

KIC 008074287

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})
008074287-01	OBS	No	399.546035	376.523954	897.4	2.827	15.6	6.7	0.93	5720	2.96	0.82
008074287-02	OBS	No	339.081514	459.593656	1126.1	2.884	15.1	5.8	0.93	5720	3.19	1.02
008074287-03	OBS	No	562.591133	262.239637	1174.2	3.697	13.1	6.3	0.93	5720	3.21	0.52
008074287-04	OBS	No	440.096002	194.770233	1030.0	3.716	14.9	6.4	0.93	5720	3.11	0.72
008074287-05	OBS	No	379.640847	420.075550	1274.8	2.393	13.6	6.6	0.93	5720	3.30	0.88
008074287-06	OBS	No	357.410209	379.015895	673.8	7.500	11.3	-1.0	0.93	5720	2.39	0.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008074287-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS
008074287-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008074287-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-04	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
008074287-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

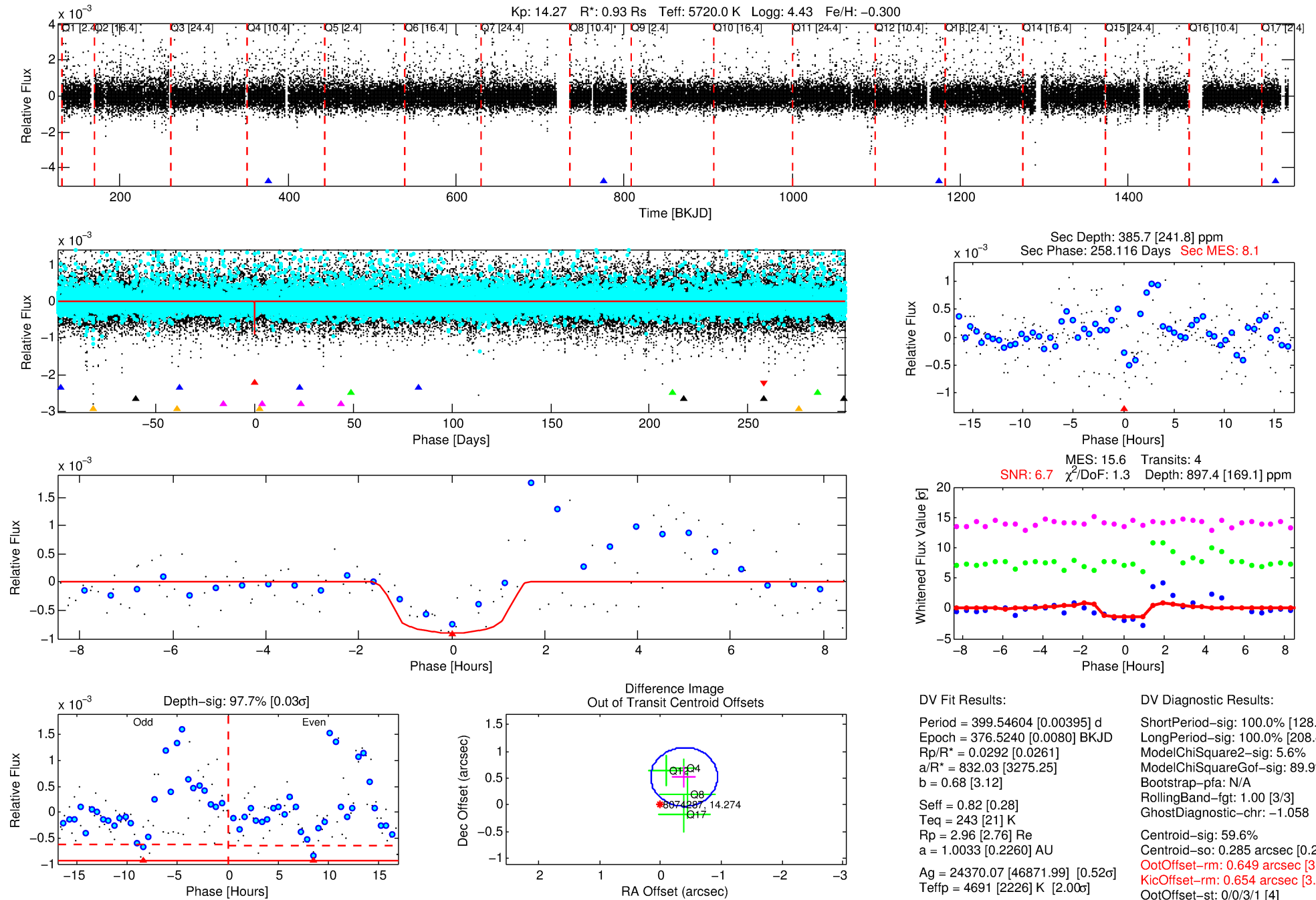
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008074287-01

No Significant Match Found

DV One-Page Summary

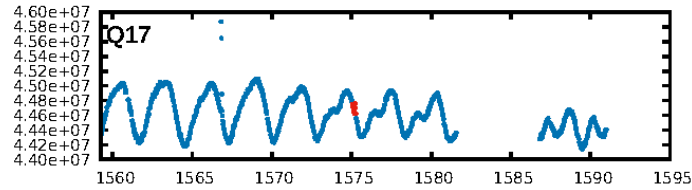
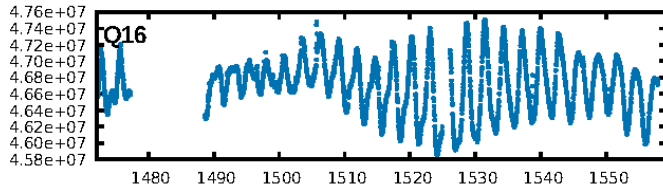
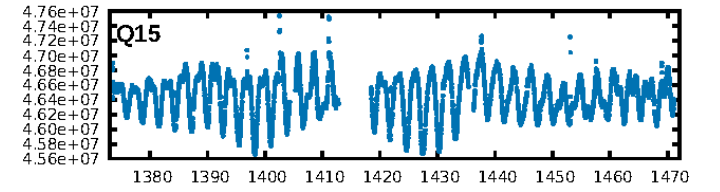
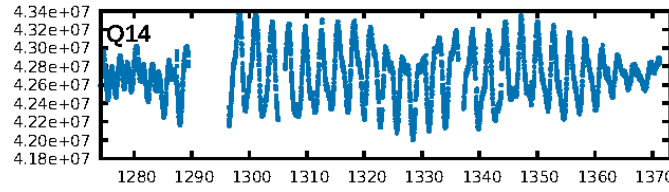
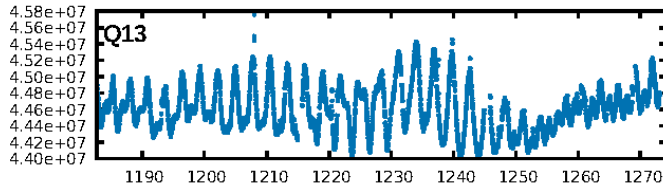
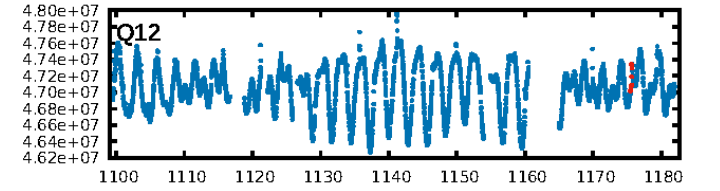
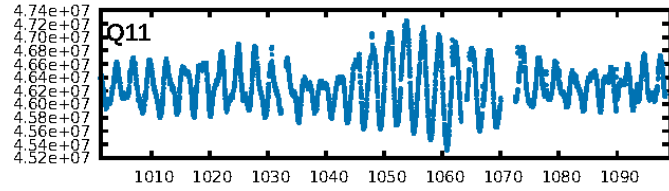
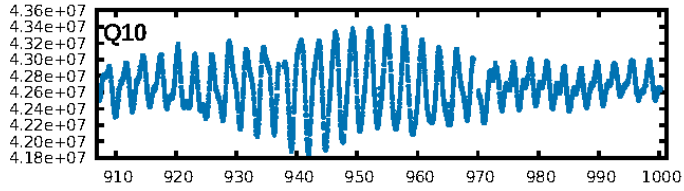
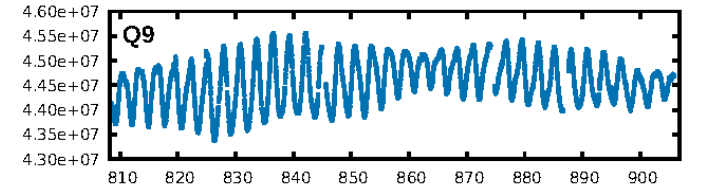
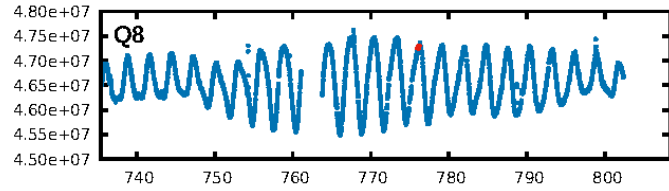
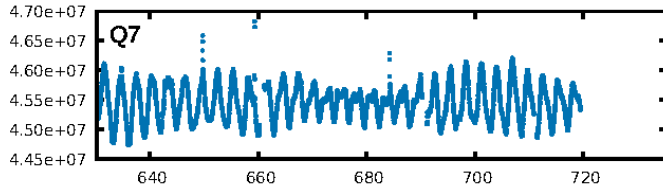
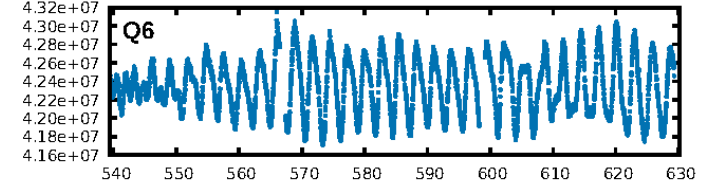
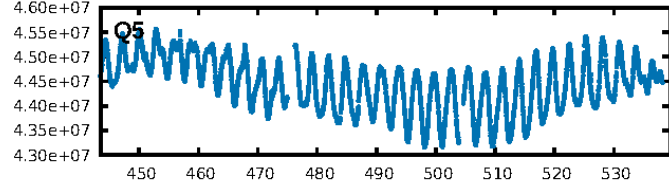
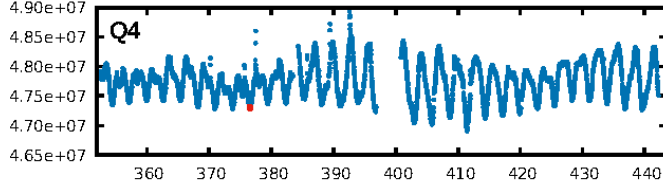
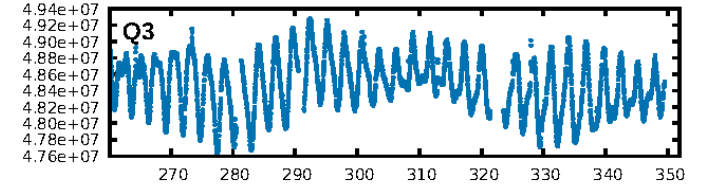
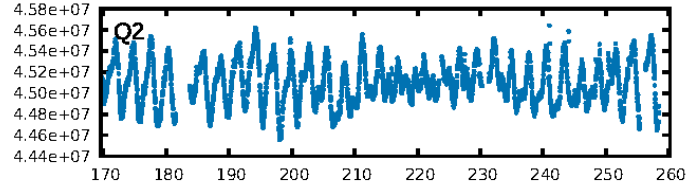
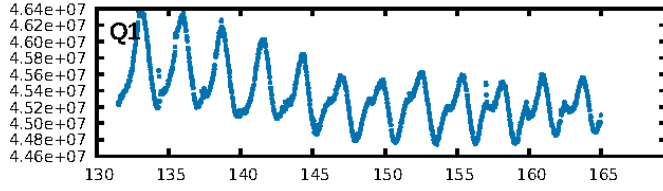
KIC: 8074287 Candidate: 1 of 6 Period: 399.546 d



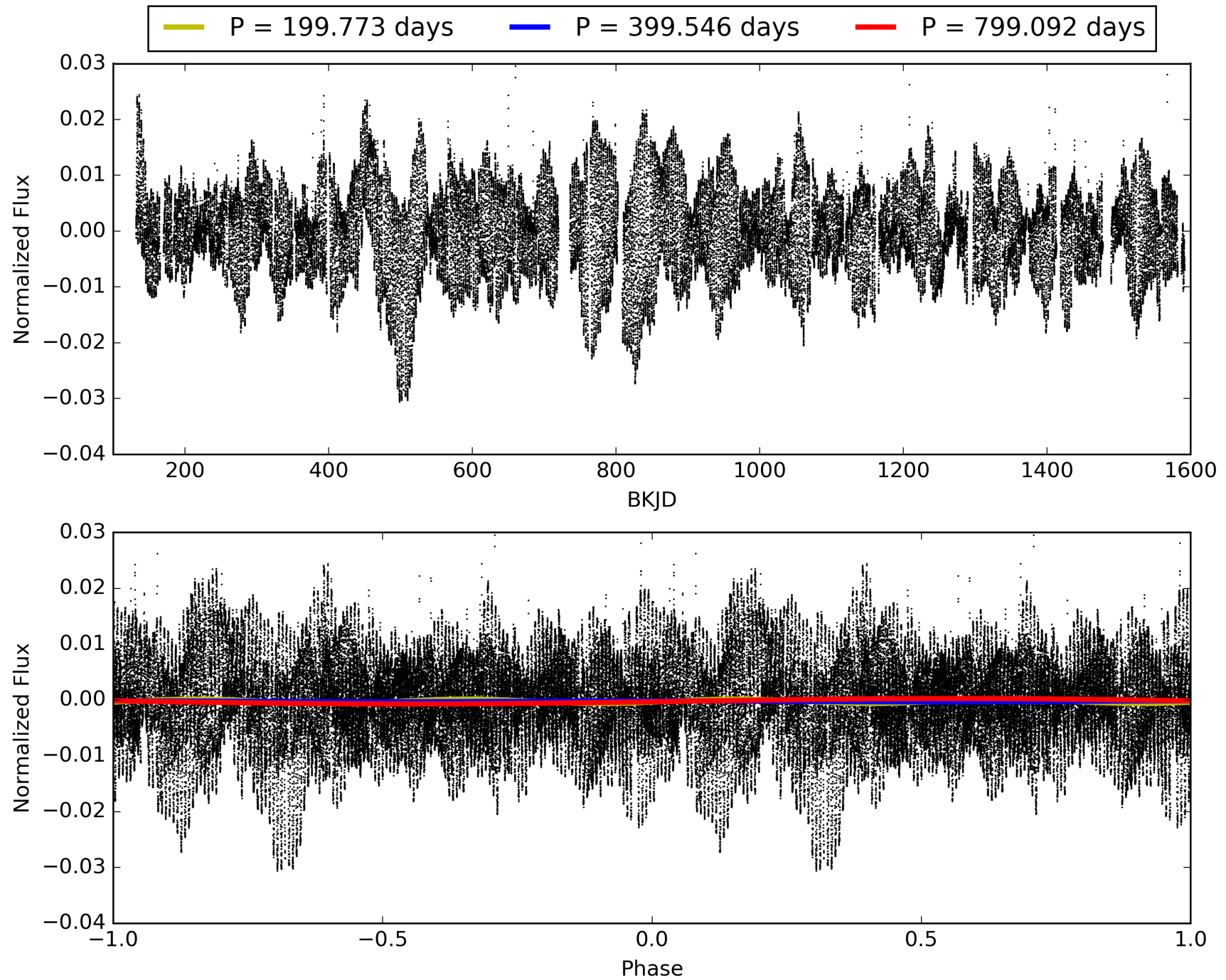
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008074287-01, PDC Light Curves

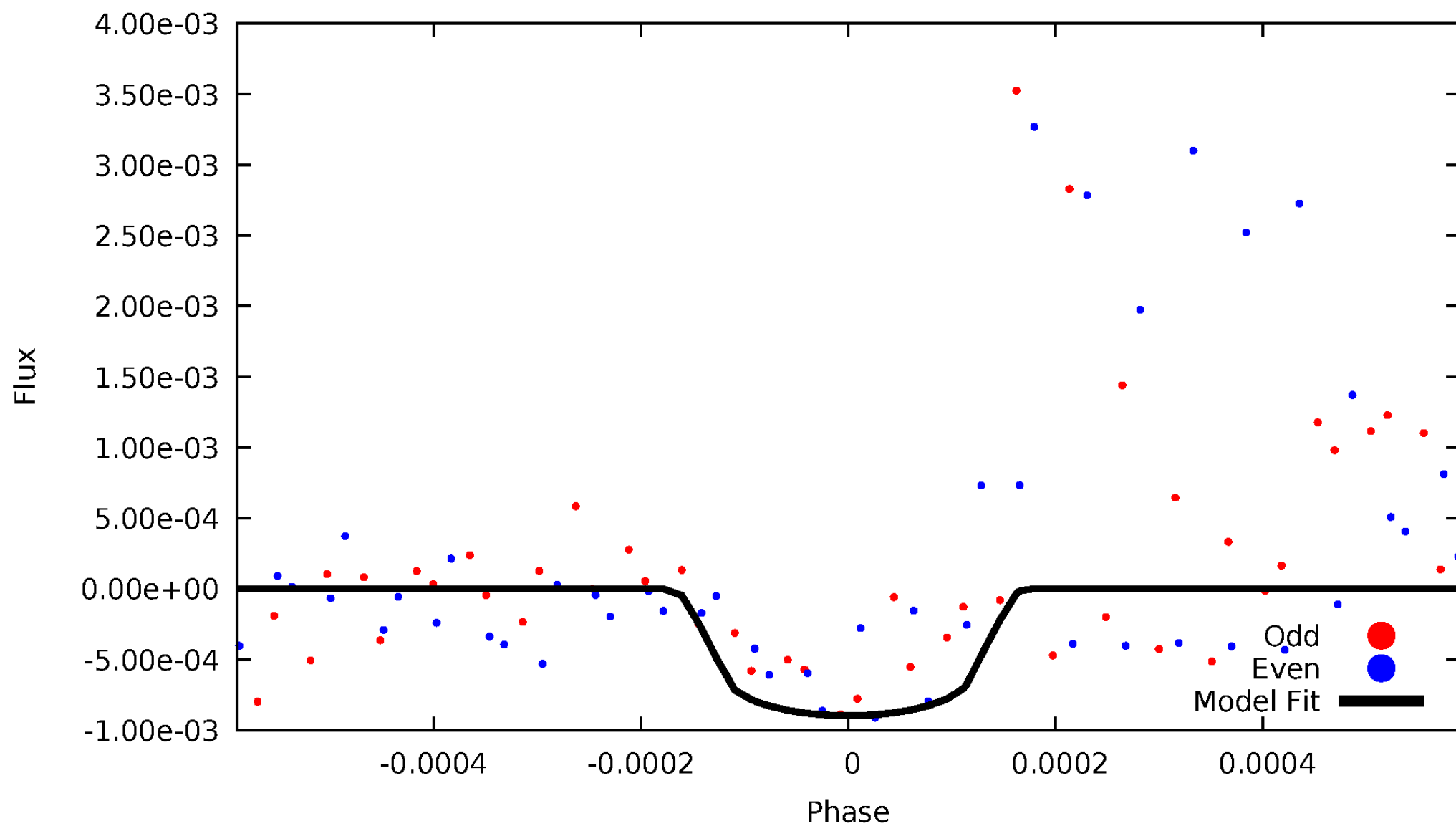


TCE 008074287-01



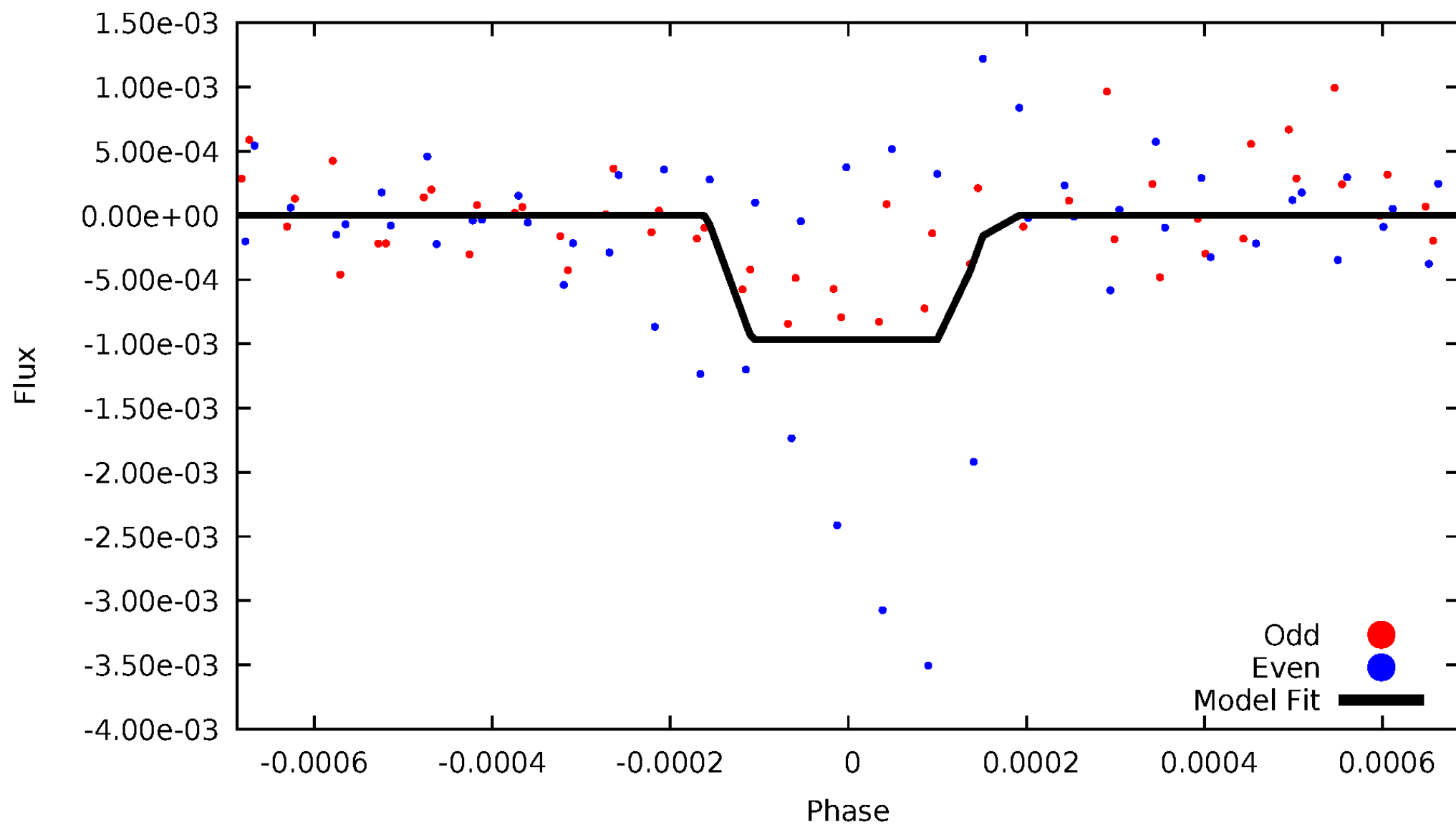
DV Odd/Even

TCE 008074287-01



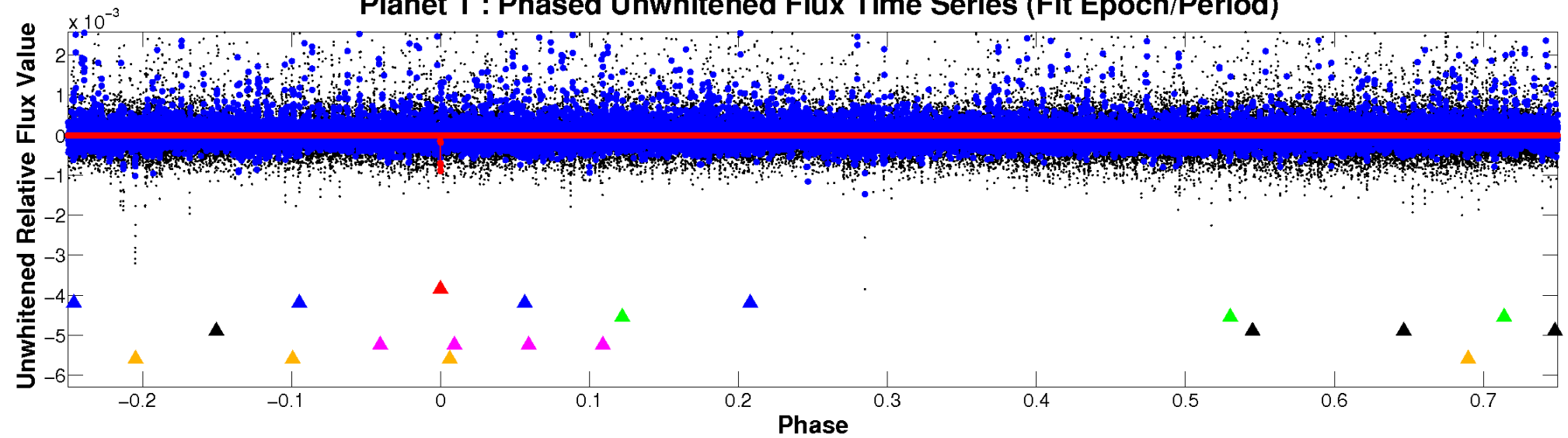
ALT Odd/Even

TCE 008074287-01

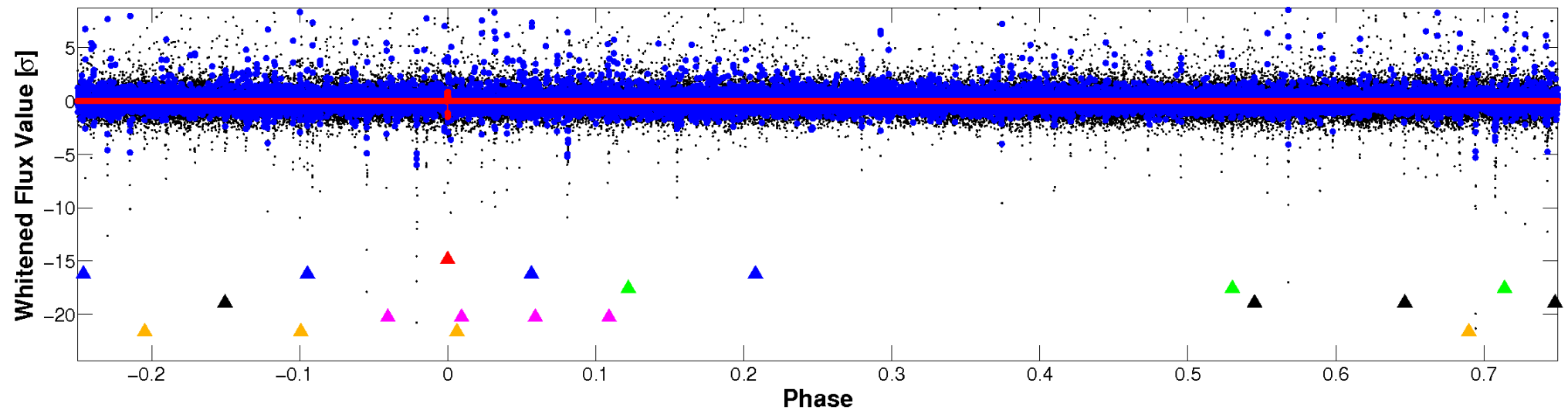


Non-Whitened Vs. Whitened Light Curve

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

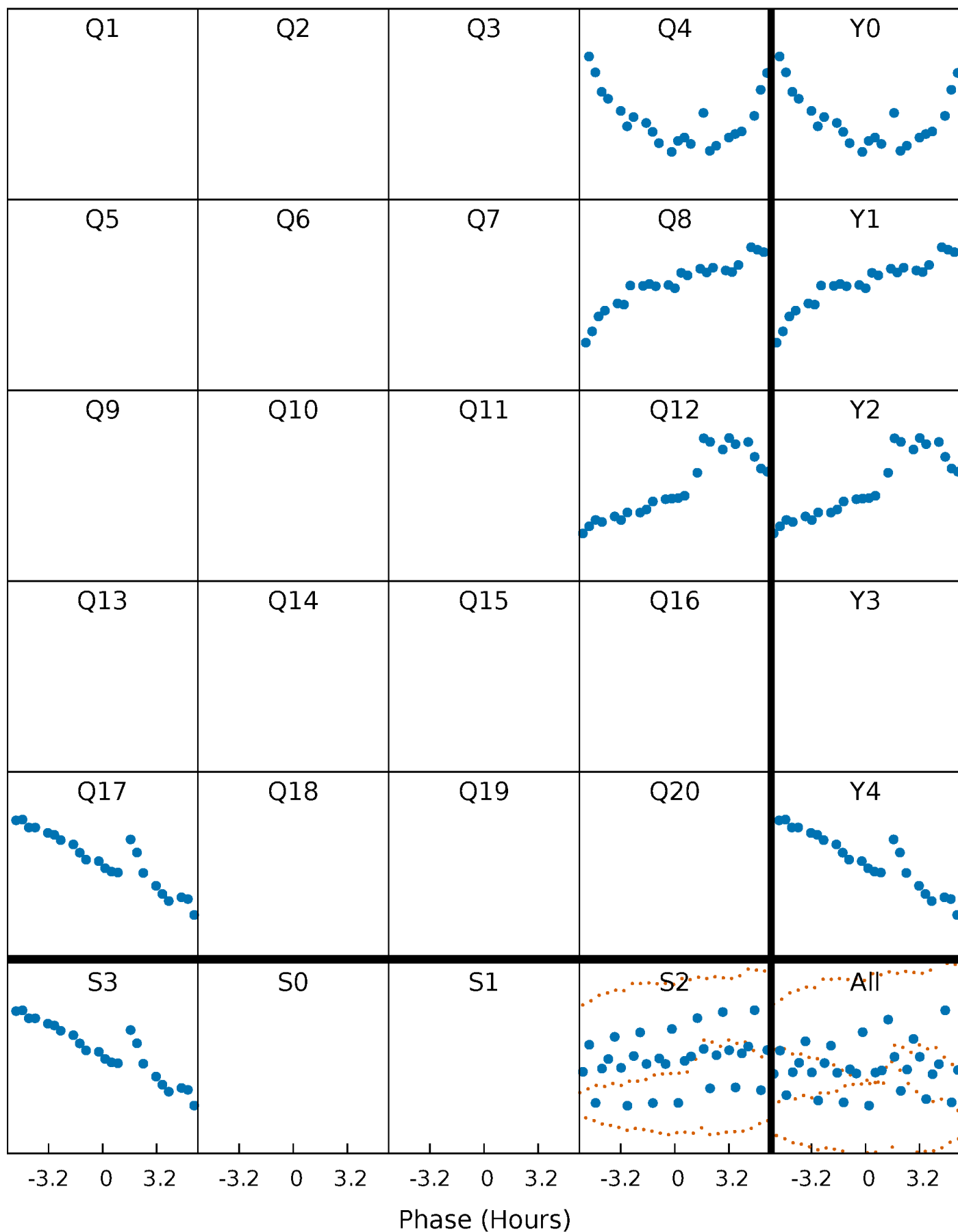


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



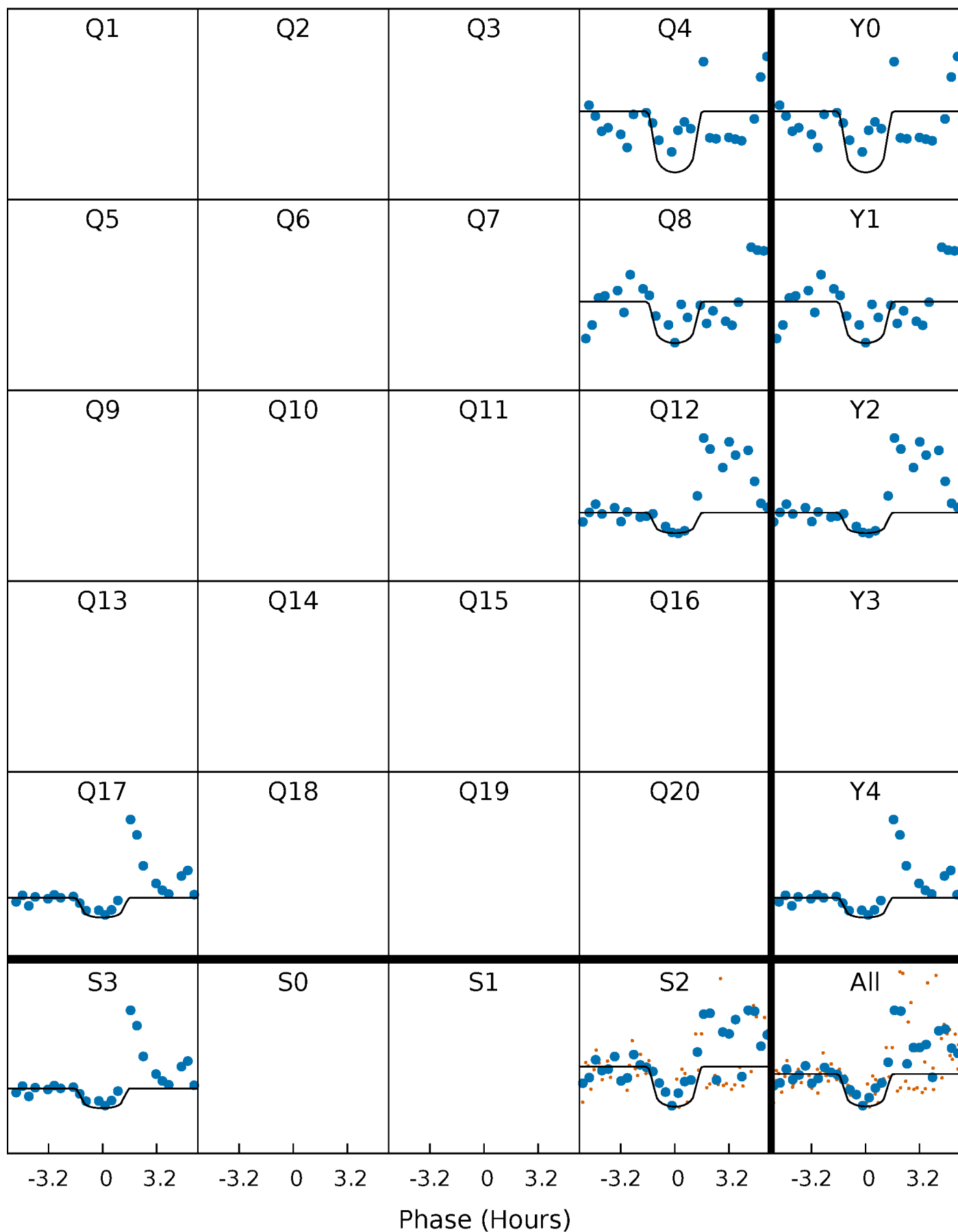
PDC Quarter-Phased Transit Curves

TCE 008074287-01 P=399.546035 Days $T_0=376.523955$ (BKJD)



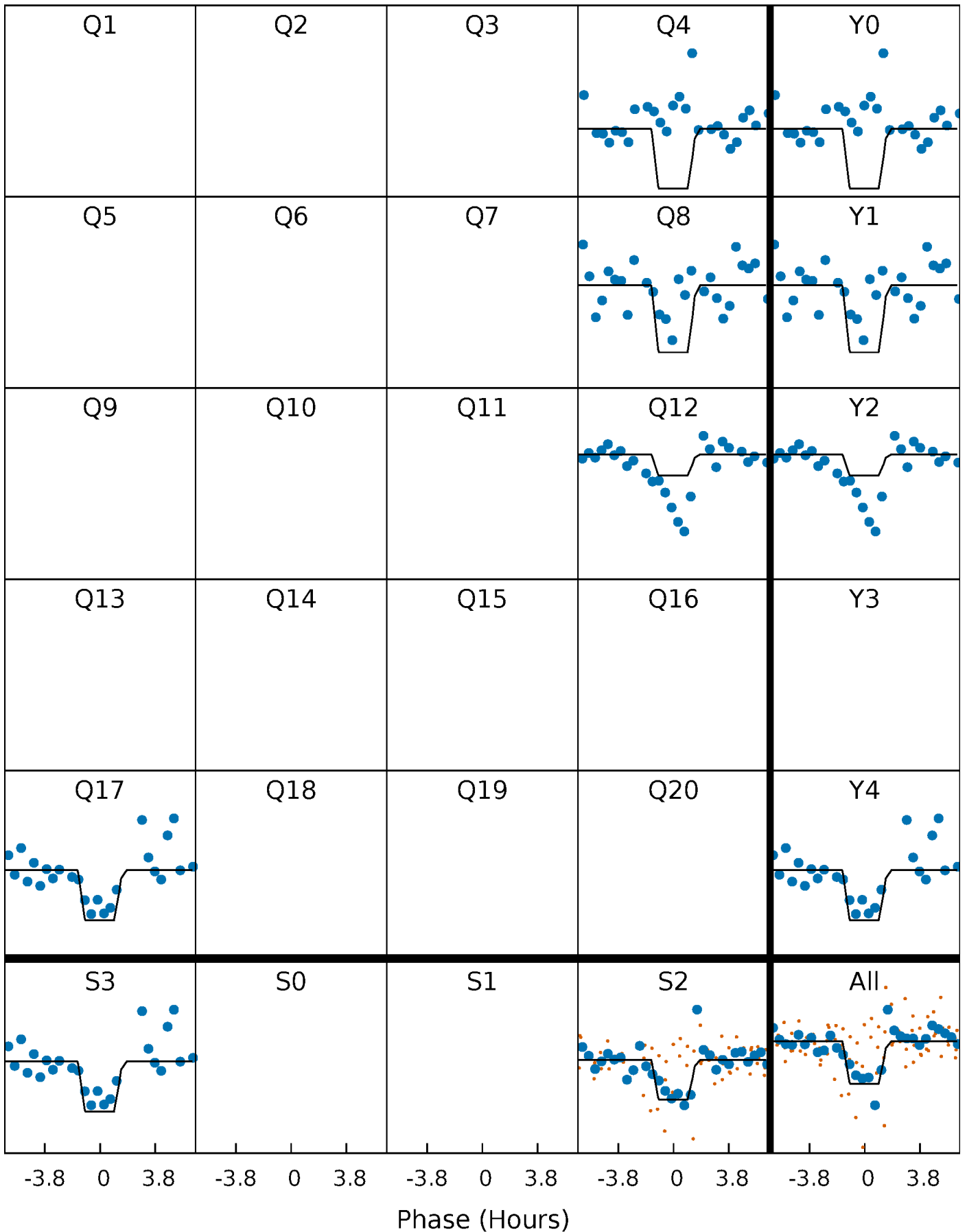
DV Quarter-Phased Transit Curves

TCE 008074287-01 $P=399.546035$ Days $T_0=376.523955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

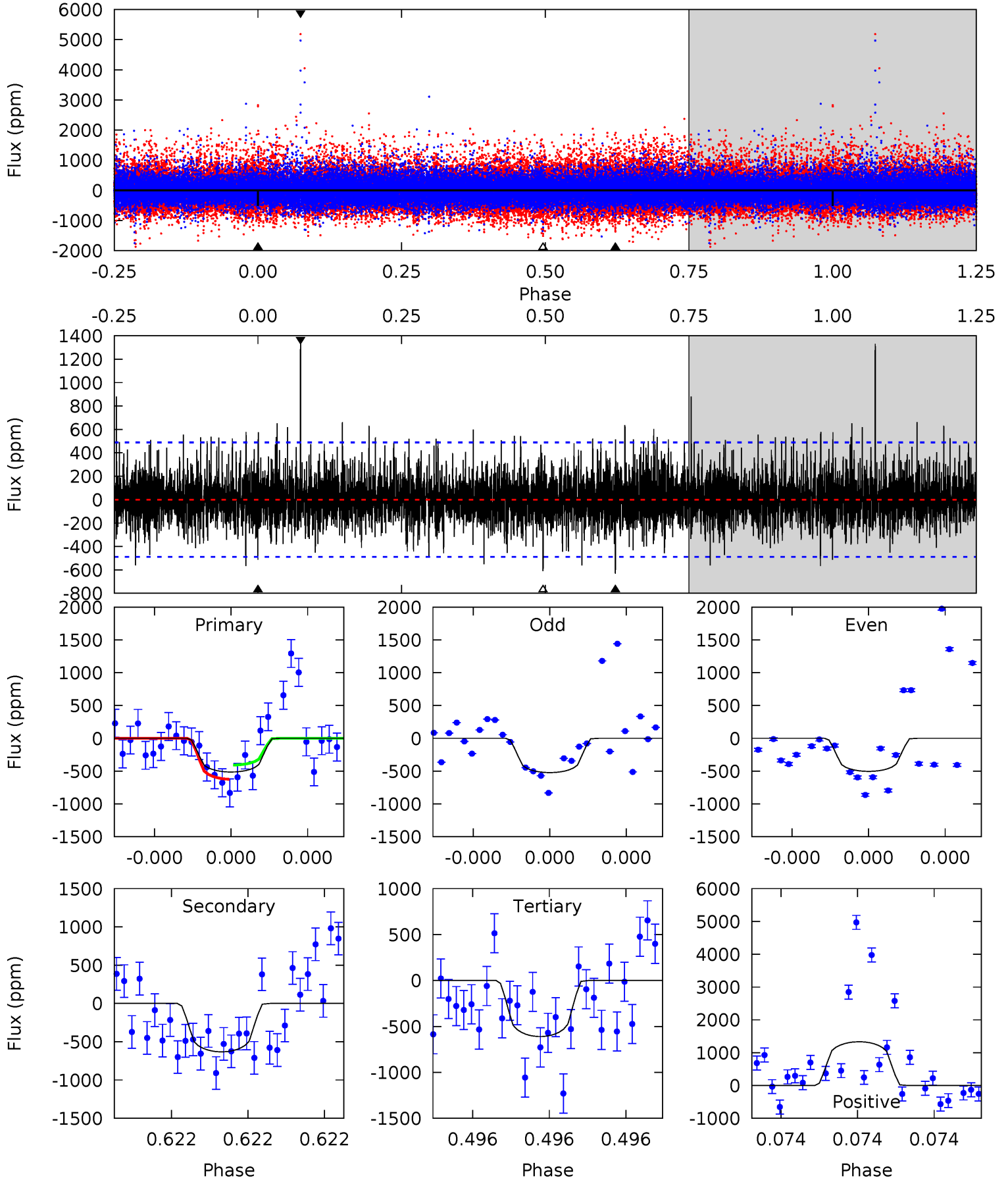
TCE 008074287-01 P=399.540695 Days $T_0=376.529626$ (BKJD)



DV Model-Shift Uniqueness Test

008074287-01, P = 399.546035 Days, E = 376.523955 Days

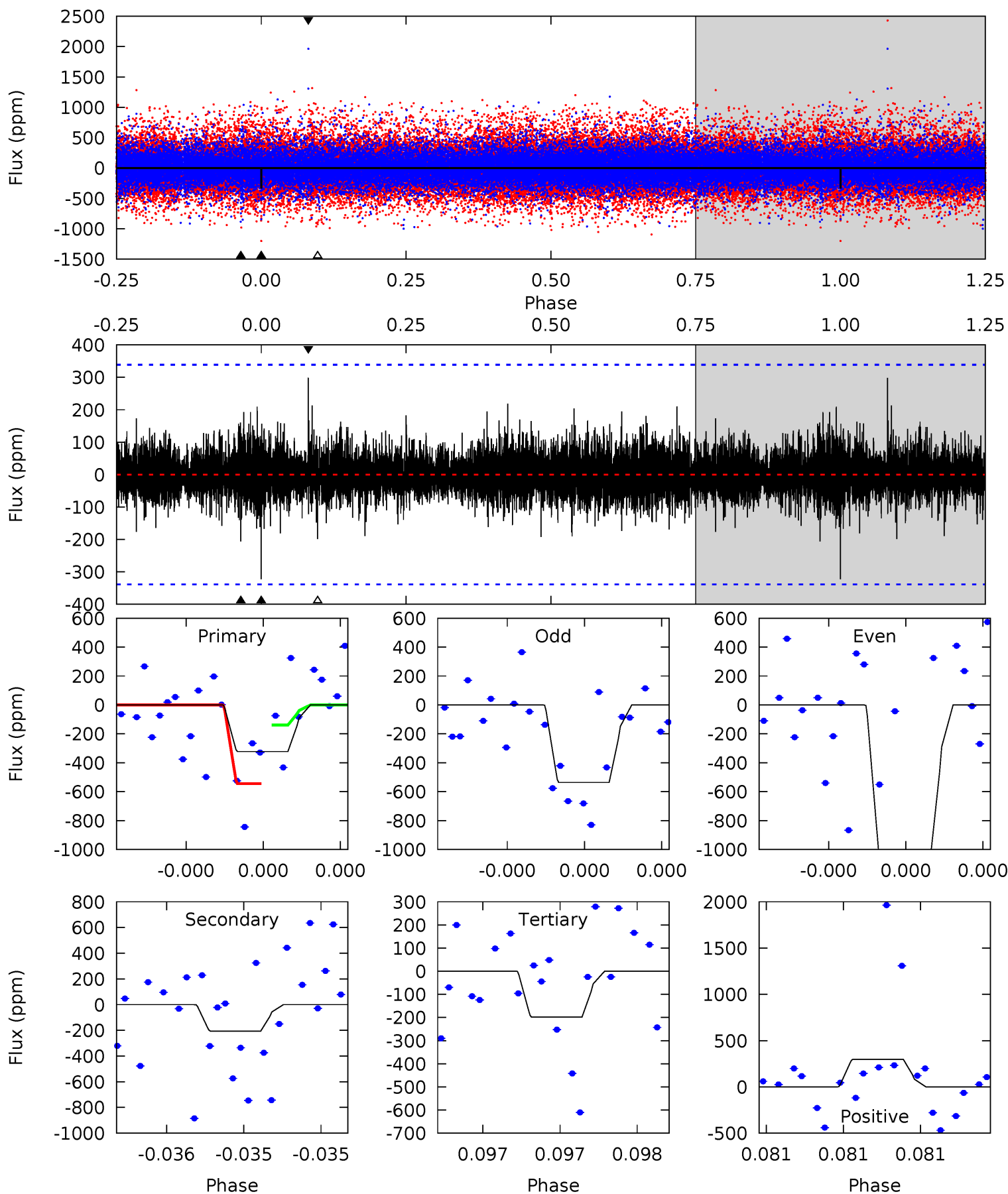
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.94	7.30	7.05	15.4	5.66	3.61	1.77	-1.11	-9.46	0.25	-8.10	0.10	1.00	0.68	1.25



Alt Model-Shift Uniqueness Test

008074287-01, P = 399.540695 Days, E = 376.529626 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.38	3.44	3.32	4.99	5.65	3.60	0.75	2.07	0.40	0.12	-1.55	4.67	1.54	0.48	0



Stellar Parameters For KIC 008074287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5720^{+155}_{-155}	$4.428^{+0.120}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$0.929^{+0.248}_{-0.134}$	$0.844^{+0.118}_{-0.073}$	$1.484^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+100%/-100%	+27%/-14%	+14%/-9%	+54%/-48%
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 008074287-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-632 ± 86	$3.32^{+2.50}_{-2.04}$	342^{+22}_{-17}	5133^{+3307}_{-999}	$31437^{+174745}_{-21113}$
Alt.	-206 ± 60	$3.65^{+2.60}_{-2.25}$	341^{+24}_{-19}	3983^{+1893}_{-677}	8776^{+52738}_{-5999}

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

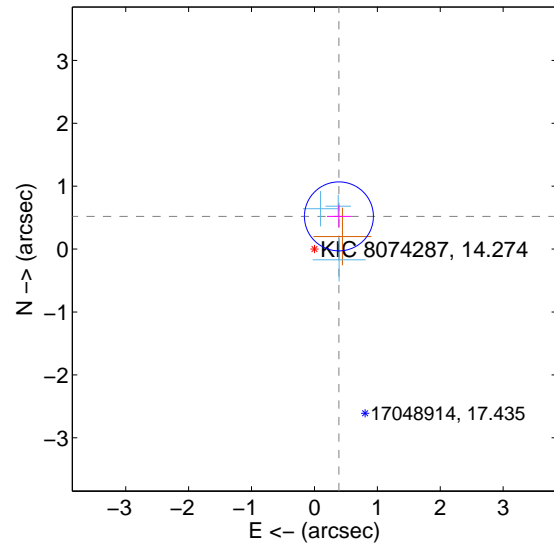
Supplemental centroid analysis for 008074287-01. Kepler magnitude: 14.27. Transit SNR 6.68

There are 3 quarters with good PRF difference image offsets

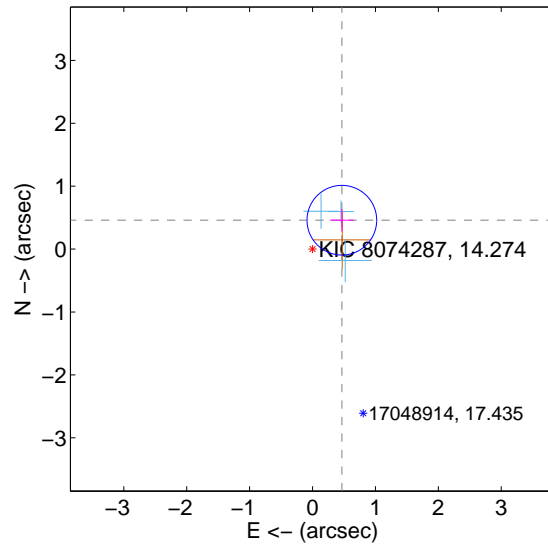
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.649 ± 0.183	3.55	-0.389 ± 0.190	0.520 ± 0.178
PRF-fit source offset from KIC position	0.654 ± 0.185	3.55	-0.466 ± 0.190	0.459 ± 0.178
photometric centroid source offset	0.29 ± 0.97	0.29	-0.27 ± 0.96	-0.09 ± 1.11

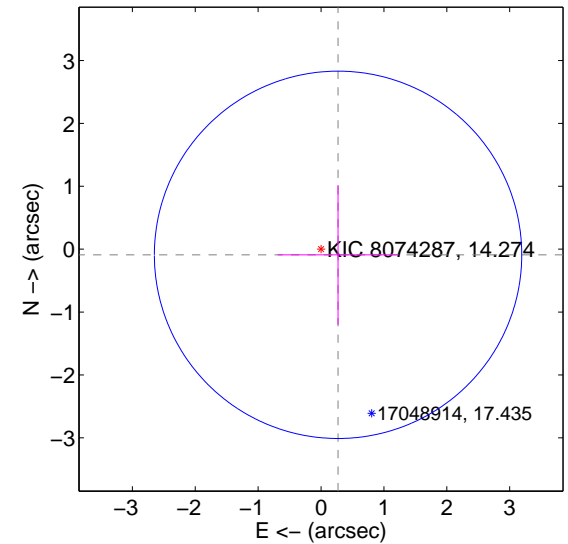
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

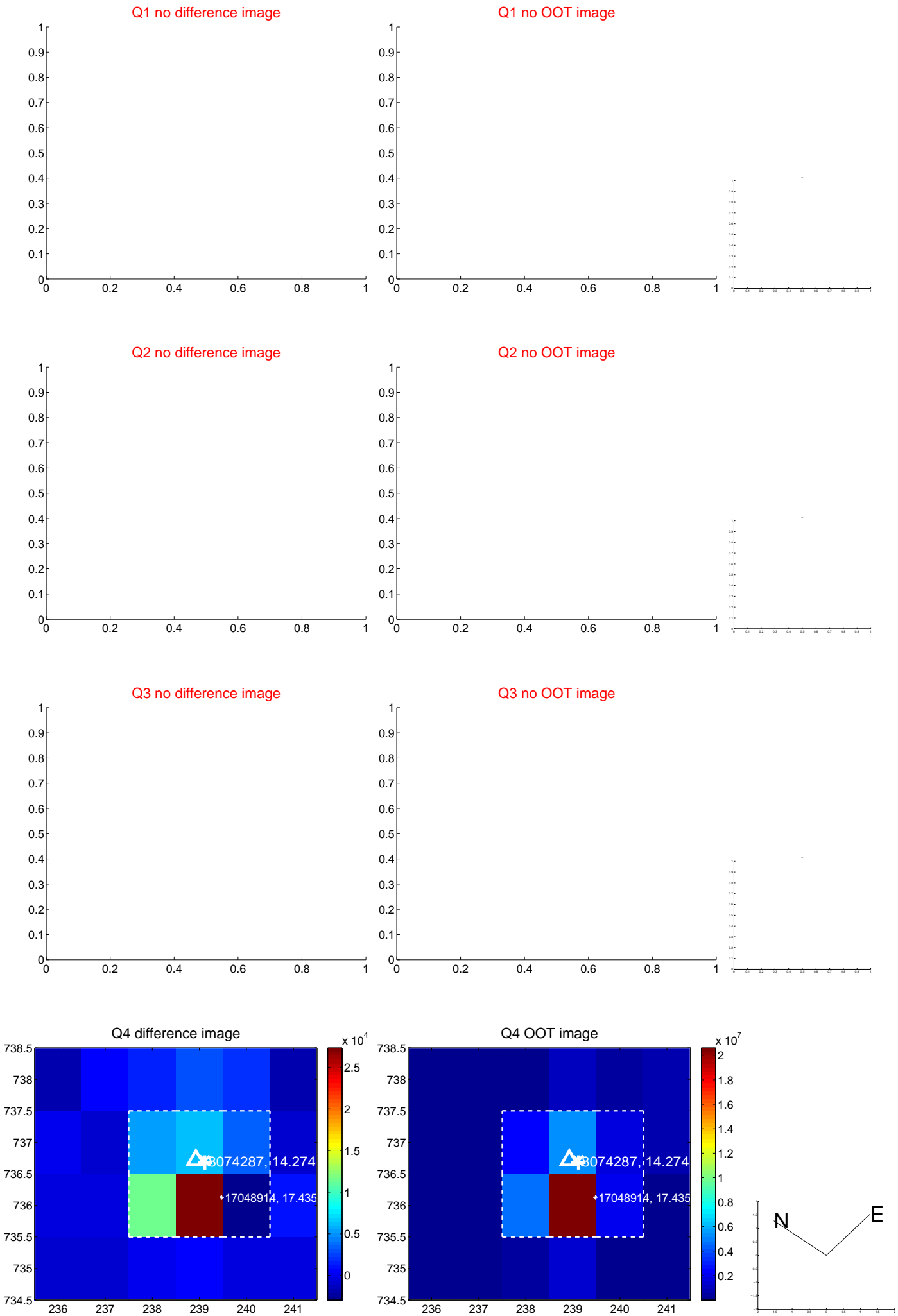


offset from photometric centroids

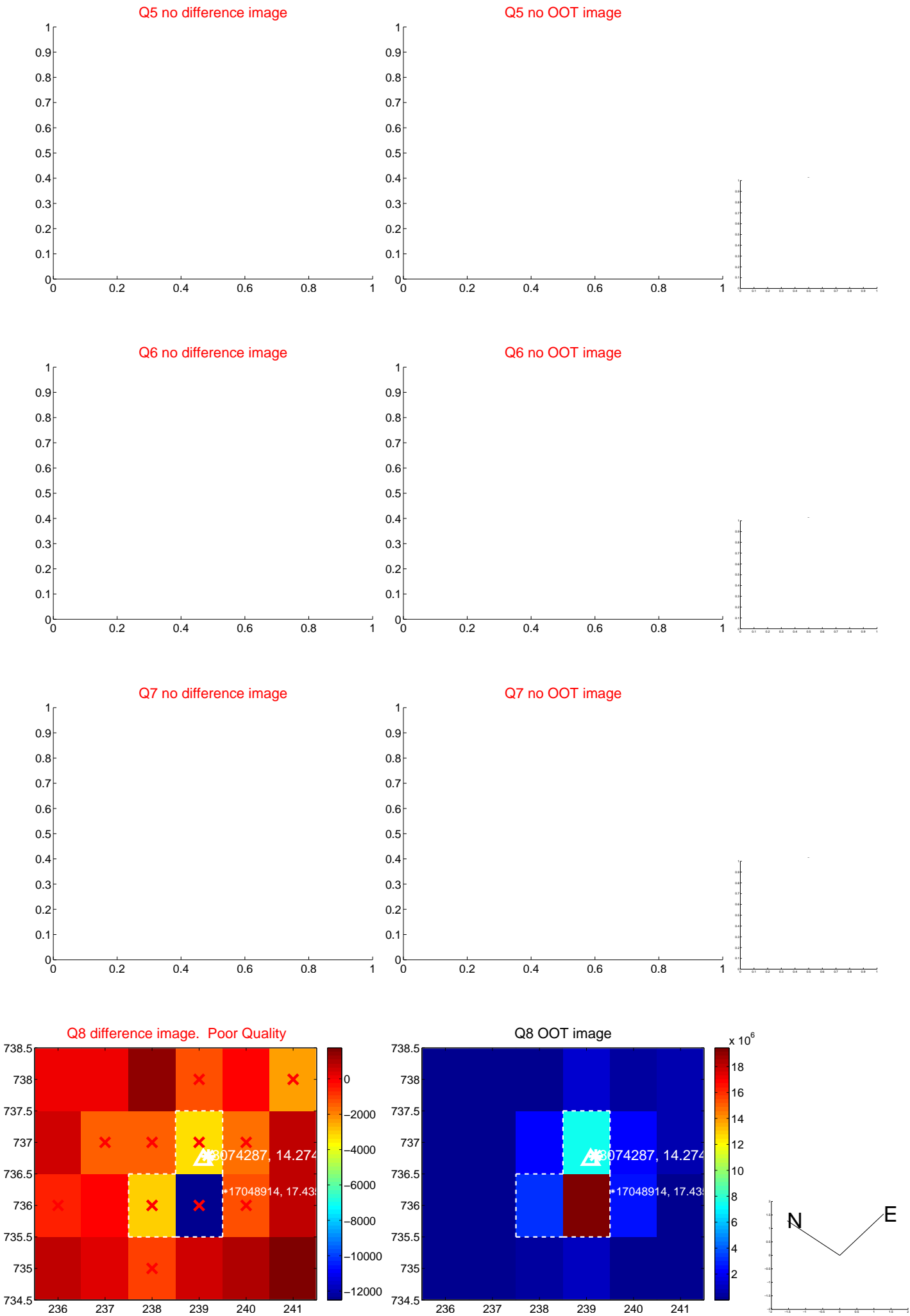


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

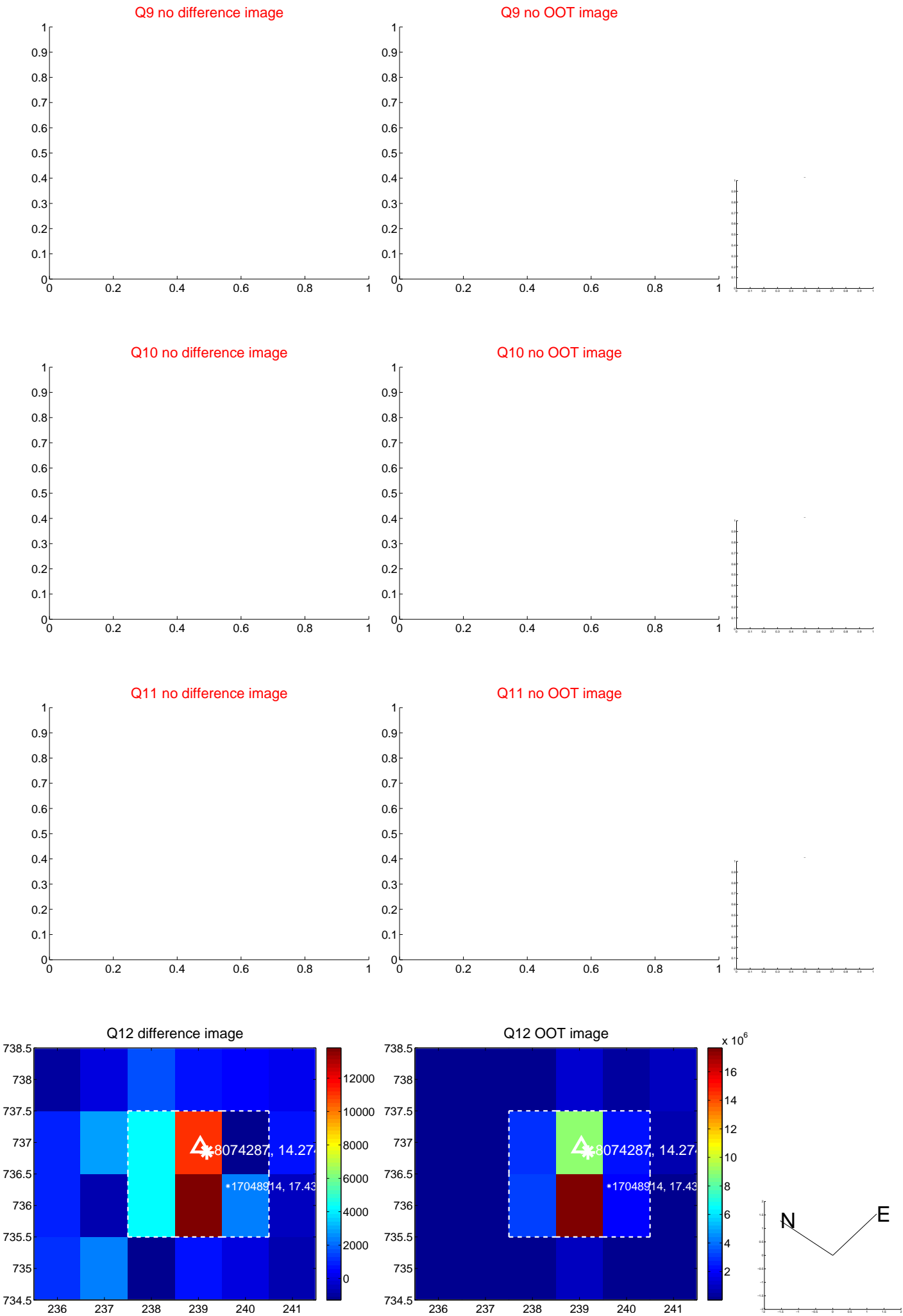
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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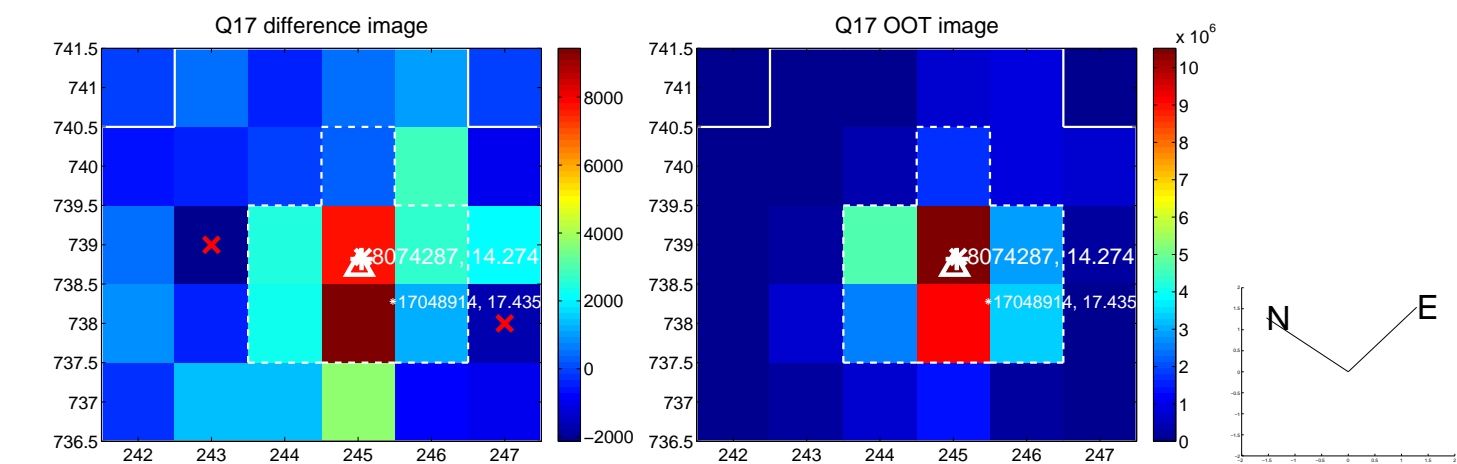
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



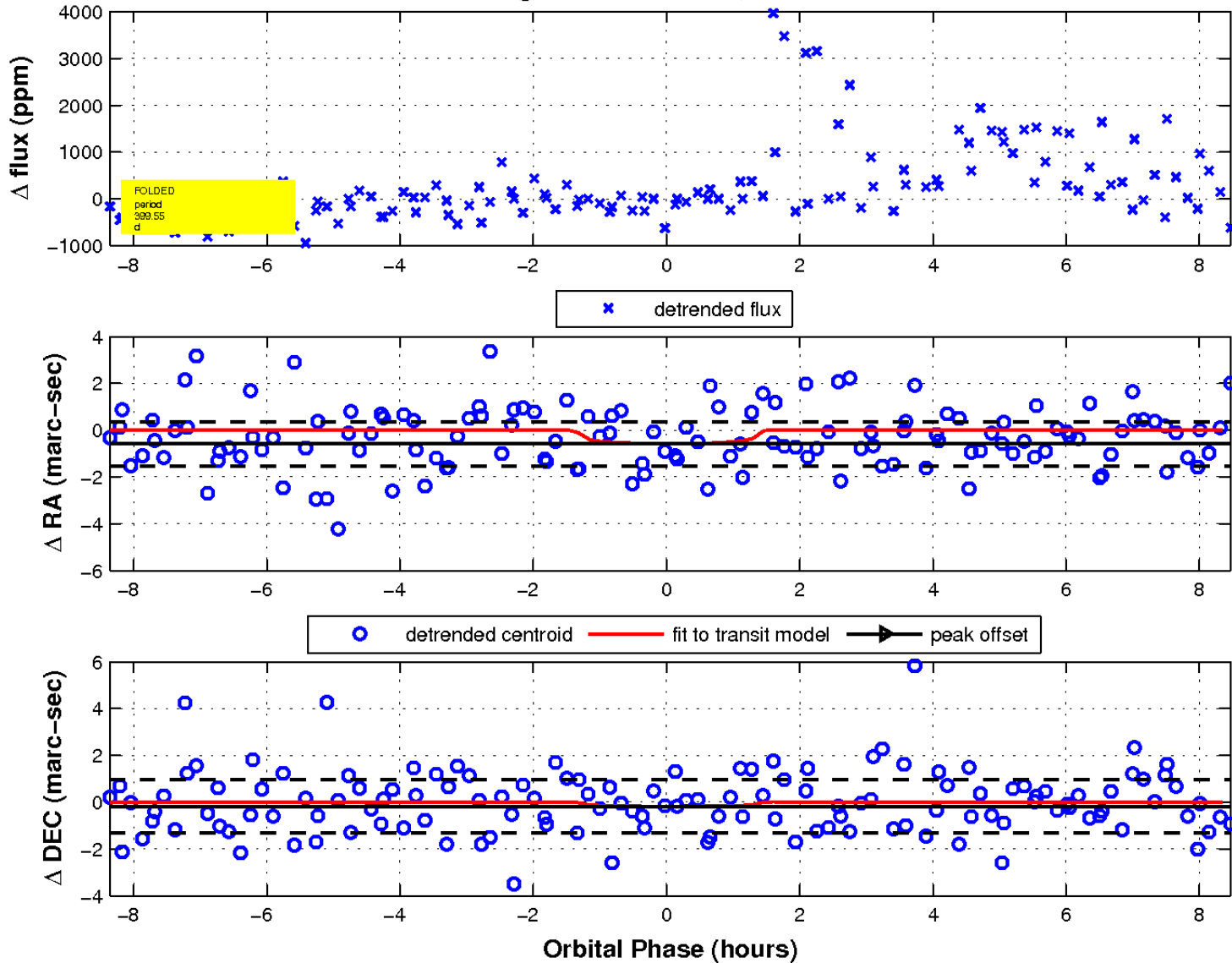
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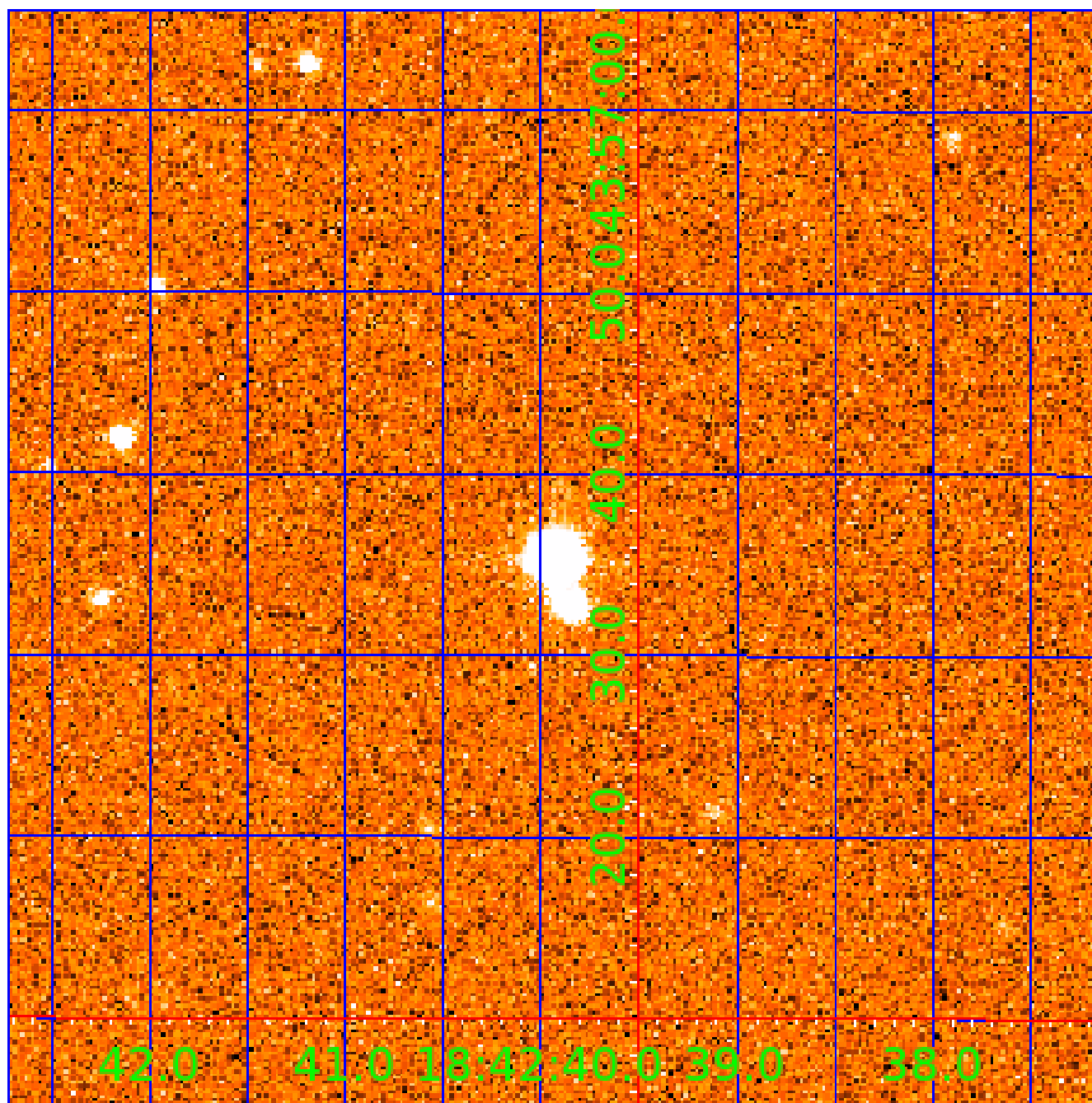


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 008074287

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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008074287-04	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
008074287-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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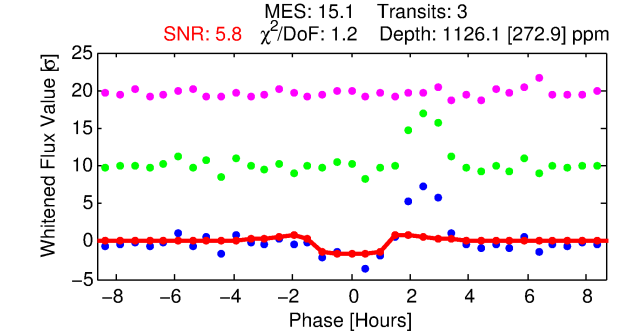
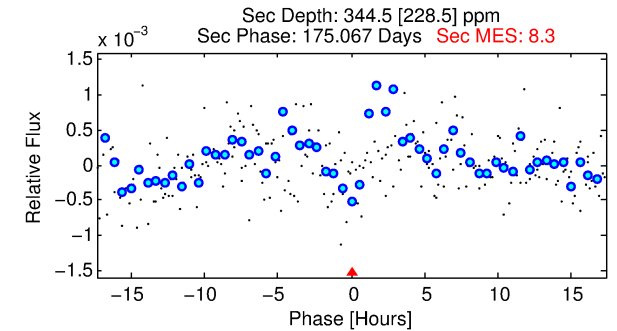
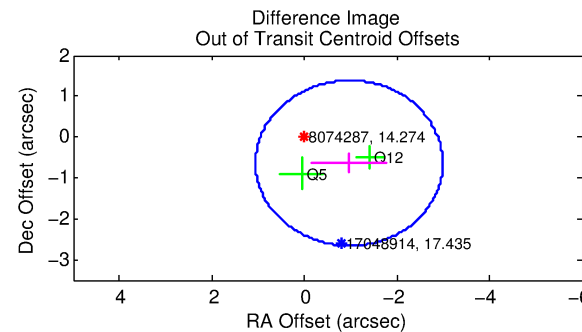
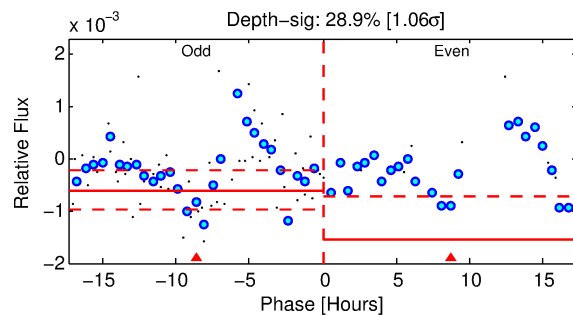
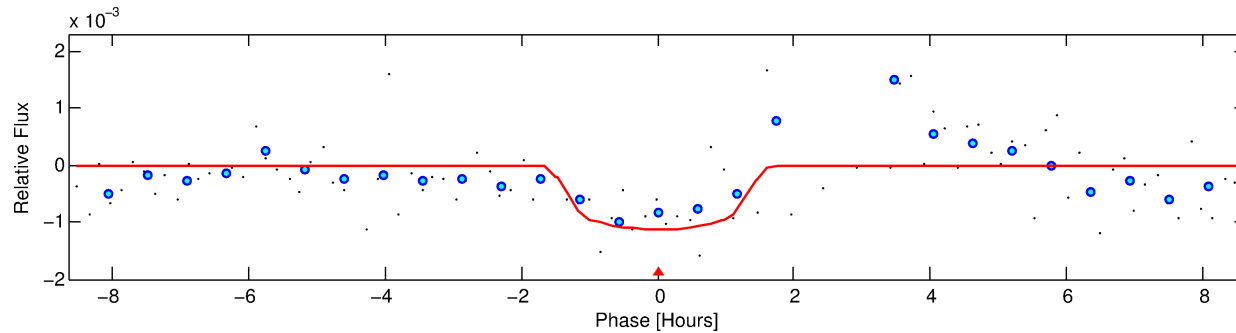
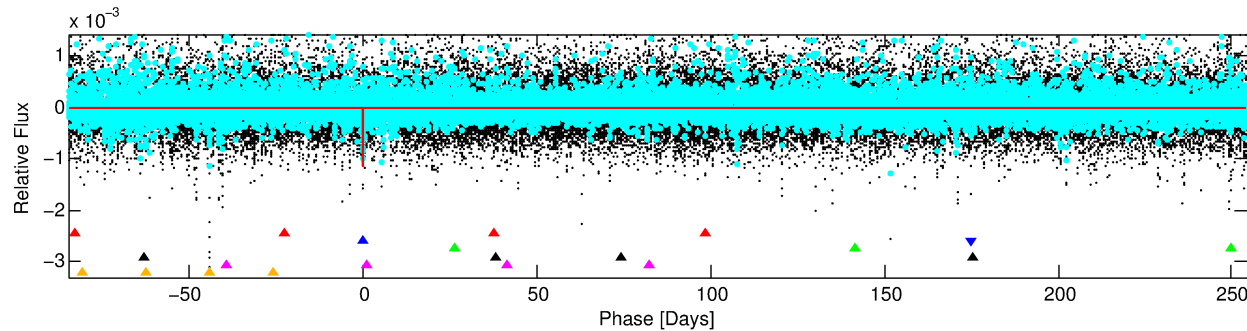
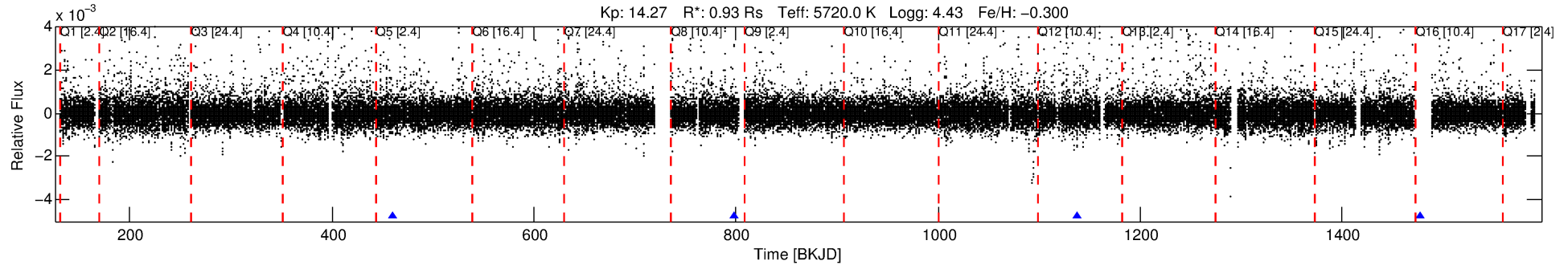
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008074287-02

No Significant Match Found

DV One-Page Summary

KIC: 8074287 Candidate: 2 of 6 Period: 339.082 d



DV Fit Results:

Period = 339.08151 [0.00631] d
Epoch = 459.5937 [0.0094] BKJD
Rp/R* = 0.0315 [0.0658]
a/R* = 812.68 [7525.08]
b = 0.50 [14.23]
Seff = 1.02 [0.35]
Teq = 256 [22] K
Rp = 3.19 [6.72] Re
a = 0.8993 [0.2026] AU
Ag = 15044.14 [63835.89] [0.24σ]
Teffp = 4392 [4646] K [0.89σ]

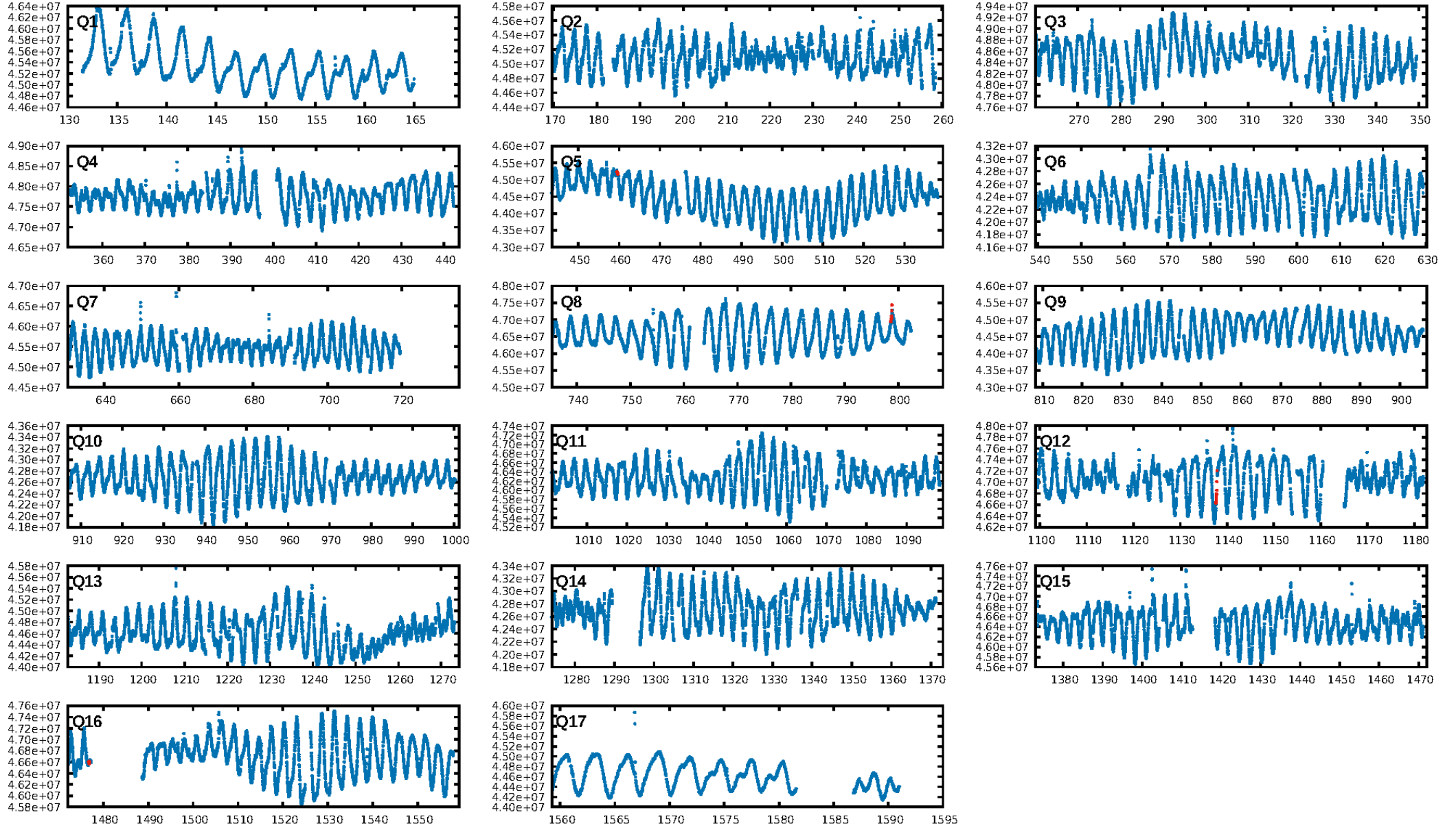
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [54.74σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 91.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1452
Centroid-sig: 20.1%
Centroid-so: 1.788 arcsec [1.86σ]
OotOffset-rm: 1.160 arcsec [1.72σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 1.245 arcsec [1.90σ]
KicOffset-st: 0/0/1/1 [2]
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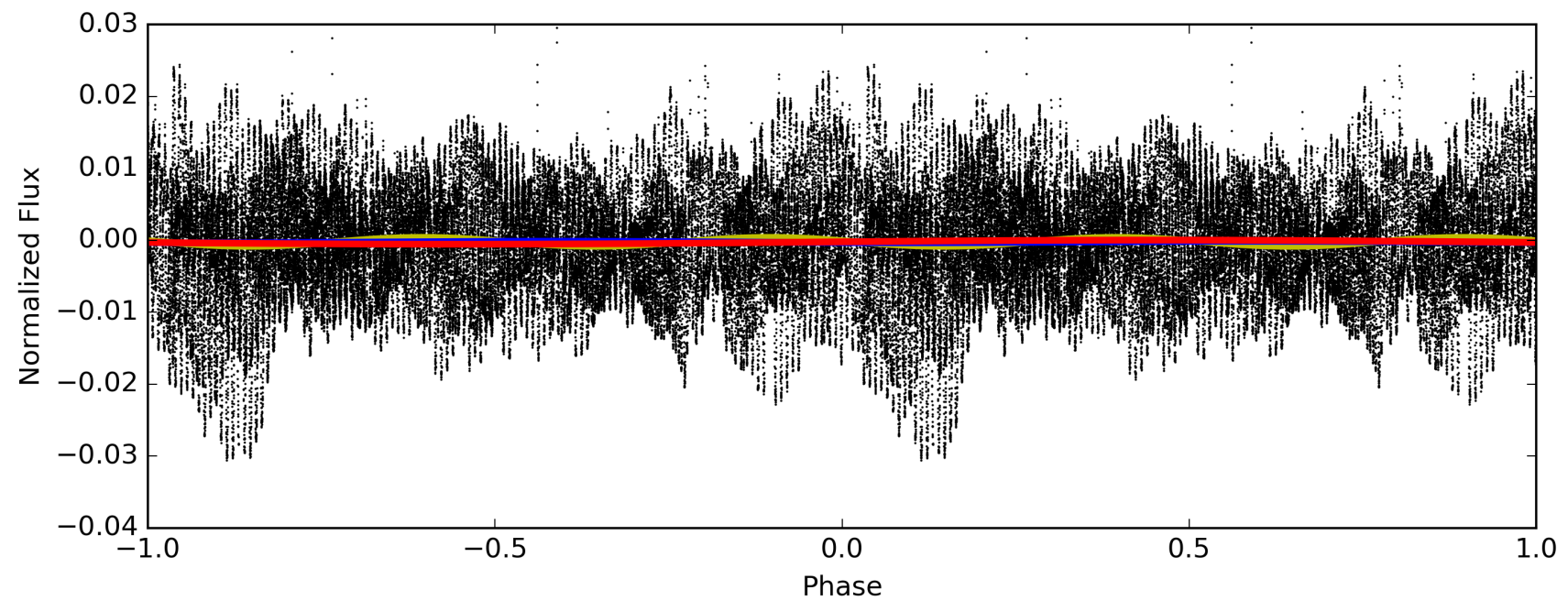
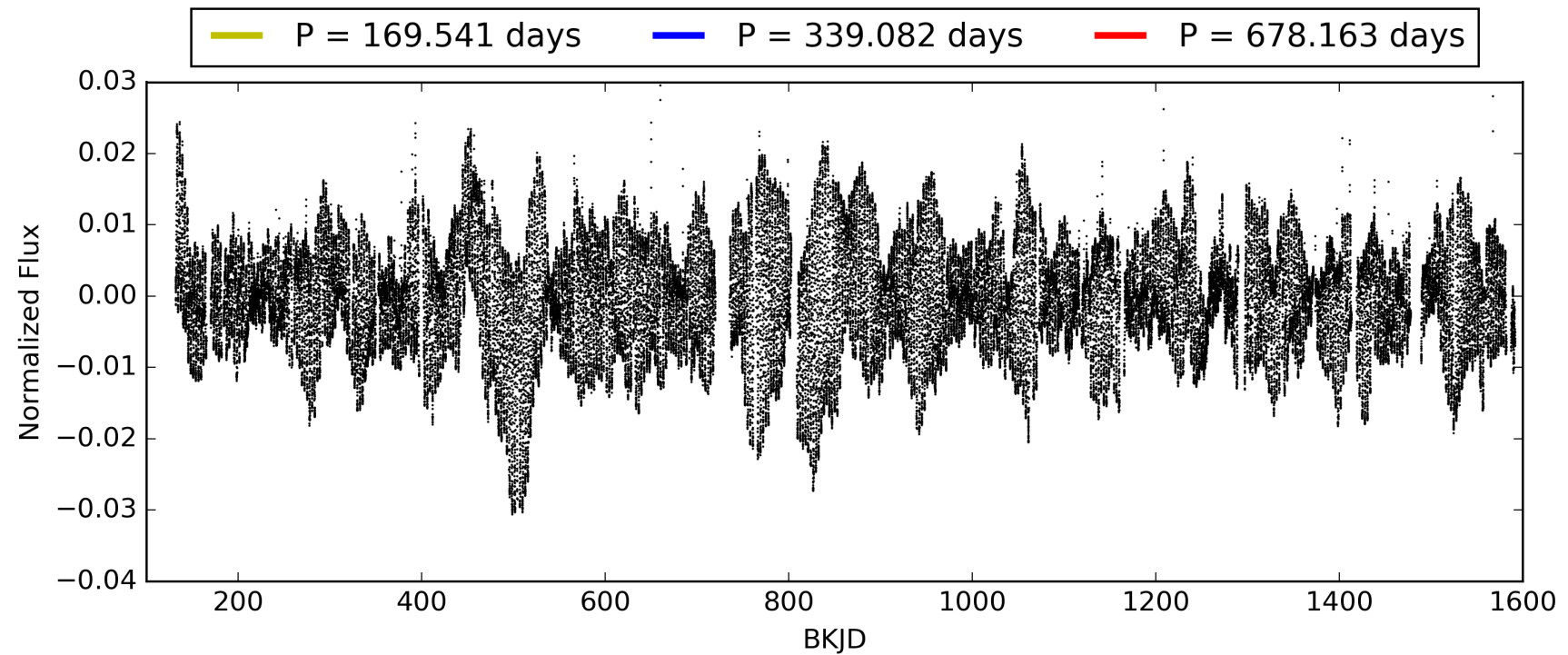
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 14:55:39 Z

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

TCE 008074287-02, PDC Light Curves

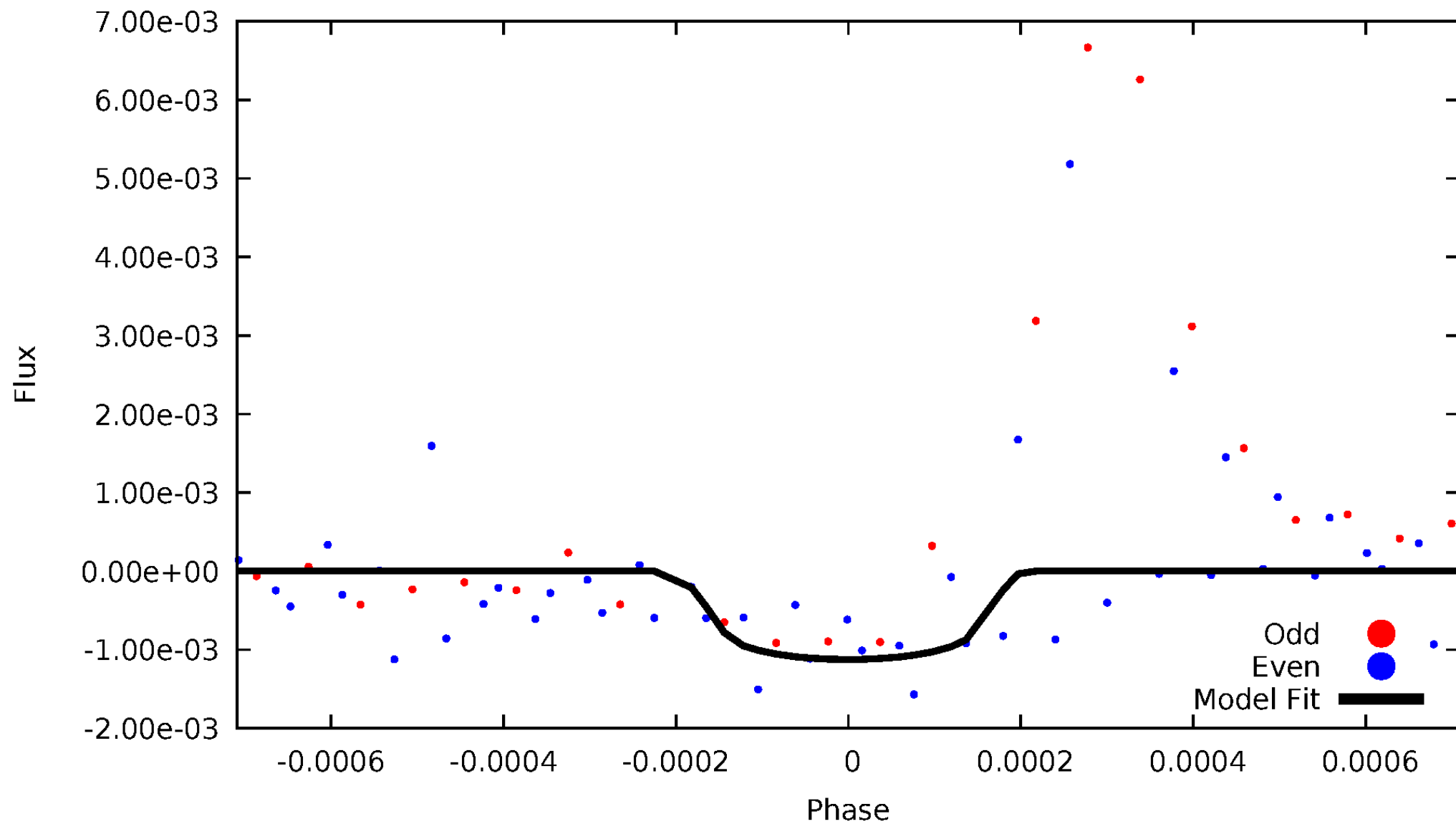


TCE 008074287-02



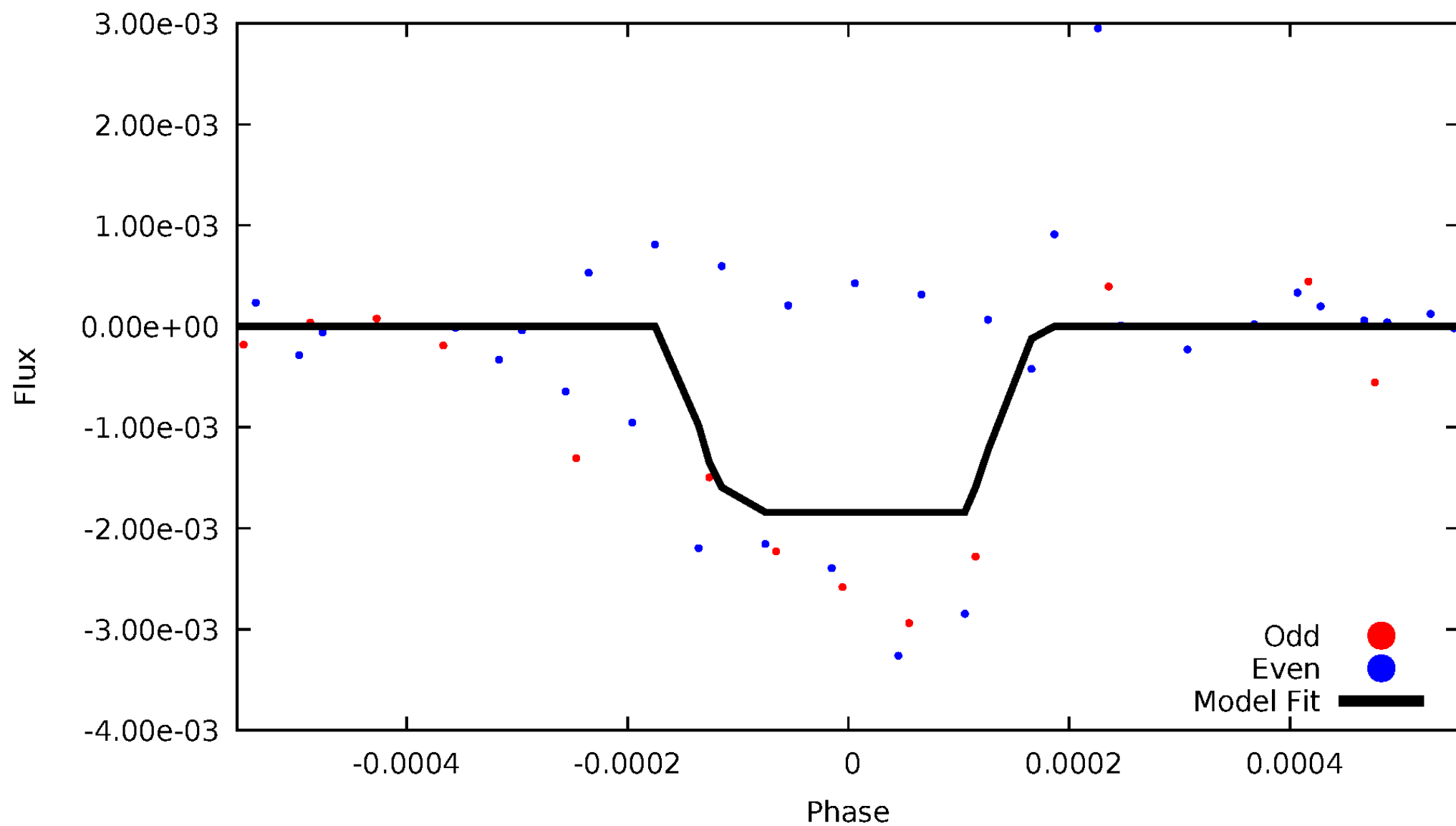
DV Odd/Even

TCE 008074287-02



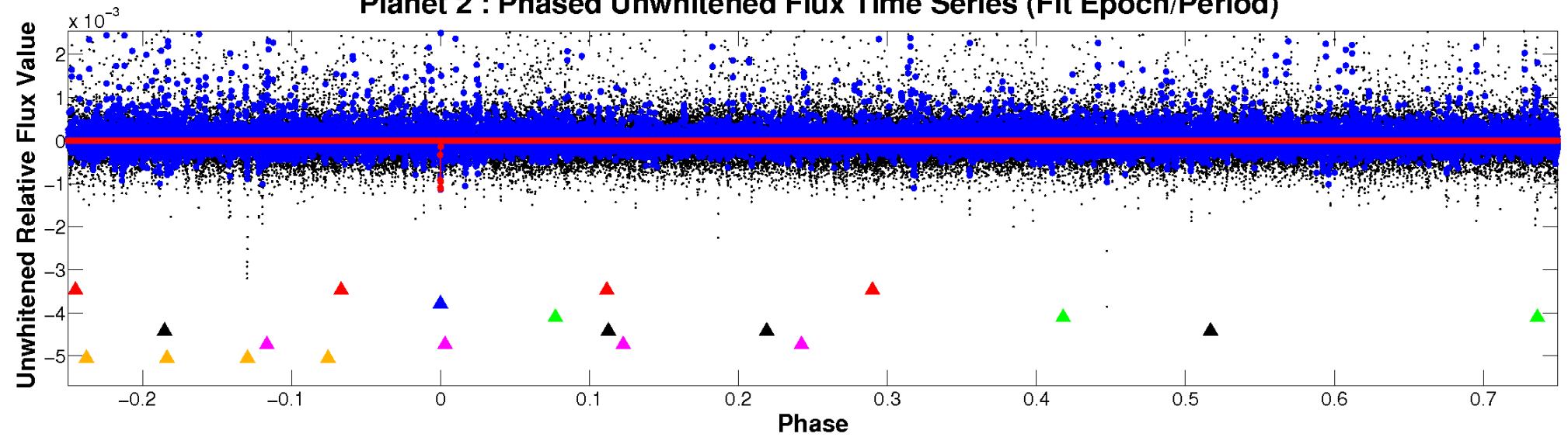
ALT Odd/Even

TCE 008074287-02

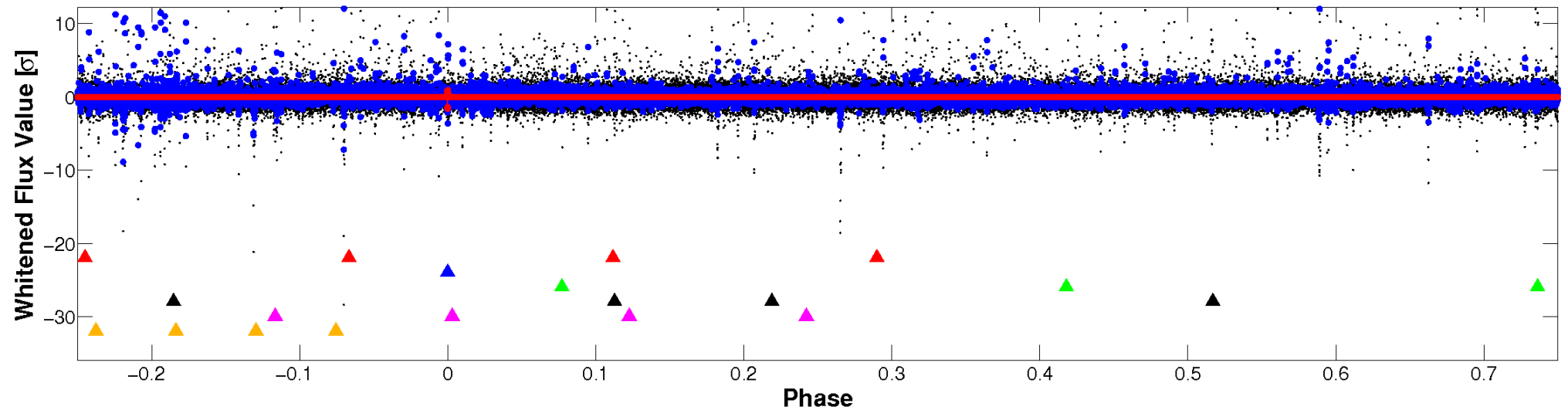


Non-Whitened Vs. Whitened Light Curve

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

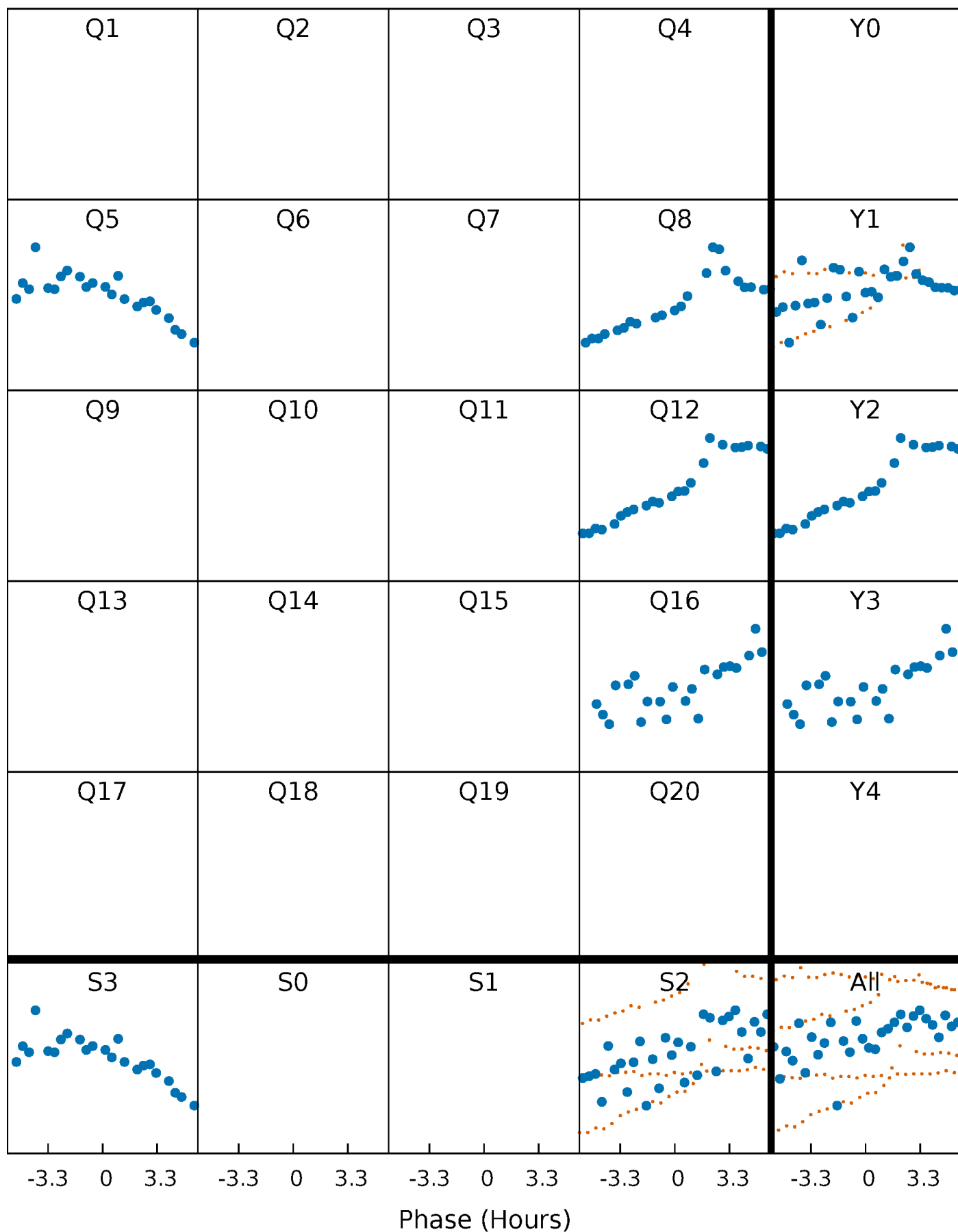


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



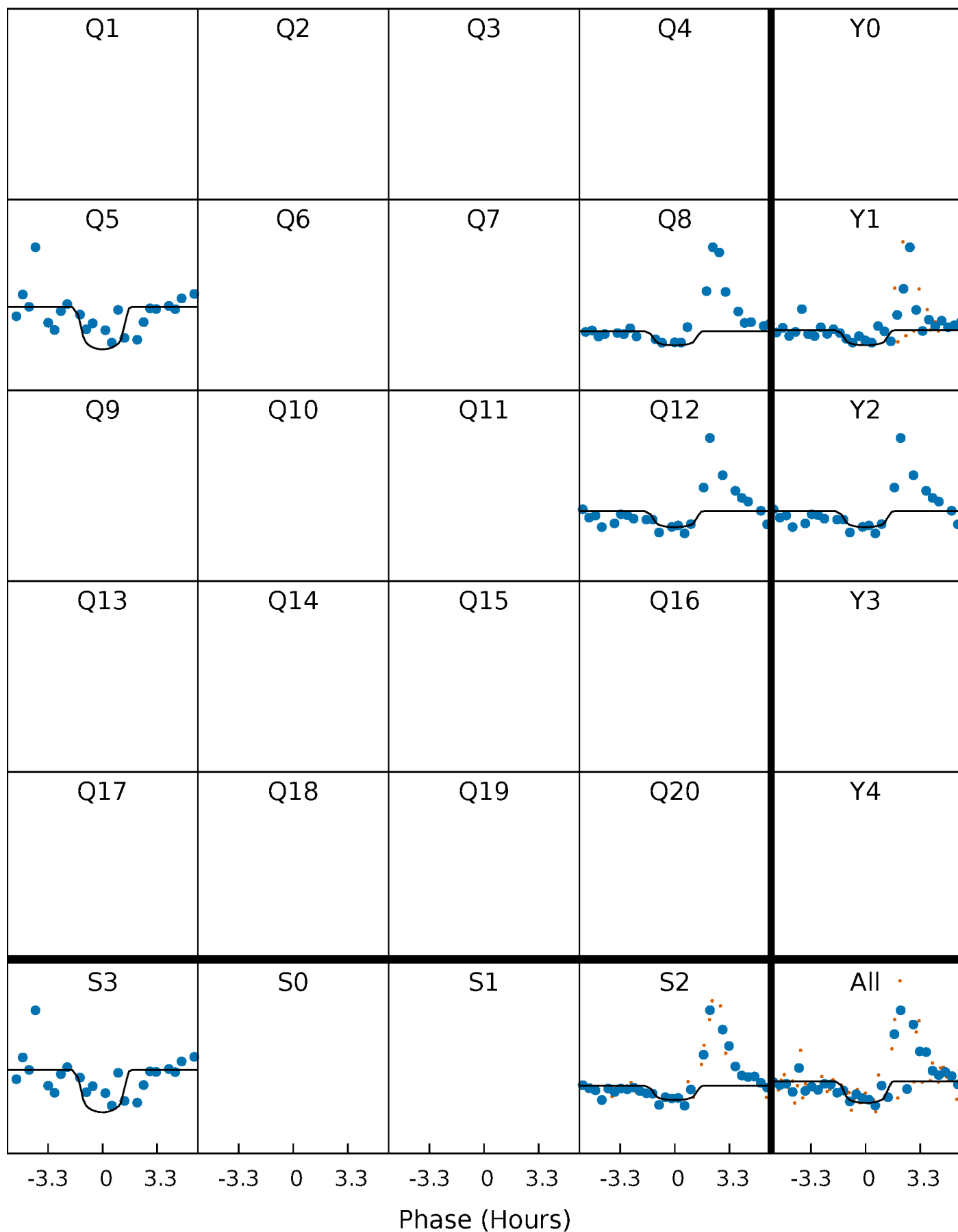
PDC Quarter-Phased Transit Curves

TCE 008074287-02 $P=339.081514$ Days $T_0=459.593656$ (BKJD)



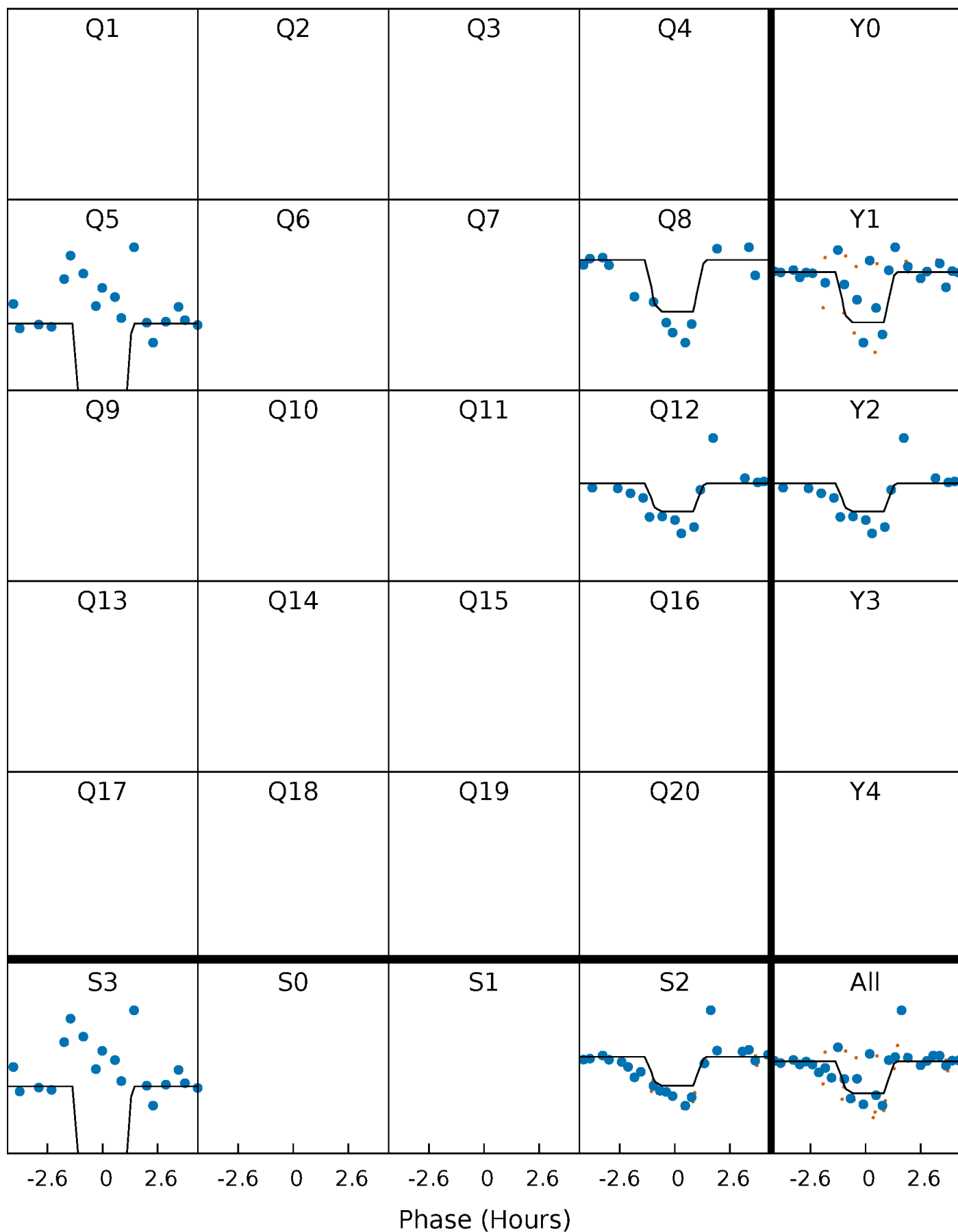
DV Quarter-Phased Transit Curves

TCE 008074287-02 $P=339.081514$ Days $T_0=459.593656$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

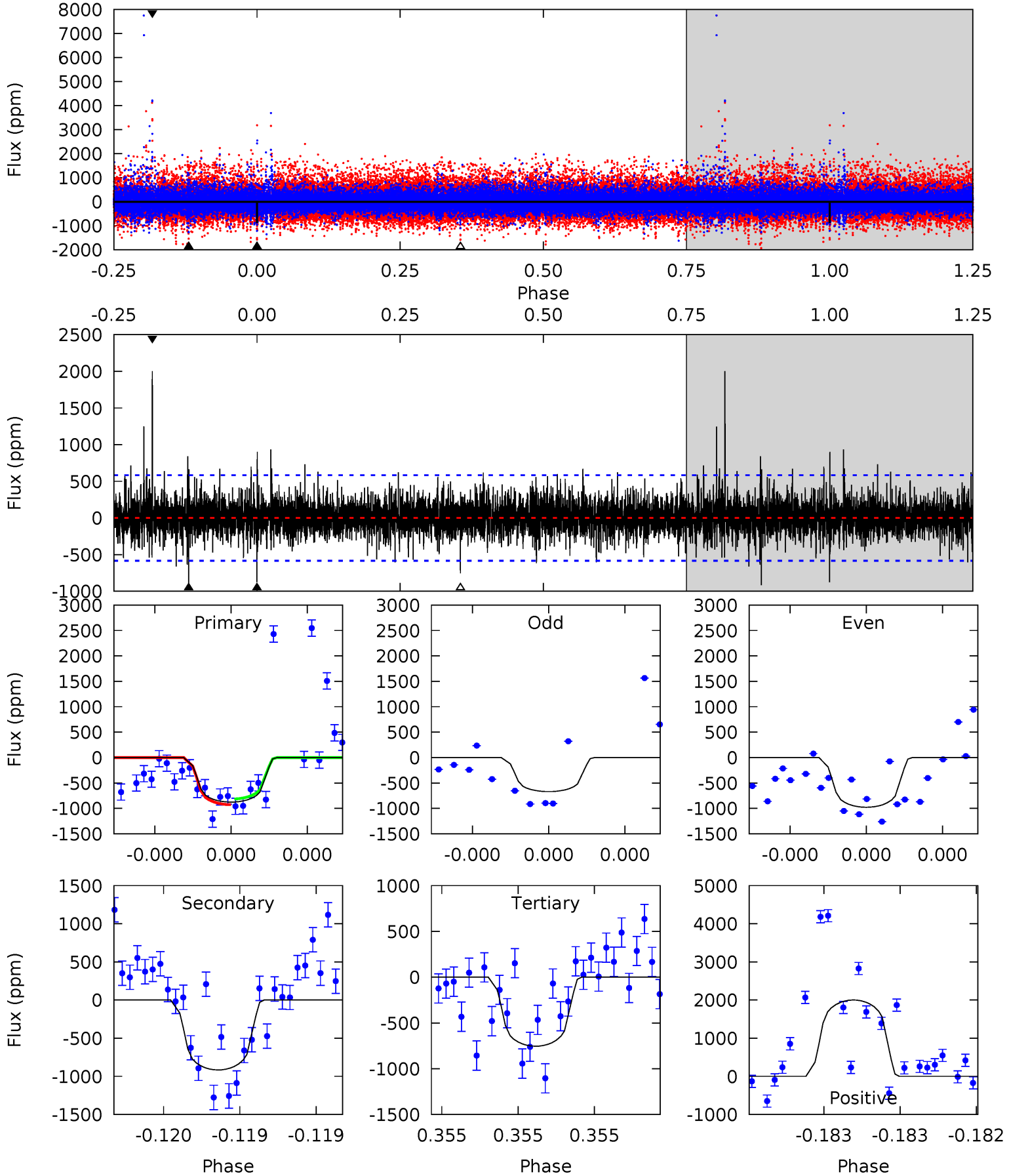
TCE 008074287-02 P=339.098181 Days $T_0=459.570823$ (BKJD)



DV Model-Shift Uniqueness Test

008074287-02, P = 339.081514 Days, E = 120.512142 Days

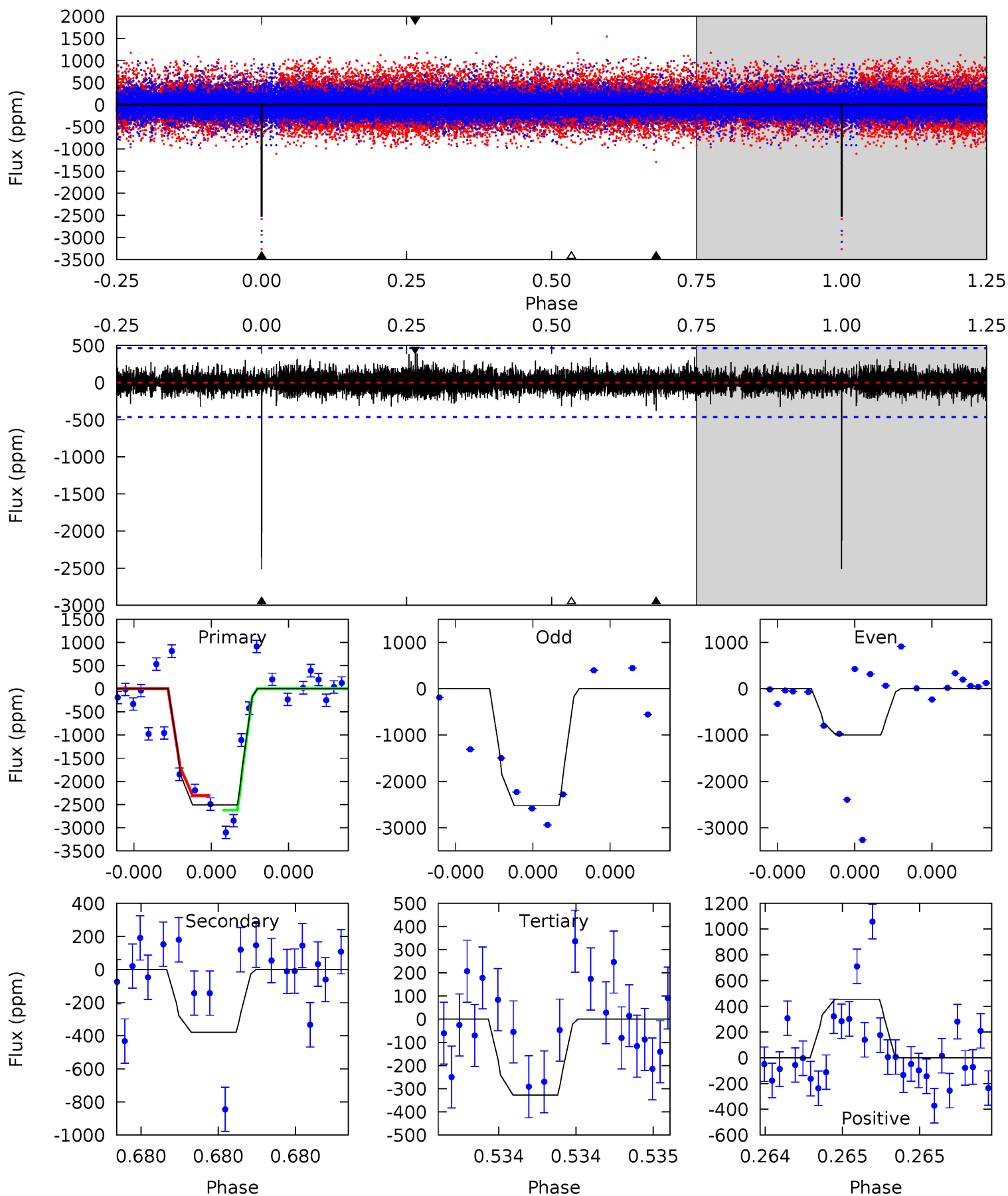
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.44	8.83	7.27	19.3	5.63	3.57	1.61	1.17	-10.9	1.56	-10.5	1.23	1.30	0.69	0.54



Alt Model-Shift Uniqueness Test

008074287-02, P = 339.098181 Days, E = 120.472642 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.6	4.63	3.99	5.53	5.65	3.60	0.95	26.6	25.1	0.64	-0.90	9.53	0.65	0.15	1.91



Stellar Parameters For KIC 008074287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5720^{+155}_{-155}	$4.428^{+0.120}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$0.929^{+0.248}_{-0.134}$	$0.844^{+0.118}_{-0.073}$	$1.484^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+100%/-100%	+27%/-14%	+14%/-9%	+54%/-48%
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 008074287-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-916 ± 104	$5.60^{+5.31}_{-3.66}$	361^{+26}_{-20}	4446^{+2967}_{-943}	$12957^{+104044}_{-9543}$
Alt.	-380 ± 82	$6.59^{+6.00}_{-4.42}$	362^{+24}_{-19}	3600^{+1860}_{-639}	3675^{+30342}_{-2624}

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 $A_{obs} \gg 1.0$

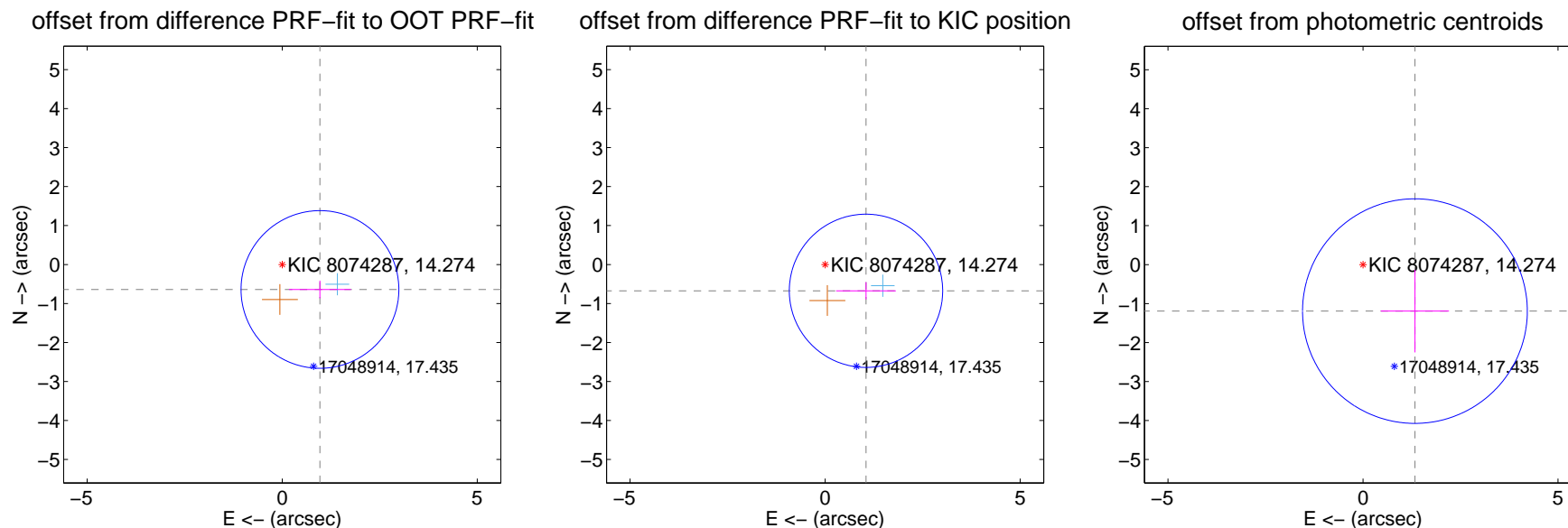
DV Centroid Data

Supplemental centroid analysis for 008074287-02. Kepler magnitude: 14.27. Transit SNR 5.78

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.160 ± 0.674	1.72	-0.967 ± 0.794	-0.640 ± 0.227
PRF-fit source offset from KIC position	1.245 ± 0.655	1.90	-1.048 ± 0.766	-0.674 ± 0.221
photometric centroid source offset	1.79 ± 0.96	1.86	-1.33 ± 0.87	-1.19 ± 1.06

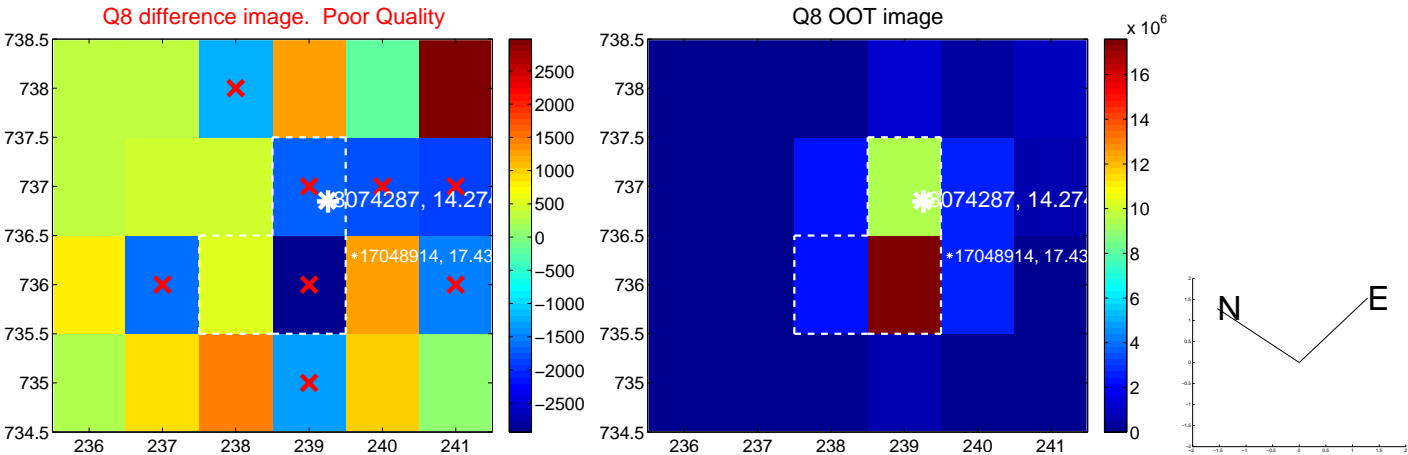
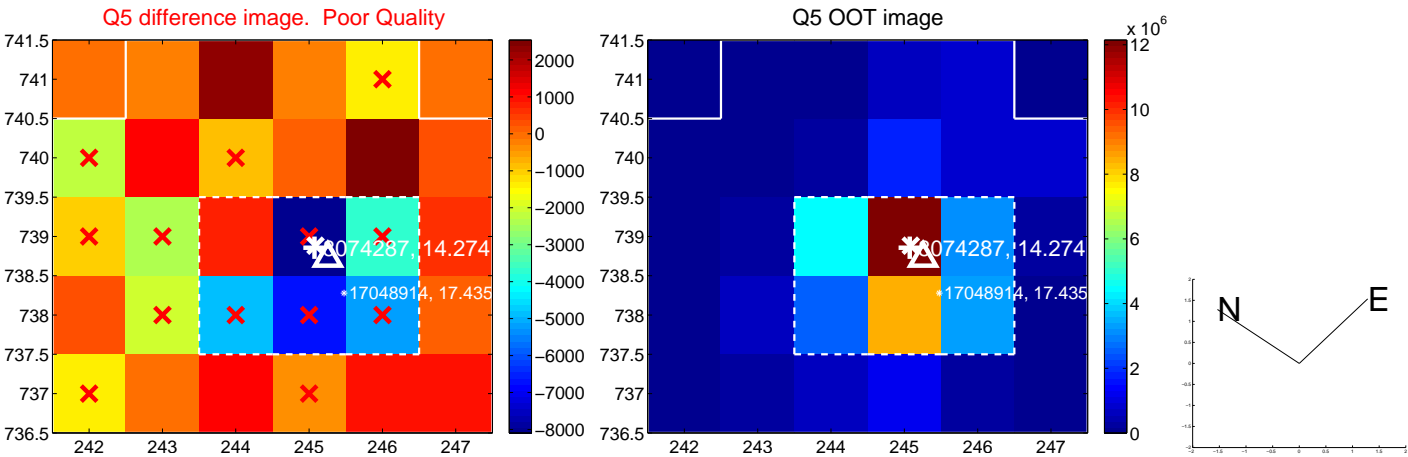


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

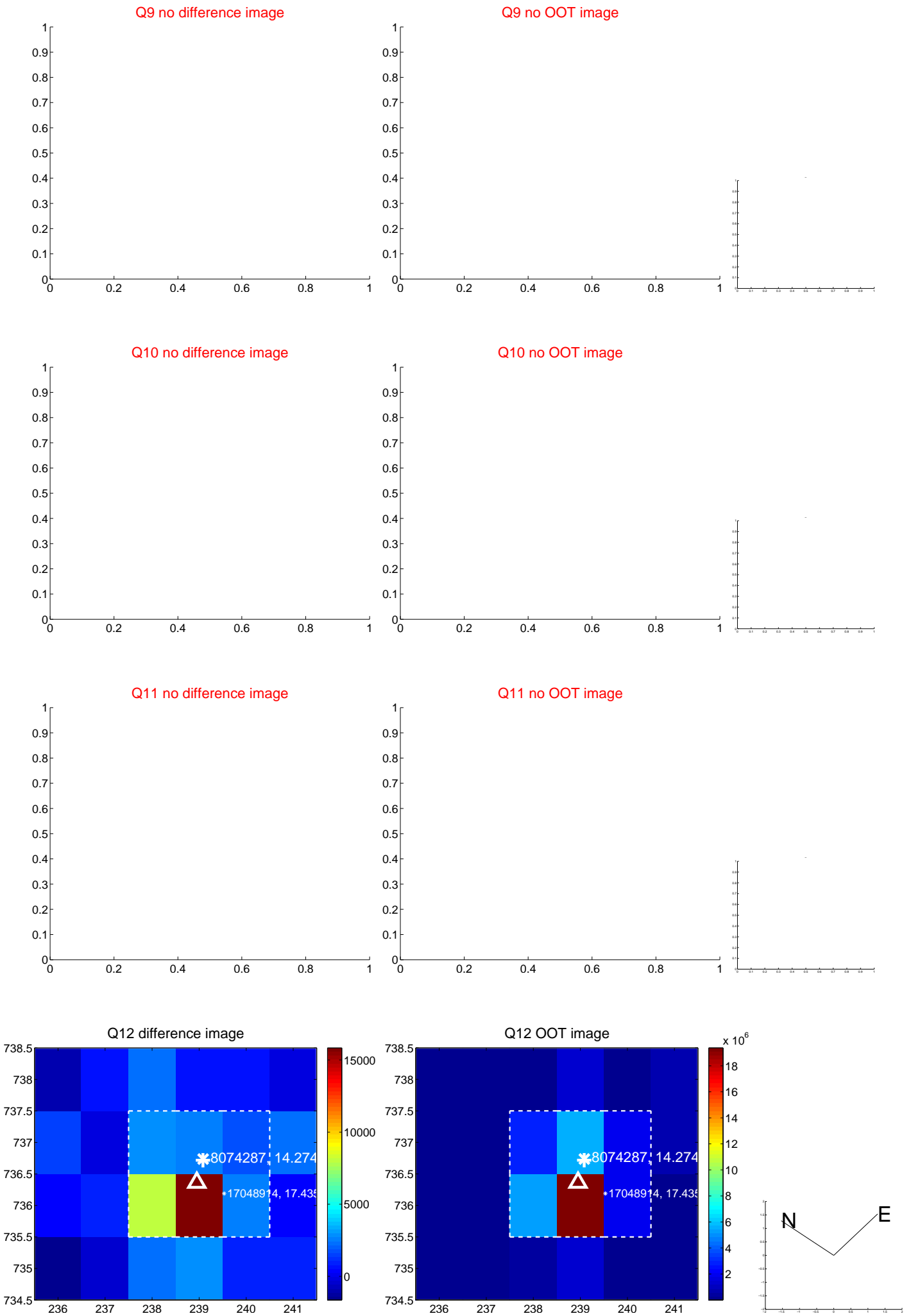
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



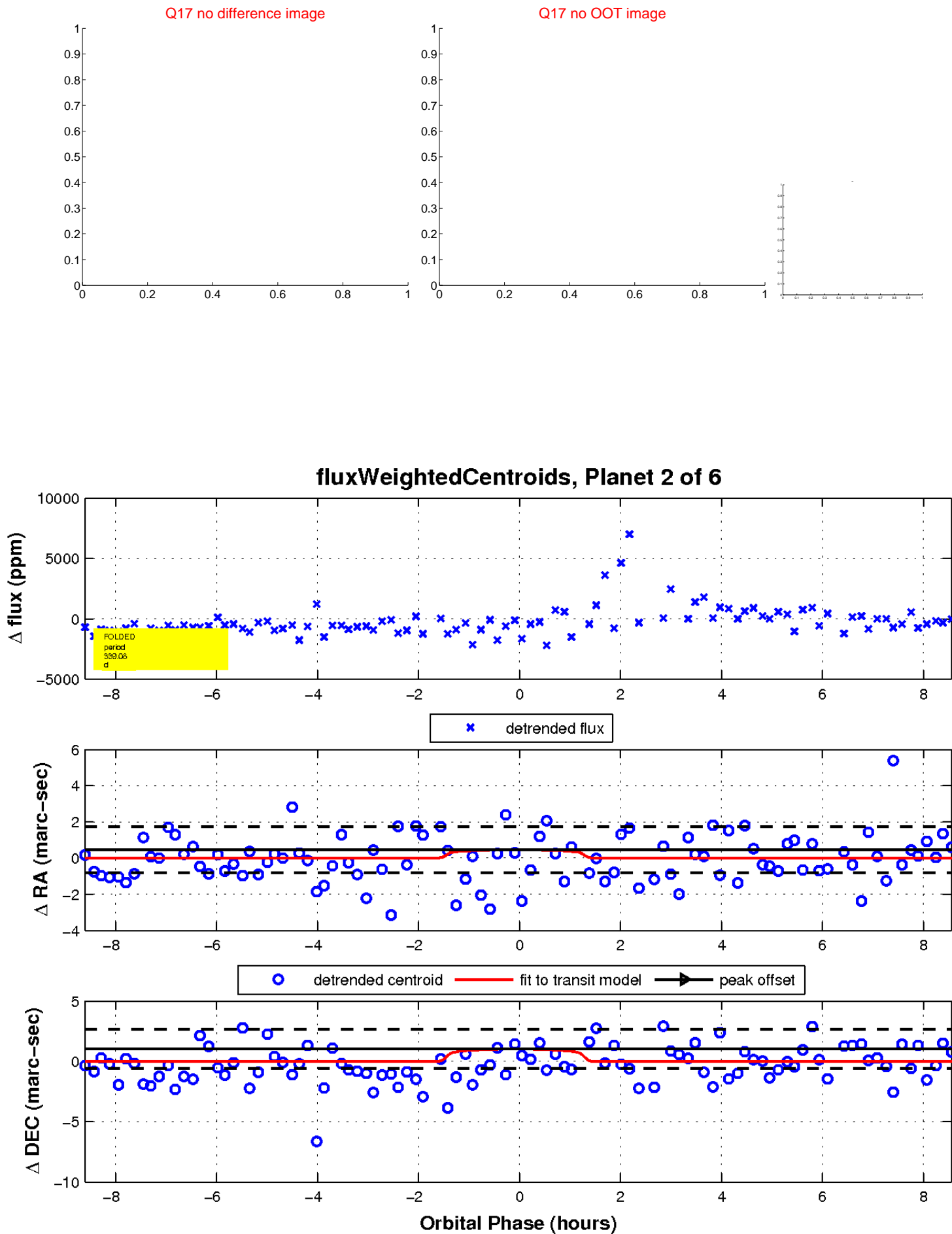
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

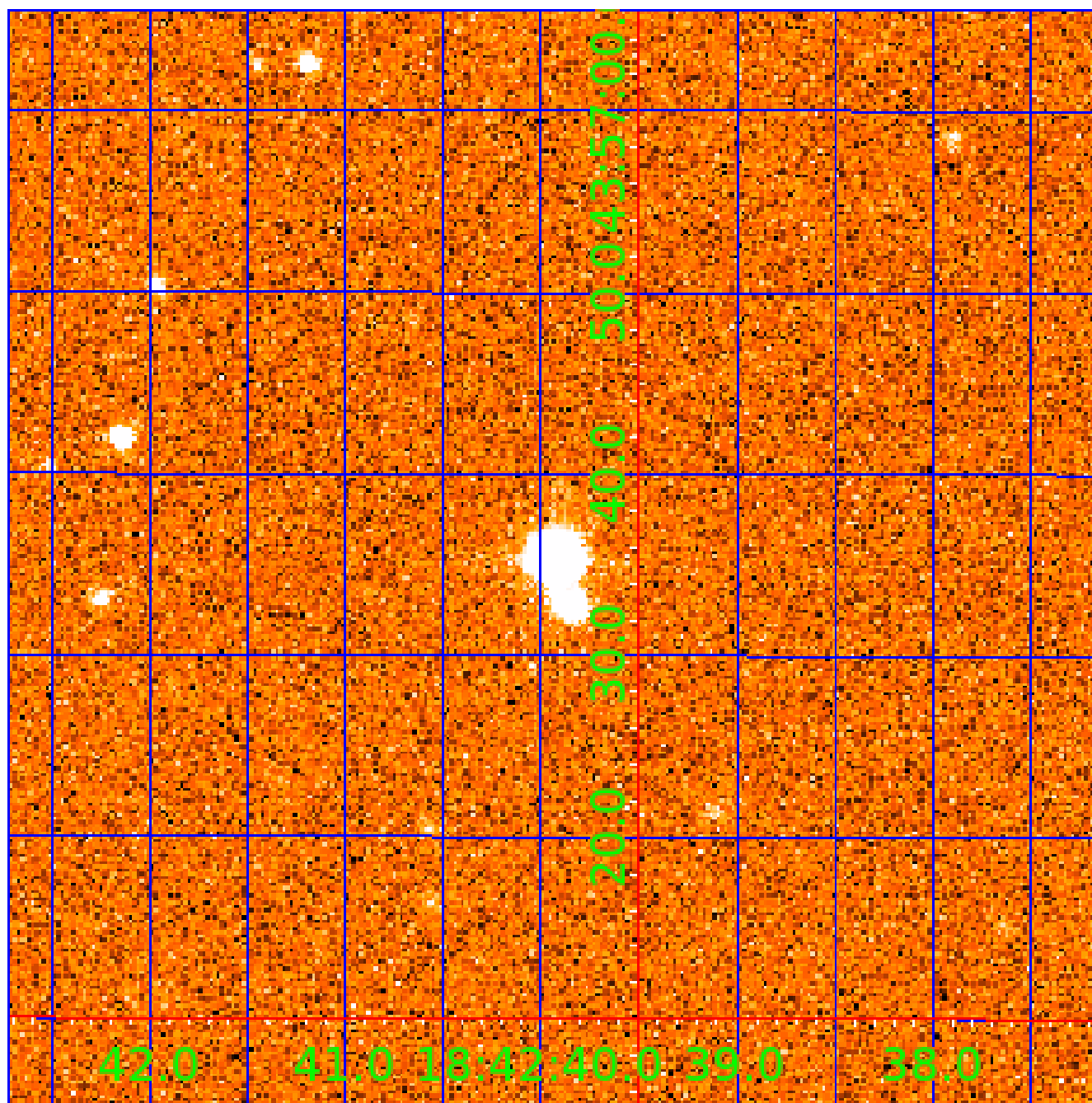


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008074287

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})
008074287-01	OBS	No	399.546035	376.523954	897.4	2.827	15.6	6.7	0.93	5720	2.96	0.82
008074287-02	OBS	No	339.081514	459.593656	1126.1	2.884	15.1	5.8	0.93	5720	3.19	1.02
008074287-03	OBS	No	562.591133	262.239637	1174.2	3.697	13.1	6.3	0.93	5720	3.21	0.52
008074287-04	OBS	No	440.096002	194.770233	1030.0	3.716	14.9	6.4	0.93	5720	3.11	0.72
008074287-05	OBS	No	379.640847	420.075550	1274.8	2.393	13.6	6.6	0.93	5720	3.30	0.88
008074287-06	OBS	No	357.410209	379.015895	673.8	7.500	11.3	-1.0	0.93	5720	2.39	0.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008074287-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS
008074287-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008074287-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-04	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
008074287-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

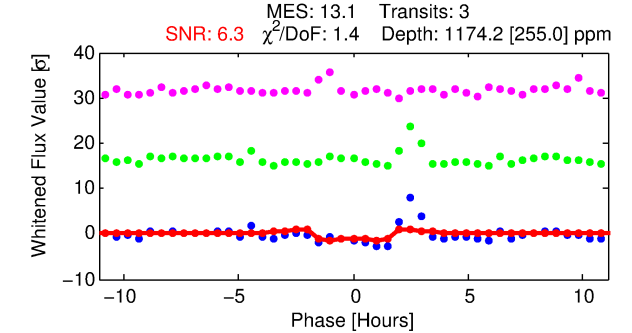
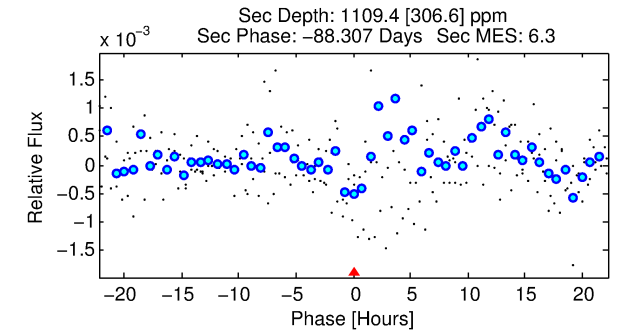
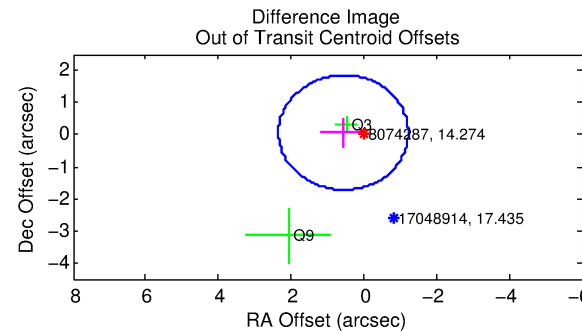
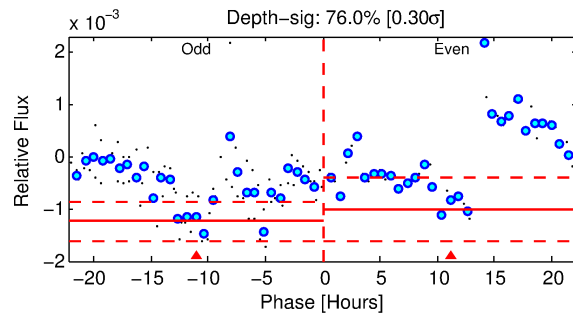
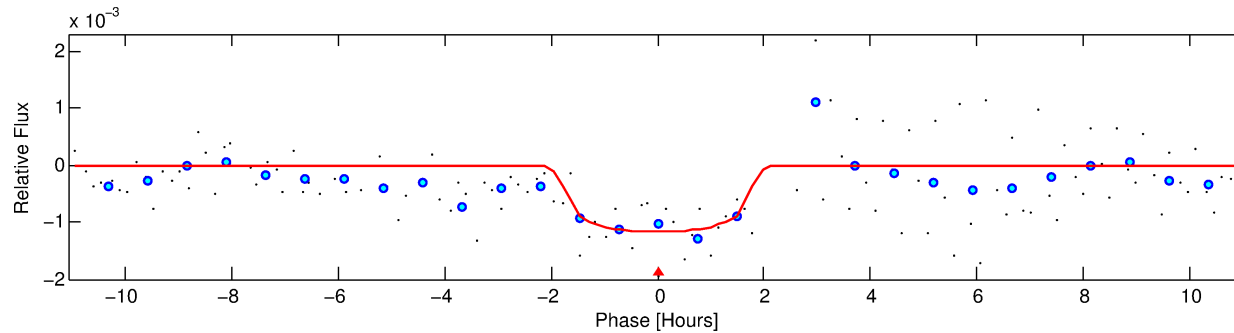
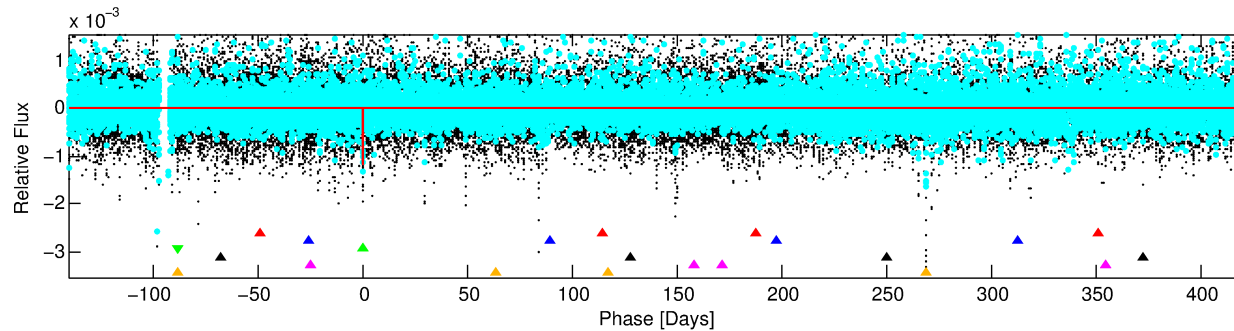
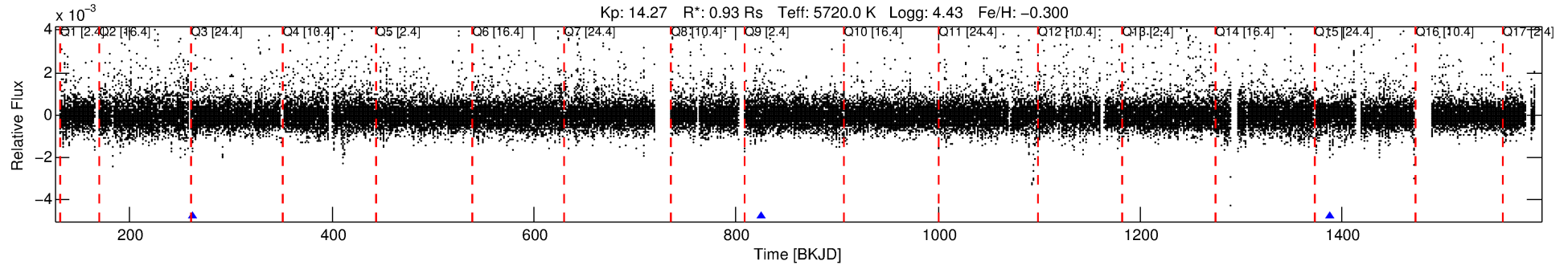
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008074287-03

No Significant Match Found

DV One-Page Summary

KIC: 8074287 Candidate: 3 of 6 Period: 562.591 d



DV Fit Results:

Period = 562.59113 [0.00711] d
Epoch = 262.2396 [0.0069] BKJD
Rp/R* = 0.0317 [0.1244]
a/R* = 1117.06 [19809.11]
b = 0.38 [40.95]
Seff = 0.52 [0.18]
Teq = 217 [19] K
Rp = 3.21 [12.65] Re
a = 1.2604 [0.2840] AU
Ag = 93981.80 [739406.29] [0.13 σ]
Teffp = 5865 [11526] K [0.49 σ]

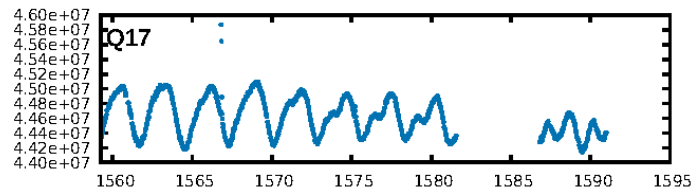
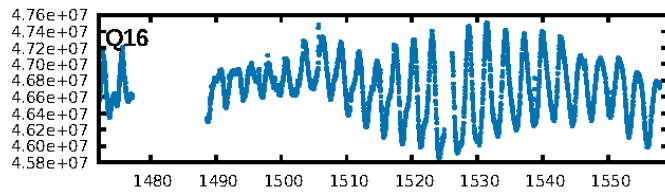
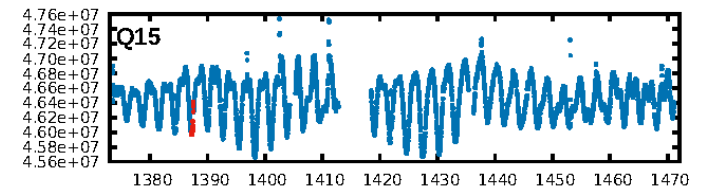
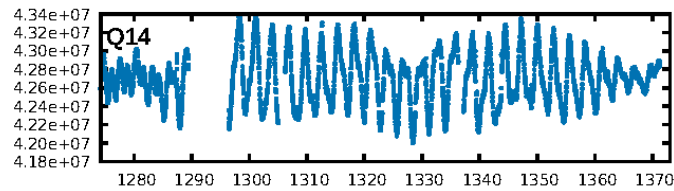
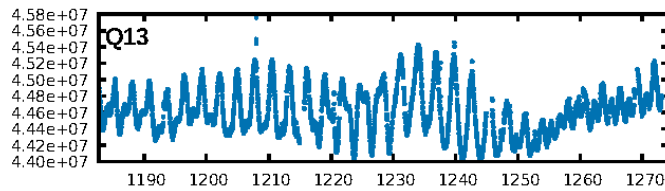
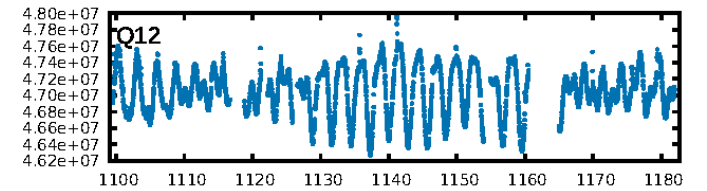
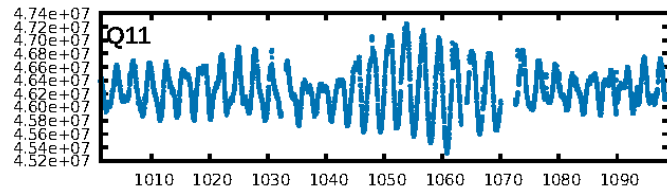
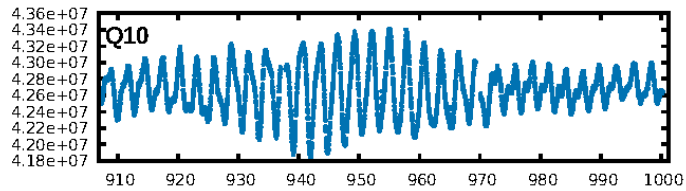
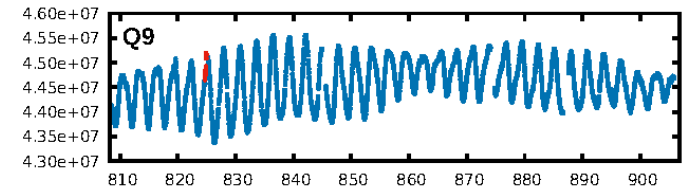
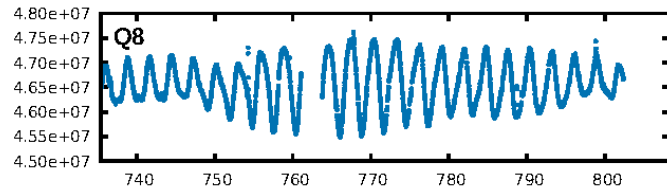
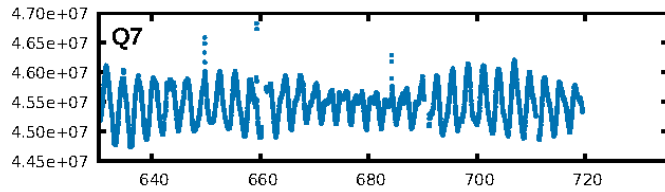
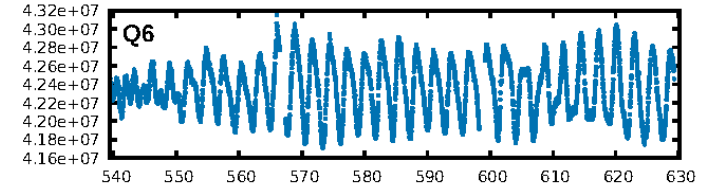
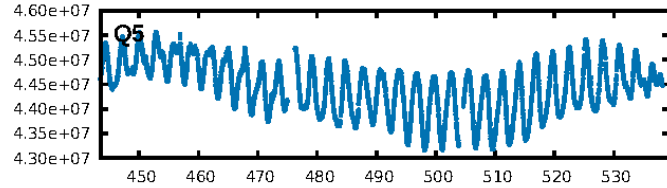
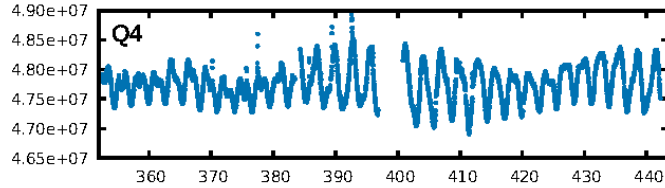
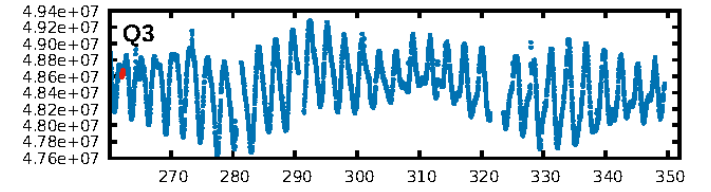
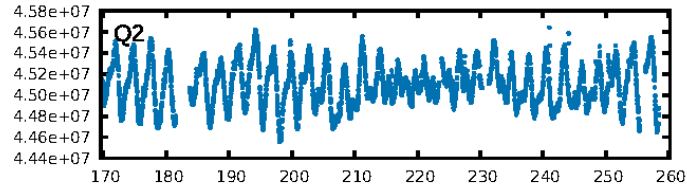
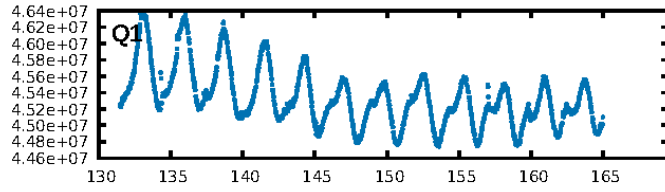
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [560.84 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.9%
ModelChiSquareGof-sig: 59.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.174
Centroid-sig: 7.1%
Centroid-so: 0.675 arcsec [0.64 σ]
OotOffset-rm: 0.566 arcsec [0.95 σ]
KicOffset-rm: 0.412 arcsec [0.69 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

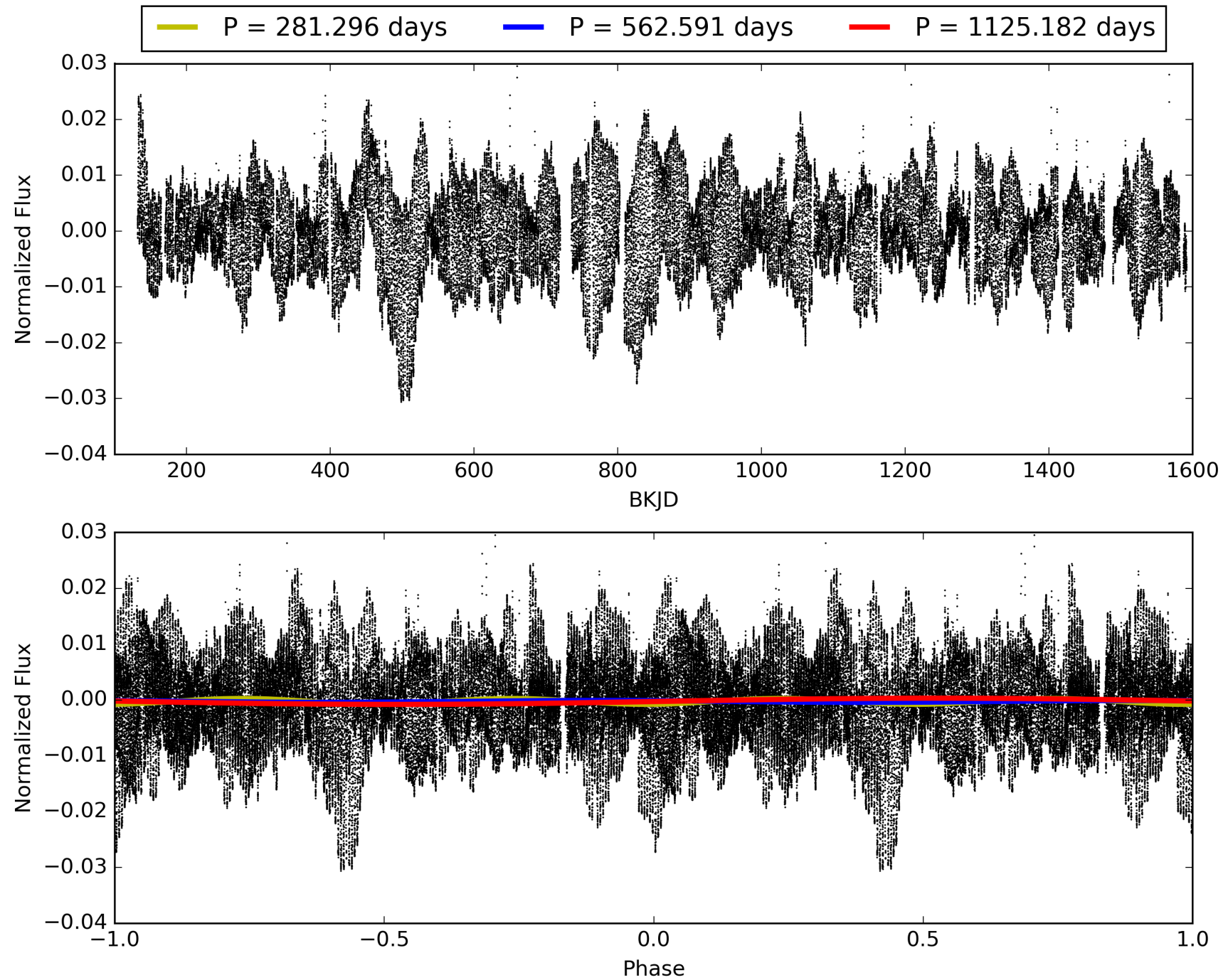
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 14:56:00 Z

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

TCE 008074287-03, PDC Light Curves

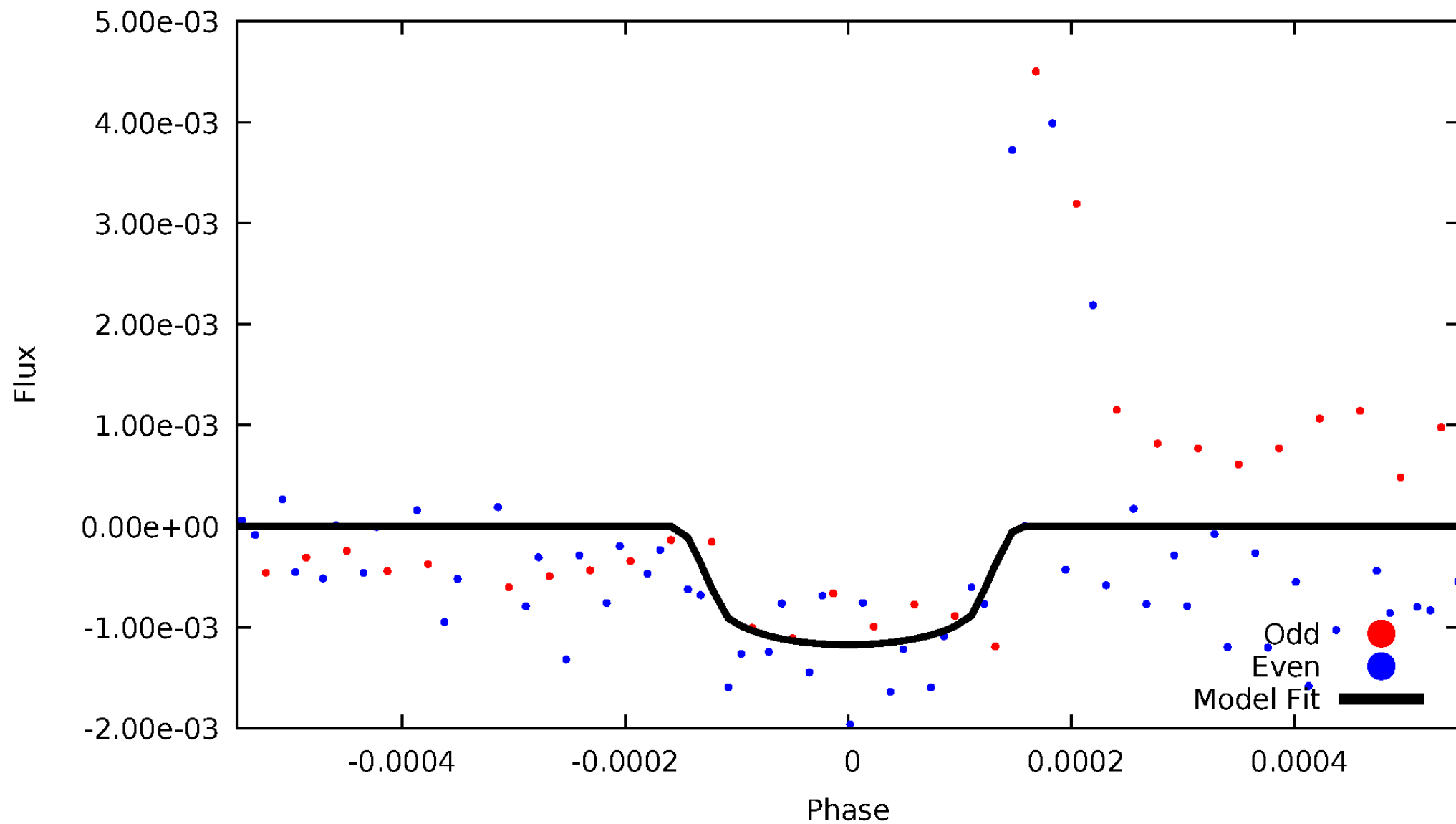


TCE 008074287-03



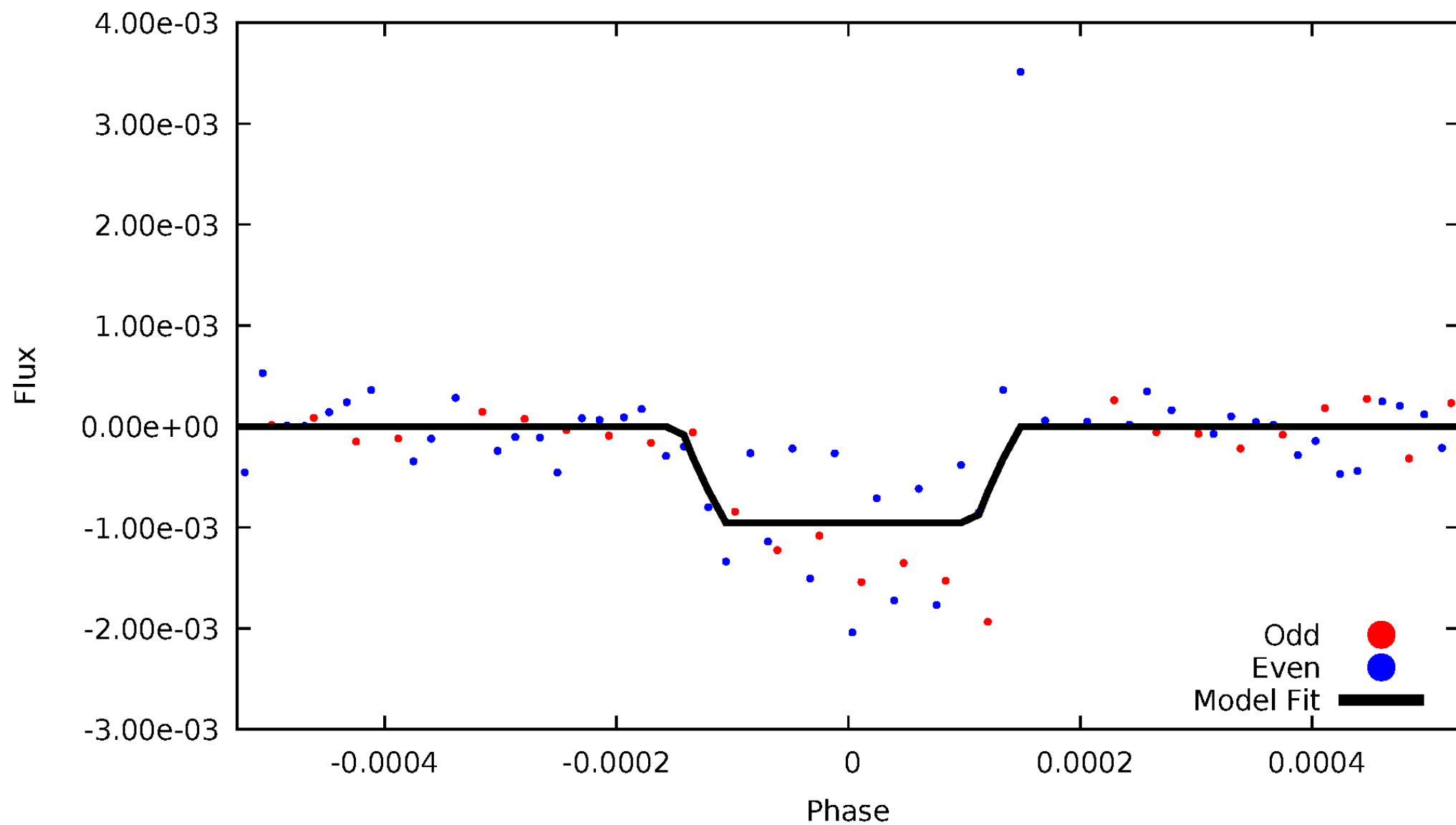
DV Odd/Even

TCE 008074287-03



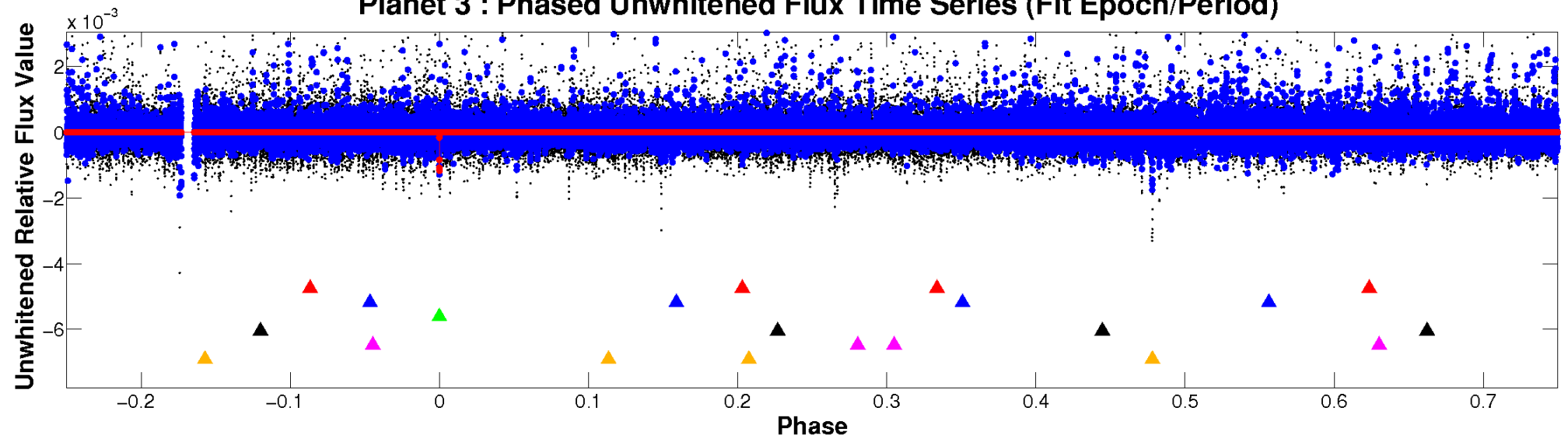
ALT Odd/Even

TCE 008074287-03

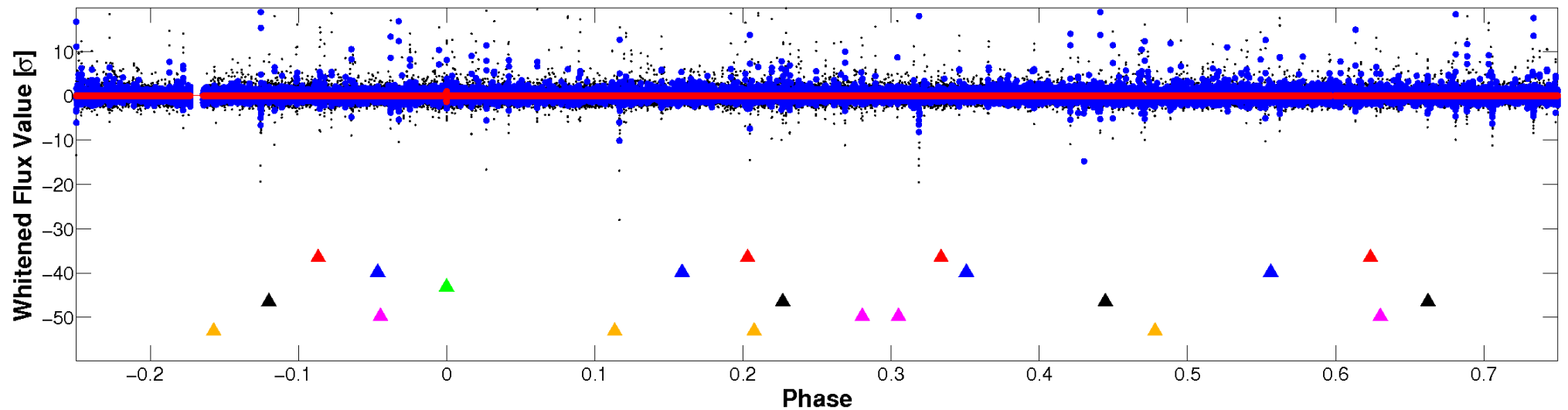


Non-Whitened Vs. Whitened Light Curve

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

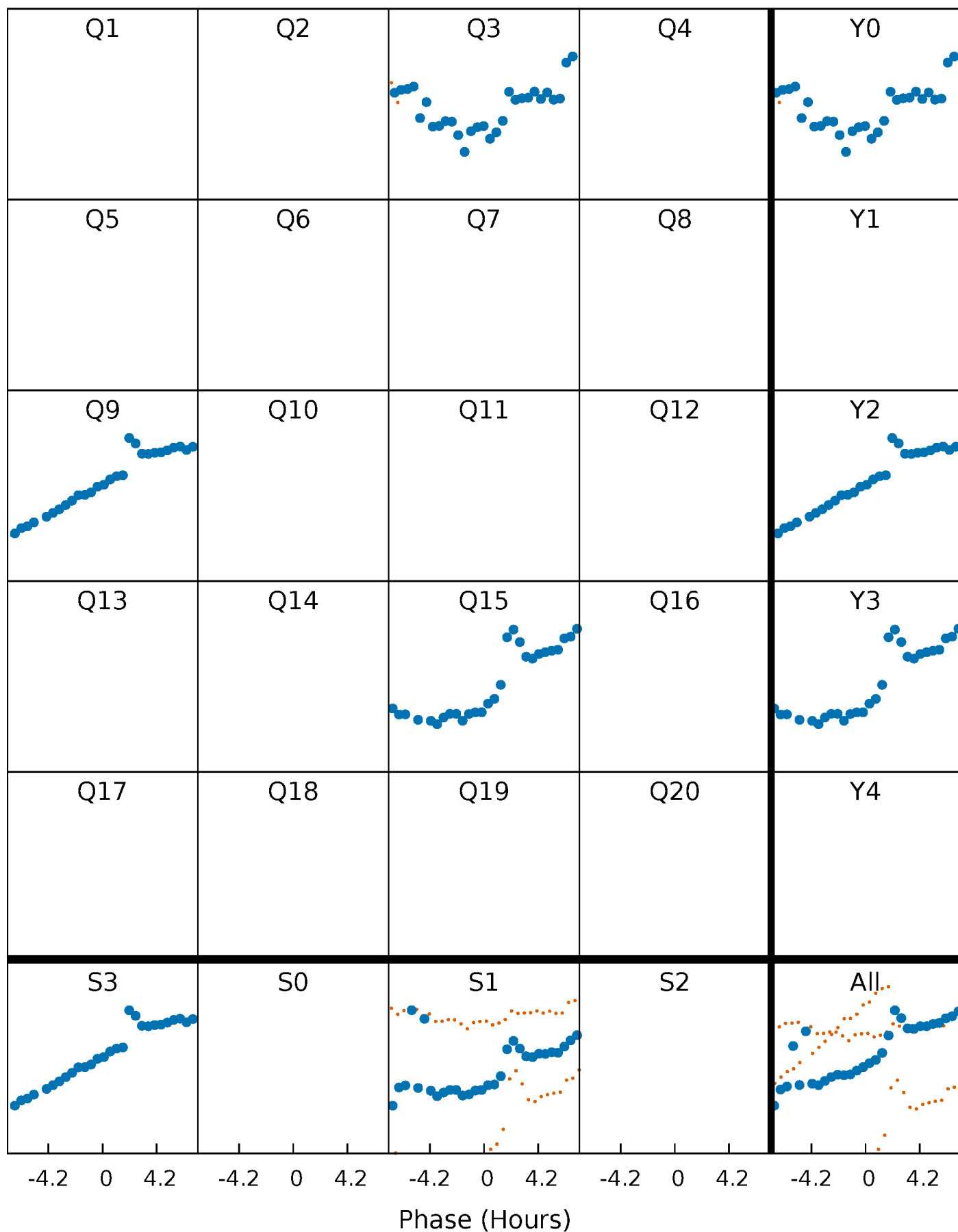


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



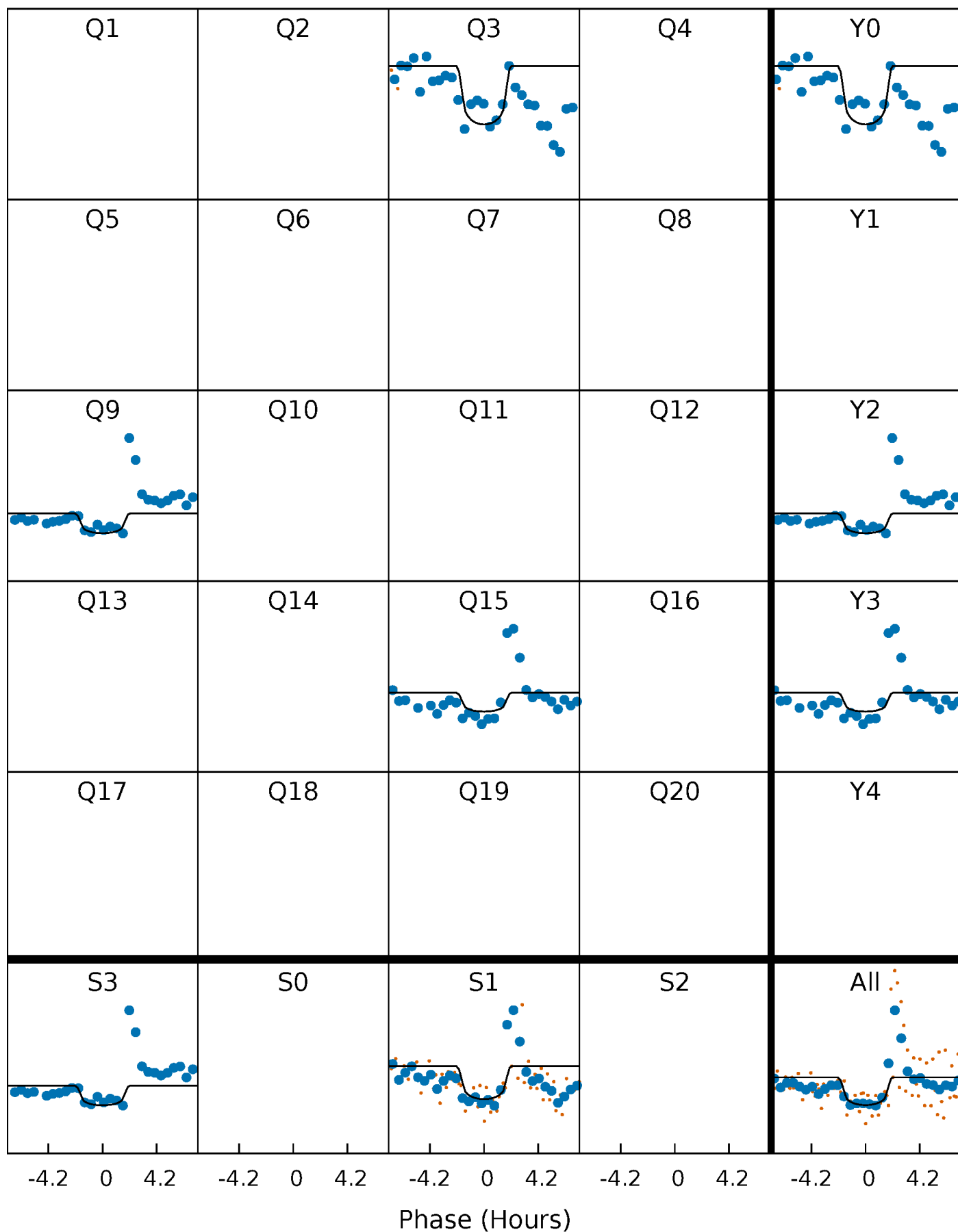
PDC Quarter-Phased Transit Curves

TCE 008074287-03 $P=562.591133$ Days $T_0=262.239637$ (BKJD)



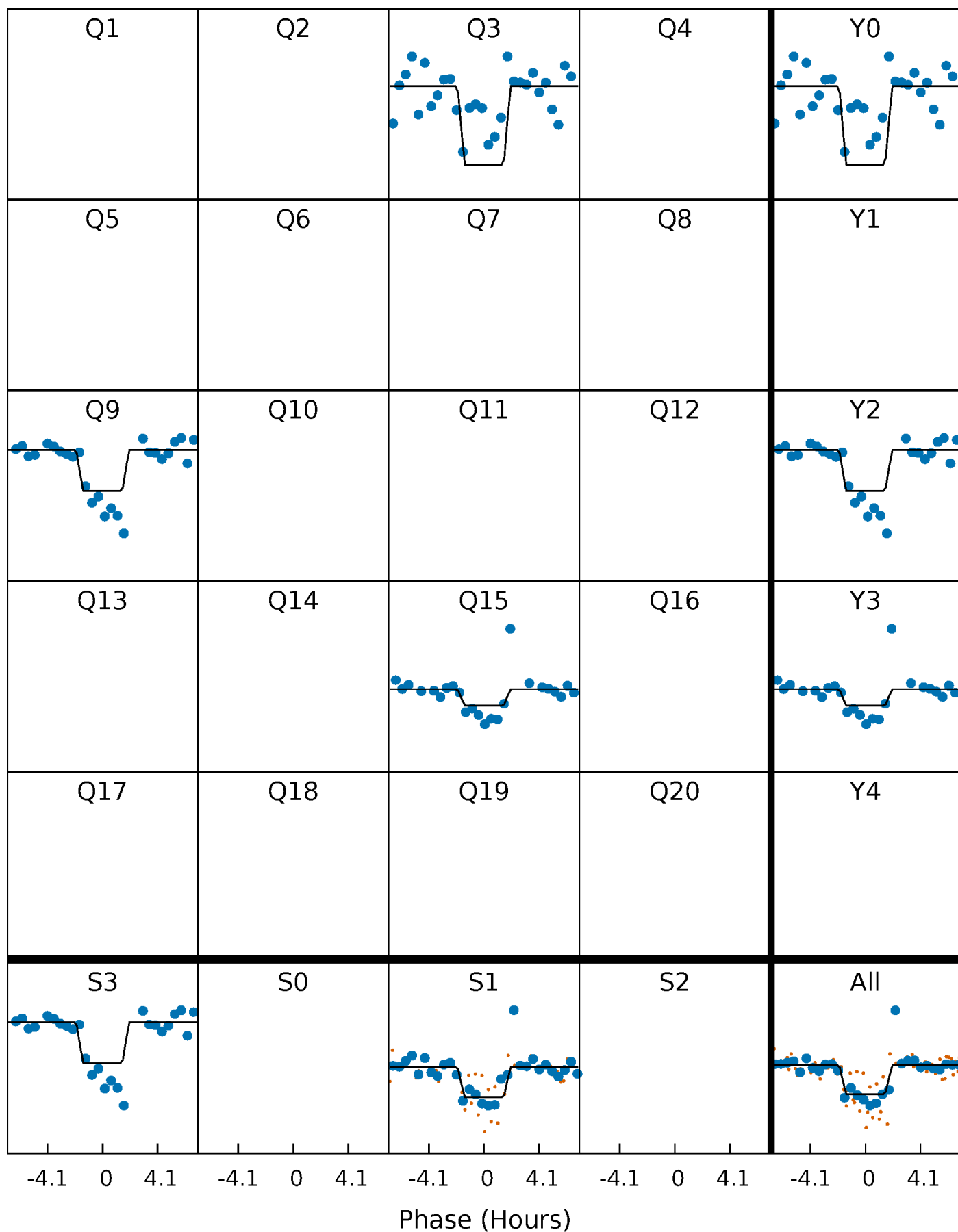
DV Quarter-Phased Transit Curves

TCE 008074287-03 $P=562.591133$ Days $T_0=262.239637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

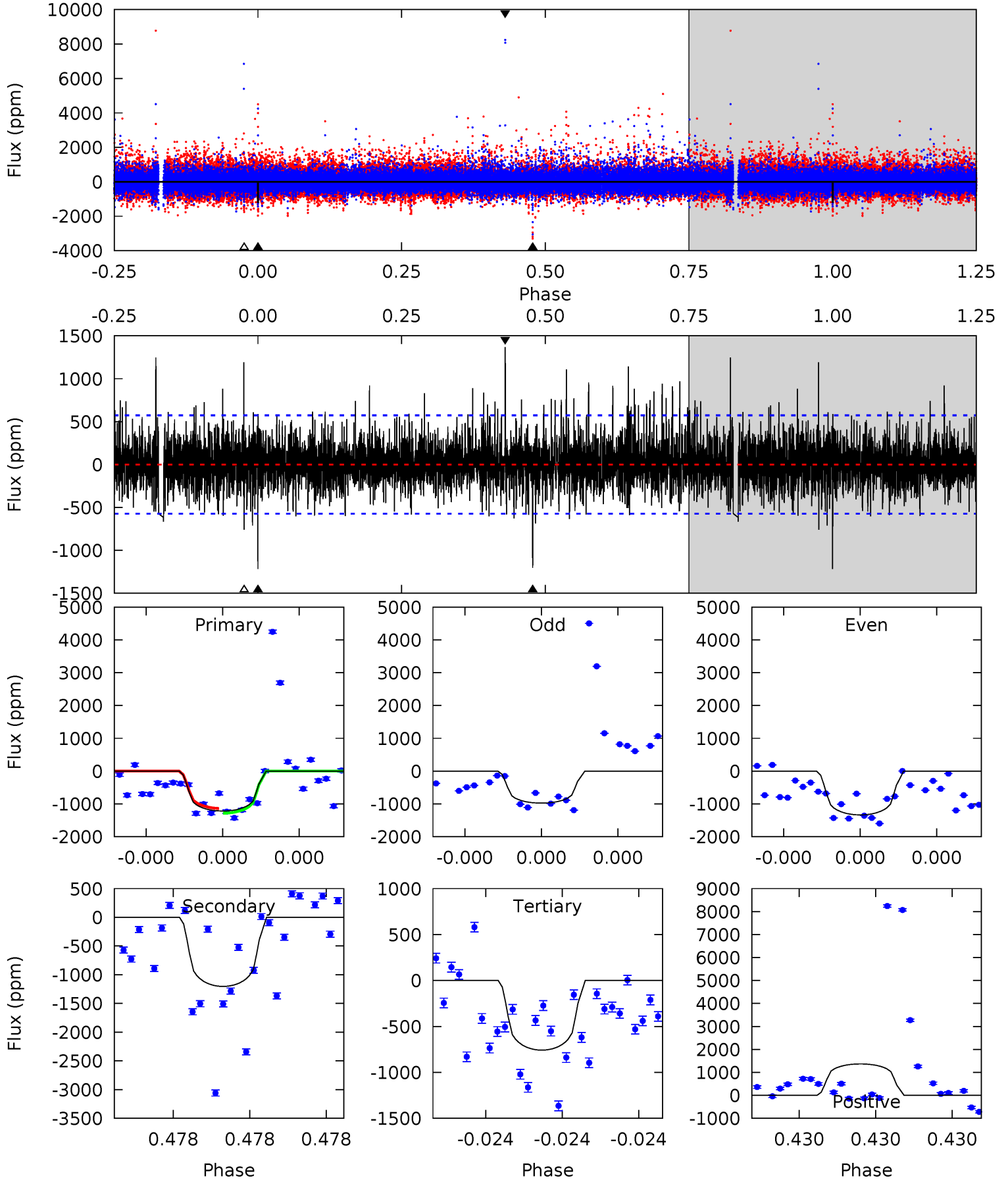
TCE 008074287-03 P=562.583585 Days $T_0=262.253631$ (BKJD)



DV Model-Shift Uniqueness Test

008074287-03, P = 562.591133 Days, E = 262.239637 Days

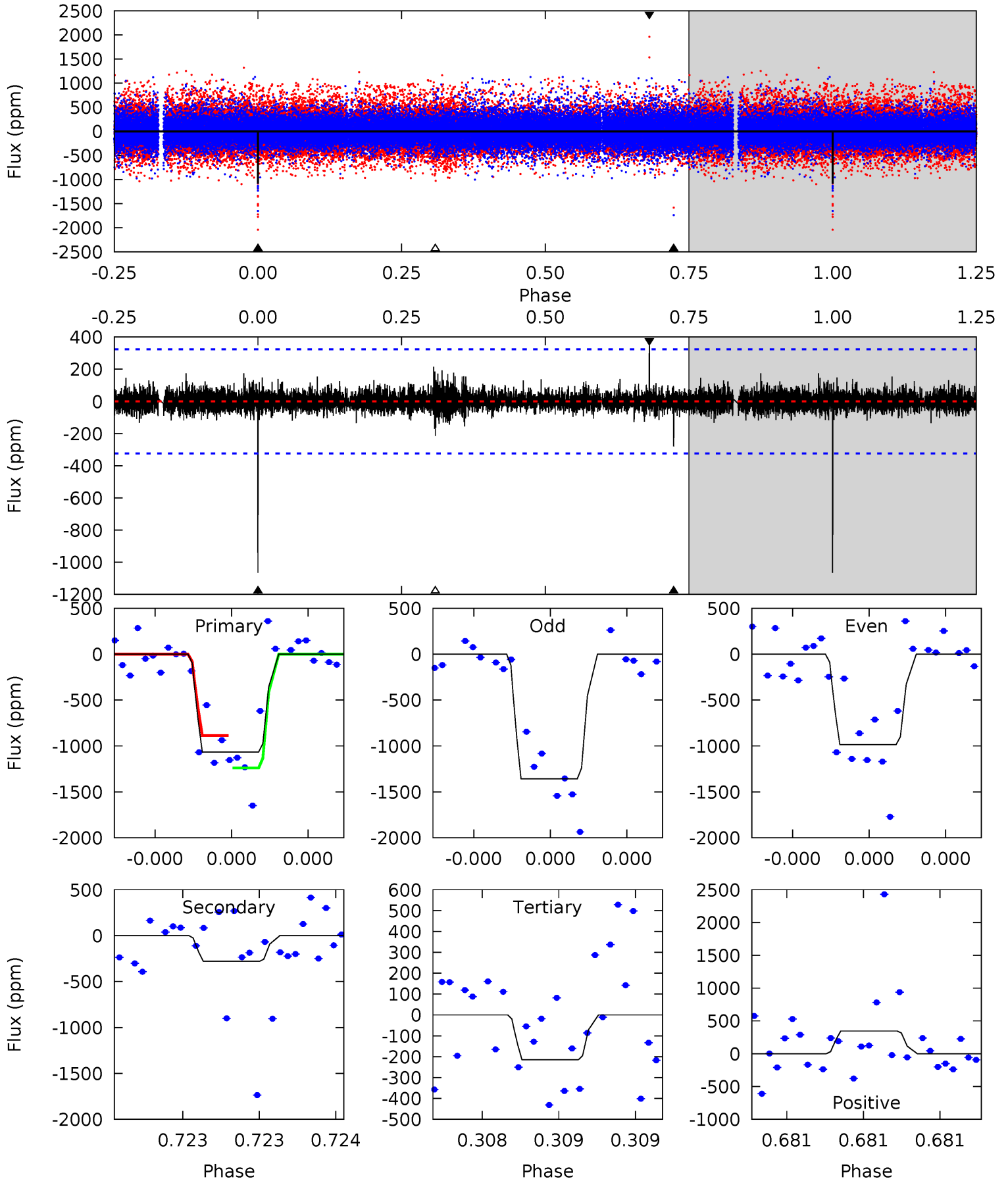
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	11.9	7.51	13.5	5.67	3.63	2.04	4.55	-1.48	4.40	-1.62	1.34	1.14	0.53	0.71



Alt Model-Shift Uniqueness Test

008074287-03, P = 562.583585 Days, E = 262.253631 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	4.91	3.77	6.08	5.68	3.64	0.63	15.0	12.6	1.14	-1.17	3.27	0.81	0.25	3.12



Stellar Parameters For KIC 008074287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5720^{+155}_{-155}	$4.428^{+0.120}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$0.929^{+0.248}_{-0.134}$	$0.844^{+0.118}_{-0.073}$	$1.484^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+100%/-100%	+27%/-14%	+14%/-9%	+54%/-48%
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 008074287-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1203 ± 101	$10.07^{+10.59}_{-7.36}$	303^{+21}_{-14}	3807^{+2668}_{-771}	$10142^{+138966}_{-7689}$
Alt.	-280 ± 57	$9.35^{+10.62}_{-6.21}$	304^{+22}_{-15}	3068^{+1288}_{-541}	2722^{+21813}_{-2101}

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

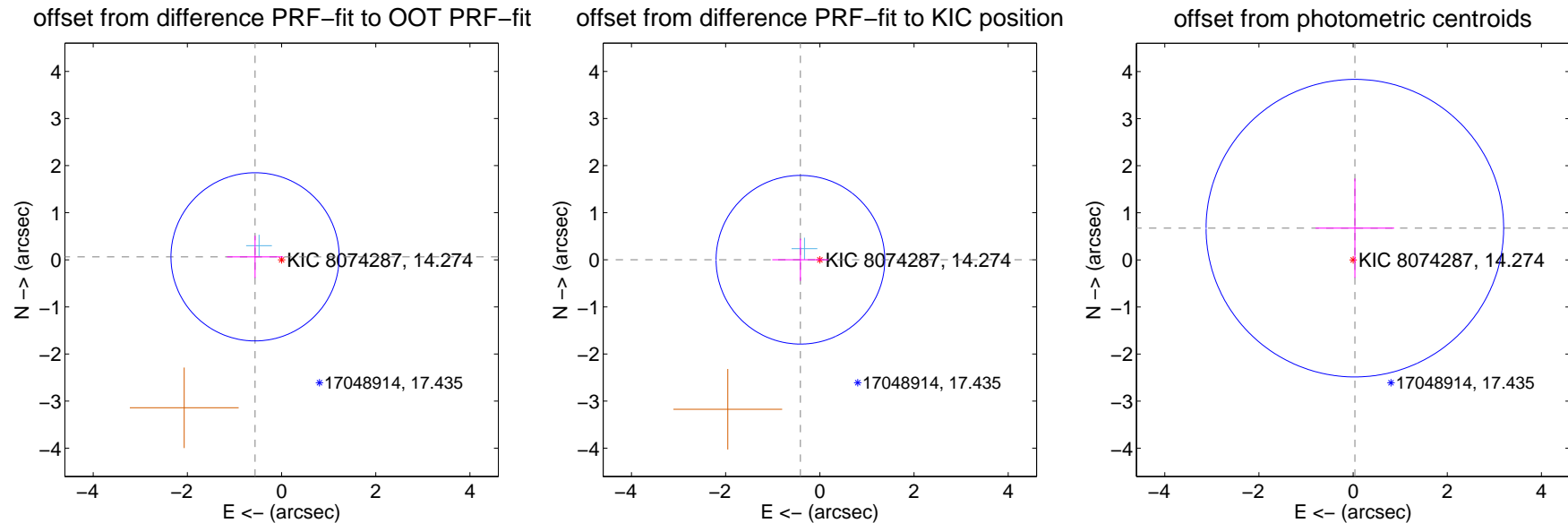
DV Centroid Data

Supplemental centroid analysis for 008074287-03. Kepler magnitude: 14.27. Transit SNR 6.33

There are 1 quarters with good PRF difference image offsets

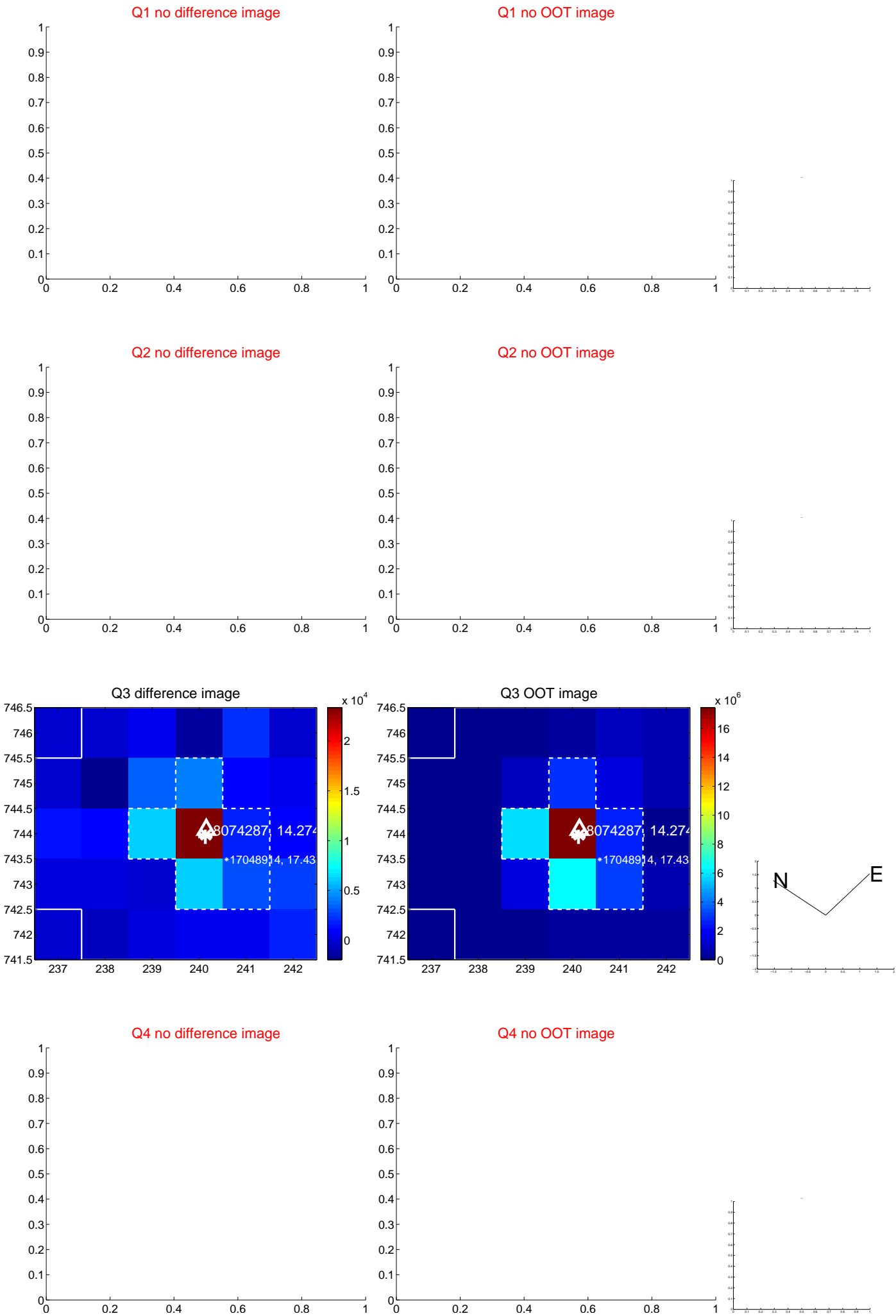
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.566 ± 0.595	0.95	0.563 ± 0.597	0.063 ± 0.448
PRF-fit source offset from KIC position	0.412 ± 0.597	0.69	0.412 ± 0.597	0.001 ± 0.448
photometric centroid source offset	0.67 ± 1.05	0.64	-0.04 ± 0.84	0.67 ± 1.05



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.

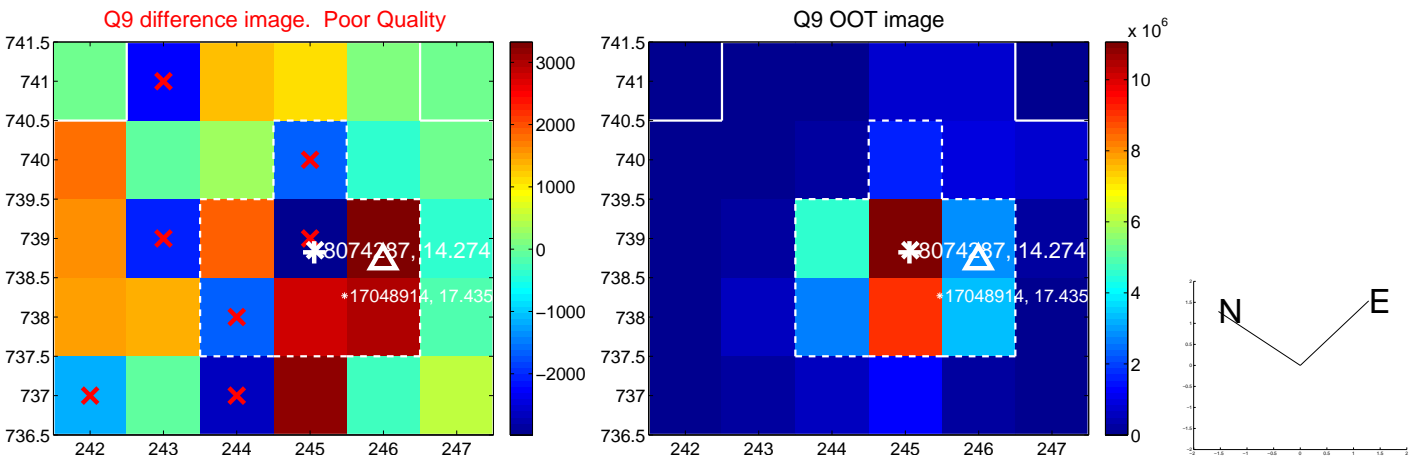
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



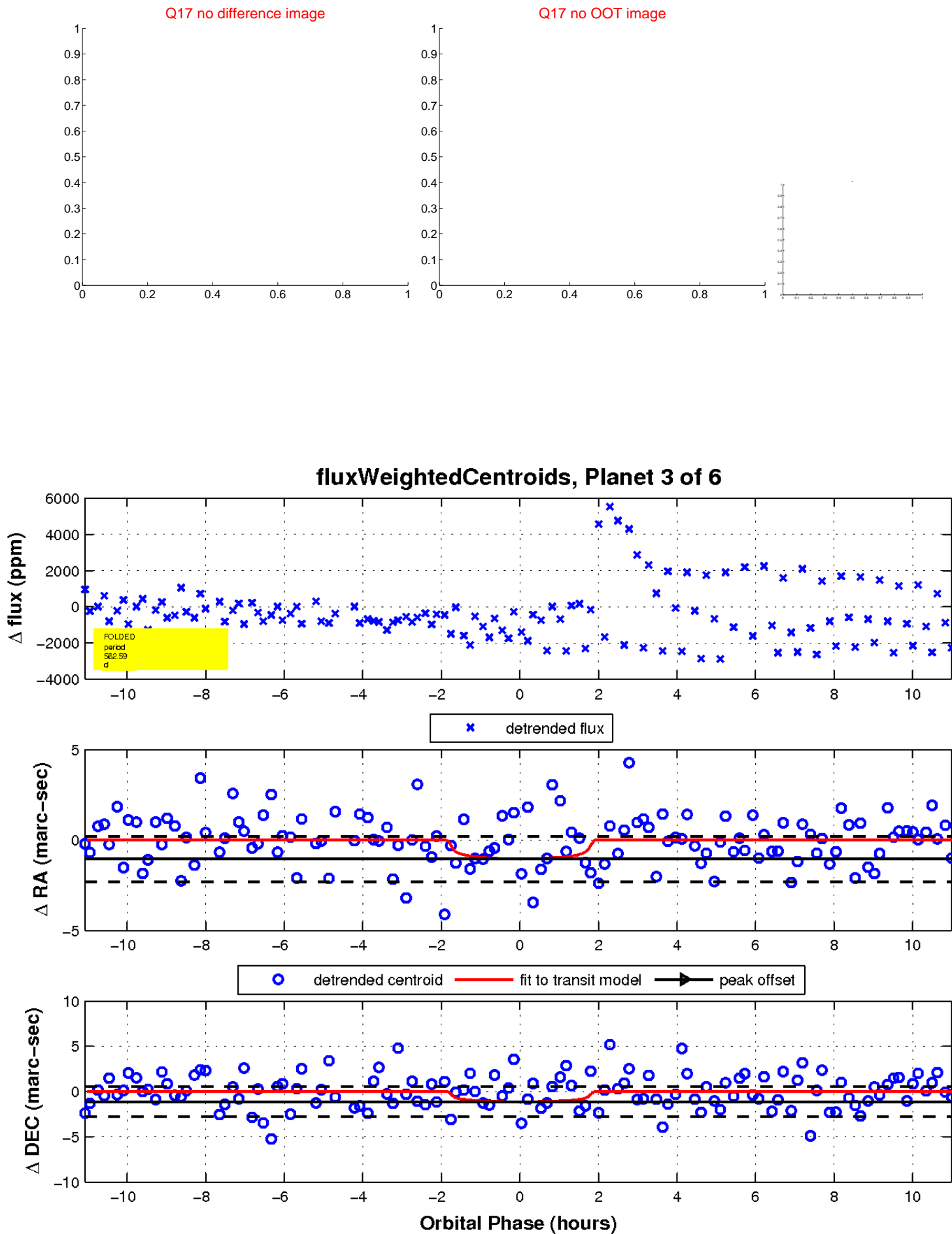
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

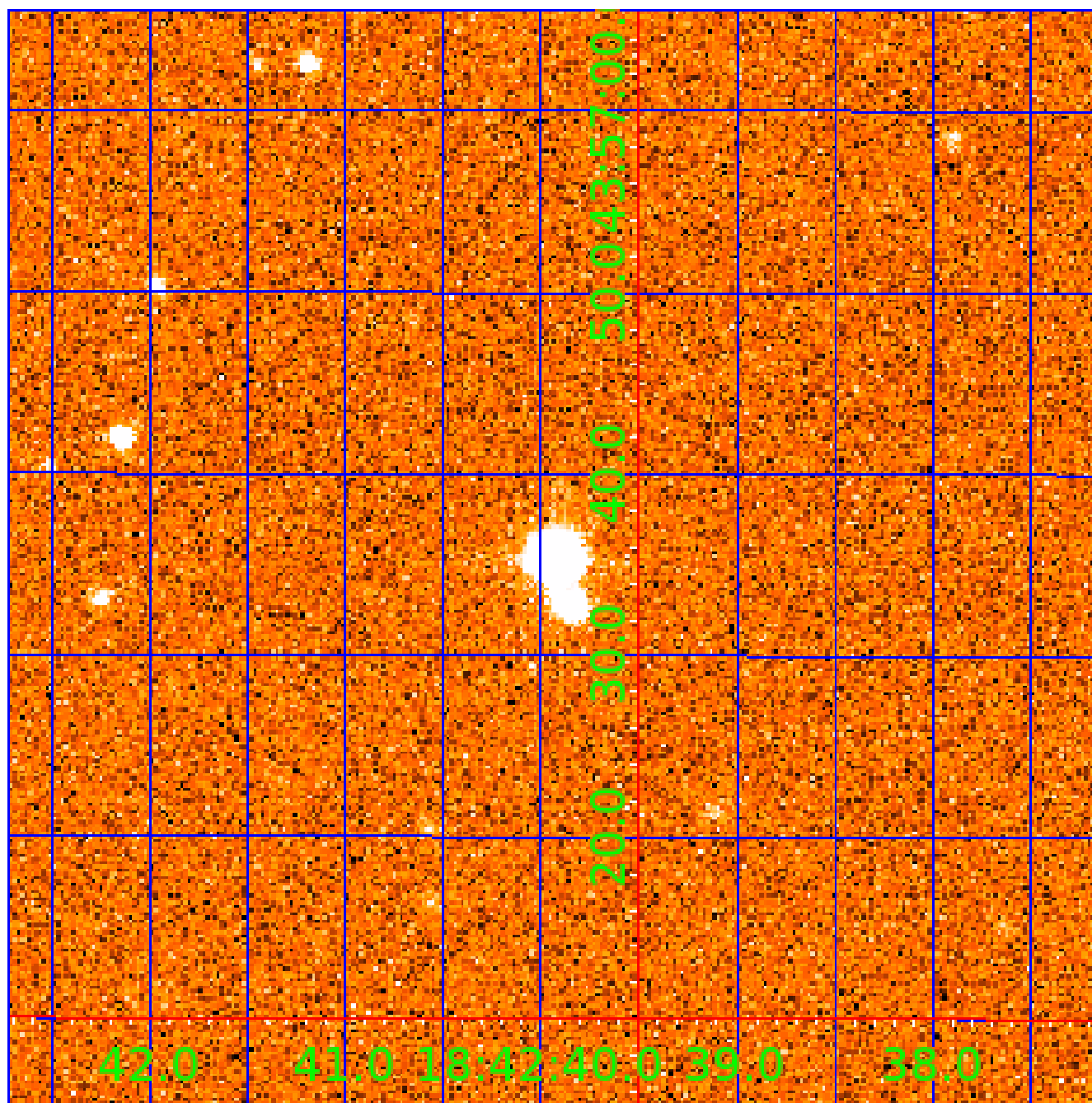


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008074287

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})
008074287-01	OBS	No	399.546035	376.523954	897.4	2.827	15.6	6.7	0.93	5720	2.96	0.82
008074287-02	OBS	No	339.081514	459.593656	1126.1	2.884	15.1	5.8	0.93	5720	3.19	1.02
008074287-03	OBS	No	562.591133	262.239637	1174.2	3.697	13.1	6.3	0.93	5720	3.21	0.52
008074287-04	OBS	No	440.096002	194.770233	1030.0	3.716	14.9	6.4	0.93	5720	3.11	0.72
008074287-05	OBS	No	379.640847	420.075550	1274.8	2.393	13.6	6.6	0.93	5720	3.30	0.88
008074287-06	OBS	No	357.410209	379.015895	673.8	7.500	11.3	-1.0	0.93	5720	2.39	0.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008074287-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS
008074287-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008074287-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-04	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
008074287-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

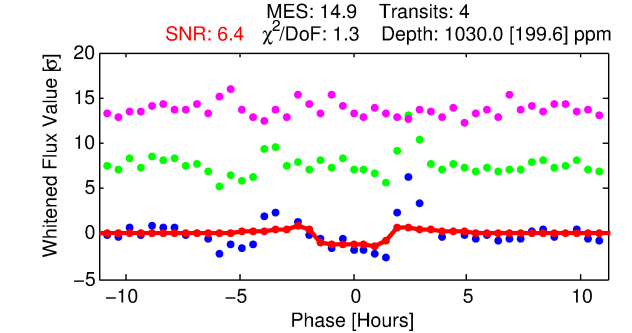
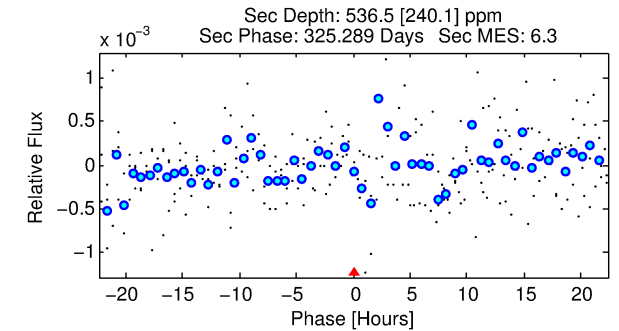
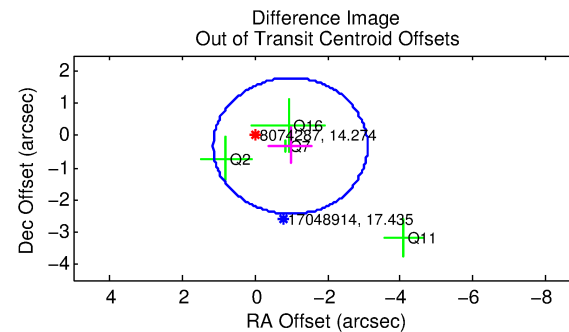
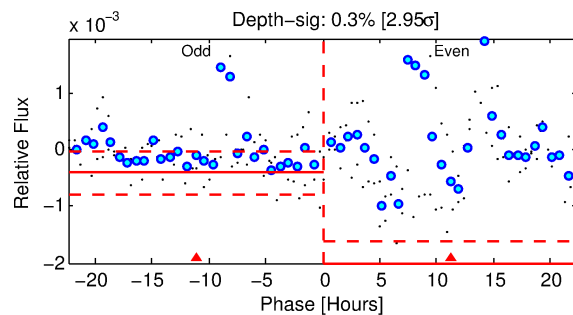
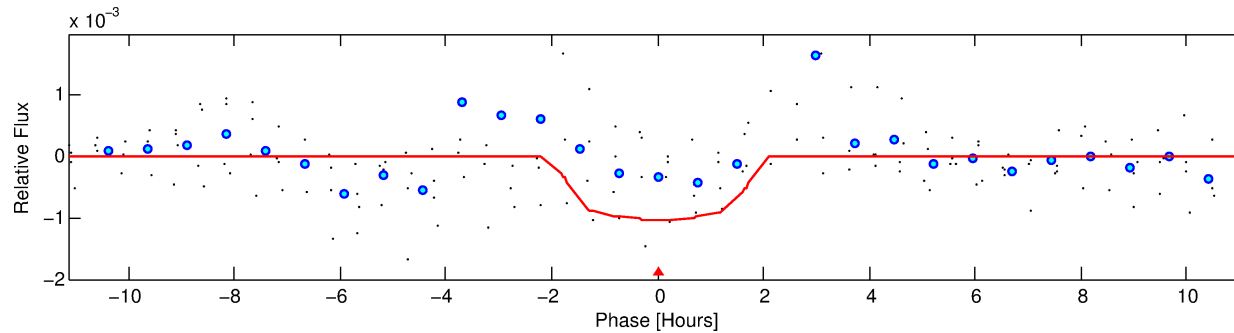
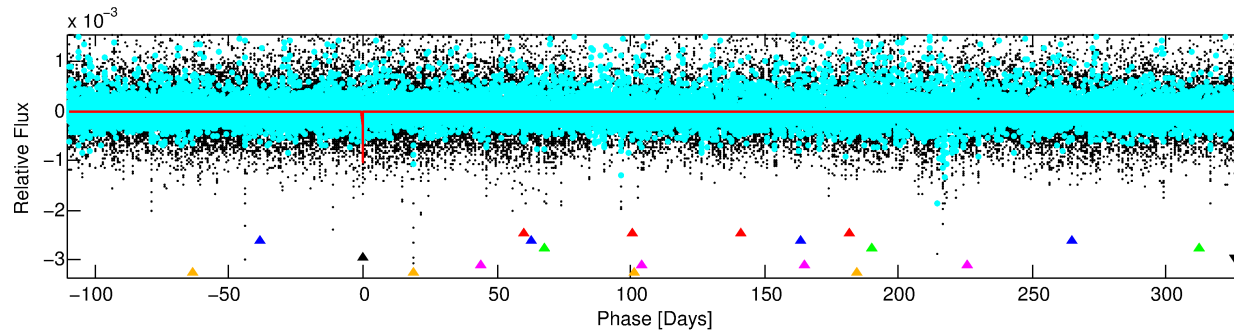
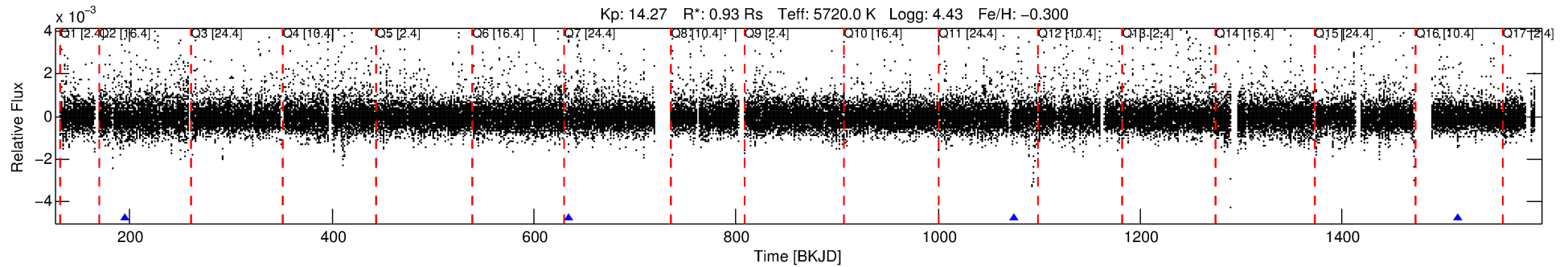
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008074287-04

No Significant Match Found

DV One-Page Summary

KIC: 8074287 Candidate: 4 of 6 Period: 440.096 d



DV Fit Results:

Period = 440.09600 [0.00376] d
Epoch = 194.7702 [0.0070] BKJD
Rp/R* = 0.0306 [0.1456]
a/R* = 761.02 [16302.92]
b = 0.60 [23.55]
Seff = 0.72 [0.25]
Teq = 235 [20] K
Rp = 3.11 [14.79] Re
a = 1.0701 [0.2411] AU
Ag = 35014.51 [333374.21] [0.11 σ]
Teffp = 4973 [11830] K [0.40 σ]

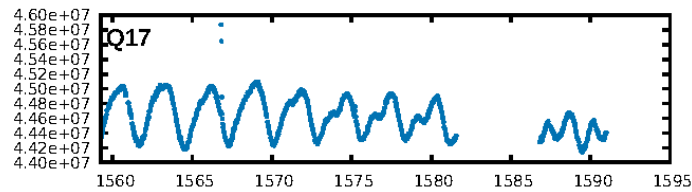
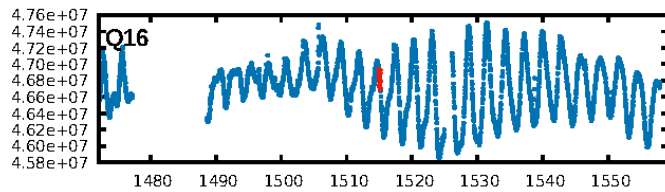
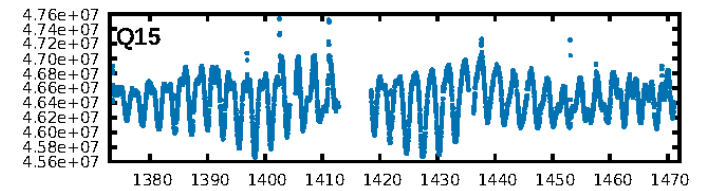
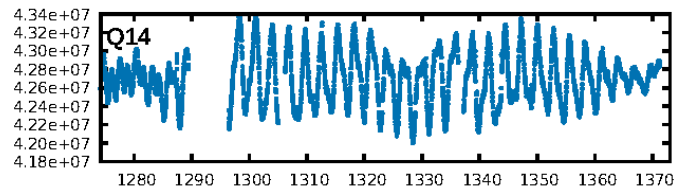
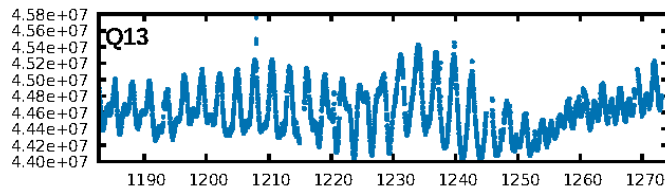
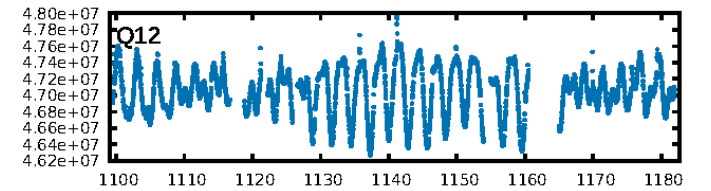
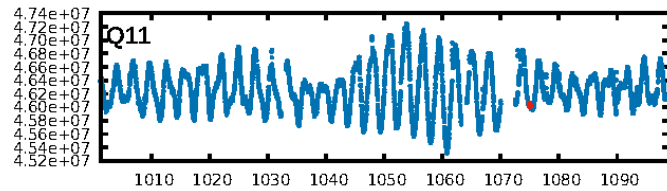
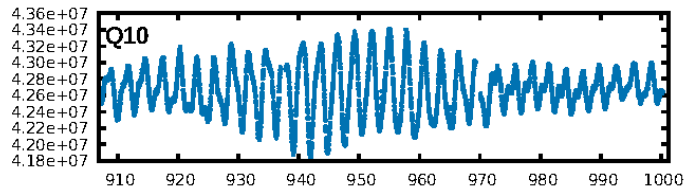
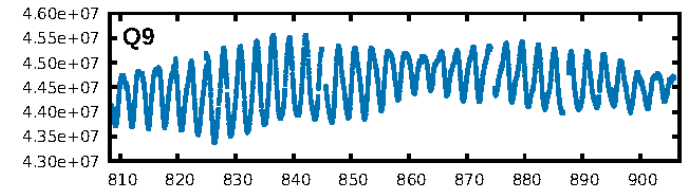
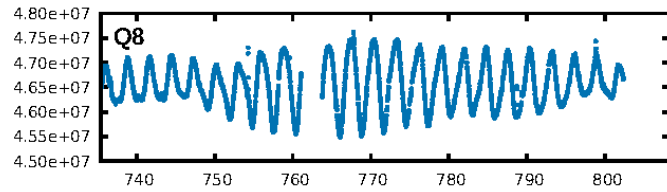
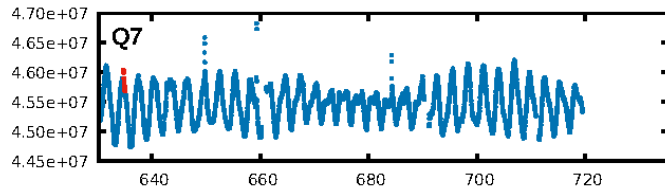
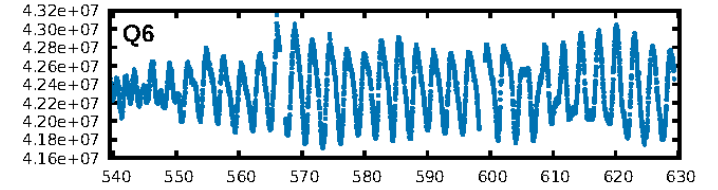
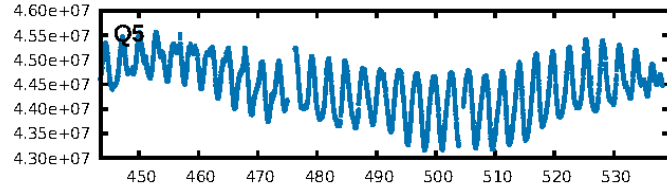
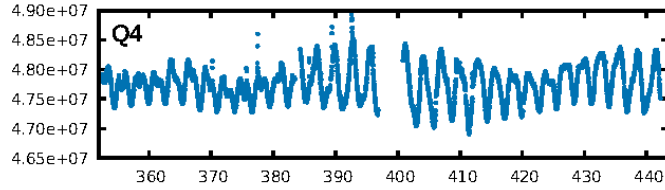
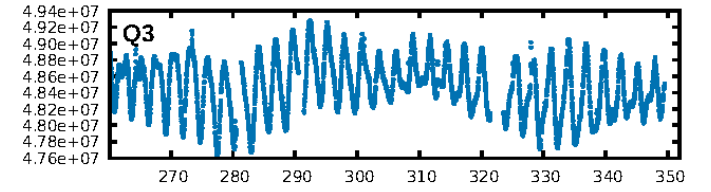
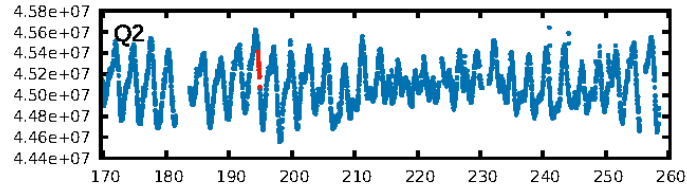
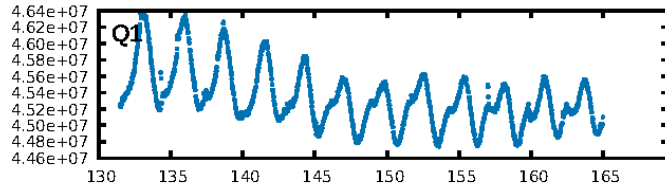
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [208.44 σ]
LongPeriod-sig: 100.0% [560.84 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 57.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.4094
Centroid-sig: 49.2%
Centroid-so: 0.598 arcsec [0.62 σ]
OotOffset-rm: 1.032 arcsec [1.46 σ]
KicOffset-rm: 1.256 arcsec [1.32 σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 1.00 [4/4]

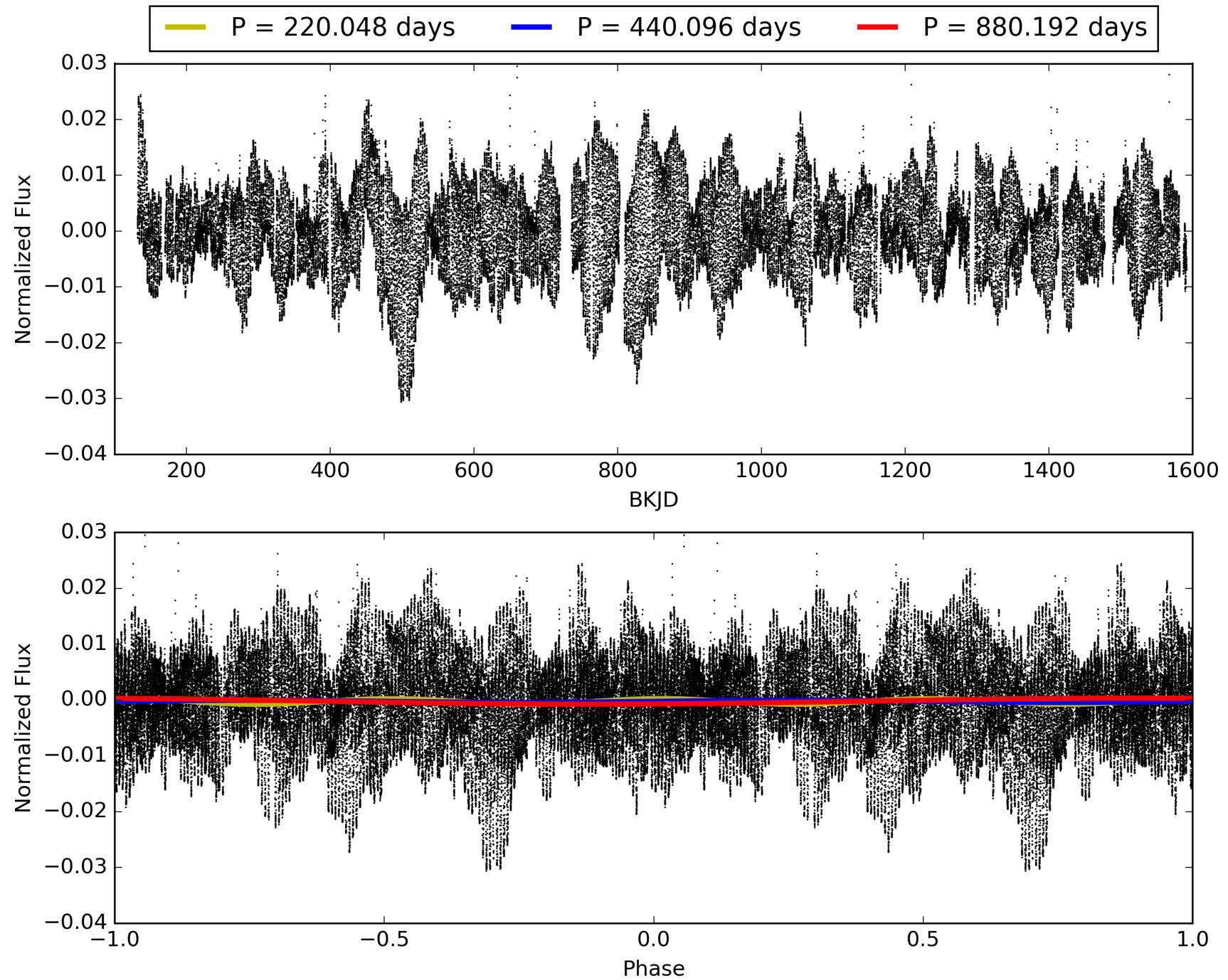
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 14:56:18 Z

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

TCE 008074287-04, PDC Light Curves

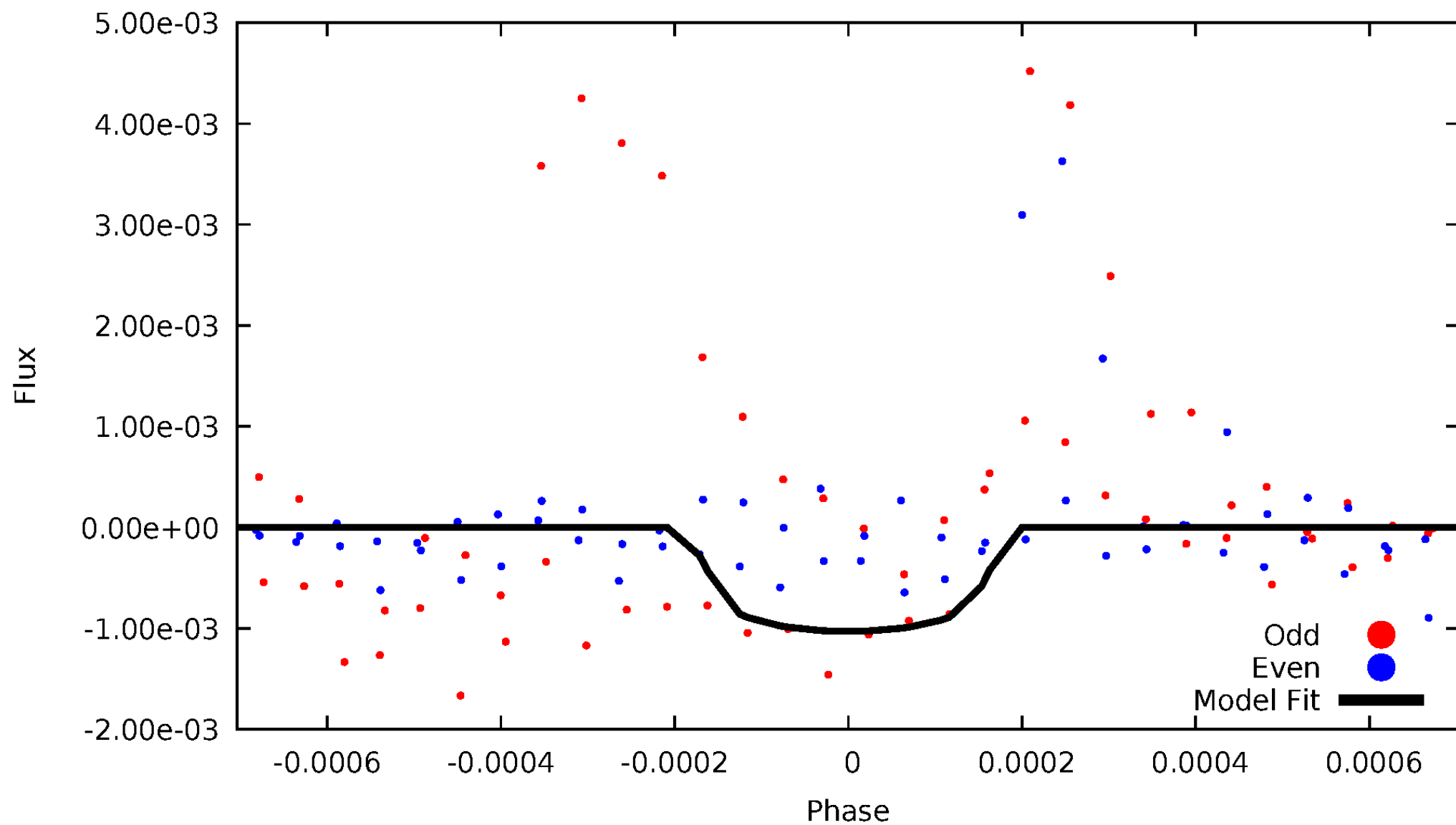


TCE 008074287-04



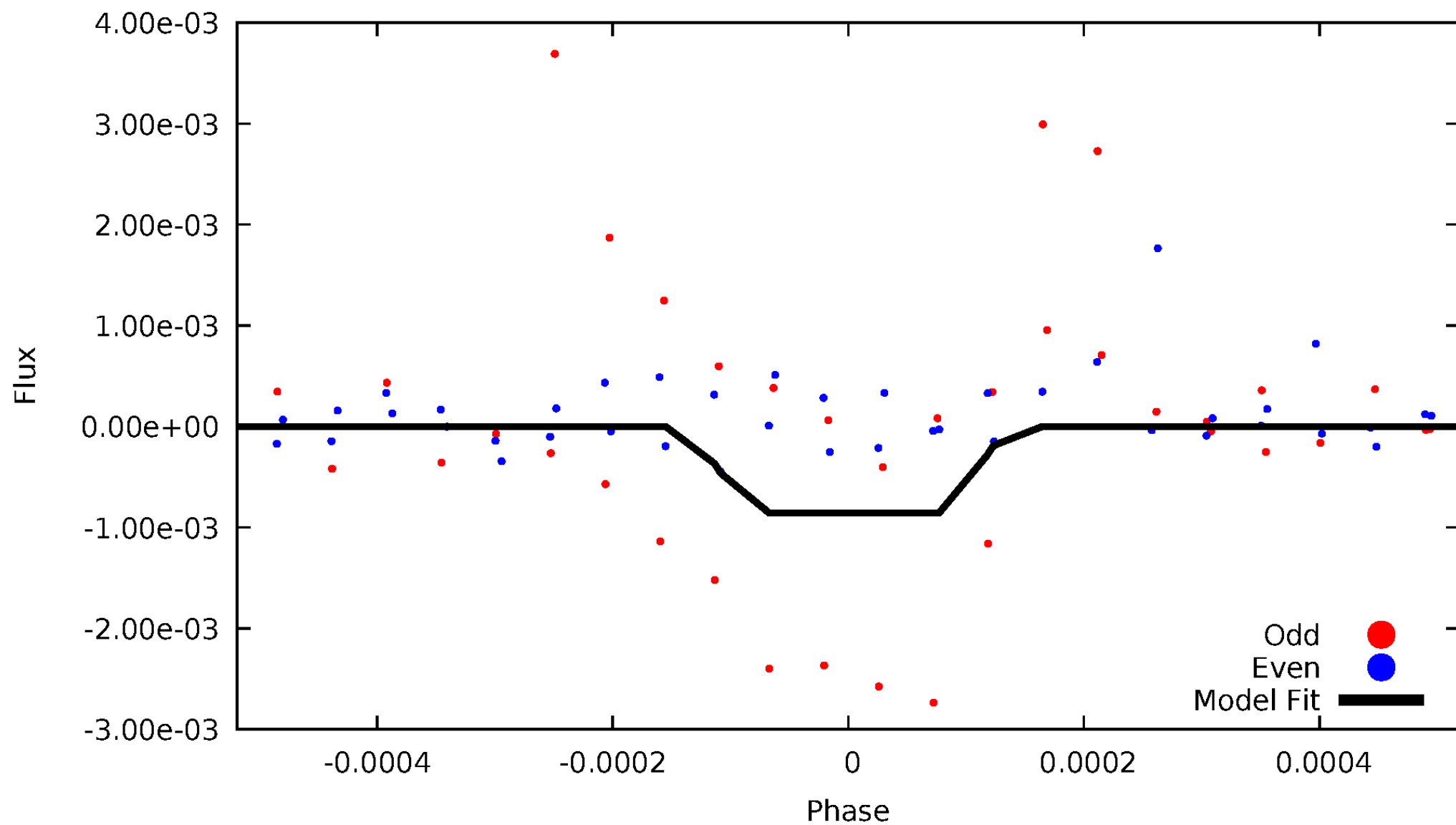
DV Odd/Even

TCE 008074287-04



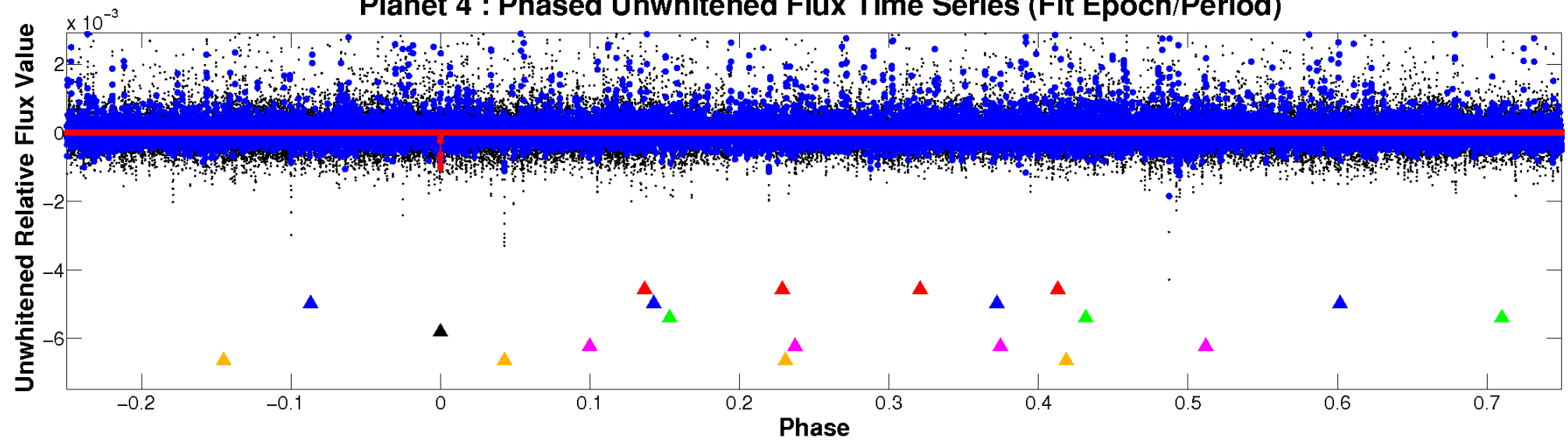
ALT Odd/Even

TCE 008074287-04

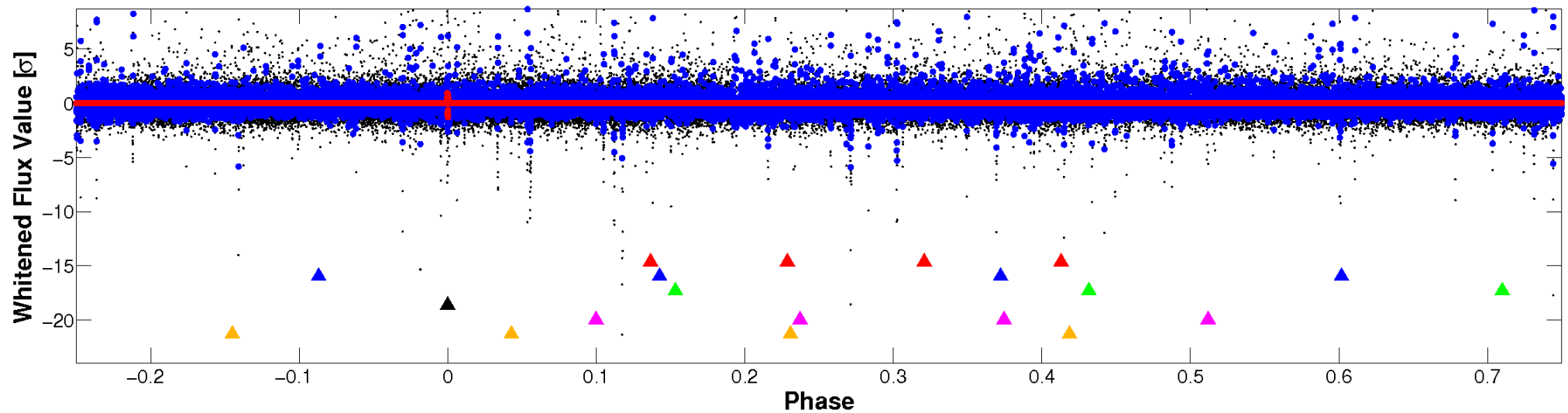


Non-Whitened Vs. Whitened Light Curve

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

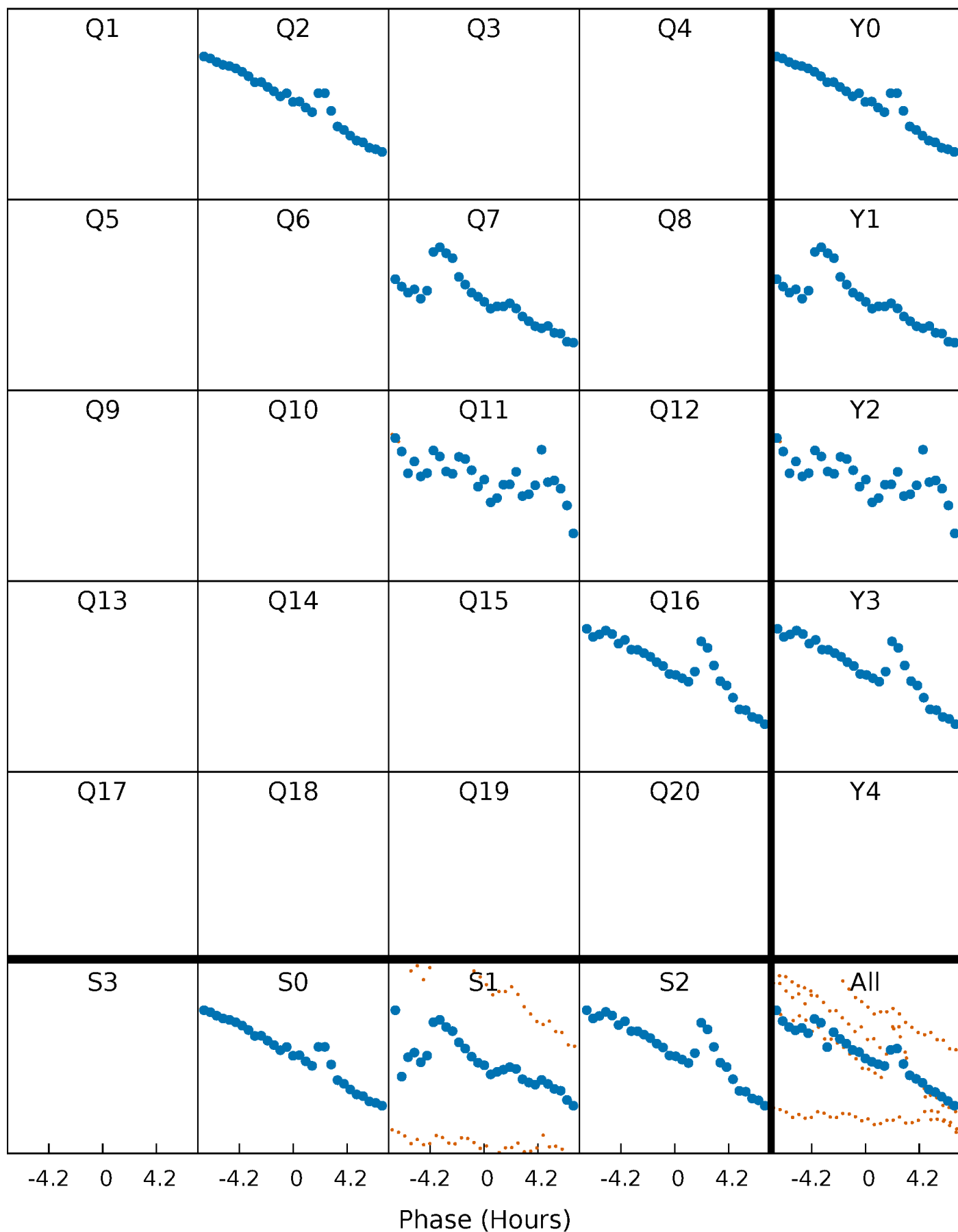


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



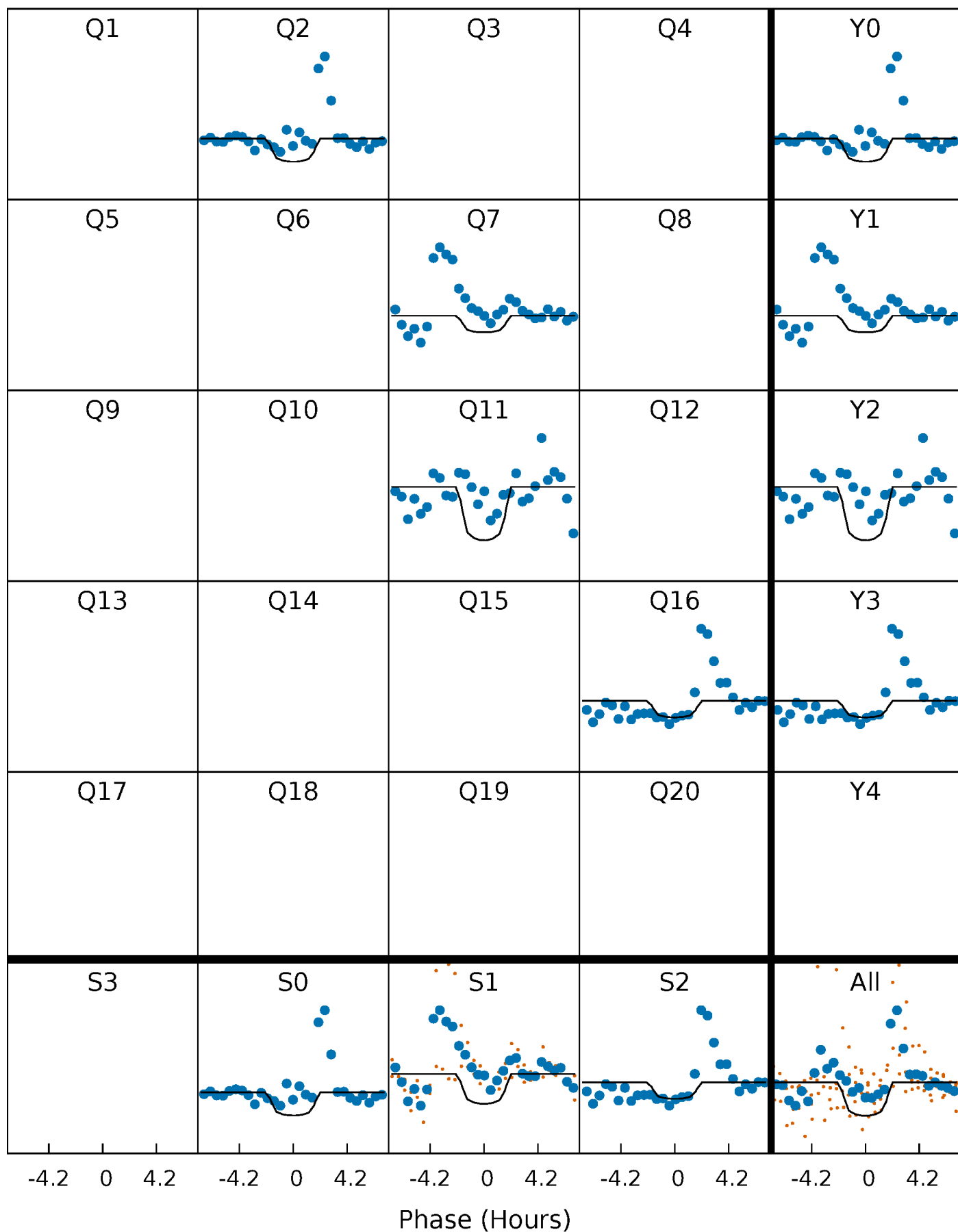
PDC Quarter-Phased Transit Curves

TCE 008074287-04 P=440.096002 Days $T_0=194.770233$ (BKJD)



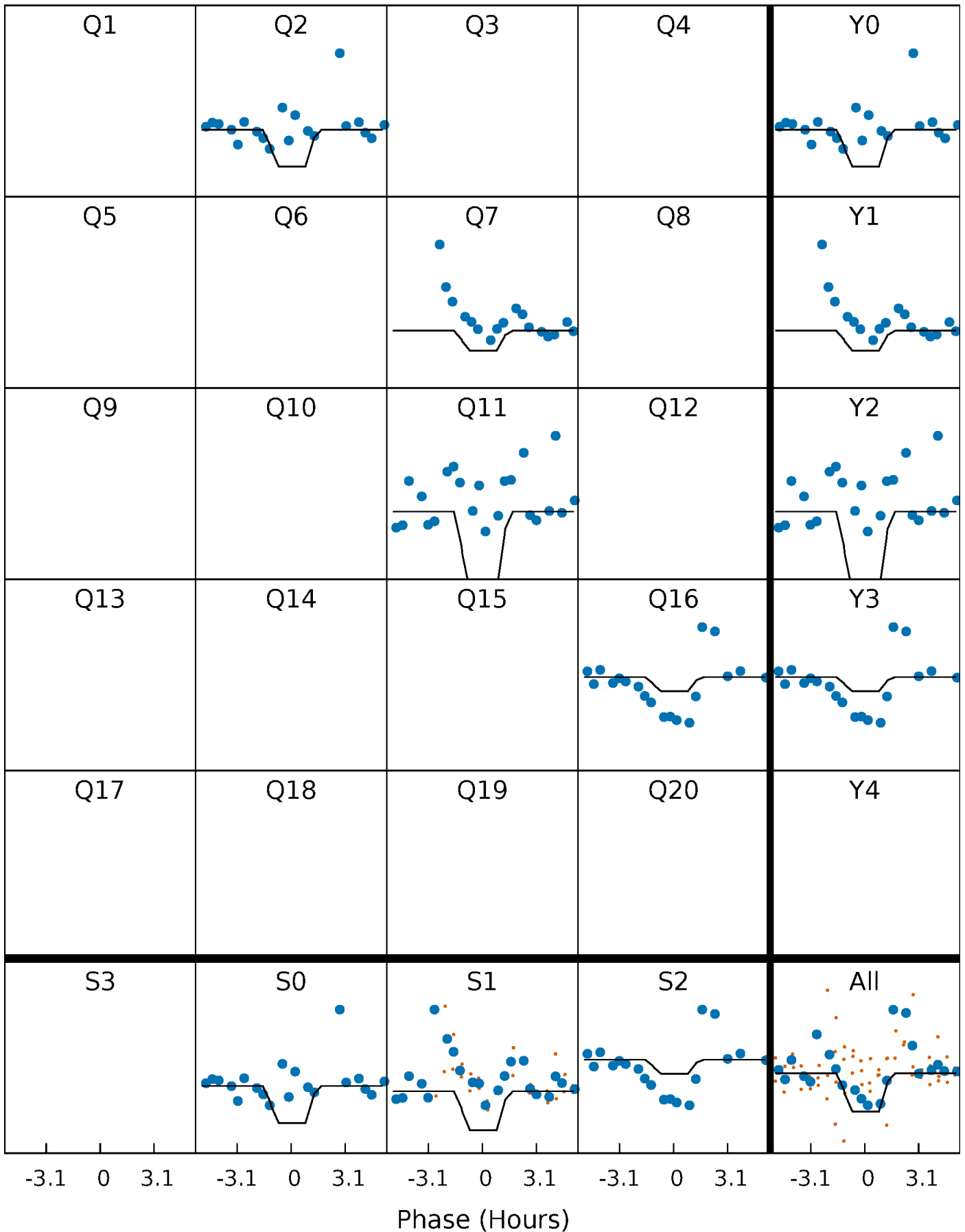
DV Quarter-Phased Transit Curves

TCE 008074287-04 P=440.096002 Days $T_0=194.770233$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

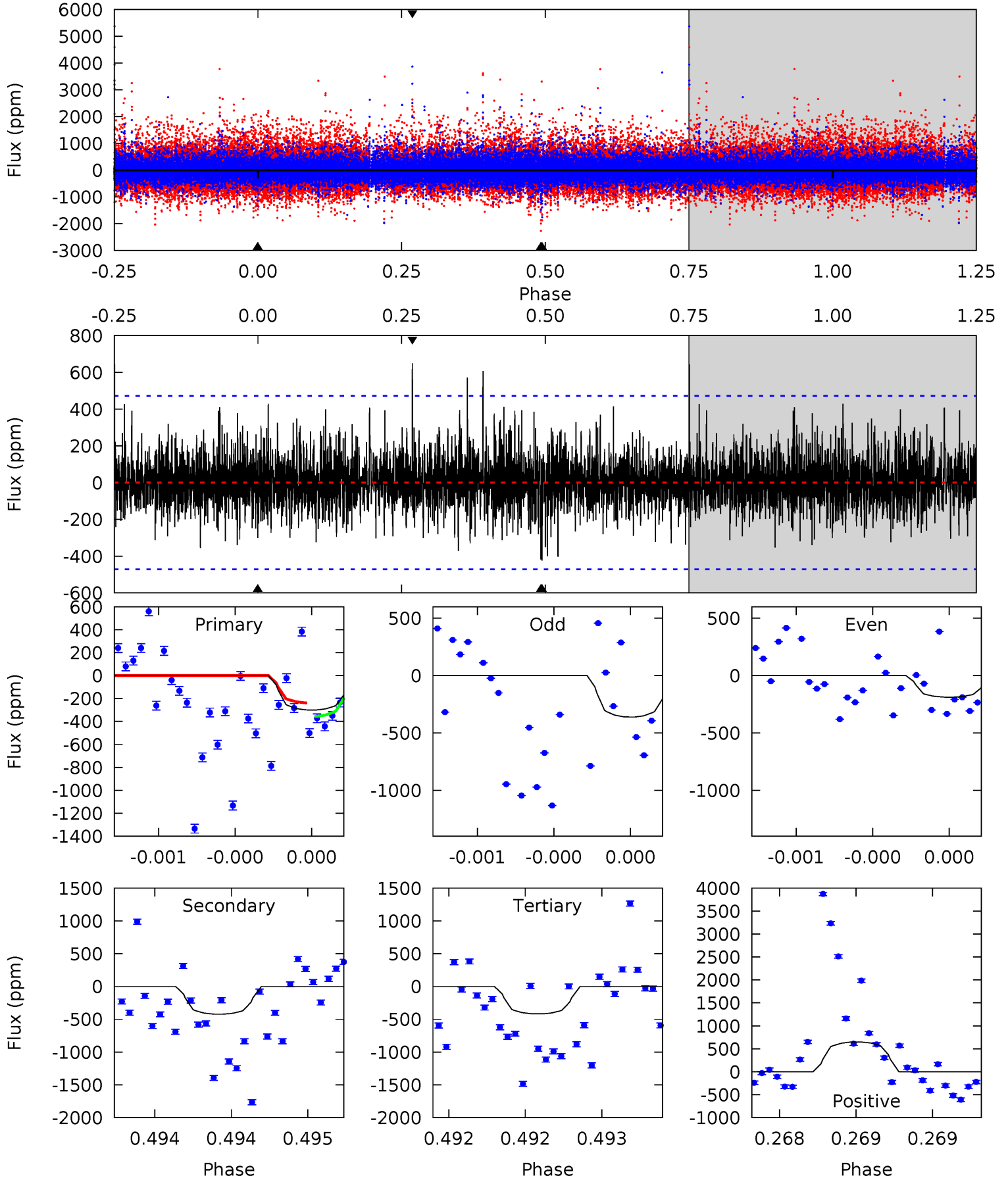
TCE 008074287-04 $P=440.098015$ Days $T_0=194.783512$ (BKJD)



DV Model-Shift Uniqueness Test

008074287-04, P = 440.096002 Days, E = 194.770233 Days

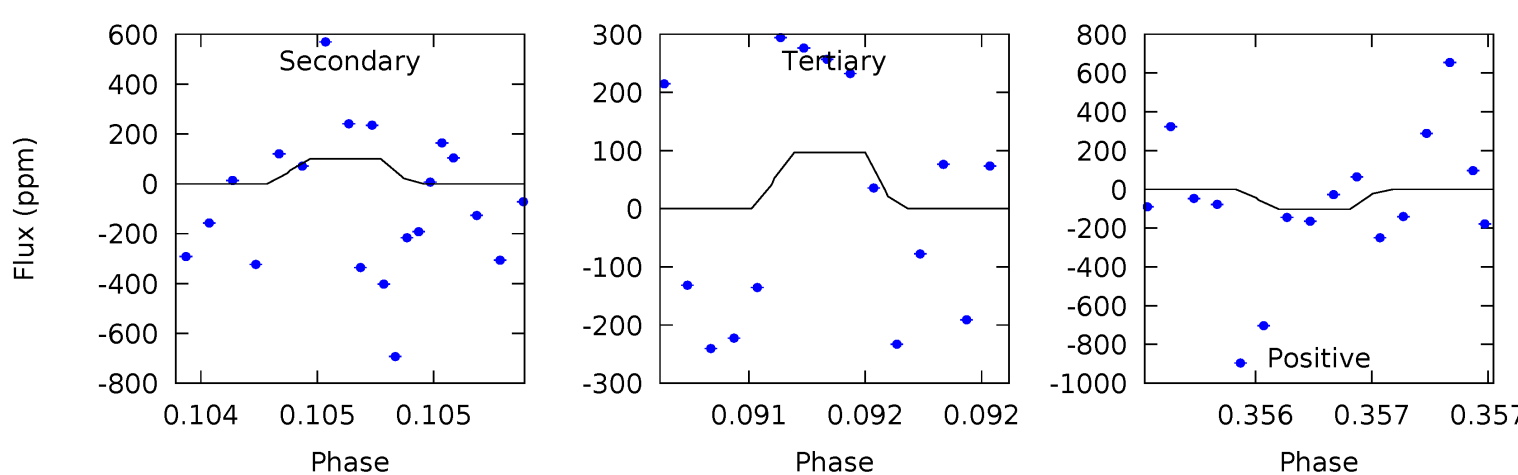
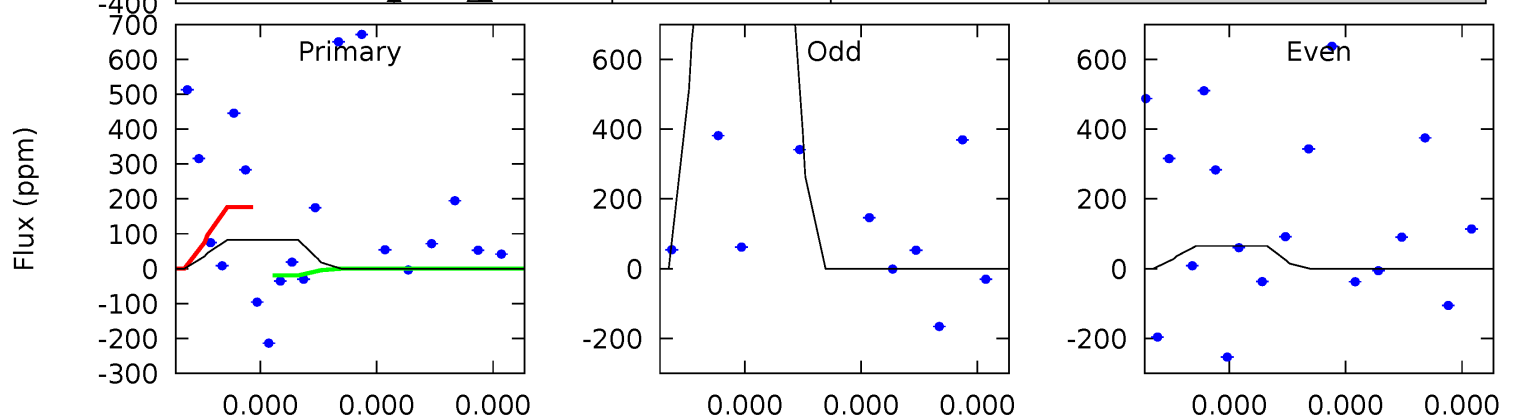
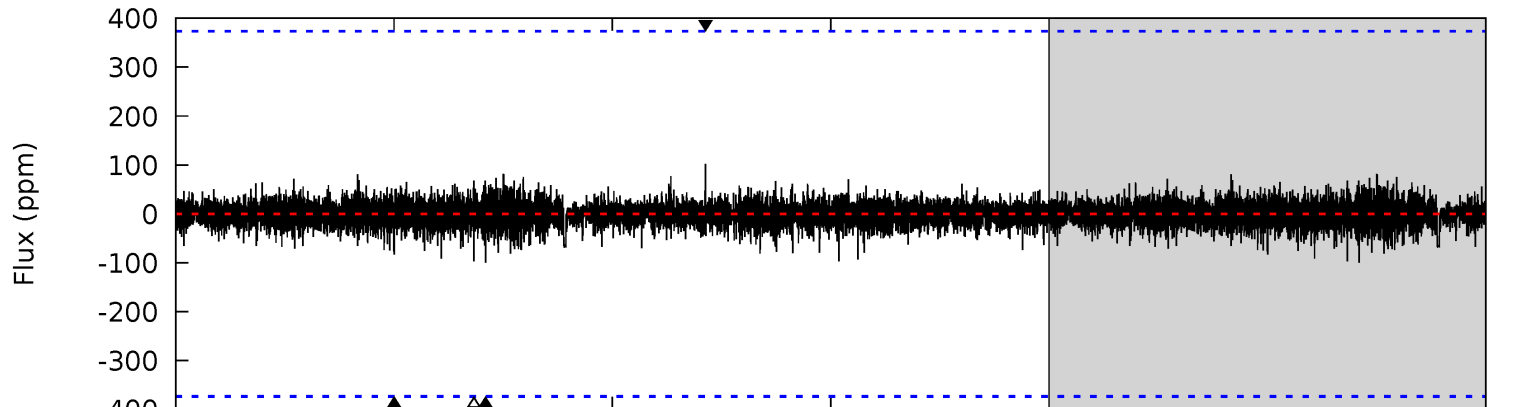
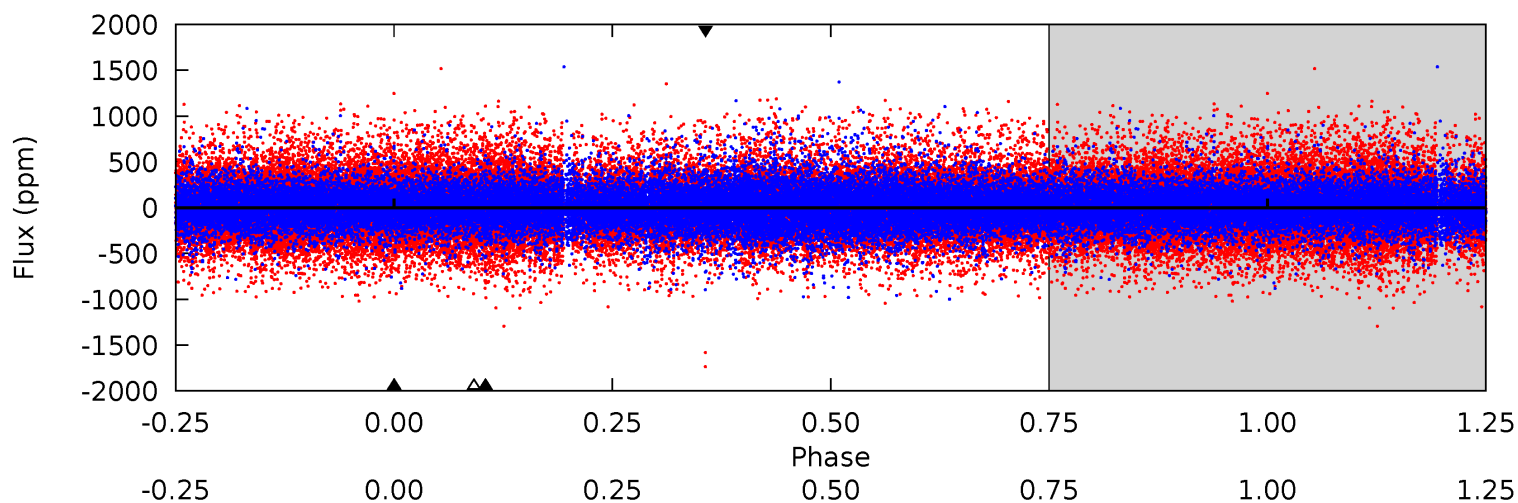
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.58	5.05	4.99	7.74	5.63	3.56	1.31	-1.40	-4.15	0.06	-2.69	0.91	1.46	0.61	0.70



Alt Model-Shift Uniqueness Test

008074287-04, P = 440.098015 Days, E = 194.783512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.26	1.52	1.48	1.56	5.70	3.68	0.27	-0.22	-0.30	0.04	-0.05	9.89	-8.98	0.51	1.21



Stellar Parameters For KIC 008074287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5720^{+155}_{-155}	$4.428^{+0.120}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$0.929^{+0.248}_{-0.134}$	$0.844^{+0.118}_{-0.073}$	$1.484^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+100%/-100%	+27%/-14%	+14%/-9%	+54%/-48%
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 008074287-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-423 ± 84	$11.64^{+11.23}_{-8.08}$	330^{+21}_{-16}	3065^{+1454}_{-514}	1924^{+16621}_{-1449}
Alt.	-99 ± 65	$11.31^{+10.73}_{-8.15}$	331^{+23}_{-18}	2490^{+1088}_{-450}	406^{+4636}_{-340}

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

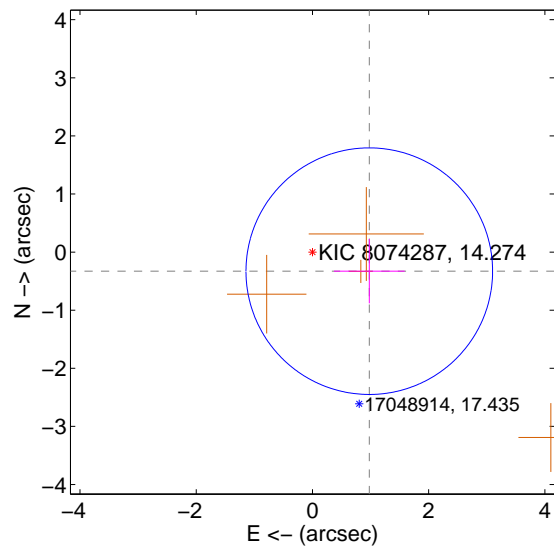
Supplemental centroid analysis for 008074287-04. Kepler magnitude: 14.27. Transit SNR 6.44

There are 0 quarters with good PRF difference image offsets

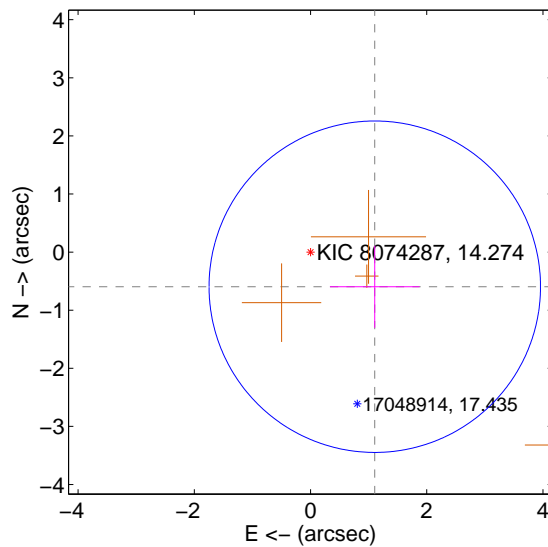
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.032 ± 0.707	1.46	-0.978 ± 0.610	-0.328 ± 0.555
PRF-fit source offset from KIC position	1.256 ± 0.951	1.32	-1.106 ± 0.771	-0.596 ± 0.706
photometric centroid source offset	0.60 ± 0.96	0.62	-0.20 ± 0.85	-0.56 ± 0.97

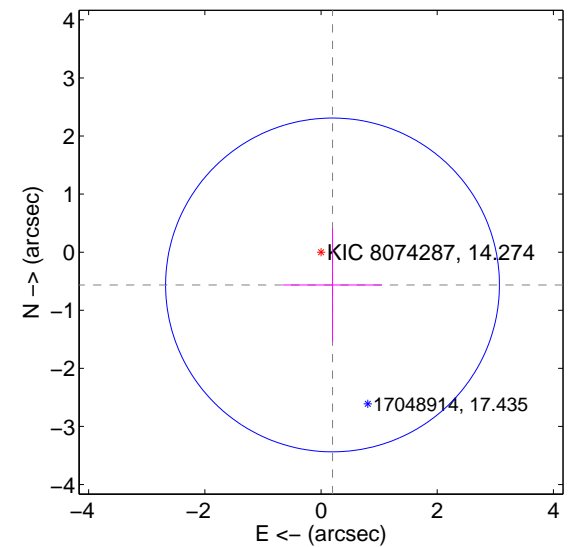
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

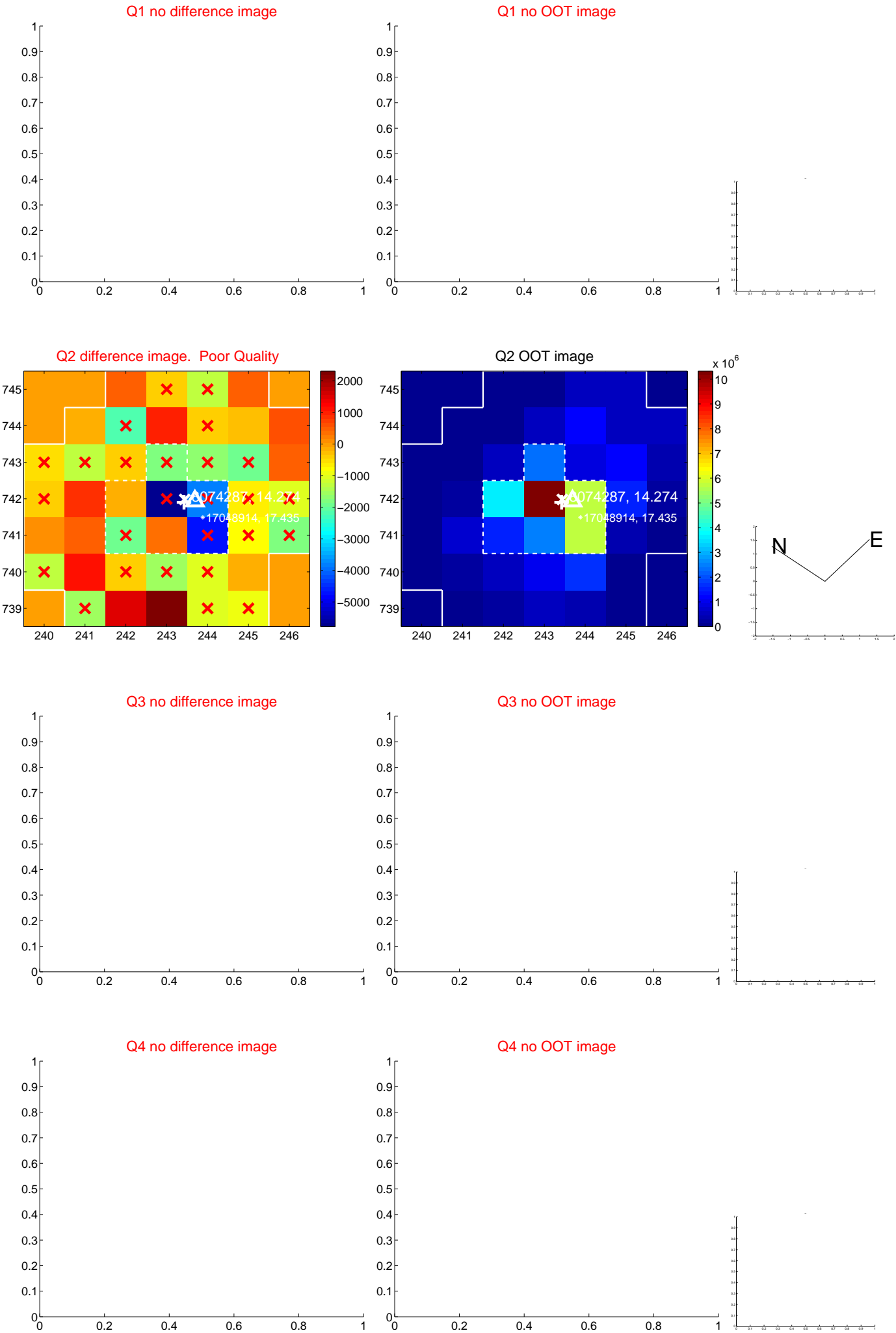


offset from photometric centroids



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.

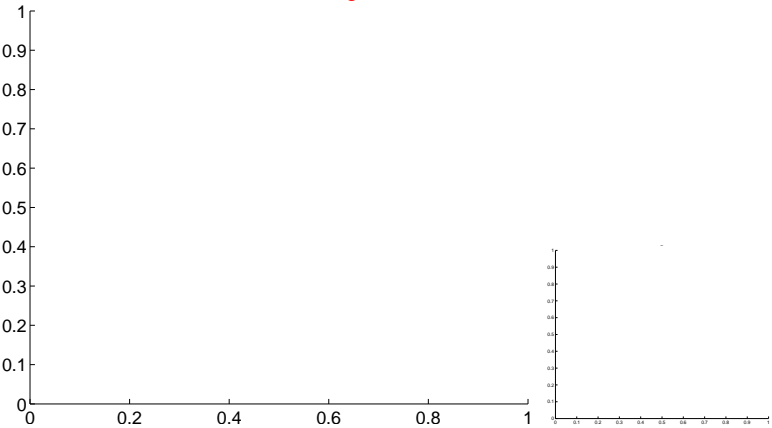


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q5 no difference image



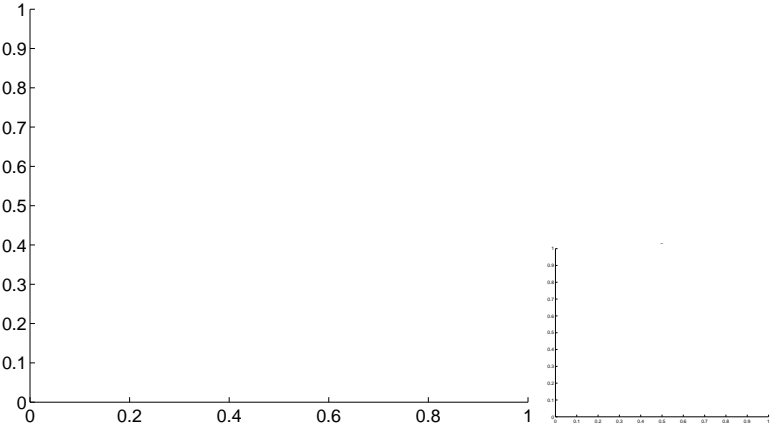
Q5 no OOT image



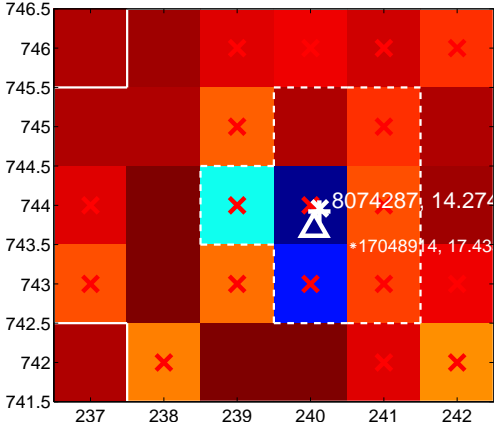
Q6 no difference image



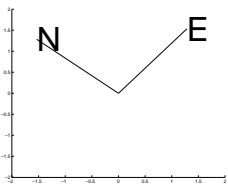
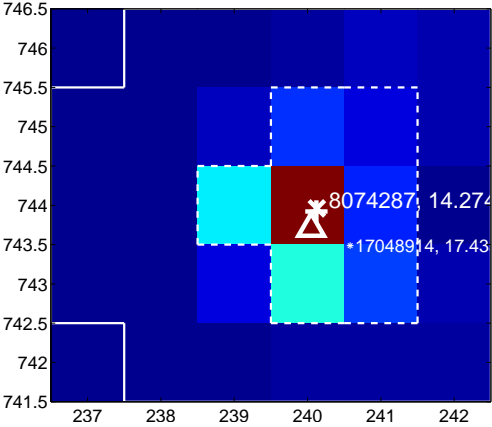
Q6 no OOT image



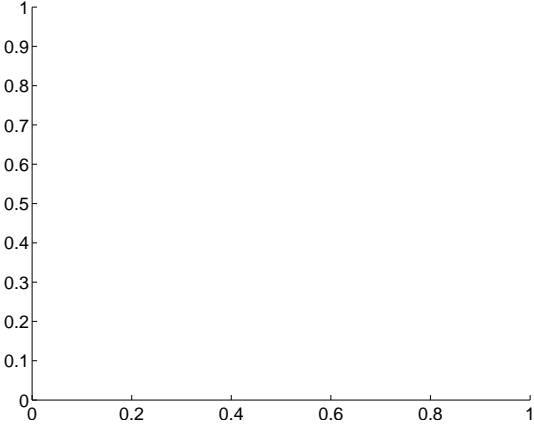
Q7 difference image. Poor Quality



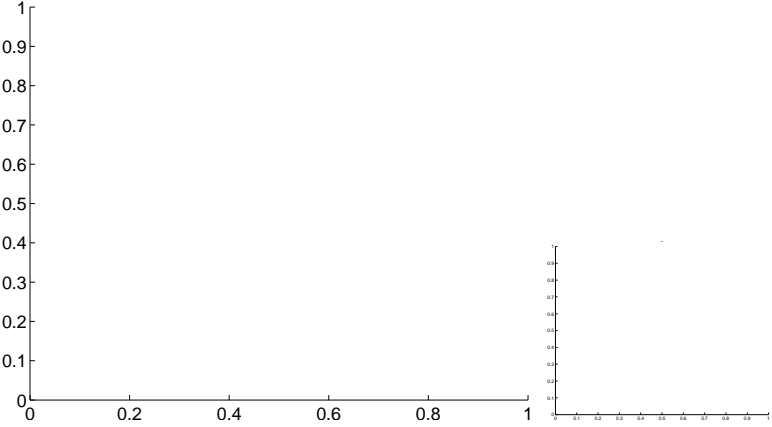
Q7 OOT image



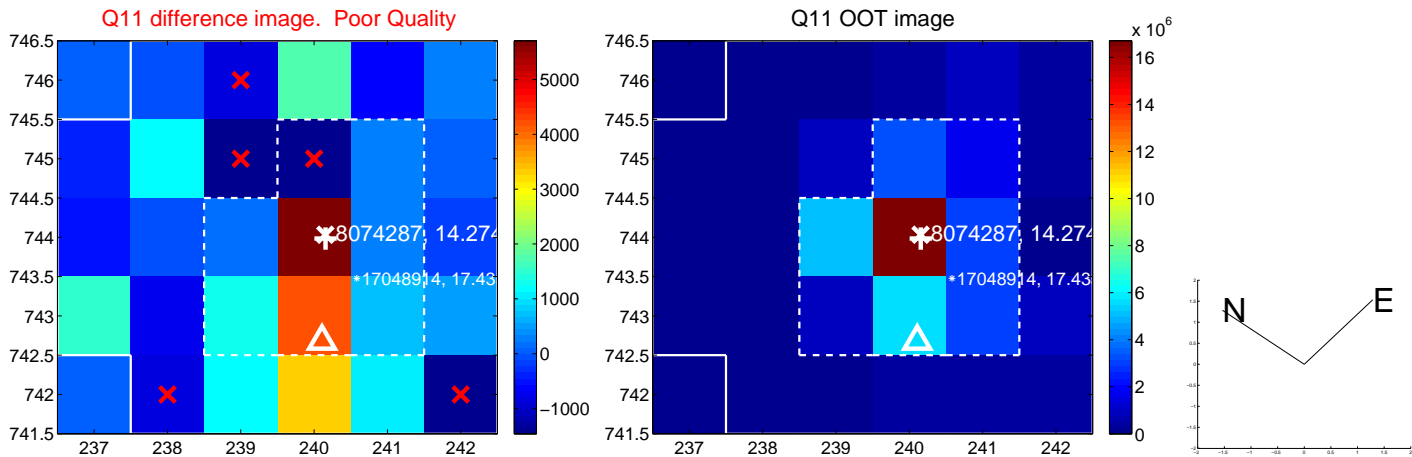
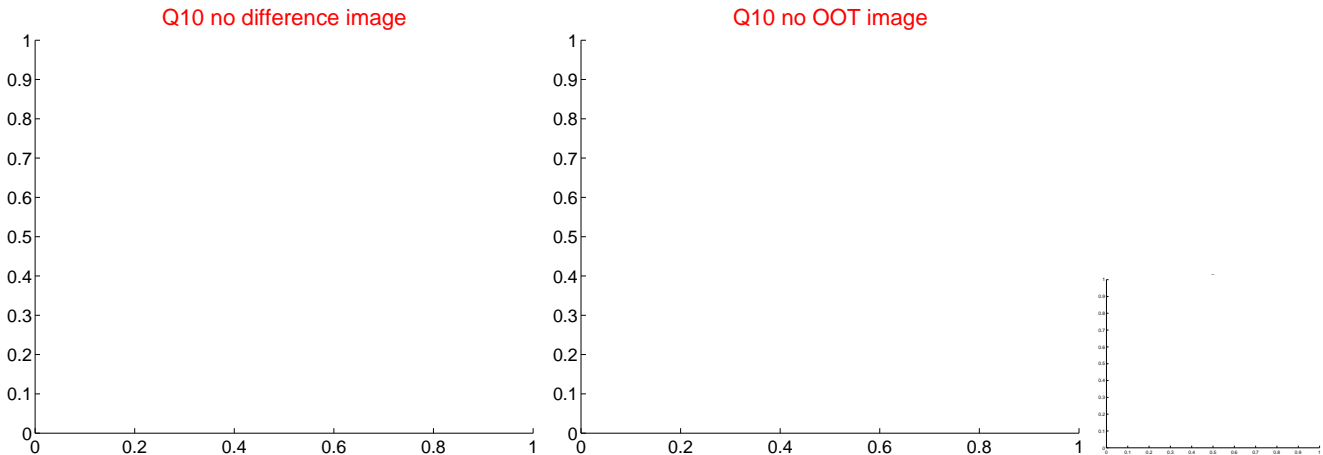
Q8 no difference image



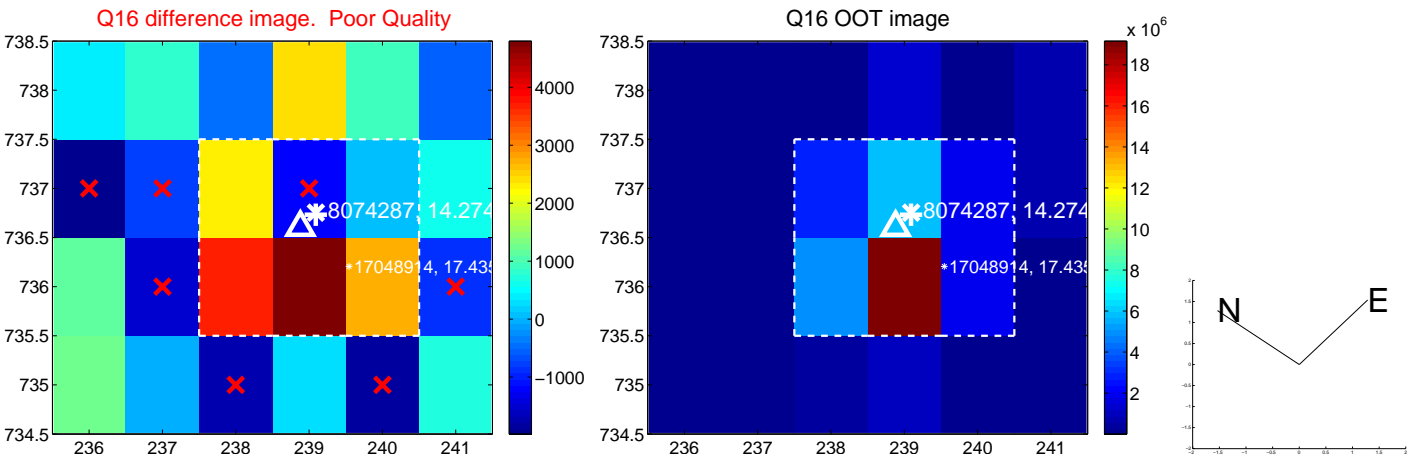
Q8 no OOT image



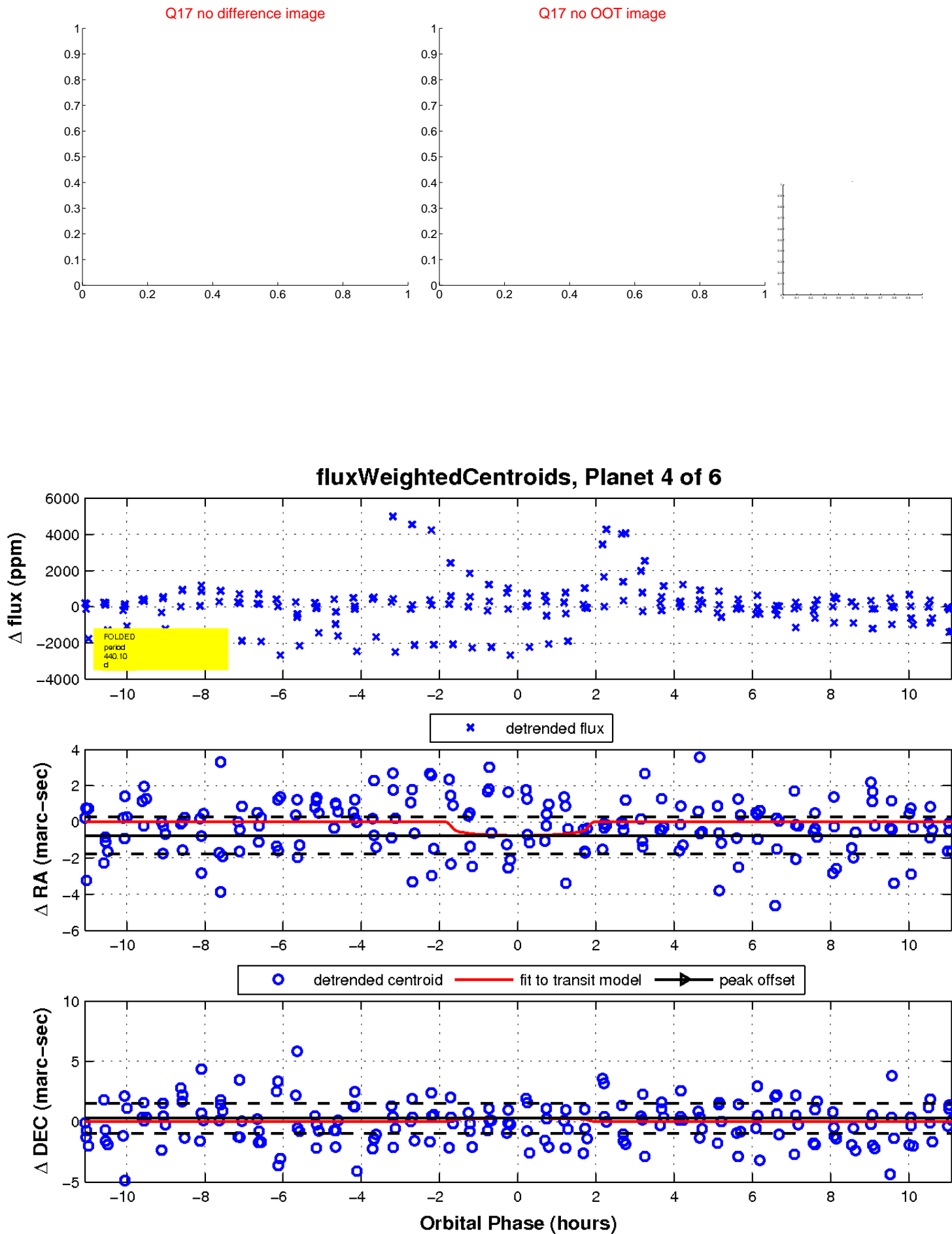
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

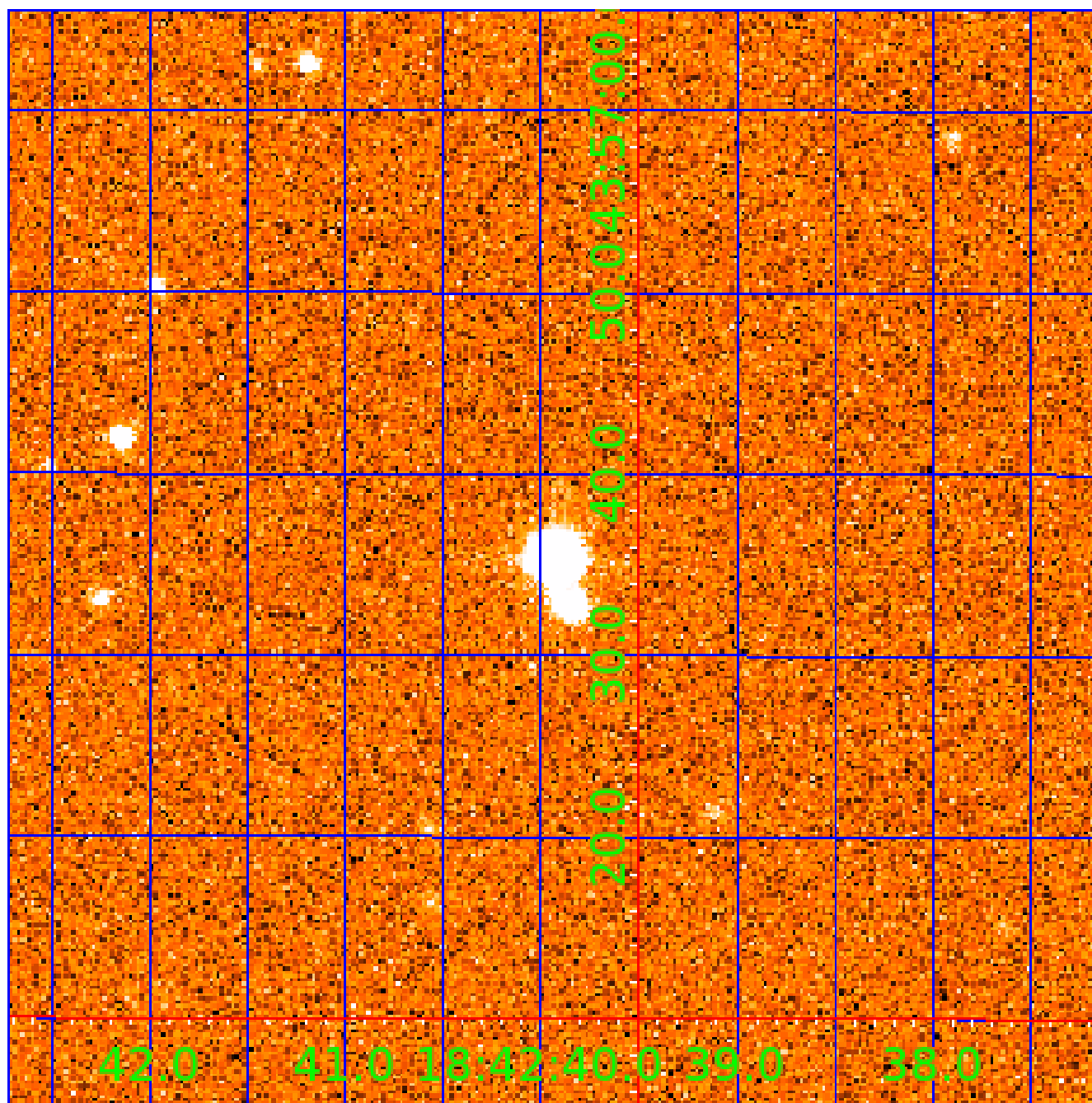


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008074287

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})
008074287-01	OBS	No	399.546035	376.523954	897.4	2.827	15.6	6.7	0.93	5720	2.96	0.82
008074287-02	OBS	No	339.081514	459.593656	1126.1	2.884	15.1	5.8	0.93	5720	3.19	1.02
008074287-03	OBS	No	562.591133	262.239637	1174.2	3.697	13.1	6.3	0.93	5720	3.21	0.52
008074287-04	OBS	No	440.096002	194.770233	1030.0	3.716	14.9	6.4	0.93	5720	3.11	0.72
008074287-05	OBS	No	379.640847	420.075550	1274.8	2.393	13.6	6.6	0.93	5720	3.30	0.88
008074287-06	OBS	No	357.410209	379.015895	673.8	7.500	11.3	-1.0	0.93	5720	2.39	0.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008074287-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS
008074287-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008074287-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-04	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
008074287-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

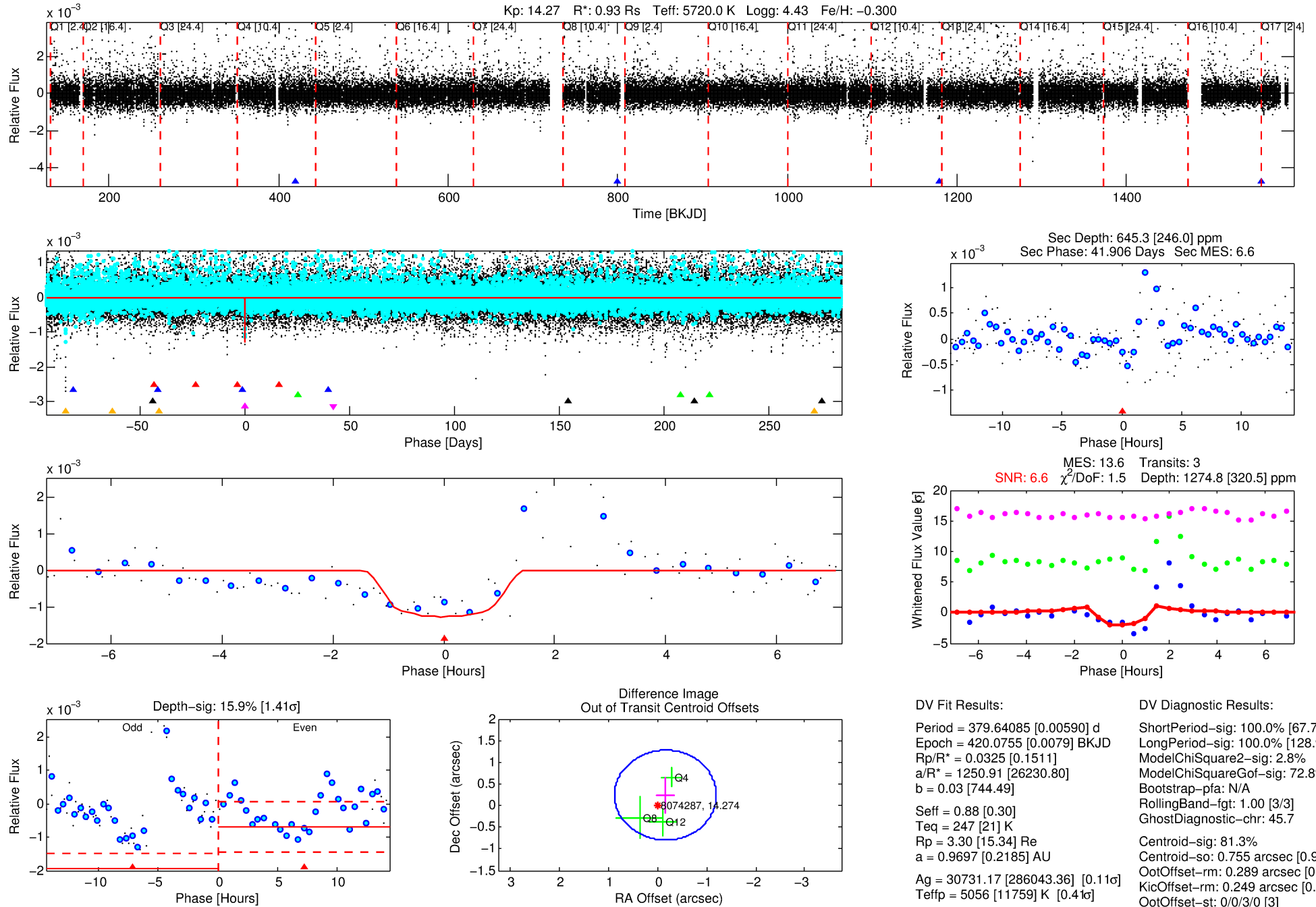
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008074287-05

No Significant Match Found

DV One-Page Summary

KIC: 8074287 Candidate: 5 of 6 Period: 379.641 d



DV Fit Results:

Period = 379.64085 [0.00590] d
Epoch = 420.0755 [0.0079] BKJD
Rp/R* = 0.0325 [0.1511]
a/R* = 1250.91 [26230.80]
b = 0.03 [744.49]
Seff = 0.88 [0.30]
Teq = 247 [21] K
Rp = 3.30 [15.34] Re
a = 0.9697 [0.2185] AU
Ag = 30731.17 [286043.36] [0.11 σ]
Teffp = 5056 [11759] K [0.41 σ]

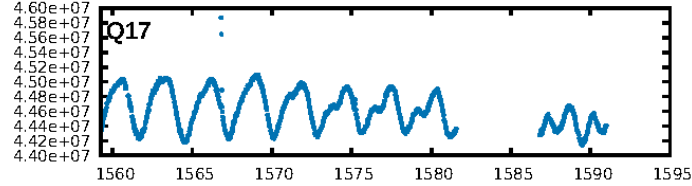
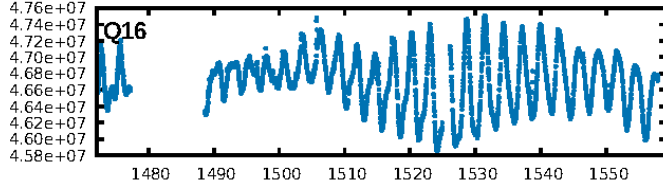
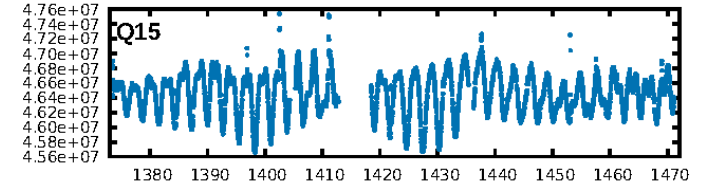
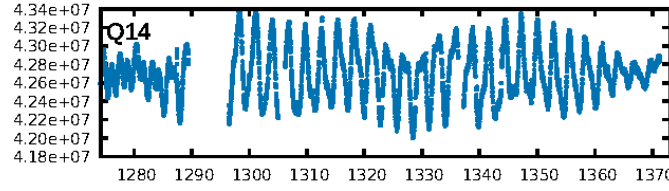
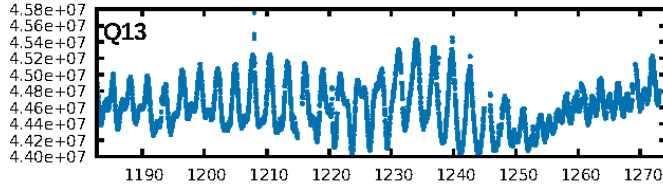
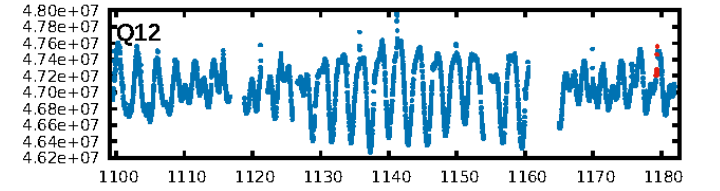
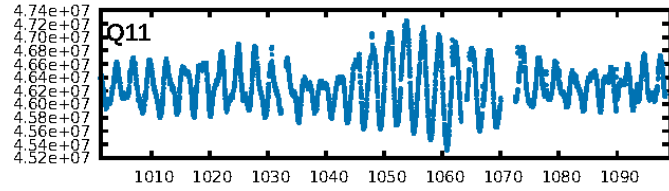
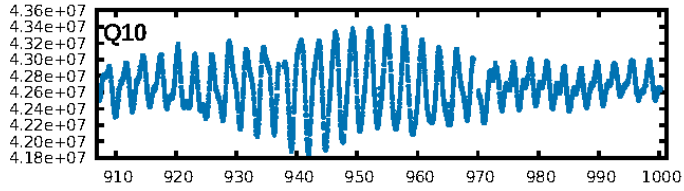
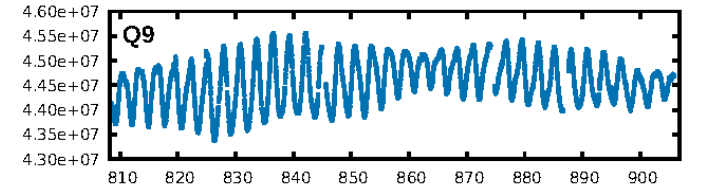
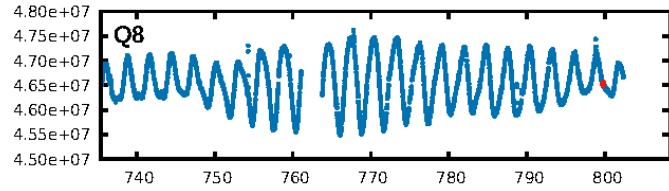
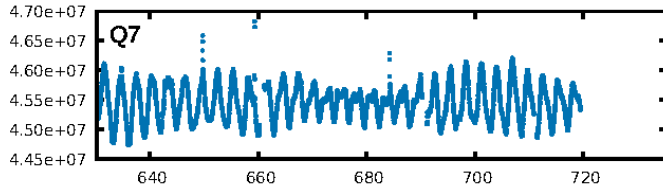
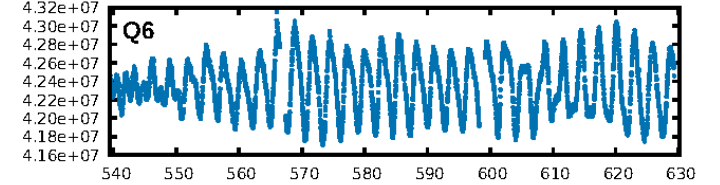
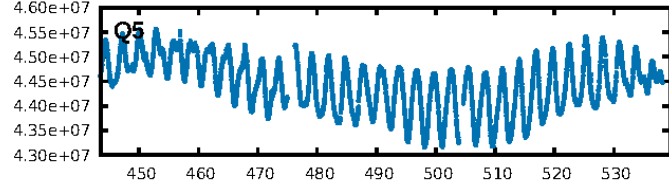
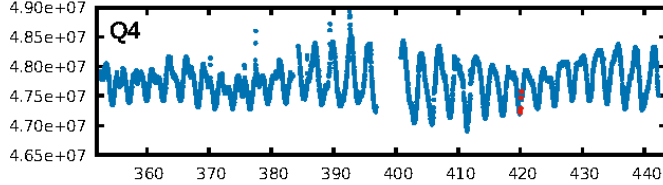
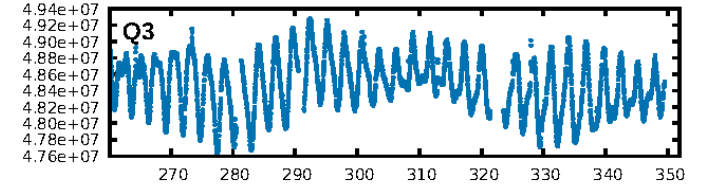
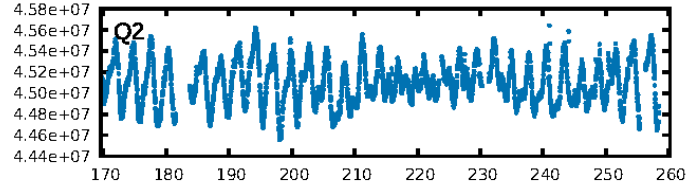
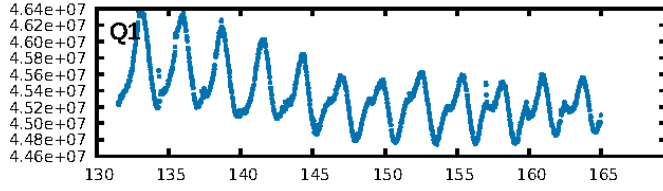
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [67.77 σ]
LongPeriod-sig: 100.0% [128.99 σ]
ModelChiSquare2-sig: 2.8%
ModelChiSquareGof-sig: 72.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 45.7
Centroid-sig: 81.3%
Centroid-so: 0.755 arcsec [0.95 σ]
OotOffset-rm: 0.289 arcsec [0.84 σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-rm: 0.249 arcsec [0.85 σ]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

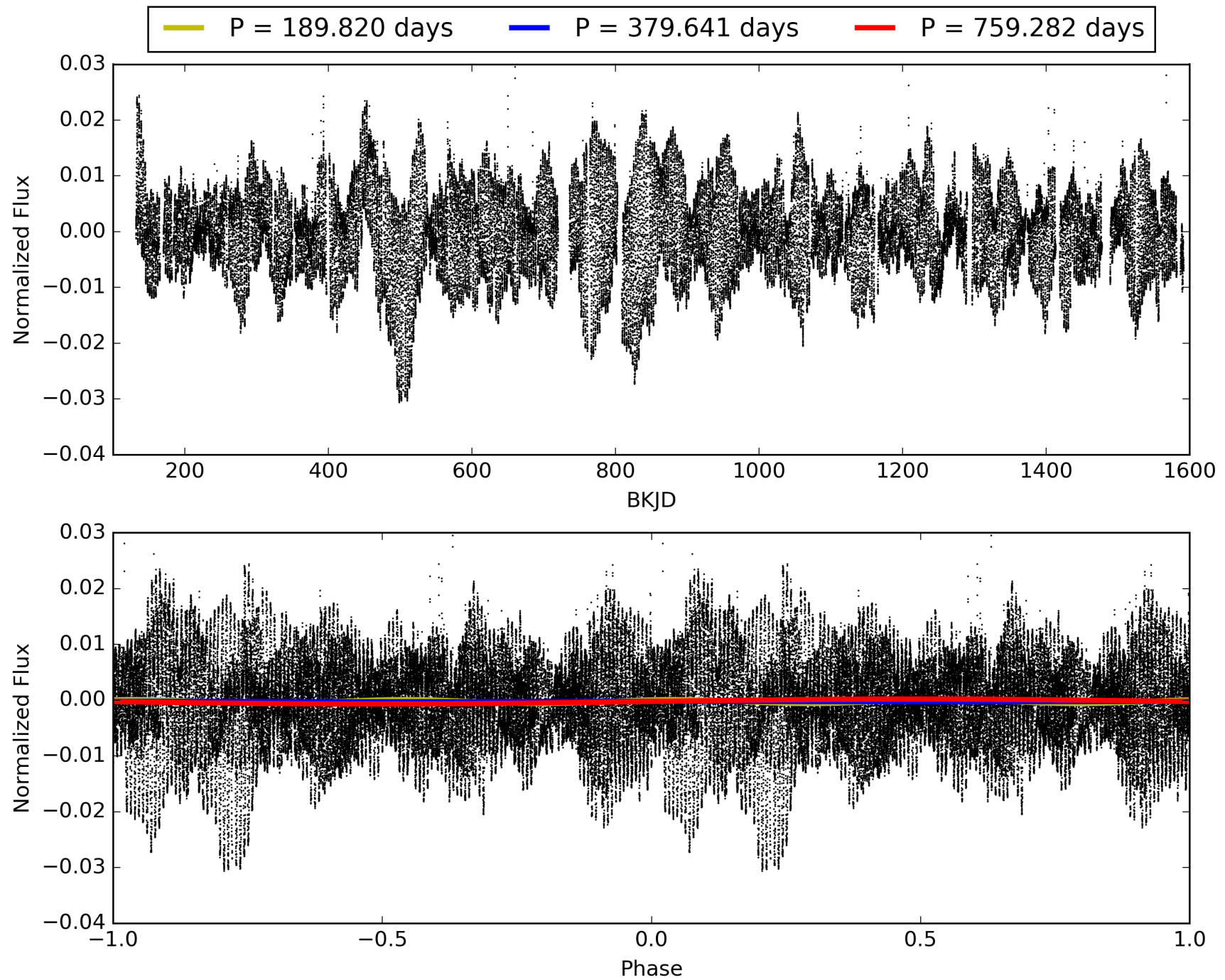
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 14:56:39 Z

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

TCE 008074287-05, PDC Light Curves

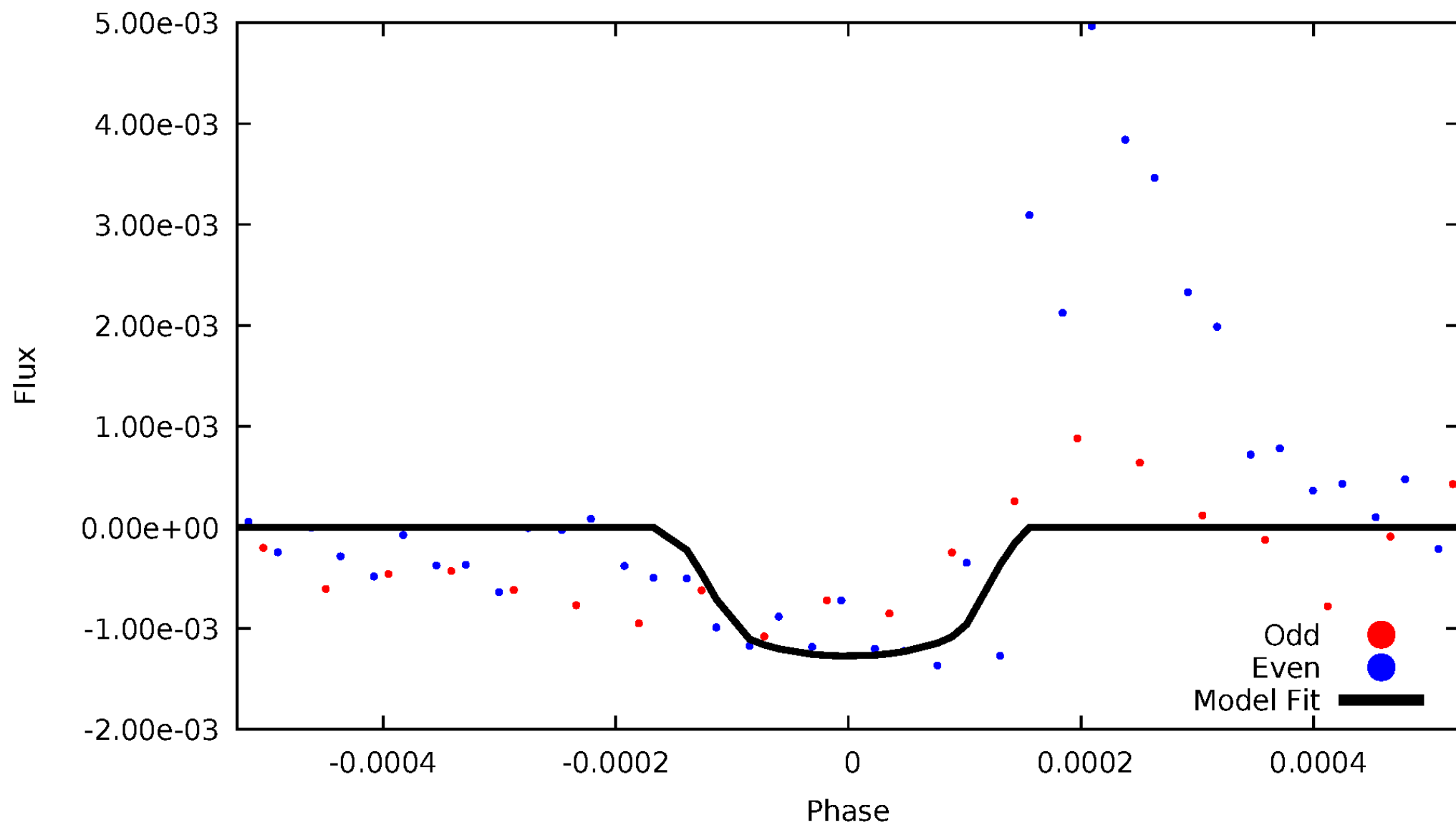


TCE 008074287-05



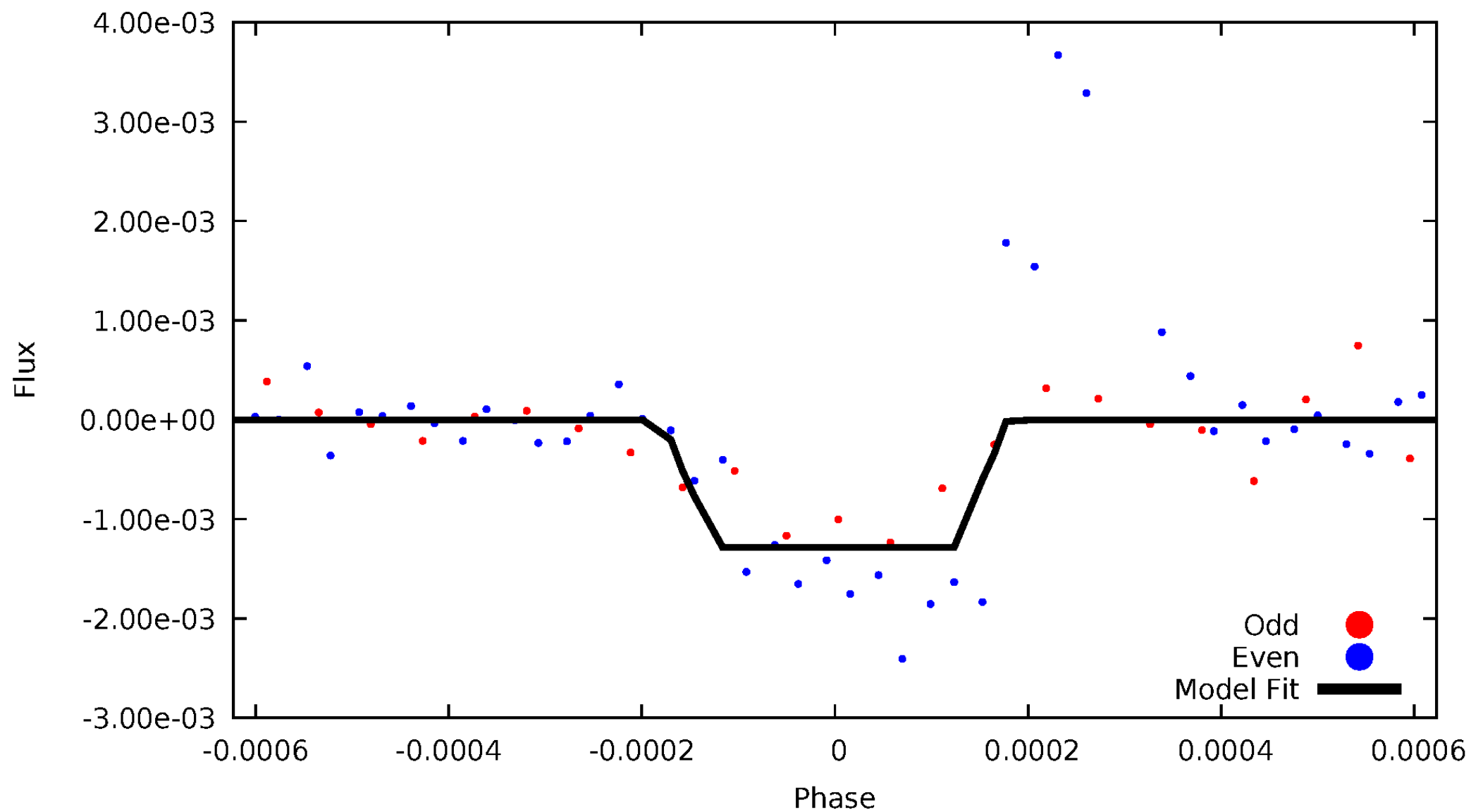
DV Odd/Even

TCE 008074287-05



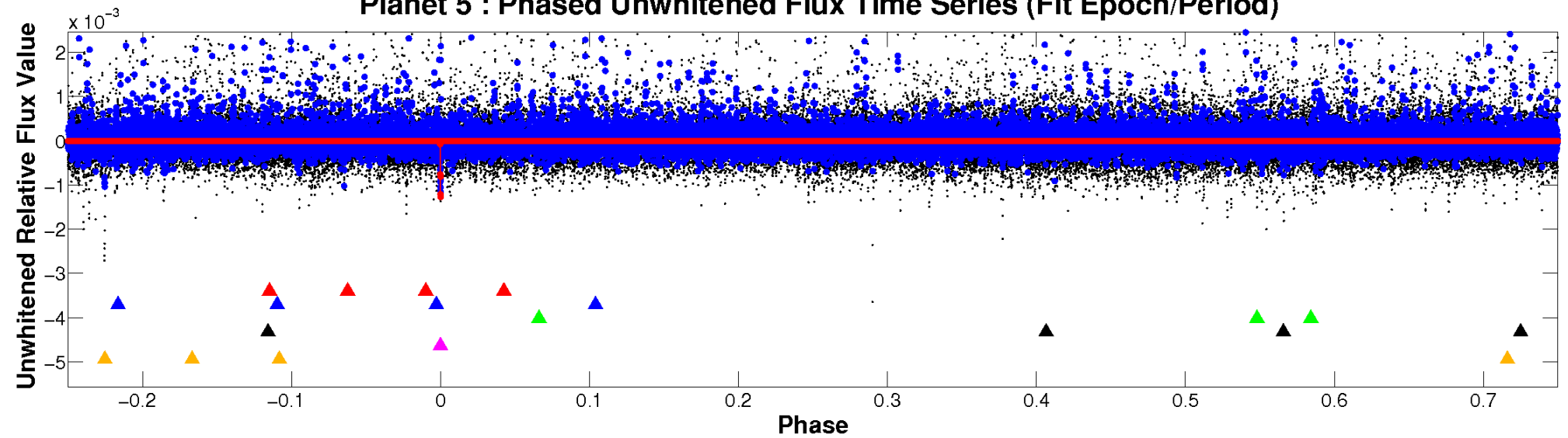
ALT Odd/Even

TCE 008074287-05

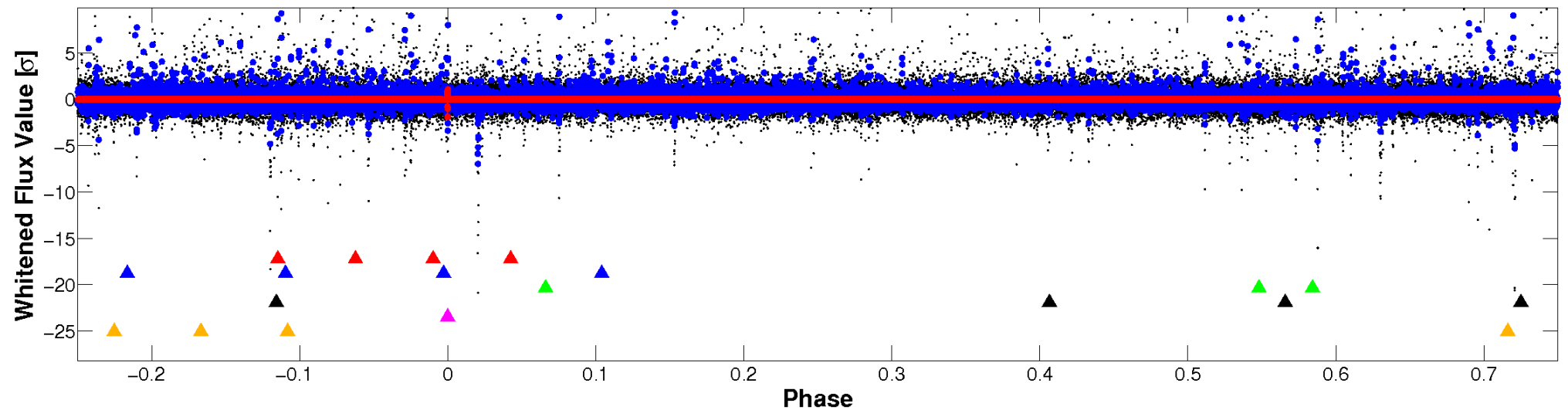


Non-Whitened Vs. Whitened Light Curve

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

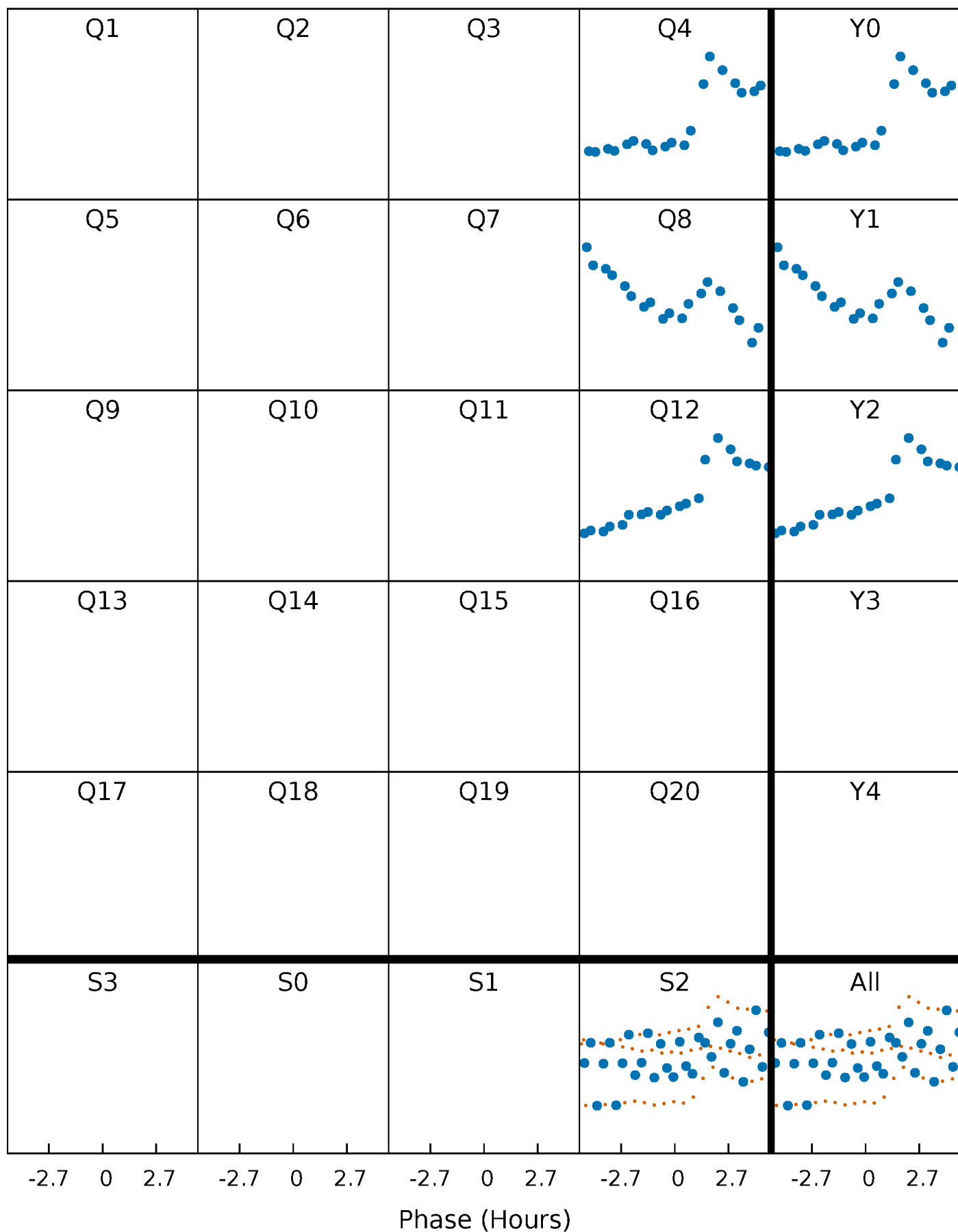


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



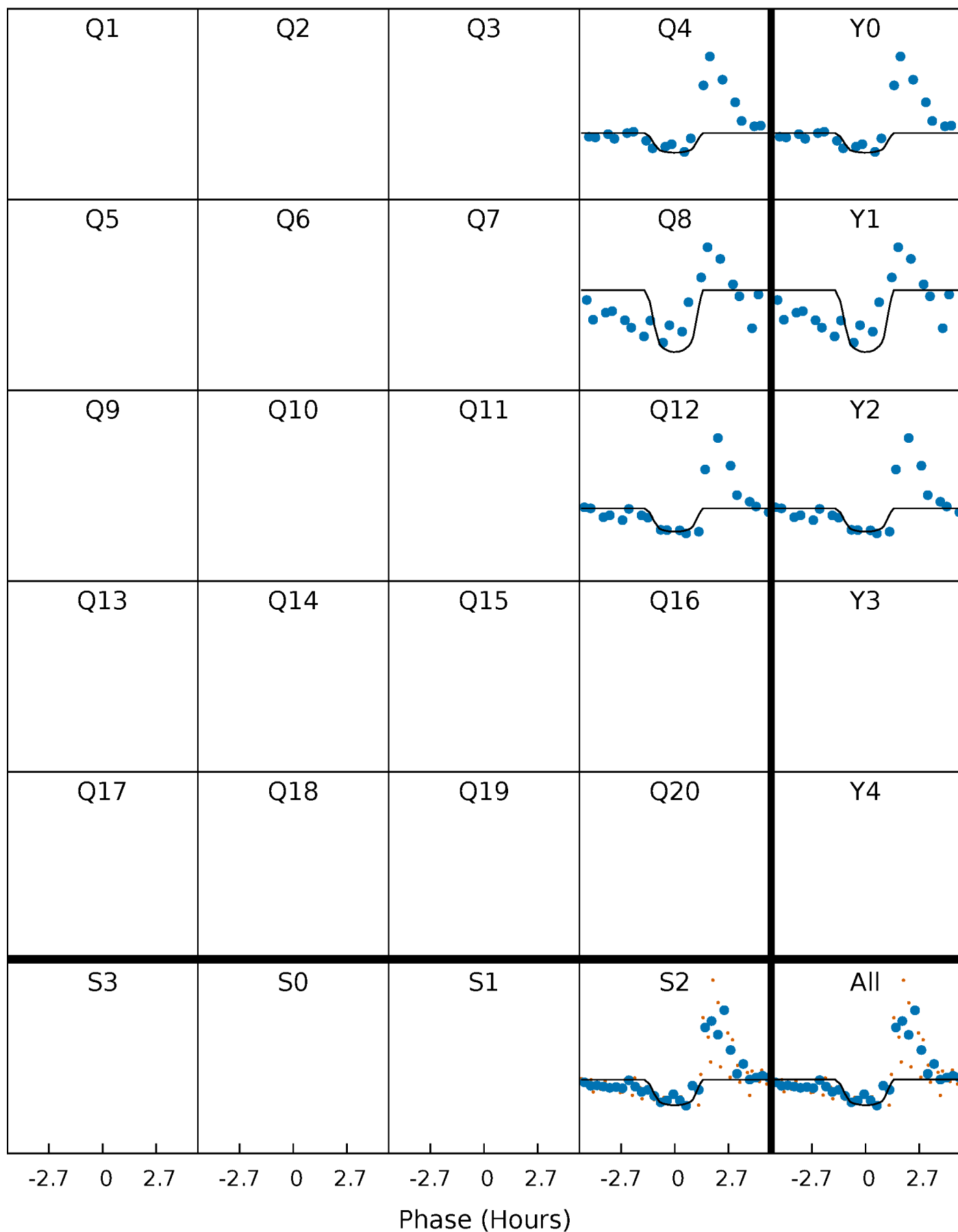
PDC Quarter-Phased Transit Curves

TCE 008074287-05 $P=379.640847$ Days $T_0=420.075550$ (BKJD)



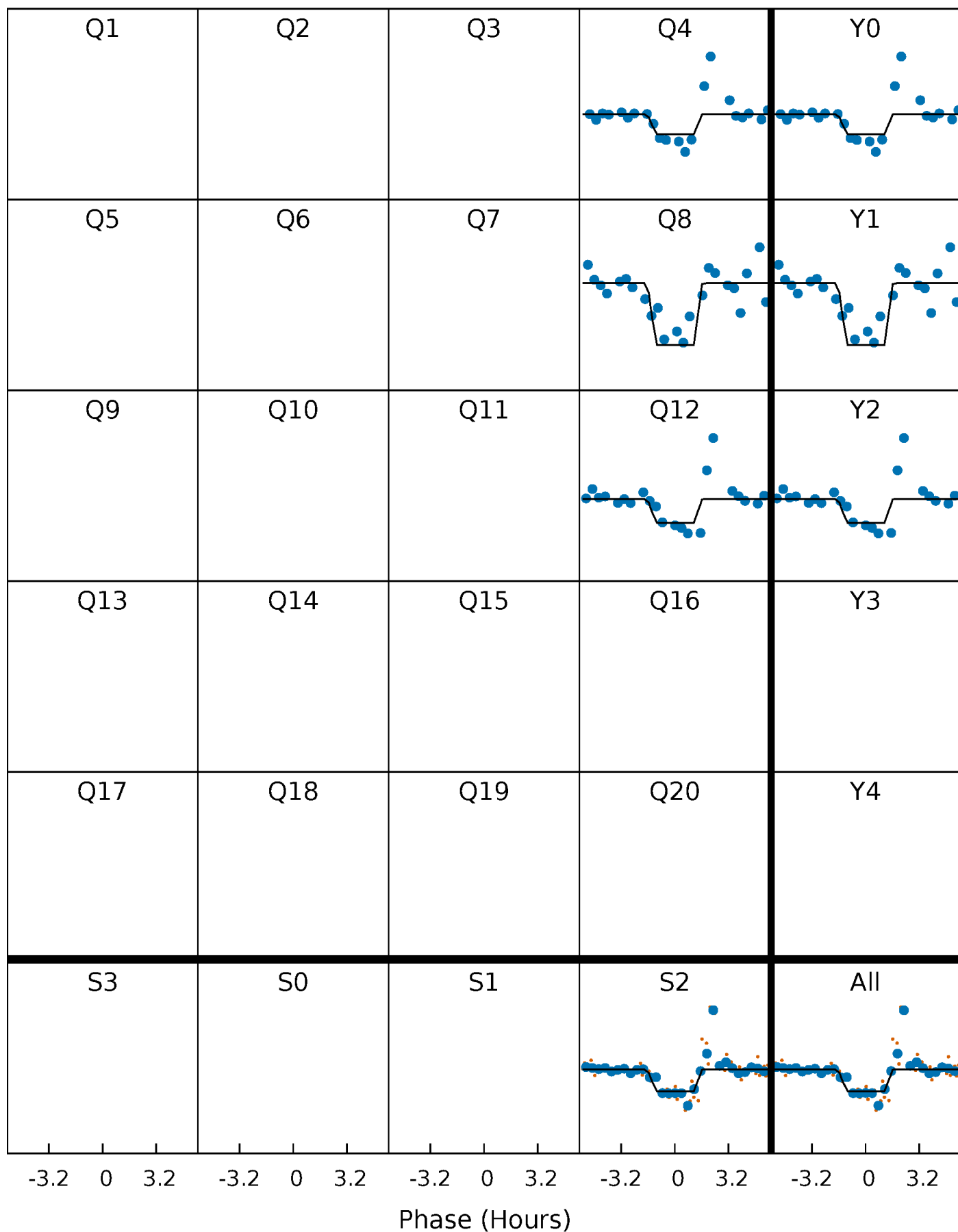
DV Quarter-Phased Transit Curves

TCE 008074287-05 $P=379.640847$ Days $T_0=420.075550$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

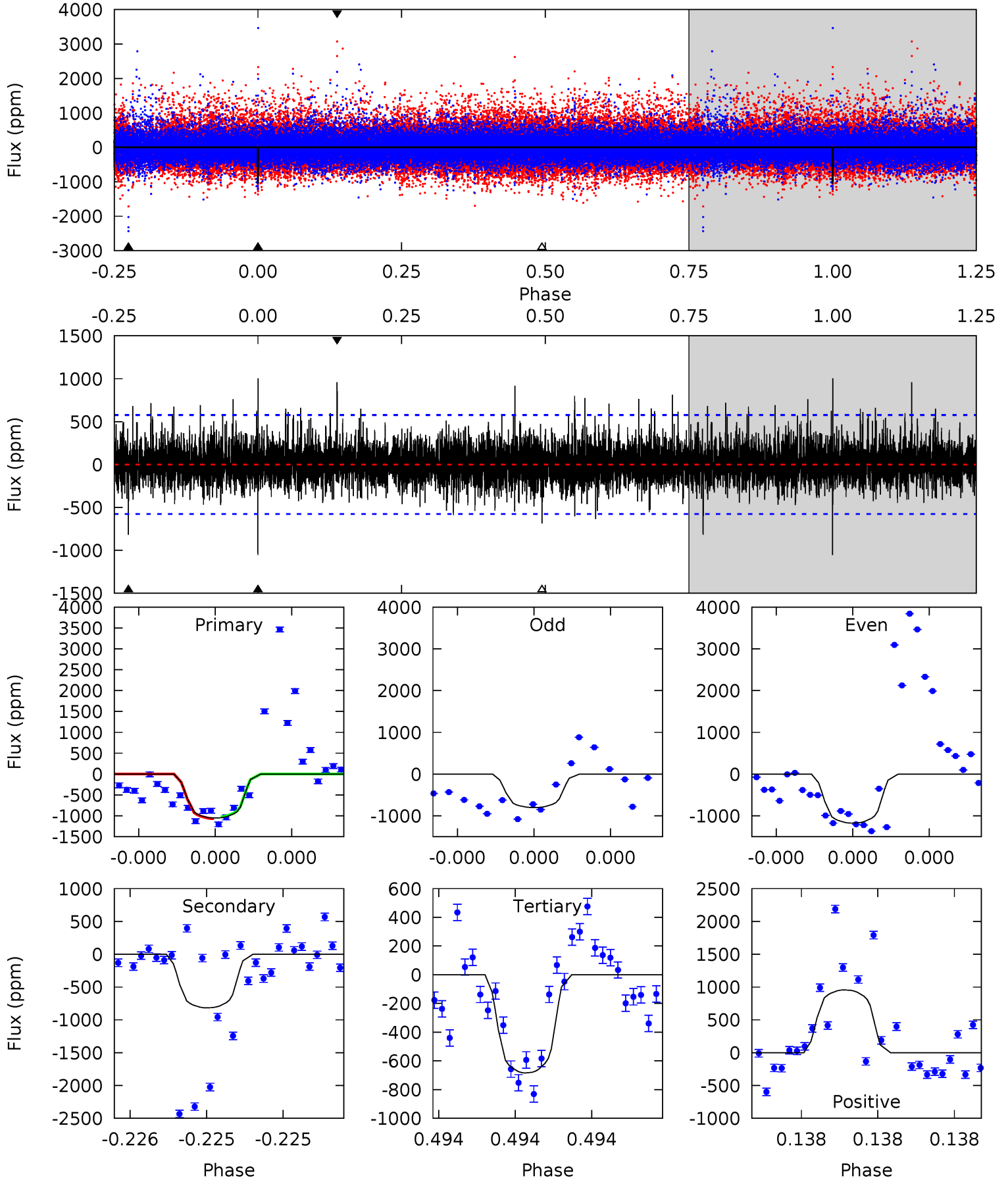
TCE 008074287-05 $P=379.640690$ Days $T_0=420.067295$ (BKJD)



DV Model-Shift Uniqueness Test

008074287-05, $P = 379.640847$ Days, $E = 40.434703$ Days

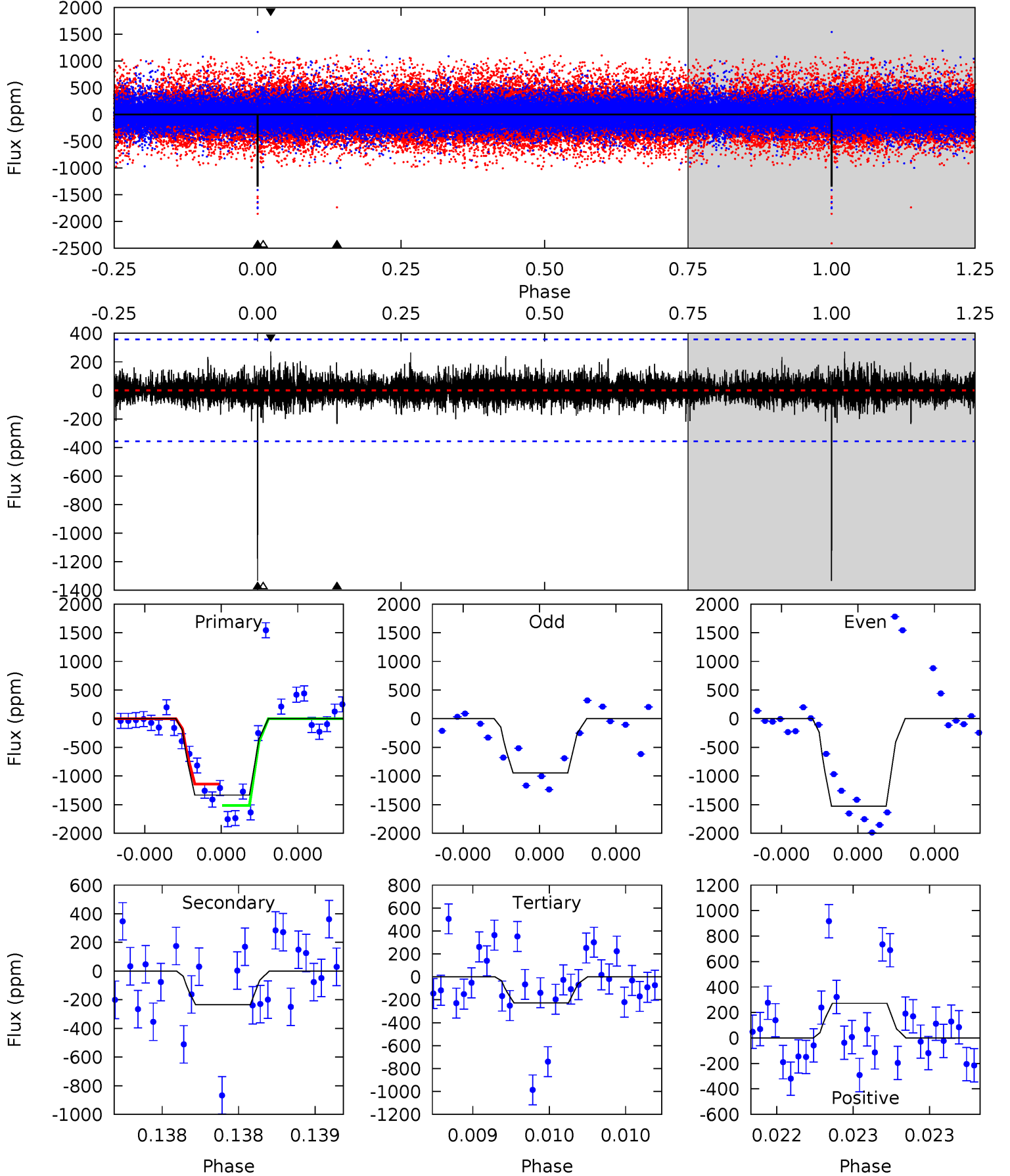
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	8.02	6.72	9.39	5.66	3.61	1.60	3.62	0.95	1.31	-1.36	1.59	1.10	0.49	0.20



Alt Model-Shift Uniqueness Test

008074287-05, $P = 379.640690$ Days, $E = 40.426605$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	3.72	3.59	4.29	5.64	3.59	0.79	17.5	16.8	0.13	-0.57	4.43	0.97	0.17	2.96



Stellar Parameters For KIC 008074287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5720^{+155}_{-155}	$4.428^{+0.120}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$0.929^{+0.248}_{-0.134}$	$0.844^{+0.118}_{-0.073}$	$1.484^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+100%/-100%	+27%/-14%	+14%/-9%	+54%/-48%
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 008074287-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-818 ± 102	$11.44^{+12.26}_{-8.31}$	347^{+23}_{-17}	3423^{+2078}_{-649}	3210^{+36334}_{-2457}
Alt.	-235 ± 63	$11.54^{+12.61}_{-8.17}$	348^{+23}_{-18}	2837^{+1338}_{-493}	908^{+10061}_{-716}

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 $A_{obs} \gg 1.0$

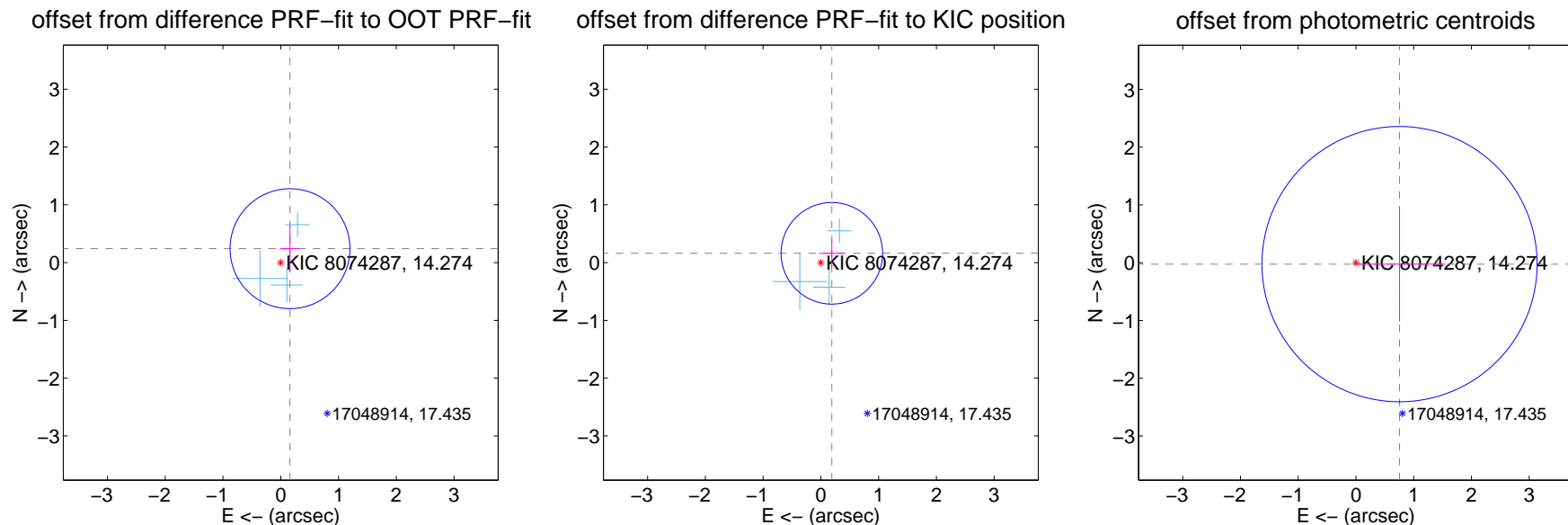
DV Centroid Data

Supplemental centroid analysis for 008074287-05. Kepler magnitude: 14.27. Transit SNR 6.58

There are 3 quarters with good PRF difference image offsets

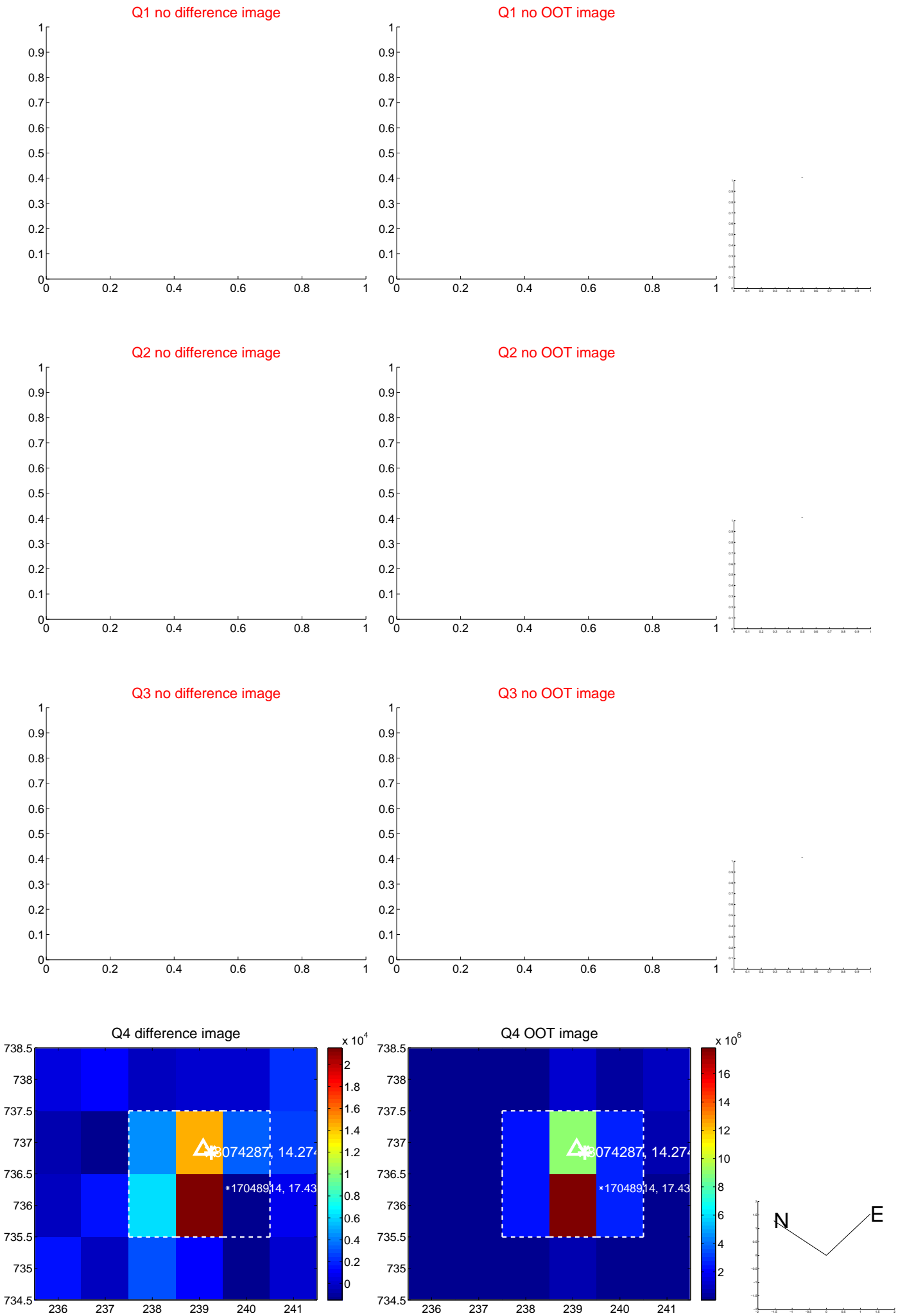
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.289 ± 0.346	0.84	-0.160 ± 0.170	0.241 ± 0.400
PRF-fit source offset from KIC position	0.249 ± 0.293	0.85	-0.190 ± 0.221	0.160 ± 0.244
photometric centroid source offset	0.76 ± 0.79	0.95	-0.75 ± 0.79	-0.03 ± 0.99

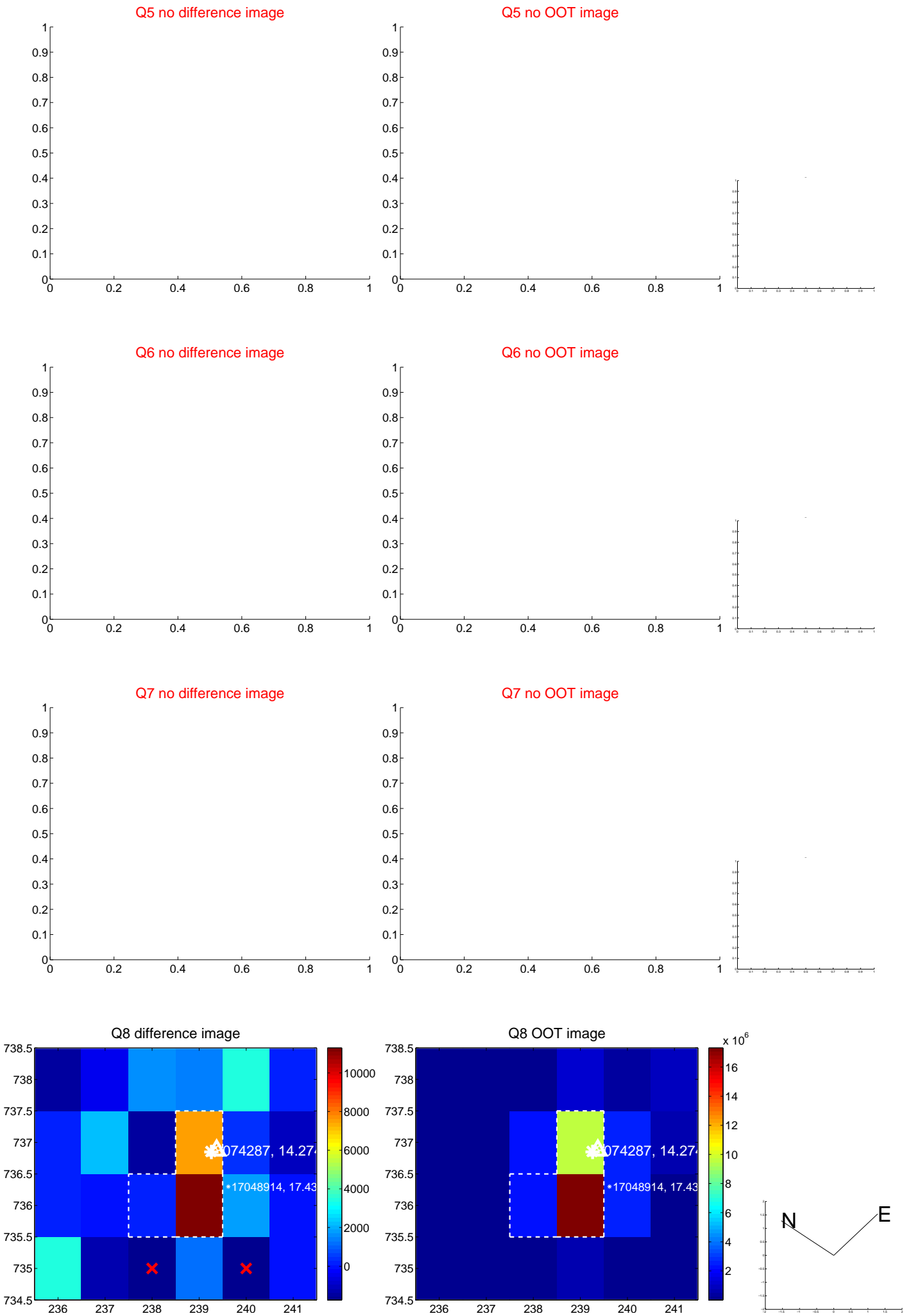


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

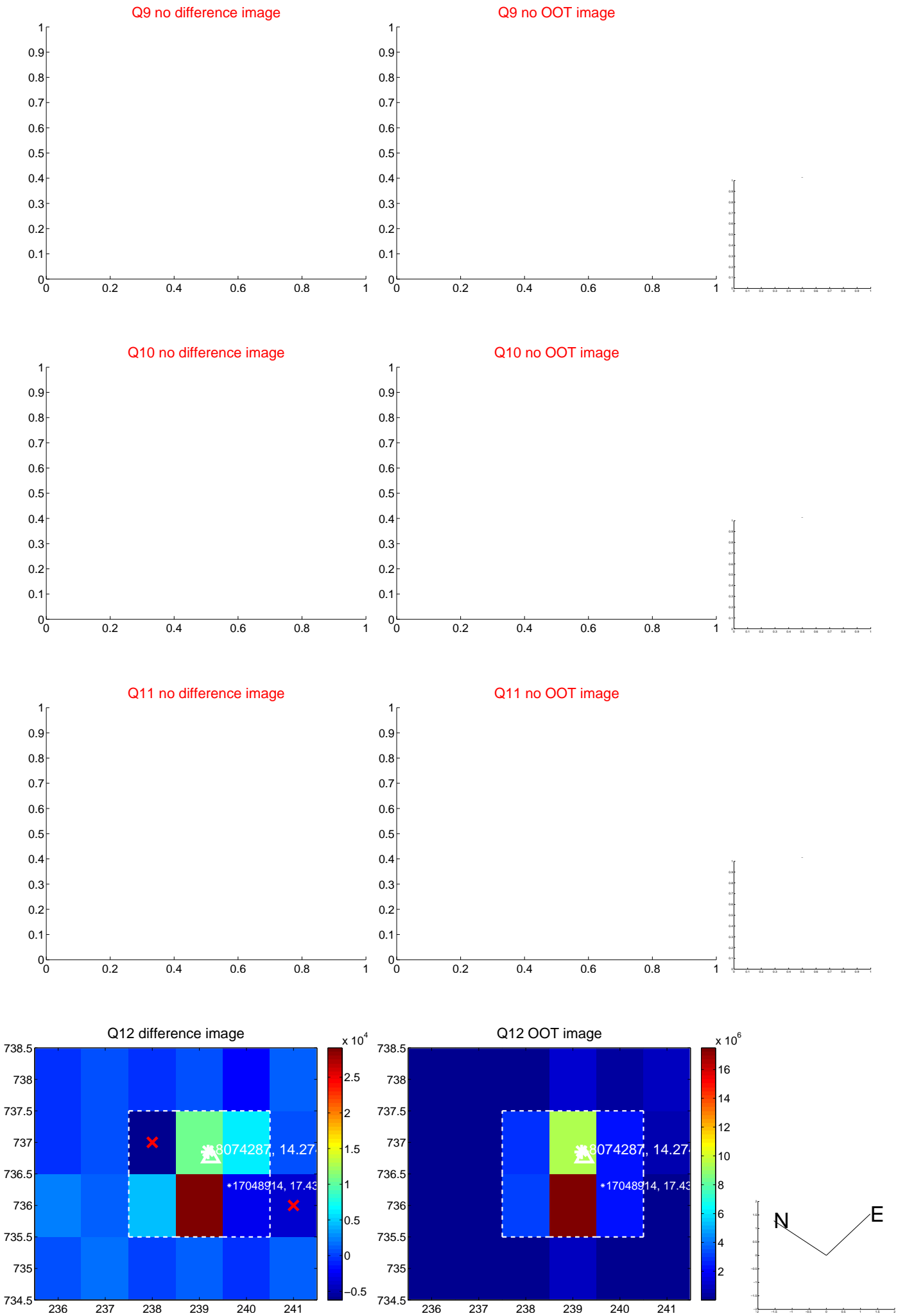
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



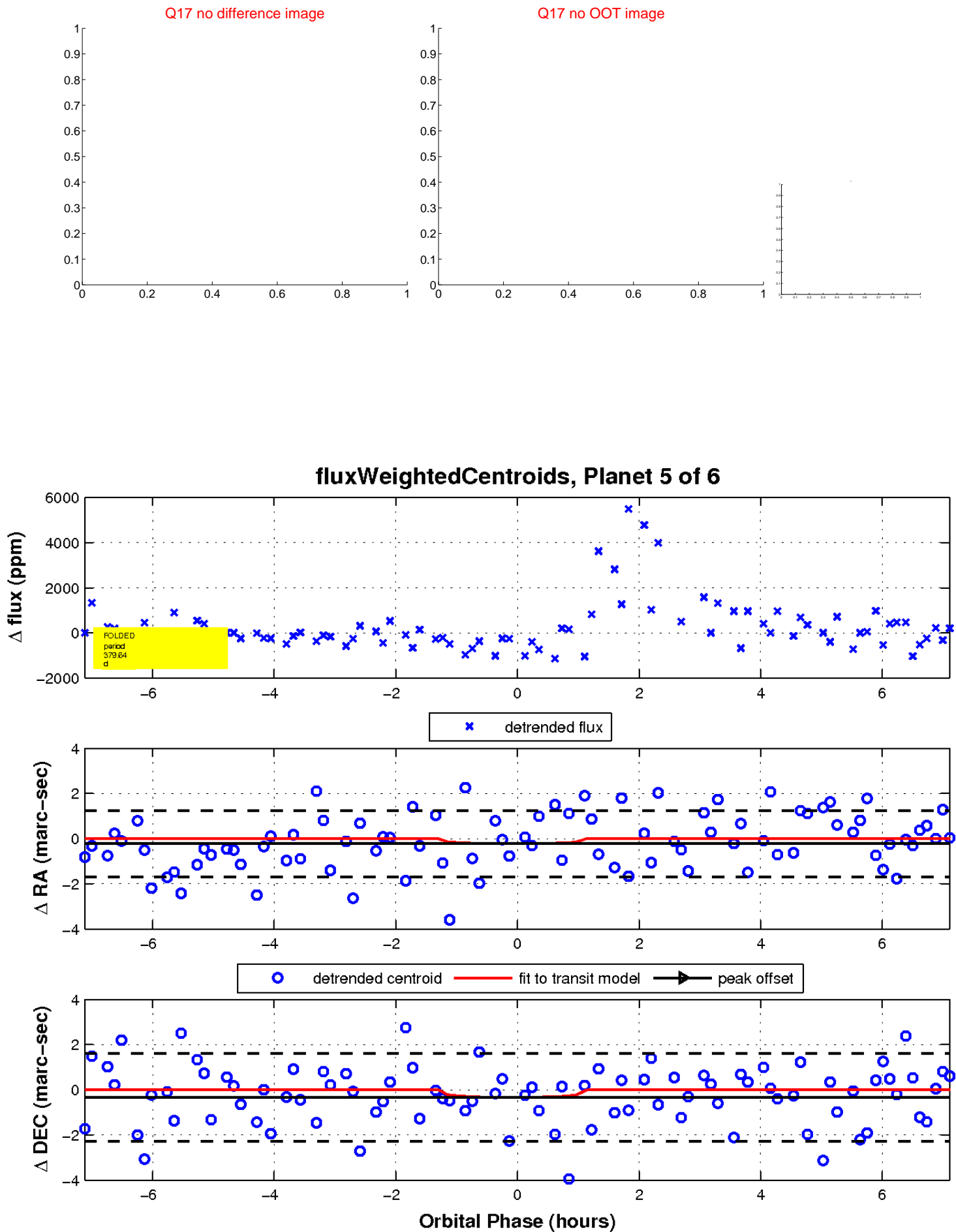
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

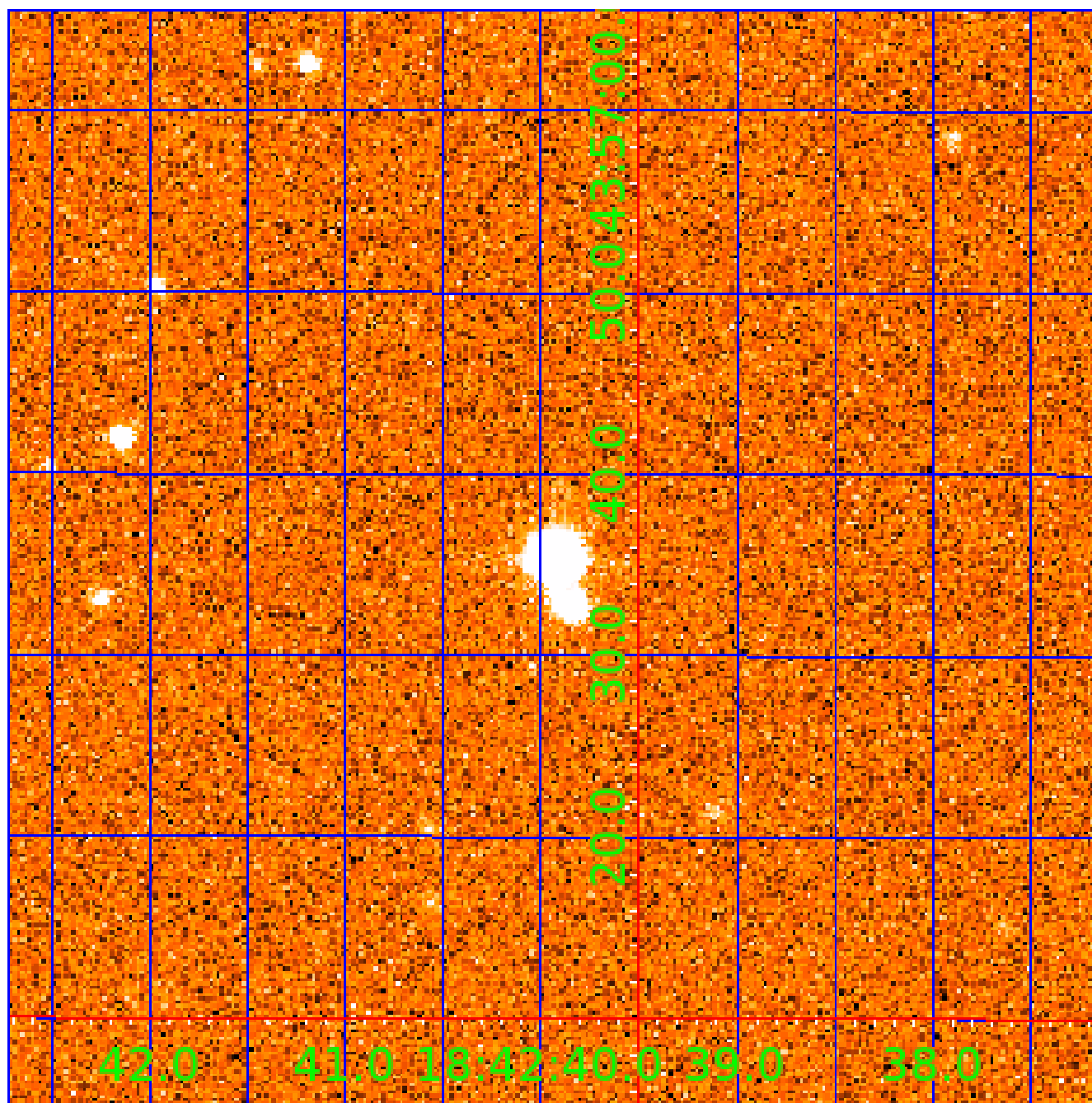


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008074287

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})
008074287-01	OBS	No	399.546035	376.523954	897.4	2.827	15.6	6.7	0.93	5720	2.96	0.82
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008074287-03	OBS	No	562.591133	262.239637	1174.2	3.697	13.1	6.3	0.93	5720	3.21	0.52
008074287-04	OBS	No	440.096002	194.770233	1030.0	3.716	14.9	6.4	0.93	5720	3.11	0.72
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008074287-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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—INCONSISTENT_TRANS
008074287-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008074287-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-04	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—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008074287-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
008074287-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

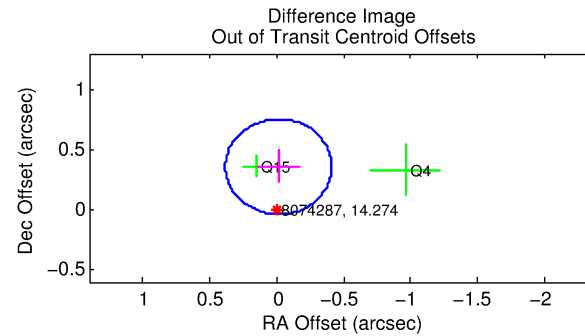
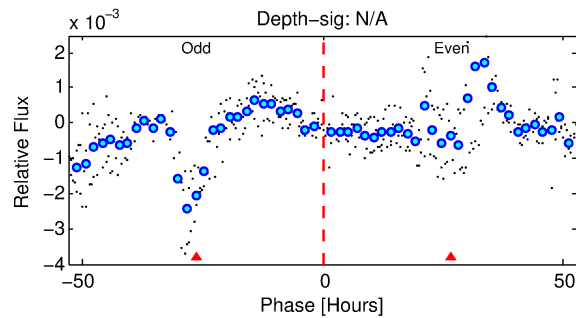
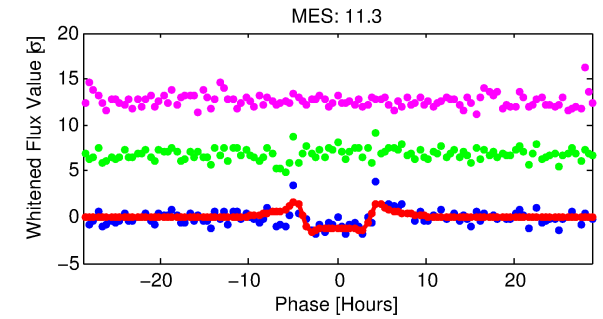
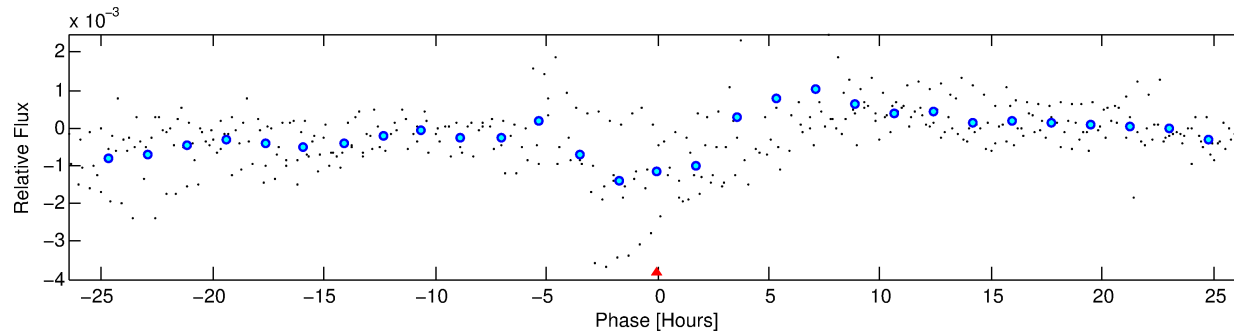
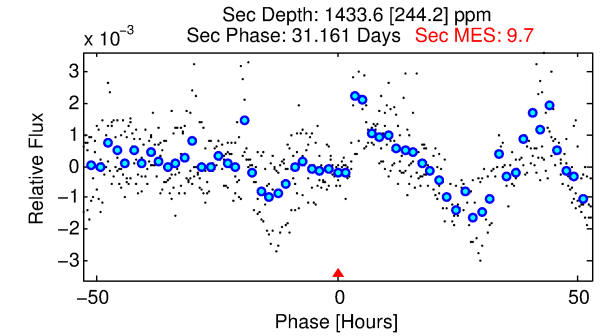
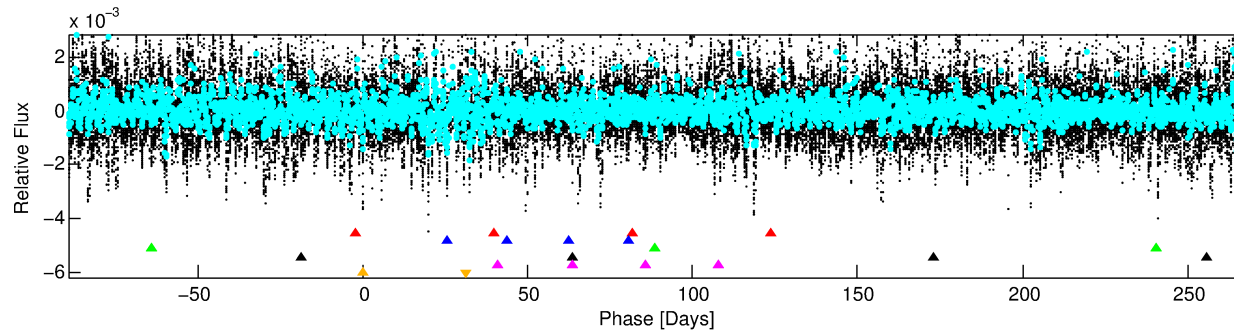
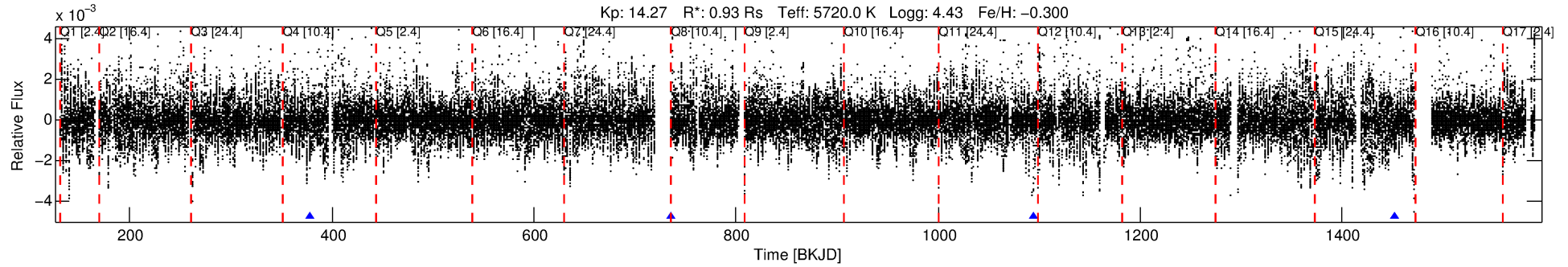
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008074287-06

No Significant Match Found

DV One-Page Summary

KIC: 8074287 Candidate: 6 of 6 Period: 357.410 d



TPS TCE Results:

Period = 357.41021 d
Epoch = 379.0159 BKJD

DV fit results are unavailable

DV Diagnostic Results:

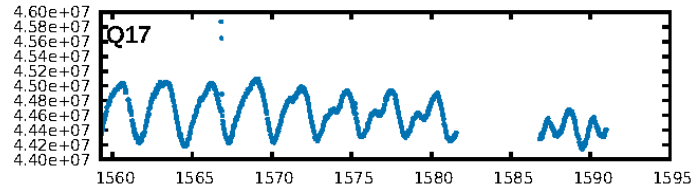
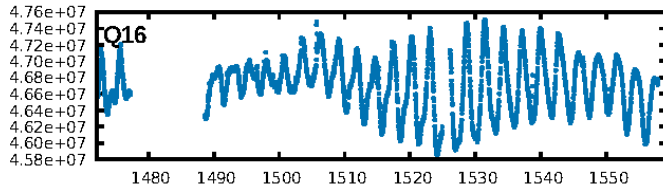
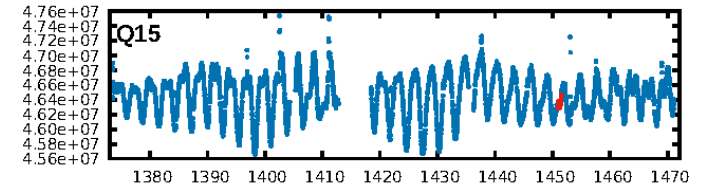
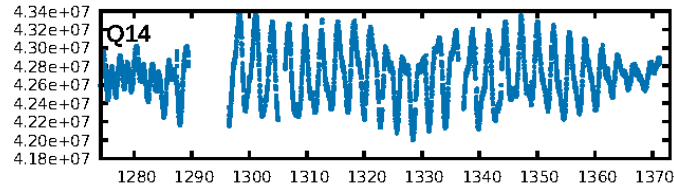
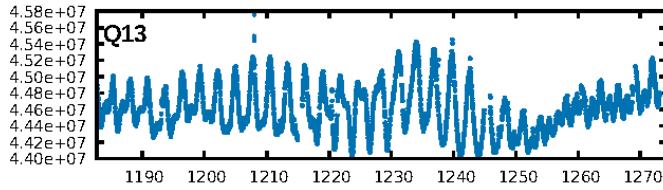
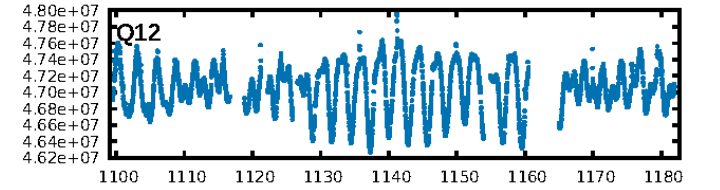
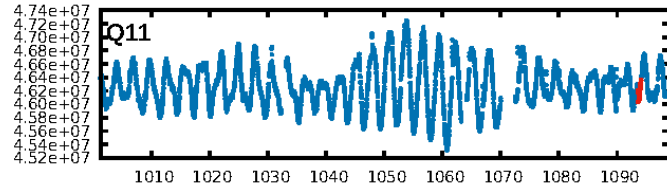
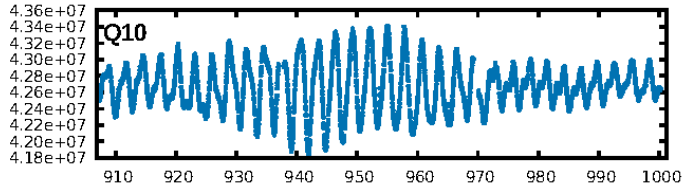
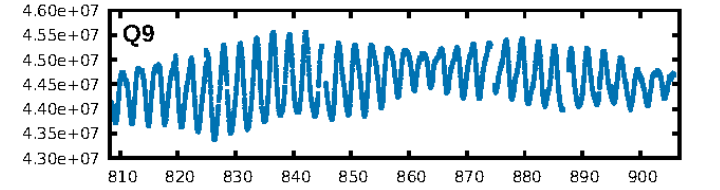
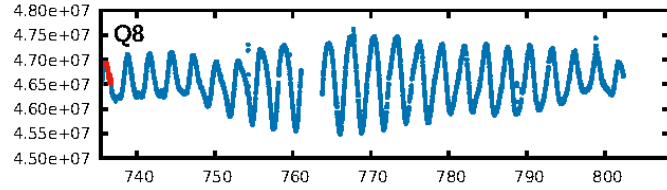
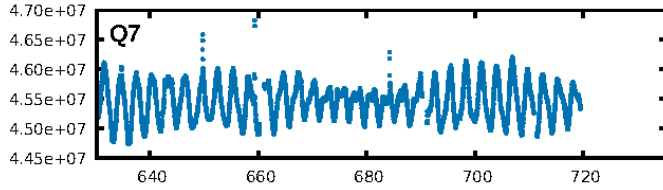
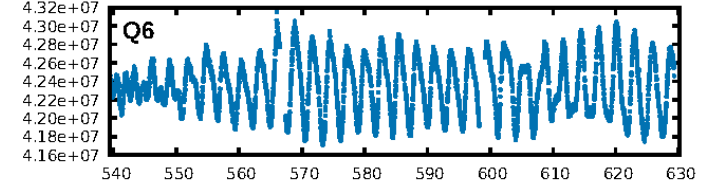
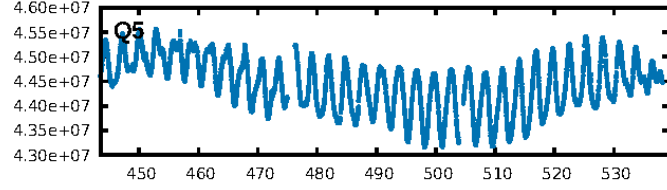
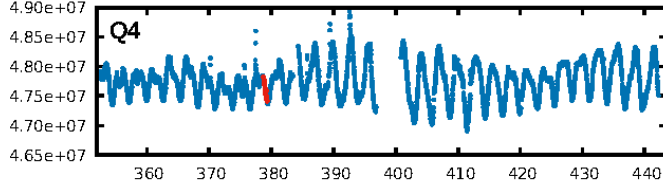
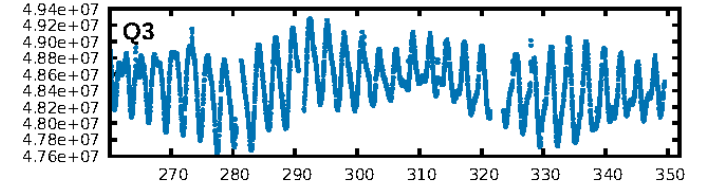
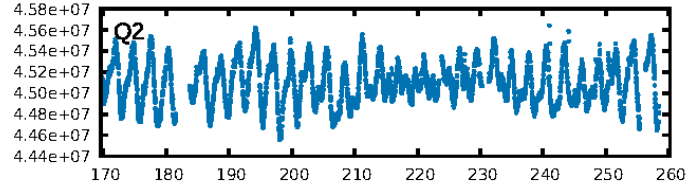
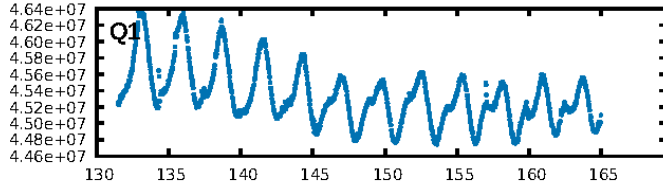
ShortPeriod-sig: 100.0% [54.74 σ]
LongPeriod-sig: 100.0% [67.77 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.5192

Centroid-sig: 61.3%
Centroid-so: 1.036 arcsec [3.42 σ]
OotOffset-rm: 0.358 arcsec [2.71 σ]
KicOffset-rm: 0.293 arcsec [1.35 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

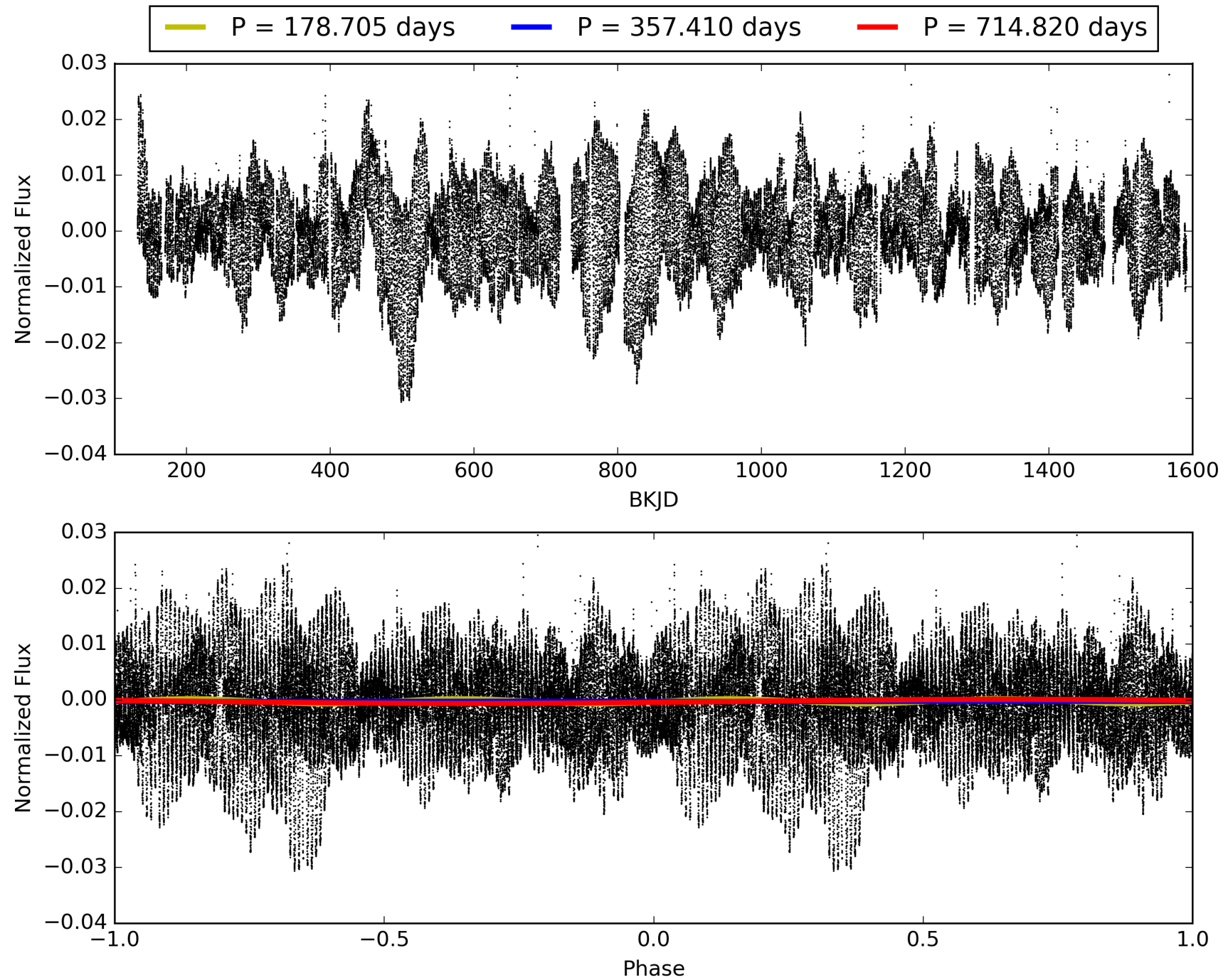
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 14:56:50 Z

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

TCE 008074287-06, PDC Light Curves

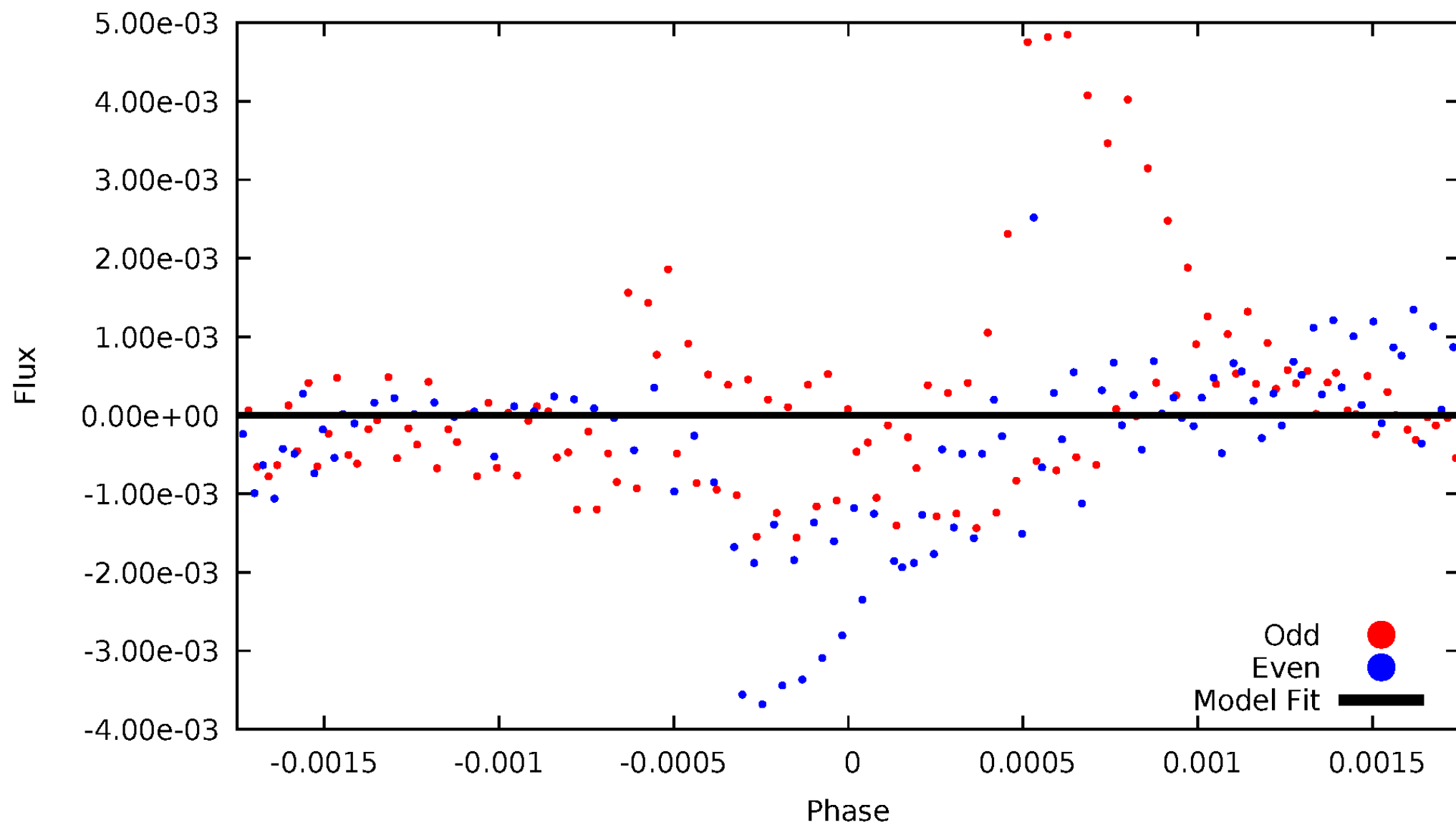


TCE 008074287-06



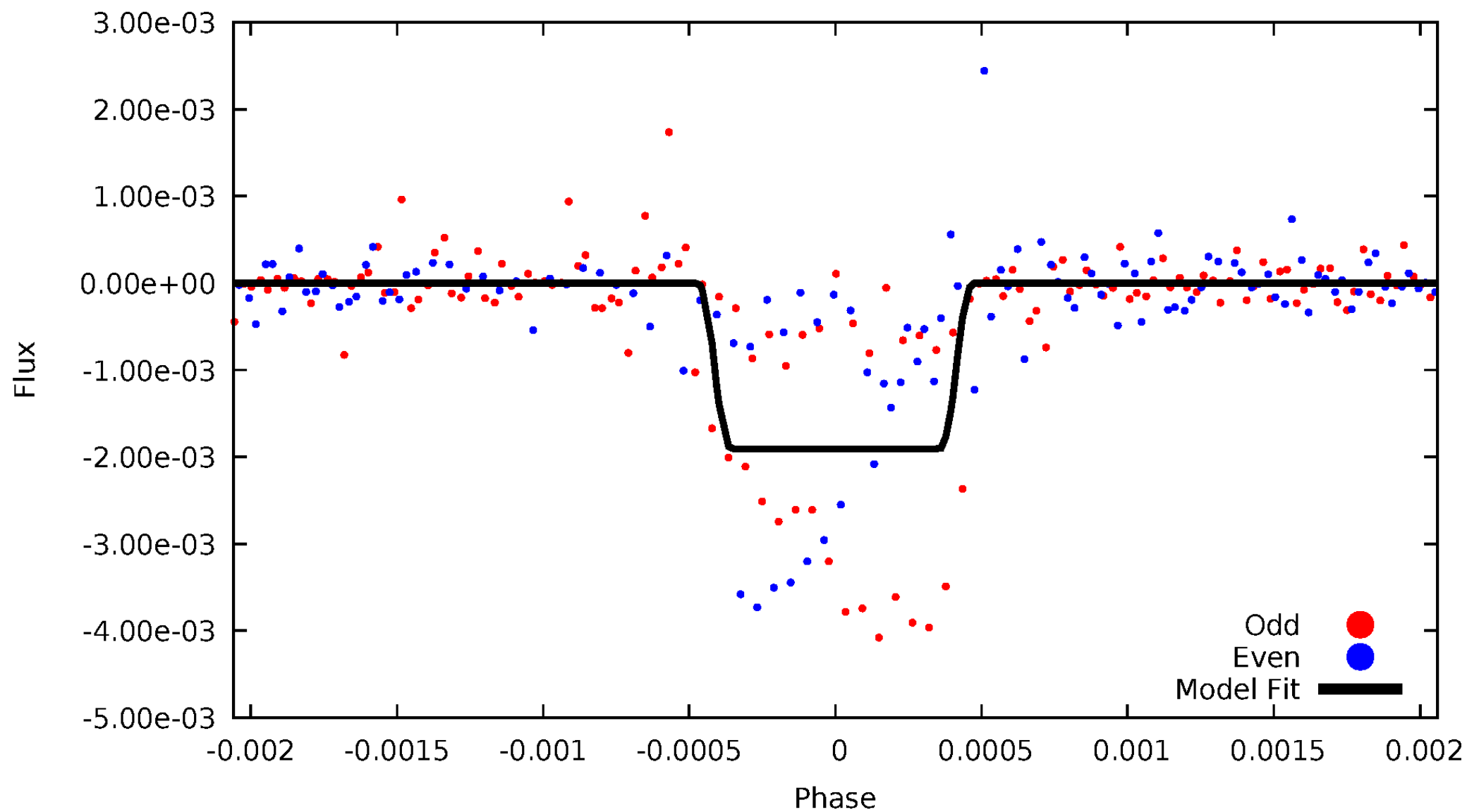
DV Odd/Even

TCE 008074287-06



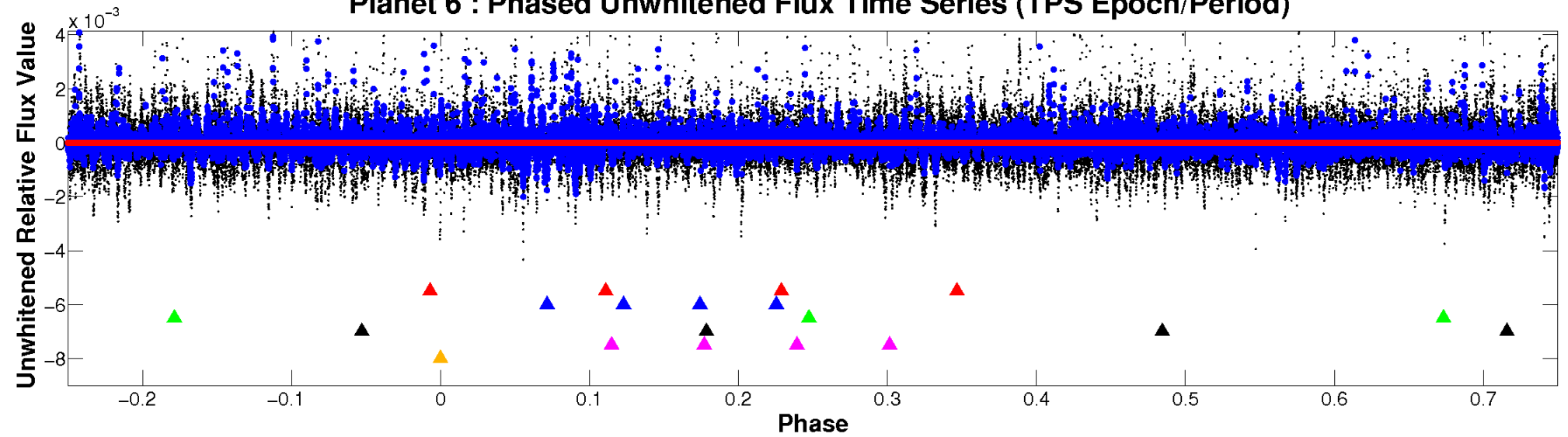
ALT Odd/Even

TCE 008074287-06



Non-Whitened Vs. Whitened Light Curve

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

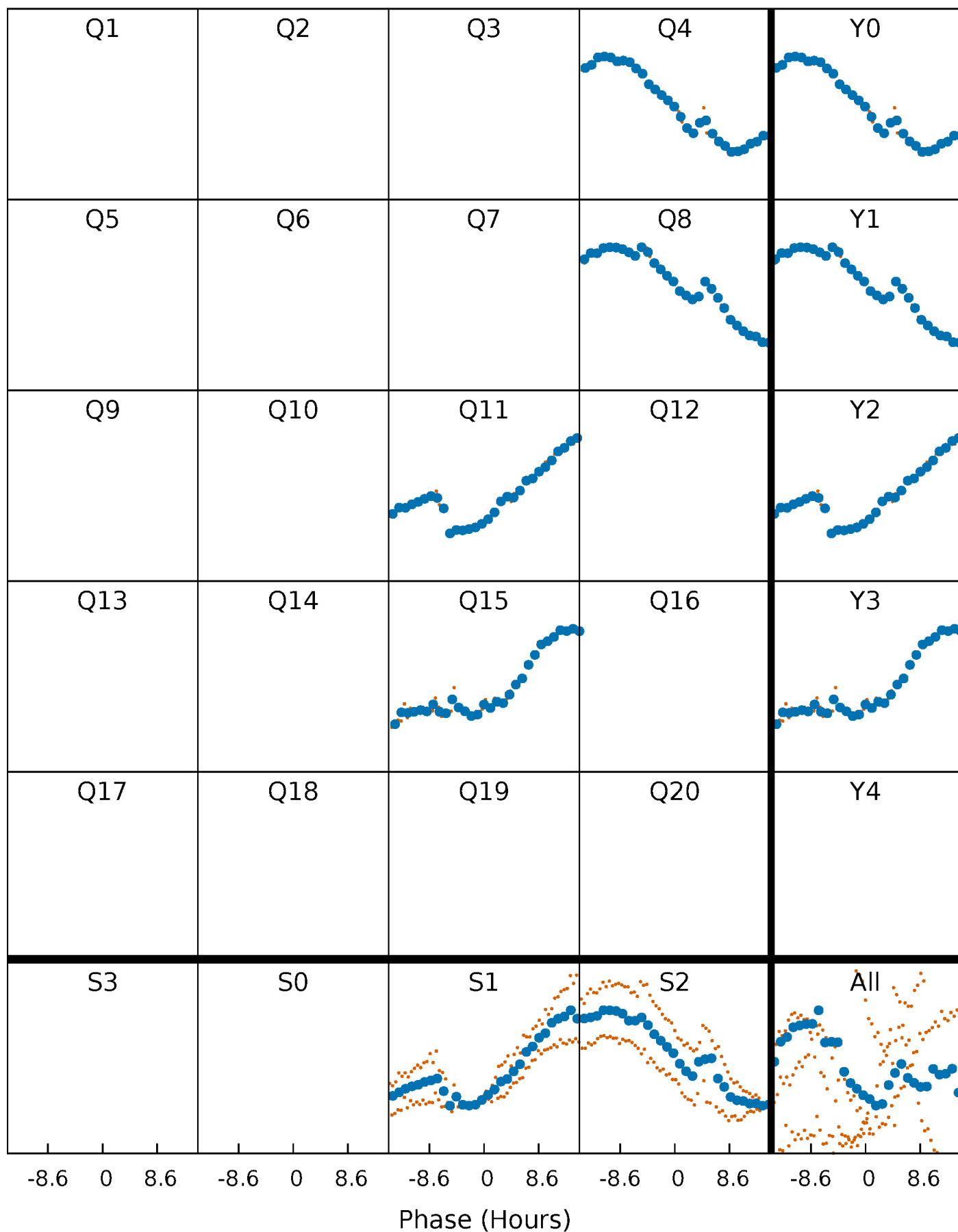


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



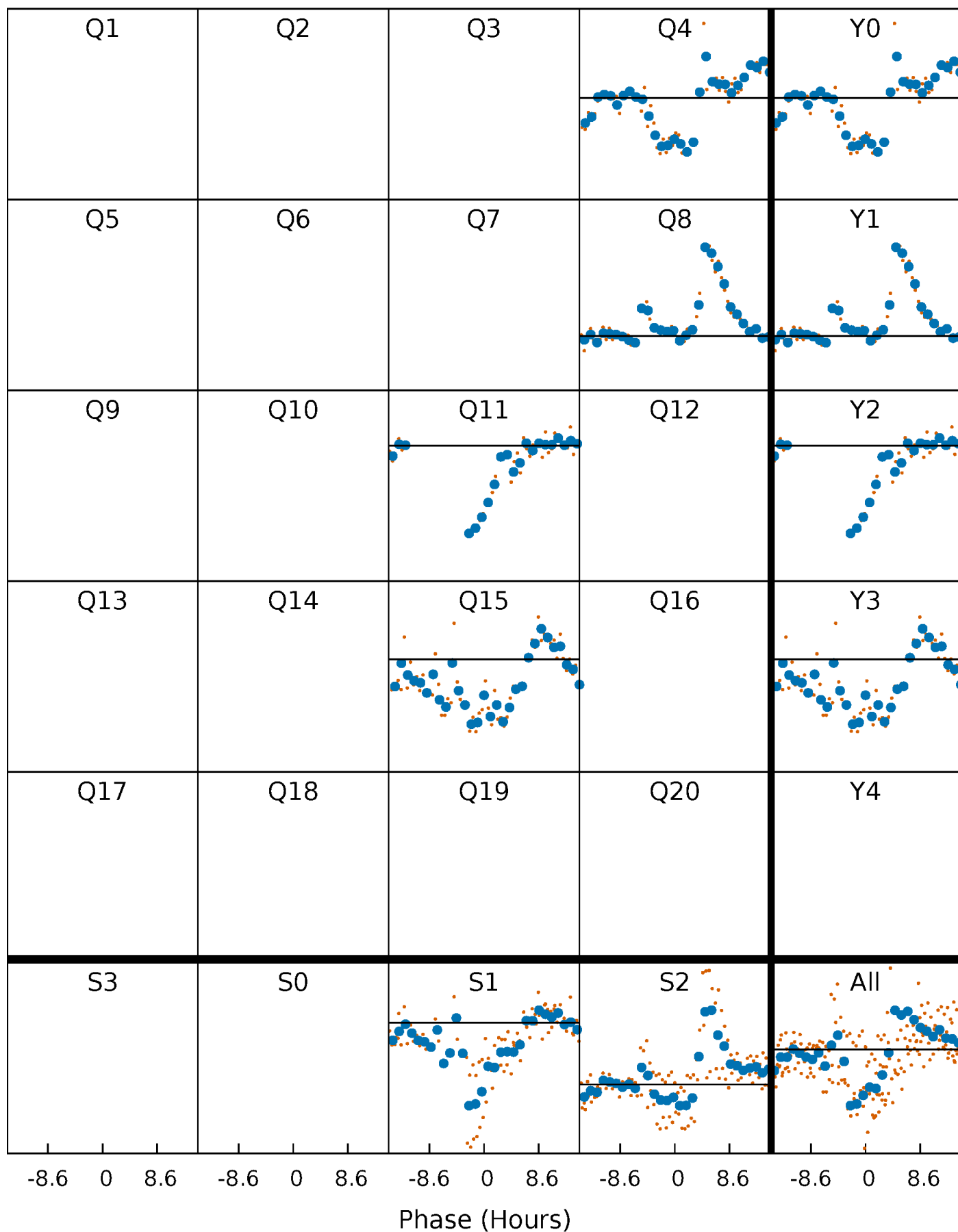
PDC Quarter-Phased Transit Curves

TCE 008074287-06 $P=357.410209$ Days $T_0=379.015895$ (BKJD)



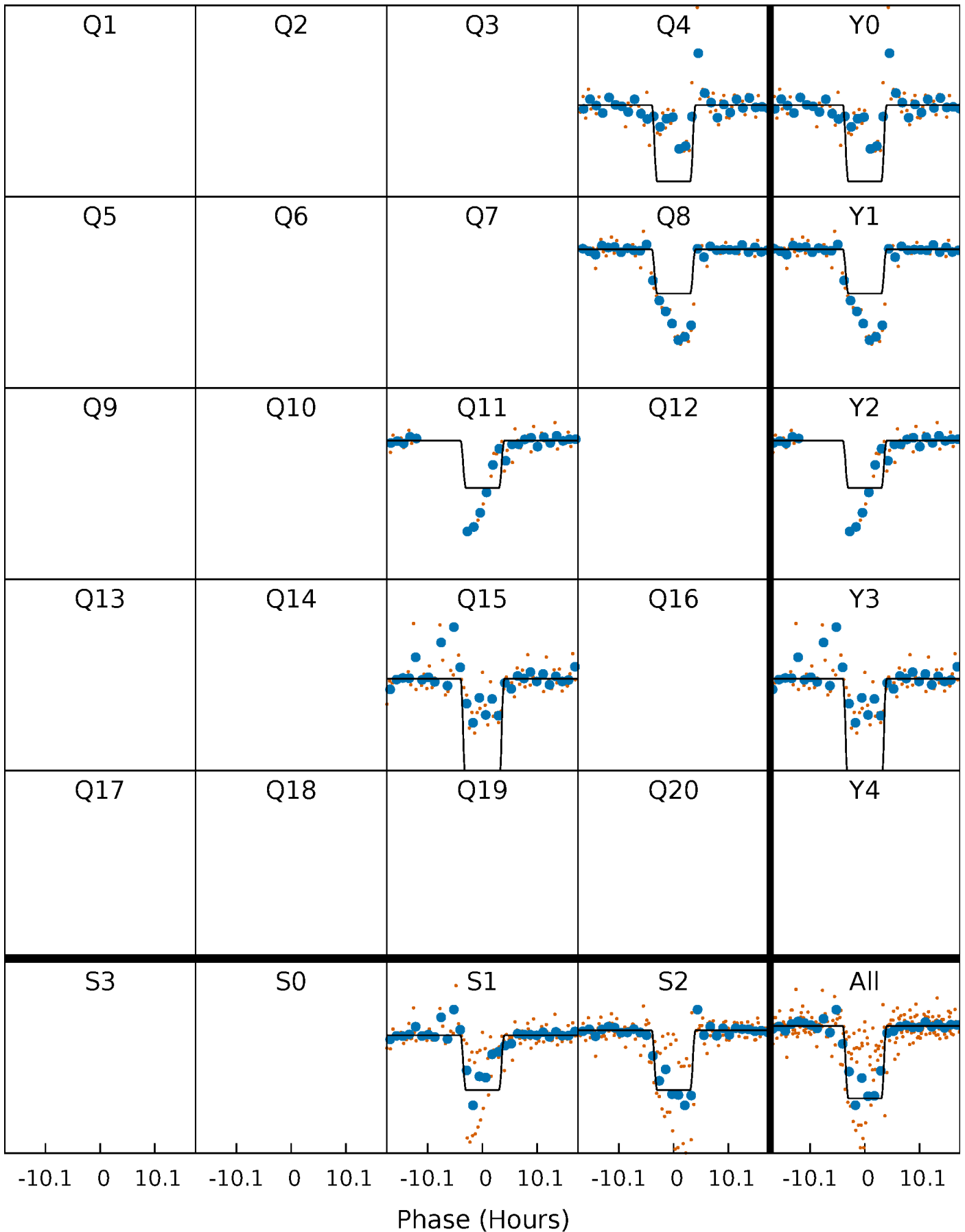
DV Quarter-Phased Transit Curves

TCE 008074287-06 $P=357.410209$ Days $T_0=379.015895$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

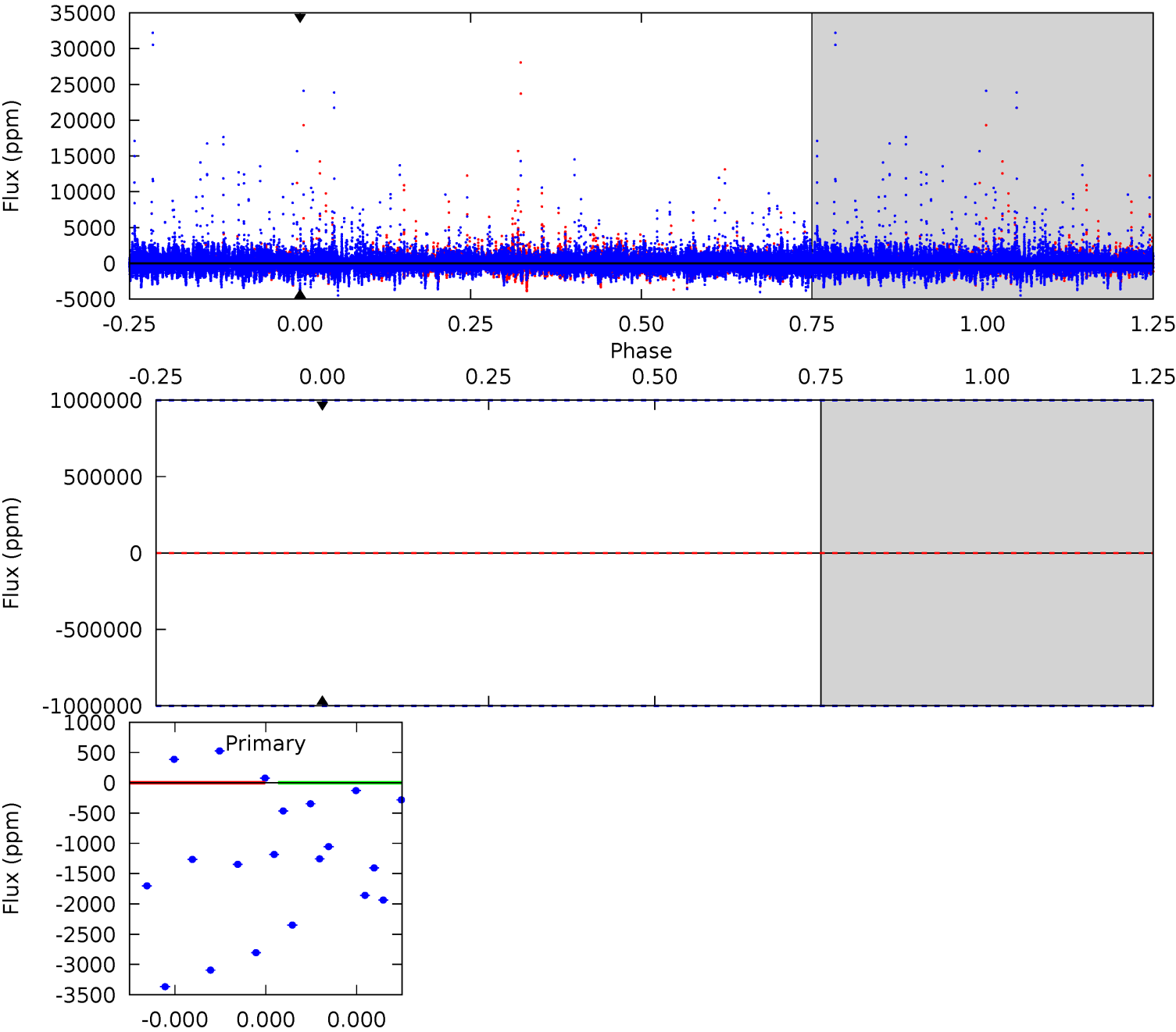
TCE 008074287-06 $P=357.410209$ Days $T_0=379.023565$ (BKJD)



DV Model-Shift Uniqueness Test

008074287-06, P = 357.410209 Days, E = 21.605686 Days

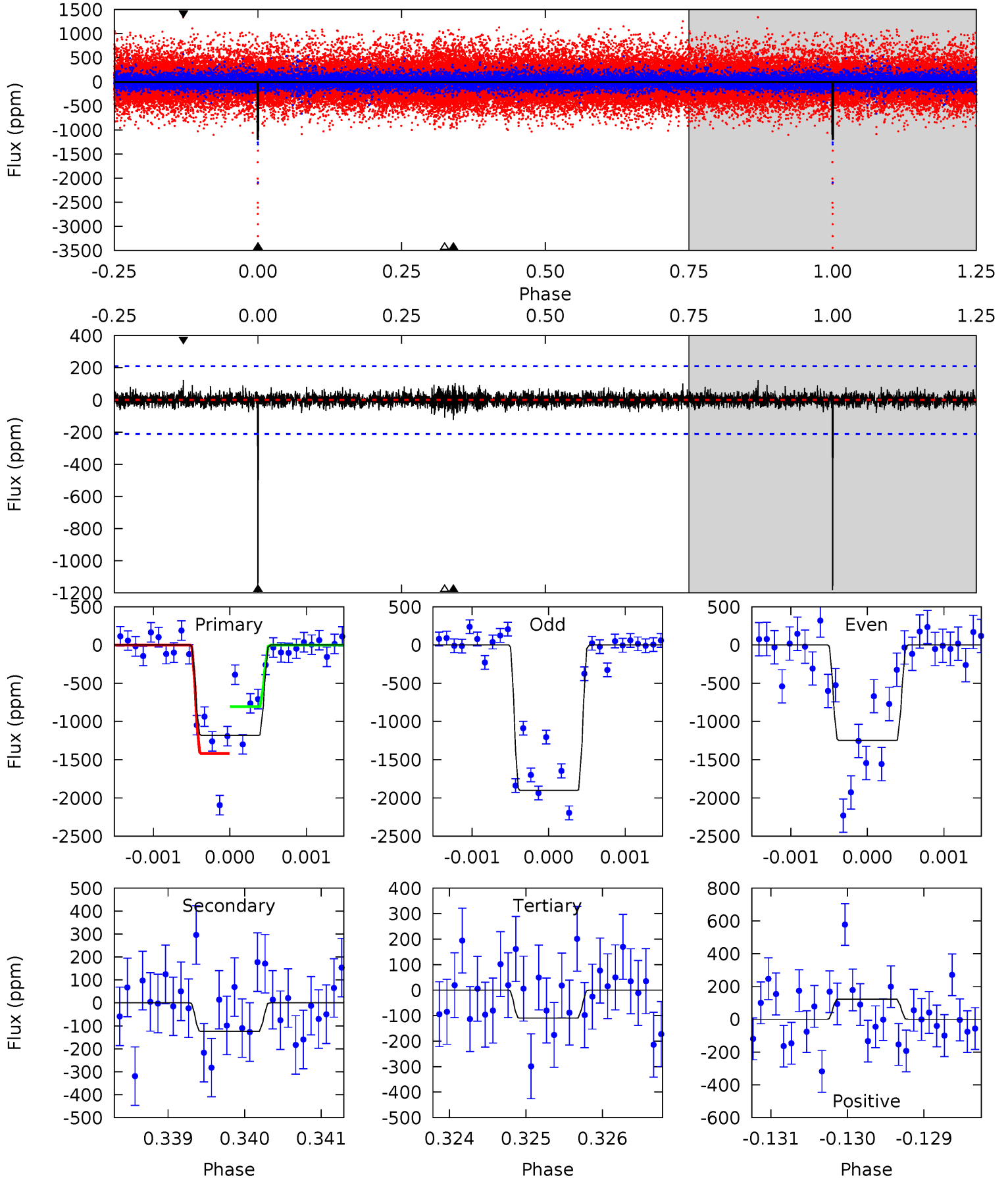
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008074287-06, $P = 357.410209$ Days, $E = 21.613356$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.7	3.22	2.84	3.18	5.47	3.31	0.58	27.8	27.5	0.38	0.03	9.38	1.15	0.09	7.74



Stellar Parameters For KIC 008074287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5720^{+155}_{-155}	$4.428^{+0.120}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$0.929^{+0.248}_{-0.134}$	$0.844^{+0.118}_{-0.073}$	$1.484^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+100%/-100%	+27%/-14%	+14%/-9%	+54%/-48%
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 008074287-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$7.86^{+7.88}_{-5.26}$	354^{+24}_{-19}	4297^{+17085}_{-22212}	$12082^{+1519260}_{-1241683}$
Alt.	-124 ± 39	$8.99^{+8.81}_{-6.37}$	355^{+24}_{-19}	2798^{+1243}_{-450}	708^{+7203}_{-535}

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

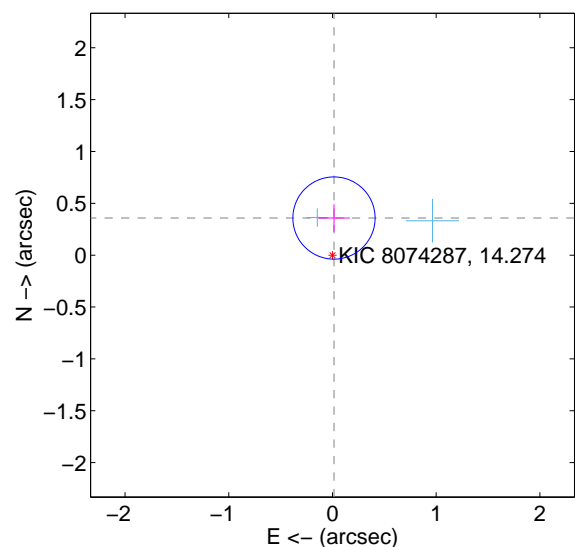
Supplemental centroid analysis for 008074287-06. Kepler magnitude: 14.27. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

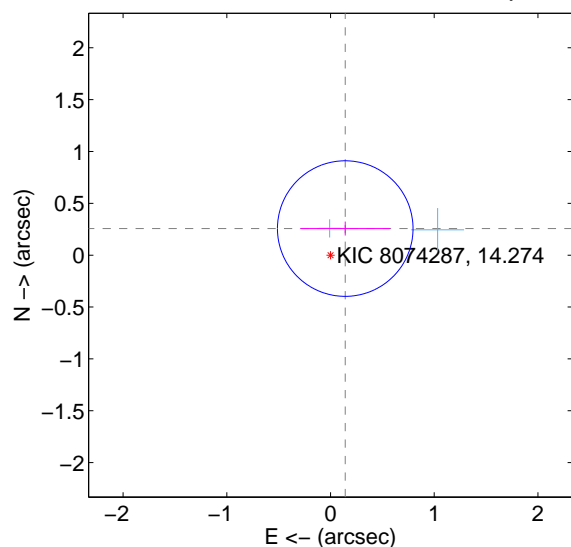
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.358 ± 0.132	2.71	-0.015 ± 0.153	0.358 ± 0.132
PRF-fit source offset from KIC position	0.293 ± 0.218	1.35	-0.142 ± 0.433	0.256 ± 0.067
photometric centroid source offset	1.04 ± 0.30	3.42	-1.03 ± 0.30	-0.14 ± 0.37

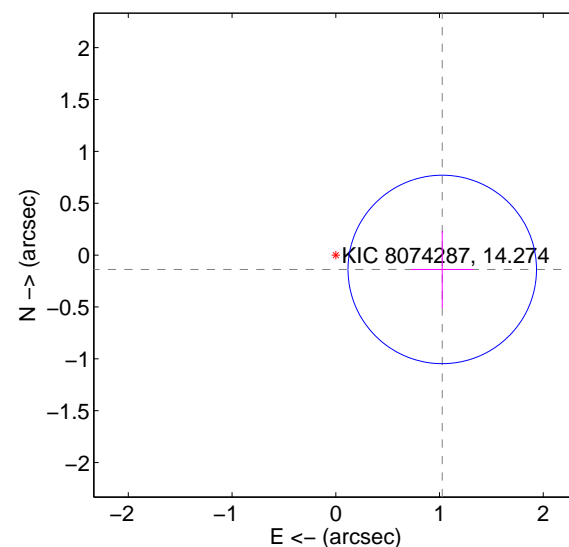
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

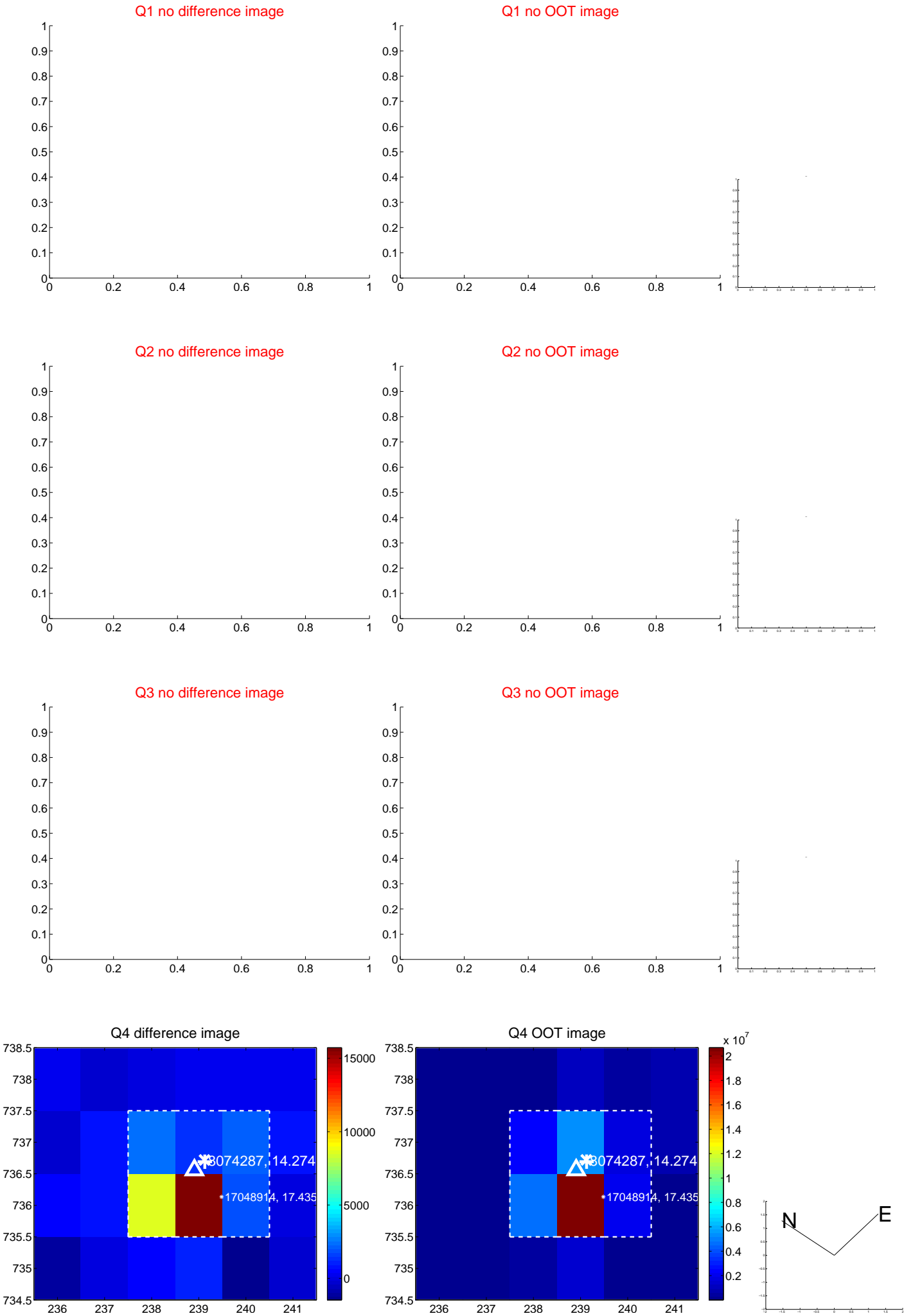


offset from photometric centroids



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

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



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



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



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

Q13 no difference image



Q13 no OOT image



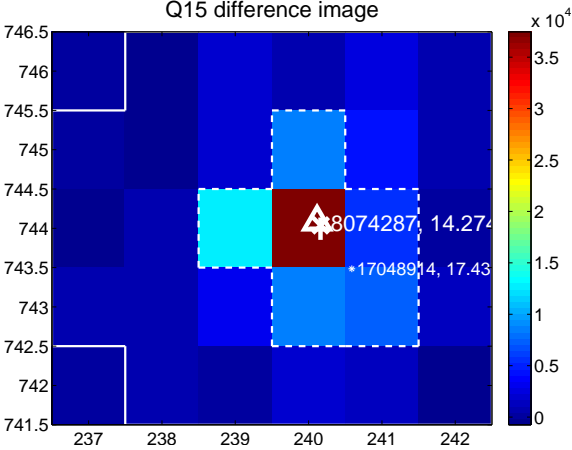
Q14 no difference image



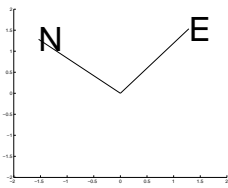
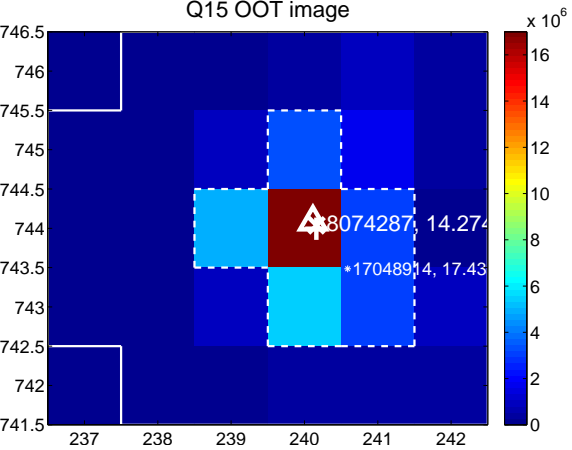
Q14 no OOT image



Q15 difference image



Q15 OOT image



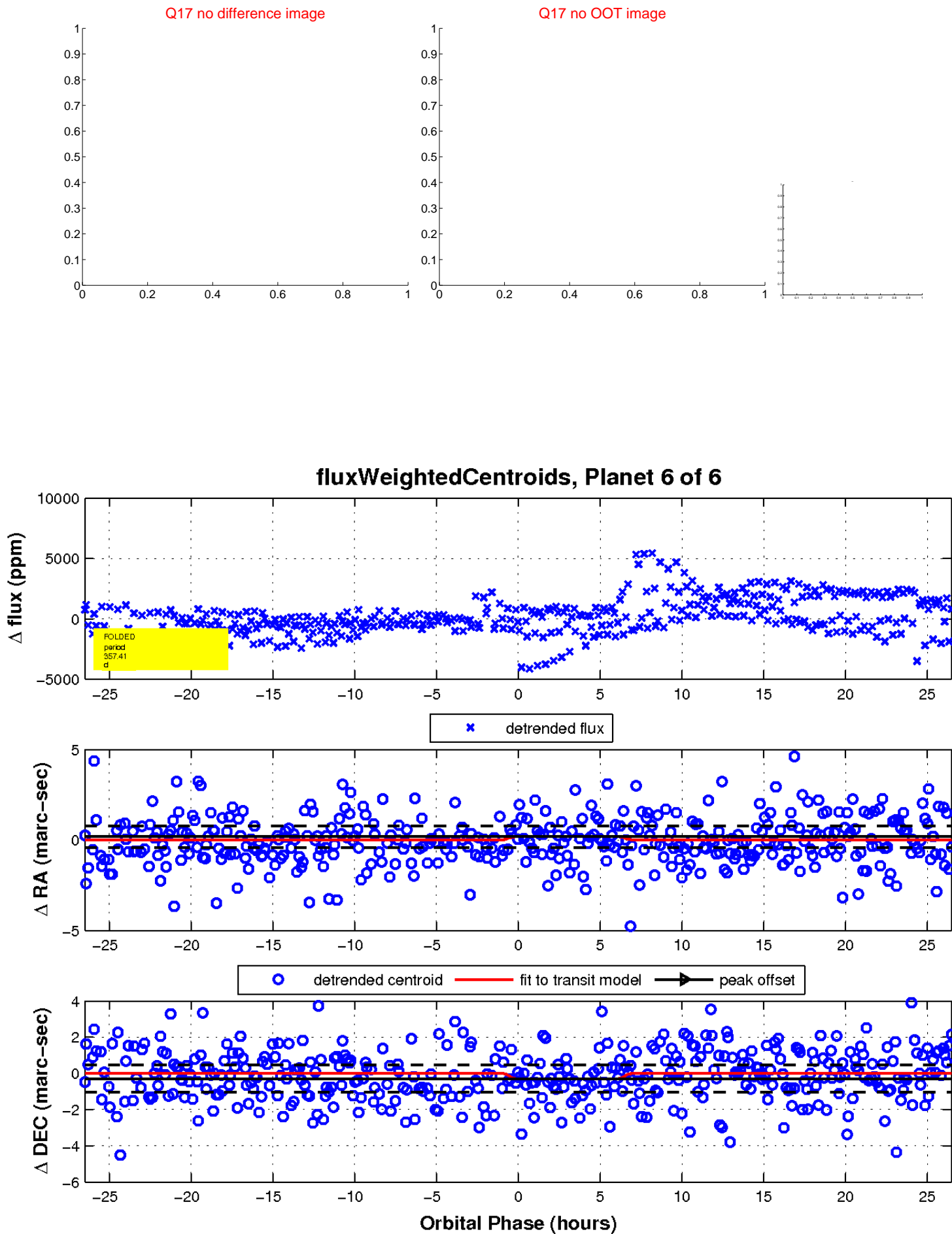
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

