

KIC 007007099

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})
007007099-01	OBS	No	2.677749	132.655012	91.3	14.919	9.4	7.3	1.03	5671	1.04	706.08
007007099-02	OBS	No	215.273182	150.416273	1952.8	9.794	19.2	9.1	1.03	5671	4.66	2.04
007007099-03	OBS	No	481.990984	358.651354	1587.8	7.329	16.1	10.5	1.03	5671	4.92	0.69
007007099-06	OBS	No	404.449444	514.215166	2694.8	13.795	13.8	13.4	1.03	5671	6.74	0.88
007007099-07	OBS	No	591.713802	147.074944	2929.0	16.613	12.9	10.3	1.03	5671	10.61	0.53
007007099-08	OBS	No	347.913940	158.144845	1804.6	12.869	12.4	9.8	1.03	5671	6.00	1.07
007007099-09	OBS	No	562.331529	136.398872	741.6	3.310	12.4	5.8	1.03	5671	3.23	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007007099-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007007099-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007007099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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

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

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

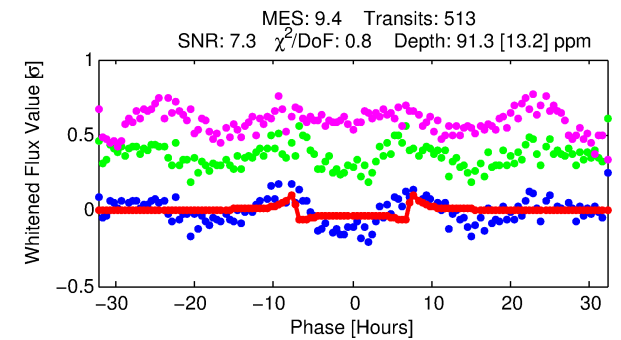
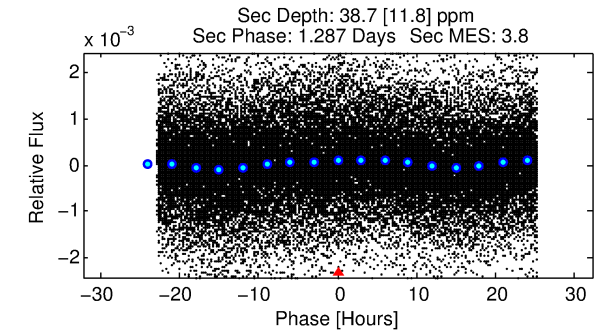
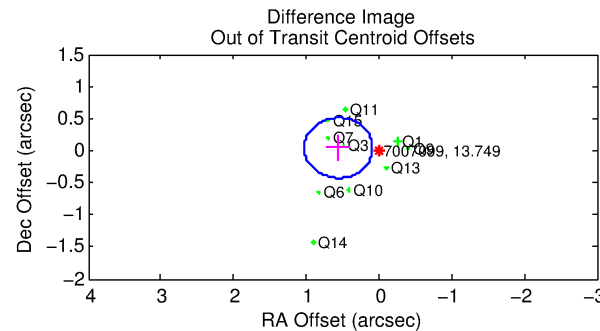
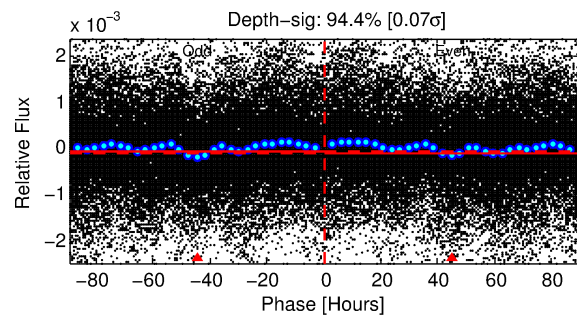
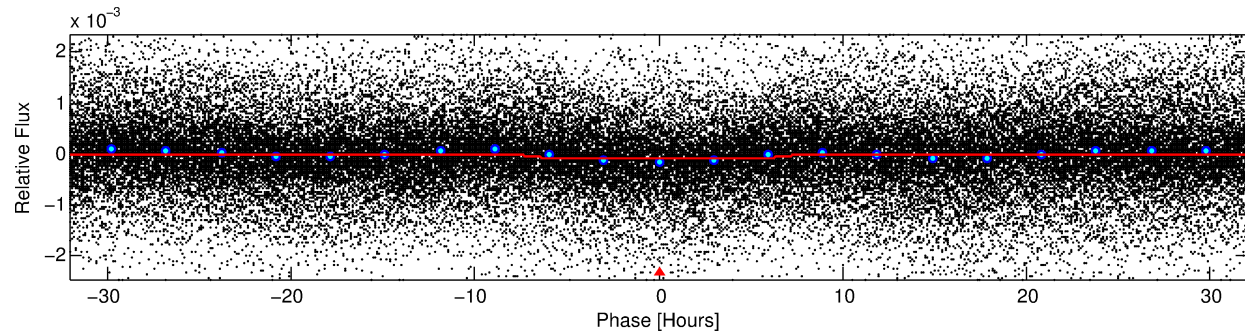
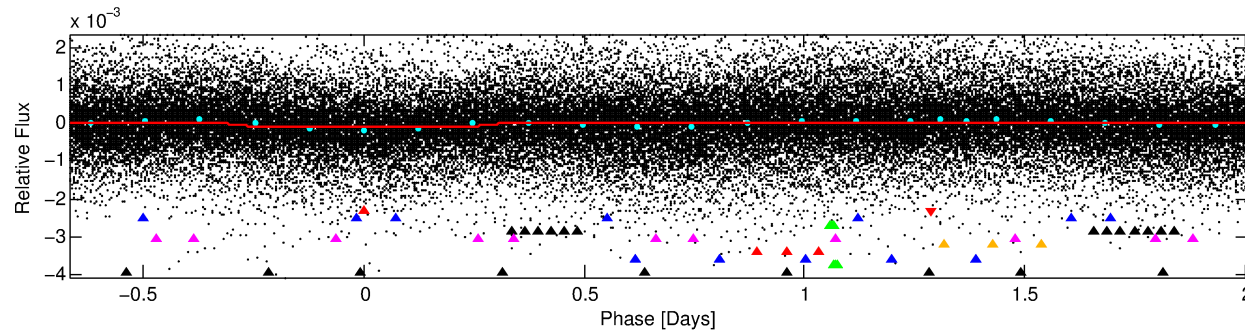
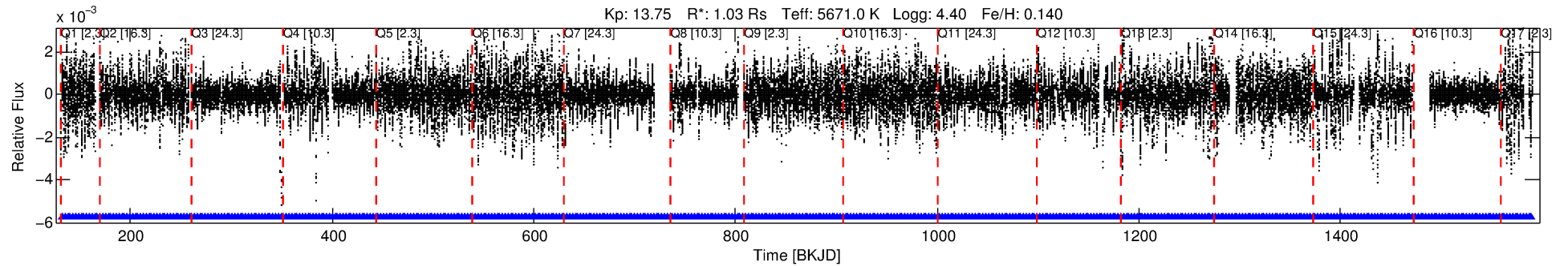
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007007099-01

No Significant Match Found

DV One-Page Summary

KIC: 7007099 Candidate: 1 of 10 Period: 2.678 d



DV Fit Results:

Period = 2.67775 [0.00002] d
Epoch = 132.6550 [0.0047] BKJD
Rp/R* = 0.0092 [0.0026]
a/R* = 1.33 [0.70]
b = 0.64 [1.10]
Seff = 706.08 [248.59]
Teq = 1314 [116] K
Rp = 1.04 [0.41] Re
a = 0.0375 [0.0086] AU
Ag = 27.82 [20.27] [1.32 σ]
Teffp = 4667 [771] K [4.30 σ]

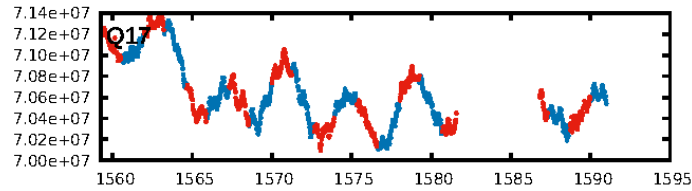
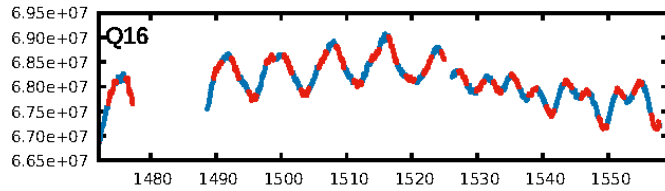
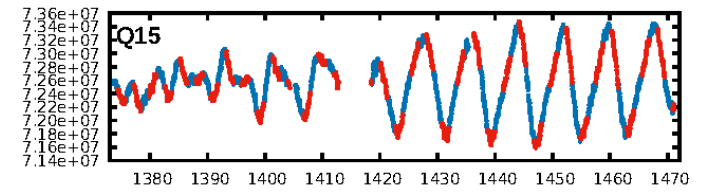
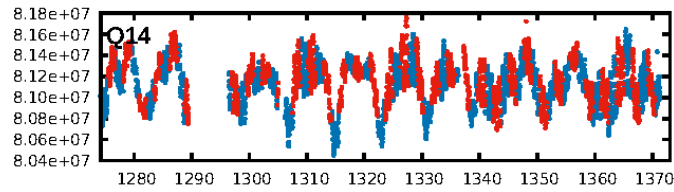
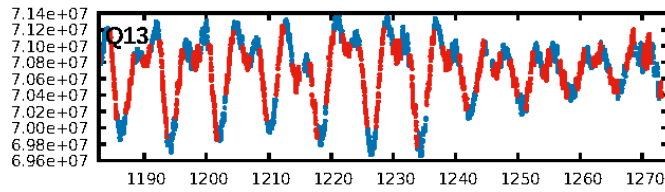
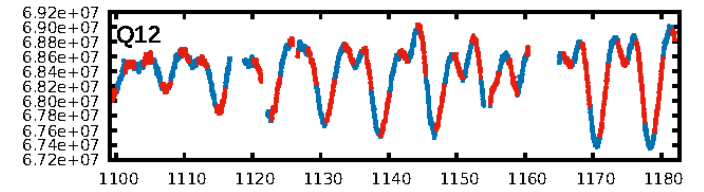
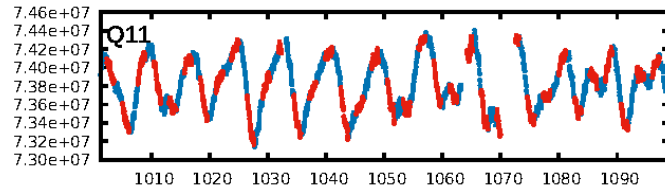
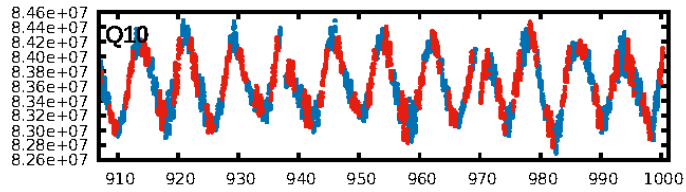
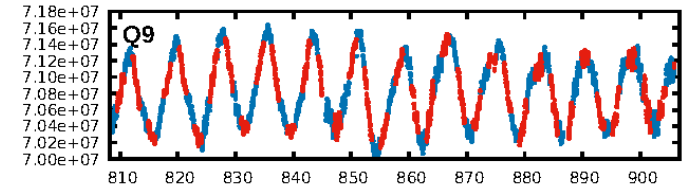
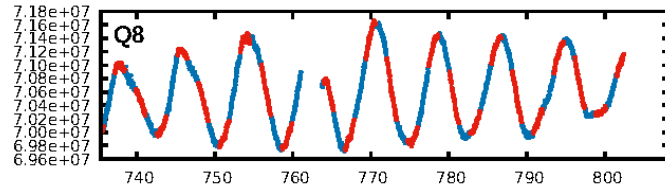
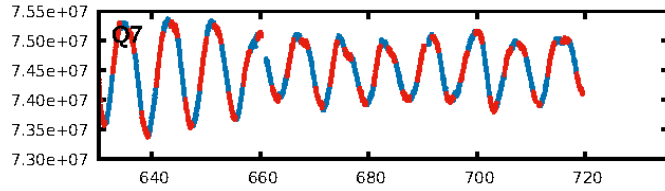
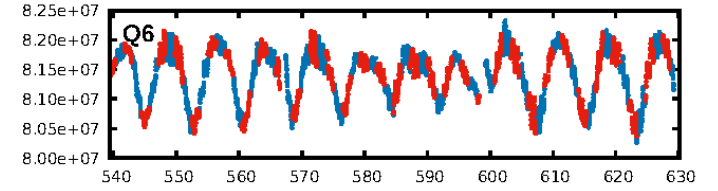
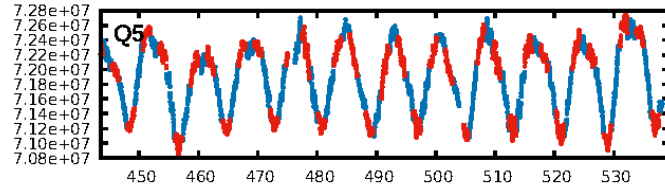
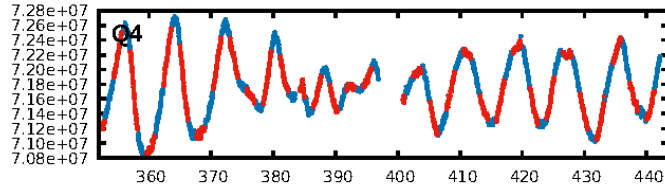
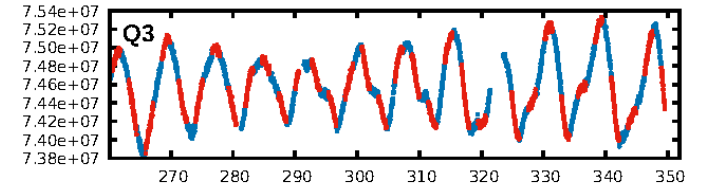
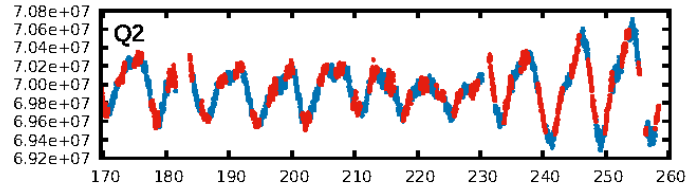
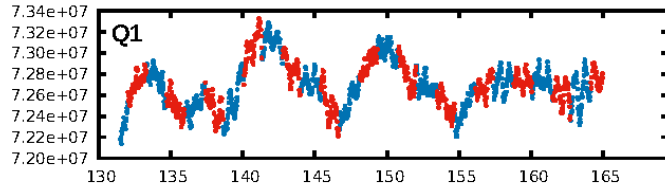
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [136.31 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [489/489]
GhostDiagnostic-chr: -0.4713
Centroid-sig: 18.7%
Centroid-so: 3.528 arcsec [3.24 σ]
OotOffset-rm: 0.562 arcsec [3.59 σ]
KicOffset-rm: 8.521 arcsec [55.53 σ]
OotOffset-st: 3/4/0/3 [10]
KicOffset-st: 3/4/1/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [17/17]

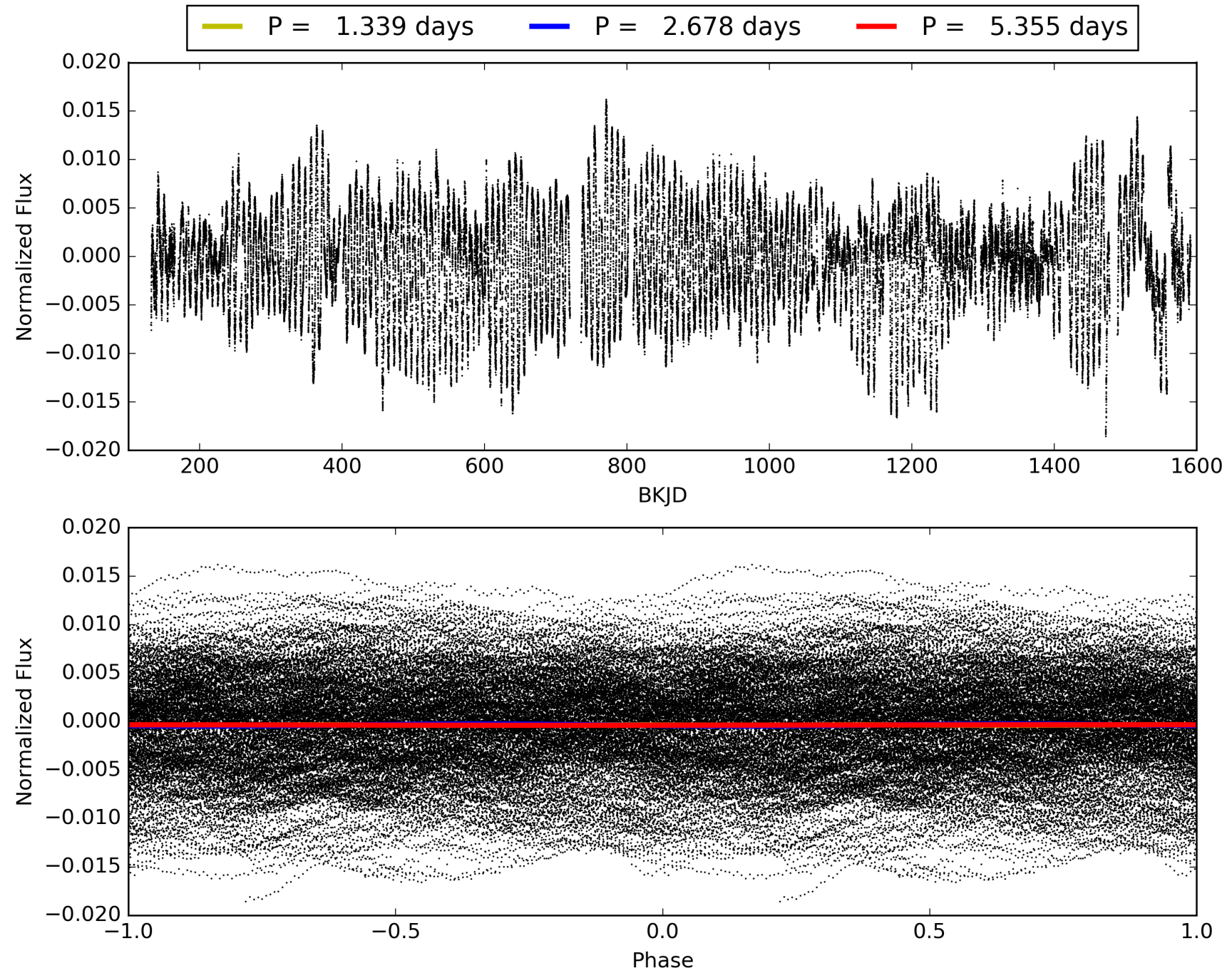
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007007099-01, PDC Light Curves

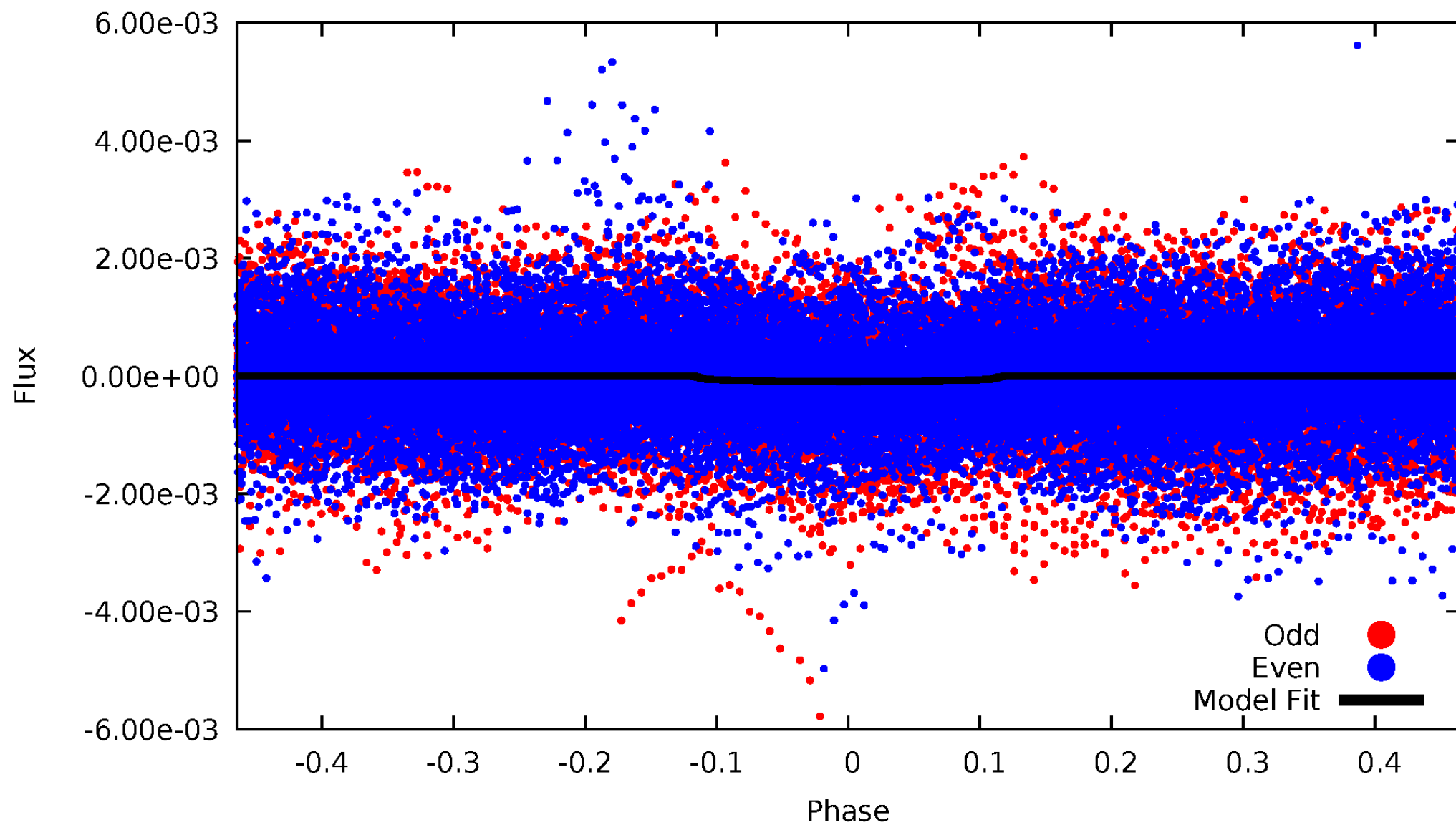


TCE 007007099-01



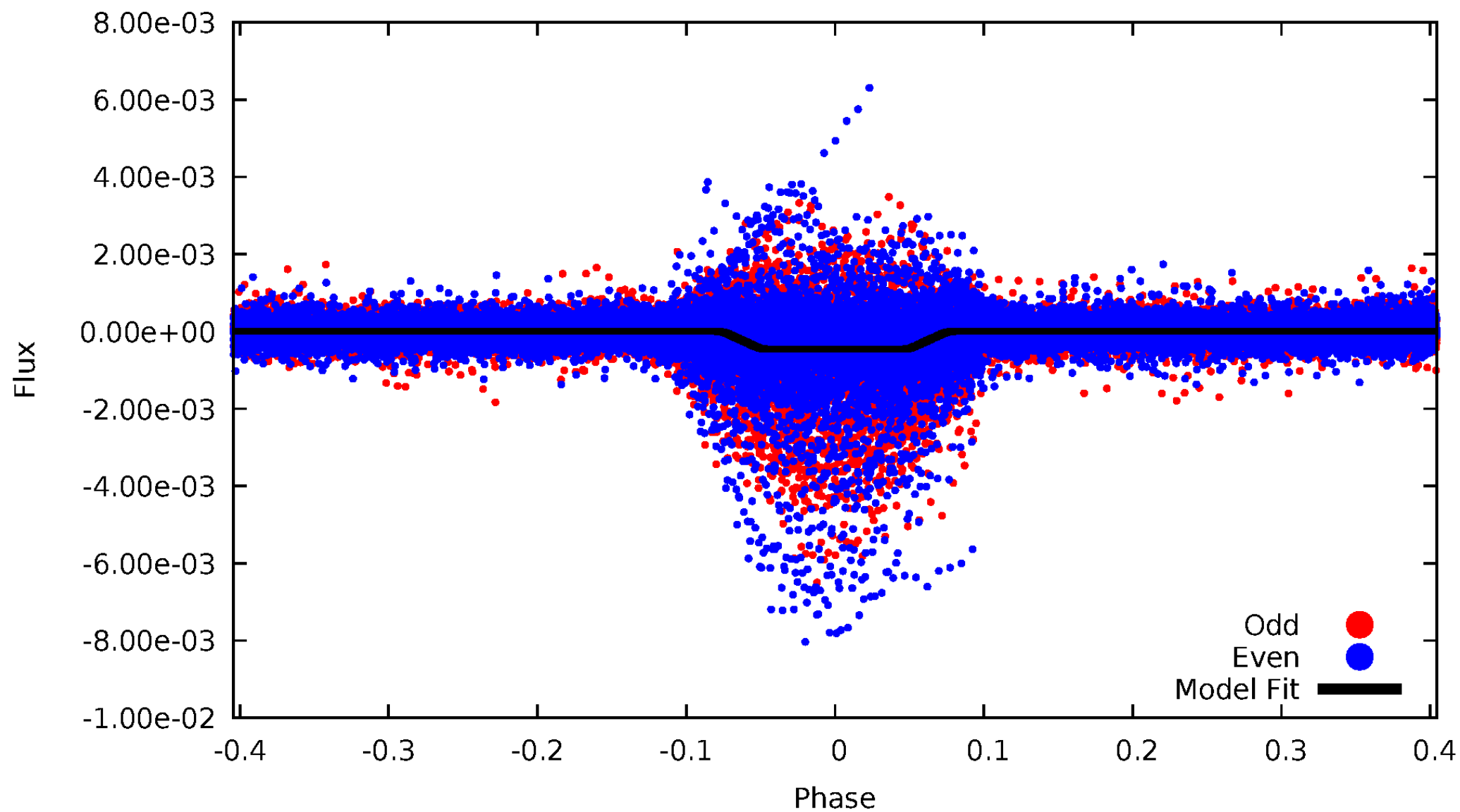
DV Odd/Even

TCE 007007099-01

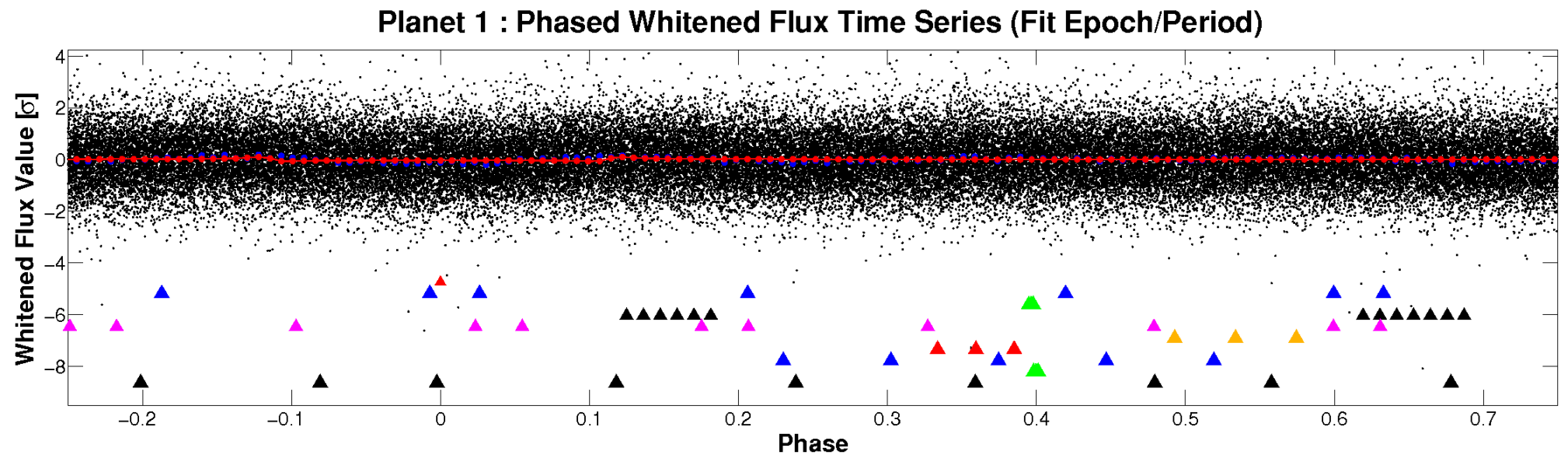
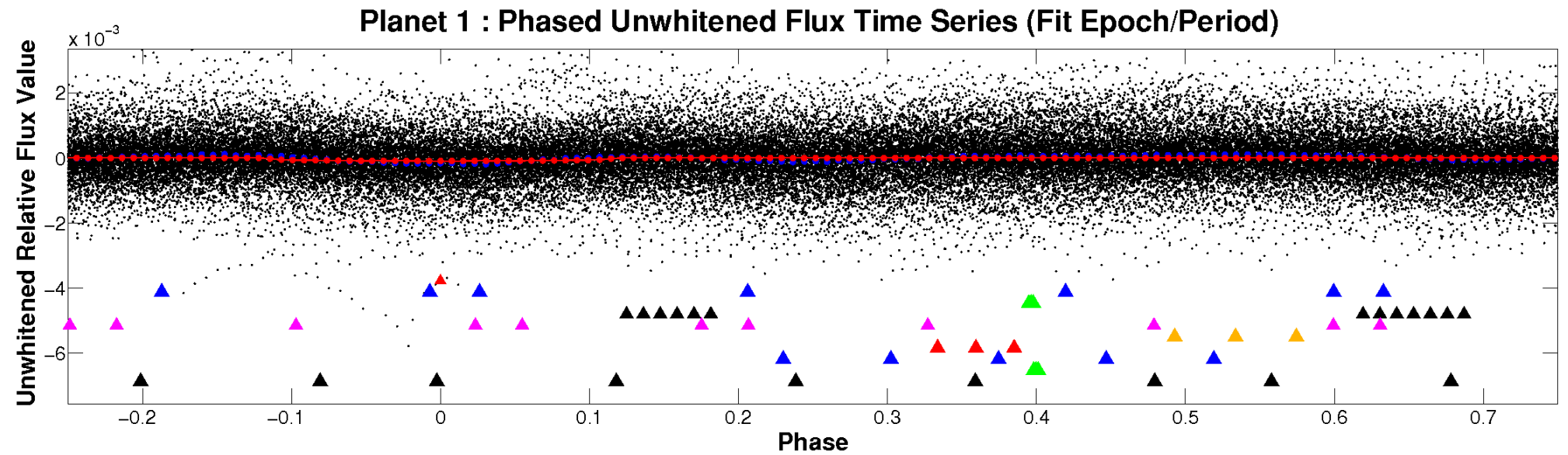


ALT Odd/Even

TCE 007007099-01

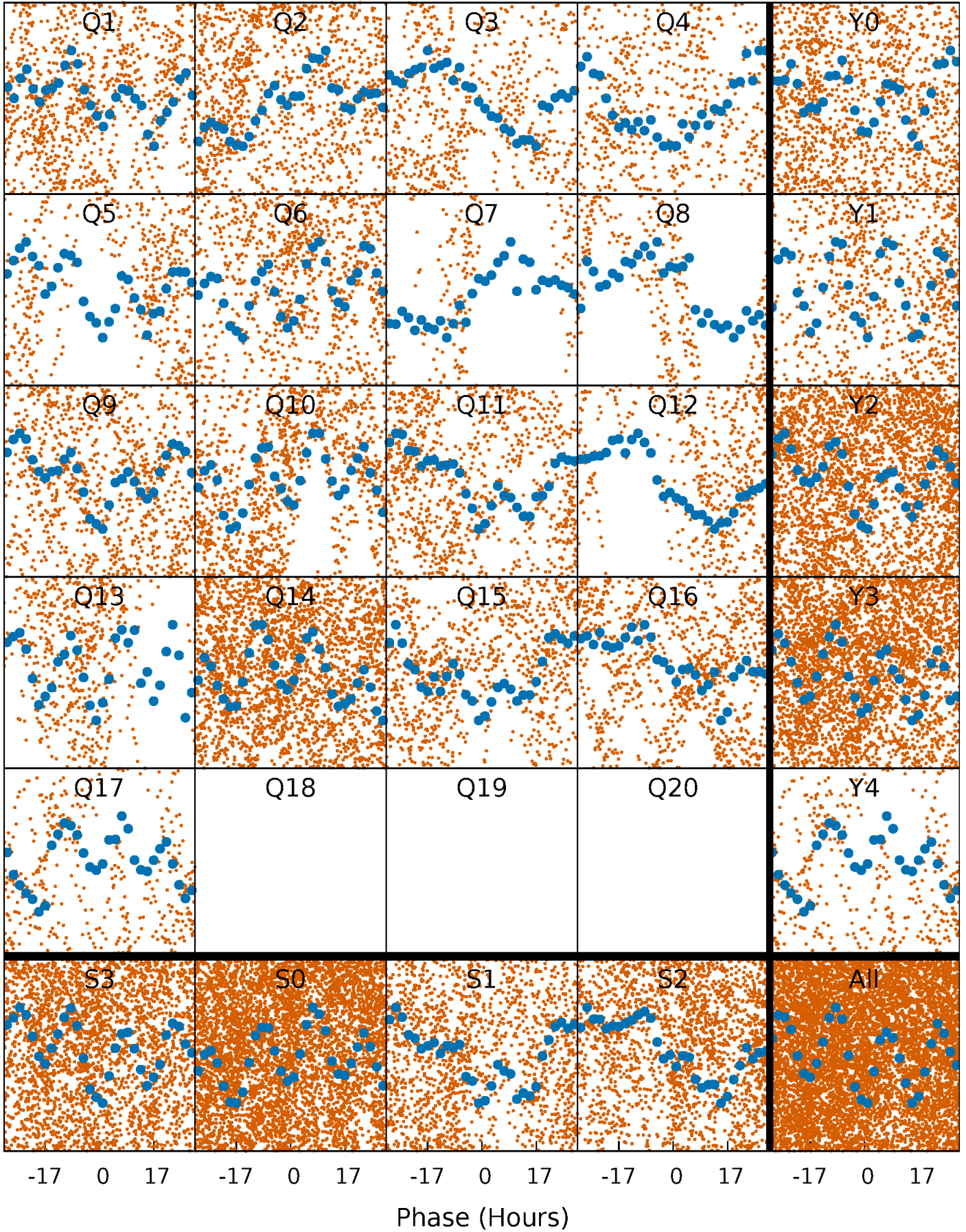


Non-Whitened Vs. Whitened Light Curve



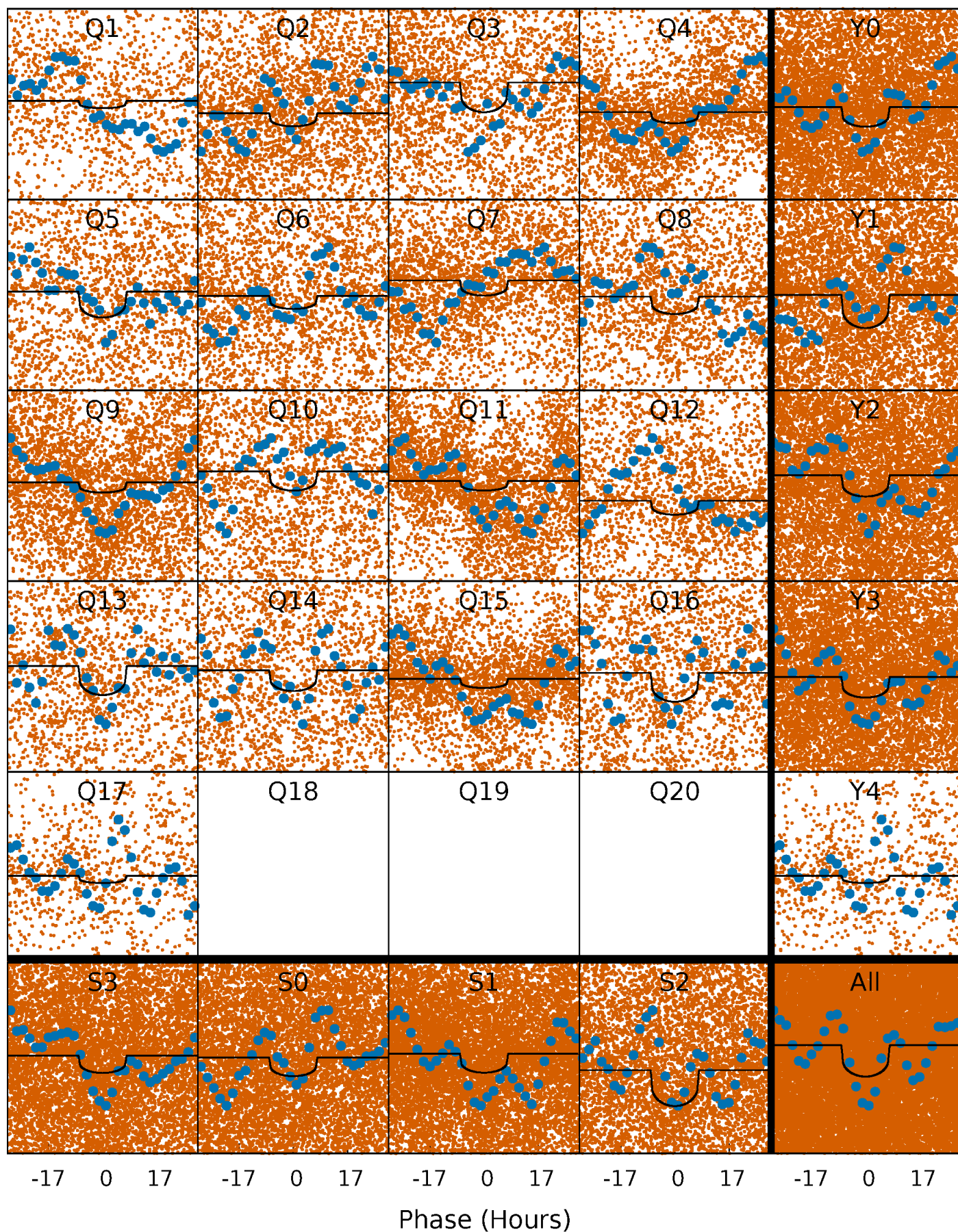
PDC Quarter-Phased Transit Curves

TCE 007007099-01 P= 2.677749 Days $T_0=132.655012$ (BKJD)



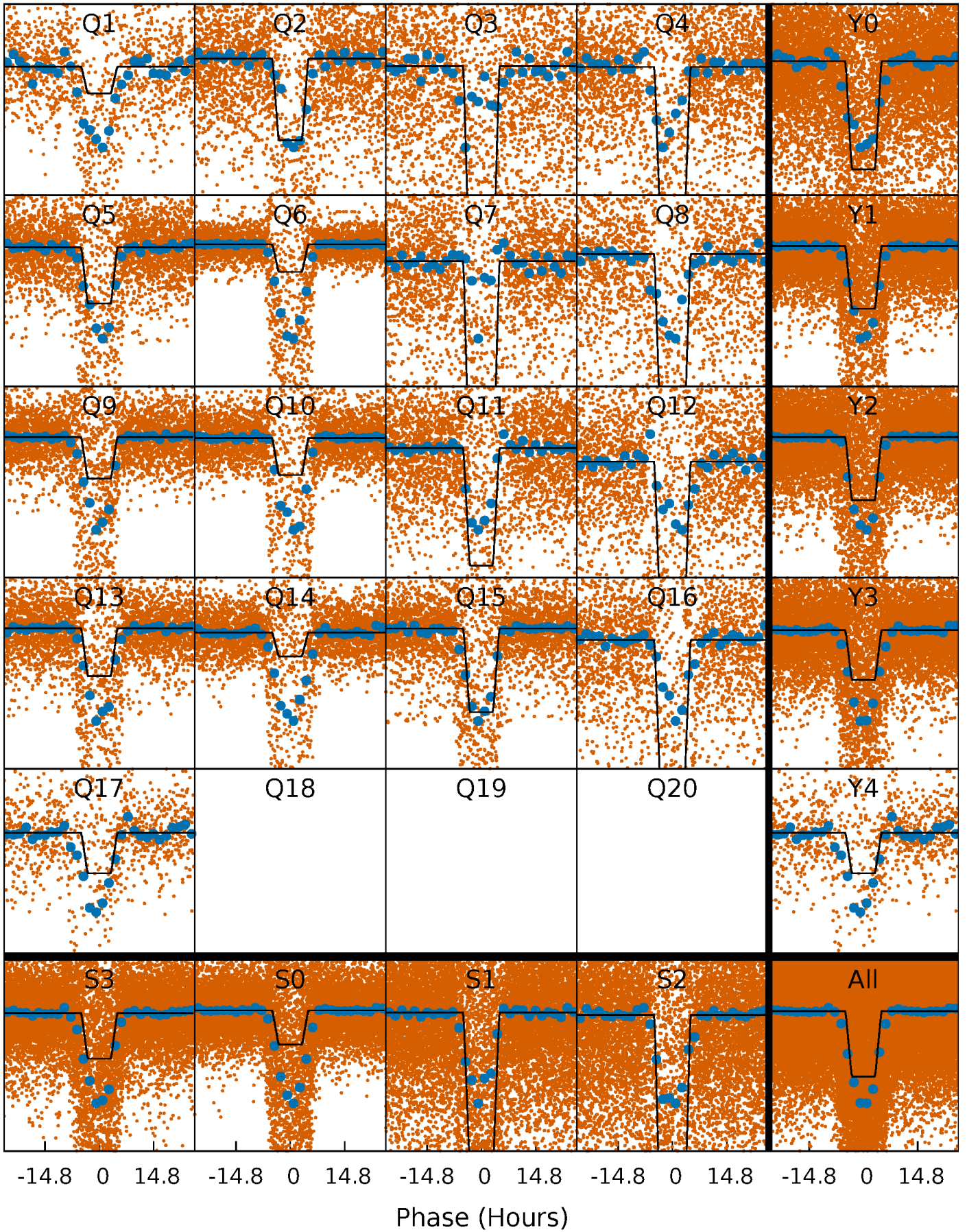
DV Quarter-Phased Transit Curves

TCE 007007099-01 P= 2.677749 Days $T_0=132.655012$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

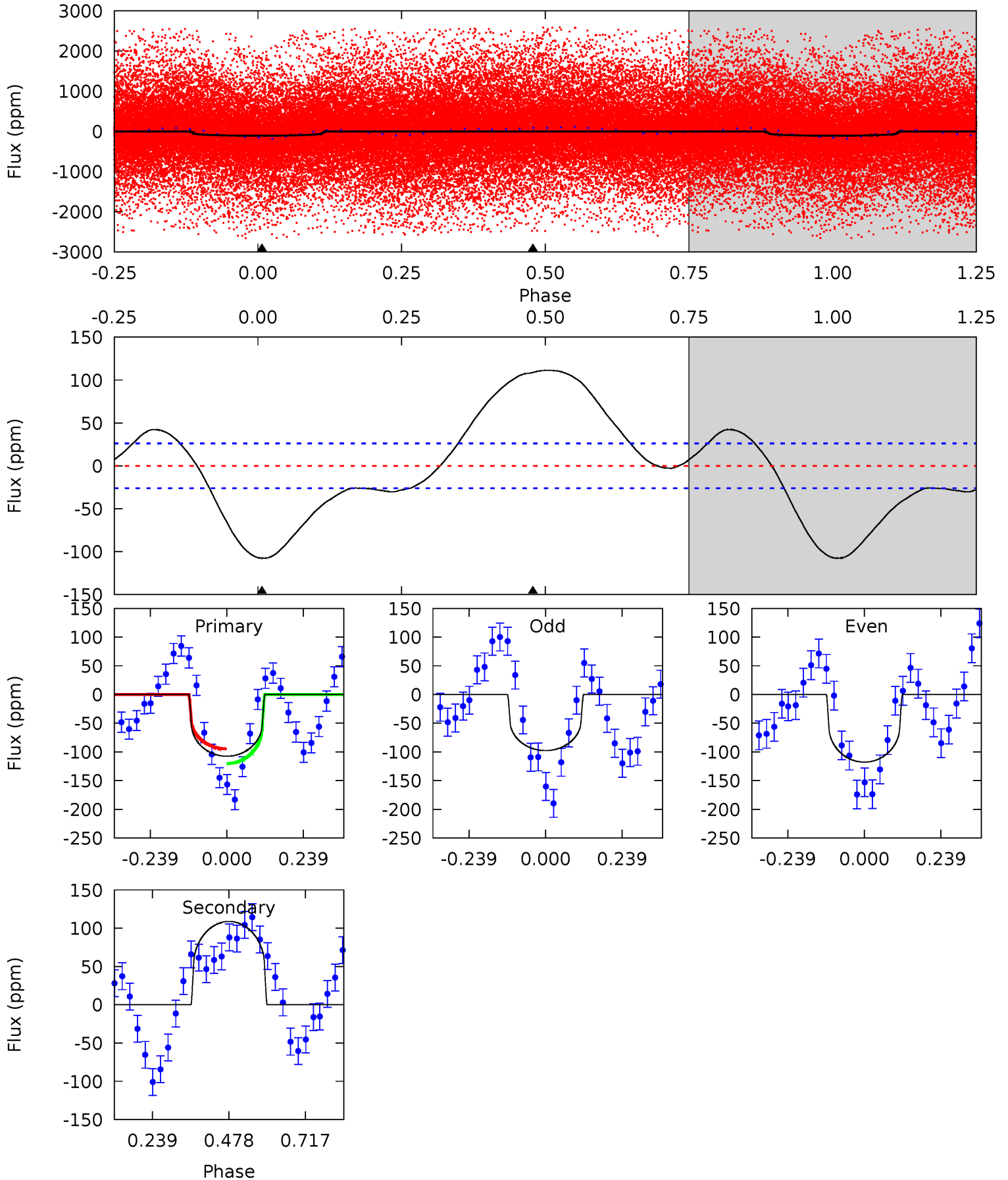
TCE 007007099-01 P= 2.677631 Days $T_0=132.653549$ (BKJD)



DV Model-Shift Uniqueness Test

007007099-01, P = 2.677749 Days, E = 129.977263 Days

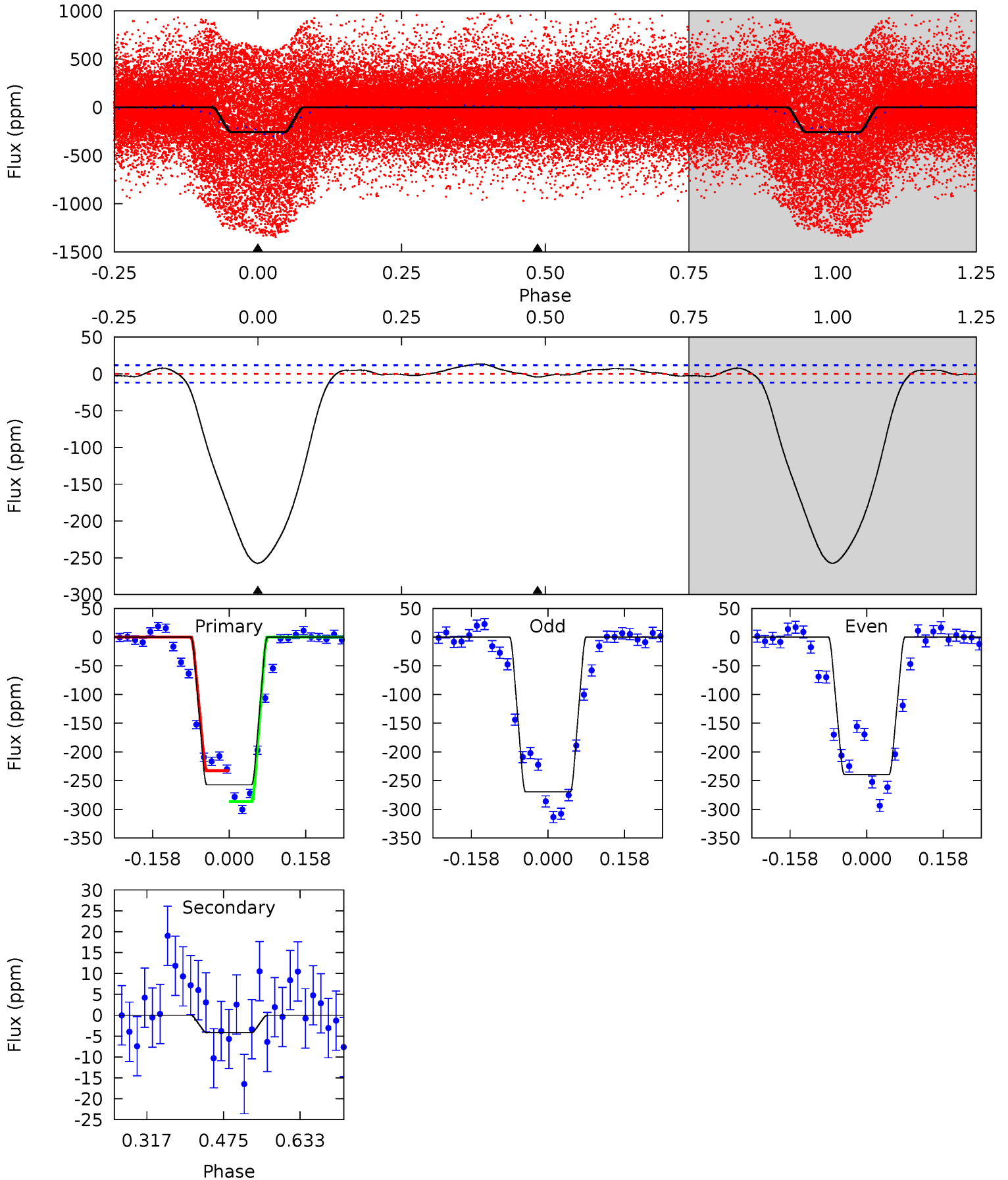
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	-18.3	0	0	4.38	1.18	2.81	18.1	18.1	-18.3	-18.3	1.68	1.24	0.51	2.11



Alt Model-Shift Uniqueness Test

007007099-01, P = 2.677631 Days, E = 129.975918 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
97.2	1.58	0	0	4.47	1.41	1.22	97.2	97.2	1.58	1.58	5.67	2.11	0.05	10.1



Stellar Parameters For KIC 007007099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+171}_{-171}	$4.399^{+0.105}_{-0.180}$	$0.140^{+0.200}_{-0.300}$	$1.034^{+0.282}_{-0.152}$	$0.979^{+0.111}_{-0.100}$	$1.246^{+0.559}_{-0.620}$
	+3%/-3%	+2%/-4%	+143%/-214%	+27%/-15%	+11%/-10%	+45%/-50%
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 007007099-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	109 ± 6	$1.05^{+0.34}_{-0.31}$	1848^{+119}_{-100}	-6013^{+724}_{-1257}	$-76.006^{+32.307}_{-75.151}$
Alt.	-4 ± 3	$2.47^{+0.45}_{-0.38}$	1857^{+127}_{-97}	2303^{+330}_{-4485}	$0.504^{+0.431}_{-0.322}$

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 $A_{obs} \gg 1.0$

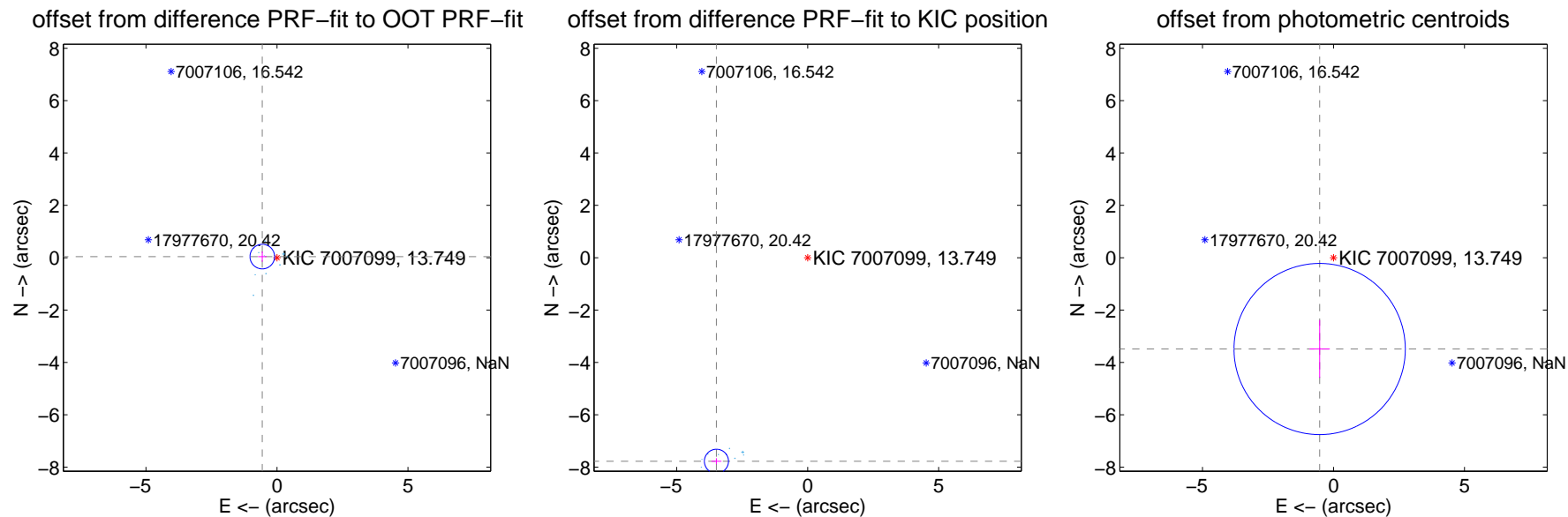
DV Centroid Data

Supplemental centroid analysis for 007007099-01. Kepler magnitude: 13.75. Transit SNR 7.30

There are 11 quarters with good PRF difference image offsets

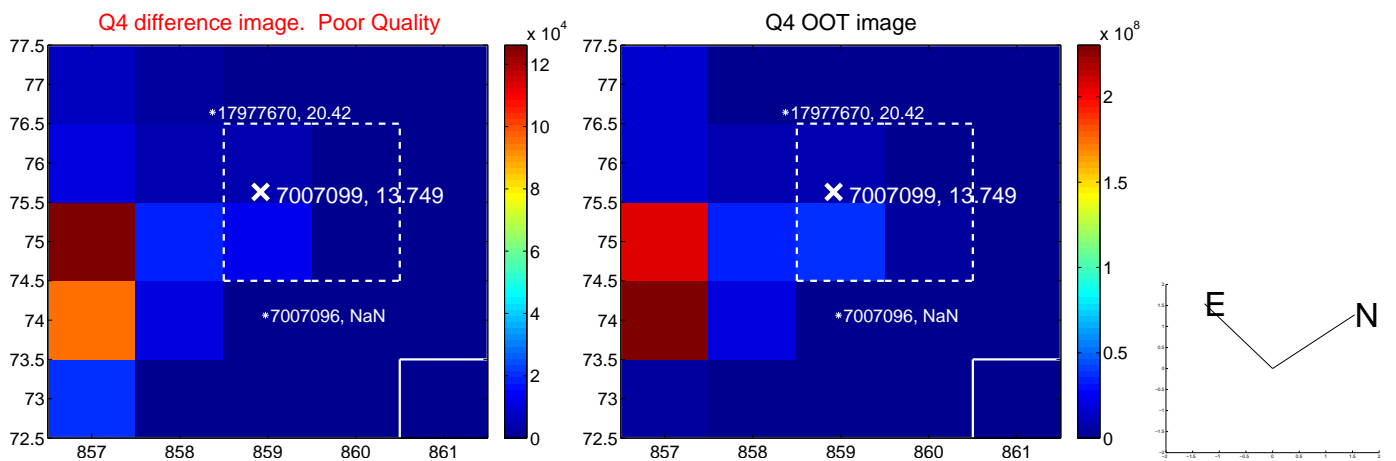
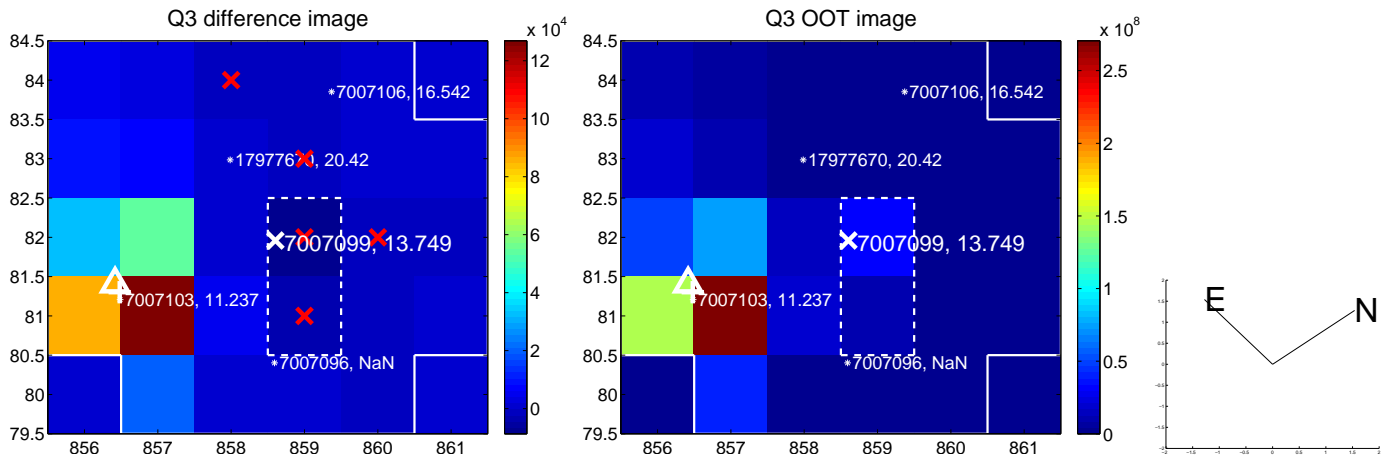
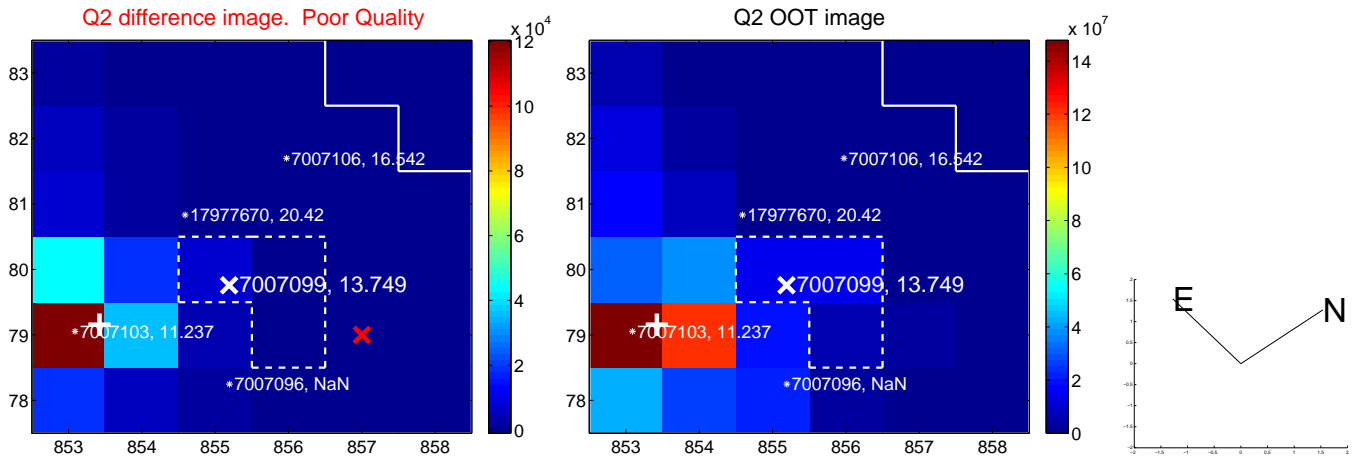
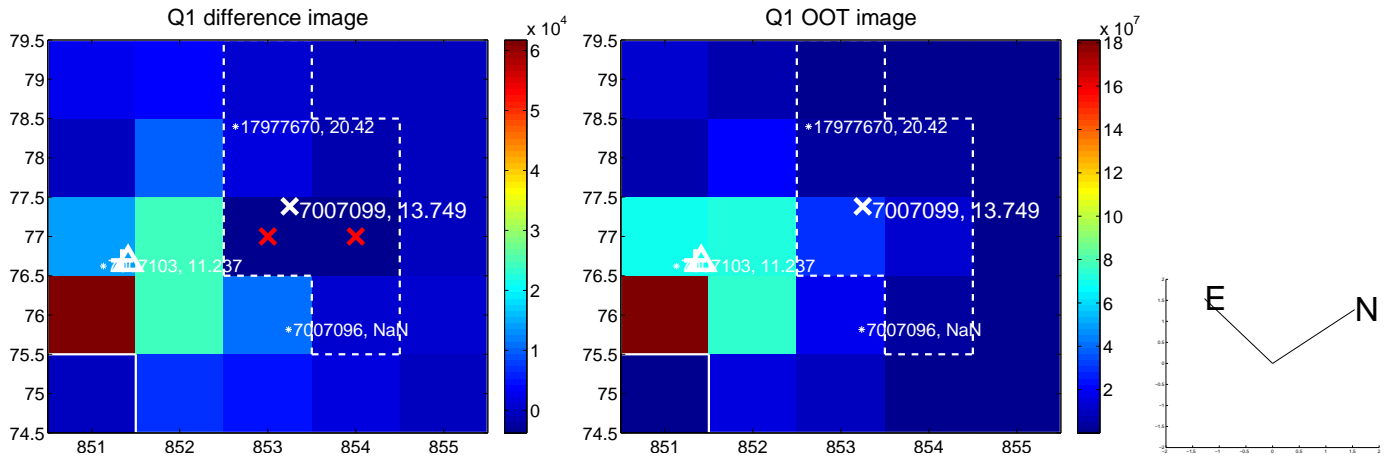
The OOT PRF centroid is offset from the target star catalog position by about 8.84 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.562 ± 0.157	3.59	0.561 ± 0.160	0.042 ± 0.199
PRF-fit source offset from KIC position	8.521 ± 0.153	55.53	3.483 ± 0.191	-7.777 ± 0.114
photometric centroid source offset	3.53 ± 1.09	3.24	0.53 ± 0.39	-3.49 ± 1.10

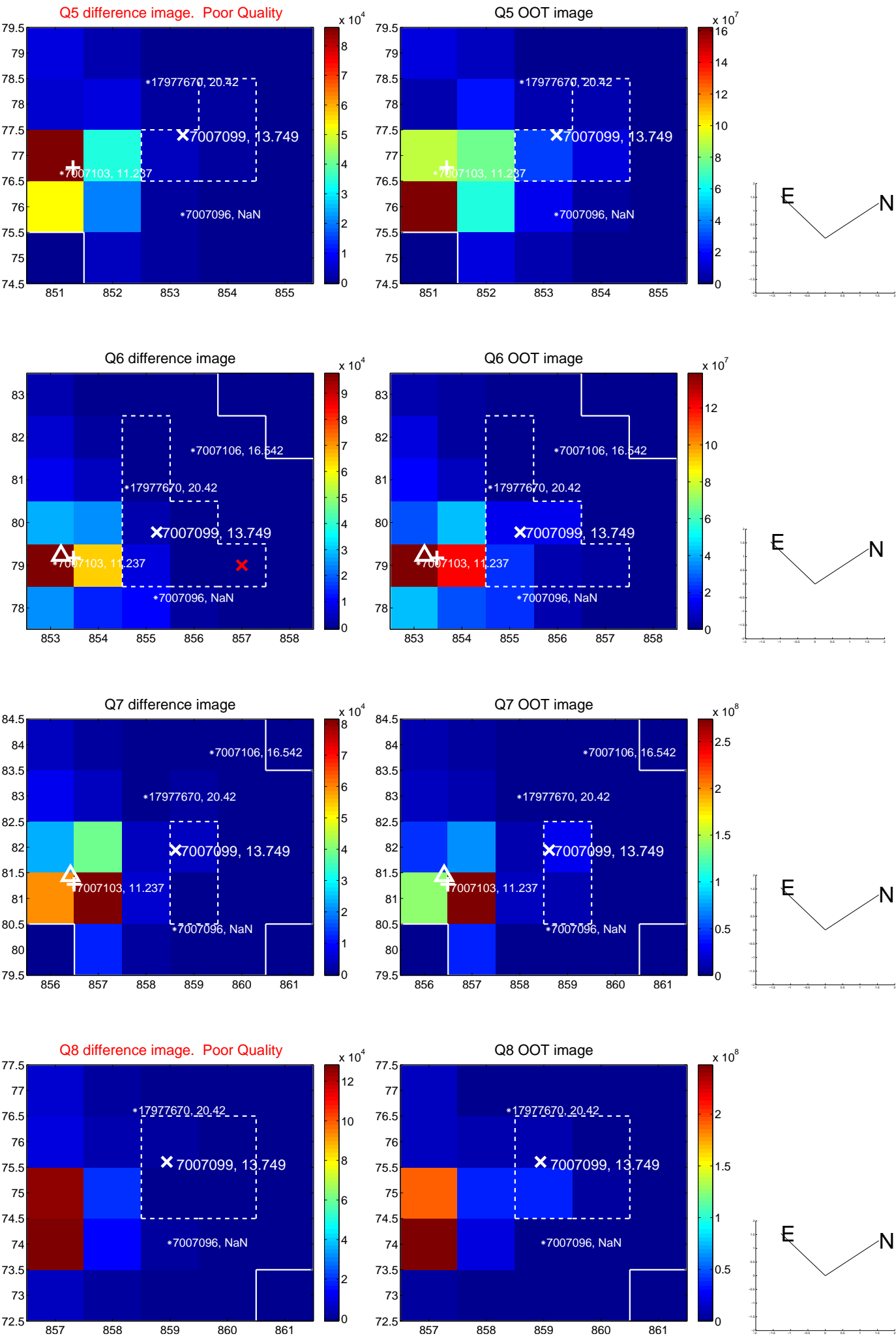


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

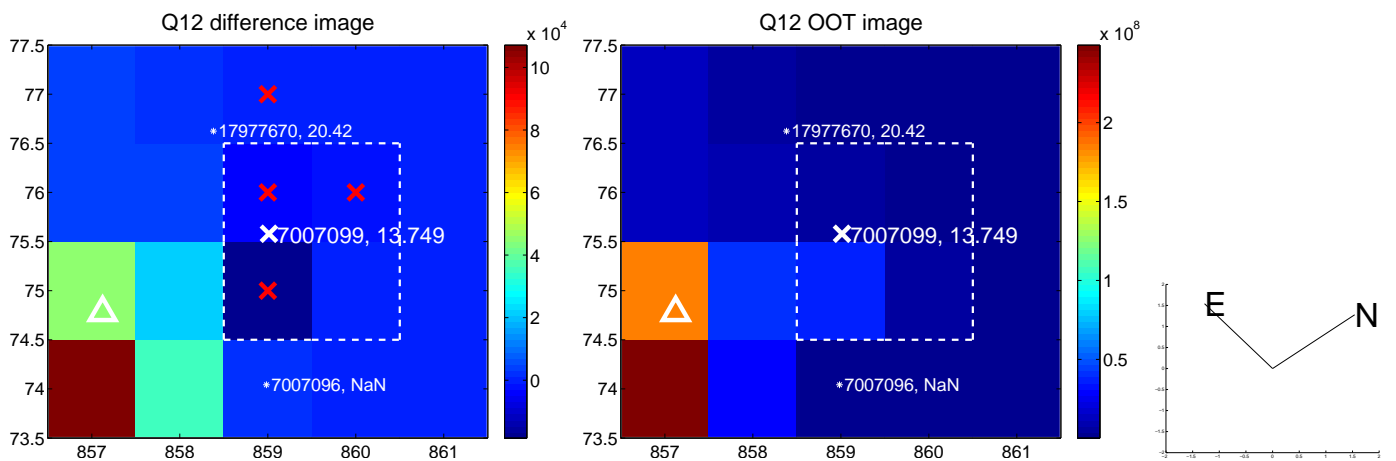
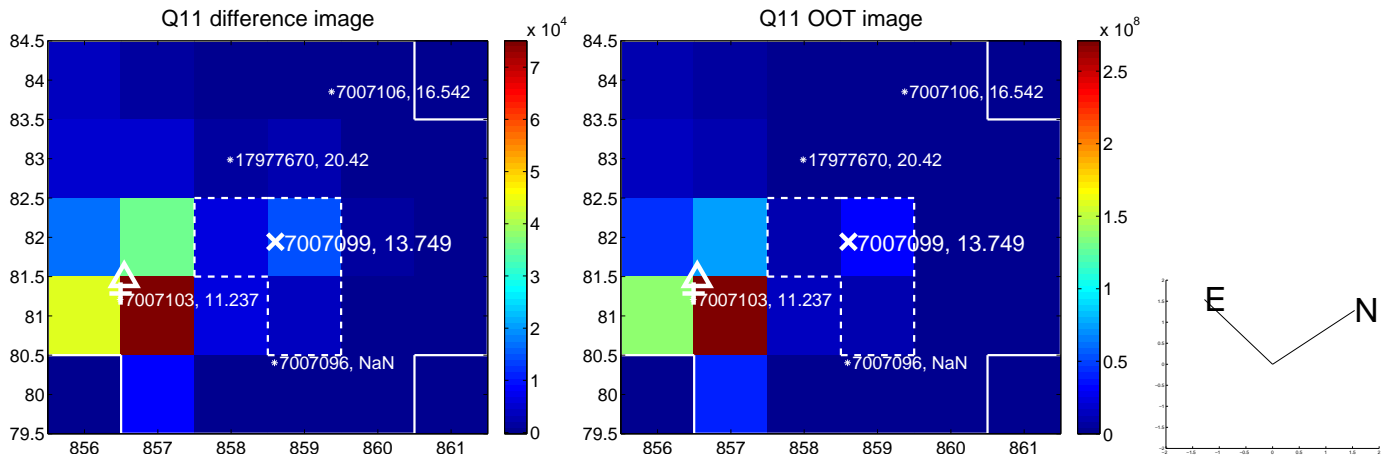
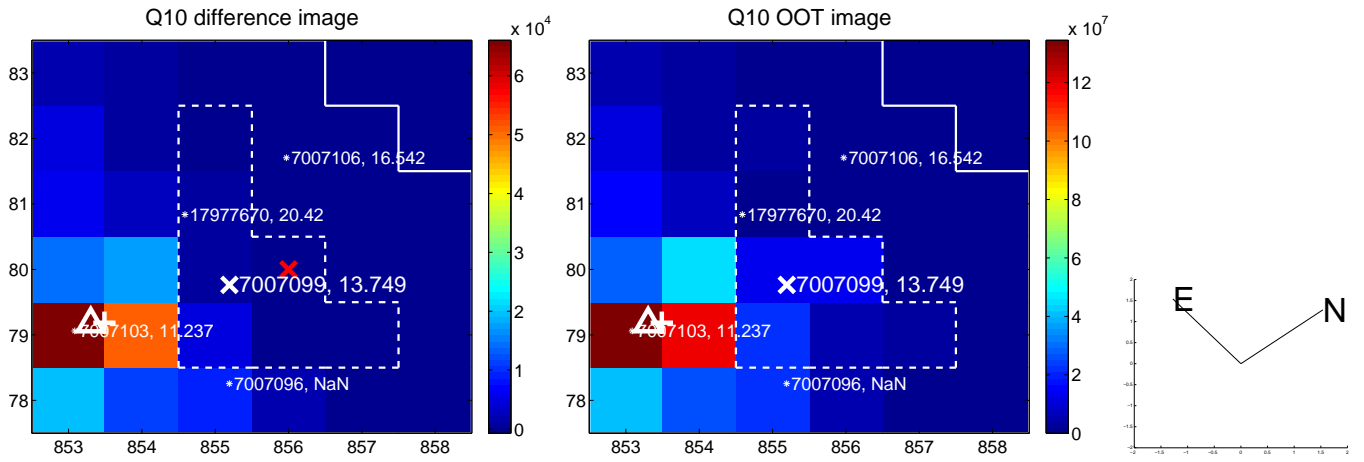
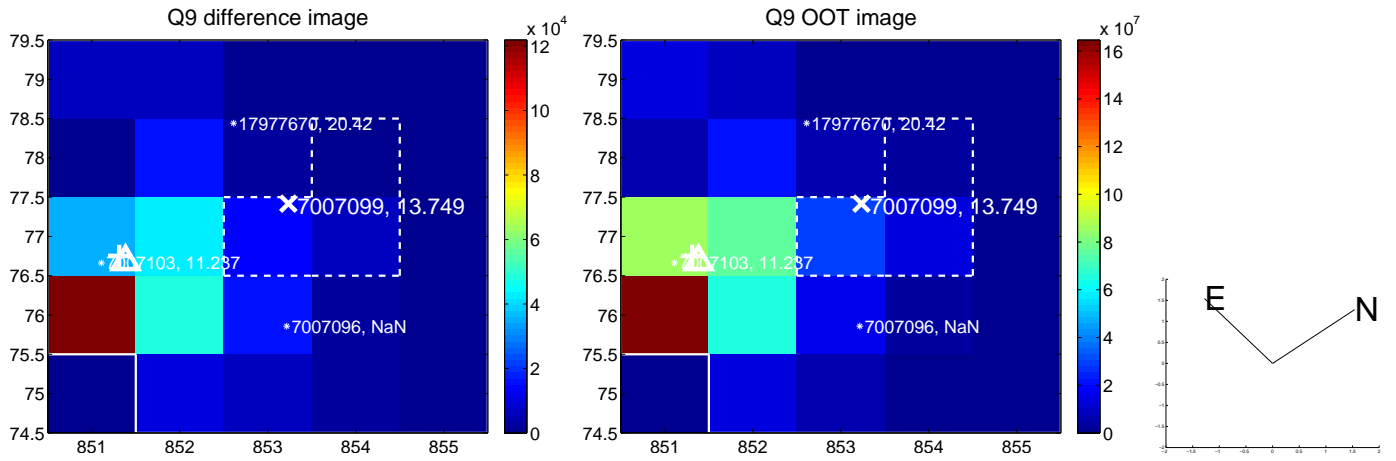
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



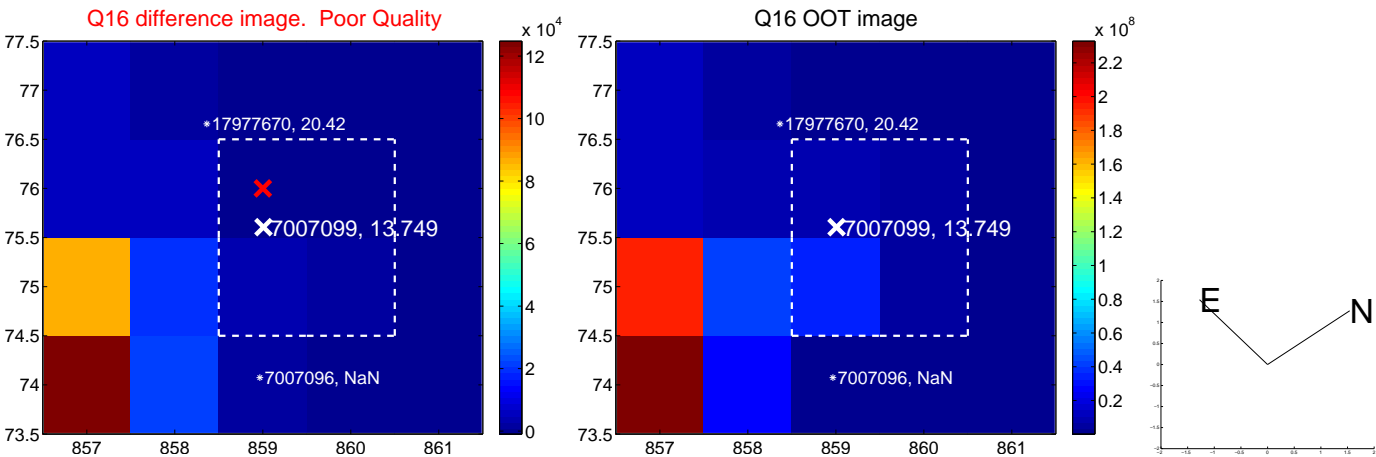
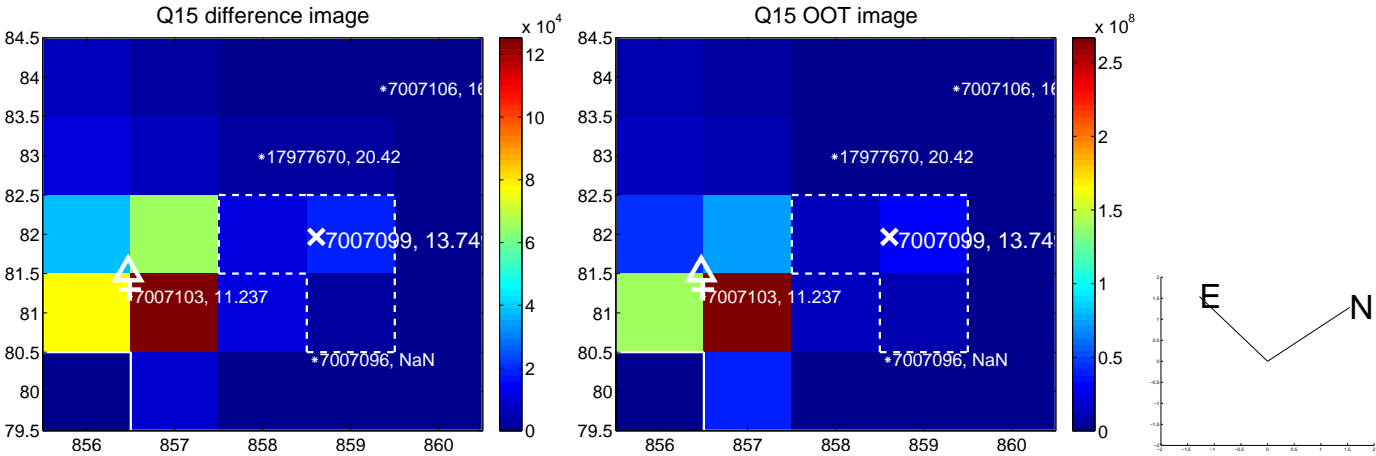
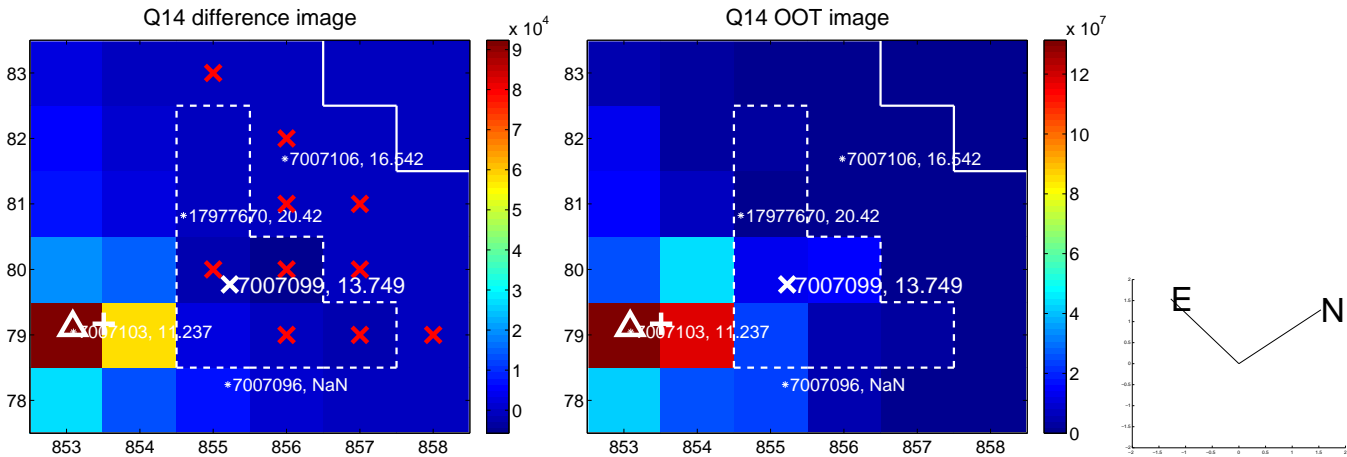
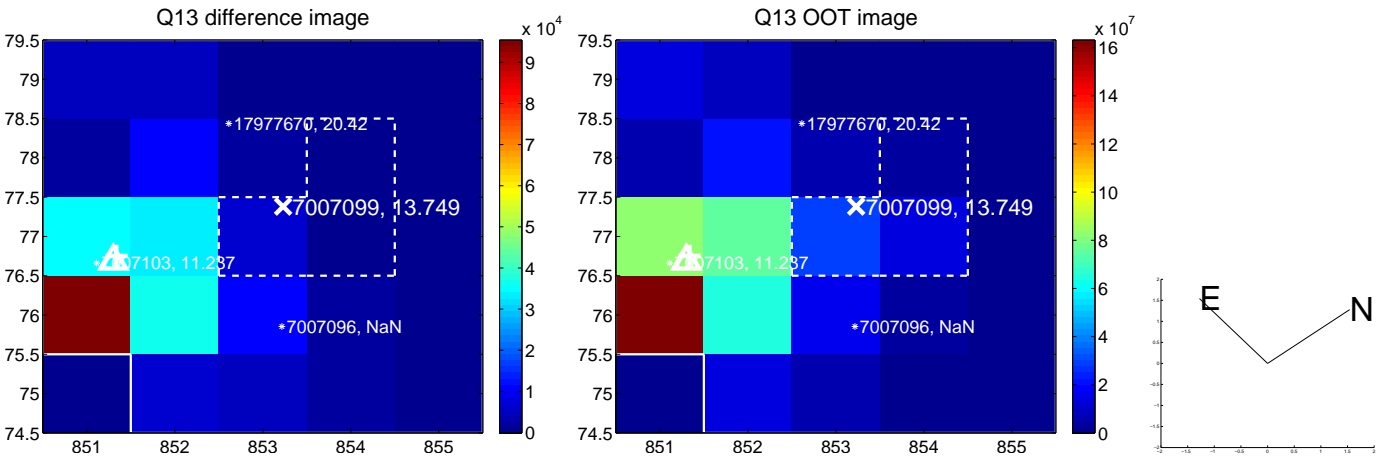
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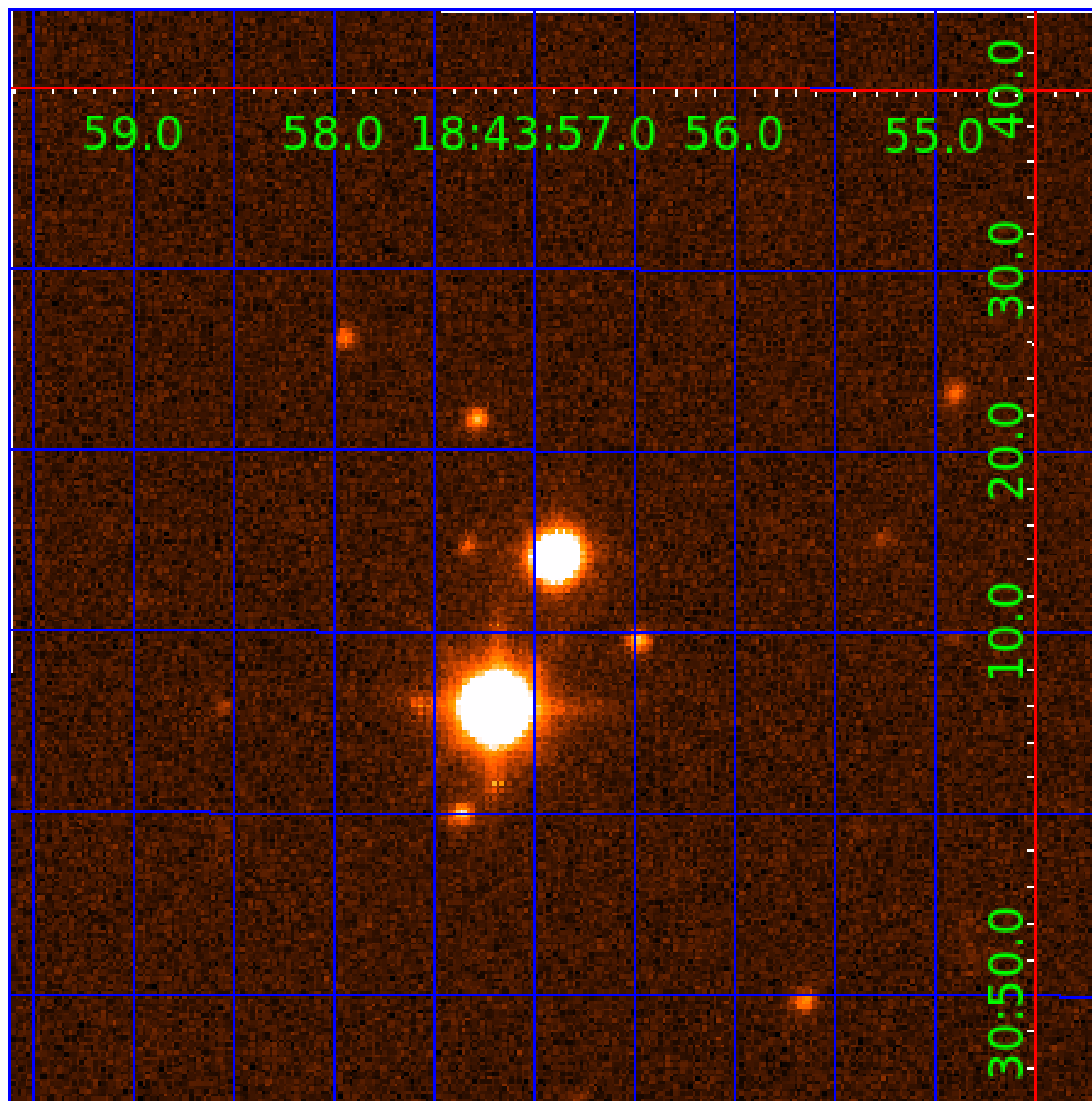


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UKIRT Image

Declination



KIC 007007099

Q1-17 DR25 TCE Parameters

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007007099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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

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

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

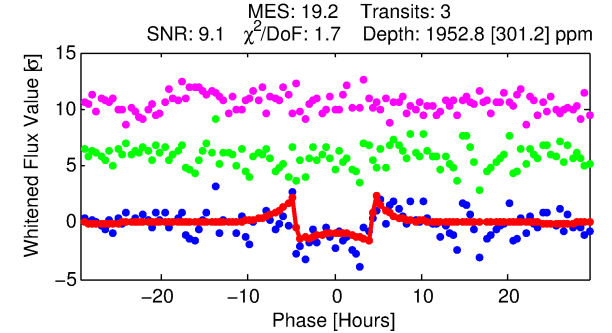
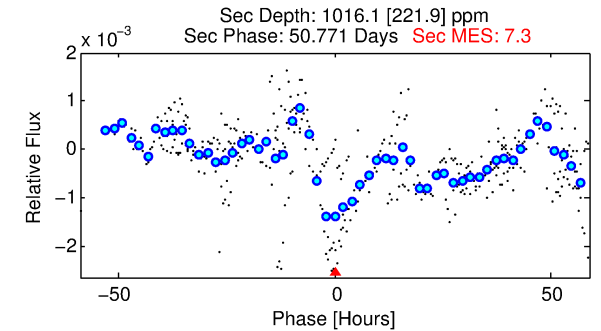
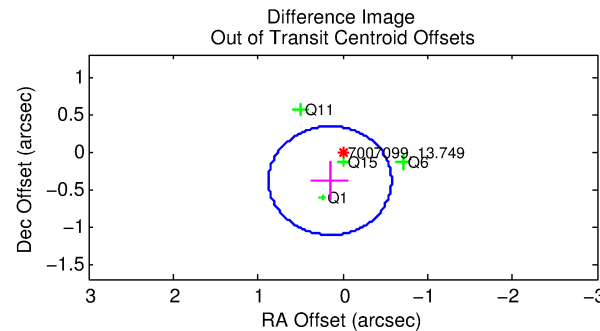
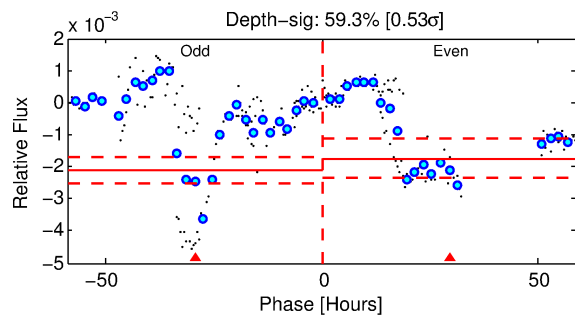
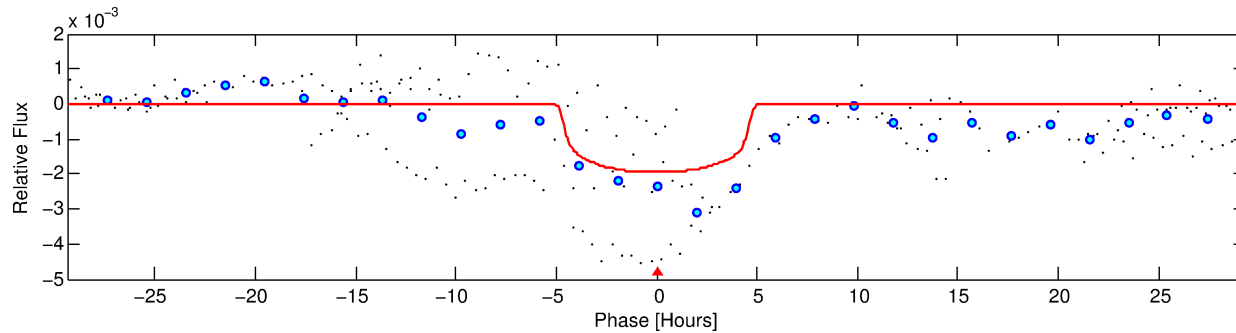
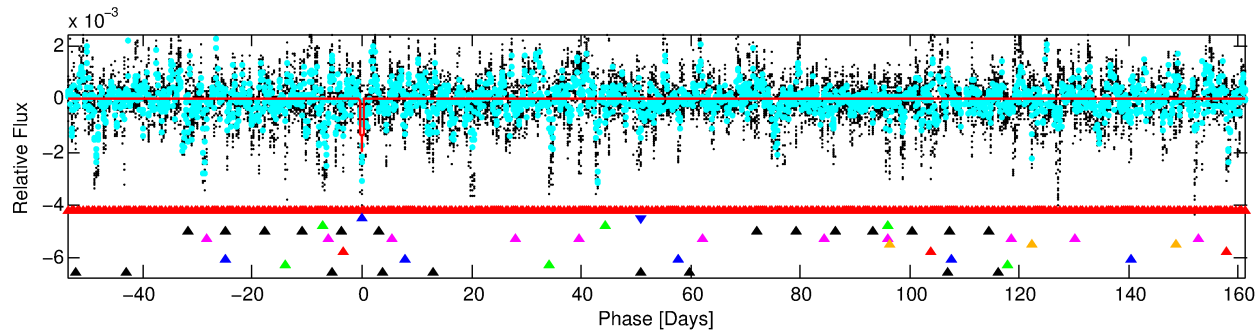
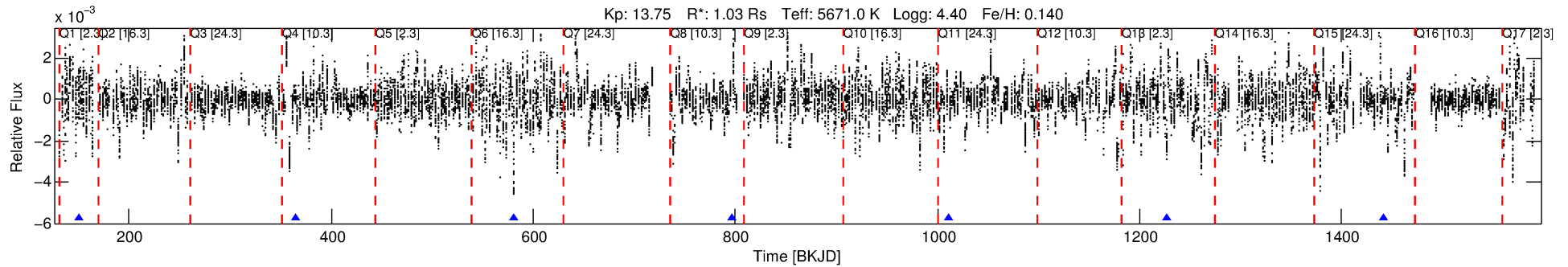
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007007099-02

No Significant Match Found

DV One-Page Summary

KIC: 7007099 Candidate: 2 of 10 Period: 215.273 d



DV Fit Results:

Period = 215.27318 [0.00274] d
Epoch = 150.4163 [0.0094] BKJD
Rp/R* = 0.0413 [0.0174]
a/R* = 153.18 [255.90]
b = 0.50 [2.50]
Seff = 2.03 [0.72]
Teq = 305 [27] K
Rp = 4.66 [2.34] Re
a = 0.6978 [0.1593] AU
Ag = 12547.21 [11701.93] [1.07 σ]
Teff = 4984 [1097] K [4.26 σ]

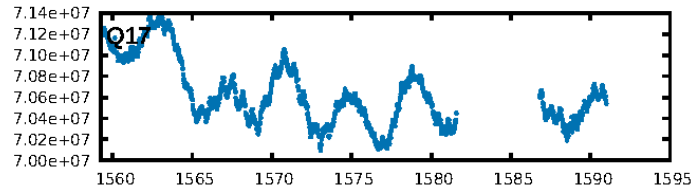
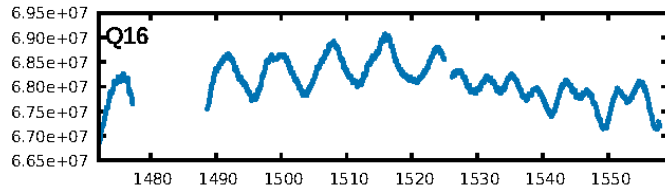
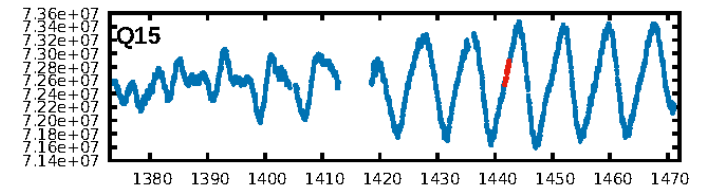
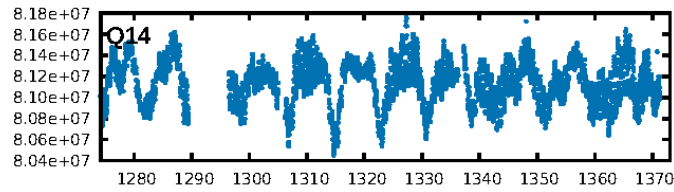
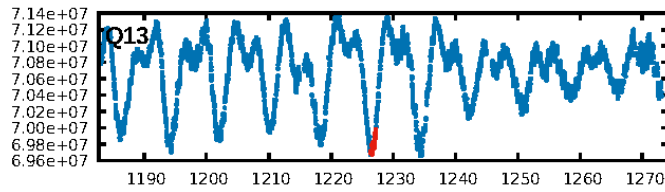
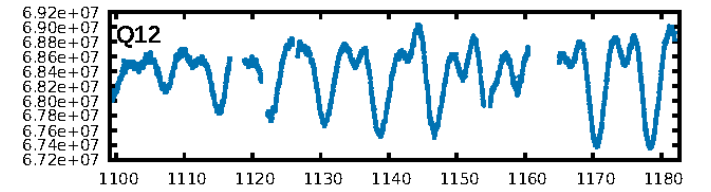
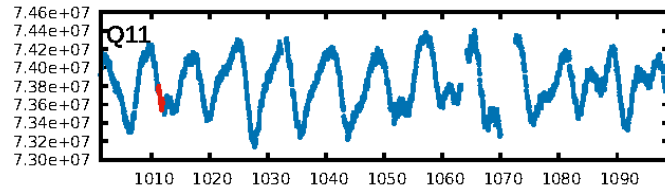
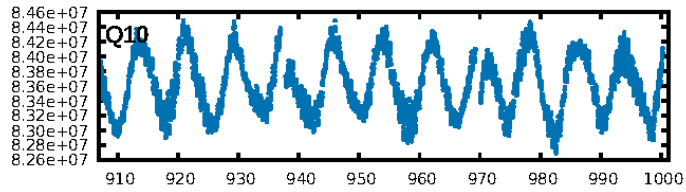
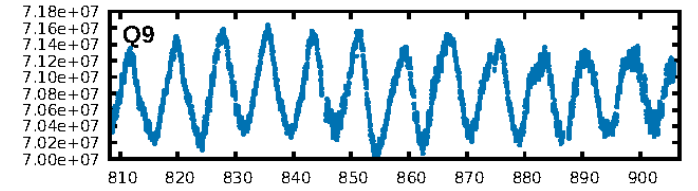
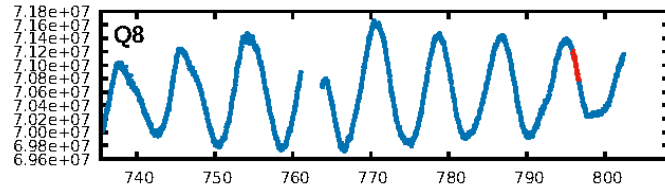
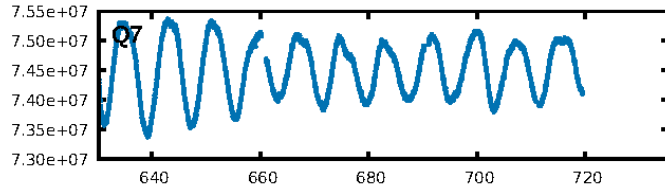
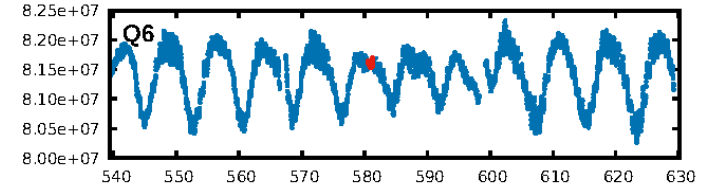
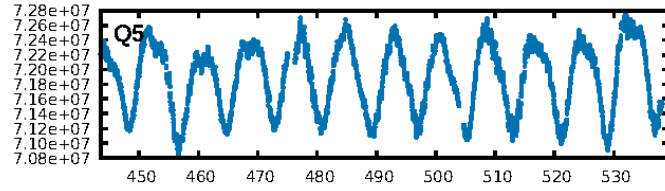
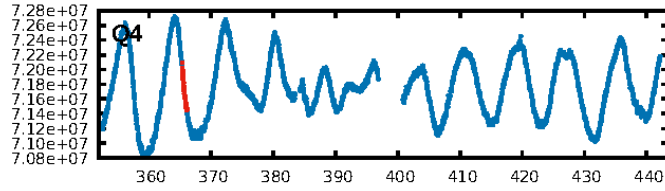
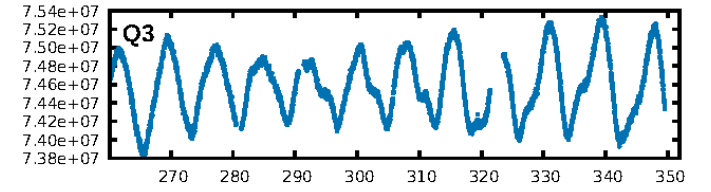
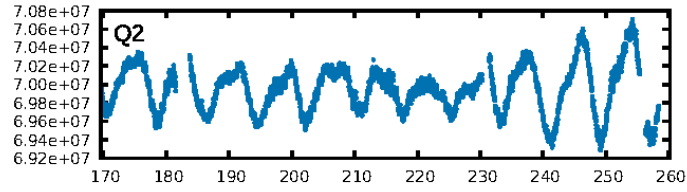
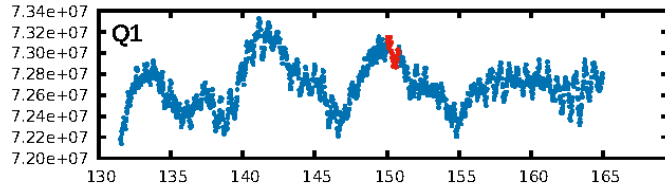
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [81.18 σ]
LongPeriod-sig: 100.0% [196.84 σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 43.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 36.46
Centroid-sig: 25.8%
Centroid-so: 3.318 arcsec [7.80 σ]
OotOffset-rm: 0.414 arcsec [1.71 σ]
KicOffset-rm: 8.611 arcsec [30.25 σ]
OotOffset-st: 1/2/0/1 [4]
KicOffset-st: 1/2/0/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.17 [1/6]

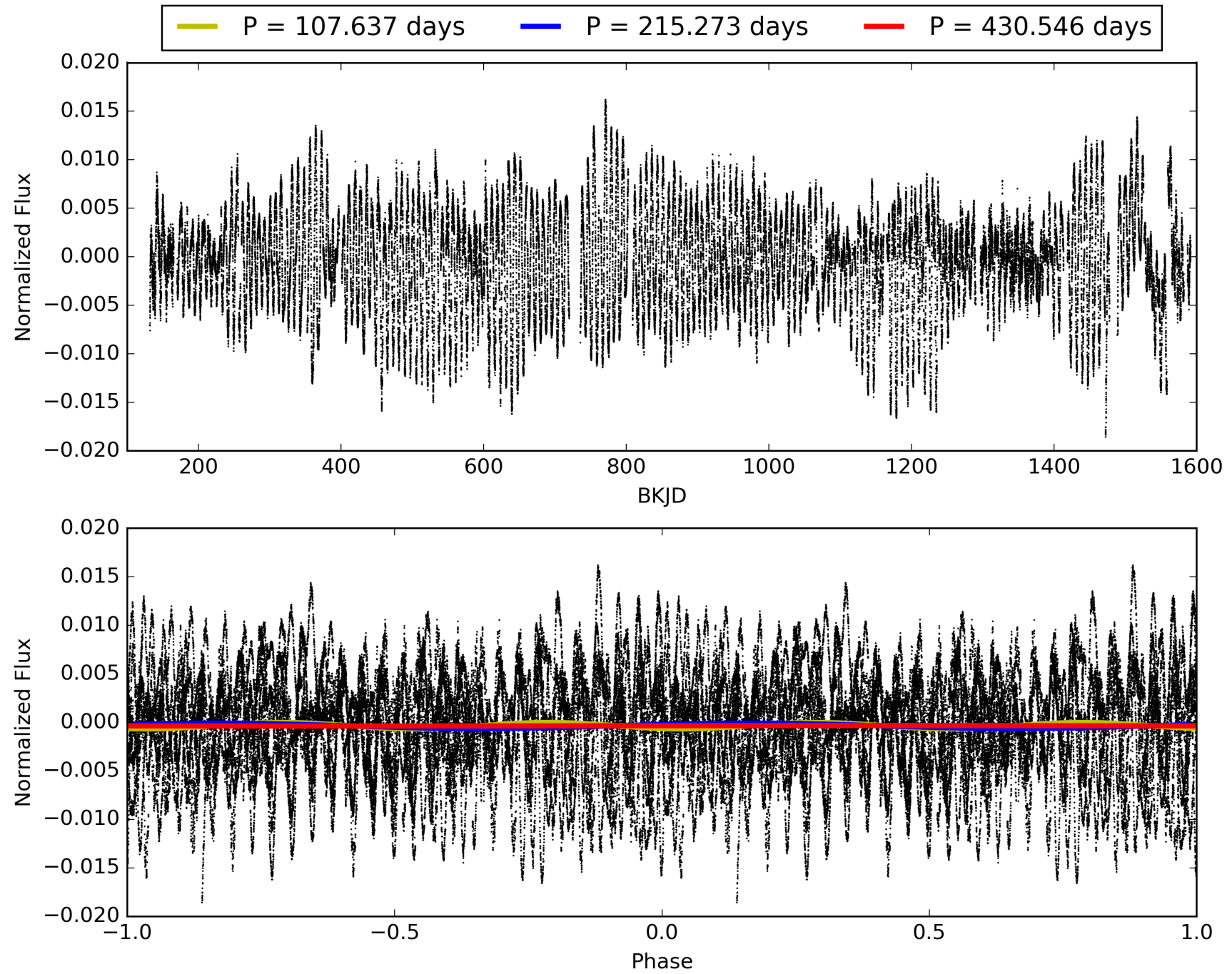
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:30:24 Z

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

TCE 007007099-02, PDC Light Curves

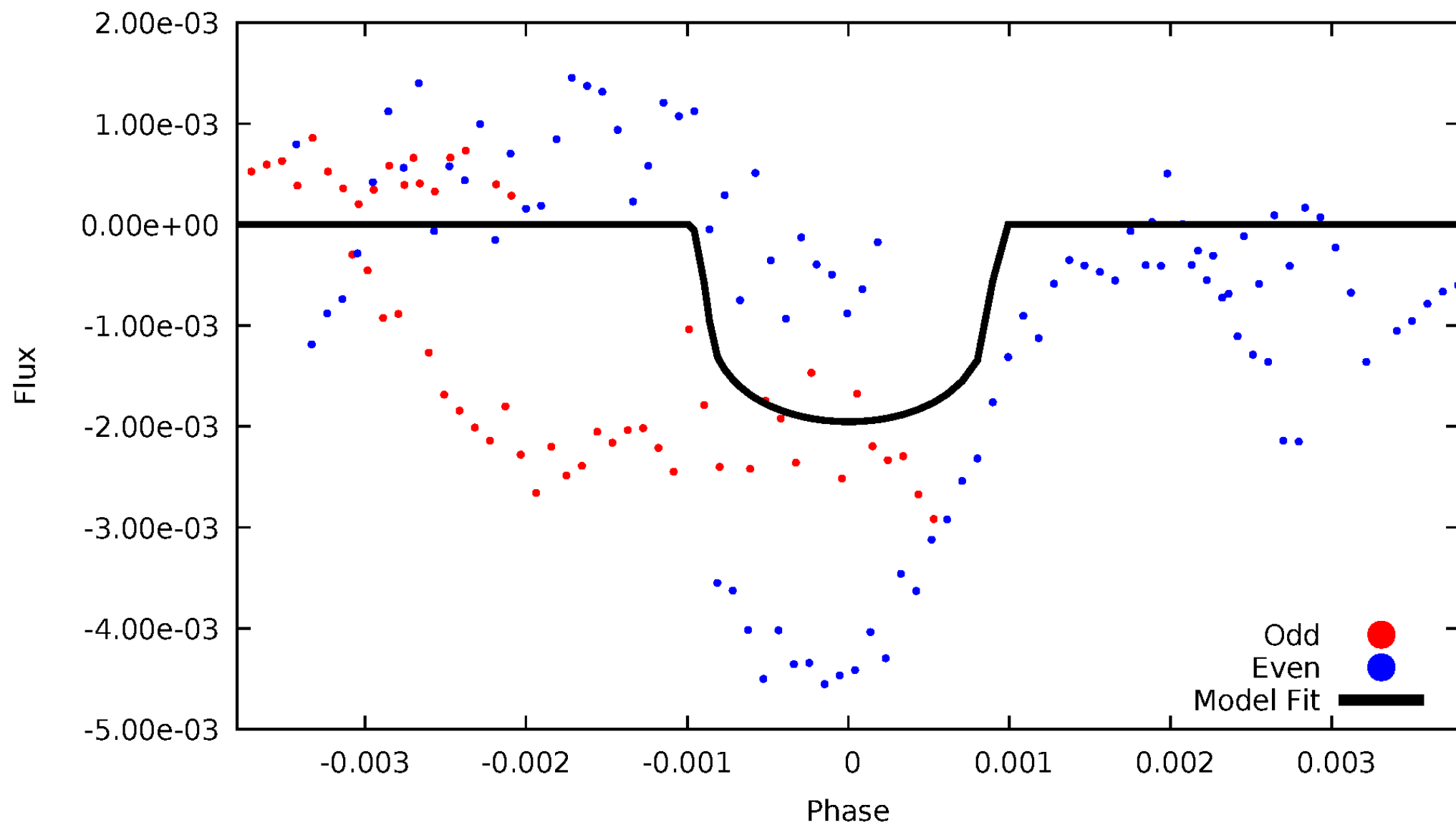


TCE 007007099-02



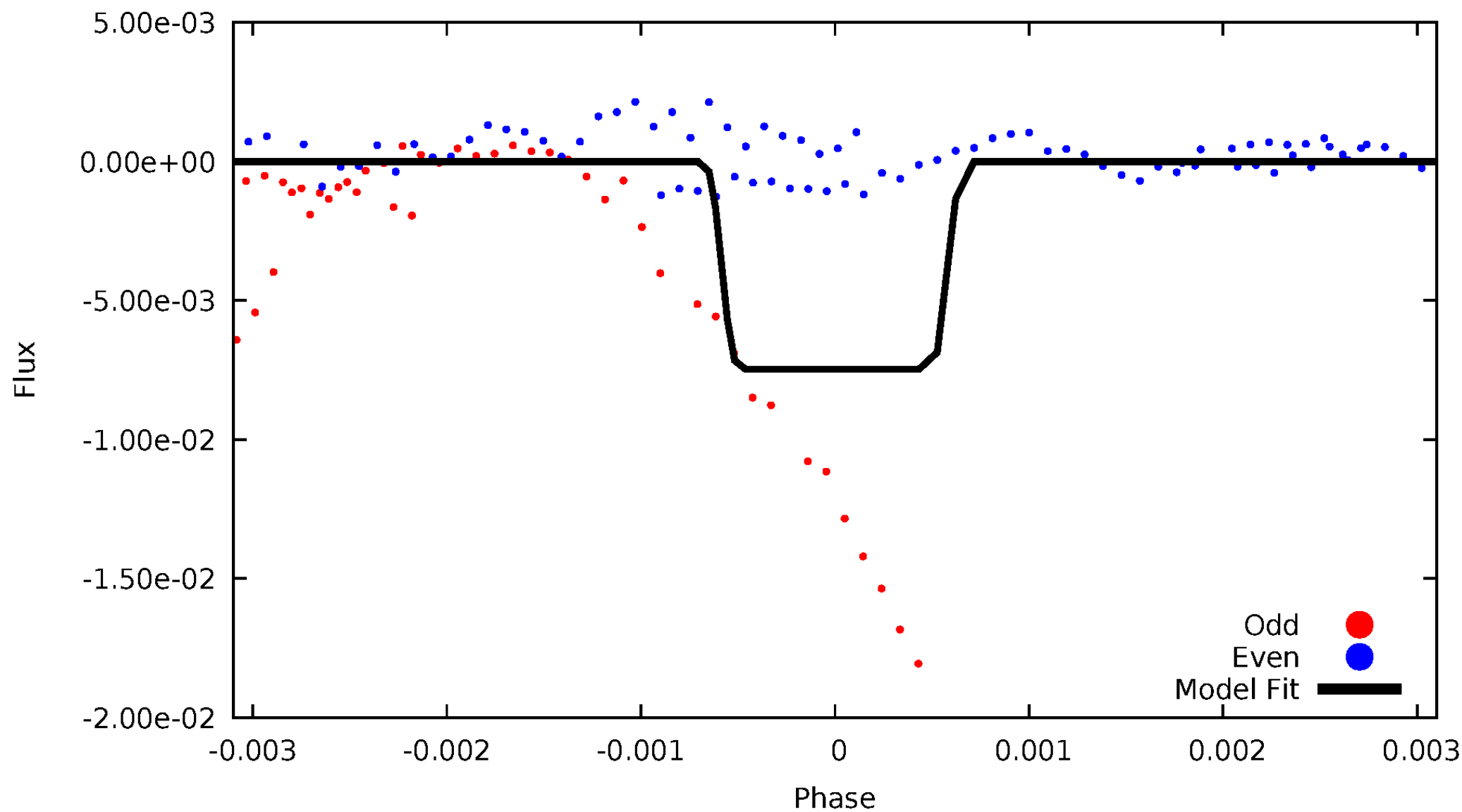
DV Odd/Even

TCE 007007099-02



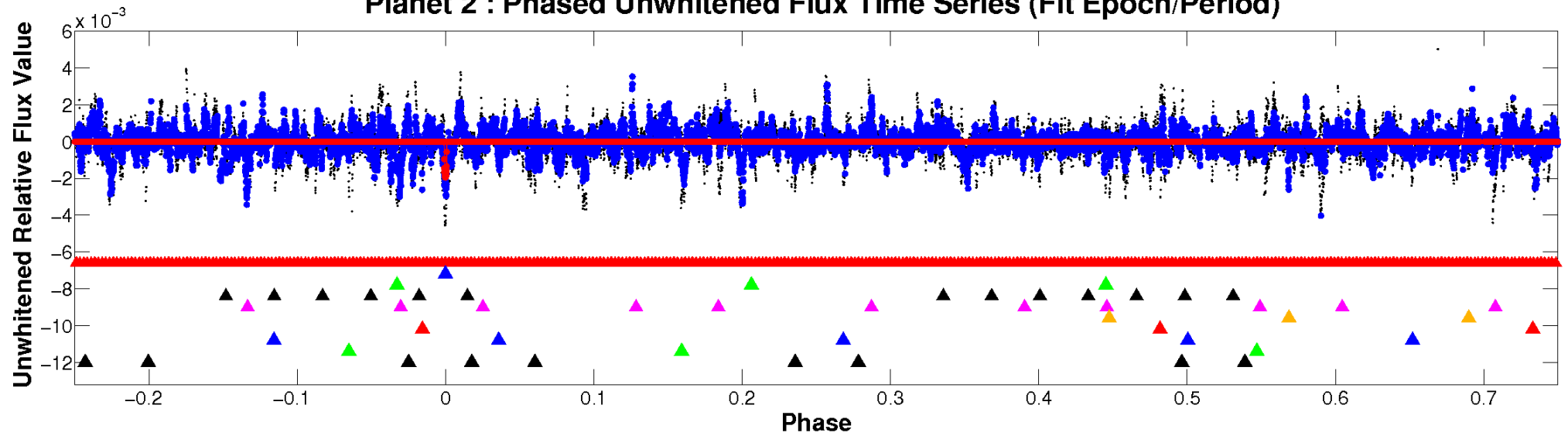
ALT Odd/Even

TCE 007007099-02

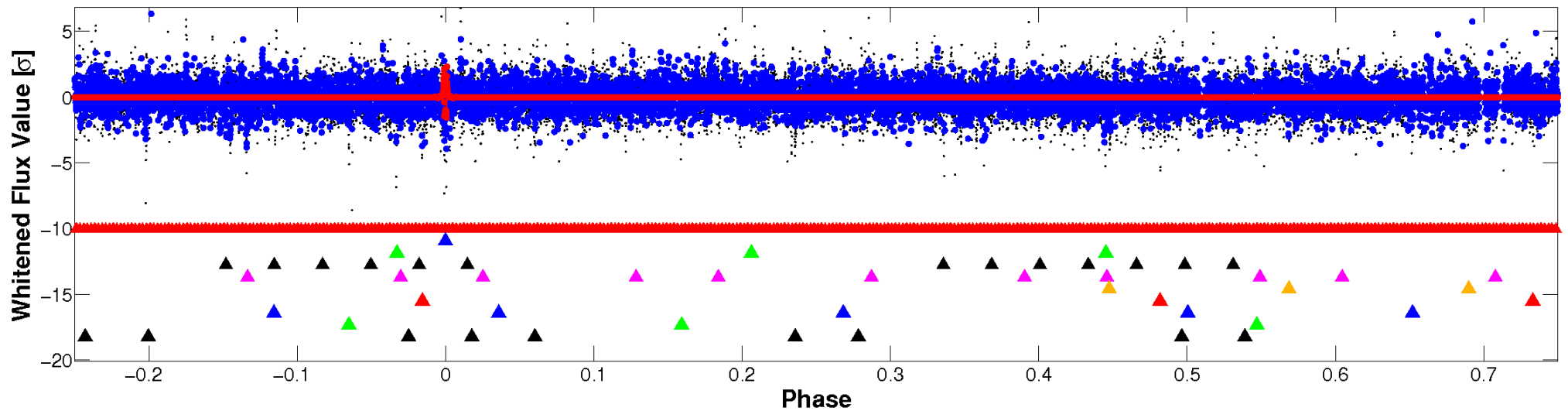


Non-Whitened Vs. Whitened Light Curve

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

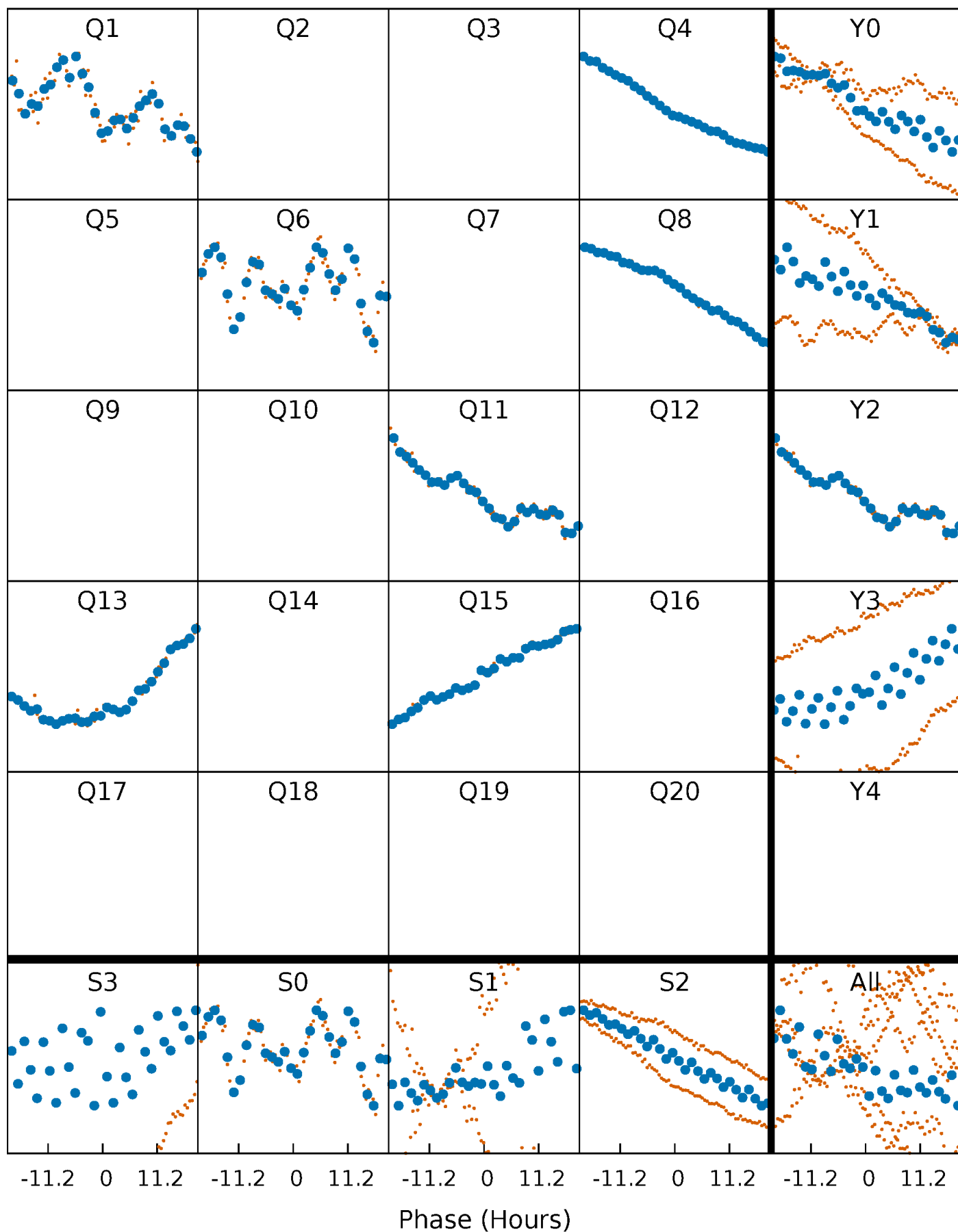


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



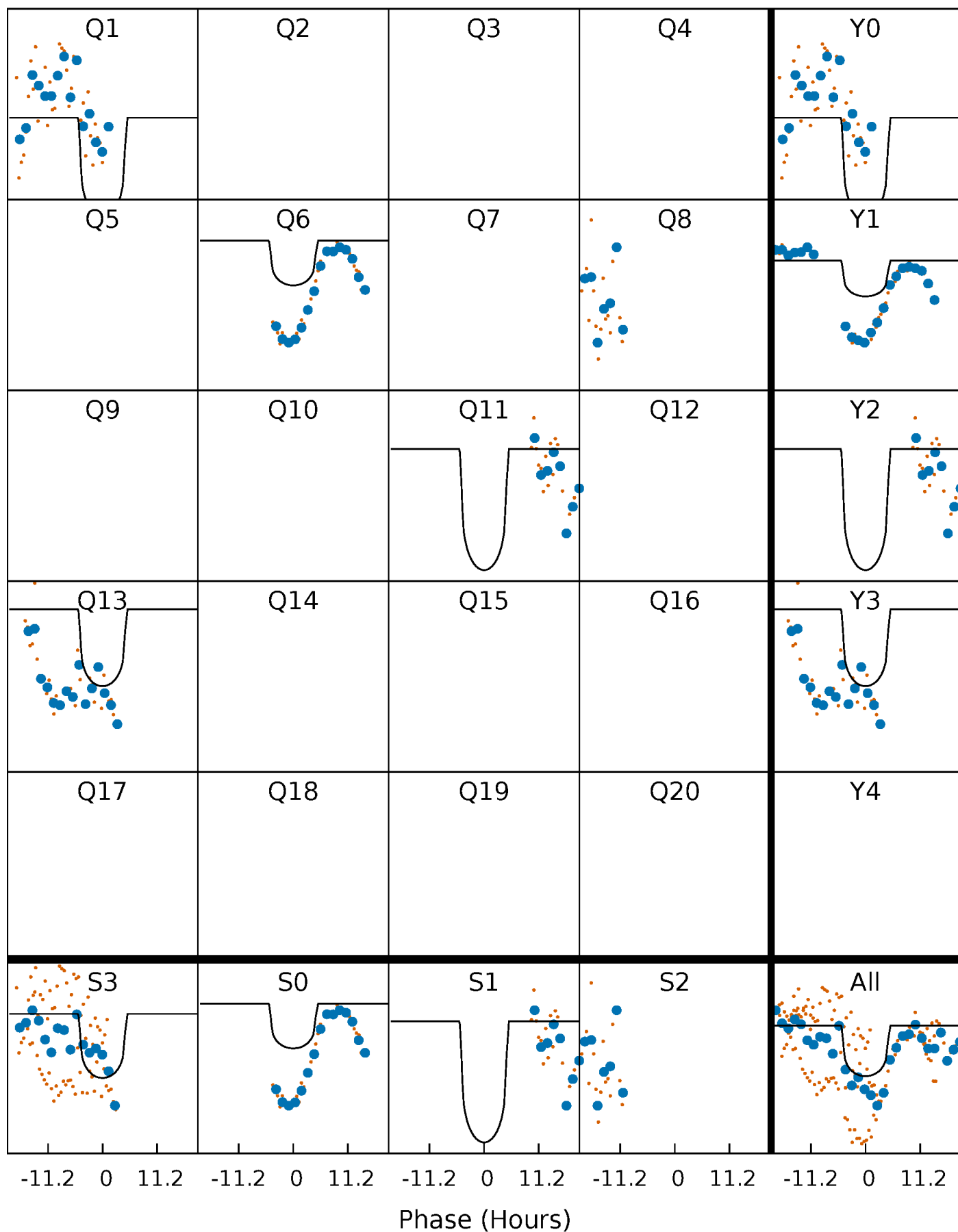
PDC Quarter-Phased Transit Curves

TCE 007007099-02 $P=215.273182$ Days $T_0=150.416273$ (BKJD)



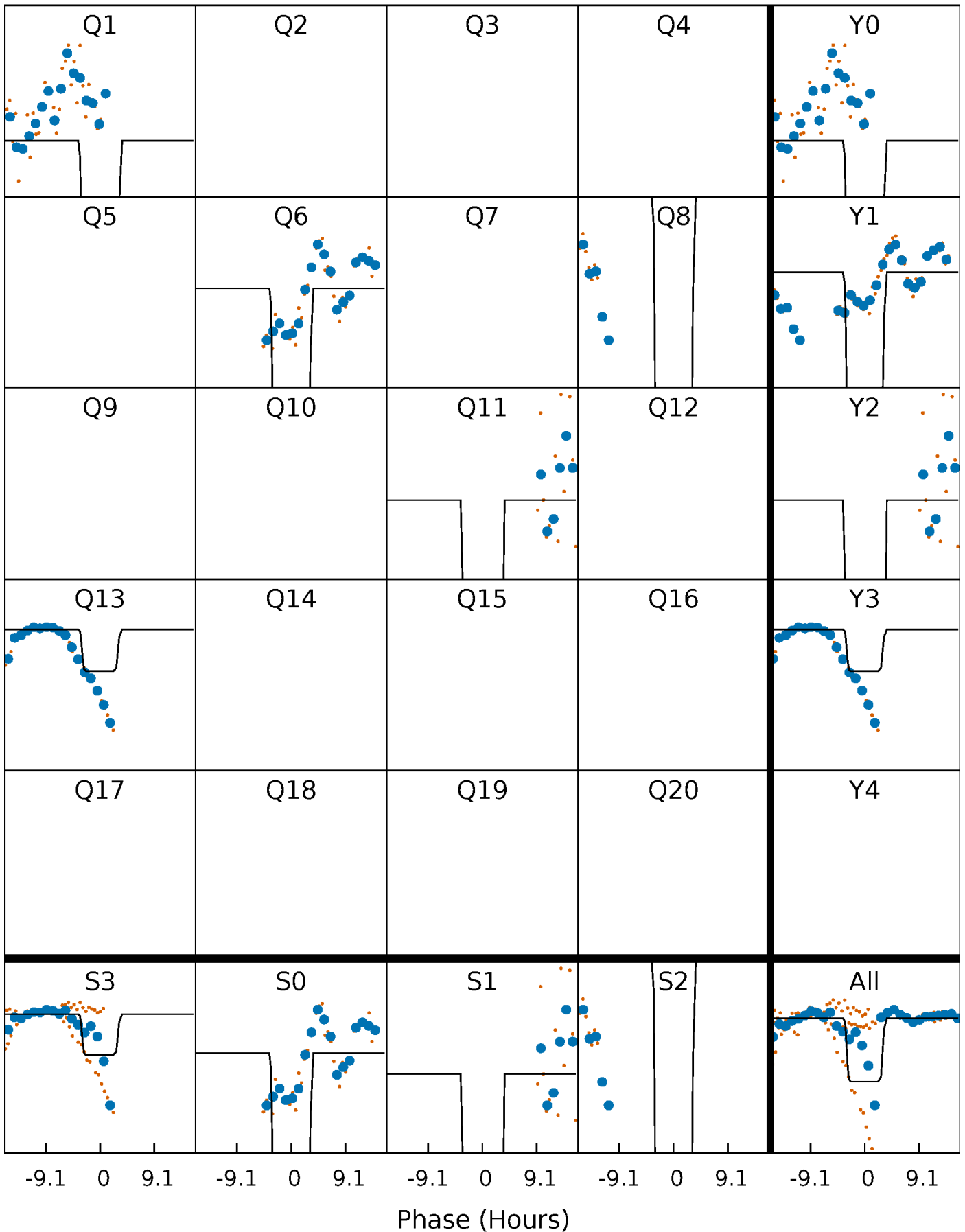
DV Quarter-Phased Transit Curves

TCE 007007099-02 $P=215.273182$ Days $T_0=150.416273$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

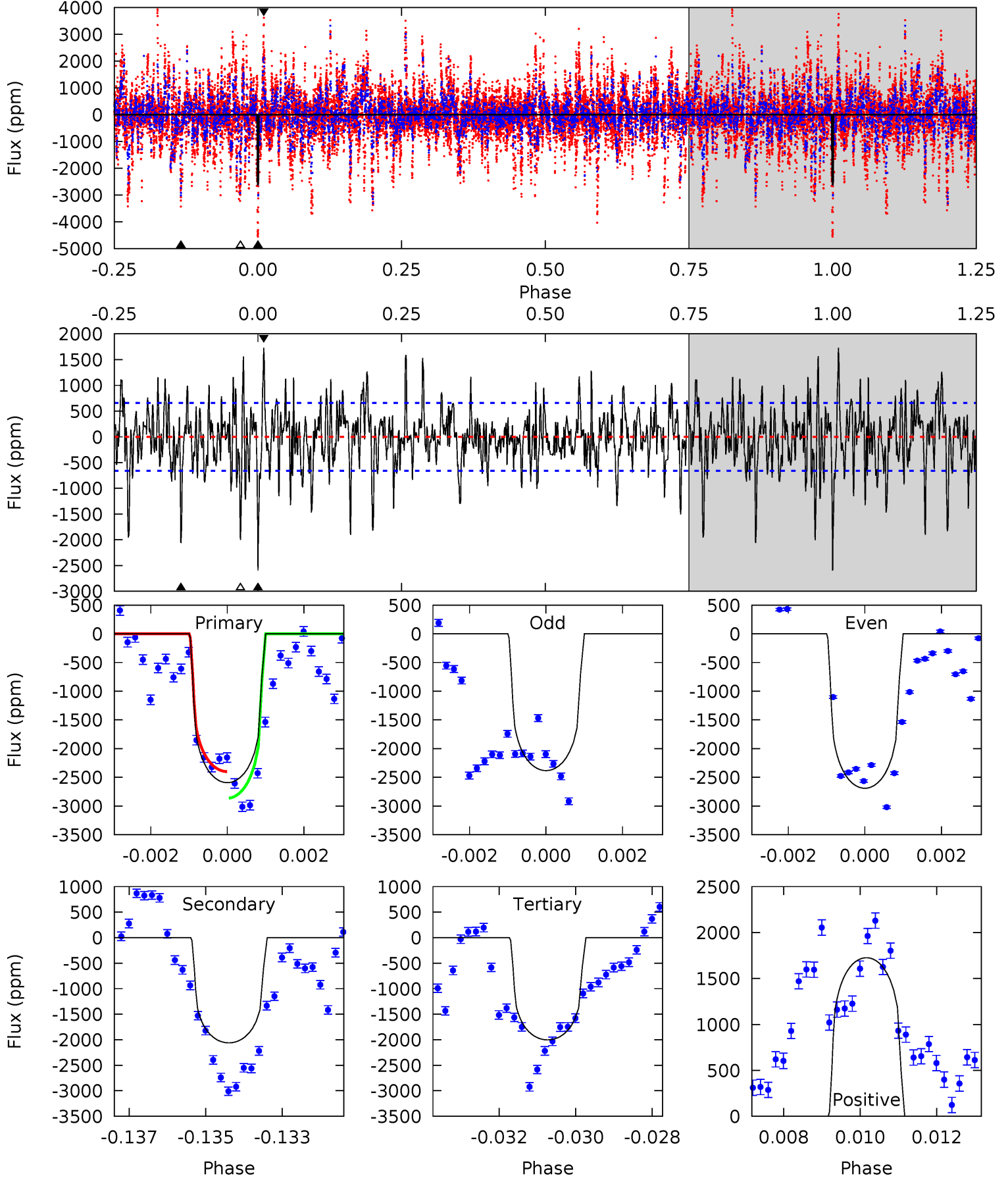
TCE 007007099-02 $P=215.274366$ Days $T_0=150.432002$ (BKJD)



DV Model-Shift Uniqueness Test

007007099-02, P = 215.273182 Days, E = 150.416273 Days

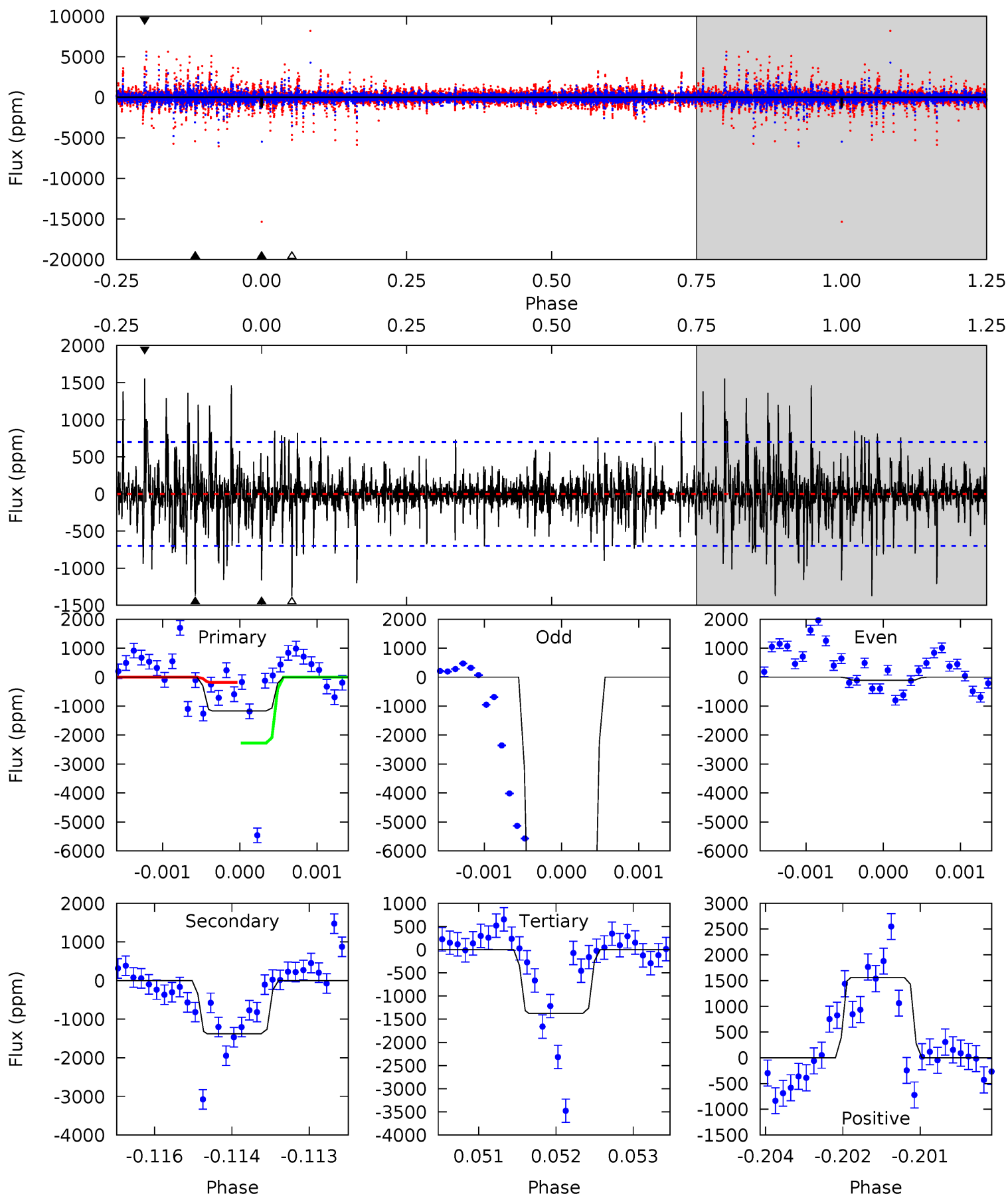
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	16.7	16.2	14.0	5.33	3.09	3.95	4.78	7.01	0.47	2.71	1.13	0.98	0.40	1.86



Alt Model-Shift Uniqueness Test

007007099-02, P = 215.274366 Days, E = 150.432002 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.97	10.6	10.6	12.0	5.41	3.22	1.83	-1.63	-3.04	0.01	-1.39	49.0	5.84	0.53	8.39



Stellar Parameters For KIC 007007099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+171}_{-171}	$4.399^{+0.105}_{-0.180}$	$0.140^{+0.200}_{-0.300}$	$1.034^{+0.282}_{-0.152}$	$0.979^{+0.111}_{-0.100}$	$1.246^{+0.559}_{-0.620}$
	+3%/-3%	+2%/-4%	+143%/-214%	+27%/-15%	+11%/-10%	+45%/-50%
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 007007099-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2061 ± 124	$4.74^{+2.09}_{-1.89}$	428^{+26}_{-21}	5921^{+2026}_{-873}	24535^{+42938}_{-12646}
Alt.	-1375 ± 130	$9.94^{+2.47}_{-2.17}$	429^{+27}_{-23}	4014^{+351}_{-261}	3675^{+2323}_{-1302}

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 $A_{obs} \gg 1.0$

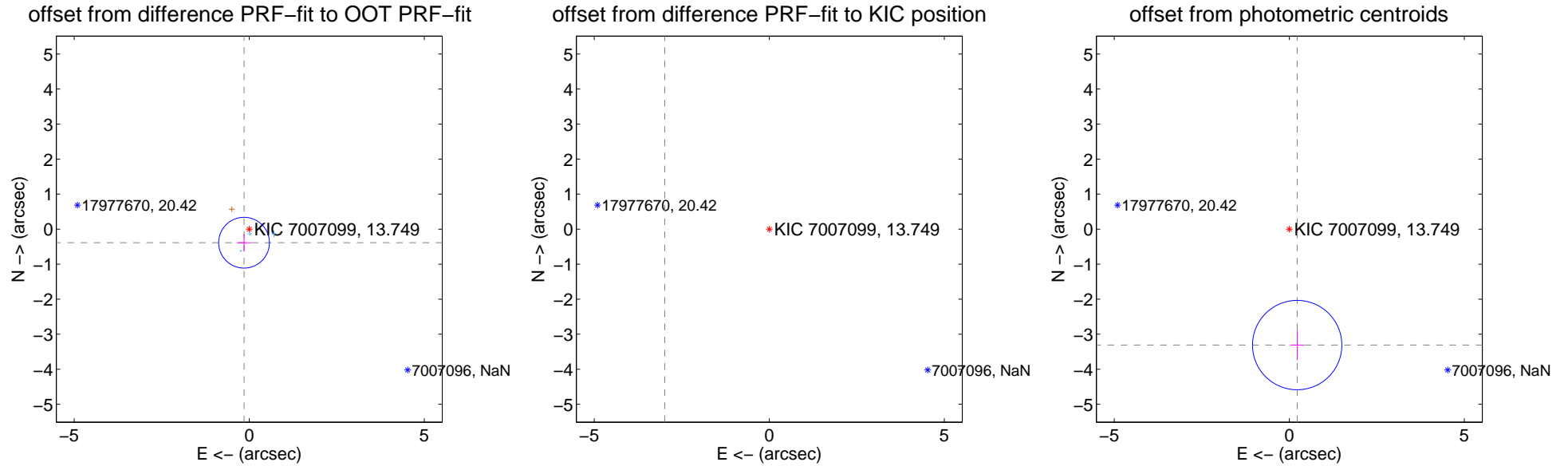
DV Centroid Data

Supplemental centroid analysis for 007007099-02. Kepler magnitude: 13.75. Transit SNR 9.11

There are 3 quarters with good PRF difference image offsets

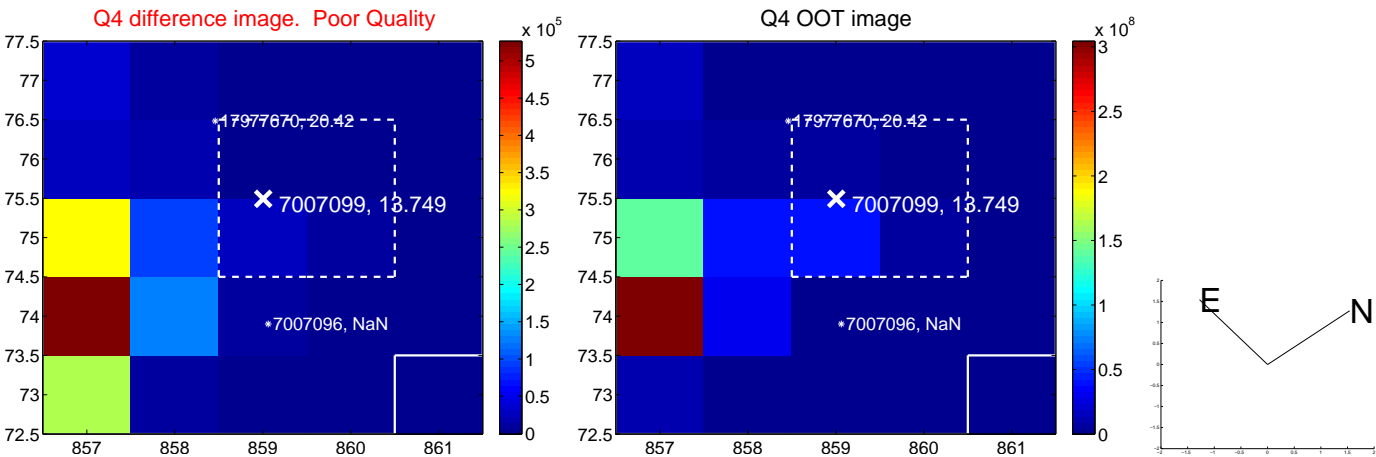
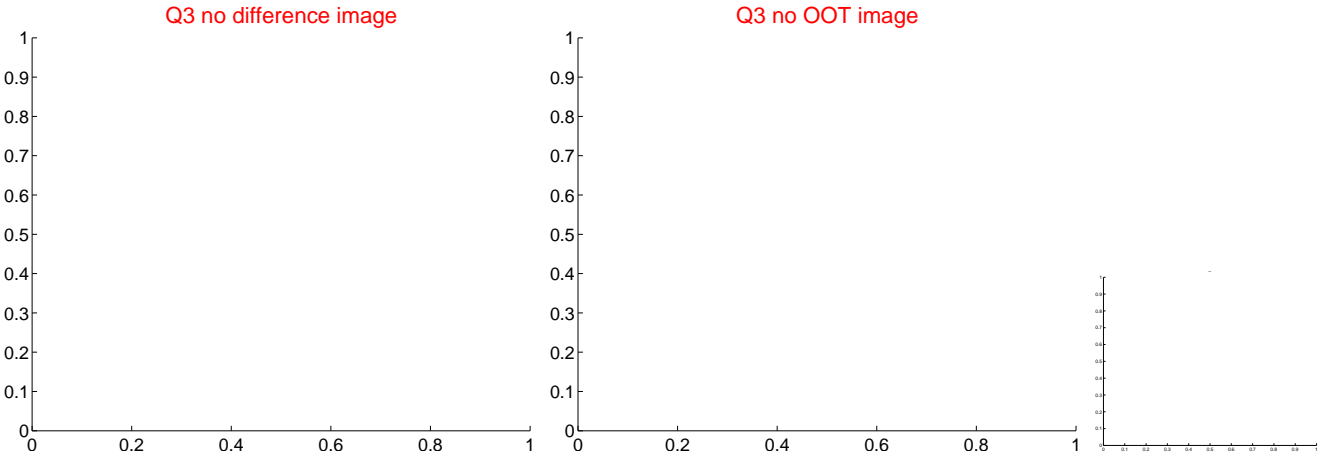
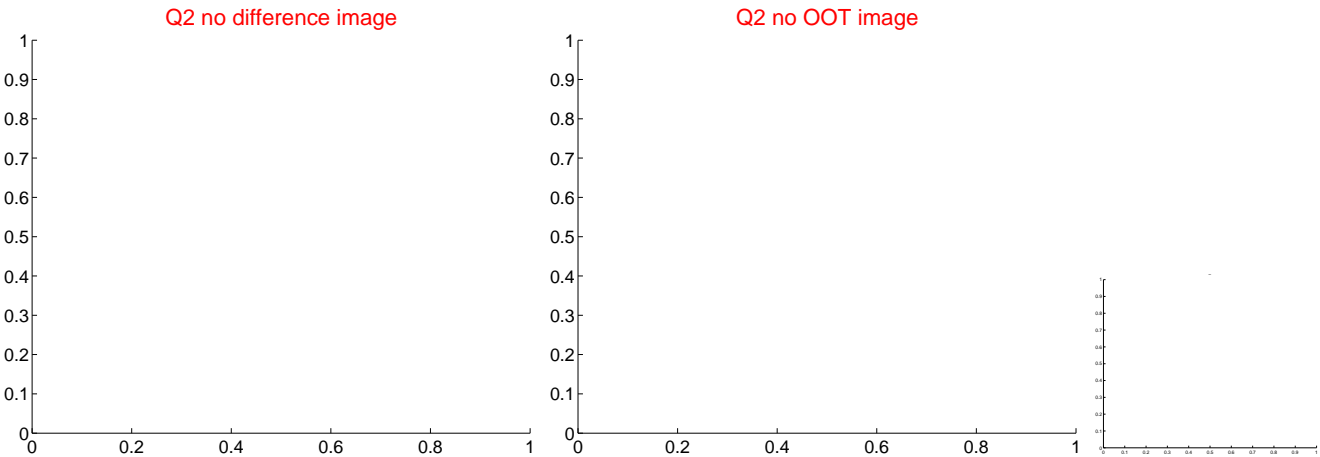
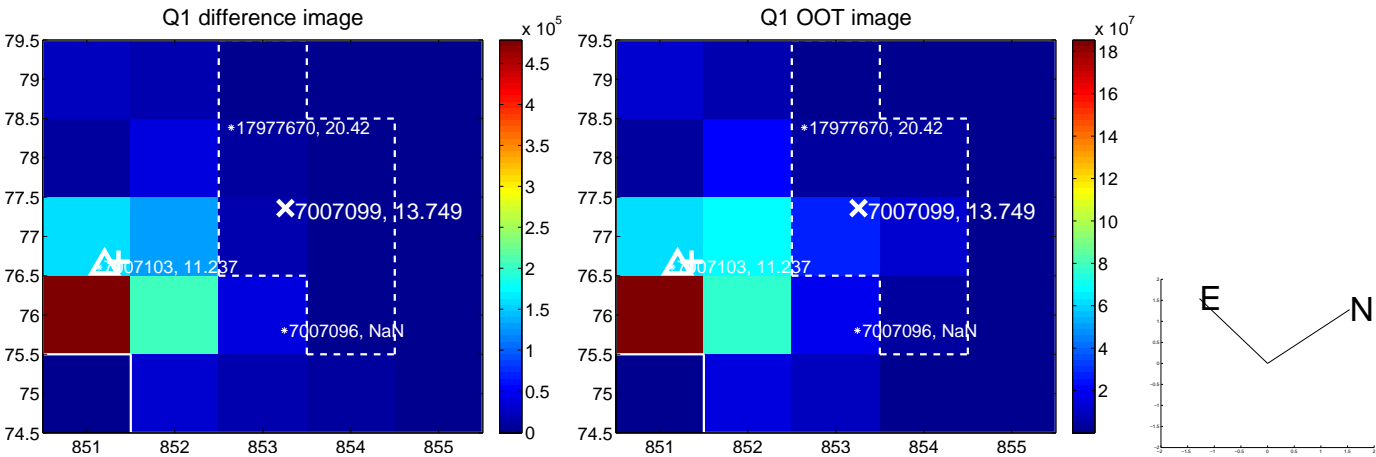
The OOT PRF centroid is offset from the target star catalog position by about 8.83 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.414 ± 0.242	1.71	0.149 ± 0.211	-0.387 ± 0.246
PRF-fit source offset from KIC position	8.611 ± 0.285	30.25	2.986 ± 0.348	-8.077 ± 0.240
photometric centroid source offset	3.32 ± 0.43	7.80	-0.22 ± 0.20	-3.31 ± 0.43



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.

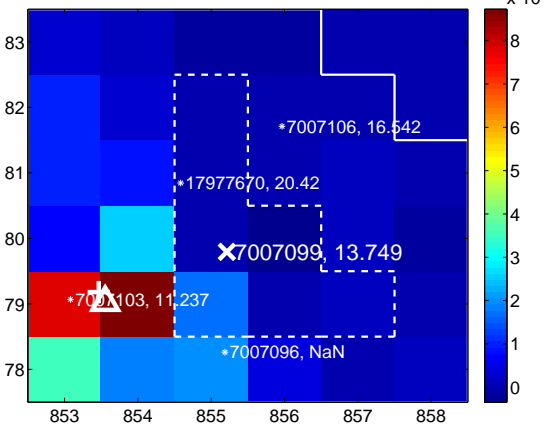
Q5 no difference image



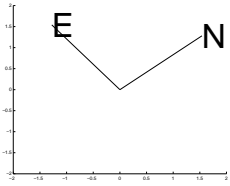
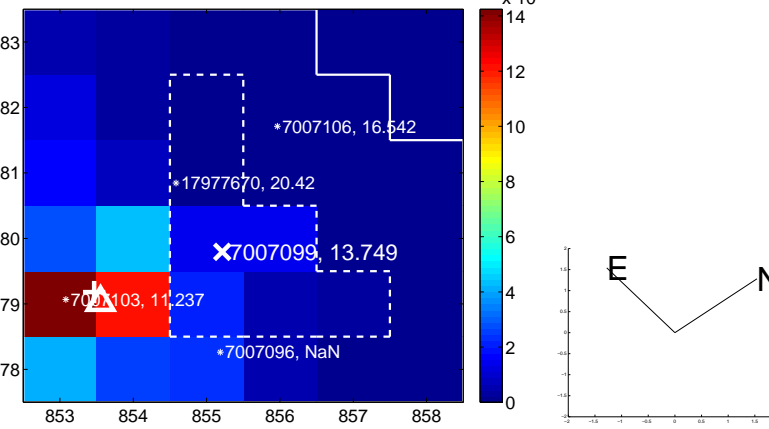
Q5 no OOT image



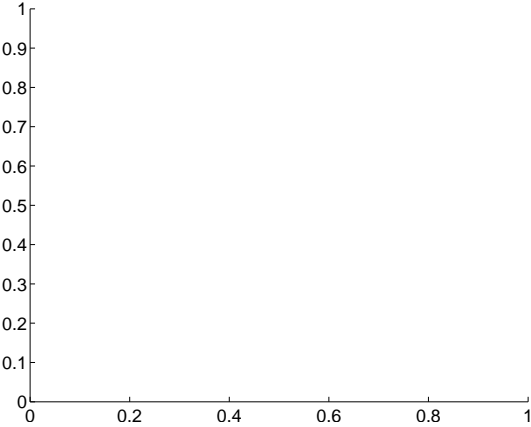
Q6 difference image



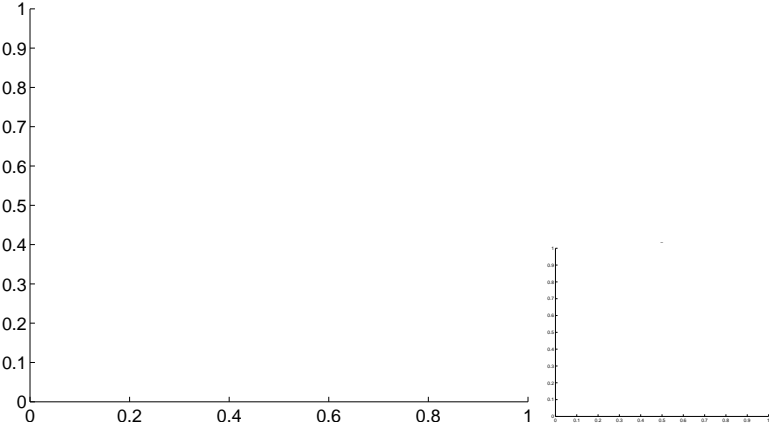
Q6 OOT image



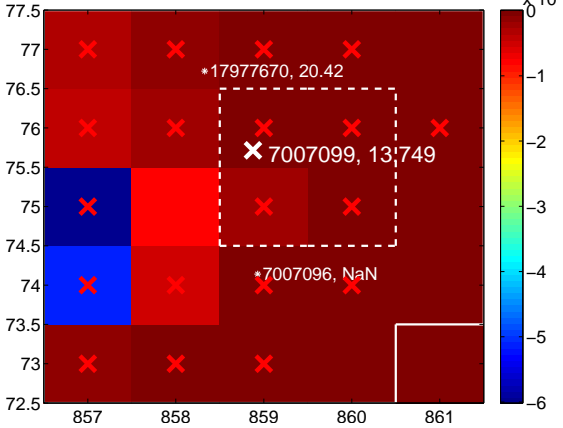
Q7 no difference image



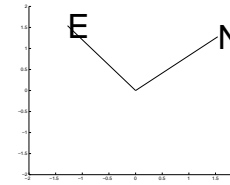
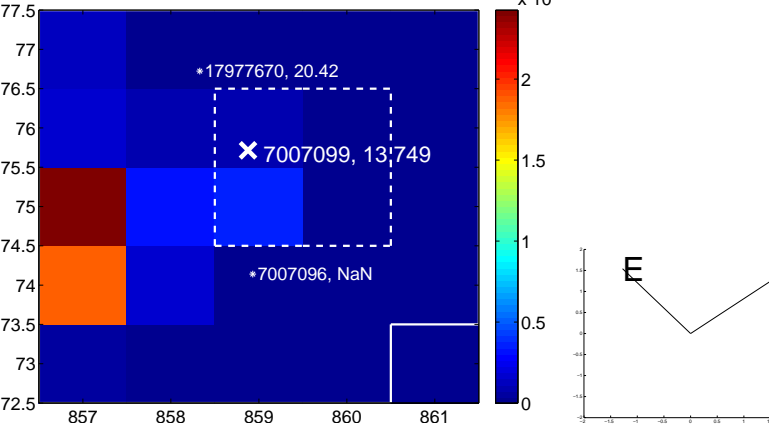
Q7 no OOT image



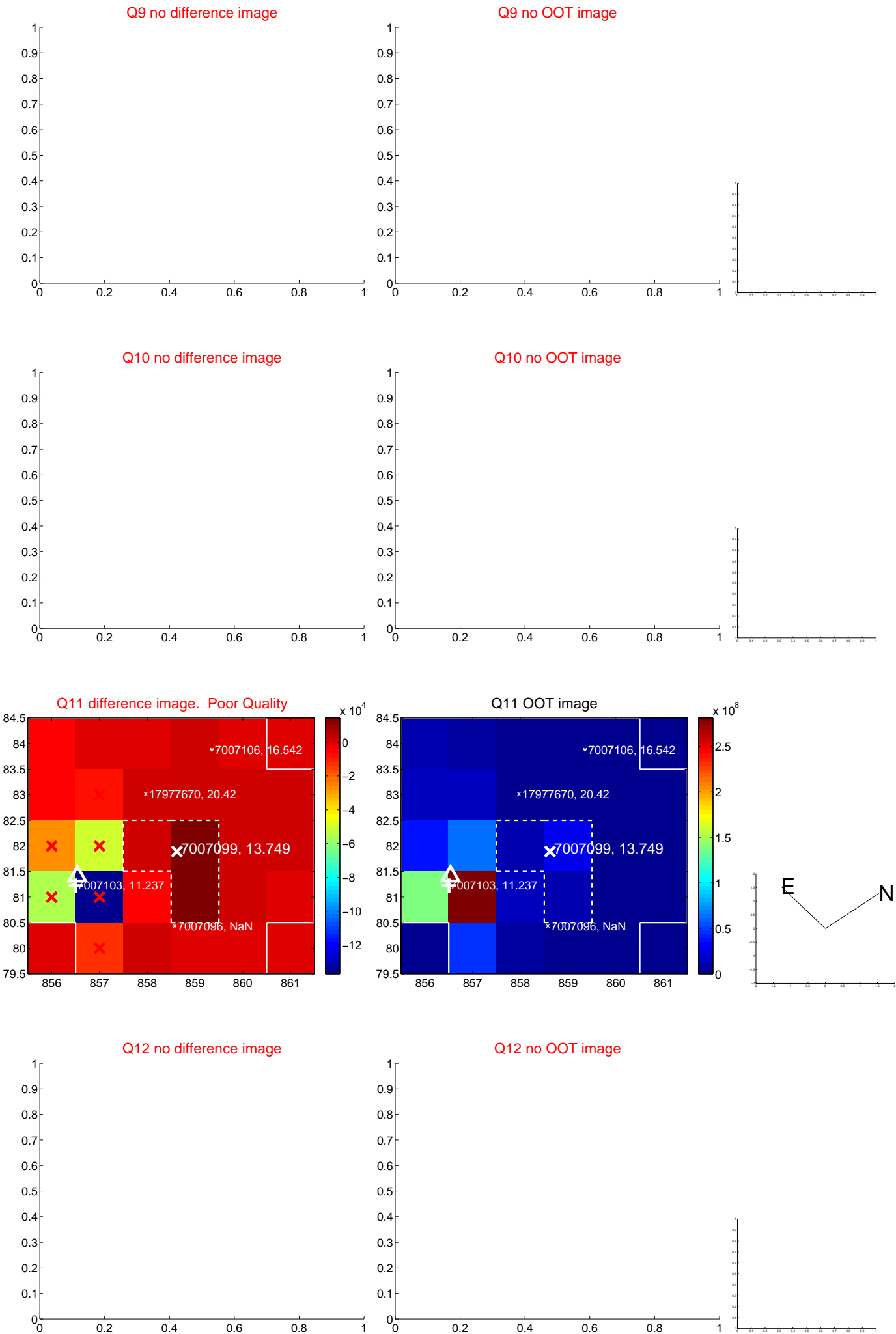
Q8 difference image. Poor Quality



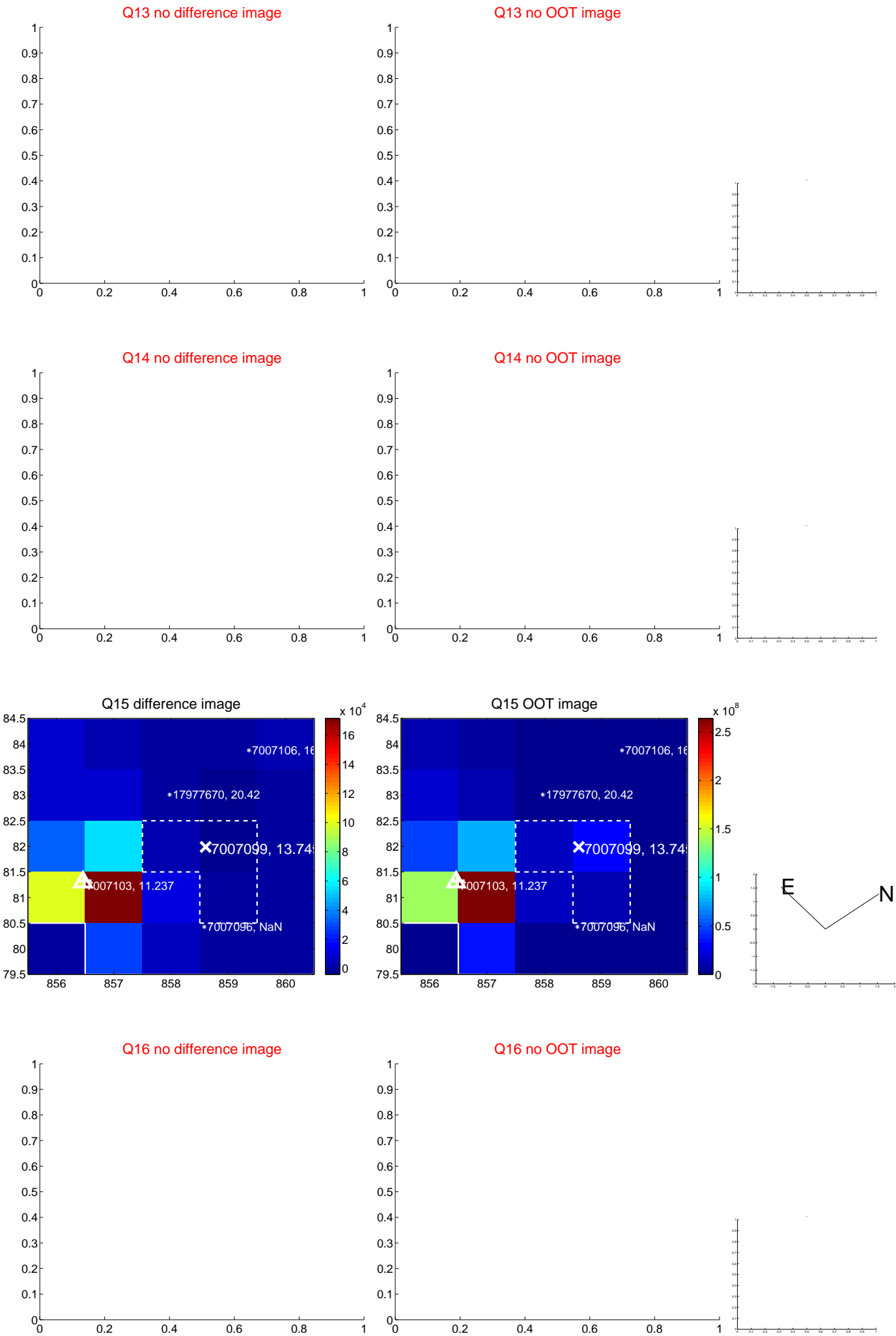
Q8 OOT image



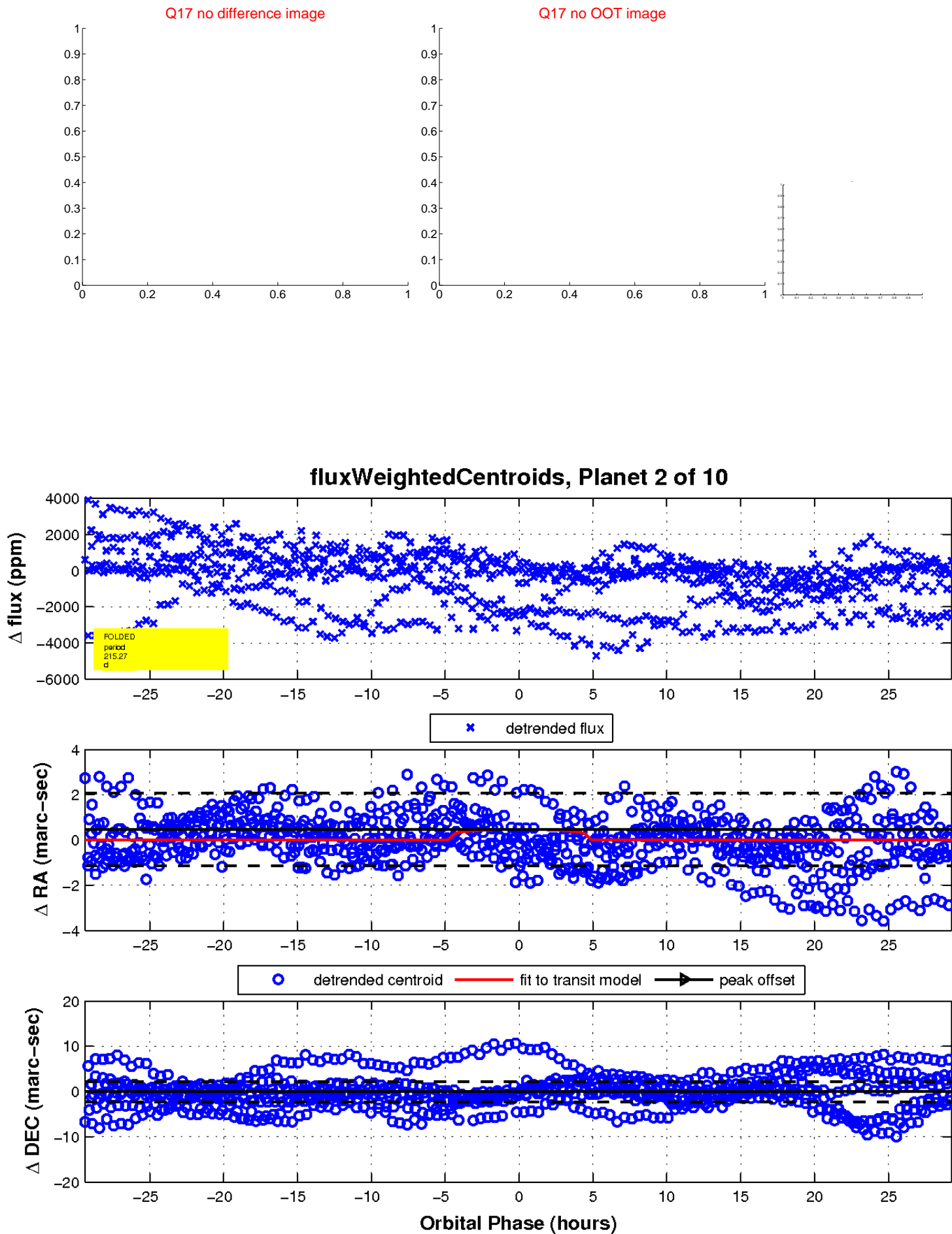
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

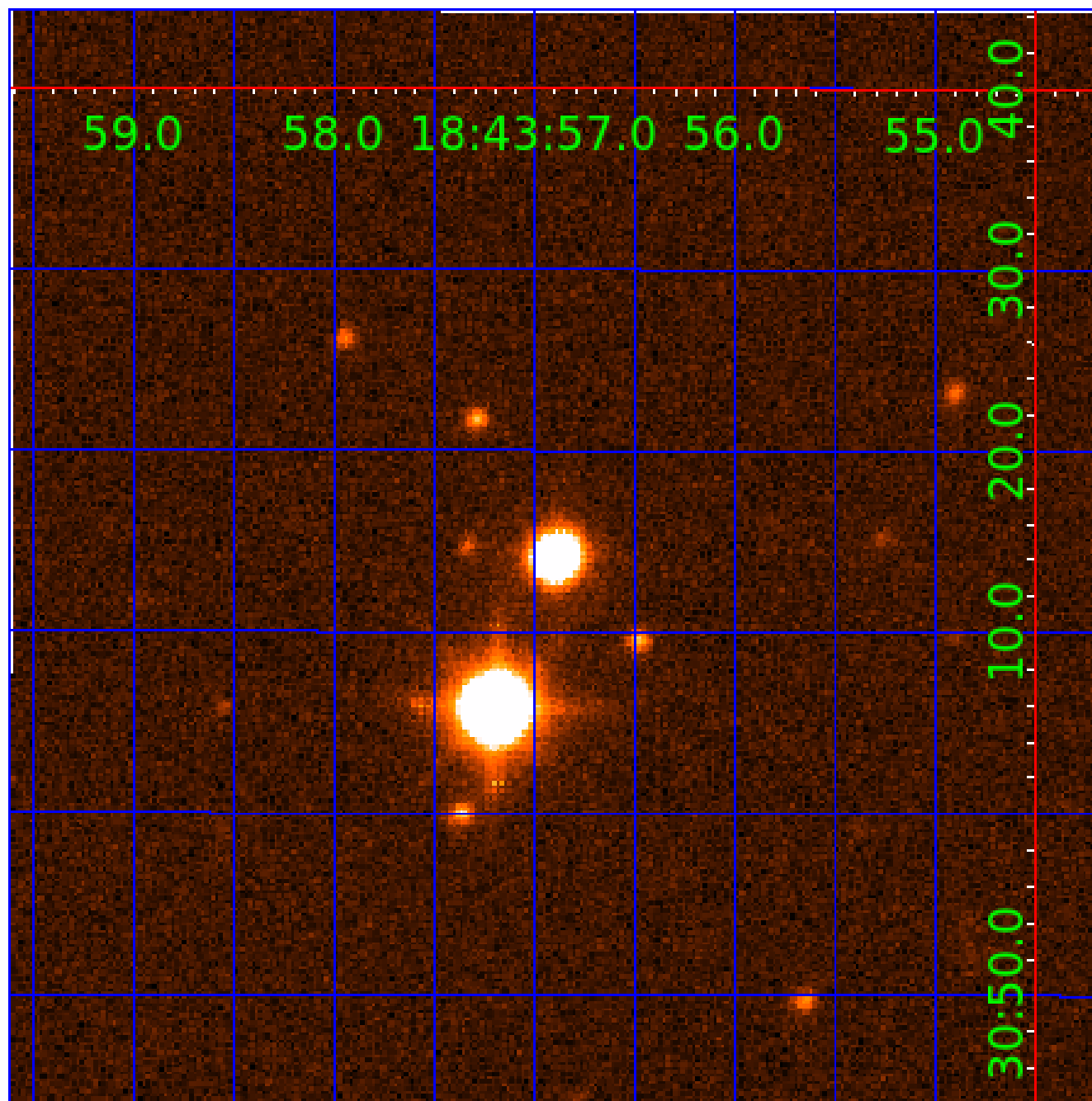


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007007099

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})
007007099-01	OBS	No	2.677749	132.655012	91.3	14.919	9.4	7.3	1.03	5671	1.04	706.08
007007099-02	OBS	No	215.273182	150.416273	1952.8	9.794	19.2	9.1	1.03	5671	4.66	2.04
007007099-03	OBS	No	481.990984	358.651354	1587.8	7.329	16.1	10.5	1.03	5671	4.92	0.69
007007099-06	OBS	No	404.449444	514.215166	2694.8	13.795	13.8	13.4	1.03	5671	6.74	0.88
007007099-07	OBS	No	591.713802	147.074944	2929.0	16.613	12.9	10.3	1.03	5671	10.61	0.53
007007099-08	OBS	No	347.913940	158.144845	1804.6	12.869	12.4	9.8	1.03	5671	6.00	1.07
007007099-09	OBS	No	562.331529	136.398872	741.6	3.310	12.4	5.8	1.03	5671	3.23	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007007099-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007007099-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007007099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
007007099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_POS_ALT—CENT_FEW_DIFFS
007007099-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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

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

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

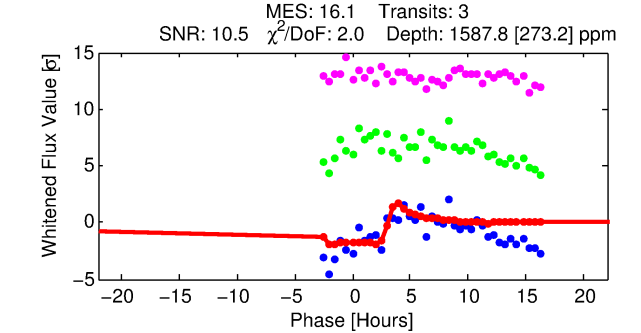
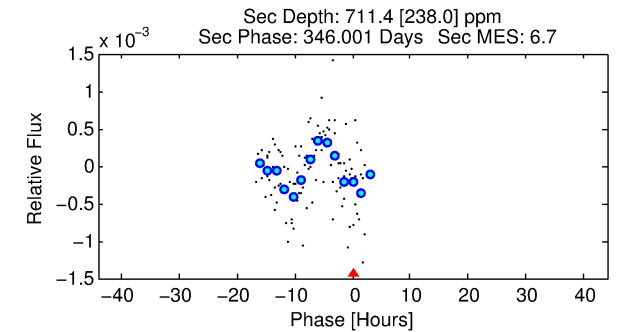
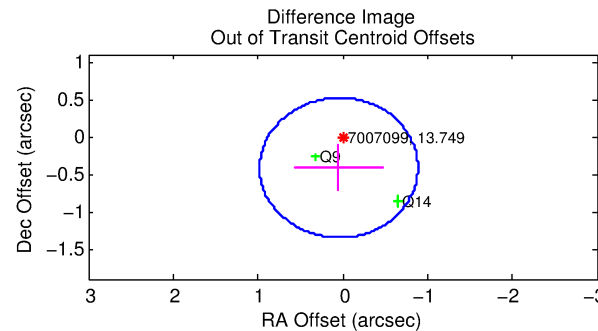
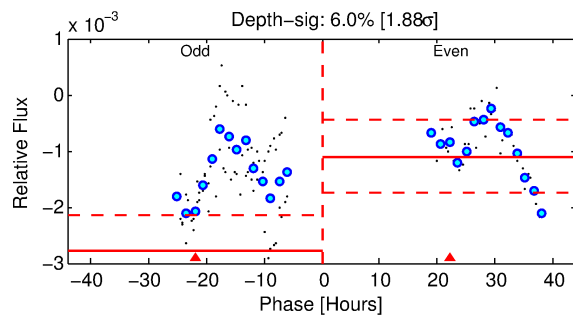
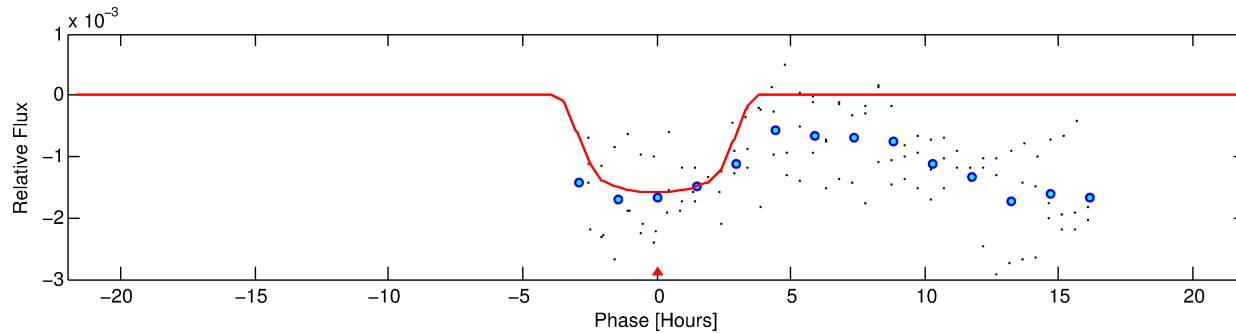
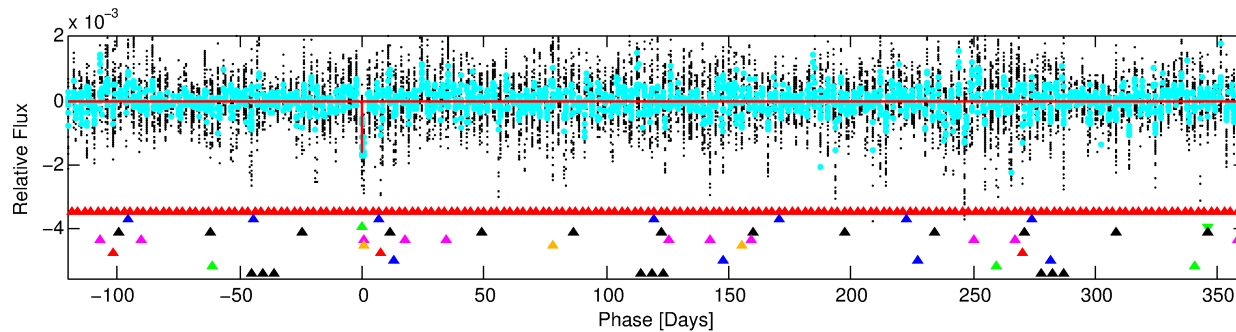
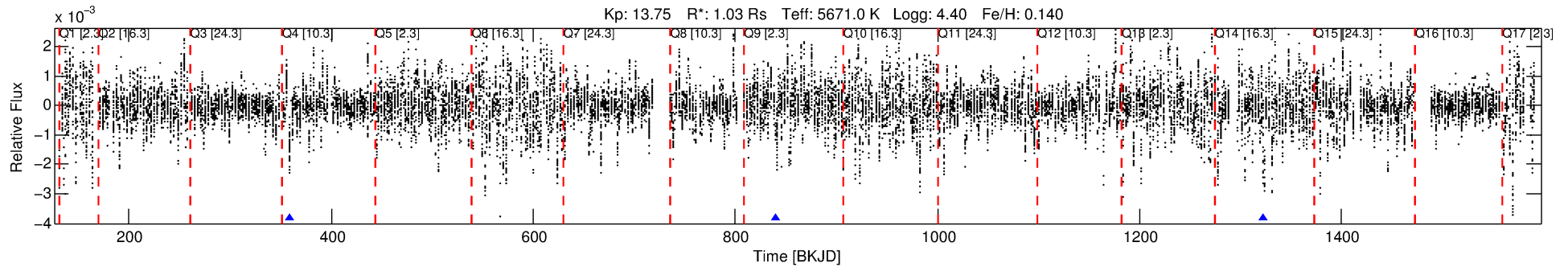
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007007099-03

No Significant Match Found

DV One-Page Summary

KIC: 7007099 Candidate: 3 of 10 Period: 481.991 d



DV Fit Results:

Period = 481.99098 [0.00917] d
Epoch = 358.6514 [0.0139] BKJD
Rp/R* = 0.0436 [0.0055]
a/R* = 266.28 [92.52]
b = 0.90 [0.07]
Seff = 0.69 [0.24]
Teq = 233 [20] K
Rp = 4.92 [1.48] Re
a = 1.1942 [0.2727] AU
Ag = 23017.37 [12292.66] [1.87 σ]
Teffp = 4433 [484] K [8.68 σ]

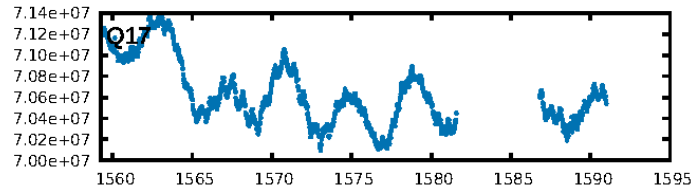
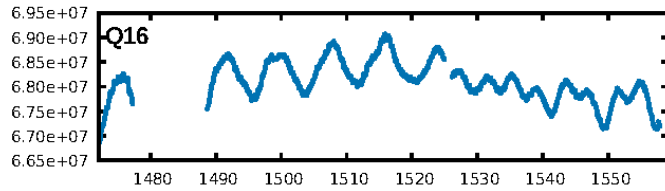
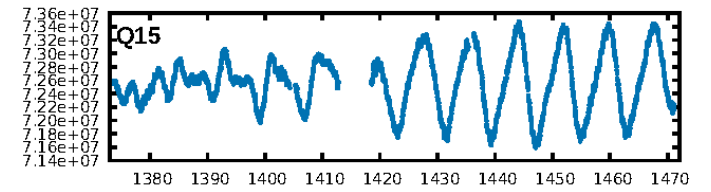
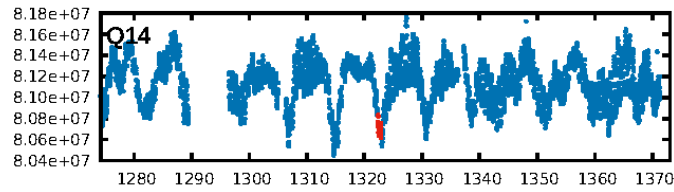
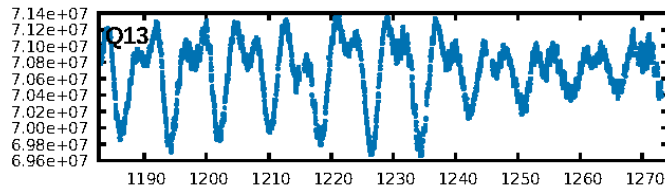
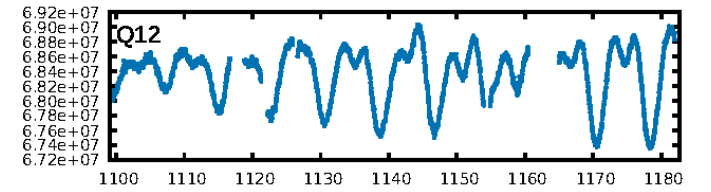
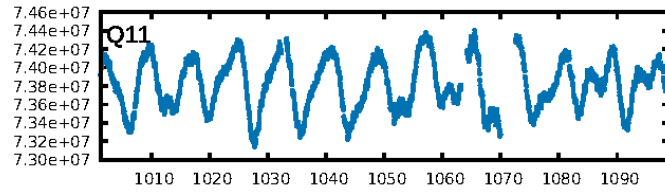
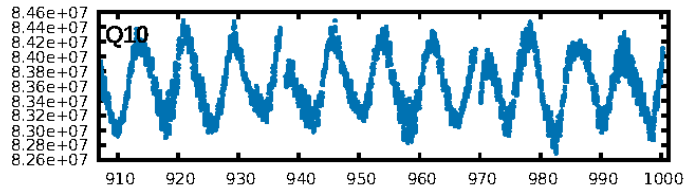
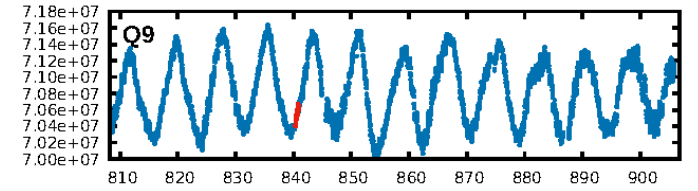
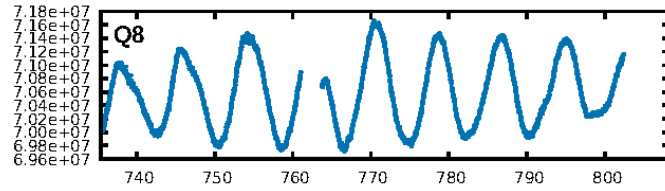
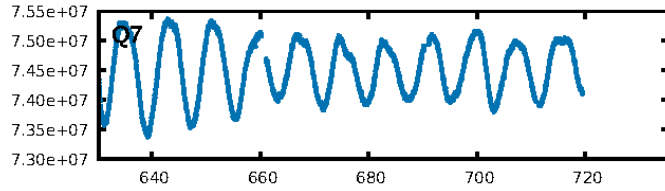
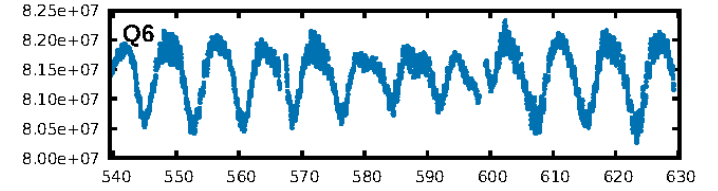
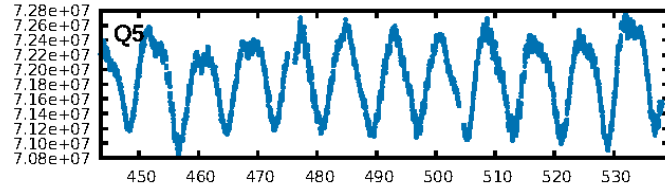
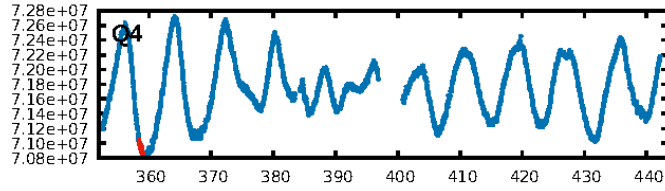
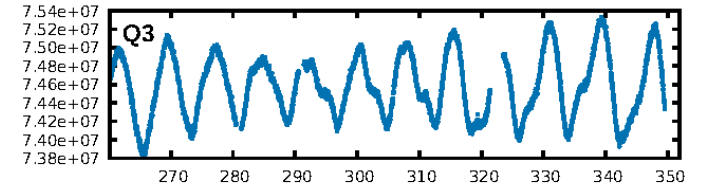
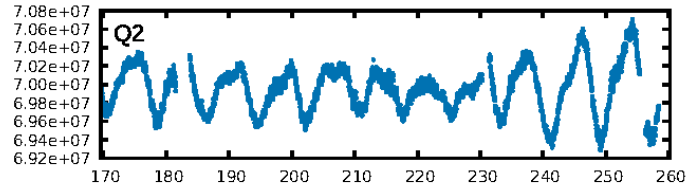
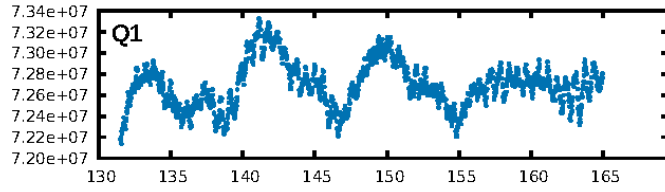
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [119.14 σ]
LongPeriod-sig: 100.0% [239.78 σ]
ModelChiSquare2-sig: 7.6%
ModelChiSquareGof-sig: 72.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.305
Centroid-sig: 52.7%
Centroid-so: 2.916 arcsec [2.99 σ]
OotOffset-rm: 0.418 arcsec [1.34 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 8.484 arcsec [25.72 σ]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.33 [1/3]

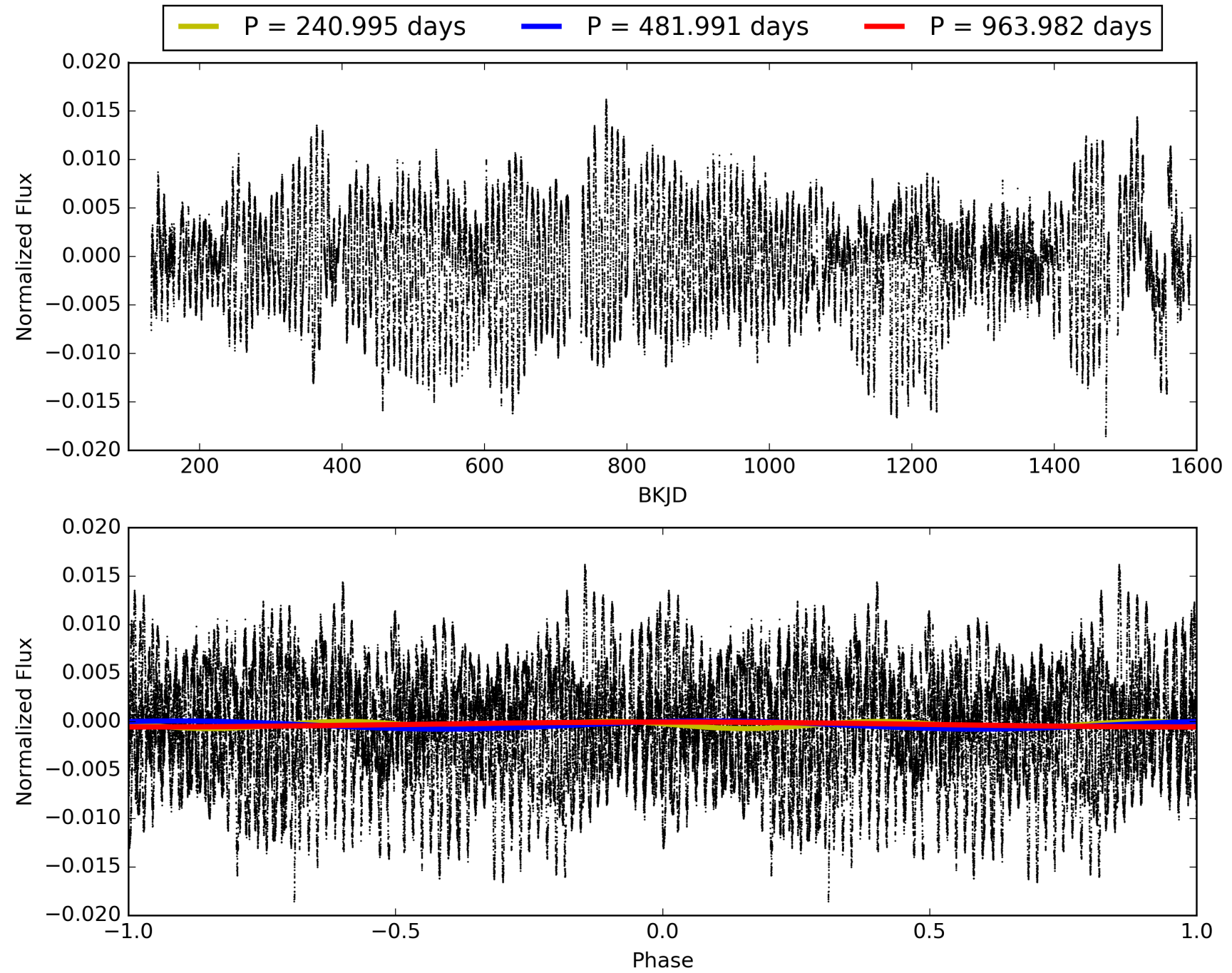
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007007099-03, PDC Light Curves

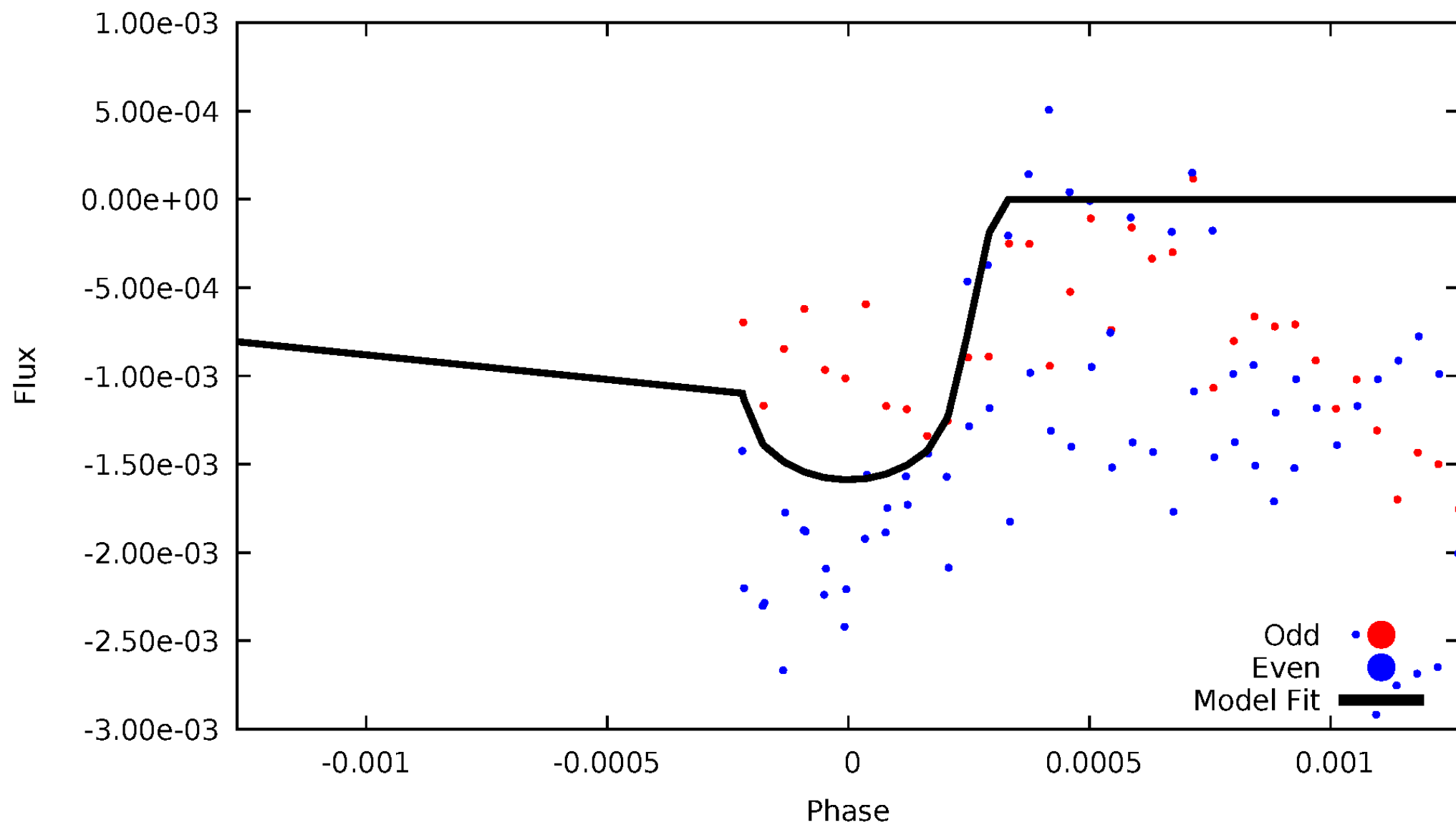


TCE 007007099-03



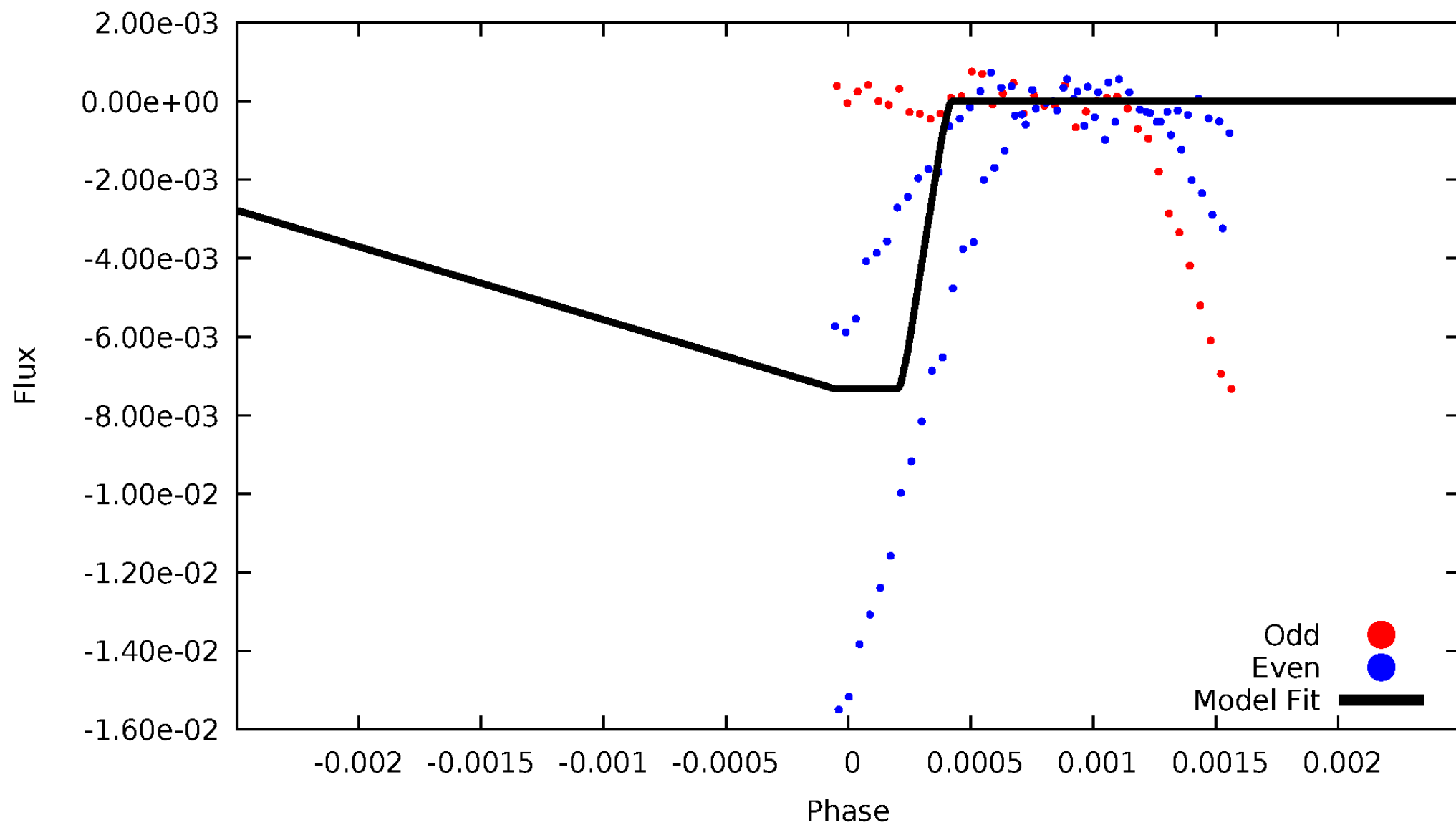
DV Odd/Even

TCE 007007099-03



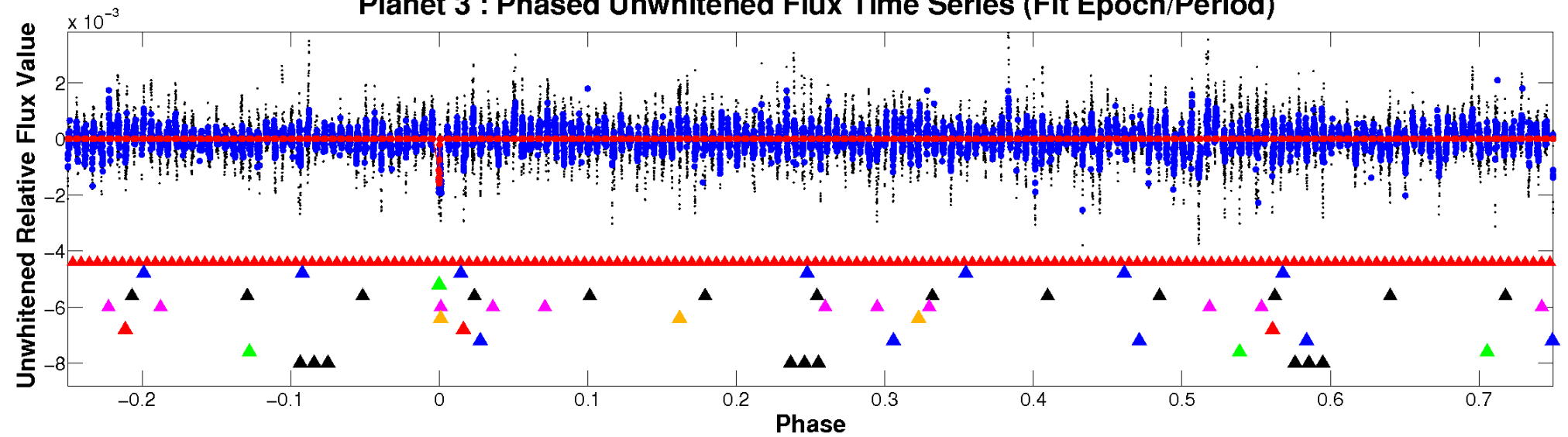
ALT Odd/Even

TCE 007007099-03

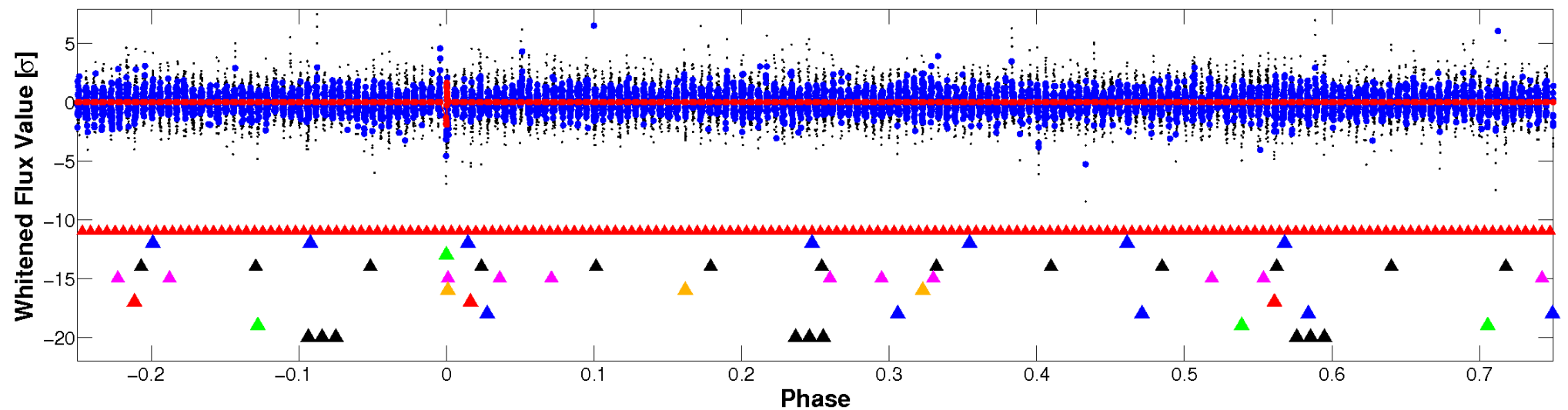


Non-Whitened Vs. Whitened Light Curve

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

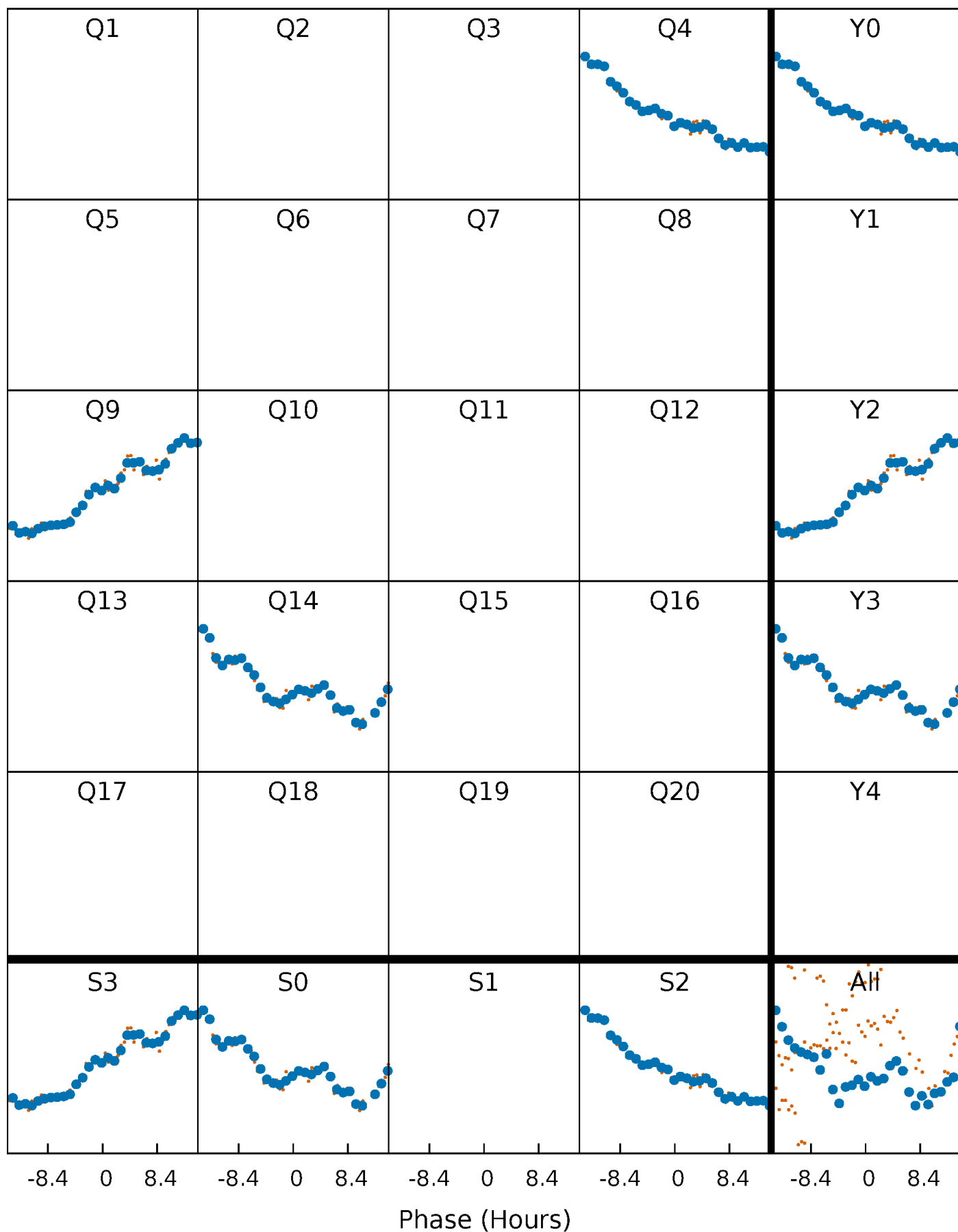


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



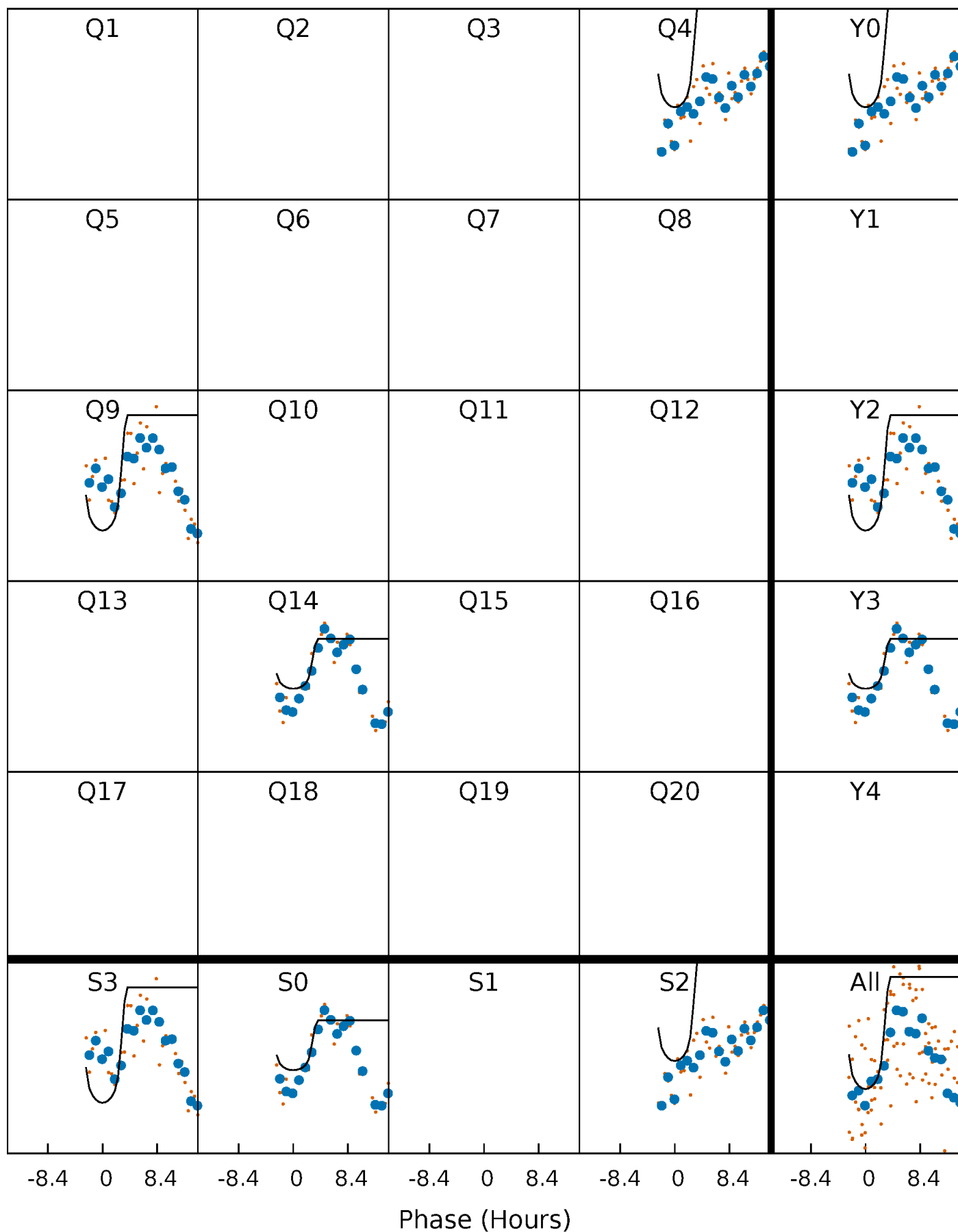
PDC Quarter-Phased Transit Curves

TCE 007007099-03 P=481.990984 Days $T_0=358.651354$ (BKJD)



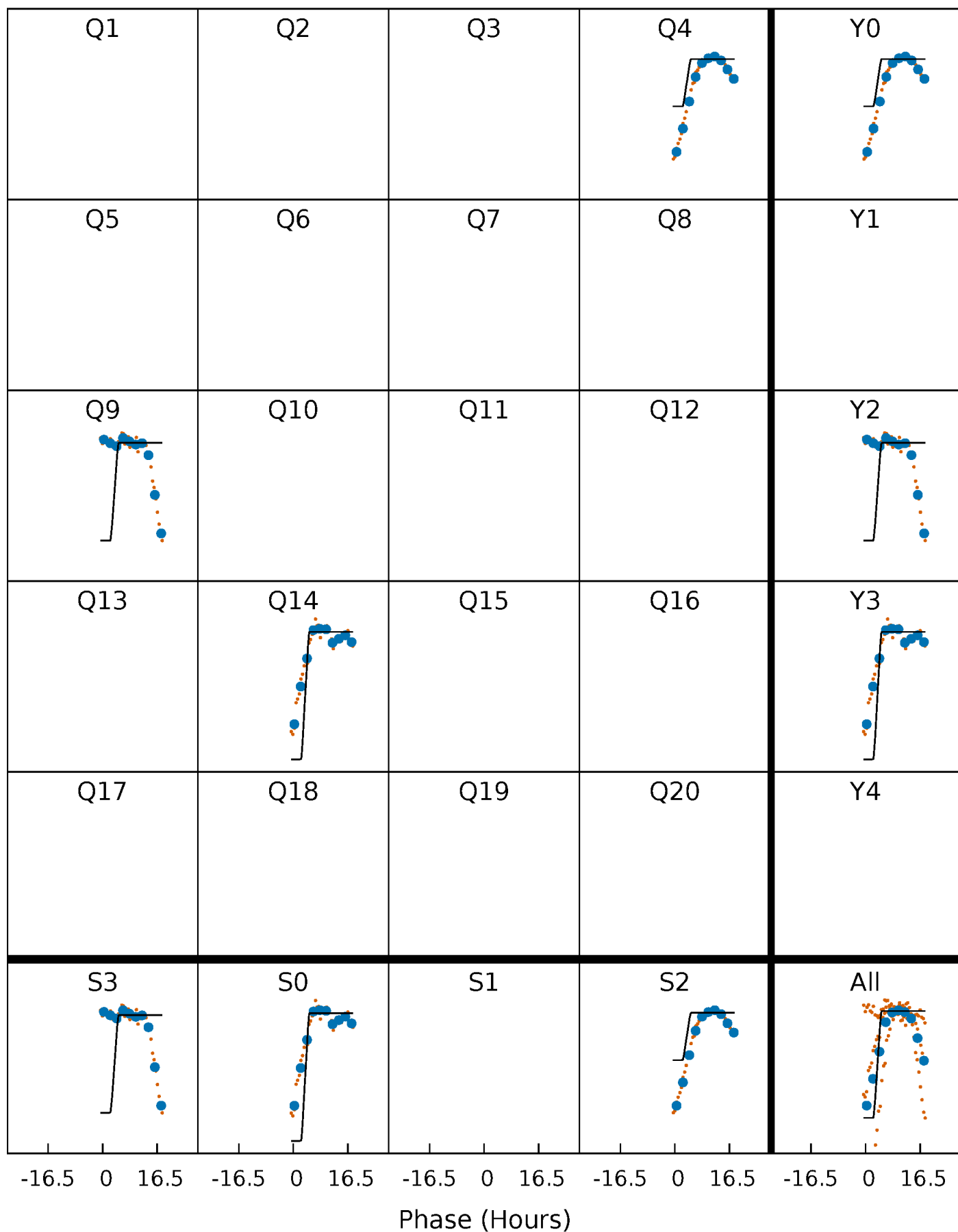
DV Quarter-Phased Transit Curves

TCE 007007099-03 P=481.990984 Days $T_0=358.651354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

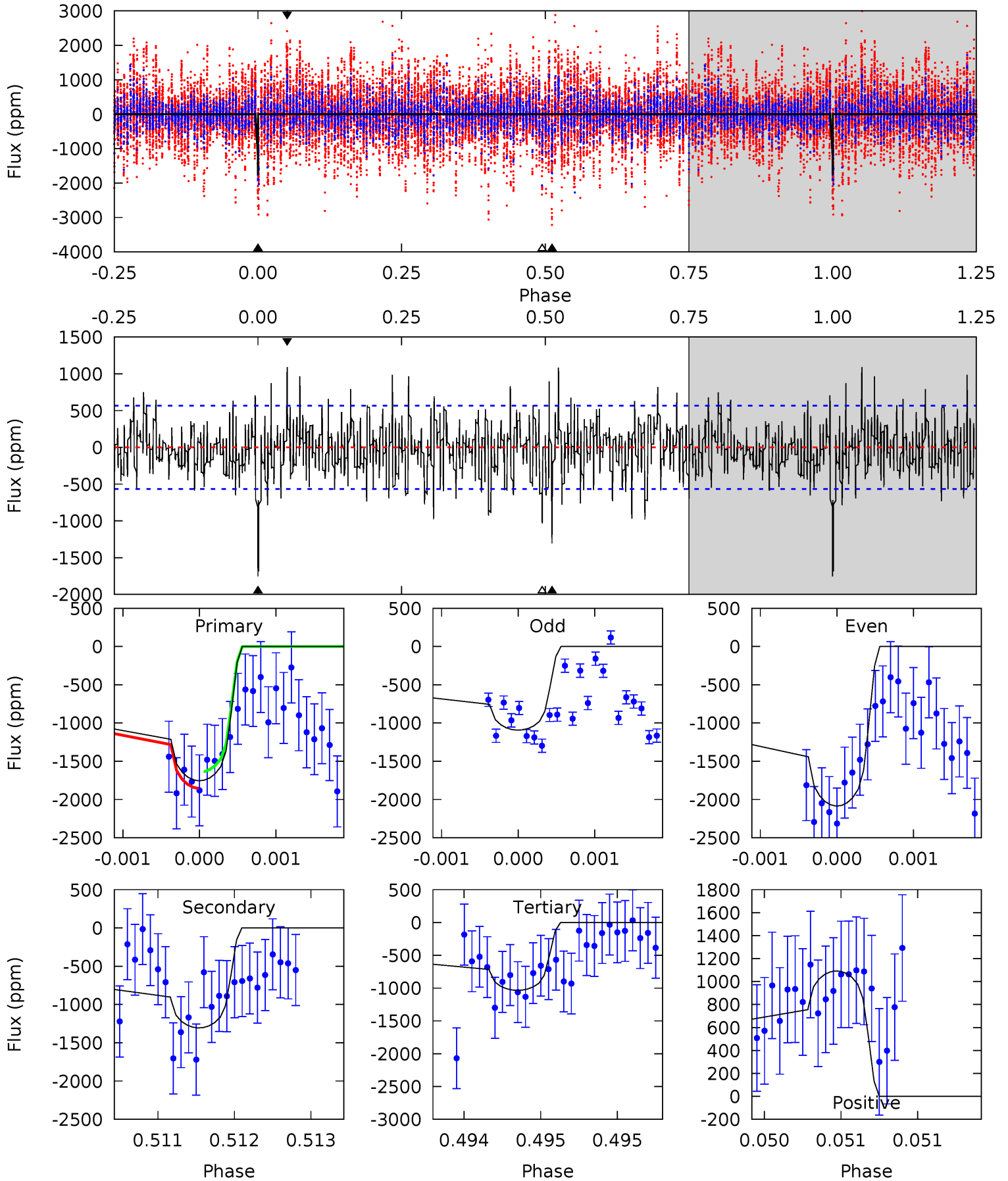
TCE 007007099-03 P=481.993624 Days $T_0=358.566170$ (BKJD)



DV Model-Shift Uniqueness Test

007007099-03, P = 481.990984 Days, E = 358.651354 Days

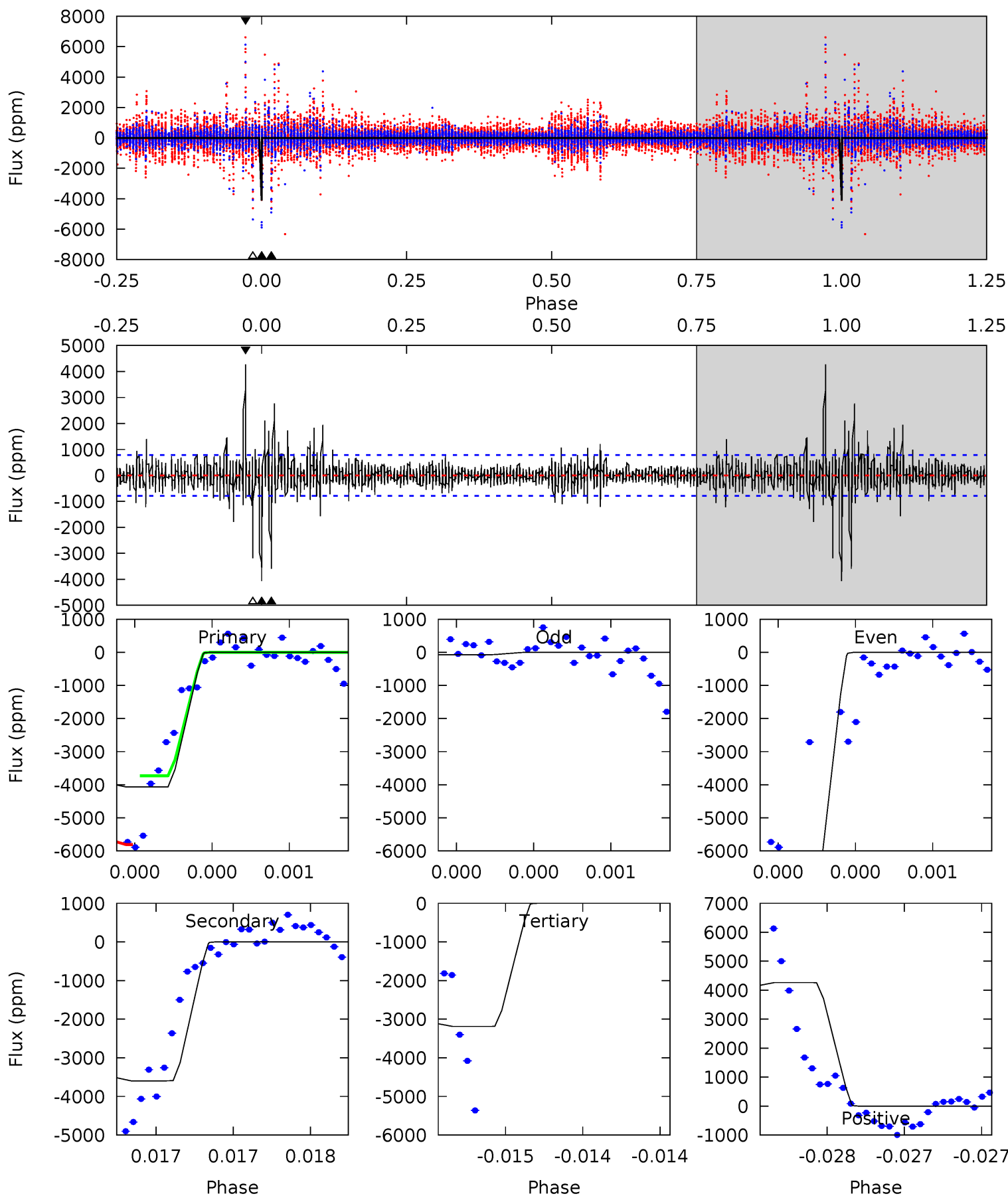
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	12.8	10.1	10.7	5.54	3.44	3.06	7.05	6.49	2.65	2.09	4.27	0.84	0.38	1.06



Alt Model-Shift Uniqueness Test

007007099-03, P = 481.993624 Days, E = 358.566170 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.9	25.5	22.6	30.2	5.59	3.50	2.02	6.23	-1.40	2.89	-4.74	25.1	1.36	0.51	0



Stellar Parameters For KIC 007007099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+171}_{-171}	$4.399^{+0.105}_{-0.180}$	$0.140^{+0.200}_{-0.300}$	$1.034^{+0.282}_{-0.152}$	$0.979^{+0.111}_{-0.100}$	$1.246^{+0.559}_{-0.620}$
	+3%/-3%	+2%/-4%	+143%/-214%	+27%/-15%	+11%/-10%	+45%/-50%
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 007007099-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1305 ± 102	$4.99^{+0.92}_{-0.81}$	327^{+23}_{-18}	5222^{+395}_{-346}	41530^{+16872}_{-12134}
Alt.	-3595 ± 141	$9.78^{+1.63}_{-1.03}$	328^{+25}_{-18}	4846^{+207}_{-177}	29350^{+6782}_{-7232}

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

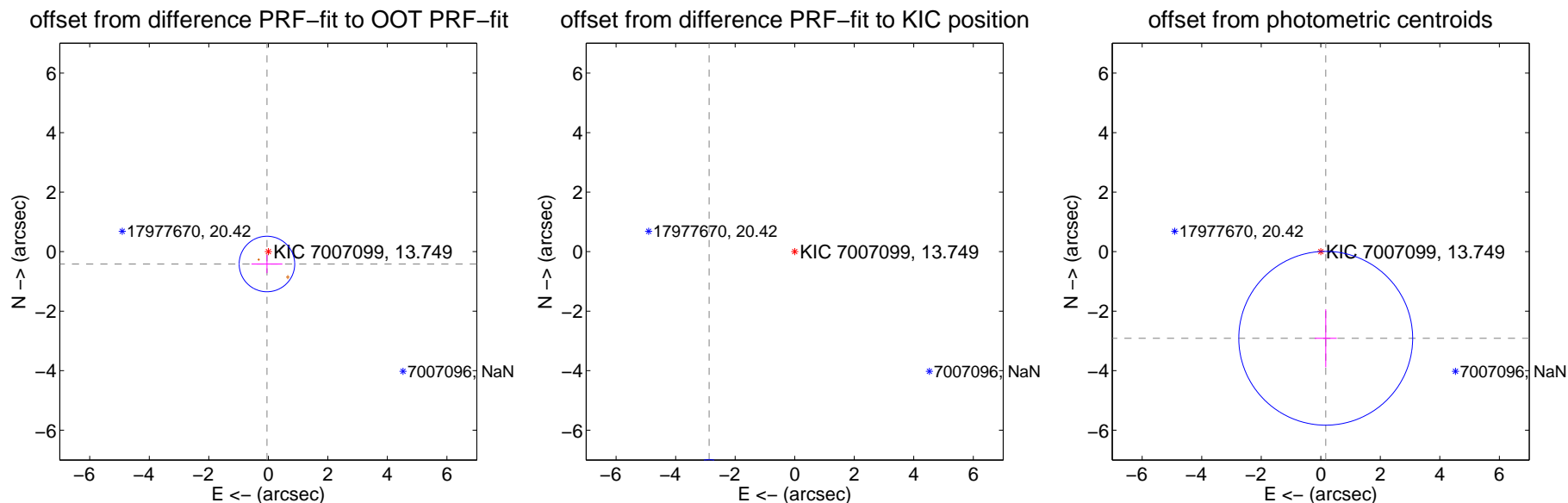
DV Centroid Data

Supplemental centroid analysis for 007007099-03. Kepler magnitude: 13.75. Transit SNR 10.45

There are 0 quarters with good PRF difference image offsets

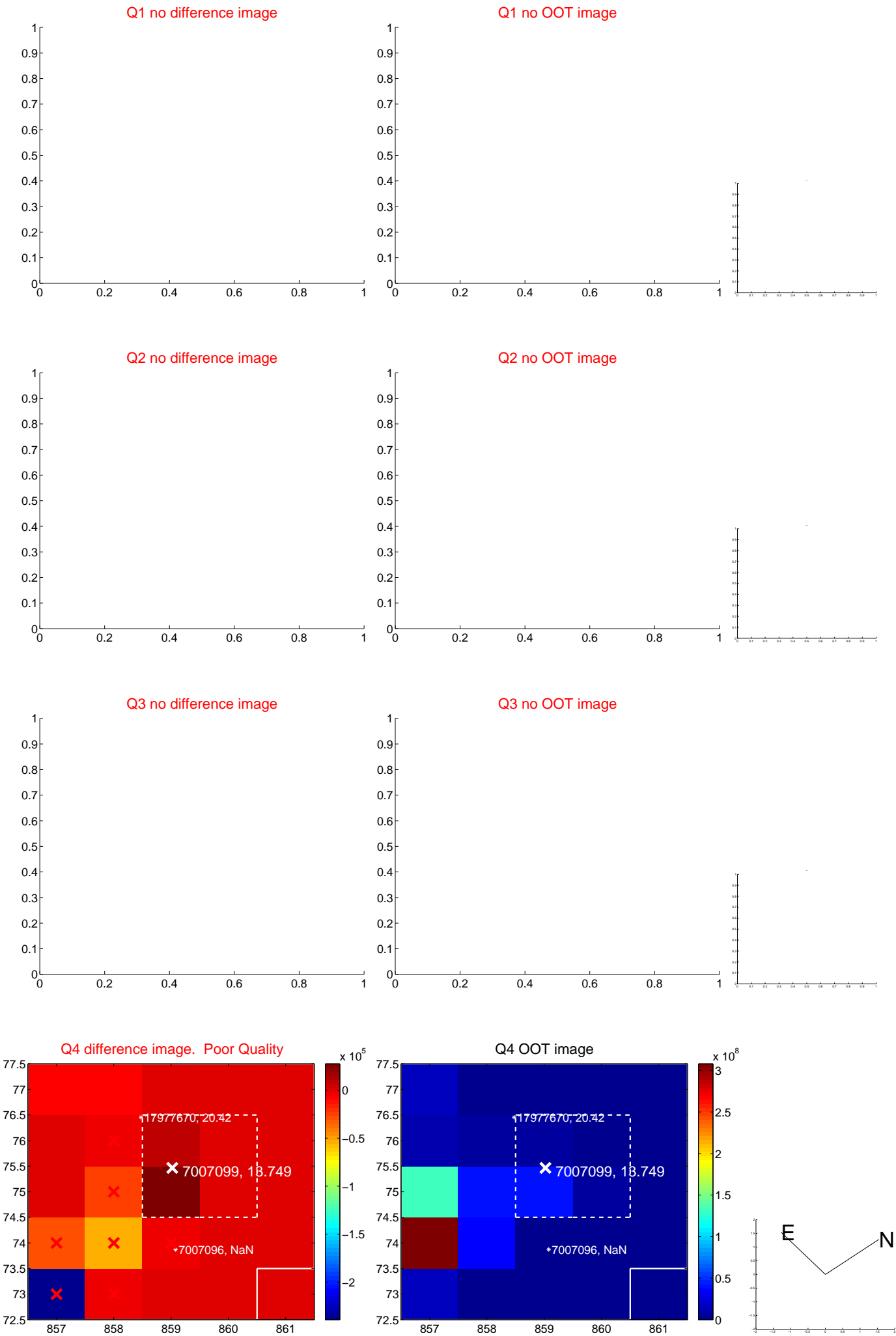
The OOT PRF centroid is offset from the target star catalog position by about 7.26 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.418 ± 0.311	1.34	0.046 ± 0.520	-0.415 ± 0.308
PRF-fit source offset from KIC position	8.484 ± 0.330	25.72	2.876 ± 0.752	-7.981 ± 0.223
photometric centroid source offset	2.92 ± 0.97	2.99	-0.17 ± 0.37	-2.91 ± 0.97



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.

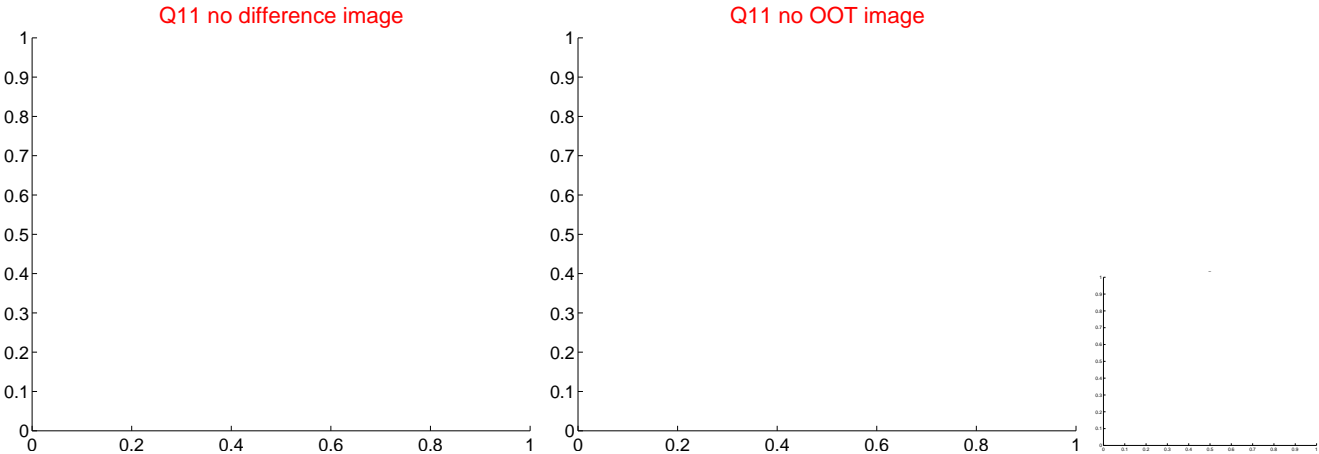
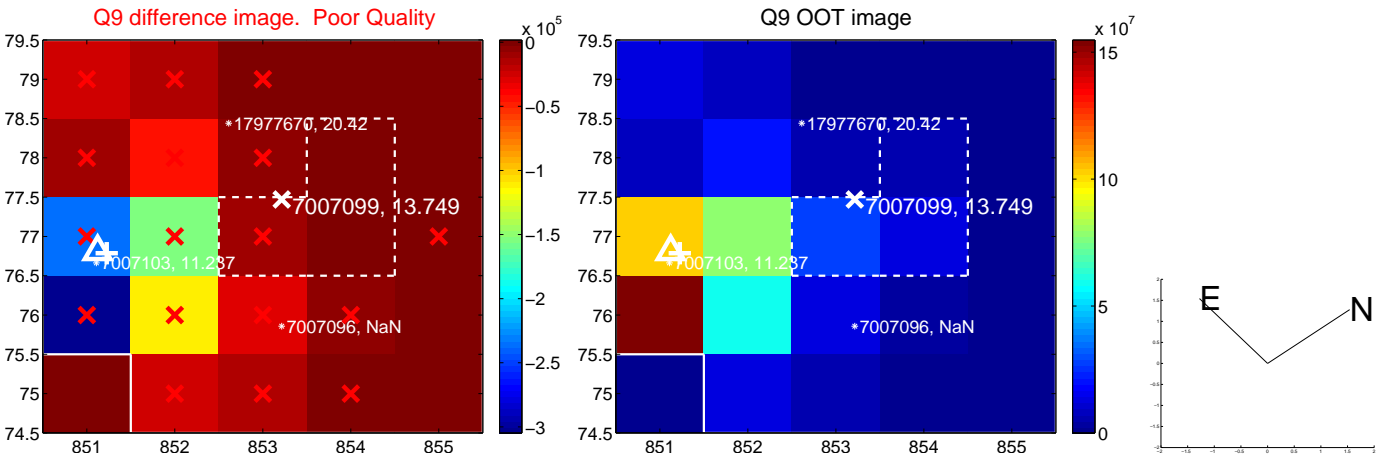
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



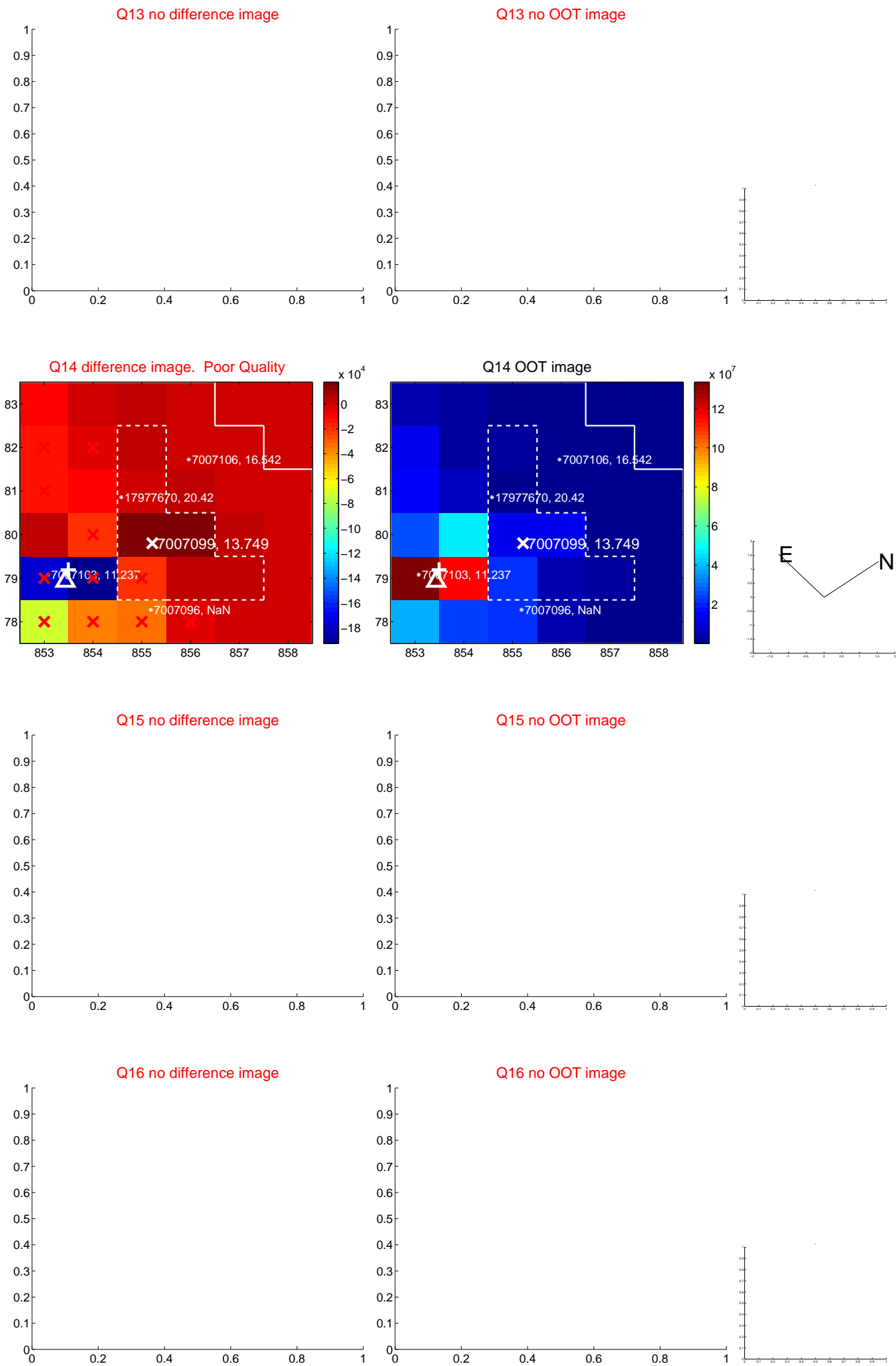
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



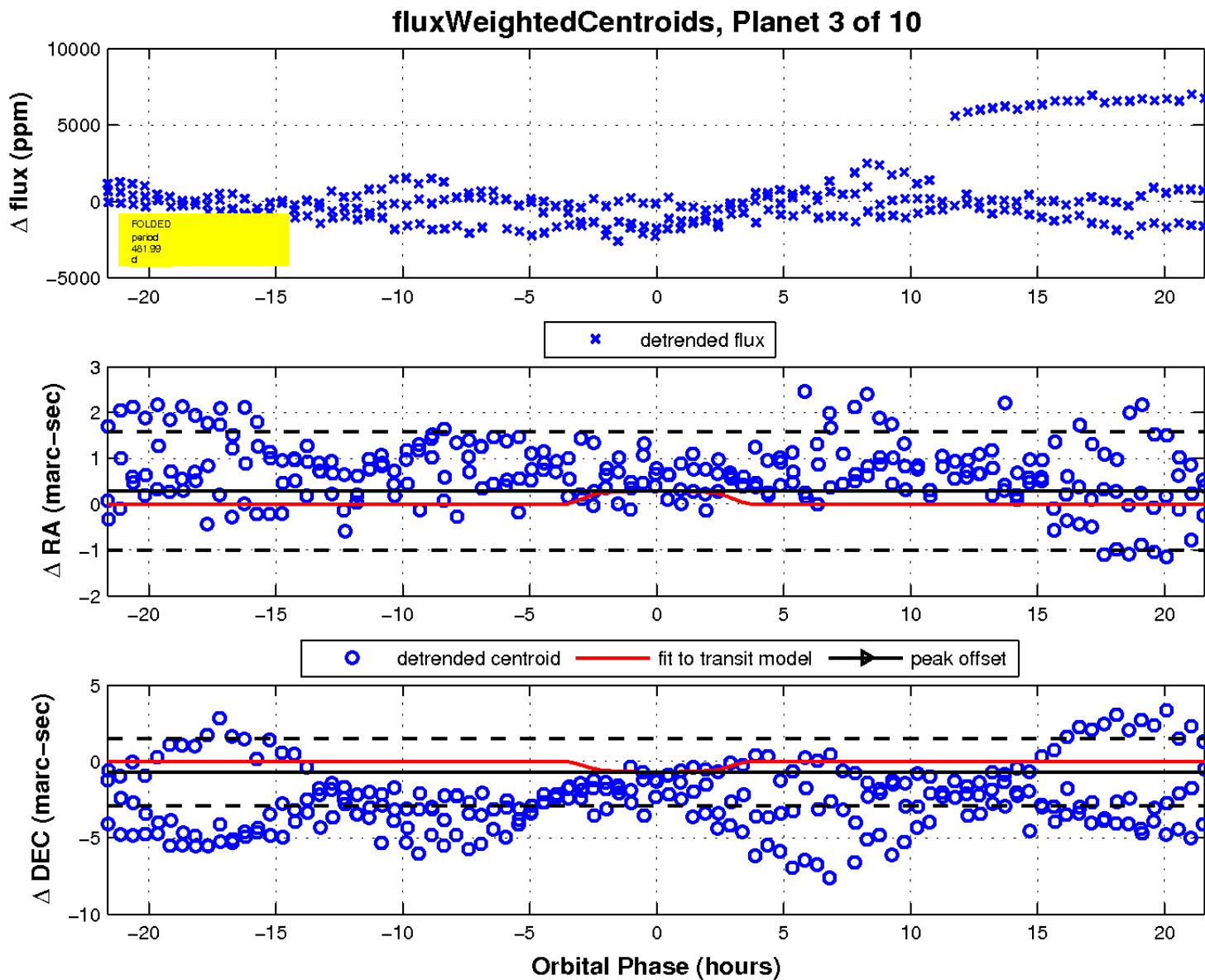
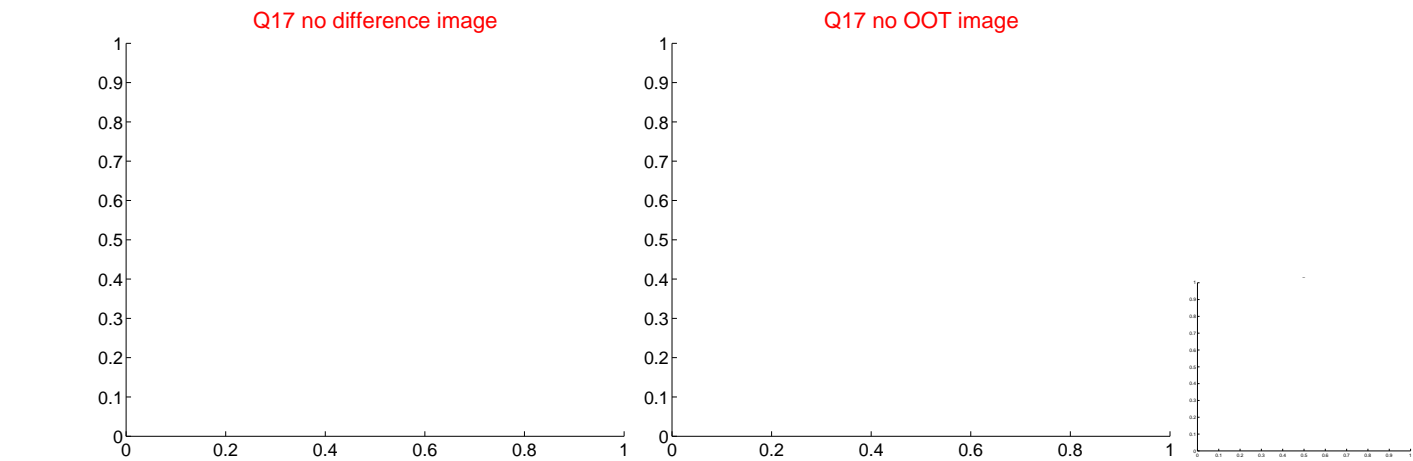
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

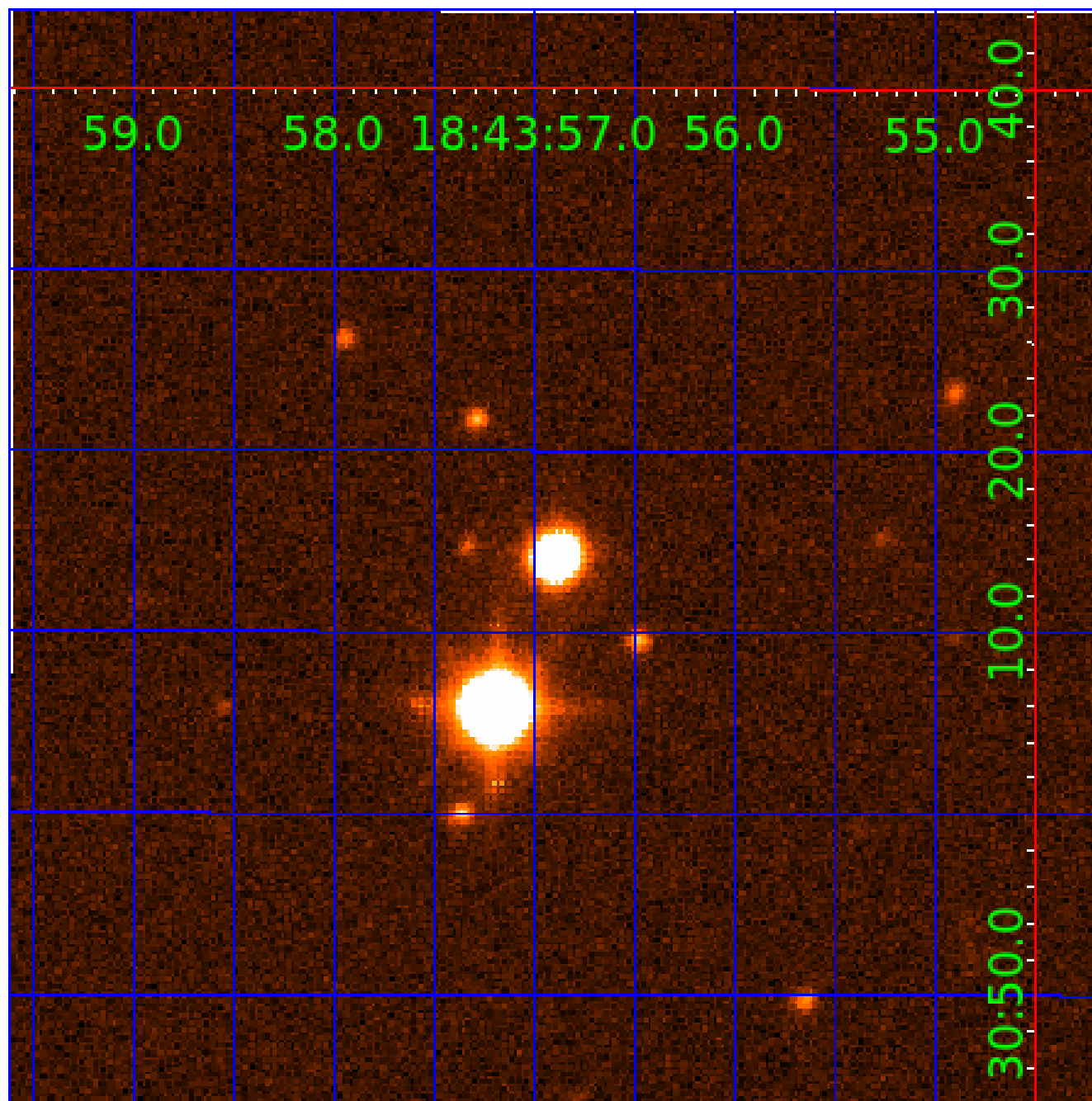


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007007099

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})
007007099-01	OBS	No	2.677749	132.655012	91.3	14.919	9.4	7.3	1.03	5671	1.04	706.08
007007099-02	OBS	No	215.273182	150.416273	1952.8	9.794	19.2	9.1	1.03	5671	4.66	2.04
007007099-03	OBS	No	481.990984	358.651354	1587.8	7.329	16.1	10.5	1.03	5671	4.92	0.69
007007099-06	OBS	No	404.449444	514.215166	2694.8	13.795	13.8	13.4	1.03	5671	6.74	0.88
007007099-07	OBS	No	591.713802	147.074944	2929.0	16.613	12.9	10.3	1.03	5671	10.61	0.53
007007099-08	OBS	No	347.913940	158.144845	1804.6	12.869	12.4	9.8	1.03	5671	6.00	1.07
007007099-09	OBS	No	562.331529	136.398872	741.6	3.310	12.4	5.8	1.03	5671	3.23	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007007099-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007007099-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007007099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
007007099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_POS_ALT—CENT_FEW_DIFFS
007007099-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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

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

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

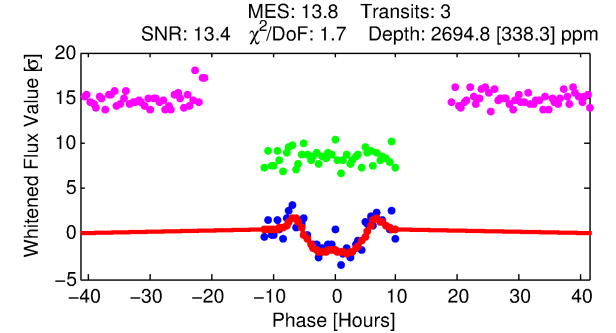
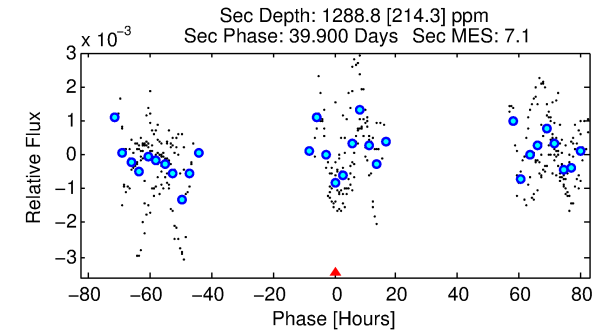
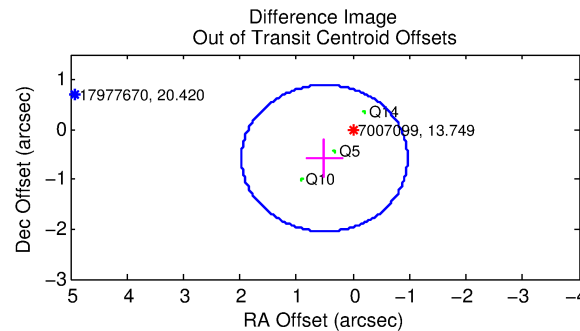
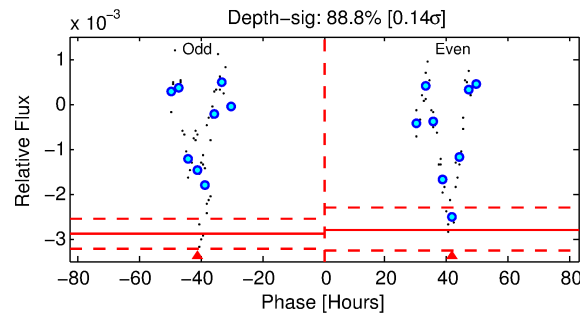
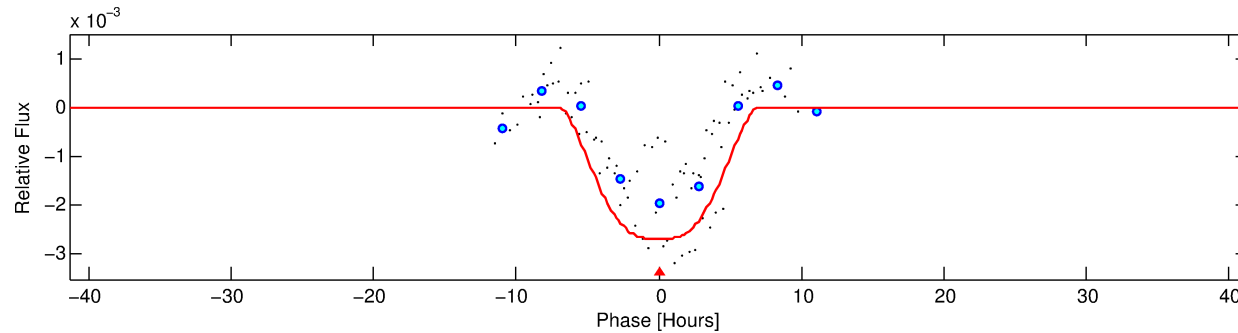
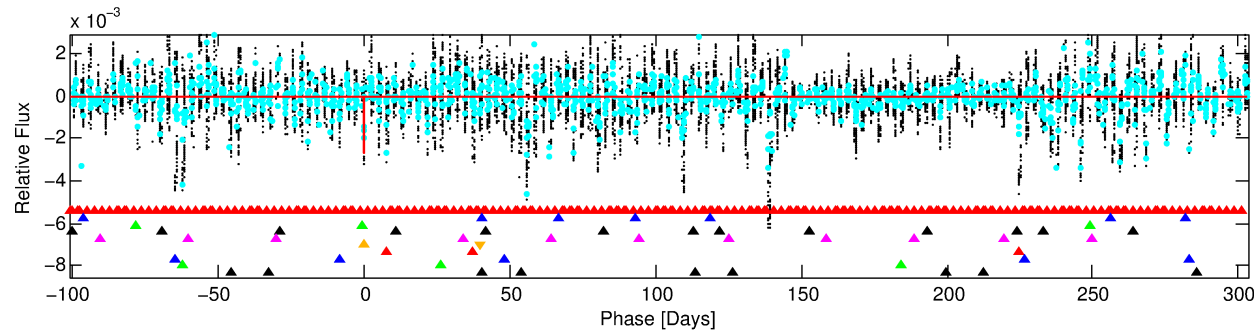
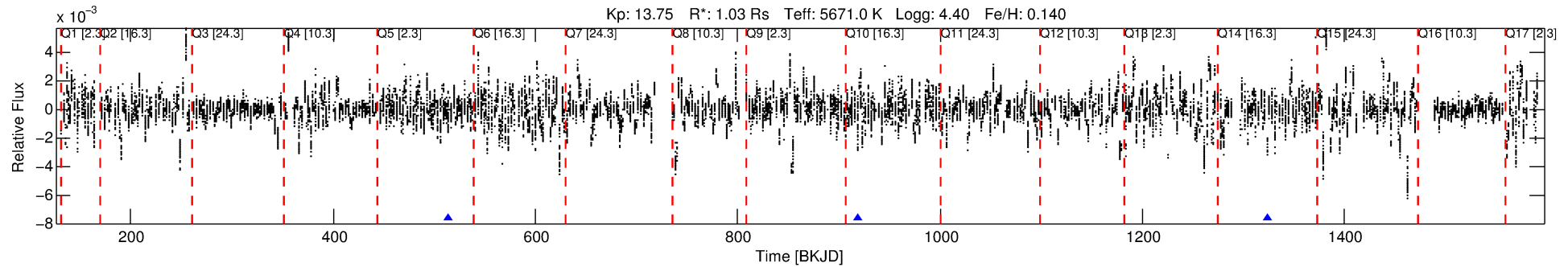
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007007099-06

No Significant Match Found

DV One-Page Summary

KIC: 7007099 Candidate: 6 of 10 Period: 404.449 d



DV Fit Results:

Period = 404.44944 [0.01590] d
Epoch = 514.2152 [0.0124] BKJD
Rp/R* = 0.0597 [0.0043]
a/R* = 112.04 [7.84]
b = 0.93 [0.01]
Seff = 0.88 [0.31]
Teq = 247 [22] K
Rp = 6.74 [1.90] Re
a = 1.0624 [0.2426] AU
Ag = 17608.16 [6996.05] [2.52σ]
Teff = 4396 [276] K [14.99σ]

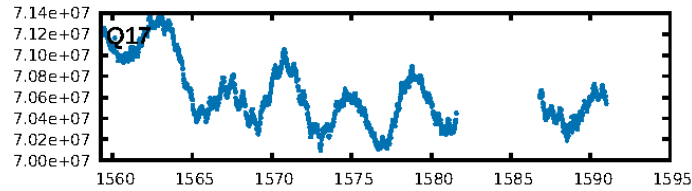
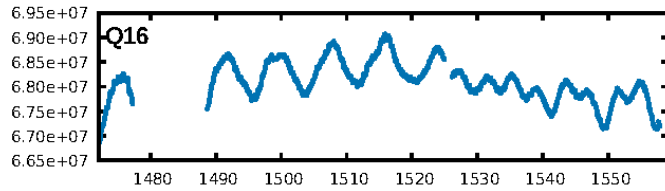
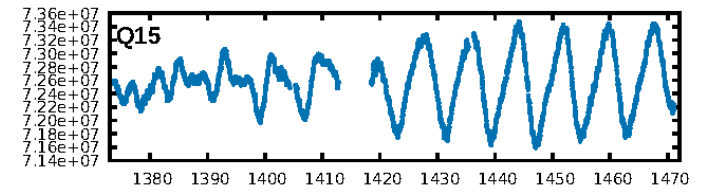
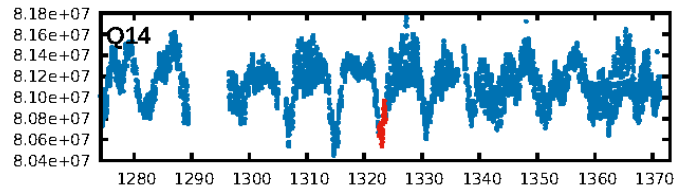
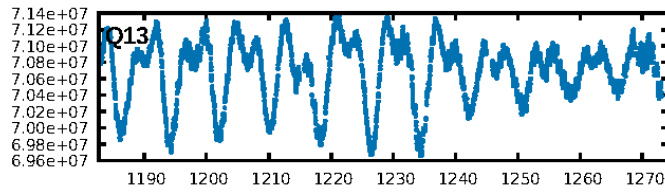
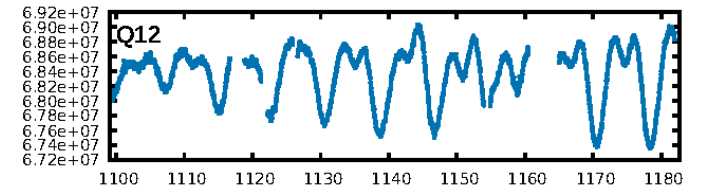
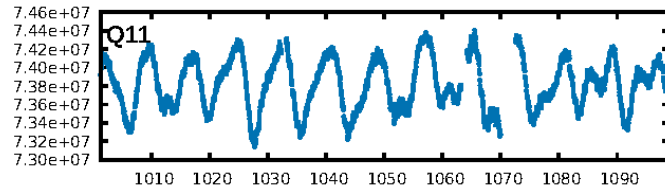
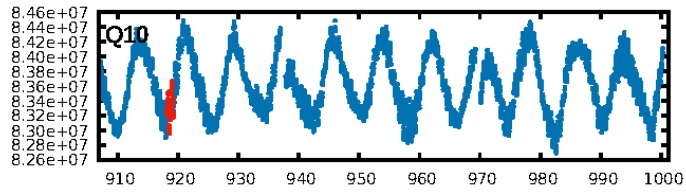
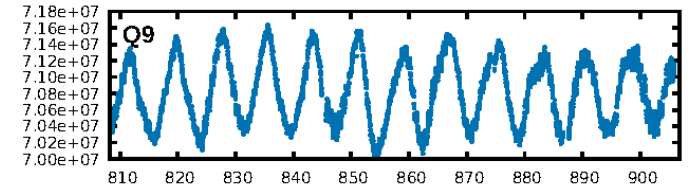
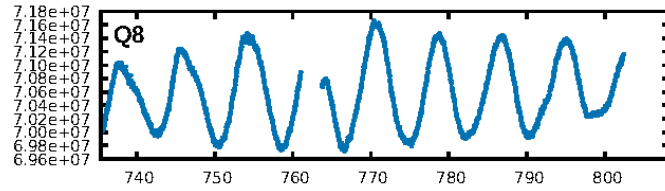
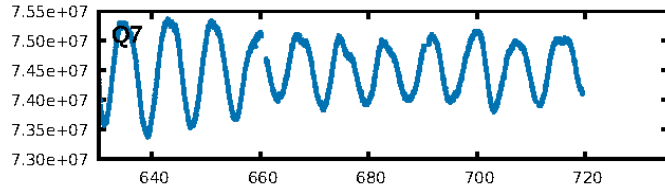
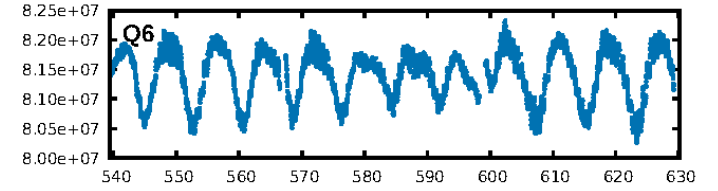
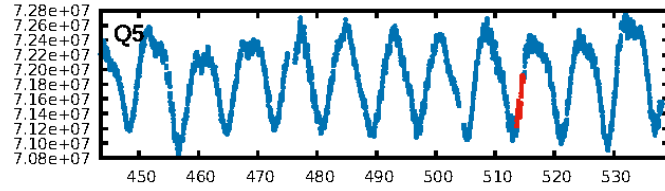
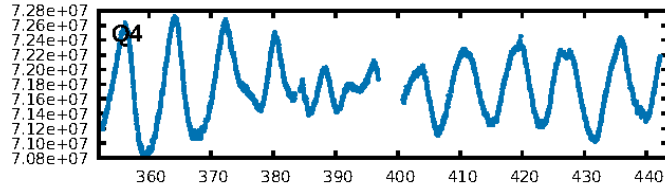
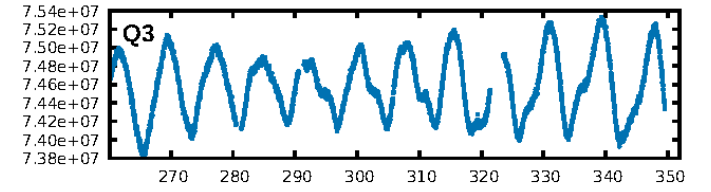
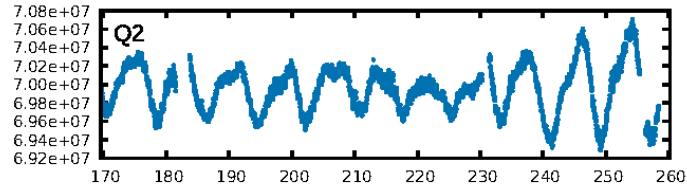
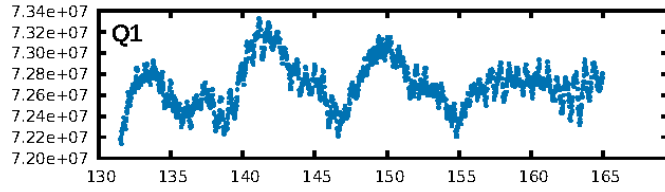
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [71.92σ]
LongPeriod-sig: 100.0% [119.14σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 45.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9058
Centroid-sig: 5.6%
Centroid-so: 3.963 arcsec [4.60σ]
OotOffset-rm: 0.768 arcsec [1.57σ]
KicOffset-rm: 8.351 arcsec [22.34σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.33 [1/3]

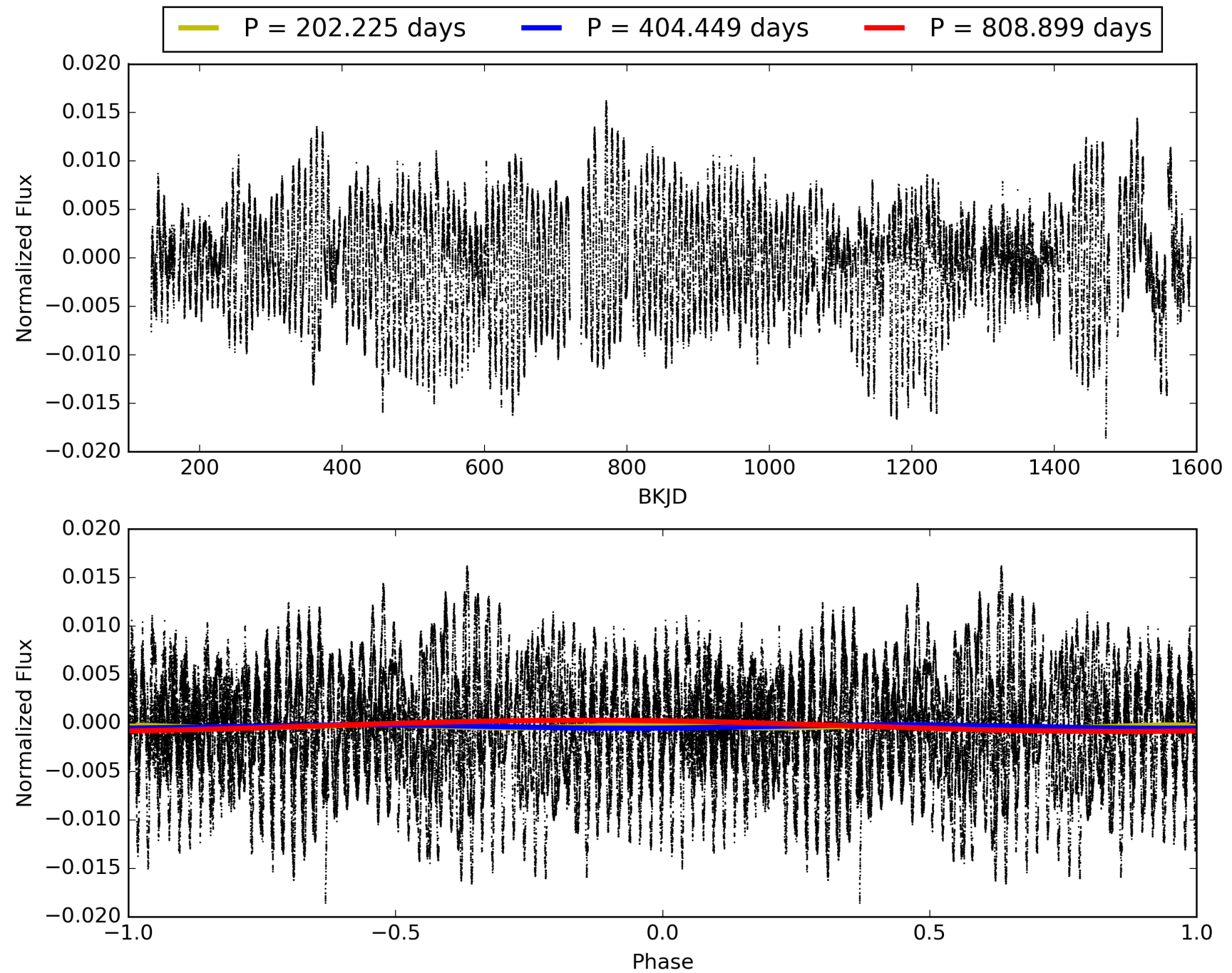
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:30:43 Z

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

TCE 007007099-06, PDC Light Curves

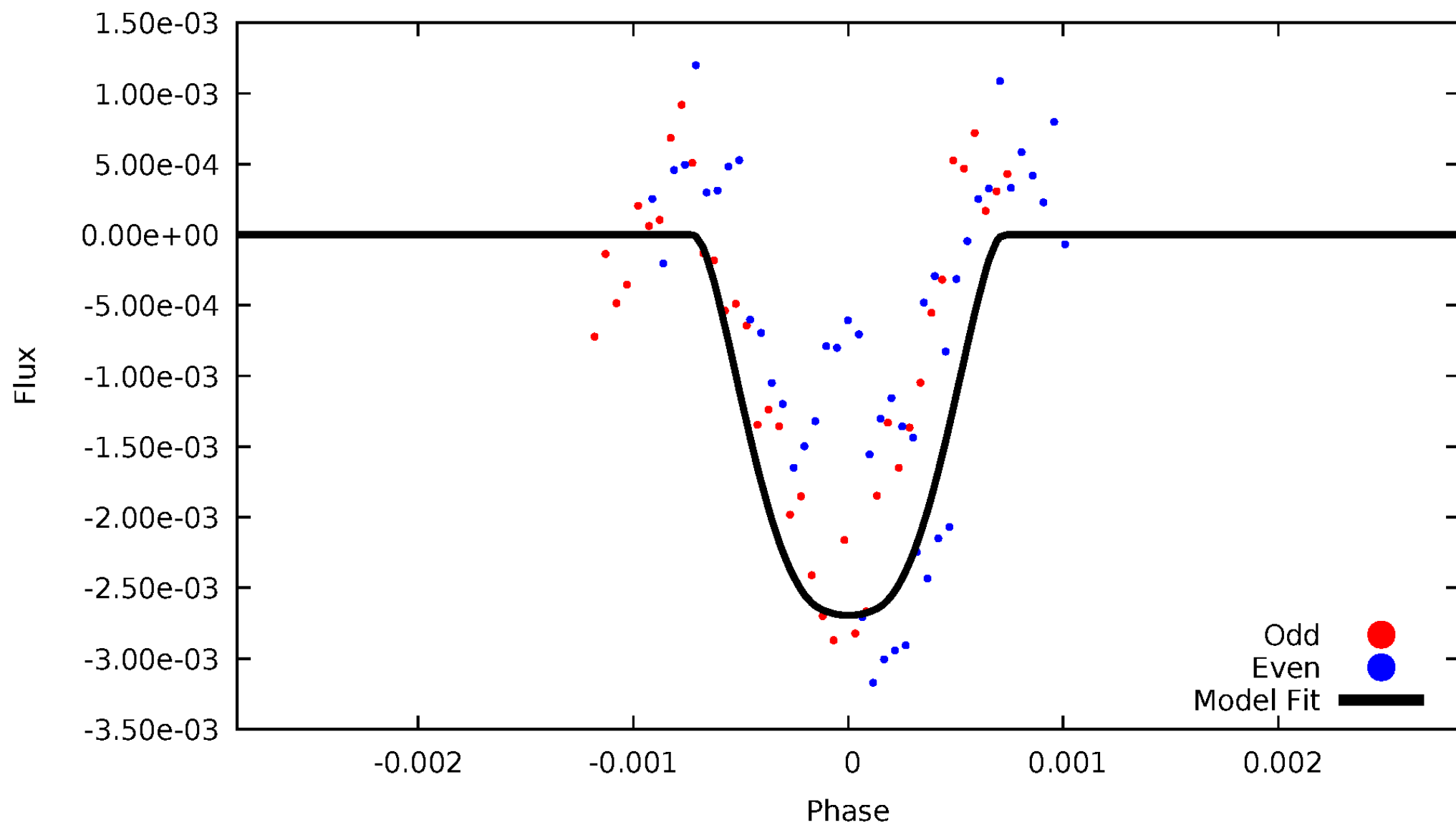


TCE 007007099-06



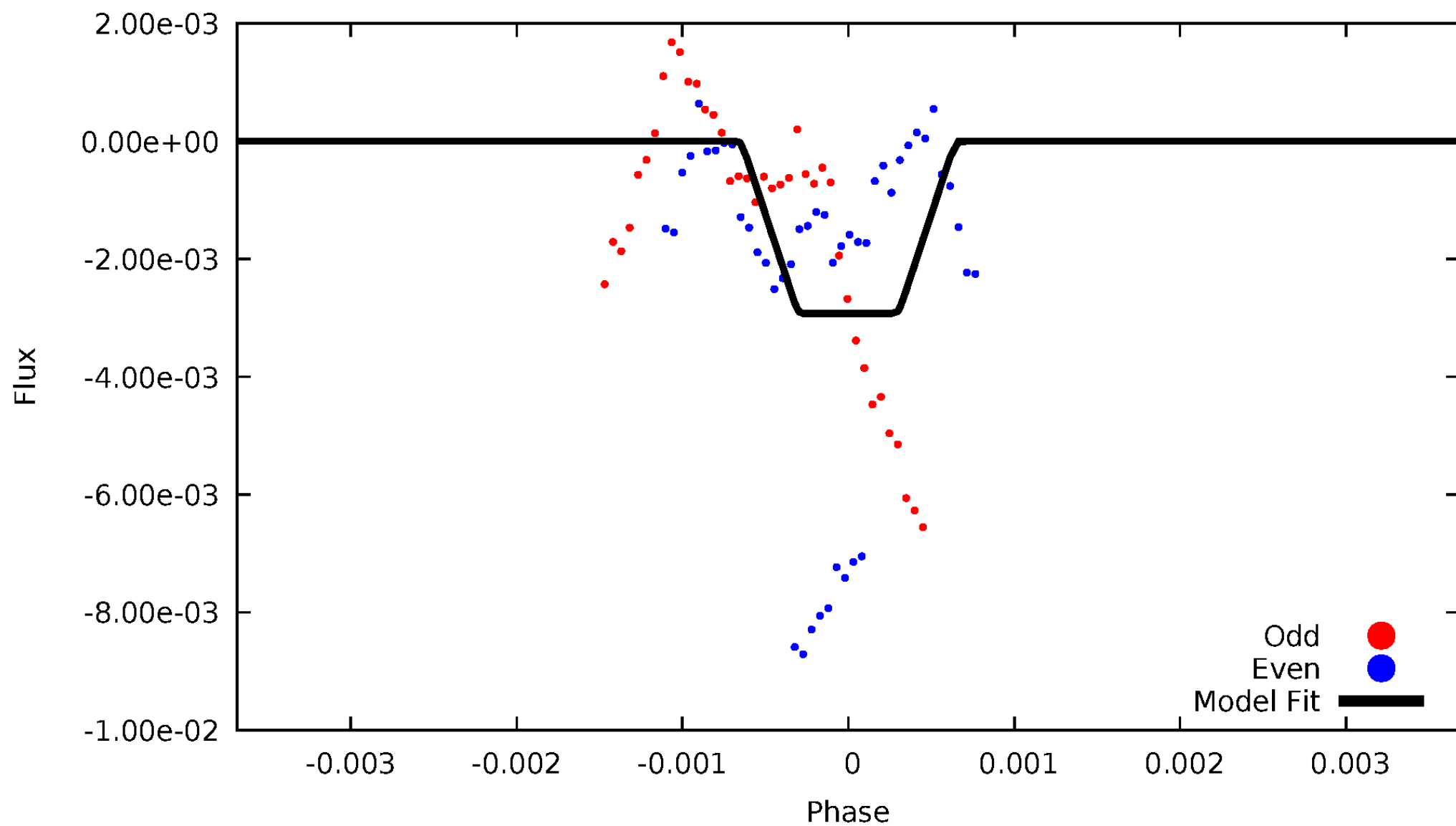
DV Odd/Even

TCE 007007099-06



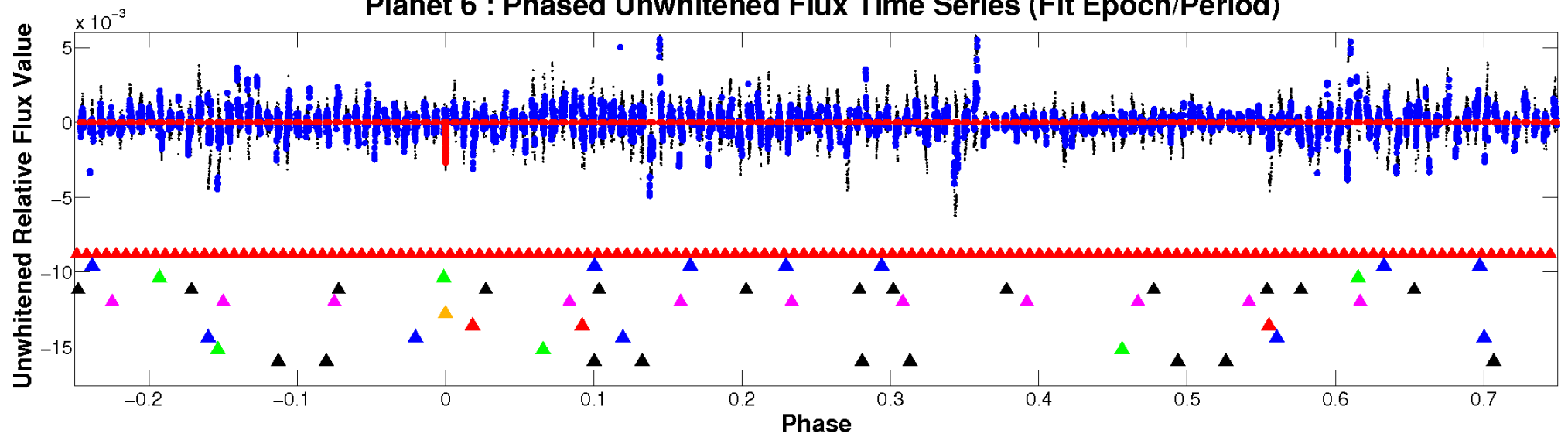
ALT Odd/Even

TCE 007007099-06

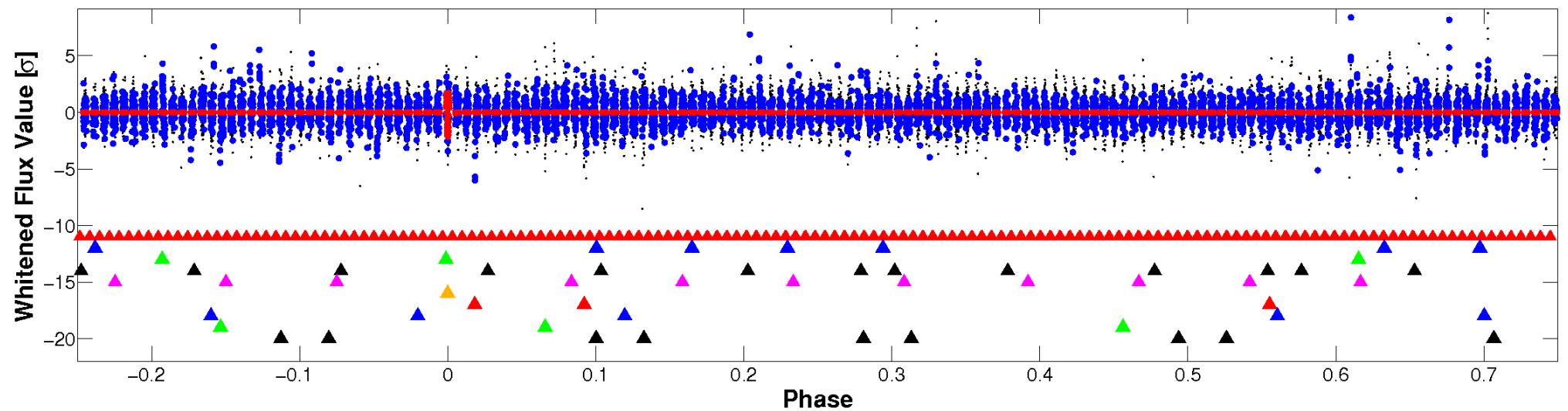


Non-Whitened Vs. Whitened Light Curve

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

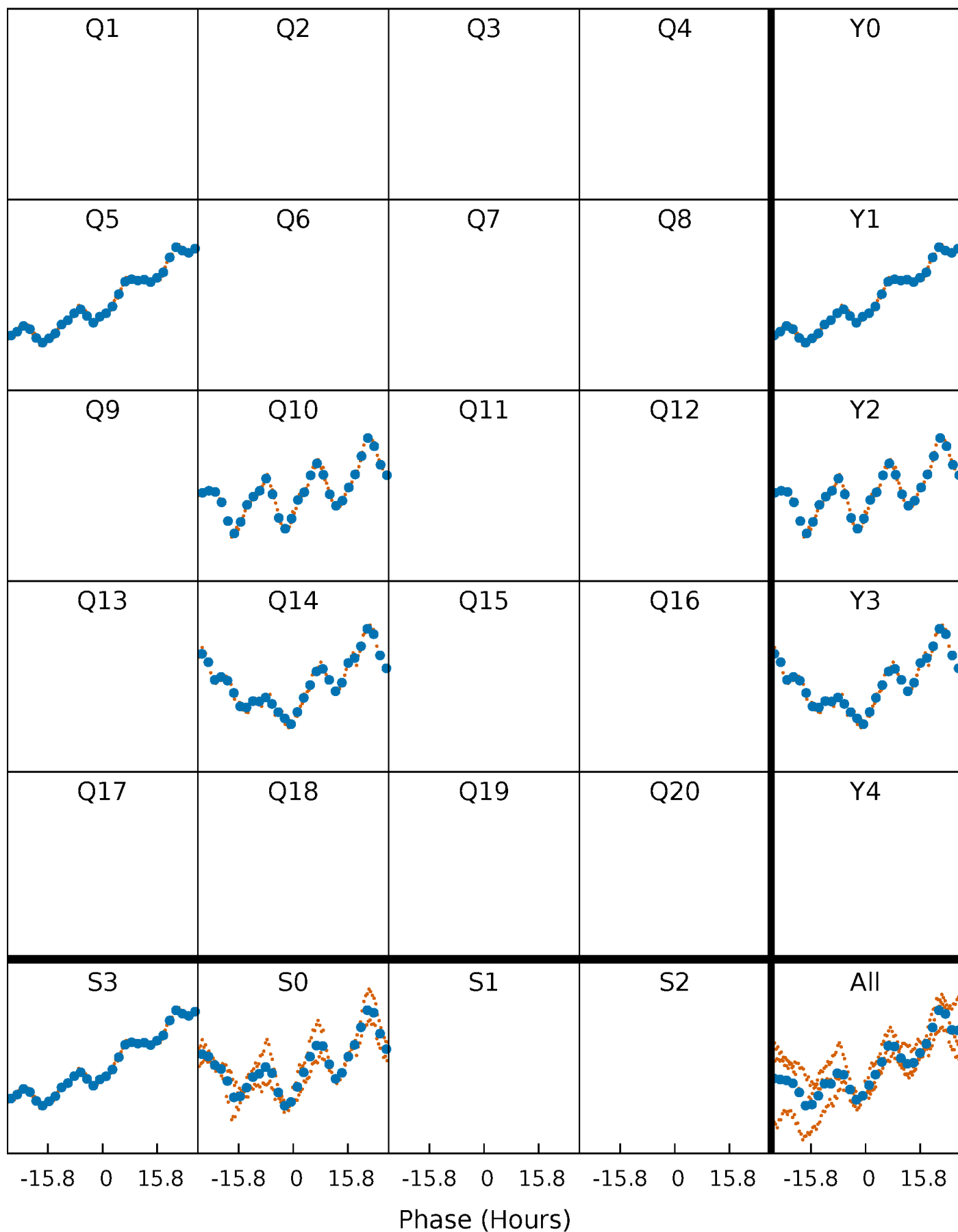


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



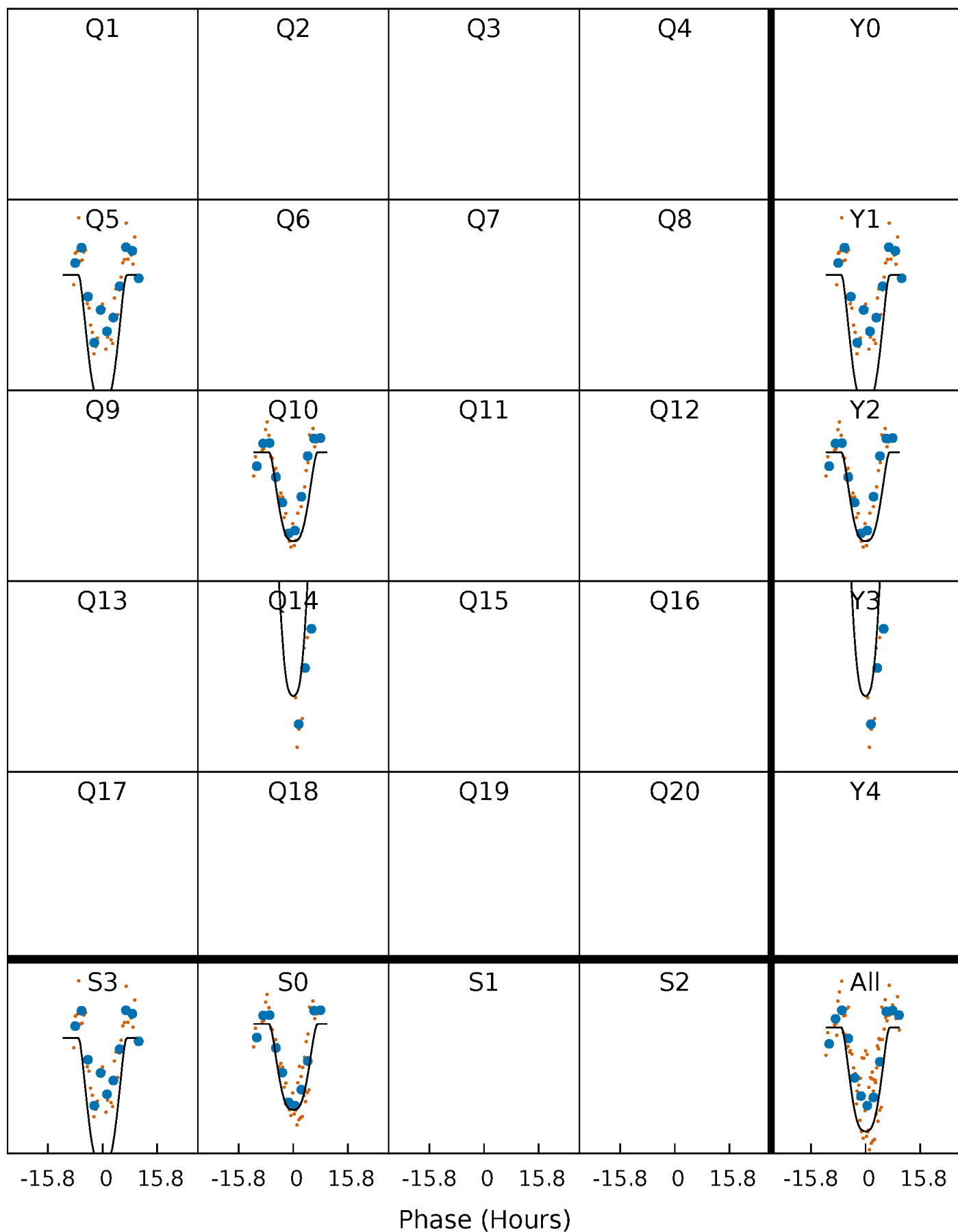
PDC Quarter-Phased Transit Curves

TCE 007007099-06 $P=404.449444$ Days $T_0=514.215166$ (BKJD)



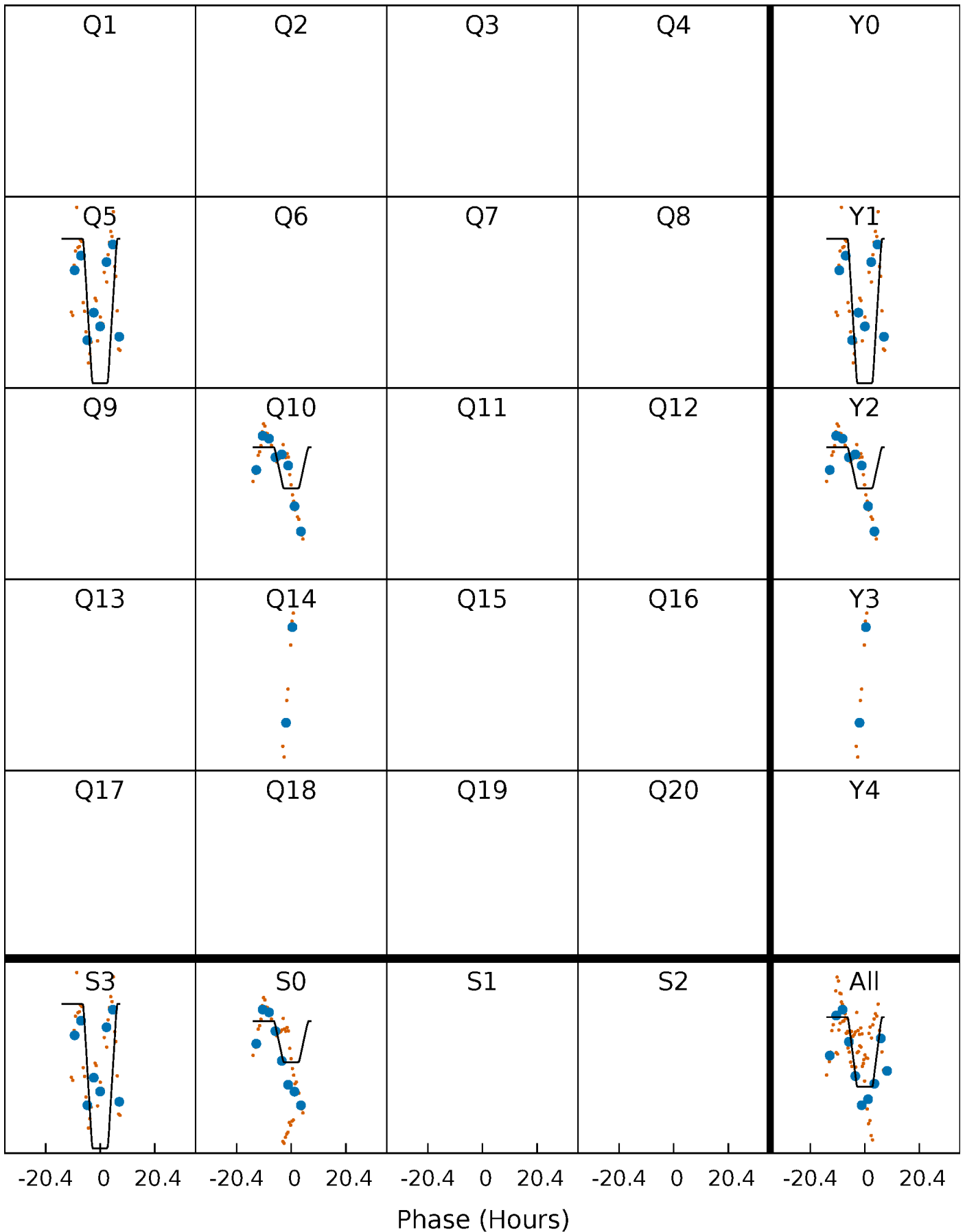
DV Quarter-Phased Transit Curves

TCE 007007099-06 P=404.449444 Days $T_0=514.215166$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

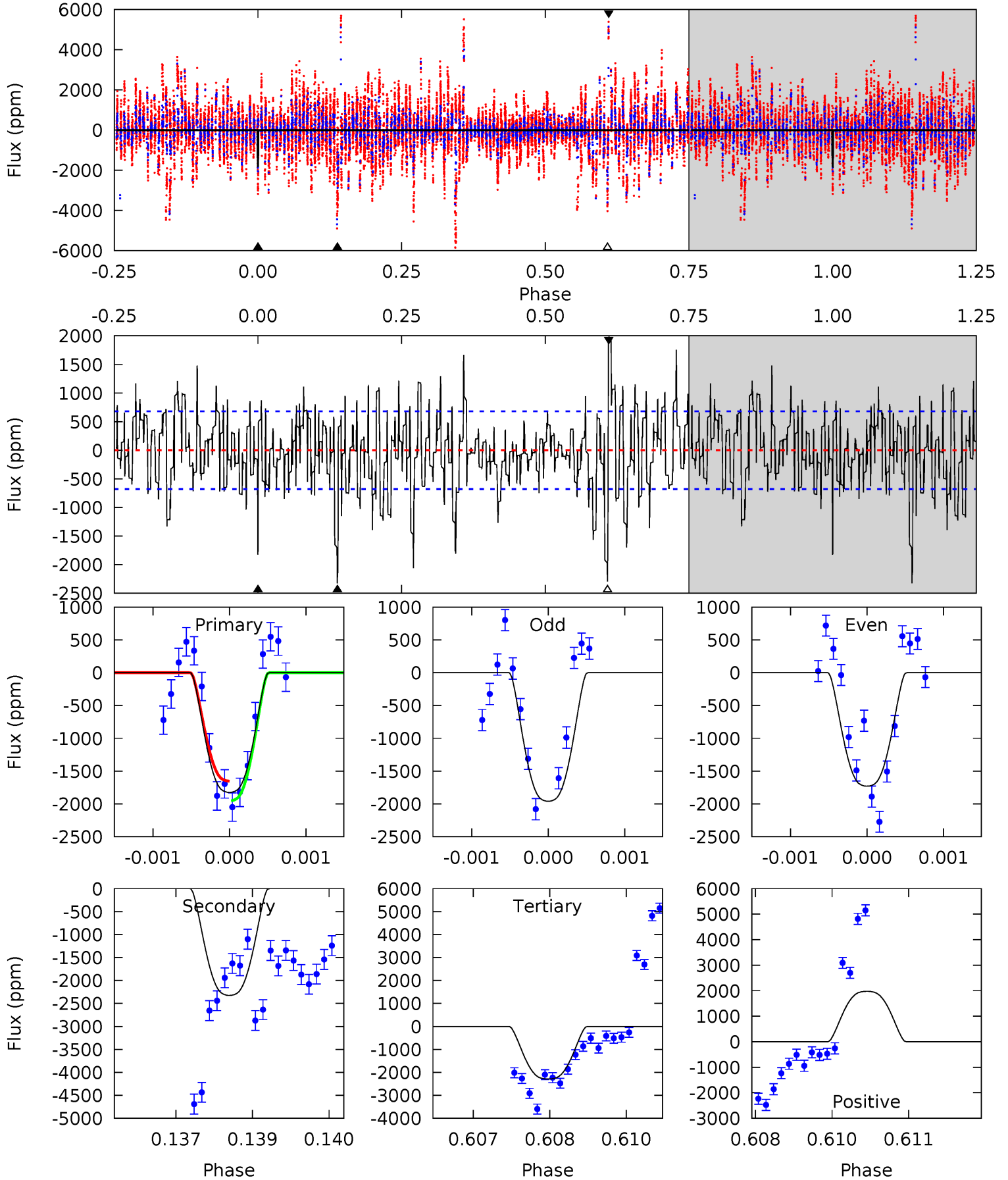
TCE 007007099-06 P=404.489131 Days $T_0=514.292863$ (BKJD)



DV Model-Shift Uniqueness Test

007007099-06, P = 404.449444 Days, E = 109.765722 Days

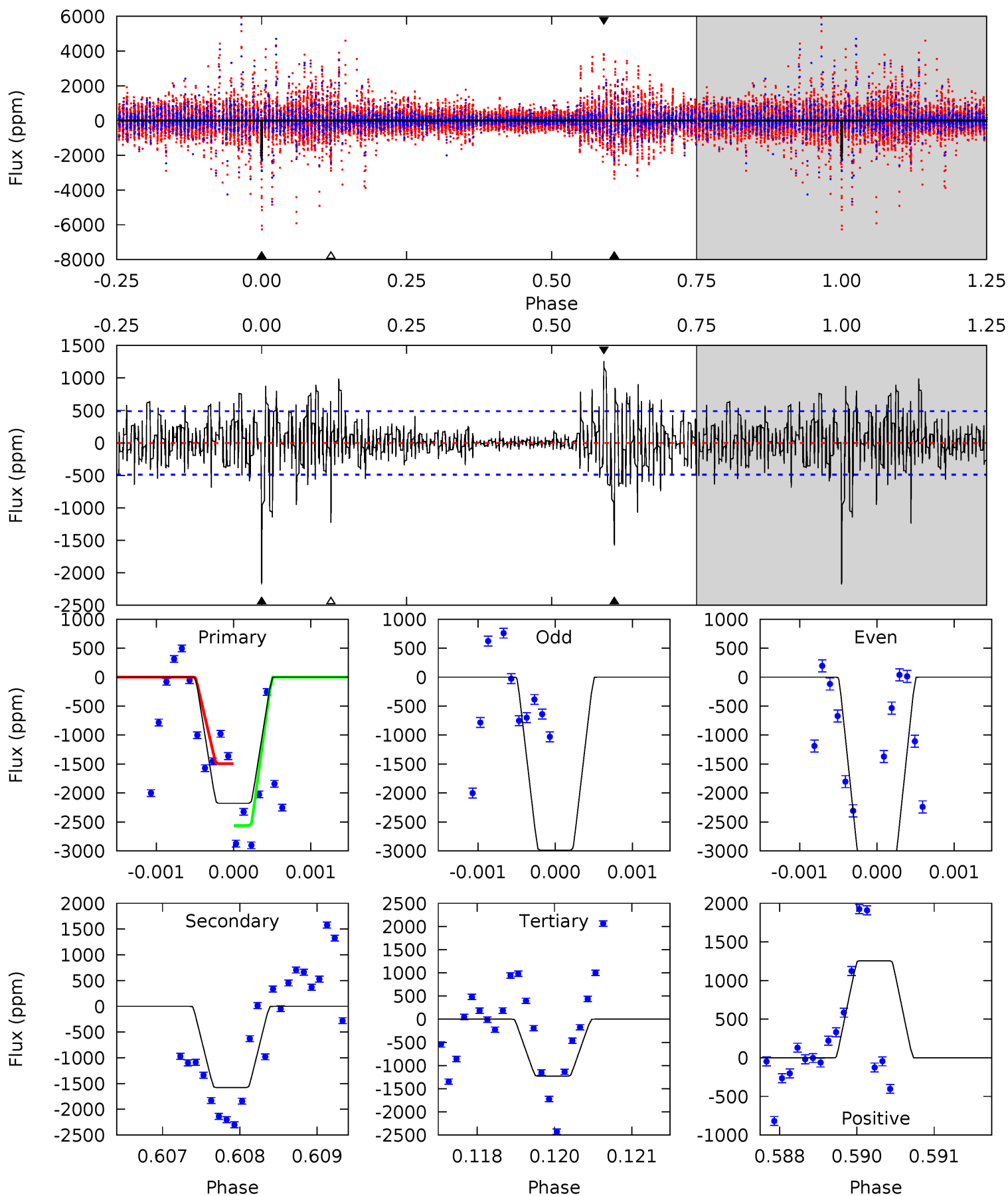
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	18.4	18.1	15.7	5.39	3.19	4.43	-3.69	-1.20	0.28	2.76	0.86	1.06	0.46	1.19



Alt Model-Shift Uniqueness Test

007007099-06, P = 404.489131 Days, E = 109.803732 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	17.4	13.6	13.9	5.40	3.21	2.65	10.5	10.2	3.84	3.54	1.63	1.37	0.37	5.96



Stellar Parameters For KIC 007007099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+171}_{-171}	$4.399^{+0.105}_{-0.180}$	$0.140^{+0.200}_{-0.300}$	$1.034^{+0.282}_{-0.152}$	$0.979^{+0.111}_{-0.100}$	$1.246^{+0.559}_{-0.620}$
	+3%/-3%	+2%/-4%	+143%/-214%	+27%/-15%	+11%/-10%	+45%/-50%
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 007007099-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2326 ± 126	$6.83^{+0.96}_{-0.82}$	347^{+23}_{-19}	5137^{+241}_{-216}	30399^{+9346}_{-6775}
Alt.	-1577 ± 90	$6.19^{+0.94}_{-0.72}$	349^{+22}_{-19}	4961^{+216}_{-215}	25668^{+6972}_{-6406}

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

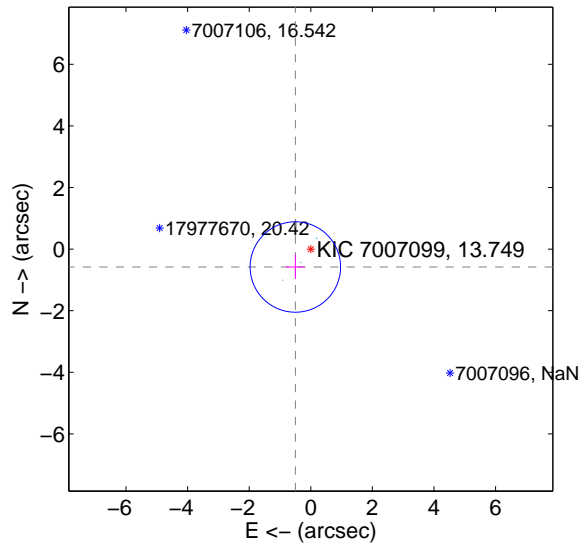
Supplemental centroid analysis for 007007099-06. Kepler magnitude: 13.75. Transit SNR 13.35

There are 3 quarters with good PRF difference image offsets

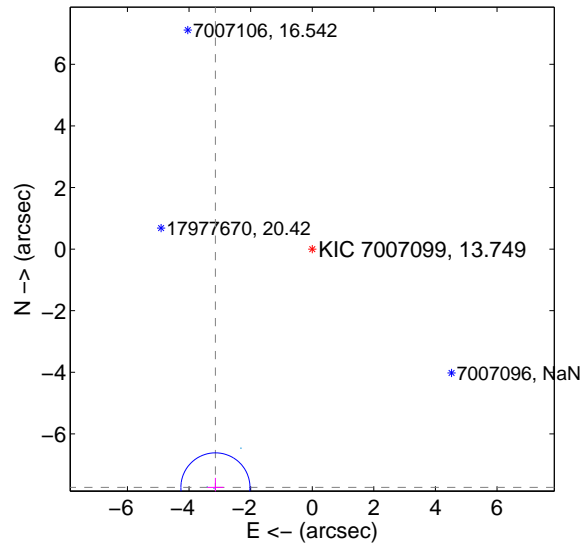
The OOT PRF centroid is offset from the target star catalog position by about 7.26 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.768 ± 0.489	1.57	0.501 ± 0.307	-0.582 ± 0.389
PRF-fit source offset from KIC position	8.351 ± 0.374	22.34	3.143 ± 0.261	-7.737 ± 0.307
photometric centroid source offset	3.96 ± 0.86	4.60	0.37 ± 0.22	-3.95 ± 0.87

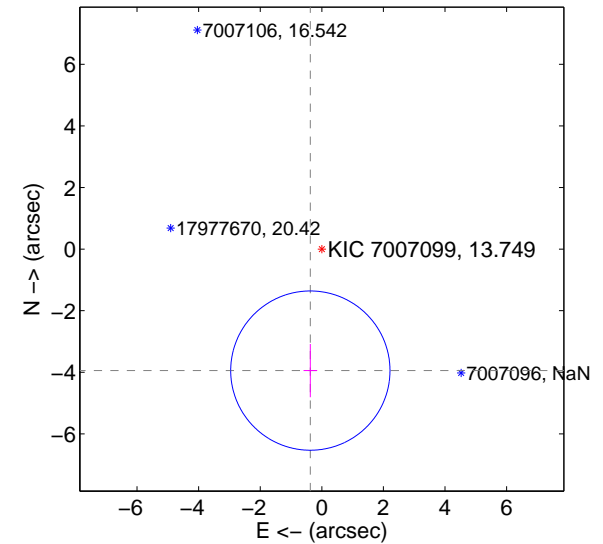
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

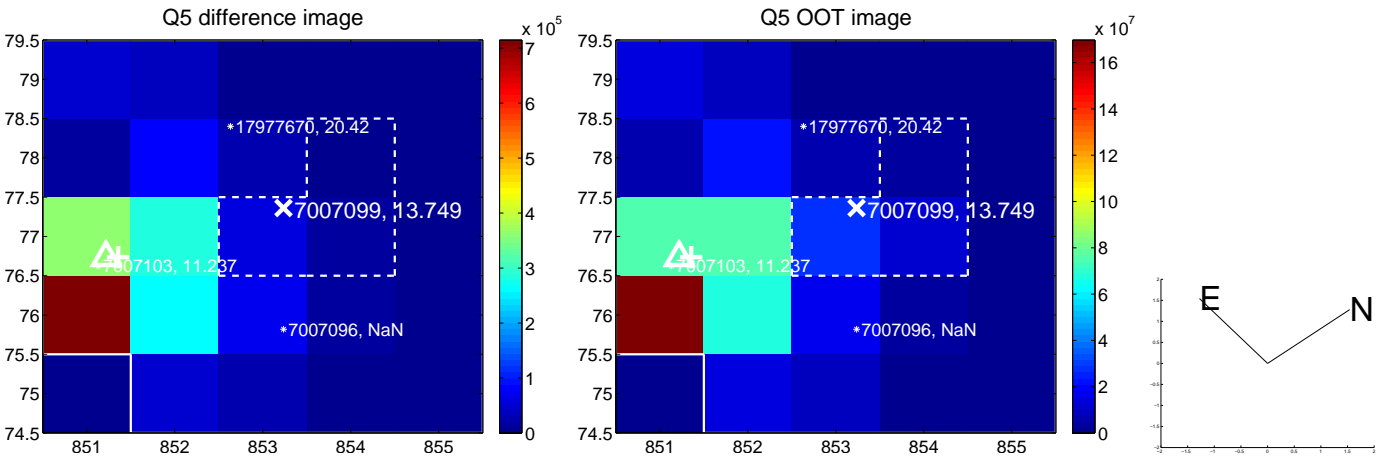


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

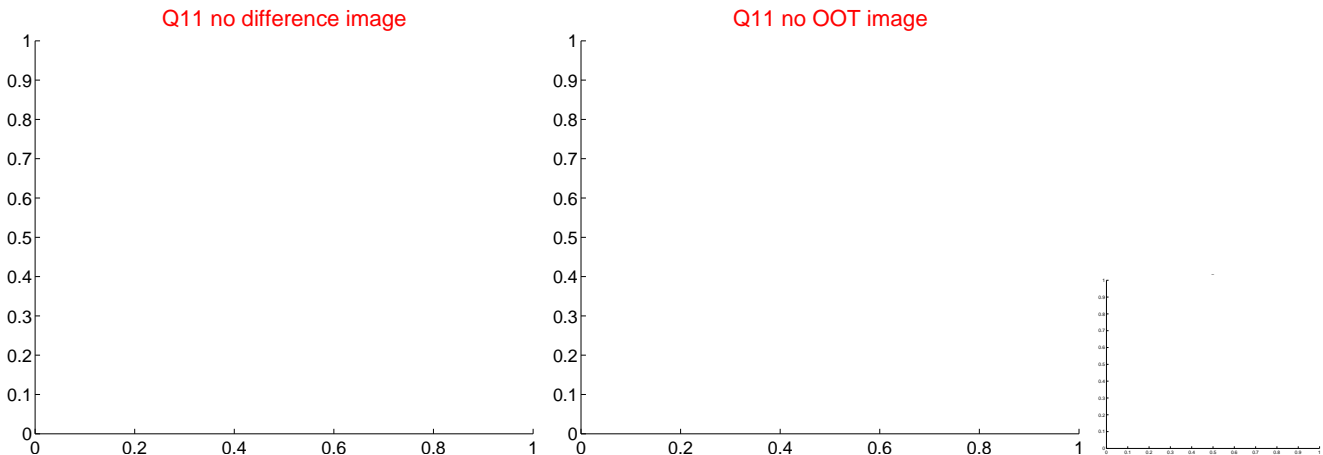
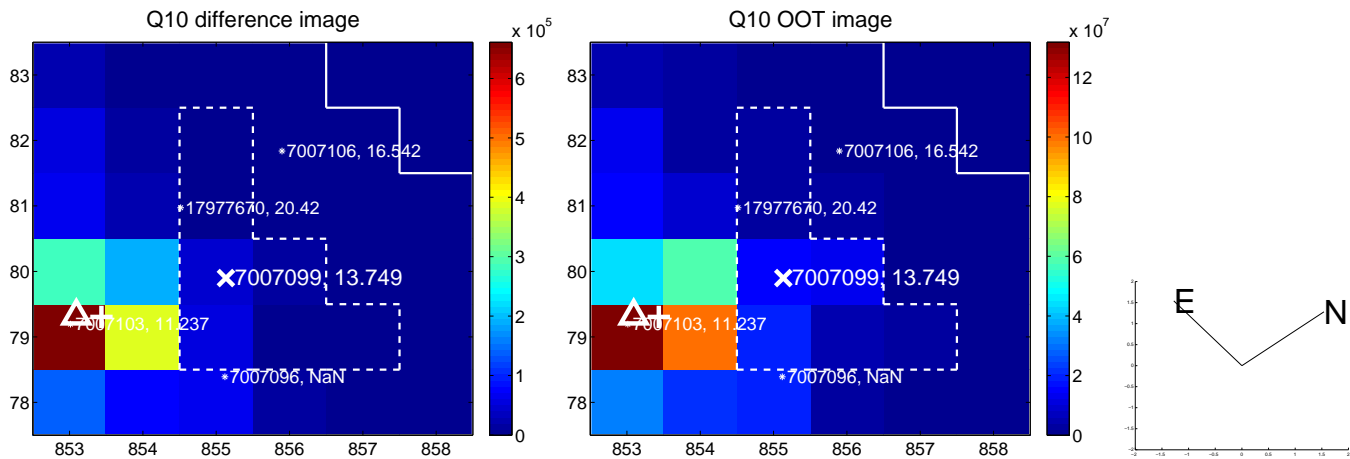
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



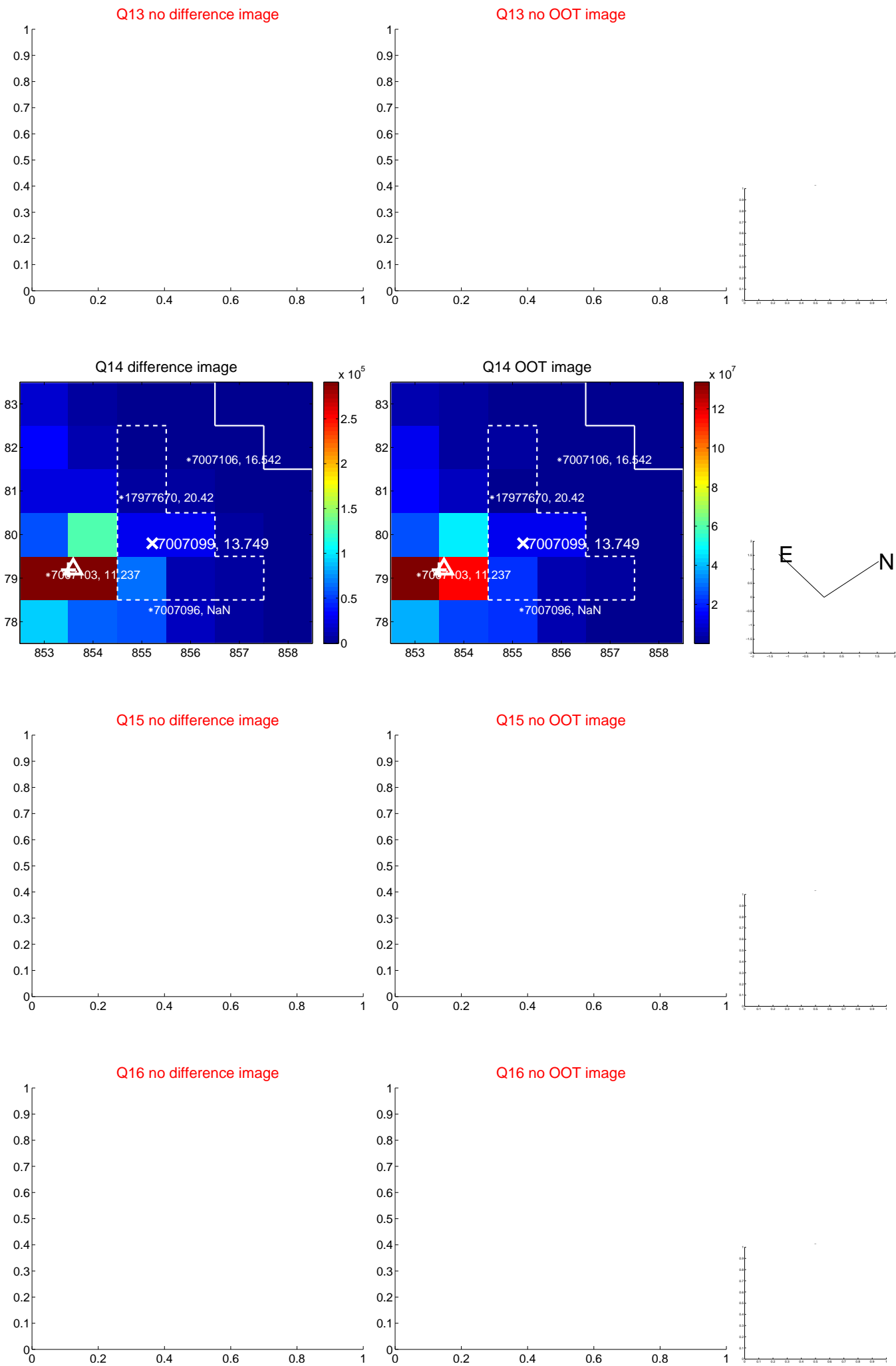
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



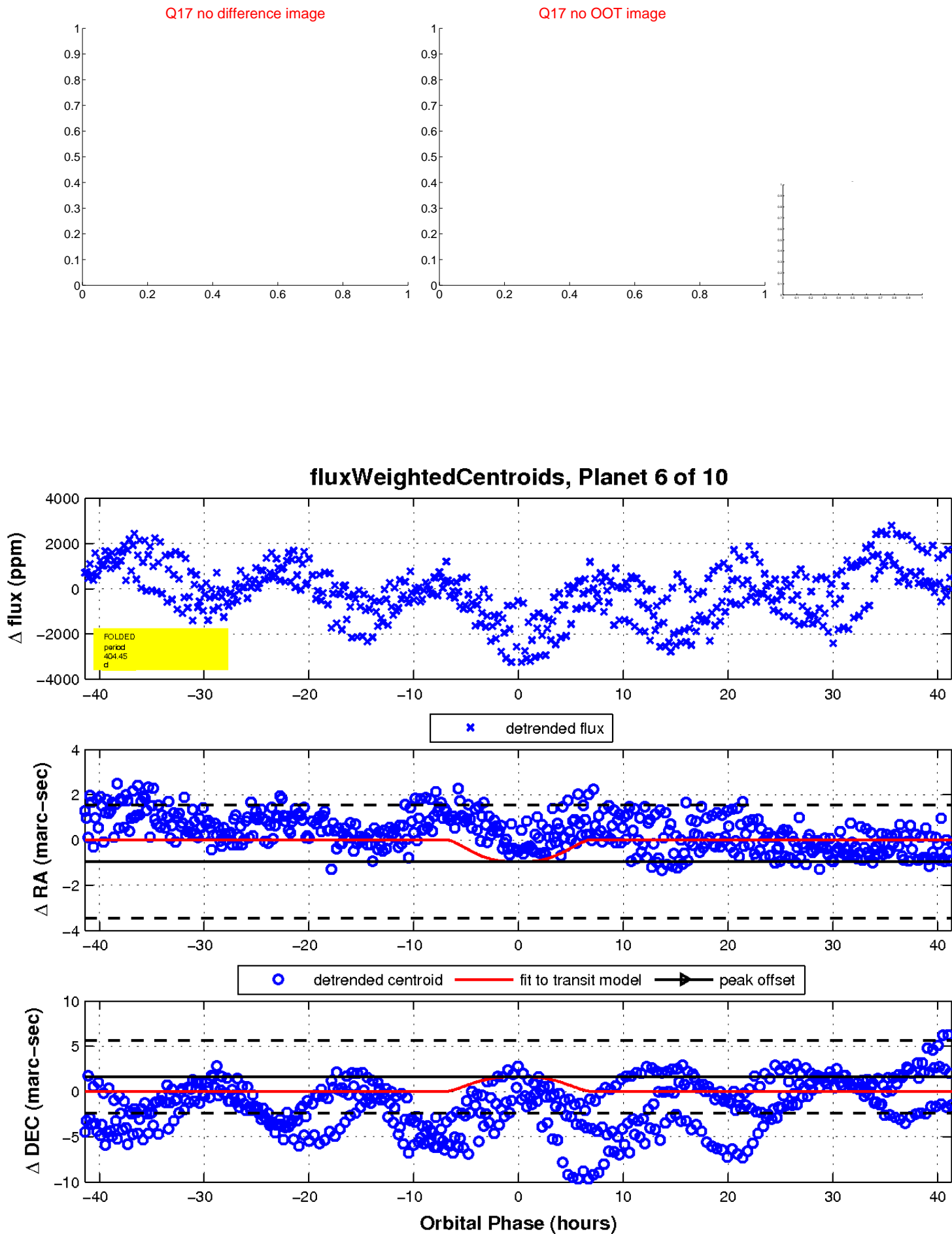
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

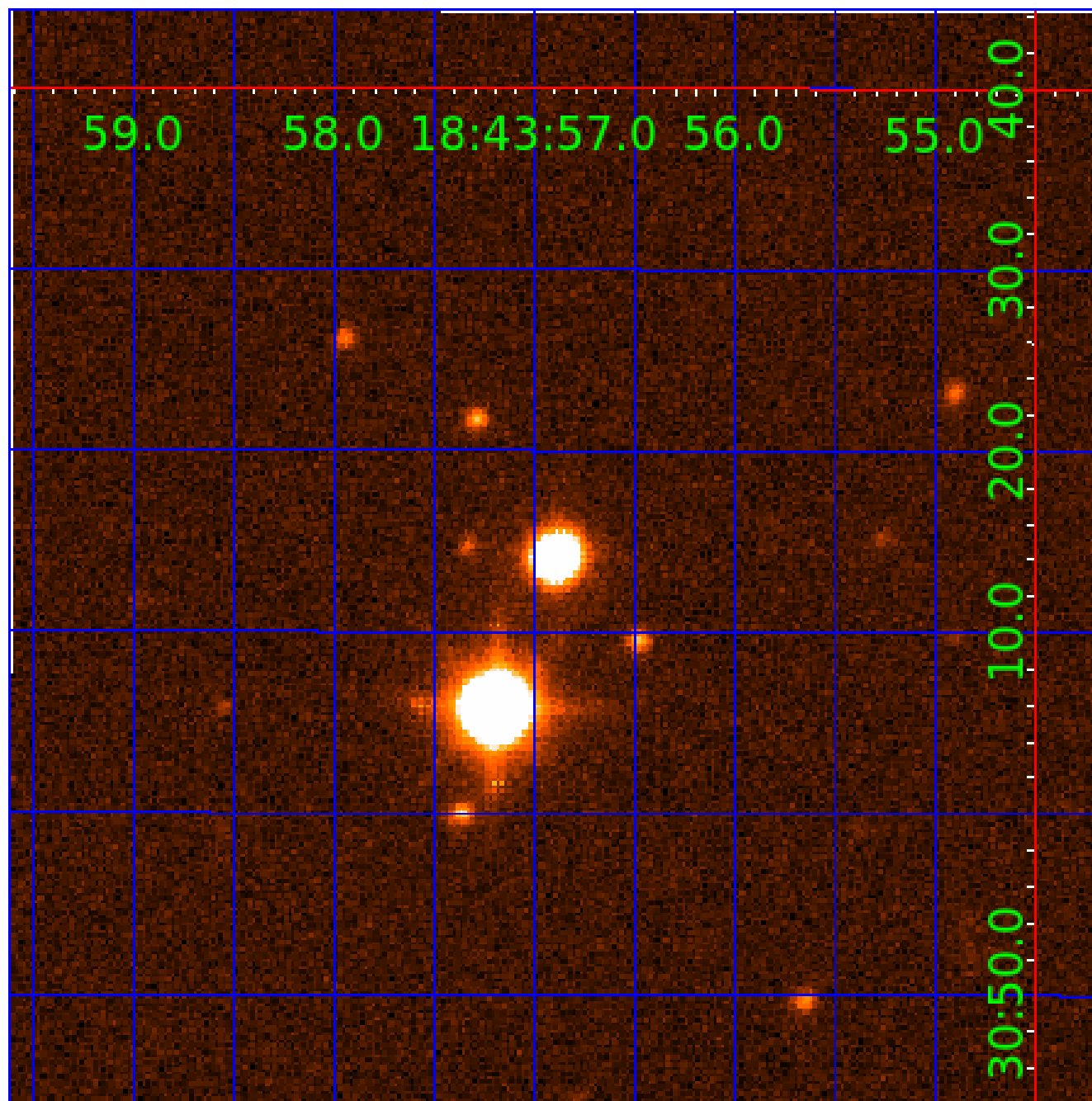


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007007099

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})
007007099-01	OBS	No	2.677749	132.655012	91.3	14.919	9.4	7.3	1.03	5671	1.04	706.08
007007099-02	OBS	No	215.273182	150.416273	1952.8	9.794	19.2	9.1	1.03	5671	4.66	2.04
007007099-03	OBS	No	481.990984	358.651354	1587.8	7.329	16.1	10.5	1.03	5671	4.92	0.69
007007099-06	OBS	No	404.449444	514.215166	2694.8	13.795	13.8	13.4	1.03	5671	6.74	0.88
007007099-07	OBS	No	591.713802	147.074944	2929.0	16.613	12.9	10.3	1.03	5671	10.61	0.53
007007099-08	OBS	No	347.913940	158.144845	1804.6	12.869	12.4	9.8	1.03	5671	6.00	1.07
007007099-09	OBS	No	562.331529	136.398872	741.6	3.310	12.4	5.8	1.03	5671	3.23	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007007099-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007007099-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007007099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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

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

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

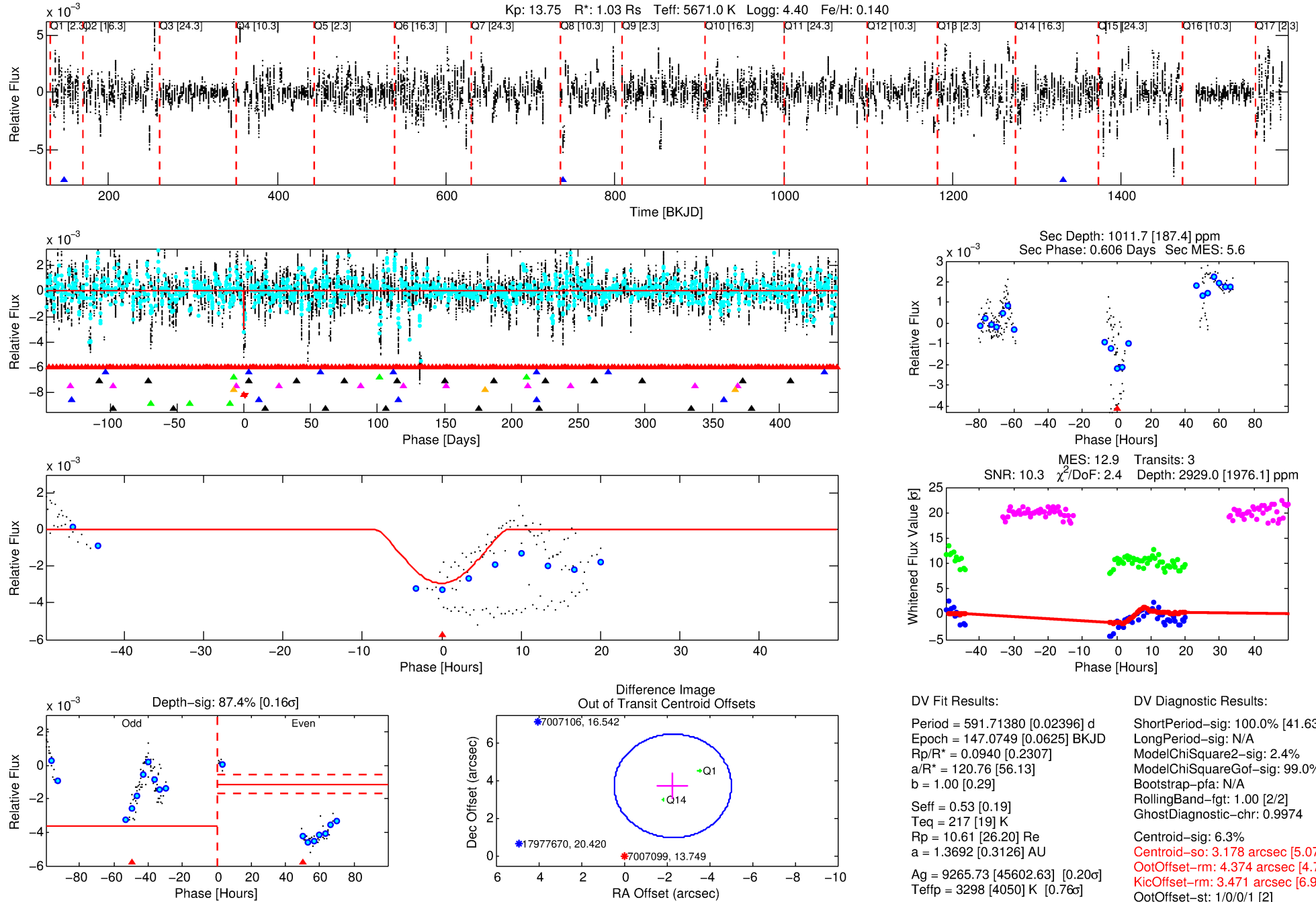
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007007099-07

No Significant Match Found

DV One-Page Summary

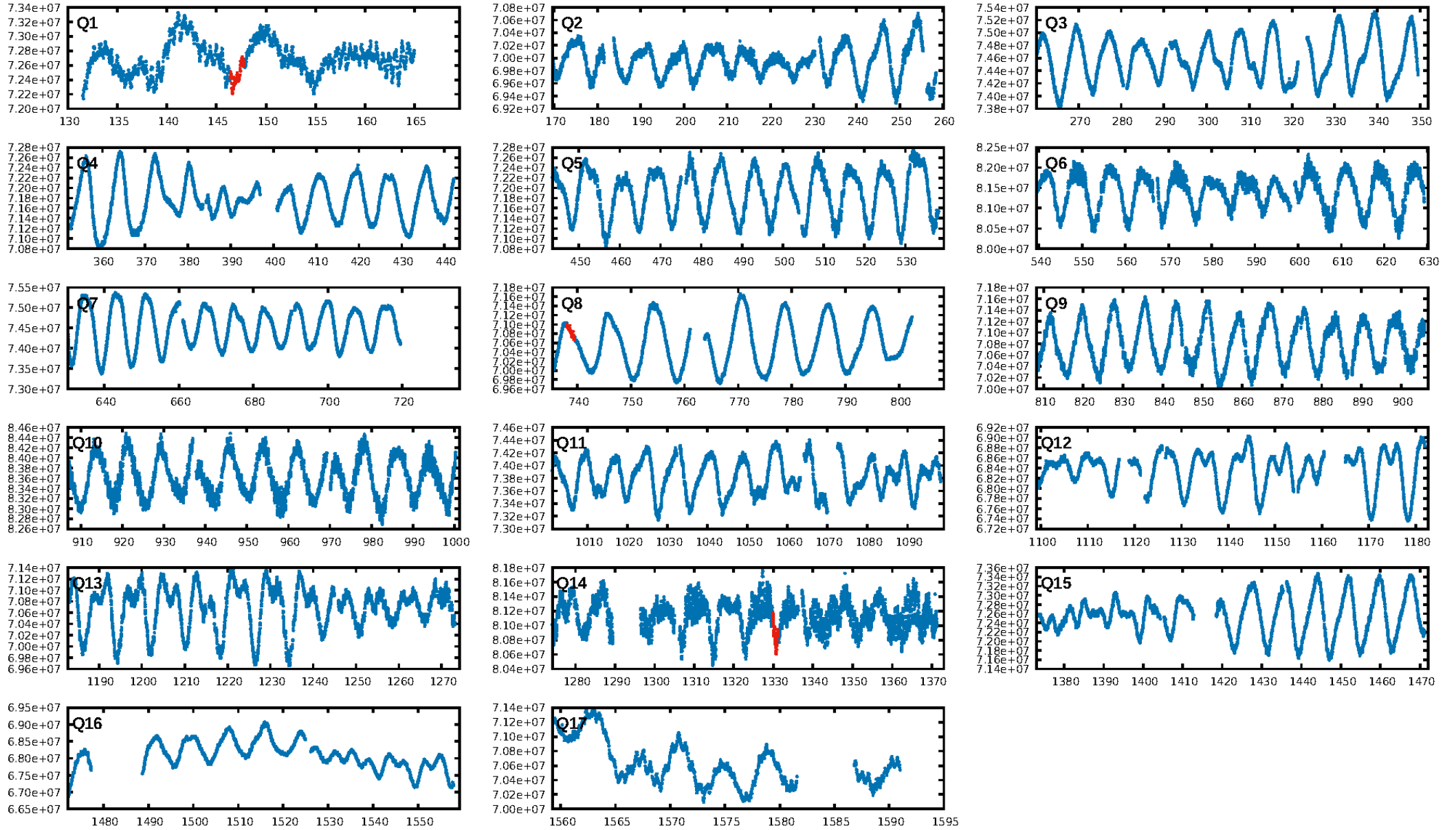
KIC: 7007099 Candidate: 7 of 10 Period: 591.714 d



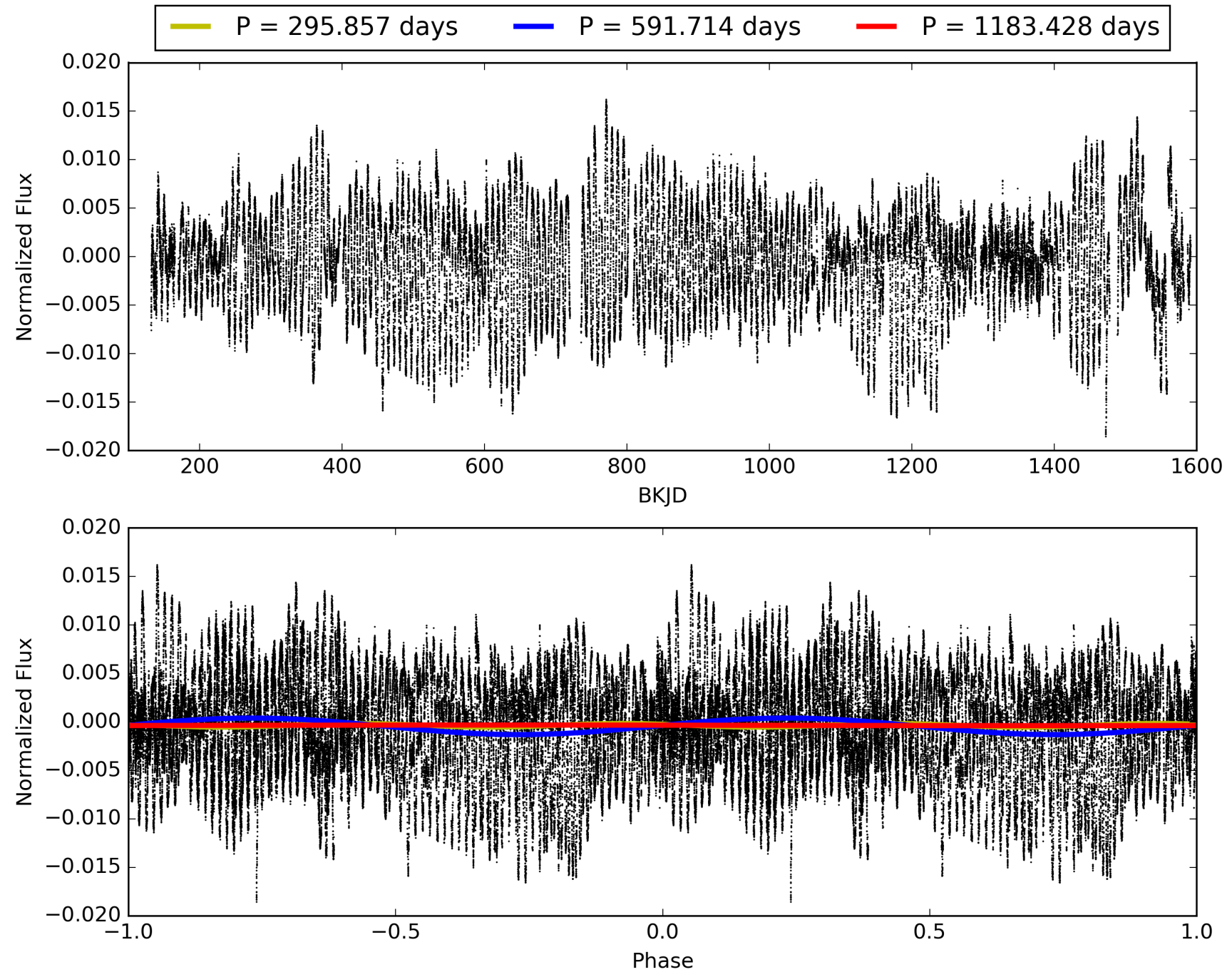
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:30:48 Z

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

TCE 007007099-07, PDC Light Curves

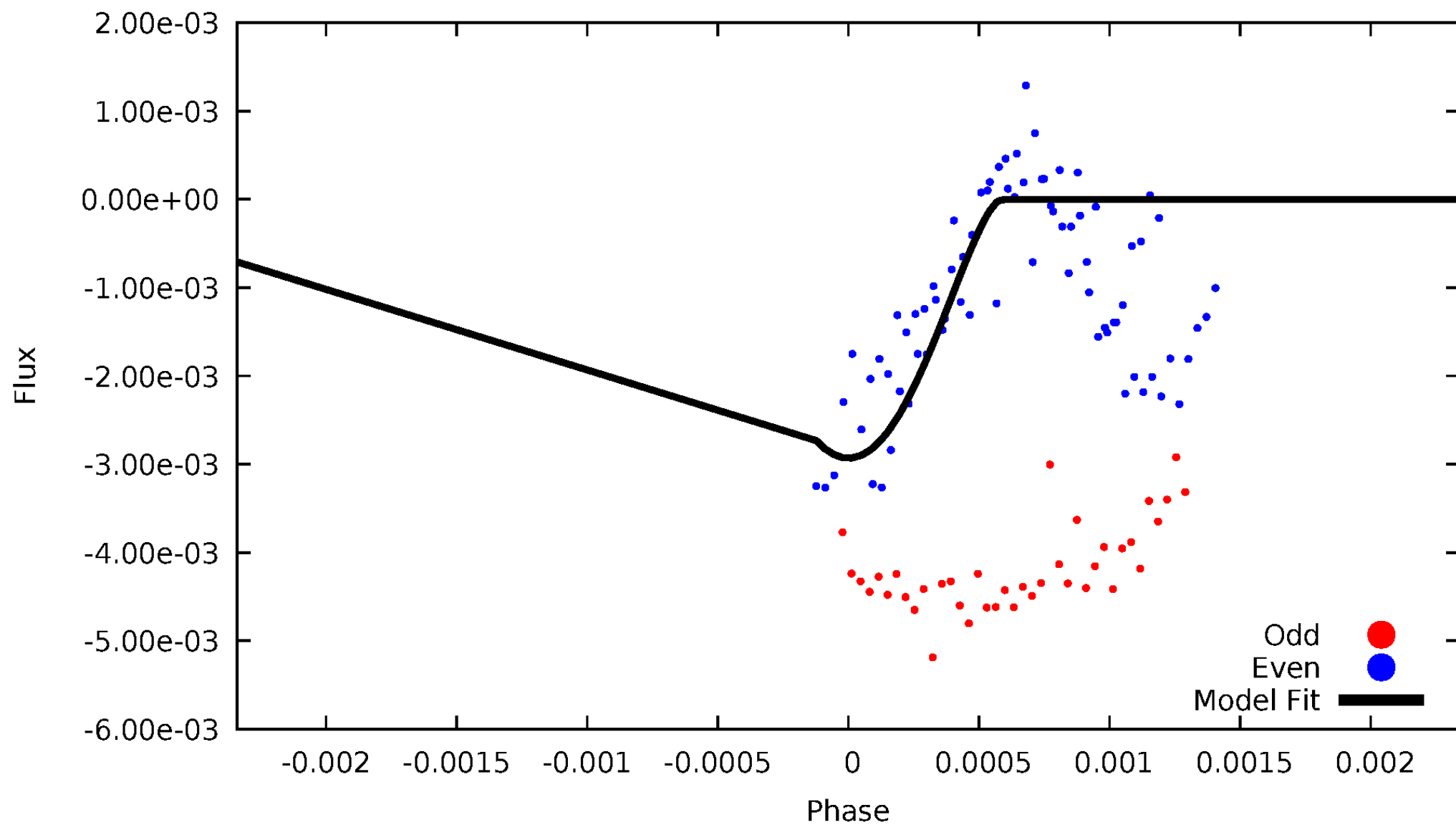


TCE 007007099-07



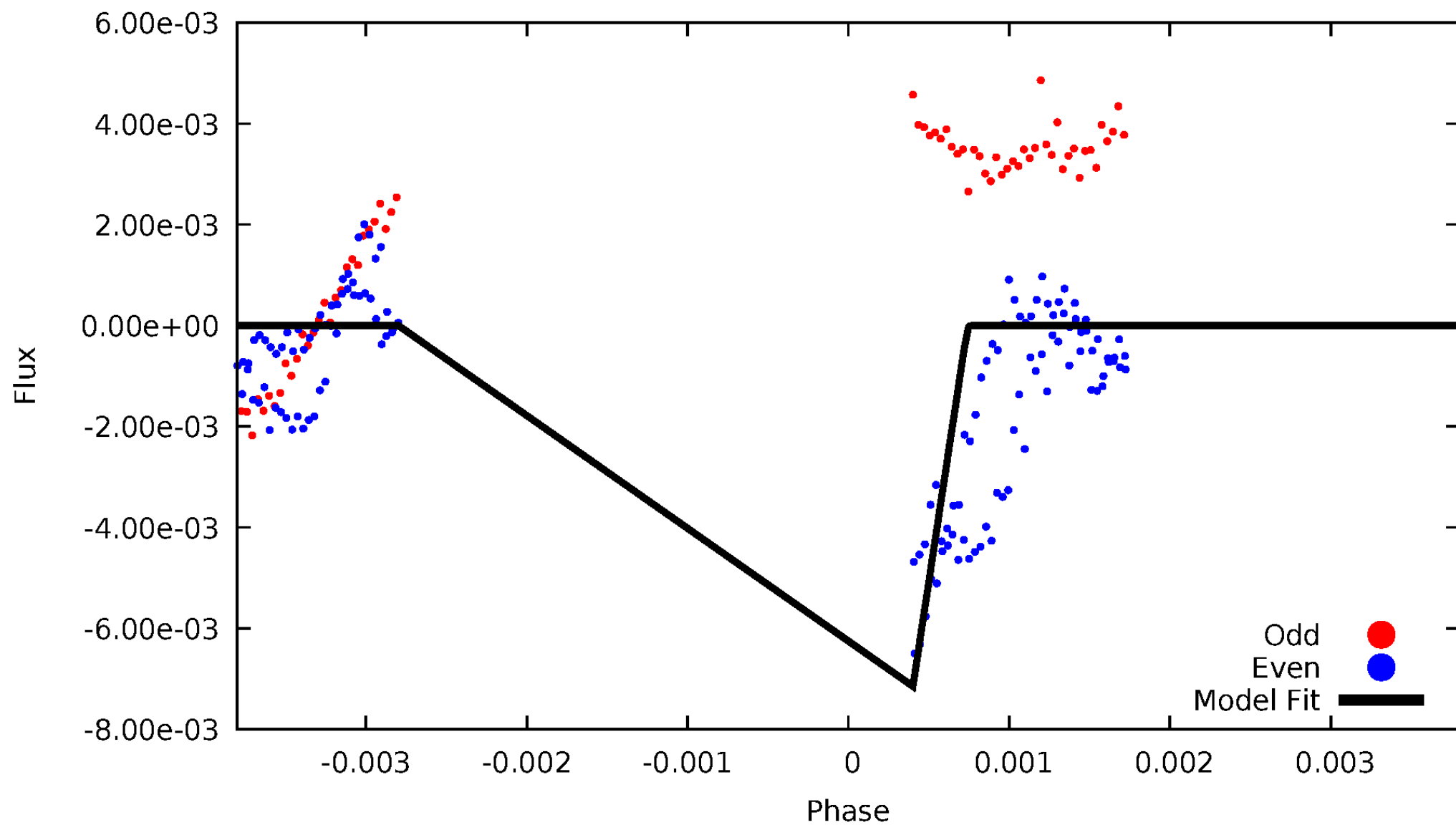
DV Odd/Even

TCE 007007099-07



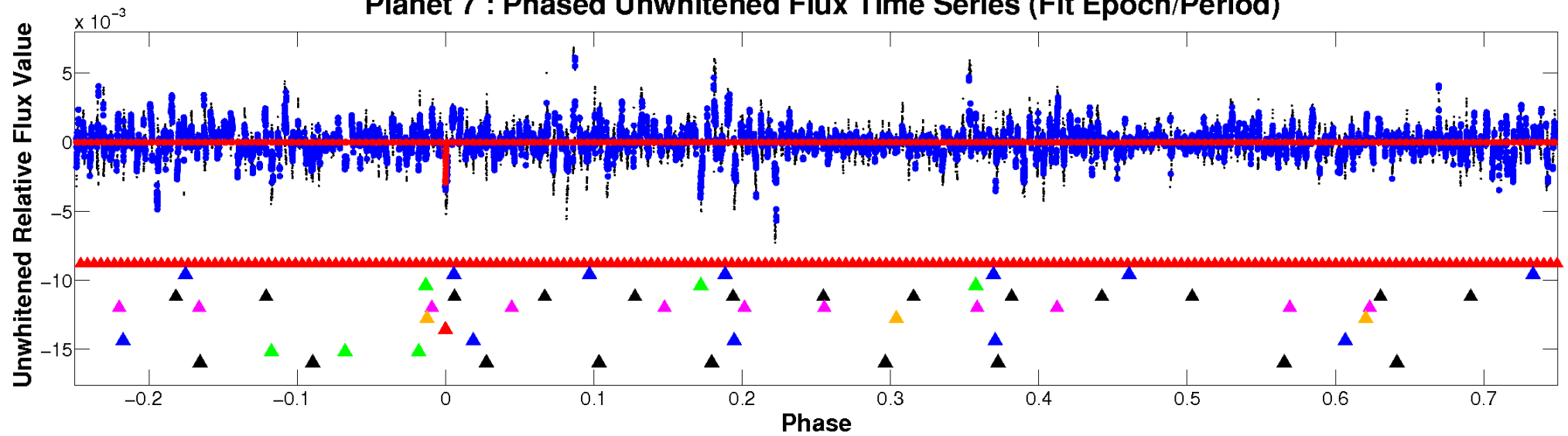
ALT Odd/Even

TCE 007007099-07

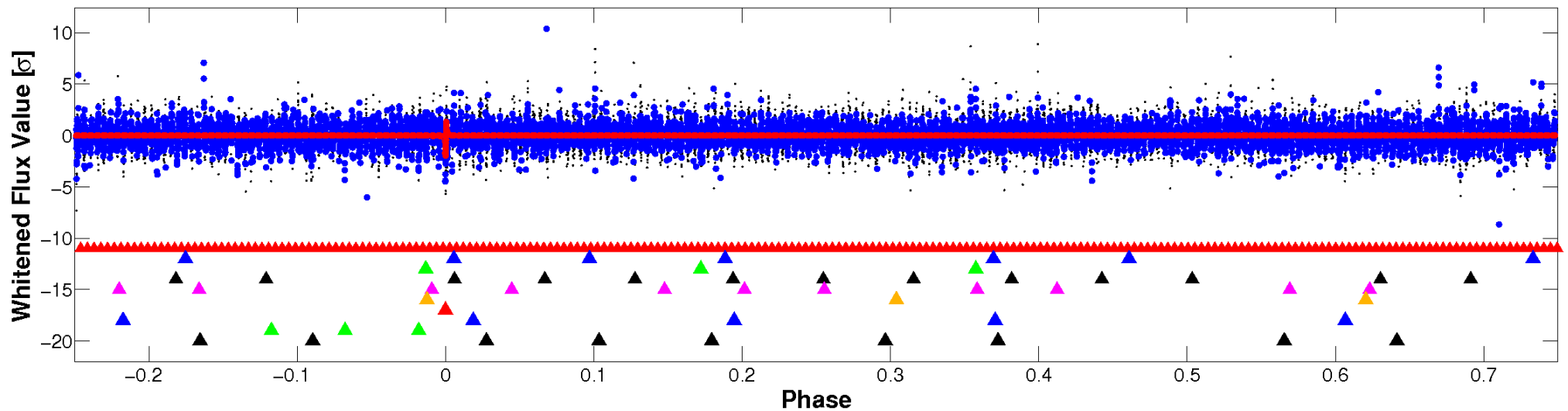


Non-Whitened Vs. Whitened Light Curve

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

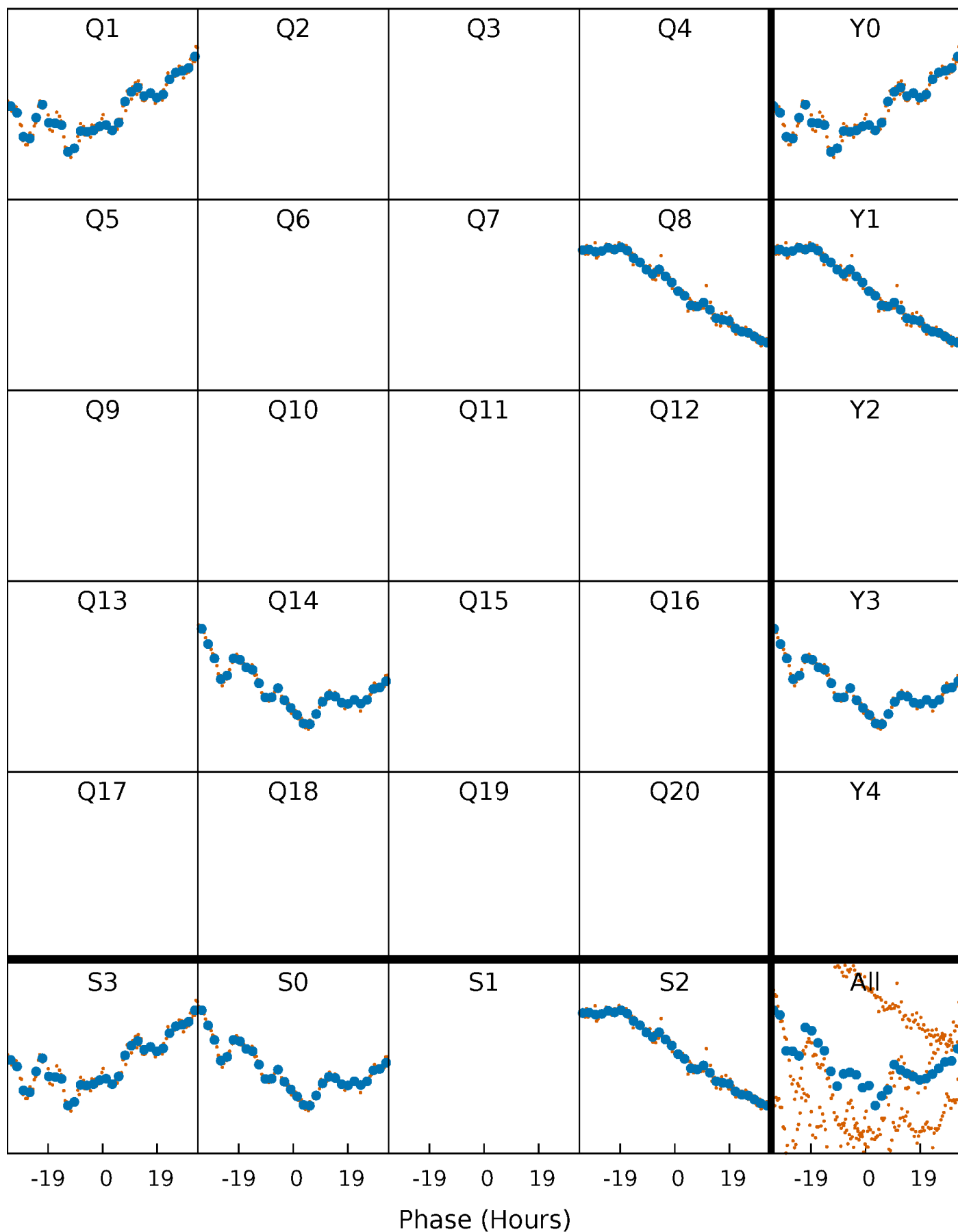


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



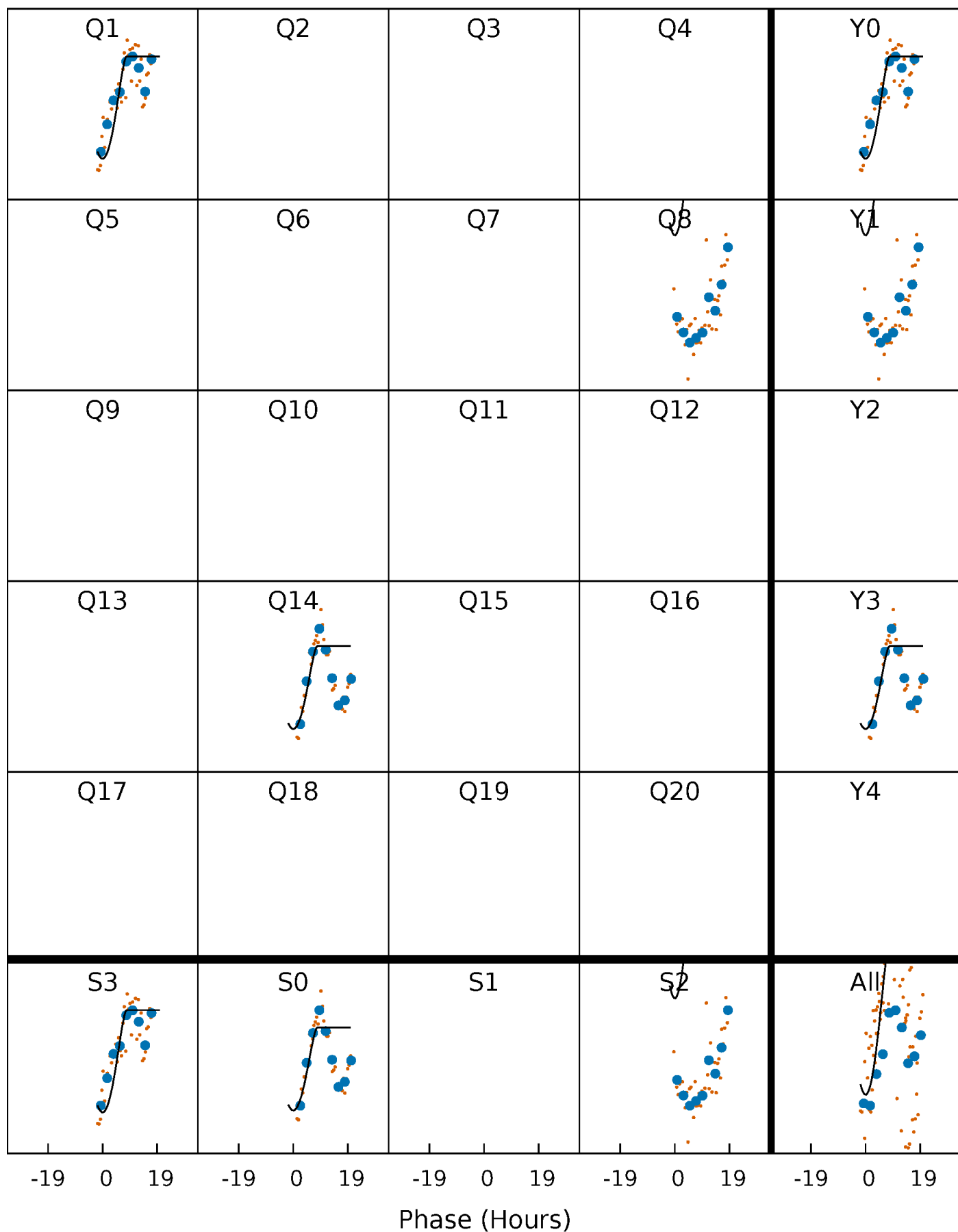
PDC Quarter-Phased Transit Curves

TCE 007007099-07 P=591.713802 Days $T_0=147.074944$ (BKJD)



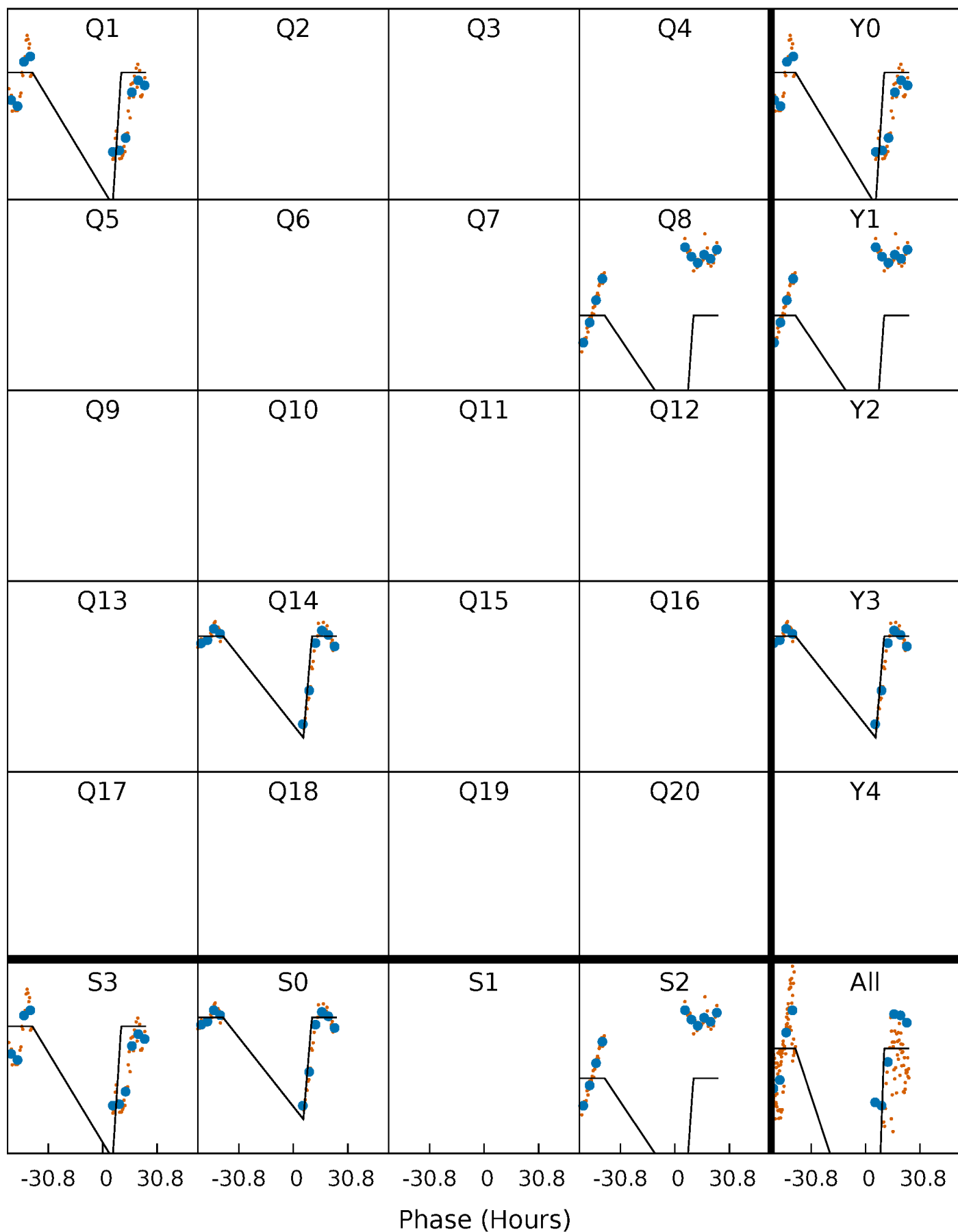
DV Quarter-Phased Transit Curves

TCE 007007099-07 P=591.713802 Days $T_0=147.074944$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

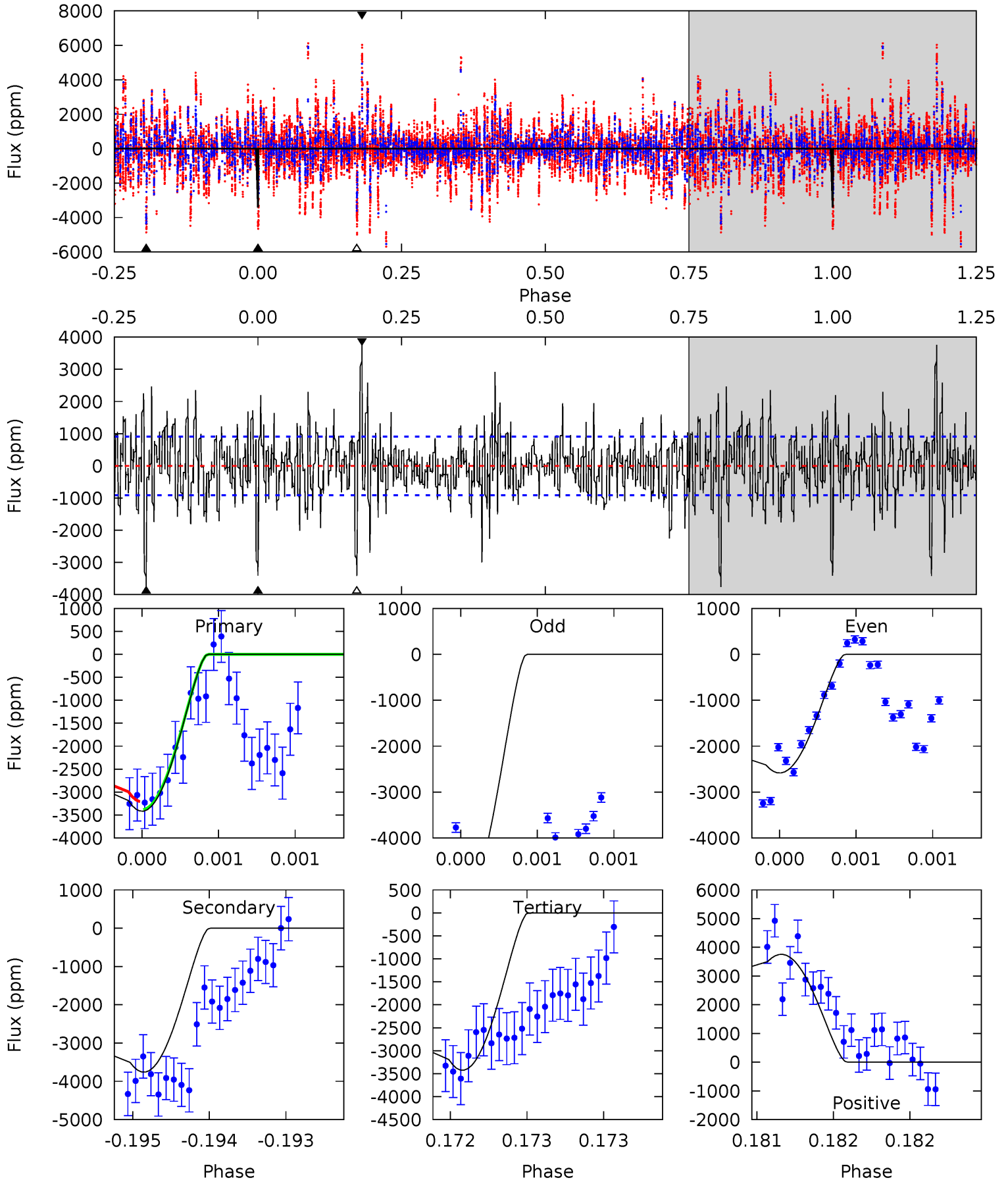
TCE 007007099-07 P=591.776331 Days $T_0=146.761172$ (BKJD)



DV Model-Shift Uniqueness Test

007007099-07, P = 591.713802 Days, E = 147.074944 Days

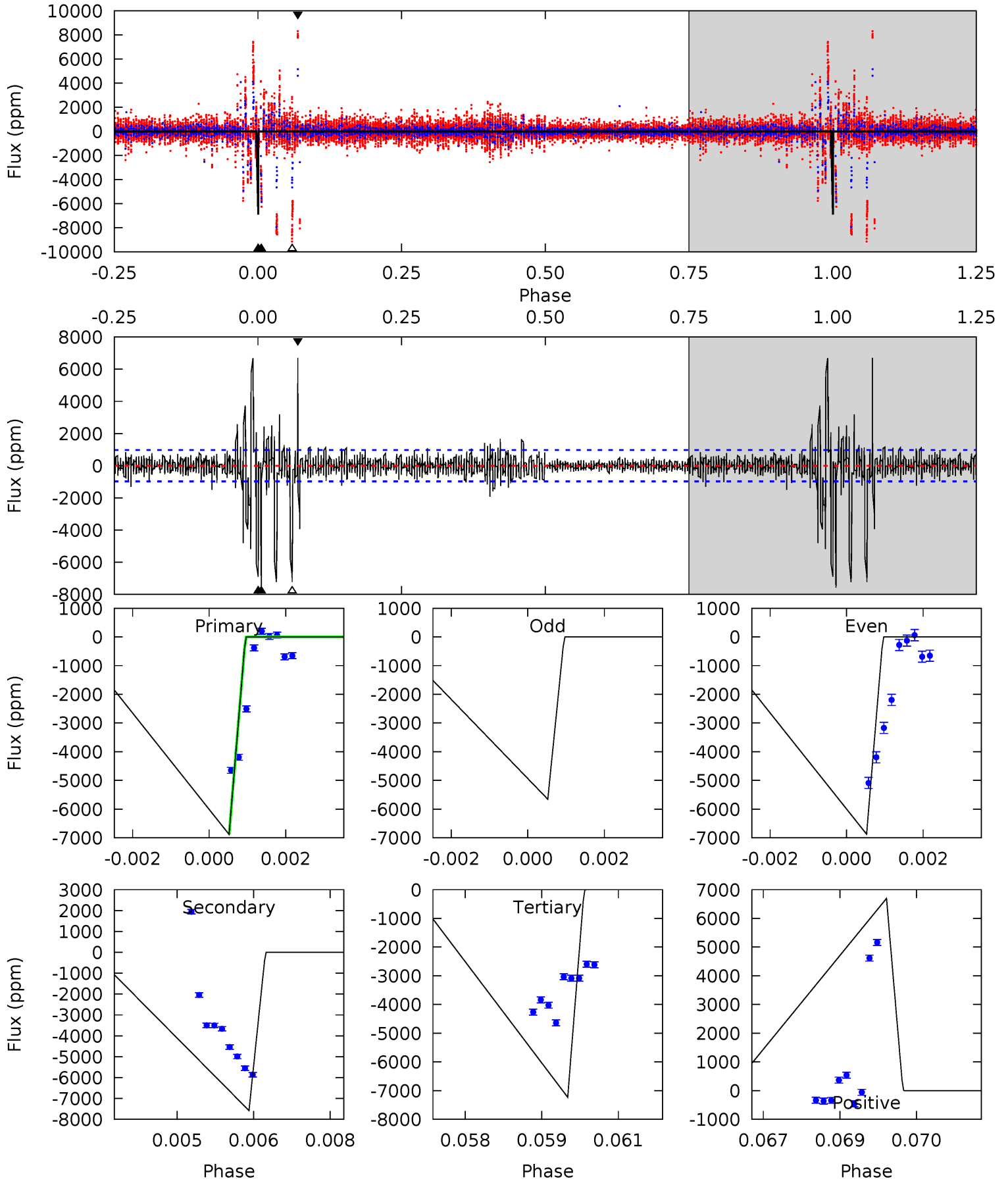
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	22.8	20.7	22.7	5.52	3.39	4.69	-0.05	-2.06	2.03	0.02	8.73	1.22	0.50	0.25



Alt Model-Shift Uniqueness Test

007007099-07, P = 591.776331 Days, E = 146.761172 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.8	41.6	39.7	36.8	5.37	3.16	4.19	-1.91	1.02	1.93	4.86	2.29	0.46	0.47	0



Stellar Parameters For KIC 007007099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+171}_{-171}	$4.399^{+0.105}_{-0.180}$	$0.140^{+0.200}_{-0.300}$	$1.034^{+0.282}_{-0.152}$	$0.979^{+0.111}_{-0.100}$	$1.246^{+0.559}_{-0.620}$
	+3%/-3%	+2%/-4%	+143%/-214%	+27%/-15%	+11%/-10%	+45%/-50%
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 007007099-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3759 ± 165	$22.75^{+21.50}_{-15.23}$	306^{+21}_{-17}	3625^{+1906}_{-670}	7629^{+58653}_{-5650}
Alt.	-7584 ± 182	$22.81^{+23.29}_{-16.60}$	306^{+21}_{-15}	4036^{+3286}_{-798}	$14878^{+184330}_{-11214}$

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

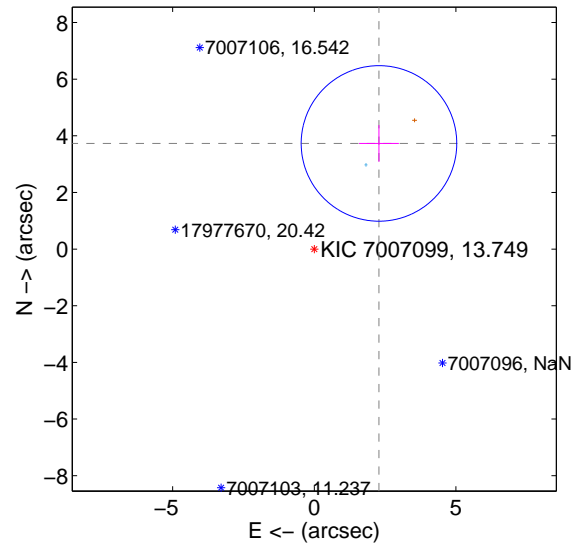
Supplemental centroid analysis for 007007099-07. Kepler magnitude: 13.75. Transit SNR 10.25

There are 1 quarters with good PRF difference image offsets

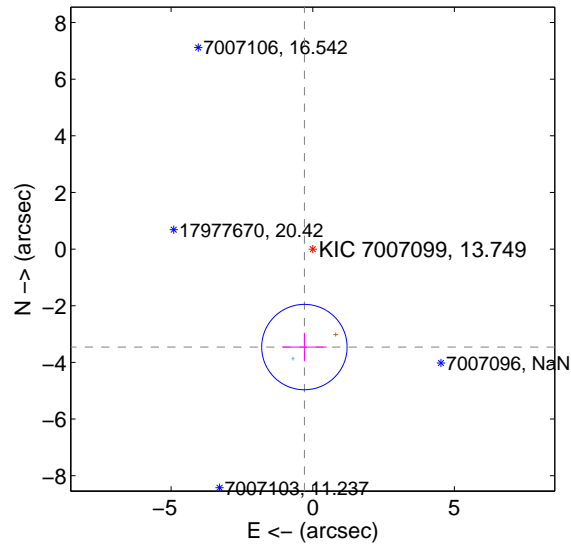
The OOT PRF centroid is offset from the target star catalog position by about 7.29 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.374 ± 0.915	4.78	-2.284 ± 0.703	3.731 ± 0.645
PRF-fit source offset from KIC position	3.471 ± 0.502	6.91	0.294 ± 0.783	-3.459 ± 0.500
photometric centroid source offset	3.18 ± 0.63	5.07	-0.33 ± 0.20	-3.16 ± 0.63

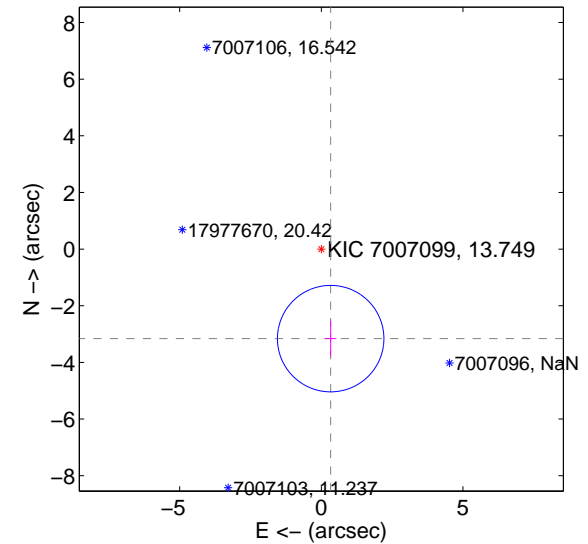
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

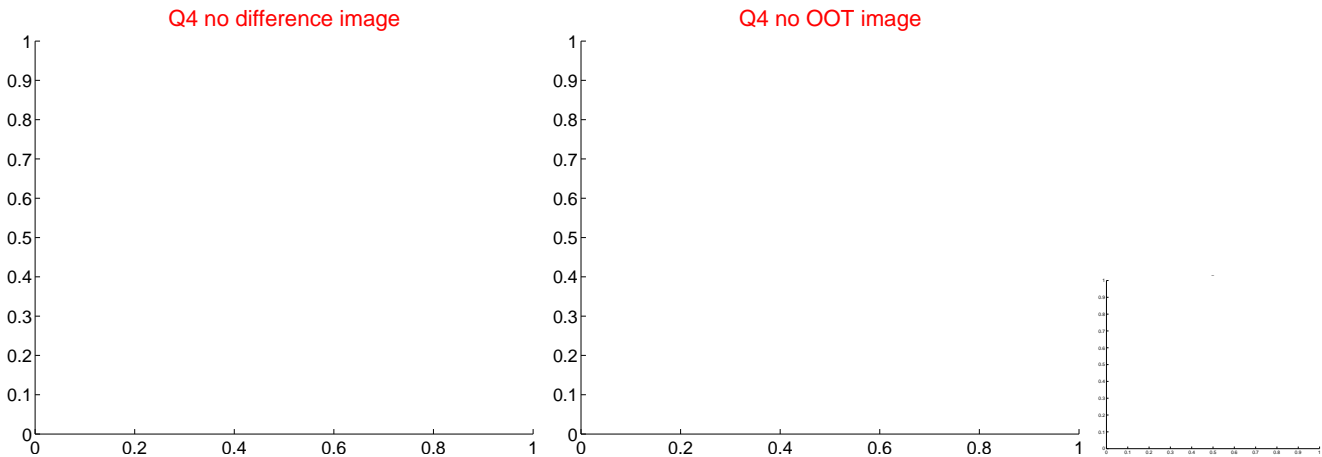
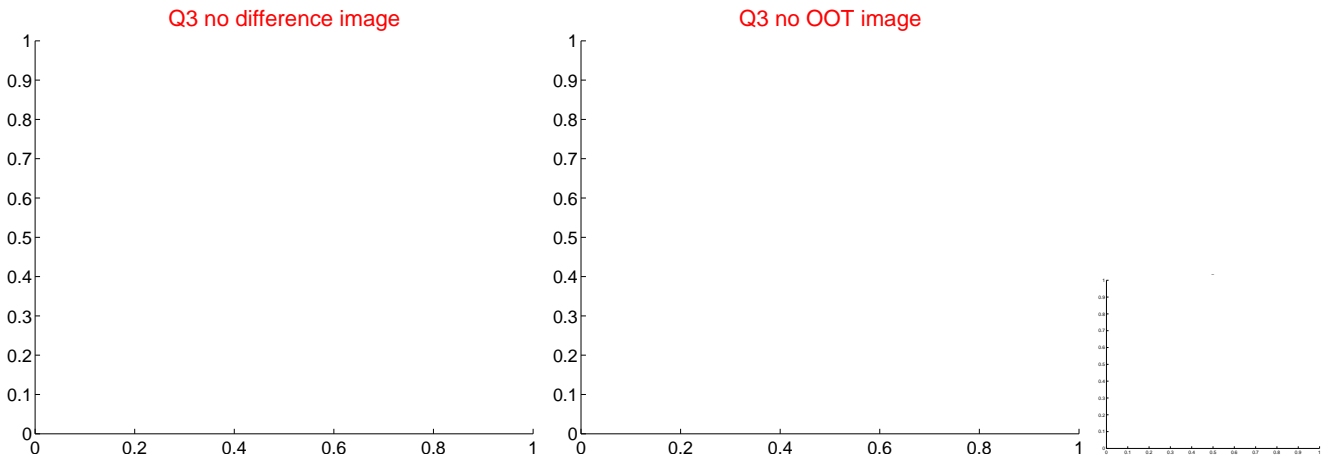
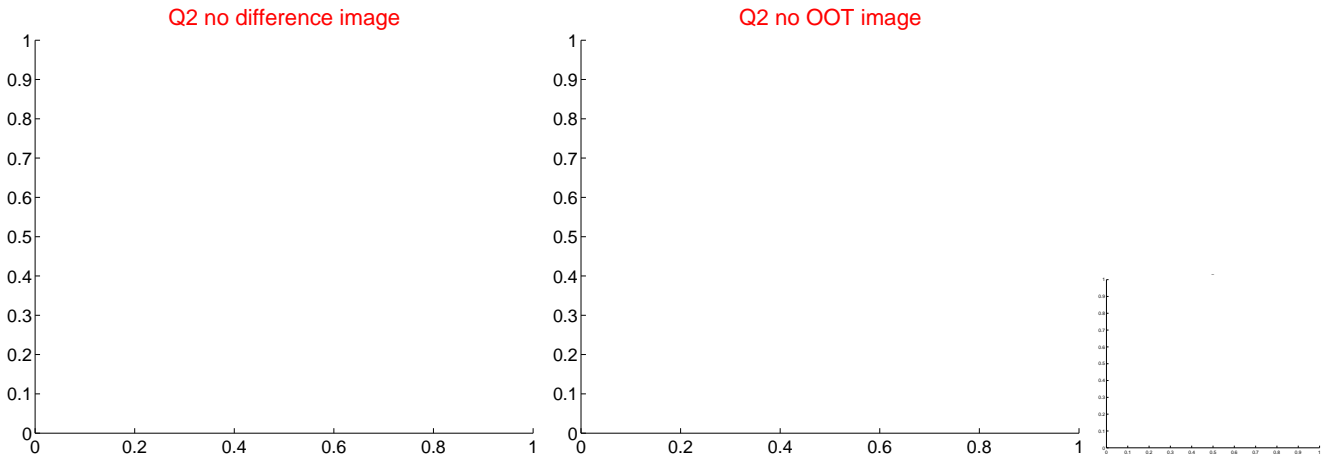
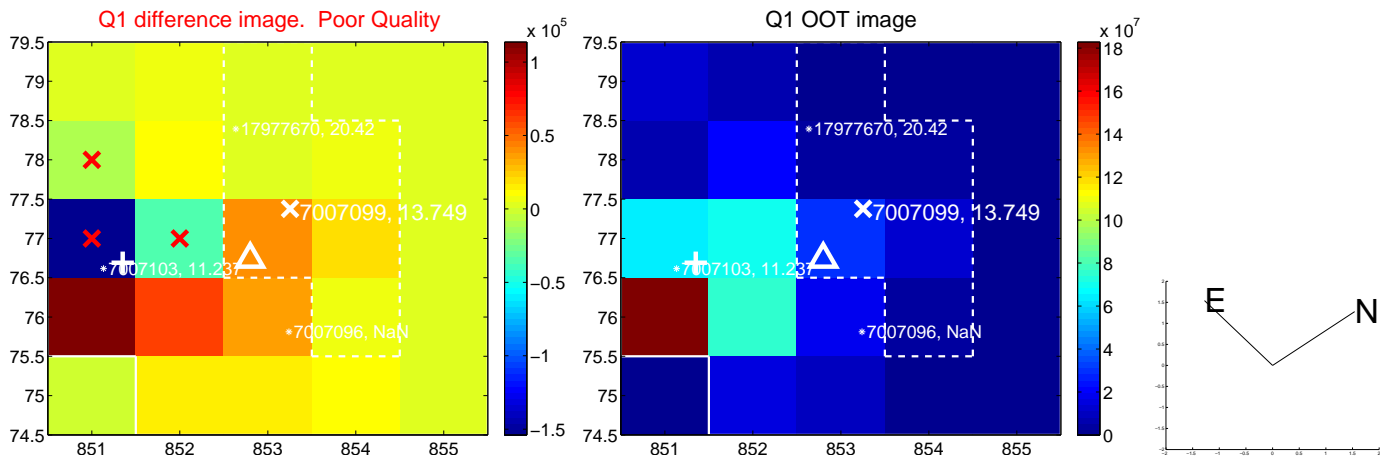


offset from photometric centroids

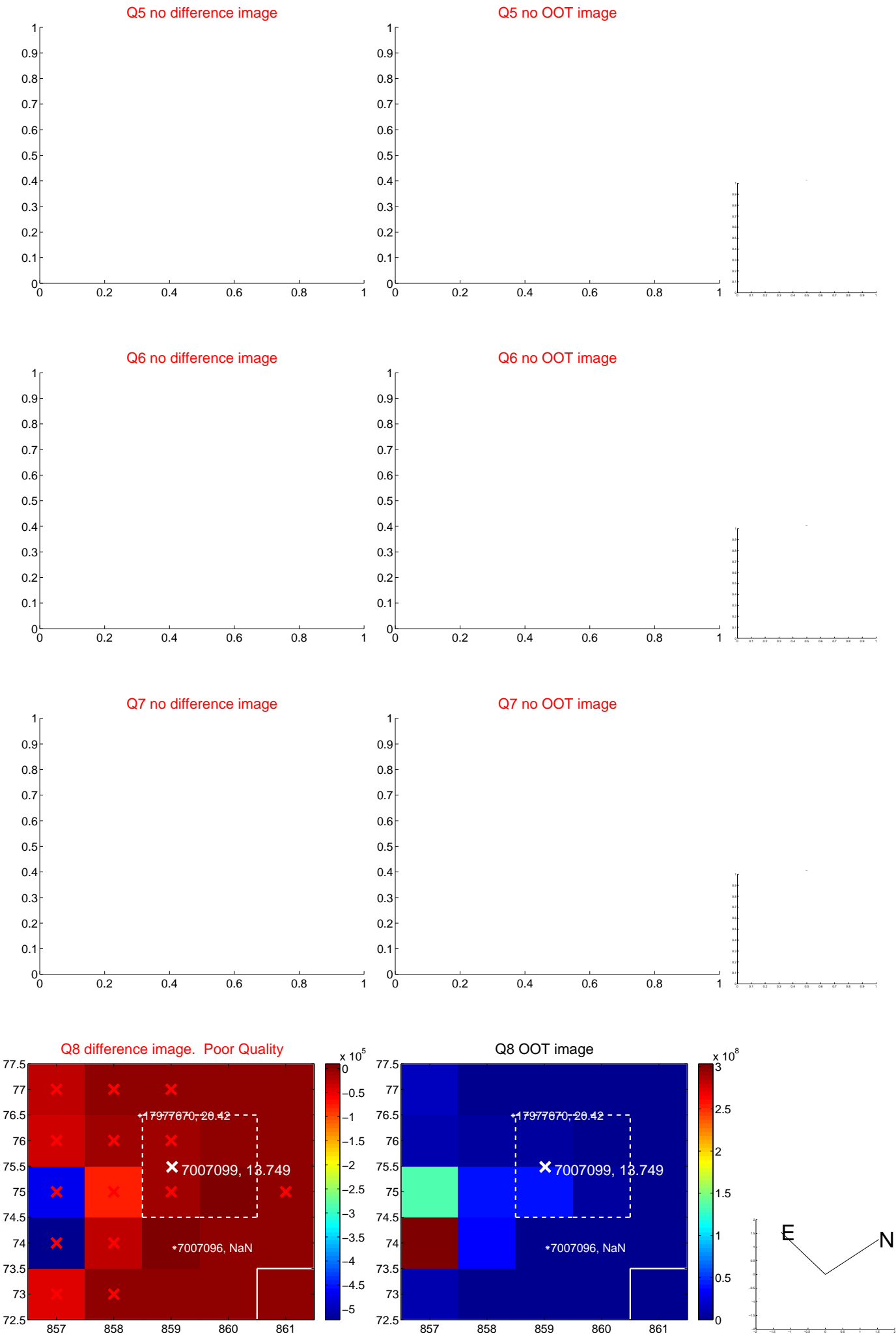


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



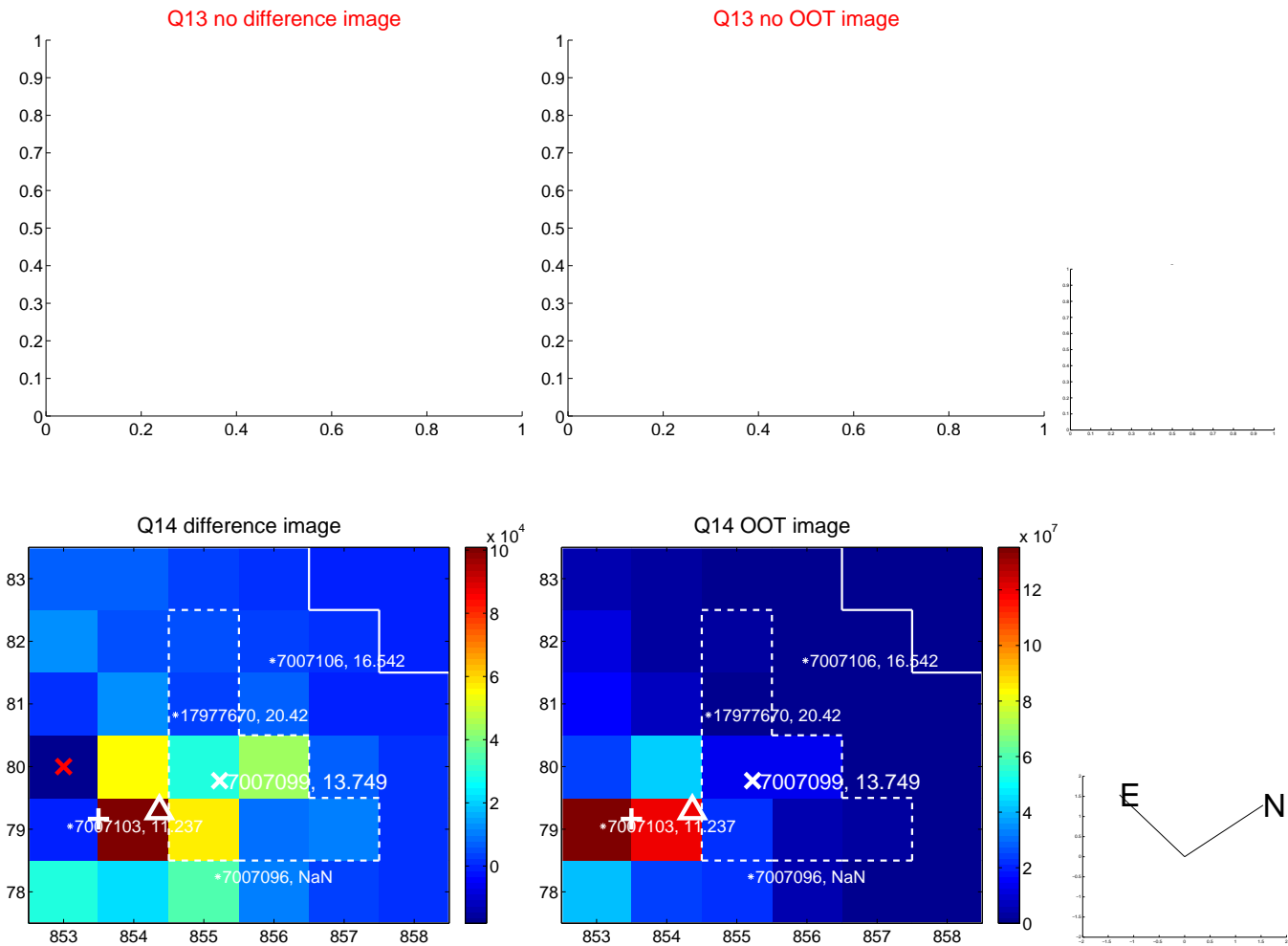
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



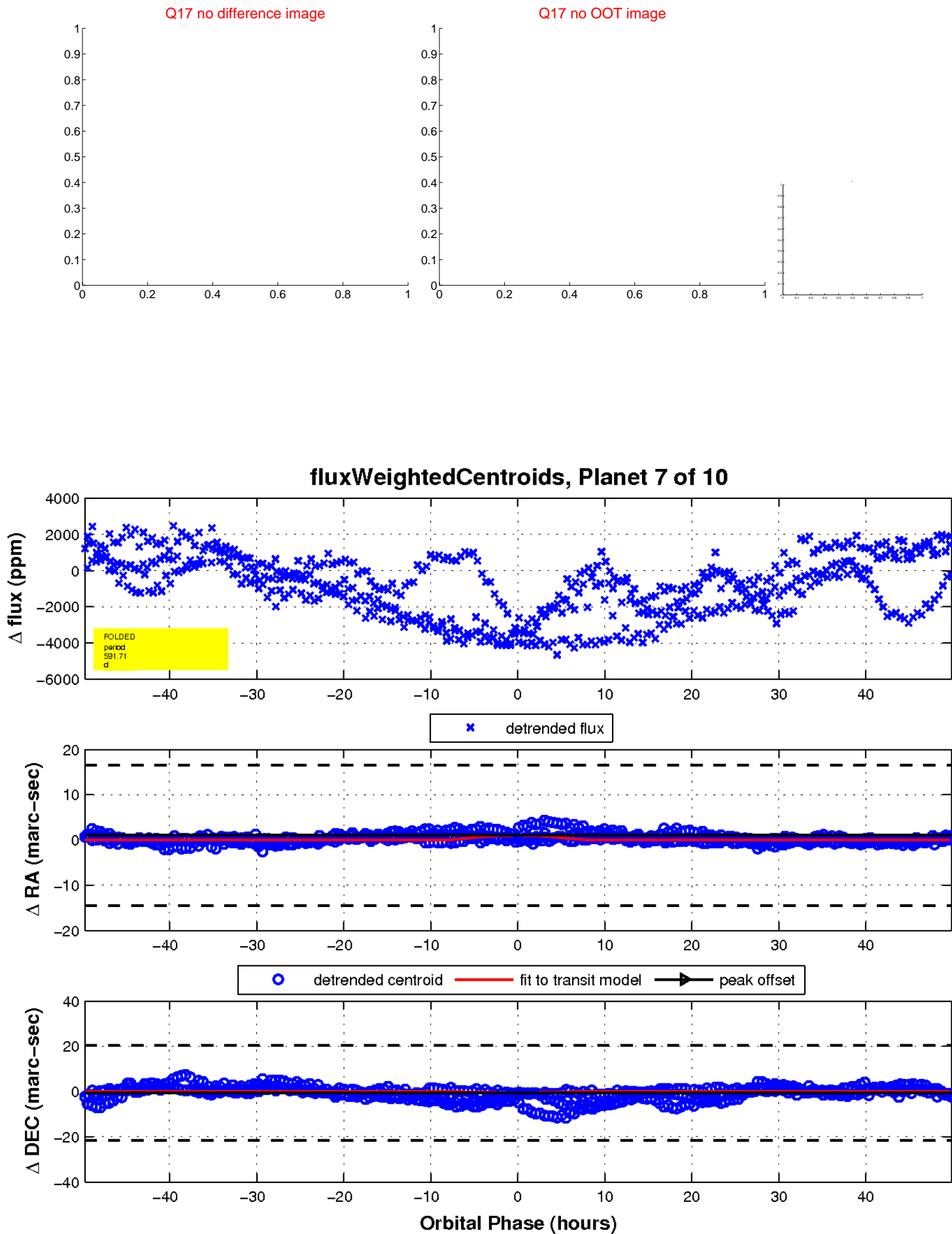
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

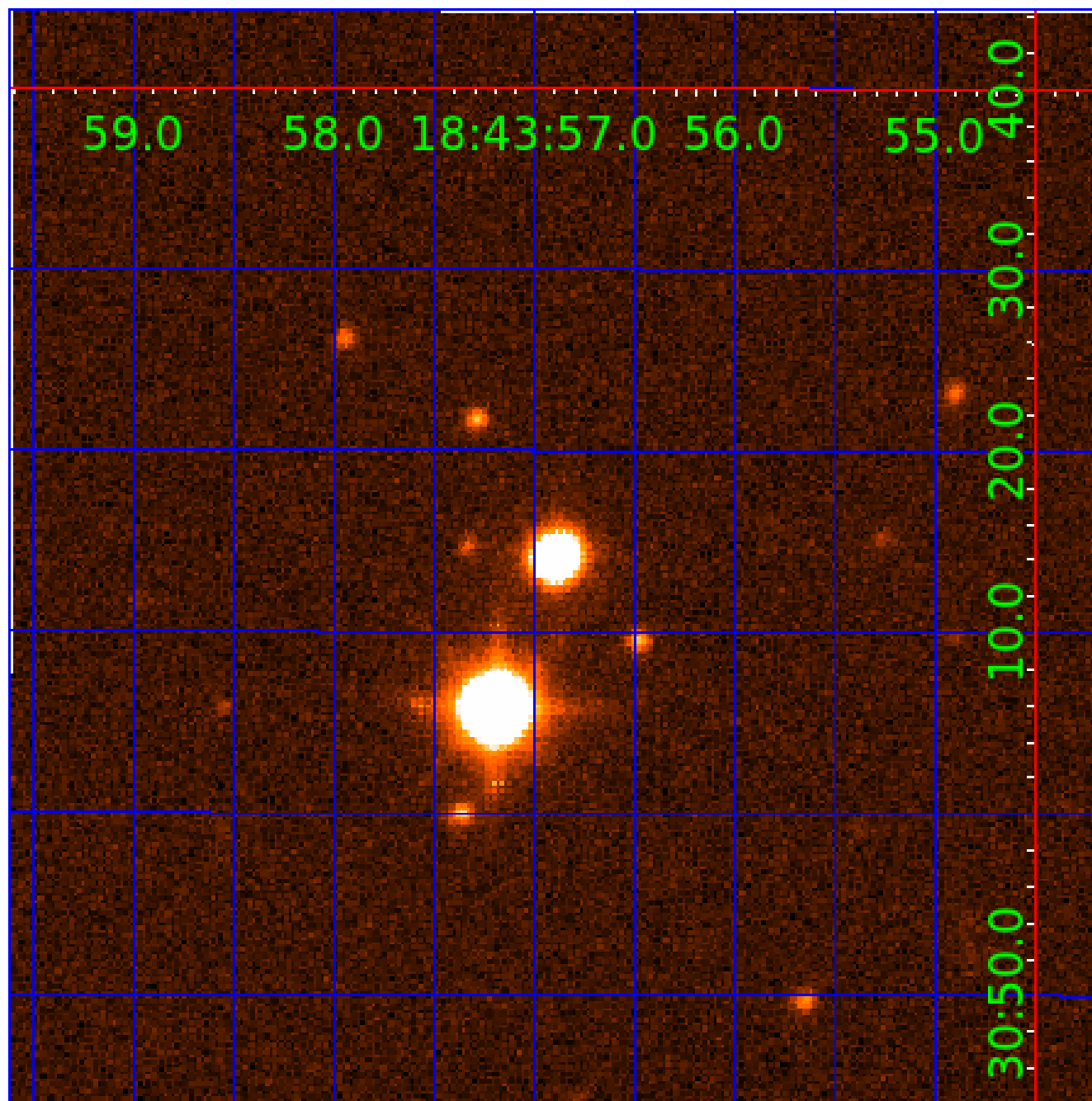


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007007099

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})
007007099-01	OBS	No	2.677749	132.655012	91.3	14.919	9.4	7.3	1.03	5671	1.04	706.08
007007099-02	OBS	No	215.273182	150.416273	1952.8	9.794	19.2	9.1	1.03	5671	4.66	2.04
007007099-03	OBS	No	481.990984	358.651354	1587.8	7.329	16.1	10.5	1.03	5671	4.92	0.69
007007099-06	OBS	No	404.449444	514.215166	2694.8	13.795	13.8	13.4	1.03	5671	6.74	0.88
007007099-07	OBS	No	591.713802	147.074944	2929.0	16.613	12.9	10.3	1.03	5671	10.61	0.53
007007099-08	OBS	No	347.913940	158.144845	1804.6	12.869	12.4	9.8	1.03	5671	6.00	1.07
007007099-09	OBS	No	562.331529	136.398872	741.6	3.310	12.4	5.8	1.03	5671	3.23	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007007099-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007007099-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007007099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
007007099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— MOD_POS_ALT—CENT_FEW_DIFFS
007007099-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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

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

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

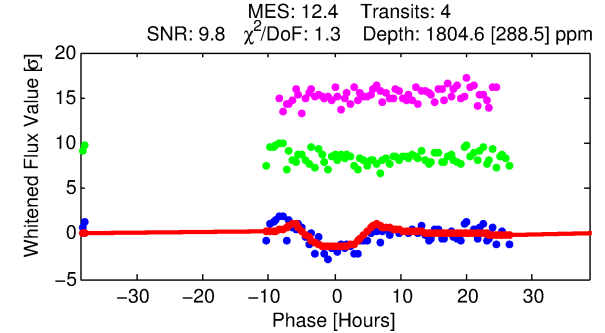
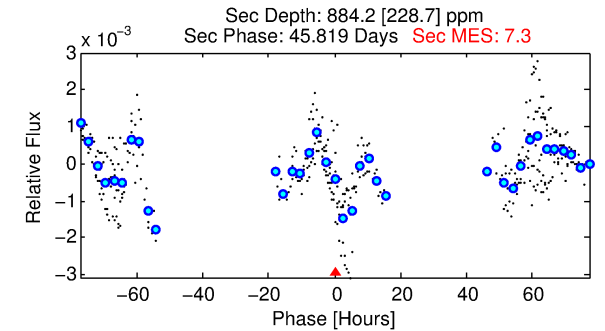
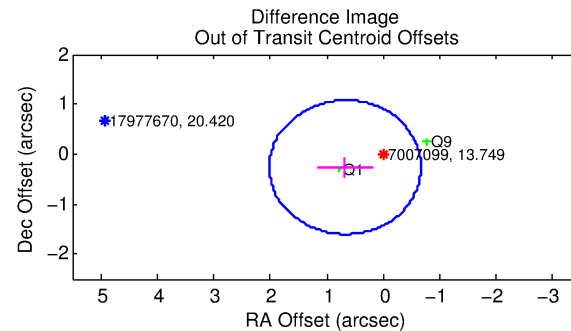
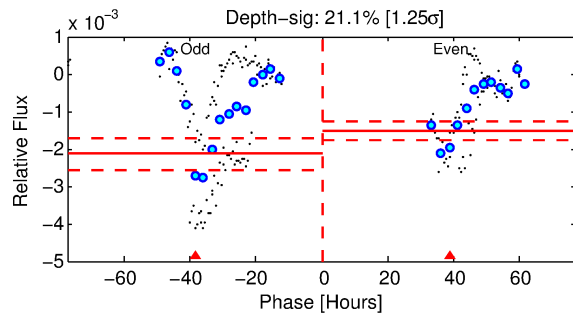
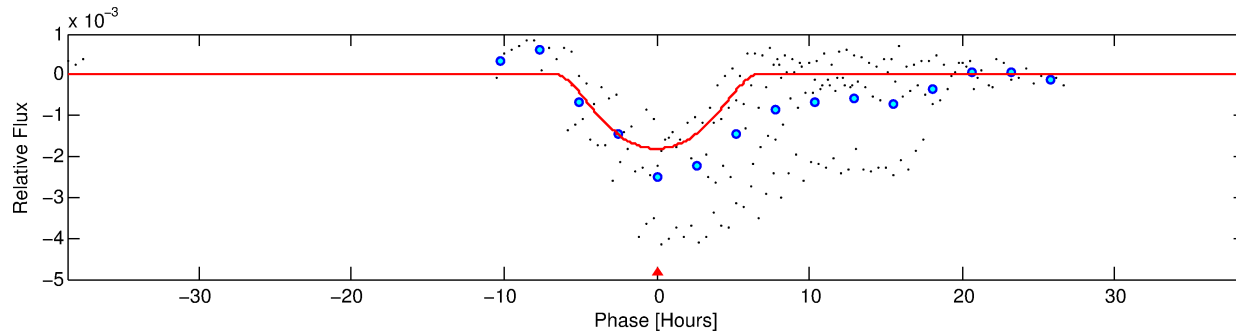
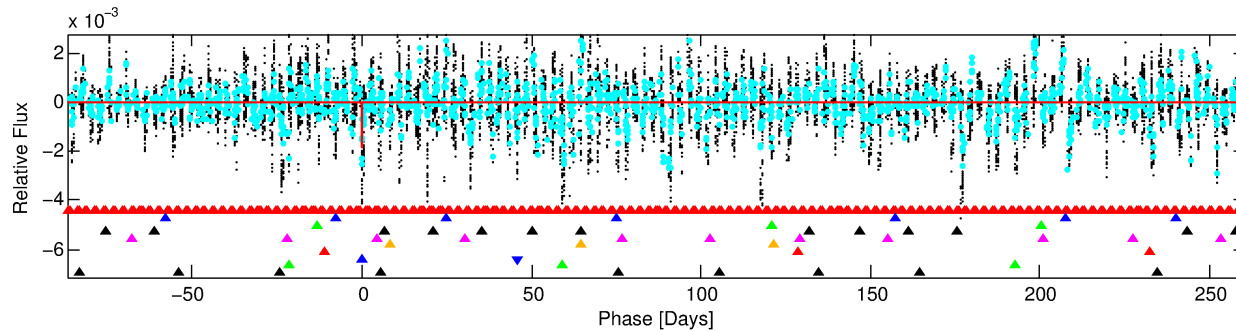
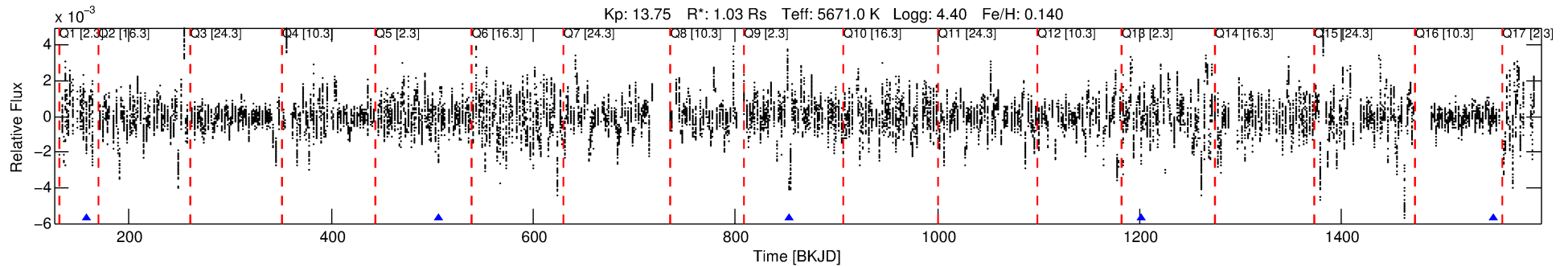
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007007099-08

No Significant Match Found

DV One-Page Summary

KIC: 7007099 Candidate: 8 of 10 Period: 347.914 d



DV Fit Results:

Period = 347.91394 [0.01178] d
Epoch = 158.1448 [0.0166] BKJD
Rp/R* = 0.0532 [0.0145]
a/R* = 89.32 [13.48]
b = 0.96 [0.03]
Seff = 1.07 [0.38]
Teq = 260 [23] K
Rp = 6.00 [2.32] Re
a = 0.9609 [0.2194] AU
Ag = 12475.09 [8602.83] [1.45 σ]
Teff = 4241 [654] K [6.08 σ]

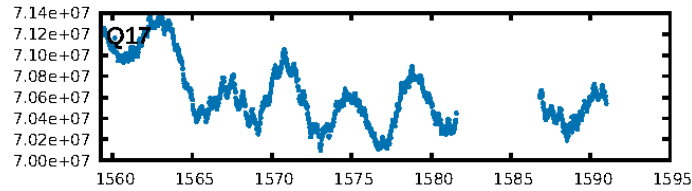
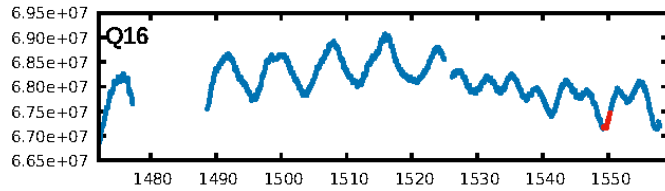
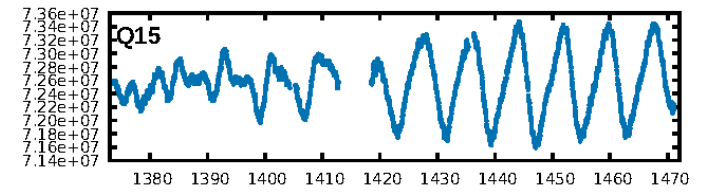
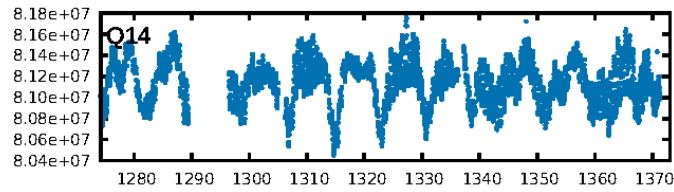
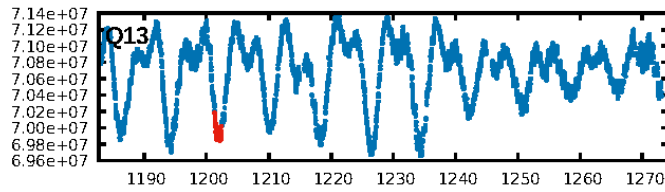
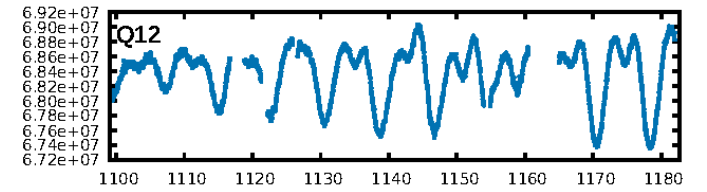
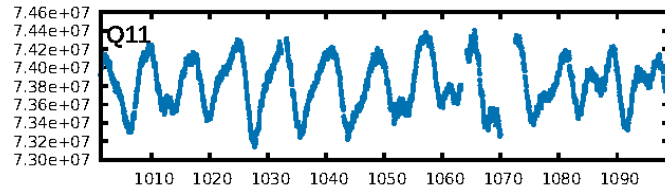
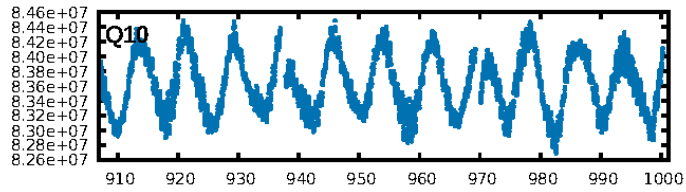
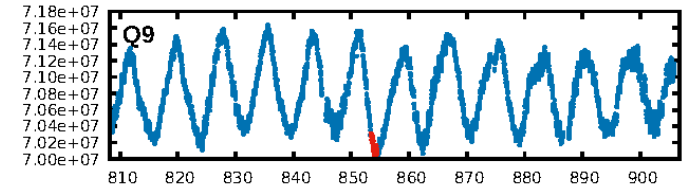
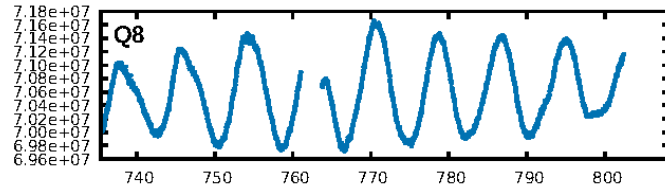
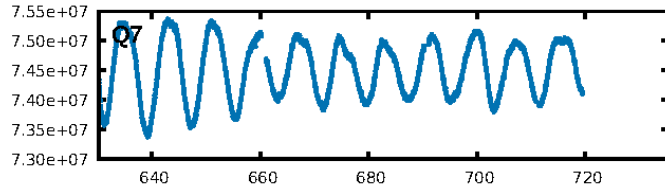
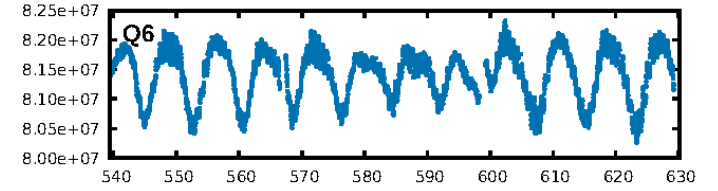
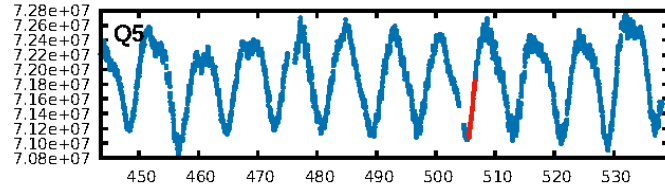
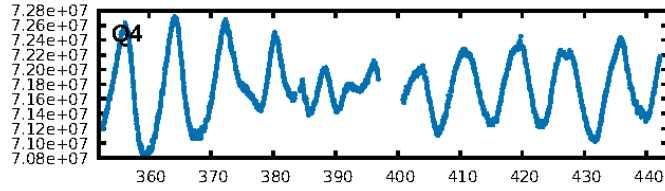
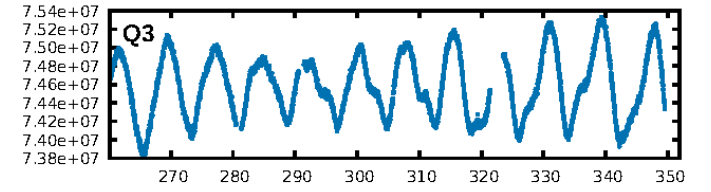
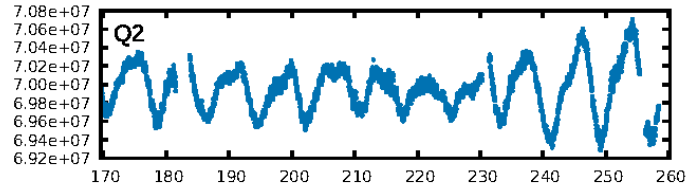
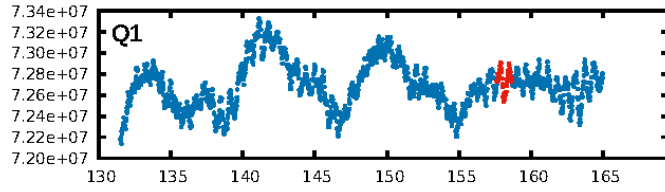
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [196.84 σ]
LongPeriod-sig: 100.0% [71.92 σ]
ModelChiSquare2-sig: 55.2%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6761
Centroid-sig: 0.0%
Centroid-so: 1.323 arcsec [1.45 σ]
OotOffset-rm: 0.722 arcsec [1.61 σ]
KicOffset-rm: 8.511 arcsec [42.84 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.33 [1/3]

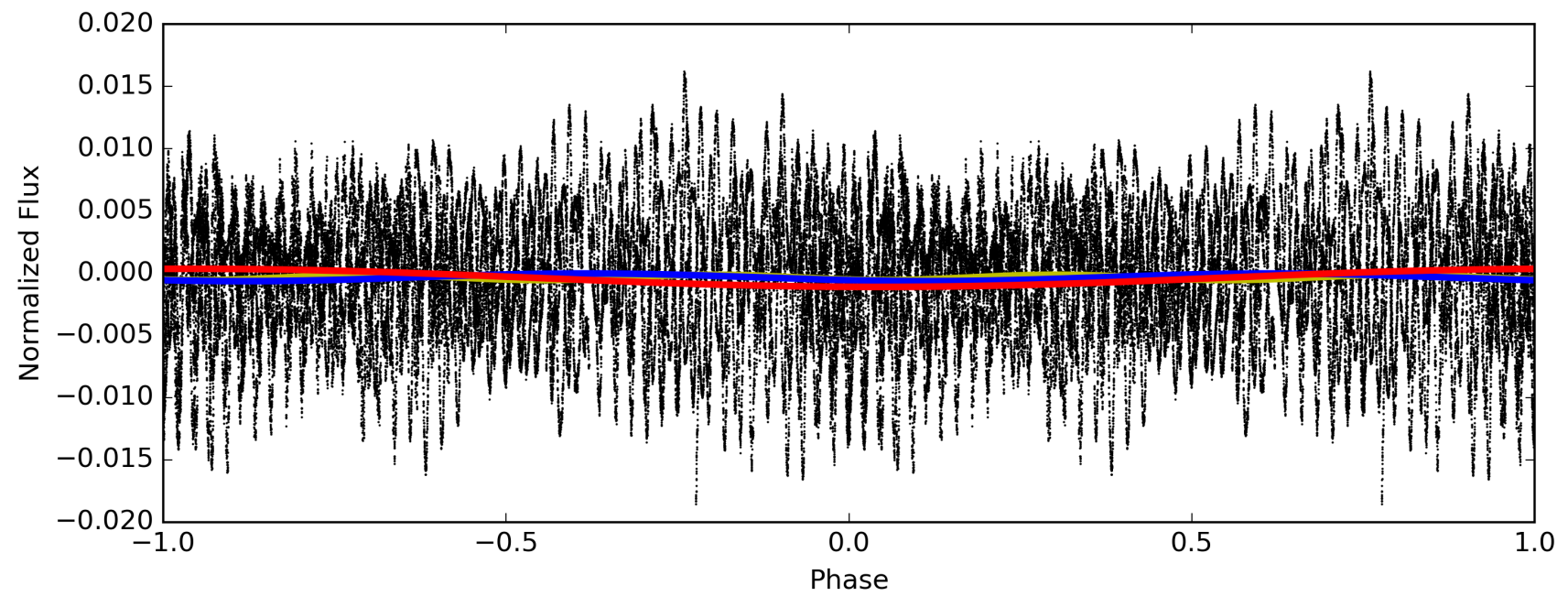
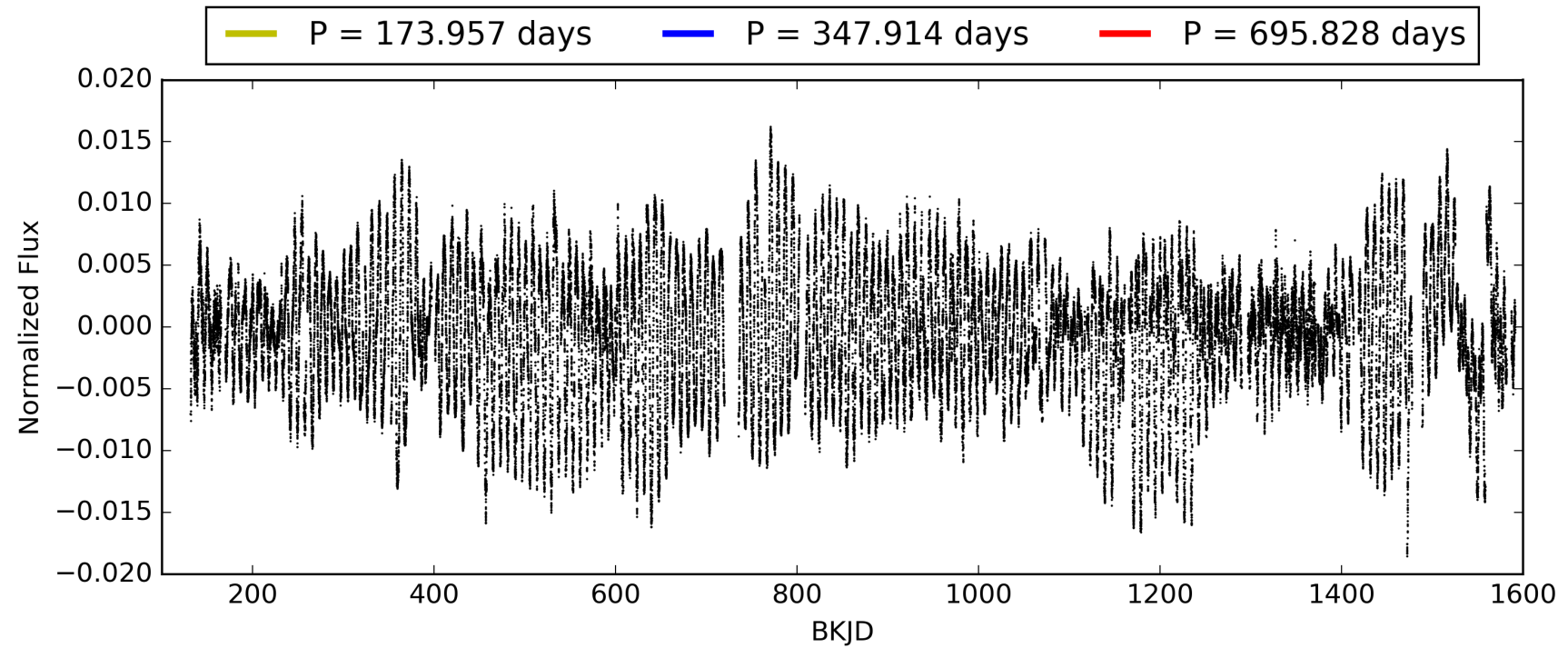
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:30:53 Z

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

TCE 007007099-08, PDC Light Curves

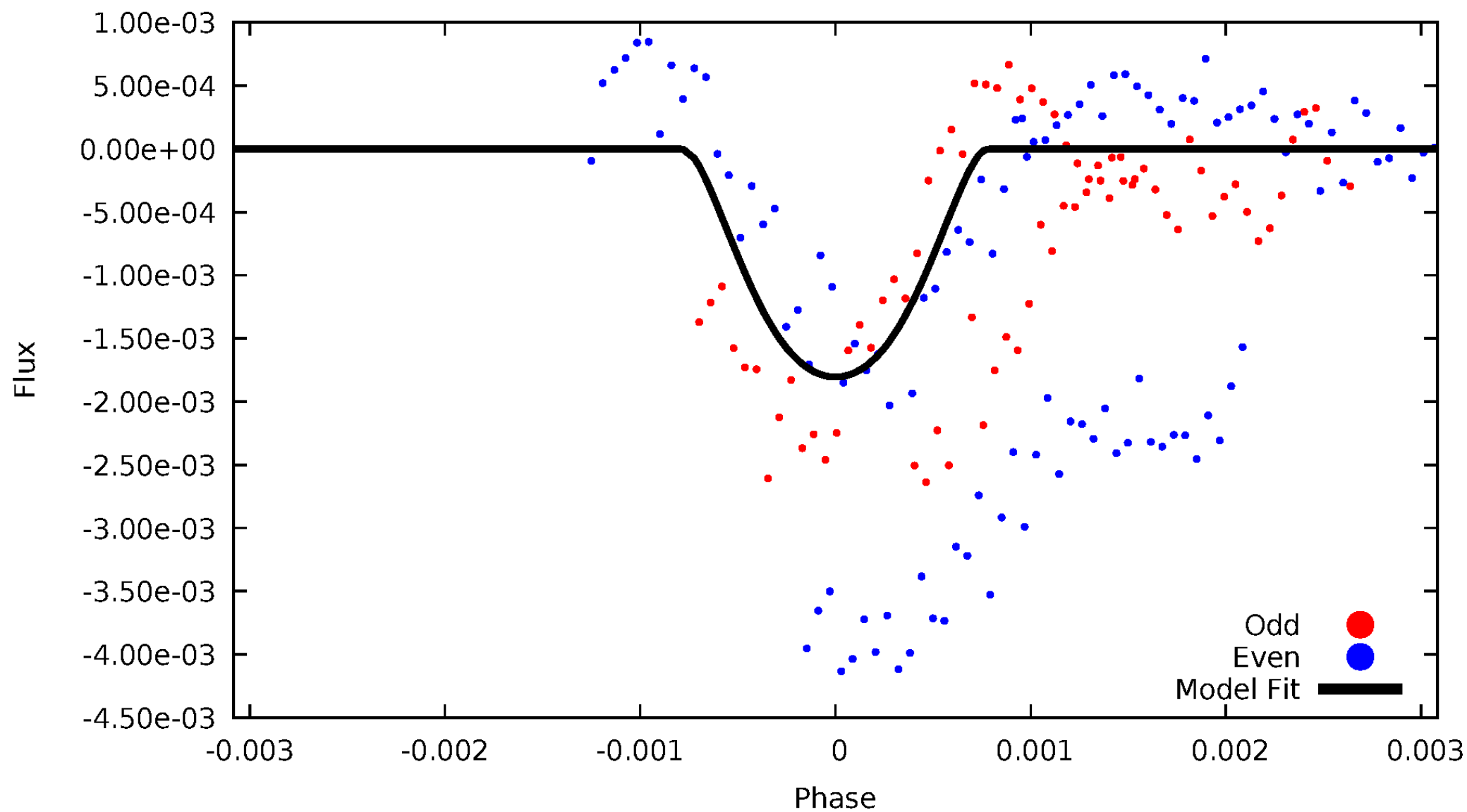


TCE 007007099-08



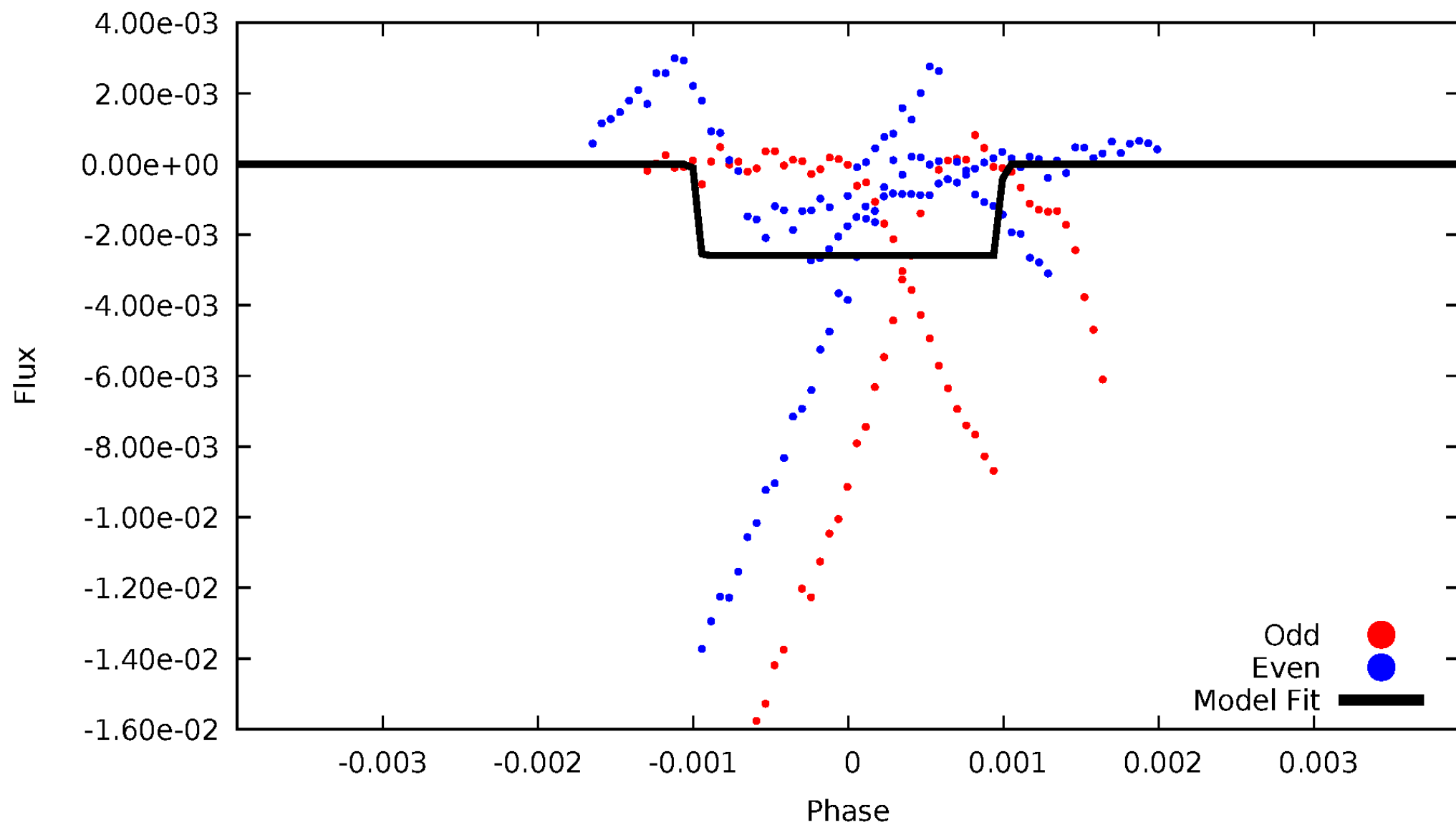
DV Odd/Even

TCE 007007099-08



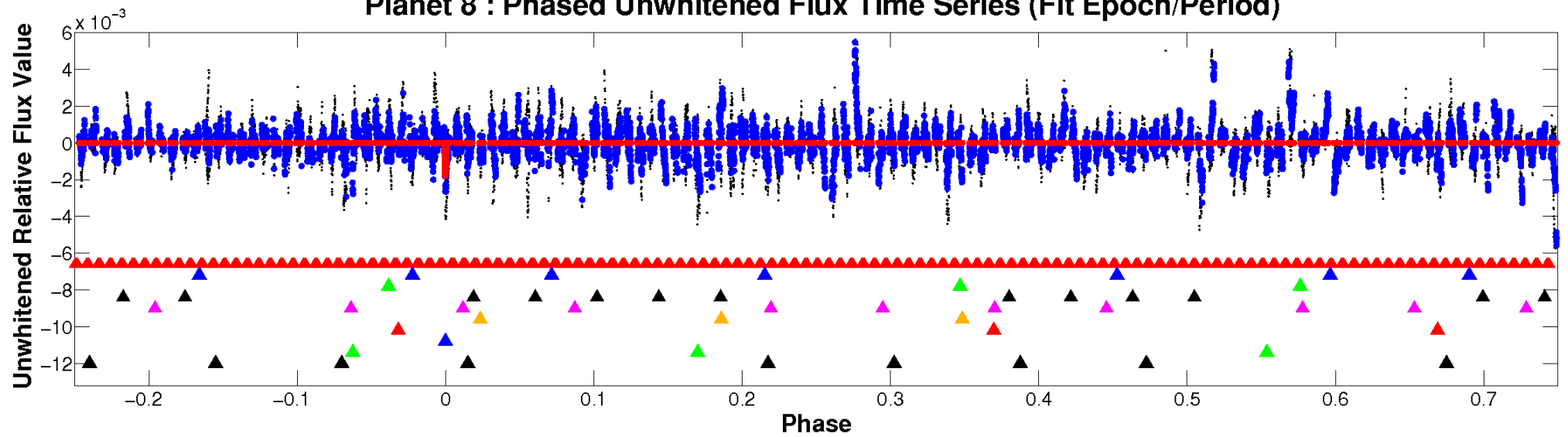
ALT Odd/Even

TCE 007007099-08

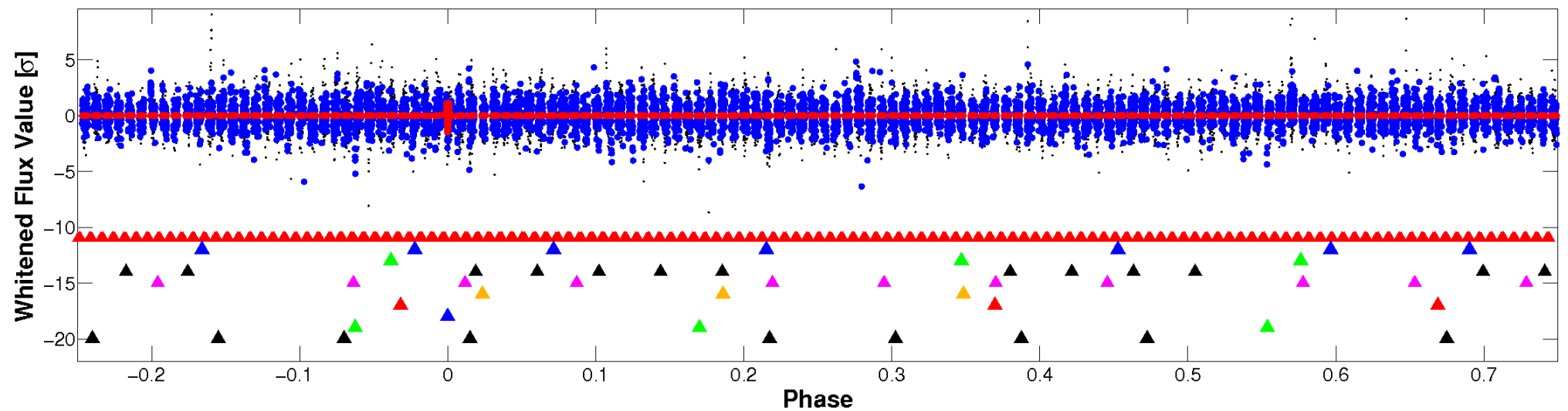


Non-Whitened Vs. Whitened Light Curve

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

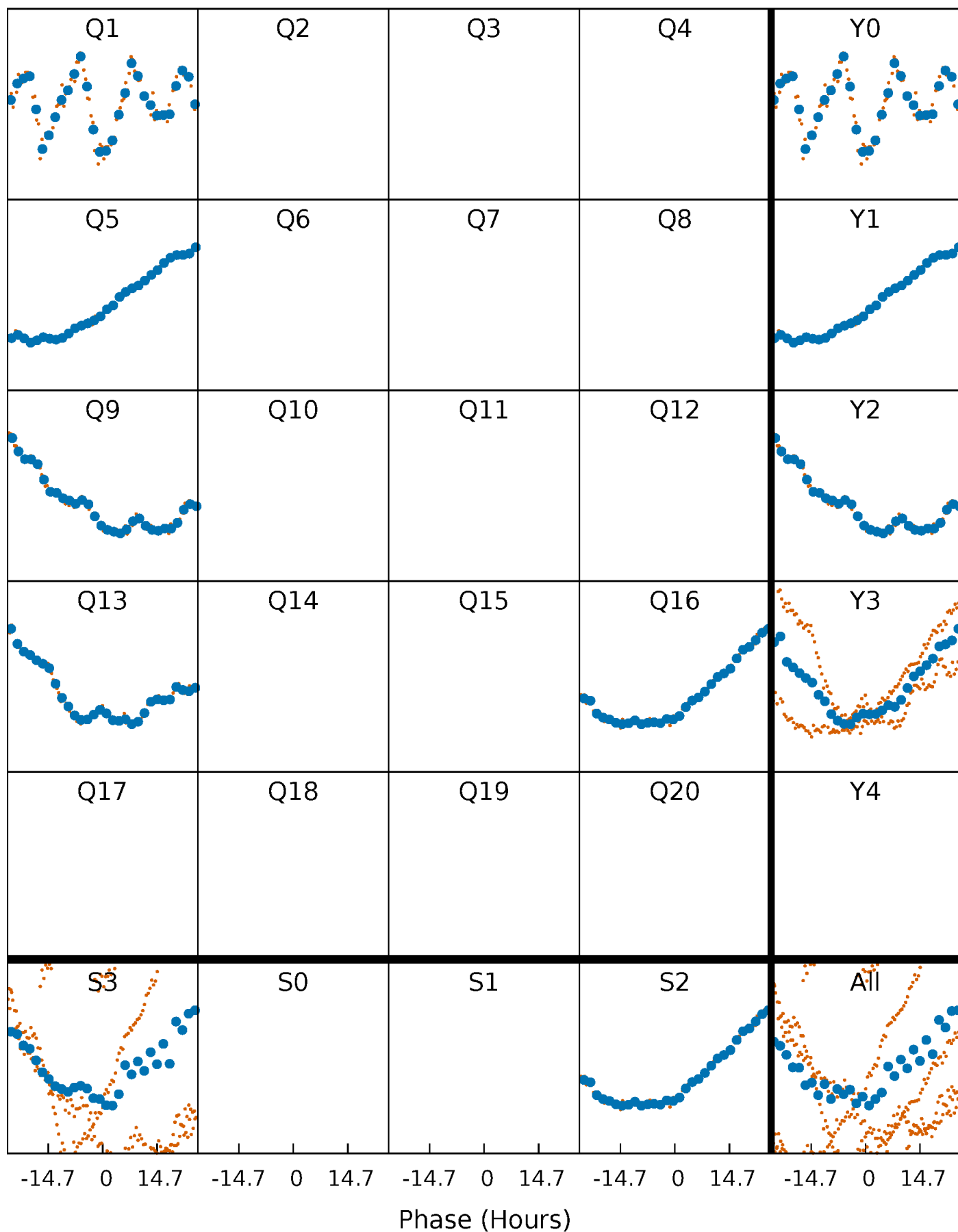


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



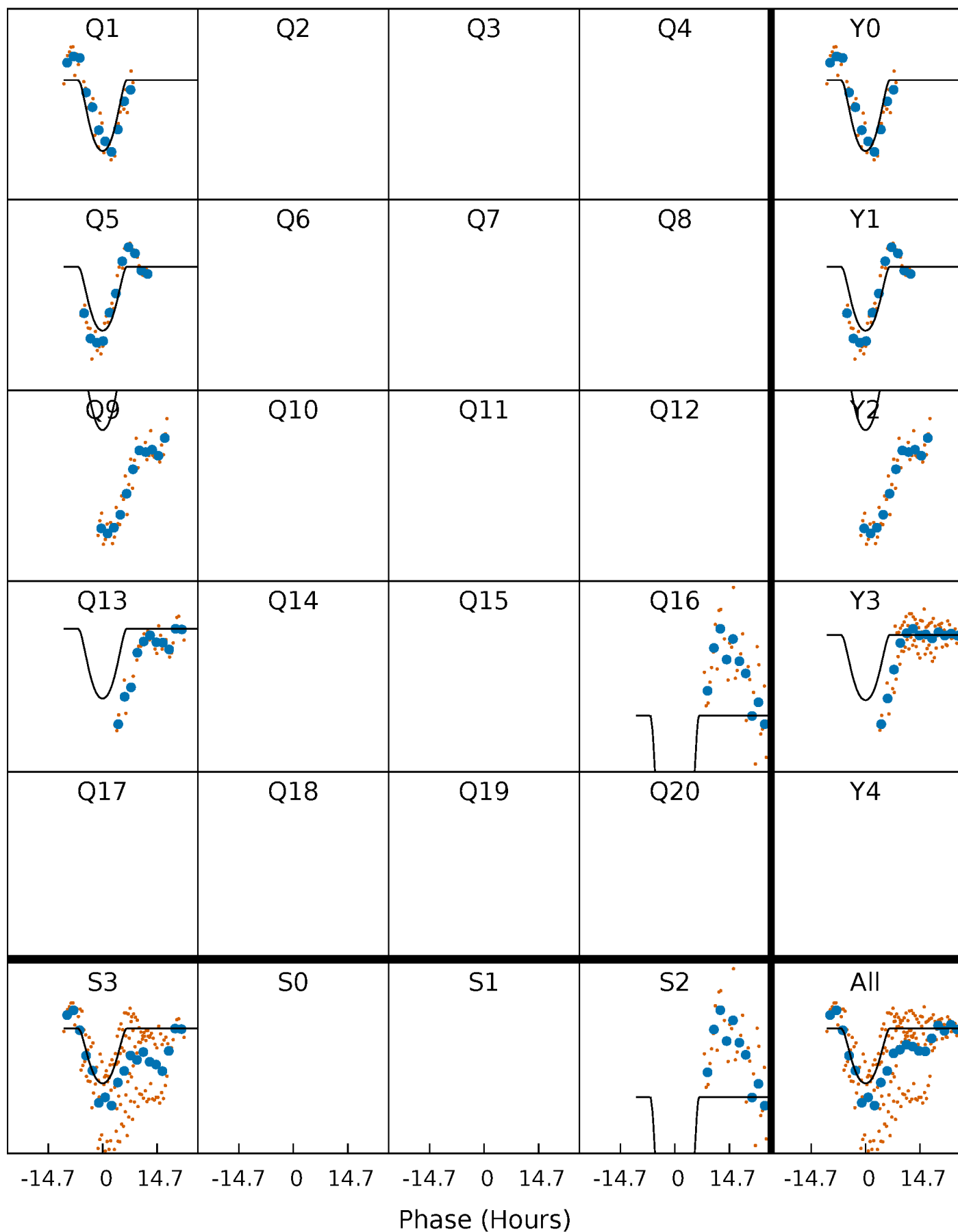
PDC Quarter-Phased Transit Curves

TCE 007007099-08 $P=347.913940$ Days $T_0=158.144845$ (BKJD)



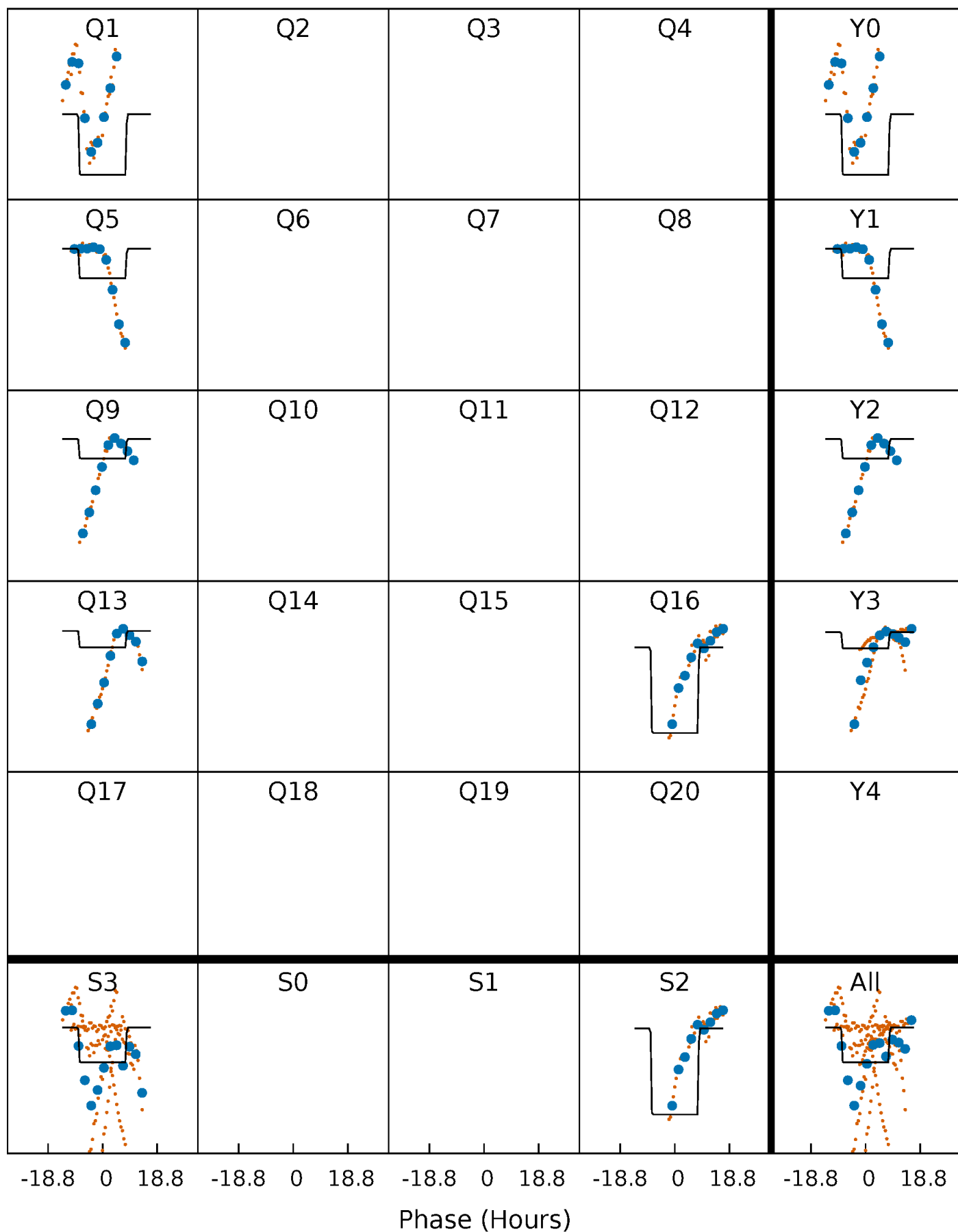
DV Quarter-Phased Transit Curves

TCE 007007099-08 P=347.913940 Days $T_0=158.144845$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

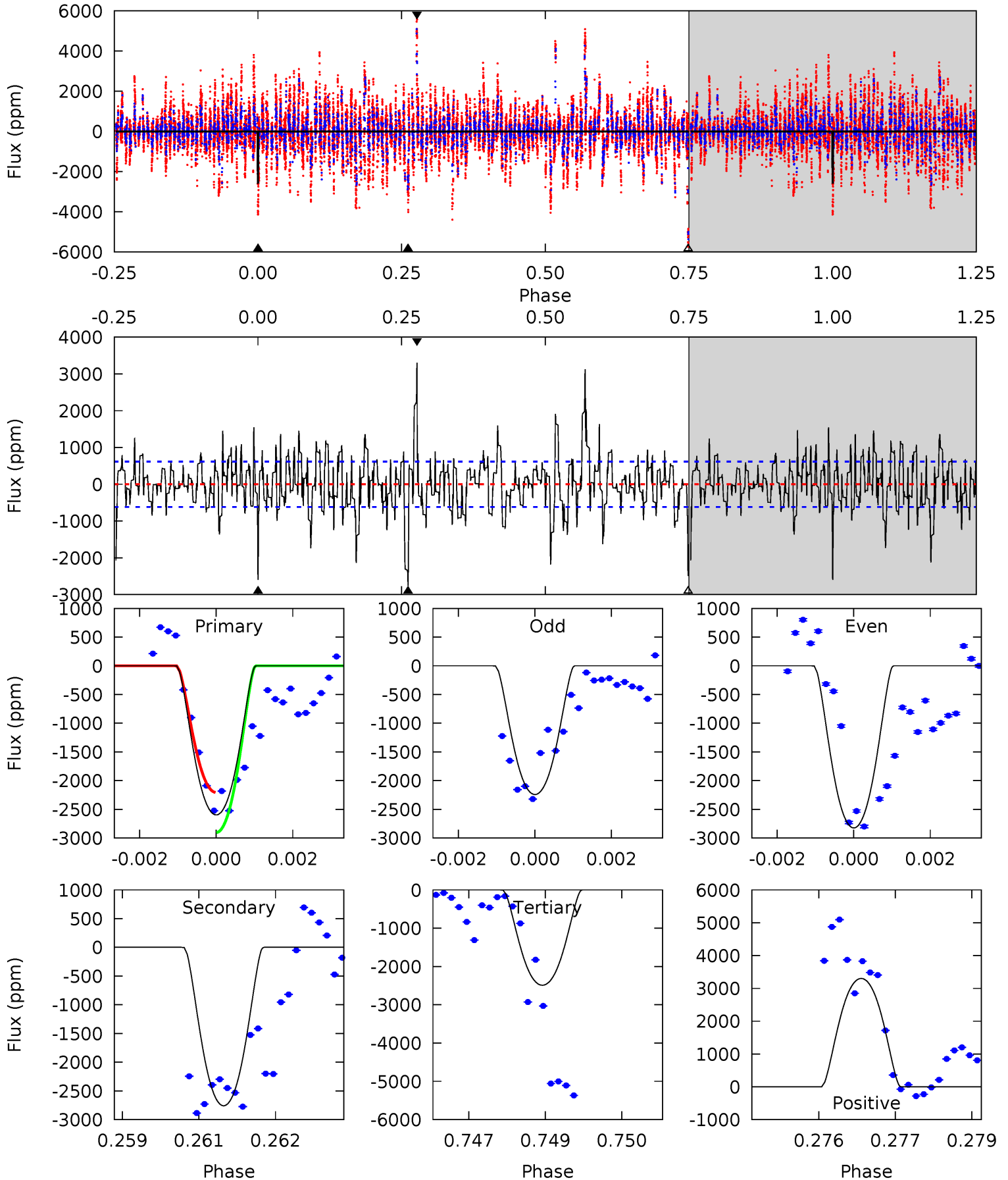
TCE 007007099-08 P=347.983527 Days $T_0=158.283100$ (BKJD)



DV Model-Shift Uniqueness Test

007007099-08, P = 347.913940 Days, E = 158.144845 Days

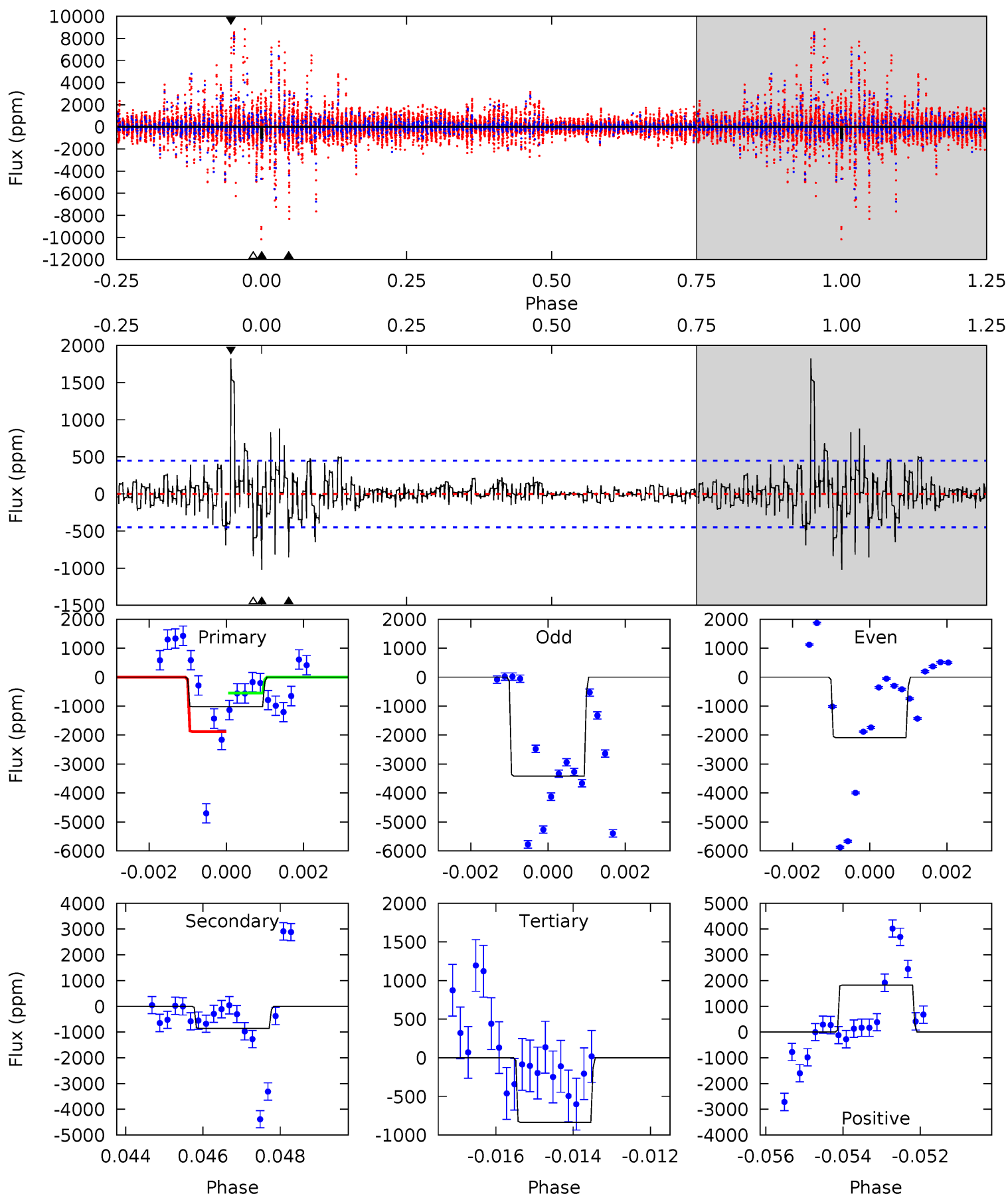
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	24.0	21.7	28.8	5.38	3.17	5.42	0.94	-6.13	2.34	-4.72	2.46	0.99	0.54	2.99



Alt Model-Shift Uniqueness Test

007007099-08, P = 347.983527 Days, E = 158.283100 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	10.1	9.95	21.7	5.33	3.09	2.12	2.18	-9.58	0.20	-11.6	7.59	1.30	0.64	7.72



Stellar Parameters For KIC 007007099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+171}_{-171}	$4.399^{+0.105}_{-0.180}$	$0.140^{+0.200}_{-0.300}$	$1.034^{+0.282}_{-0.152}$	$0.979^{+0.111}_{-0.100}$	$1.246^{+0.559}_{-0.620}$
	+3%/-3%	+2%/-4%	+143%/-214%	+27%/-15%	+11%/-10%	+45%/-50%
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 007007099-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2759 ± 115	$6.08^{+1.89}_{-1.69}$	366^{+27}_{-19}	5670^{+982}_{-624}	37792^{+36008}_{-15650}
Alt.	-853 ± 84	$5.83^{+1.76}_{-1.64}$	367^{+24}_{-20}	4477^{+709}_{-414}	12682^{+12195}_{-5253}

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

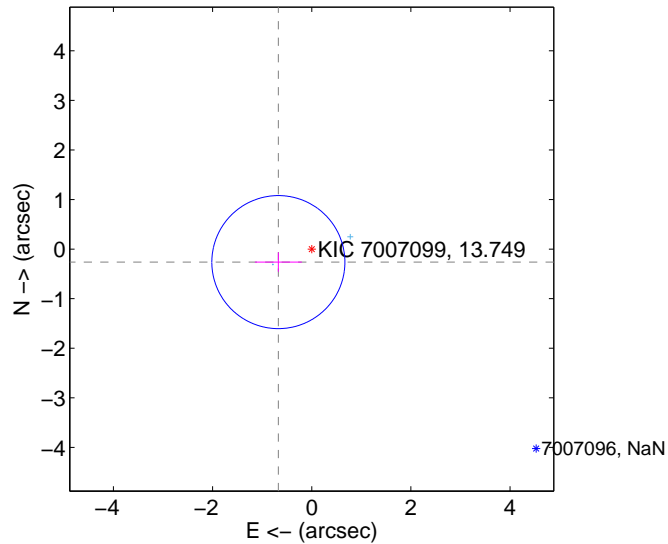
Supplemental centroid analysis for 007007099-08. Kepler magnitude: 13.75. Transit SNR 9.75

There are 2 quarters with good PRF difference image offsets

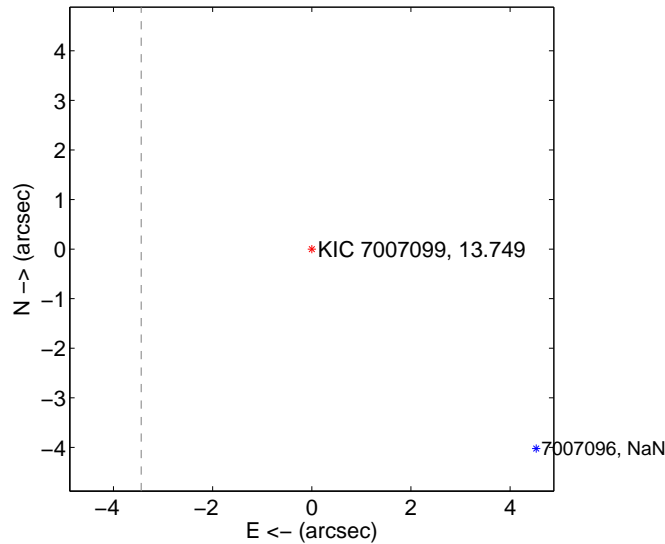
The OOT PRF centroid is offset from the target star catalog position by about 8.32 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.722 ± 0.447	1.61	0.673 ± 0.474	-0.262 ± 0.194
PRF-fit source offset from KIC position	8.511 ± 0.199	42.84	3.439 ± 0.421	-7.785 ± 0.112
photometric centroid source offset	1.32 ± 0.91	1.45	0.08 ± 0.35	-1.32 ± 0.92

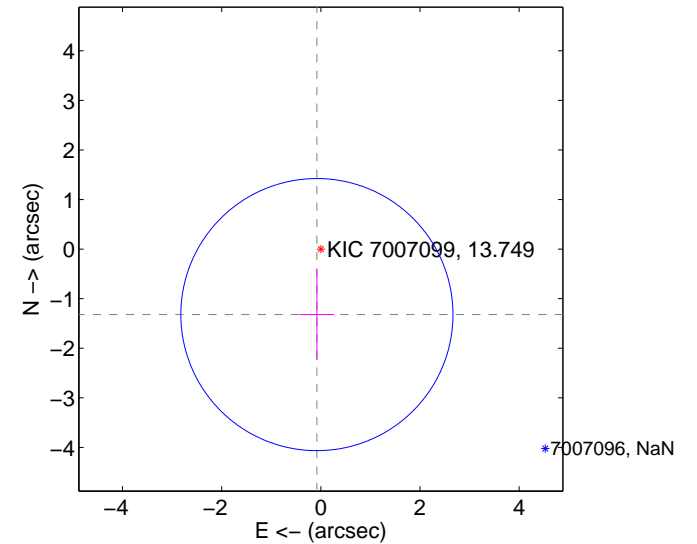
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

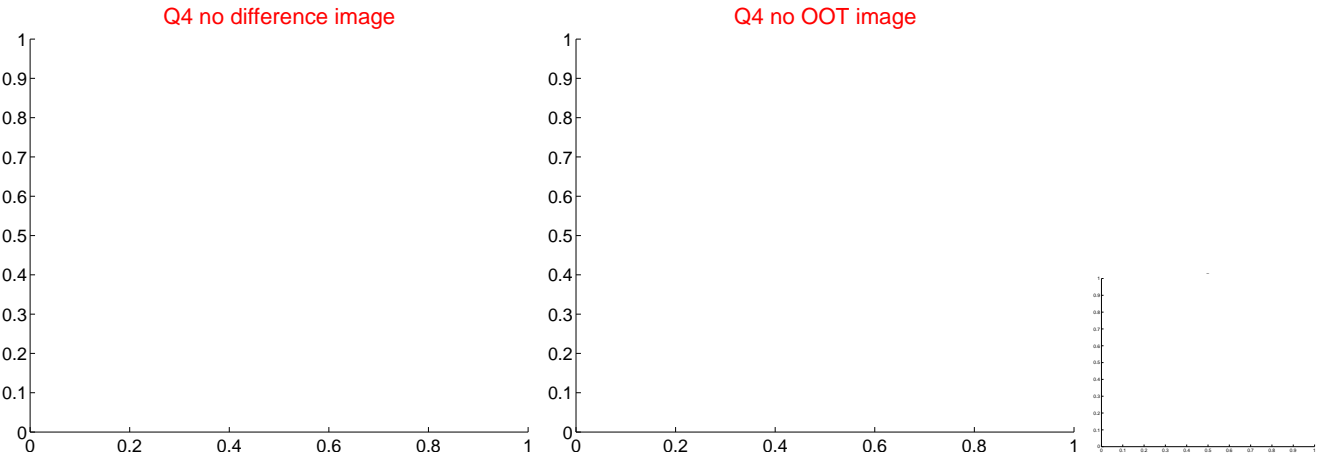
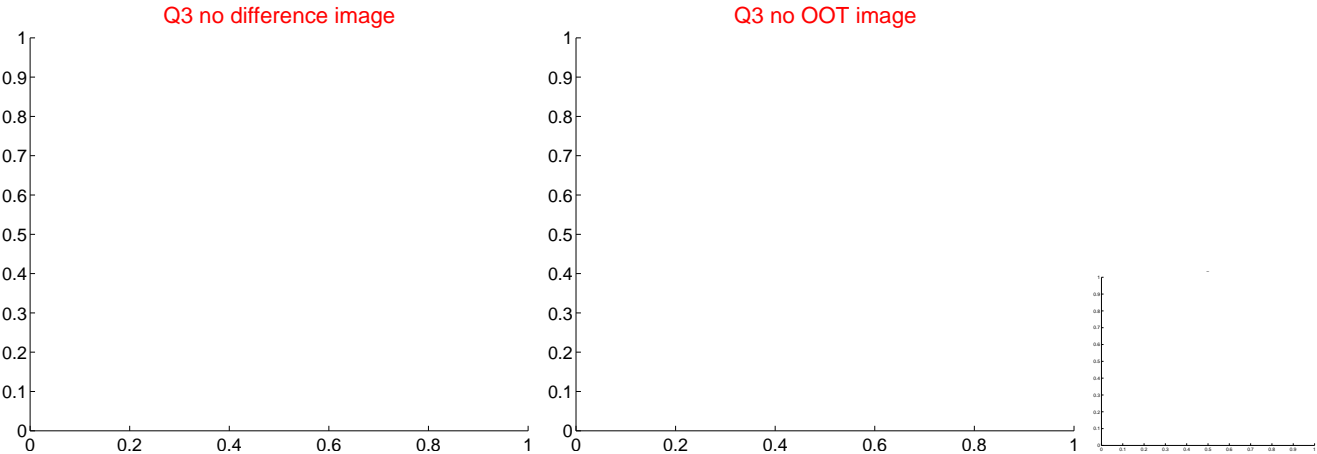
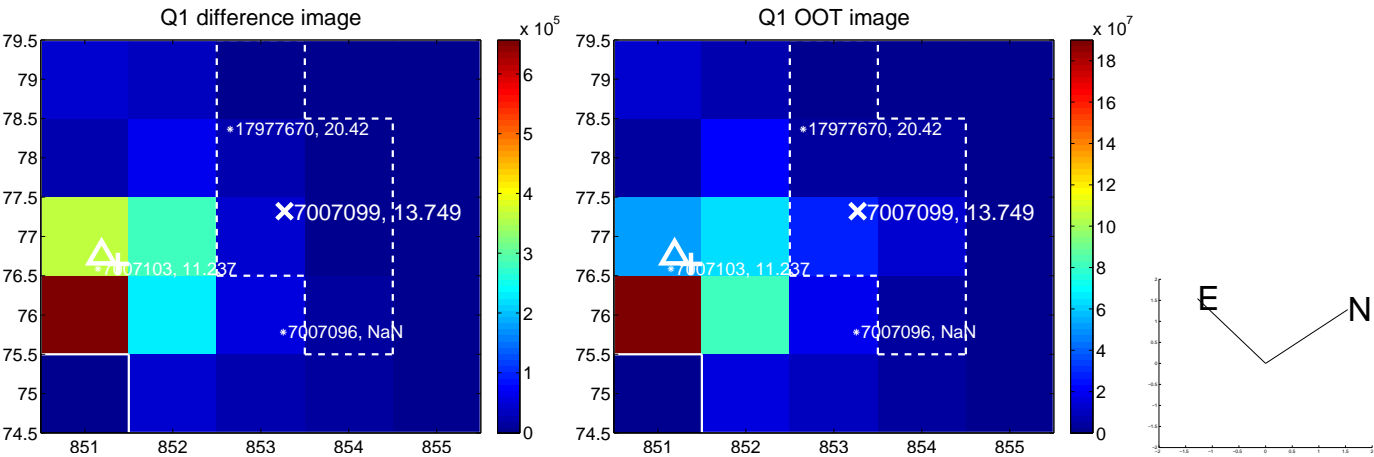


offset from photometric centroids



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.

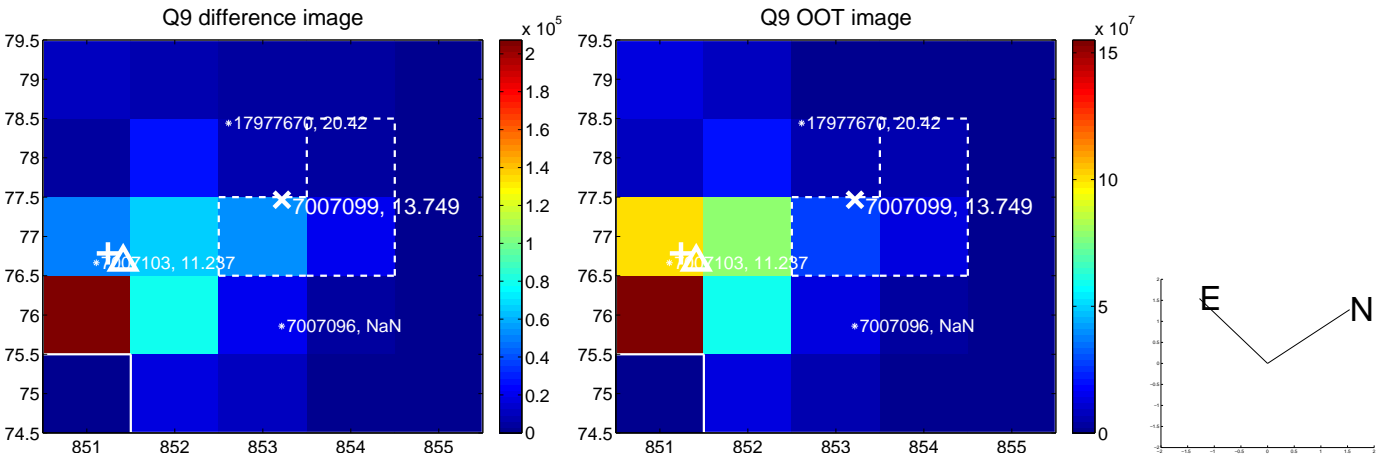
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



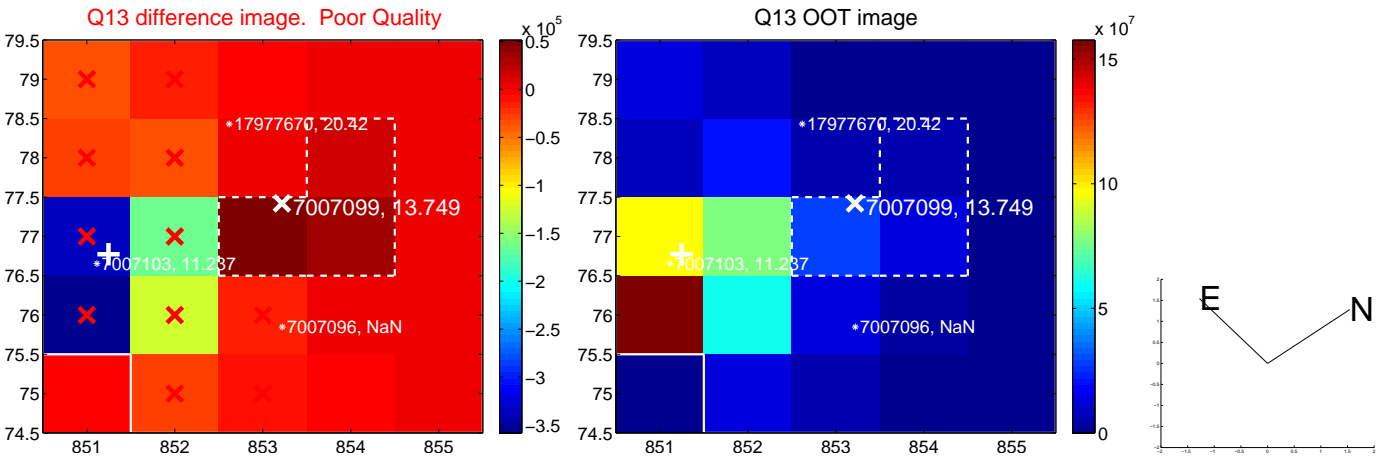
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



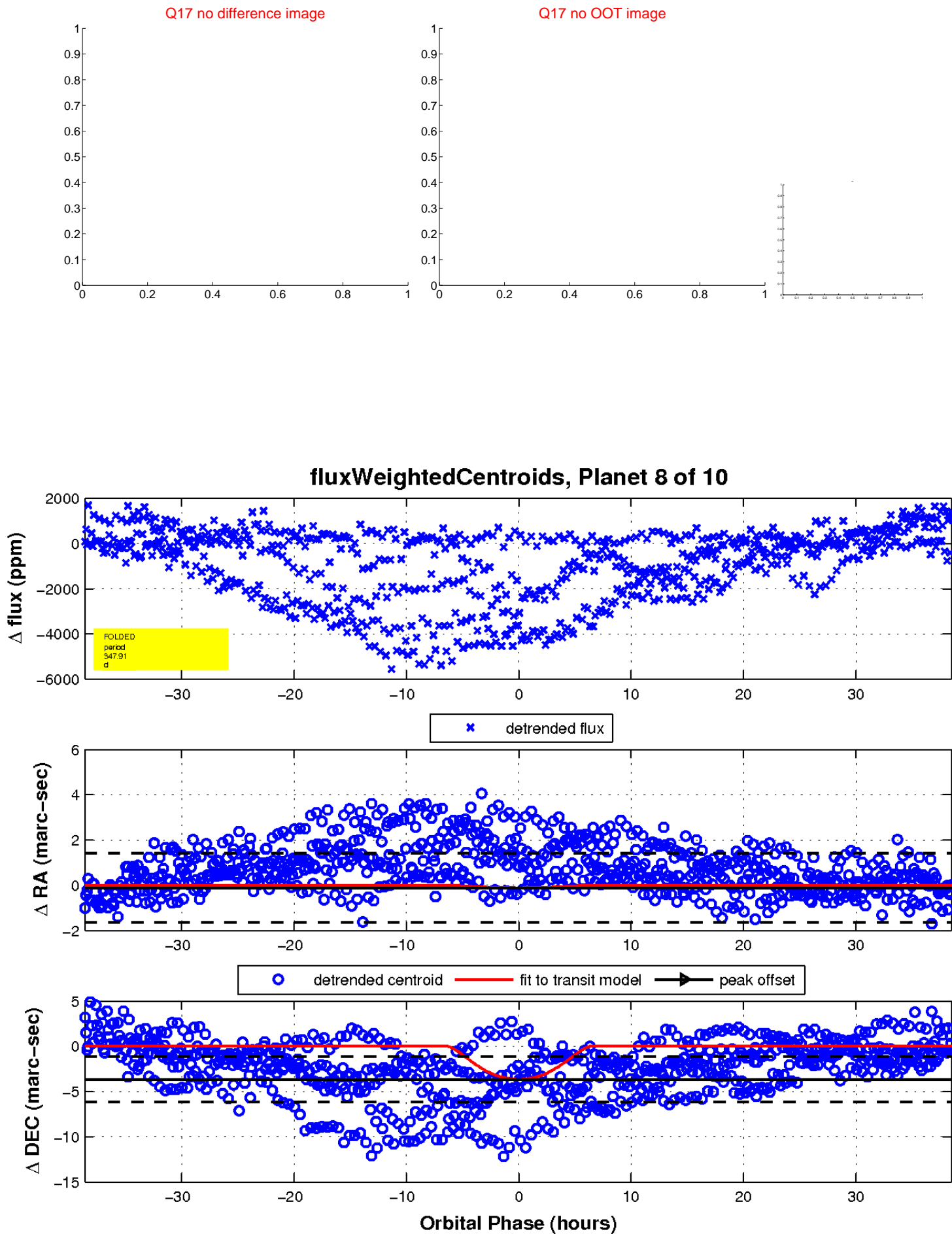
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

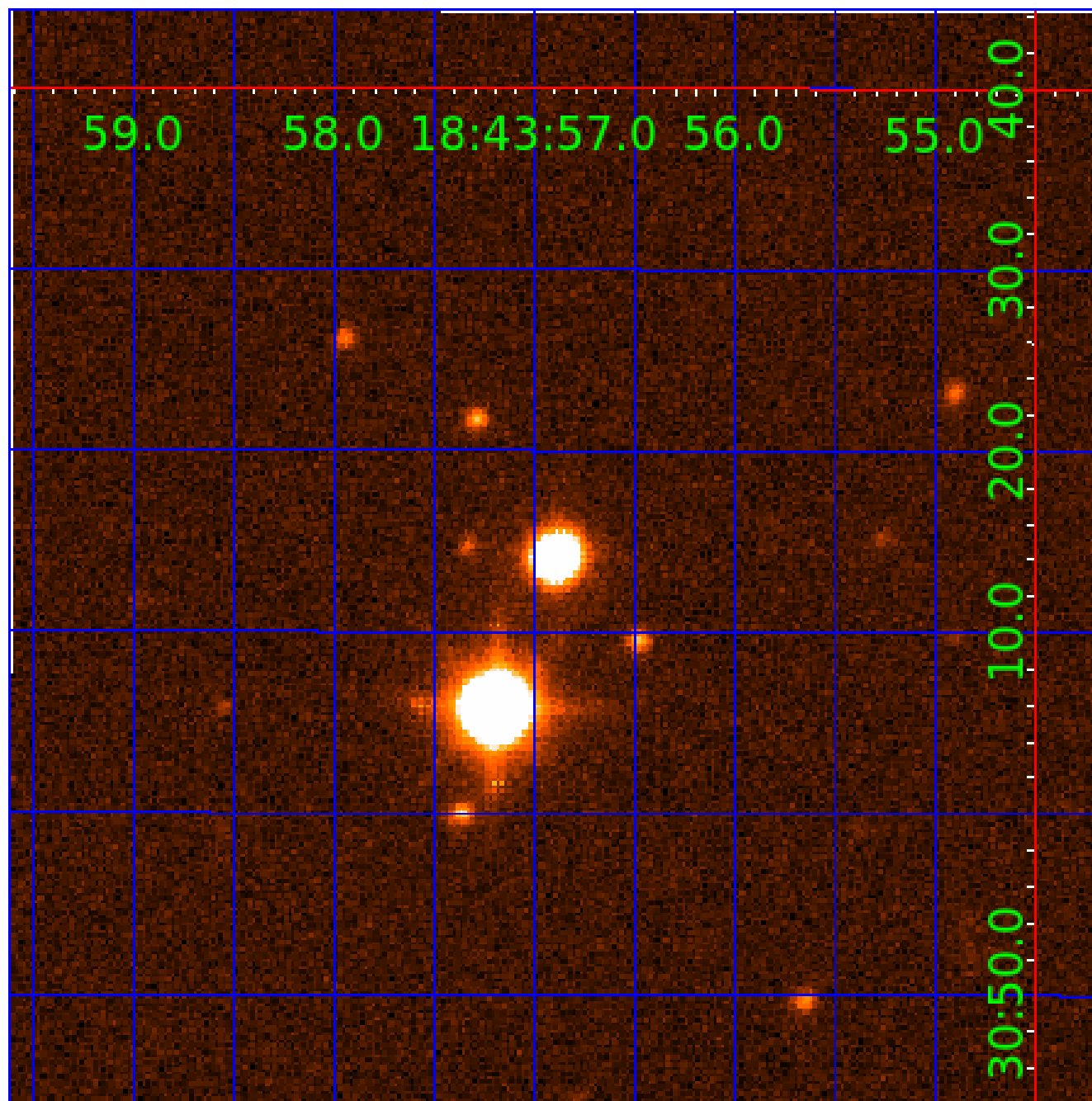


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007007099

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})
007007099-01	OBS	No	2.677749	132.655012	91.3	14.919	9.4	7.3	1.03	5671	1.04	706.08
007007099-02	OBS	No	215.273182	150.416273	1952.8	9.794	19.2	9.1	1.03	5671	4.66	2.04
007007099-03	OBS	No	481.990984	358.651354	1587.8	7.329	16.1	10.5	1.03	5671	4.92	0.69
007007099-06	OBS	No	404.449444	514.215166	2694.8	13.795	13.8	13.4	1.03	5671	6.74	0.88
007007099-07	OBS	No	591.713802	147.074944	2929.0	16.613	12.9	10.3	1.03	5671	10.61	0.53
007007099-08	OBS	No	347.913940	158.144845	1804.6	12.869	12.4	9.8	1.03	5671	6.00	1.07
007007099-09	OBS	No	562.331529	136.398872	741.6	3.310	12.4	5.8	1.03	5671	3.23	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007007099-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
007007099-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007007099-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007007099-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007007099-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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

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

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

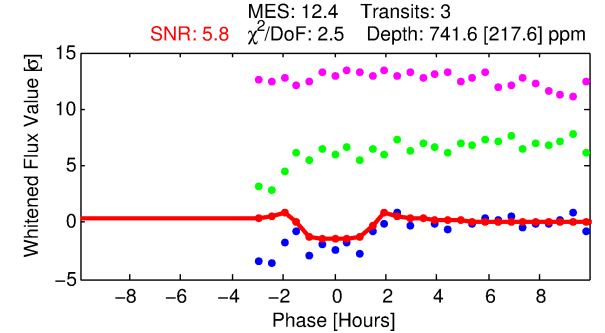
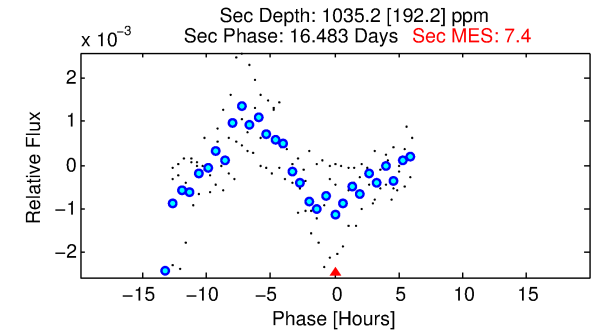
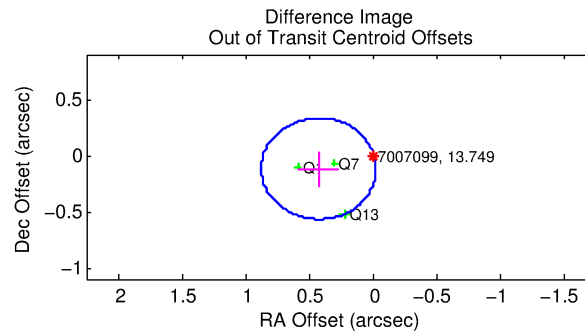
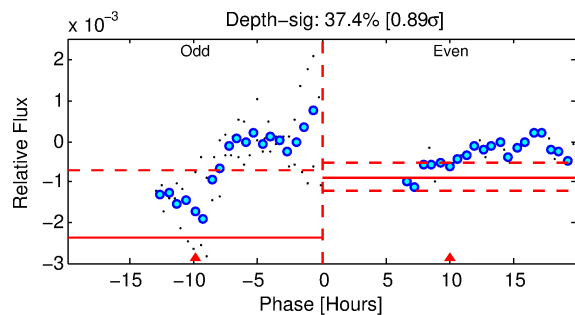
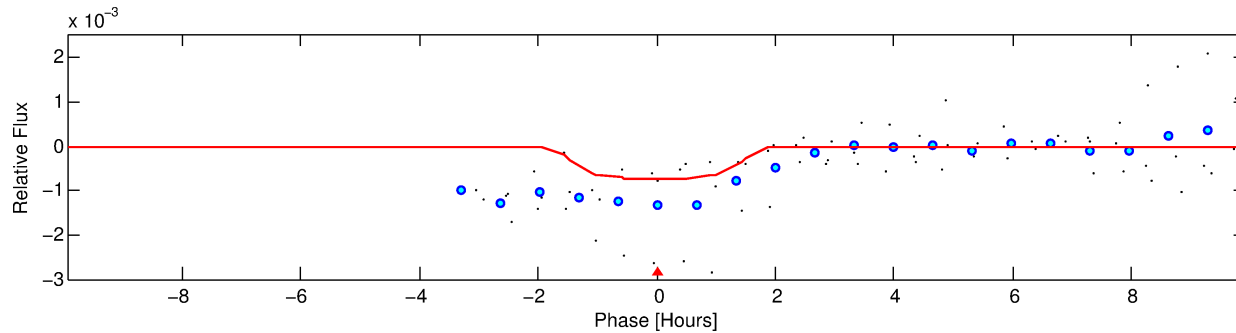
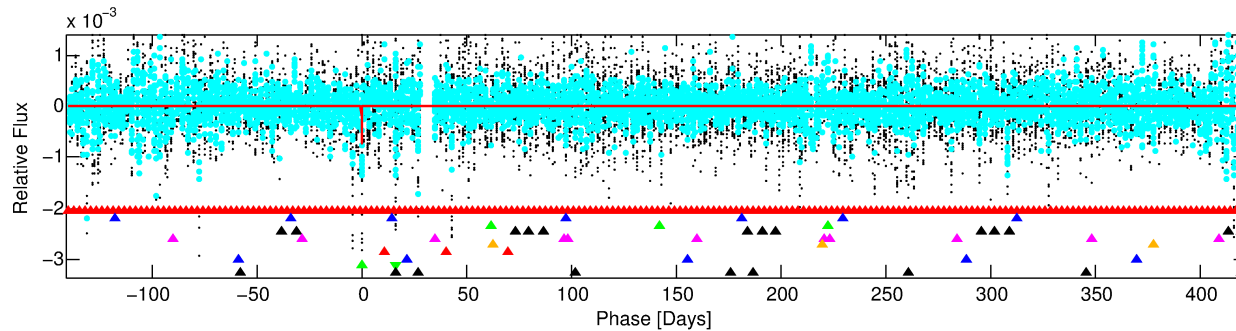
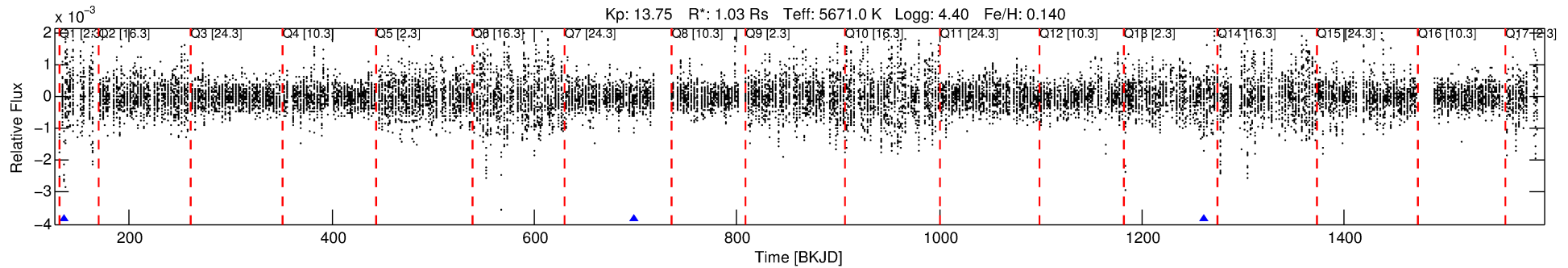
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007007099-09

No Significant Match Found

DV One-Page Summary

KIC: 7007099 Candidate: 9 of 10 Period: 562.332 d



DV Fit Results:

Period = 562.33153 [0.00968] d
Epoch = 136.3989 [0.0127] BKJD
Rp/R* = 0.0286 [0.1001]
a/R* = 748.70 [11438.84]
b = 0.85 [5.04]
Seff = 0.57 [0.20]
Teq = 221 [19] K
Rp = 3.23 [11.33] Re
a = 1.3234 [0.3022] AU
Ag = 95471.83 [668026.11] [0.14 σ]
Teff = 6010 [10503] K [0.55 σ]

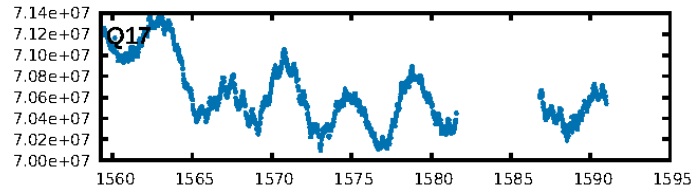
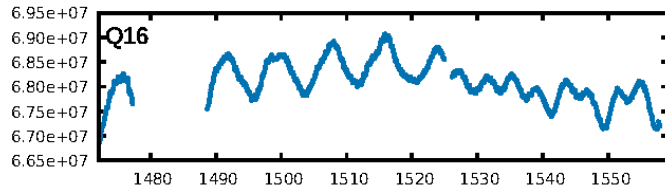
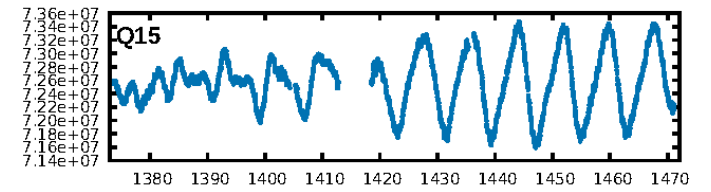
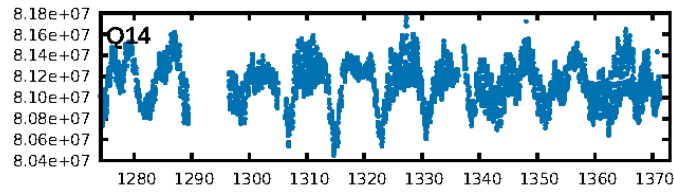
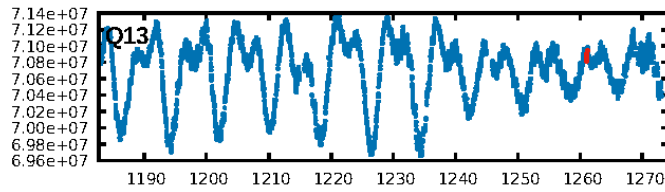
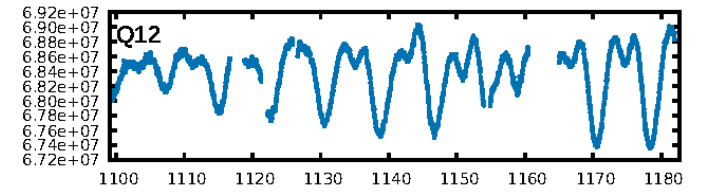
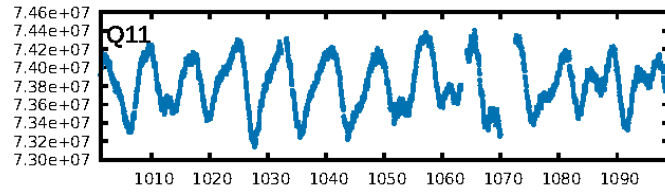
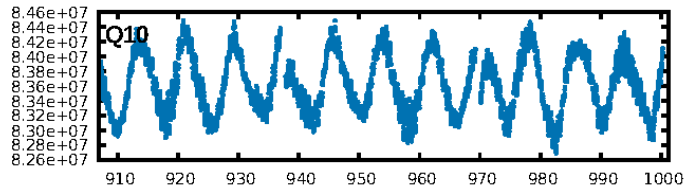
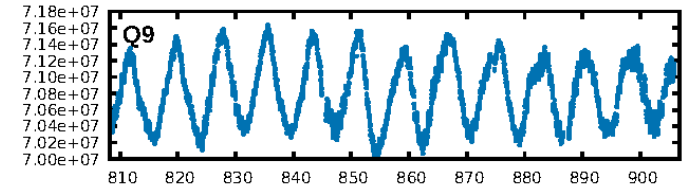
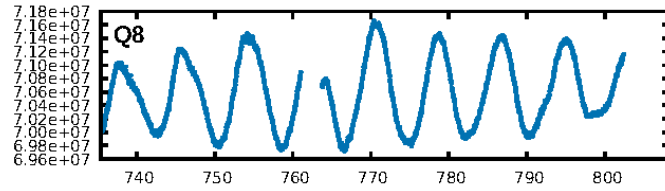
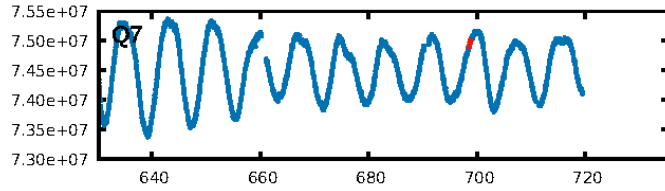
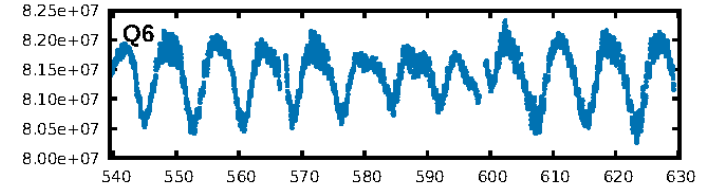
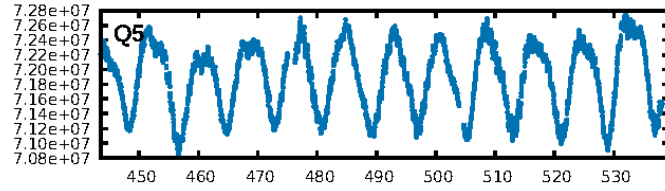
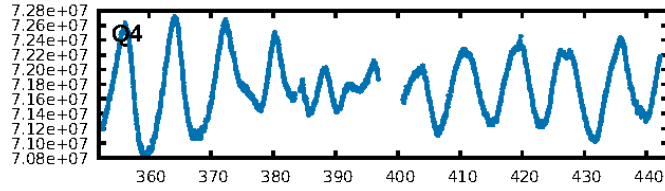
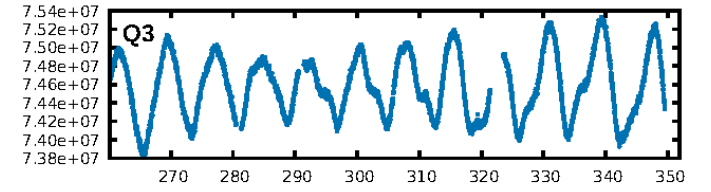
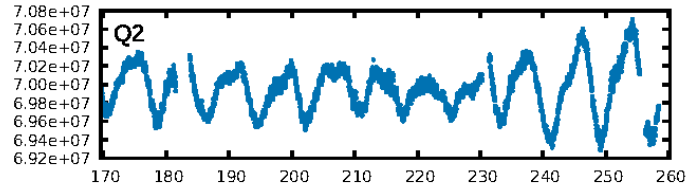
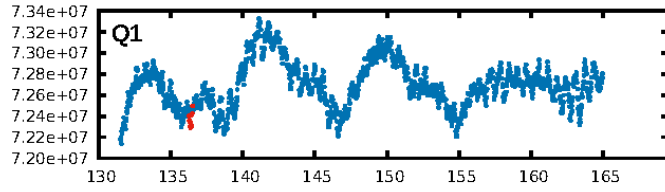
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [239.78 σ]
LongPeriod-sig: 100.0% [41.63 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 13.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -1.599
Centroid-sig: 23.0%
Centroid-so: 2.883 arcsec [2.21 σ]
OotOffset-rm: 0.440 arcsec [2.93 σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-rm: 8.669 arcsec [37.73 σ]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

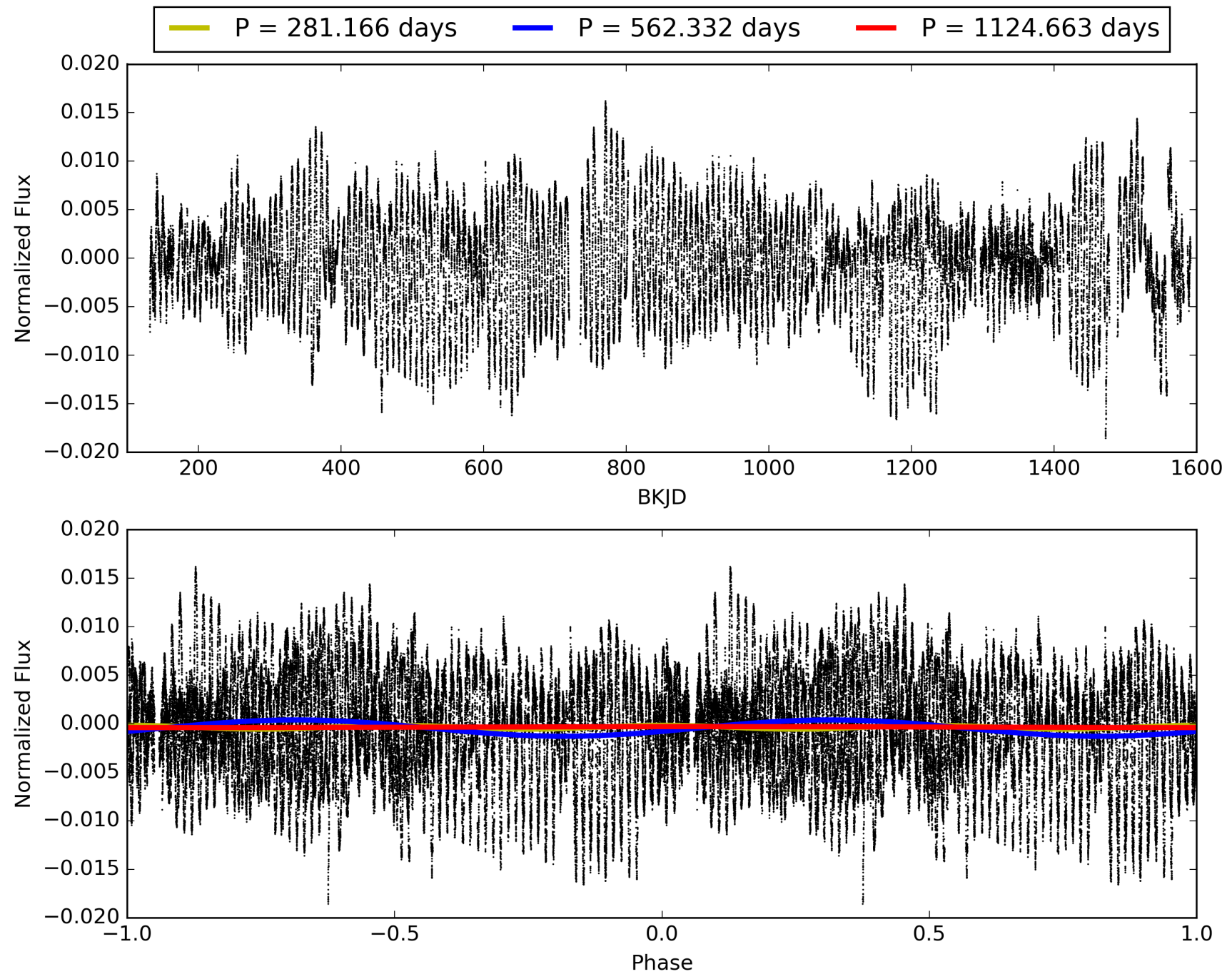
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:31:02 Z

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

TCE 007007099-09, PDC Light Curves

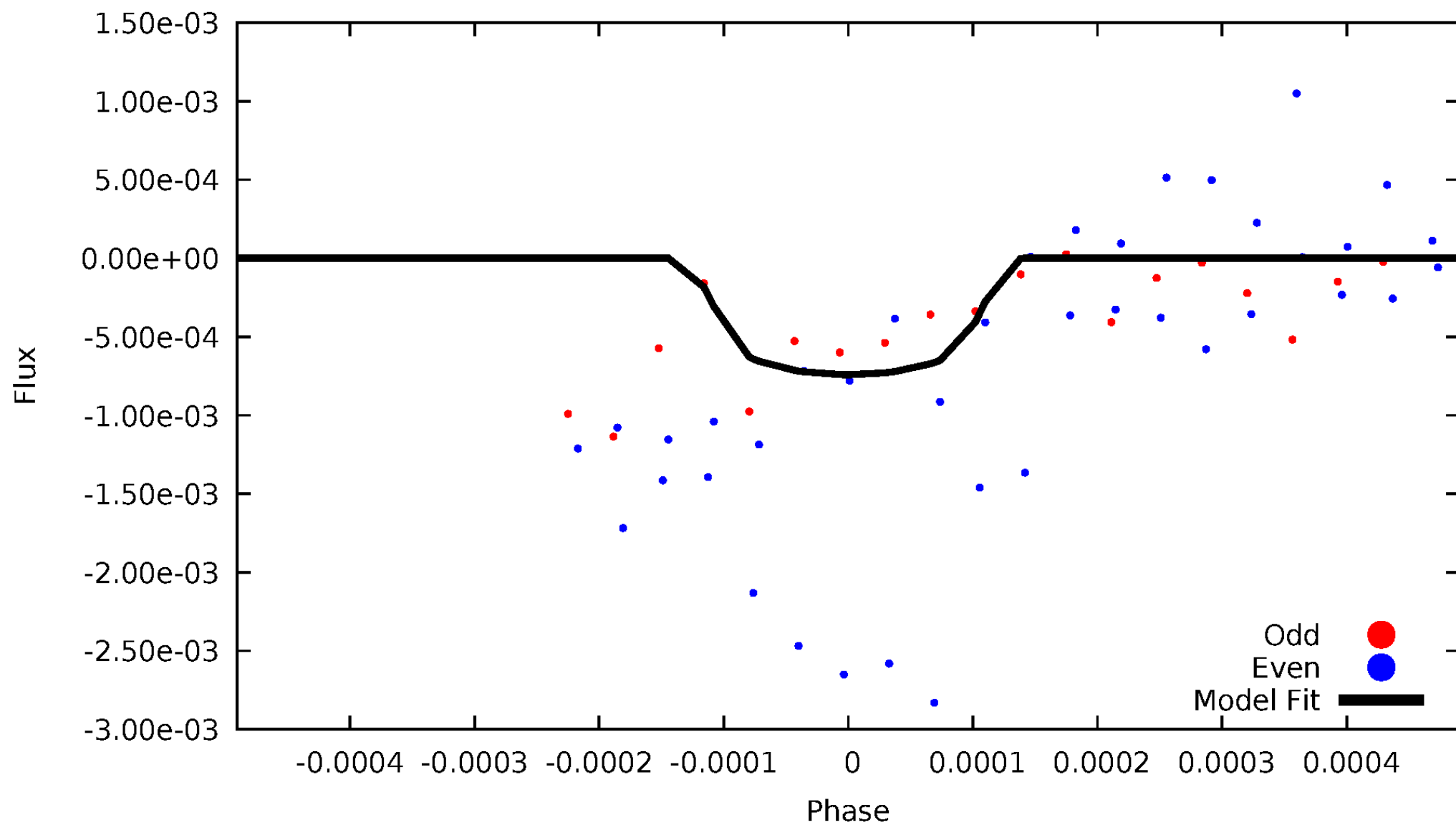


TCE 007007099-09



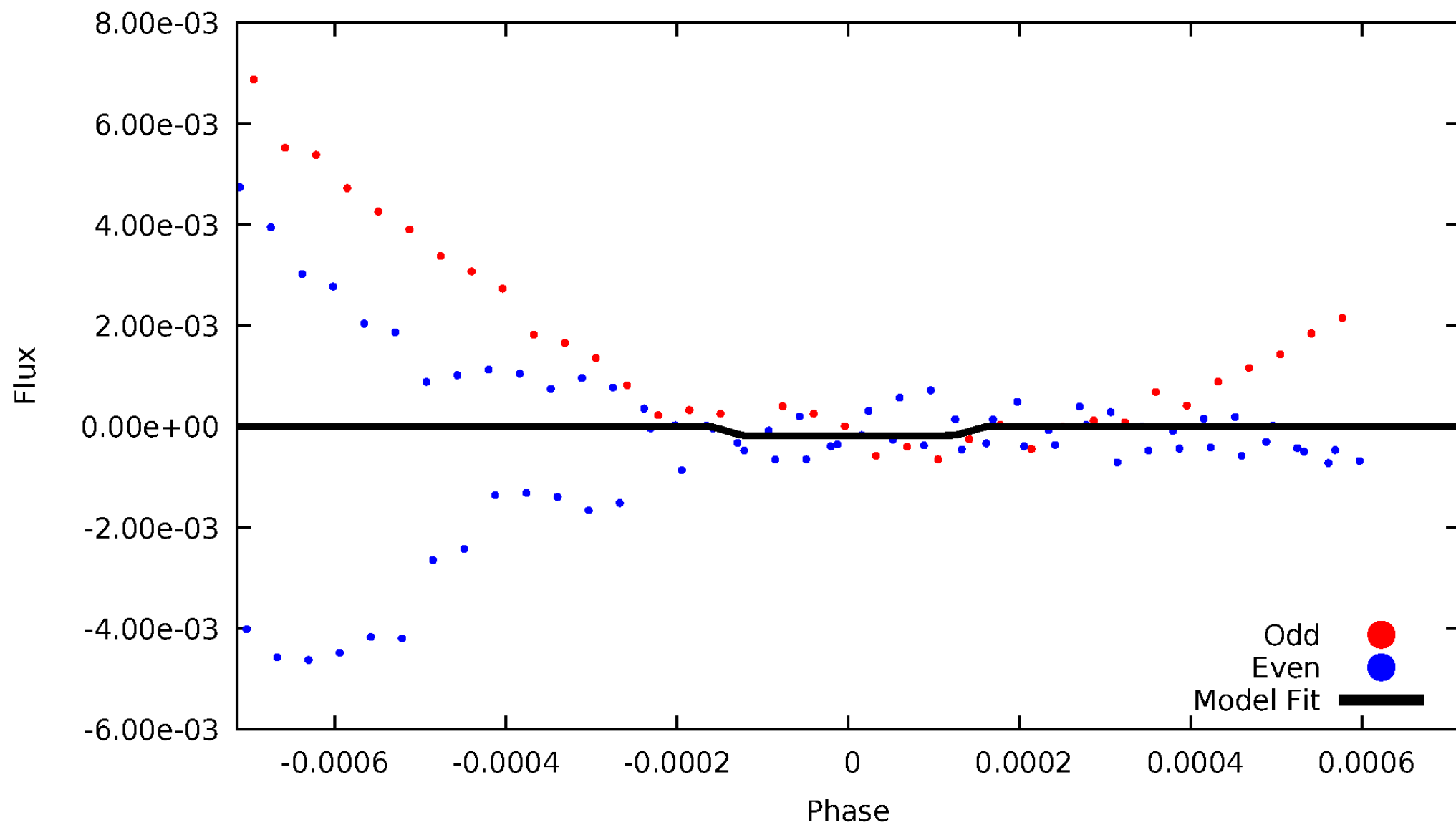
DV Odd/Even

TCE 007007099-09



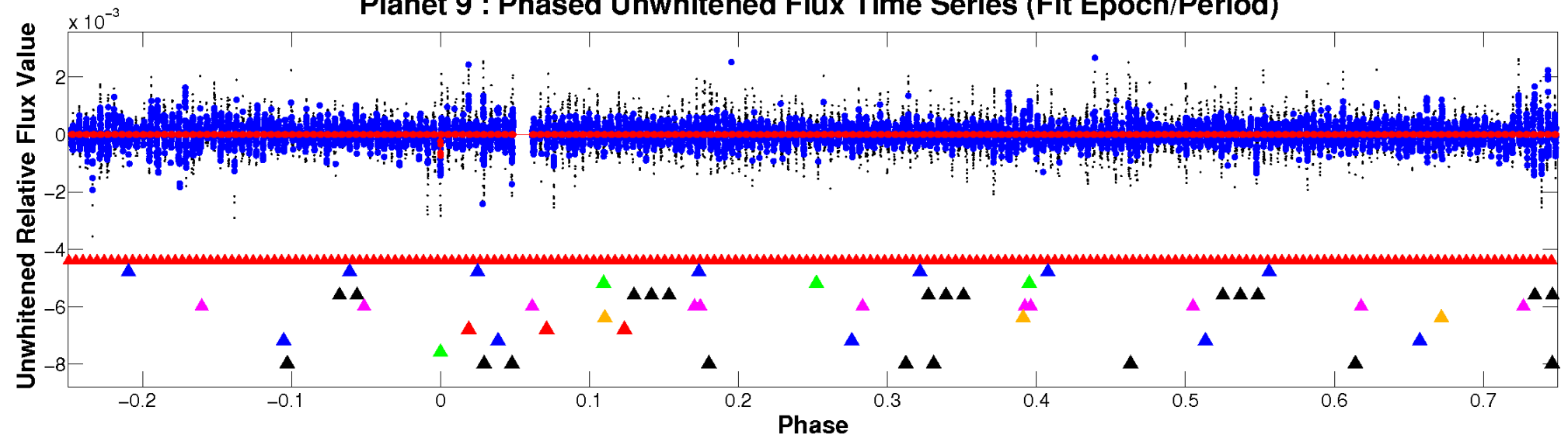
ALT Odd/Even

TCE 007007099-09

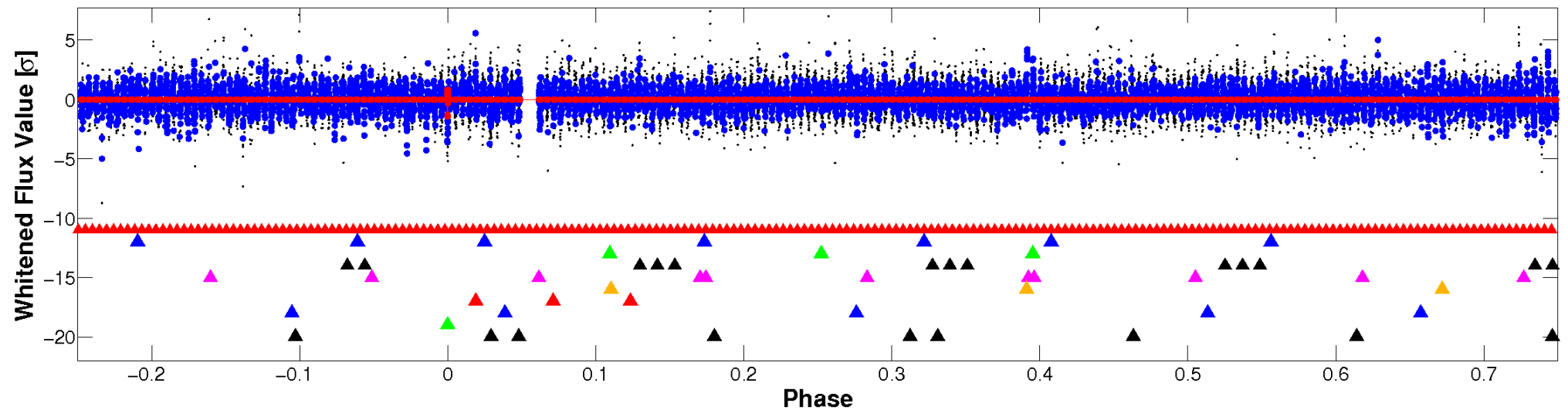


Non-Whitened Vs. Whitened Light Curve

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

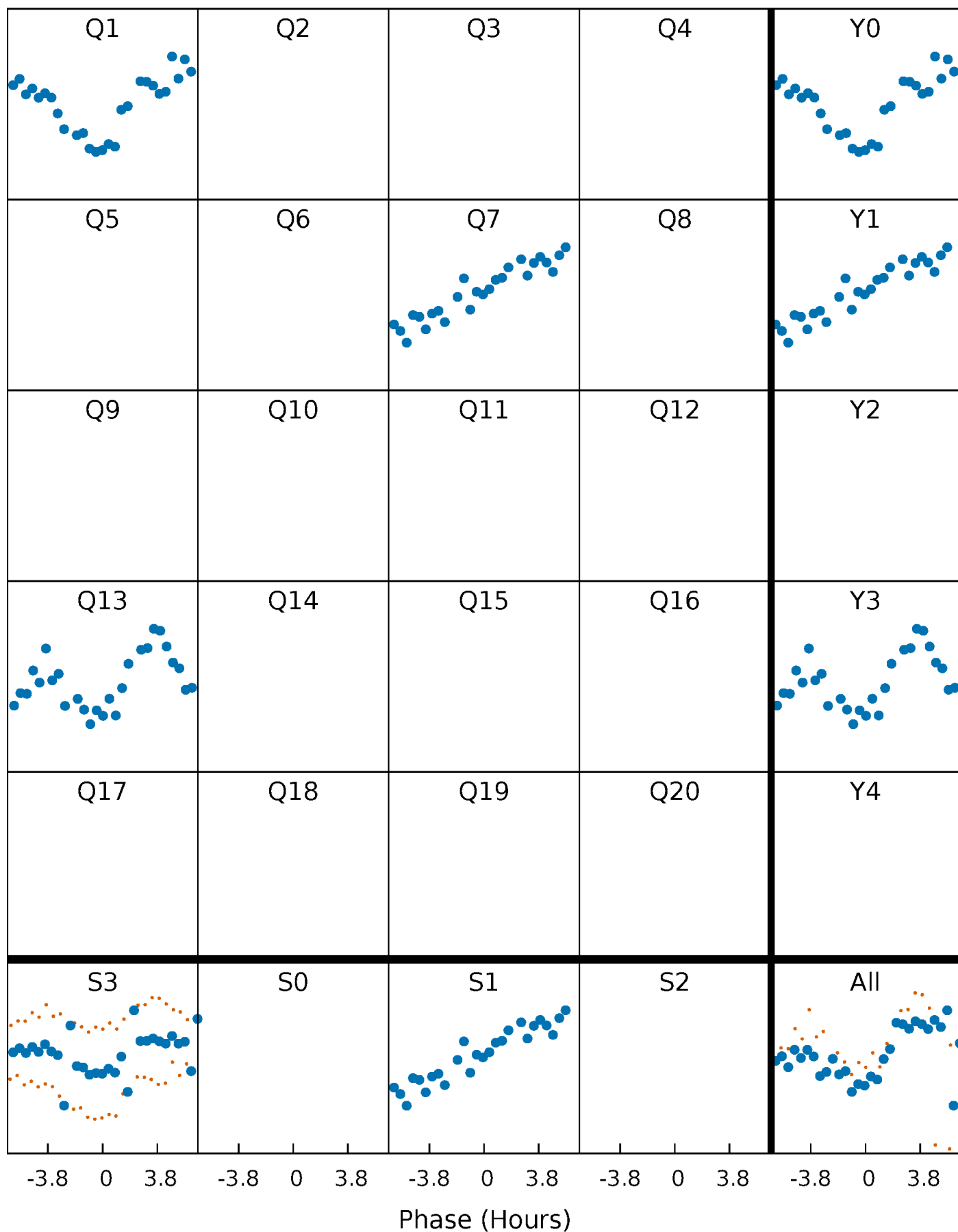


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



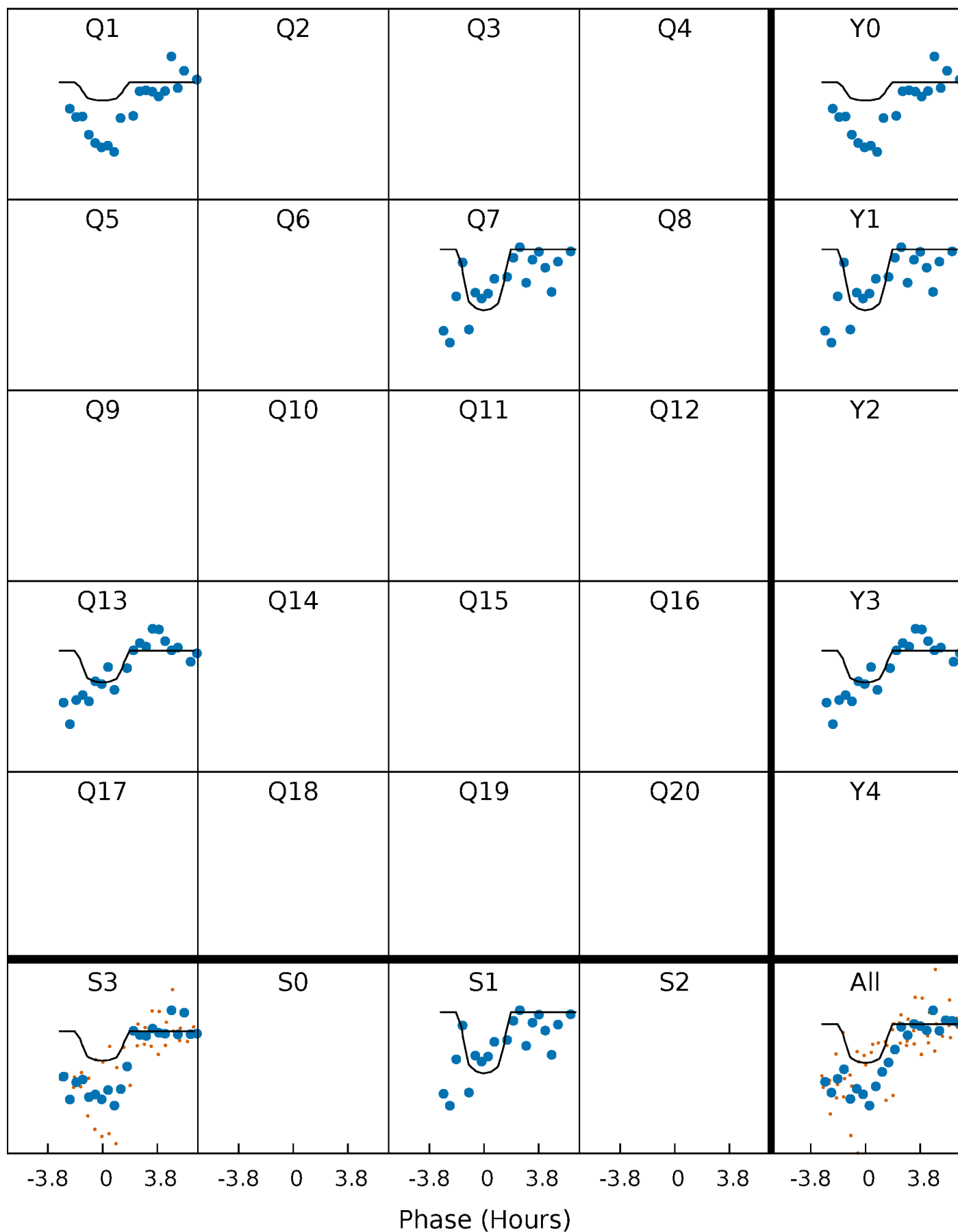
PDC Quarter-Phased Transit Curves

TCE 007007099-09 P=562.331529 Days $T_0=136.398872$ (BKJD)



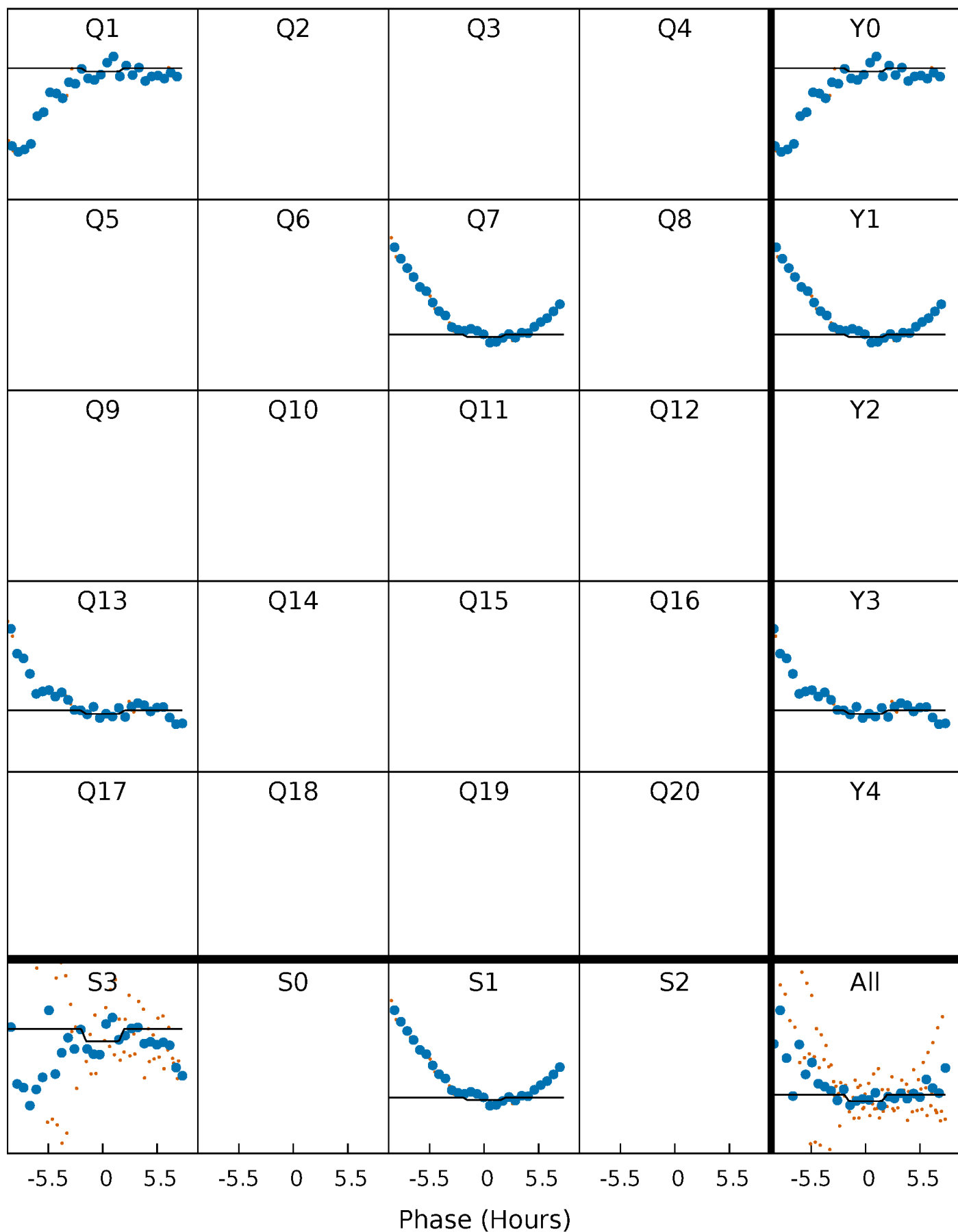
DV Quarter-Phased Transit Curves

TCE 007007099-09 P=562.331529 Days $T_0=136.398872$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

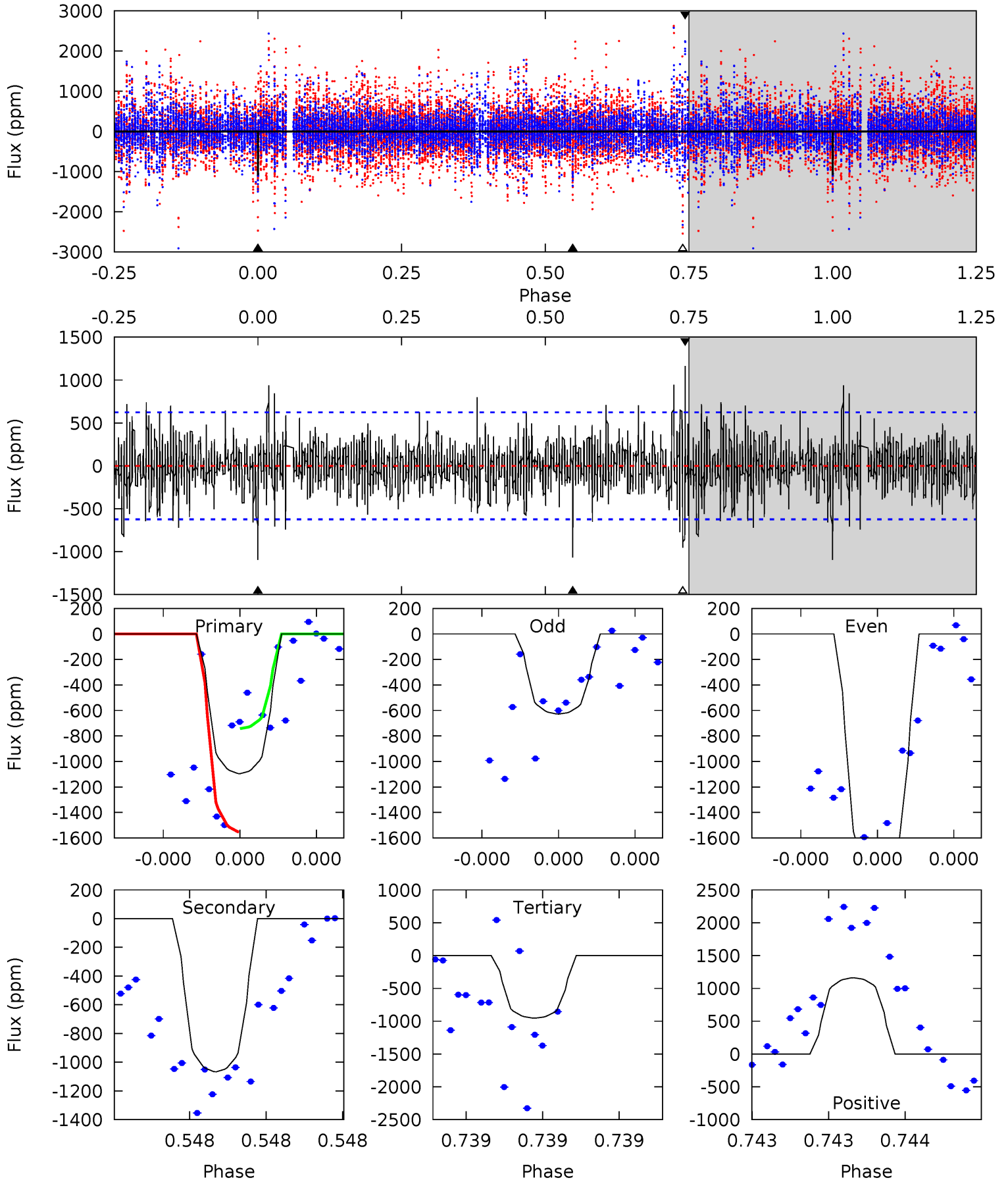
TCE 007007099-09 $P=562.324760$ Days $T_0=136.730988$ (BKJD)



DV Model-Shift Uniqueness Test

007007099-09, P = 562.331529 Days, E = 136.398872 Days

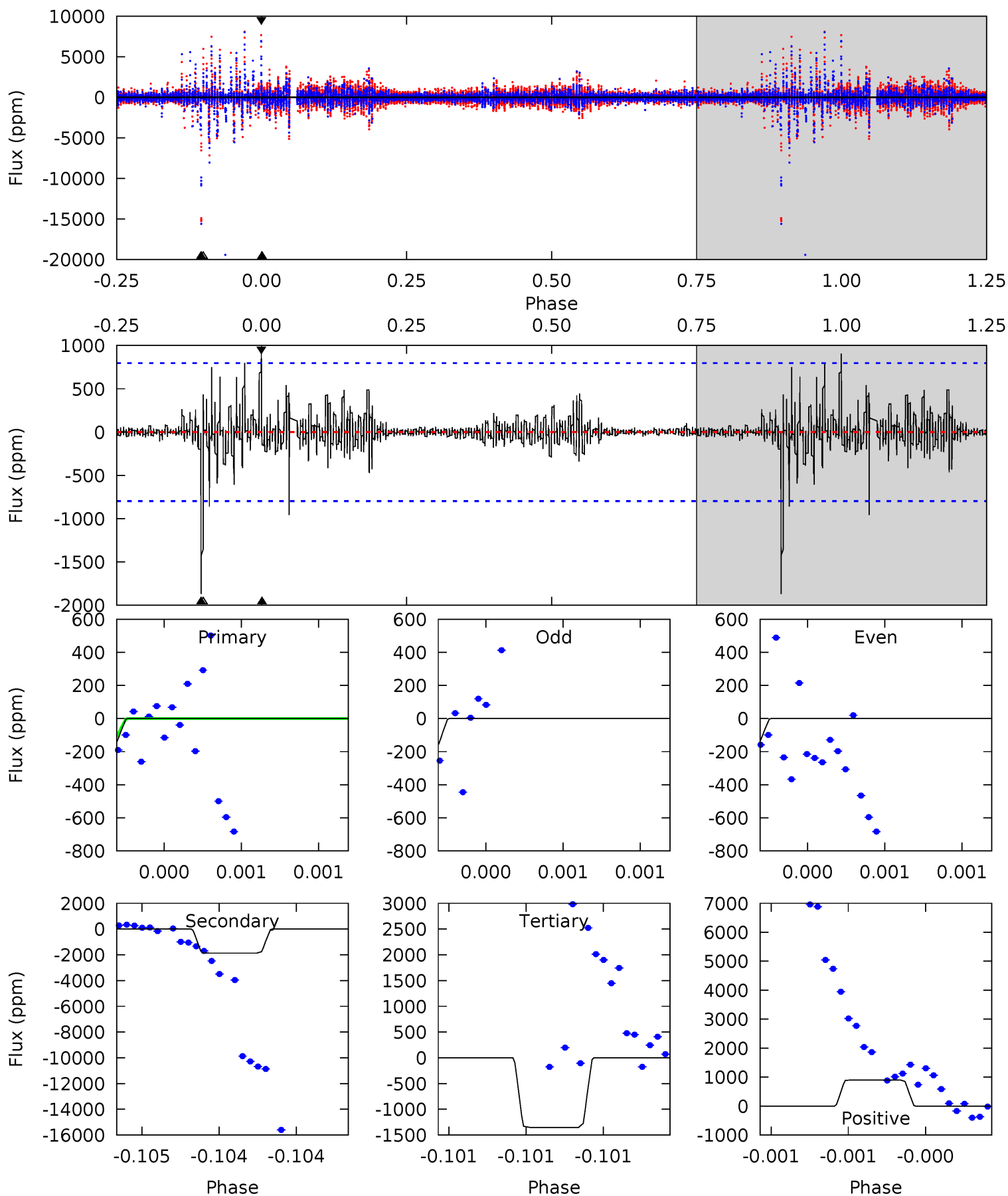
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.00	9.74	8.71	10.6	5.69	3.66	1.88	1.29	-0.60	1.03	-0.86	5.33	1.58	0.51	3.80



Alt Model-Shift Uniqueness Test

007007099-09, P = 562.324760 Days, E = 136.730988 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.04	13.3	9.60	6.41	5.65	3.60	0.79	-8.56	-5.38	3.65	6.84	0.07	0.91	0.33	0.25



Stellar Parameters For KIC 007007099

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+171}_{-171}	$4.399^{+0.105}_{-0.180}$	$0.140^{+0.200}_{-0.300}$	$1.034^{+0.282}_{-0.152}$	$0.979^{+0.111}_{-0.100}$	$1.246^{+0.559}_{-0.620}$
	+3%/-3%	+2%/-4%	+143%/-214%	+27%/-15%	+11%/-10%	+45%/-50%
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 007007099-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1067 ± 110	$8.95^{+9.44}_{-6.09}$	312^{+22}_{-18}	3966^{+2480}_{-770}	$12797^{+115073}_{-9730}$
Alt.	-1869 ± 141	$8.29^{+8.64}_{-5.74}$	311^{+22}_{-18}	4591^{+3638}_{-1056}	$26817^{+235922}_{-20555}$

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

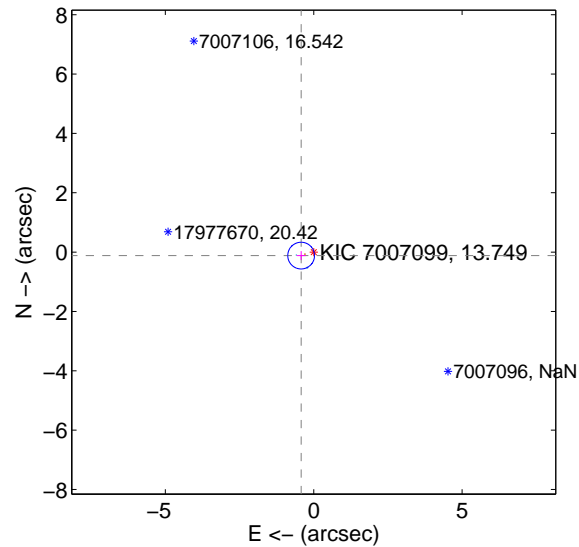
Supplemental centroid analysis for 007007099-09. Kepler magnitude: 13.75. Transit SNR 5.81

There are 2 quarters with good PRF difference image offsets

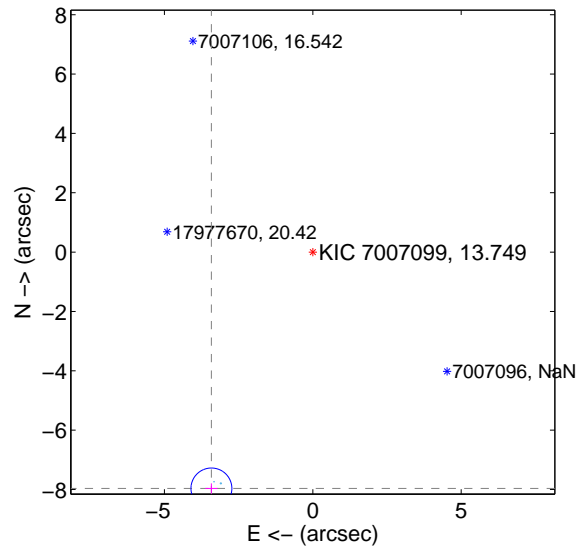
The OOT PRF centroid is offset from the target star catalog position by about 7.82 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.440 ± 0.150	2.93	0.424 ± 0.150	-0.118 ± 0.149
PRF-fit source offset from KIC position	8.669 ± 0.230	37.73	3.417 ± 0.205	-7.967 ± 0.172
photometric centroid source offset	2.88 ± 1.30	2.21	-0.71 ± 0.72	-2.79 ± 1.33

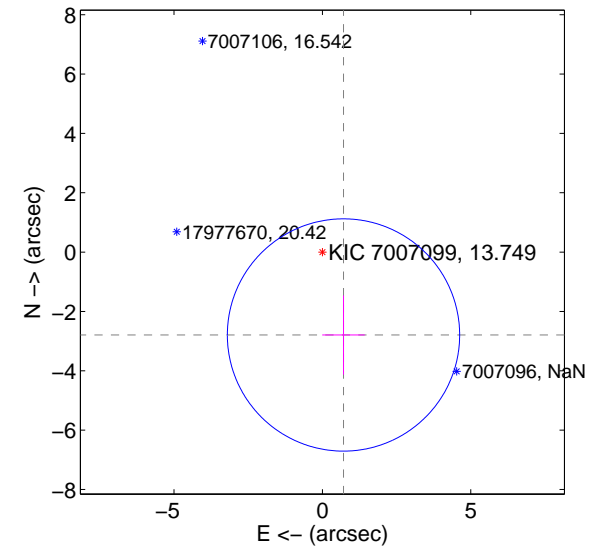
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

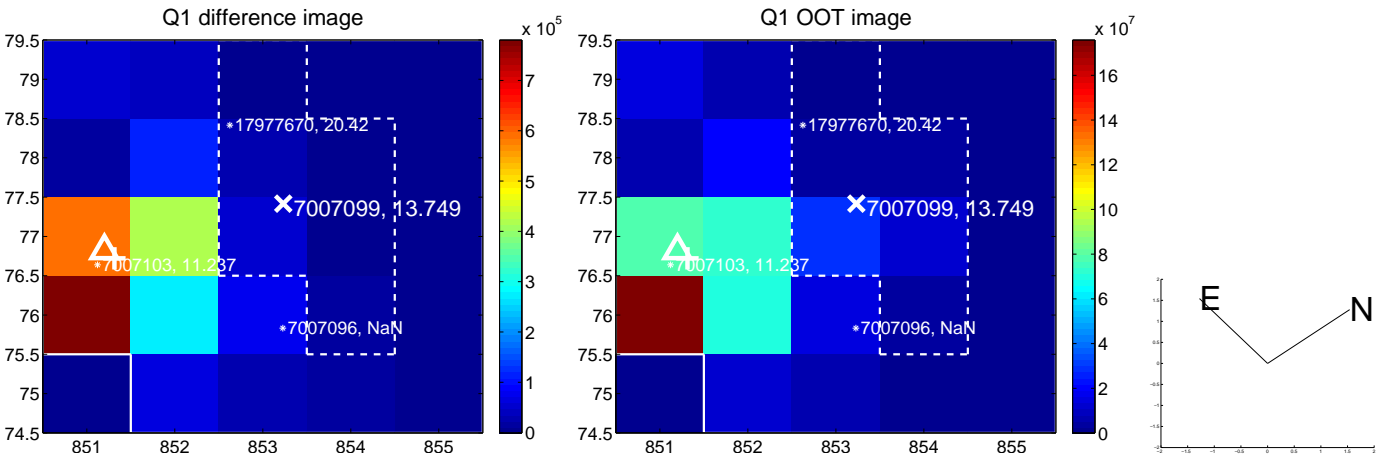


offset from photometric centroids



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



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

Q5 no difference image



Q5 no OOT image



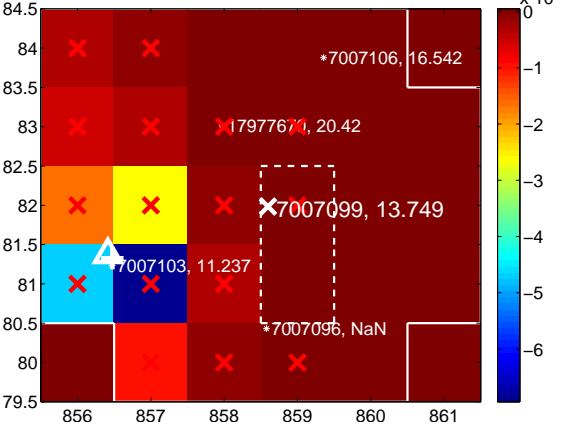
Q6 no difference image



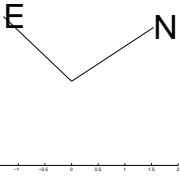
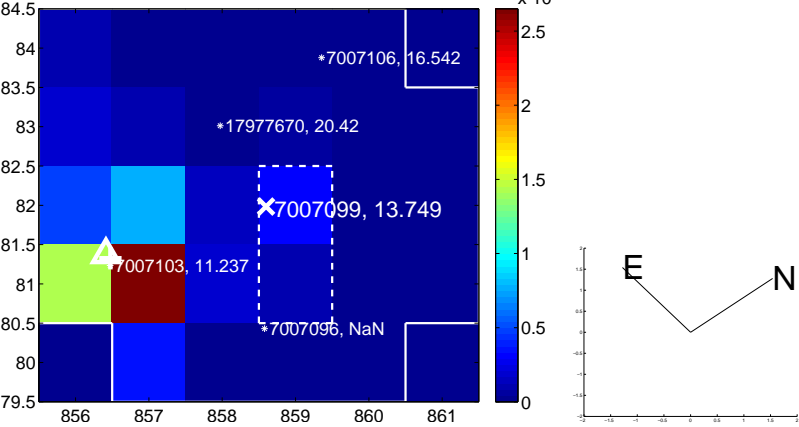
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



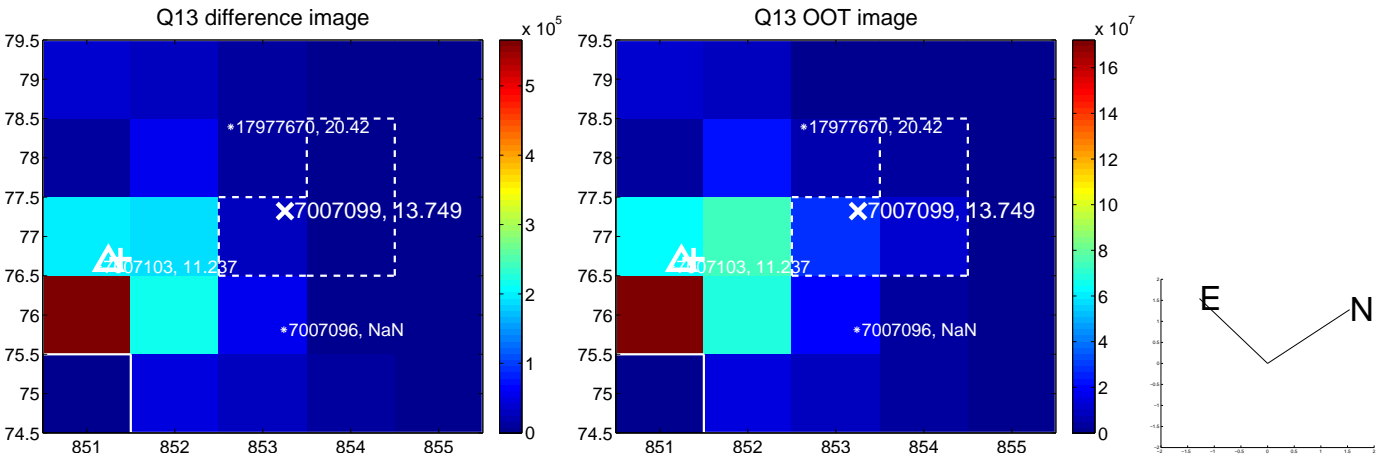
Q8 no OOT image



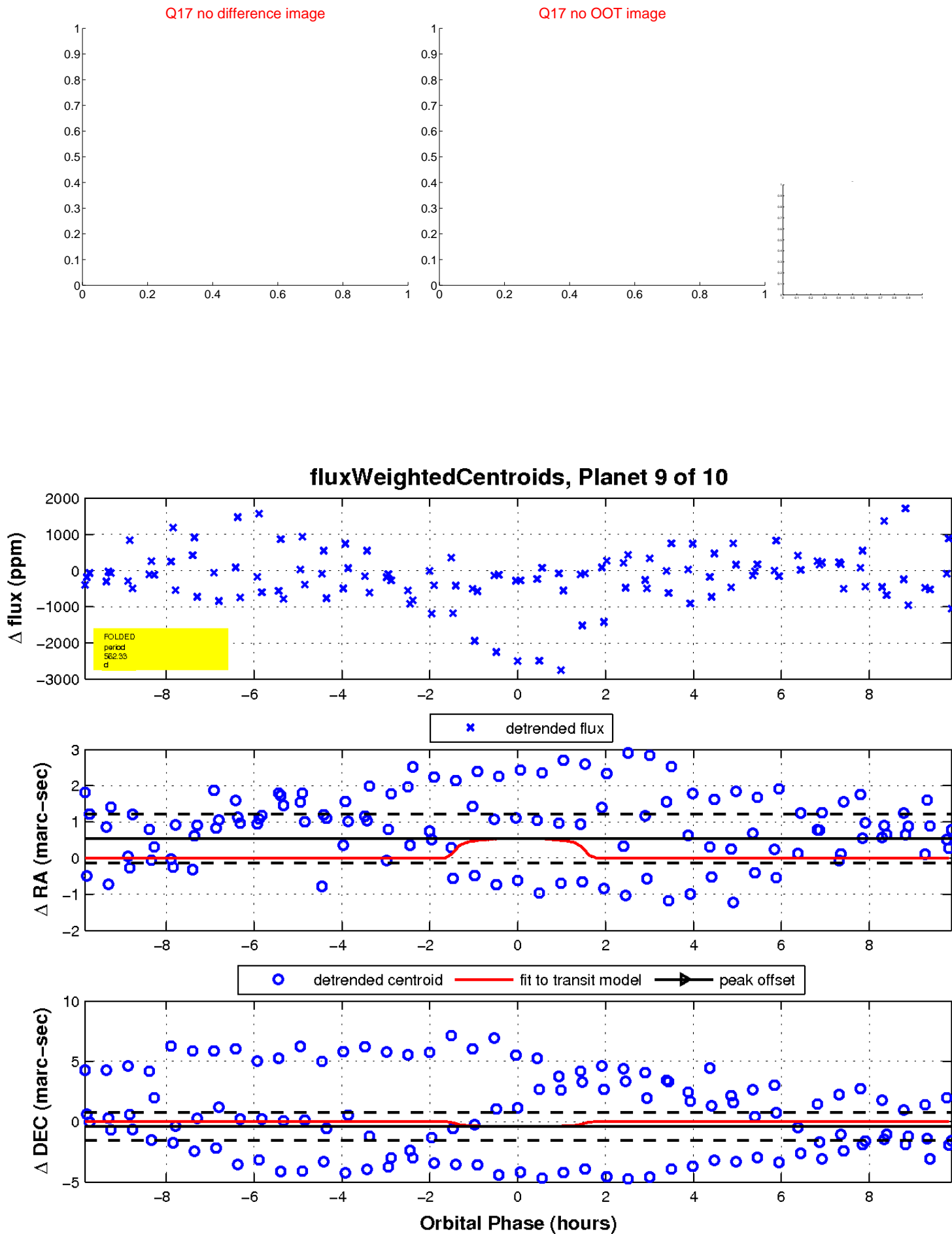
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

