:

Period = 2.72963 [0.00008] d
Epoch = 131.8813 [0.0135] BKJD
Rp/R* = 0.0030 [0.0042]
a/R* = 1.23 [3.14]
b = 0.23 [32.08]
Seff = 8459.59 [5228.24]
Teq = 2445 [378] K
Rp = 1.04 [1.51] Re
a = 0.0429 [0.0166] AU
Ag = 15.74 [45.06] [0.33 σ]
Teffp = 7531 [5273] K [0.96 σ]

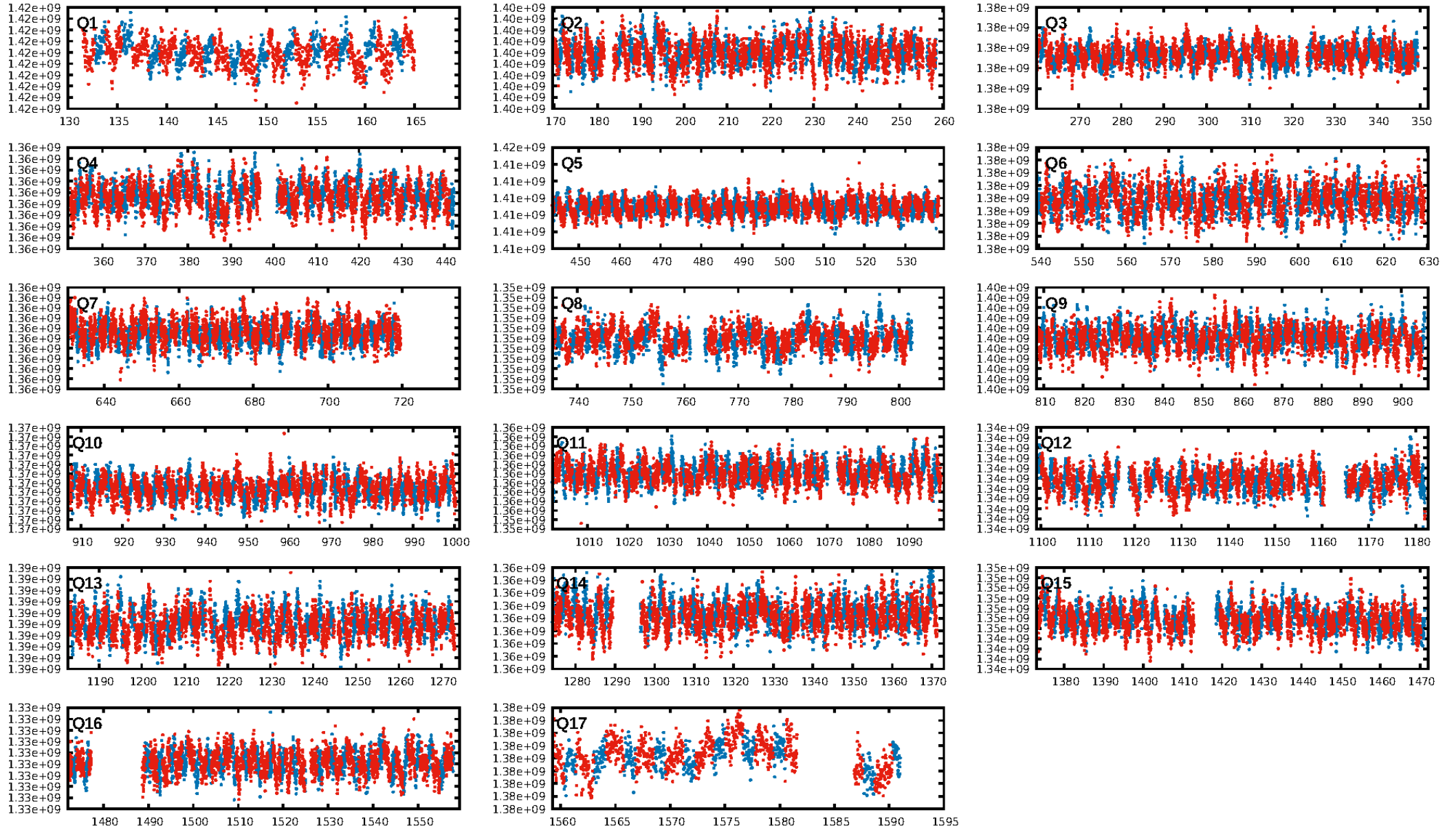
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.20 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [469/480]
GhostDiagnostic-chr: 7.024
Centroid-sig: 99.8%
Centroid-so: 0.554 arcsec [0.62 σ]
OotOffset-rm: 2.530 arcsec [3.71 σ]
KicOffset-rm: 2.839 arcsec [4.78 σ]
OotOffset-st: 3/1/4/4 [12]
KicOffset-st: 3/1/4/4 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [17/17]

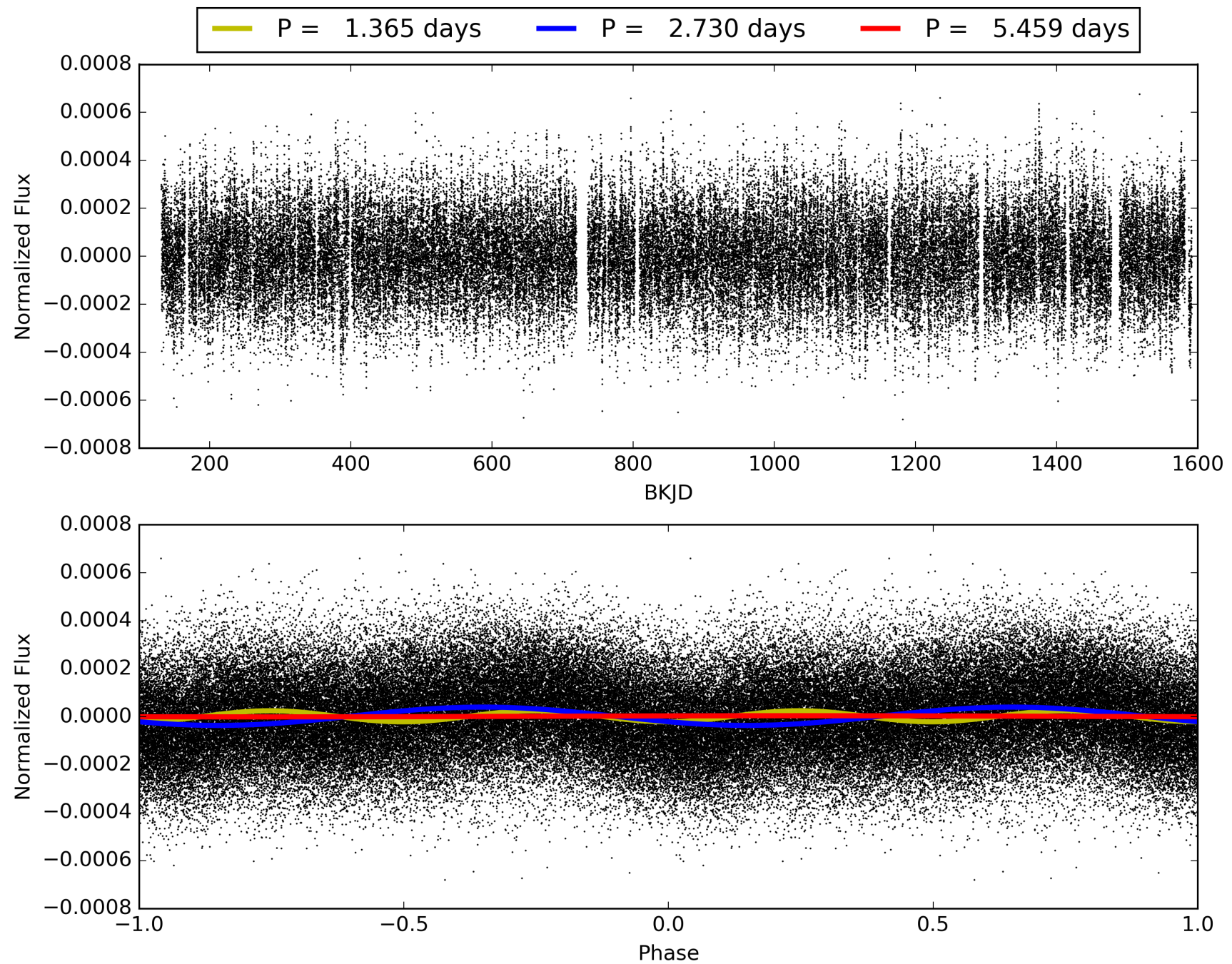
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:19:55 Z

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

TCE 009269884-01, PDC Light Curves

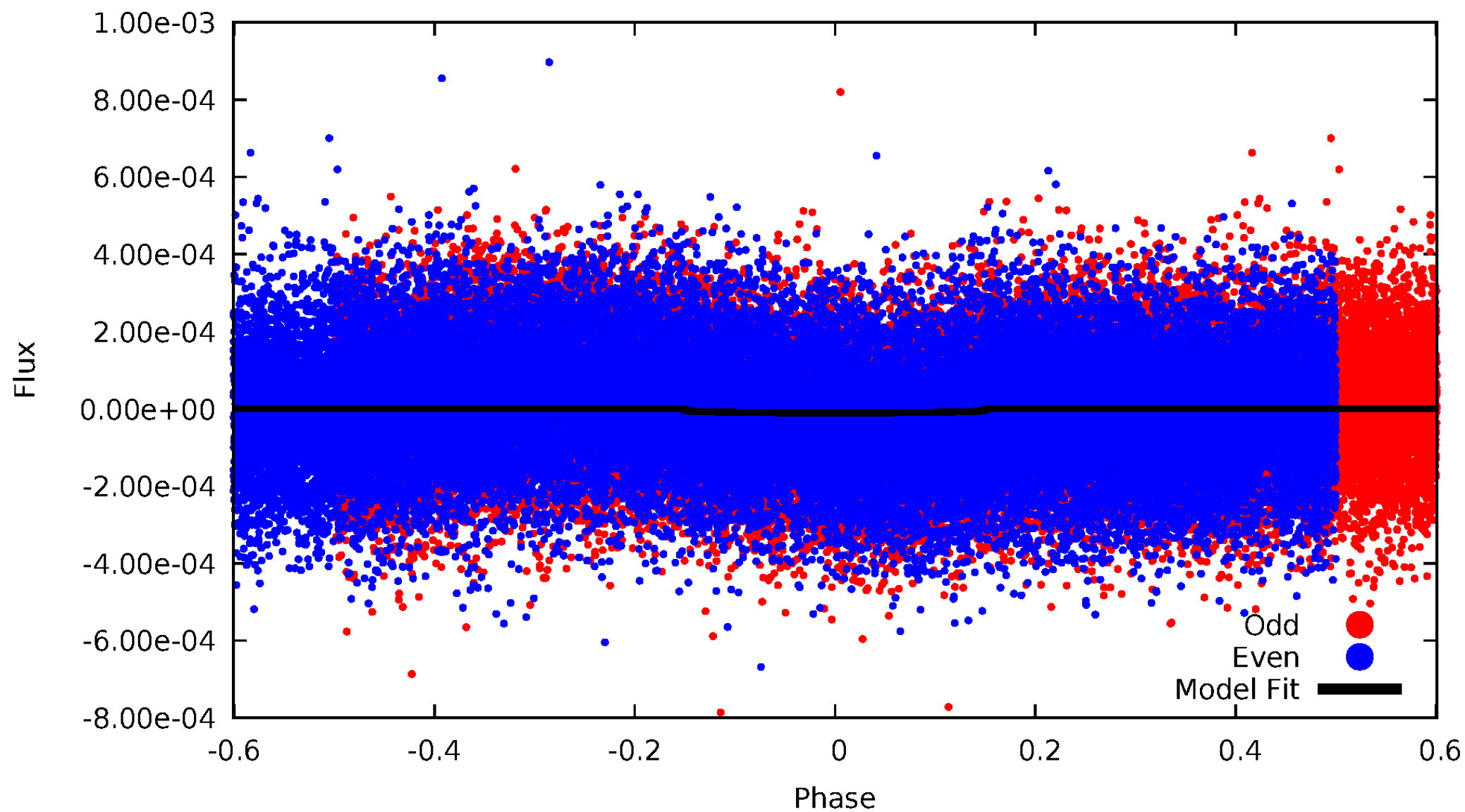


TCE 009269884-01



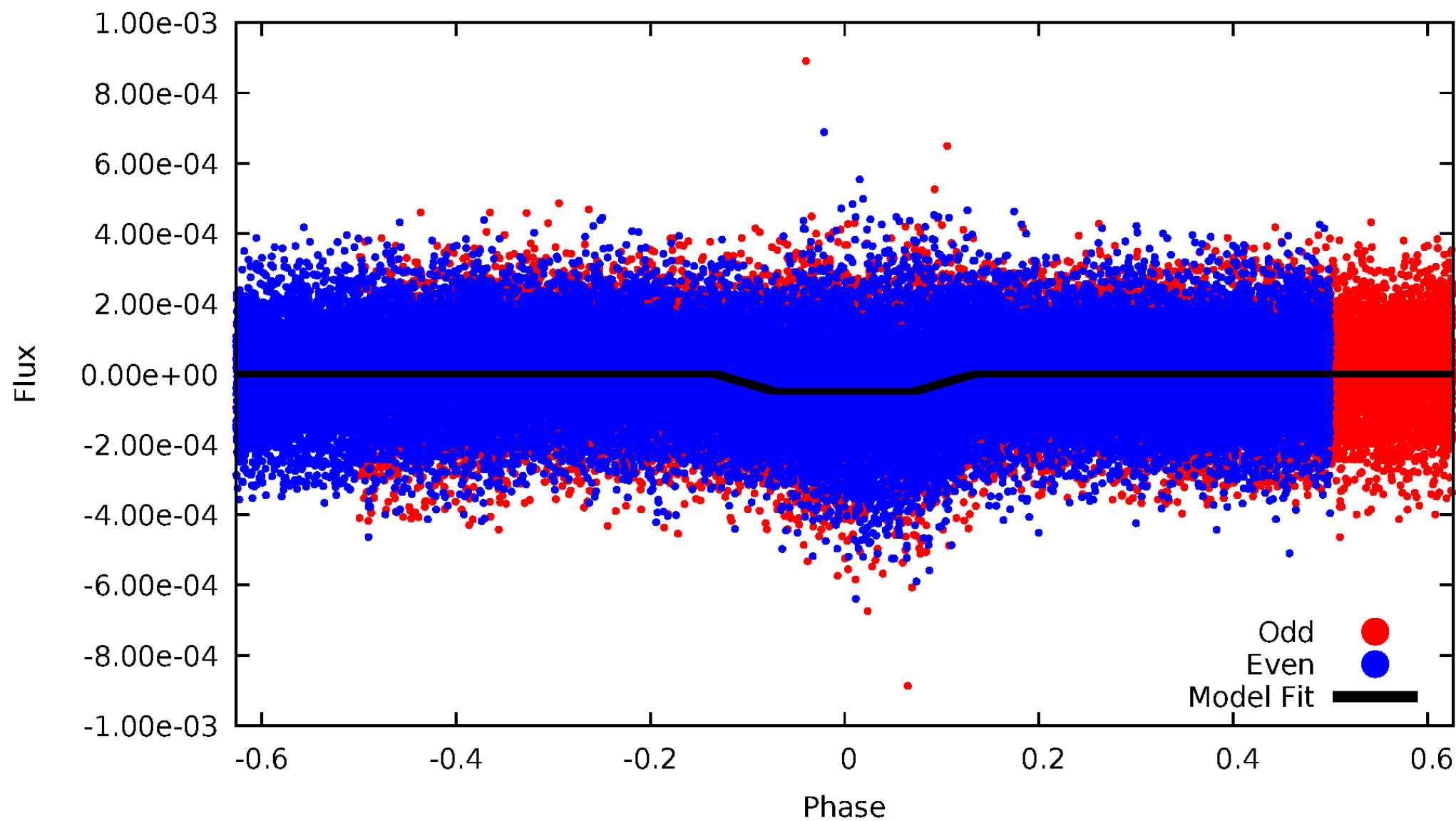
DV Odd/Even

TCE 009269884-01



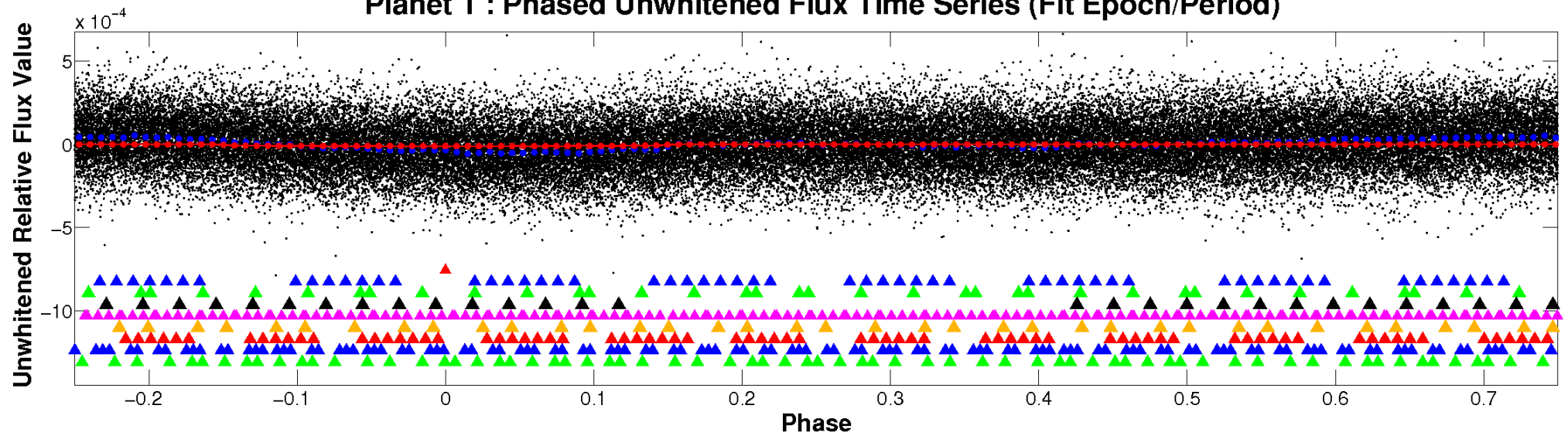
ALT Odd/Even

TCE 009269884-01

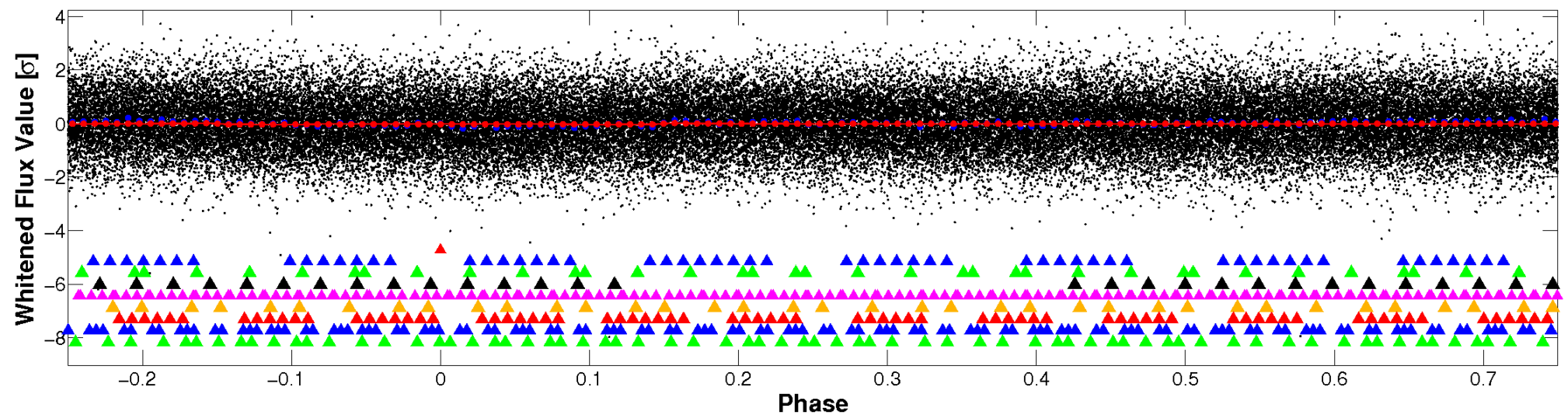


Non-Whitened Vs. Whitened Light Curve

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

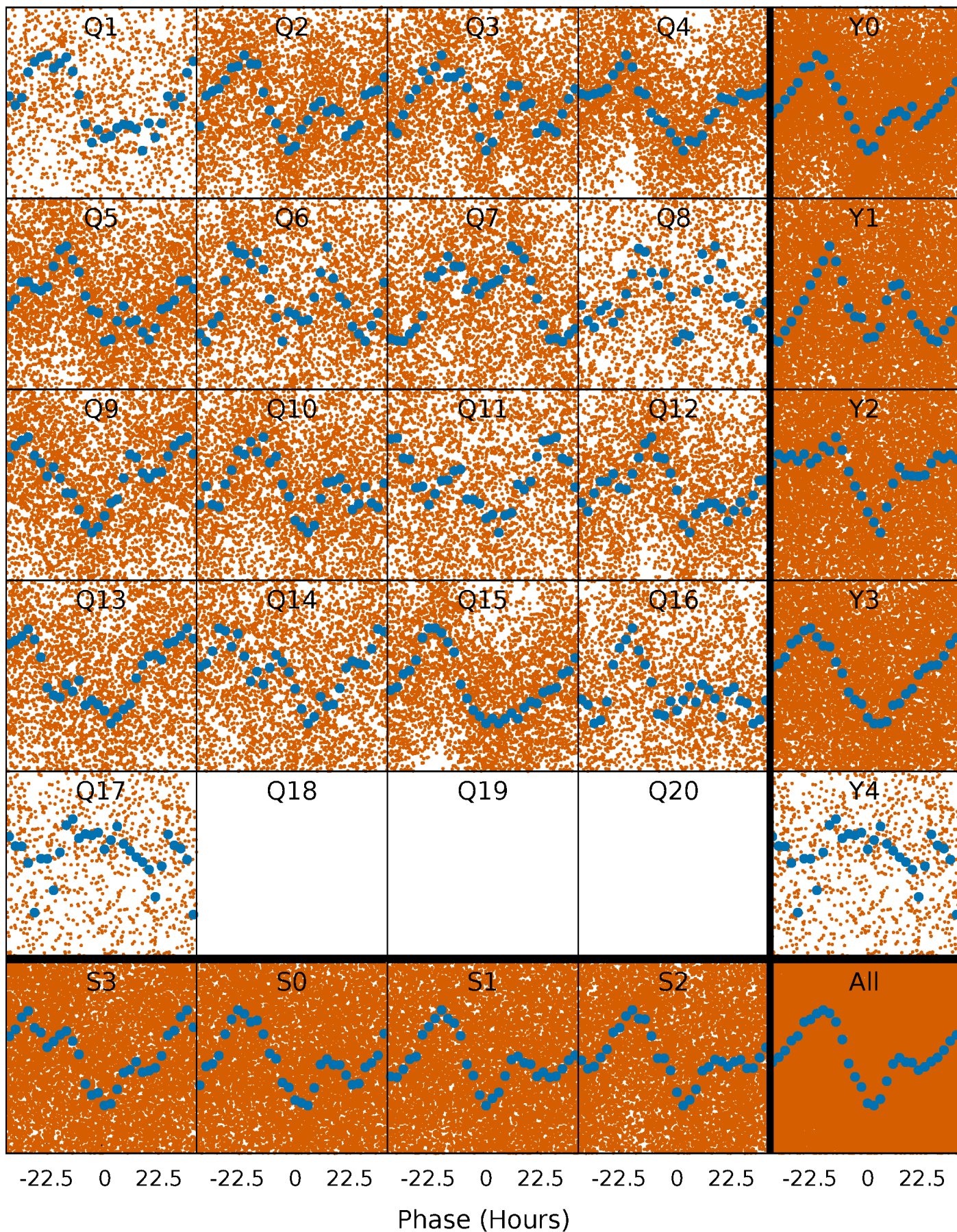


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



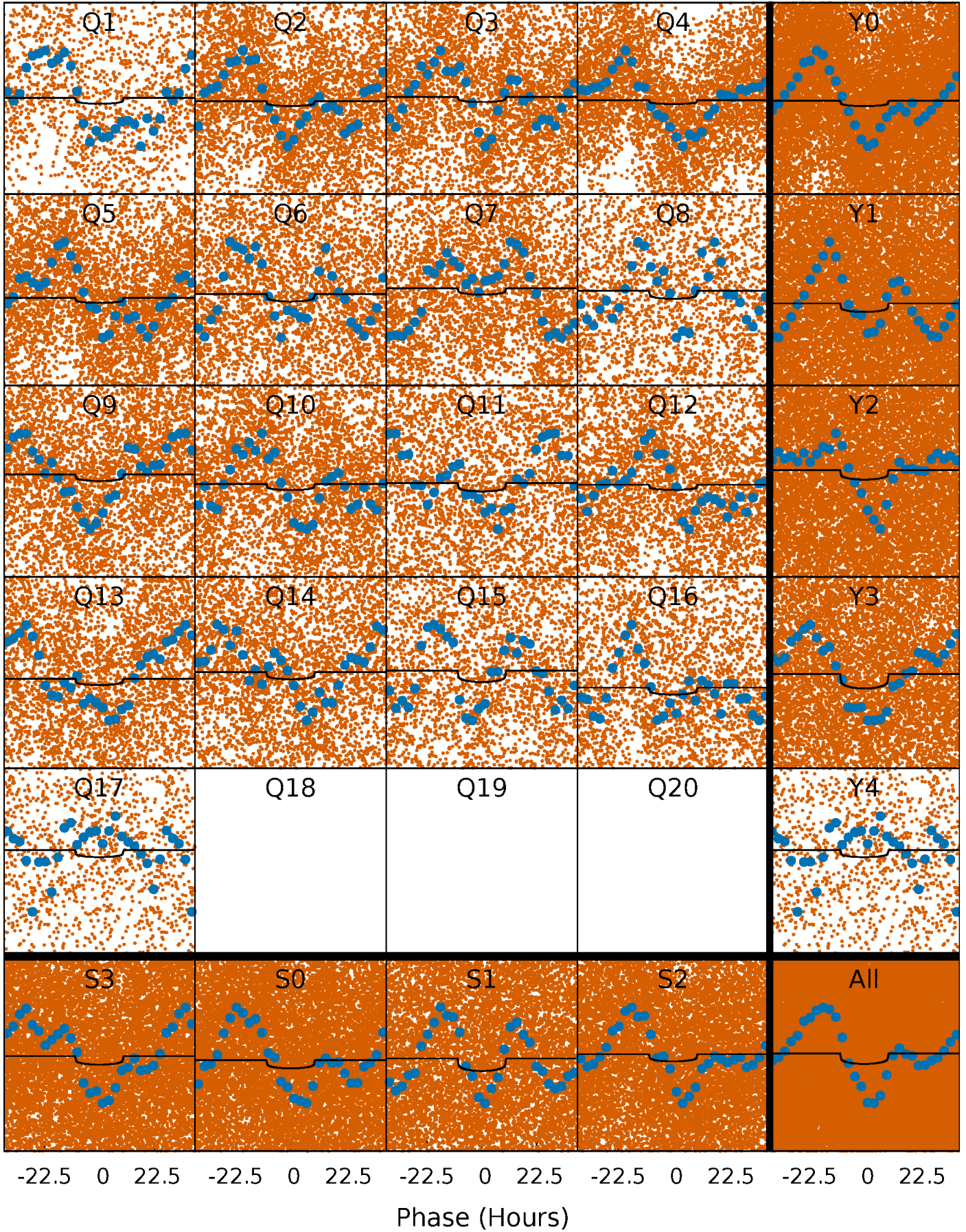
PDC Quarter-Phased Transit Curves

TCE 009269884-01 P= 2.729626 Days $T_0=131.881268$ (BKJD)



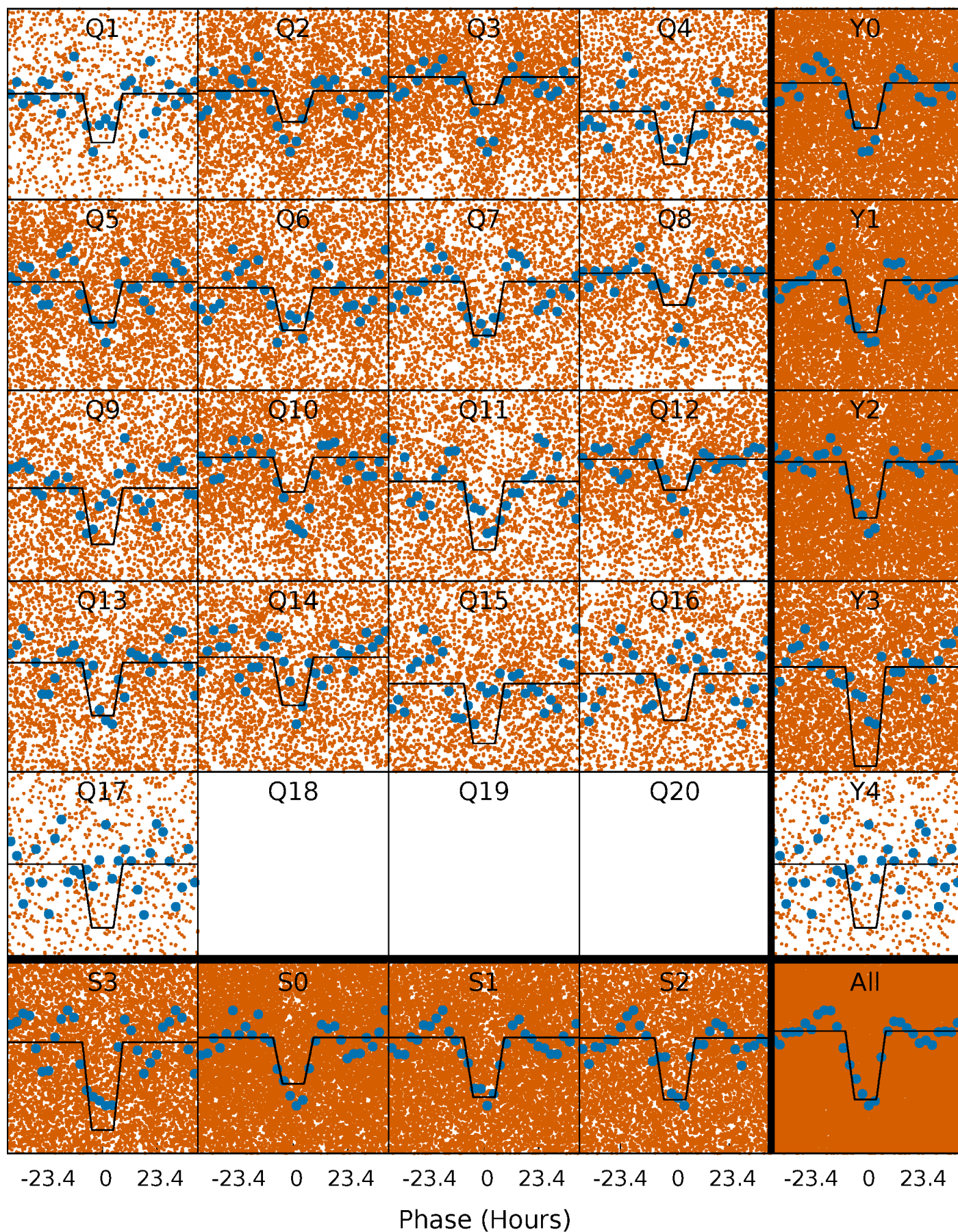
DV Quarter-Phased Transit Curves

TCE 009269884-01 P= 2.729626 Days $T_0=131.881268$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

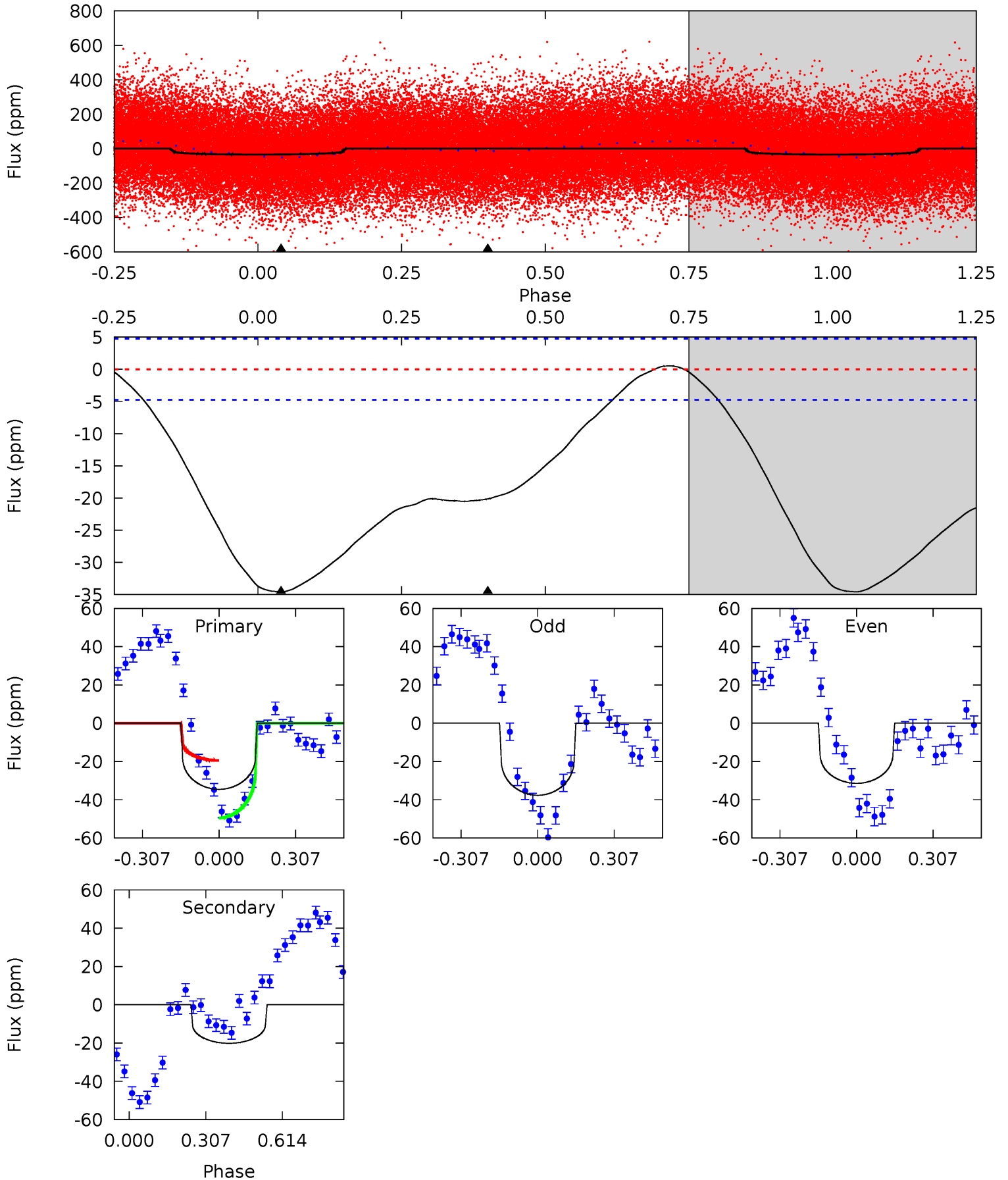
TCE 009269884-01 P= 2.730101 Days $T_0=131.860216$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-01, P = 2.729626 Days, E = 129.151642 Days

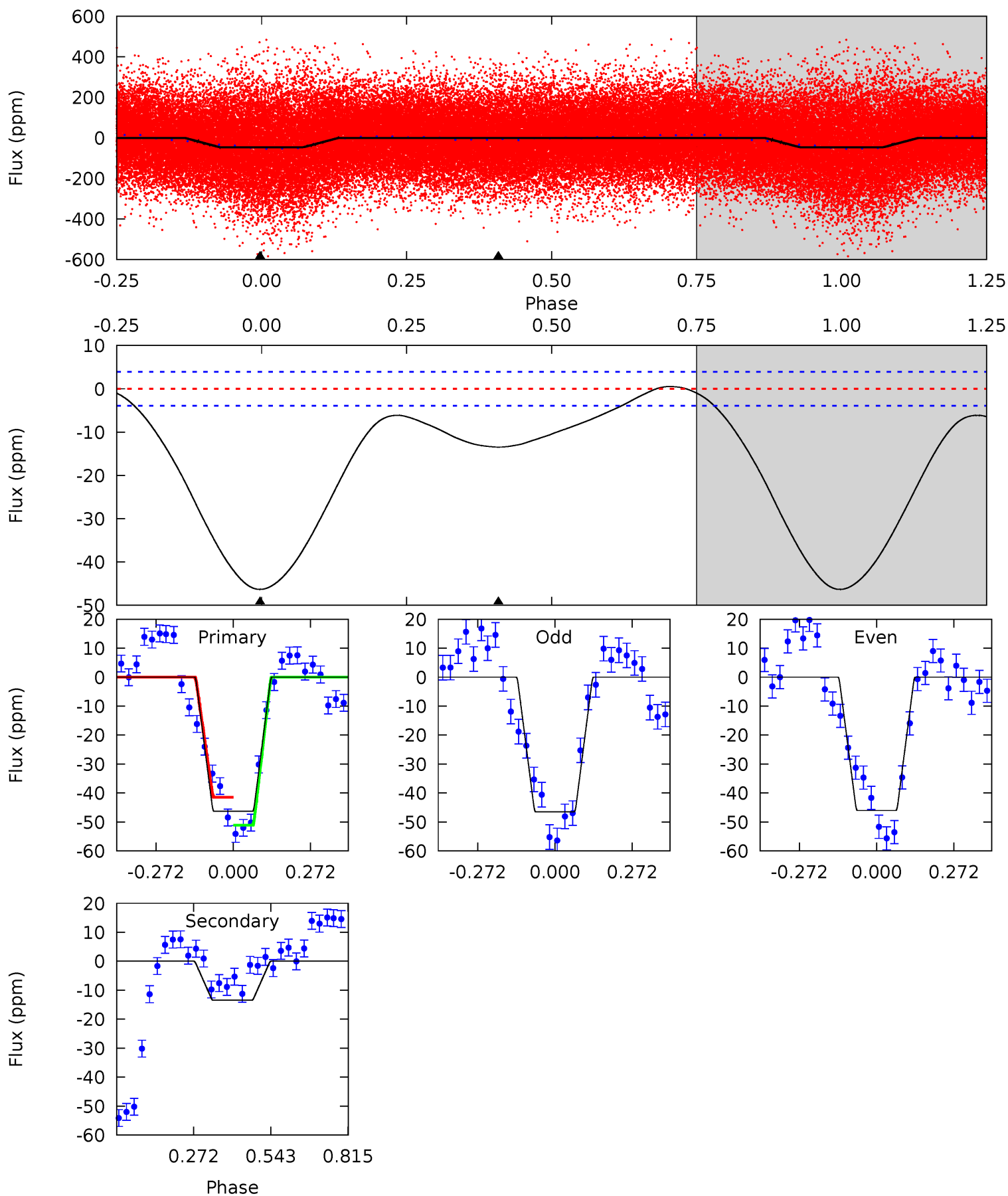
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	18.3	0	0	4.32	1.02	0.62	31.4	31.4	18.3	18.3	2.83	0.96	0.02	14.0



Alt Model-Shift Uniqueness Test

009269884-01, P = 2.730101 Days, E = 129.130115 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.2	14.9	0	0	4.35	1.10	0.72	51.2	51.2	14.9	14.9	0.26	1.09	0.01	4.94



Stellar Parameters For KIC 009269884

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-20 ± 1	$1.27^{+1.32}_{-0.81}$	3347^{+244}_{-357}	6738^{+7255}_{-1867}	13^{+88}_{-10}
Alt.	-13 ± 1	$2.34^{+1.52}_{-1.27}$	3352^{+217}_{-313}	4613^{+2015}_{-877}	$2.492^{+9.409}_{-1.569}$

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 $A_{obs} \gg 1.0$

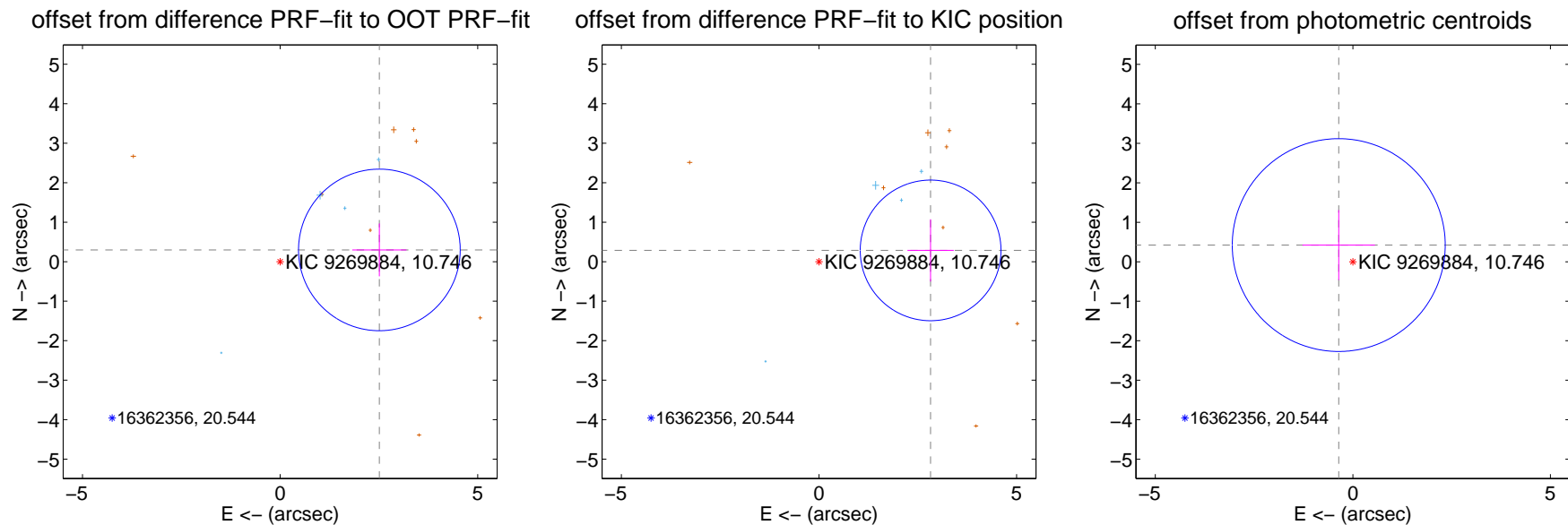
DV Centroid Data

Supplemental centroid analysis for 009269884-01. **Kepler magnitude: 10.75.** Transit SNR 4.54

There are 4 quarters with good PRF difference image offsets

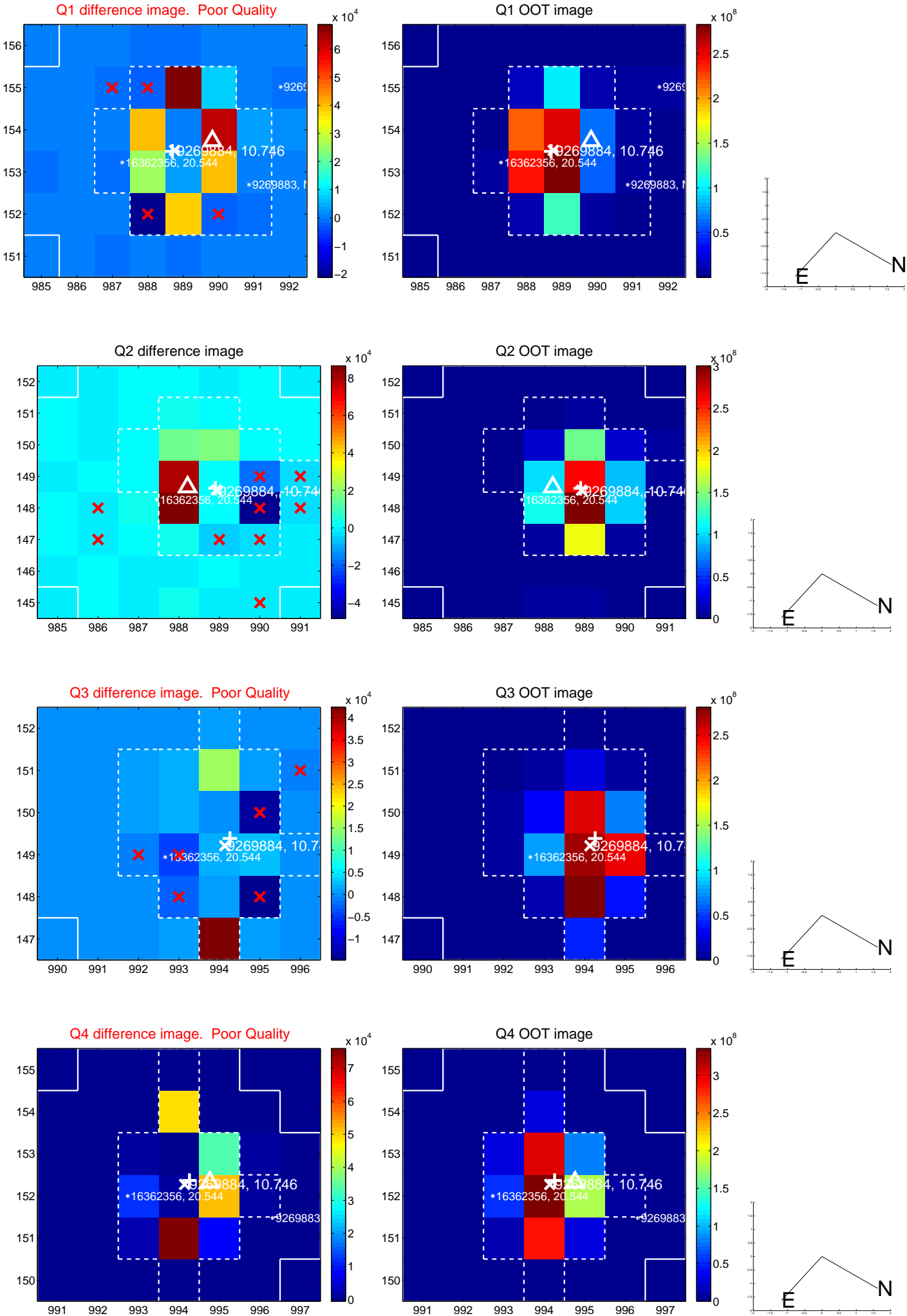
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.530 ± 0.682	3.71	-2.512 ± 0.686	0.298 ± 0.669
PRF-fit source offset from KIC position	2.839 ± 0.594	4.78	-2.825 ± 0.586	0.286 ± 0.789
photometric centroid source offset	0.55 ± 0.90	0.62	0.36 ± 0.92	0.42 ± 0.89

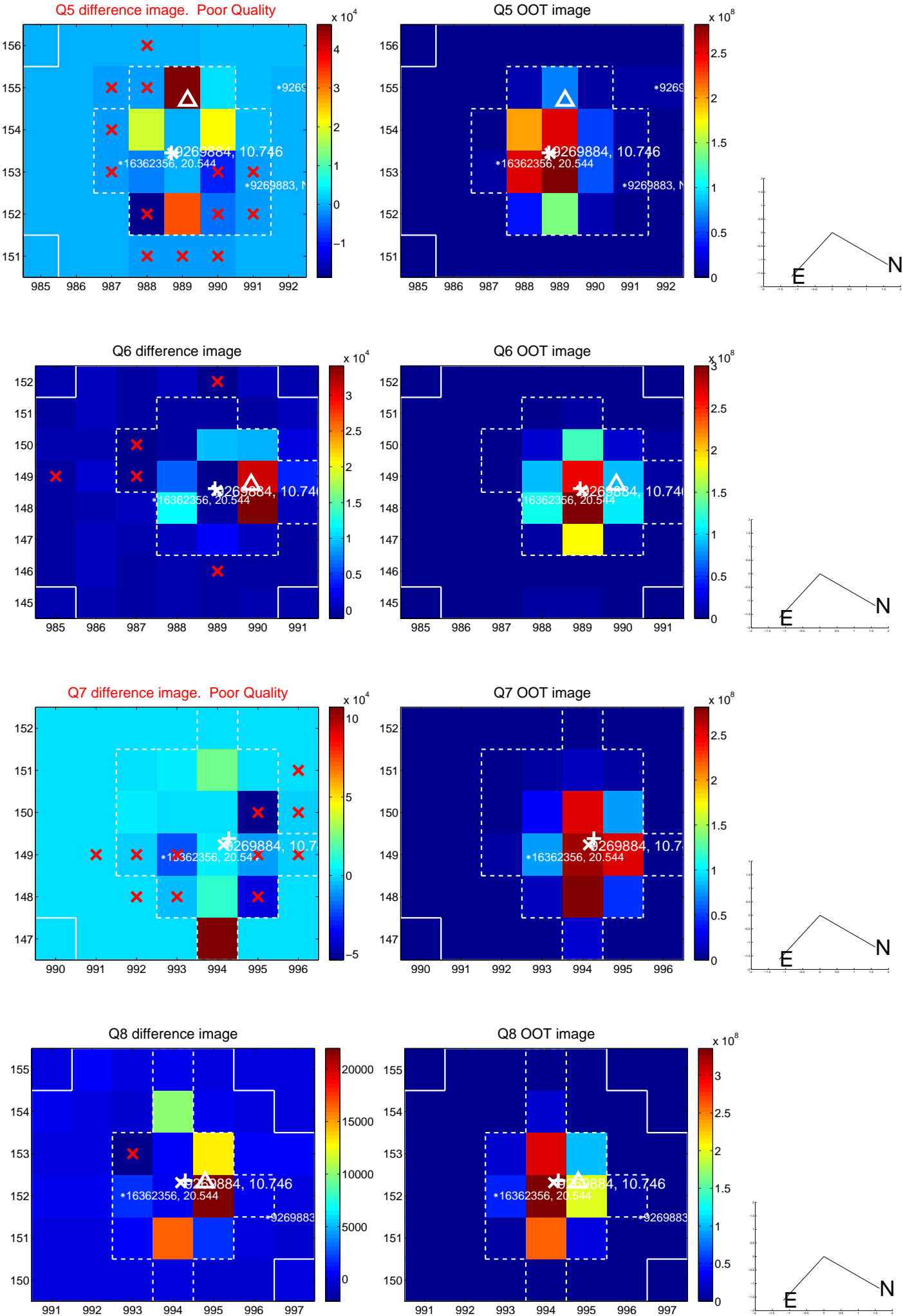


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

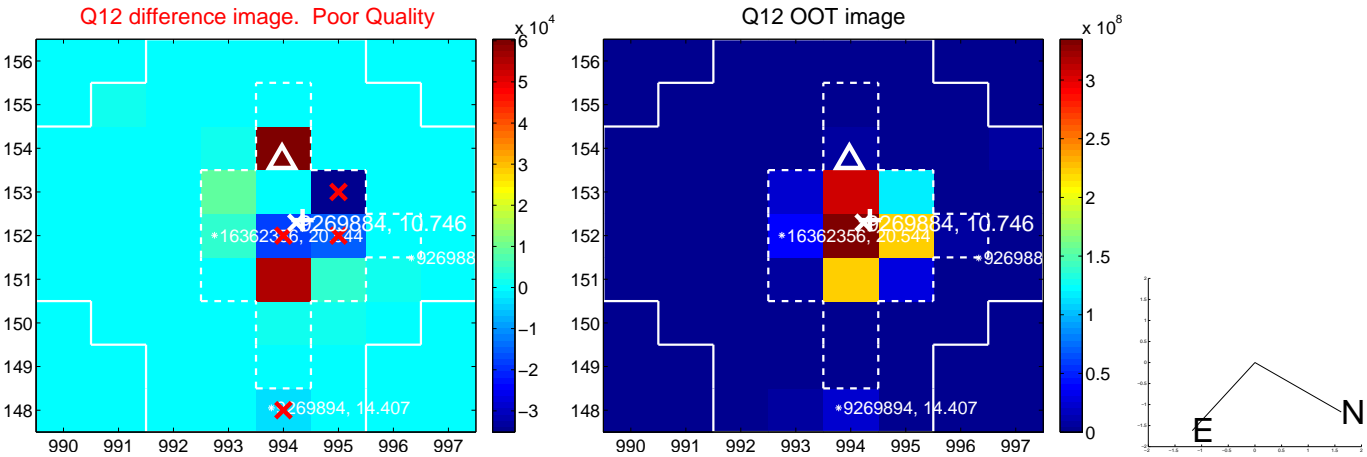
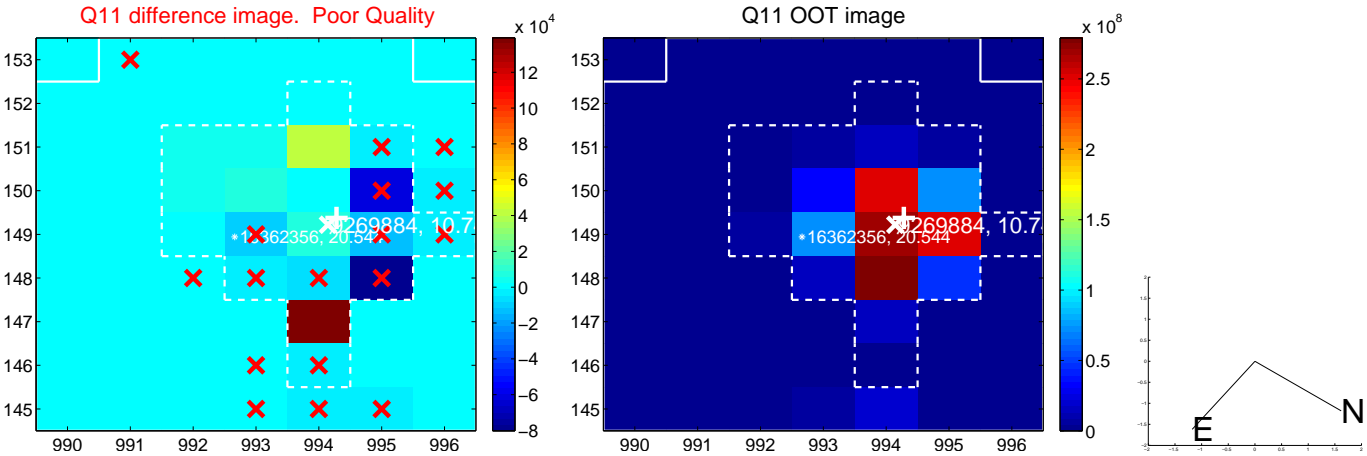
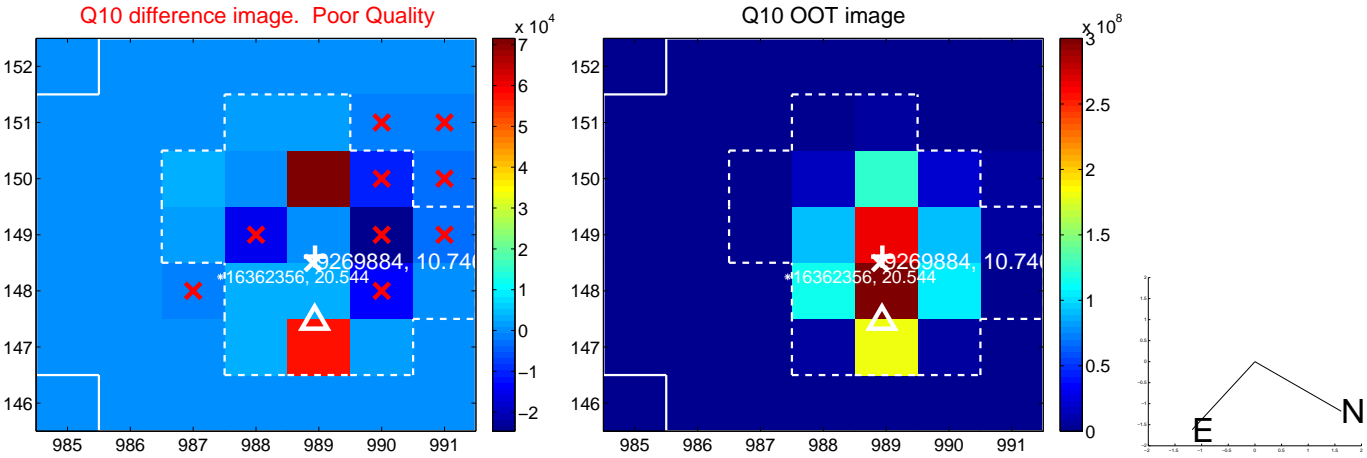
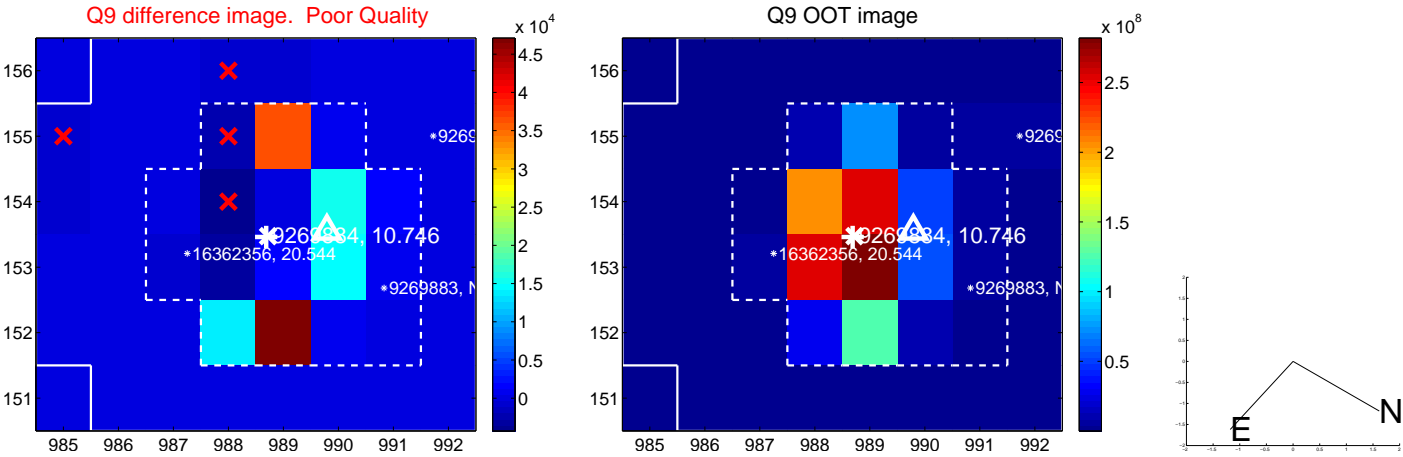
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



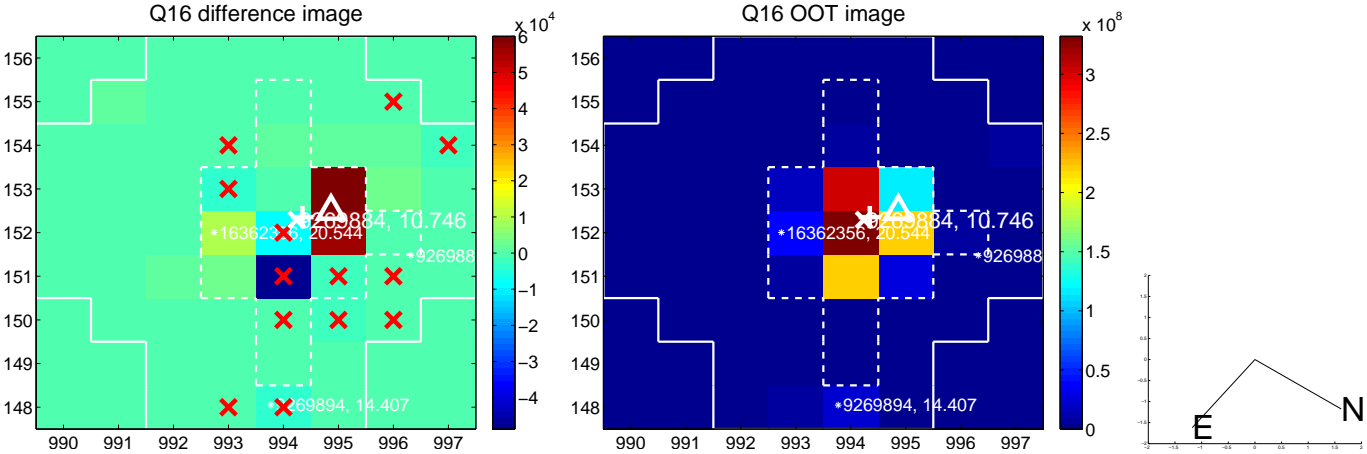
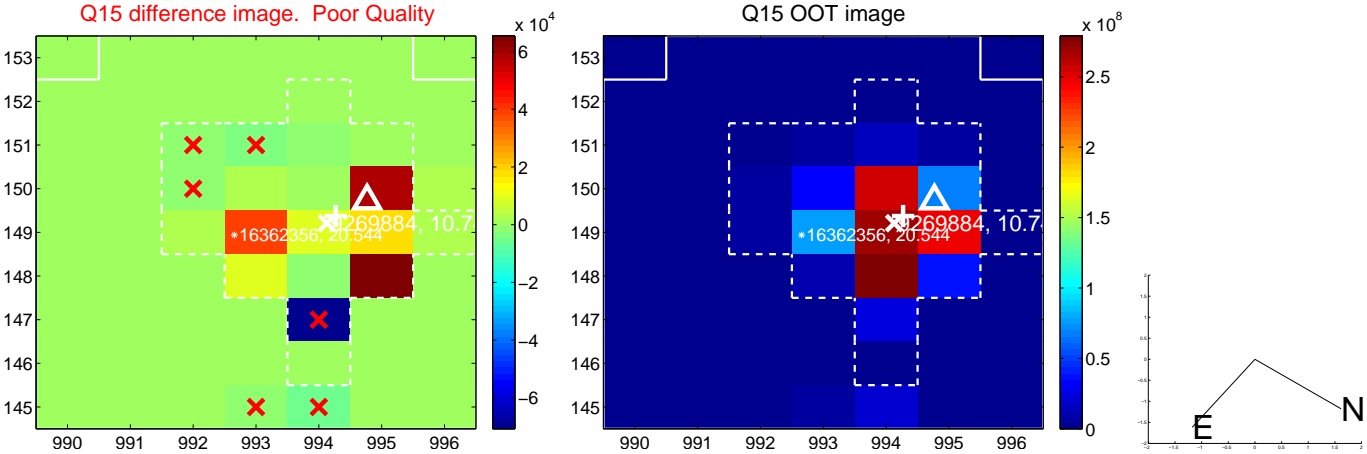
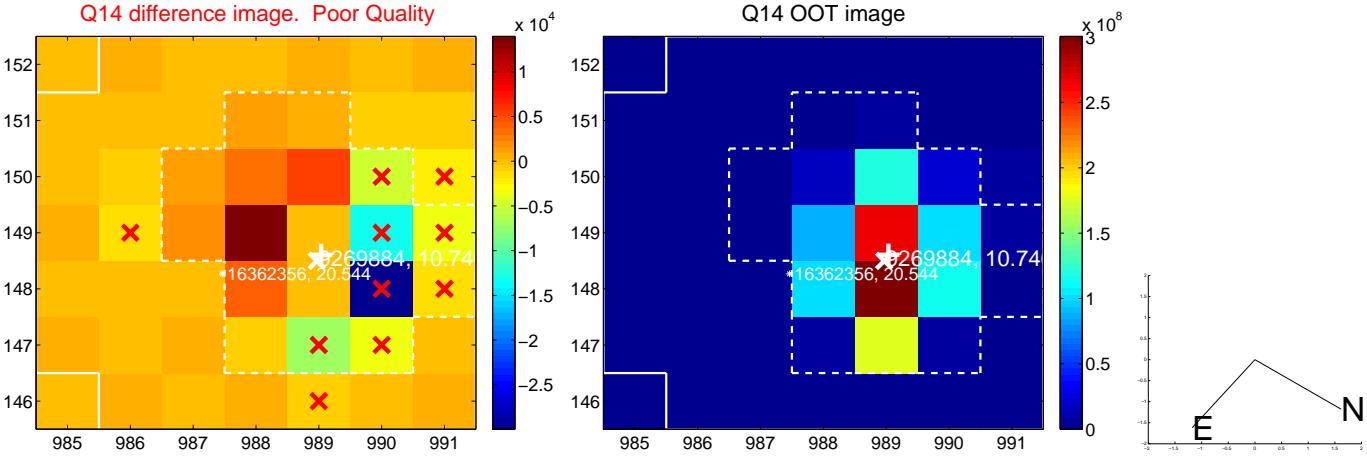
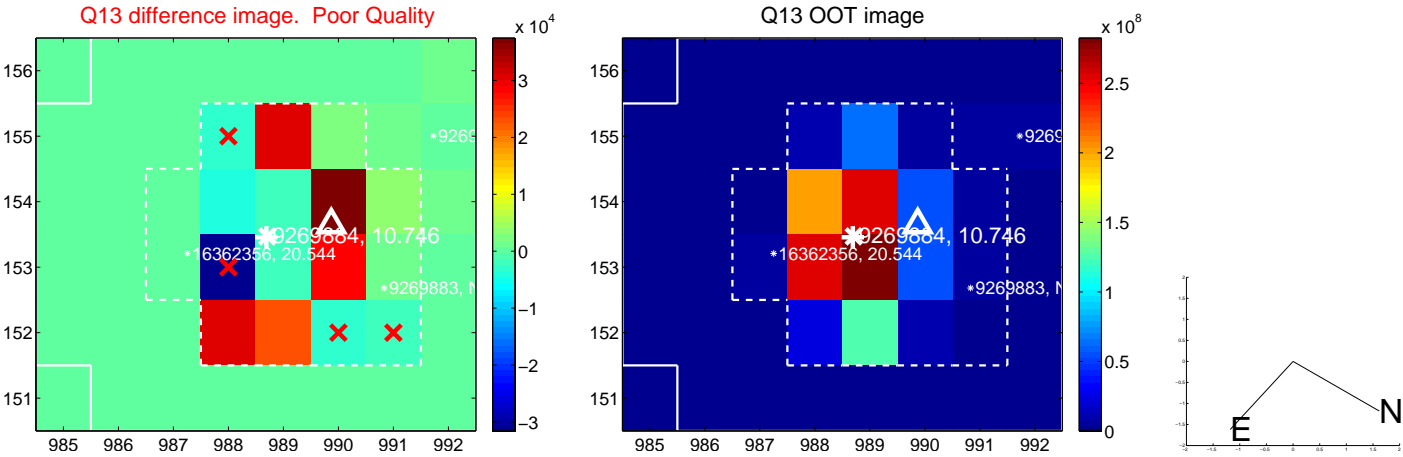
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



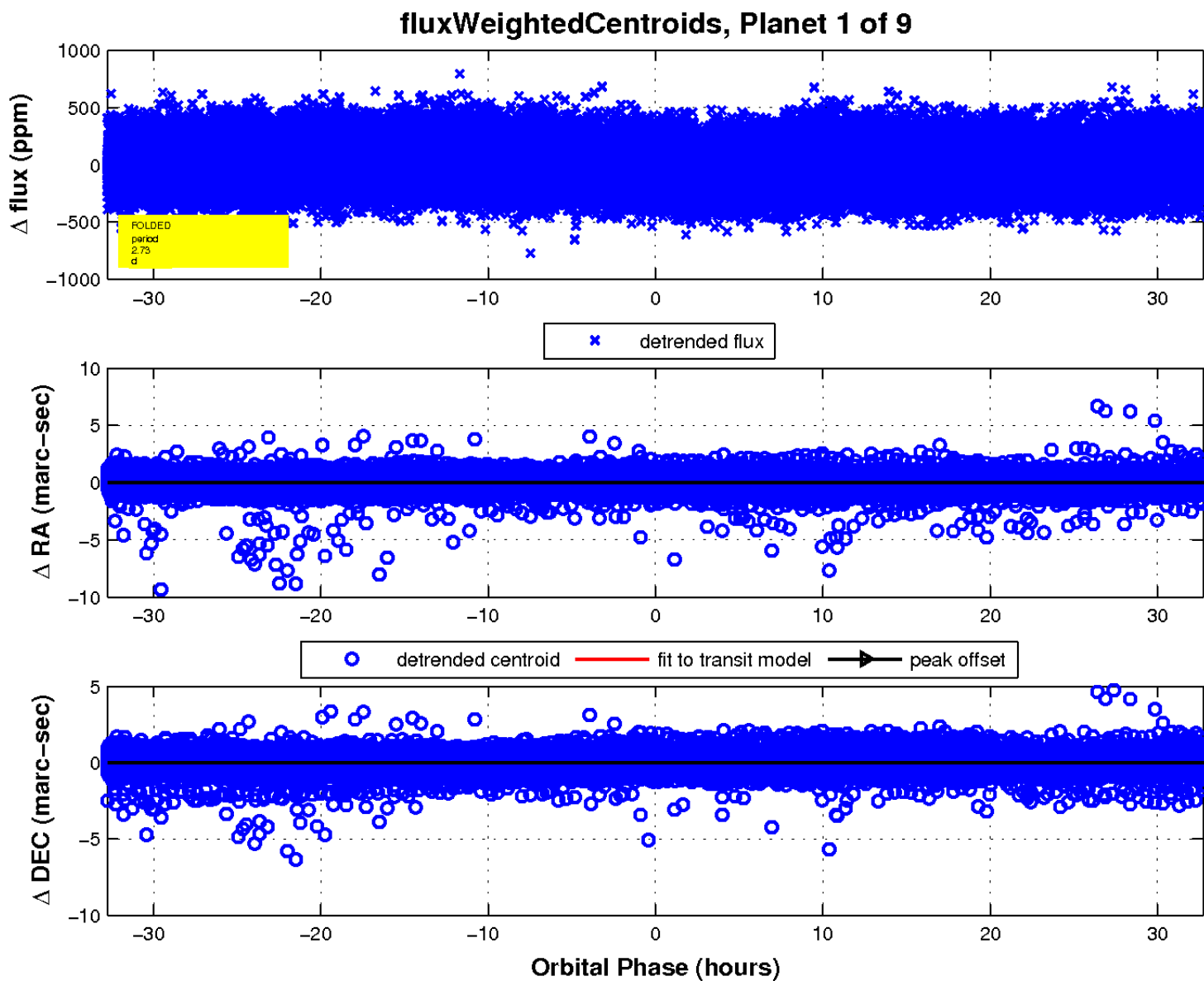
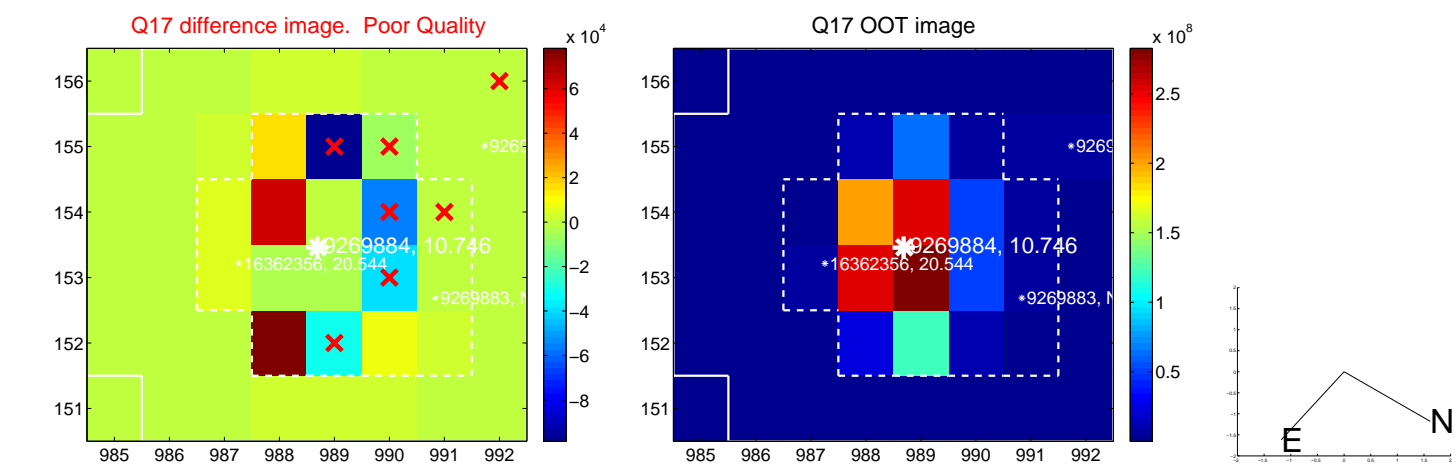
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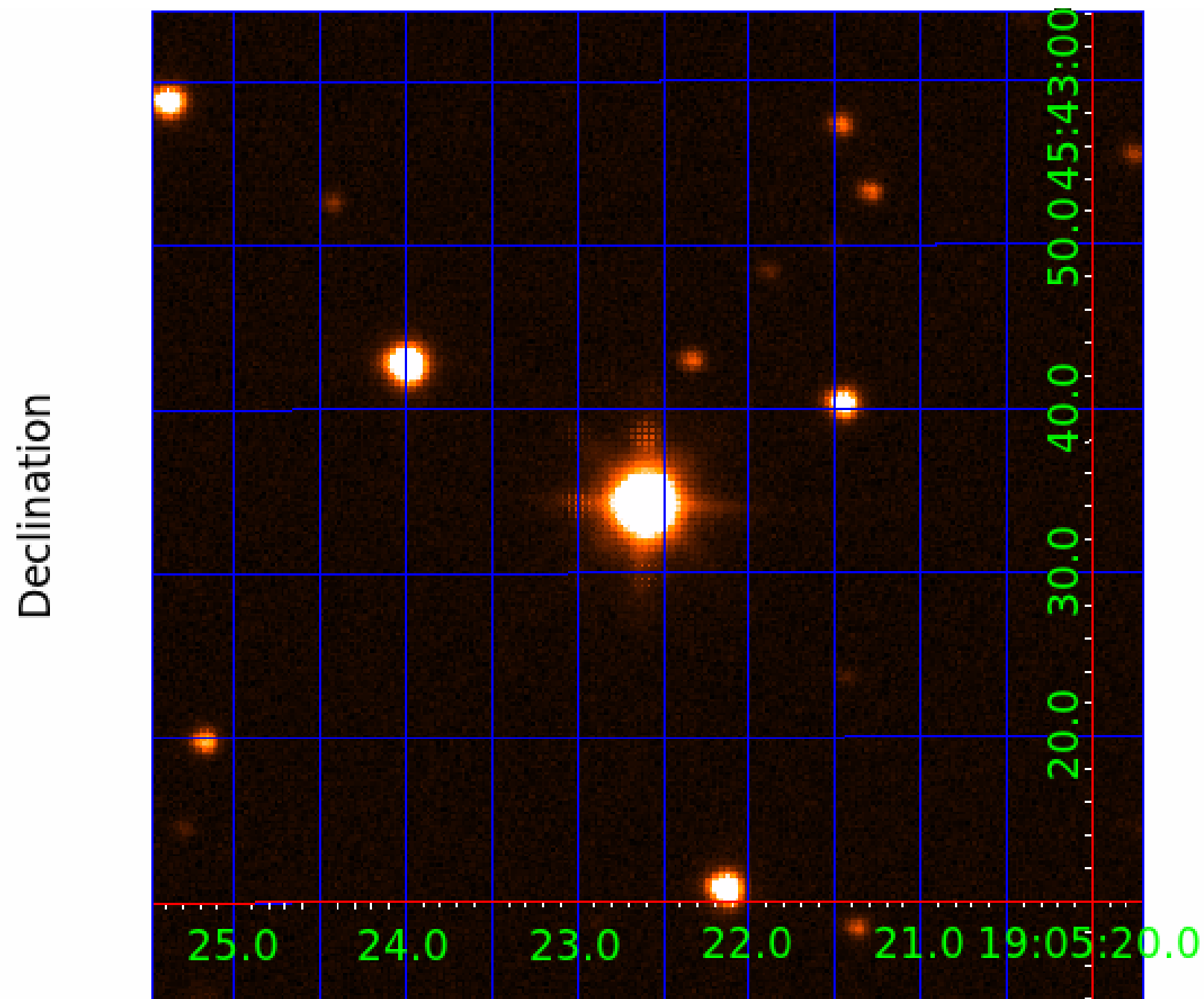
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 009269884

Q1-17 DR25 TCE Parameters

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Robovetter Results

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009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

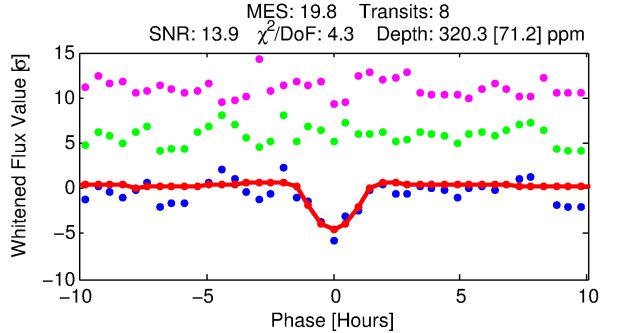
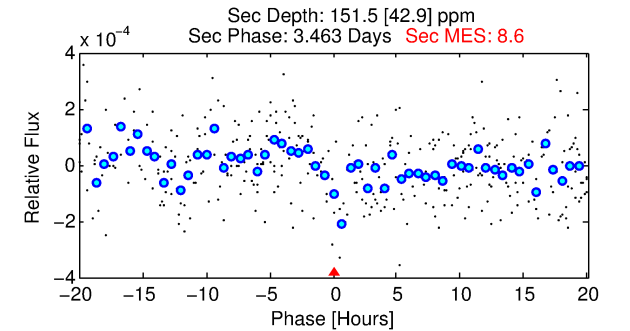
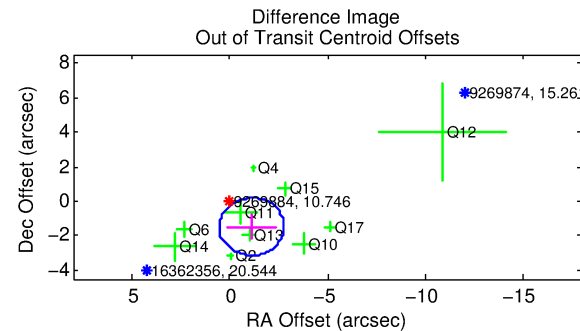
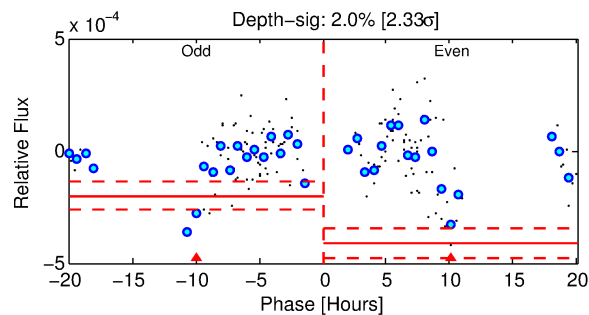
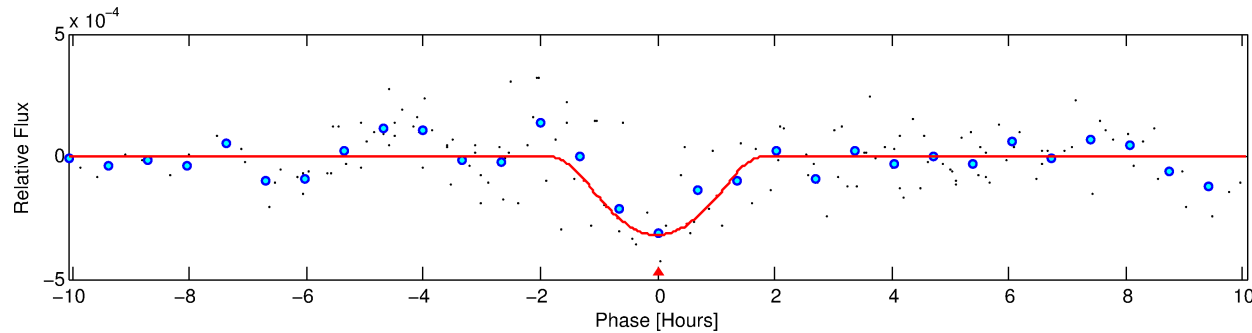
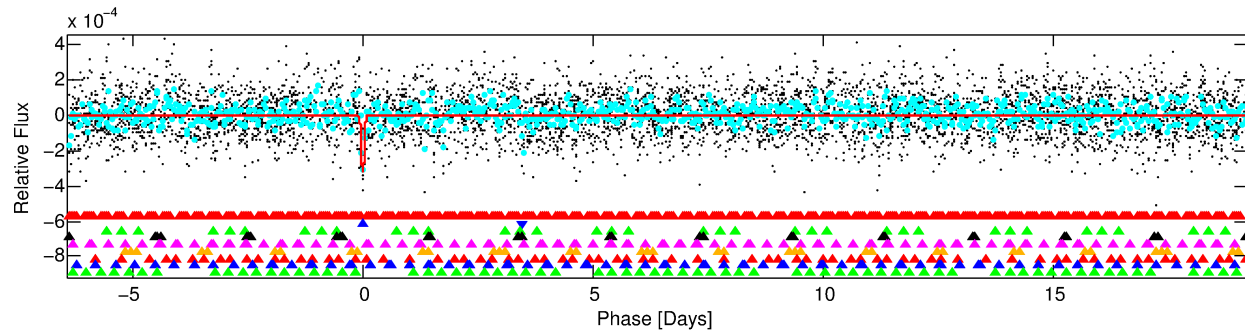
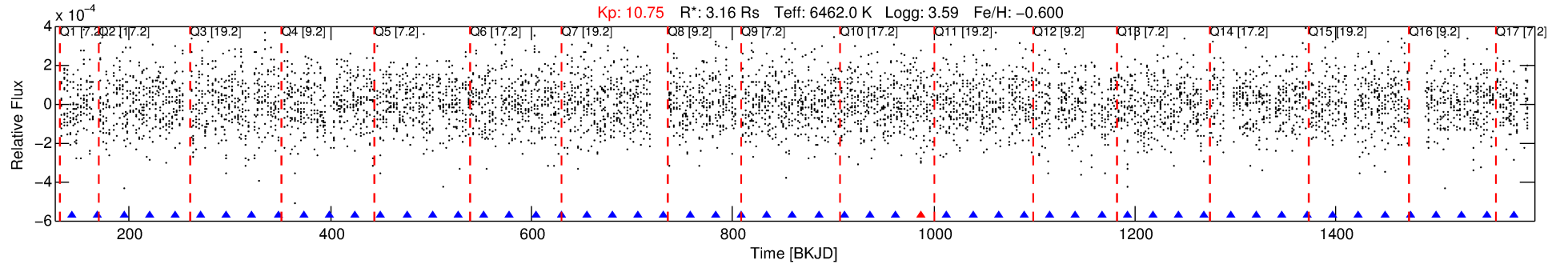
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-02

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 2 of 9 Period: 25.586 d



DV Fit Results:

Period = 25.58642 [0.00048] d
Epoch = 143.3978 [0.0146] BKJD
Rp/R* = 0.0308 [0.1599]
a/R* = 15.03 [21.64]
b = 1.00 [0.25]
Seff = 428.03 [264.53]
Teq = 1160 [179] K
Rp = 10.61 [55.30] Re
a = 0.1909 [0.0736] AU
Ag = 27.00 [281.23] [0.09σ]
Teff = 4088 [10627] K [0.2σ]

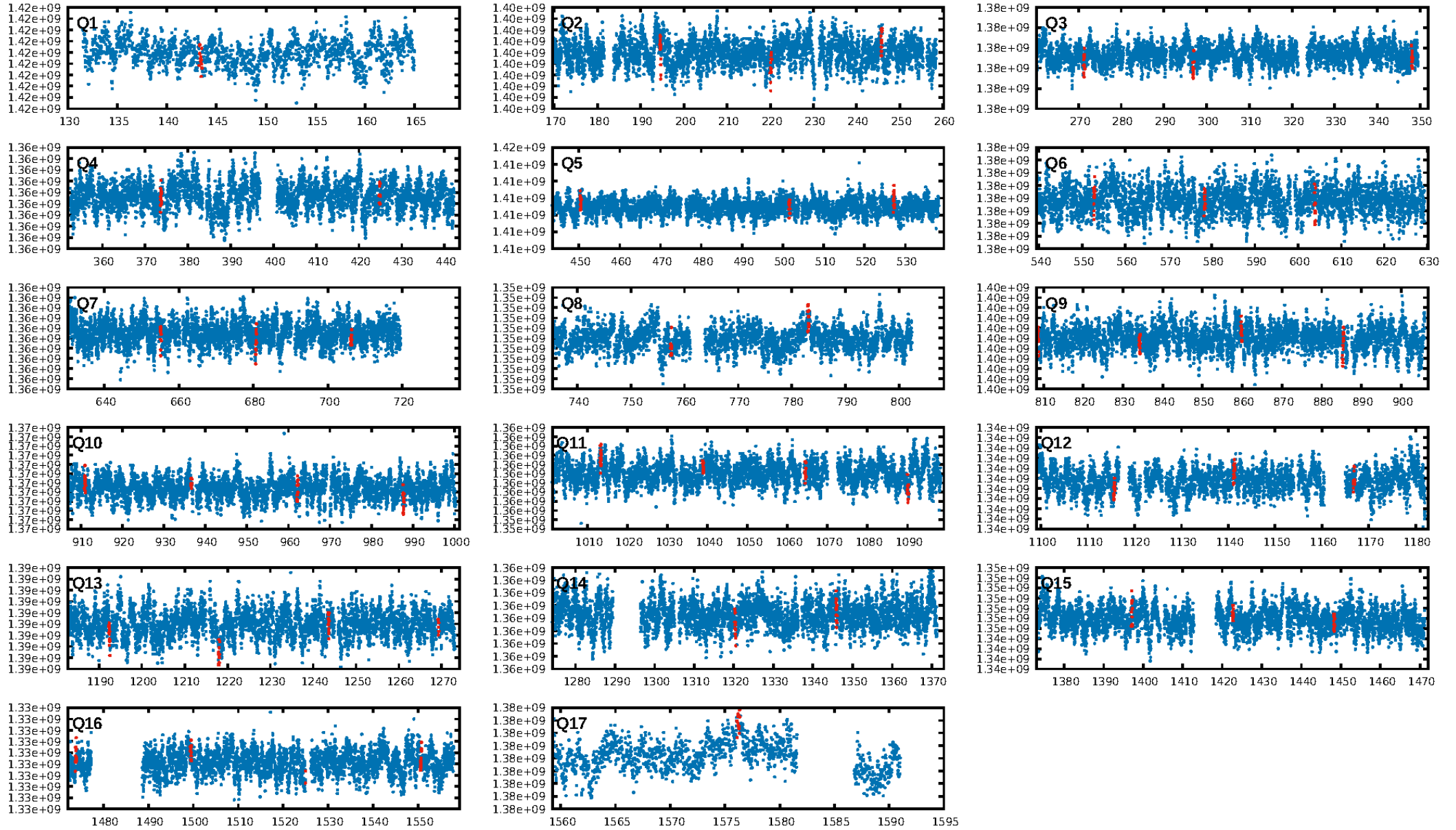
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.01σ]
LongPeriod-sig: 100.0% [91.57σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [7/8]
GhostDiagnostic-chr: 1.209
Centroid-sig: 41.3%
Centroid-so: 0.565 arcsec [3.26σ]
OotOffset-rm: 1.858 arcsec [3.35σ]
KicOffset-rm: 2.153 arcsec [2.90σ]
OotOffset-st: 4/2/2/2 [10]
KicOffset-st: 4/2/2/2 [10]
DiffImageQuality-fgm: 0.00 [0/10]
DiffImageOverlap-fno: 0.71 [12/17]

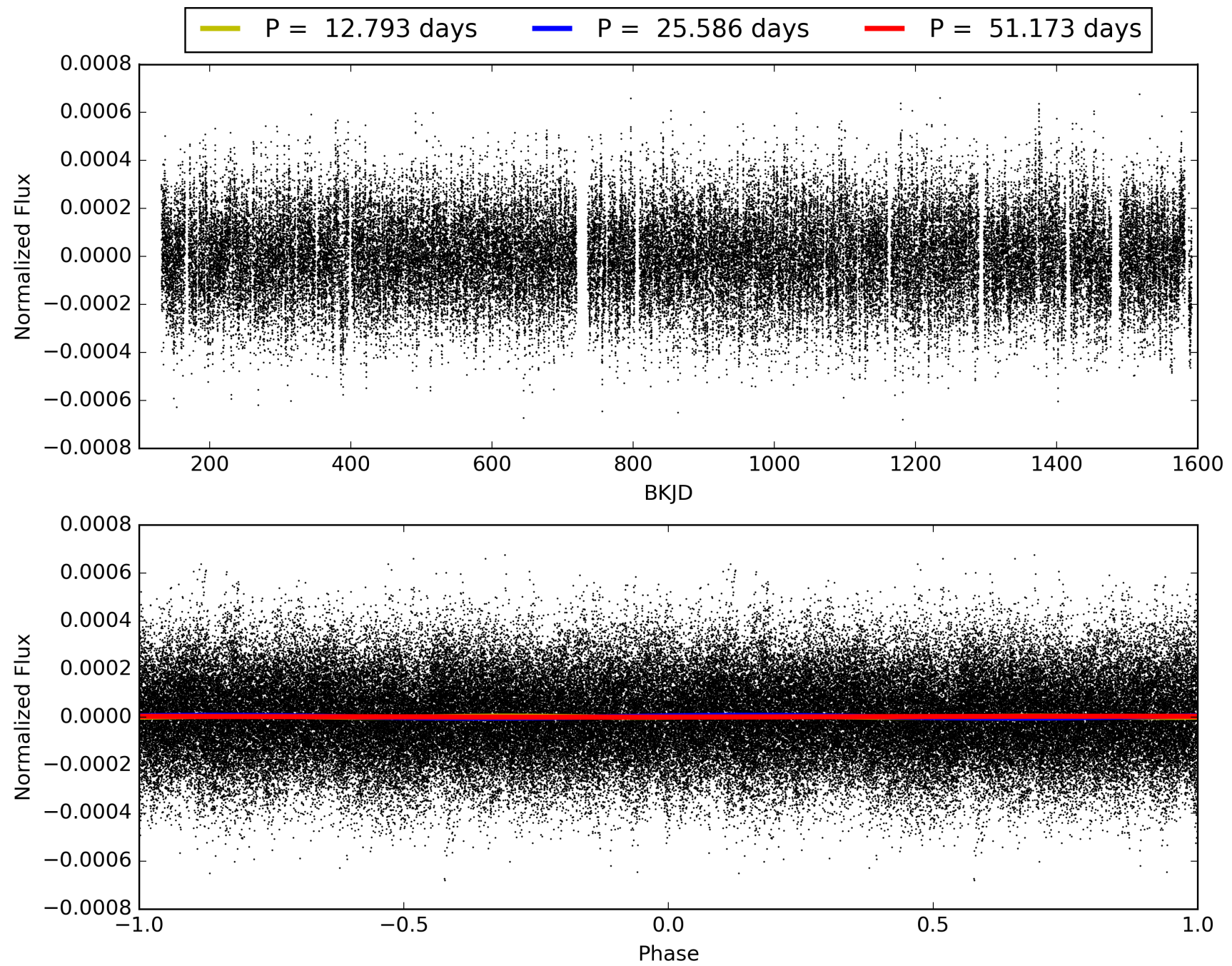
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:06 Z

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

TCE 009269884-02, PDC Light Curves

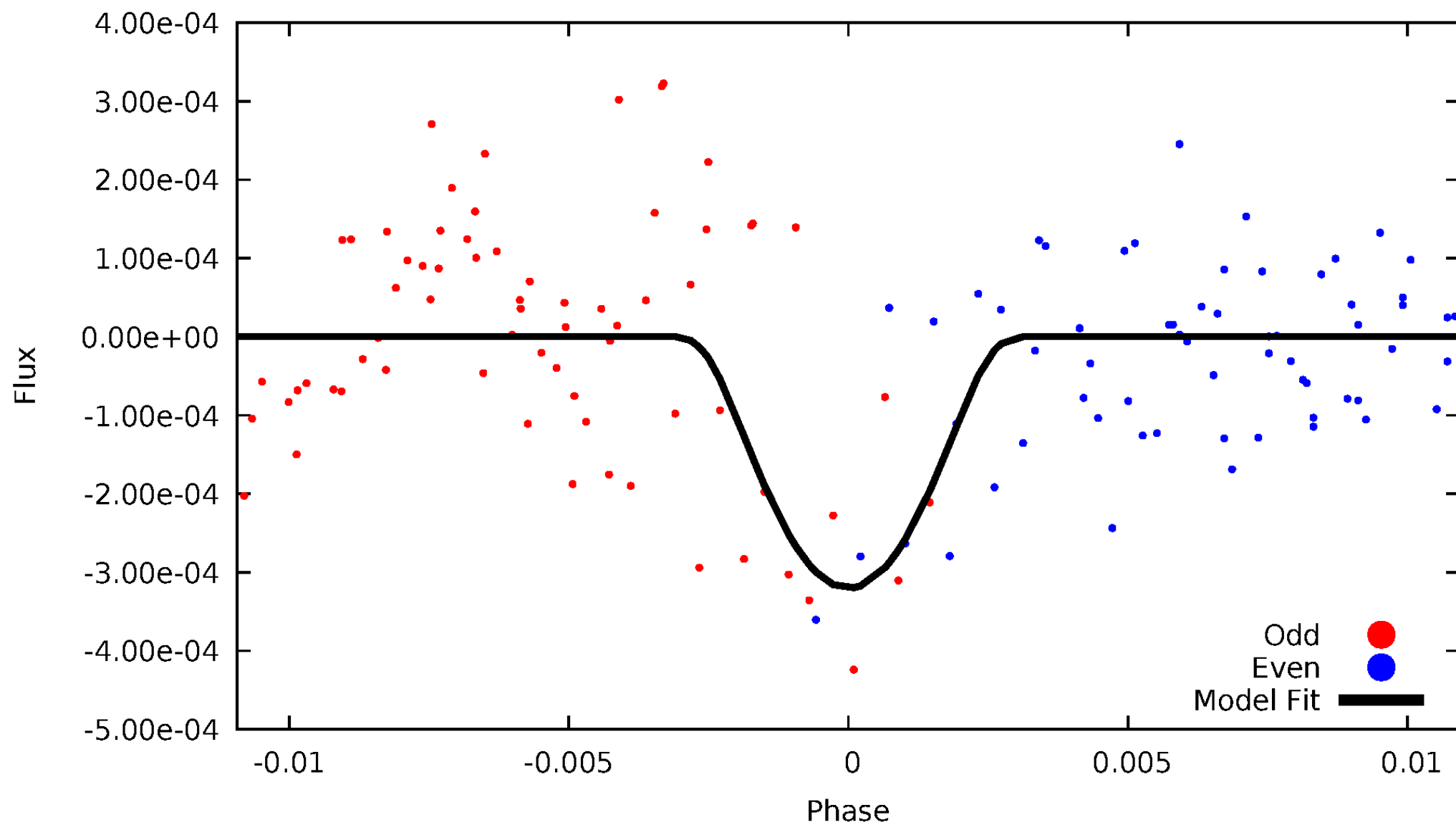


TCE 009269884-02



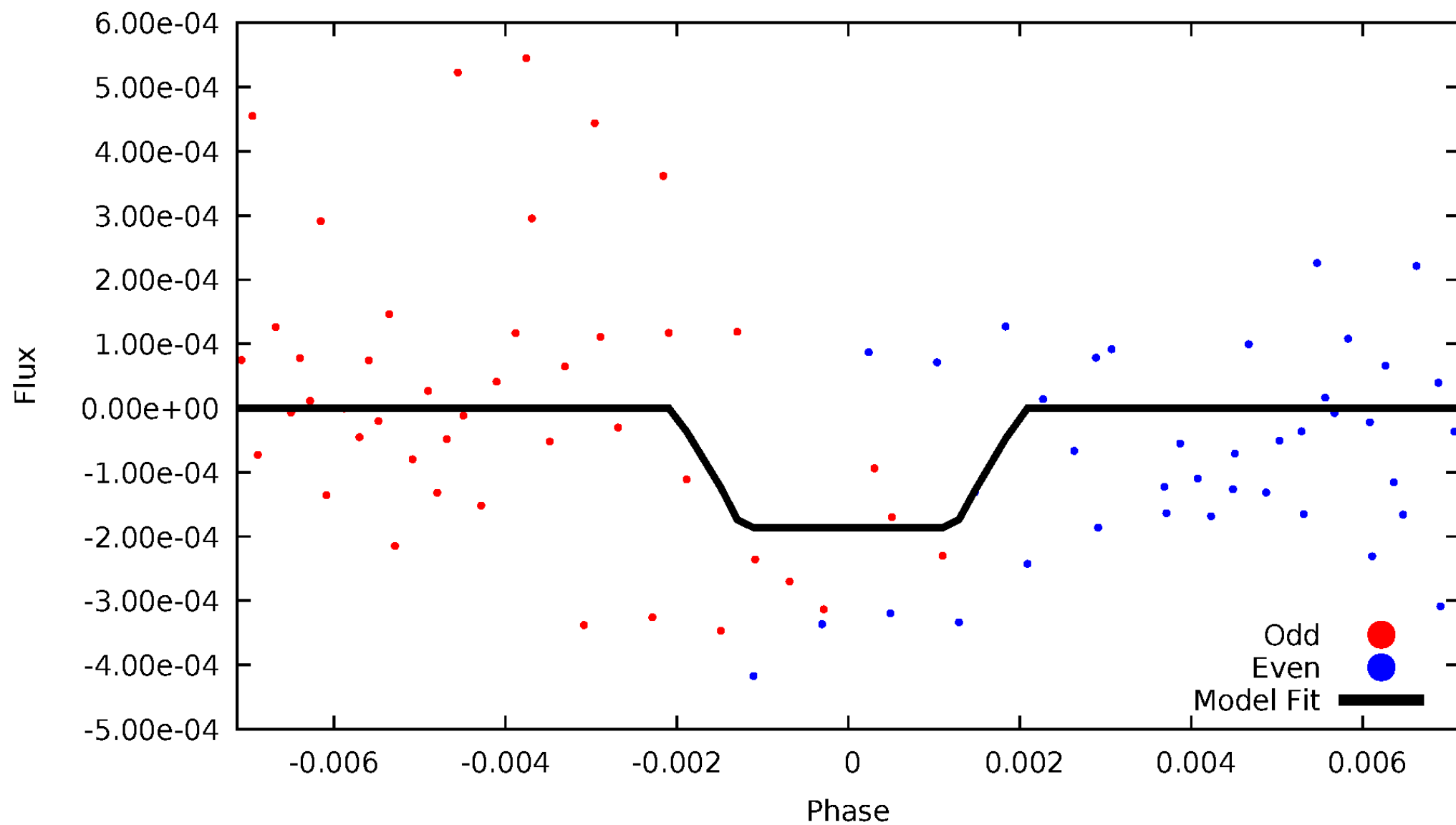
DV Odd/Even

TCE 009269884-02



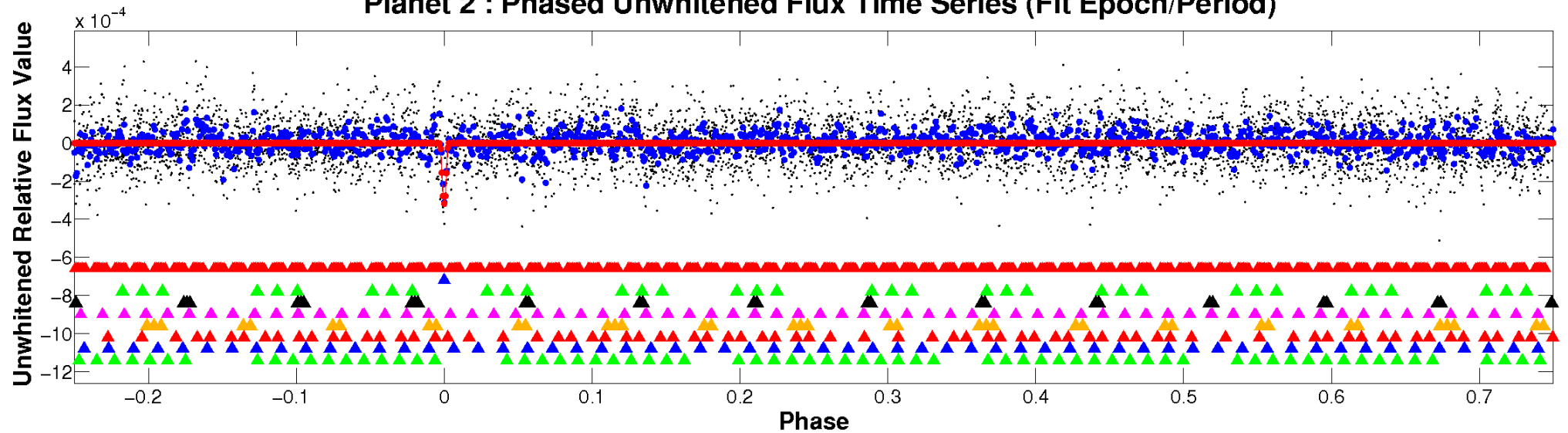
ALT Odd/Even

TCE 009269884-02

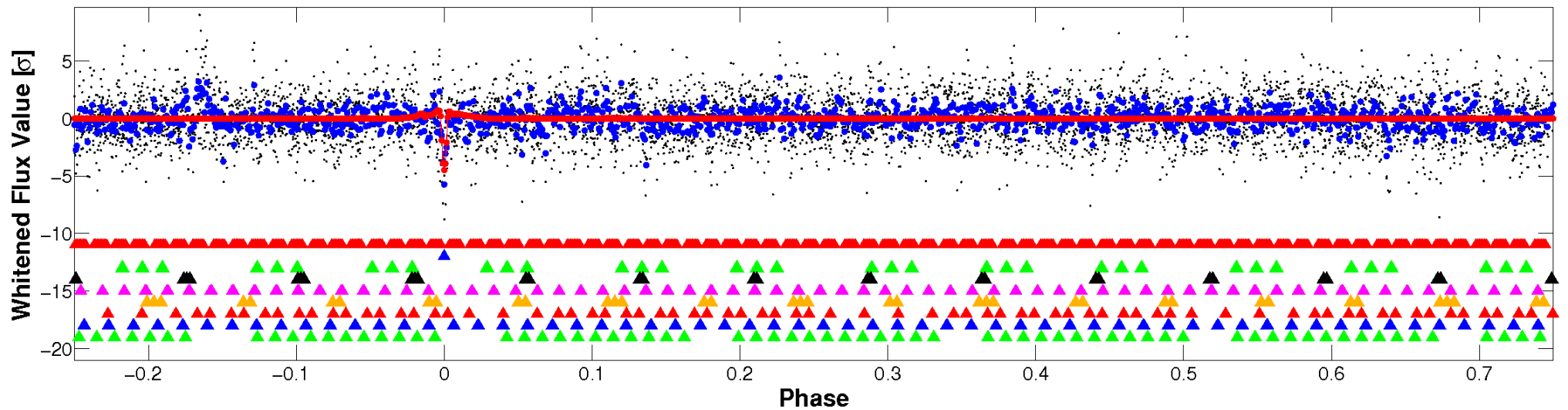


Non-Whitened Vs. Whitened Light Curve

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

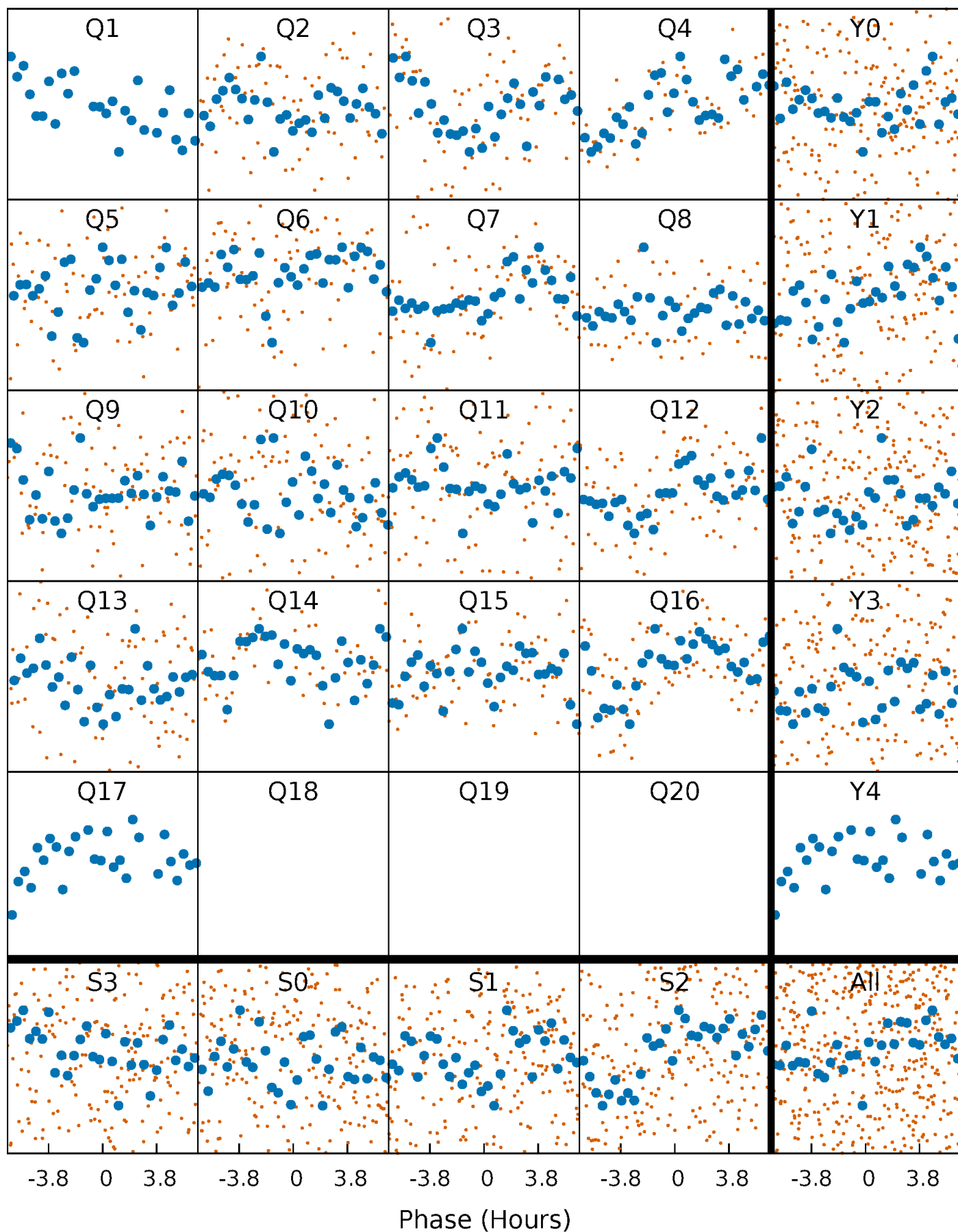


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



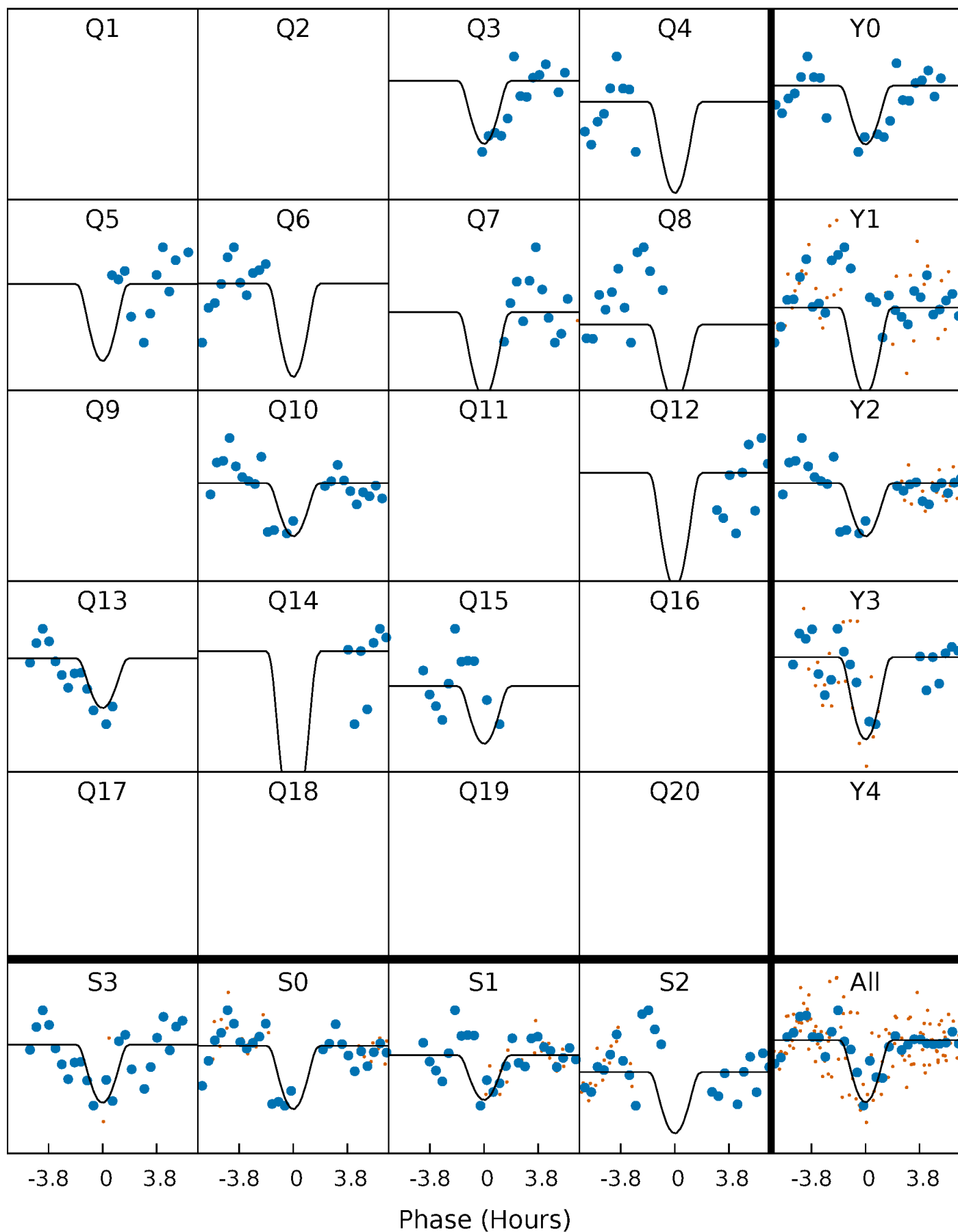
PDC Quarter-Phased Transit Curves

TCE 009269884-02 P= 25.586420 Days $T_0=143.397766$ (BKJD)



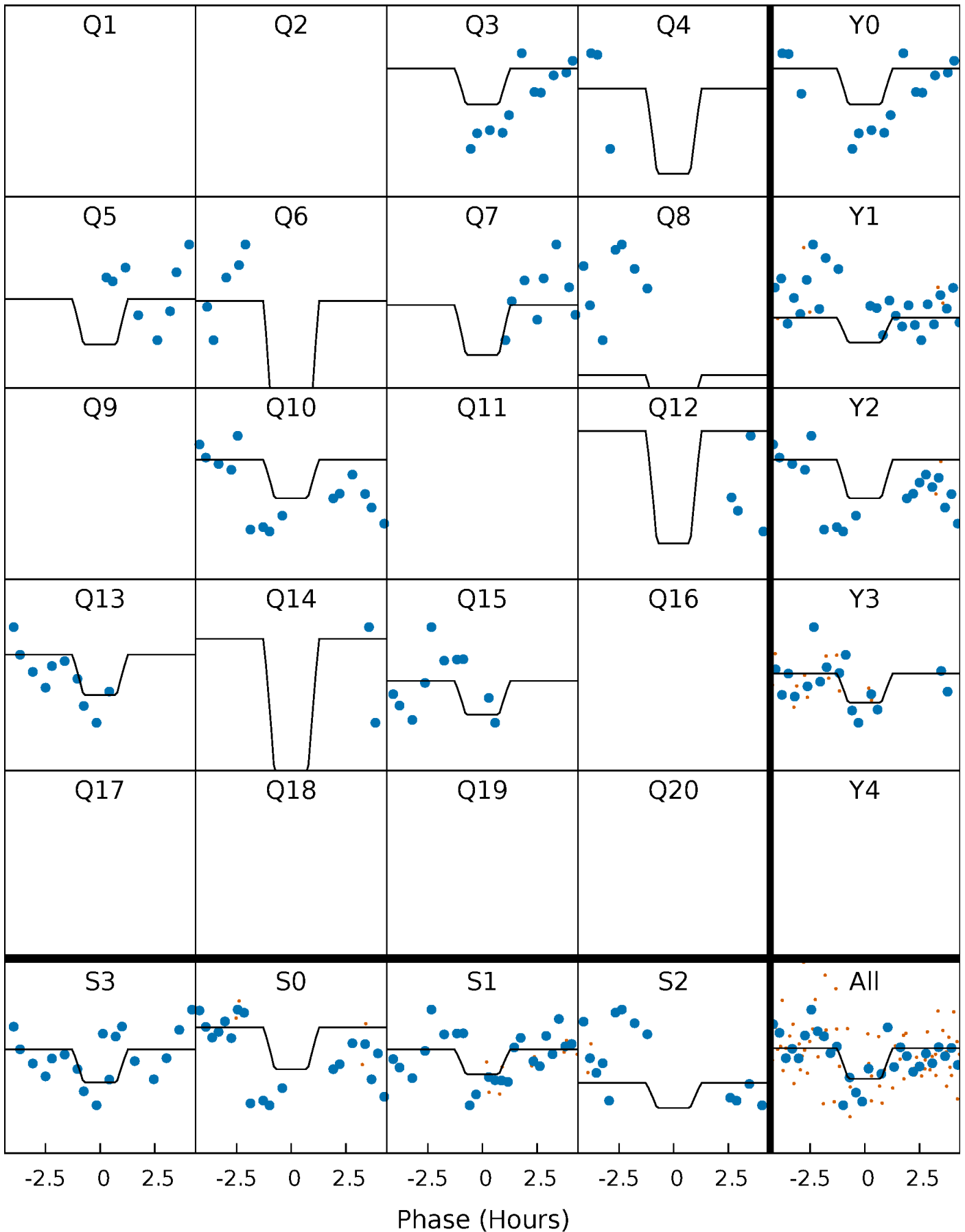
DV Quarter-Phased Transit Curves

TCE 009269884-02 P= 25.586420 Days $T_0=143.397766$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

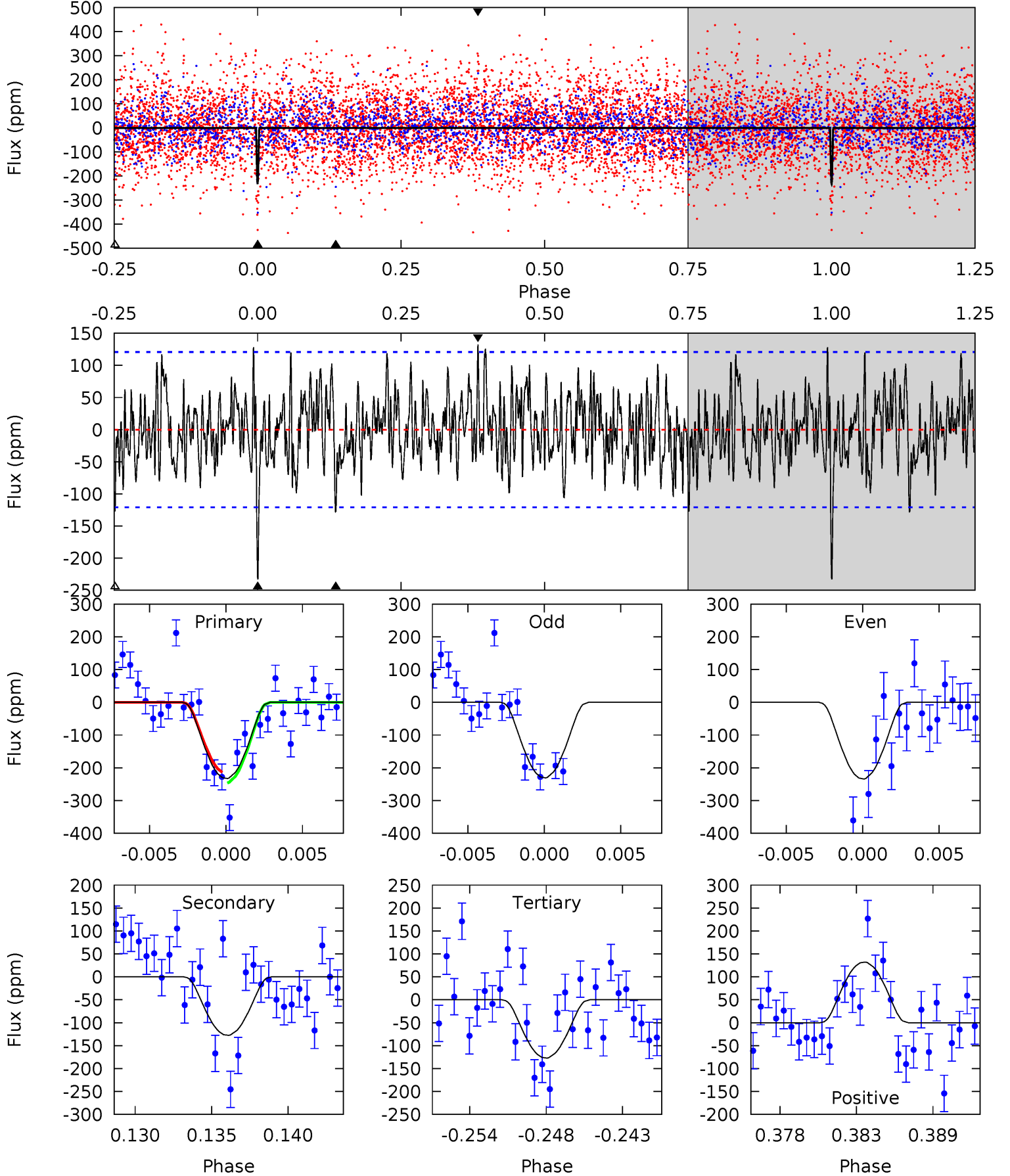
TCE 009269884-02 P= 25.586318 Days $T_0=143.411800$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-02, $P = 25.586420$ Days, $E = 117.811346$ Days

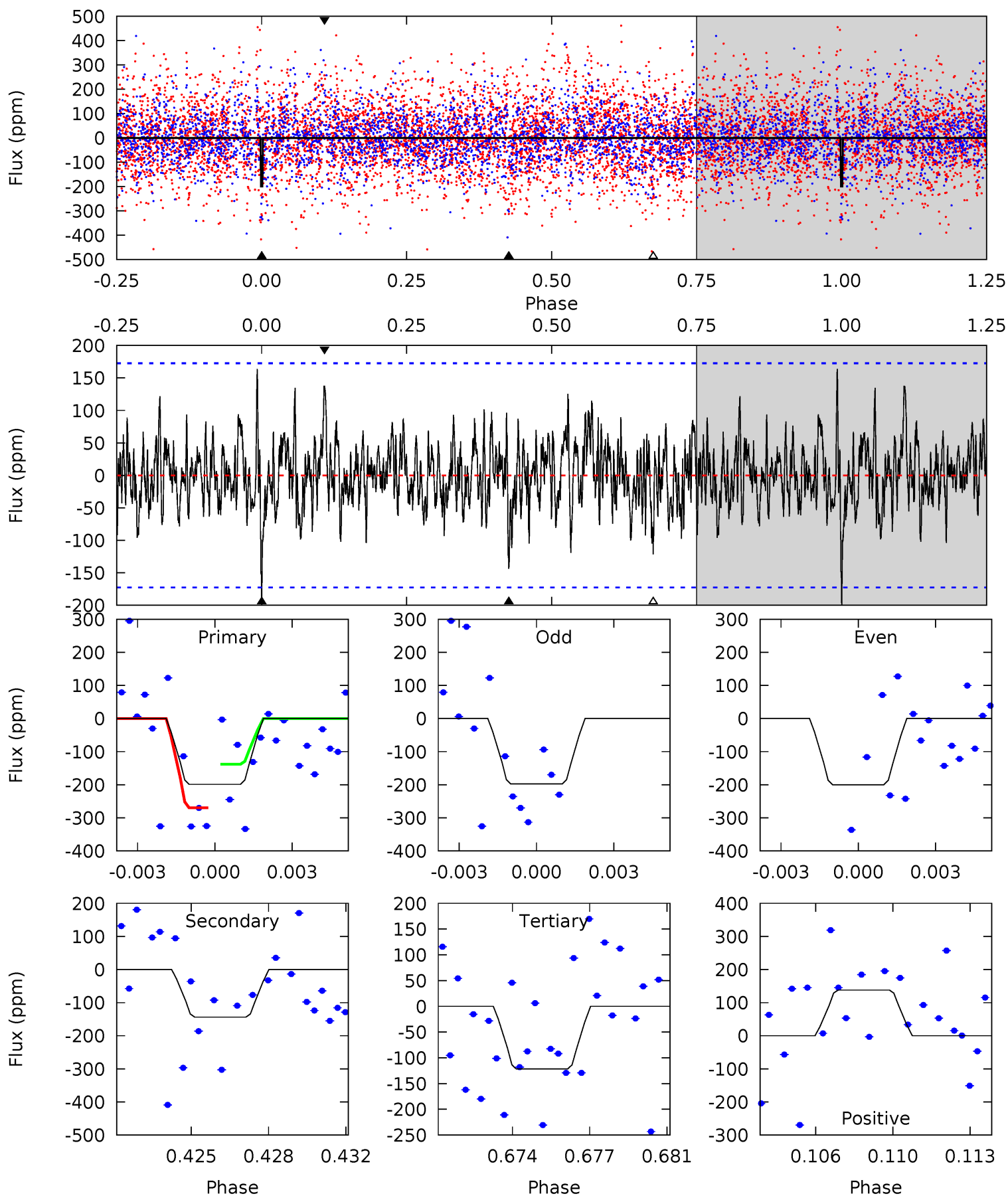
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.90	5.43	5.41	5.63	5.14	2.78	1.88	4.49	4.28	0.02	-0.20	0.07	0.46	0.36	0.69



Alt Model-Shift Uniqueness Test

009269884-02, P = 25.586318 Days, E = 117.825482 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.03	4.36	3.69	4.18	5.23	2.94	1.27	2.34	1.85	0.67	0.17	0.04	0.76	0.45	1.98



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-128 ± 24	$38.33^{+39.73}_{-26.43}$	1586^{+117}_{-186}	2673^{+1160}_{-672}	$1.778^{+16.098}_{-1.367}$
Alt.	-144 ± 33	$36.53^{+38.13}_{-26.99}$	1599^{+113}_{-158}	2800^{+1527}_{-708}	$2.183^{+29.981}_{-1.709}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

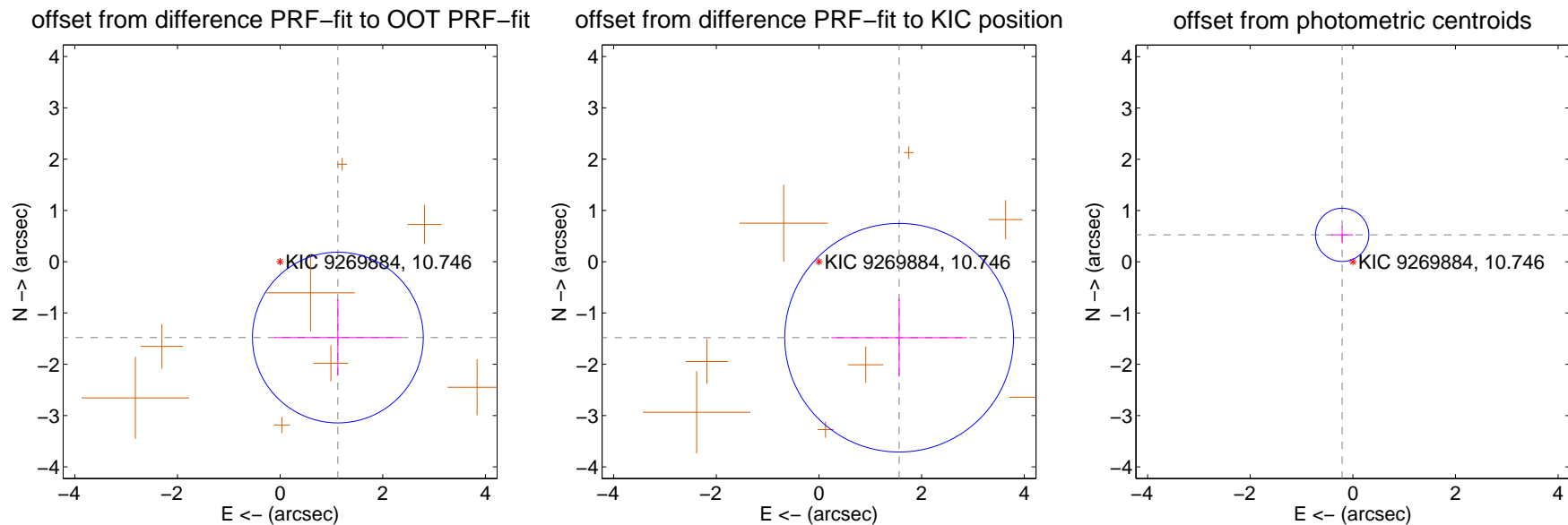
DV Centroid Data

Supplemental centroid analysis for 009269884-02. **Kepler magnitude: 10.75.** Transit SNR 13.91

There are 0 quarters with good PRF difference image offsets

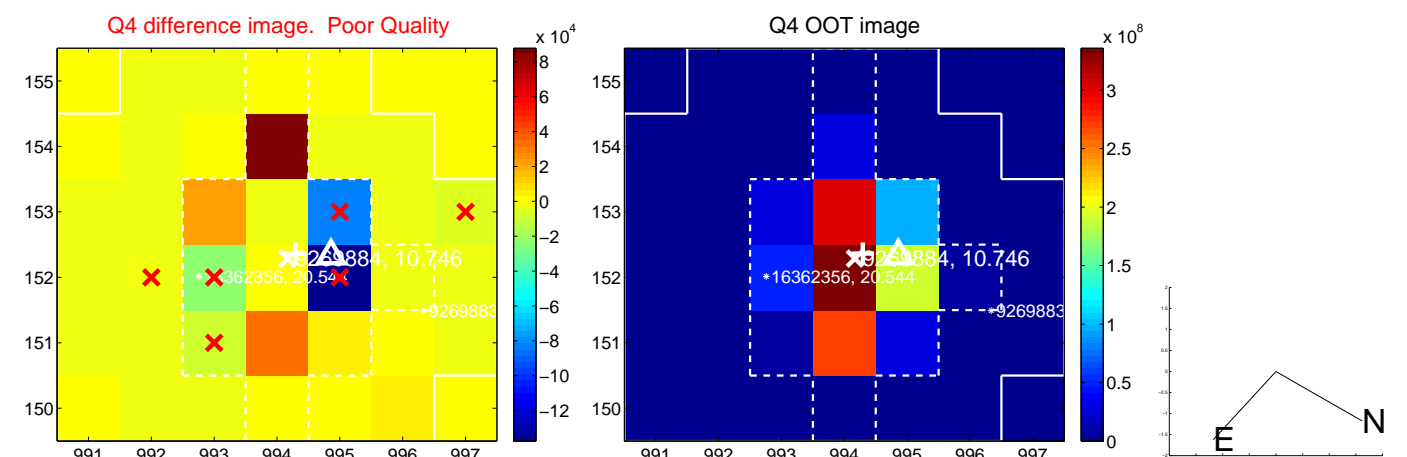
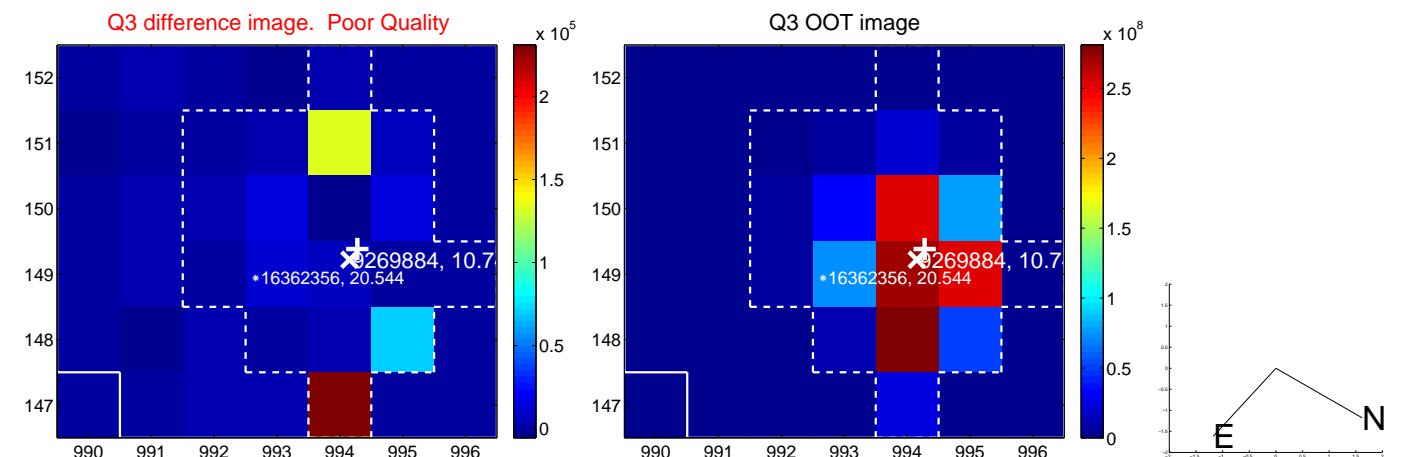
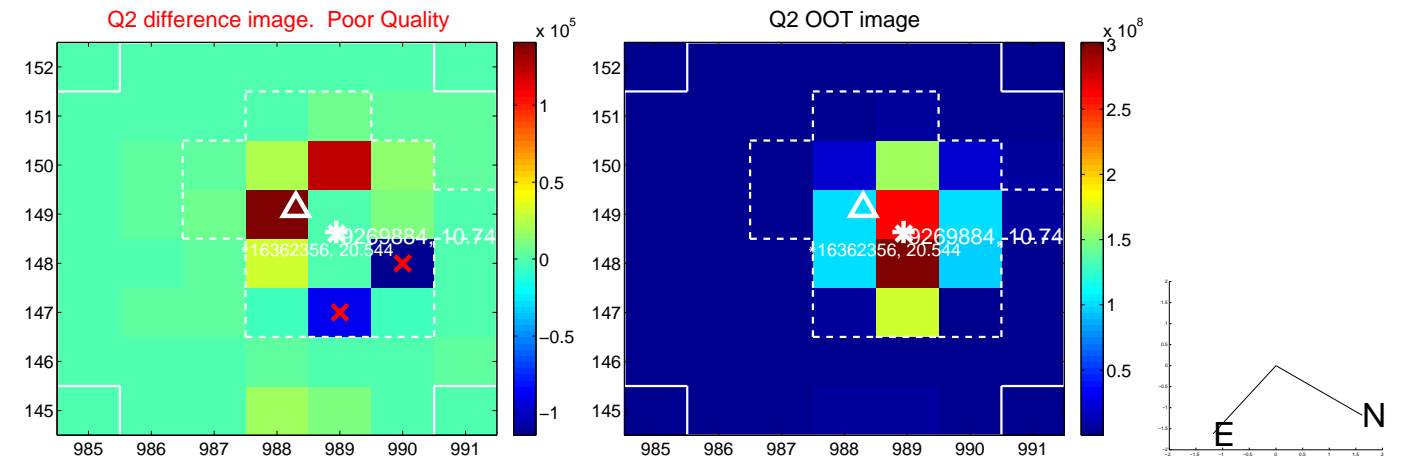
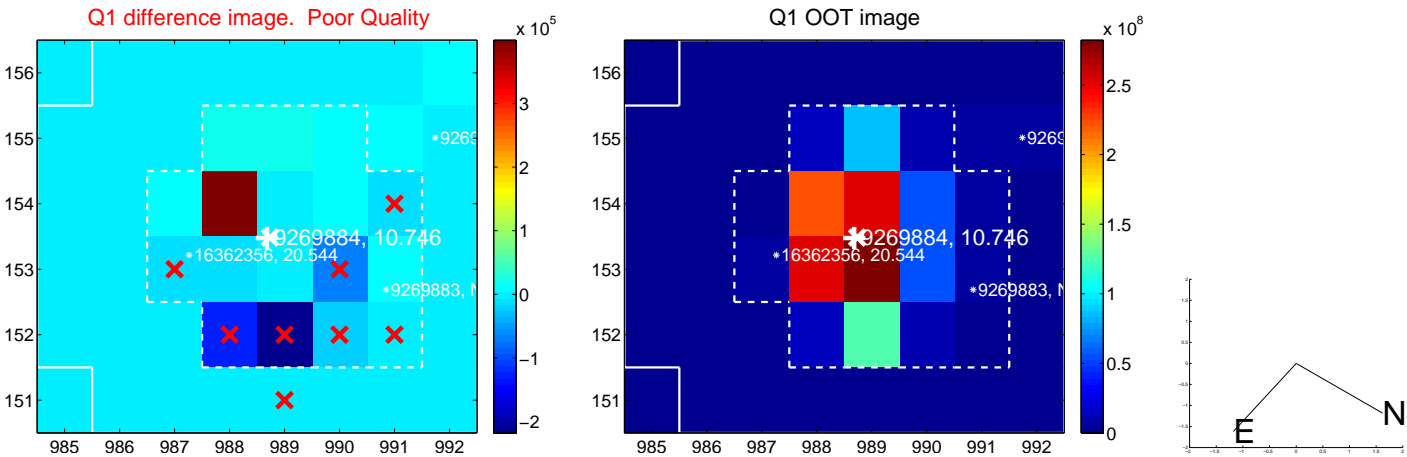
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.858 ± 0.555	3.35	-1.125 ± 1.232	-1.479 ± 0.743
PRF-fit source offset from KIC position	2.153 ± 0.743	2.90	-1.561 ± 1.320	-1.482 ± 0.762
photometric centroid source offset	0.56 ± 0.17	3.26	0.21 ± 0.21	0.52 ± 0.17

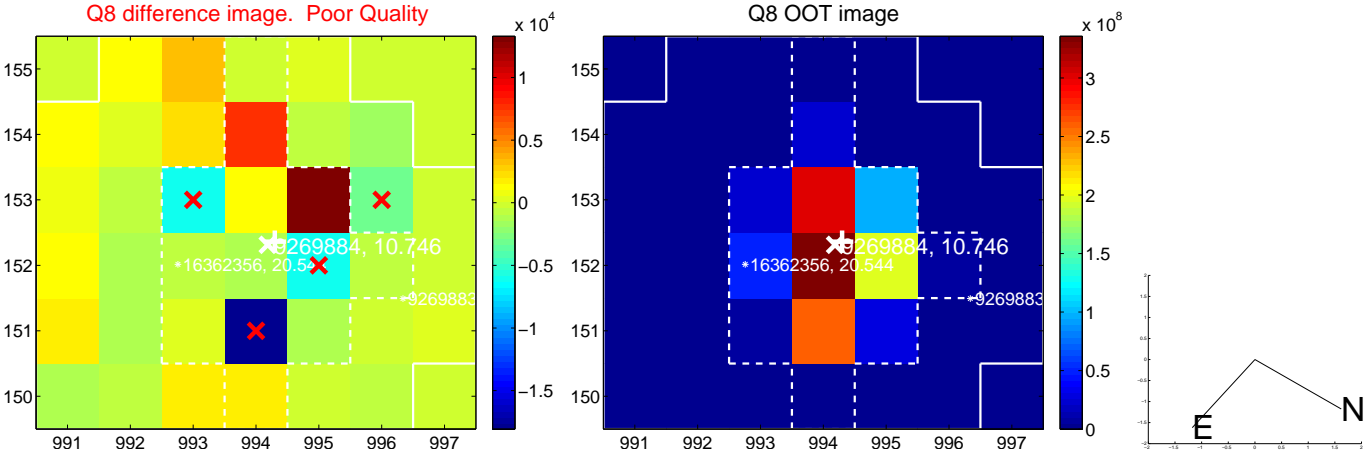
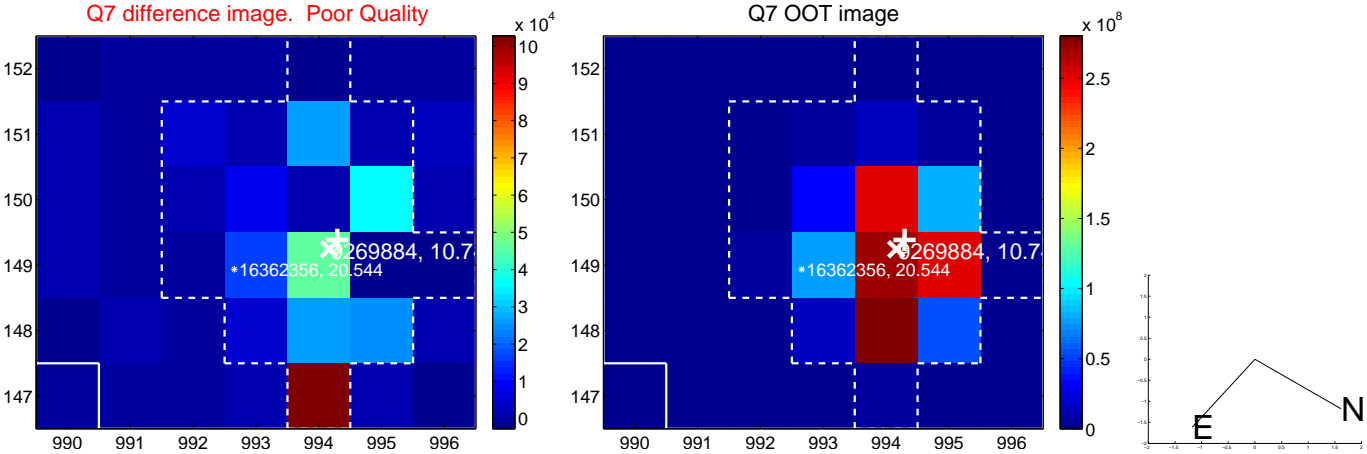
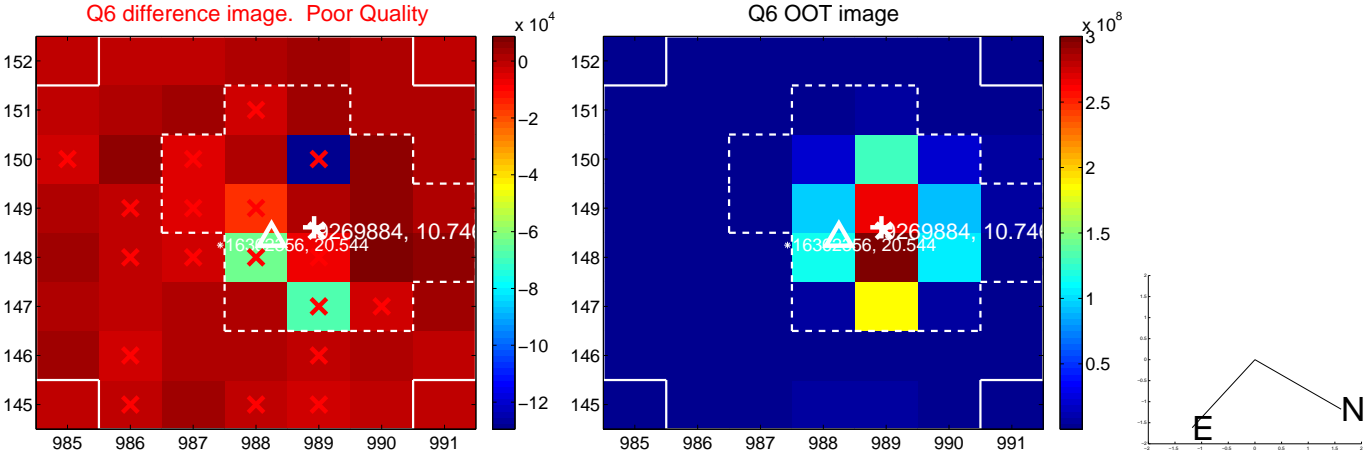
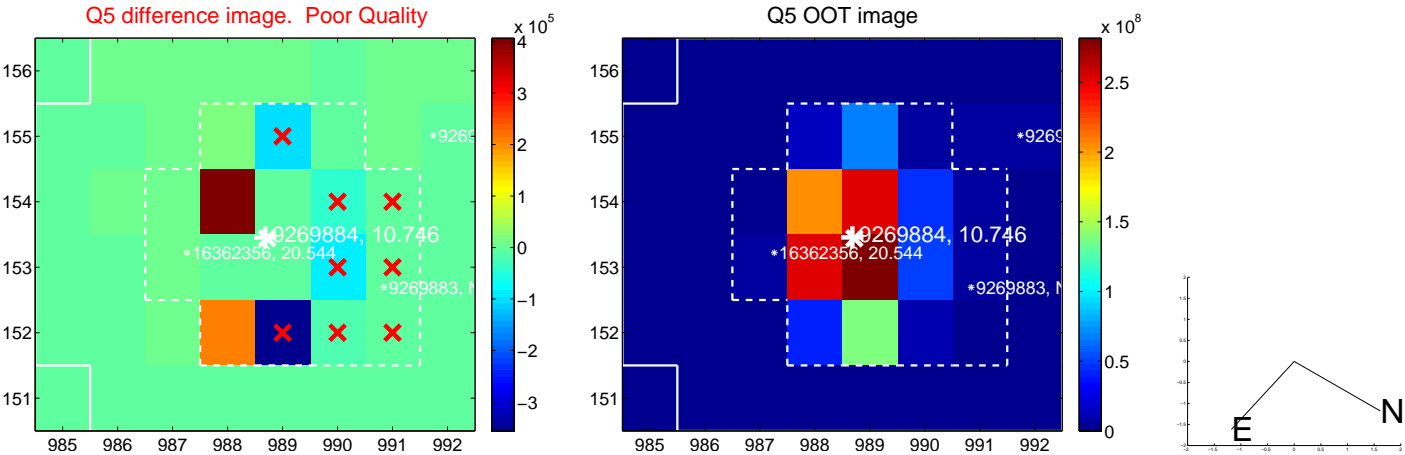


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

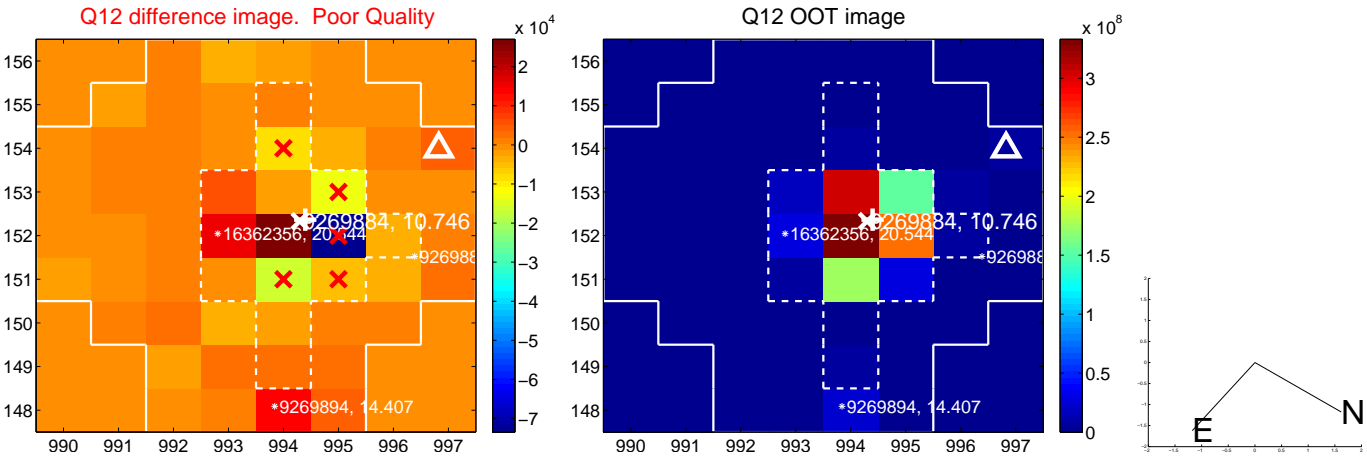
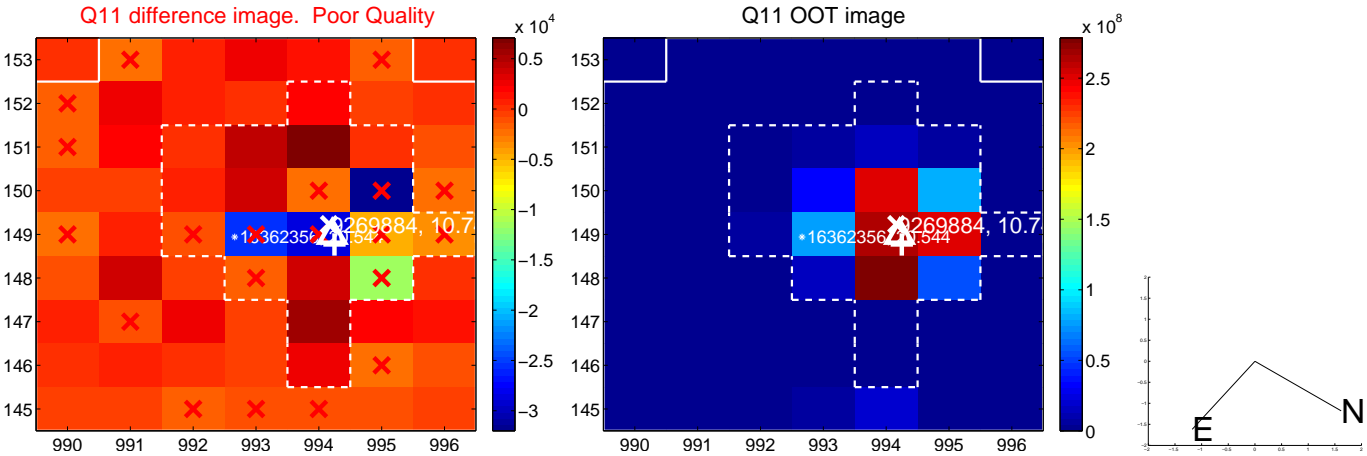
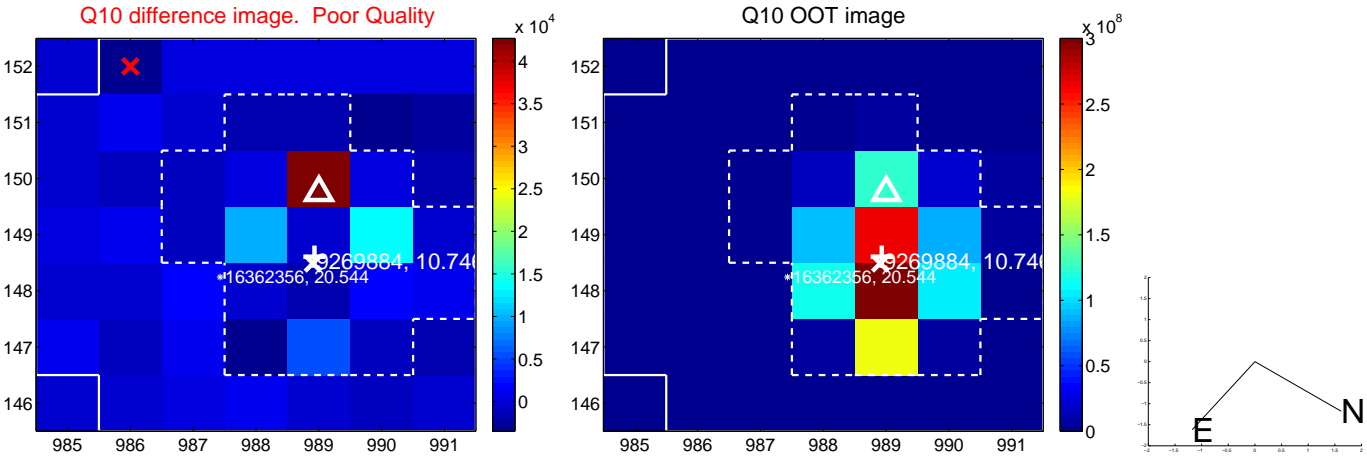
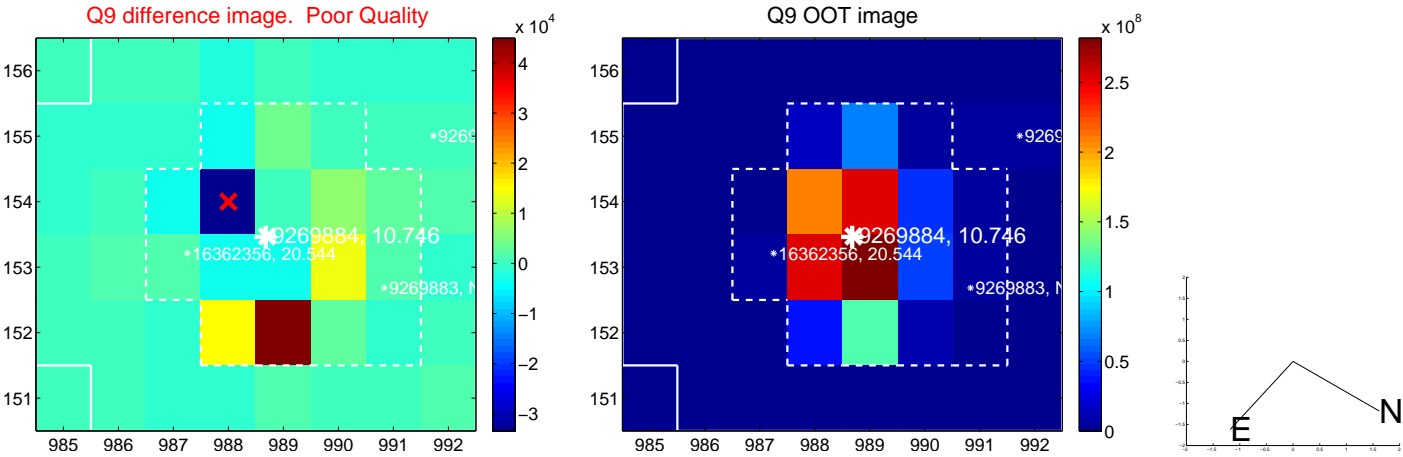
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



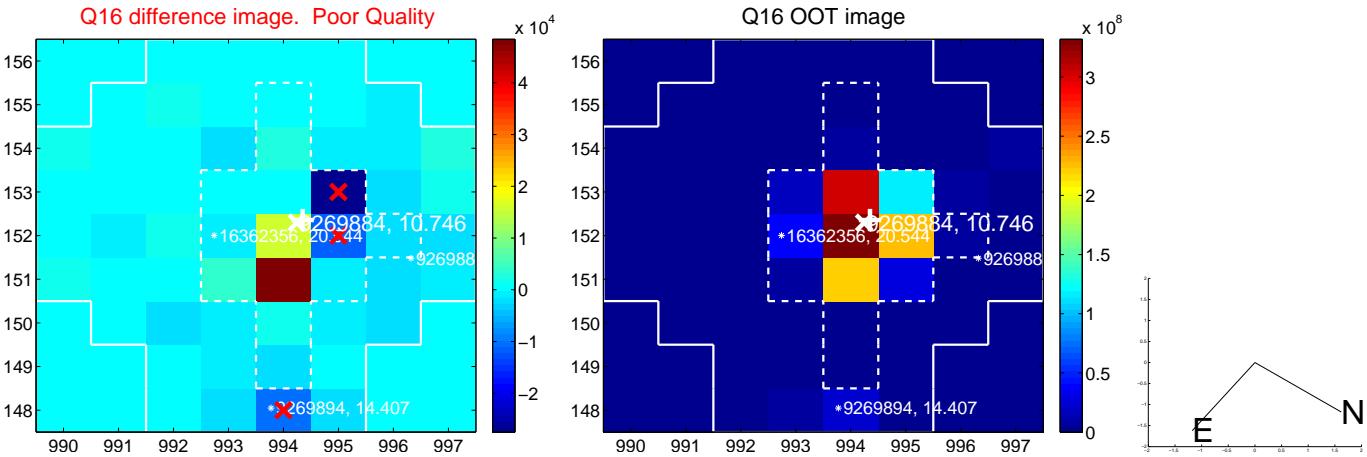
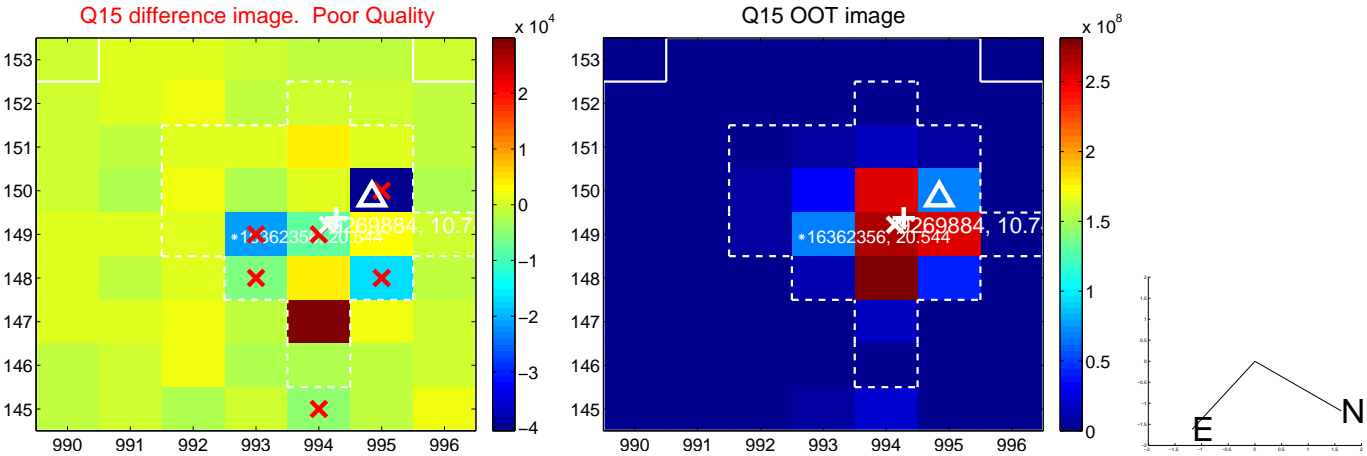
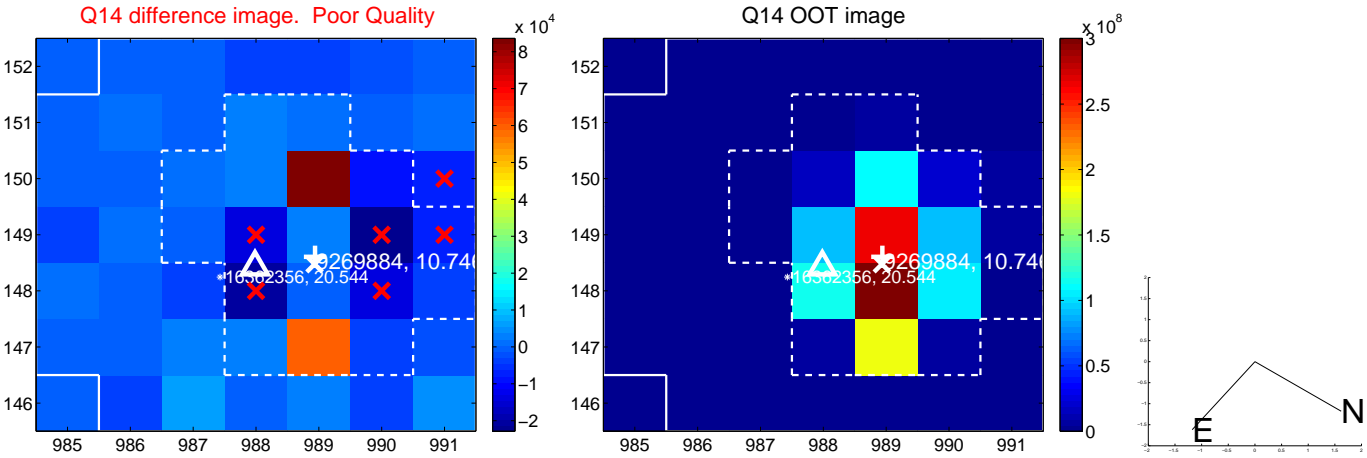
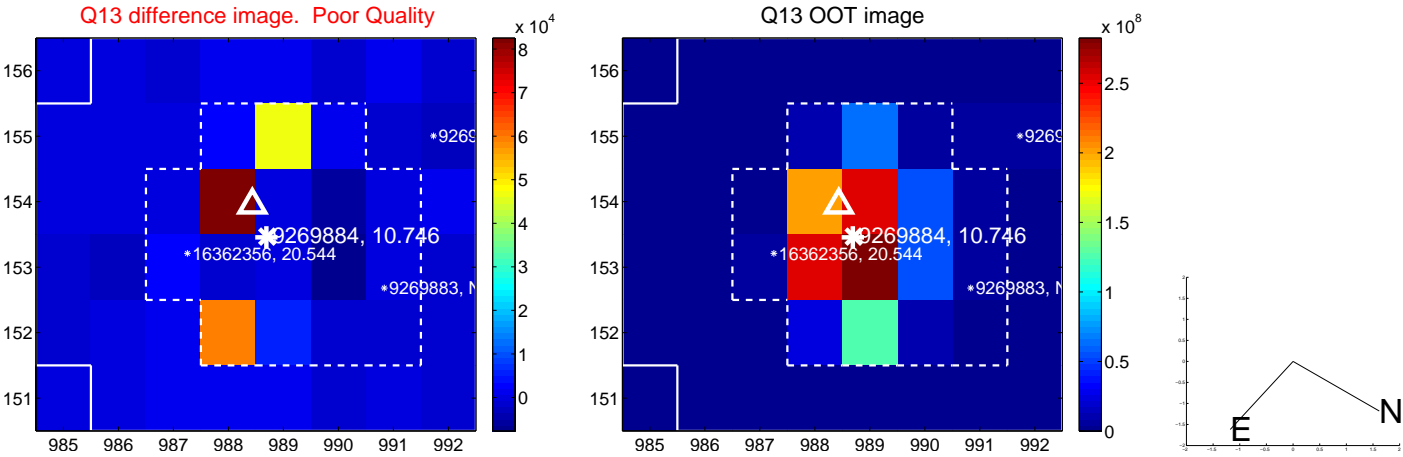
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



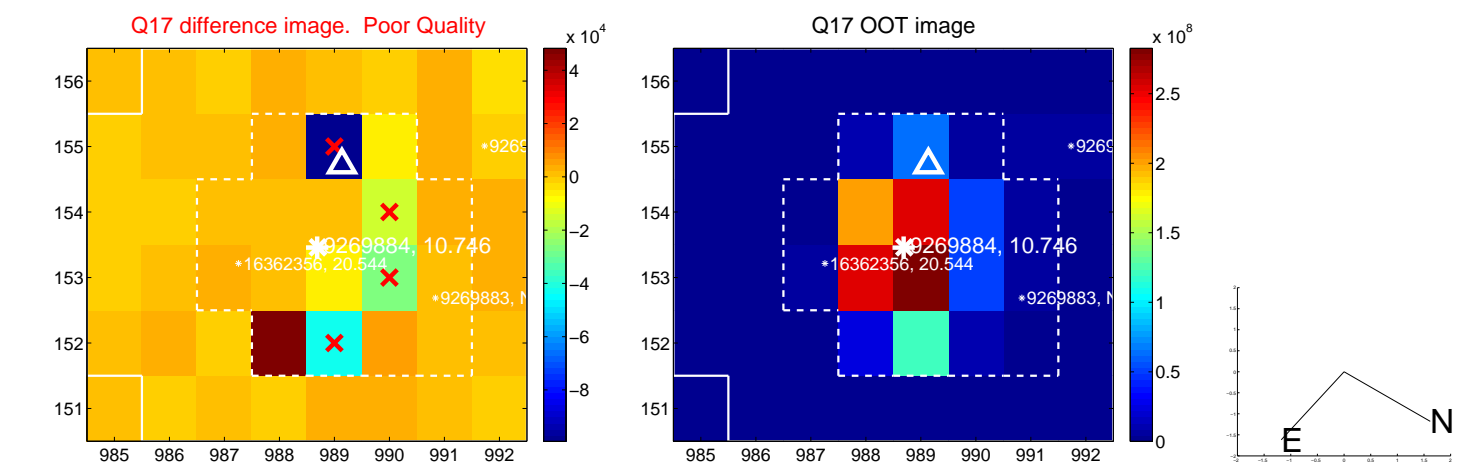
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



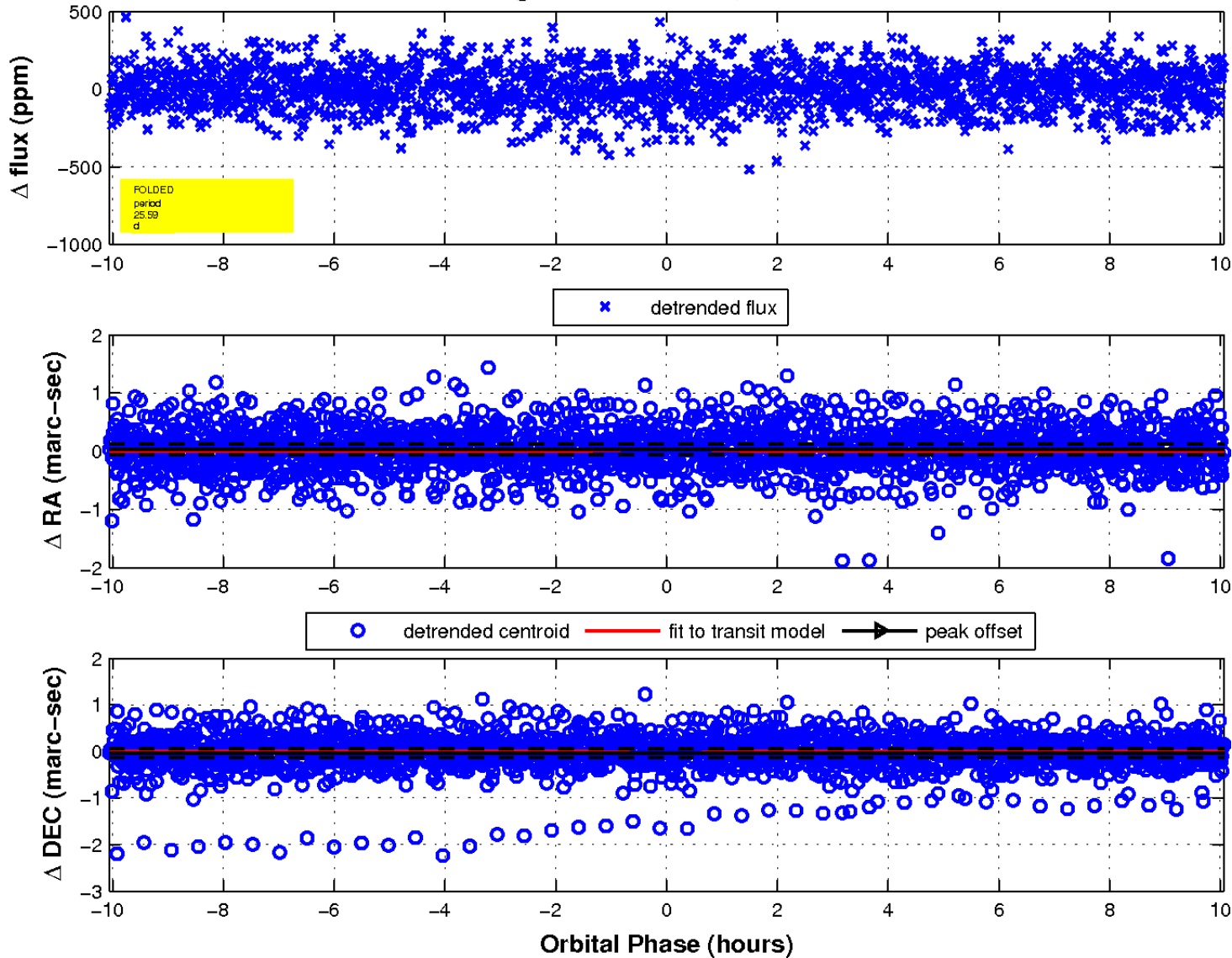
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



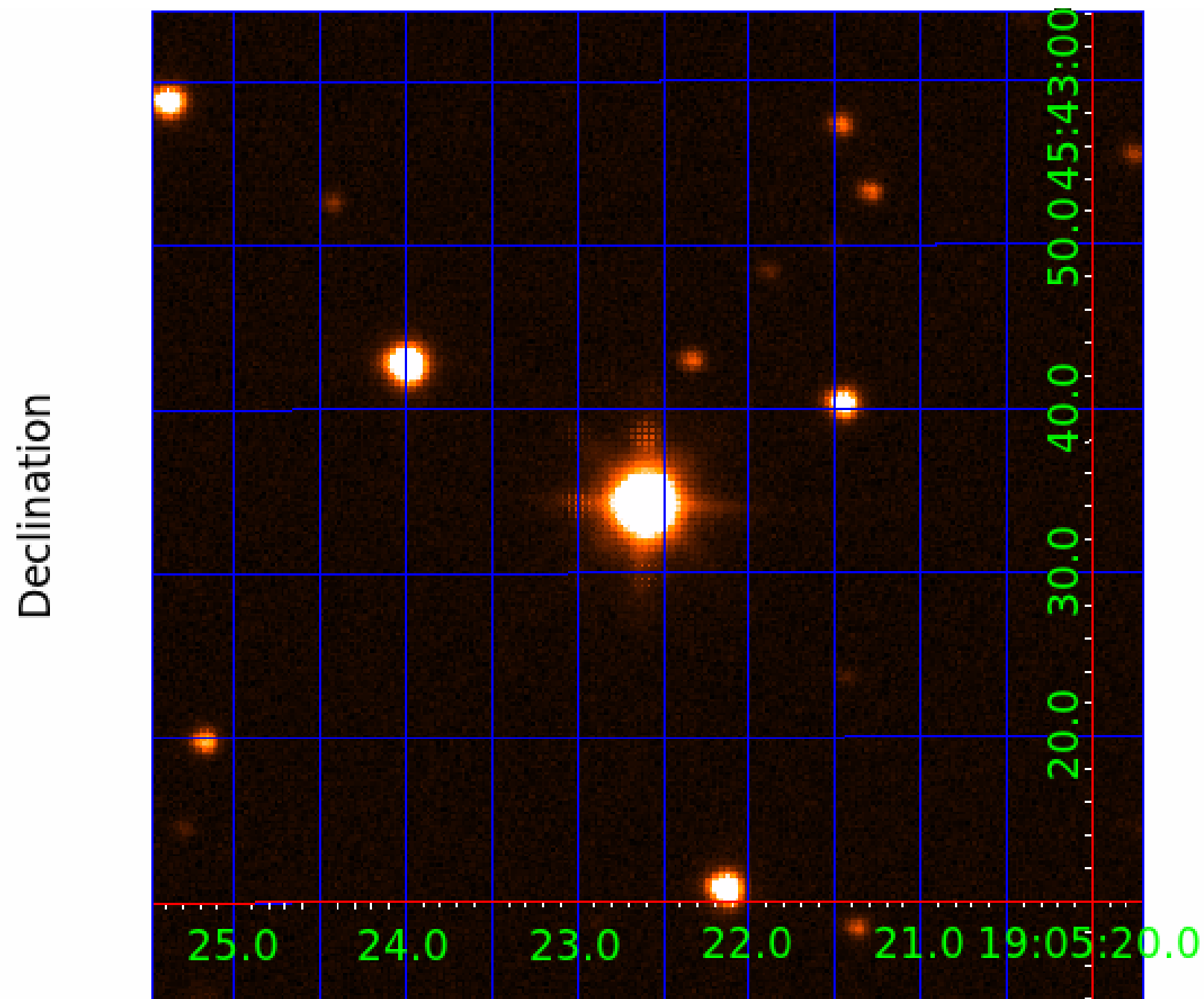
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 9



UKIRT Image



KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

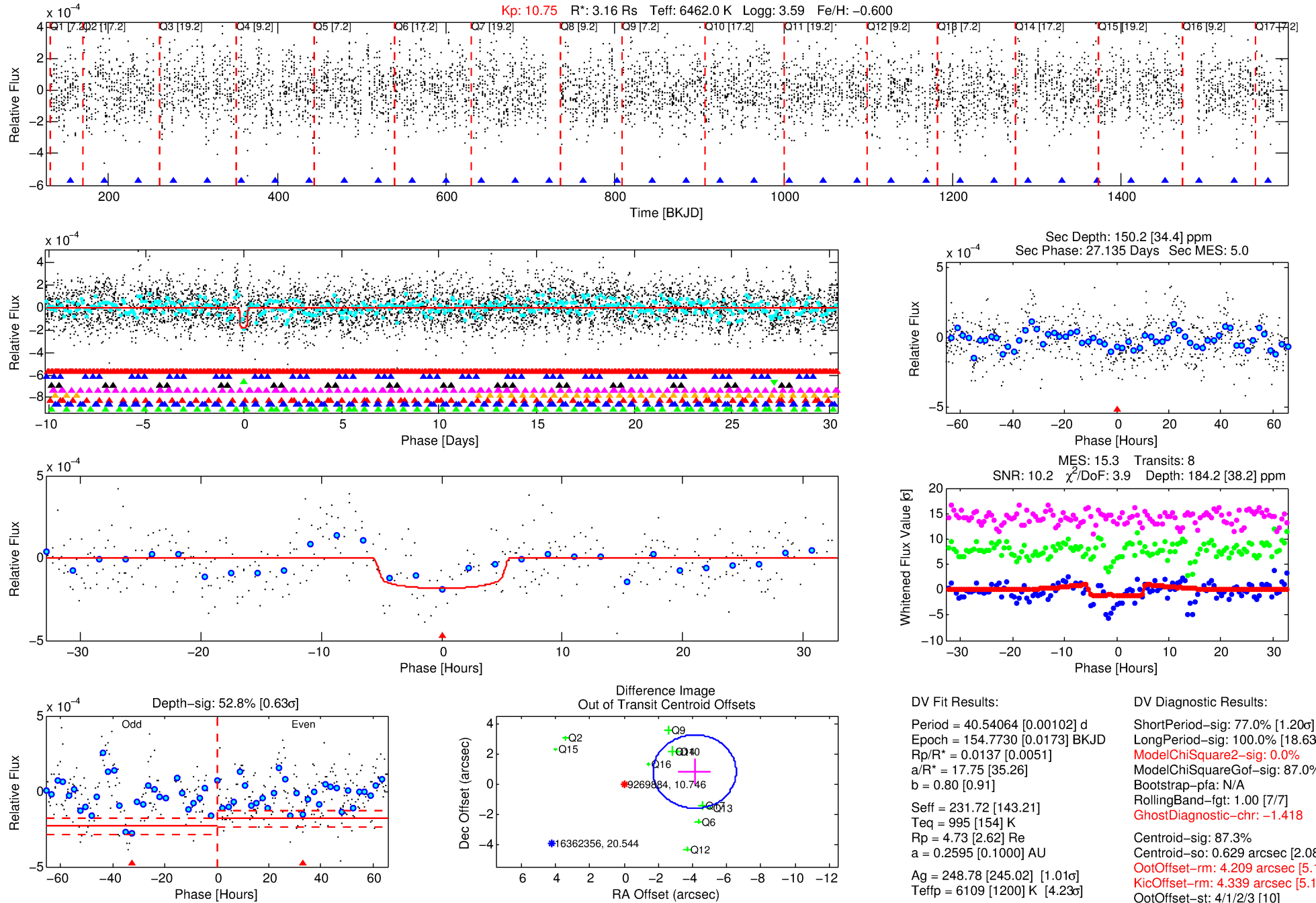
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-03

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 3 of 9 Period: 40.541 d



DV Fit Results:

Period = 40.54064 [0.00102] d
 Epoch = 154.7730 [0.0173] BKJD
 Rp/R* = 0.0137 [0.0051]
 a/R* = 17.75 [35.26]
 b = 0.80 [0.91]
 Seff = 231.72 [143.21]
 Teq = 995 [154] K
 Rp = 4.73 [2.62] Re
 a = 0.2595 [0.1000] AU
 Ag = 248.78 [245.02] [1.01σ]
 Teffp = 6109 [1200] K [4.23σ]

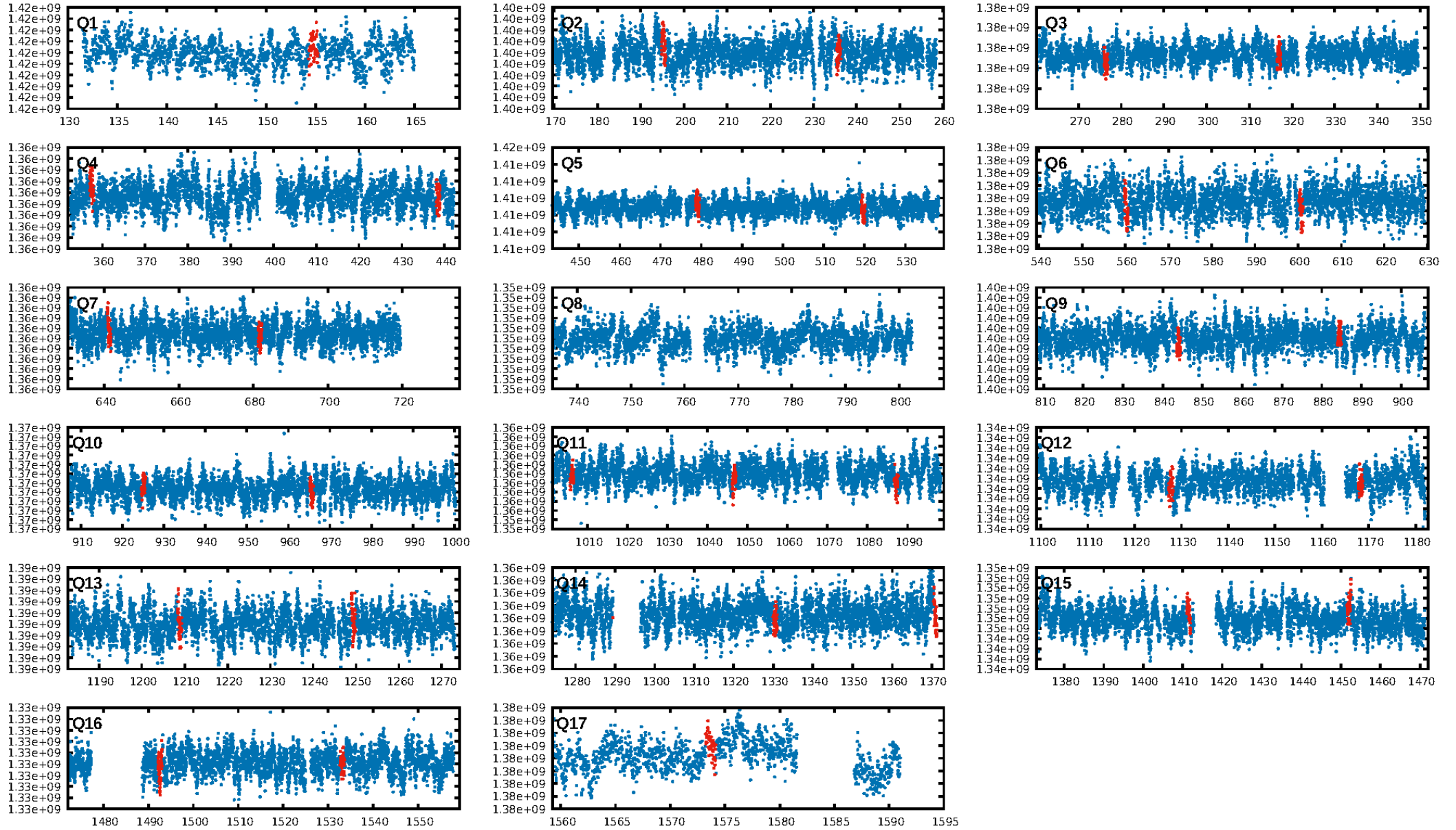
DV Diagnostic Results:

ShortPeriod-sig: 77.0% [1.20σ]
 LongPeriod-sig: 100.0% [18.63σ]
 ModelChiSquare2-sig: 0.0%
 ModelChiSquareGof-sig: 87.0%
 Bootstrap-pfa: N/A
 RollingBand-fgt: 1.00 [7/7]
 GhostDiagnostic-chr: -1.418
 Centroid-sig: 87.3%
 Centroid-so: 0.629 arcsec [2.08σ]
 OotOffset-rm: 4.209 arcsec [5.19σ]
 KicOffset-rm: 4.339 arcsec [5.12σ]
 OotOffset-st: 4/1/2/3 [10]
 KicOffset-st: 4/1/2/3 [10]
 DiffImageQuality-fgm: 0.30 [3/10]
 DiffImageOverlap-fno: 0.12 [2/16]

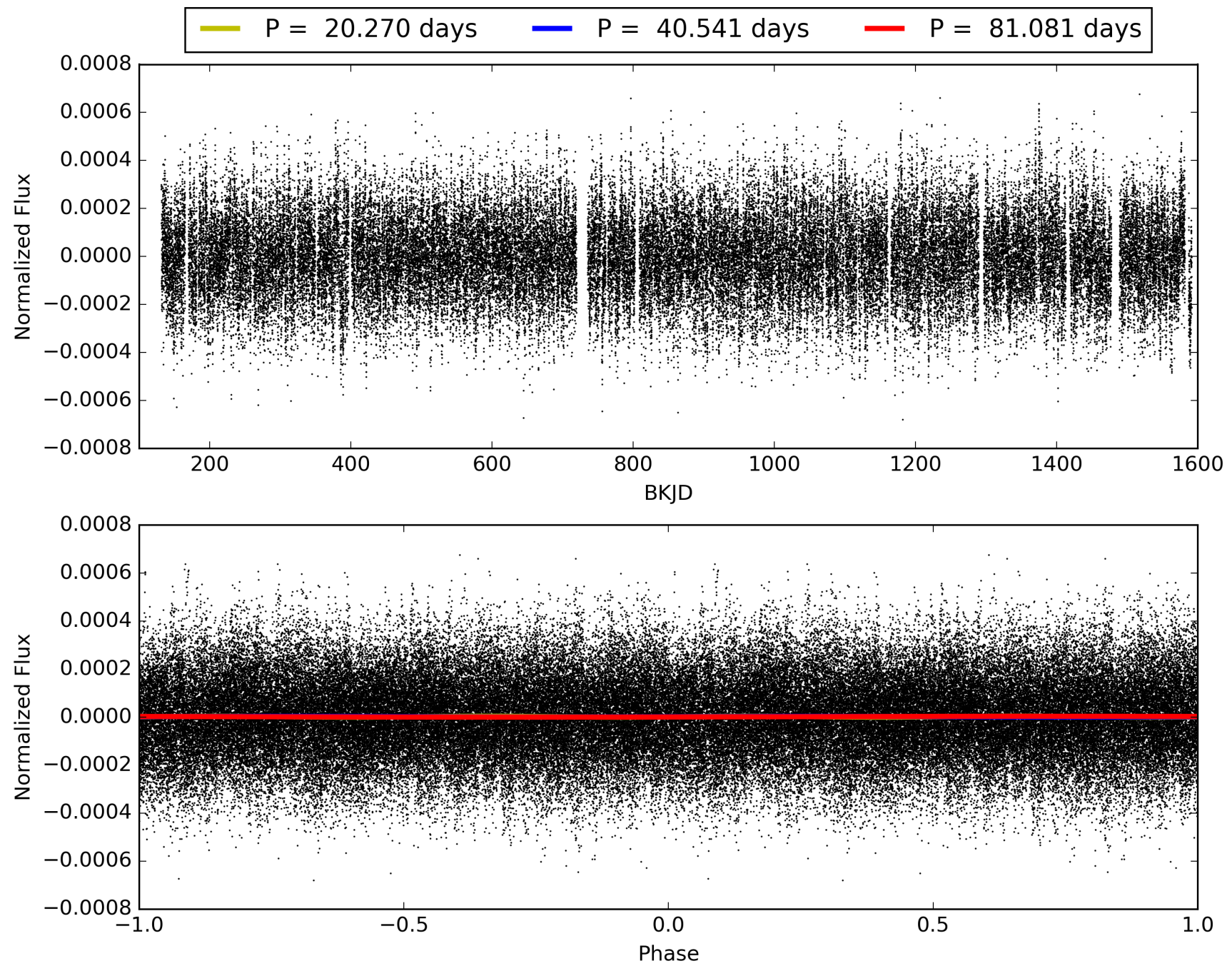
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:09 Z

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

TCE 009269884-03, PDC Light Curves

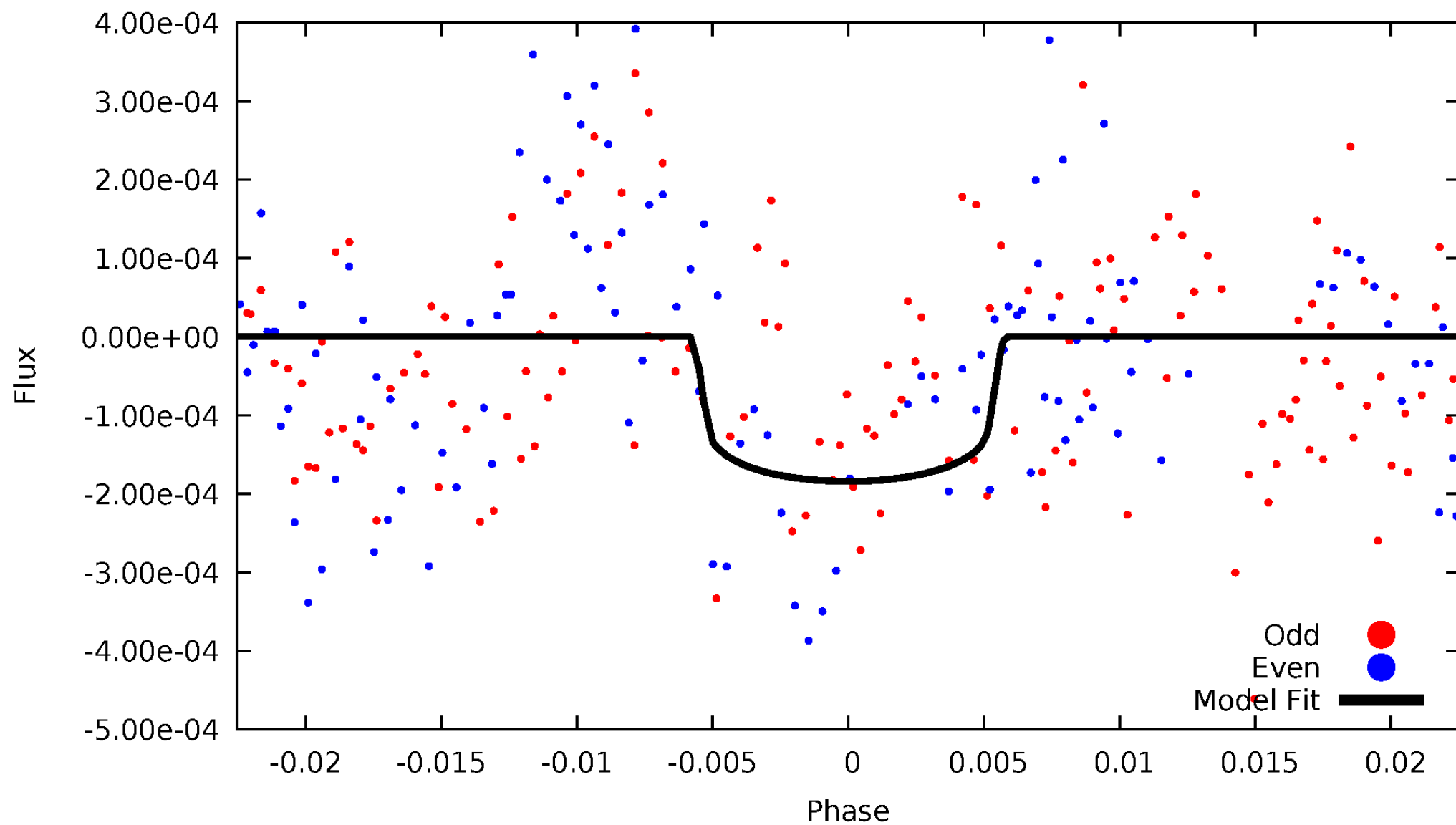


TCE 009269884-03



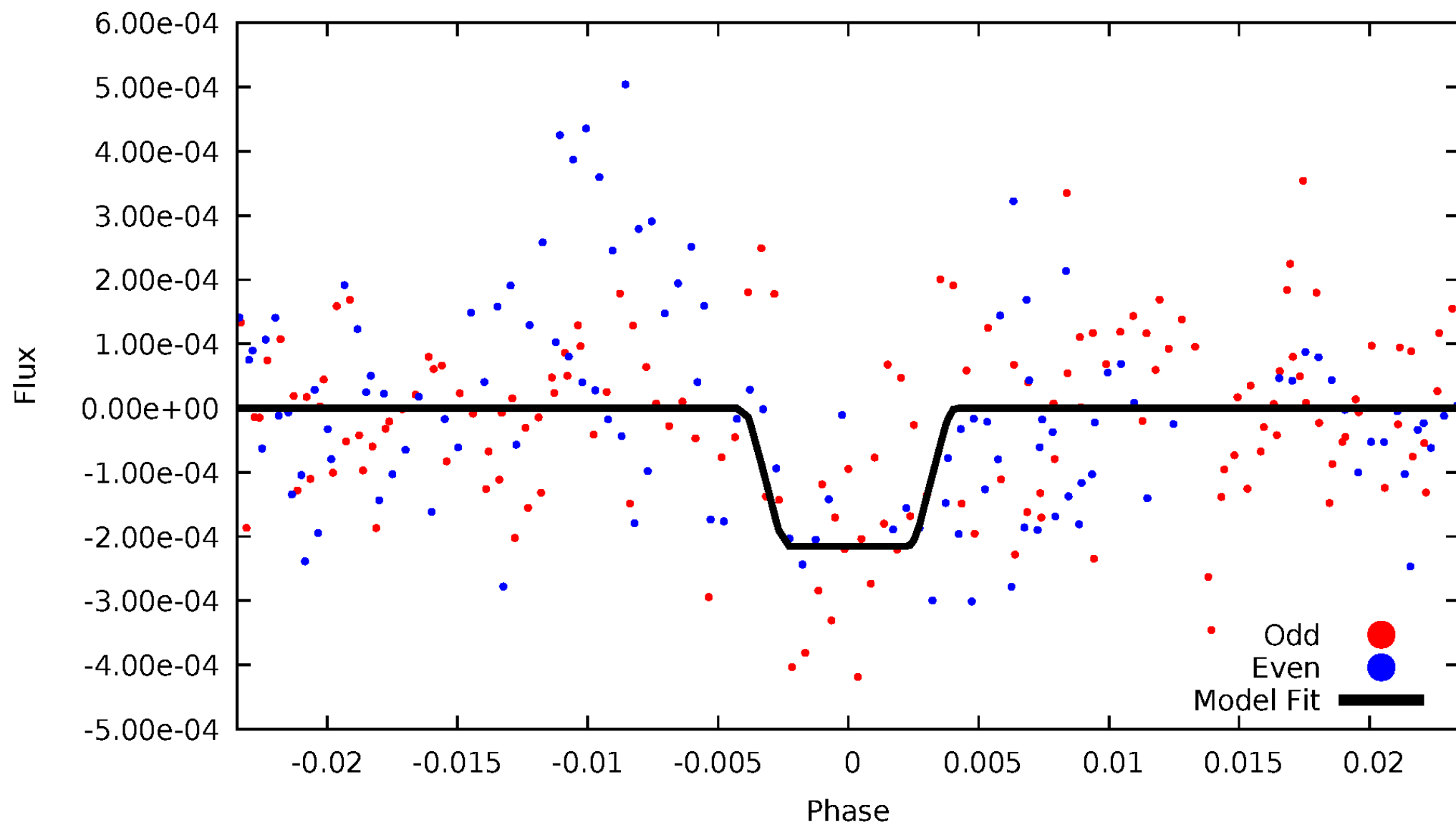
DV Odd/Even

TCE 009269884-03



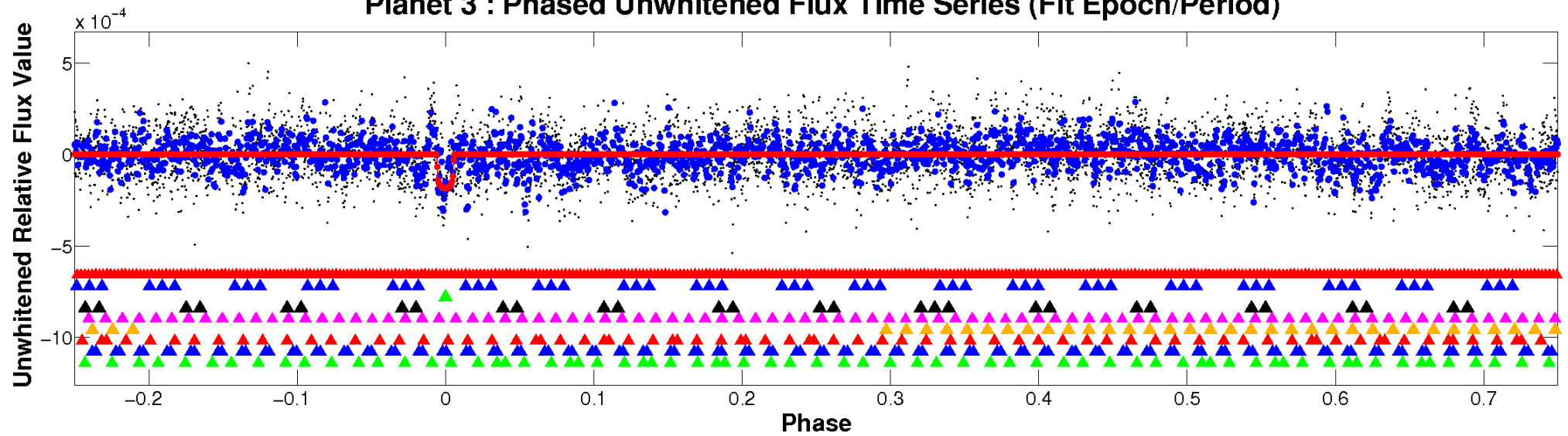
ALT Odd/Even

TCE 009269884-03

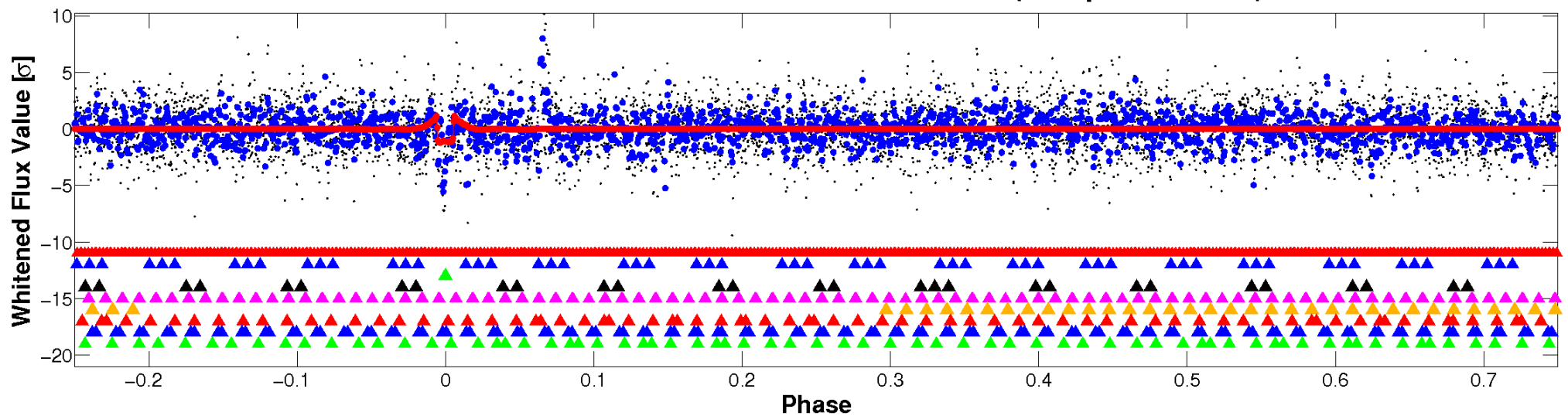


Non-Whitened Vs. Whitened Light Curve

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

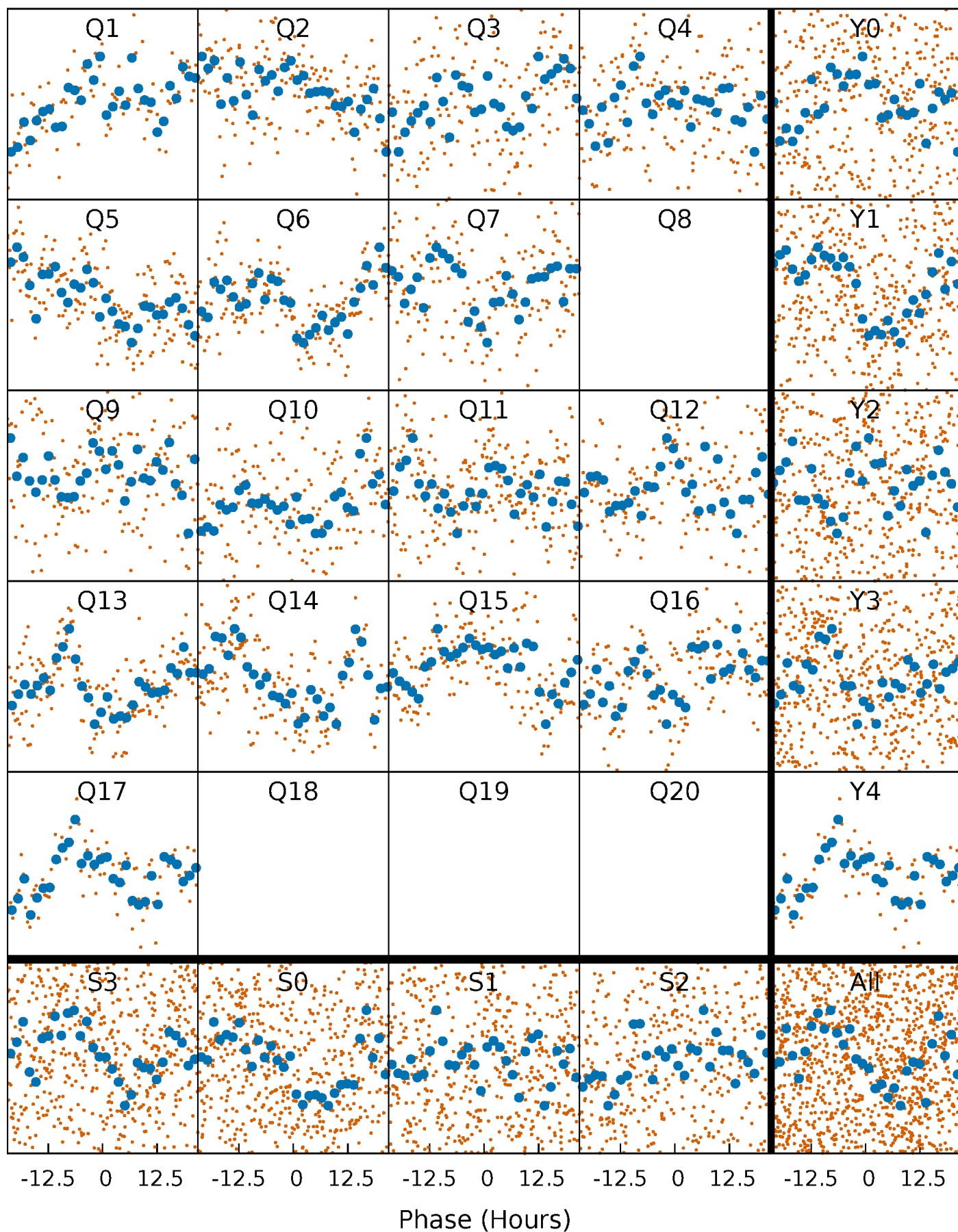


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



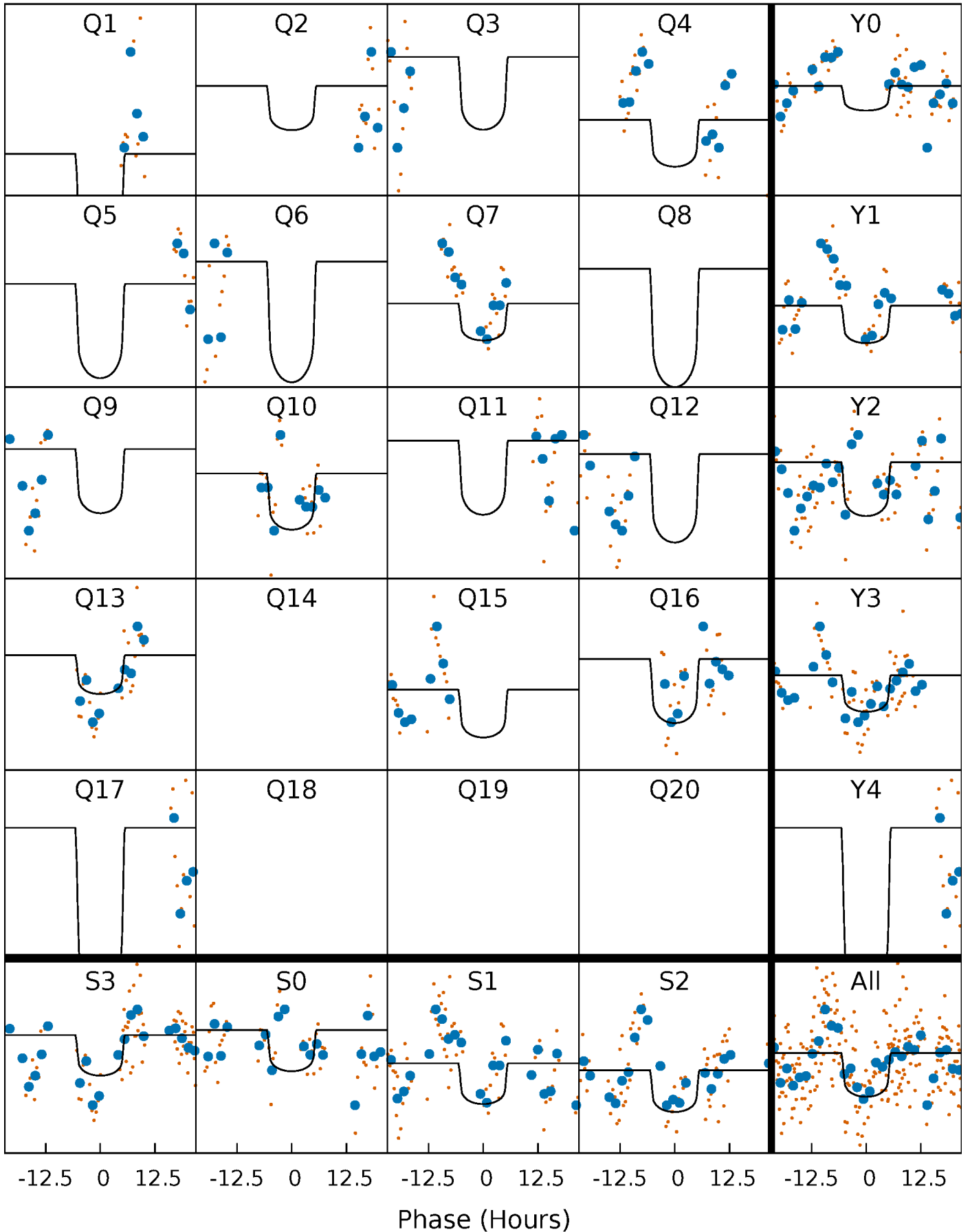
PDC Quarter-Phased Transit Curves

TCE 009269884-03 P= 40.540643 Days $T_0=154.773010$ (BKJD)



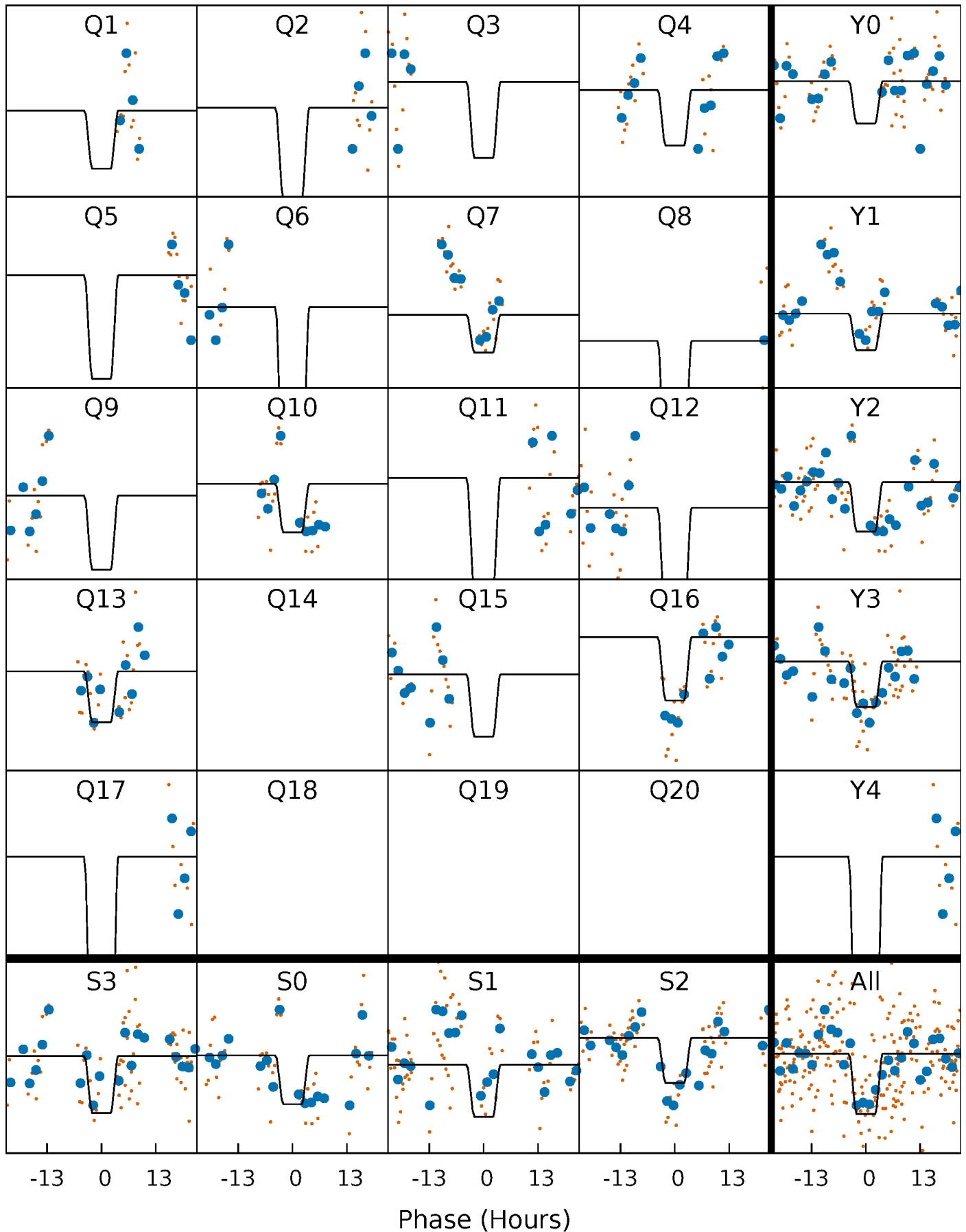
DV Quarter-Phased Transit Curves

TCE 009269884-03 P= 40.540643 Days $T_0=154.773010$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

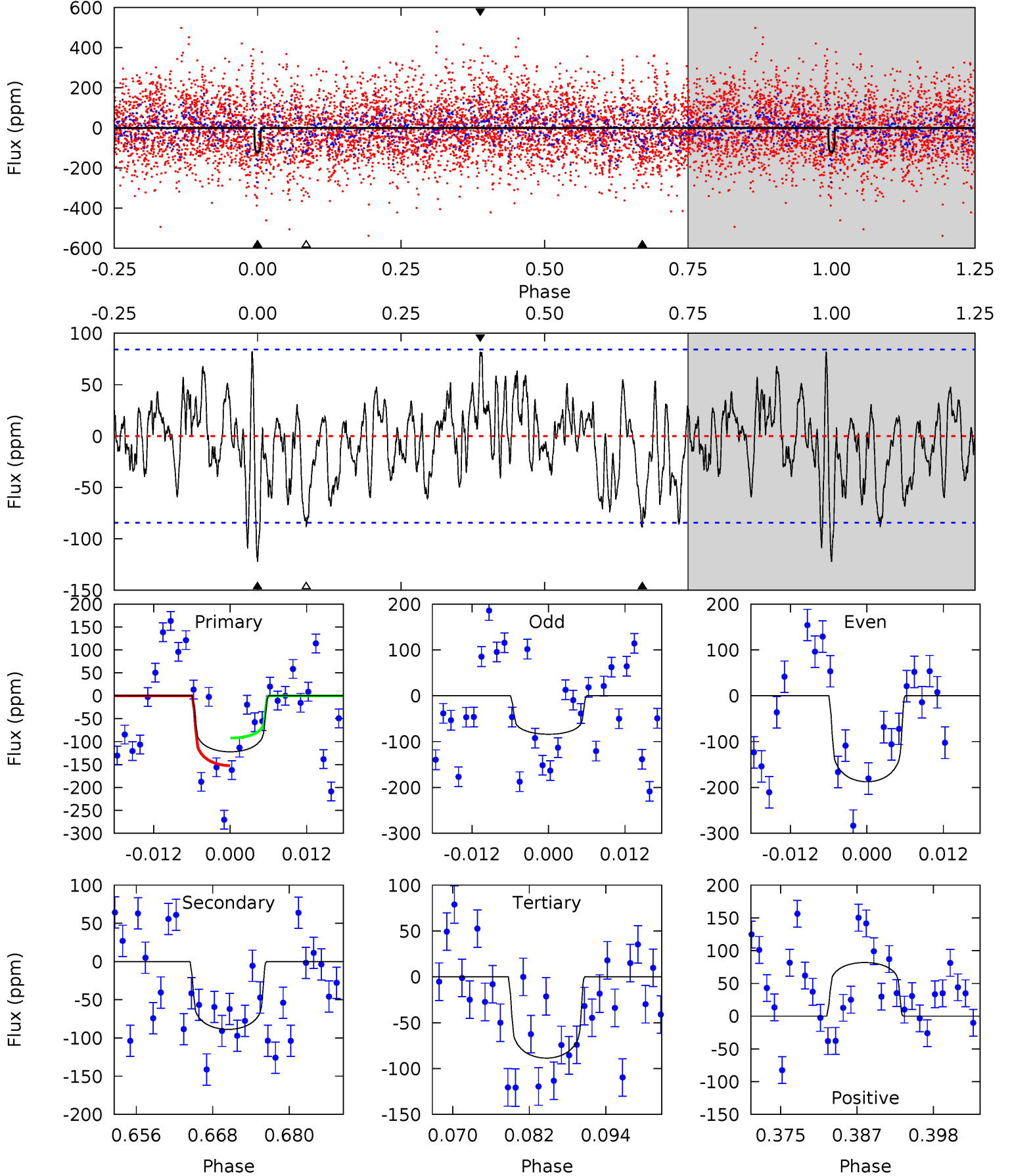
TCE 009269884-03 P= 40.539436 Days $T_0=154.816427$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-03, P = 40.540643 Days, E = 114.232367 Days

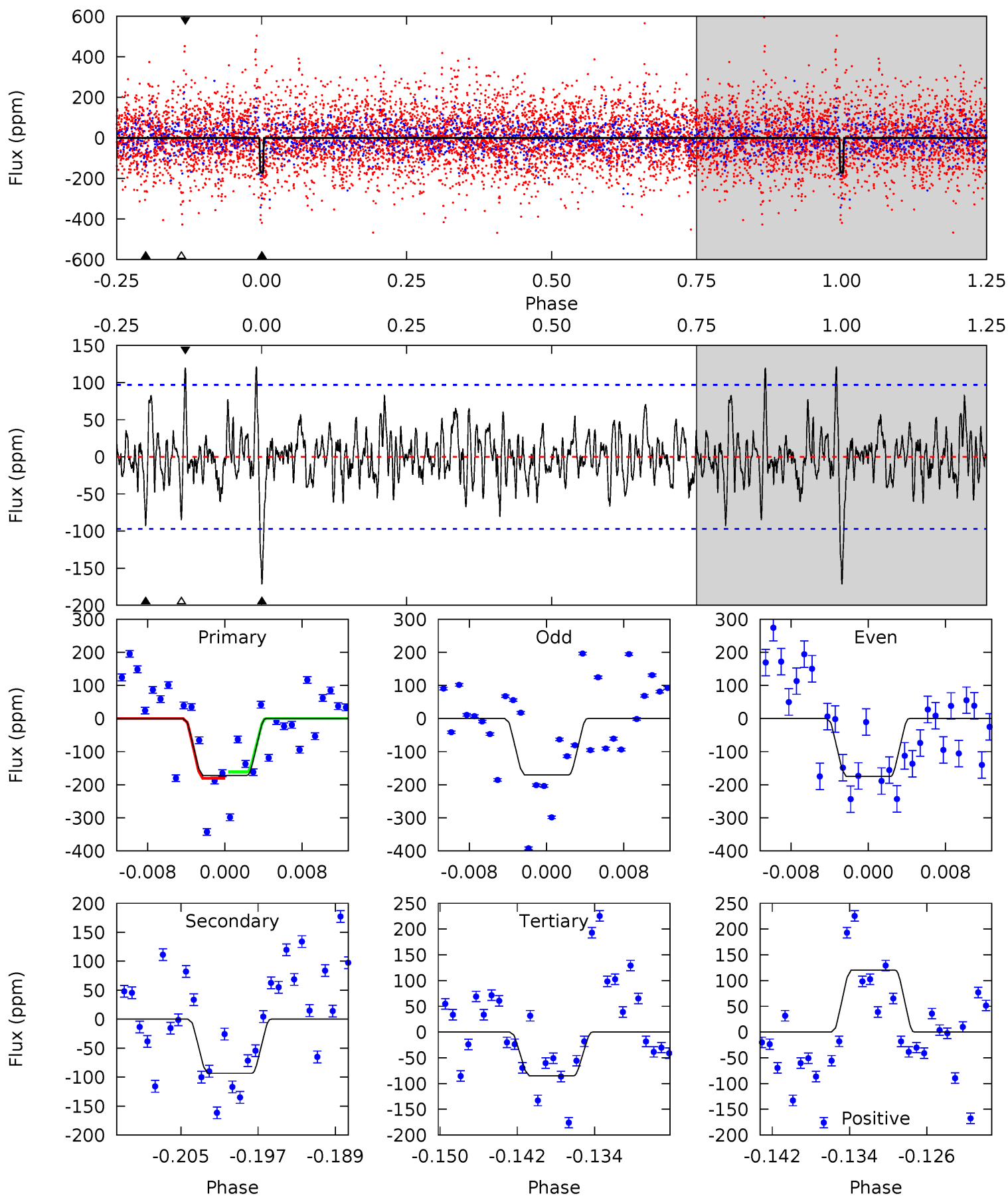
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.25	5.26	5.26	4.85	5.00	2.52	1.90	2.00	2.40	0.01	0.41	3.04	1.00	0.40	1.79



Alt Model-Shift Uniqueness Test

009269884-03, P = 40.539436 Days, E = 114.276991 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.98	4.88	4.45	6.28	5.07	2.66	1.47	4.53	2.70	0.43	-1.40	0.12	0.53	0.41	0.50



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-89 ± 17	$4.34^{+2.07}_{-1.76}$	1371^{+87}_{-138}	5379^{+1533}_{-751}	175^{+317}_{-99}
Alt.	-93 ± 19	$4.75^{+1.98}_{-1.82}$	1363^{+90}_{-132}	5246^{+1249}_{-641}	152^{+233}_{-77}

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 $A_{obs} \gg 1.0$

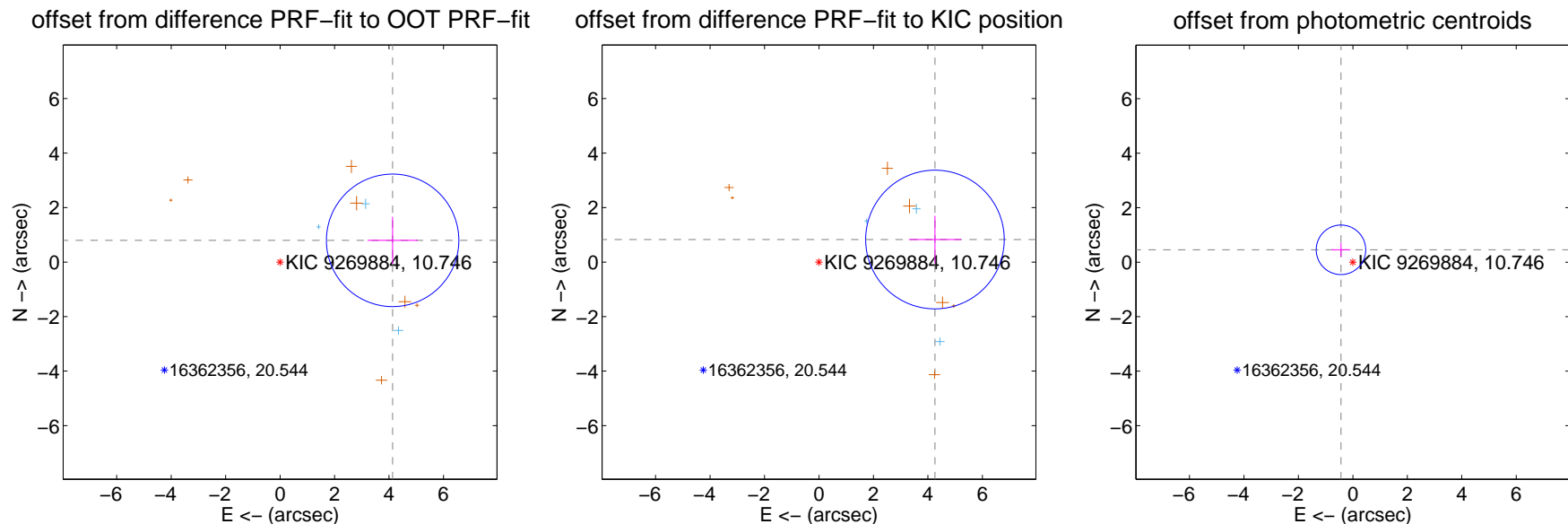
DV Centroid Data

Supplemental centroid analysis for 009269884-03. **Kepler magnitude: 10.75.** Transit SNR 10.22

There are 3 quarters with good PRF difference image offsets

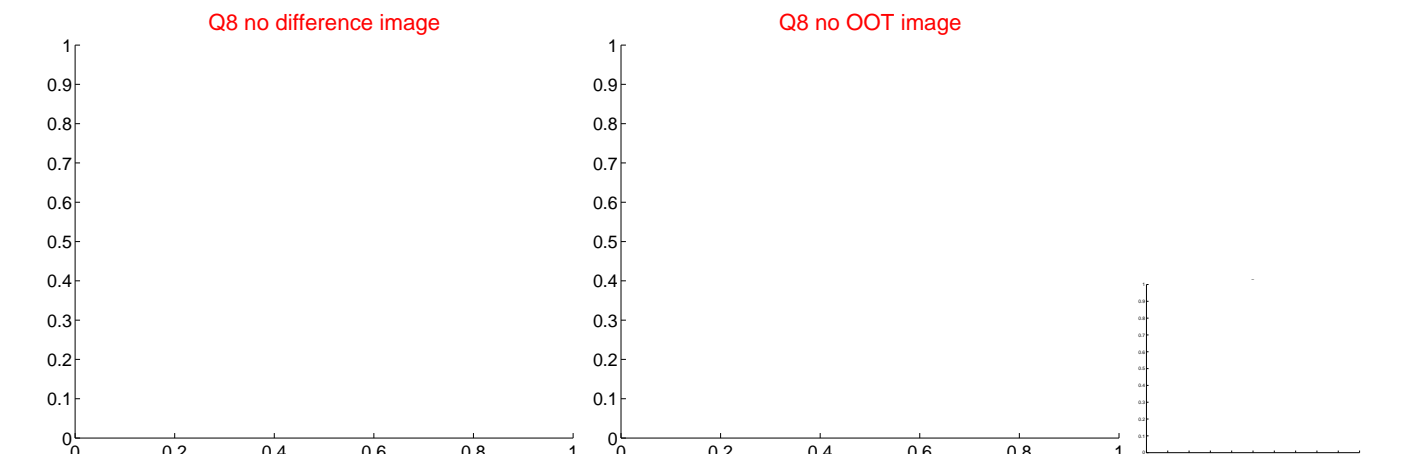
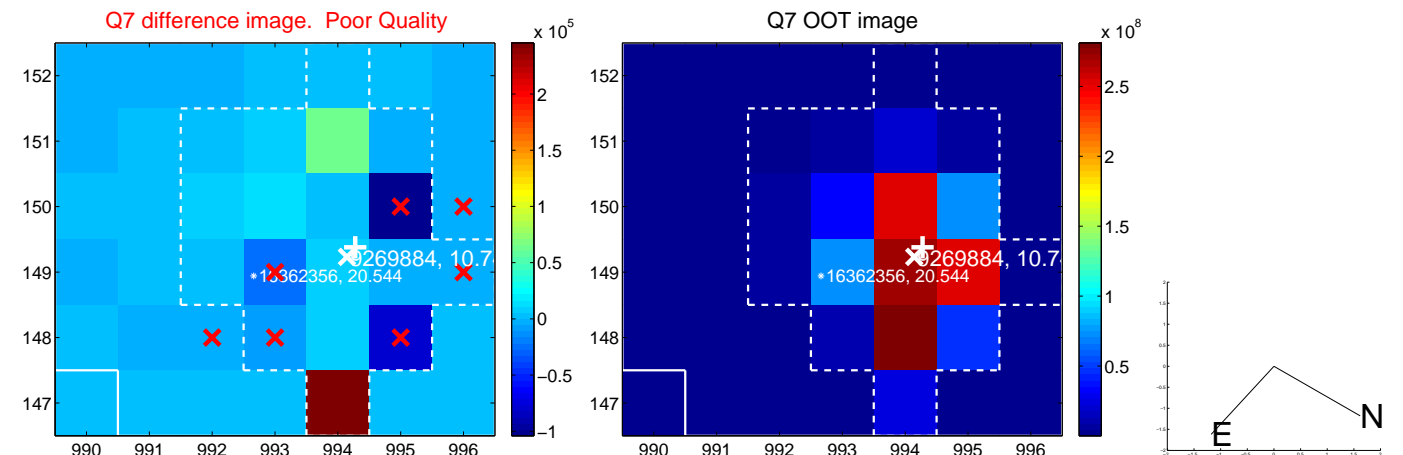
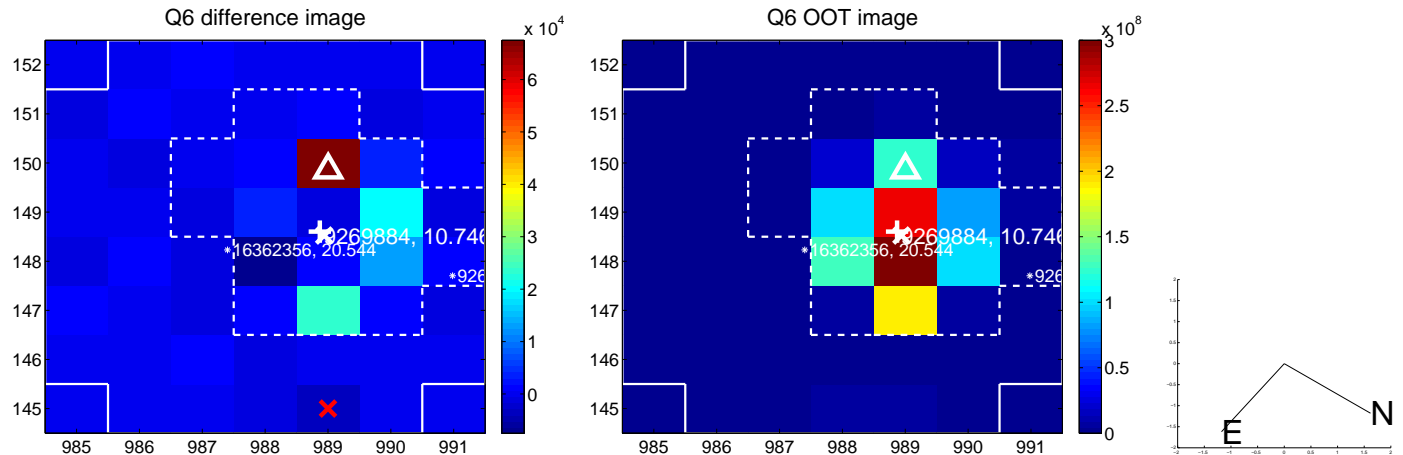
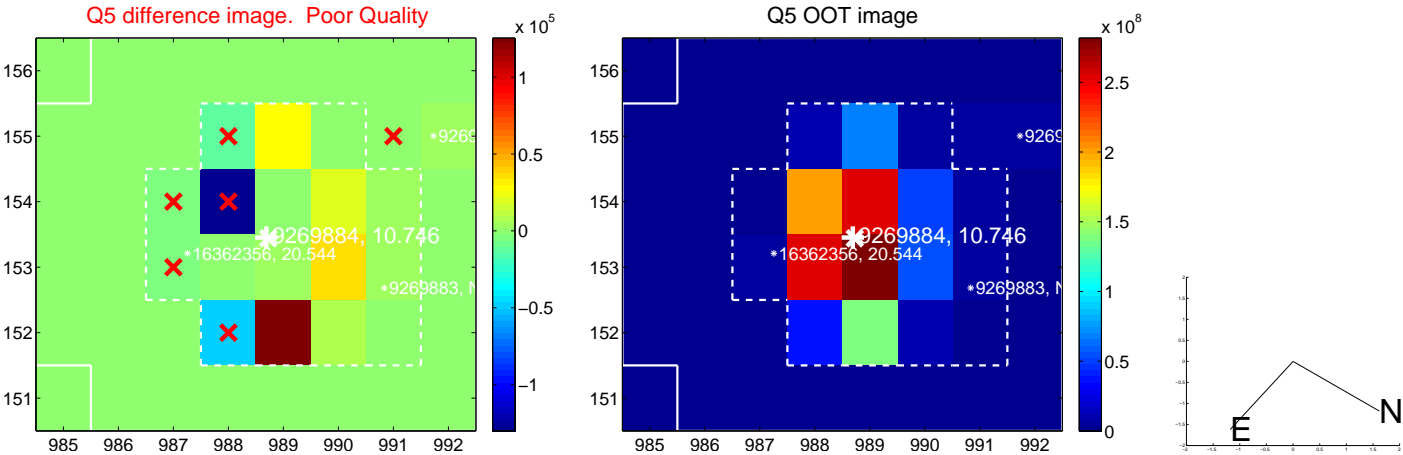
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.209 ± 0.810	5.19	-4.132 ± 0.923	0.798 ± 0.864
PRF-fit source offset from KIC position	4.339 ± 0.848	5.12	-4.259 ± 0.960	0.828 ± 0.871
photometric centroid source offset	0.63 ± 0.30	2.08	0.44 ± 0.35	0.45 ± 0.26

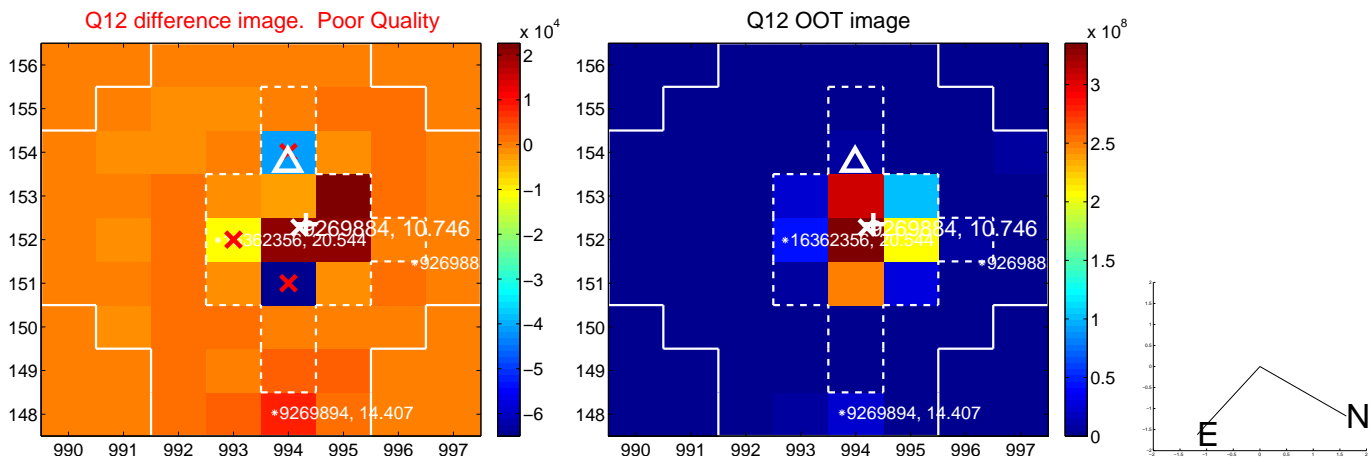
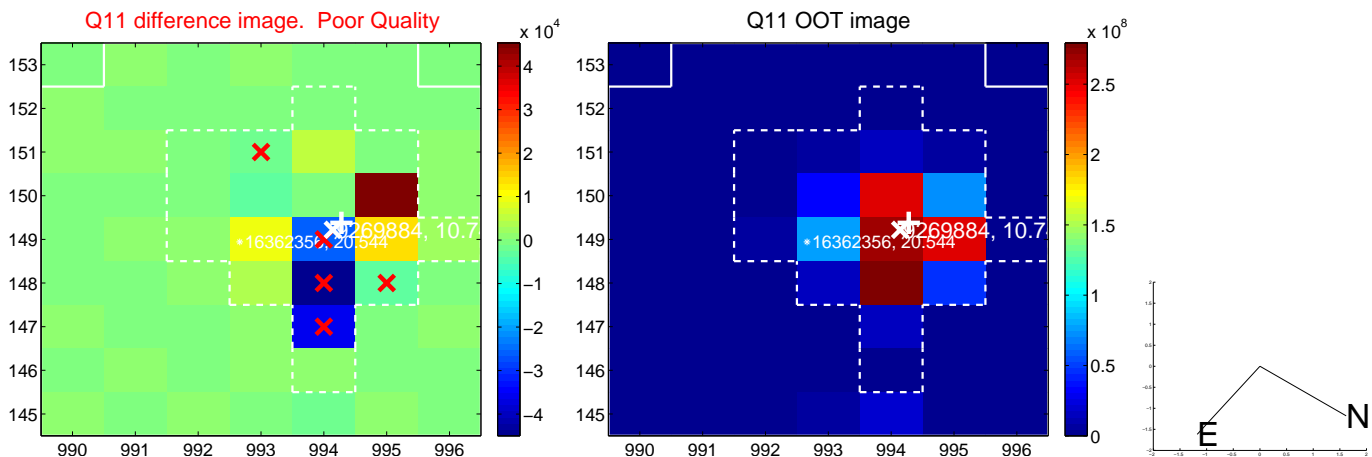
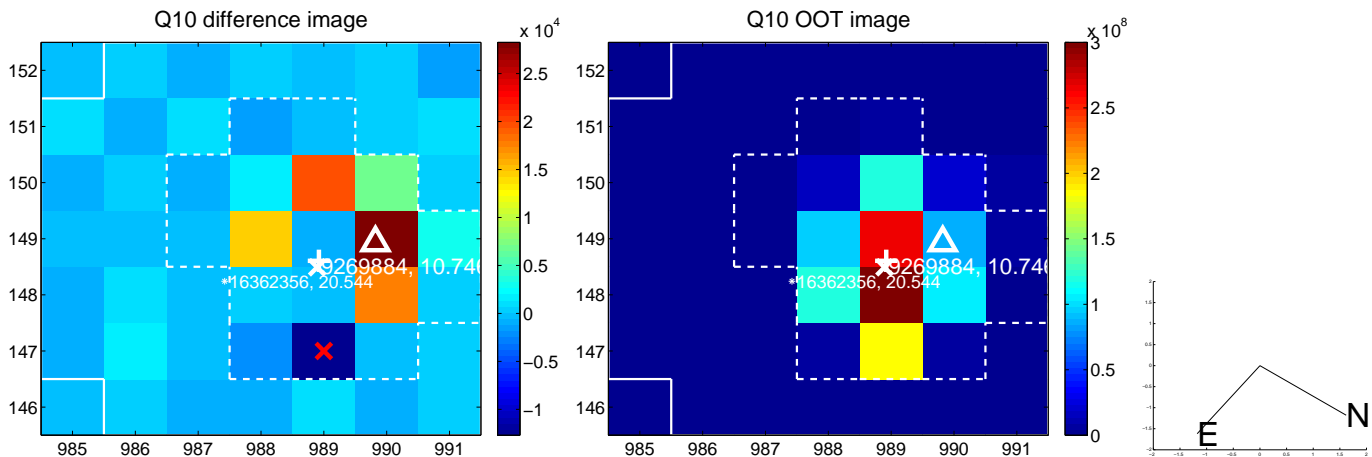
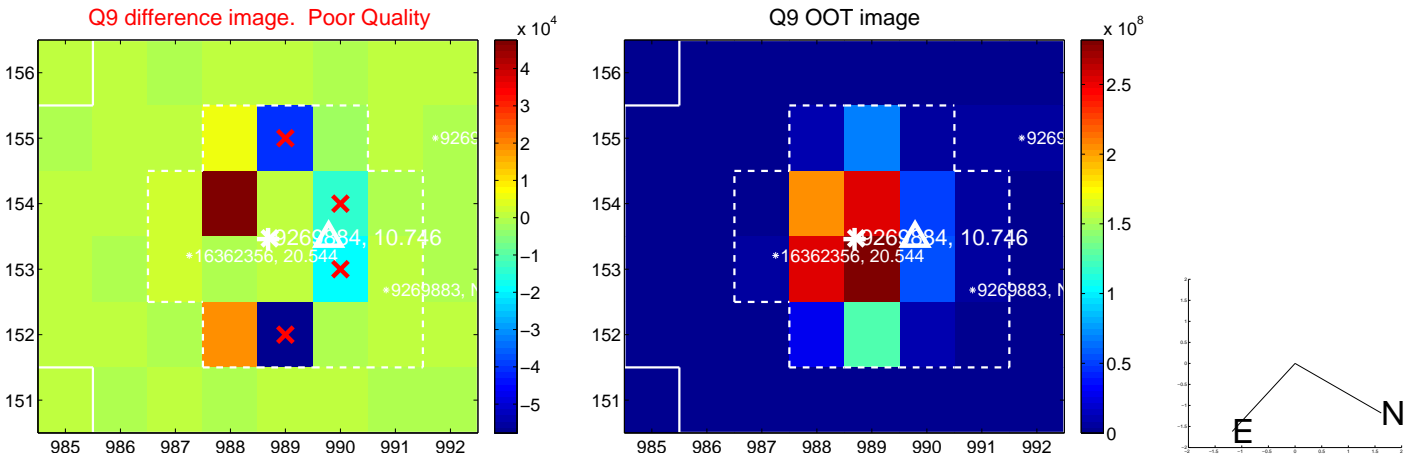


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

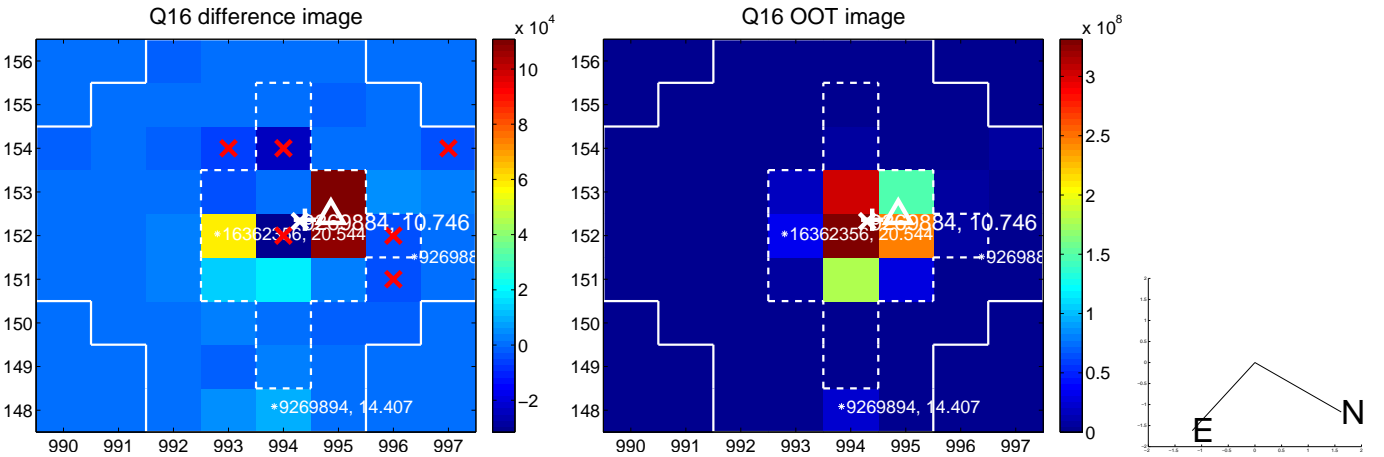
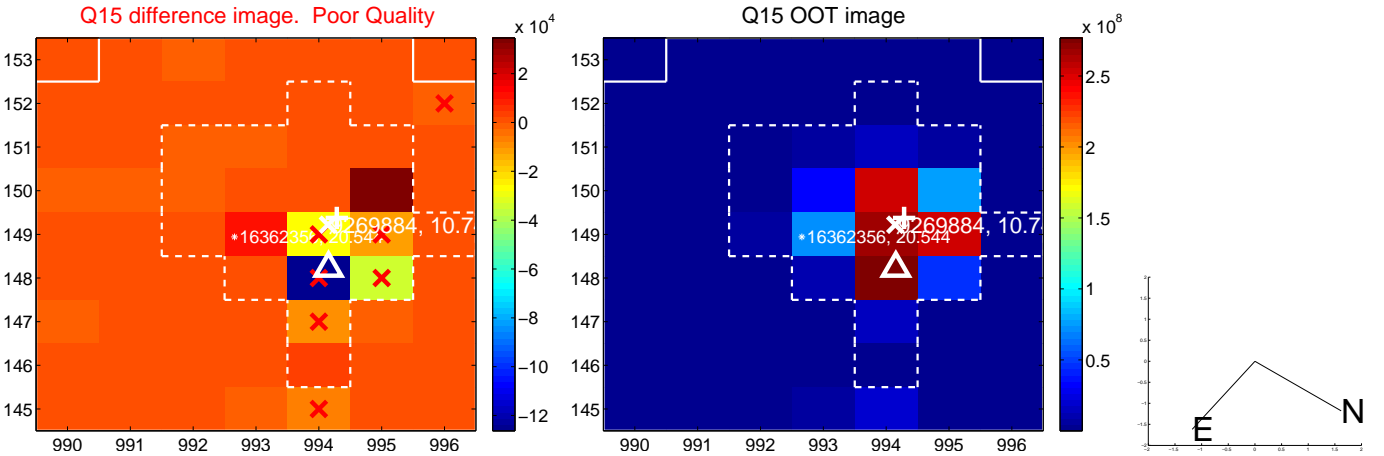
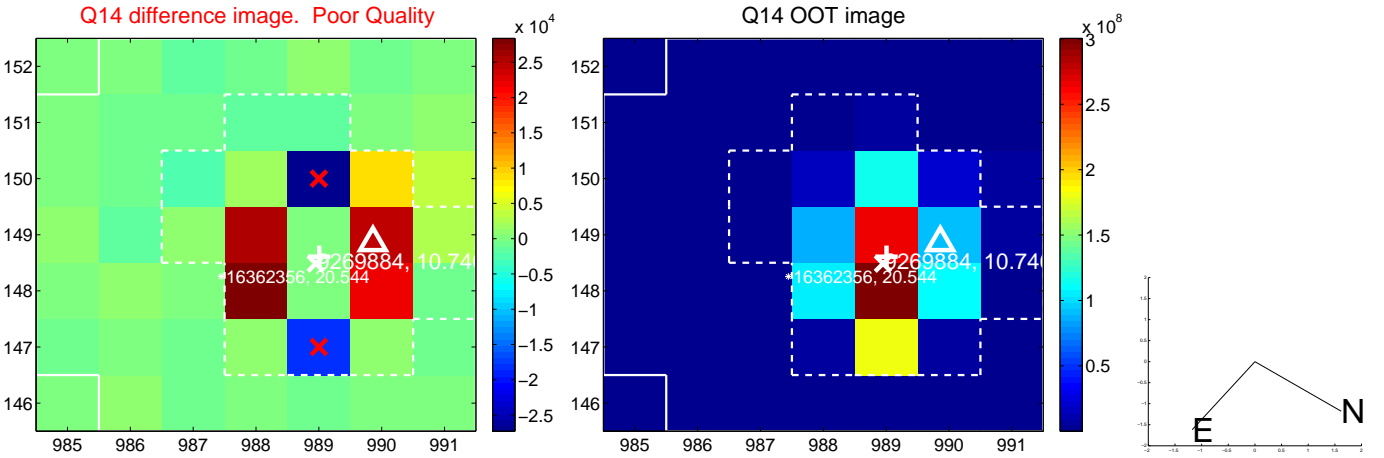
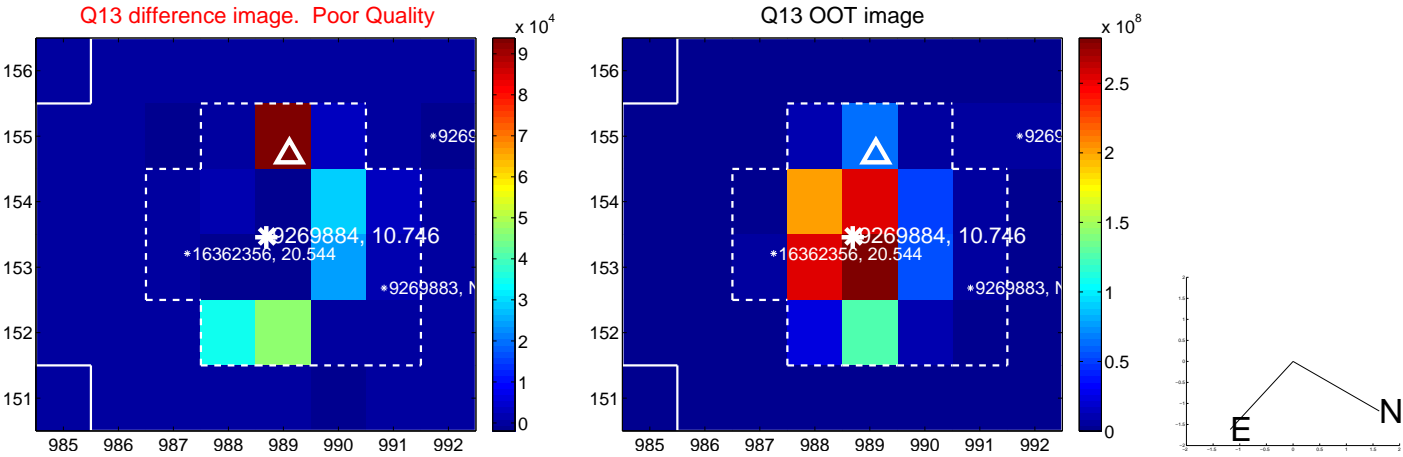
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



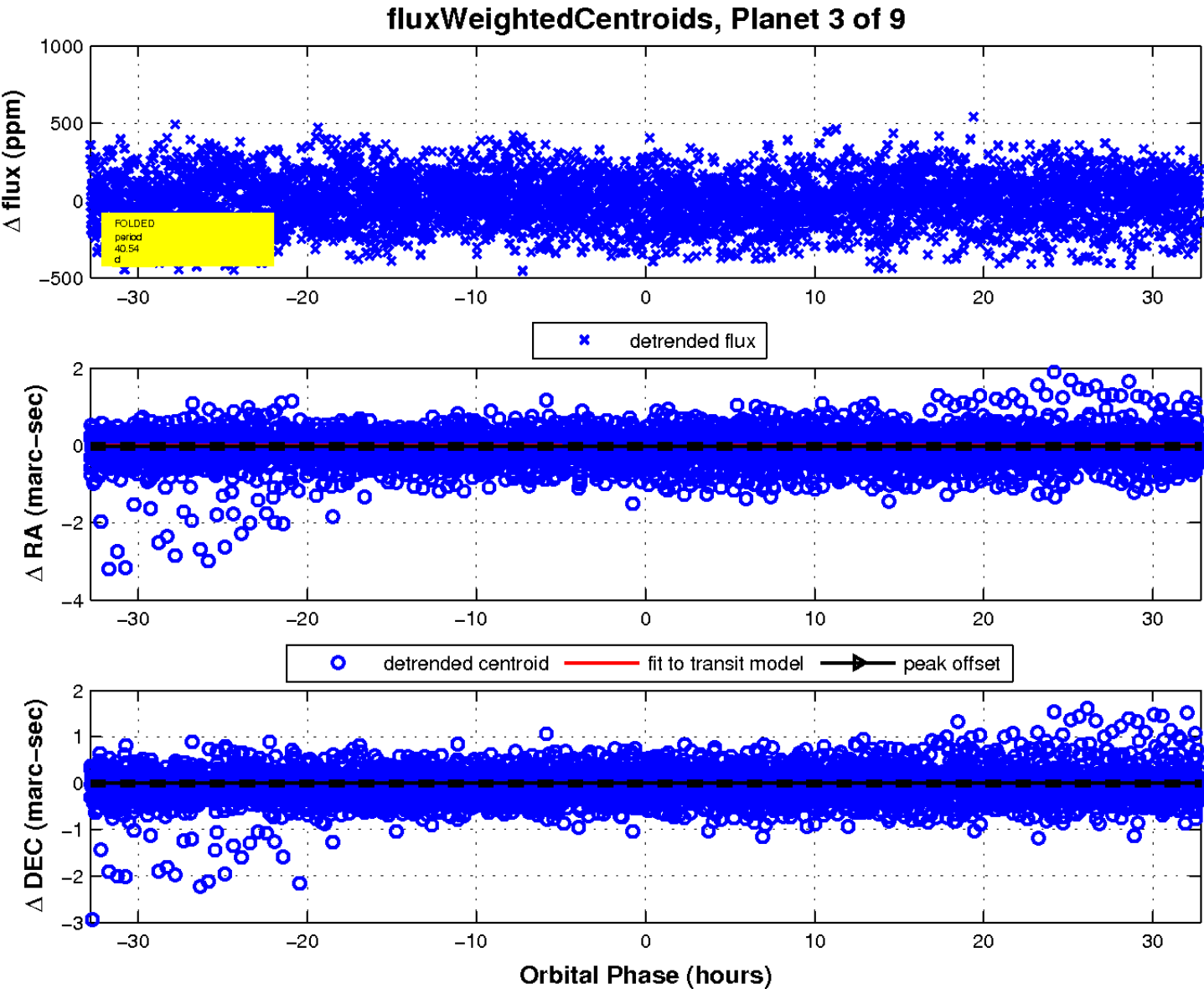
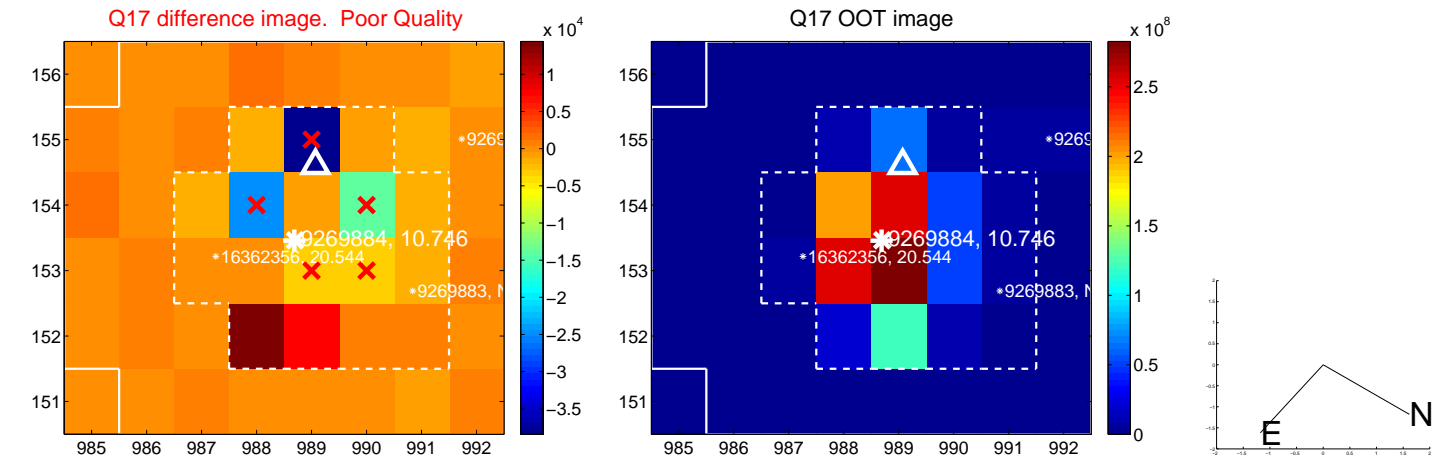
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



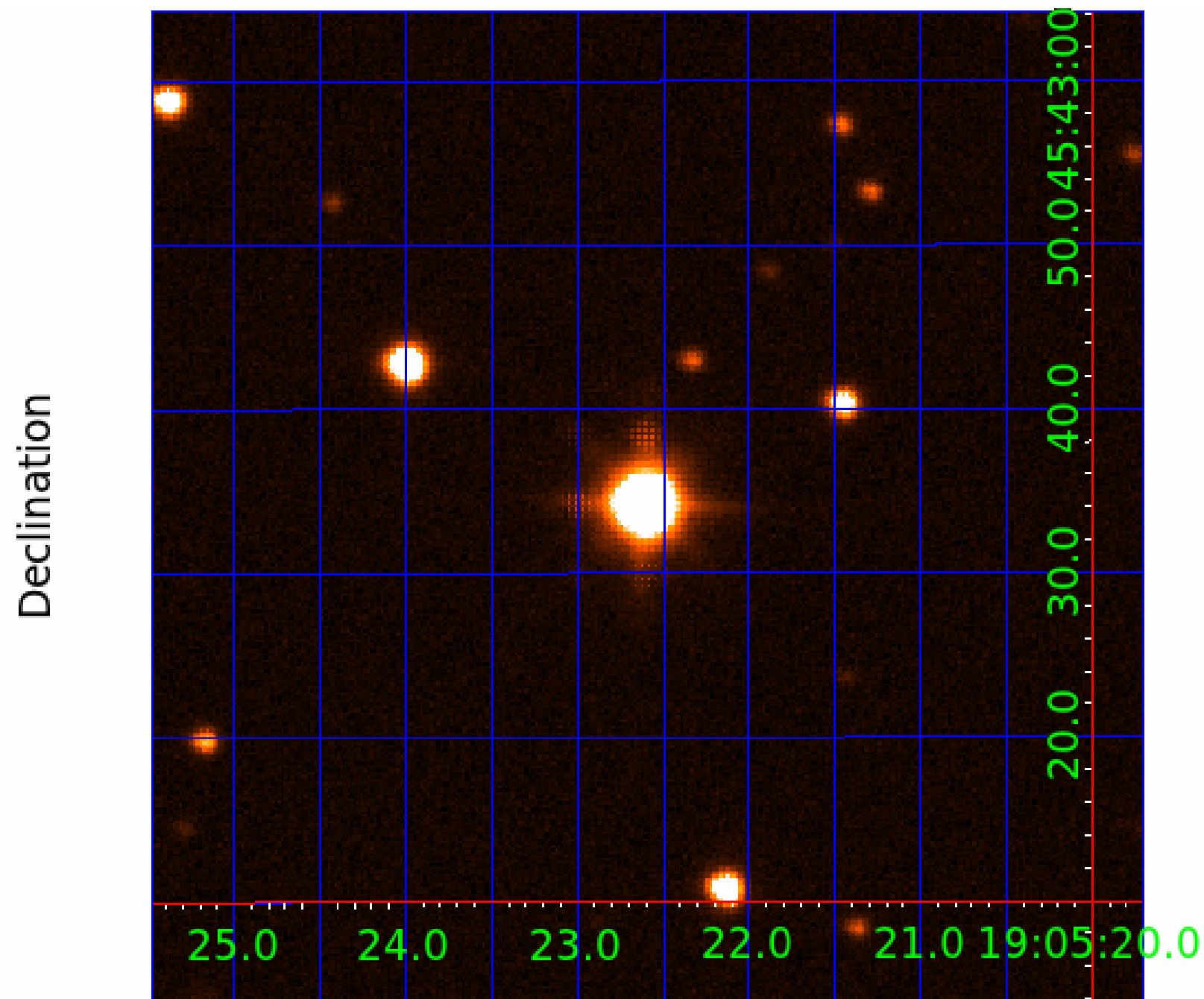
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

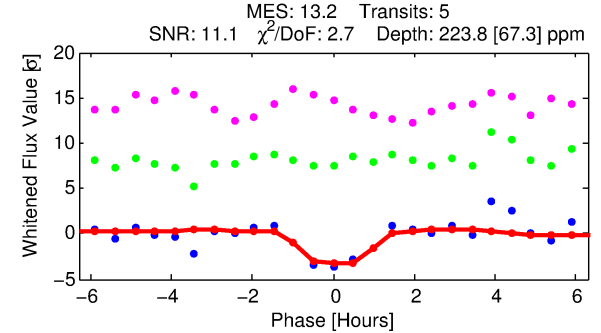
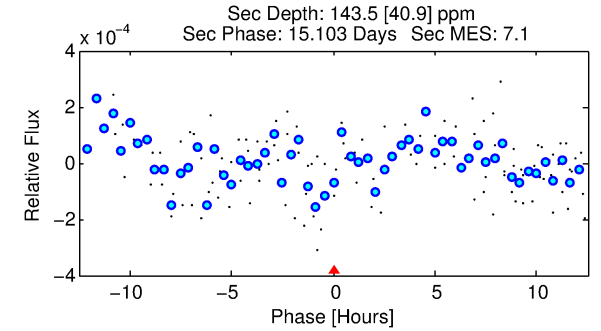
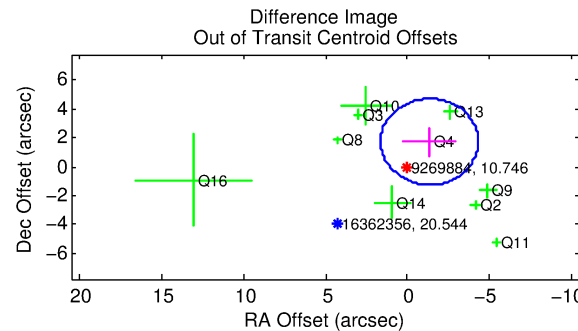
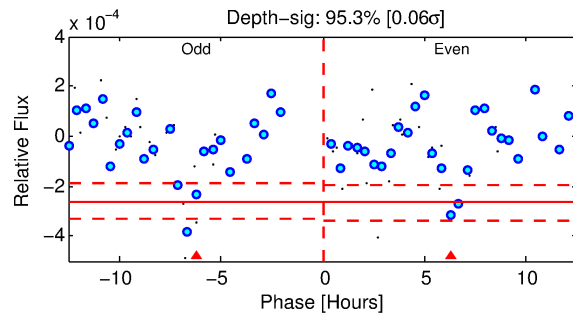
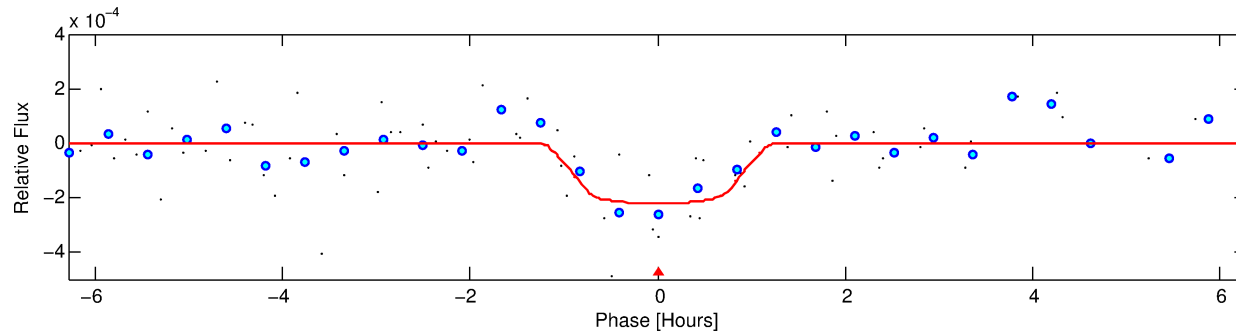
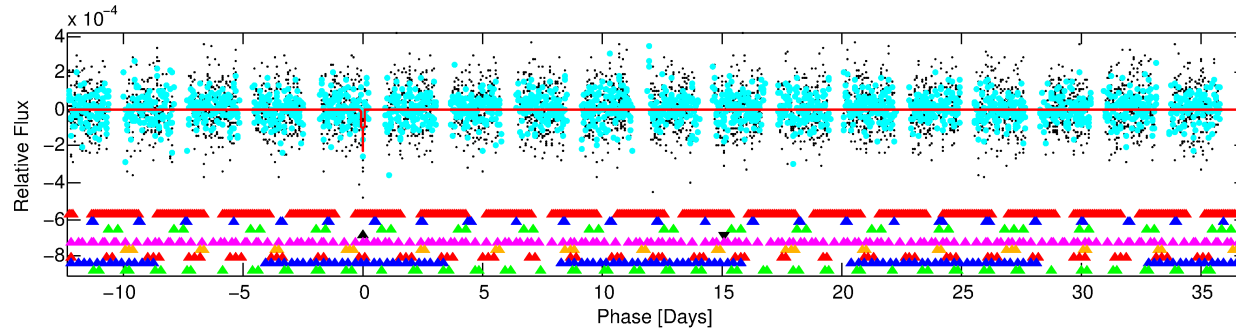
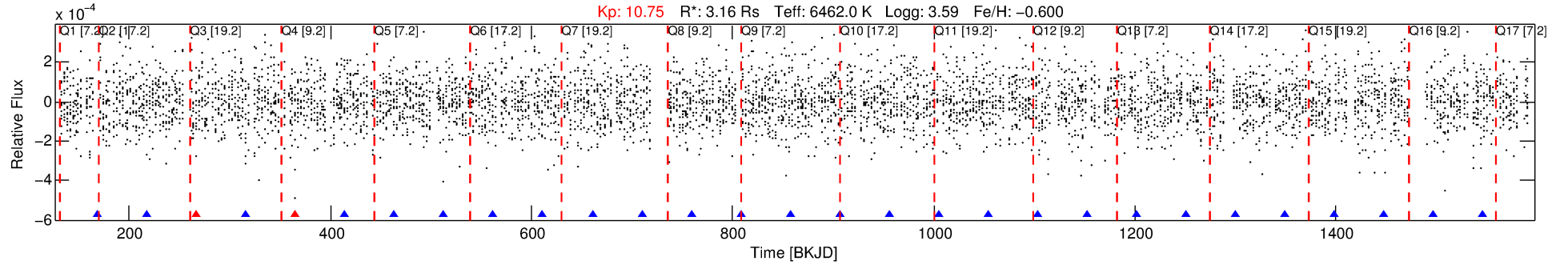
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-04

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 4 of 9 Period: 49.201 d



DV Fit Results:

Period = 49.20064 [0.00427] d
Epoch = 168.5287 [0.0136] BKJD
Rp/R* = 0.0161 [0.0720]
a/R* = 82.81 [2203.30]
b = 0.90 [5.39]
Seff = 179.00 [110.63]
Teq = 933 [144] K
Rp = 5.55 [24.95] Re
a = 0.2952 [0.1138] AU
Ag = 223.57 [2007.81] [0.11 σ]
Teffp = 5576 [12492] K [0.37 σ]

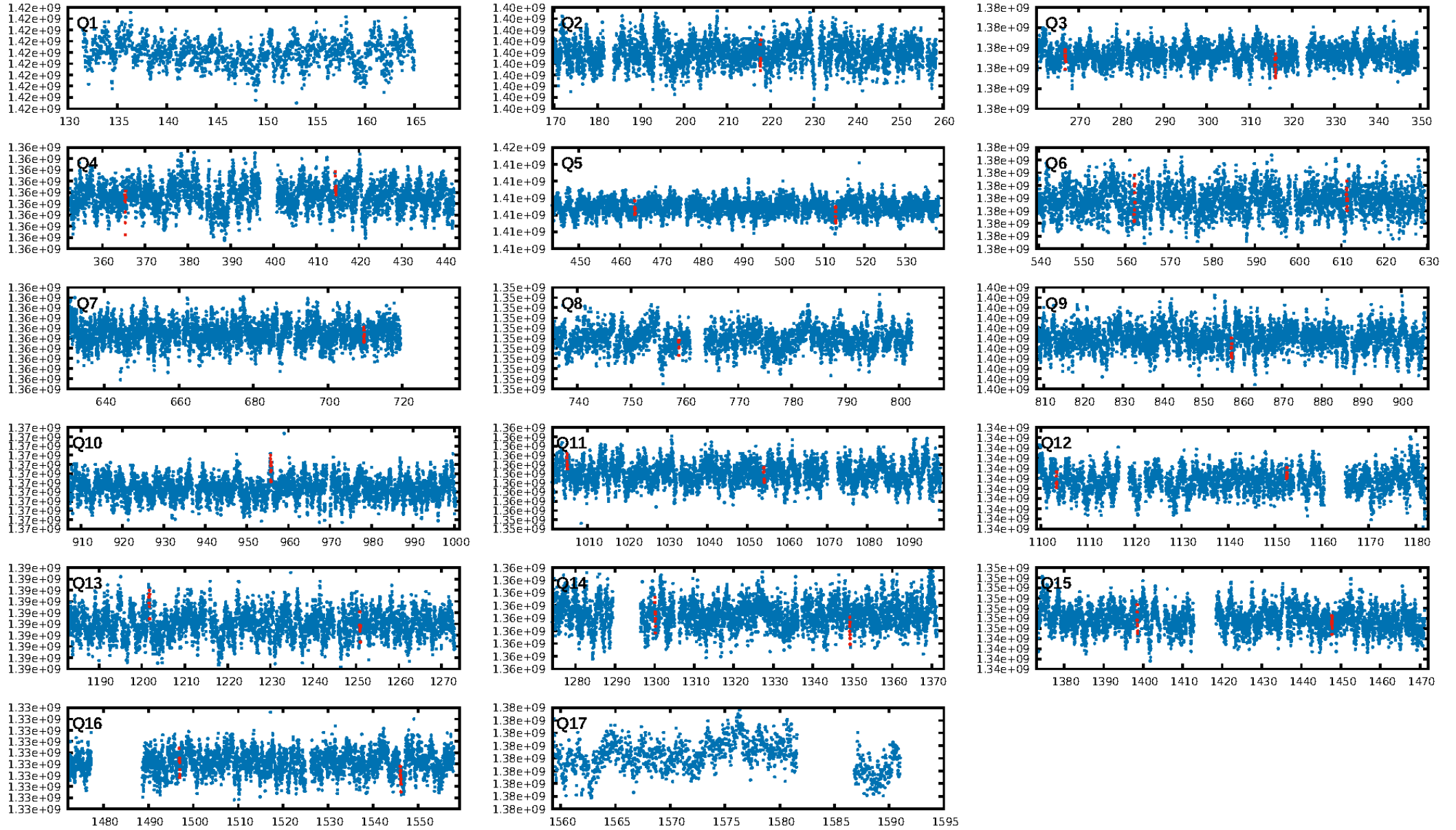
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.63 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 3.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.60 [3/5]
GhostDiagnostic-chr: 9.78
Centroid-sig: 9.0%
Centroid-so: 0.165 arcsec [0.49 σ]
OotOffset-rm: 2.168 arcsec [2.19 σ]
OotOffset-st: 3/2/3/2 [10]
KicOffset-rm: 2.608 arcsec [2.16 σ]
KicOffset-st: 3/2/3/2 [10]
DiffImageQuality-fgm: 0.30 [3/10]
DiffImageOverlap-fno: 0.47 [7/15]

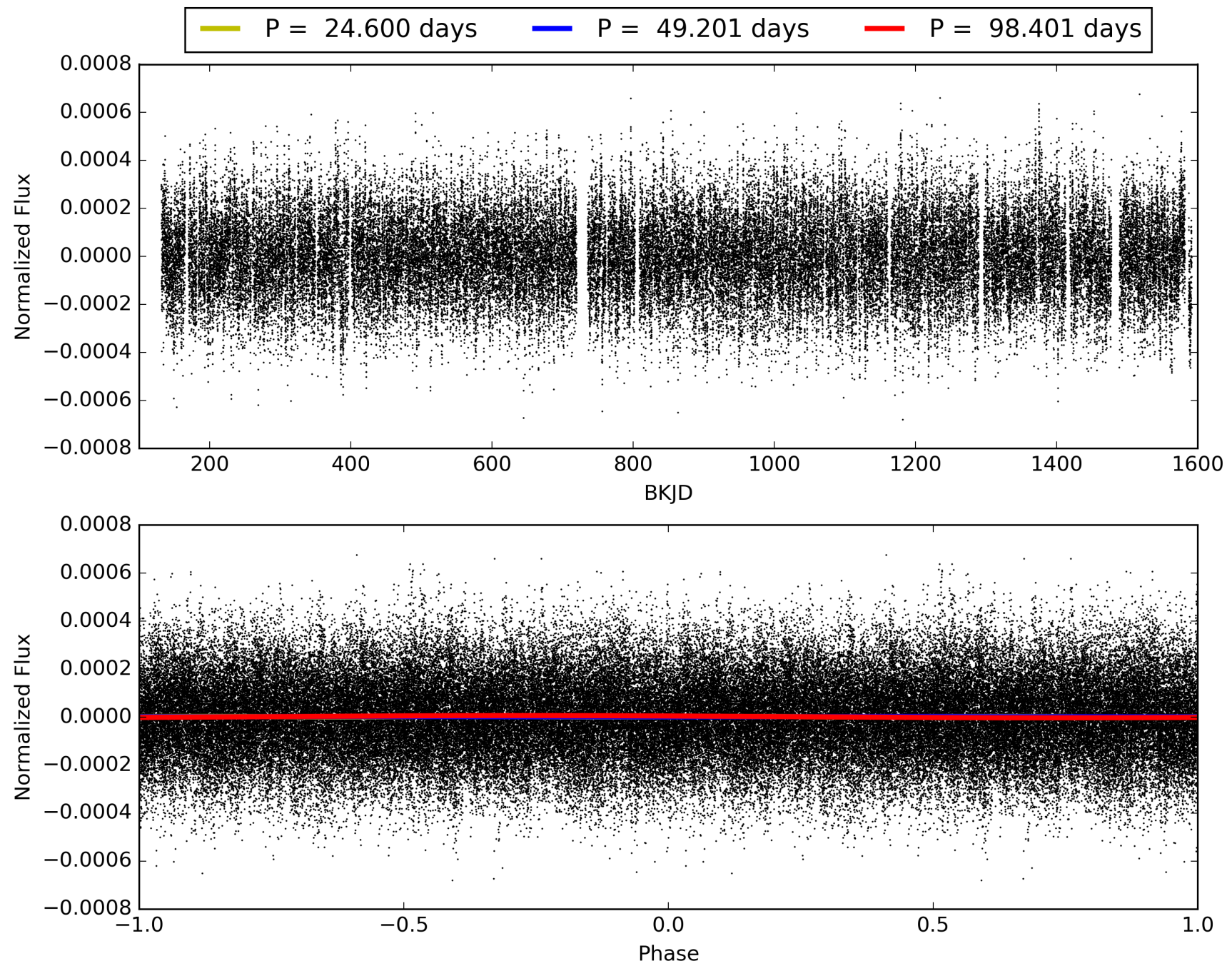
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:13 Z

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

TCE 009269884-04, PDC Light Curves

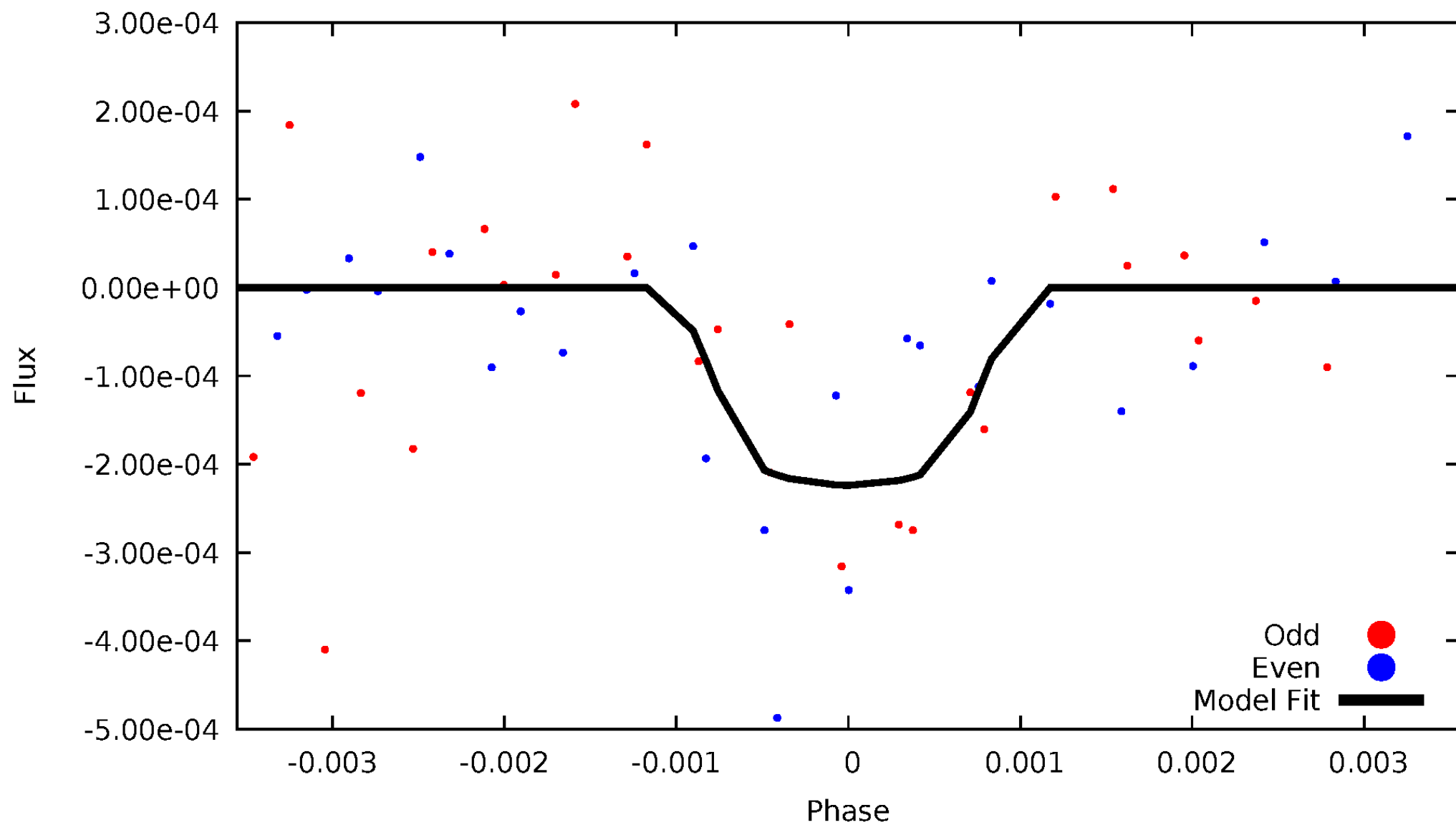


TCE 009269884-04



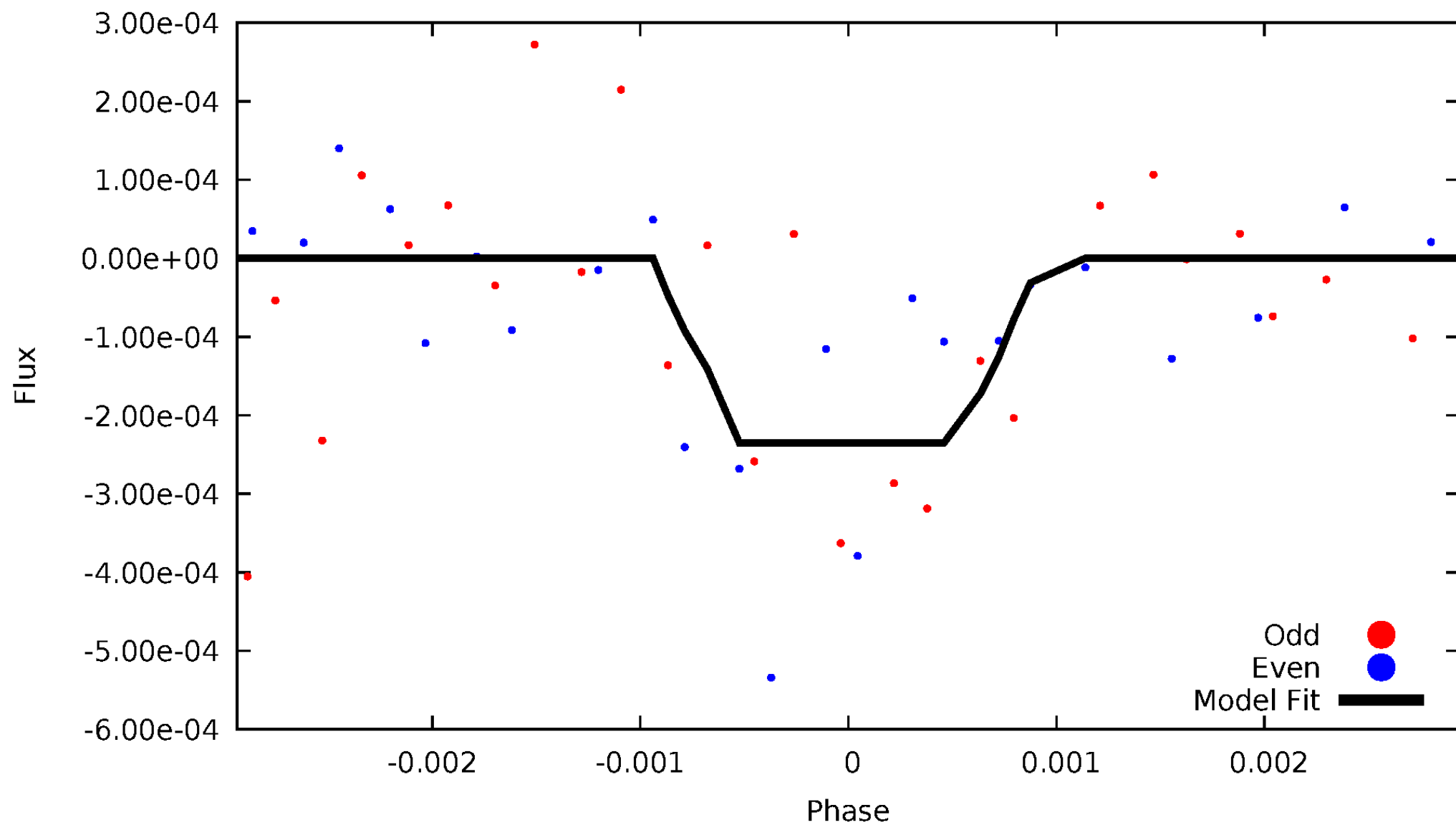
DV Odd/Even

TCE 009269884-04



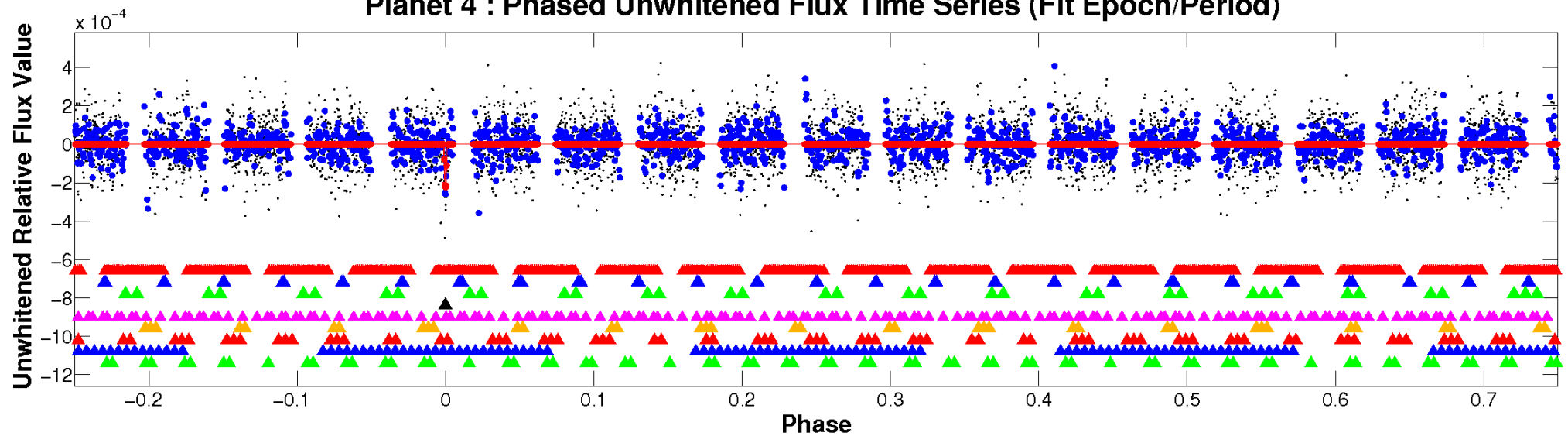
ALT Odd/Even

TCE 009269884-04

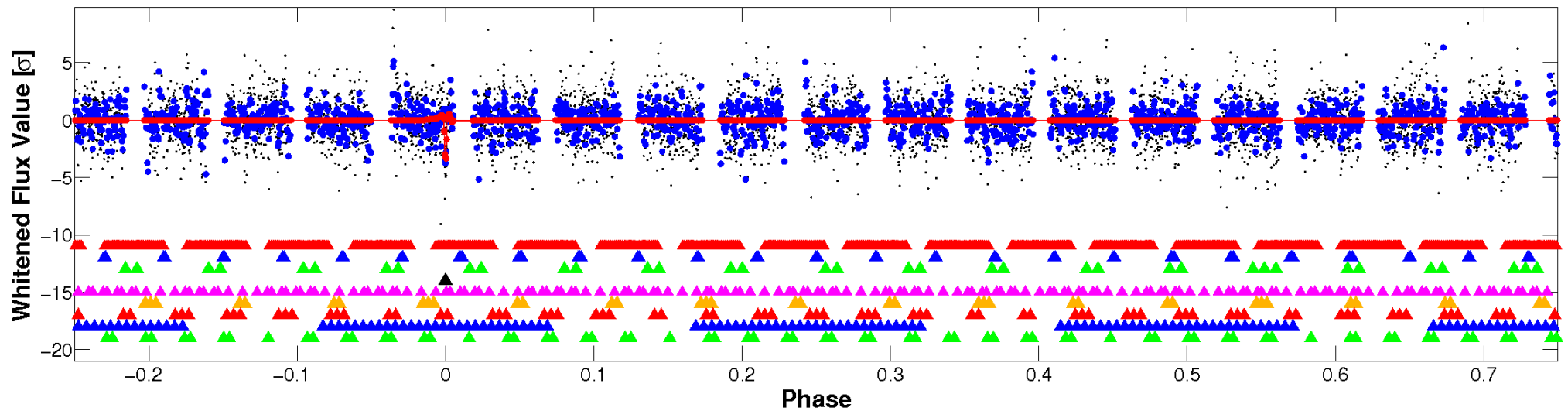


Non-Whitened Vs. Whitened Light Curve

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

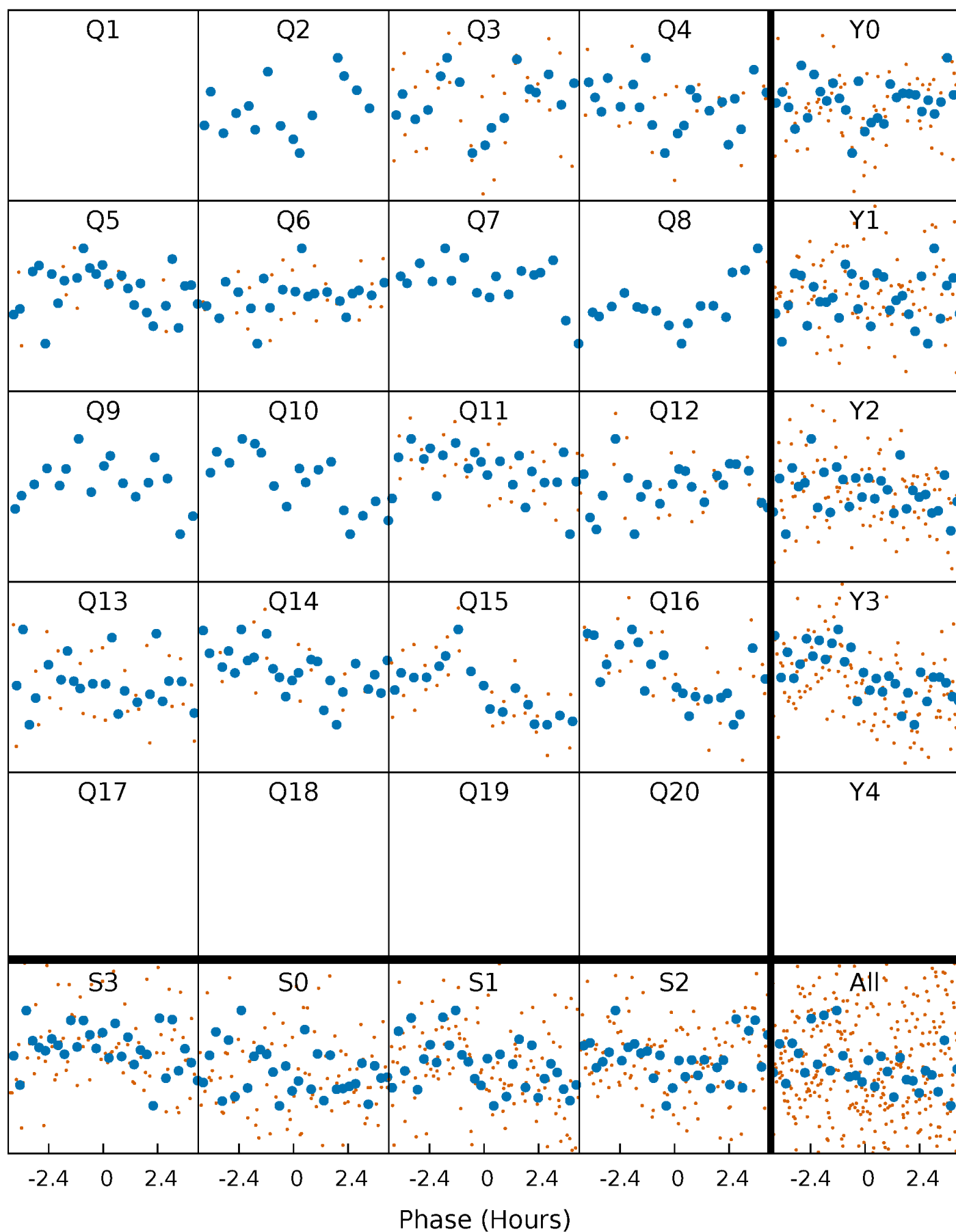


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



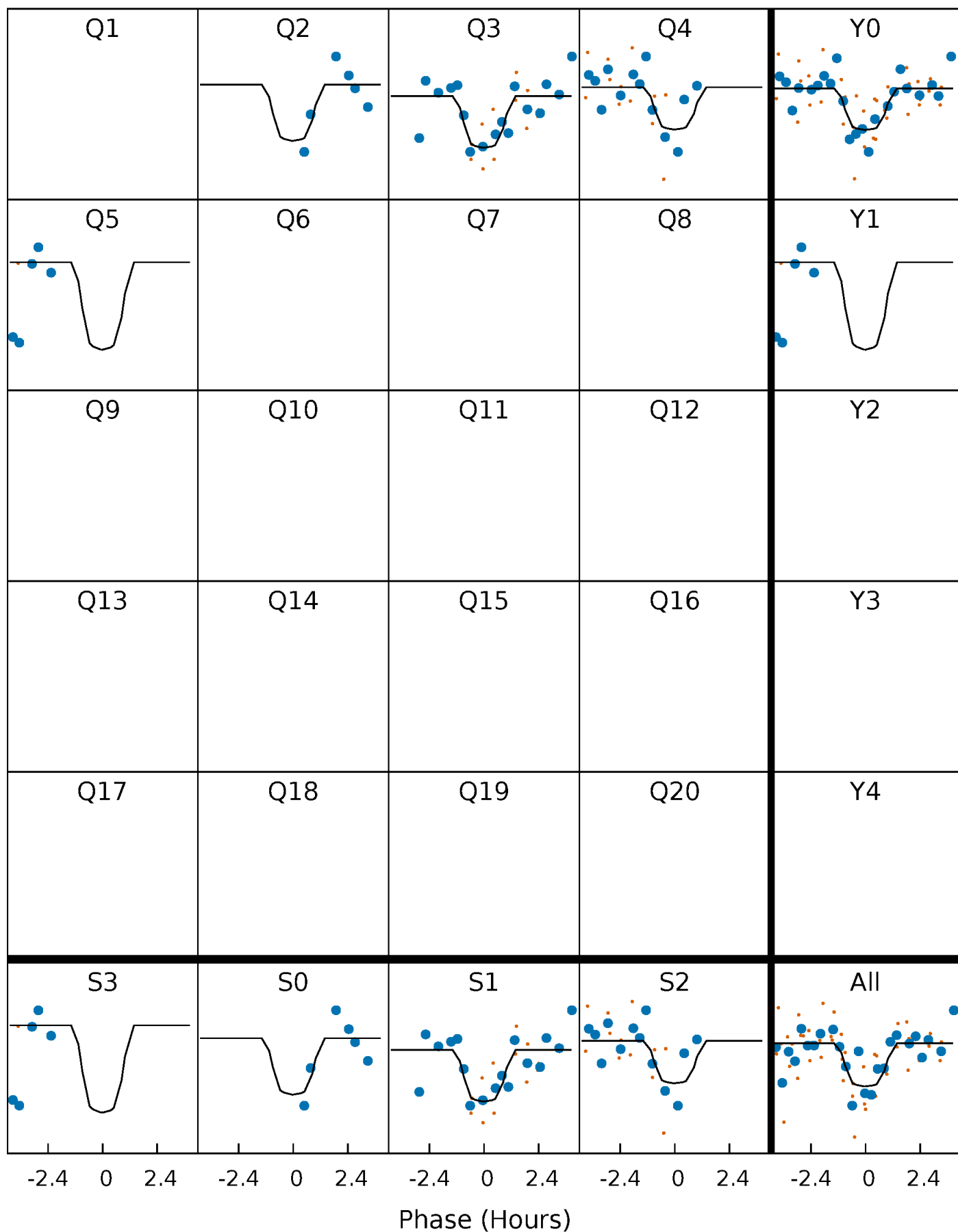
PDC Quarter-Phased Transit Curves

TCE 009269884-04 P= 49.200642 Days $T_0=168.528707$ (BKJD)



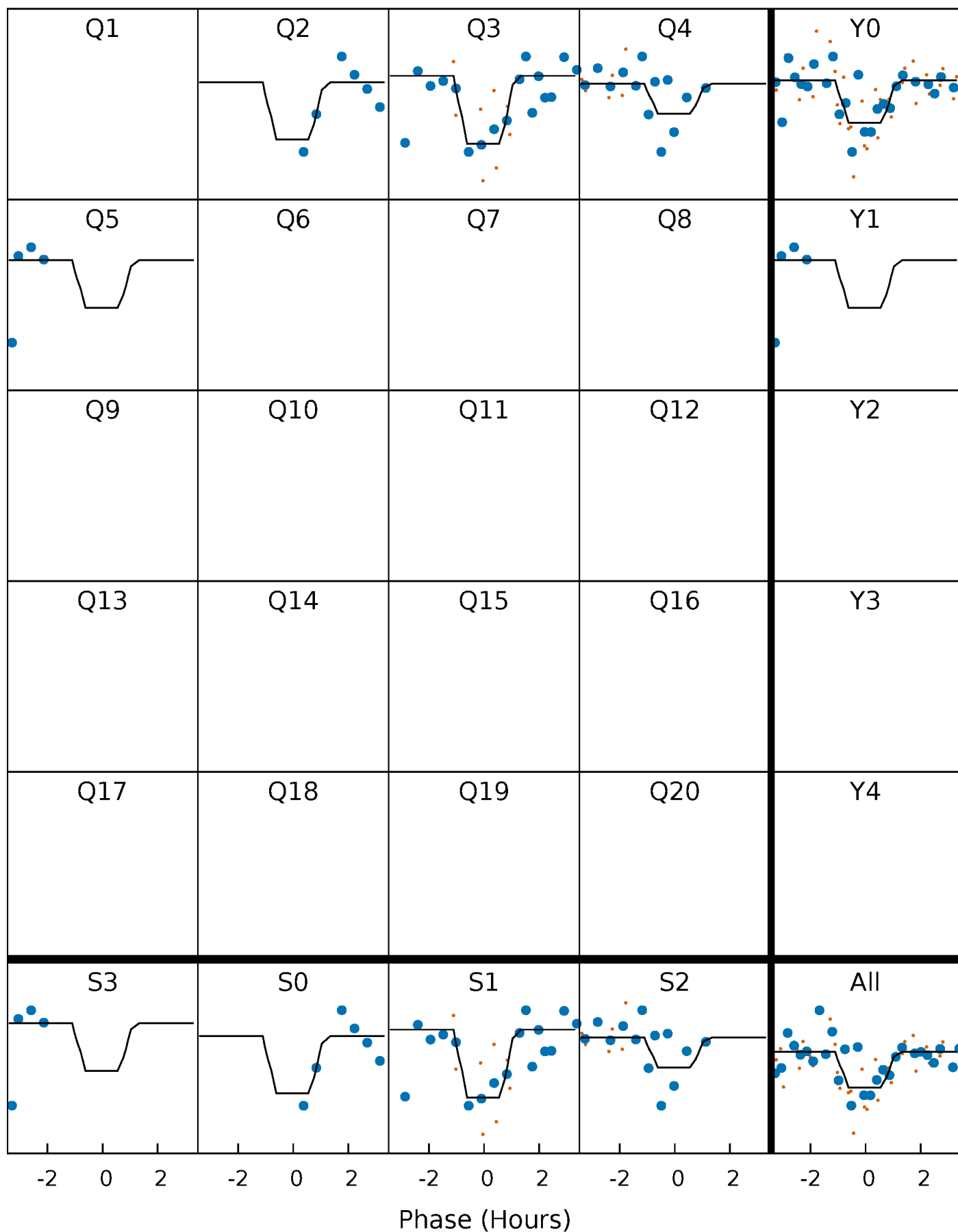
DV Quarter-Phased Transit Curves

TCE 009269884-04 $P = 49.200642$ Days $T_0 = 168.528707$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

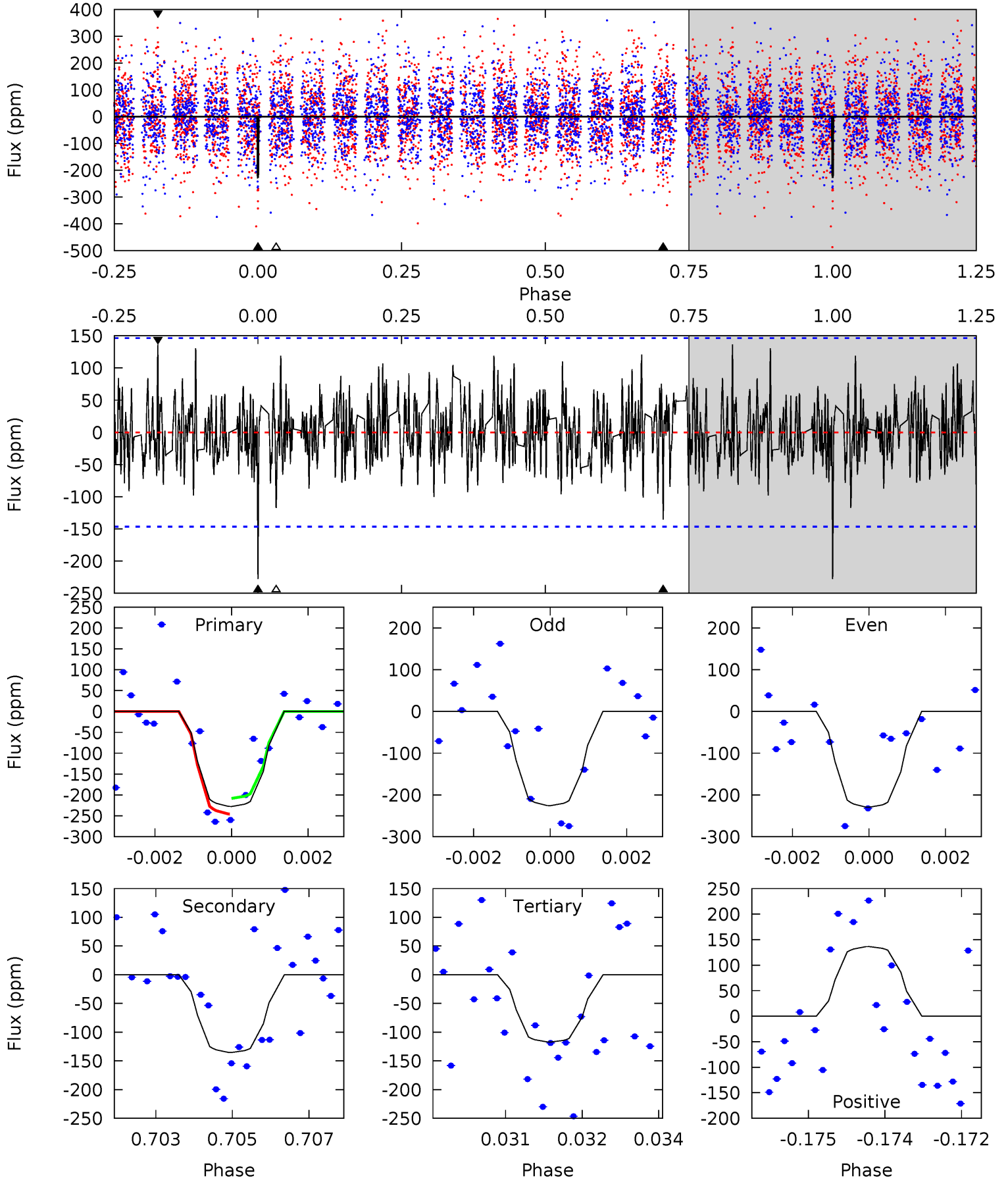
TCE 009269884-04 $P = 49.198745$ Days $T_0 = 168.534229$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-04, P = 49.200642 Days, E = 119.328065 Days

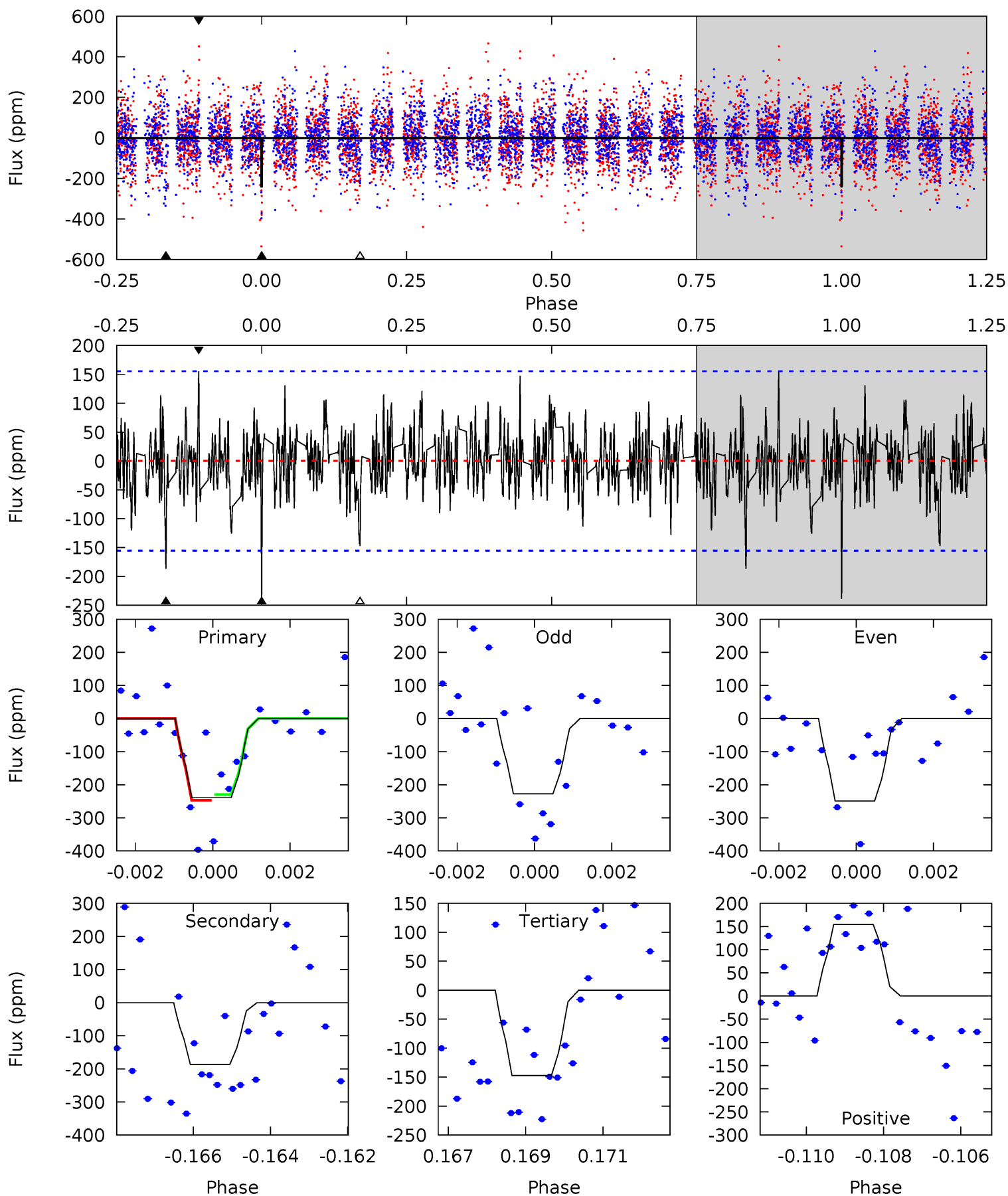
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.32	4.95	4.28	4.98	5.36	3.14	1.47	4.04	3.34	0.66	-0.04	0.07	0.84	0.37	0.69



Alt Model-Shift Uniqueness Test

009269884-04, P = 49.198745 Days, E = 119.335484 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.20	6.41	5.06	5.30	5.33	3.10	1.50	3.15	2.90	1.36	1.11	0.38	0.84	0.39	0.30



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-135 ± 27	$18.45^{+19.02}_{-13.02}$	1287^{+87}_{-123}	3390^{+1828}_{-600}	19^{+189}_{-14}
Alt.	-187 ± 29	$18.24^{+17.83}_{-12.67}$	1284^{+87}_{-120}	3625^{+2169}_{-699}	27^{+271}_{-21}

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 $A_{obs} \gg 1.0$

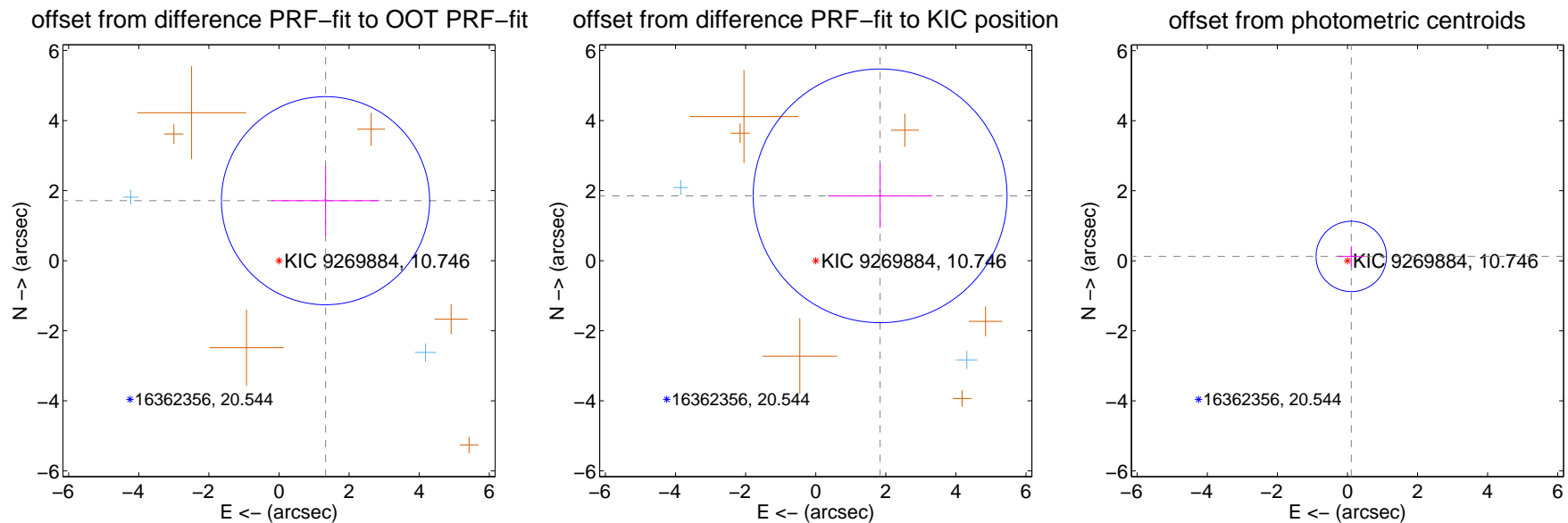
DV Centroid Data

Supplemental centroid analysis for 009269884-04. **Kepler magnitude: 10.75.** Transit SNR 11.06

There are 3 quarters with good PRF difference image offsets

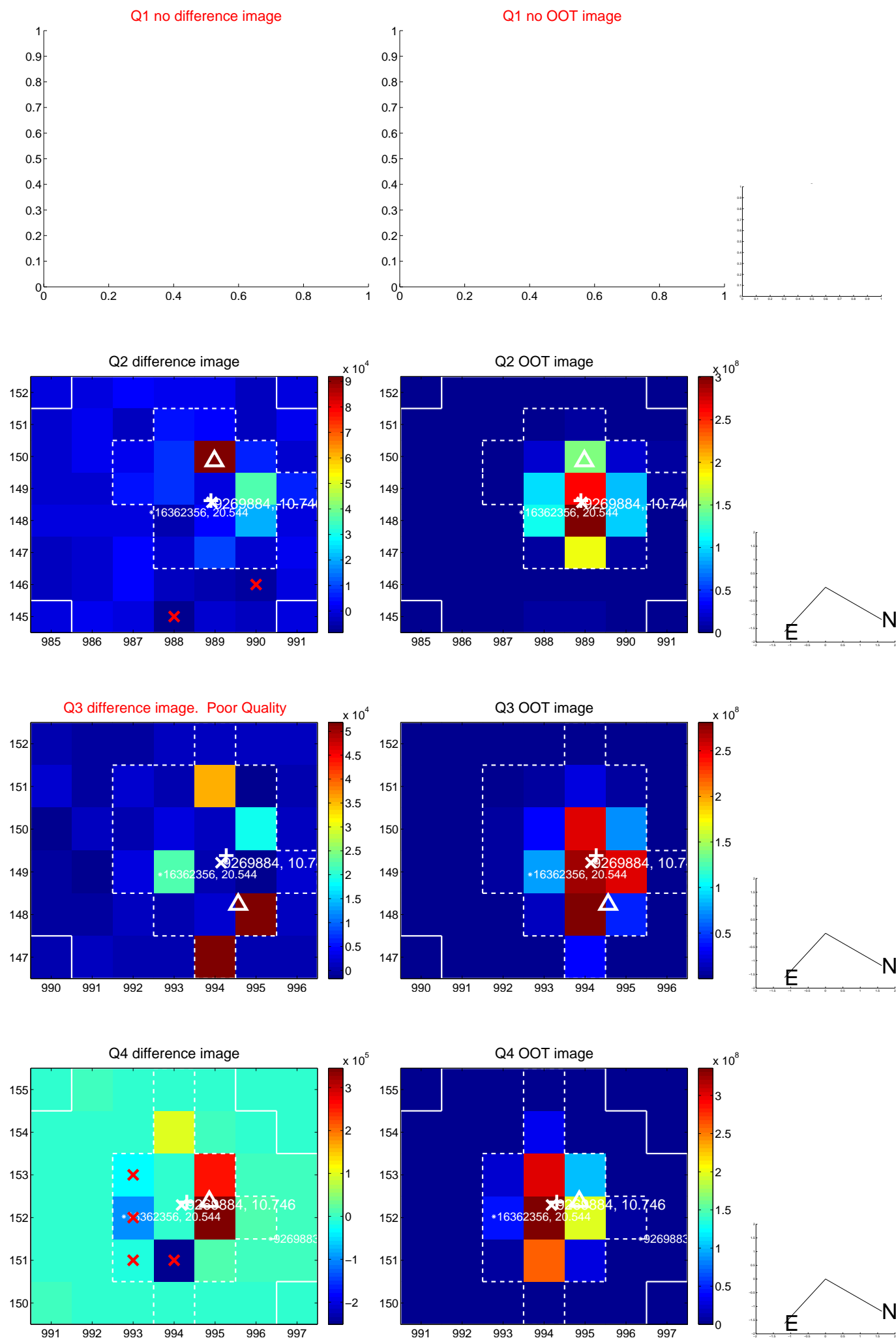
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.168 ± 0.990	2.19	-1.328 ± 1.546	1.713 ± 0.993
PRF-fit source offset from KIC position	2.608 ± 1.207	2.16	-1.837 ± 1.487	1.852 ± 0.912
photometric centroid source offset	0.16 ± 0.33	0.49	-0.11 ± 0.38	0.12 ± 0.29

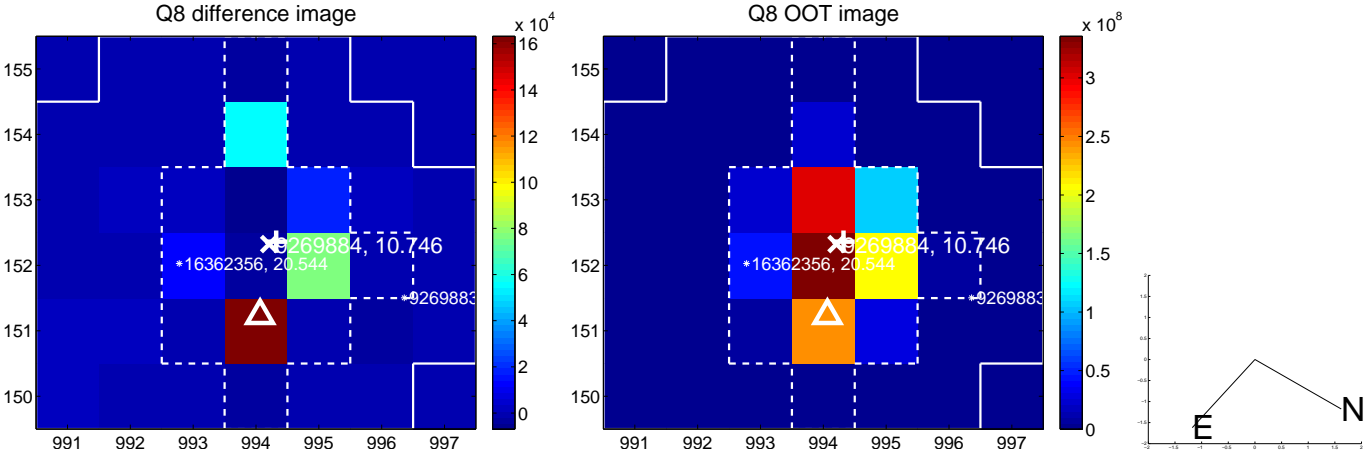
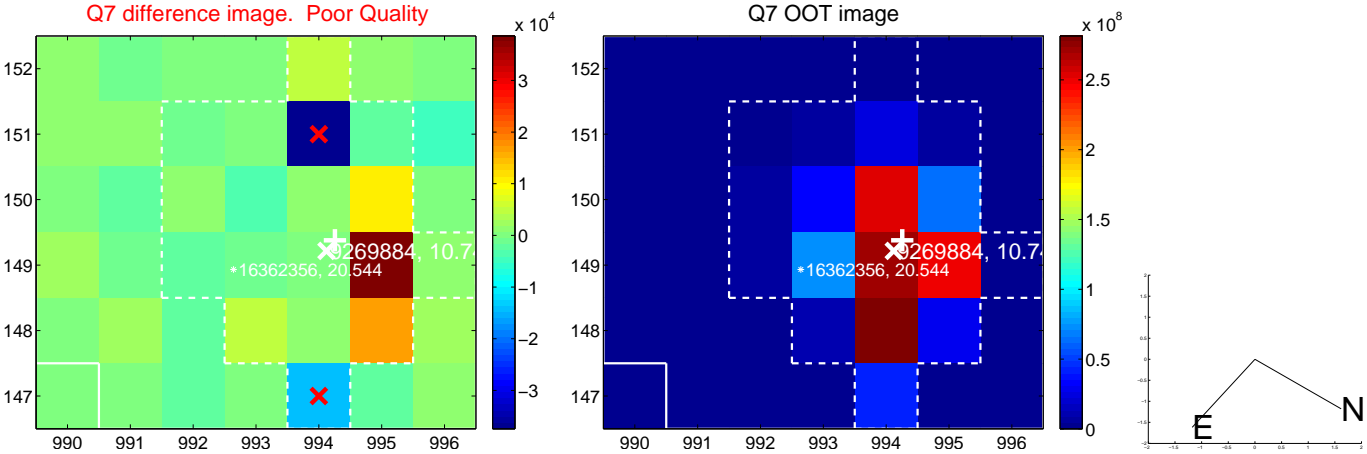
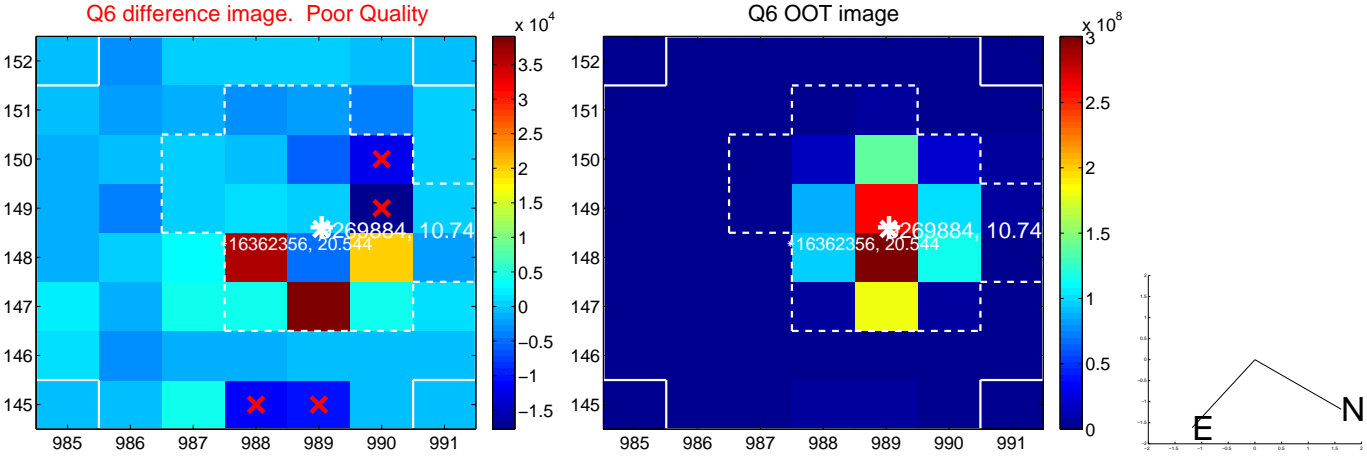
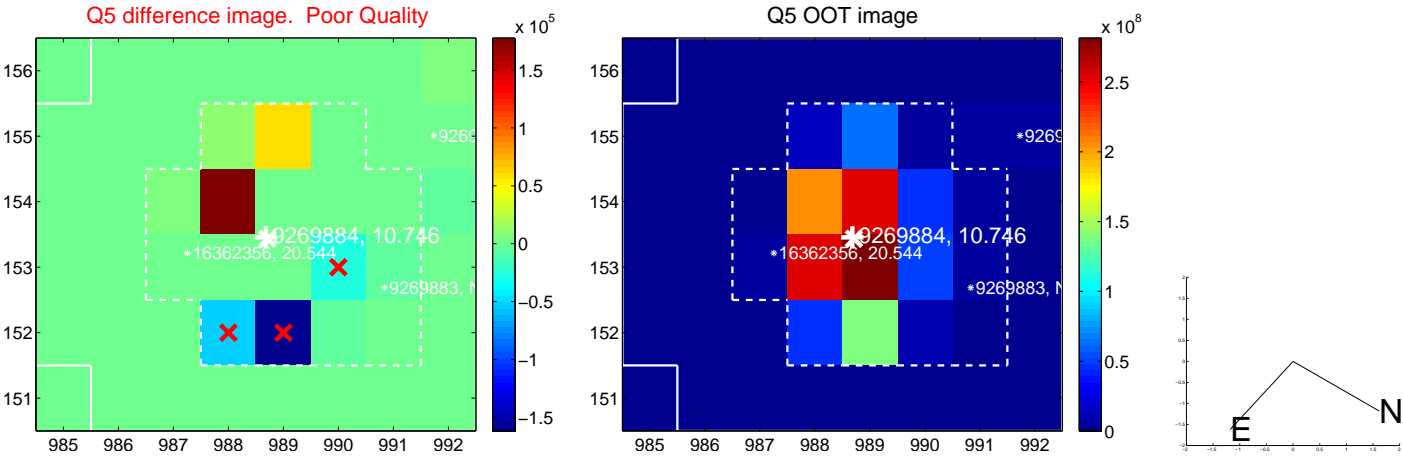


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

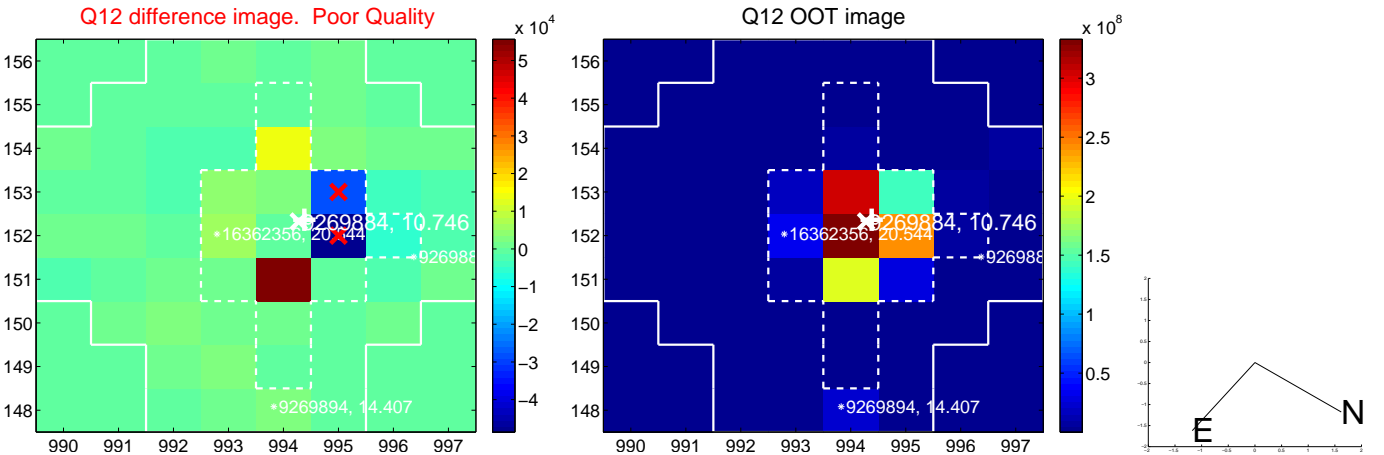
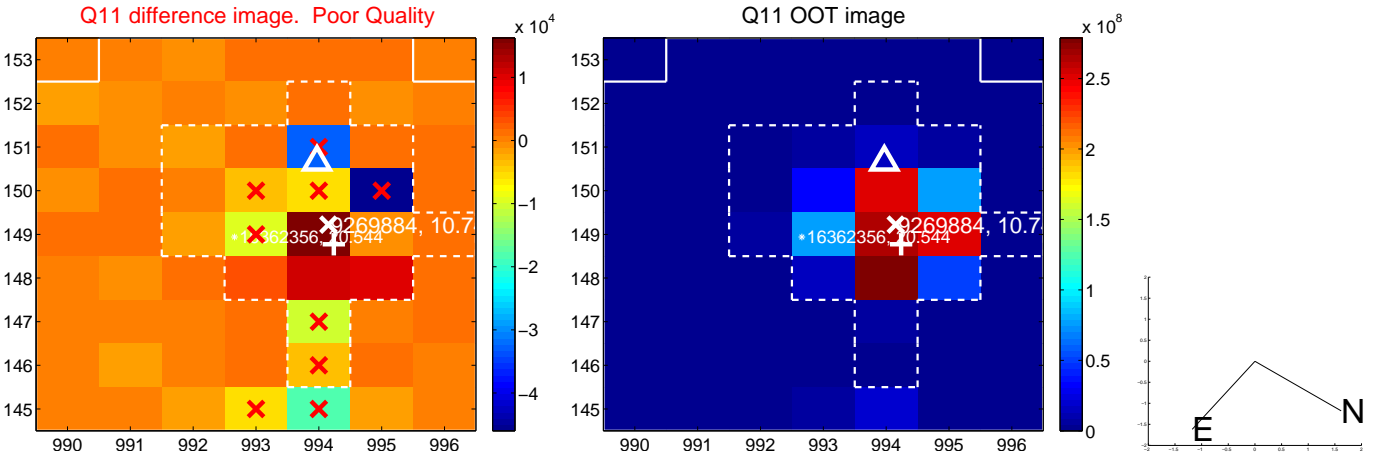
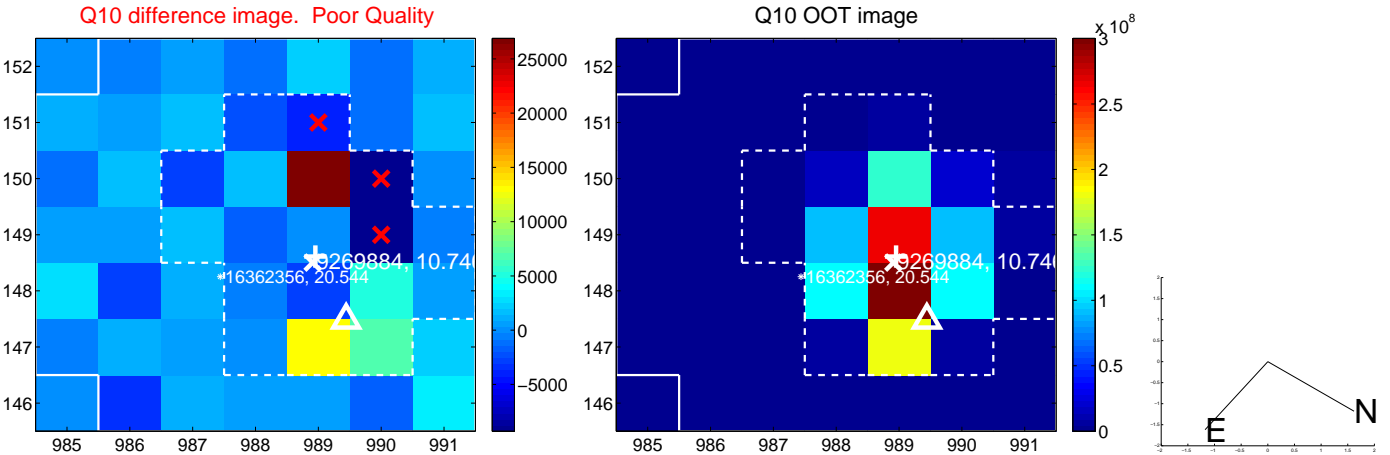
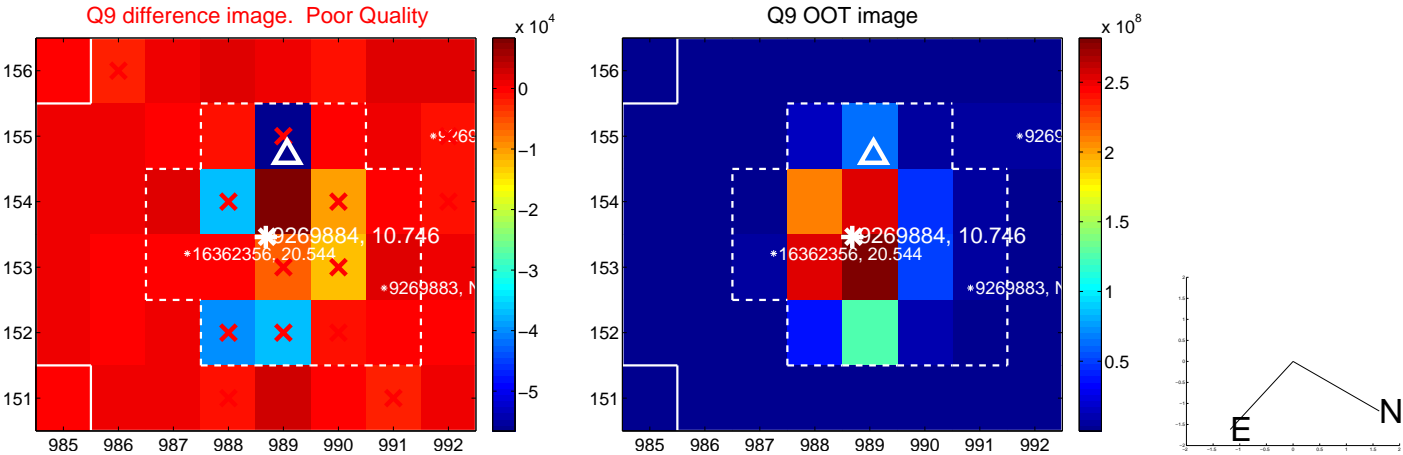
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



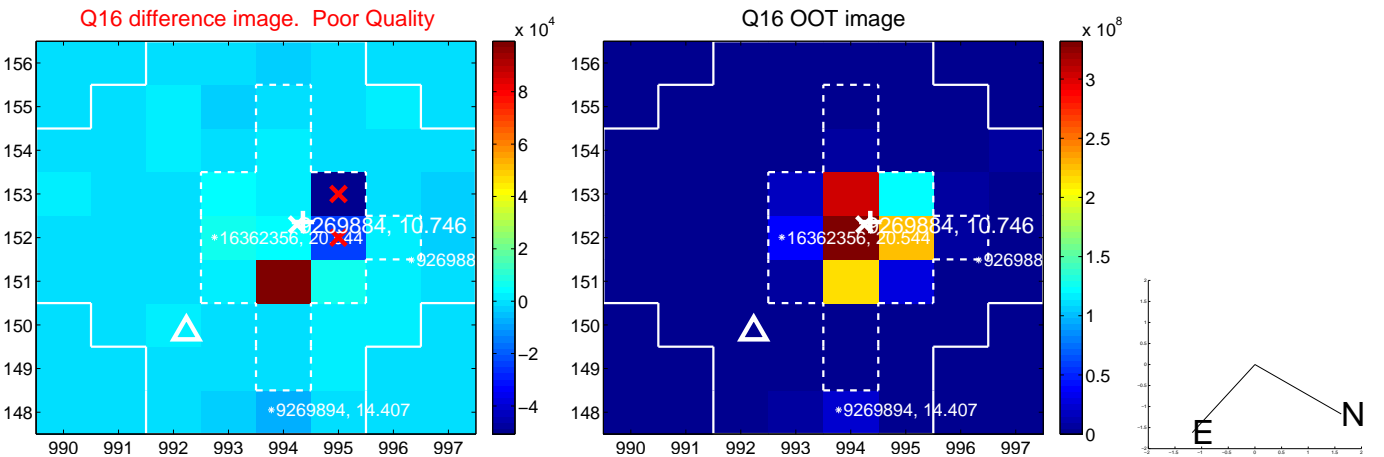
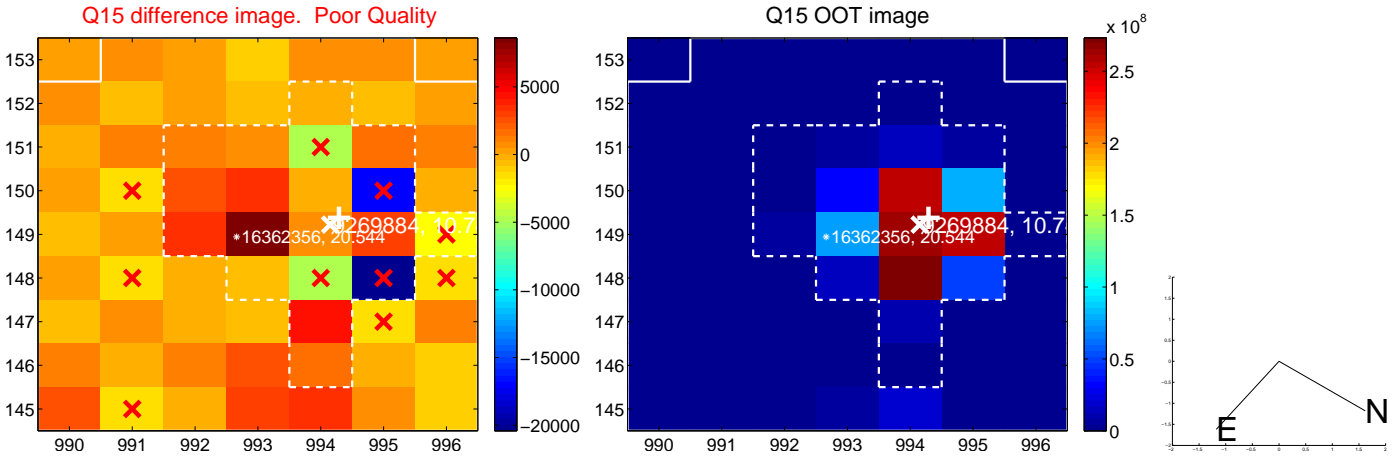
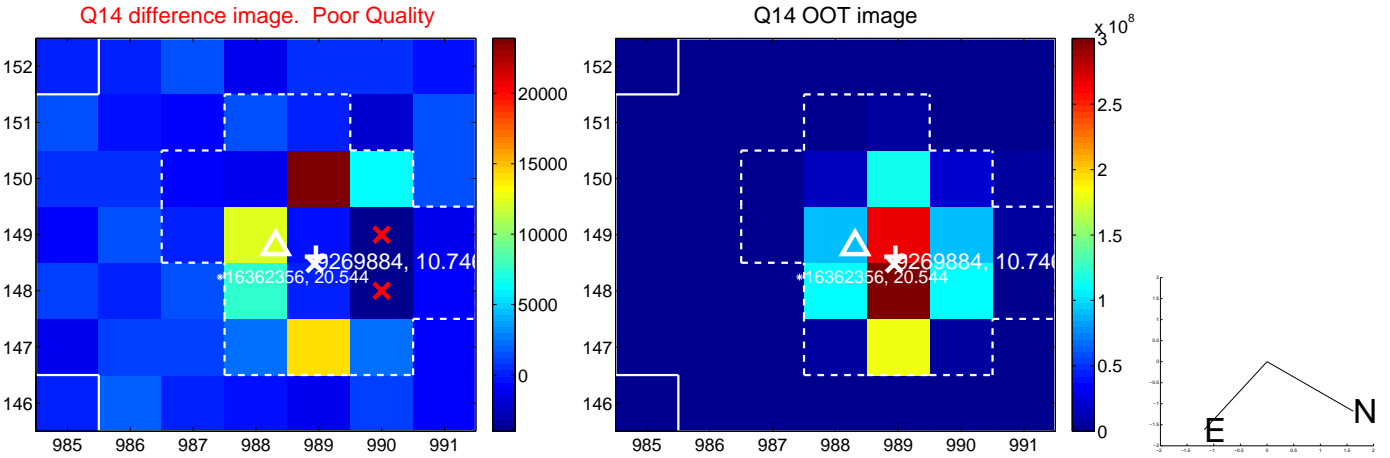
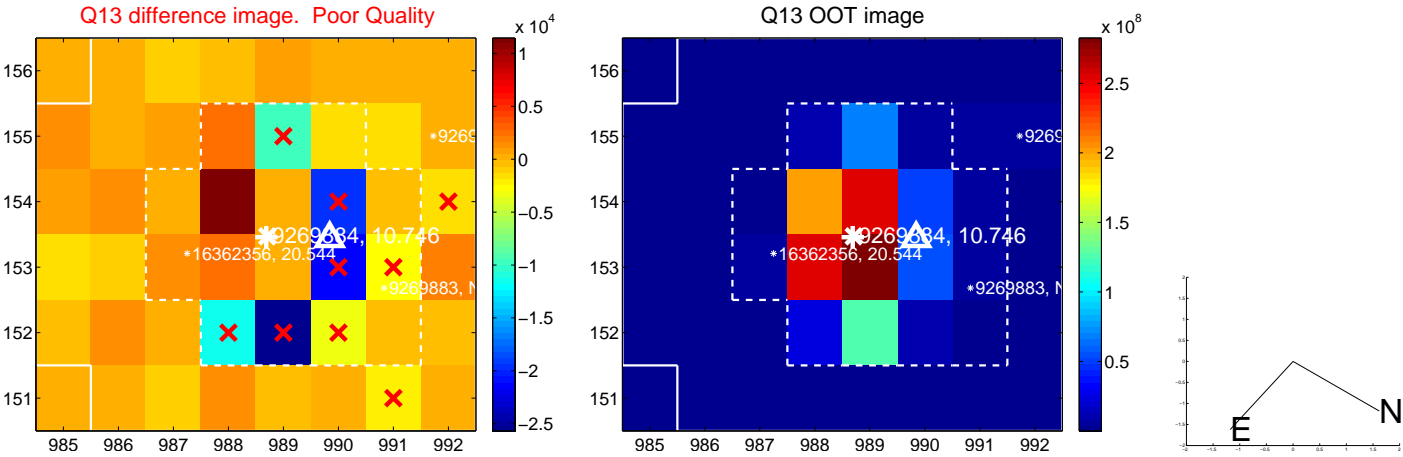
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



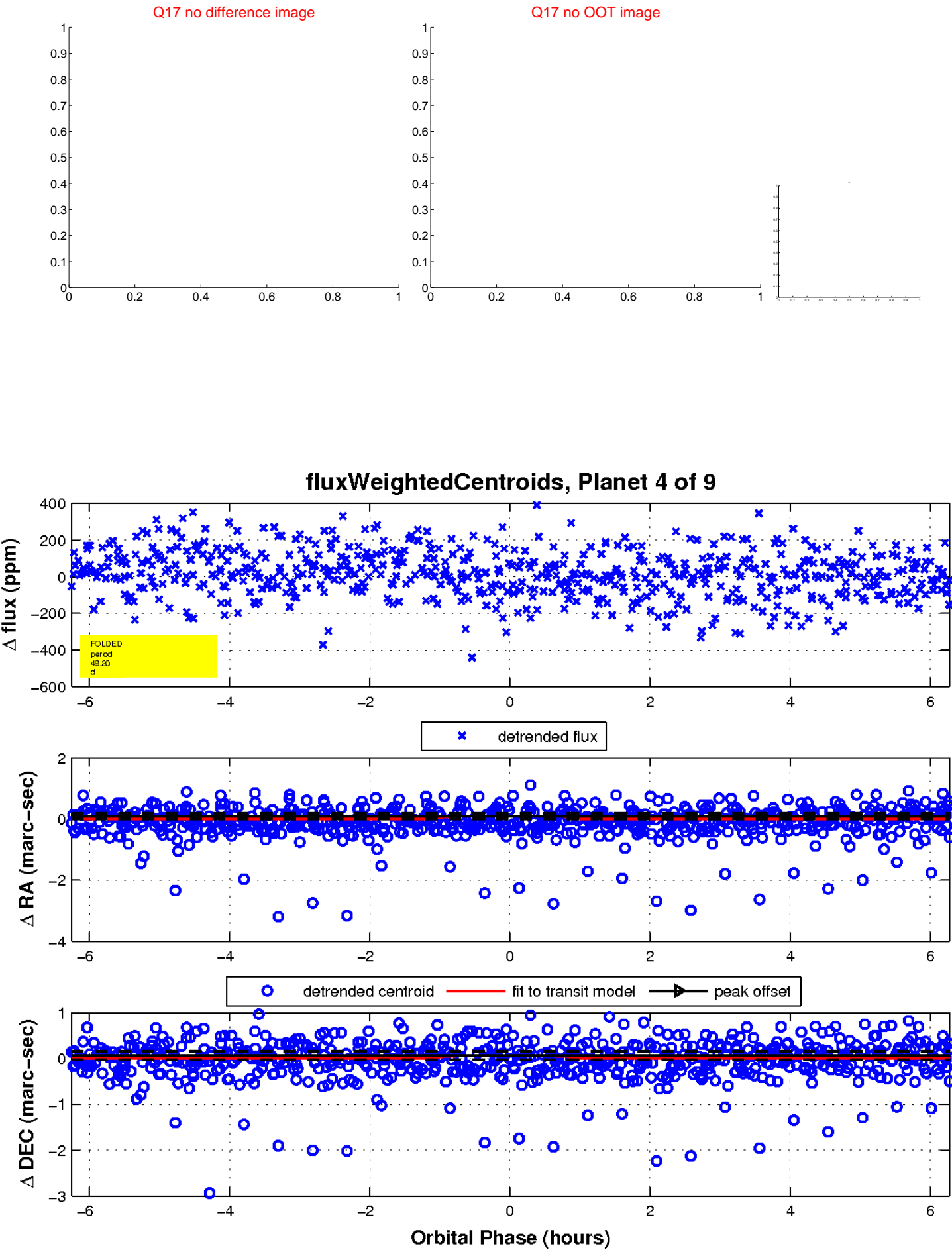
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



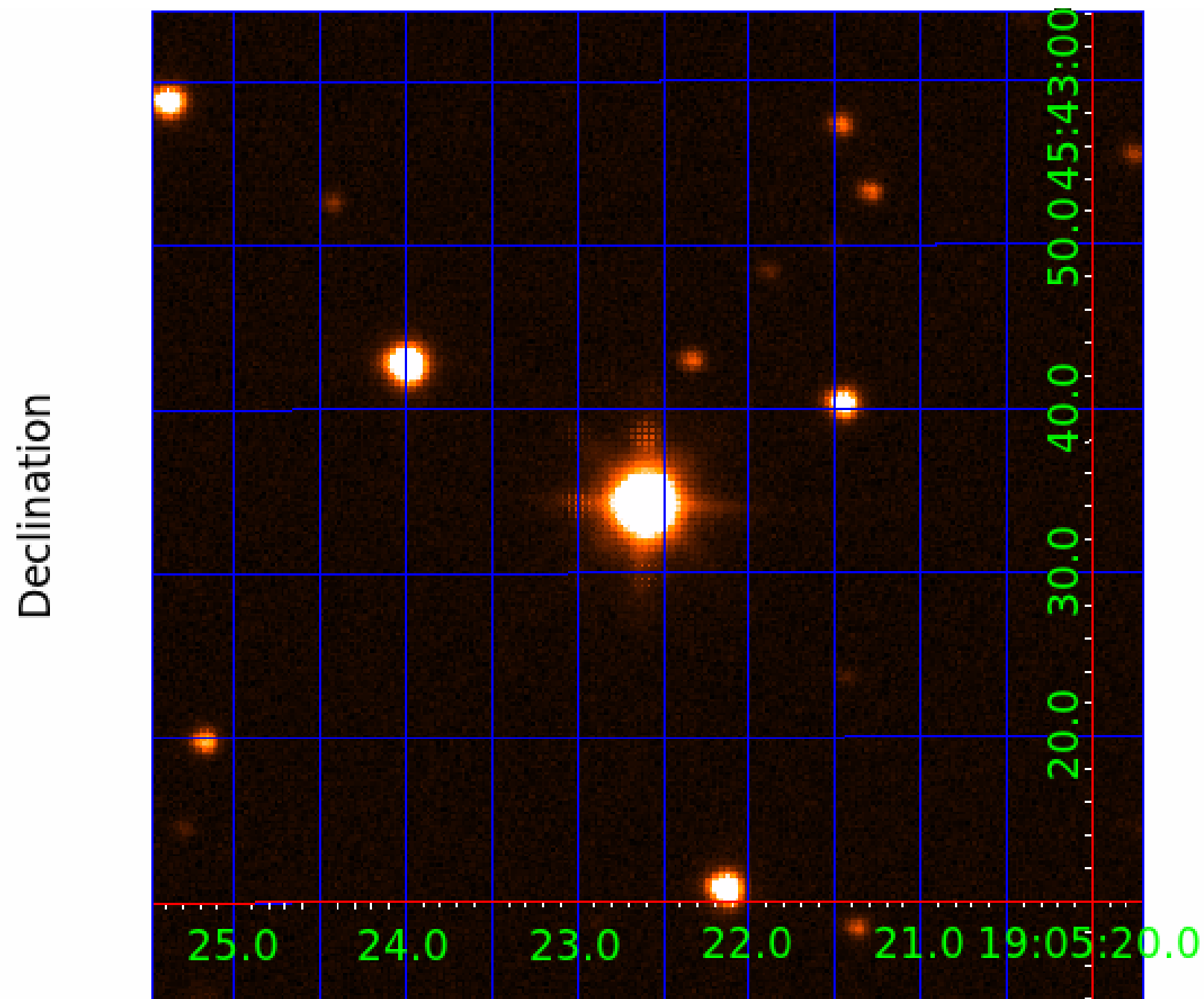
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

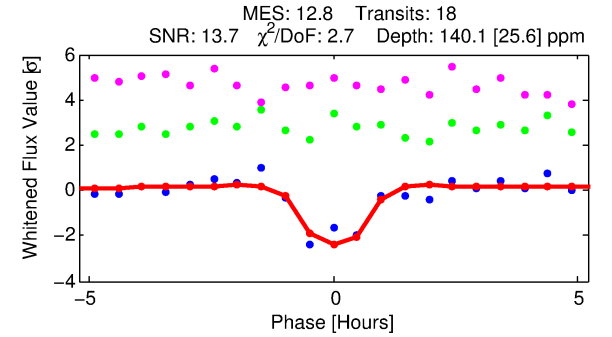
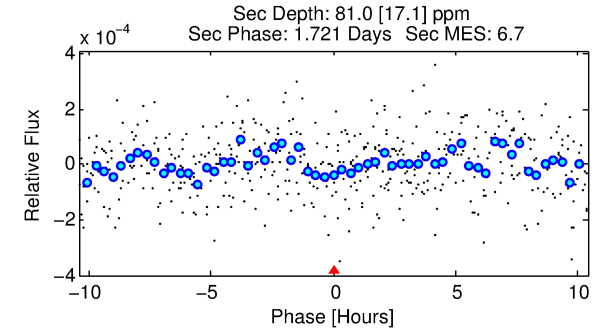
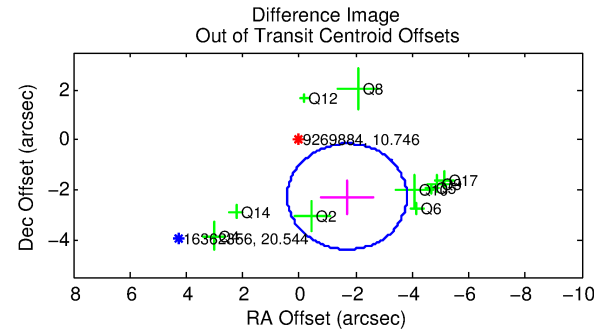
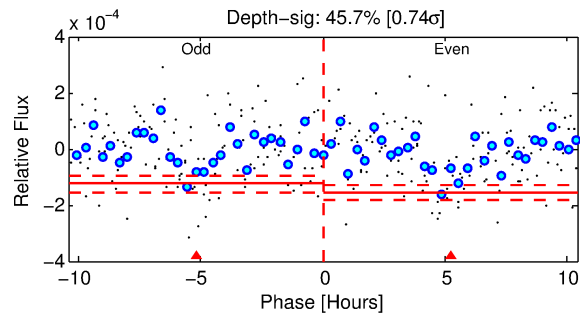
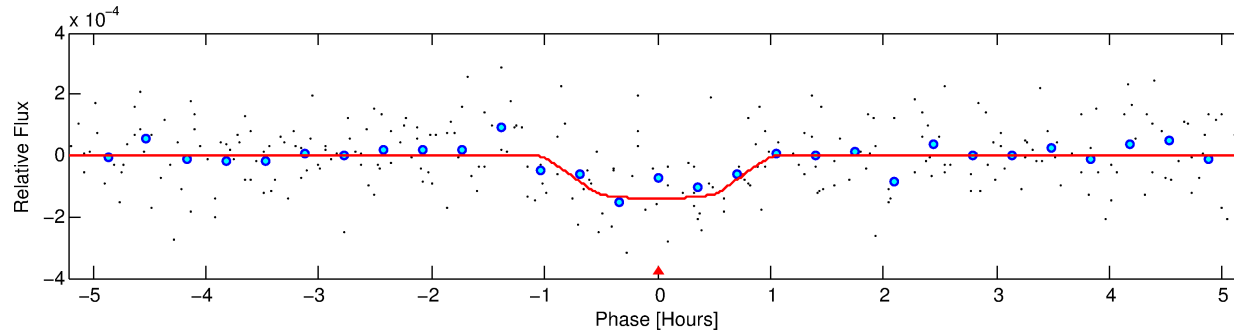
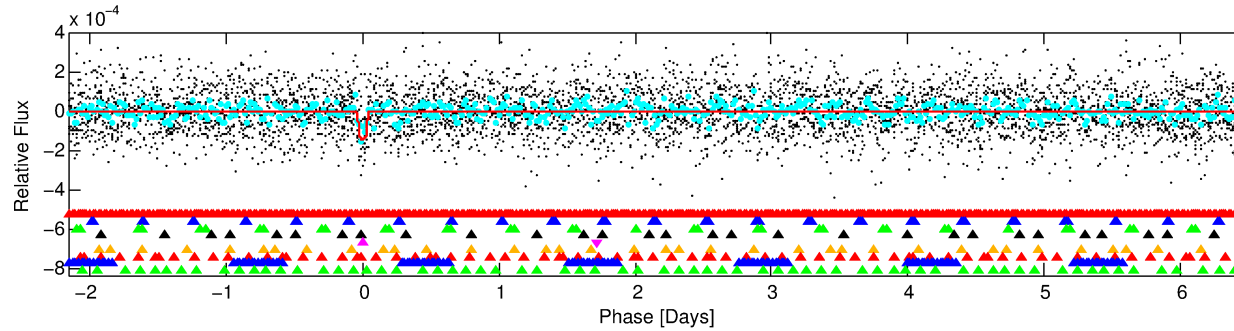
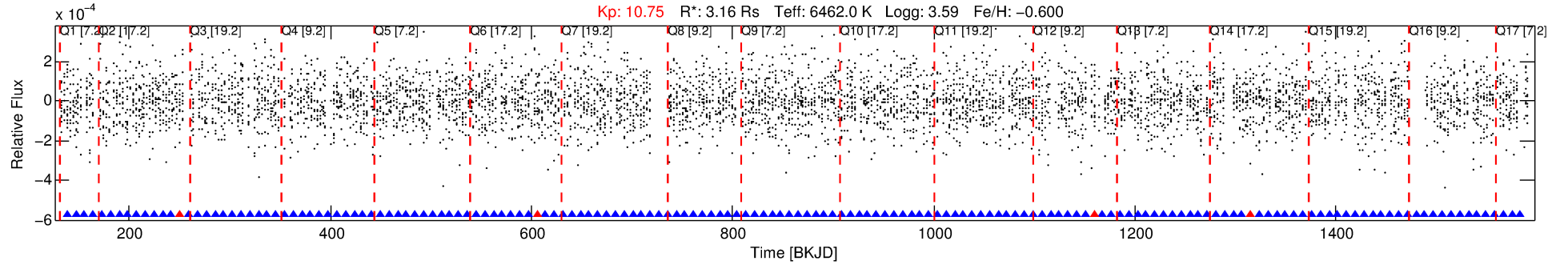
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-05

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 5 of 9 Period: 8.654 d



DV Fit Results:

Period = 8.65443 [0.00007] d
Epoch = 138.2209 [0.0060] BKJD
Rp/R* = 0.0132 [0.0105]
a/R* = 14.69 [68.74]
b = 0.94 [0.62]
Seff = 1816.22 [1122.47]
Teq = 1665 [257] K
Rp = 4.54 [4.06] Re
a = 0.0927 [0.0357] AU
Ag = 18.58 [31.84] [0.55 σ]
Teffp = 5343 [2147] K [1.70 σ]

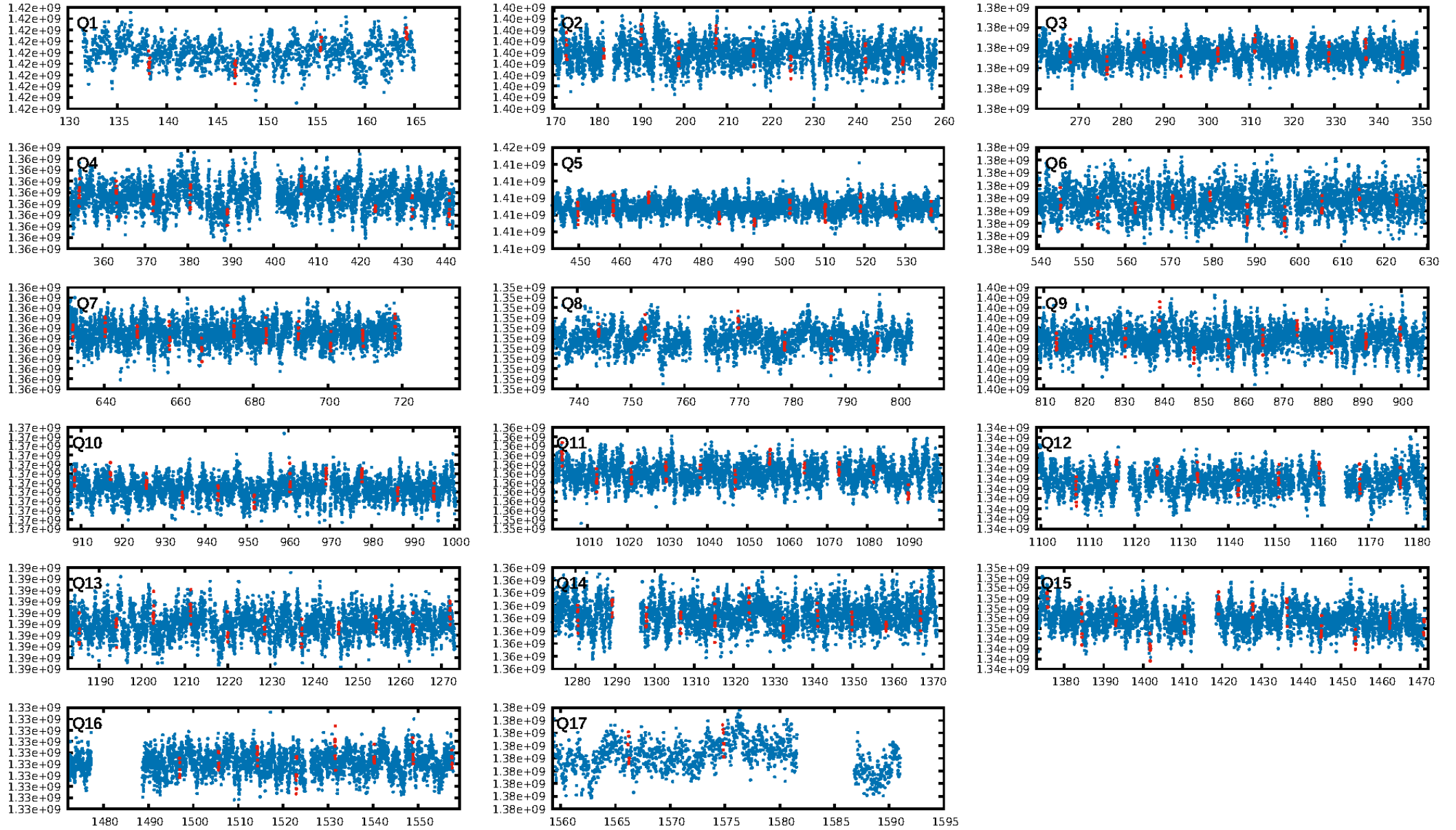
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.20 σ]
LongPeriod-sig: 100.0% [14.41 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.75 [12/16]
GhostDiagnostic-chr: -4.309
Centroid-sig: 85.7%
Centroid-so: 0.613 arcsec [2.65 σ]
OotOffset-rm: 2.839 arcsec [4.02 σ]
KicOffset-rm: 3.097 arcsec [4.84 σ]
OotOffset-st: 4/0/3/3 [10]
KicOffset-st: 4/0/3/3 [10]
DiffImageQuality-fgm: 0.20 [2/10]
DiffImageOverlap-fno: 1.00 [17/17]

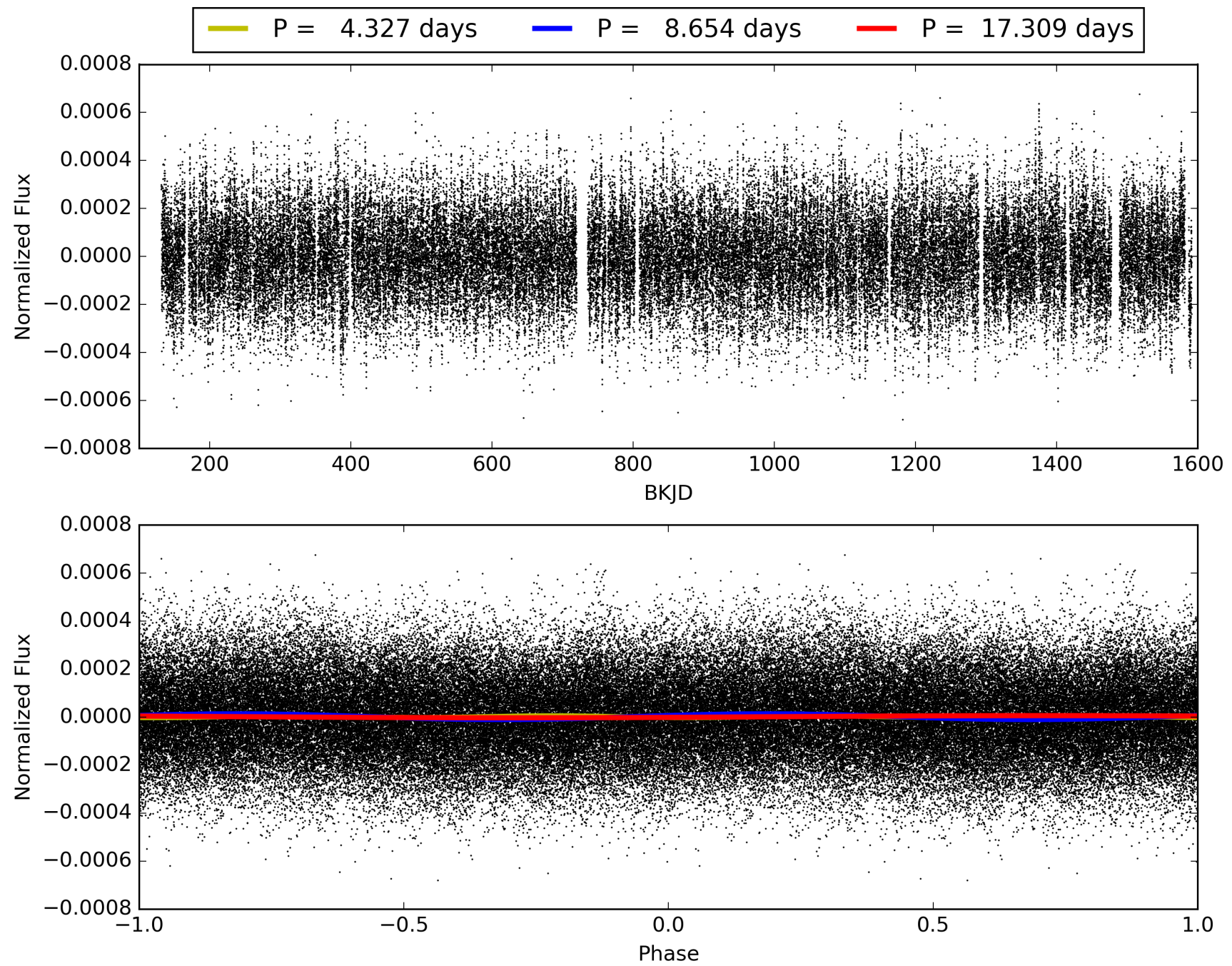
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:16 Z

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

TCE 009269884-05, PDC Light Curves

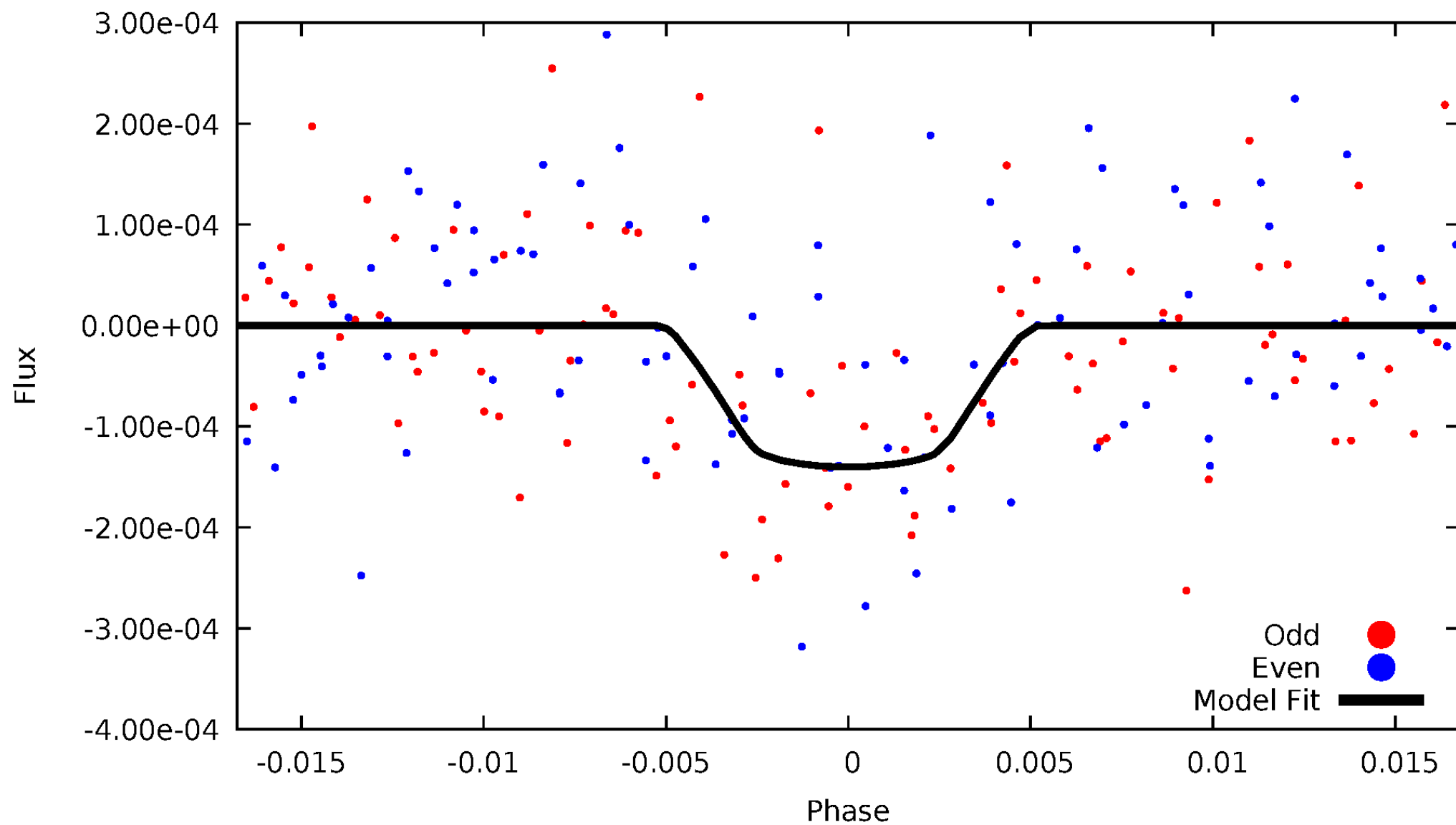


TCE 009269884-05



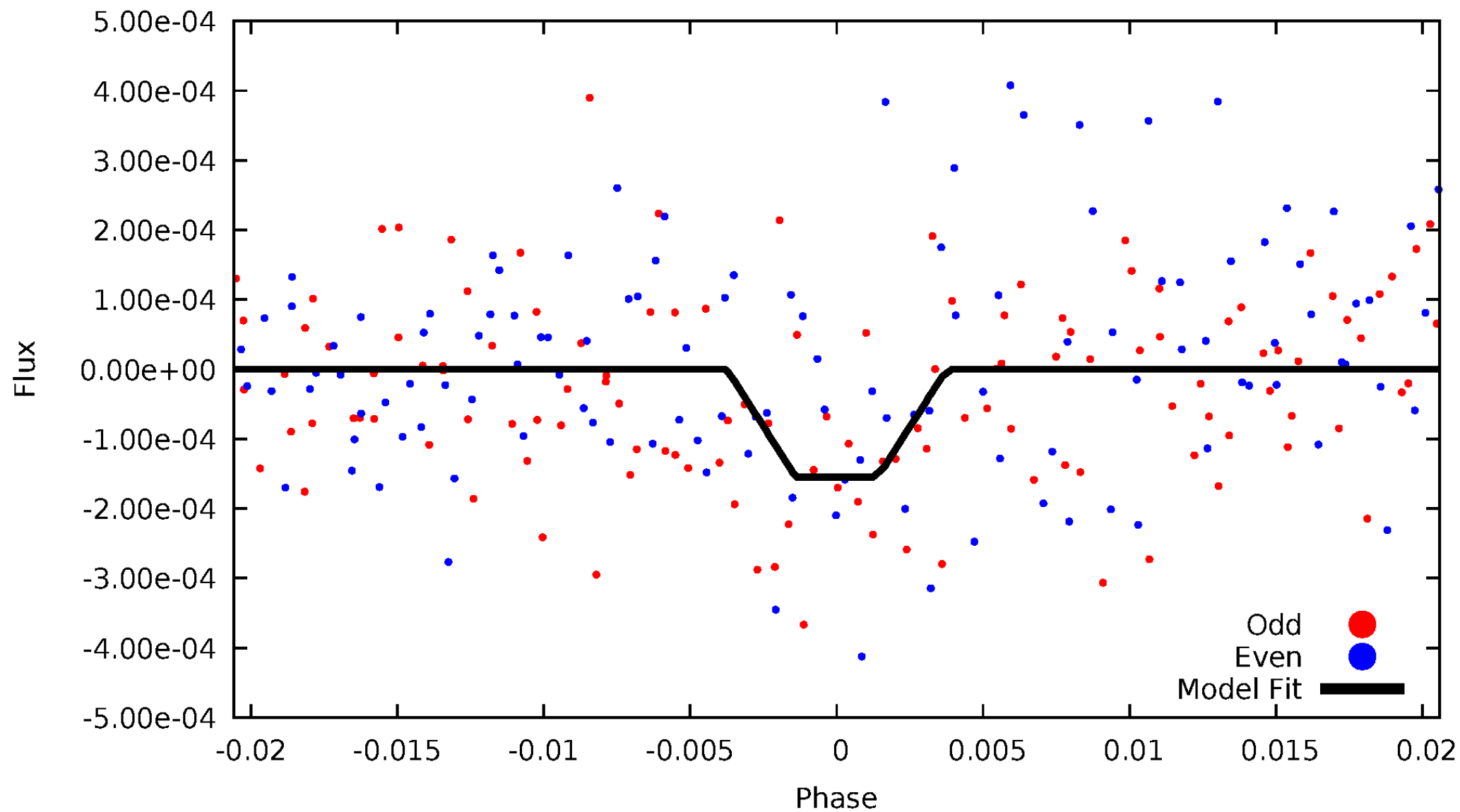
DV Odd/Even

TCE 009269884-05



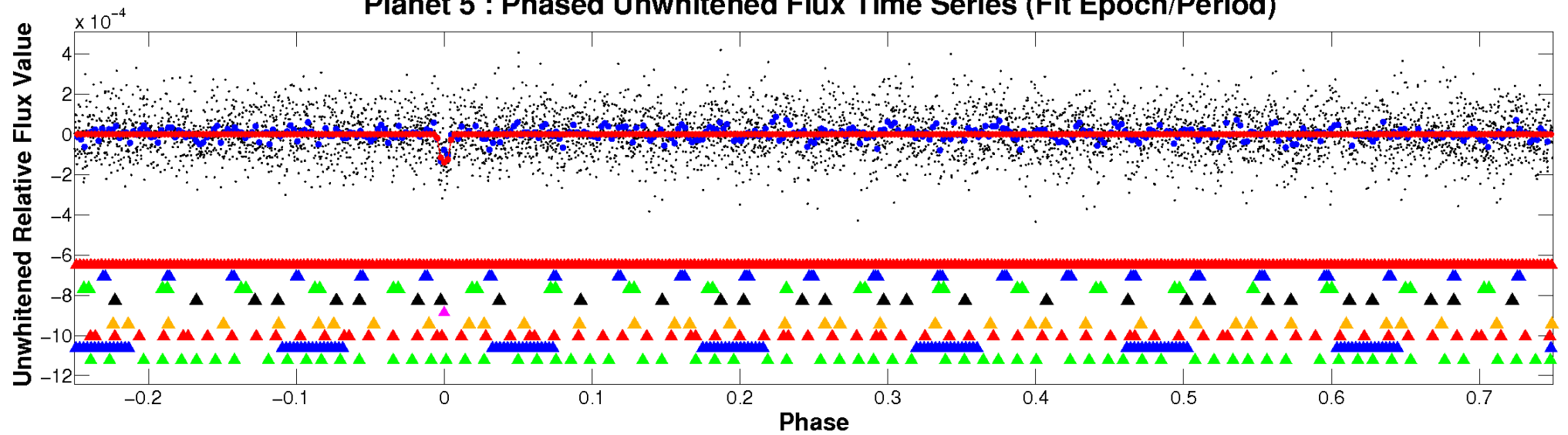
ALT Odd/Even

TCE 009269884-05

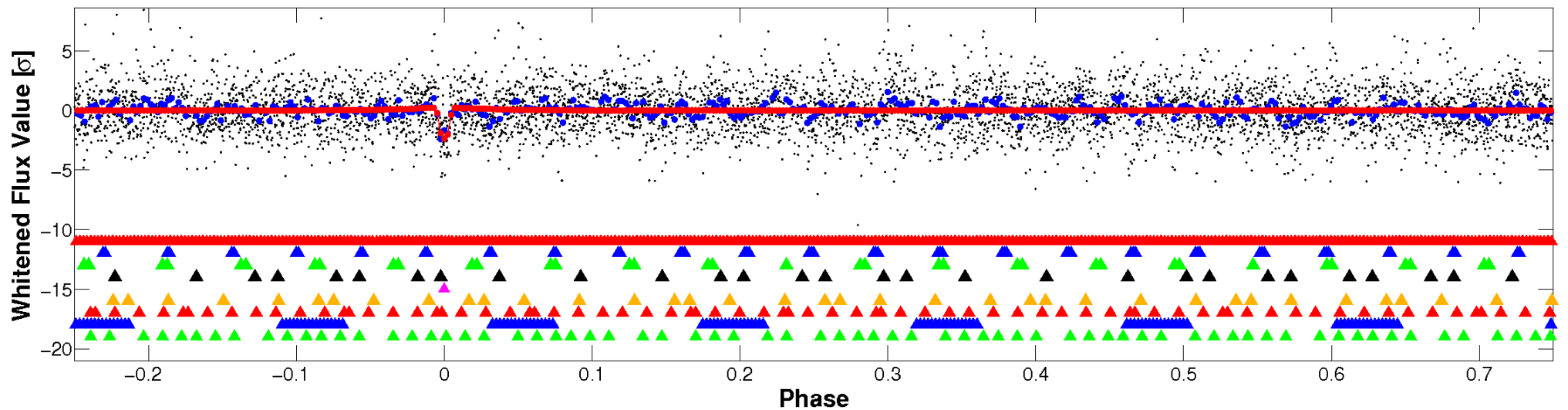


Non-Whitened Vs. Whitened Light Curve

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

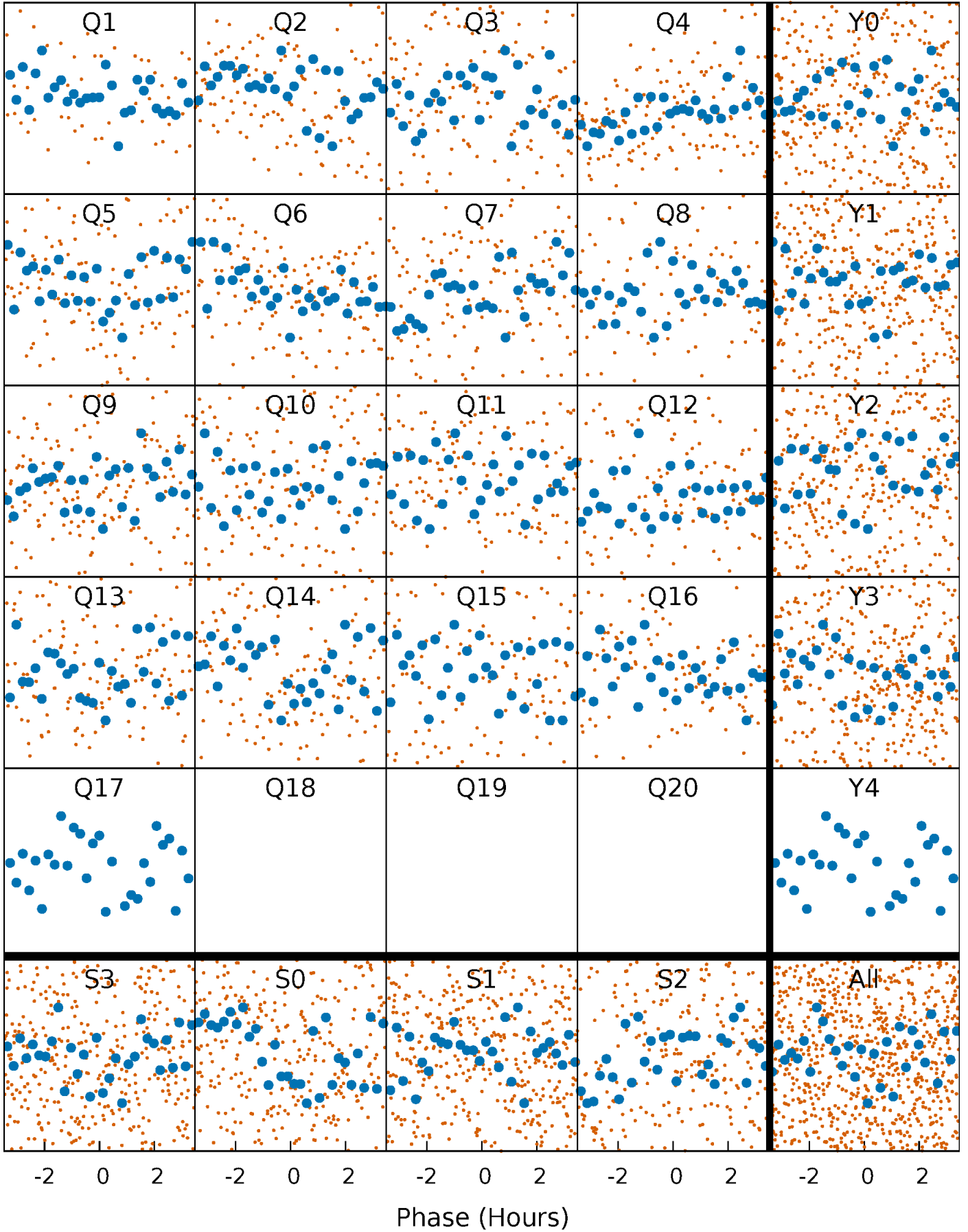


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



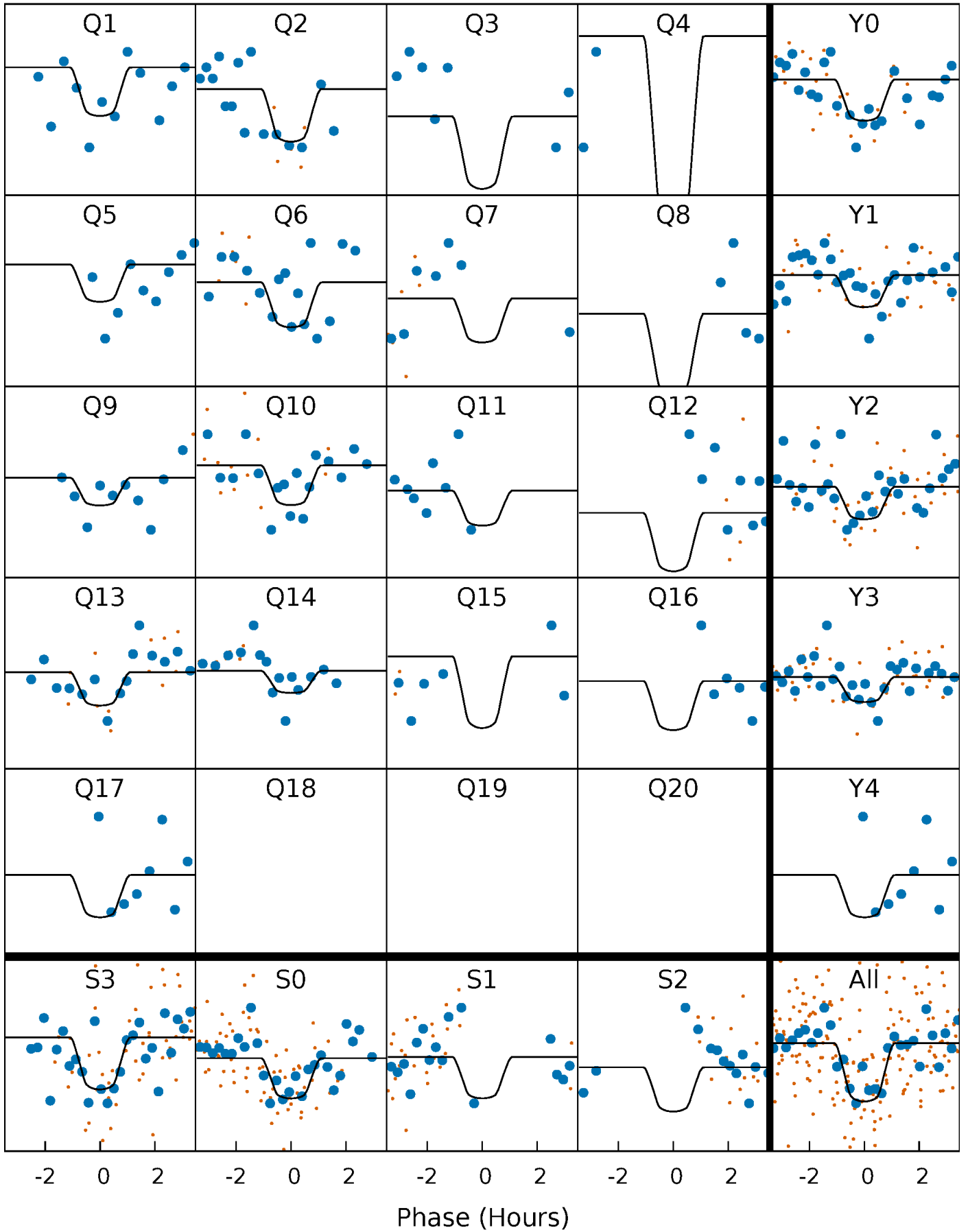
PDC Quarter-Phased Transit Curves

TCE 009269884-05 $P = 8.654428$ Days $T_0 = 138.220898$ (BKJD)



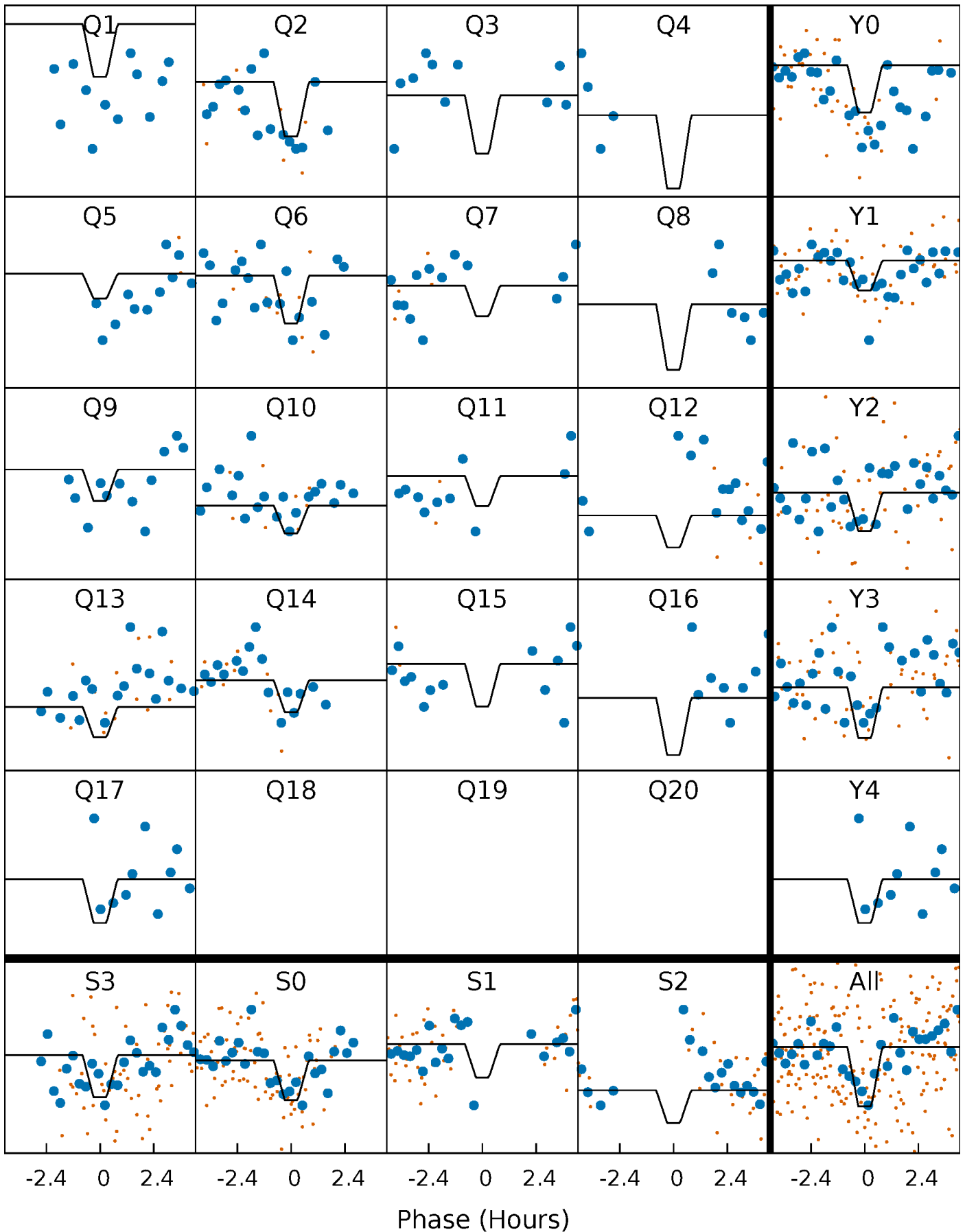
DV Quarter-Phased Transit Curves

TCE 009269884-05 $P = 8.654428$ Days $T_0 = 138.220898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

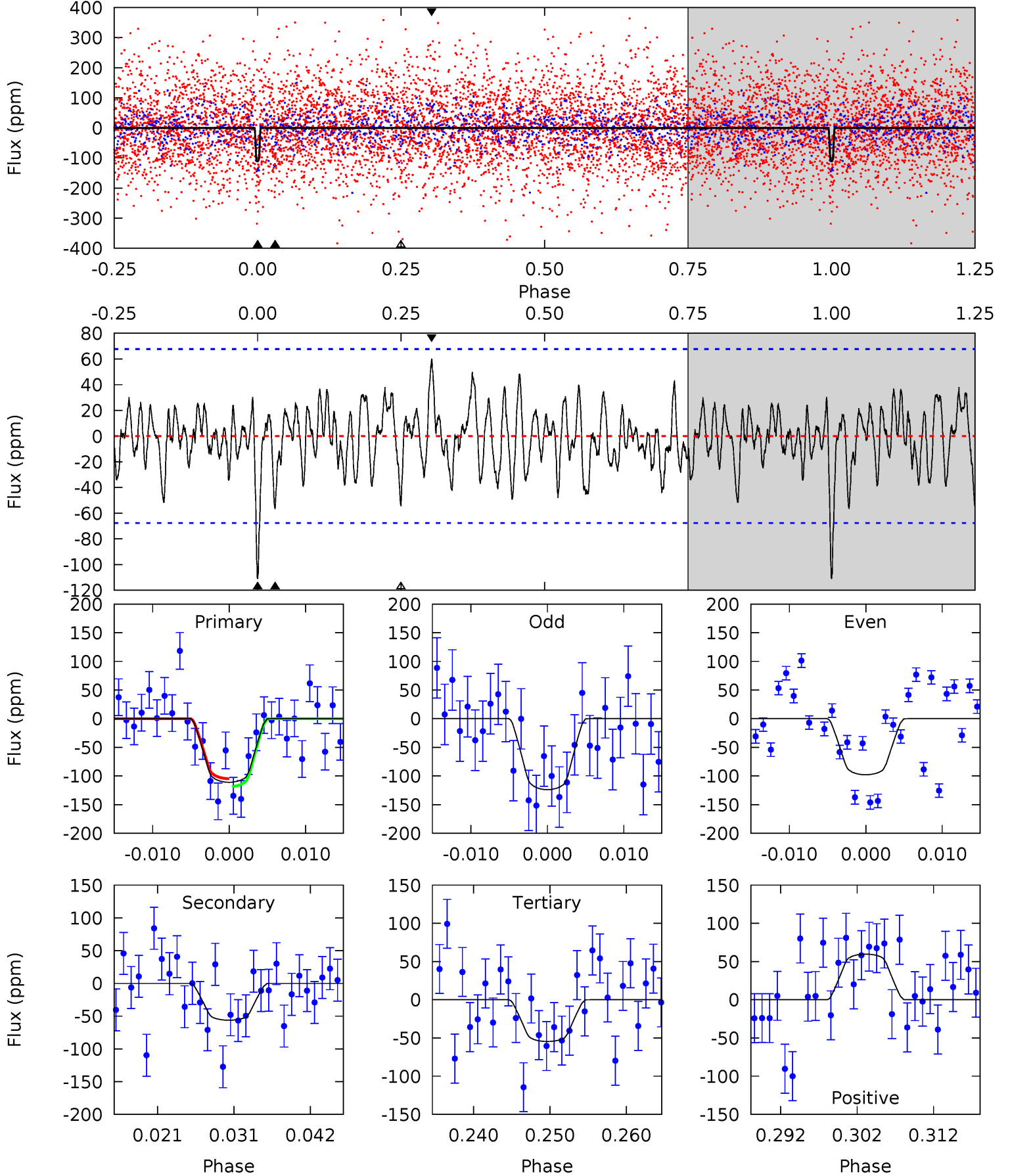
TCE 009269884-05 $P = 8.654530$ Days $T_0 = 138.213898$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-05, P = 8.654428 Days, E = 129.566470 Days

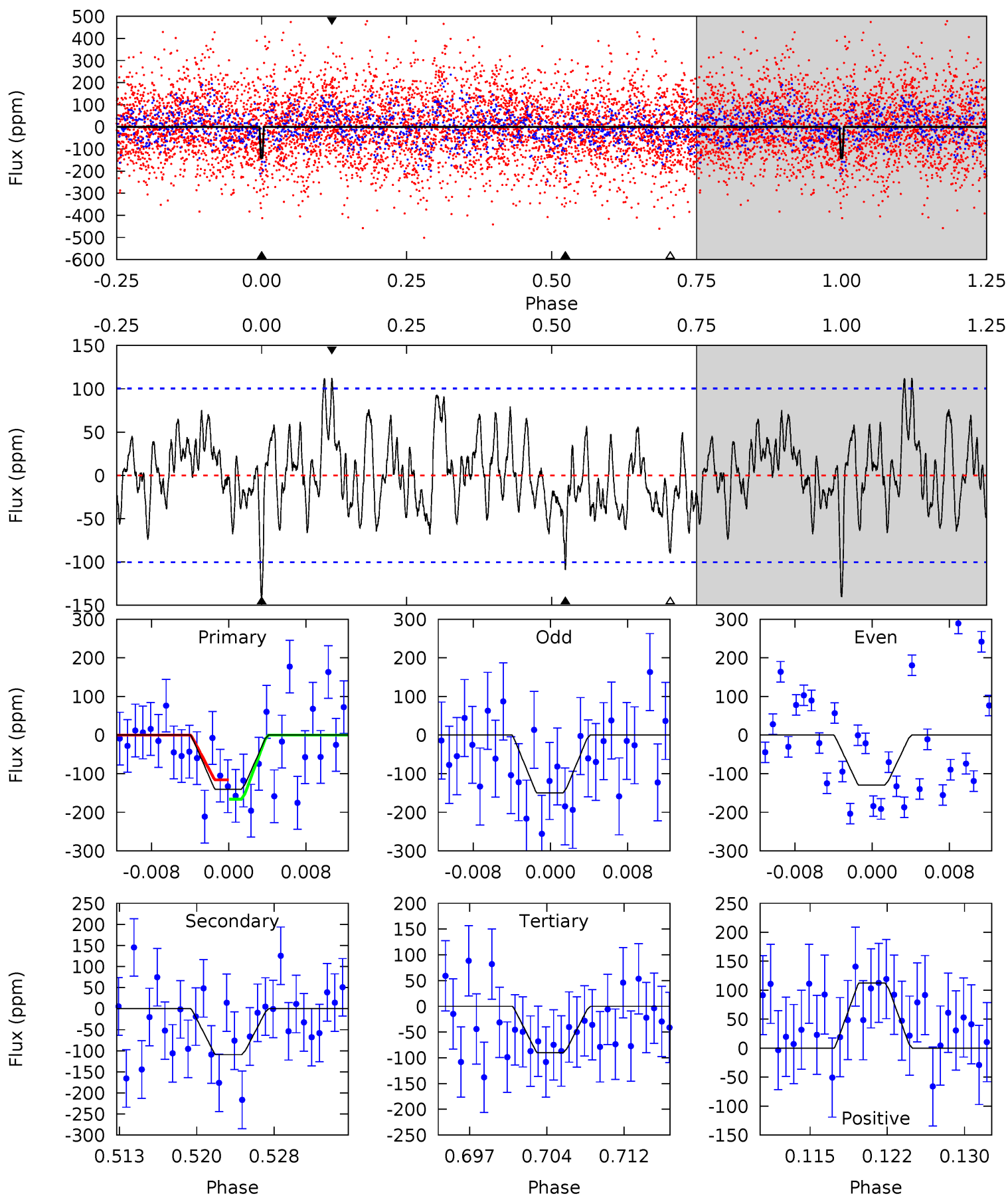
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.24	4.17	4.05	4.43	5.02	2.56	1.48	4.19	3.81	0.12	-0.26	0.98	0.80	0.35	0.52



Alt Model-Shift Uniqueness Test

009269884-05, P = 8.654530 Days, E = 129.559368 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.10	5.52	4.55	5.68	5.08	2.67	1.85	2.55	1.42	0.97	-0.16	0.52	0.88	0.44	1.27



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 13	$4.45^{+3.67}_{-2.68}$	2284^{+165}_{-226}	4850^{+2650}_{-1011}	13^{+78}_{-10}
Alt.	-109 ± 20	$4.49^{+3.27}_{-2.82}$	2296^{+144}_{-215}	5585^{+4067}_{-1181}	25^{+151}_{-17}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

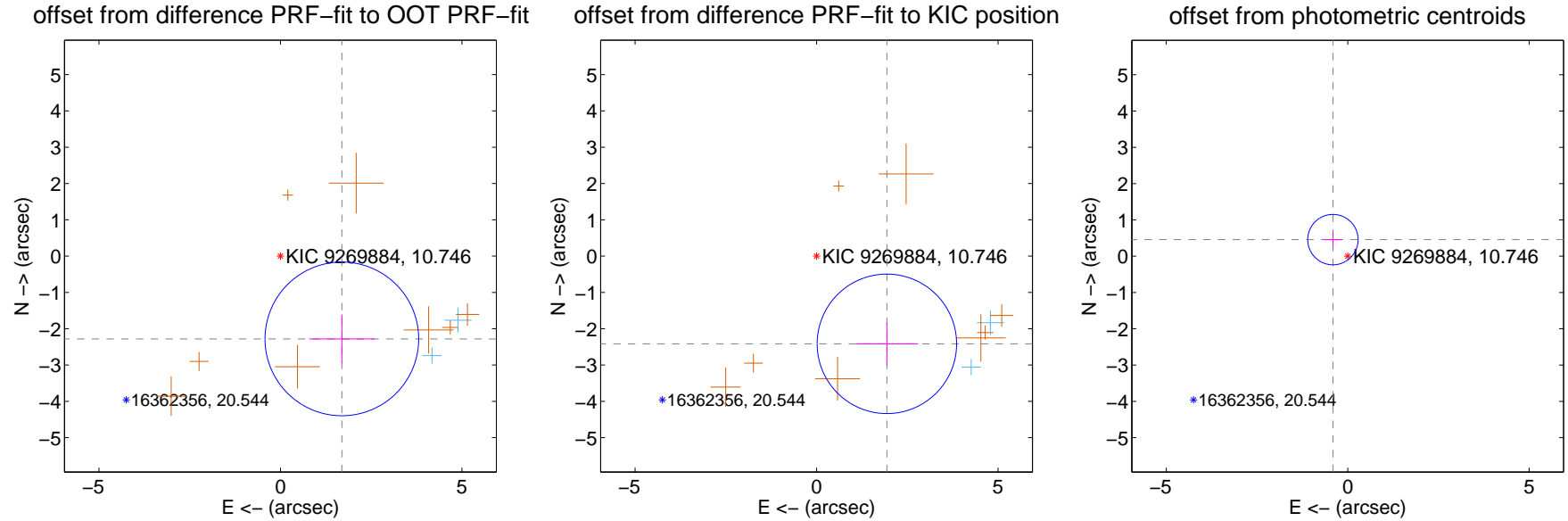
DV Centroid Data

Supplemental centroid analysis for 009269884-05. **Kepler magnitude: 10.75.** Transit SNR 13.73

There are 2 quarters with good PRF difference image offsets

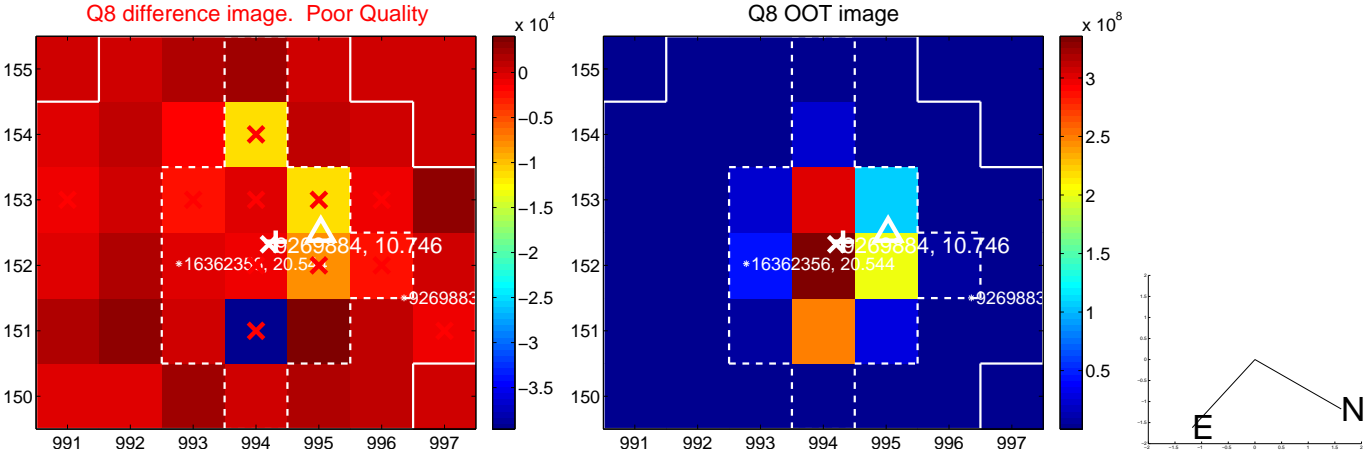
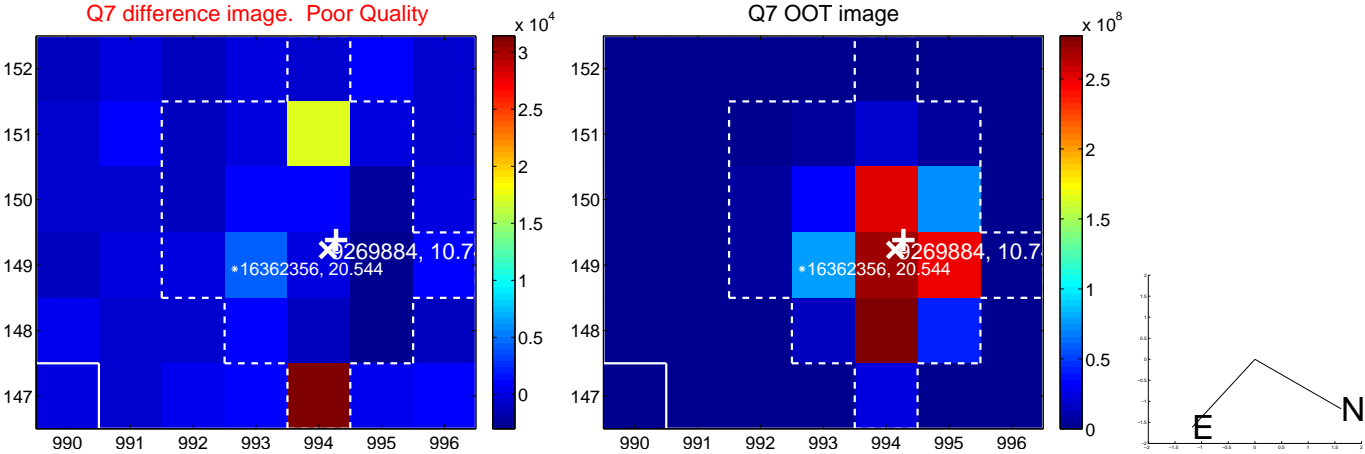
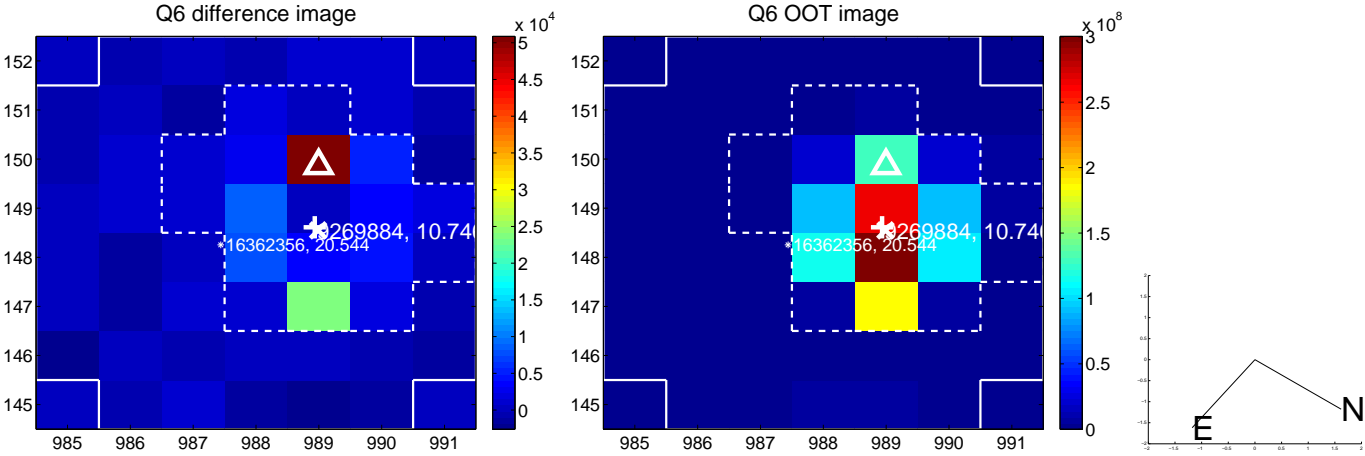
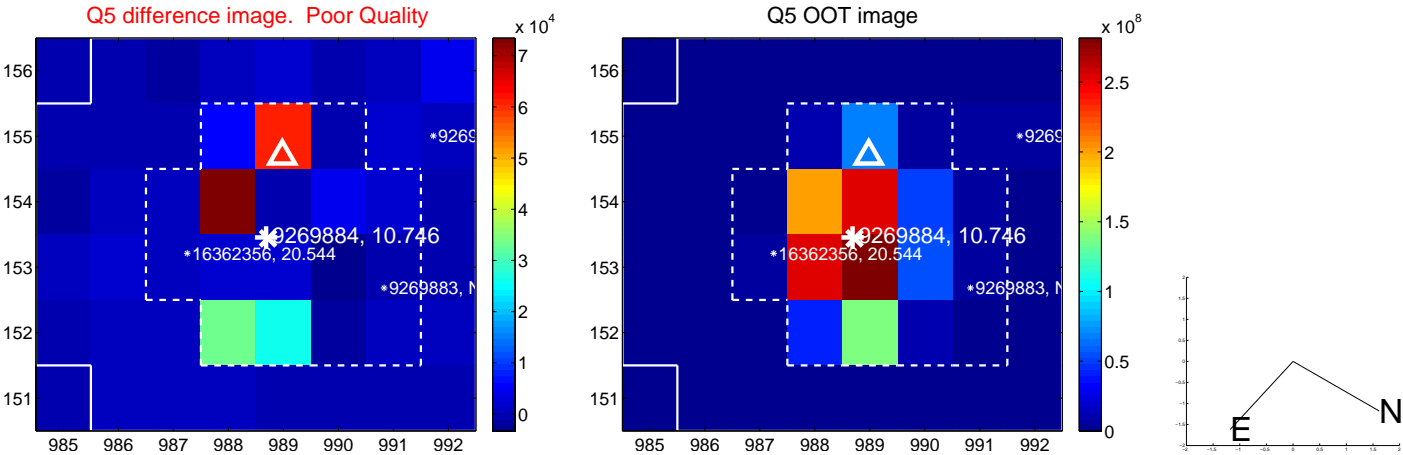
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.839 ± 0.706	4.02	-1.692 ± 0.903	-2.280 ± 0.672
PRF-fit source offset from KIC position	3.097 ± 0.640	4.84	-1.937 ± 0.856	-2.416 ± 0.589
photometric centroid source offset	0.61 ± 0.23	2.65	0.41 ± 0.26	0.46 ± 0.21

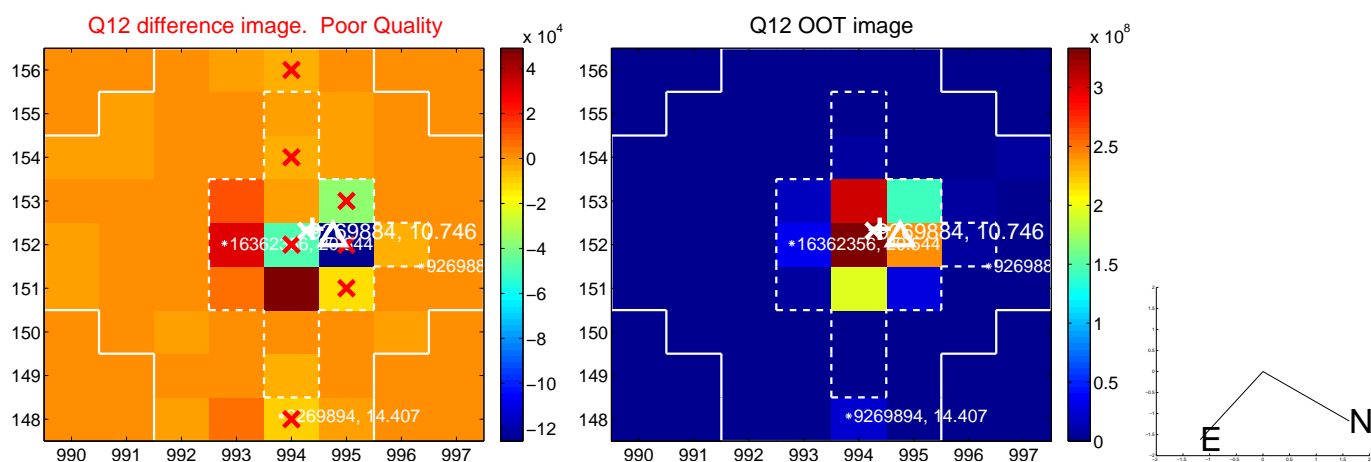
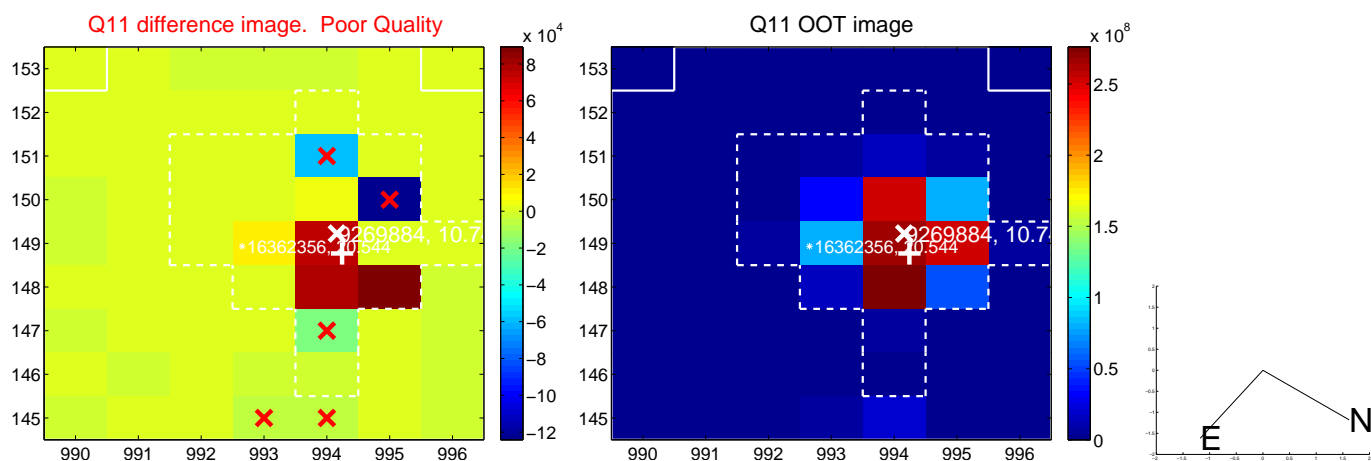
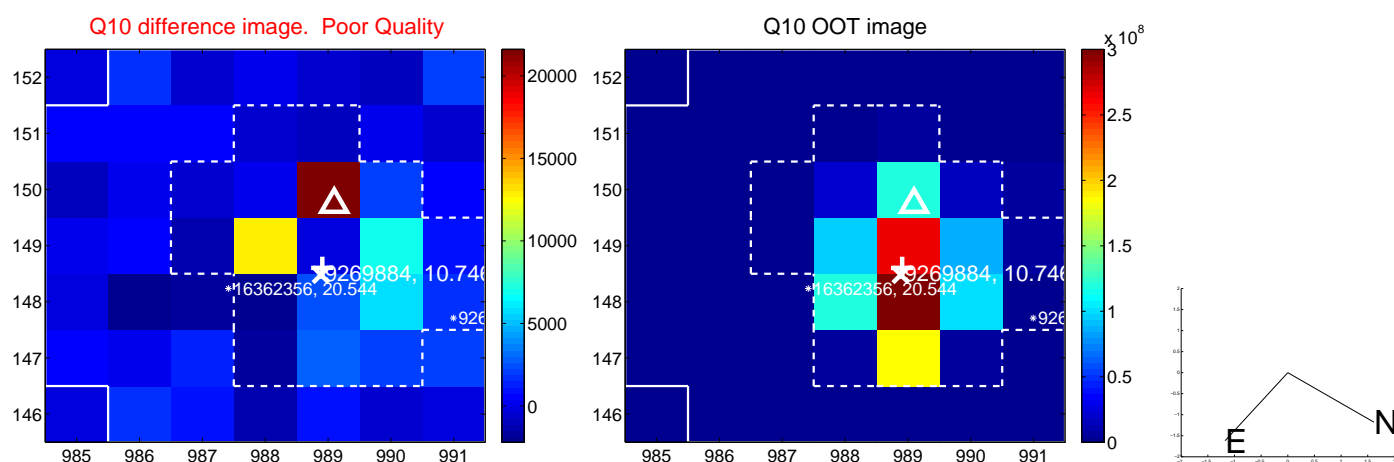
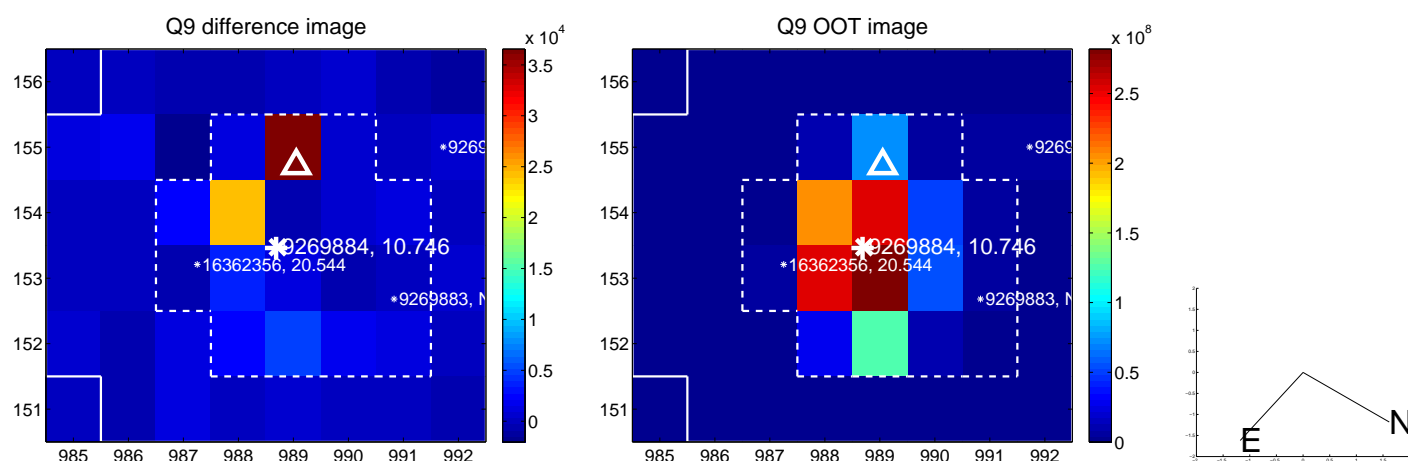


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

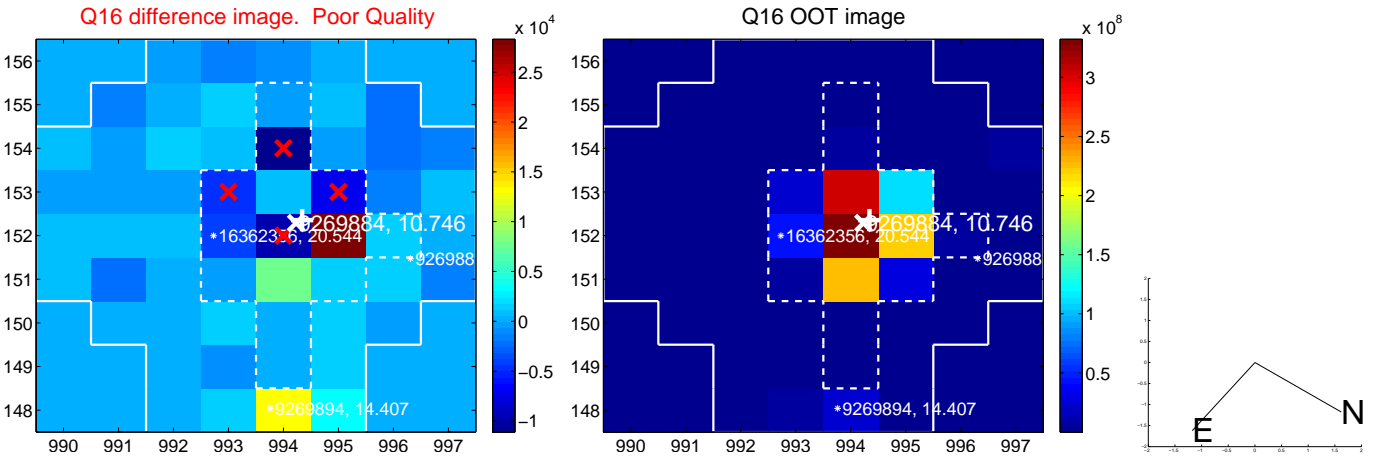
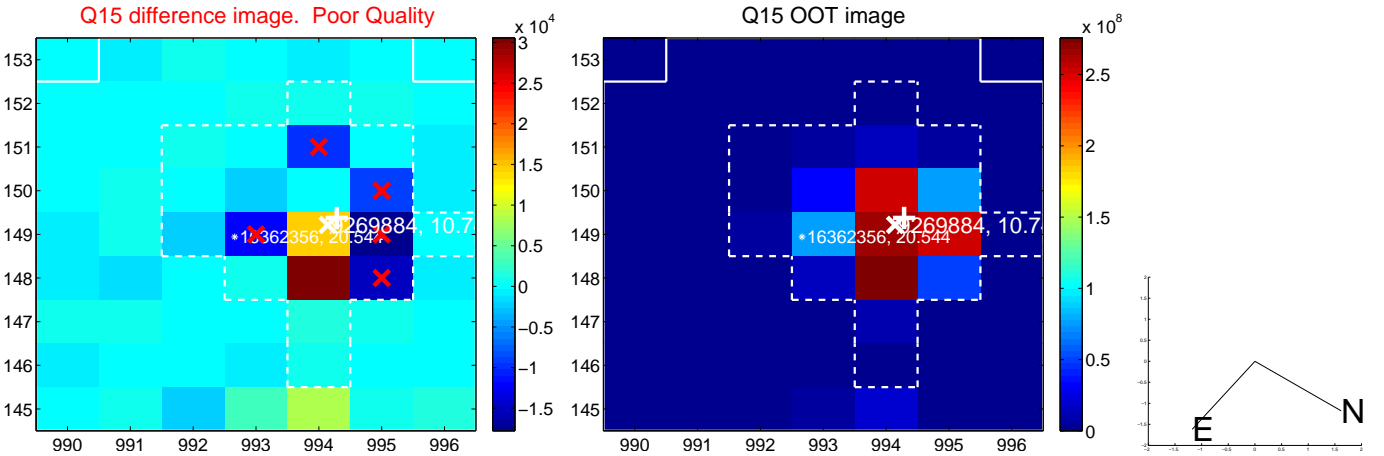
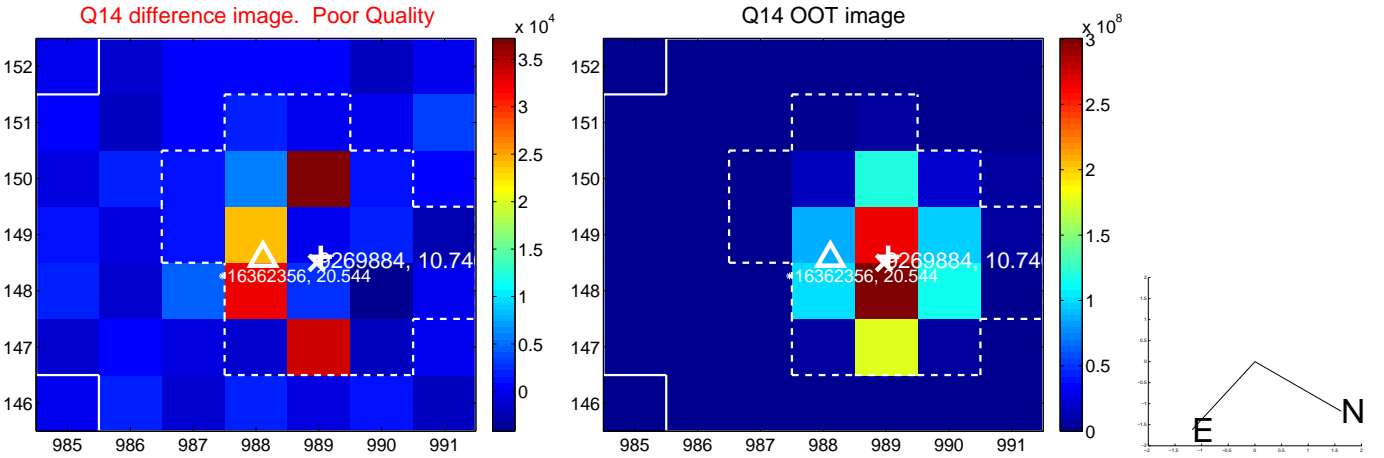
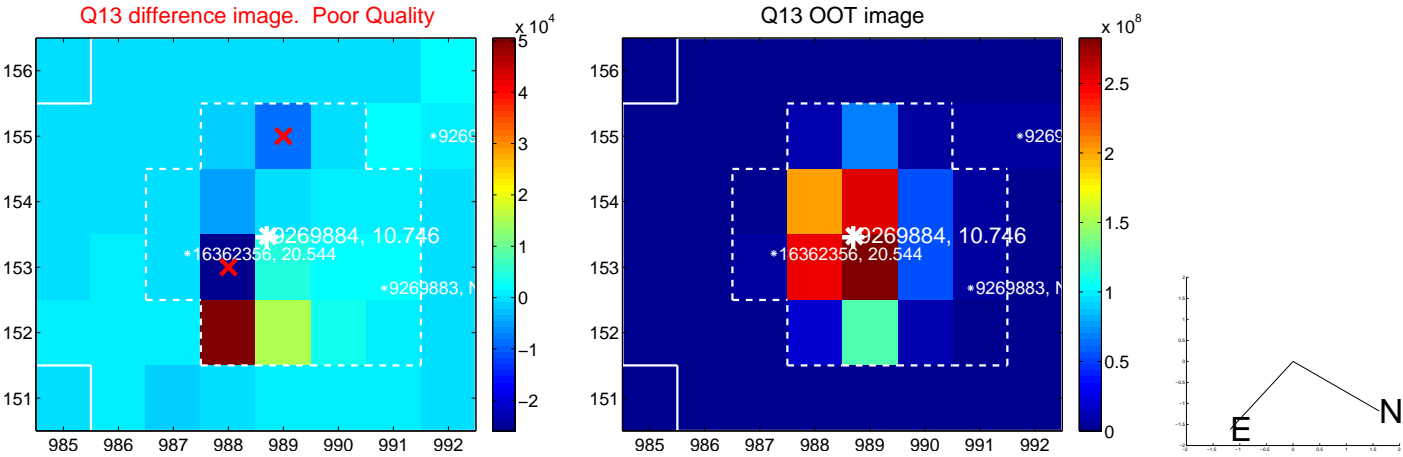
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



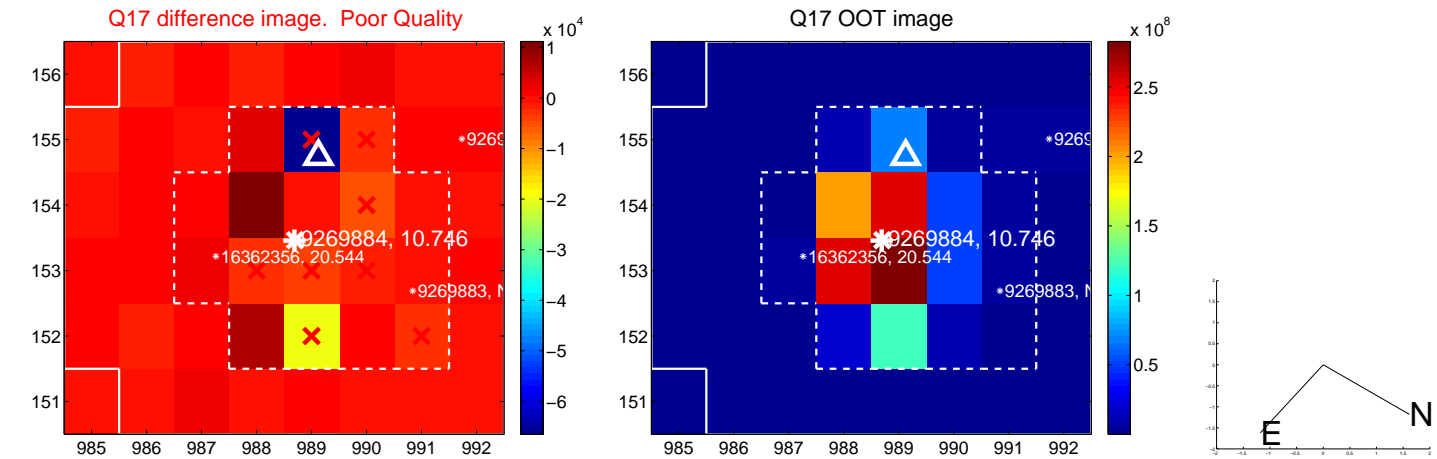
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



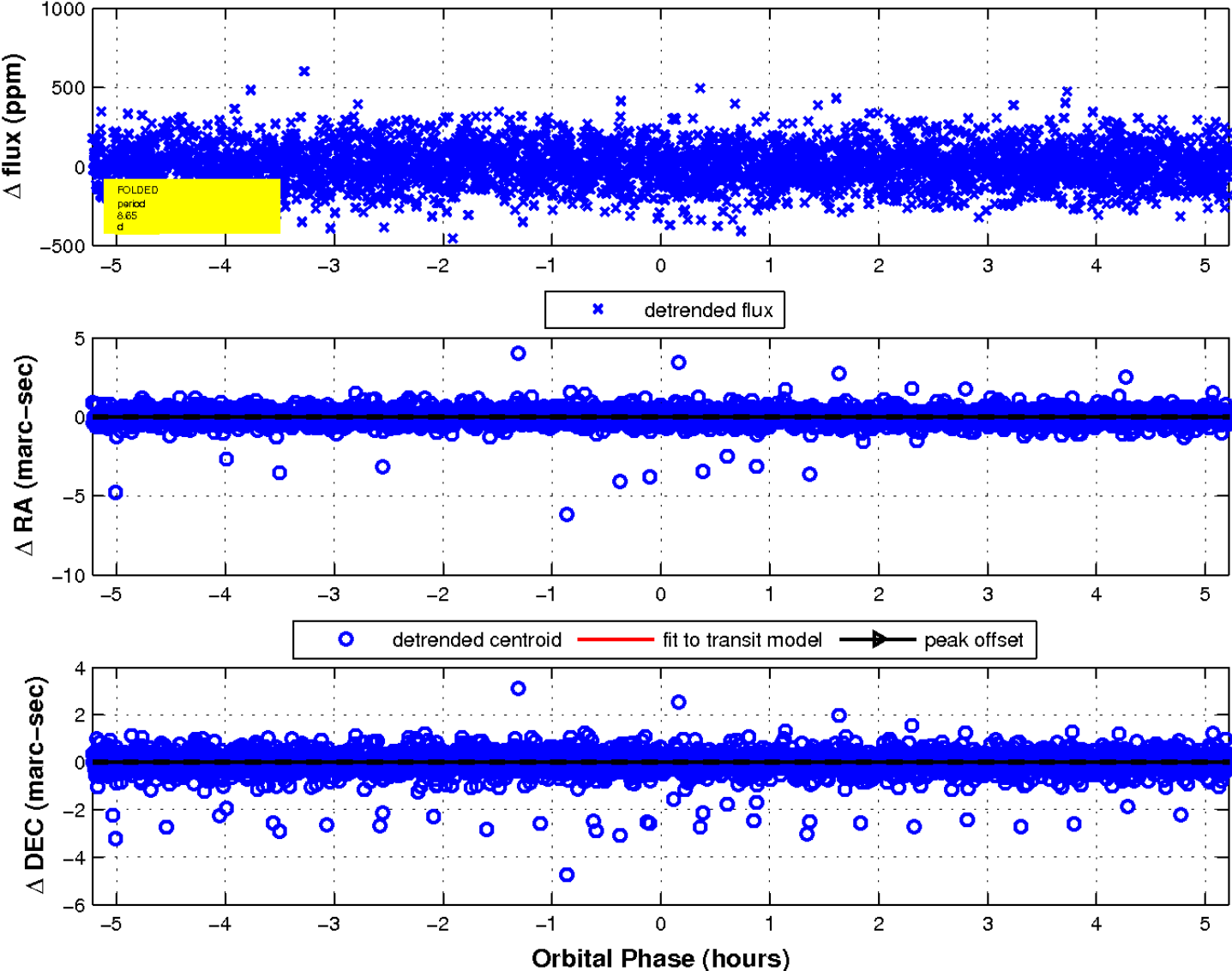
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



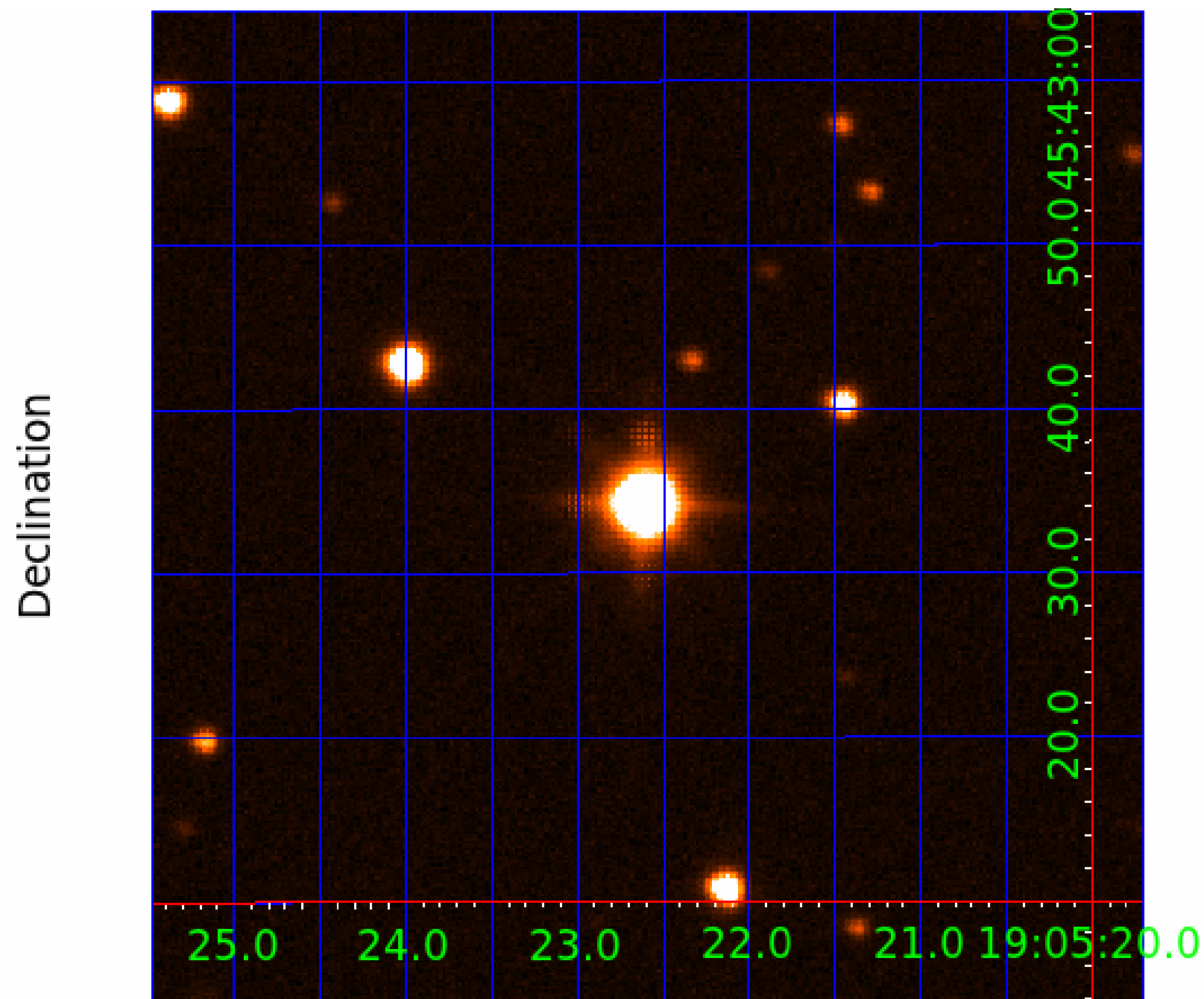
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 5 of 9



UKIRT Image



KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

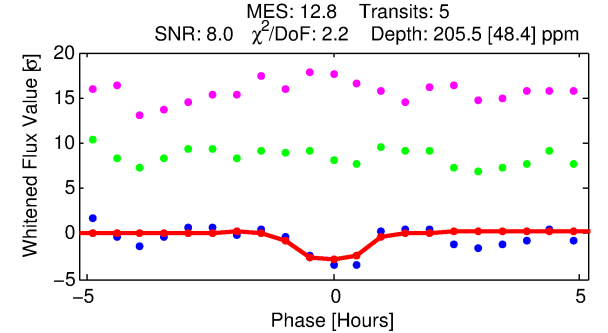
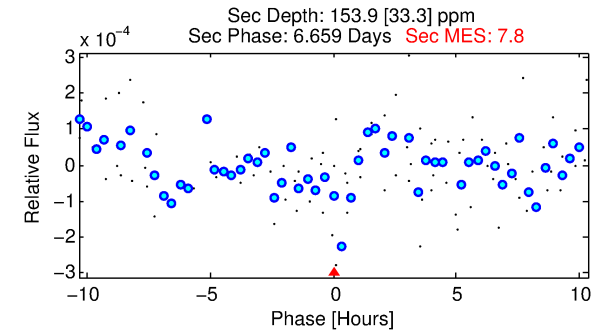
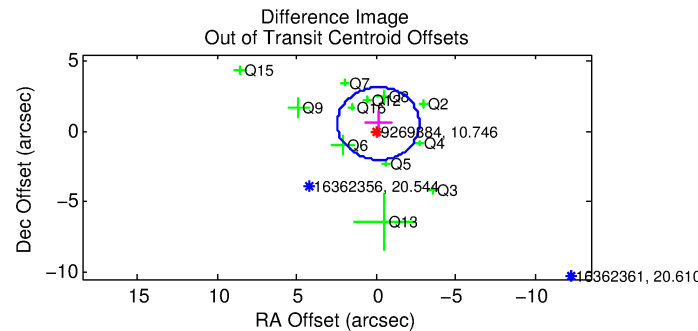
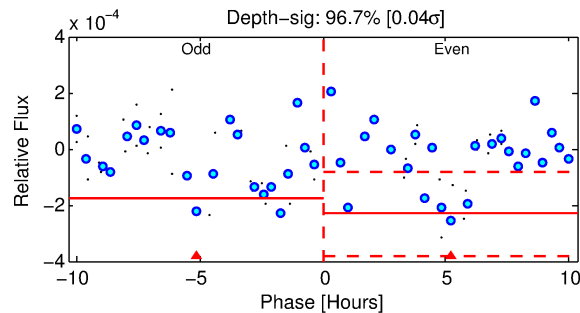
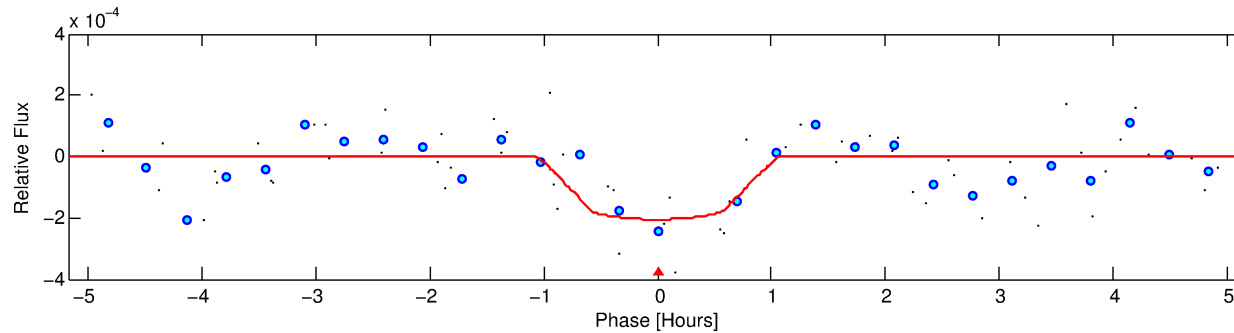
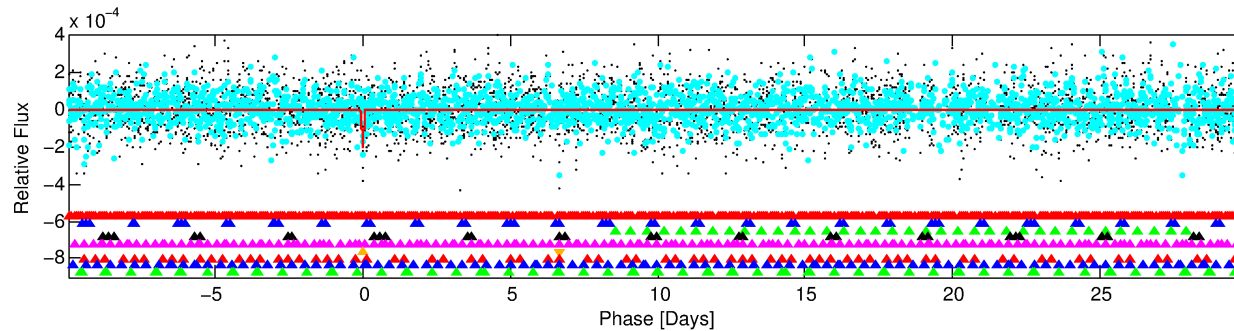
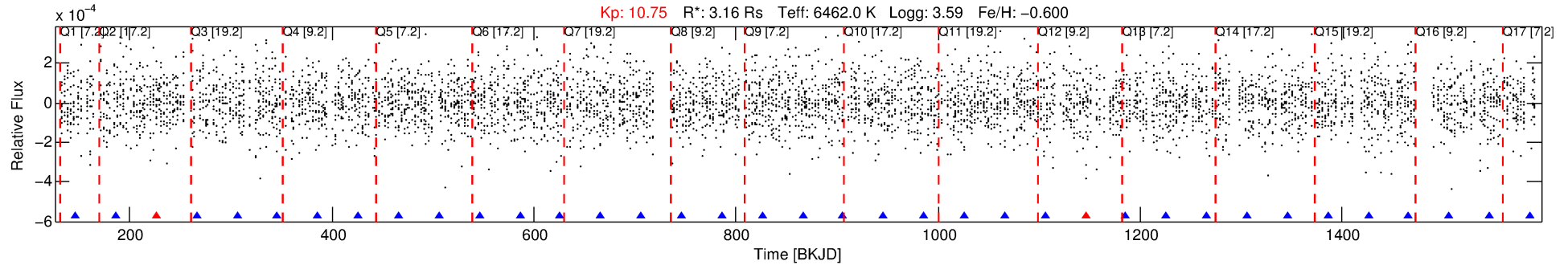
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-06

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 6 of 9 Period: 39.986 d



DV Fit Results:

Period = 39.98638 [0.00055] d
Epoch = 146.2291 [0.0089] BKJD
Rp/R* = 0.0145 [0.0186]
a/R* = 110.79 [777.66]
b = 0.80 [3.26]
Seff = 236.01 [145.86]
Teq = 999 [154] K
Rp = 5.01 [6.75] Re
a = 0.2571 [0.0991] AU
Ag = 222.86 [589.04] [0.38 σ]
Teffp = 5970 [3844] K [1.29 σ]

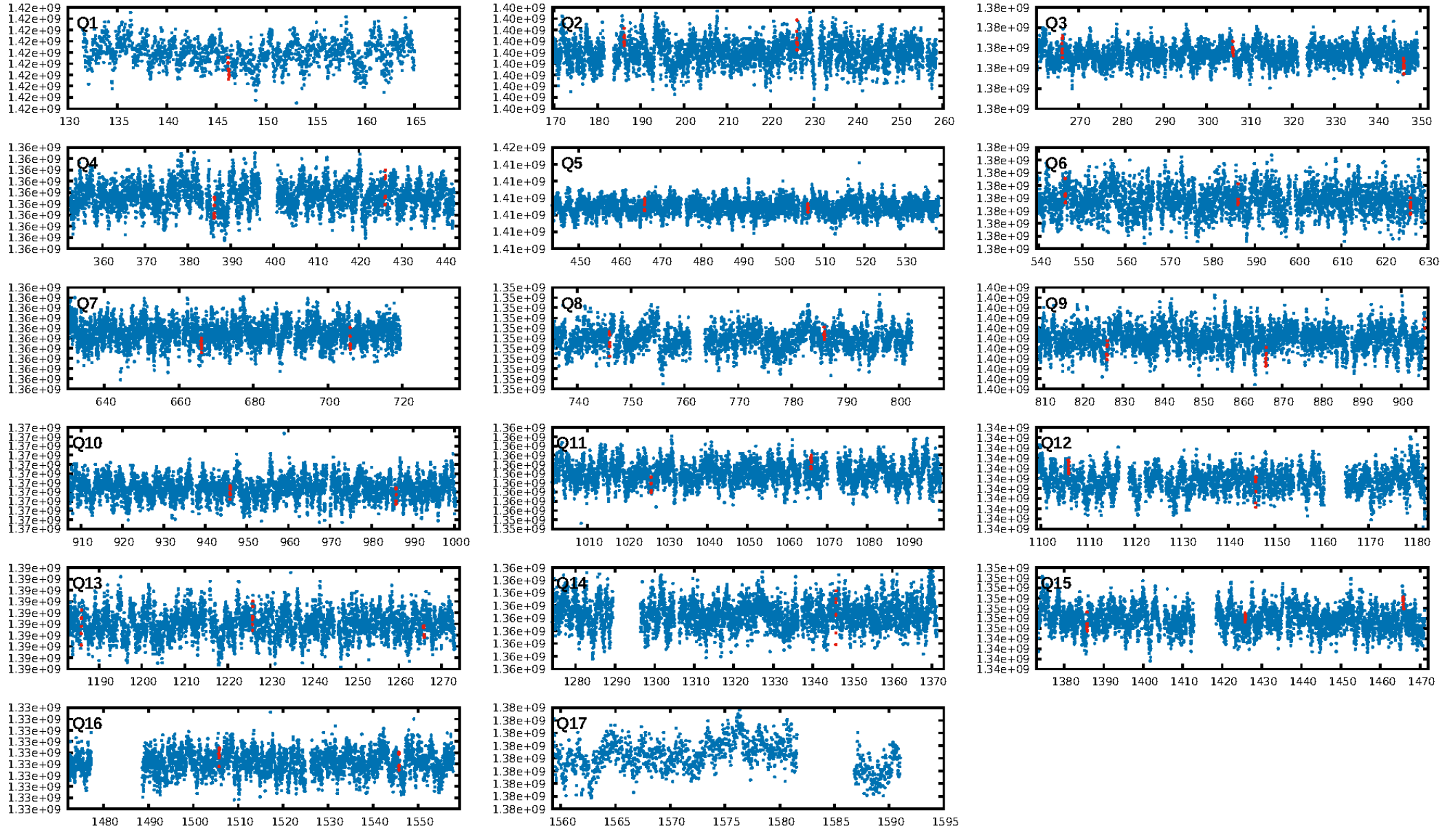
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [91.57 σ]
LongPeriod-sig: 77.0% [1.20 σ]
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 31.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.60 [3/5]
GhostDiagnostic-chr: -0.2553
Centroid-sig: 5.5%
Centroid-so: 1.031 arcsec [2.83 σ]
OotOffset-rm: 0.588 arcsec [0.68 σ]
OotOffset-st: 2/3/4/3 [12]
KicOffset-rm: 0.836 arcsec [0.96 σ]
KicOffset-st: 2/3/4/3 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 0.62 [10/16]

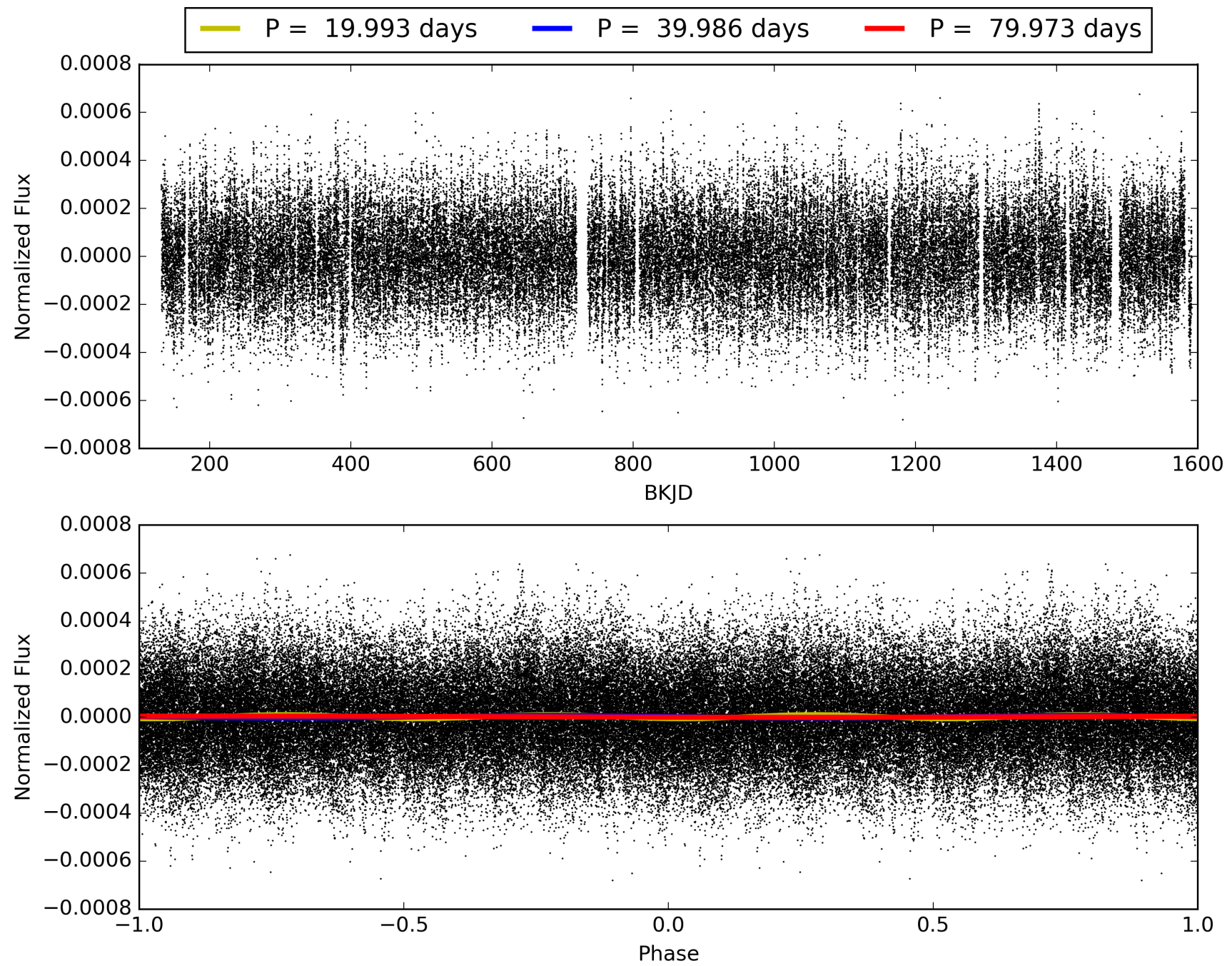
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:19 Z

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

TCE 009269884-06, PDC Light Curves

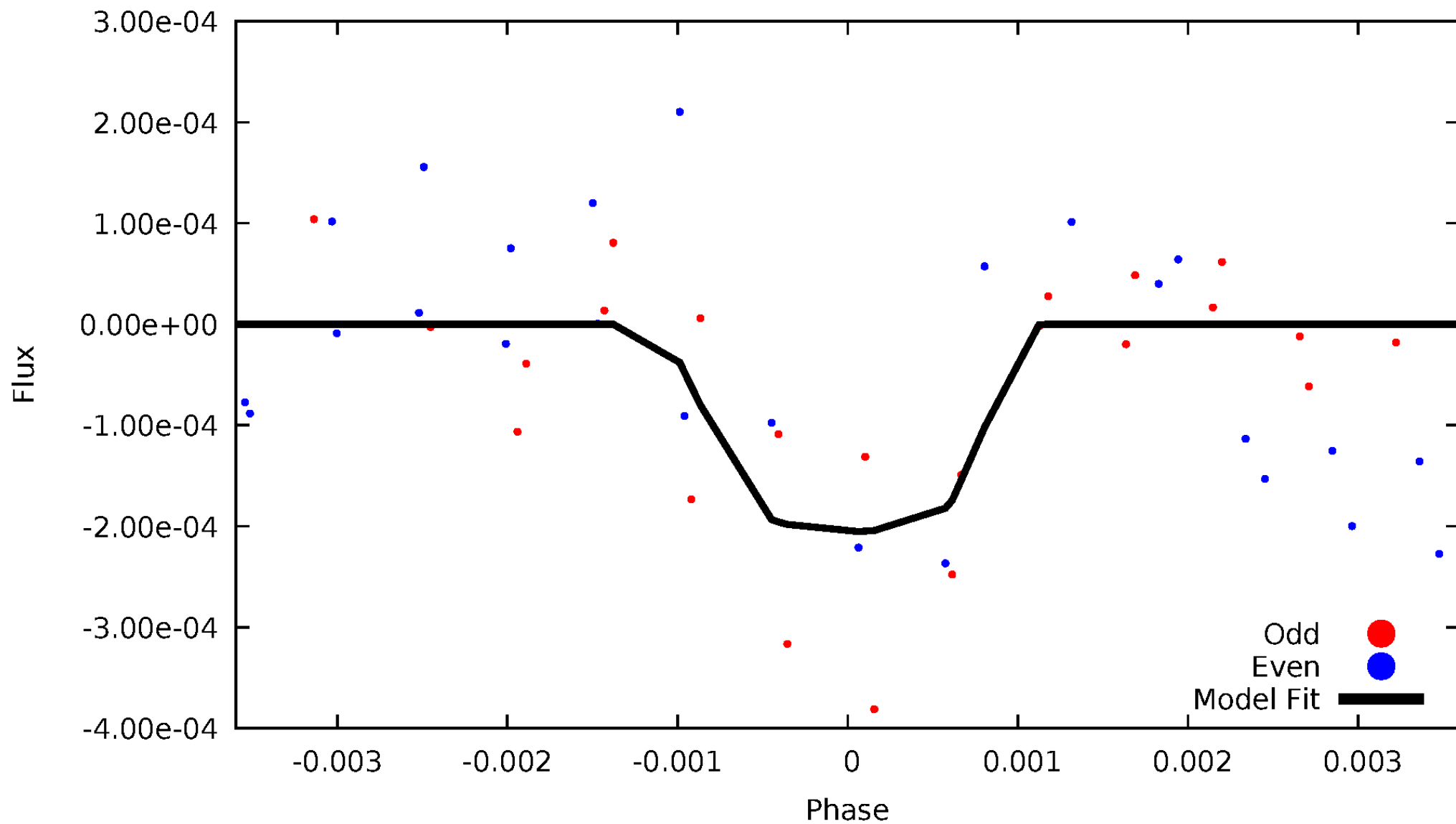


TCE 009269884-06



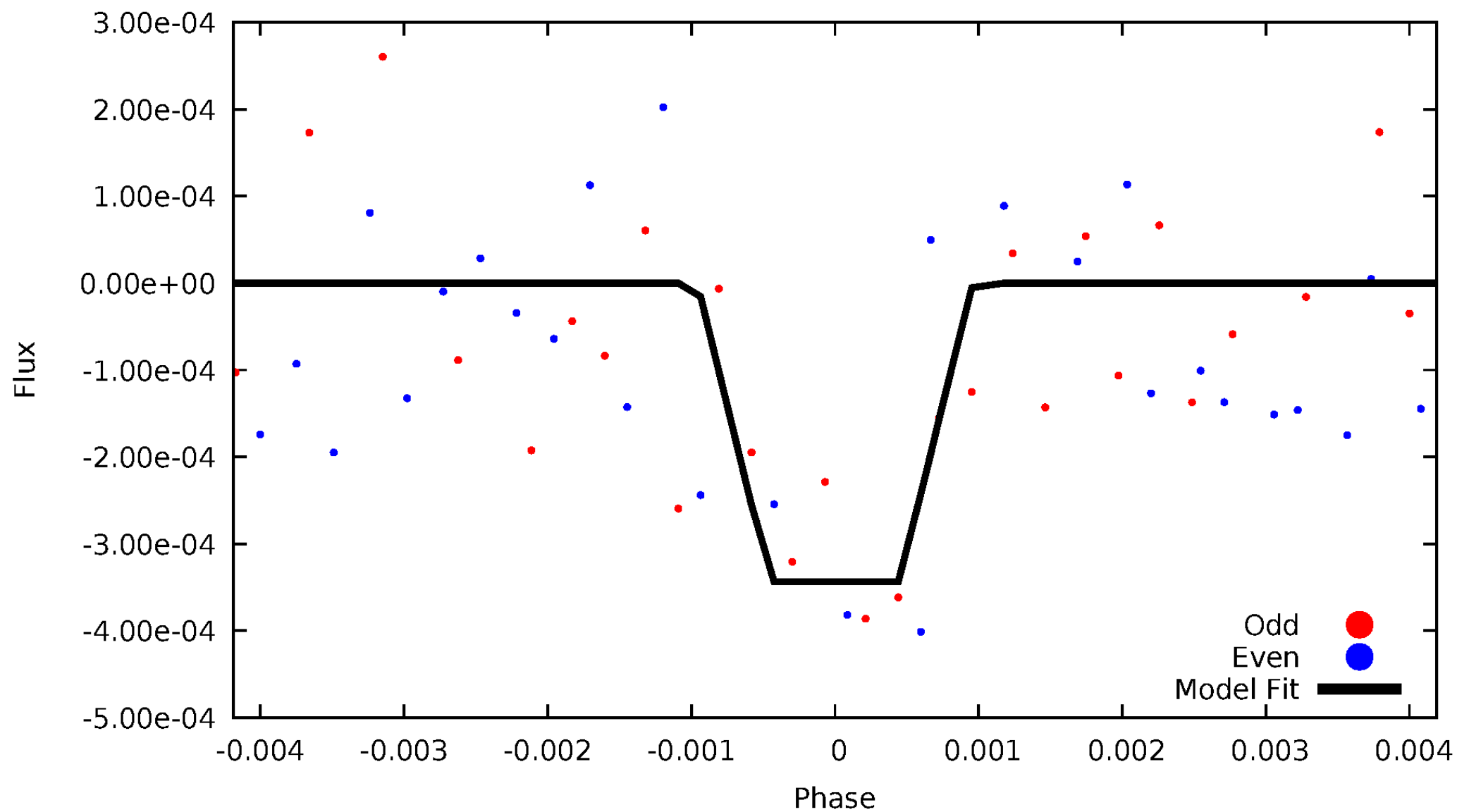
DV Odd/Even

TCE 009269884-06



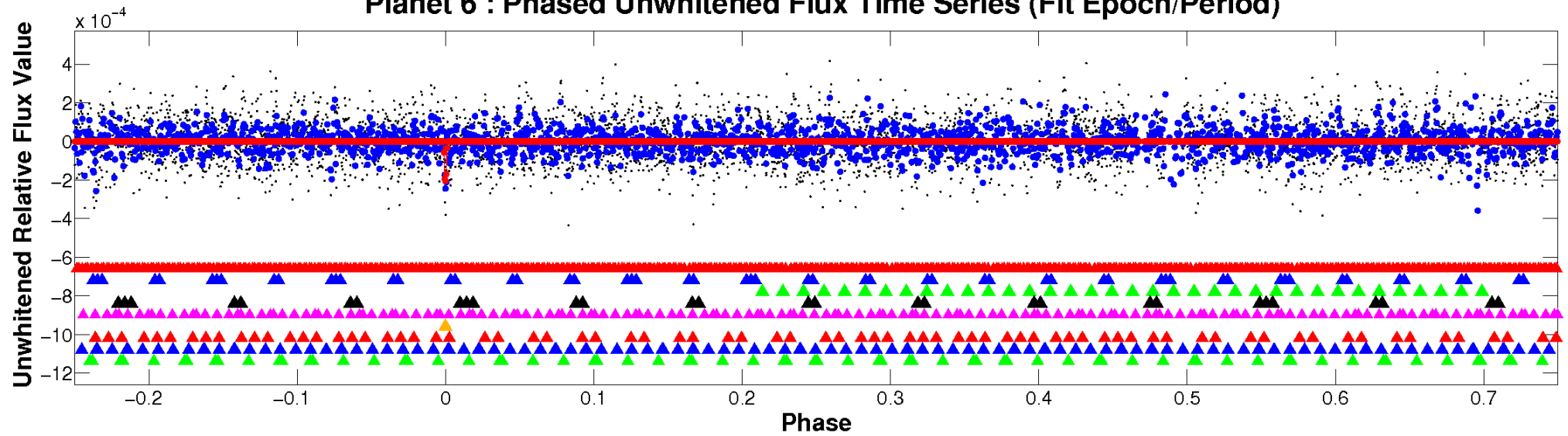
ALT Odd/Even

TCE 009269884-06

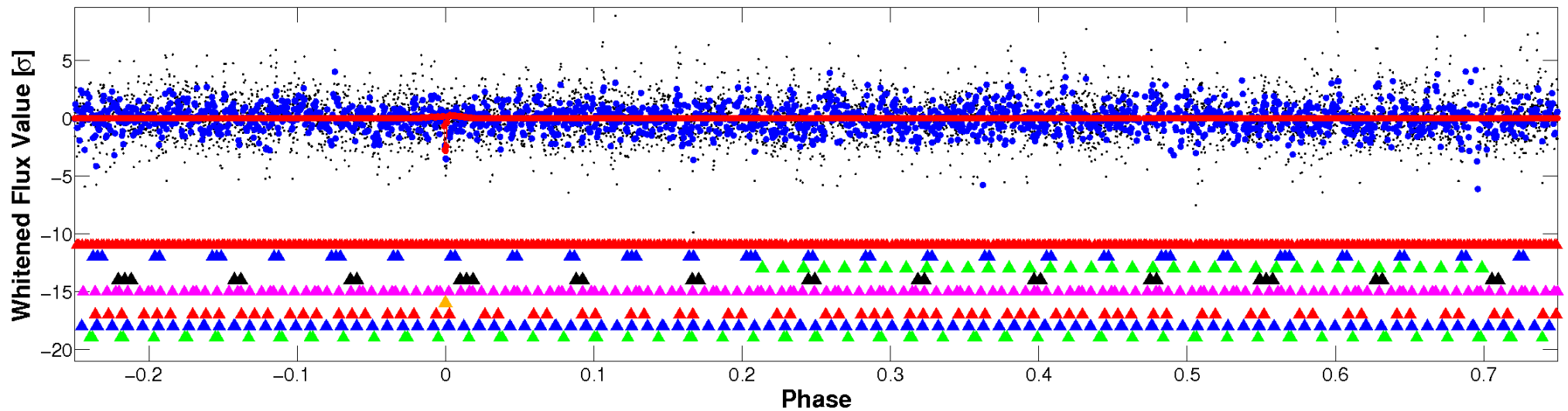


Non-Whitened Vs. Whitened Light Curve

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

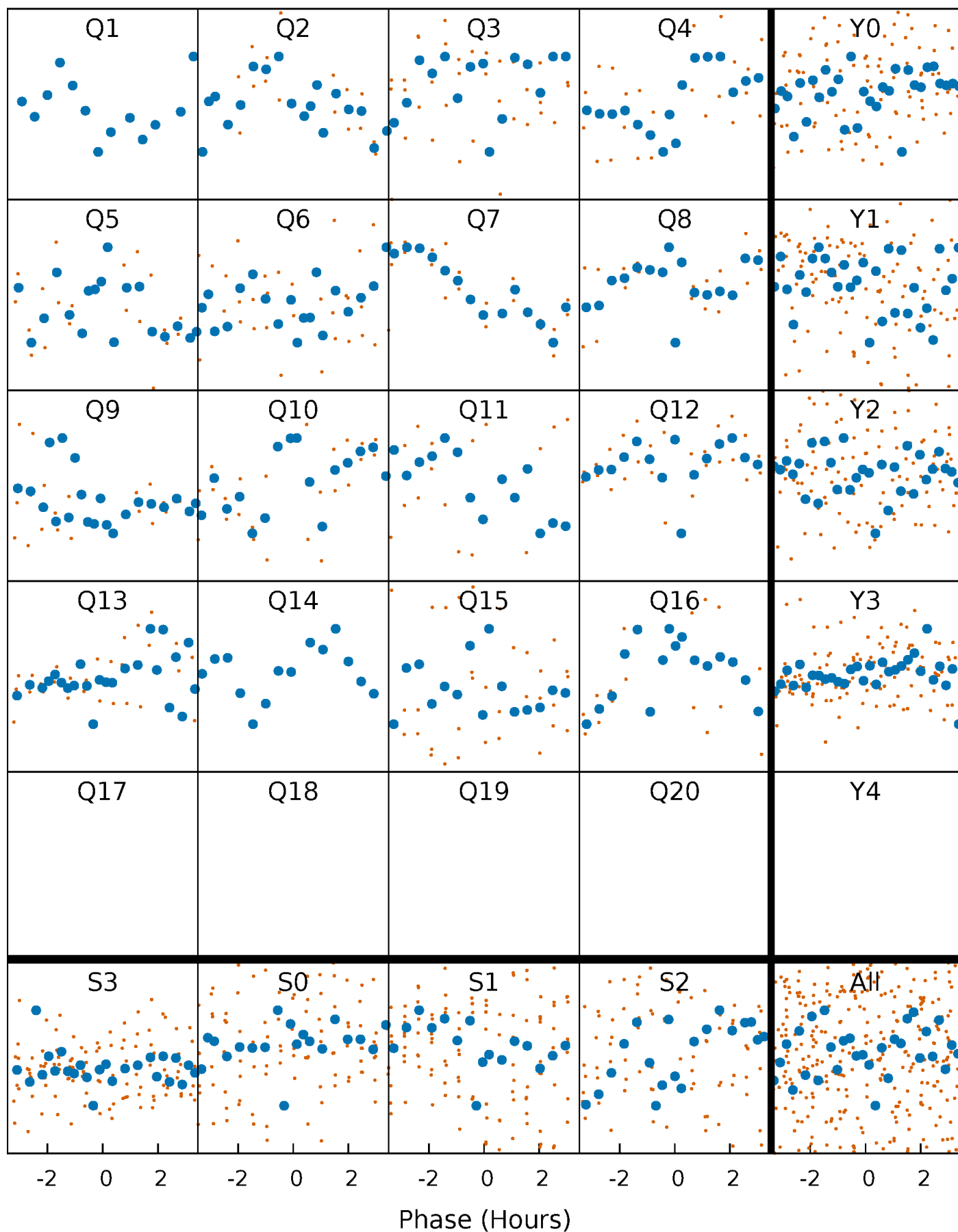


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



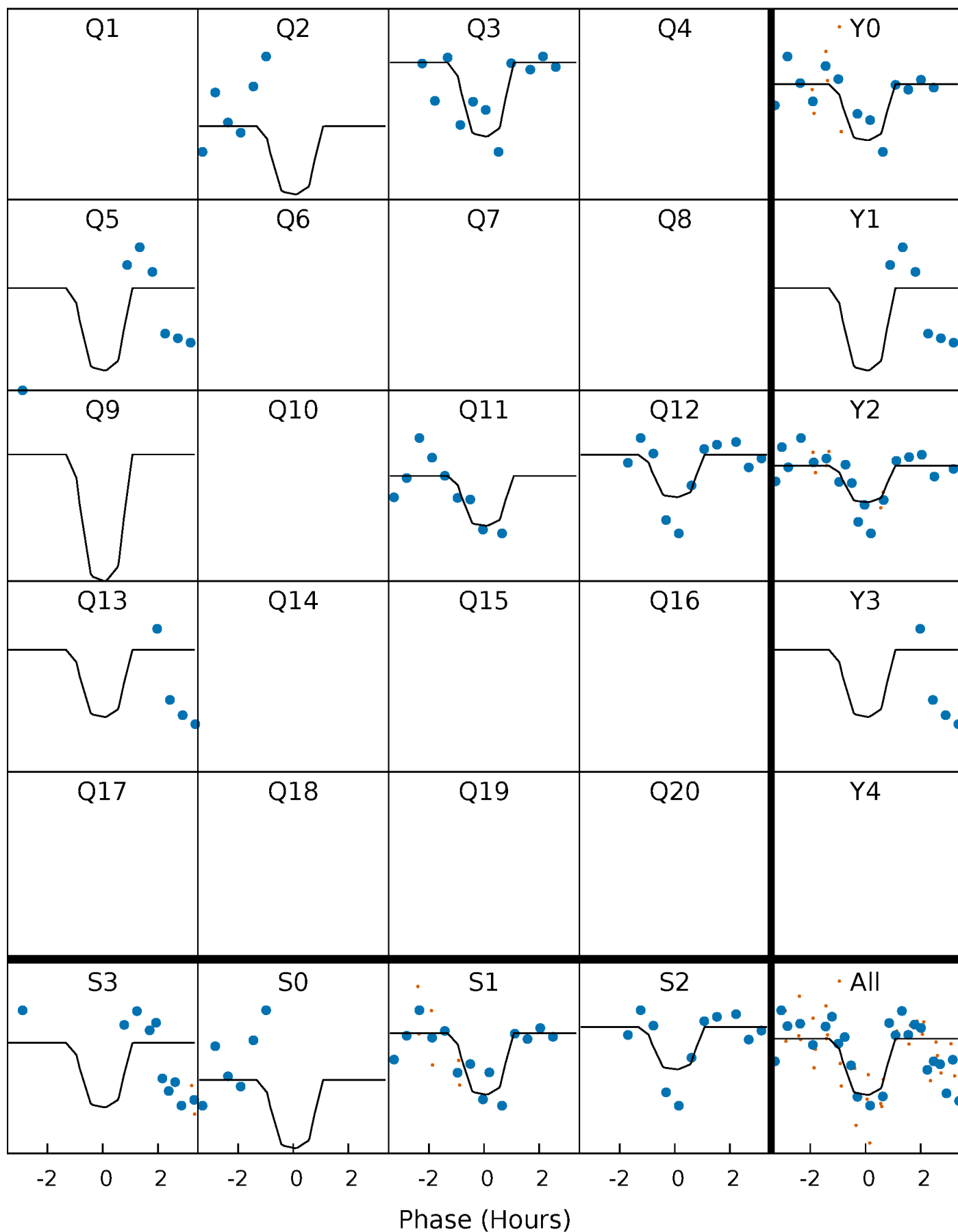
PDC Quarter-Phased Transit Curves

TCE 009269884-06 P= 39.986377 Days $T_0=146.229070$ (BKJD)



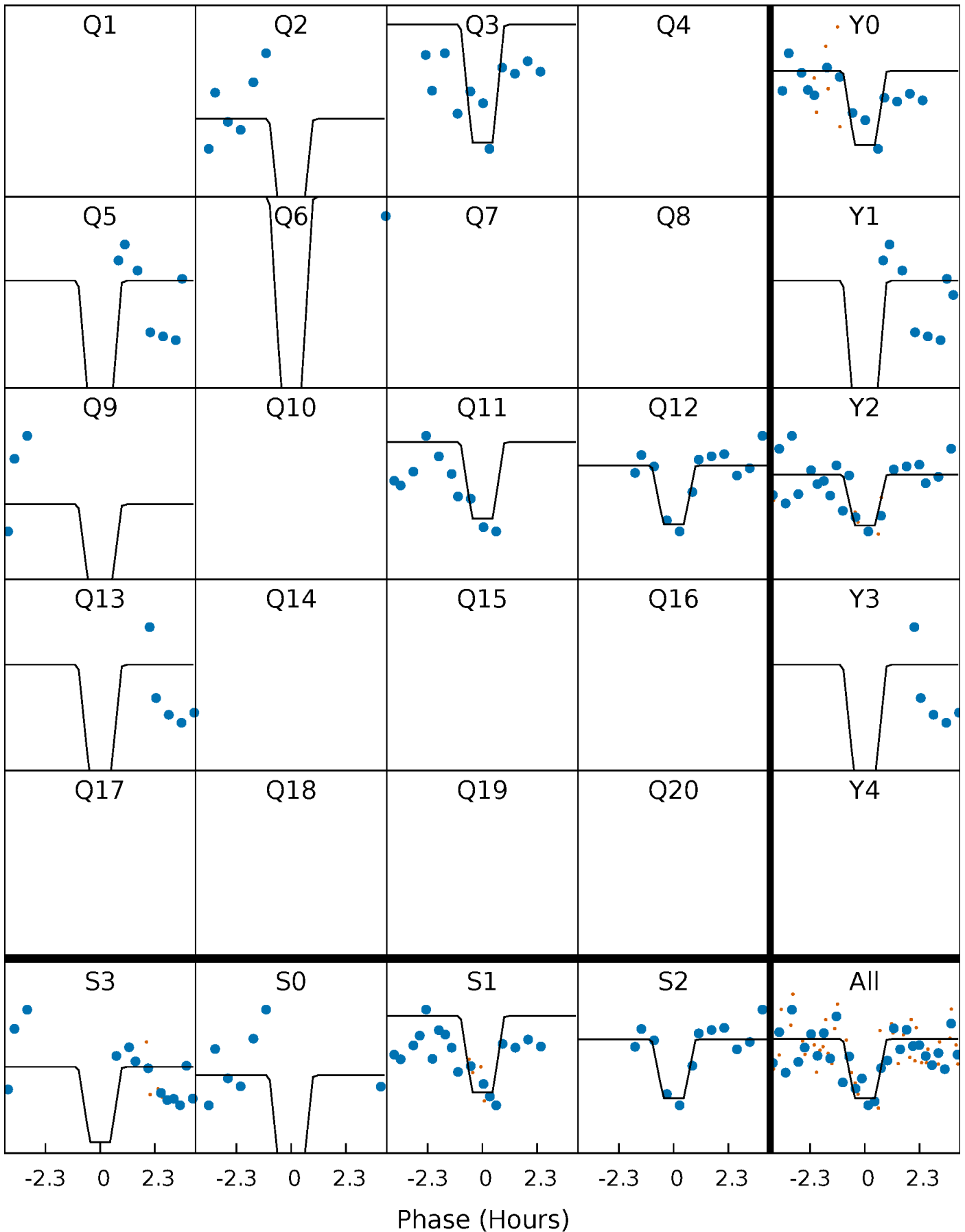
DV Quarter-Phased Transit Curves

TCE 009269884-06 P= 39.986377 Days $T_0=146.229070$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

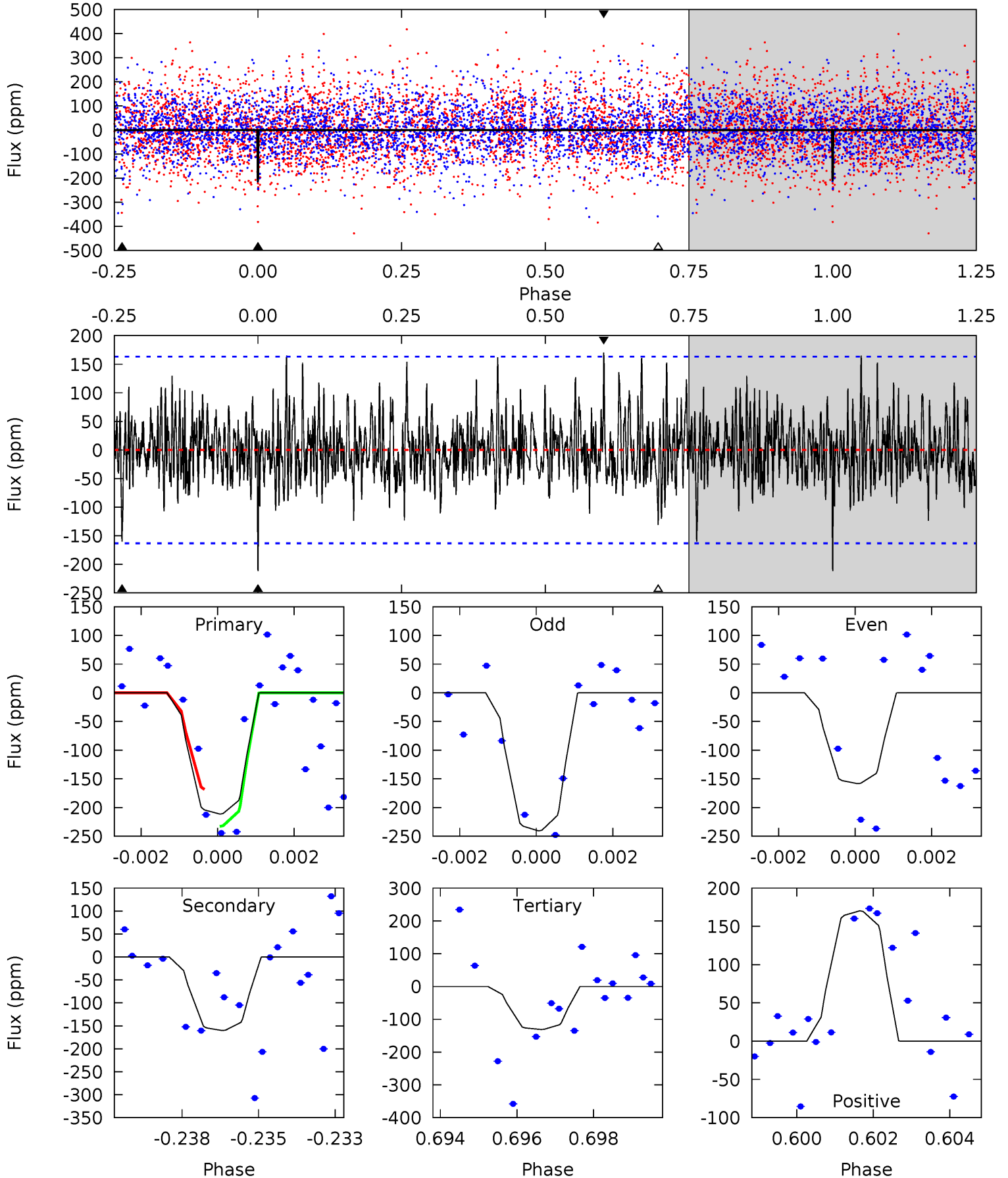
TCE 009269884-06 P= 39.985916 Days $T_0=146.238272$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-06, P = 39.986377 Days, E = 106.242693 Days

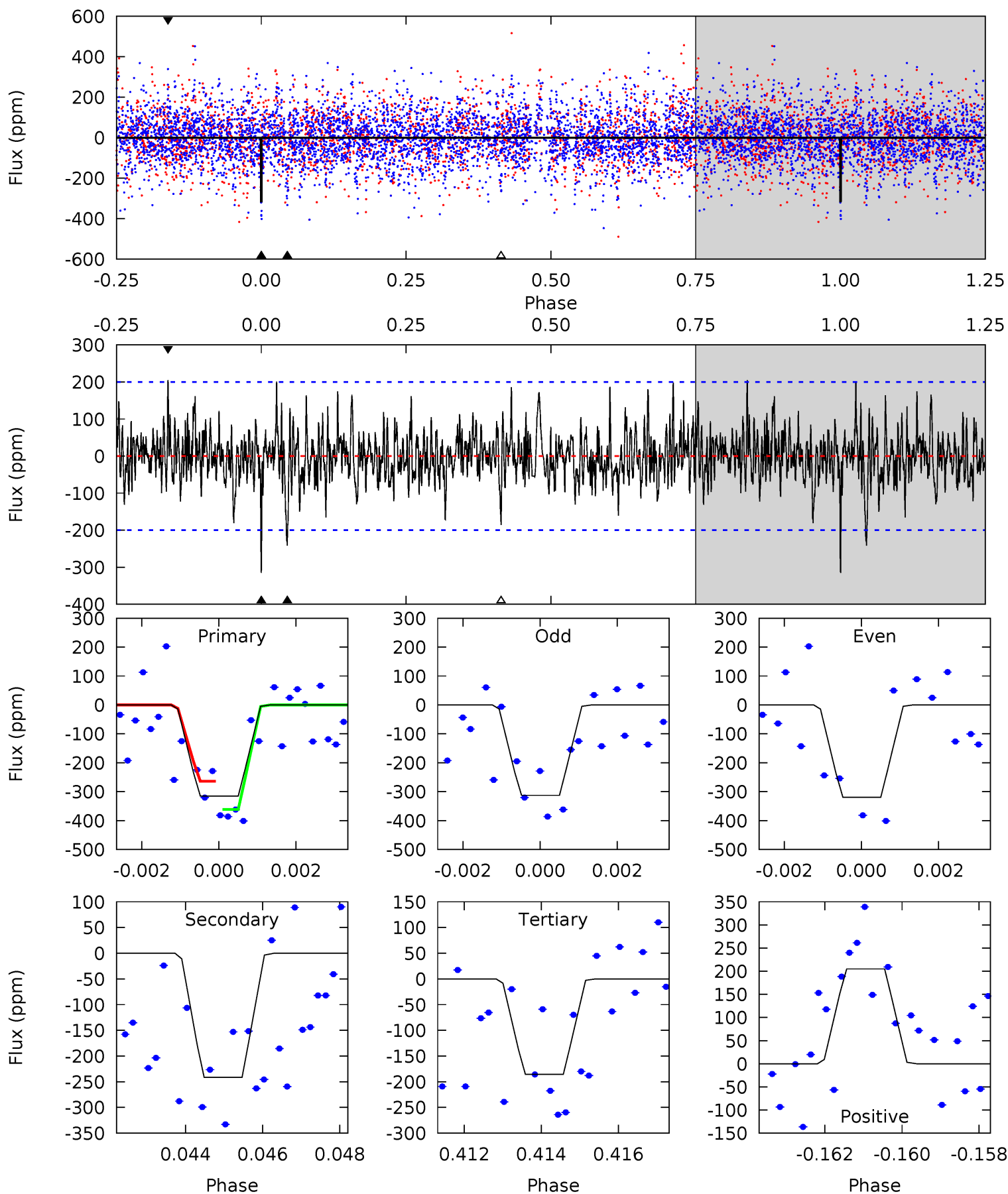
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.89	5.22	4.27	5.55	5.32	3.08	1.50	2.62	1.34	0.95	-0.33	1.37	1.14	0.45	1.04



Alt Model-Shift Uniqueness Test

009269884-06, P = 39.985916 Days, E = 106.252356 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.44	6.47	4.97	5.49	5.35	3.13	1.52	3.47	2.95	1.50	0.98	0.08	0.98	0.39	1.28



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-160 ± 31	$6.20^{+5.79}_{-4.02}$	1375^{+93}_{-135}	5276^{+3817}_{-1196}	149^{+1073}_{-109}
Alt.	-241 ± 37	$7.20^{+5.57}_{-4.32}$	1375^{+91}_{-136}	5402^{+3424}_{-1100}	165^{+909}_{-113}

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 $A_{obs} \gg 1.0$

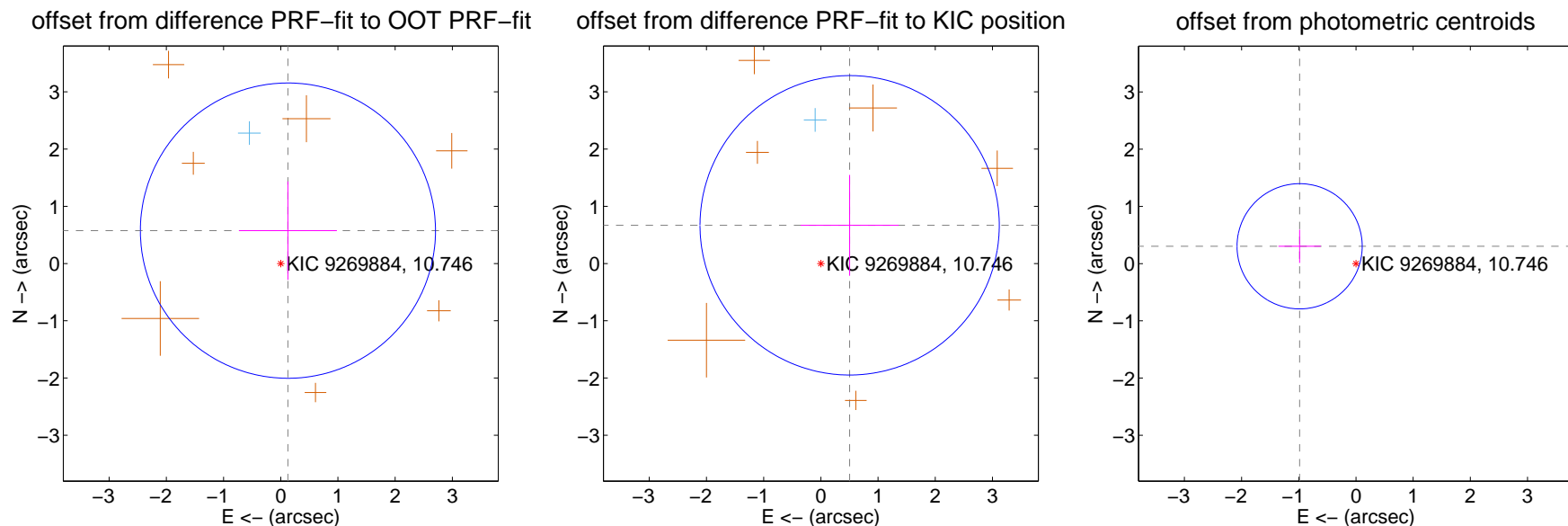
DV Centroid Data

Supplemental centroid analysis for 009269884-06. **Kepler magnitude: 10.75.** Transit SNR 7.99

There are 1 quarters with good PRF difference image offsets

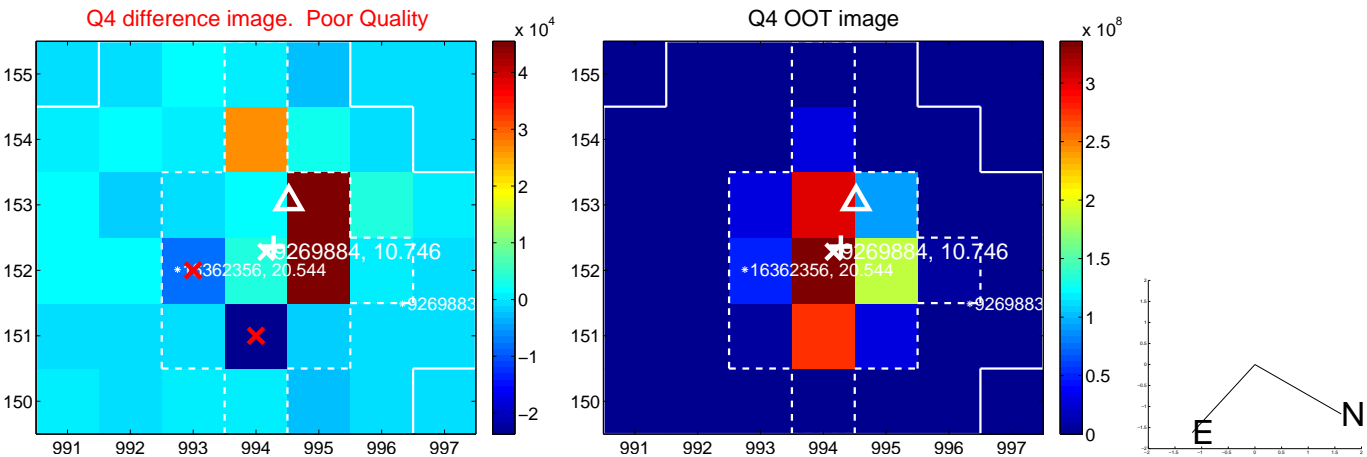
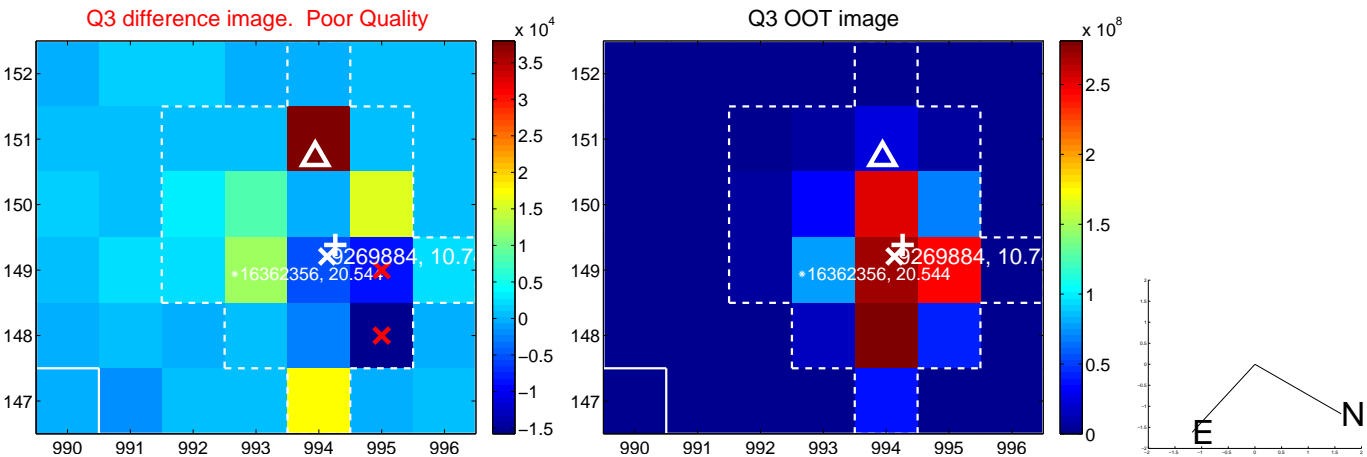
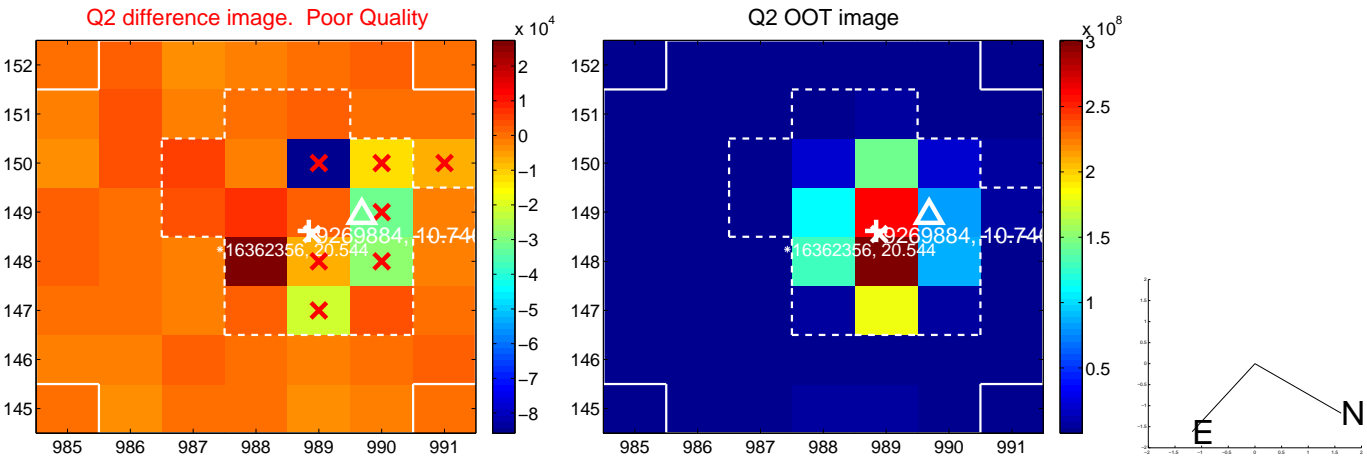
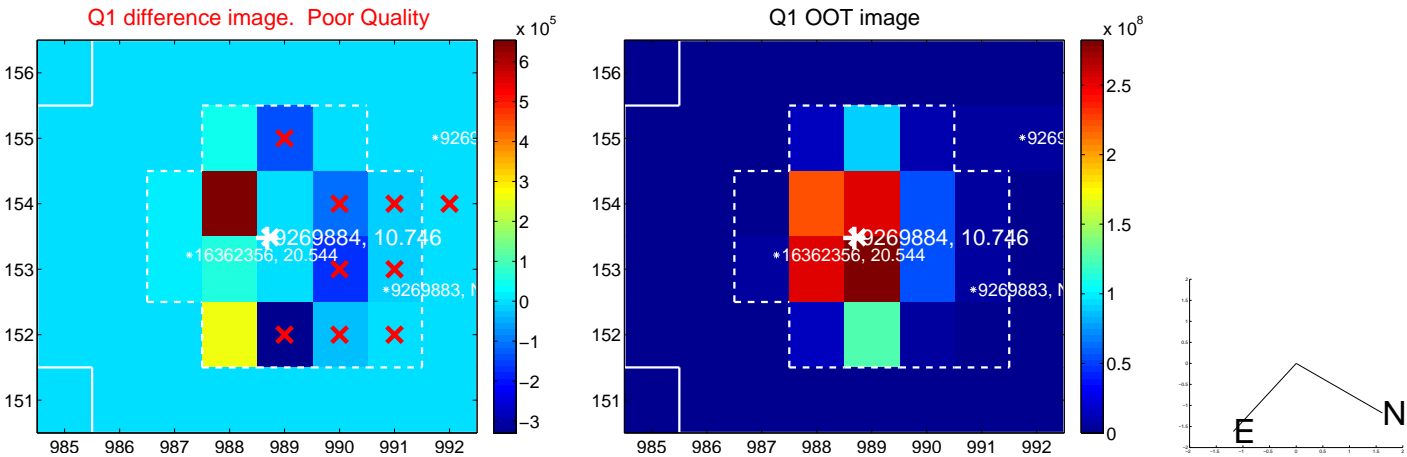
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.588 ± 0.860	0.68	-0.126 ± 0.855	0.575 ± 0.860
PRF-fit source offset from KIC position	0.836 ± 0.872	0.96	-0.503 ± 0.856	0.668 ± 0.880
photometric centroid source offset	1.03 ± 0.36	2.83	0.99 ± 0.37	0.30 ± 0.29

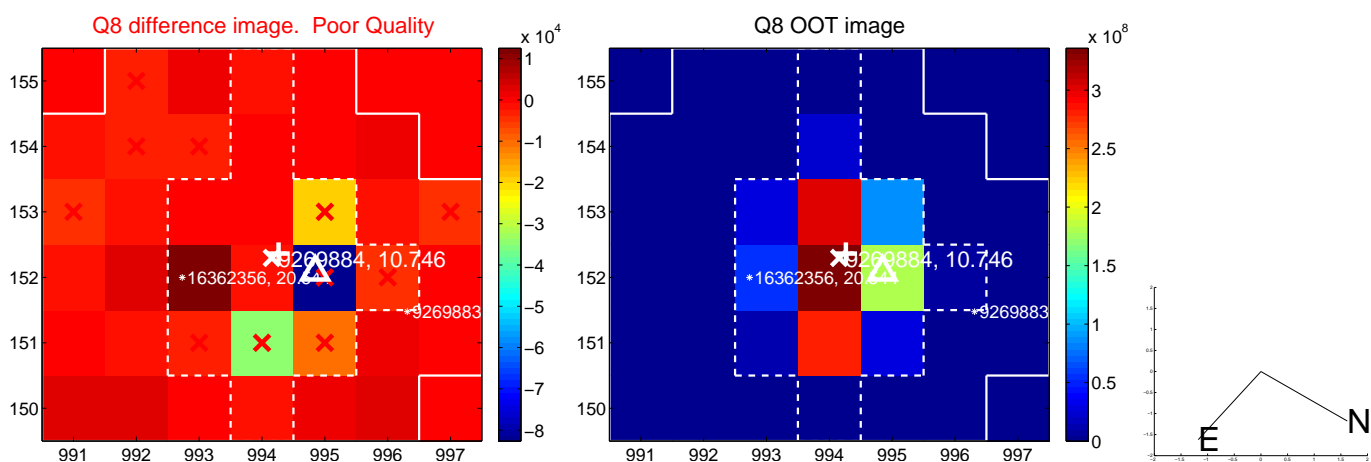
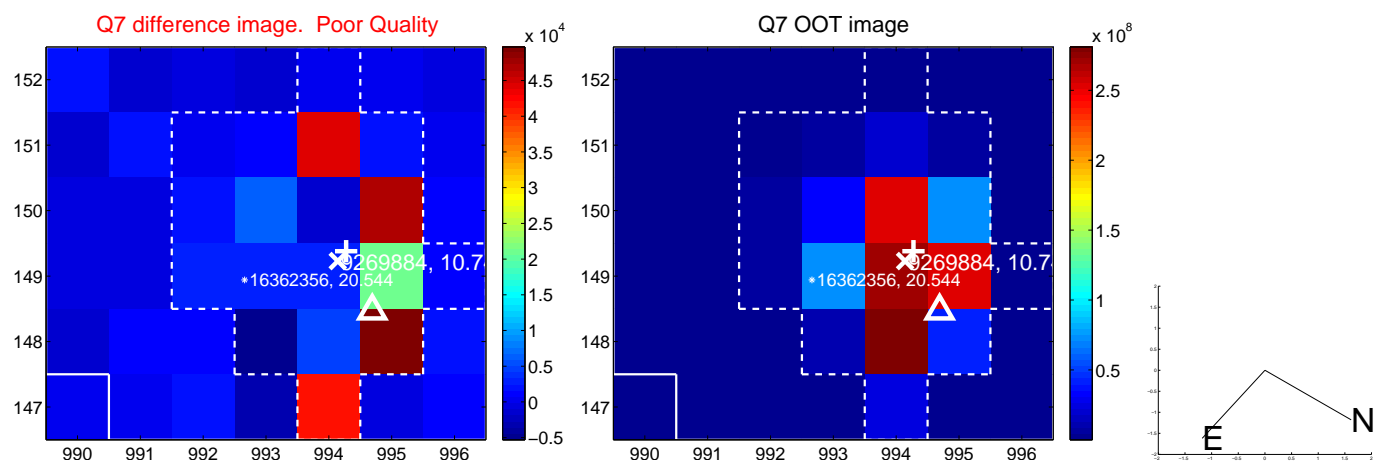
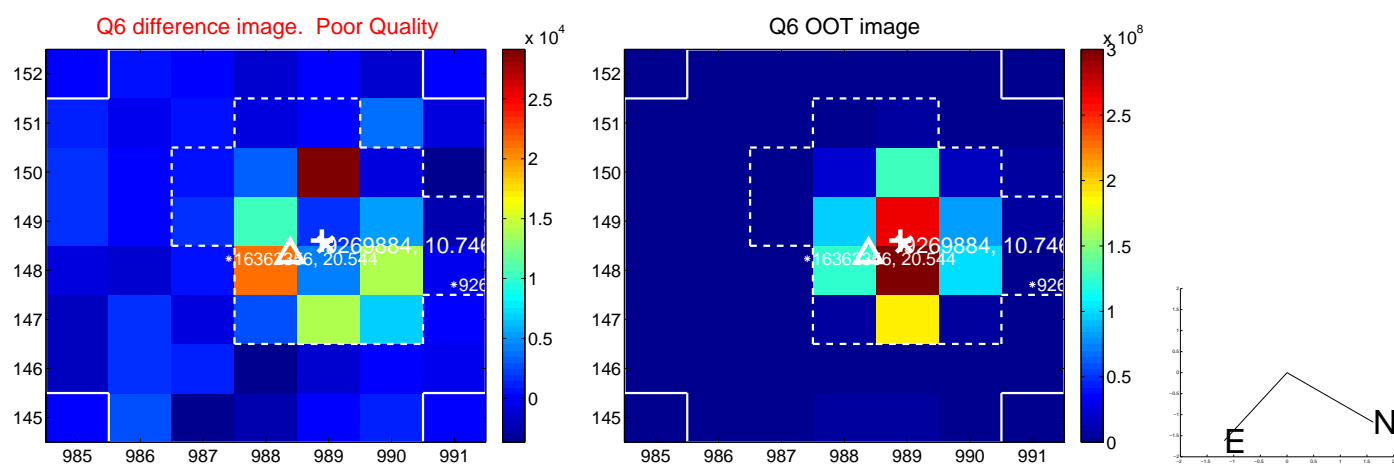
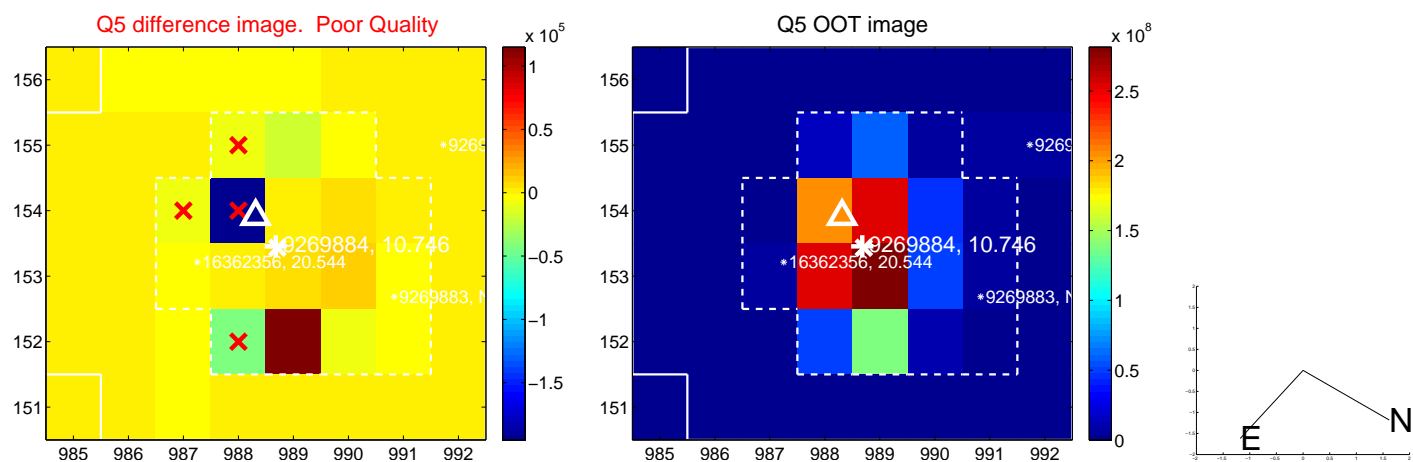


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

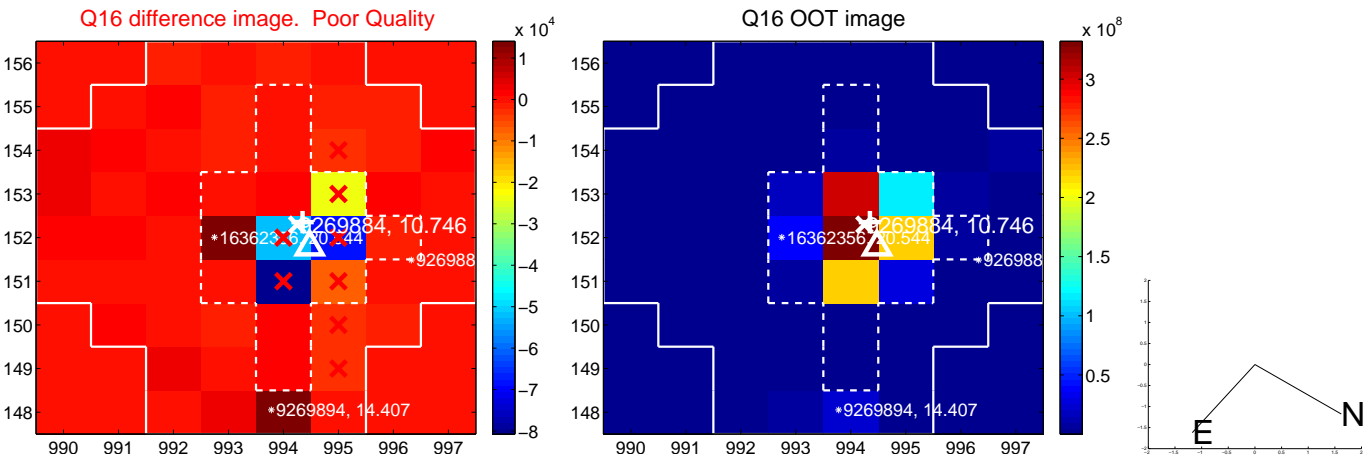
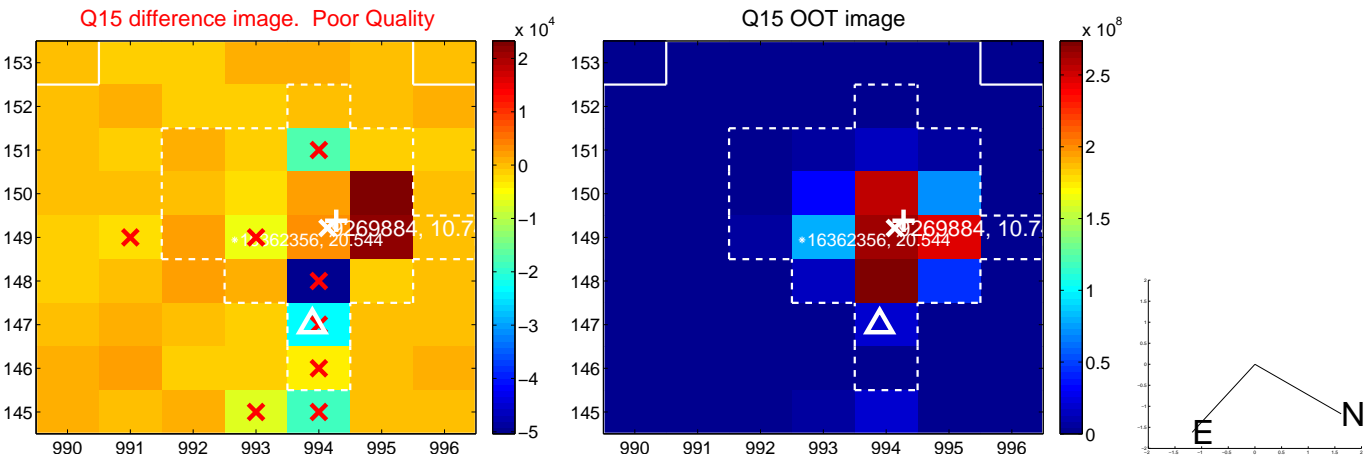
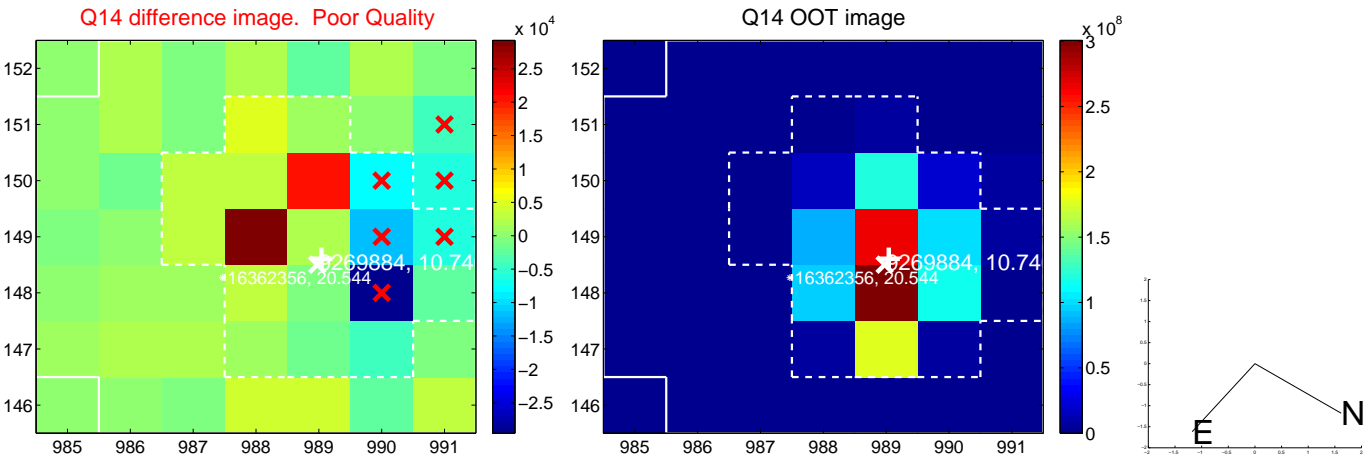
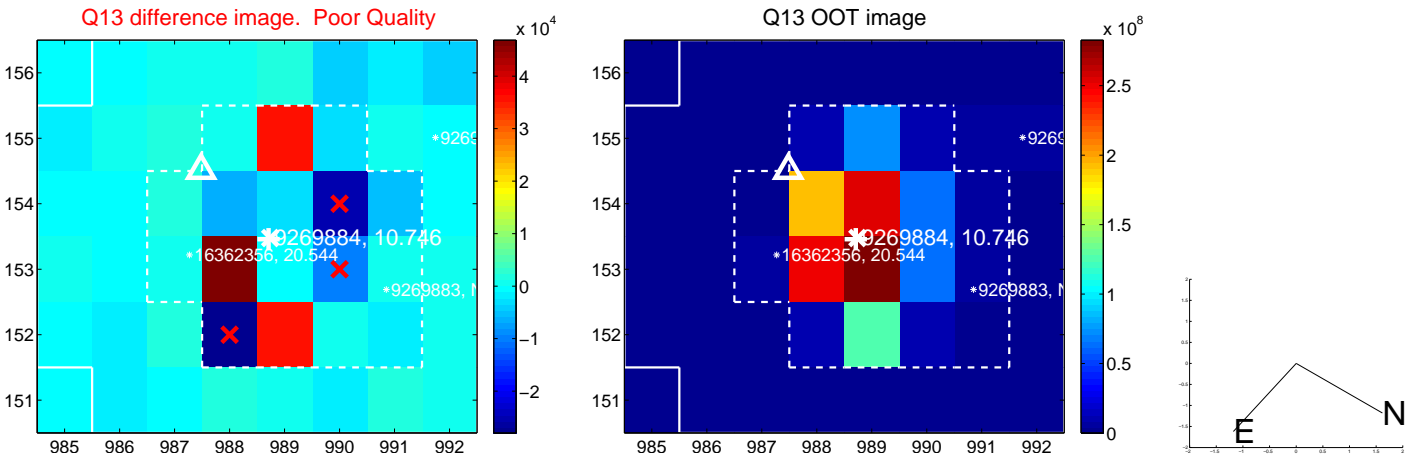
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



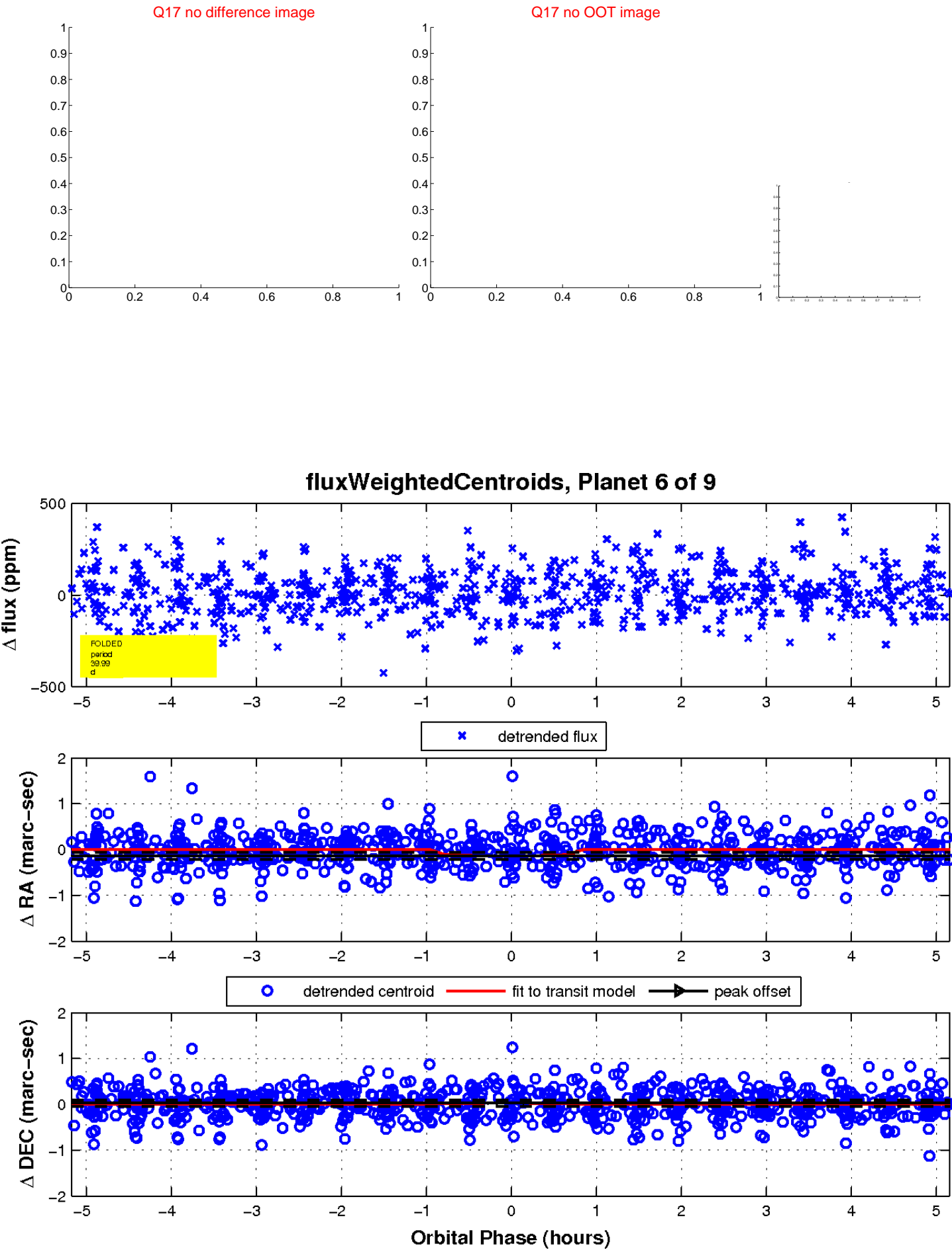
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



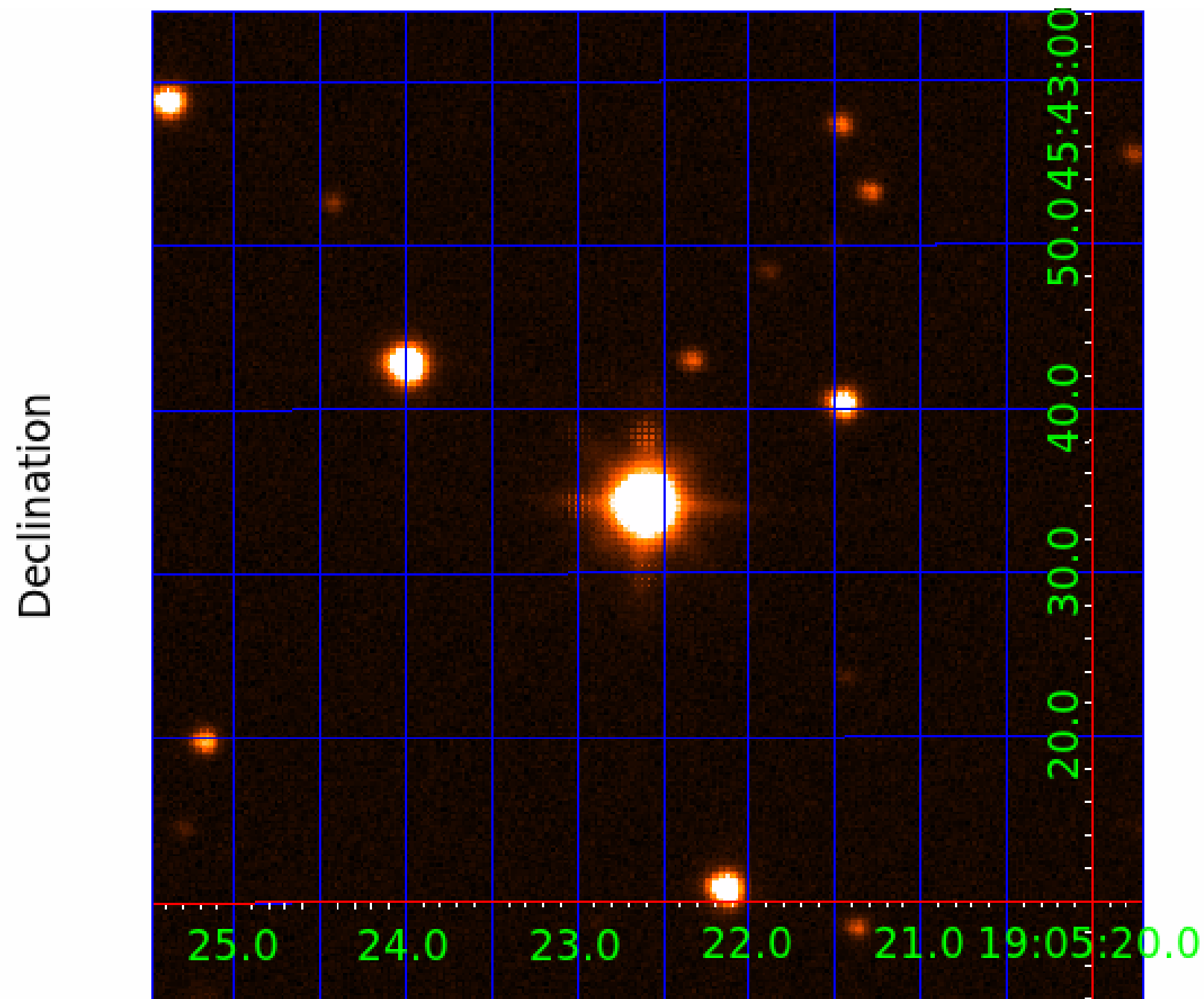
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

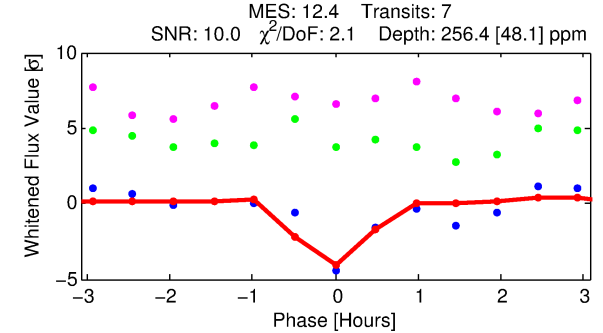
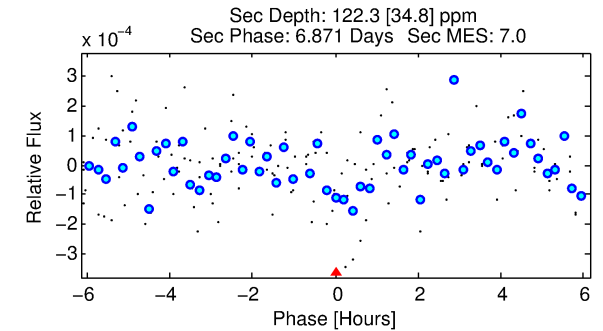
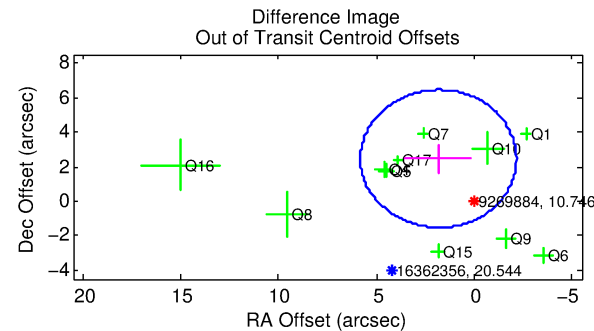
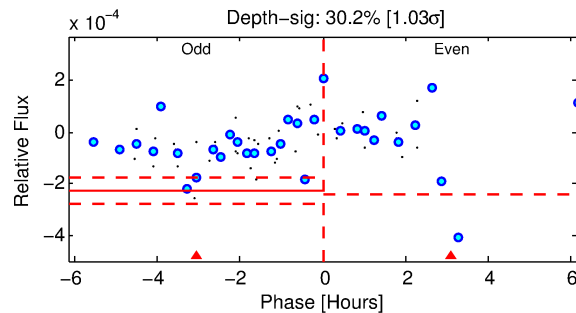
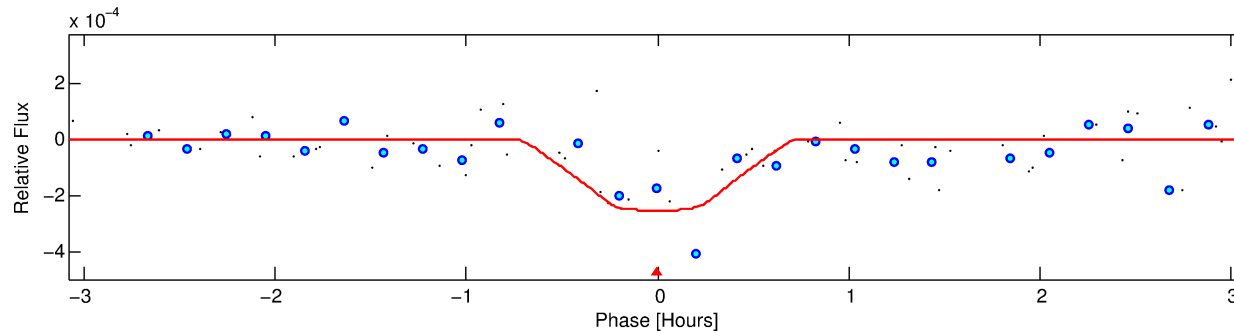
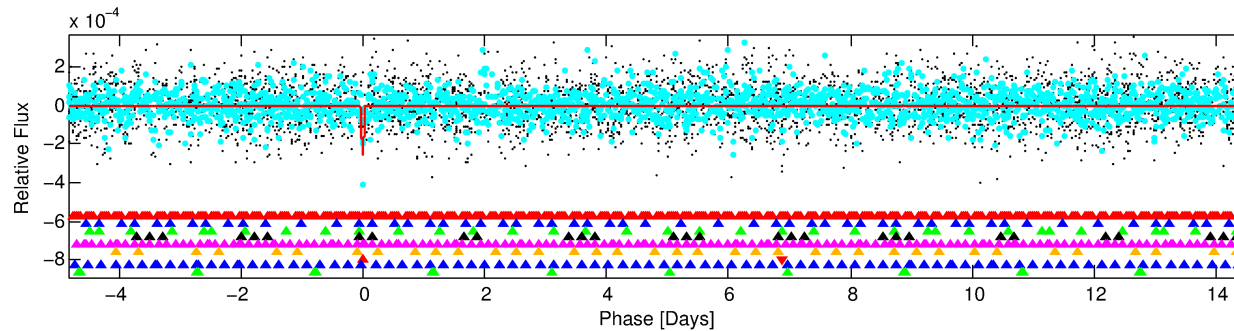
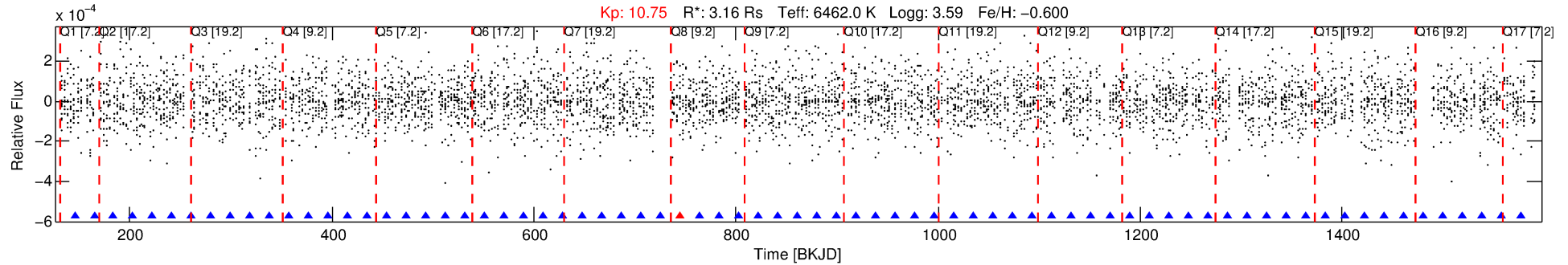
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-07

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 7 of 9 Period: 19.337 d



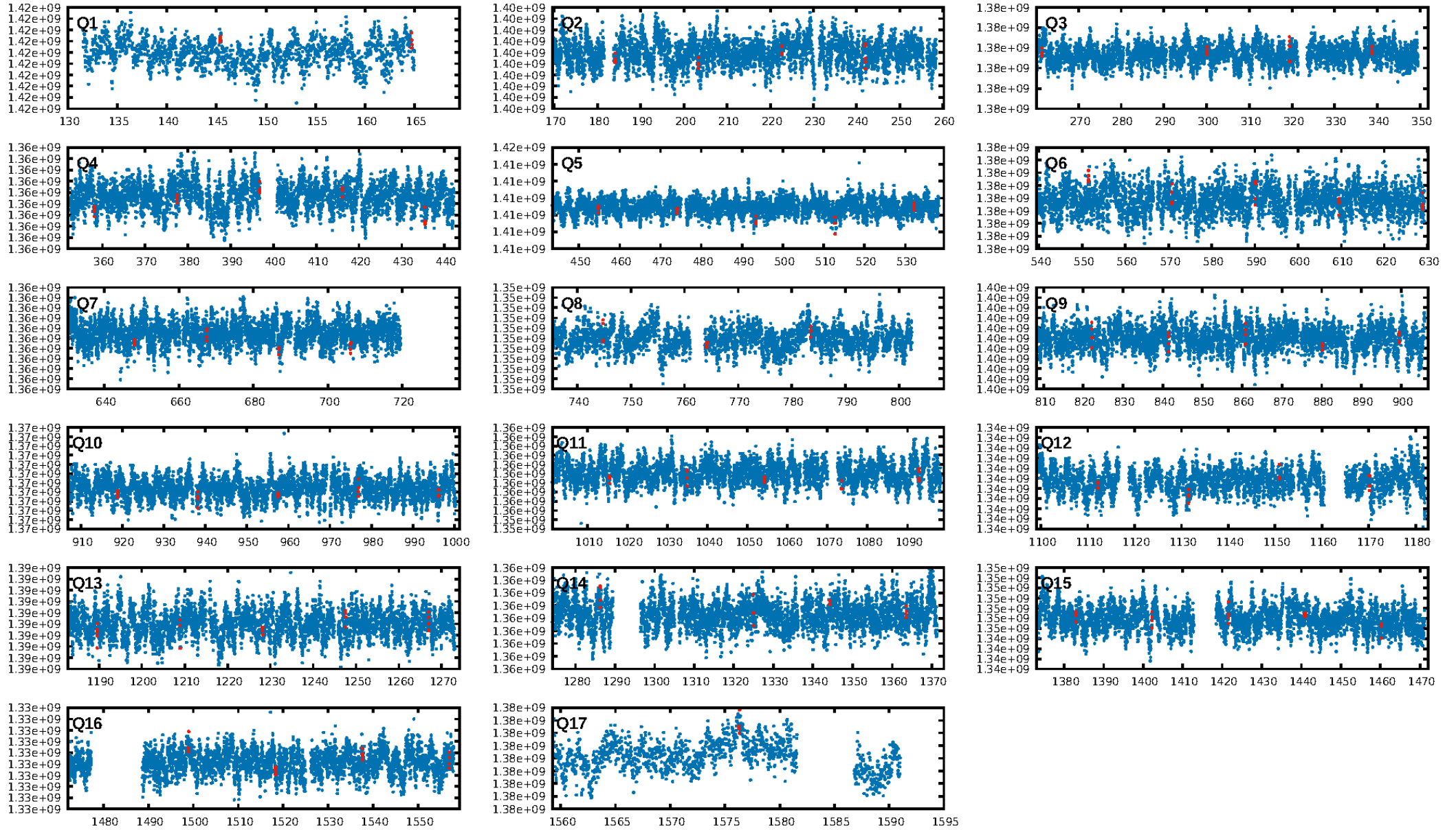
DV Fit Results:

Period = 19.33679 [0.00016] d
Epoch = 145.3764 [0.0069] BKJD
 $R_p/R^* = 0.0169$ [0.0294]
 $a/R^* = 75.18$ [755.41]
 $b = 0.87$ [2.81]
 $\text{Seff} = 621.79$ [384.28]
 $T_{\text{eq}} = 1273$ [197] K
 $R_p = 5.83$ [10.40] R_e
 $a = 0.1584$ [0.0611] AU
 $A_g = 49.59$ [175.23] [0.28 σ]
 $T_{\text{eff}} = 5224$ [4549] K [0.87 σ]

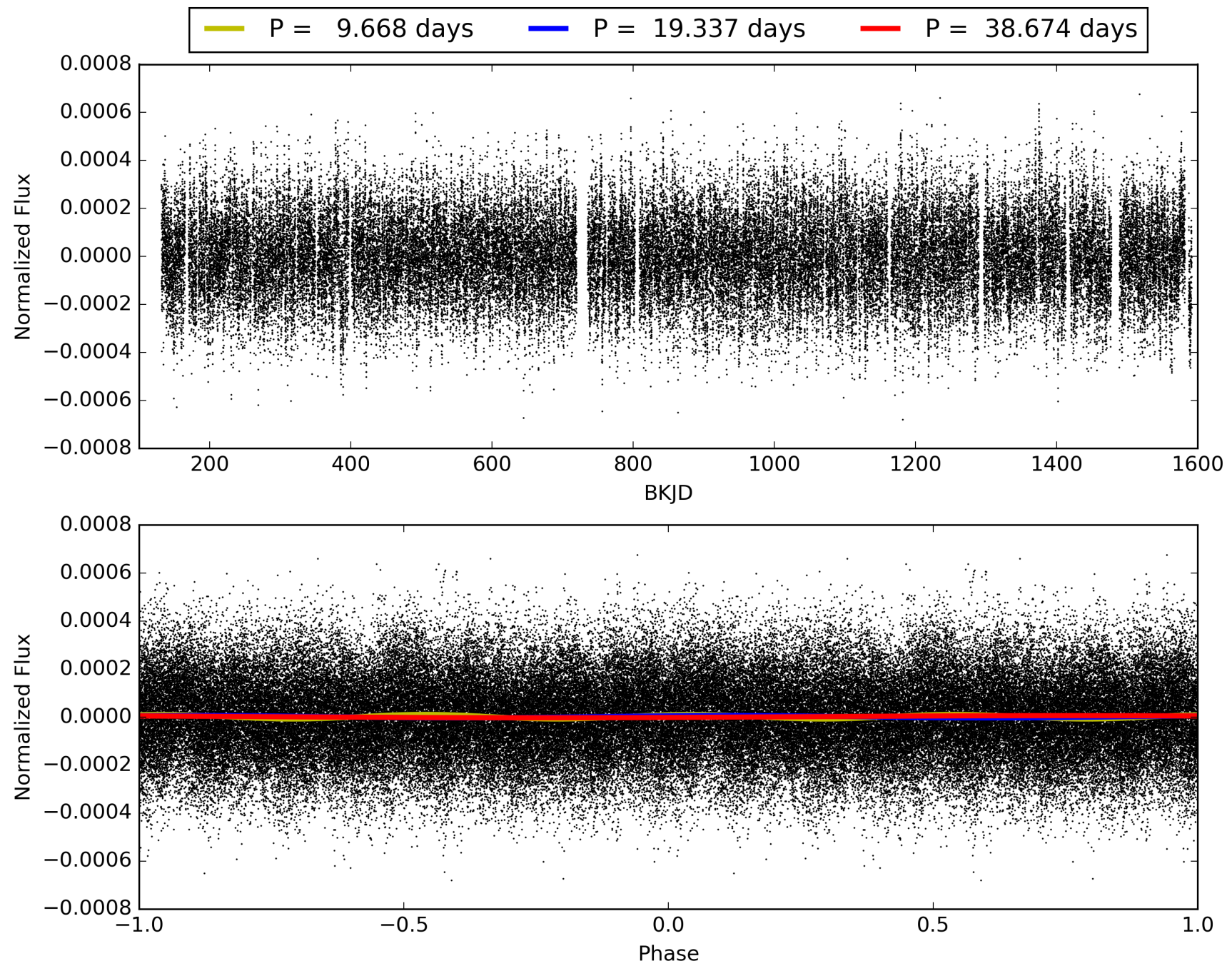
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.79 σ]
LongPeriod-sig: 100.0% [14.64 σ]
ModelChiSquare2-sig: 29.4%
ModelChiSquareGof-sig: 94.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: 1.016
Centroid-sig: 60.1%
Centroid-so: 0.491 arcsec [2.37 σ]
OotOffset-rm: 3.066 arcsec [2.31 σ]
OotOffset-st: 2/2/3/4 [11]
KicOffset-rm: 2.906 arcsec [2.79 σ]
KicOffset-st: 2/2/3/4 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 0.71 [12/17]

TCE 009269884-07, PDC Light Curves

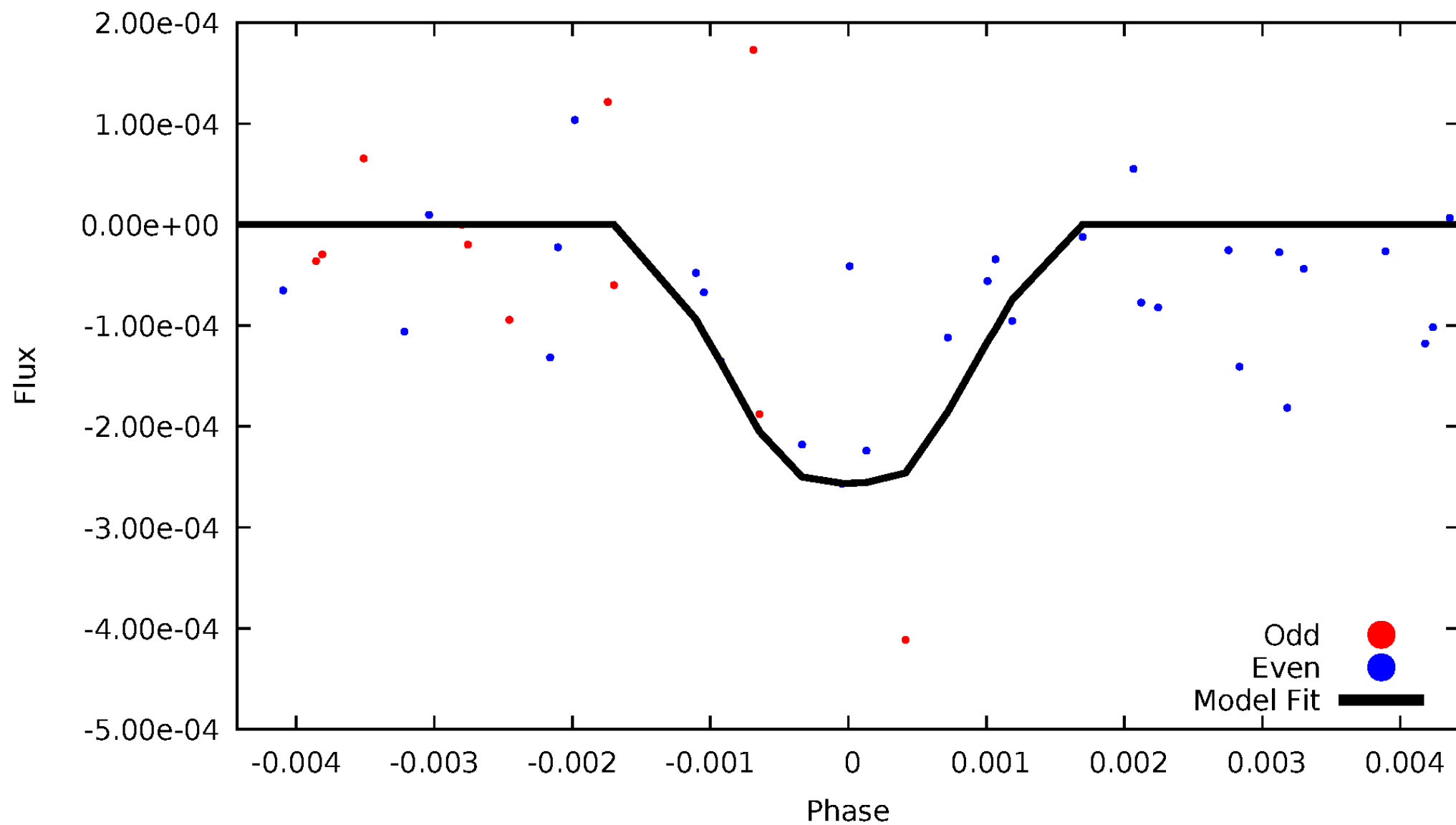


TCE 009269884-07



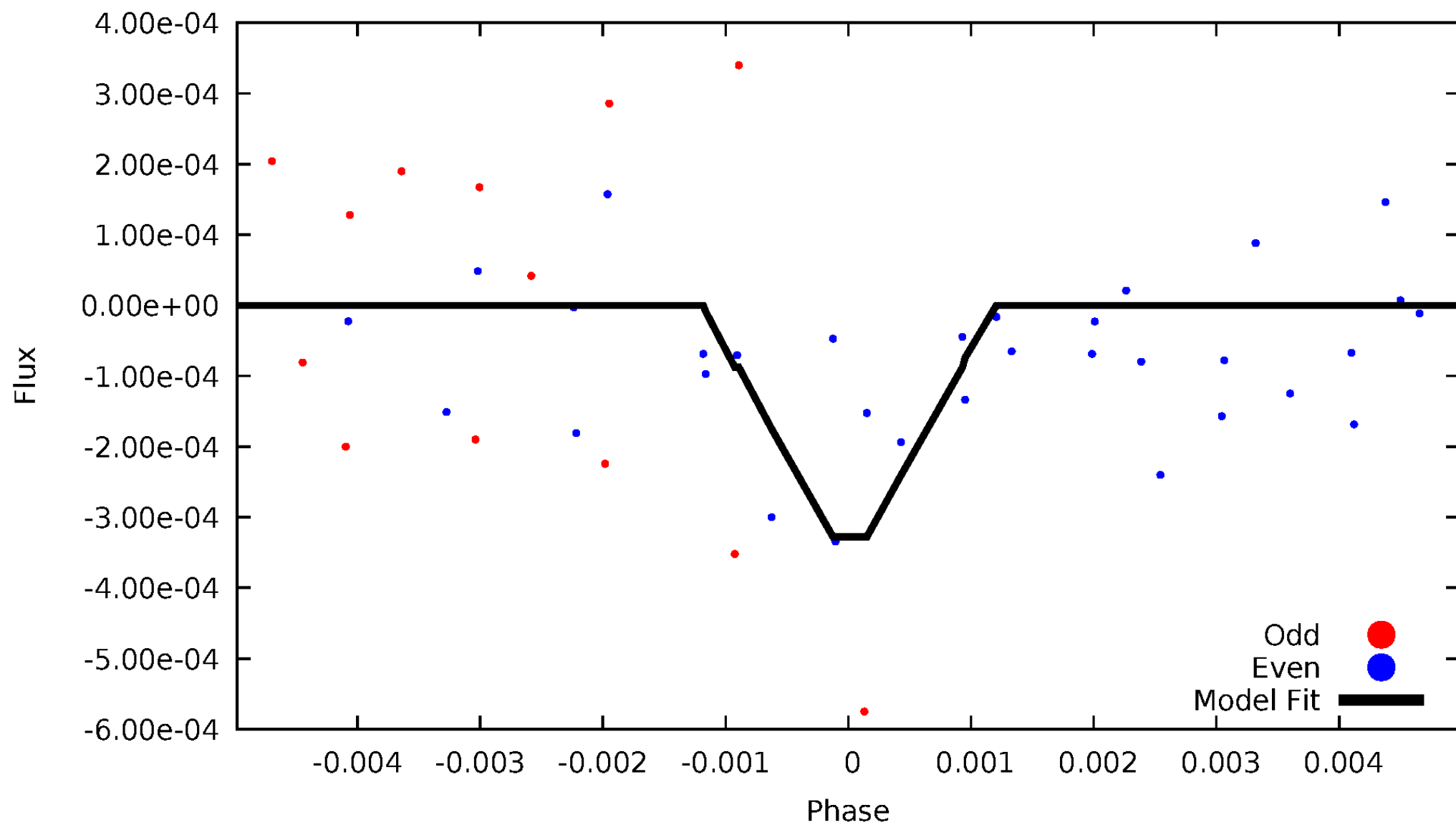
DV Odd/Even

TCE 009269884-07



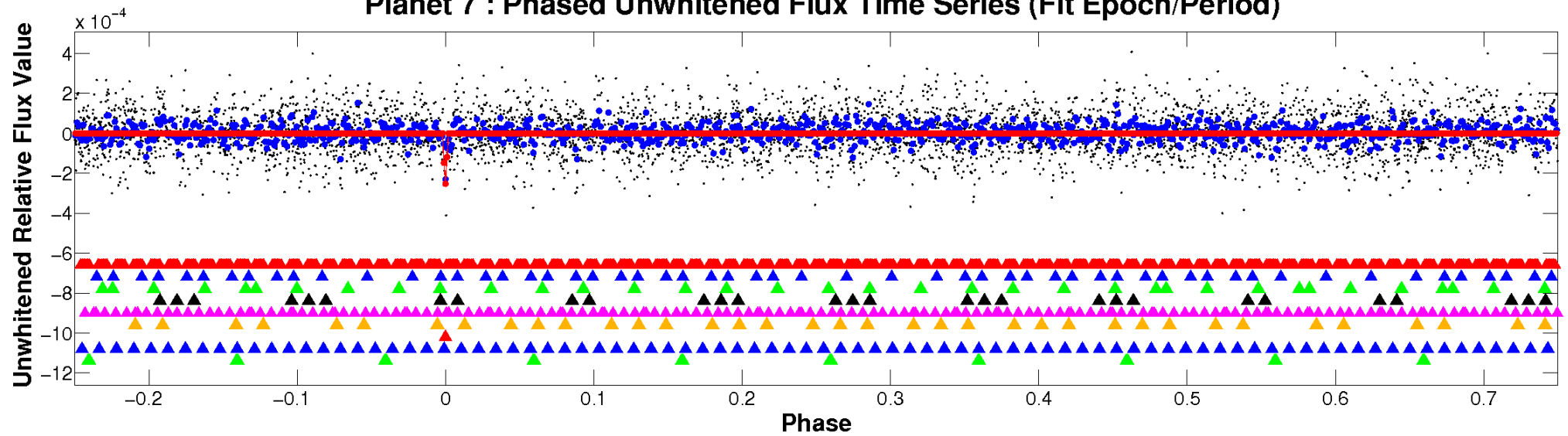
ALT Odd/Even

TCE 009269884-07

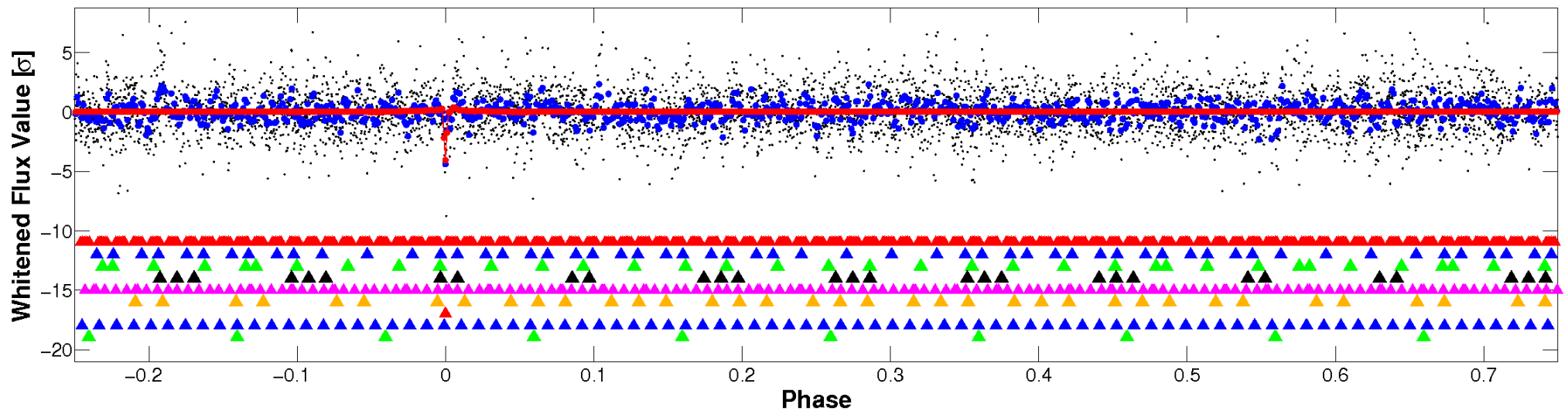


Non-Whitened Vs. Whitened Light Curve

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

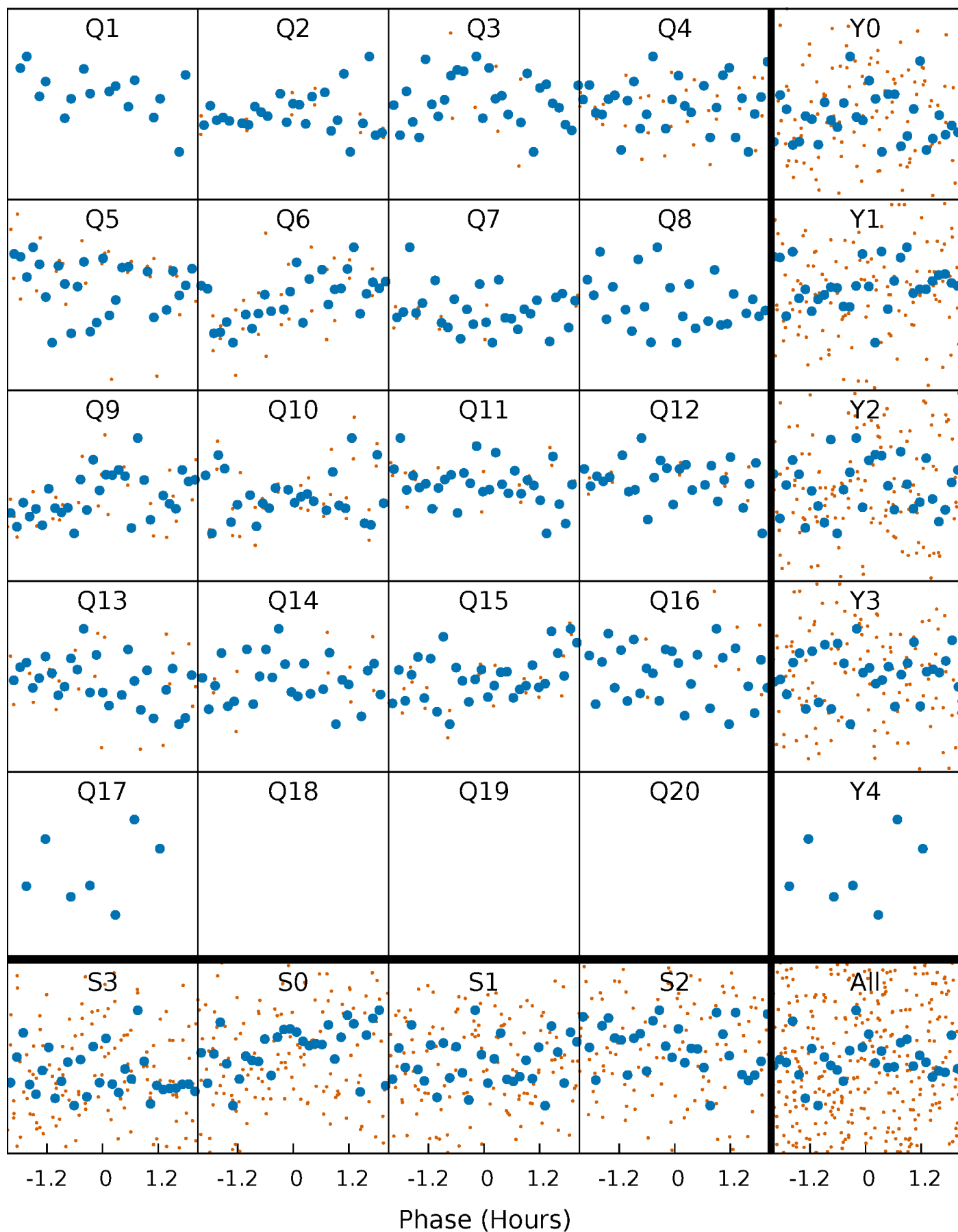


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



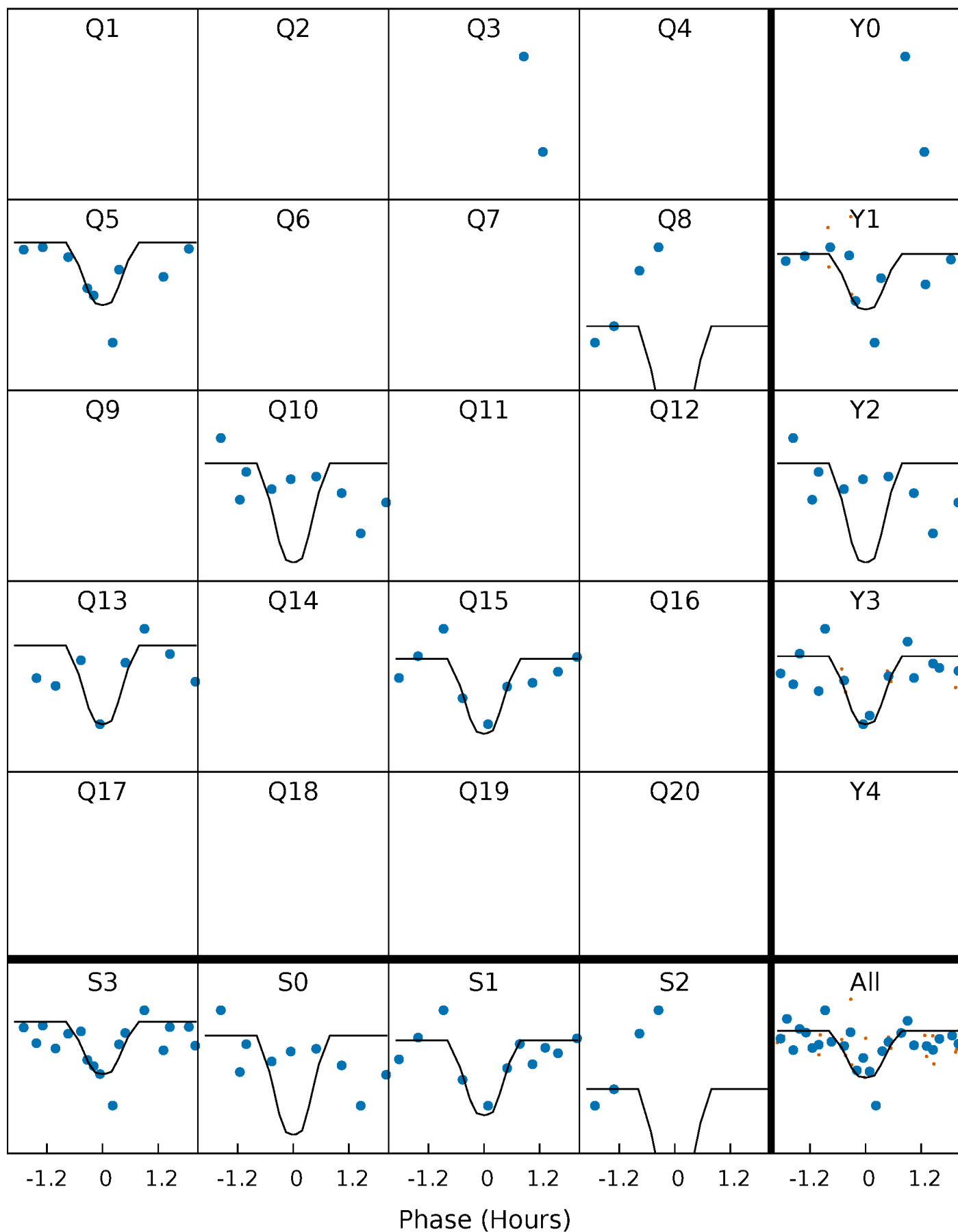
PDC Quarter-Phased Transit Curves

TCE 009269884-07 P= 19.336792 Days $T_0=145.376367$ (BKJD)



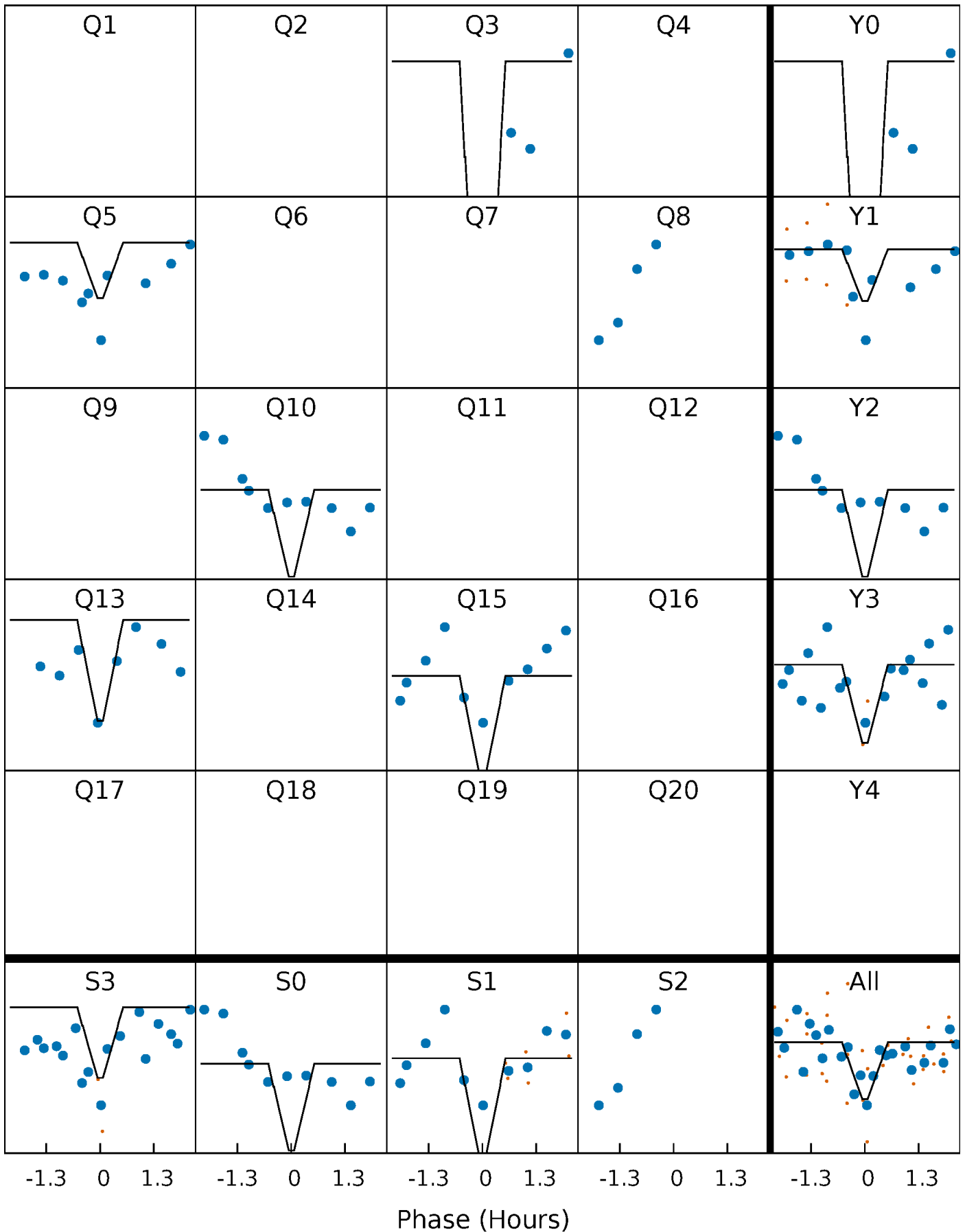
DV Quarter-Phased Transit Curves

TCE 009269884-07 P= 19.336792 Days $T_0=145.376367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

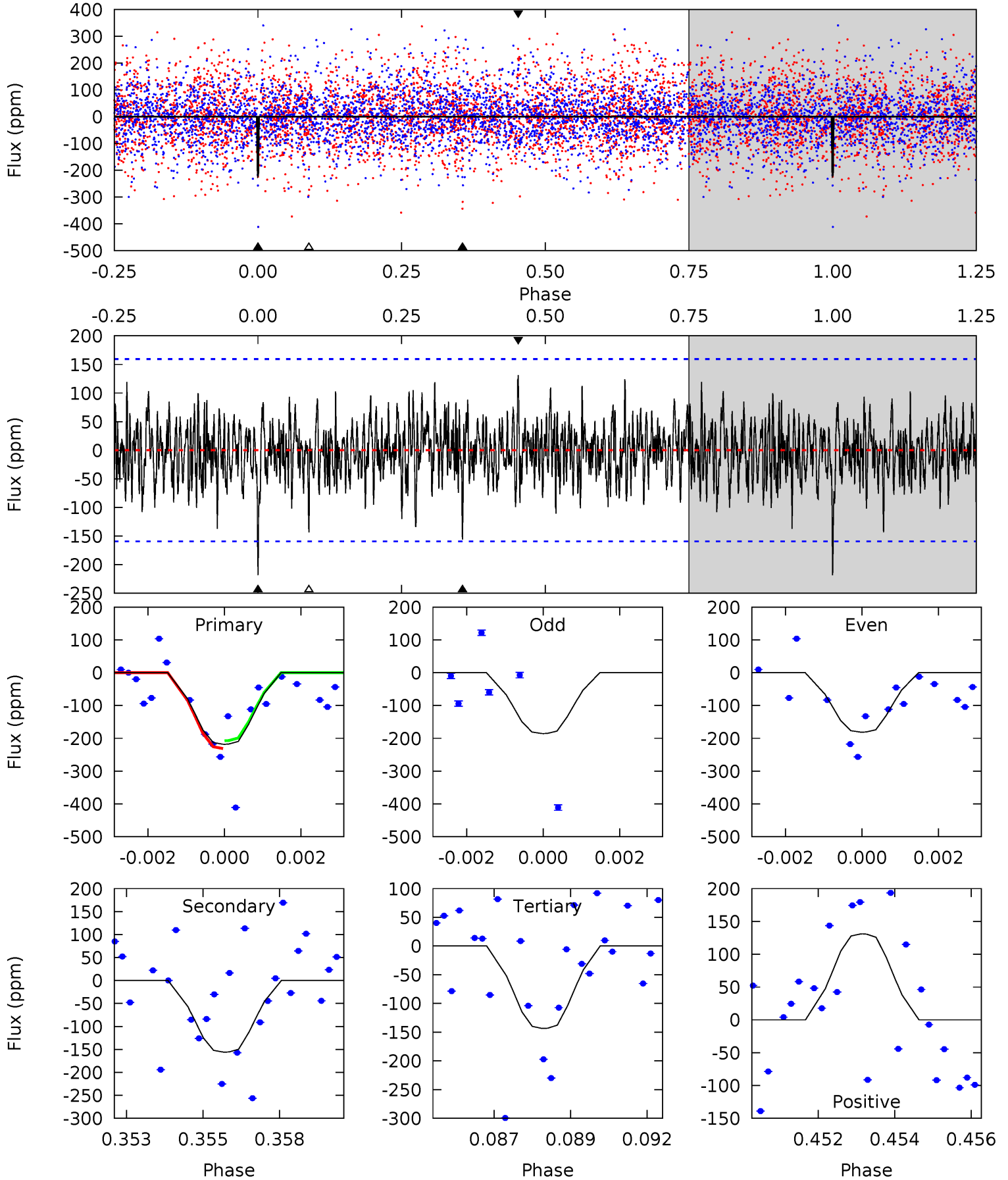
TCE 009269884-07 P= 19.336668 Days $T_0=145.384218$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-07, P = 19.336792 Days, E = 126.039575 Days

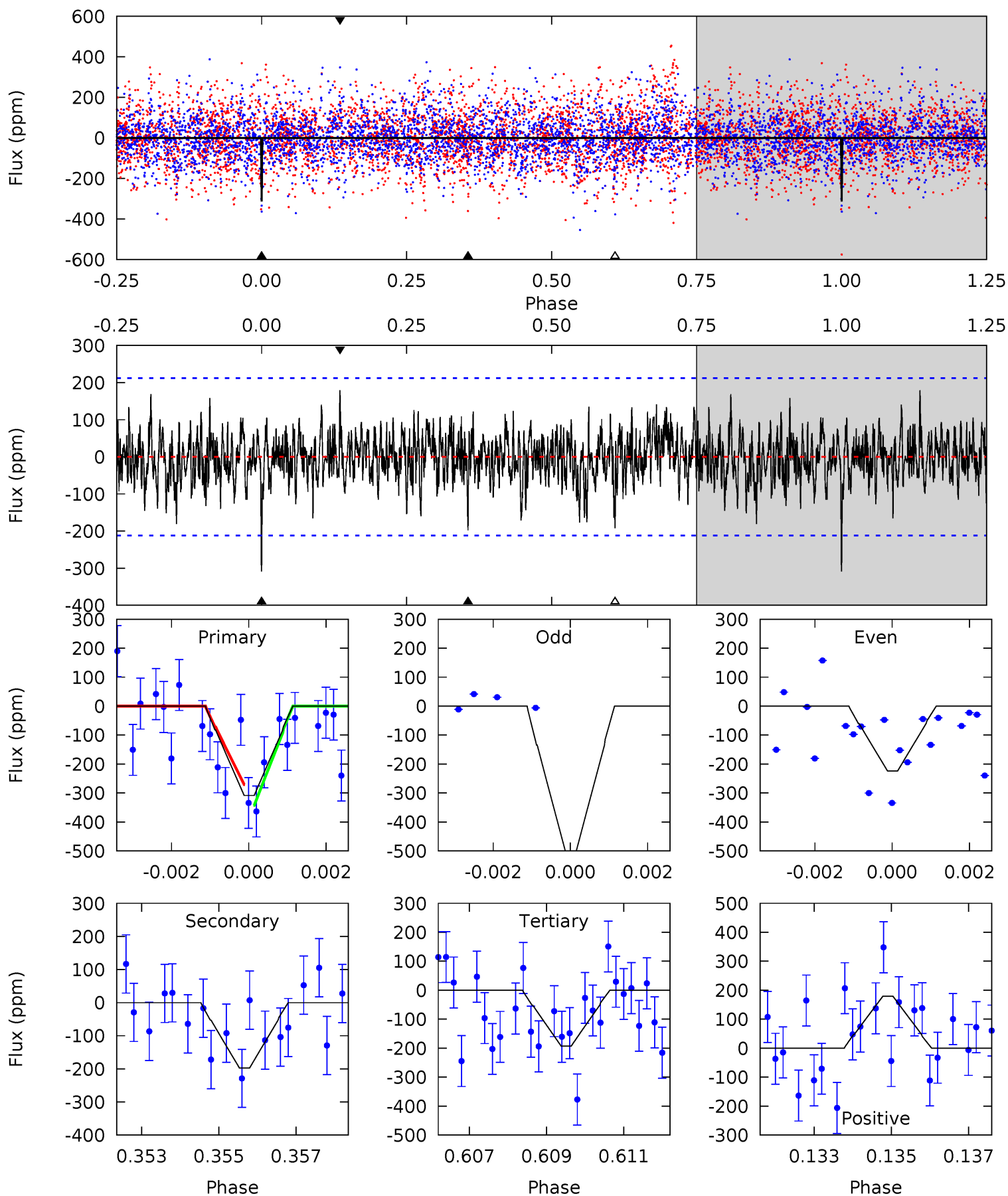
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	5.19	4.77	4.36	5.30	3.05	1.39	2.49	2.90	0.41	0.83	0.06	0.96	0.38	0.40



Alt Model-Shift Uniqueness Test

009269884-07, P = 19.336668 Days, E = 126.047550 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	4.95	4.83	4.49	5.32	3.07	1.36	2.90	3.24	0.12	0.46	3.42	0.89	0.37	0.90



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-156 ± 30	$8.12^{+8.79}_{-5.55}$	1758^{+109}_{-185}	4634^{+3752}_{-1056}	32^{+295}_{-25}
Alt.	-198 ± 40	$8.84^{+8.97}_{-5.50}$	1751^{+114}_{-177}	4684^{+2657}_{-998}	34^{+191}_{-25}

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 $A_{obs} \gg 1.0$

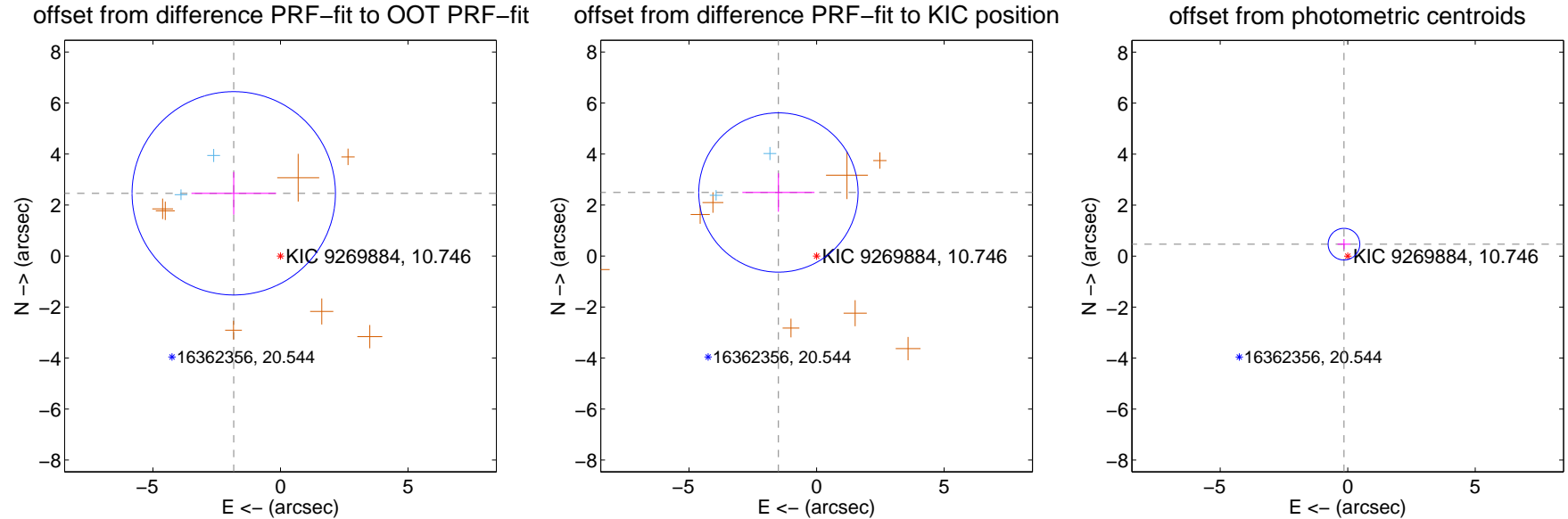
DV Centroid Data

Supplemental centroid analysis for 009269884-07. **Kepler magnitude: 10.75.** Transit SNR 10.02

There are 2 quarters with good PRF difference image offsets

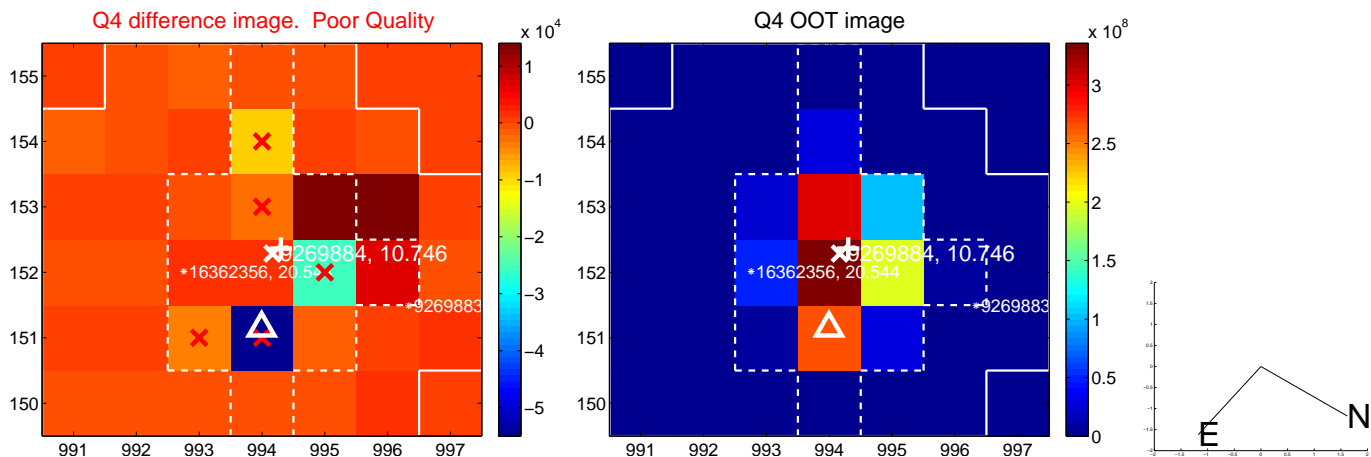
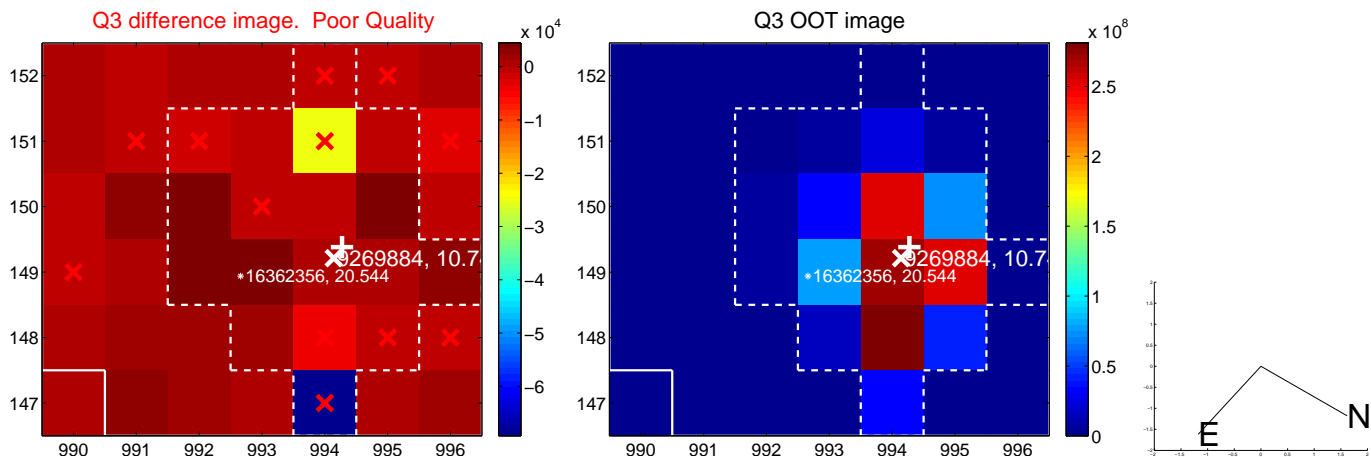
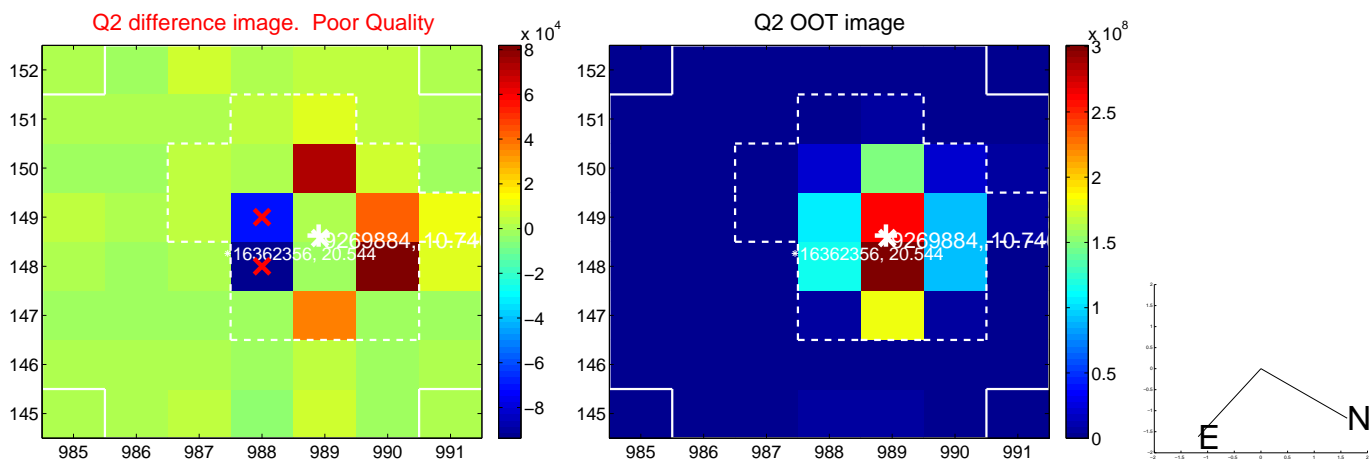
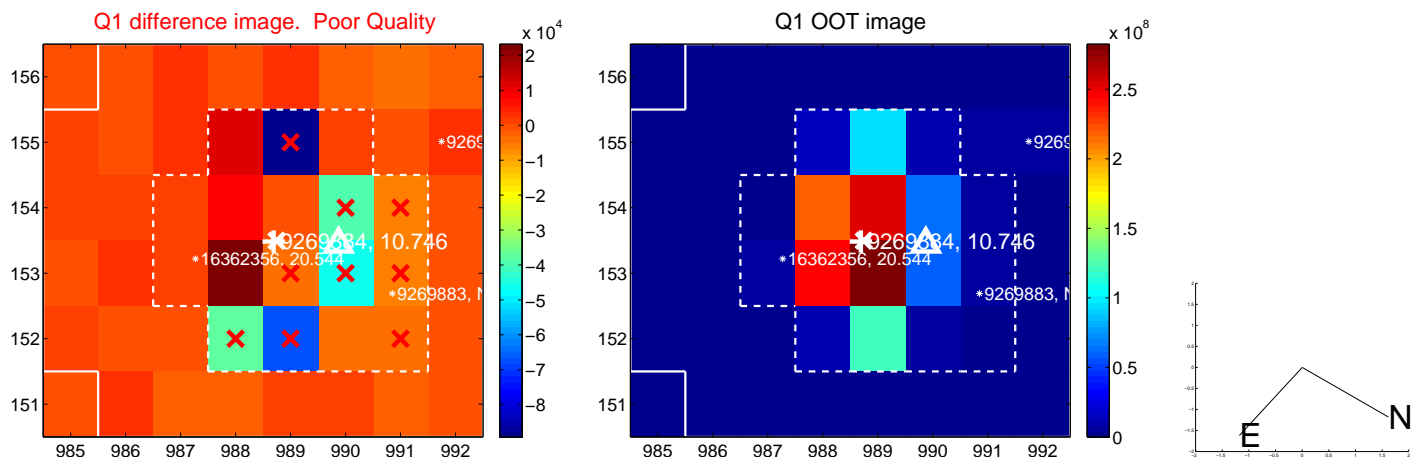
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.066 ± 1.329	2.31	1.831 ± 1.661	2.459 ± 0.831
PRF-fit source offset from KIC position	2.906 ± 1.041	2.79	1.496 ± 1.415	2.491 ± 0.754
photometric centroid source offset	0.49 ± 0.21	2.37	0.15 ± 0.25	0.47 ± 0.20

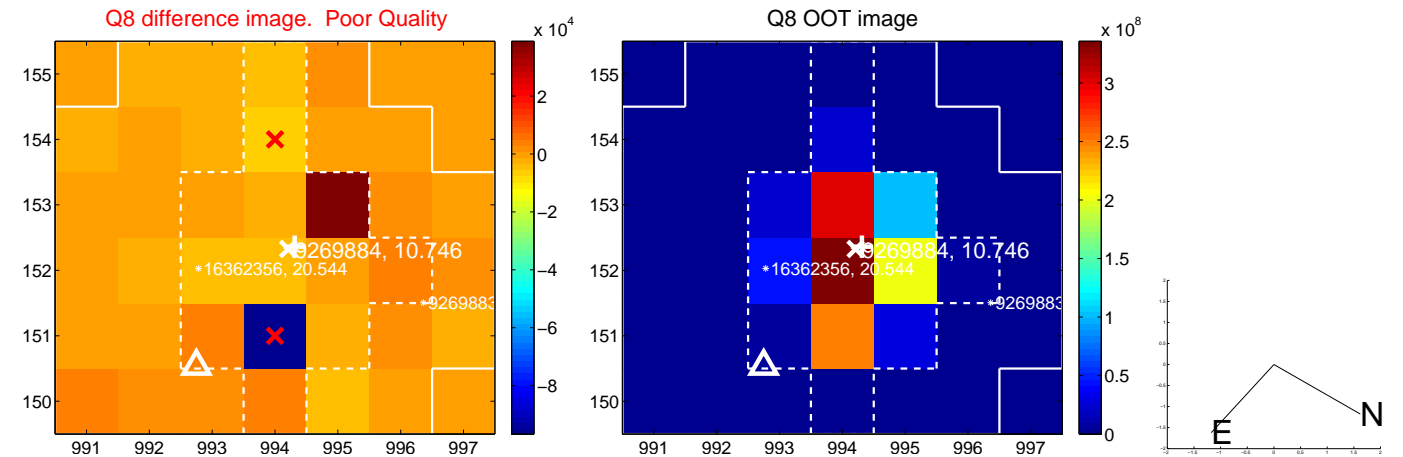
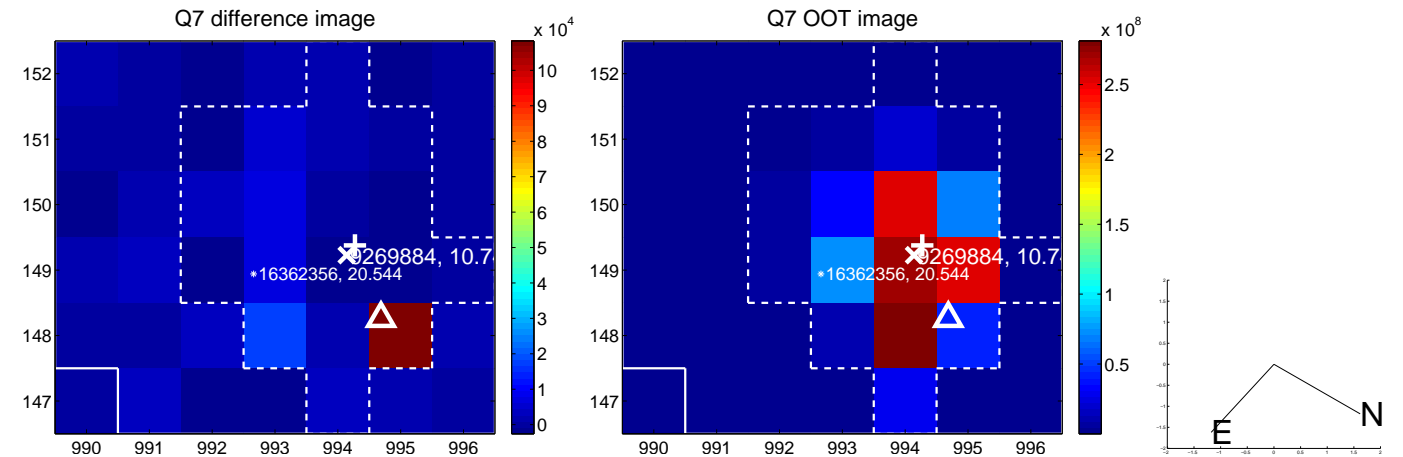
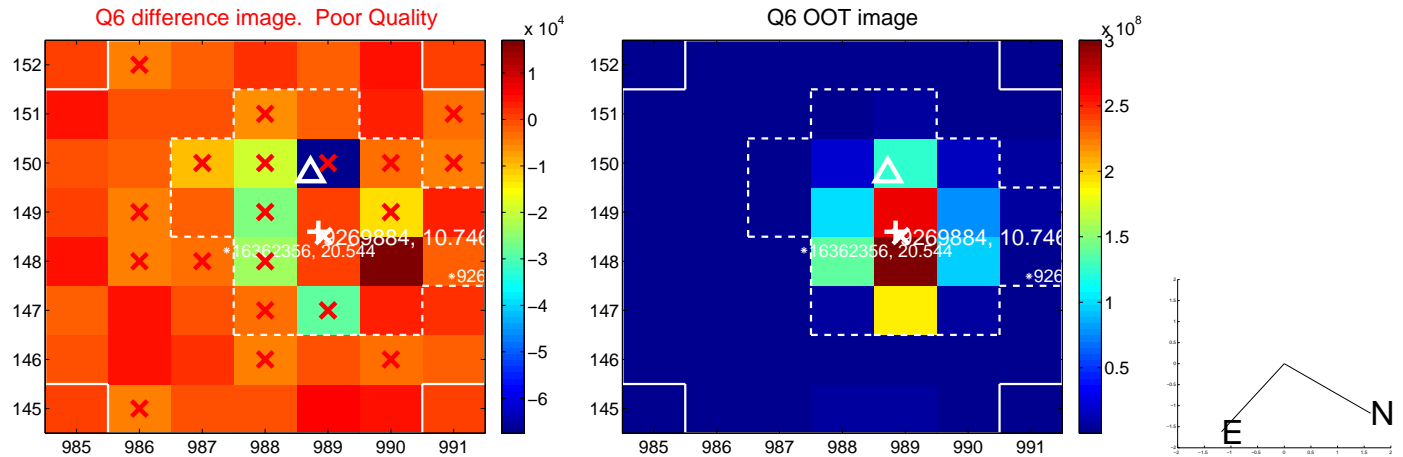
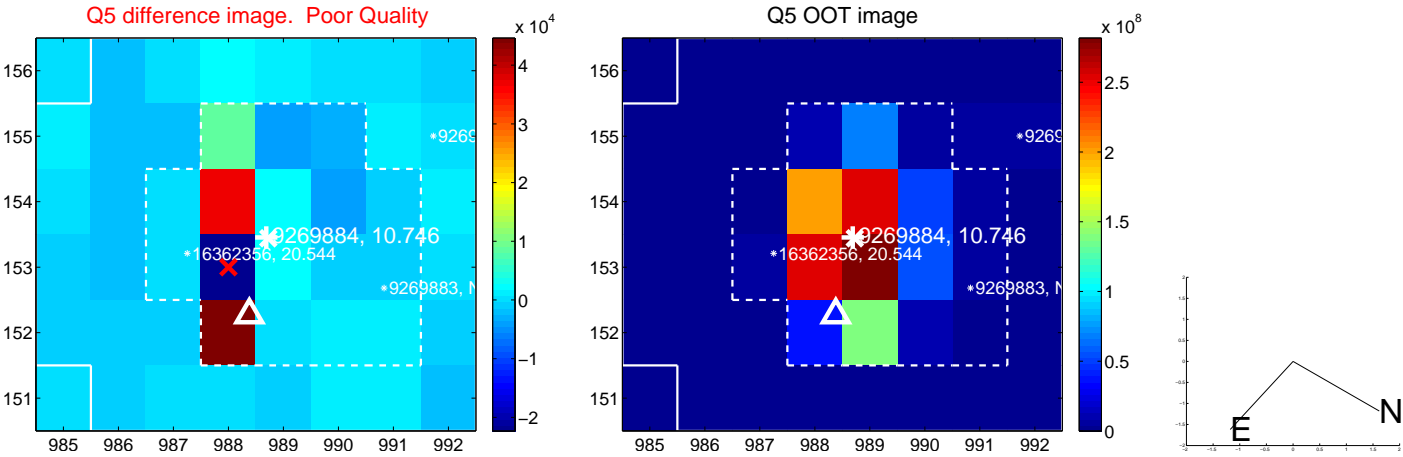


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

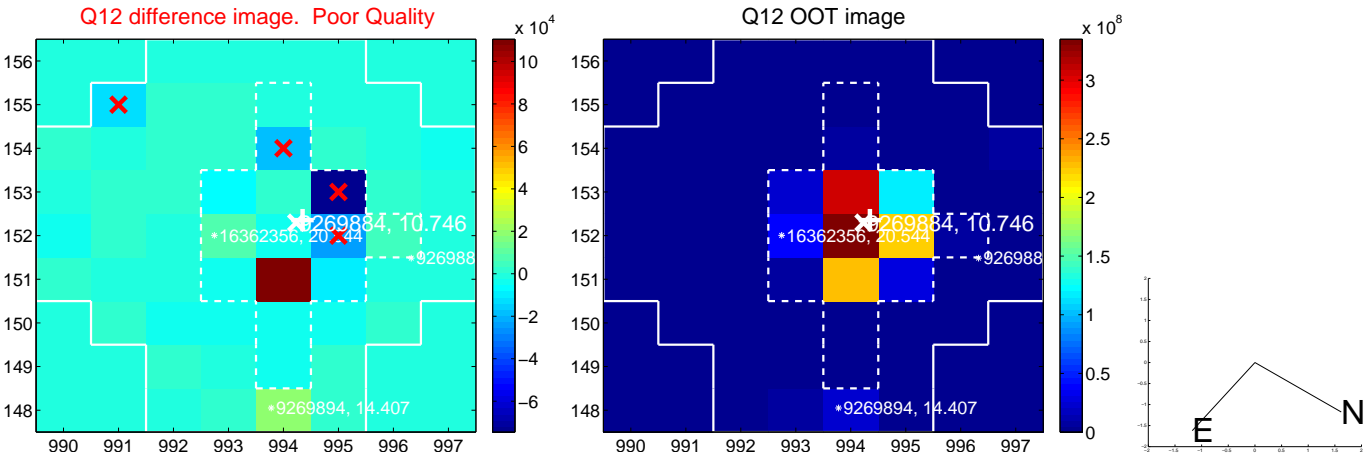
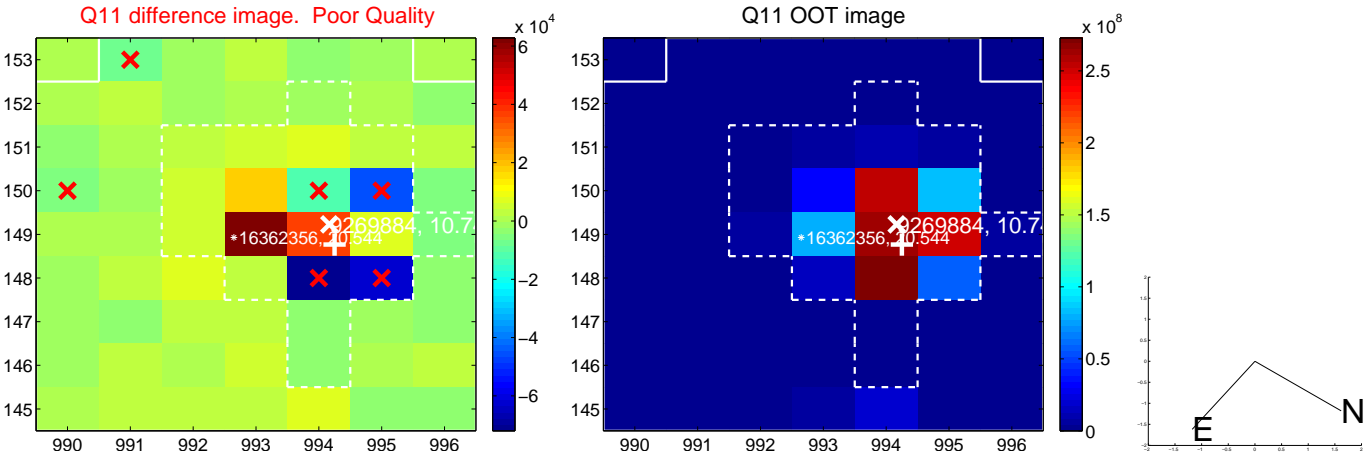
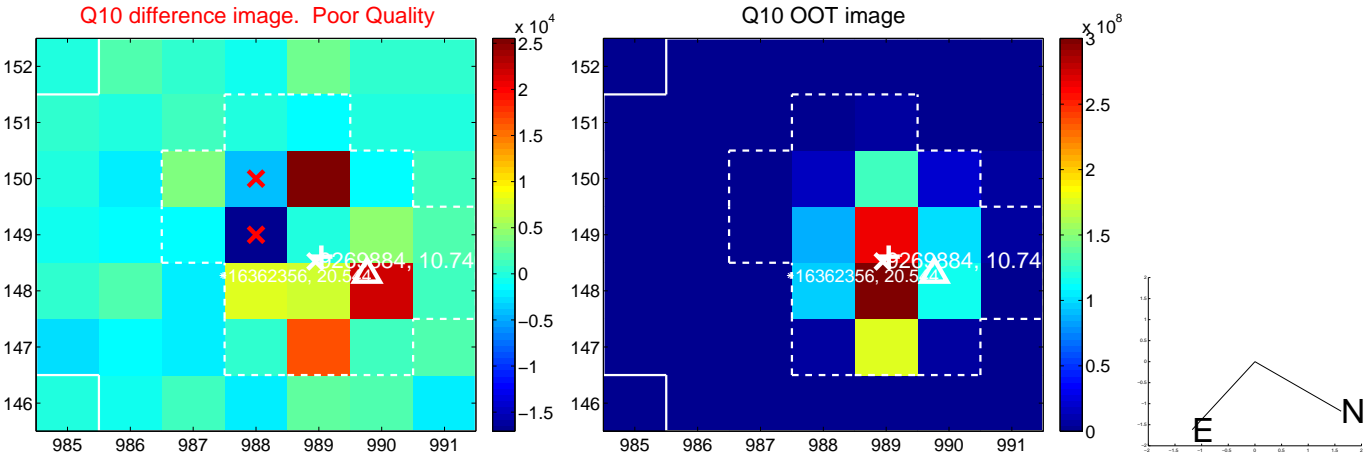
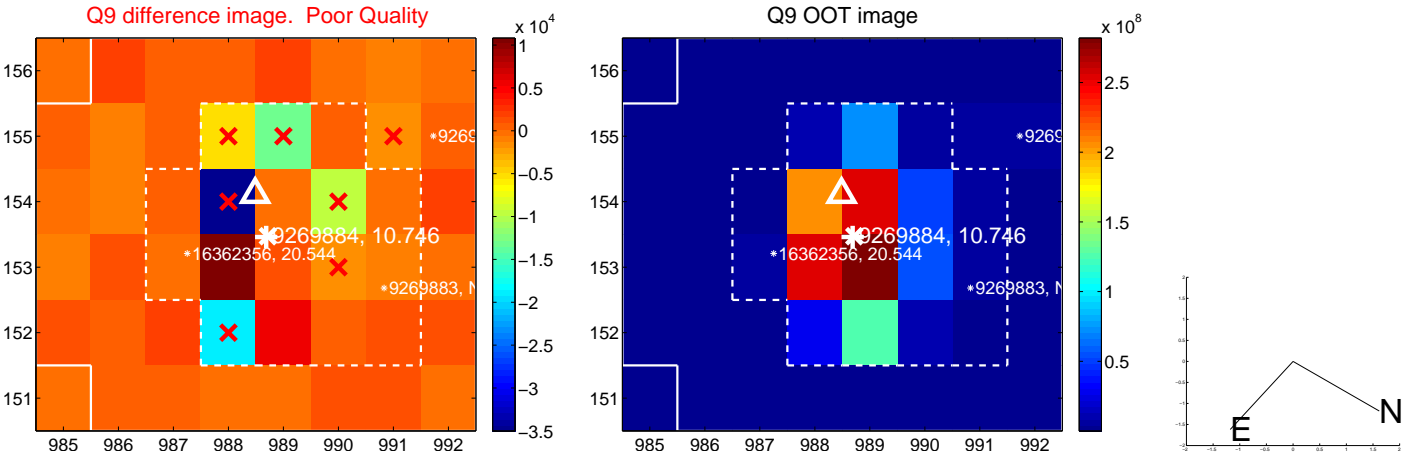
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



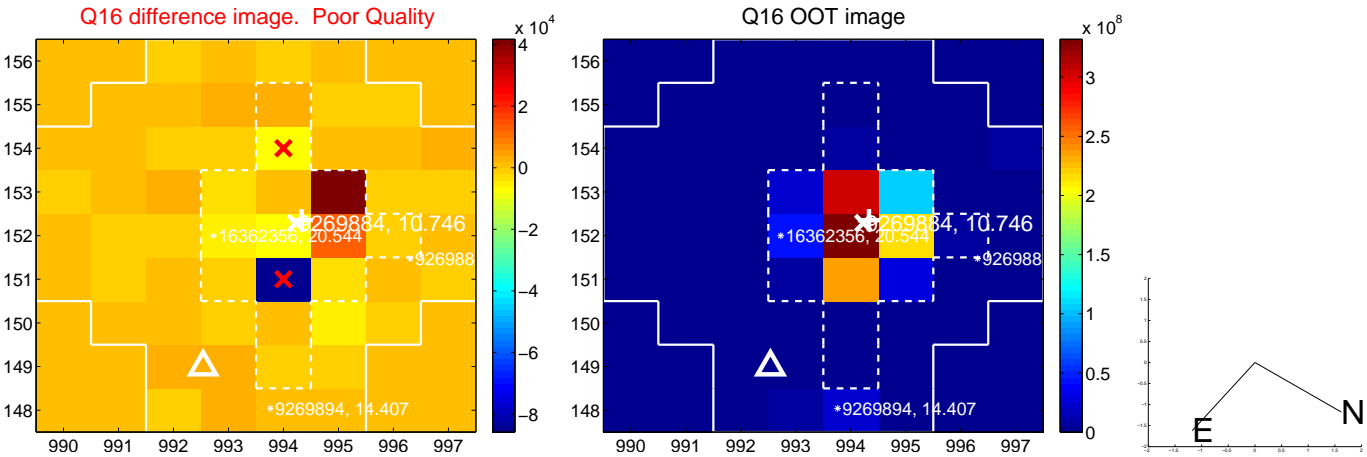
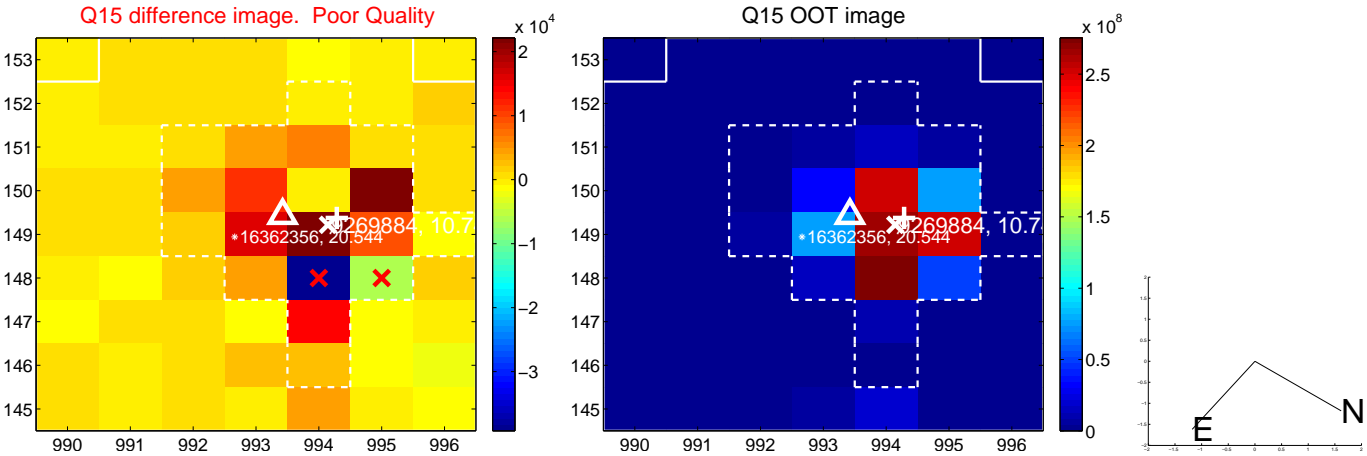
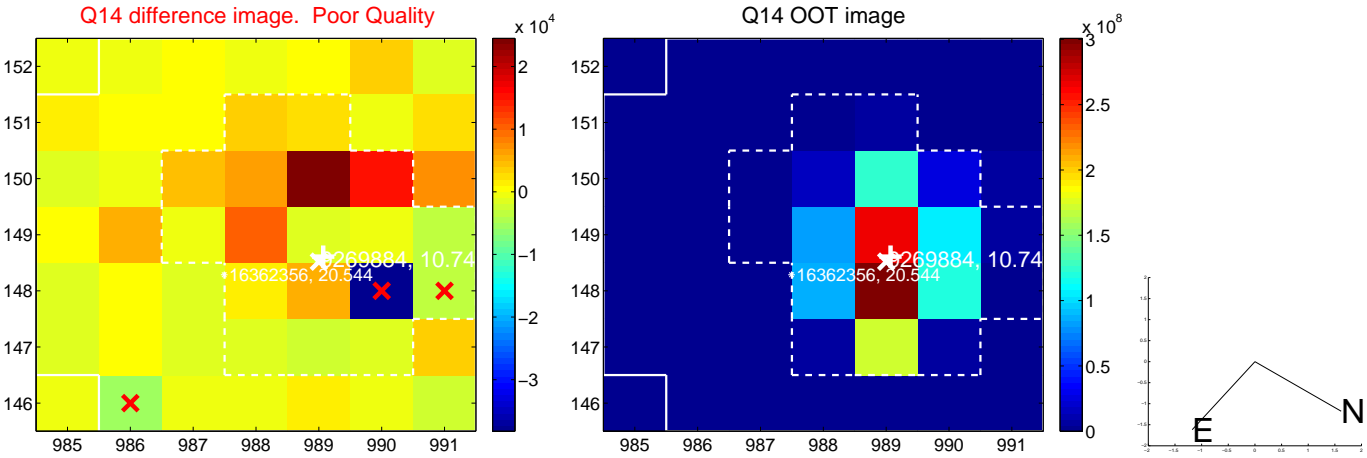
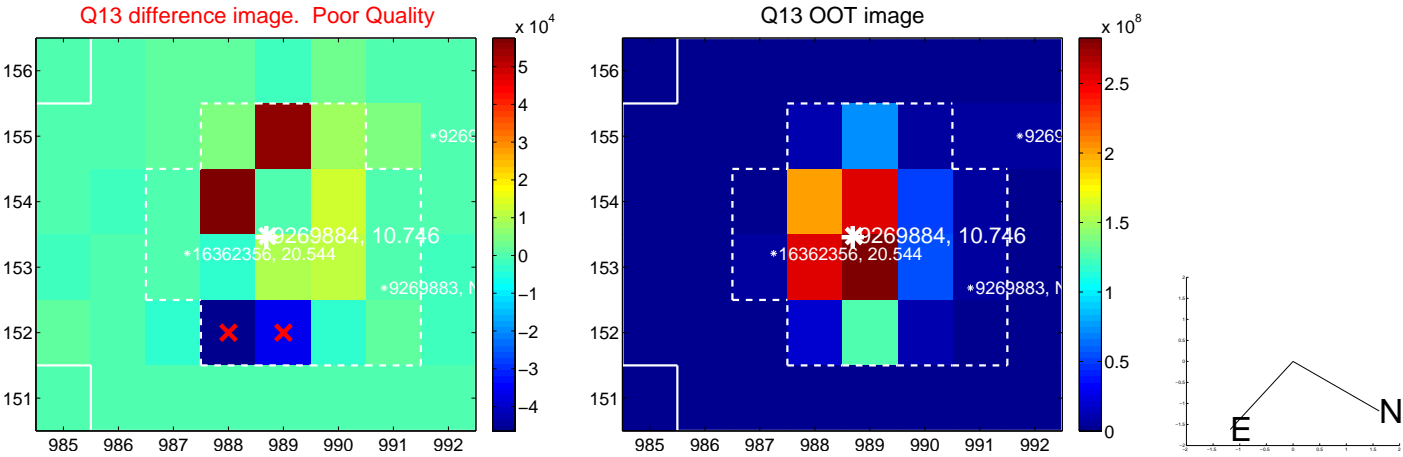
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



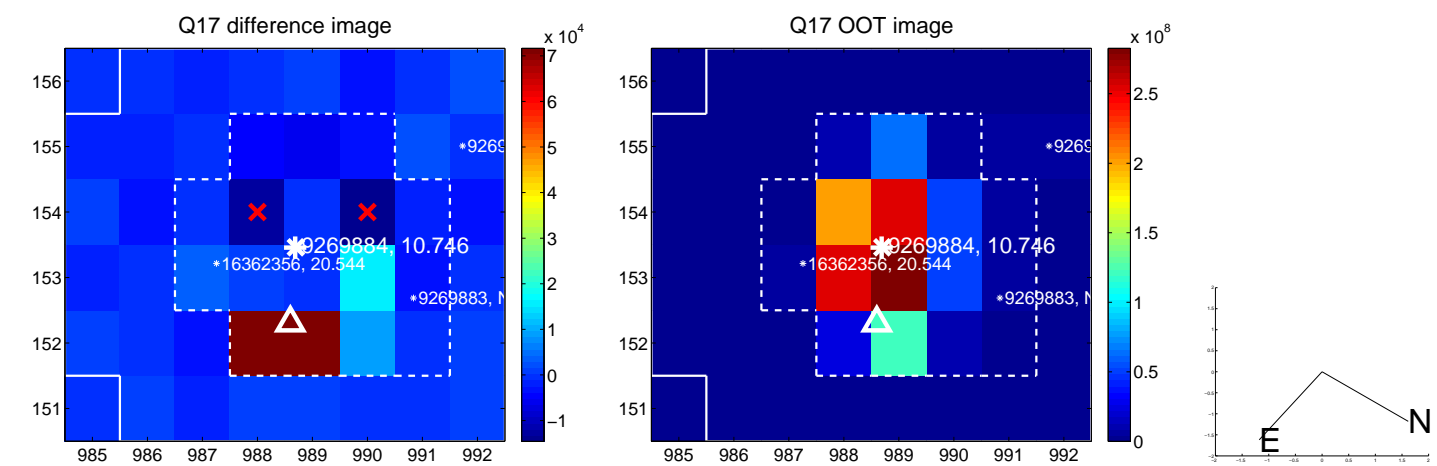
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



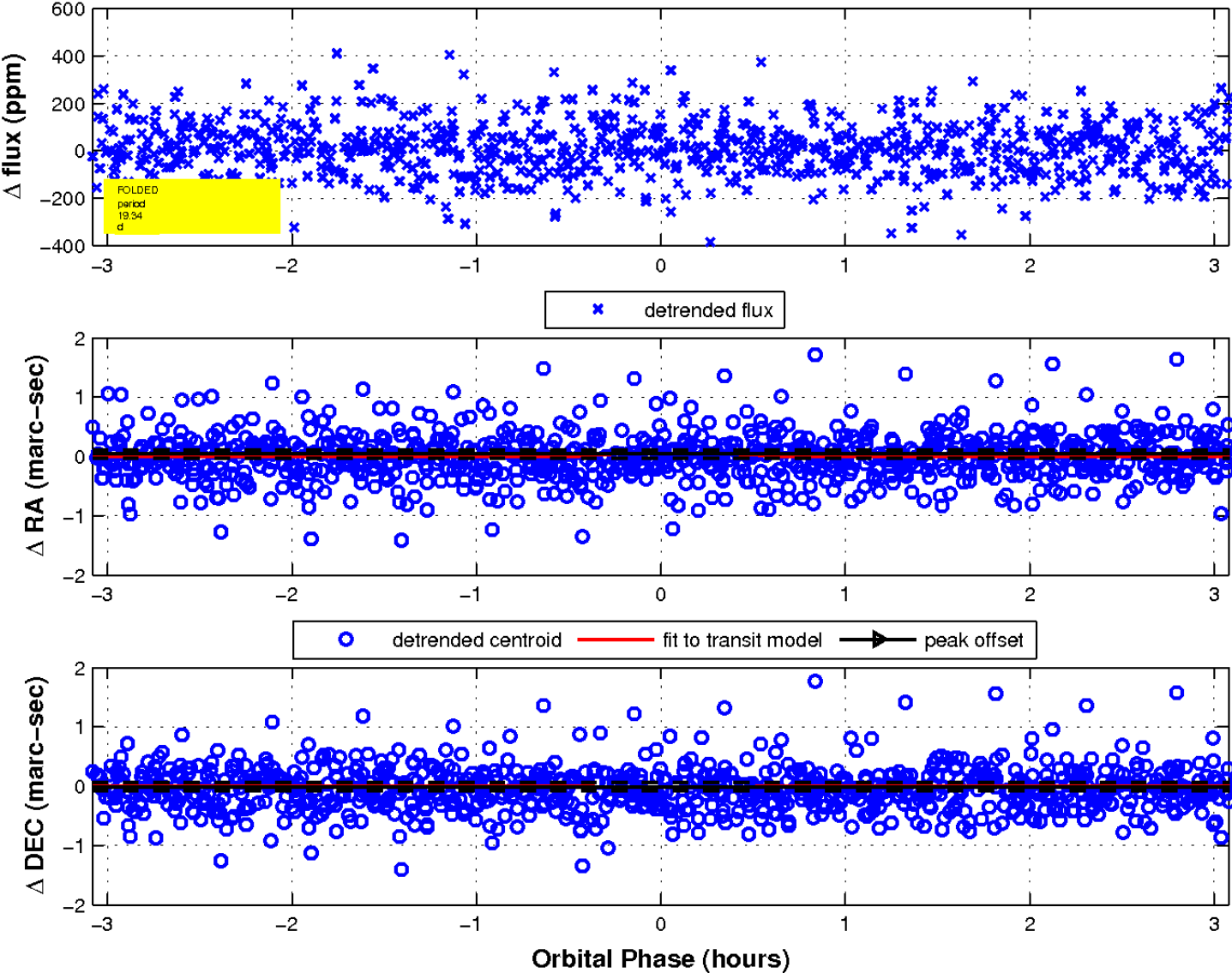
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



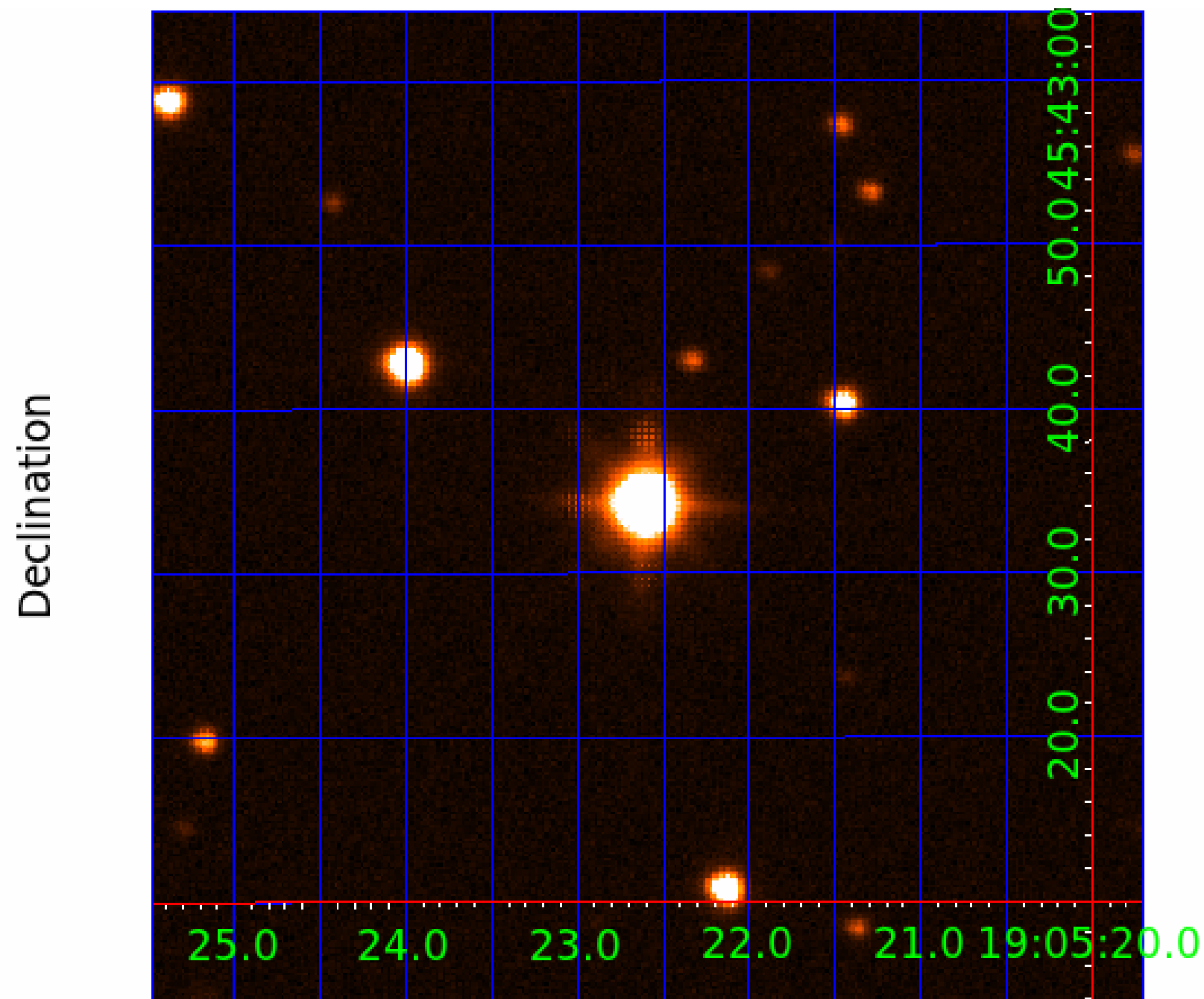
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 7 of 9



UKIRT Image



KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

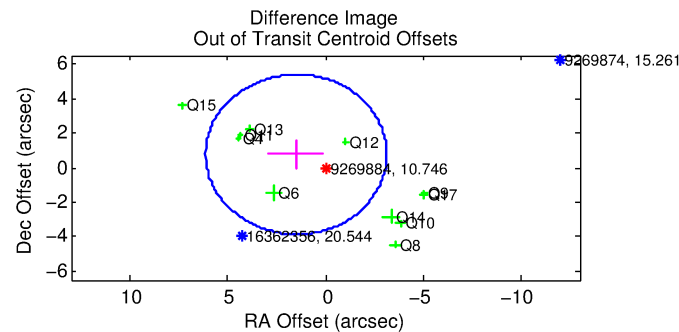
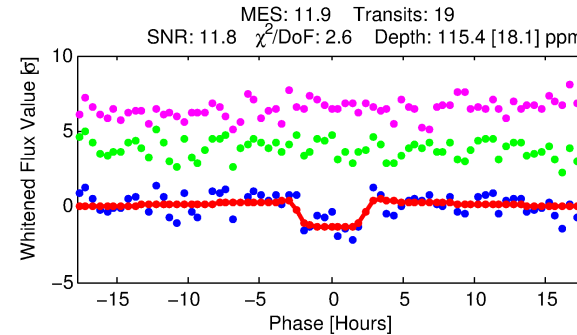
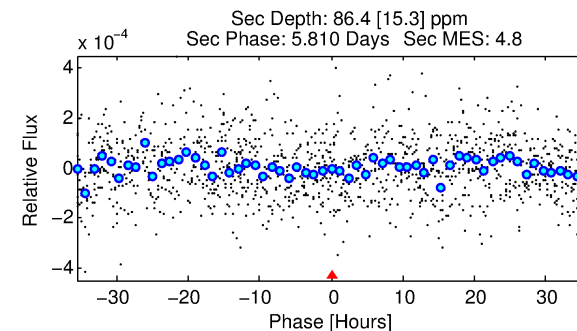
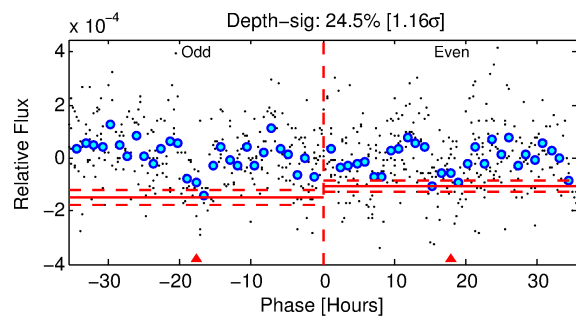
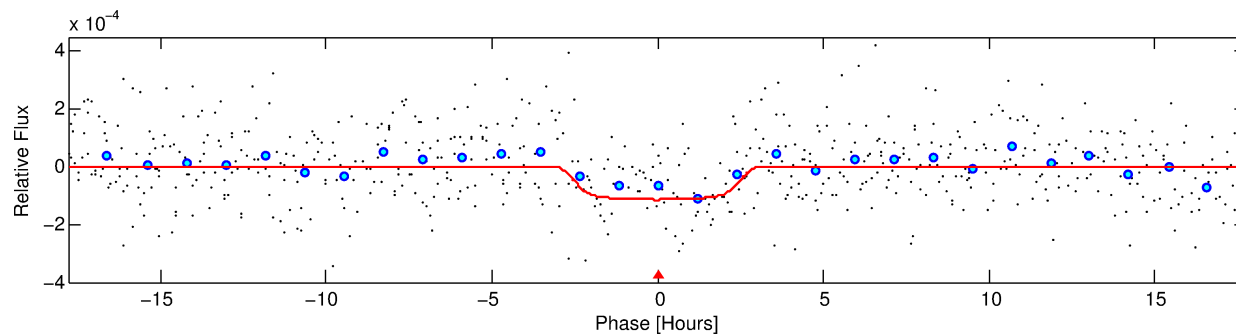
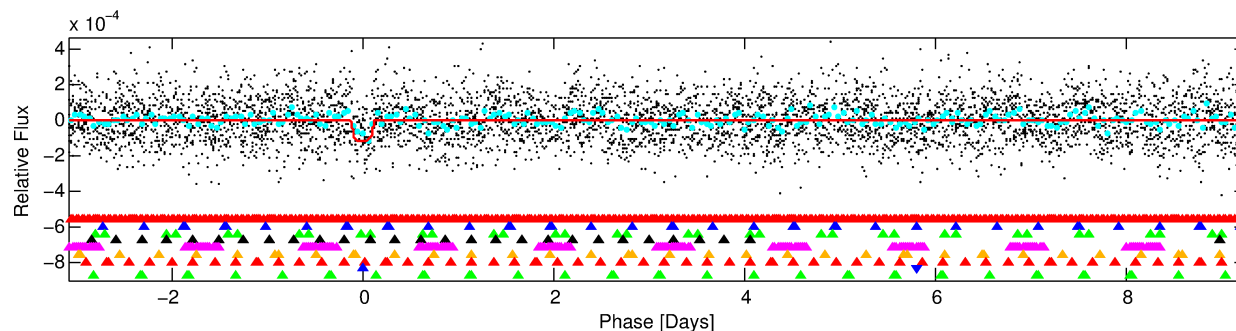
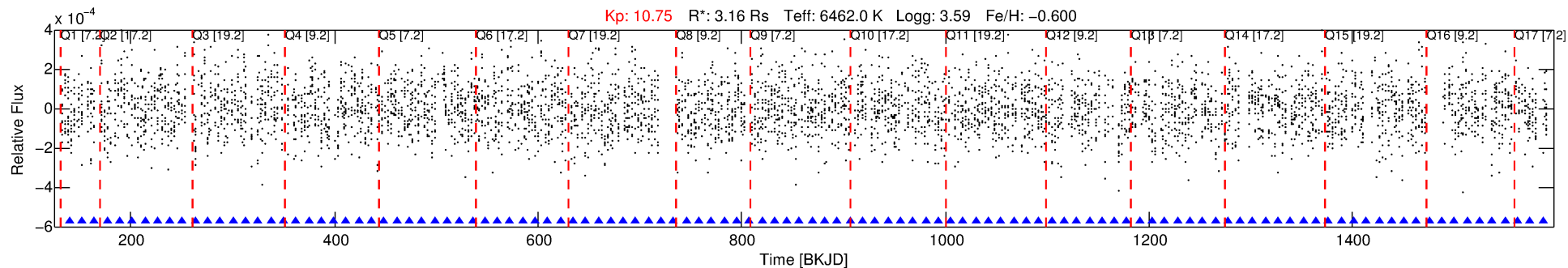
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-08

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 8 of 9 Period: 12.367 d



DV Fit Results:

Period = 12.36662 [0.00023] d
Epoch = 139.7336 [0.0141] BKJD
Rp/R* = 0.0124 [0.0016]
a/R* = 5.02 [2.70]
b = 0.96 [0.04]
Seff = 1128.46 [697.42]
Teq = 1478 [228] K
Rp = 4.29 [1.86] Re
a = 0.1176 [0.0453] AU
Ag = 35.68 [24.38] [1.42 σ]
Teffp = 5584 [471] K [7.84 σ]

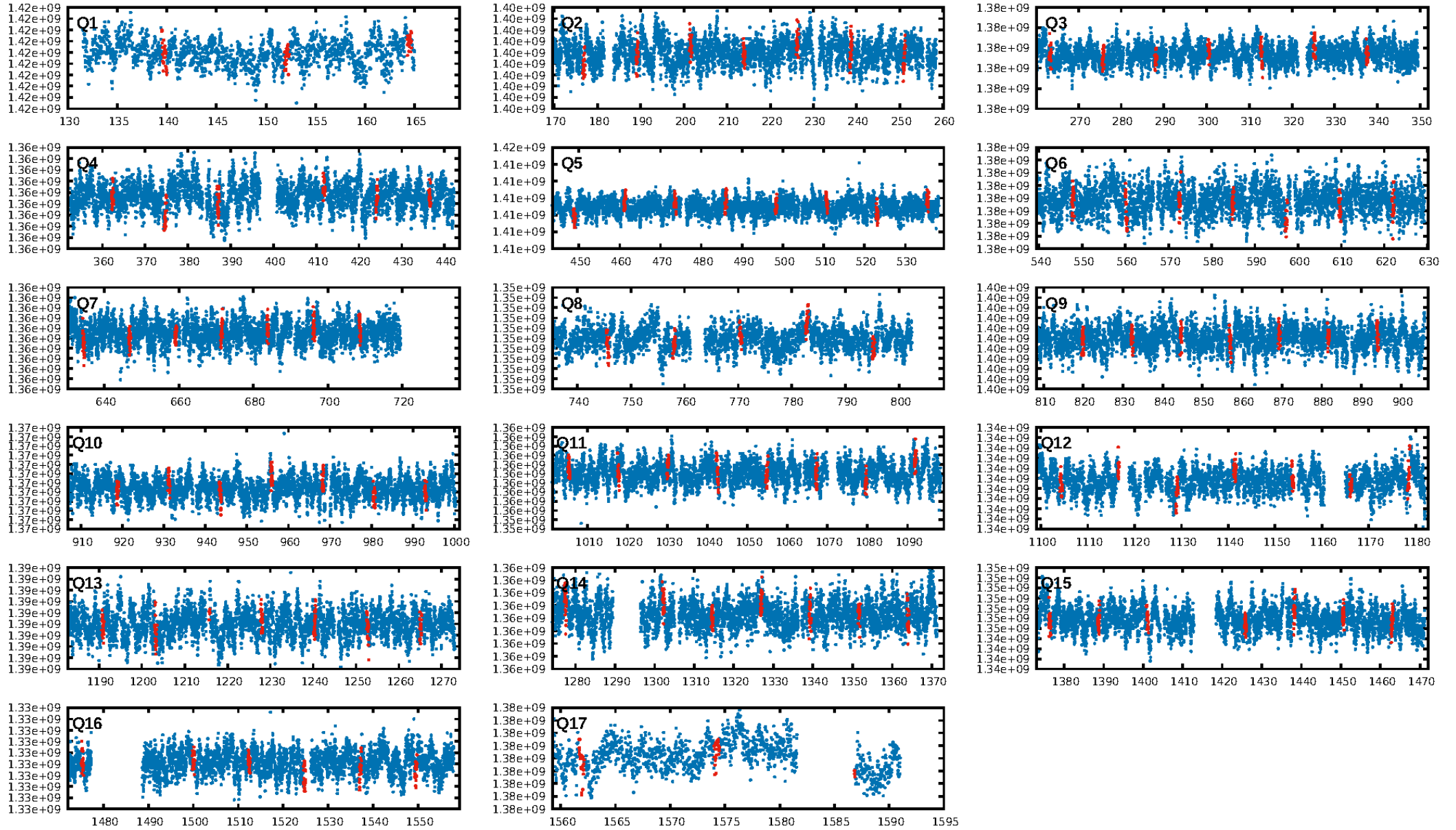
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.41 σ]
LongPeriod-sig: 100.0% [27.79 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 97.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [18/18]
GhostDiagnostic-chr: -0.2521
Centroid-sig: 76.1%
Centroid-so: 0.637 arcsec [2.32 σ]
OotOffset-rm: 1.682 arcsec [1.09 σ]
KicOffset-rm: 1.914 arcsec [1.29 σ]
OotOffset-st: 3/2/3/3 [11]
KicOffset-st: 3/2/3/3 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 0.71 [12/17]

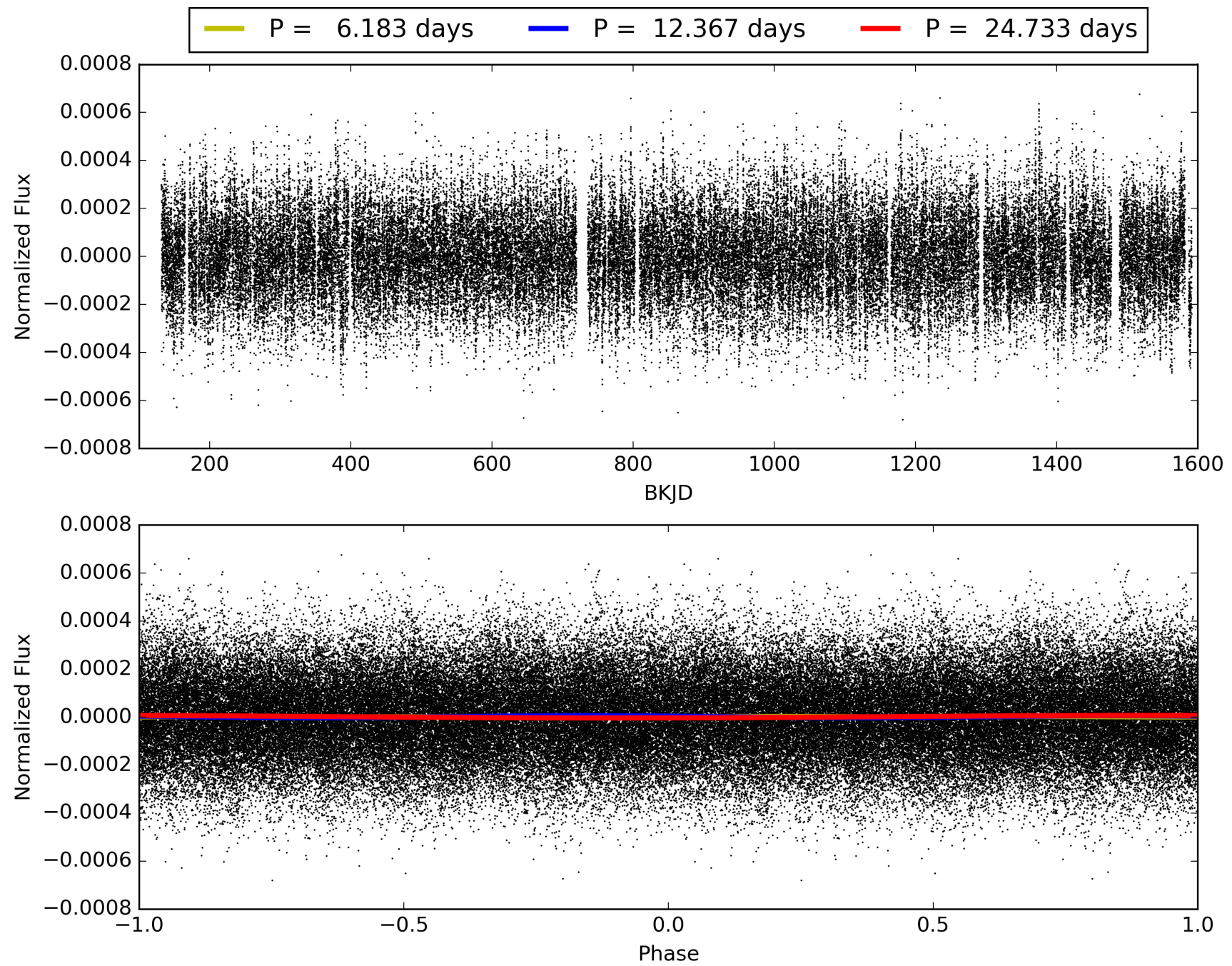
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:25 Z

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

TCE 009269884-08, PDC Light Curves

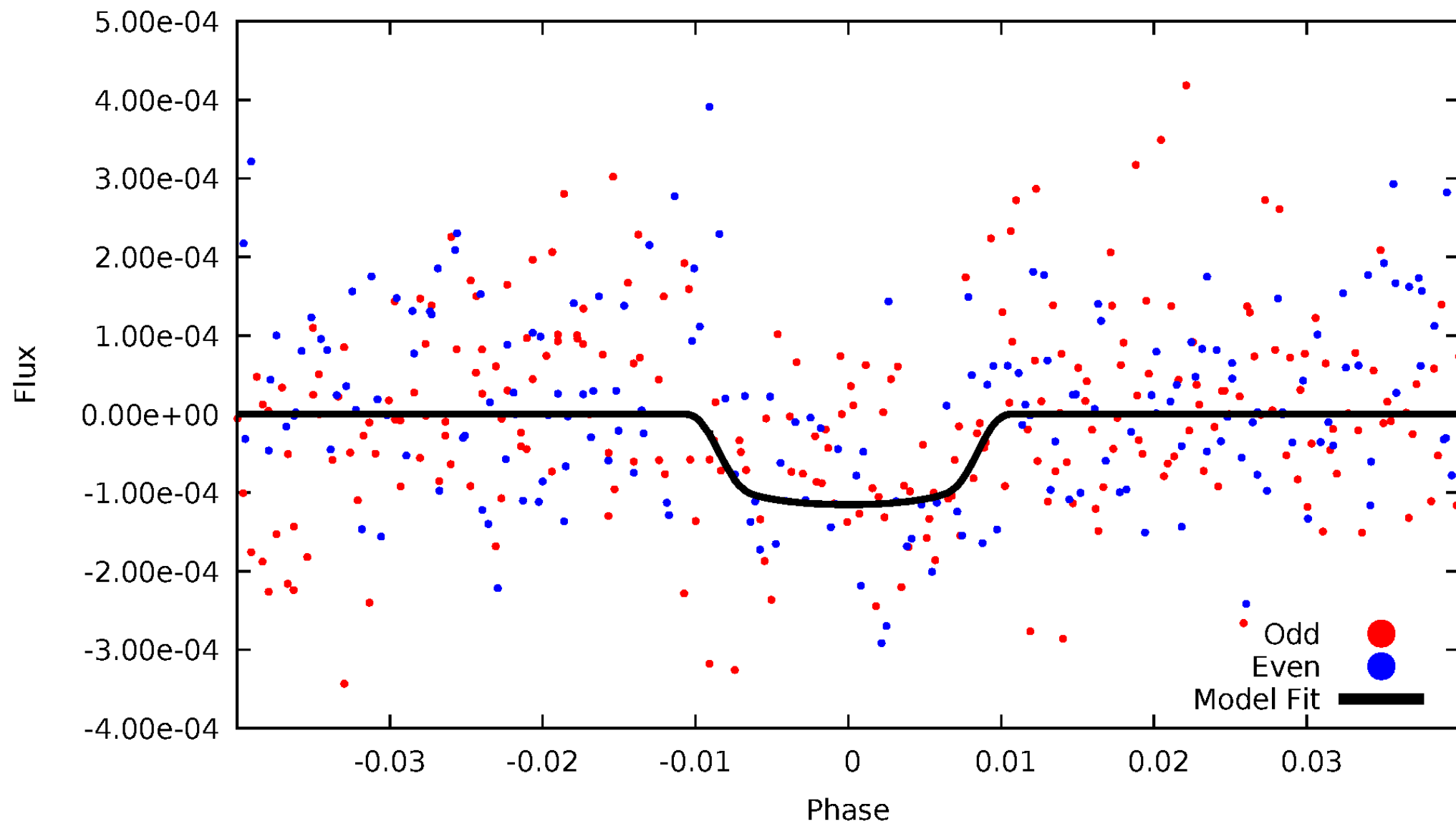


TCE 009269884-08



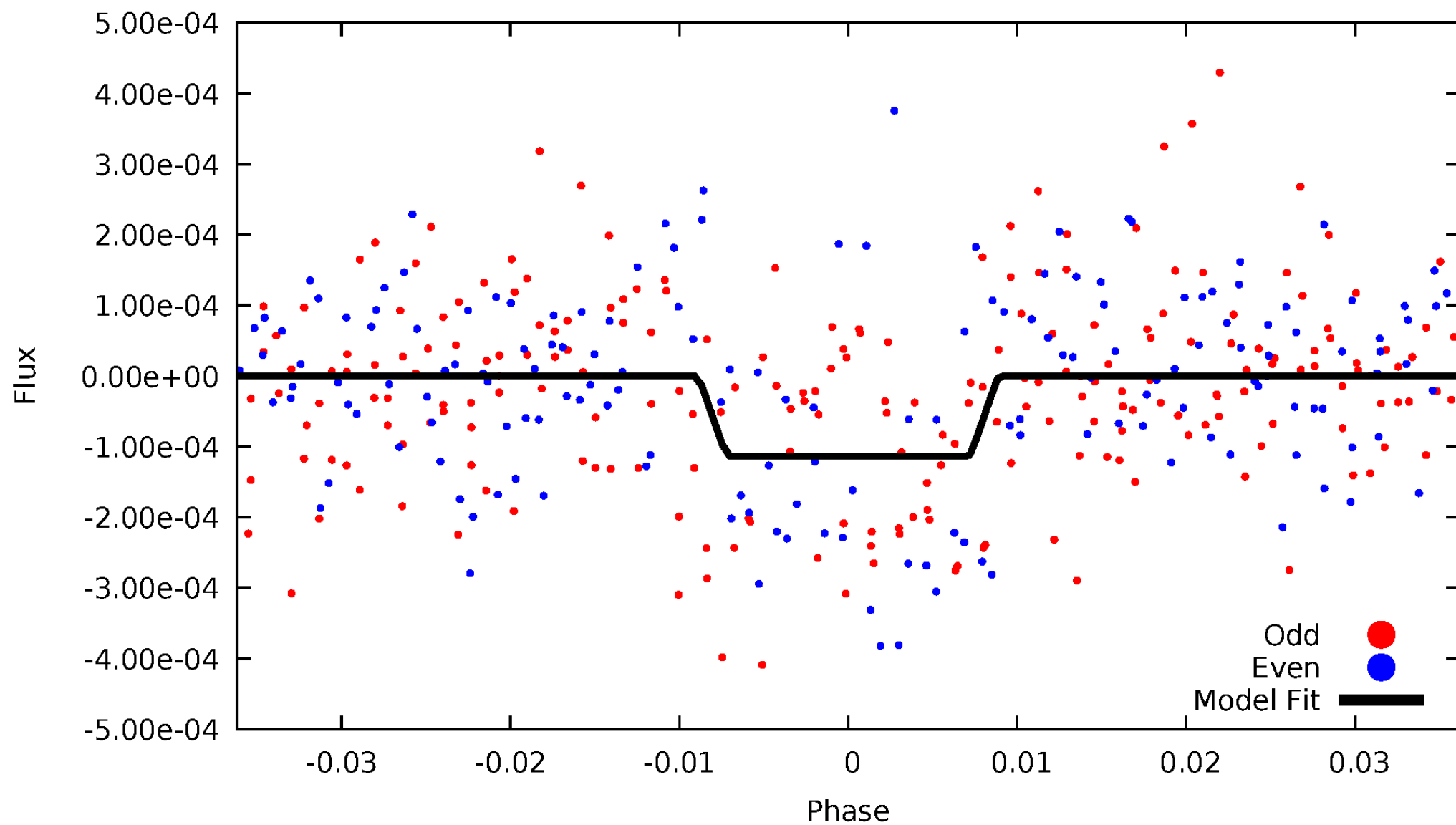
DV Odd/Even

TCE 009269884-08



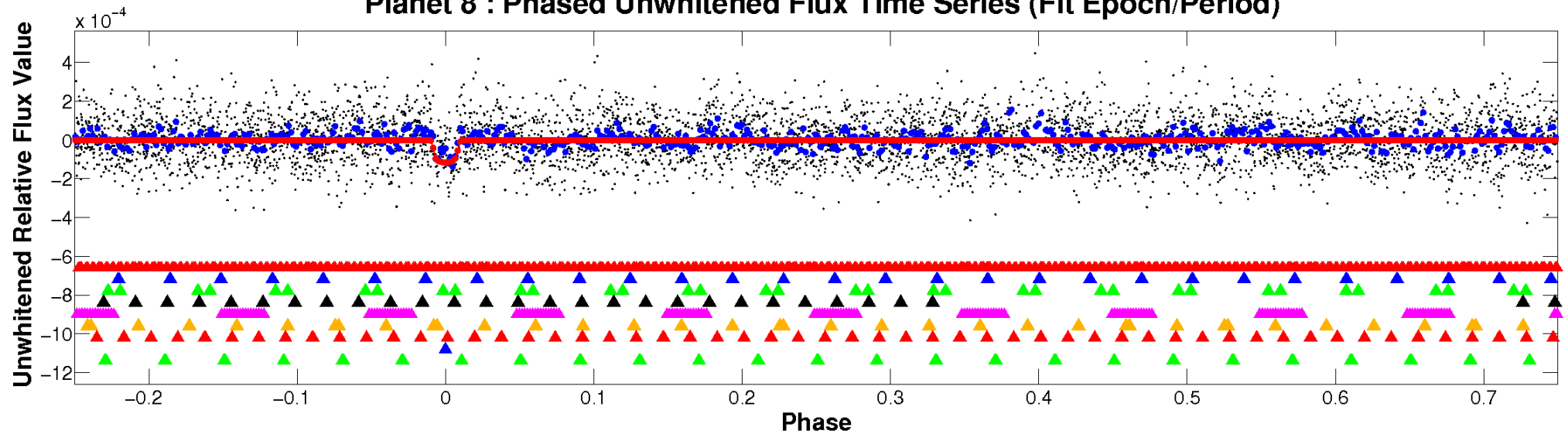
ALT Odd/Even

TCE 009269884-08

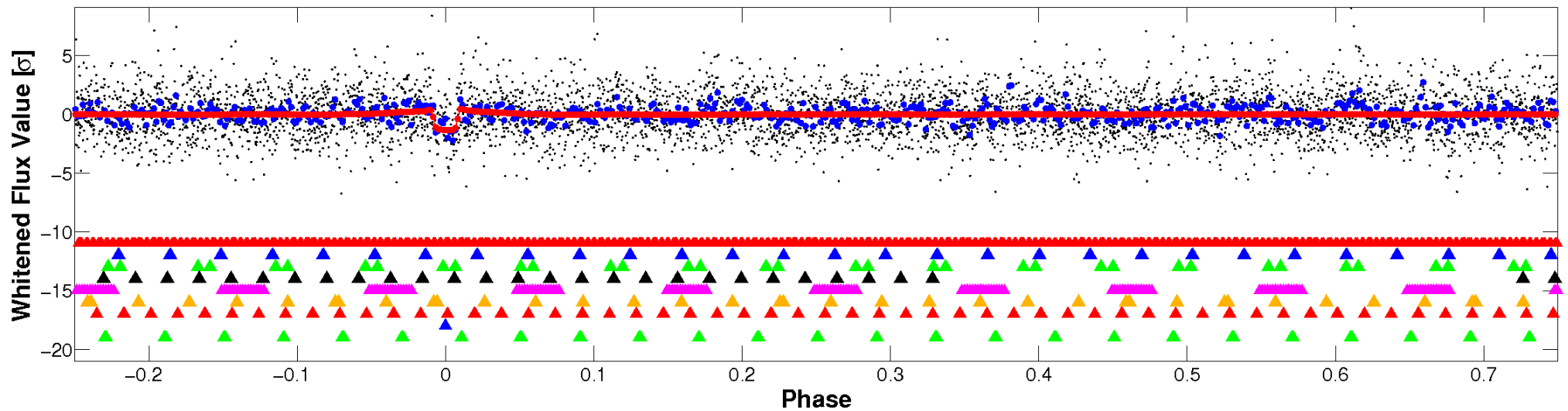


Non-Whitened Vs. Whitened Light Curve

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

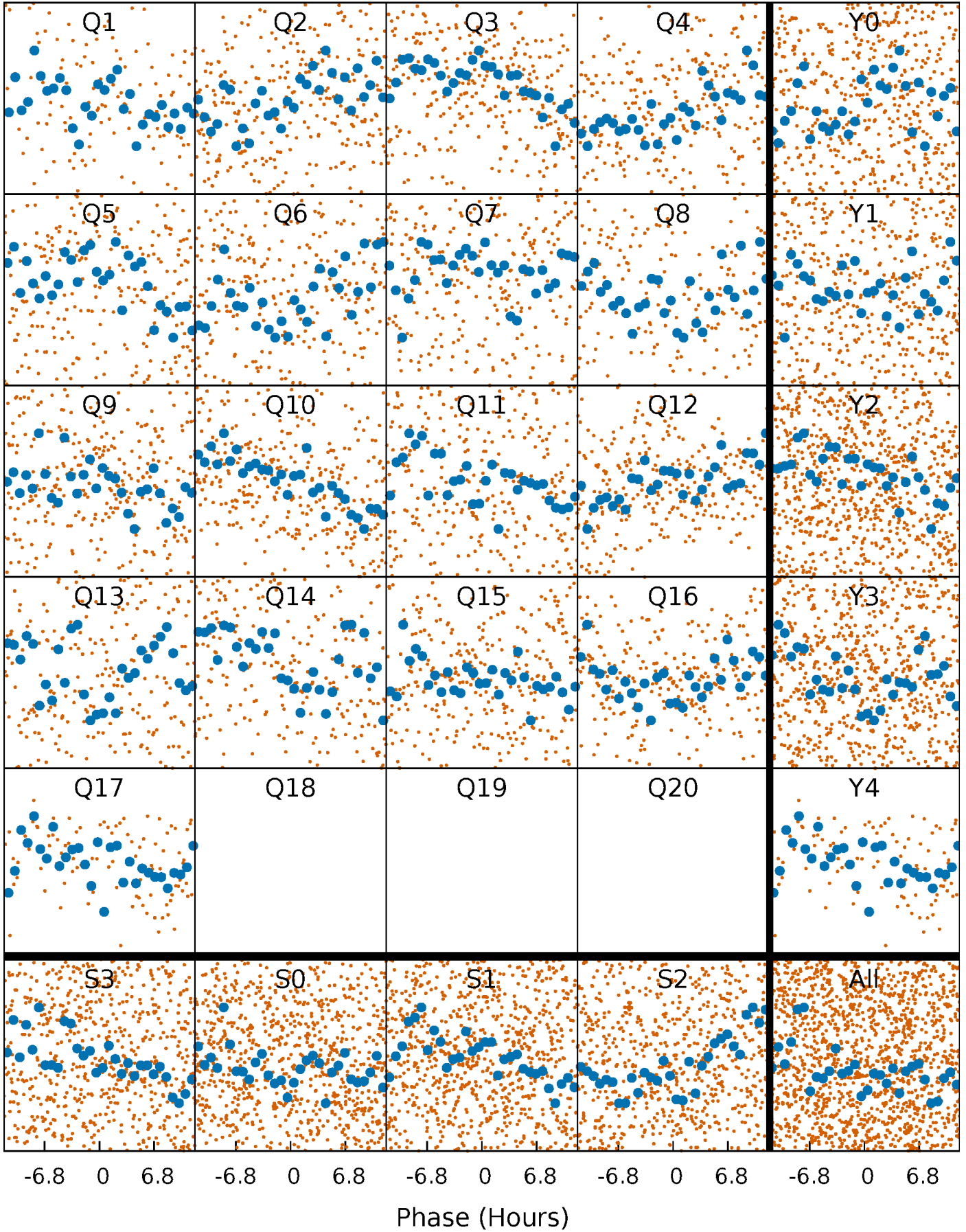


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



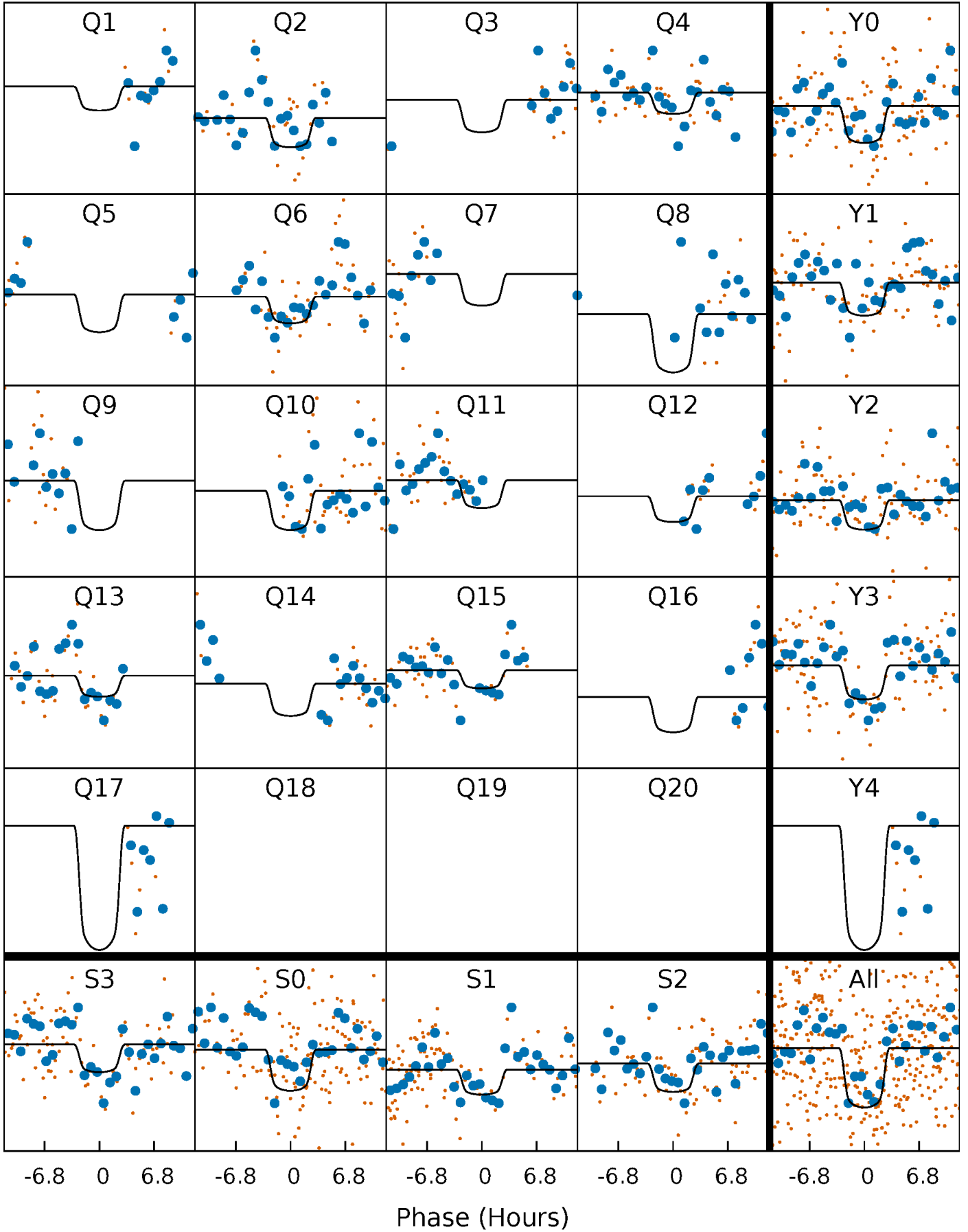
PDC Quarter-Phased Transit Curves

TCE 009269884-08 P= 12.366625 Days $T_0=139.733638$ (BKJD)



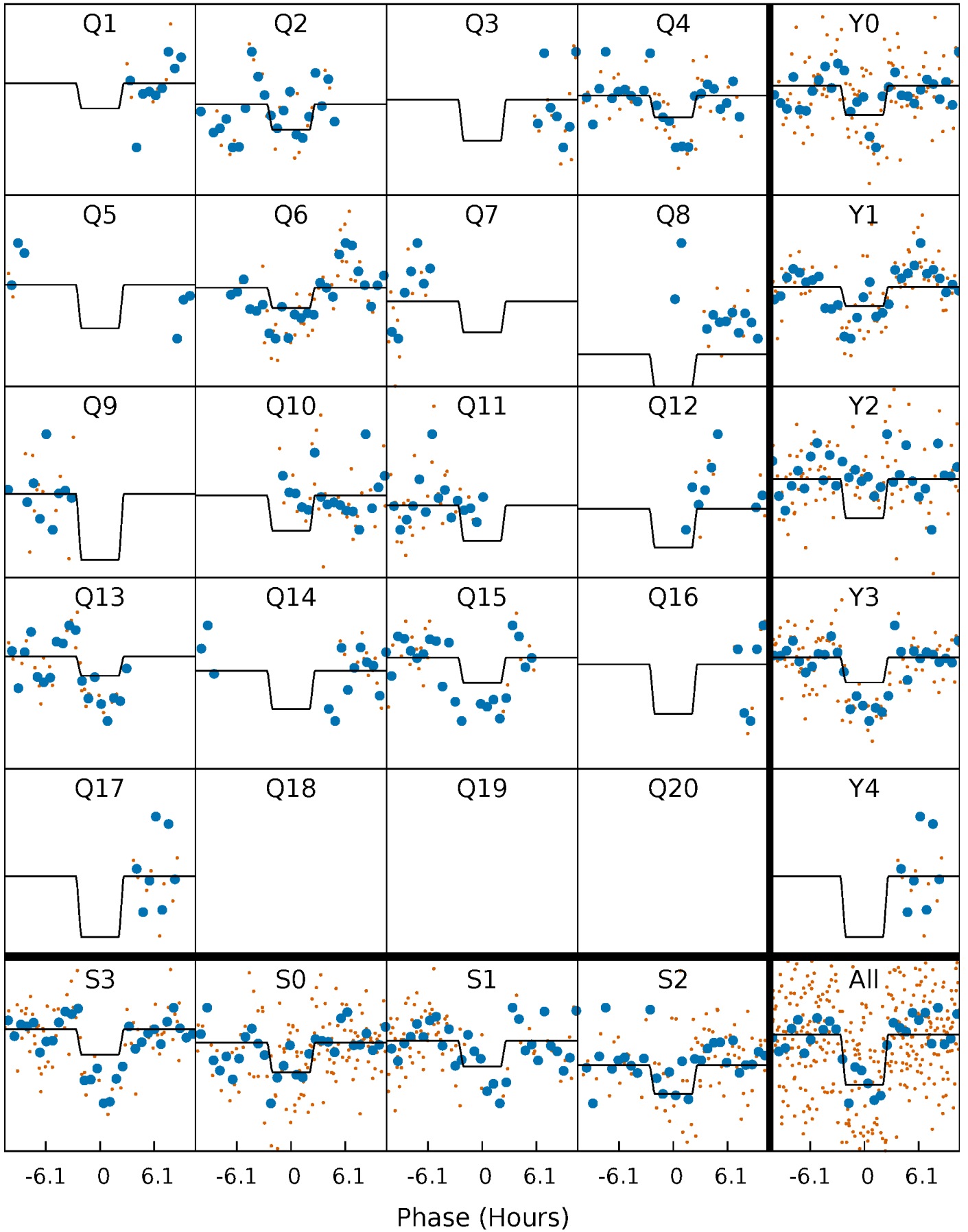
DV Quarter-Phased Transit Curves

TCE 009269884-08 P= 12.366625 Days $T_0=139.733638$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

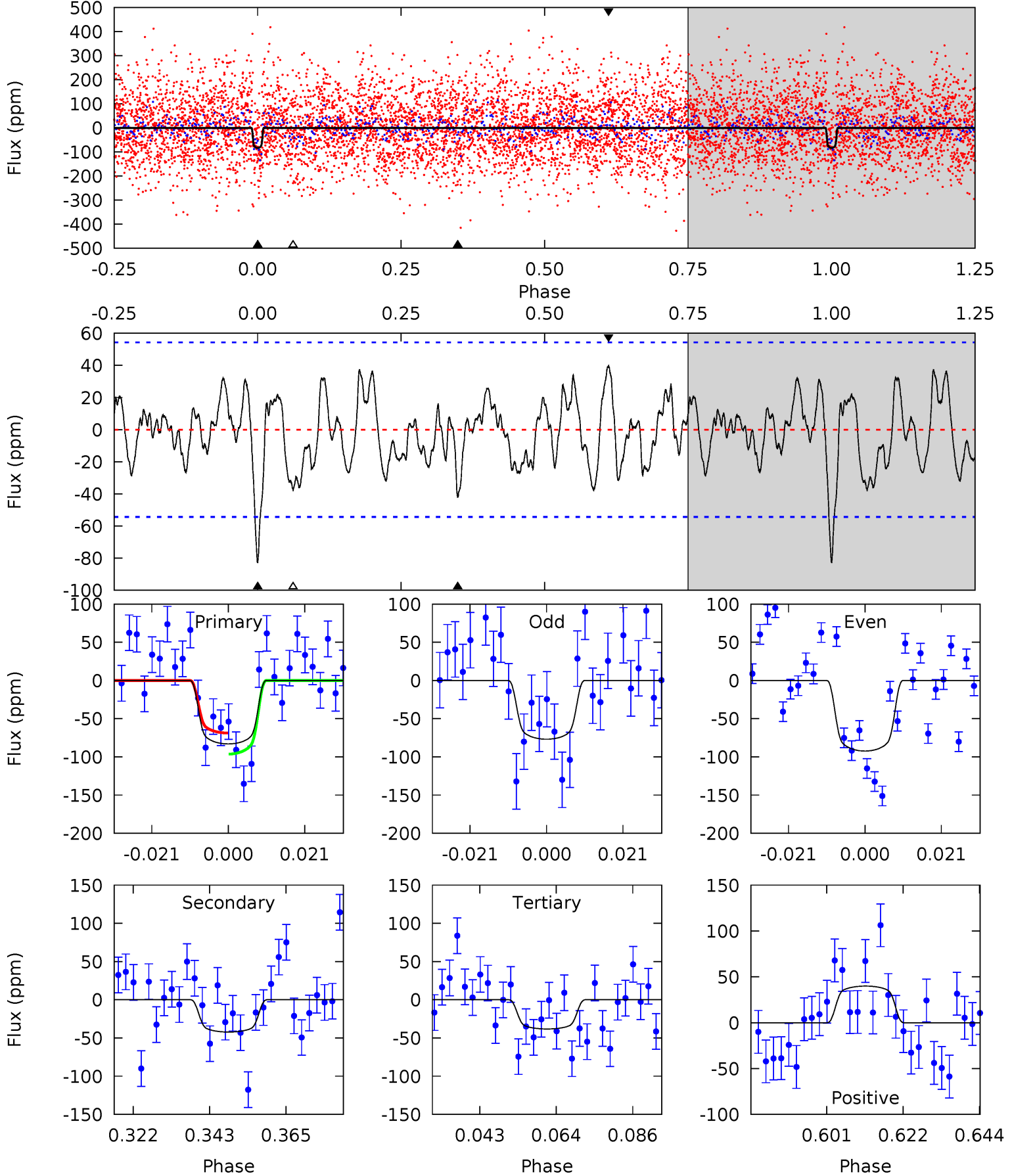
TCE 009269884-08 P= 12.366483 Days $T_0=139.739792$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-08, P = 12.366625 Days, E = 127.367013 Days

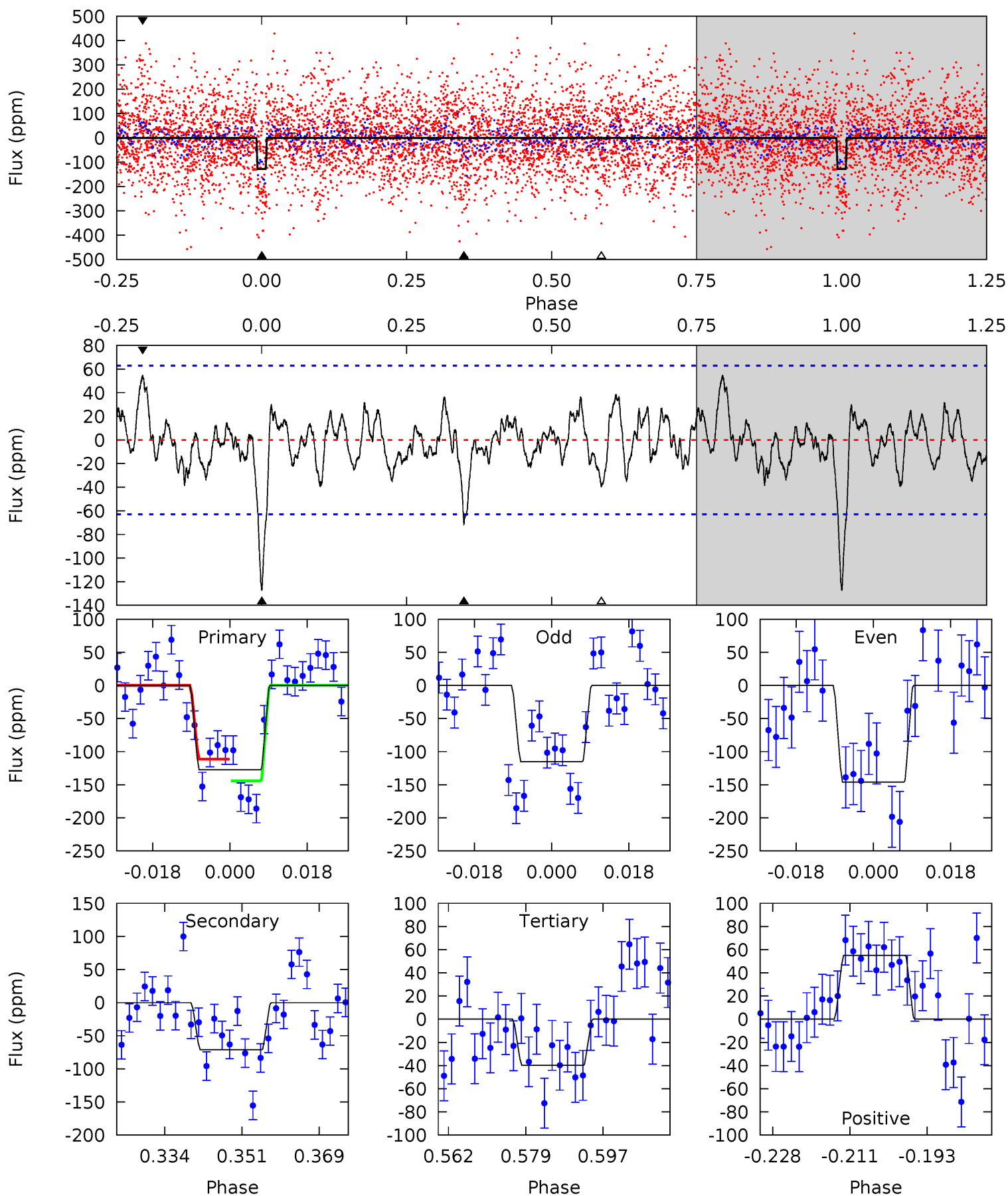
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.46	3.79	3.43	3.58	4.88	2.30	1.57	4.02	3.87	0.36	0.21	0.68	1.54	0.32	1.23



Alt Model-Shift Uniqueness Test

009269884-08, P = 12.366483 Days, E = 127.373309 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.96	5.56	3.12	4.30	4.92	2.37	1.34	6.85	5.66	2.45	1.26	1.21	0.99	0.30	1.28



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-42 ± 11	$4.14^{+0.81}_{-0.97}$	2034^{+134}_{-194}	4764^{+406}_{-356}	19^{+13}_{-7}
Alt.	-71 ± 13	$3.49^{+0.77}_{-0.90}$	2034^{+127}_{-224}	5772^{+554}_{-483}	45^{+35}_{-16}

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 $A_{obs} \gg 1.0$

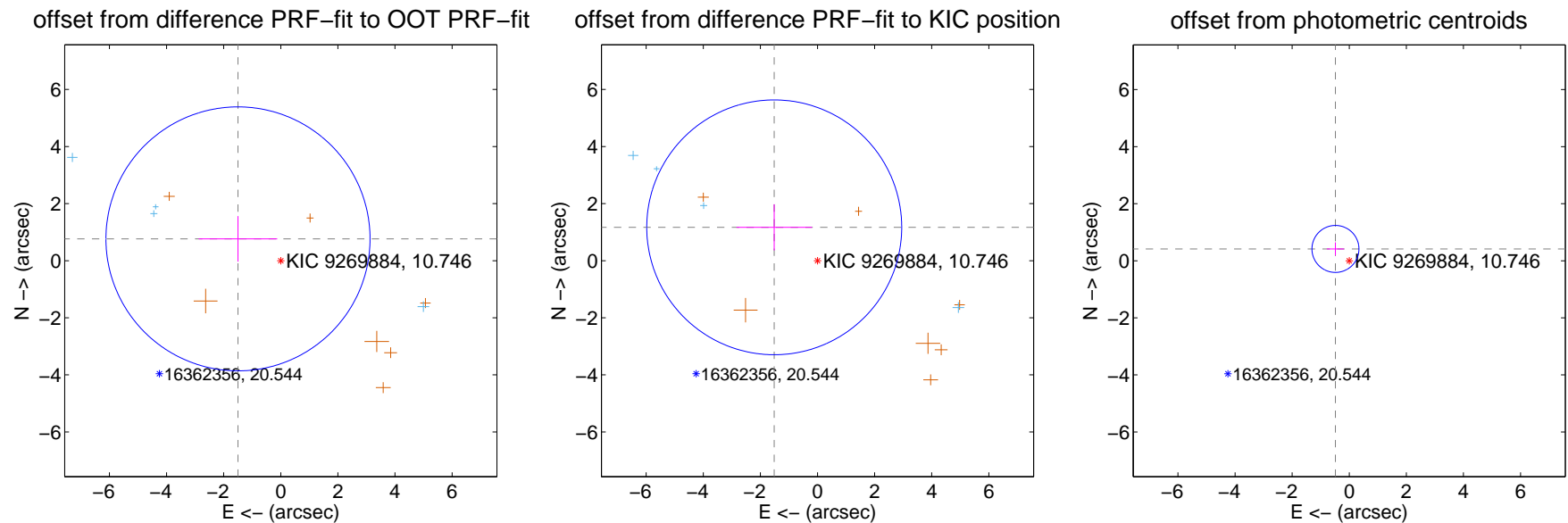
DV Centroid Data

Supplemental centroid analysis for 009269884-08. **Kepler magnitude: 10.75.** Transit SNR 11.82

There are 4 quarters with good PRF difference image offsets

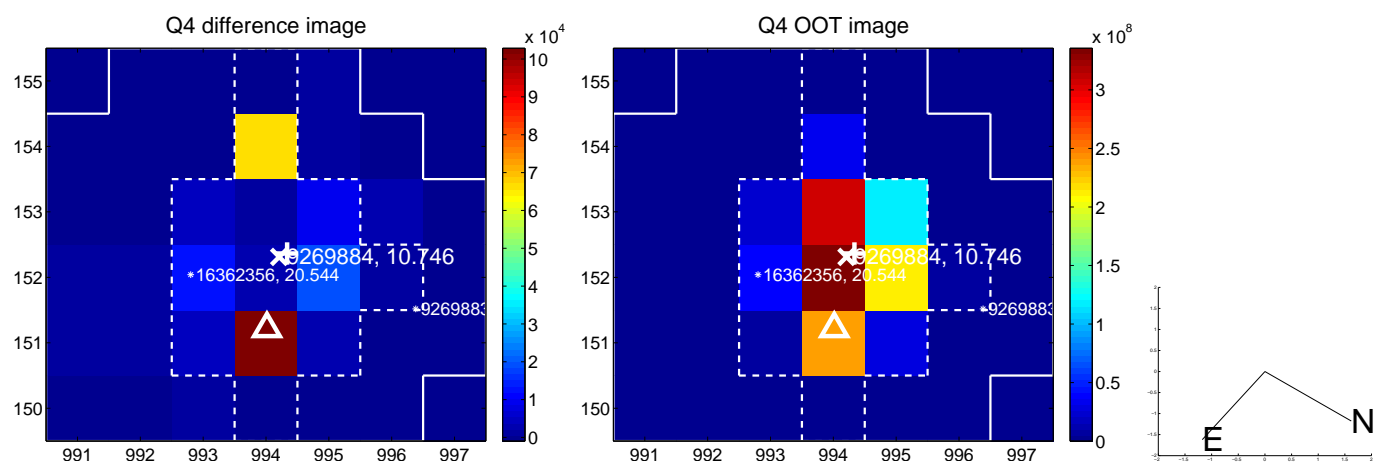
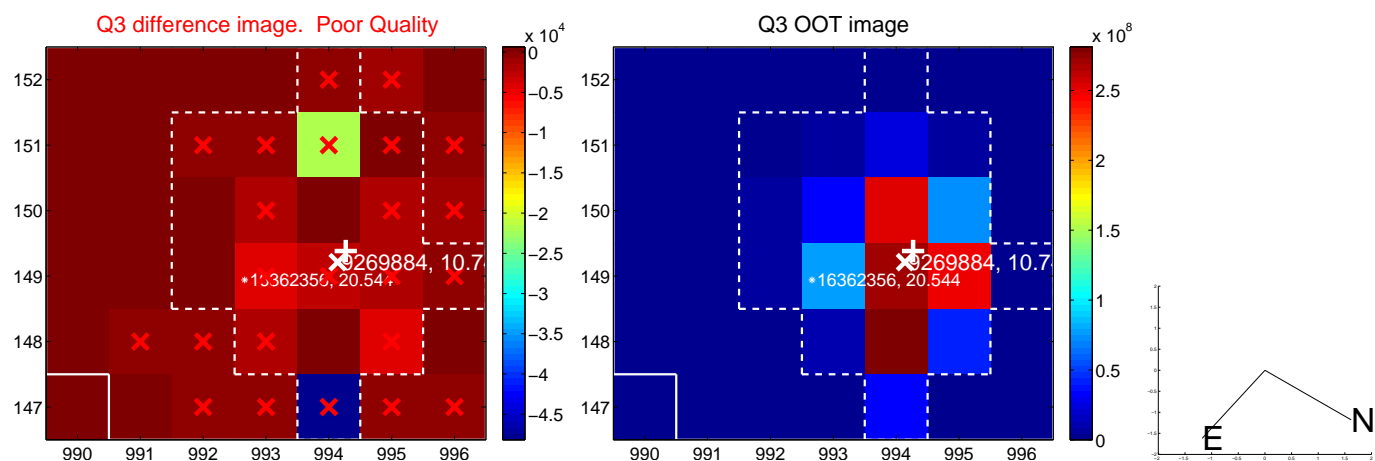
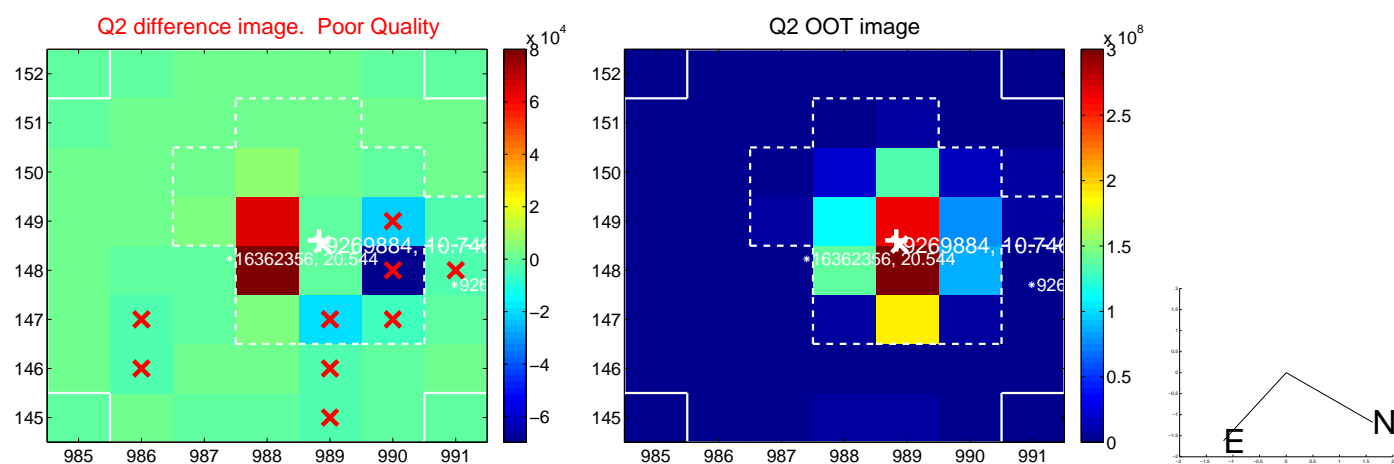
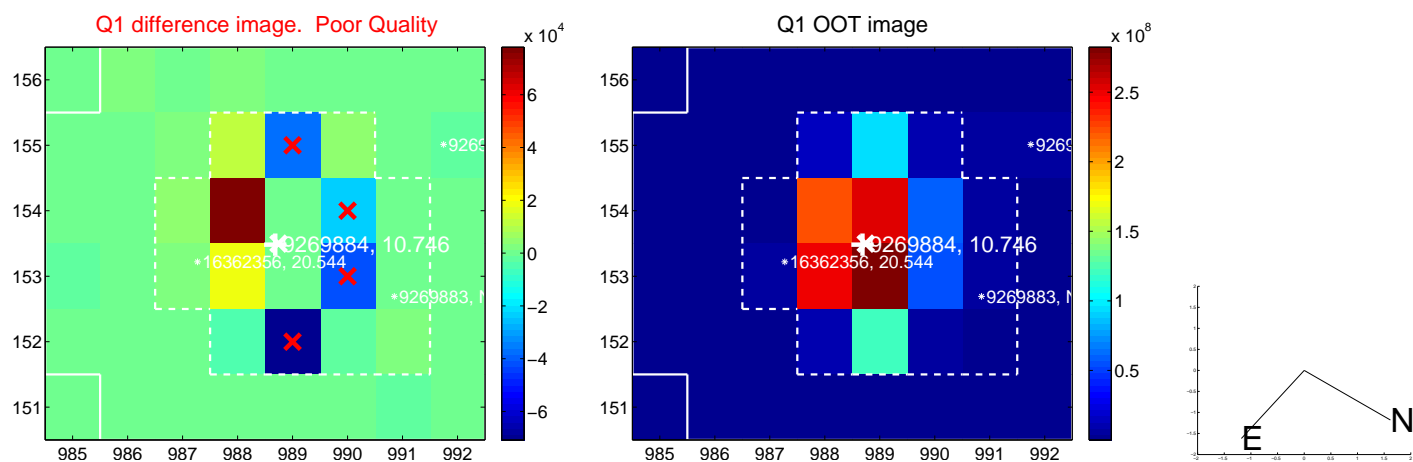
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.682 ± 1.541	1.09	1.498 ± 1.374	0.765 ± 0.800
PRF-fit source offset from KIC position	1.914 ± 1.488	1.29	1.515 ± 1.324	1.169 ± 0.809
photometric centroid source offset	0.64 ± 0.27	2.32	0.48 ± 0.30	0.41 ± 0.23

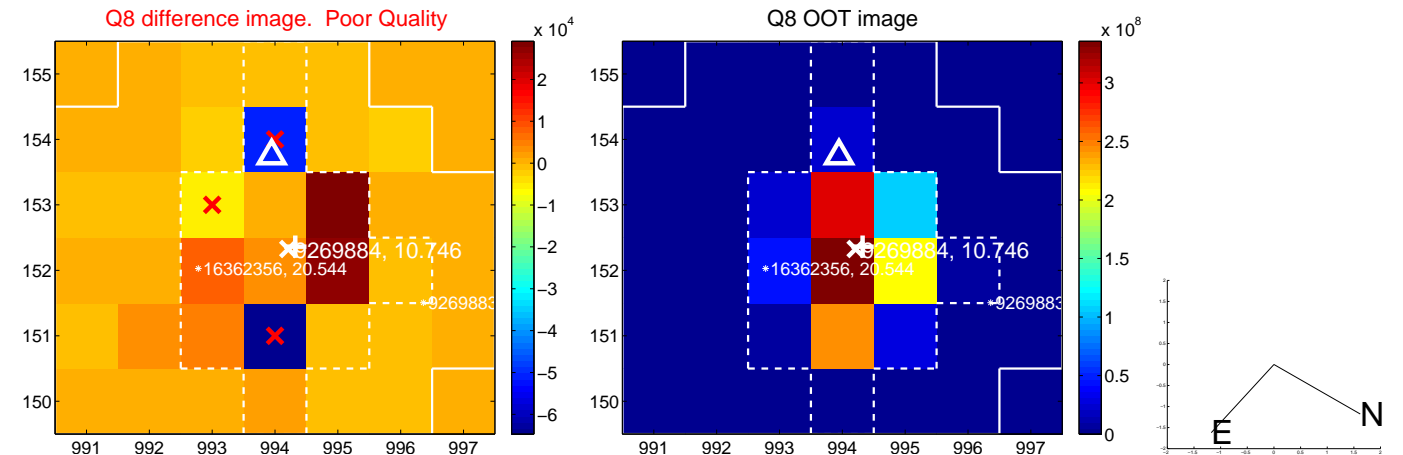
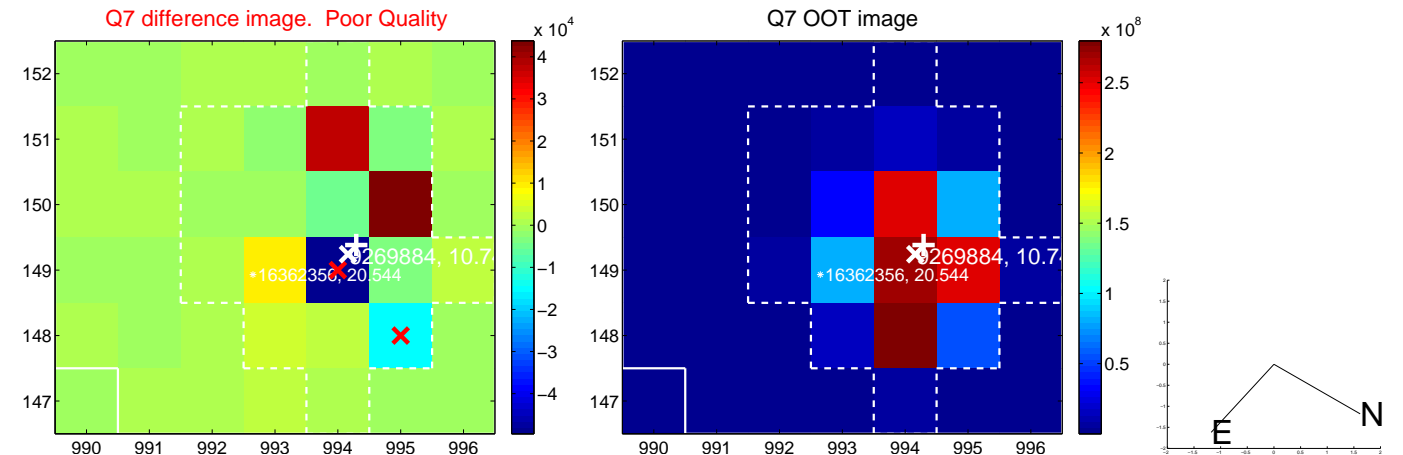
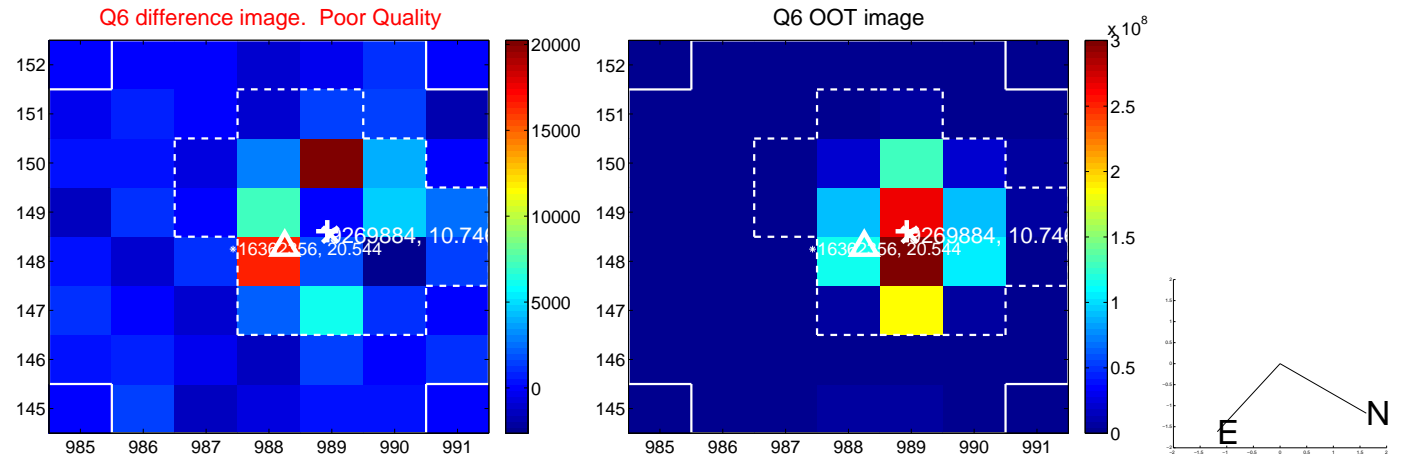
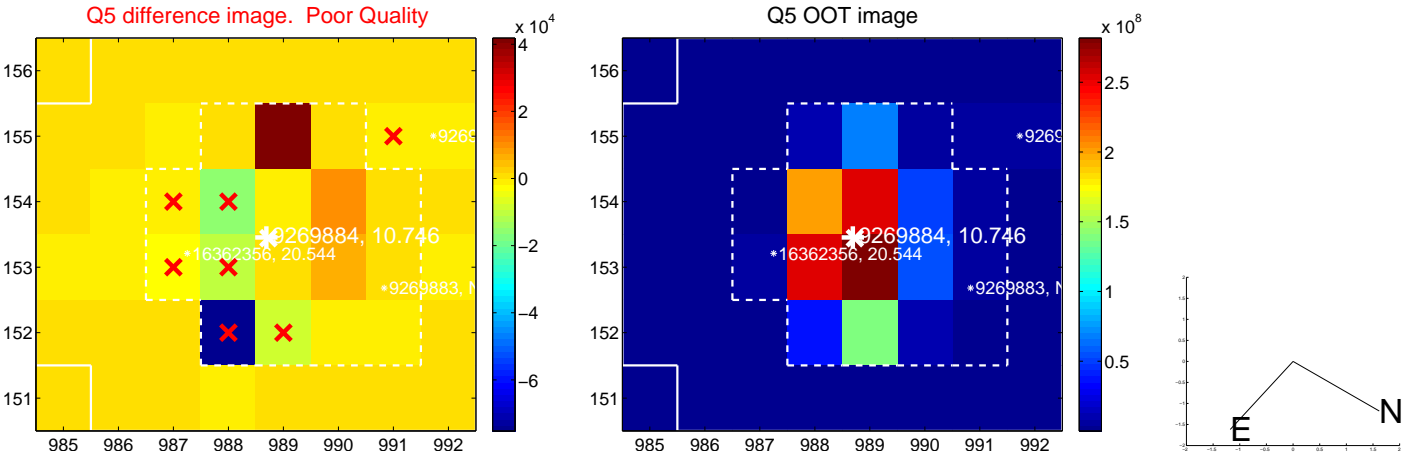


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

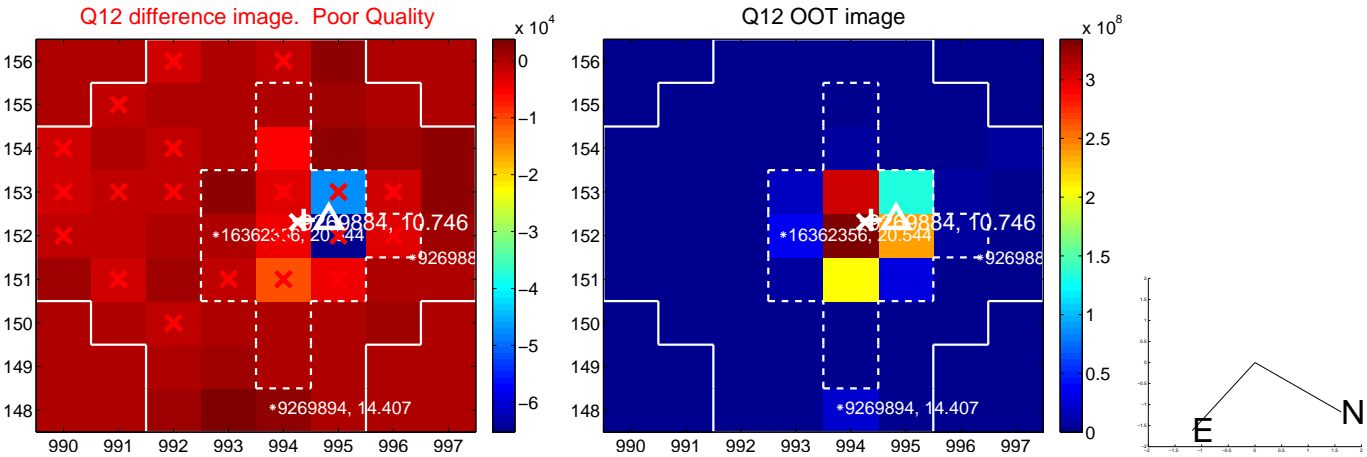
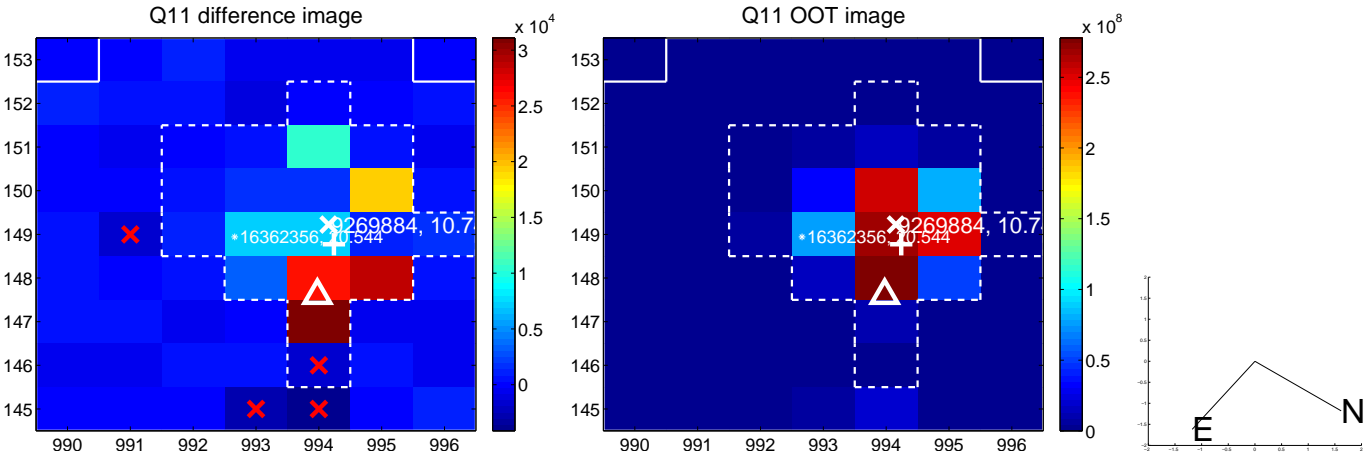
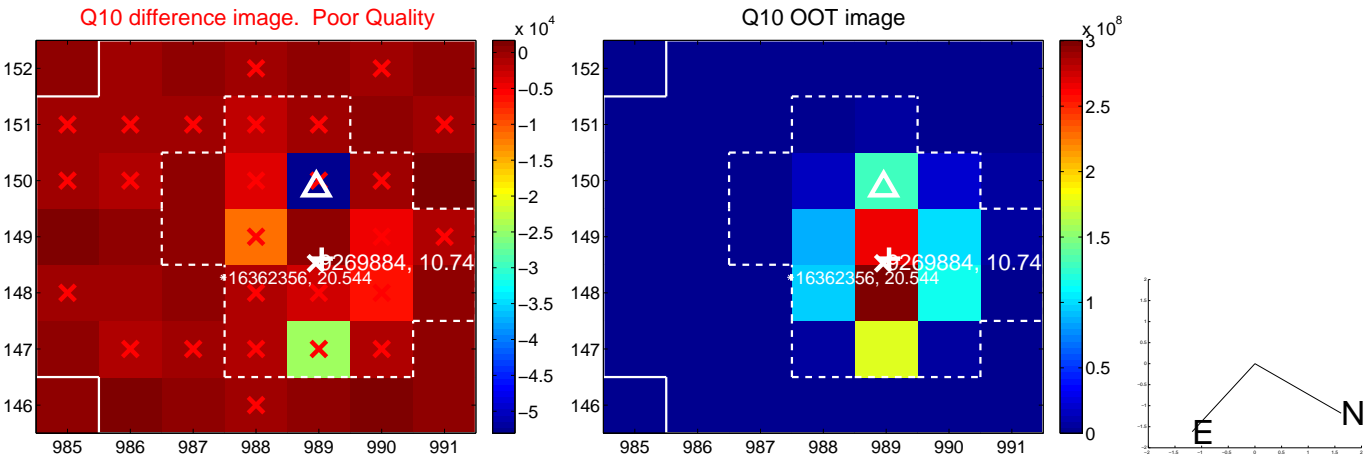
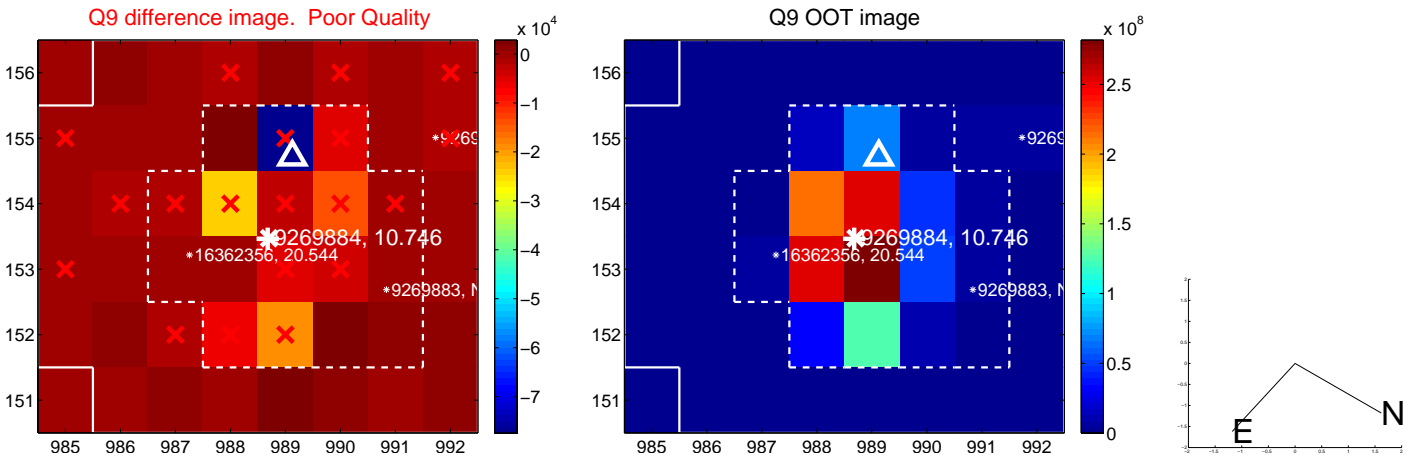
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



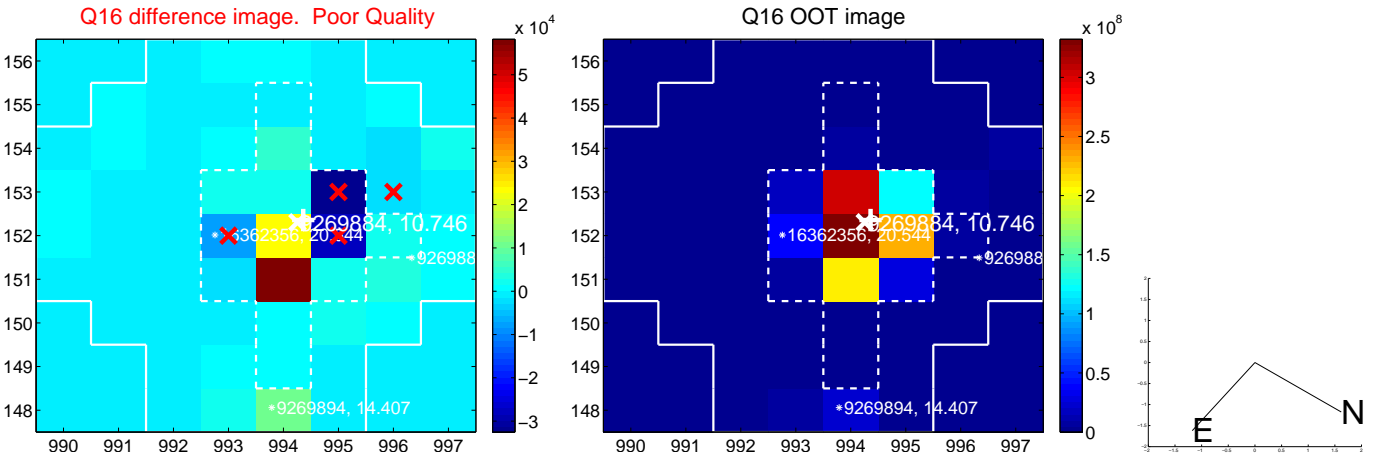
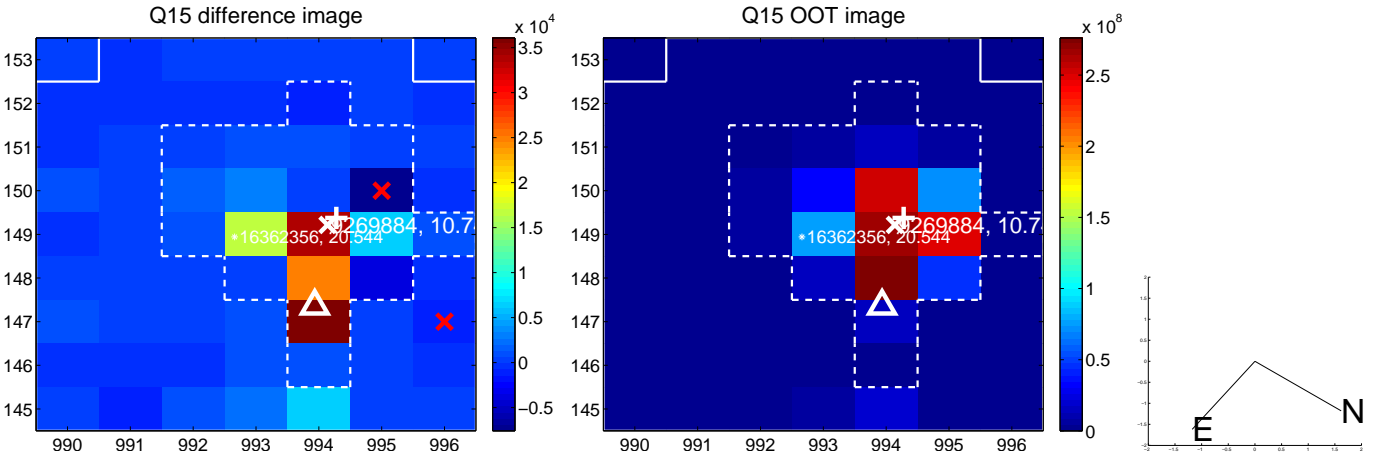
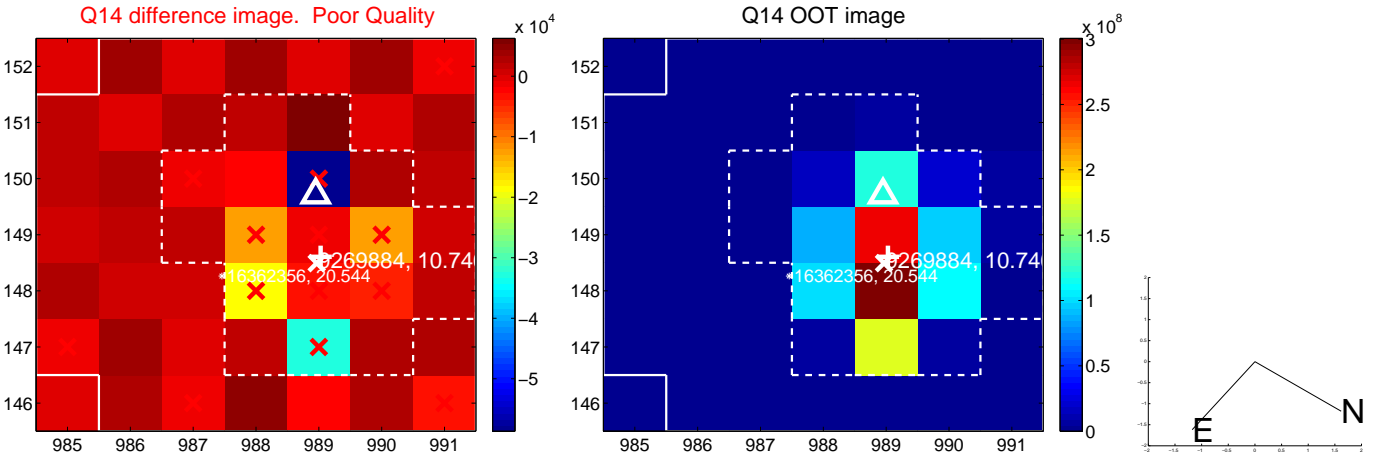
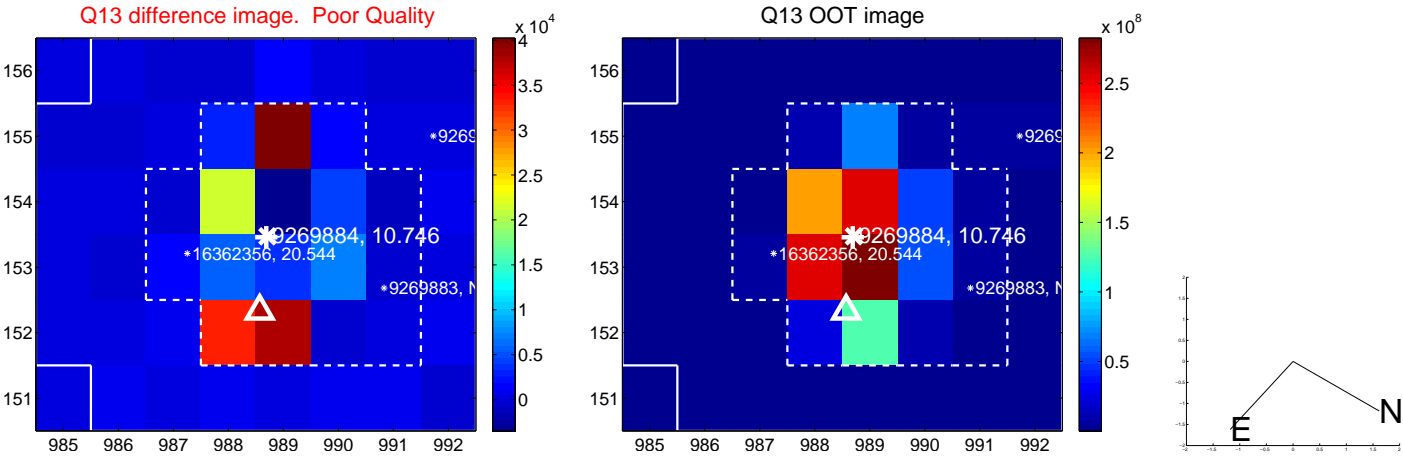
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



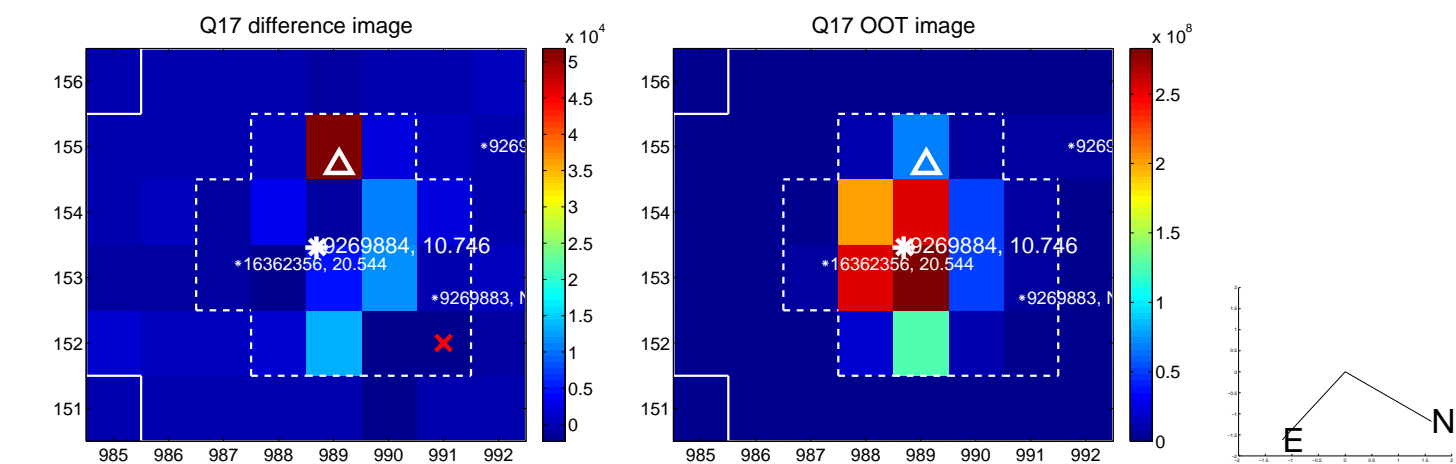
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



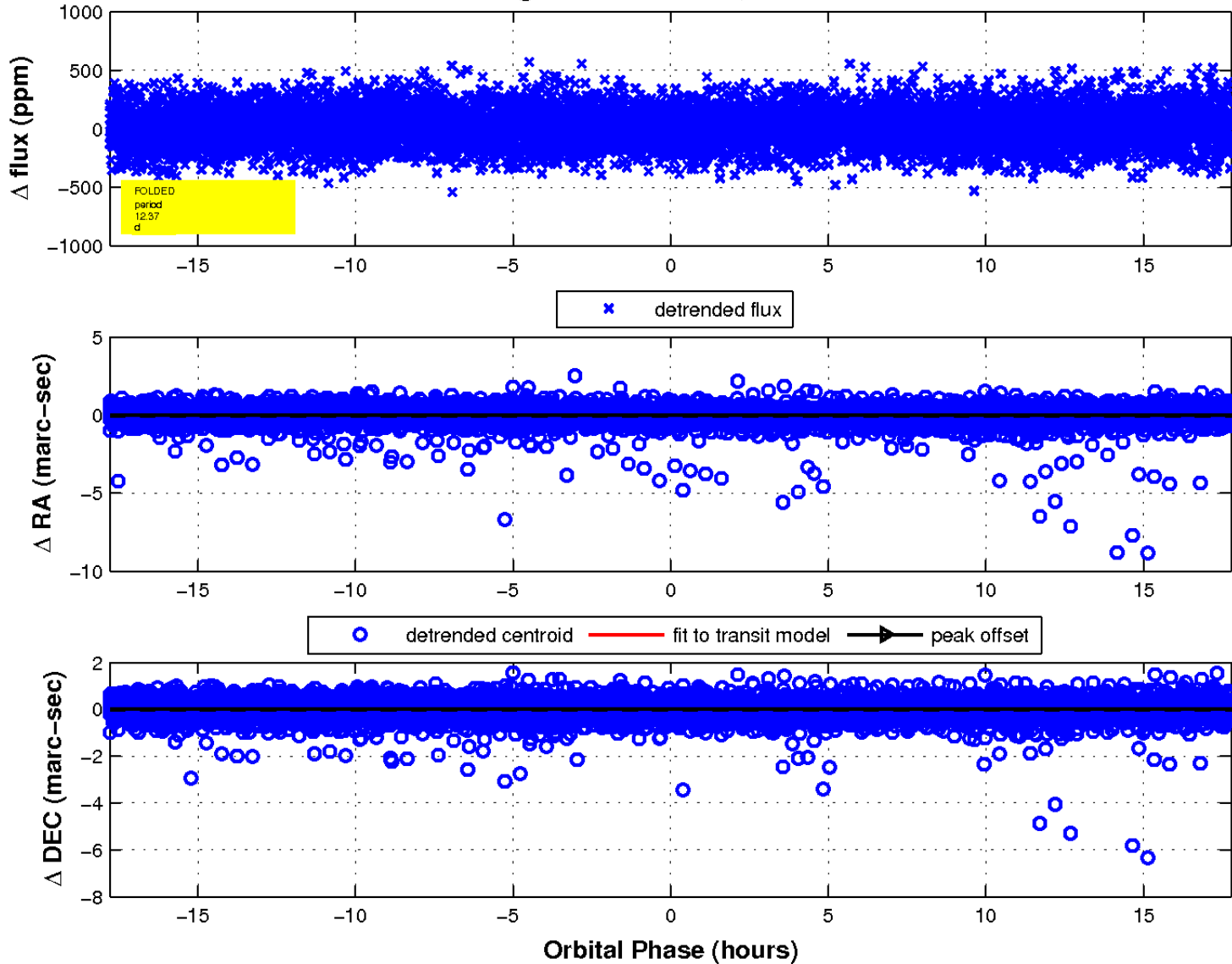
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



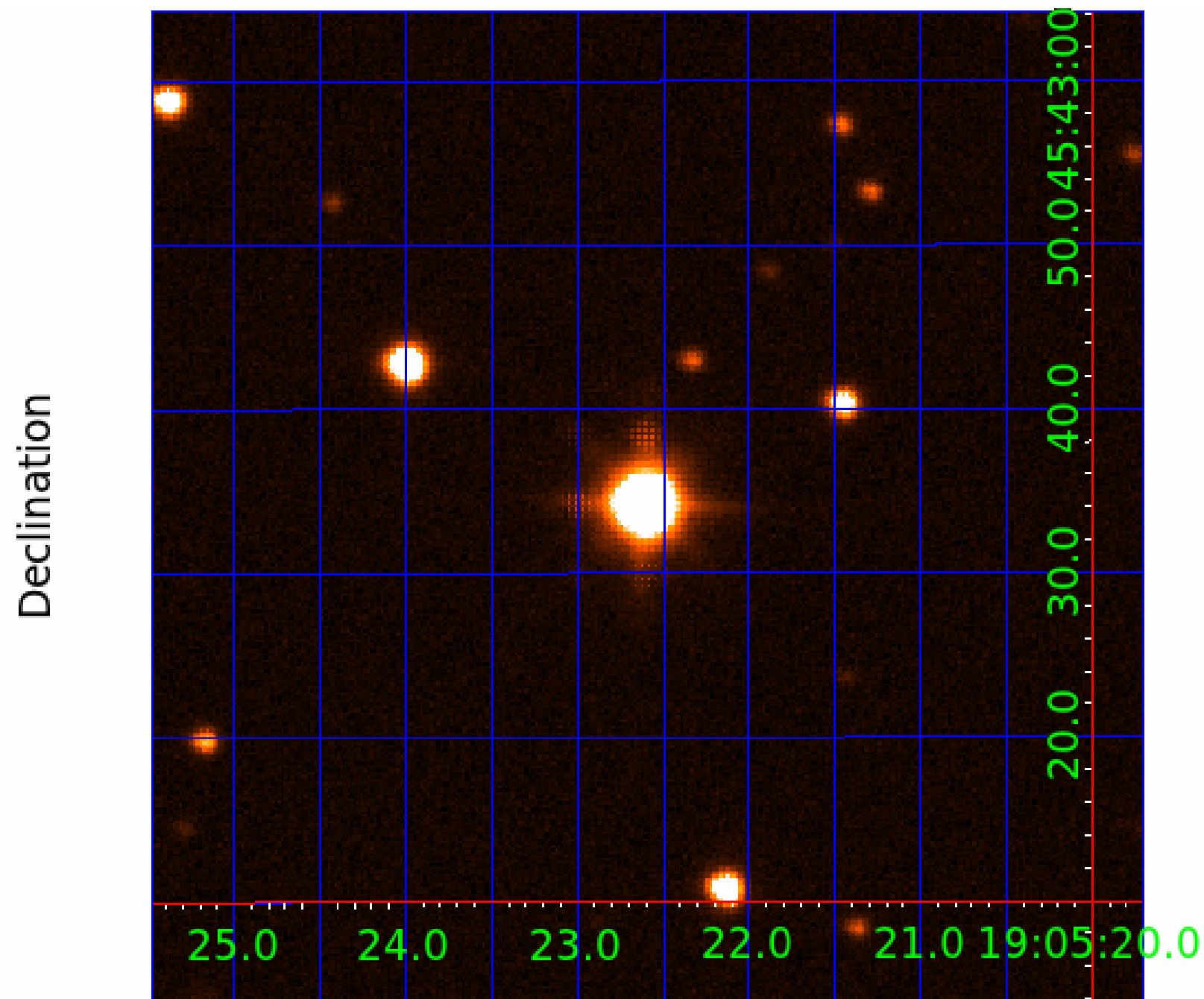
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 8 of 9



UKIRT Image



KIC 009269884

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})
009269884-01	OBS	No	2.729626	131.881268	10.5	19.670	8.1	4.5	3.16	6462	1.04	8459.59
009269884-02	OBS	No	25.586420	143.397766	320.3	3.357	19.8	13.9	3.16	6462	10.61	428.03
009269884-03	OBS	No	40.540643	154.773010	184.2	10.954	15.3	10.2	3.16	6462	4.73	231.72
009269884-04	OBS	No	49.200642	168.528707	223.8	2.098	13.2	11.1	3.16	6462	5.55	179.00
009269884-05	OBS	No	8.654428	138.220898	140.1	1.740	12.8	13.7	3.16	6462	4.54	1816.22
009269884-06	OBS	No	39.986377	146.229070	205.5	1.725	12.8	8.0	3.16	6462	5.01	236.01
009269884-07	OBS	No	19.336792	145.376367	256.4	1.028	12.4	10.0	3.16	6462	5.83	621.79
009269884-08	OBS	No	12.366625	139.733638	115.4	5.931	11.9	11.8	3.16	6462	4.29	1128.46
009269884-09	OBS	No	21.270841	134.913278	82.9	3.000	10.9	-1.0	3.16	6462	2.90	547.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009269884-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
009269884-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
009269884-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-07	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
009269884-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

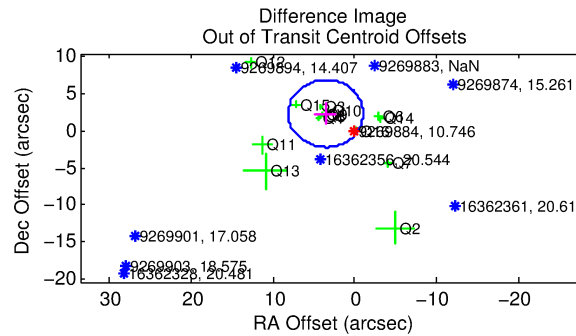
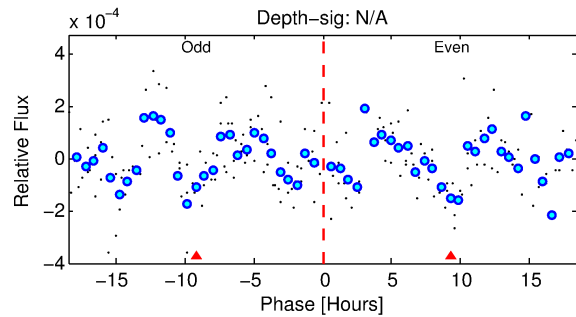
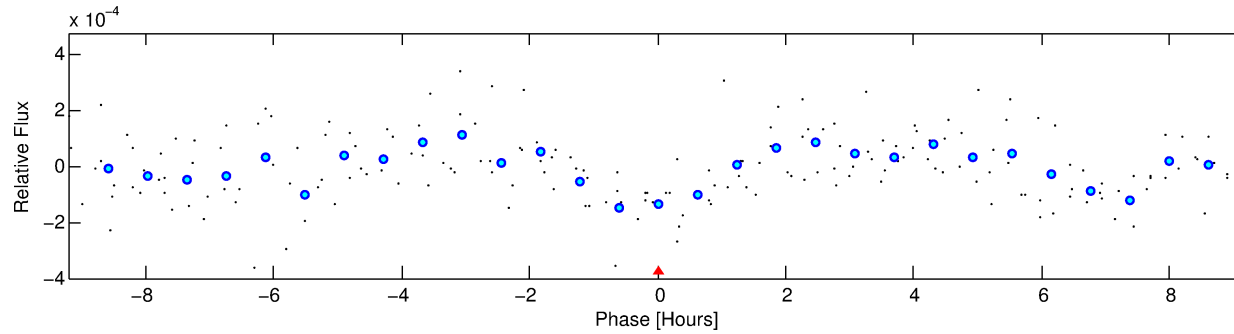
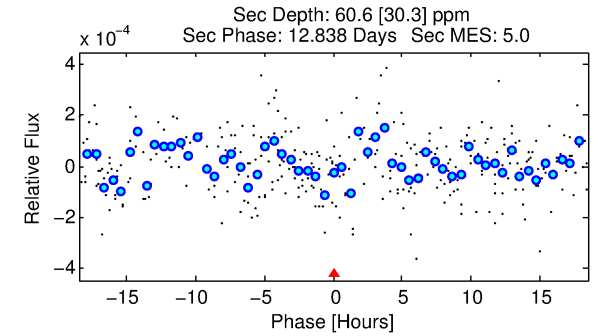
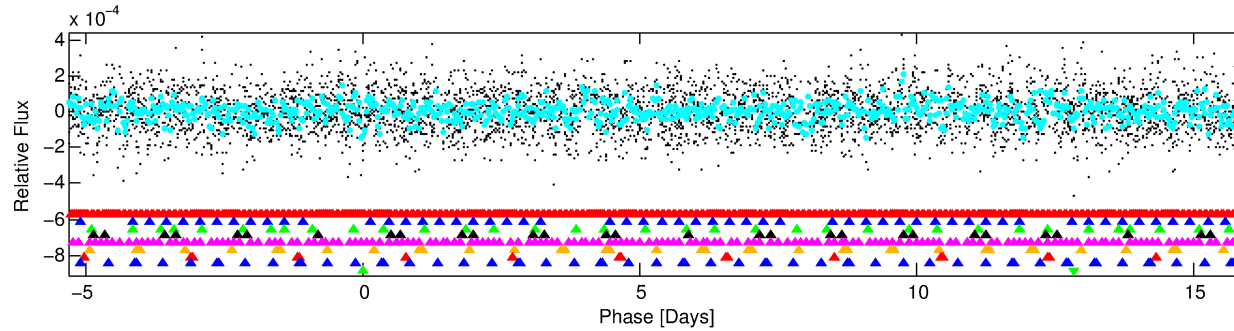
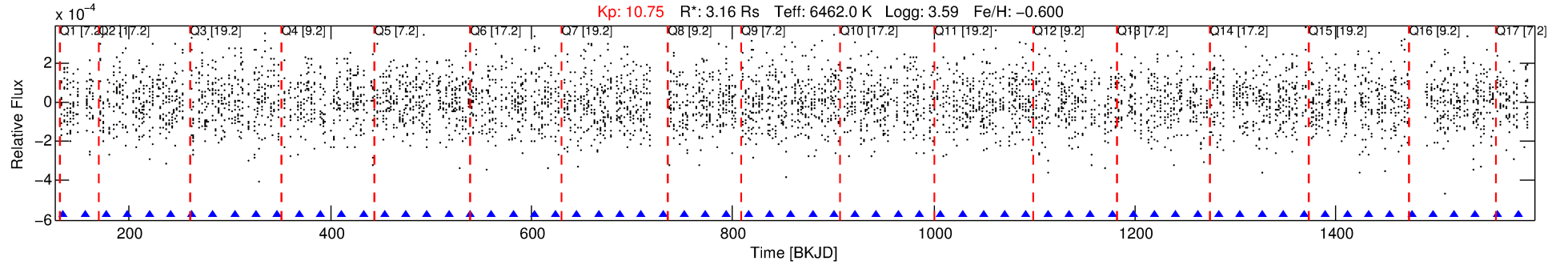
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009269884-09

No Significant Match Found

DV One-Page Summary

KIC: 9269884 Candidate: 9 of 9 Period: 21.271 d



TPS TCE Results:

Period = 21.27084 d
Epoch = 134.9133 BKJD

DV fit results are unavailable

DV Diagnostic Results:

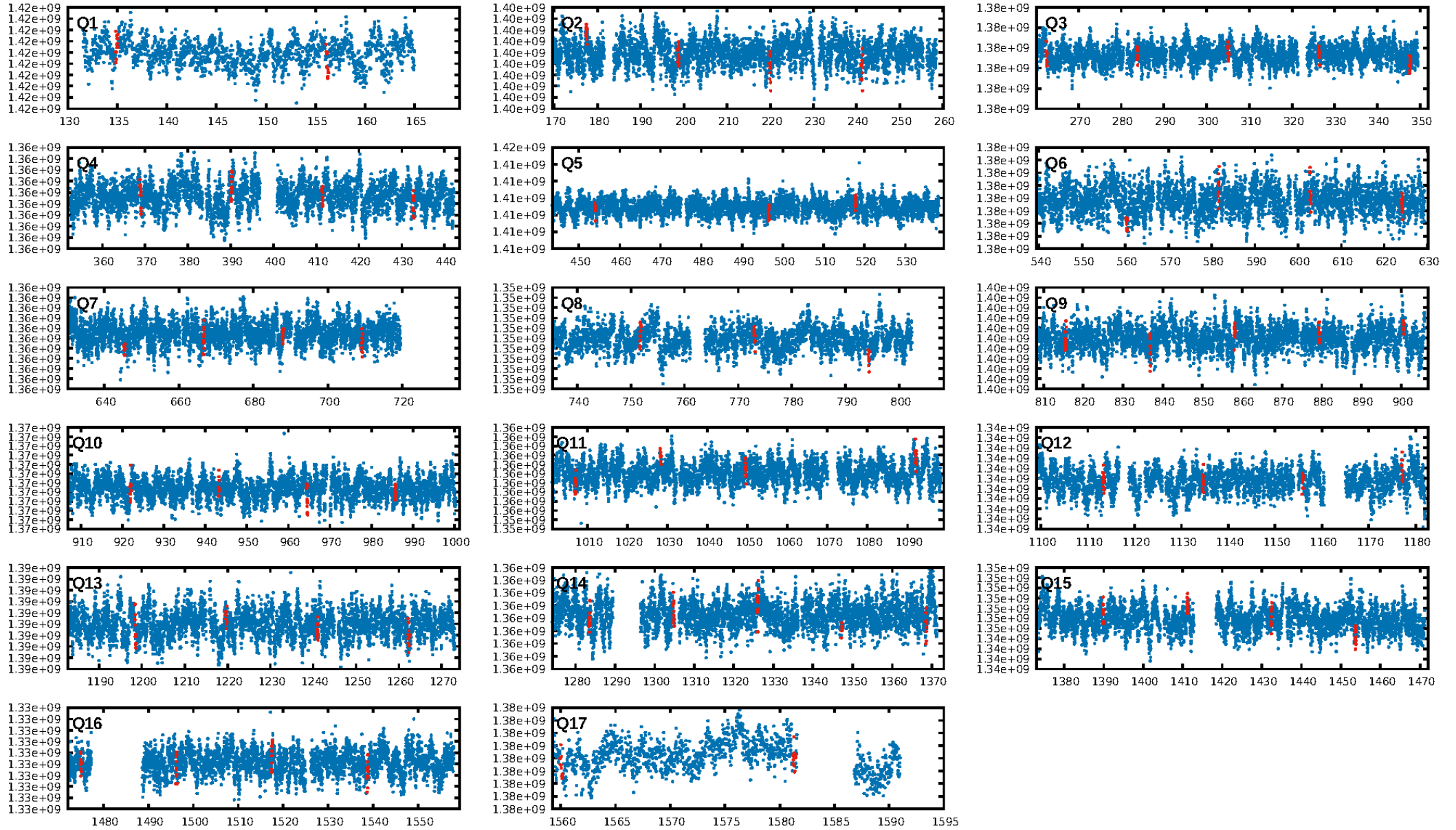
ShortPeriod-sig: 100.0% [14.64 σ]
LongPeriod-sig: 100.0% [23.01 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 0.3055

Centroid-sig: 9.3%
Centroid-so: 0.905 arcsec [3.29 σ]
OotOffset-rm: 4.289 arcsec [2.82 σ]
KicOffset-rm: 3.884 arcsec [2.23 σ]
OotOffset-st: 4/4/4/2 [14]
KicOffset-st: 4/4/4/2 [14]
DiffImageQuality-fgm: 0.07 [1/14]
DiffImageOverlap-fno: 0.94 [15/16]

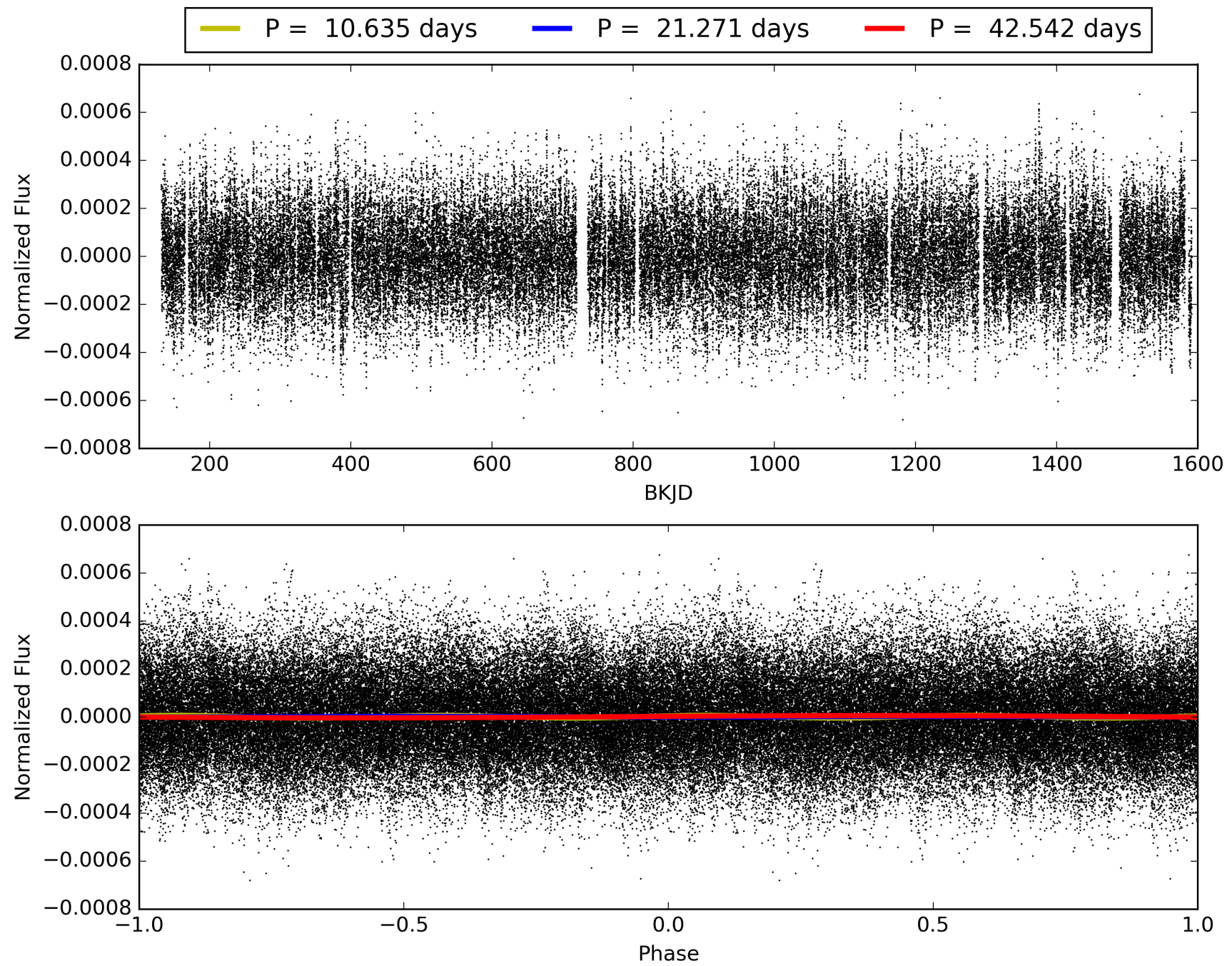
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:28 Z

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

TCE 009269884-09, PDC Light Curves

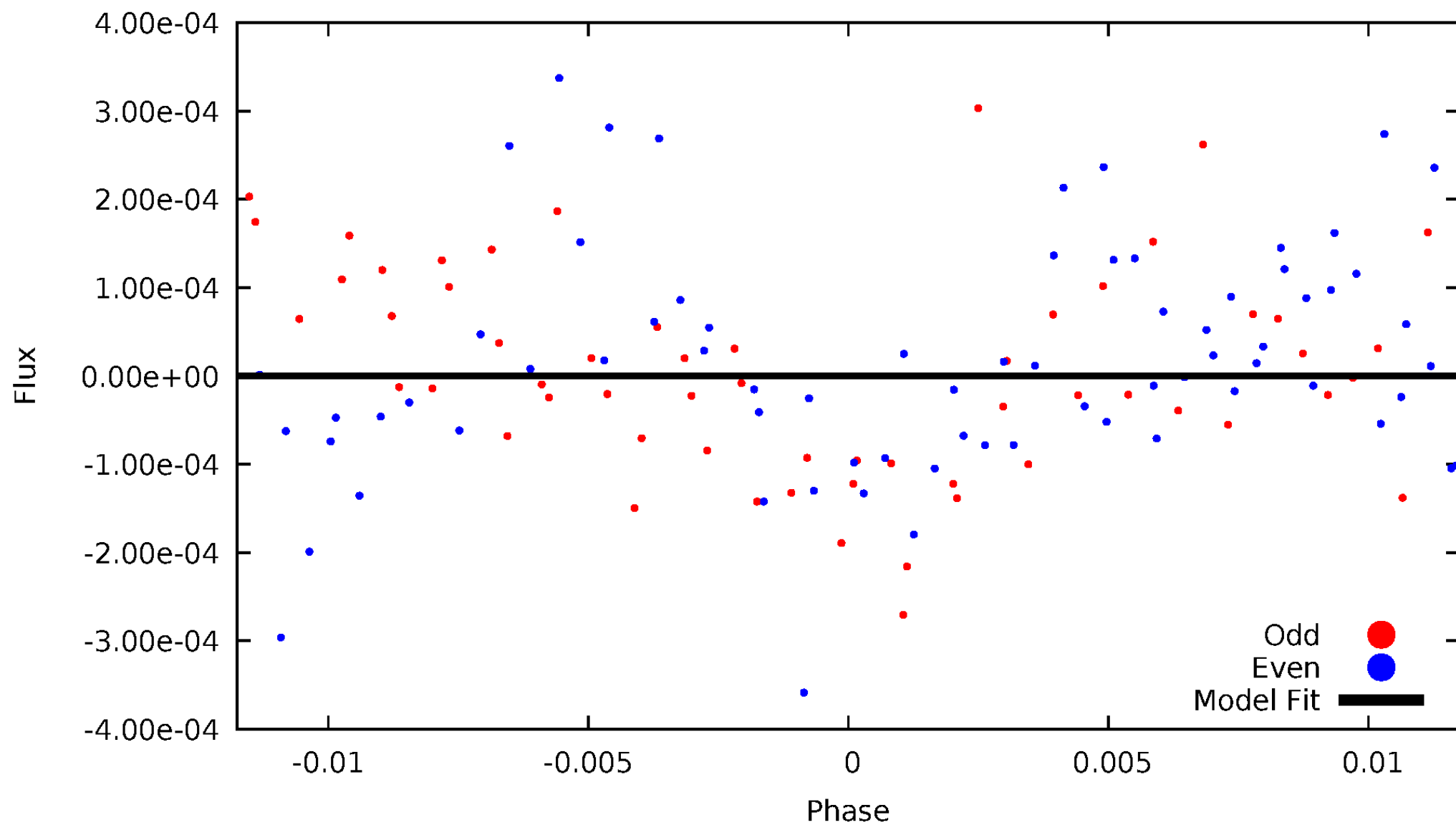


TCE 009269884-09



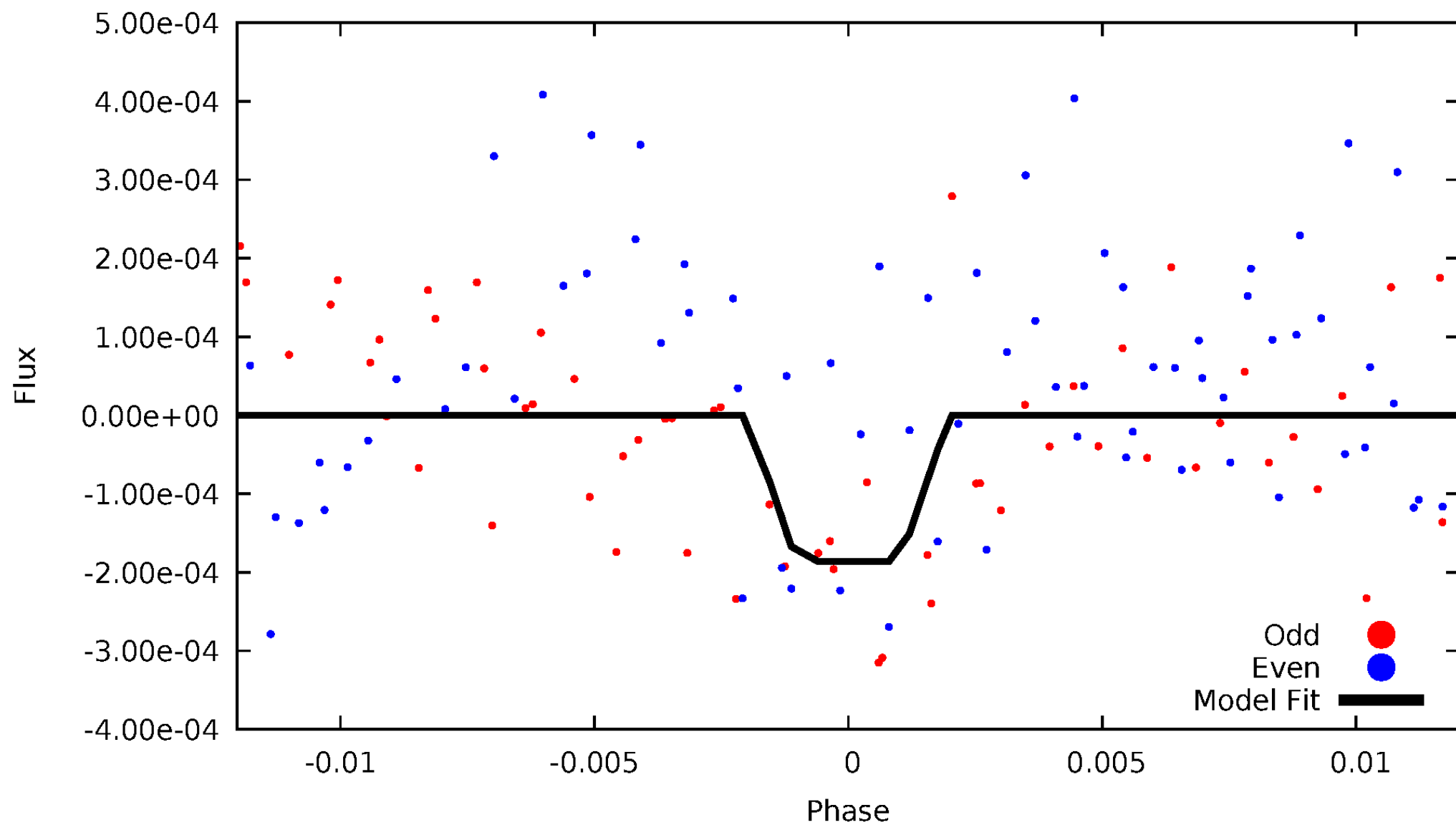
DV Odd/Even

TCE 009269884-09

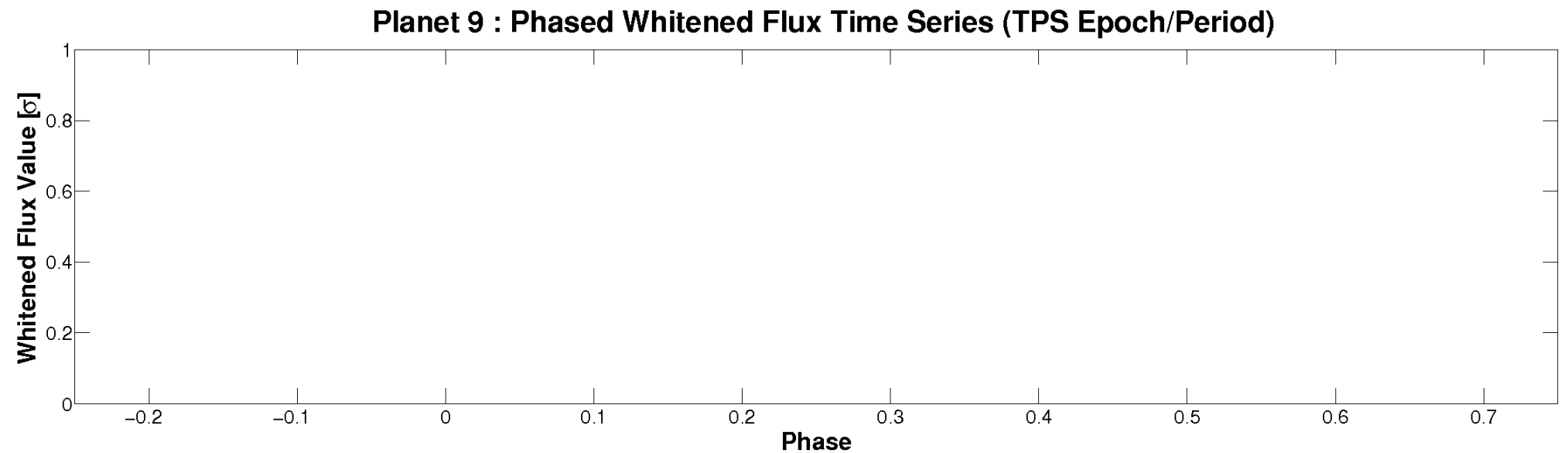
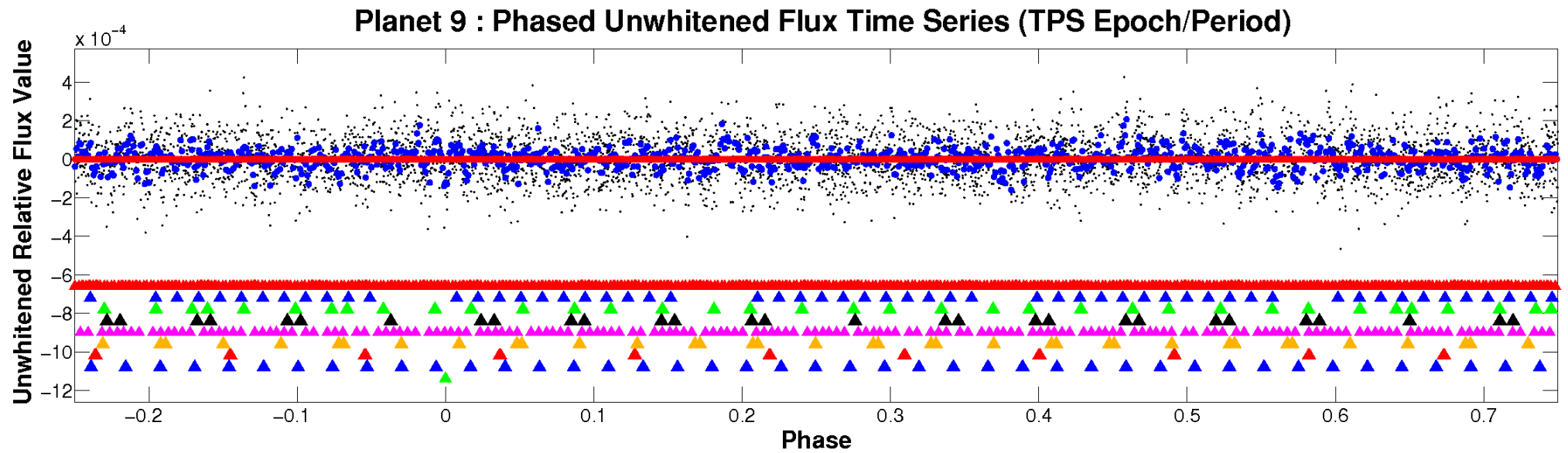


ALT Odd/Even

TCE 009269884-09

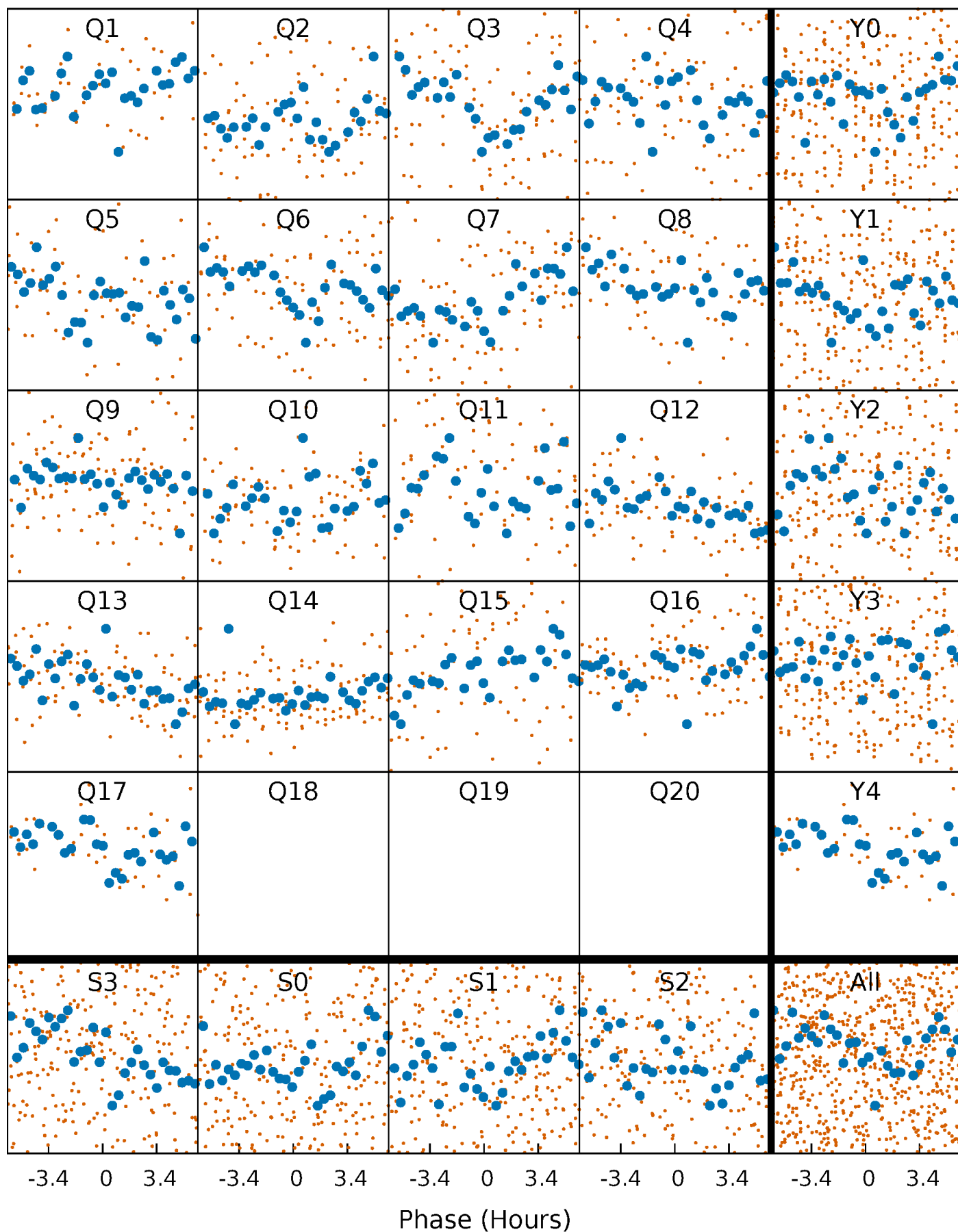


Non-Whitened Vs. Whitened Light Curve



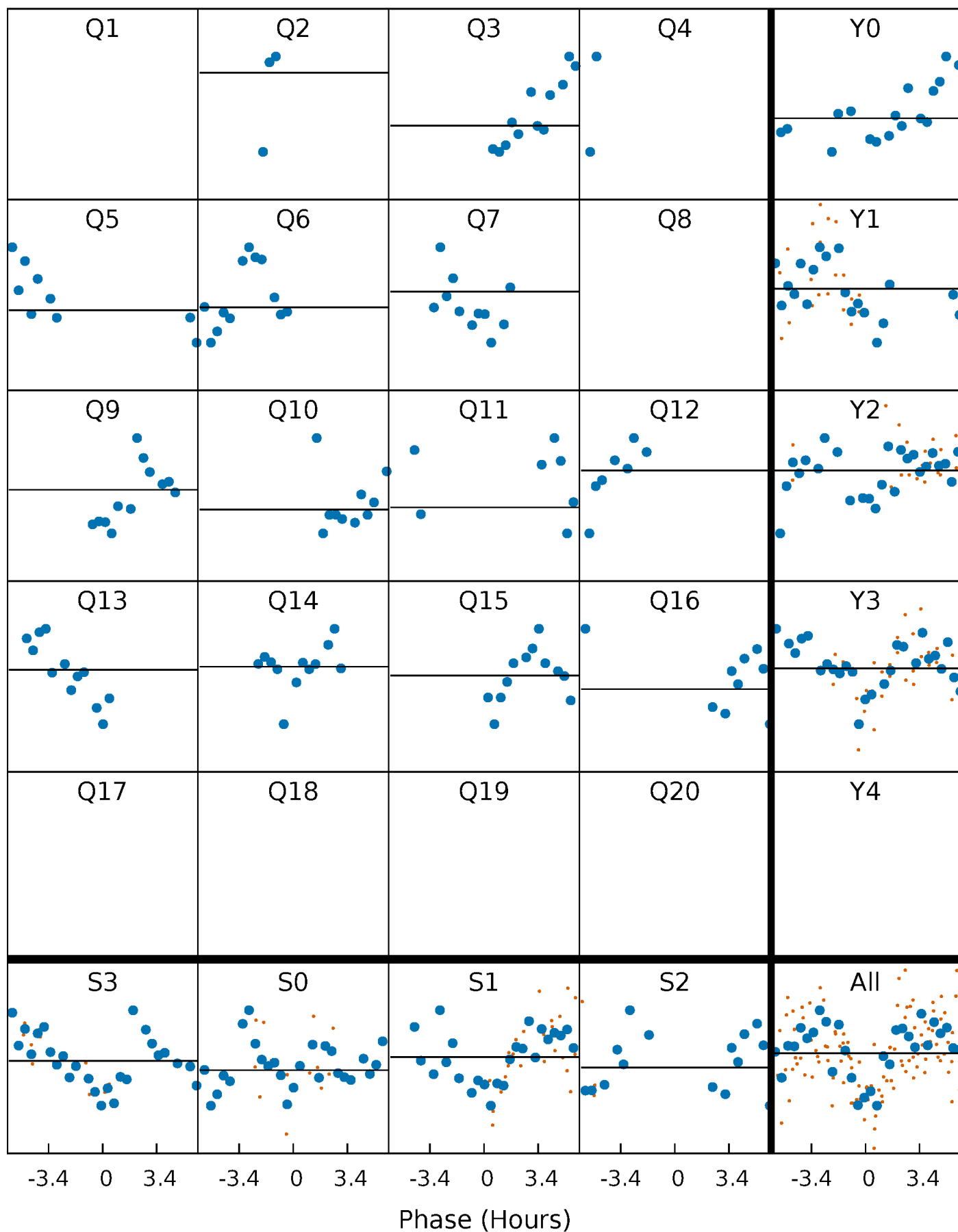
PDC Quarter-Phased Transit Curves

TCE 009269884-09 P= 21.270841 Days $T_0=134.913278$ (BKJD)



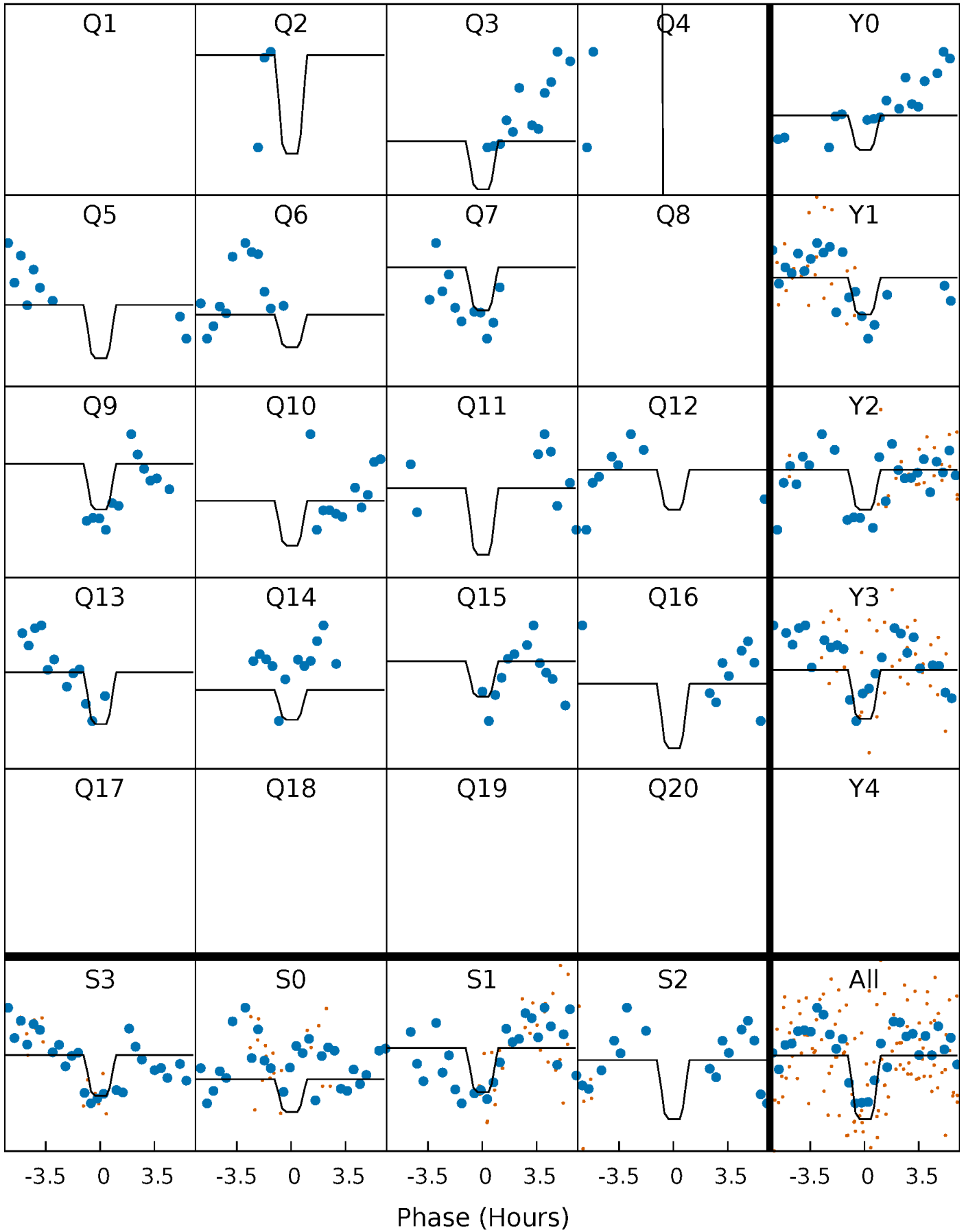
DV Quarter-Phased Transit Curves

TCE 009269884-09 P= 21.270841 Days $T_0=134.913278$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

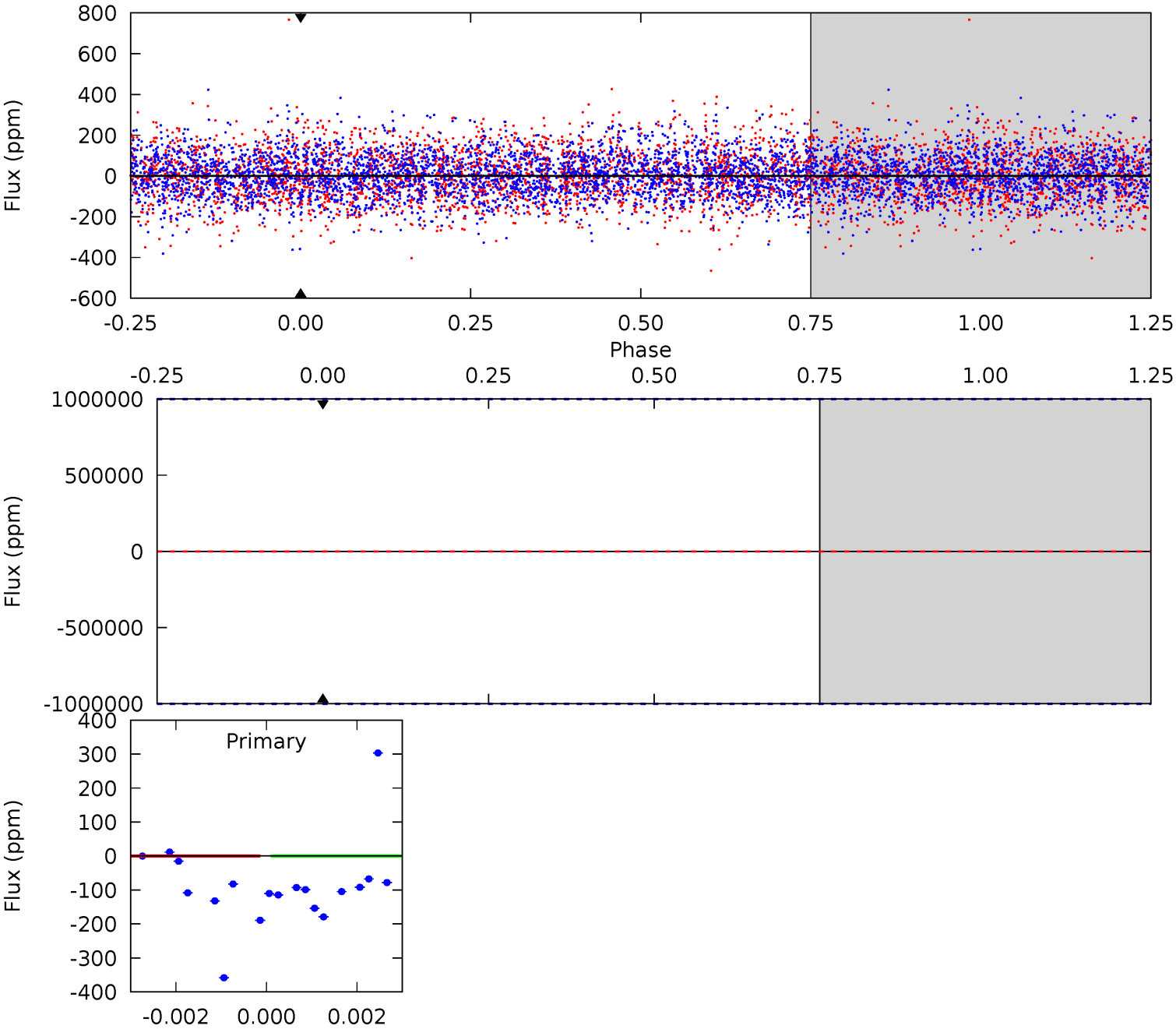
TCE 009269884-09 P= 21.270841 Days $T_0=134.923016$ (BKJD)



DV Model-Shift Uniqueness Test

009269884-09, P = 21.270841 Days, E = 113.642437 Days

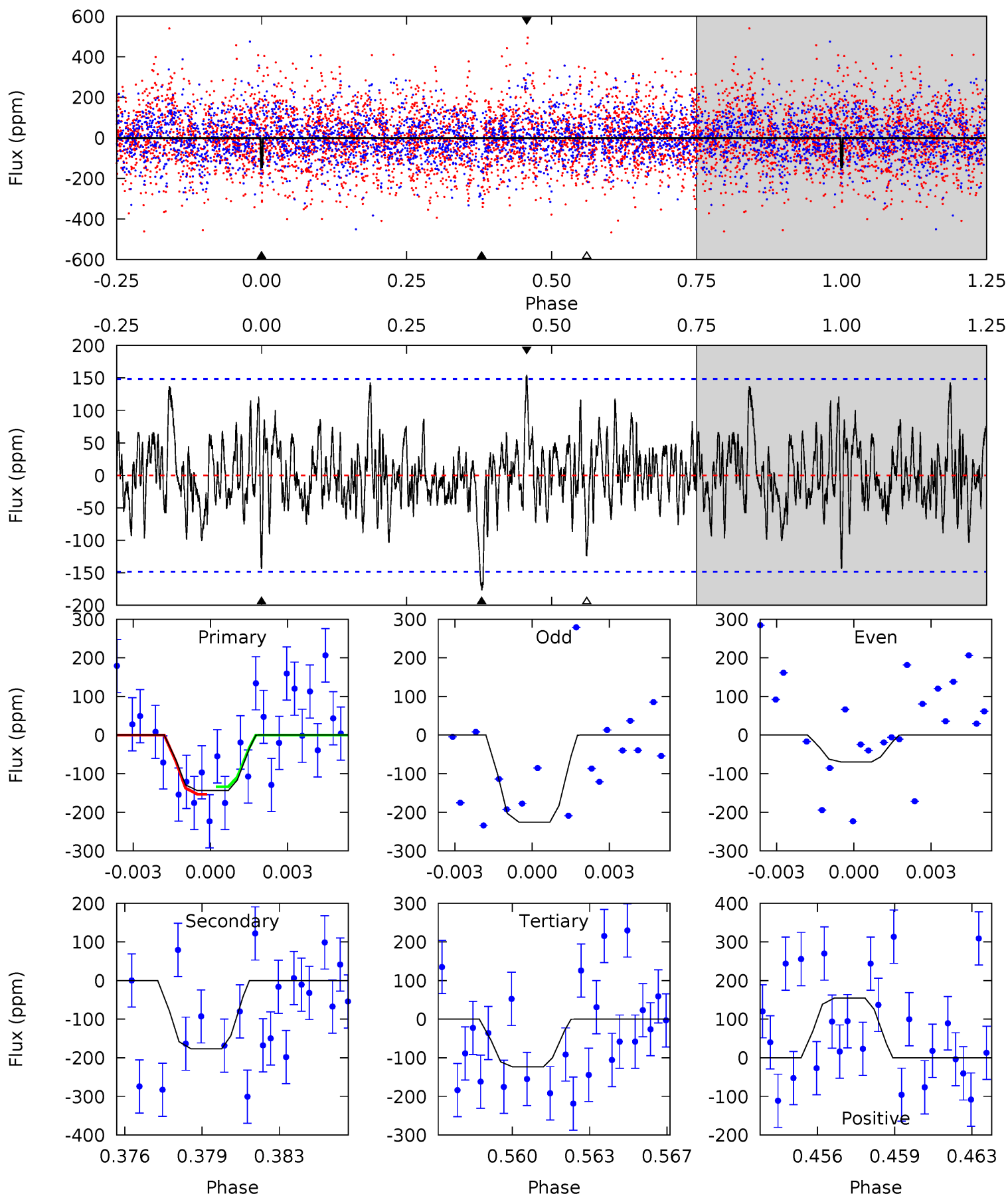
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009269884-09, P = 21.270841 Days, E = 113.652175 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.06	6.21	4.33	5.44	5.23	2.92	1.47	0.72	-0.38	1.87	0.77	2.75	0.74	0.47	0.33



Stellar Parameters For KIC 009269884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6462^{+194}_{-194}	$3.590^{+0.352}_{-0.117}$	$-0.600^{+0.400}_{-0.300}$	$3.160^{+0.558}_{-1.303}$	$1.417^{+0.222}_{-0.361}$	$0.063^{+0.181}_{-0.023}$
	+3%/-3%	+10%/-3%	+67%/-50%	+18%/-41%	+16%/-25%	+285%/-37%
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 009269884-09 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$21.87^{+25.35}_{-15.41}$	1693^{+116}_{-184}	4648^{+30238}_{-33669}	29^{+7560}_{-5197}
Alt.	-177 ± 28	$21.88^{+26.11}_{-15.25}$	1690^{+121}_{-157}	3354^{+1862}_{-728}	$5.772^{+57.153}_{-4.553}$

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

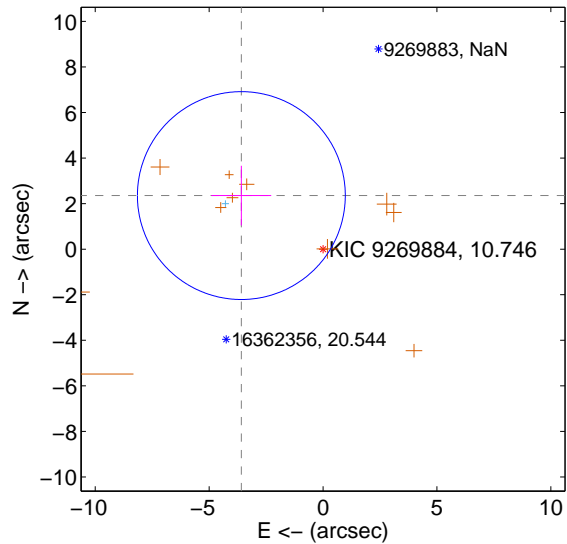
Supplemental centroid analysis for 009269884-09. **Kepler magnitude: 10.75.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

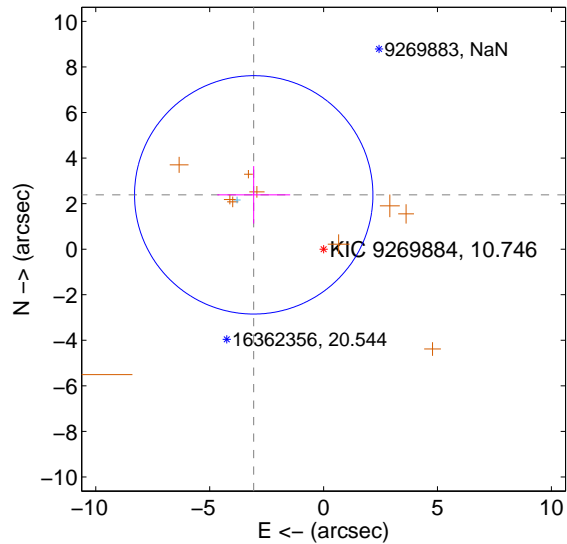
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.289 ± 1.521	2.82	3.586 ± 1.312	2.353 ± 1.310
PRF-fit source offset from KIC position	3.884 ± 1.744	2.23	3.066 ± 1.599	2.384 ± 1.261
photometric centroid source offset	0.91 ± 0.27	3.29	0.80 ± 0.29	0.43 ± 0.23

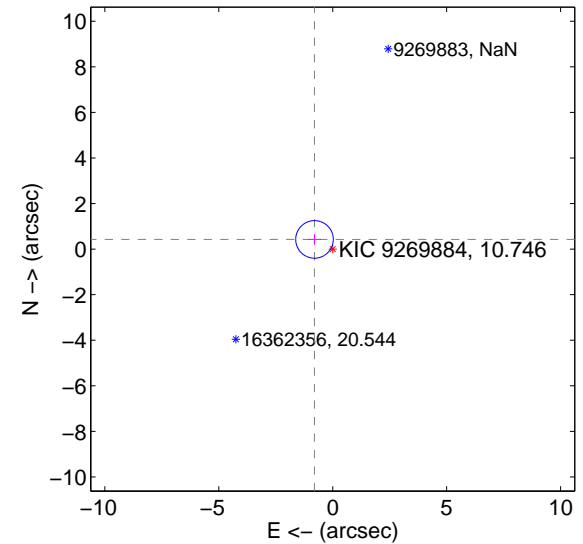
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

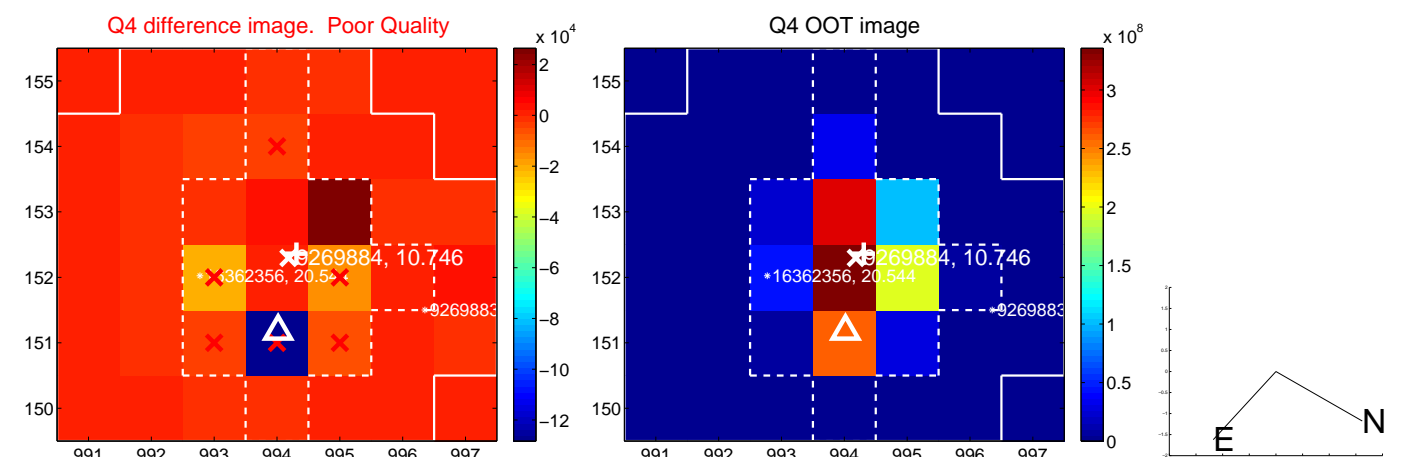
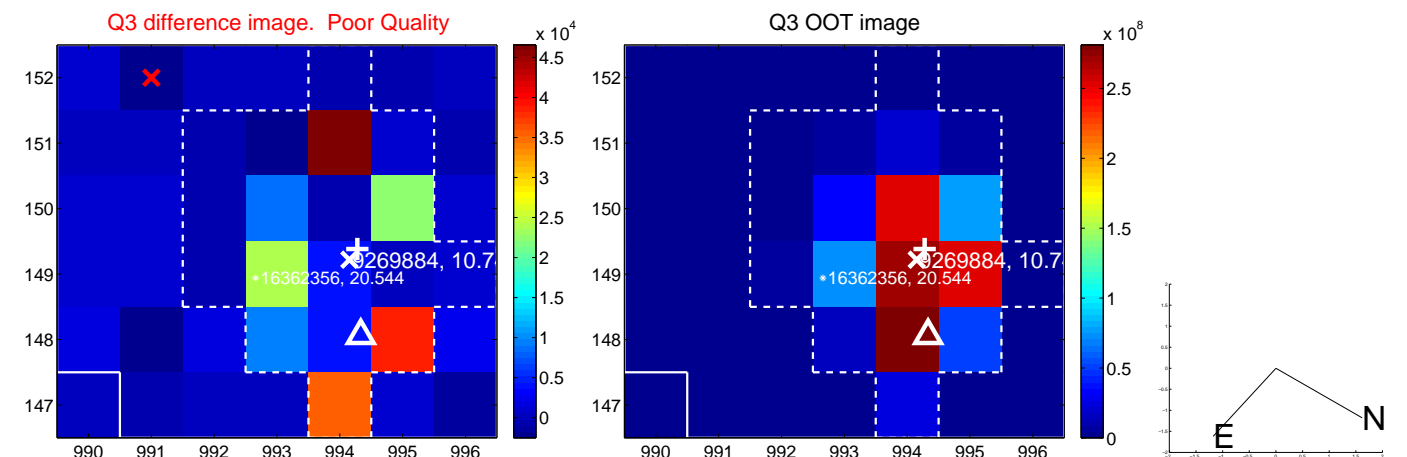
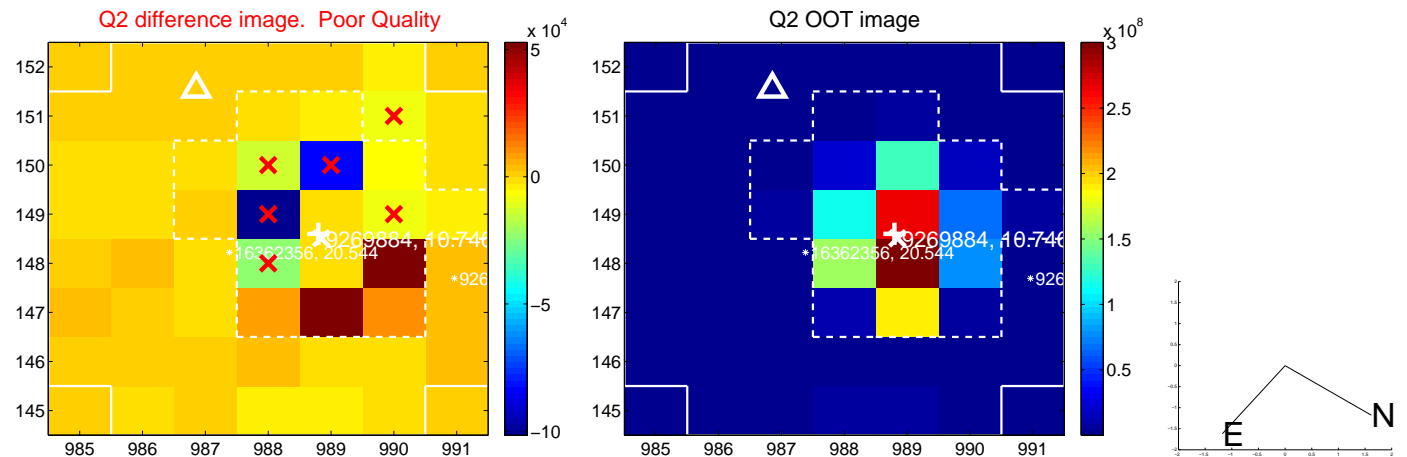
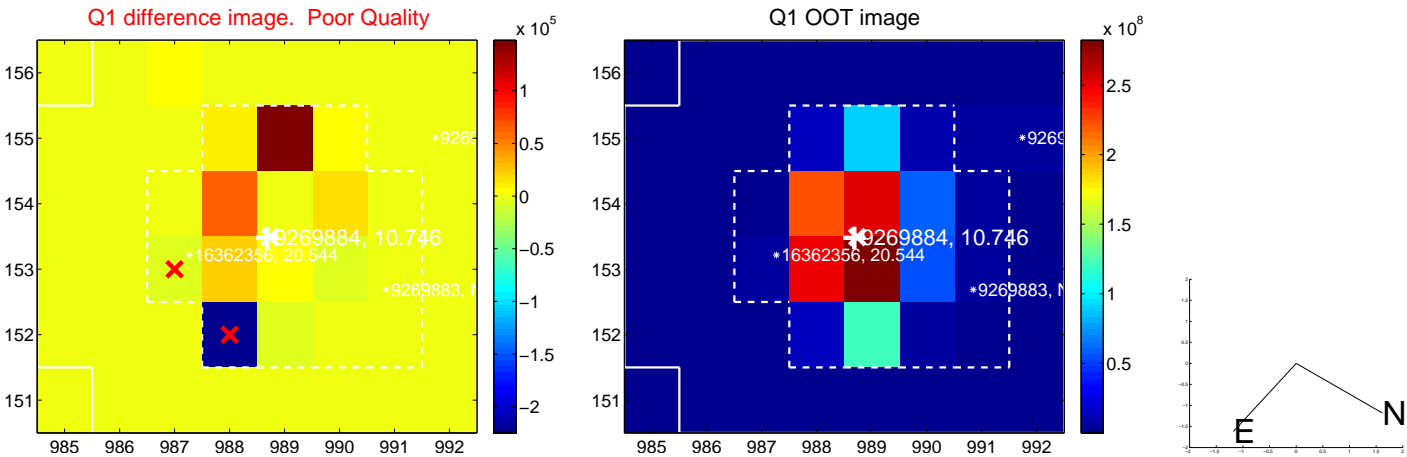


offset from photometric centroids

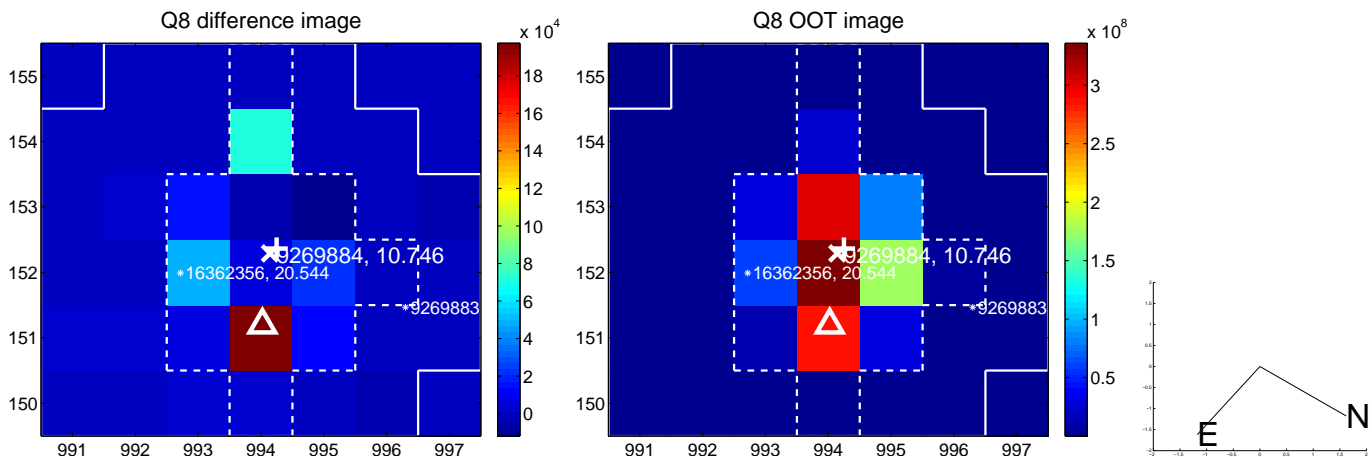
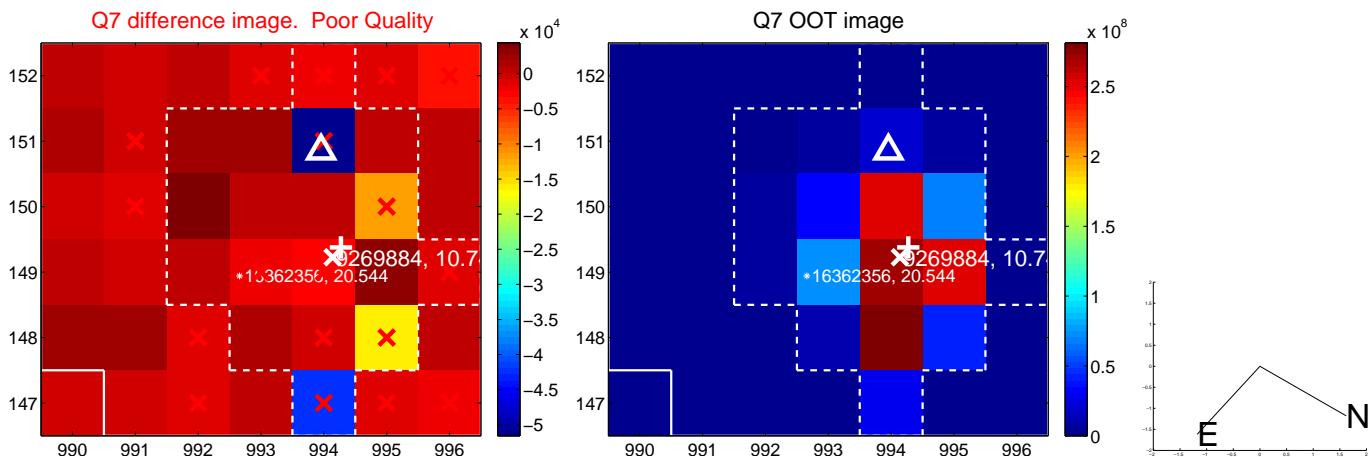
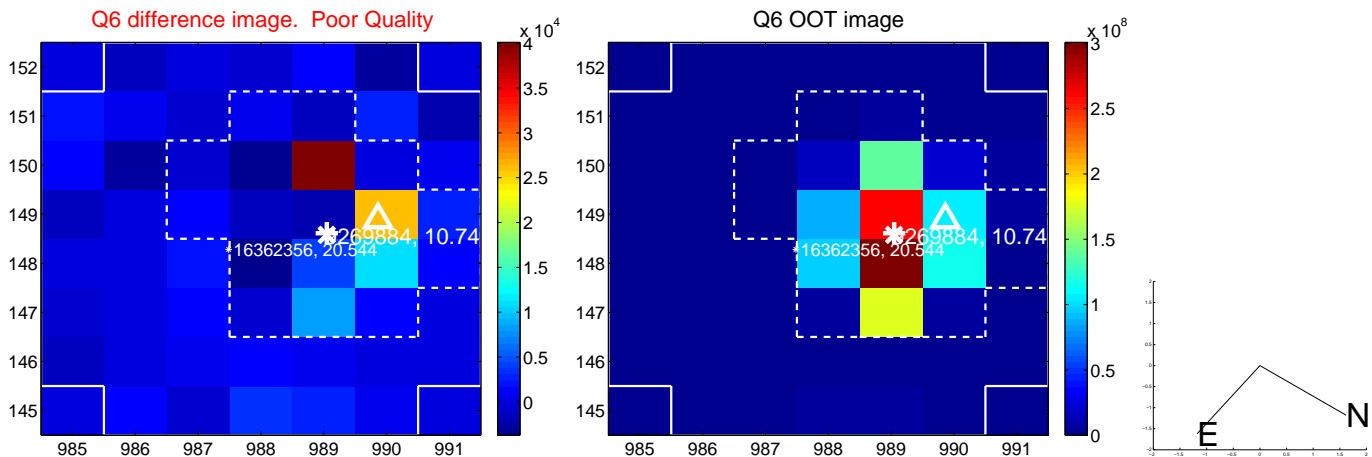
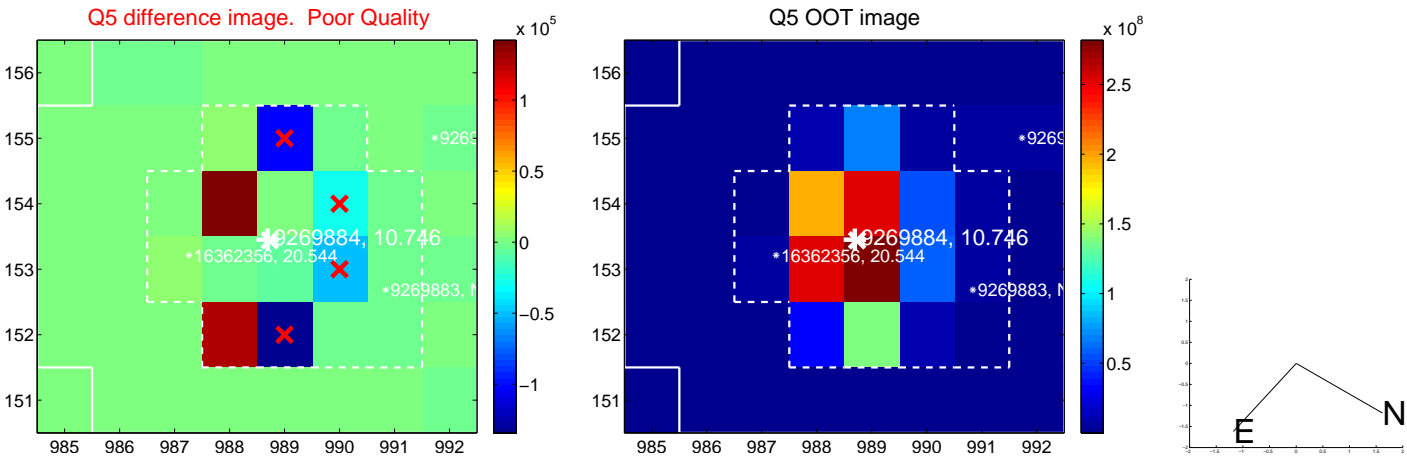


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

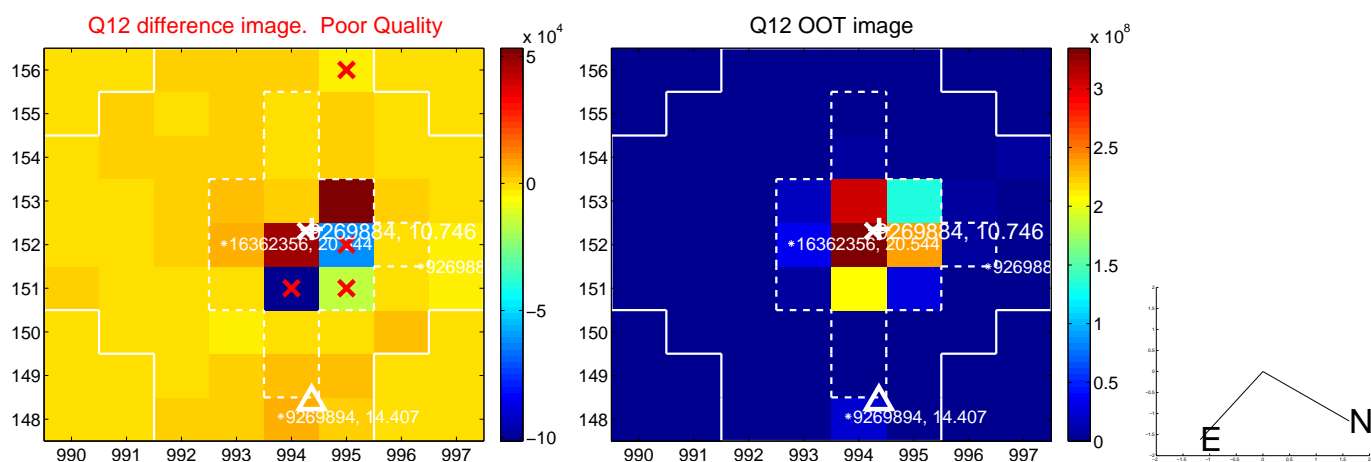
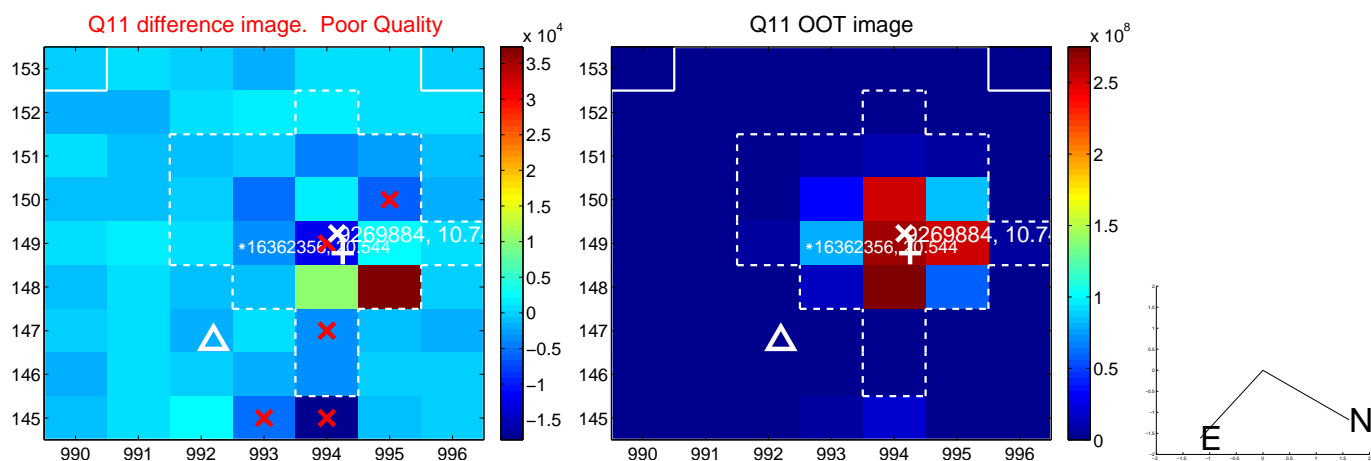
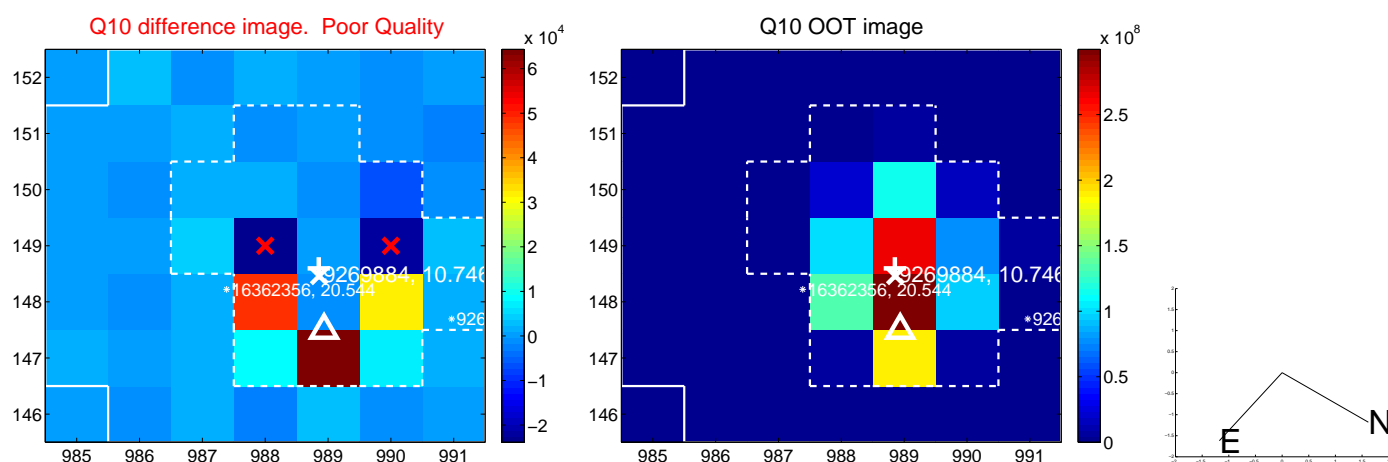
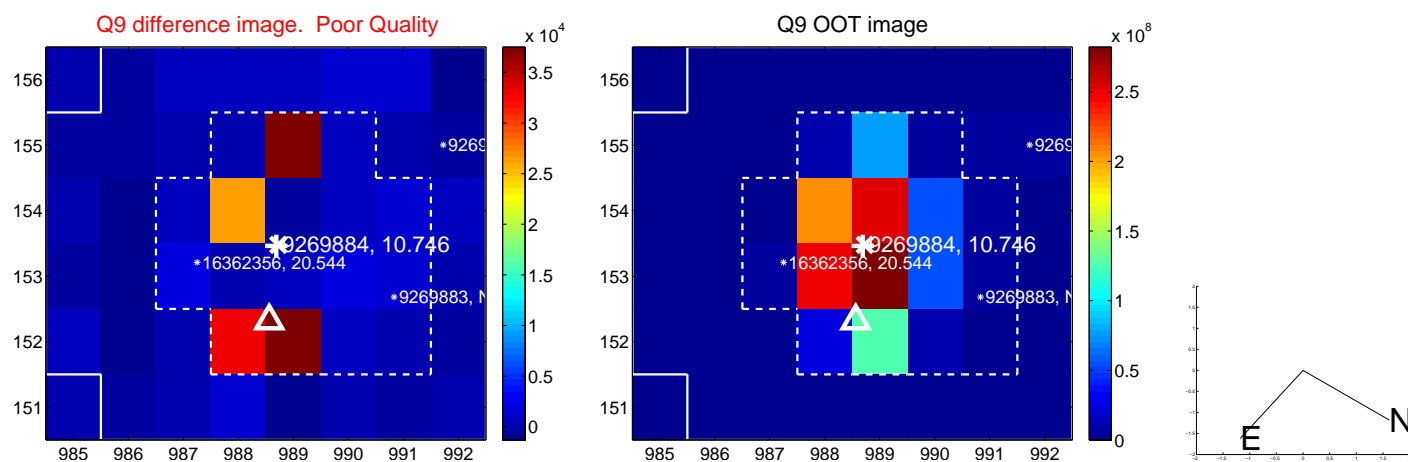
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



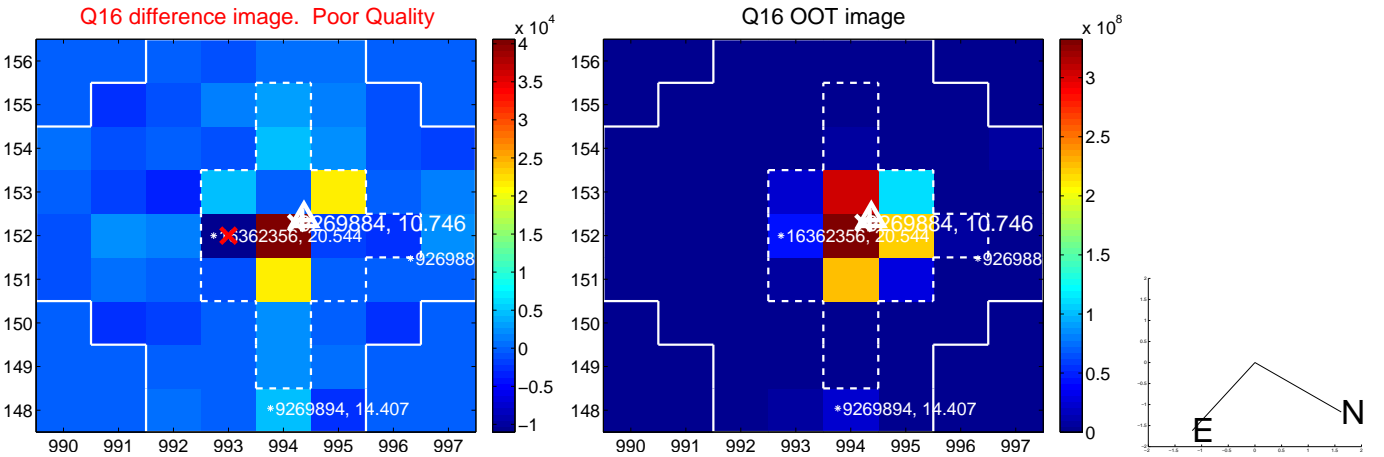
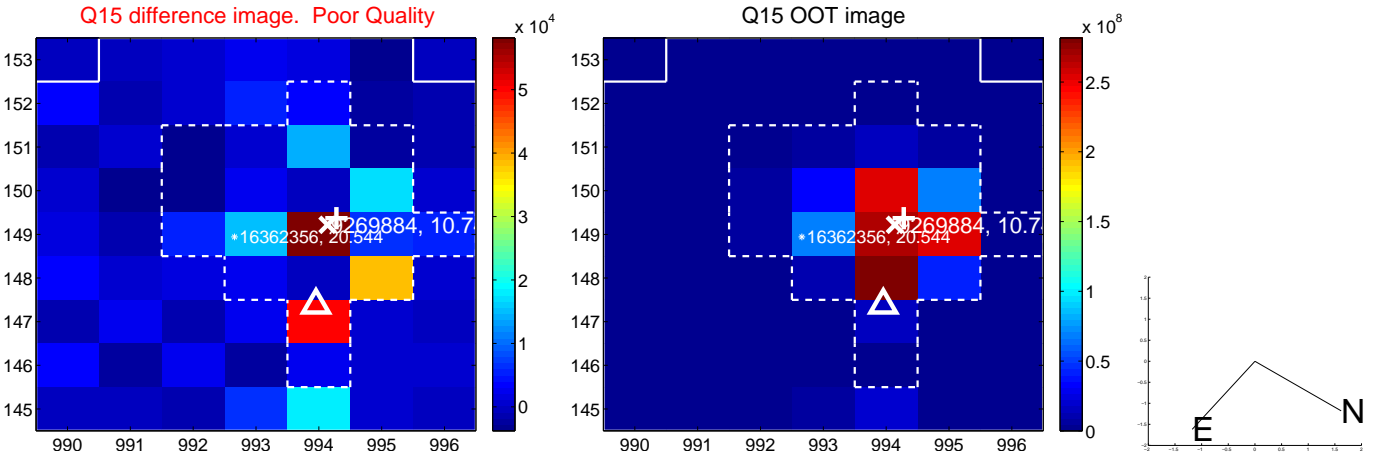
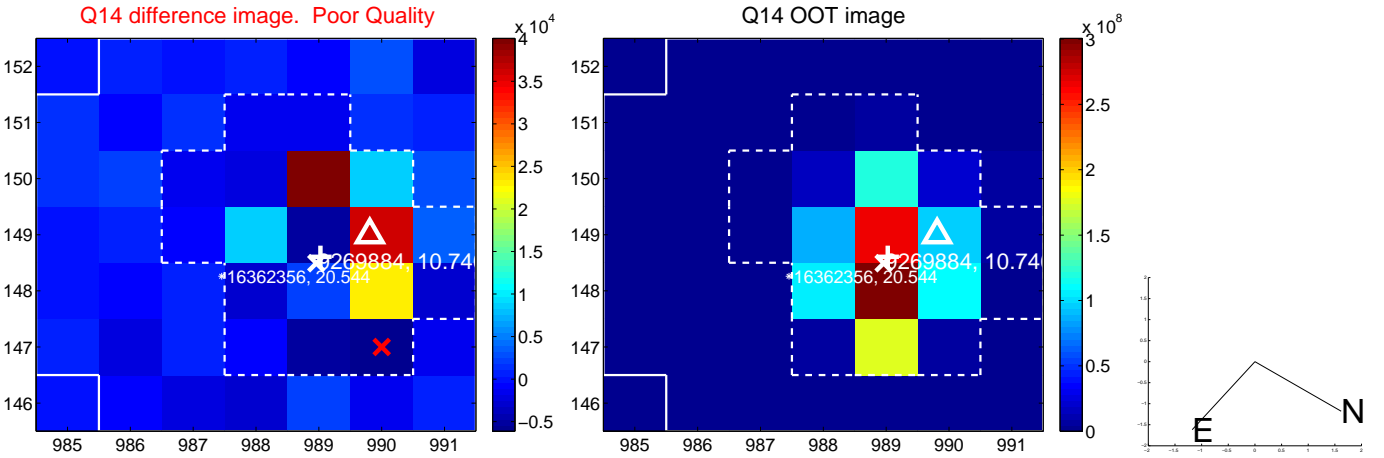
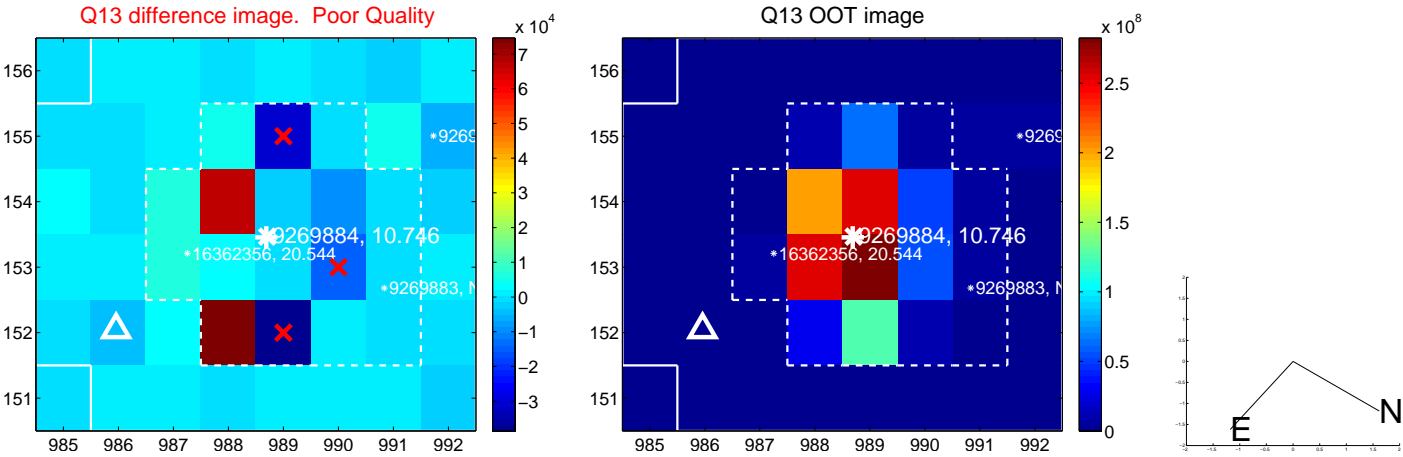
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



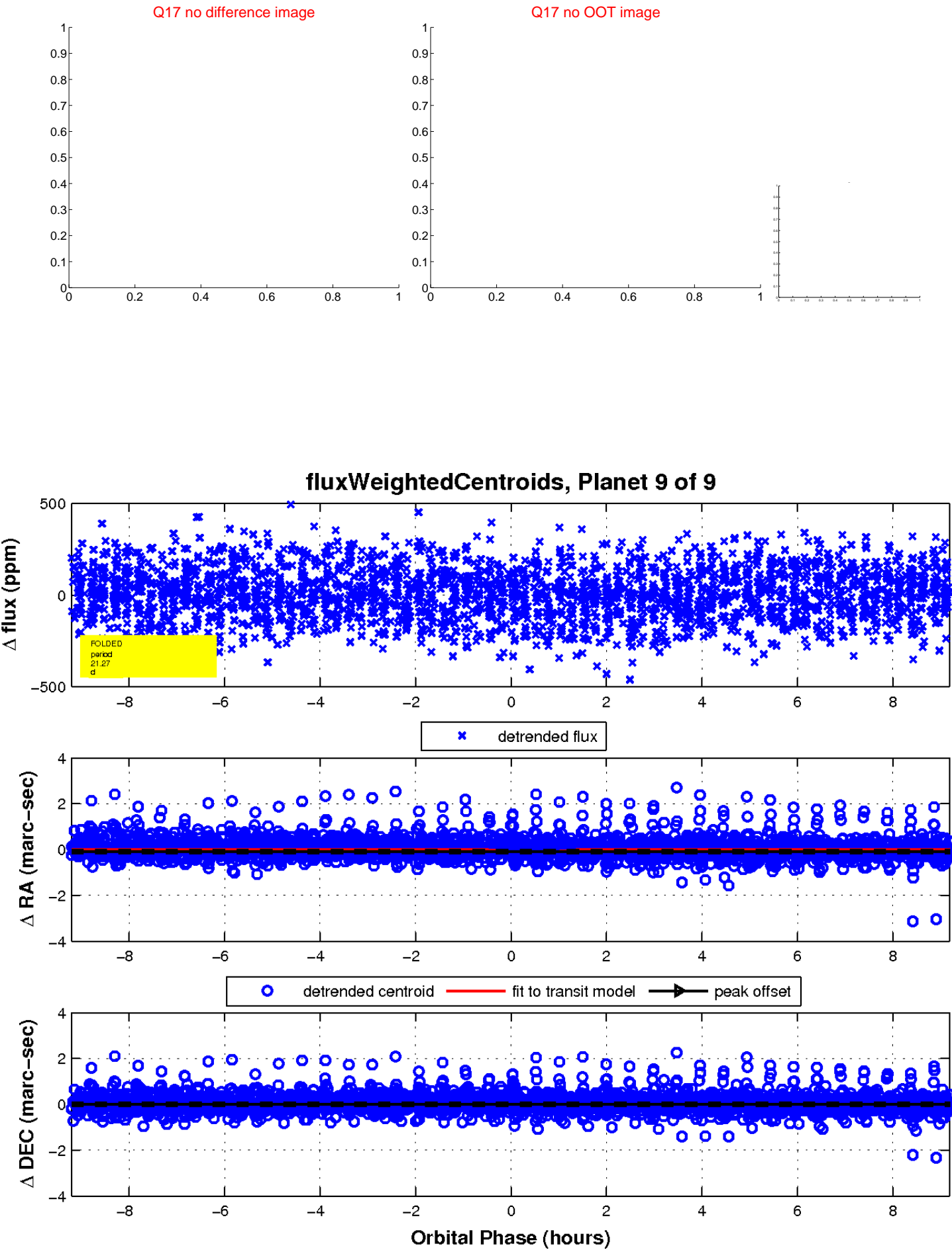
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

