

KIC 003540728

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})
003540728-01	OBS	No	327.698963	296.328091	1119.3	4.579	19.7	4.4	0.56	5015	1.89	0.30
003540728-02	OBS	No	581.192077	415.321238	1796.4	4.754	17.1	5.7	0.56	5015	2.38	0.14
003540728-03	OBS	No	241.704161	206.873976	5001.7	24.635	15.8	6.9	0.56	5015	4.75	0.45
003540728-04	OBS	No	422.790352	479.780977	3312.9	13.762	20.1	7.1	0.56	5015	3.77	0.21
003540728-05	OBS	No	484.506952	564.327851	665.7	4.500	18.7	-1.0	0.56	5015	1.43	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003540728-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003540728-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003540728-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

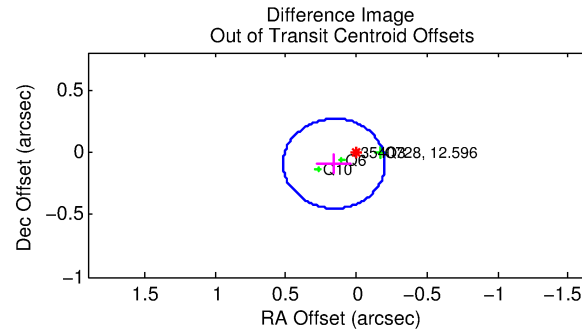
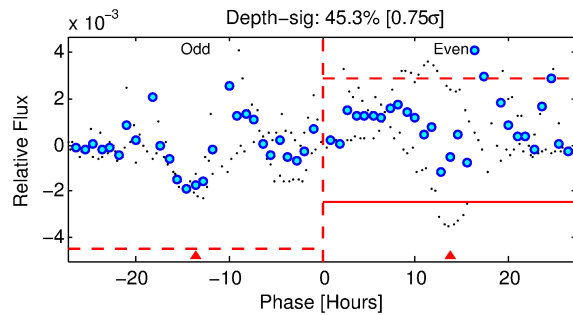
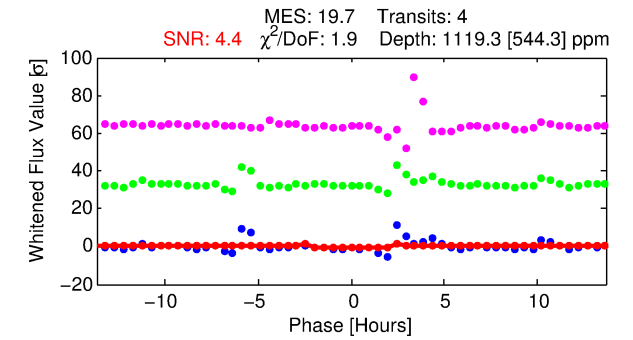
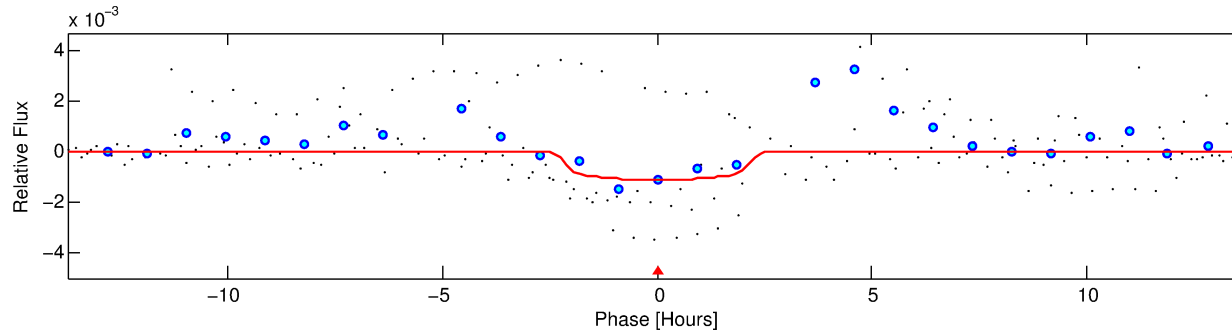
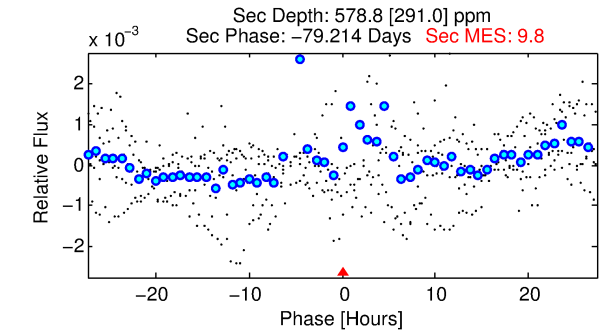
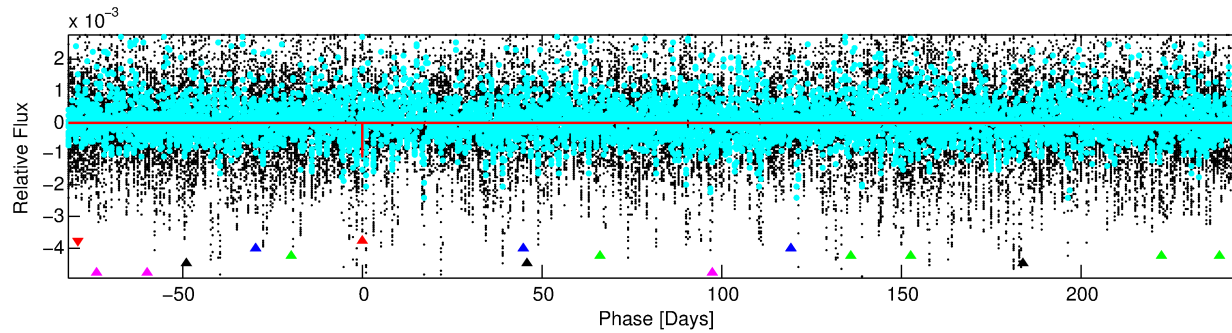
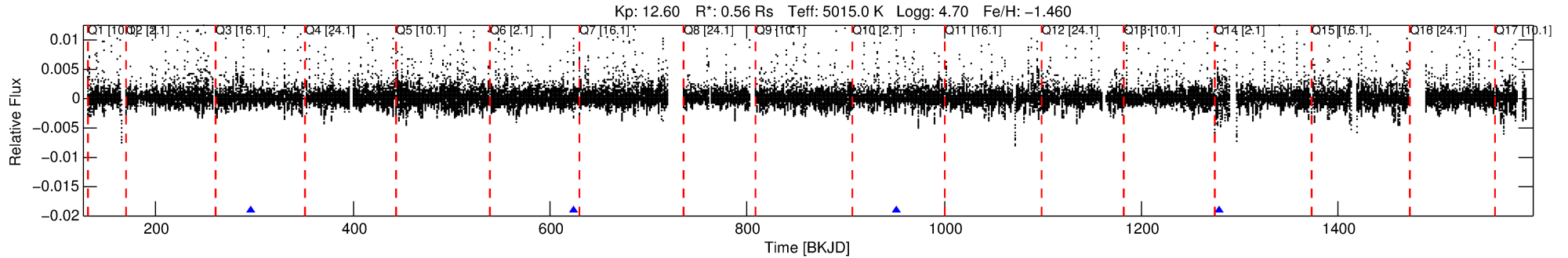
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003540728-01

No Significant Match Found

DV One-Page Summary

KIC: 3540728 Candidate: 1 of 5 Period: 327.699 d



DV Fit Results:

Period = 327.69896 [0.00684] d
Epoch = 296.3281 [0.0167] BKJD
Rp/R* = 0.0309 [0.0690]
a/R* = 525.18 [5193.02]
b = 0.37 [22.80]
Seff = 0.30 [0.05]
Teq = 188 [7] K
Rp = 1.89 [4.21] Re
a = 0.7702 [0.0432] AU
Ag = 53075.90 [238346.63] [0.22σ]
Teff = 4423 [4967] K [0.85σ]

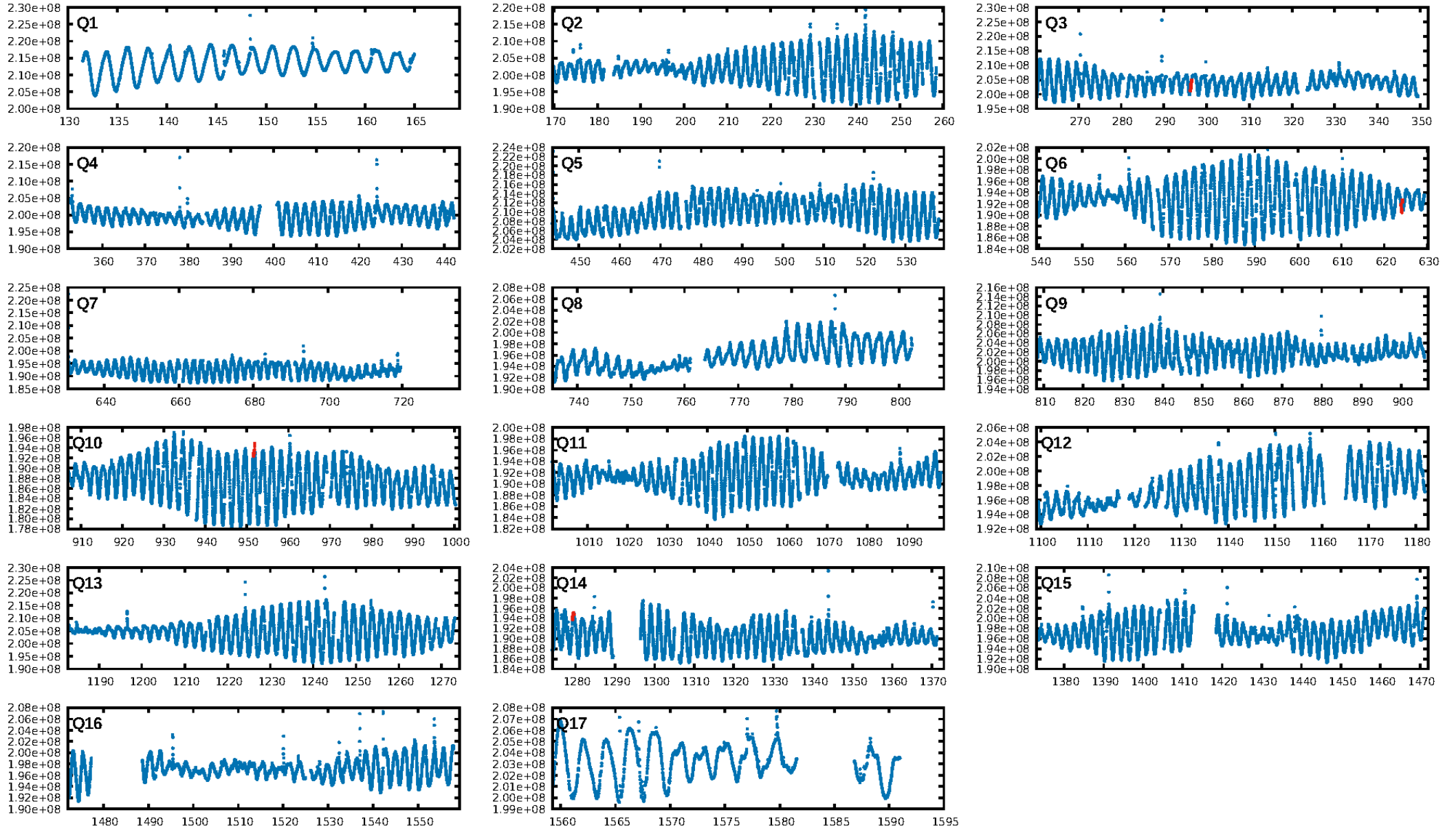
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [82.37σ]
LongPeriod-sig: 100.0% [157.36σ]
ModelChiSquare2-sig: 0.0%
a/R* = 525.18 [5193.02]
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.4615
Centroid-sig: 37.0%
Centroid-so: 0.503 arcsec [1.00σ]
OotOffset-rm: 0.182 arcsec [1.52σ]
KicOffset-rm: 0.234 arcsec [1.94σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

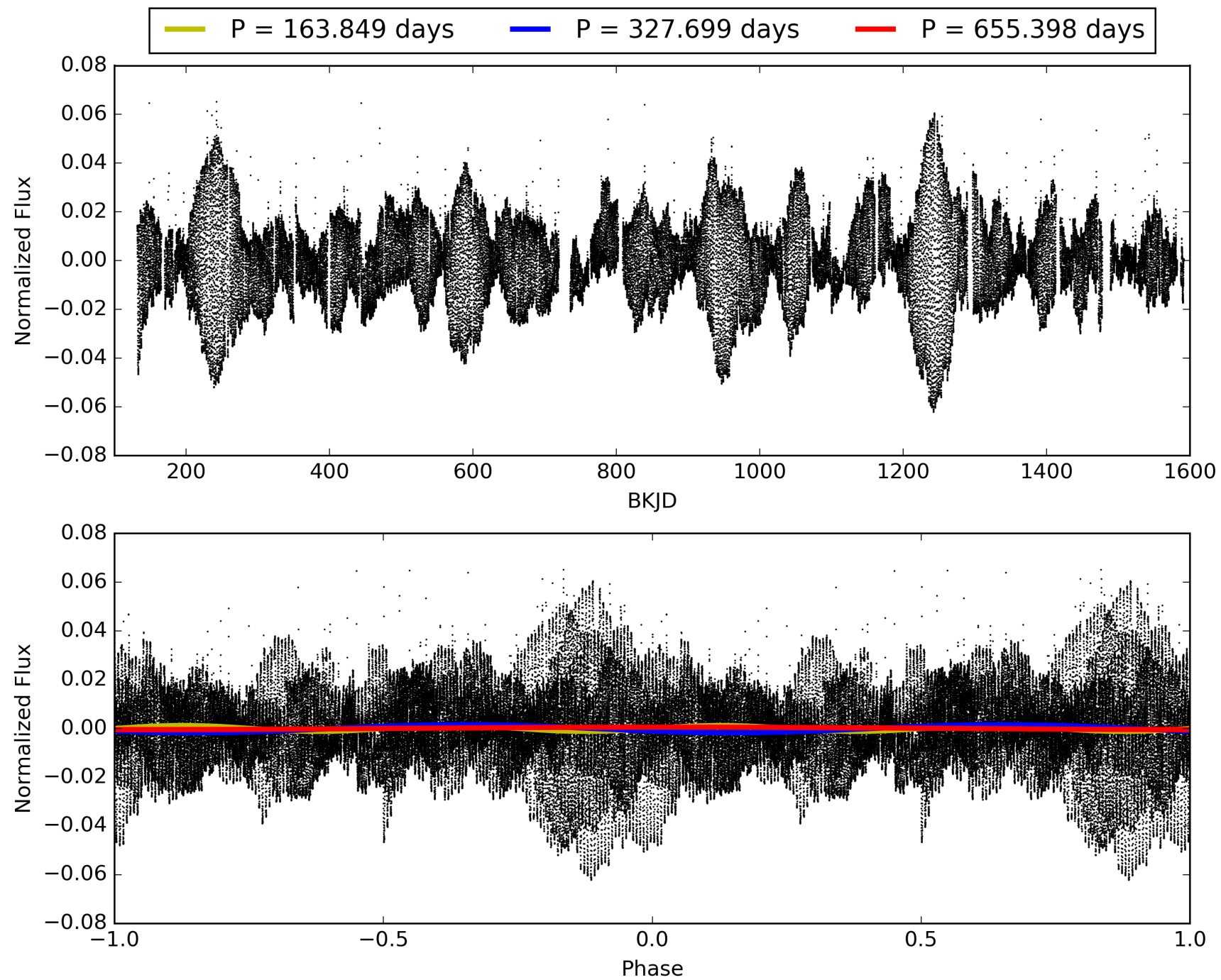
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003540728-01, PDC Light Curves

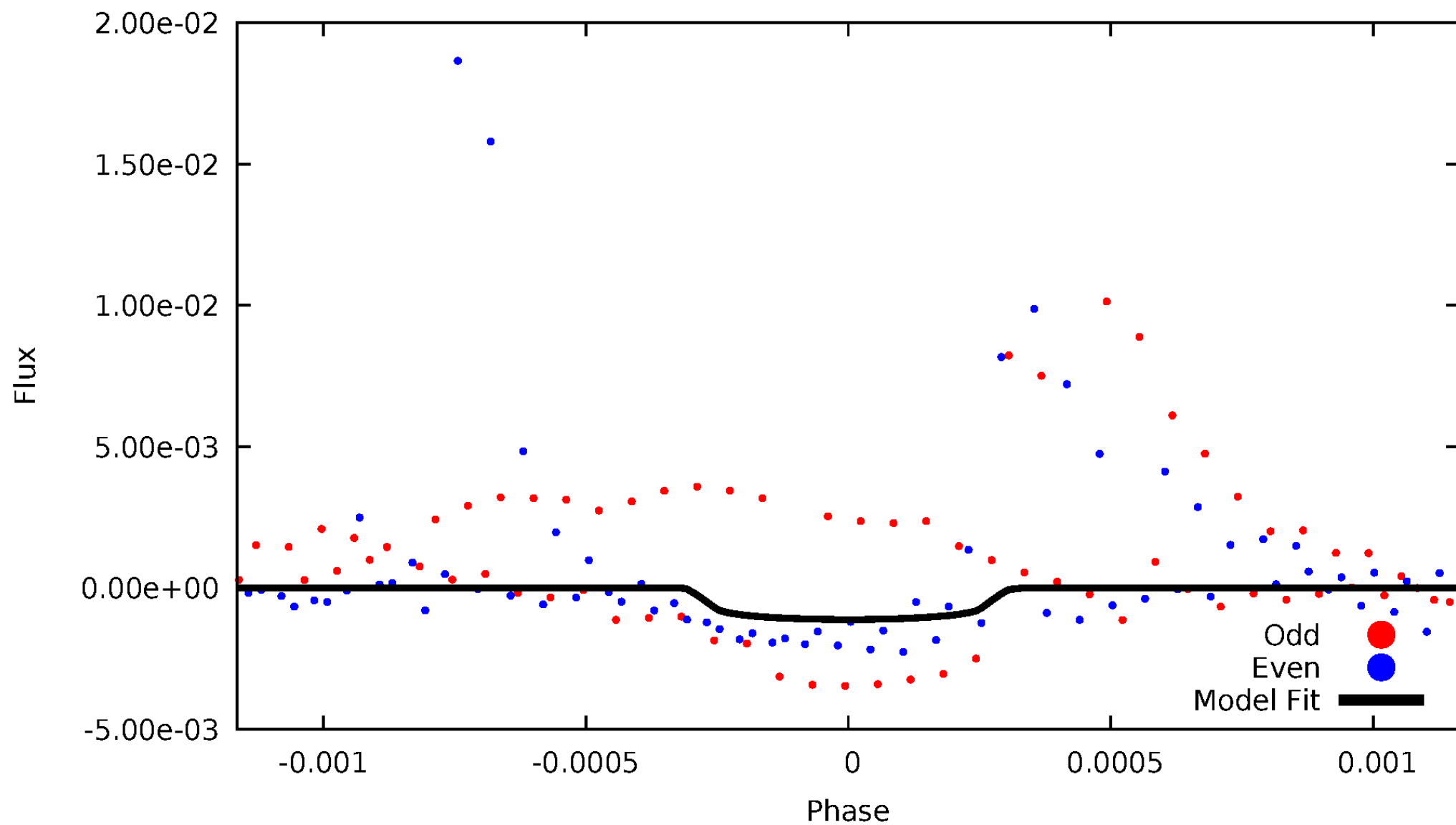


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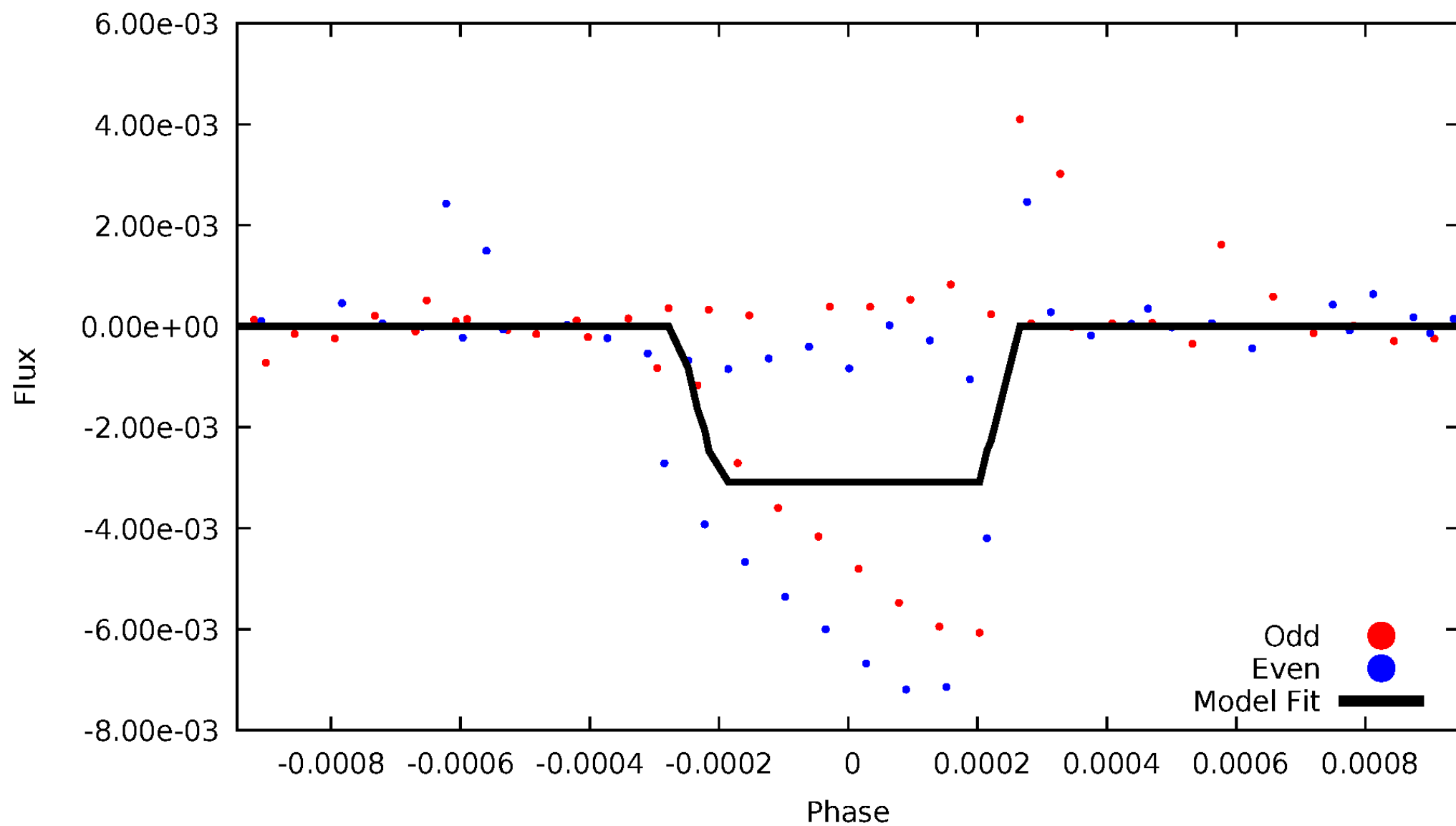
DV Odd/Even

TCE 003540728-01

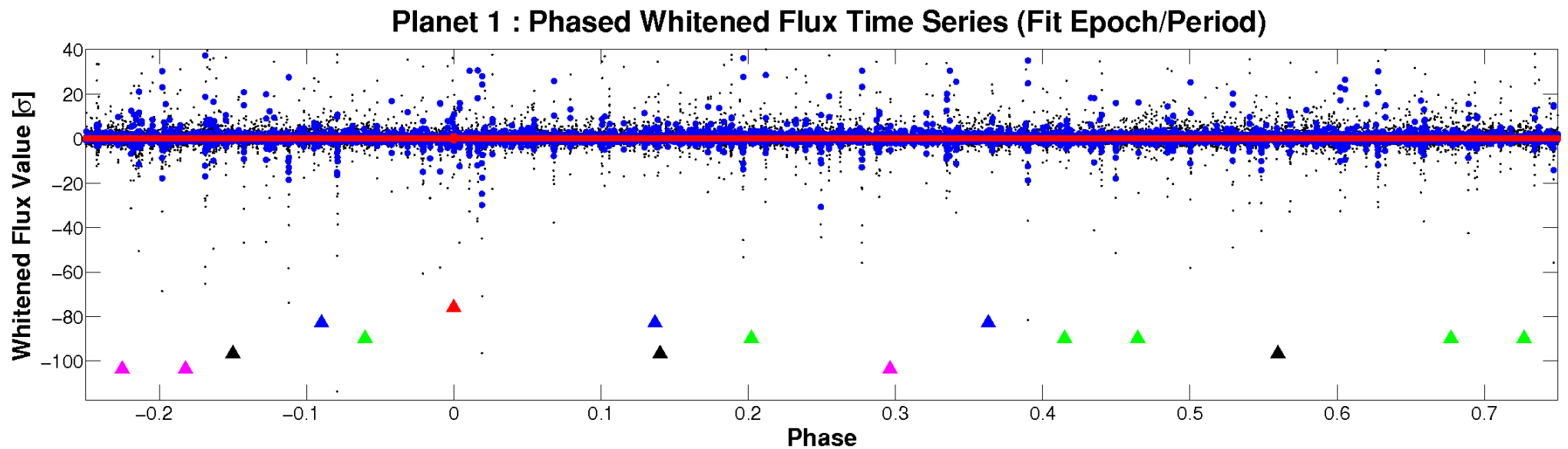
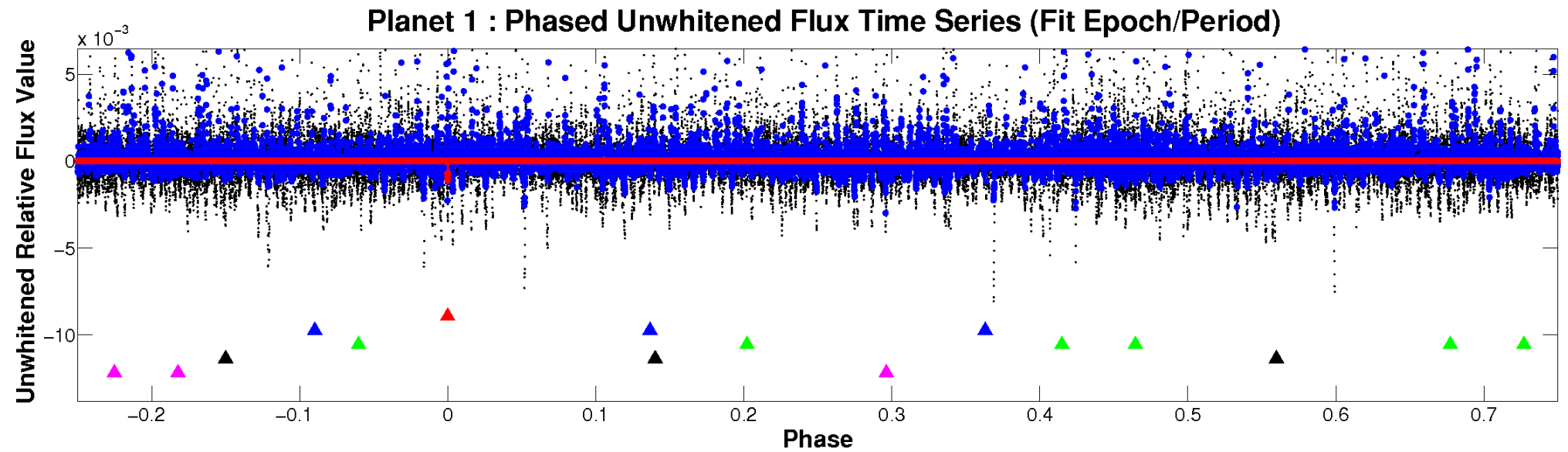


ALT Odd/Even

TCE 003540728-01

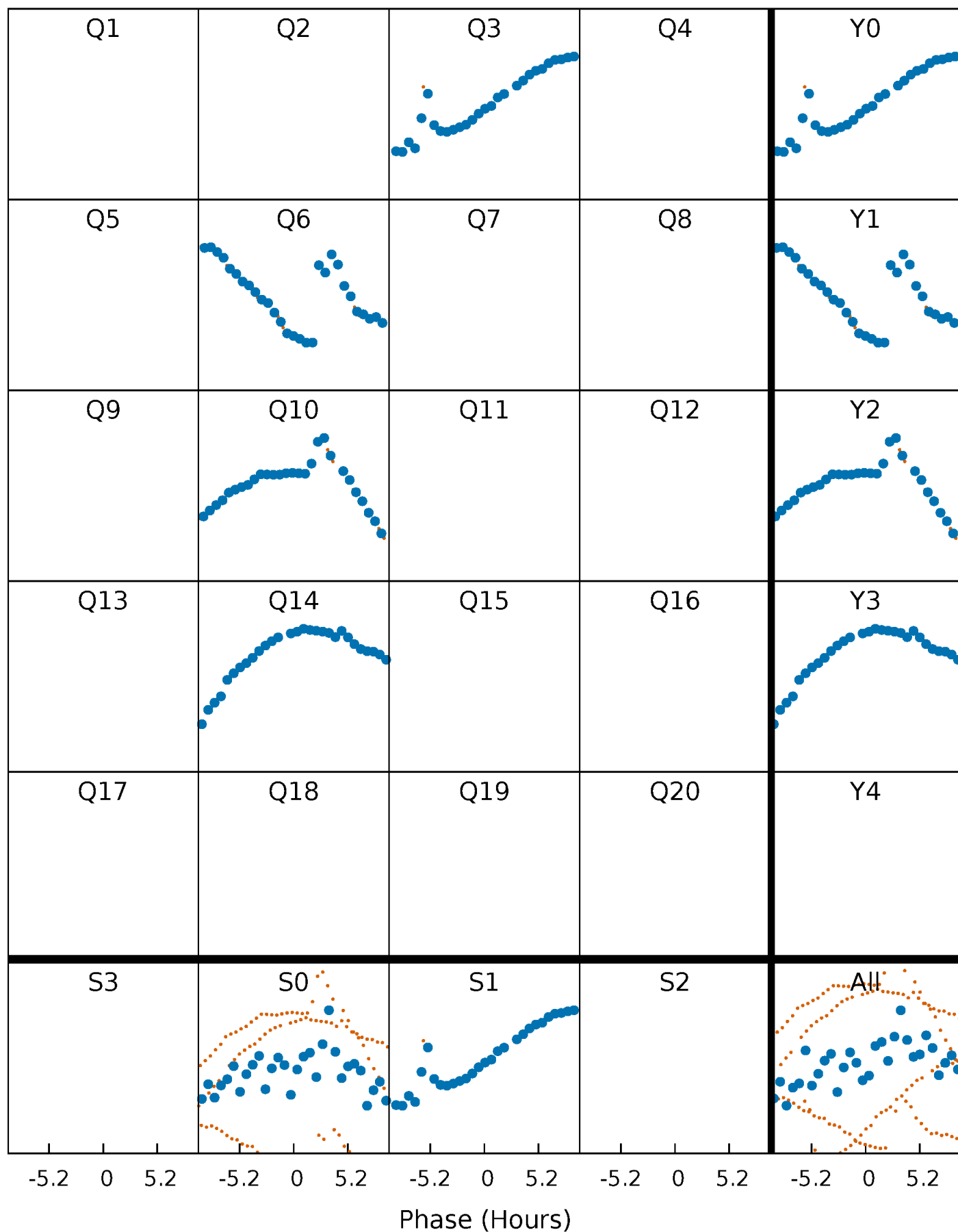


Non-Whitened Vs. Whitened Light Curve



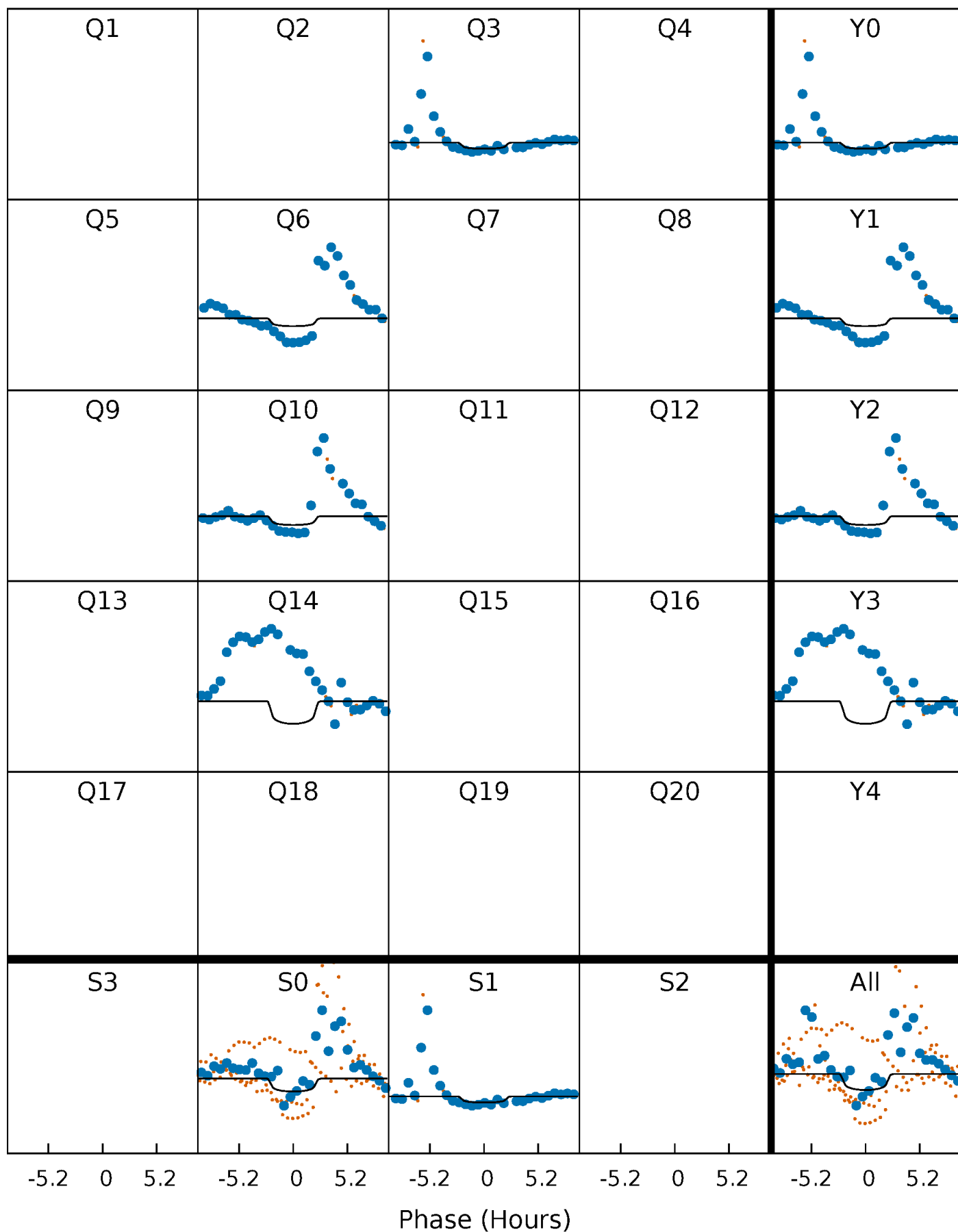
PDC Quarter-Phased Transit Curves

TCE 003540728-01 P=327.698963 Days $T_0=296.328091$ (BKJD)



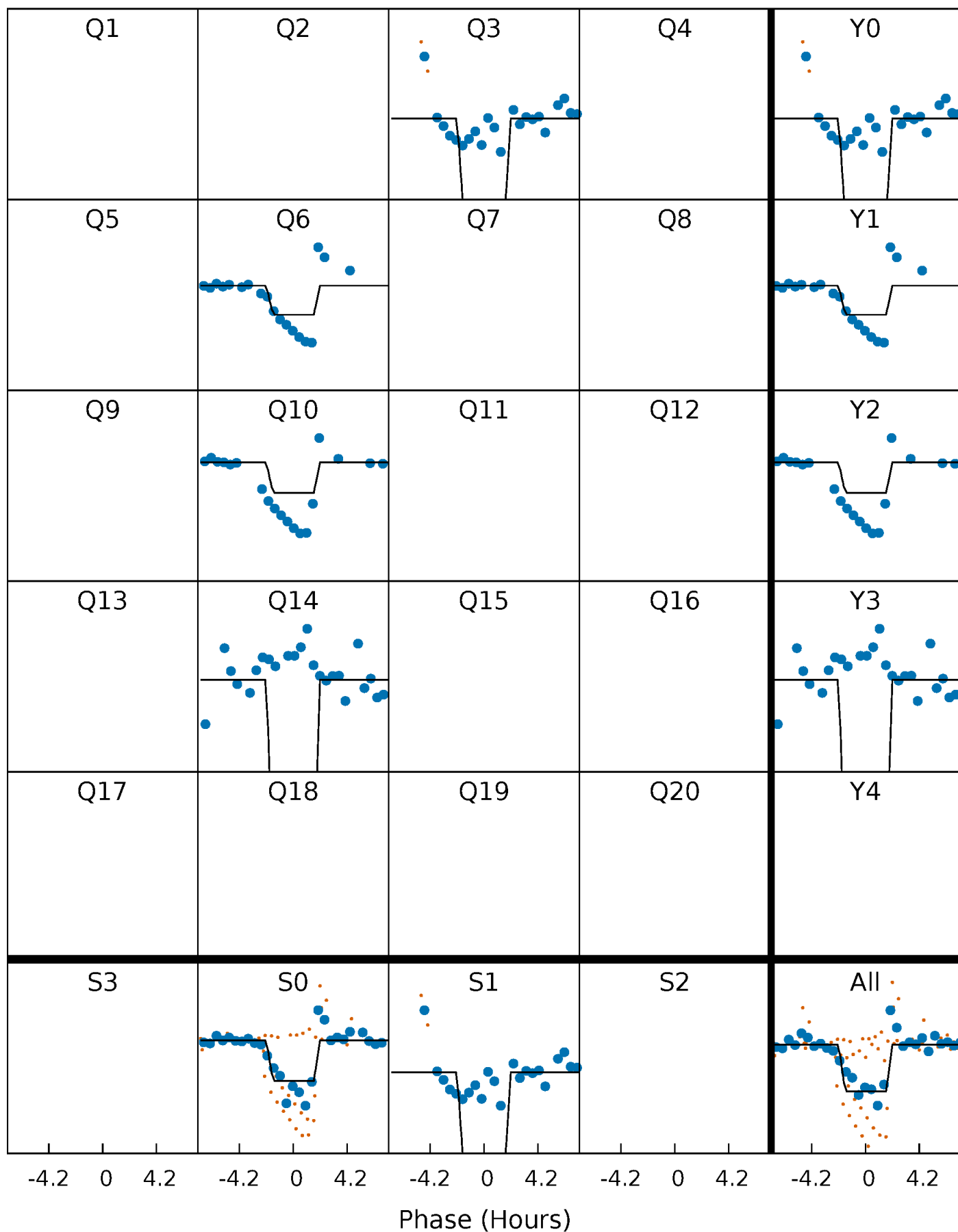
DV Quarter-Phased Transit Curves

TCE 003540728-01 P=327.698963 Days $T_0=296.328091$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

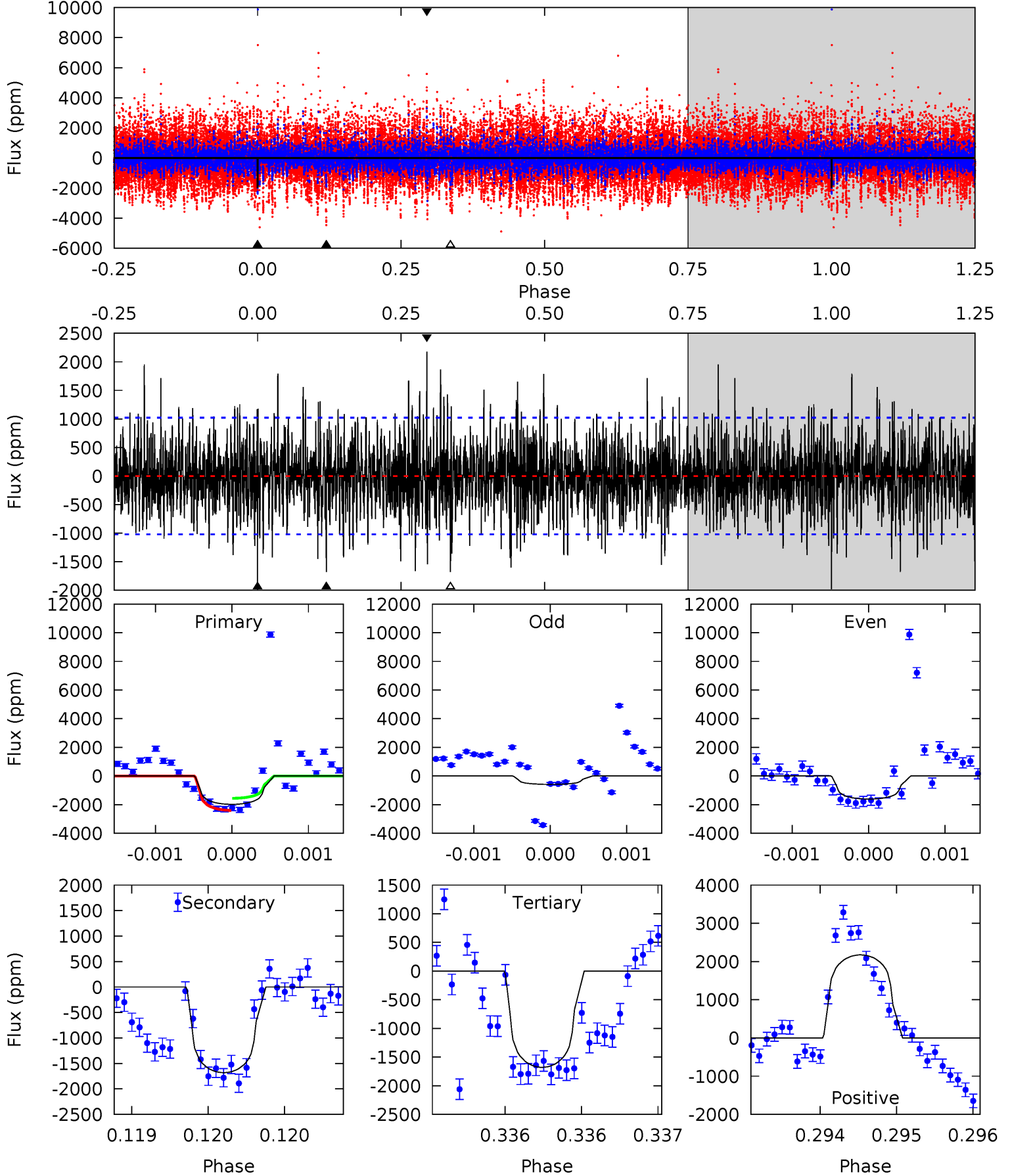
TCE 003540728-01 P=327.690738 Days $T_0=296.349457$ (BKJD)



DV Model-Shift Uniqueness Test

003540728-01, P = 327.698963 Days, E = 296.328091 Days

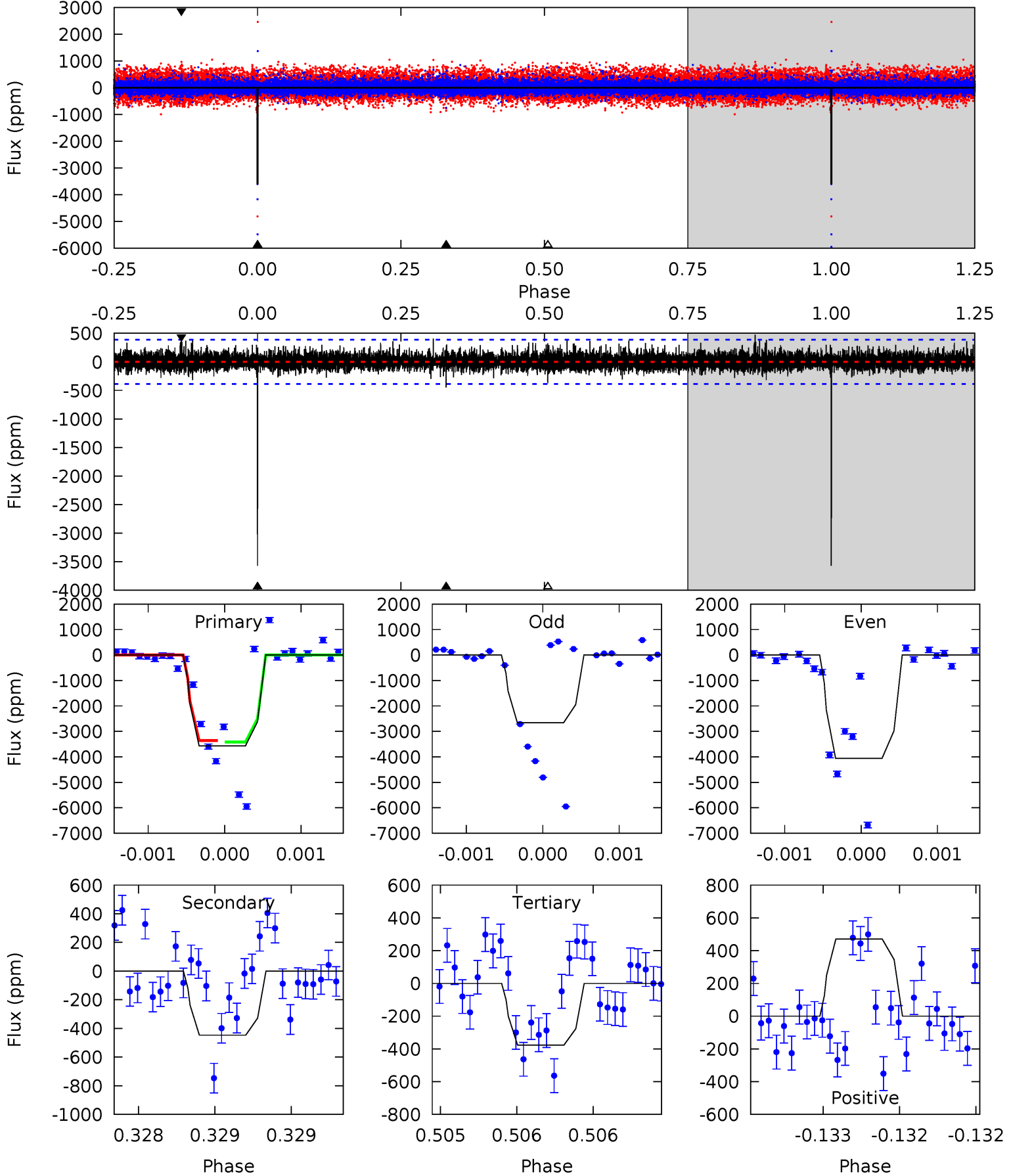
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	9.11	9.10	11.8	5.53	3.41	2.48	1.64	-1.04	0.01	-2.67	2.58	0.57	0.52	2.30



Alt Model-Shift Uniqueness Test

003540728-01, P = 327.690738 Days, E = 296.349457 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.4	6.44	5.43	6.78	5.57	3.47	1.13	46.0	44.6	1.01	-0.34	12.5	1.04	0.12	0



Stellar Parameters For KIC 003540728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5015^{+165}_{-165}	$4.697^{+0.052}_{-0.024}$	$-1.460^{+0.300}_{-0.250}$	$0.559^{+0.030}_{-0.033}$	$0.567^{+0.038}_{-0.020}$	$4.579^{+0.828}_{-0.480}$
	+3%/-3%	+1%/-1%	+21%/-17%	+5%/-6%	+7%/-4%	+18%/-10%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003540728-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1681 ± 185	$3.64^{+3.26}_{-2.39}$	262^{+10}_{-10}	4317^{+2631}_{-869}	$41894^{+289393}_{-30388}$
Alt.	-447 ± 69	$4.37^{+3.68}_{-2.76}$	262^{+9}_{-9}	3245^{+1305}_{-533}	7574^{+48585}_{-5460}

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 $A_{obs} \gg 1.0$

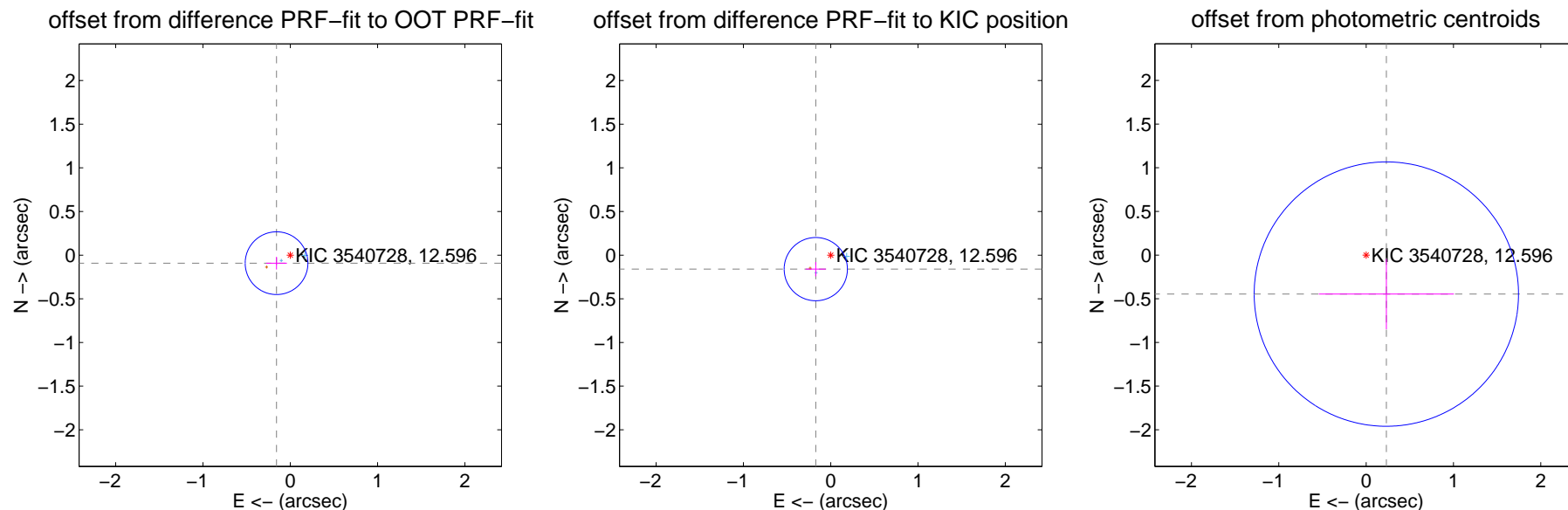
DV Centroid Data

Supplemental centroid analysis for 003540728-01. Kepler magnitude: 12.60. Transit SNR 4.40

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.182 ± 0.120	1.52	0.157 ± 0.119	-0.092 ± 0.073
PRF-fit source offset from KIC position	0.234 ± 0.121	1.94	0.171 ± 0.116	-0.160 ± 0.082
photometric centroid source offset	0.50 ± 0.50	1.00	-0.23 ± 0.77	-0.45 ± 0.40



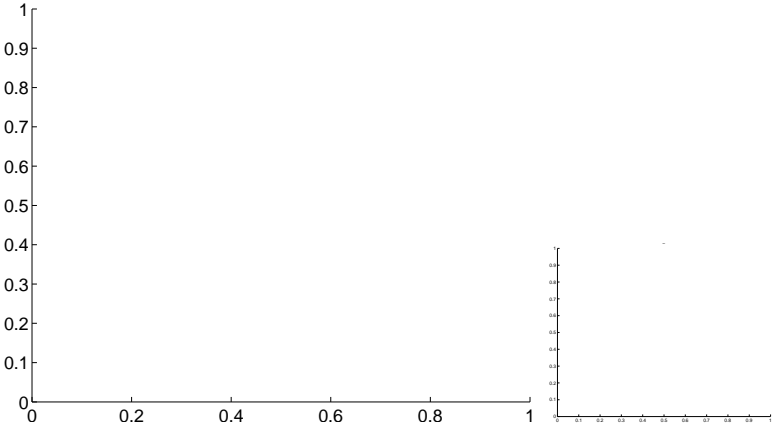
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

Q1 no difference image



Q1 no OOT image



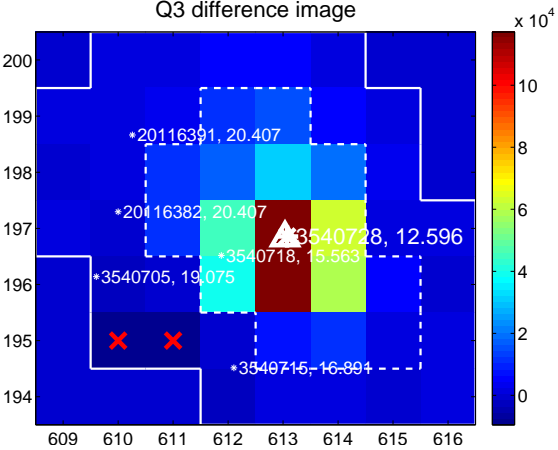
Q2 no difference image



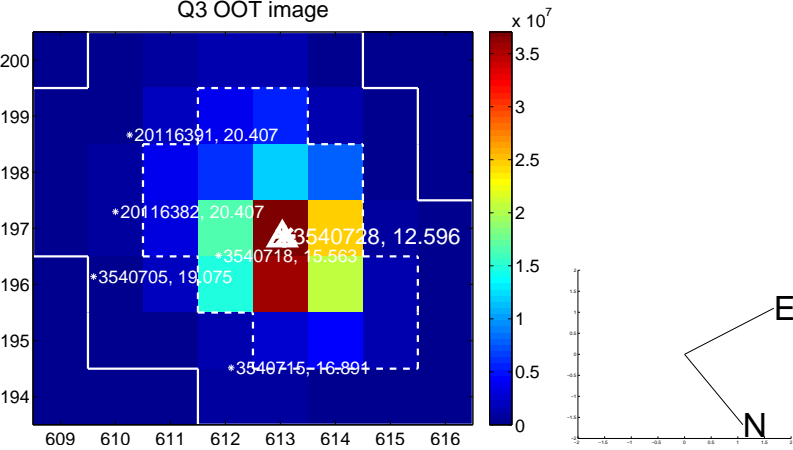
Q2 no OOT image



Q3 difference image



Q3 OOT image



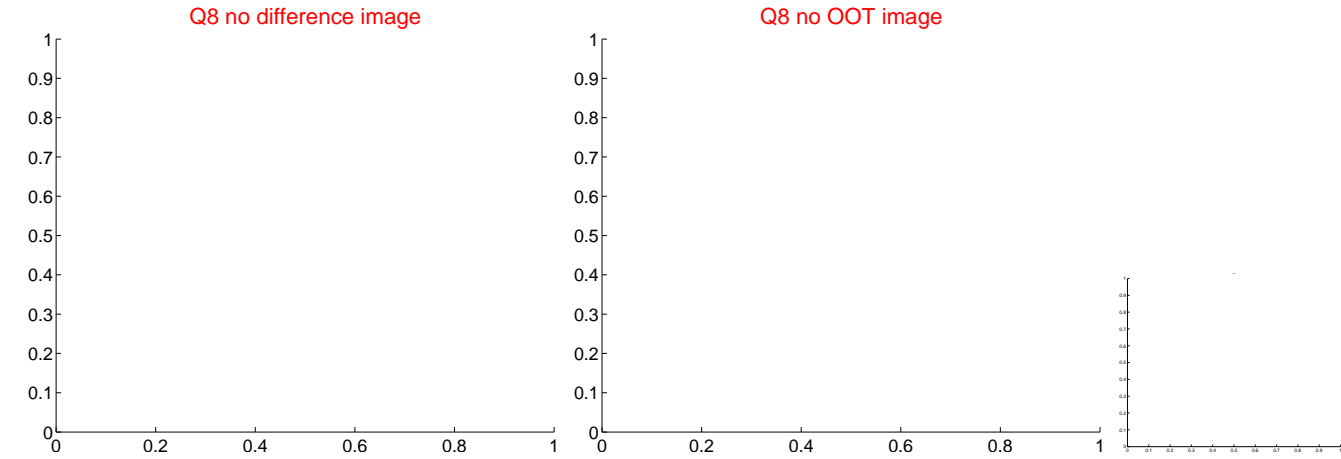
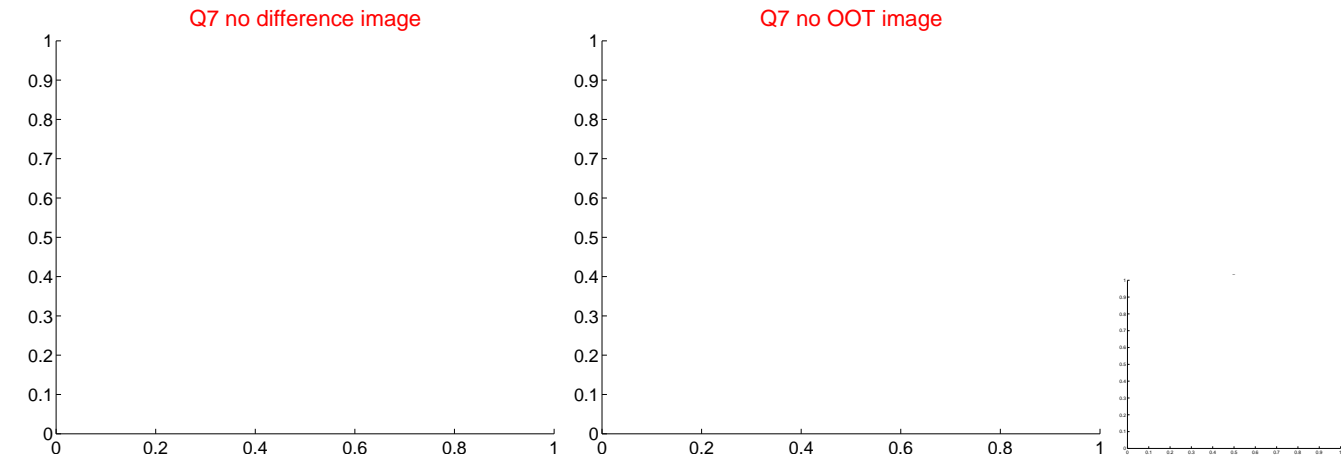
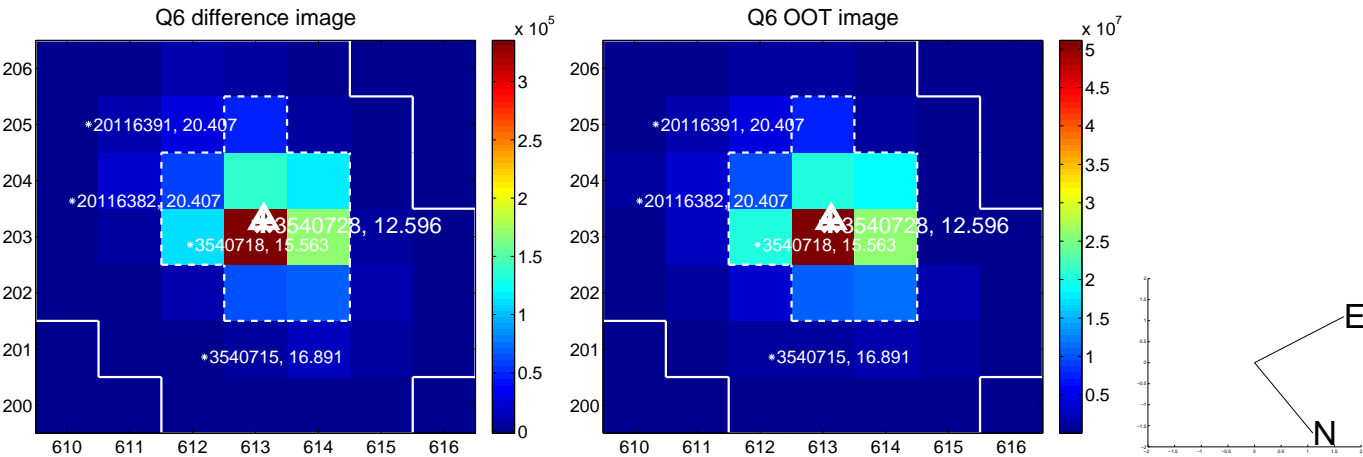
Q4 no difference image



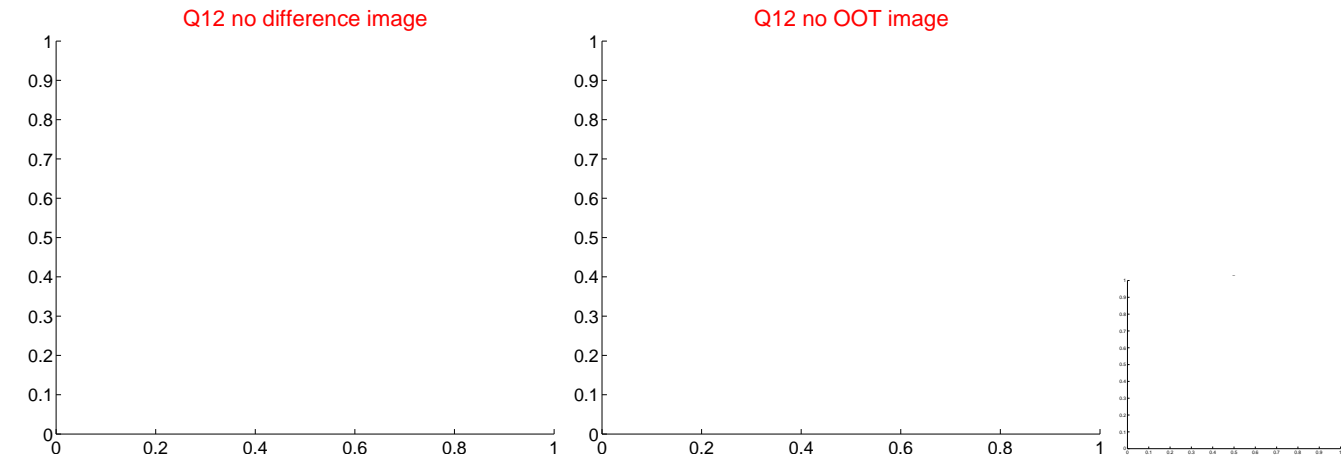
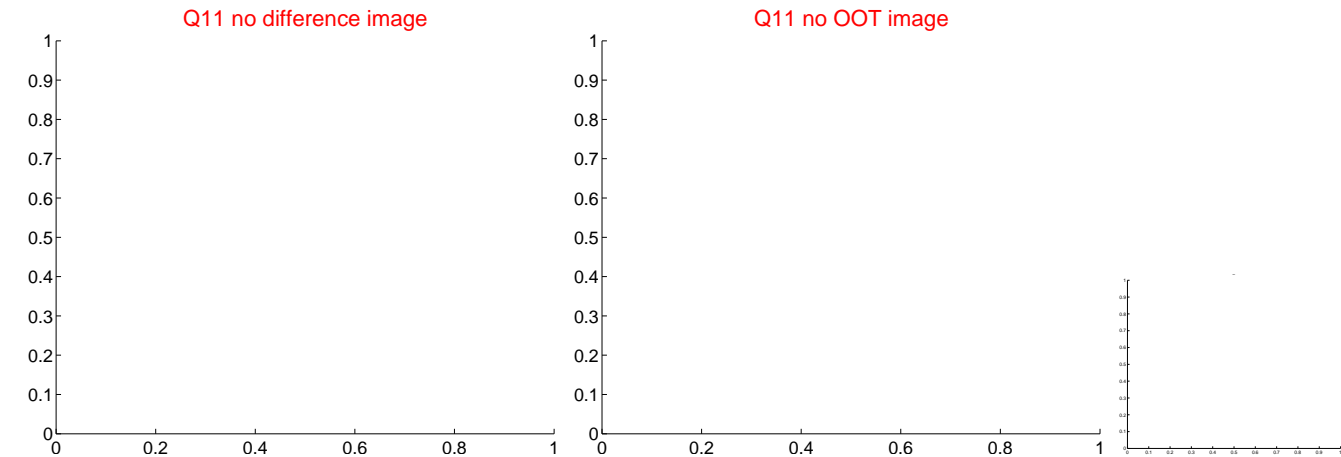
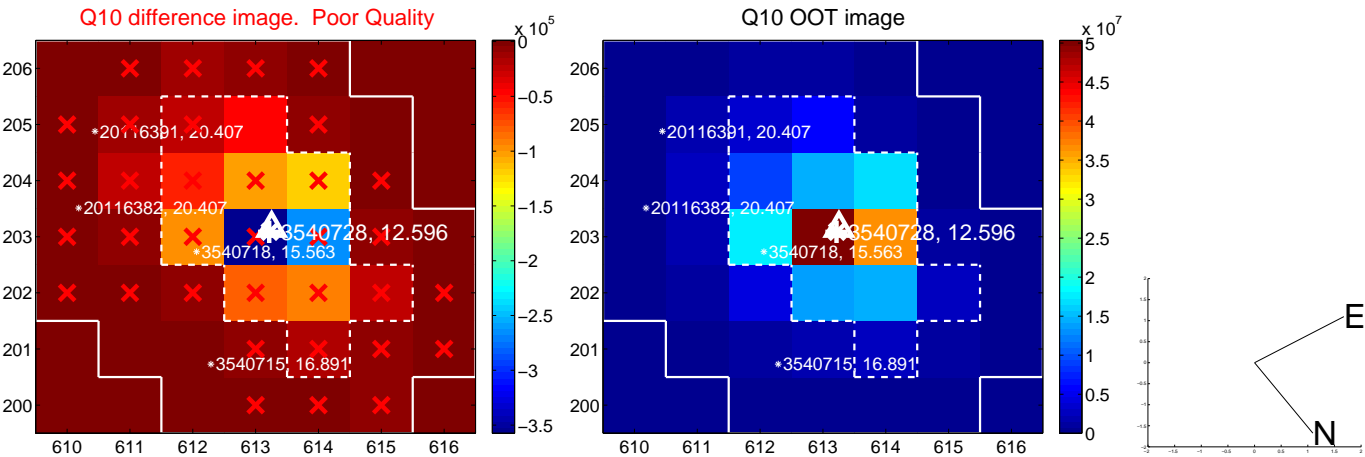
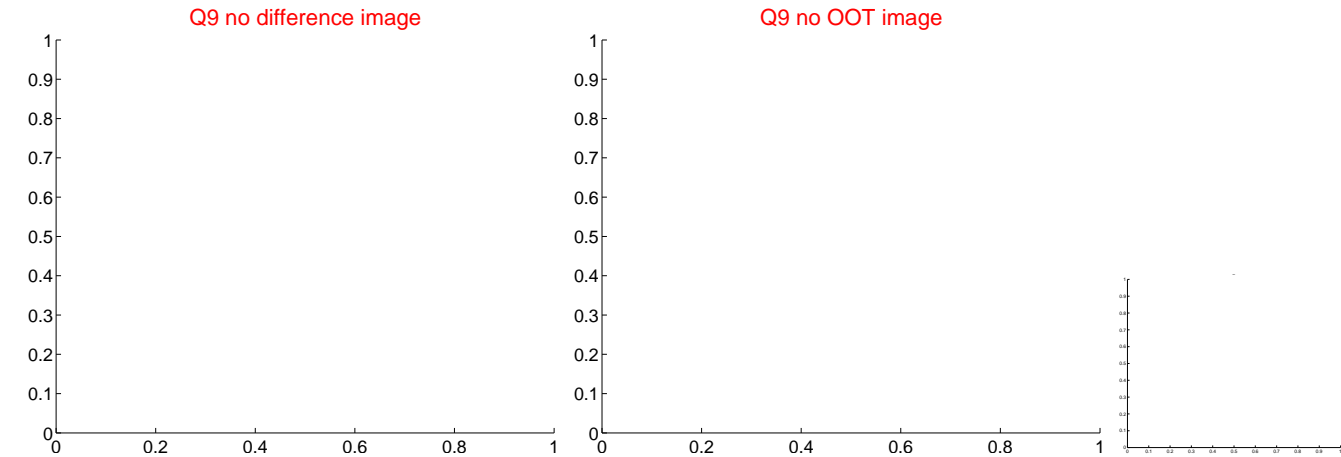
Q4 no OOT image



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



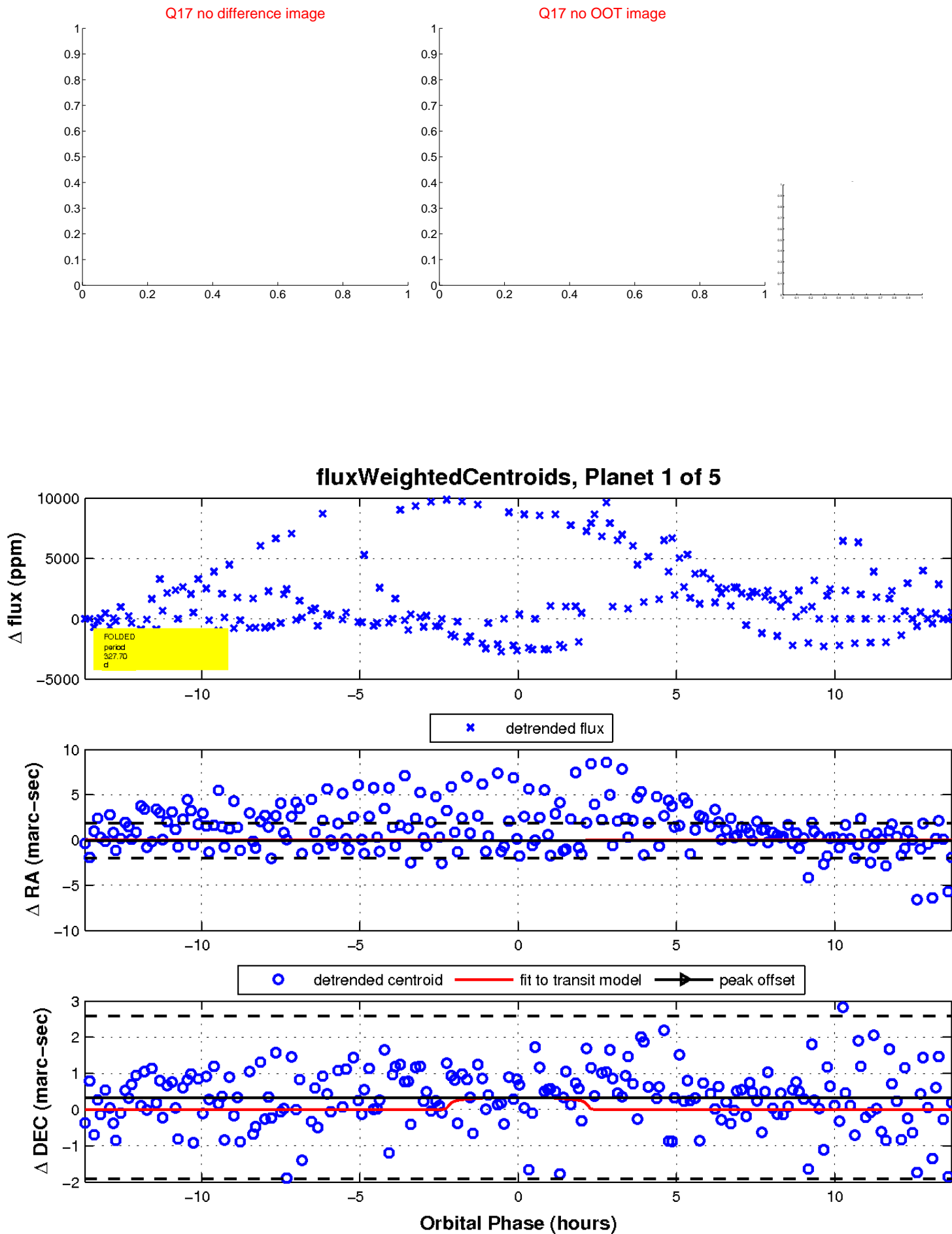
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

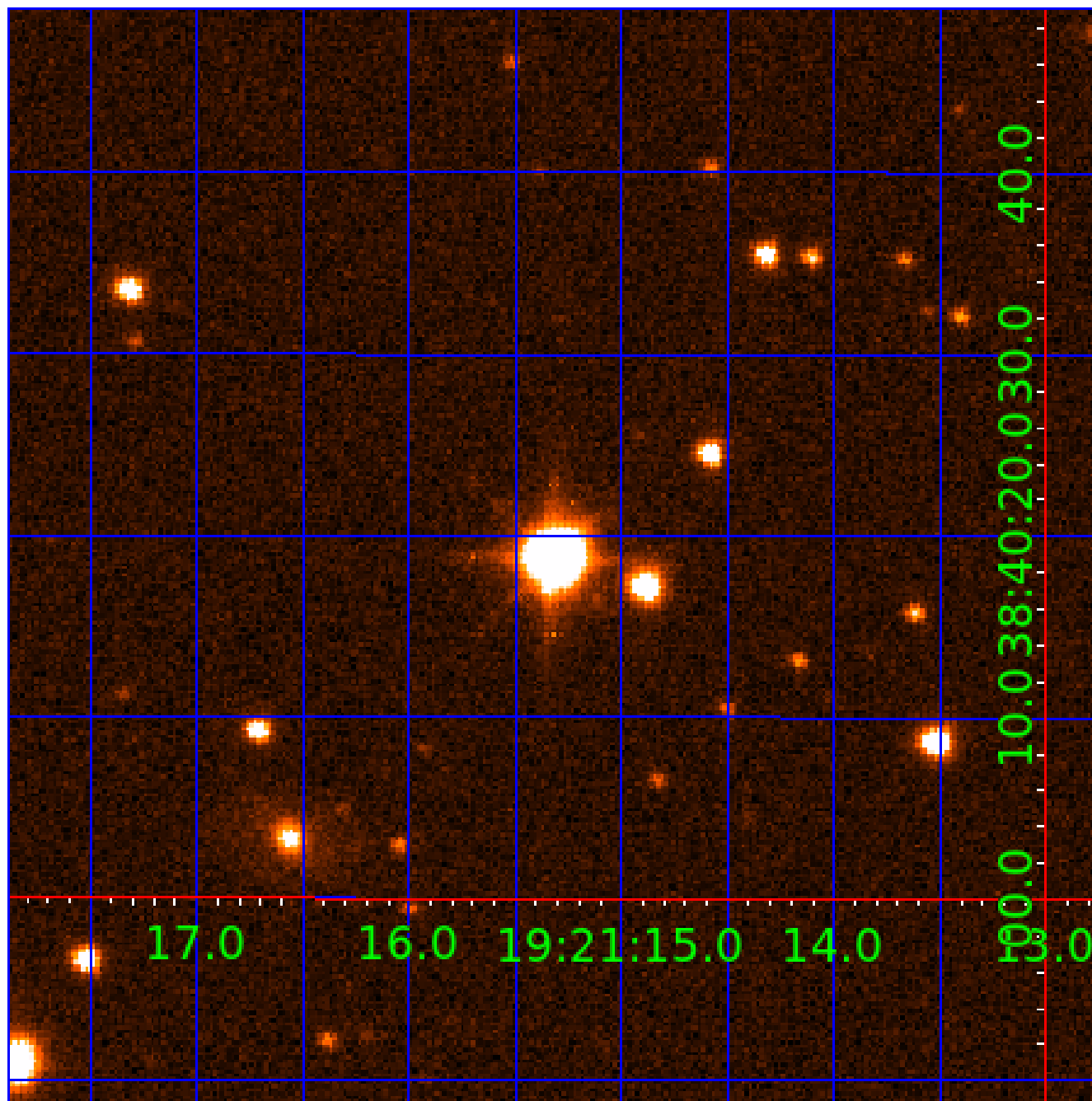


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003540728

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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003540728-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003540728-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003540728-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

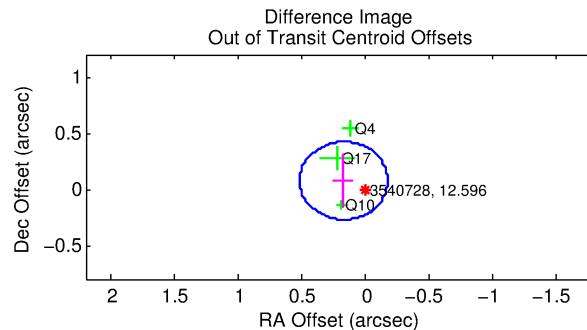
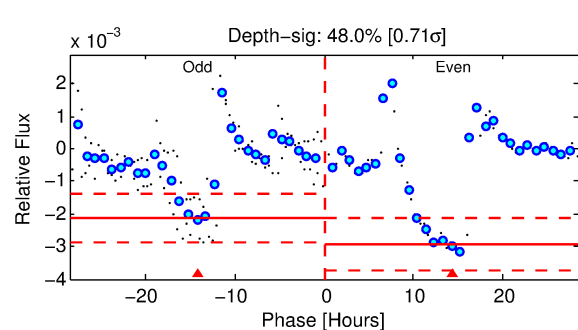
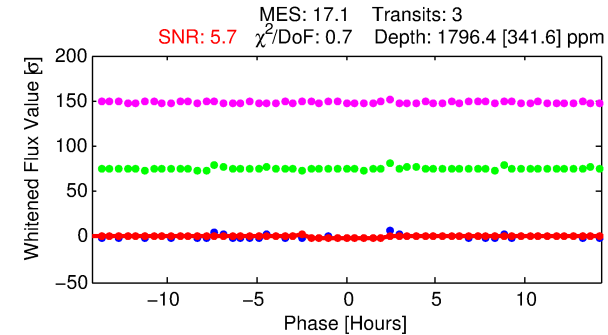
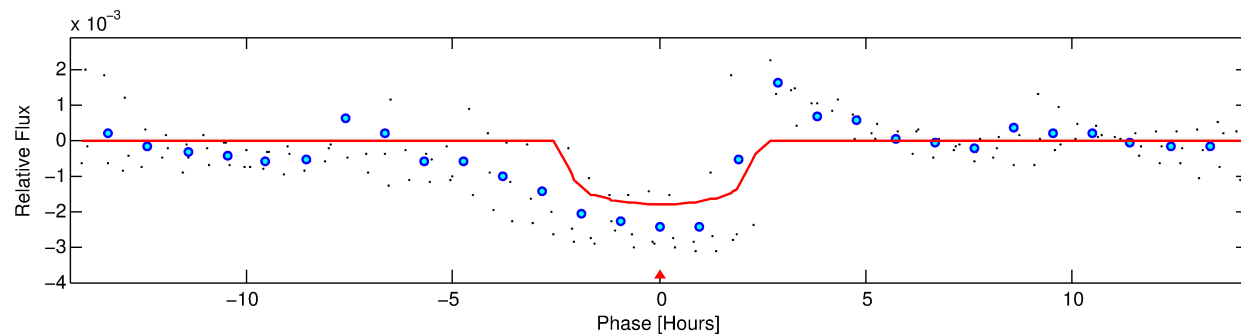
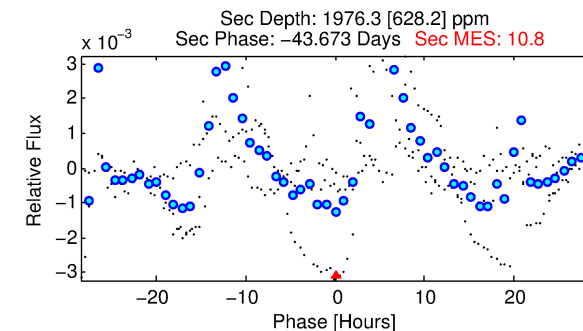
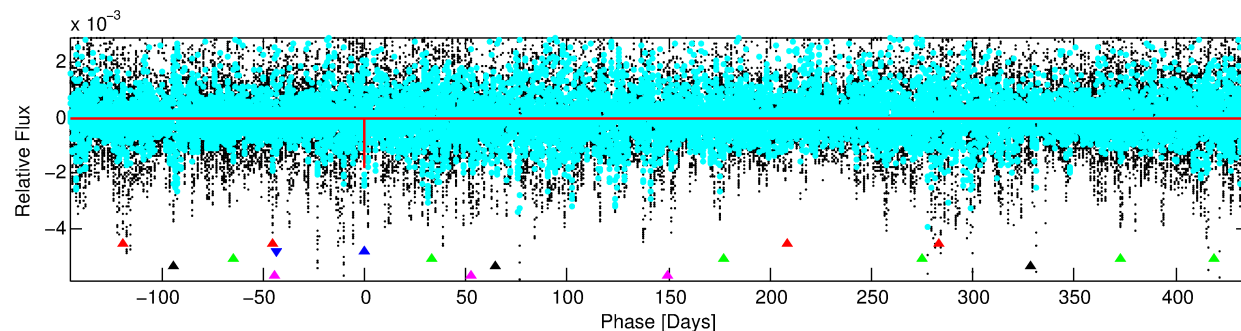
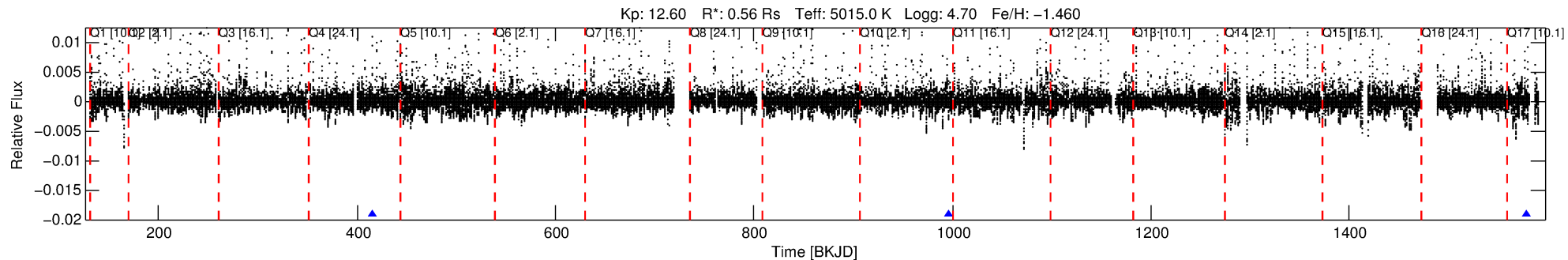
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003540728-02

No Significant Match Found

DV One-Page Summary

KIC: 3540728 Candidate: 2 of 5 Period: 581.192 d



DV Fit Results:

Period = 581.19208 [0.00362] d
Epoch = 415.3212 [0.0049] BKJD
Rp/R* = 0.0391 [0.0245]
a/R* = 916.88 [2508.82]
b = 0.34 [7.13]
Seff = 0.14 [0.02]
Teq = 156 [6] K
Rp = 2.38 [1.50] Re
a = 1.1285 [0.0633] AU
Ag = 243775.95 [315736.73] [0.77σ]
Teffp = 5349 [1737] K [2.99σ]

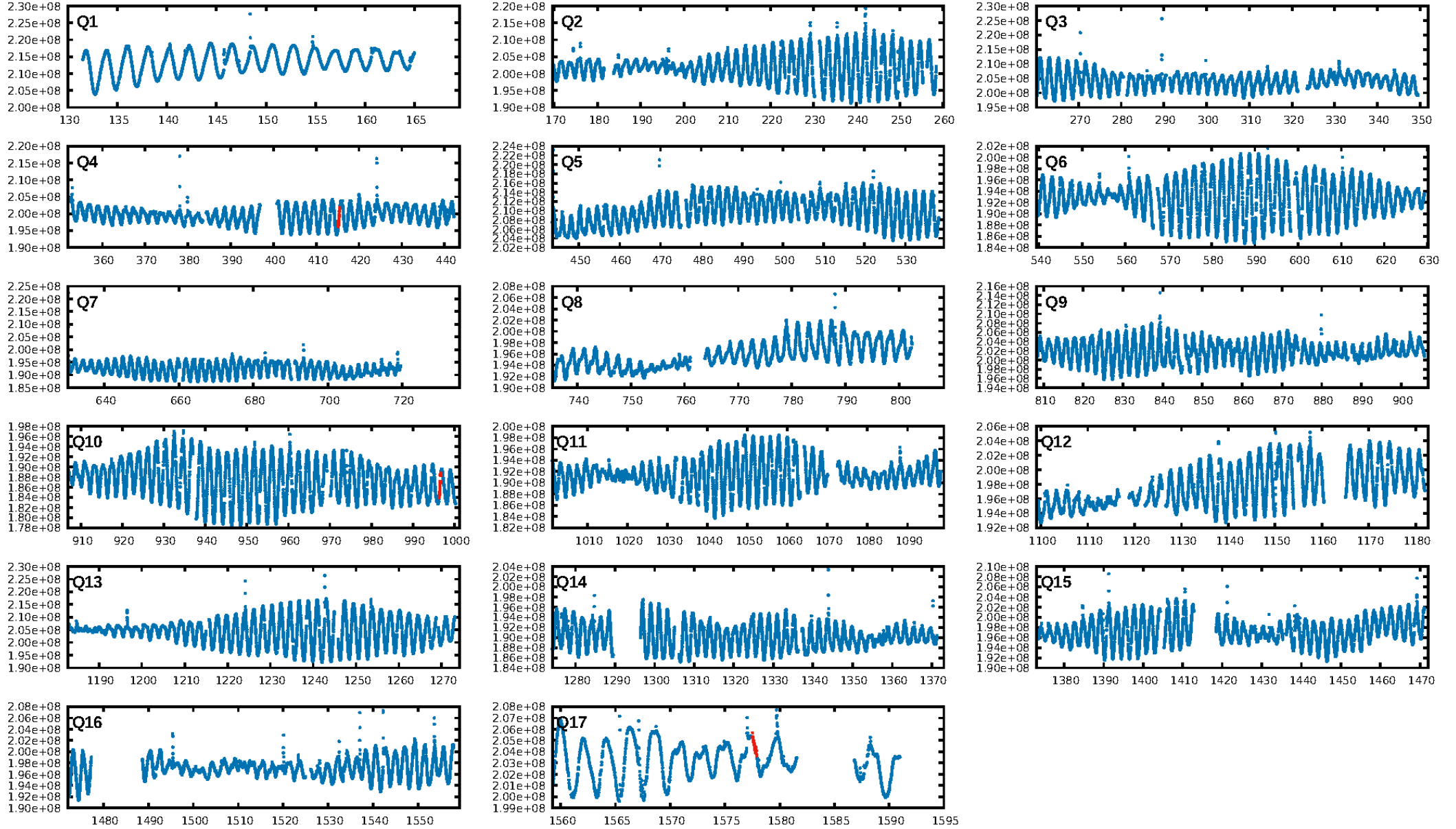
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [354.50σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.3%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.07508
Centroid-sig: 0.5%
Centroid-so: 0.408 arcsec [0.91σ]
OotOffset-rm: 0.189 arcsec [1.64σ]
KicOffset-rm: 0.219 arcsec [2.26σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

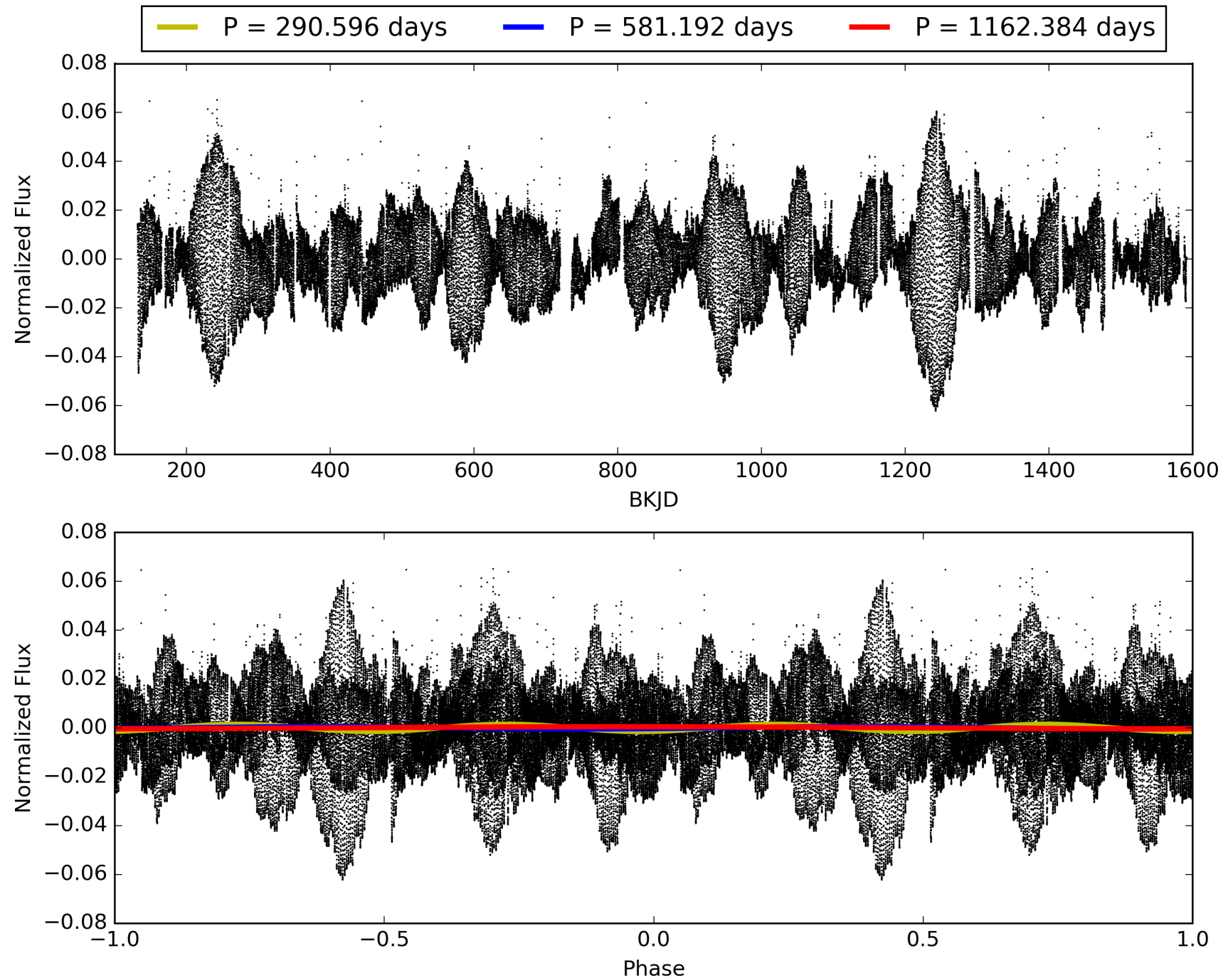
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003540728-02, PDC Light Curves

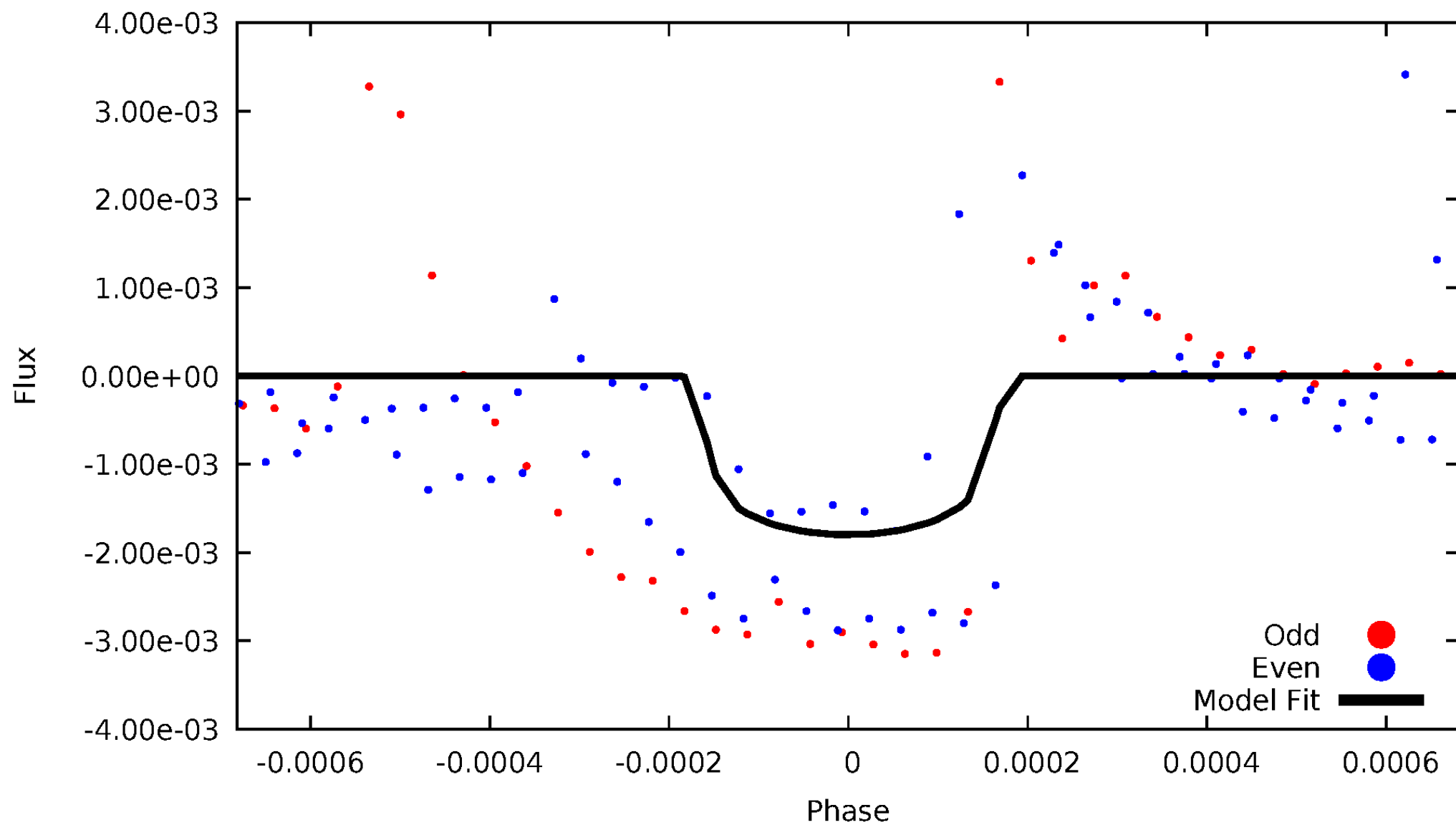


TCE 003540728-02



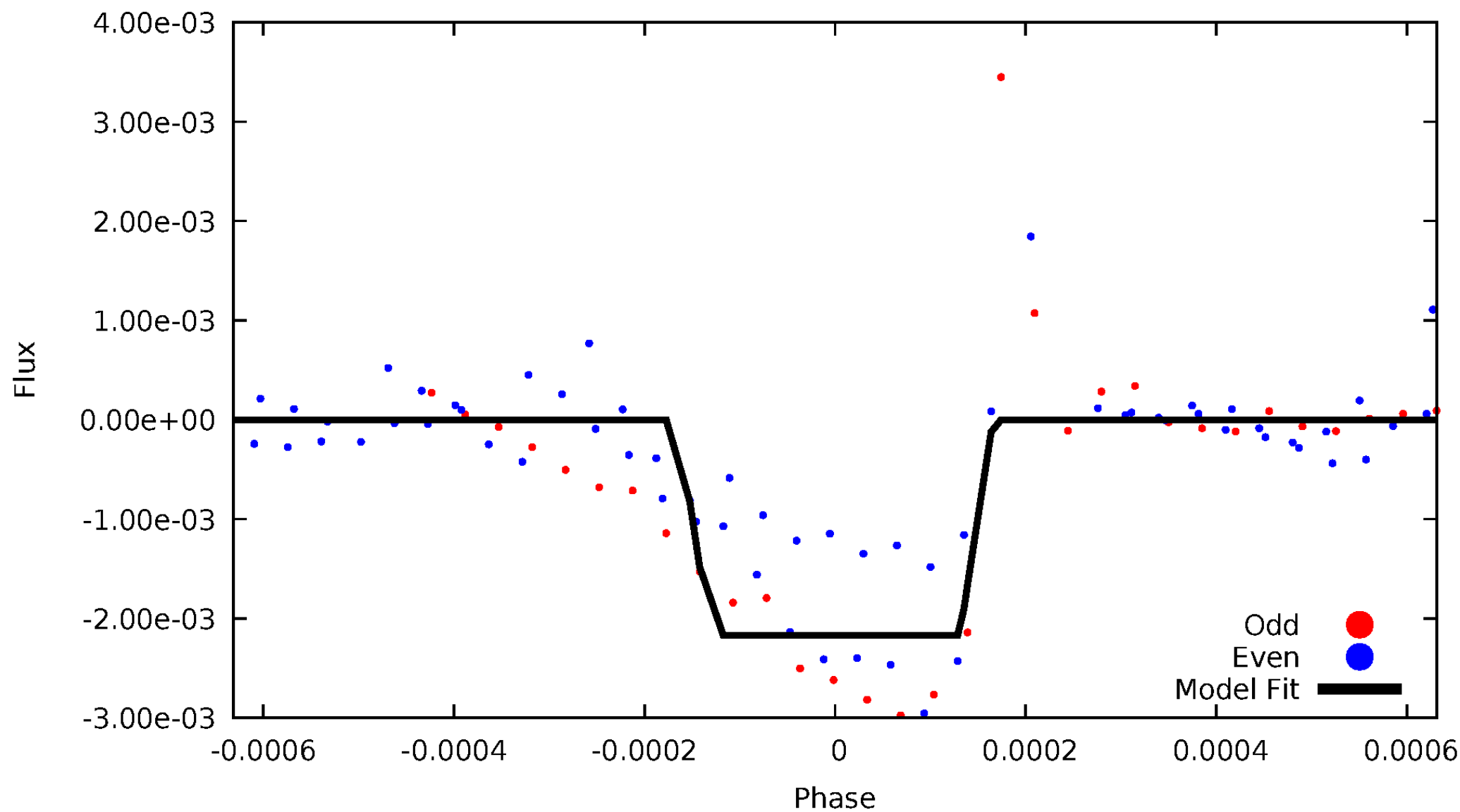
DV Odd/Even

TCE 003540728-02



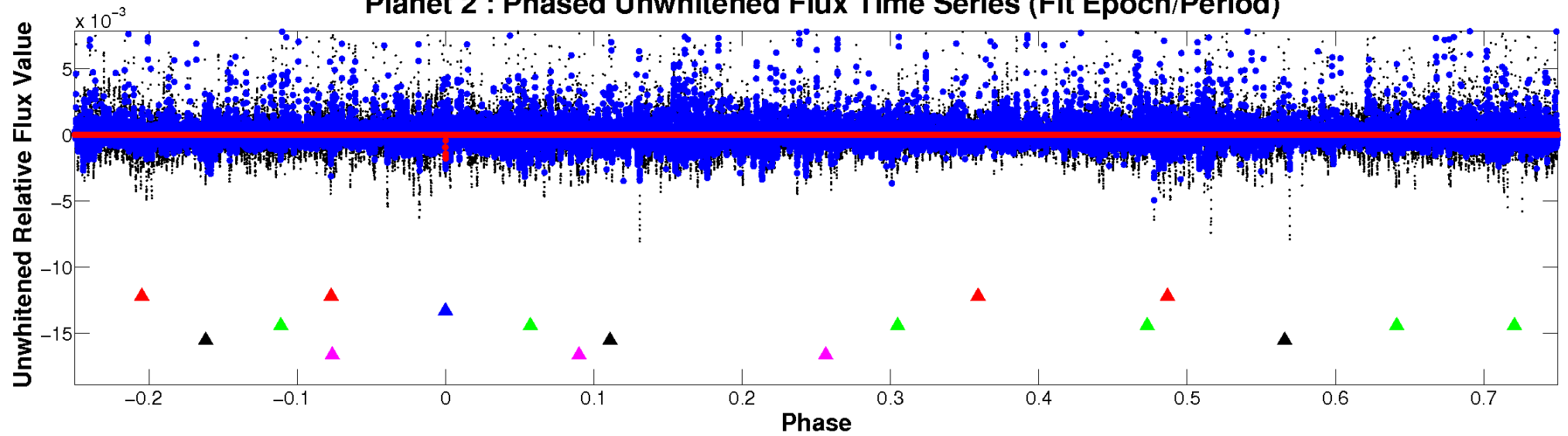
ALT Odd/Even

TCE 003540728-02

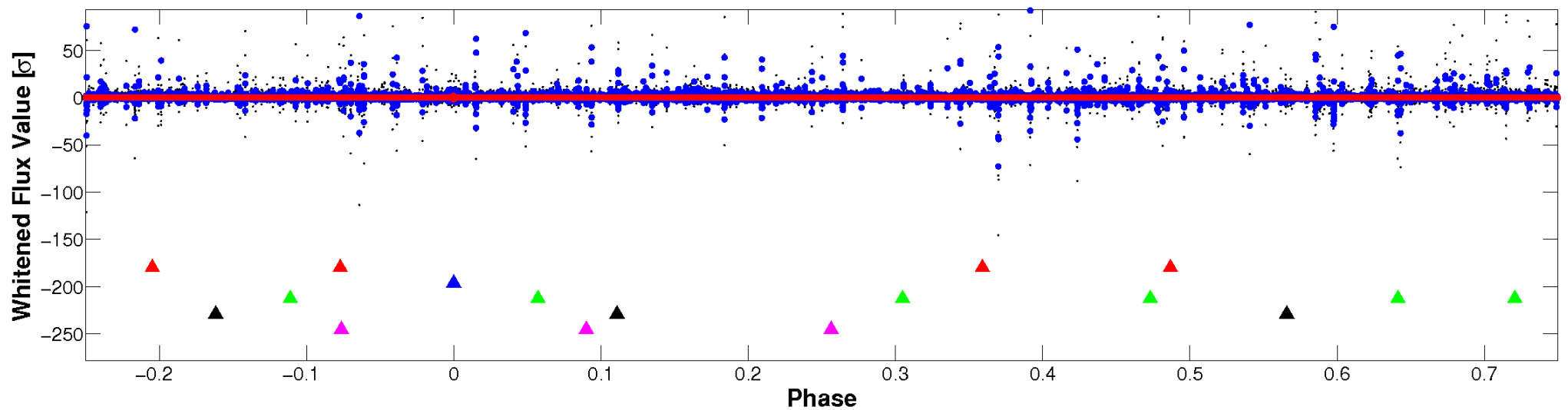


Non-Whitened Vs. Whitened Light Curve

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

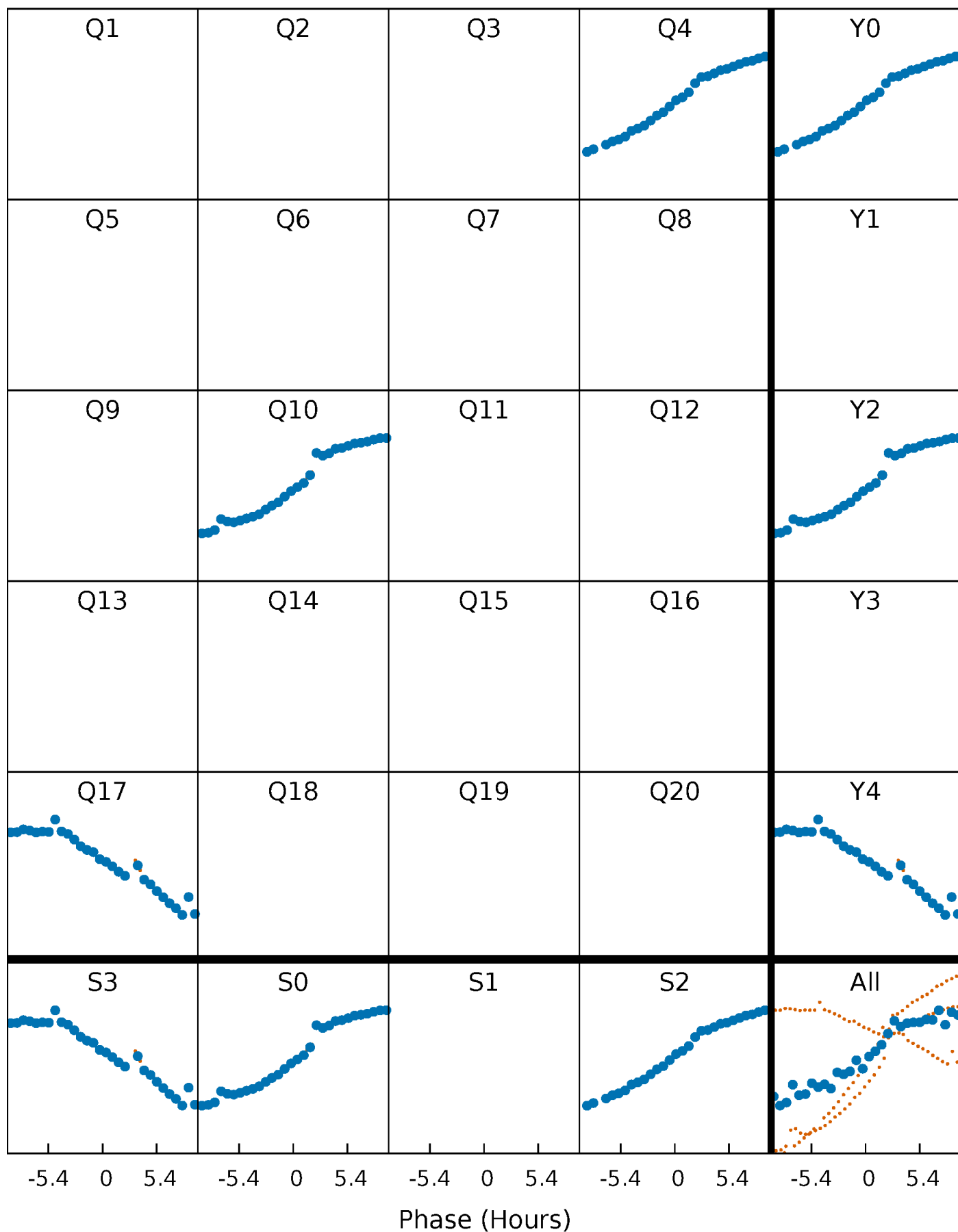


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



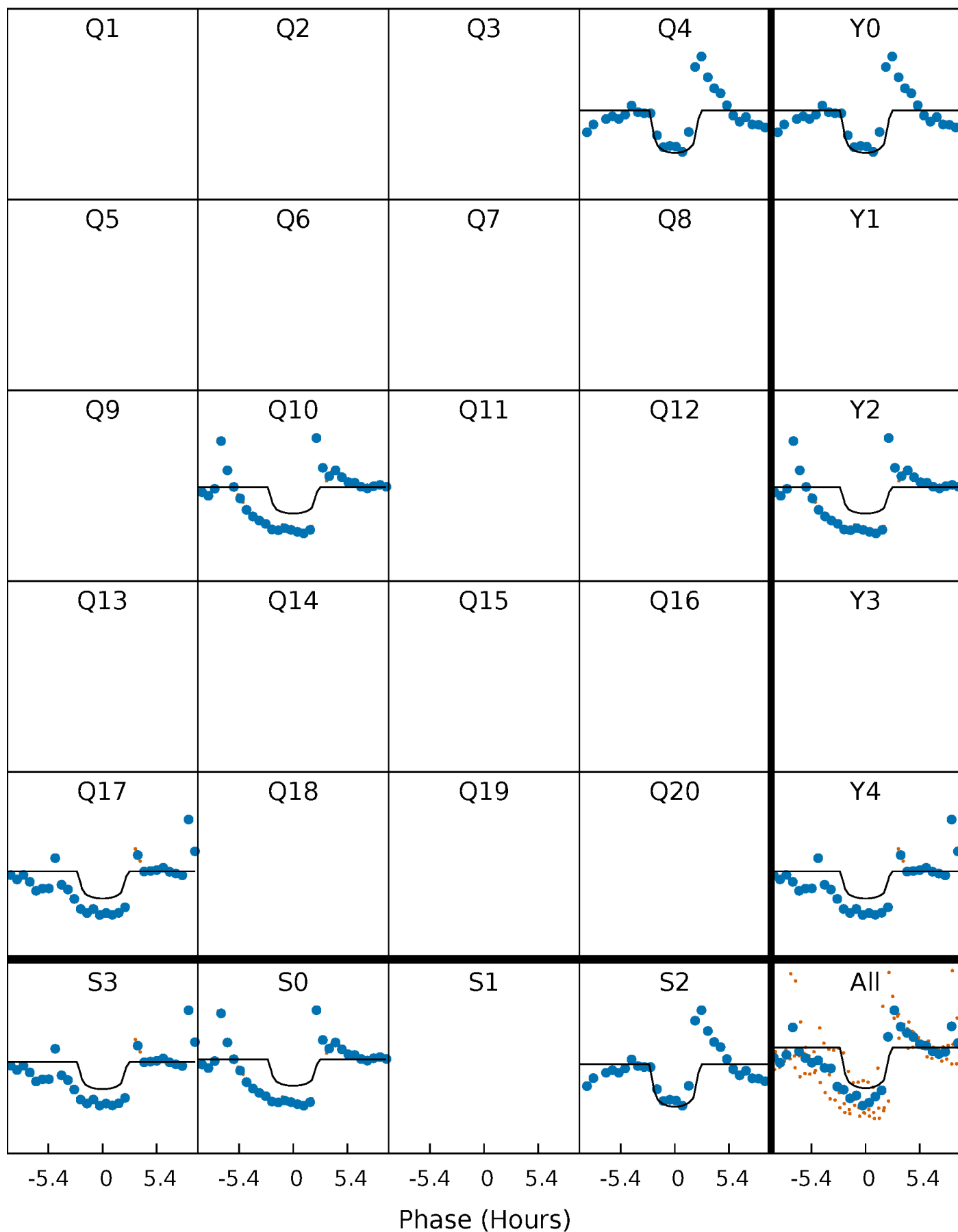
PDC Quarter-Phased Transit Curves

TCE 003540728-02 P=581.192077 Days $T_0=415.321238$ (BKJD)



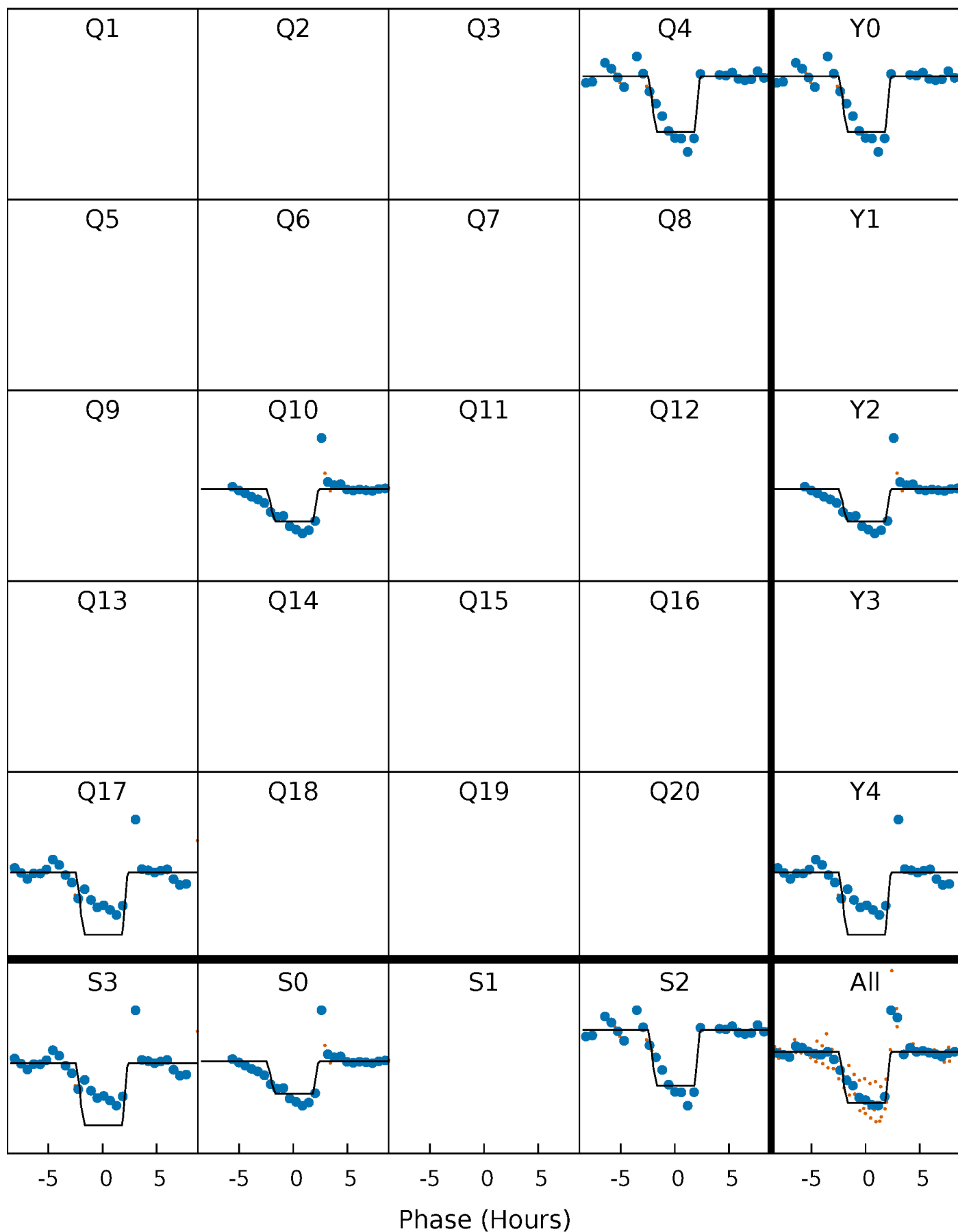
DV Quarter-Phased Transit Curves

TCE 003540728-02 P=581.192077 Days $T_0=415.321238$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

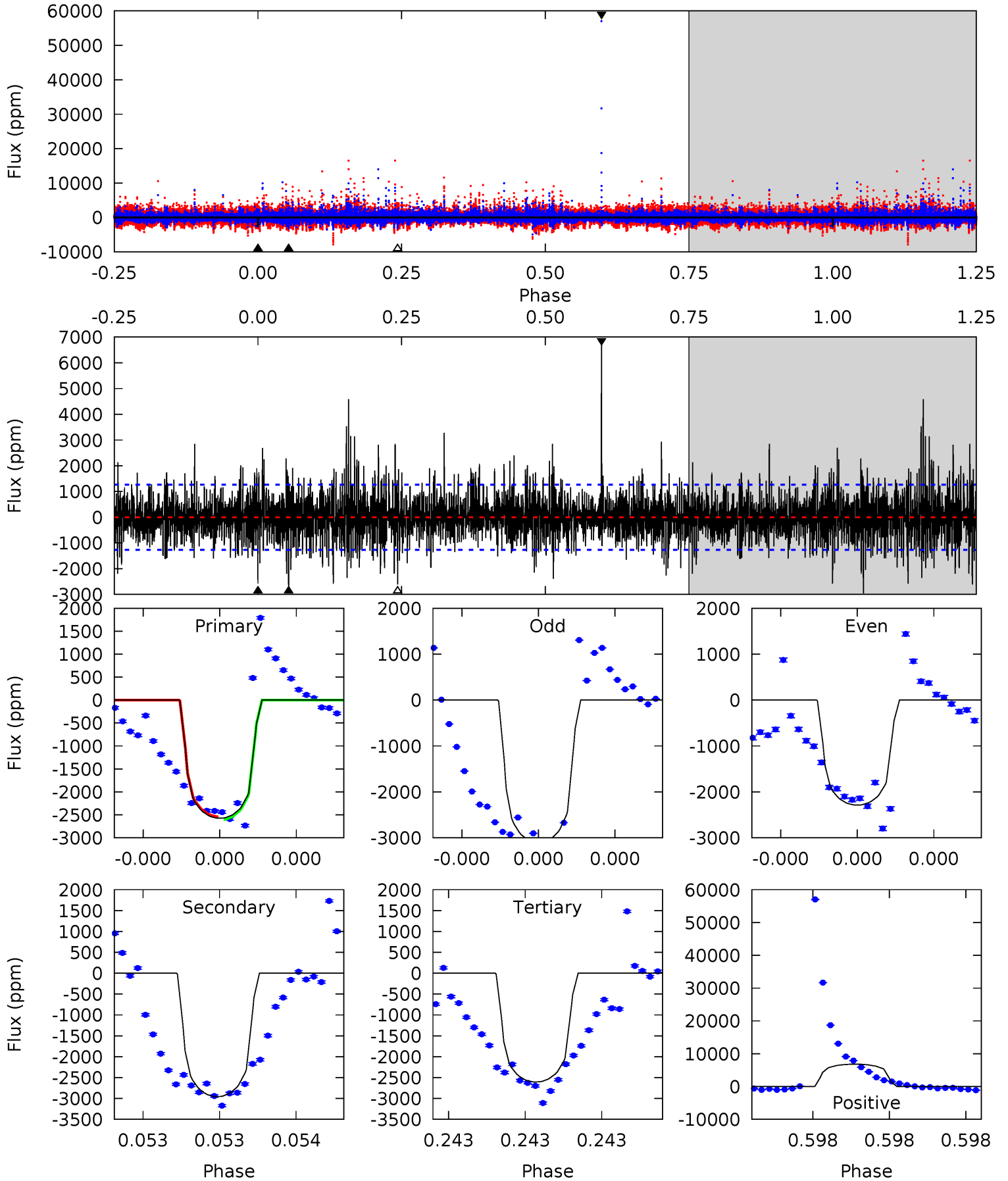
TCE 003540728-02 P=581.212181 Days $T_0=415.297820$ (BKJD)



DV Model-Shift Uniqueness Test

003540728-02, P = 581.192077 Days, E = 415.321238 Days

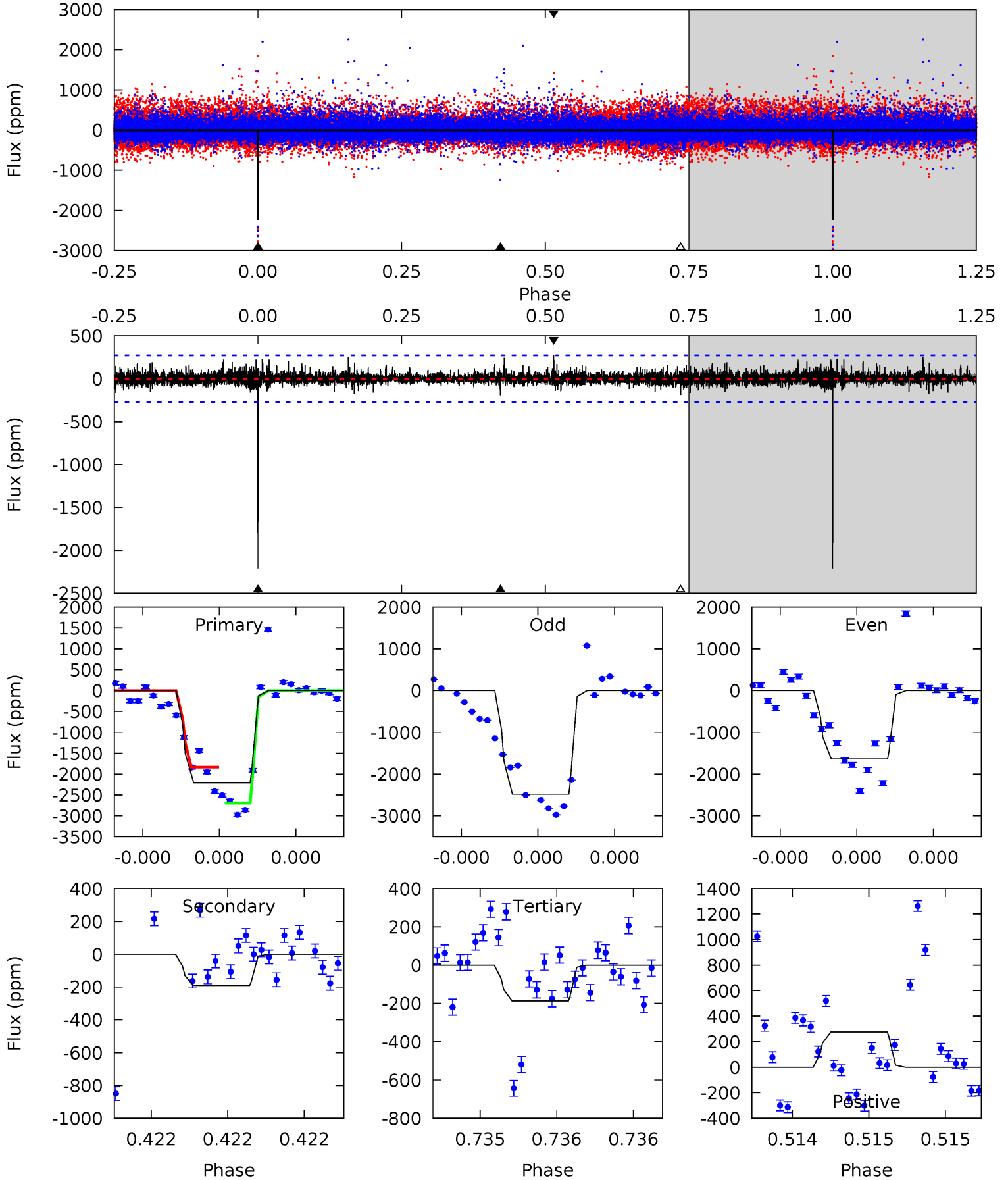
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	13.2	11.6	30.3	5.63	3.57	2.92	-0.14	-18.9	1.56	-17.2	1.28	0.80	0.70	0.13



Alt Model-Shift Uniqueness Test

003540728-02, P = 581.212181 Days, E = 415.297820 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.9	3.95	3.88	5.75	5.65	3.60	0.79	42.0	40.1	0.07	-1.80	8.03	0.90	0.11	9.03



Stellar Parameters For KIC 003540728

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5015^{+165}_{-165}	$4.697^{+0.052}_{-0.024}$	$-1.460^{+0.300}_{-0.250}$	$0.559^{+0.030}_{-0.033}$	$0.567^{+0.038}_{-0.020}$	$4.579^{+0.828}_{-0.480}$
	+3%/-3%	+1%/-1%	+21%/-17%	+5%/-6%	+7%/-4%	+18%/-10%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003540728-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2957 ± 224	$2.51^{+1.45}_{-1.30}$	216^{+8}_{-7}	5667^{+2771}_{-1062}	$337074^{+1111524}_{-204981}$
Alt.	-190 ± 48	$2.83^{+1.60}_{-1.36}$	217^{+8}_{-8}	3246^{+768}_{-397}	16681^{+43264}_{-10241}

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

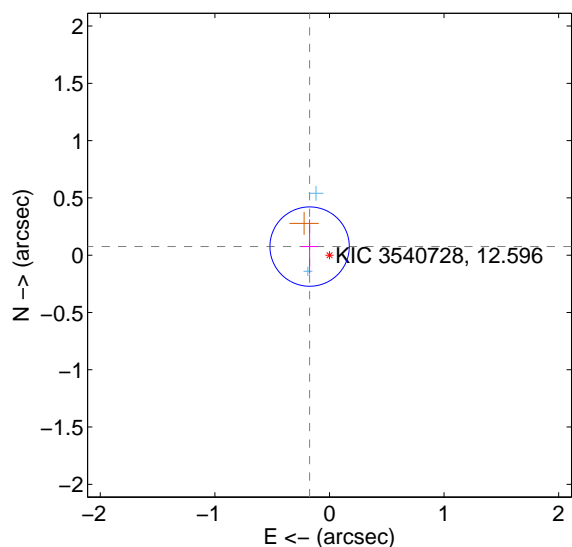
Supplemental centroid analysis for 003540728-02. Kepler magnitude: 12.60. Transit SNR 5.70

There are 2 quarters with good PRF difference image offsets

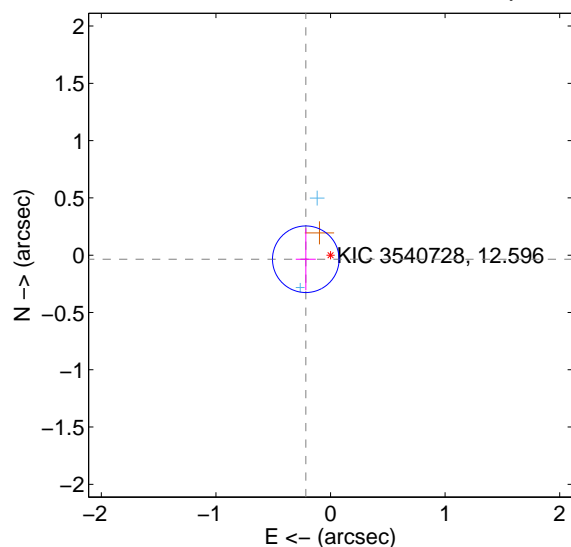
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.189 ± 0.115	1.64	0.173 ± 0.072	0.075 ± 0.239
PRF-fit source offset from KIC position	0.219 ± 0.097	2.26	0.216 ± 0.087	-0.036 ± 0.271
photometric centroid source offset	0.41 ± 0.45	0.91	0.26 ± 0.63	0.32 ± 0.28

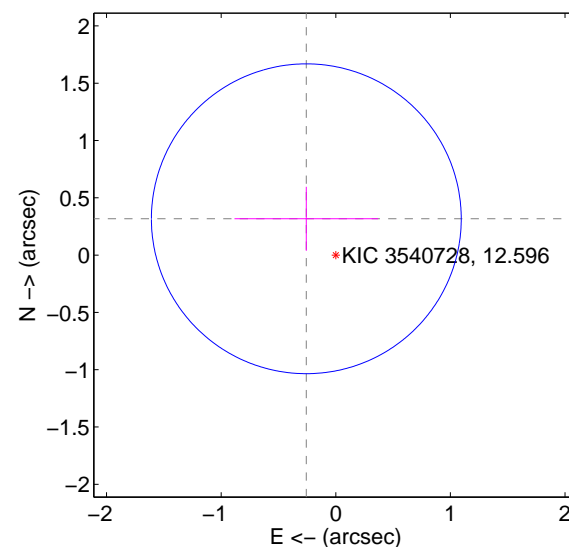
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

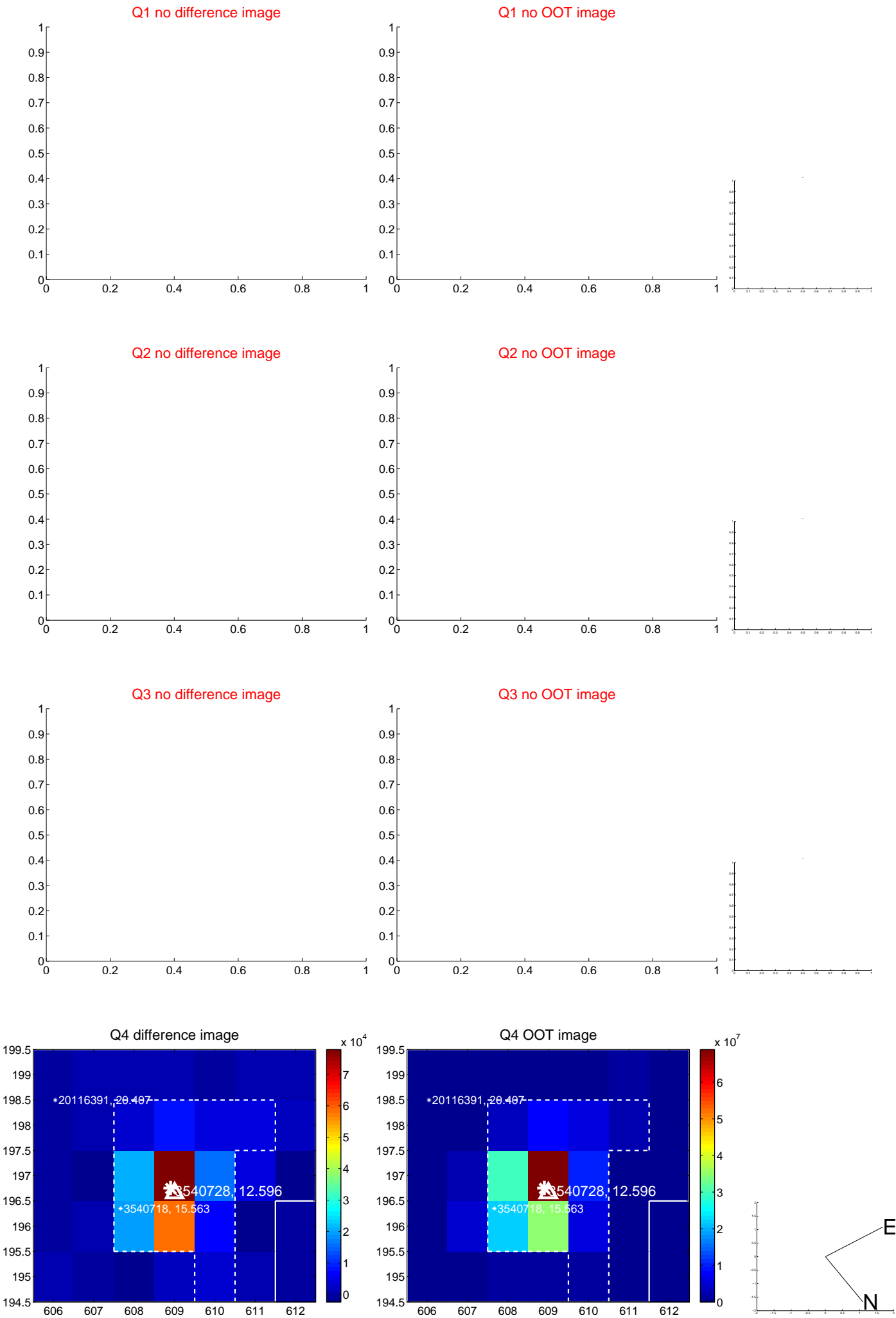


offset from photometric centroids



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

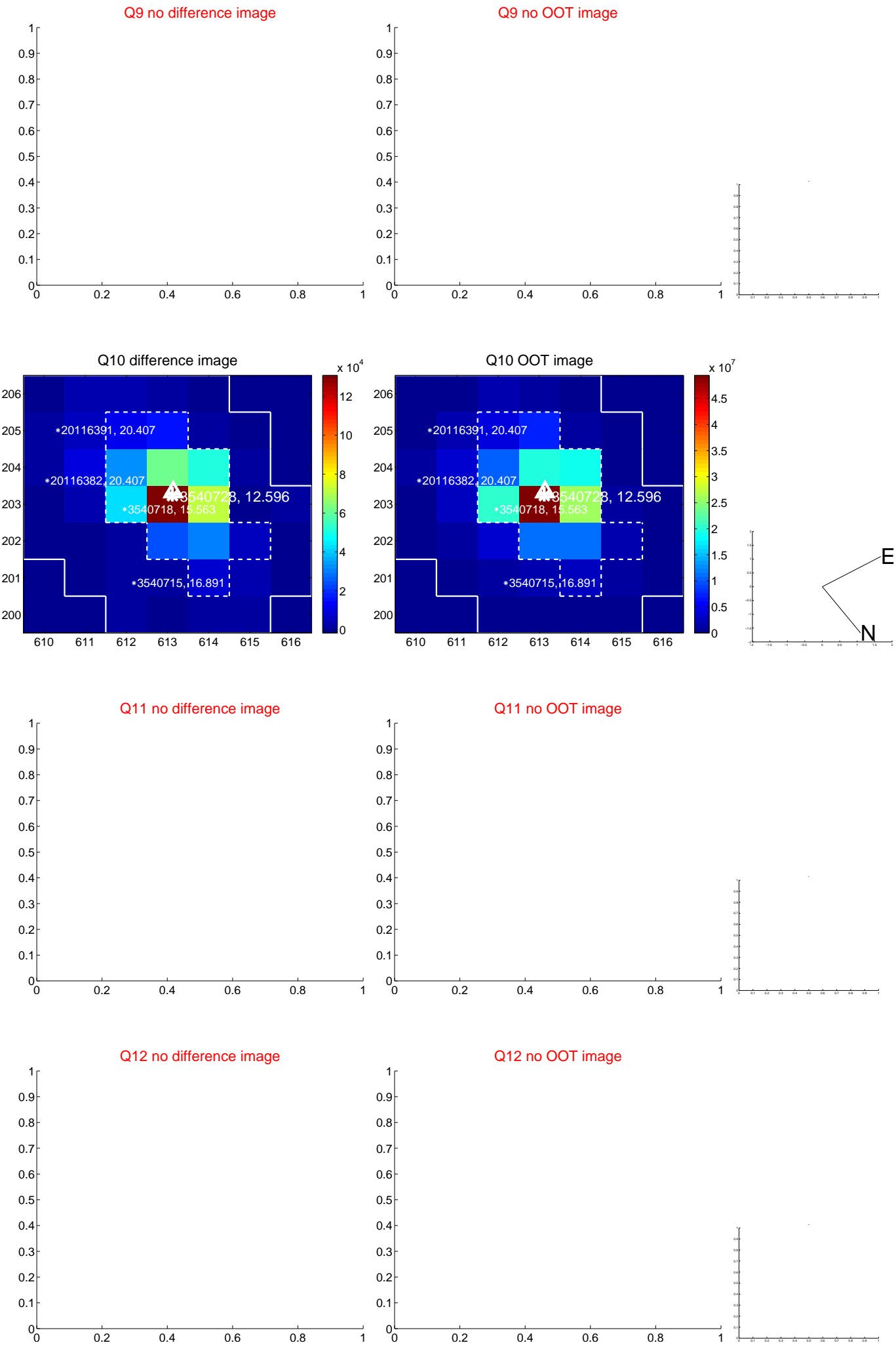
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



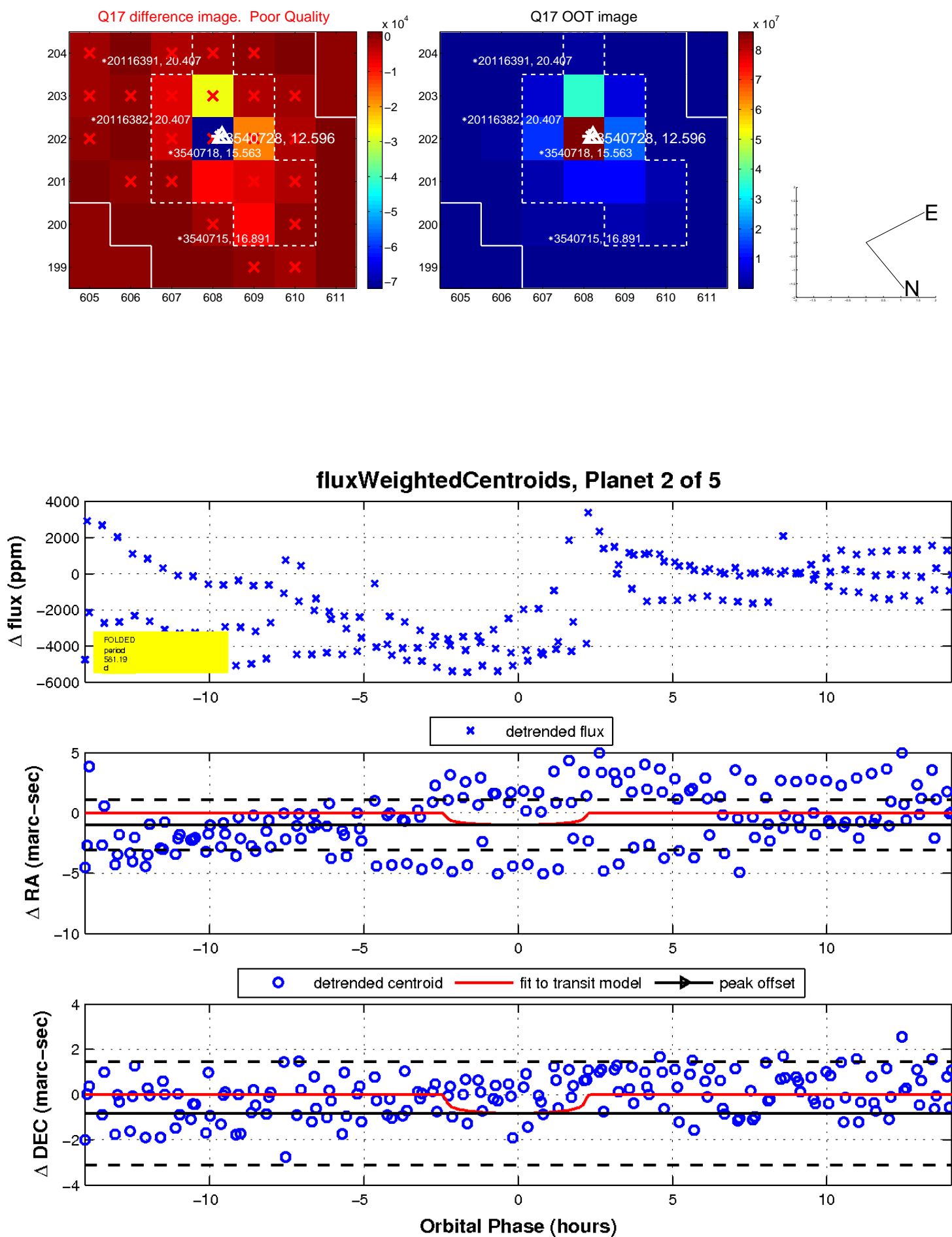
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

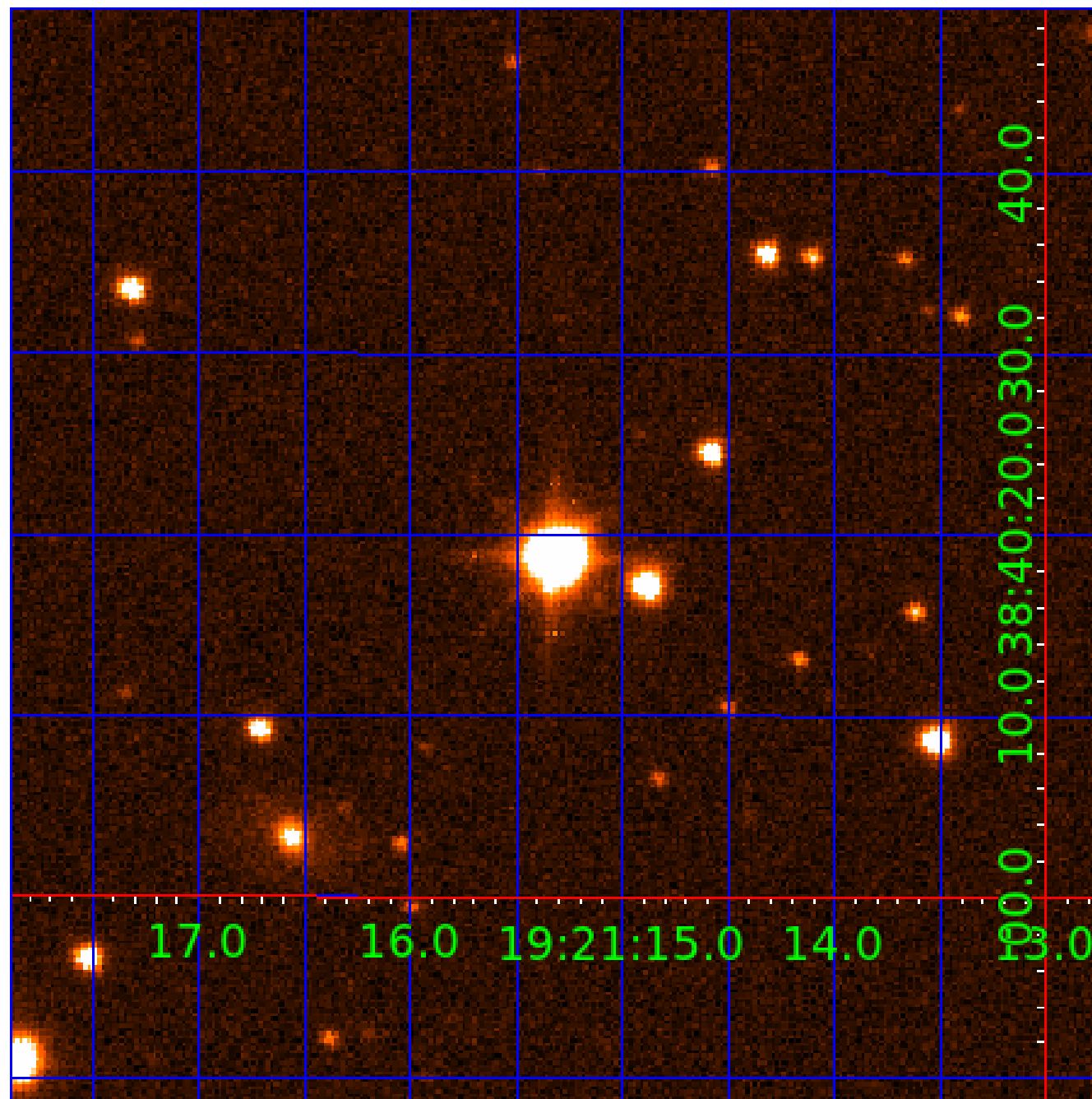


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003540728

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})
003540728-01	OBS	No	327.698963	296.328091	1119.3	4.579	19.7	4.4	0.56	5015	1.89	0.30
003540728-02	OBS	No	581.192077	415.321238	1796.4	4.754	17.1	5.7	0.56	5015	2.38	0.14
003540728-03	OBS	No	241.704161	206.873976	5001.7	24.635	15.8	6.9	0.56	5015	4.75	0.45
003540728-04	OBS	No	422.790352	479.780977	3312.9	13.762	20.1	7.1	0.56	5015	3.77	0.21
003540728-05	OBS	No	484.506952	564.327851	665.7	4.500	18.7	-1.0	0.56	5015	1.43	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003540728-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003540728-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003540728-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

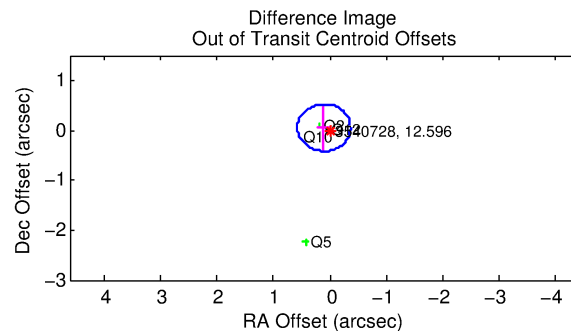
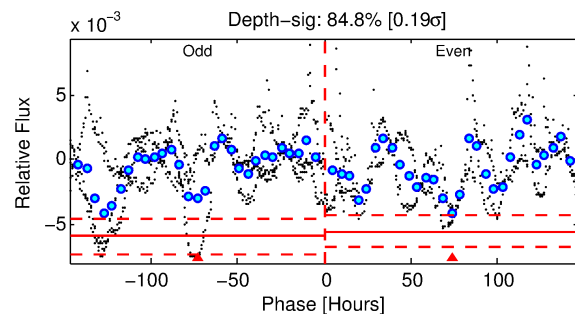
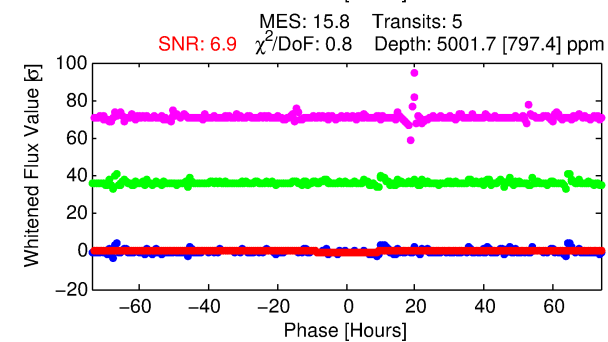
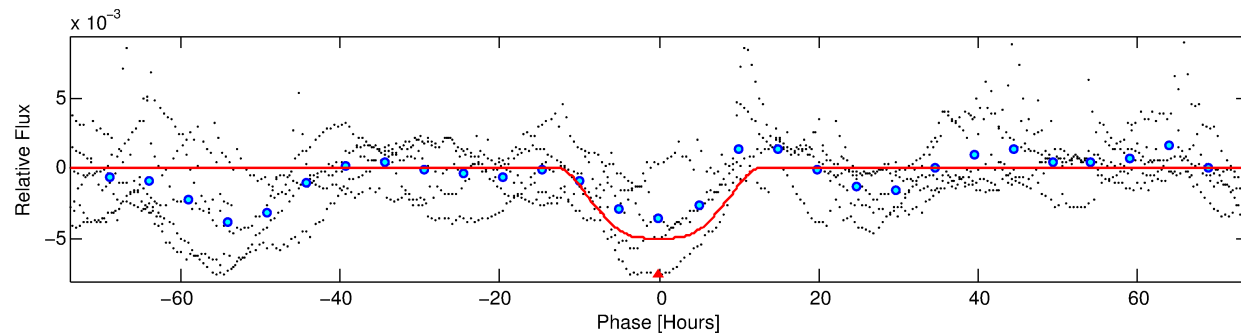
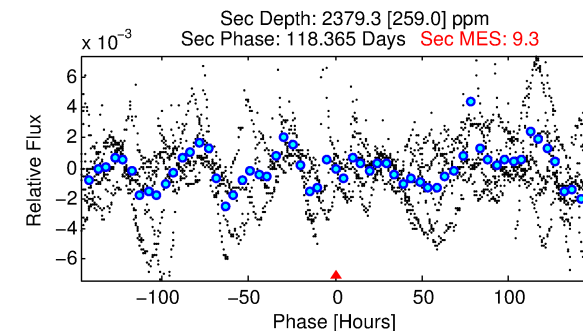
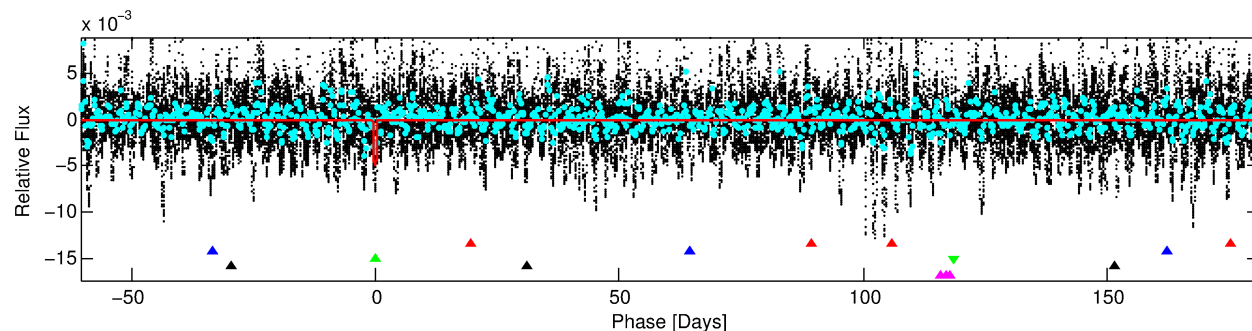
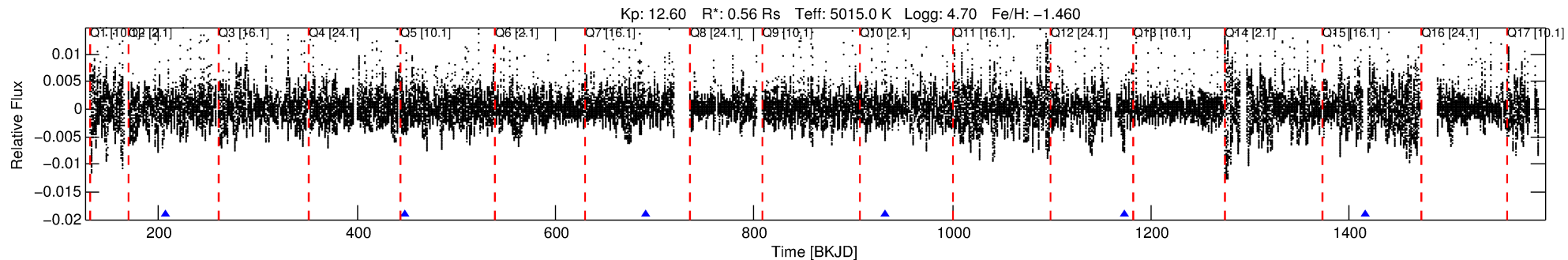
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003540728-03

No Significant Match Found

DV One-Page Summary

KIC: 3540728 Candidate: 3 of 5 Period: 241.704 d



DV Fit Results:

Period = 241.70416 [0.00880] d
Epoch = 206.8740 [0.0236] BKJD
Rp/R* = 0.0779 [0.0064]
a/R* = 43.71 [2.07]
b = 0.91 [0.01]
Seff = 0.45 [0.07]
Teq = 209 [8] K
Rp = 4.75 [0.48] Re
a = 0.6288 [0.0352] AU
Ag = 22908.38 [4955.99] [4.62σ]
Teffp = 3968 [235] K [15.98σ]

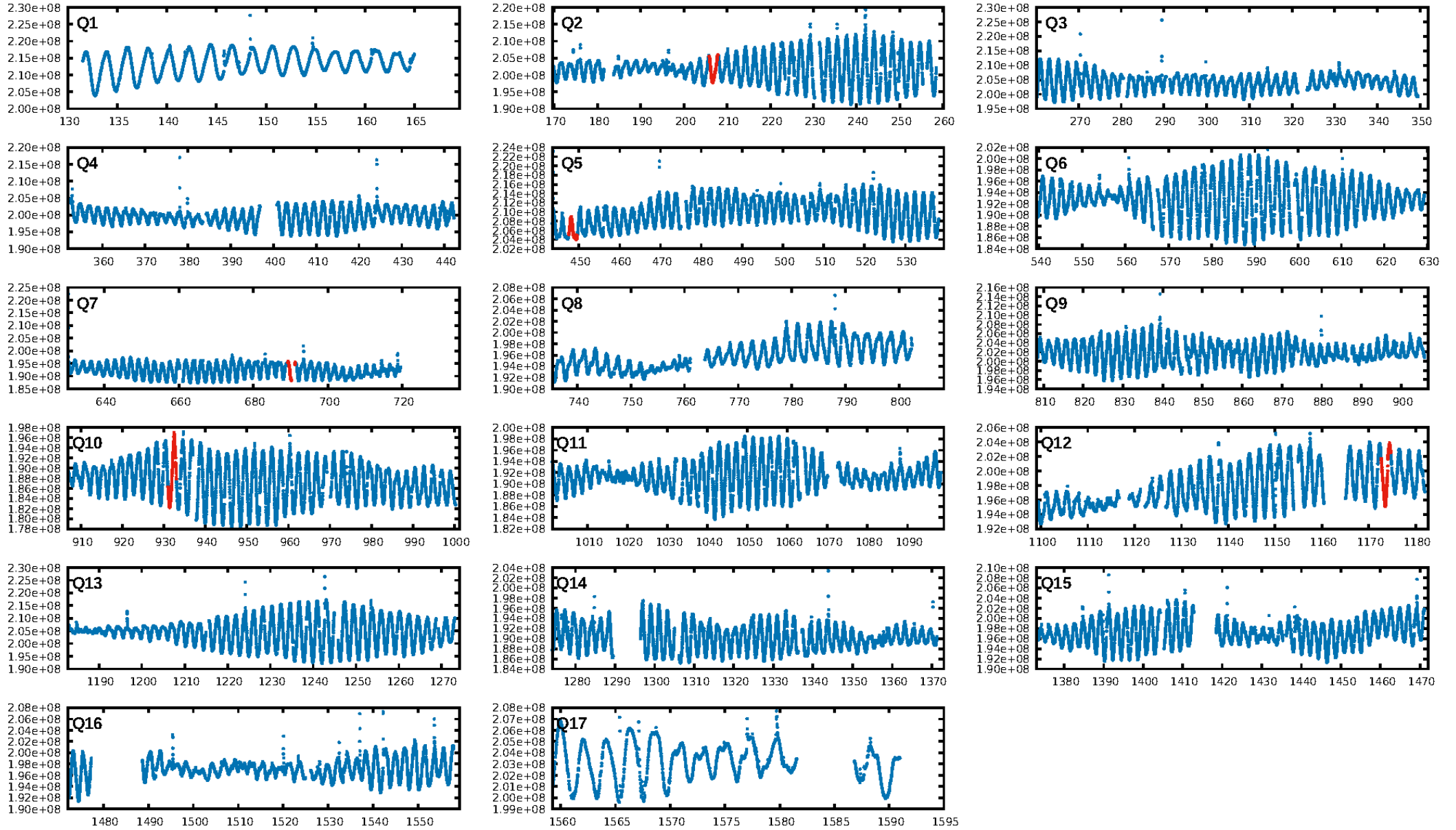
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [82.37σ]
ModelChiSquare2-sig: 10.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 5.352
Centroid-sig: 1.1%
Centroid-so: 0.439 arcsec [1.42σ]
OotOffset-rm: 0.116 arcsec [0.74σ]
KicOffset-rm: 0.114 arcsec [0.64σ]
OotOffset-st: 2/0/1/1 [4]
KicOffset-st: 2/0/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

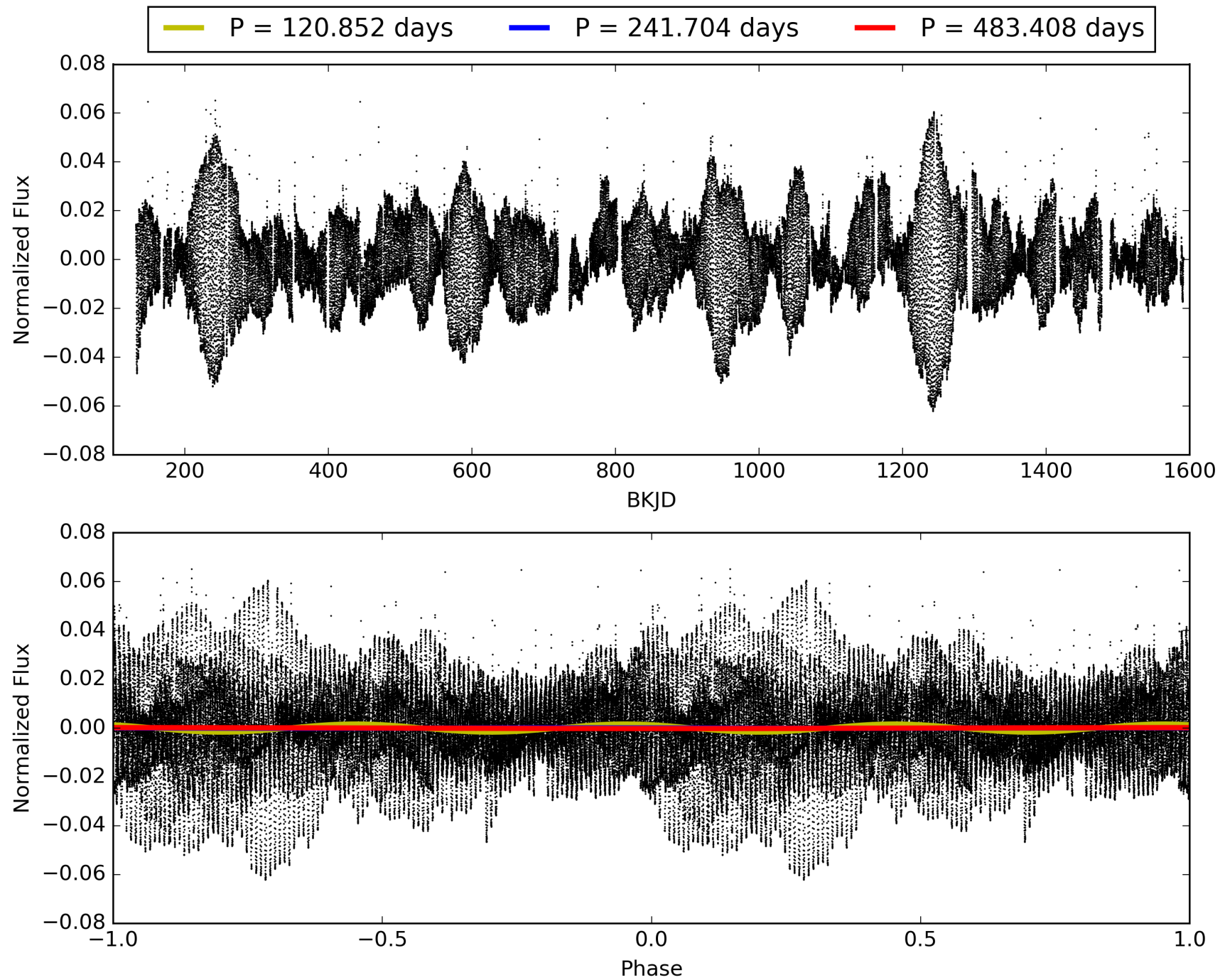
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:23:44 Z

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

TCE 003540728-03, PDC Light Curves

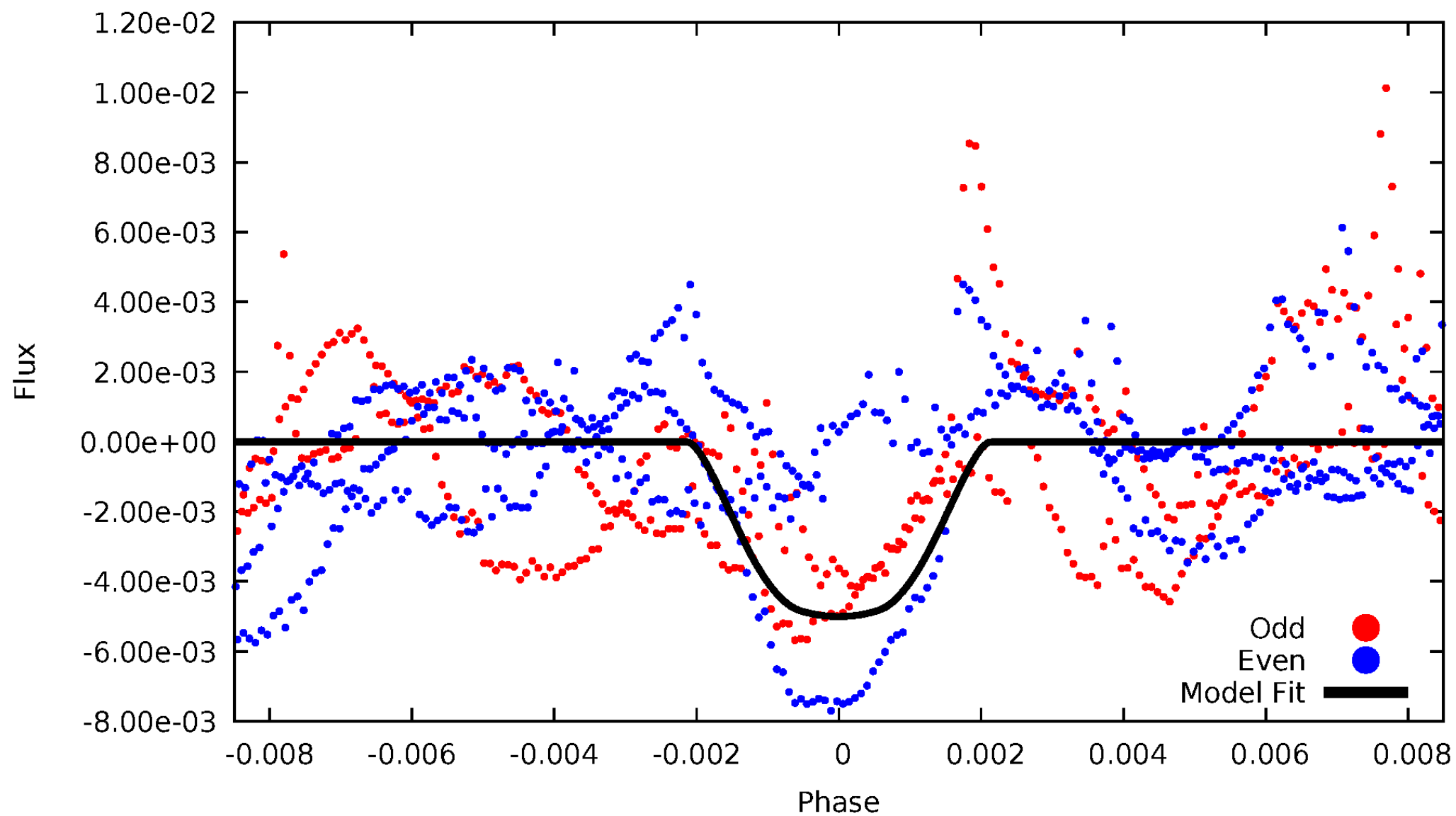


TCE 003540728-03



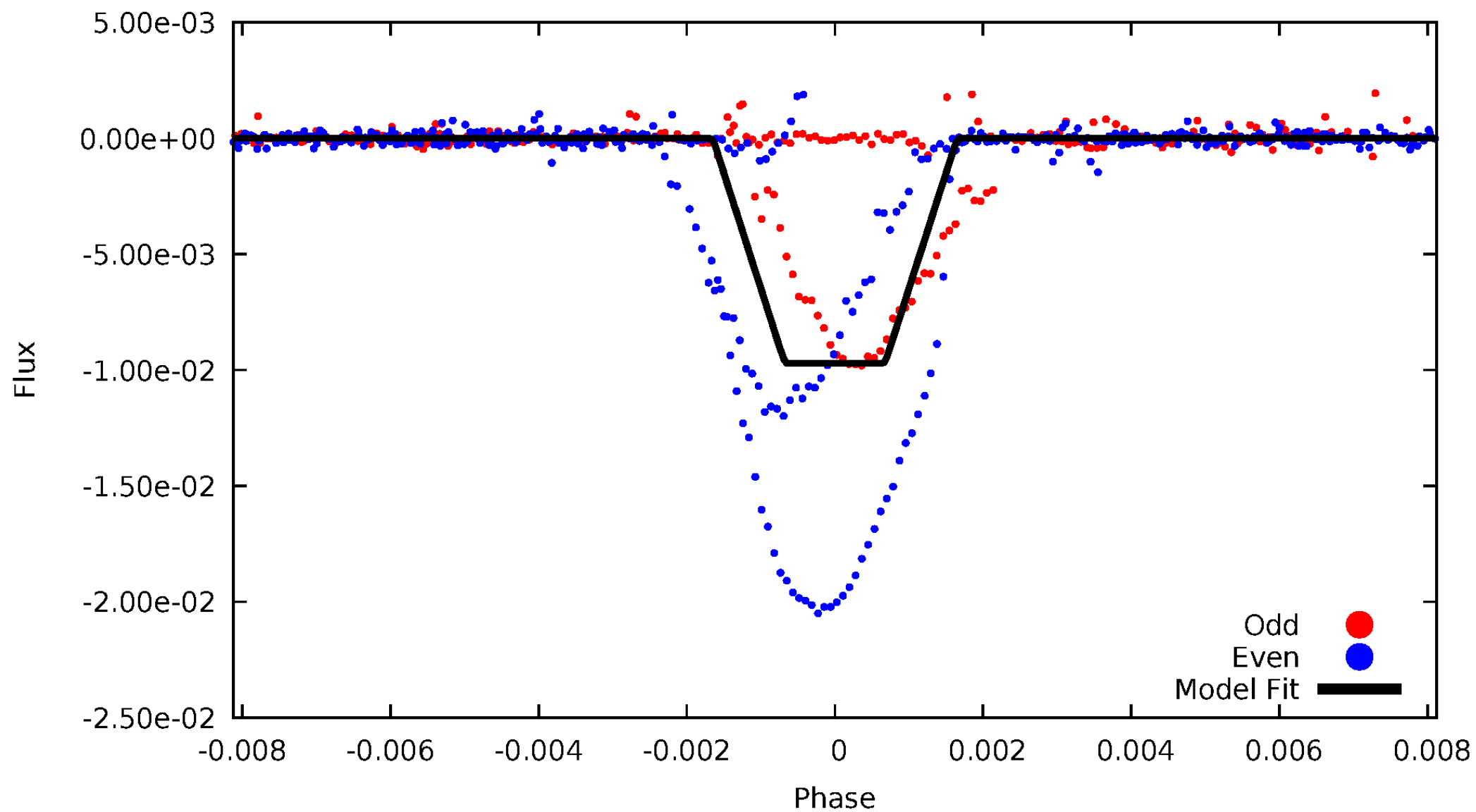
DV Odd/Even

TCE 003540728-03



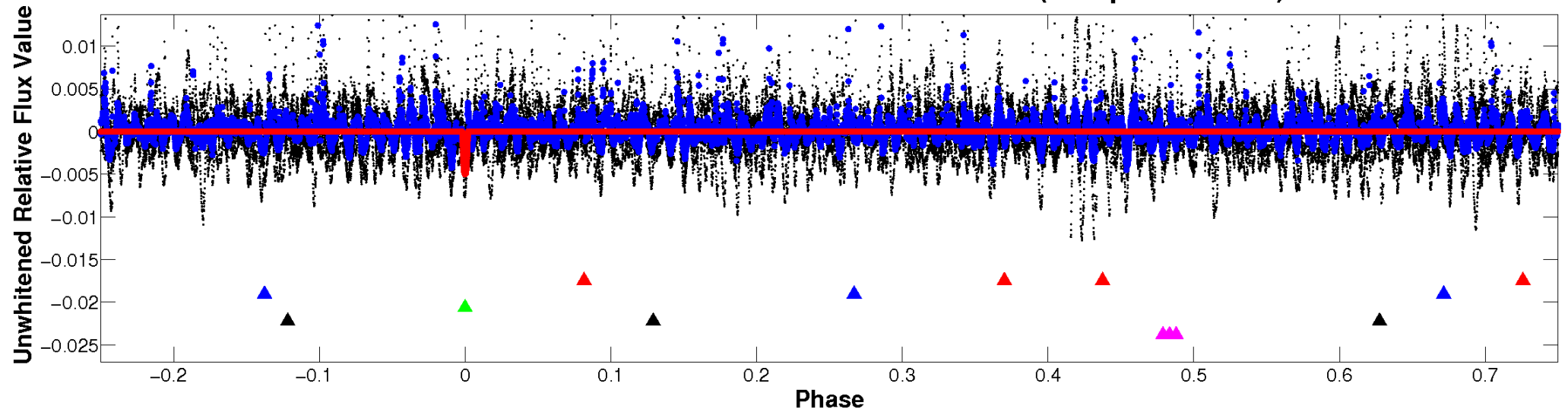
ALT Odd/Even

TCE 003540728-03

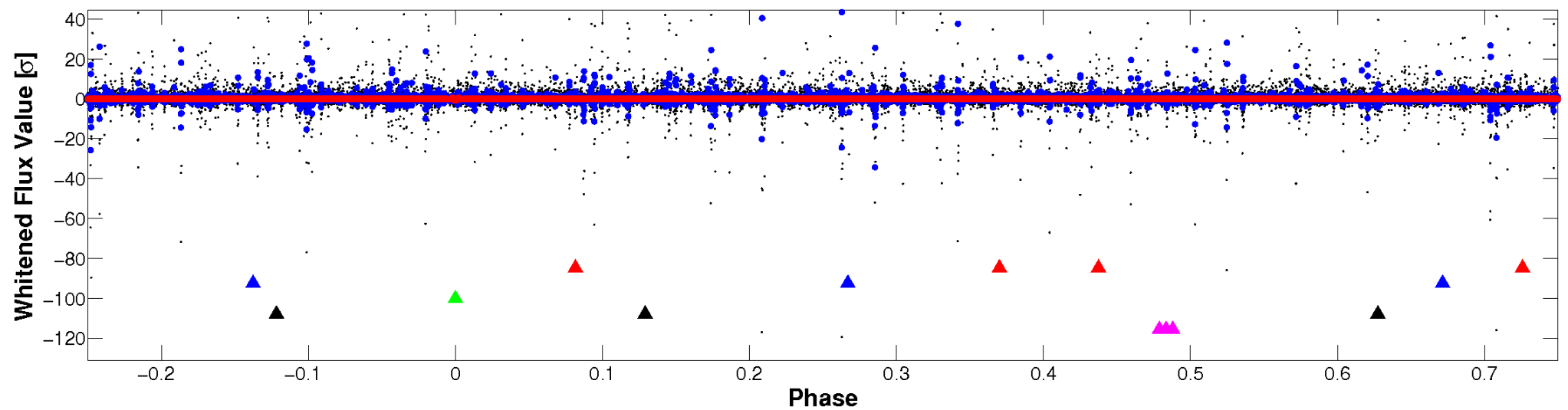


Non-Whitened Vs. Whitened Light Curve

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

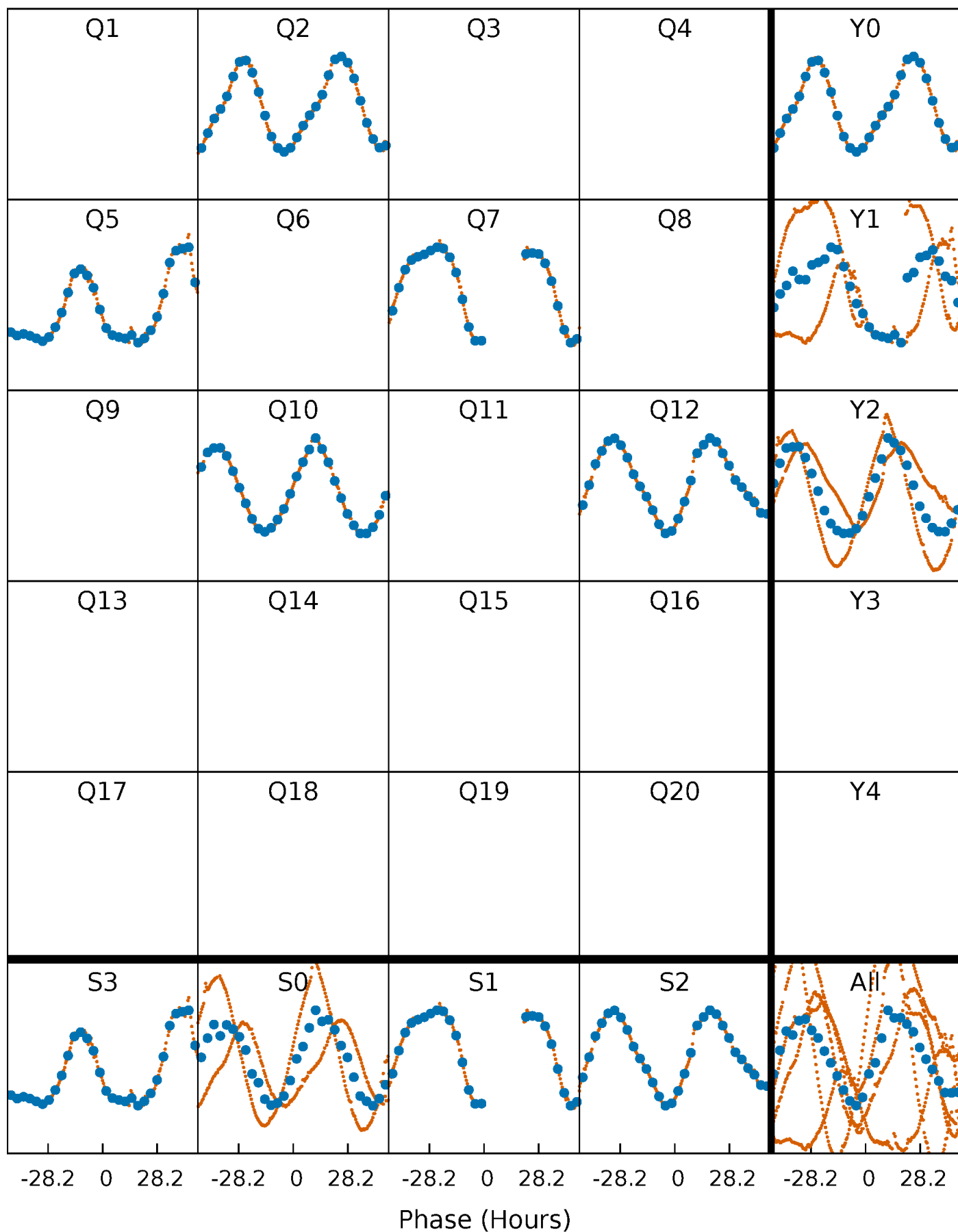


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



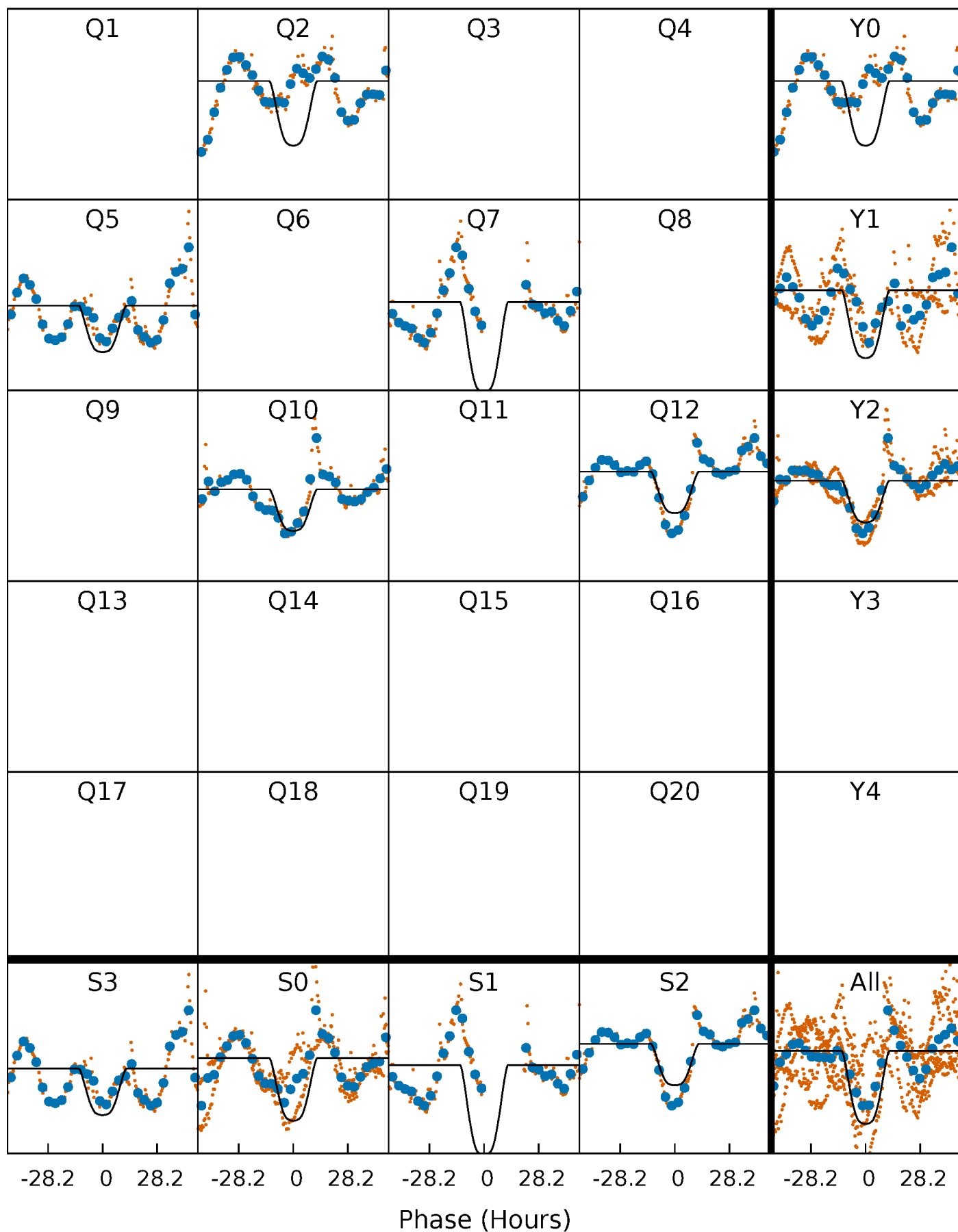
PDC Quarter-Phased Transit Curves

TCE 003540728-03 $P=241.704161$ Days $T_0=206.873976$ (BKJD)



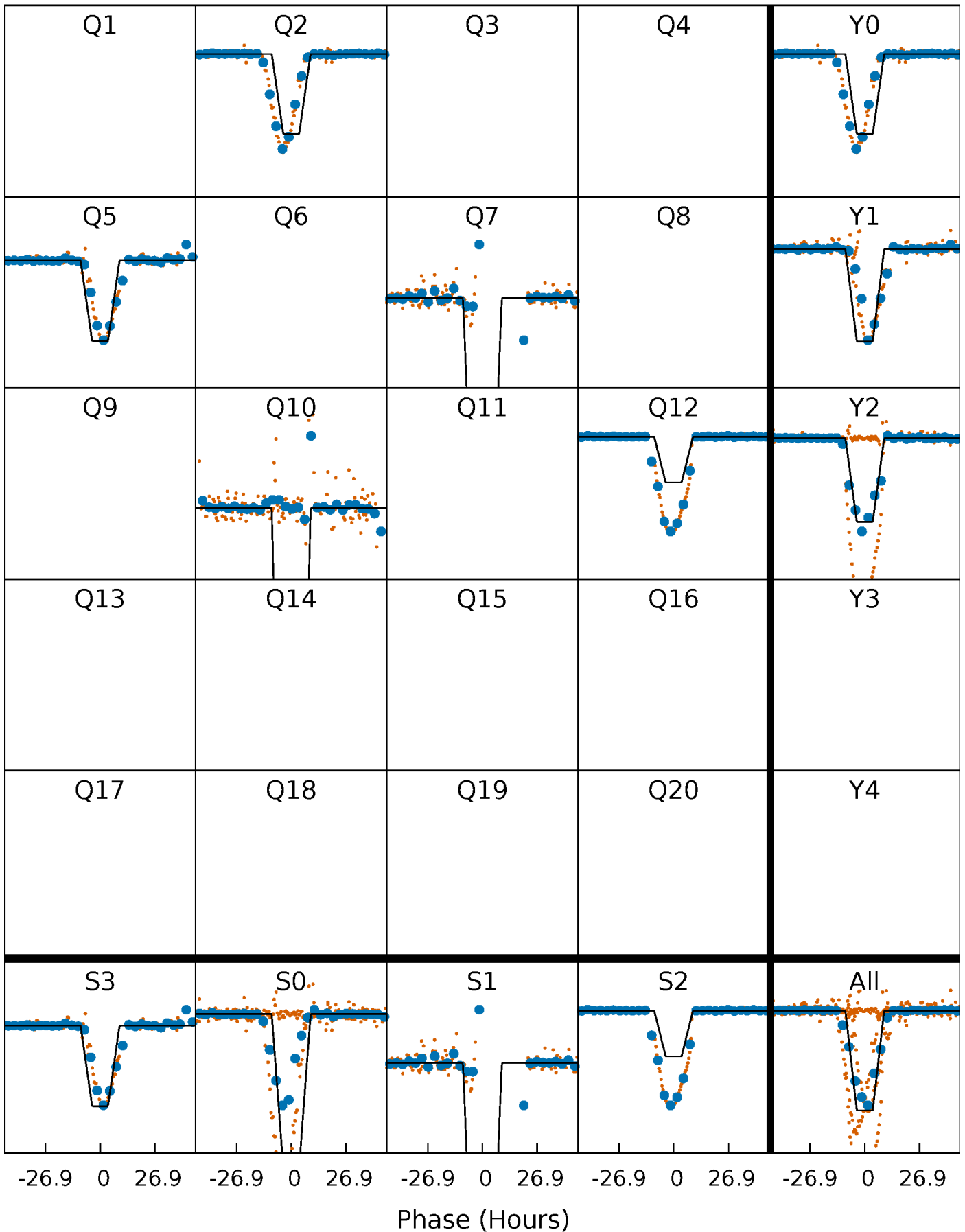
DV Quarter-Phased Transit Curves

TCE 003540728-03 P=241.704161 Days $T_0=206.873976$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

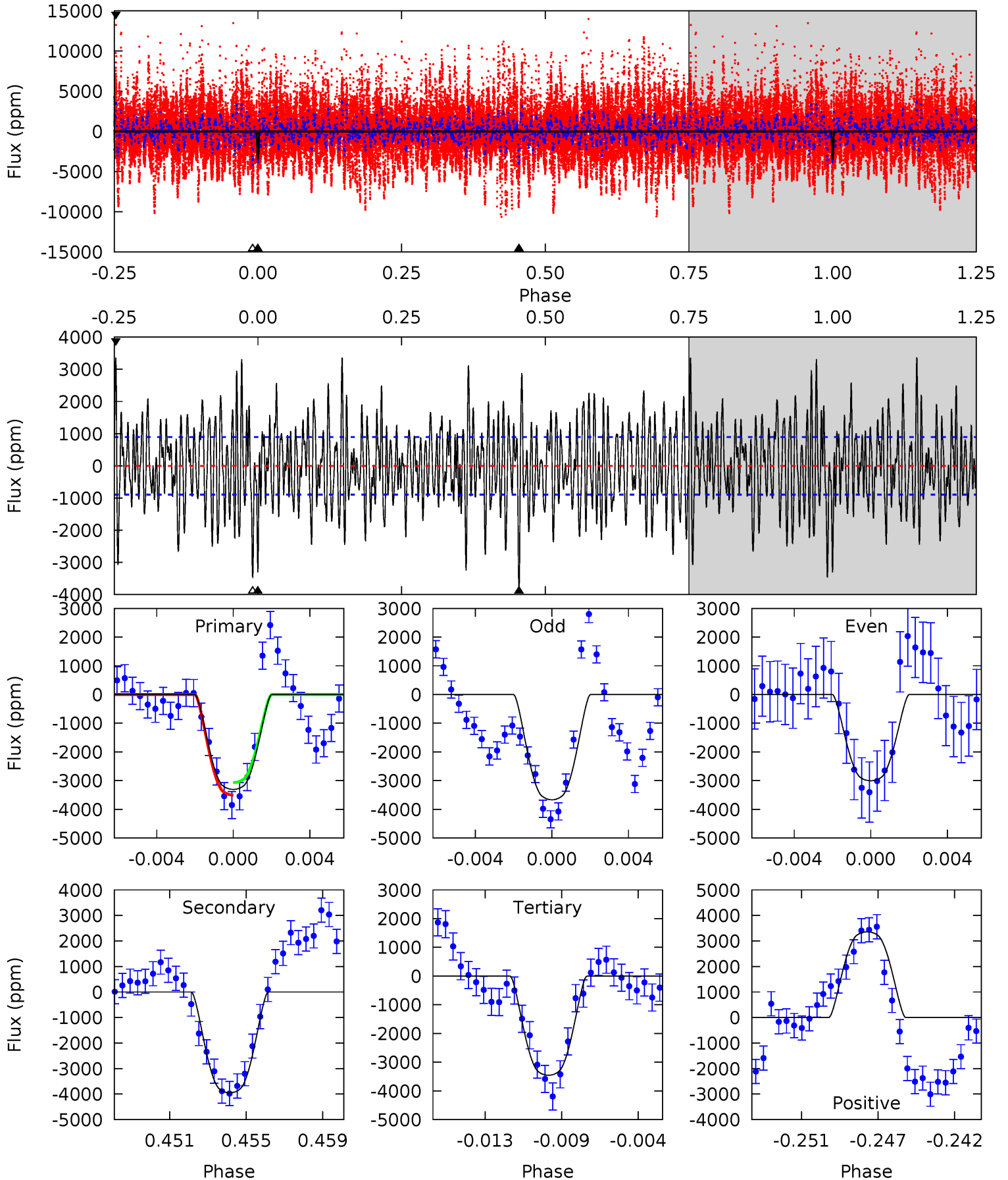
TCE 003540728-03 P=241.694959 Days $T_0=206.939277$ (BKJD)



DV Model-Shift Uniqueness Test

003540728-03, P = 241.704161 Days, E = 206.873976 Days

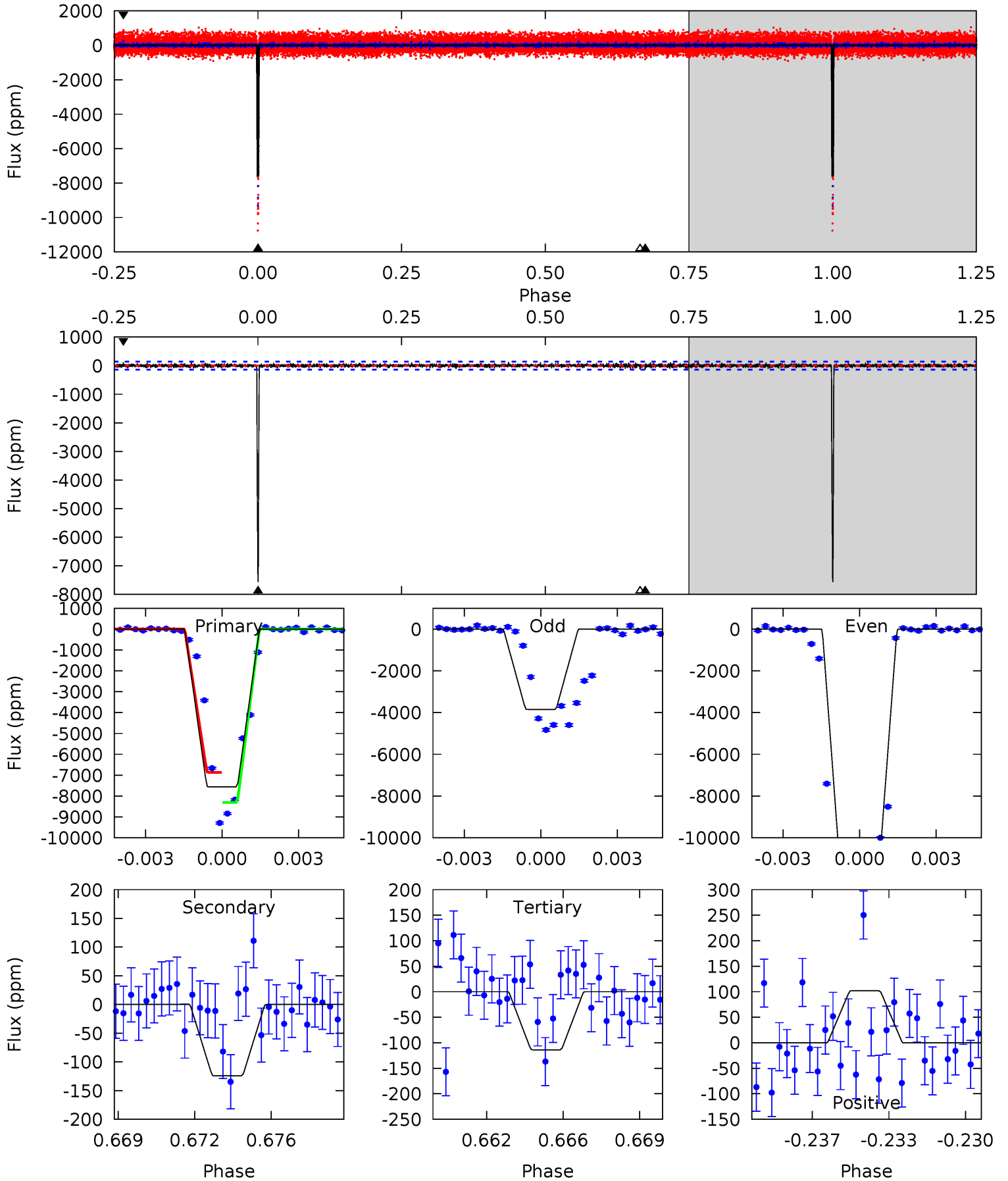
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.2	22.9	20.1	19.5	5.19	2.86	6.51	-0.86	-0.29	2.88	3.44	1.90	1.01	0.46	1.28



Alt Model-Shift Uniqueness Test

003540728-03, P = 241.694959 Days, E = 206.939277 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
278.6	4.58	4.19	3.76	5.23	2.93	0.94	274.4	274.9	0.38	0.82	256.5	0.92	0.01	0



Stellar Parameters For KIC 003540728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5015^{+165}_{-165}	$4.697^{+0.052}_{-0.024}$	$-1.460^{+0.300}_{-0.250}$	$0.559^{+0.030}_{-0.033}$	$0.567^{+0.038}_{-0.020}$	$4.579^{+0.828}_{-0.480}$
	+3%/-3%	+1%/-1%	+21%/-17%	+5%/-6%	+7%/-4%	+18%/-10%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003540728-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3950 ± 172	$4.73^{+0.45}_{-0.43}$	290^{+10}_{-11}	4591^{+227}_{-210}	38911^{+7781}_{-6596}
Alt.	-124 ± 27	$5.98^{+0.43}_{-0.42}$	289^{+10}_{-10}	2504^{+99}_{-97}	758^{+224}_{-180}

T_{max} = Theoretical Maximum Planetary Temperature

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

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

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

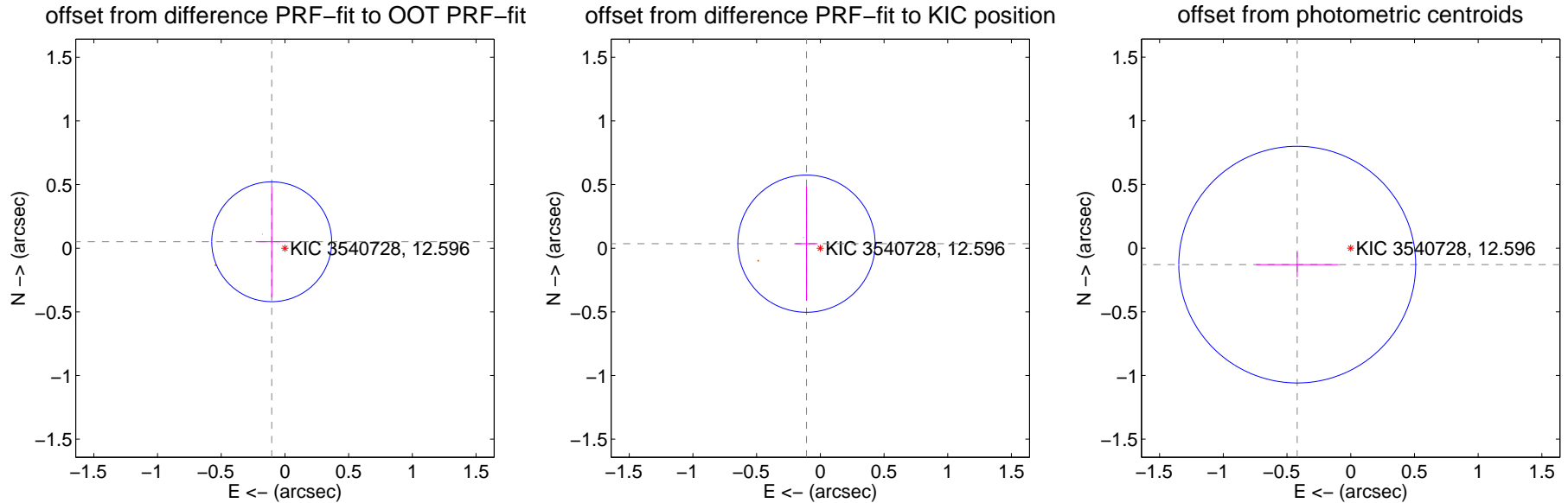
DV Centroid Data

Supplemental centroid analysis for 003540728-03. Kepler magnitude: 12.60. Transit SNR 6.92

There are 2 quarters with good PRF difference image offsets

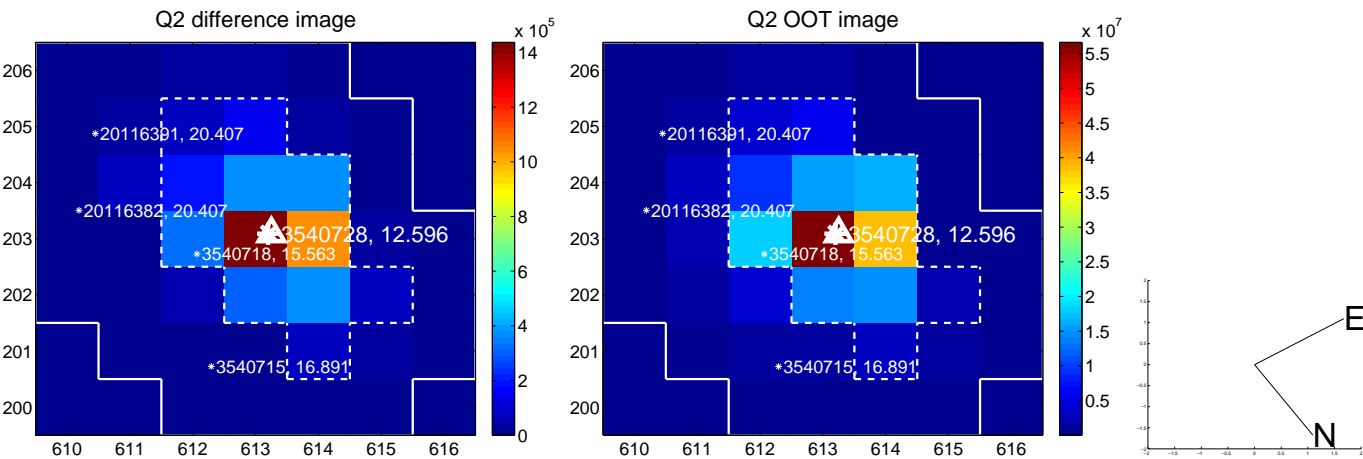
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.116 ± 0.157	0.74	0.104 ± 0.126	0.051 ± 0.435
PRF-fit source offset from KIC position	0.114 ± 0.180	0.64	0.109 ± 0.088	0.036 ± 0.449
photometric centroid source offset	0.44 ± 0.31	1.42	0.42 ± 0.32	-0.13 ± 0.10

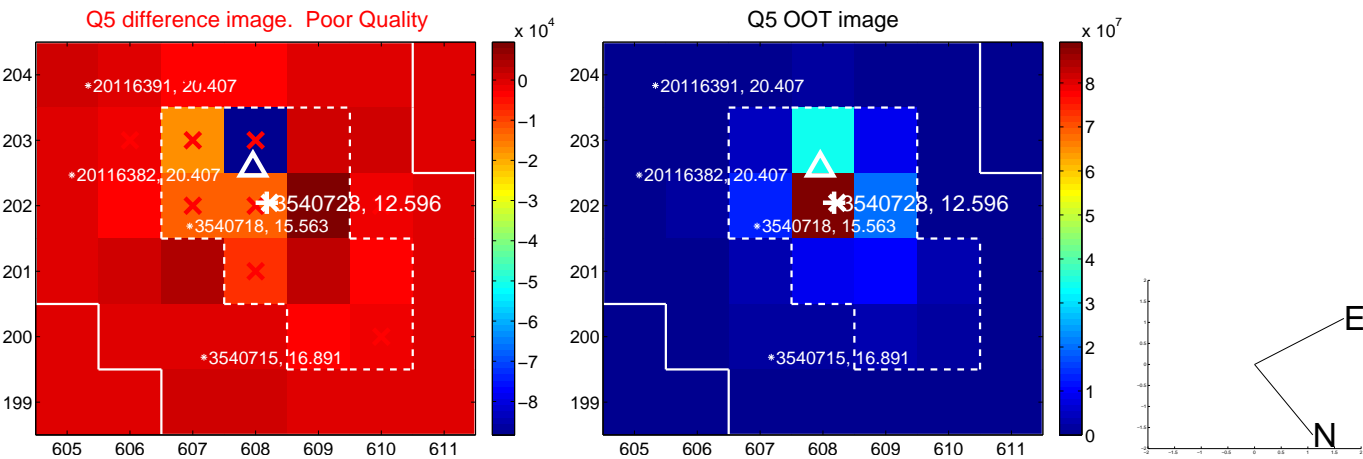


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

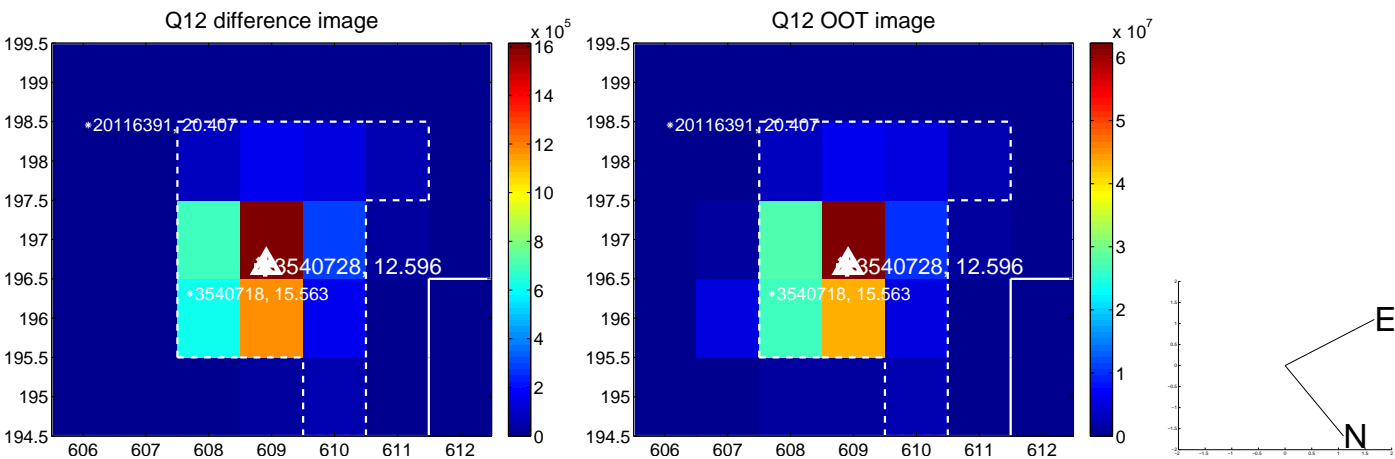
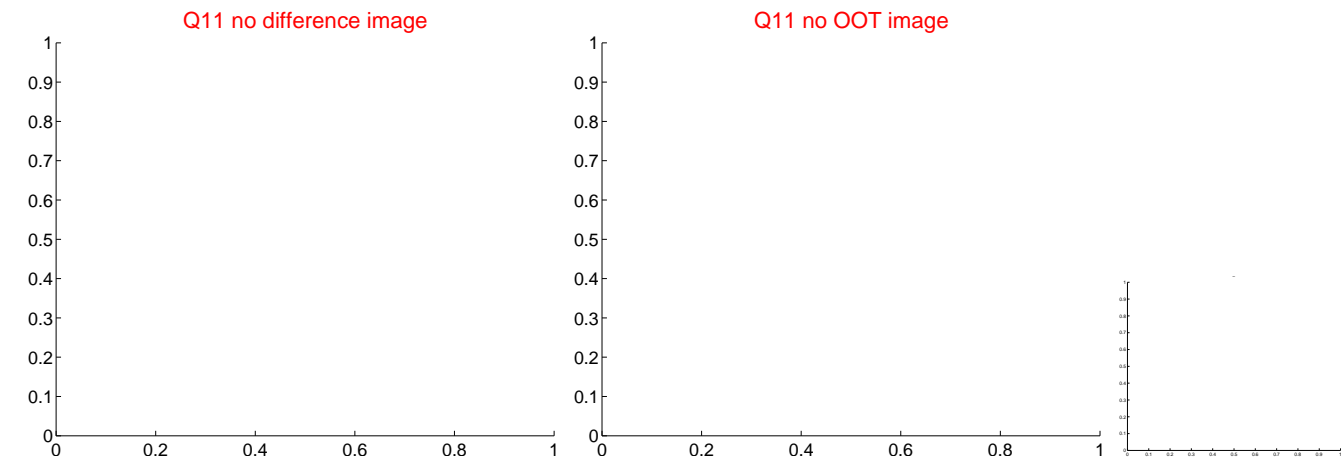
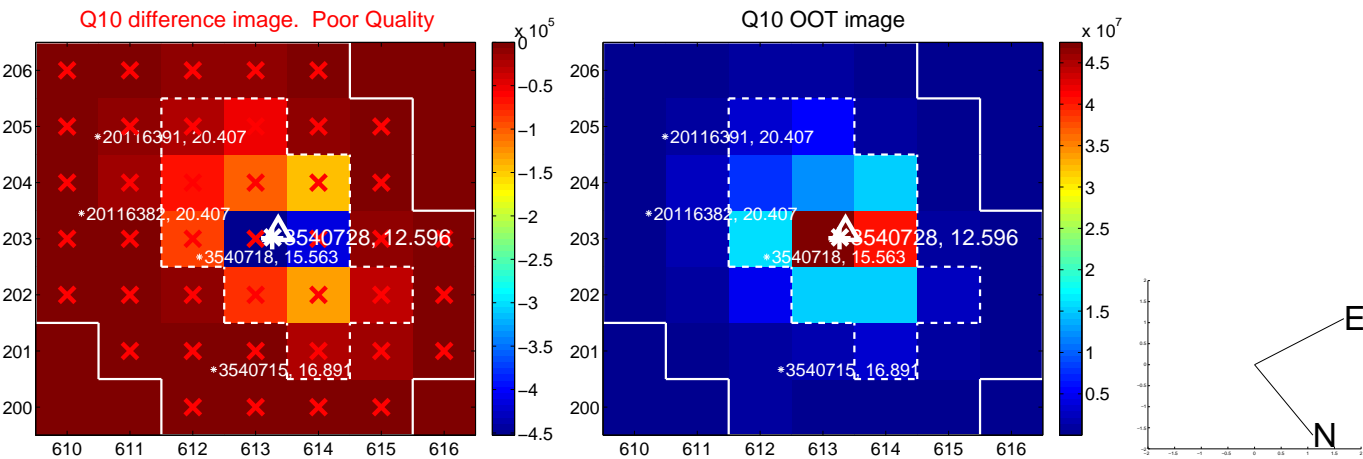
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



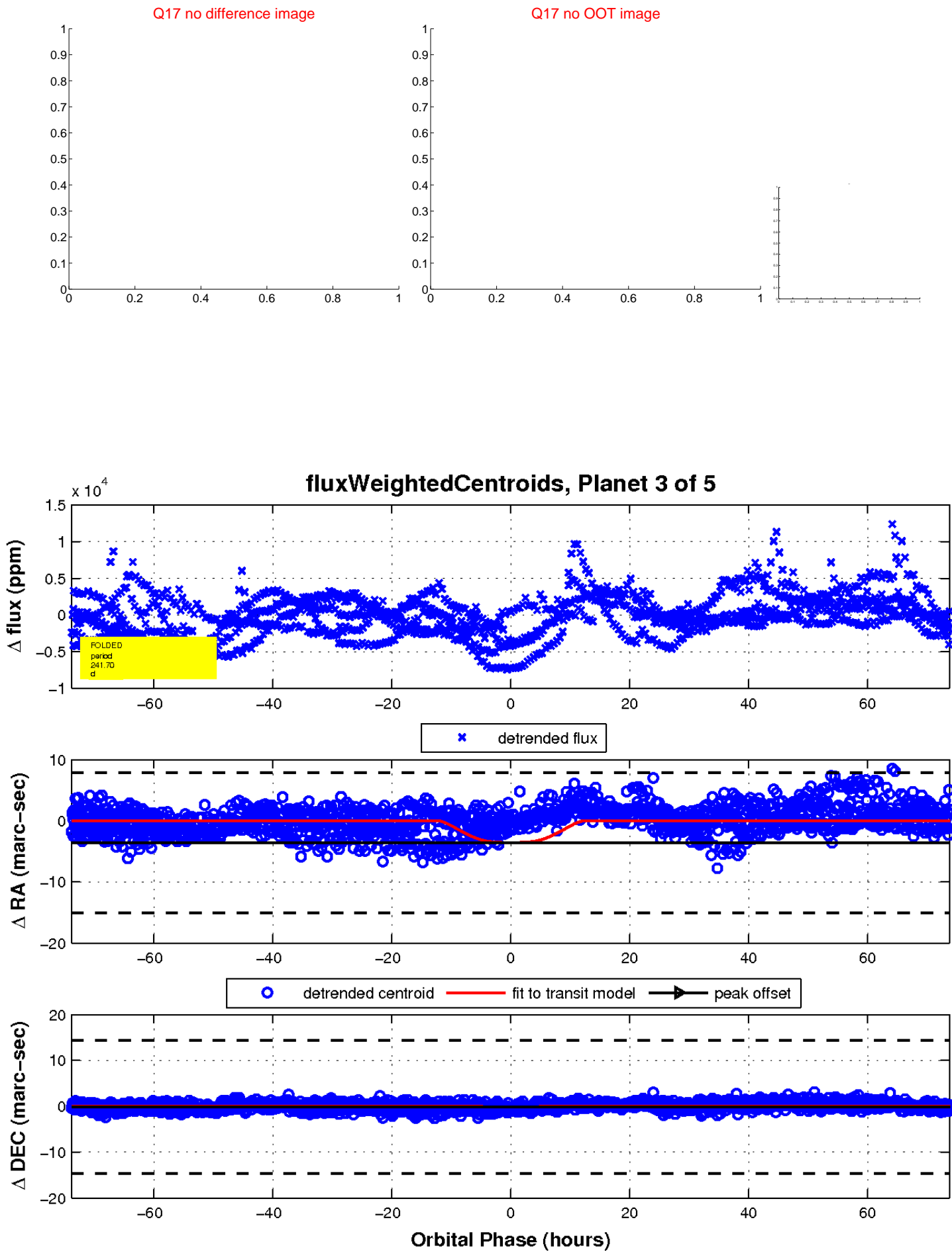
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

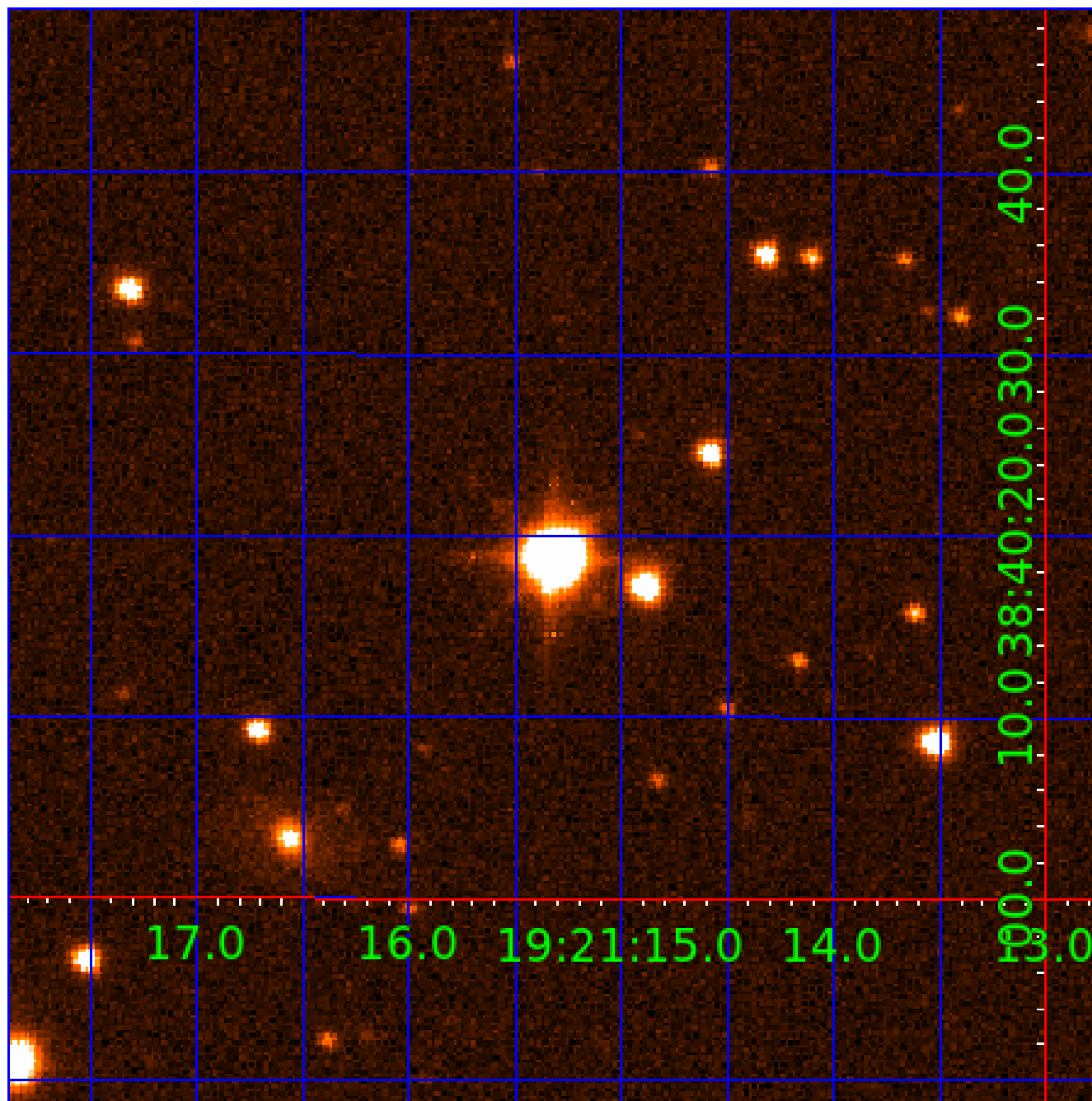


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003540728

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})
003540728-01	OBS	No	327.698963	296.328091	1119.3	4.579	19.7	4.4	0.56	5015	1.89	0.30
003540728-02	OBS	No	581.192077	415.321238	1796.4	4.754	17.1	5.7	0.56	5015	2.38	0.14
003540728-03	OBS	No	241.704161	206.873976	5001.7	24.635	15.8	6.9	0.56	5015	4.75	0.45
003540728-04	OBS	No	422.790352	479.780977	3312.9	13.762	20.1	7.1	0.56	5015	3.77	0.21
003540728-05	OBS	No	484.506952	564.327851	665.7	4.500	18.7	-1.0	0.56	5015	1.43	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003540728-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003540728-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003540728-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

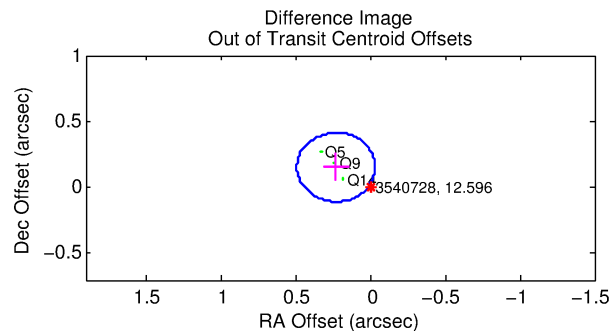
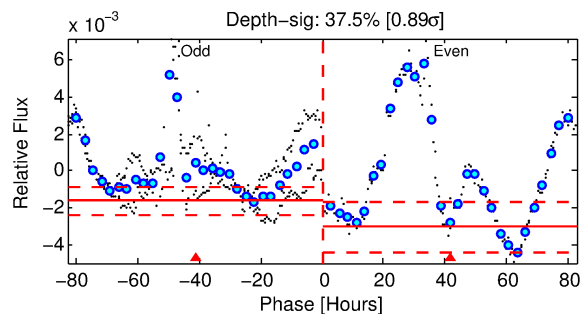
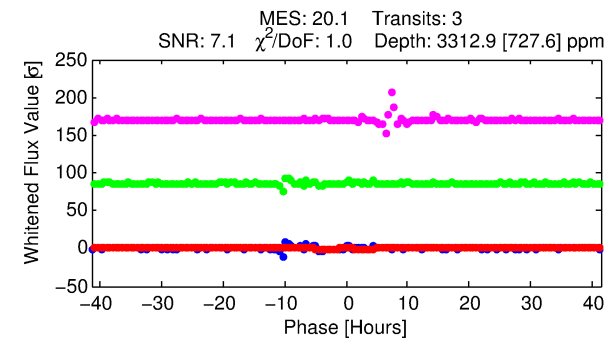
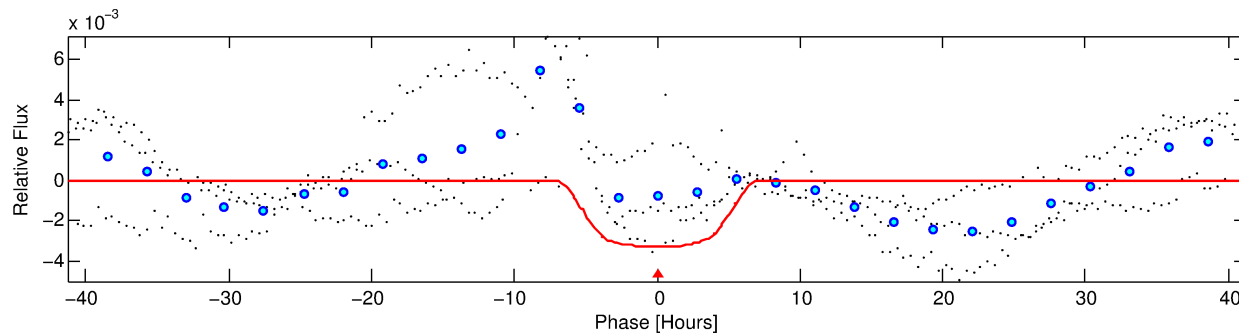
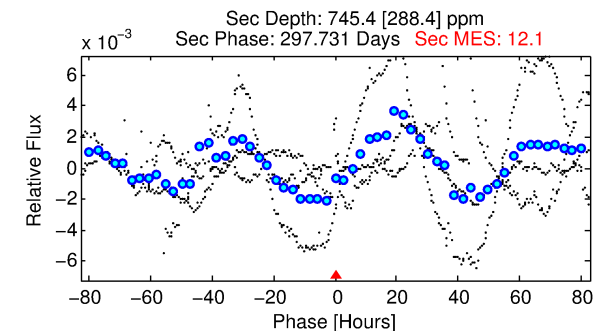
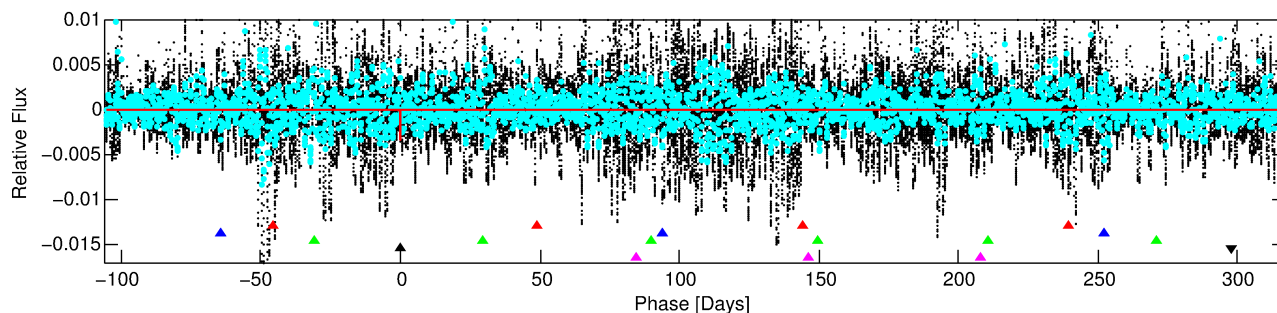
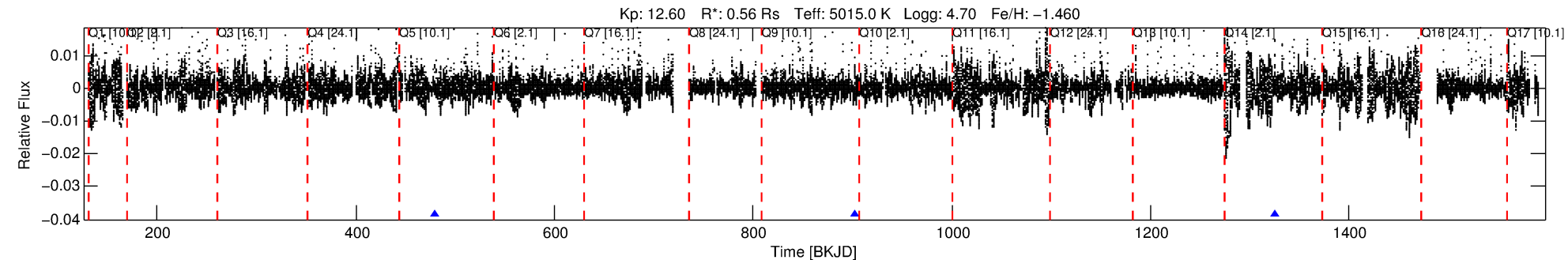
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003540728-04

No Significant Match Found

DV One-Page Summary

KIC: 3540728 Candidate: 4 of 5 Period: 422.790 d



DV Fit Results:

Period = 422.79035 [0.01132] d
Epoch = 479.7810 [0.0157] BKJD
Rp/R* = 0.0618 [0.0070]
a/R* = 137.66 [11.14]
b = 0.89 [0.02]
Seff = 0.21 [0.03]
Teq = 173 [7] K
Rp = 3.77 [0.48] Re
a = 0.9128 [0.0512] AU
Ag = 24036.27 [10980.43] [2.19σ]
Teff = 3333 [389] K [8.12σ]

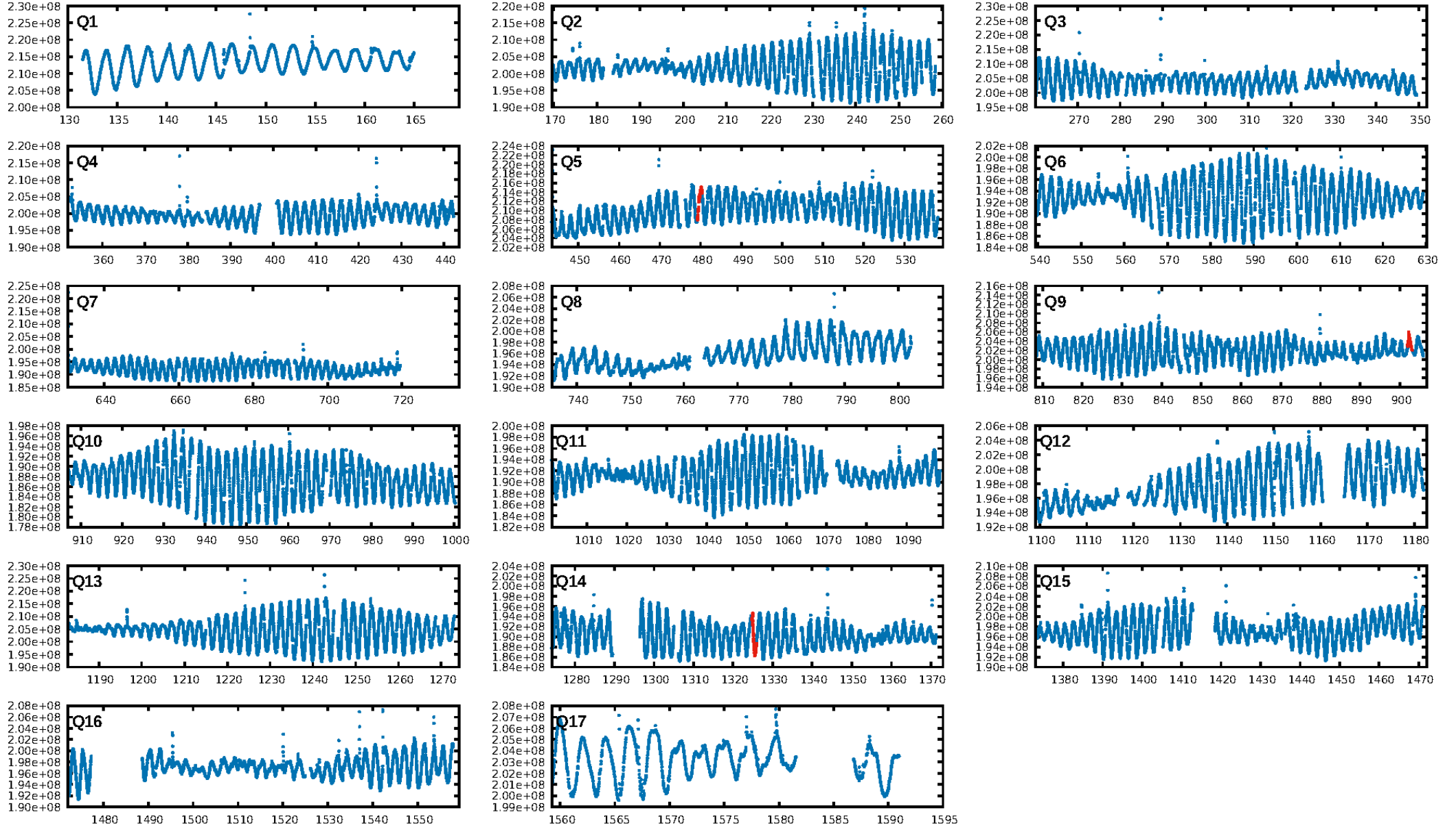
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [157.36σ]
LongPeriod-sig: 100.0% [102.30σ]
ModelChiSquare2-sig: 93.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.852
Centroid-sig: 0.6%
Centroid-so: 0.088 arcsec [0.34σ]
OotOffset-rm: 0.275 arcsec [3.17σ]
KicOffset-rm: 0.186 arcsec [2.48σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

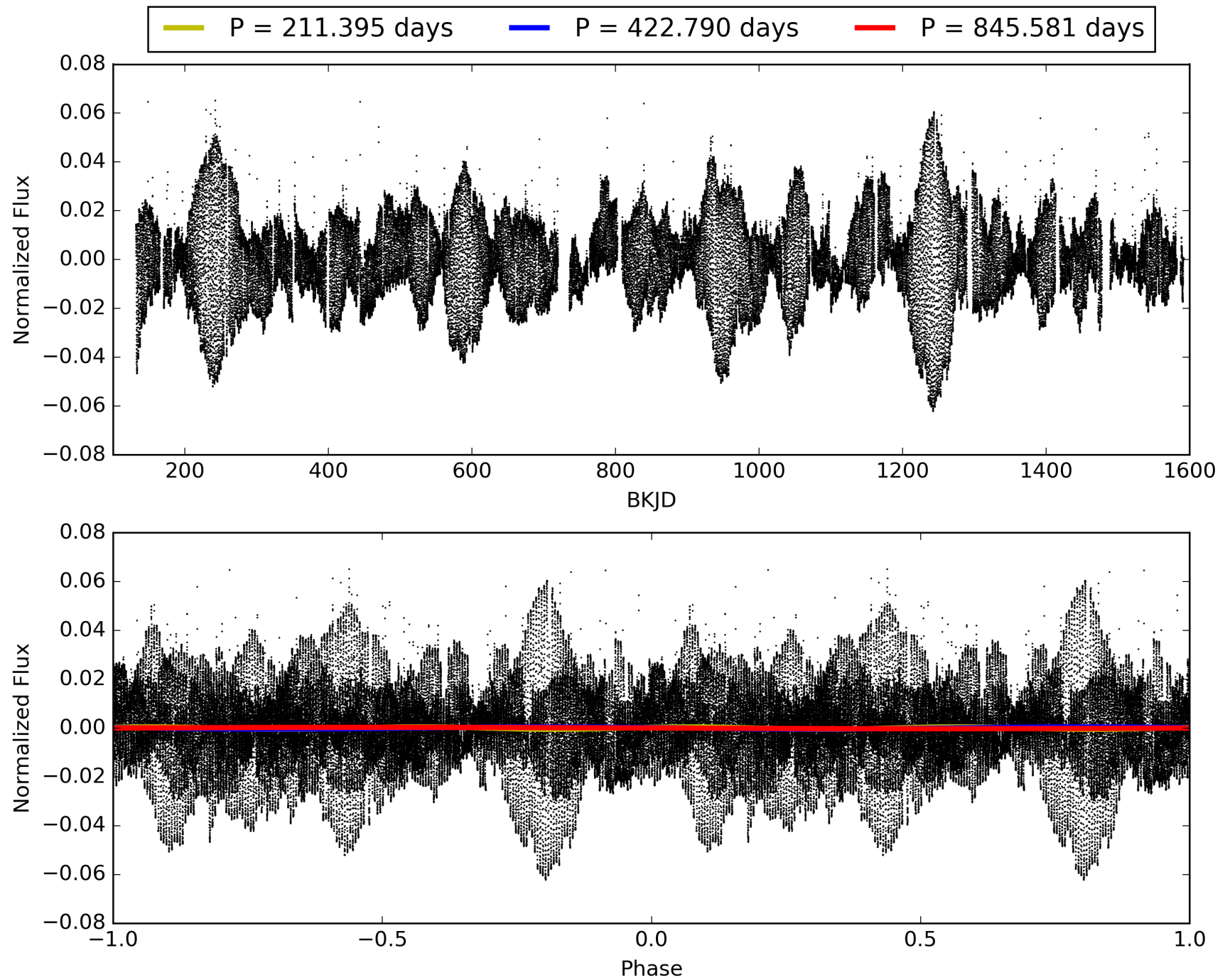
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:23:53 Z

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

TCE 003540728-04, PDC Light Curves

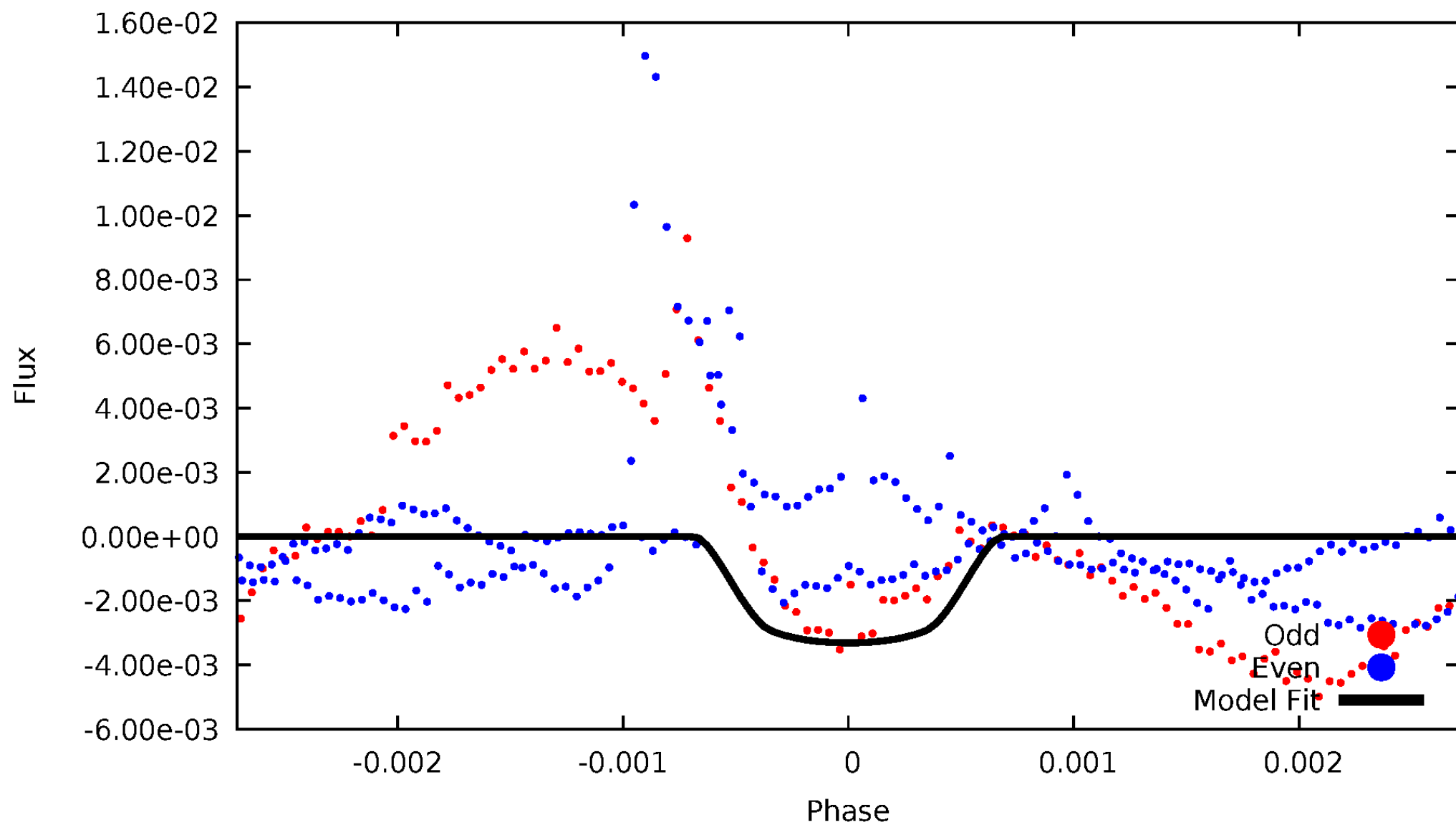


TCE 003540728-04



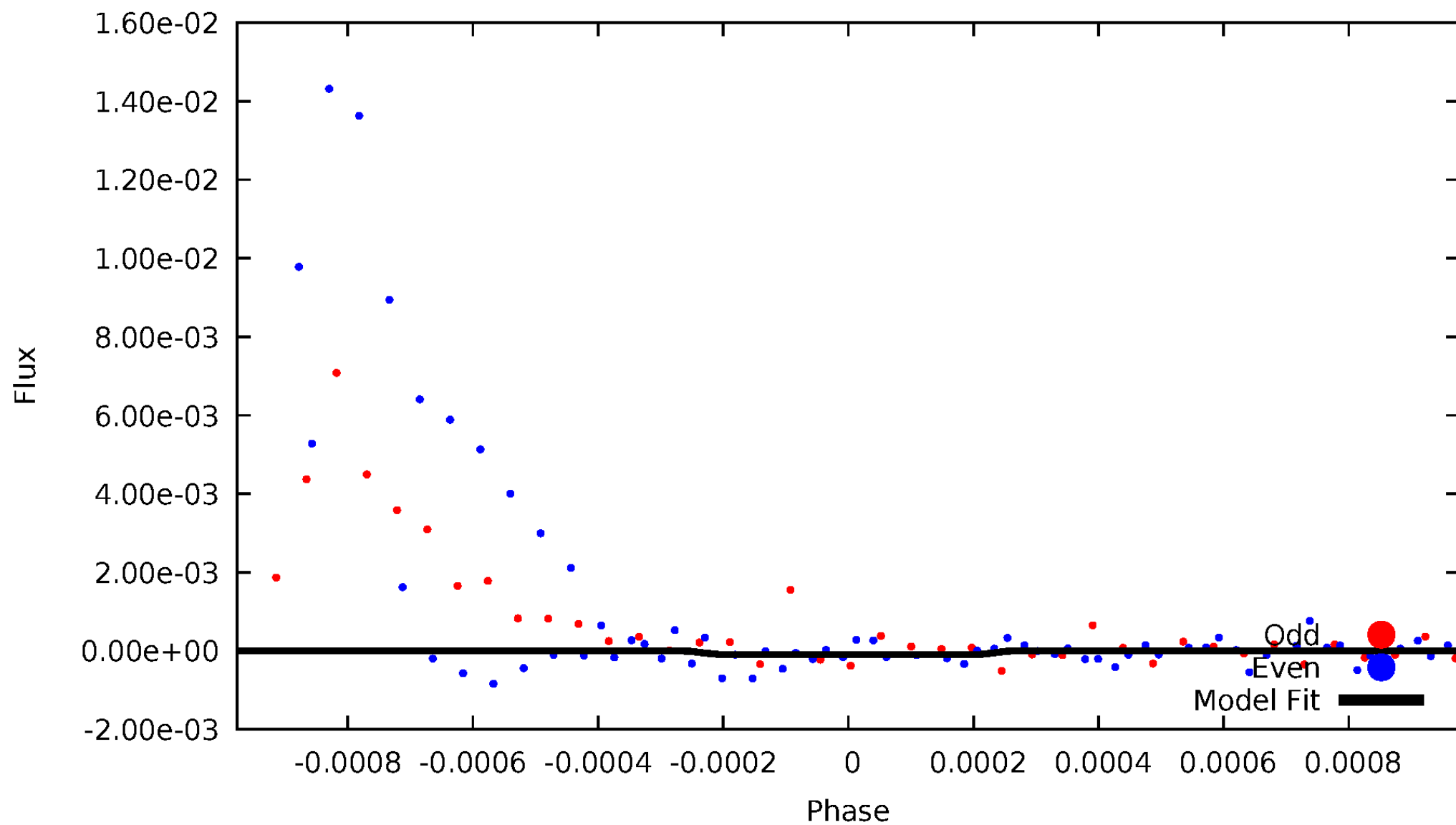
DV Odd/Even

TCE 003540728-04



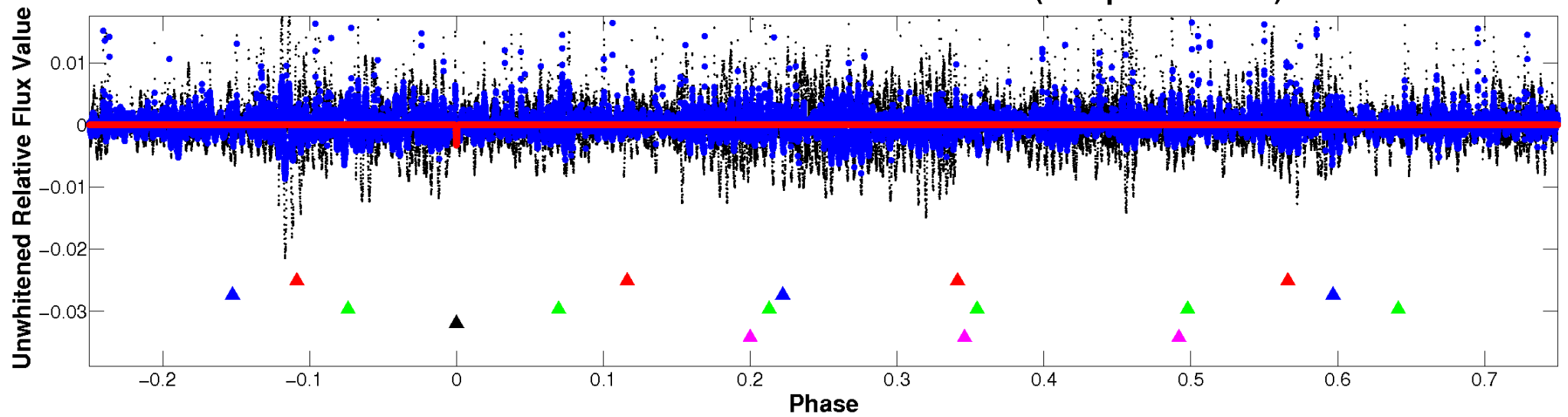
ALT Odd/Even

TCE 003540728-04

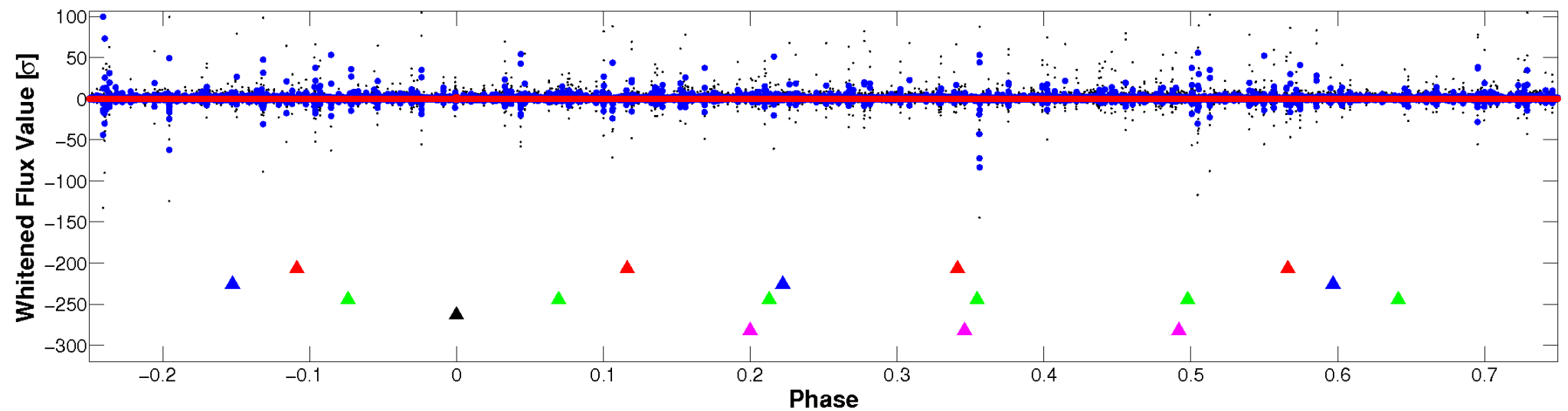


Non-Whitened Vs. Whitened Light Curve

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

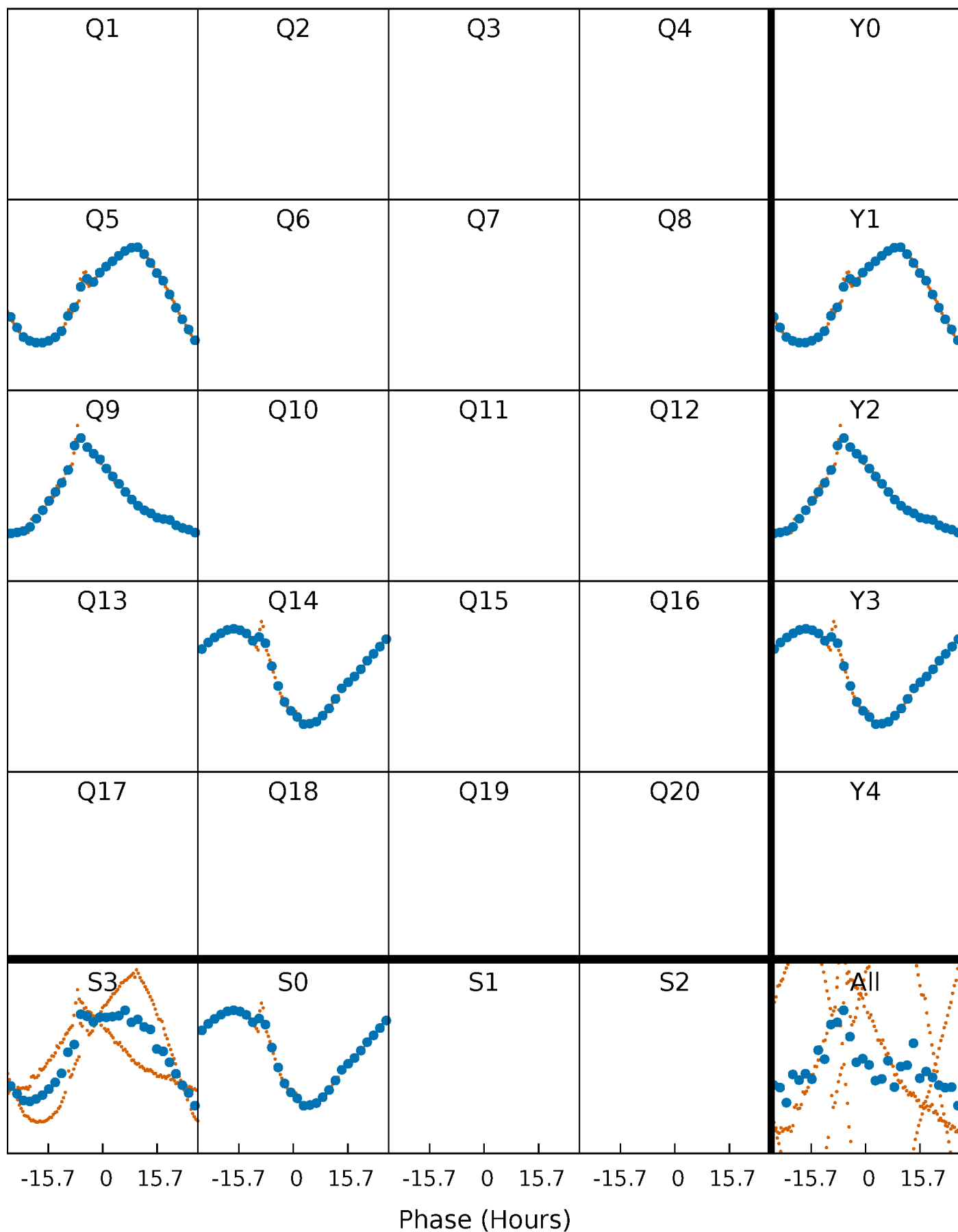


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



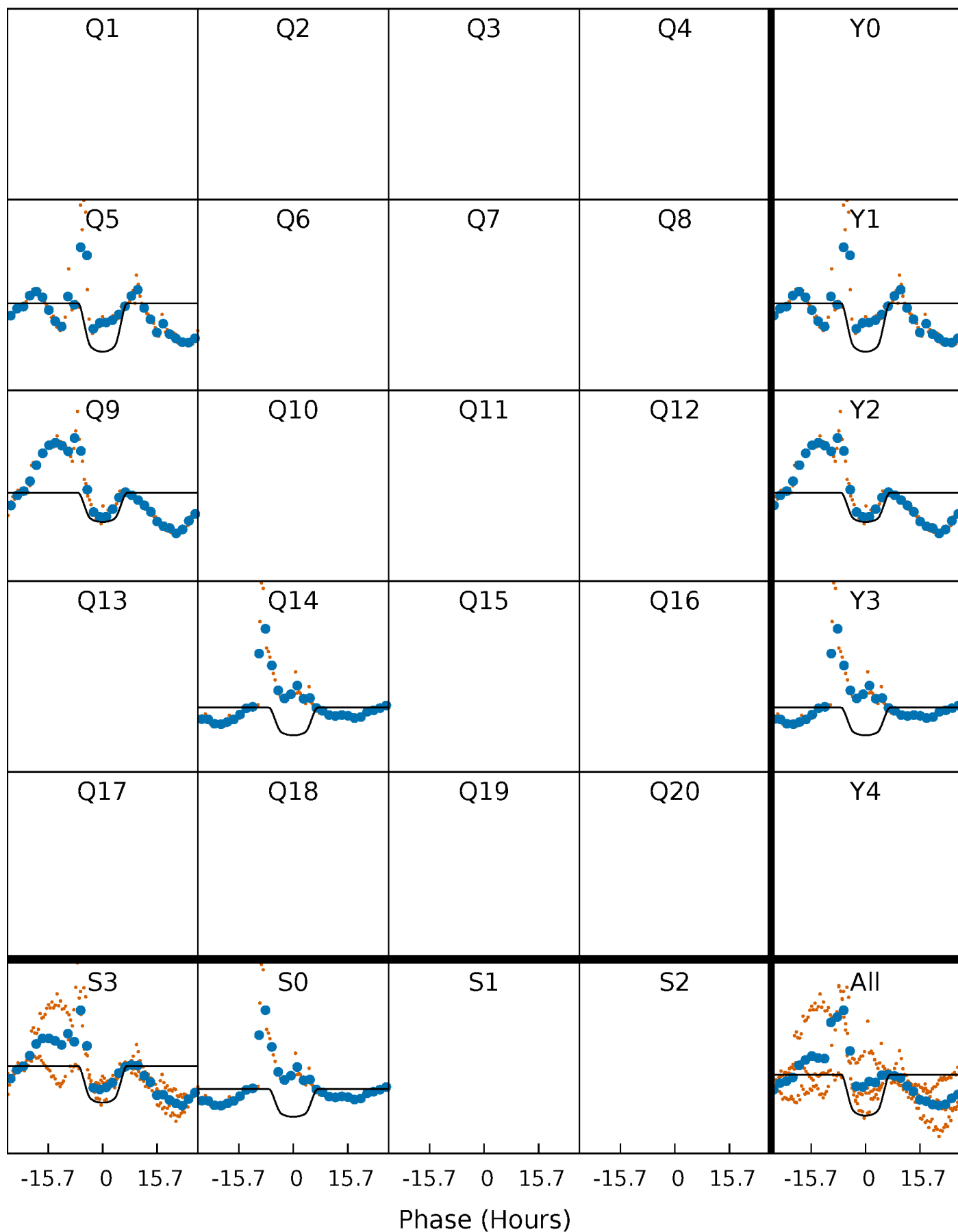
PDC Quarter-Phased Transit Curves

TCE 003540728-04 P=422.790352 Days $T_0=479.780977$ (BKJD)



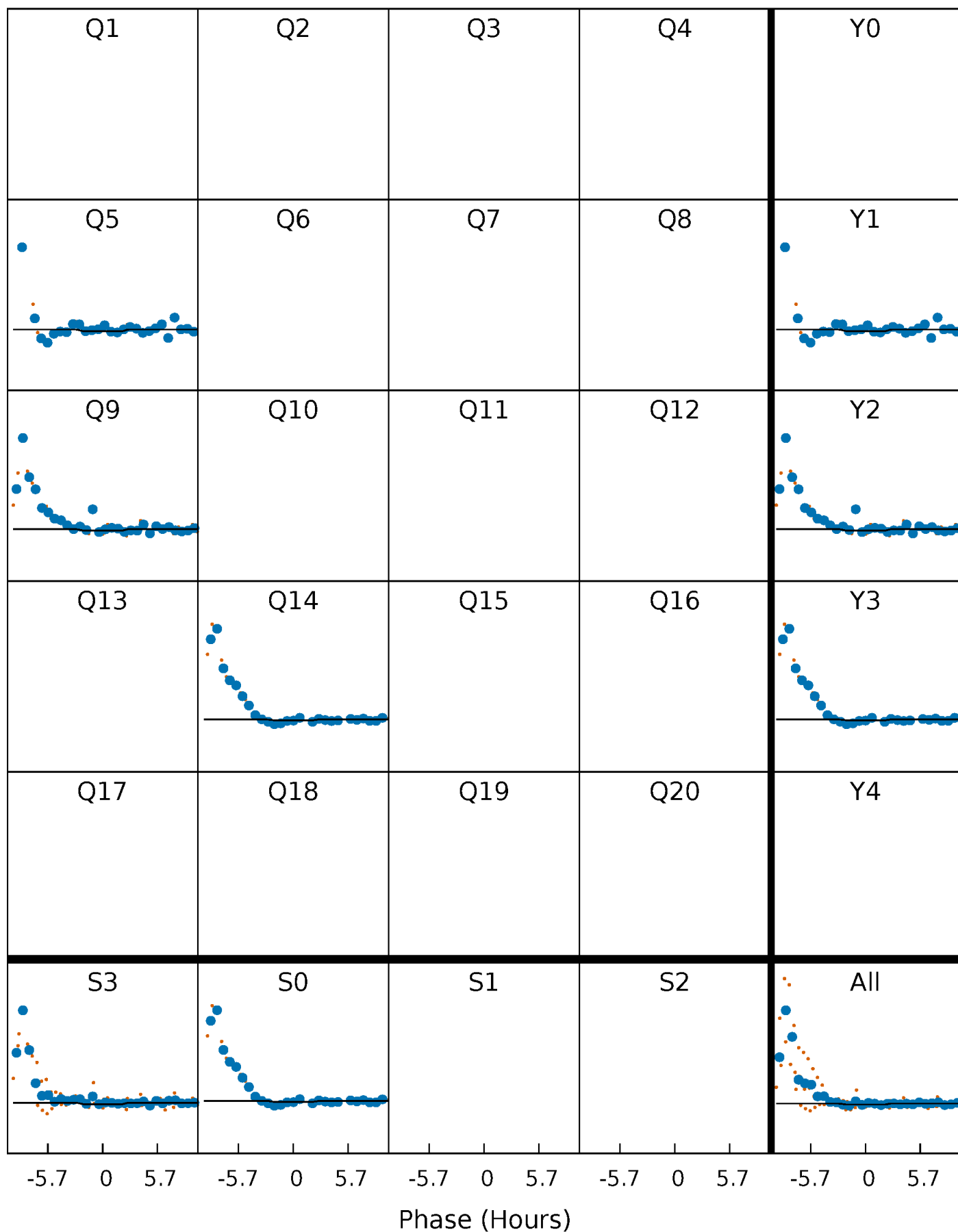
DV Quarter-Phased Transit Curves

TCE 003540728-04 $P=422.790352$ Days $T_0=479.780977$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

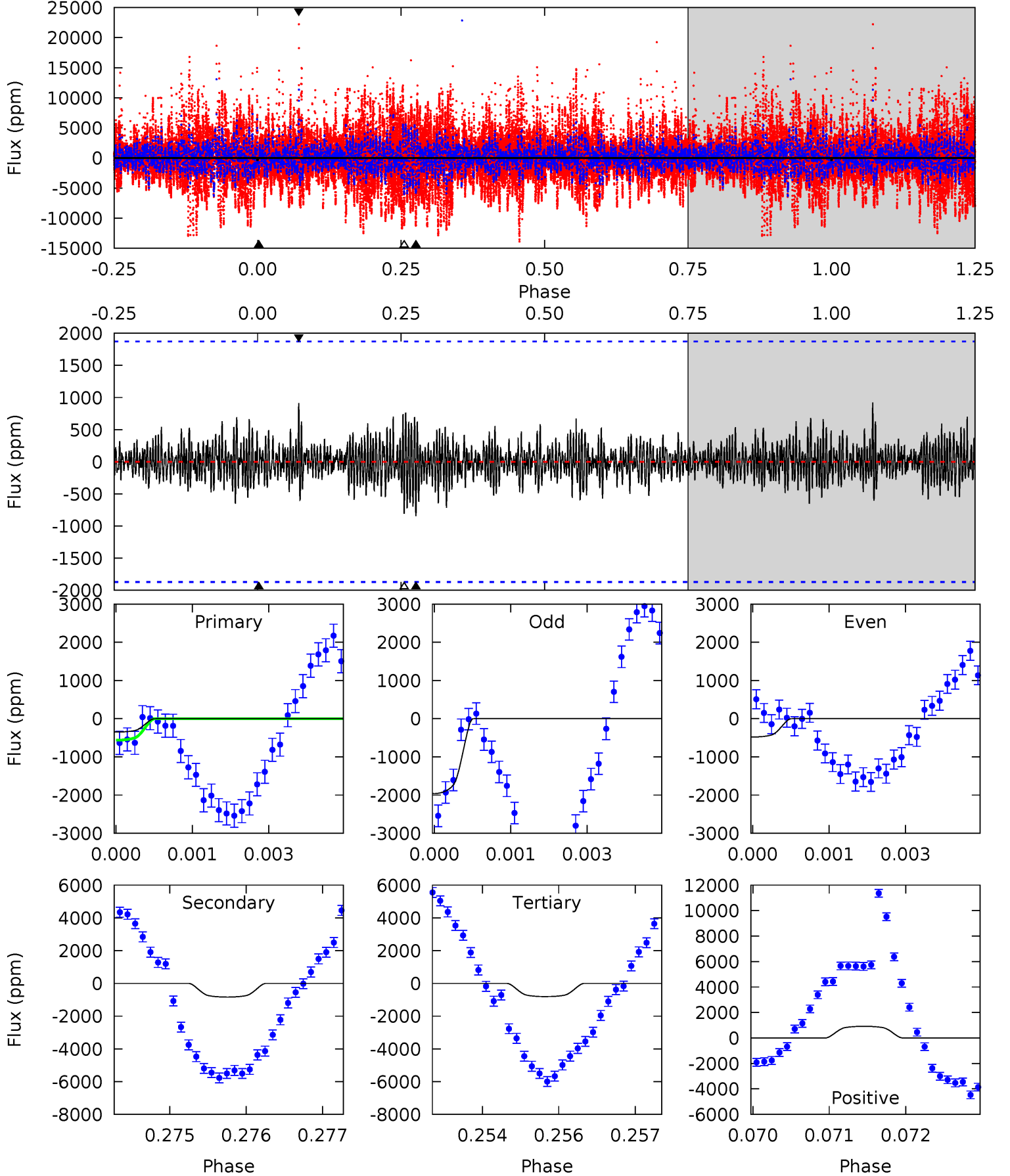
TCE 003540728-04 $P=422.715867$ Days $T_0=479.899119$ (BKJD)



DV Model-Shift Uniqueness Test

003540728-04, P = 422.790352 Days, E = 56.990625 Days

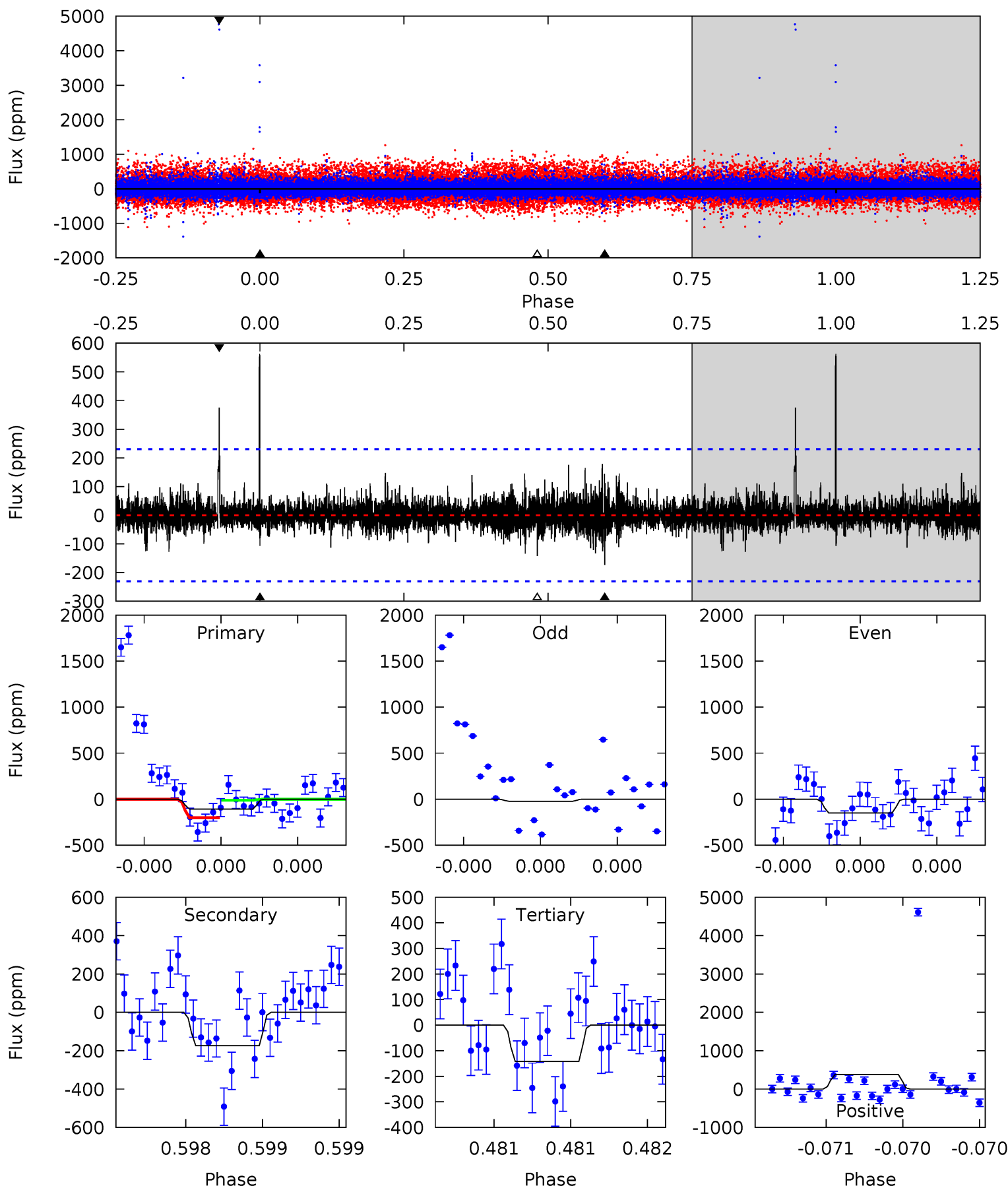
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.01	2.41	2.33	2.63	5.40	3.20	0.68	-1.32	-1.63	0.08	-0.22	1.88	0.36	0.52	0.64



Alt Model-Shift Uniqueness Test

003540728-04, P = 422.715867 Days, E = 57.183252 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.59	4.19	3.45	9.09	5.58	3.48	0.76	-0.86	-6.50	0.75	-4.89	1.15	5.03	0.76	2.33



Stellar Parameters For KIC 003540728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5015^{+165}_{-165}	$4.697^{+0.052}_{-0.024}$	$-1.460^{+0.300}_{-0.250}$	$0.559^{+0.030}_{-0.033}$	$0.567^{+0.038}_{-0.020}$	$4.579^{+0.828}_{-0.480}$
	+3%/-3%	+1%/-1%	+21%/-17%	+5%/-6%	+7%/-4%	+18%/-10%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003540728-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-837 ± 347	$3.74^{+0.45}_{-0.43}$	241^{+9}_{-8}	3775^{+309}_{-365}	27271^{+15029}_{-12177}
Alt.	-173 ± 41	$0.67^{+0.41}_{-0.37}$	241^{+8}_{-9}	5390^{+2841}_{-1025}	$176067^{+686330}_{-111947}$

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

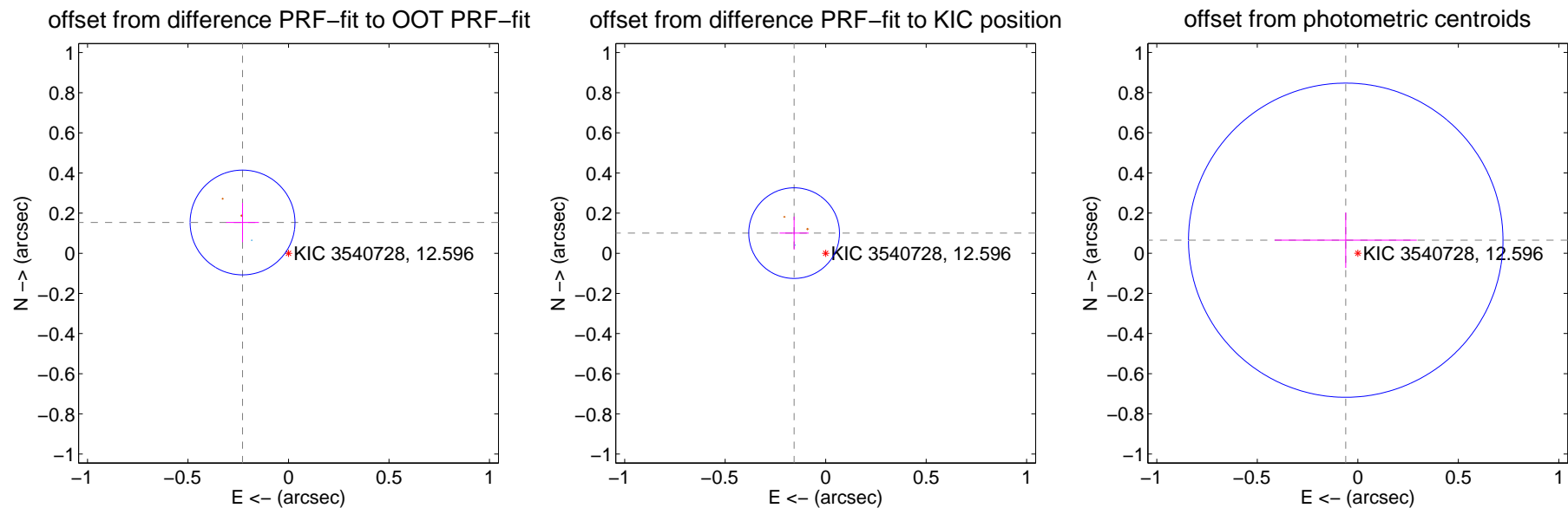
DV Centroid Data

Supplemental centroid analysis for 003540728-04. Kepler magnitude: 12.60. Transit SNR 7.15

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.275 \pm 0.087	3.17	0.229 \pm 0.082	0.153 \pm 0.098
PRF-fit source offset from KIC position	0.186 \pm 0.075	2.48	0.157 \pm 0.072	0.100 \pm 0.082
photometric centroid source offset	0.09 \pm 0.26	0.34	0.06 \pm 0.35	0.06 \pm 0.14

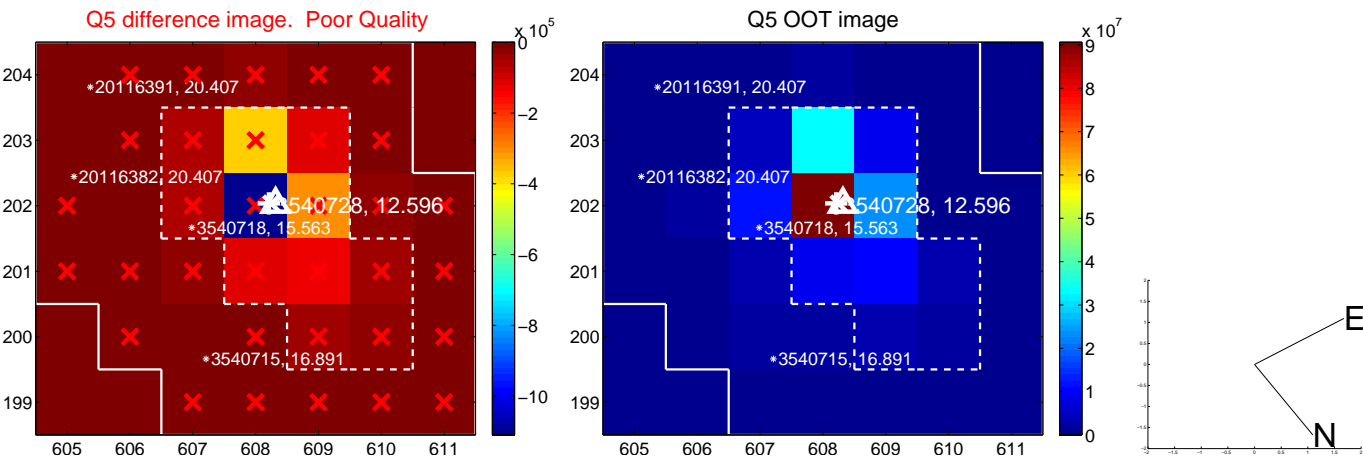


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

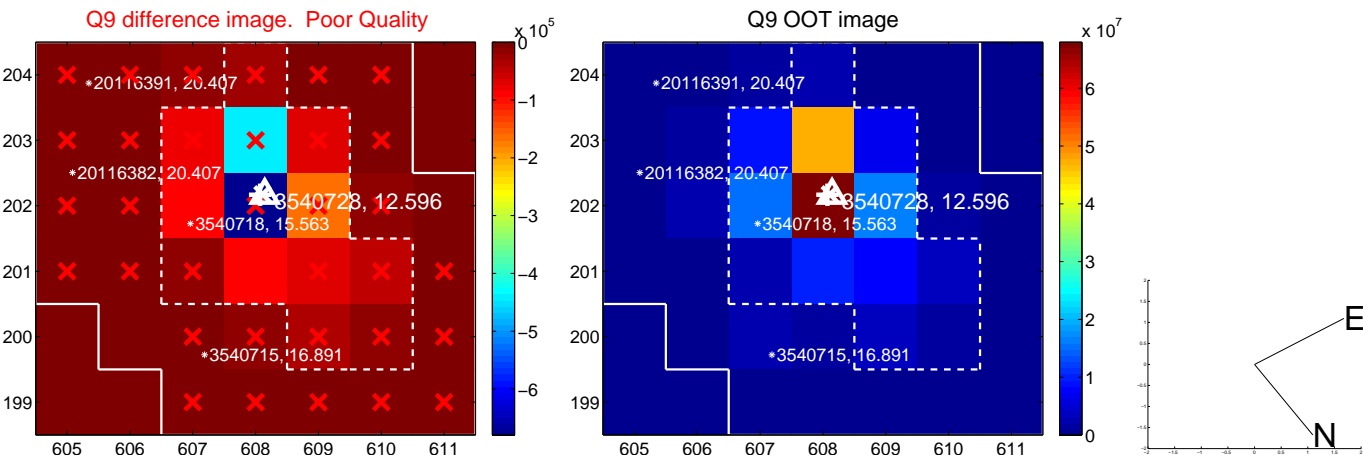
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



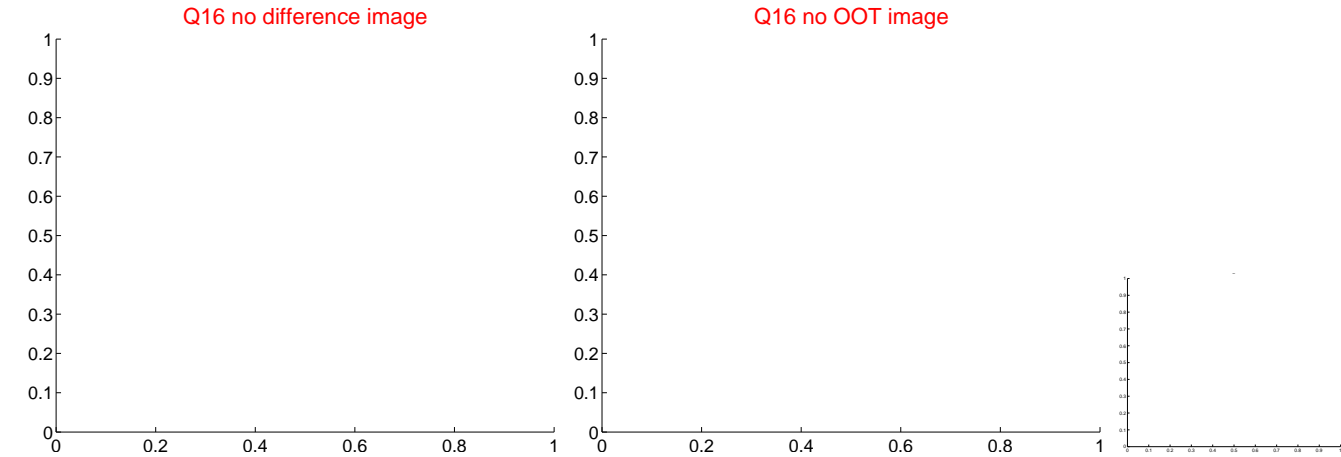
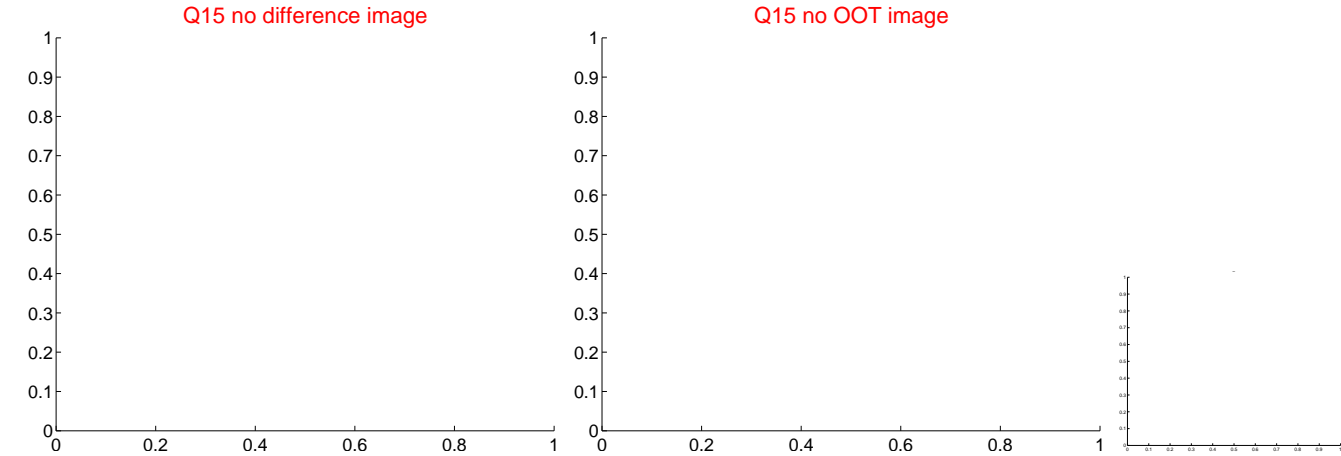
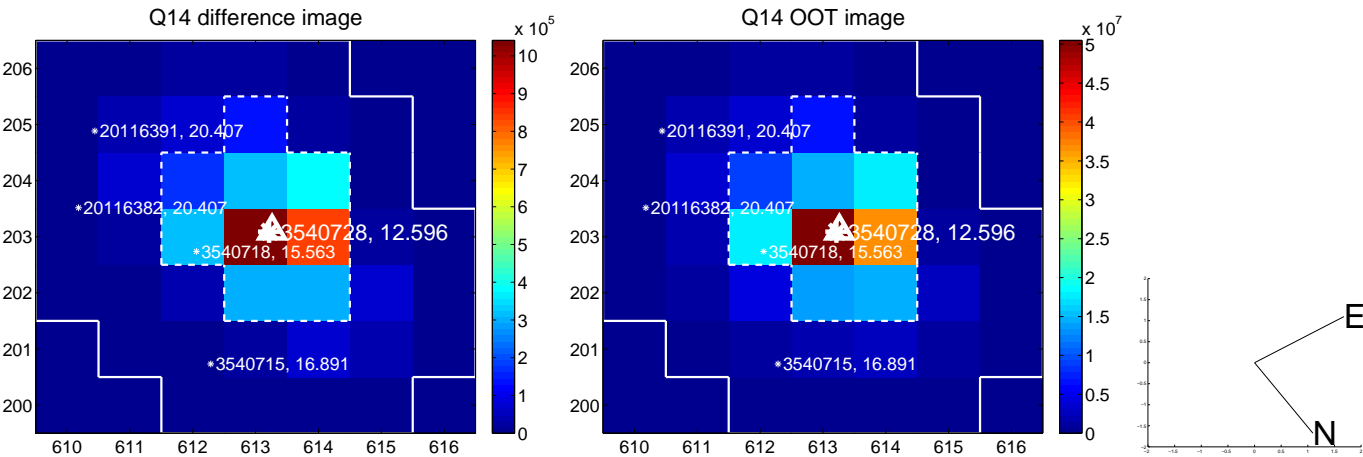
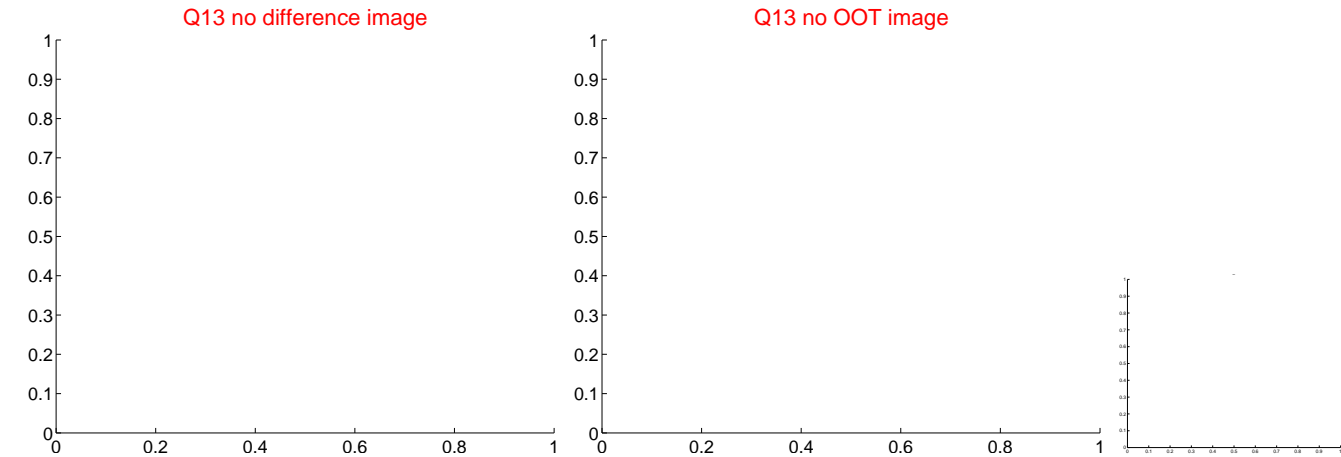
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



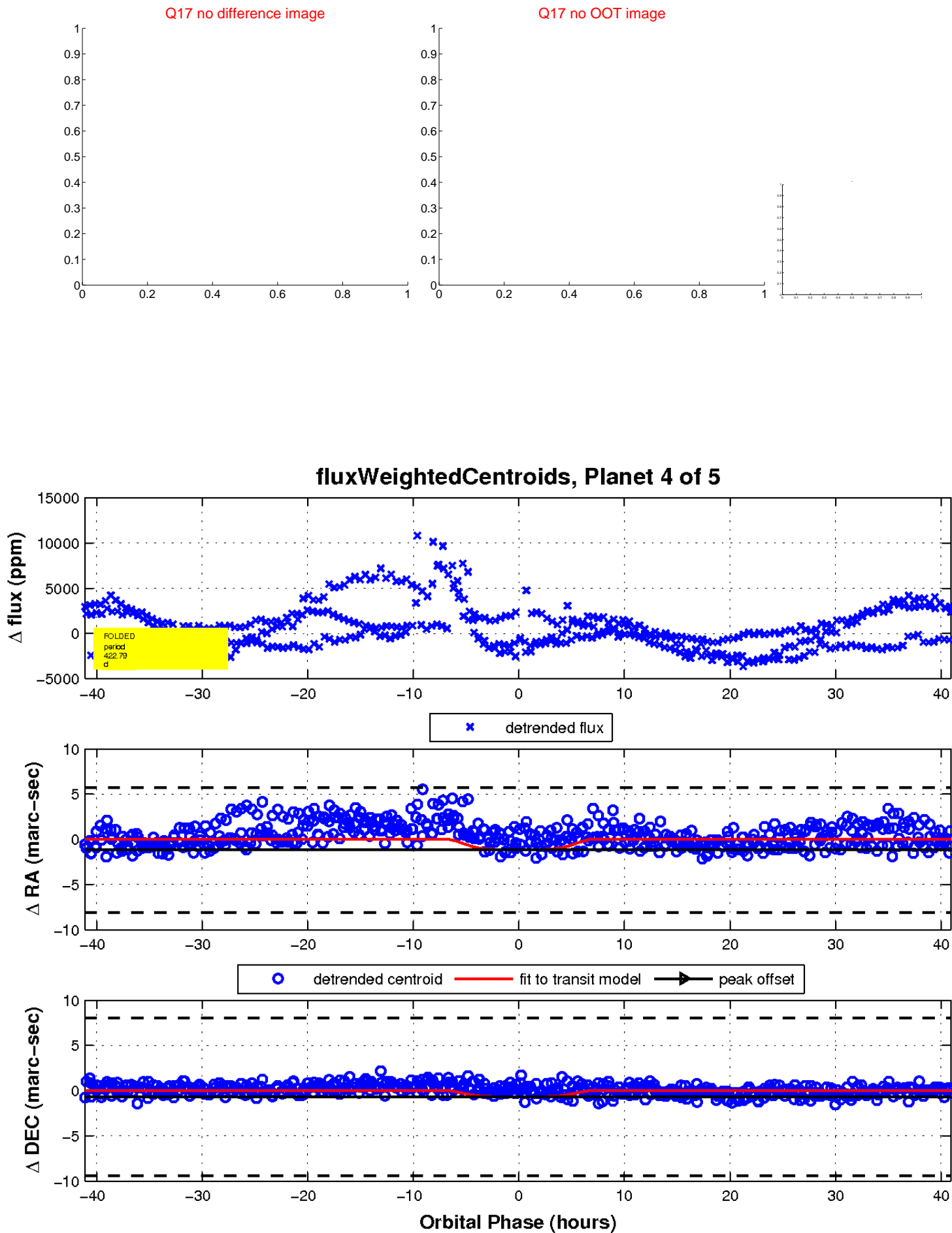
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

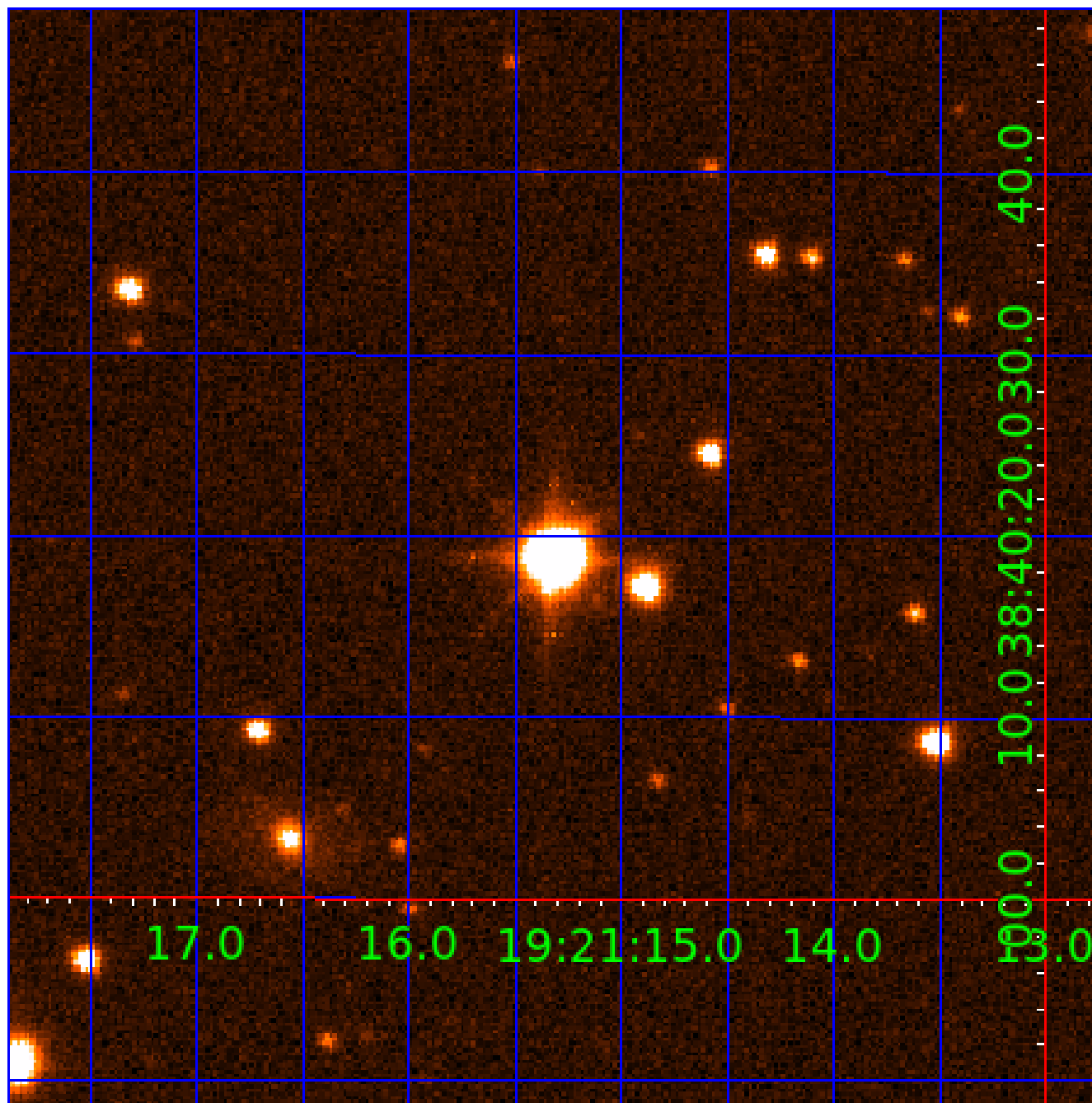


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003540728

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})
003540728-01	OBS	No	327.698963	296.328091	1119.3	4.579	19.7	4.4	0.56	5015	1.89	0.30
003540728-02	OBS	No	581.192077	415.321238	1796.4	4.754	17.1	5.7	0.56	5015	2.38	0.14
003540728-03	OBS	No	241.704161	206.873976	5001.7	24.635	15.8	6.9	0.56	5015	4.75	0.45
003540728-04	OBS	No	422.790352	479.780977	3312.9	13.762	20.1	7.1	0.56	5015	3.77	0.21
003540728-05	OBS	No	484.506952	564.327851	665.7	4.500	18.7	-1.0	0.56	5015	1.43	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003540728-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
003540728-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003540728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003540728-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

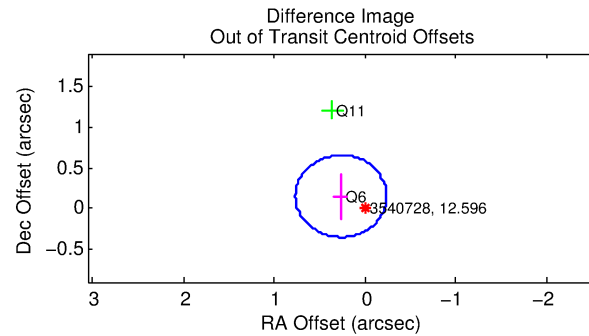
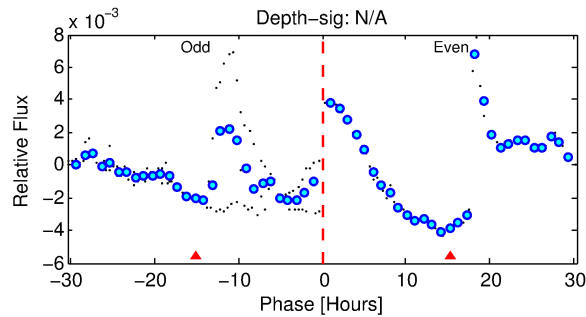
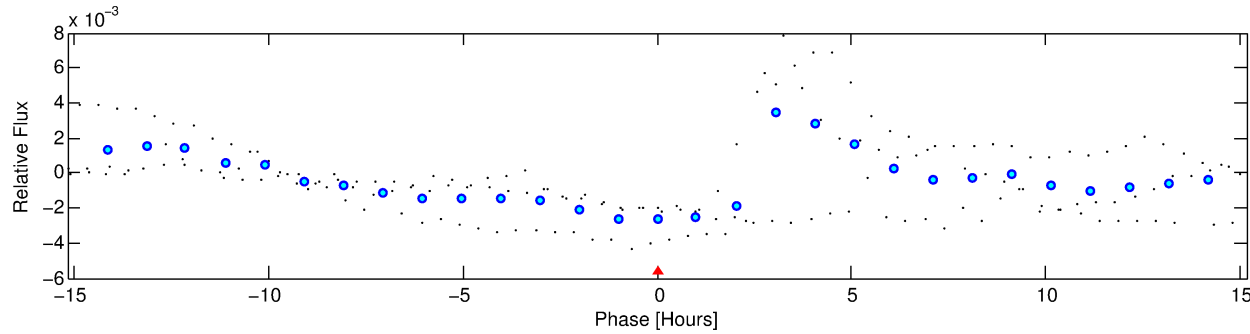
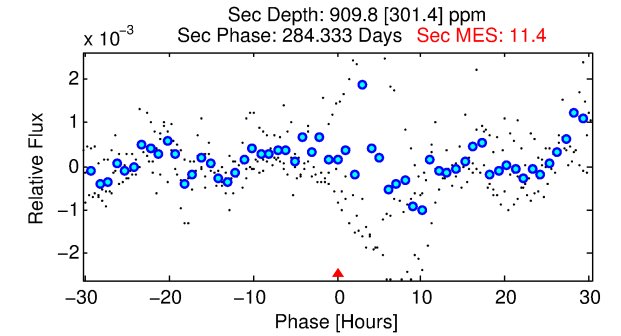
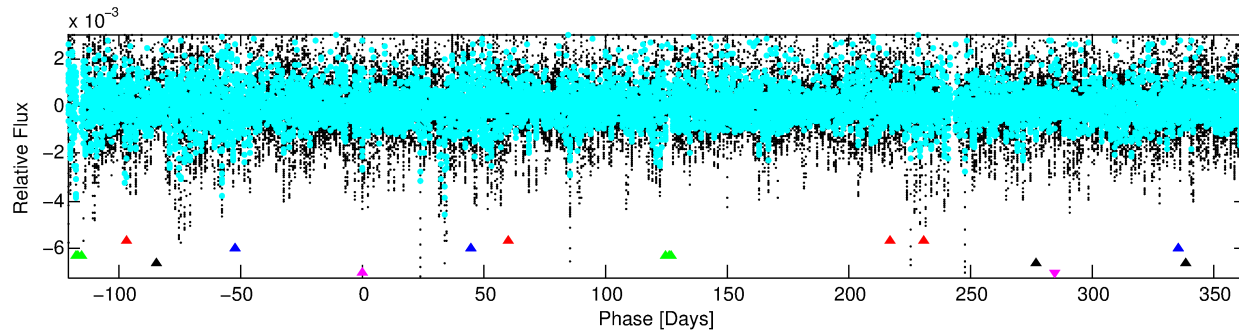
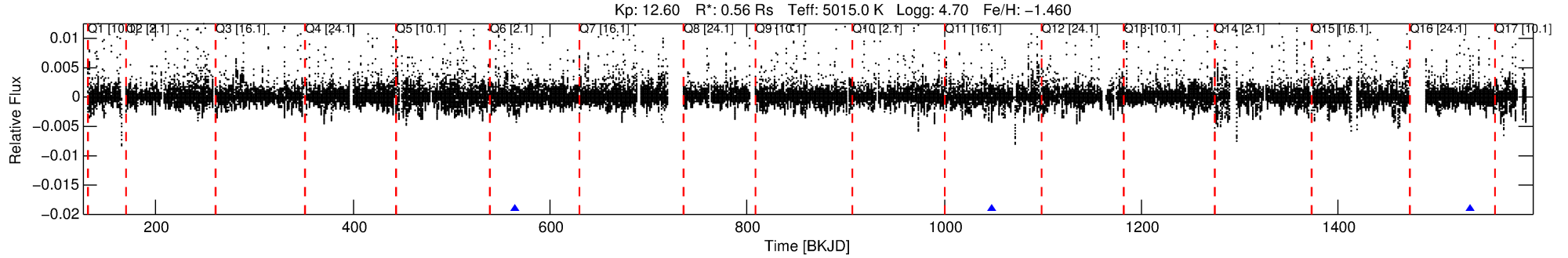
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003540728-05

No Significant Match Found

DV One-Page Summary

KIC: 3540728 Candidate: 5 of 5 Period: 484.507 d



TPS TCE Results:

Period = 484.50695 d
Epoch = 564.3279 BKJD

DV fit results are unavailable

DV Diagnostic Results:

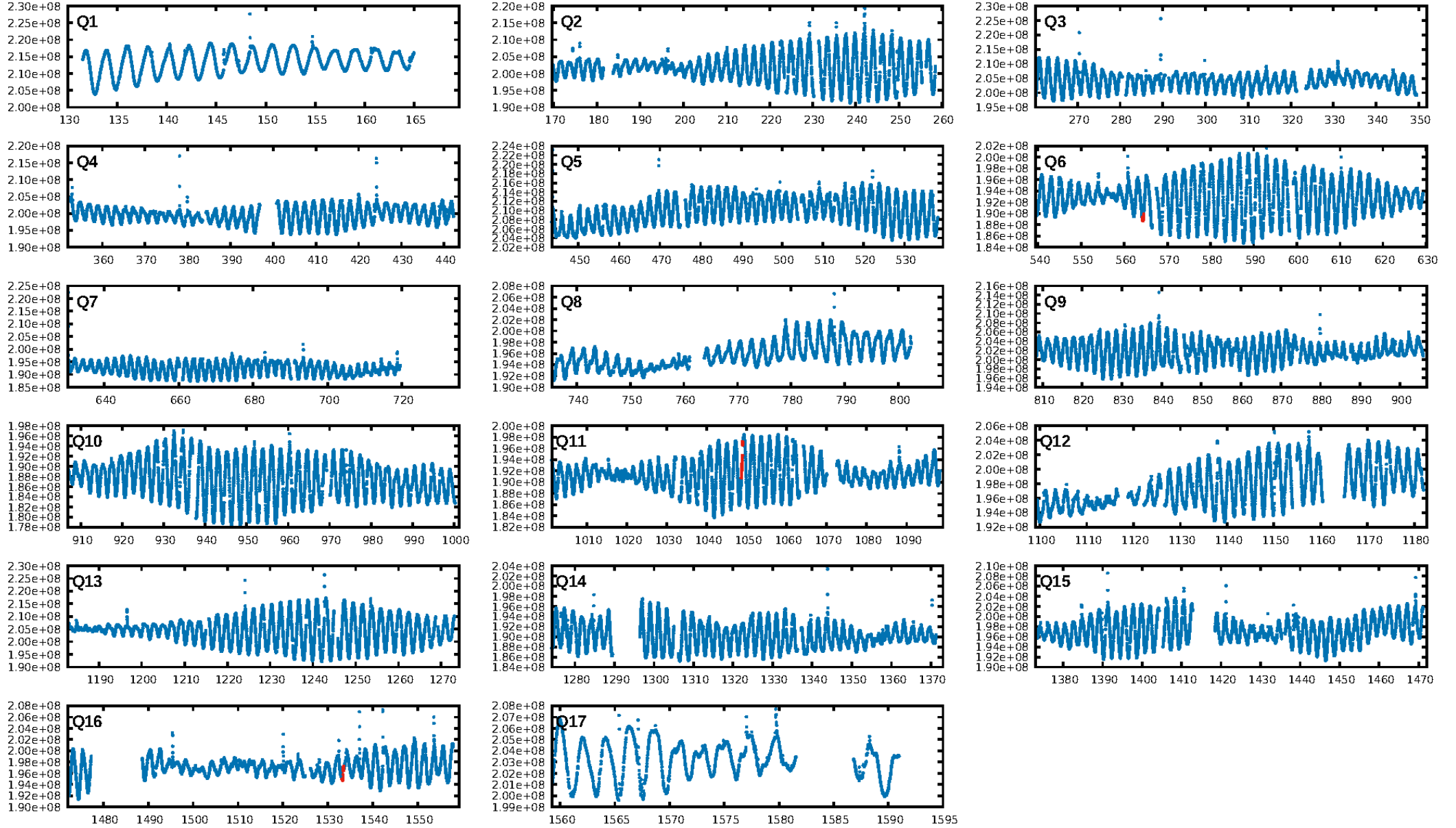
ShortPeriod-sig: 100.0% [102.30σ]
LongPeriod-sig: 100.0% [354.50σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.196

Centroid-sig: 0.0%
Centroid-so: 0.528 arcsec [1.81σ]
OotOffset-rm: 0.303 arcsec [1.81σ]
KicOffset-rm: 0.269 arcsec [0.79σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

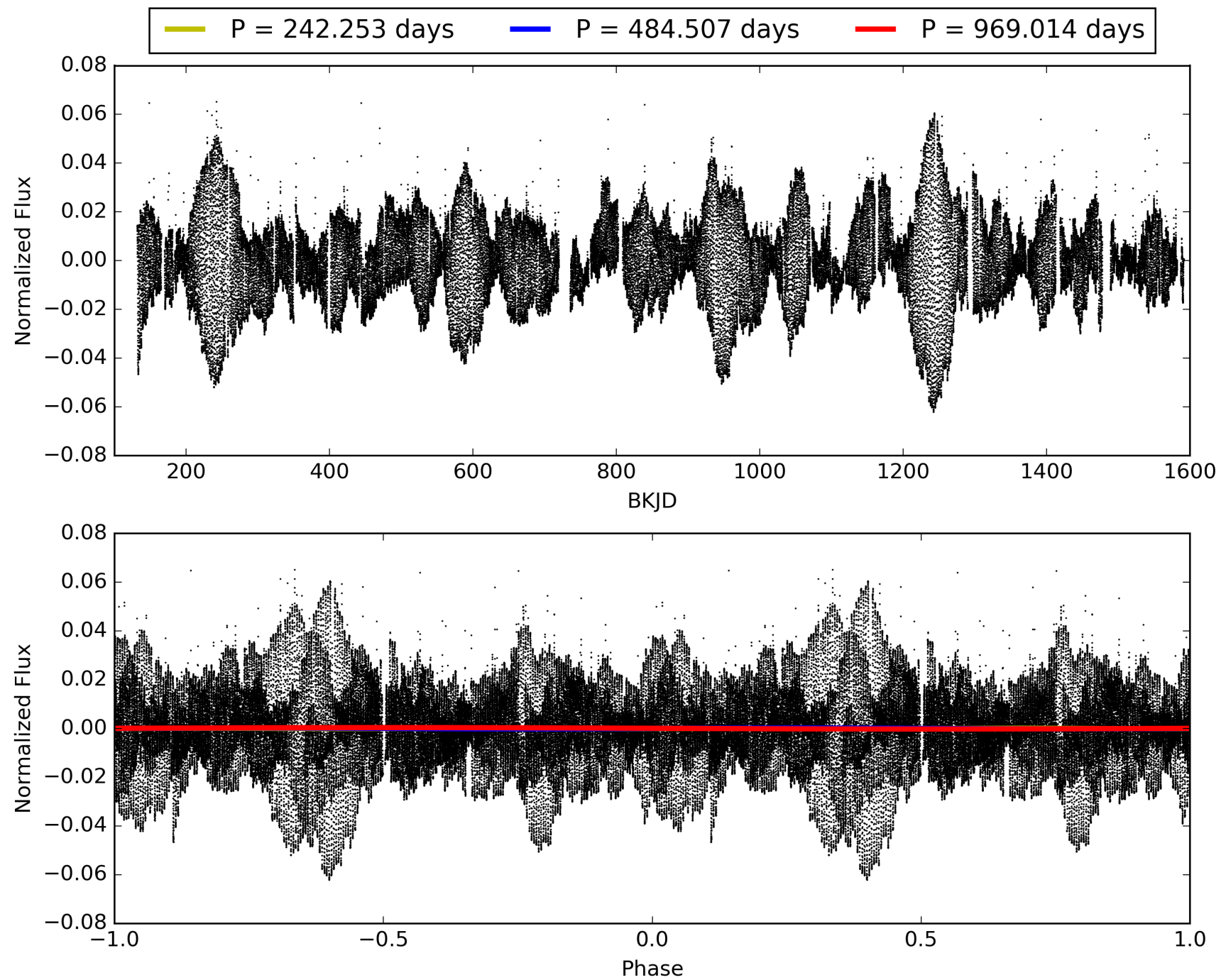
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:24:08 Z

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

TCE 003540728-05, PDC Light Curves

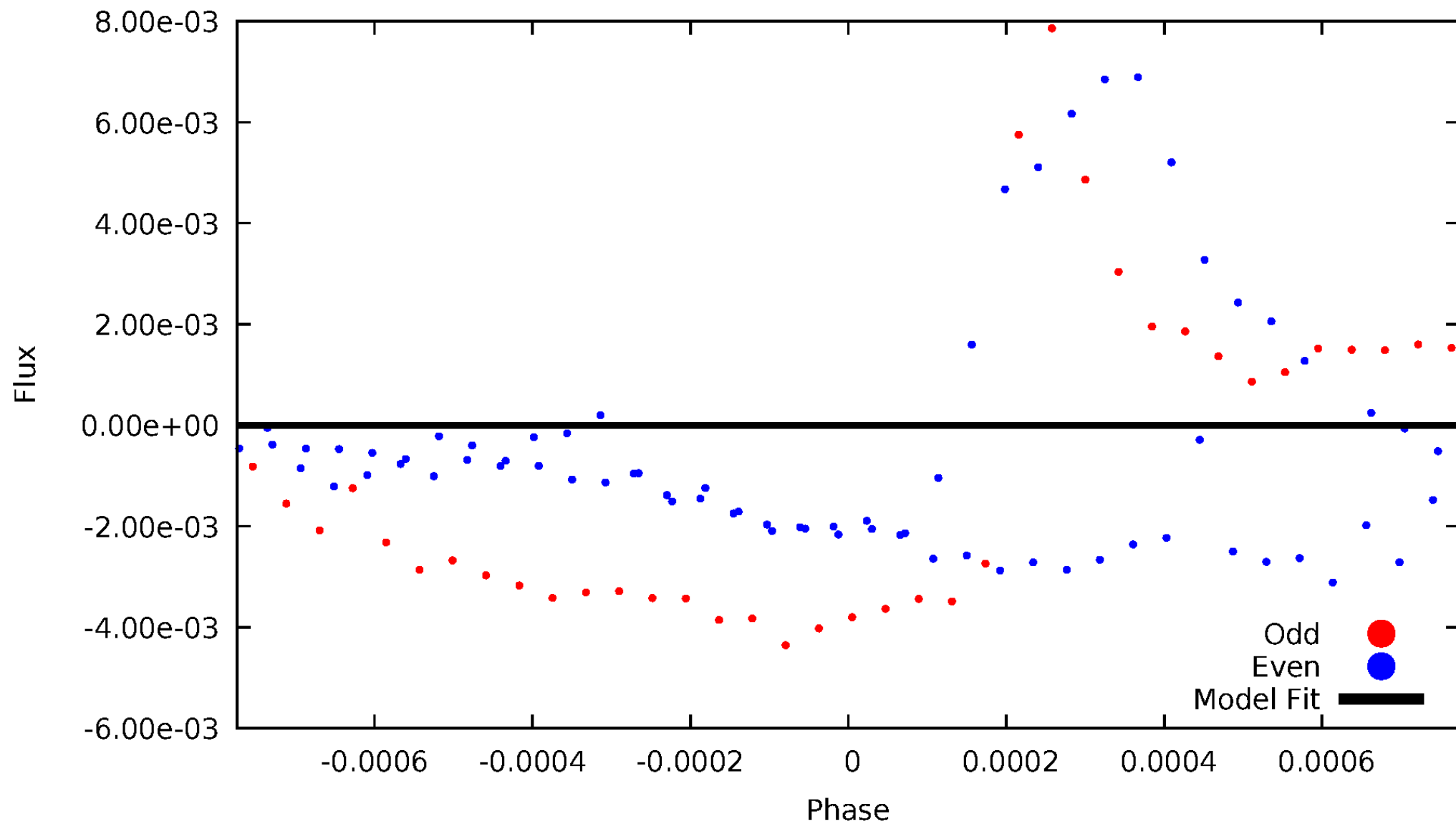


TCE 003540728-05



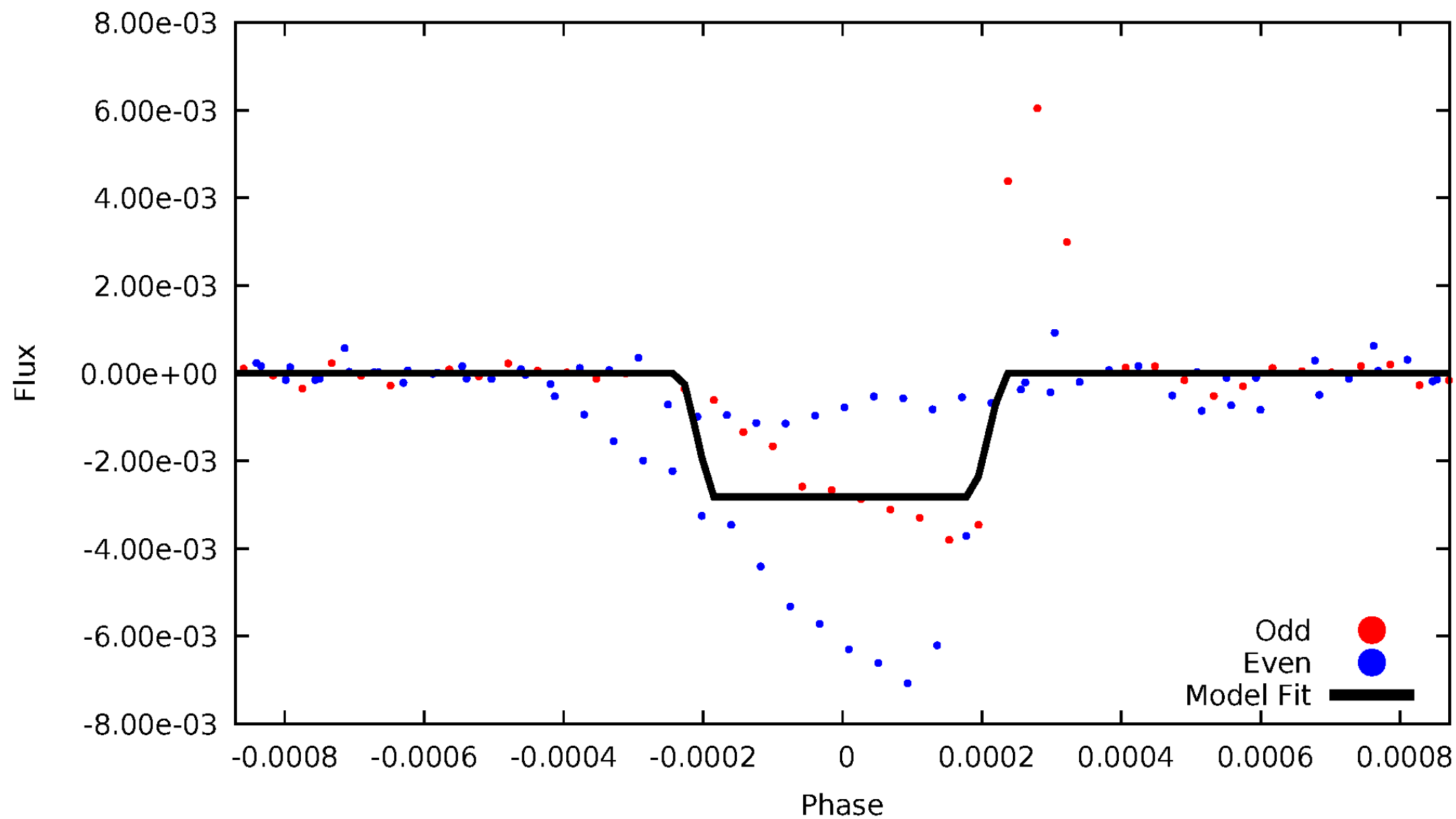
DV Odd/Even

TCE 003540728-05

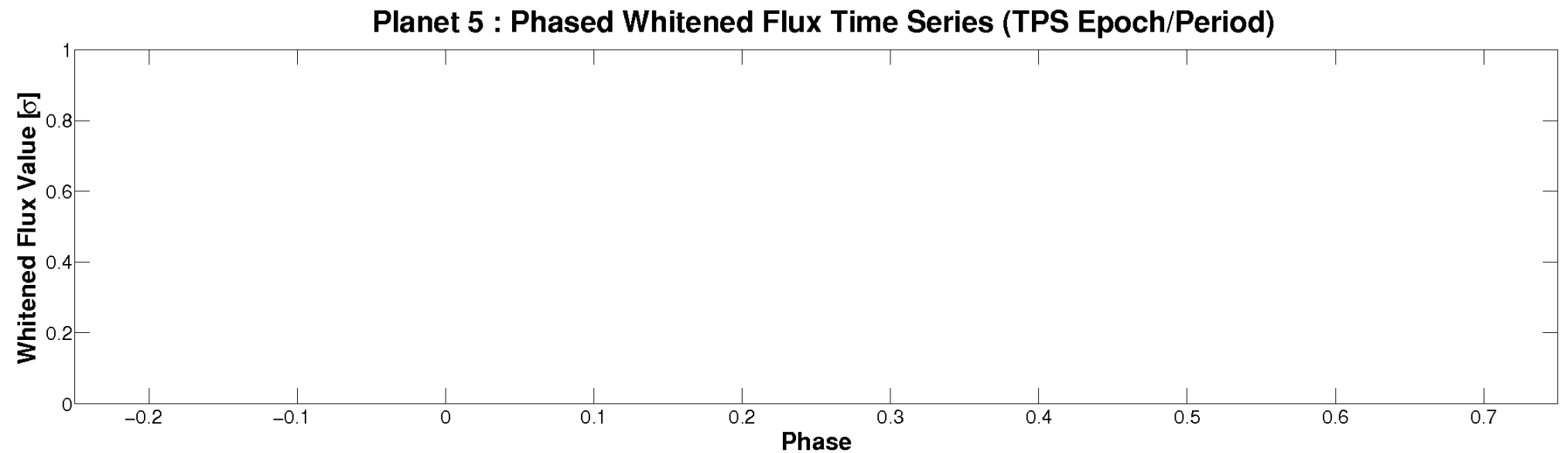
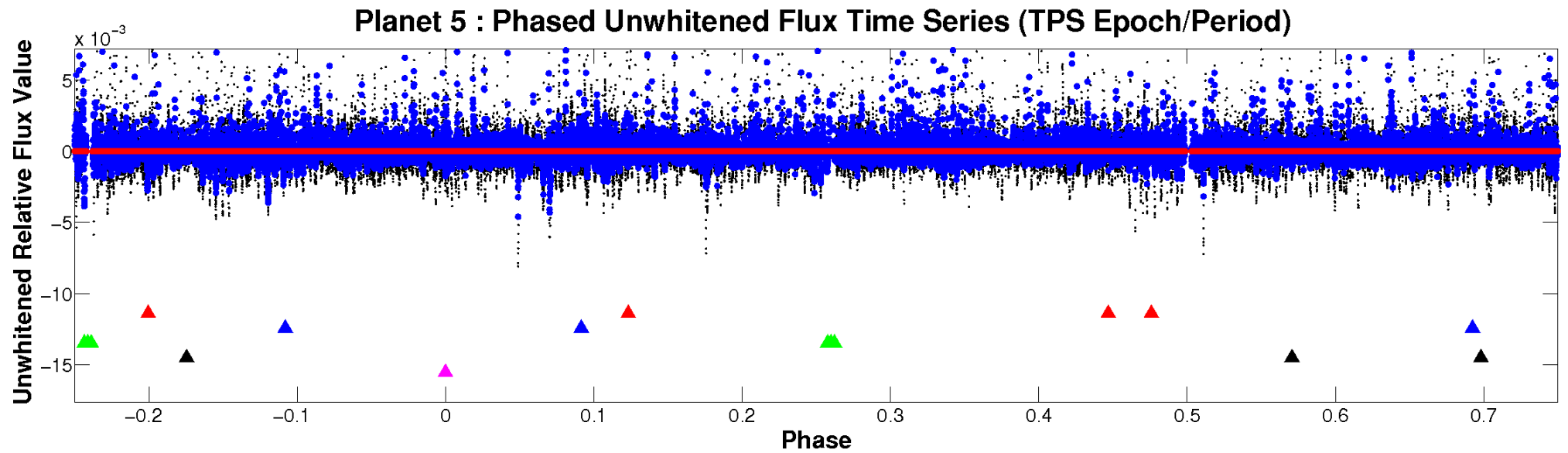


ALT Odd/Even

TCE 003540728-05

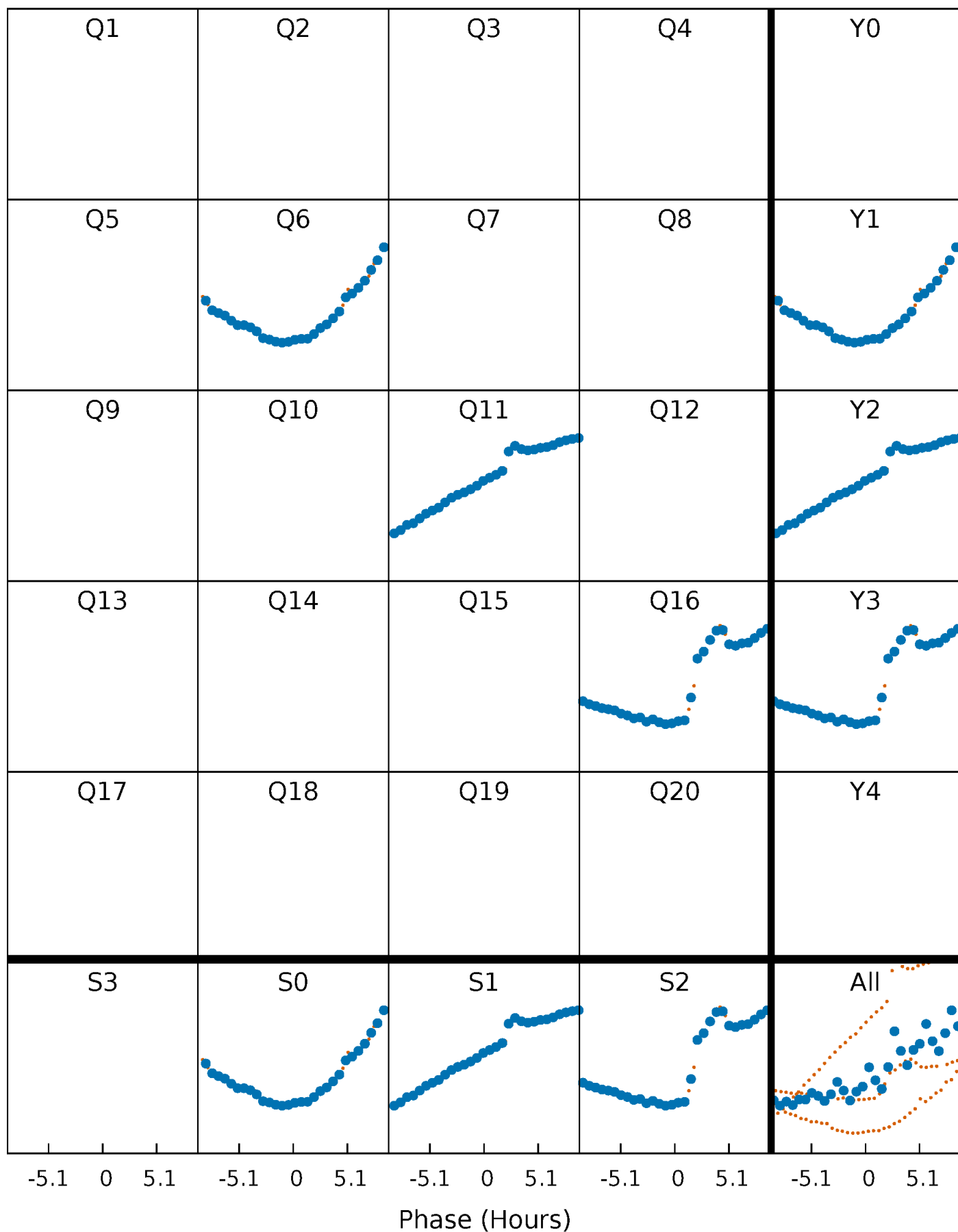


Non-Whitened Vs. Whitened Light Curve



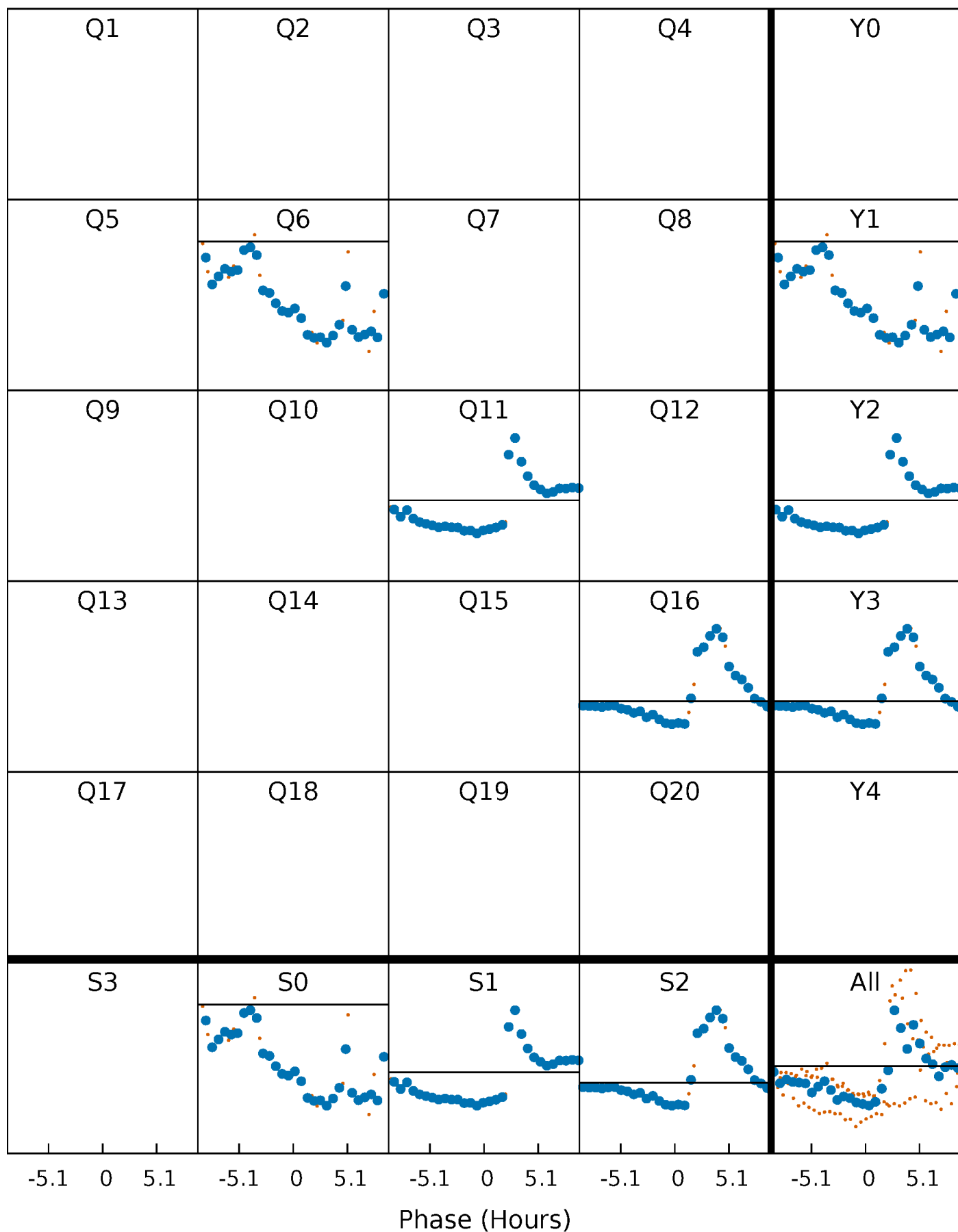
PDC Quarter-Phased Transit Curves

TCE 003540728-05 $P=484.506952$ Days $T_0=564.327850$ (BKJD)



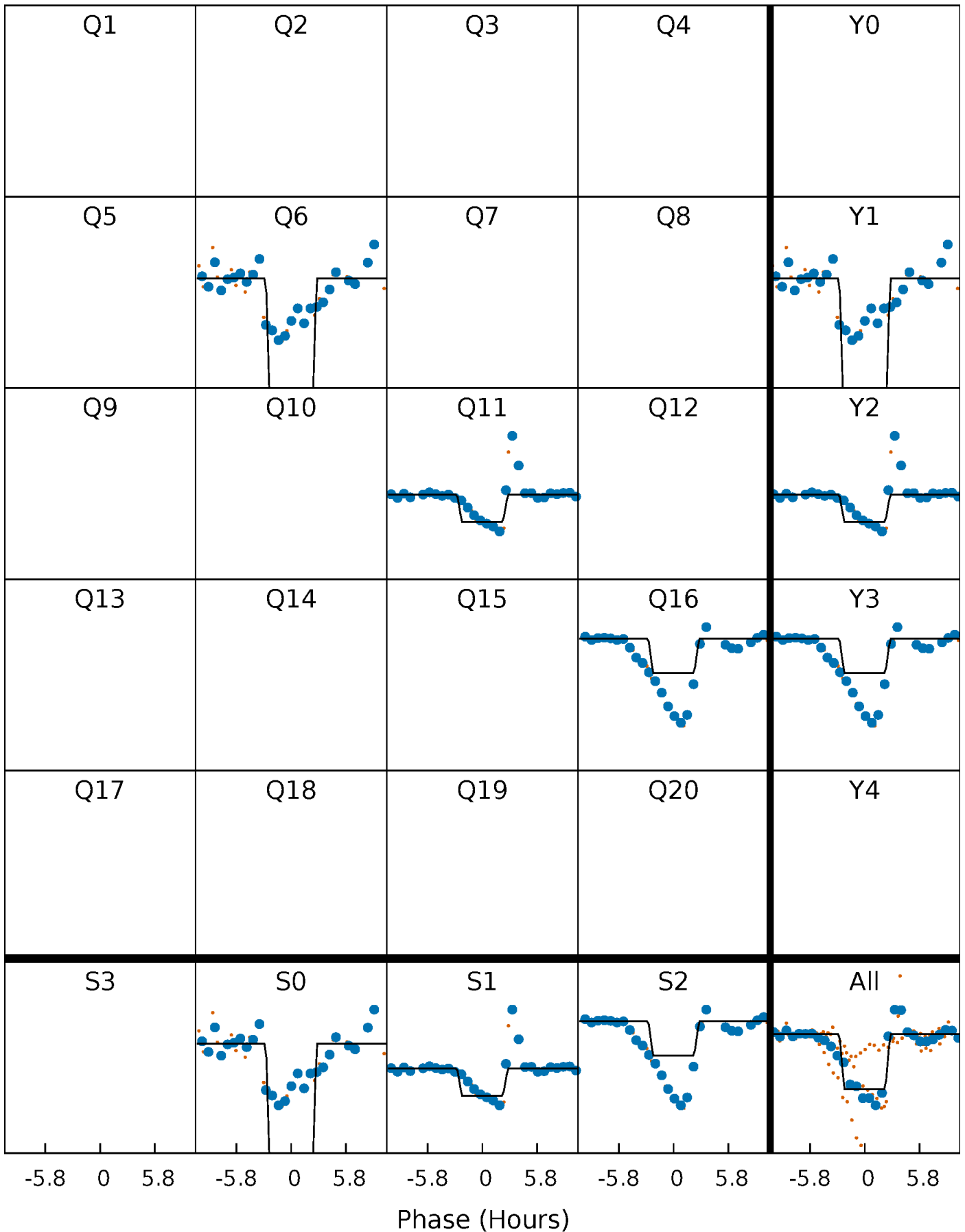
DV Quarter-Phased Transit Curves

TCE 003540728-05 $P=484.506952$ Days $T_0=564.327850$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

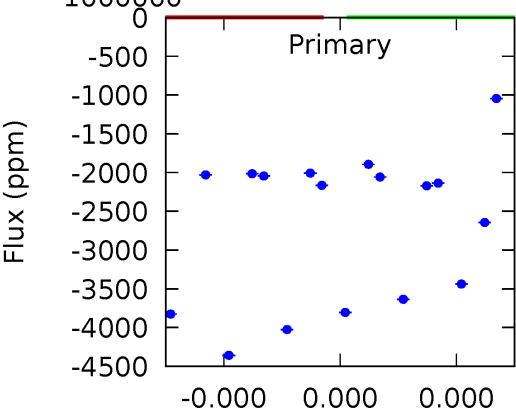
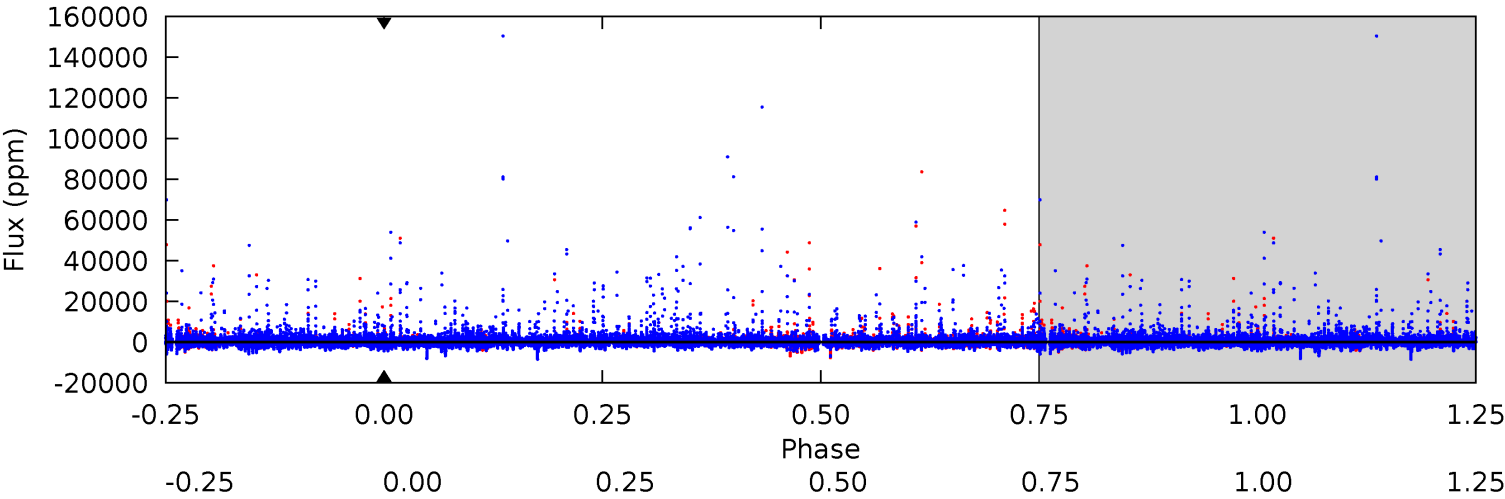
TCE 003540728-05 $P=484.506952$ Days $T_0=564.317417$ (BKJD)



DV Model-Shift Uniqueness Test

003540728-05, P = 484.506952 Days, E = 79.820898 Days

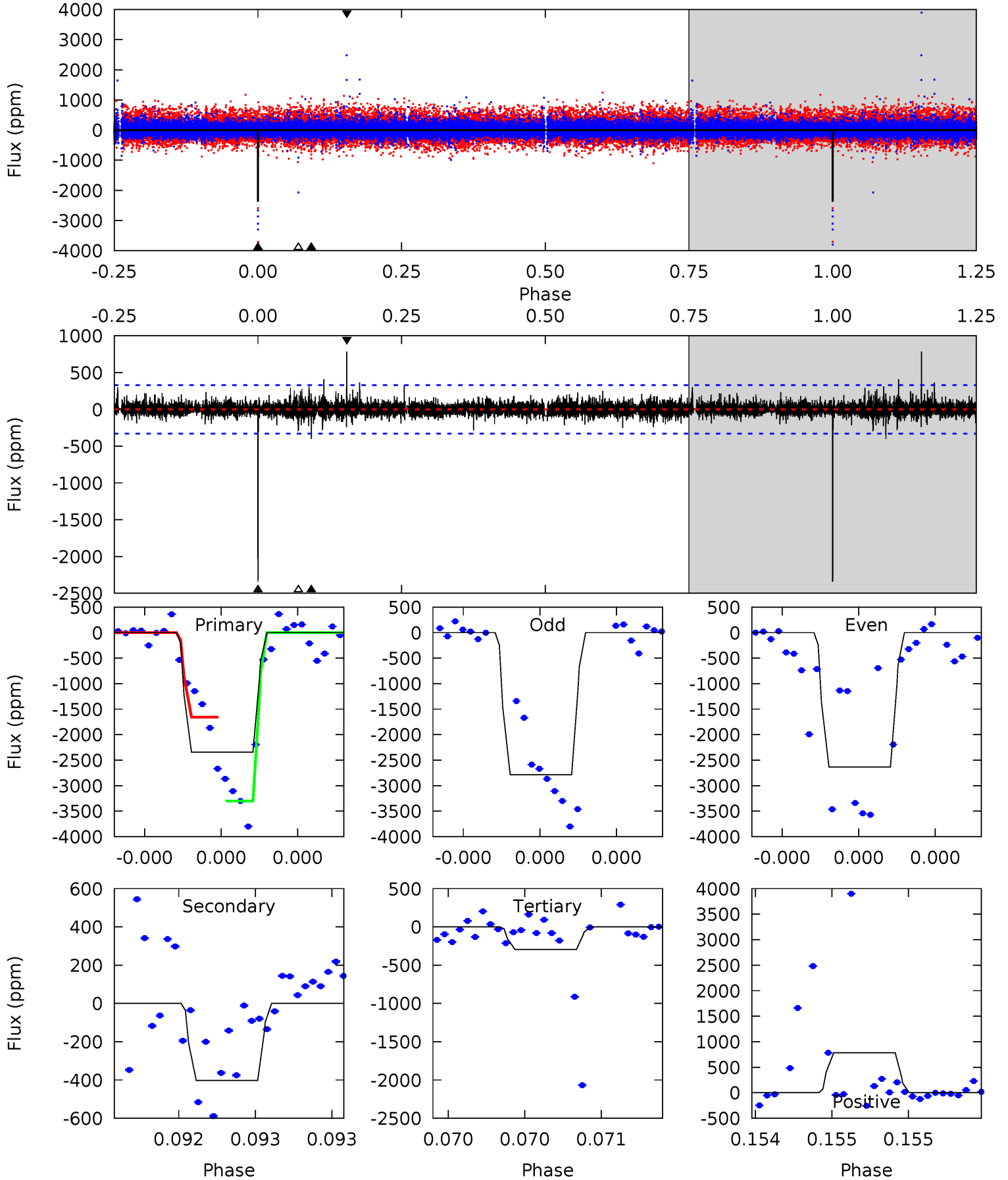
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003540728-05, P = 484.506952 Days, E = 79.810465 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.8	6.83	5.00	13.3	5.60	3.52	0.93	34.8	26.5	1.84	-6.48	1.48	1.15	0.25	14.1



Stellar Parameters For KIC 003540728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5015^{+165}_{-165}	$4.697^{+0.052}_{-0.024}$	$-1.460^{+0.300}_{-0.250}$	$0.559^{+0.030}_{-0.033}$	$0.567^{+0.038}_{-0.020}$	$4.579^{+0.828}_{-0.480}$
	+3%/-3%	+1%/-1%	+21%/-17%	+5%/-6%	+7%/-4%	+18%/-10%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003540728-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$4.92^{+4.39}_{-3.47}$	230^{+8}_{-8}	-3402^{+18351}_{-10586}	$-19125.326^{+4794662.496}_{-4305226.384}$
Alt.	-402 ± 59	$5.29^{+5.17}_{-3.52}$	230^{+8}_{-8}	3005^{+1379}_{-474}	8019^{+65523}_{-5939}

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

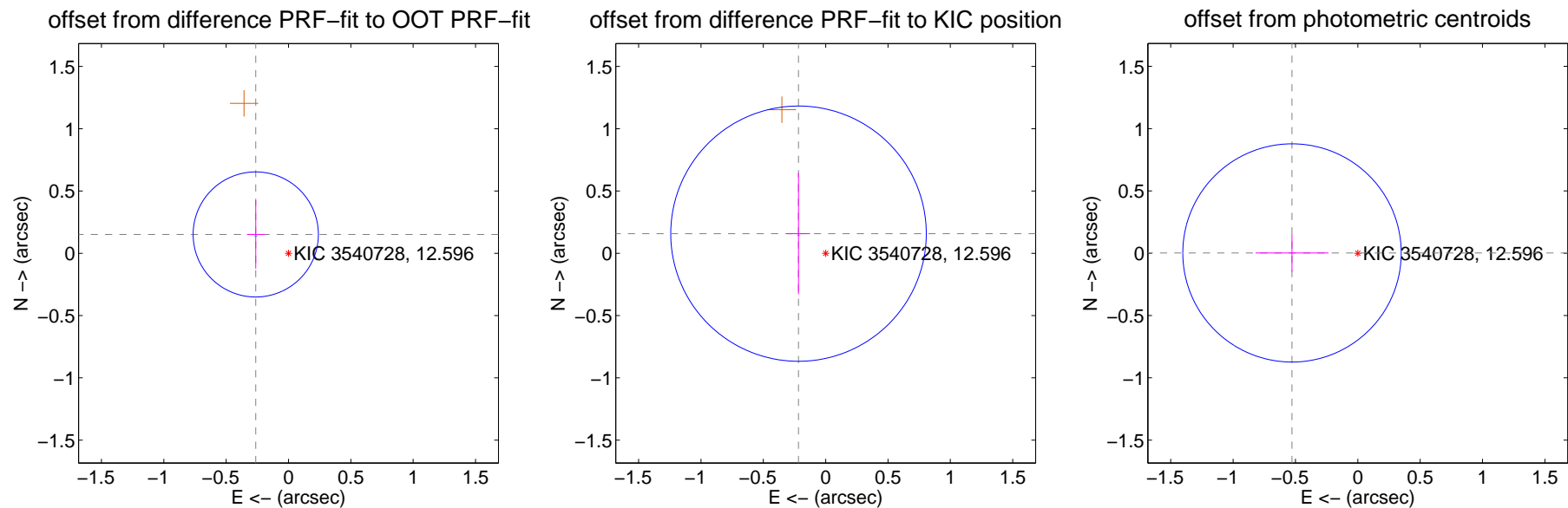
DV Centroid Data

Supplemental centroid analysis for 003540728-05. Kepler magnitude: 12.60. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.303 ± 0.167	1.81	0.263 ± 0.071	0.151 ± 0.275
PRF-fit source offset from KIC position	0.269 ± 0.342	0.79	0.218 ± 0.093	0.158 ± 0.487
photometric centroid source offset	0.53 ± 0.29	1.81	0.53 ± 0.29	0.00 ± 0.15

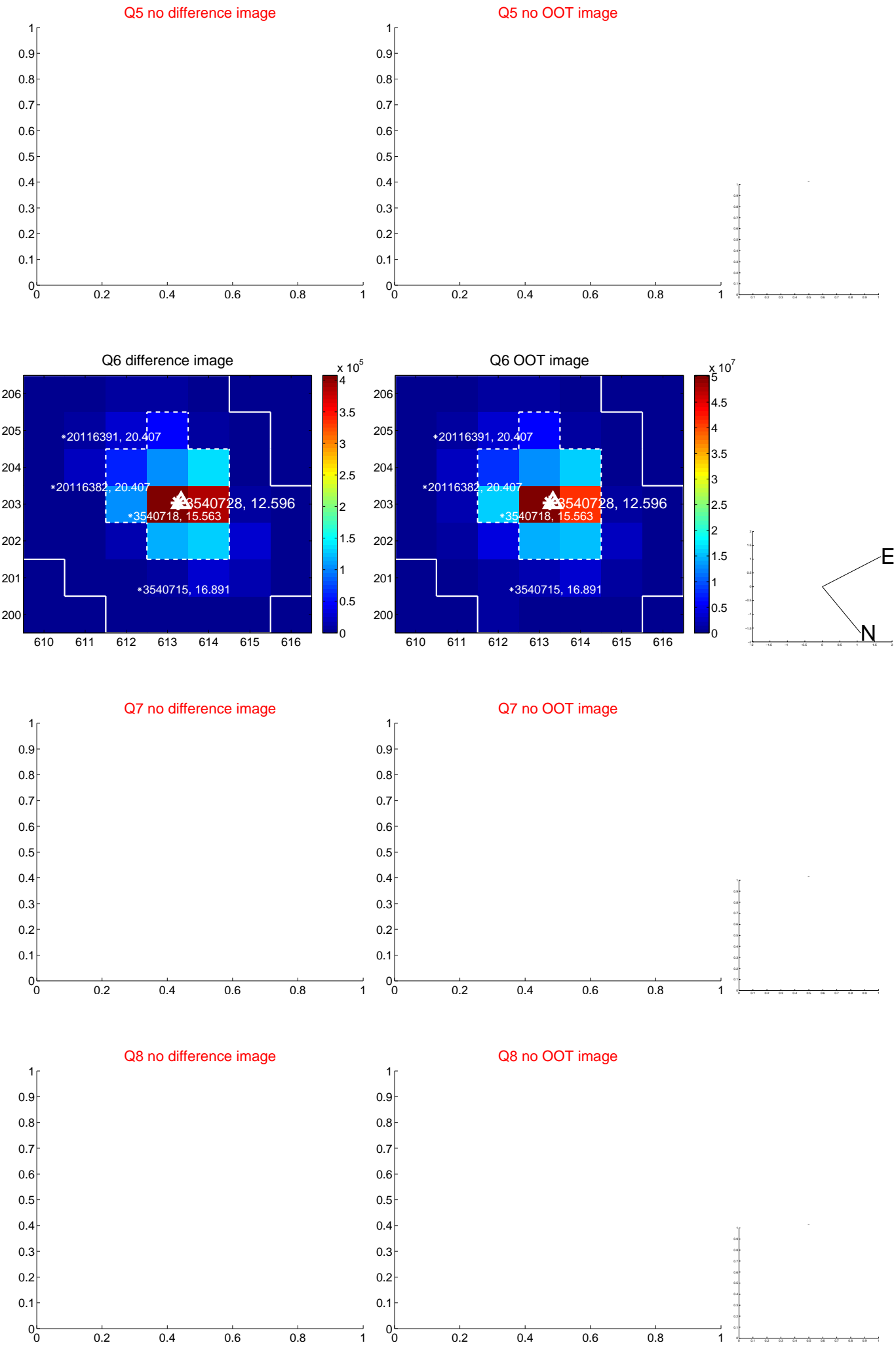


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

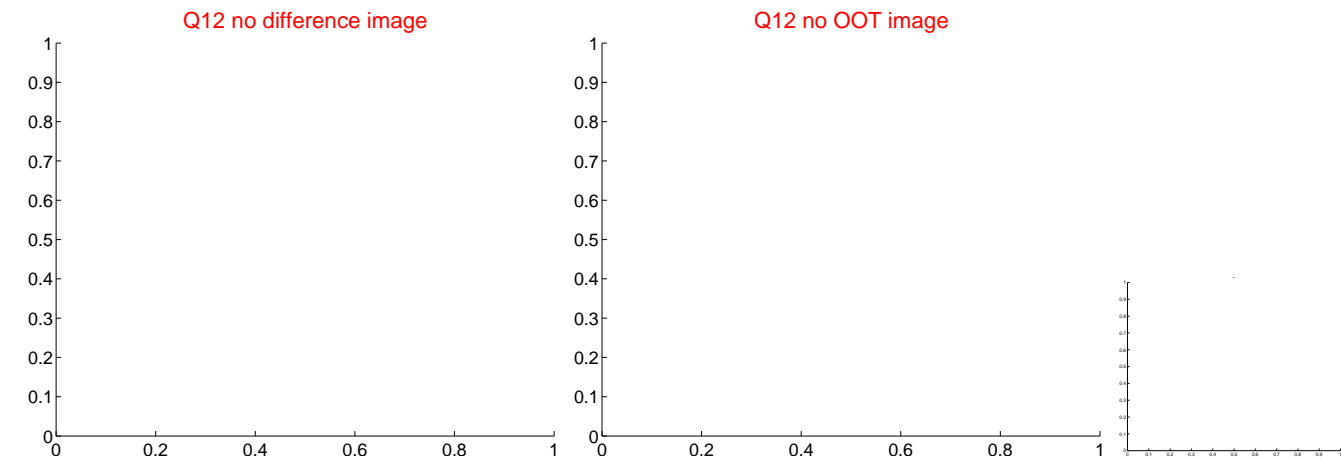
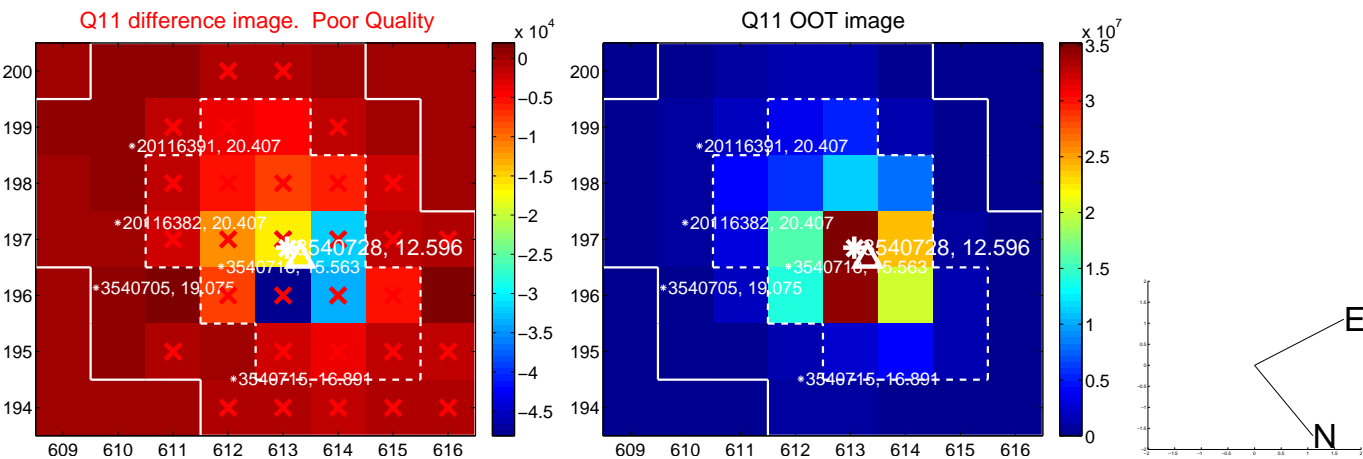
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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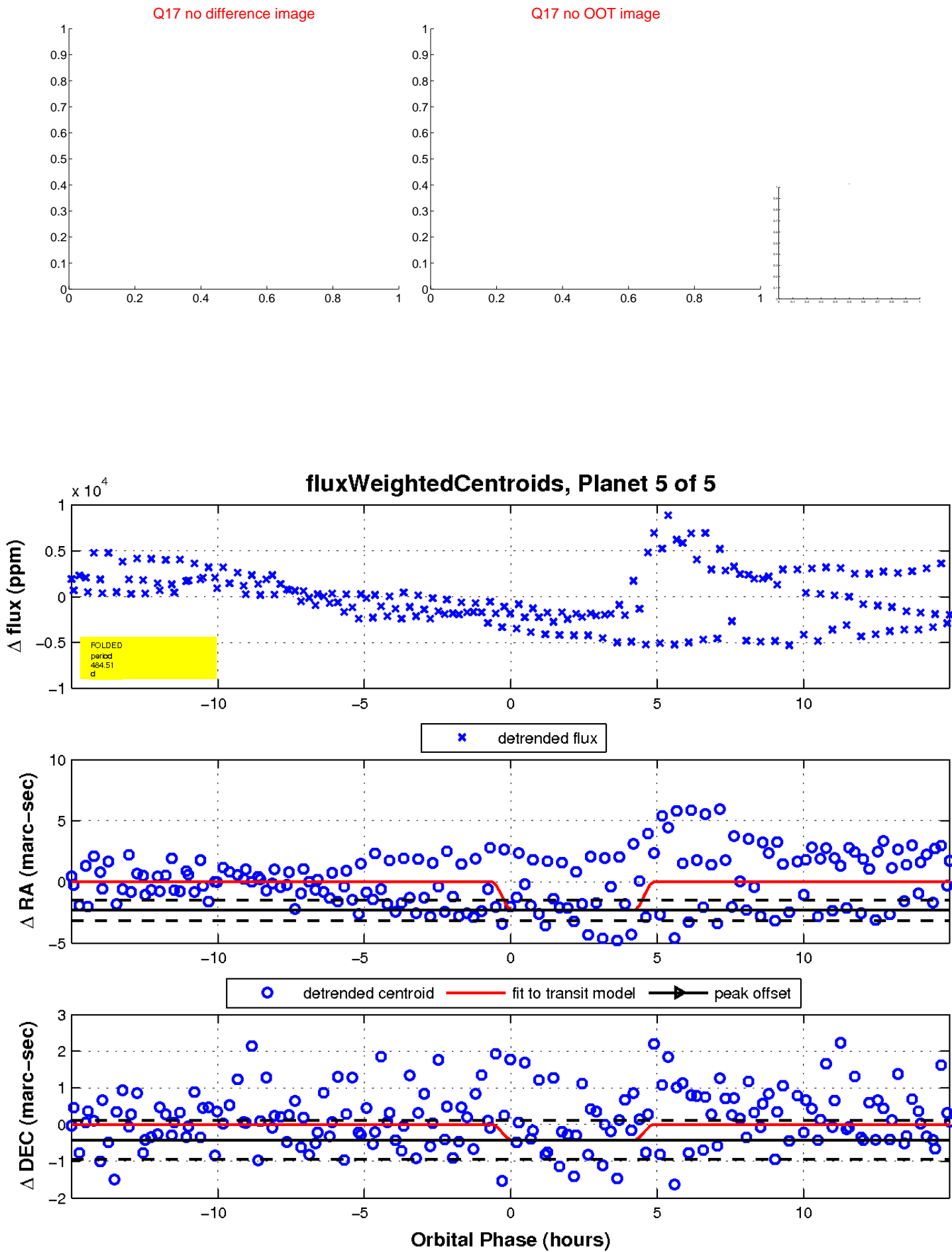
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UKIRT Image

Declination

