

KIC 007900137

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})
007900137-01	OBS	No	1.861090	133.071328	90.9	8.440	9.0	10.1	0.64	4374	0.58	206.97
007900137-02	OBS	No	201.472426	284.110306	1444.4	16.093	24.7	10.9	0.64	4374	2.96	0.40
007900137-03	OBS	No	188.085998	301.583168	780.1	10.594	12.6	6.3	0.64	4374	1.92	0.44
007900137-04	OBS	No	275.463023	217.519429	808.5	10.895	8.4	7.9	0.64	4374	2.05	0.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007900137-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
007900137-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007900137-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007900137-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

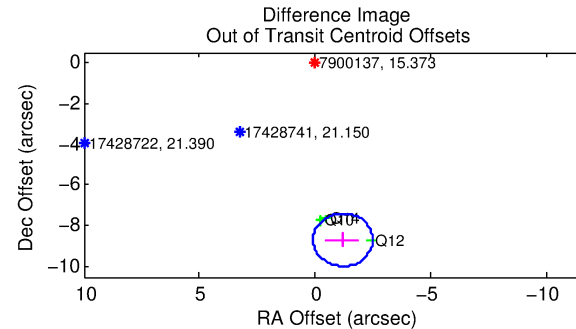
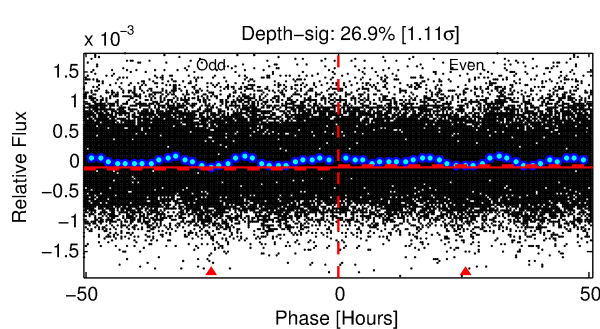
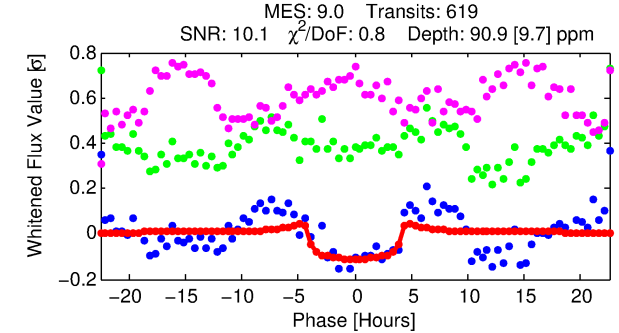
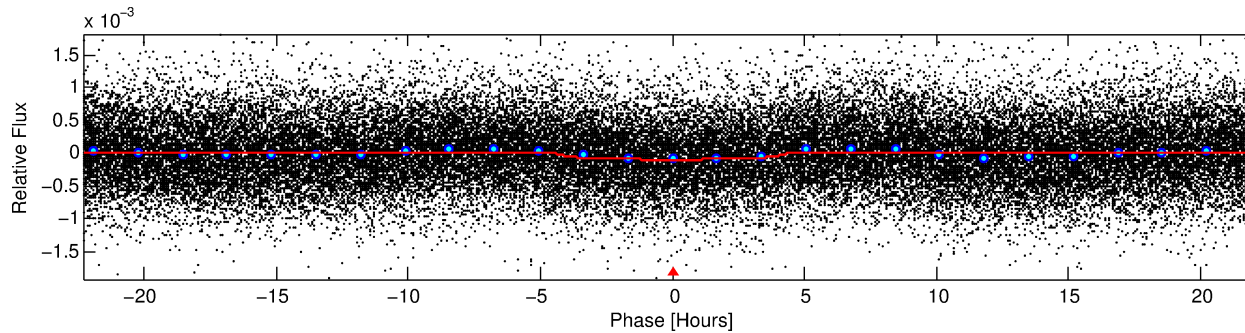
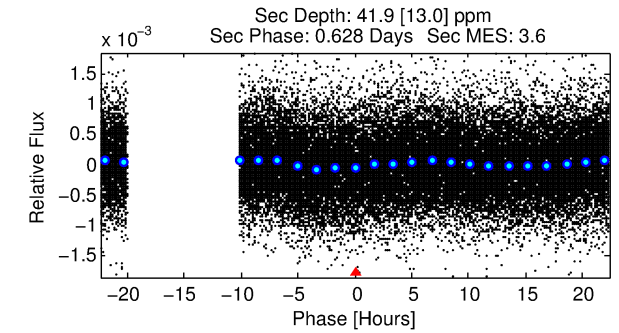
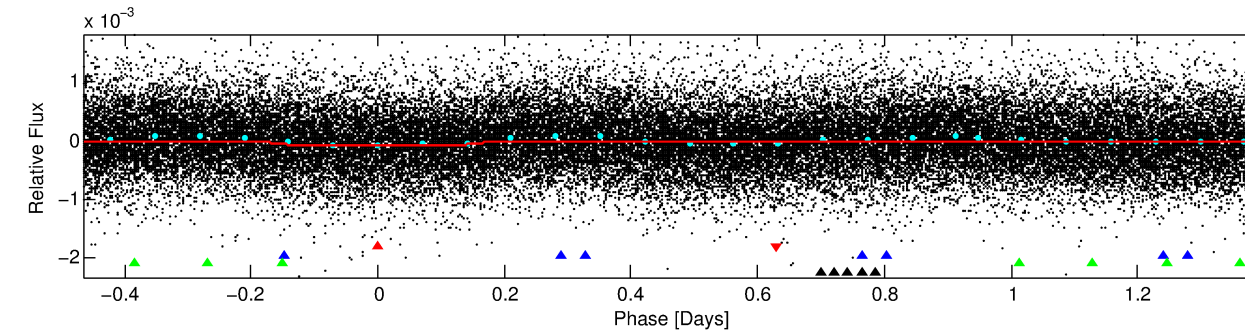
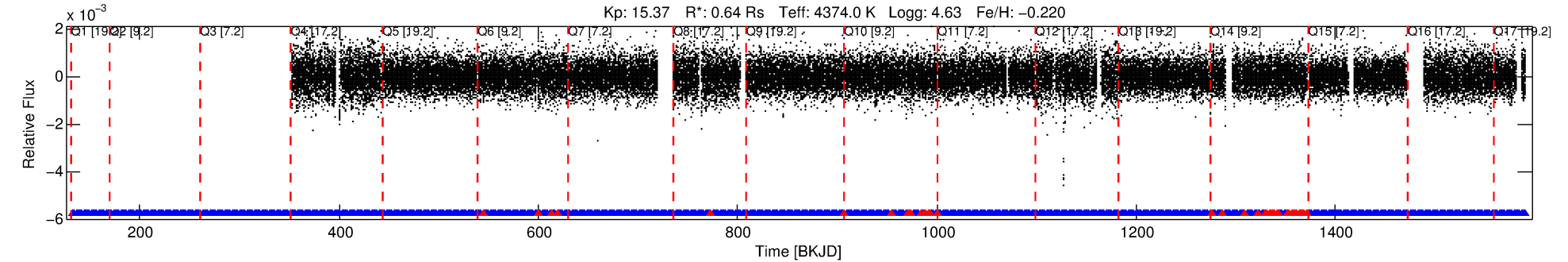
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007900137-01

No Significant Match Found

DV One-Page Summary

KIC: 7900137 Candidate: 1 of 4 Period: 1.861 d



DV Fit Results:

Period = 1.86109 [0.00002] d
Epoch = 133.0713 [0.0065] BKJD
Rp/R* = 0.0084 [0.0054]
a/R* = 1.78 [2.45]
b = 0.20 [10.13]
Seff = 206.97 [38.28]
Teq = 967 [45] K
Rp = 0.59 [0.38] Re
a = 0.0253 [0.0019] AU
Ag = 42.92 [56.87] [0.74σ]
Teffp = 3828 [1272] K [2.25σ]

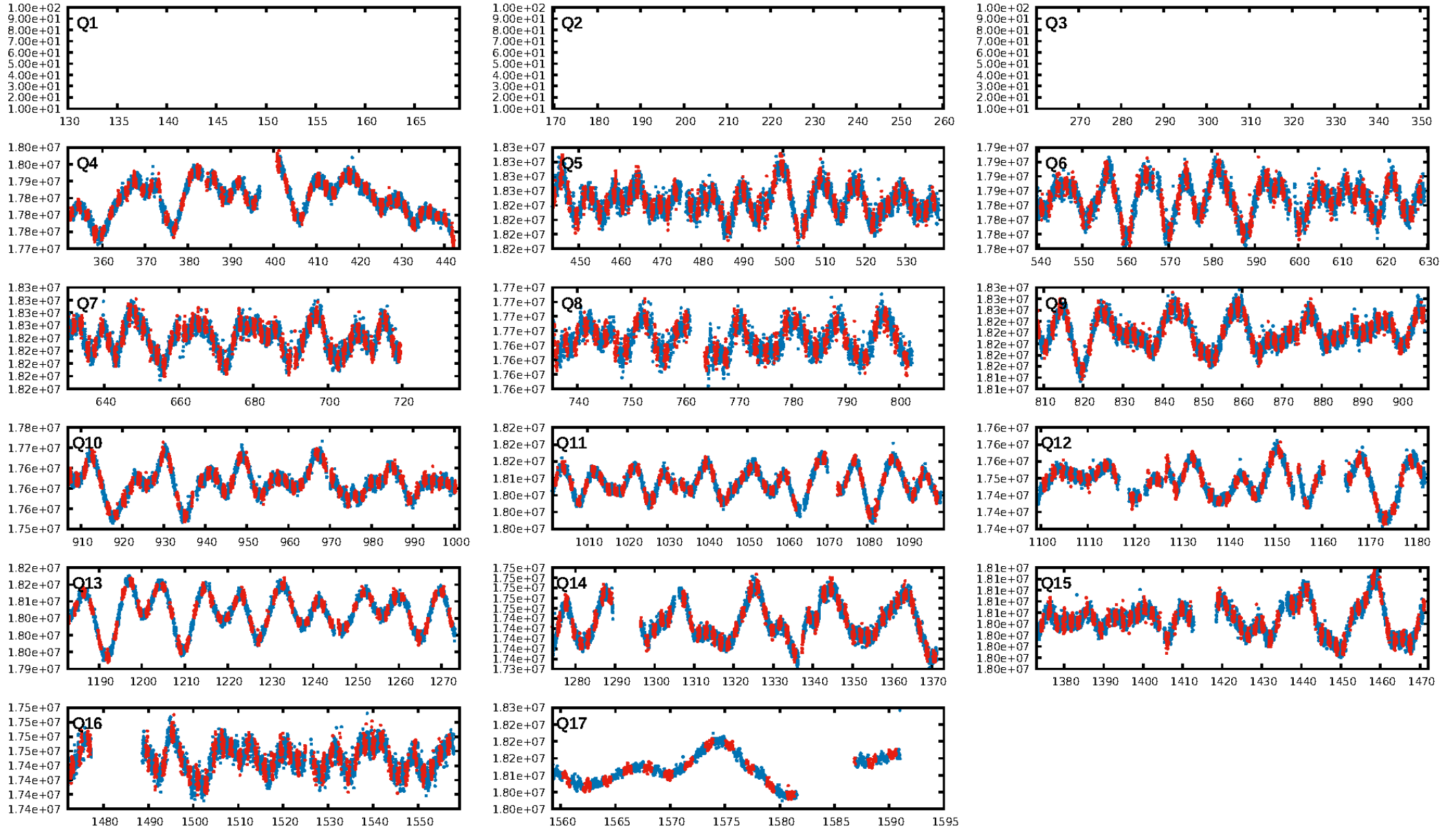
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [329.98σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.91e-14
RollingBand-fgt: 0.94 [566/605]
GhostDiagnostic-chr: -0.8214
Centroid-sig: 66.7%
Centroid-so: 1.389 arcsec [0.59σ]
OotOffset-rm: 8.770 arcsec [20.38σ]
KicOffset-rm: 9.372 arcsec [14.45σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [14/14]

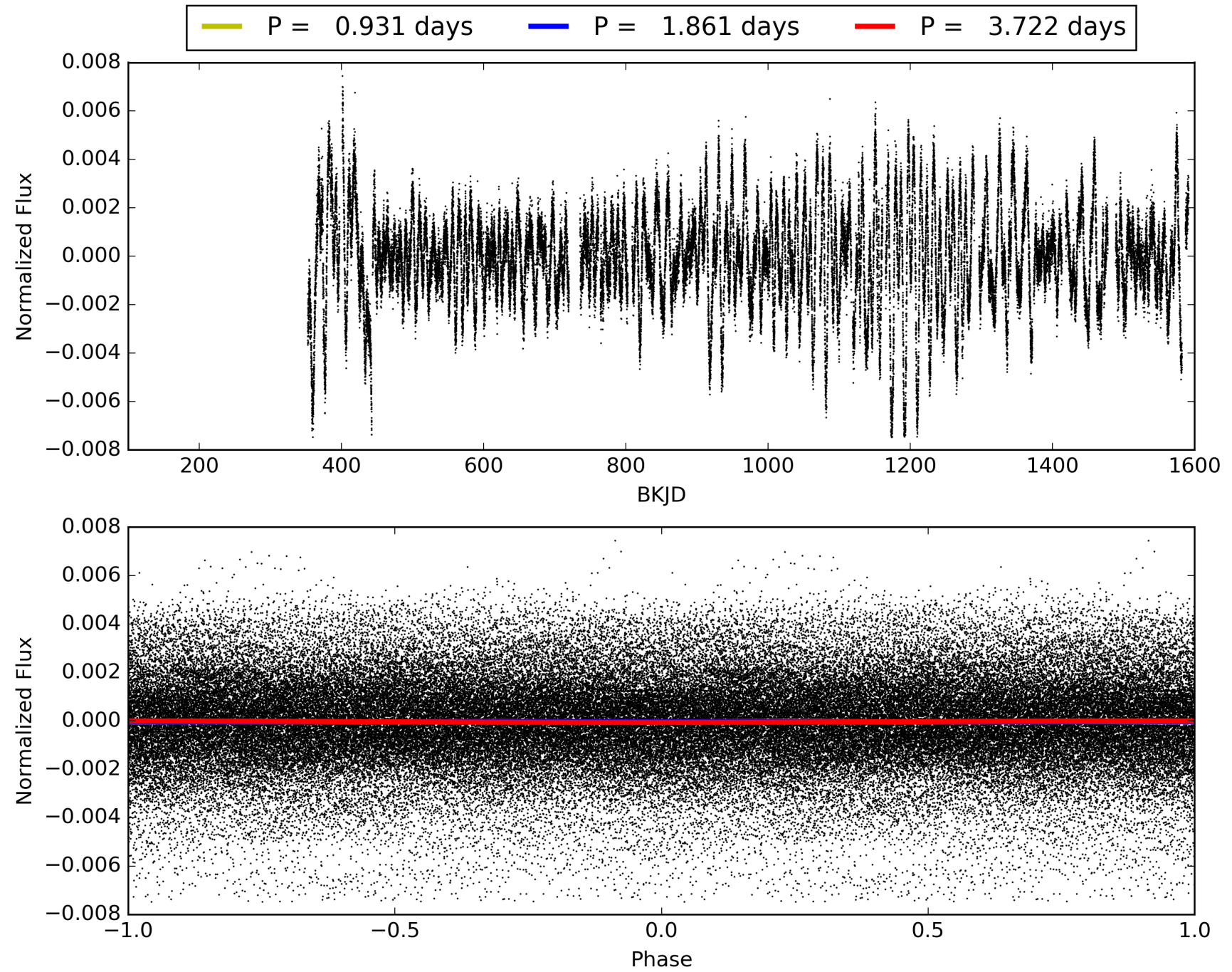
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007900137-01, PDC Light Curves

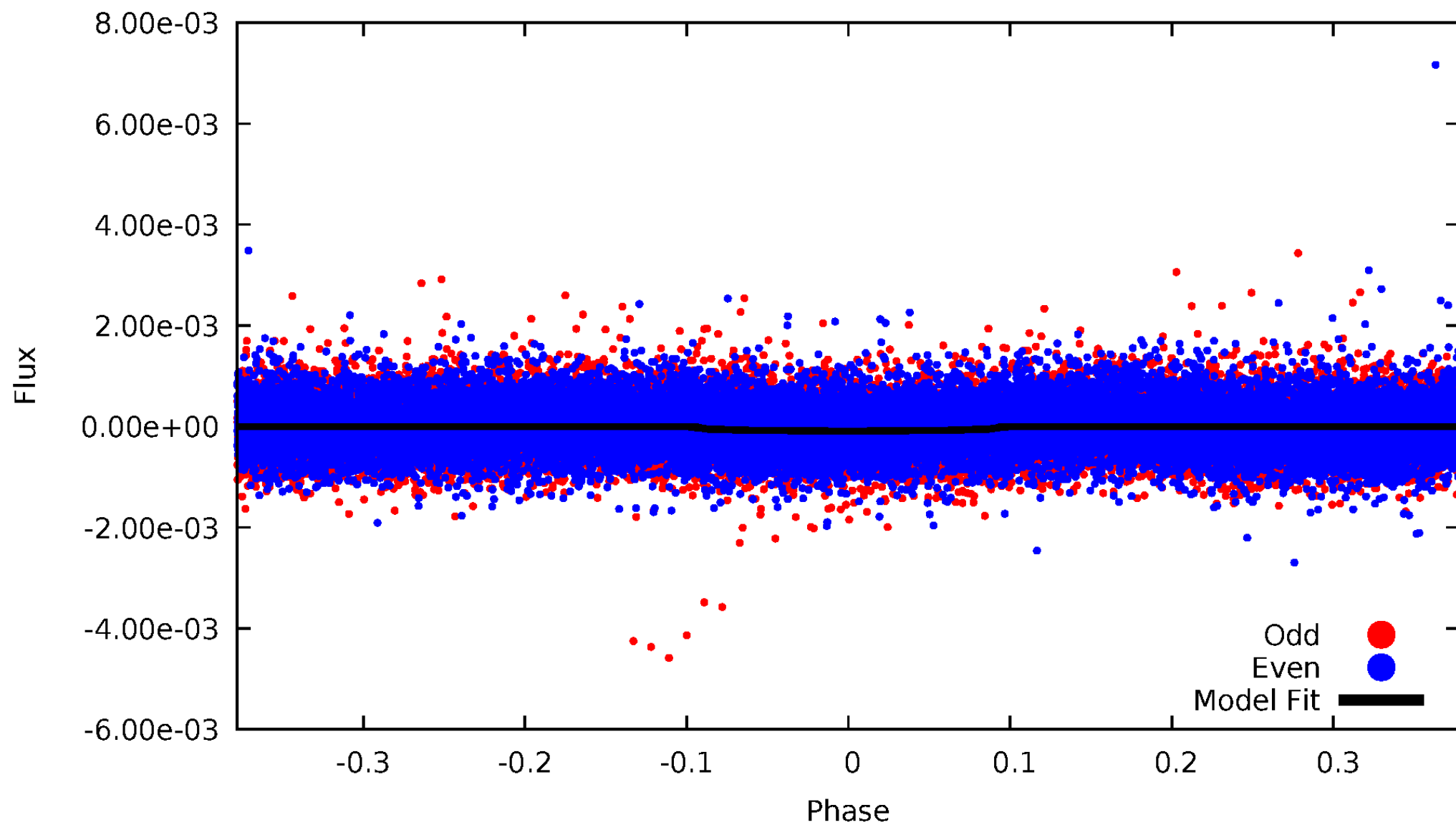


TCE 007900137-01



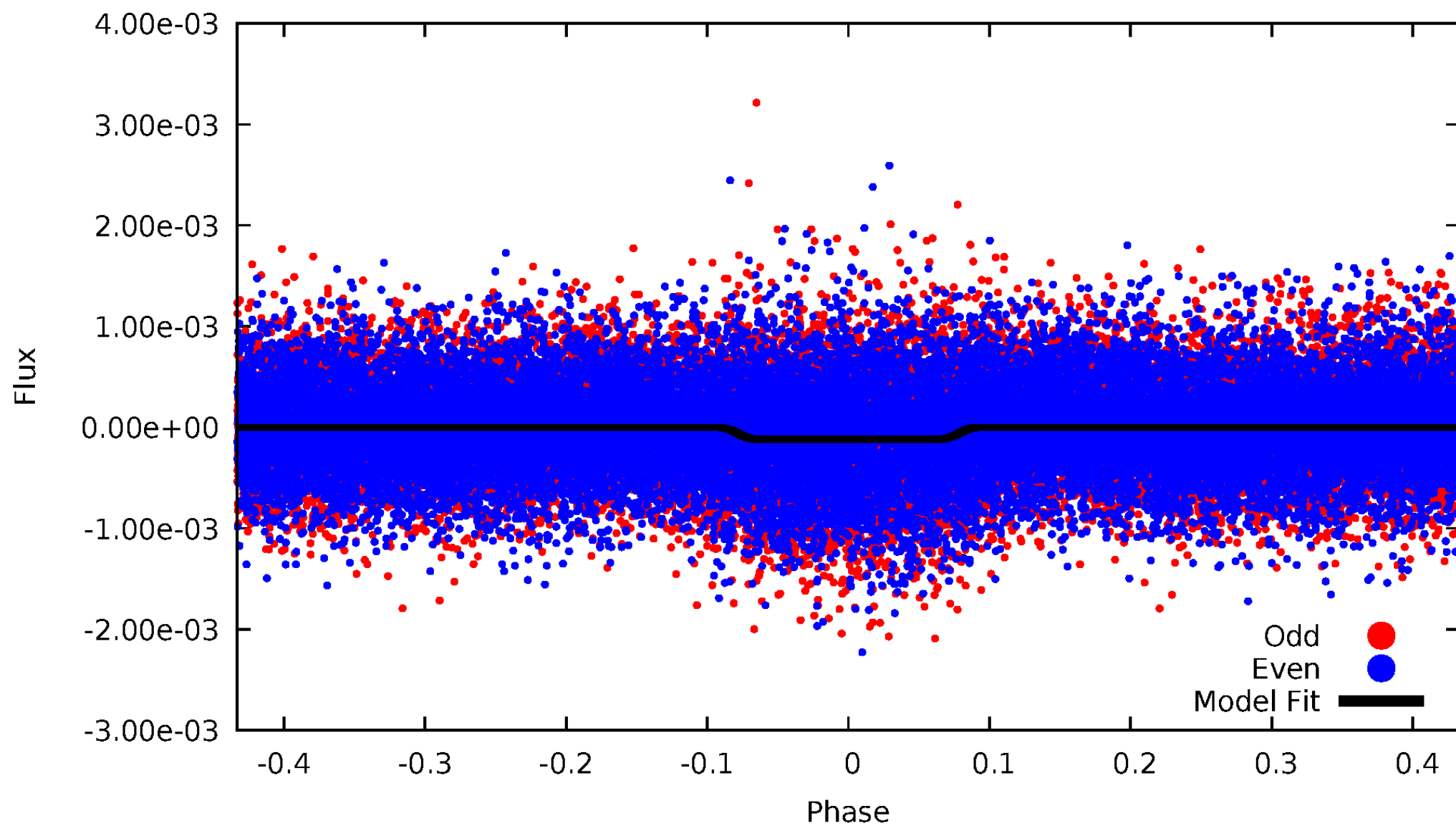
DV Odd/Even

TCE 007900137-01

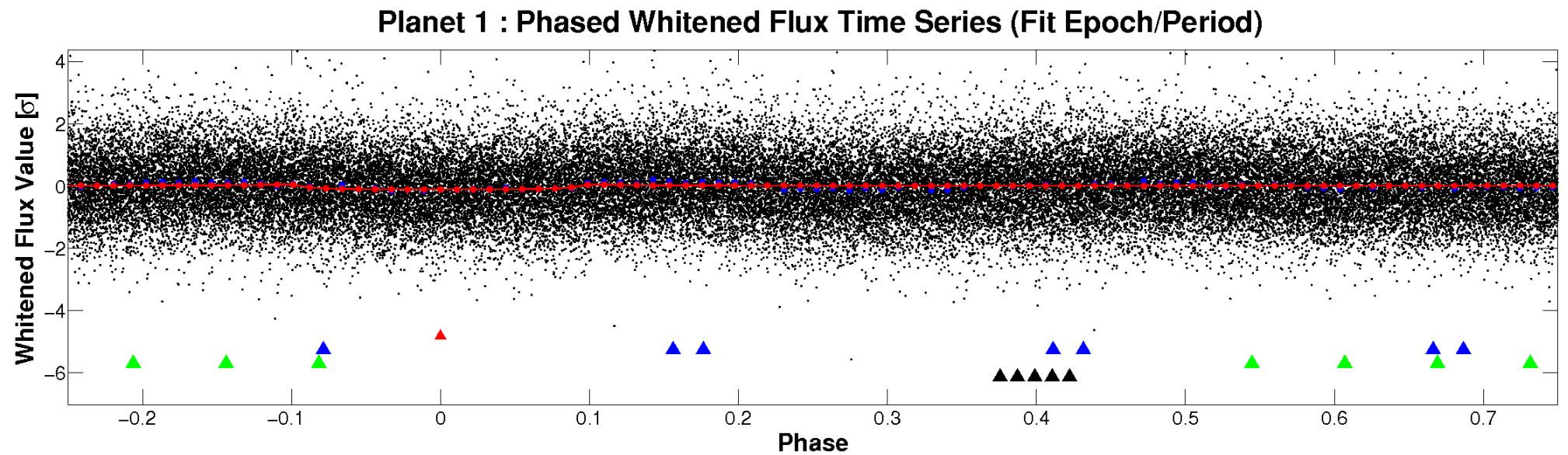
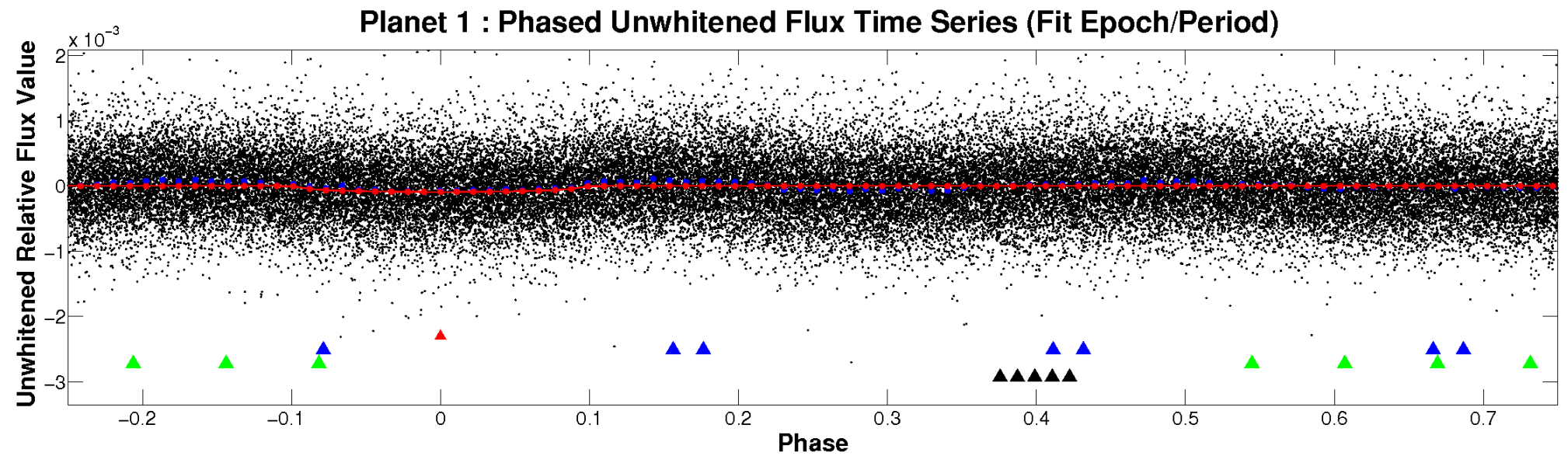


ALT Odd/Even

TCE 007900137-01

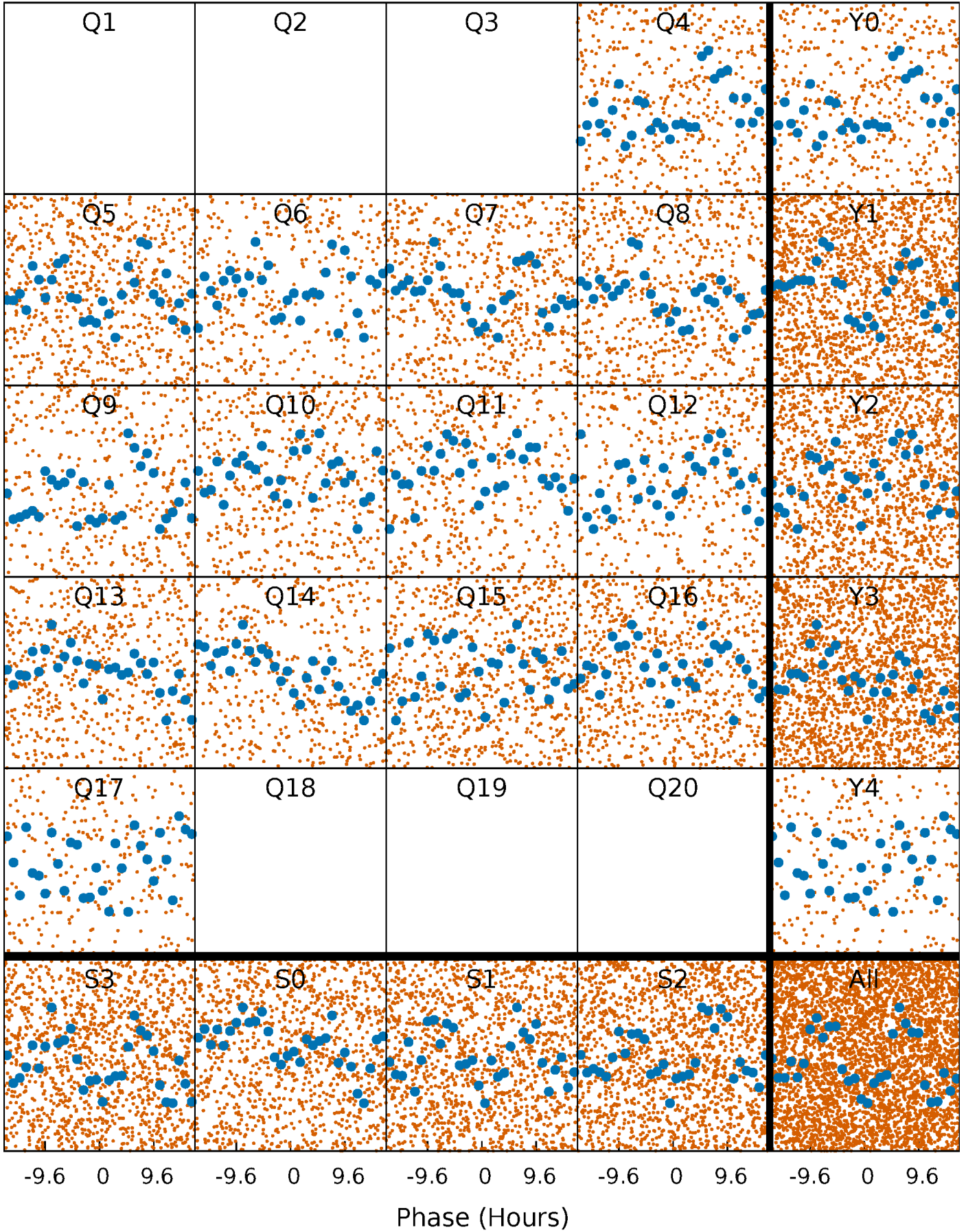


Non-Whitened Vs. Whitened Light Curve



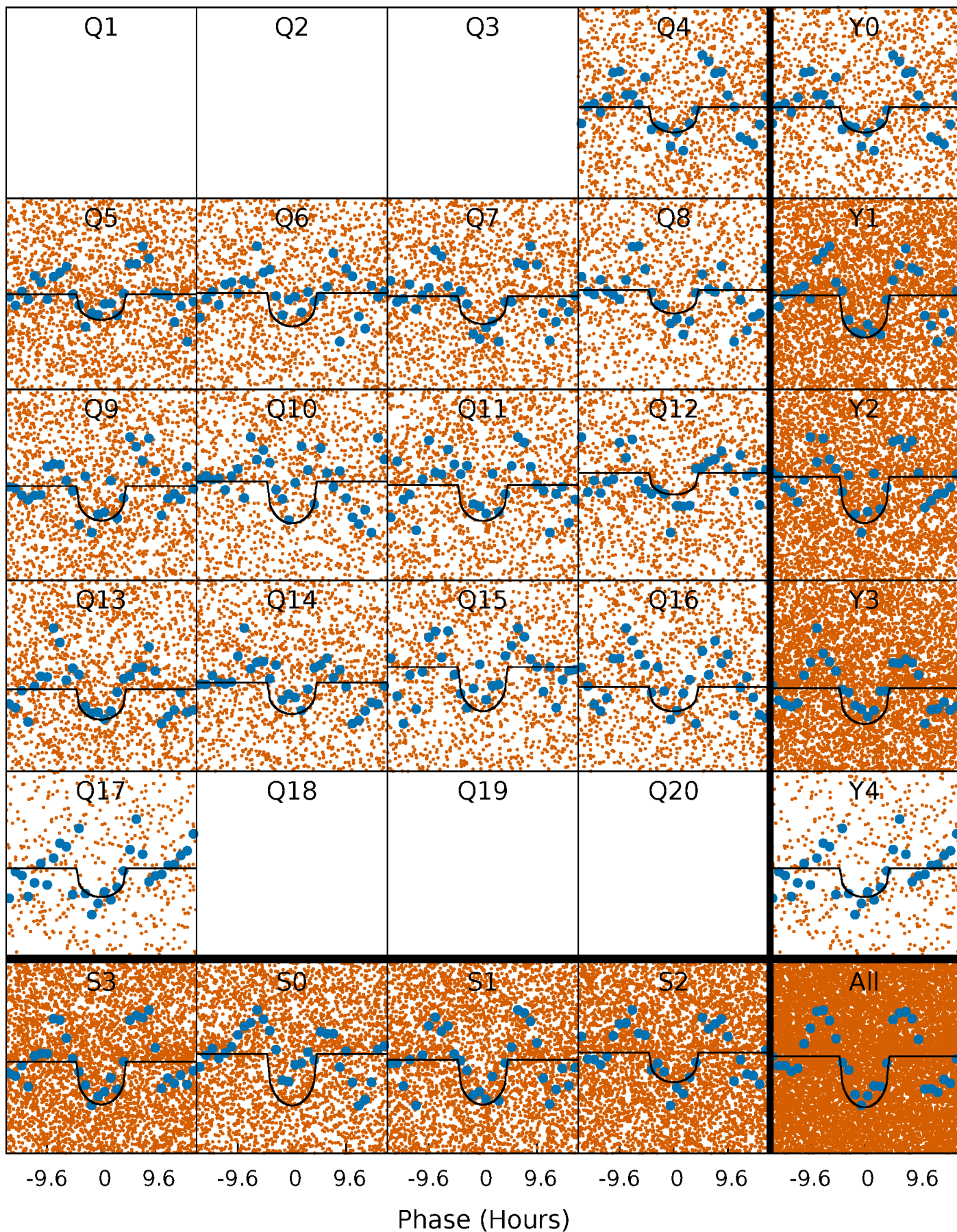
PDC Quarter-Phased Transit Curves

TCE 007900137-01 P= 1.861090 Days $T_0=133.071328$ (BKJD)



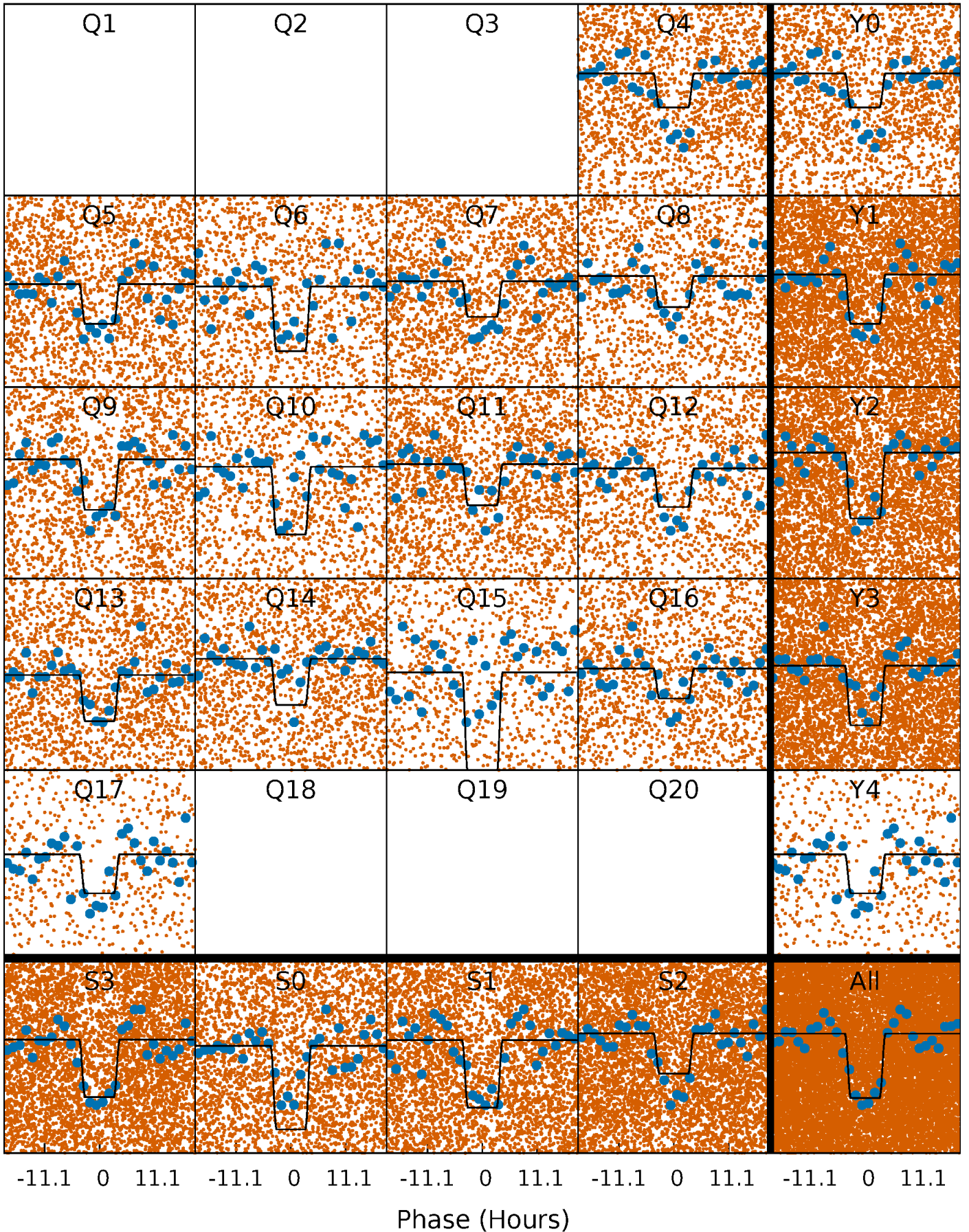
DV Quarter-Phased Transit Curves

TCE 007900137-01 P= 1.861090 Days $T_0=133.071328$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

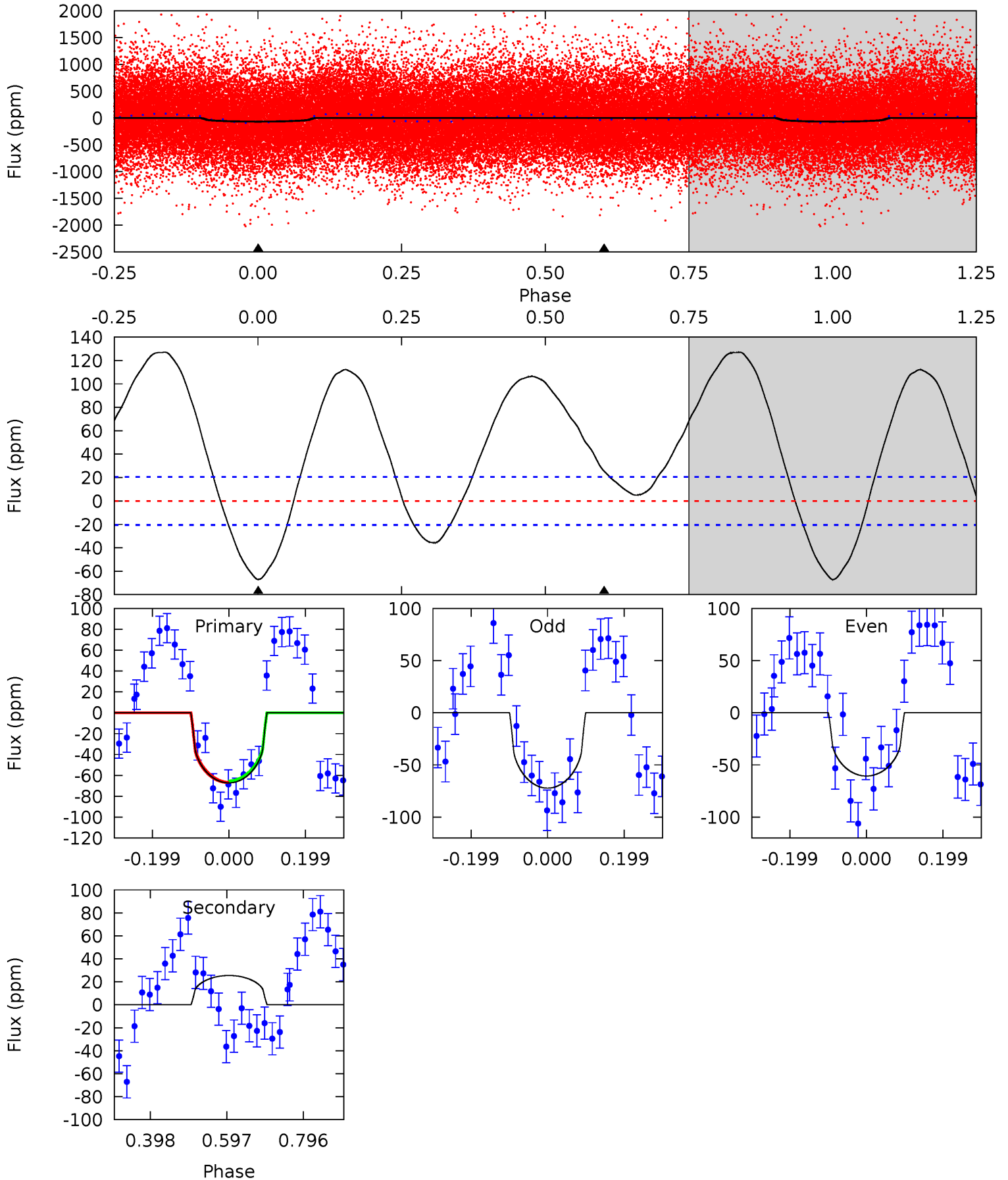
TCE 007900137-01 P= 1.861109 Days $T_0=133.078348$ (BKJD)



DV Model-Shift Uniqueness Test

007900137-01, P = 1.861090 Days, E = 133.071328 Days

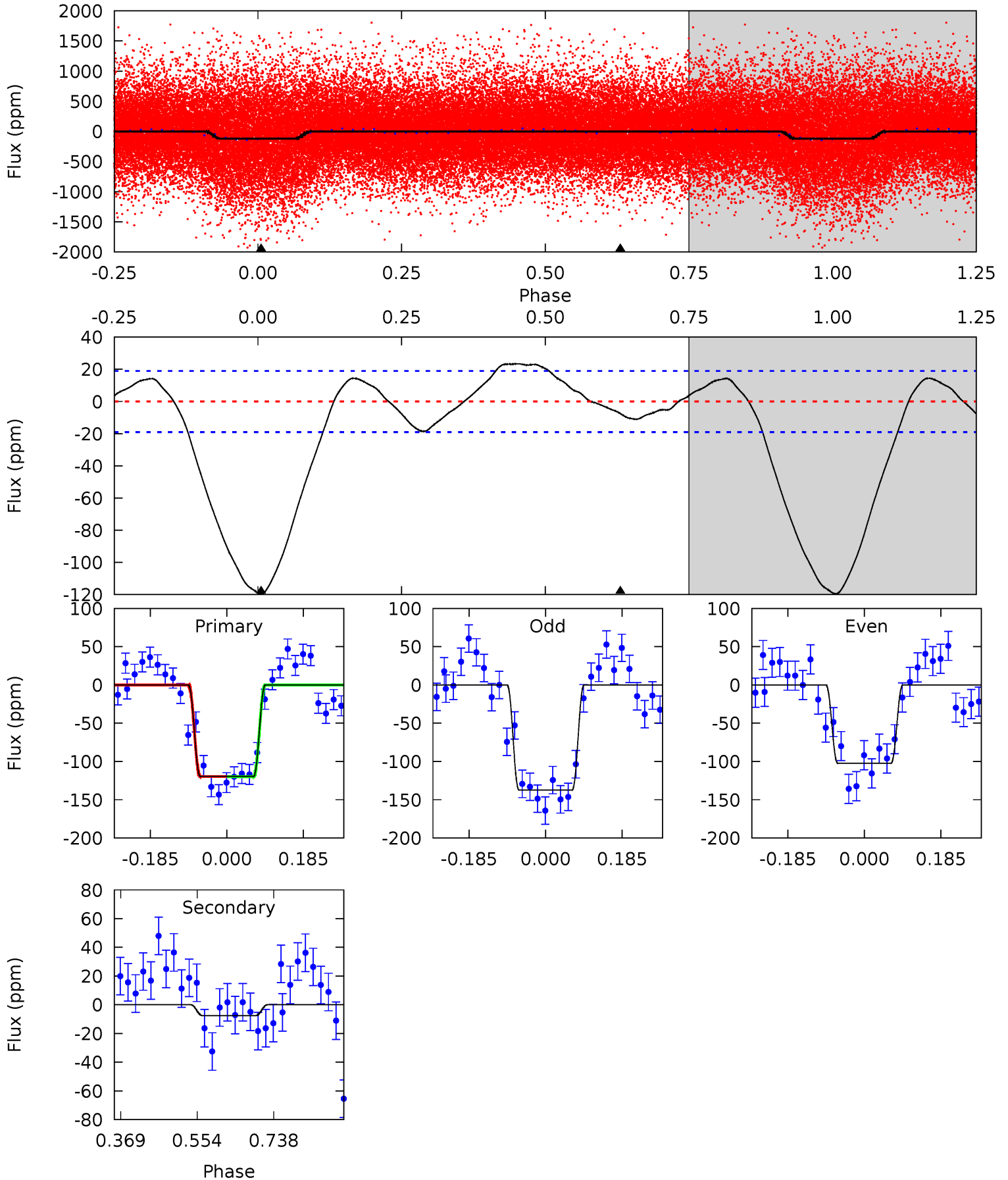
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	-5.49	0	0	4.42	1.28	7.25	14.5	14.5	-5.49	-5.49	1.25	1.03	0.65	0.16



Alt Model-Shift Uniqueness Test

007900137-01, P = 1.861109 Days, E = 133.078348 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.9	1.76	0	0	4.43	1.33	2.98	27.9	27.9	1.76	1.76	4.05	1.08	0.16	0.02



Stellar Parameters For KIC 007900137

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4374^{+153}_{-168}	$4.626^{+0.052}_{-0.024}$	$-0.220^{+0.300}_{-0.300}$	$0.635^{+0.045}_{-0.062}$	$0.621^{+0.068}_{-0.056}$	$3.422^{+0.855}_{-0.387}$
	+3%/-4%	+1%/-1%	+136%/-136%	+7%/-10%	+11%/-9%	+25%/-11%
Source	KIC0	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 007900137-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	26 ± 5	$0.64^{+0.34}_{-0.35}$	1346^{+53}_{-61}	-3542^{+445}_{-1193}	$-22.039^{+12.990}_{-90.138}$
Alt.	-8 ± 4	$0.75^{+0.37}_{-0.38}$	1342^{+51}_{-58}	2765^{+628}_{-436}	$4.612^{+13.635}_{-3.259}$

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

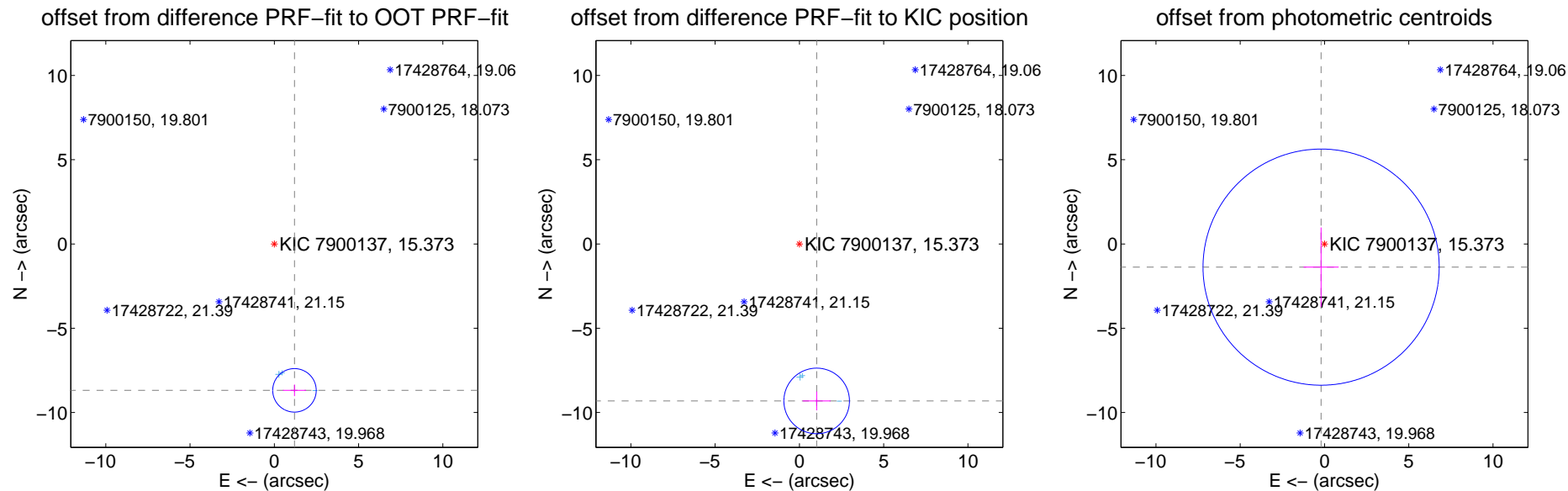
DV Centroid Data

Supplemental centroid analysis for 007900137-01. Kepler magnitude: 15.37. Transit SNR 10.14

There are 3 quarters with good PRF difference image offsets

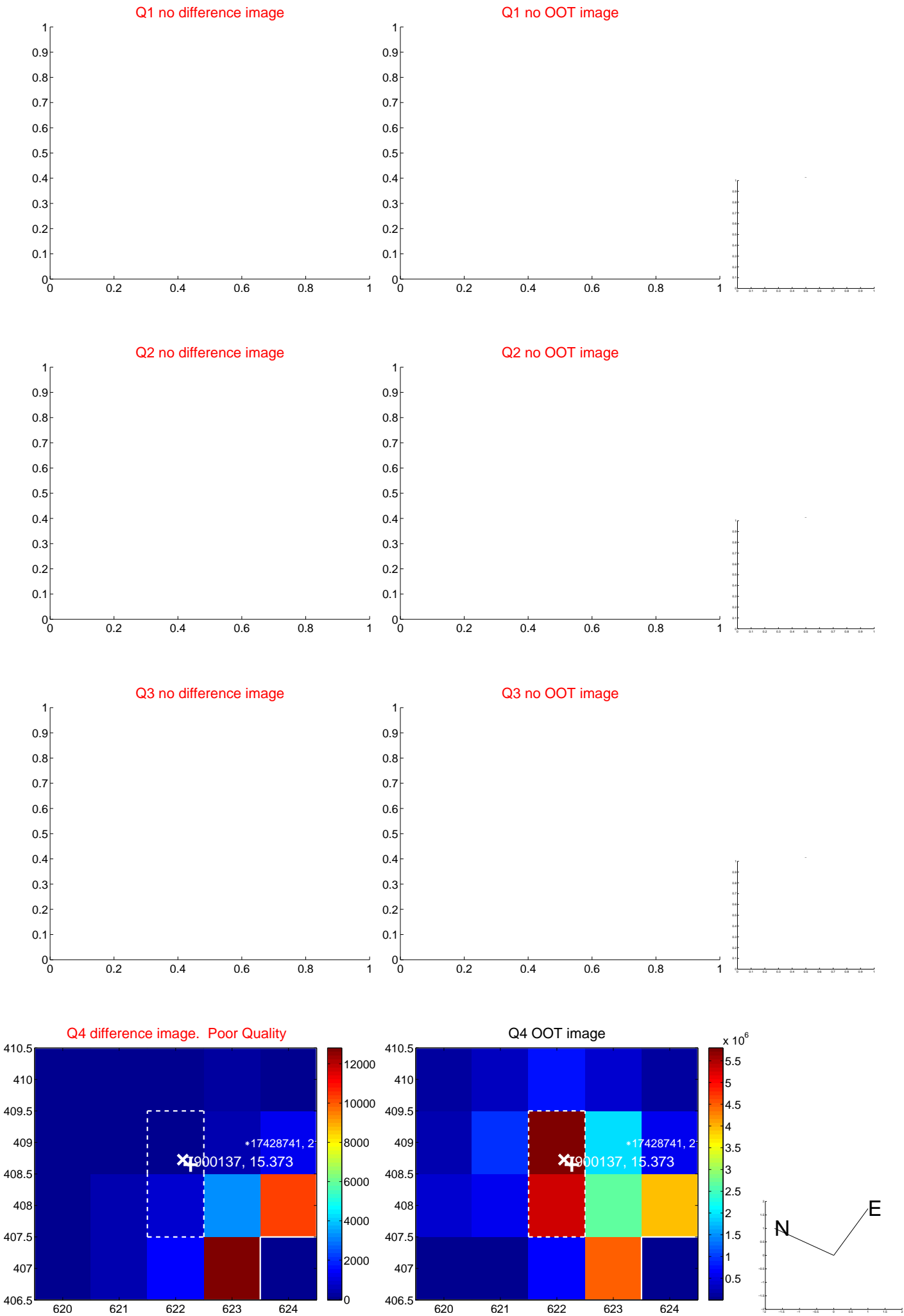
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.770 ± 0.430	20.38	-1.196 ± 0.685	-8.688 ± 0.342
PRF-fit source offset from KIC position	9.372 ± 0.649	14.45	-1.024 ± 0.831	-9.316 ± 0.562
photometric centroid source offset	1.39 ± 2.34	0.59	0.20 ± 1.04	-1.37 ± 2.36

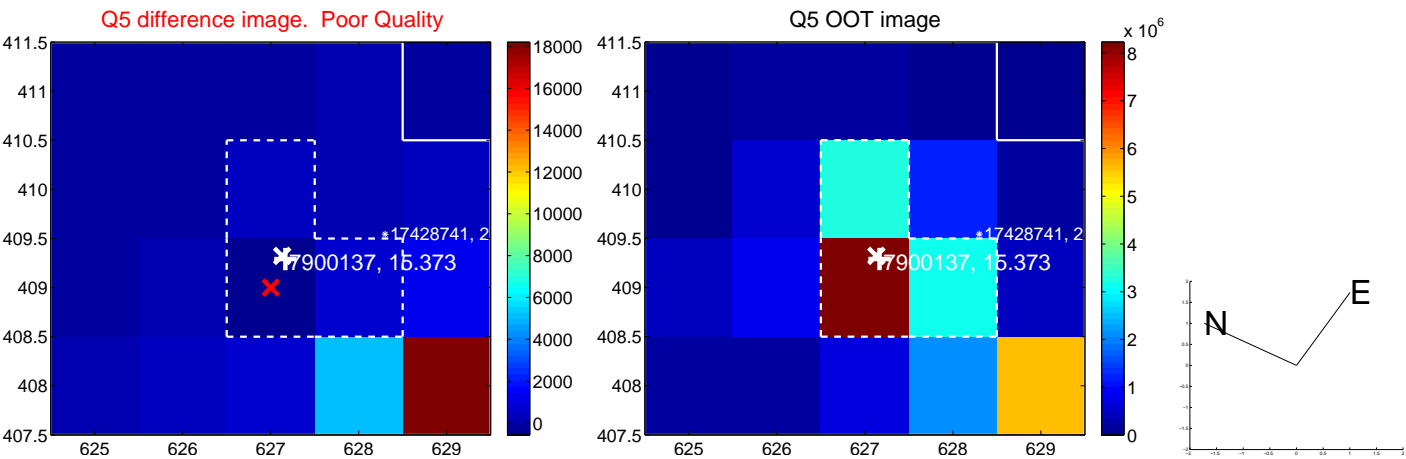


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

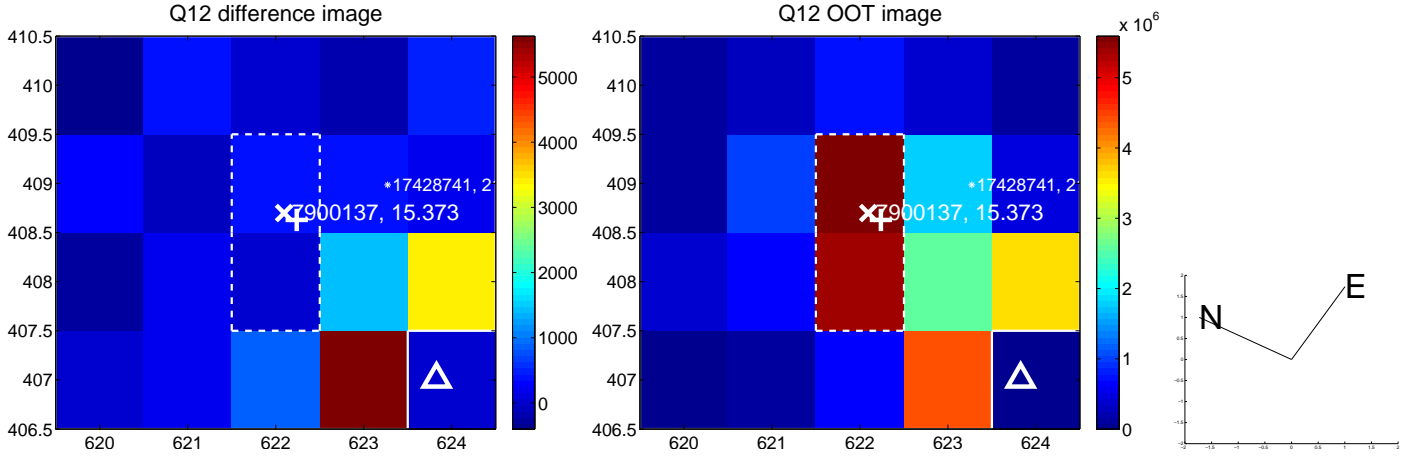
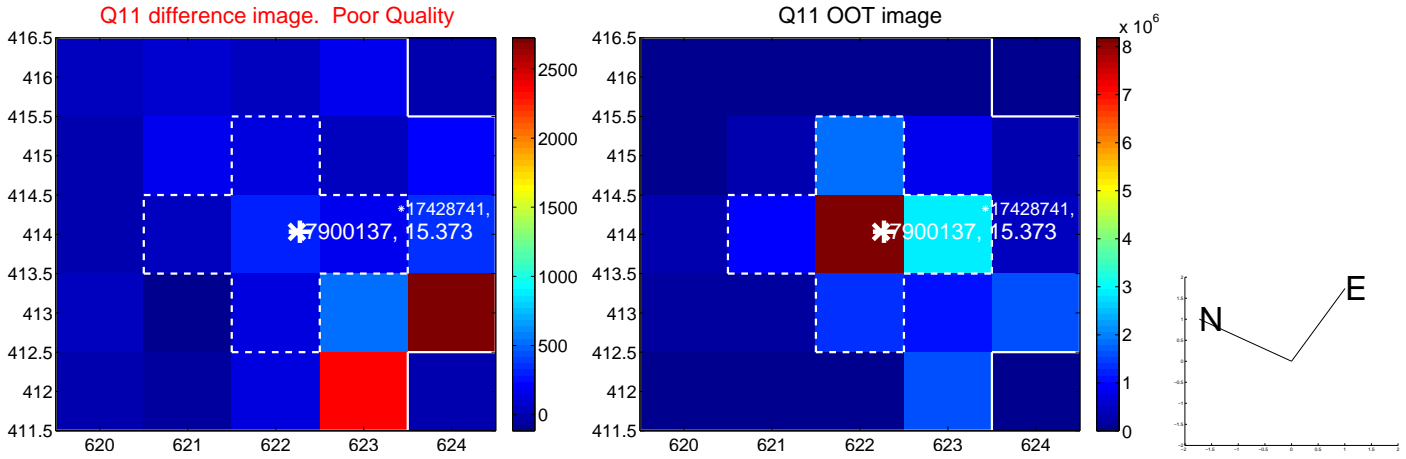
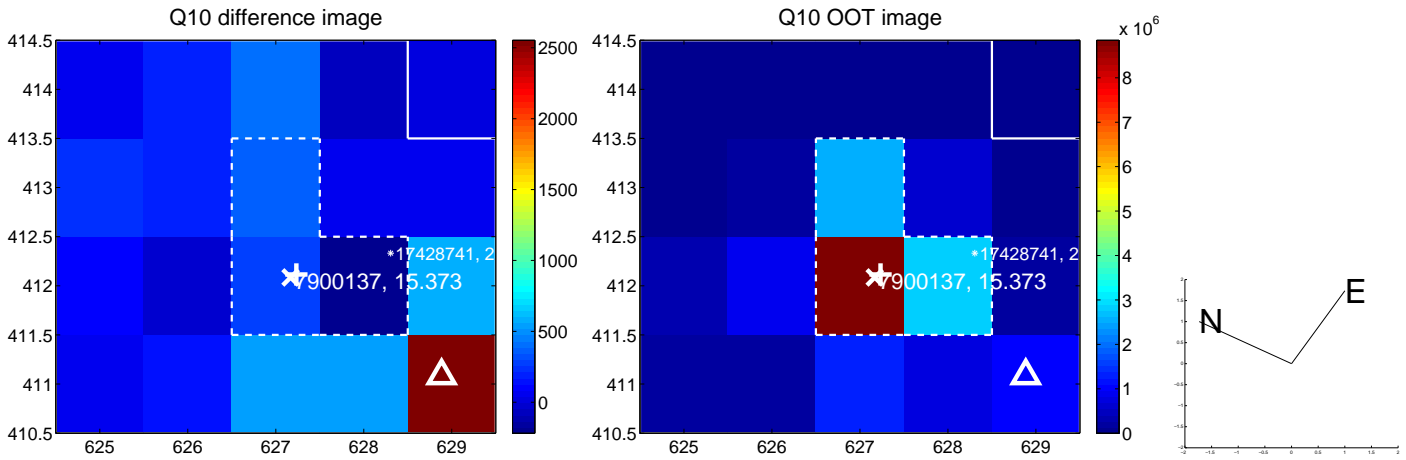
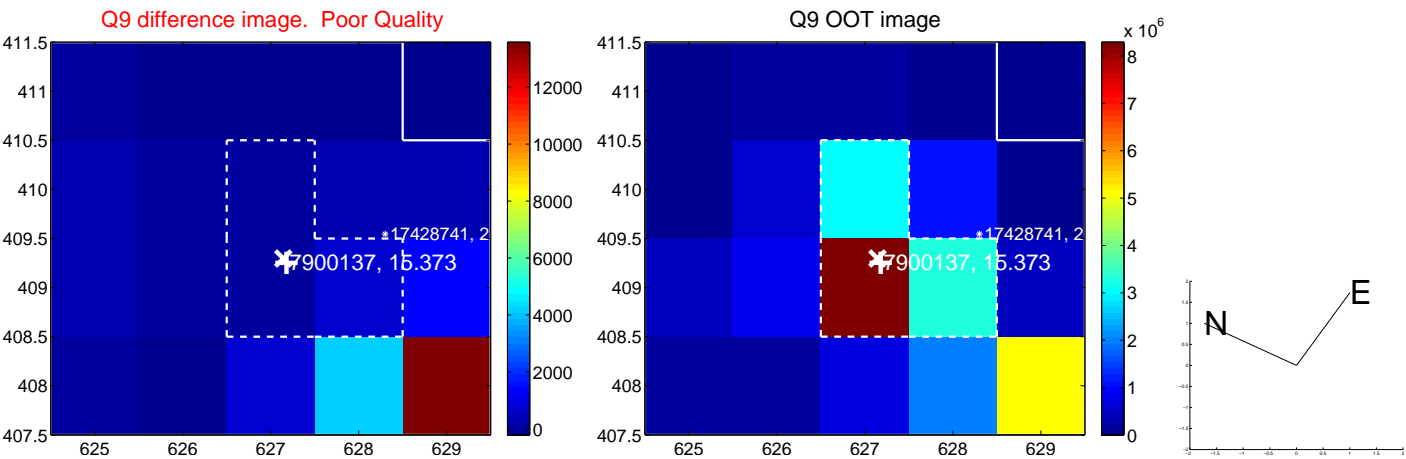
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



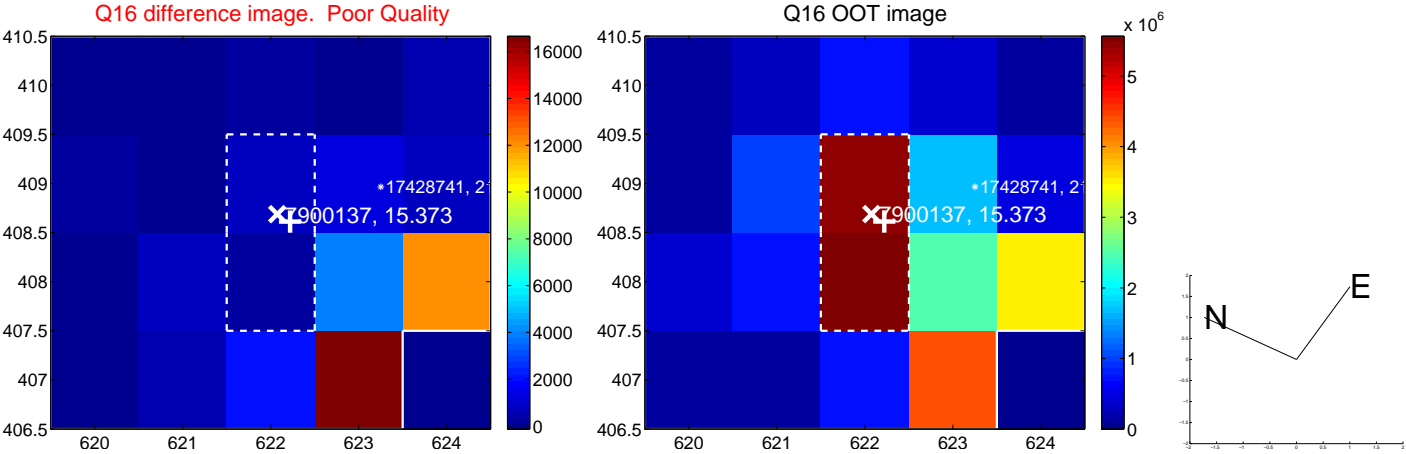
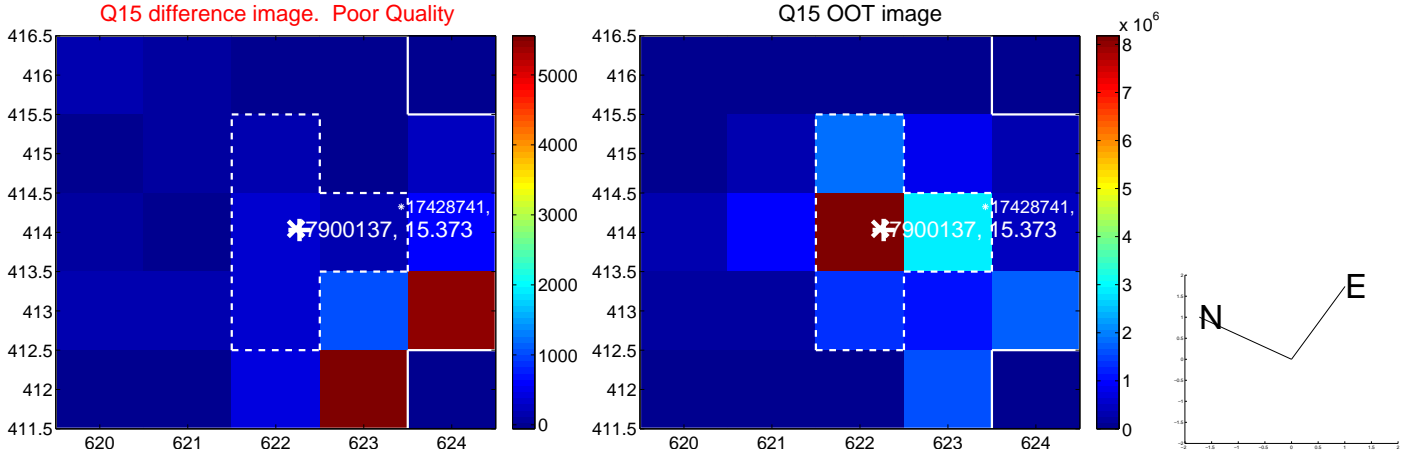
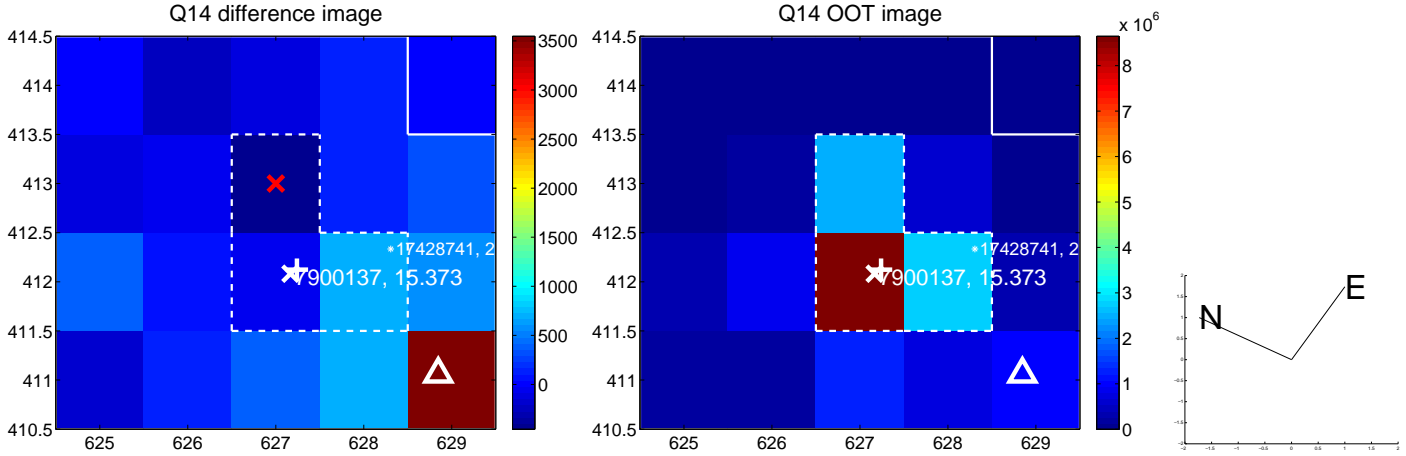
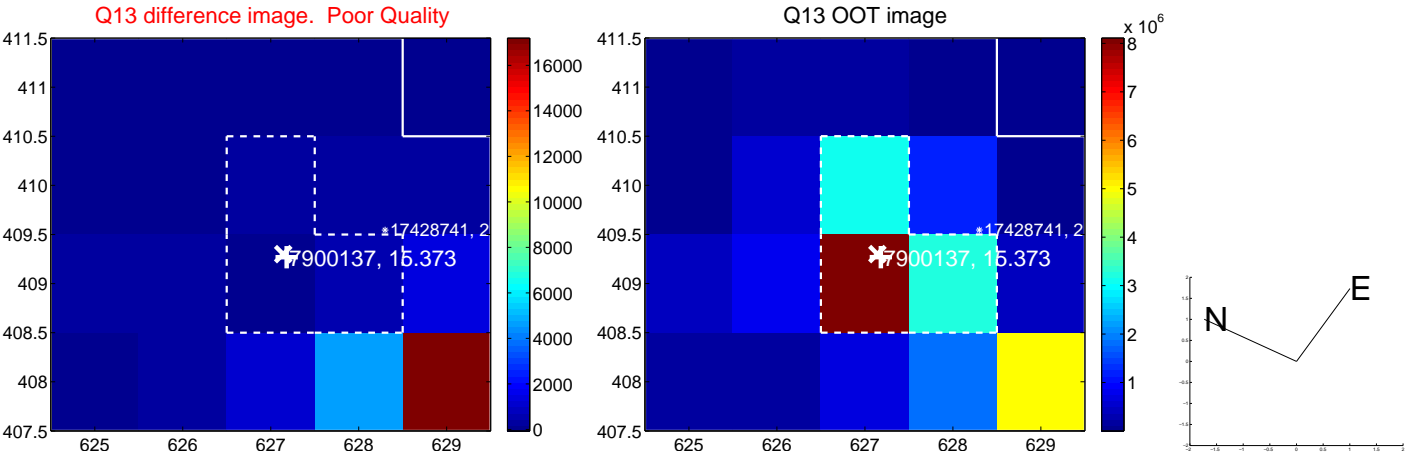
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



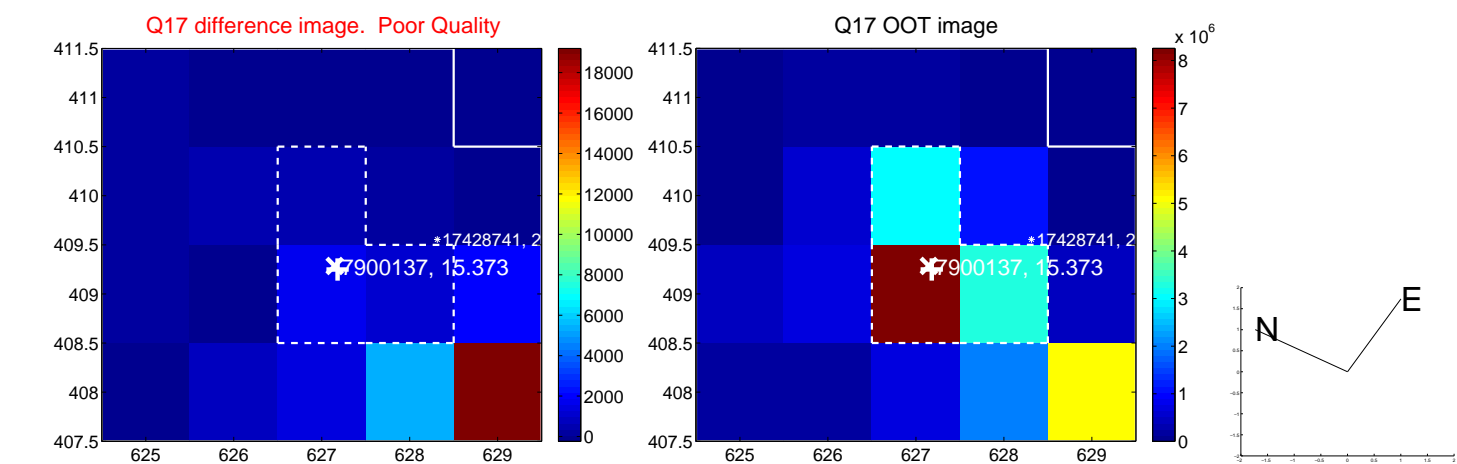
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



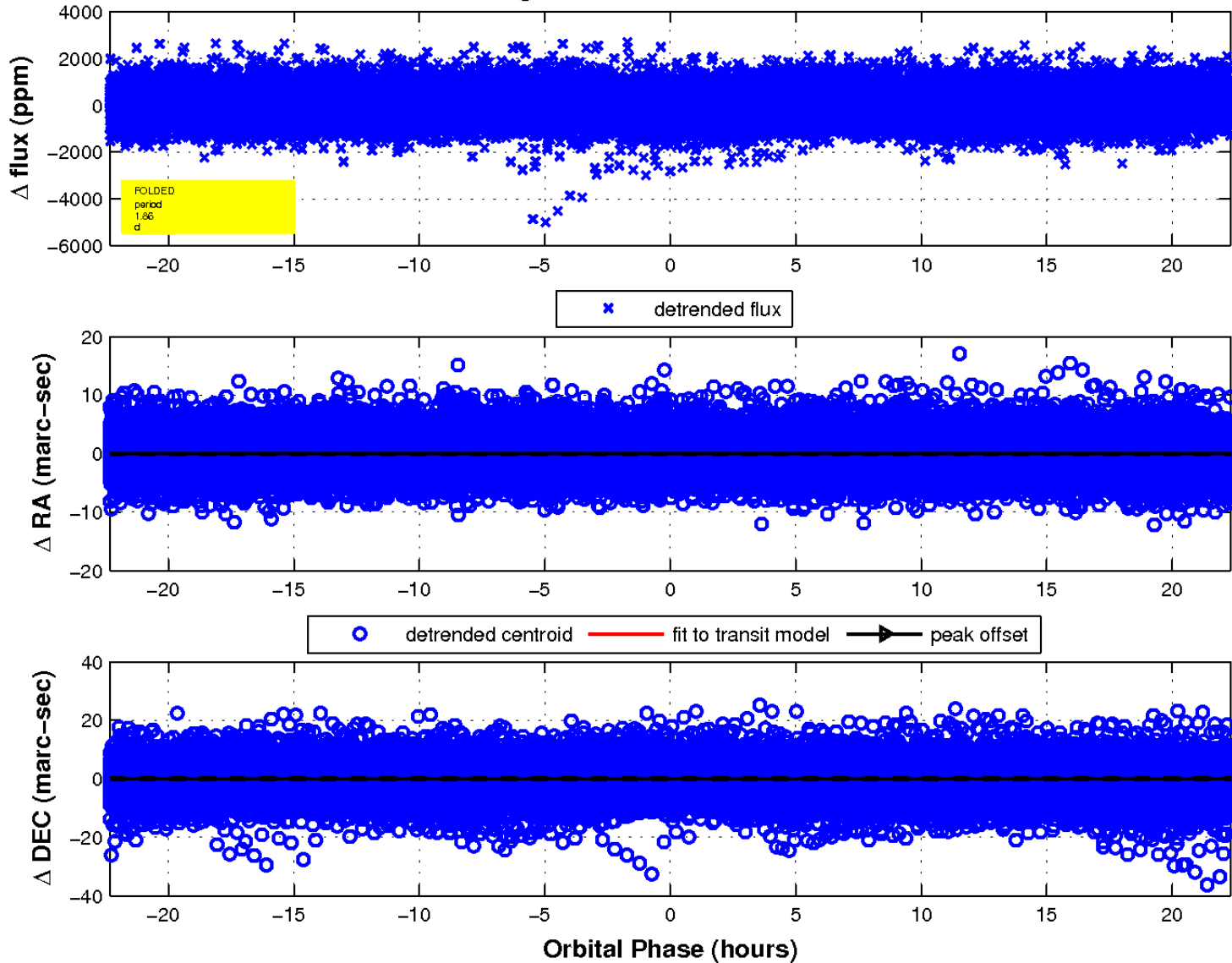
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



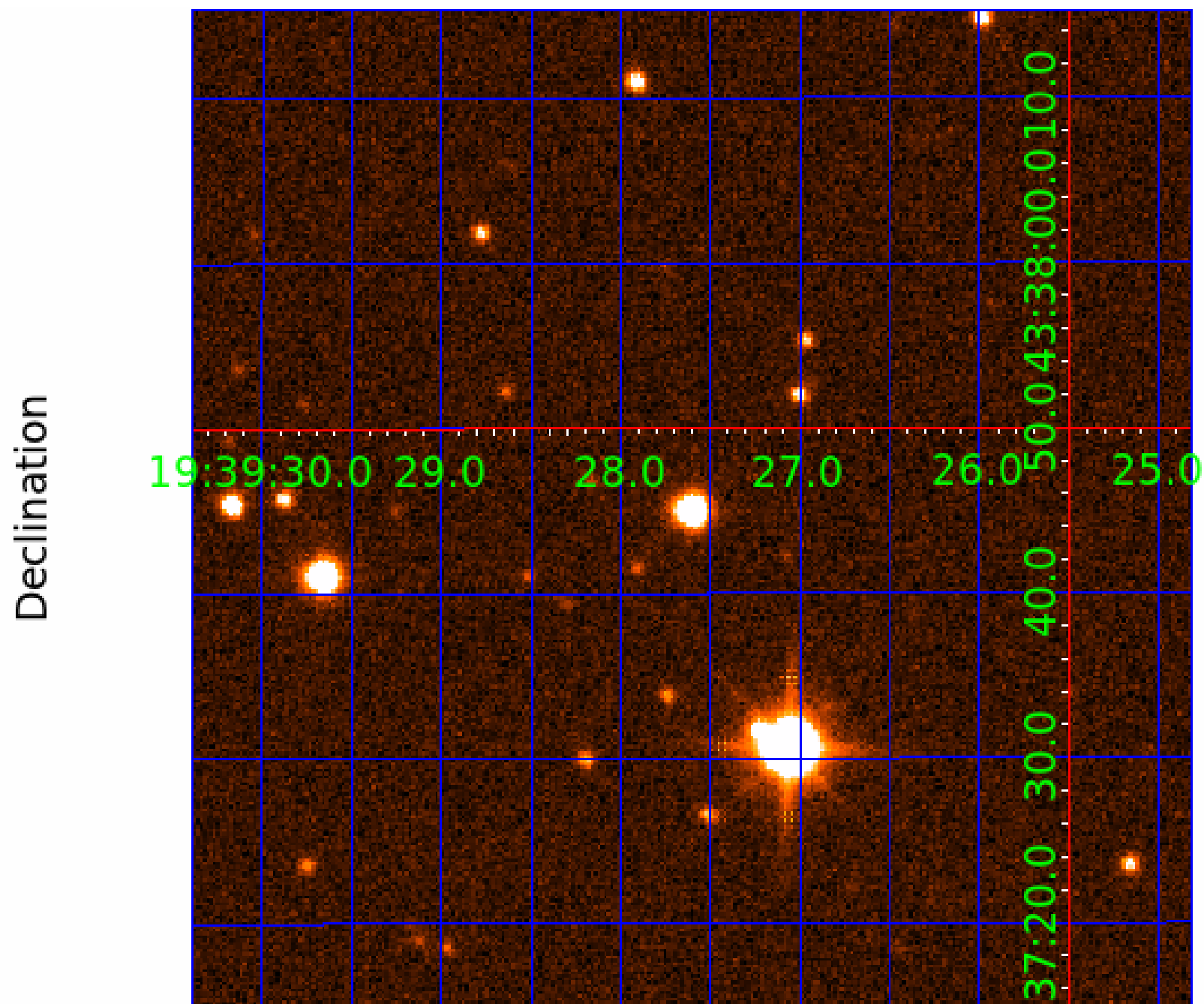
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 4



UKIRT Image



KIC 007900137

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})
007900137-01	OBS	No	1.861090	133.071328	90.9	8.440	9.0	10.1	0.64	4374	0.58	206.97
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007900137-03	OBS	No	188.085998	301.583168	780.1	10.594	12.6	6.3	0.64	4374	1.92	0.44
007900137-04	OBS	No	275.463023	217.519429	808.5	10.895	8.4	7.9	0.64	4374	2.05	0.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007900137-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
007900137-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007900137-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007900137-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

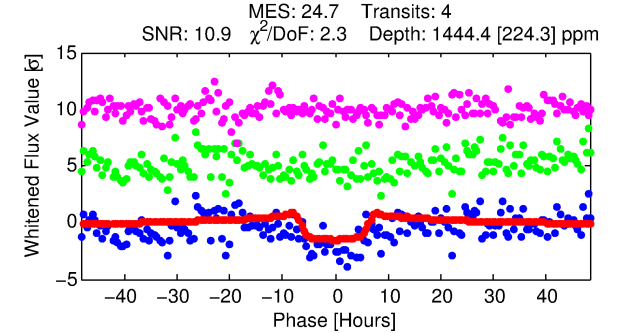
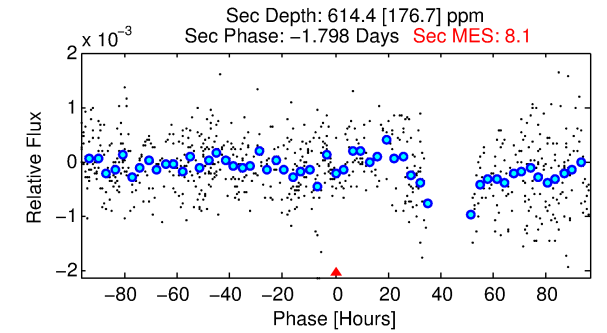
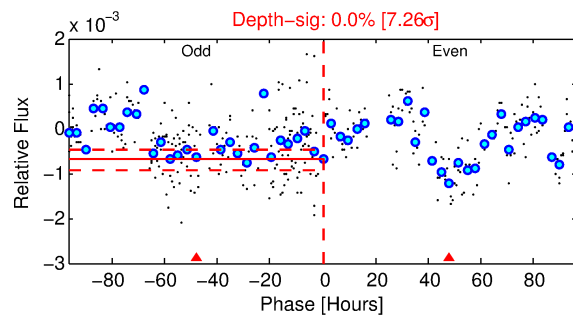
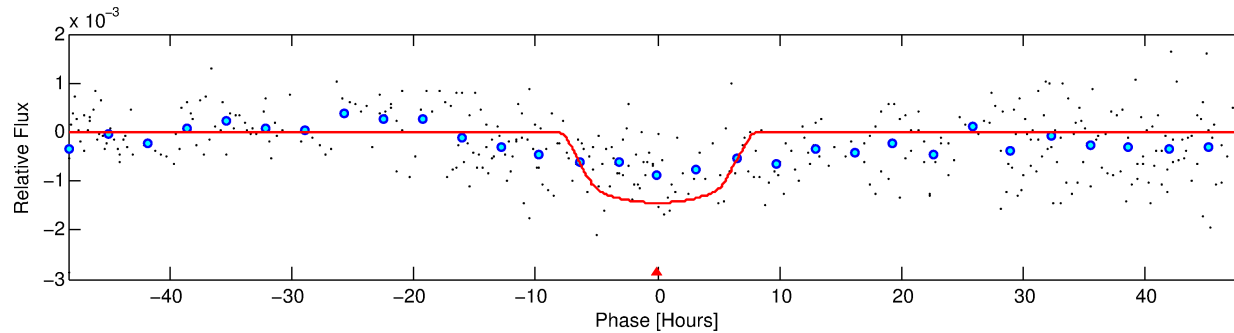
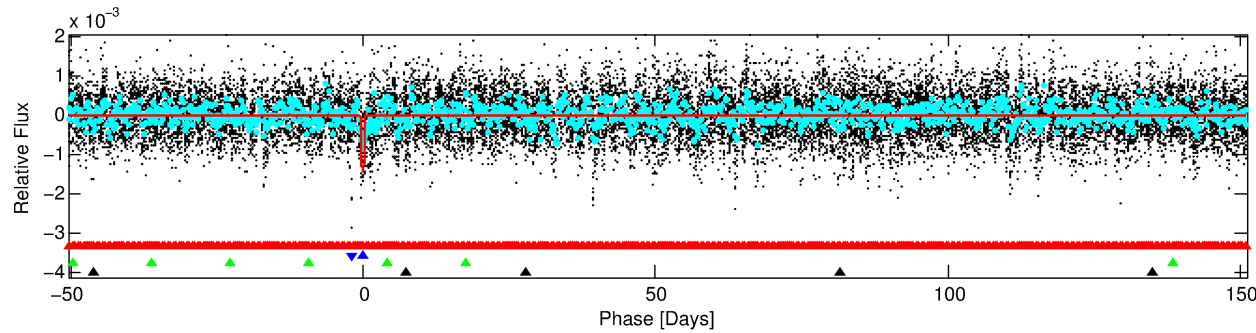
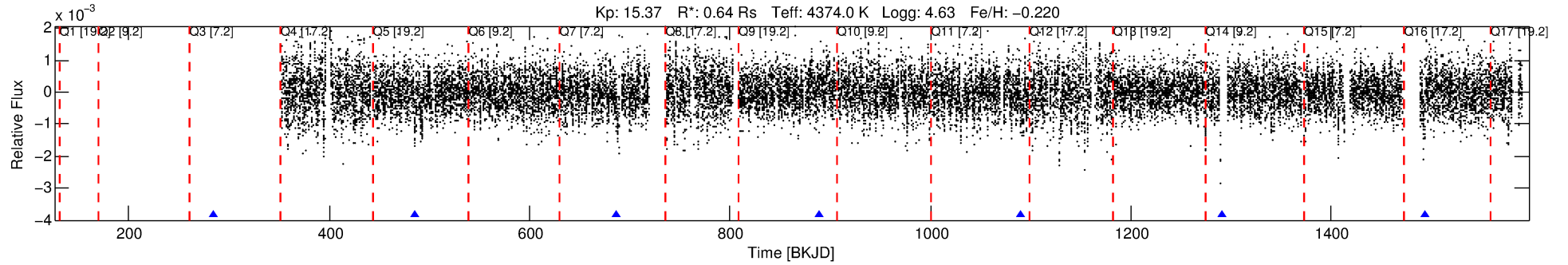
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007900137-02

No Significant Match Found

DV One-Page Summary

KIC: 7900137 Candidate: 2 of 4 Period: 201.472 d



DV Fit Results:

Period = 201.47243 [0.01046] d
Epoch = 284.1103 [0.0386] BKJD
Rp/R* = 0.0427 [0.0053]
a/R* = 50.22 [15.77]
b = 0.90 [0.07]
Seff = 0.40 [0.07]
Teq = 203 [9] K
Rp = 2.96 [0.47] Re
a = 0.5741 [0.0438] AU
Ag = 12735.34 [5005.33] [2.54σ]
Teffp = 3333 [341] K [9.18σ]

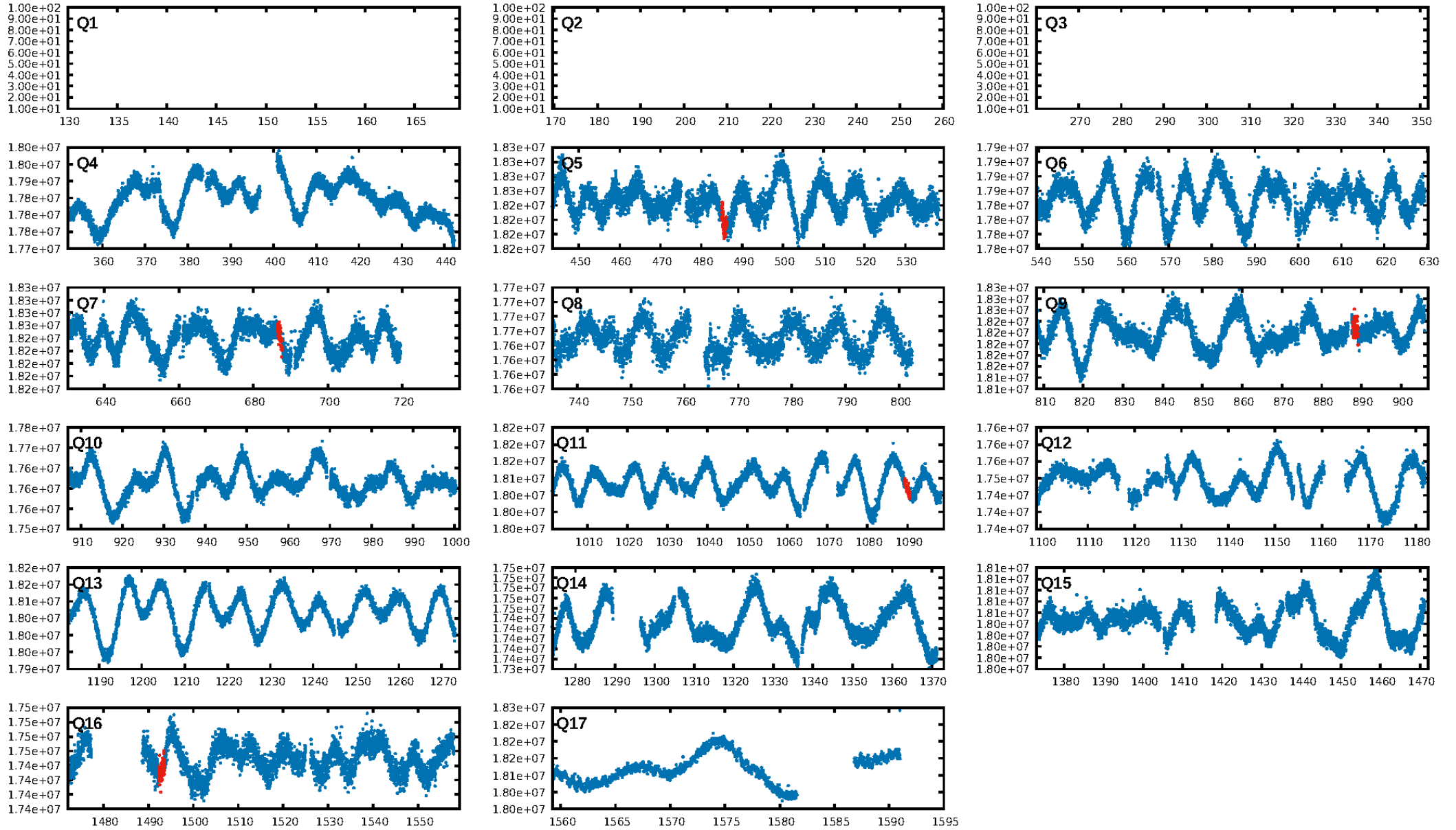
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.68σ]
LongPeriod-sig: 100.0% [91.38σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 36.4%
Bootstrap-pfa: 6.18e-72
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.5111
Centroid-sig: 2.4%
Centroid-so: 0.741 arcsec [0.39σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/4]

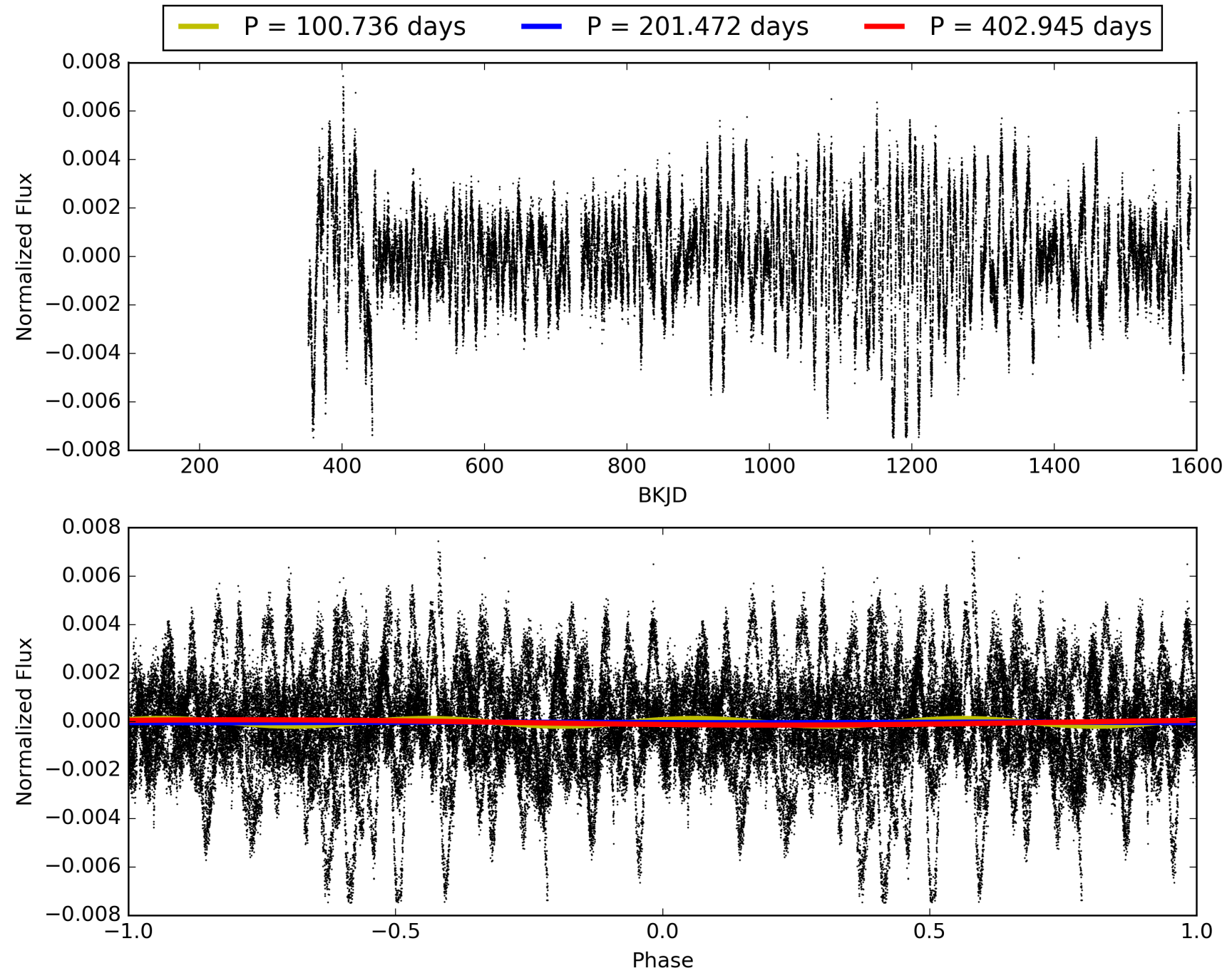
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:39:54 Z

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

TCE 007900137-02, PDC Light Curves

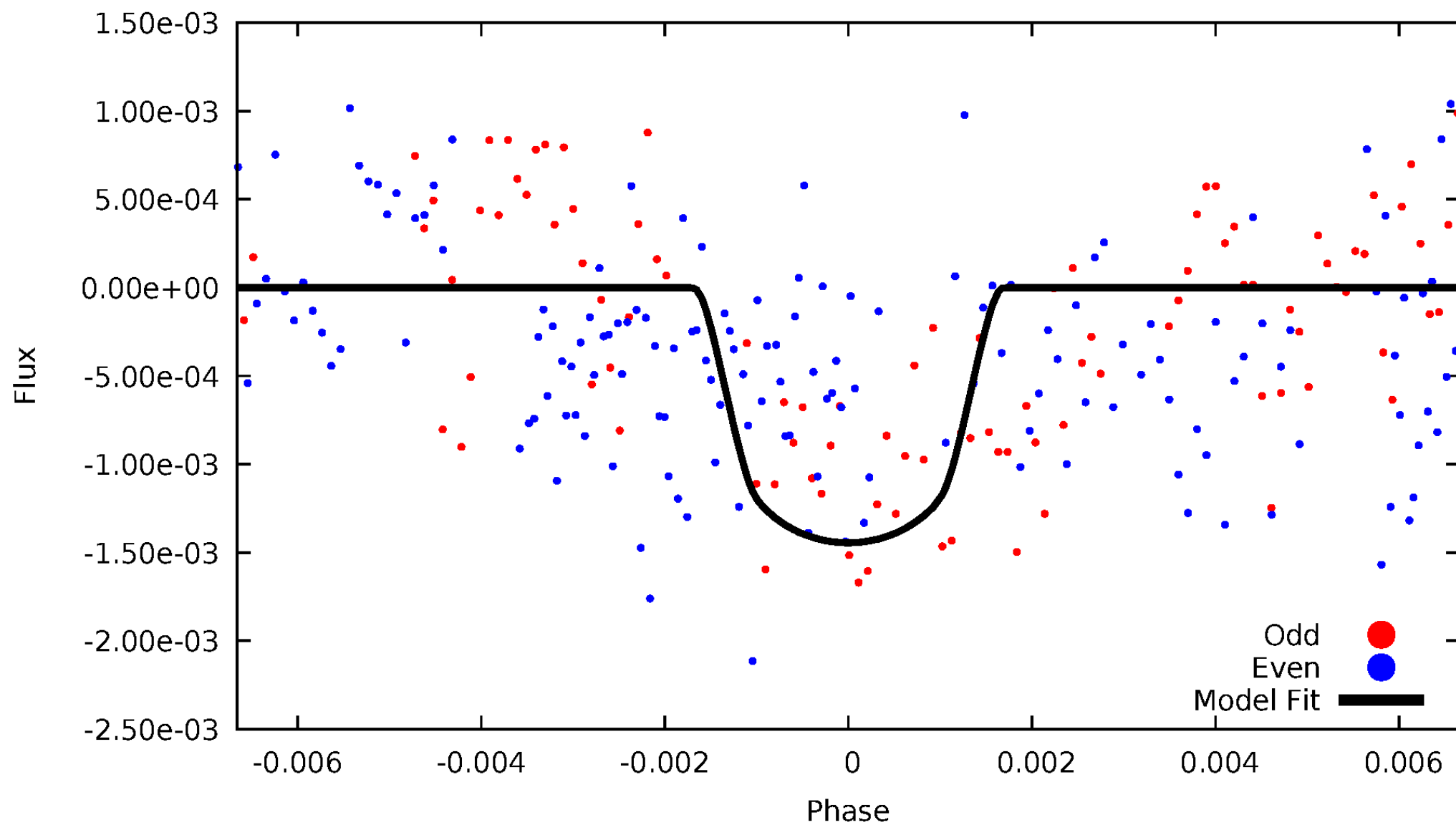


TCE 007900137-02



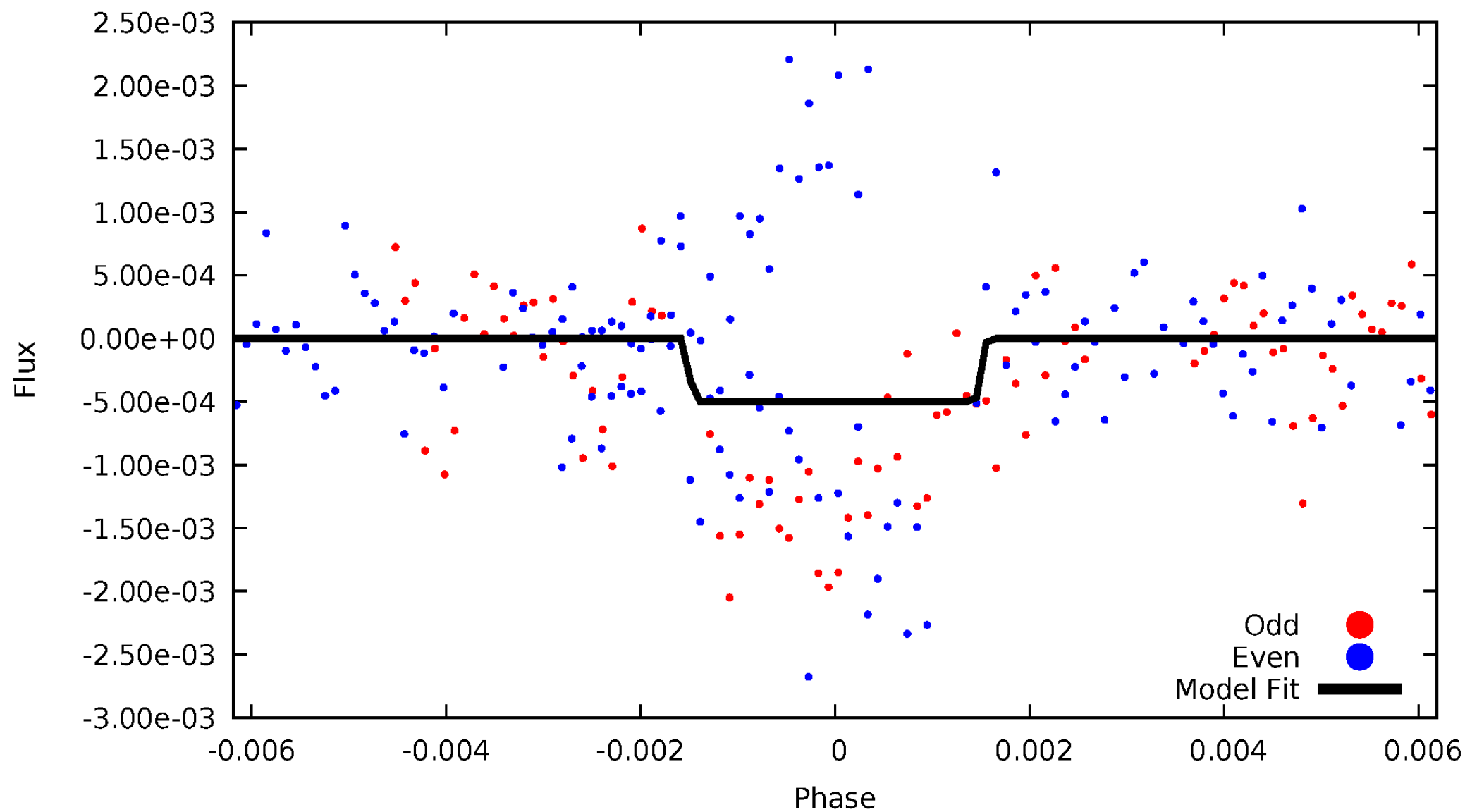
DV Odd/Even

TCE 007900137-02



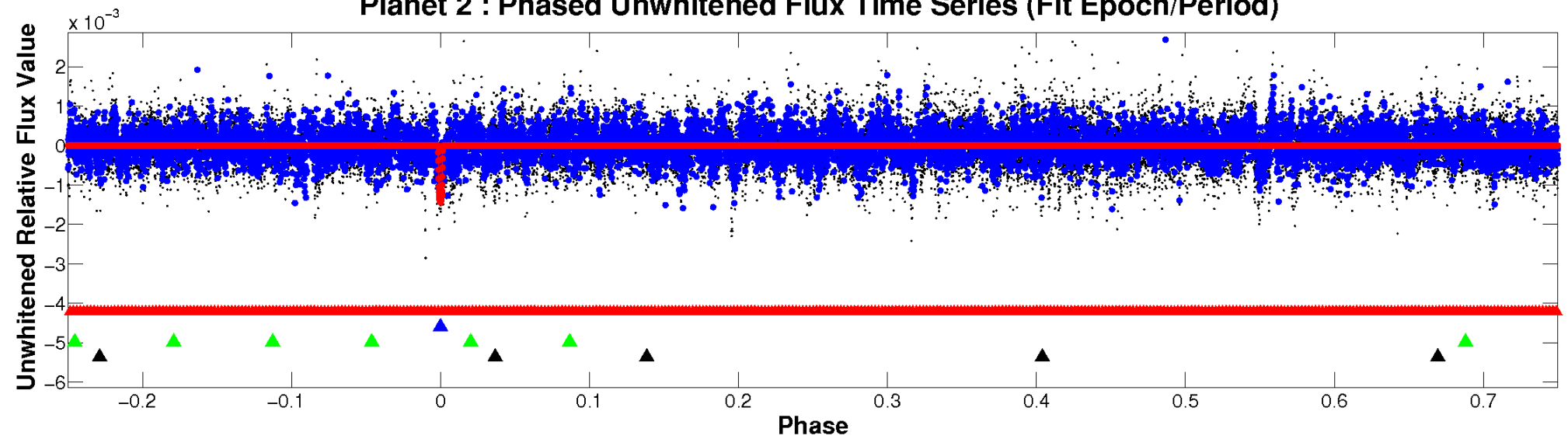
ALT Odd/Even

TCE 007900137-02

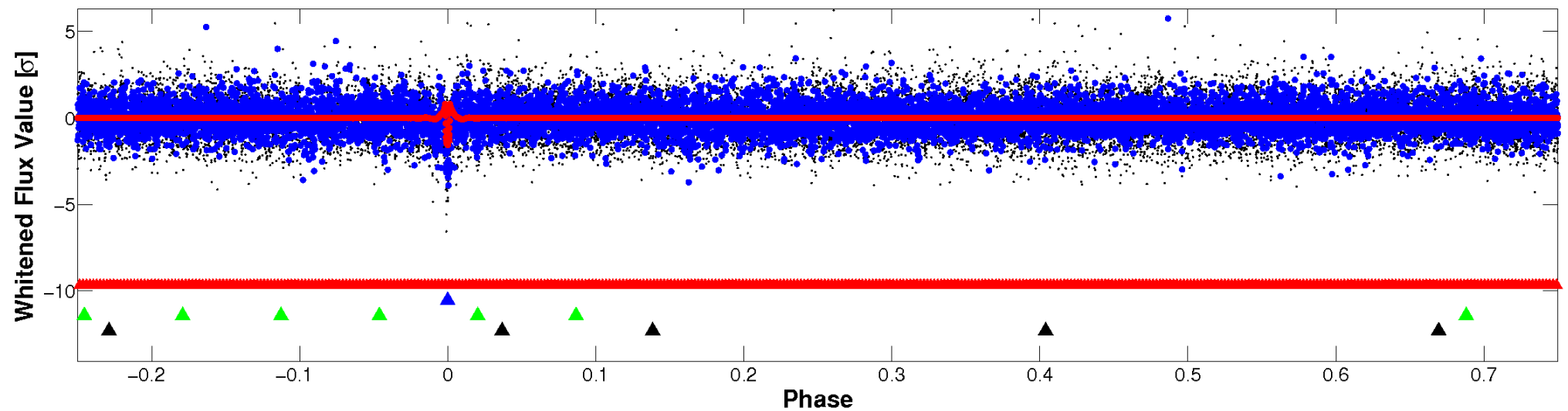


Non-Whitened Vs. Whitened Light Curve

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

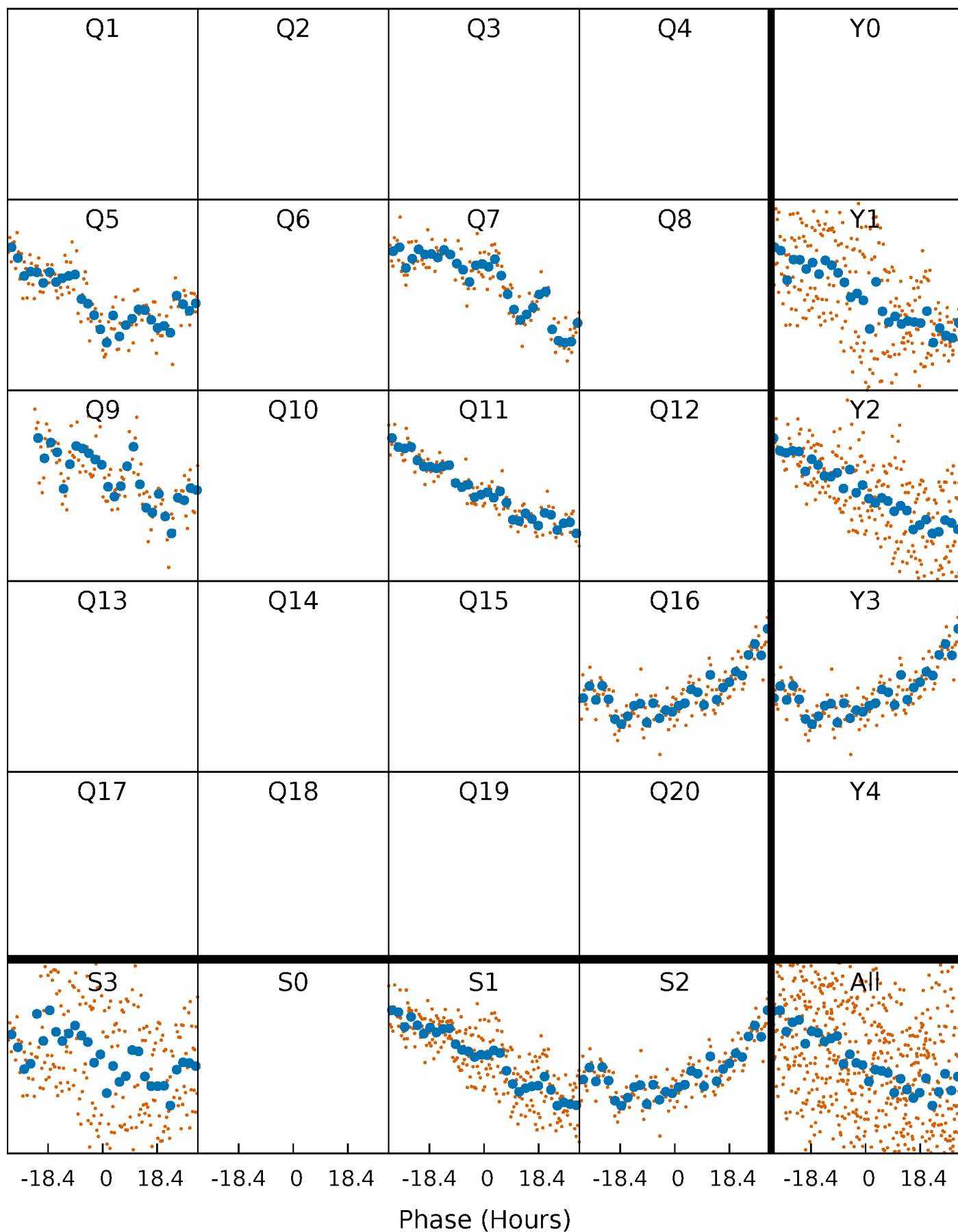


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



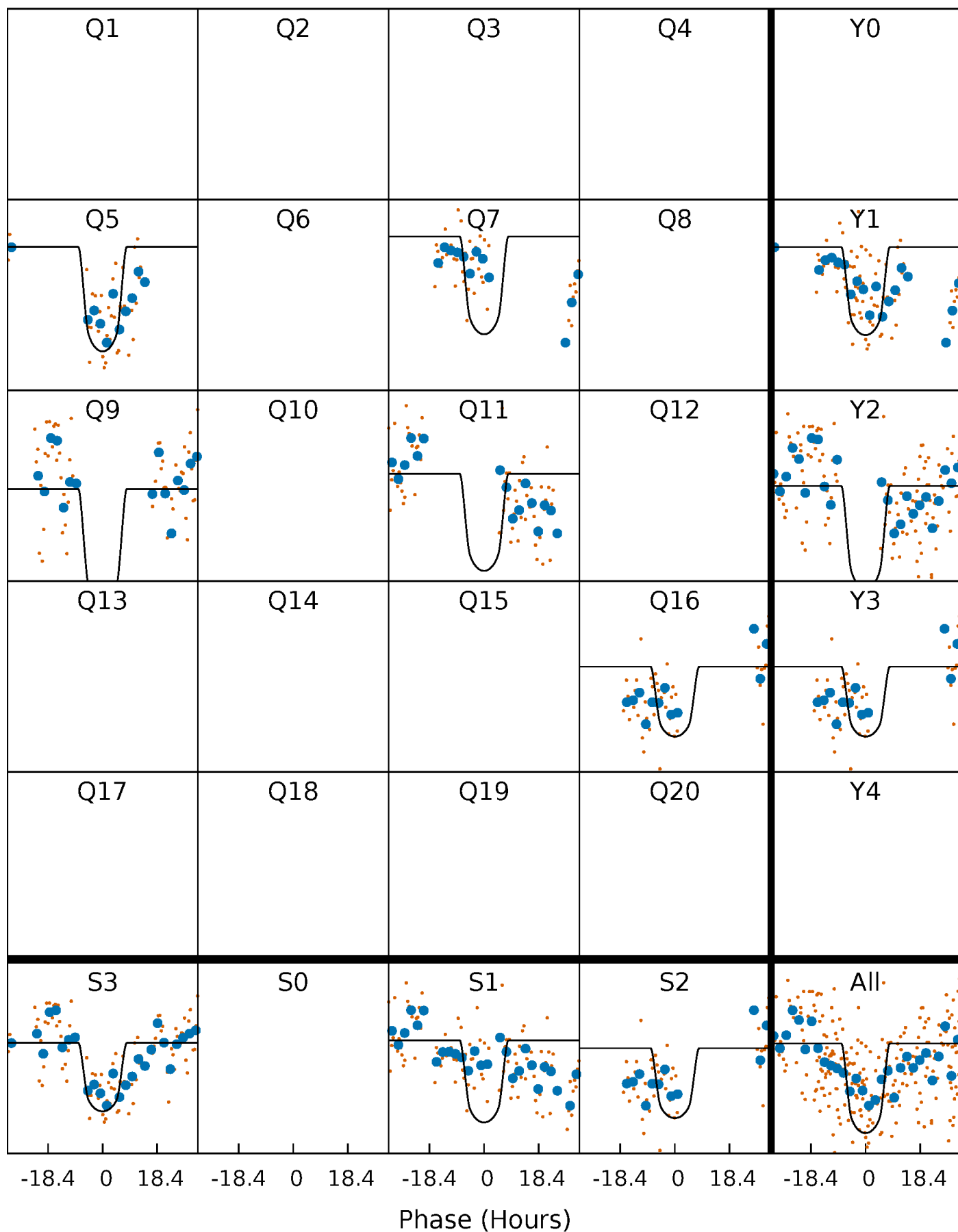
PDC Quarter-Phased Transit Curves

TCE 007900137-02 P=201.472426 Days $T_0=284.110305$ (BKJD)



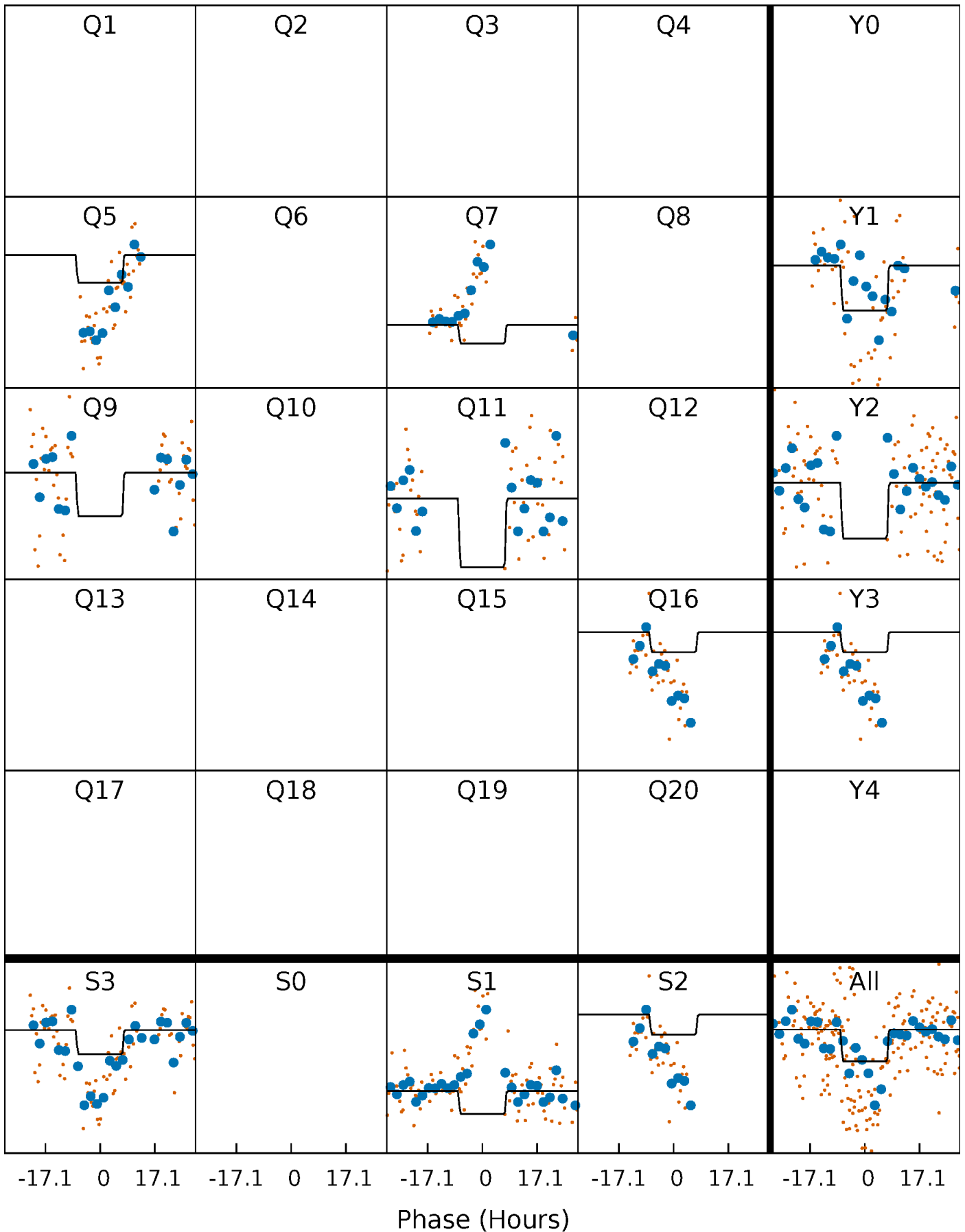
DV Quarter-Phased Transit Curves

TCE 007900137-02 $P=201.472426$ Days $T_0=284.110305$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

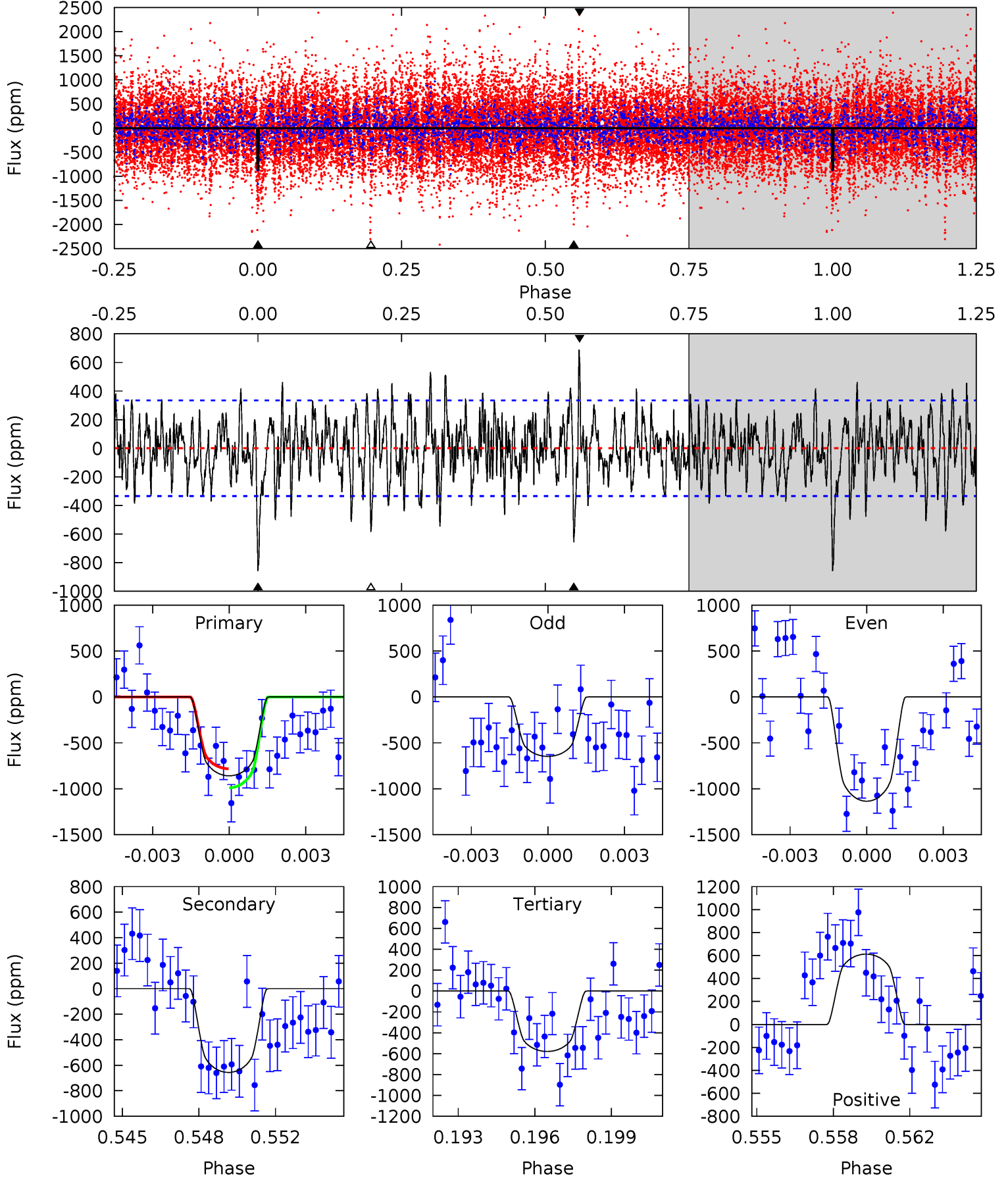
TCE 007900137-02 $P=201.434034$ Days $T_0=284.184981$ (BKJD)



DV Model-Shift Uniqueness Test

007900137-02, P = 201.472426 Days, E = 284.110305 Days

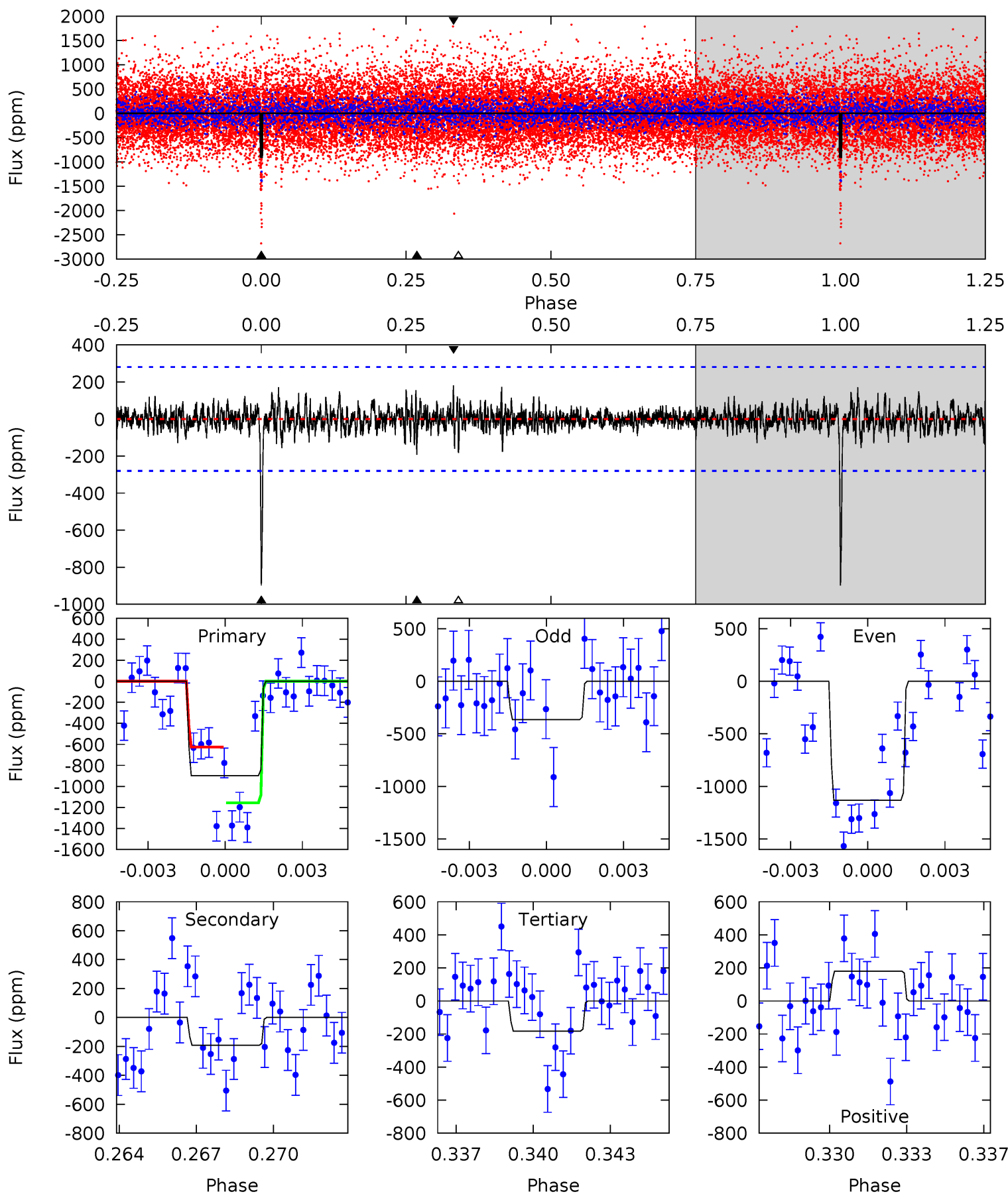
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	10.3	9.07	9.59	5.23	2.94	2.72	4.38	3.87	1.21	0.69	3.78	1.00	0.45	1.58



Alt Model-Shift Uniqueness Test

007900137-02, P = 201.434034 Days, E = 284.184981 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	3.59	3.40	3.38	5.24	2.95	0.79	13.4	13.4	0.19	0.21	7.31	0.58	0.17	4.85



Stellar Parameters For KIC 007900137

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4374^{+153}_{-168}	$4.626^{+0.052}_{-0.024}$	$-0.220^{+0.300}_{-0.300}$	$0.635^{+0.045}_{-0.062}$	$0.621^{+0.068}_{-0.056}$	$3.422^{+0.855}_{-0.387}$
	+3%/-4%	+1%/-1%	+136%/-136%	+7%/-10%	+11%/-9%	+25%/-11%
Source	KIC0	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 007900137-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-656 ± 64	$2.94^{+0.38}_{-0.40}$	282^{+11}_{-10}	3659^{+203}_{-200}	14134^{+4616}_{-3524}
Alt.	-192 ± 53	$1.54^{+0.35}_{-0.37}$	281^{+12}_{-12}	3684^{+405}_{-316}	14717^{+11568}_{-6050}

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

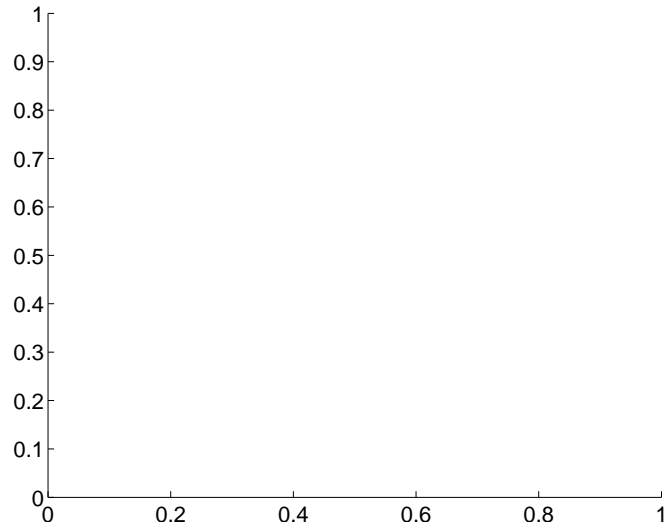
Supplemental centroid analysis for 007900137-02. Kepler magnitude: 15.37. Transit SNR 10.91

There are 0 quarters with good PRF difference image offsets

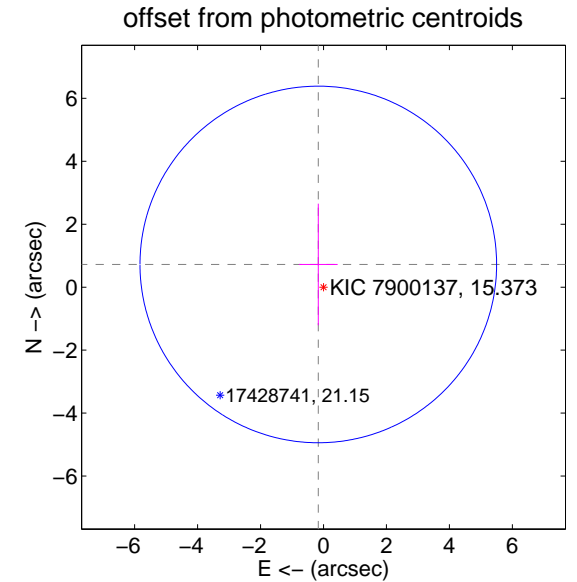
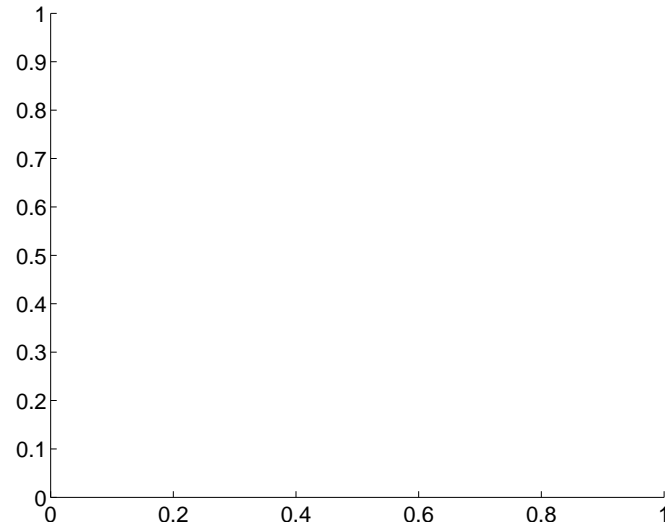
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.74 ± 1.89	0.39	0.17 ± 0.61	0.72 ± 1.93

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

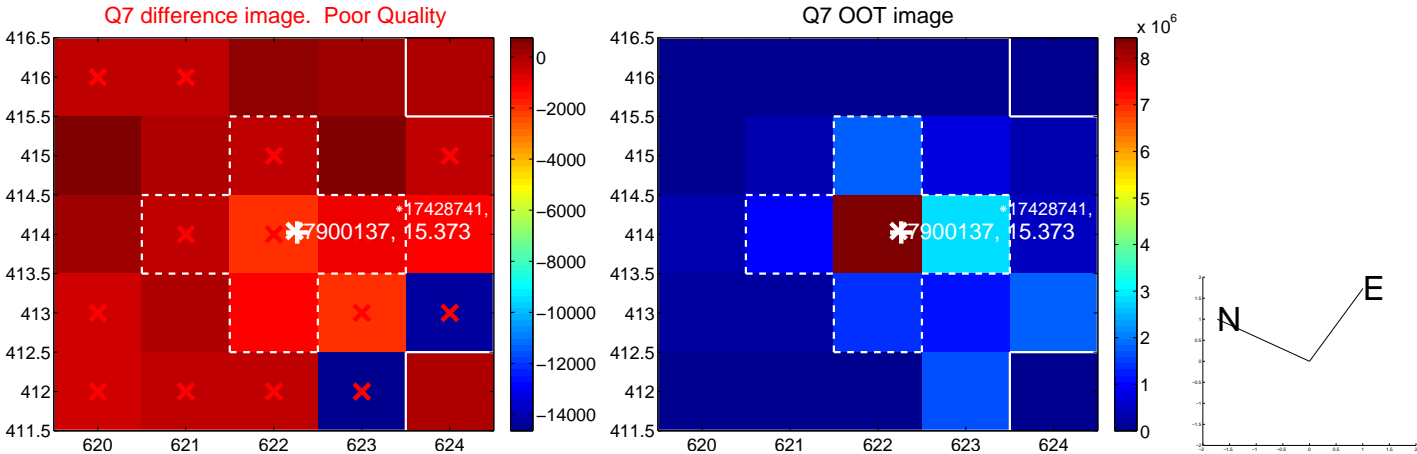
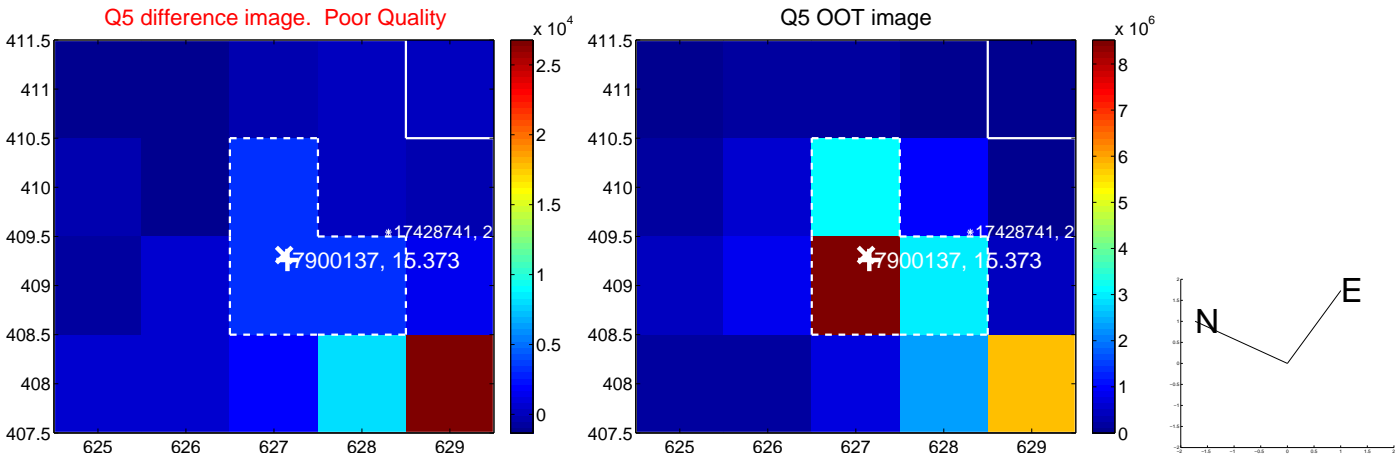


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q9 no difference image



Q9 no OOT image



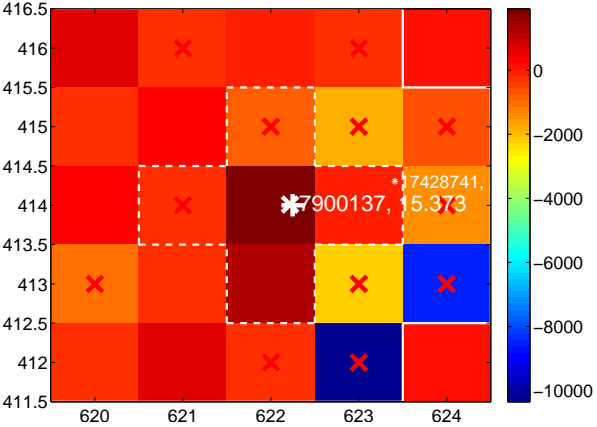
Q10 no difference image



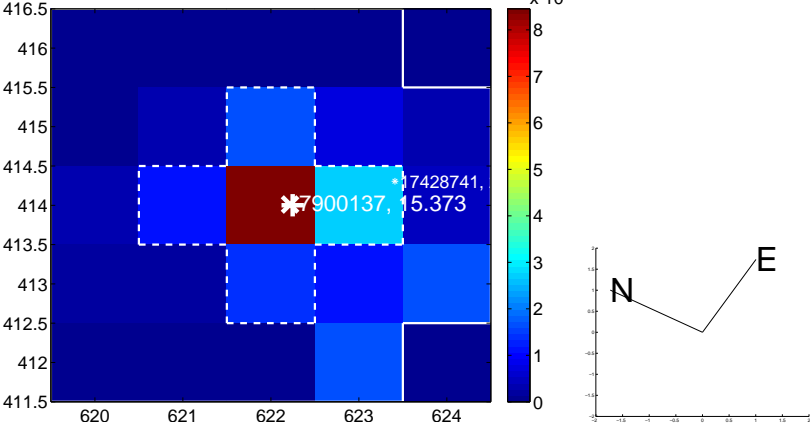
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



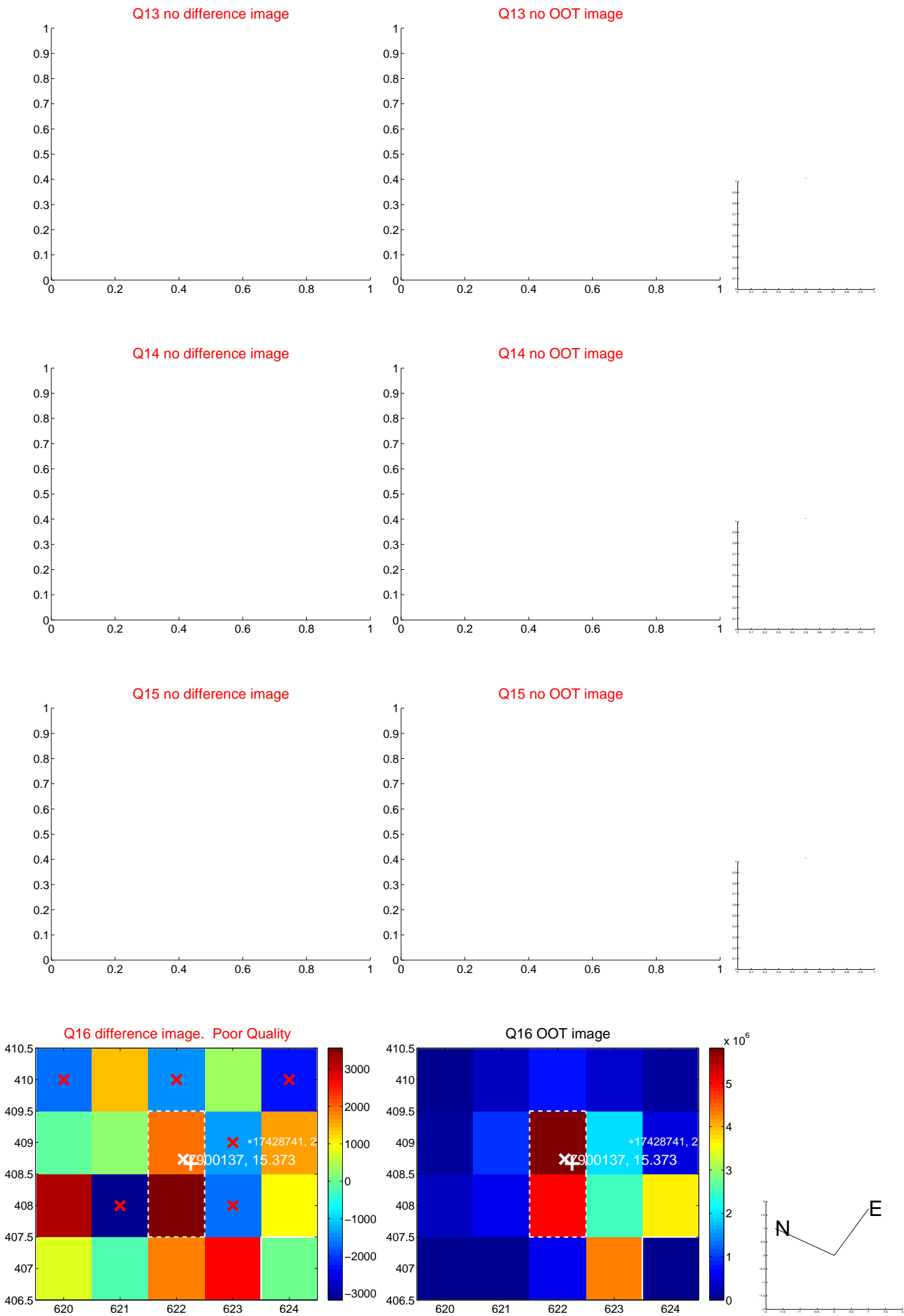
Q12 no difference image



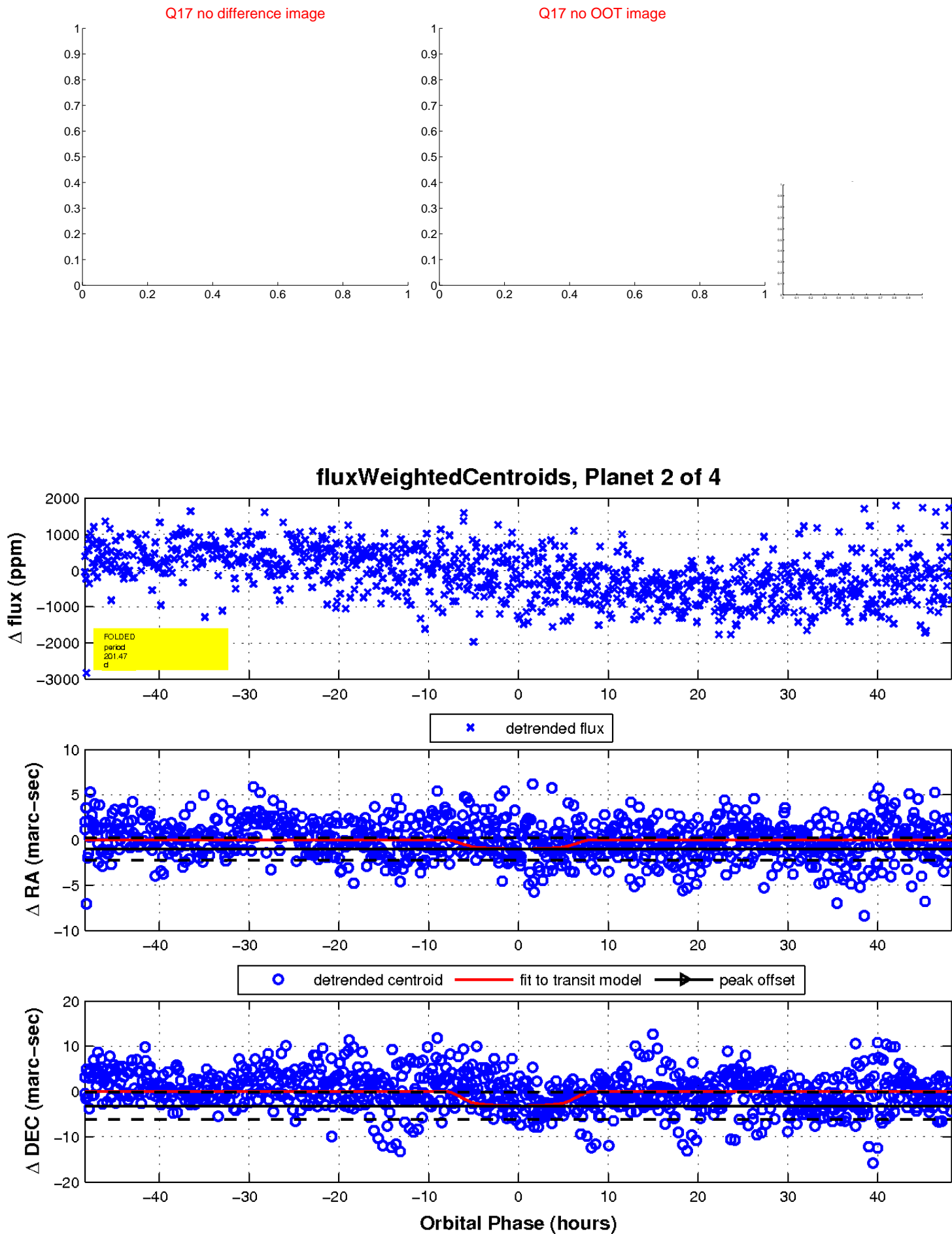
Q12 no OOT image



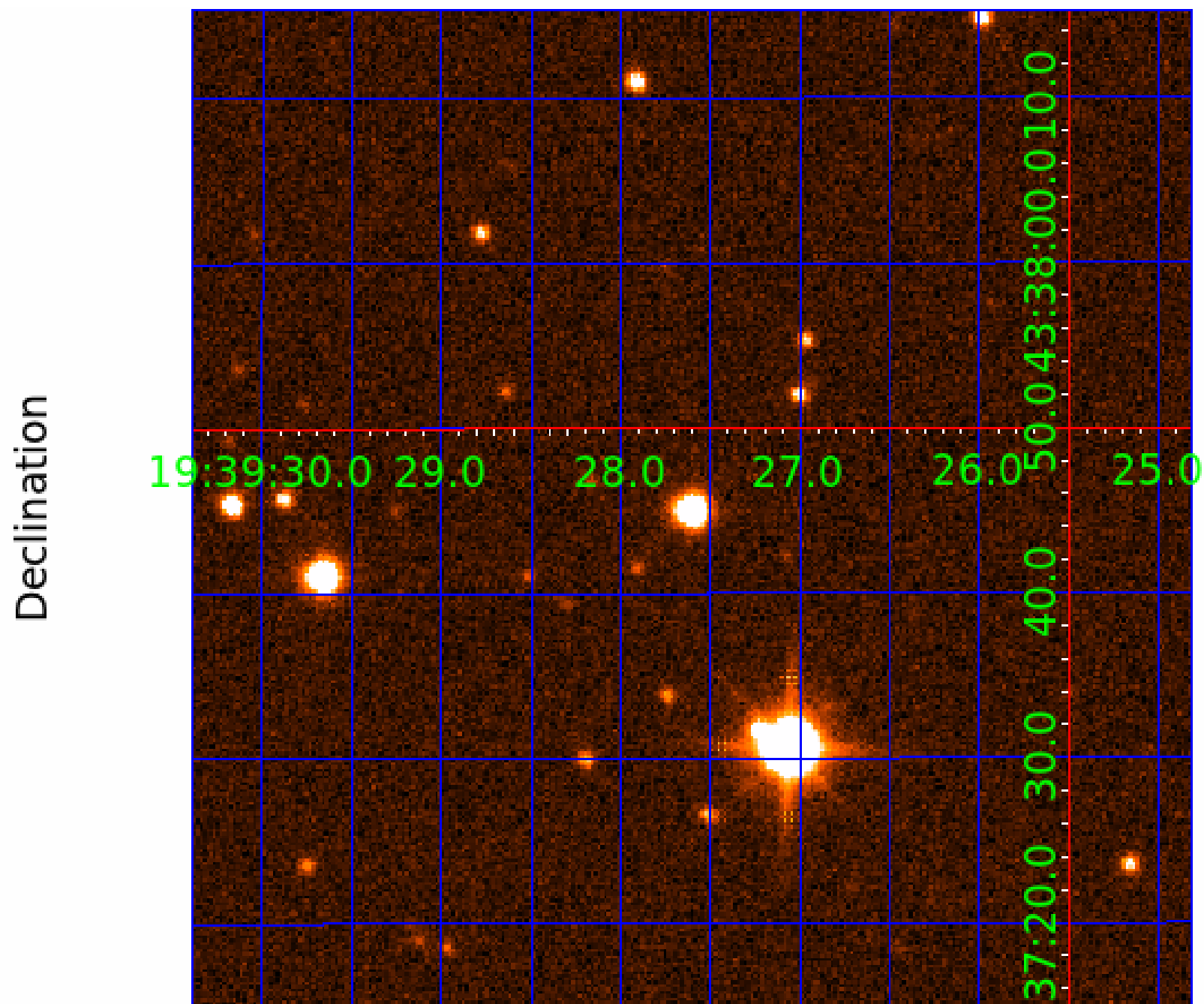
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007900137

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})
007900137-01	OBS	No	1.861090	133.071328	90.9	8.440	9.0	10.1	0.64	4374	0.58	206.97
007900137-02	OBS	No	201.472426	284.110306	1444.4	16.093	24.7	10.9	0.64	4374	2.96	0.40
007900137-03	OBS	No	188.085998	301.583168	780.1	10.594	12.6	6.3	0.64	4374	1.92	0.44
007900137-04	OBS	No	275.463023	217.519429	808.5	10.895	8.4	7.9	0.64	4374	2.05	0.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007900137-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
007900137-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007900137-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007900137-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

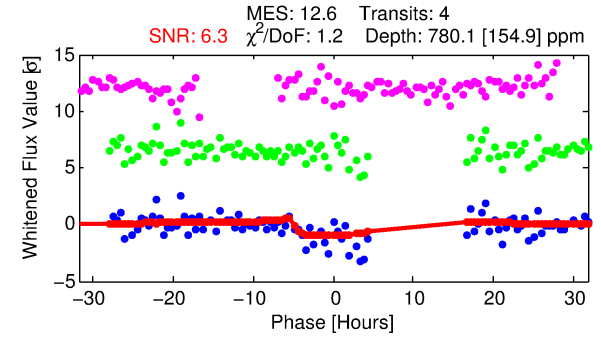
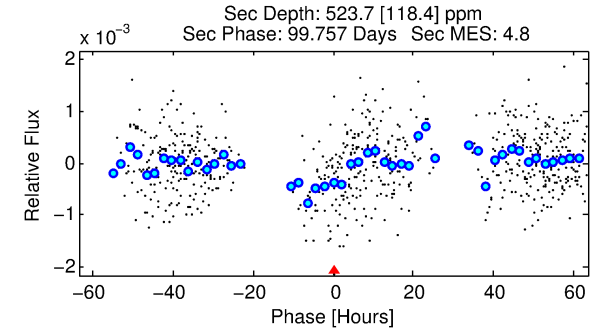
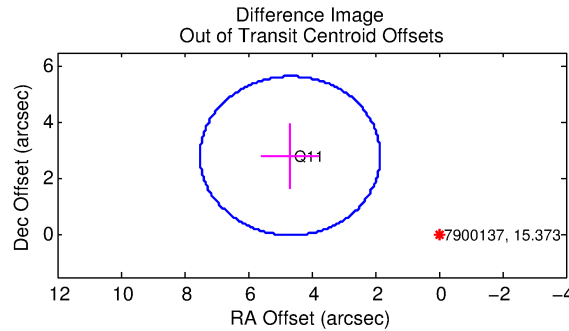
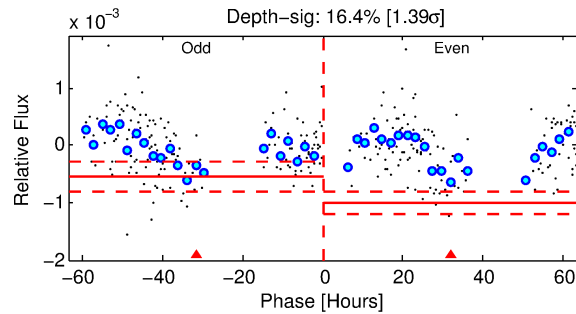
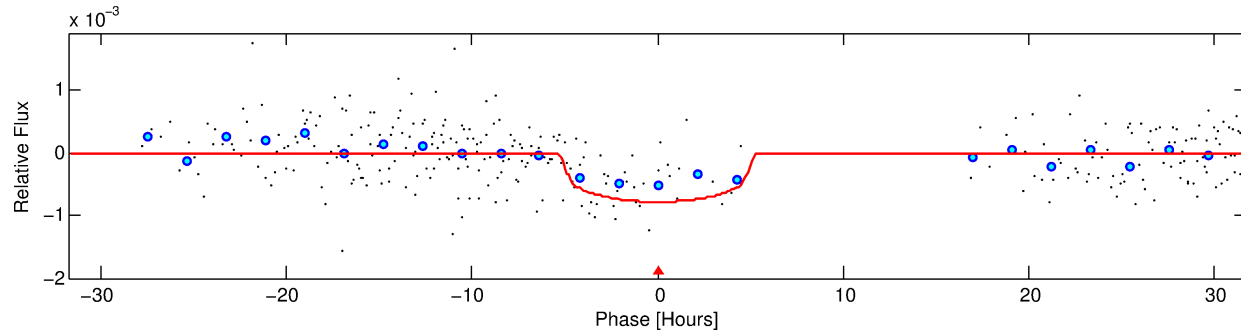
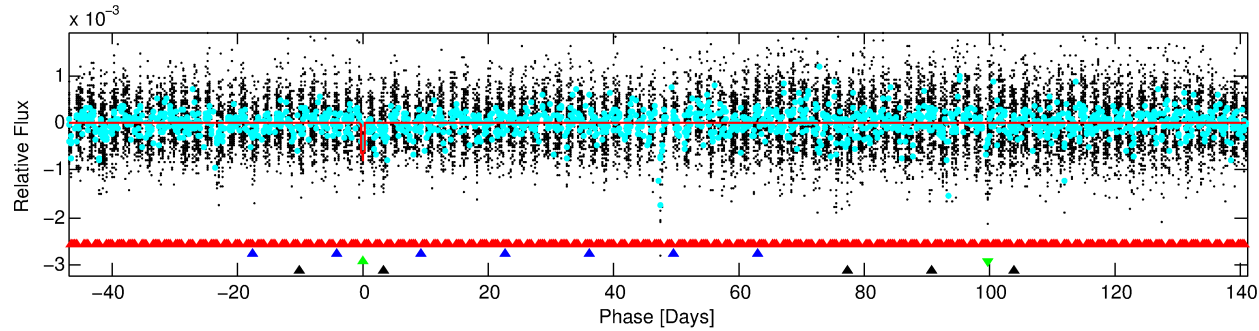
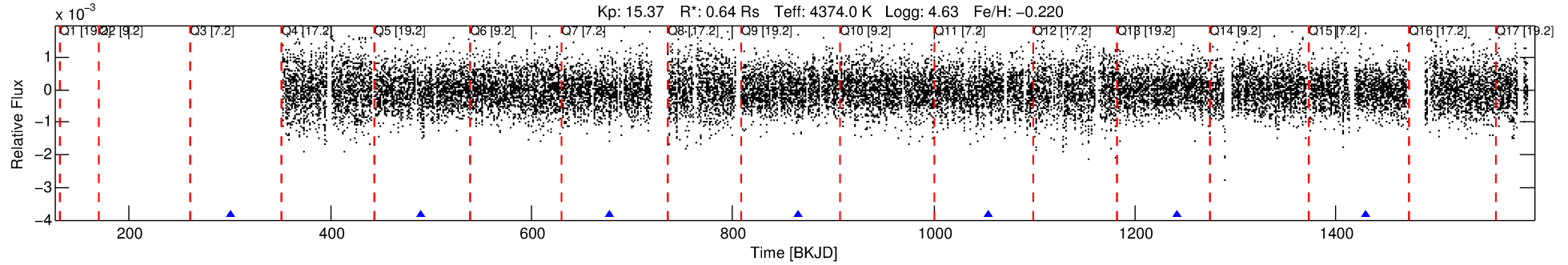
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007900137-03

No Significant Match Found

DV One-Page Summary

KIC: 7900137 Candidate: 3 of 4 Period: 188.086 d



DV Fit Results:

Period = 188.08600 [0.01039] d
Epoch = 301.5832 [0.0542] BKJD
Rp/R* = 0.0278 [0.0155]
a/R* = 97.12 [179.21]
b = 0.74 [1.21]
Seff = 0.44 [0.08]
Teq = 208 [10] K
Rp = 1.92 [1.09] Re
a = 0.5484 [0.0419] AU
Ag = 23416.78 [26788.37] [0.87 σ]
Teffp = 3971 [1141] K [3.30 σ]

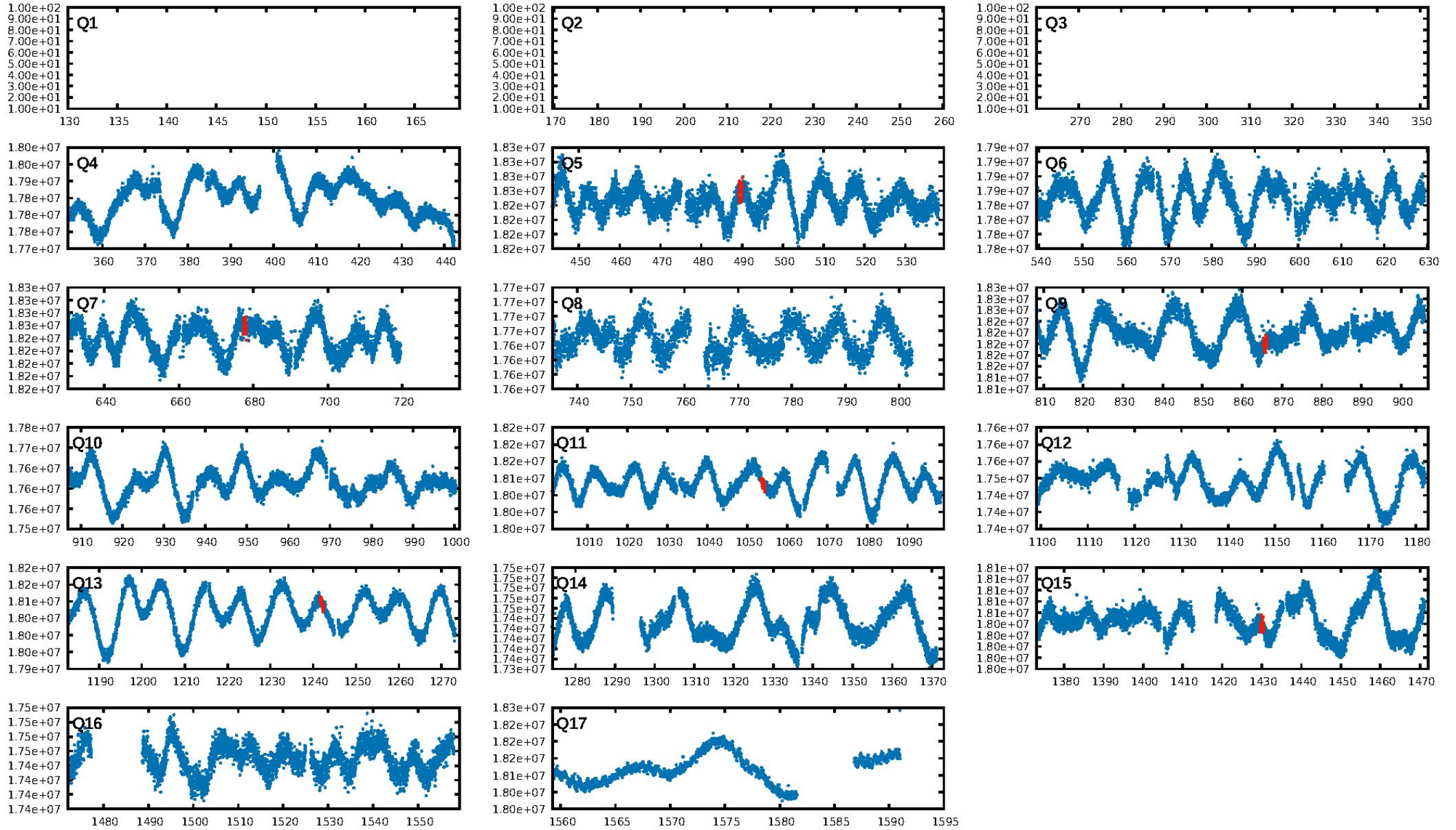
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [329.98 σ]
LongPeriod-sig: 100.0% [16.68 σ]
ModelChiSquare2-sig: 12.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.24e-21
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -2.799
Centroid-sig: 25.0%
Centroid-so: 4.003 arcsec [1.27 σ]
OotOffset-rm: 5.450 arcsec [5.77 σ]
KicOffset-rm: 5.438 arcsec [5.79 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/5]

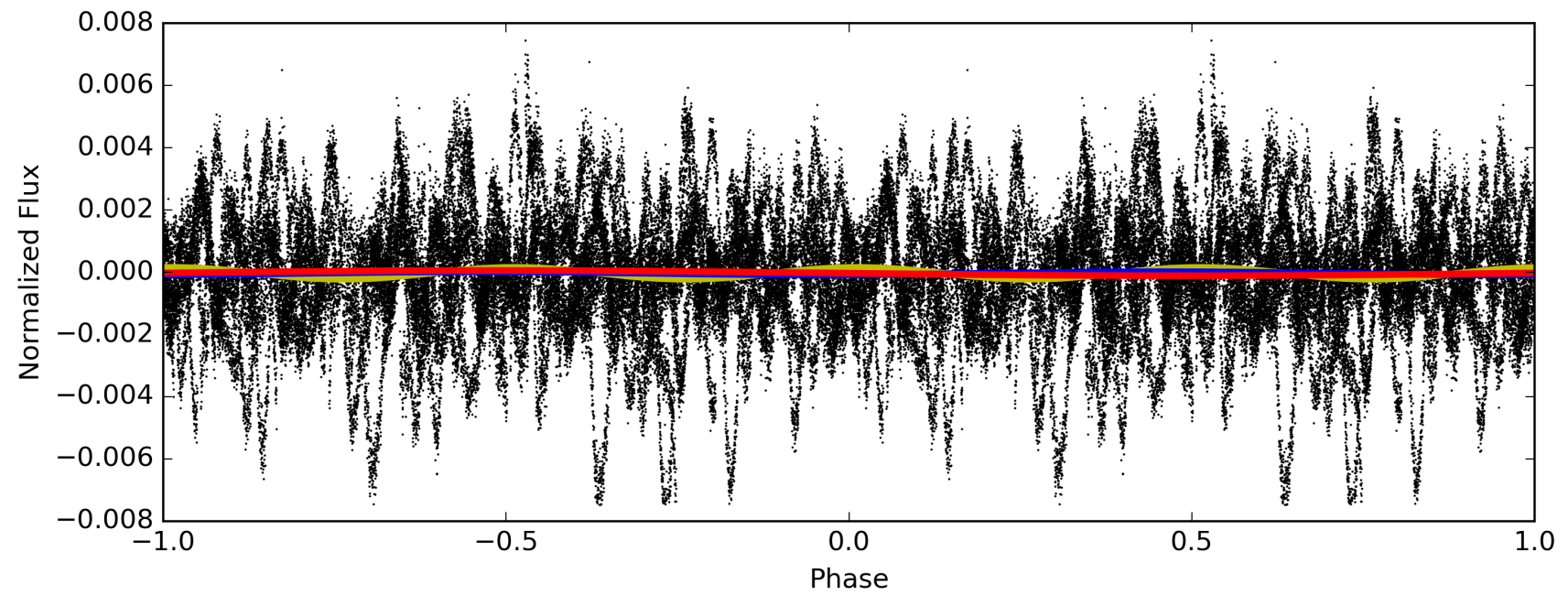
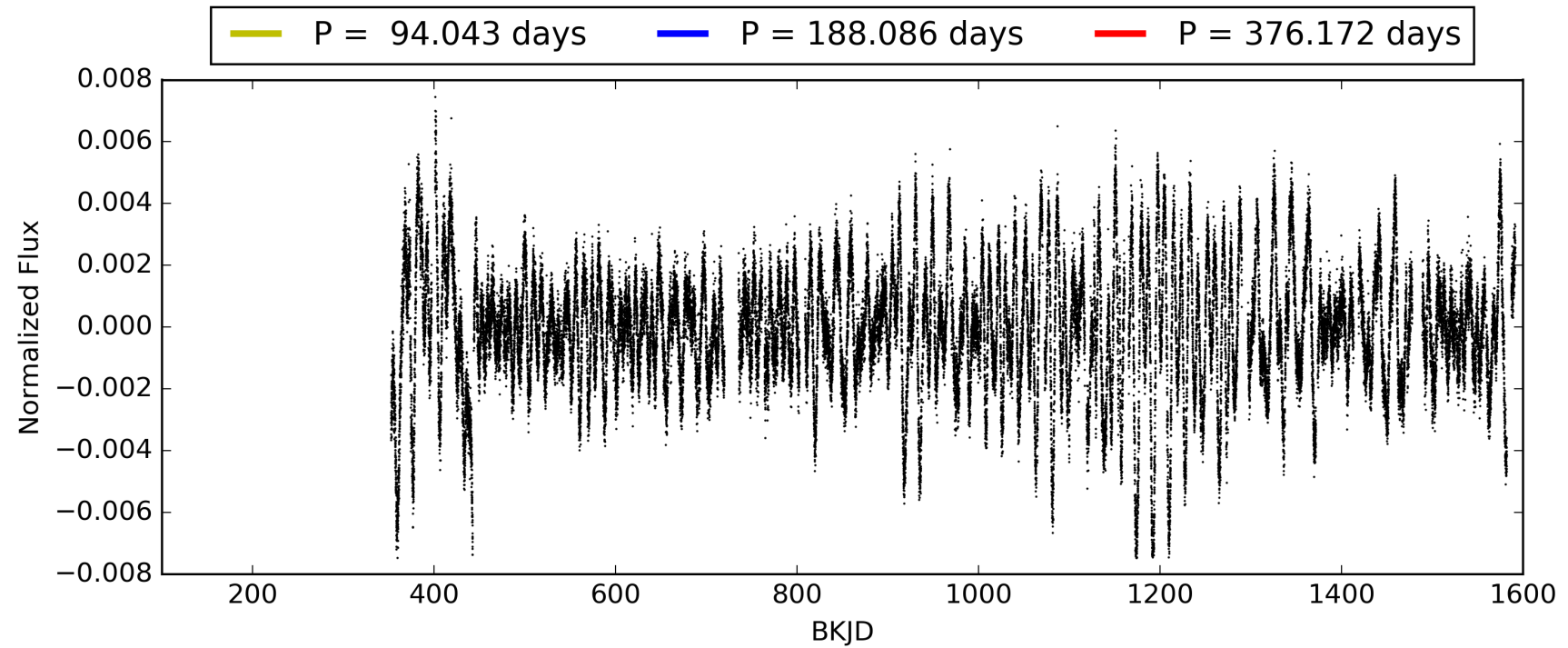
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:39:59 Z

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

TCE 007900137-03, PDC Light Curves

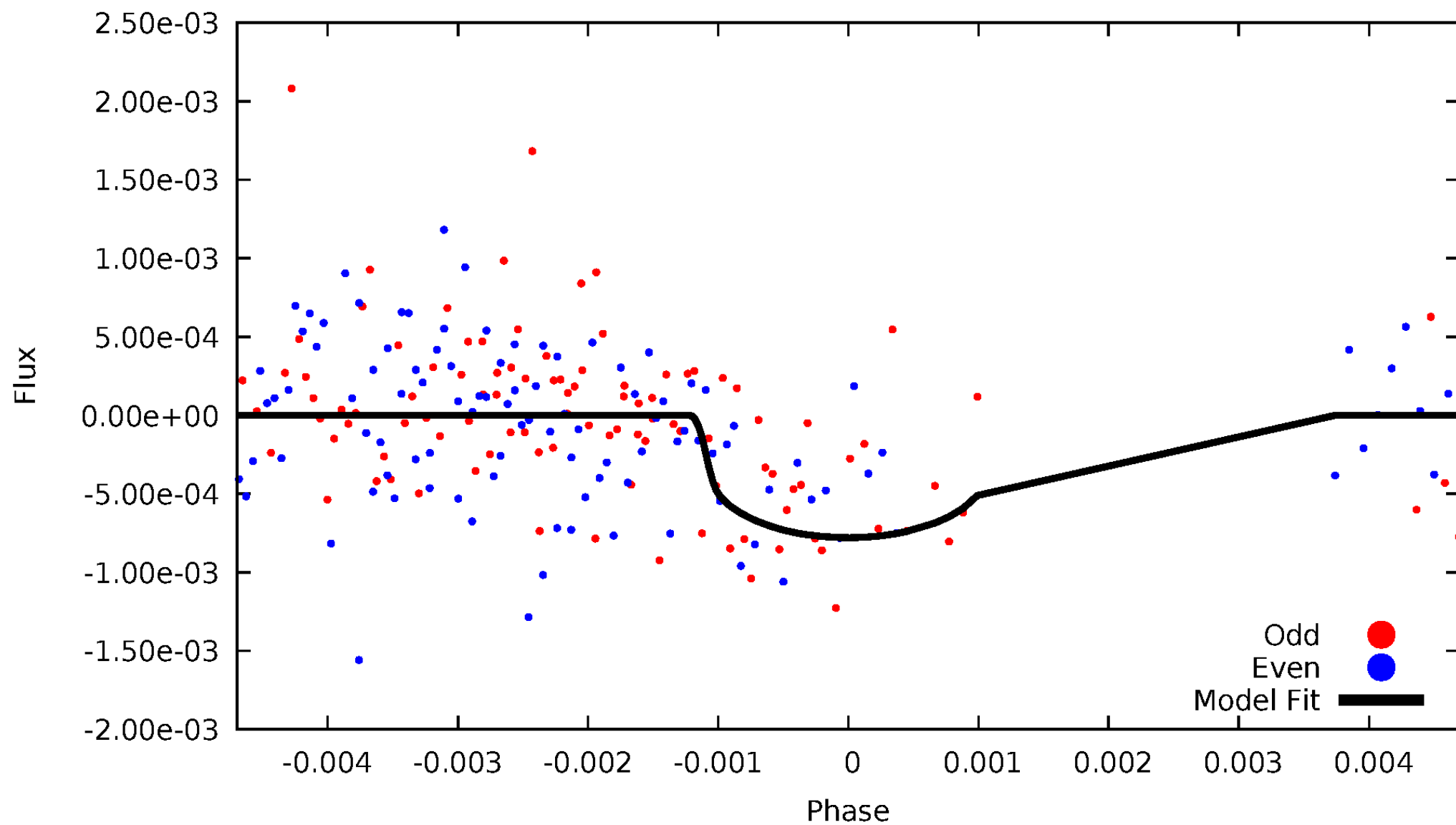


TCE 007900137-03



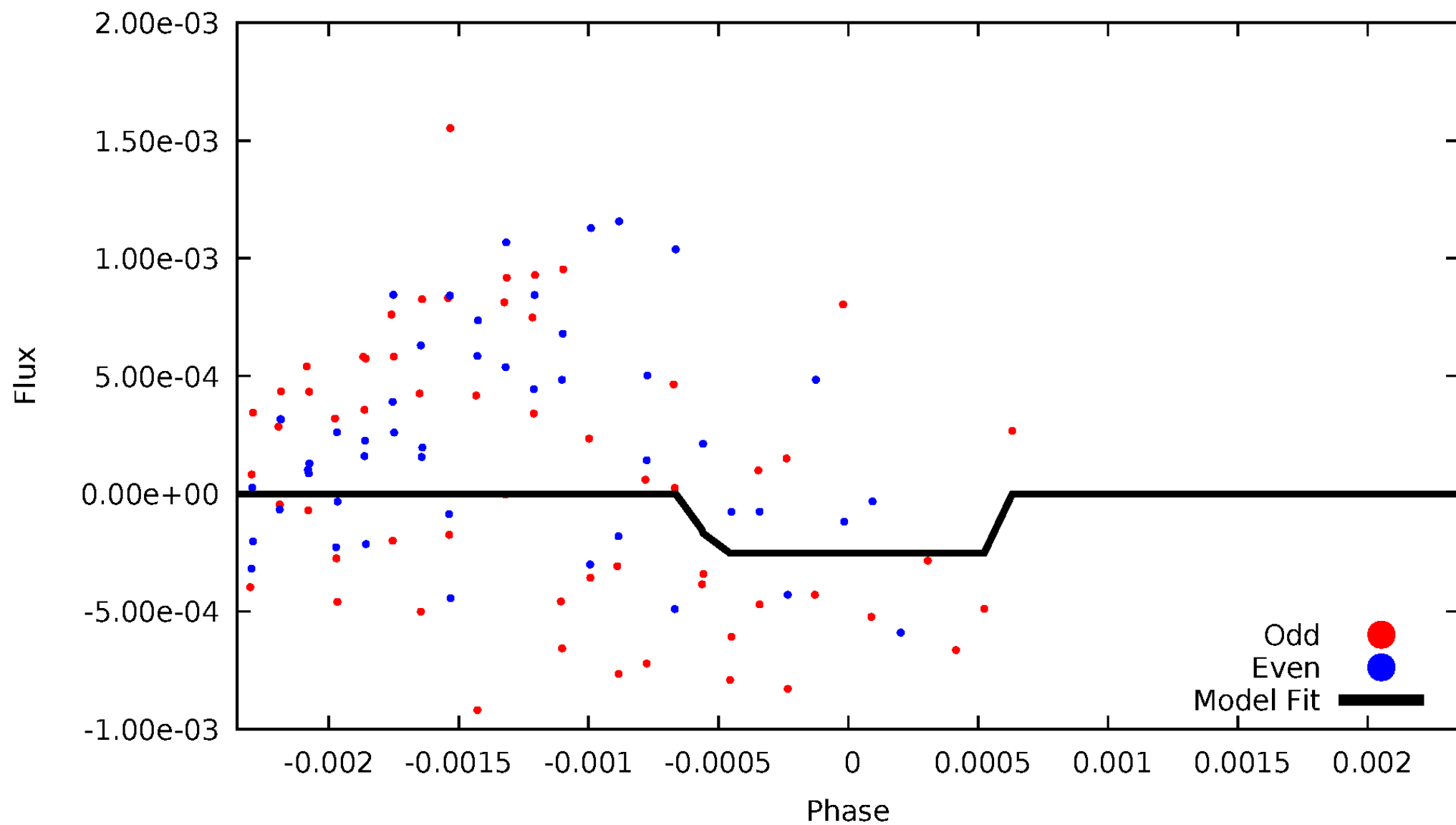
DV Odd/Even

TCE 007900137-03



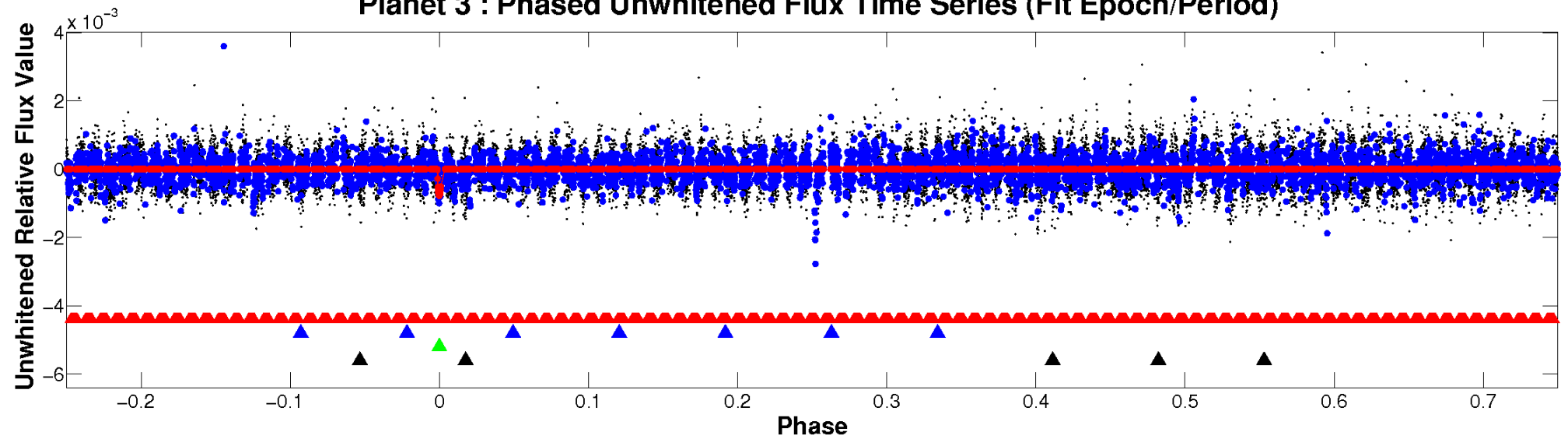
ALT Odd/Even

TCE 007900137-03

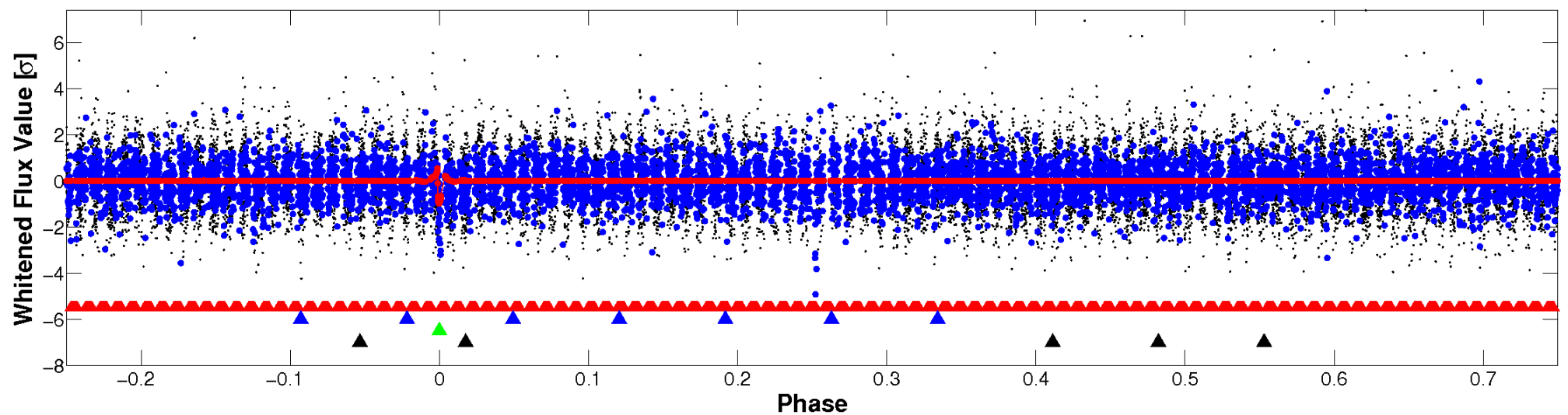


Non-Whitened Vs. Whitened Light Curve

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

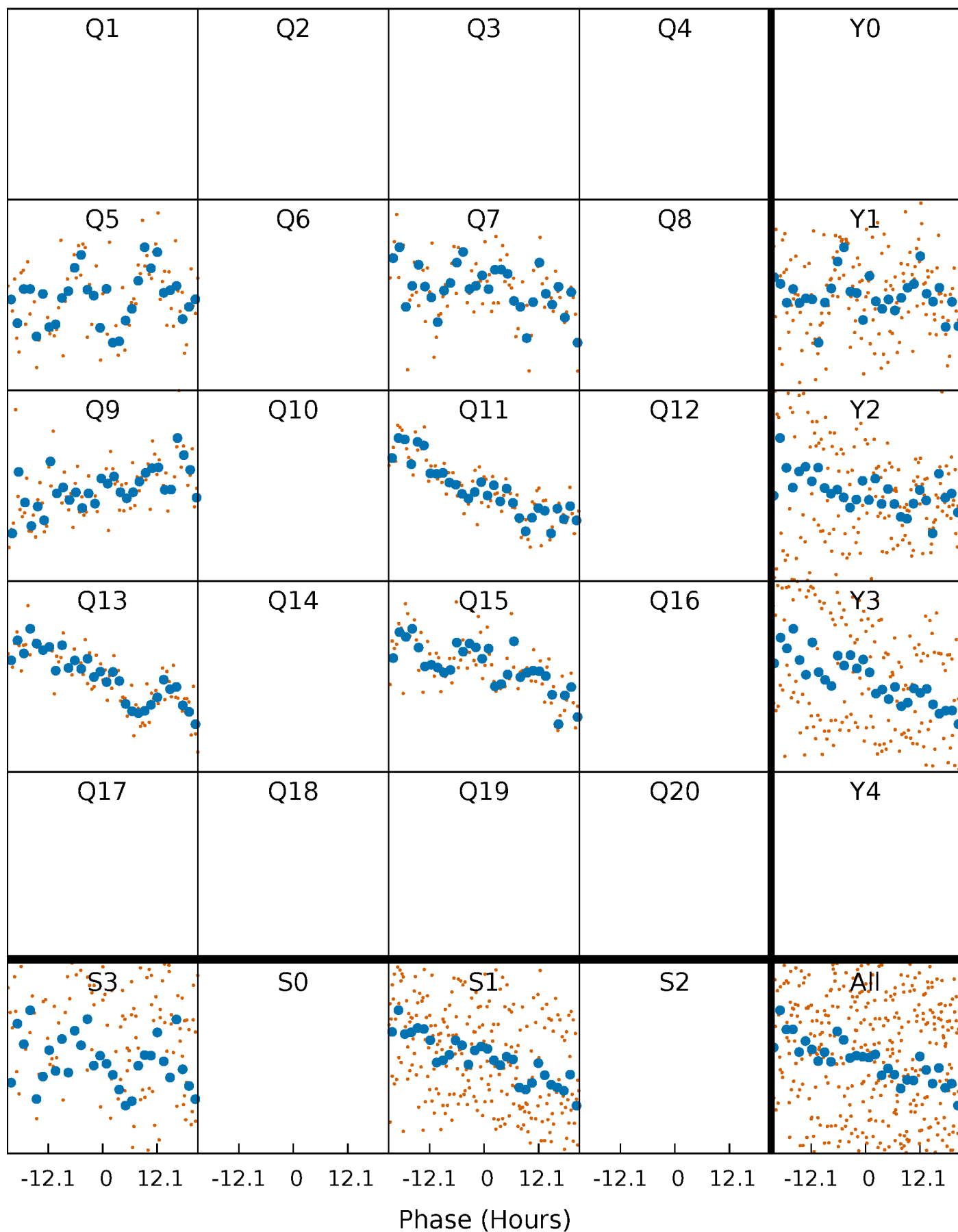


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



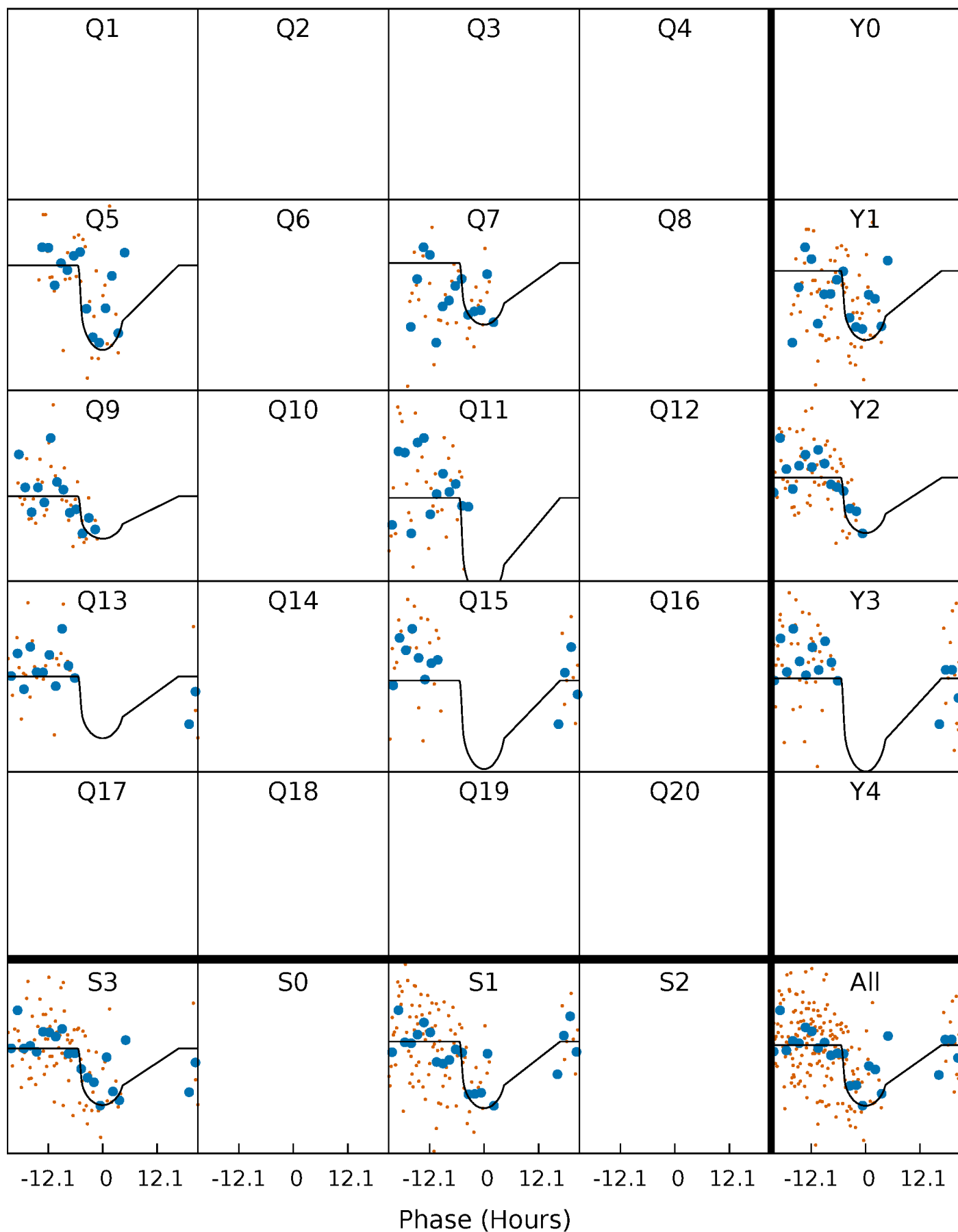
PDC Quarter-Phased Transit Curves

TCE 007900137-03 P=188.085998 Days $T_0=301.583168$ (BKJD)



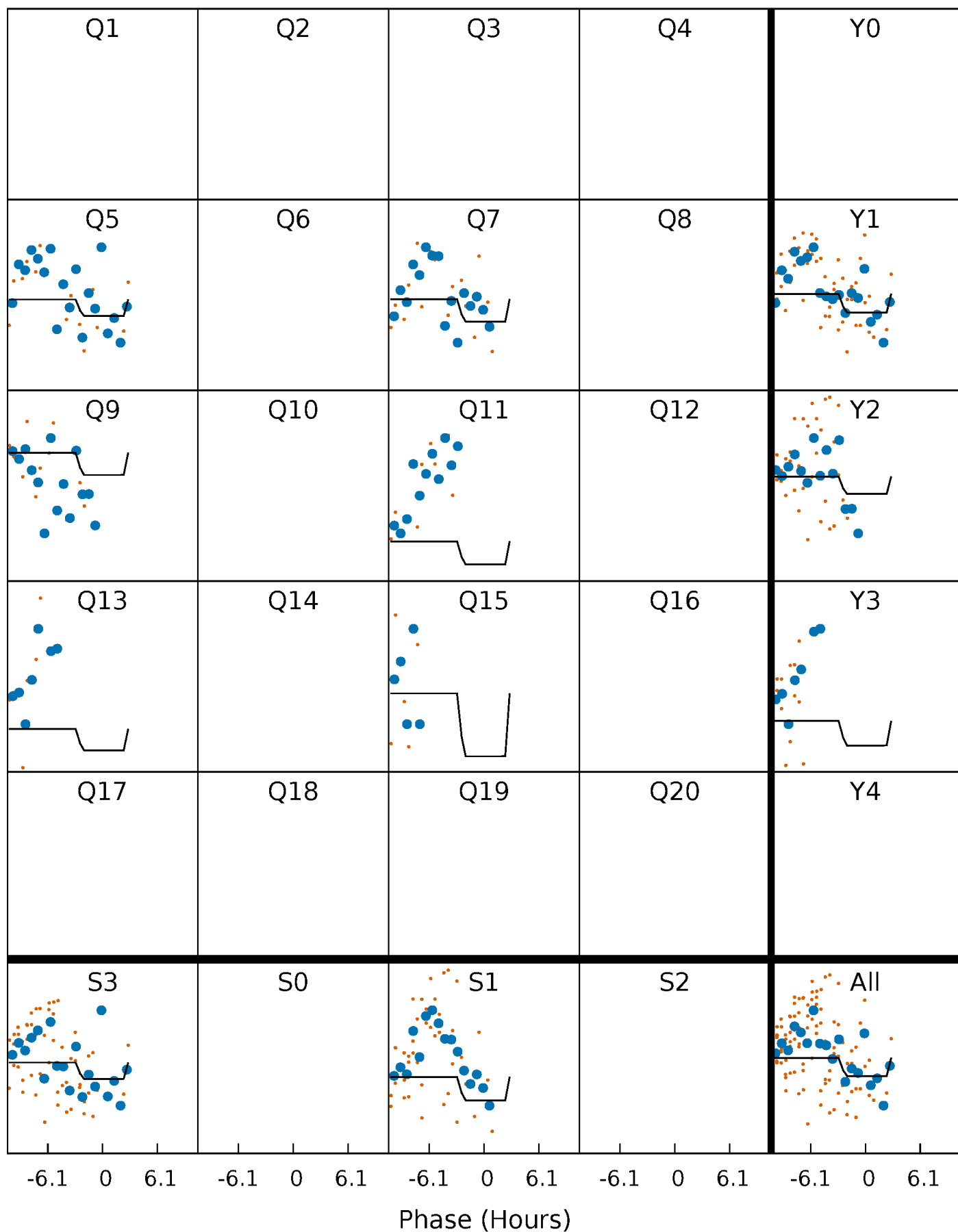
DV Quarter-Phased Transit Curves

TCE 007900137-03 $P=188.085998$ Days $T_0=301.583168$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

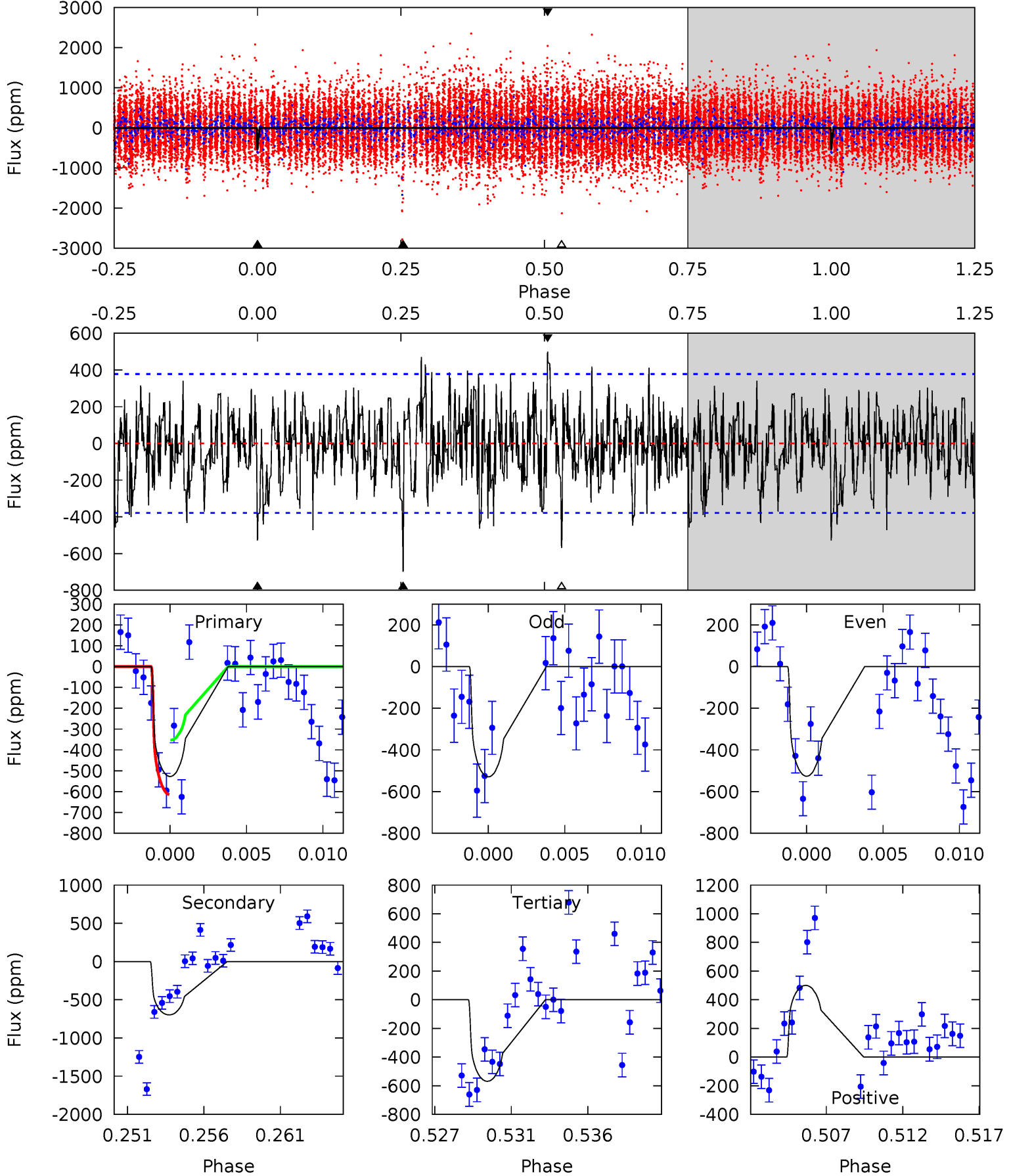
TCE 007900137-03 P=188.050053 Days $T_0=301.686760$ (BKJD)



DV Model-Shift Uniqueness Test

007900137-03, P = 188.085998 Days, E = 301.583168 Days

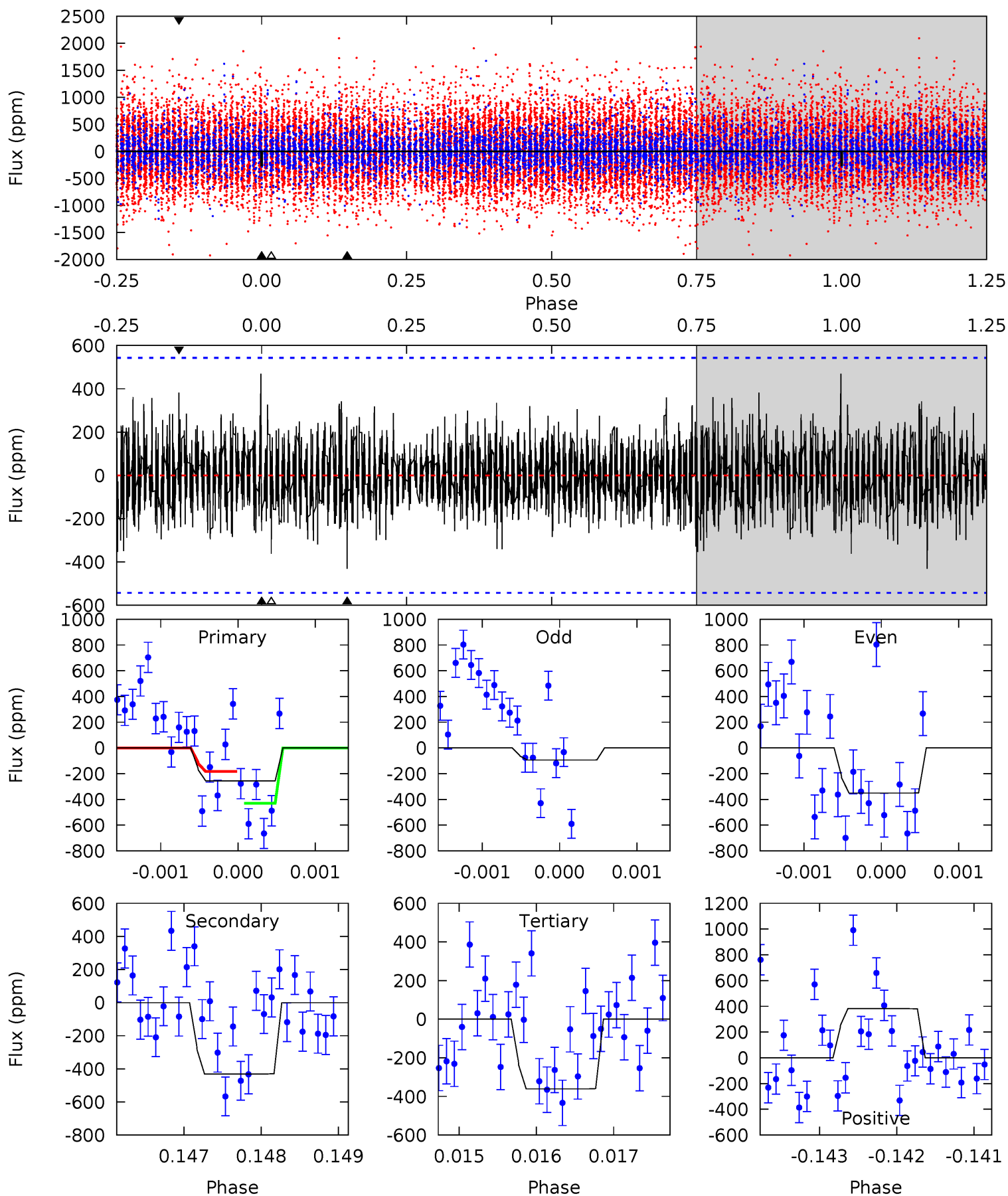
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.19	9.52	7.76	6.82	5.16	2.81	2.02	-0.57	0.37	1.77	2.70	0.02	0.97	0.42	1.60



Alt Model-Shift Uniqueness Test

007900137-03, P = 188.050053 Days, E = 301.686760 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.57	4.31	3.61	3.82	5.44	3.27	1.00	-1.05	-1.26	0.70	0.49	1.28	1.28	0.52	1.08



Stellar Parameters For KIC 007900137

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4374^{+153}_{-168}	$4.626^{+0.052}_{-0.024}$	$-0.220^{+0.300}_{-0.300}$	$0.635^{+0.045}_{-0.062}$	$0.621^{+0.068}_{-0.056}$	$3.422^{+0.855}_{-0.387}$
	+3%/-4%	+1%/-1%	+136%/-136%	+7%/-10%	+11%/-9%	+25%/-11%
Source	KIC0	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 007900137-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-698 ± 73	$1.96^{+1.00}_{-0.90}$	288^{+12}_{-11}	4233^{+1256}_{-582}	30027^{+75203}_{-16543}
Alt.	-431 ± 100	$1.31^{+0.96}_{-0.84}$	288^{+12}_{-11}	4481^{+2828}_{-806}	$40348^{+289409}_{-26703}$

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

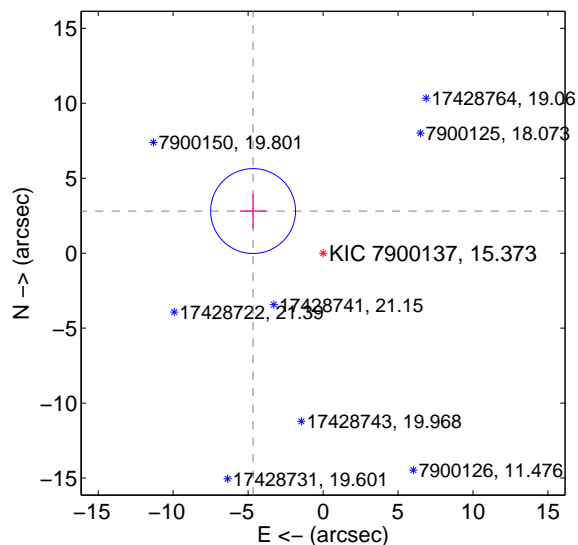
Supplemental centroid analysis for 007900137-03. Kepler magnitude: 15.37. Transit SNR 6.30

There are 0 quarters with good PRF difference image offsets

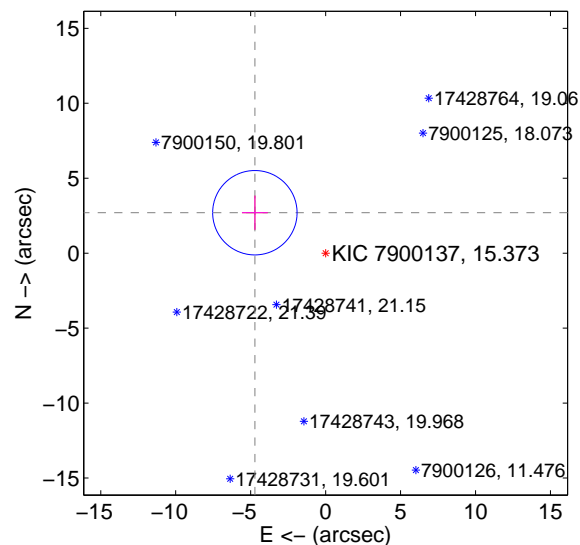
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.450 \pm 0.944	5.77	4.670 \pm 0.862	2.810 \pm 1.141
PRF-fit source offset from KIC position	5.438 \pm 0.938	5.79	4.720 \pm 0.862	2.699 \pm 1.141
photometric centroid source offset	4.00 \pm 3.15	1.27	-1.51 \pm 1.11	-3.71 \pm 3.37

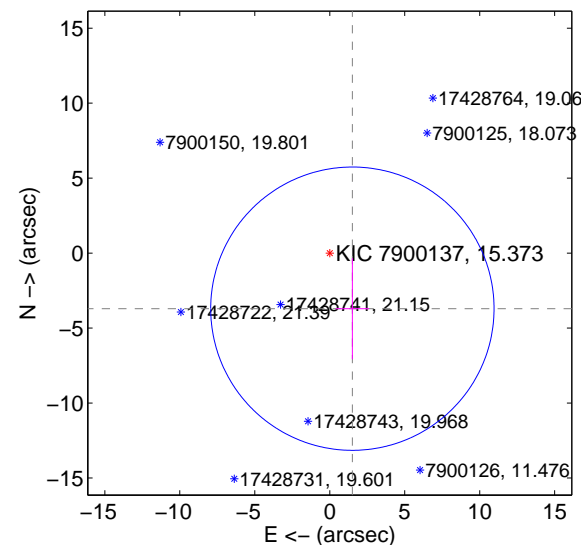
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

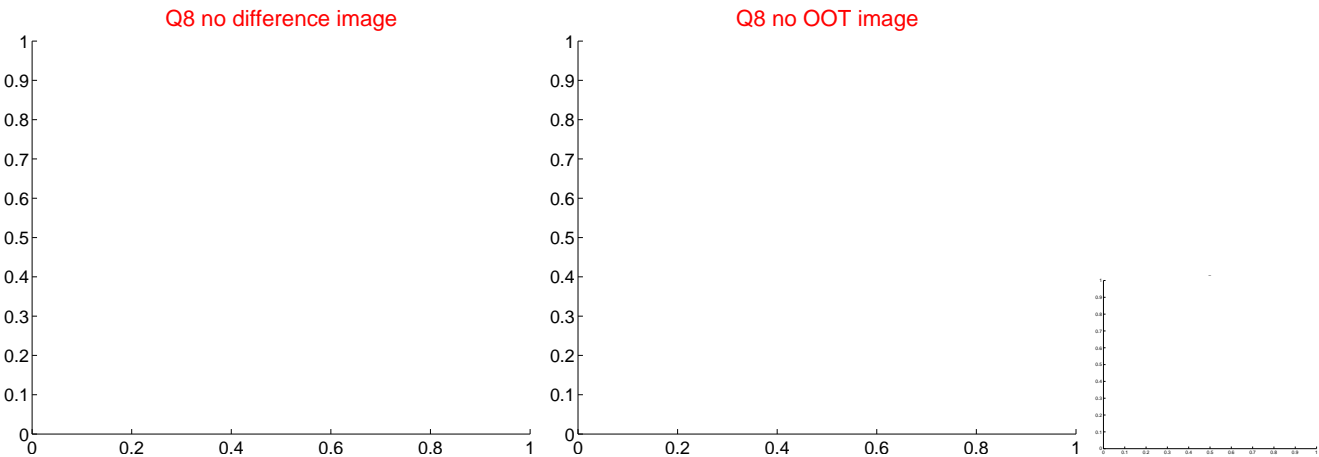
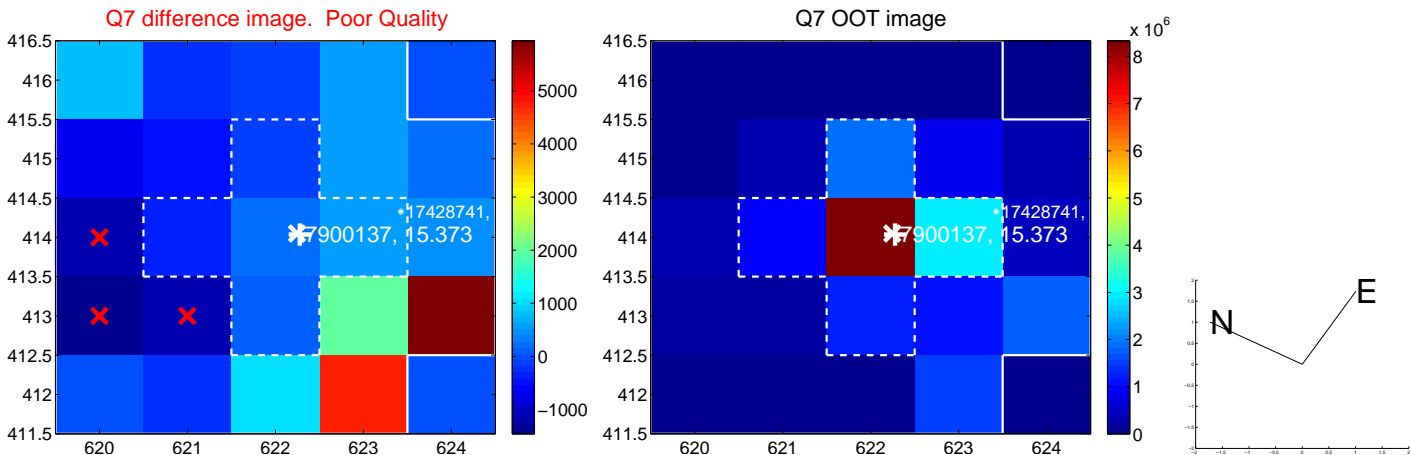
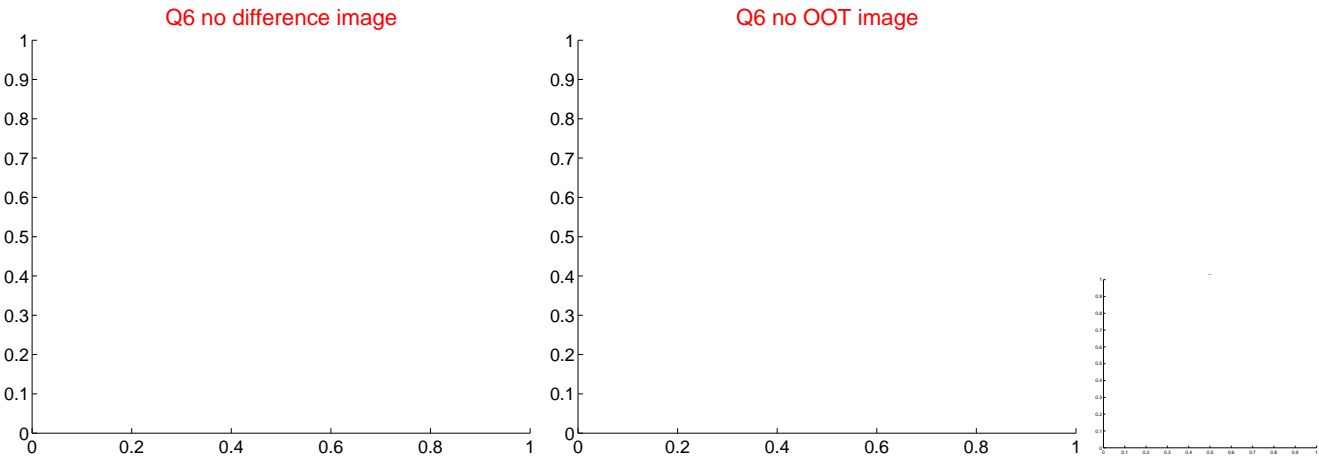
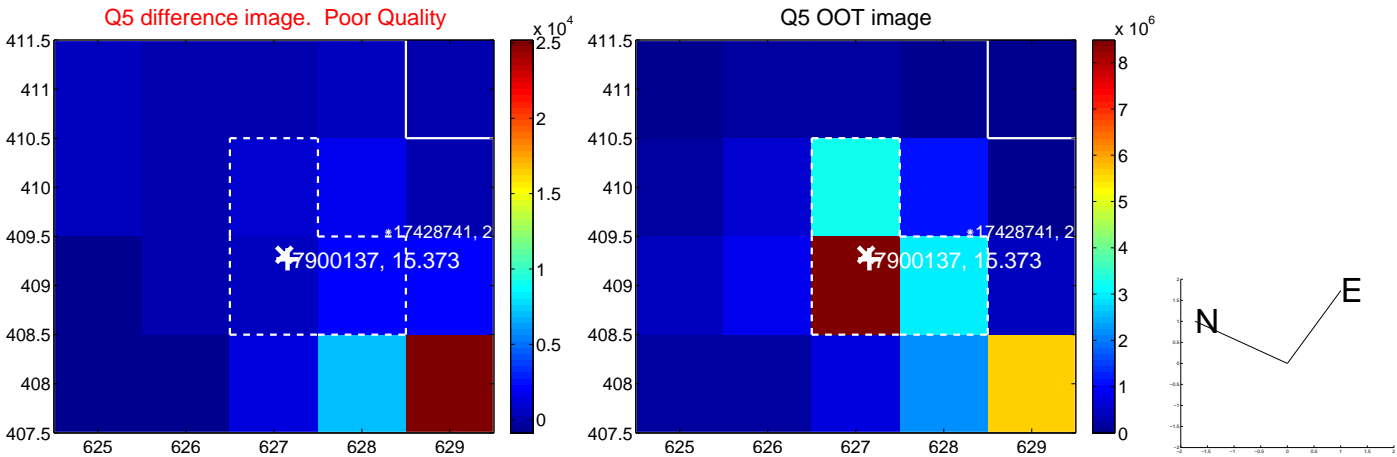


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

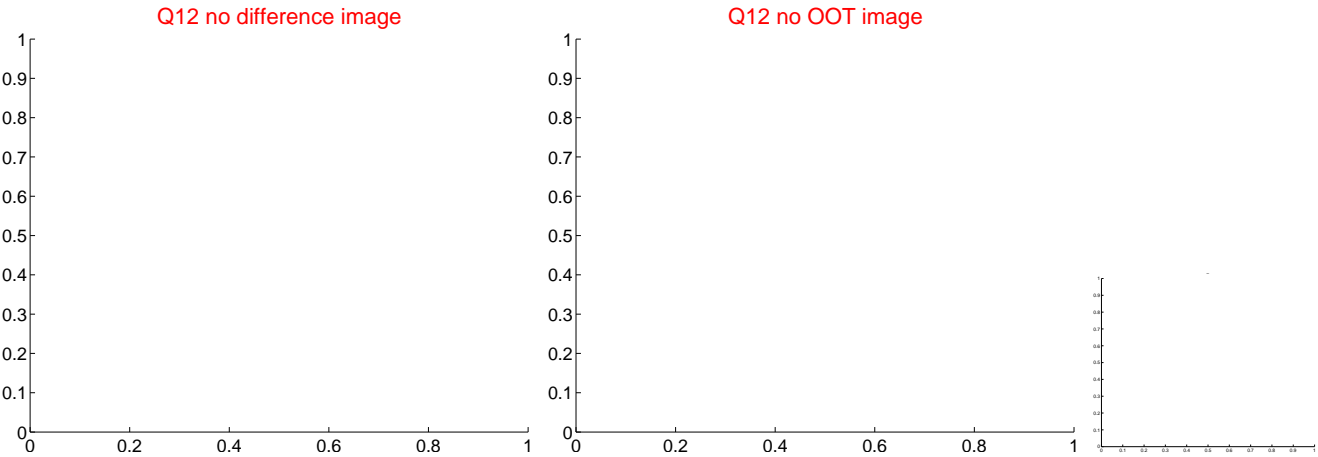
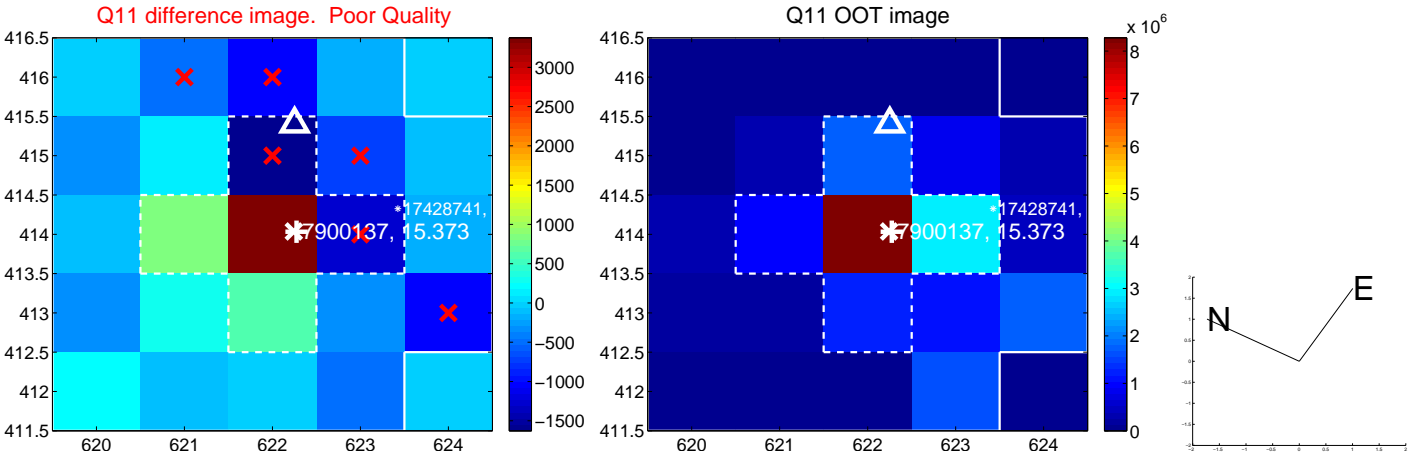
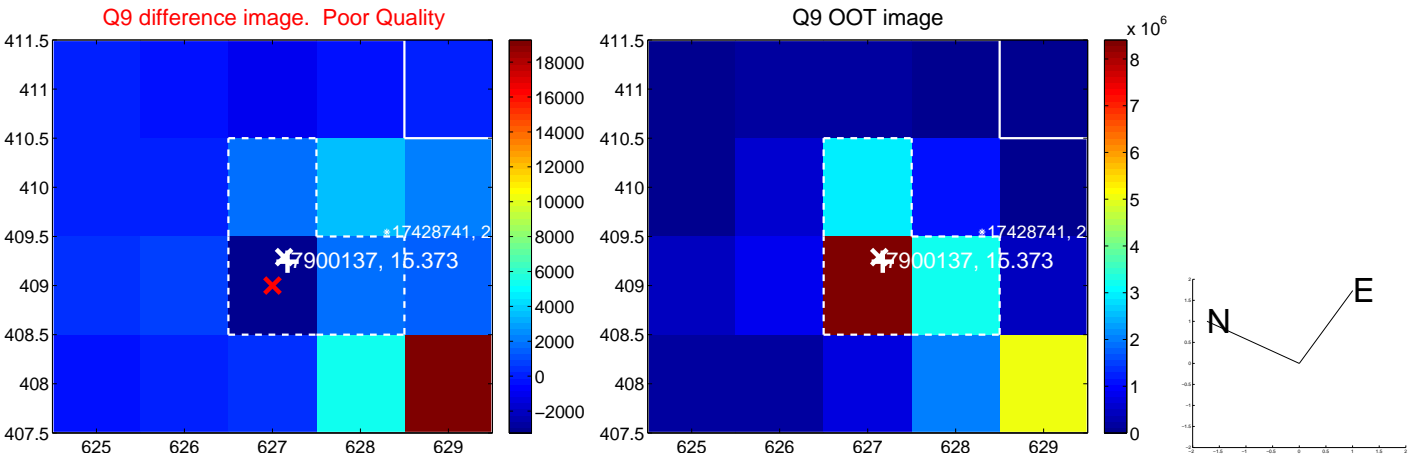
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



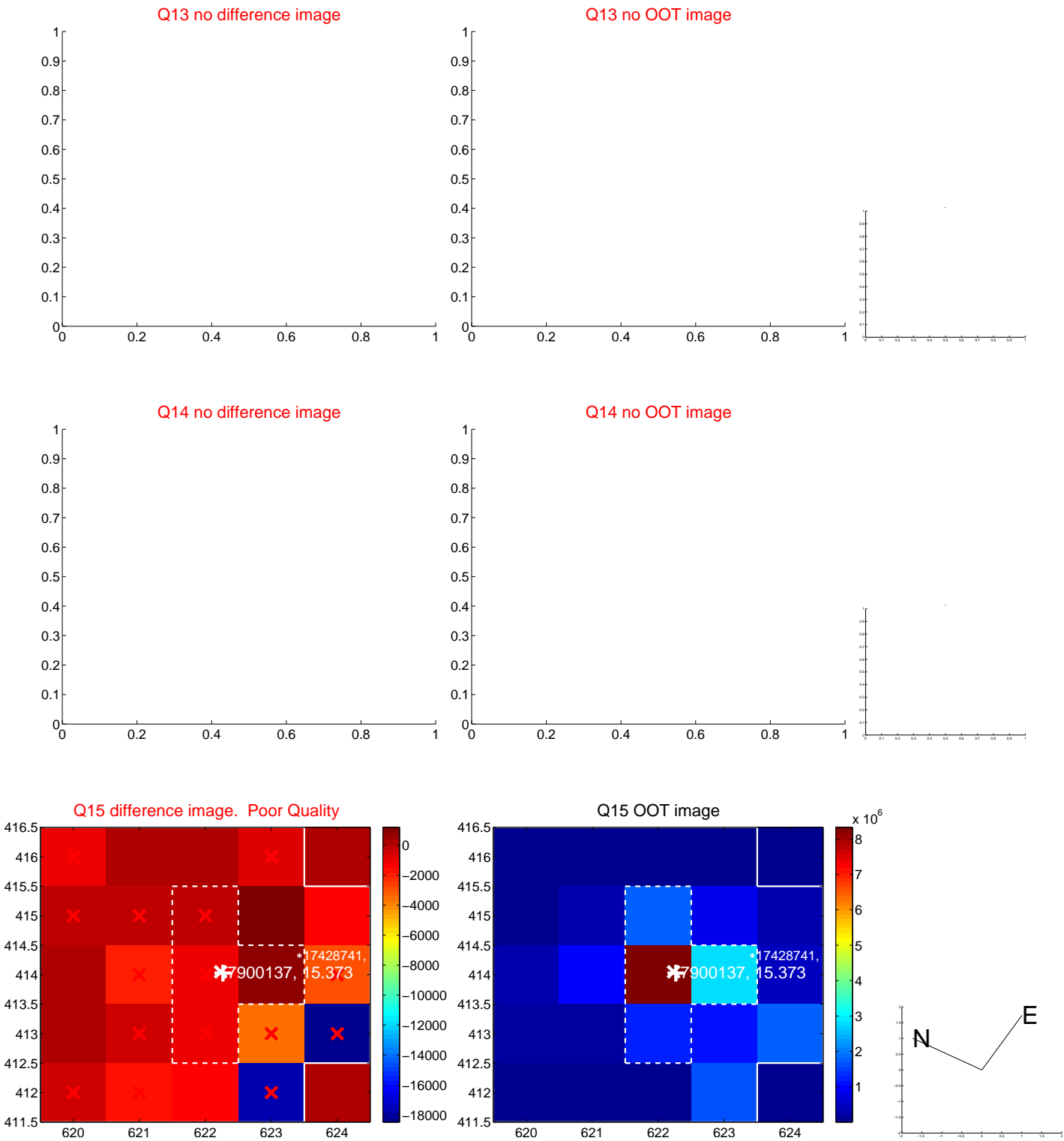
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



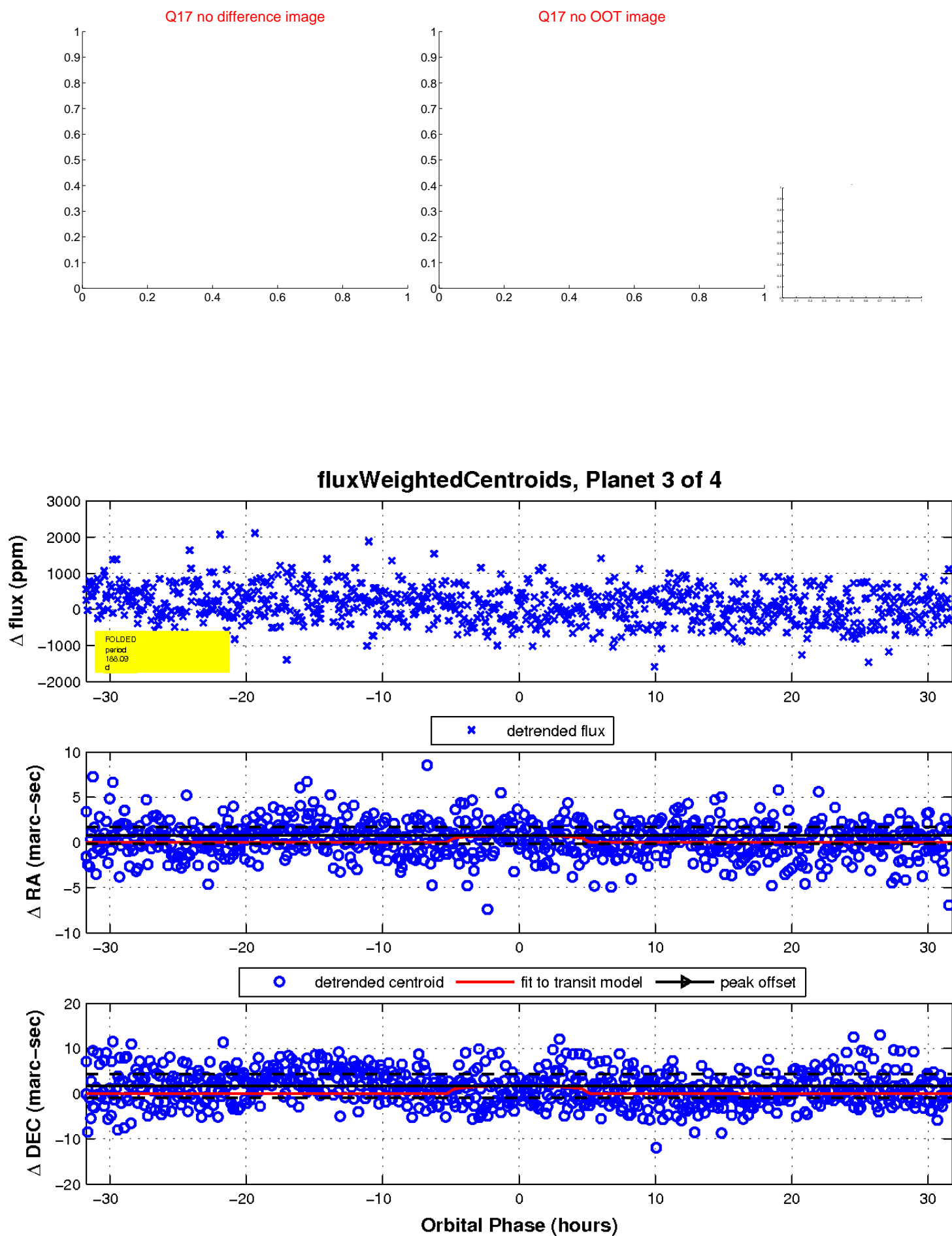
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



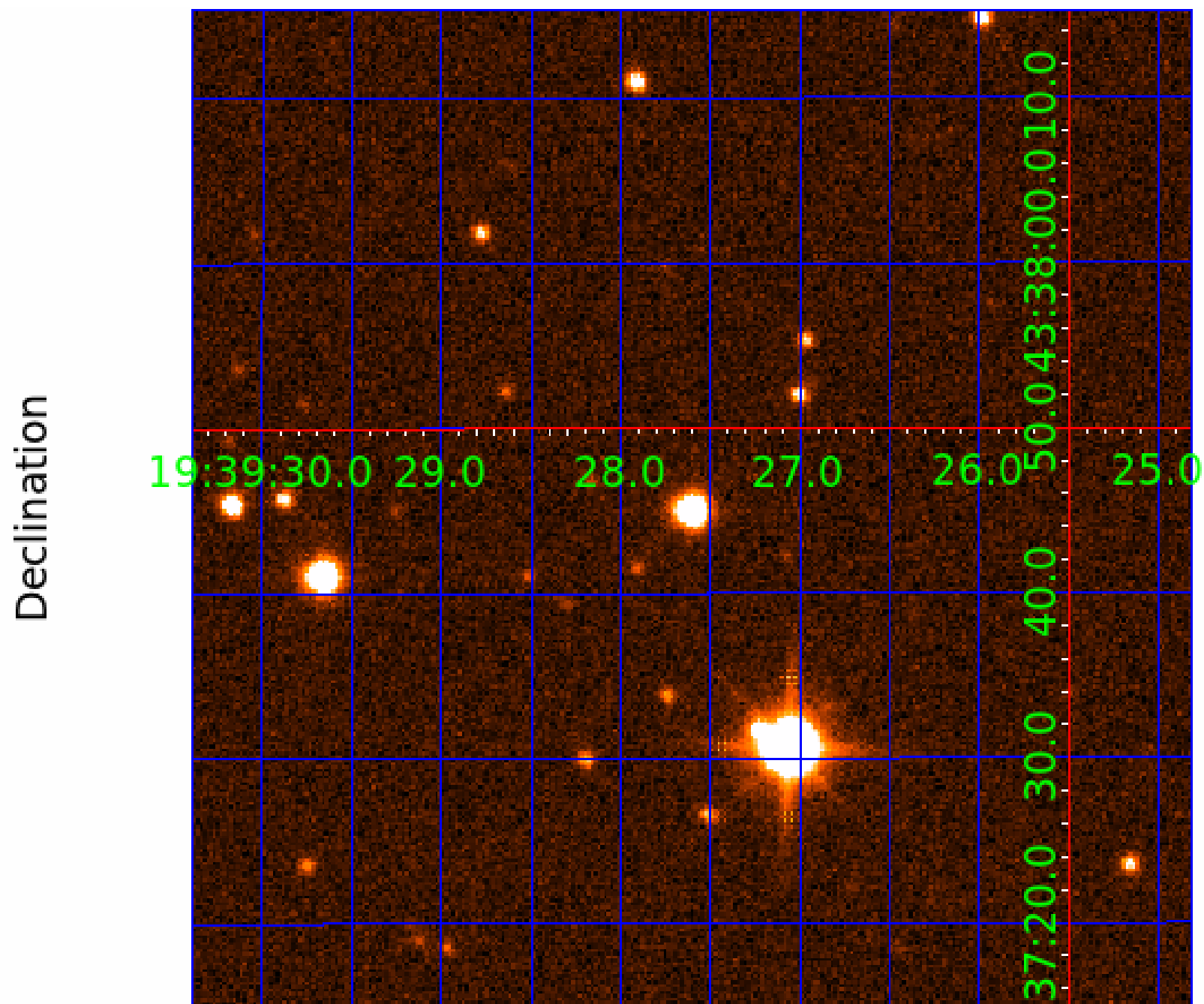
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 007900137

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})
007900137-01	OBS	No	1.861090	133.071328	90.9	8.440	9.0	10.1	0.64	4374	0.58	206.97
007900137-02	OBS	No	201.472426	284.110306	1444.4	16.093	24.7	10.9	0.64	4374	2.96	0.40
007900137-03	OBS	No	188.085998	301.583168	780.1	10.594	12.6	6.3	0.64	4374	1.92	0.44
007900137-04	OBS	No	275.463023	217.519429	808.5	10.895	8.4	7.9	0.64	4374	2.05	0.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007900137-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
007900137-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007900137-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_RESOLVED_OFFSET
007900137-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

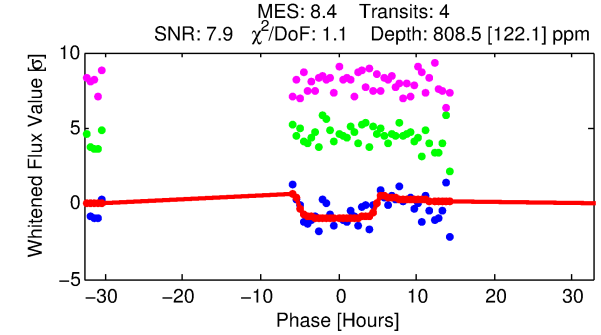
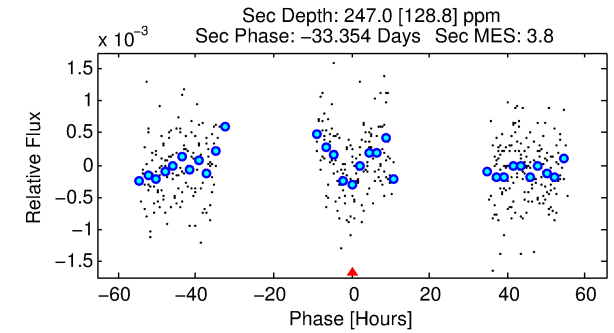
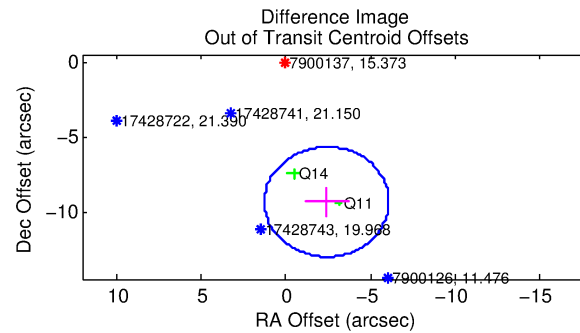
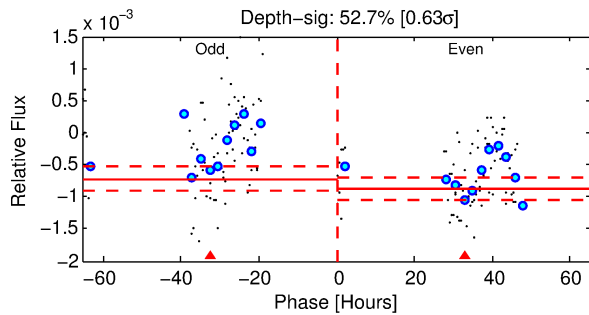
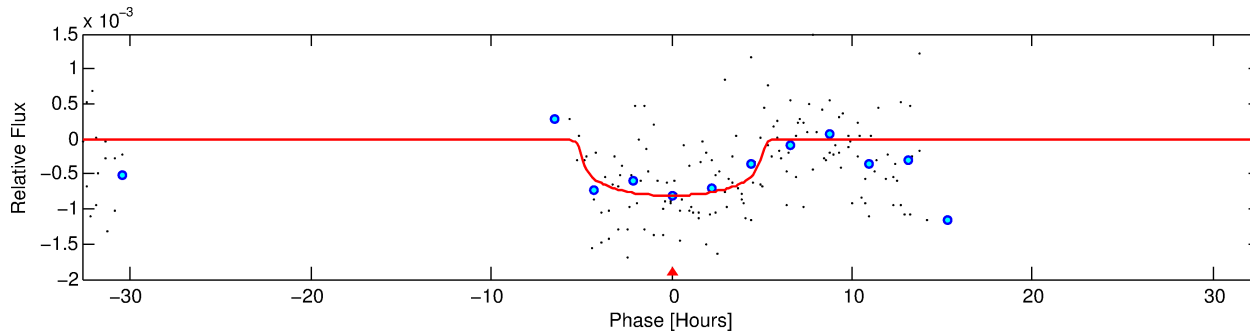
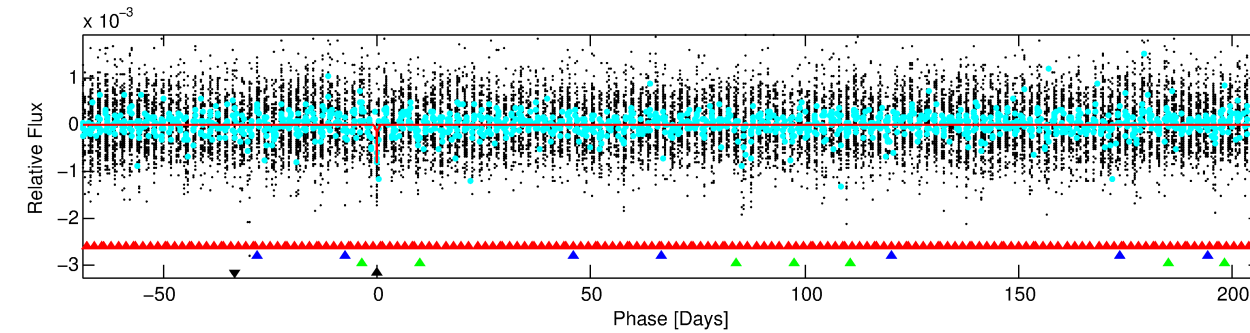
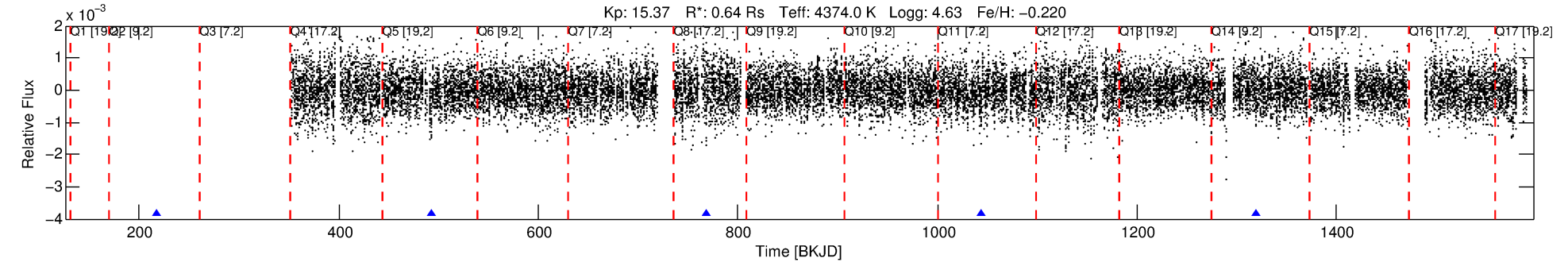
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007900137-04

No Significant Match Found

DV One-Page Summary

KIC: 7900137 Candidate: 4 of 4 Period: 275.463 d



DV Fit Results:

Period = 275.46302 [0.01078] d
Epoch = 217.5194 [0.0351] BKJD
Rp/R* = 0.0296 [0.0077]
a/R* = 121.15 [105.98]
b = 0.82 [0.36]
Seff = 0.26 [0.05]
Teq = 183 [8] K
Rp = 2.05 [0.57] Re
a = 0.7073 [0.0540] AU
Ag = 16198.52 [12050.69] [1.34 σ]
Teffp = 3189 [600] K [5.01 σ]

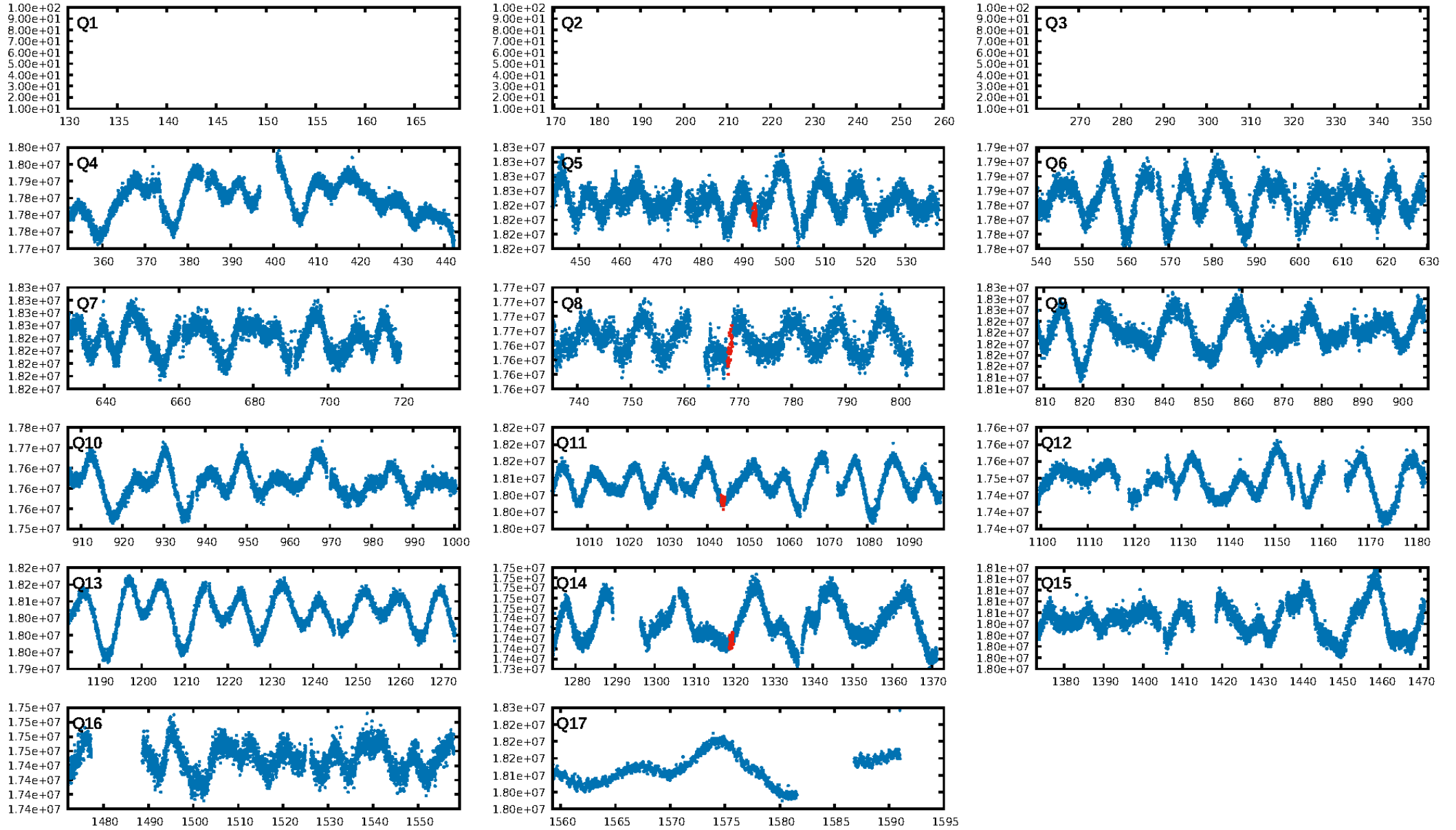
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [91.38 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.7%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.82e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -3.895
Centroid-sig: 8.4%
Centroid-so: 3.321 arcsec [2.07 σ]
OotOffset-rm: 9.660 arcsec [7.90 σ]
KicOffset-rm: 9.737 arcsec [15.52 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/4]

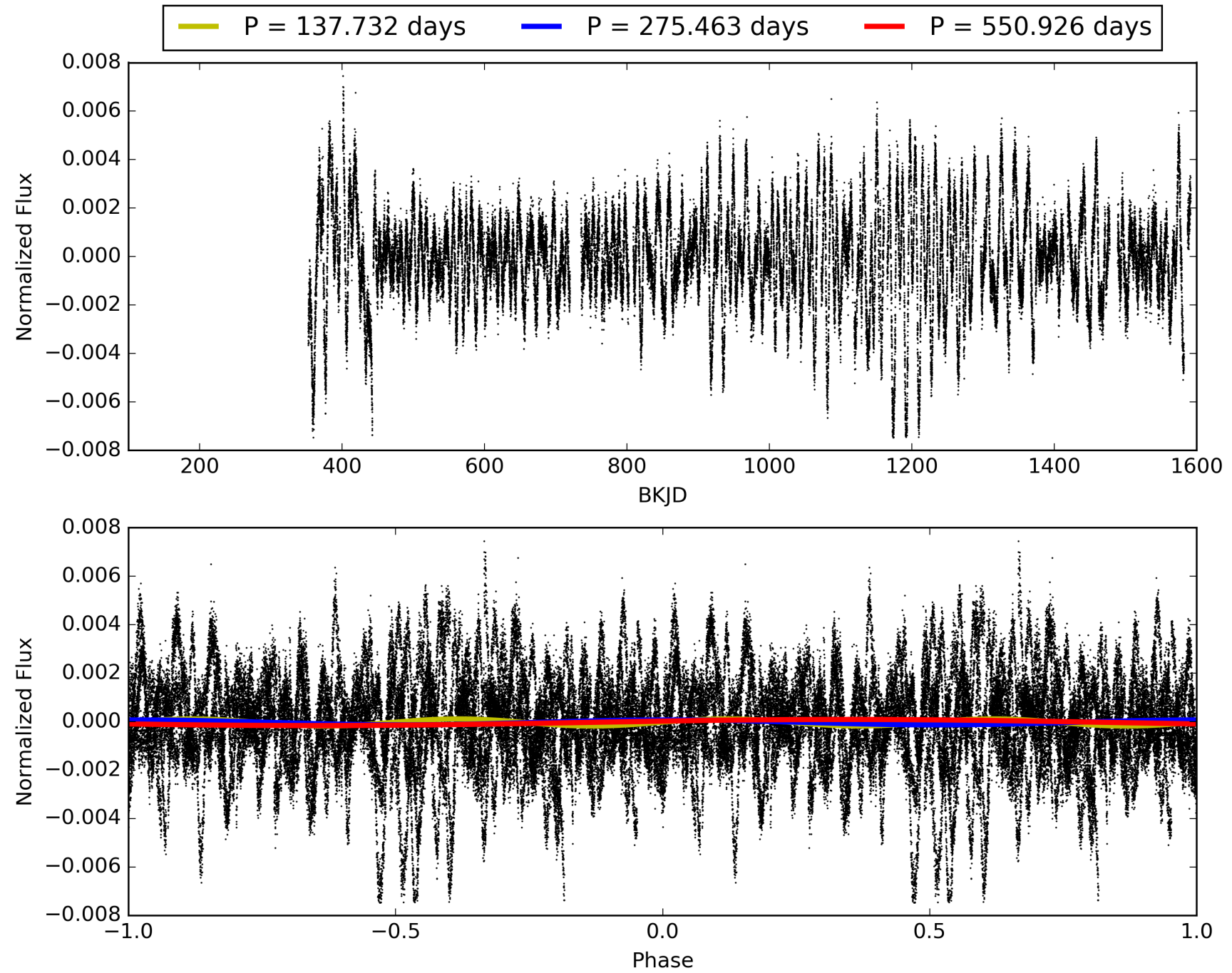
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:40:04 Z

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

TCE 007900137-04, PDC Light Curves

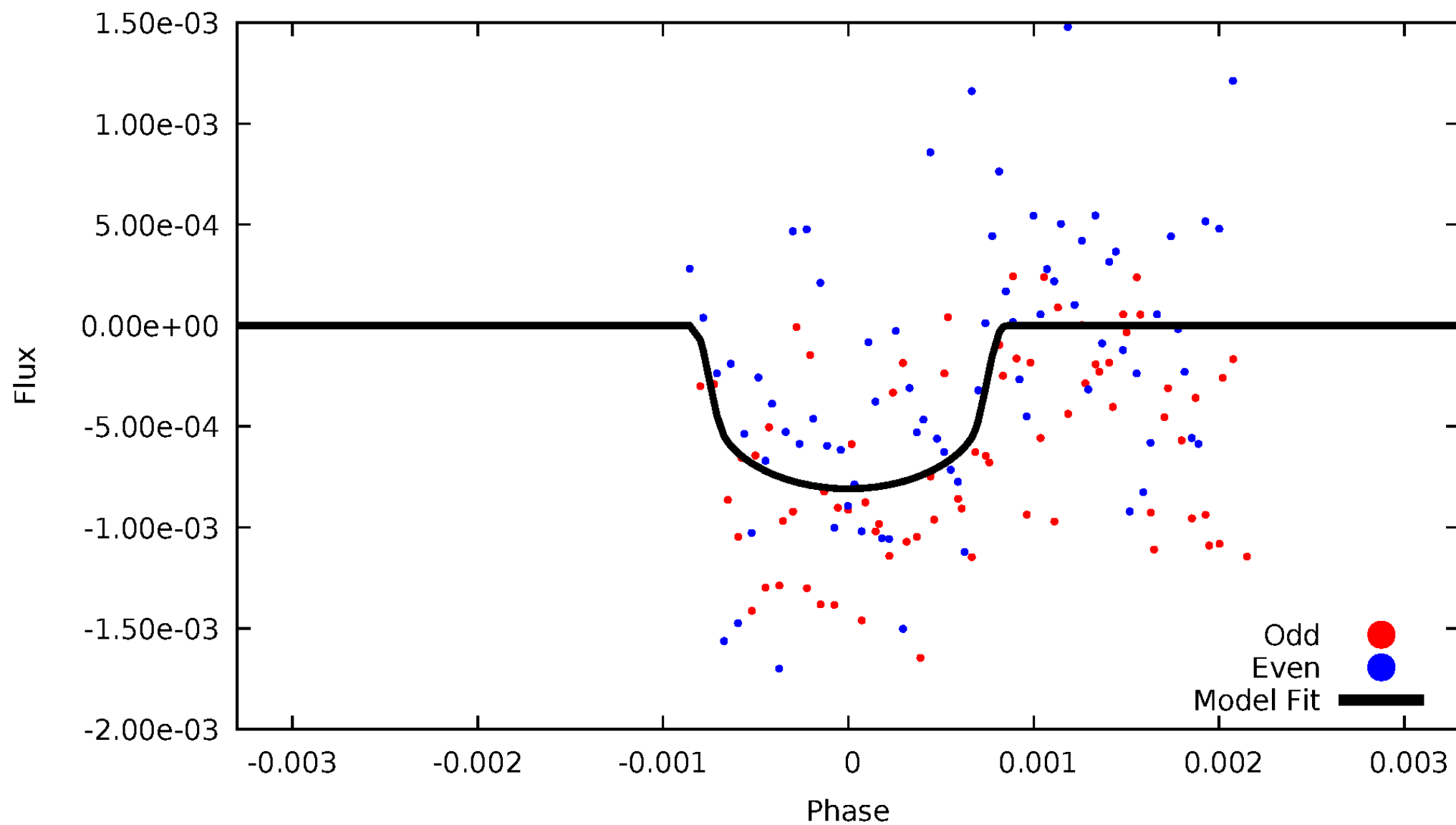


TCE 007900137-04



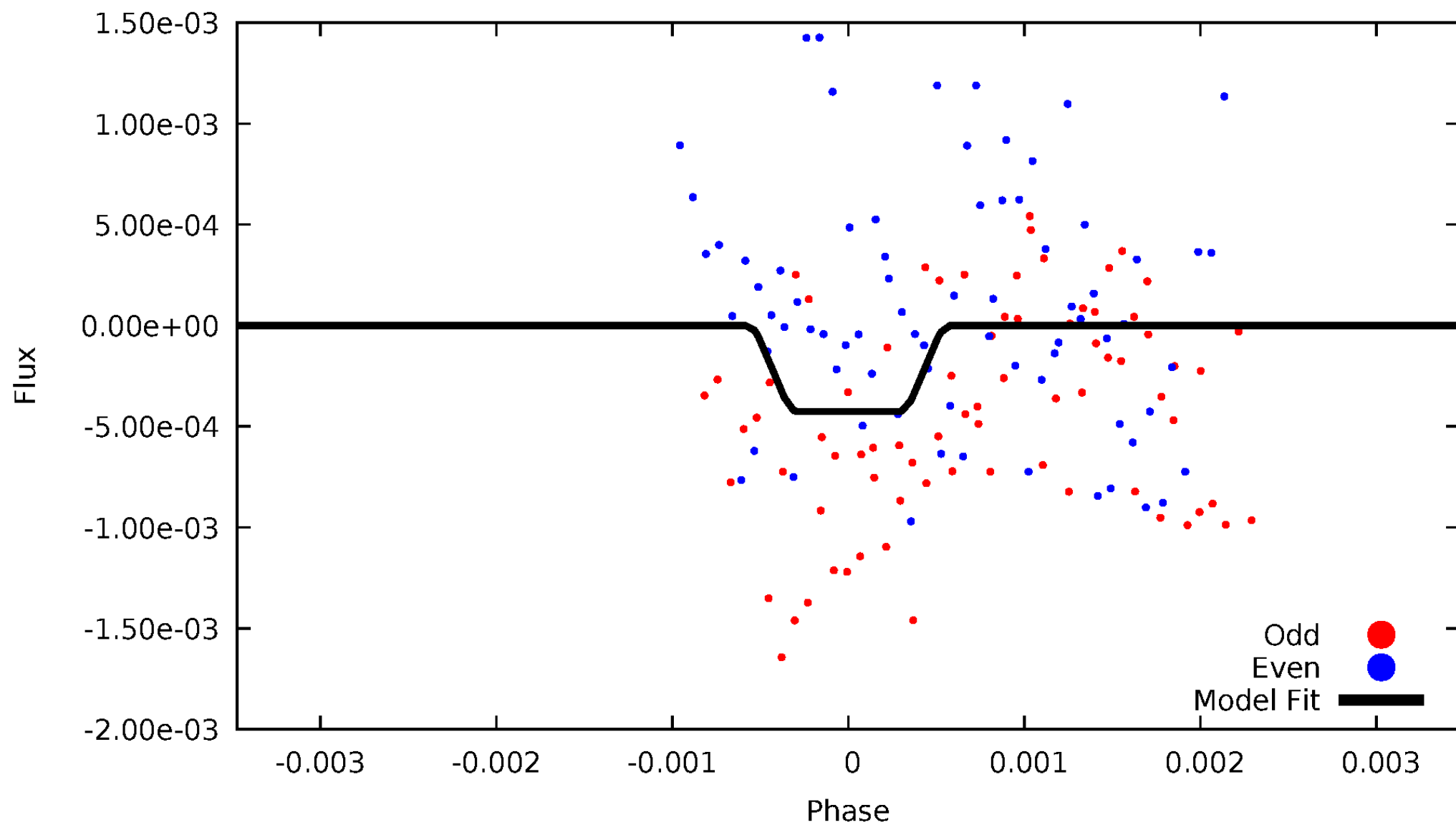
DV Odd/Even

TCE 007900137-04



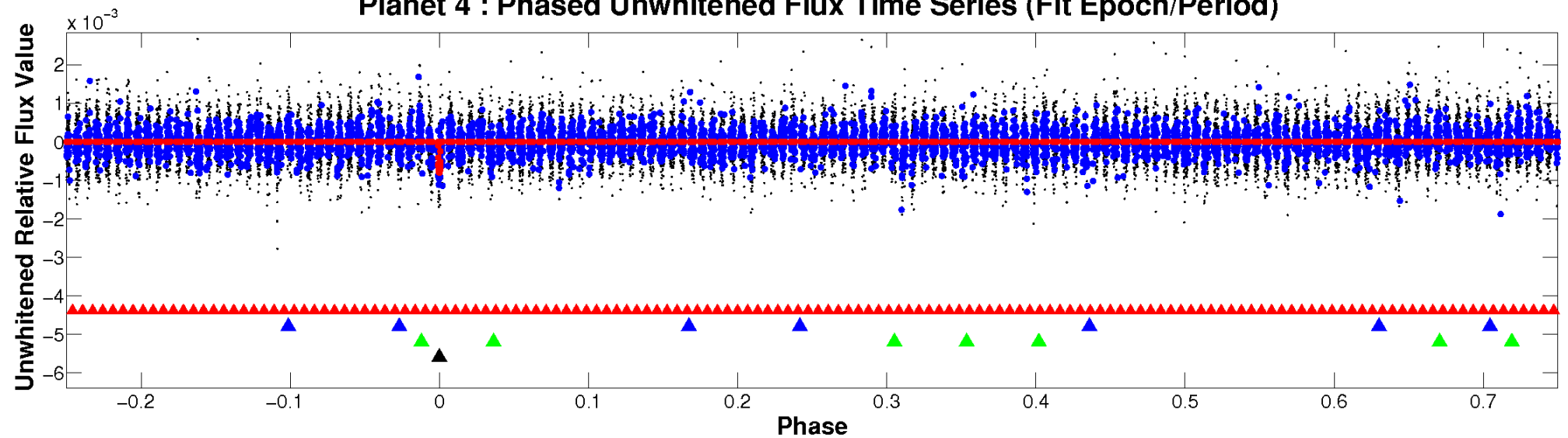
ALT Odd/Even

TCE 007900137-04

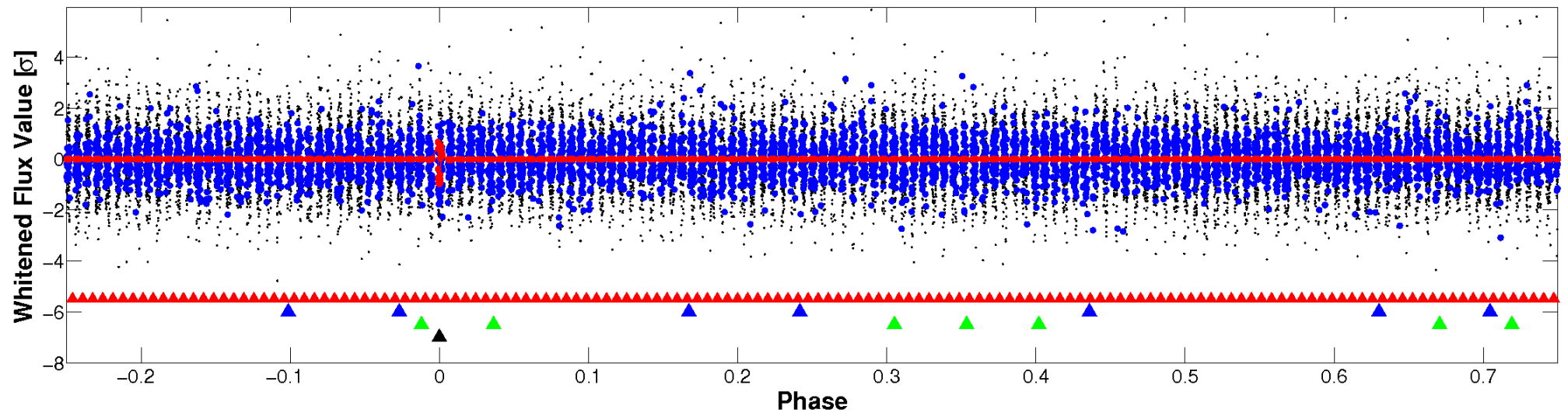


Non-Whitened Vs. Whitened Light Curve

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

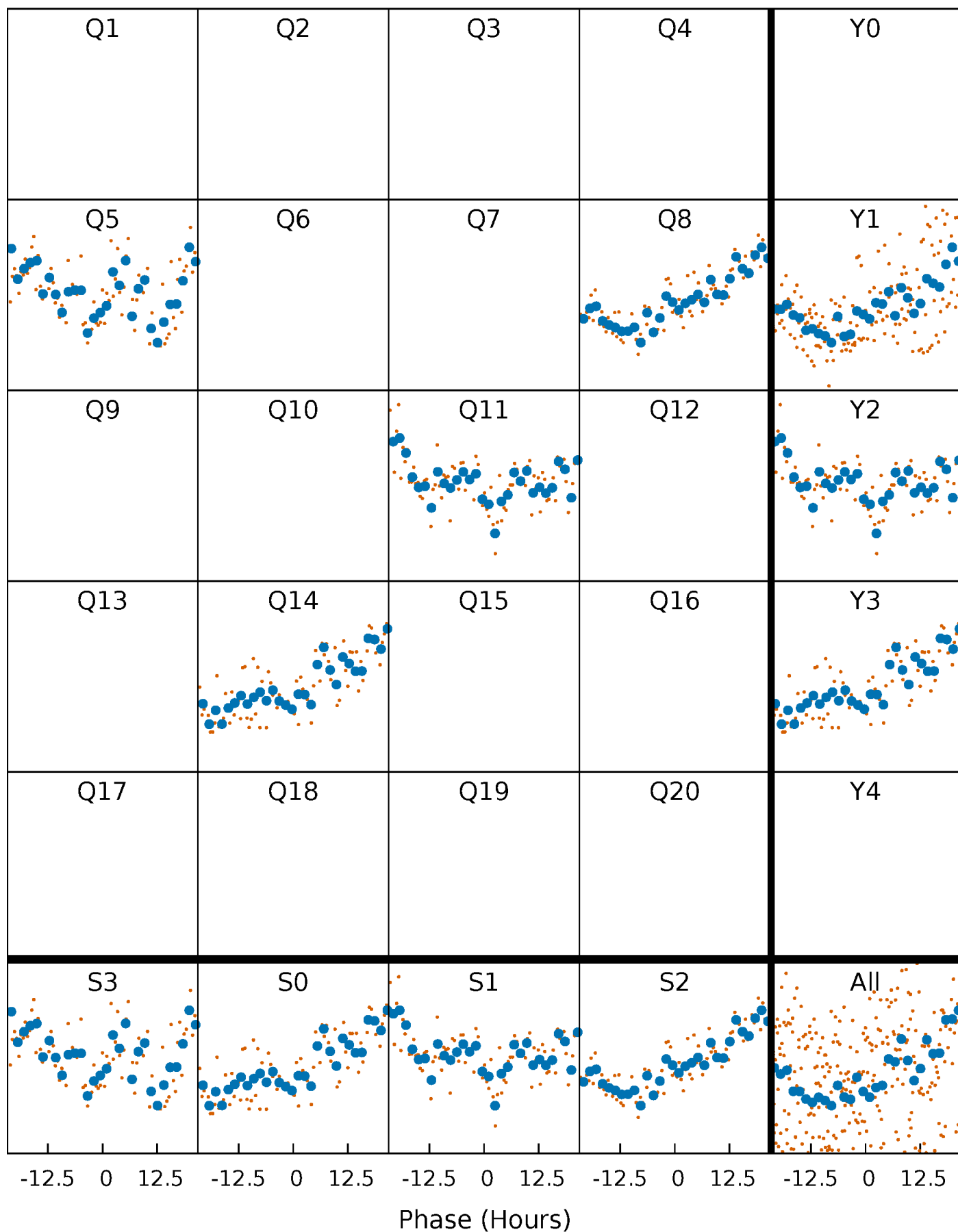


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



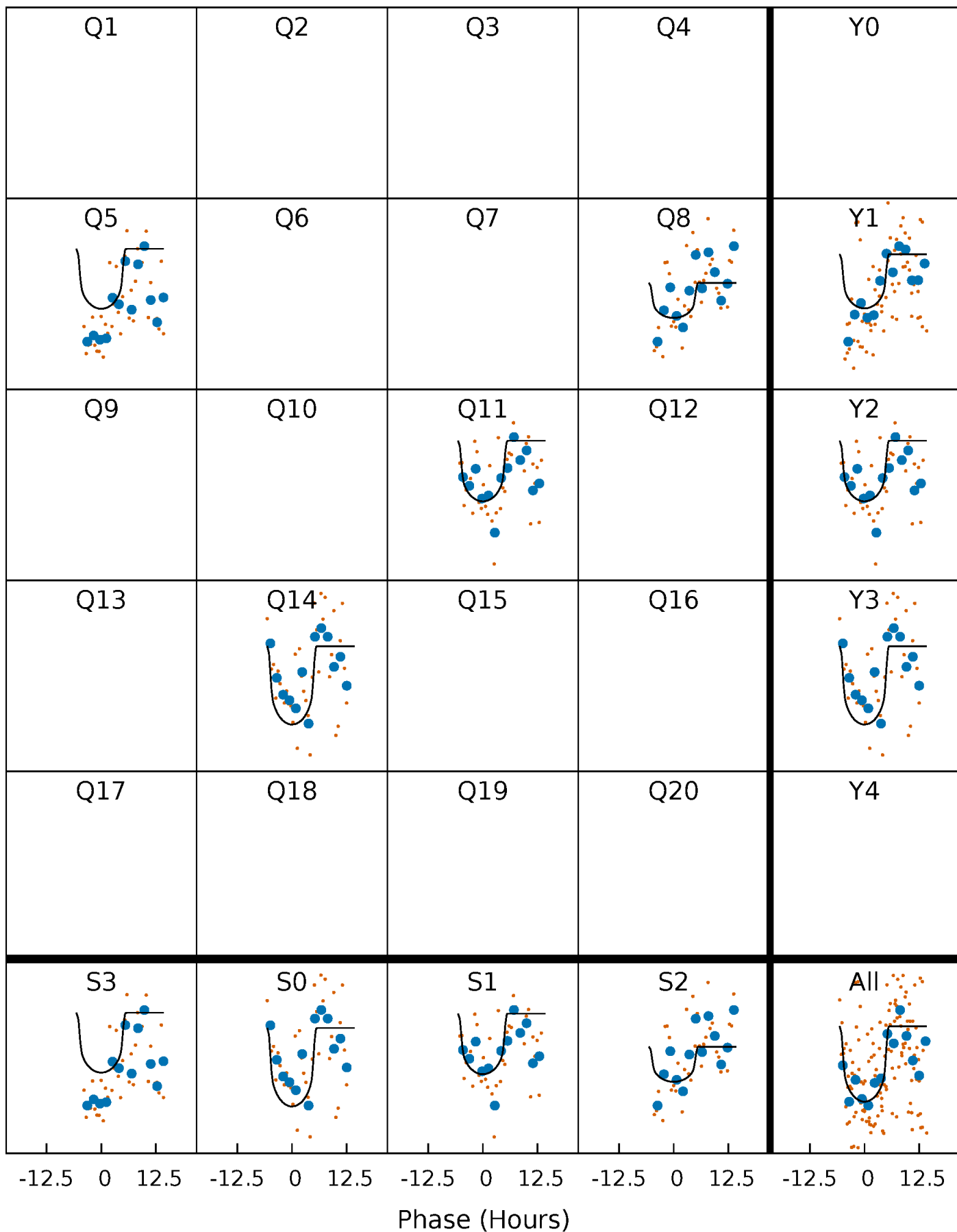
PDC Quarter-Phased Transit Curves

TCE 007900137-04 P=275.463023 Days $T_0=217.519429$ (BKJD)



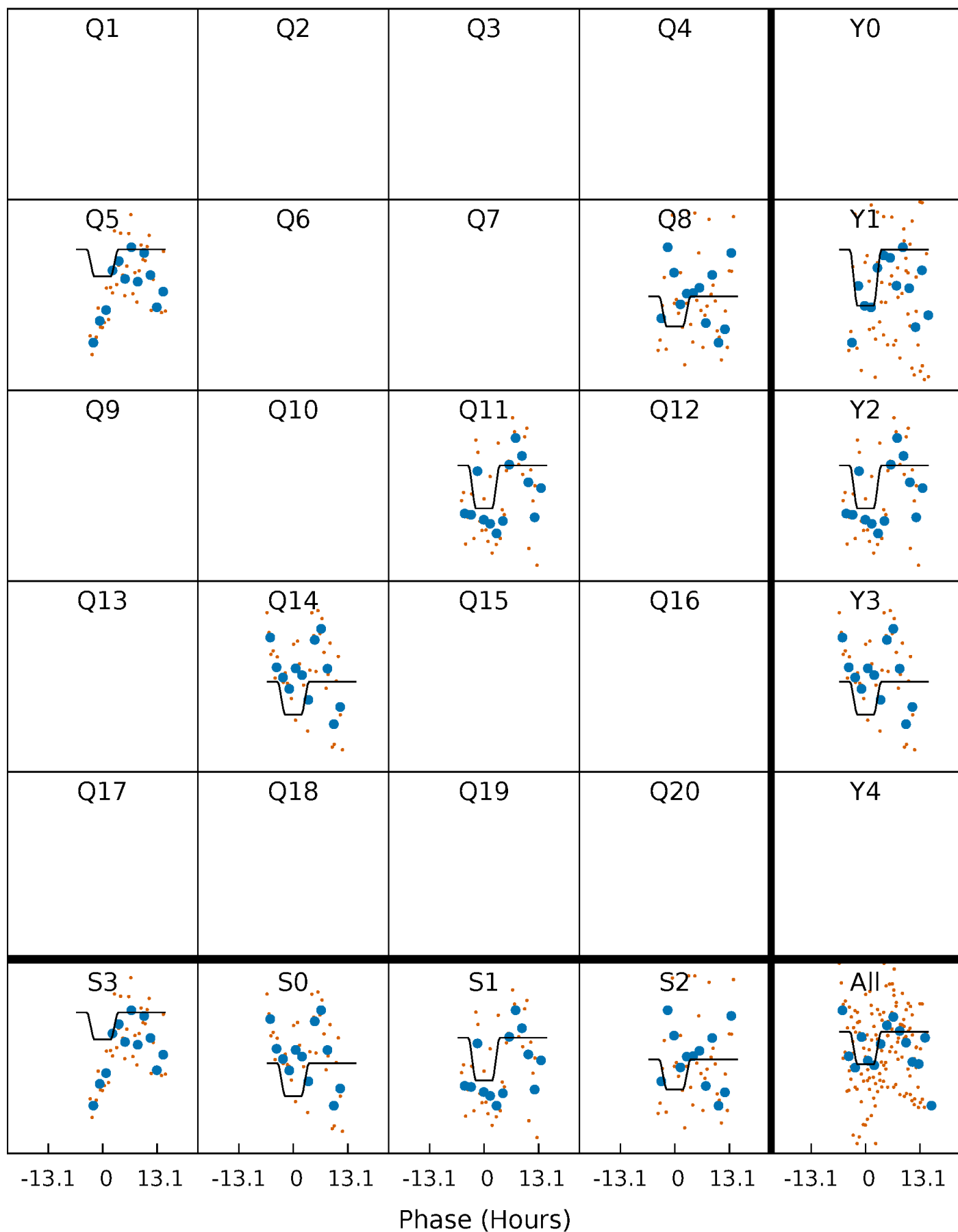
DV Quarter-Phased Transit Curves

TCE 007900137-04 $P=275.463023$ Days $T_0=217.519429$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

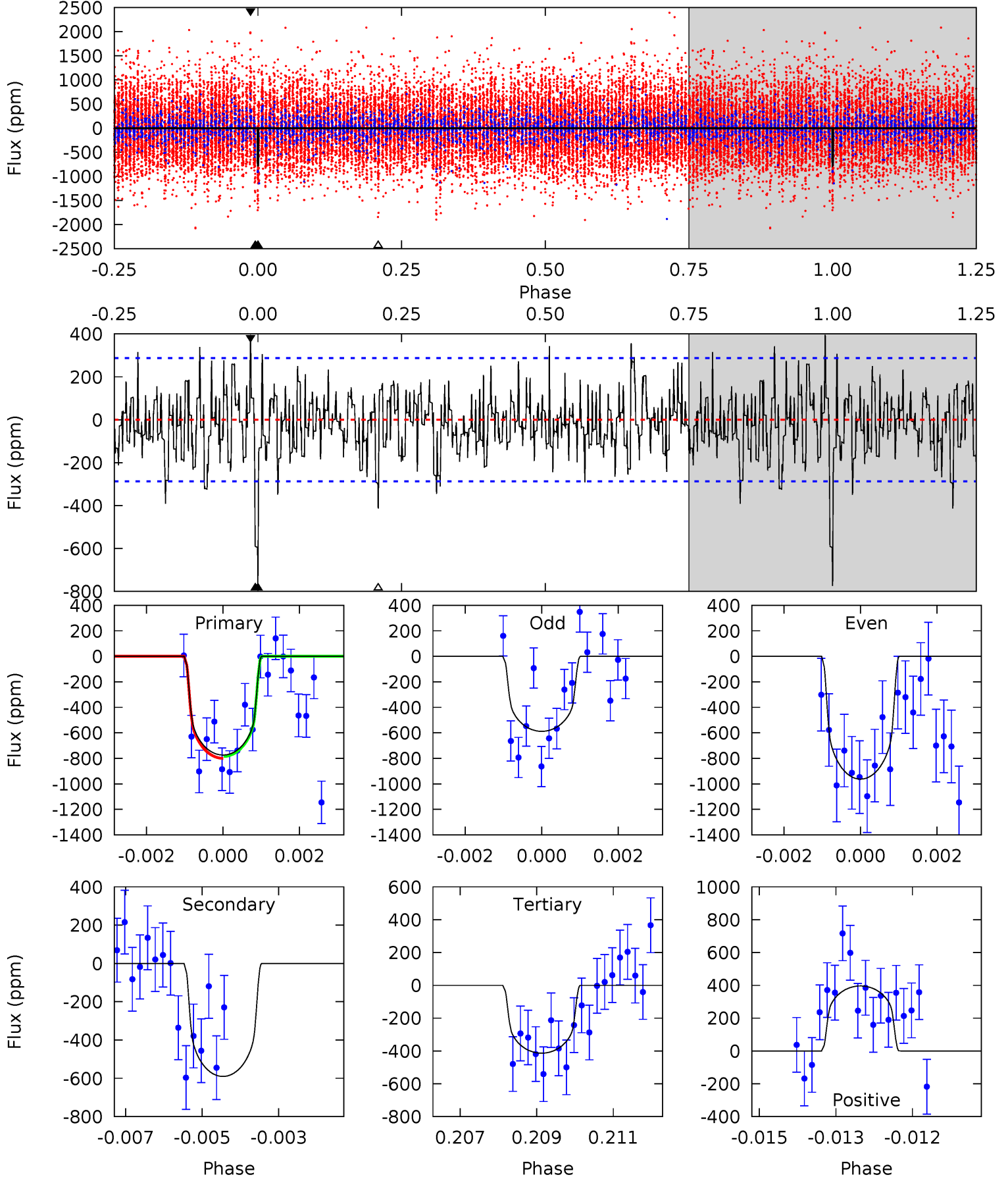
TCE 007900137-04 P=275.485256 Days $T_0=217.458062$ (BKJD)



DV Model-Shift Uniqueness Test

007900137-04, P = 275.463023 Days, E = 217.519429 Days

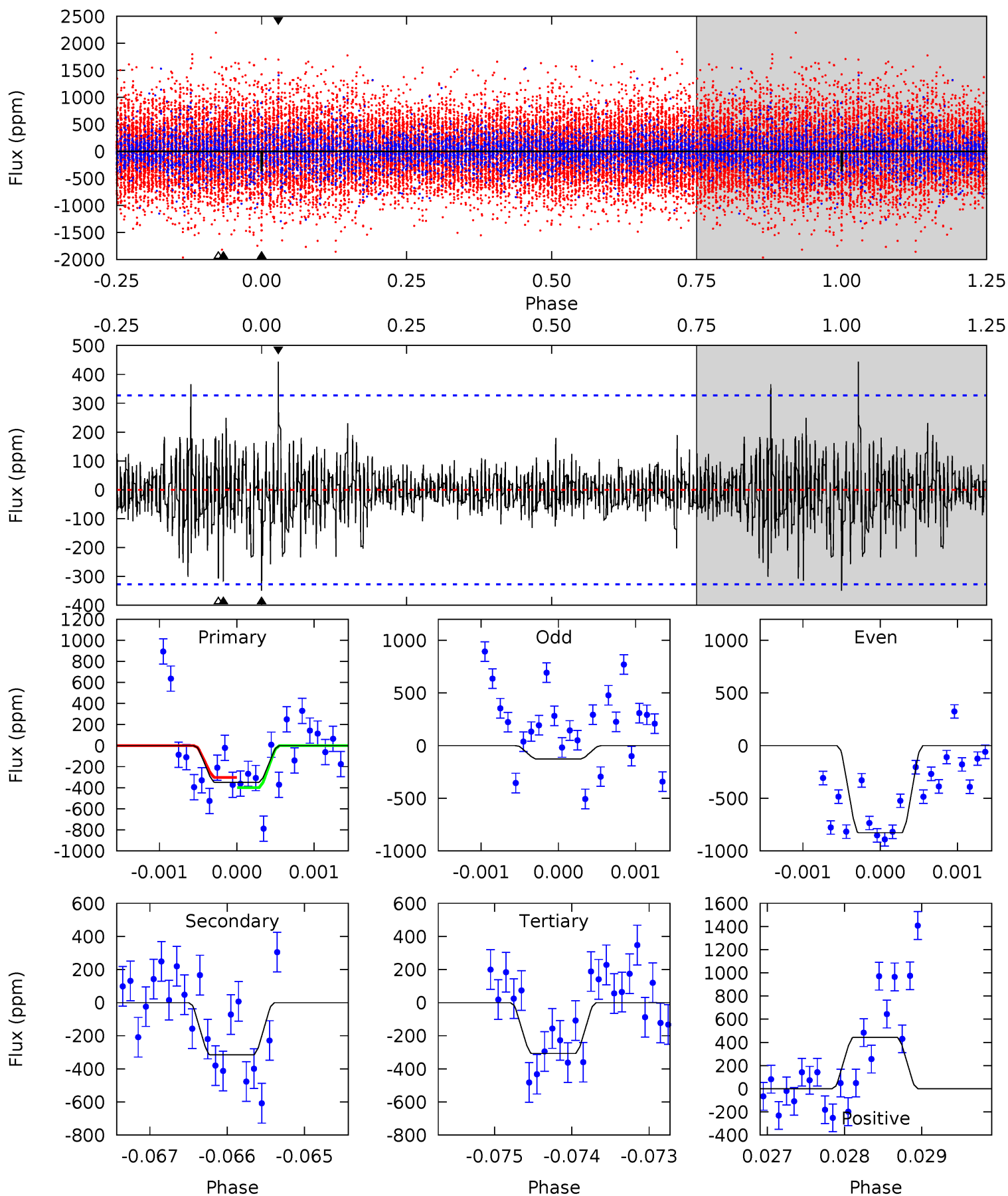
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	11.0	7.71	7.39	5.36	3.14	2.20	6.73	7.05	3.30	3.62	3.51	1.10	0.34	0.13



Alt Model-Shift Uniqueness Test

007900137-04, P = 275.485256 Days, E = 217.458062 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.81	5.24	5.11	7.38	5.44	3.28	1.12	0.71	-1.56	0.14	-2.14	5.84	1.43	0.56	0.82



Stellar Parameters For KIC 007900137

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4374^{+153}_{-168}	$4.626^{+0.052}_{-0.024}$	$-0.220^{+0.300}_{-0.300}$	$0.635^{+0.045}_{-0.062}$	$0.621^{+0.068}_{-0.056}$	$3.422^{+0.855}_{-0.387}$
	+3%/-4%	+1%/-1%	+136%/-136%	+7%/-10%	+11%/-9%	+25%/-11%
Source	KIC0	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 007900137-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-590 ± 54	$2.01^{+0.57}_{-0.53}$	253^{+11}_{-10}	4075^{+524}_{-365}	40892^{+33757}_{-16193}
Alt.	-315 ± 60	$1.44^{+0.50}_{-0.52}$	254^{+10}_{-10}	4101^{+815}_{-450}	41804^{+59416}_{-19842}

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

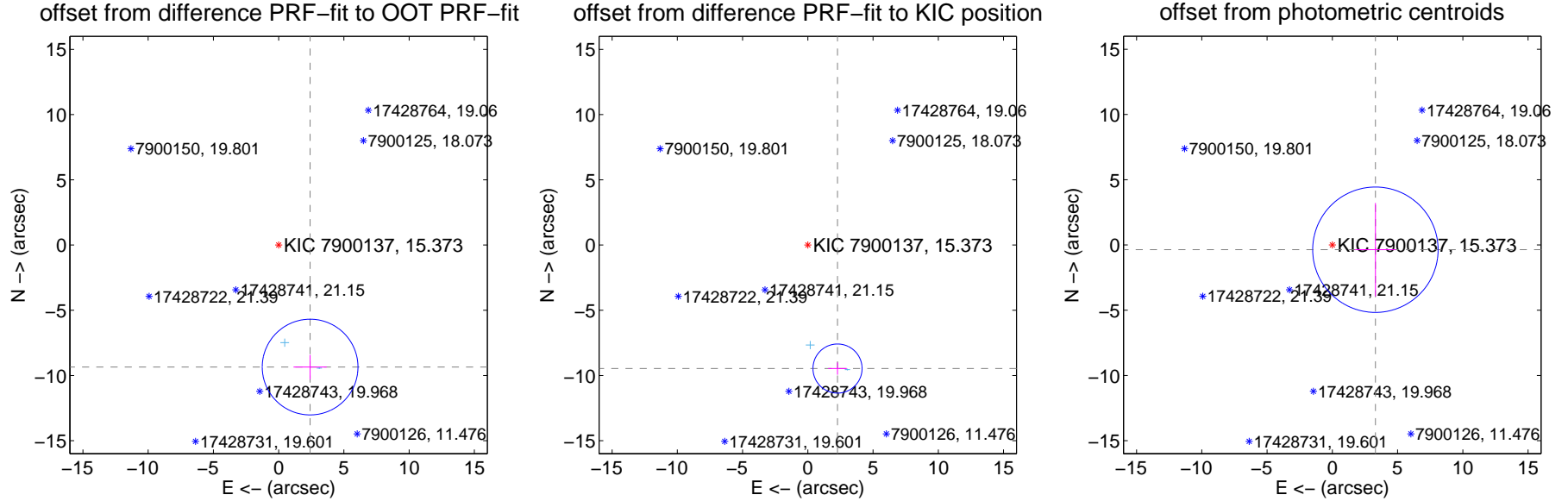
DV Centroid Data

Supplemental centroid analysis for 007900137-04. Kepler magnitude: 15.37. Transit SNR 7.93

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.660 ± 1.223	7.90	-2.412 ± 1.271	-9.354 ± 0.936
PRF-fit source offset from KIC position	9.737 ± 0.627	15.52	-2.277 ± 0.716	-9.467 ± 0.475
photometric centroid source offset	3.32 ± 1.60	2.07	-3.30 ± 1.56	-0.36 ± 3.59

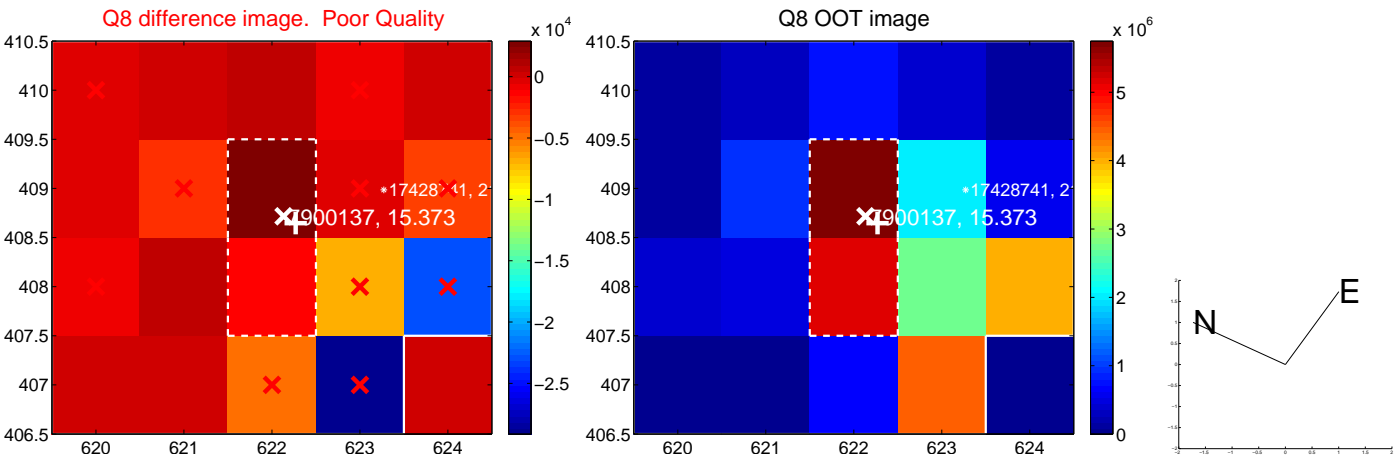
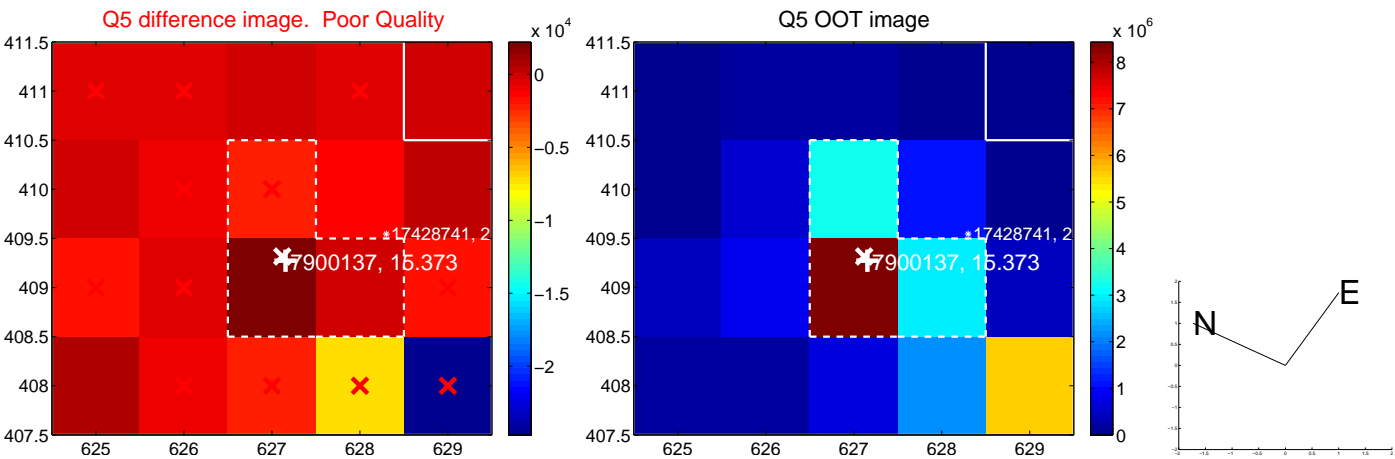


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q9 no difference image



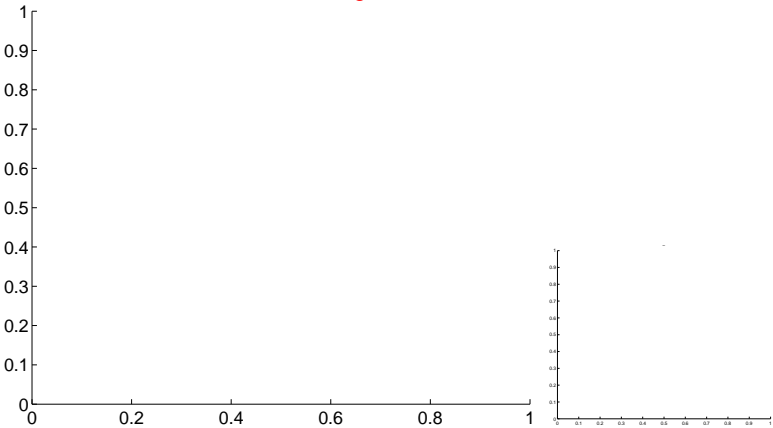
Q9 no OOT image



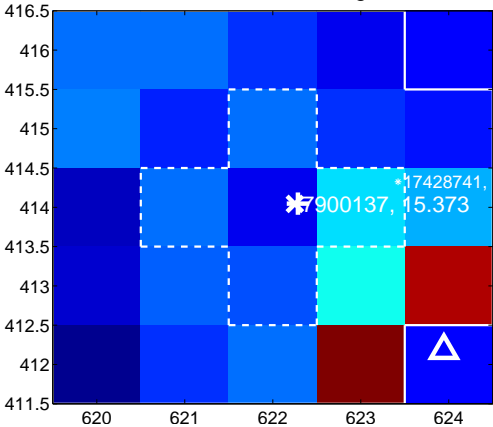
Q10 no difference image



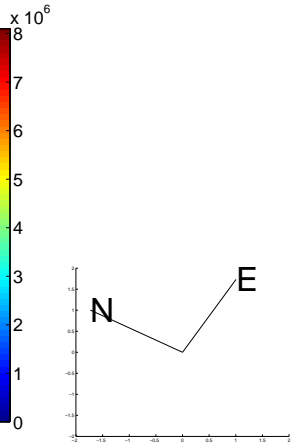
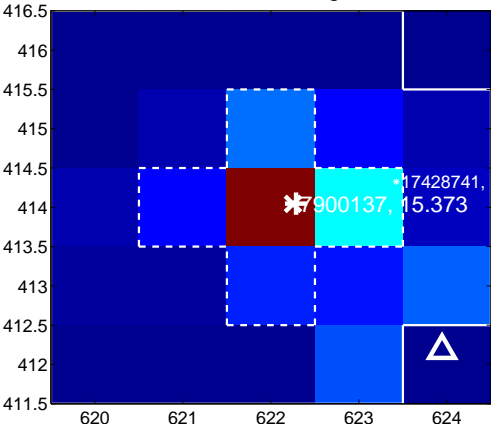
Q10 no OOT image



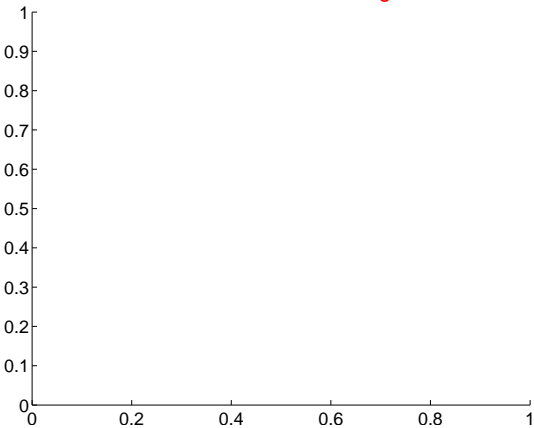
Q11 difference image



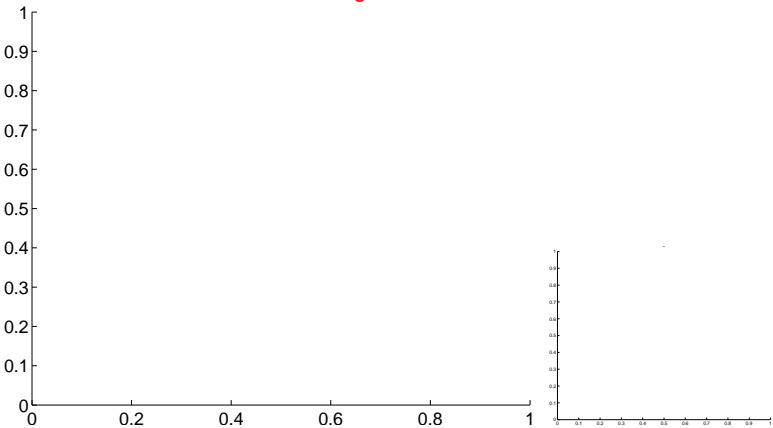
Q11 OOT image



Q12 no difference image

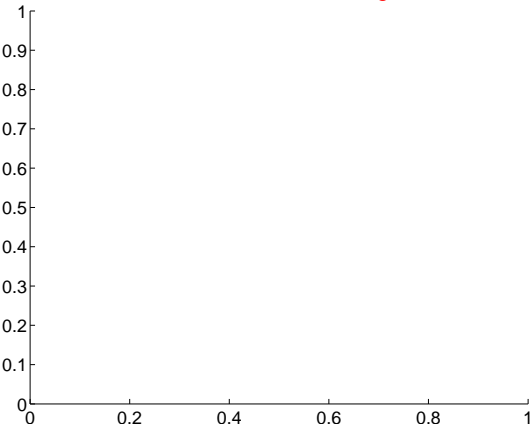


Q12 no OOT image

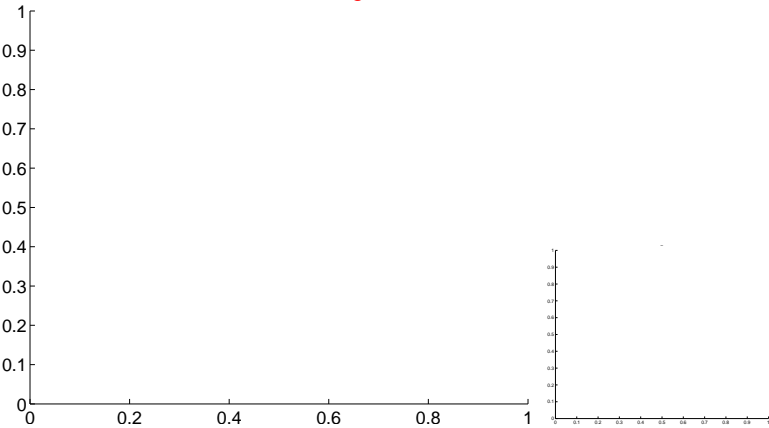


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

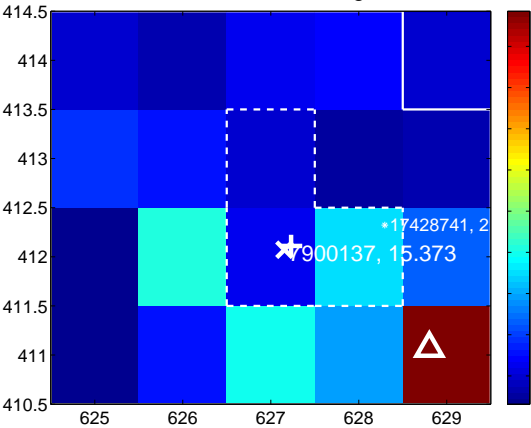
Q13 no difference image



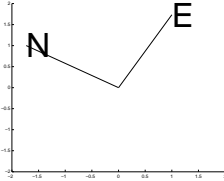
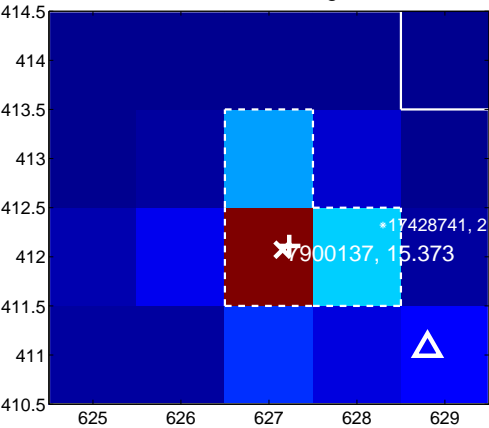
Q13 no OOT image



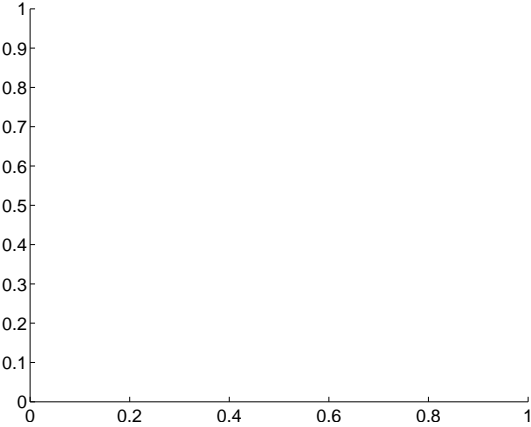
Q14 difference image



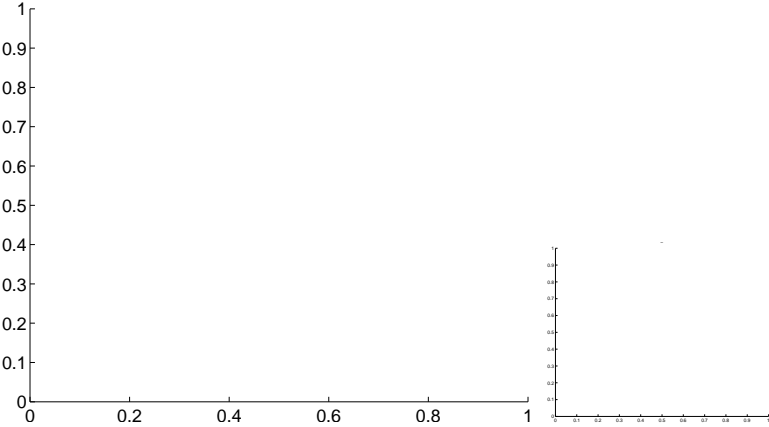
Q14 OOT image



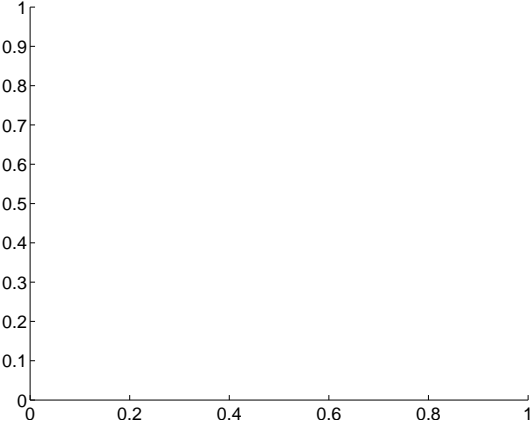
Q15 no difference image



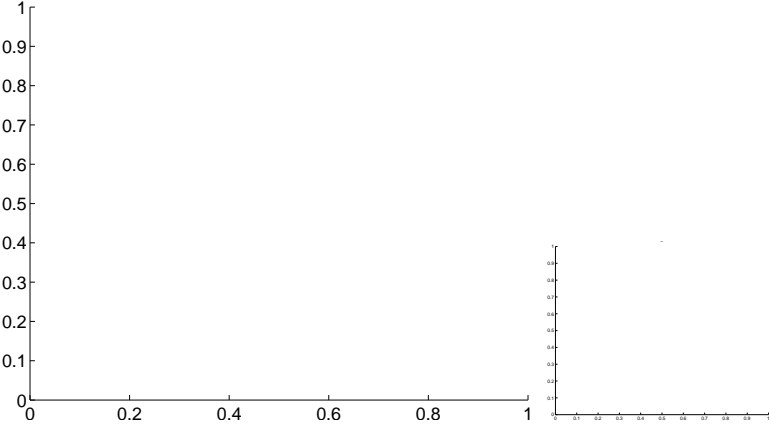
Q15 no OOT image



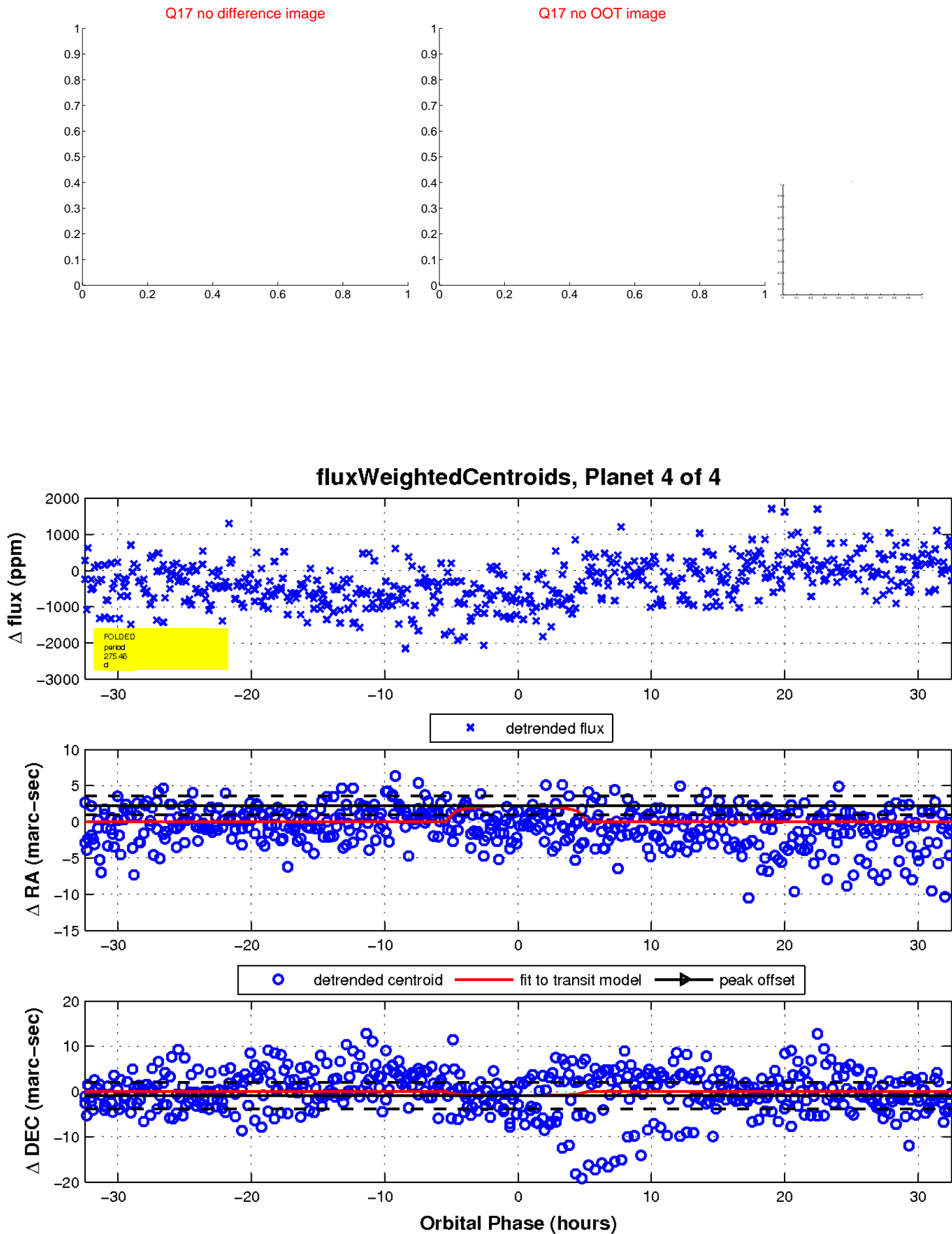
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

