

KIC 004484252

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})
004484252-01	OBS	No	1.927818	133.351635	11.8	11.489	10.9	6.7	1.72	6753	0.59	4756.71
004484252-02	OBS	No	175.990163	189.884706	223.9	14.427	14.0	11.1	1.72	6753	2.76	11.57
004484252-04	OBS	No	90.798942	134.165001	119.7	13.399	9.8	8.8	1.72	6753	2.01	27.96
004484252-05	OBS	No	36.978026	168.370439	108.7	3.009	9.6	8.7	1.72	6753	2.03	92.64
004484252-07	OBS	No	87.102783	147.460088	131.8	3.156	8.7	8.4	1.72	6753	2.31	29.56
004484252-08	OBS	No	181.749444	155.783439	184.9	7.745	8.9	9.2	1.72	6753	2.42	11.09
004484252-09	OBS	No	20.138949	143.389767	67.0	5.518	8.8	7.5	1.72	6753	1.53	208.29
004484252-10	OBS	No	53.113455	167.407001	144.7	4.153	8.5	9.1	1.72	6753	2.32	57.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484252-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

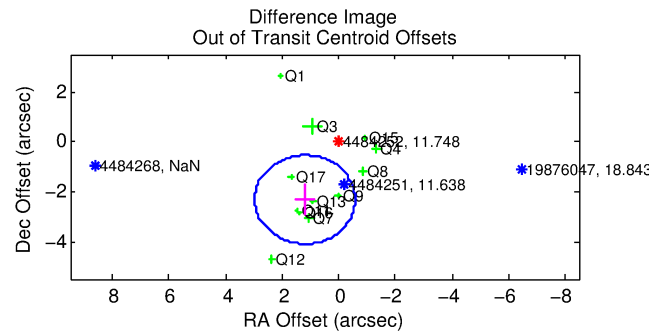
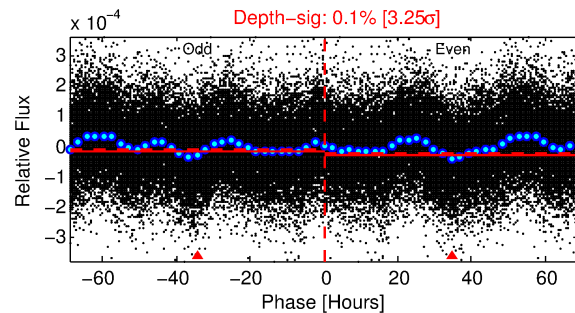
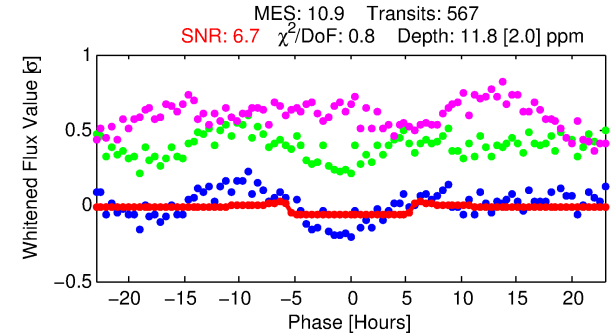
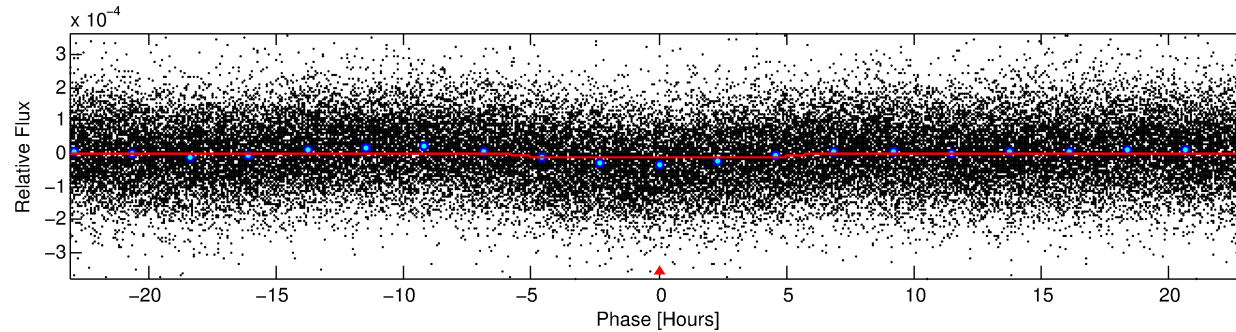
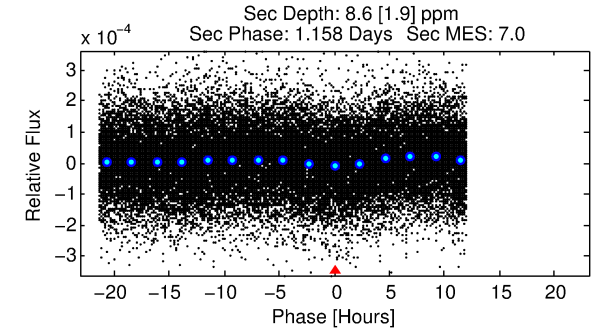
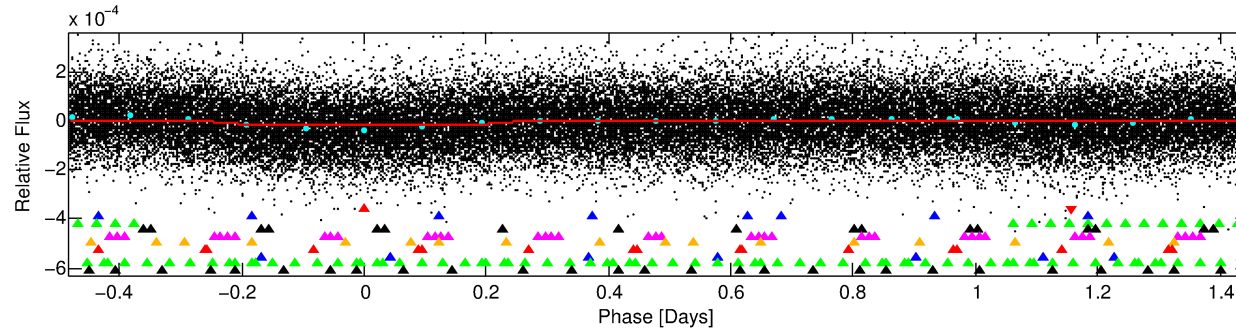
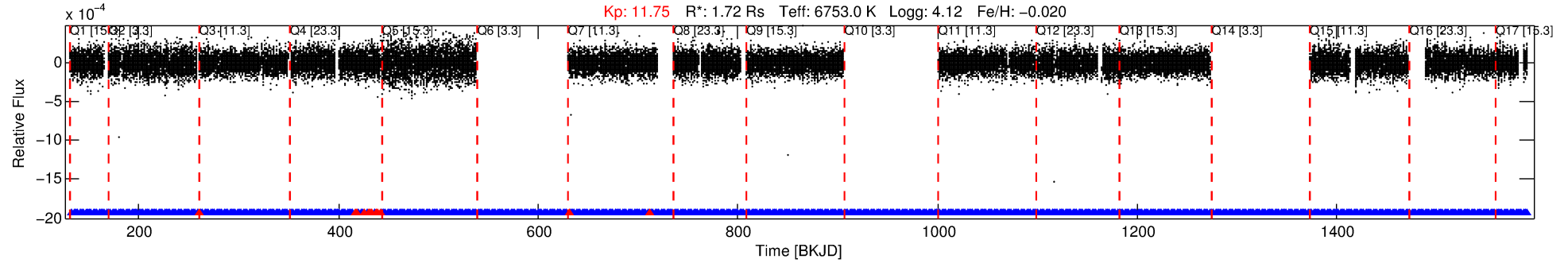
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-01

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 1 of 10 Period: 1.928 d



DV Fit Results:

Period = 1.92782 [0.00003] d
Epoch = 133.3516 [0.0072] BKJD
 R_p/R^* = 0.0032 [0.0030]
 a/R^* = 1.43 [3.85]
 b = 0.00 [3424.54]
 Seff = 4756.71 [1782.92]
 T_{eq} = 2118 [198] K
 R_p = 0.59 [0.60] R_e
 a = 0.0340 [0.0083] AU
 A_g = 15.42 [30.28] [0.48σ]
 T_{eff} = 6488 [3146] K [1.39σ]

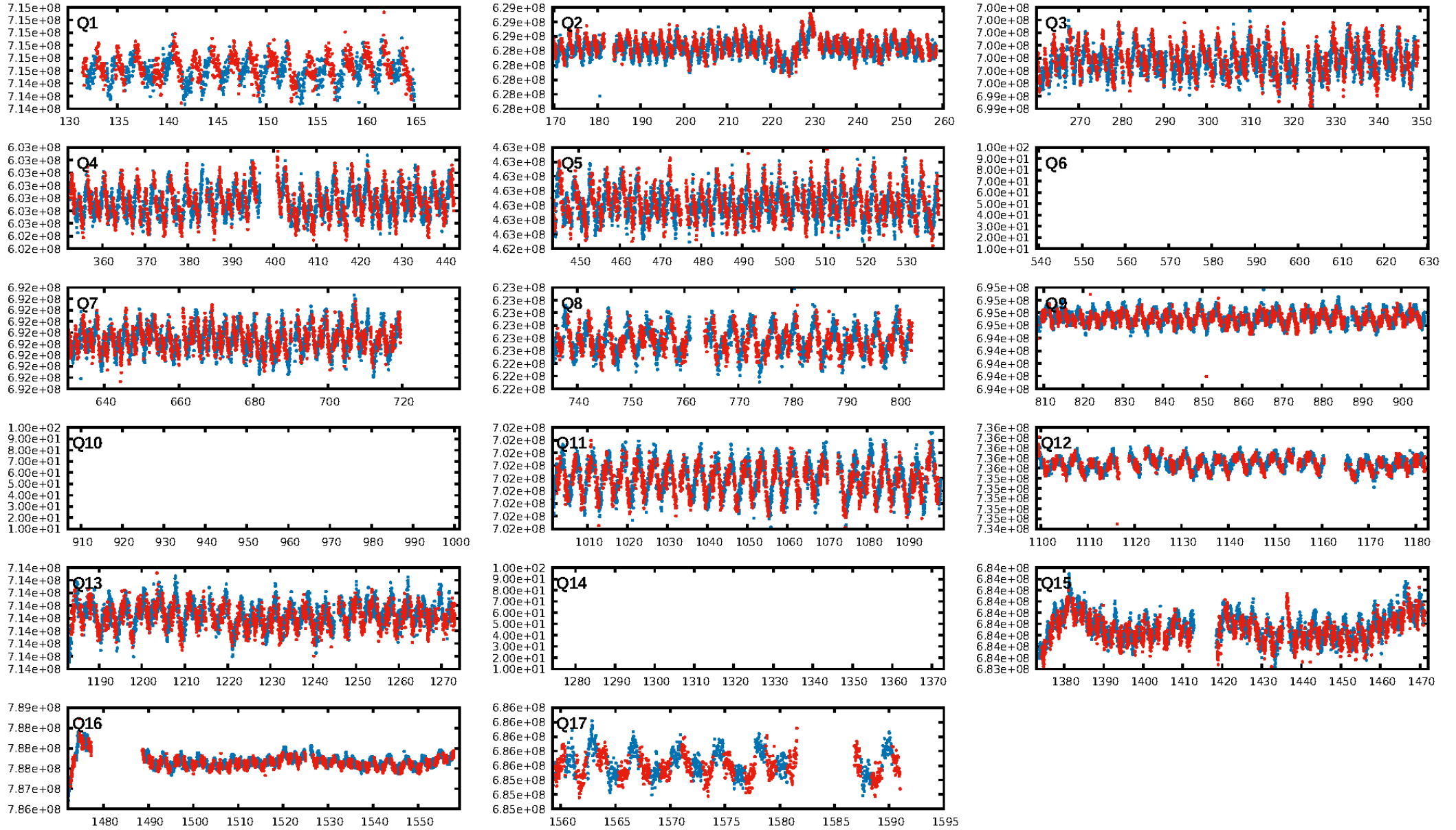
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [34.29σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [522/534]
GhostDiagnostic-chr: 2.041
Centroid-sig: 0.0%
Centroid-so: 3.404 arcsec [3.00σ]
OotOffset-rm: 2.610 arcsec [4.41σ]
KicOffset-rm: 2.075 arcsec [3.81σ]
OotOffset-st: 0/4/4/4 [12]
KicOffset-st: 0/4/4/4 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [14/14]

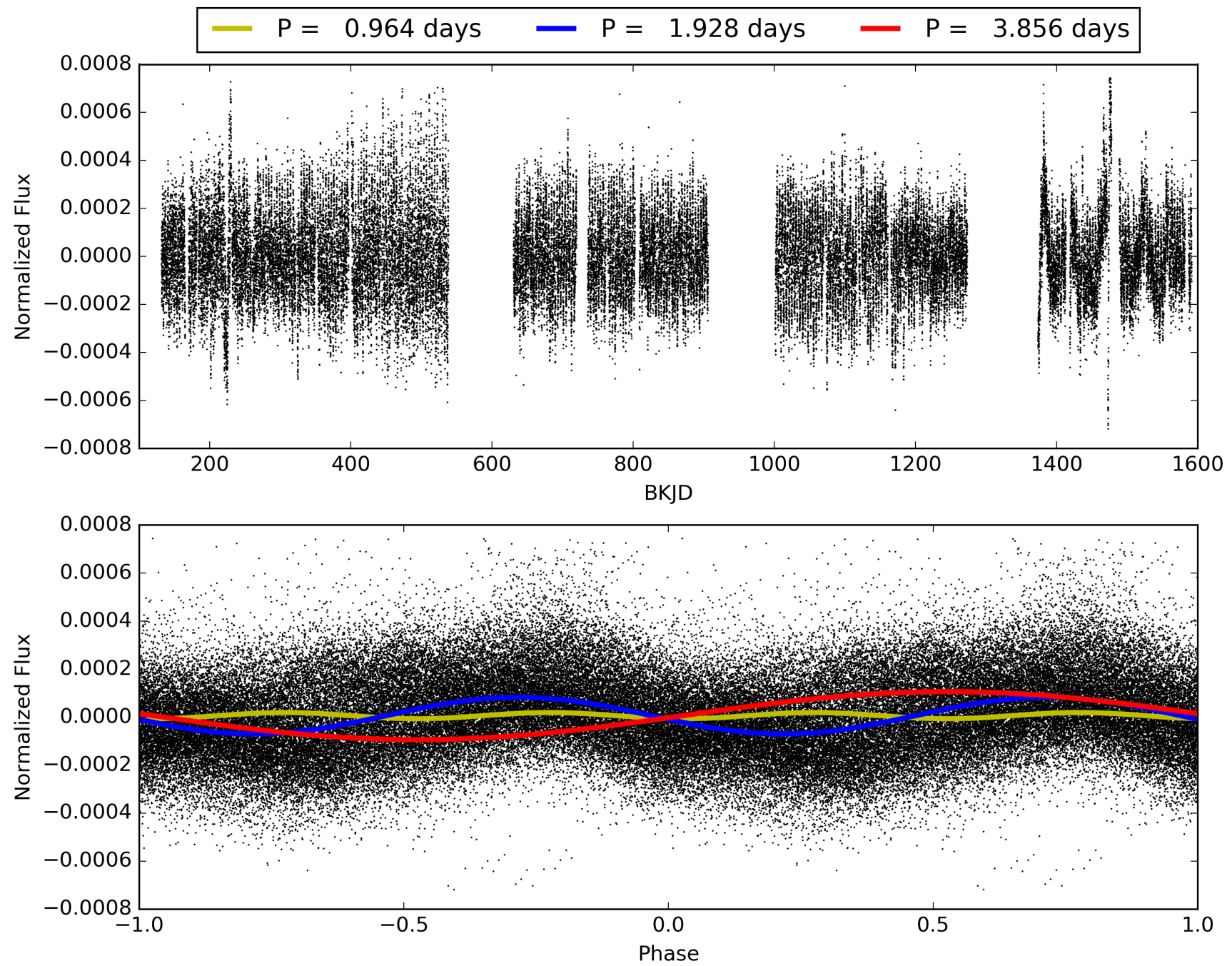
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:46:44 Z

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

TCE 004484252-01, PDC Light Curves

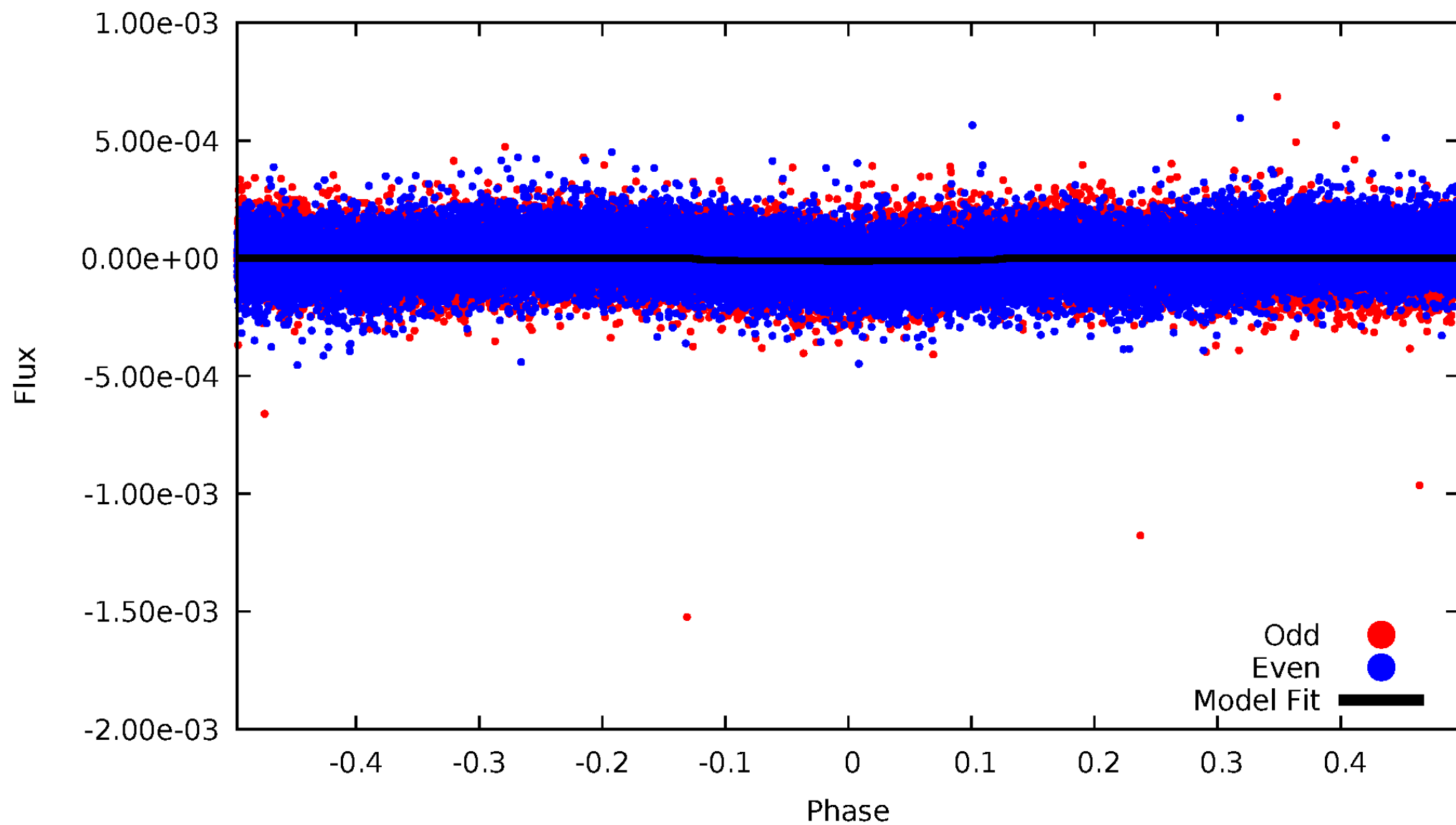


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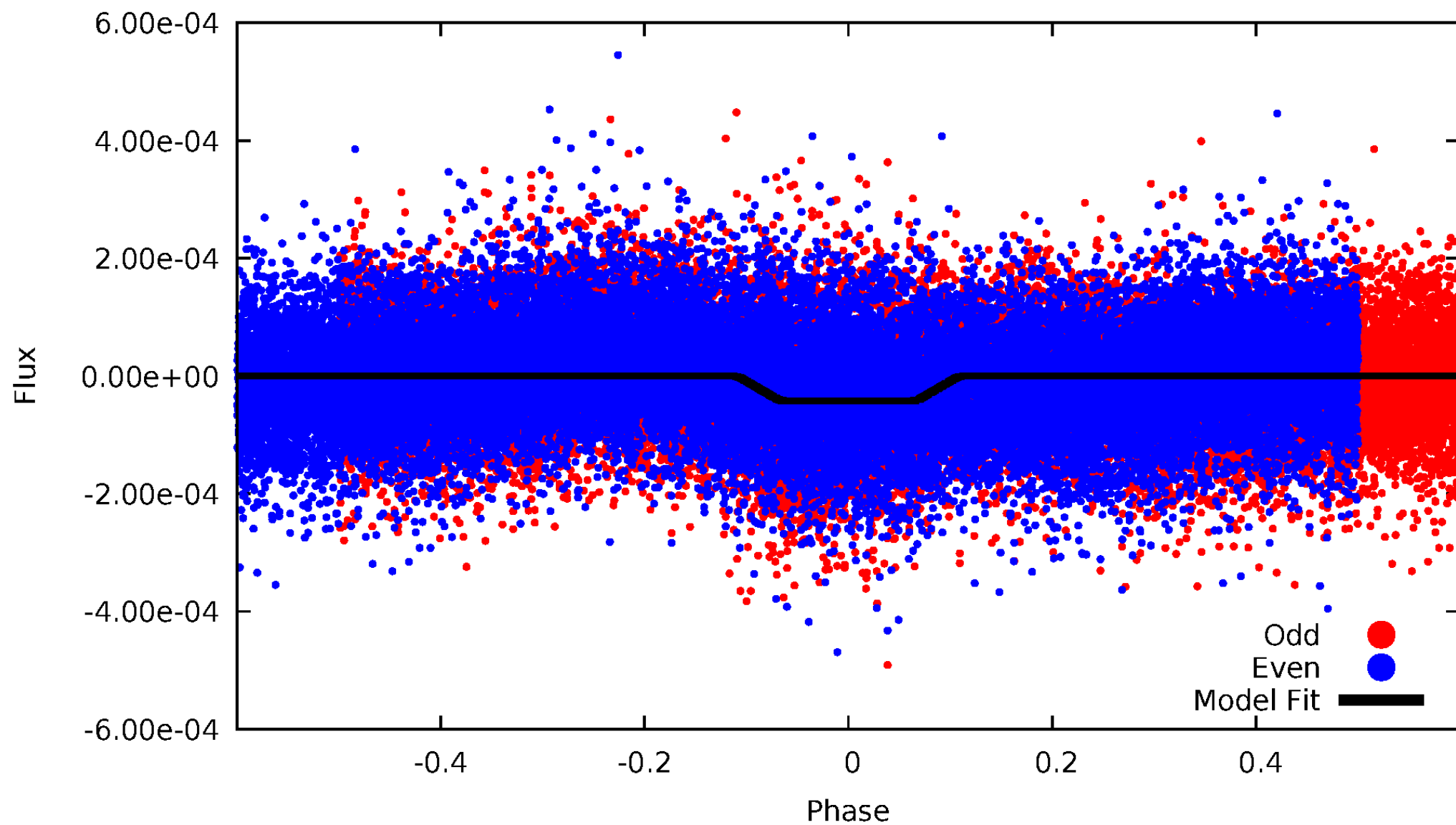
DV Odd/Even

TCE 004484252-01

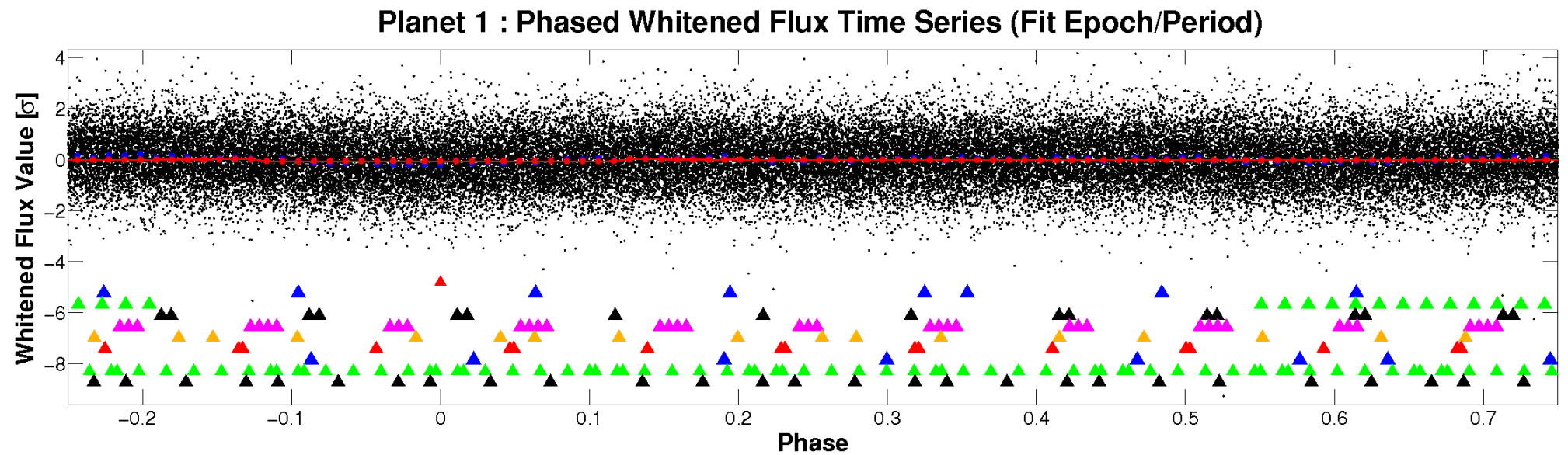
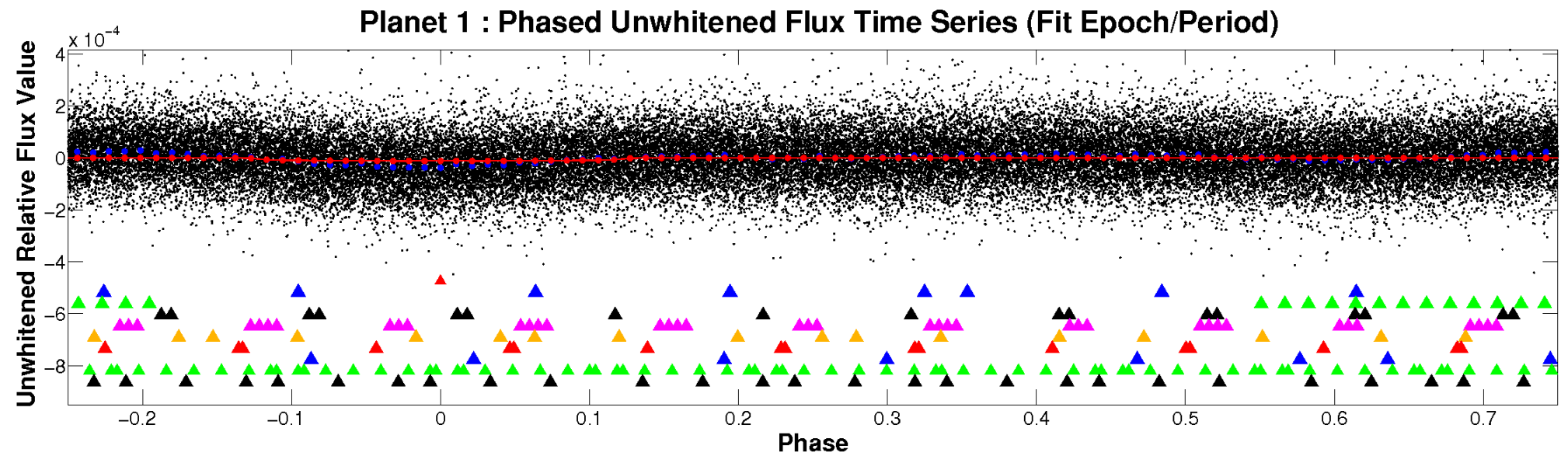


ALT Odd/Even

TCE 004484252-01

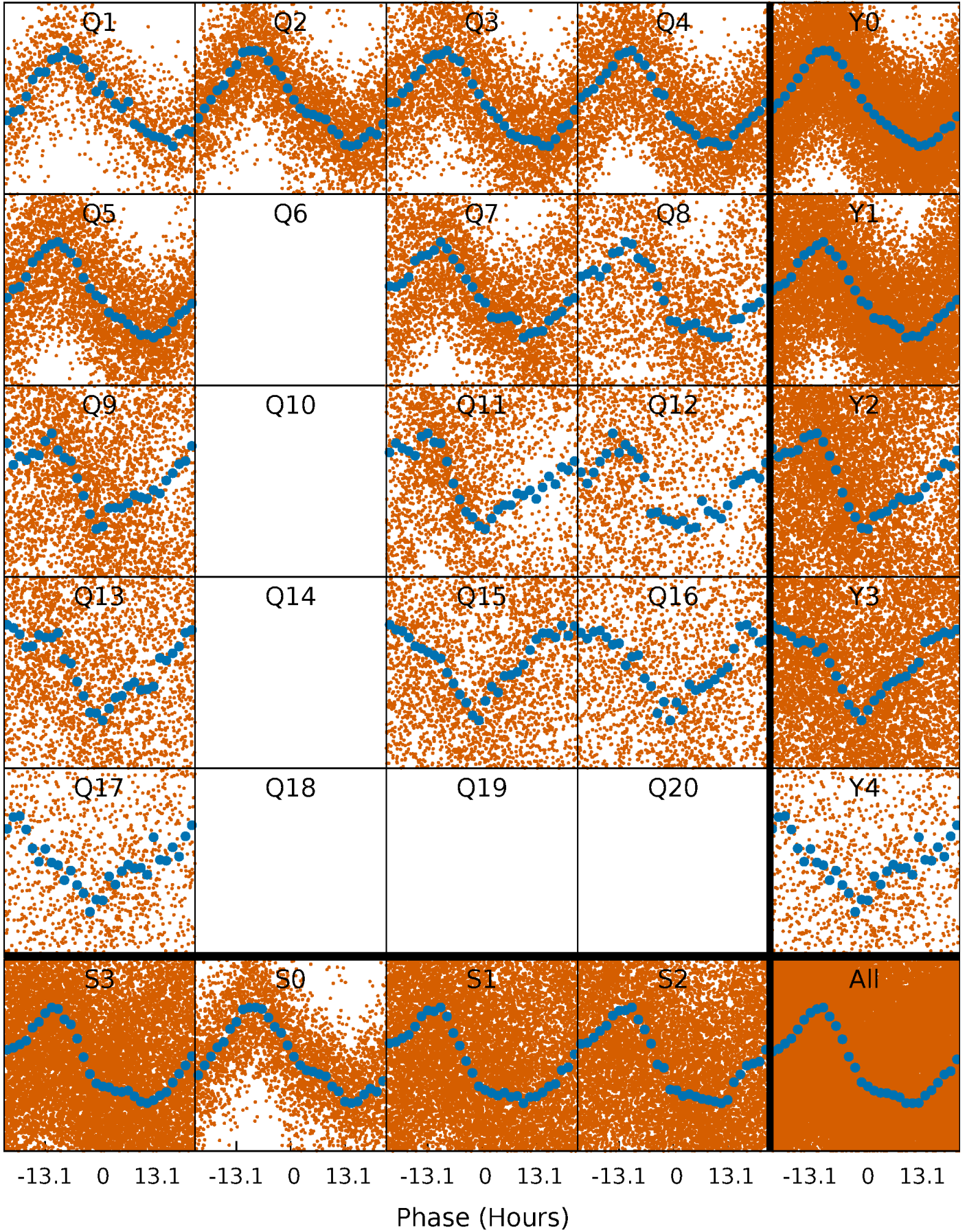


Non-Whitened Vs. Whitened Light Curve



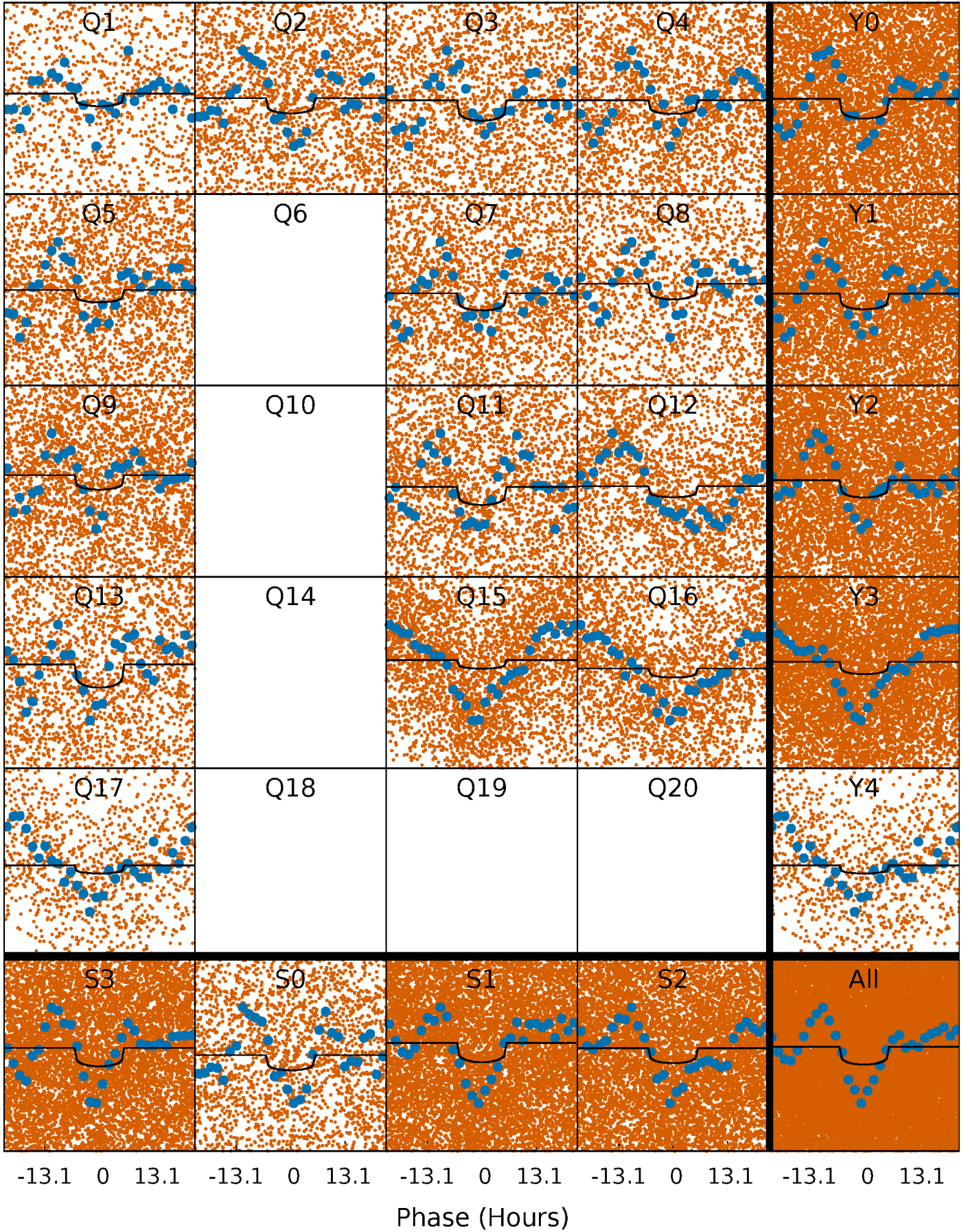
PDC Quarter-Phased Transit Curves

TCE 004484252-01 P= 1.927818 Days $T_0=133.351634$ (BKJD)



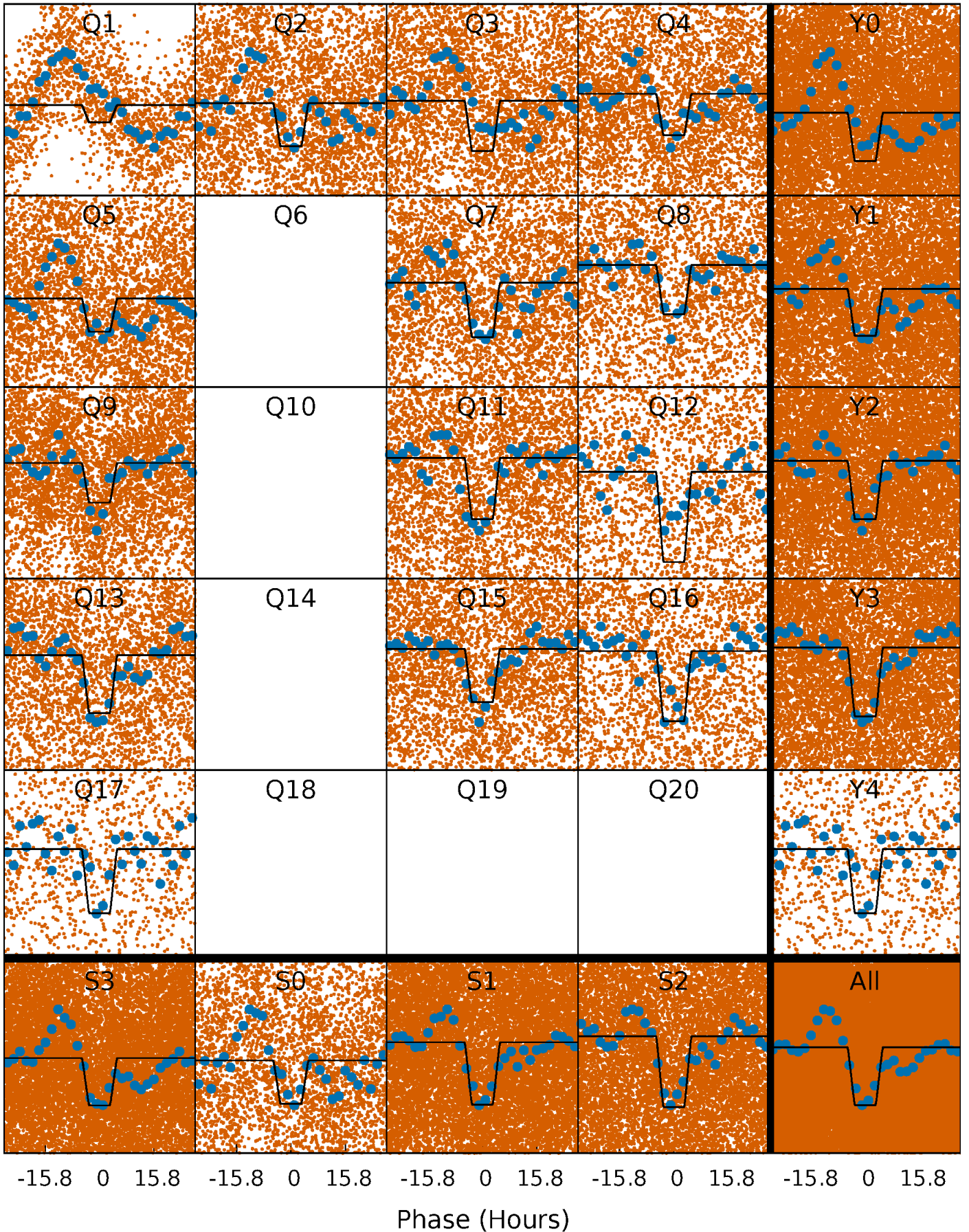
DV Quarter-Phased Transit Curves

TCE 004484252-01 P= 1.927818 Days $T_0=133.351634$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

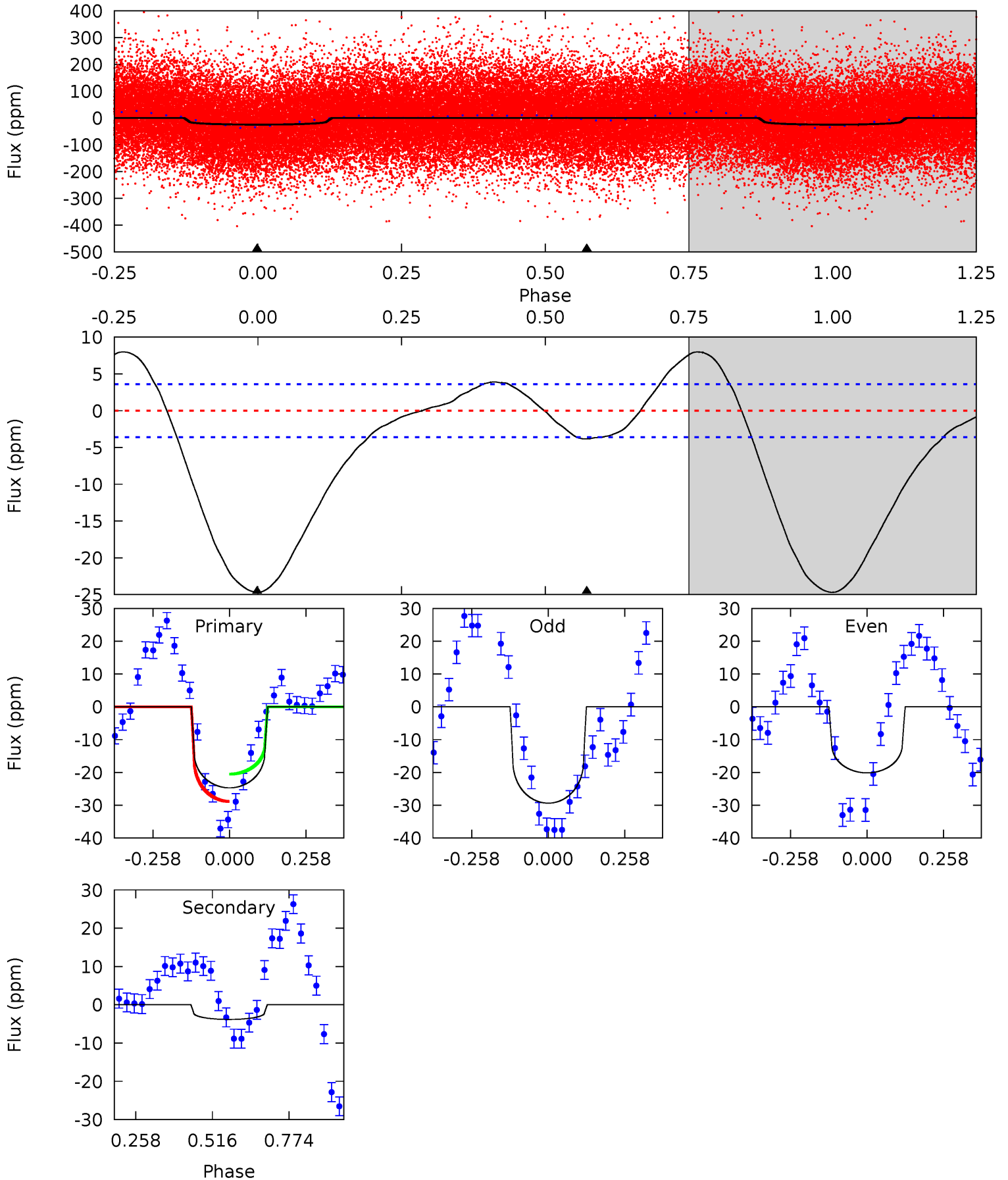
TCE 004484252-01 P= 1.927643 Days $T_0=133.419018$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-01, P = 1.927818 Days, E = 131.423816 Days

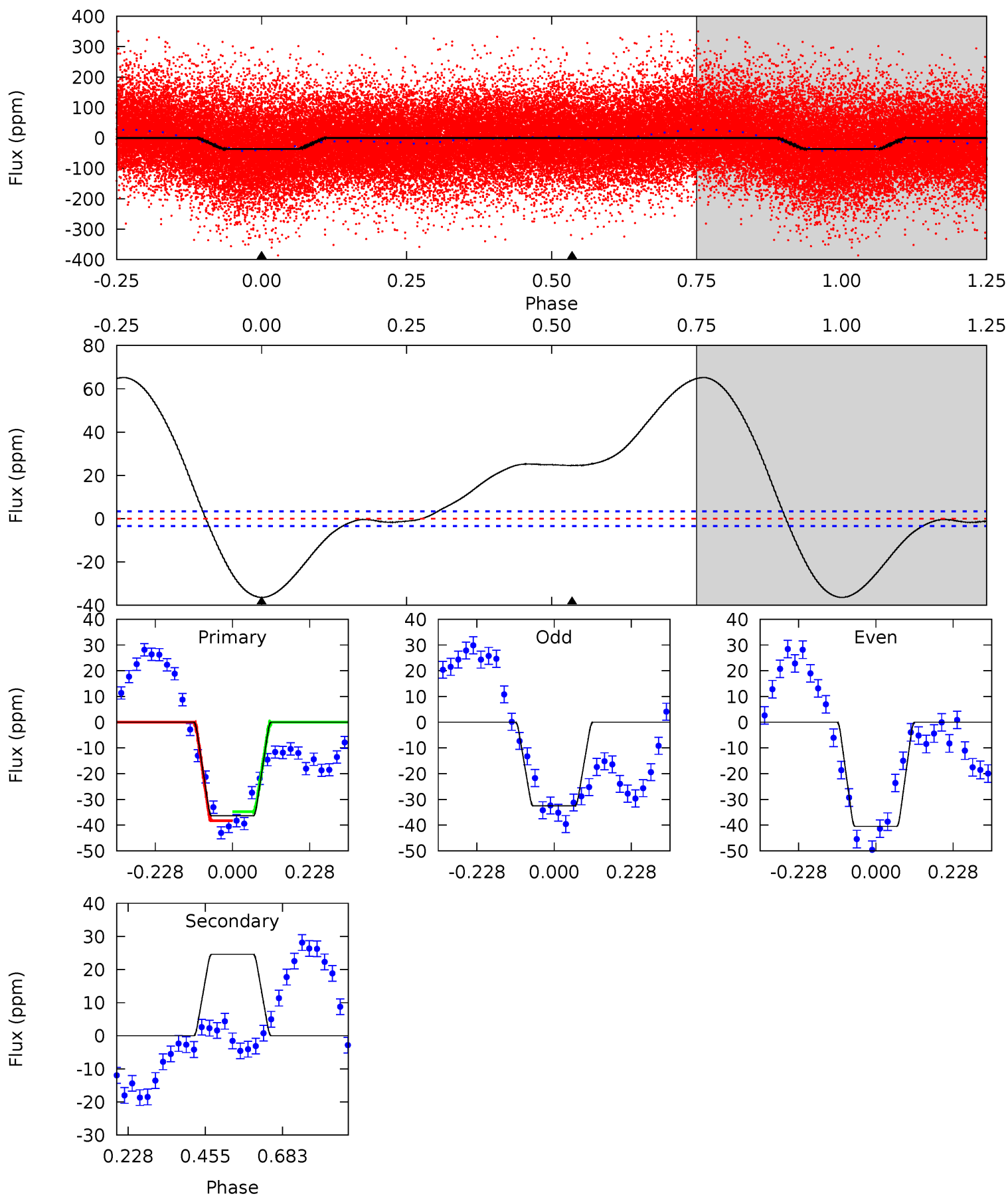
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.9	4.64	0	0	4.36	1.13	0.86	29.9	29.9	4.64	4.64	5.47	1.19	0.24	5.17



Alt Model-Shift Uniqueness Test

004484252-01, P = 1.927643 Days, E = 131.491375 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.6	-31.5	0	0	4.39	1.21	30.1	46.6	46.6	-31.5	-31.5	5.08	0.91	0.64	2.21



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 1	$0.69^{+0.57}_{-0.43}$	2936^{+245}_{-209}	4851^{+3344}_{-1108}	$4.731^{+33.308}_{-3.351}$
Alt.	25 ± 1	$1.23^{+0.61}_{-0.55}$	2951^{+235}_{-196}	-5905^{+963}_{-2056}	$-10.123^{+5.416}_{-23.408}$

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

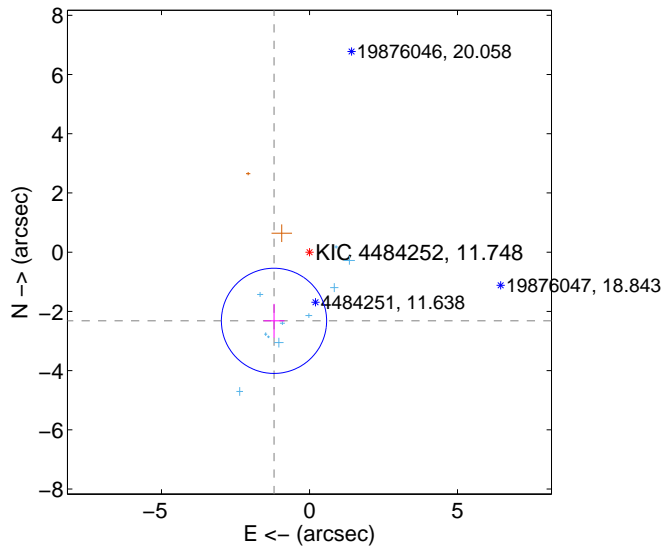
Supplemental centroid analysis for 004484252-01. **Kepler magnitude: 11.75.** Transit SNR 6.75

There are 10 quarters with good PRF difference image offsets

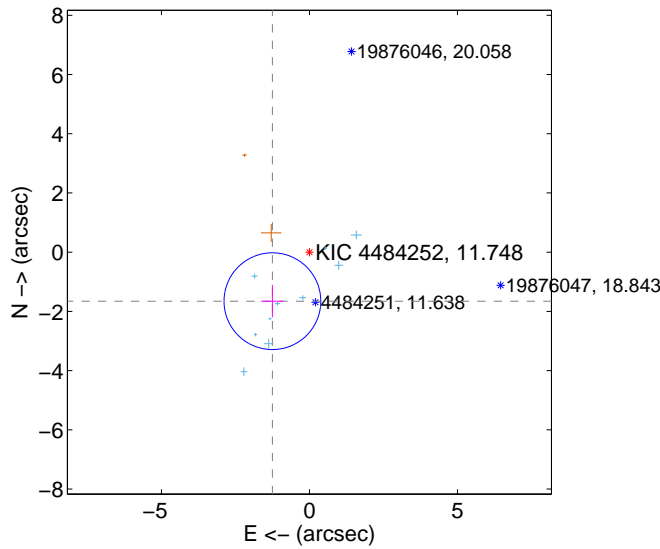
The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.610 ± 0.592	4.41	1.199 ± 0.353	-2.319 ± 0.573
PRF-fit source offset from KIC position	2.075 ± 0.545	3.81	1.251 ± 0.378	-1.655 ± 0.547
photometric centroid source offset	3.40 ± 1.14	3.00	-1.43 ± 0.77	-3.09 ± 1.20

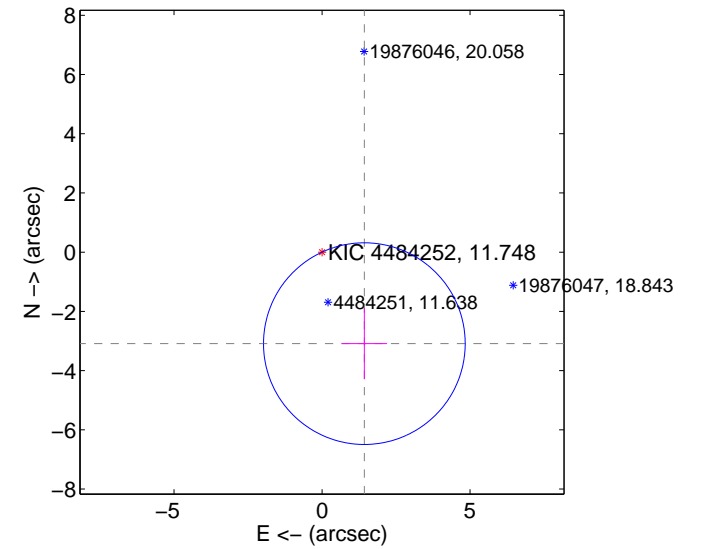
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

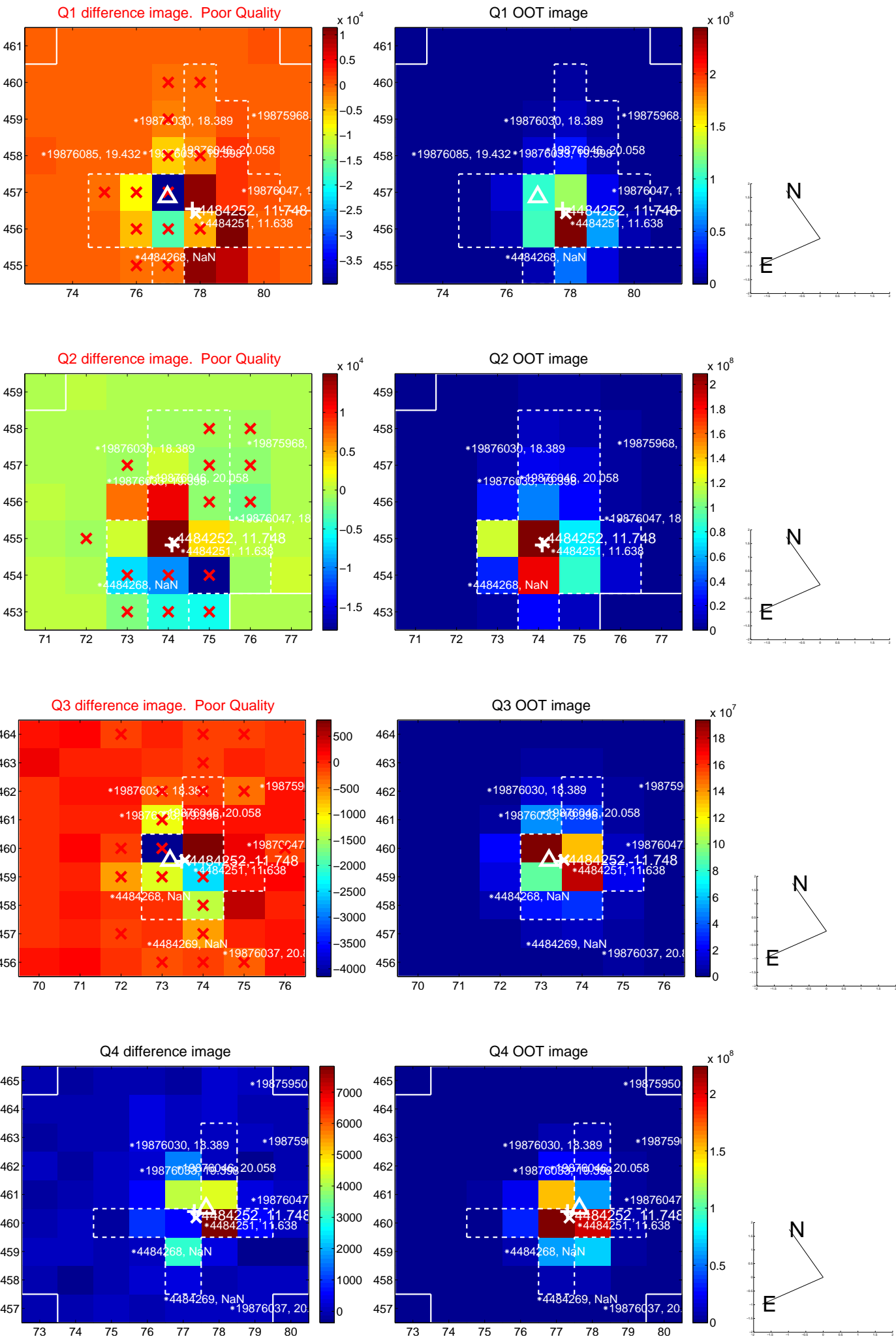


offset from photometric centroids

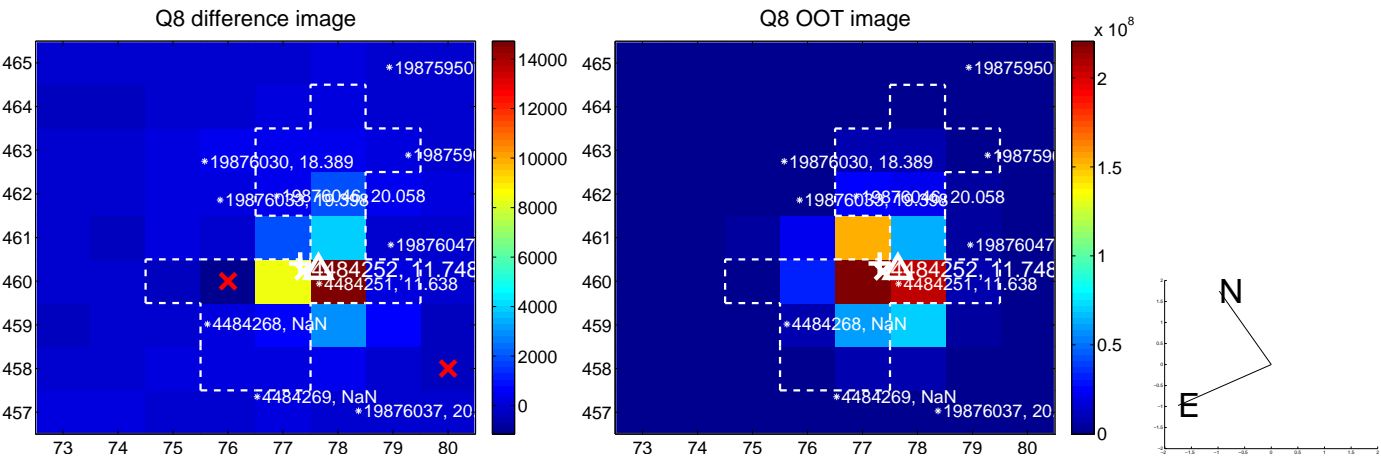
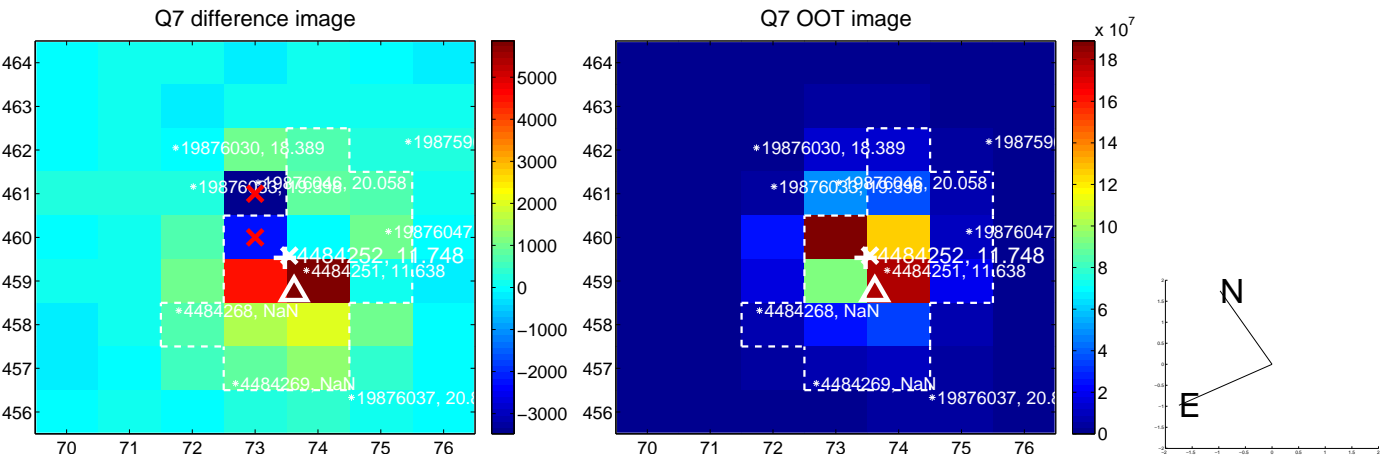
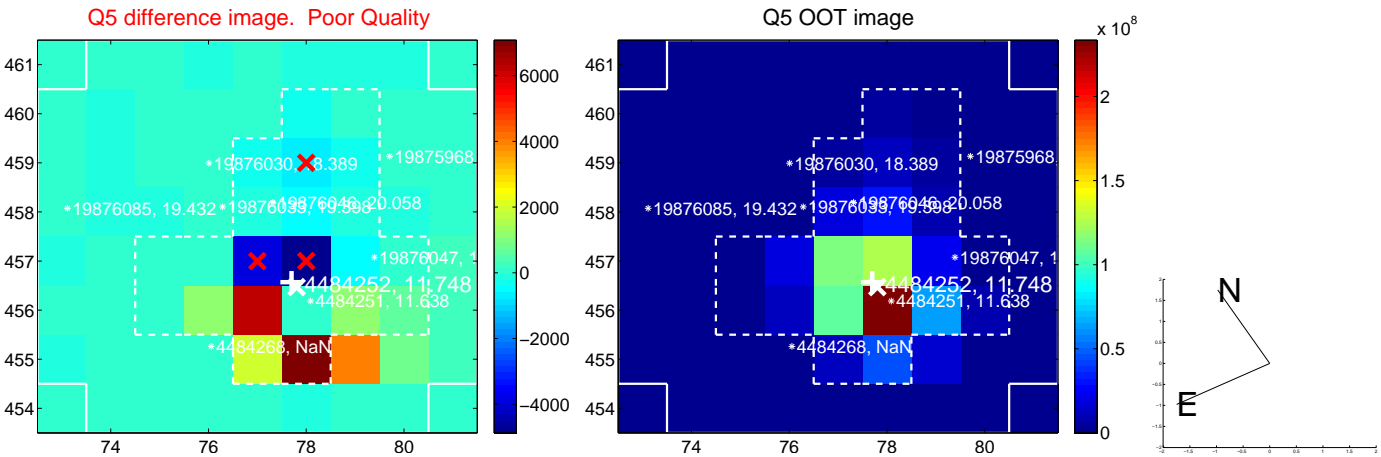


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

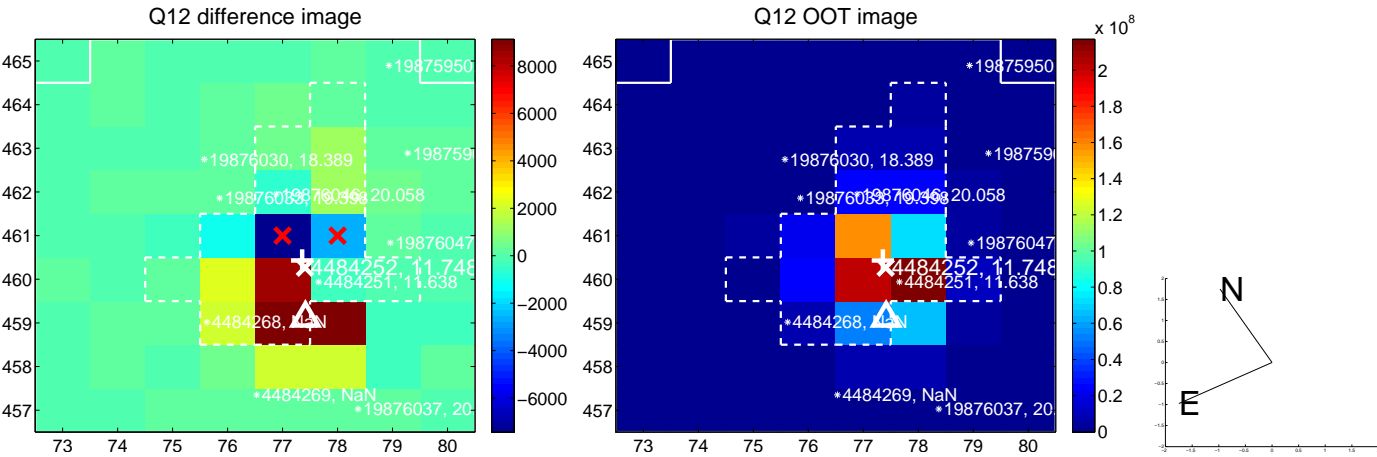
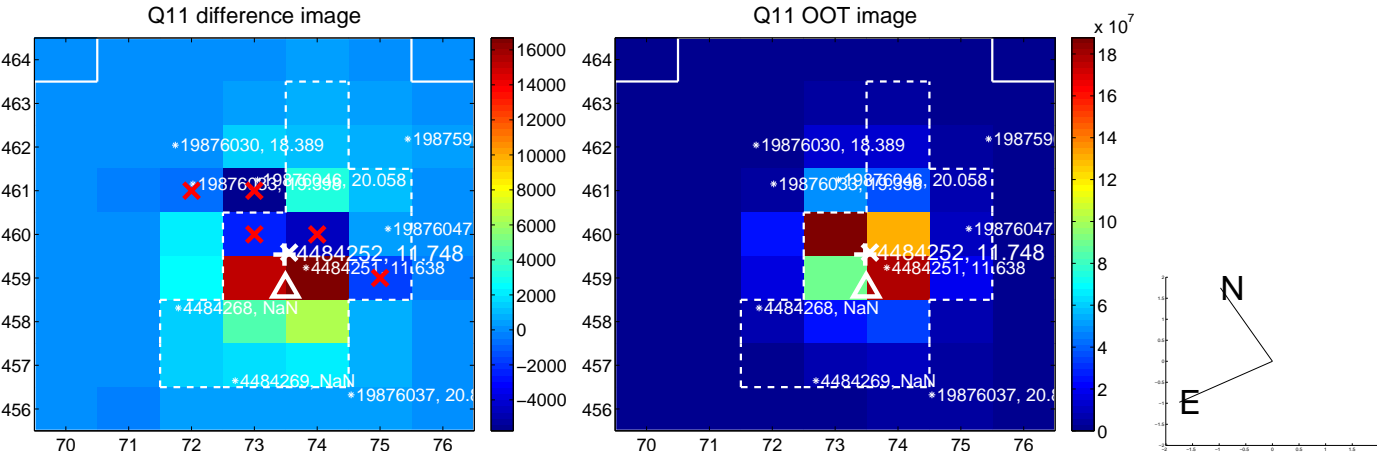
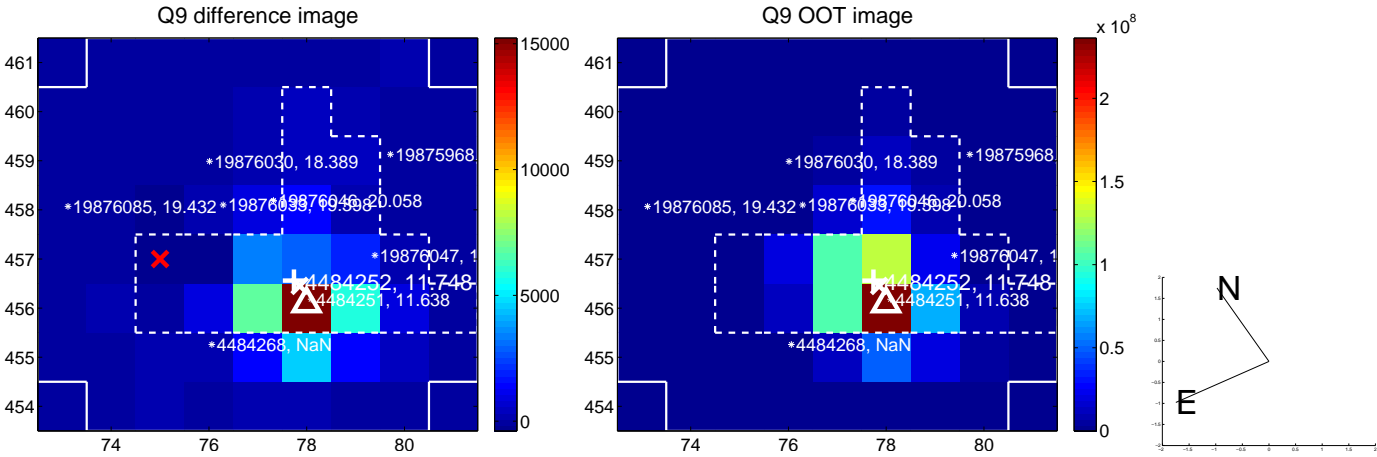
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



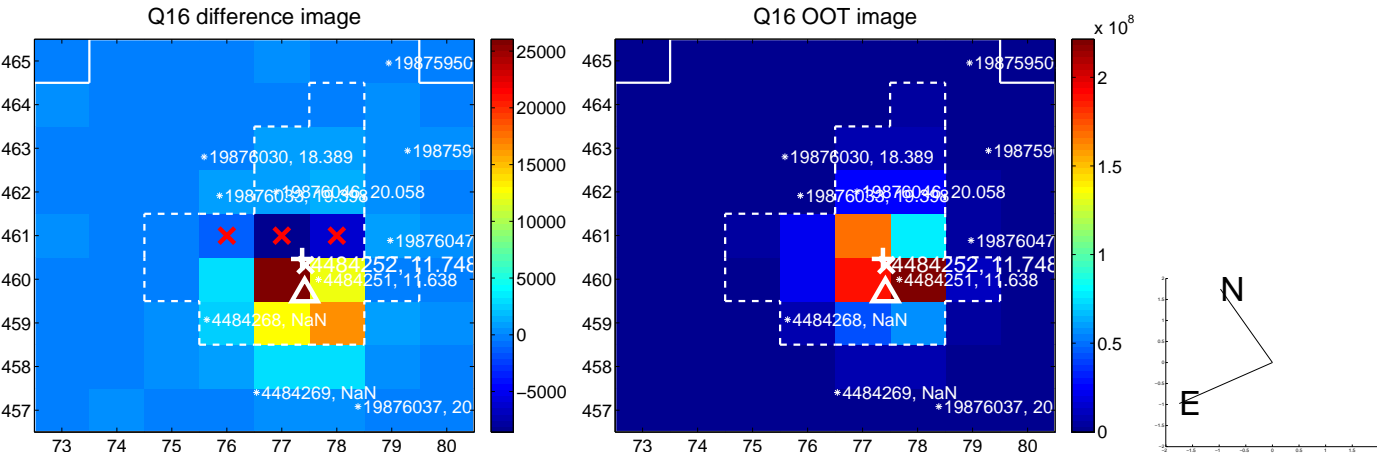
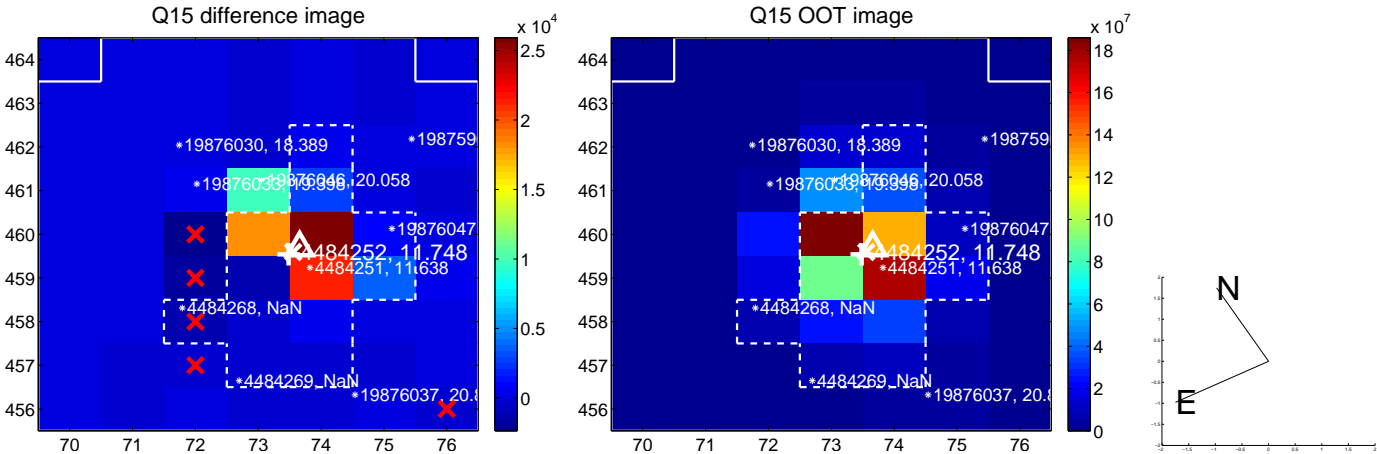
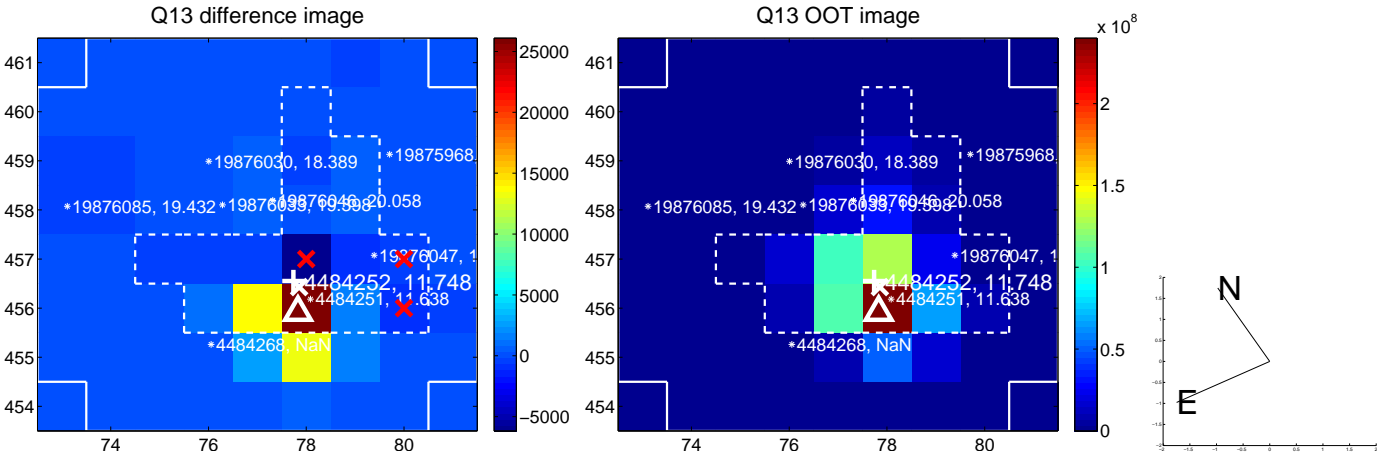
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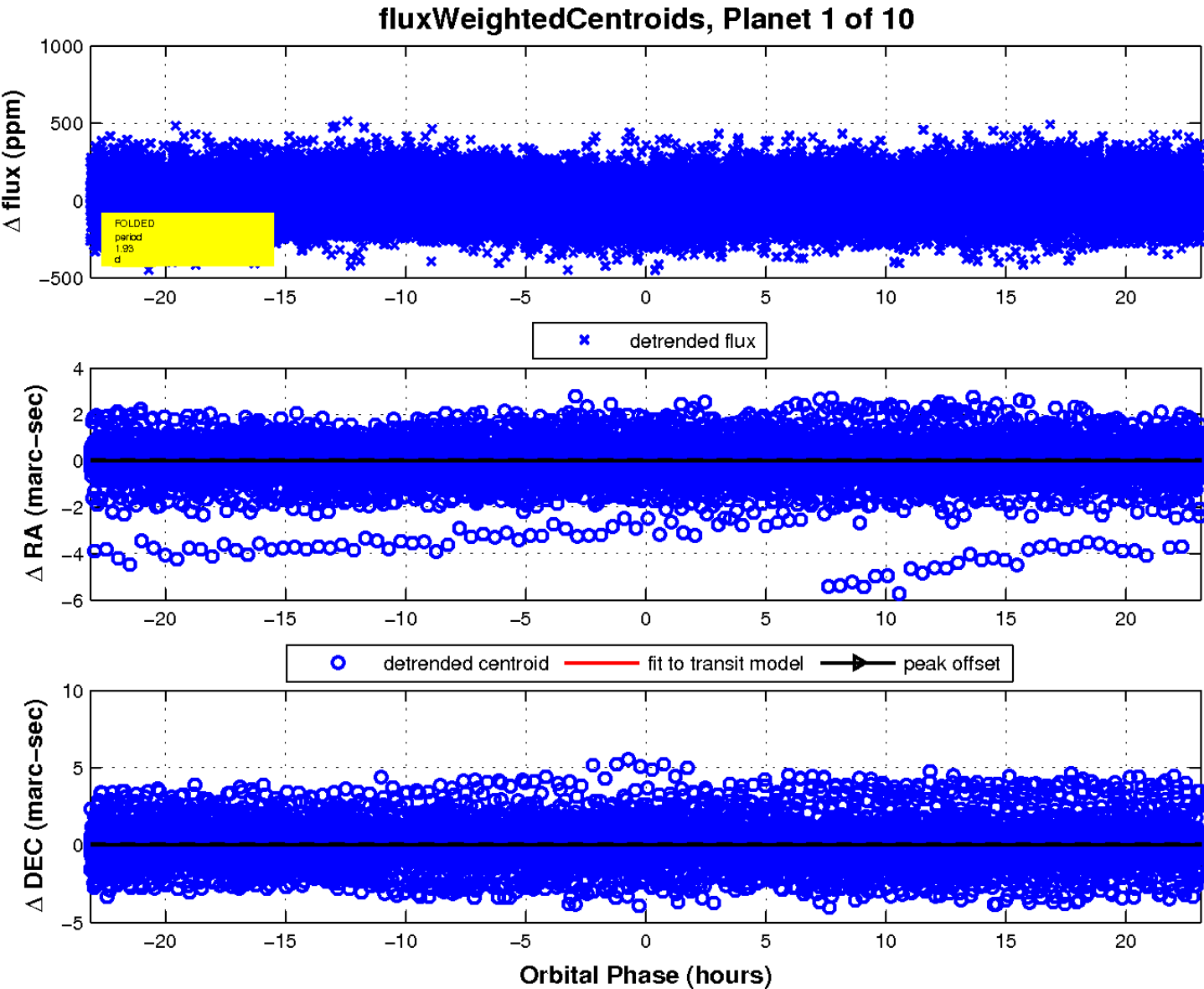
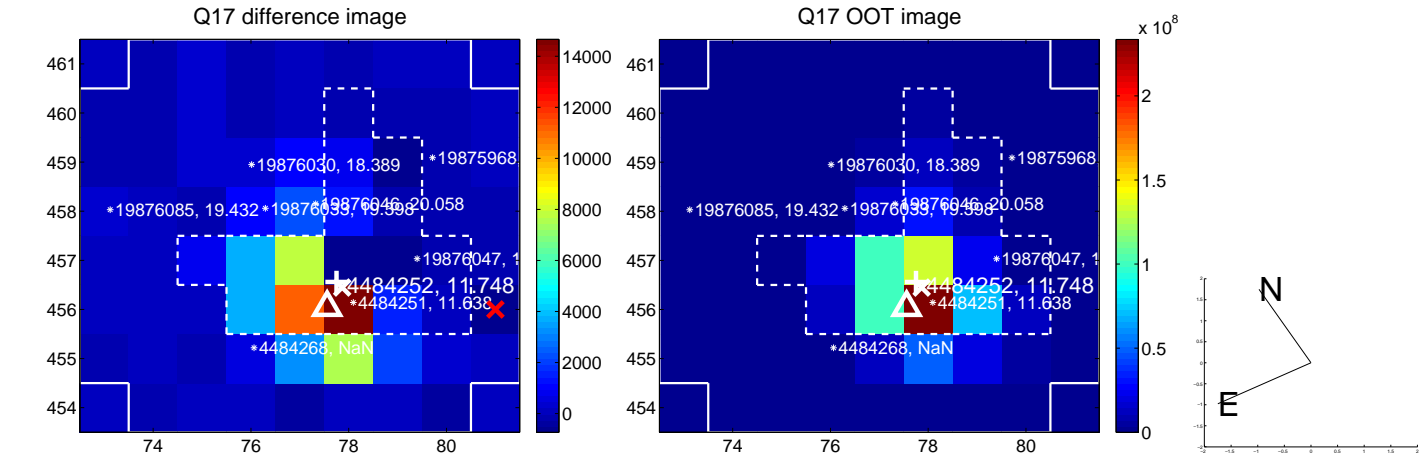
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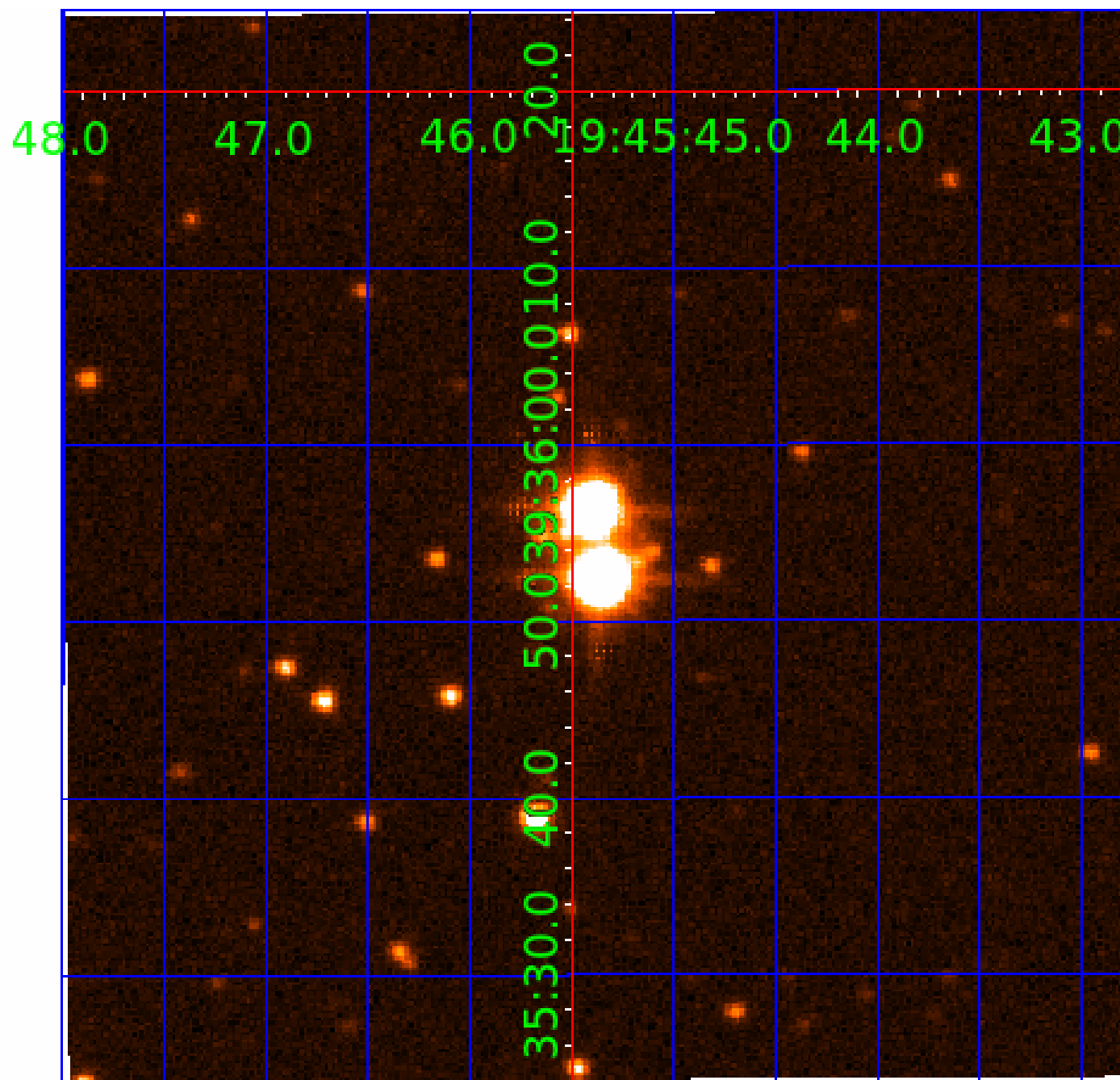


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UKIRT Image

Declination



KIC 004484252

Q1-17 DR25 TCE Parameters

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Robovetter Results

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004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

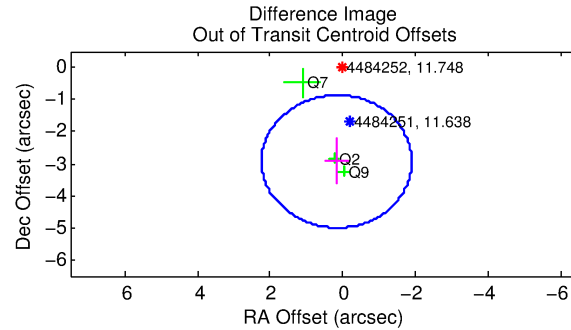
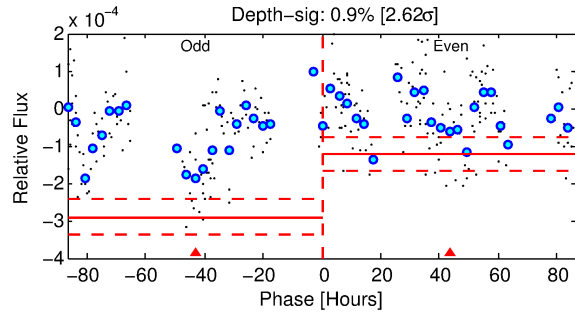
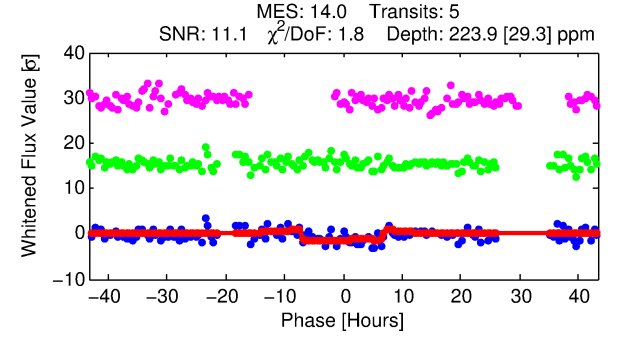
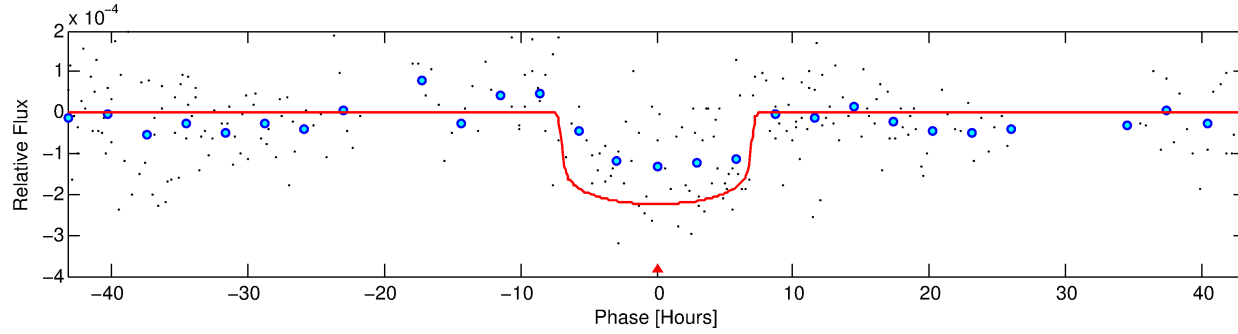
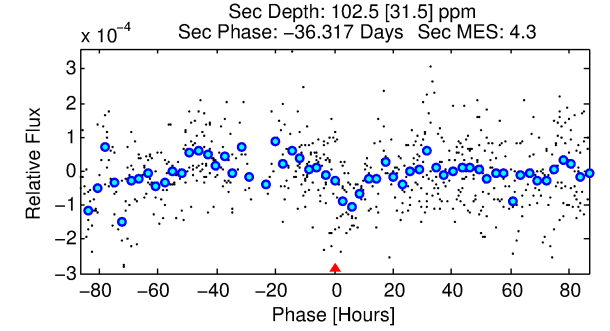
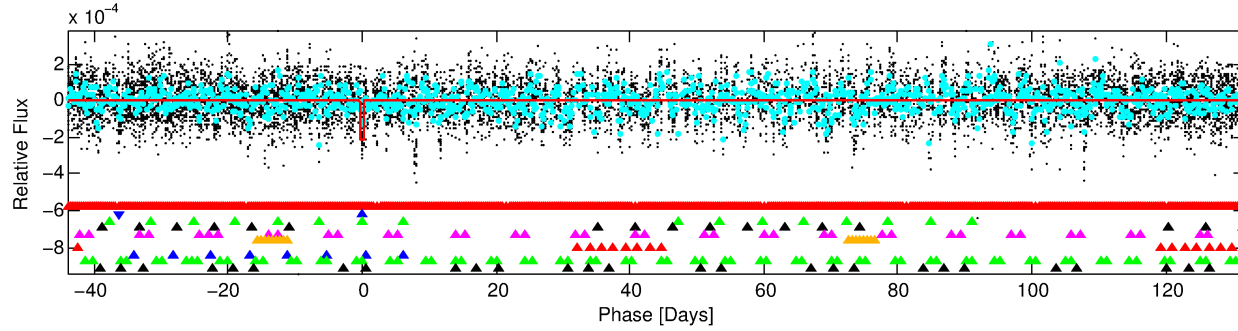
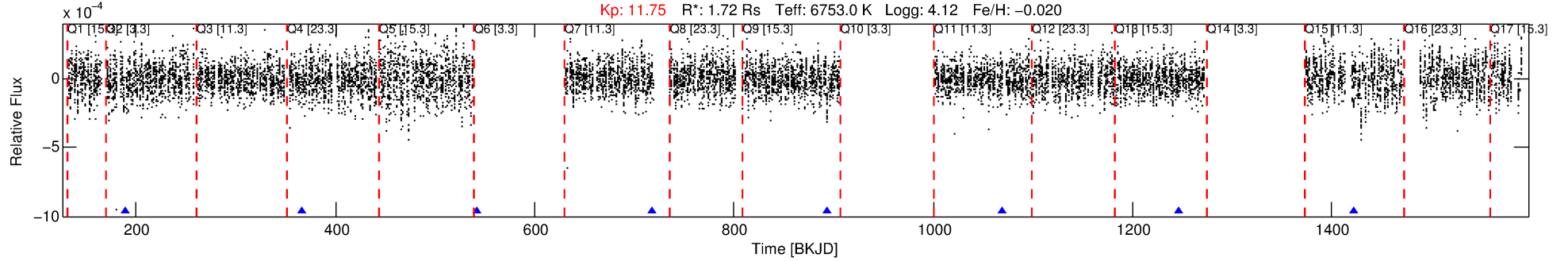
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-02

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 2 of 10 Period: 175.990 d



DV Fit Results:

Period = 175.99016 [0.00323] d
Epoch = 189.8847 [0.0115] BKJD
Rp/R* = 0.0147 [0.0034]
a/R* = 66.73 [81.91]
b = 0.72 [0.84]
Seff = 11.57 [4.34]
Teq = 470 [44] K
Rp = 2.76 [1.06] Re
a = 0.6890 [0.1683] AU
Ag = 3505.81 [2298.11] [1.53σ]
Teffp = 5595 [811] K [6.31σ]

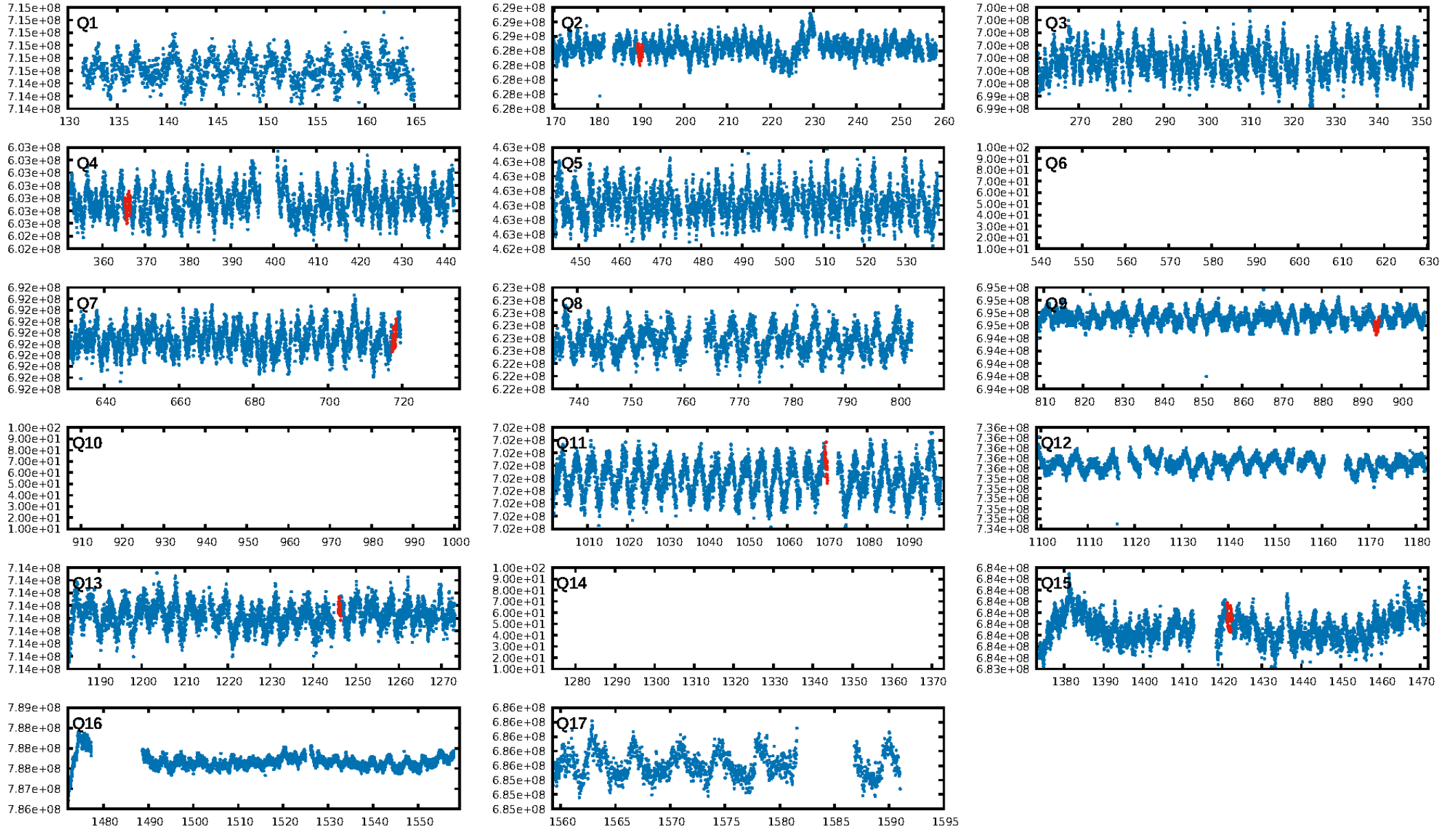
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [103.84σ]
LongPeriod-sig: 100.0% [8.44σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.4186
Centroid-sig: 0.6%
Centroid-so: 0.988 arcsec [1.40σ]
OotOffset-rm: 2.940 arcsec [4.27σ]
KicOffset-rm: 2.805 arcsec [5.39σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/5]

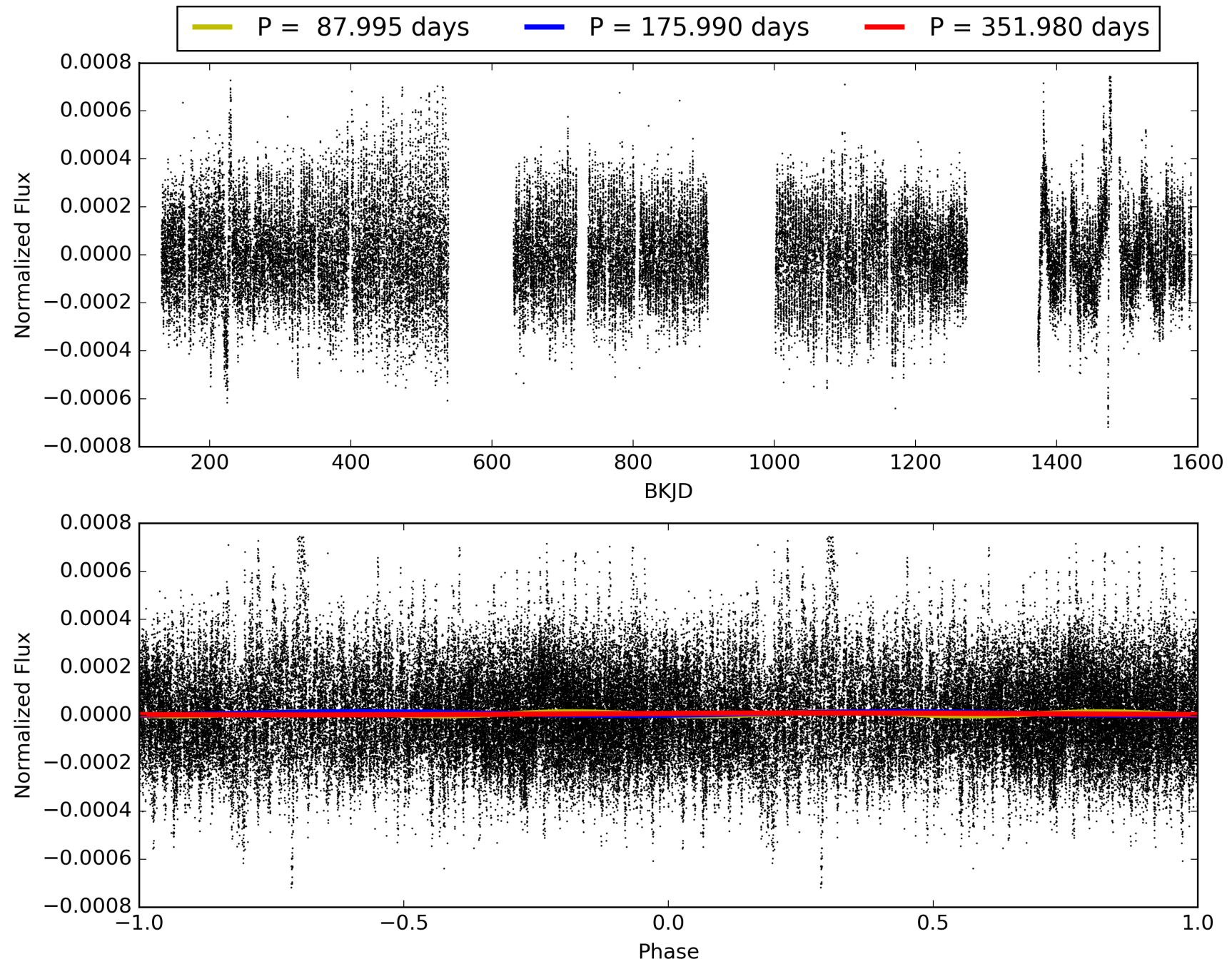
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:46:54 Z

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

TCE 004484252-02, PDC Light Curves

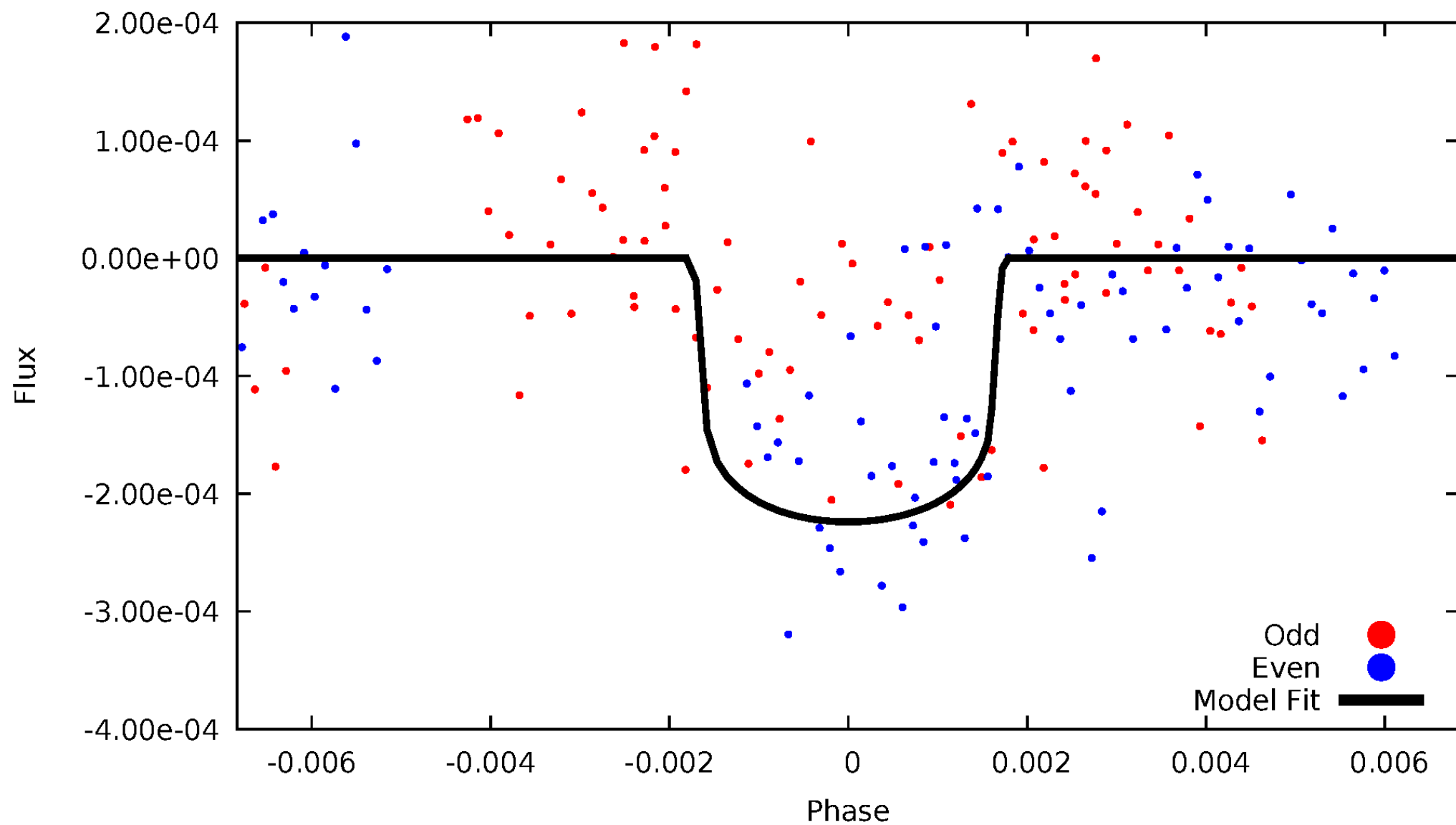


TCE 004484252-02



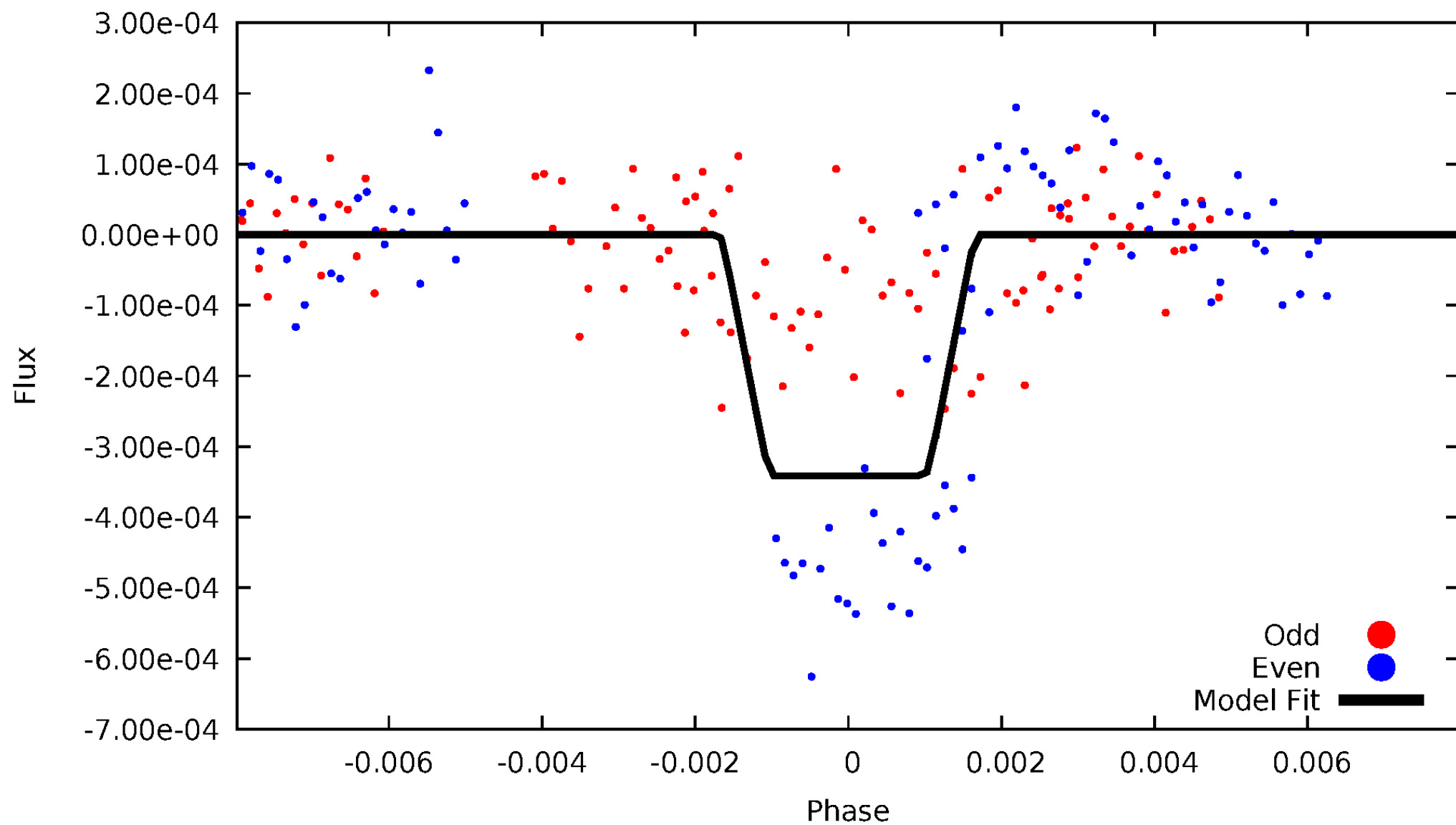
DV Odd/Even

TCE 004484252-02



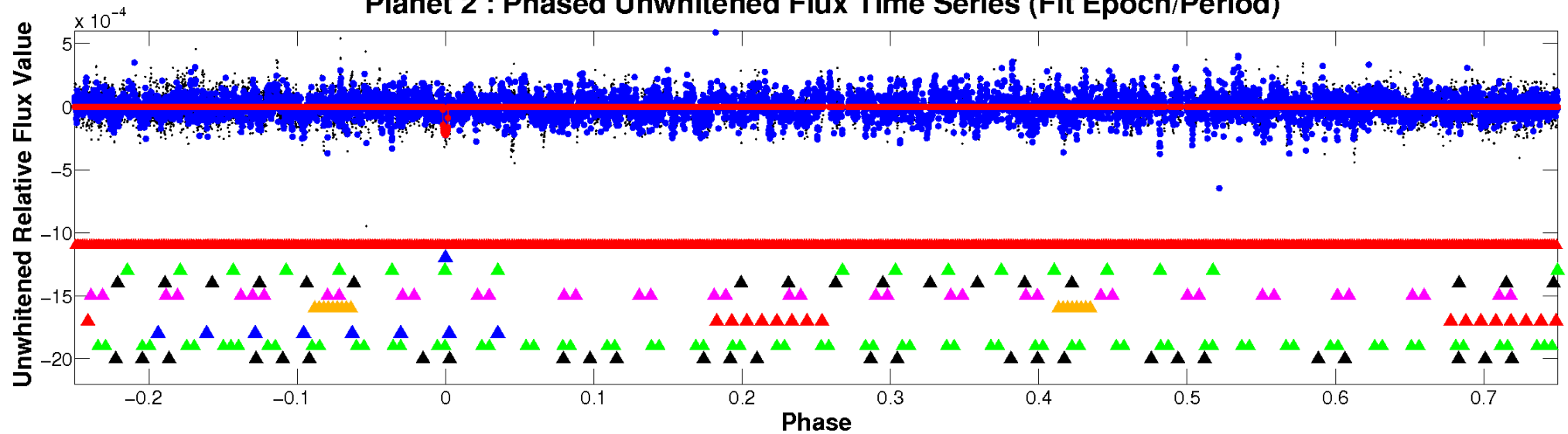
ALT Odd/Even

TCE 004484252-02

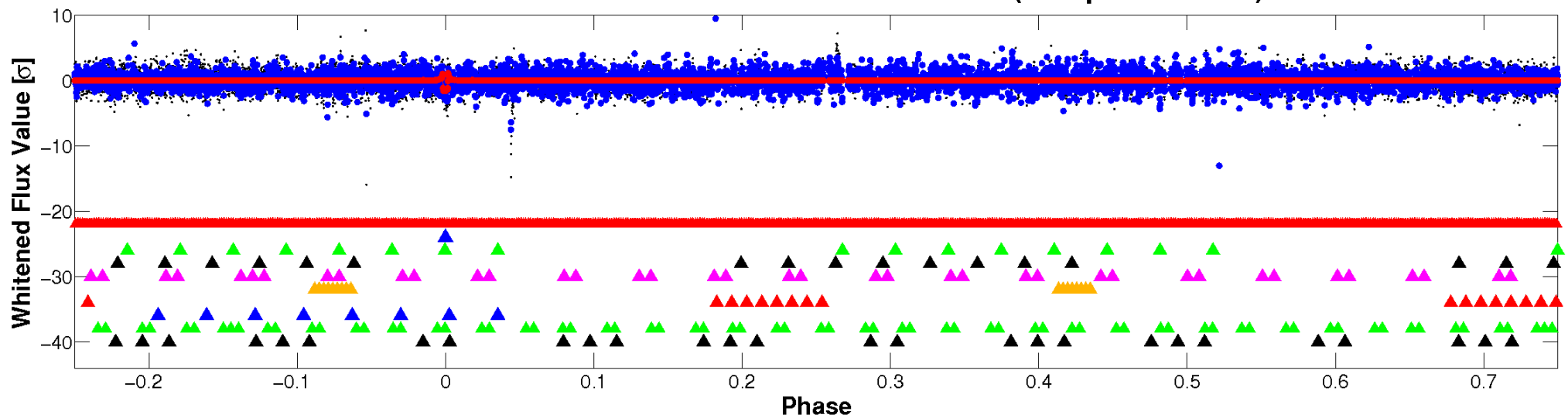


Non-Whitened Vs. Whitened Light Curve

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

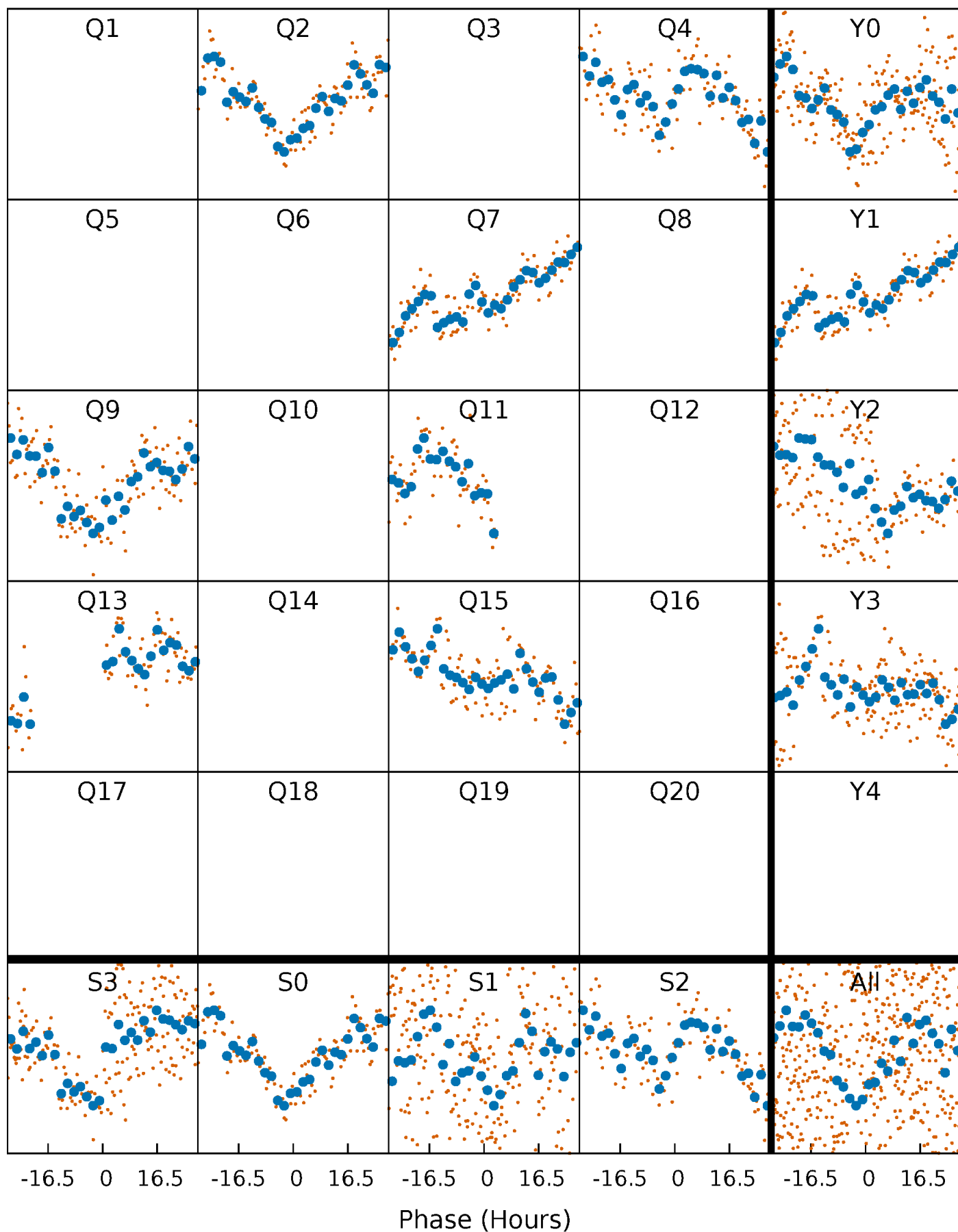


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



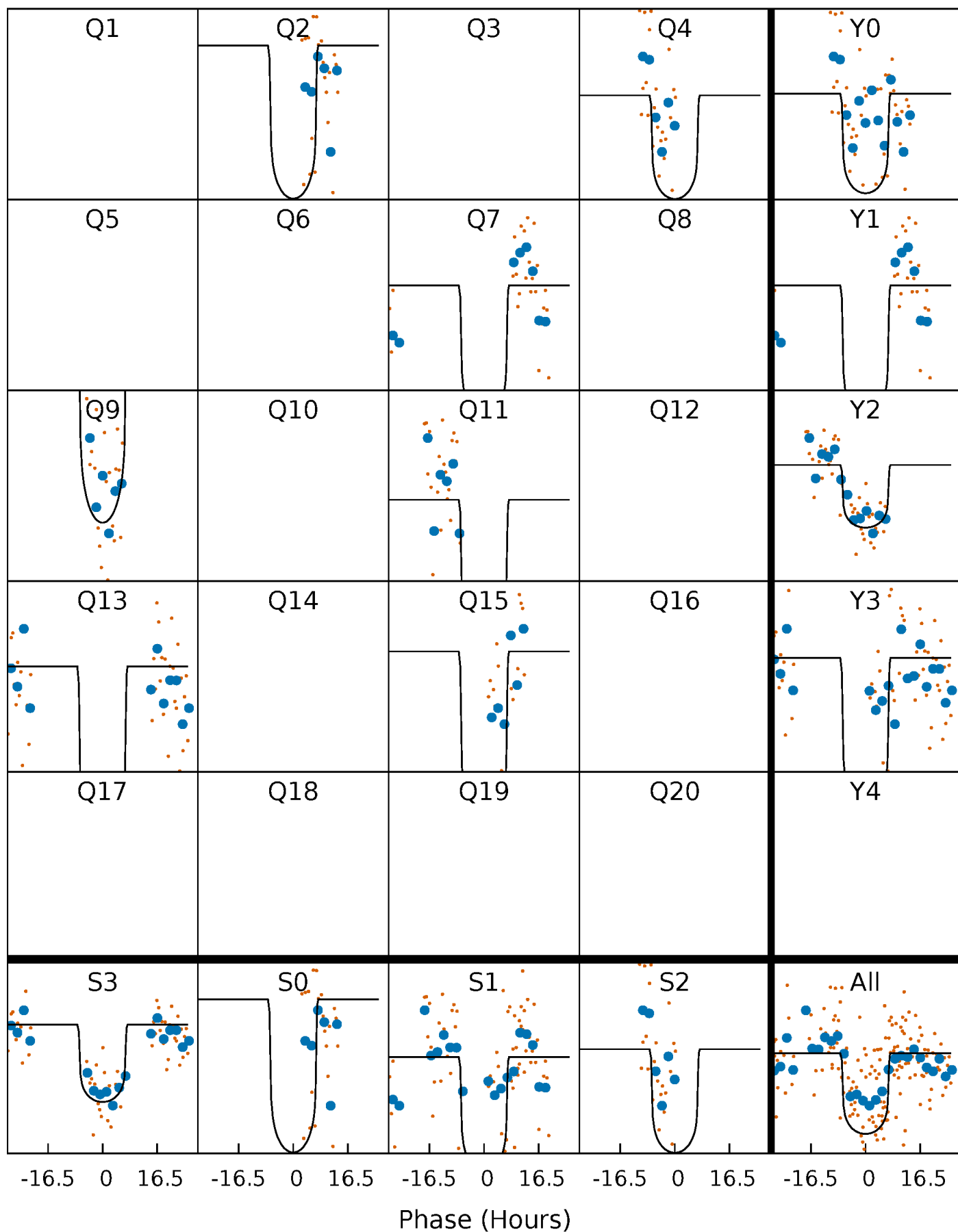
PDC Quarter-Phased Transit Curves

TCE 004484252-02 $P=175.990163$ Days $T_0=189.884706$ (BKJD)



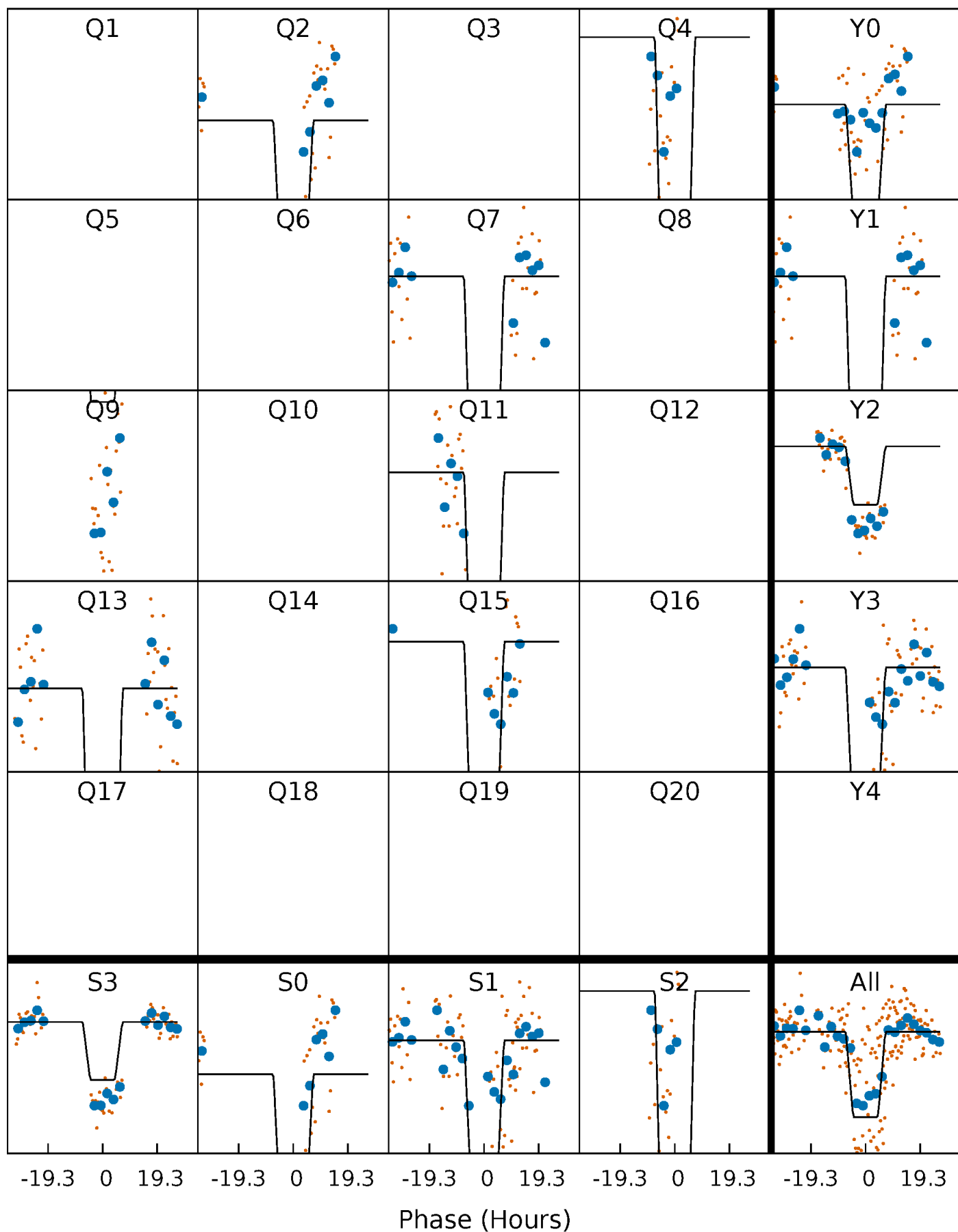
DV Quarter-Phased Transit Curves

TCE 004484252-02 $P=175.990163$ Days $T_0=189.884706$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

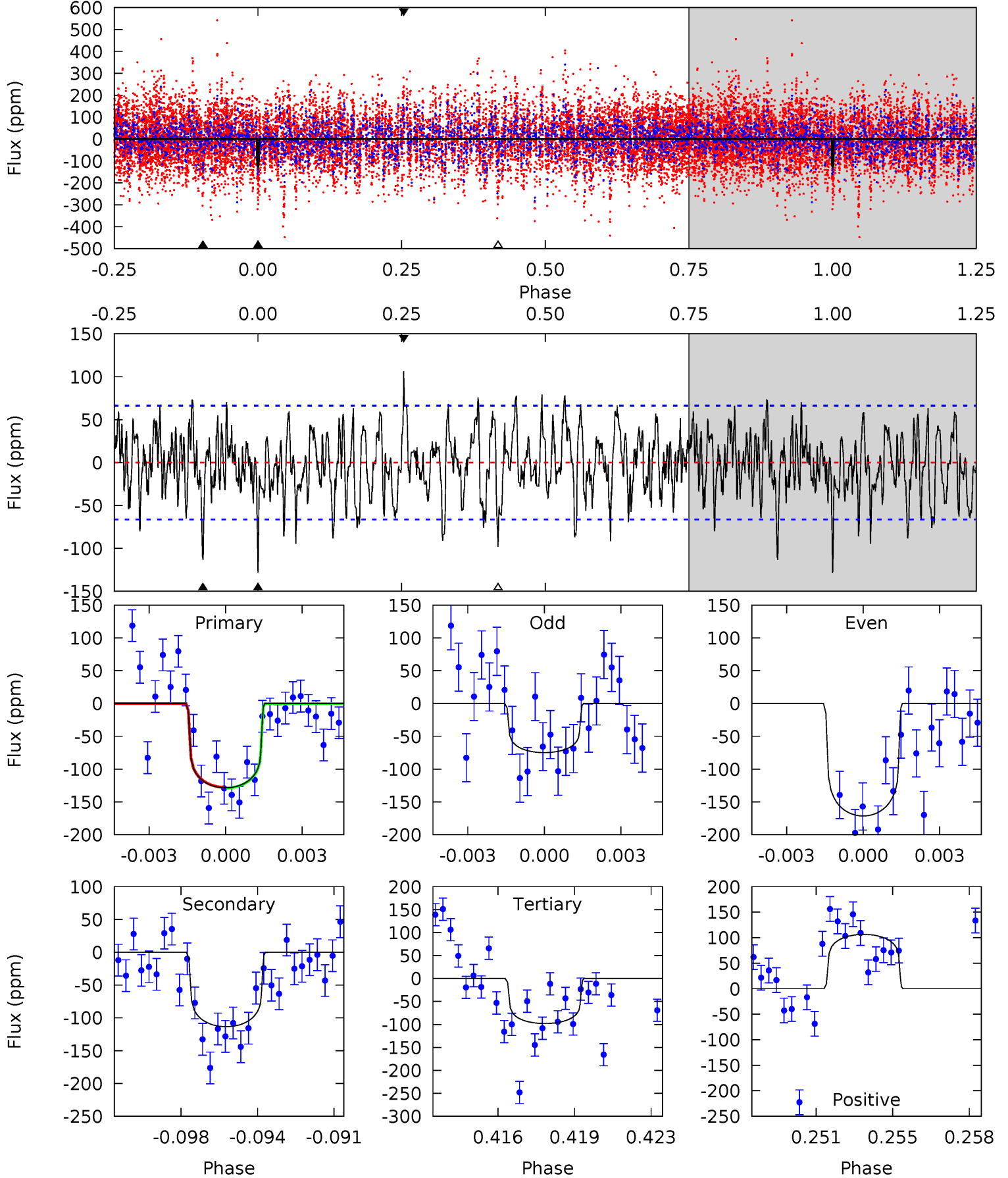
TCE 004484252-02 $P=175.994252$ Days $T_0=189.834931$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-02, P = 175.990163 Days, E = 13.894543 Days

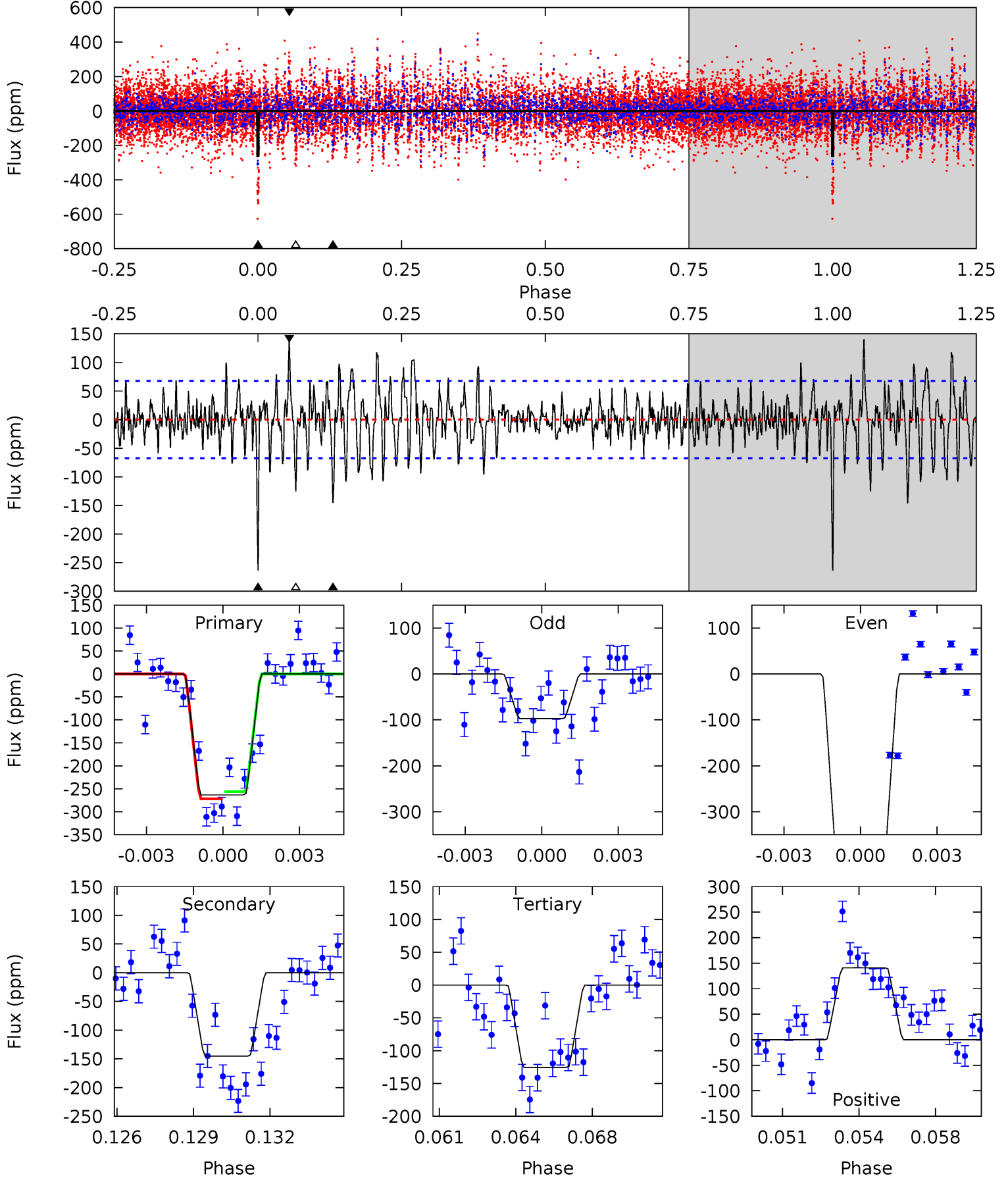
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	8.94	7.73	8.38	5.22	2.92	2.52	2.39	1.74	1.21	0.56	3.87	1.28	0.45	0.04



Alt Model-Shift Uniqueness Test

004484252-02, $P = 175.994252$ Days, $E = 13.840679$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	11.2	9.70	10.9	5.23	2.93	2.60	10.7	9.49	1.53	0.34	13.2	2.70	0.35	0.60



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-113 ± 13	$2.77^{+0.71}_{-0.72}$	656^{+53}_{-48}	5689^{+833}_{-527}	3811^{+3292}_{-1399}
Alt.	-145 ± 13	$3.48^{+0.89}_{-0.82}$	656^{+51}_{-46}	5406^{+647}_{-410}	3151^{+2009}_{-1182}

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

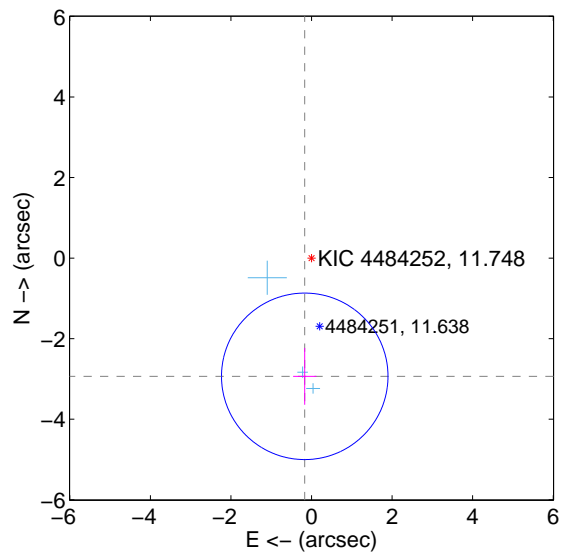
Supplemental centroid analysis for 004484252-02. **Kepler magnitude: 11.75.** Transit SNR 11.08

There are 3 quarters with good PRF difference image offsets

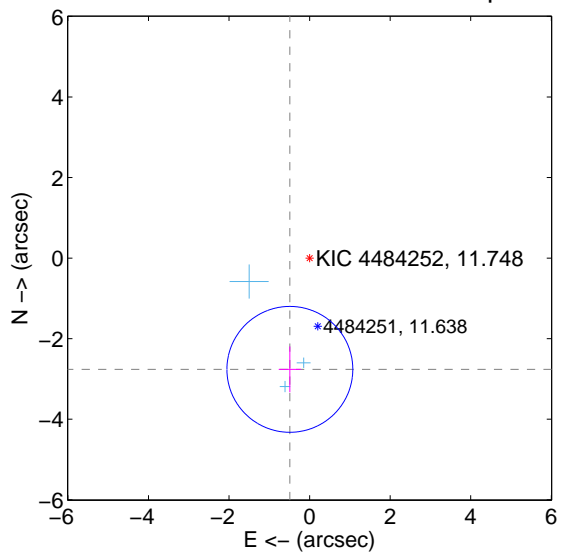
The direct PRF centroid is offset from the target star catalog position by about 0.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.940 ± 0.689	4.27	0.168 ± 0.288	-2.935 ± 0.706
PRF-fit source offset from KIC position	2.805 ± 0.521	5.39	0.490 ± 0.276	-2.762 ± 0.570
photometric centroid source offset	0.99 ± 0.71	1.40	-0.13 ± 0.44	-0.98 ± 0.71

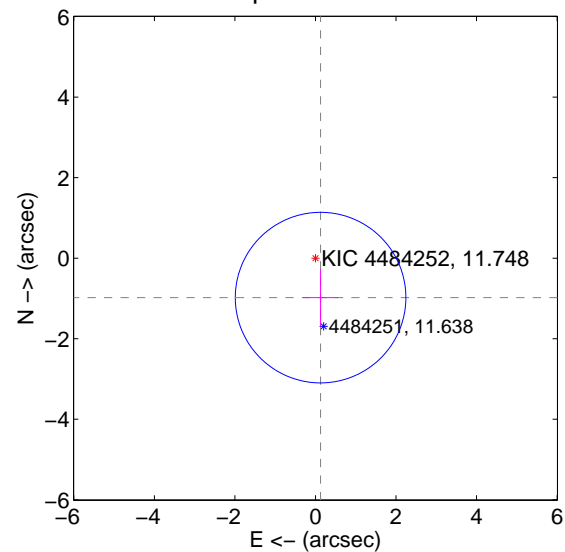
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

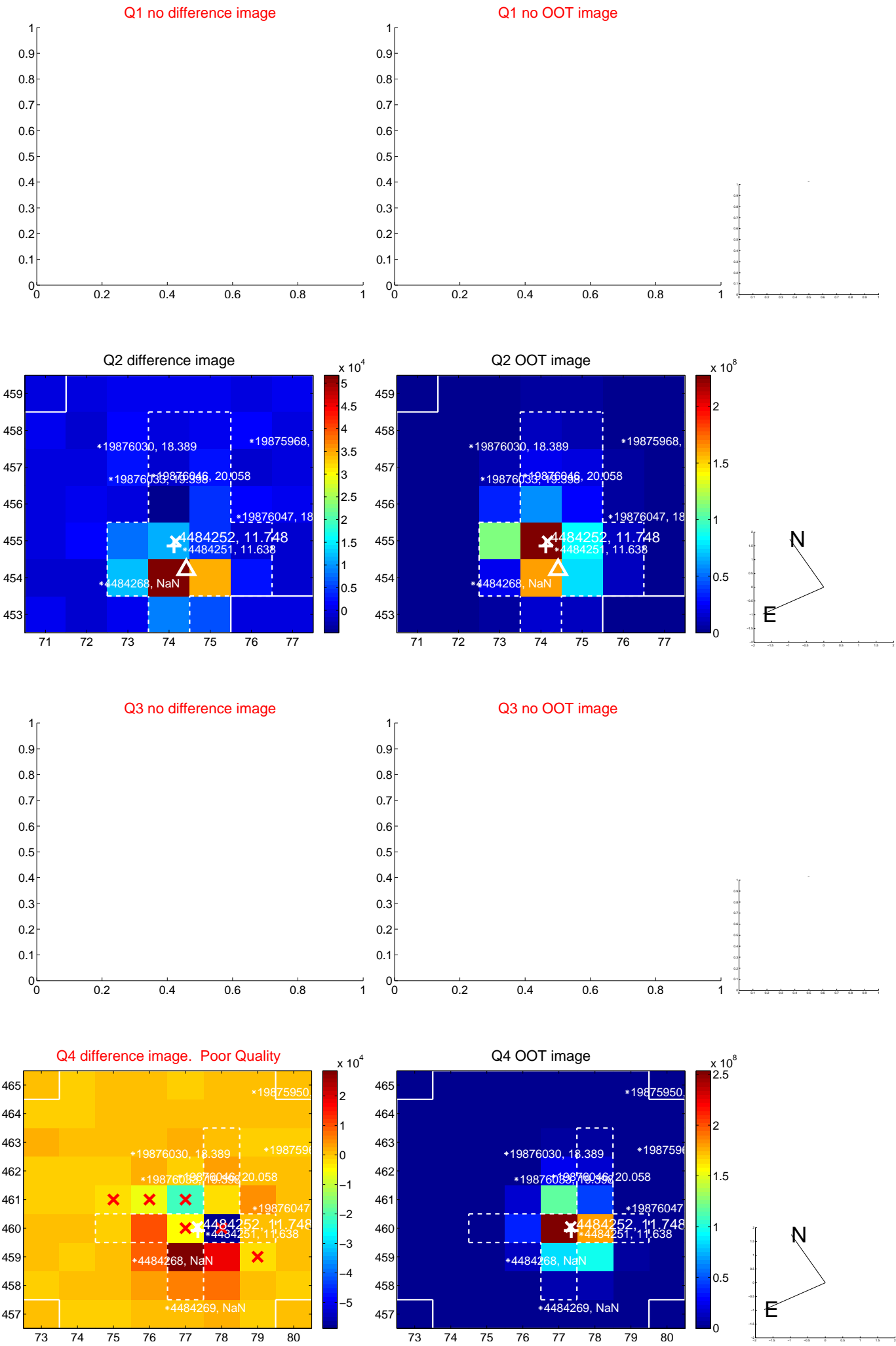


offset from photometric centroids

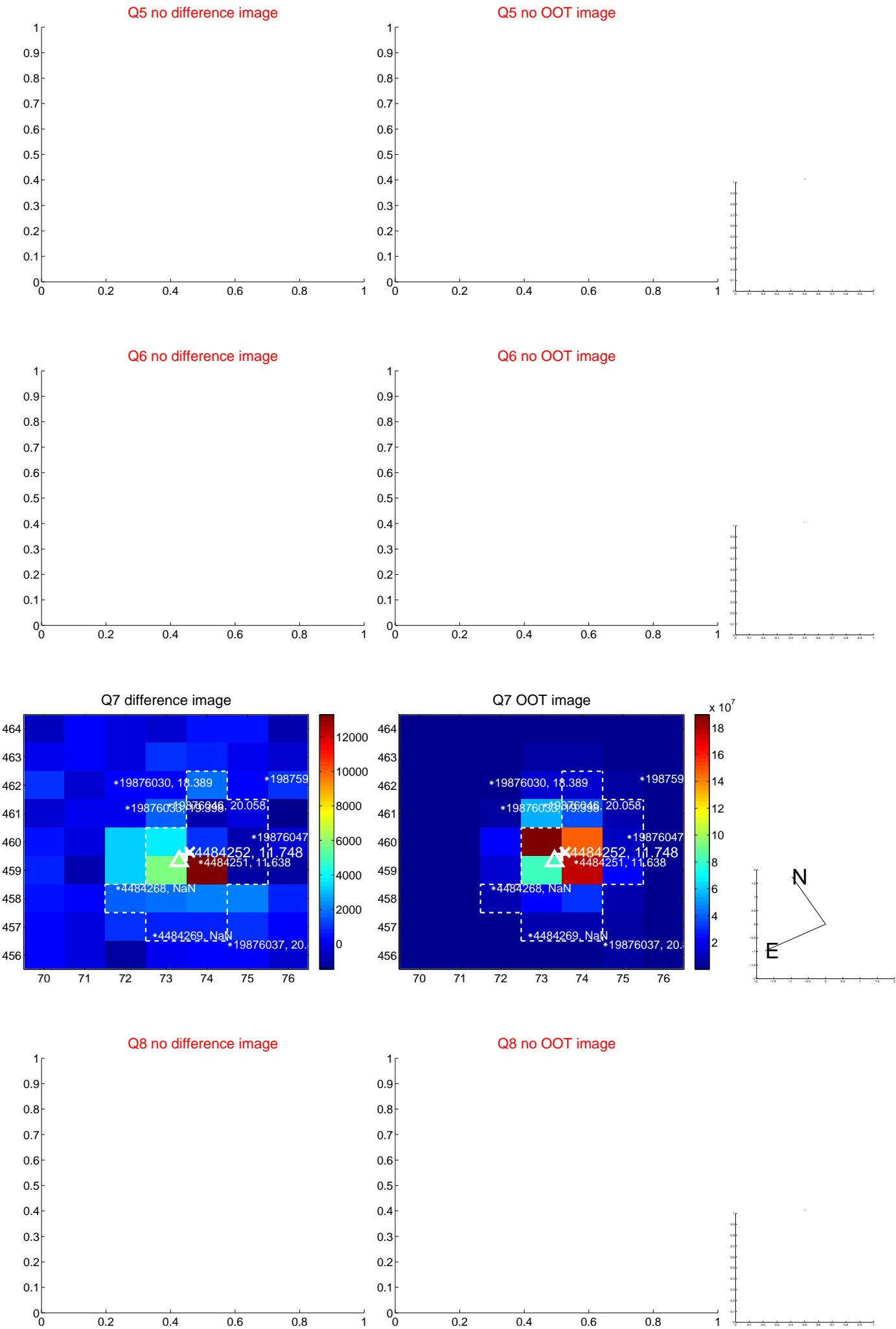


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

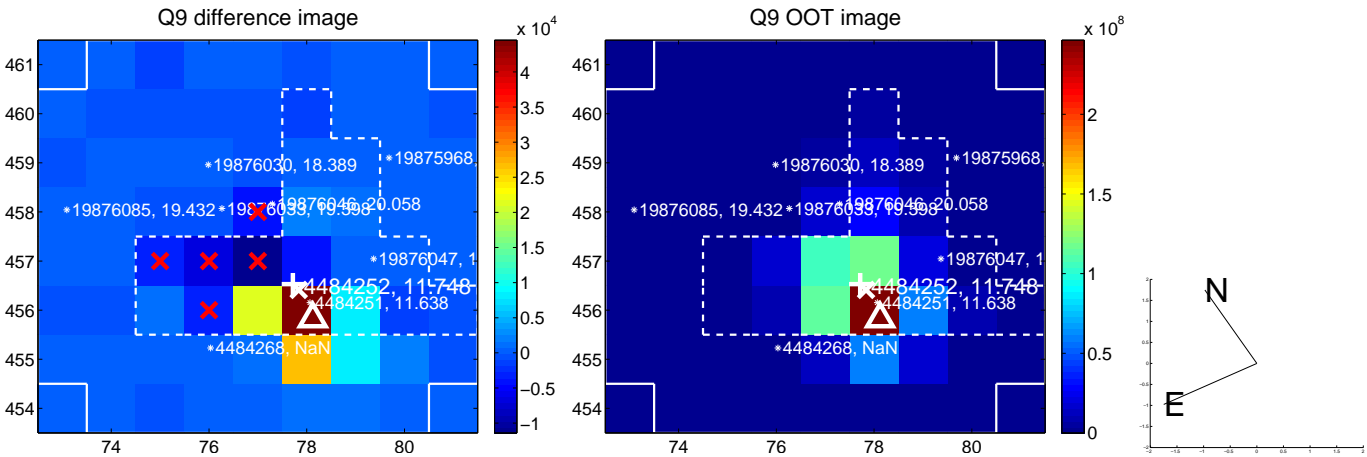
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



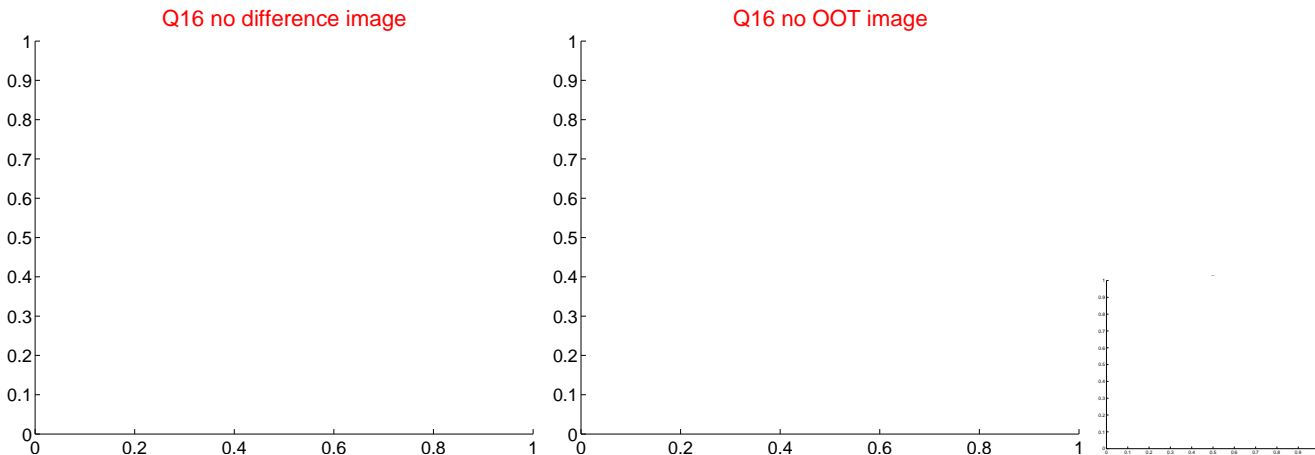
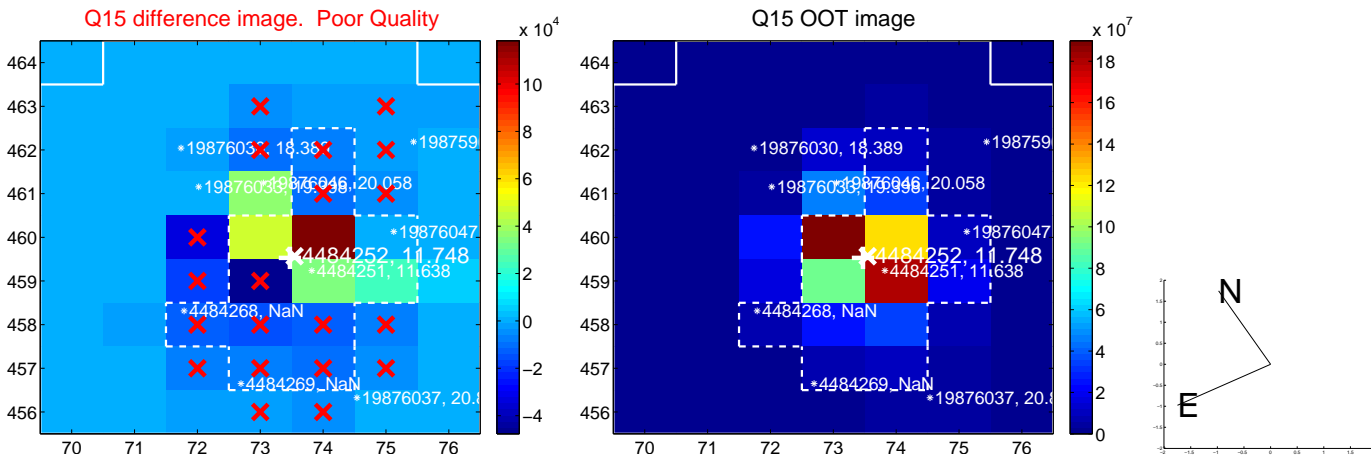
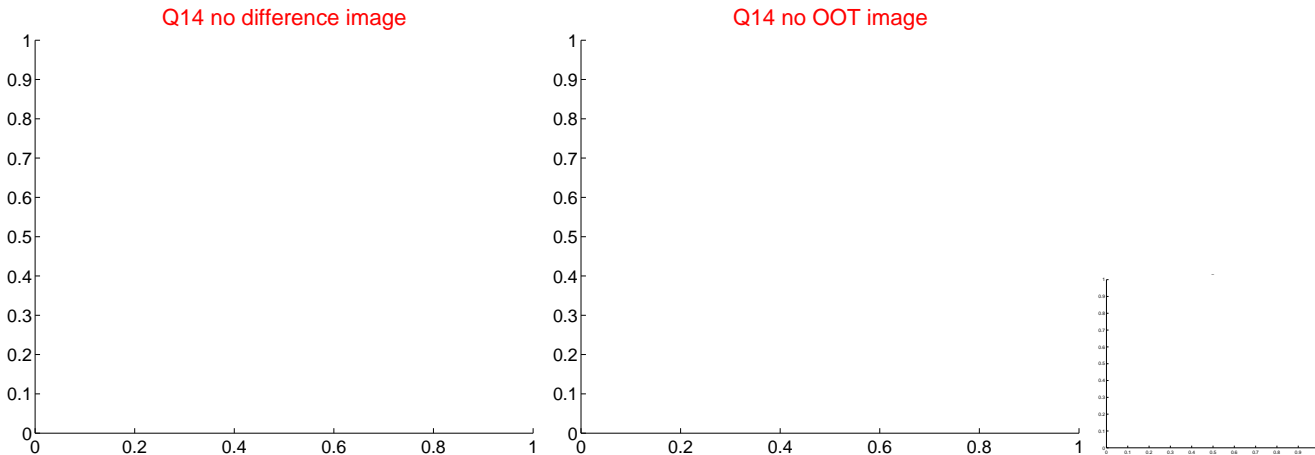
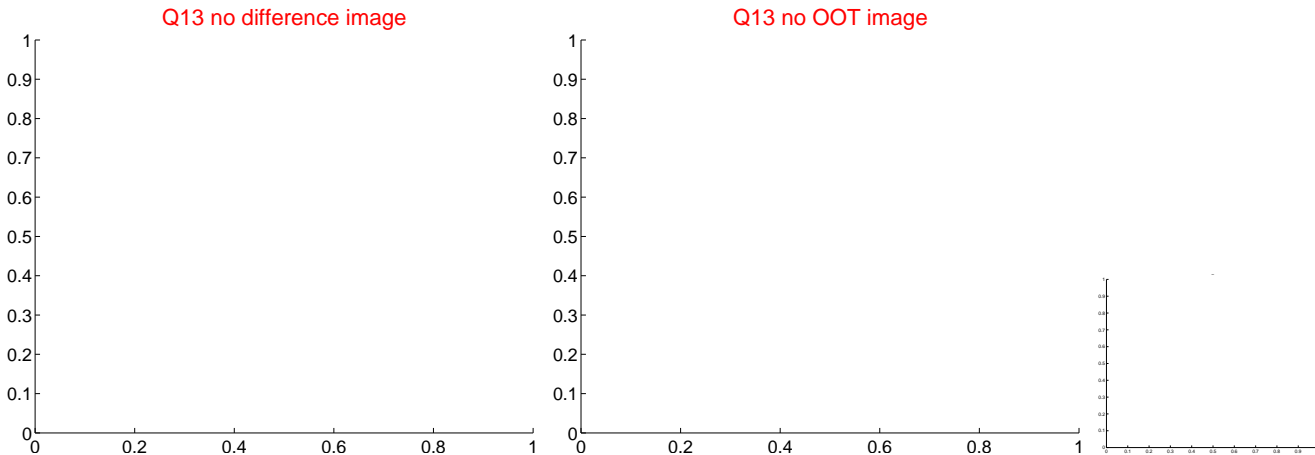
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



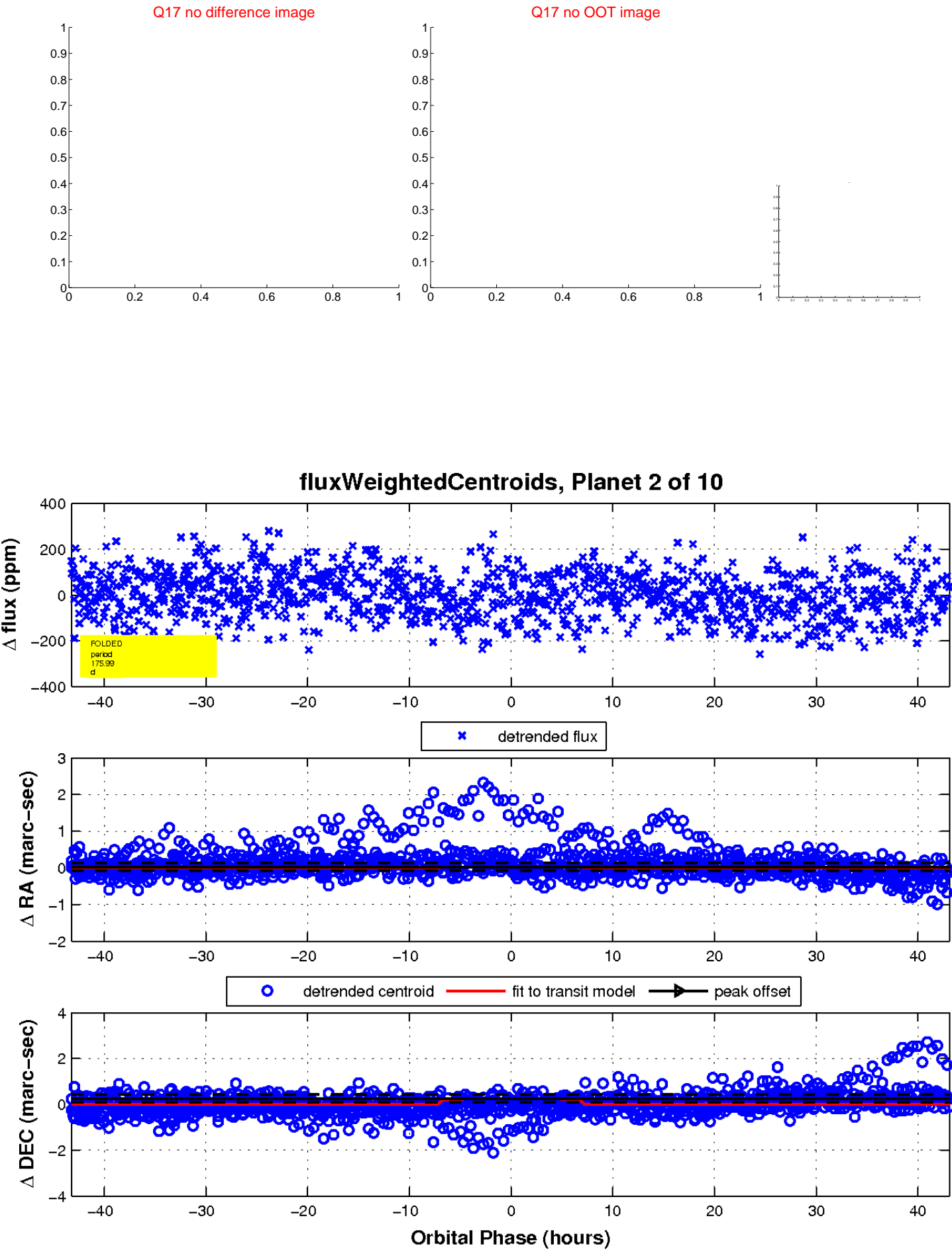
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

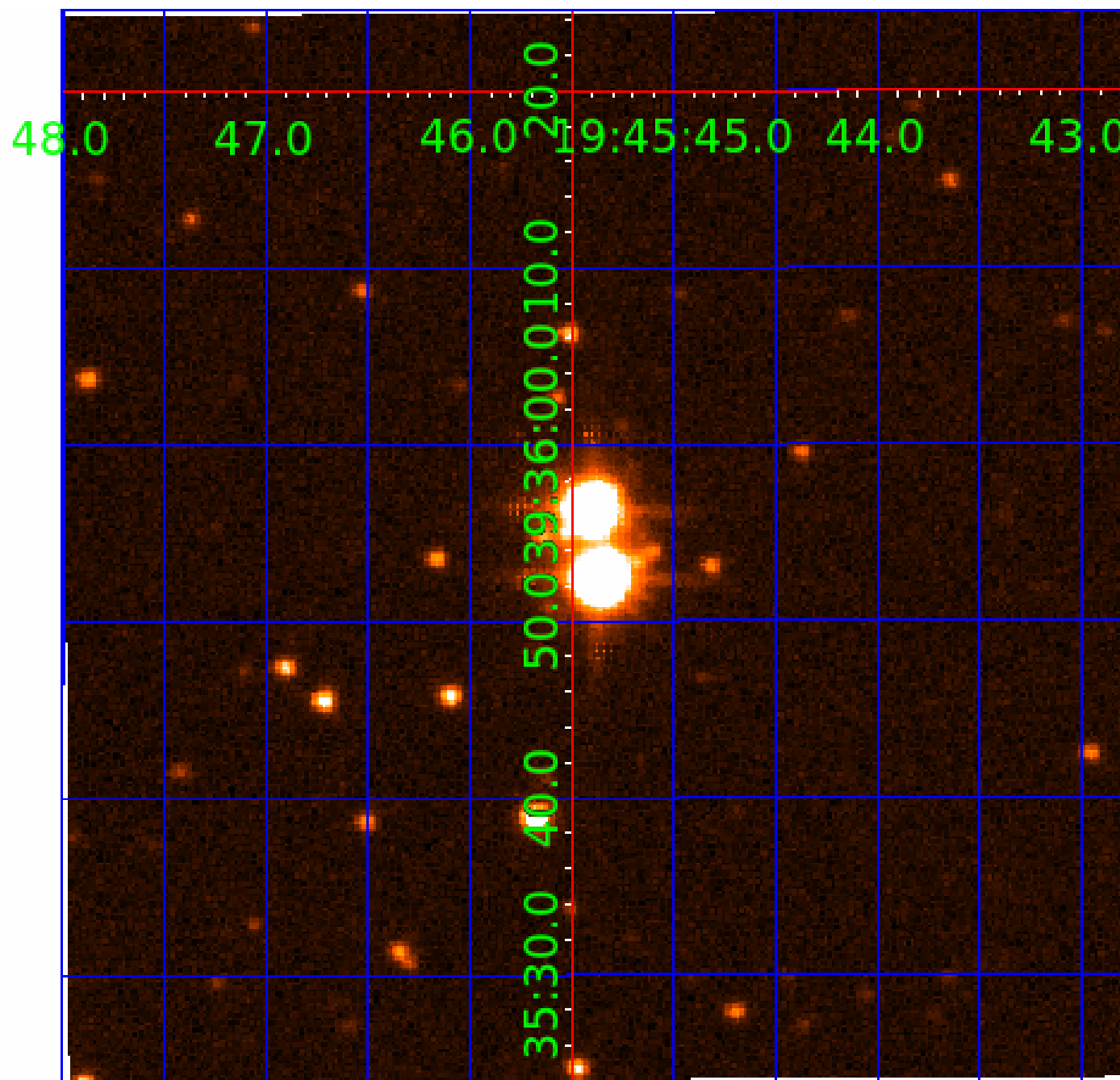


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004484252

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})
004484252-01	OBS	No	1.927818	133.351635	11.8	11.489	10.9	6.7	1.72	6753	0.59	4756.71
004484252-02	OBS	No	175.990163	189.884706	223.9	14.427	14.0	11.1	1.72	6753	2.76	11.57
004484252-04	OBS	No	90.798942	134.165001	119.7	13.399	9.8	8.8	1.72	6753	2.01	27.96
004484252-05	OBS	No	36.978026	168.370439	108.7	3.009	9.6	8.7	1.72	6753	2.03	92.64
004484252-07	OBS	No	87.102783	147.460088	131.8	3.156	8.7	8.4	1.72	6753	2.31	29.56
004484252-08	OBS	No	181.749444	155.783439	184.9	7.745	8.9	9.2	1.72	6753	2.42	11.09
004484252-09	OBS	No	20.138949	143.389767	67.0	5.518	8.8	7.5	1.72	6753	1.53	208.29
004484252-10	OBS	No	53.113455	167.407001	144.7	4.153	8.5	9.1	1.72	6753	2.32	57.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484252-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

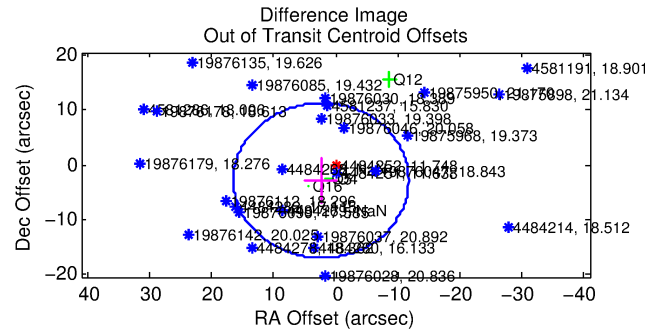
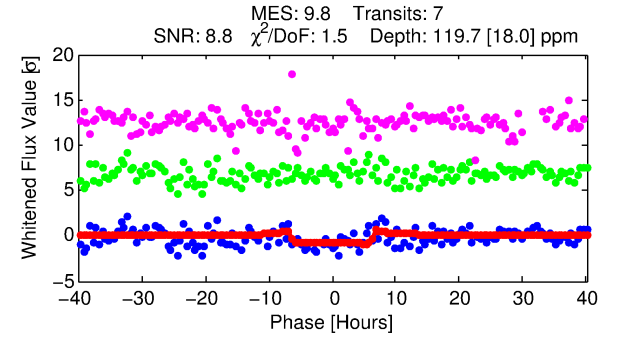
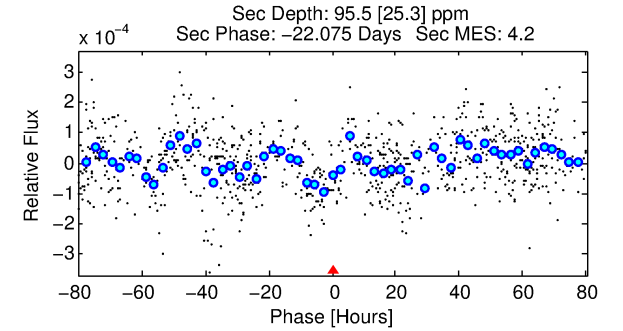
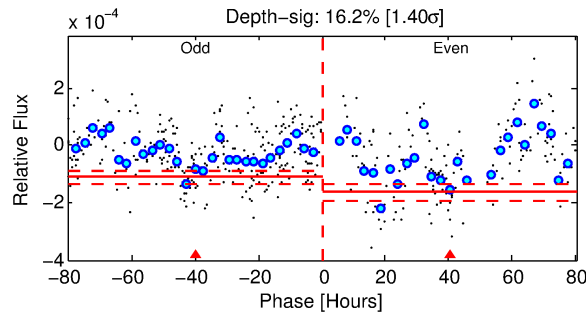
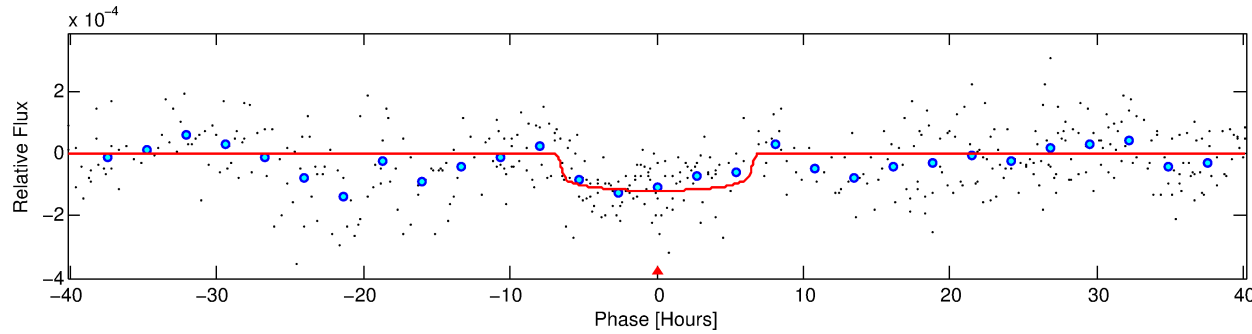
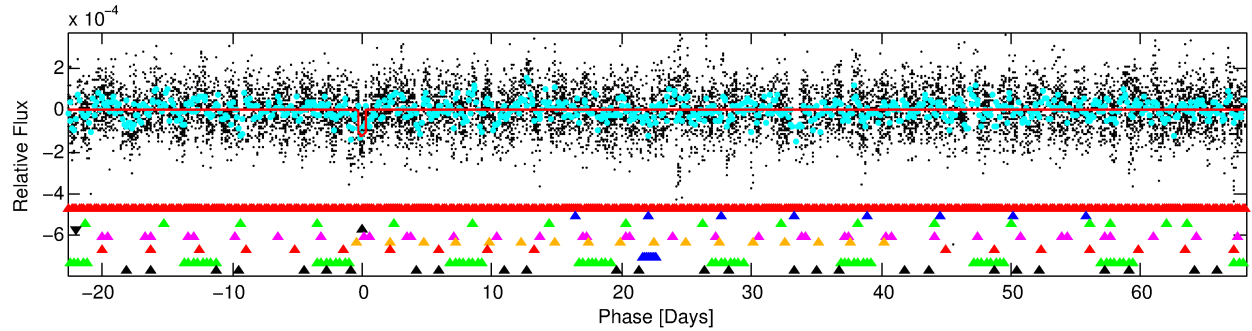
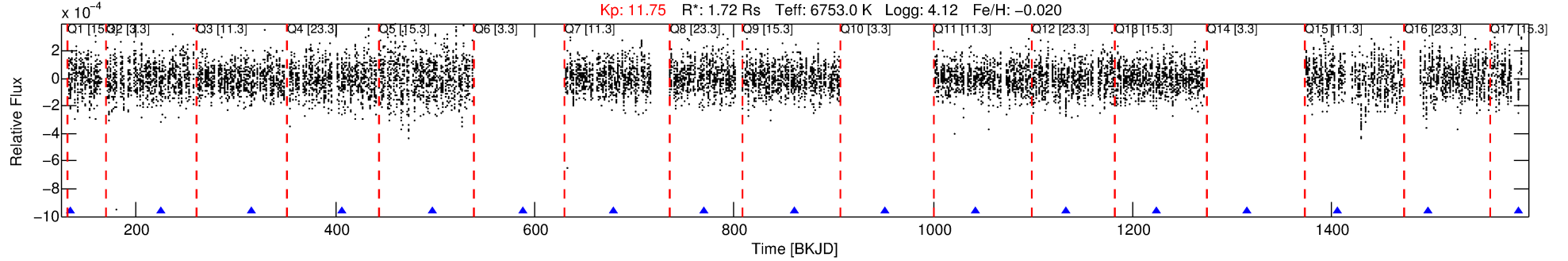
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-04

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 4 of 10 Period: 90.799 d



DV Fit Results:

Period = 90.79894 [0.00205] d
Epoch = 134.1650 [0.0139] BKJD
Rp/R* = 0.0108 [0.0044]
a/R* = 37.40 [84.61]
b = 0.71 [1.60]
Seff = 27.97 [10.48]
Teq = 586 [55] K
Rp = 2.01 [1.02] Re
a = 0.4432 [0.1083] AU
Ag = 2544.26 [2353.16] [1.08 σ]
Teffp = 6439 [1405] K [4.16 σ]

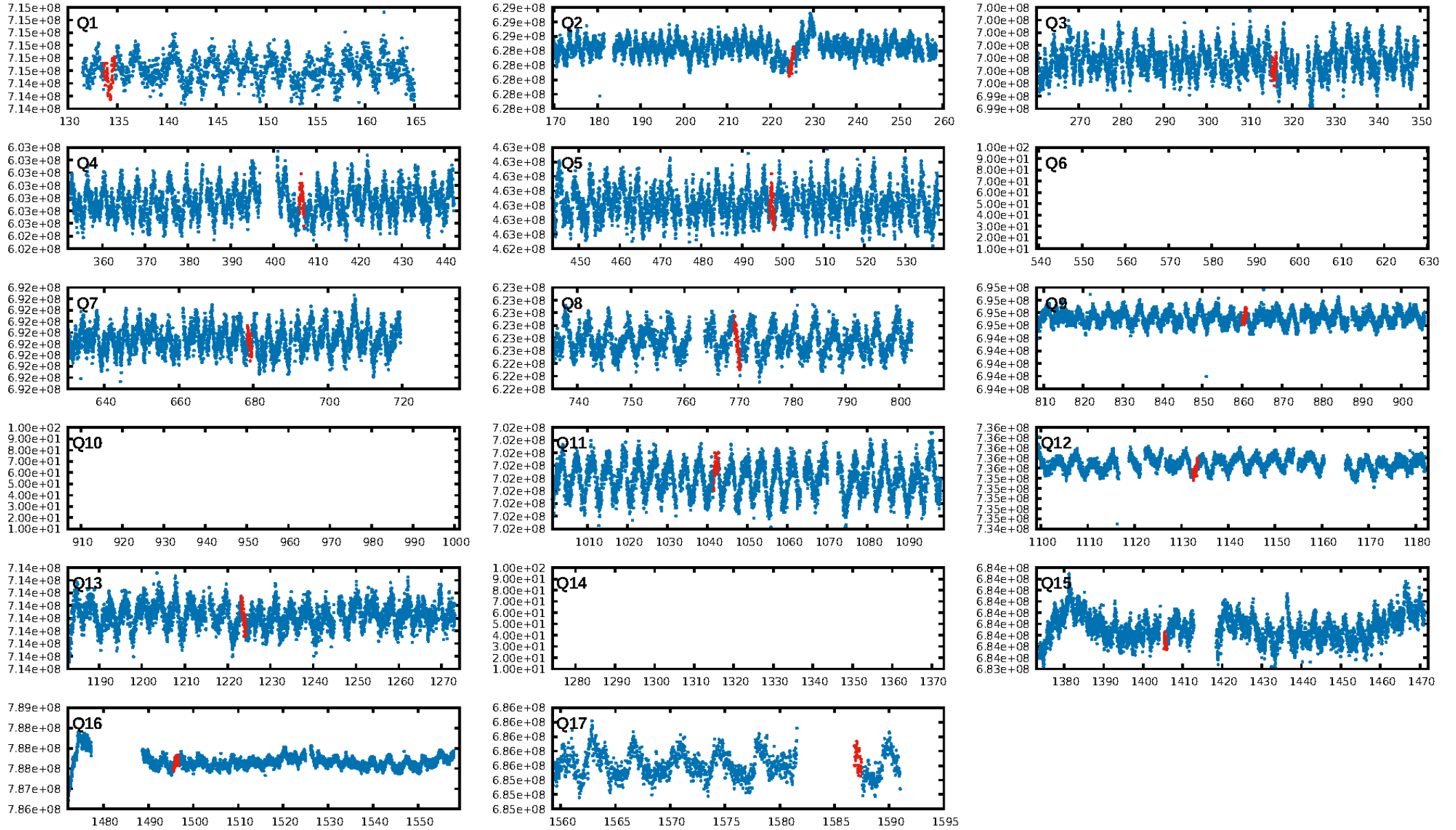
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.46 σ]
LongPeriod-sig: 100.0% [103.84 σ]
ModelChiSquare2-sig: 29.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -3.012
Centroid-sig: 0.0%
Centroid-so: 2.070 arcsec [2.59 σ]
OotOffset-rm: 3.729 arcsec [0.79 σ]
KicOffset-rm: 3.147 arcsec [0.57 σ]
OotOffset-st: 0/0/3/1 [4]
KicOffset-st: 0/0/3/1 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.00 [0/11]

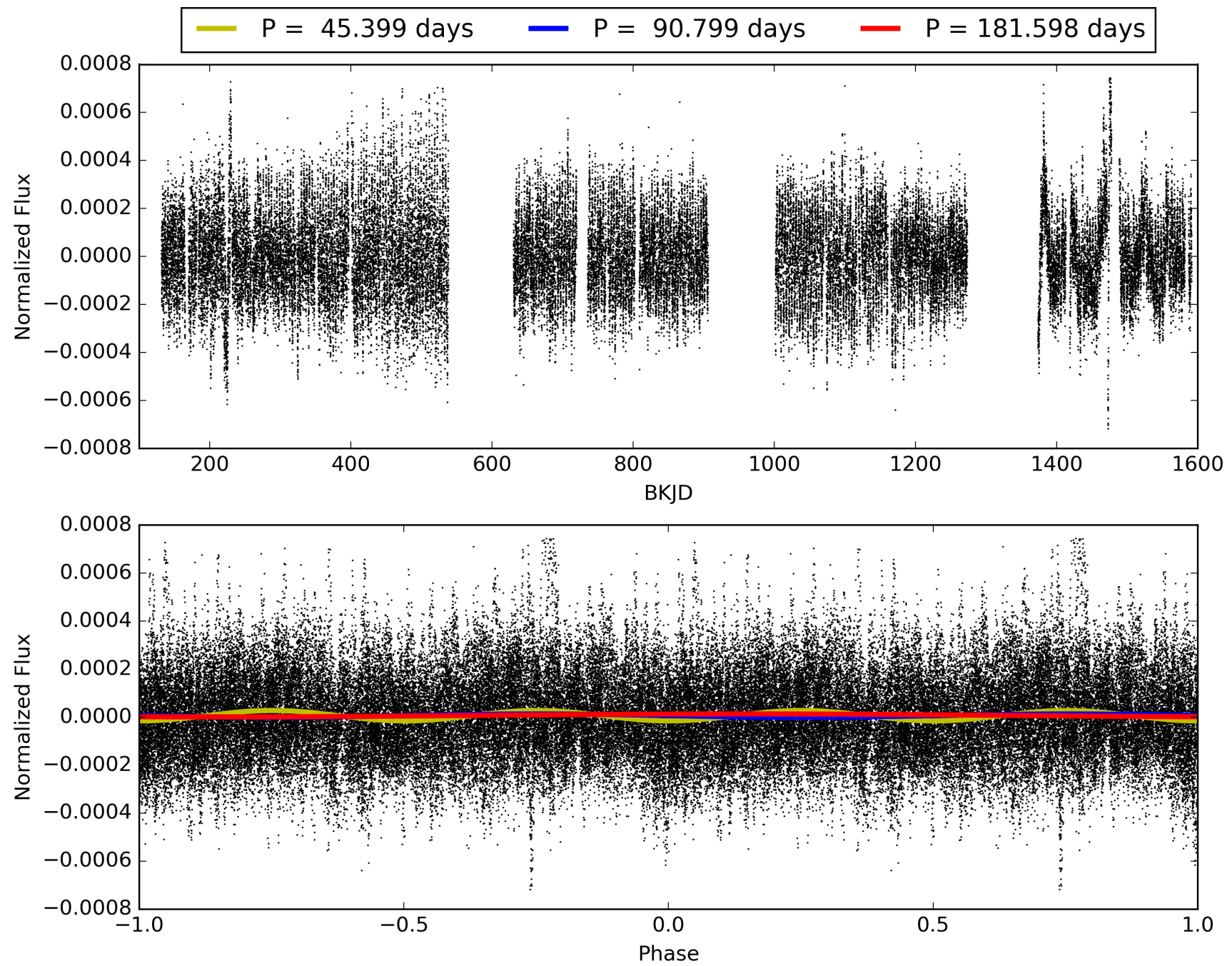
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:47:02 Z

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

TCE 004484252-04, PDC Light Curves

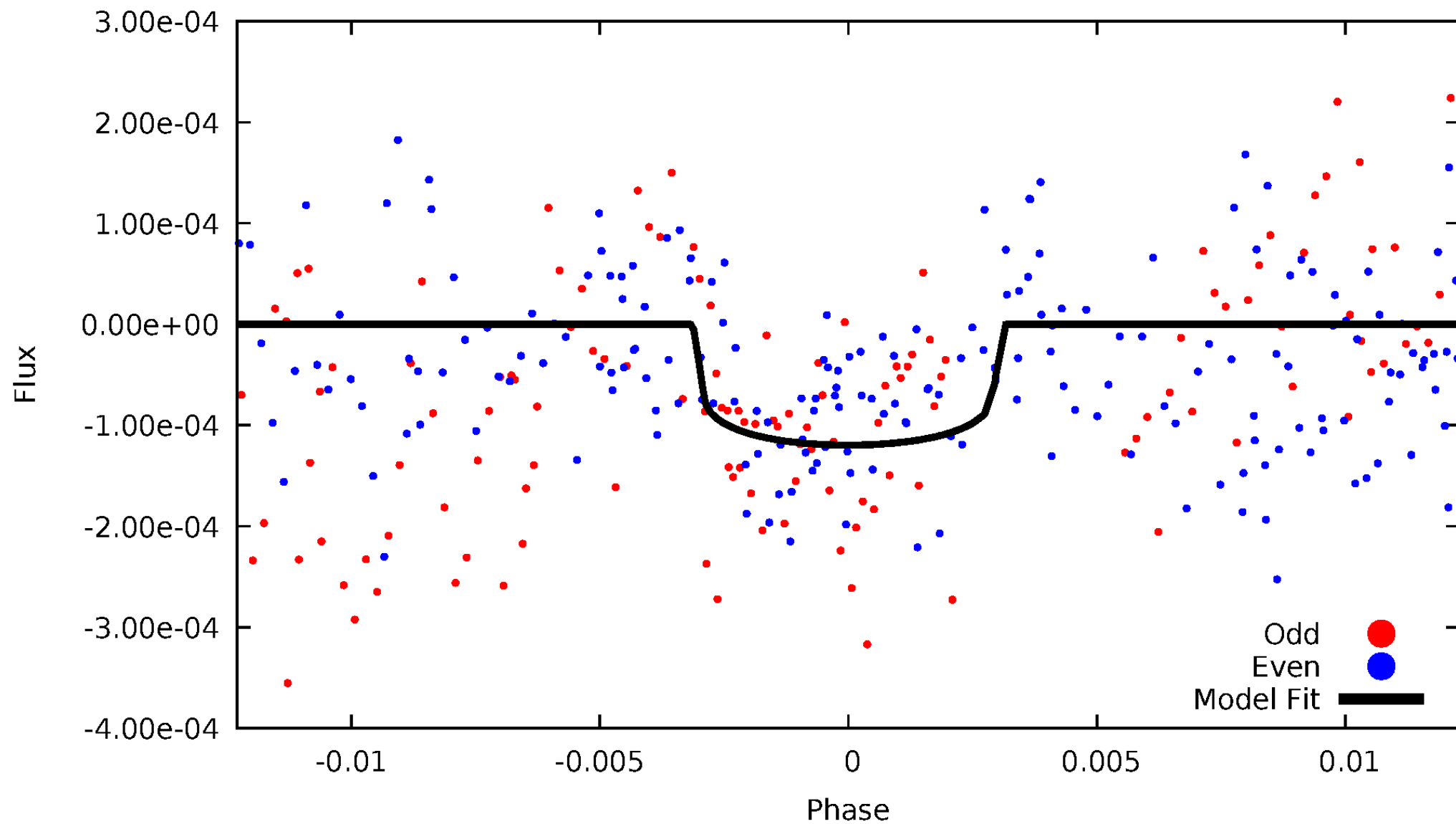


TCE 004484252-04



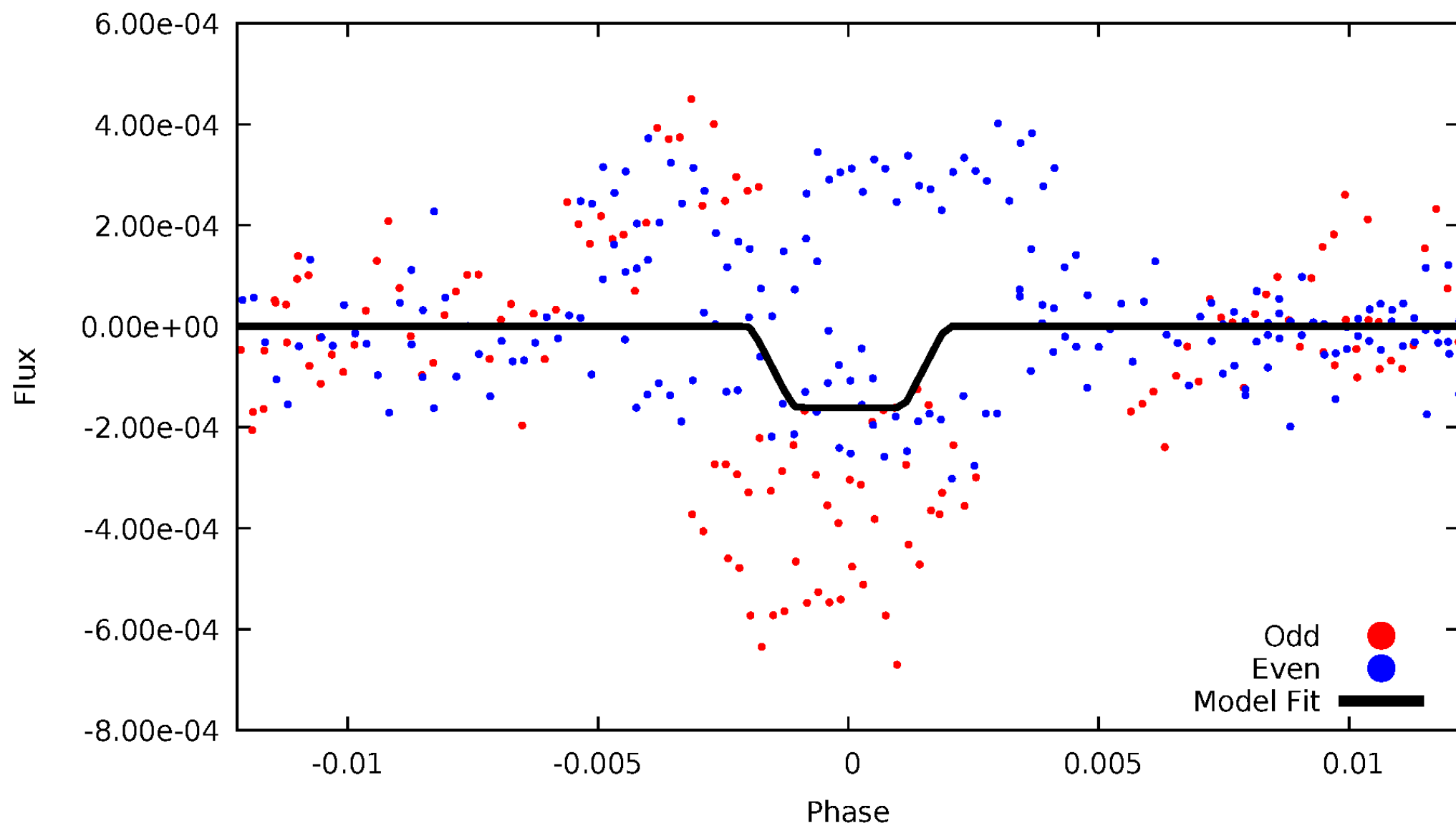
DV Odd/Even

TCE 004484252-04



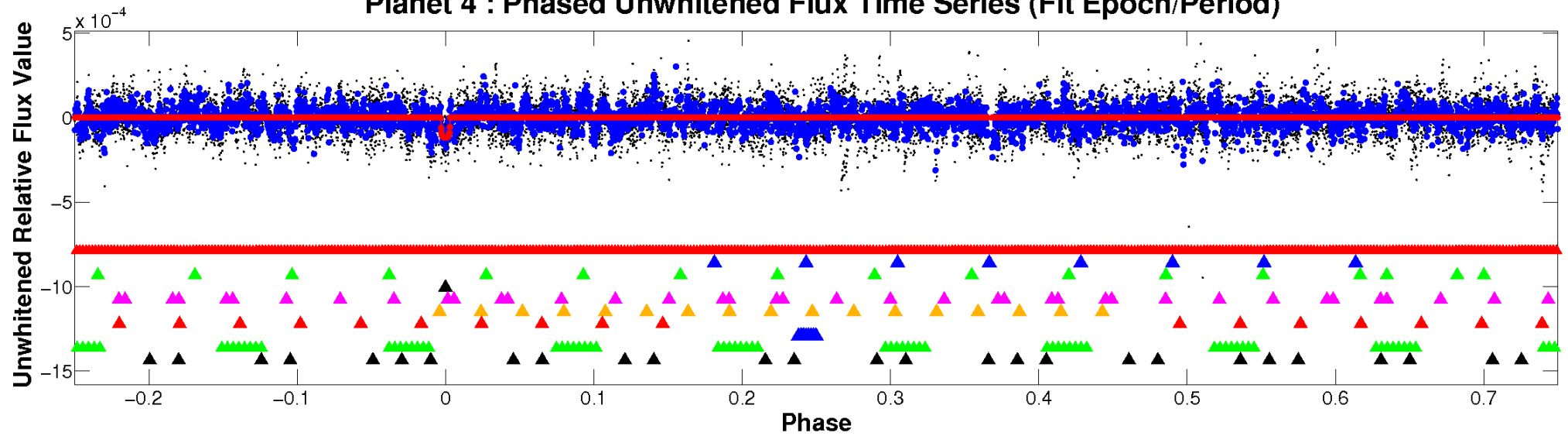
ALT Odd/Even

TCE 004484252-04

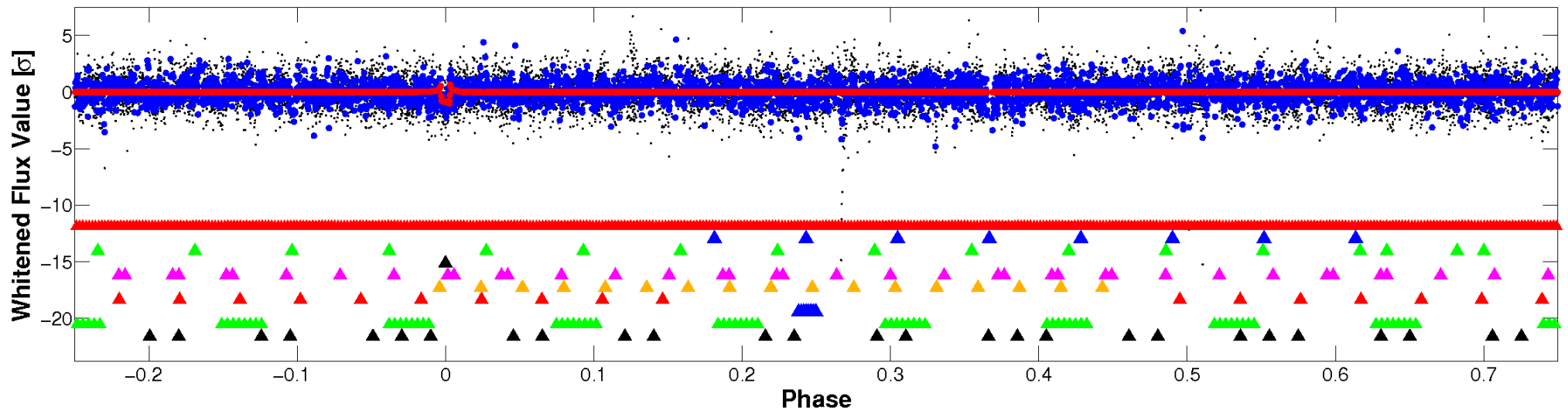


Non-Whitened Vs. Whitened Light Curve

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



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



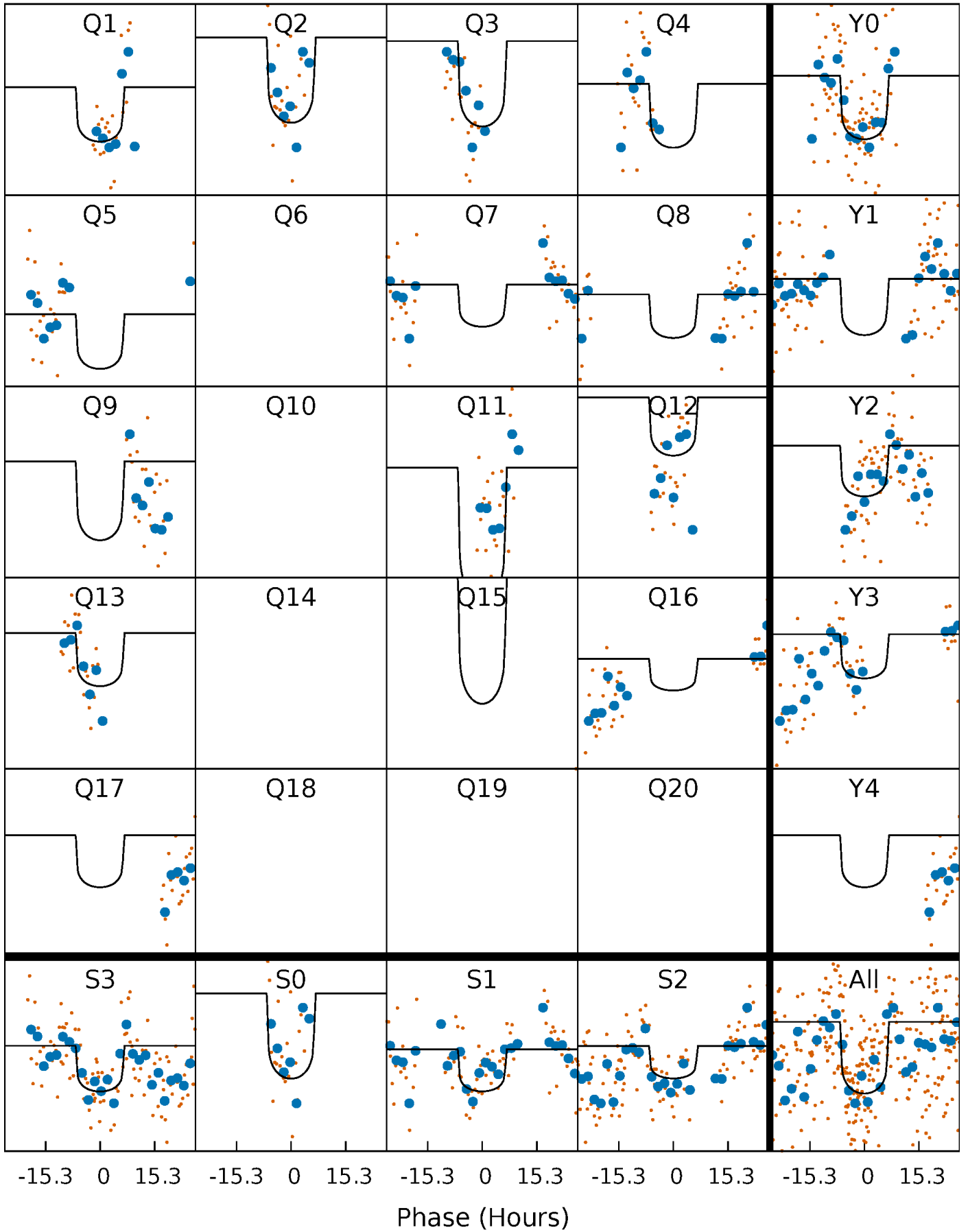
PDC Quarter-Phased Transit Curves

TCE 004484252-04 P= 90.798942 Days $T_0=134.165001$ (BKJD)



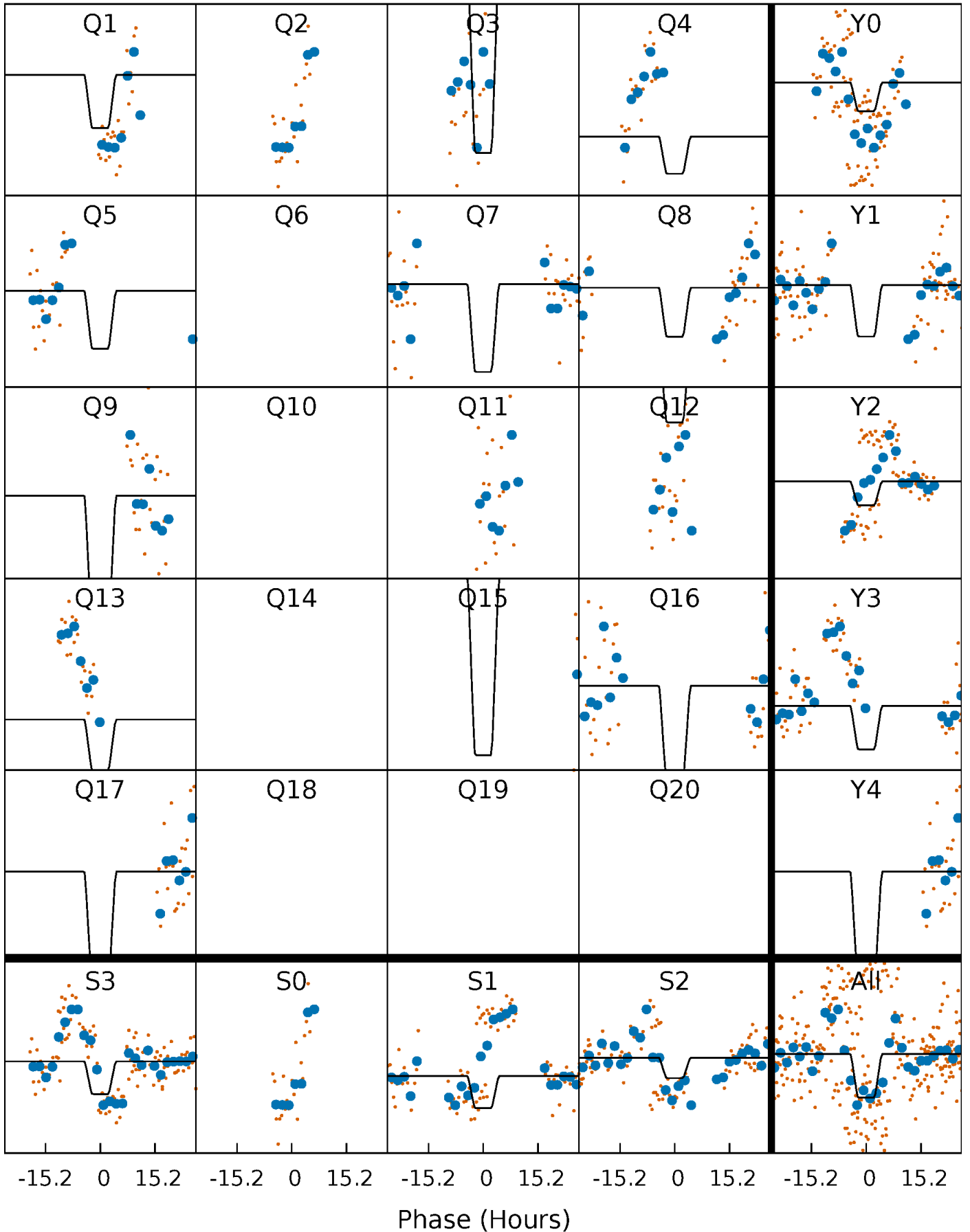
DV Quarter-Phased Transit Curves

TCE 004484252-04 P= 90.798942 Days $T_0=134.165001$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

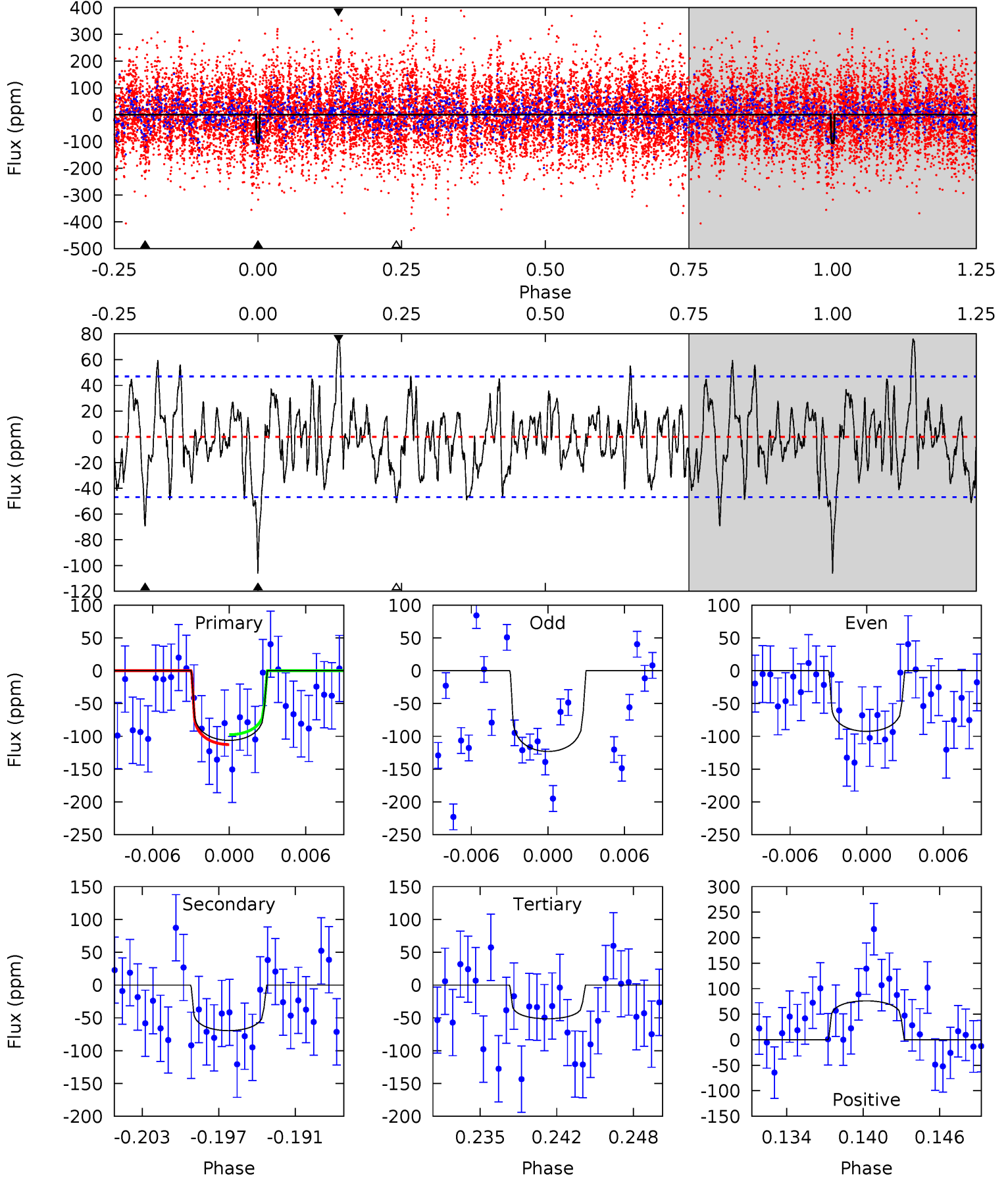
TCE 004484252-04 $P = 90.806741$ Days $T_0 = 134.103254$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-04, P = 90.798942 Days, E = 43.366059 Days

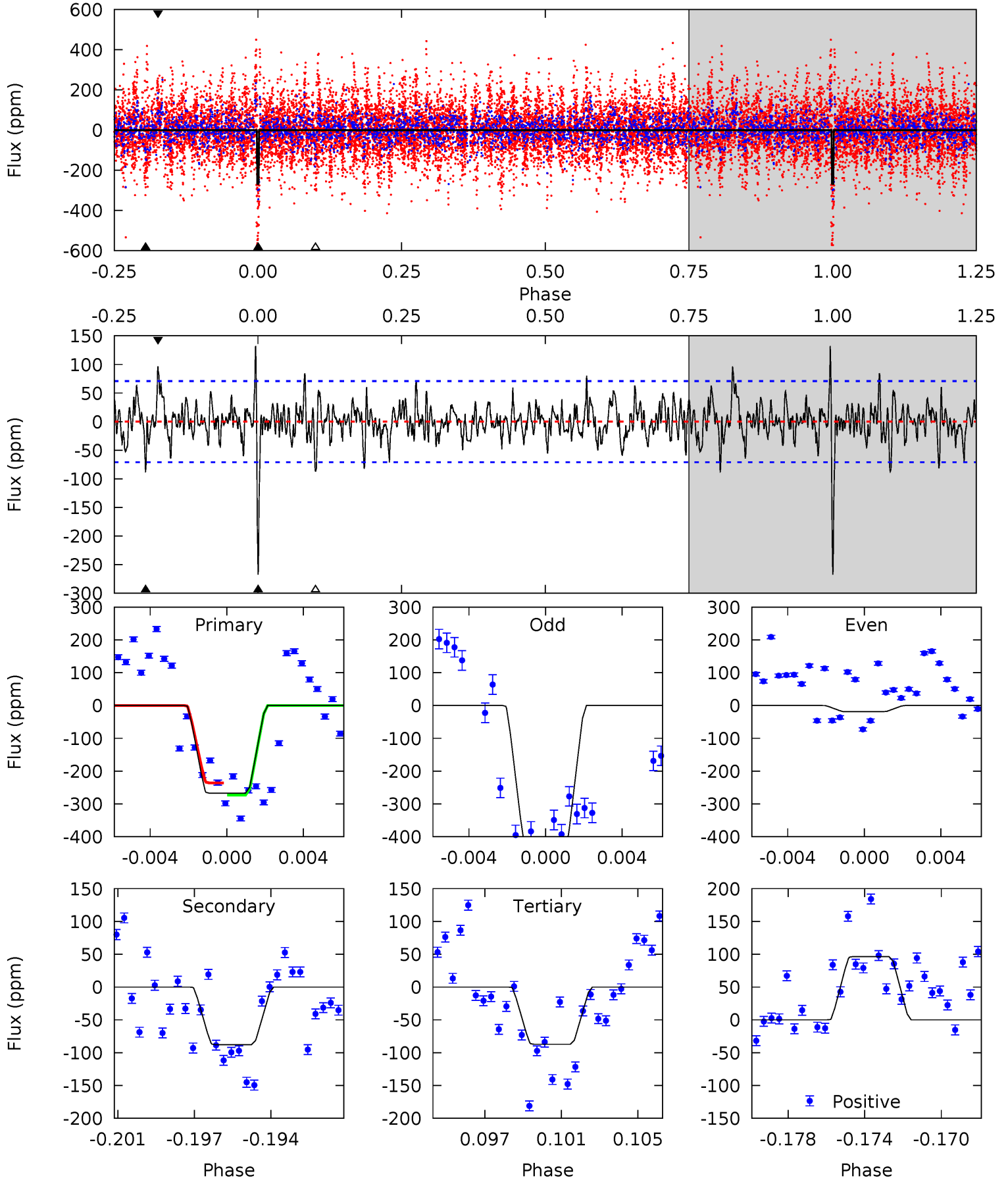
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	7.57	5.60	8.30	5.11	2.73	2.34	5.98	3.27	1.97	-0.73	1.65	0.96	0.42	0.81



Alt Model-Shift Uniqueness Test

004484252-04, P = 90.806741 Days, E = 43.296513 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	6.46	6.41	7.09	5.21	2.89	1.89	13.2	12.6	0.04	-0.64	15.9	-0.75	0.33	1.32



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-69 ± 9	$2.03^{+0.95}_{-0.87}$	816^{+62}_{-58}	5845^{+1950}_{-850}	1764^{+3593}_{-939}
Alt.	-88 ± 14	$2.44^{+0.89}_{-0.86}$	817^{+68}_{-61}	5759^{+1307}_{-755}	1614^{+2260}_{-764}

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

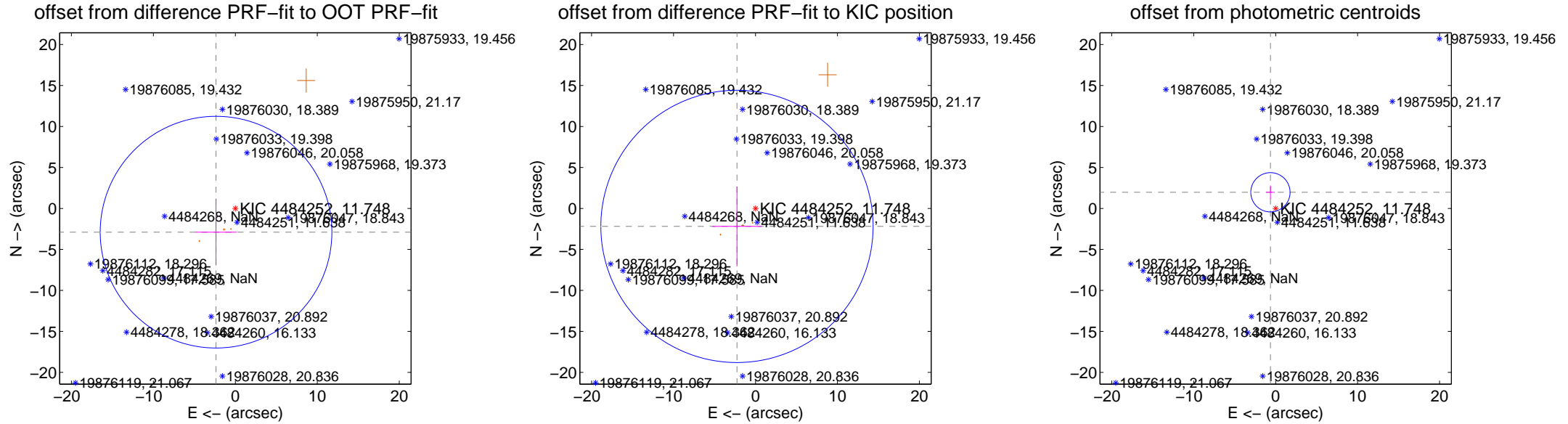
DV Centroid Data

Supplemental centroid analysis for 004484252-04. **Kepler magnitude: 11.75.** Transit SNR 8.83

There are 0 quarters with good PRF difference image offsets

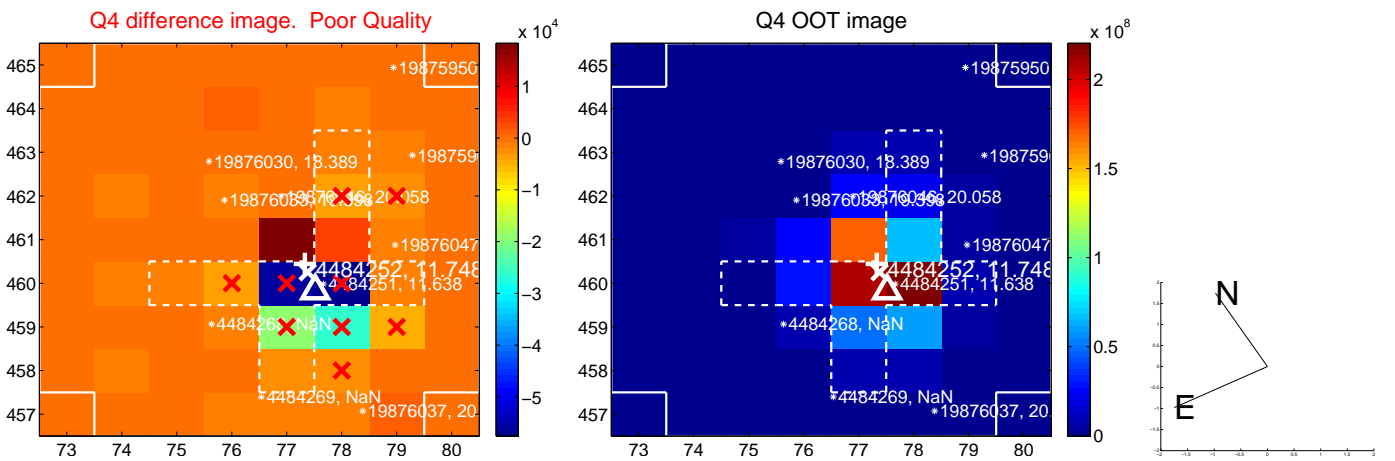
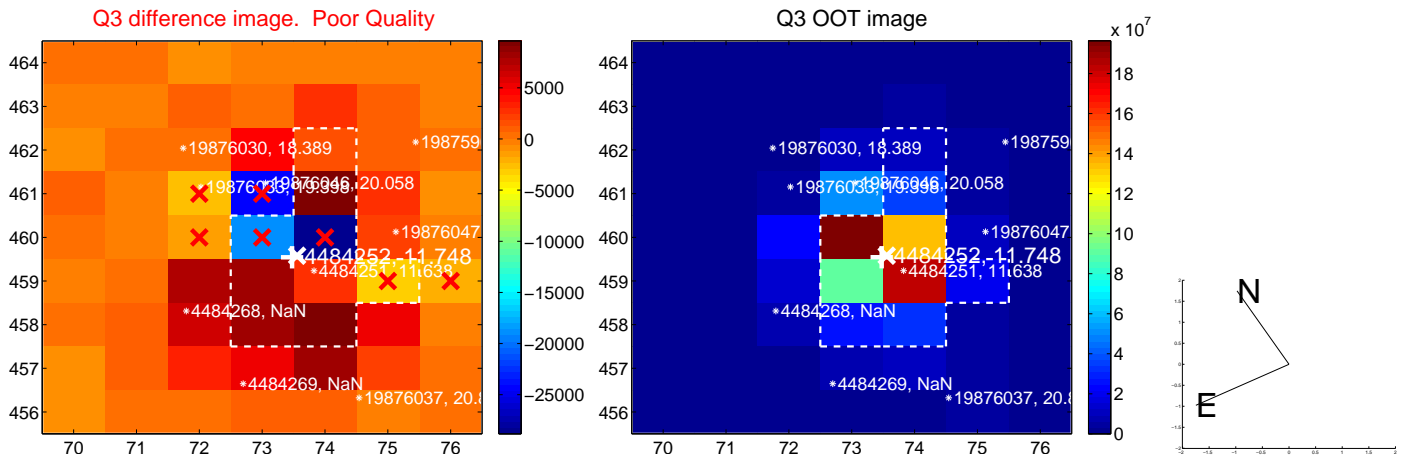
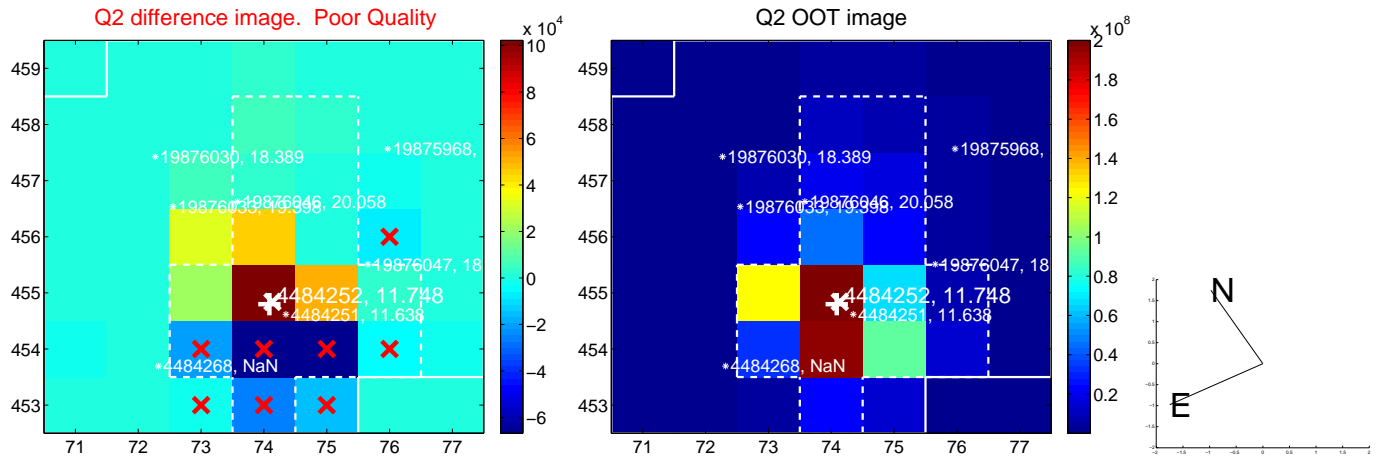
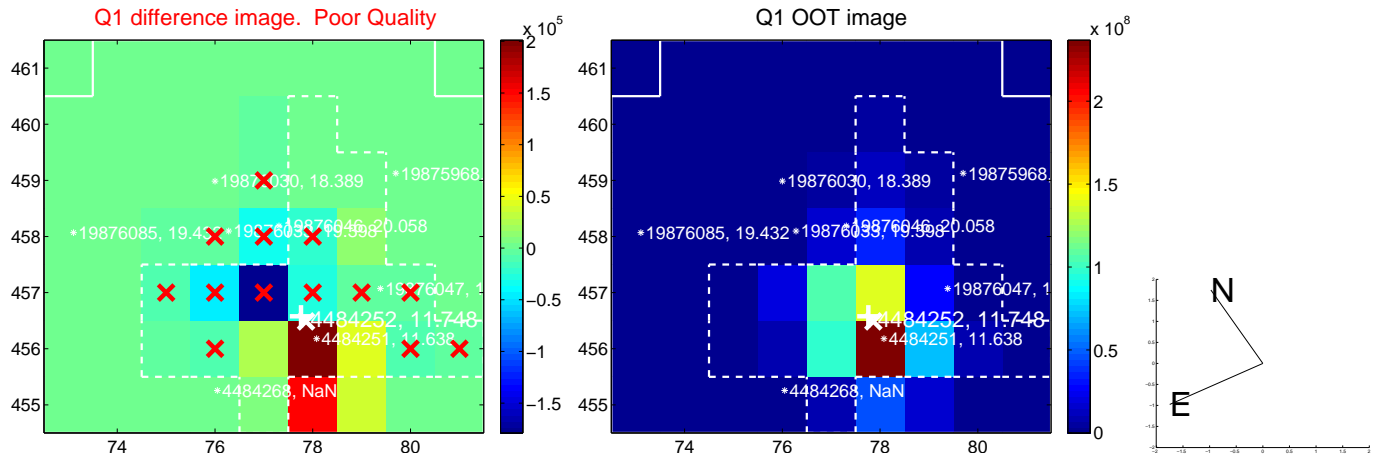
The direct PRF centroid is offset from the target star catalog position by about 0.79 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.729 ± 4.711	0.79	2.354 ± 2.529	-2.893 ± 4.049
PRF-fit source offset from KIC position	3.147 ± 5.536	0.57	2.260 ± 3.008	-2.191 ± 4.868
photometric centroid source offset	2.07 ± 0.80	2.59	0.64 ± 0.53	1.97 ± 0.82

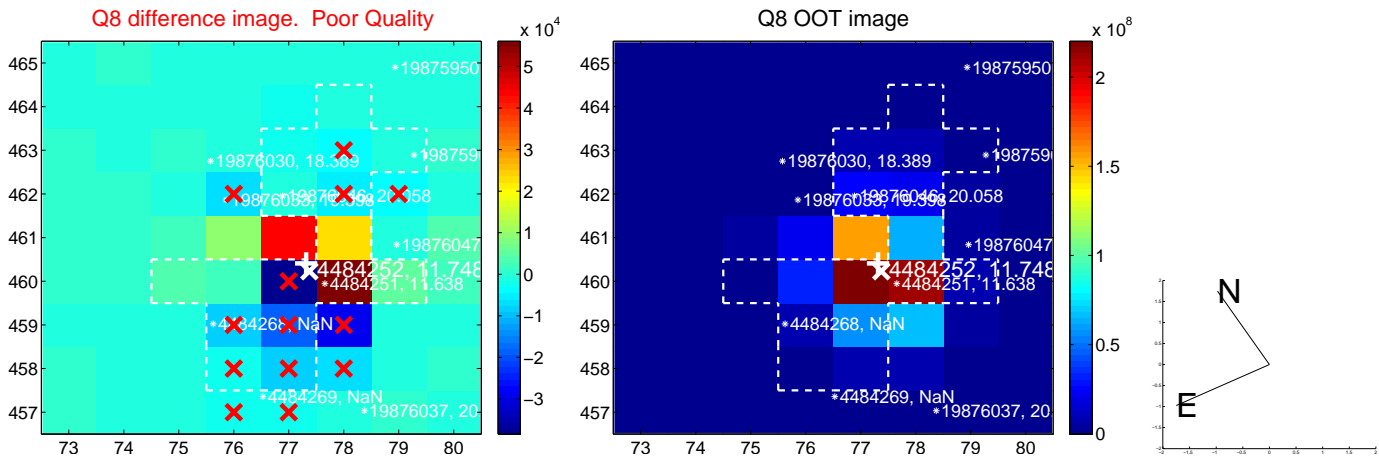
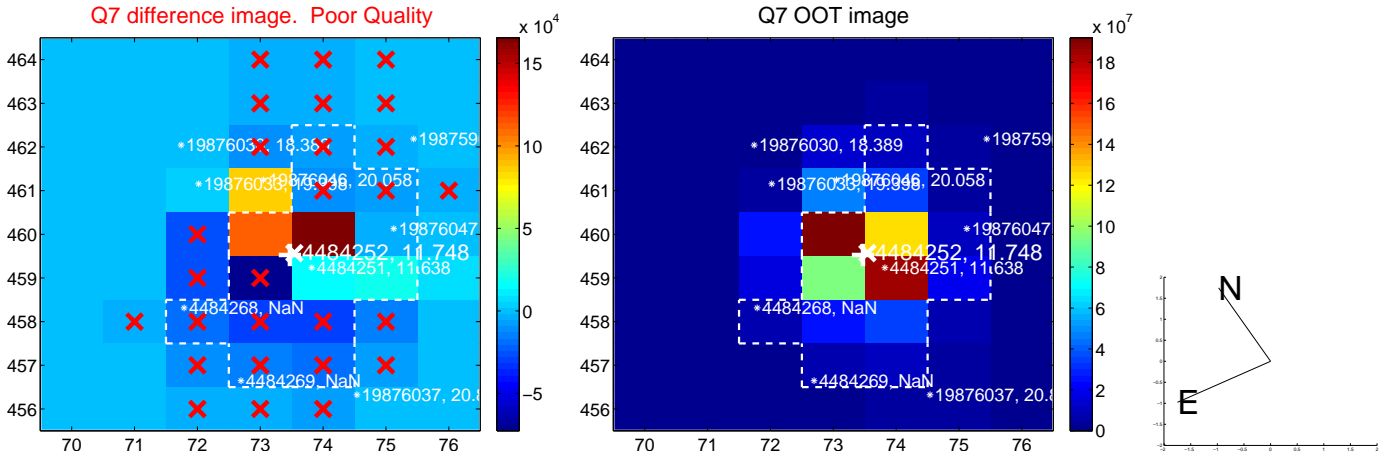
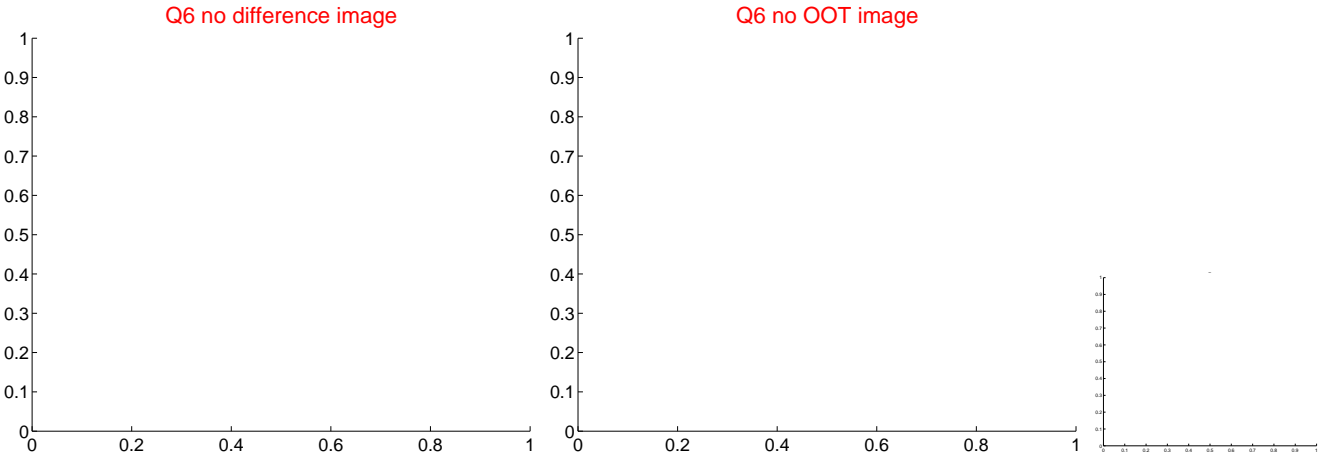
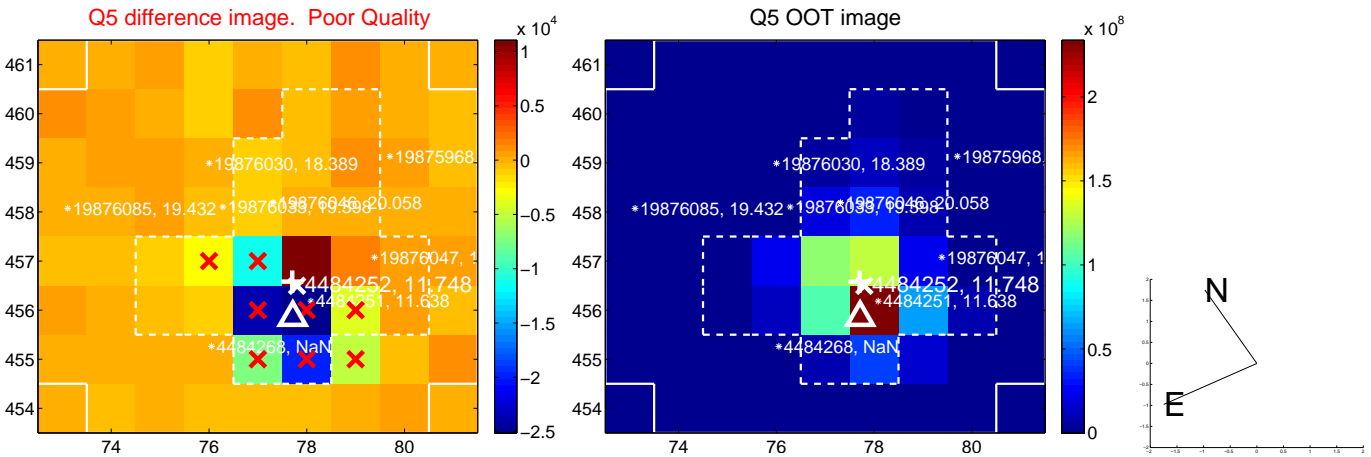


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

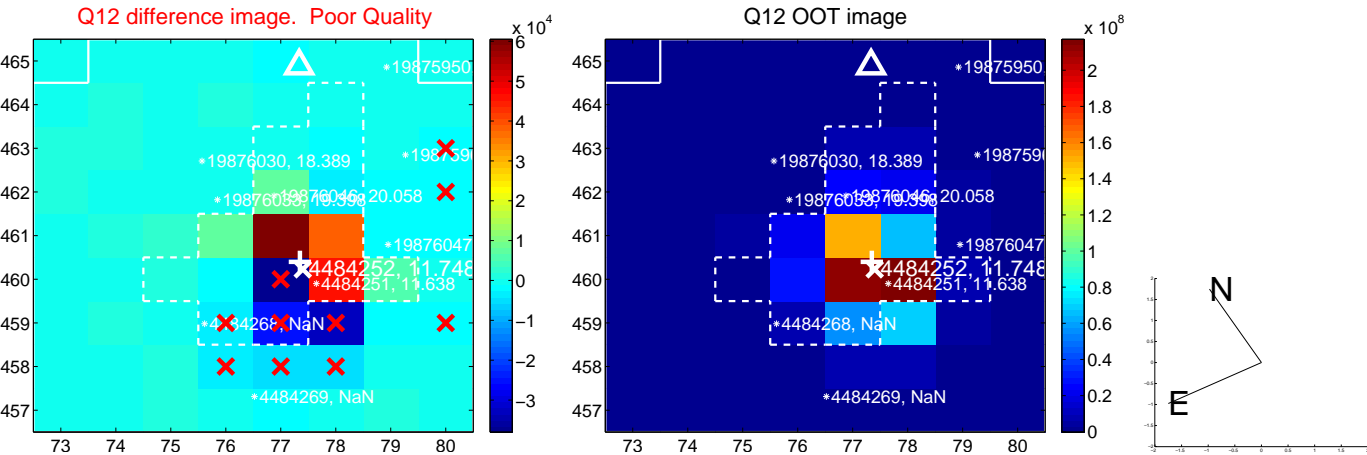
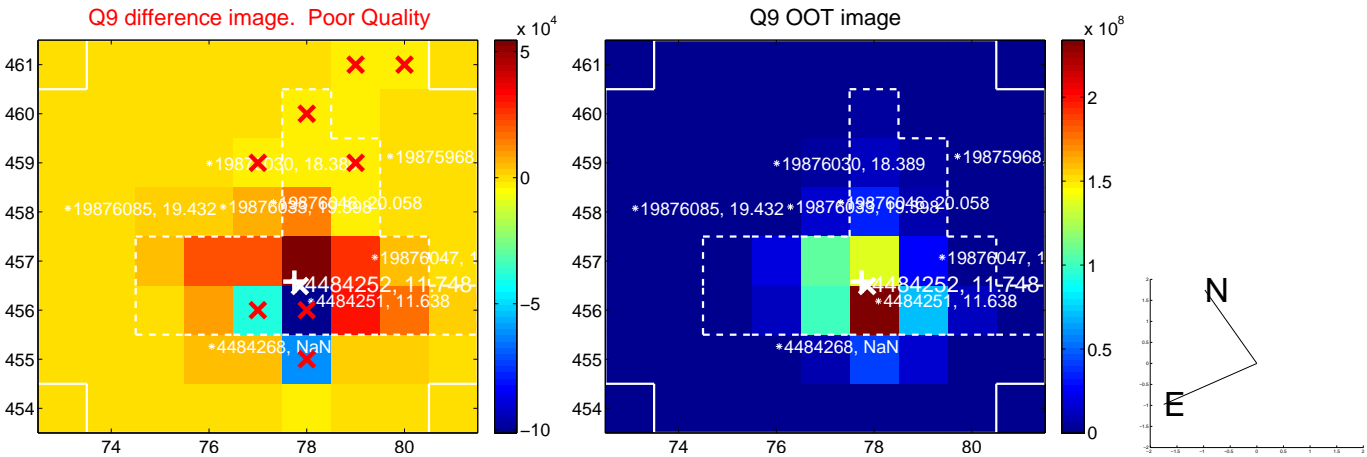
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



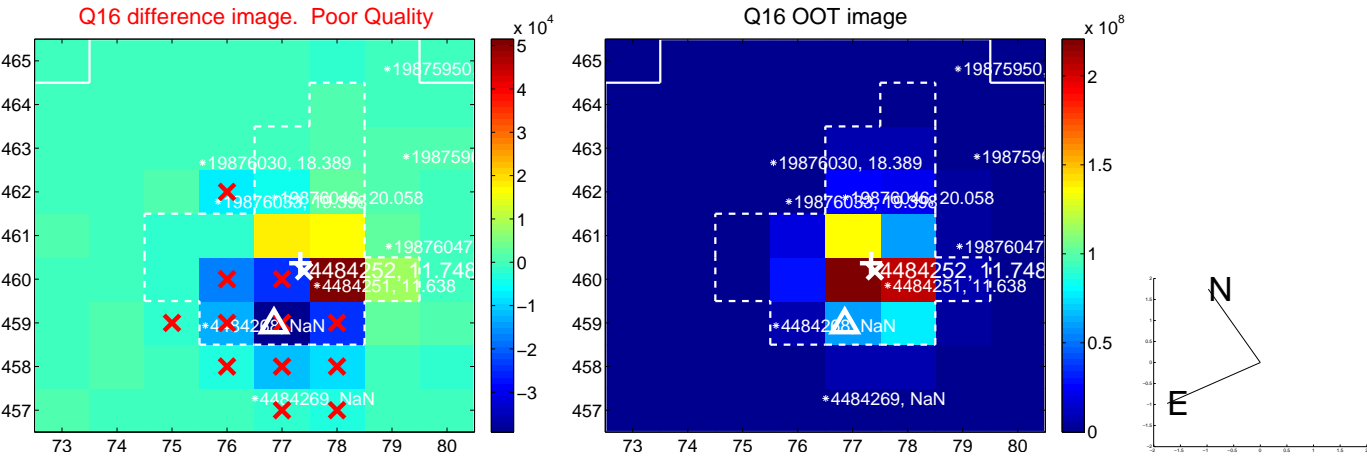
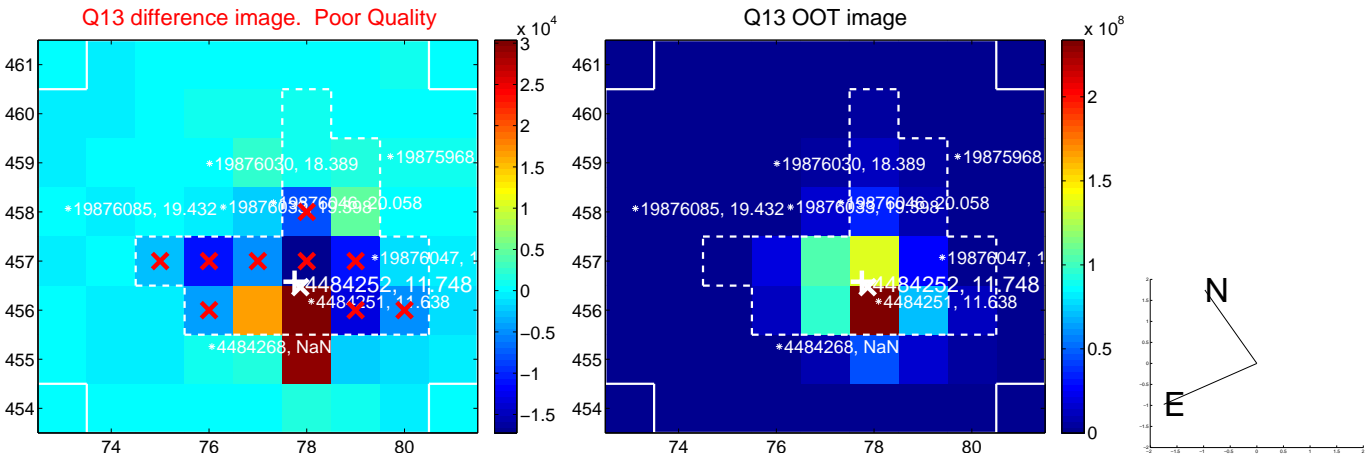
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



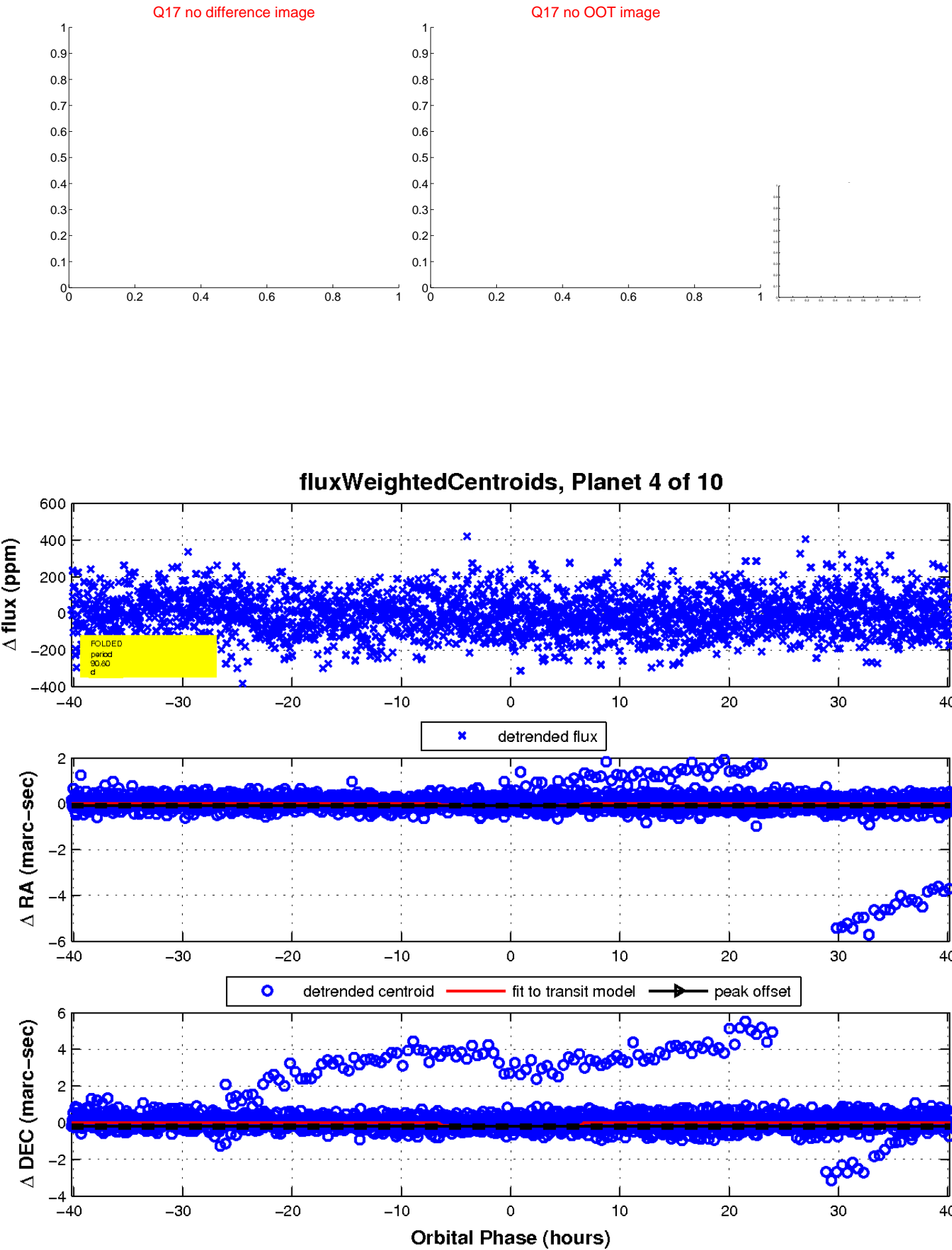
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

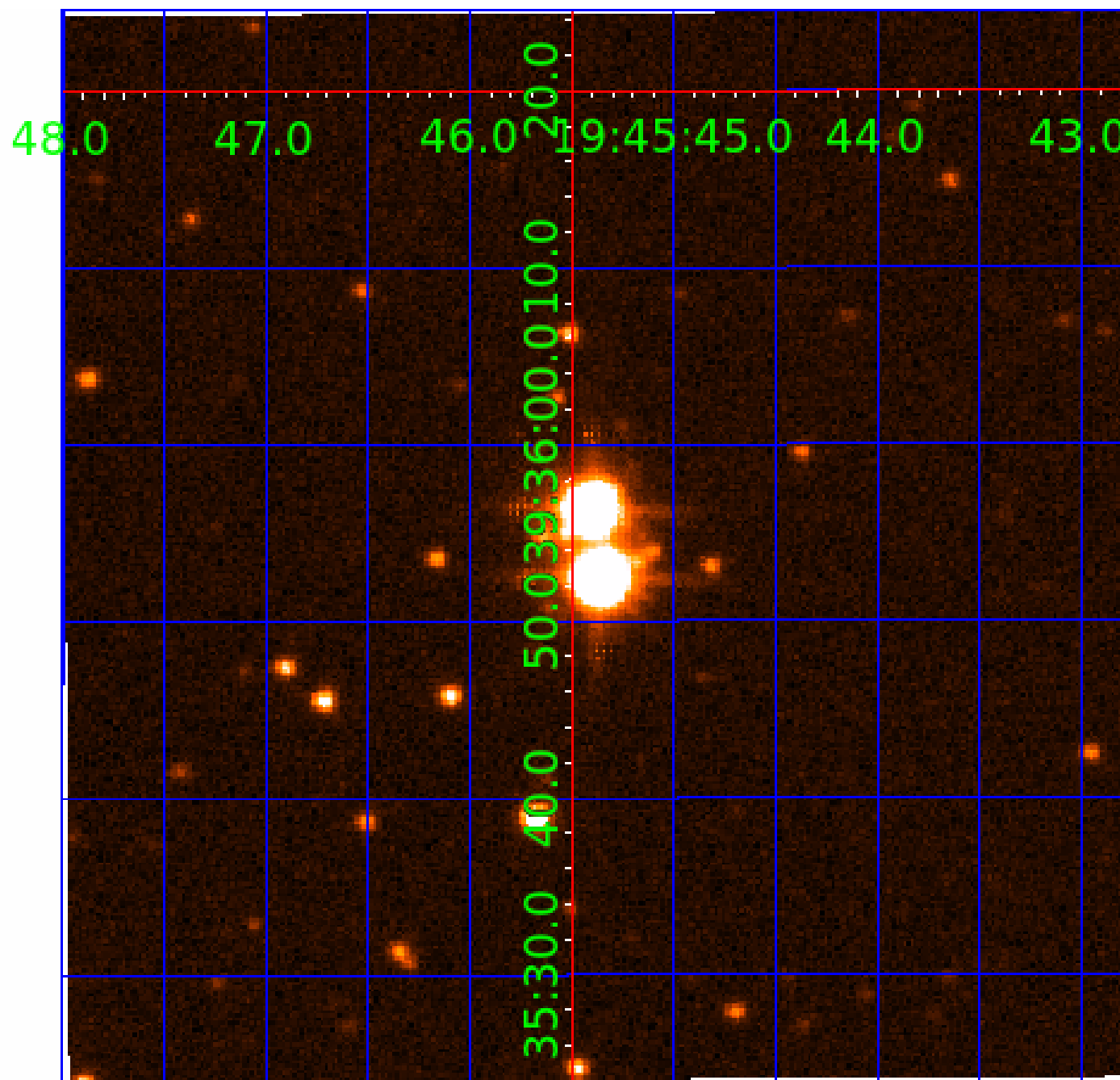


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004484252

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})
004484252-01	OBS	No	1.927818	133.351635	11.8	11.489	10.9	6.7	1.72	6753	0.59	4756.71
004484252-02	OBS	No	175.990163	189.884706	223.9	14.427	14.0	11.1	1.72	6753	2.76	11.57
004484252-04	OBS	No	90.798942	134.165001	119.7	13.399	9.8	8.8	1.72	6753	2.01	27.96
004484252-05	OBS	No	36.978026	168.370439	108.7	3.009	9.6	8.7	1.72	6753	2.03	92.64
004484252-07	OBS	No	87.102783	147.460088	131.8	3.156	8.7	8.4	1.72	6753	2.31	29.56
004484252-08	OBS	No	181.749444	155.783439	184.9	7.745	8.9	9.2	1.72	6753	2.42	11.09
004484252-09	OBS	No	20.138949	143.389767	67.0	5.518	8.8	7.5	1.72	6753	1.53	208.29
004484252-10	OBS	No	53.113455	167.407001	144.7	4.153	8.5	9.1	1.72	6753	2.32	57.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484252-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

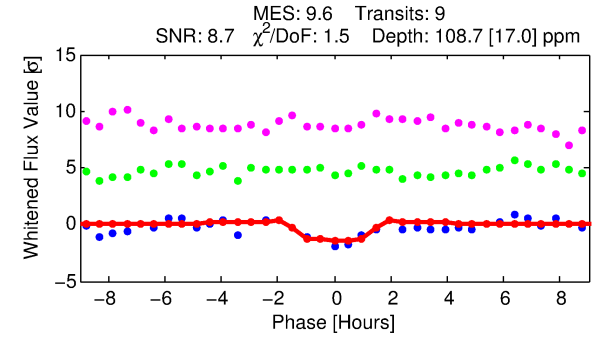
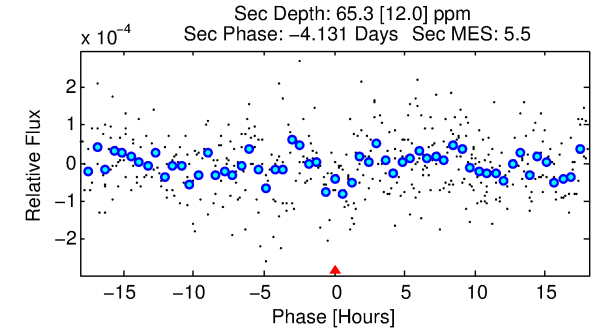
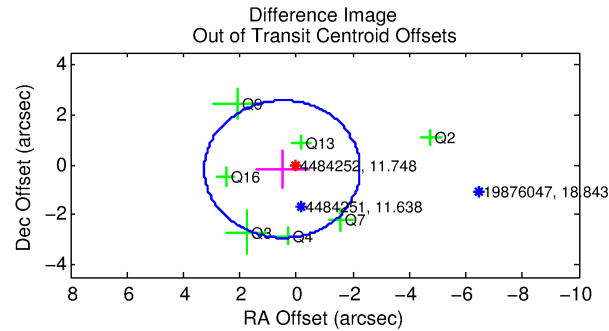
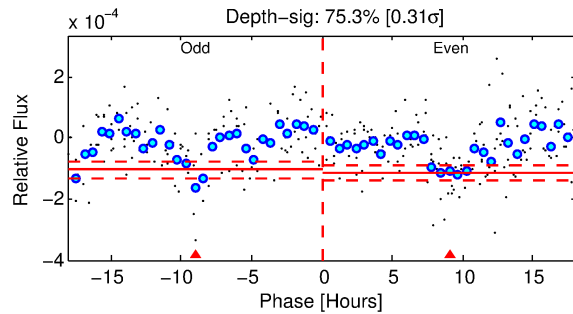
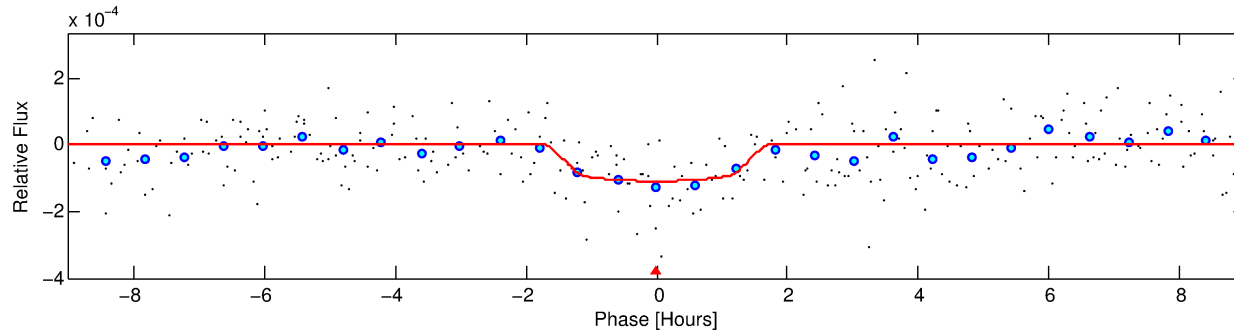
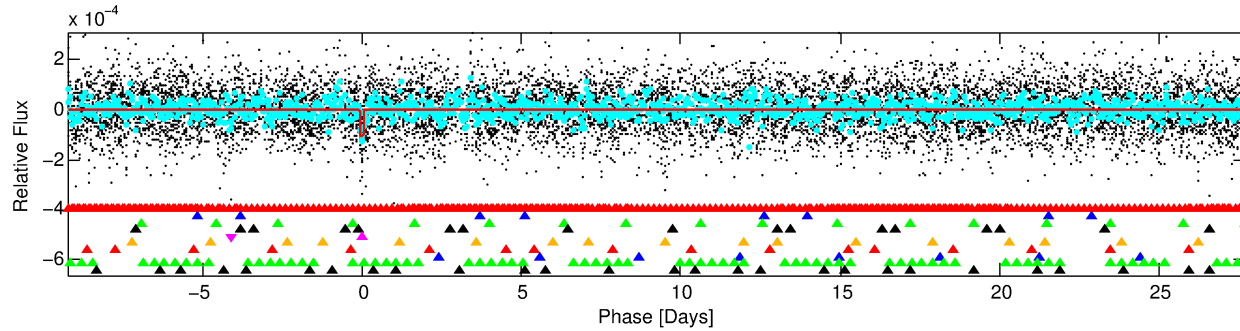
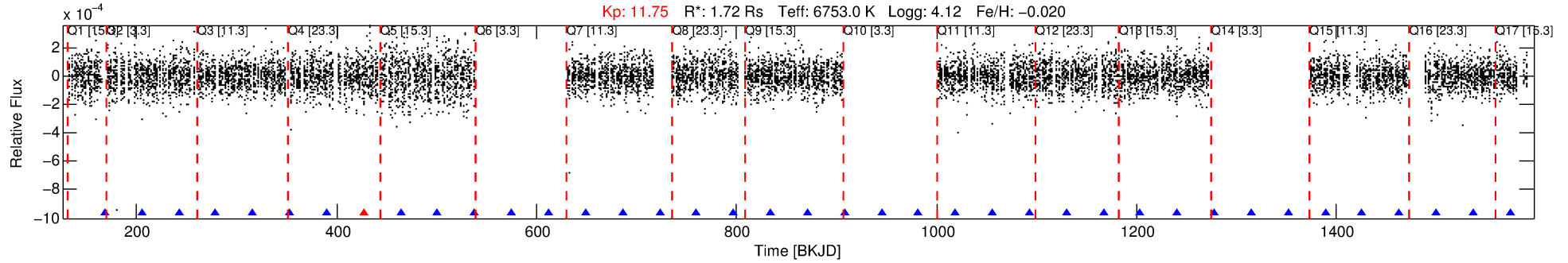
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-05

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 5 of 10 Period: 36.978 d



DV Fit Results:

Period = 36.97803 [0.00045] d
Epoch = 168.3704 [0.0100] BKJD
Rp/R* = 0.0108 [0.0078]
a/R* = 50.36 [211.76]
b = 0.86 [1.32]
Seff = 92.64 [34.72]
Teq = 791 [74] K
Rp = 2.03 [1.58] Re
a = 0.2435 [0.0595] AU
Ag = 517.40 [769.29] [0.67 σ]
Teffp = 5833 [2122] K [2.37 σ]

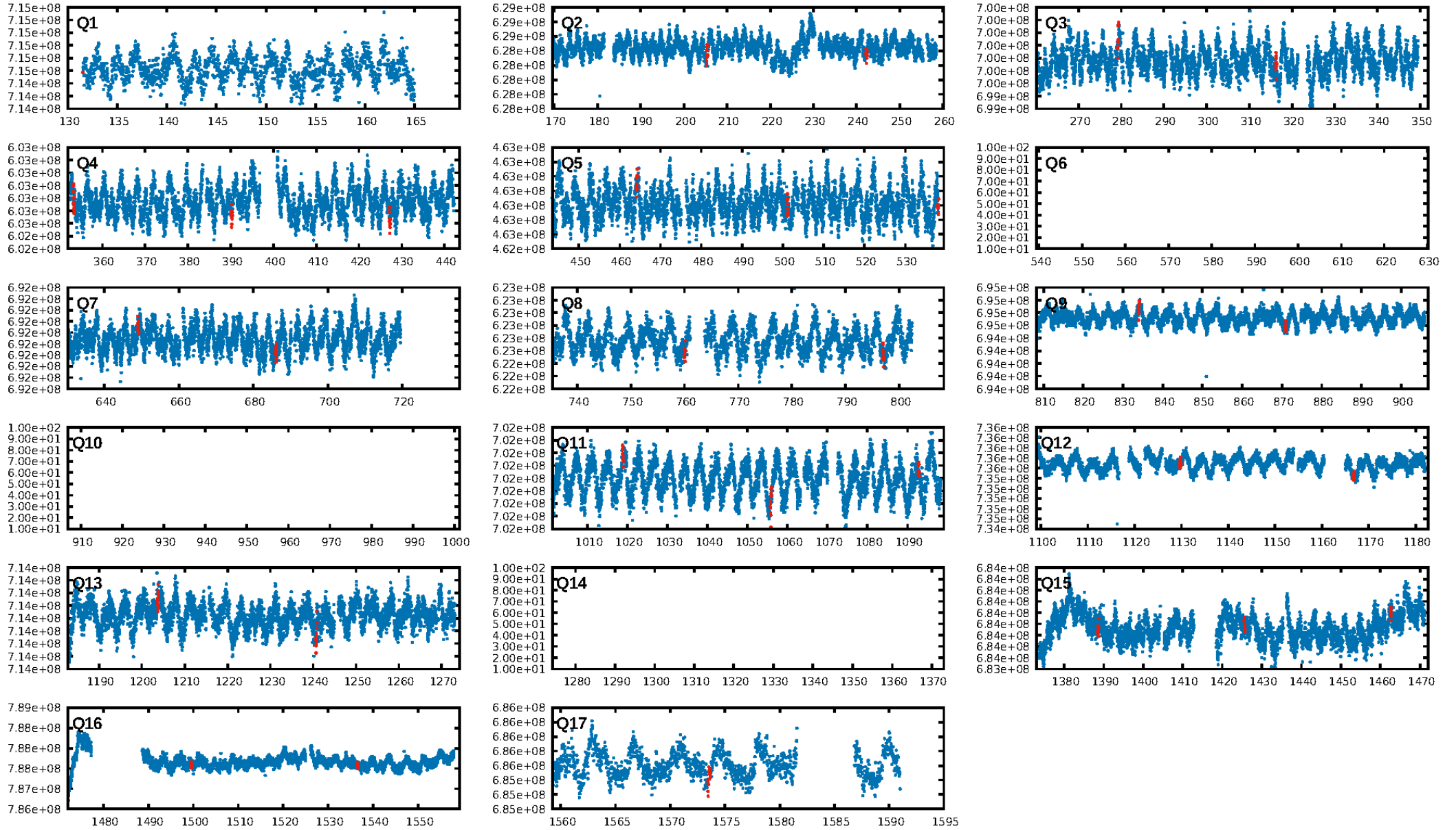
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [64.30 σ]
LongPeriod-sig: 100.0% [75.51 σ]
ModelChiSquare2-sig: 5.9%
ModelChiSquareGof-sig: 74.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [8/9]
GhostDiagnostic-chr: 0.8107
Centroid-sig: 0.3%
Centroid-so: 1.515 arcsec [2.05 σ]
OotOffset-rm: 0.531 arcsec [0.58 σ]
KicOffset-rm: 0.650 arcsec [0.78 σ]
OotOffset-st: 1/2/2/2 [7]
KicOffset-st: 1/2/2/2 [7]
DiffImageQuality-fgm: 0.71 [5/7]
DiffImageOverlap-fno: 0.77 [10/13]

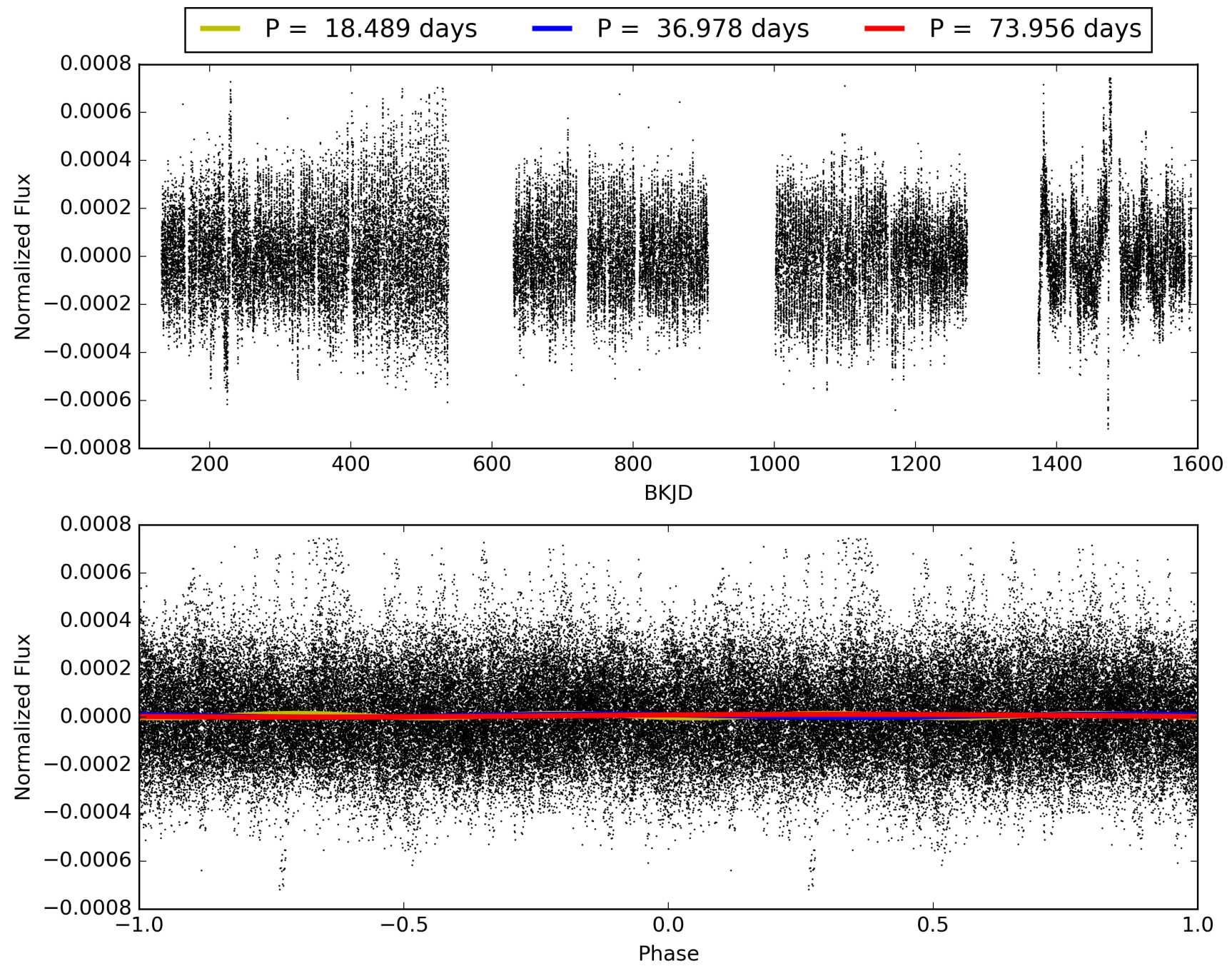
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:47:06 Z

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

TCE 004484252-05, PDC Light Curves

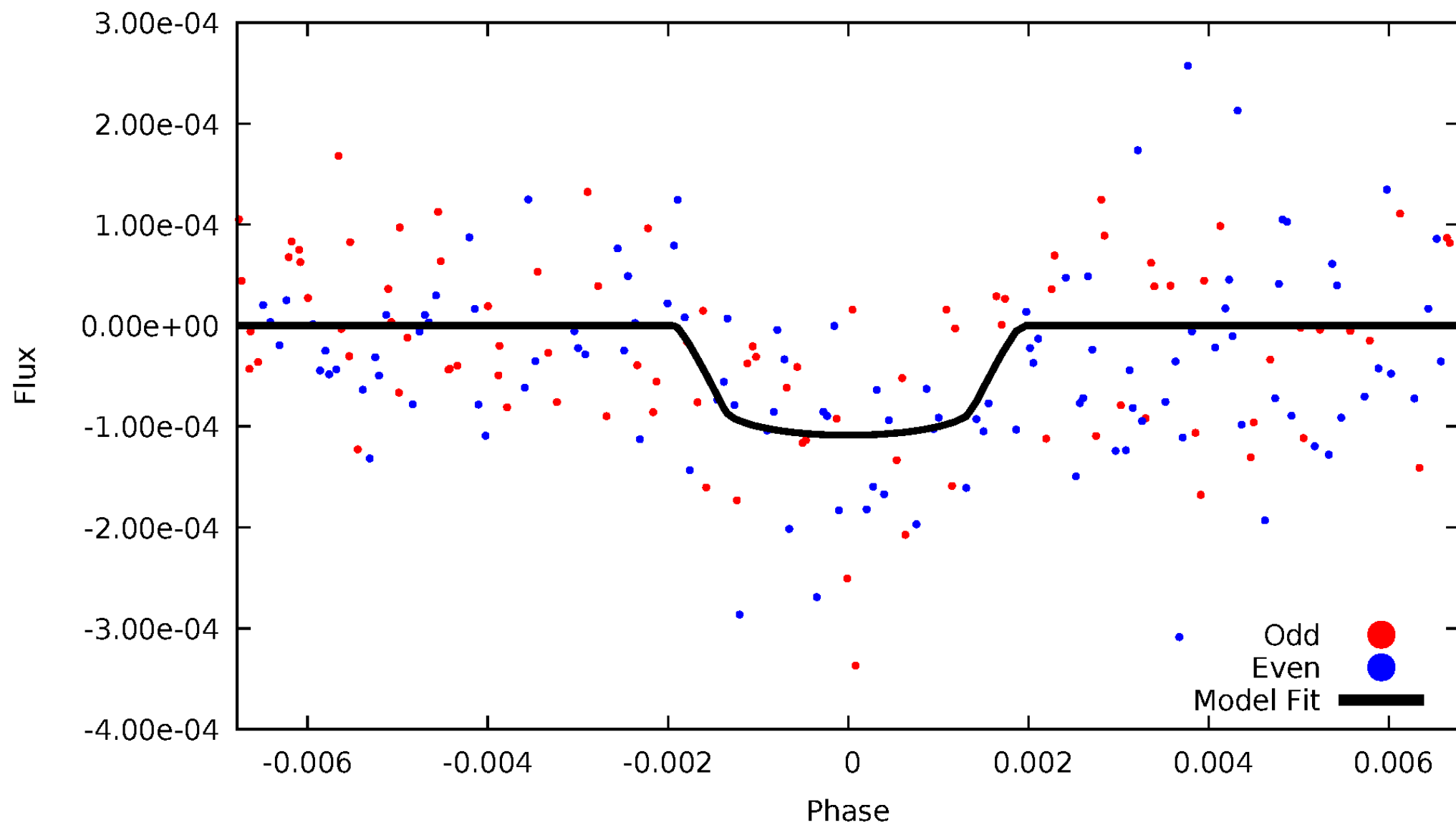


TCE 004484252-05



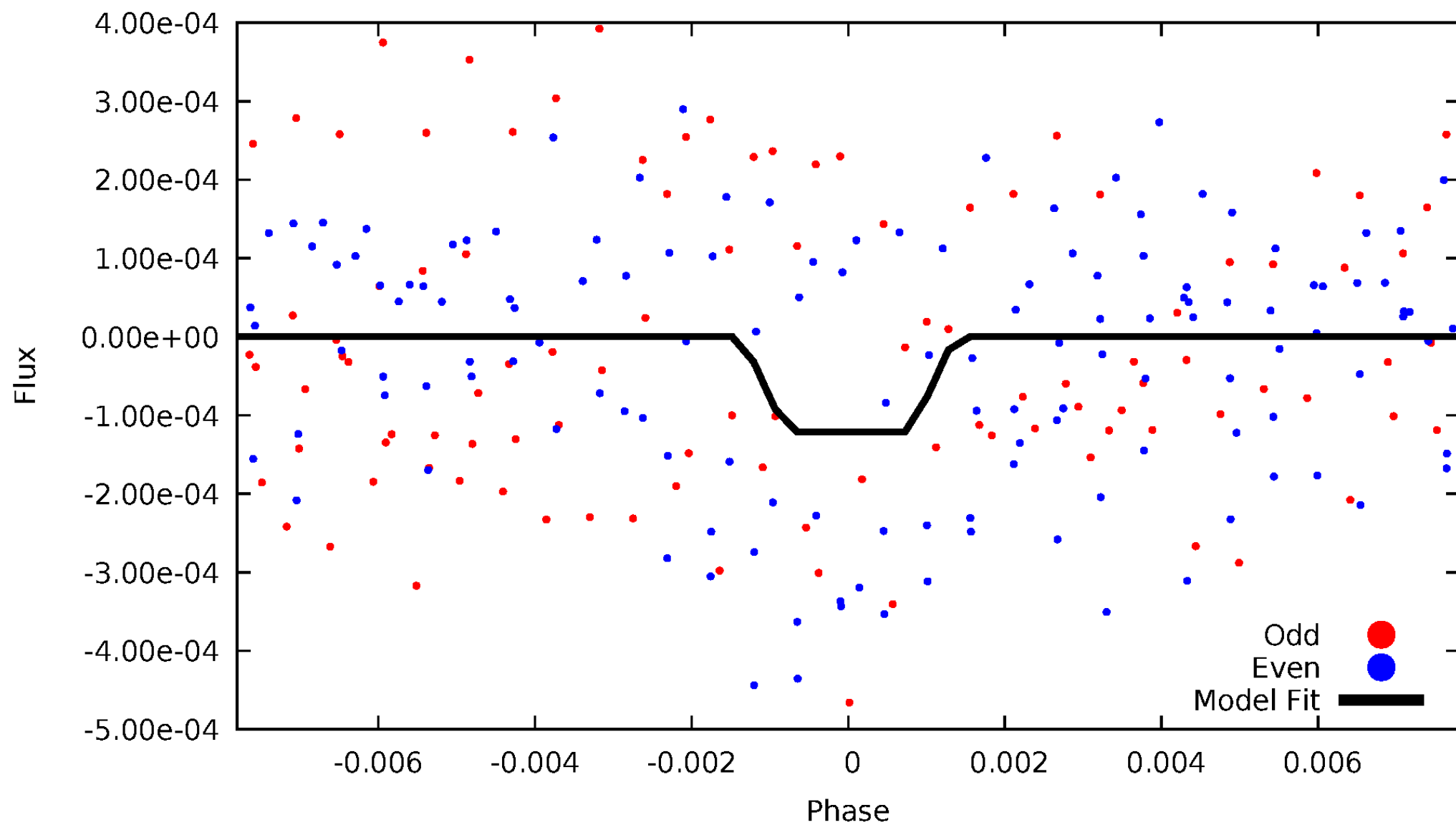
DV Odd/Even

TCE 004484252-05



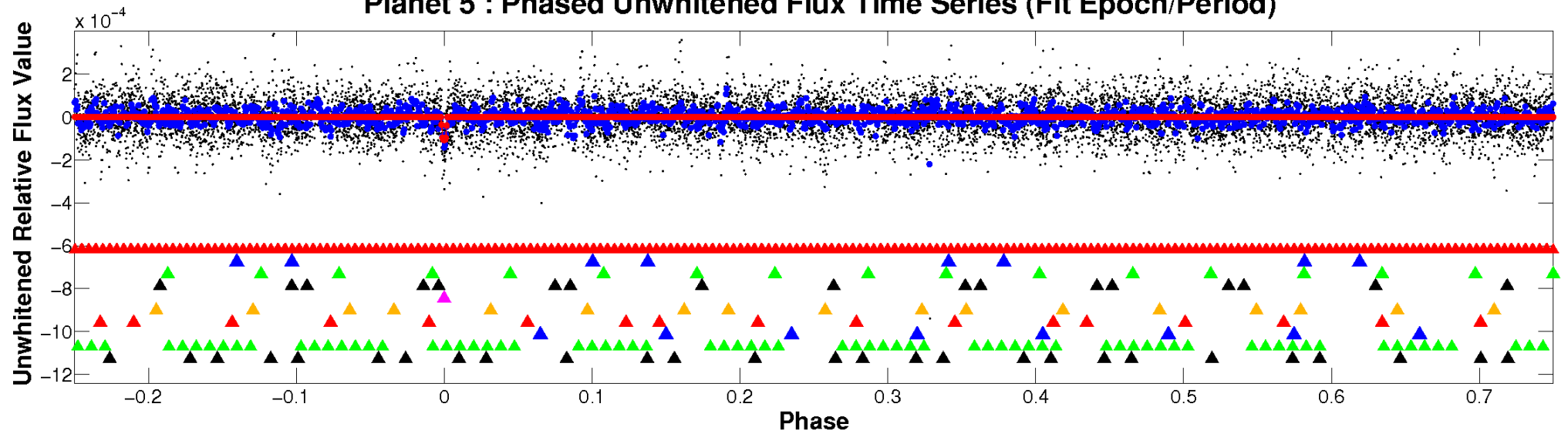
ALT Odd/Even

TCE 004484252-05

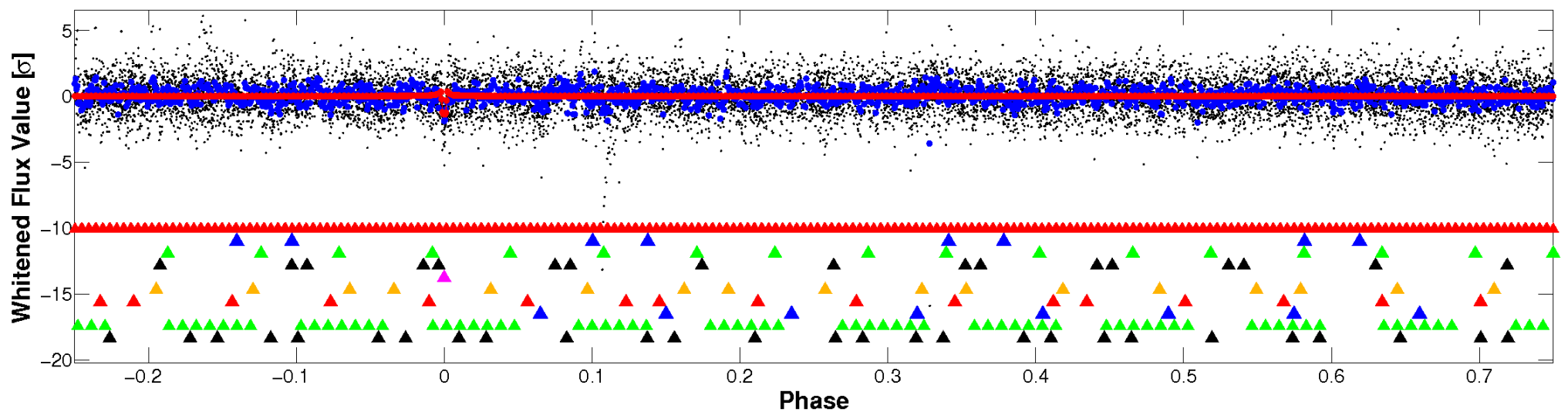


Non-Whitened Vs. Whitened Light Curve

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

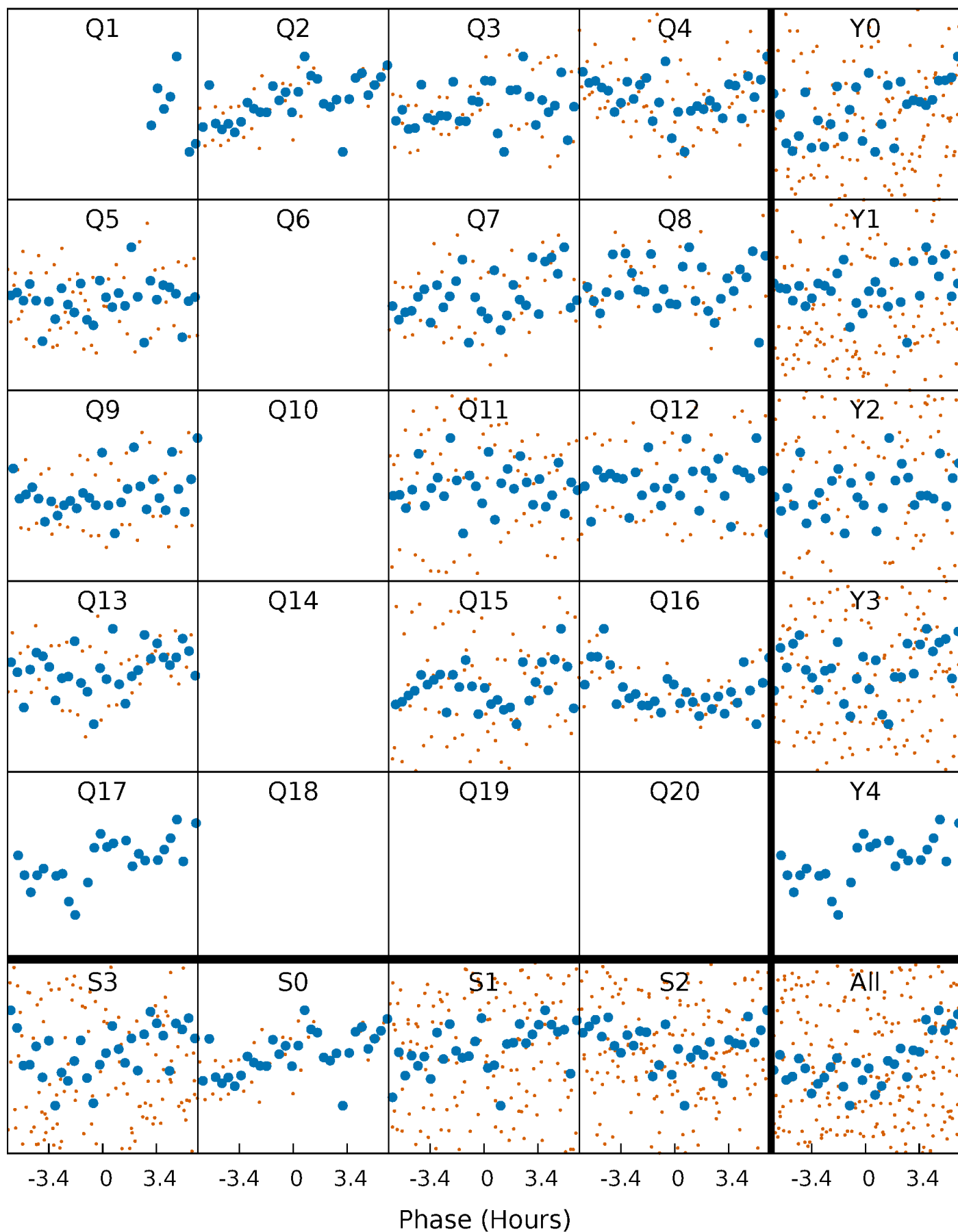


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



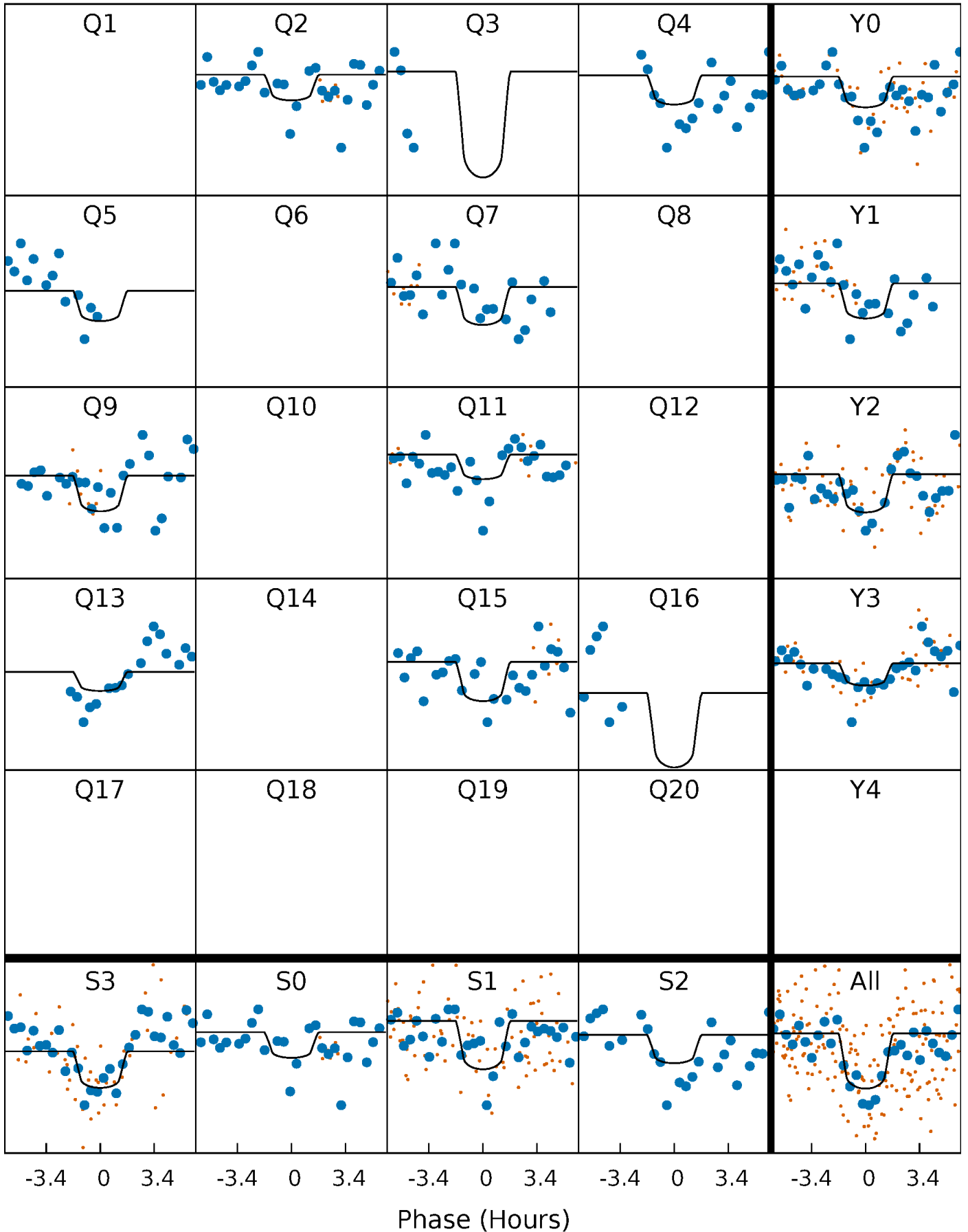
PDC Quarter-Phased Transit Curves

TCE 004484252-05 P= 36.978026 Days $T_0=168.370439$ (BKJD)



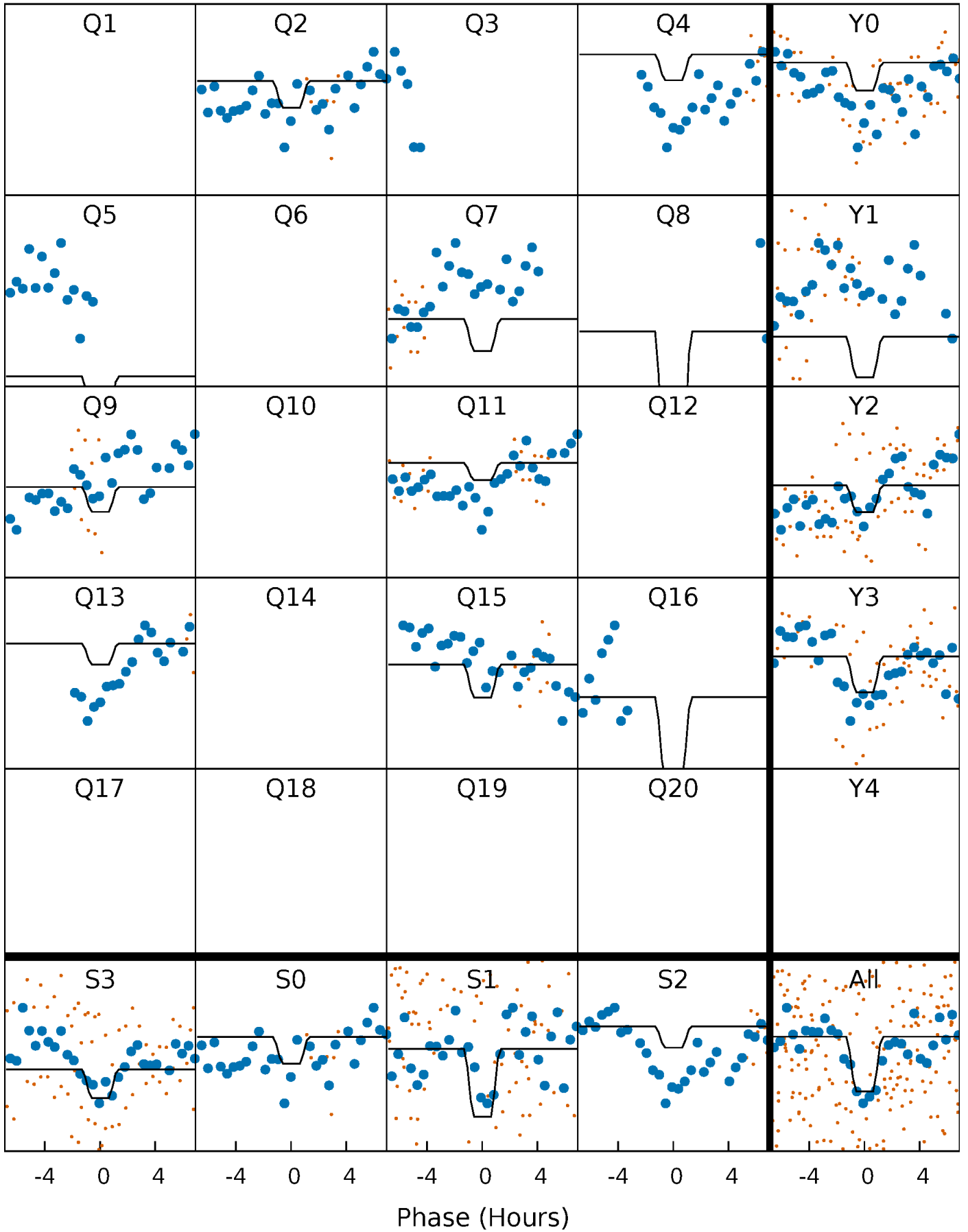
DV Quarter-Phased Transit Curves

TCE 004484252-05 $P = 36.978026$ Days $T_0 = 168.370439$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

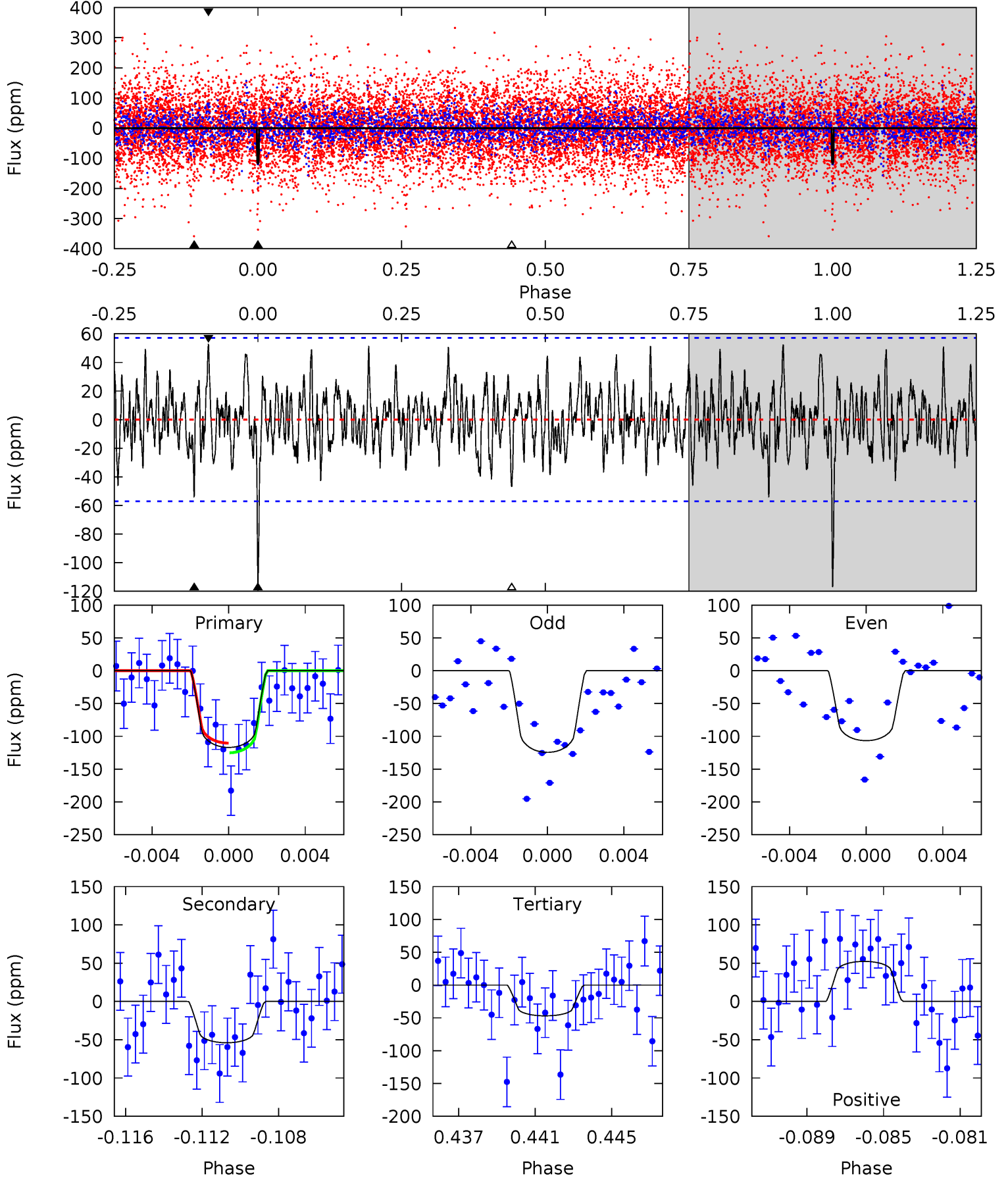
TCE 004484252-05 P= 36.977525 Days $T_0=168.384923$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-05, P = 36.978026 Days, E = 131.392413 Days

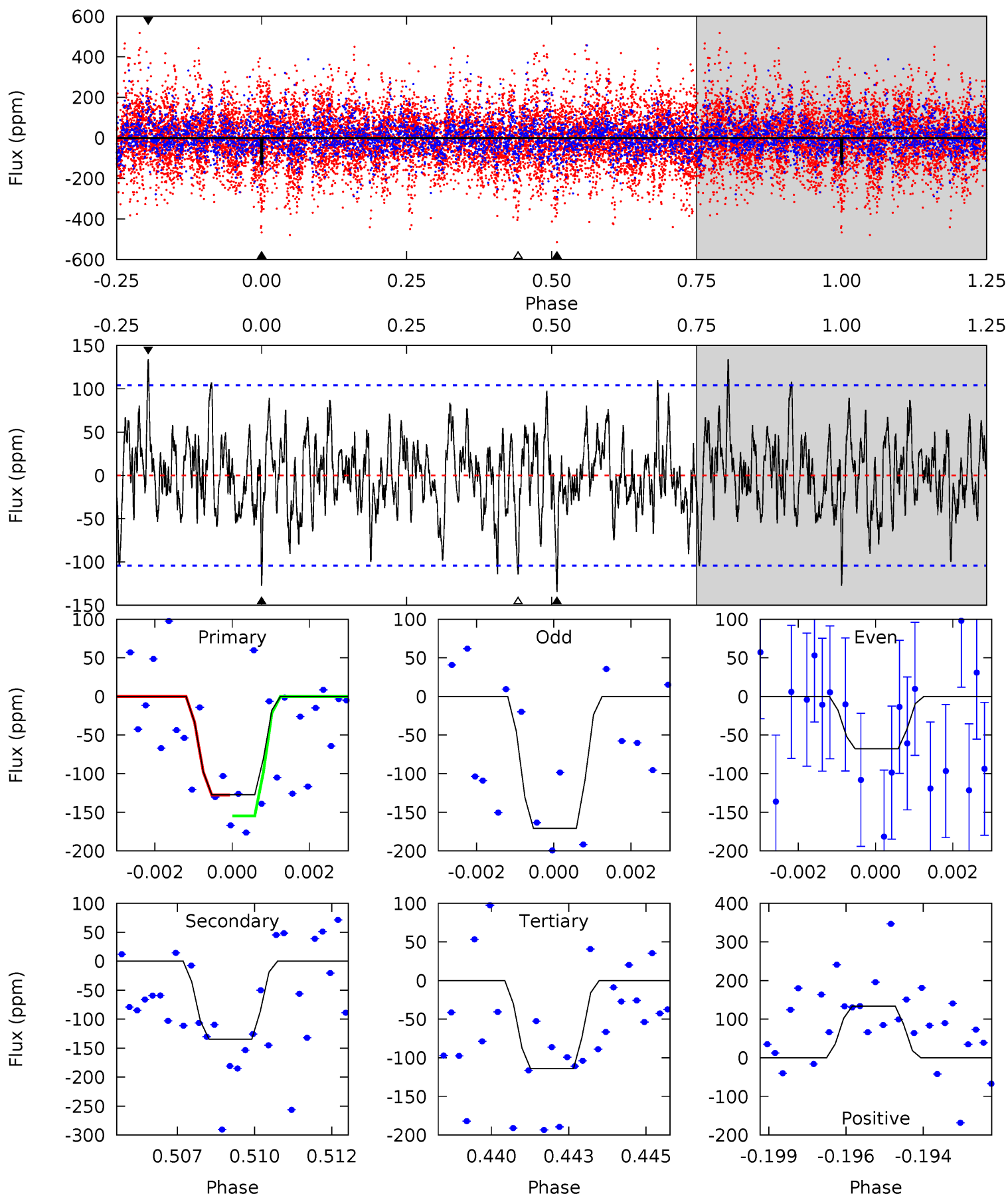
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.92	4.28	4.77	5.21	2.89	1.55	6.38	5.89	0.64	0.14	0.81	1.09	0.31	0.67



Alt Model-Shift Uniqueness Test

004484252-05, P = 36.977525 Days, E = 131.407398 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.45	6.81	5.79	6.79	5.29	3.02	1.87	0.67	-0.33	1.02	0.02	2.60	0.68	0.50	0.68



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-54 ± 11	$2.15^{+1.37}_{-1.25}$	1102^{+81}_{-84}	5350^{+3119}_{-1024}	368^{+1944}_{-239}
Alt.	-134 ± 20	$2.20^{+1.42}_{-1.23}$	1100^{+85}_{-82}	6603^{+4384}_{-1379}	895^{+3112}_{-577}

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 $A_{obs} \gg 1.0$

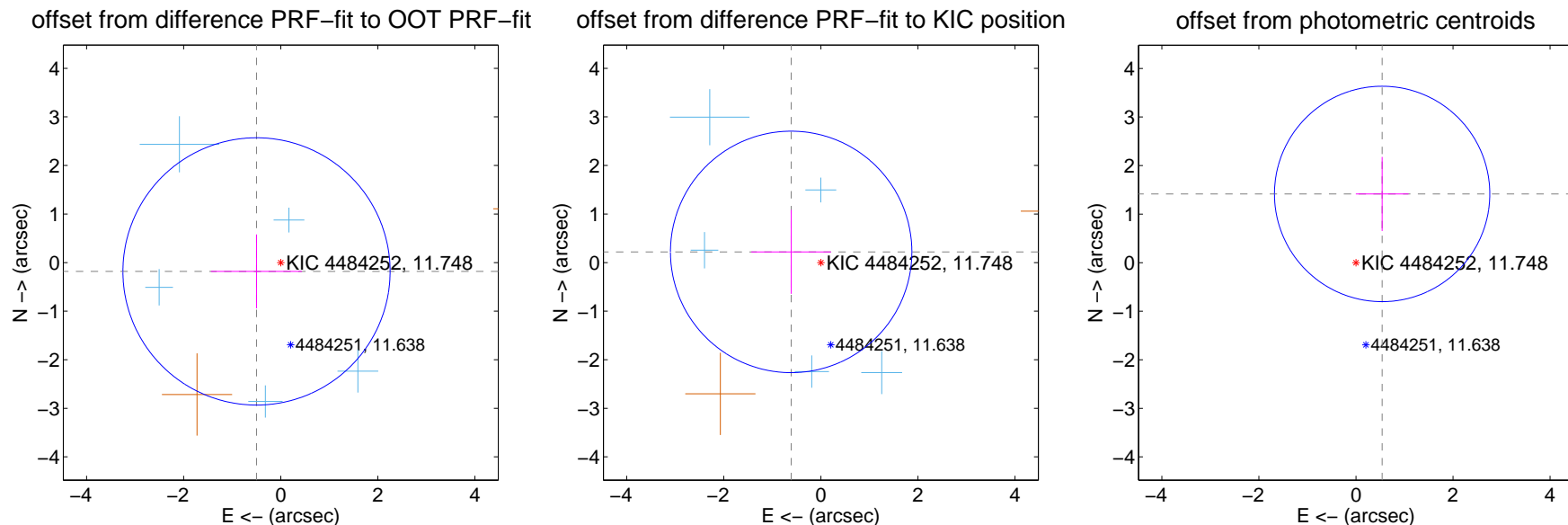
DV Centroid Data

Supplemental centroid analysis for 004484252-05. **Kepler magnitude: 11.75.** Transit SNR 8.68

There are 5 quarters with good PRF difference image offsets

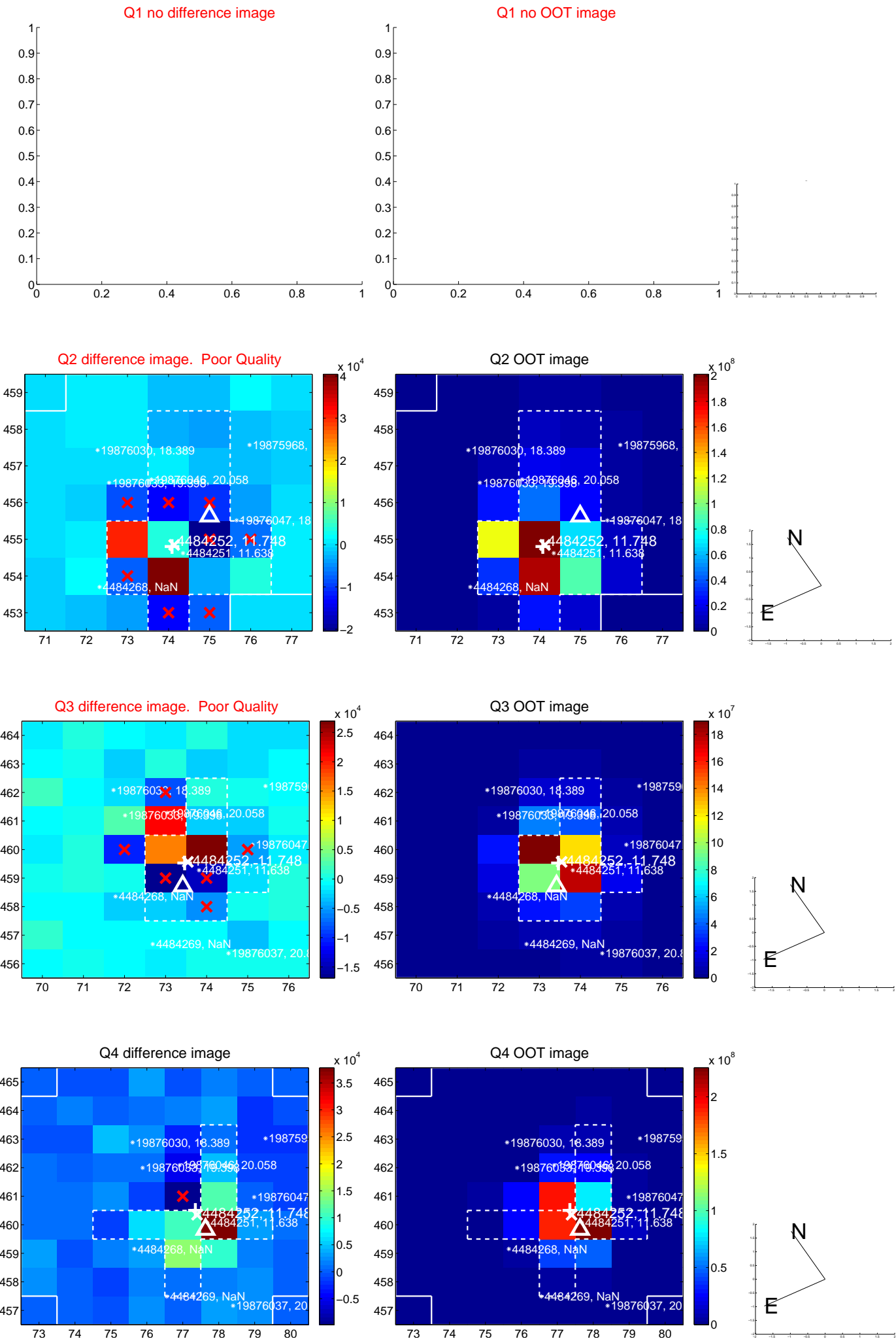
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.531 ± 0.917	0.58	0.499 ± 0.936	-0.182 ± 0.761
PRF-fit source offset from KIC position	0.650 ± 0.829	0.78	0.612 ± 0.821	0.220 ± 0.864
photometric centroid source offset	1.51 ± 0.74	2.05	-0.54 ± 0.54	1.42 ± 0.76

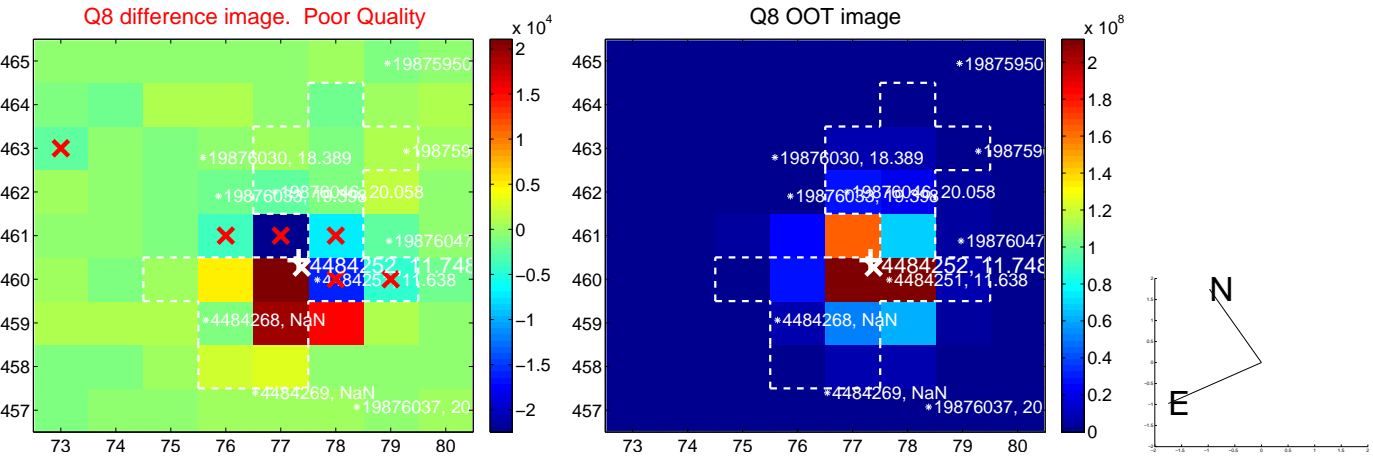
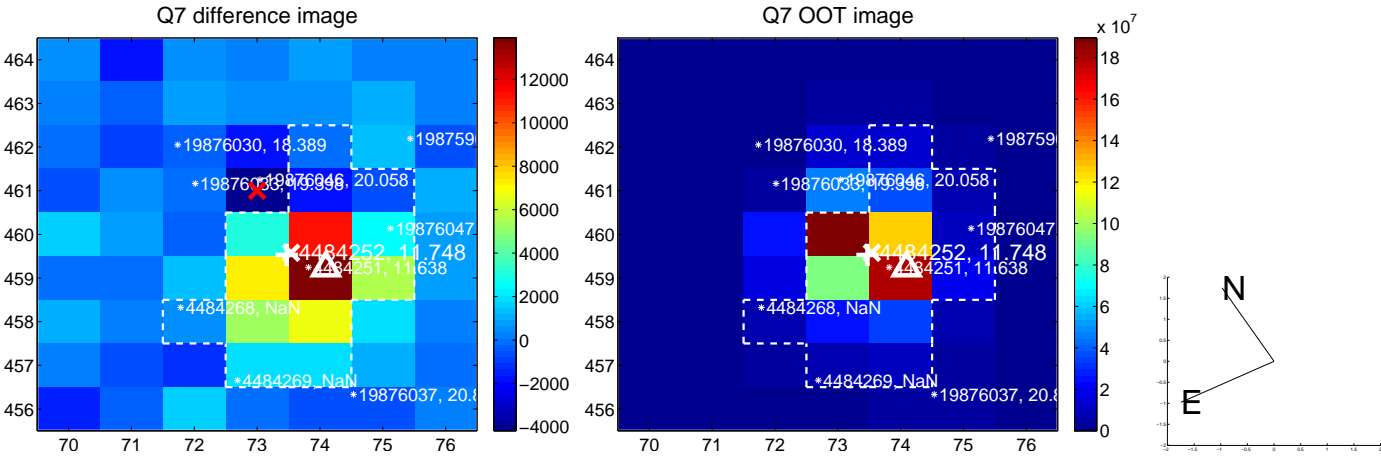
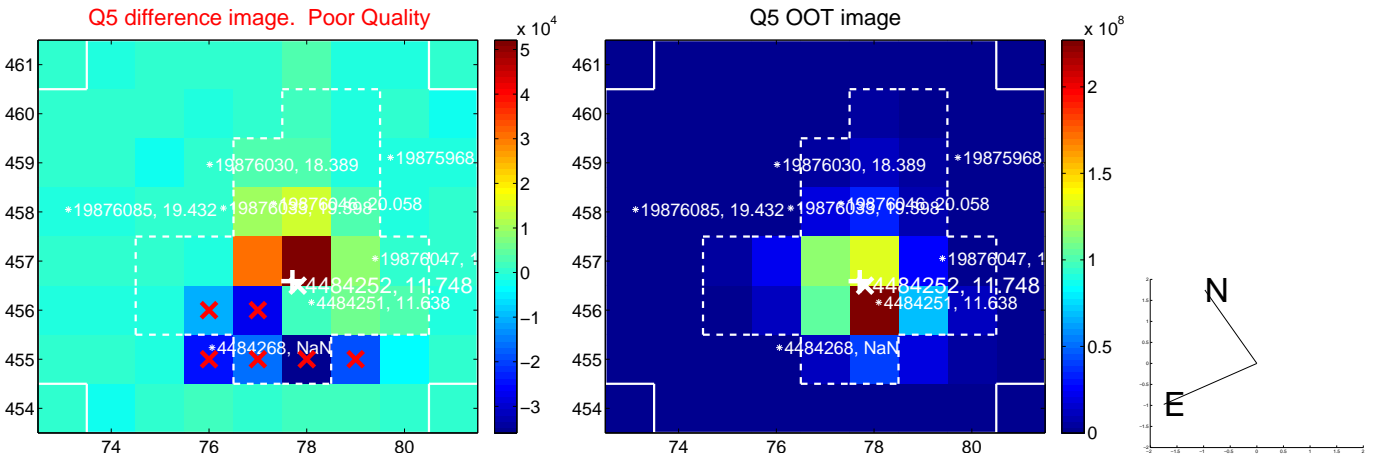


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

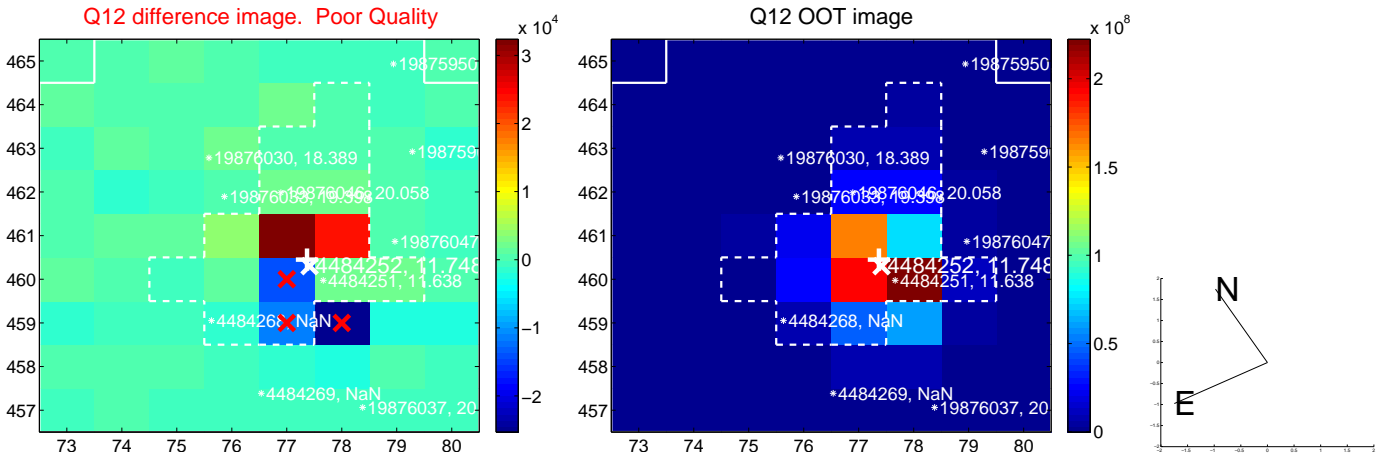
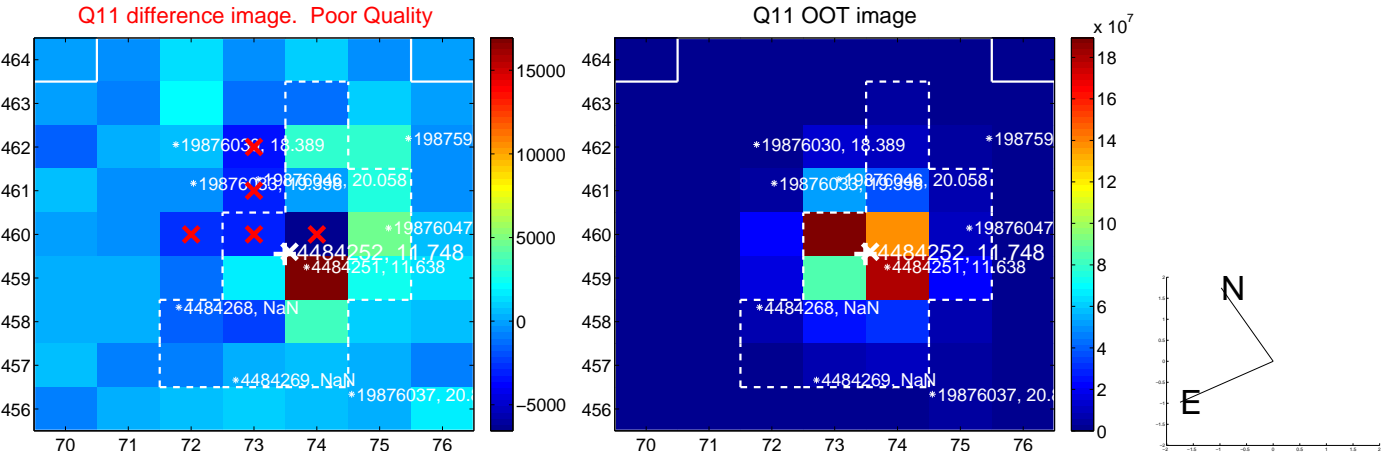
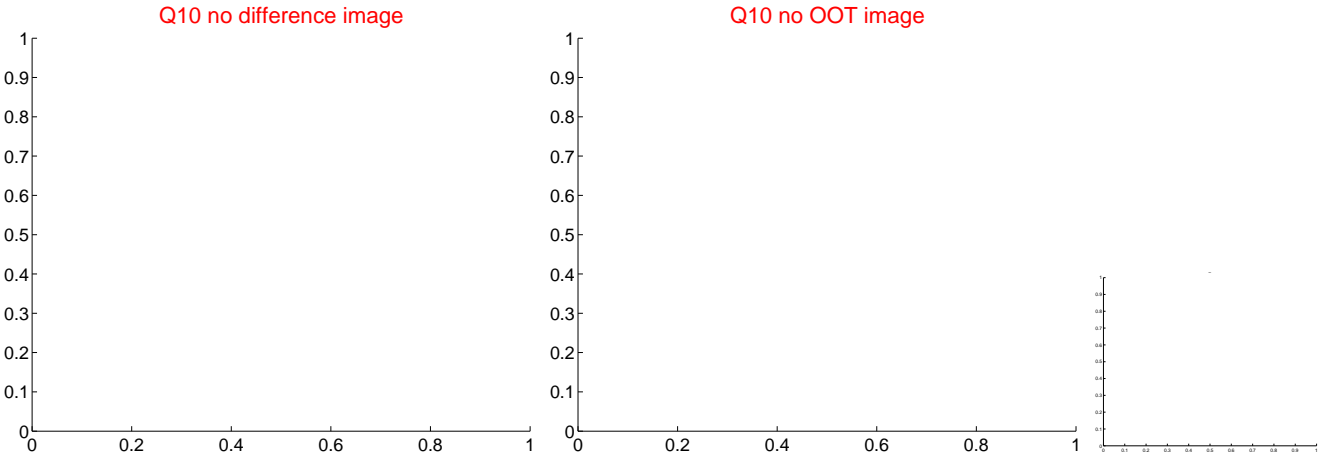
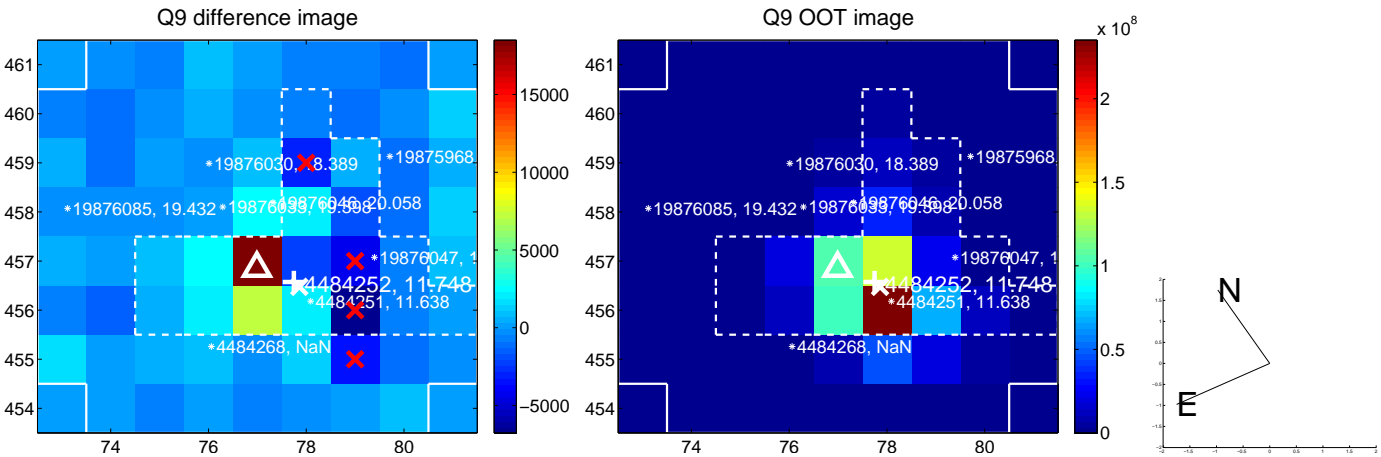
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



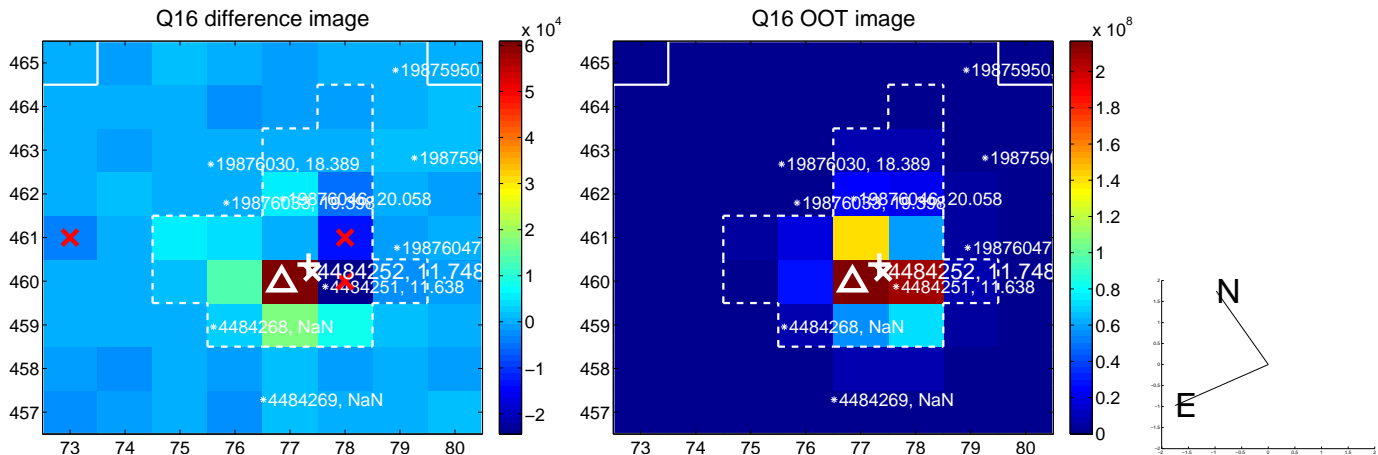
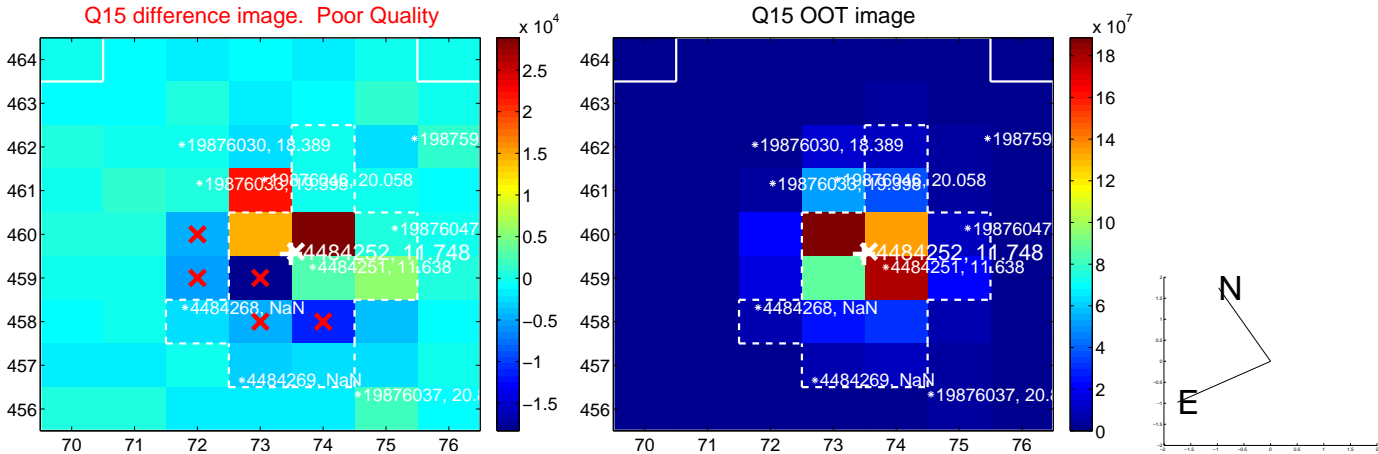
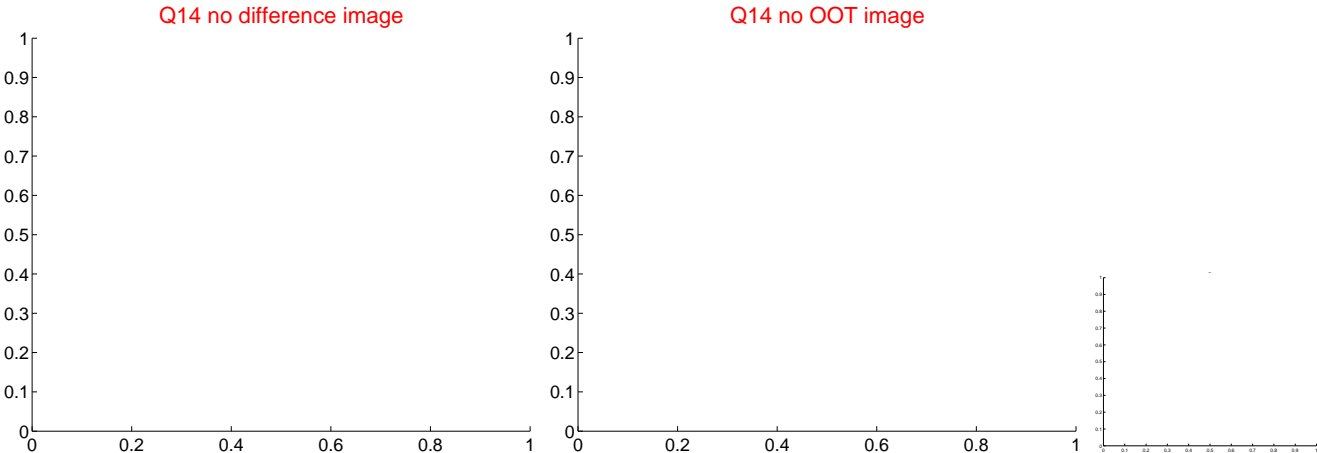
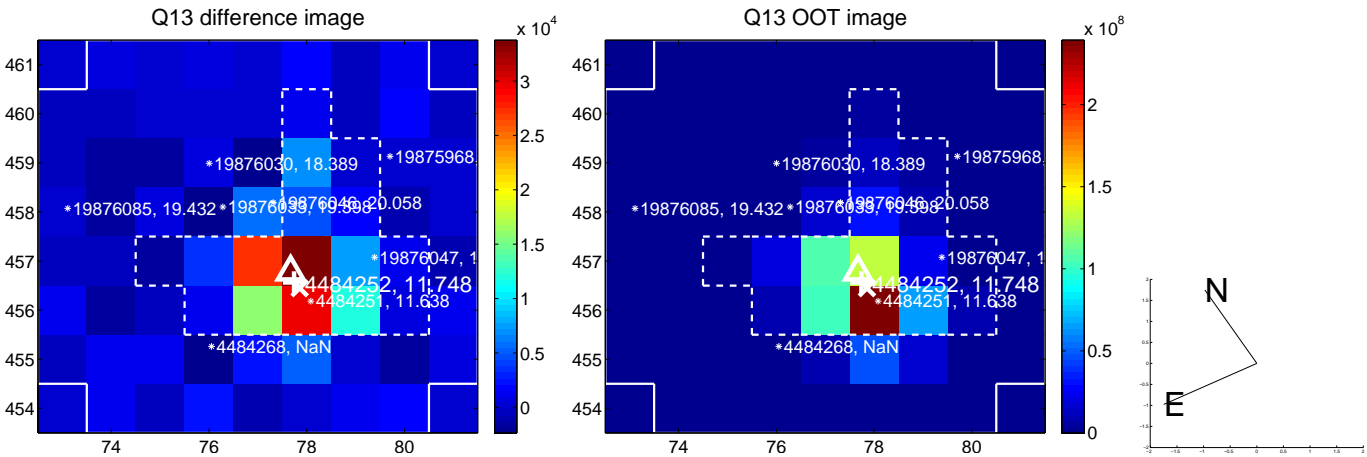
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



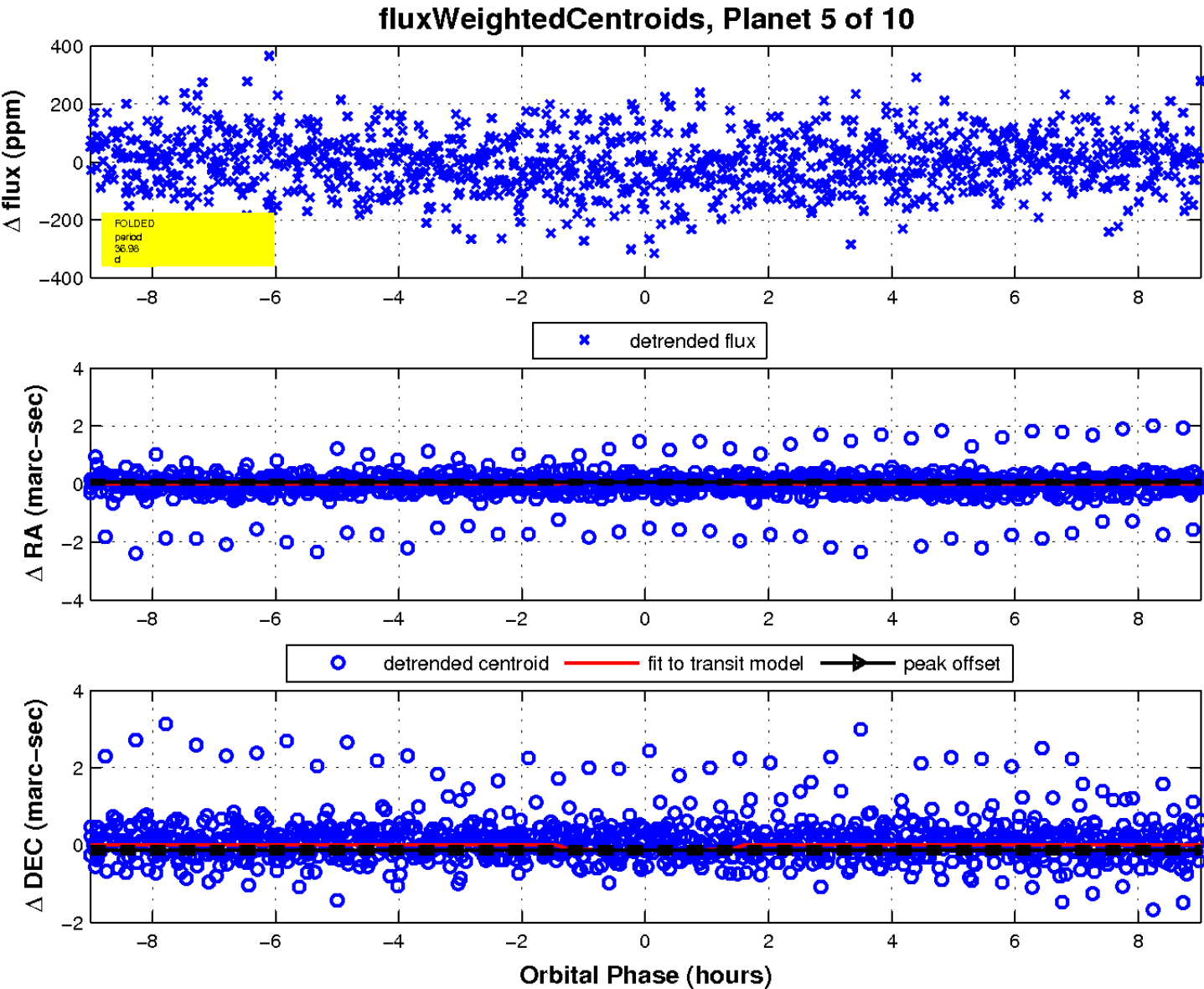
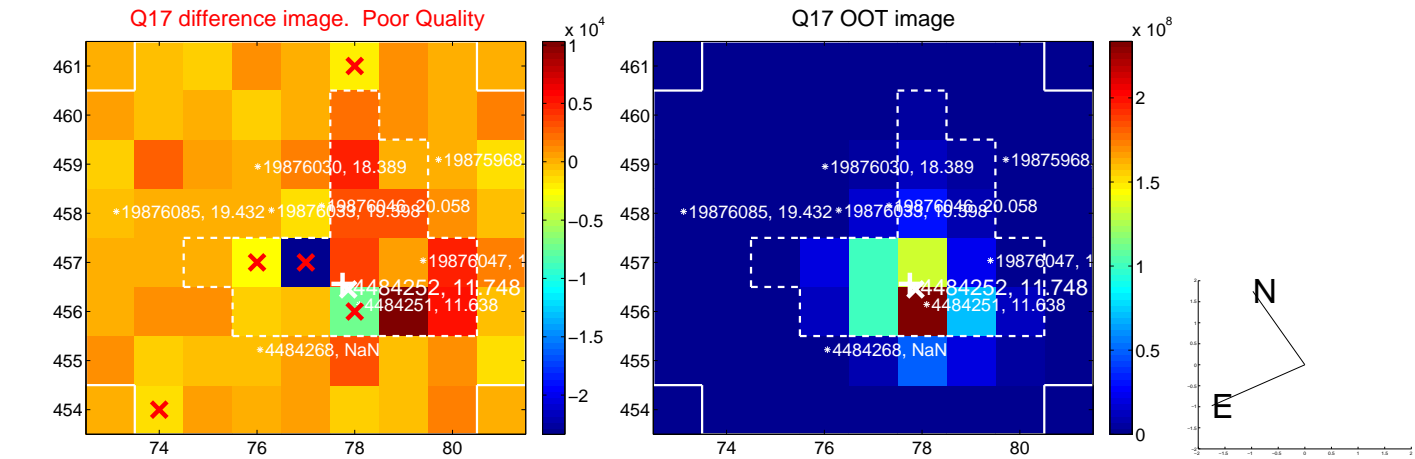
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

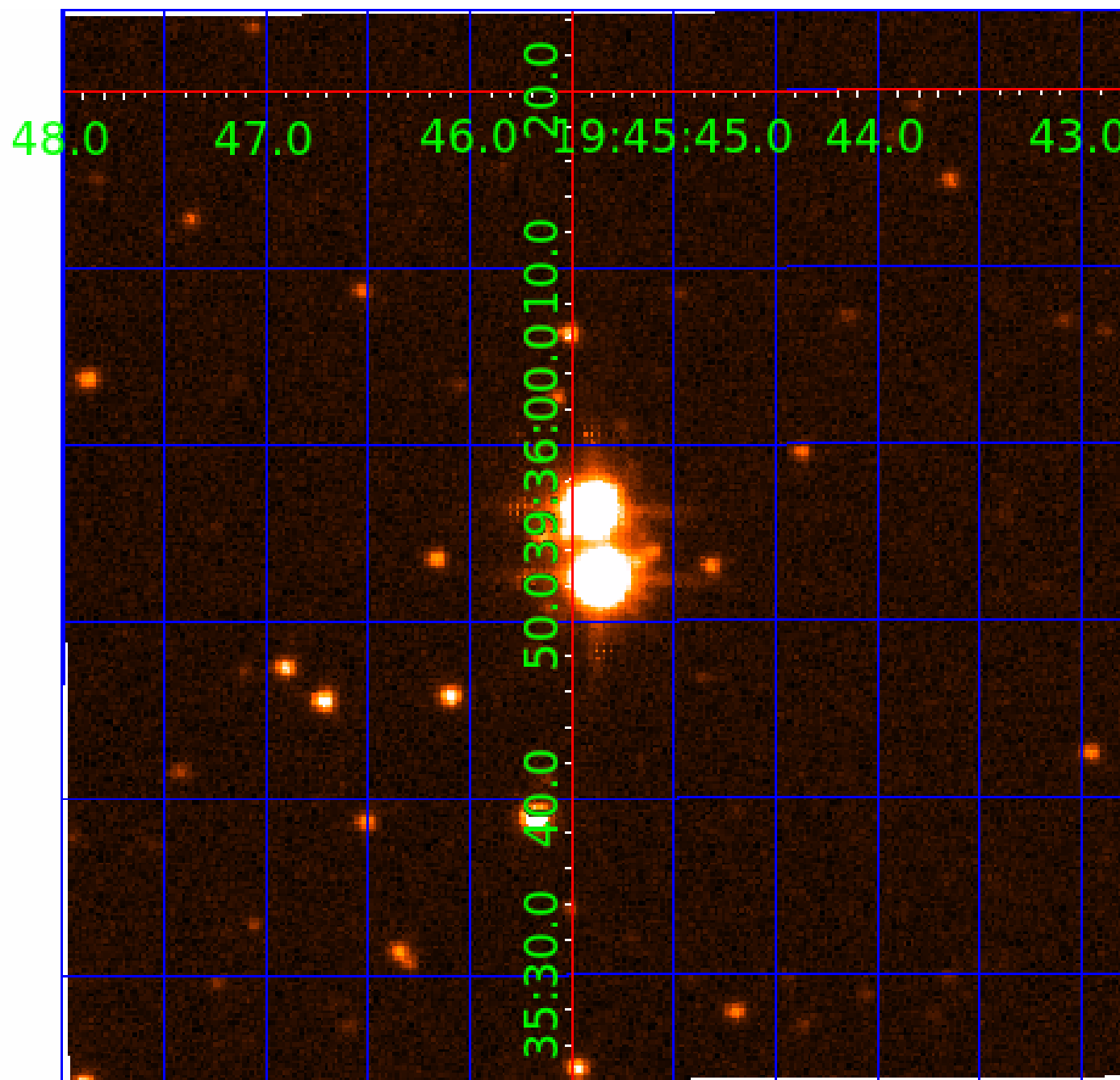


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004484252

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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004484252-02	OBS	No	175.990163	189.884706	223.9	14.427	14.0	11.1	1.72	6753	2.76	11.57
004484252-04	OBS	No	90.798942	134.165001	119.7	13.399	9.8	8.8	1.72	6753	2.01	27.96
004484252-05	OBS	No	36.978026	168.370439	108.7	3.009	9.6	8.7	1.72	6753	2.03	92.64
004484252-07	OBS	No	87.102783	147.460088	131.8	3.156	8.7	8.4	1.72	6753	2.31	29.56
004484252-08	OBS	No	181.749444	155.783439	184.9	7.745	8.9	9.2	1.72	6753	2.42	11.09
004484252-09	OBS	No	20.138949	143.389767	67.0	5.518	8.8	7.5	1.72	6753	1.53	208.29
004484252-10	OBS	No	53.113455	167.407001	144.7	4.153	8.5	9.1	1.72	6753	2.32	57.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484252-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

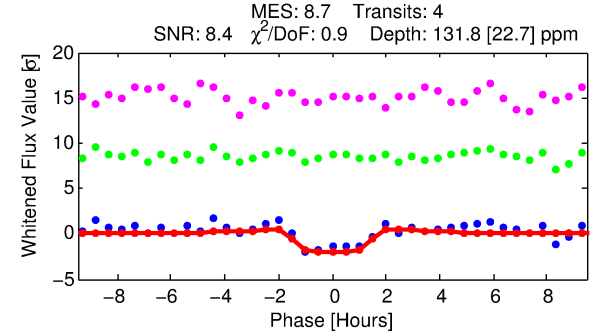
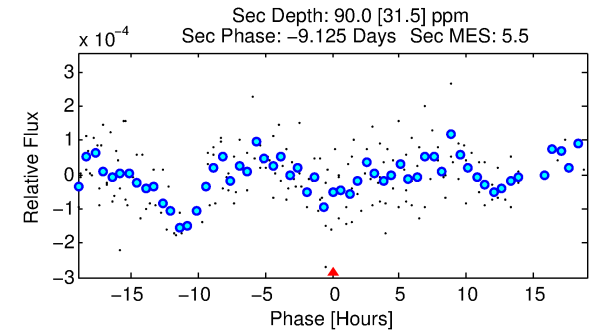
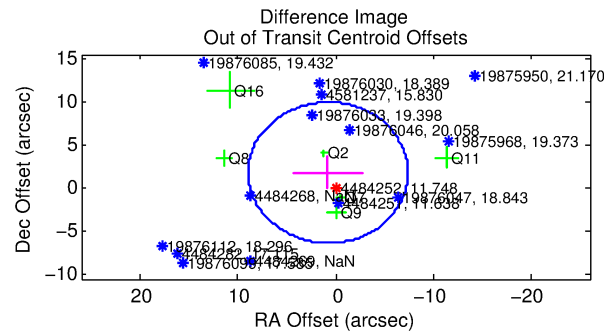
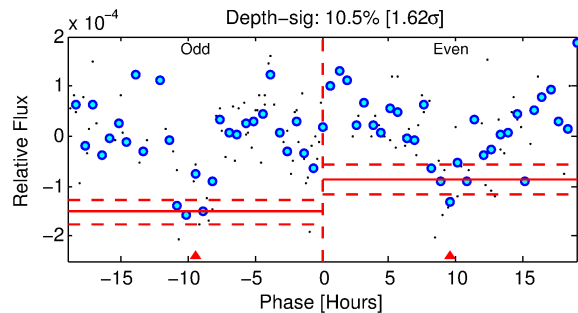
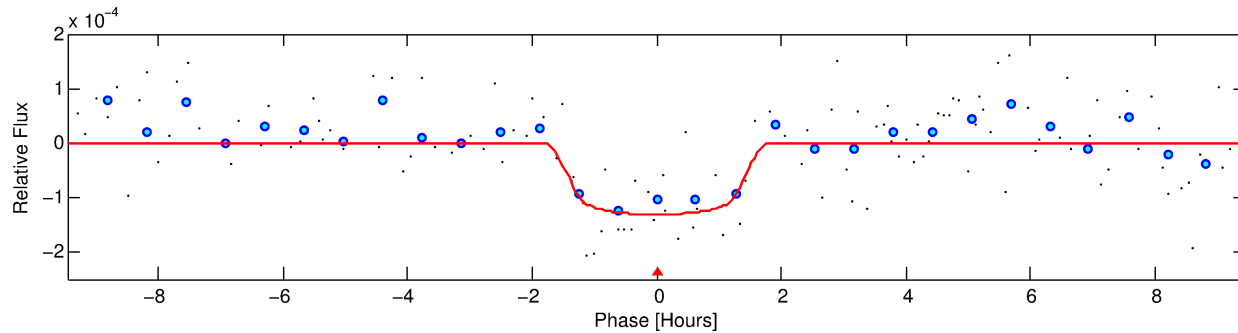
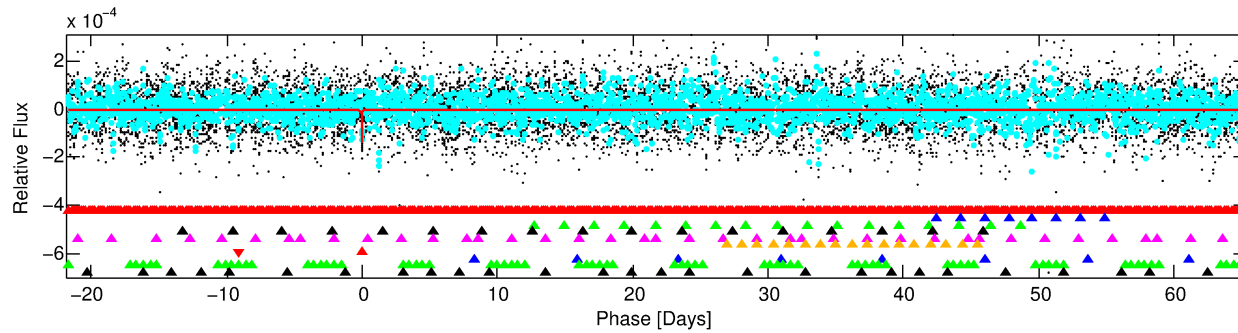
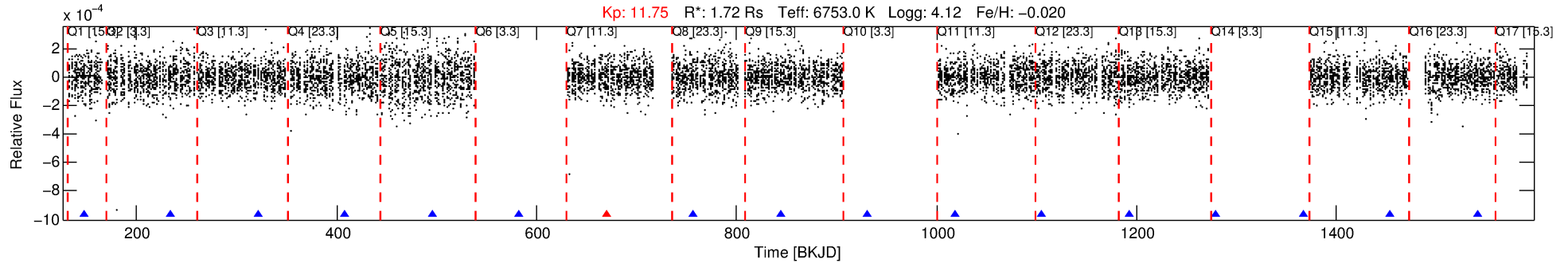
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-07

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 7 of 10 Period: 87.103 d



DV Fit Results:

Period = 87.10278 [0.00120] d
Epoch = 147.4601 [0.0114] BKJD
Rp/R* = 0.0123 [0.0270]
a/R* = 94.21 [1253.06]
b = 0.91 [2.58]
Seff = 29.56 [11.08]
Teq = 595 [56] K
Rp = 2.31 [5.11] Re
a = 0.4311 [0.1053] AU
Ag = 1719.92 [7567.87] [0.23 σ]
Teff = 5920 [6496] K [0.82 σ]

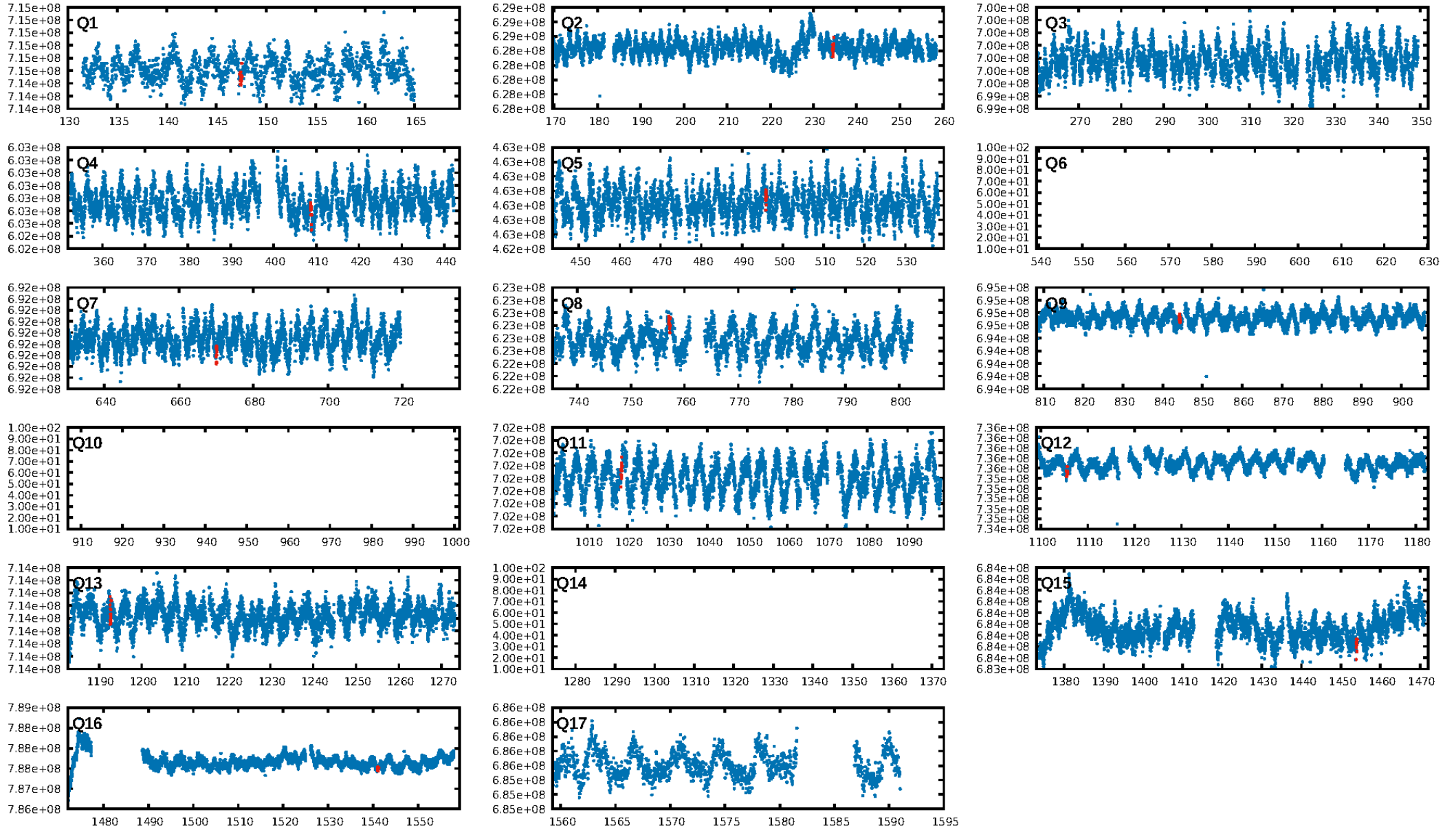
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.38 σ]
LongPeriod-sig: 100.0% [6.89 σ]
ModelChiSquare2-sig: 20.8%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 0.957
Centroid-sig: 57.0%
Centroid-so: 0.637 arcsec [0.71 σ]
OotOffset-rm: 1.966 arcsec [0.72 σ]
KicOffset-rm: 2.190 arcsec [0.88 σ]
OotOffset-st: 1/2/2/1 [6]
KicOffset-st: 1/2/2/1 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.45 [5/11]

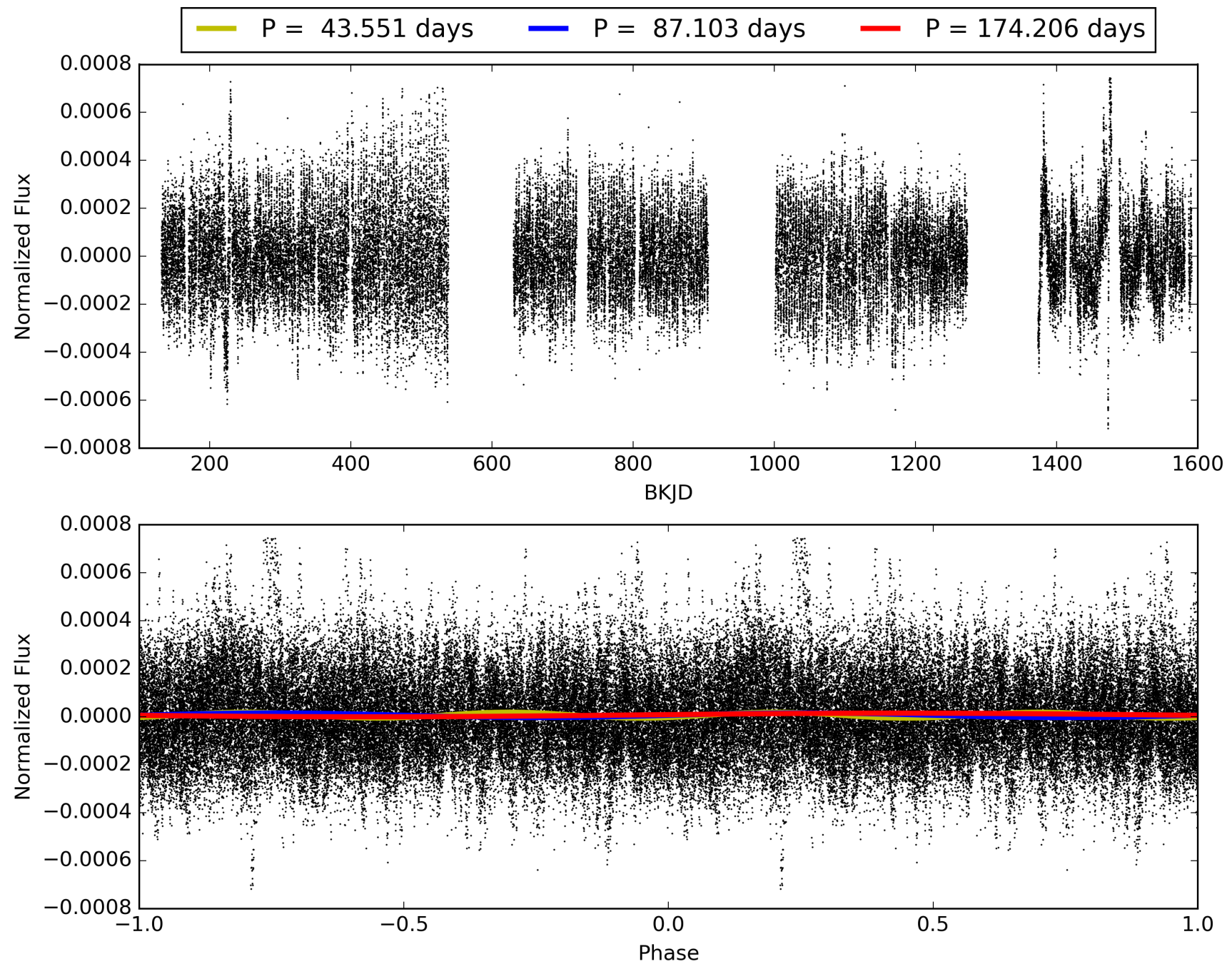
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:47:14 Z

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

TCE 004484252-07, PDC Light Curves

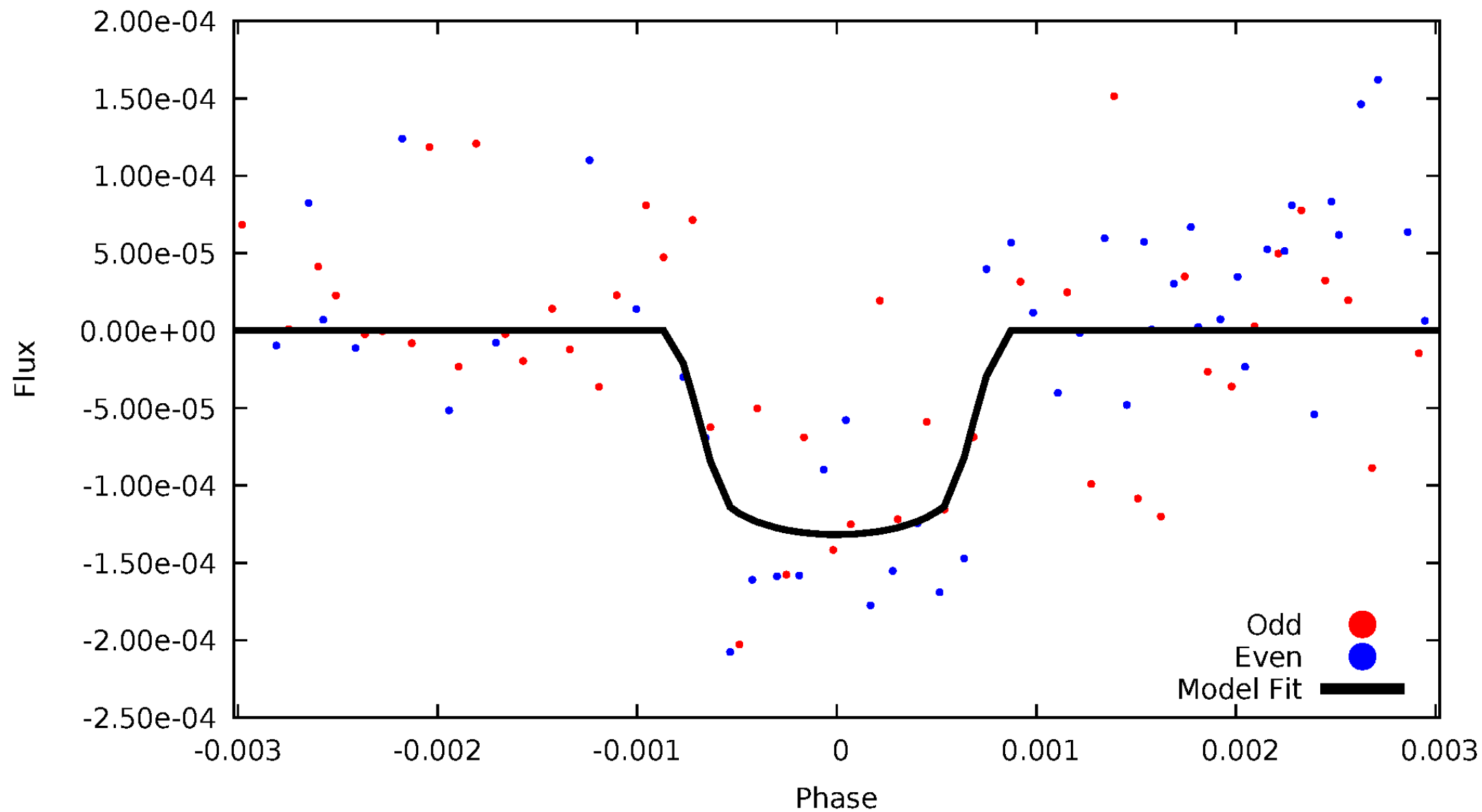


TCE 004484252-07



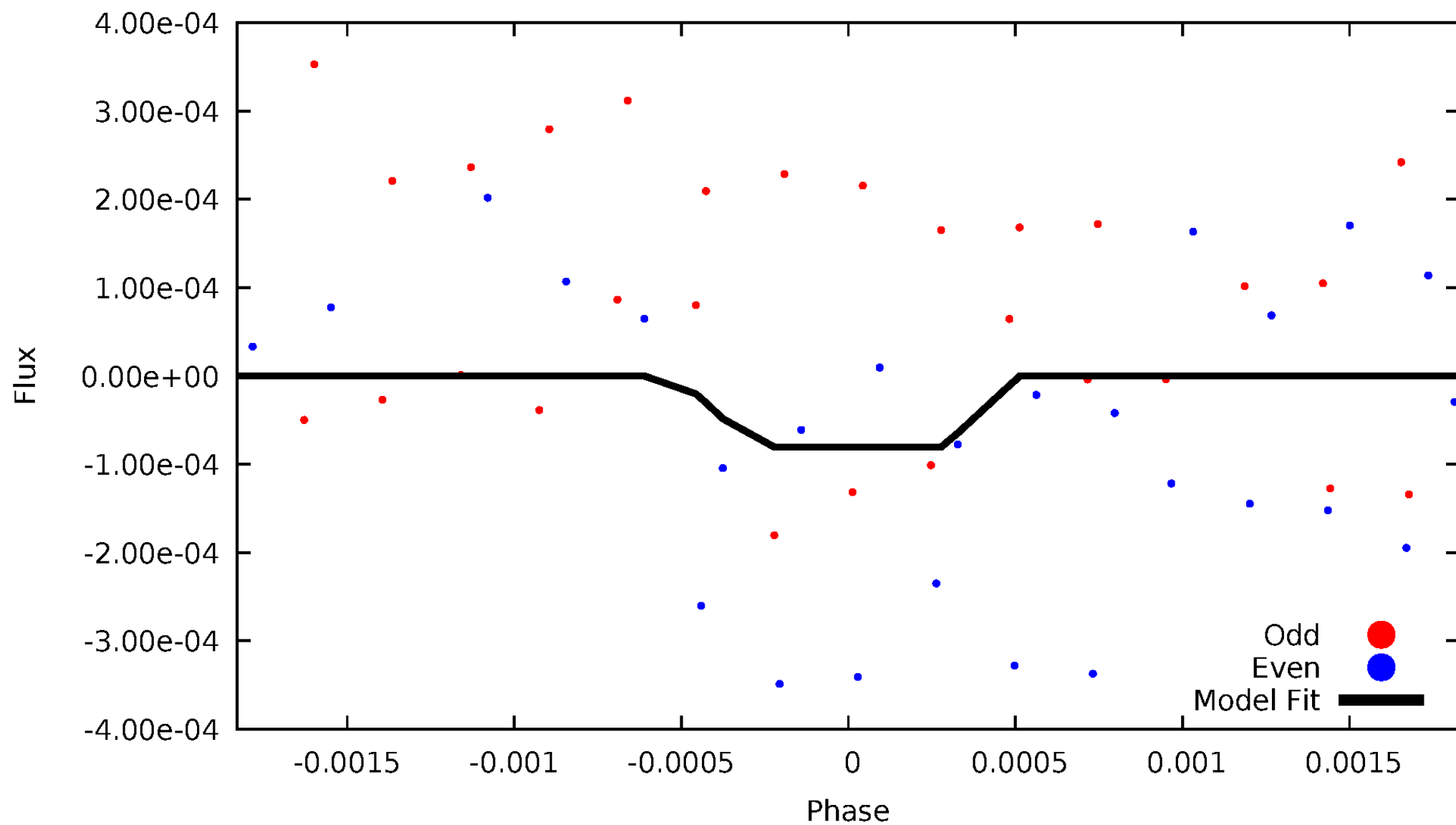
DV Odd/Even

TCE 004484252-07



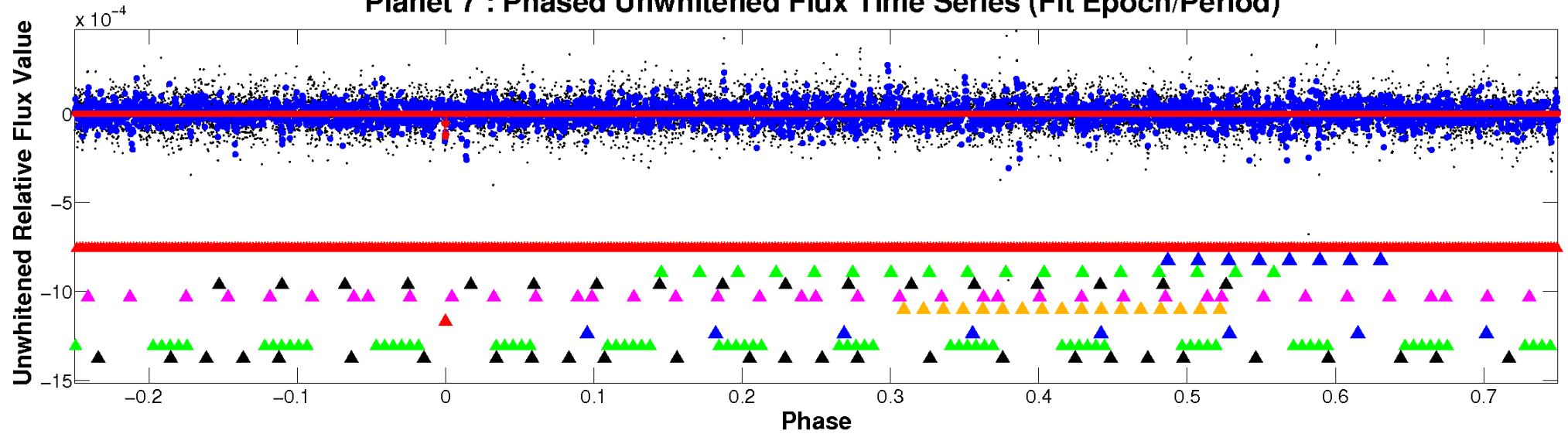
ALT Odd/Even

TCE 004484252-07

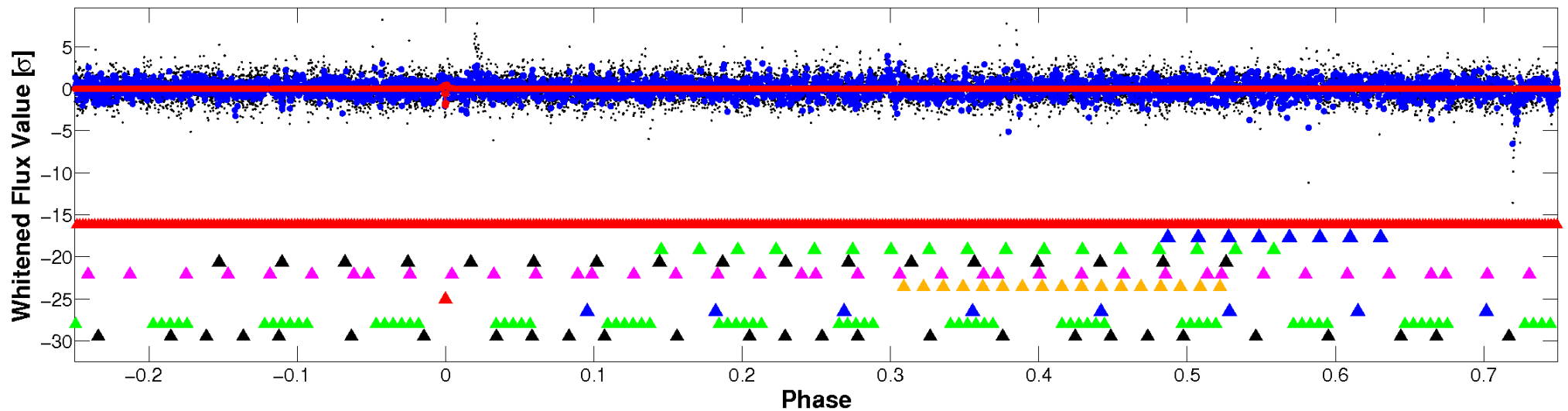


Non-Whitened Vs. Whitened Light Curve

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

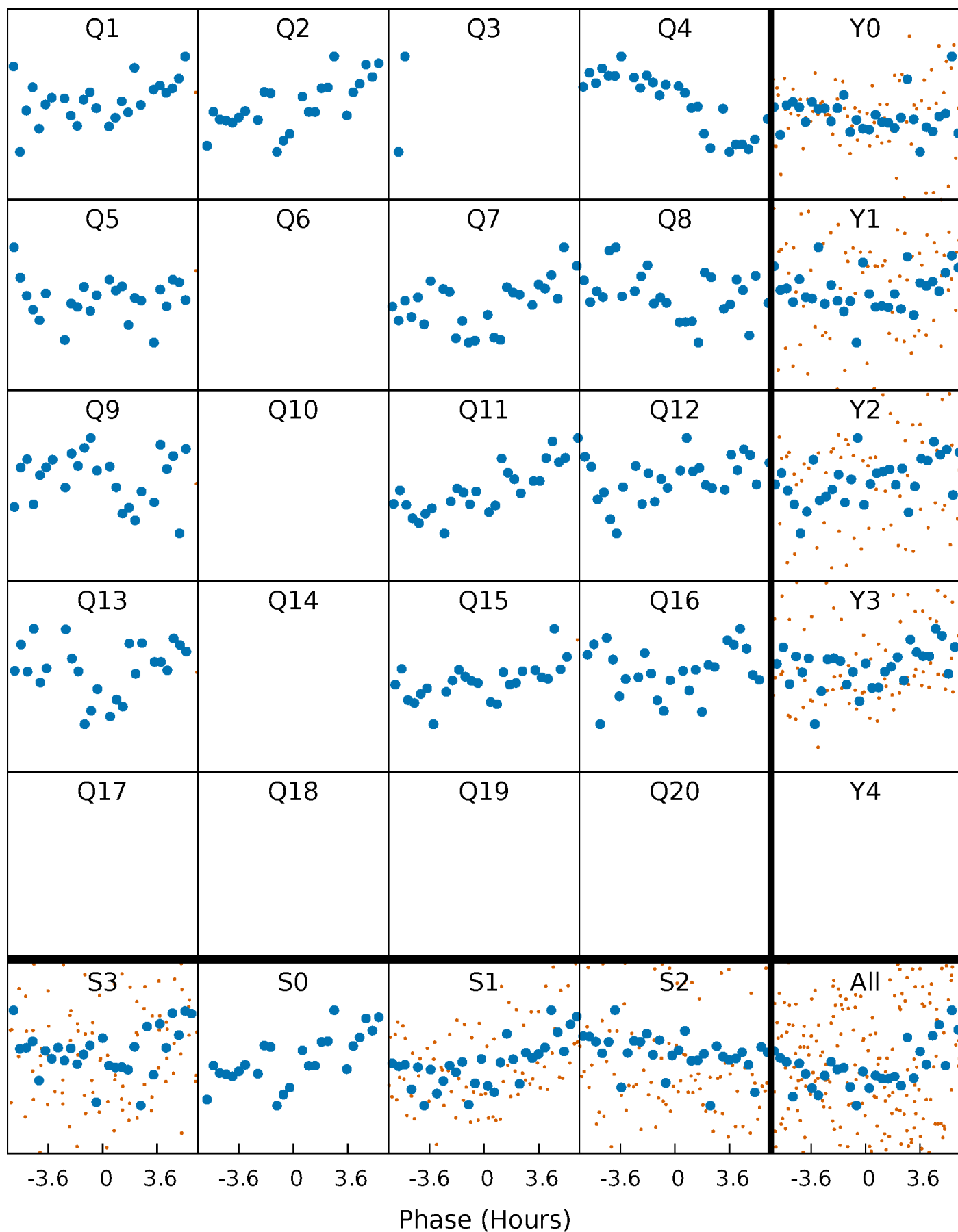


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



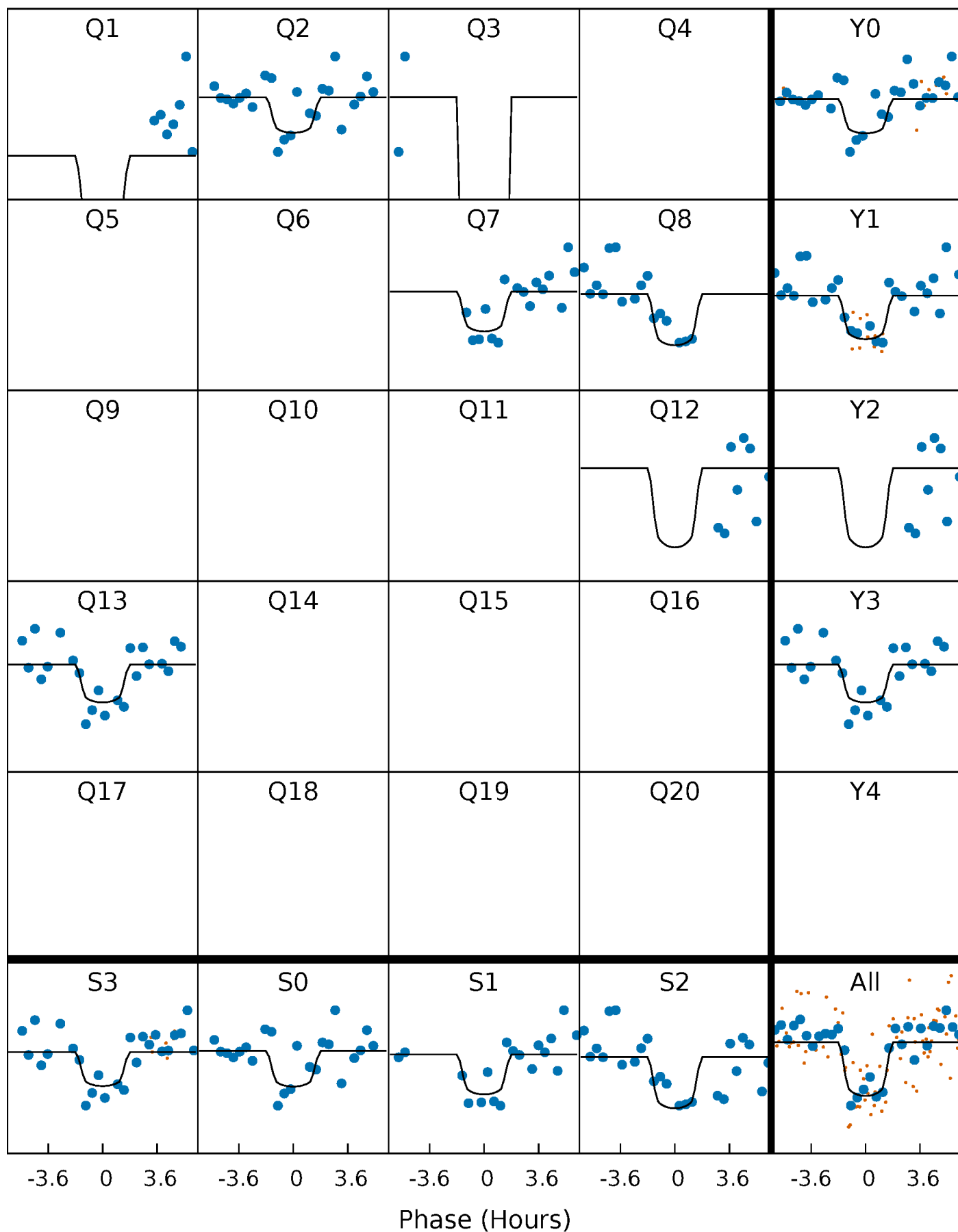
PDC Quarter-Phased Transit Curves

TCE 004484252-07 P= 87.102783 Days $T_0=147.460088$ (BKJD)



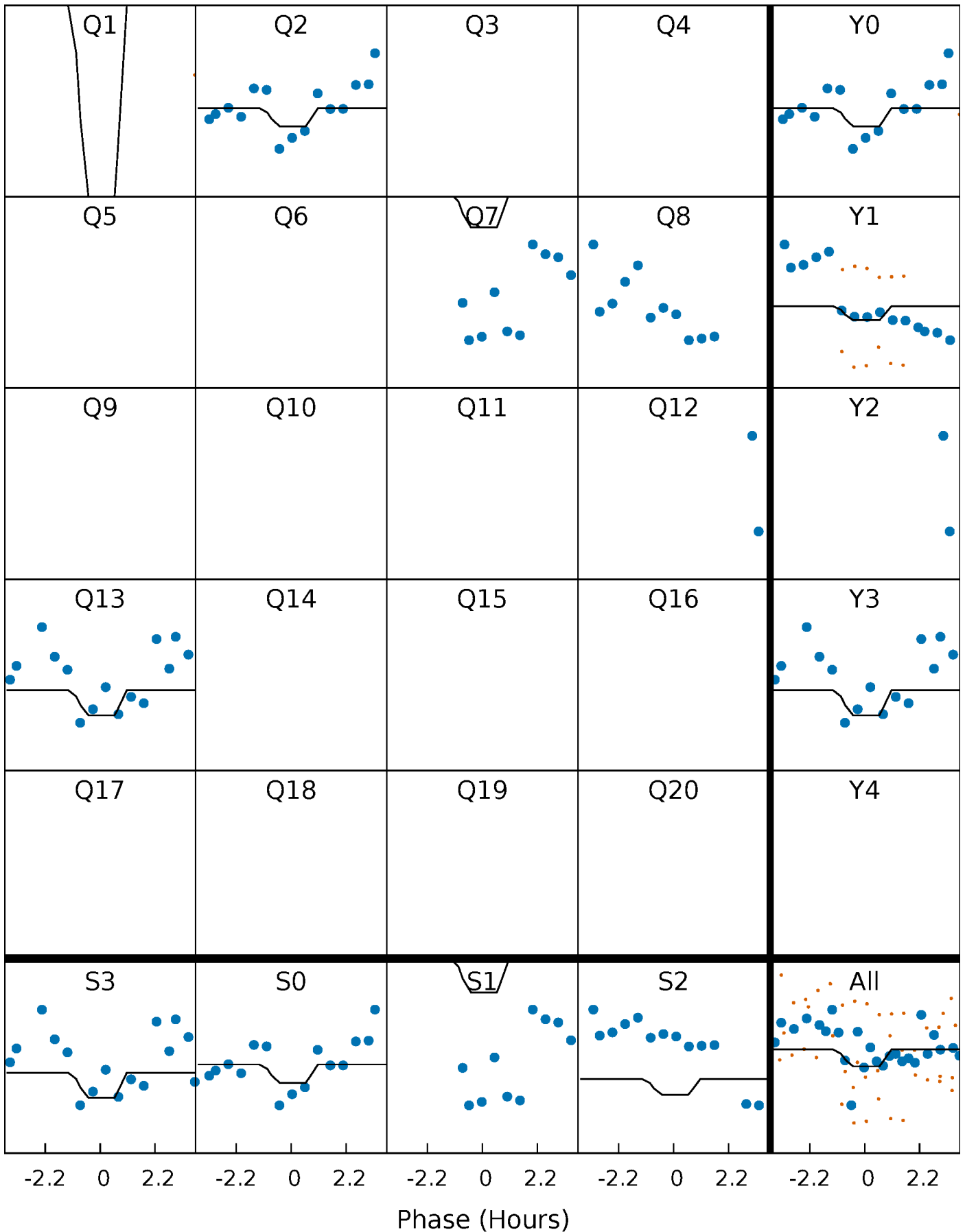
DV Quarter-Phased Transit Curves

TCE 004484252-07 P= 87.102783 Days $T_0=147.460088$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

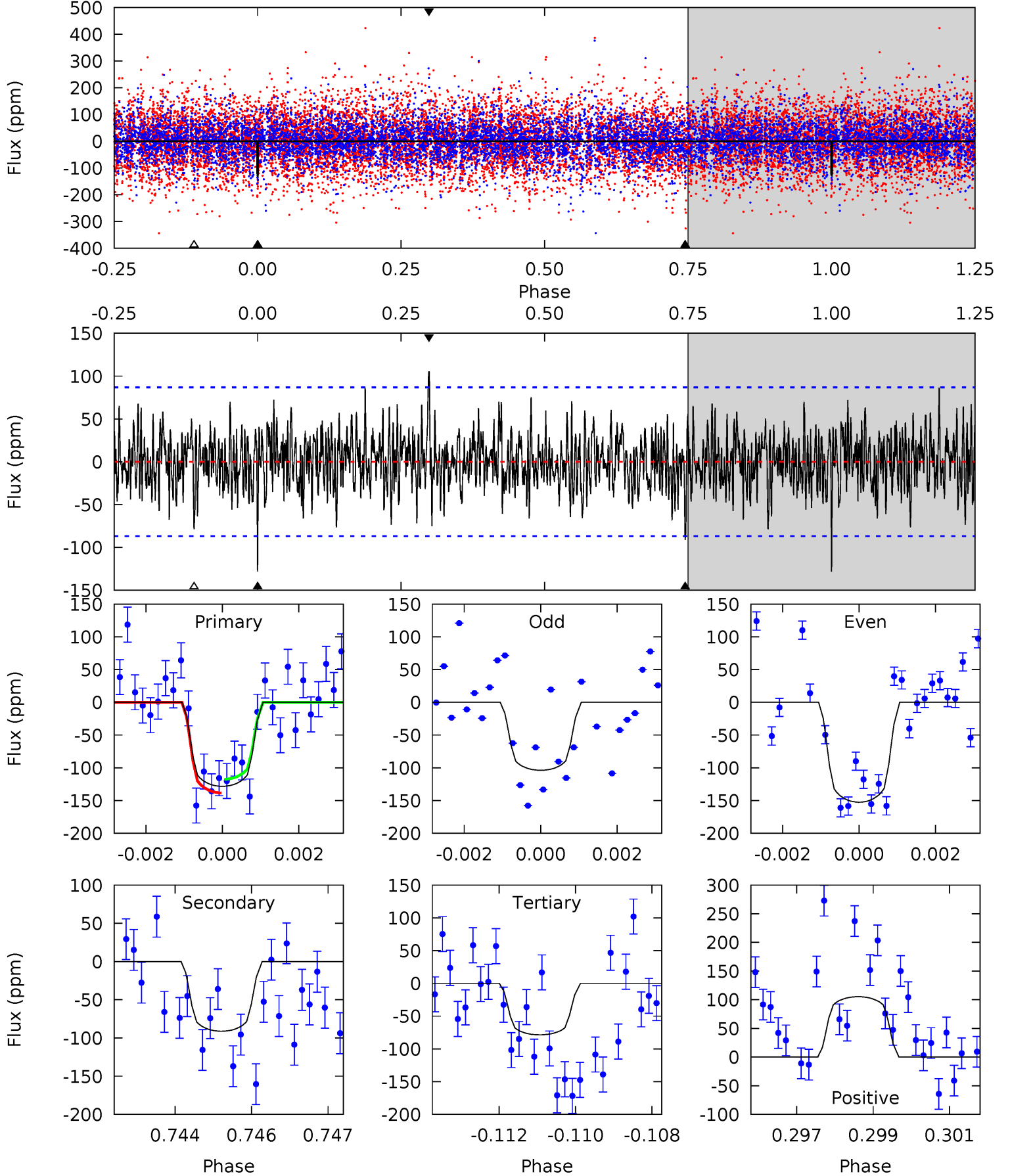
TCE 004484252-07 P= 87.103628 Days $T_0=147.436122$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-07, P = 87.102783 Days, E = 60.357305 Days

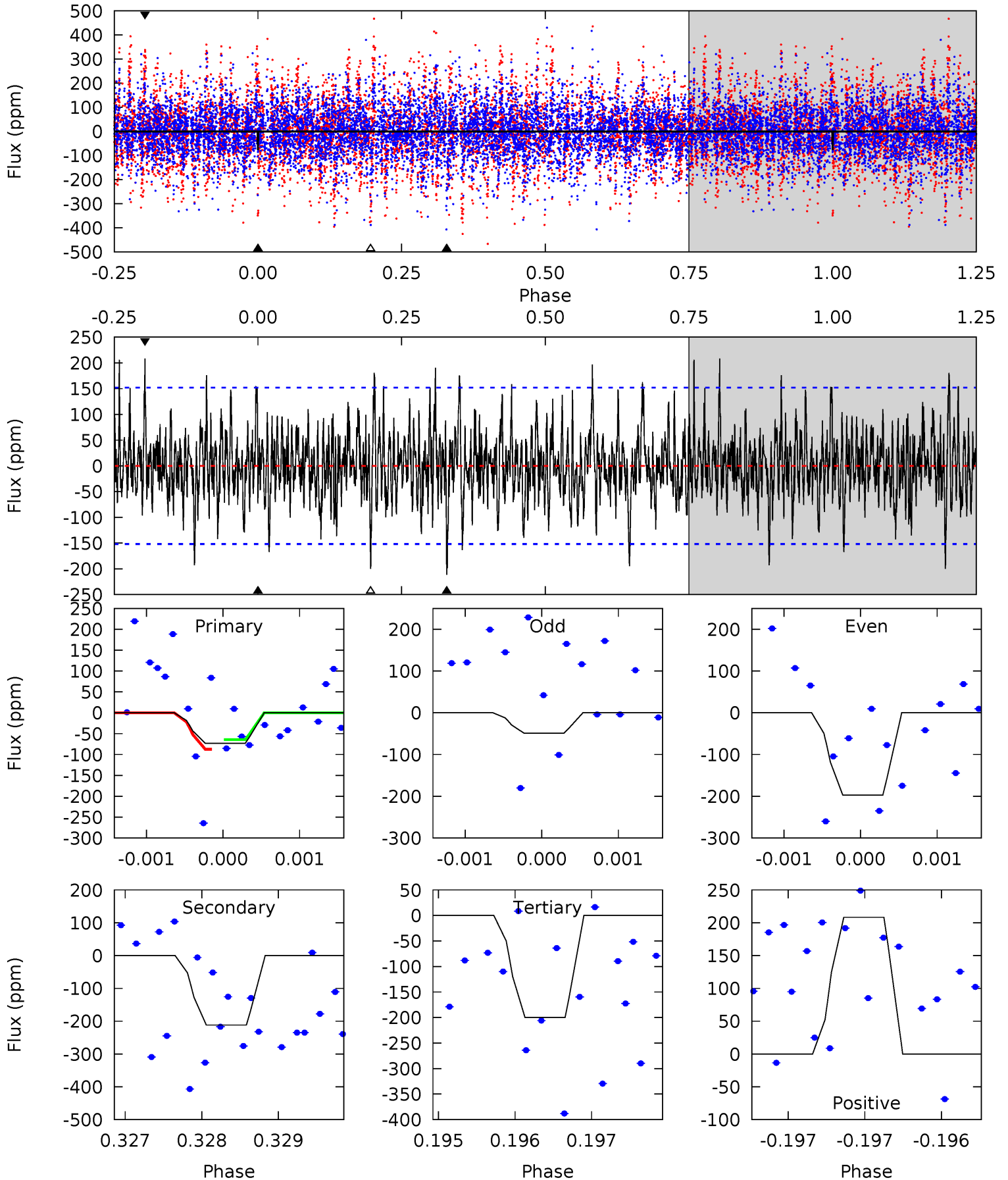
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.92	5.63	4.85	6.51	5.36	3.15	1.62	3.07	1.42	0.78	-0.87	1.50	1.03	0.45	0.64



Alt Model-Shift Uniqueness Test

004484252-07, P = 87.103628 Days, E = 60.332494 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.63	7.61	7.19	7.49	5.46	3.30	2.01	-4.56	-4.86	0.42	0.12	2.73	0.81	0.50	0.42



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-91±16	$4.25^{+4.58}_{-2.86}$	830^{+63}_{-62}	4493^{+3364}_{-979}	501^{+4369}_{-385}
Alt.	-212±28	$4.05^{+4.12}_{-2.65}$	830^{+64}_{-62}	5501^{+5023}_{-1338}	1314^{+9255}_{-1002}

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

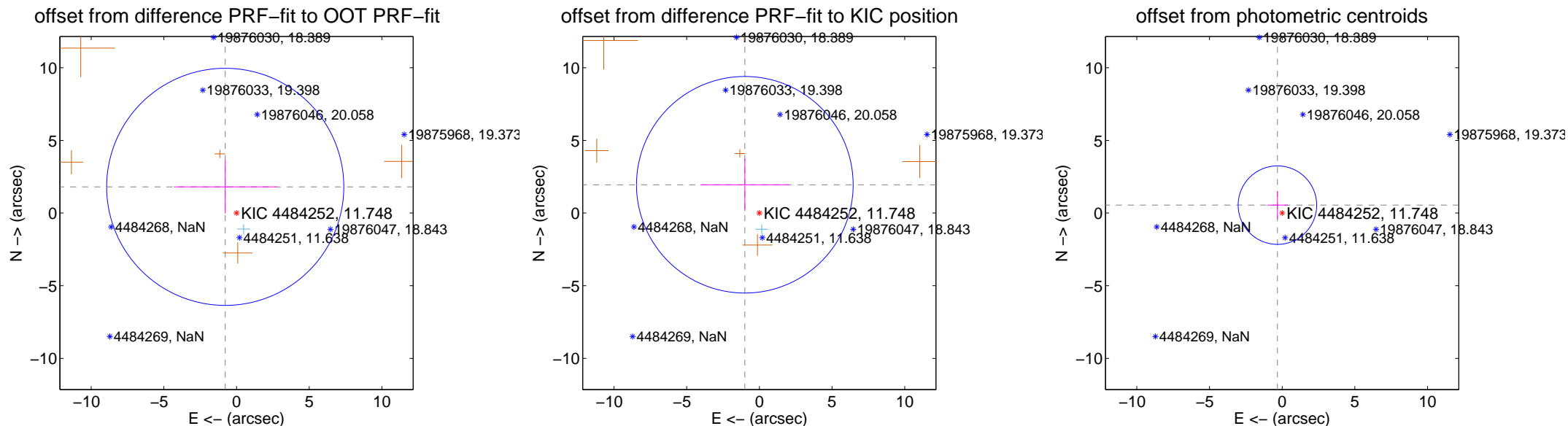
DV Centroid Data

Supplemental centroid analysis for 004484252-07. **Kepler magnitude: 11.75.** Transit SNR 8.40

There are 1 quarters with good PRF difference image offsets

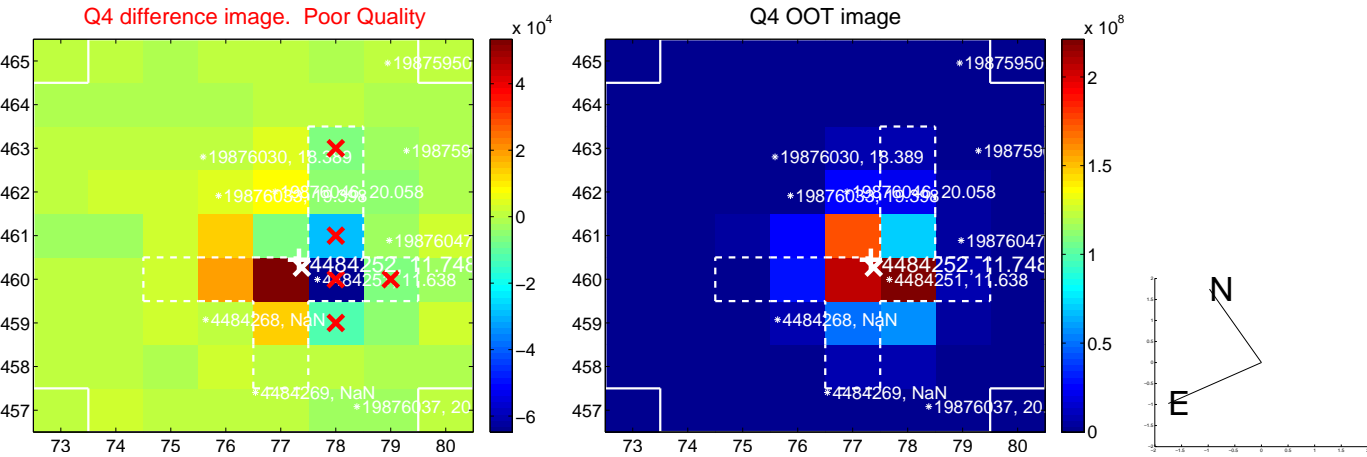
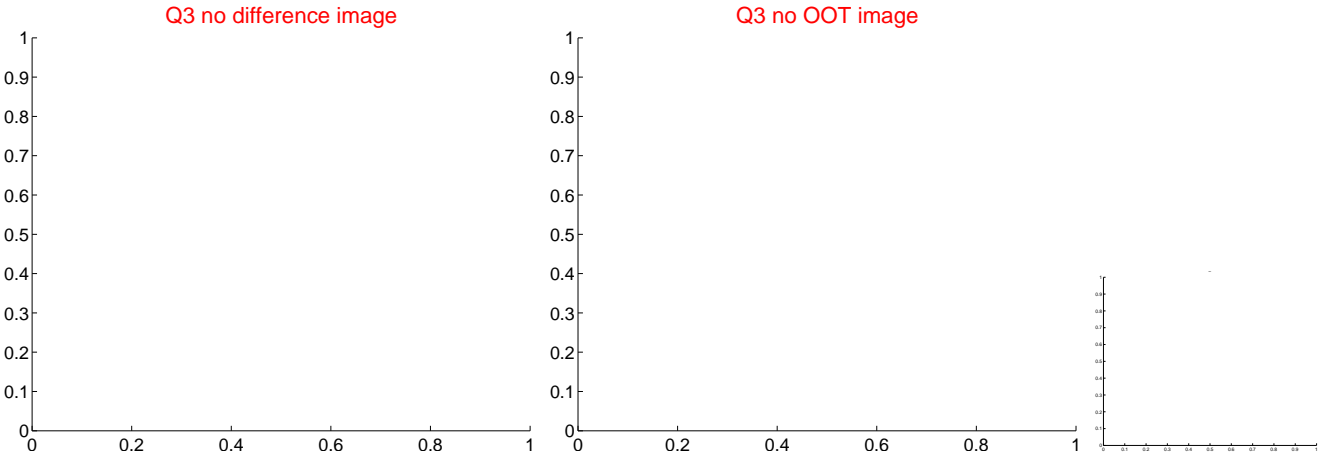
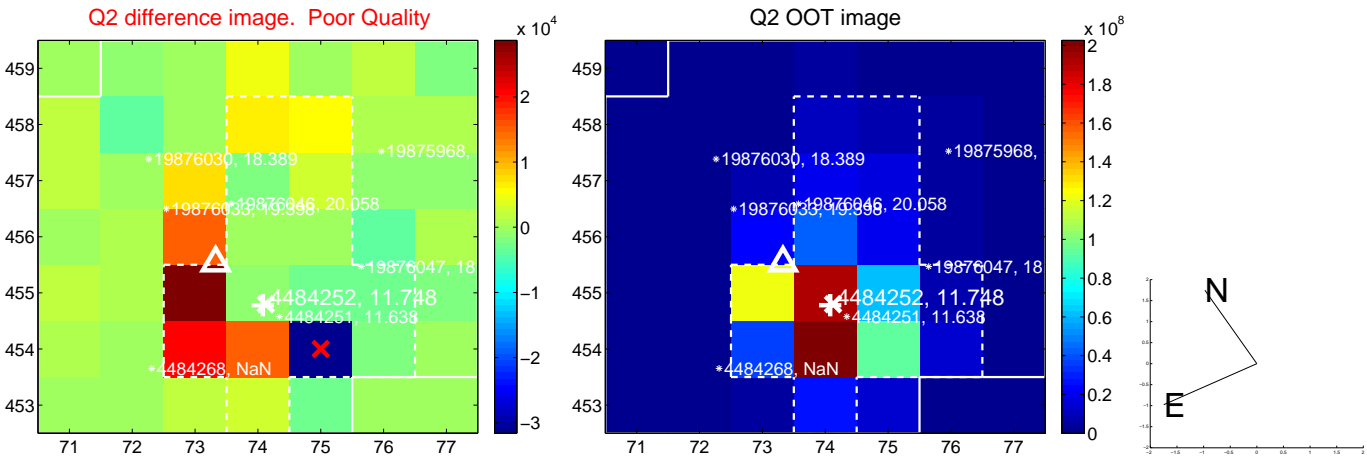
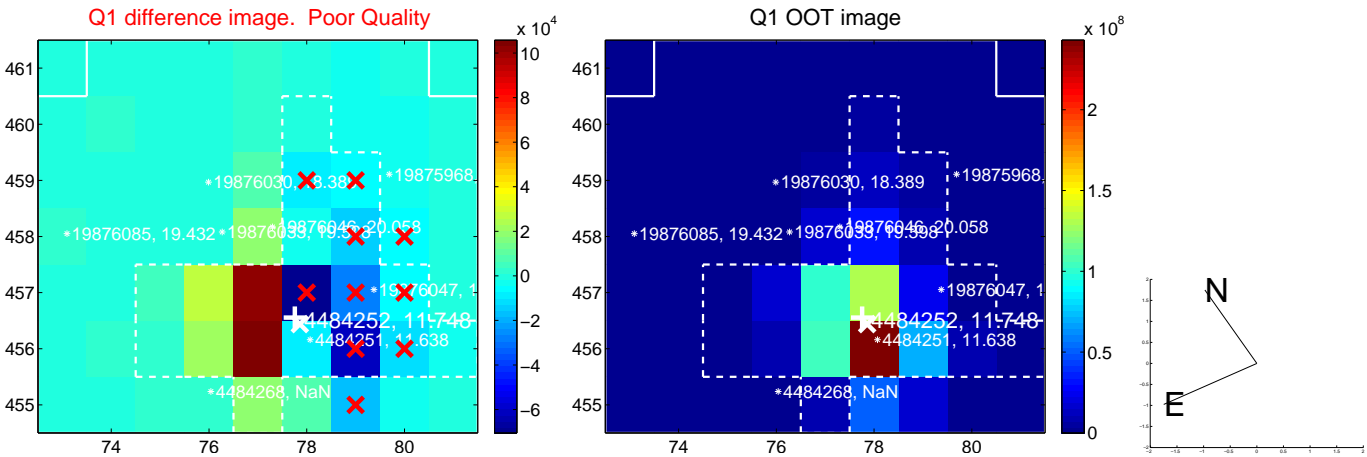
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.966 ± 2.719	0.72	0.779 ± 3.532	1.805 ± 1.825
PRF-fit source offset from KIC position	2.190 ± 2.484	0.88	0.999 ± 3.043	1.949 ± 1.809
photometric centroid source offset	0.64 ± 0.90	0.71	0.33 ± 0.70	0.55 ± 0.96

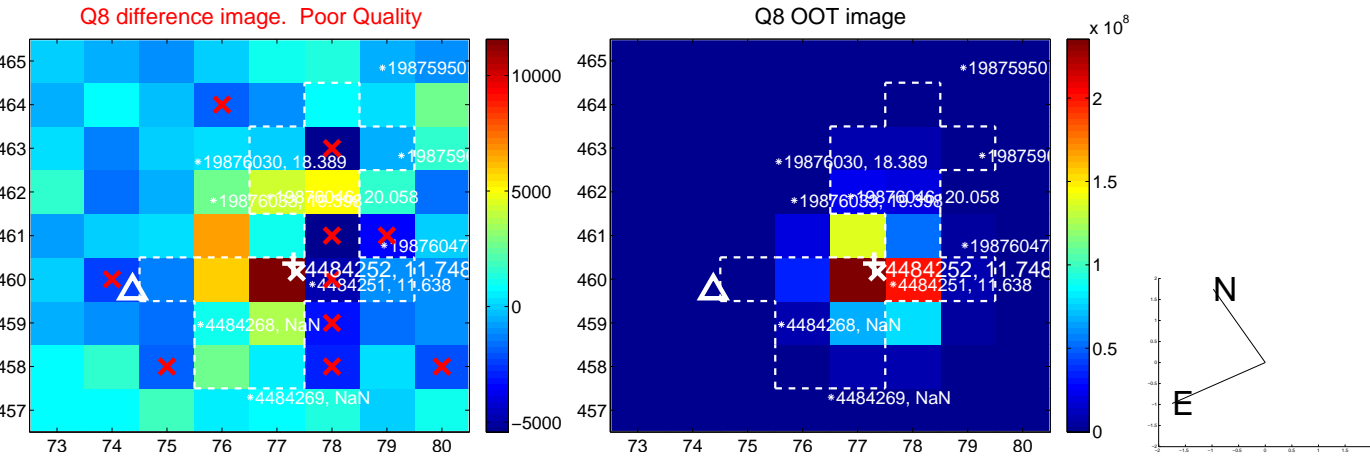
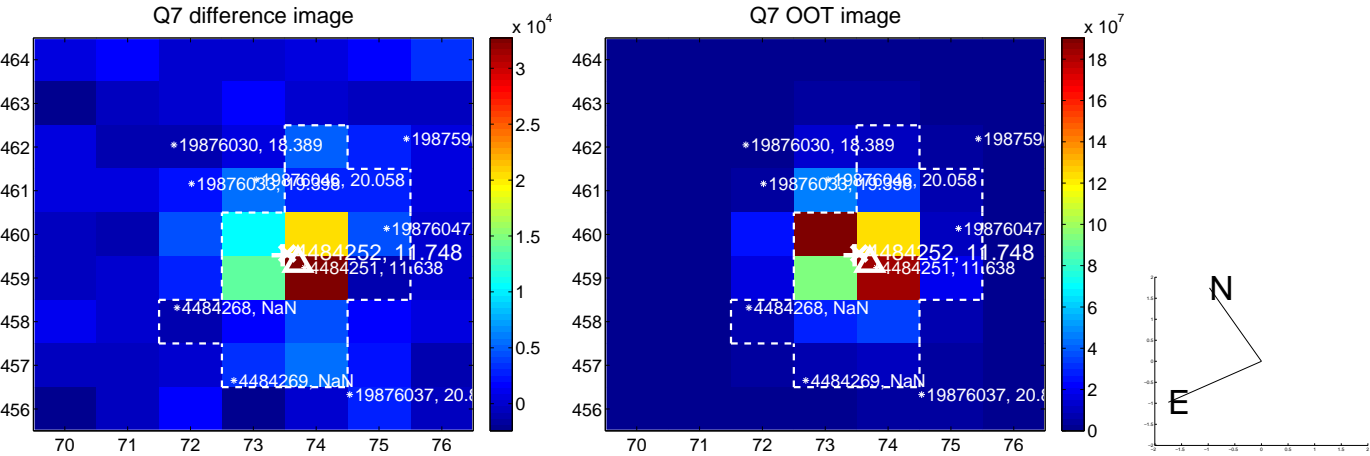
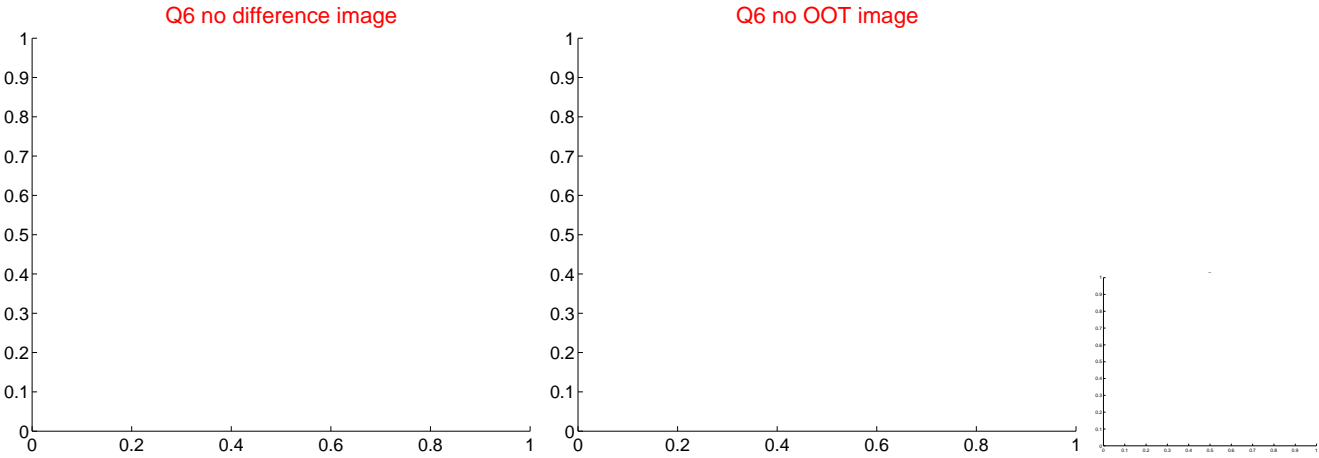
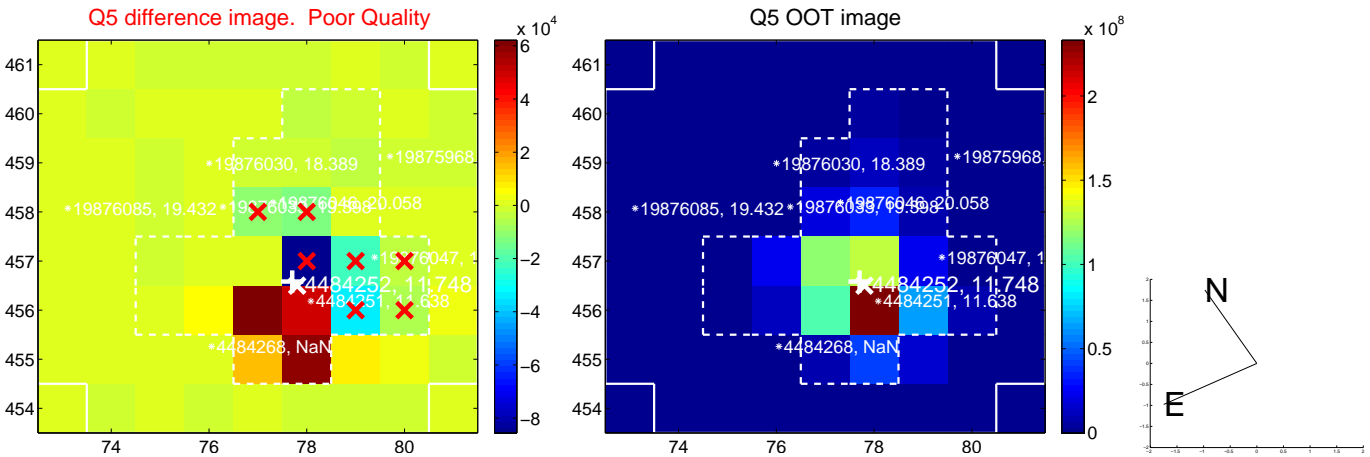


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

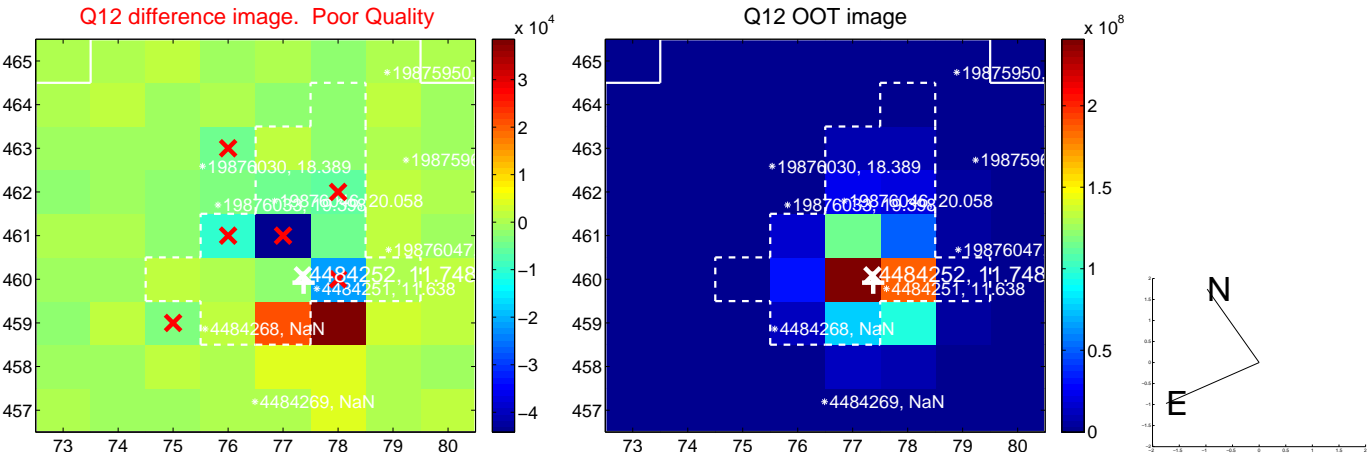
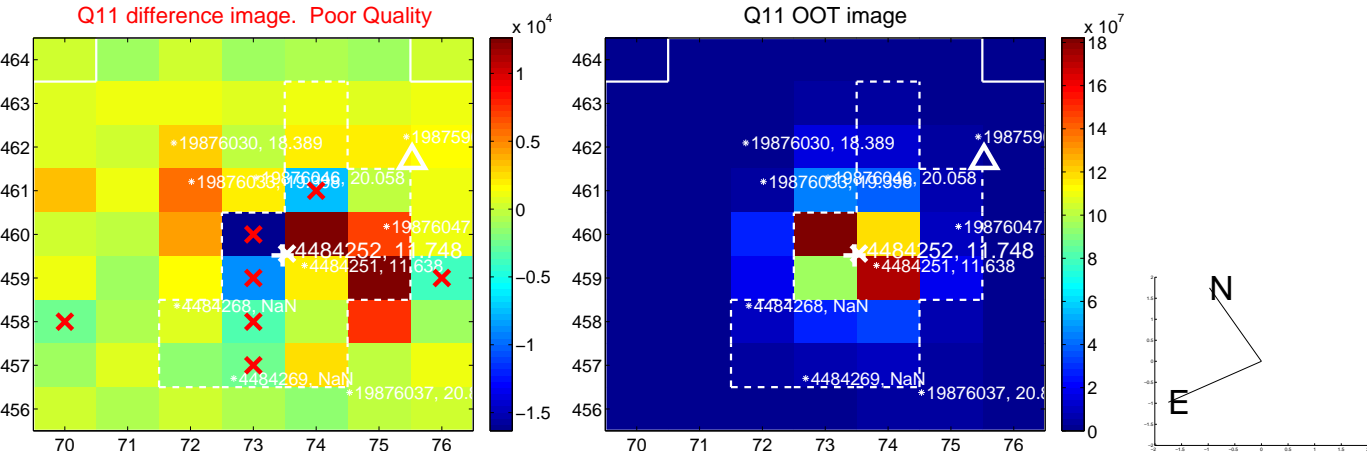
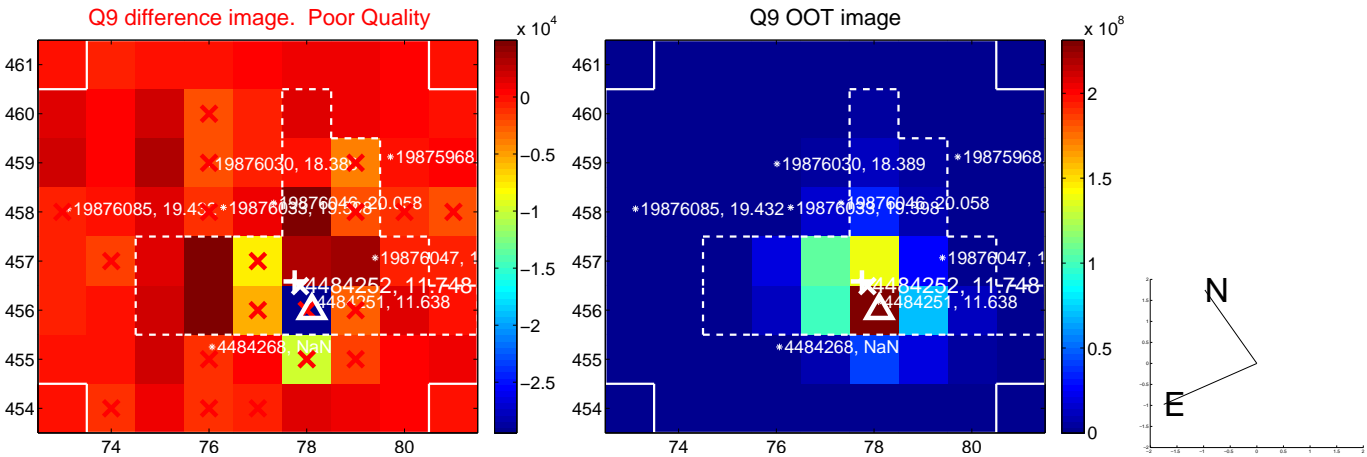
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



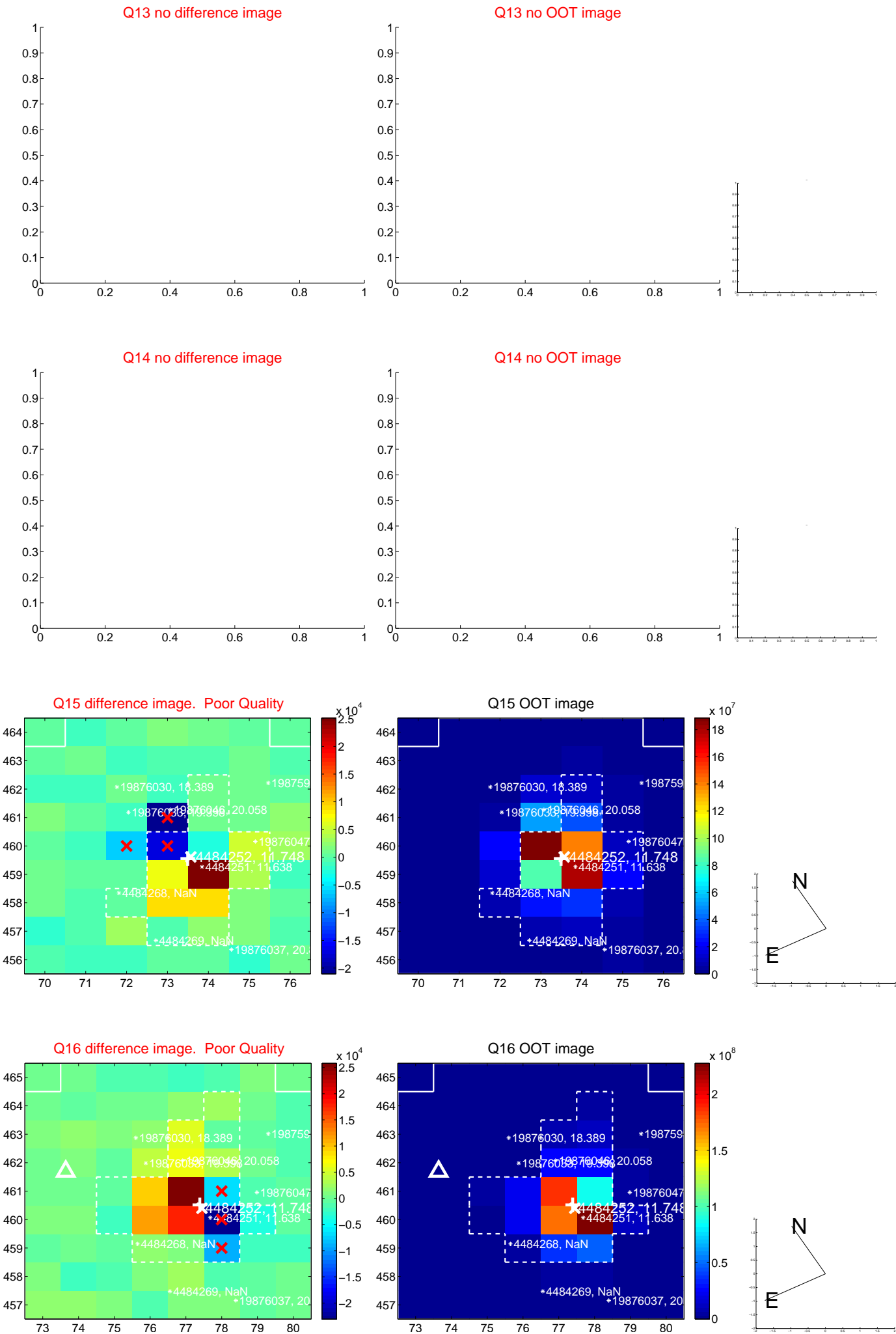
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



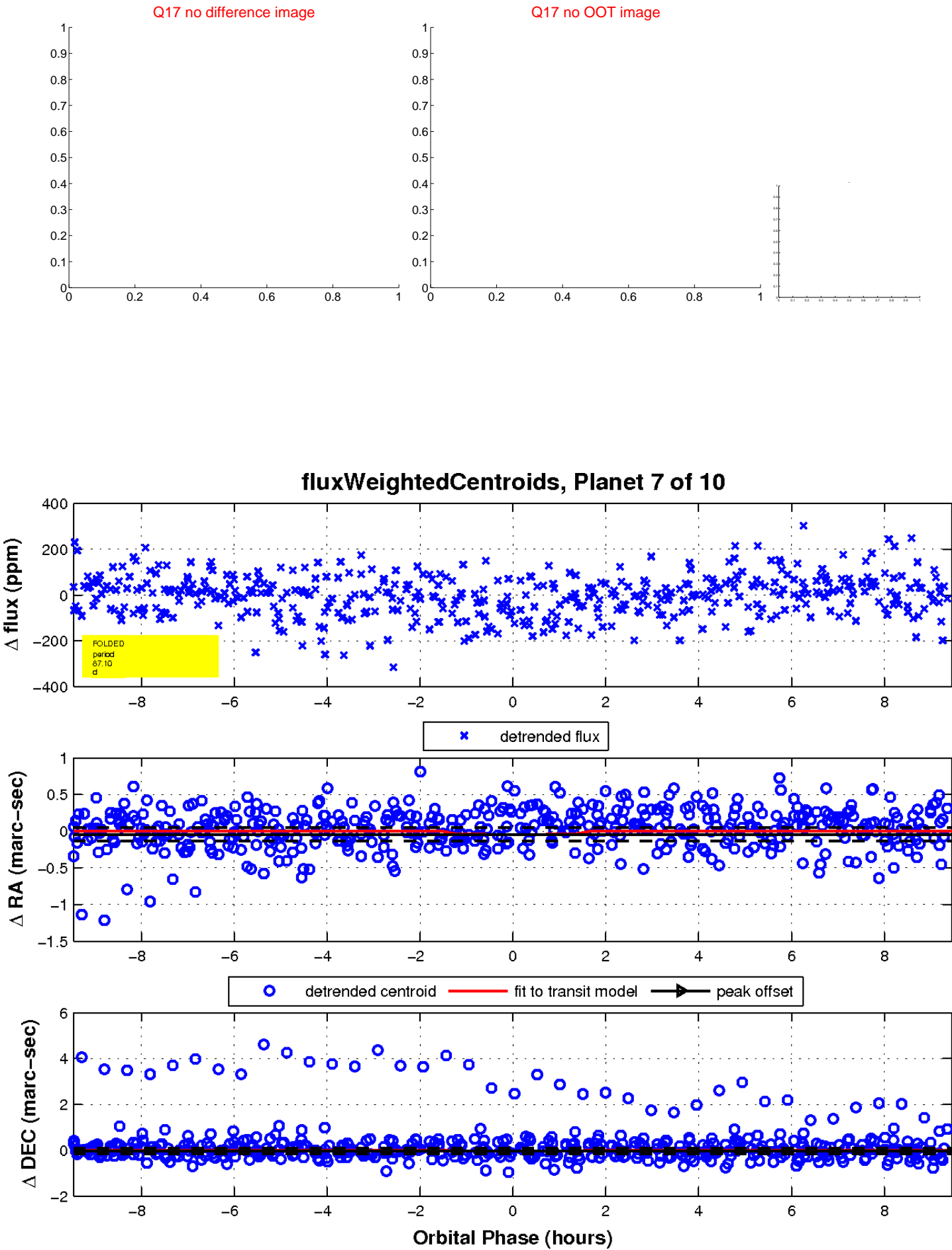
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

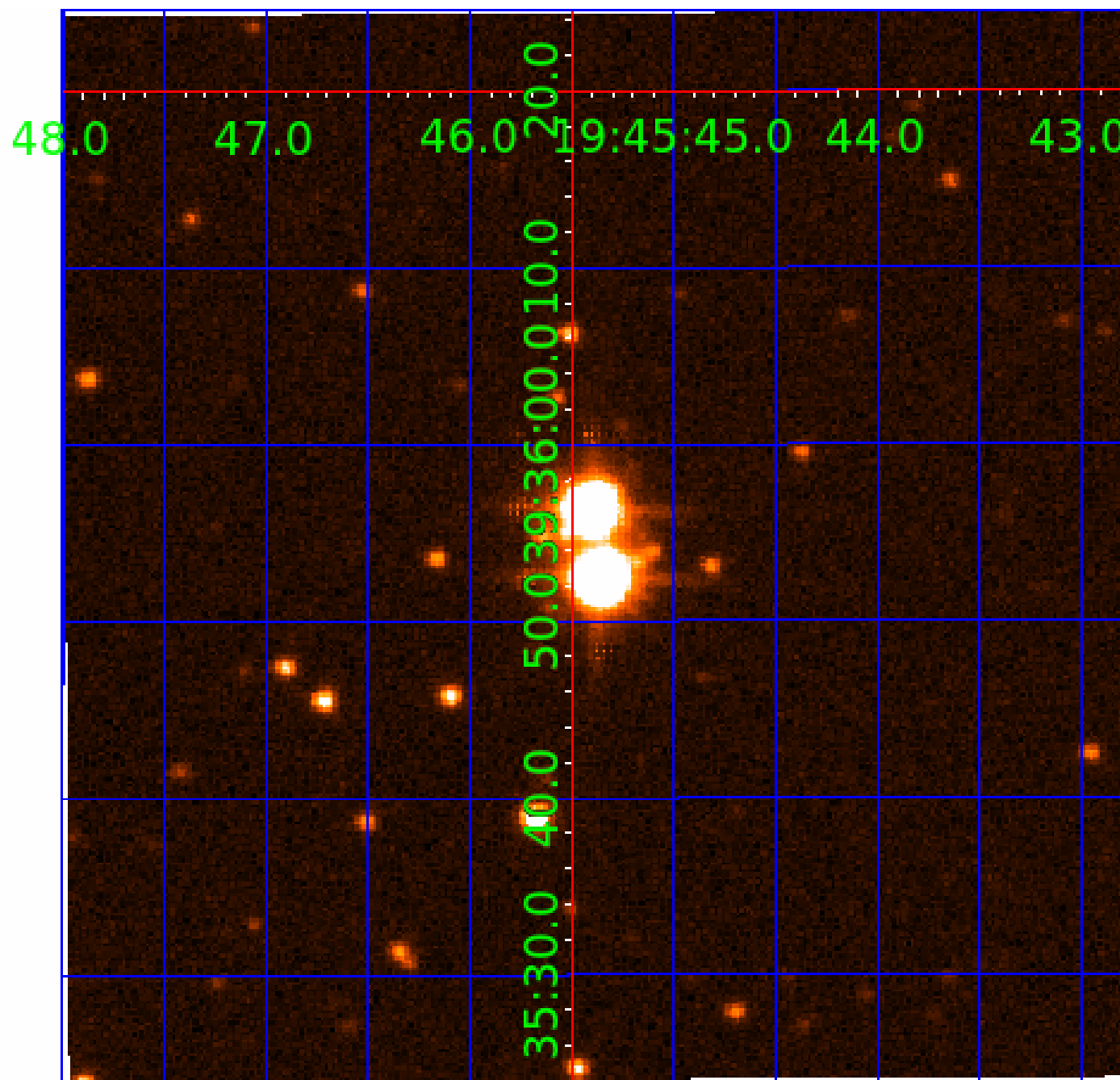


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004484252

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})
004484252-01	OBS	No	1.927818	133.351635	11.8	11.489	10.9	6.7	1.72	6753	0.59	4756.71
004484252-02	OBS	No	175.990163	189.884706	223.9	14.427	14.0	11.1	1.72	6753	2.76	11.57
004484252-04	OBS	No	90.798942	134.165001	119.7	13.399	9.8	8.8	1.72	6753	2.01	27.96
004484252-05	OBS	No	36.978026	168.370439	108.7	3.009	9.6	8.7	1.72	6753	2.03	92.64
004484252-07	OBS	No	87.102783	147.460088	131.8	3.156	8.7	8.4	1.72	6753	2.31	29.56
004484252-08	OBS	No	181.749444	155.783439	184.9	7.745	8.9	9.2	1.72	6753	2.42	11.09
004484252-09	OBS	No	20.138949	143.389767	67.0	5.518	8.8	7.5	1.72	6753	1.53	208.29
004484252-10	OBS	No	53.113455	167.407001	144.7	4.153	8.5	9.1	1.72	6753	2.32	57.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484252-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

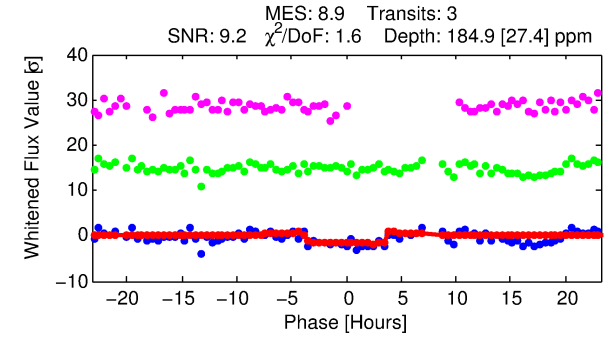
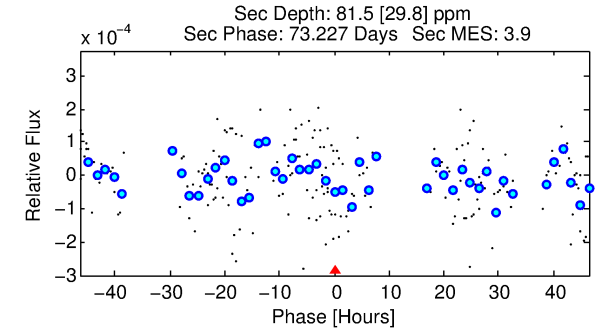
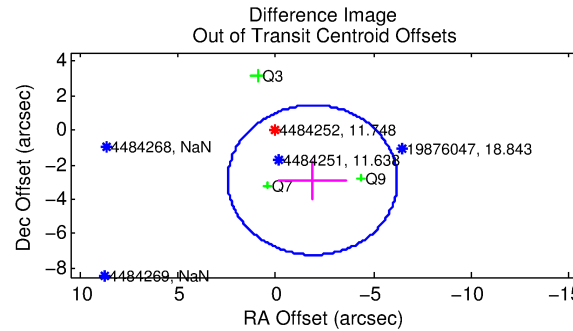
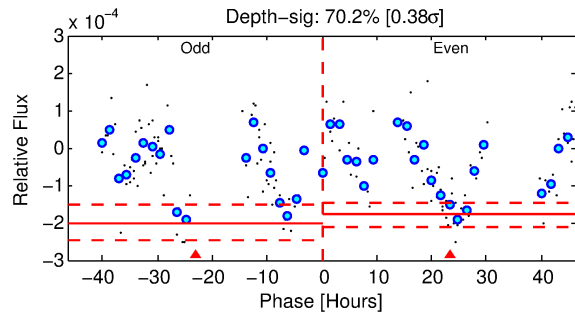
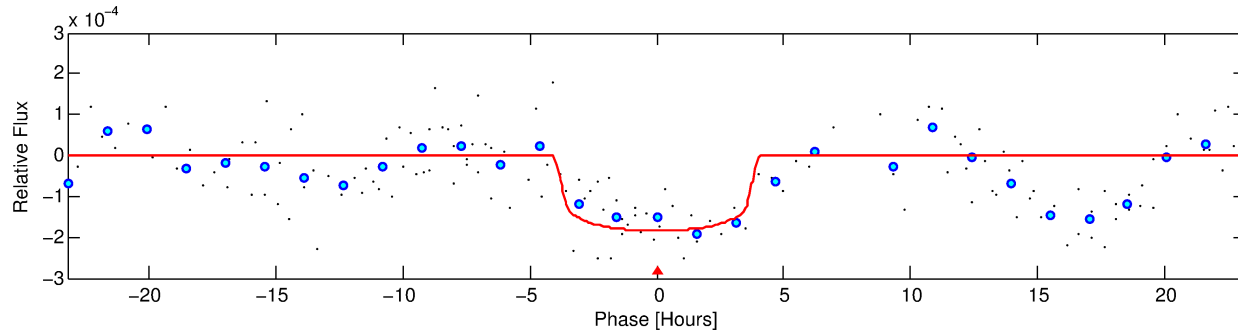
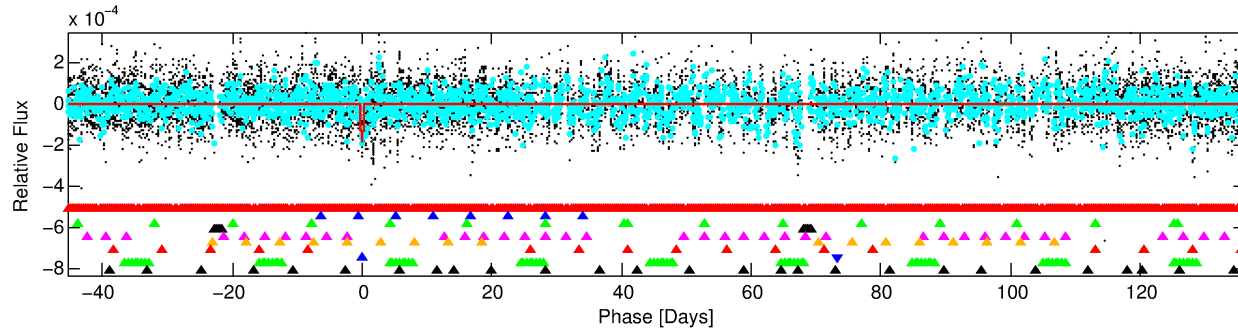
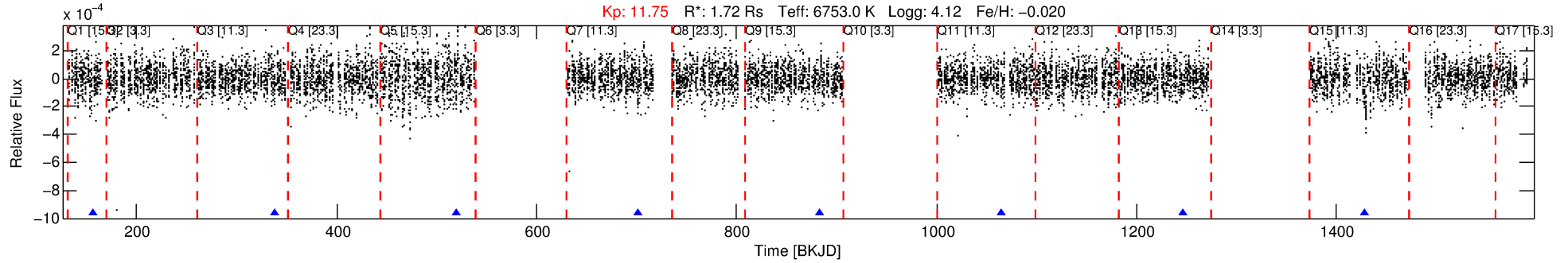
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-08

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 8 of 10 Period: 181.749 d



DV Fit Results:

Period = 181.74944 [0.00289] d
Epoch = 155.7834 [0.0118] BKJD
Rp/R* = 0.0129 [0.0110]
a/R* = 157.88 [739.34]
b = 0.50 [7.07]
Seff = 11.09 [4.16]
Teq = 465 [44] K
Rp = 2.41 [2.19] Re
a = 0.7039 [0.1720] AU
Ag = 3811.76 [6784.42] [0.56 σ]
Teffp = 5652 [2478] K [2.09 σ]

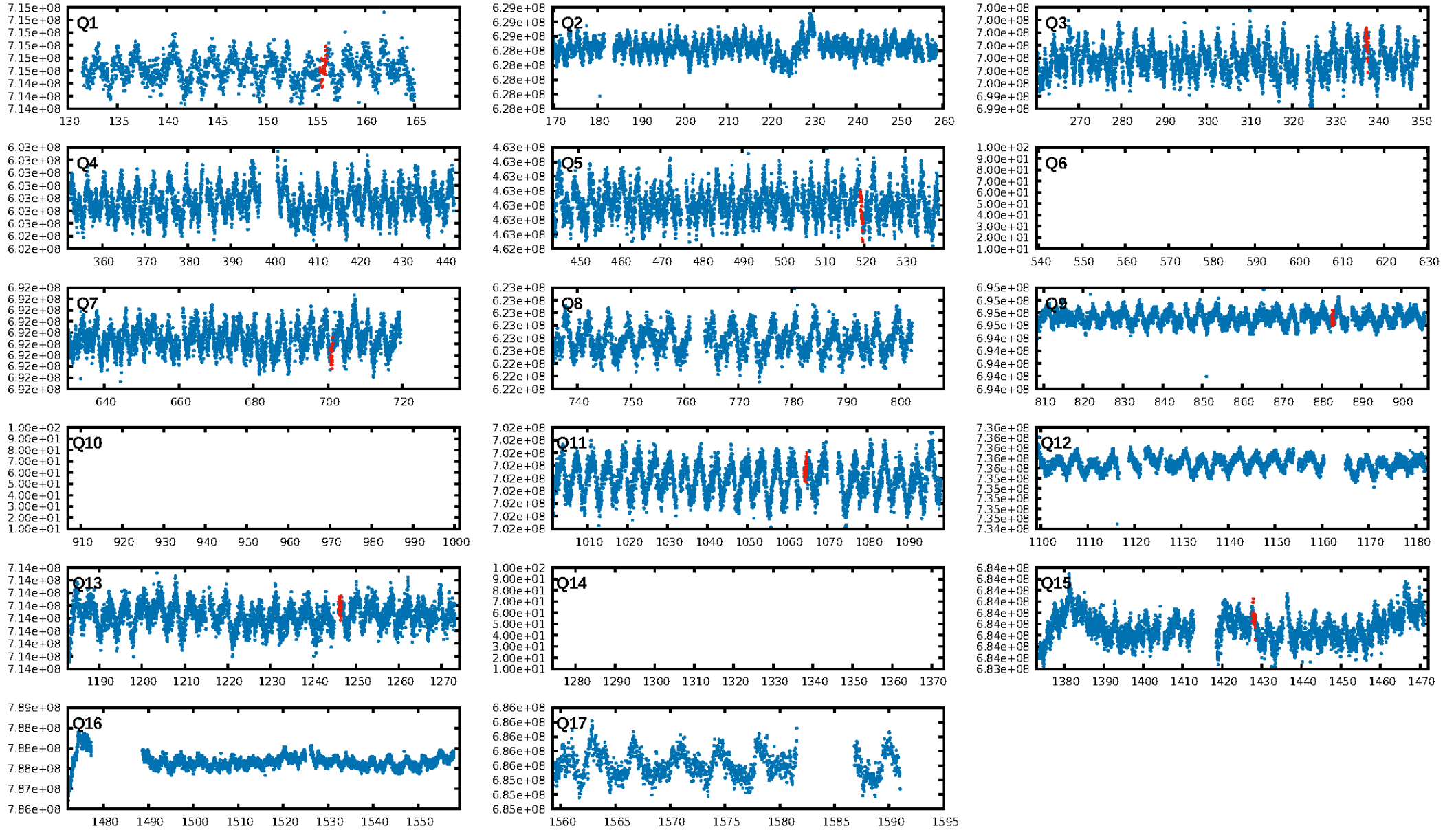
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.44 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 95.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.757
Centroid-sig: 1.7%
Centroid-so: 0.962 arcsec [1.83 σ]
OotOffset-rm: 3.455 arcsec [2.39 σ]
OotOffset-st: 0.2/0/1 [3]
KicOffset-rm: 2.638 arcsec [1.44 σ]
KicOffset-st: 0.2/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.17 [1/6]

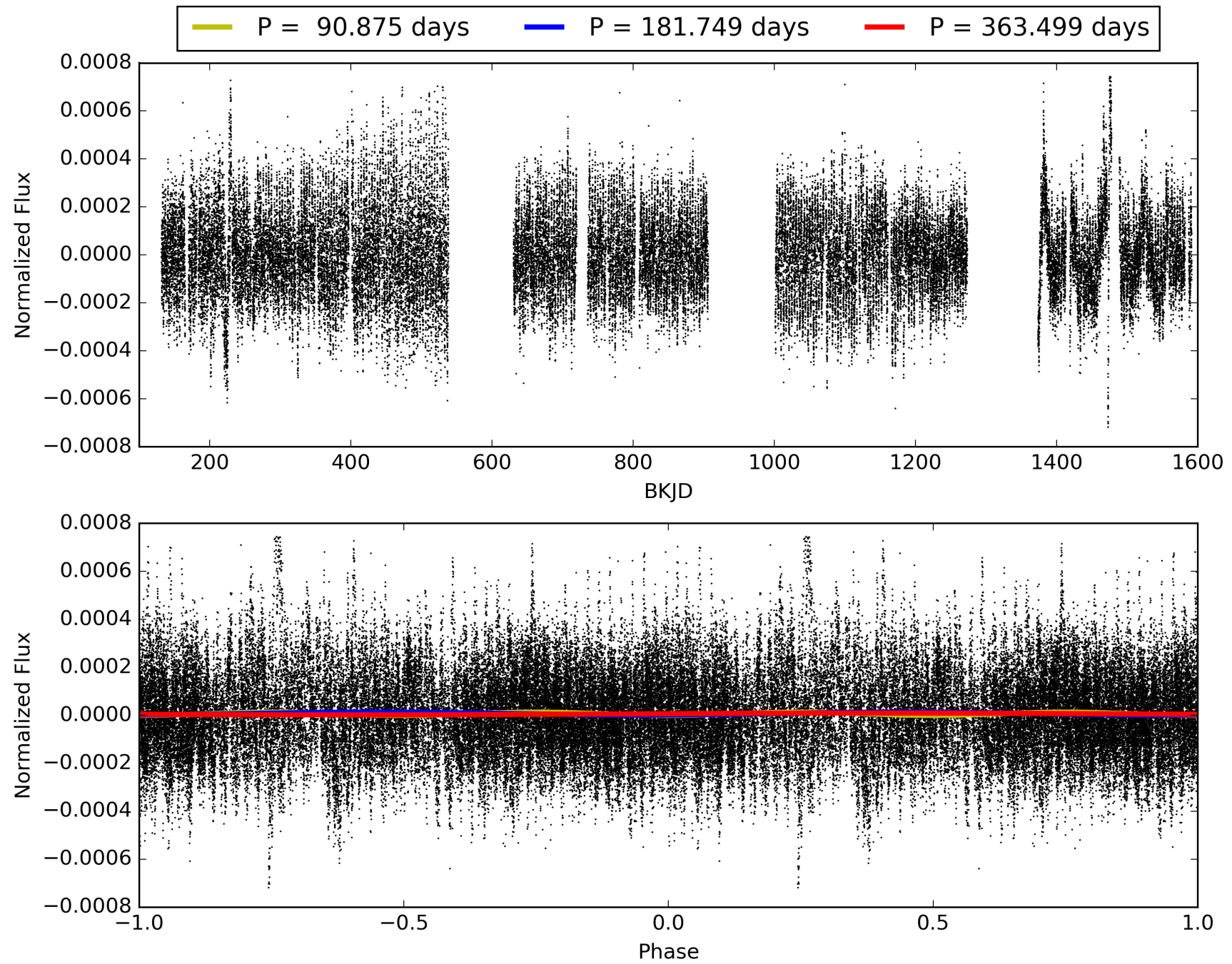
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:47:18 Z

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

TCE 004484252-08, PDC Light Curves

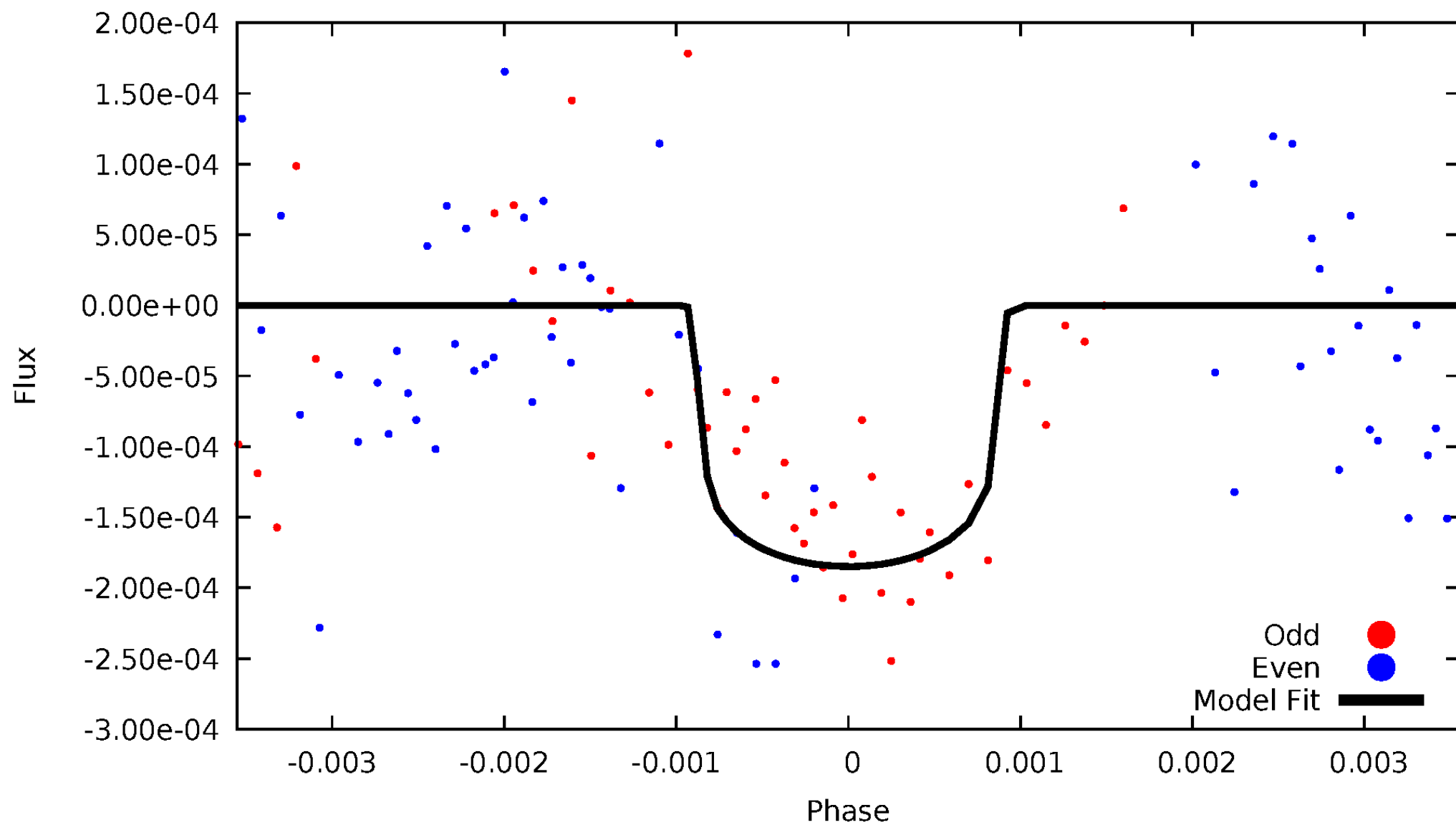


TCE 004484252-08



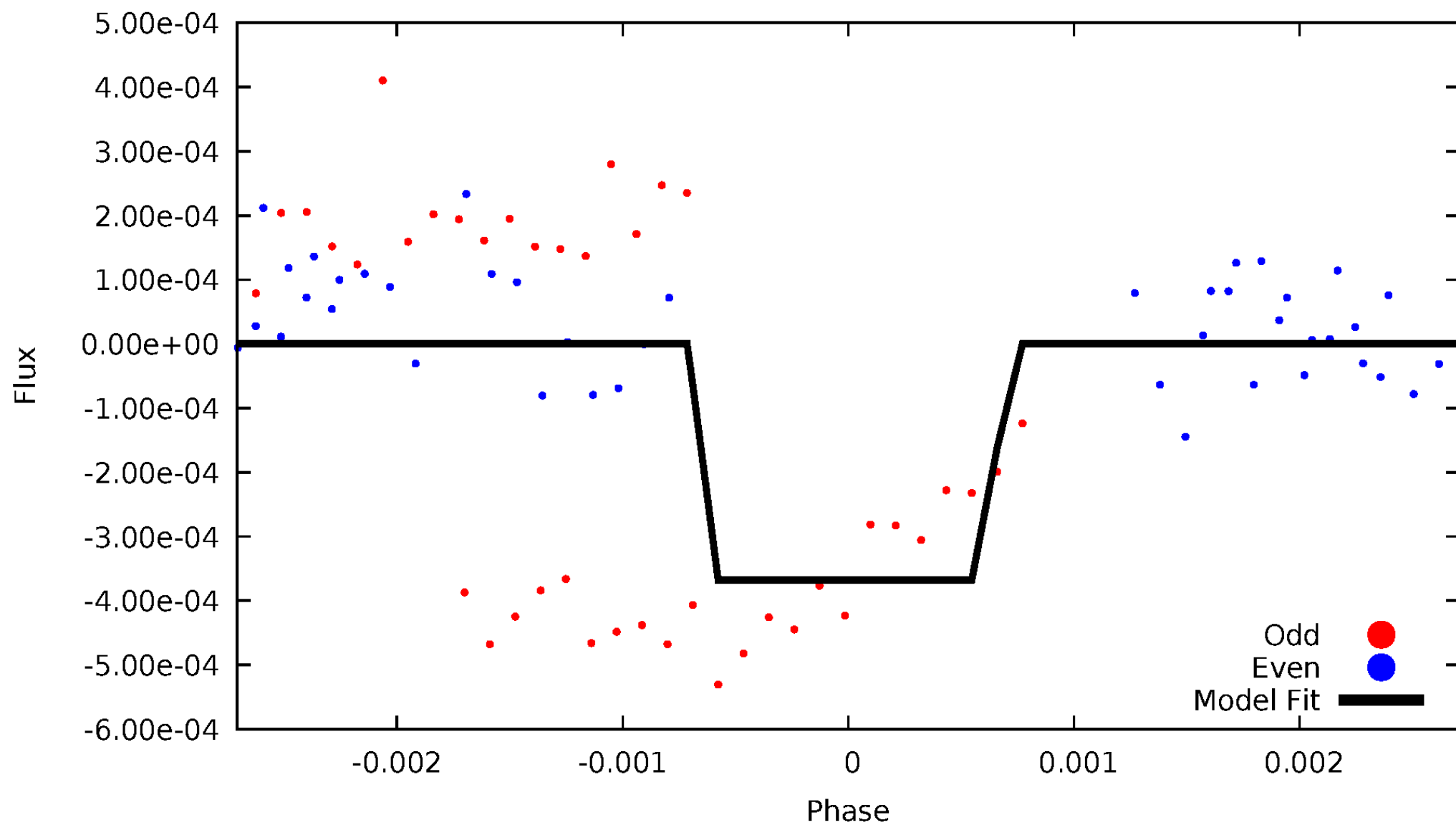
DV Odd/Even

TCE 004484252-08



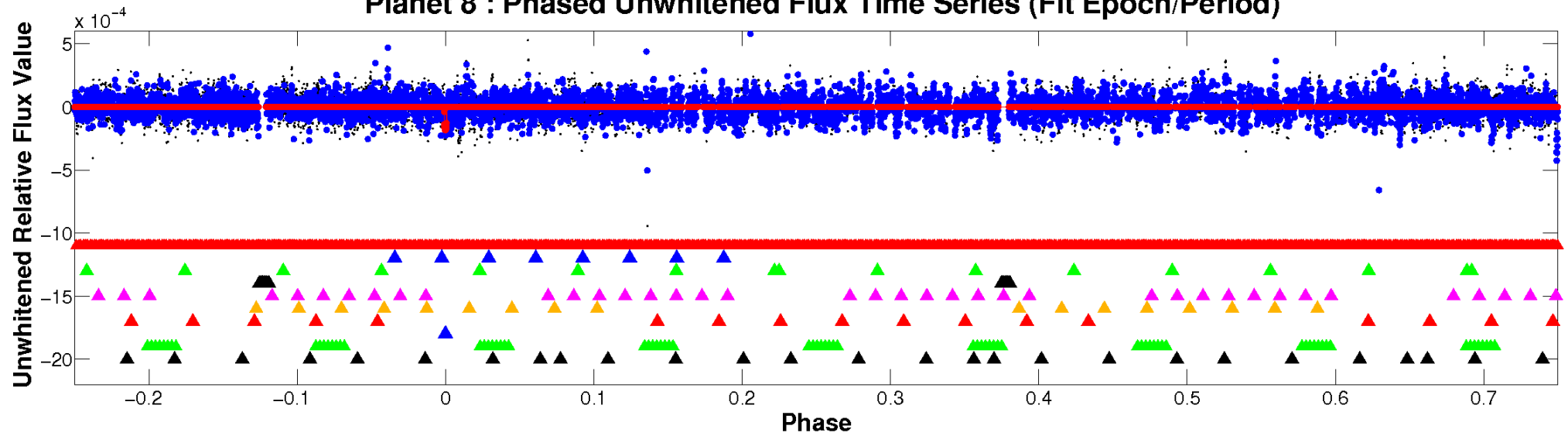
ALT Odd/Even

TCE 004484252-08

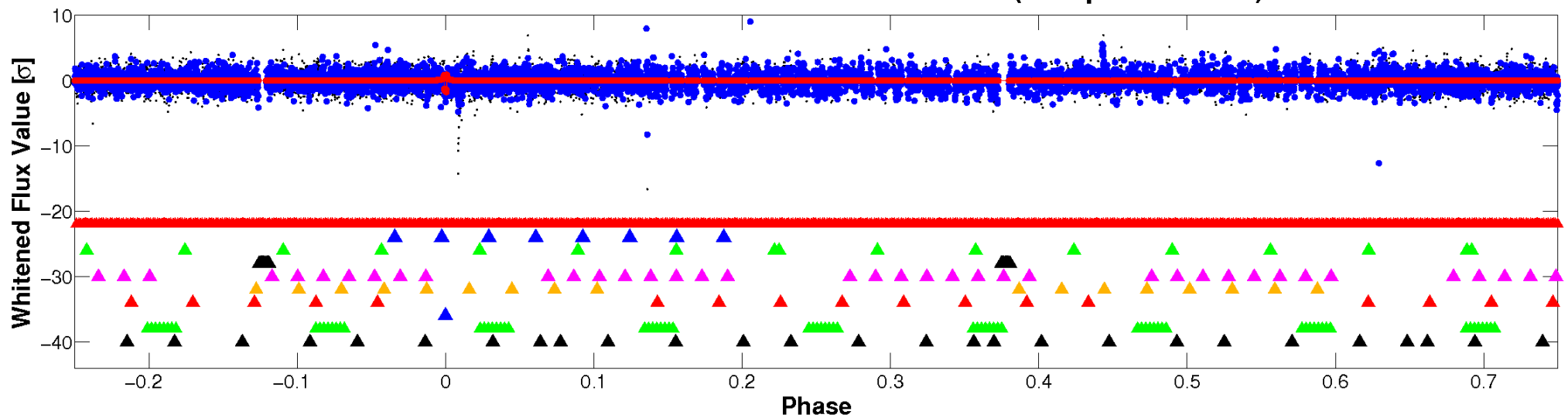


Non-Whitened Vs. Whitened Light Curve

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

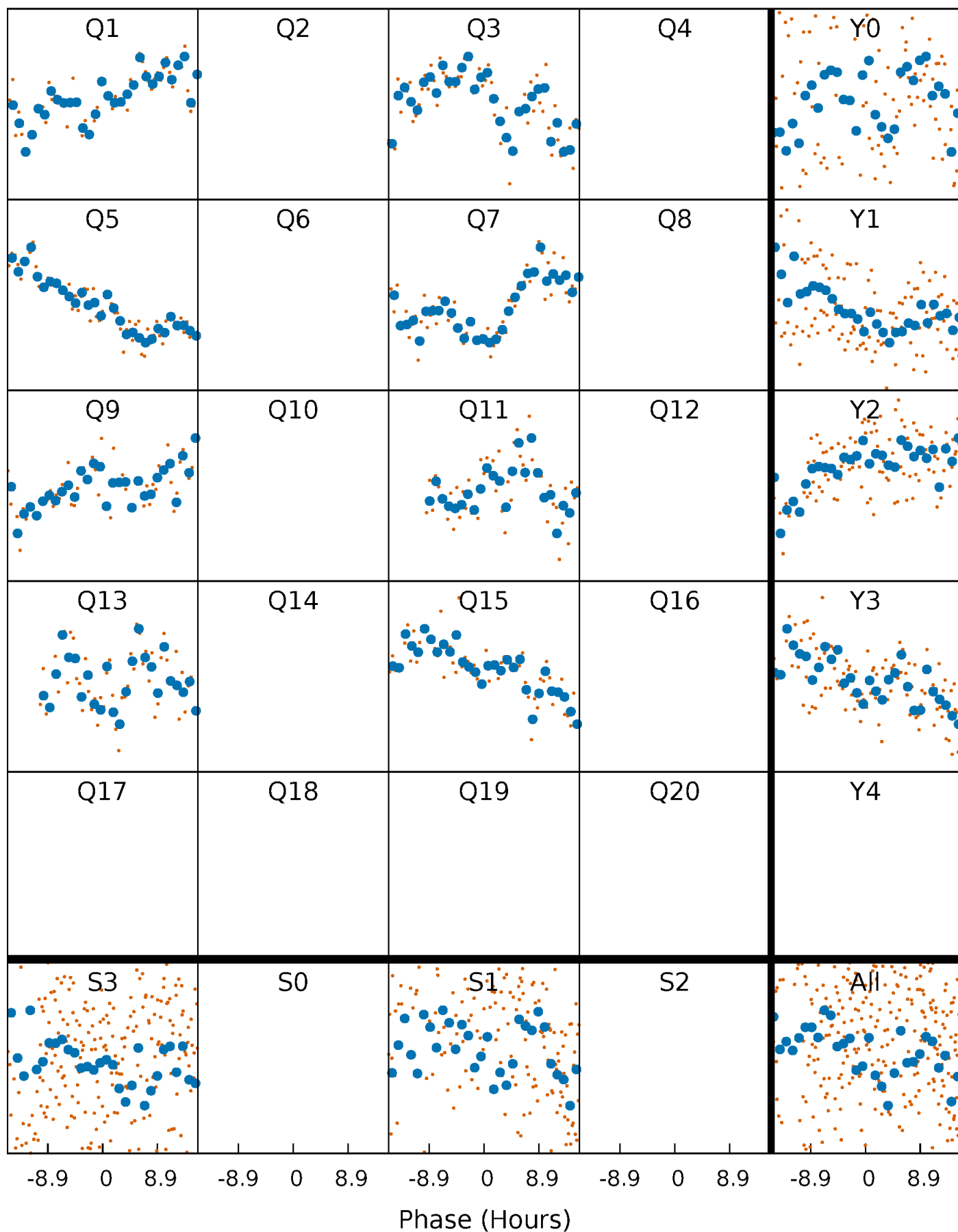


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



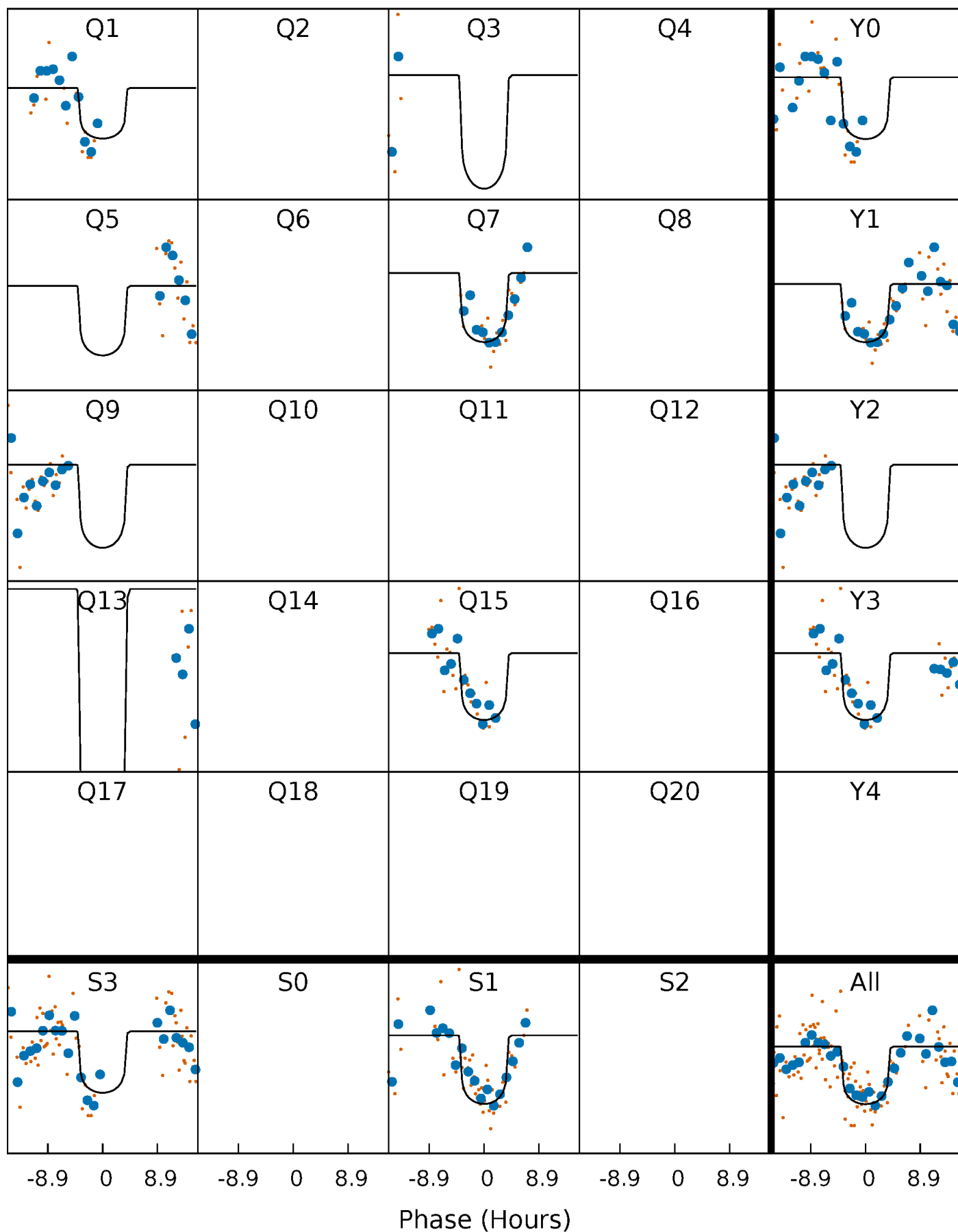
PDC Quarter-Phased Transit Curves

TCE 004484252-08 $P=181.749444$ Days $T_0=155.783439$ (BKJD)



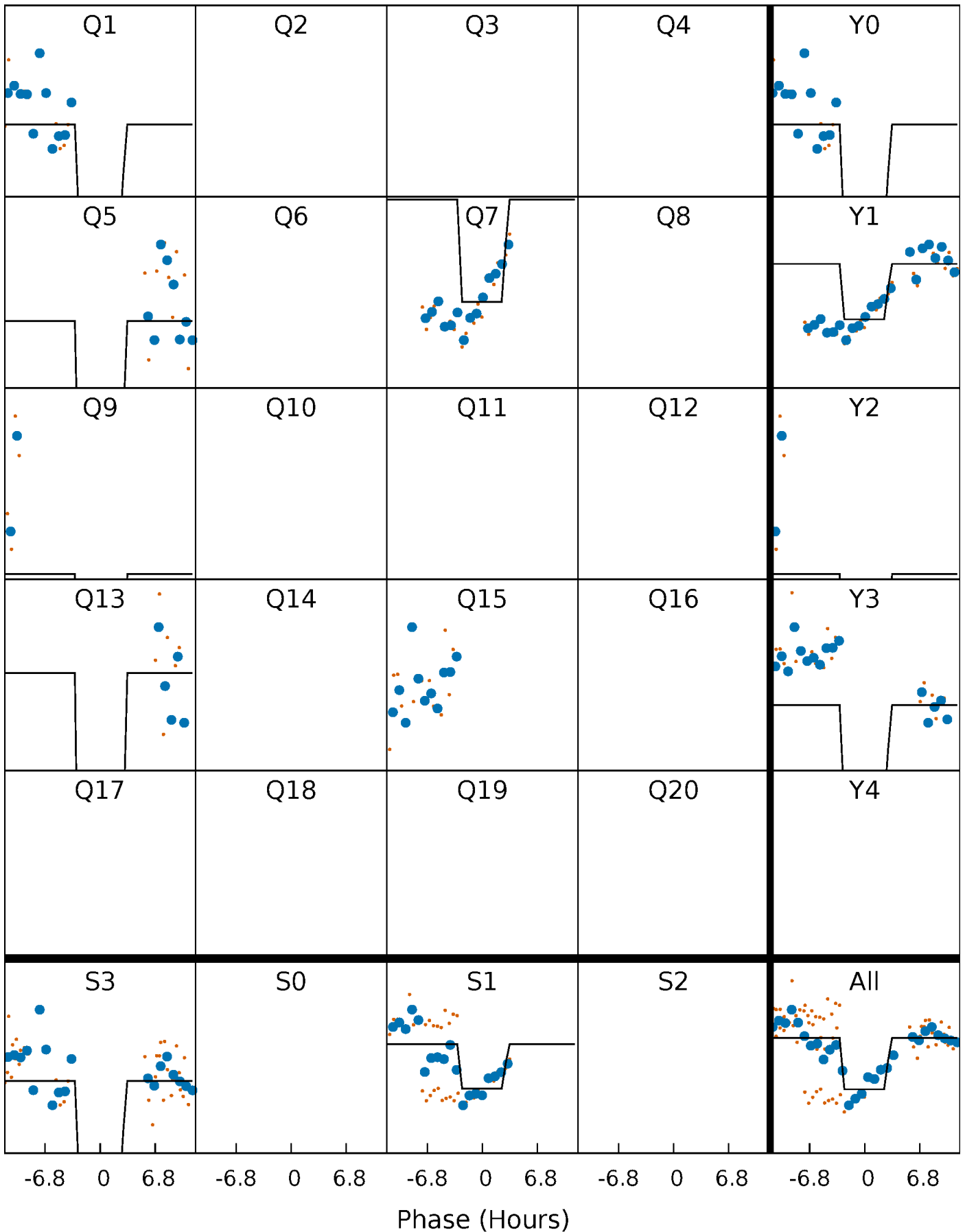
DV Quarter-Phased Transit Curves

TCE 004484252-08 $P=181.749444$ Days $T_0=155.783439$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

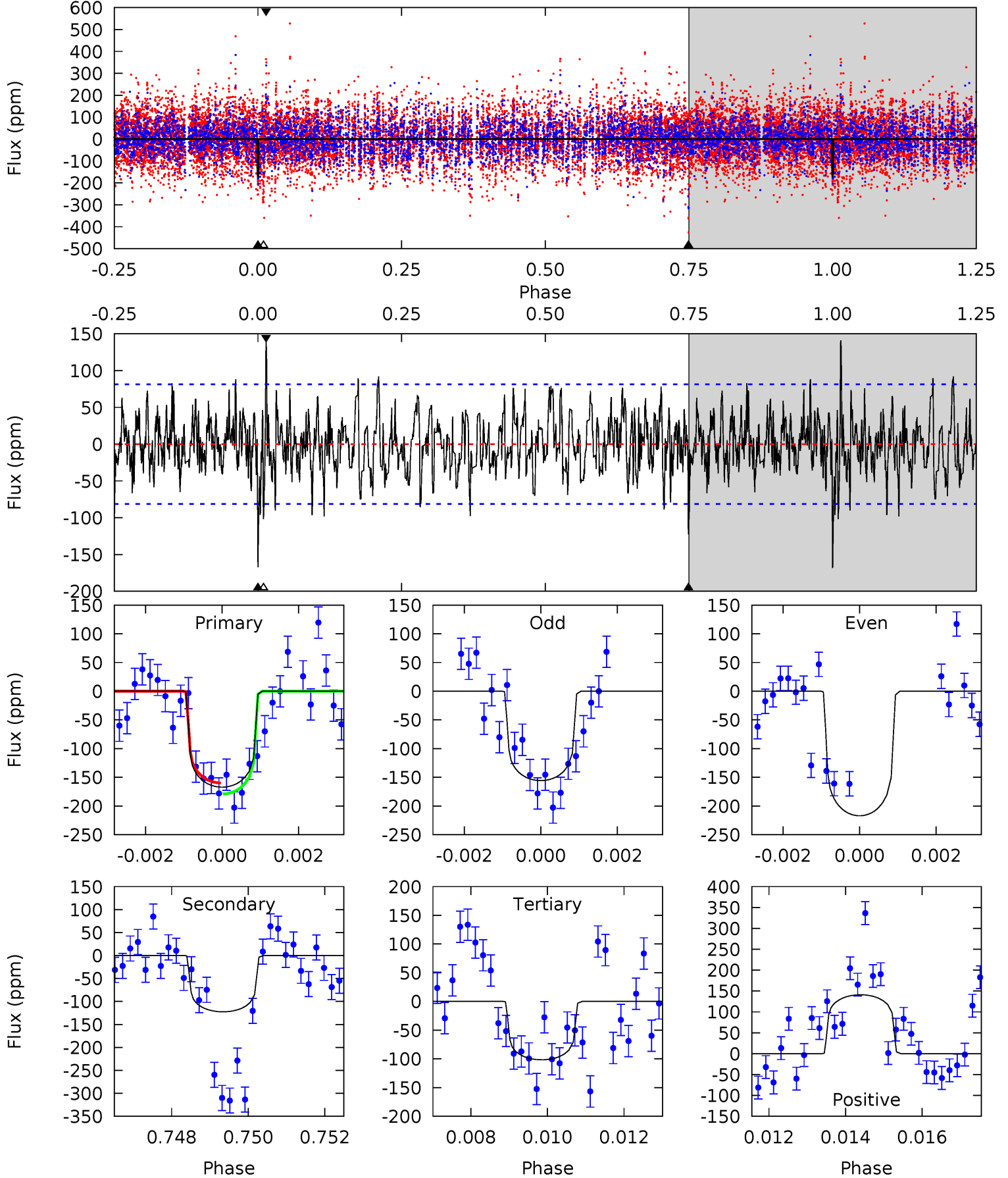
TCE 004484252-08 P=181.763327 Days $T_0=155.891891$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-08, P = 181.749444 Days, E = 155.783439 Days

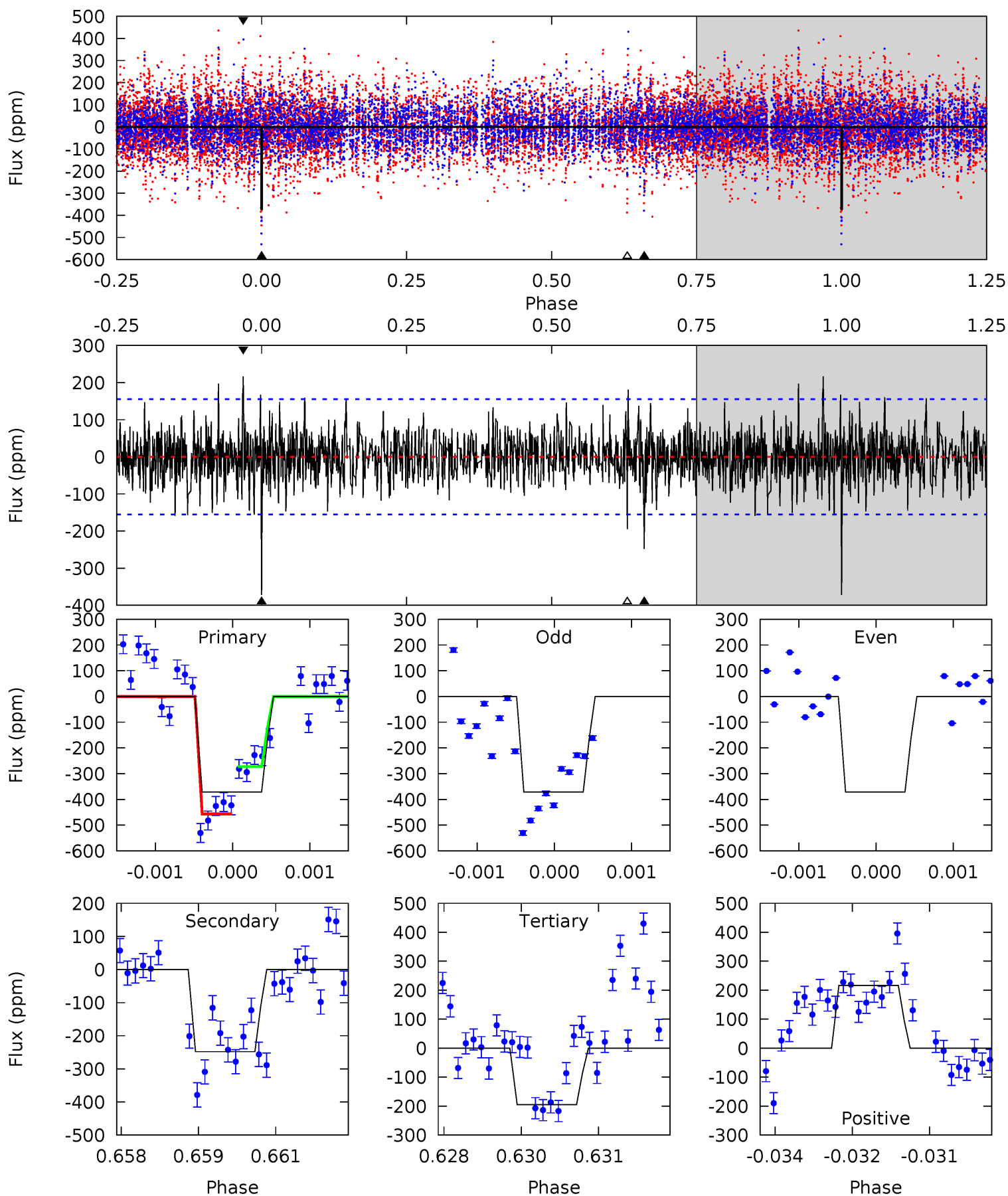
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	8.03	6.66	9.24	5.33	3.10	2.13	4.30	1.72	1.37	-1.21	1.55	1.10	0.46	0.59



Alt Model-Shift Uniqueness Test

004484252-08, P = 181.763327 Days, E = 155.891891 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	8.58	6.74	7.50	5.38	3.18	1.63	6.12	5.36	1.84	1.08	0	1.00	0.37	3.18



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-122 ± 15	$2.65^{+2.00}_{-1.60}$	648^{+52}_{-48}	5889^{+4198}_{-1252}	4904^{+22962}_{-3355}
Alt.	-248 ± 29	$3.57^{+2.06}_{-1.92}$	649^{+46}_{-46}	6048^{+3321}_{-1110}	5195^{+18304}_{-3166}

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 $A_{obs} \gg 1.0$

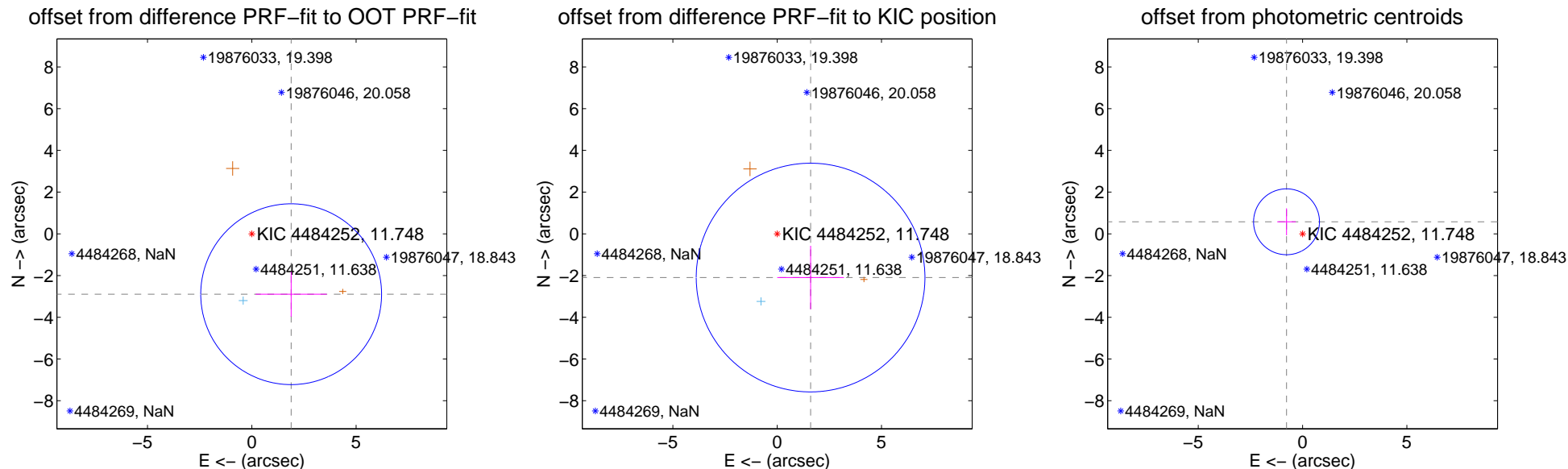
DV Centroid Data

Supplemental centroid analysis for 004484252-08. **Kepler magnitude: 11.75.** Transit SNR 9.18

There are 1 quarters with good PRF difference image offsets

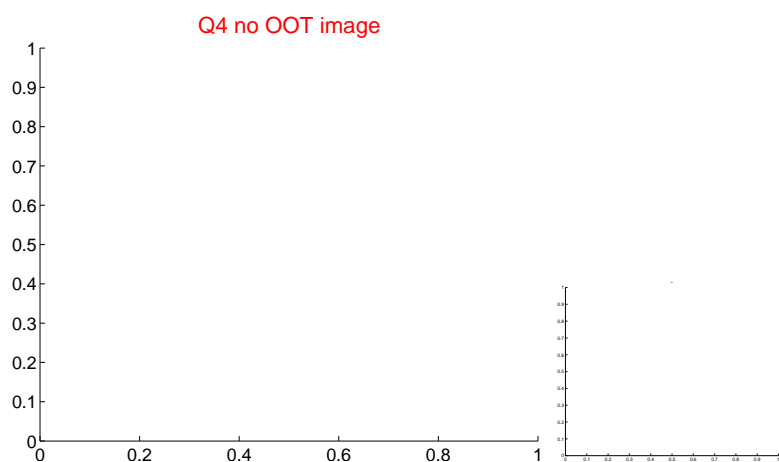
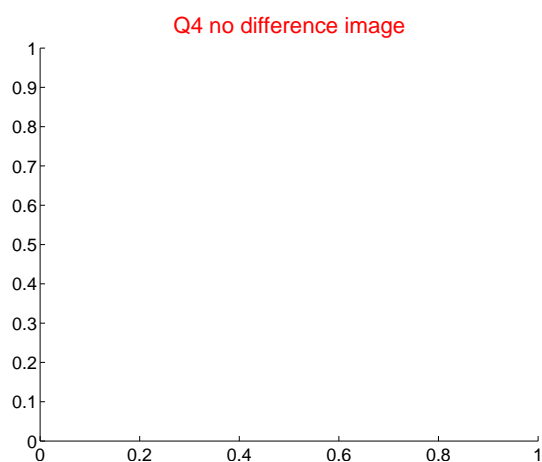
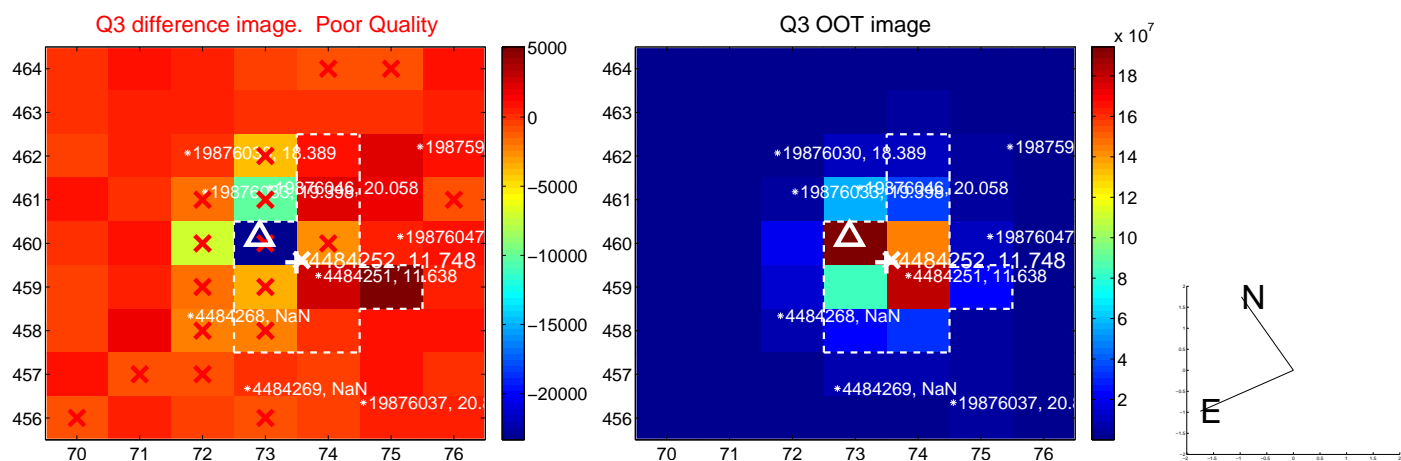
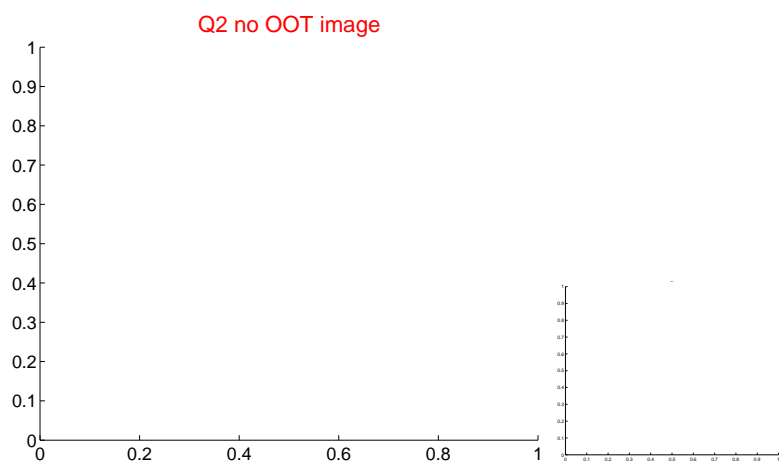
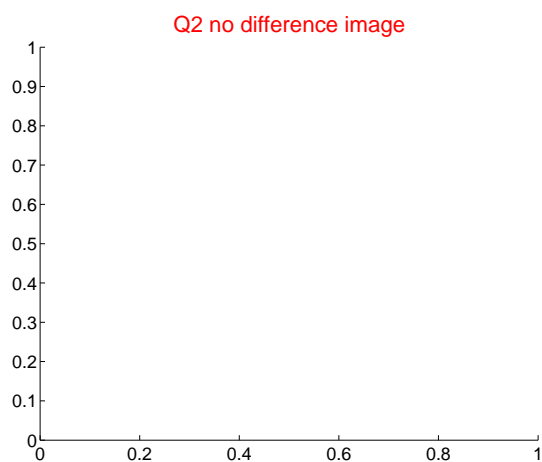
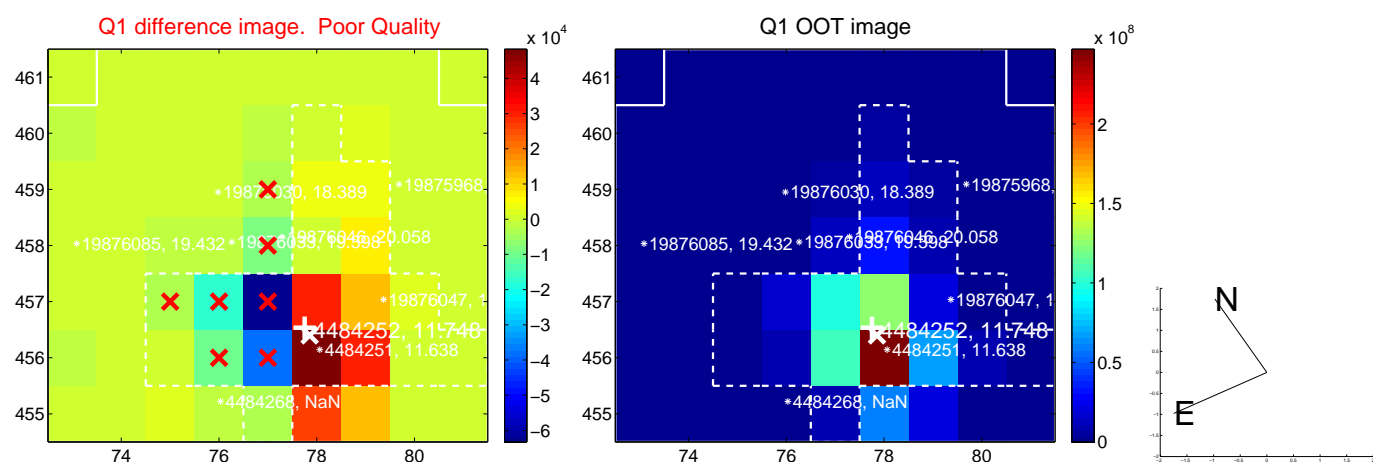
The direct PRF centroid is offset from the target star catalog position by about 0.61 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.455 ± 1.445	2.39	-1.887 ± 1.709	-2.894 ± 1.075
PRF-fit source offset from KIC position	2.638 ± 1.827	1.44	-1.601 ± 1.601	-2.096 ± 1.522
photometric centroid source offset	0.96 ± 0.53	1.83	0.77 ± 0.45	0.58 ± 0.65

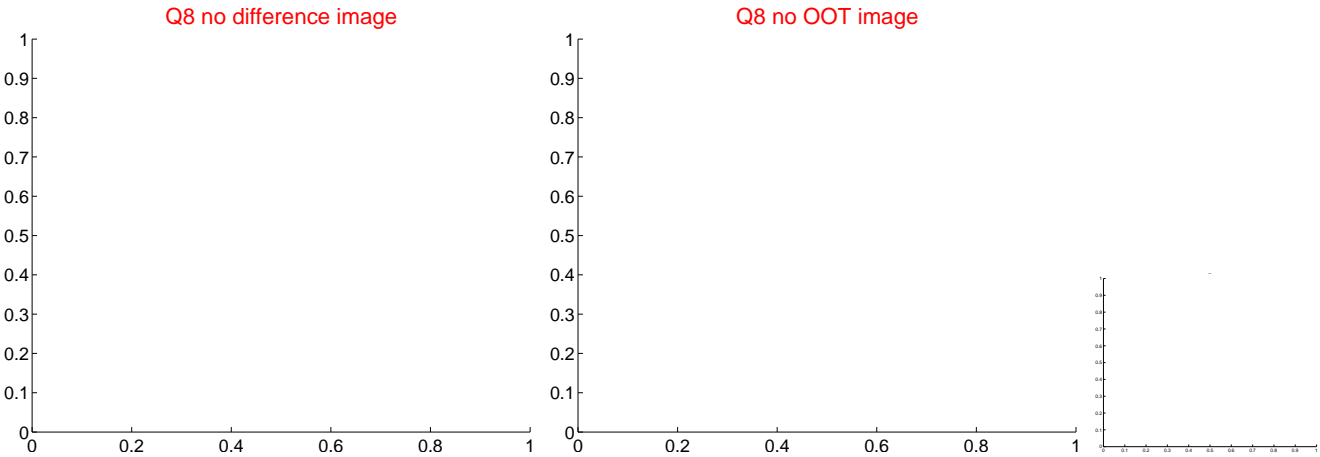
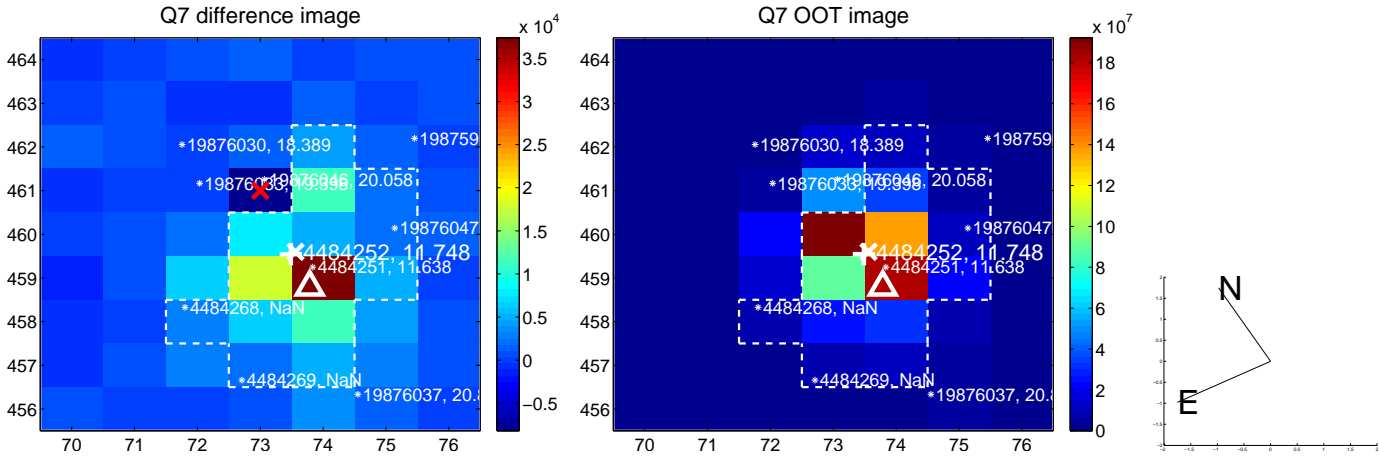
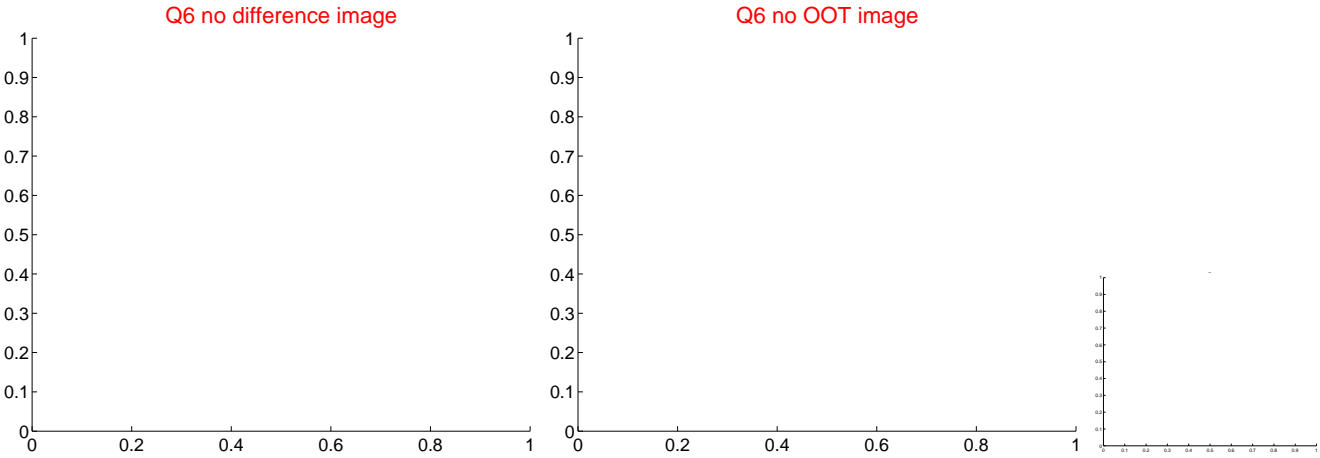
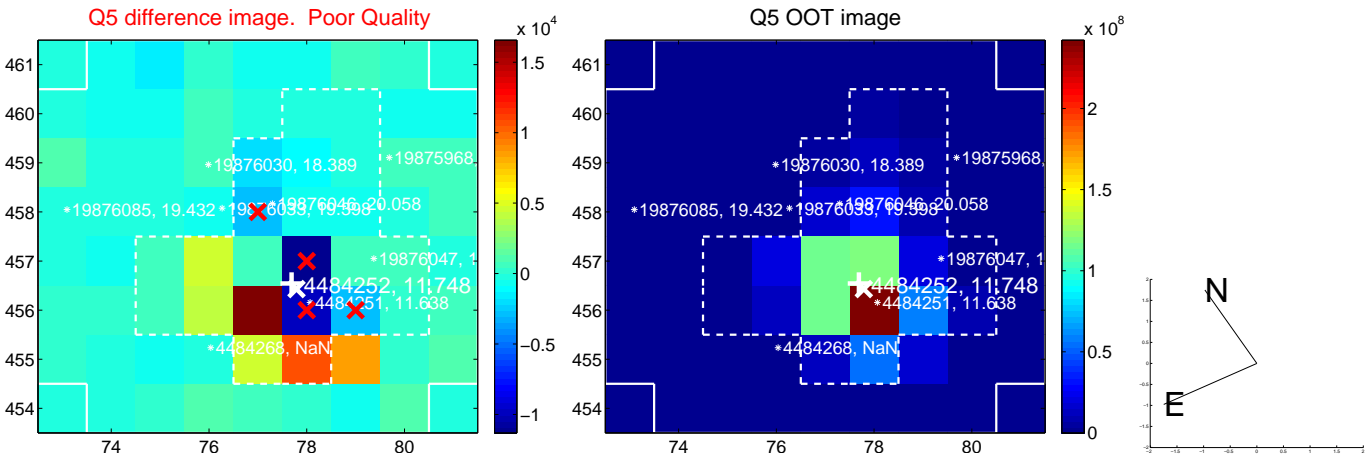


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

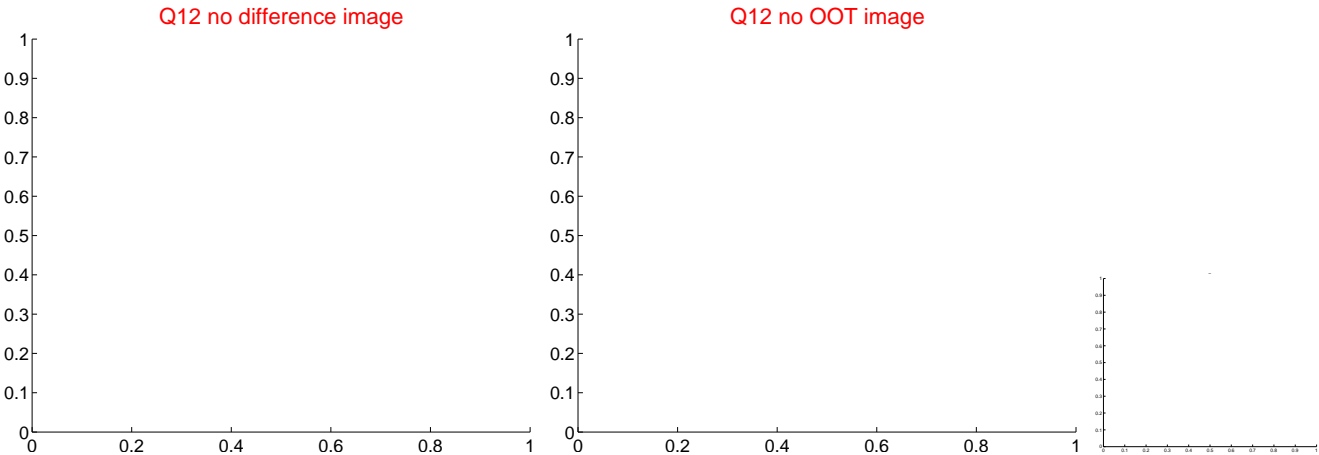
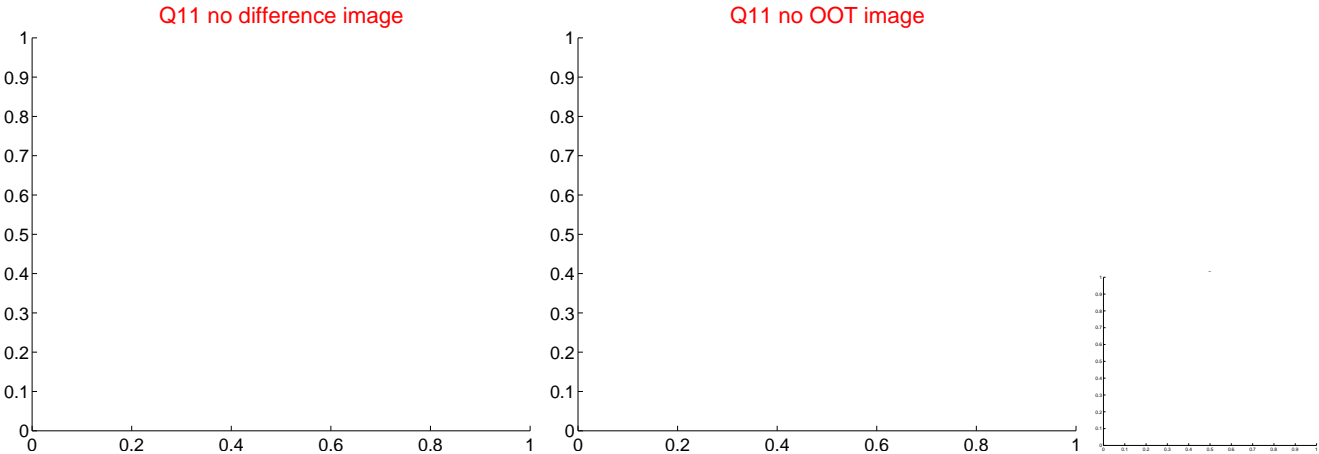
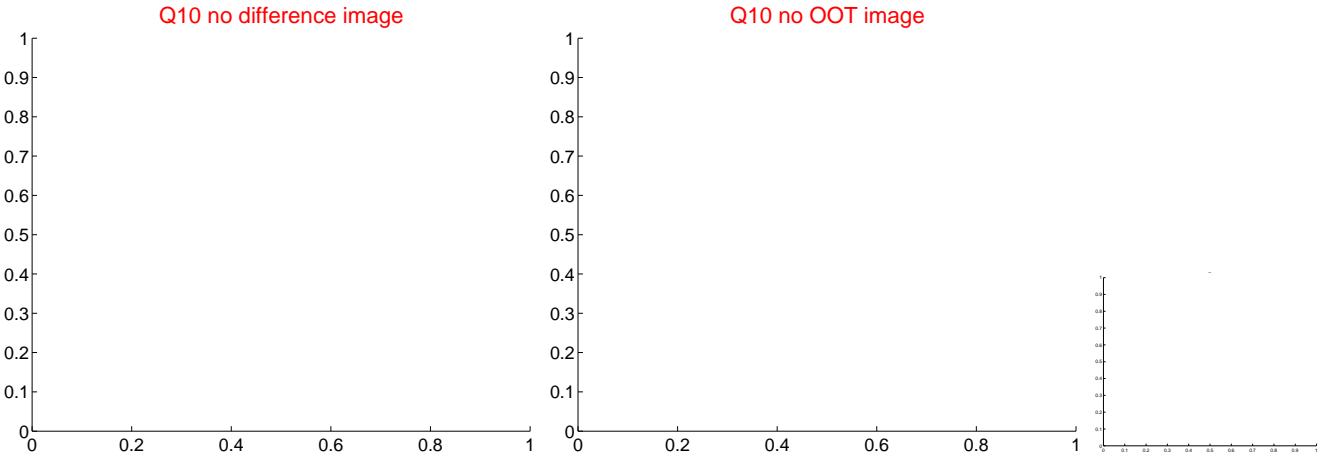
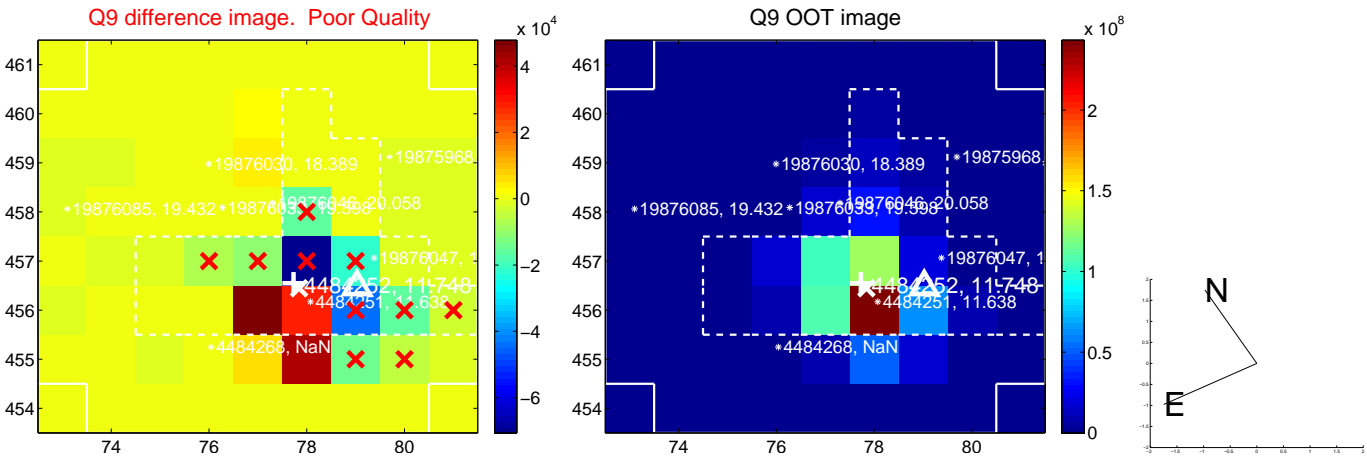
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



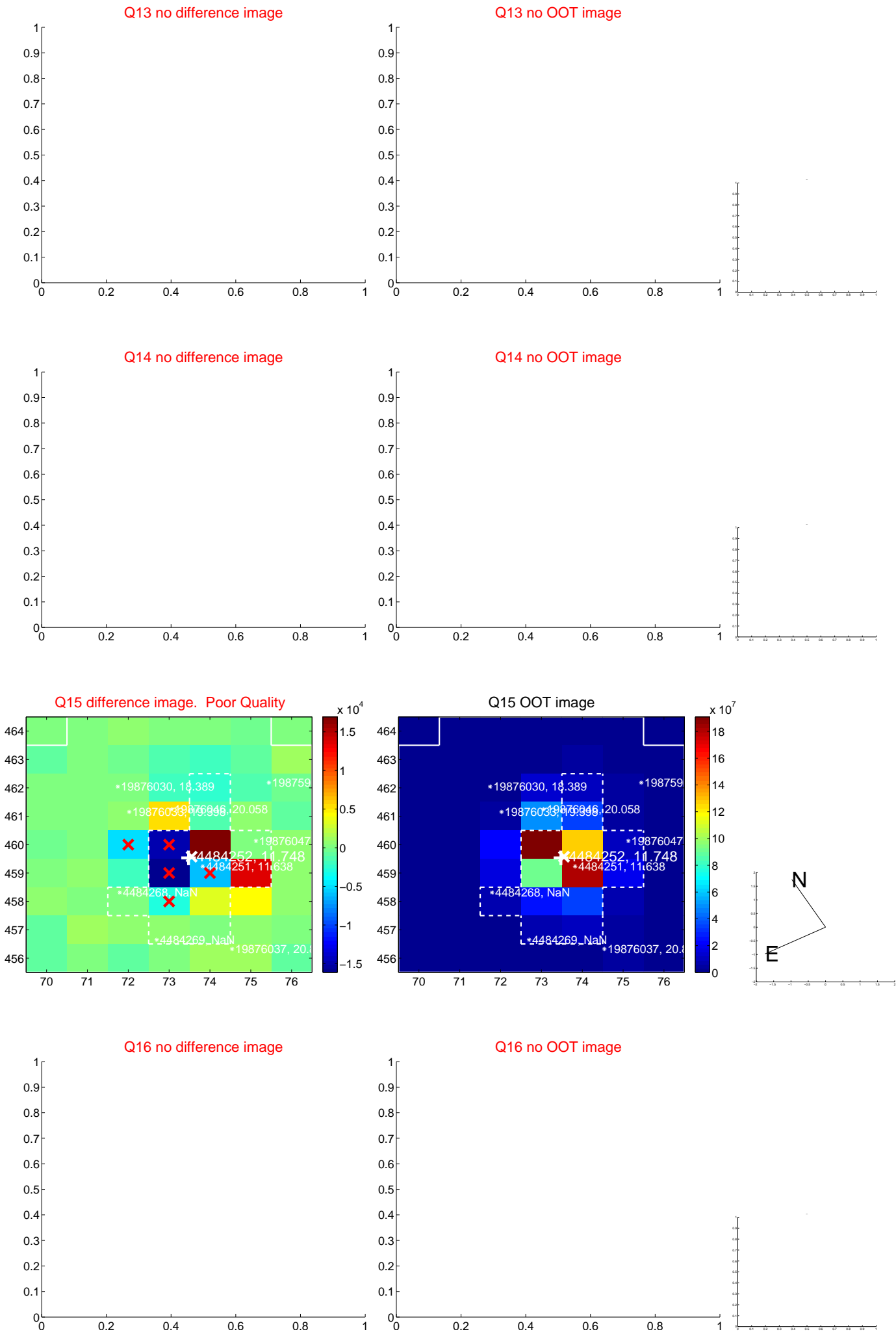
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



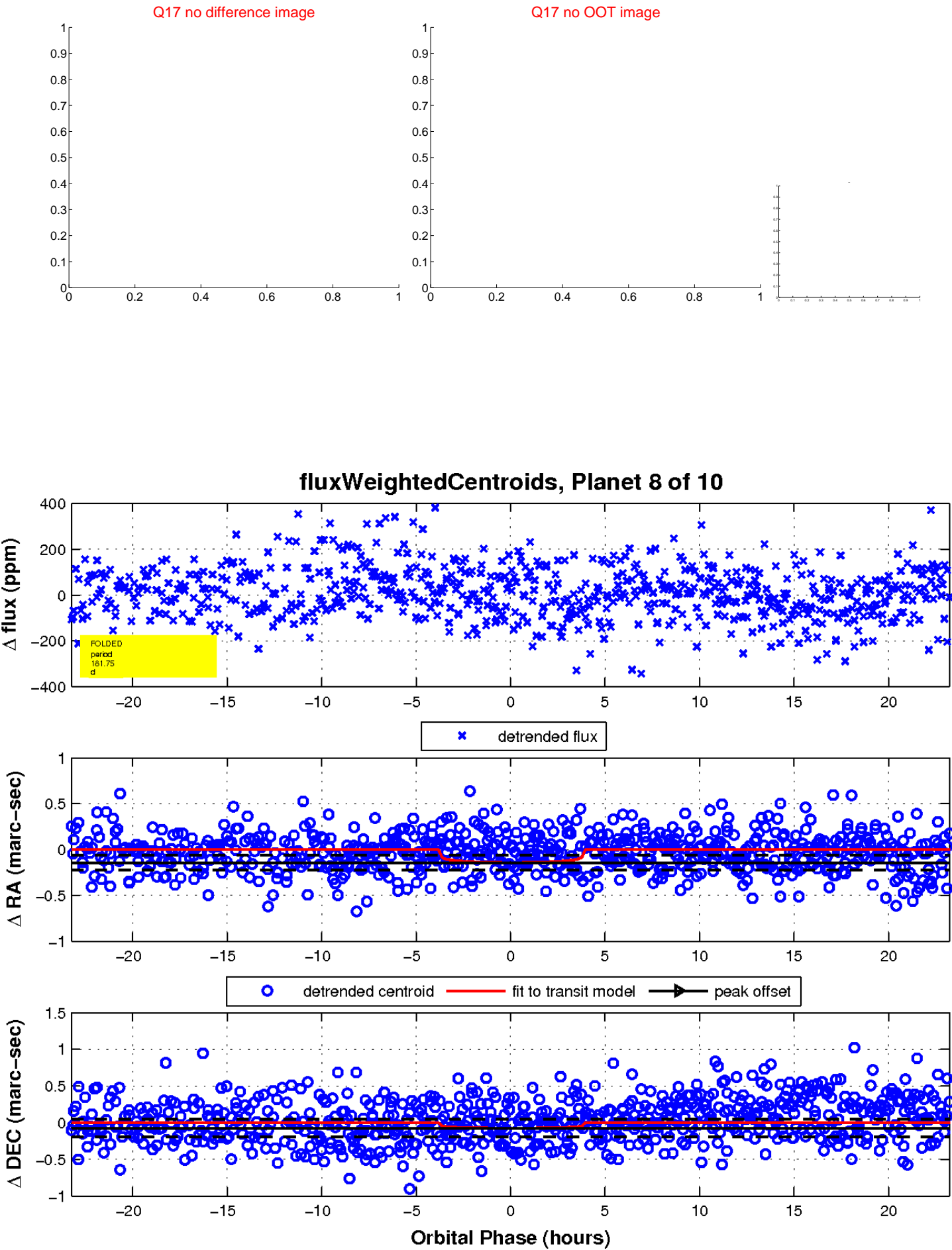
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

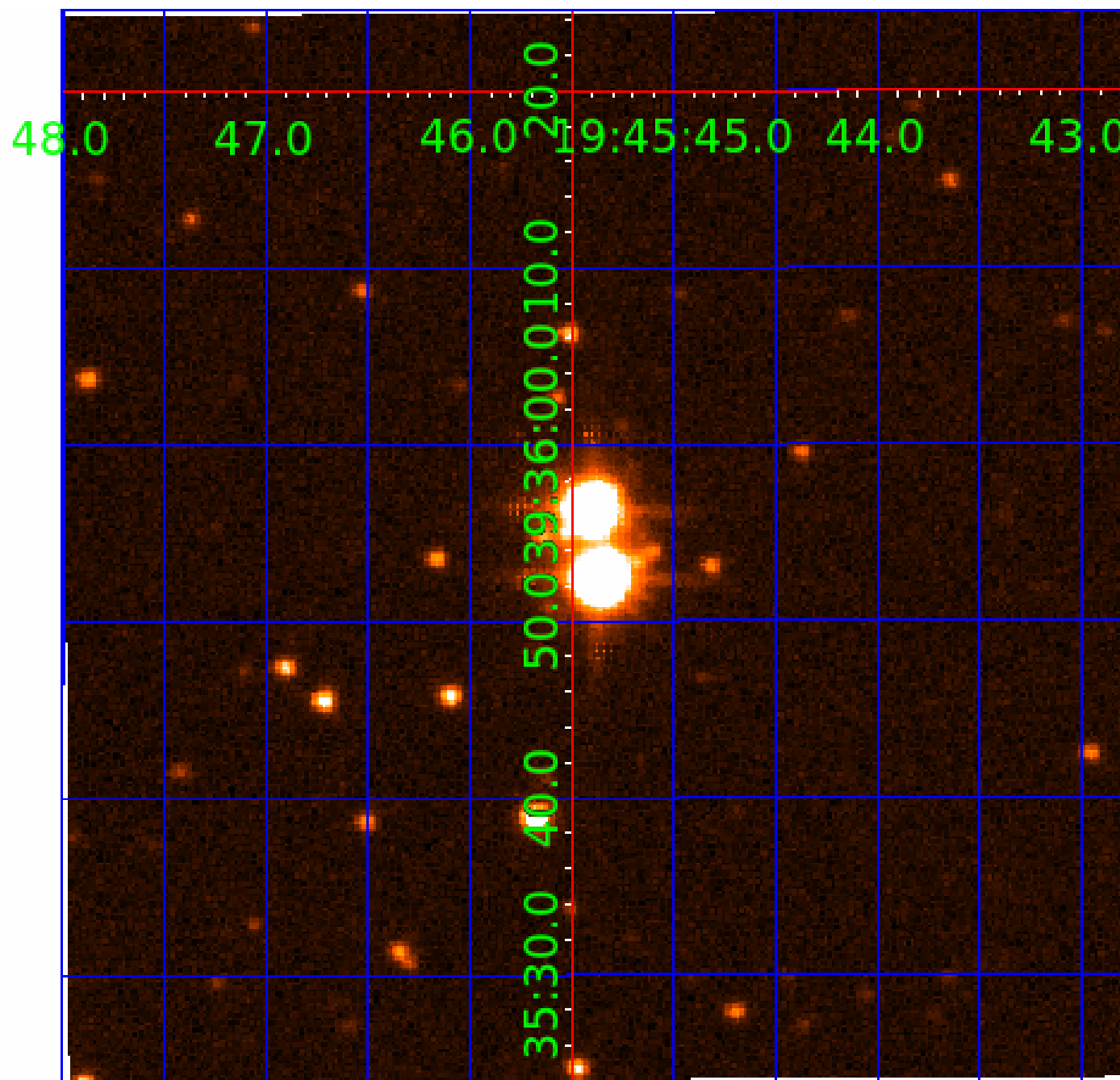


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004484252

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})
004484252-01	OBS	No	1.927818	133.351635	11.8	11.489	10.9	6.7	1.72	6753	0.59	4756.71
004484252-02	OBS	No	175.990163	189.884706	223.9	14.427	14.0	11.1	1.72	6753	2.76	11.57
004484252-04	OBS	No	90.798942	134.165001	119.7	13.399	9.8	8.8	1.72	6753	2.01	27.96
004484252-05	OBS	No	36.978026	168.370439	108.7	3.009	9.6	8.7	1.72	6753	2.03	92.64
004484252-07	OBS	No	87.102783	147.460088	131.8	3.156	8.7	8.4	1.72	6753	2.31	29.56
004484252-08	OBS	No	181.749444	155.783439	184.9	7.745	8.9	9.2	1.72	6753	2.42	11.09
004484252-09	OBS	No	20.138949	143.389767	67.0	5.518	8.8	7.5	1.72	6753	1.53	208.29
004484252-10	OBS	No	53.113455	167.407001	144.7	4.153	8.5	9.1	1.72	6753	2.32	57.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484252-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

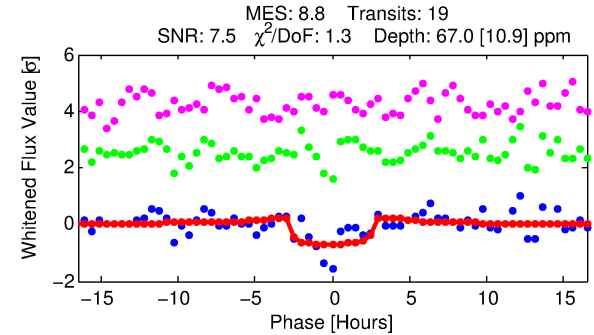
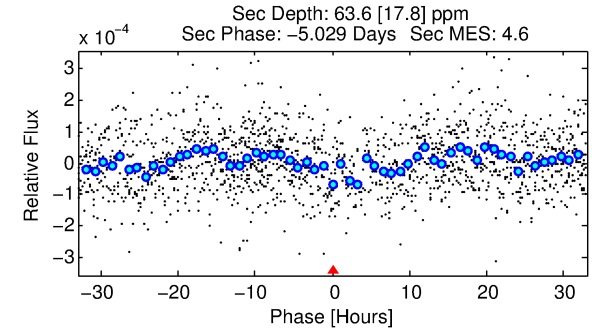
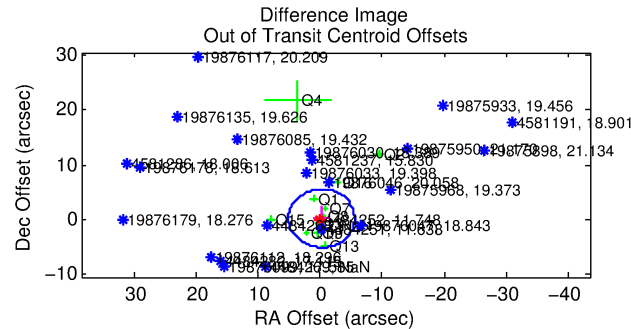
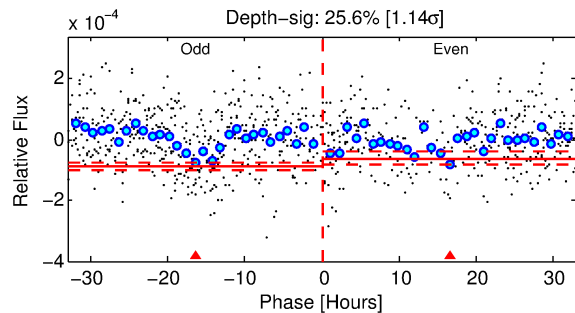
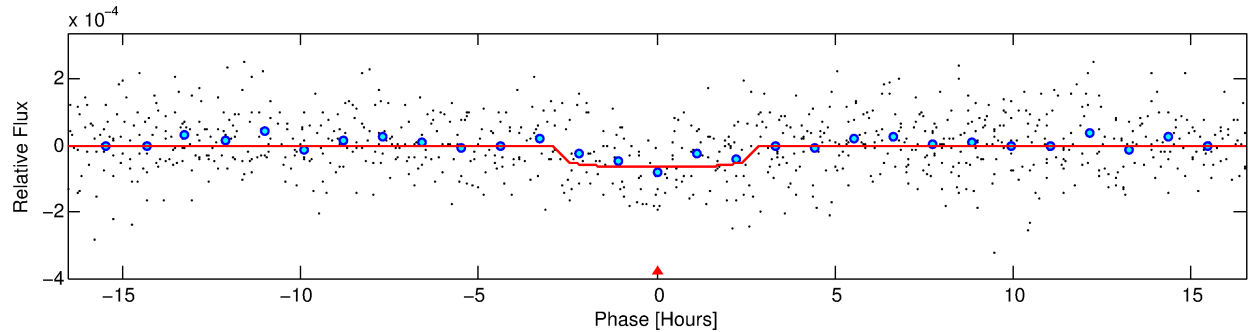
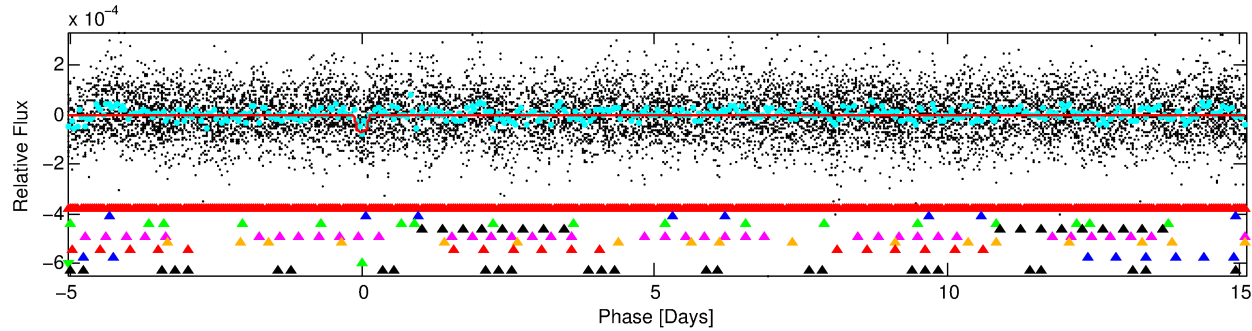
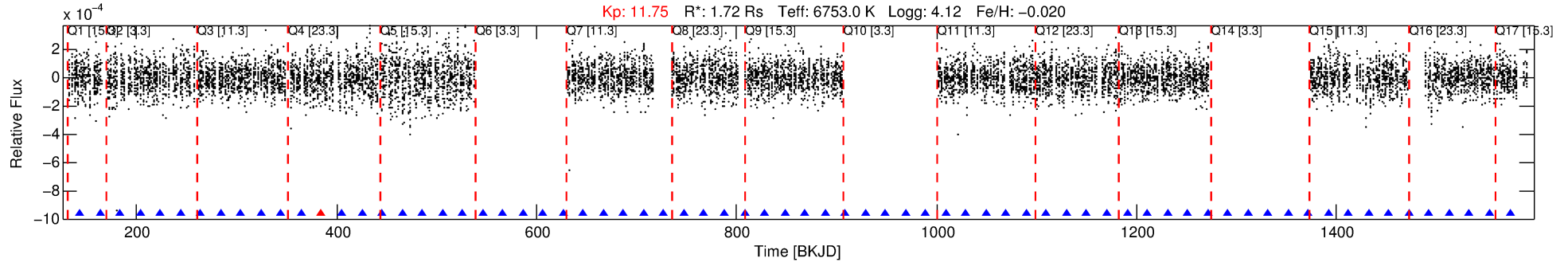
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-09

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 9 of 10 Period: 20.139 d



DV Fit Results:

Period = 20.13895 [0.00029] d
Epoch = 143.3898 [0.0115] BKJD
Rp/R* = 0.0082 [0.0057]
a/R* = 18.30 [71.97]
b = 0.77 [2.14]
Seff = 208.30 [78.07]
Teq = 969 [91] K
Rp = 1.53 [1.16] Re
a = 0.1624 [0.0397] AU
Ag = 392.93 [573.82] [0.68 σ]
Teffp = 6668 [2381] K [2.39 σ]

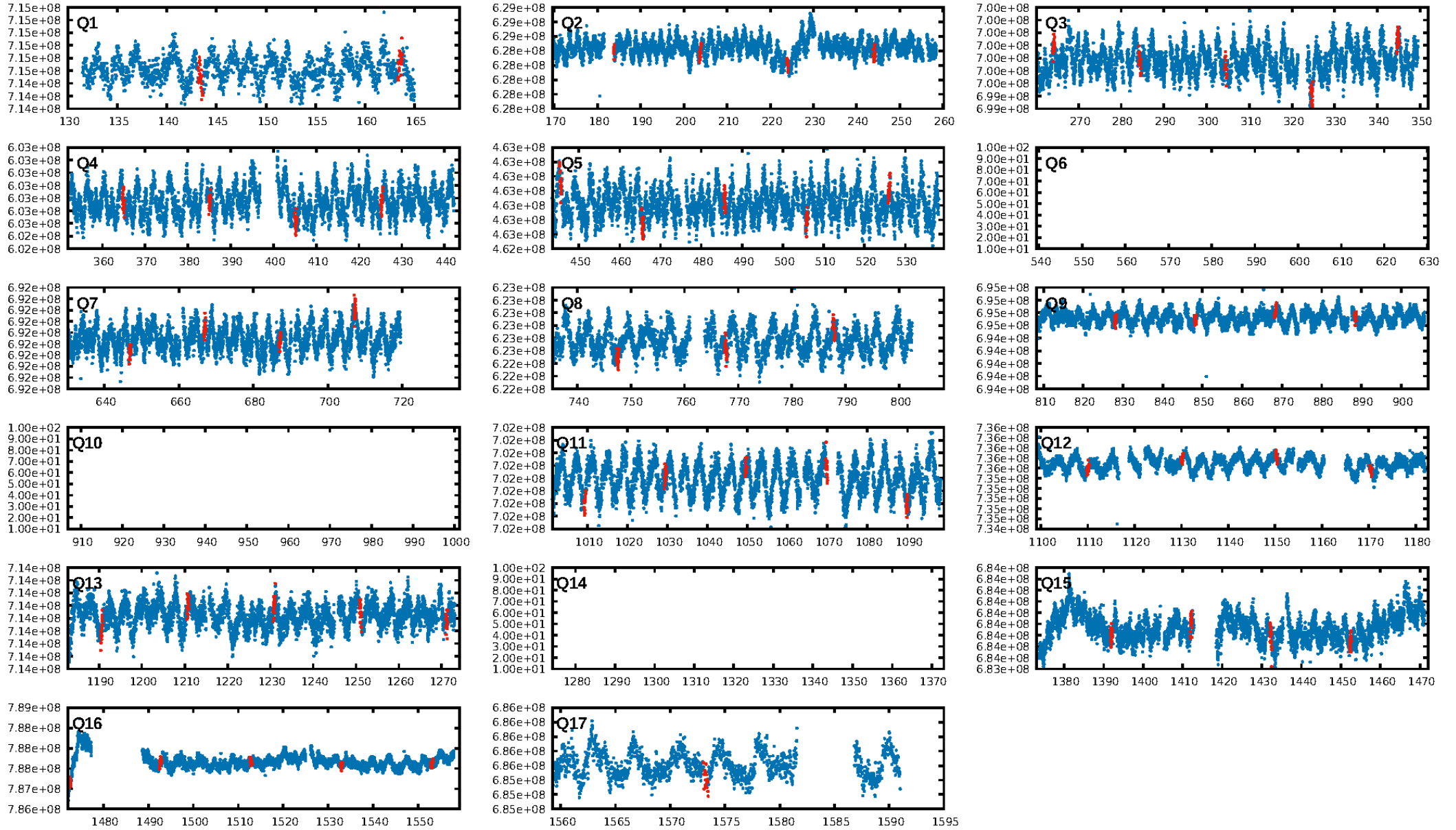
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [34.29 σ]
LongPeriod-sig: 100.0% [64.30 σ]
ModelChiSquare2-sig: 3.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.94 [17/18]
GhostDiagnostic-chr: -4.465
Centroid-sig: 0.5%
Centroid-so: 1.475 arcsec [1.93 σ]
OotOffset-rm: 0.300 arcsec [0.17 σ]
KicOffset-rm: 0.455 arcsec [0.22 σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 0.57 [8/14]

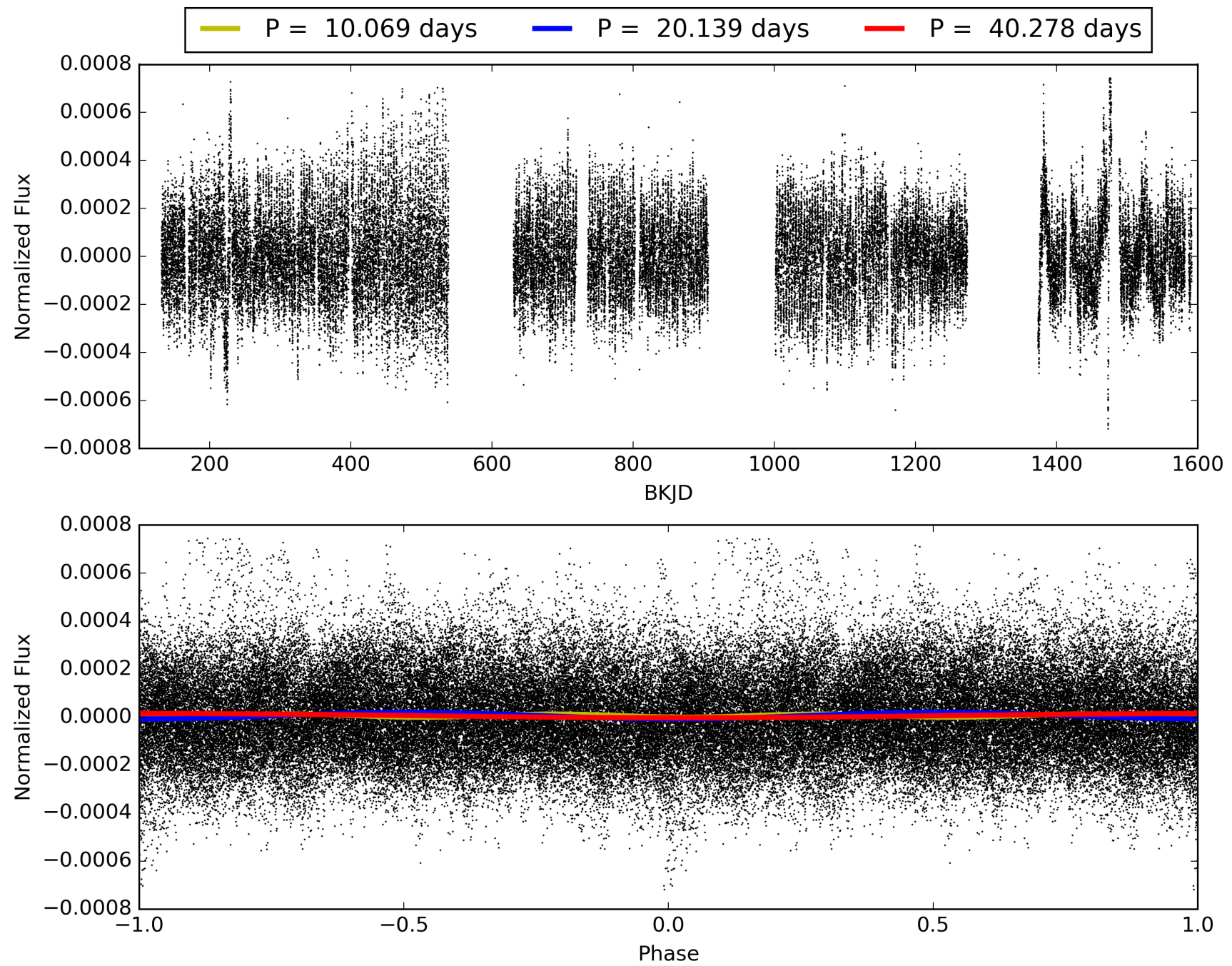
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:47:22 Z

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

TCE 004484252-09, PDC Light Curves

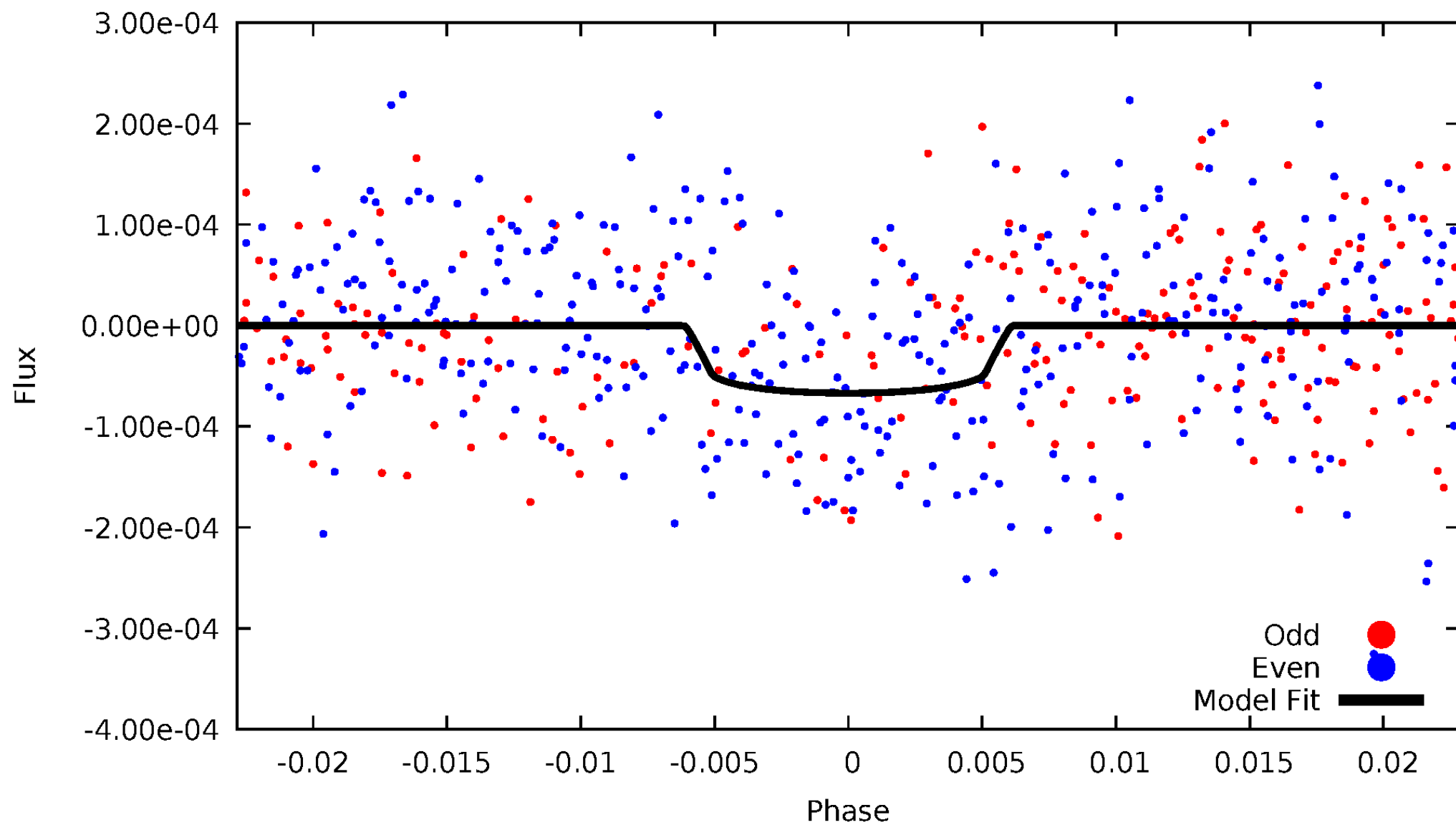


TCE 004484252-09



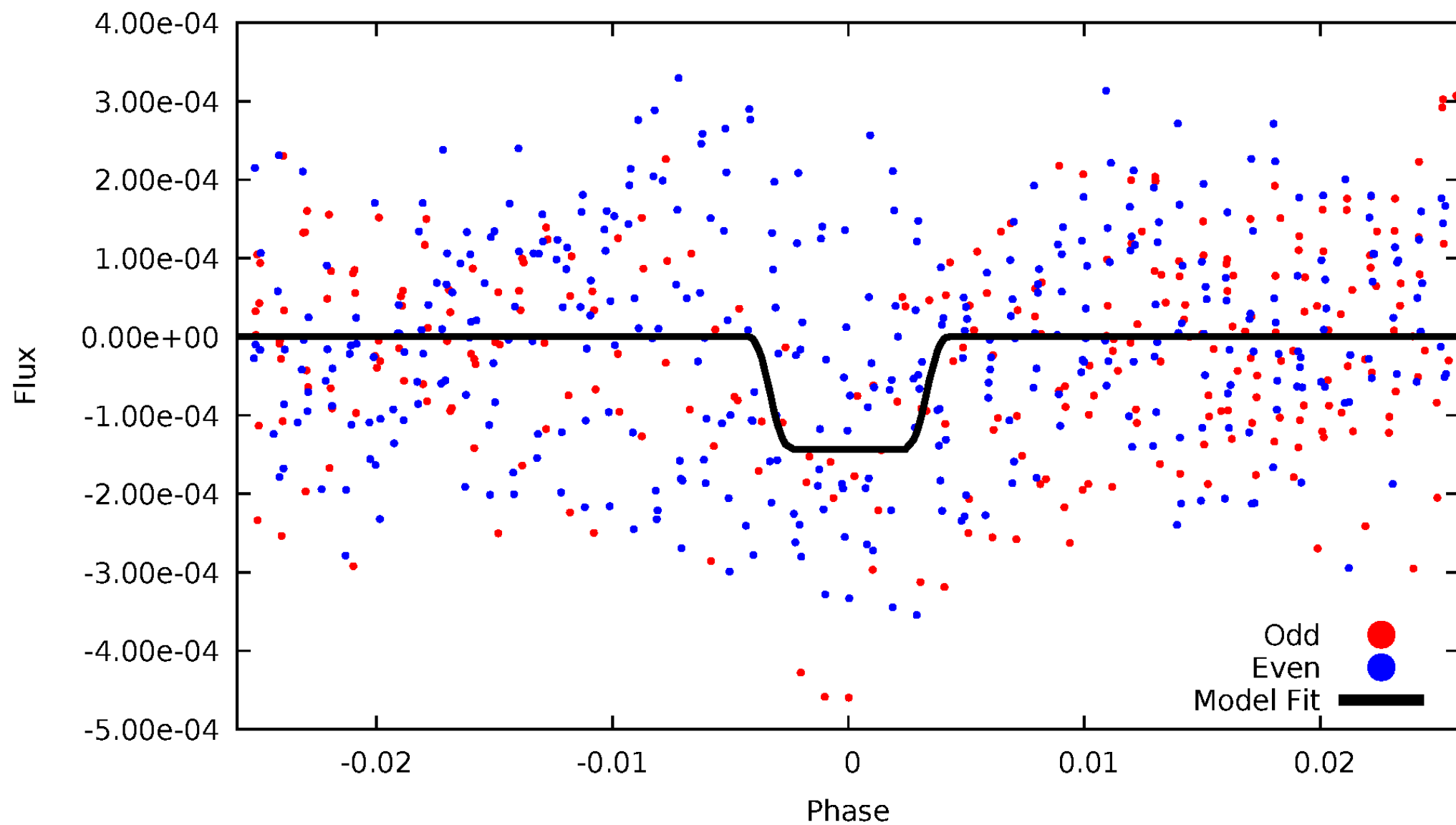
DV Odd/Even

TCE 004484252-09



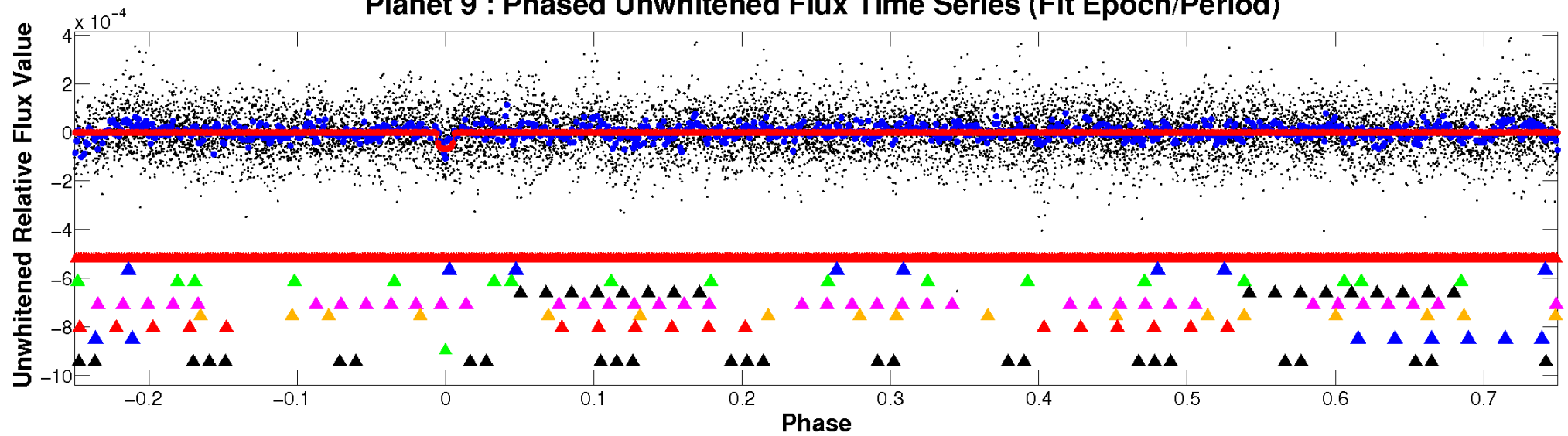
ALT Odd/Even

TCE 004484252-09

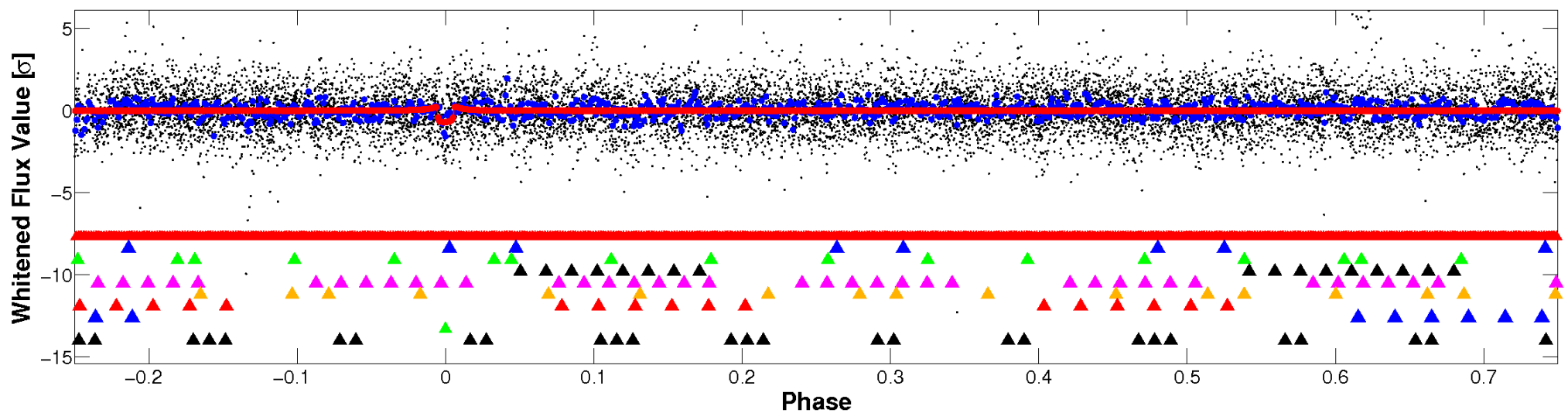


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

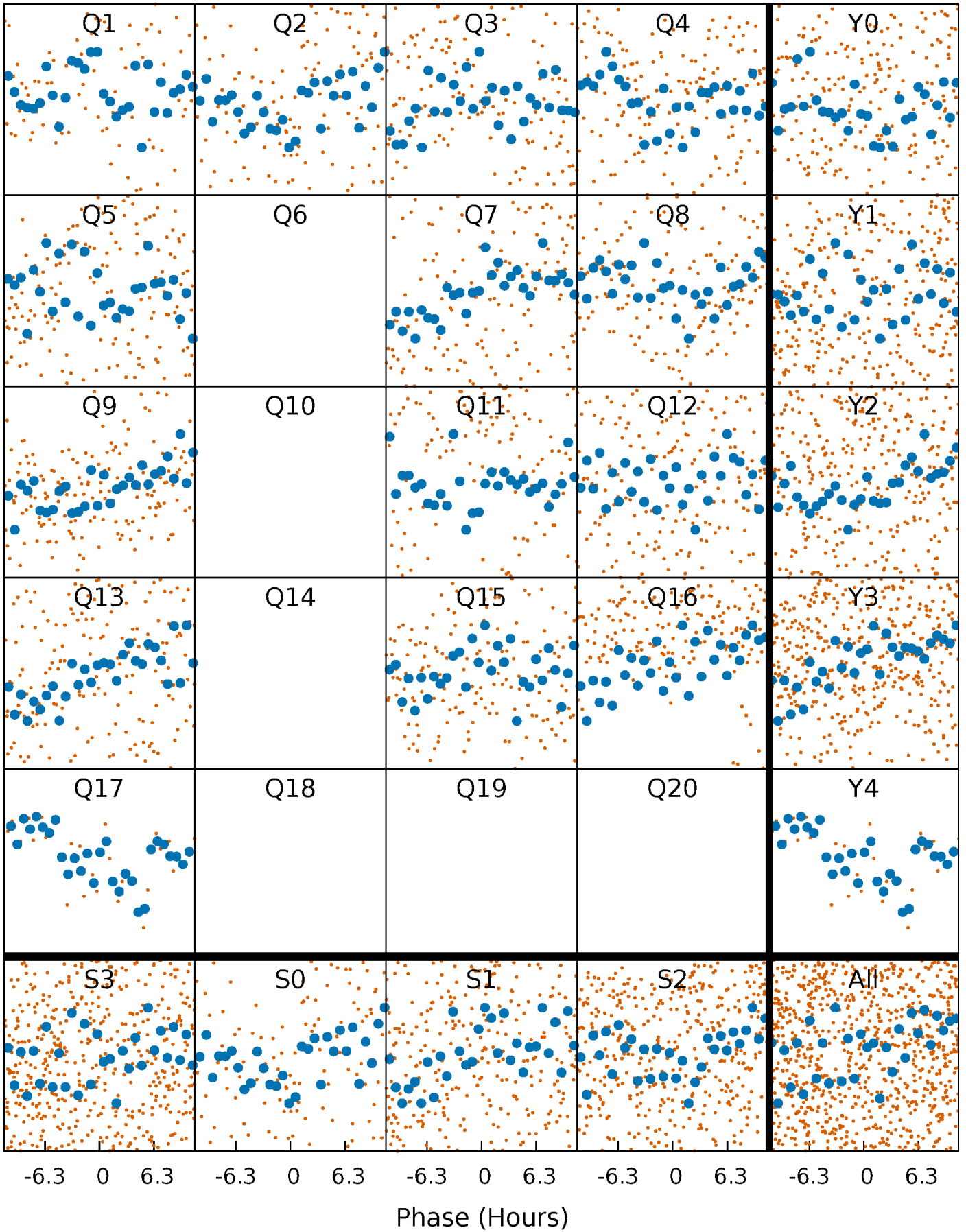


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 004484252-09 P= 20.138949 Days $T_0=143.389767$ (BKJD)



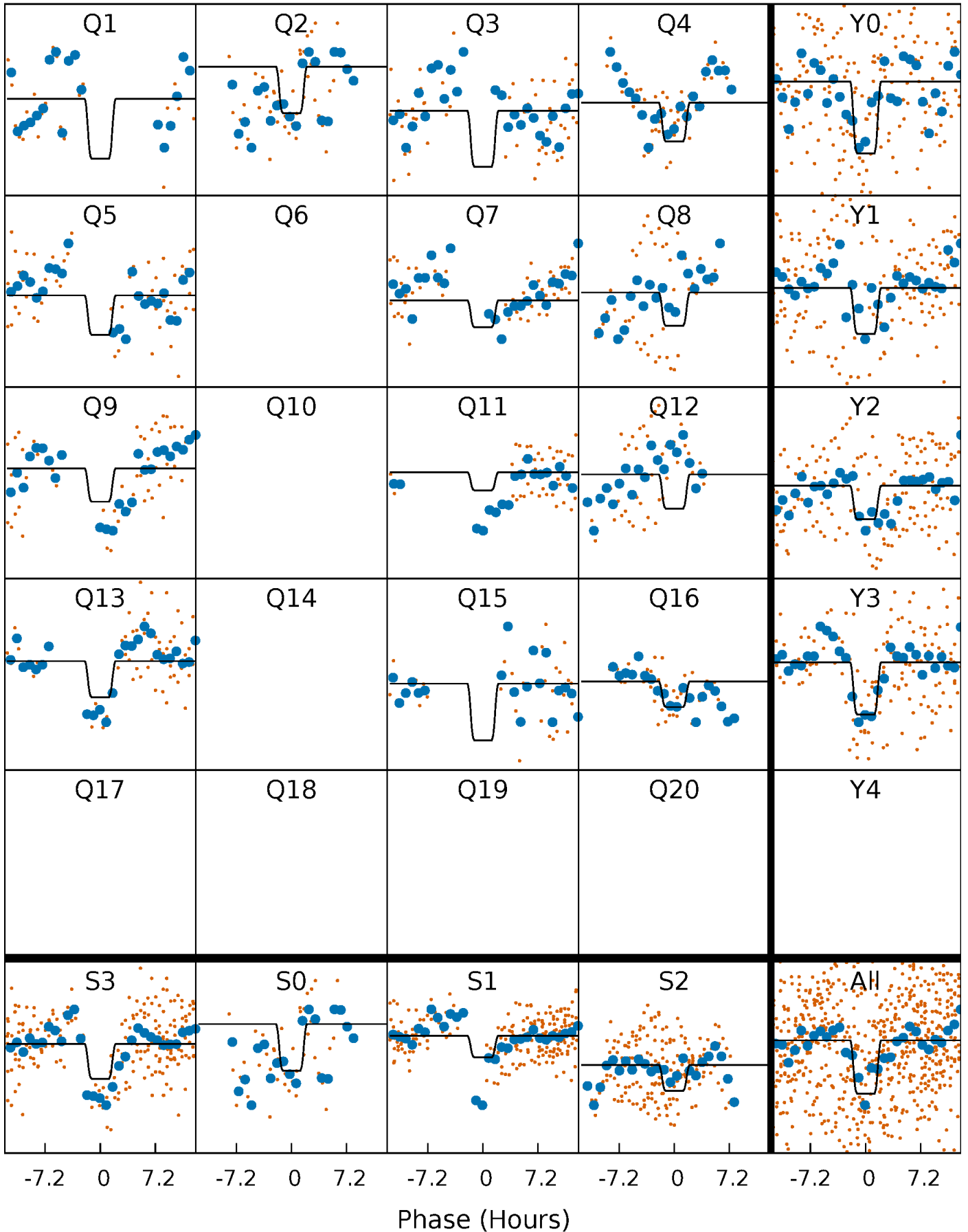
DV Quarter-Phased Transit Curves

TCE 004484252-09 P= 20.138949 Days $T_0=143.389767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

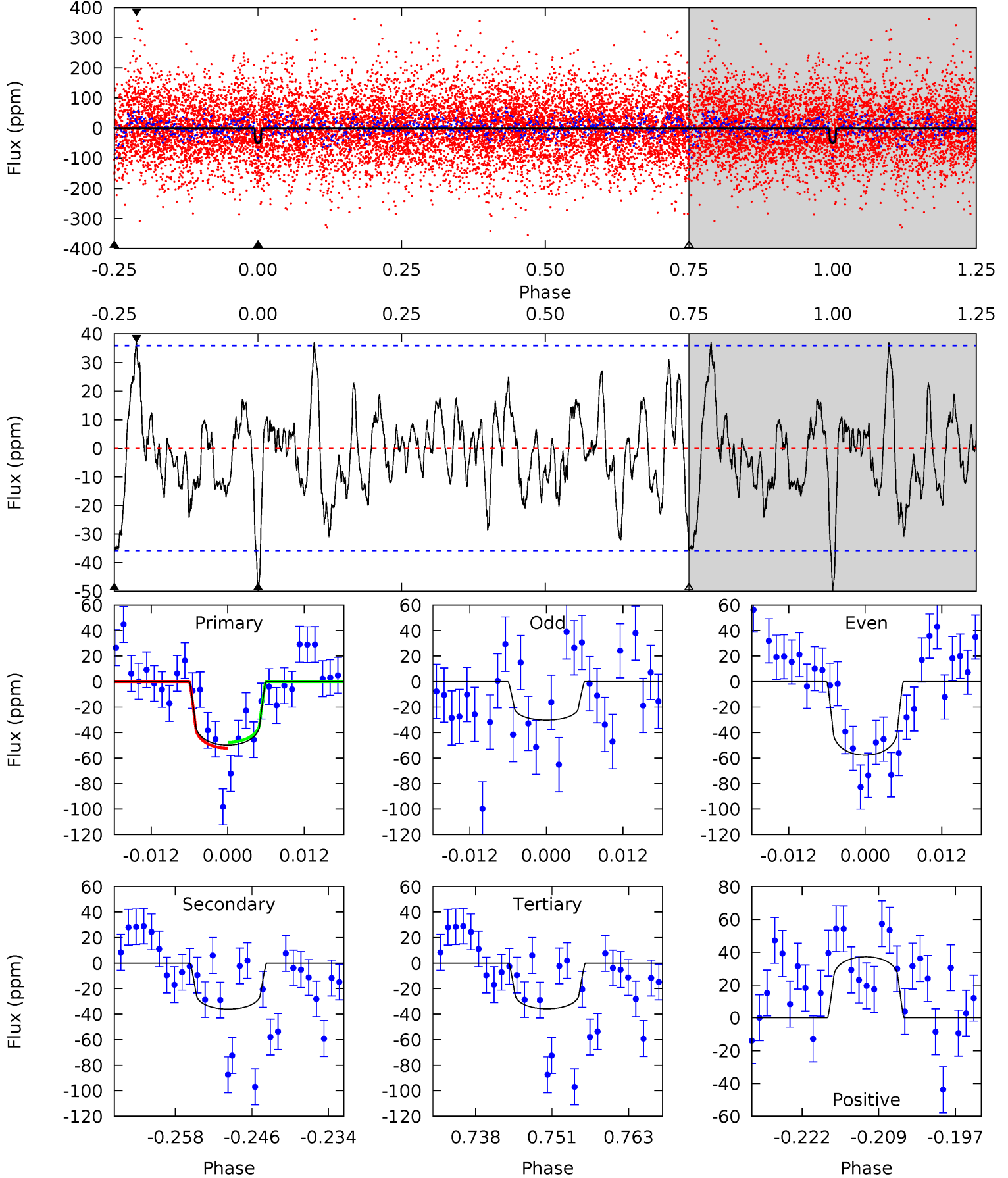
TCE 004484252-09 P= 20.138499 Days $T_0=143.405943$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-09, P = 20.138949 Days, E = 123.250818 Days

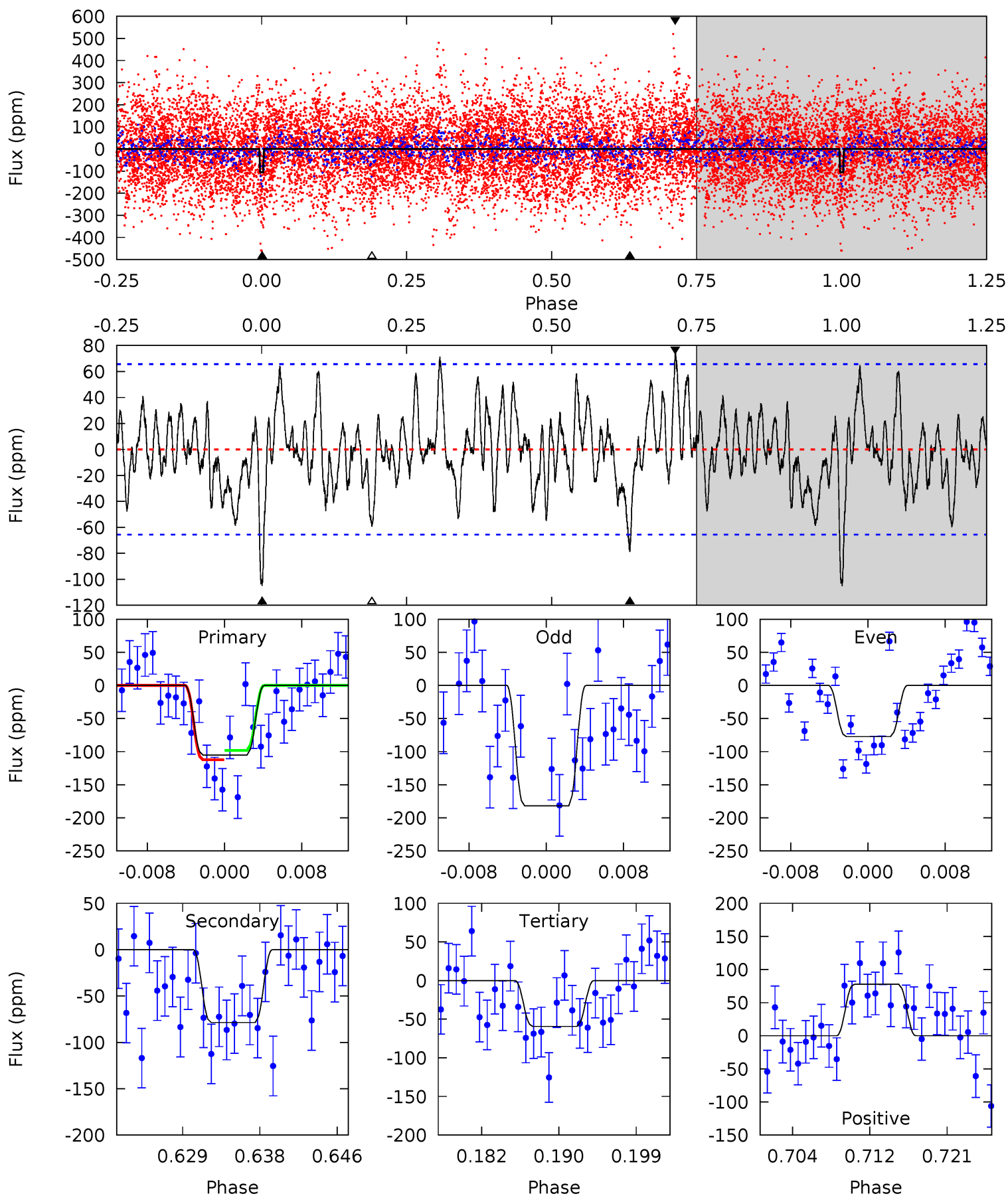
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.92	5.00	4.97	5.17	4.99	2.50	1.76	1.96	1.75	0.03	-0.18	1.77	0.89	0.43	0.32



Alt Model-Shift Uniqueness Test

004484252-09, P = 20.138499 Days, E = 123.267444 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.11	6.07	4.58	6.01	5.06	2.64	1.92	3.53	2.10	1.48	0.05	3.59	1.25	0.43	0.55



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-36 ± 7	$1.63^{+1.06}_{-0.92}$	1350^{+105}_{-92}	5593^{+3059}_{-1094}	198^{+813}_{-127}
Alt.	-79 ± 13	$2.27^{+1.16}_{-1.01}$	1354^{+108}_{-99}	5683^{+2083}_{-875}	212^{+517}_{-119}

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 $A_{obs} \gg 1.0$

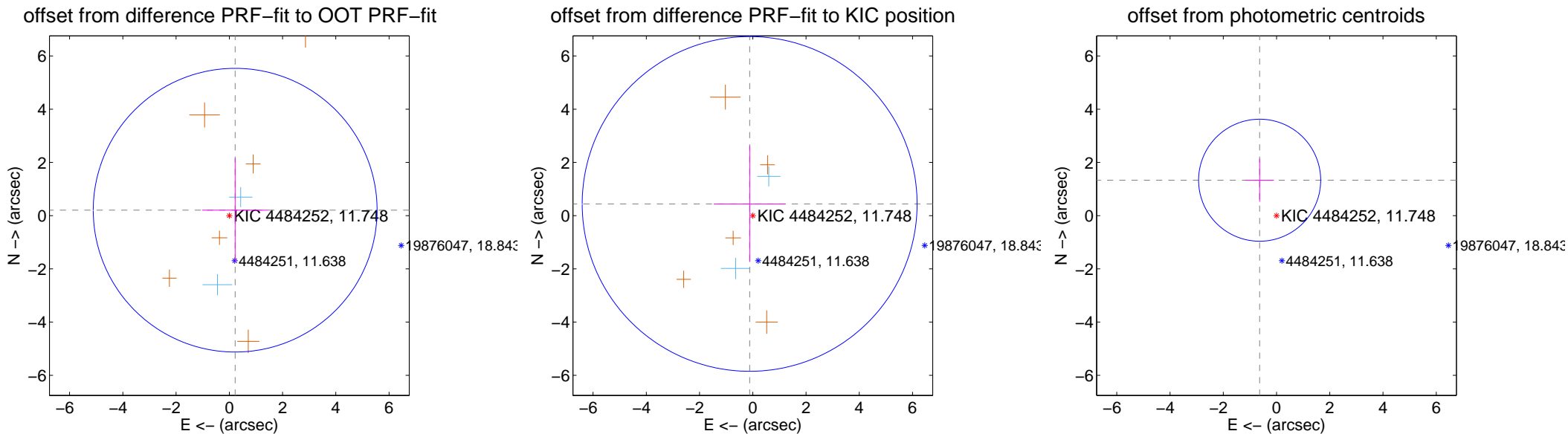
DV Centroid Data

Supplemental centroid analysis for 004484252-09. **Kepler magnitude: 11.75.** Transit SNR 7.52

There are 2 quarters with good PRF difference image offsets

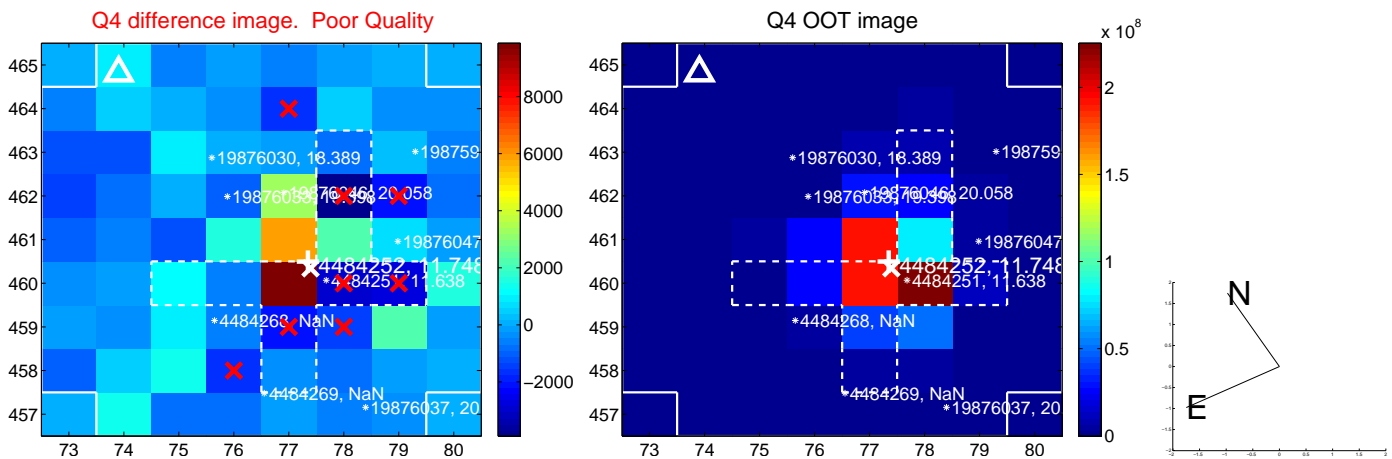
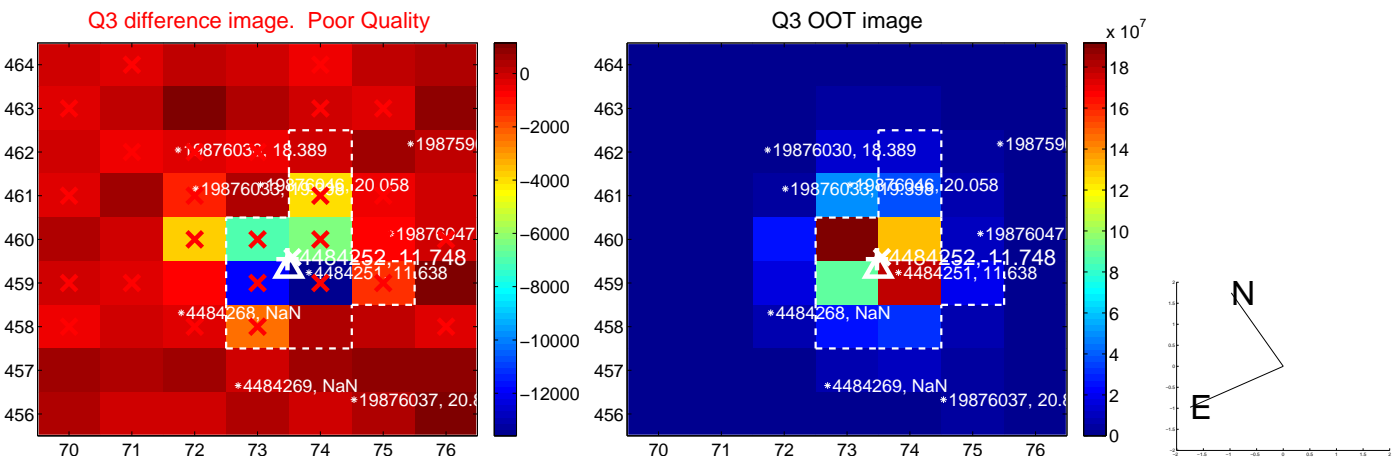
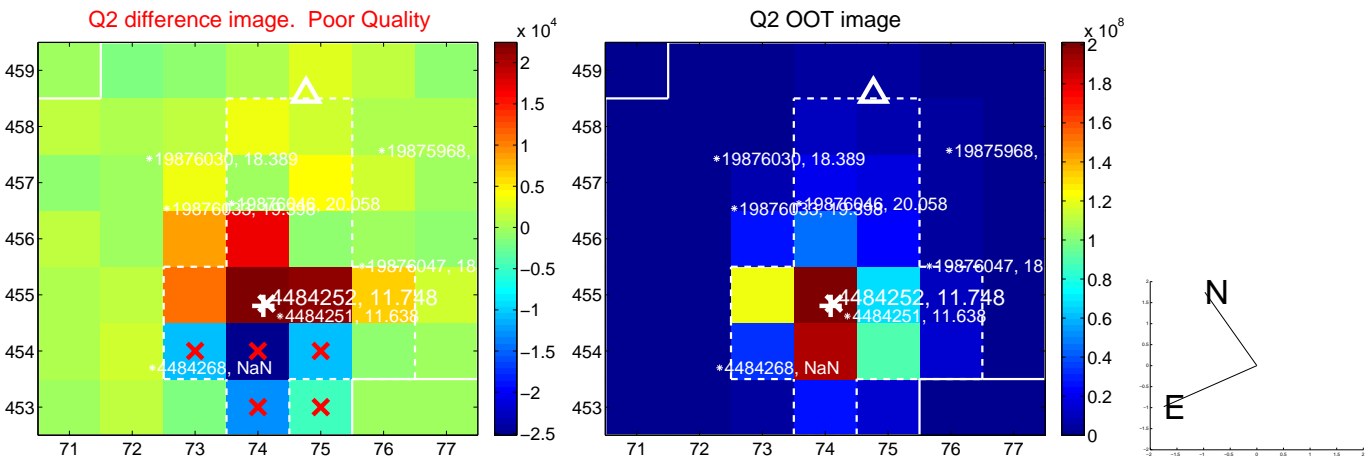
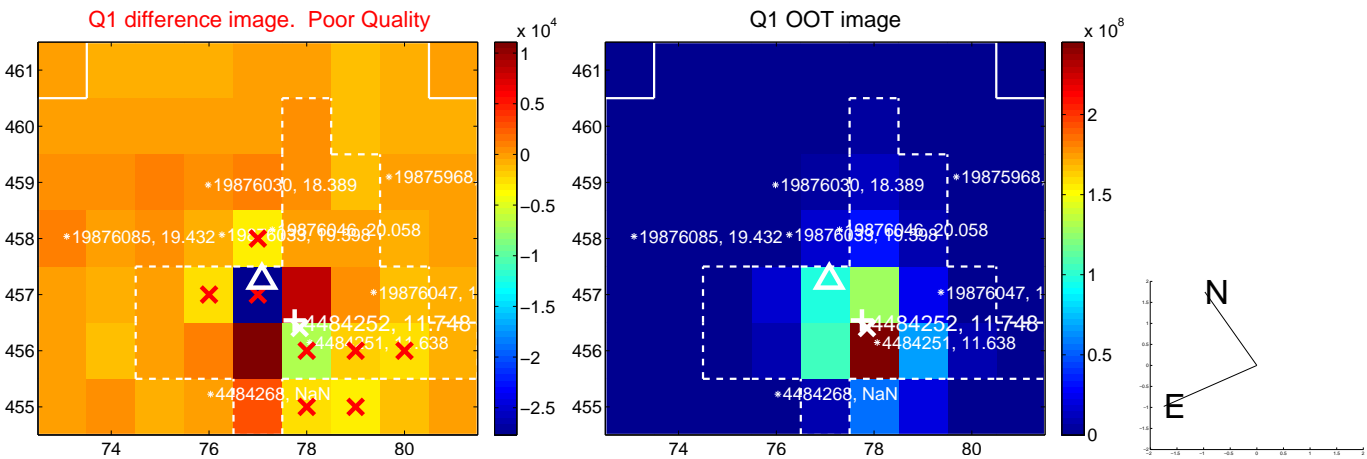
The direct PRF centroid is offset from the target star catalog position by about 0.60 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.300 ± 1.777	0.17	-0.220 ± 1.244	0.205 ± 1.960
PRF-fit source offset from KIC position	0.455 ± 2.097	0.22	0.118 ± 1.350	0.440 ± 2.181
photometric centroid source offset	1.47 ± 0.76	1.93	0.63 ± 0.54	1.33 ± 0.81

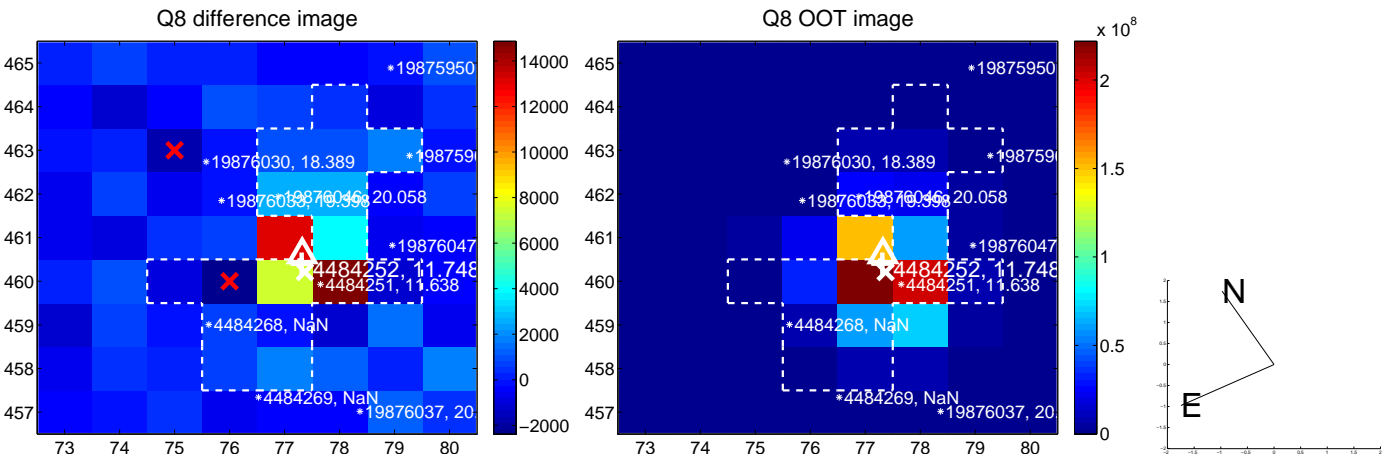
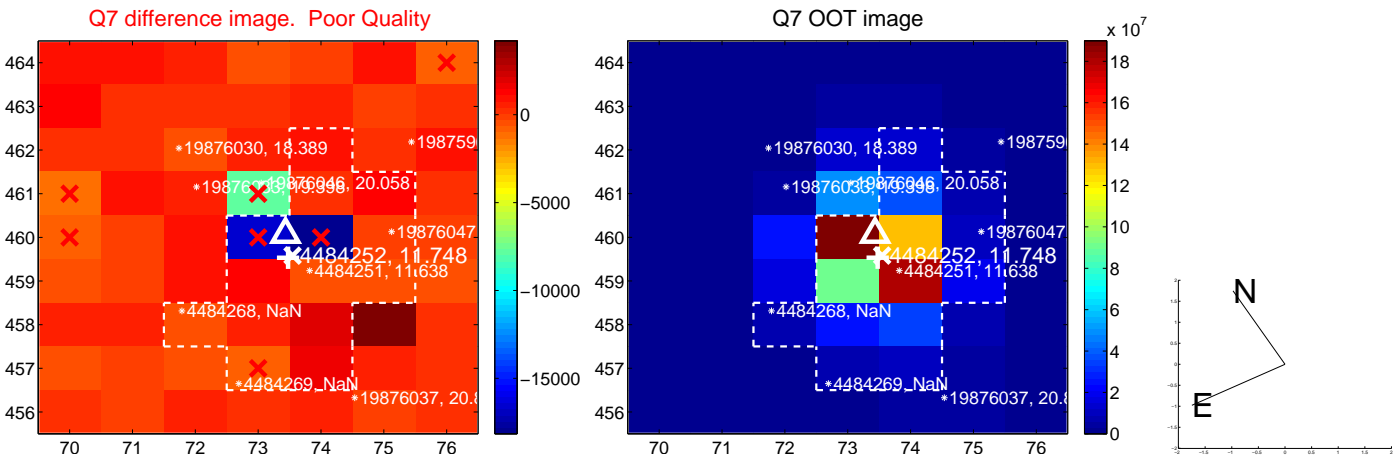
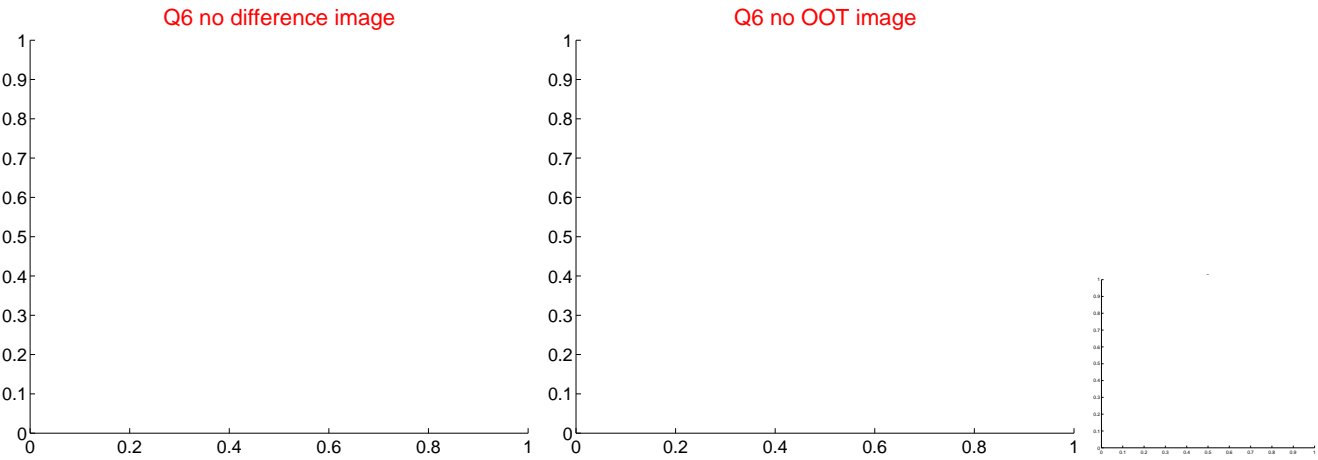
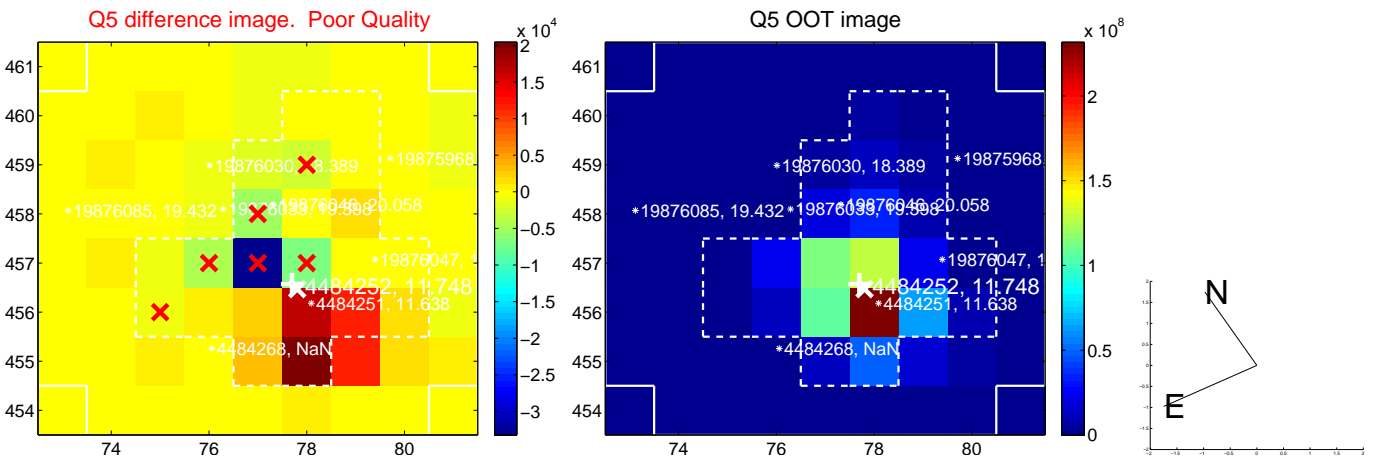


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

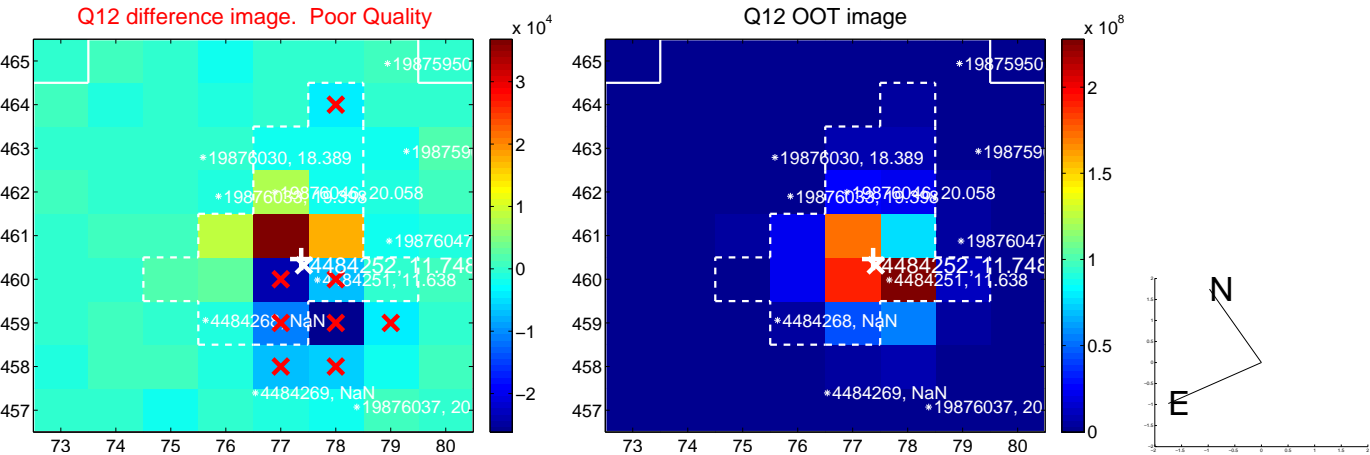
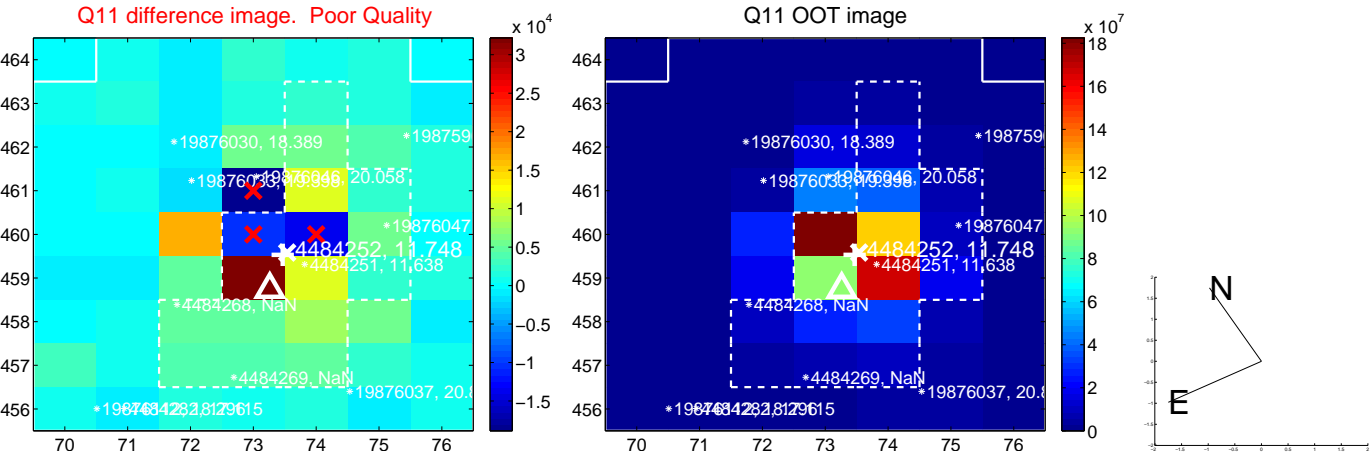
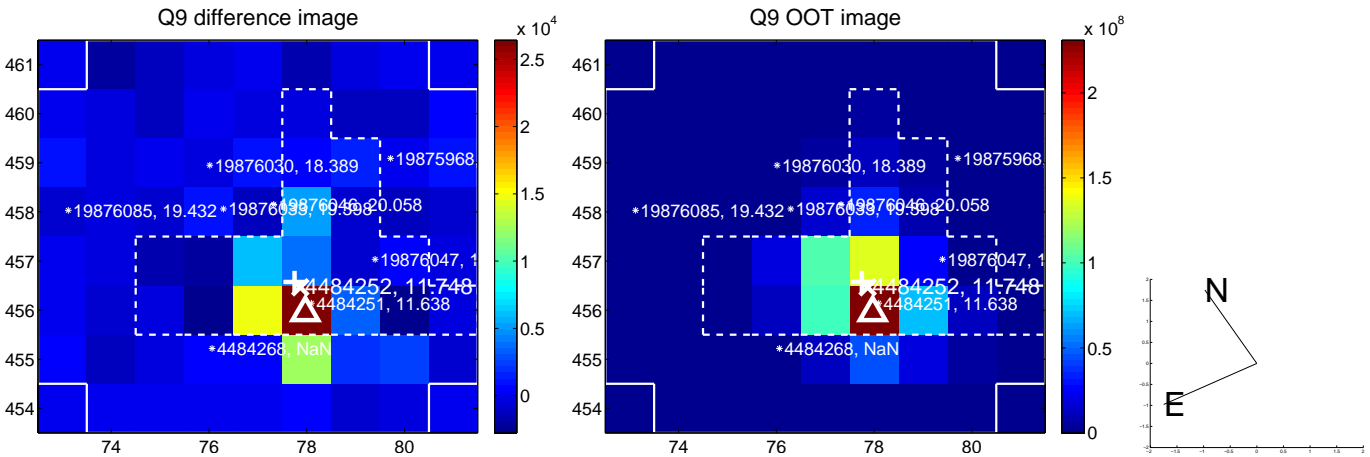
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



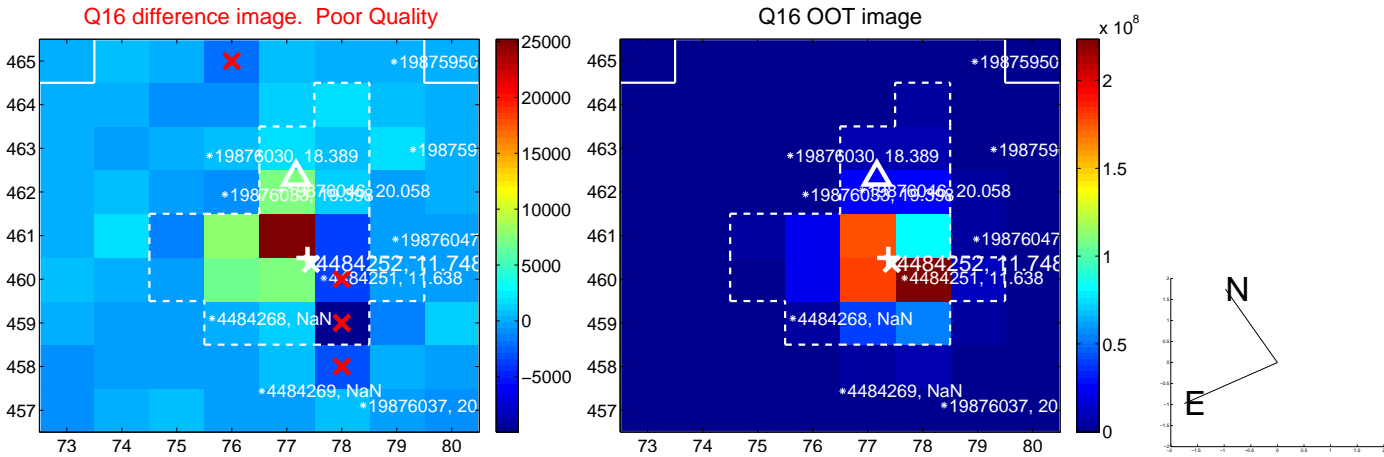
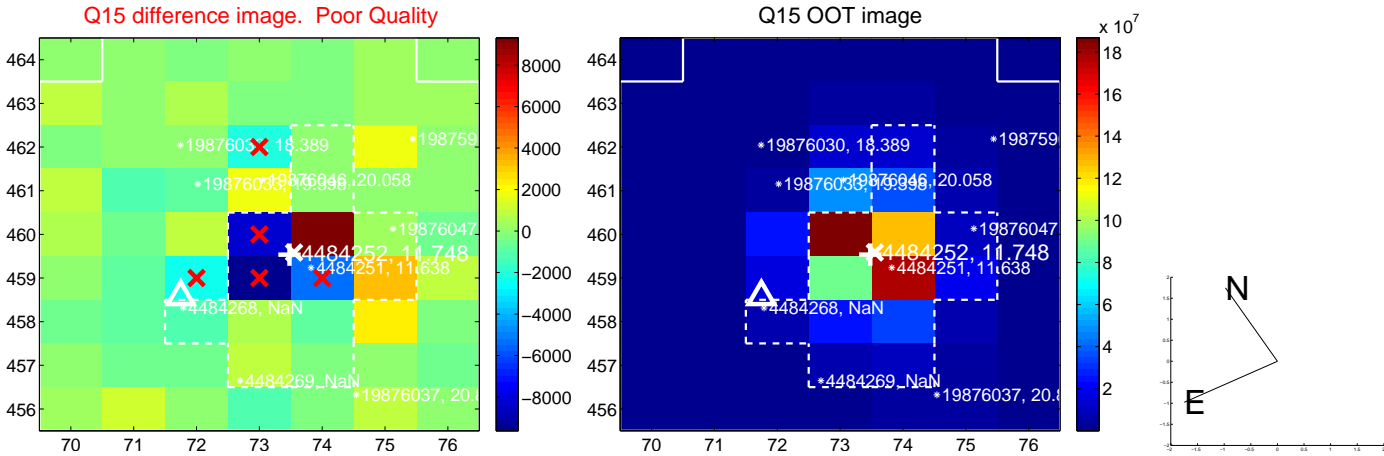
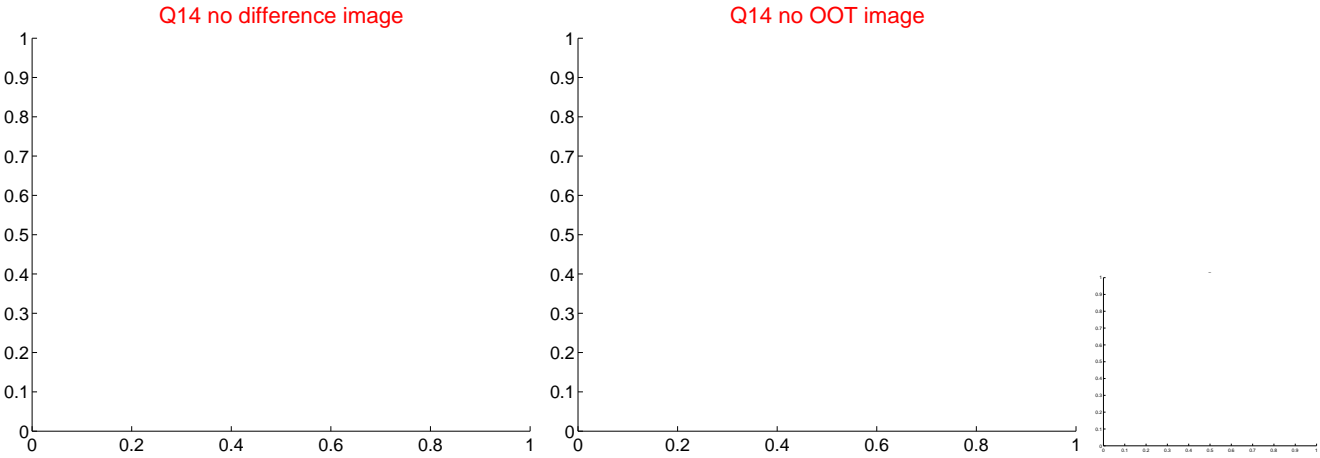
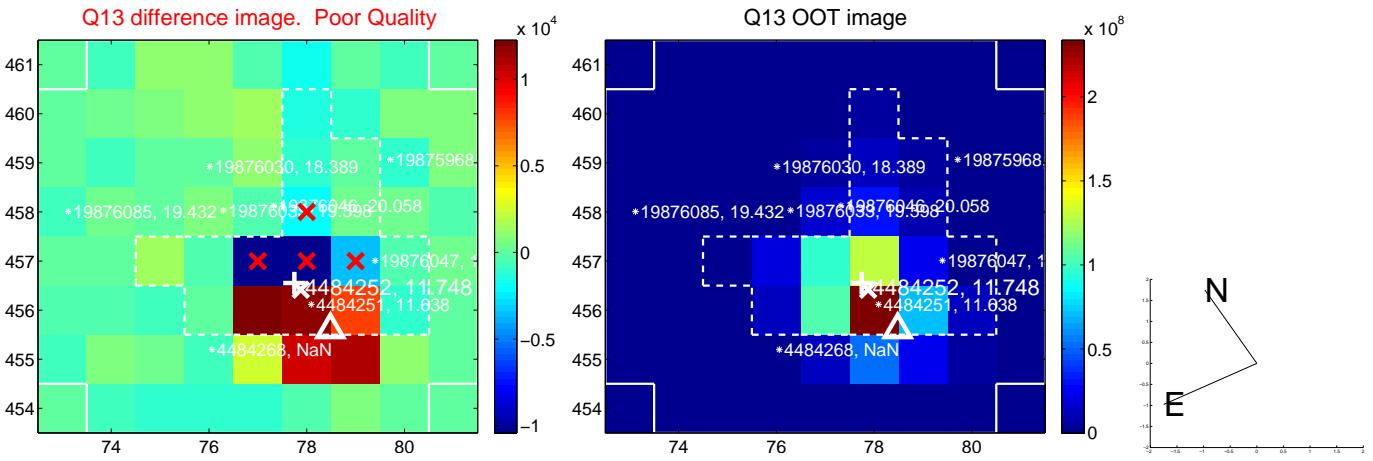
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



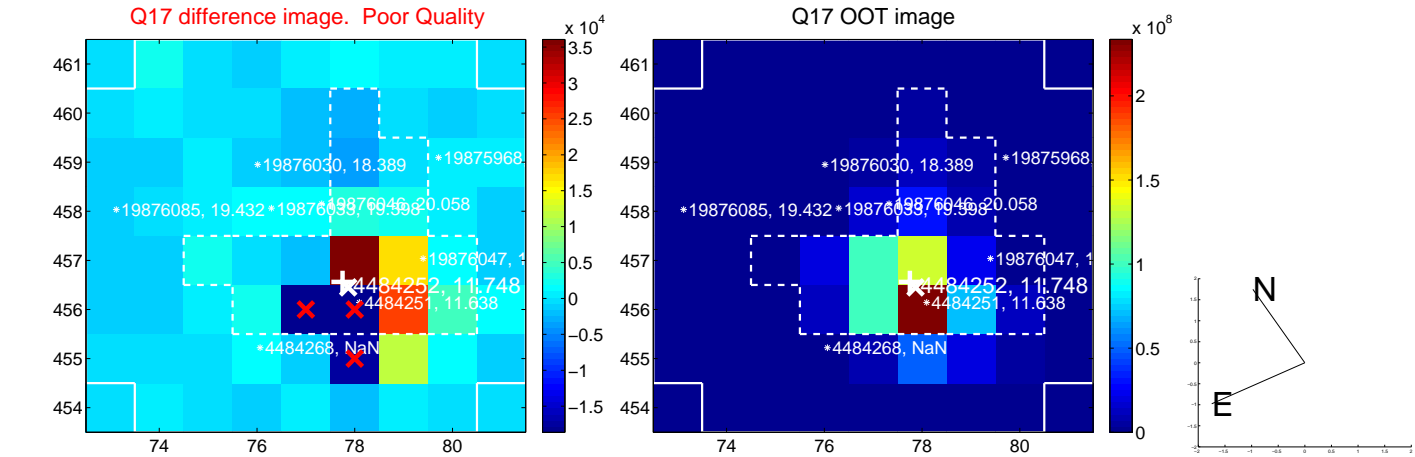
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



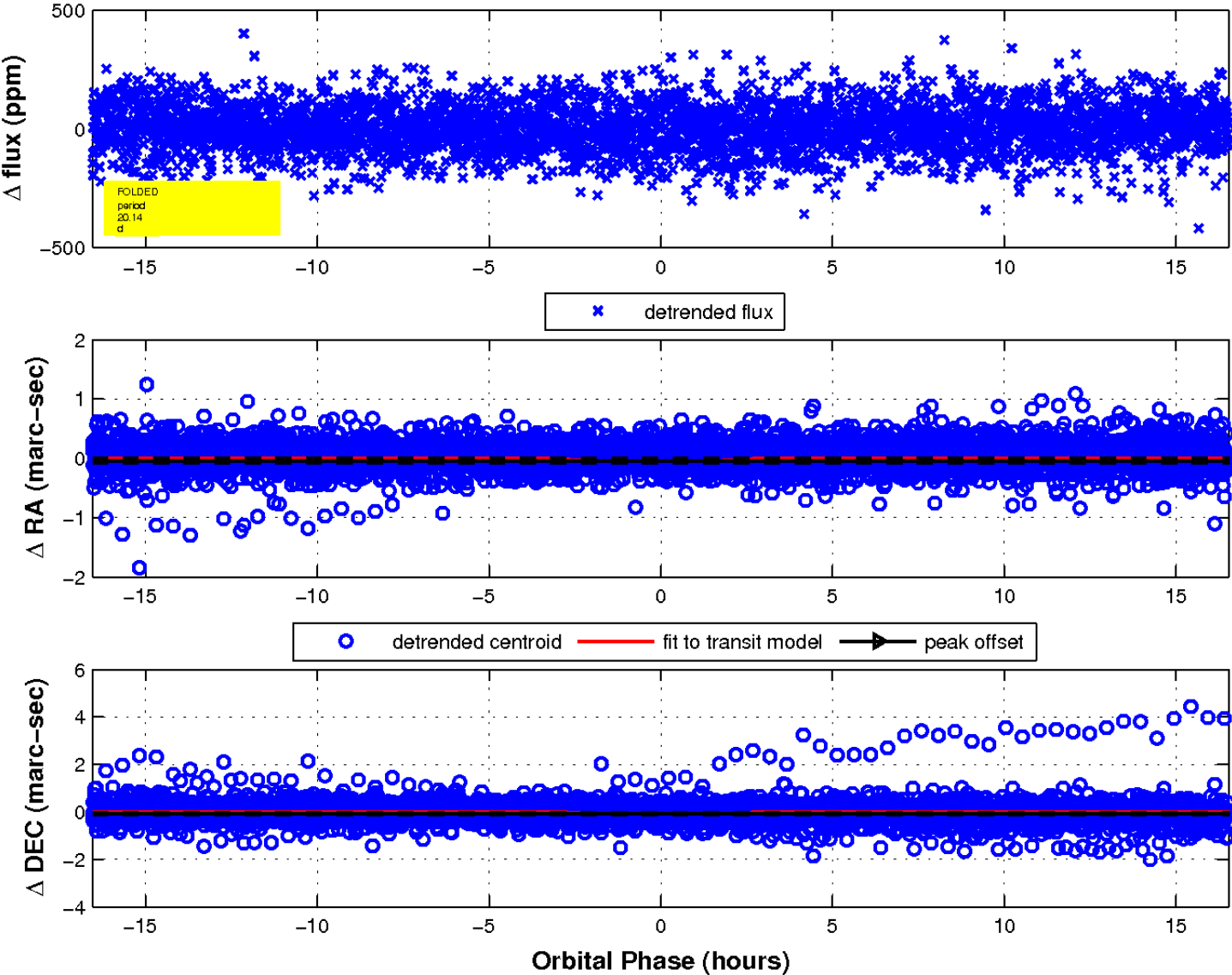
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

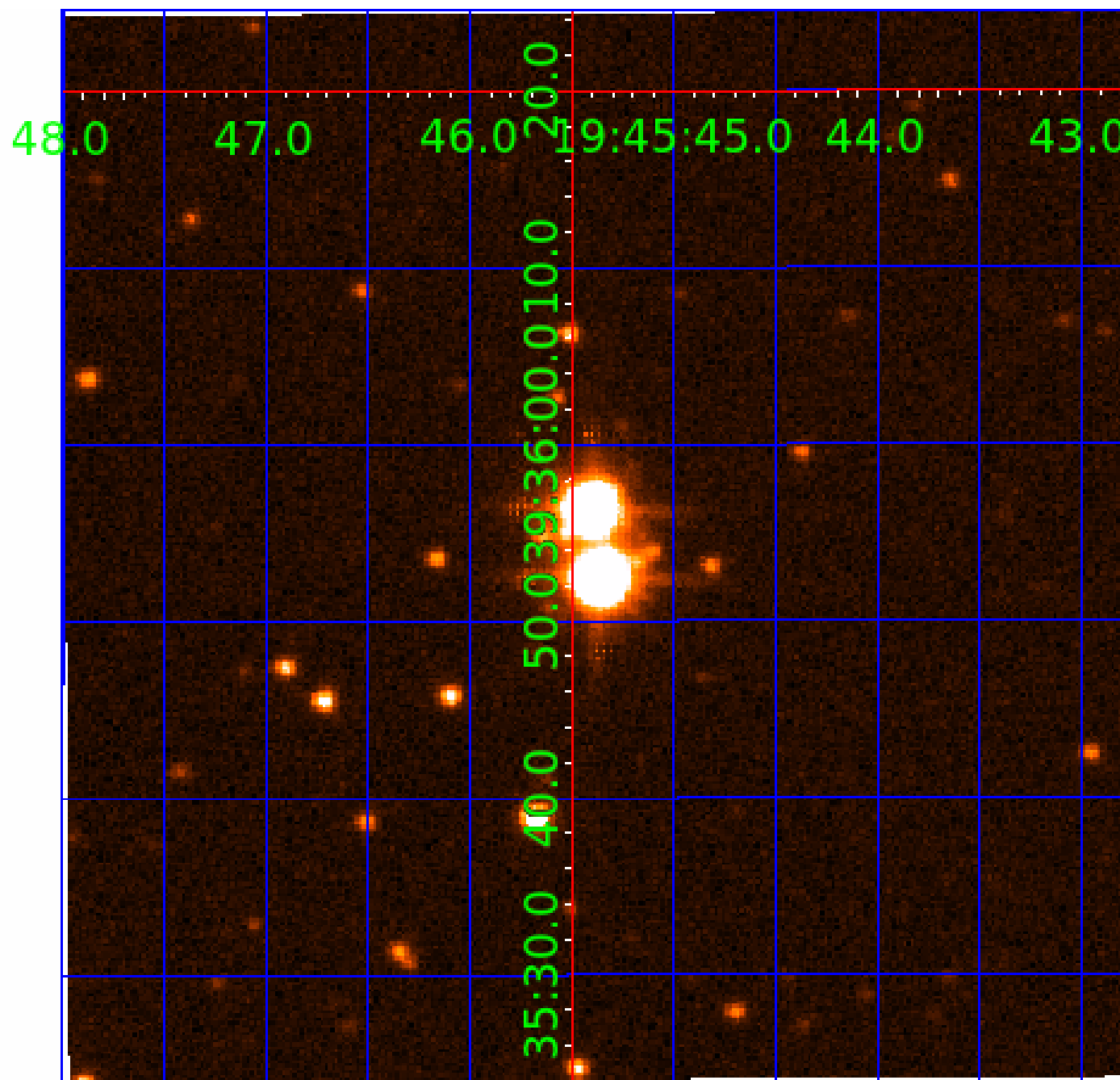


fluxWeightedCentroids, Planet 9 of 10



UKIRT Image

Declination



KIC 004484252

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})
004484252-01	OBS	No	1.927818	133.351635	11.8	11.489	10.9	6.7	1.72	6753	0.59	4756.71
004484252-02	OBS	No	175.990163	189.884706	223.9	14.427	14.0	11.1	1.72	6753	2.76	11.57
004484252-04	OBS	No	90.798942	134.165001	119.7	13.399	9.8	8.8	1.72	6753	2.01	27.96
004484252-05	OBS	No	36.978026	168.370439	108.7	3.009	9.6	8.7	1.72	6753	2.03	92.64
004484252-07	OBS	No	87.102783	147.460088	131.8	3.156	8.7	8.4	1.72	6753	2.31	29.56
004484252-08	OBS	No	181.749444	155.783439	184.9	7.745	8.9	9.2	1.72	6753	2.42	11.09
004484252-09	OBS	No	20.138949	143.389767	67.0	5.518	8.8	7.5	1.72	6753	1.53	208.29
004484252-10	OBS	No	53.113455	167.407001	144.7	4.153	8.5	9.1	1.72	6753	2.32	57.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004484252-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
004484252-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004484252-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS
004484252-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNCERTAIN
004484252-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004484252-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
004484252-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

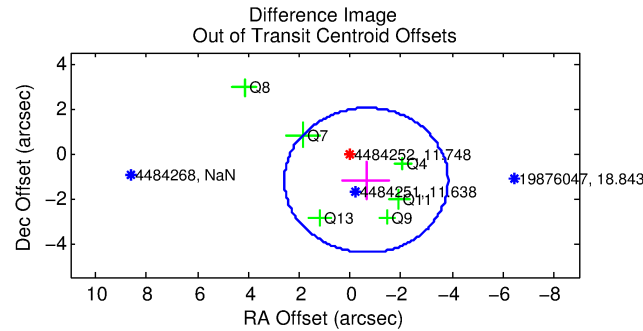
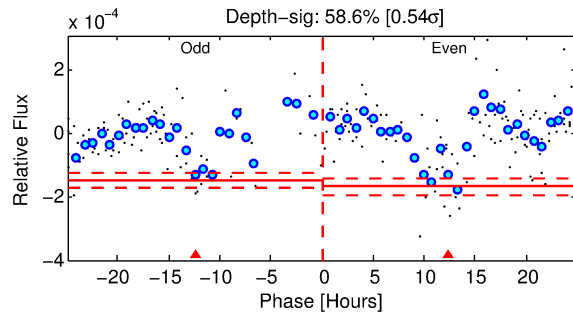
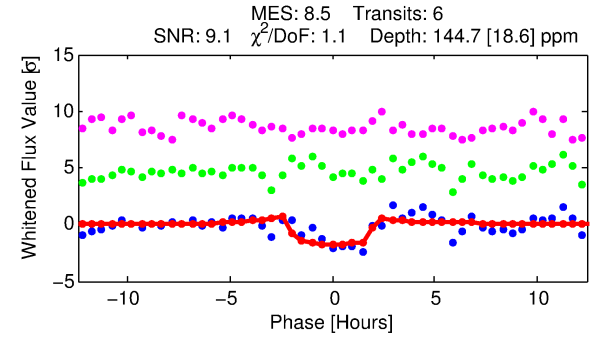
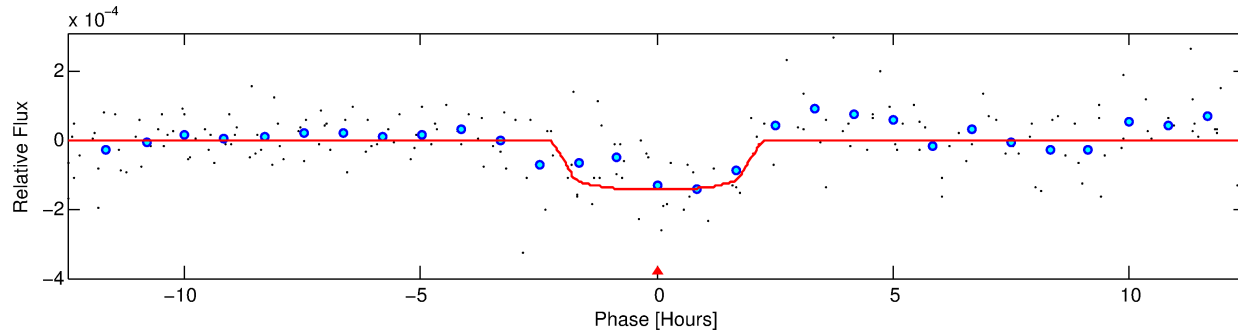
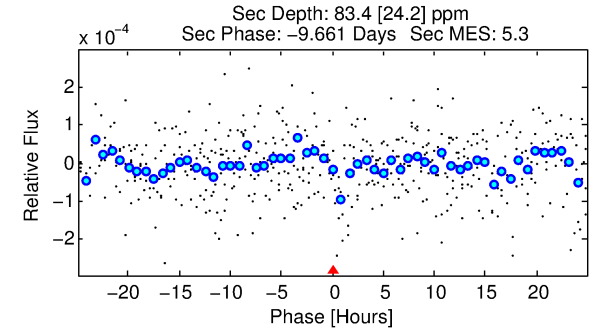
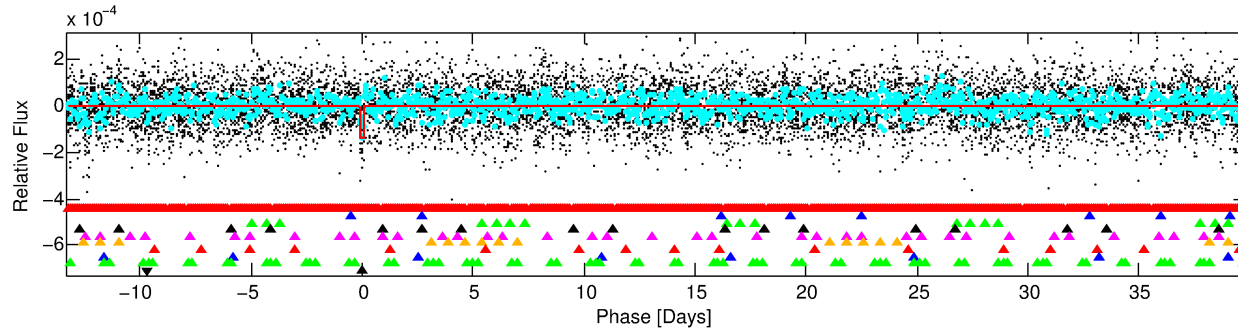
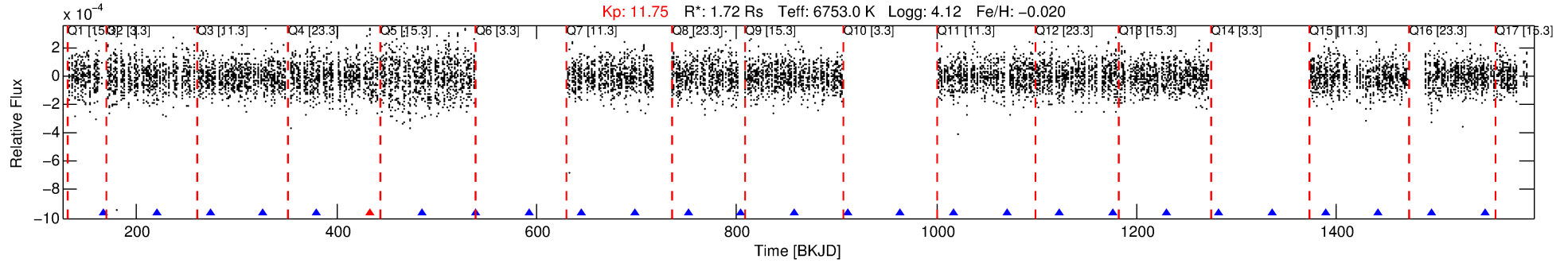
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004484252-10

No Significant Match Found

DV One-Page Summary

KIC: 4484252 Candidate: 10 of 10 Period: 53.113 d



DV Fit Results:

Period = 53.11346 [0.00083] d
Epoch = 167.4070 [0.0151] BKJD
Rp/R* = 0.0124 [0.0070]
a/R* = 55.23 [179.49]
b = 0.84 [1.15]
Seff = 57.16 [21.43]
Teq = 701 [66] K
Rp = 2.32 [1.49] Re
a = 0.3100 [0.0757] AU
Ag = 819.83 [999.32] [0.82σ]
Teffp = 5801 [1711] K [2.98σ]

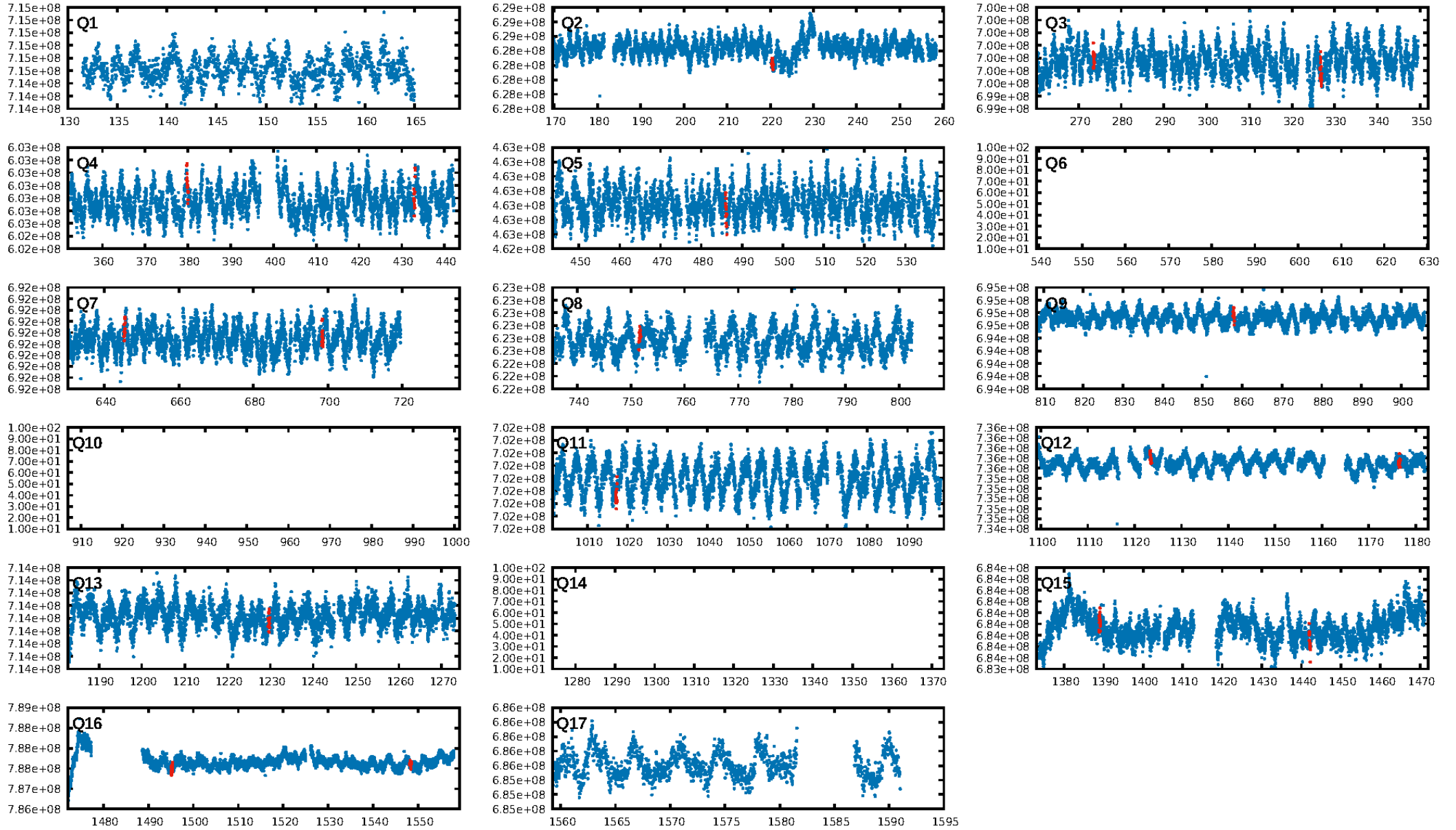
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [75.51σ]
LongPeriod-sig: 100.0% [139.66σ]
ModelChiSquare2-sig: 44.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 1.603
Centroid-sig: 8.5%
Centroid-so: 0.865 arcsec [1.53σ]
OotOffset-rm: 1.357 arcsec [1.26σ]
KicOffset-rm: 0.899 arcsec [0.77σ]
OotOffset-st: 0/2/2/2 [6]
KicOffset-st: 0/2/2/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.33 [4/12]

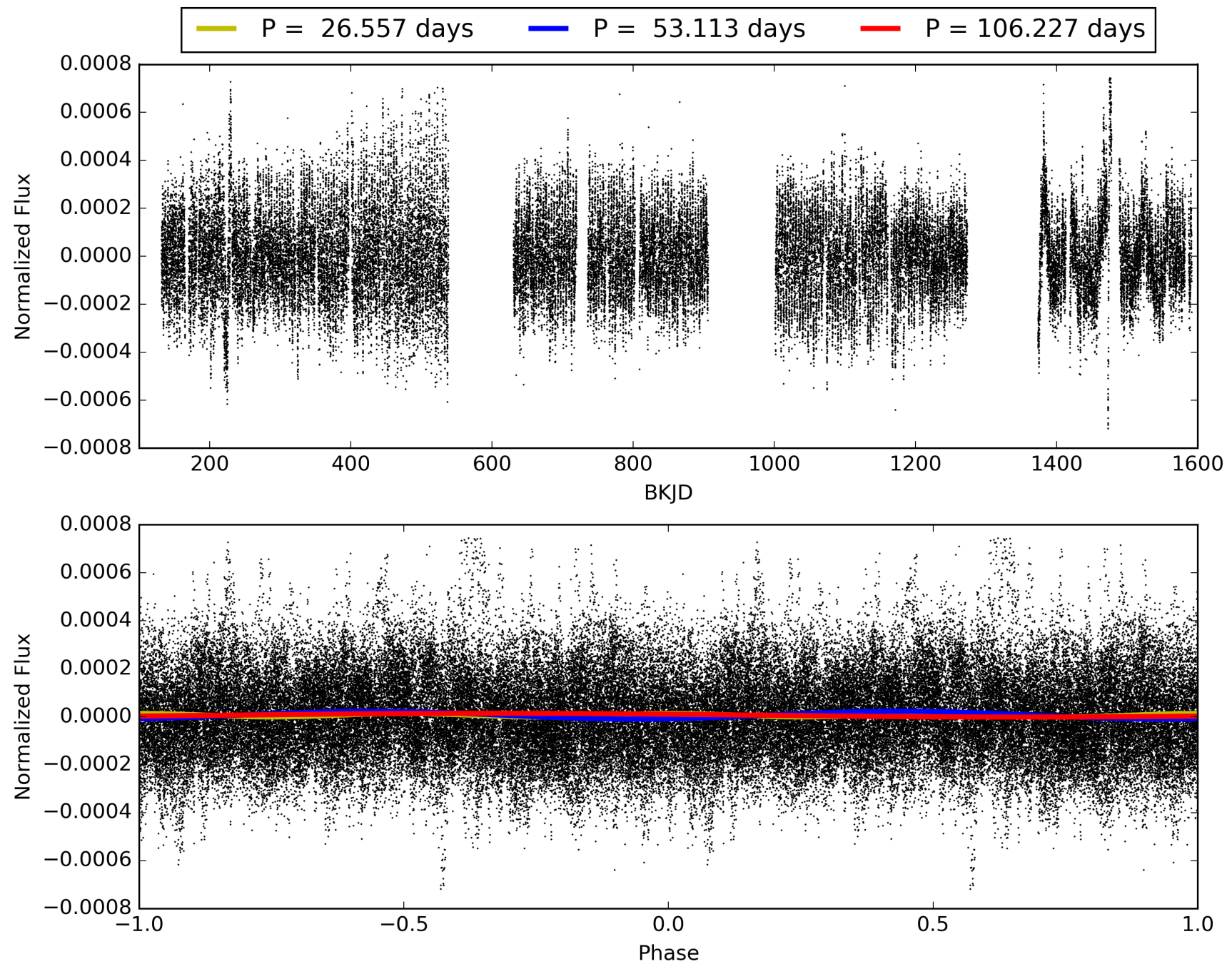
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:47:26 Z

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

TCE 004484252-10, PDC Light Curves

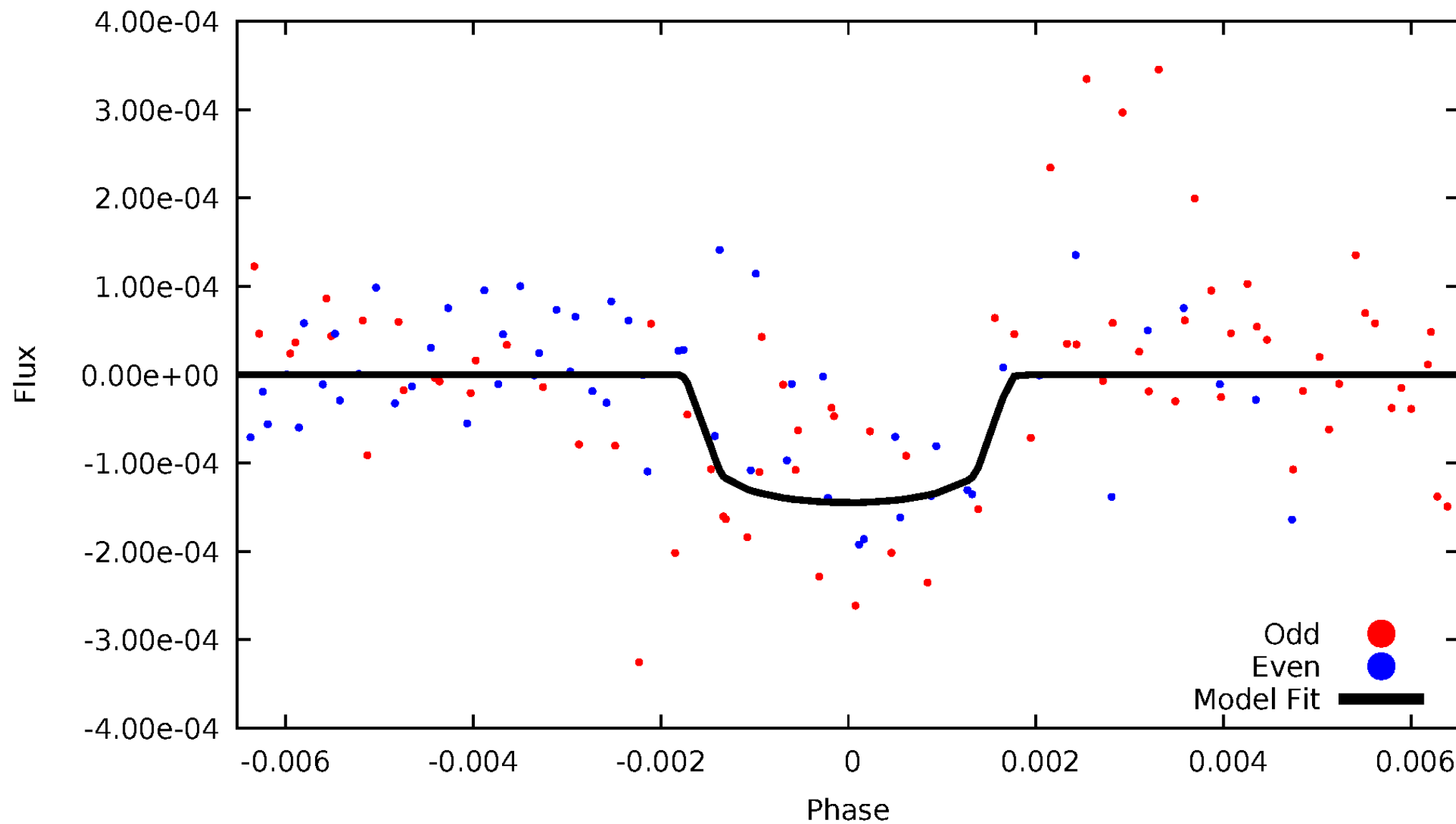


TCE 004484252-10



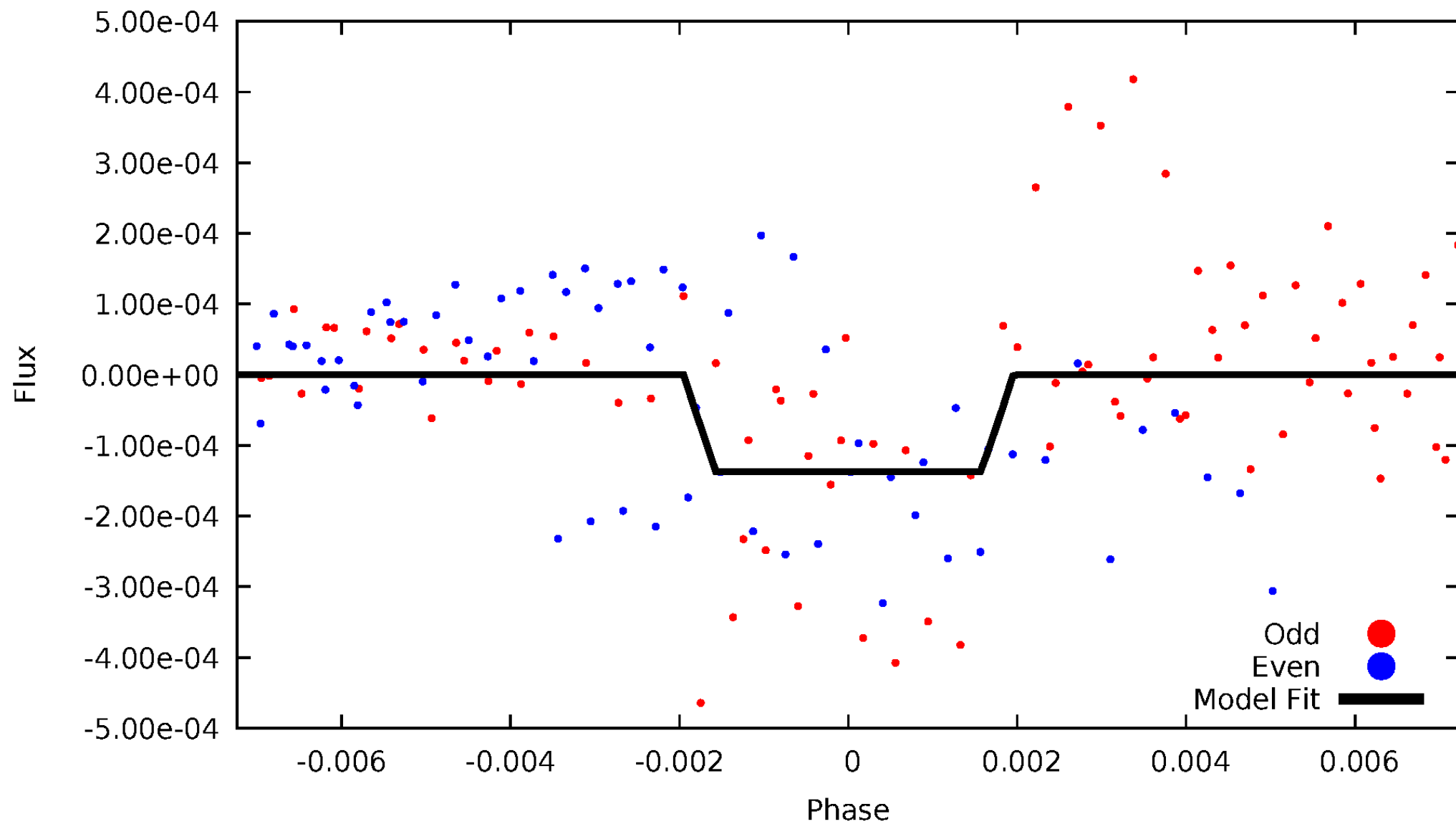
DV Odd/Even

TCE 004484252-10



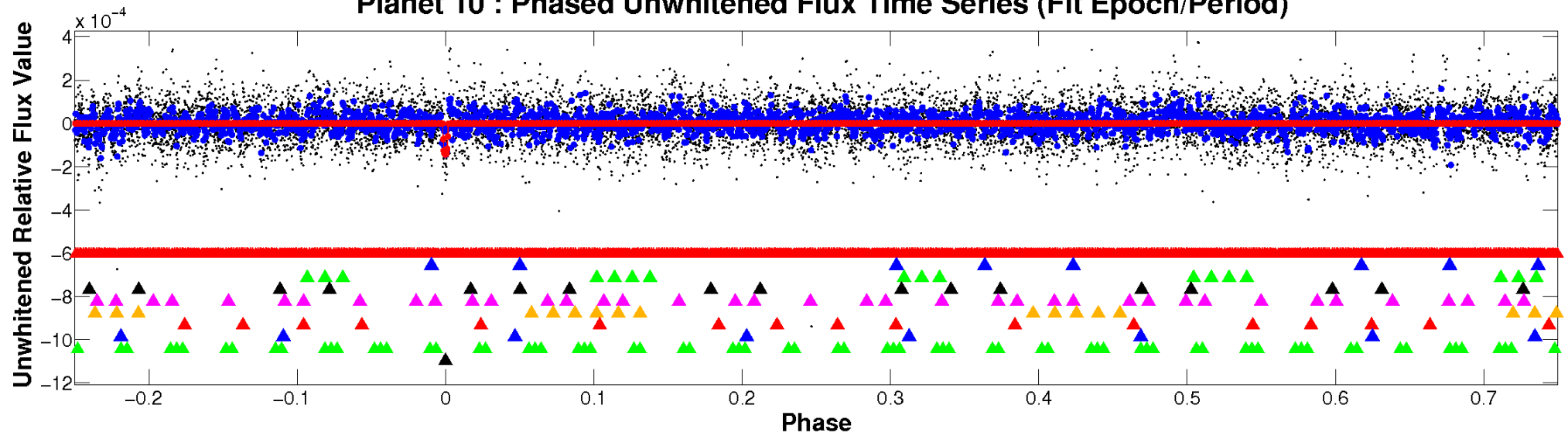
ALT Odd/Even

TCE 004484252-10

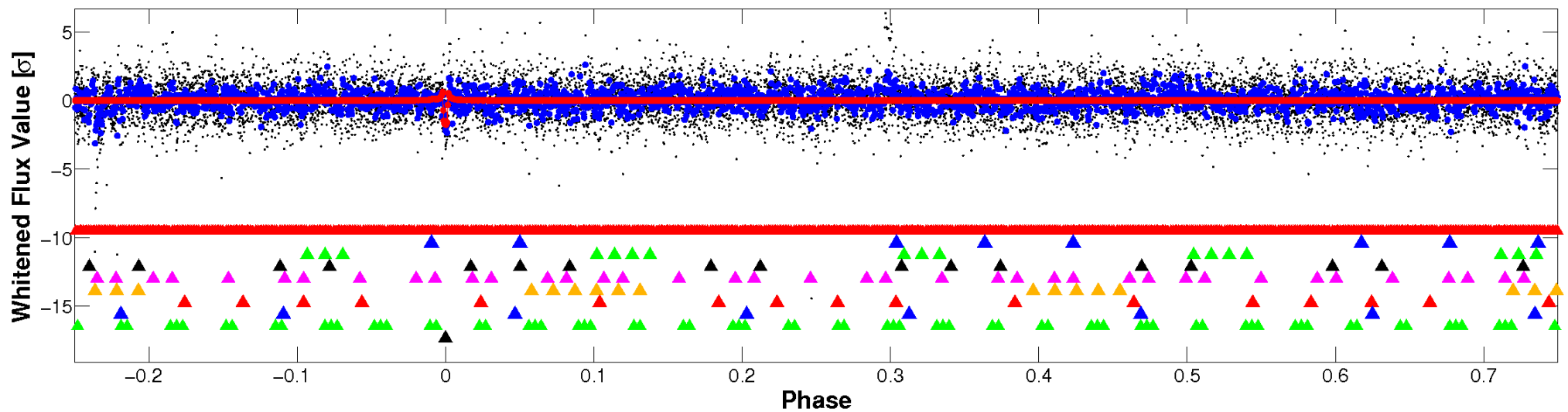


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

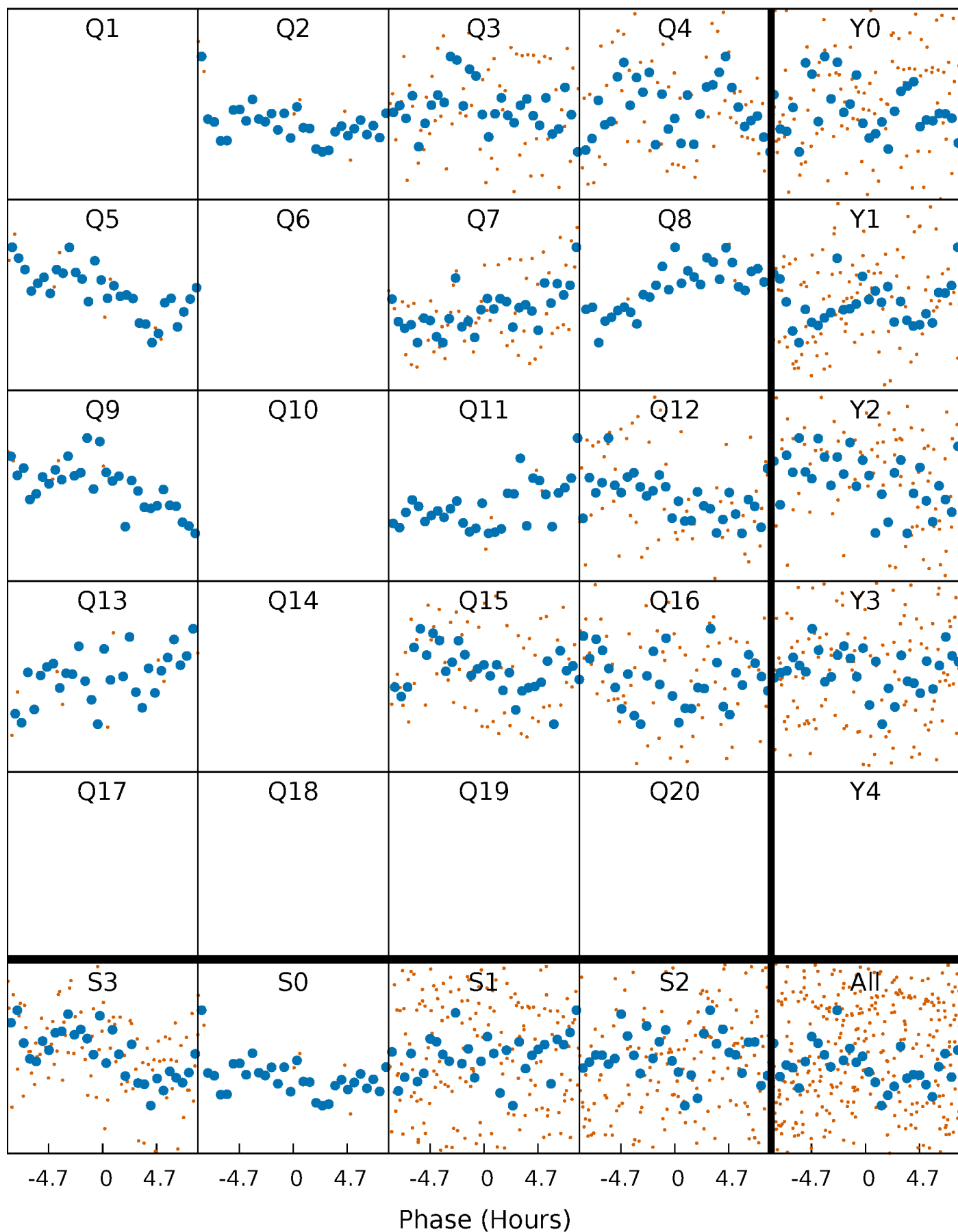


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



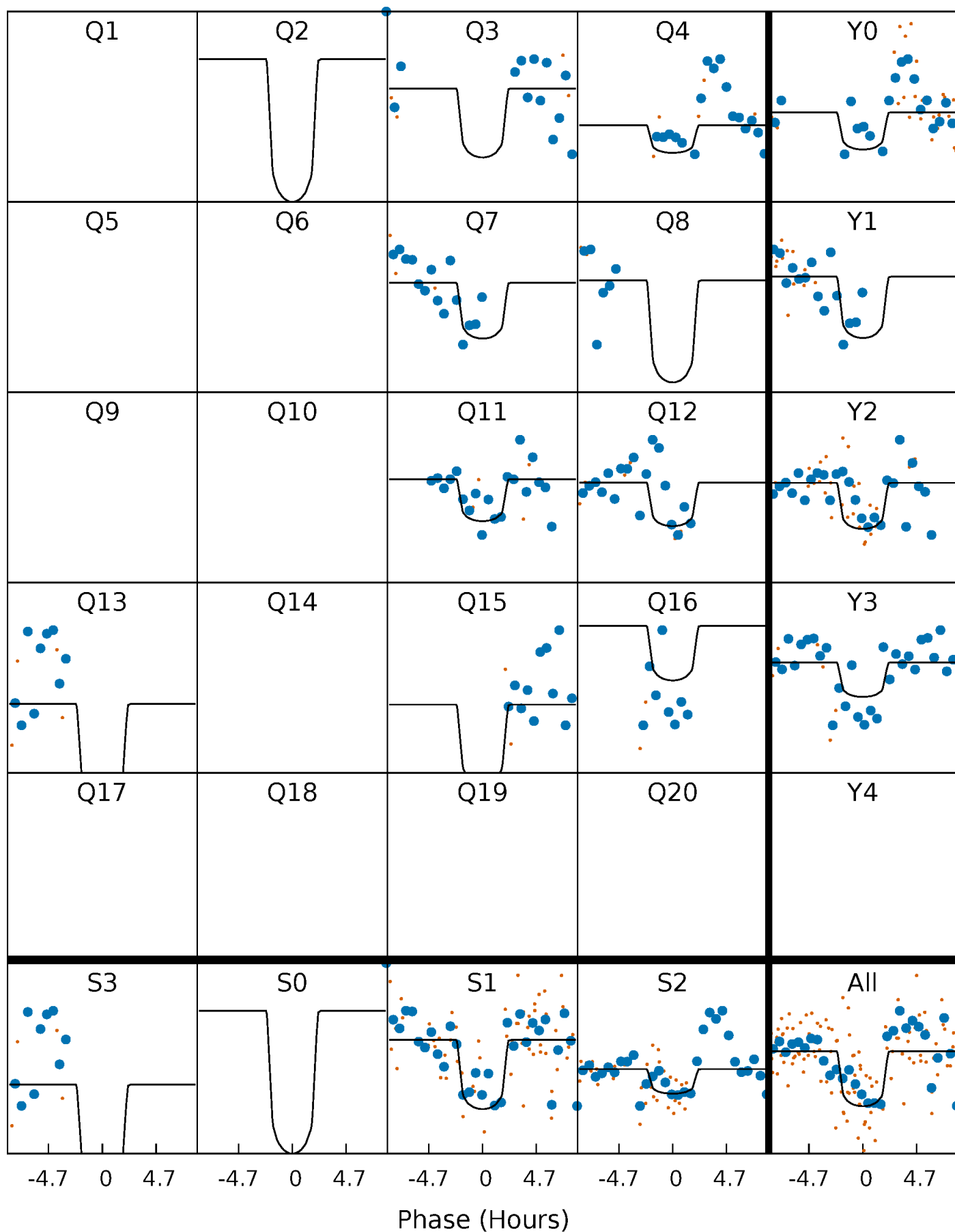
PDC Quarter-Phased Transit Curves

TCE 004484252-10 P= 53.113455 Days $T_0=167.407001$ (BKJD)



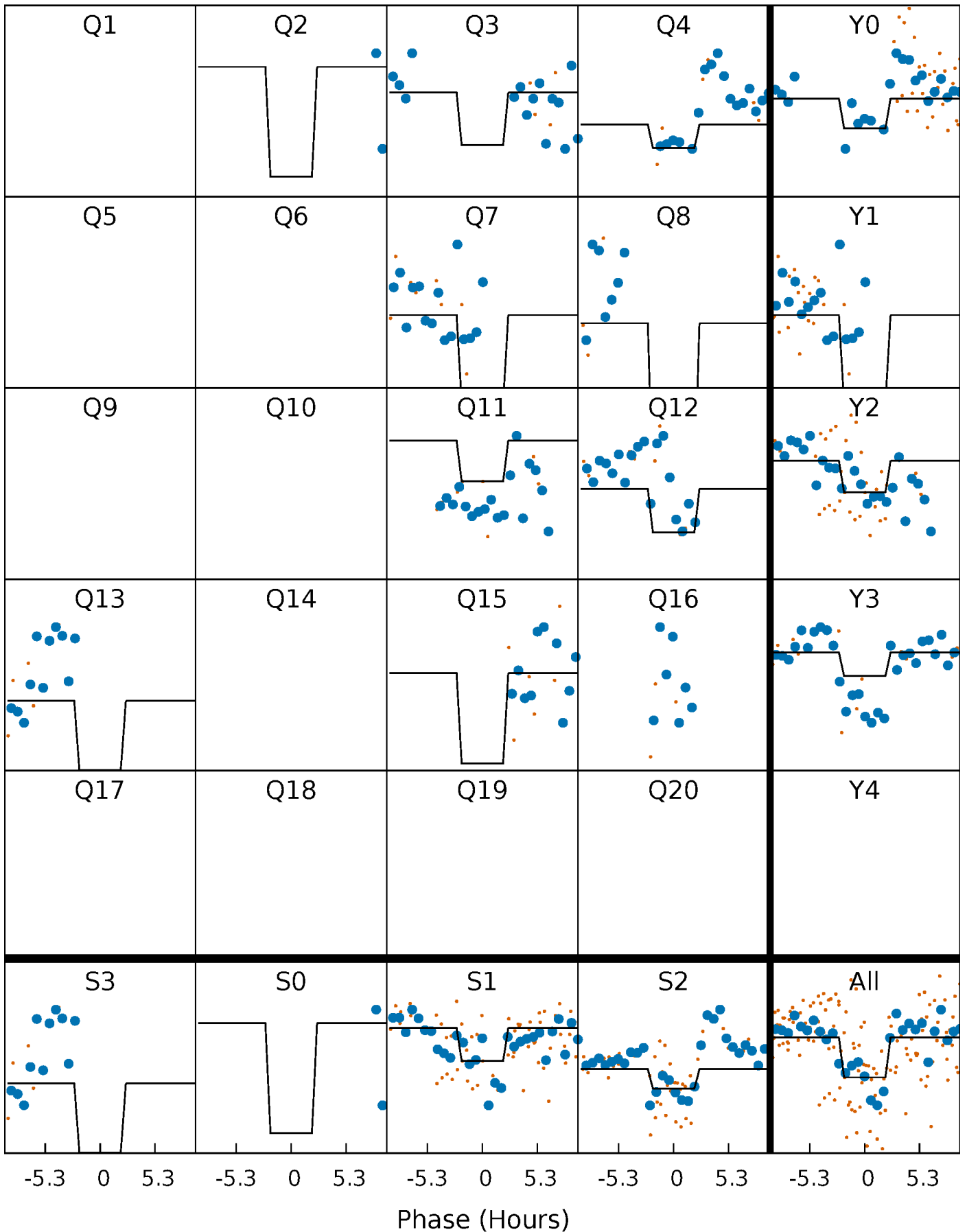
DV Quarter-Phased Transit Curves

TCE 004484252-10 P= 53.113455 Days $T_0=167.407001$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

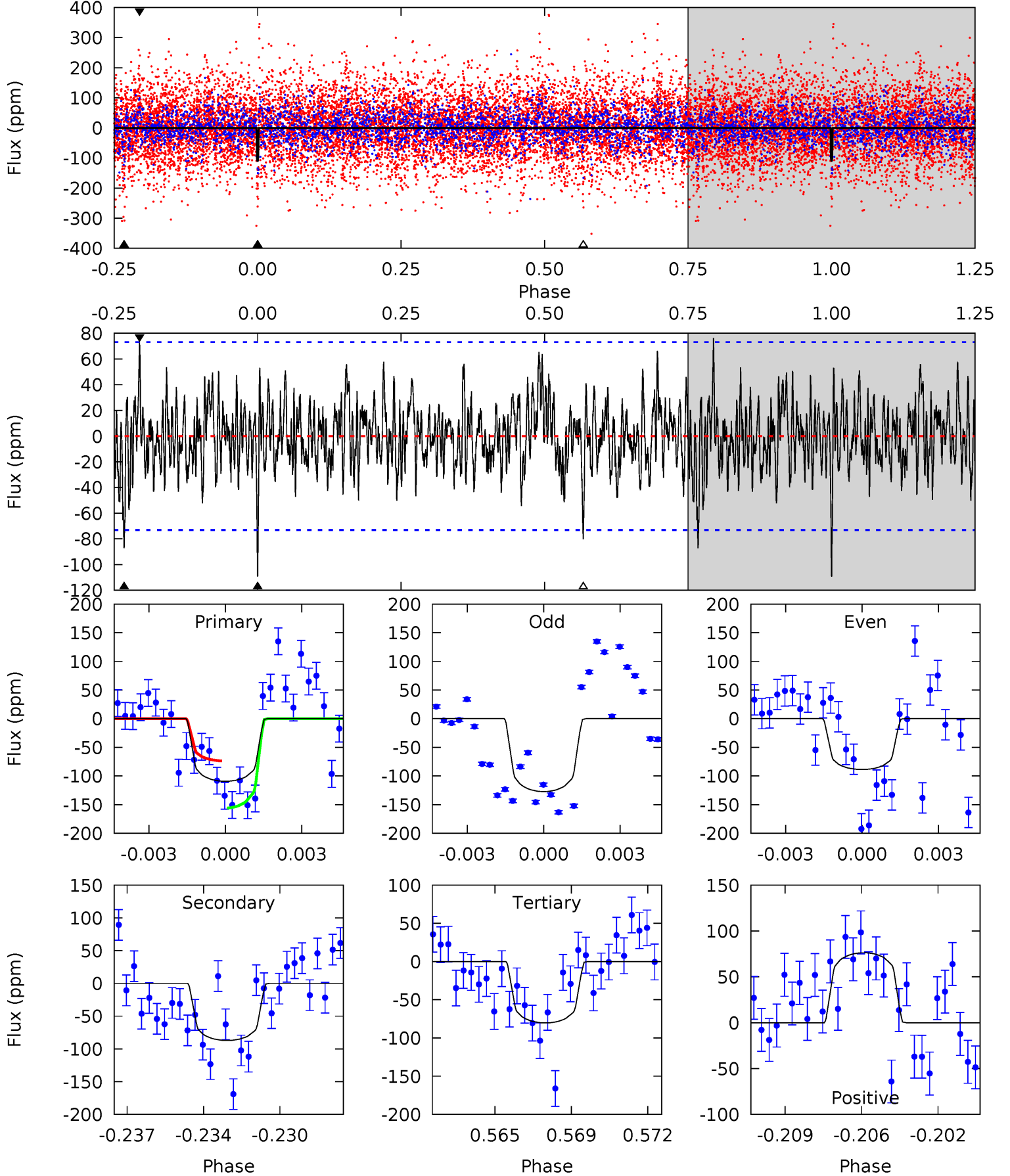
TCE 004484252-10 P= 53.112344 Days $T_0=167.409085$ (BKJD)



DV Model-Shift Uniqueness Test

004484252-10, P = 53.113455 Days, E = 114.293546 Days

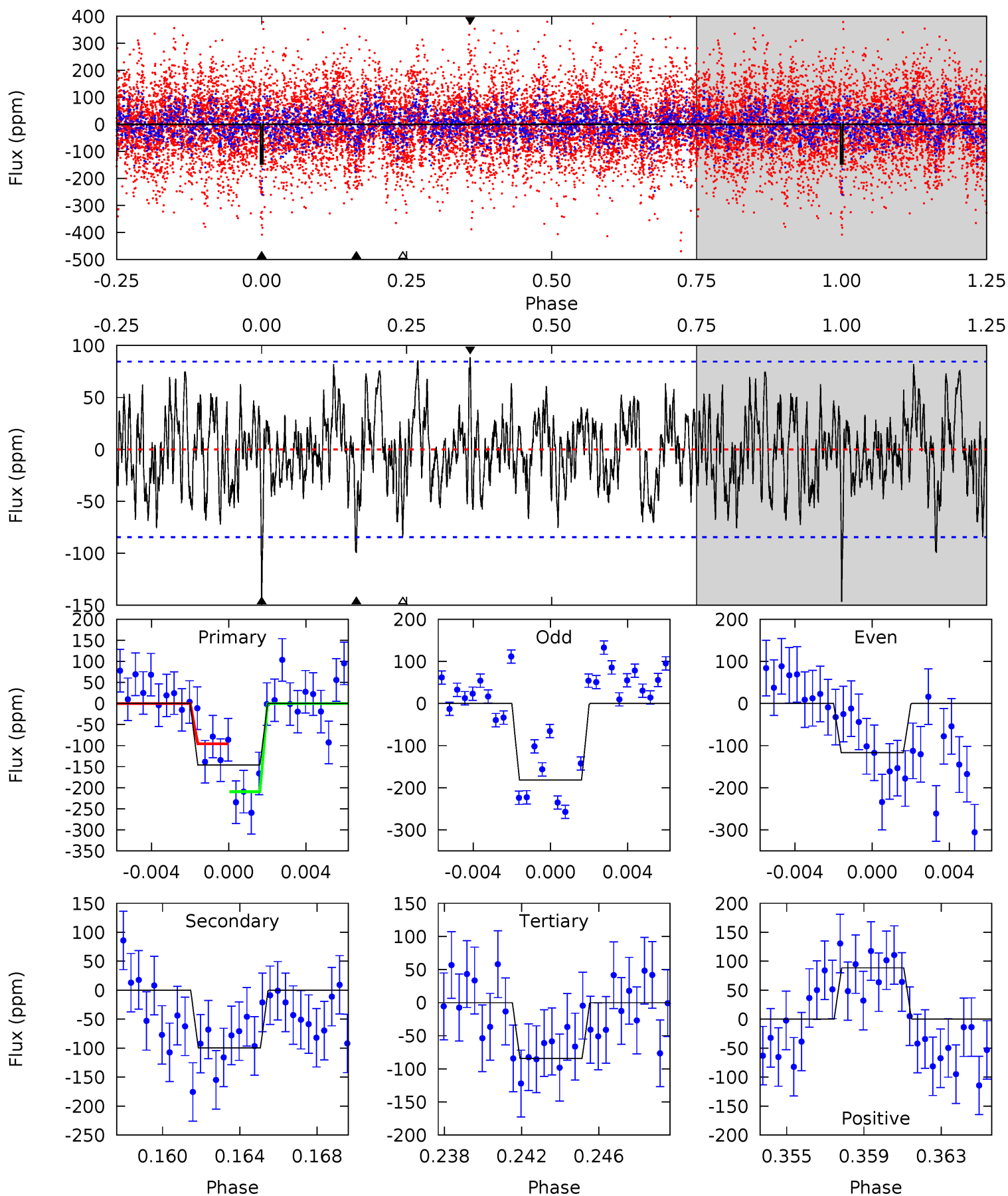
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.81	6.23	5.74	5.45	5.22	2.92	1.57	2.07	2.36	0.49	0.78	1.37	1.03	0.41	2.92



Alt Model-Shift Uniqueness Test

004484252-10, P = 53.112344 Days, E = 114.296741 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.99	6.12	5.18	5.45	5.20	2.89	1.83	3.81	3.55	0.94	0.67	2.03	1.27	0.38	3.50



Stellar Parameters For KIC 004484252

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6753^{+189}_{-259}	$4.117^{+0.180}_{-0.180}$	$-0.020^{+0.250}_{-0.350}$	$1.717^{+0.519}_{-0.425}$	$1.410^{+0.208}_{-0.254}$	$0.393^{+0.400}_{-0.201}$
	+3%/-4%	+4%/-4%	+1250%/-1750%	+30%/-25%	+15%/-18%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004484252-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-87 ± 14	$2.33^{+1.50}_{-1.20}$	978^{+80}_{-70}	5778^{+2866}_{-1077}	841^{+2739}_{-538}
Alt.	-99 ± 16	$2.24^{+1.33}_{-1.28}$	980^{+72}_{-69}	6144^{+4011}_{-1217}	1003^{+4655}_{-606}

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

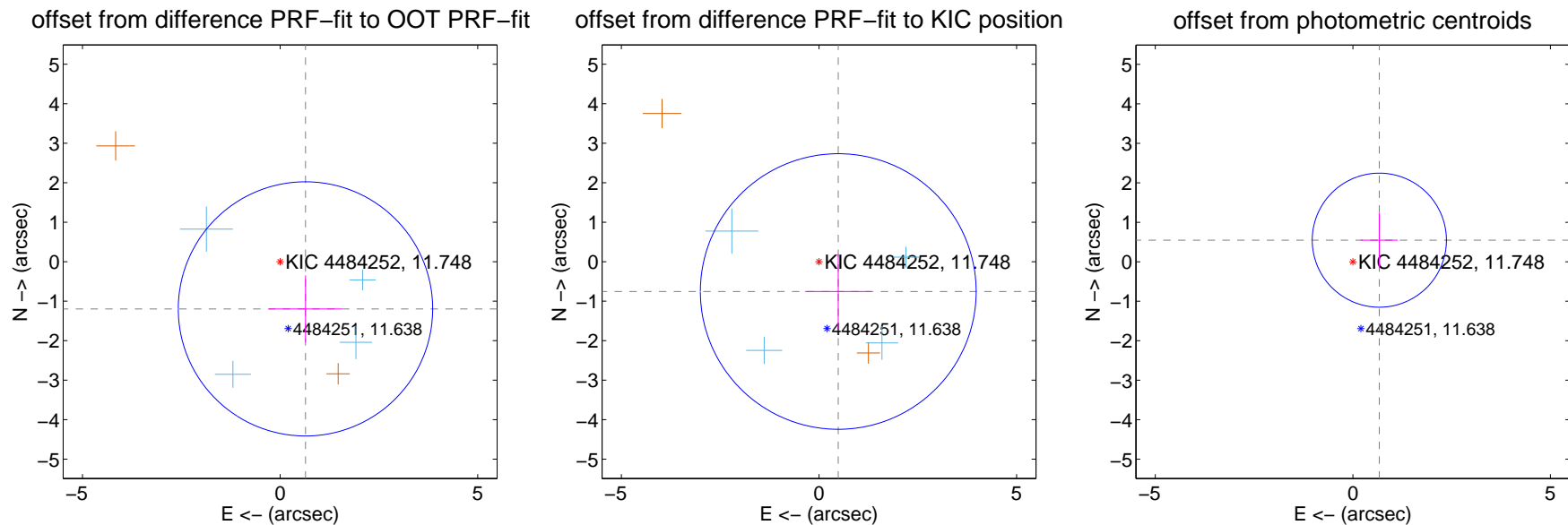
DV Centroid Data

Supplemental centroid analysis for 004484252-10. **Kepler magnitude: 11.75.** Transit SNR 9.15

There are 4 quarters with good PRF difference image offsets

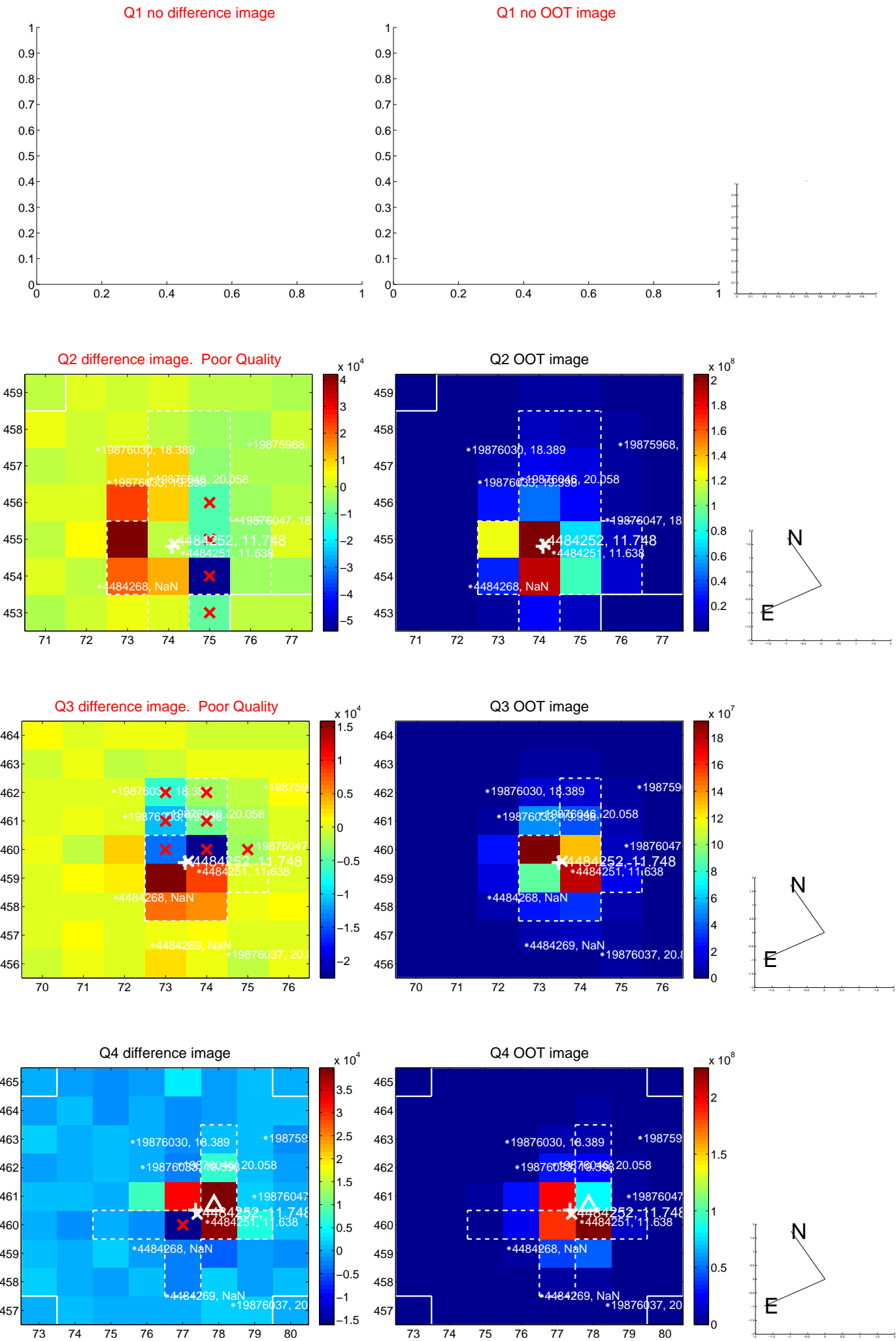
The direct PRF centroid is offset from the target star catalog position by about 0.63 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.357 ± 1.073	1.26	-0.642 ± 0.923	-1.195 ± 0.849
PRF-fit source offset from KIC position	0.899 ± 1.163	0.77	-0.488 ± 0.837	-0.755 ± 0.951
photometric centroid source offset	0.86 ± 0.57	1.53	-0.67 ± 0.47	0.55 ± 0.69

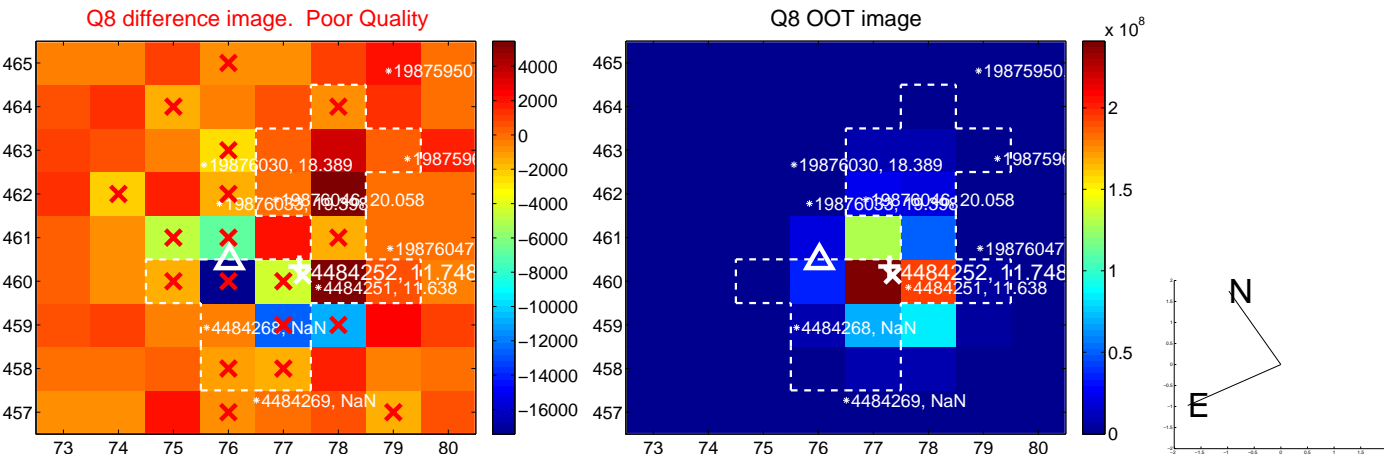
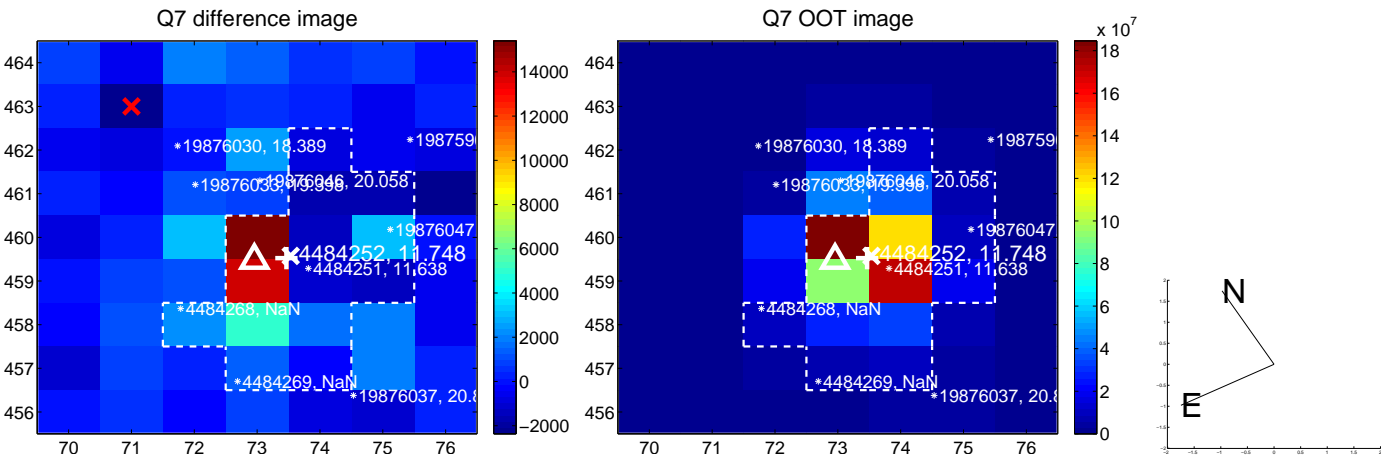
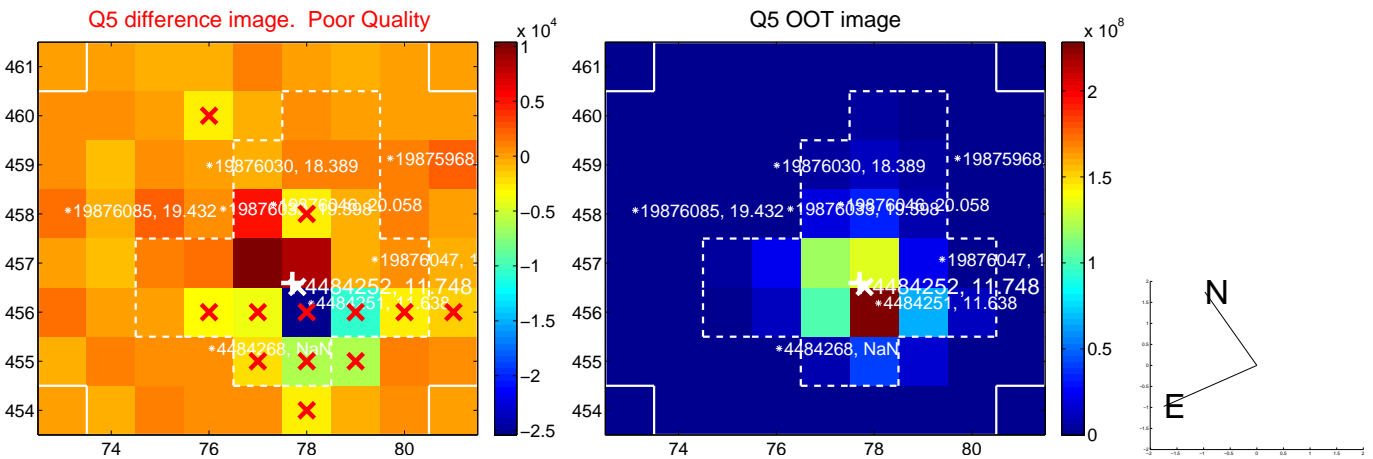


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

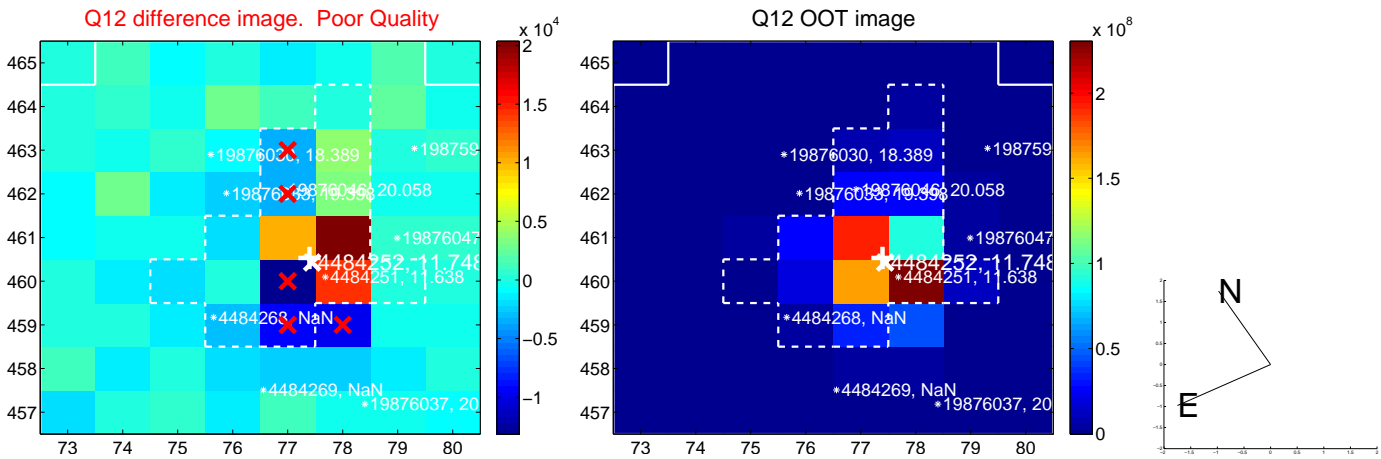
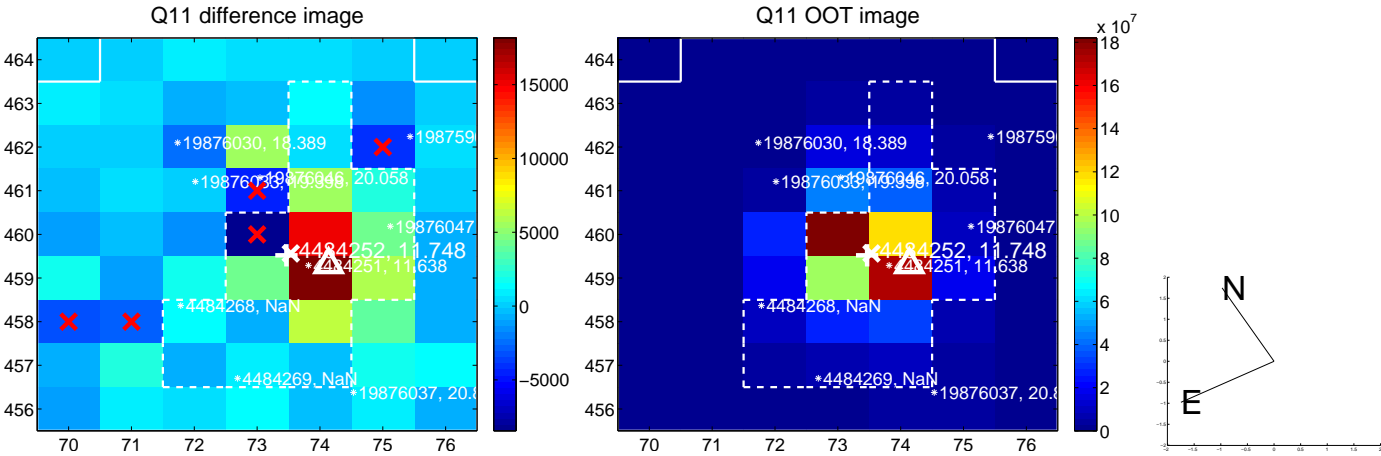
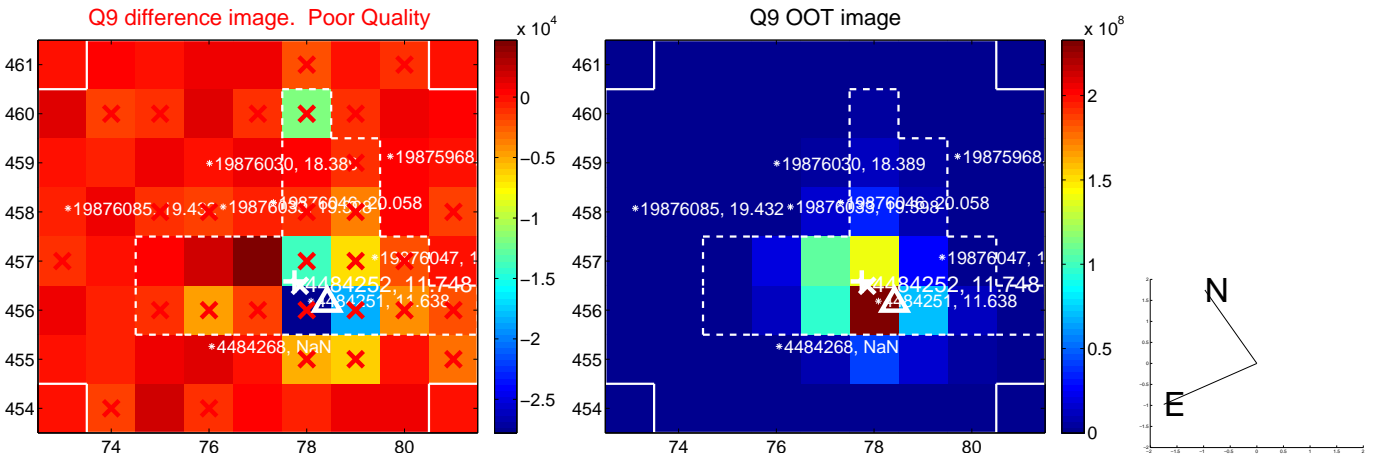
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



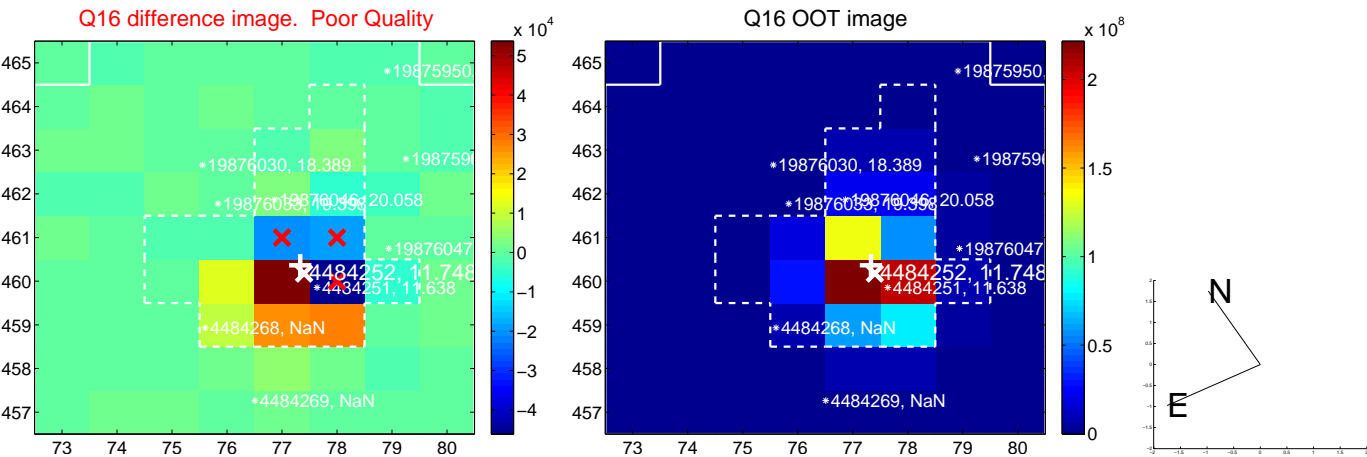
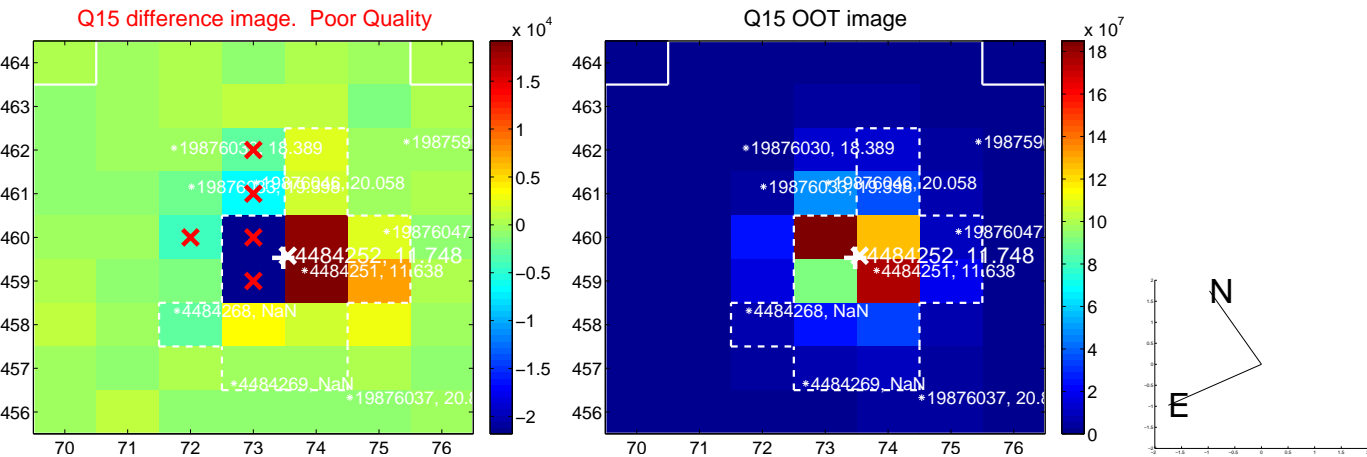
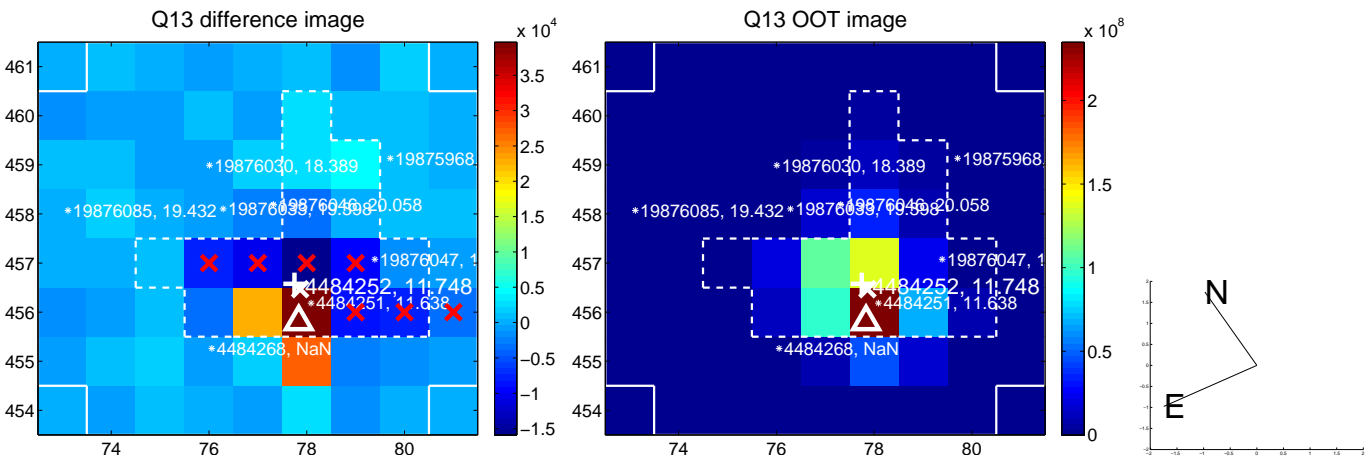
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



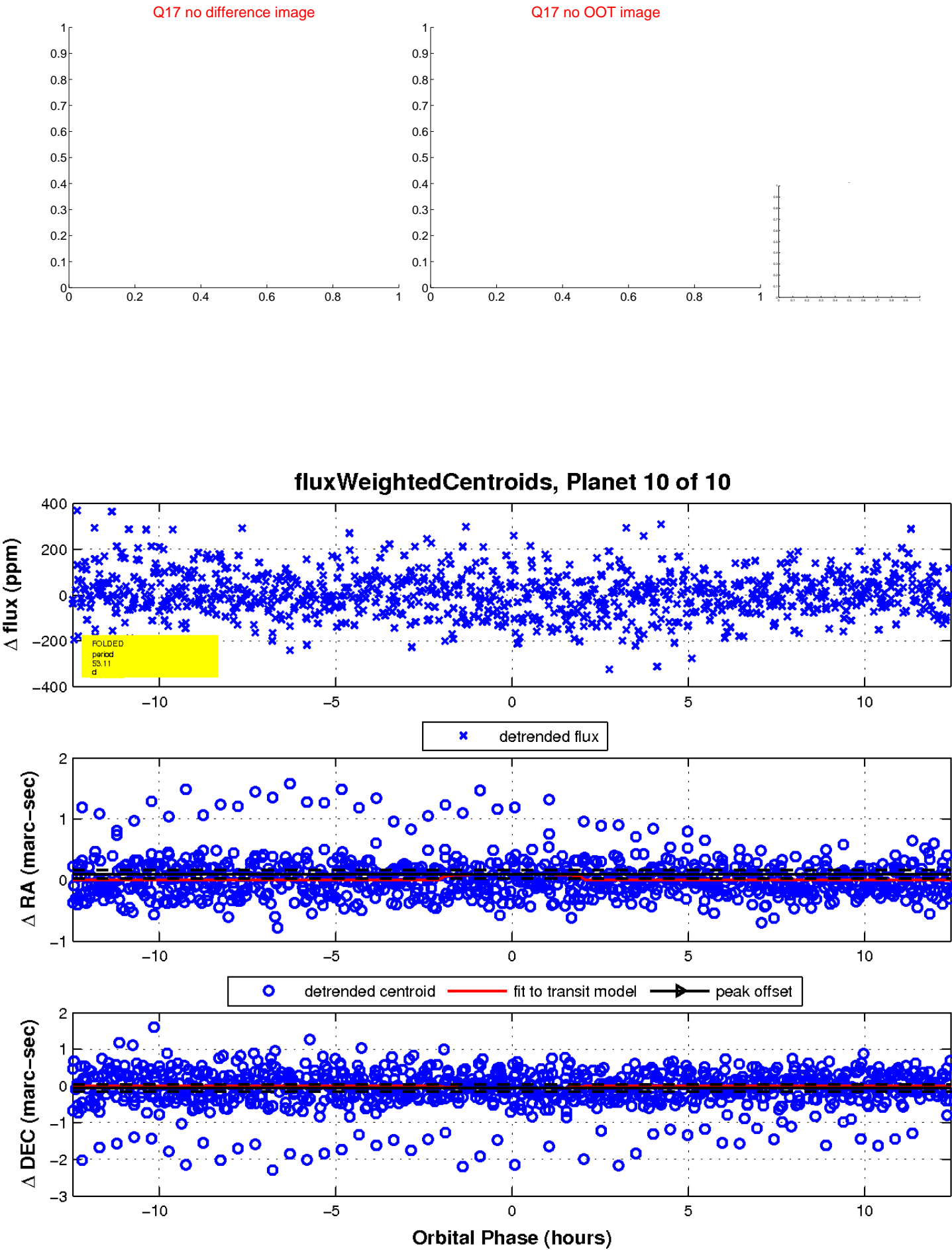
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

