

KIC 004372213

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})
004372213-01	OBS	No	1.569500	132.912029	44.1	7.602	8.6	6.9	1.42	6318	0.97	3637.92
004372213-02	OBS	No	304.850885	224.948245	1339.5	12.925	12.8	11.0	1.42	6318	9.61	3.23
004372213-03	OBS	No	144.078914	190.363704	978.9	9.356	11.8	9.2	1.42	6318	5.39	8.79
004372213-05	OBS	No	47.377298	159.992154	423.7	15.694	8.1	5.5	1.42	6318	4.14	38.71
004372213-06	OBS	No	82.284017	204.077976	438.4	8.150	8.1	5.9	1.42	6318	3.94	18.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004372213-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
004372213-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004372213-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004372213-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
004372213-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

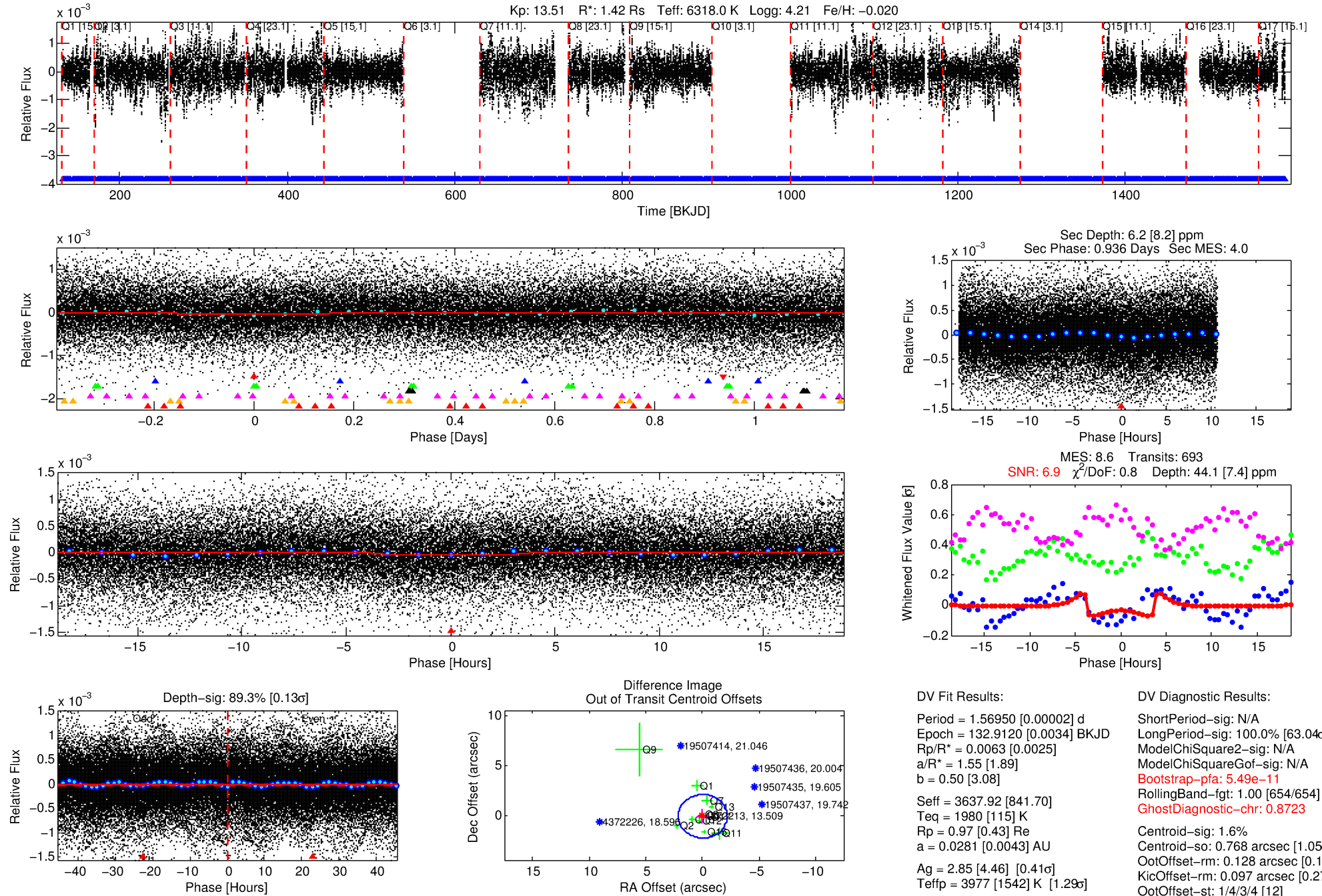
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004372213-01

No Significant Match Found

DV One-Page Summary

KIC: 4372213 Candidate: 1 of 7 Period: 1.569 d



DV Fit Results:

Period = 1.56950 [0.00002] d
Epoch = 132.9120 [0.0034] BKJD
Rp/R* = 0.0063 [0.0025]
a/R* = 1.55 [1.89]
b = 0.50 [3.08]
Seff = 3637.92 [841.70]
Teq = 1980 [115] K
Rp = 0.97 [0.43] Re
a = 0.0281 [0.0043] AU
Ag = 2.85 [4.46] [0.41 σ]
Teffp = 3977 [1542] K [1.29 σ]

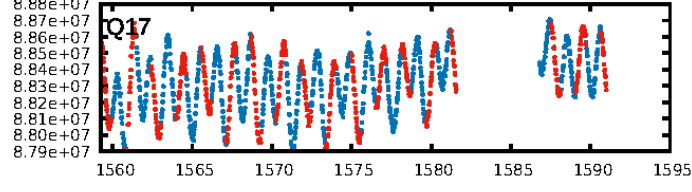
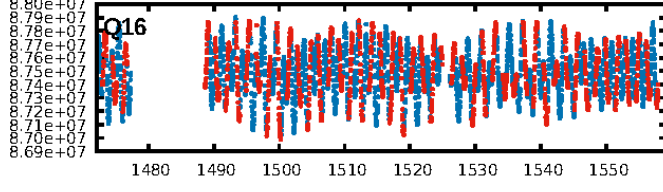
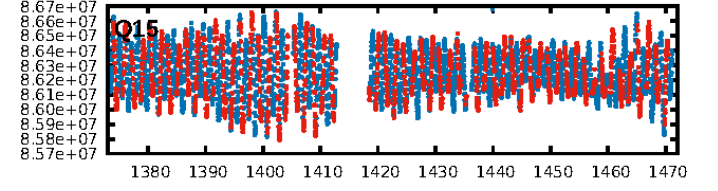
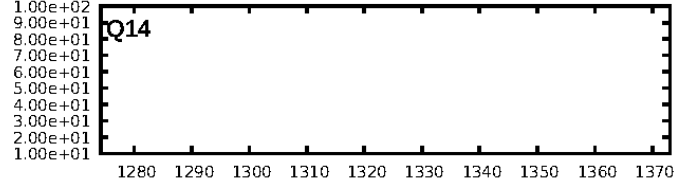
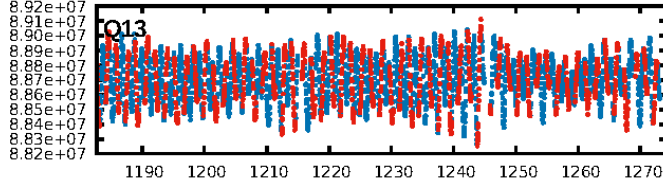
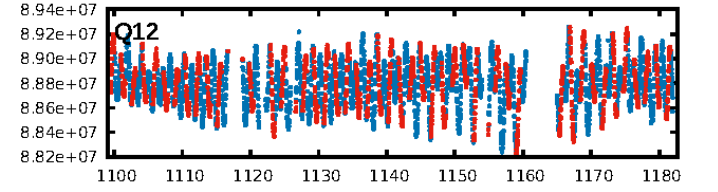
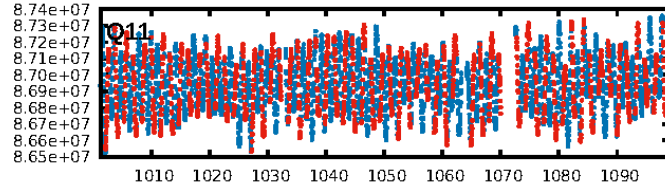
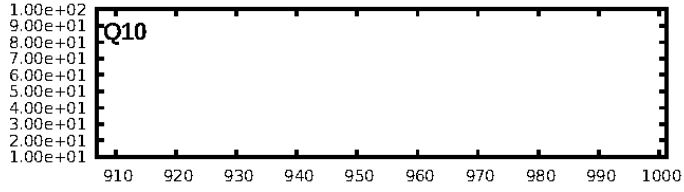
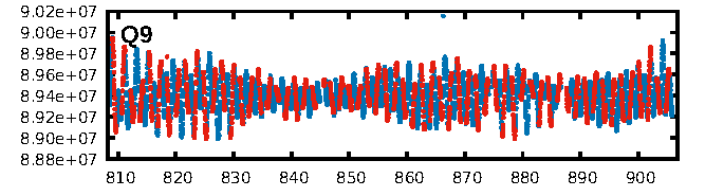
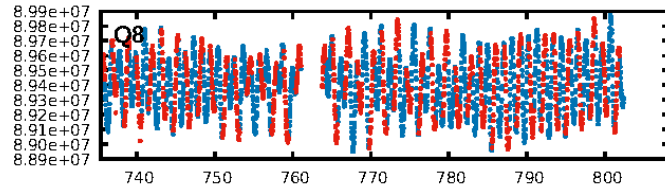
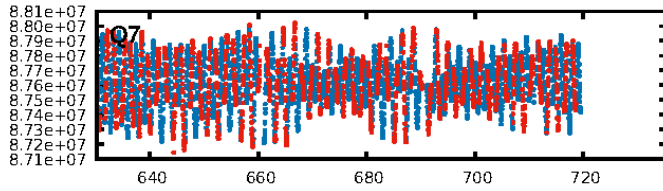
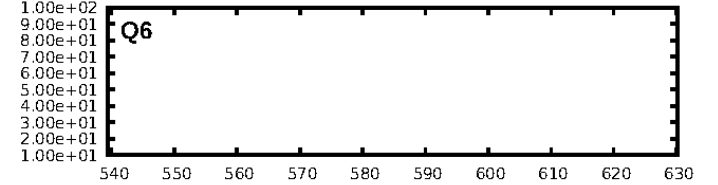
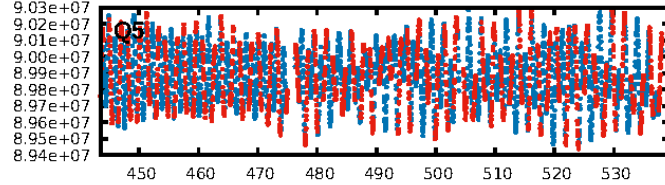
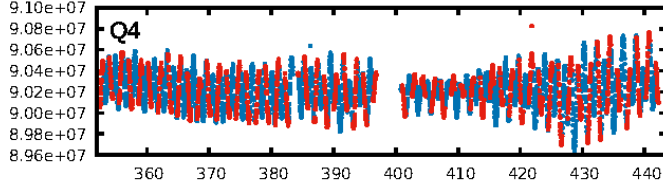
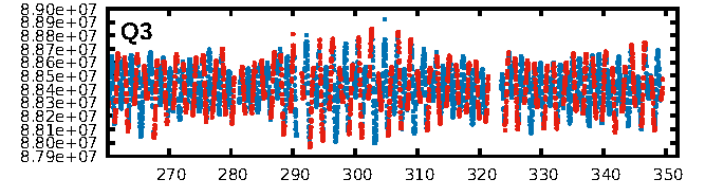
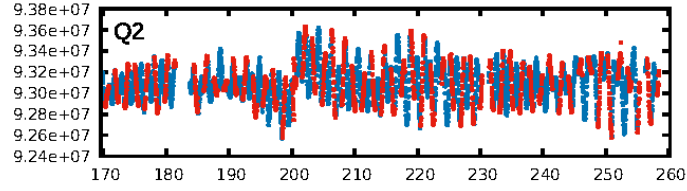
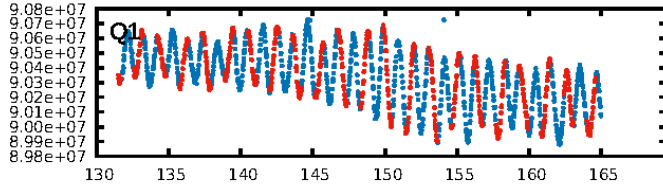
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [63.04 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.49e-11
RollingBand-fgt: 1.00 [654/654]
GhostDiagnostic-chr: 0.8723
Centroid-sig: 1.6%
Centroid-so: 0.768 arcsec [1.05 σ]
OotOffset-rm: 0.128 arcsec [0.18 σ]
KicOffset-rm: 0.097 arcsec [0.27 σ]
OotOffset-st: 1/4/3/4 [12]
KicOffset-st: 1/4/3/4 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [14/14]

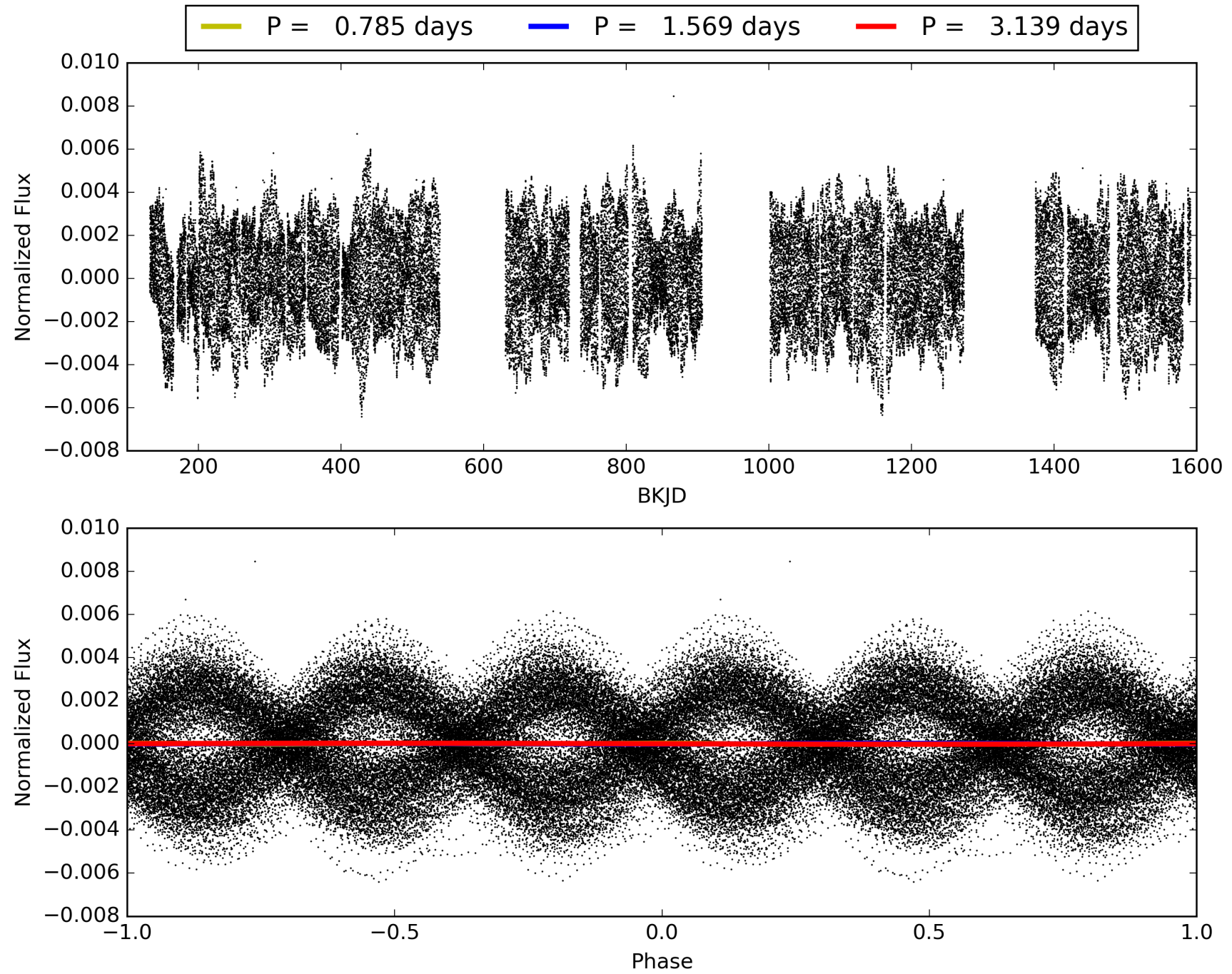
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:04:18 Z

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

TCE 004372213-01, PDC Light Curves

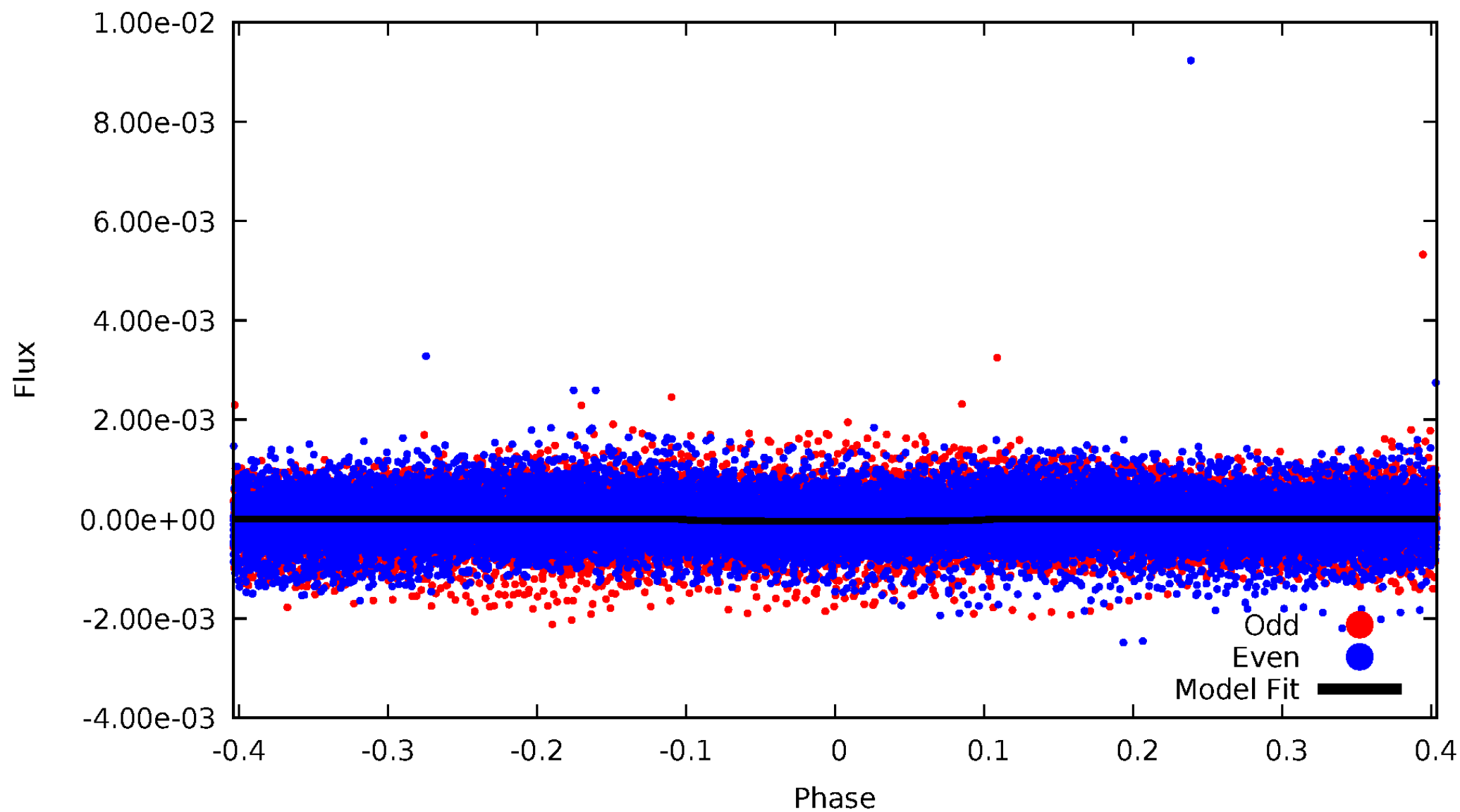


TCE 004372213-01



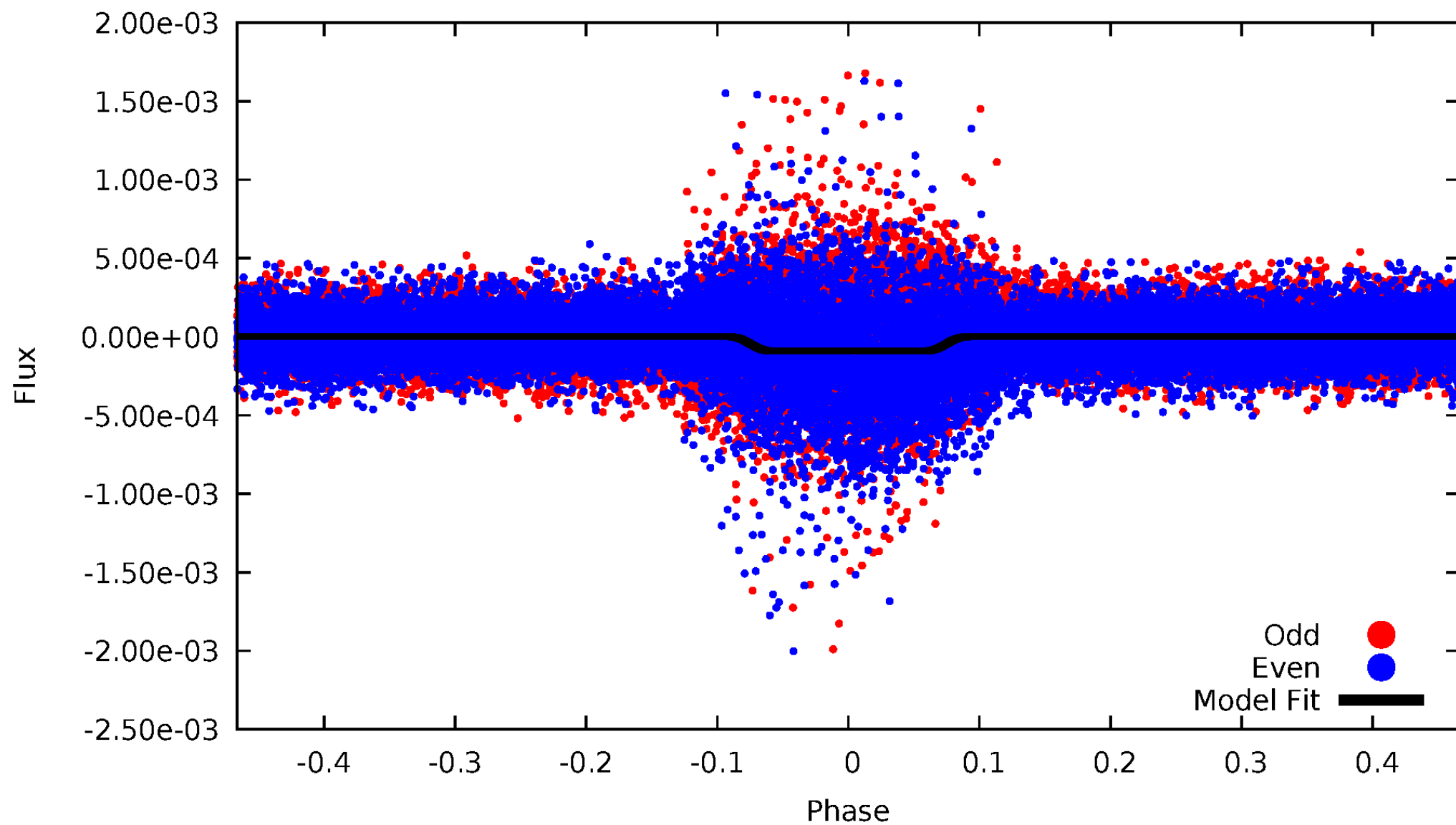
DV Odd/Even

TCE 004372213-01

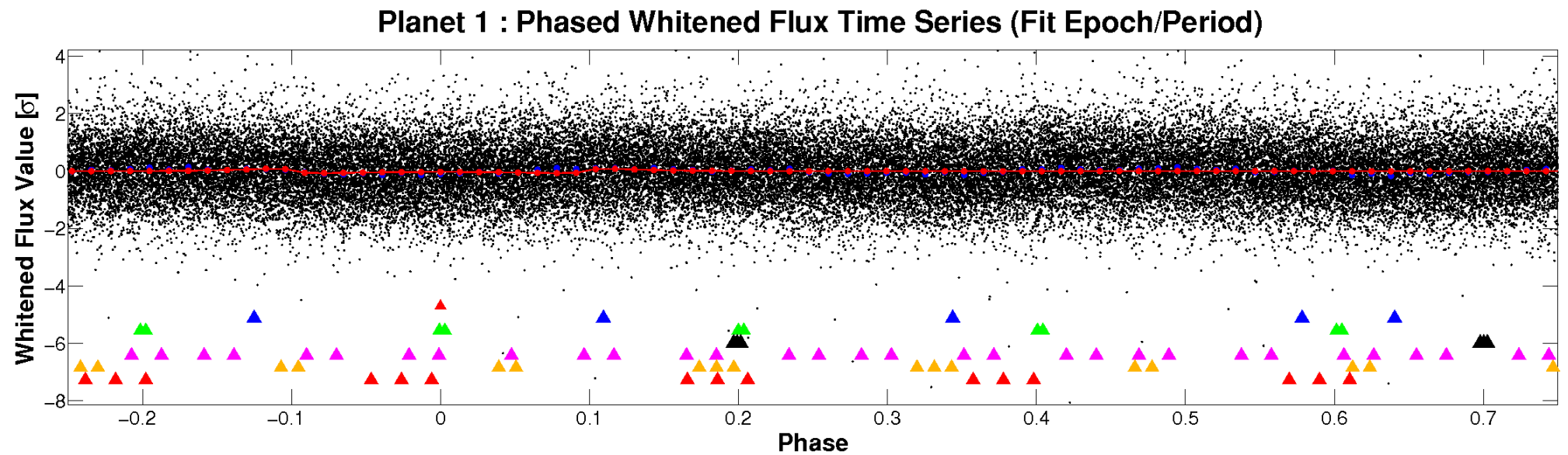
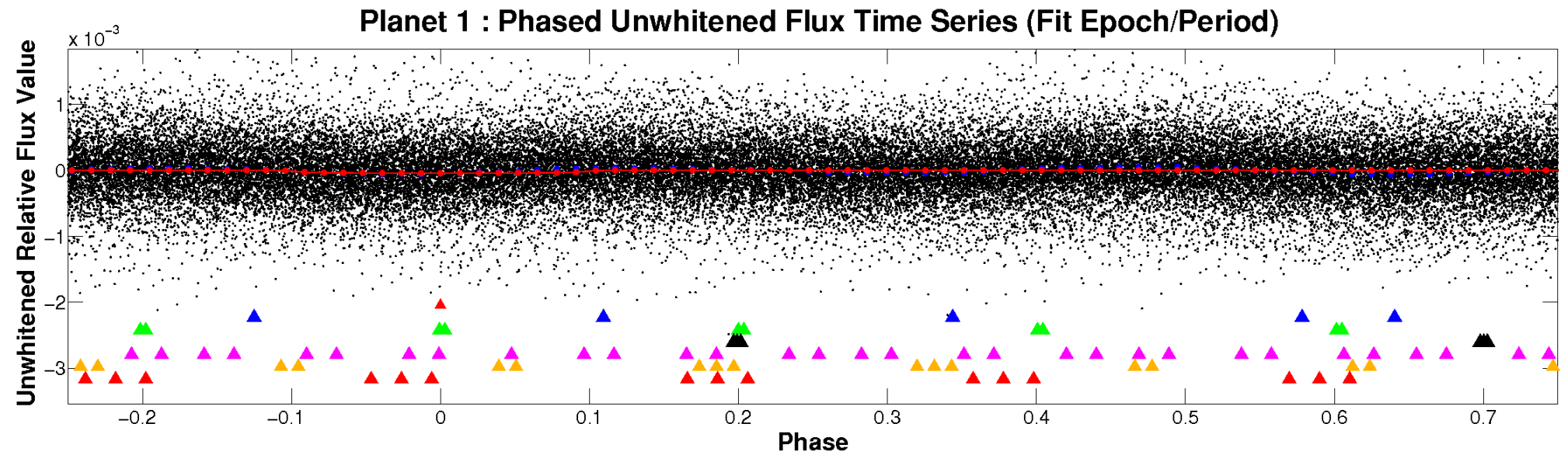


ALT Odd/Even

TCE 004372213-01

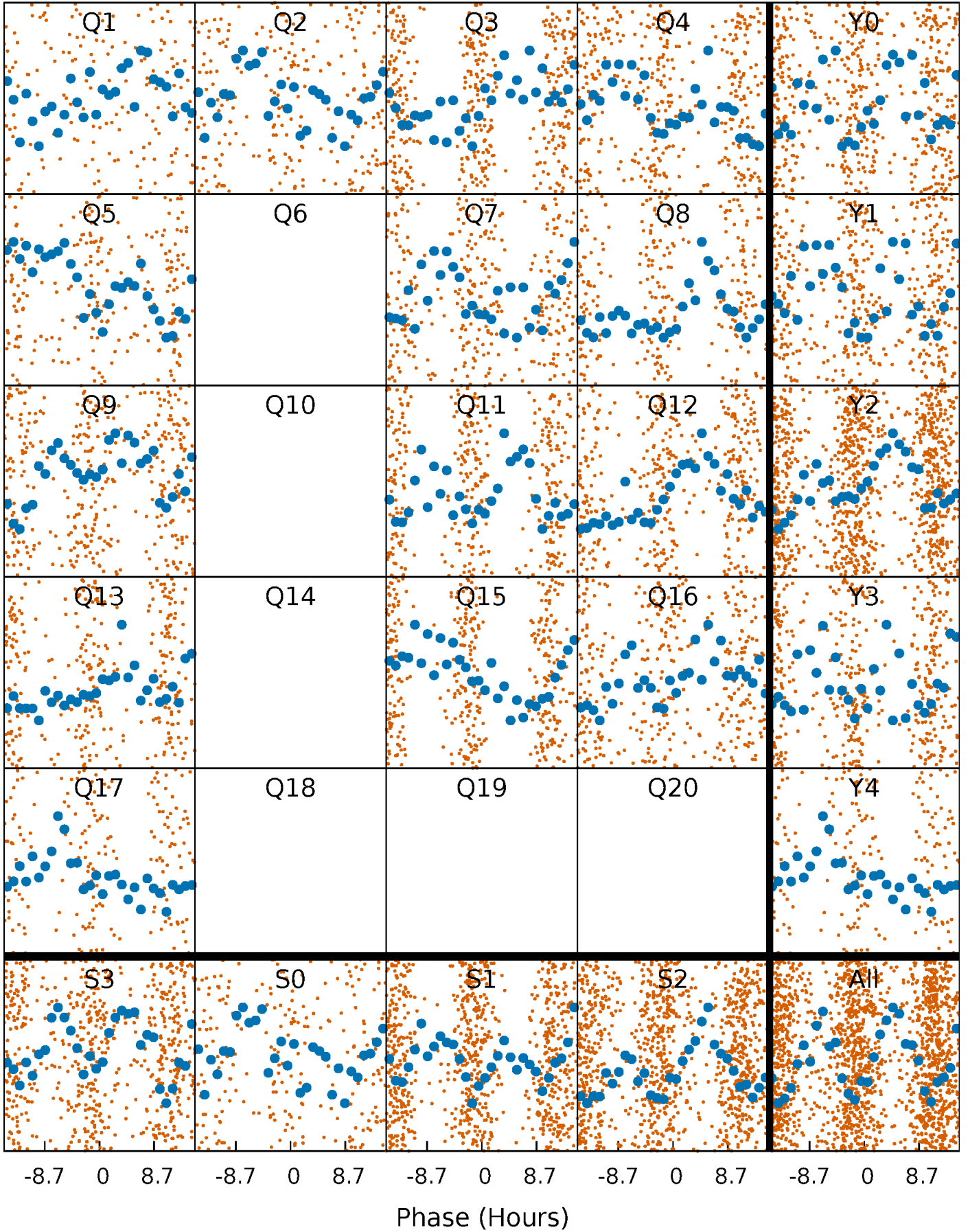


Non-Whitened Vs. Whitened Light Curve



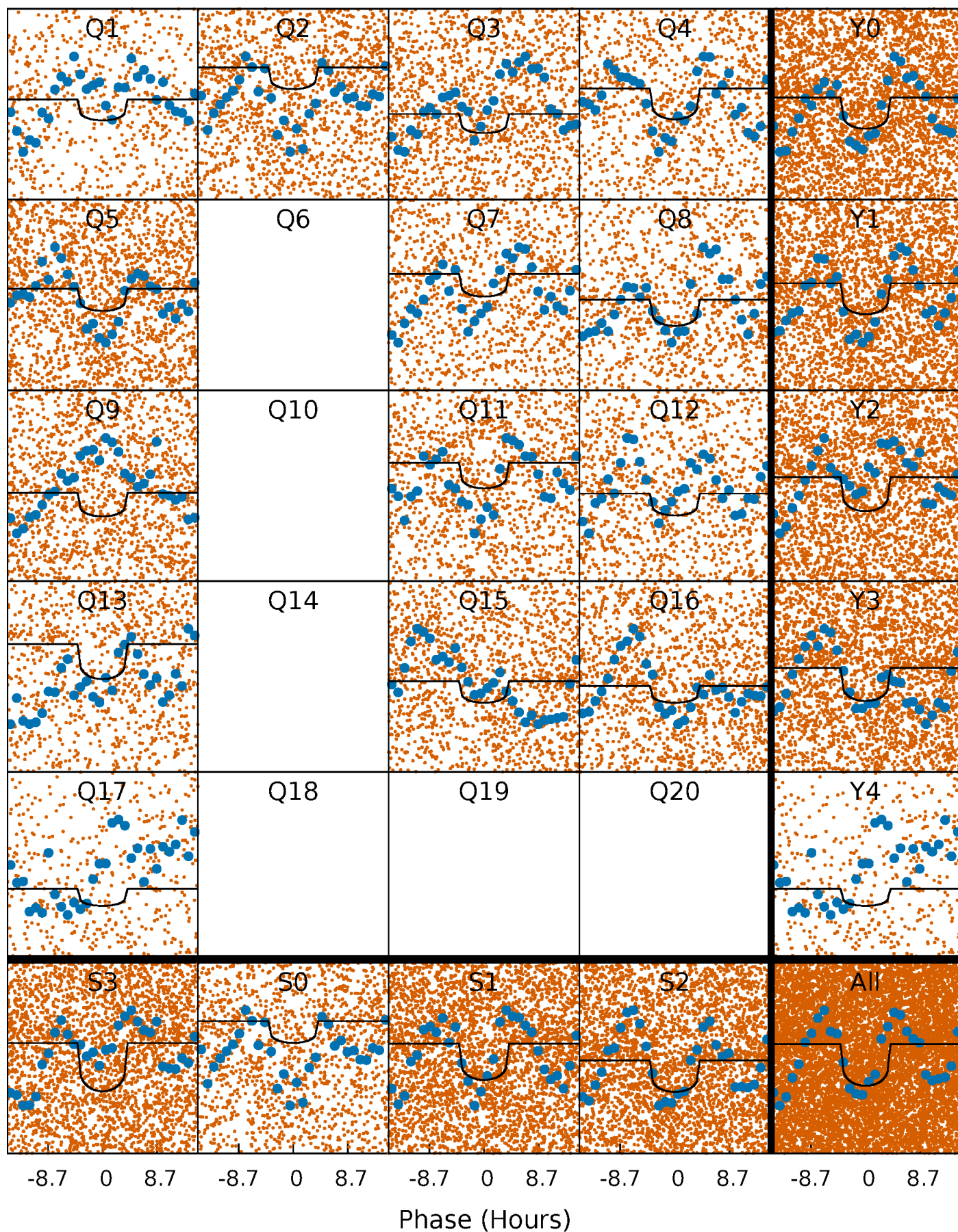
PDC Quarter-Phased Transit Curves

TCE 004372213-01 P= 1.569500 Days $T_0=132.912029$ (BKJD)



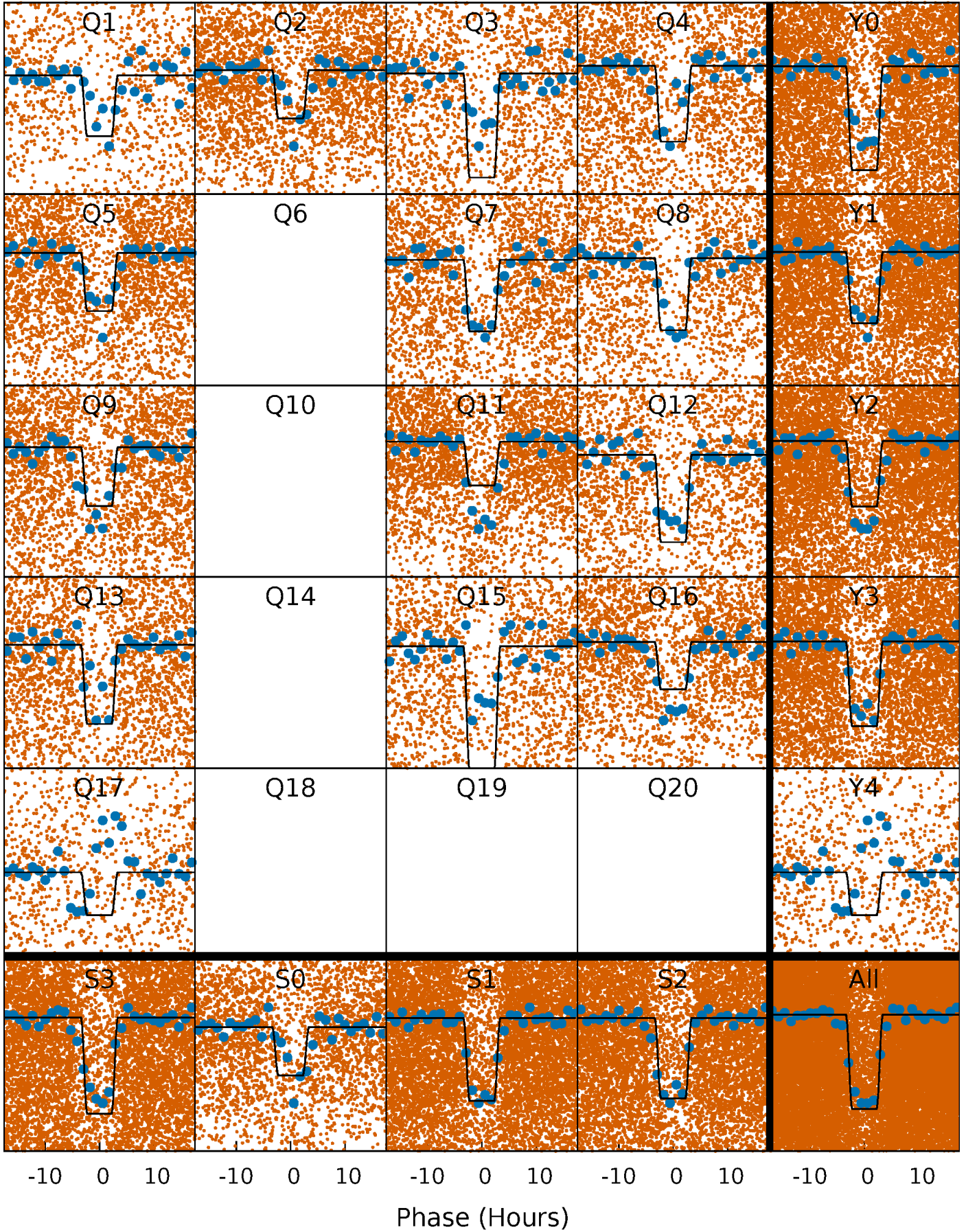
DV Quarter-Phased Transit Curves

TCE 004372213-01 P= 1.569500 Days $T_0=132.912029$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

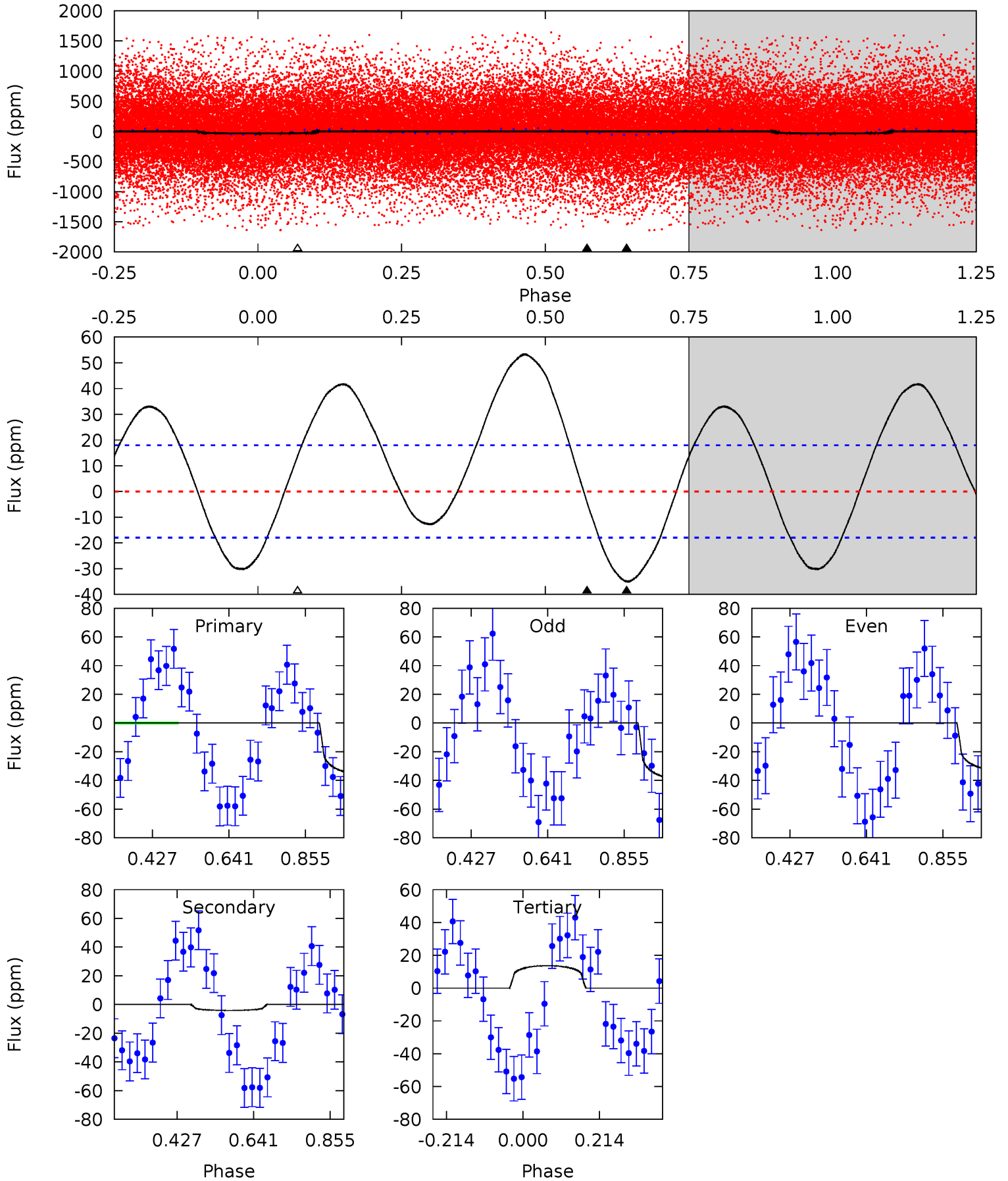
TCE 004372213-01 P= 1.569470 Days $T_0=132.890233$ (BKJD)



DV Model-Shift Uniqueness Test

004372213-01, P = 1.569500 Days, E = 131.342529 Days

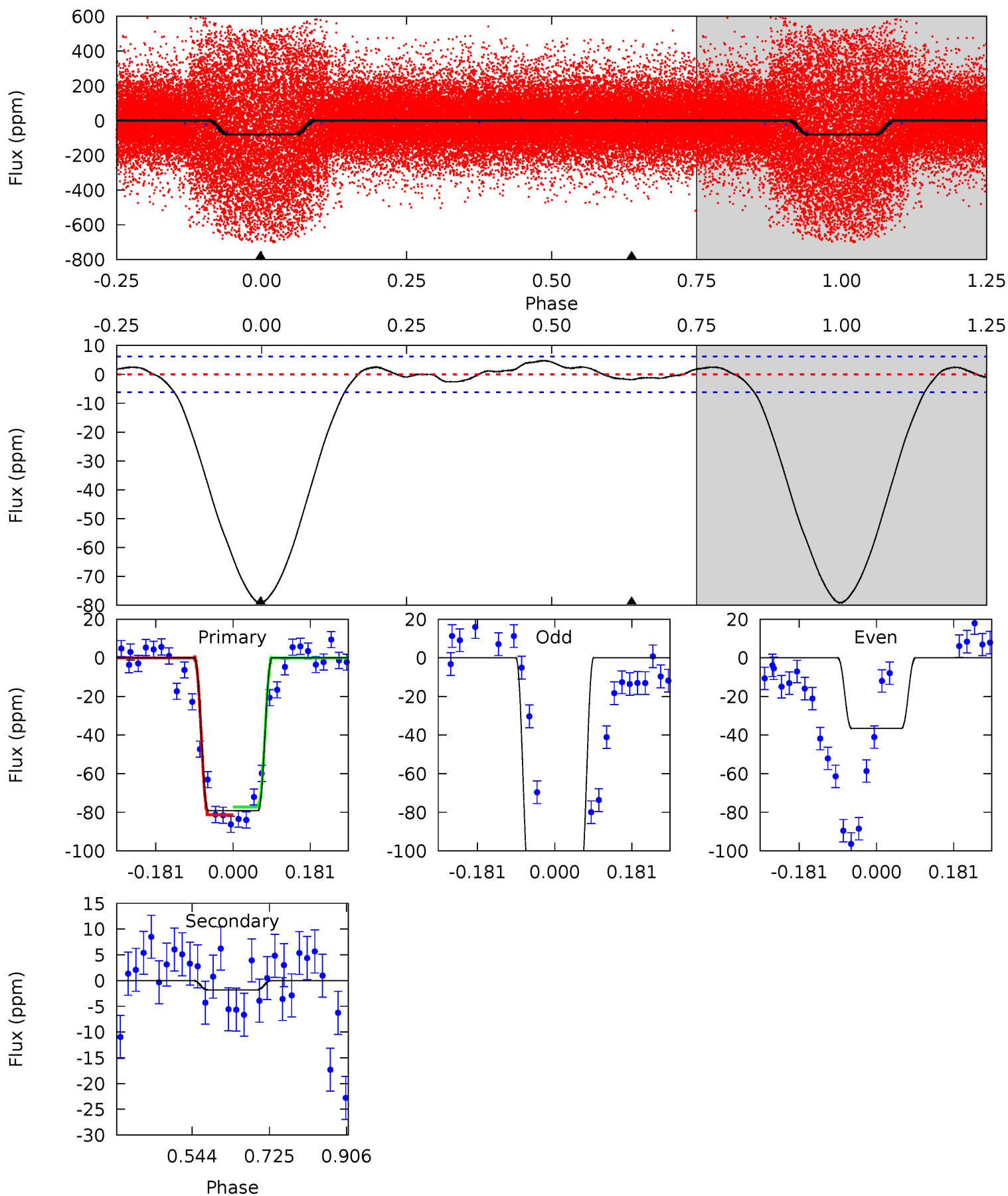
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.59	1.01	-3.36	0	4.40	1.24	5.36	11.9	8.59	4.37	1.01	0.76	0.77	0.60	4.44



Alt Model-Shift Uniqueness Test

004372213-01, P = 1.569470 Days, E = 131.320763 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.8	1.30	0	0	4.44	1.34	1.17	56.8	56.8	1.30	1.30	30.2	1.05	0.06	0



Stellar Parameters For KIC 004372213

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6318^{+82}_{-75}	$4.214^{+0.125}_{-0.125}$	$-0.020^{+0.150}_{-0.150}$	$1.419^{+0.252}_{-0.227}$	$1.201^{+0.101}_{-0.101}$	$0.592^{+0.345}_{-0.218}$
	+1%/-1%	+3%/-3%	+750%/-750%	+18%/-16%	+8%/-8%	+58%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004372213-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 4	$0.96^{+0.43}_{-0.36}$	2777^{+130}_{-125}	3748^{+1075}_{-6754}	$1.748^{+4.235}_{-1.759}$
Alt.	-2 ± 1	$1.43^{+0.46}_{-0.38}$	2770^{+128}_{-120}	2370^{+864}_{-5196}	$0.354^{+0.523}_{-0.263}$

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 $A_{obs} \gg 1.0$

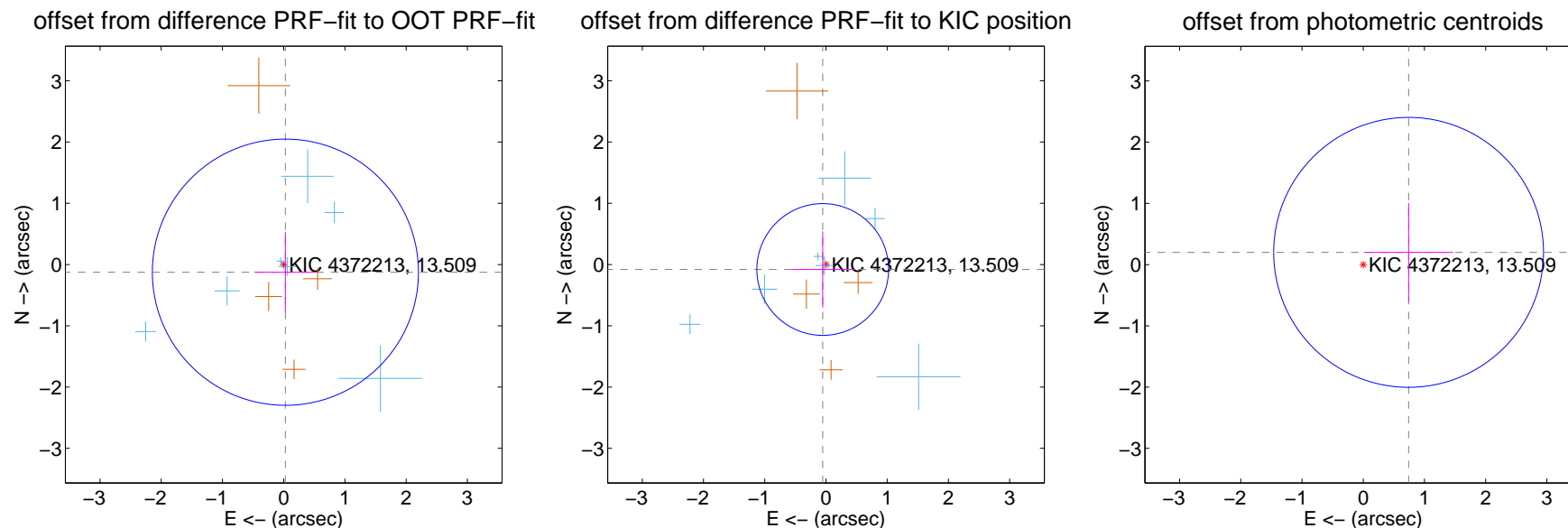
DV Centroid Data

Supplemental centroid analysis for 004372213-01. Kepler magnitude: 13.51. Transit SNR 6.93

There are 7 quarters with good PRF difference image offsets

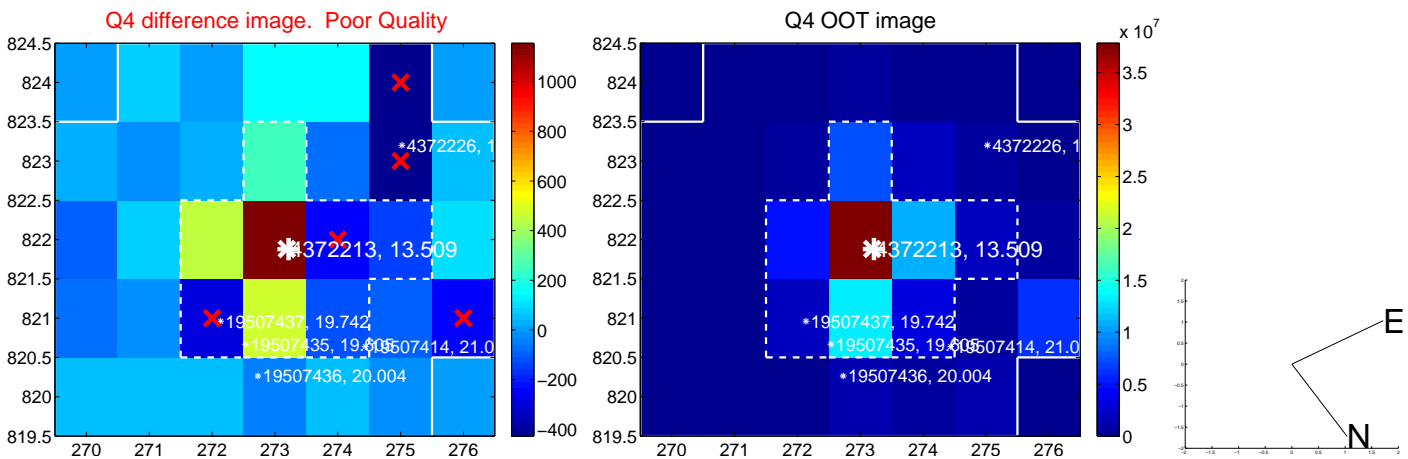
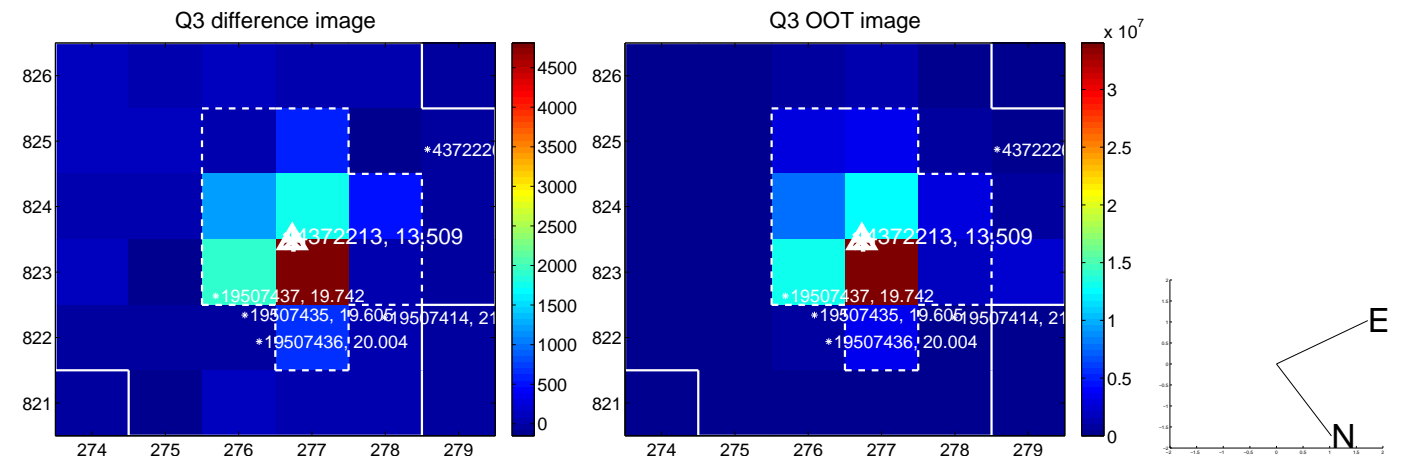
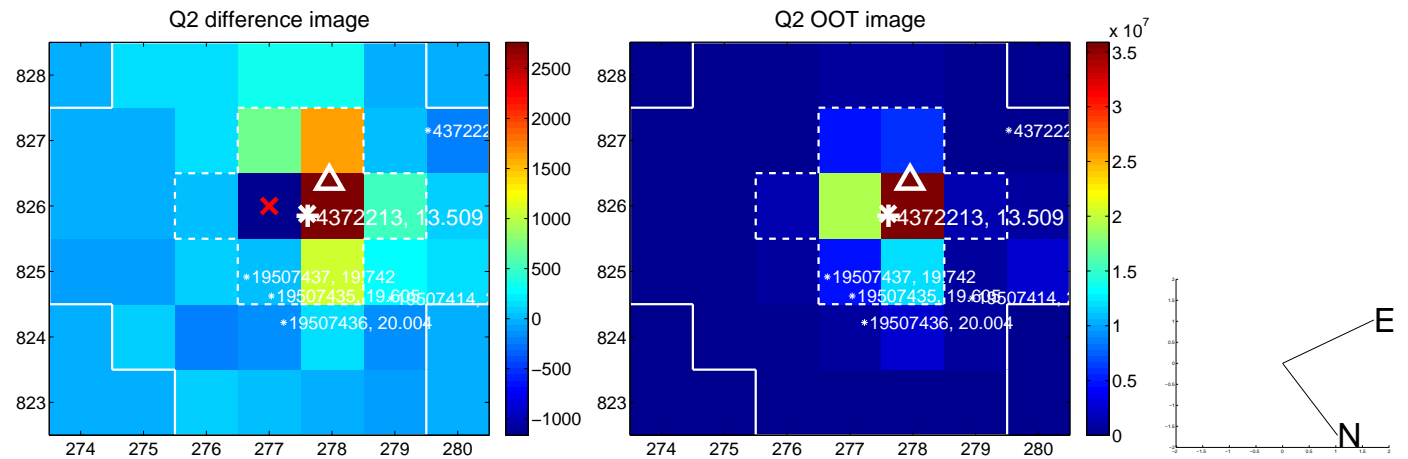
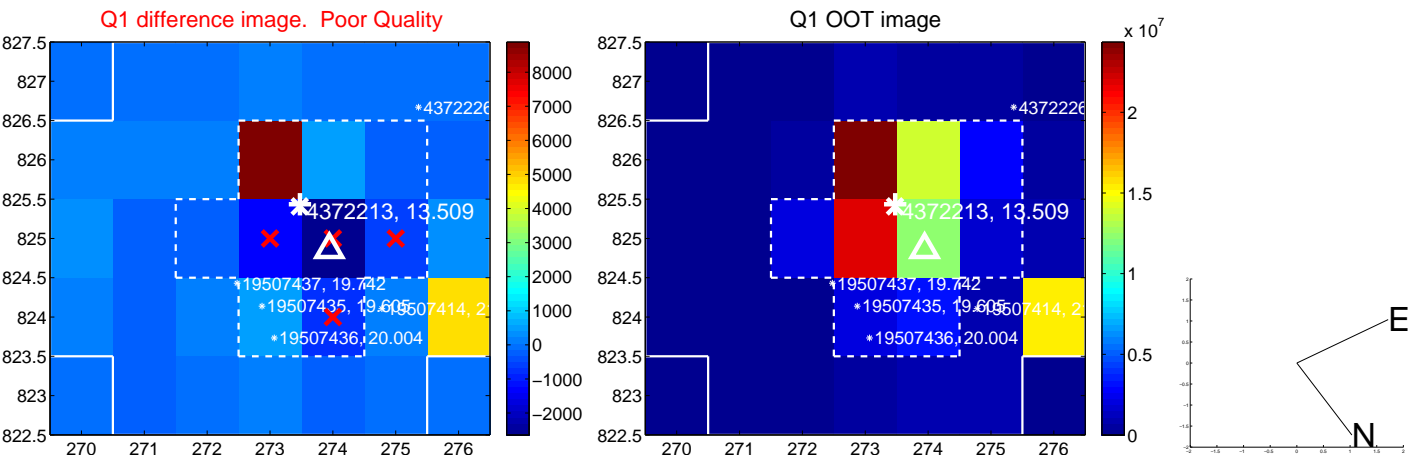
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.128 ± 0.724	0.18	-0.028 ± 0.508	-0.125 ± 0.657
PRF-fit source offset from KIC position	0.097 ± 0.358	0.27	0.053 ± 0.510	-0.081 ± 0.622
photometric centroid source offset	0.77 ± 0.73	1.05	-0.74 ± 0.73	0.20 ± 0.81

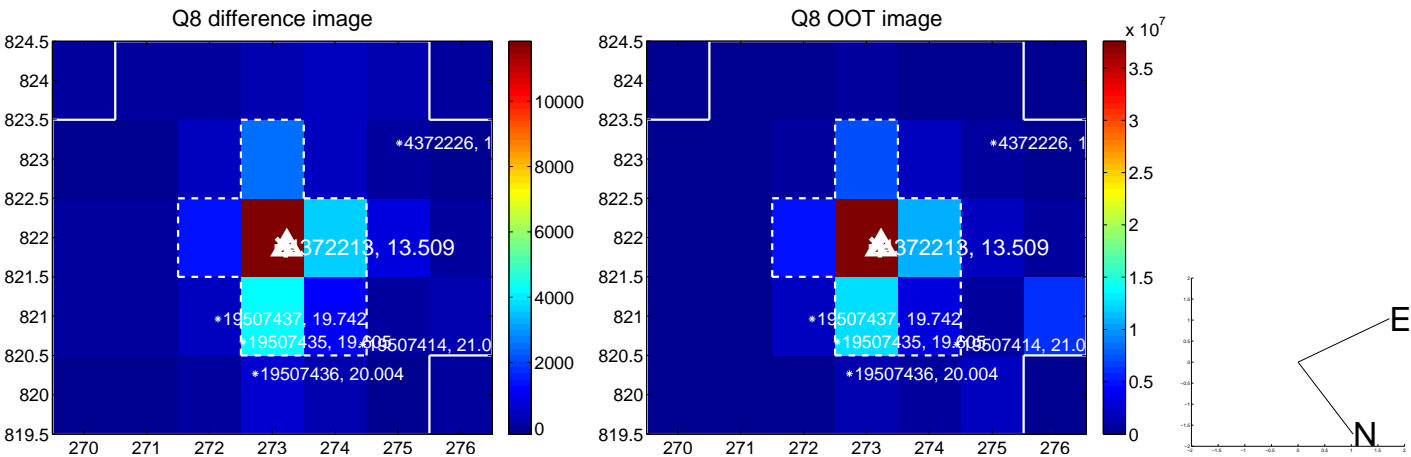
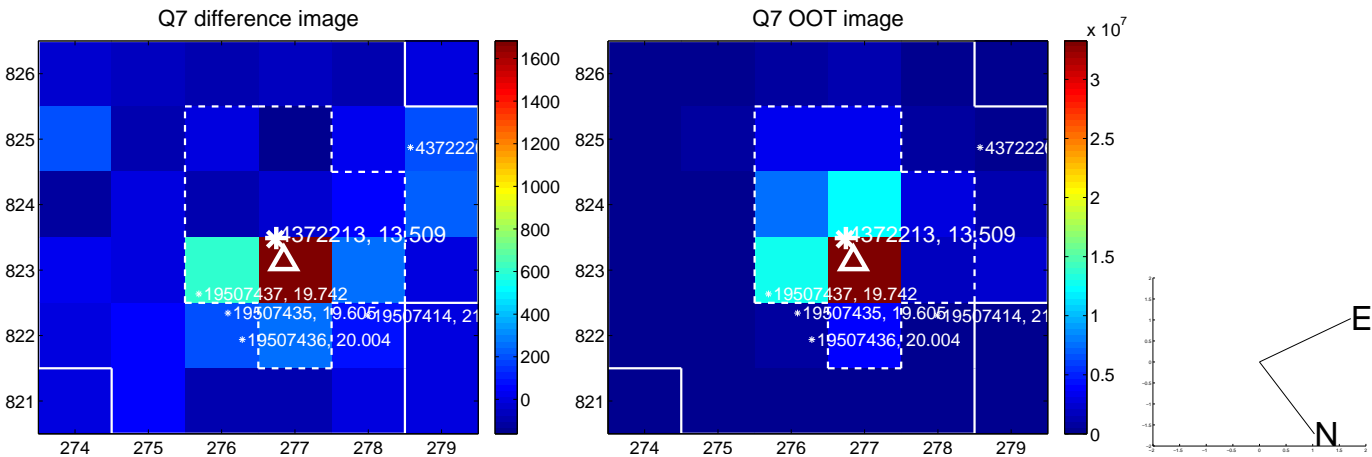
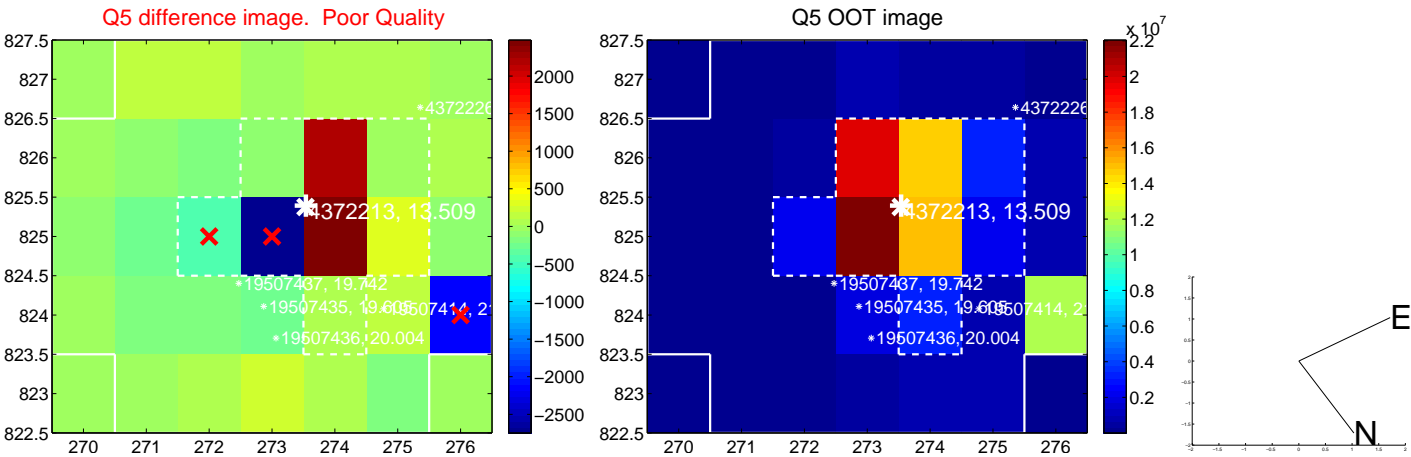


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

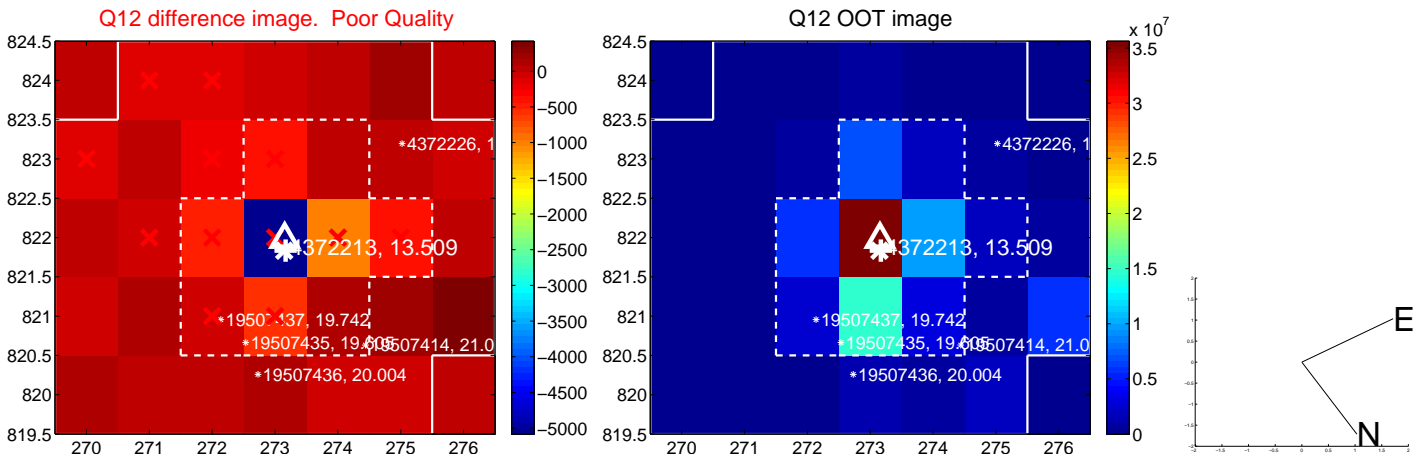
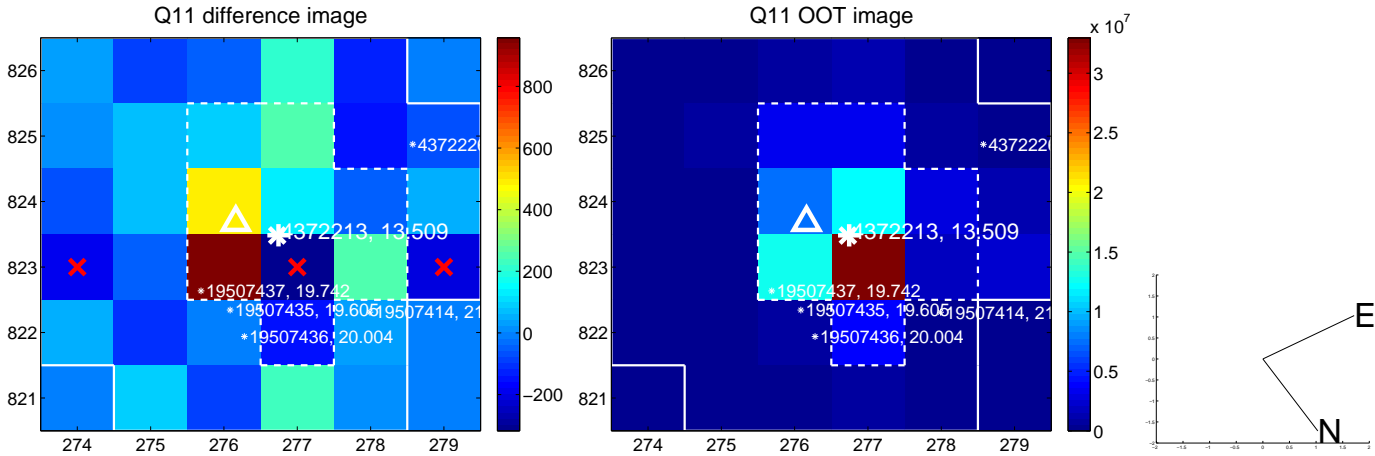
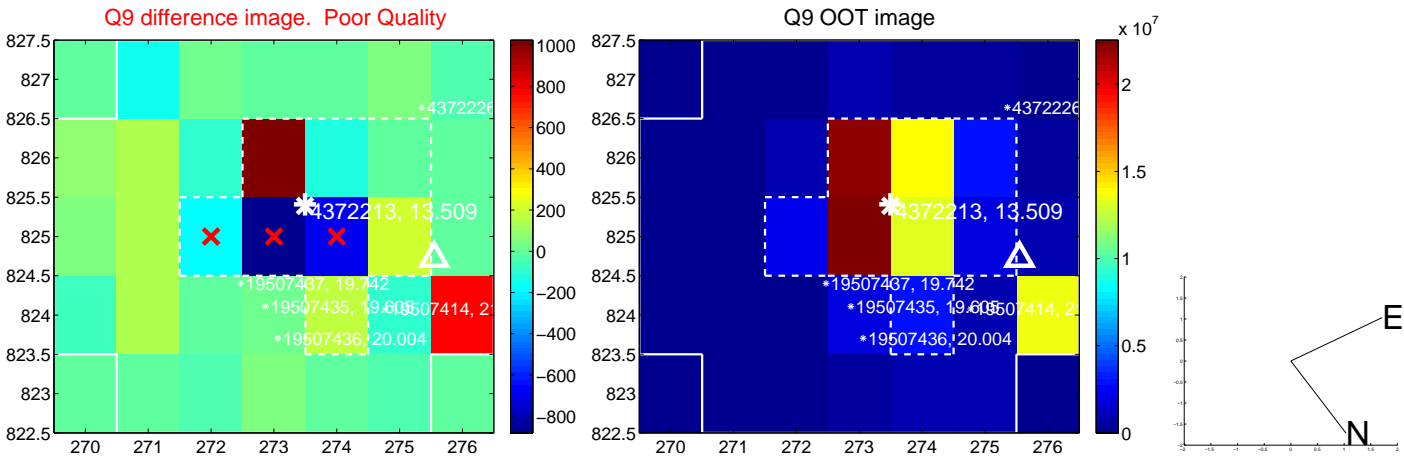
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



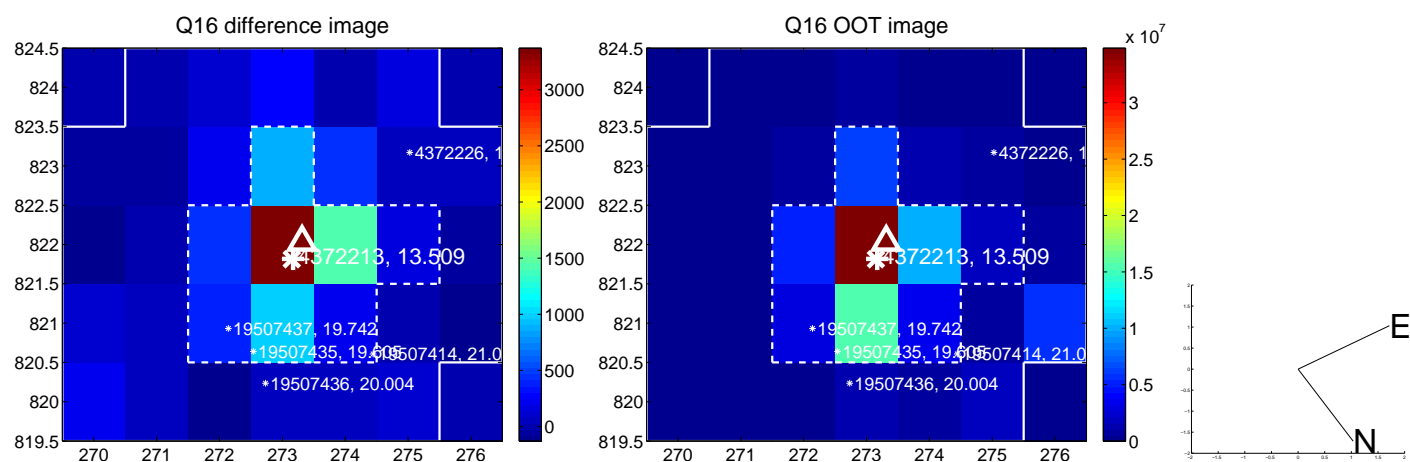
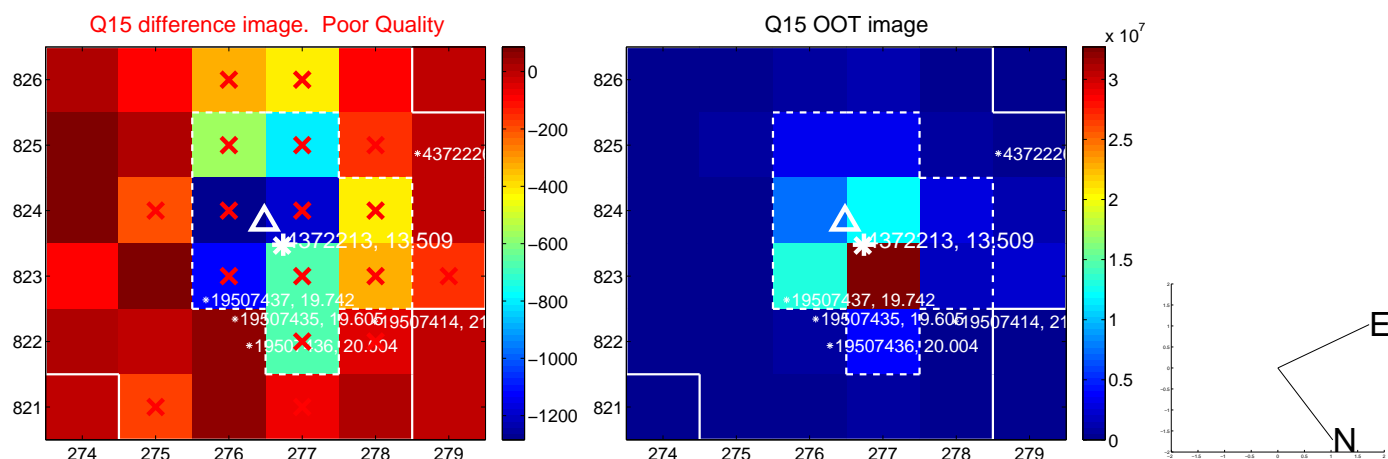
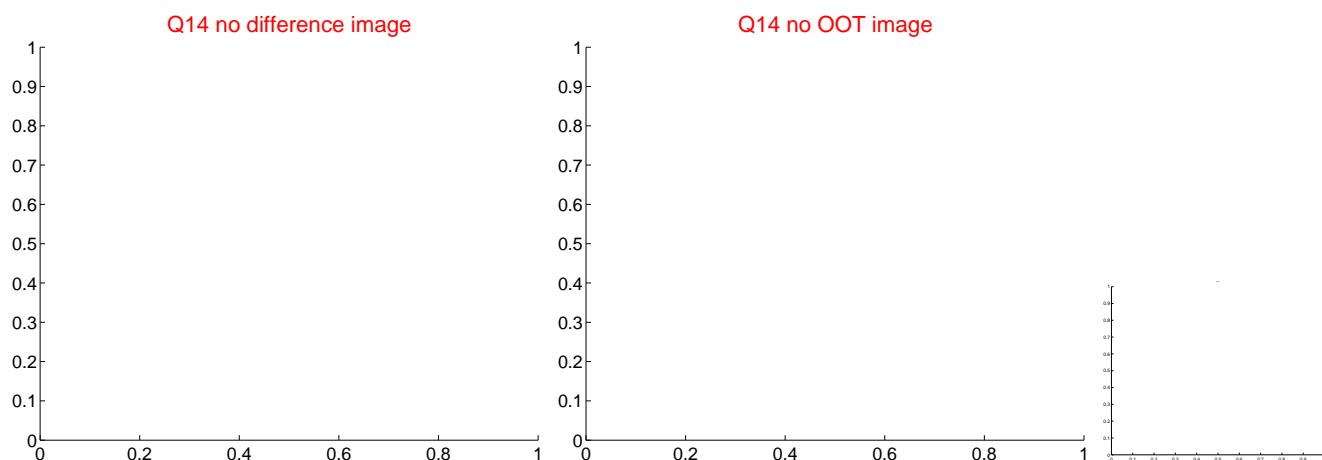
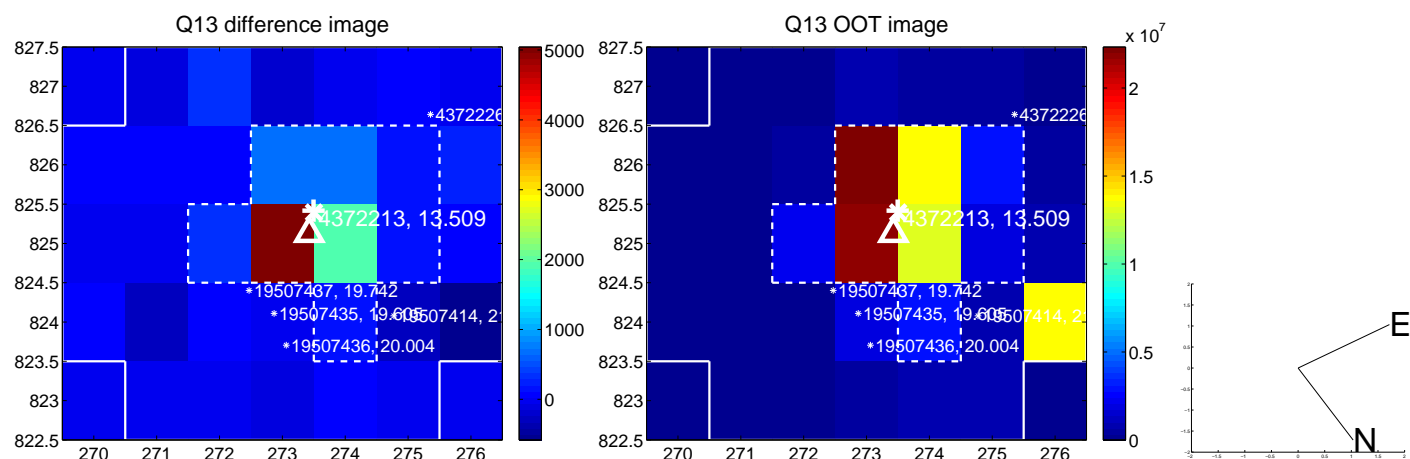
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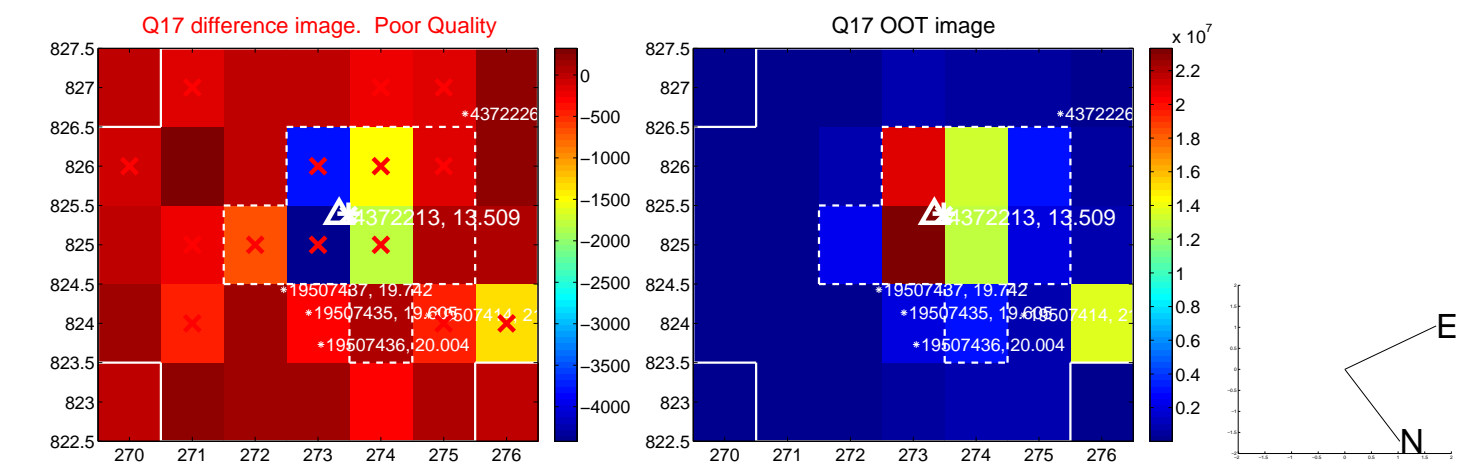
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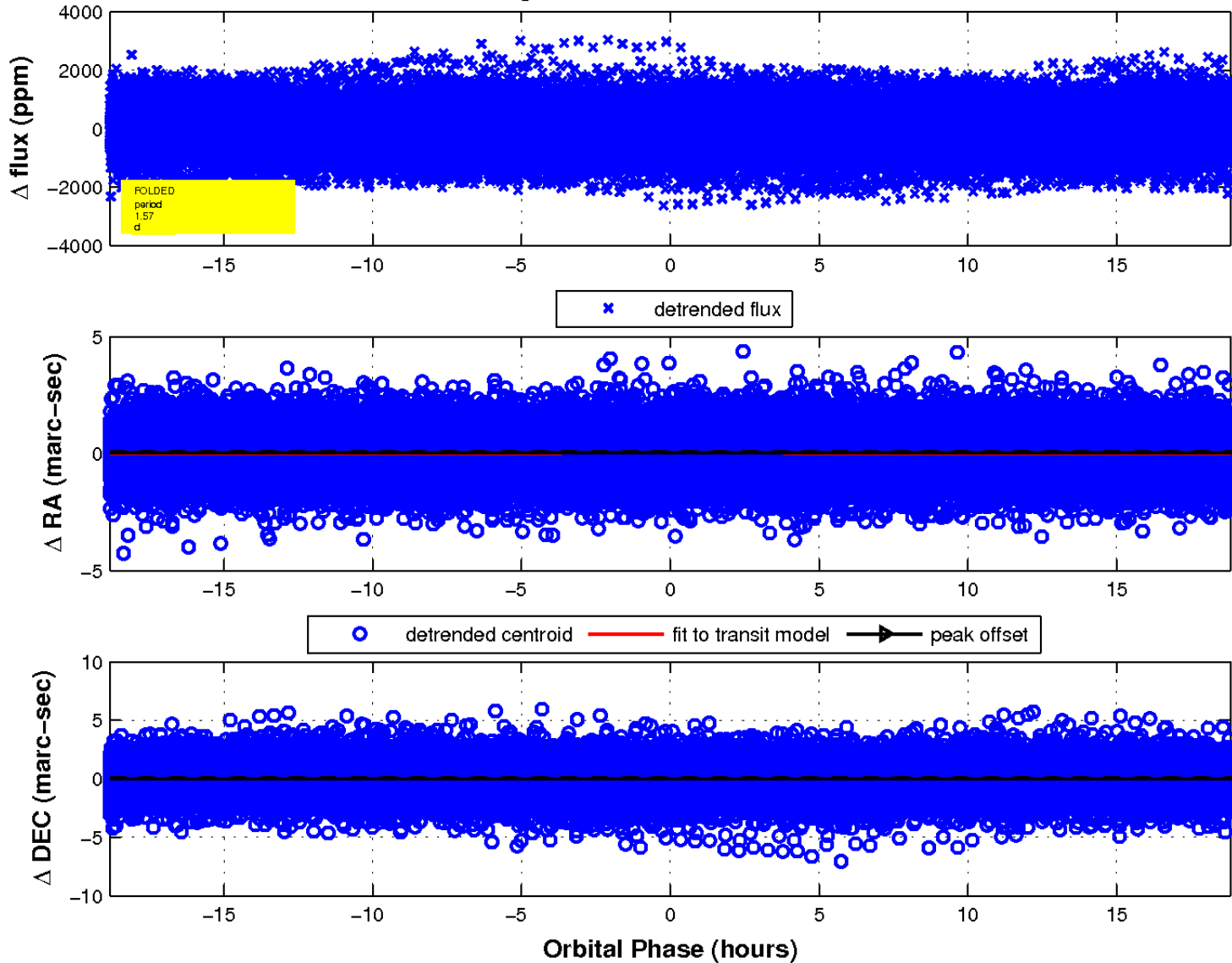
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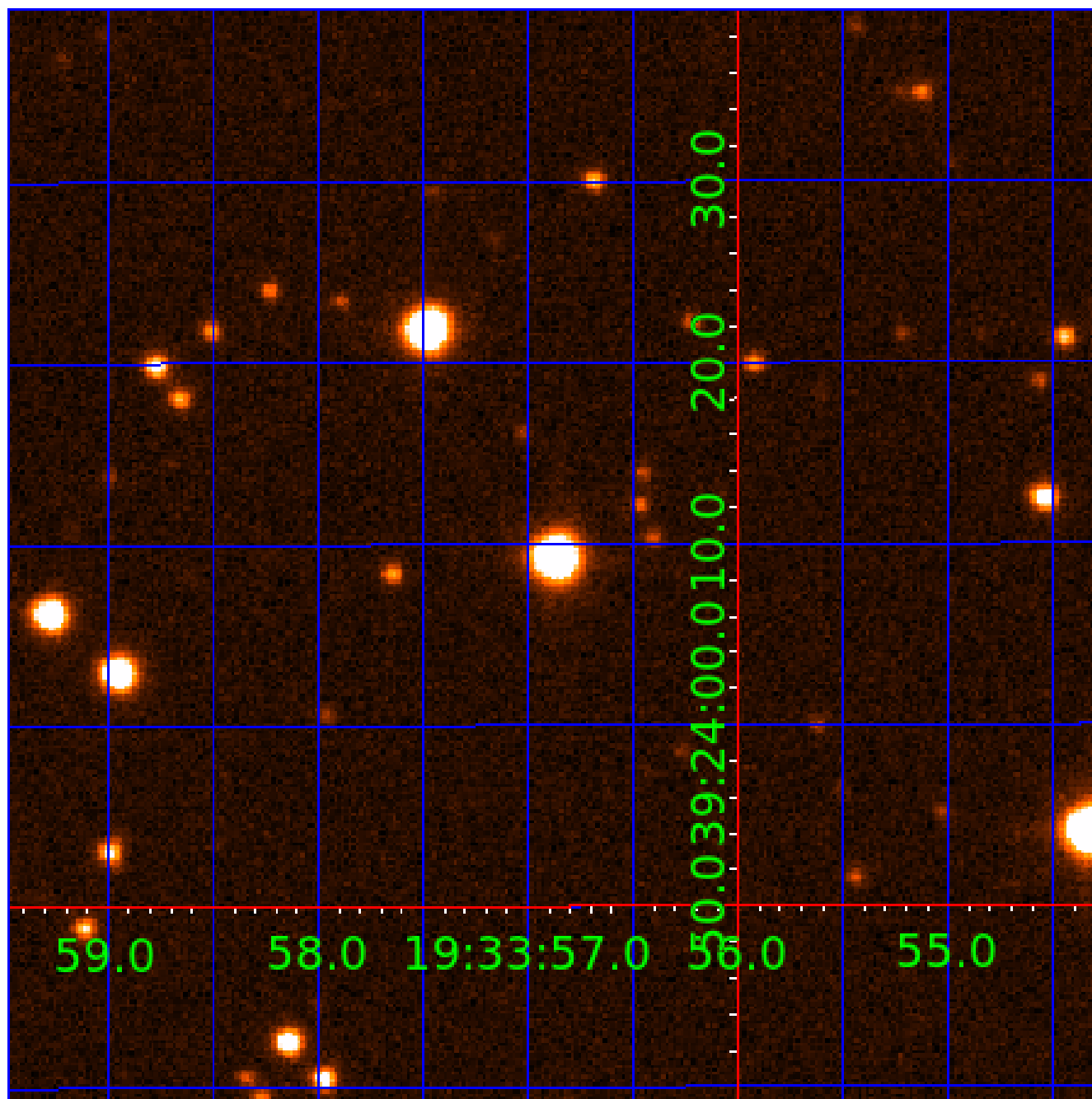


fluxWeightedCentroids, Planet 1 of 7



UKIRT Image

Declination



KIC 004372213

Q1-17 DR25 TCE Parameters

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Robovetter Results

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004372213-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004372213-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
004372213-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

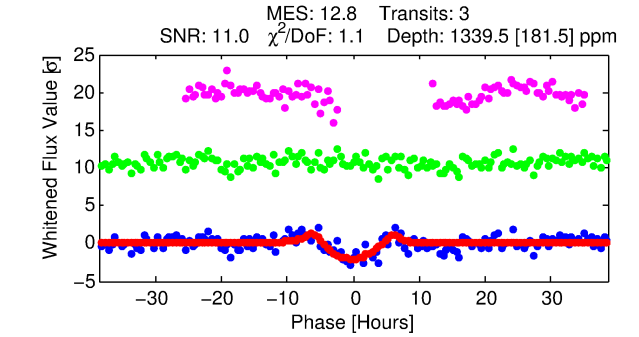
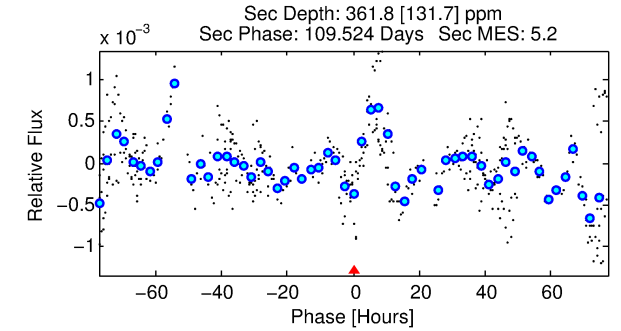
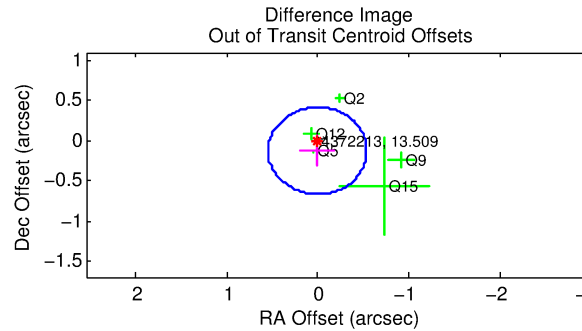
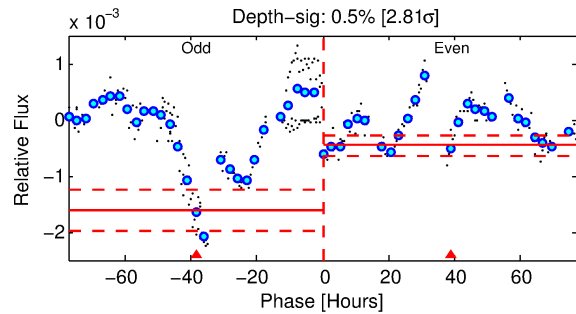
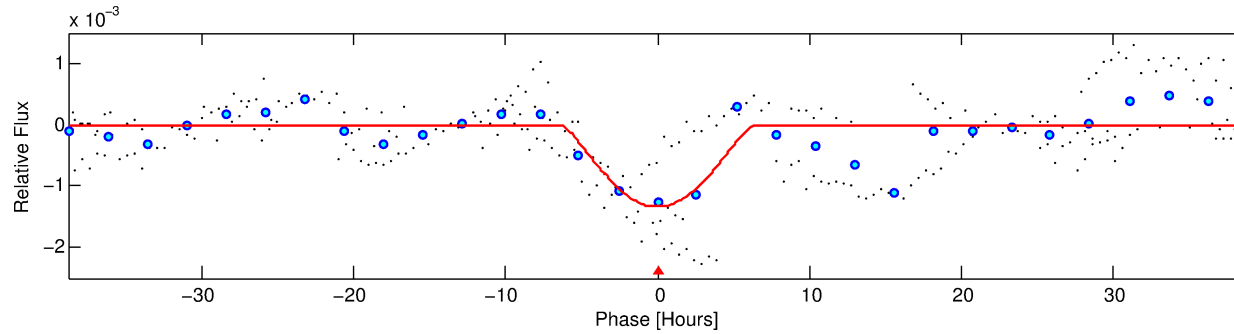
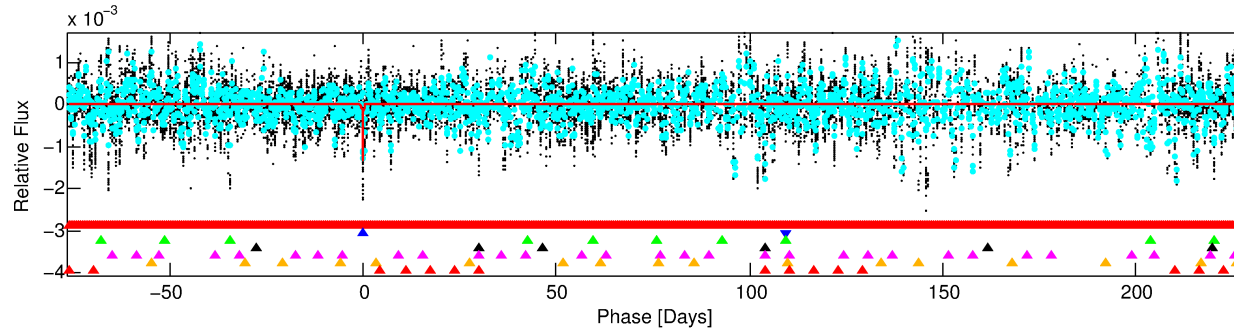
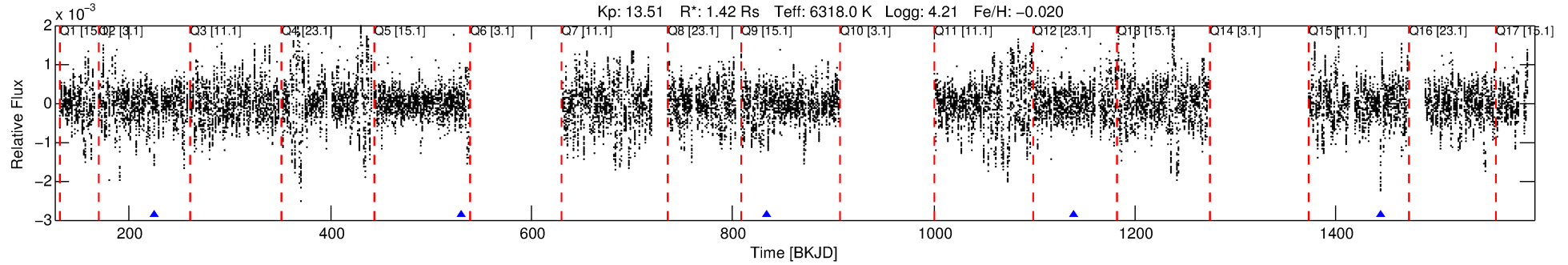
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004372213-02

No Significant Match Found

DV One-Page Summary

KIC: 4372213 Candidate: 2 of 7 Period: 304.851 d



DV Fit Results:

Period = 304.85089 [0.00696] d
Epoch = 224.9482 [0.0191] BKJD
Rp/R* = 0.0621 [0.0912]
a/R* = 65.34 [23.05]
b = 1.00 [0.14]
Seff = 3.23 [0.75]
Teq = 342 [20] K
Rp = 9.61 [14.22] Re
a = 0.9428 [0.1437] AU
Ag = 1914.77 [5685.43] [0.34 σ]
Teffp = 3497 [2589] K [1.22 σ]

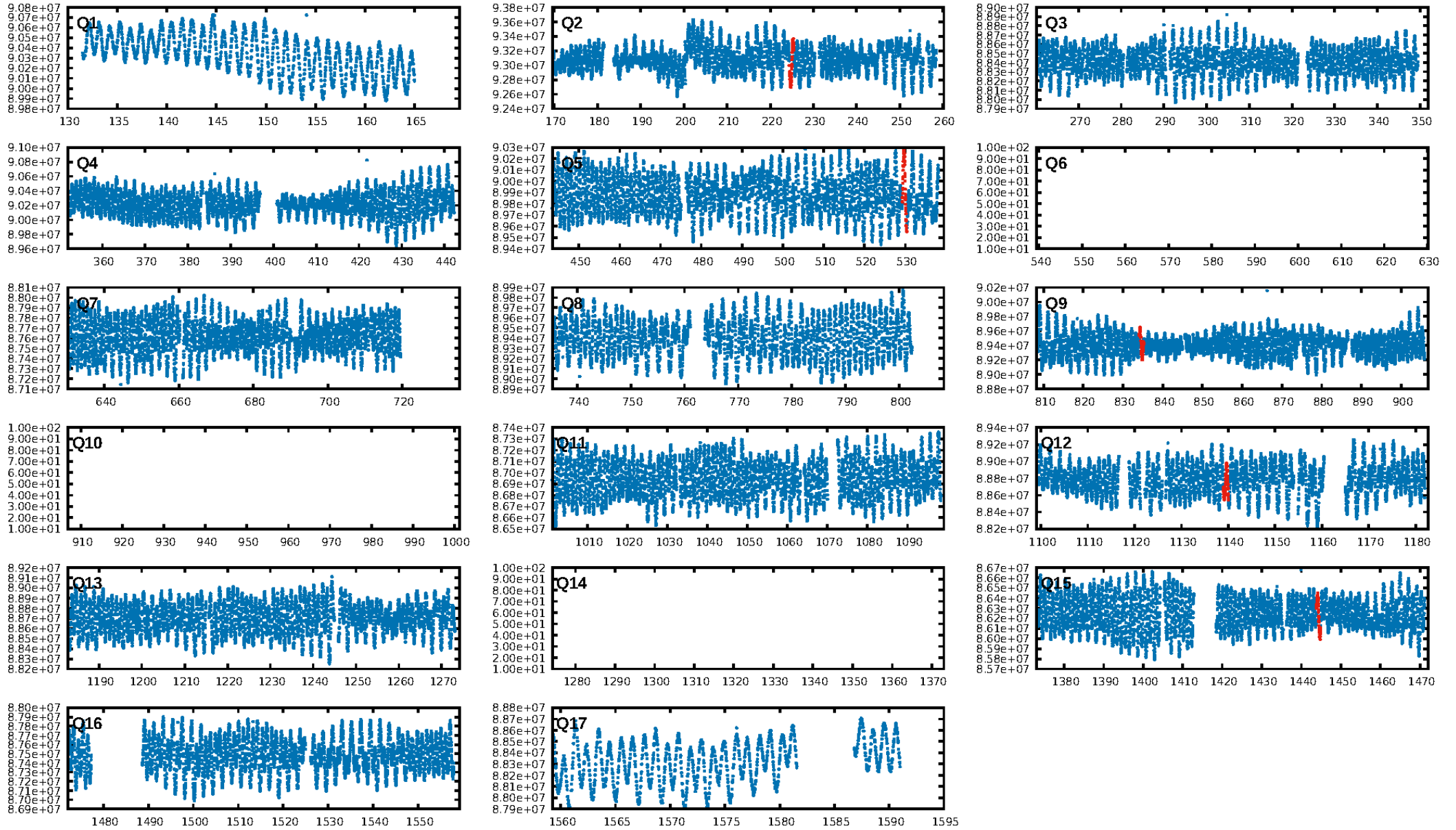
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.42 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.01e-19
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.166
Centroid-sig: 15.6%
Centroid-so: 0.857 arcsec [2.11 σ]
OotOffset-rm: 0.128 arcsec [0.71 σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-rm: 0.211 arcsec [0.98 σ]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.00 [0/5]

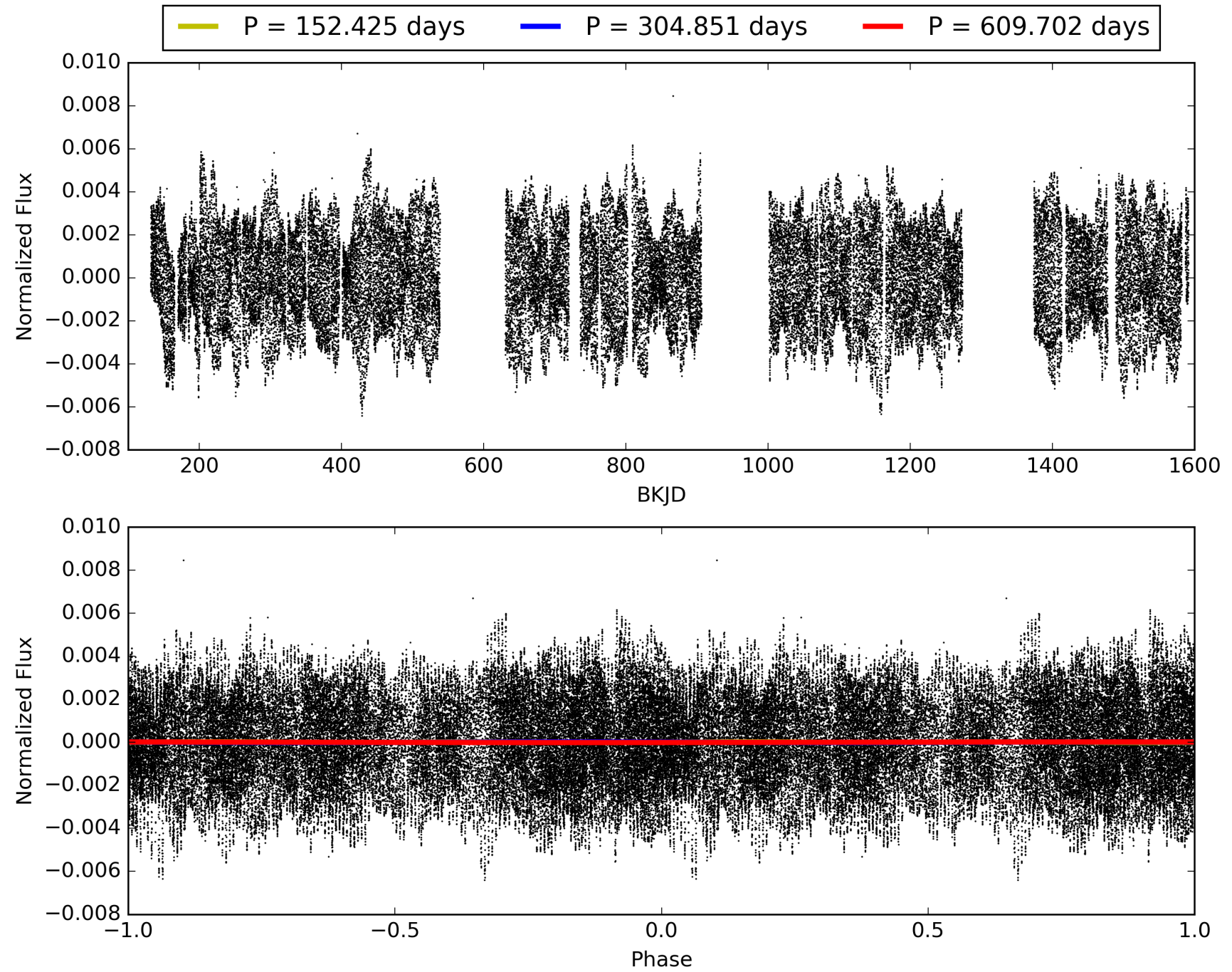
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:04:28 Z

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

TCE 004372213-02, PDC Light Curves

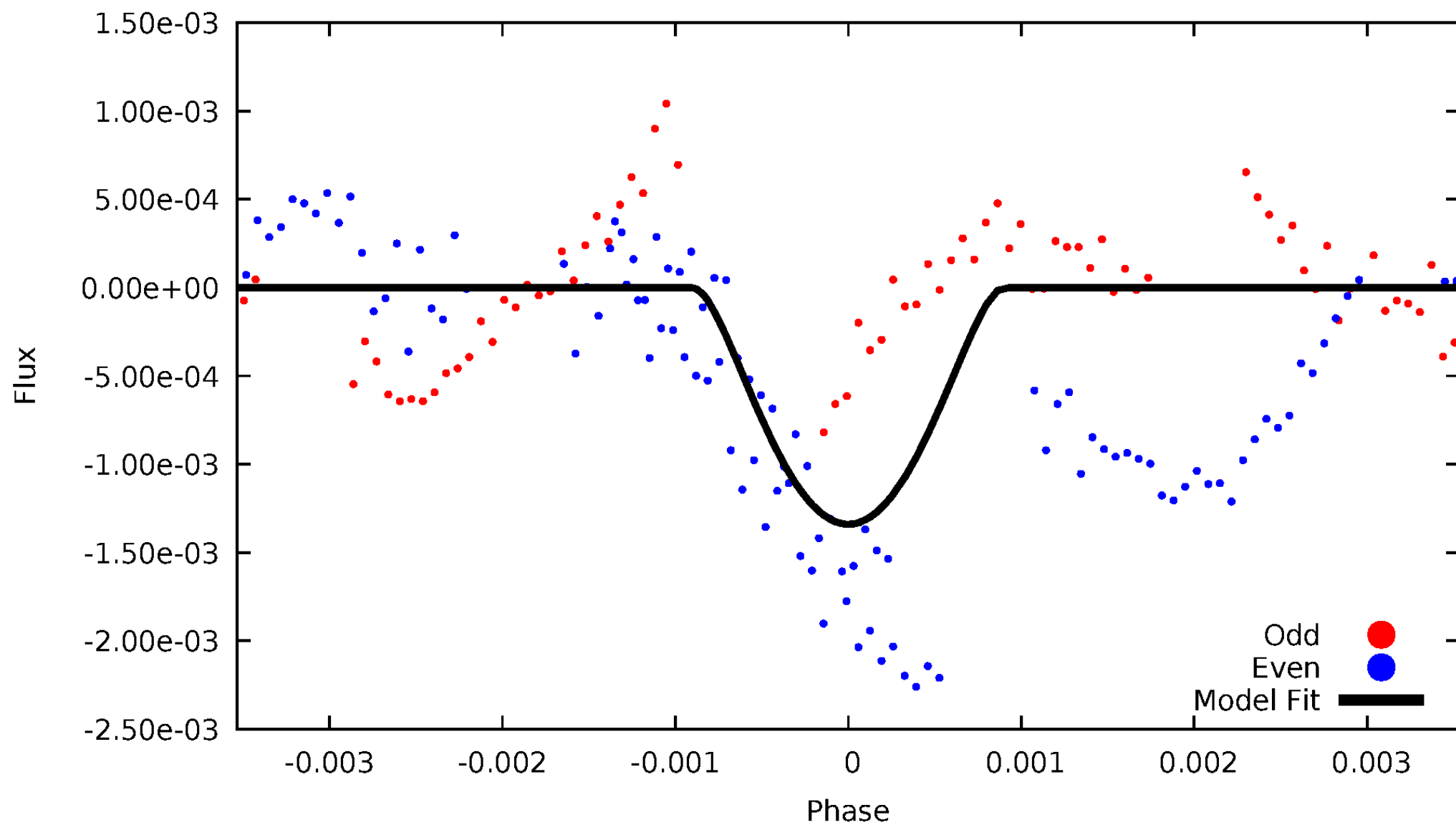


TCE 004372213-02



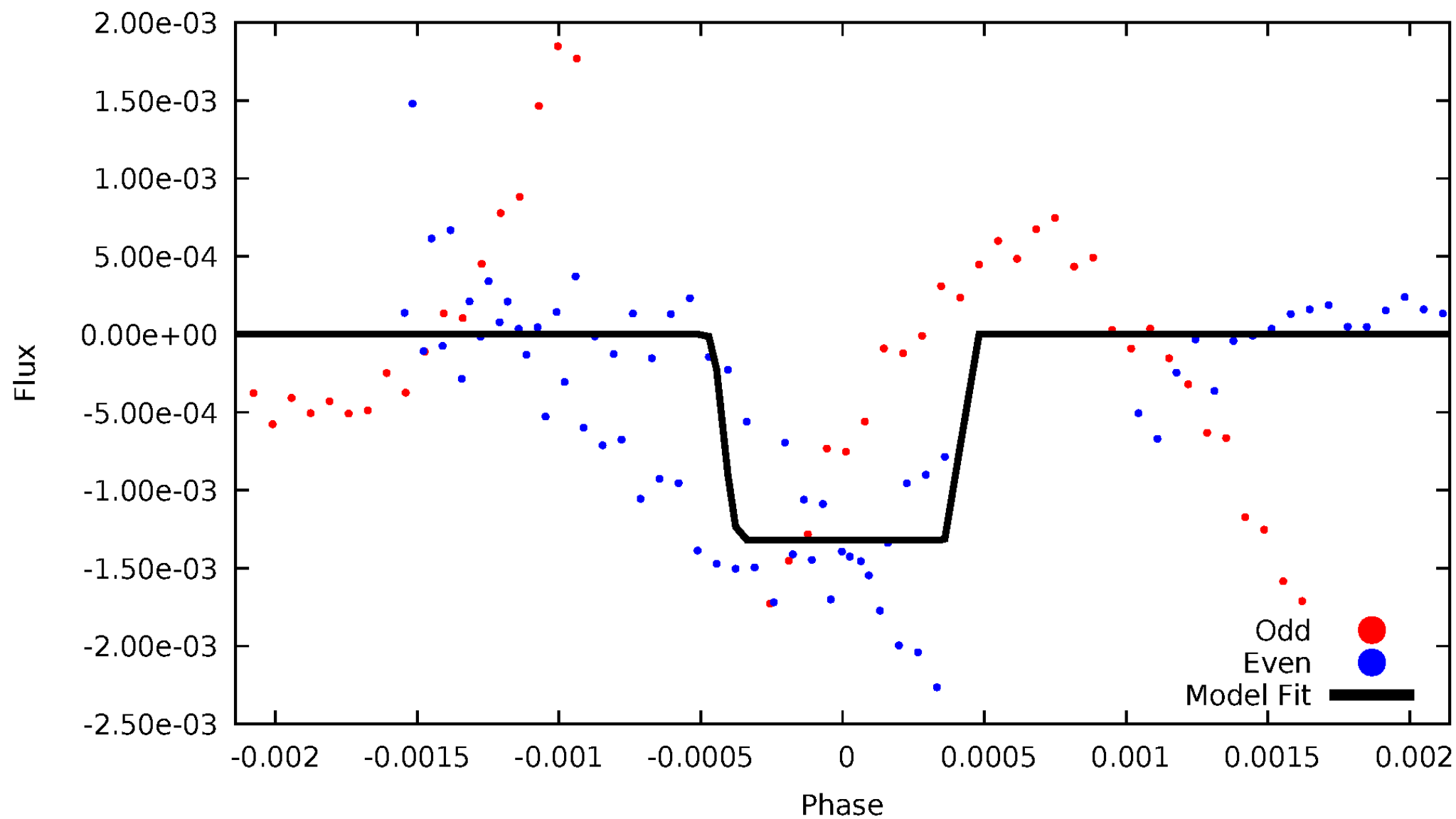
DV Odd/Even

TCE 004372213-02



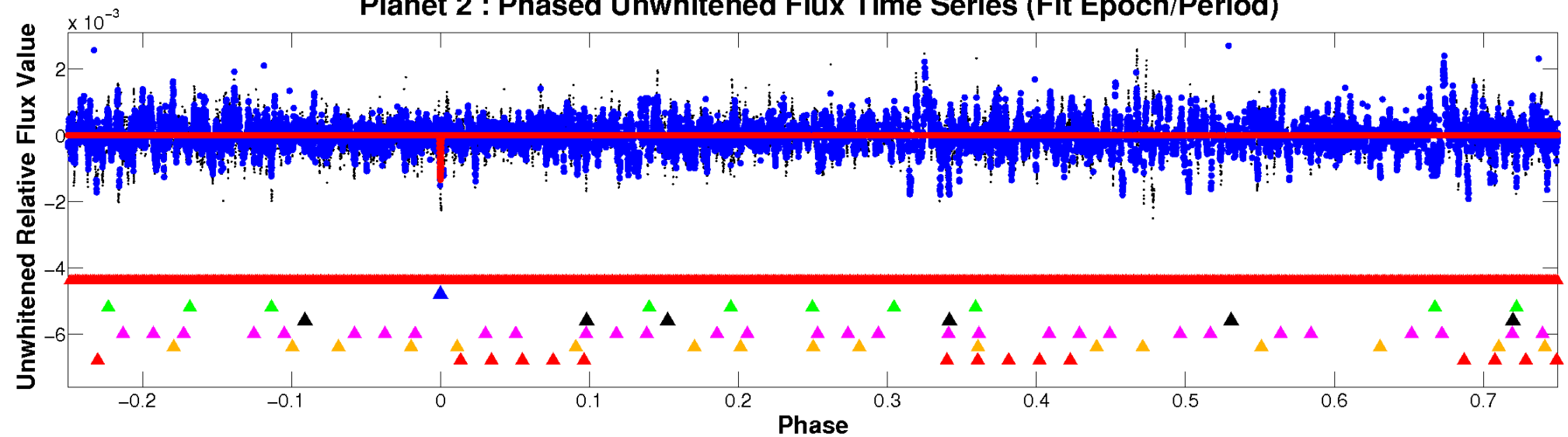
ALT Odd/Even

TCE 004372213-02

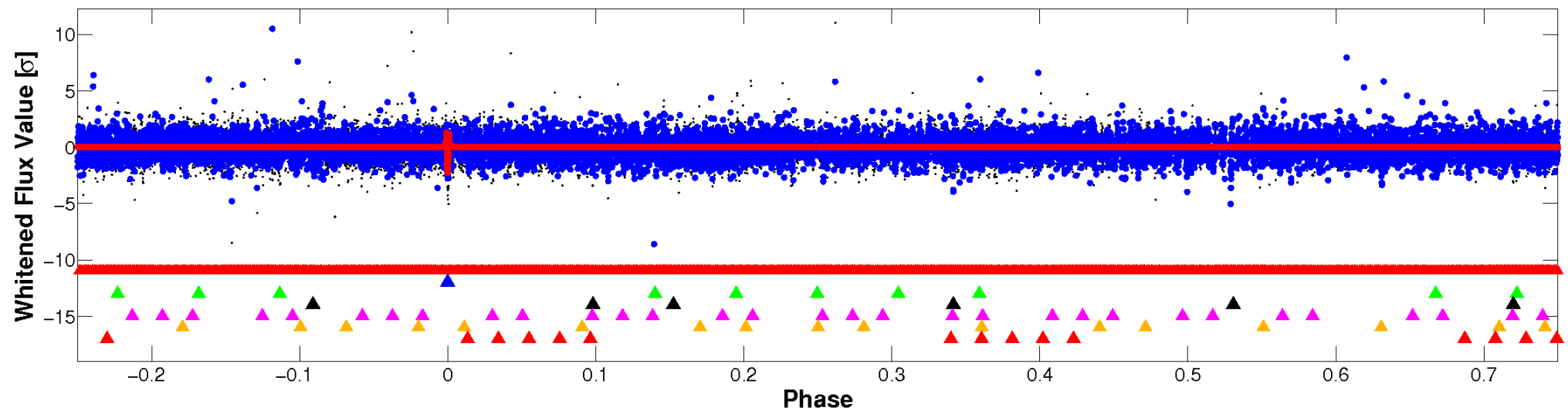


Non-Whitened Vs. Whitened Light Curve

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

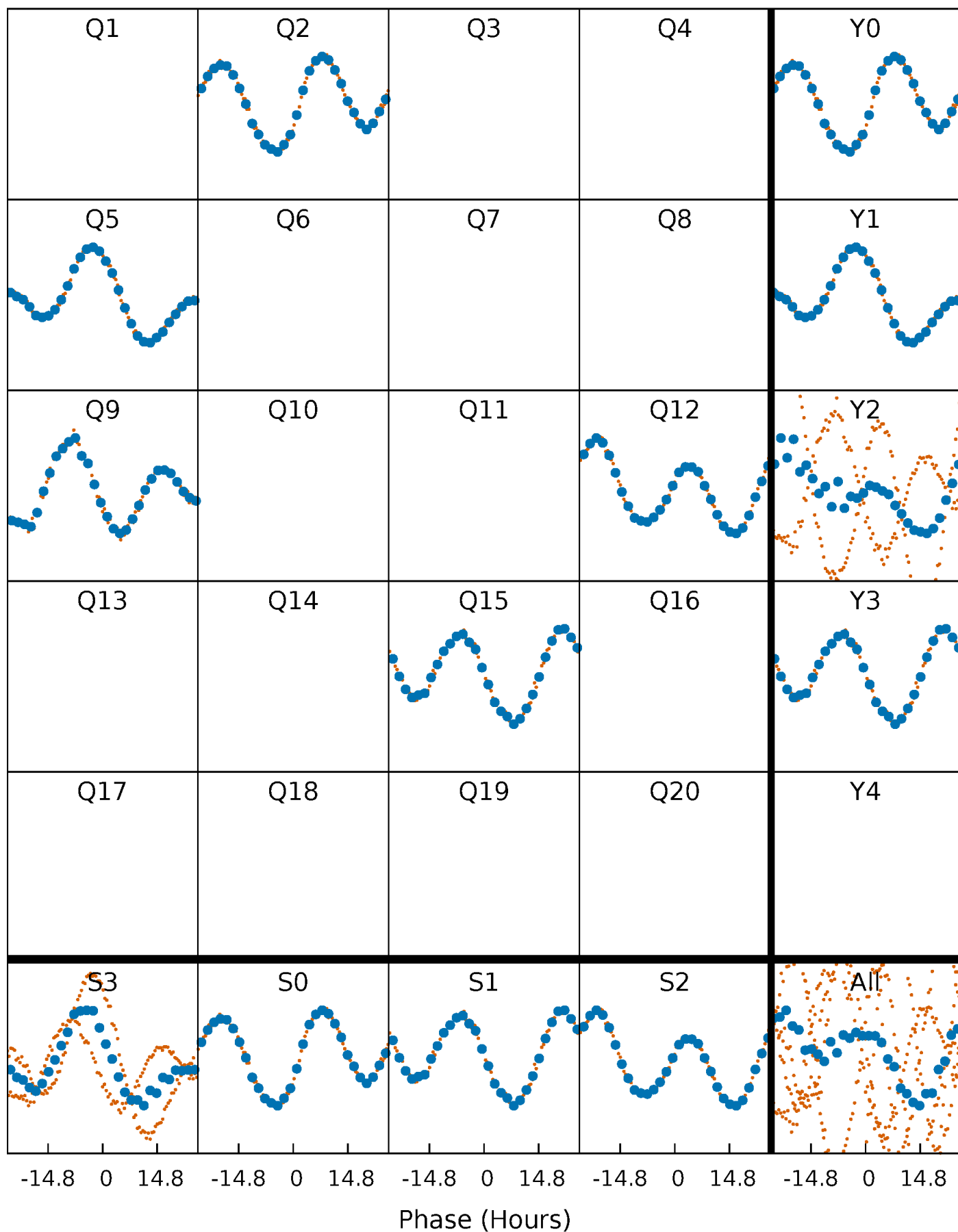


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



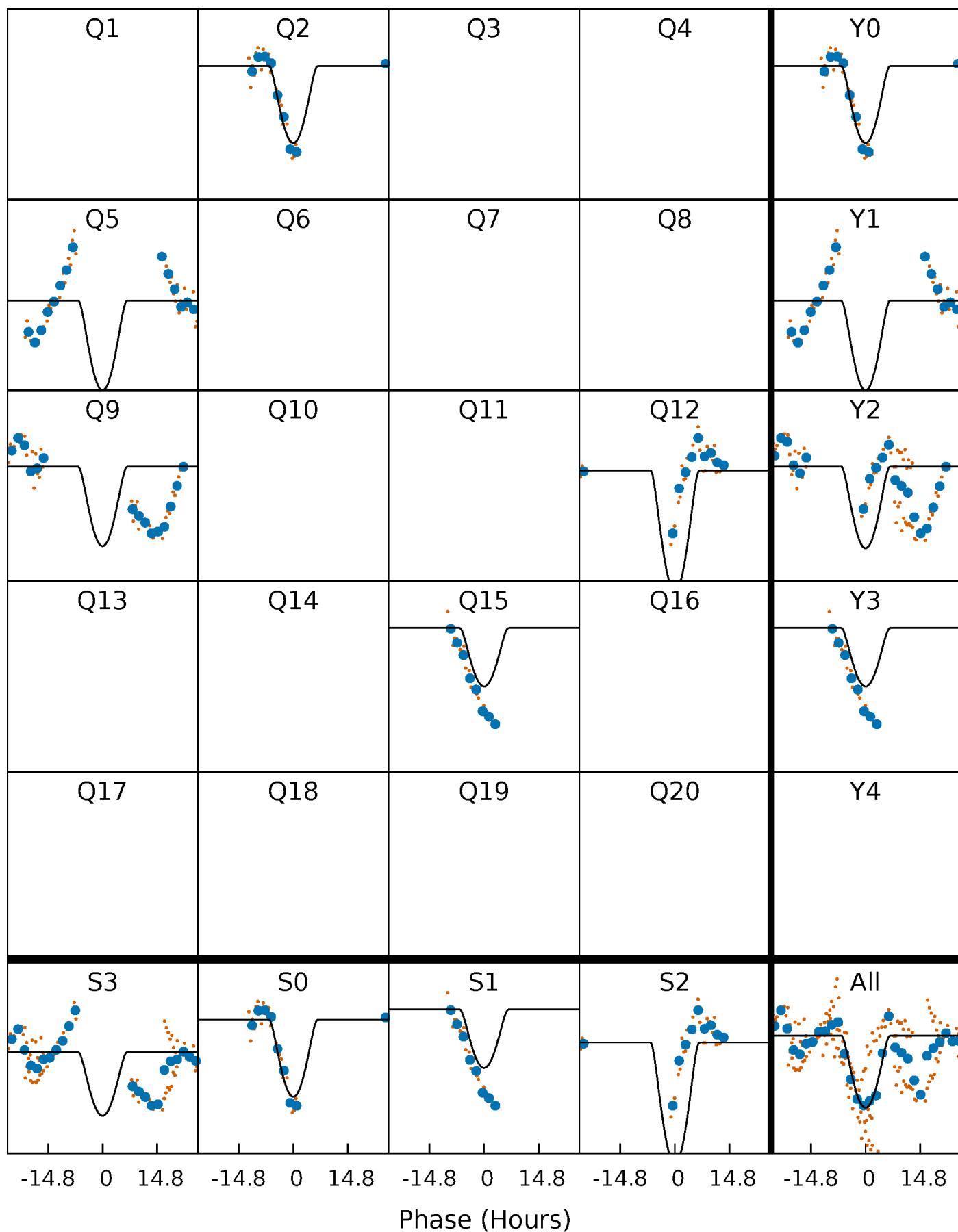
PDC Quarter-Phased Transit Curves

TCE 004372213-02 P=304.850885 Days $T_0=224.948245$ (BKJD)



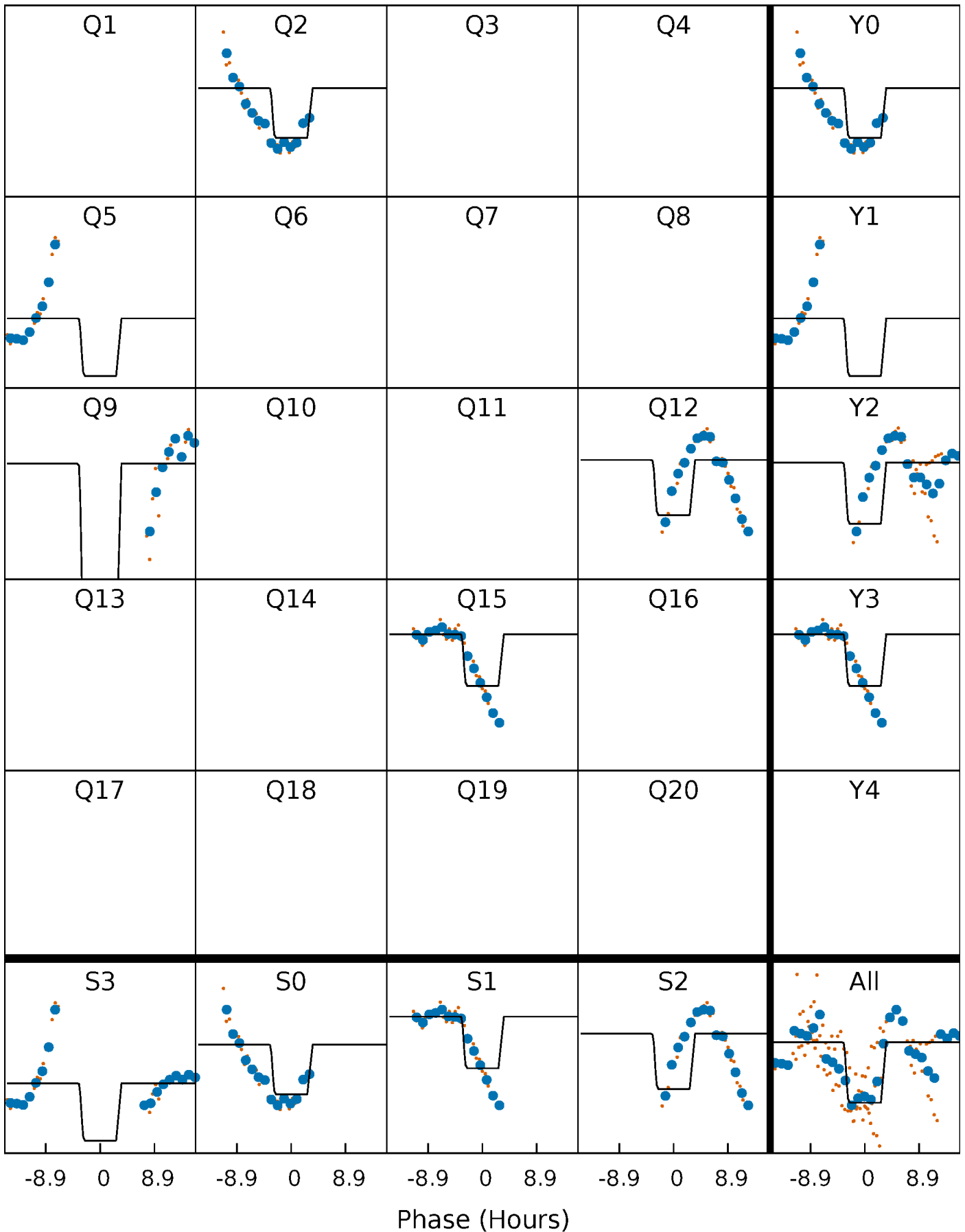
DV Quarter-Phased Transit Curves

TCE 004372213-02 $P=304.850885$ Days $T_0=224.948245$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

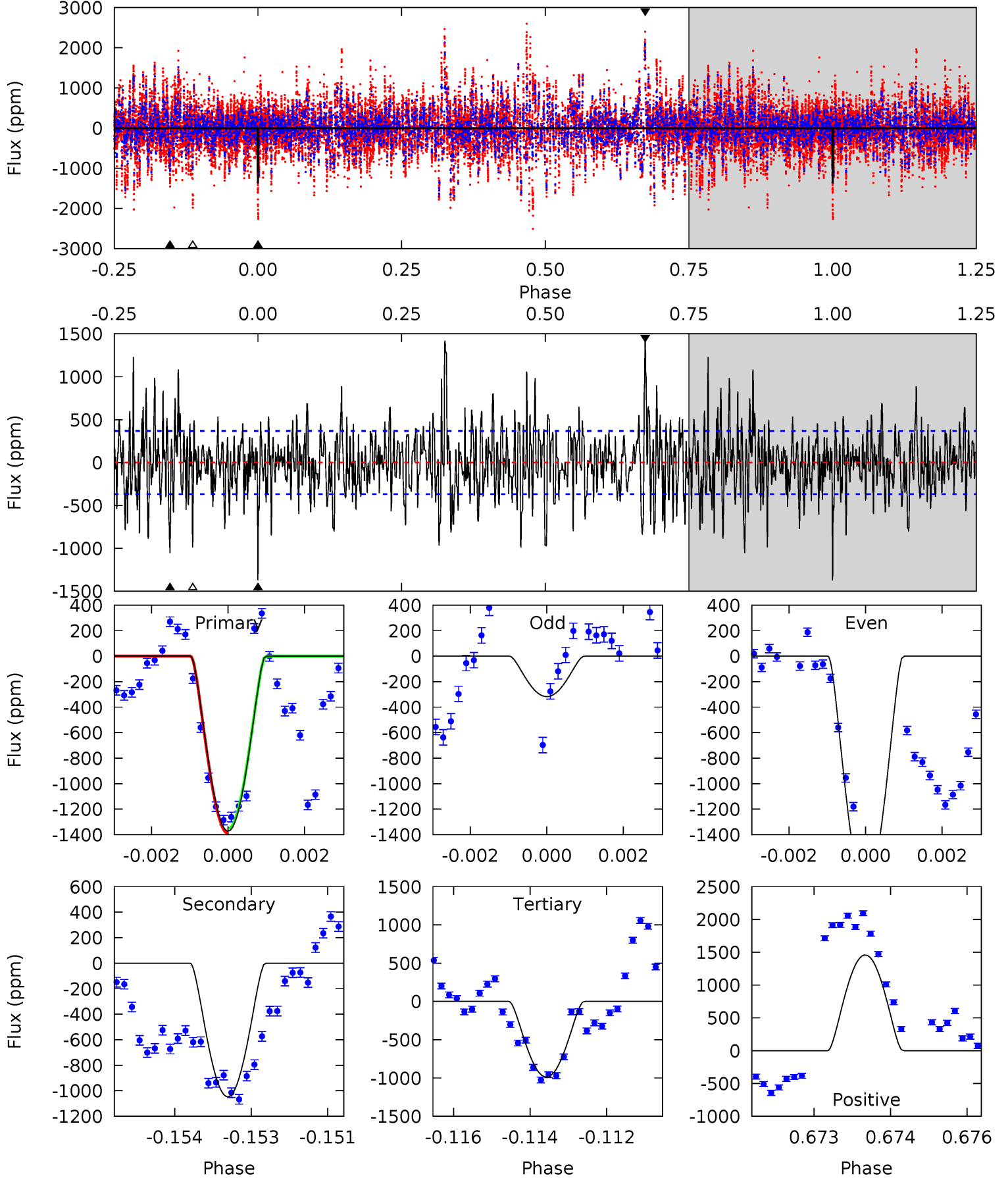
TCE 004372213-02 P=304.875526 Days $T_0=224.908880$ (BKJD)



DV Model-Shift Uniqueness Test

004372213-02, $P = 304.850885$ Days, $E = 224.948245$ Days

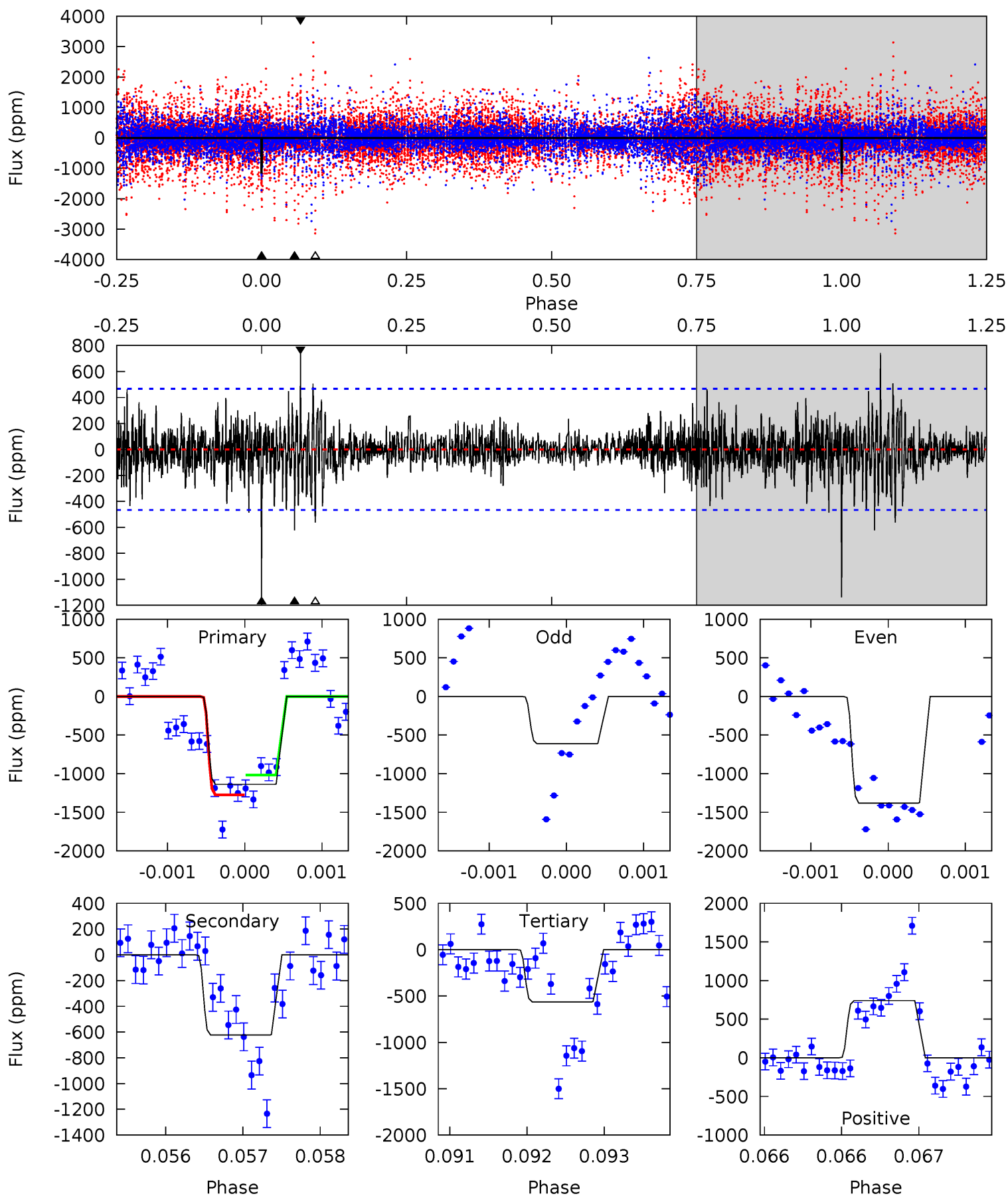
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	15.2	14.3	21.2	5.34	3.12	4.69	5.58	-1.25	0.86	-5.97	9.81	0.93	0.52	0.27



Alt Model-Shift Uniqueness Test

004372213-02, P = 304.875526 Days, E = 224.908880 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	7.30	6.60	8.70	5.47	3.32	1.40	6.76	4.66	0.70	-1.39	4.02	0.82	0.39	1.53



Stellar Parameters For KIC 004372213

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6318^{+82}_{-75}	$4.214^{+0.125}_{-0.125}$	$-0.020^{+0.150}_{-0.150}$	$1.419^{+0.252}_{-0.227}$	$1.201^{+0.101}_{-0.101}$	$0.592^{+0.345}_{-0.218}$
	+1%/-1%	+3%/-3%	+750%/-750%	+18%/-16%	+8%/-8%	+58%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004372213-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1047 ± 69	$14.12^{+12.05}_{-9.15}$	479^{+22}_{-20}	4089^{+2239}_{-766}	2545^{+17374}_{-1833}
Alt.	-622 ± 85	$10.73^{+11.81}_{-7.03}$	480^{+22}_{-20}	4104^{+2447}_{-892}	2559^{+20497}_{-1980}

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

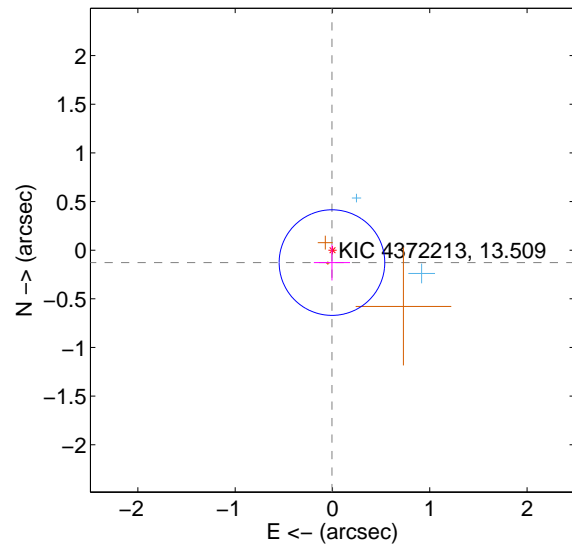
Supplemental centroid analysis for 004372213-02. Kepler magnitude: 13.51. Transit SNR 10.98

There are 2 quarters with good PRF difference image offsets

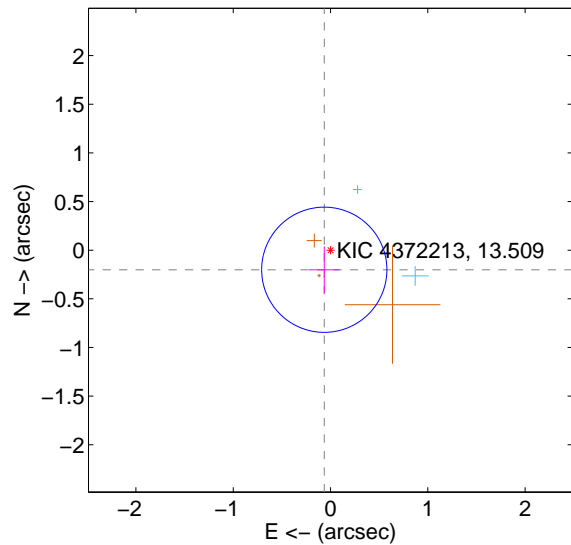
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.128 ± 0.181	0.71	0.005 ± 0.186	-0.128 ± 0.183
PRF-fit source offset from KIC position	0.211 ± 0.215	0.98	0.064 ± 0.157	-0.201 ± 0.239
photometric centroid source offset	0.86 ± 0.41	2.11	0.77 ± 0.39	0.37 ± 0.47

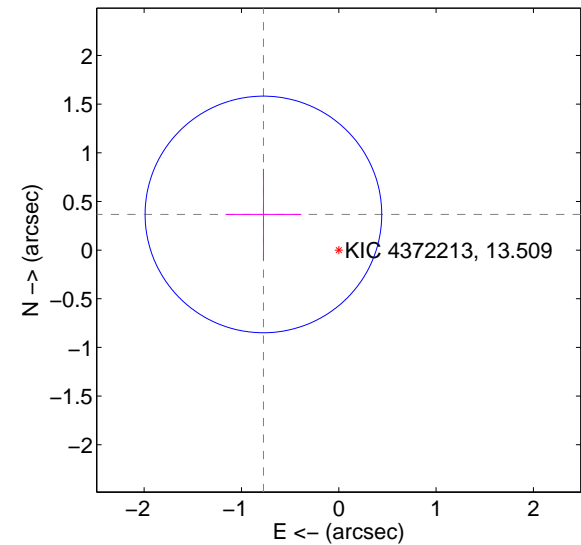
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

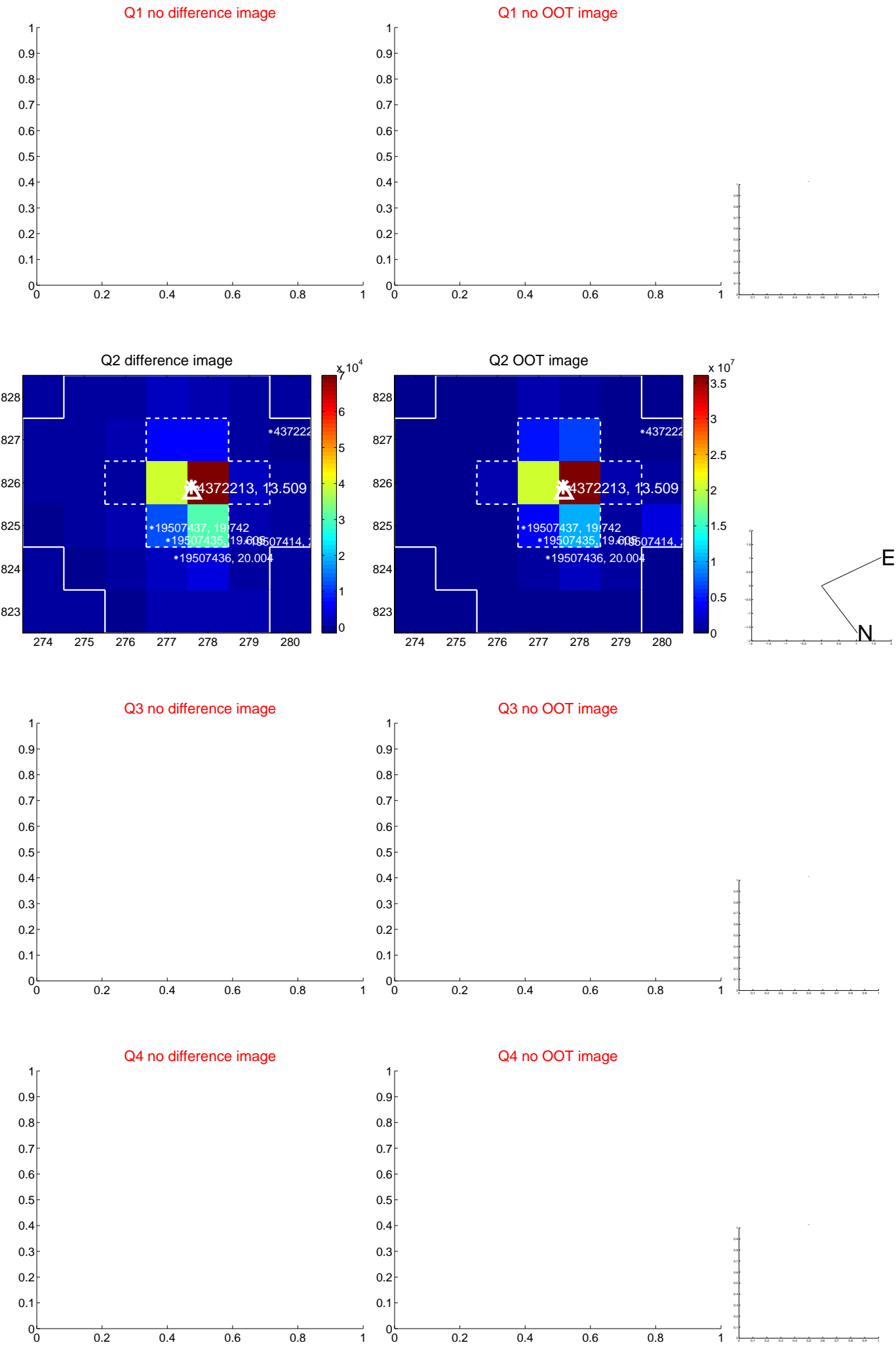


offset from photometric centroids

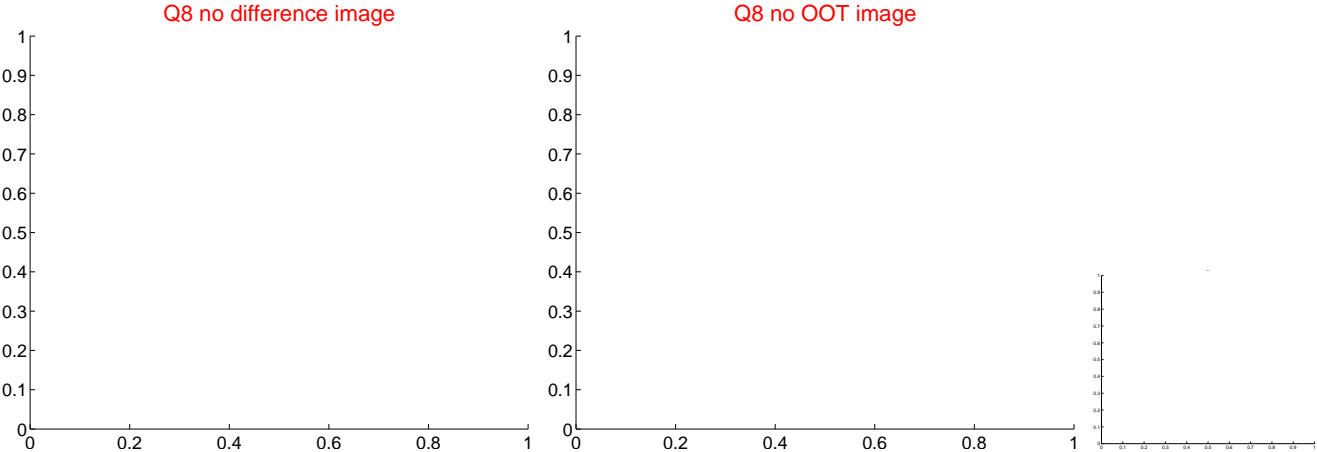
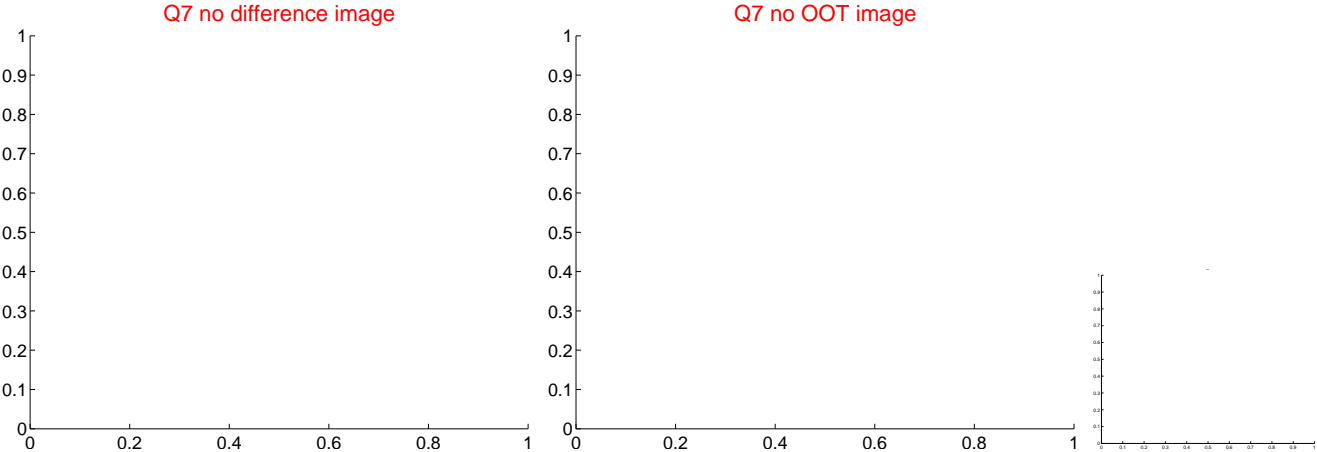
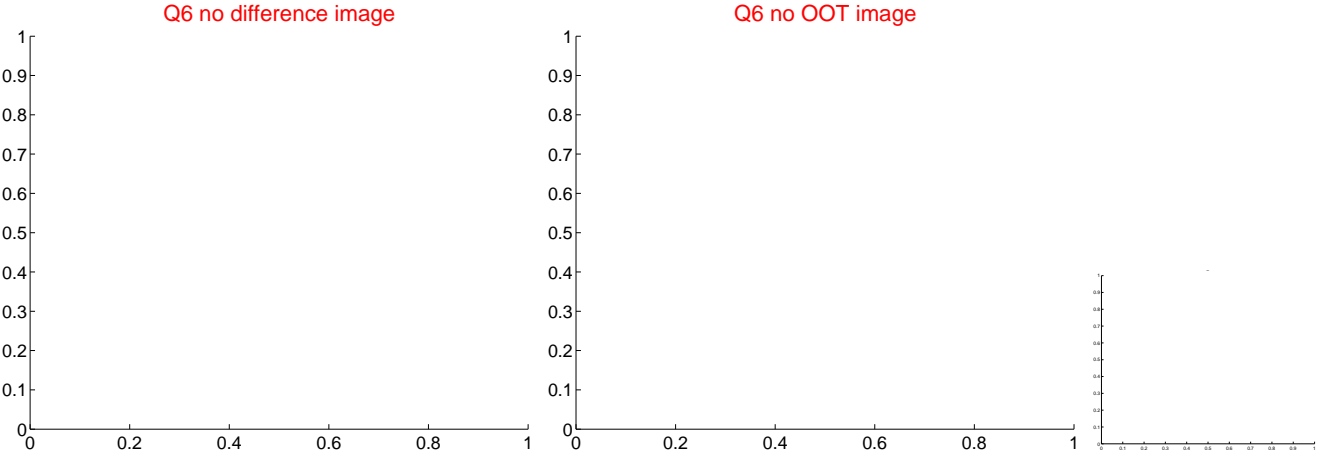
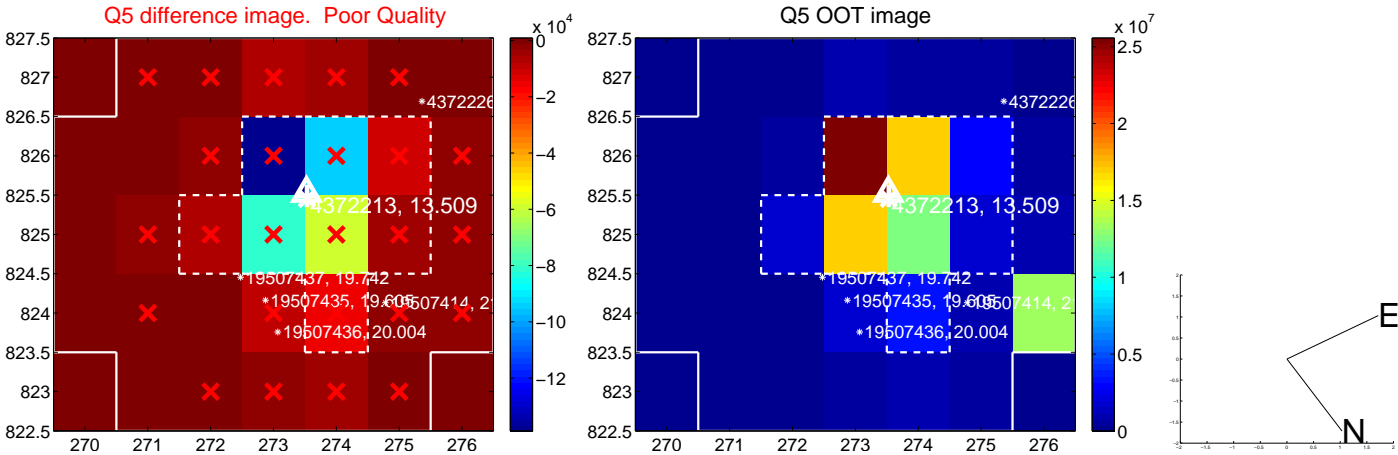


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

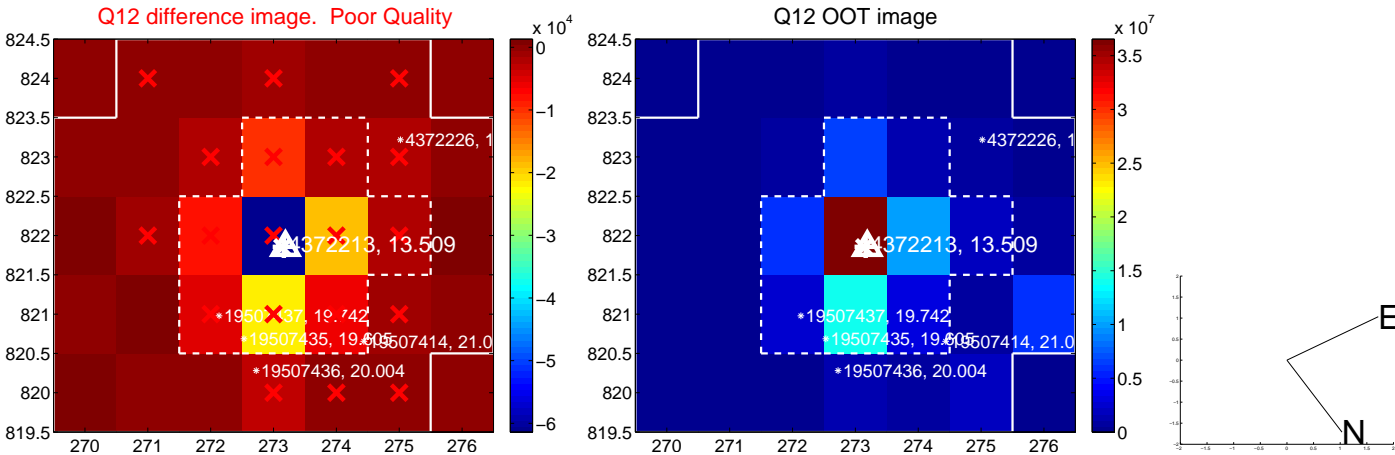
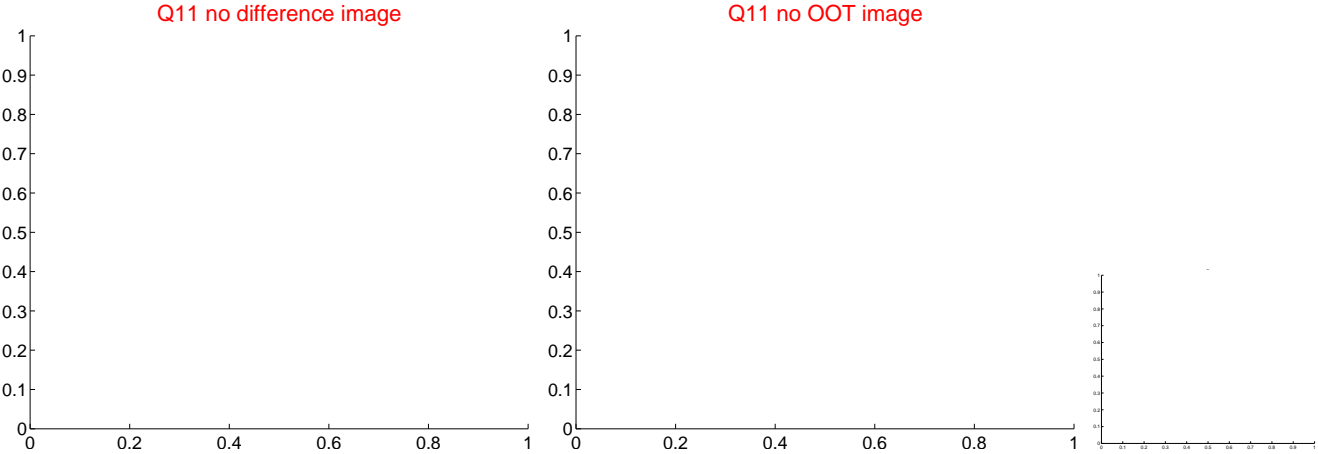
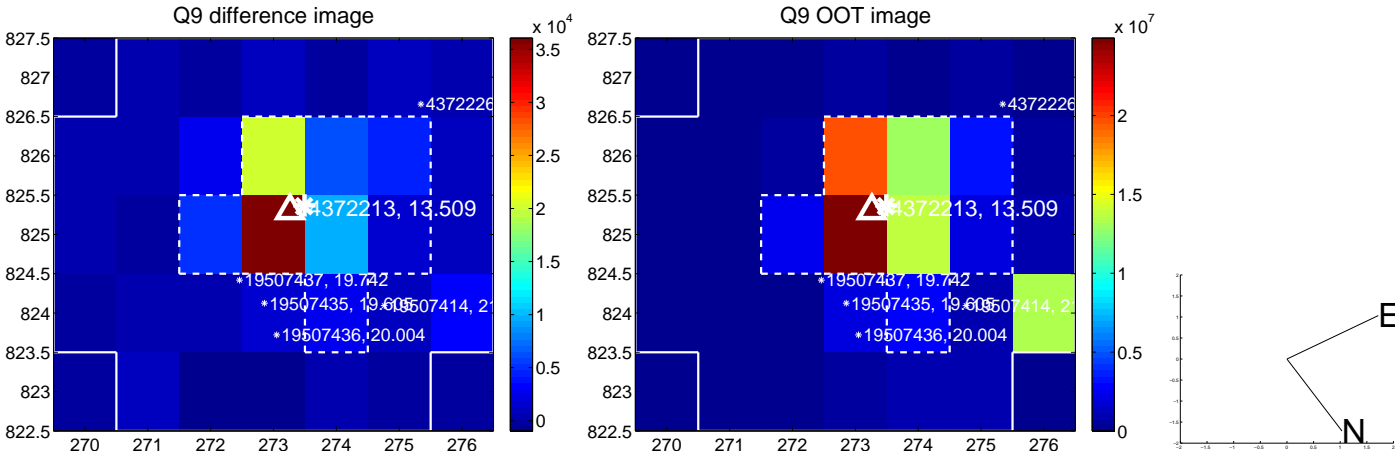
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



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

Q13 no difference image



Q13 no OOT image



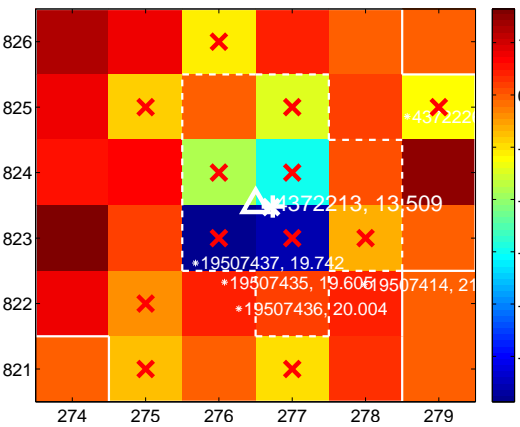
Q14 no difference image



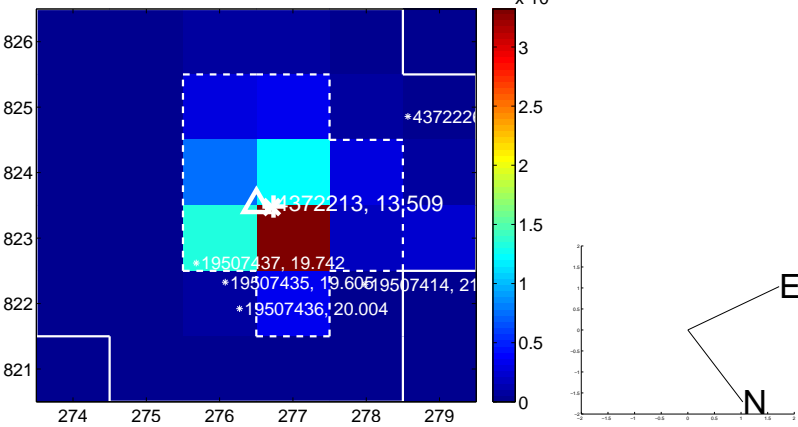
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



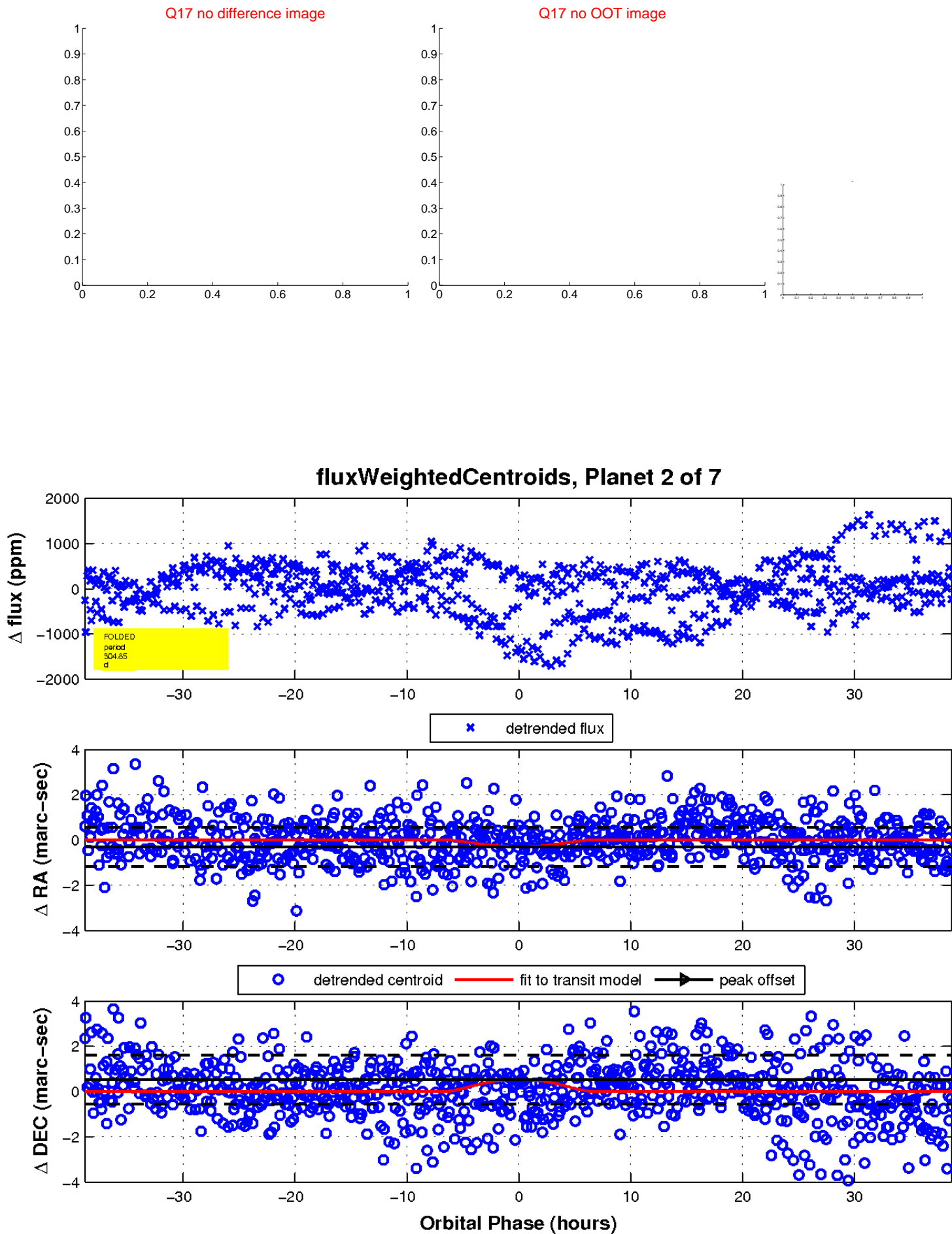
Q16 no difference image



Q16 no OOT image

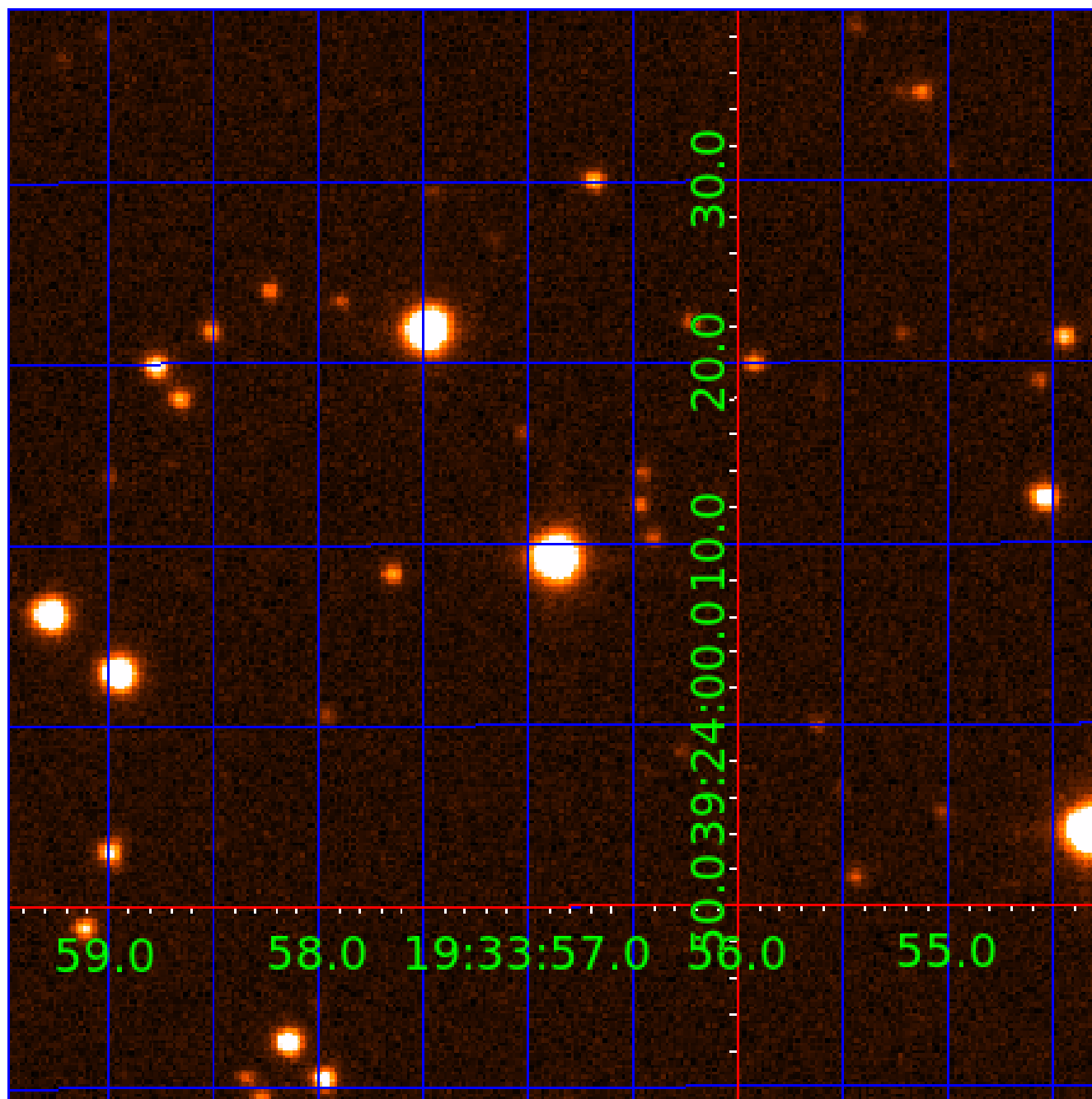


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004372213

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})
004372213-01	OBS	No	1.569500	132.912029	44.1	7.602	8.6	6.9	1.42	6318	0.97	3637.92
004372213-02	OBS	No	304.850885	224.948245	1339.5	12.925	12.8	11.0	1.42	6318	9.61	3.23
004372213-03	OBS	No	144.078914	190.363704	978.9	9.356	11.8	9.2	1.42	6318	5.39	8.79
004372213-05	OBS	No	47.377298	159.992154	423.7	15.694	8.1	5.5	1.42	6318	4.14	38.71
004372213-06	OBS	No	82.284017	204.077976	438.4	8.150	8.1	5.9	1.42	6318	3.94	18.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004372213-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
004372213-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004372213-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004372213-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
004372213-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

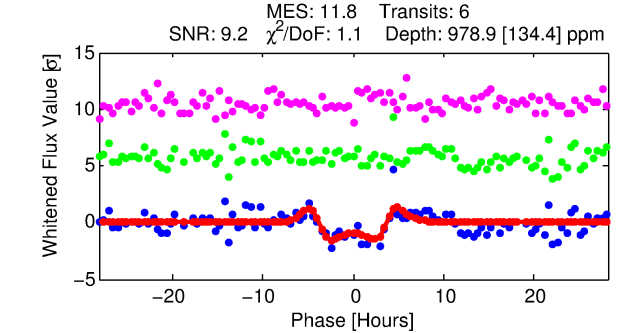
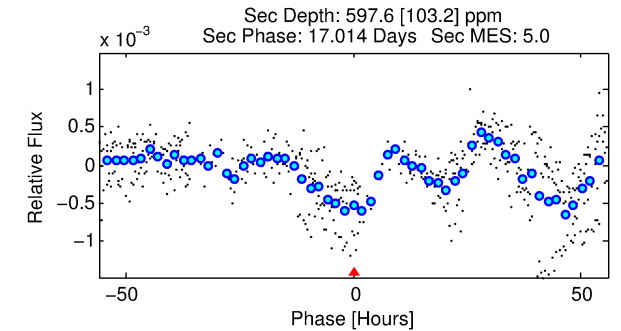
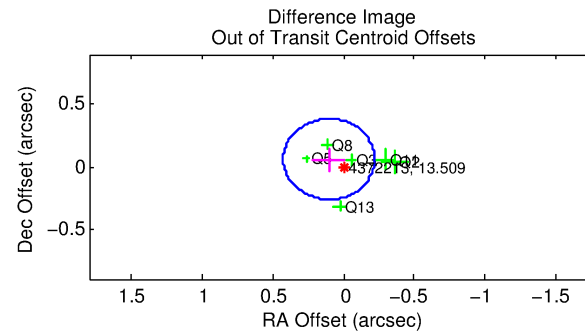
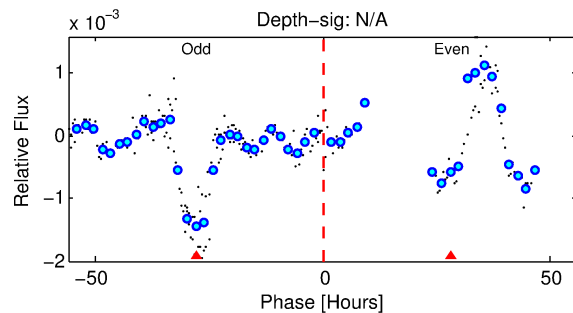
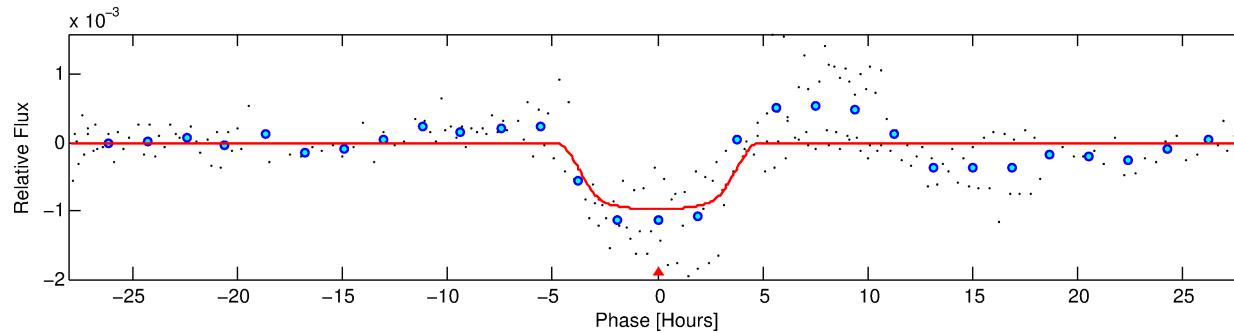
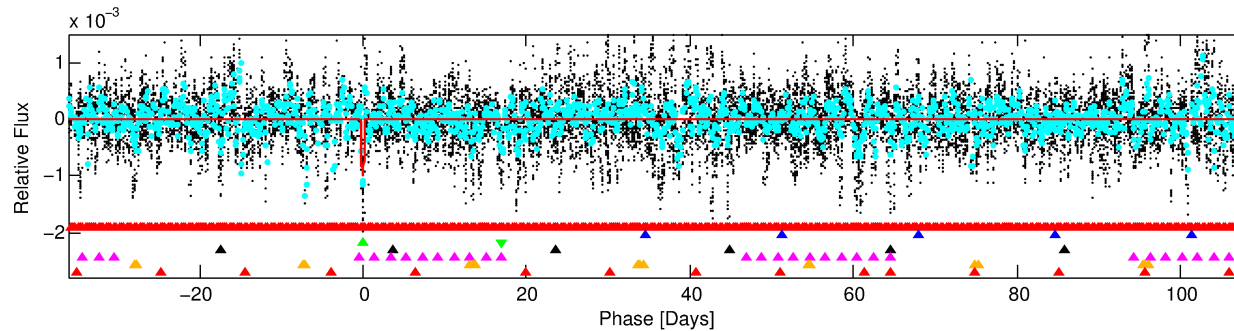
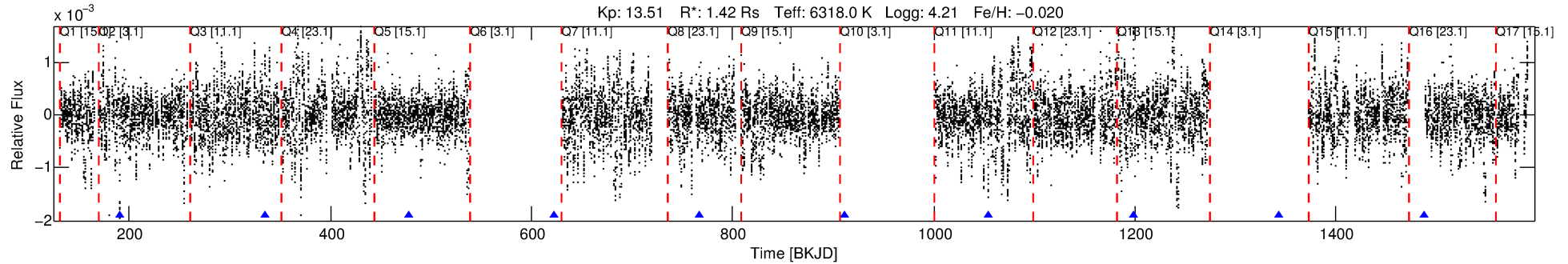
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004372213-03

No Significant Match Found

DV One-Page Summary

KIC: 4372213 Candidate: 3 of 7 Period: 144.079 d



DV Fit Results:

Period = 144.07891 [0.00276] d
Epoch = 190.3637 [0.0089] BKJD
Rp/R* = 0.0348 [0.0027]
a/R* = 52.91 [6.88]
b = 0.93 [0.02]
Seff = 8.78 [2.03]
Teq = 439 [25] K
Rp = 5.39 [1.05] Re
a = 0.5720 [0.0872] AU
Ag = 3705.01 [1200.95] [3.08σ]
Teffp = 5295 [316] K [15.33σ]

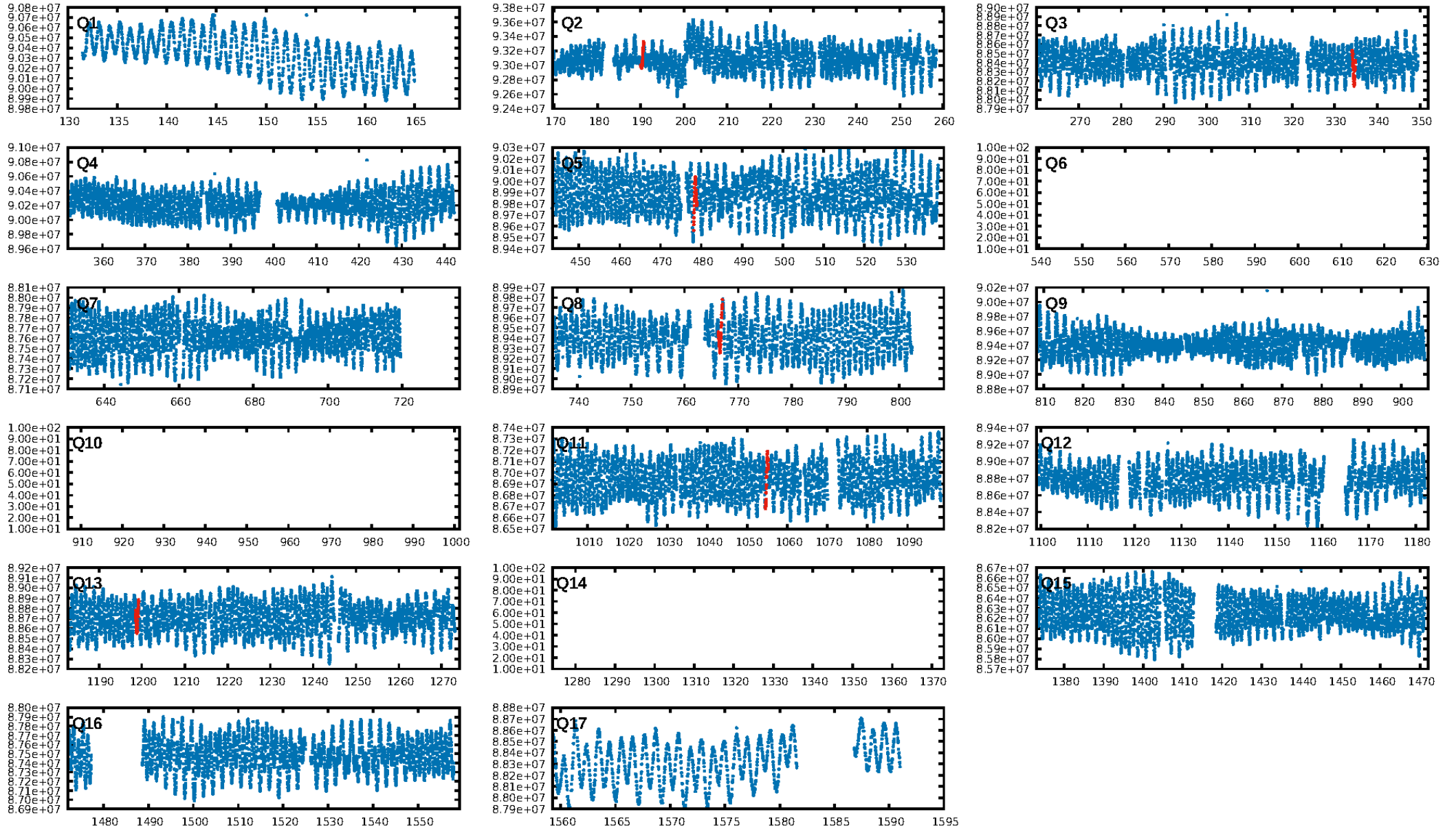
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [89.20σ]
LongPeriod-sig: 100.0% [124.29σ]
ModelChiSquare2-sig: 6.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.25e-16
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.9914
Centroid-sig: 50.4%
Centroid-so: 1.139 arcsec [2.99σ]
OotOffset-rm: 0.120 arcsec [1.11σ]
OotOffset-st: 1/2/1/2 [6]
KicOffset-rm: 0.188 arcsec [1.76σ]
KicOffset-st: 1/2/1/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/6]

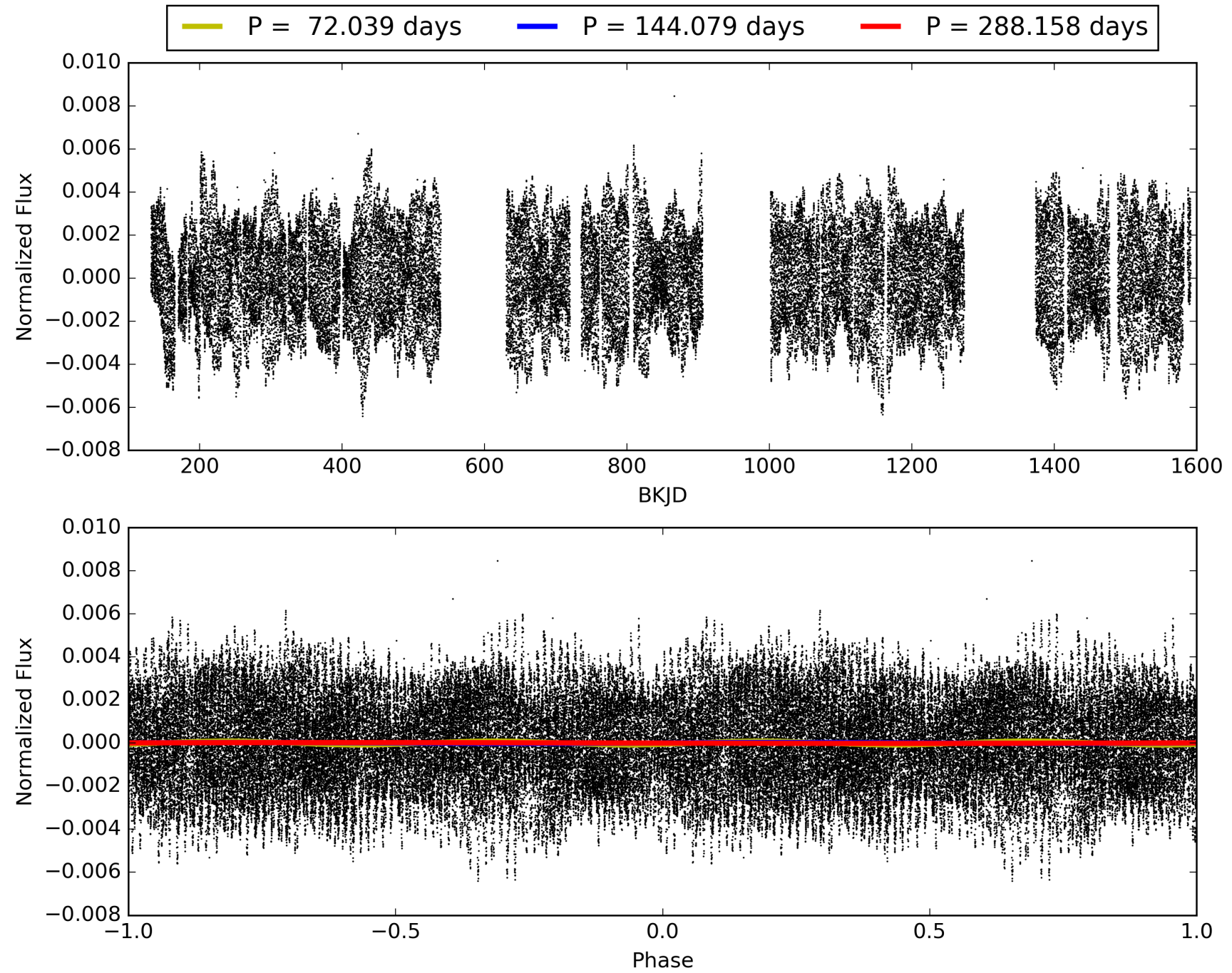
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:04:33 Z

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

TCE 004372213-03, PDC Light Curves

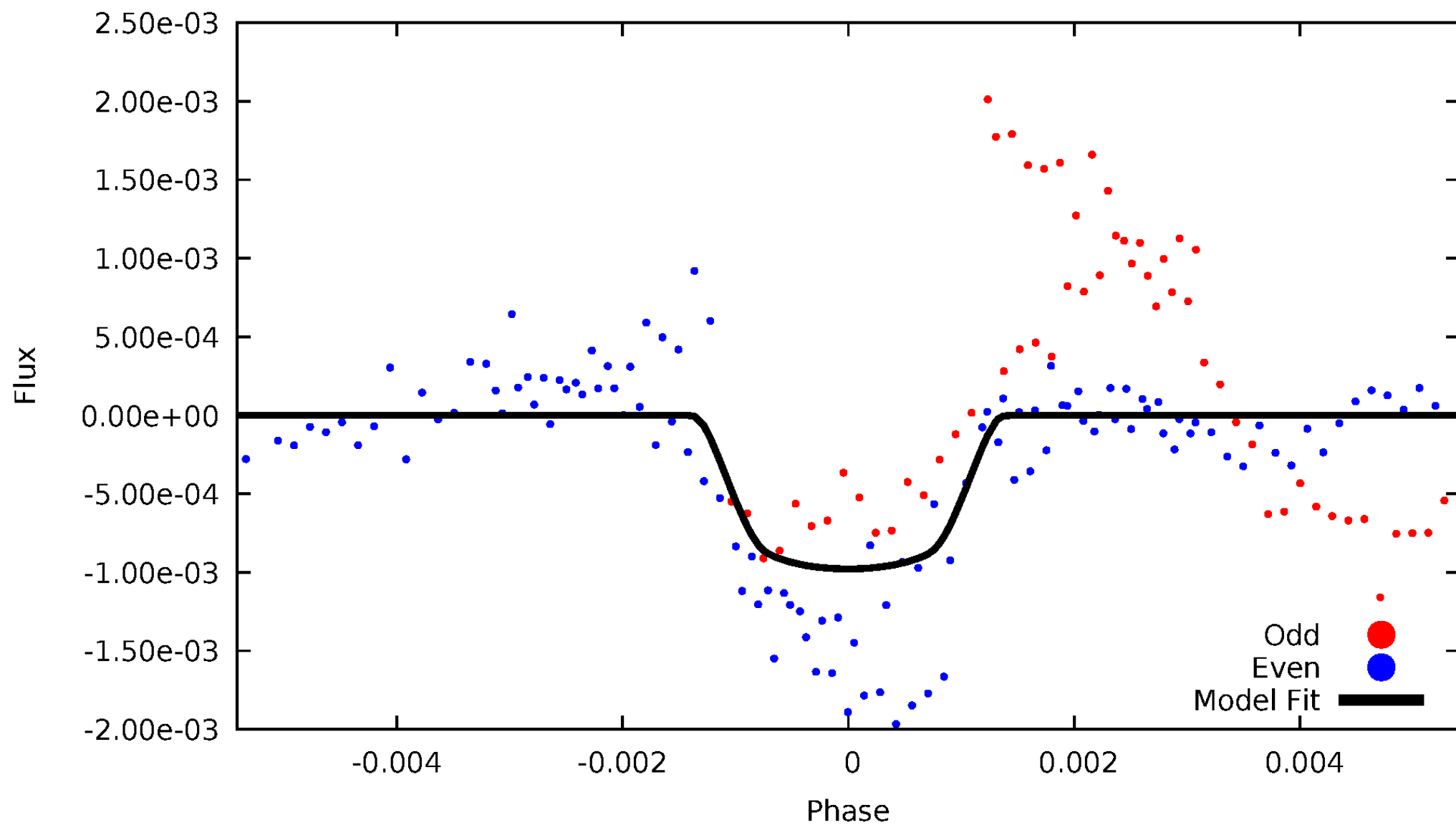


TCE 004372213-03



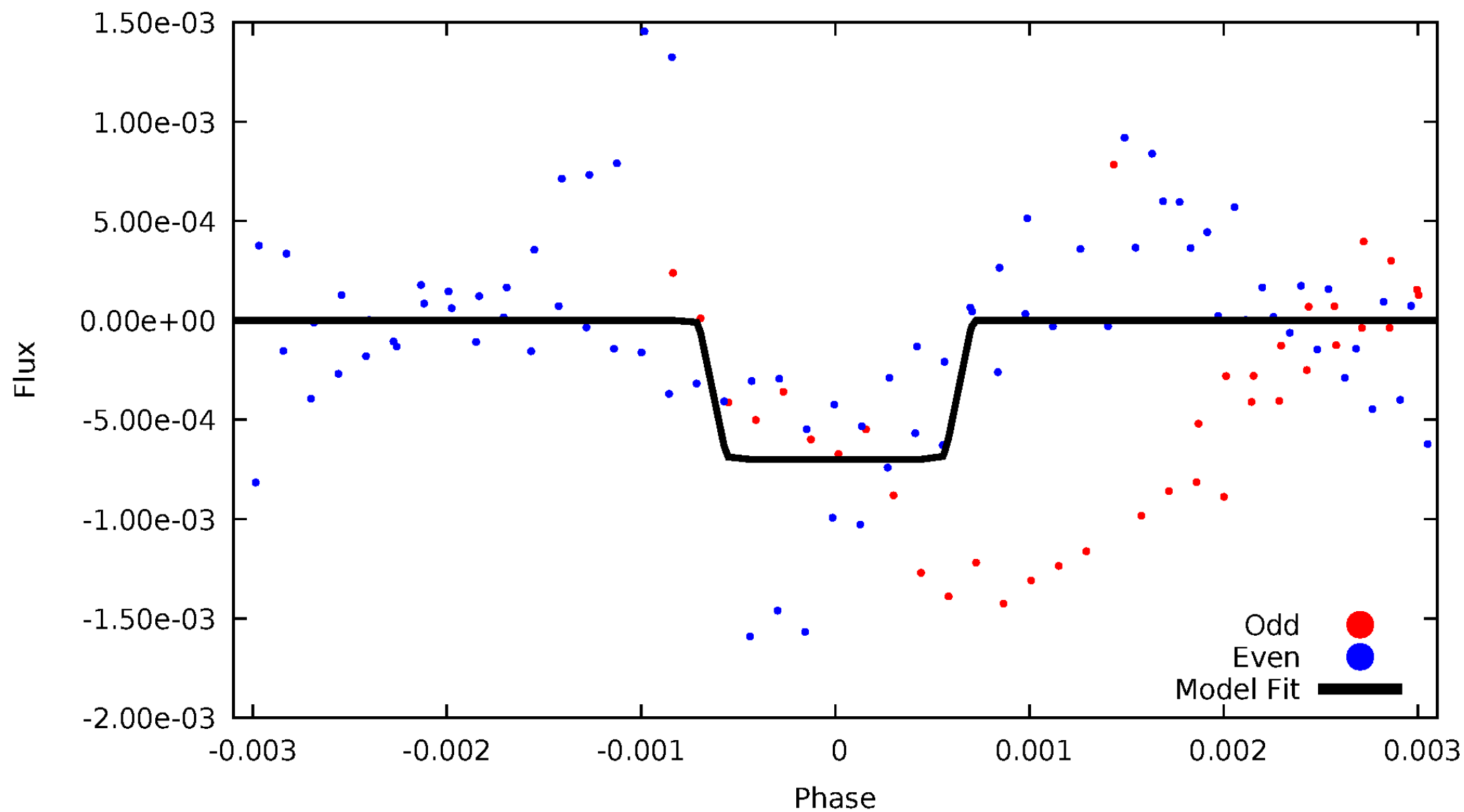
DV Odd/Even

TCE 004372213-03



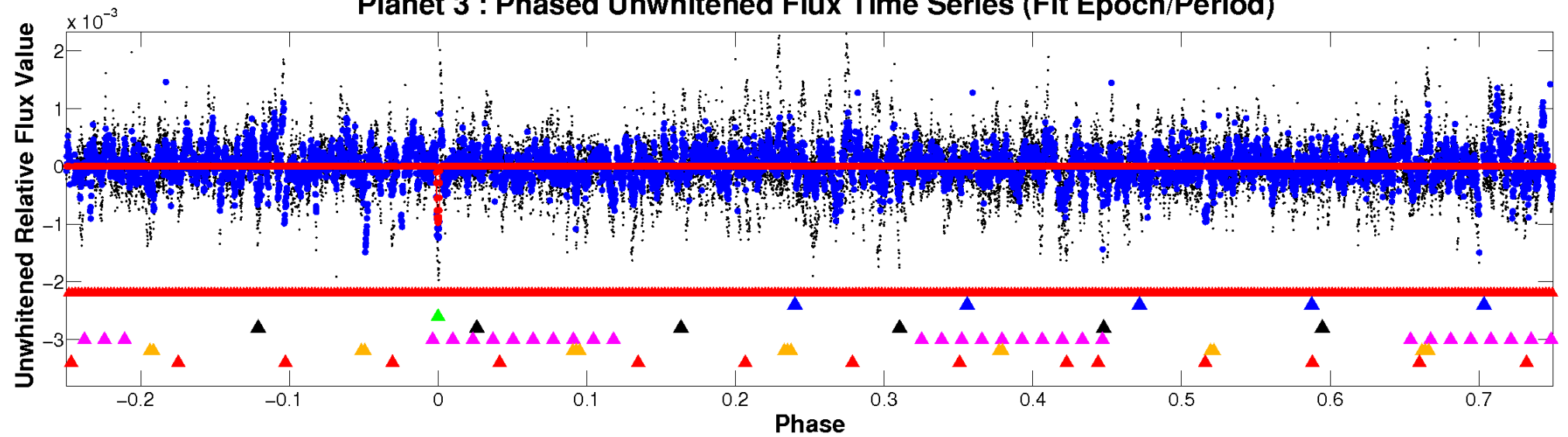
ALT Odd/Even

TCE 004372213-03

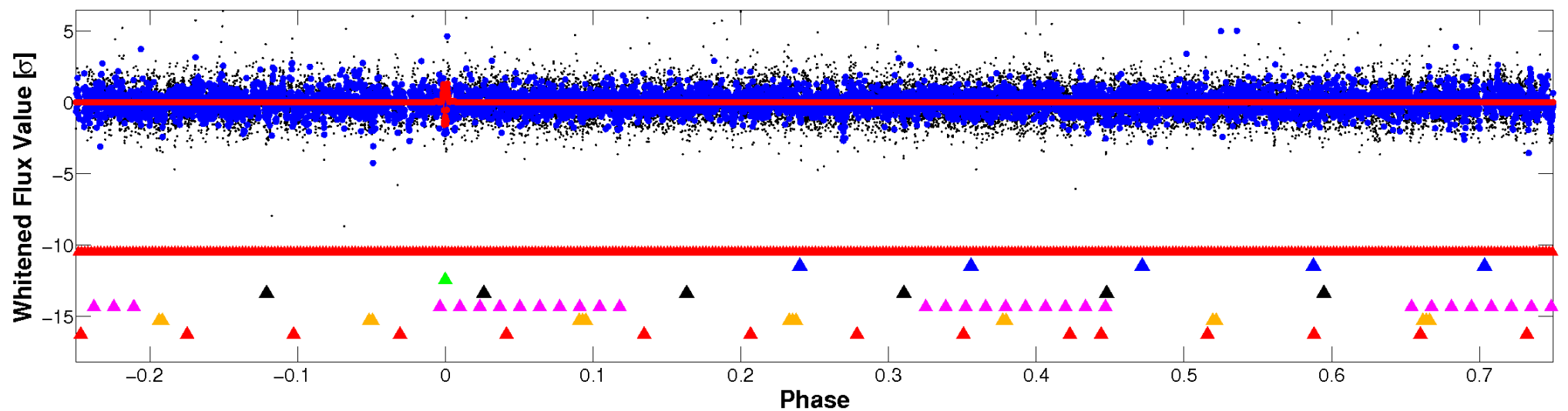


Non-Whitened Vs. Whitened Light Curve

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

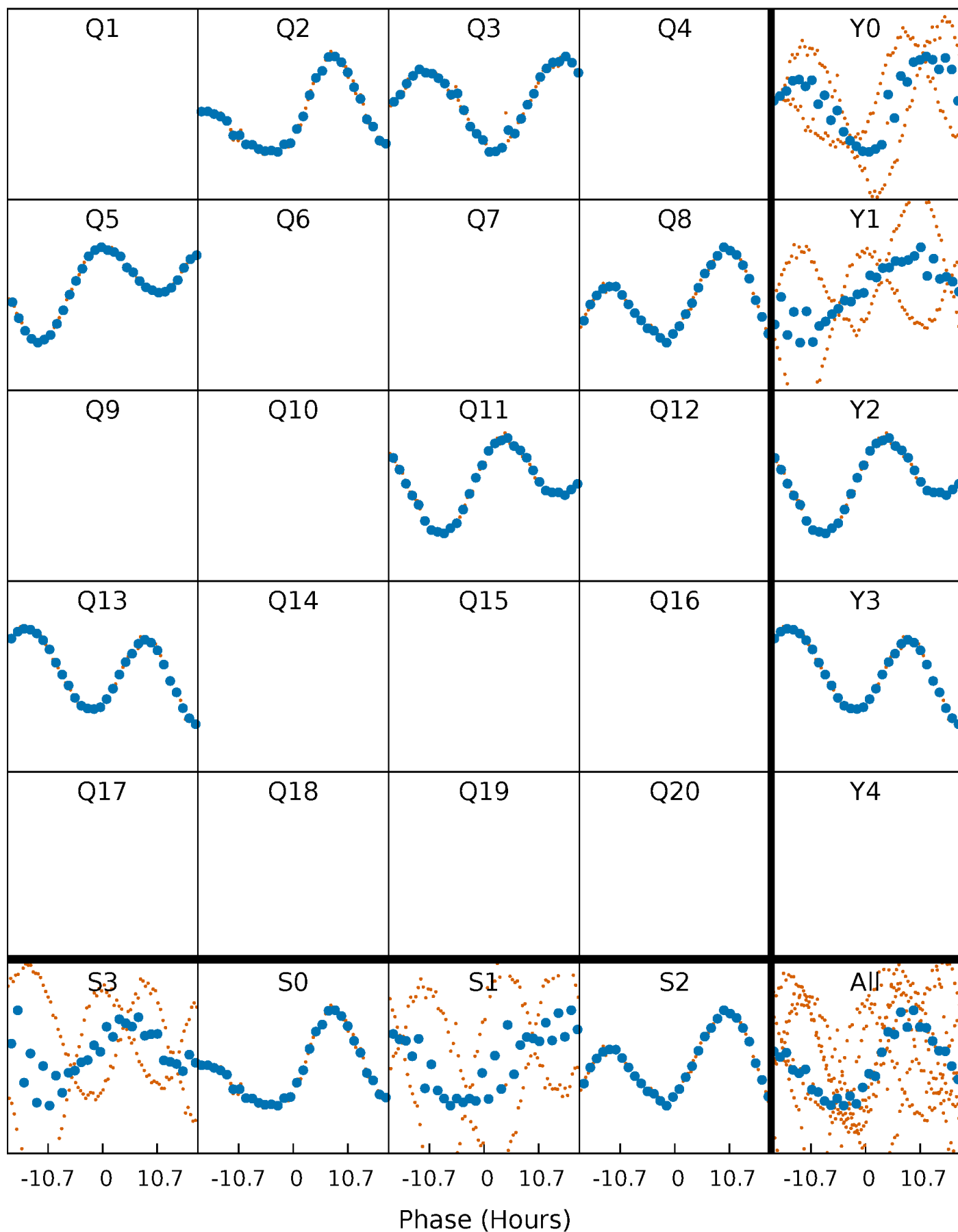


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



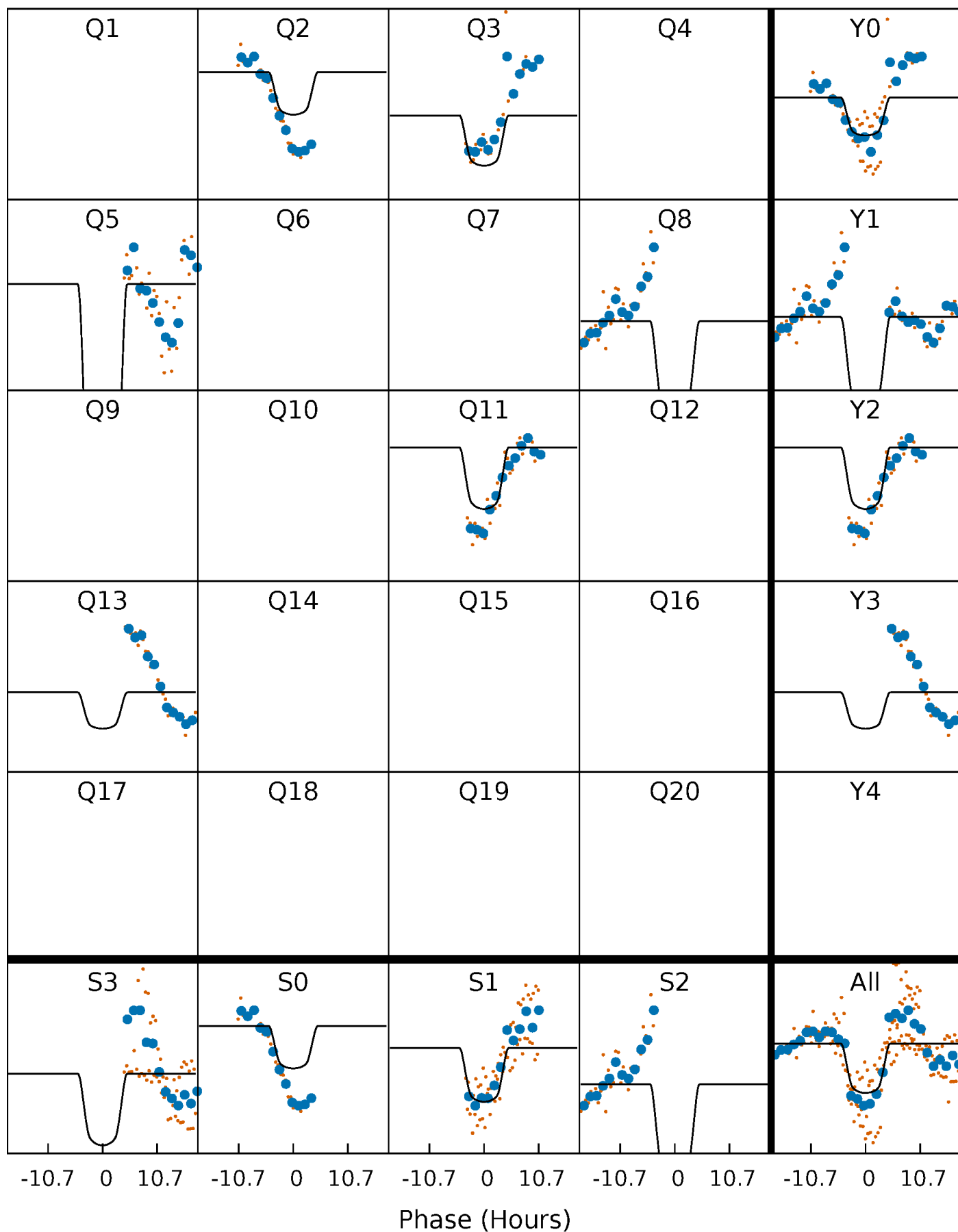
PDC Quarter-Phased Transit Curves

TCE 004372213-03 P=144.078914 Days $T_0=190.363704$ (BKJD)



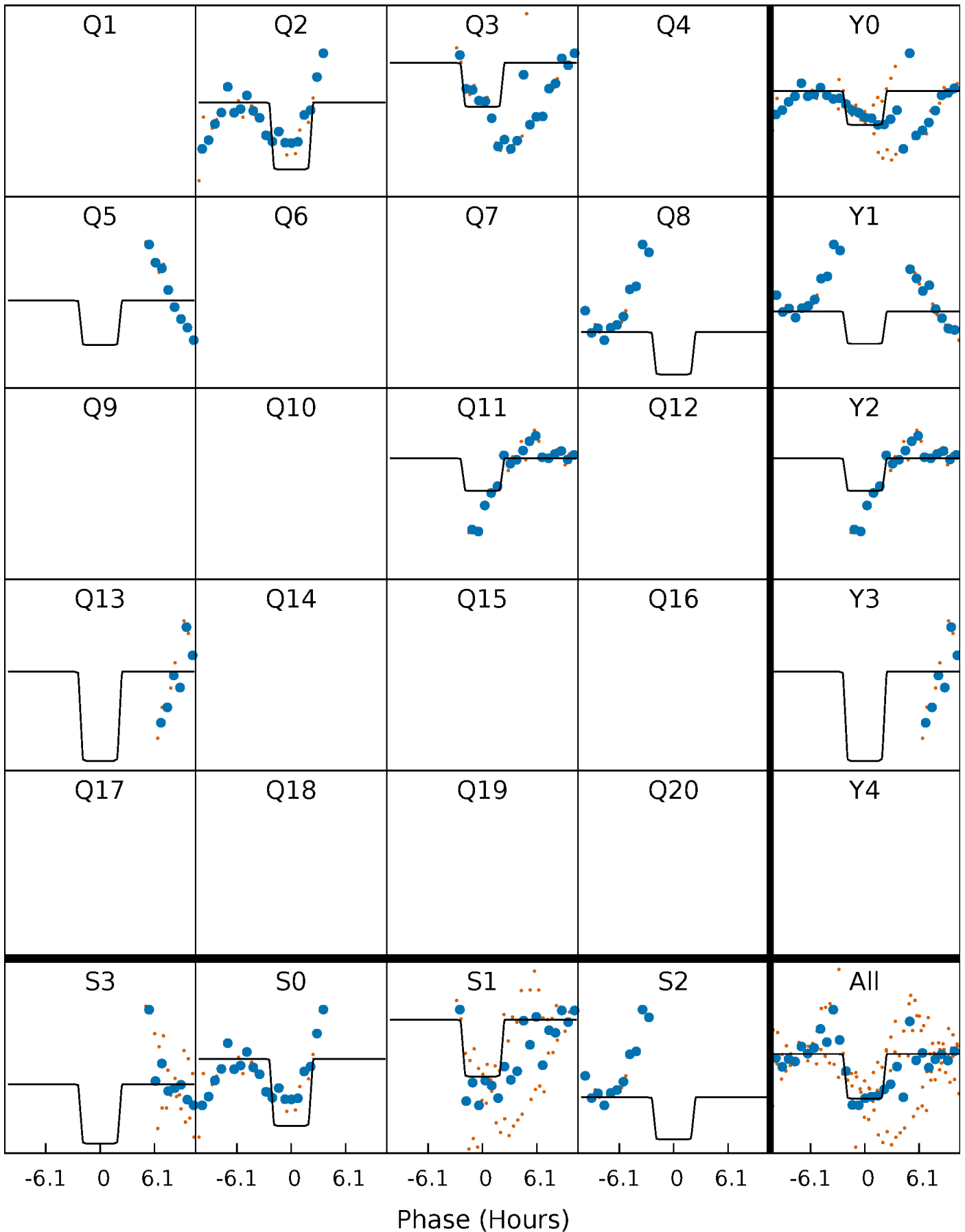
DV Quarter-Phased Transit Curves

TCE 004372213-03 P=144.078914 Days $T_0=190.363704$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

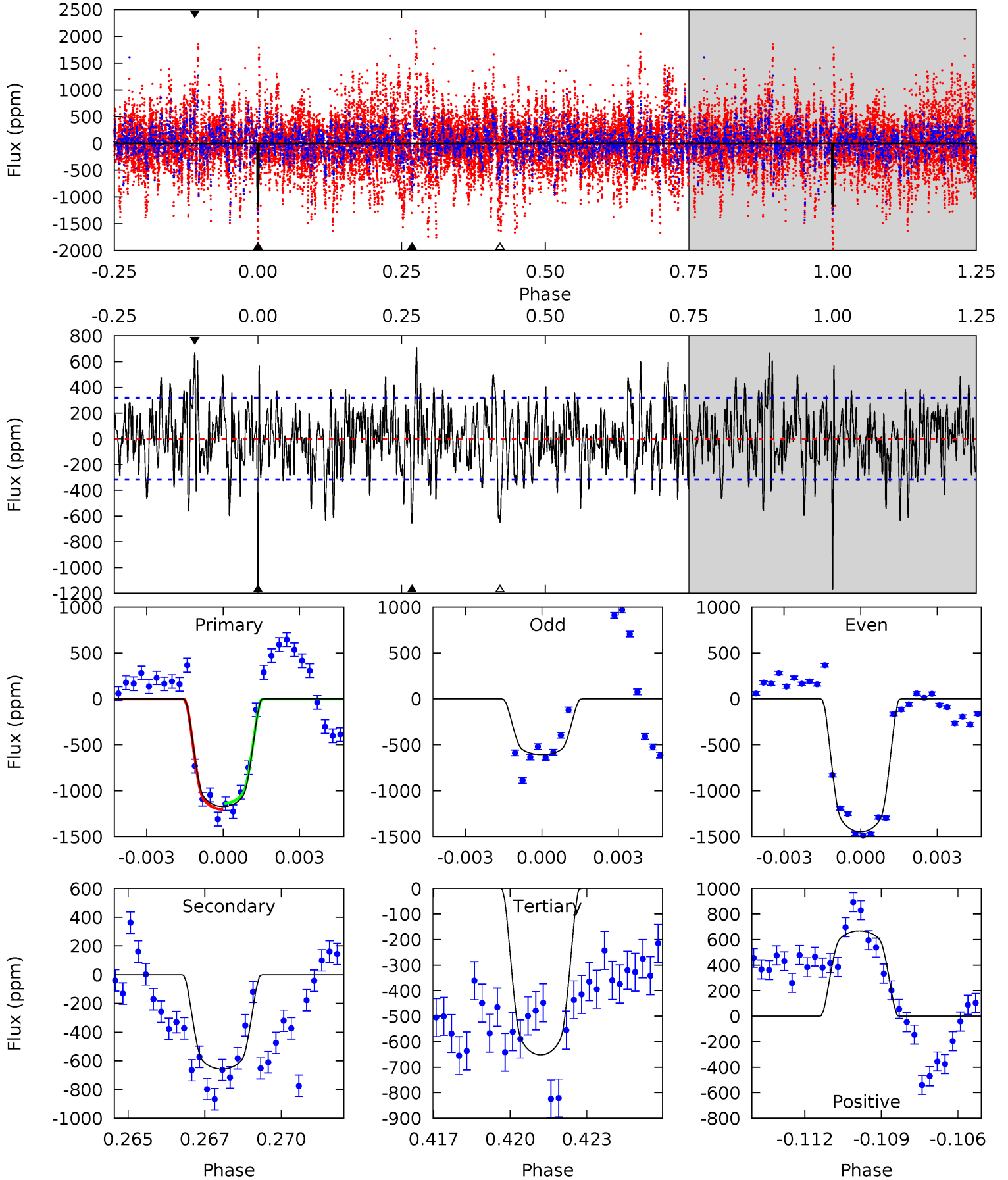
TCE 004372213-03 P=144.070220 Days $T_0=190.343584$ (BKJD)



DV Model-Shift Uniqueness Test

004372213-03, P = 144.078914 Days, E = 46.284790 Days

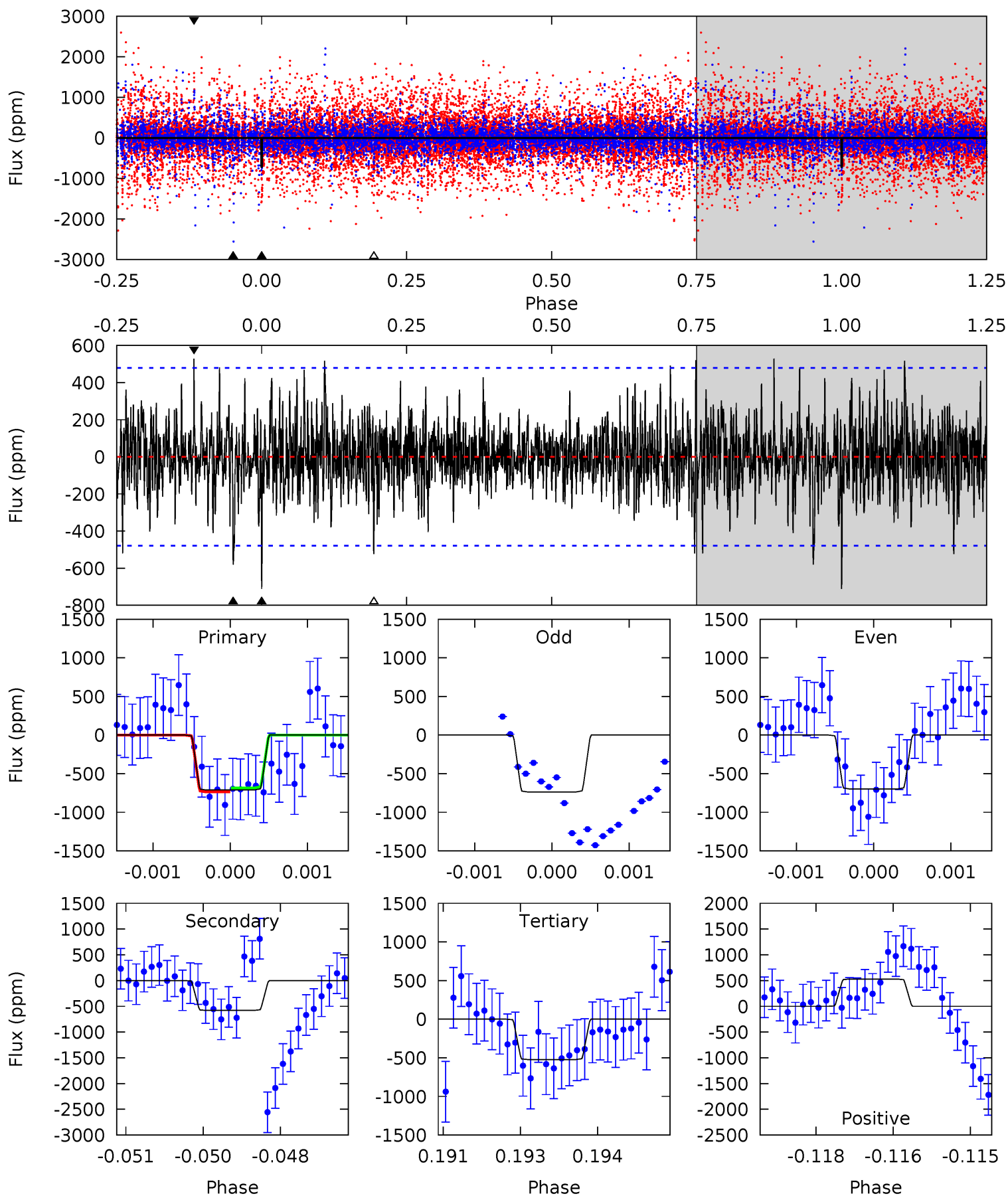
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	10.9	10.8	11.1	5.27	3.00	3.50	8.62	8.34	0.09	-0.19	6.65	-0.32	0.38	0.54



Alt Model-Shift Uniqueness Test

004372213-03, P = 144.070220 Days, E = 46.273364 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.00	6.52	5.88	5.94	5.39	3.19	1.53	2.12	2.06	0.64	0.58	0.20	0.98	0.43	0.28



Stellar Parameters For KIC 004372213

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6318^{+82}_{-75}	$4.214^{+0.125}_{-0.125}$	$-0.020^{+0.150}_{-0.150}$	$1.419^{+0.252}_{-0.227}$	$1.201^{+0.101}_{-0.101}$	$0.592^{+0.345}_{-0.218}$
	+1%/-1%	+3%/-3%	+750%/-750%	+18%/-16%	+8%/-8%	+58%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004372213-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-657 ± 60	$5.42^{+0.68}_{-0.60}$	615^{+29}_{-26}	5450^{+248}_{-211}	4064^{+1104}_{-937}
Alt.	-580 ± 89	$4.07^{+0.58}_{-0.56}$	615^{+28}_{-28}	6052^{+427}_{-381}	6276^{+2445}_{-1706}

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 $A_{obs} \gg 1.0$

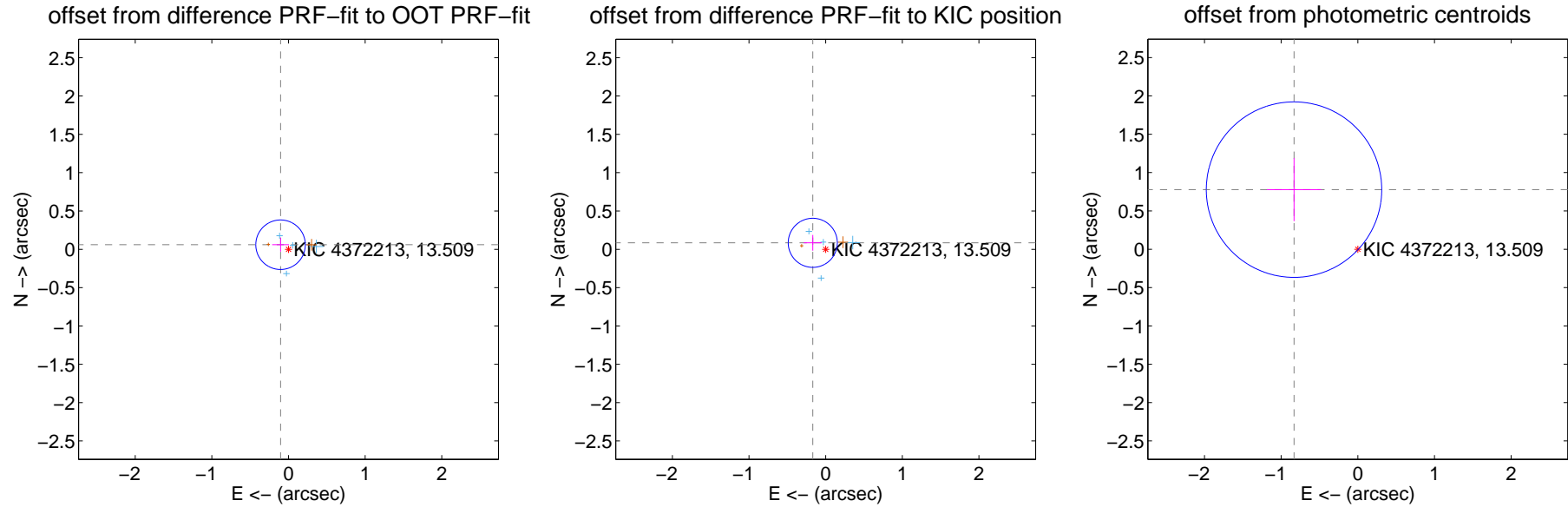
DV Centroid Data

Supplemental centroid analysis for 004372213-03. Kepler magnitude: 13.51. Transit SNR 9.16

There are 4 quarters with good PRF difference image offsets

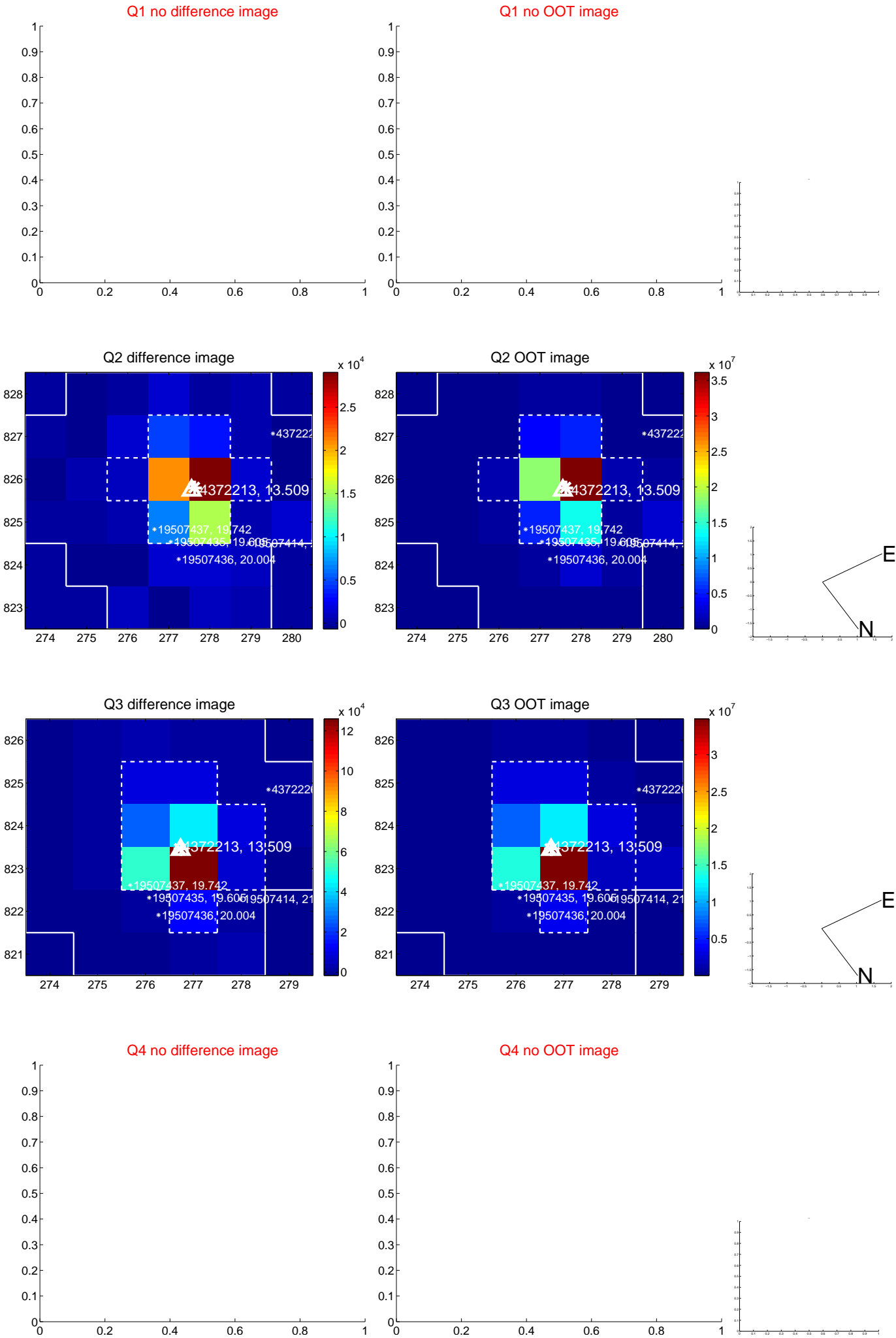
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.120 ± 0.108	1.11	0.104 ± 0.109	0.060 ± 0.090
PRF-fit source offset from KIC position	0.188 ± 0.107	1.76	0.168 ± 0.118	0.085 ± 0.102
photometric centroid source offset	1.14 ± 0.38	2.99	0.83 ± 0.35	0.78 ± 0.41

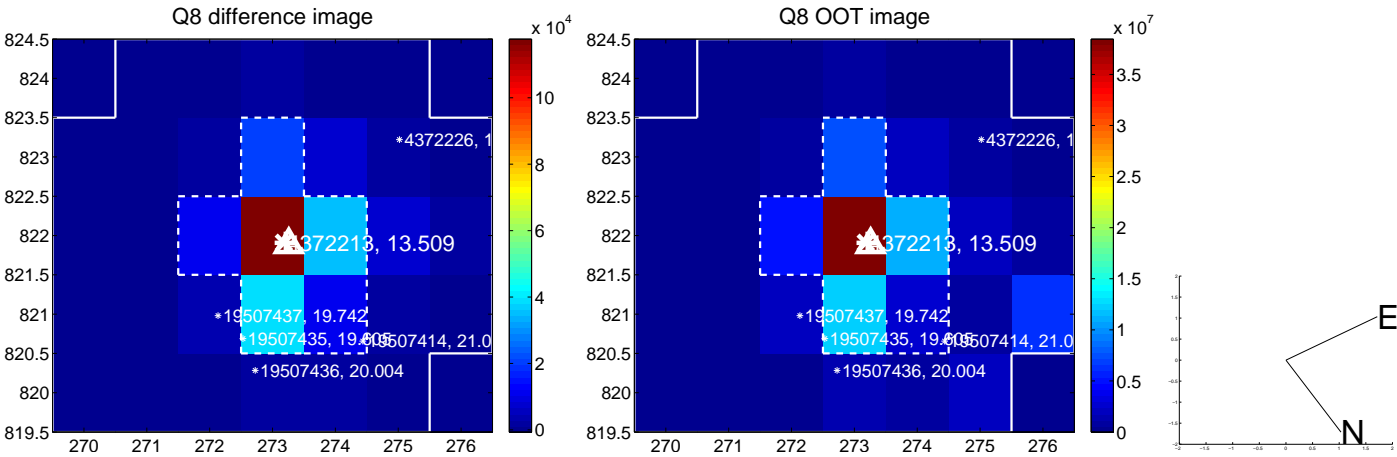
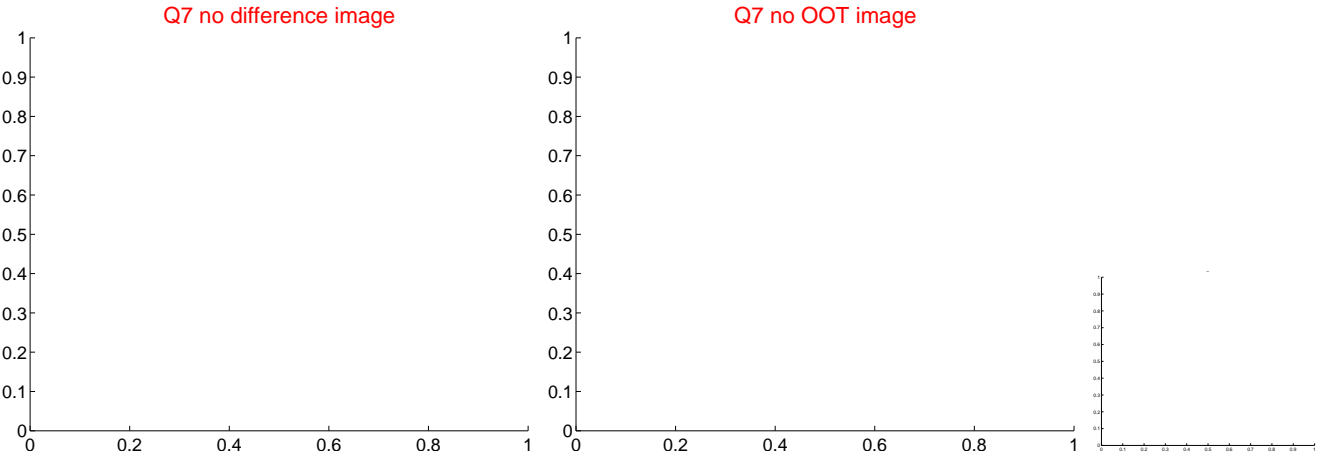
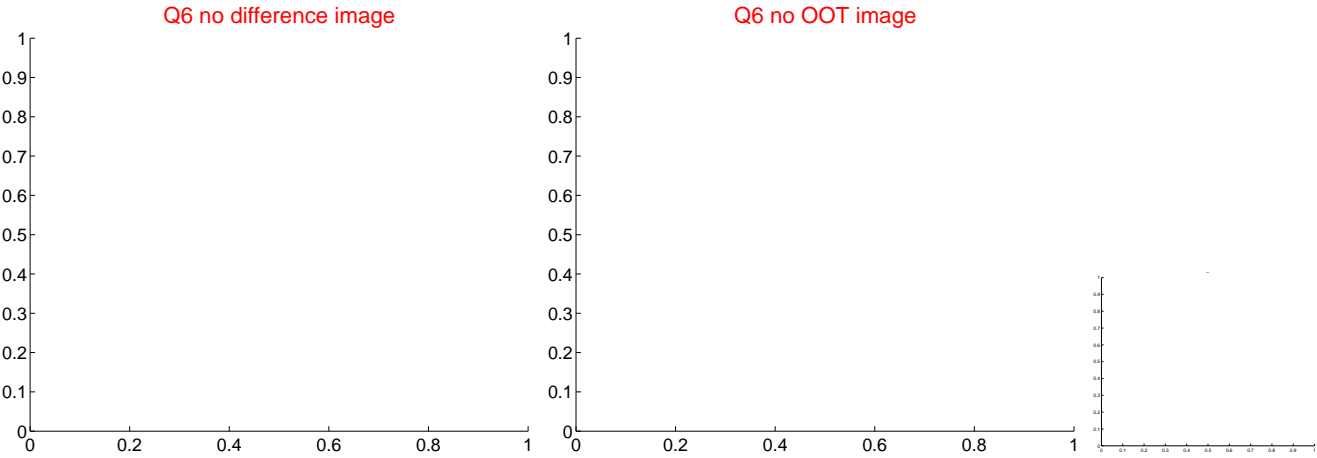
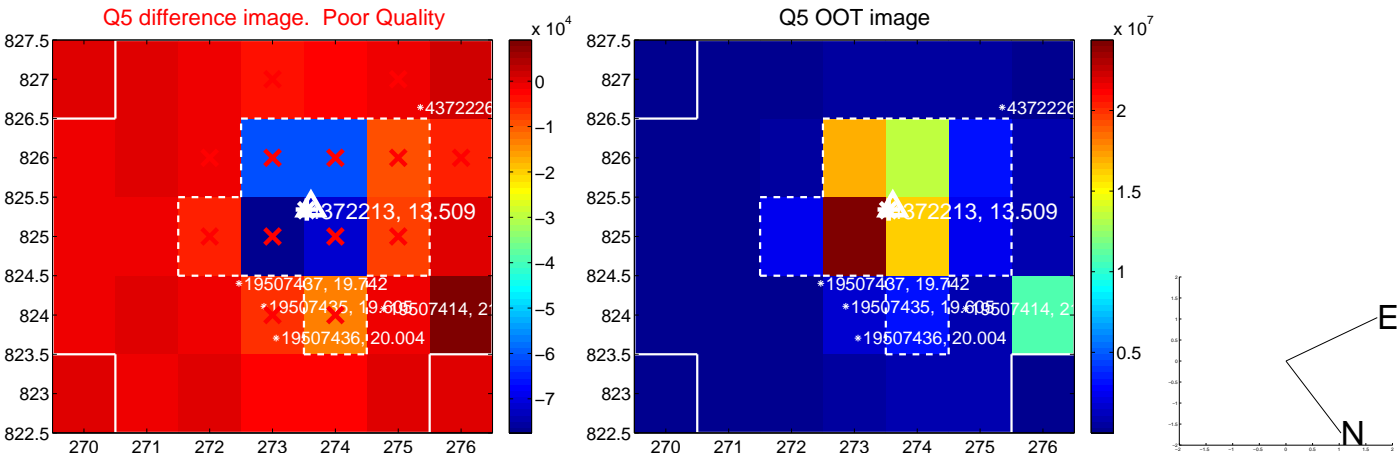


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

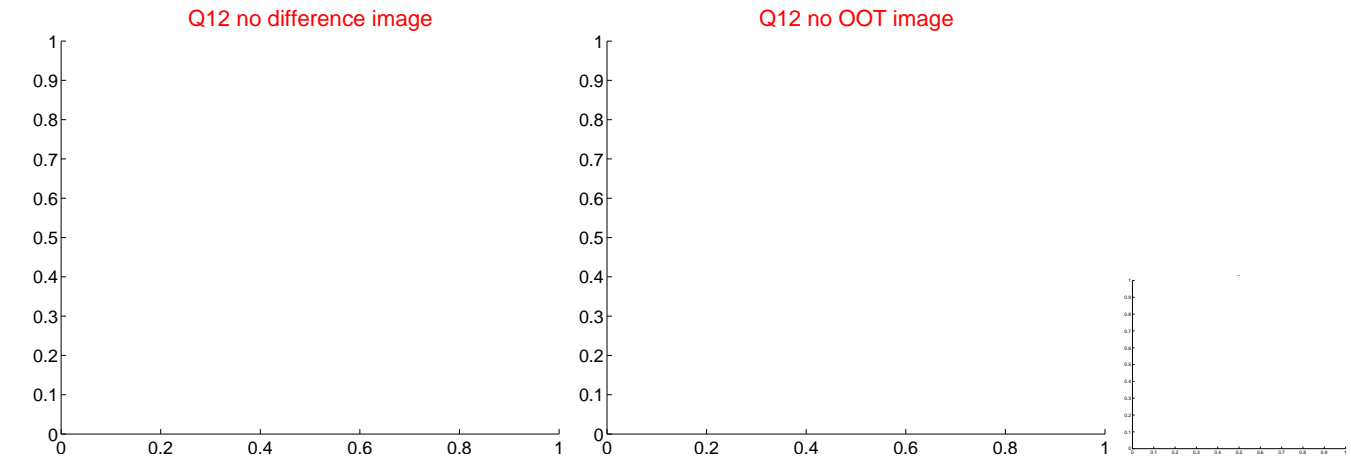
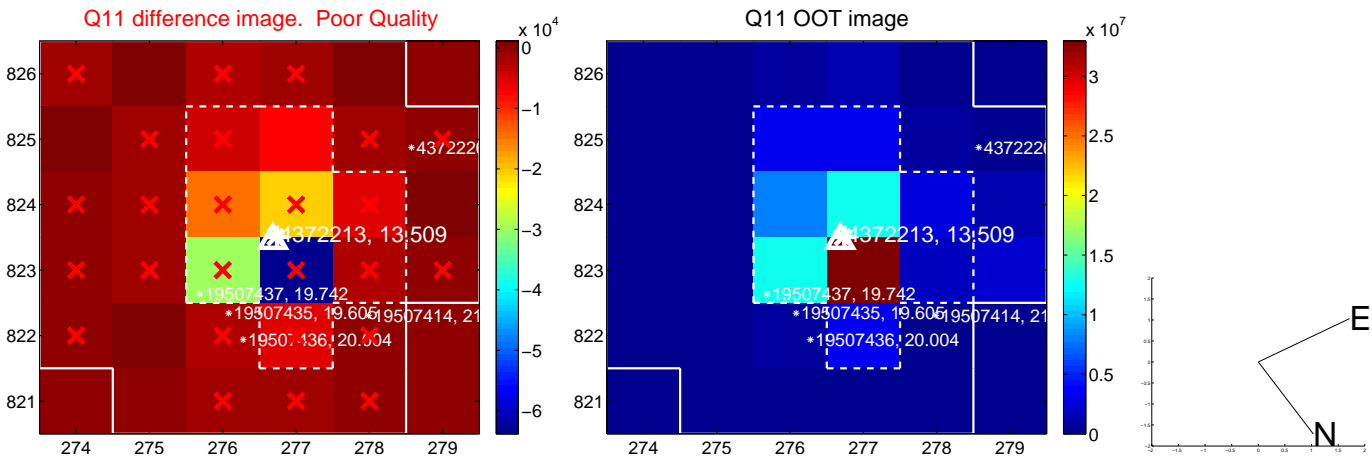
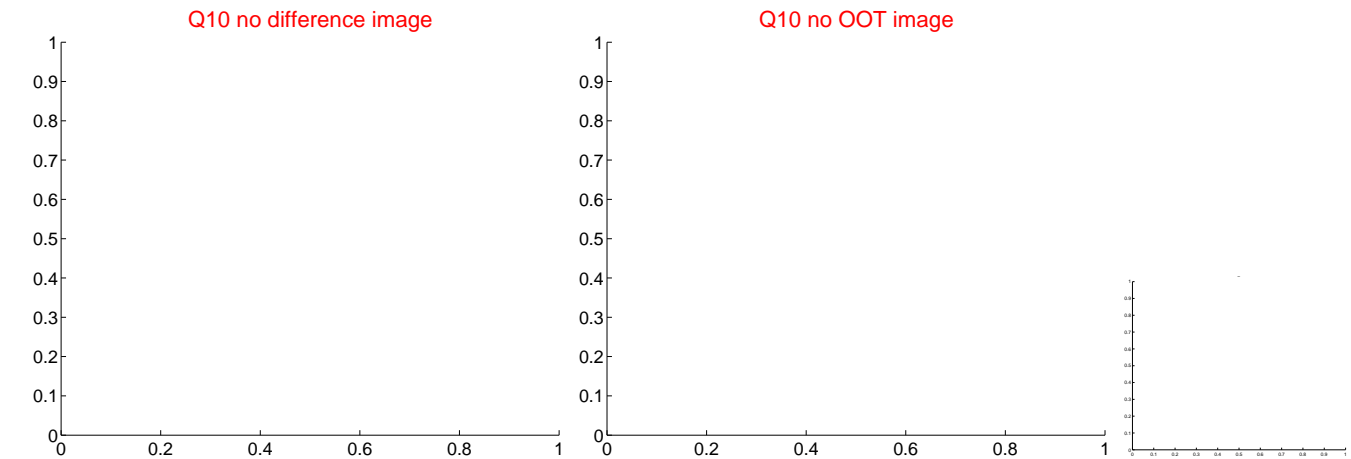
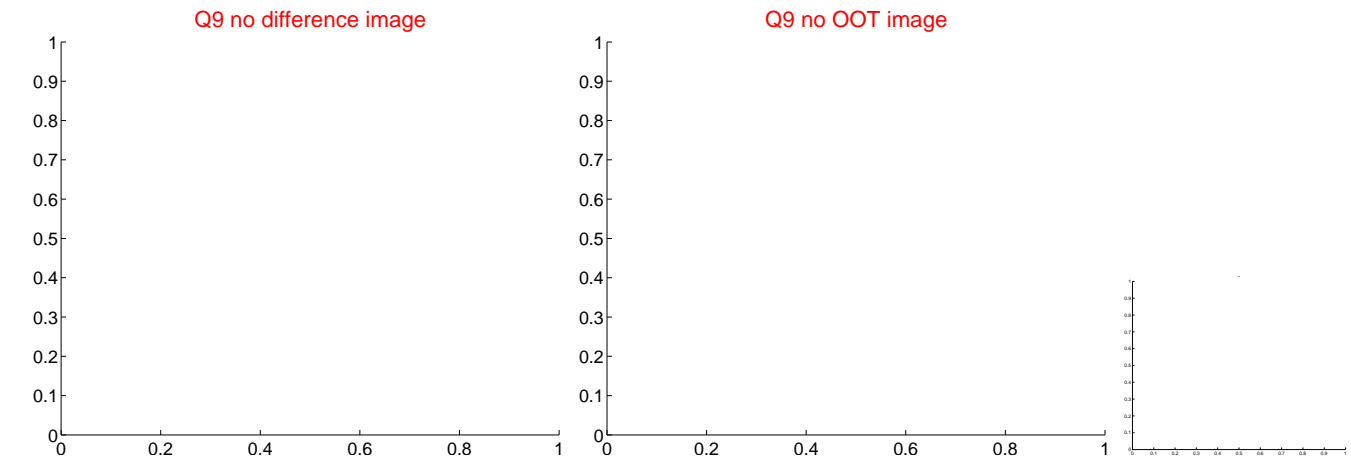
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



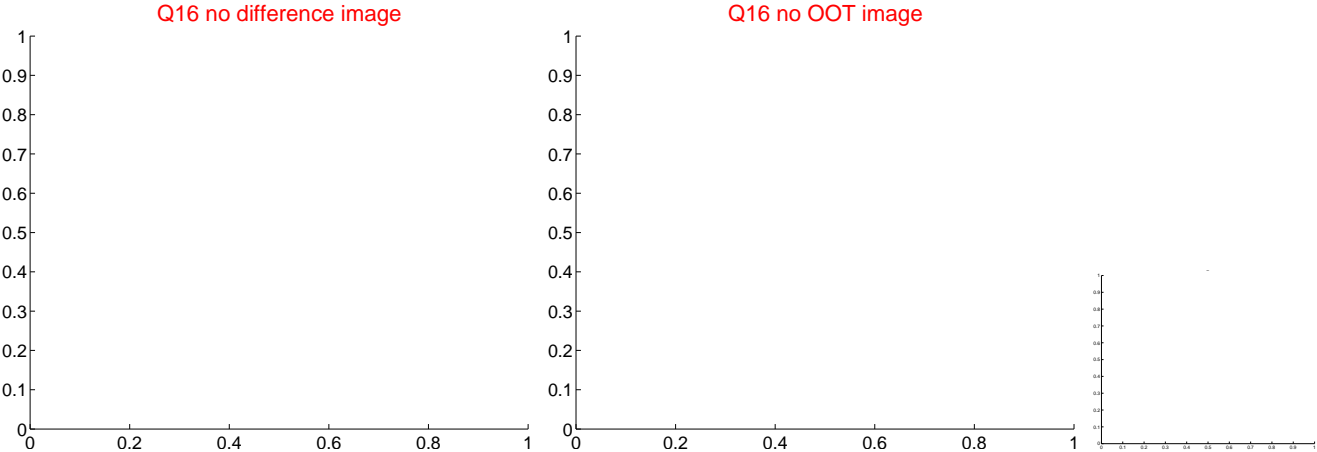
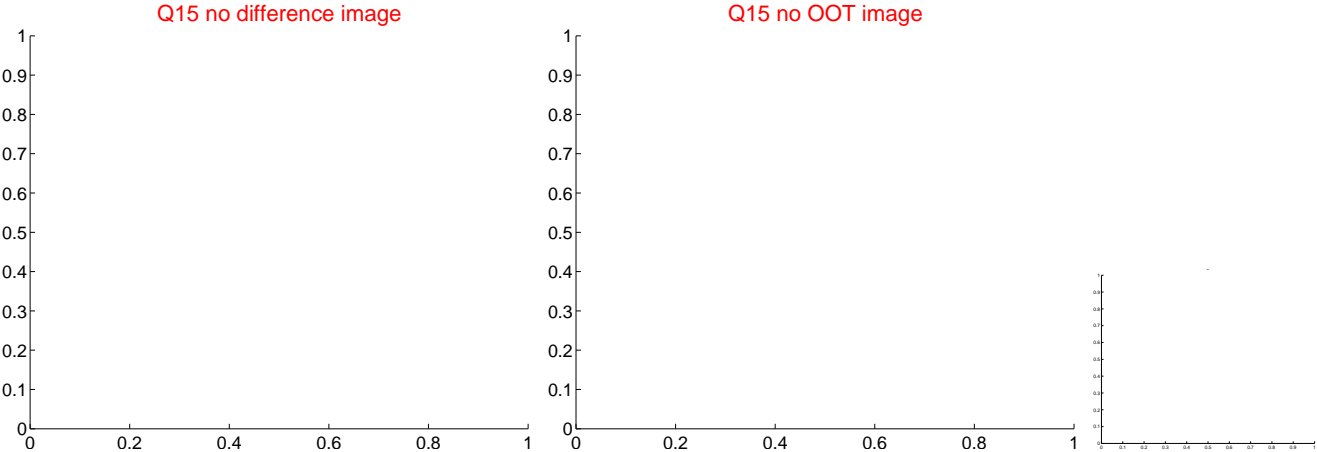
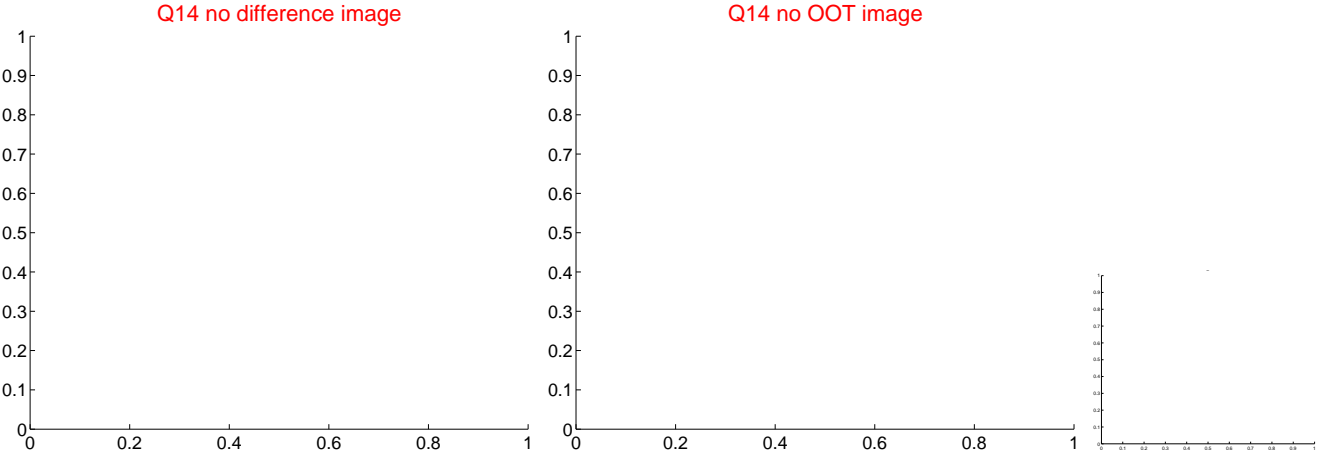
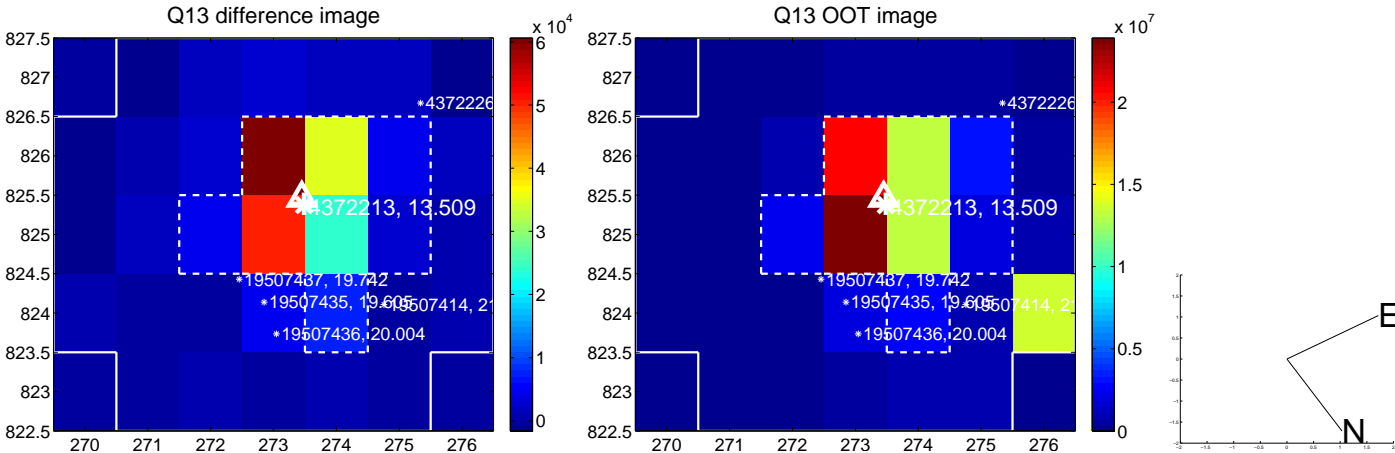
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



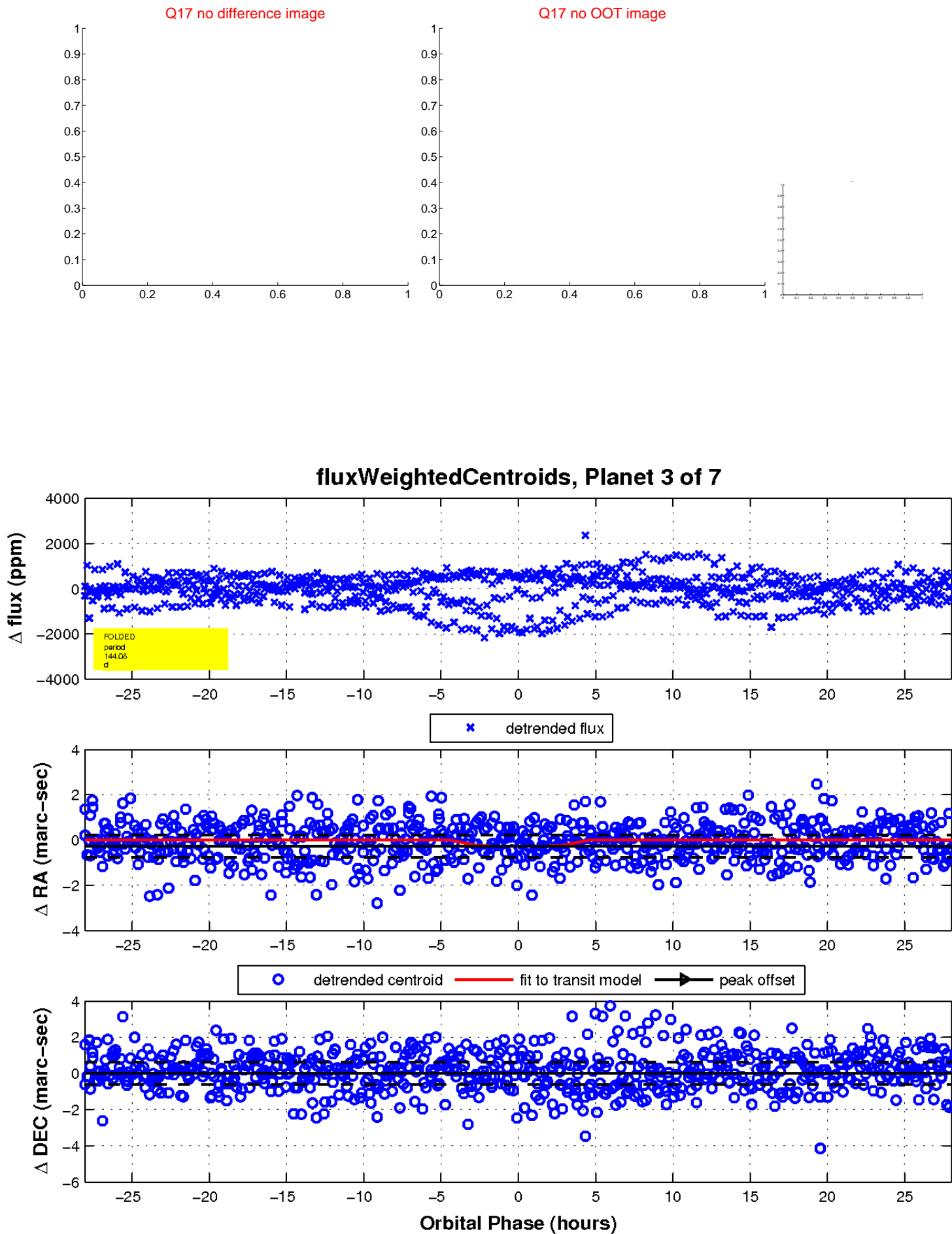
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

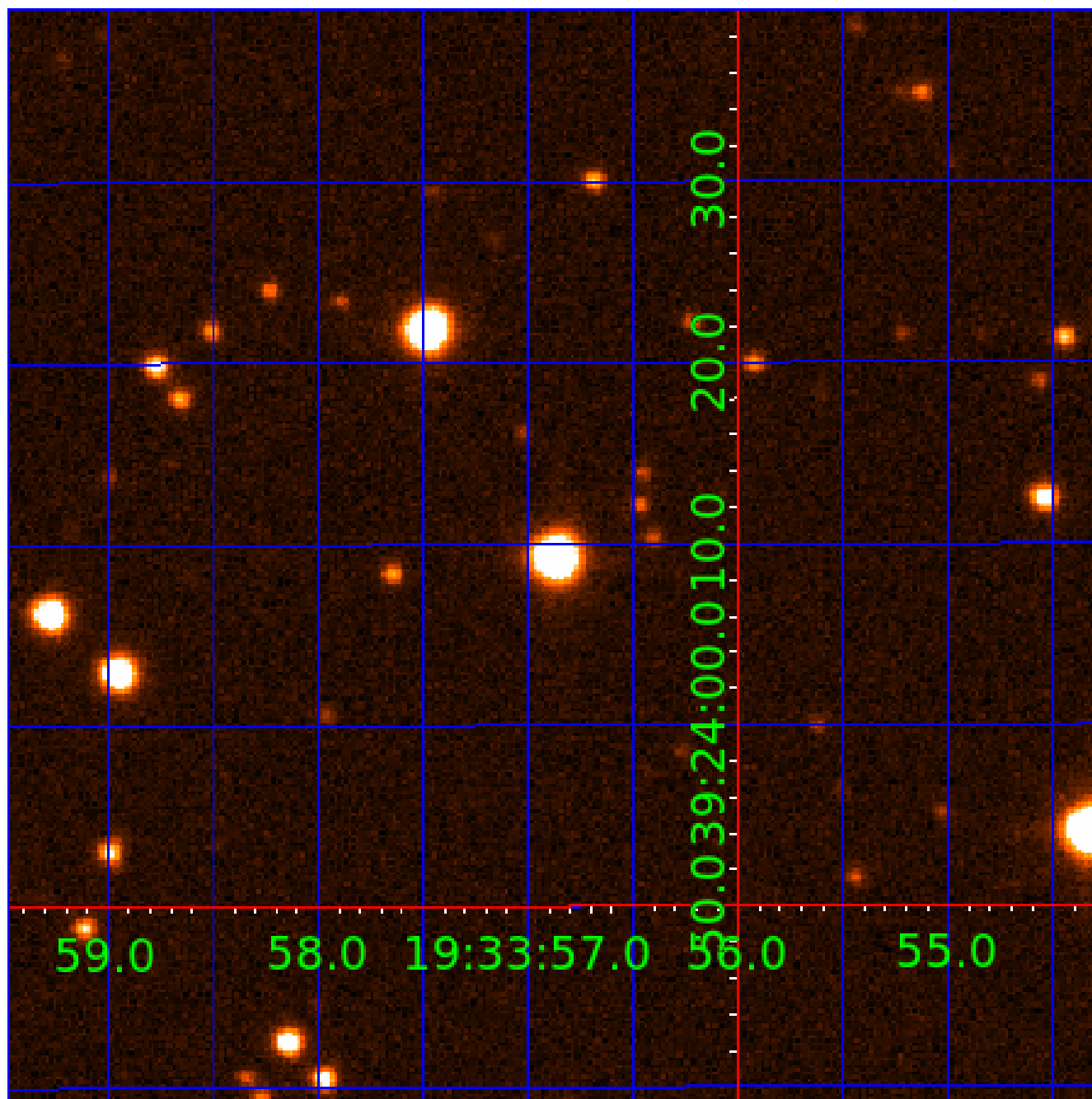


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004372213

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})
004372213-01	OBS	No	1.569500	132.912029	44.1	7.602	8.6	6.9	1.42	6318	0.97	3637.92
004372213-02	OBS	No	304.850885	224.948245	1339.5	12.925	12.8	11.0	1.42	6318	9.61	3.23
004372213-03	OBS	No	144.078914	190.363704	978.9	9.356	11.8	9.2	1.42	6318	5.39	8.79
004372213-05	OBS	No	47.377298	159.992154	423.7	15.694	8.1	5.5	1.42	6318	4.14	38.71
004372213-06	OBS	No	82.284017	204.077976	438.4	8.150	8.1	5.9	1.42	6318	3.94	18.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004372213-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
004372213-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004372213-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004372213-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
004372213-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

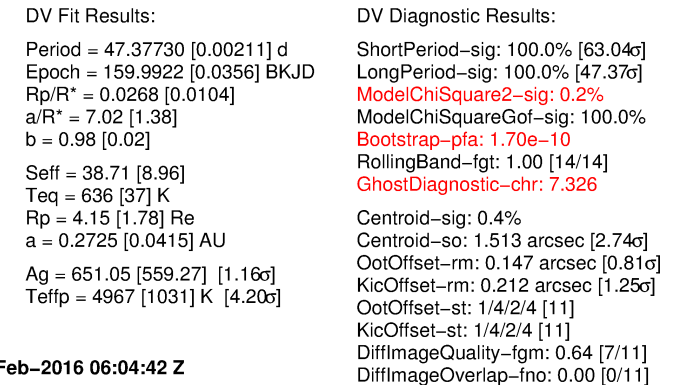
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 004372213-05

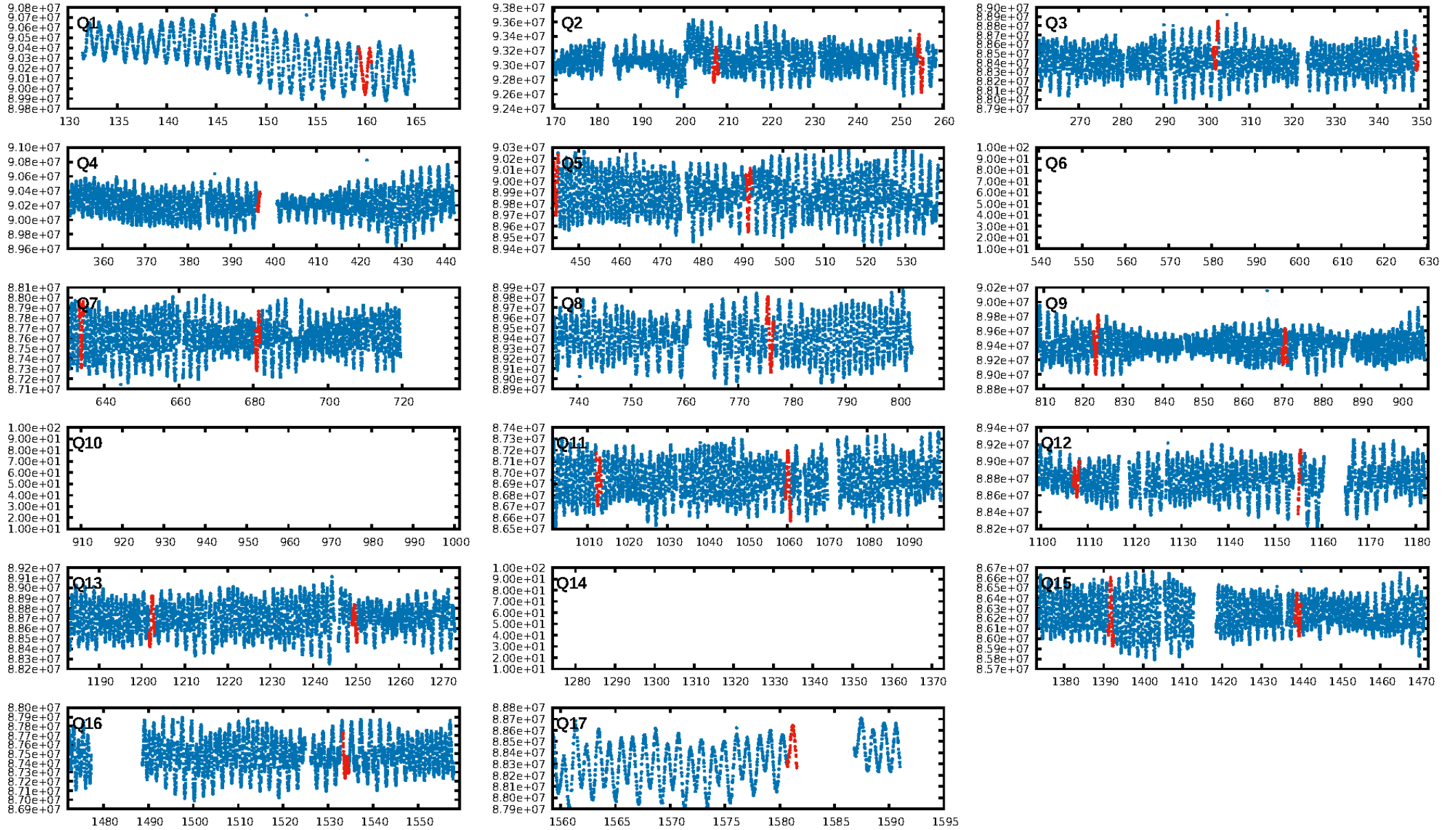
No Significant Match Found

KIC: 4372213 Candidate: 5 of 7 Period: 47.377 d

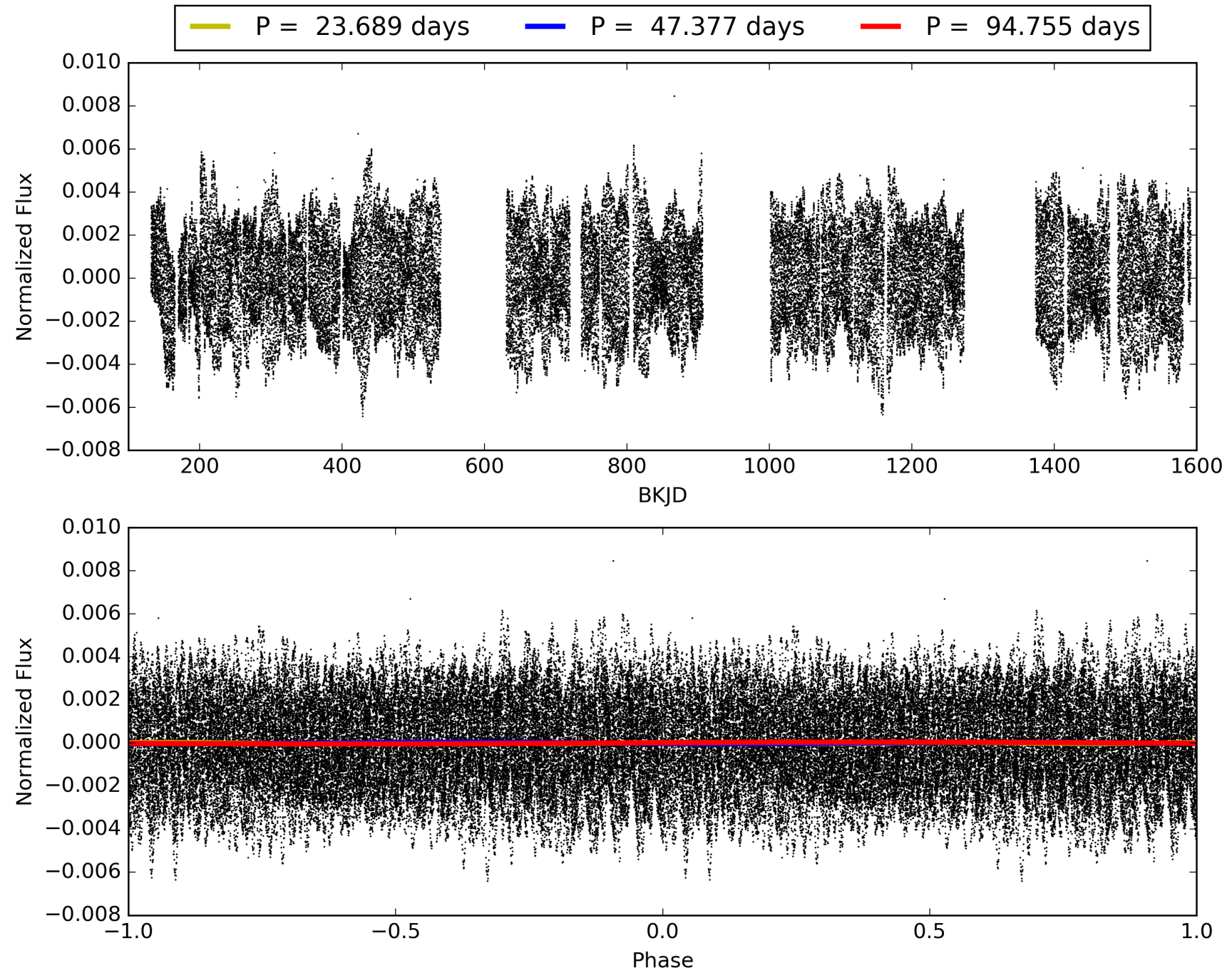
Software Revision: [svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958](https://murzim/repo/soc/tags/release/9.3.42@60958) -- Date Generated: 01-Feb-2016 06:04:42 Z

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

TCE 004372213-05, PDC Light Curves

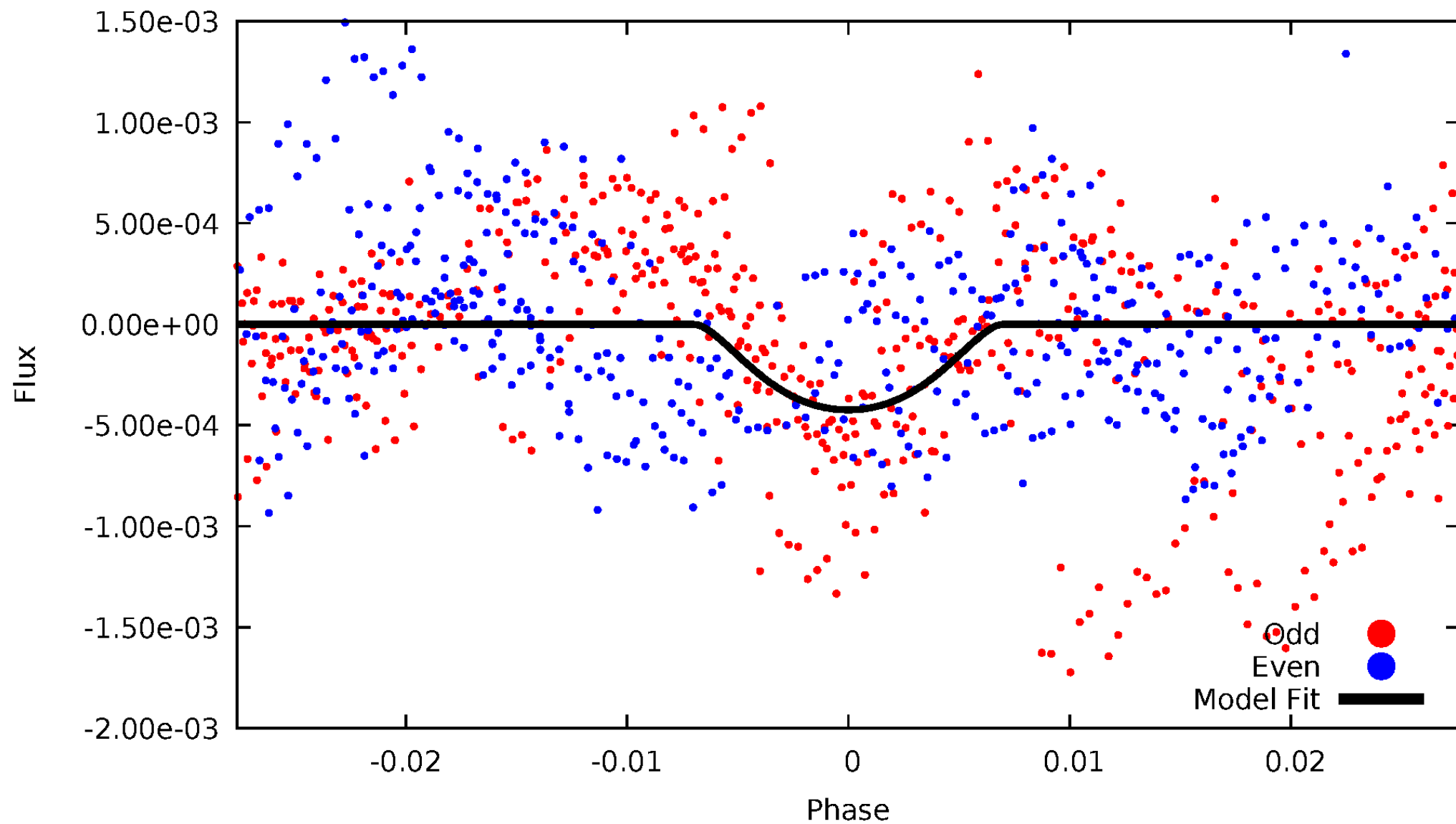


TCE 004372213-05



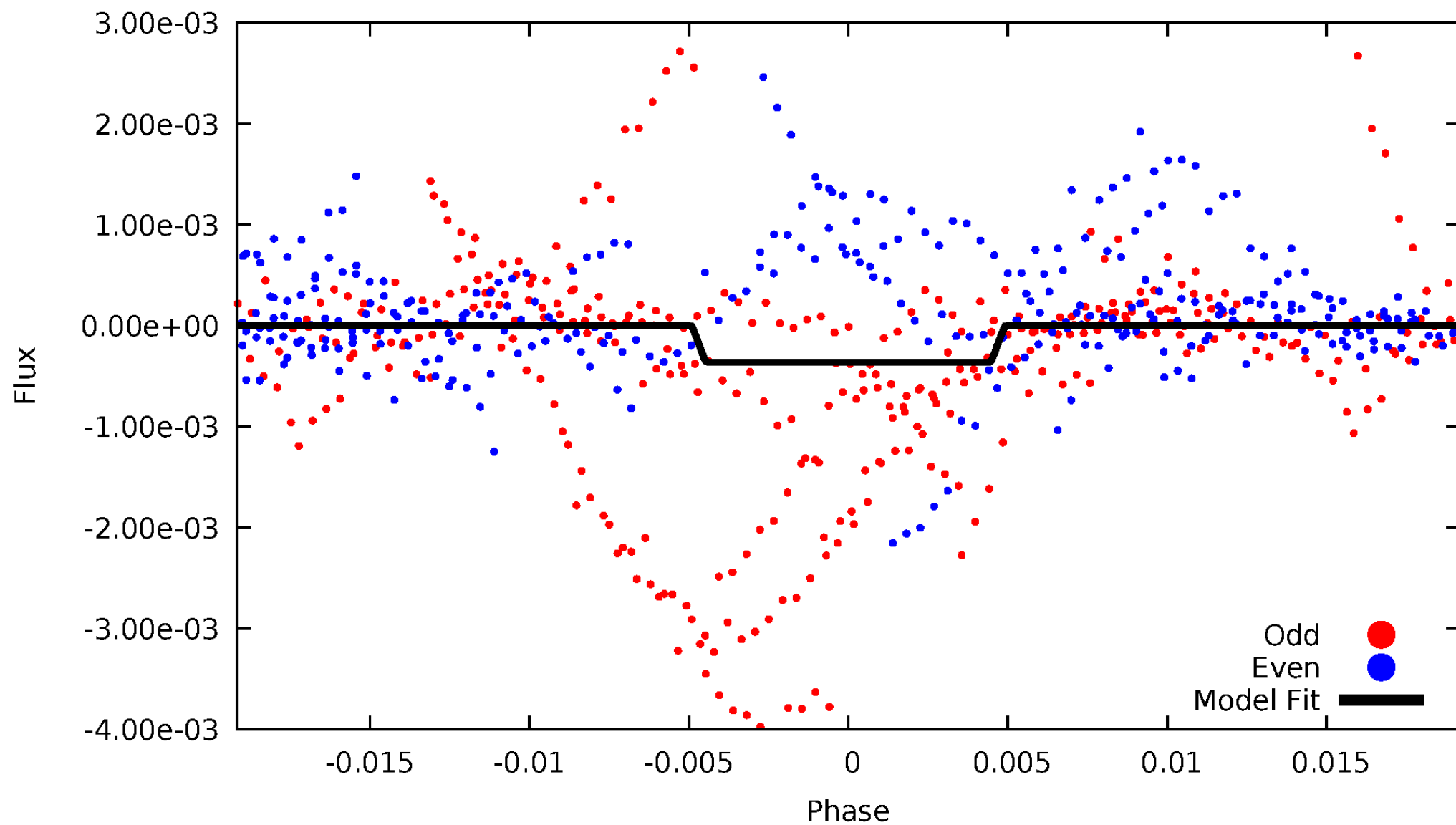
DV Odd/Even

TCE 004372213-05



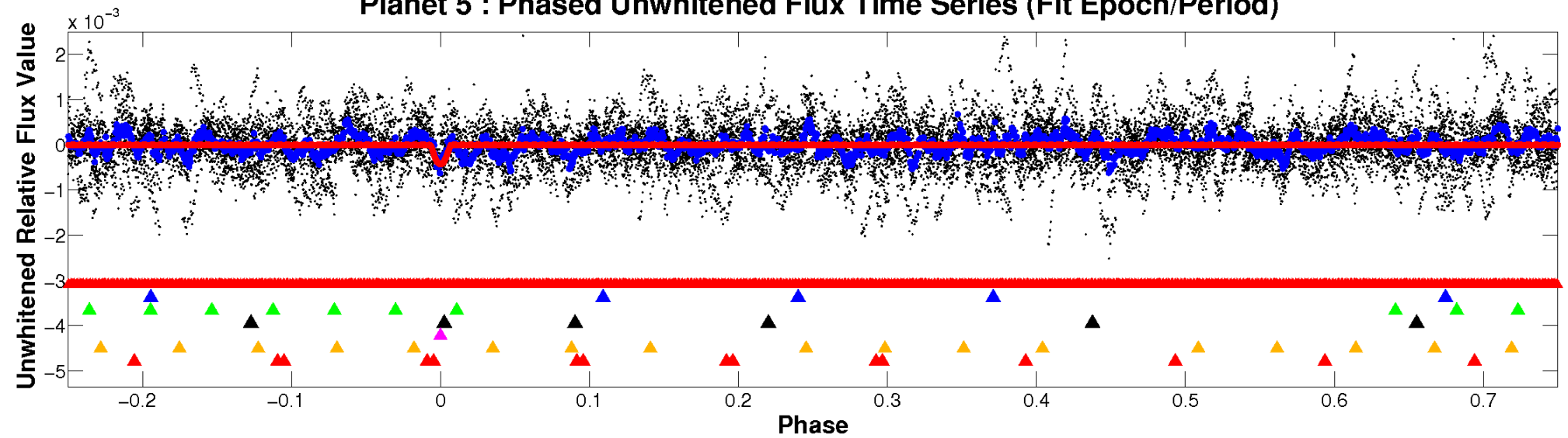
ALT Odd/Even

TCE 004372213-05

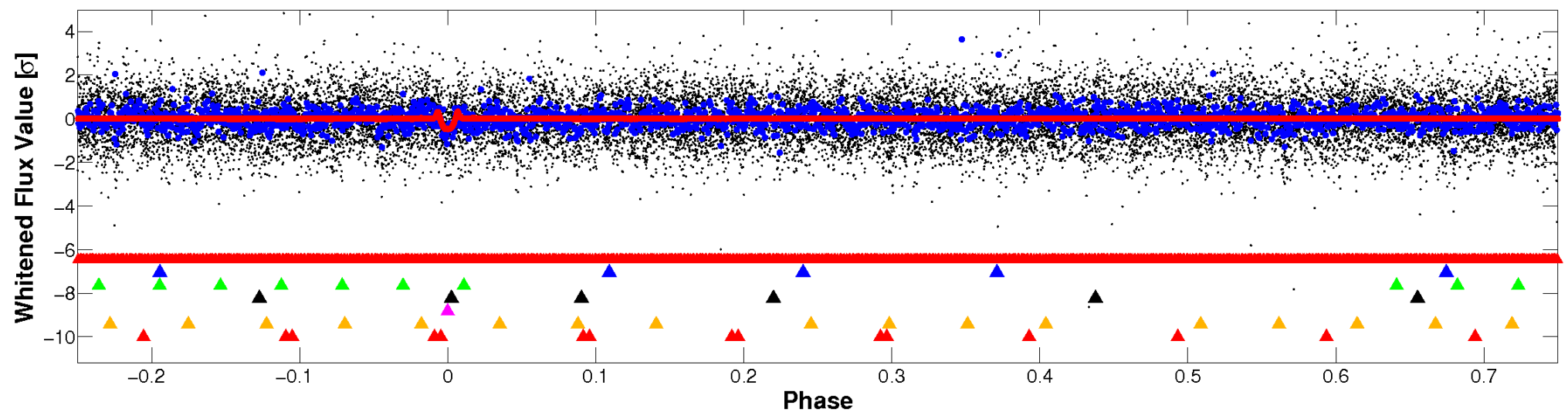


Non-Whitened Vs. Whitened Light Curve

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

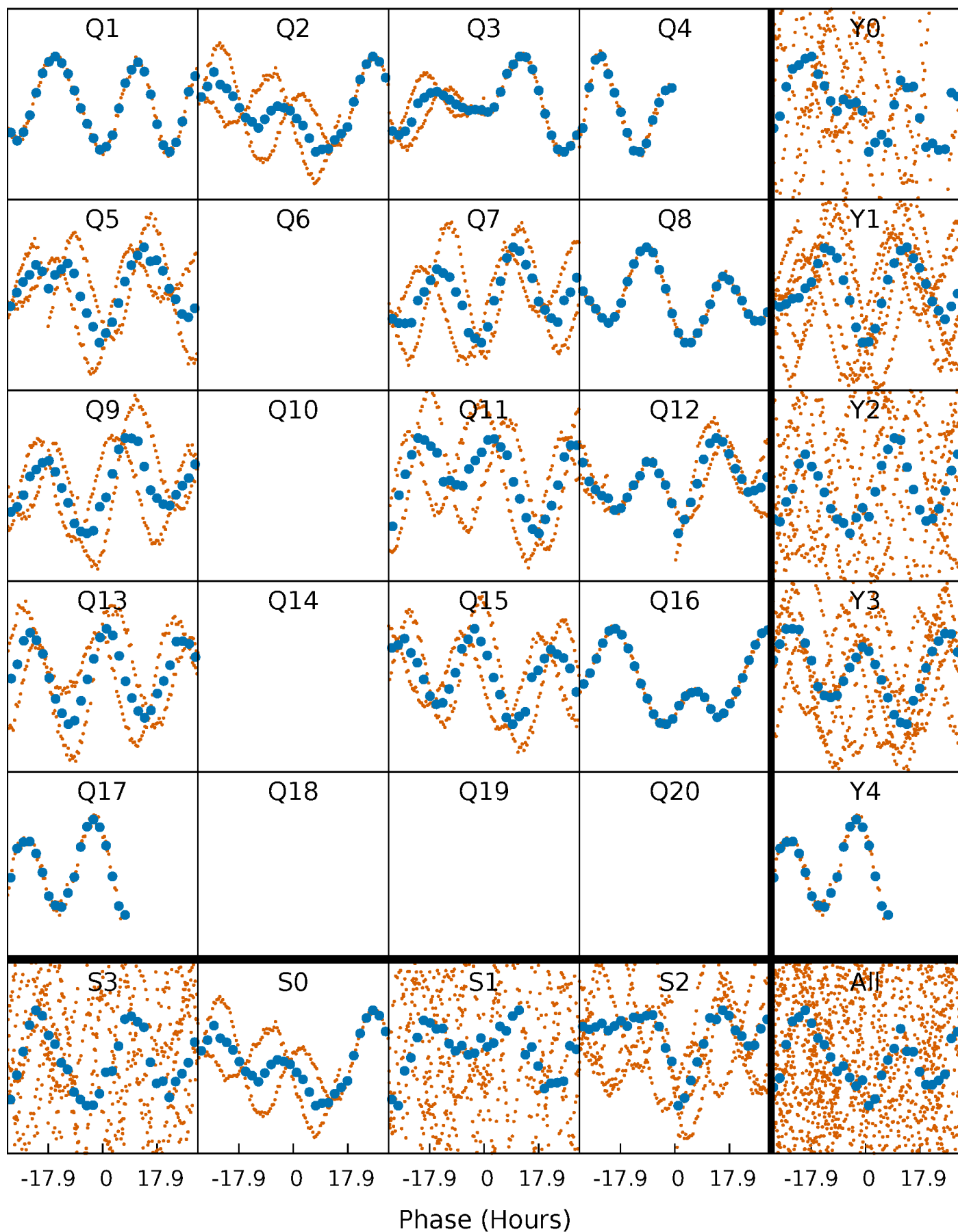


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



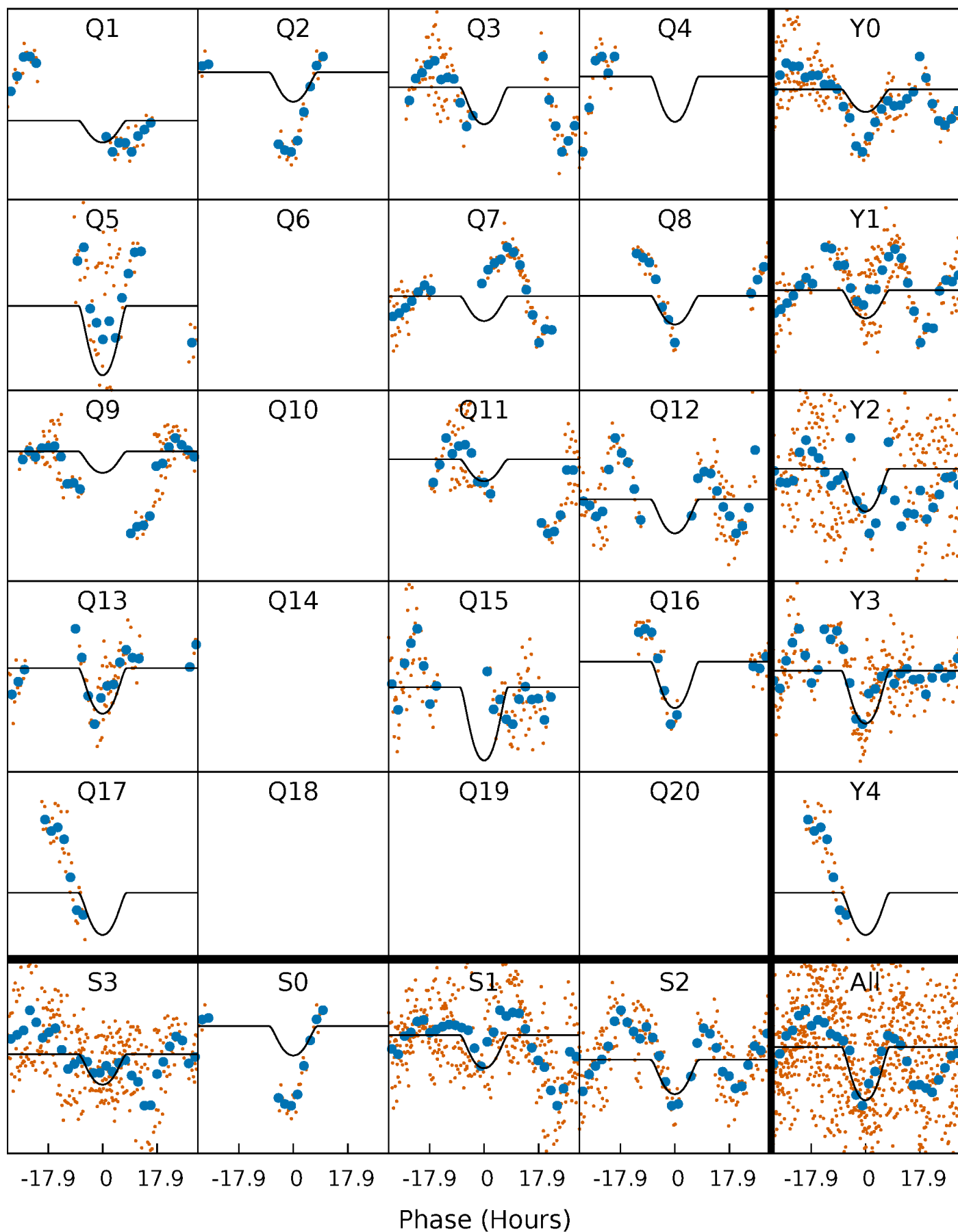
PDC Quarter-Phased Transit Curves

TCE 004372213-05 $P = 47.377298$ Days $T_0 = 159.992154$ (BKJD)



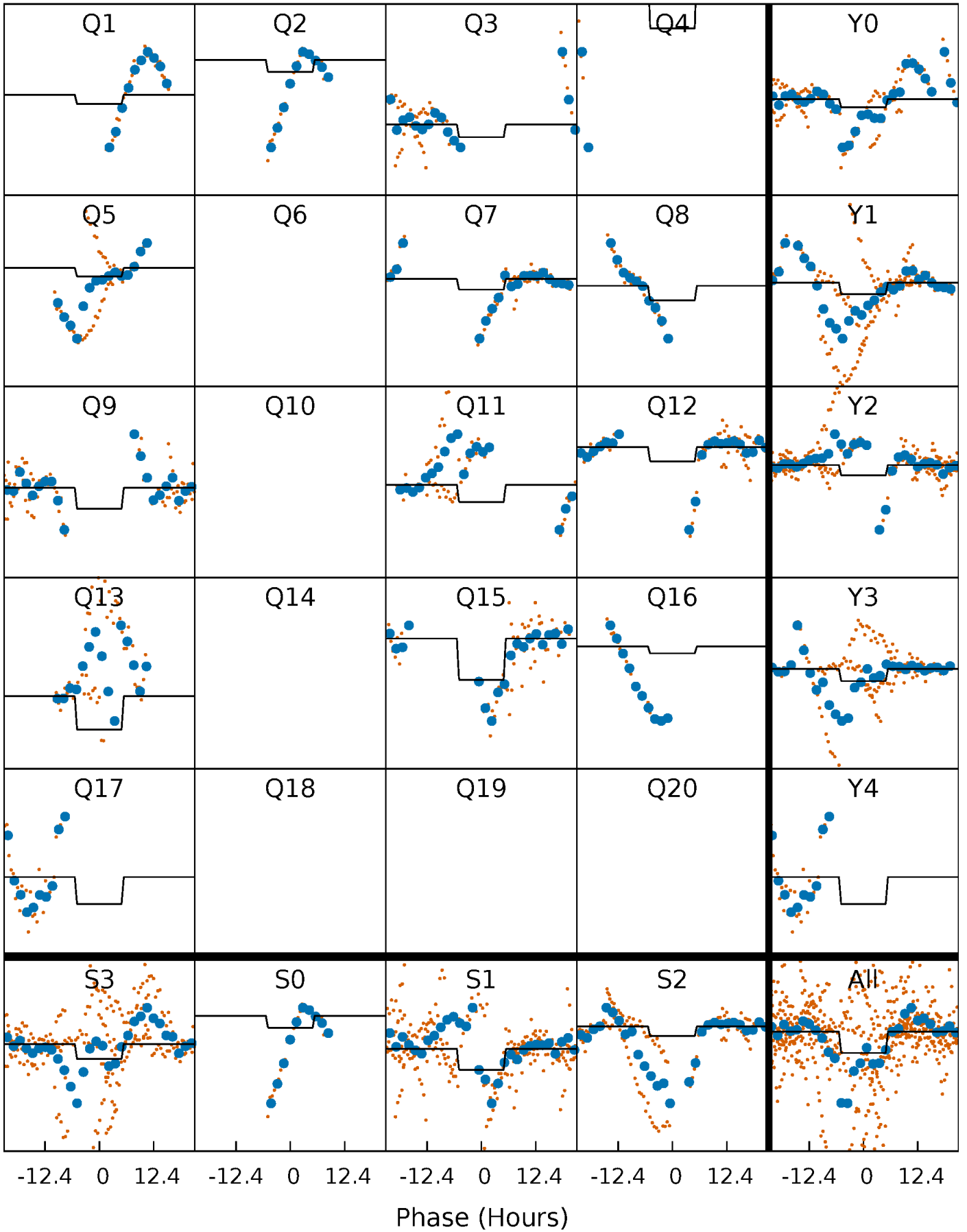
DV Quarter-Phased Transit Curves

TCE 004372213-05 $P = 47.377298$ Days $T_0 = 159.992154$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

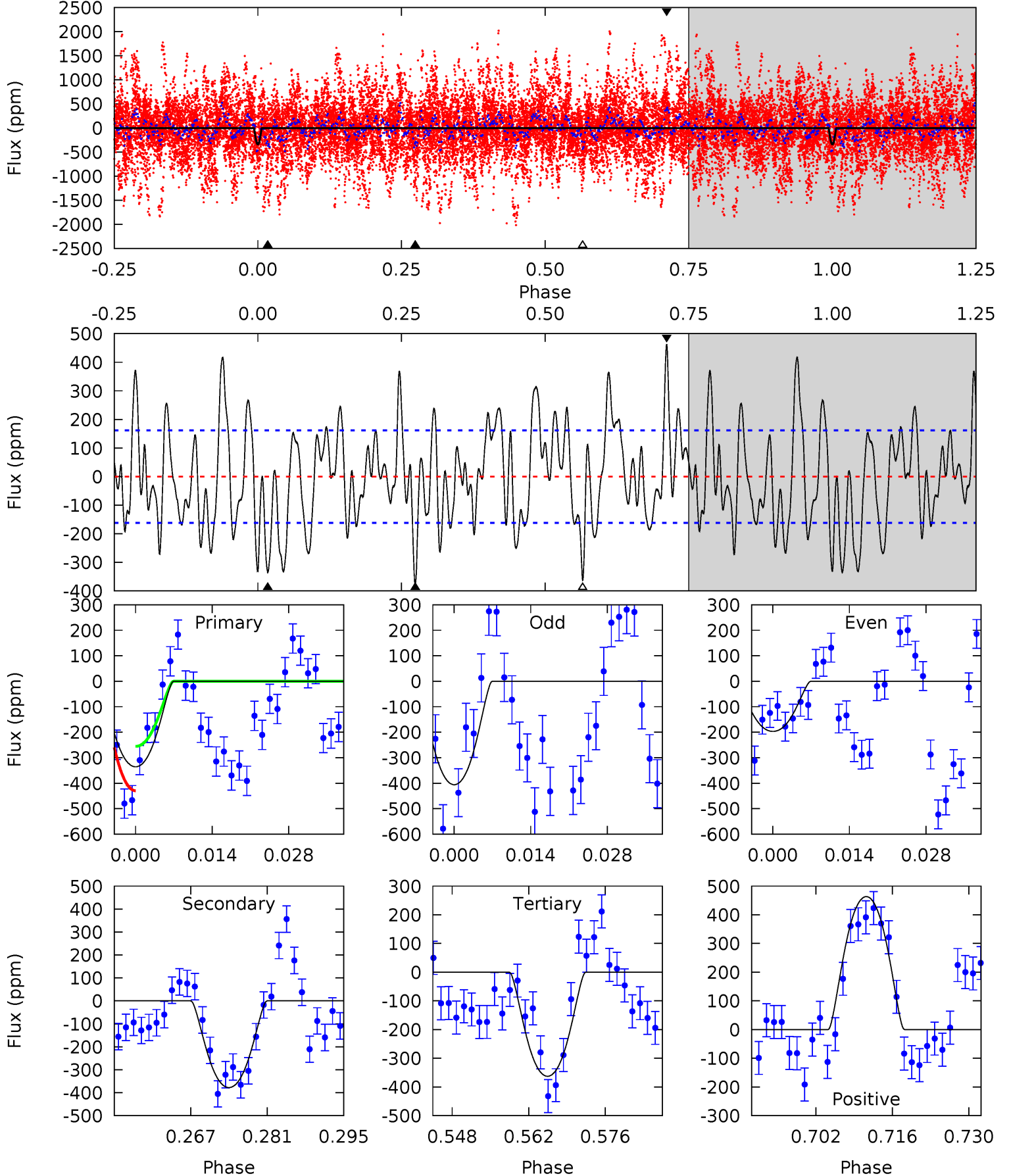
TCE 004372213-05 $P = 47.379450$ Days $T_0 = 160.013731$ (BKJD)



DV Model-Shift Uniqueness Test

004372213-05, P = 47.377298 Days, E = 112.614856 Days

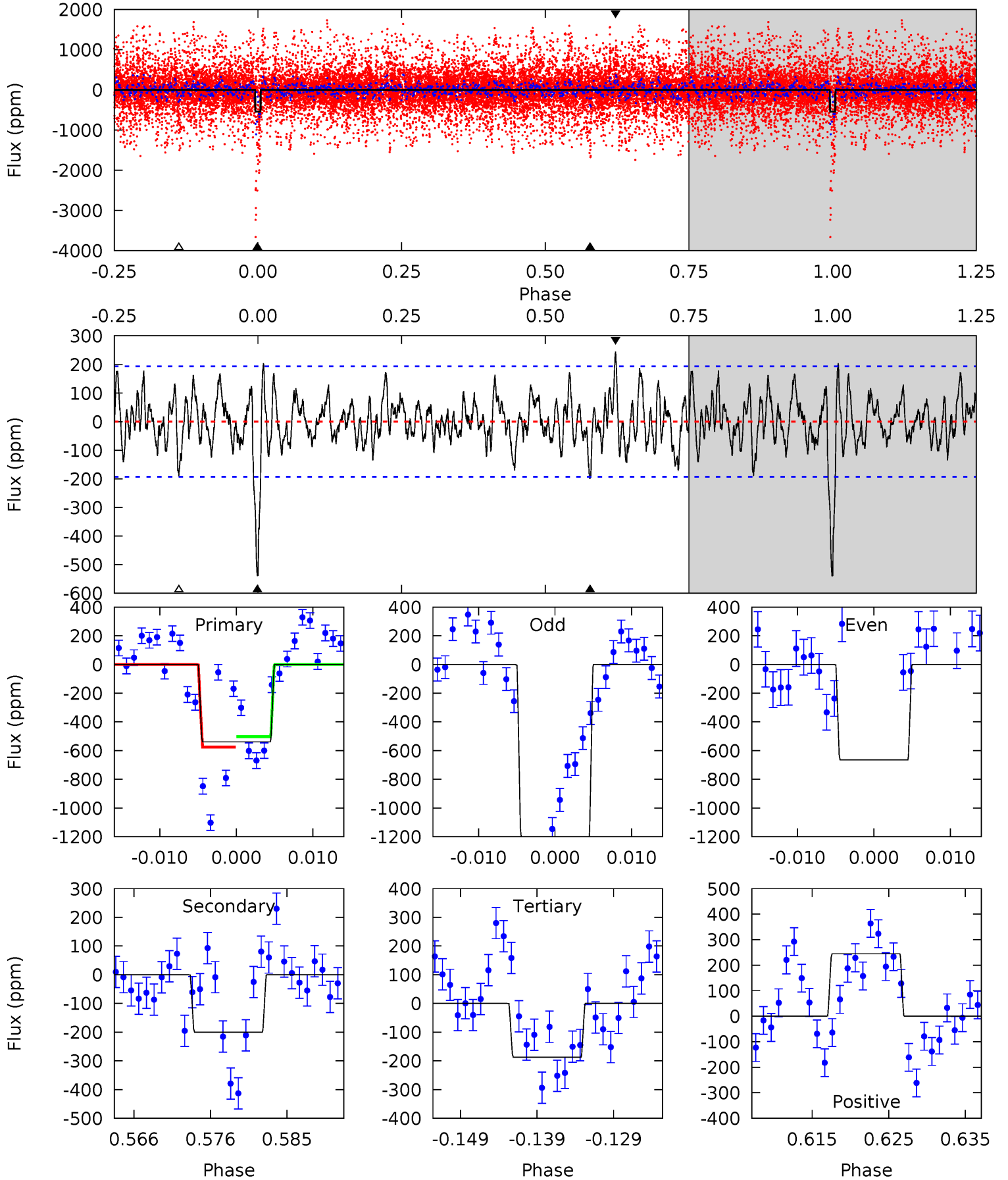
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	11.6	11.1	14.2	4.96	2.46	4.79	-0.83	-3.92	0.46	-2.63	3.00	1.28	0.55	2.68



Alt Model-Shift Uniqueness Test

004372213-05, P = 47.379450 Days, E = 112.634281 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	5.21	4.88	6.37	5.03	2.58	1.78	9.17	7.68	0.33	-1.17	6.92	1.00	0.31	0.91



Stellar Parameters For KIC 004372213

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6318^{+82}_{-75}	$4.214^{+0.125}_{-0.125}$	$-0.020^{+0.150}_{-0.150}$	$1.419^{+0.252}_{-0.227}$	$1.201^{+0.101}_{-0.101}$	$0.592^{+0.345}_{-0.218}$
	+1%/-1%	+3%/-3%	+750%/-750%	+18%/-16%	+8%/-8%	+58%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004372213-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-378 ± 33	$4.16^{+1.64}_{-1.53}$	890^{+44}_{-37}	5416^{+1374}_{-742}	881^{+1259}_{-424}
Alt.	-200 ± 38	$3.01^{+1.54}_{-1.56}$	891^{+40}_{-38}	5419^{+2497}_{-871}	913^{+2998}_{-532}

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 $A_{obs} \gg 1.0$

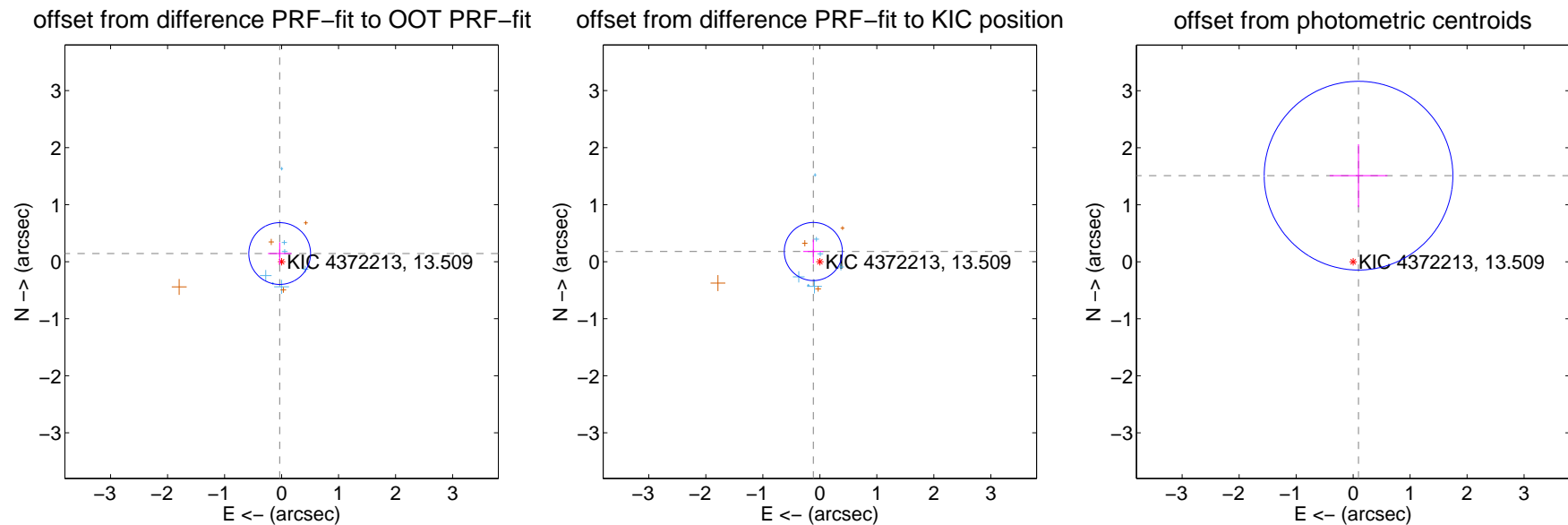
DV Centroid Data

Supplemental centroid analysis for 004372213-05. Kepler magnitude: 13.51. Transit SNR 5.51

There are 7 quarters with good PRF difference image offsets

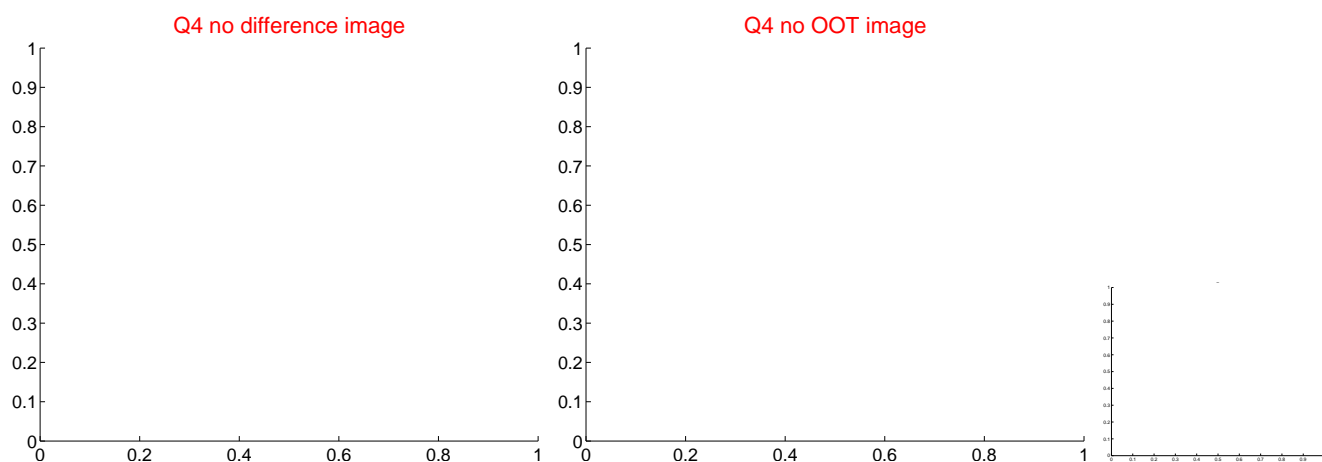
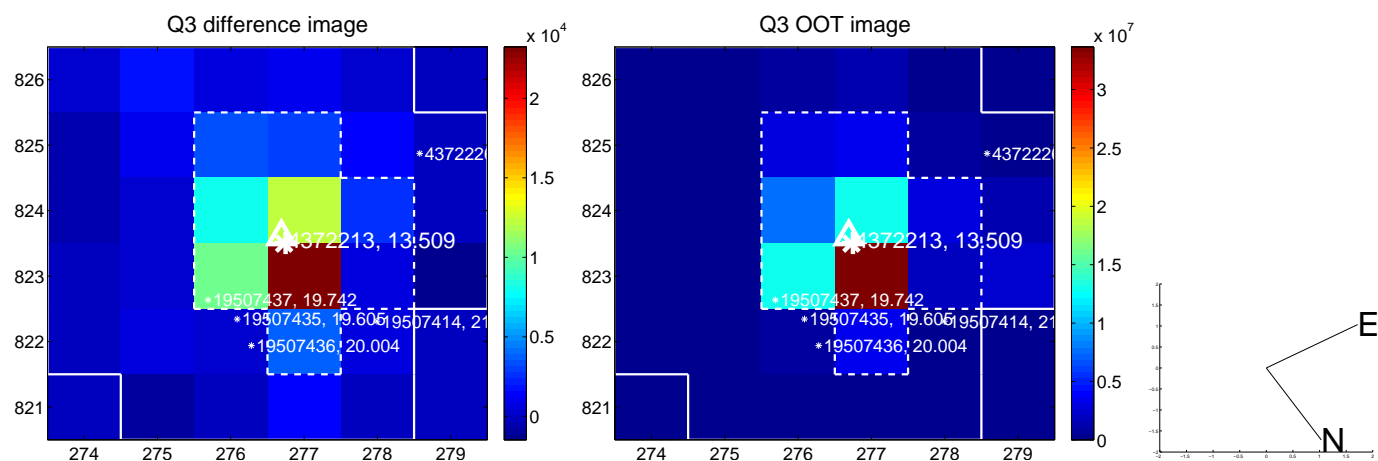
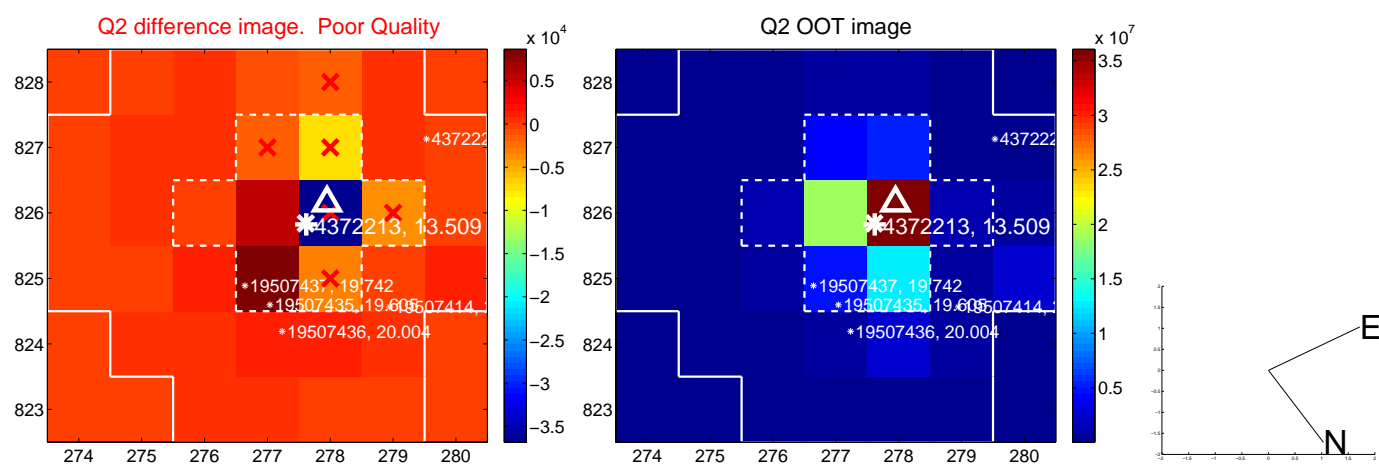
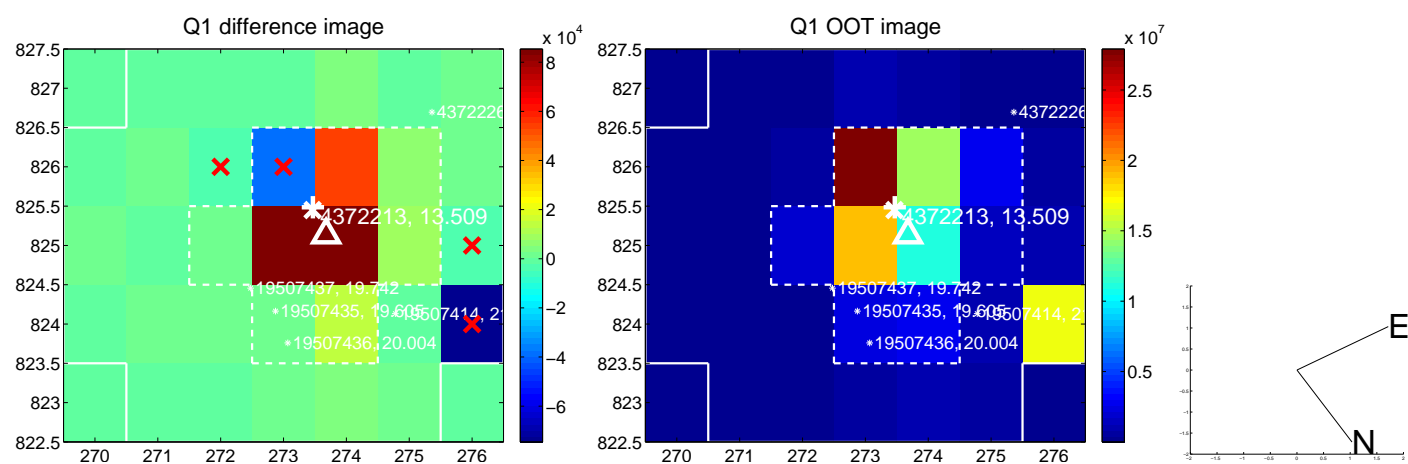
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.147 ± 0.181	0.81	0.033 ± 0.206	0.143 ± 0.195
PRF-fit source offset from KIC position	0.212 ± 0.170	1.25	0.114 ± 0.176	0.178 ± 0.209
photometric centroid source offset	1.51 ± 0.55	2.74	-0.10 ± 0.51	1.51 ± 0.55

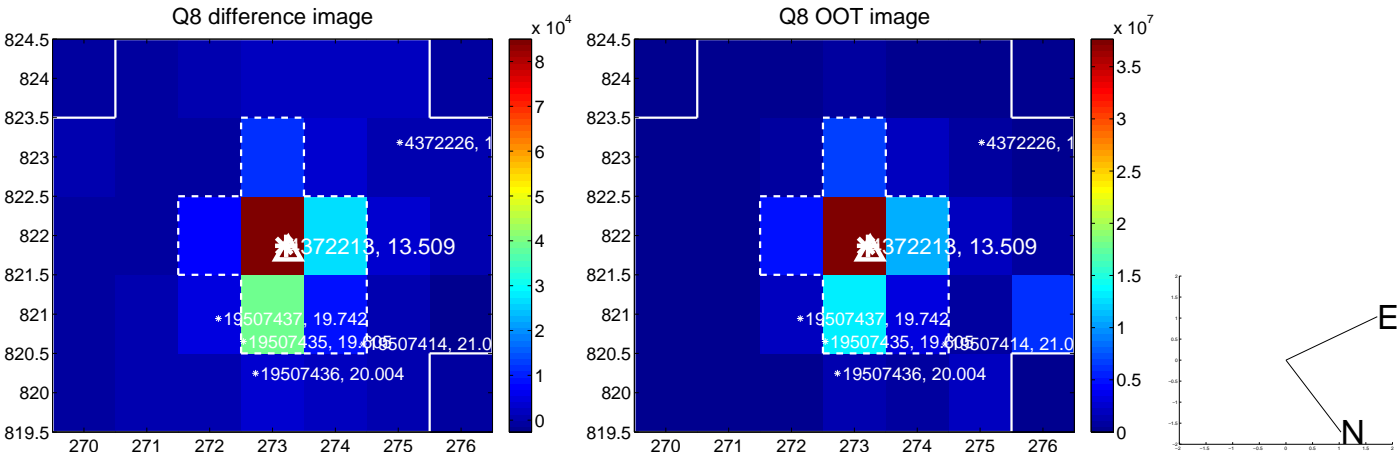
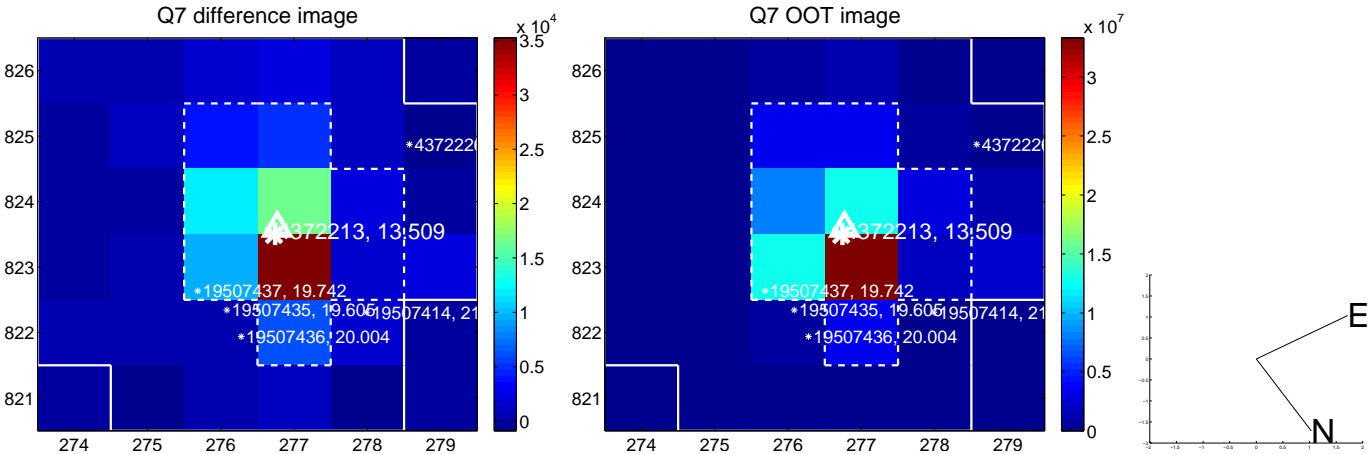
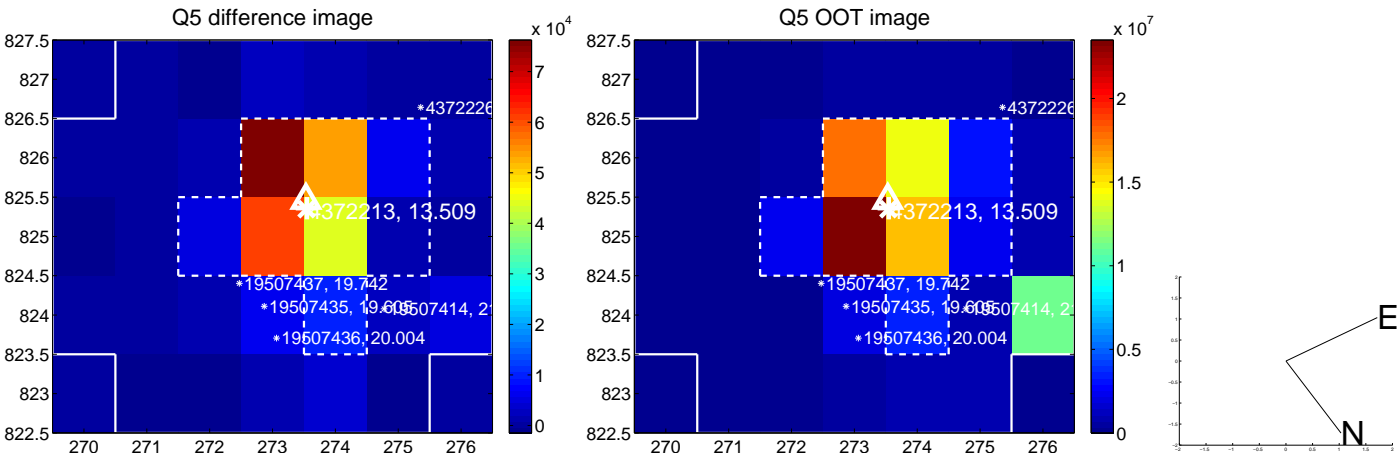


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

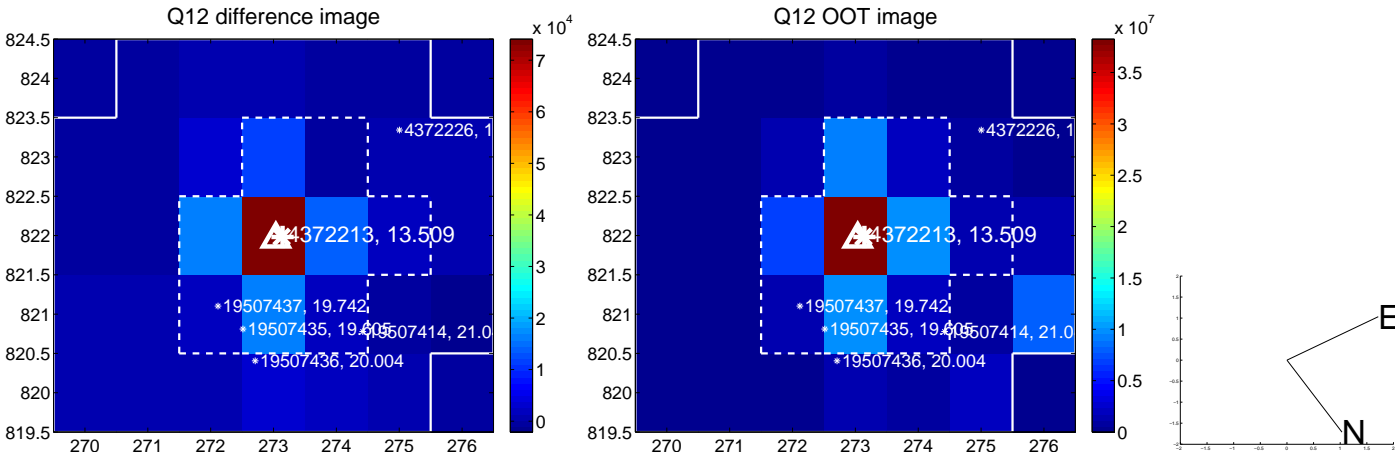
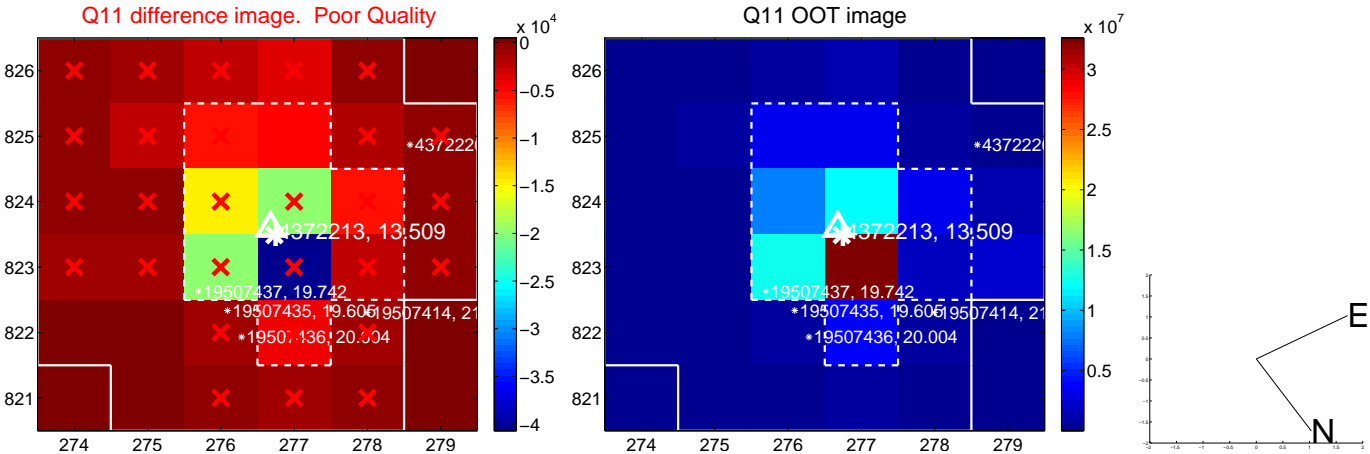
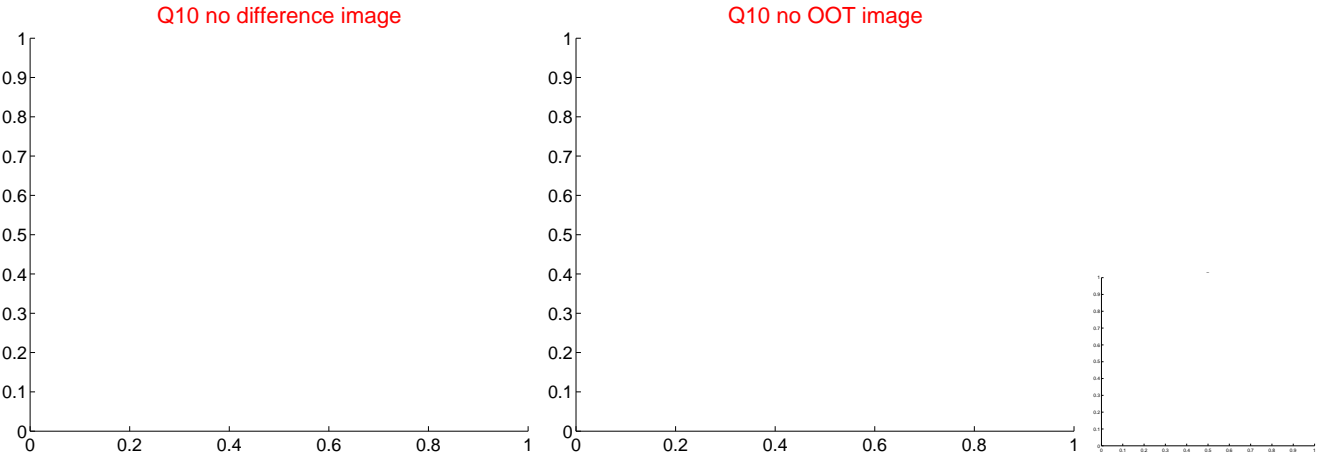
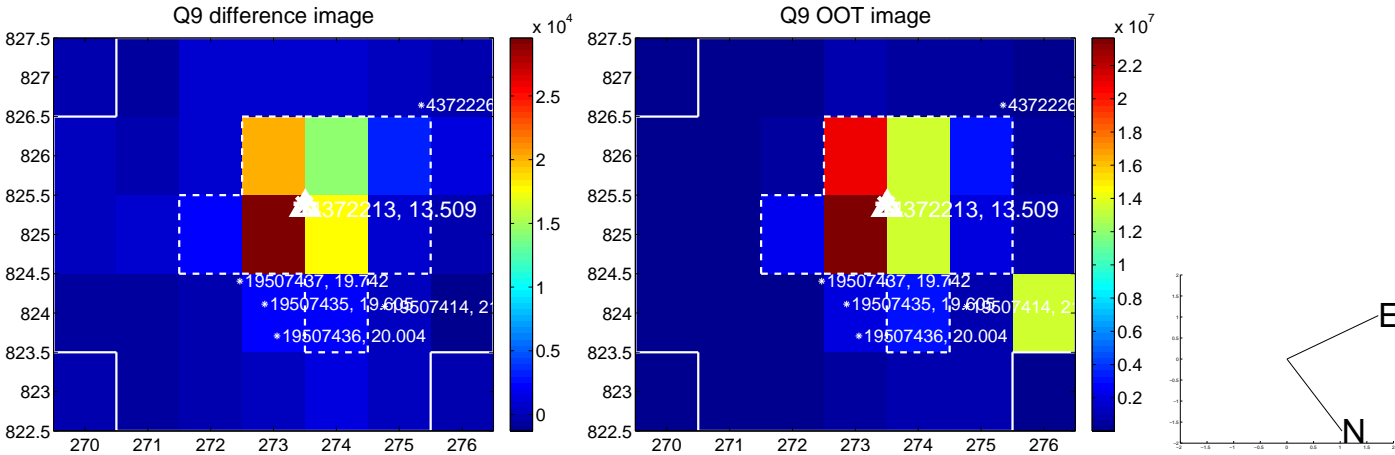
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



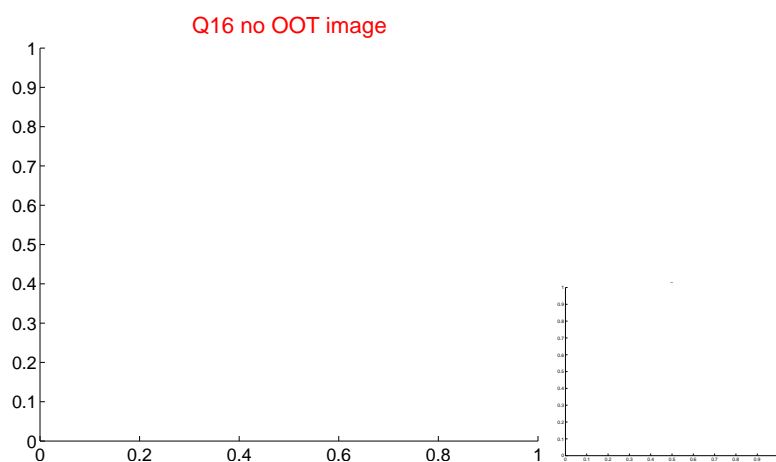
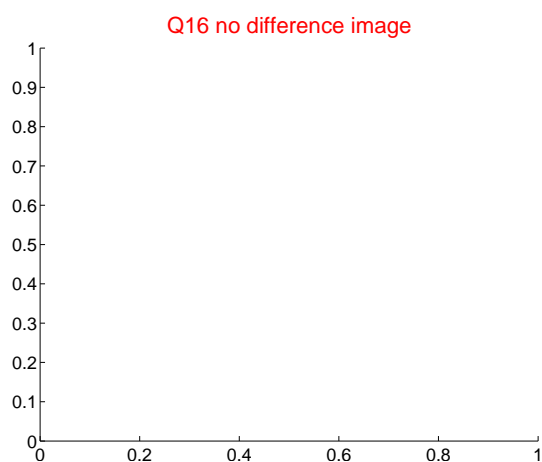
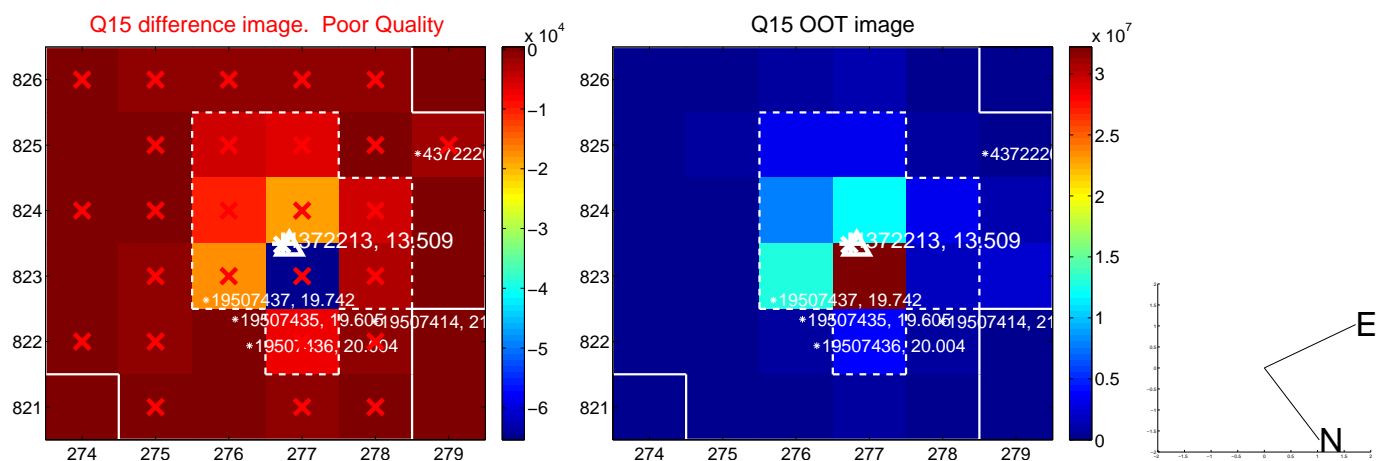
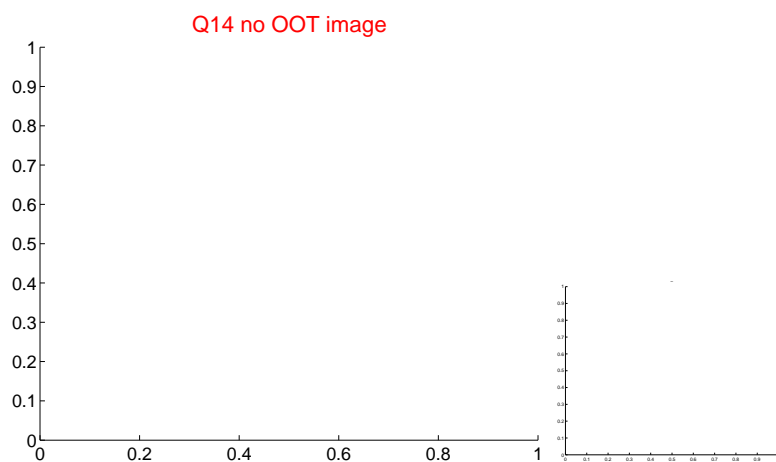
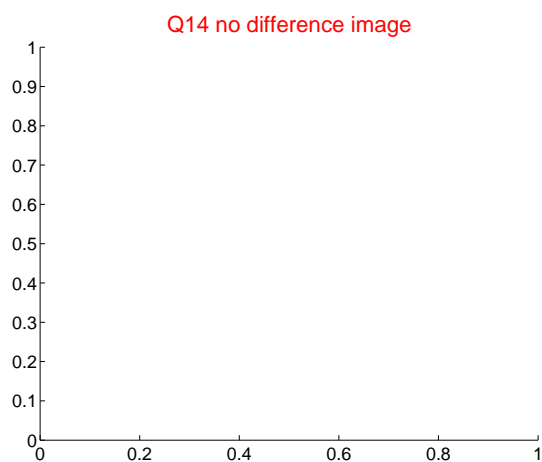
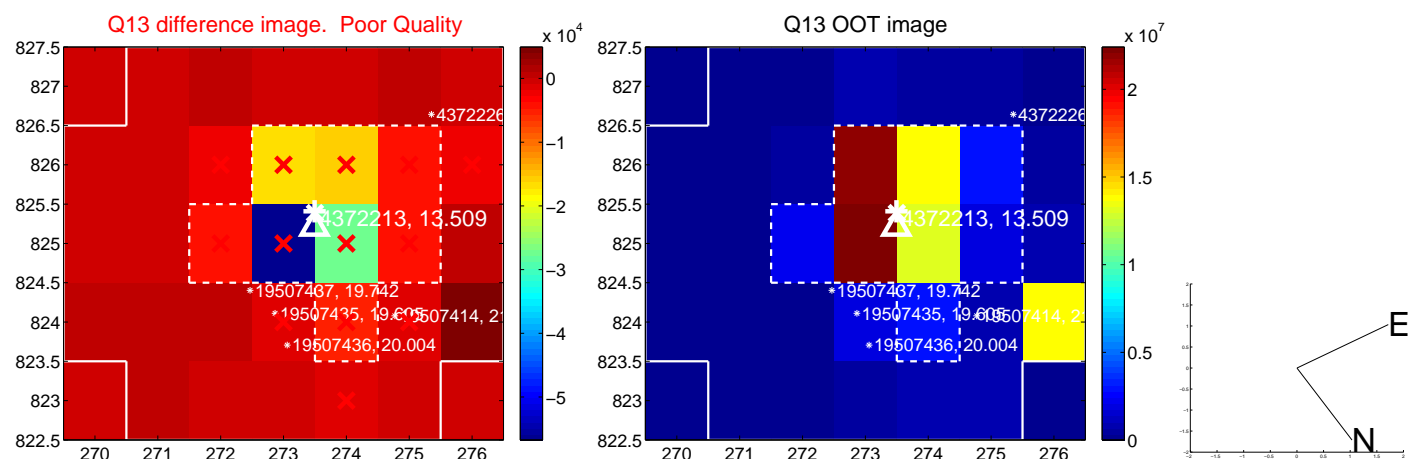
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



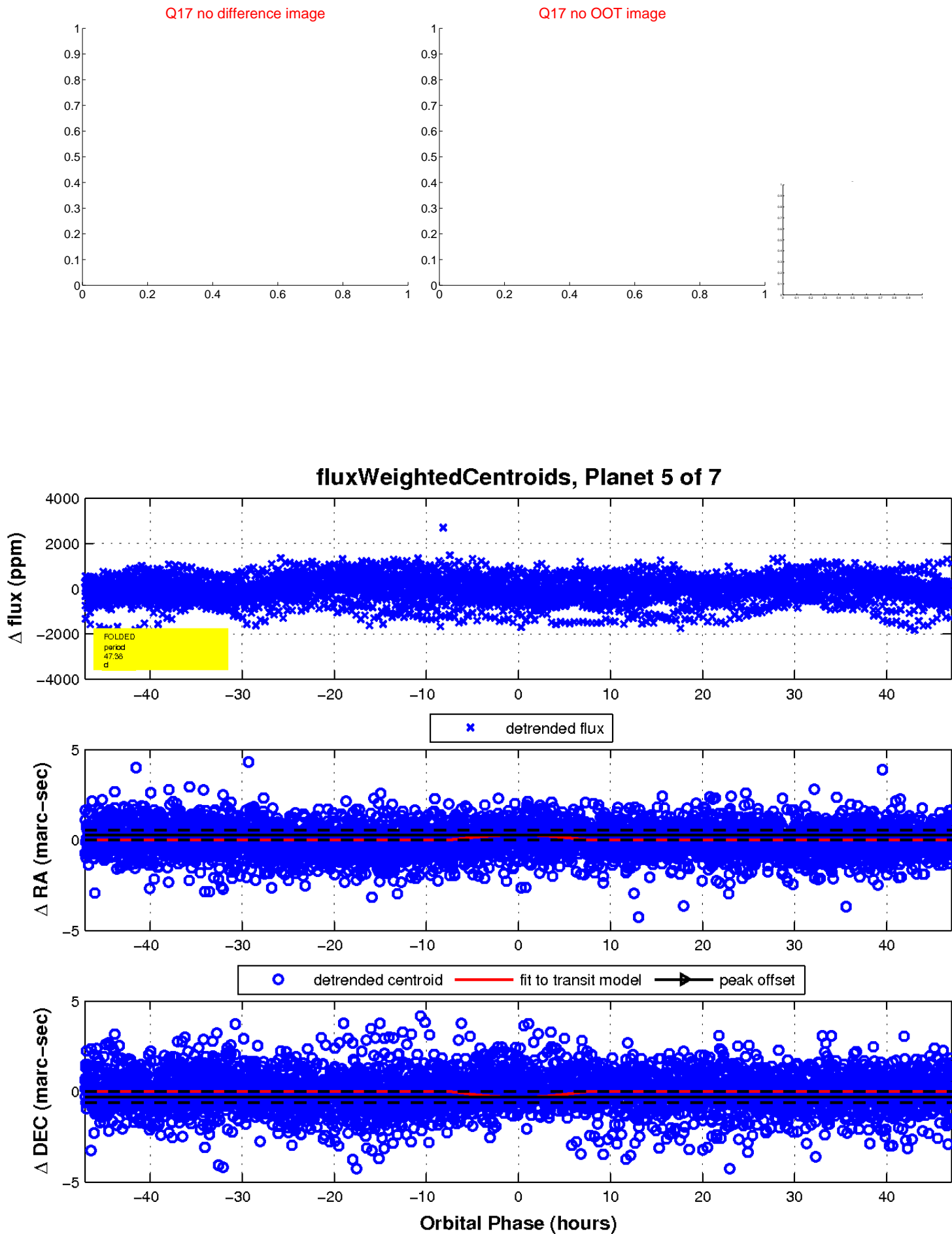
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

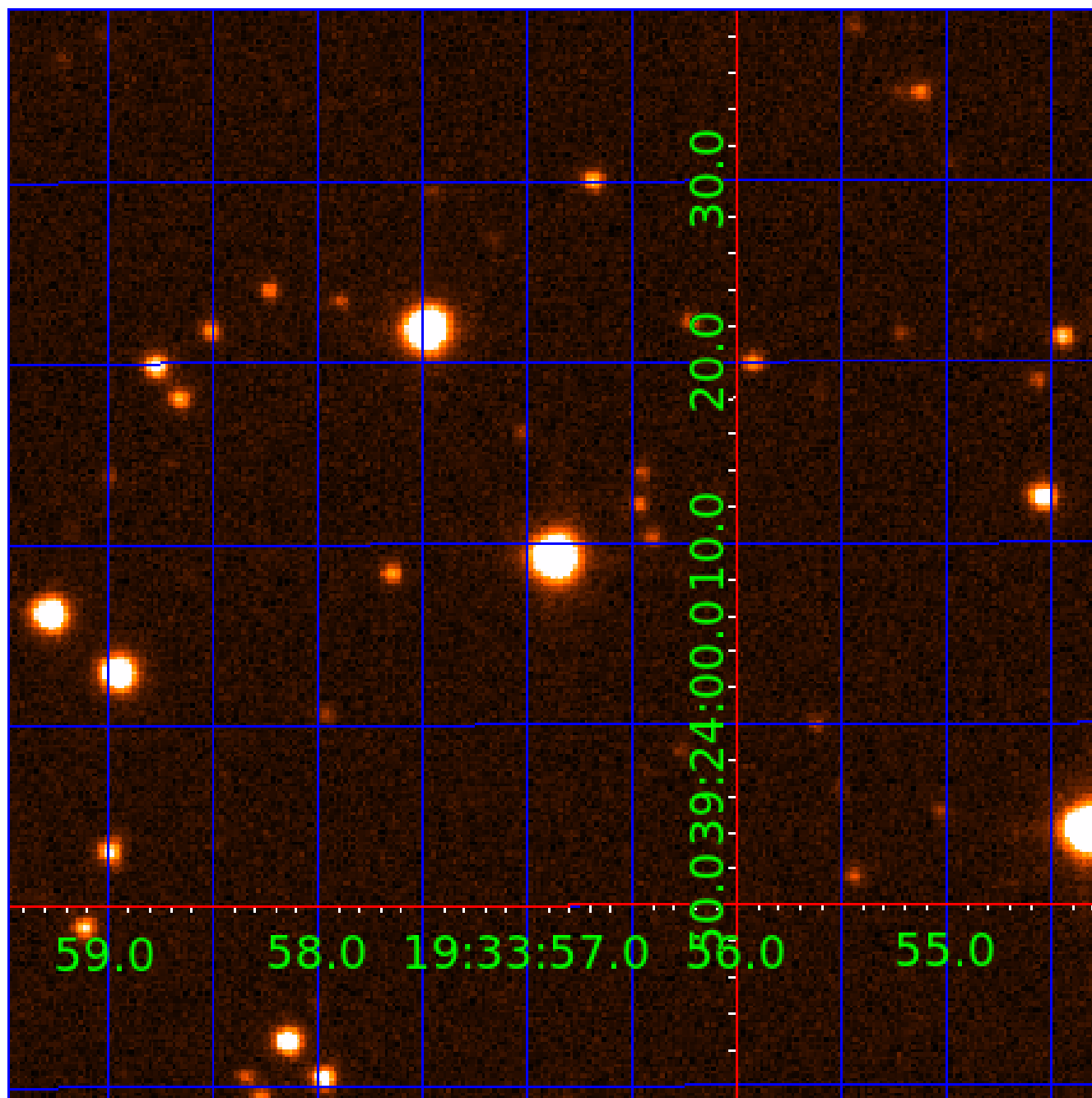


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004372213

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})
004372213-01	OBS	No	1.569500	132.912029	44.1	7.602	8.6	6.9	1.42	6318	0.97	3637.92
004372213-02	OBS	No	304.850885	224.948245	1339.5	12.925	12.8	11.0	1.42	6318	9.61	3.23
004372213-03	OBS	No	144.078914	190.363704	978.9	9.356	11.8	9.2	1.42	6318	5.39	8.79
004372213-05	OBS	No	47.377298	159.992154	423.7	15.694	8.1	5.5	1.42	6318	4.14	38.71
004372213-06	OBS	No	82.284017	204.077976	438.4	8.150	8.1	5.9	1.42	6318	3.94	18.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004372213-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
004372213-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004372213-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004372213-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
004372213-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

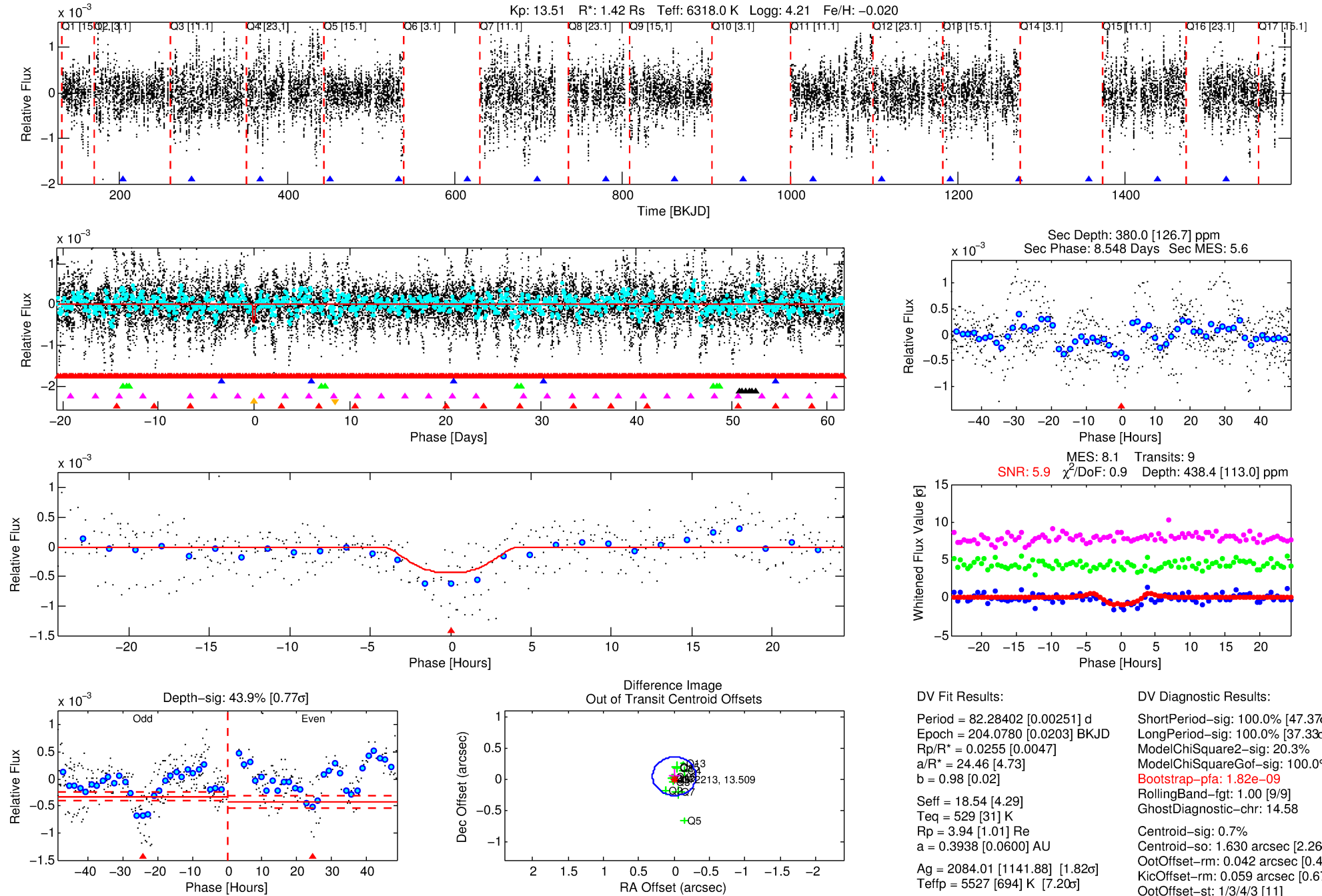
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004372213-06

No Significant Match Found

DV One-Page Summary

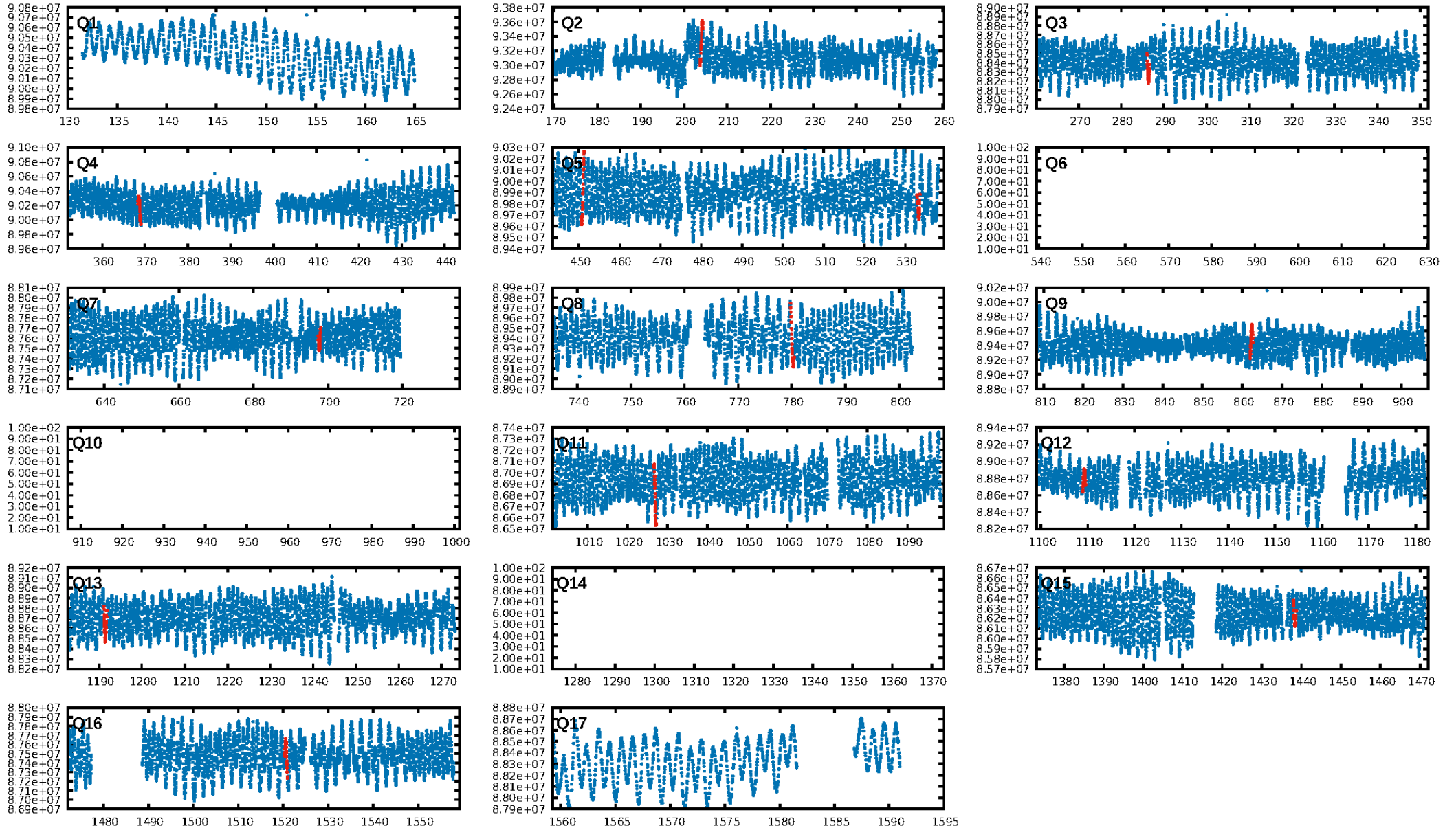
KIC: 4372213 Candidate: 6 of 7 Period: 82.284 d



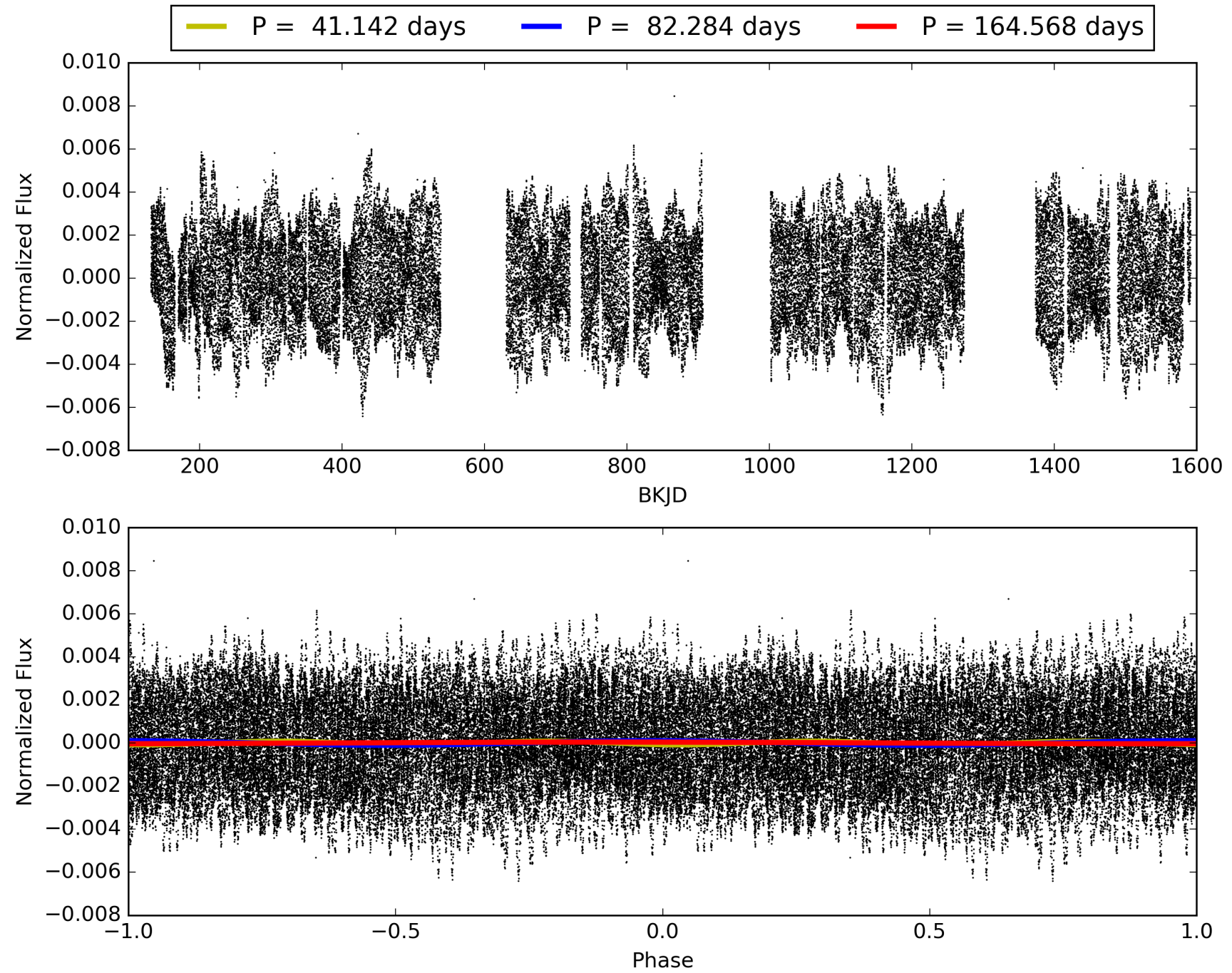
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:04:46 Z

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

TCE 004372213-06, PDC Light Curves

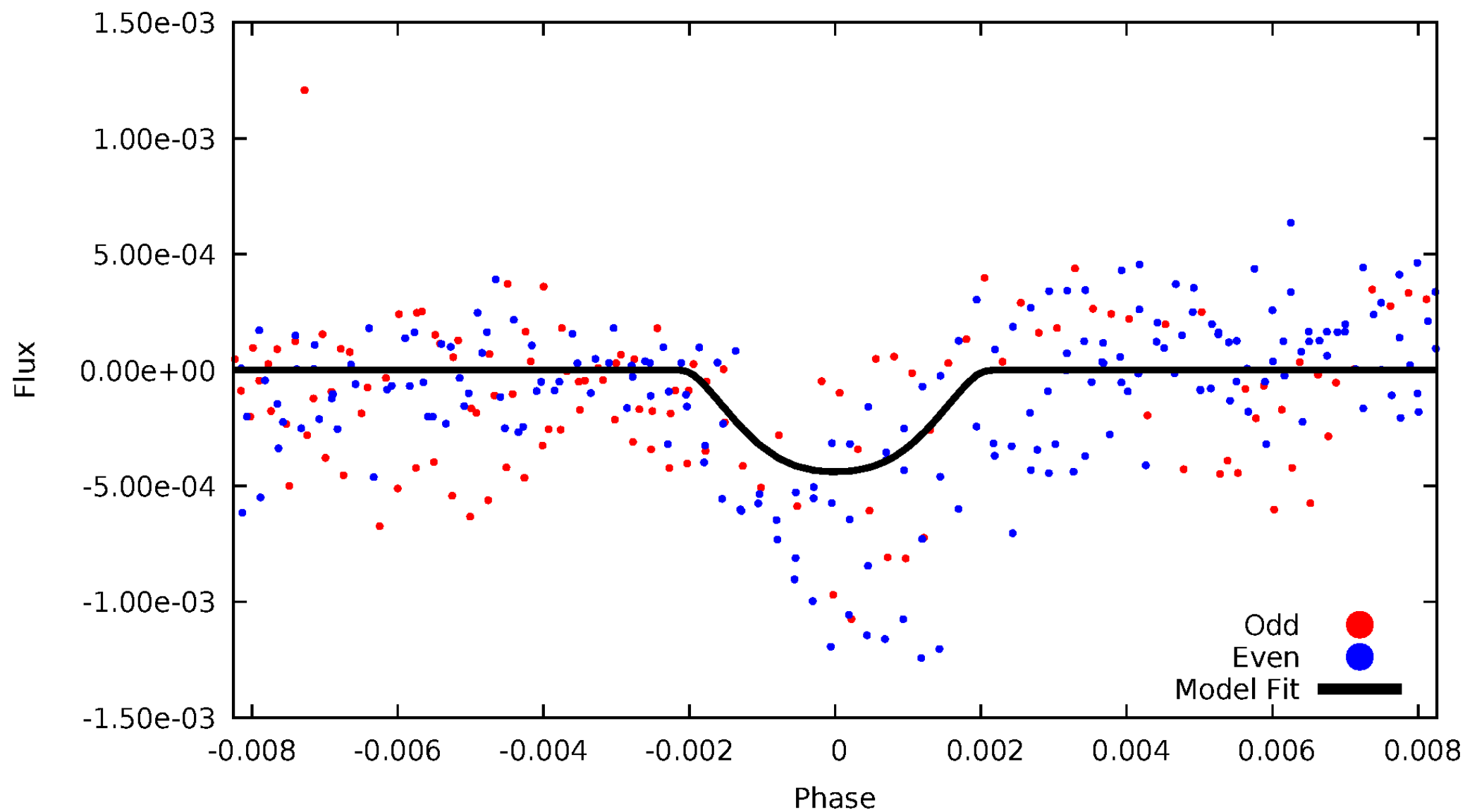


TCE 004372213-06



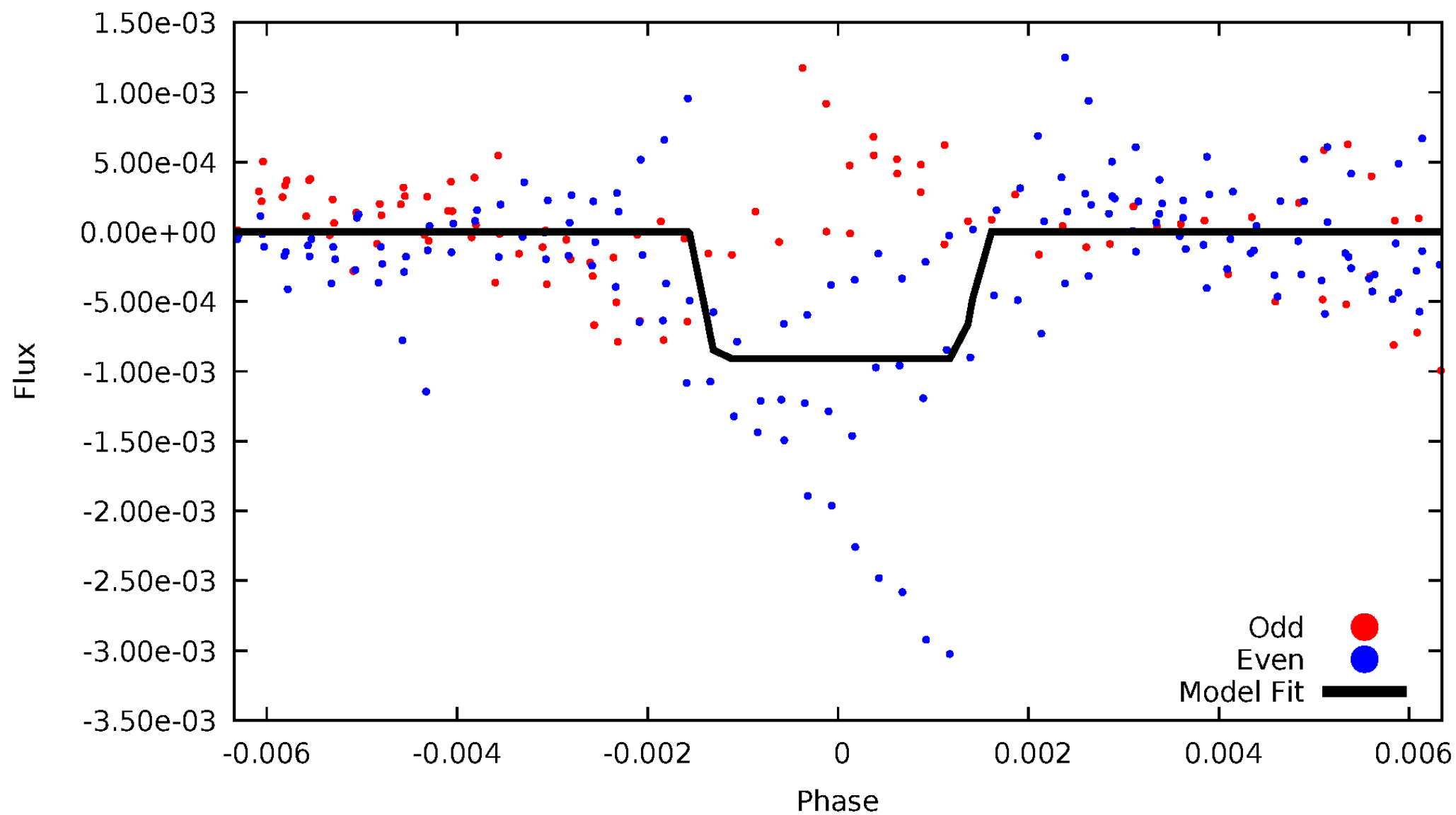
DV Odd/Even

TCE 004372213-06



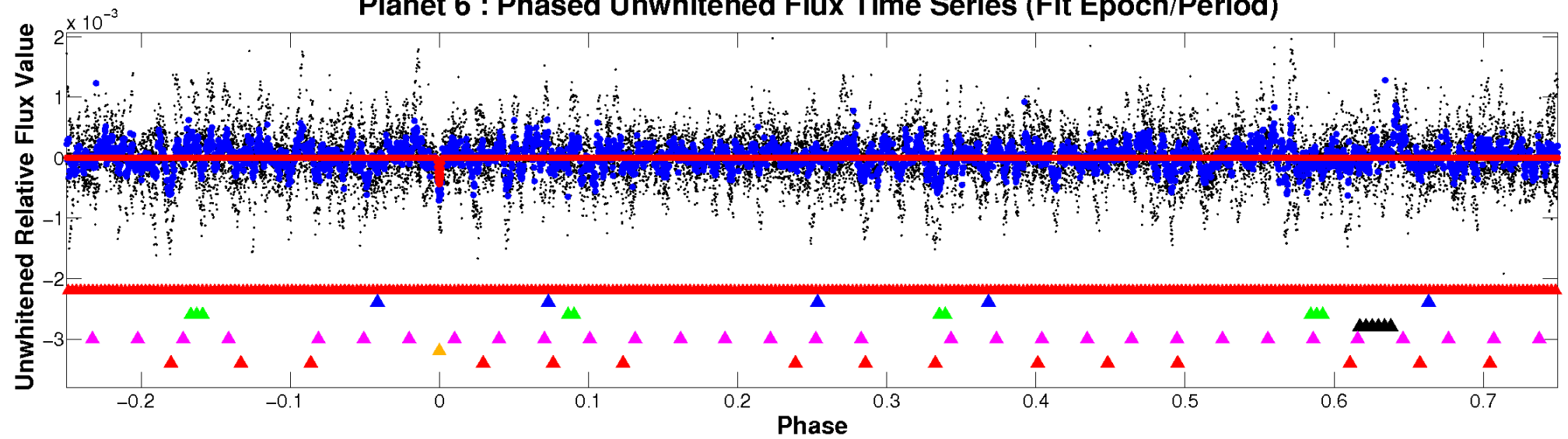
ALT Odd/Even

TCE 004372213-06

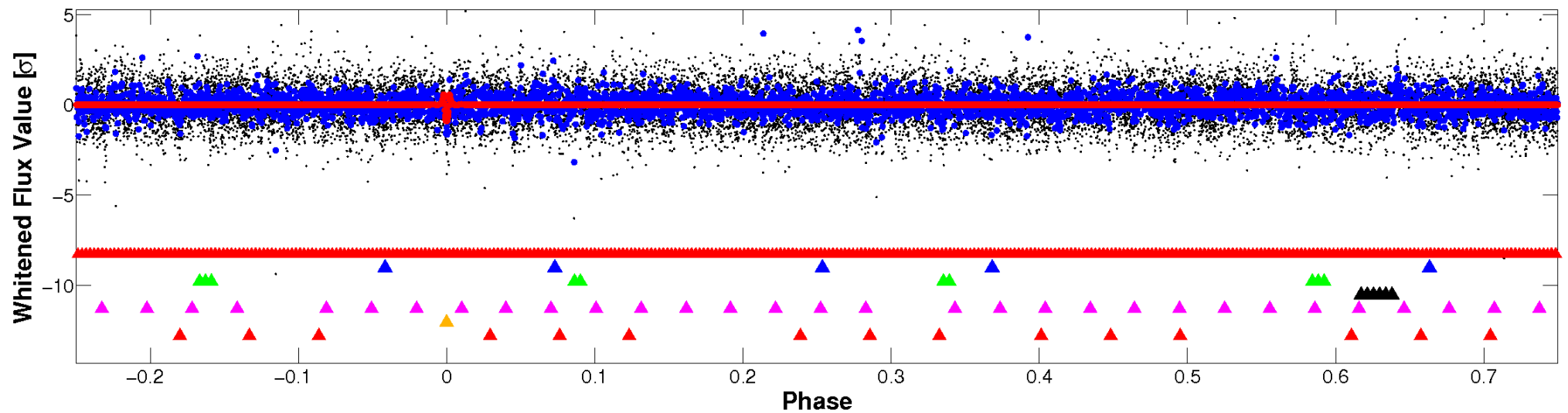


Non-Whitened Vs. Whitened Light Curve

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

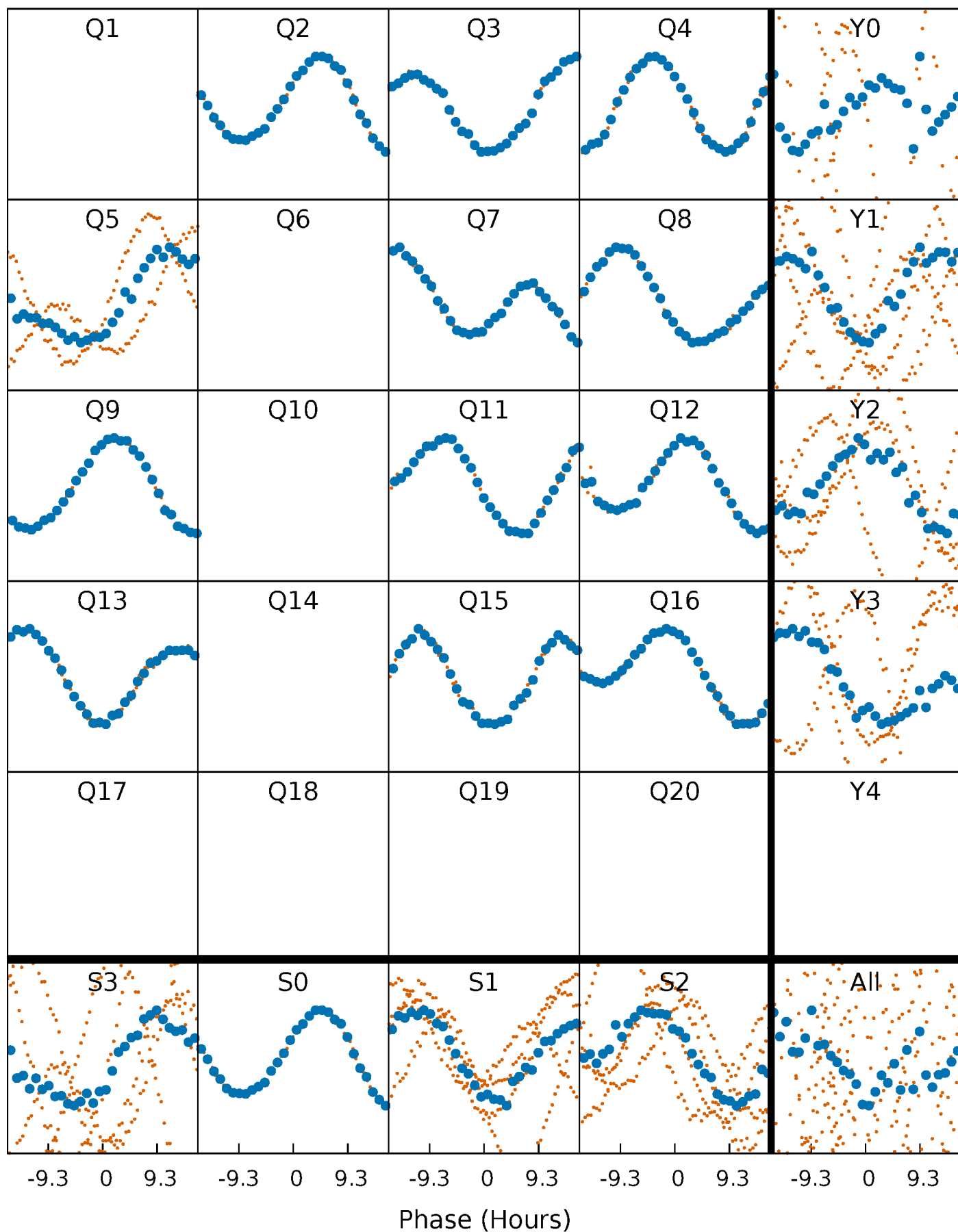


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



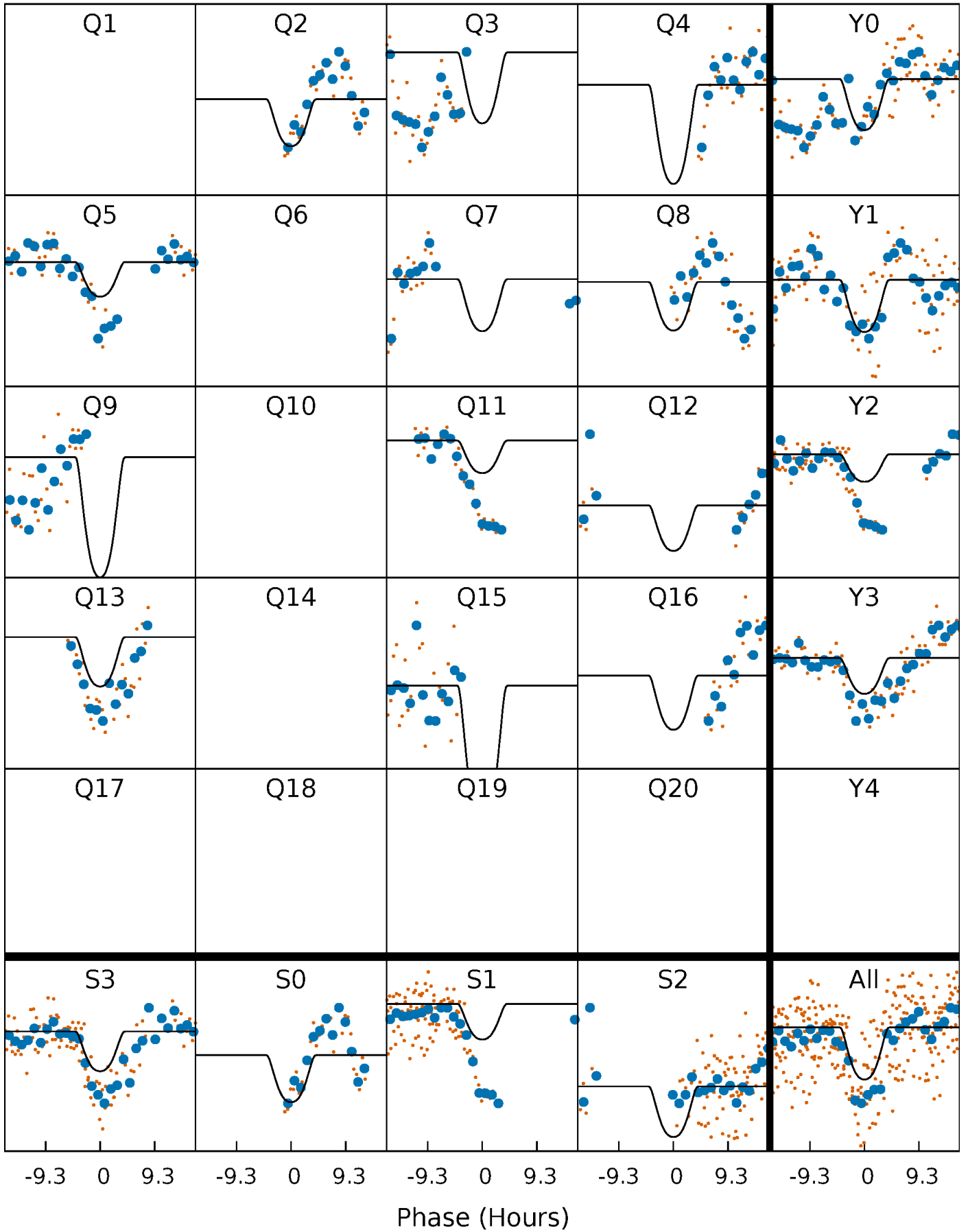
PDC Quarter-Phased Transit Curves

TCE 004372213-06 P= 82.284017 Days $T_0=204.077976$ (BKJD)



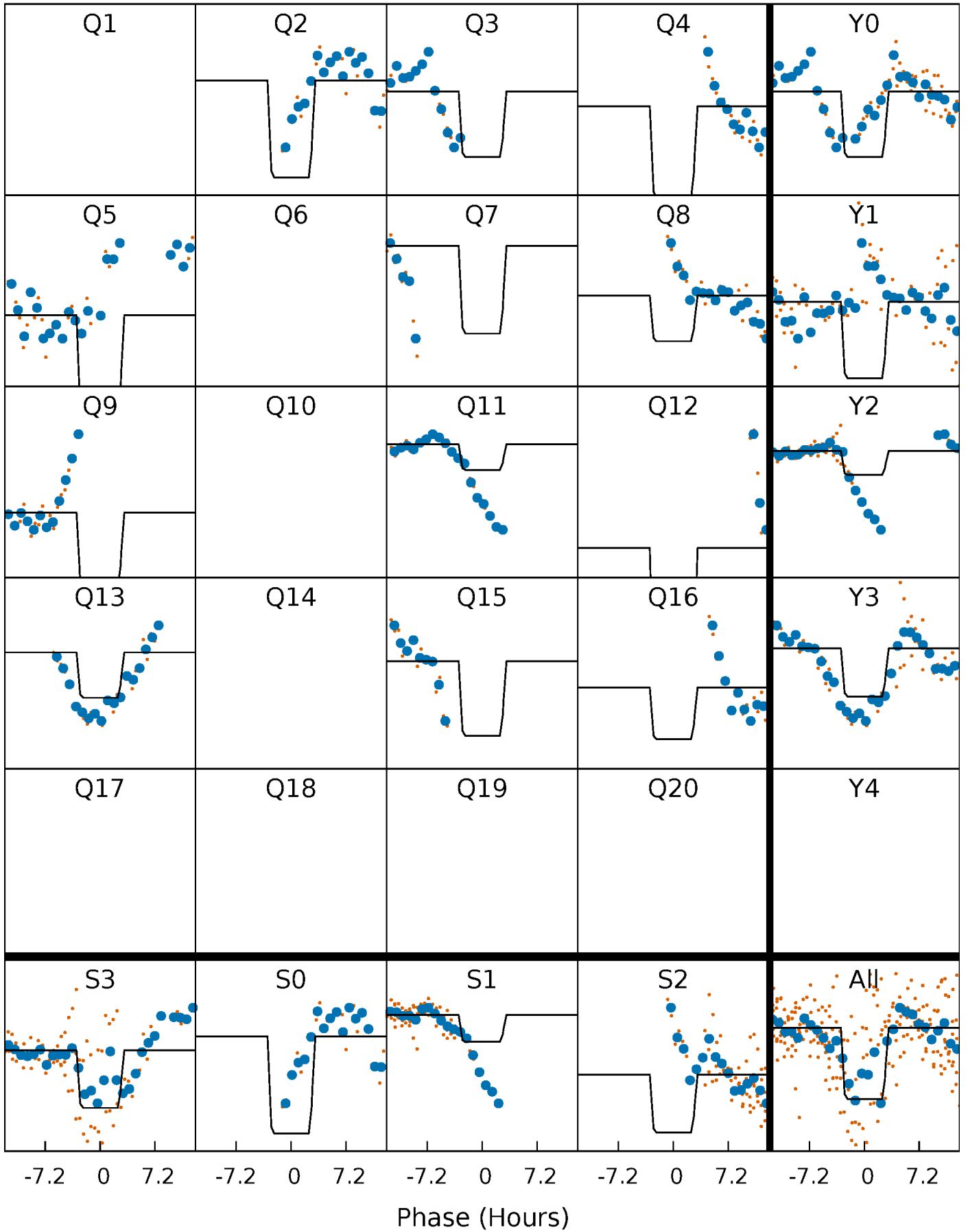
DV Quarter-Phased Transit Curves

TCE 004372213-06 P= 82.284017 Days $T_0=204.077976$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

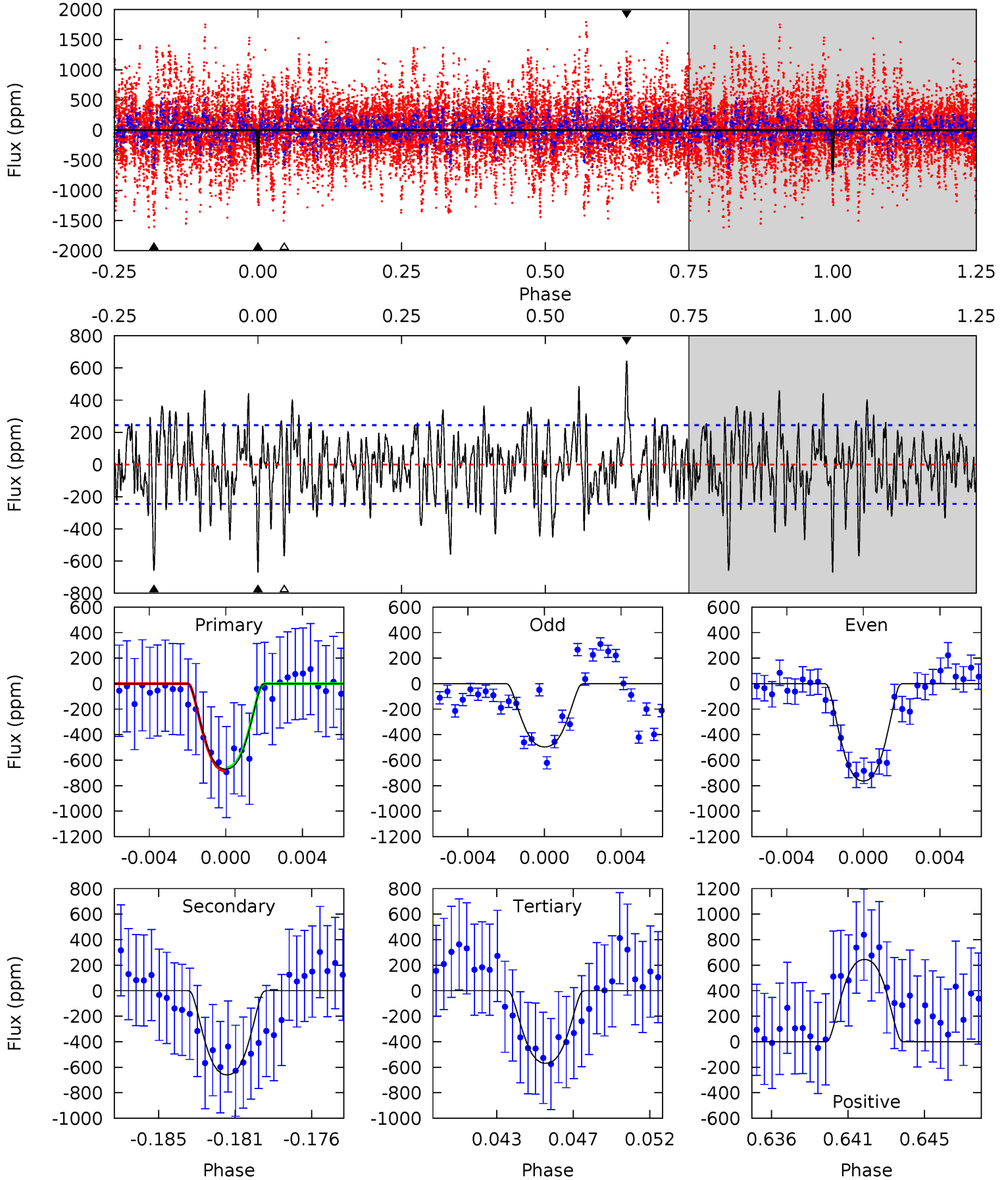
TCE 004372213-06 P= 82.285881 Days $T_0=204.080465$ (BKJD)



DV Model-Shift Uniqueness Test

004372213-06, P = 82.284017 Days, E = 121.793959 Days

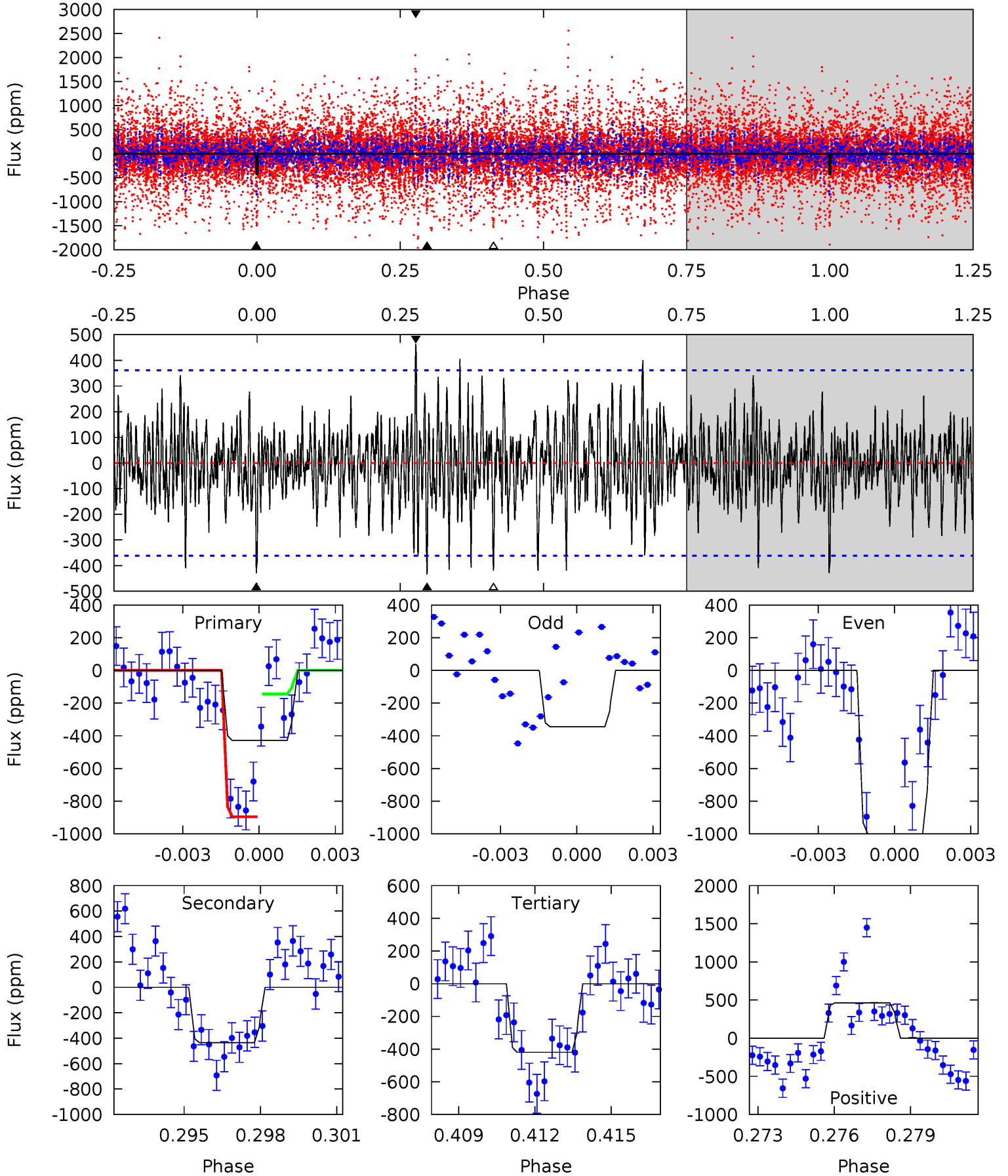
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	14.0	12.1	13.7	5.19	2.86	3.55	2.14	0.54	1.92	0.32	2.69	1.24	0.49	0.29



Alt Model-Shift Uniqueness Test

004372213-06, $P = 82.285881$ Days, $E = 121.794584$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.23	6.31	6.09	6.72	5.24	2.95	1.77	0.14	-0.50	0.23	-0.41	4.30	1.69	0.52	5.51



Stellar Parameters For KIC 004372213

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6318^{+82}_{-75}	$4.214^{+0.125}_{-0.125}$	$-0.020^{+0.150}_{-0.150}$	$1.419^{+0.252}_{-0.227}$	$1.201^{+0.101}_{-0.101}$	$0.592^{+0.345}_{-0.218}$
	+1%/-1%	+3%/-3%	+750%/-750%	+18%/-16%	+8%/-8%	+58%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004372213-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-660 ± 47	$3.91^{+0.94}_{-0.74}$	741^{+33}_{-35}	6353^{+717}_{-559}	3681^{+1998}_{-1250}
Alt.	-435 ± 69	$4.64^{+0.87}_{-0.84}$	737^{+38}_{-32}	5289^{+469}_{-368}	1655^{+897}_{-486}

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

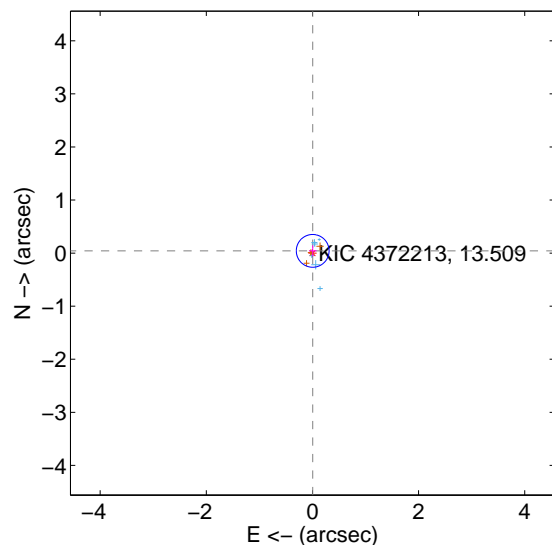
Supplemental centroid analysis for 004372213-06. Kepler magnitude: 13.51. Transit SNR 5.86

There are 6 quarters with good PRF difference image offsets

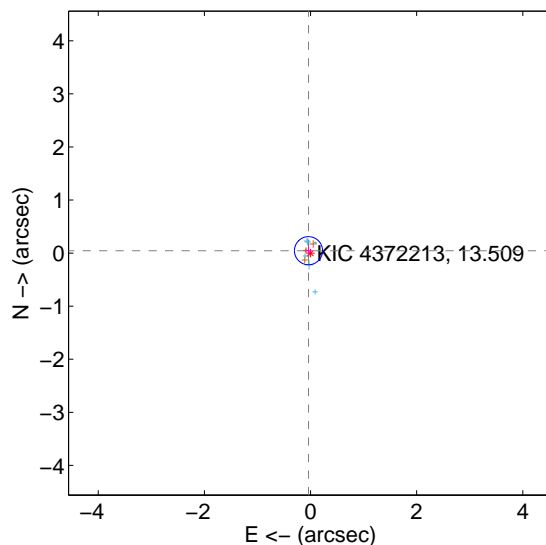
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.103	0.41	-0.005 ± 0.071	0.042 ± 0.103
PRF-fit source offset from KIC position	0.059 ± 0.088	0.67	0.038 ± 0.070	0.045 ± 0.098
photometric centroid source offset	1.63 ± 0.72	2.26	-0.74 ± 0.66	1.45 ± 0.74

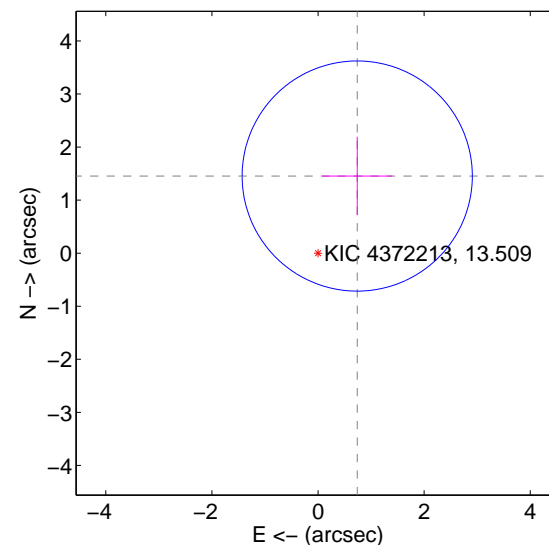
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

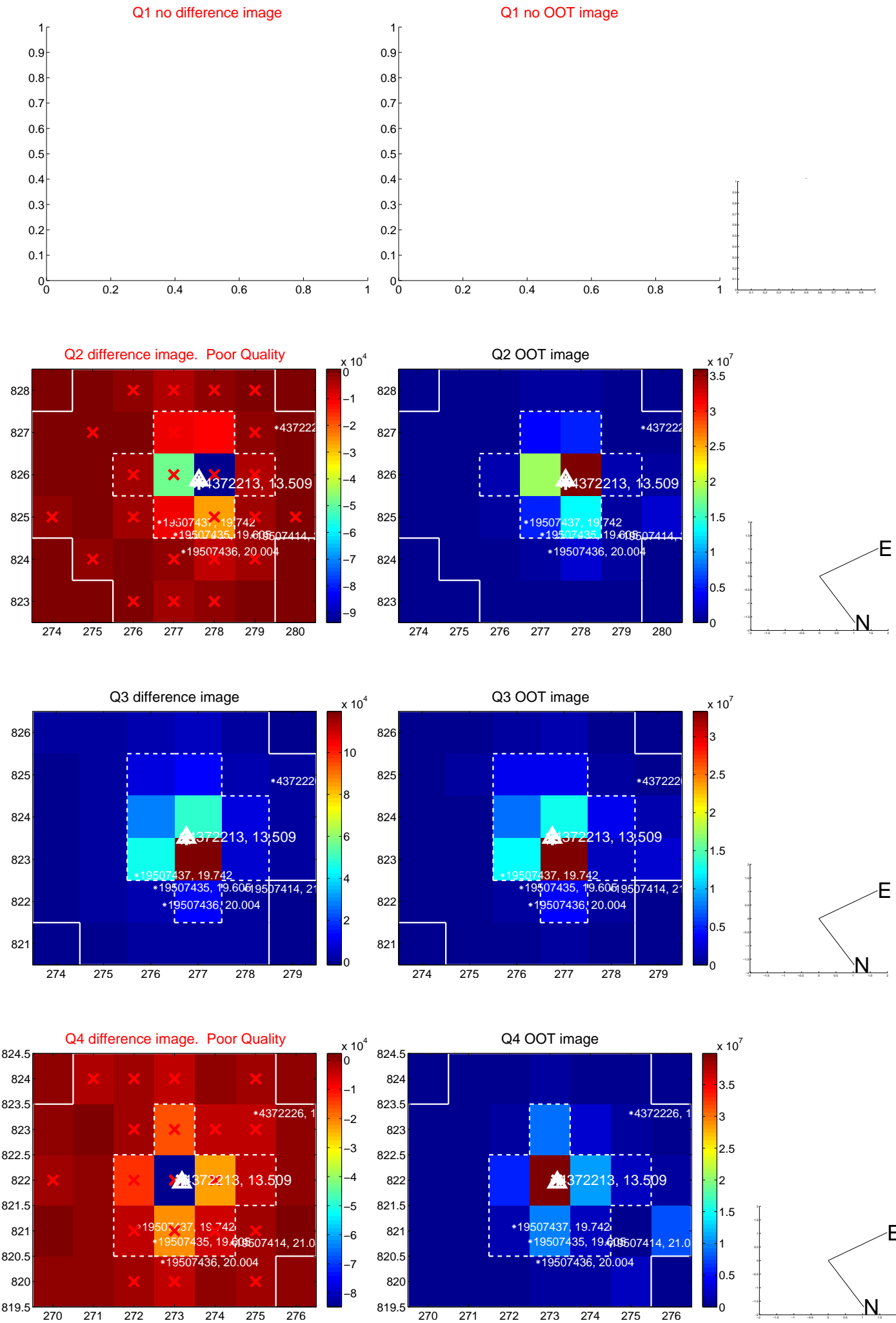


offset from photometric centroids

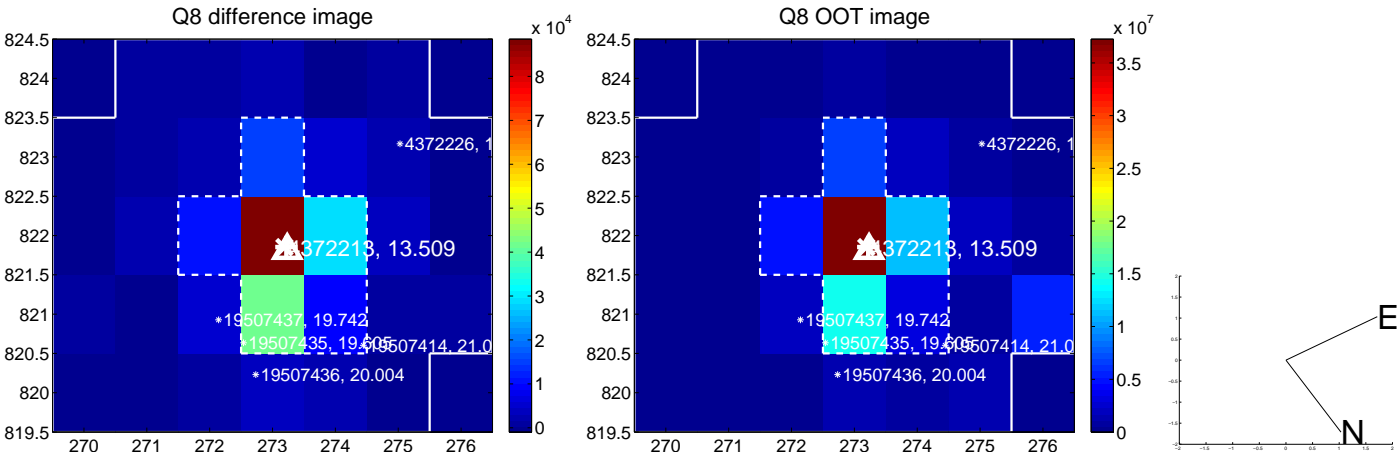
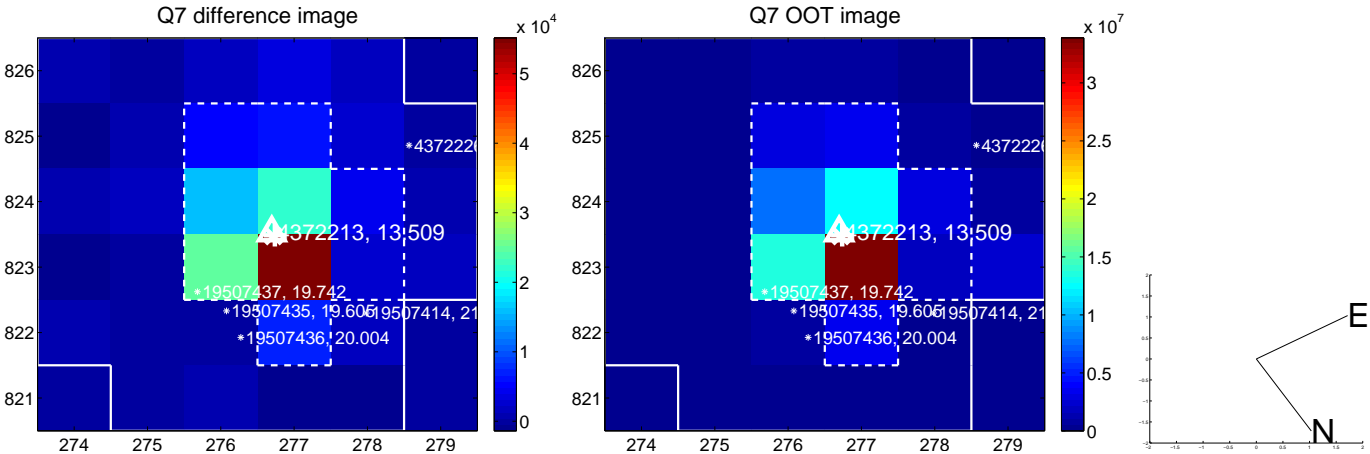
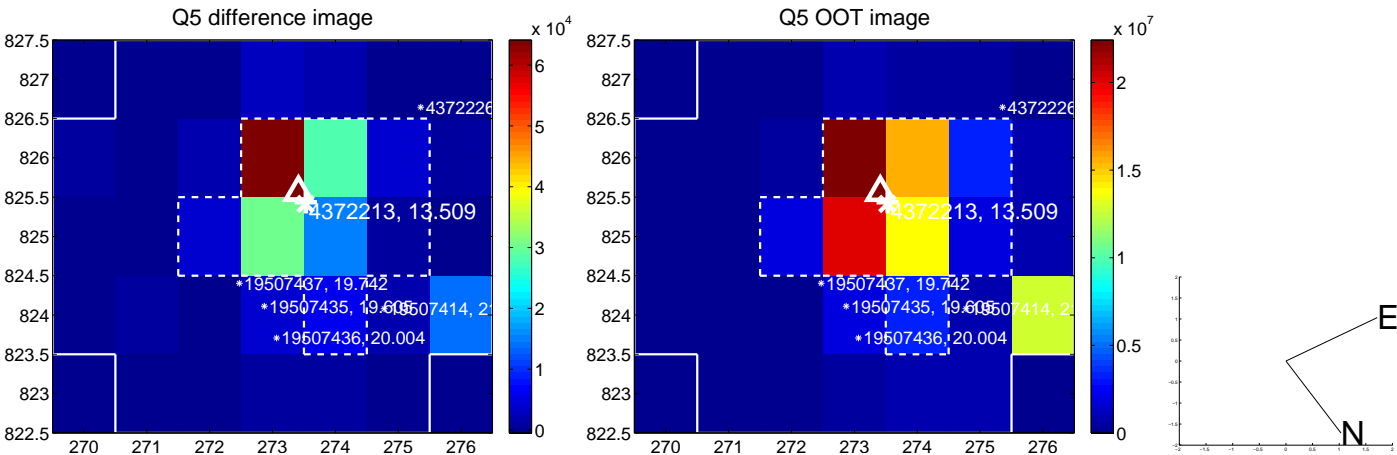


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

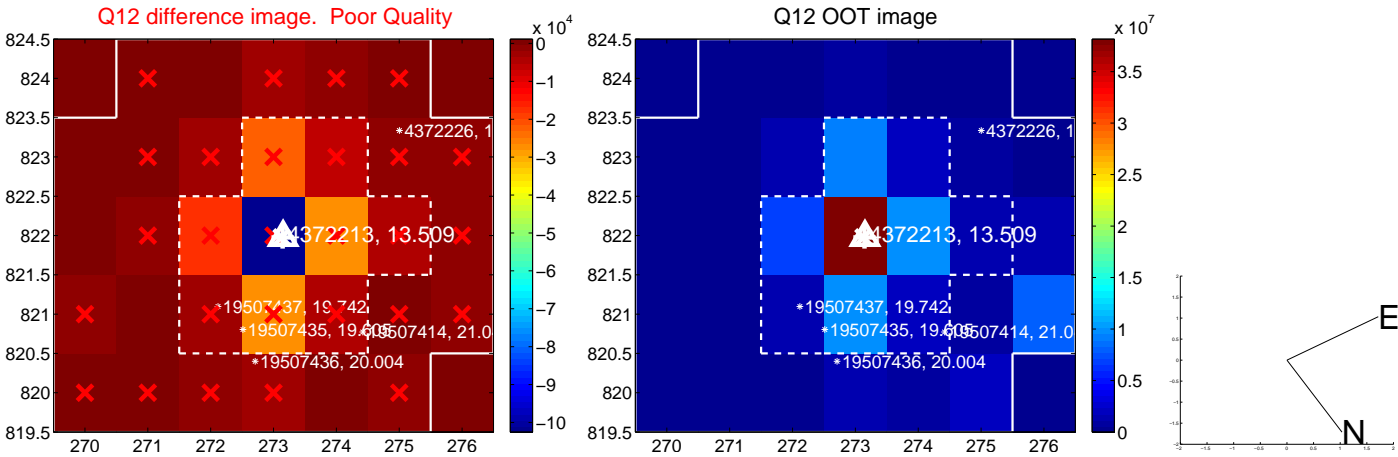
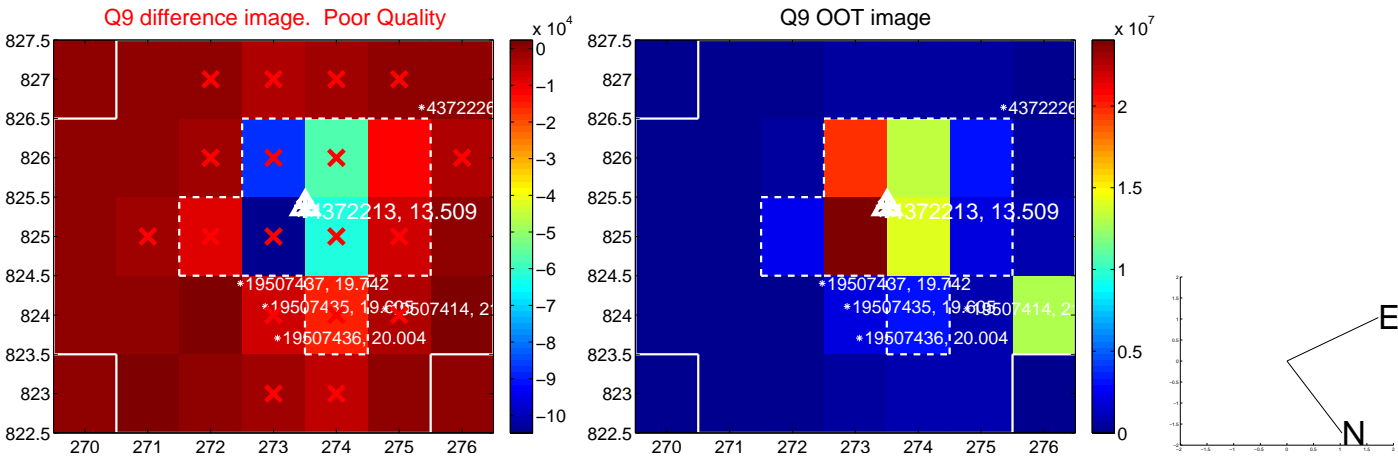
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



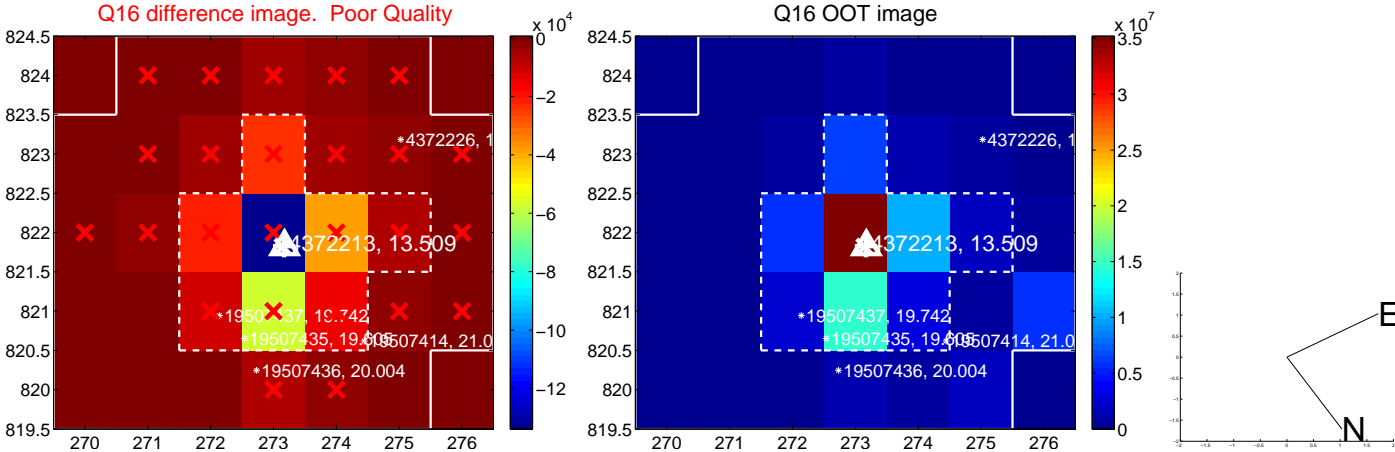
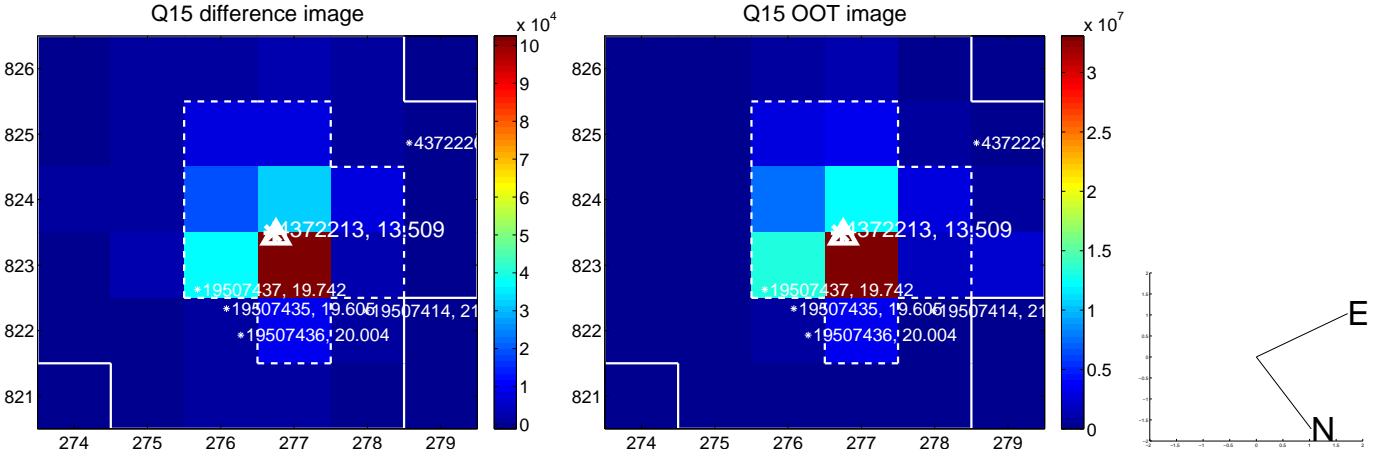
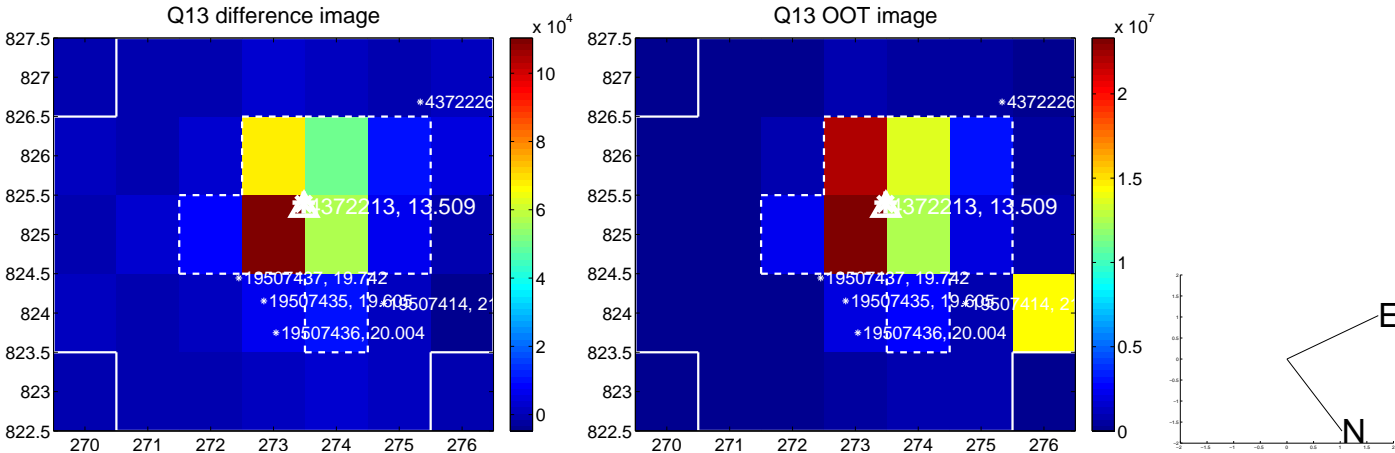
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



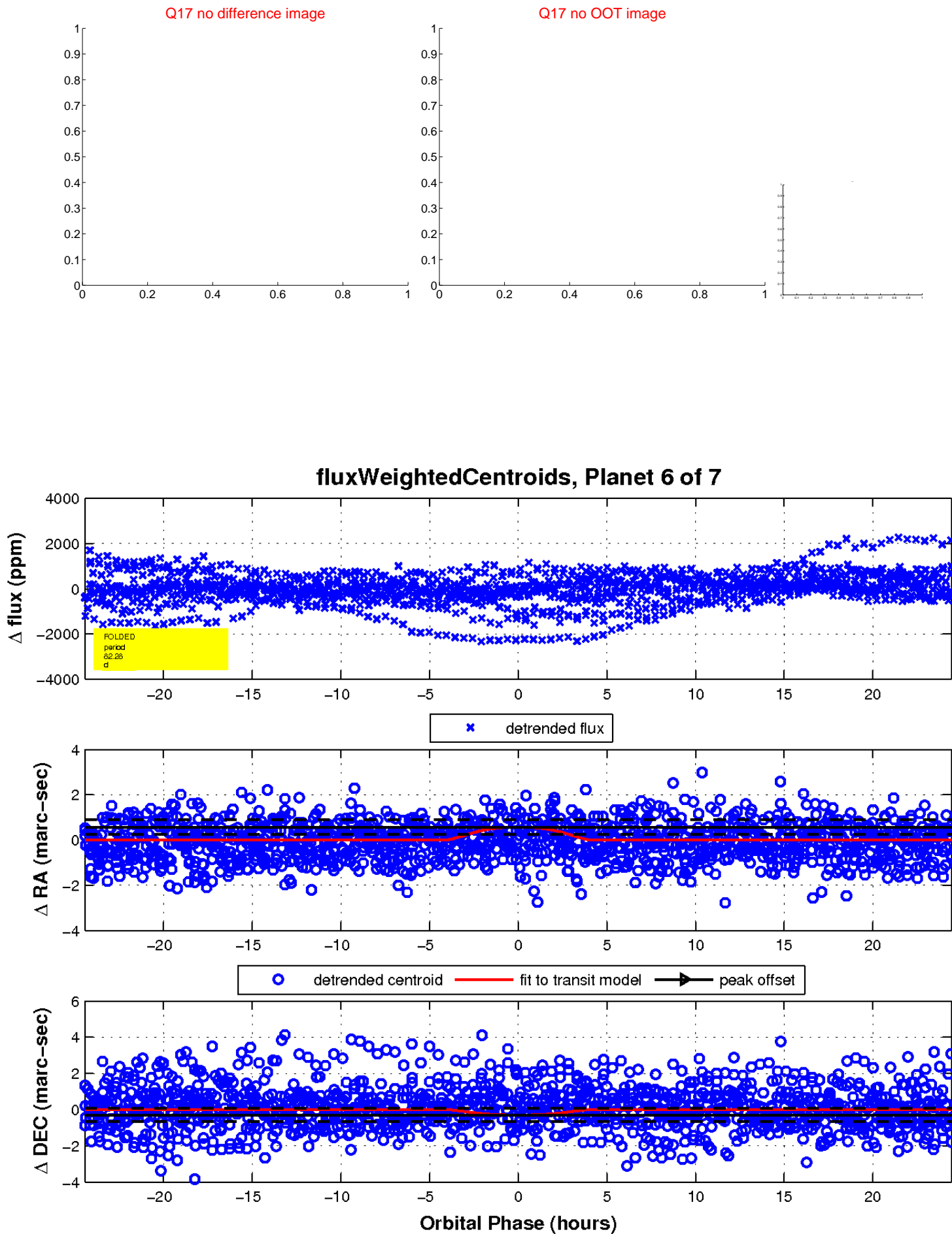
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

